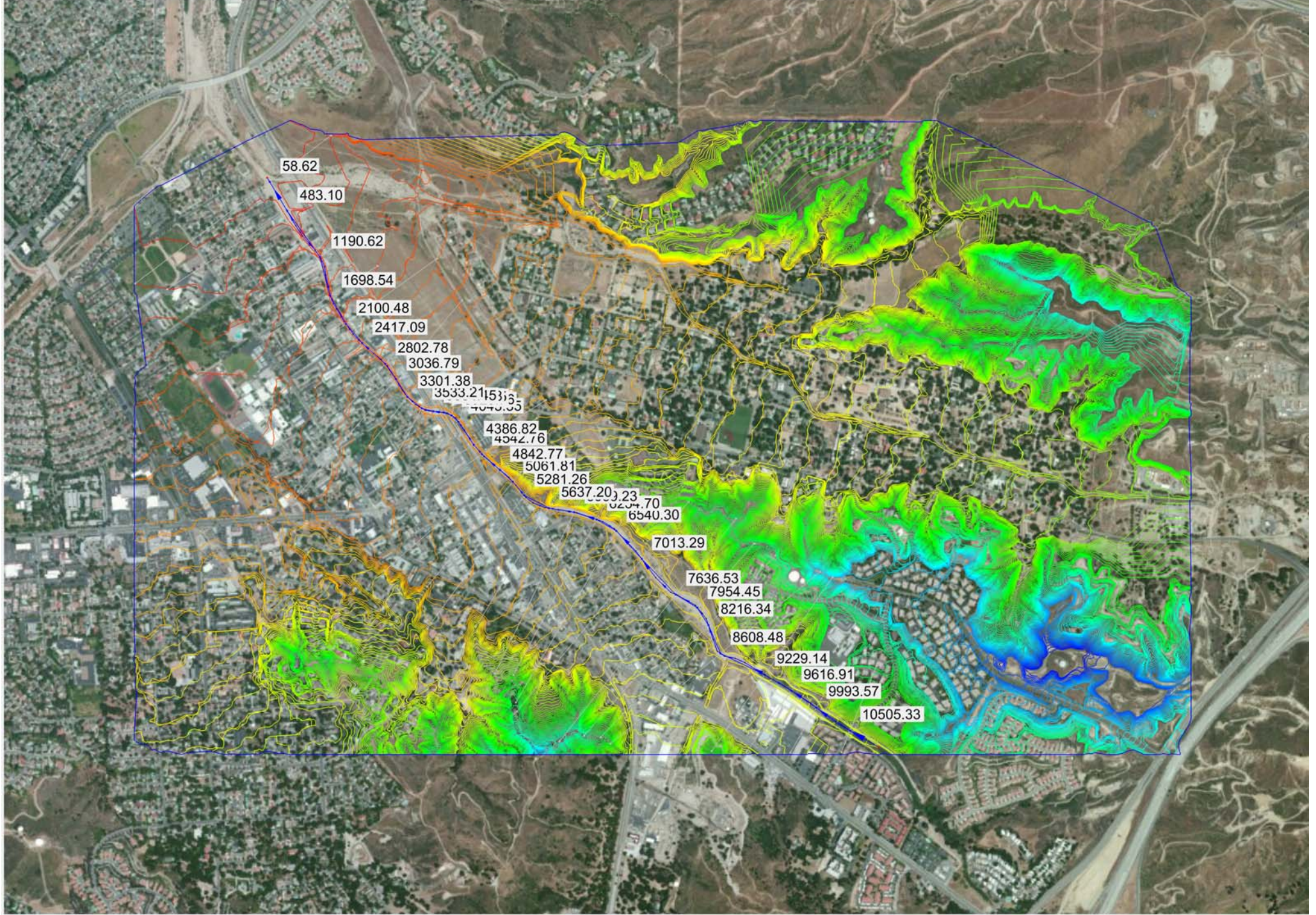
SUPPORTING DATA

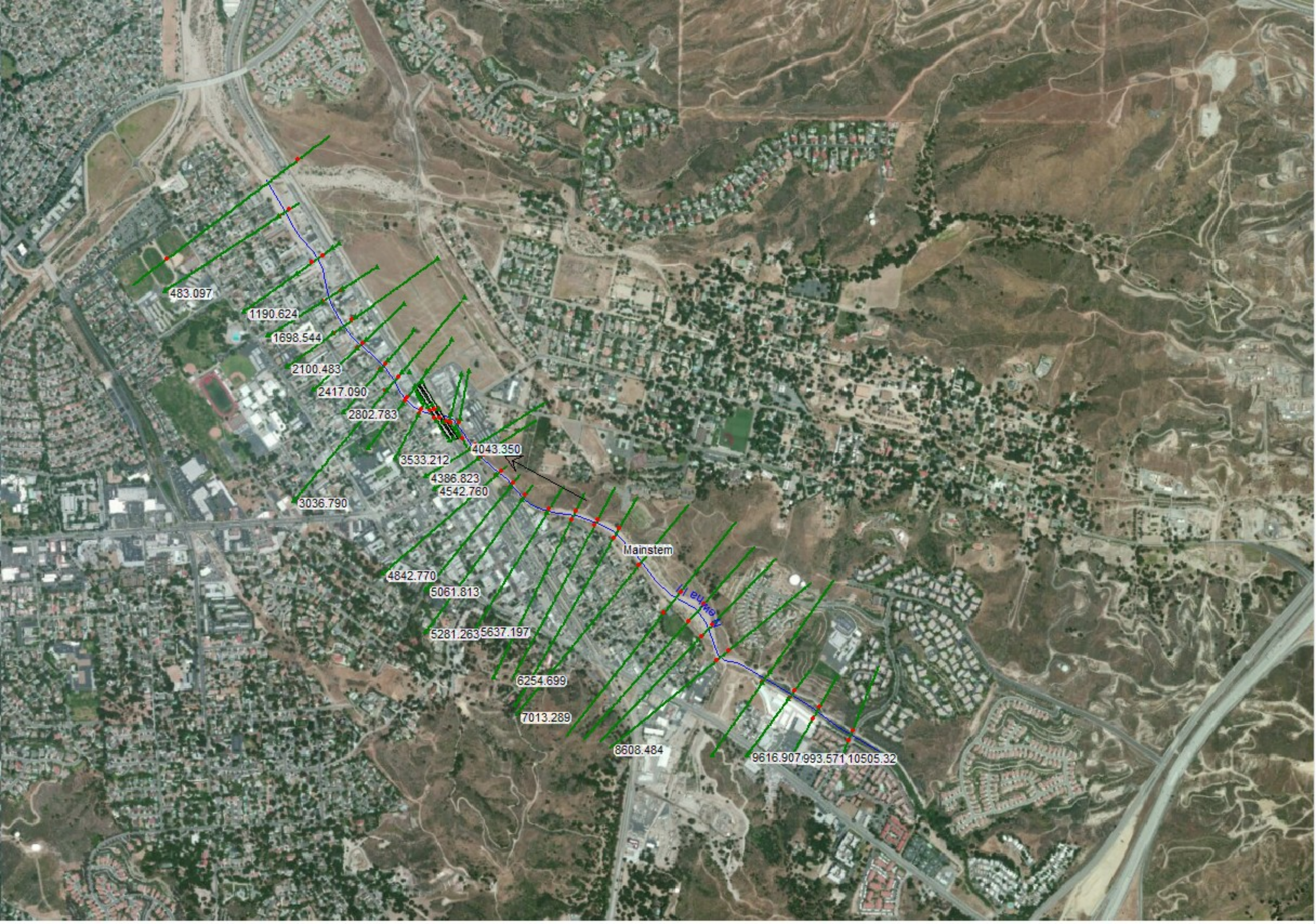
MAPS

PLANS

SURVEYS

PHOTOS


58.62
483.10
1190.62
1698.54
2100.48
2417.09
2802.78
3036.79
3301.38
4386.82
4842.77
5061.81
5281.26
6540.30
7013.29
7636.53
7954.45
8216.34
8608.48
9229.14
9616.91
9993.57
10505.33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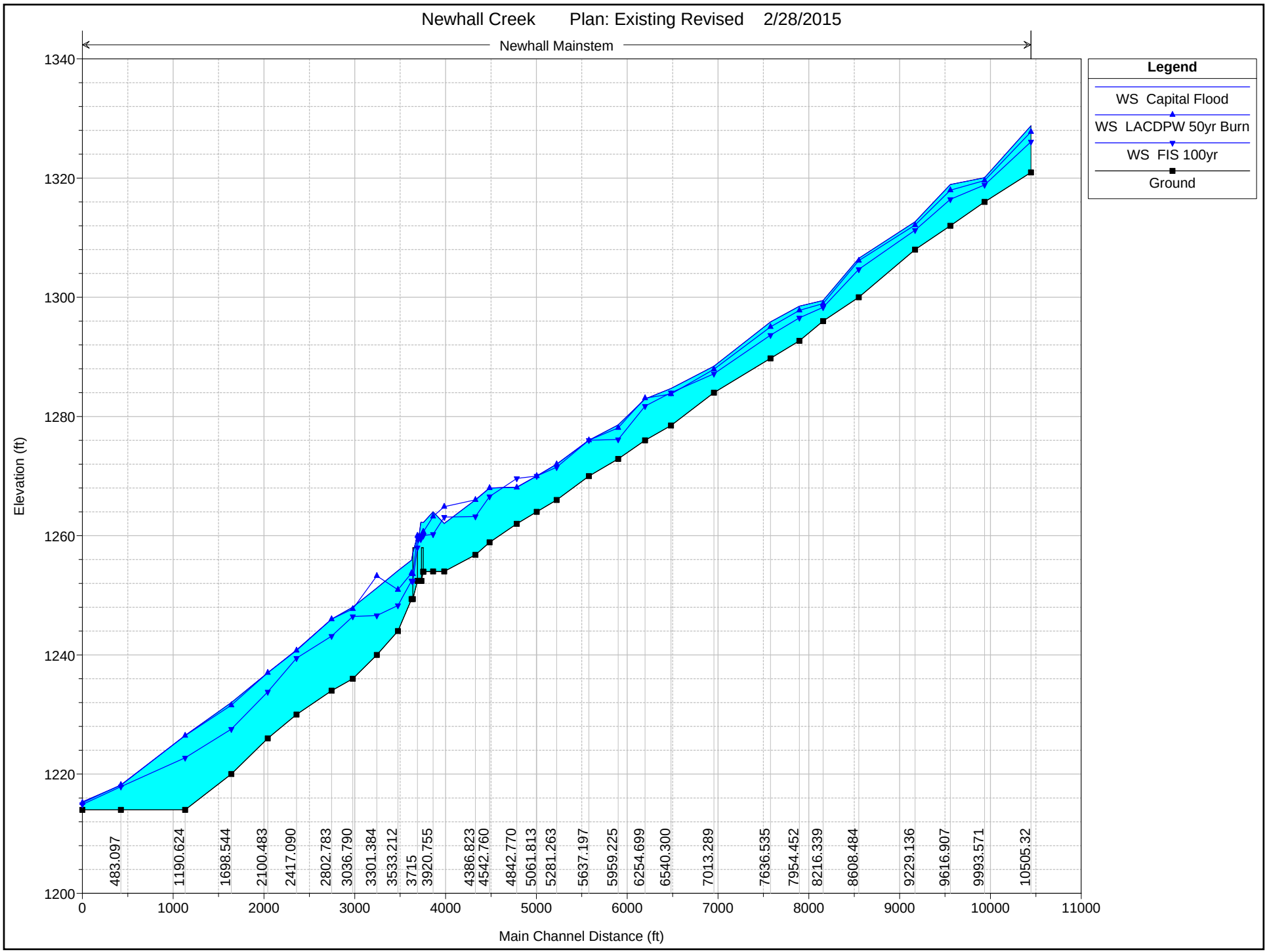
1190.624
1698.544
2100.483
2417.090
2802.783
3036.790
3533.212
4043.350
4386.823
4542.760
4842.770
5061.813
5281.263
5637.197
6254.699
7013.289
8608.484
9616.907
993.571
10505.32
Mainstem
Tributary 1

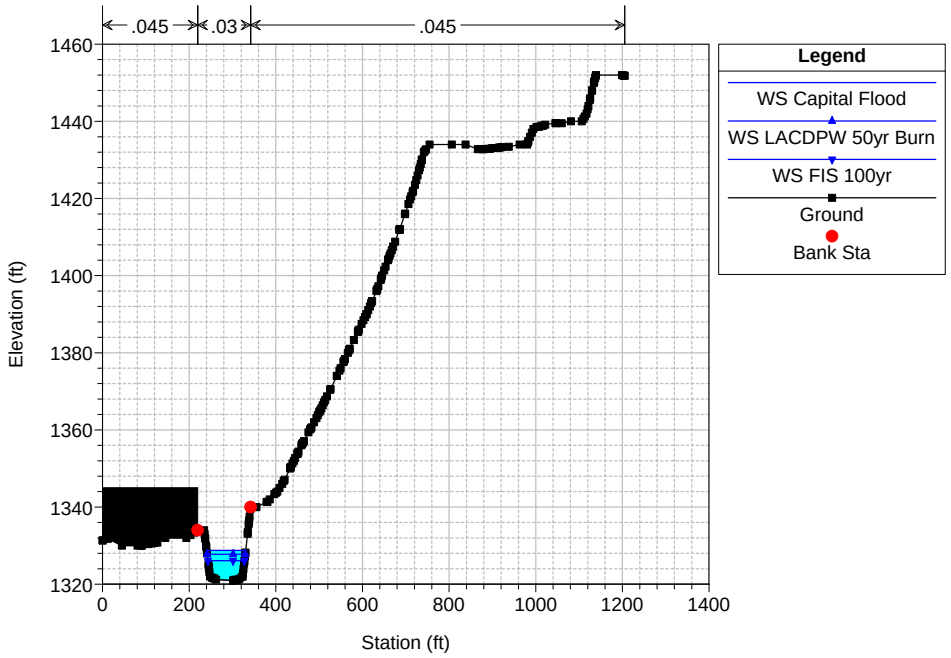
Field Photos: Newhall Creek at Proposed Dockweiler Bridge

HYDRAULICS


Newhall Creek Plan: Existing Revised 2/28/2015
Newhall Mainstem
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Elevation (ft)
Main Channel Distance (ft)
1340
1320
1300
1280
1260
1240
1220
1200
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
483.097
1190.624
1698.544
2100.483
2417.090
2802.783
3036.790
3301.384
3533.212
3715
3920.755
4386.823
4542.760
4842.770
5061.813
5281.263
5637.197
5959.225
6254.699
6540.300
7013.289
7636.535
7954.452
8216.339
8608.484
9229.136
9616.907
9993.571
10505.32

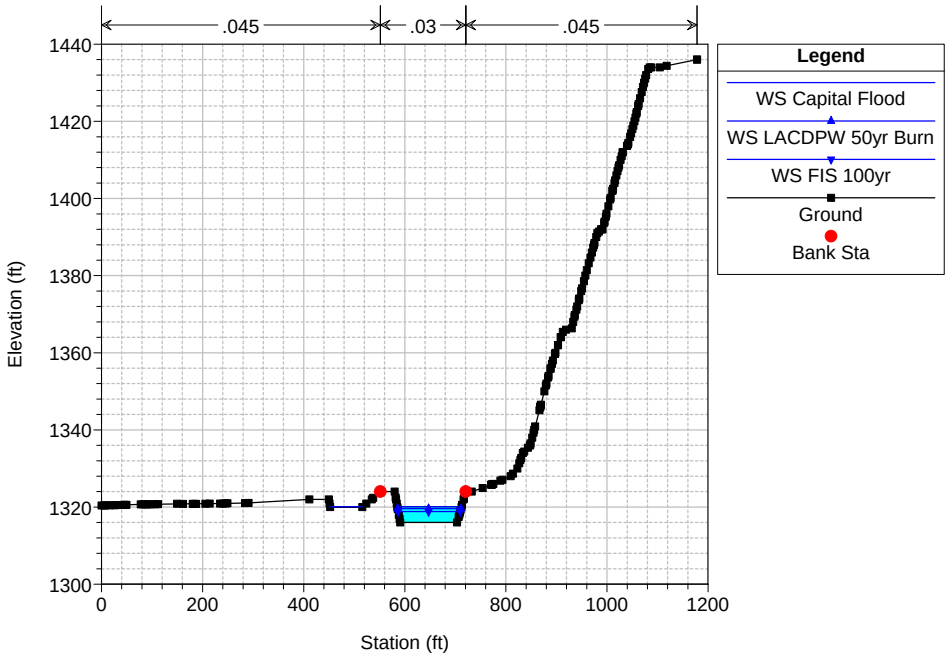
Newhall Creek Plan: Existing Revised 2/28/2015

River = Newhall Reach = Mainstem RS = 10505.32



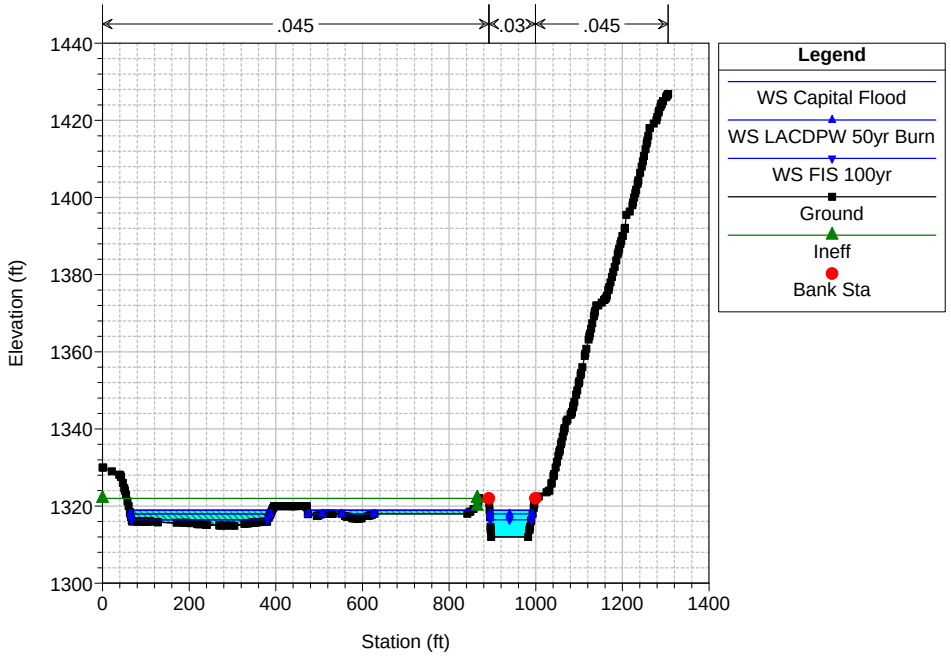
Newhall Creek Plan: Existing Revised 2/28/2015

River = Newhall Reach = Mainstem RS = 9993.571



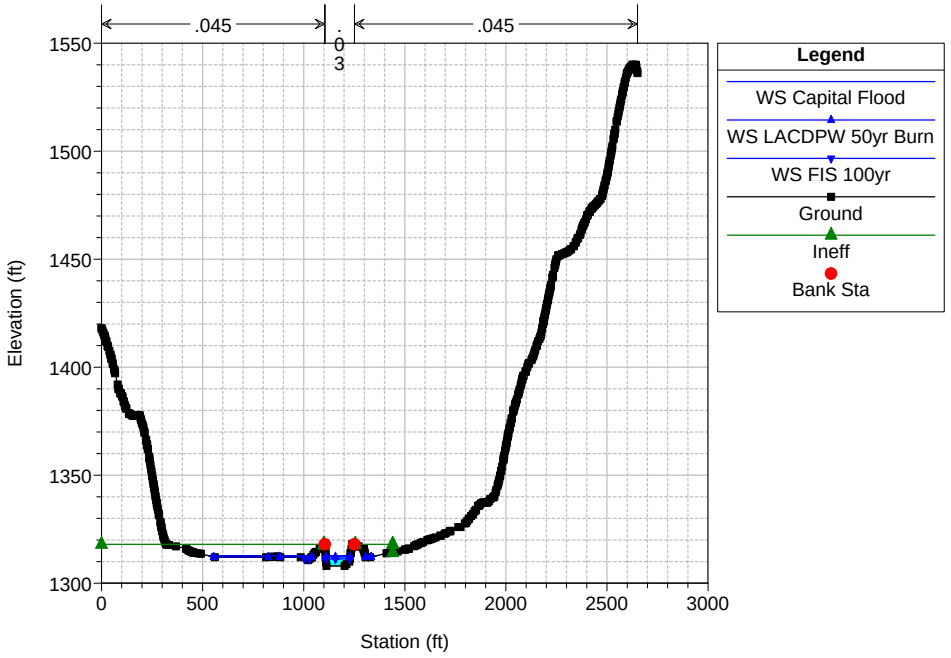
Newhall Creek Plan: Existing Revised 2/28/2015

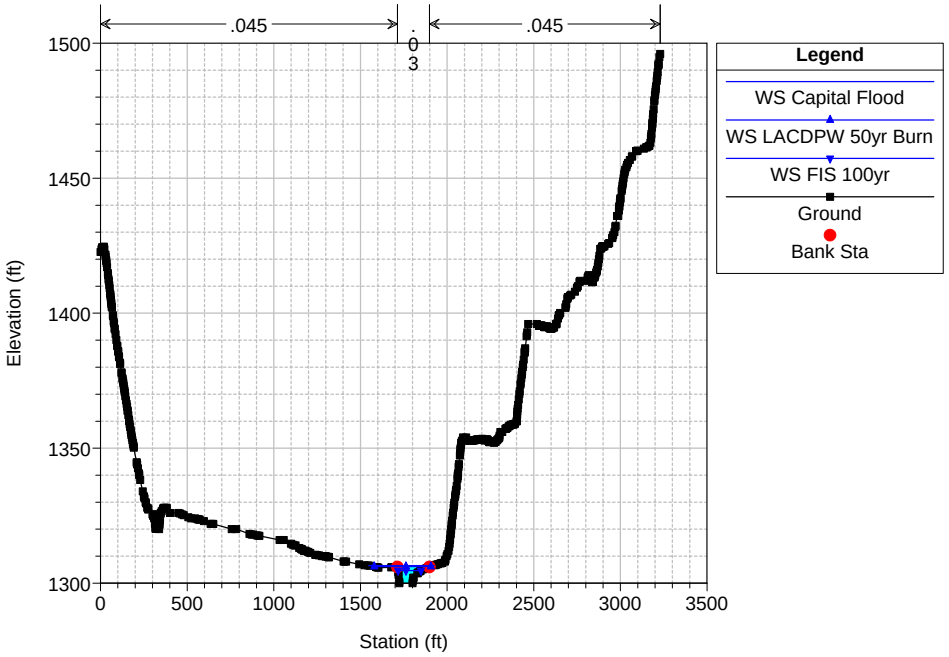
River = Newhall Reach = Mainstem RS = 9616.907

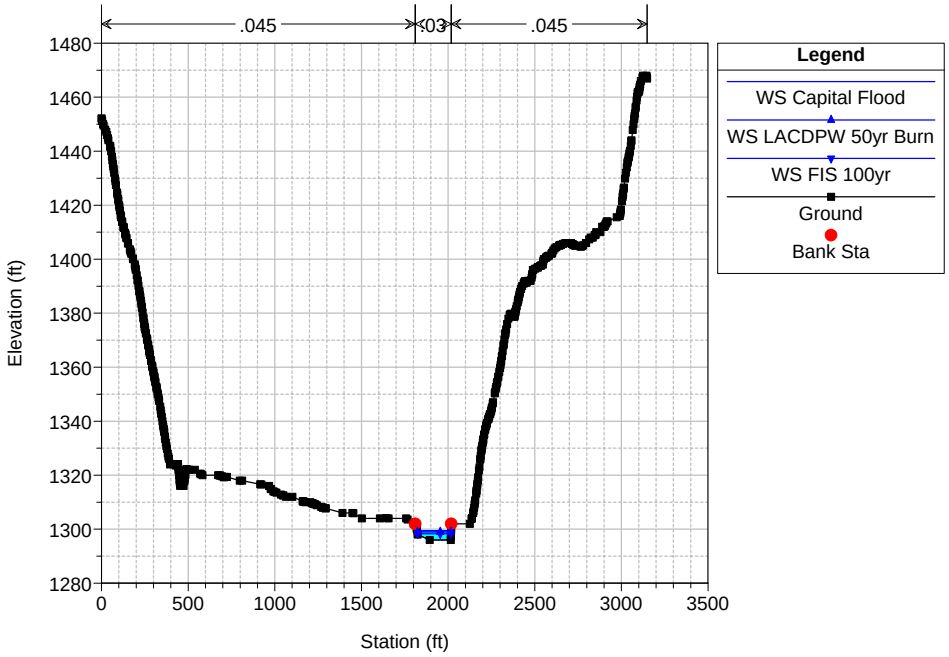


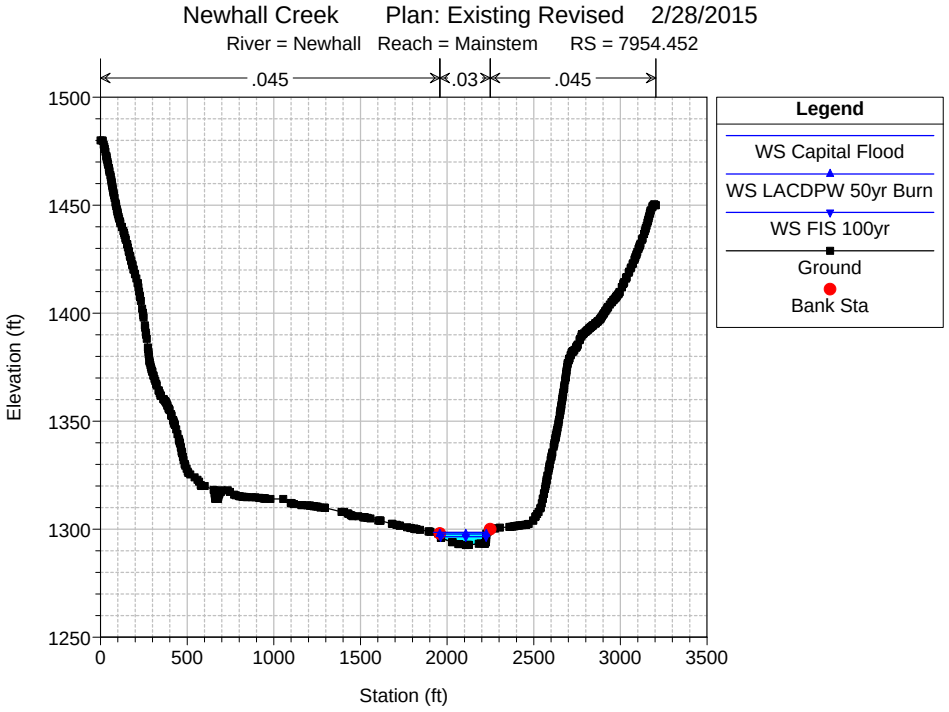
Newhall Creek Plan: Existing Revised 2/28/2015

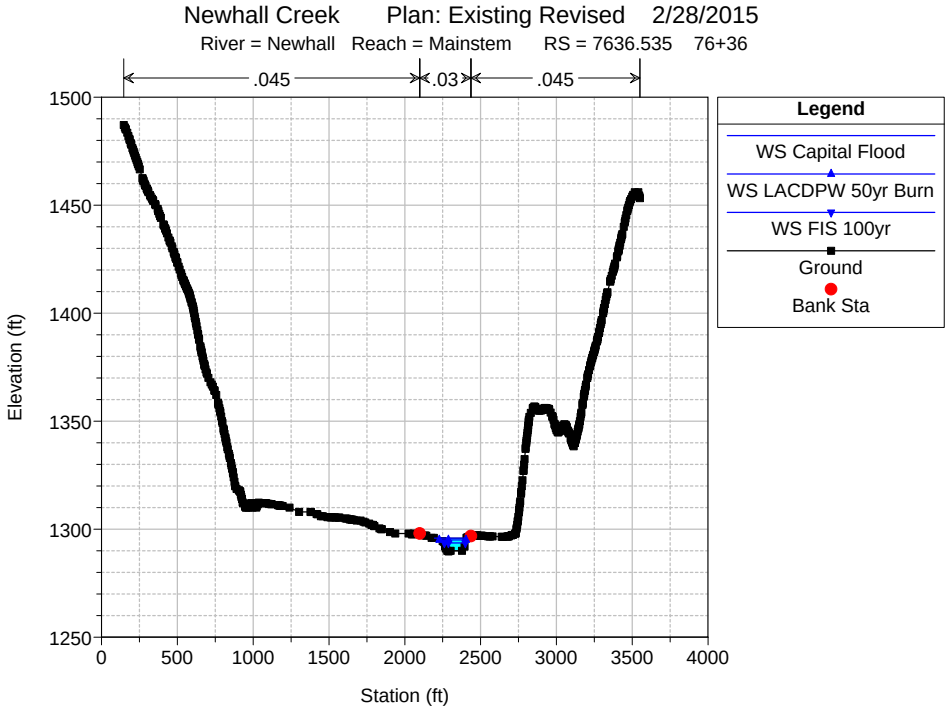
River = Newhall Reach = Mainstem RS = 9229.136

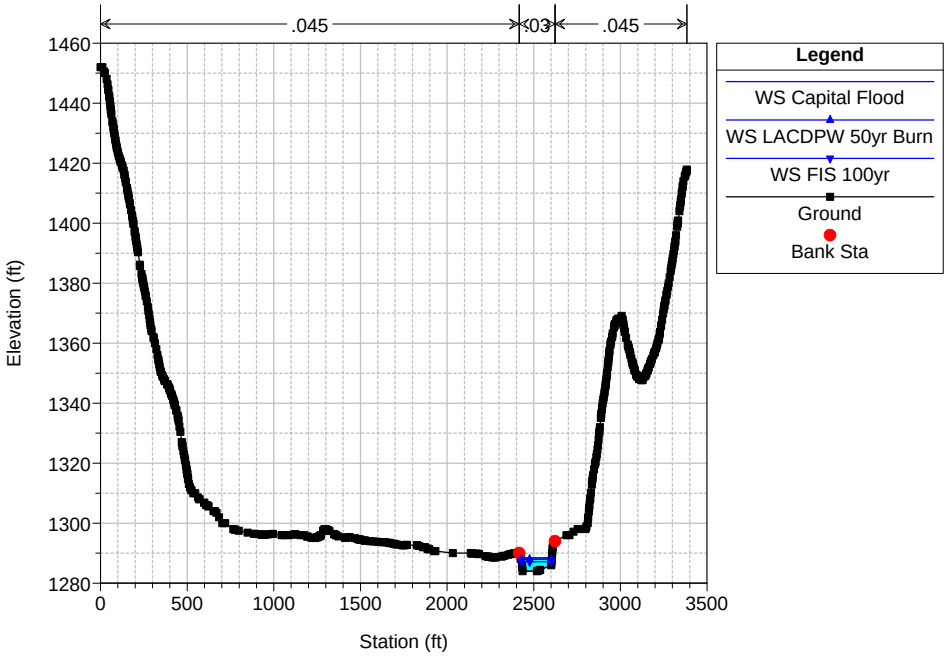


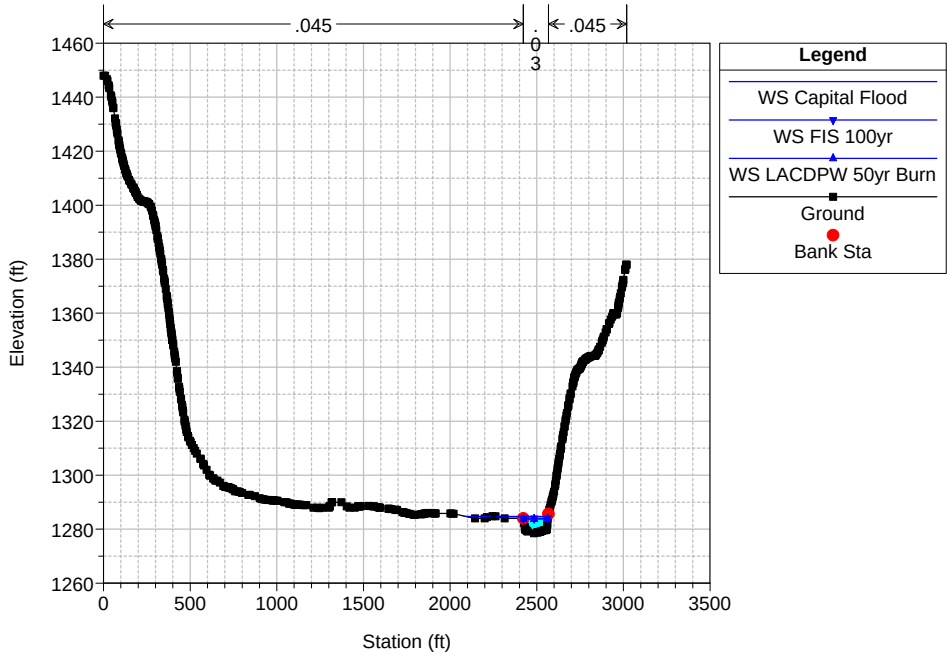

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 8608.484
.045
.03
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Bank Sta
Elevation (ft)
Station (ft)

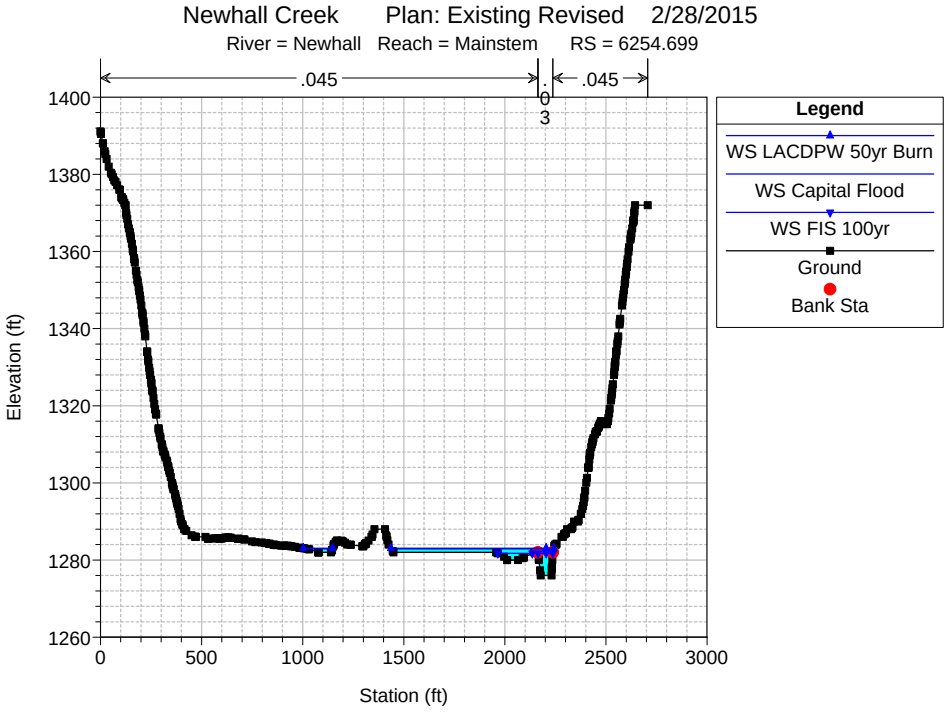

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 8216.339
.045
.03
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Bank Sta
Elevation (ft)
Station (ft)

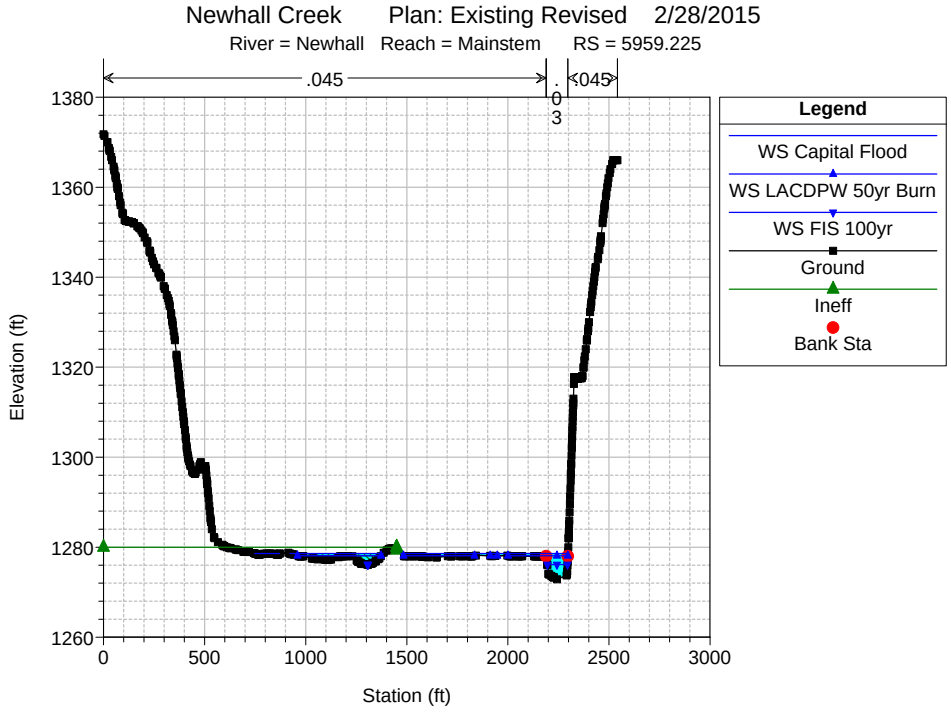

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 7954.452
.045
.03
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Bank Sta
Elevation (ft)
Station (ft)

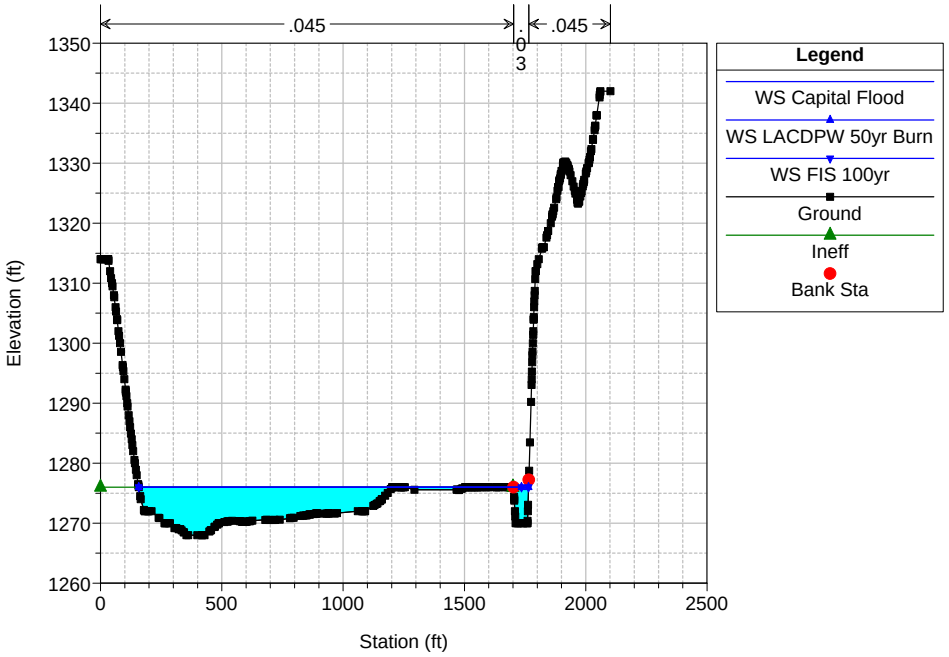

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 7636.535 76+36
.045
.03
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Bank Sta
Elevation (ft)
Station (ft)

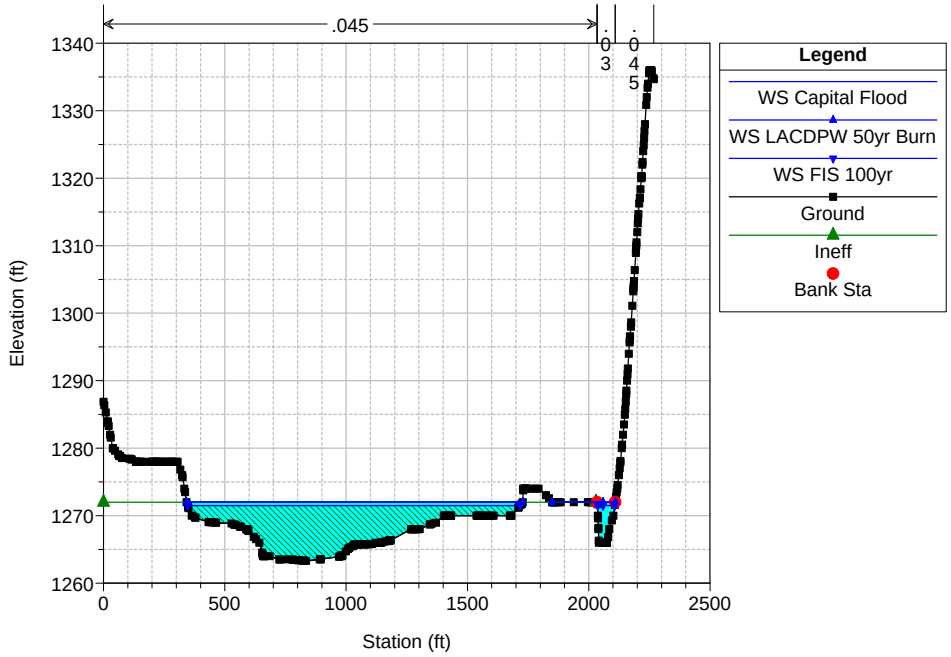

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 7013.289
.045
.03
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Bank Sta
Elevation (ft)
Station (ft)

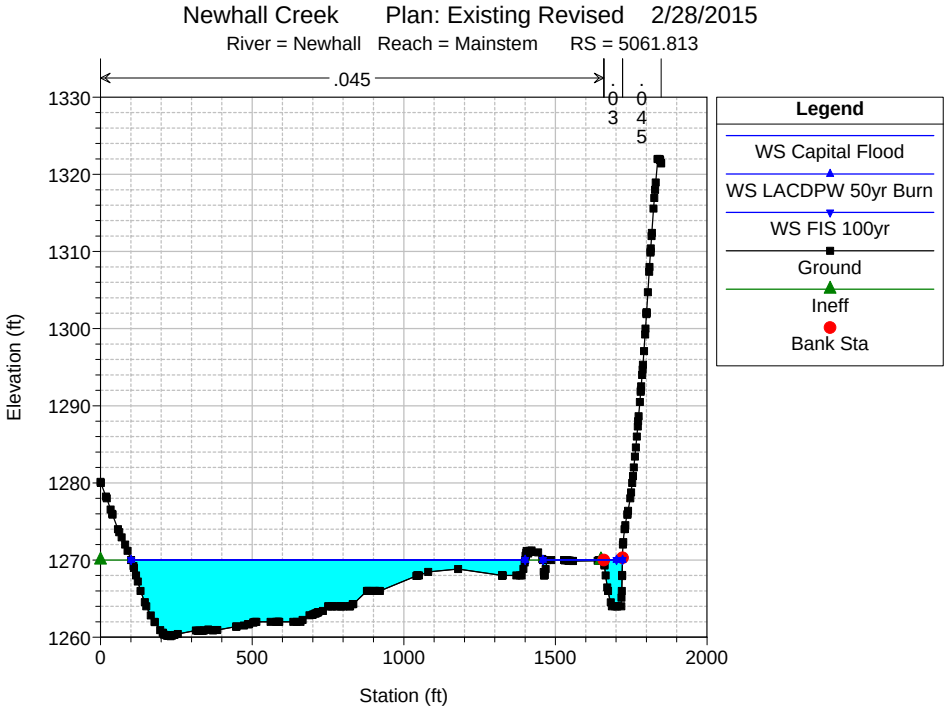

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 6540.300
.045
.03
.045
Legend
WS Capital Flood
WS FIS 100yr
WS LACDPW 50yr Burn
Ground
Bank Sta
Elevation (ft)
Station (ft)

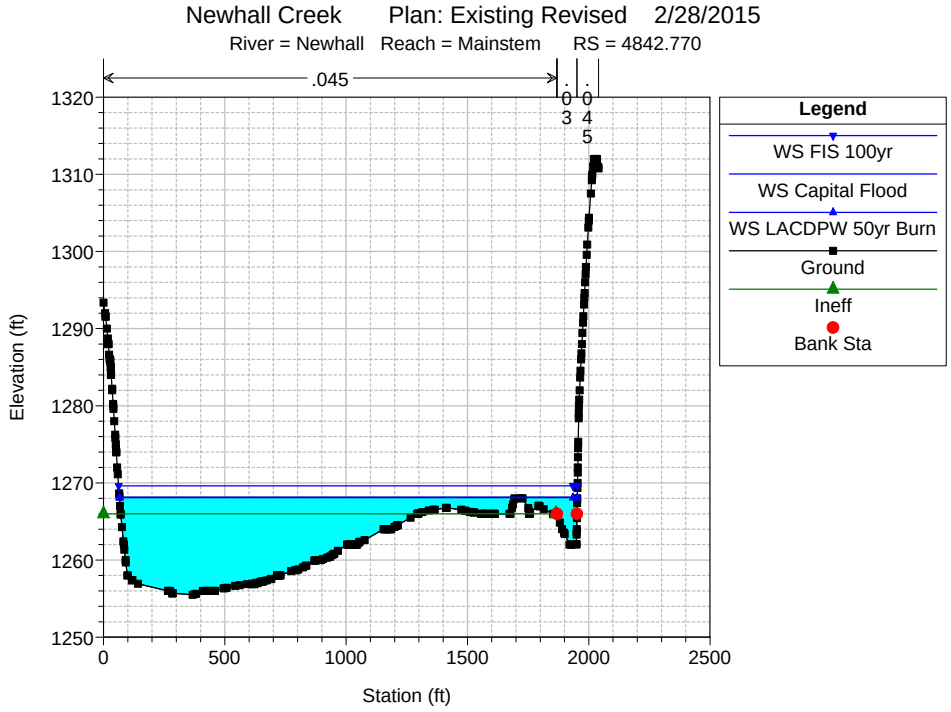

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 6254.699
.045
.03
.045
Legend
WS LACDPW 50yr Burn
WS Capital Flood
WS FIS 100yr
Ground
Bank Sta
Elevation (ft)
Station (ft)

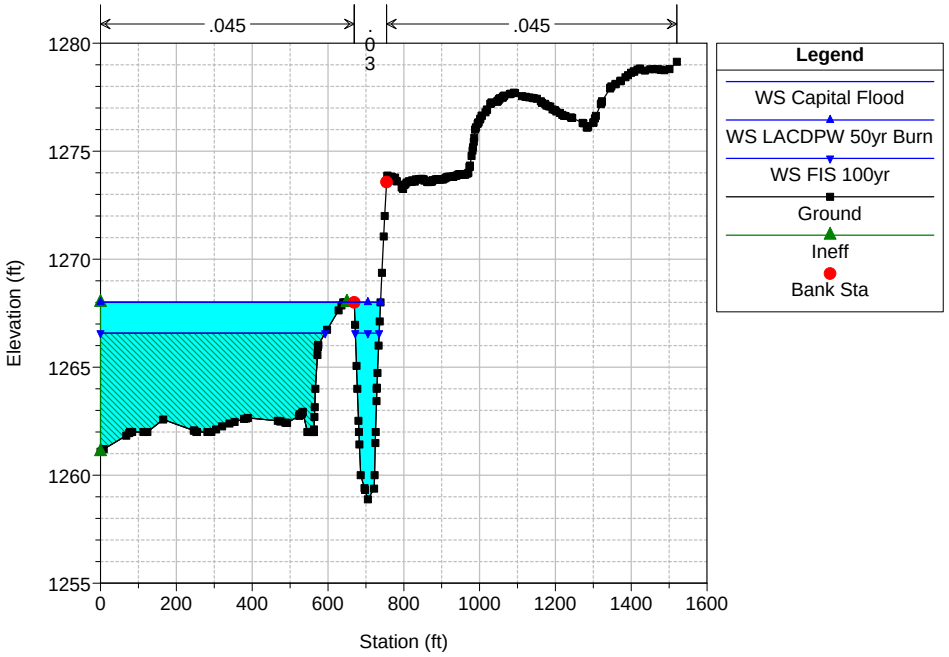

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 5959.225
.045
.03
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

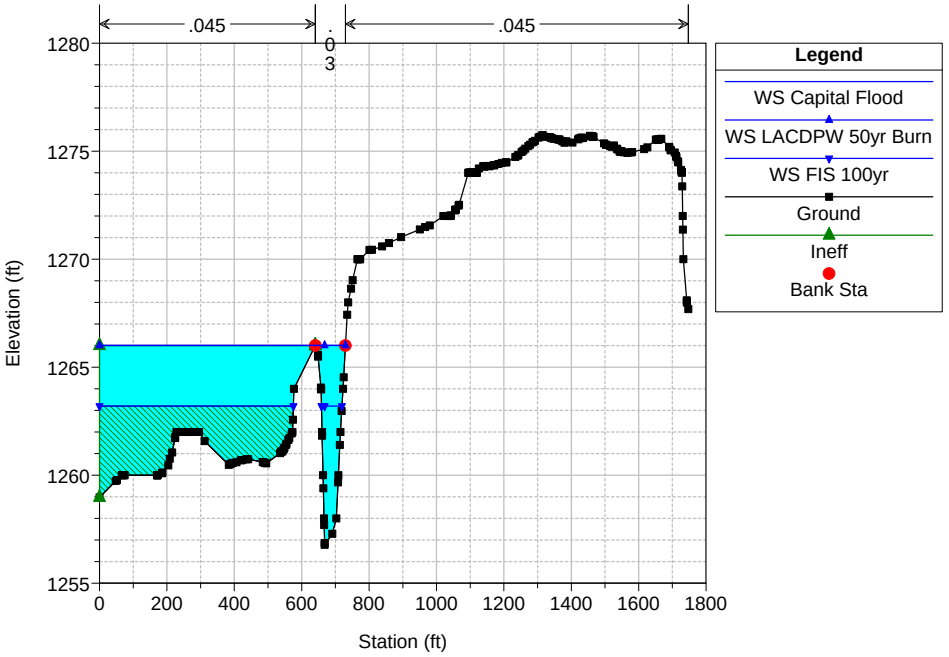

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 5637.197
.045
.045
.03
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

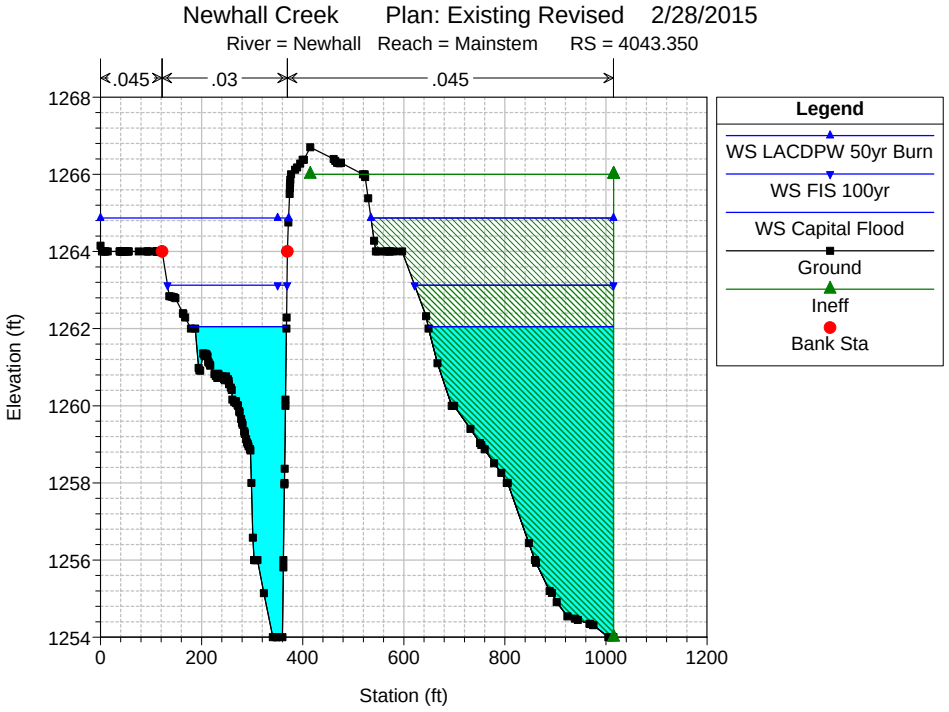

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 5281.263
.045
.03
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

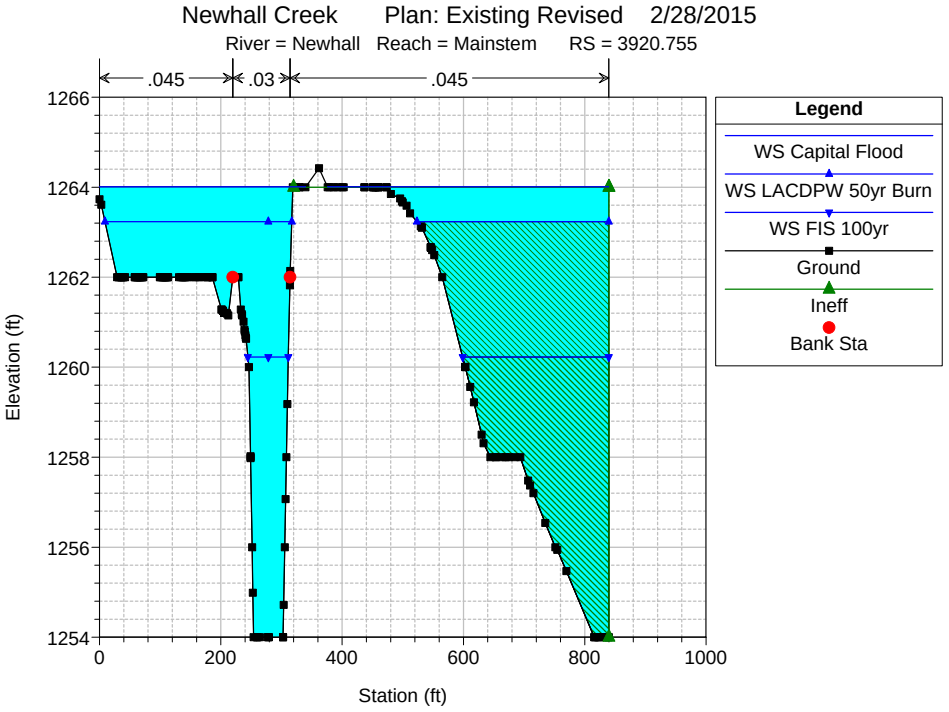

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 5061.813
.045
.03
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

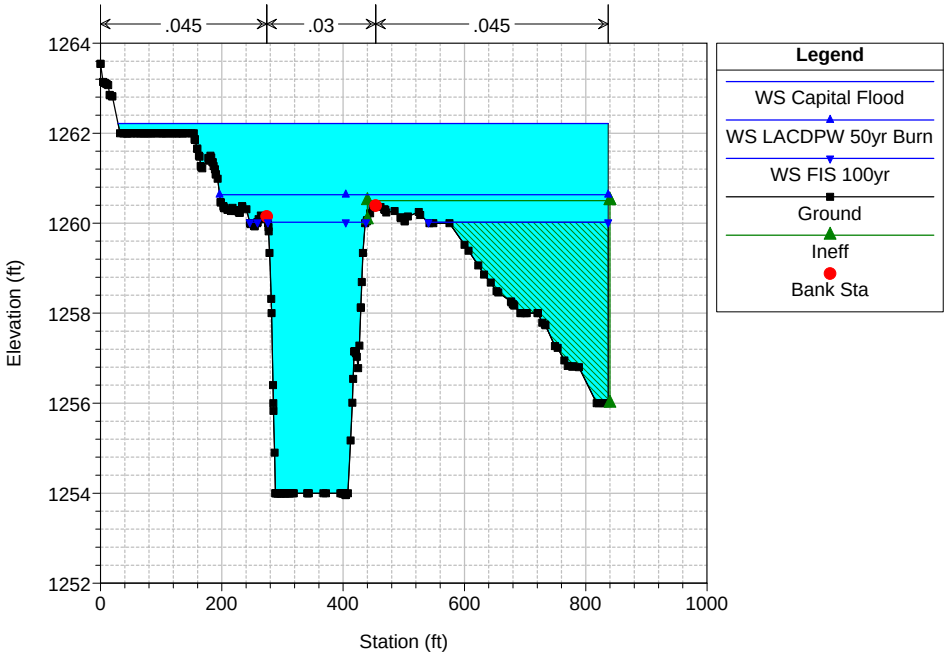

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 4842.770
.045
.03
.045
Legend
WS FIS 100yr
WS Capital Flood
WS LACDPW 50yr Burn
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

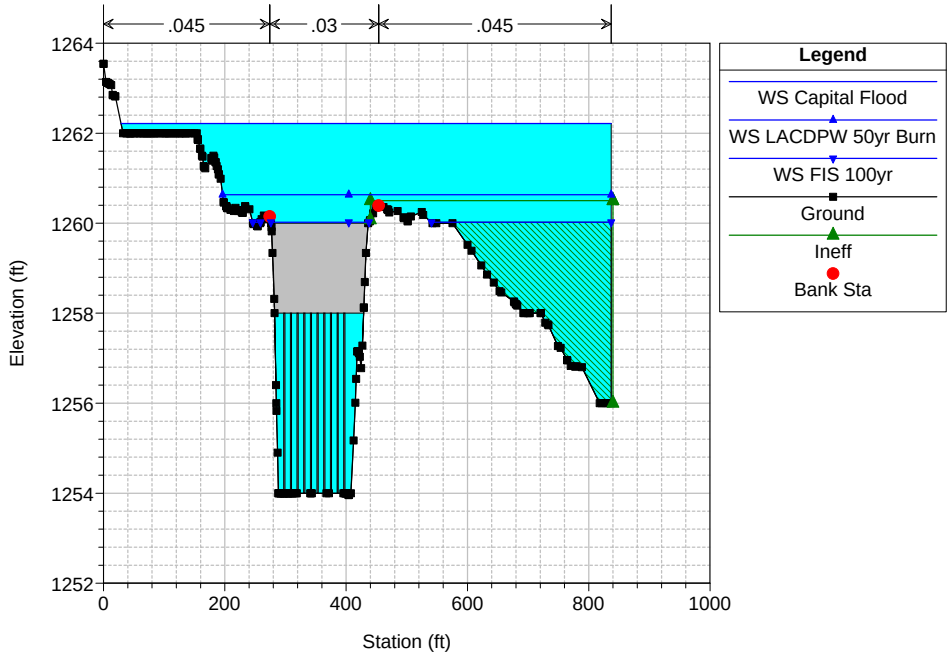

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 4542.760
.045
.03
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

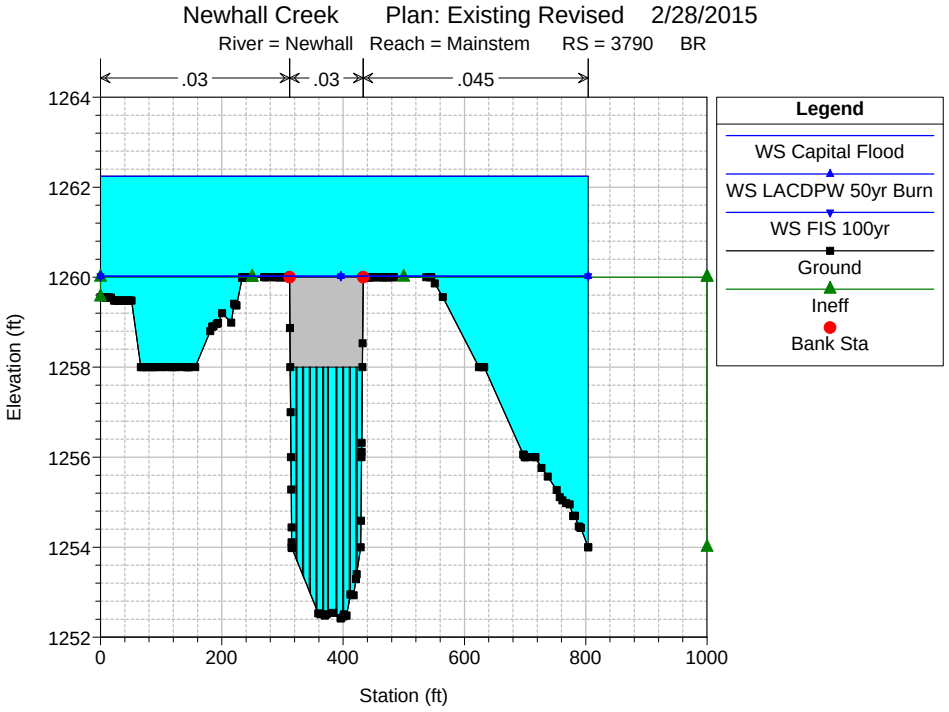

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 4386.823
.045
.03
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

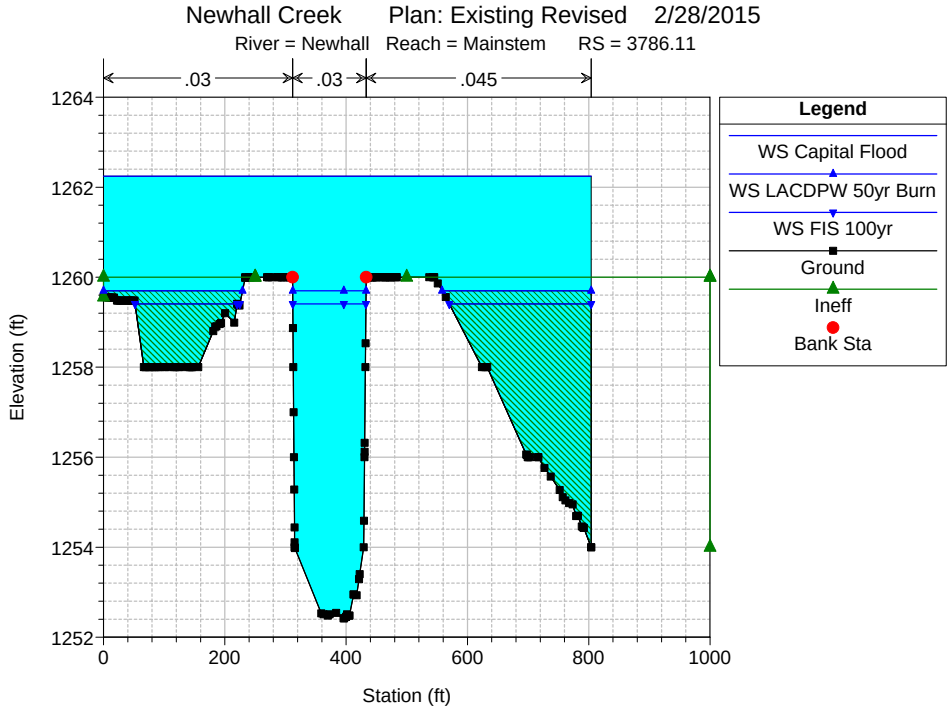

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 4043.350
.045
.03
.045
Legend
WS LACDPW 50yr Burn
WS FIS 100yr
WS Capital Flood
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

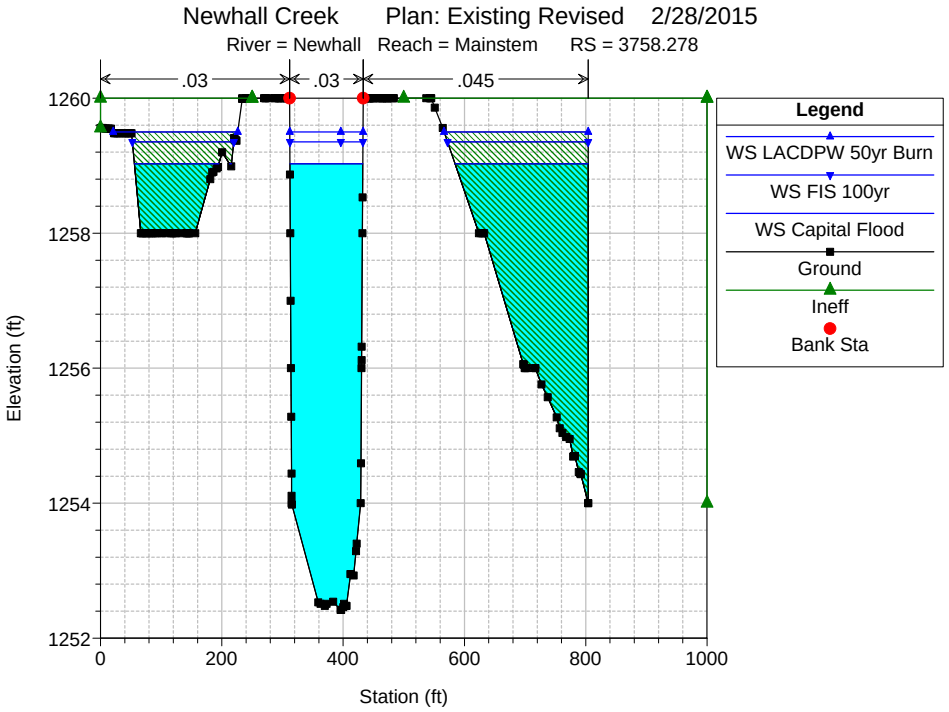

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 3920.755
.045
.03
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

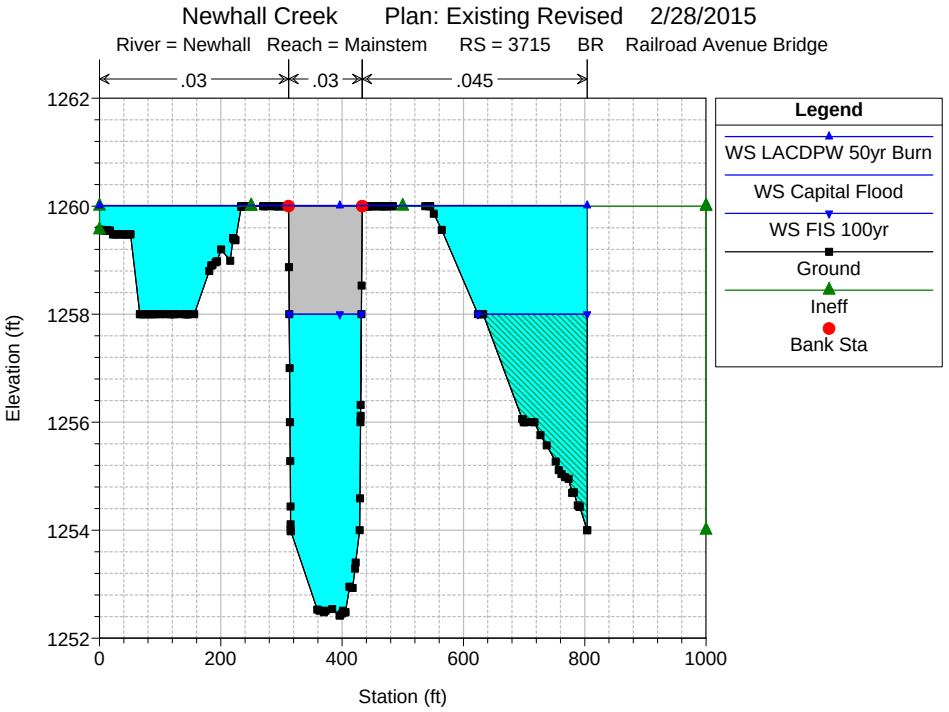

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 3813.951
.045
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

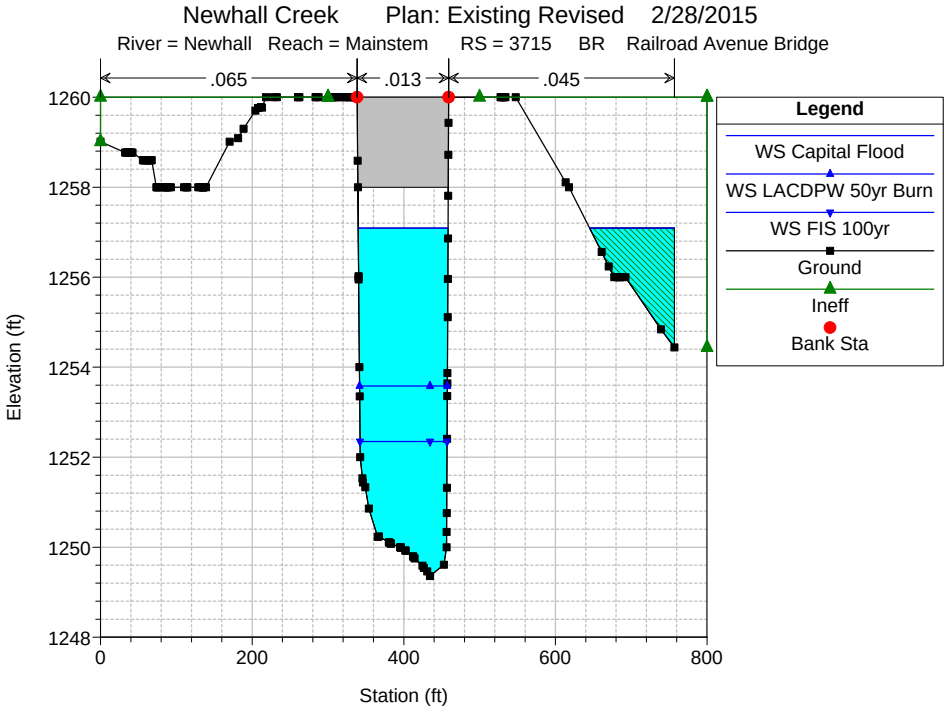

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 3790 BR
.045
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

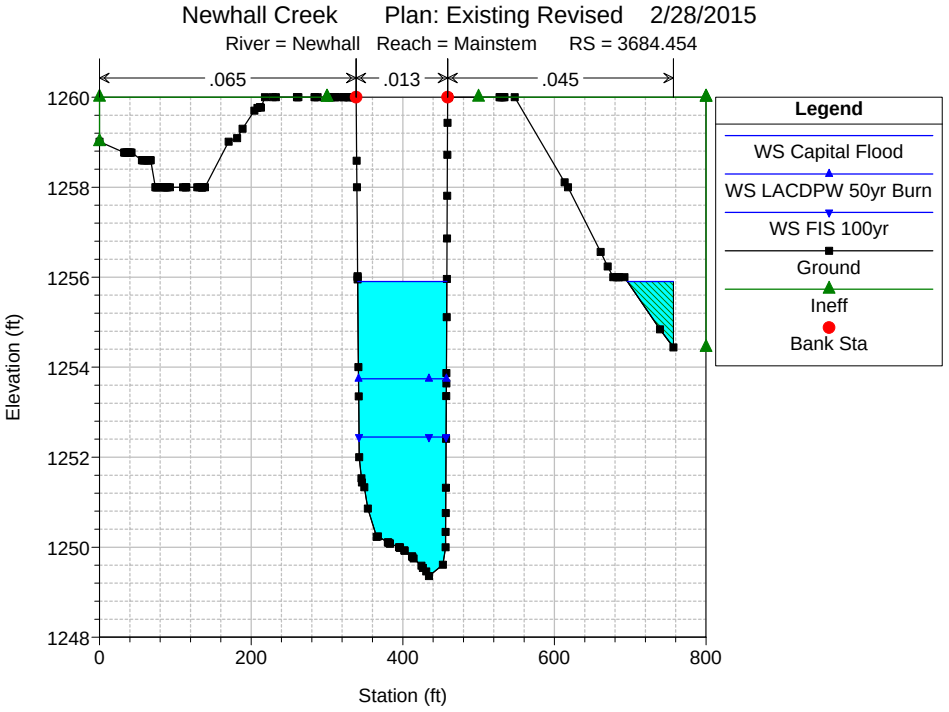

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 3790 BR
.03
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

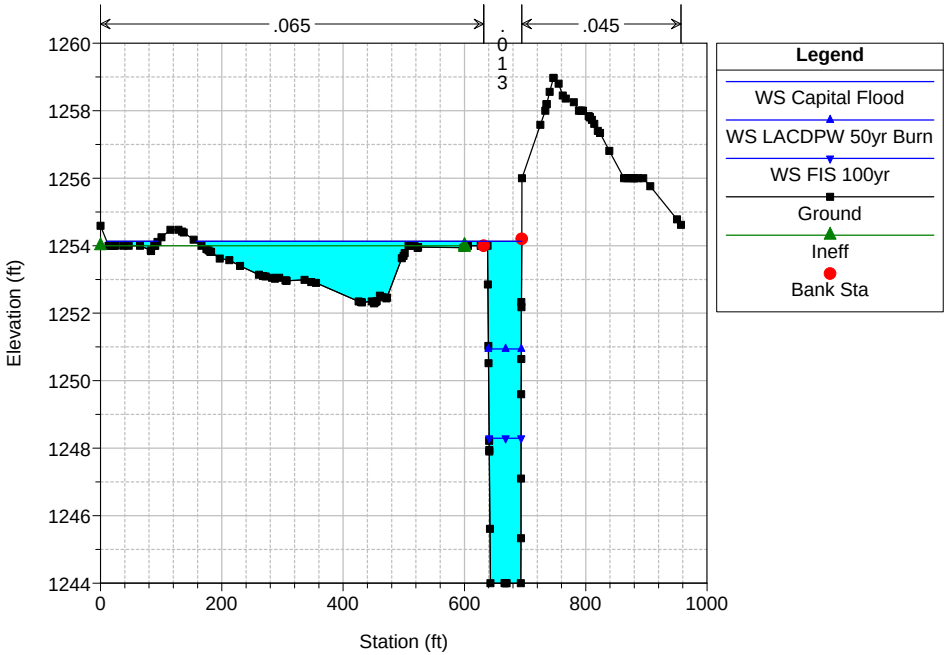

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 3786.11
.03
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

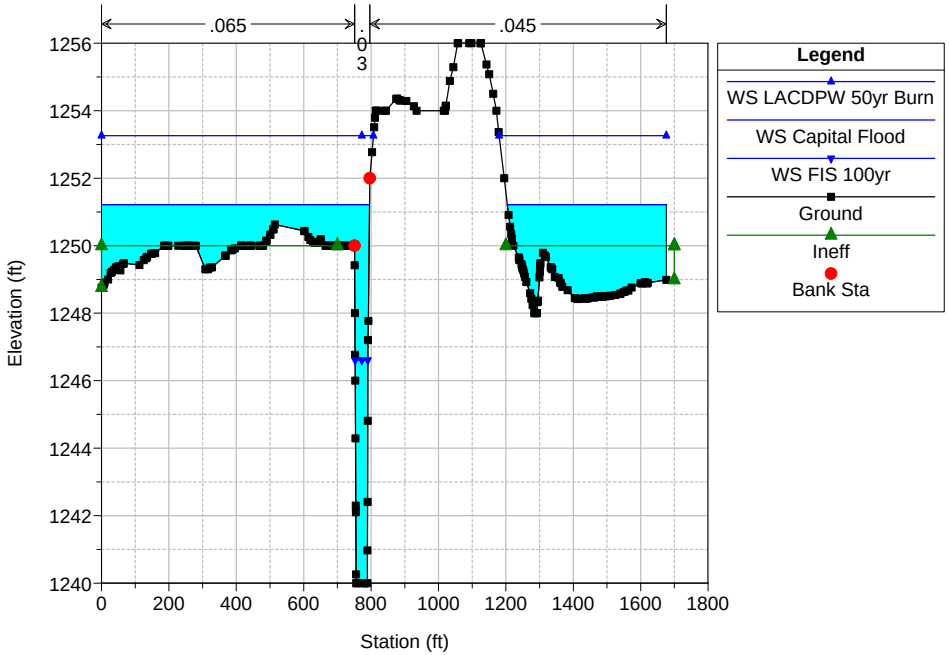

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 3758.278
.03
.03
.045
Elevation (ft)
Station (ft)
Legend
WS LACDPW 50yr Burn
WS FIS 100yr
WS Capital Flood
Ground
Ineff
Bank Sta

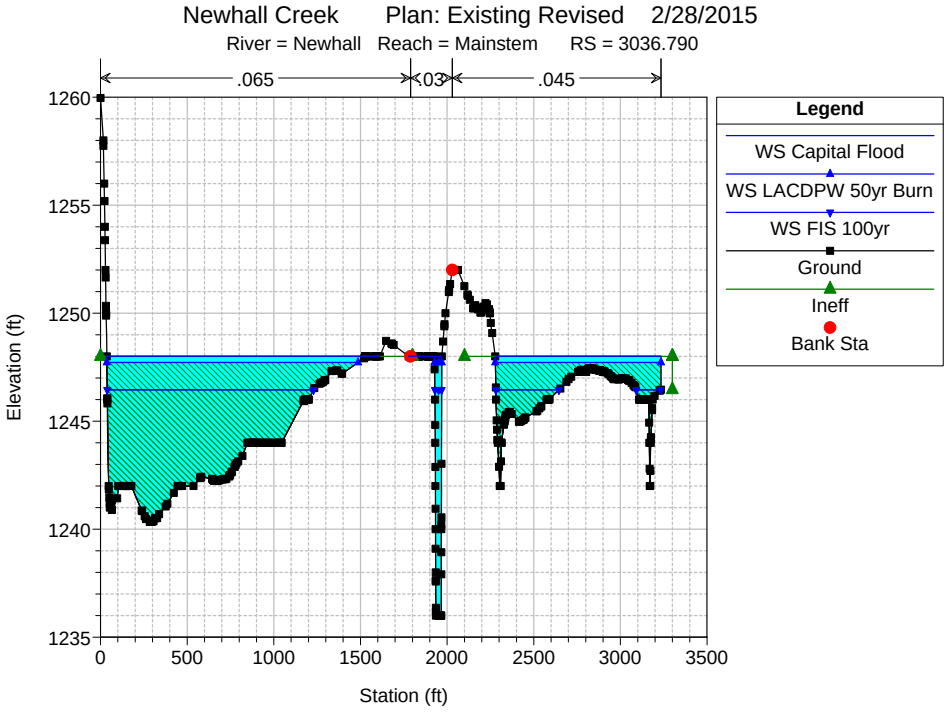

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 3715 BR Railroad Avenue Bridge
.03
.03
.045
Elevation (ft)
Station (ft)
Legend
WS LACDPW 50yr Burn
WS Capital Flood
WS FIS 100yr
Ground
Ineff
Bank Sta

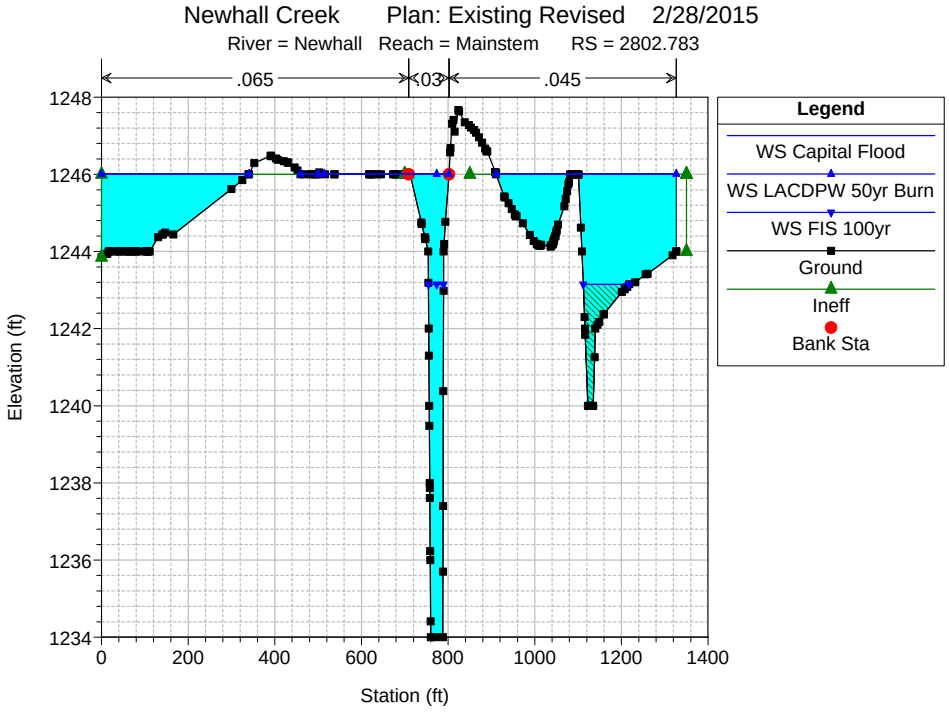

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 3715 BR Railroad Avenue Bridge
.065
.013
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

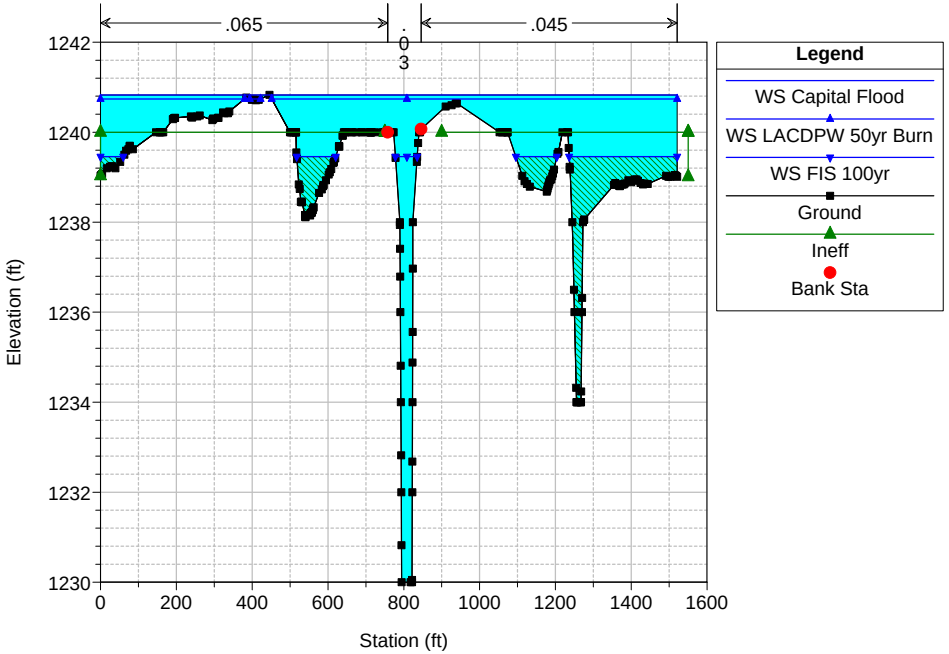

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 3684.454
.065
.013
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

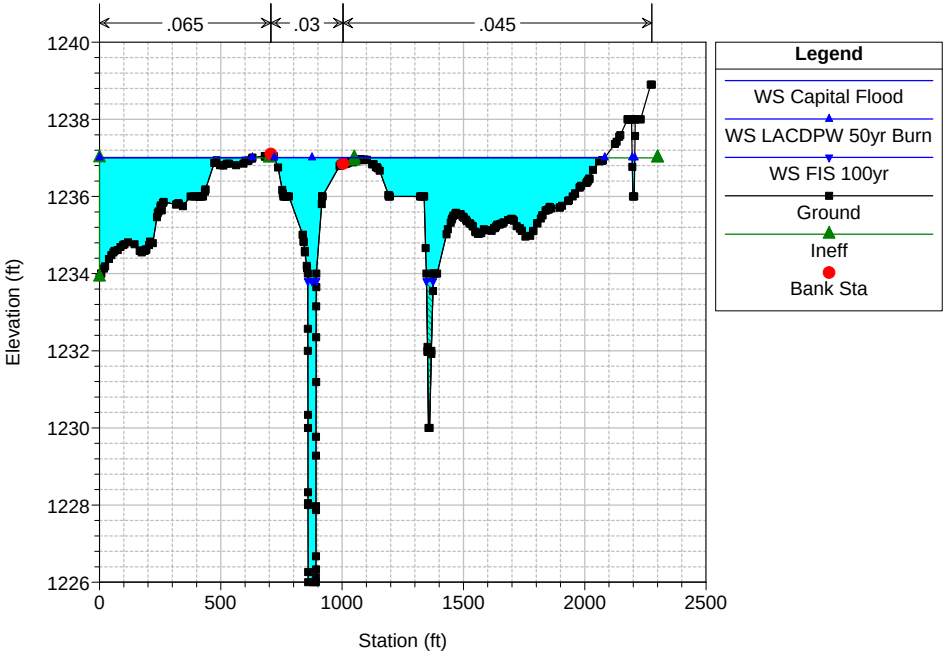

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 3533.212
.065
.013
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

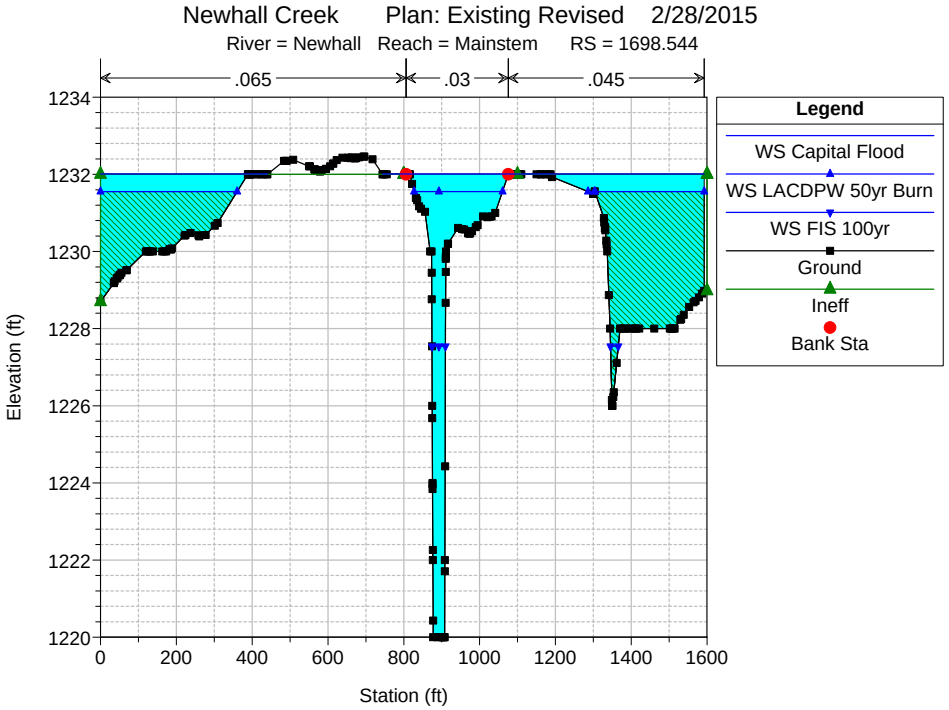

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 3301.384
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS LACDPW 50yr Burn
WS Capital Flood
WS FIS 100yr
Ground
Ineff
Bank Sta

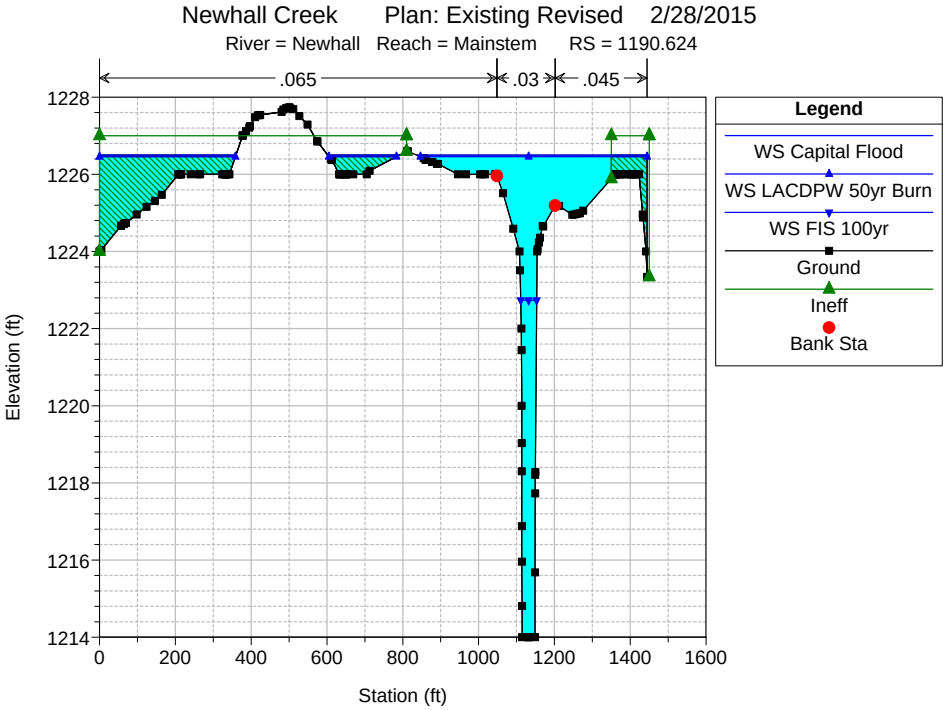

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 3036.790
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

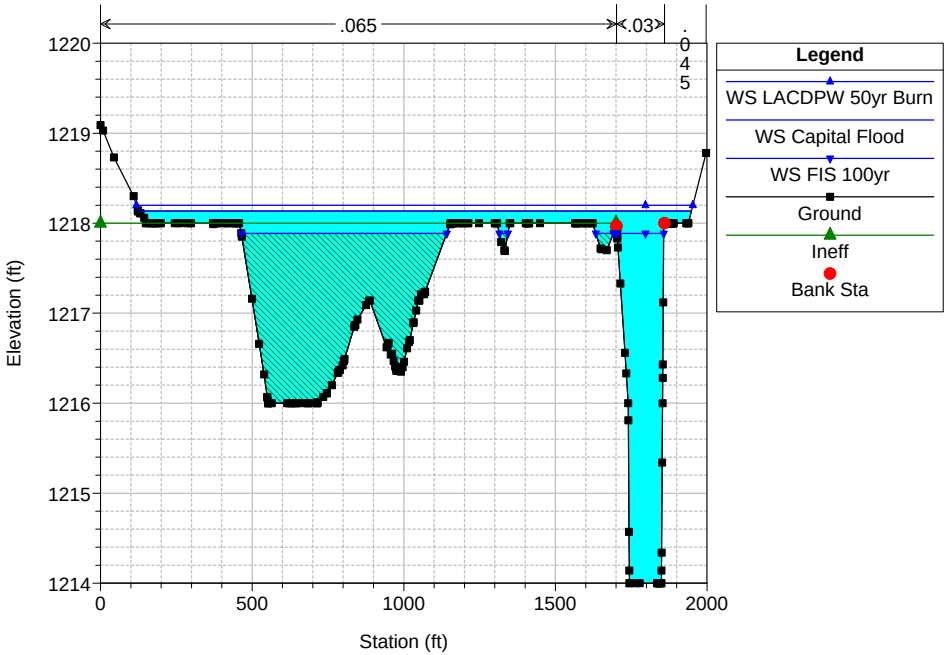

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 2802.783
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

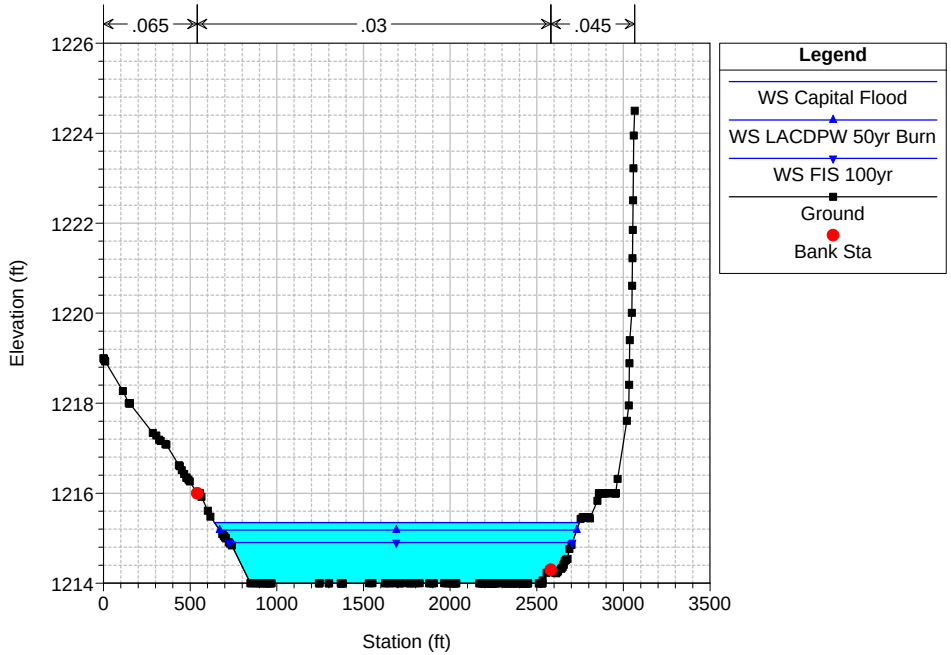

Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 2417.090
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta


Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 2100.483
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta


Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 1698.544
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta


Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 1190.624
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta


Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 483.097
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS LACDPW 50yr Burn
WS Capital Flood
WS FIS 100yr
Ground
Ineff
Bank Sta


Newhall Creek Plan: Existing Revised 2/28/2015
River = Newhall Reach = Mainstem RS = 58.617
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Bank Sta

HEC-RAS Plan: Existing Revised River: Newhall Reach: Mainstem

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Slope	Vel Chnl	Vel Total	Flow Area	Top Width	Froude # Chl	Froude # XS	Shear Chan	Shear Total	Power Chan	Power Total
			(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(ft/s)	(sq ft)	(ft)			(lb/sq ft)	(lb/sq ft)	(lb/ft s)	(lb/ft s)
Mainstem	10505.32	Capital Flood	9200.00	1320.94	1328.77	1328.77	0.007543	14.92	14.92	616.54	90.10	1.01	1.01	3.04	3.04	45.40	45.40
Mainstem	10505.32	LACDPW 50yr Burn	7321.00	1320.94	1327.76	1327.76	0.007736	13.90	13.90	526.80	87.91	1.00	1.00	2.75	2.75	38.24	38.24
Mainstem	10505.32	FIS 100yr	4640.00	1320.94	1326.08	1326.08	0.008428	12.15	12.15	381.99	84.25	1.01	1.01	2.30	2.30	27.91	27.91
Mainstem	9993.571	Capital Flood	9200.00	1316.00	1320.07	1322.31	0.024789	18.89	18.73	491.24	191.20	1.70	2.08	5.83	3.93	110.21	73.61
Mainstem	9993.571	LACDPW 50yr Burn	7321.00	1316.00	1319.59	1321.64	0.023933	17.17	17.17	426.44	125.24	1.64	1.64	5.01	5.01	86.02	86.02
Mainstem	9993.571	FIS 100yr	4640.00	1316.00	1318.84	1319.69	0.021013	13.89	13.89	333.99	122.56	1.48	1.48	3.53	3.53	49.05	49.05
Mainstem	9616.907	Capital Flood	9200.00	1312.00	1318.92	1318.92	0.007625	14.31	14.31	642.86	810.37	1.00	1.00	2.87	2.87	41.00	41.00
Mainstem	9616.907	LACDPW 50yr Burn	7321.00	1312.00	1317.97	1317.97	0.007877	13.34	13.34	548.92	531.39	1.00	1.00	2.60	2.60	34.66	34.66
Mainstem	9616.907	FIS 100yr	4640.00	1312.00	1316.44	1316.44	0.008496	11.58	11.58	400.53	409.58	1.00	1.00	2.14	2.14	24.84	24.84
Mainstem	9229.136	Capital Flood	9200.00	1308.00	1312.67	1314.05	0.018855	17.65	17.65	521.20	687.19	1.50	1.50	4.92	4.92	86.88	86.88
Mainstem	9229.136	LACDPW 50yr Burn	7321.00	1308.00	1312.13	1313.24	0.018411	16.08	16.08	455.20	579.32	1.46	1.46	4.26	4.26	68.44	68.44
Mainstem	9229.136	FIS 100yr	4640.00	1308.00	1311.26	1311.93	0.016862	13.17	13.17	352.39	143.19	1.34	1.34	3.08	3.08	40.60	40.60
Mainstem	8608.484	Capital Flood	9200.00	1300.00	1306.54	1307.09	0.009317	12.05	10.87	846.71	376.99	1.06	1.40	2.33	1.30	28.02	14.12
Mainstem	8608.484	LACDPW 50yr Burn	7321.00	1300.00	1306.14	1306.39	0.008593	10.81	10.33	708.61	327.33	1.00	1.29	1.94	1.15	20.93	11.92
Mainstem	8608.484	FIS 100yr	4640.00	1300.00	1304.69	1304.69	0.009020	10.45	10.45	444.09	132.38	1.01	1.01	1.86	1.86	19.48	19.48
Mainstem	8216.339	Capital Flood	9200.00	1296.00	1299.45	1300.53	0.022540	15.47	15.47	594.53	195.68	1.56	1.56	4.22	4.22	65.37	65.37
Mainstem	8216.339	LACDPW 50yr Burn	7321.00	1296.00	1298.94	1299.93	0.026064	14.81	14.81	494.37	194.20	1.64	1.64	4.10	4.10	60.73	60.73
Mainstem	8216.339	FIS 100yr	4640.00	1296.00	1298.32	1298.99	0.026072	12.40	12.40	374.24	192.42	1.57	1.57	3.14	3.14	38.95	38.95
Mainstem	7954.452	Capital Flood	9200.00	1292.70	1298.51	1297.00	0.002653	7.12	7.06	1302.25	311.06	0.58	0.61	0.77	0.69	5.50	4.85
Mainstem	7954.452	LACDPW 50yr Burn	7321.00	1292.70	1297.80	1296.51	0.002793	6.67	6.67	1098.27	267.58	0.58	0.58	0.71	0.71	4.72	4.72
Mainstem	7954.452	FIS 100yr	4640.00	1292.70	1296.55	1295.72	0.003609	6.05	6.05	767.06	262.91	0.62	0.62	0.65	0.65	3.95	3.95
Mainstem	7636.535	Capital Flood	9200.00	1289.76	1295.87	1295.87	0.008299	11.18	11.18	823.26	209.96	0.99	0.99	2.02	2.02	22.57	22.57
Mainstem	7636.535	LACDPW 50yr Burn	7321.00	1289.76	1295.04	1295.04	0.008578	11.04	11.04	662.92	176.37	1.00	1.00	2.00	2.00	22.09	22.09
Mainstem	7636.535	FIS 100yr	4640.00	1289.76	1293.65	1293.65	0.009037	10.30	10.30	450.54	138.47	1.01	1.01	1.83	1.83	18.80	18.80
Mainstem	7013.289	Capital Flood	9200.00	1284.00	1288.44	1289.25	0.013039	13.62	13.62	675.43	179.03	1.24	1.24	3.04	3.04	41.44	41.44
Mainstem	7013.289	LACDPW 50yr Burn	7321.00	1284.00	1287.93	1288.37	0.013056	12.52	12.52	584.87	176.34	1.21	1.21	2.68	2.68	33.56	33.56
Mainstem	7013.289	FIS 100yr	4640.00	1284.00	1287.17	1287.37	0.012071	10.26	10.26	452.18	173.56	1.12	1.12	1.95	1.95	20.02	20.02
Mainstem	6540.300	Capital Flood	9200.00	1278.48	1284.70	1285.28	0.006556	11.96	10.18	903.44	439.23	0.92	1.45	2.11	0.84	25.21	8.53
Mainstem	6540.300	LACDPW 50yr Burn	7321.00	1278.48	1283.77	1283.77	0.008214	11.92	11.92	614.41	139.91	1.00	1.00	2.22	2.22	26.42	26.42
Mainstem	6540.300	FIS 100yr	4640.00	1278.48	1283.99	1282.57	0.002827	7.19	7.19	645.31	140.76	0.59	0.59	0.80	0.80	5.73	5.73
Mainstem	6254.699	Capital Flood	9200.00	1276.00	1282.94	1283.50	0.007069	13.45	6.32	1455.45	934.79	0.96	1.56	2.56	0.68	34.45	4.33
Mainstem	6254.699	LACDPW 50yr Burn	7321.00	1276.00	1283.07	1283.22	0.003782	9.98	4.63	1580.65	951.08	0.71	1.10	1.40	0.39	13.98	1.81
Mainstem	6254.699	FIS 100yr	4640.00	1276.00	1281.74	1281.74	0.006618	11.34	8.42	551.31	243.31	0.90	1.25	1.95	0.92	22.14	7.77
Mainstem	5959.225	Capital Flood	9200.00	1272.88	1278.59	1279.65	0.012592	15.67	9.80	939.13	1404.28	1.26	2.44	3.72	0.89	58.29	8.72
Mainstem	5959.225	LACDPW 50yr Burn	7321.00	1272.88	1278.09	1279.31	0.014451	15.61	13.68	535.10	1095.38	1.32	3.09	3.83	0.71	59.81	9.66
Mainstem	5959.225	FIS 100yr	4640.00	1272.88	1276.13	1277.62	0.036258	17.76	17.76	261.27	102.65	1.93	1.93	5.85	5.85	103.87	103.87
Mainstem	5637.197	Capital Flood	9200.00	1270.00	1276.01	1276.01	0.000398	2.89	1.60	5753.83	1607.07	0.22	0.16	0.12	0.09	0.36	0.14
Mainstem	5637.197	LACDPW 50yr Burn	7321.00	1270.00	1276.01	1276.01	0.000252	2.30	1.27	5753.83	1607.07	0.17	0.13	0.08	0.06	0.18	0.07
Mainstem	5637.197	FIS 100yr	4640.00	1270.00	1276.01	1276.01	0.000101	1.46	0.81	5753.83	1607.07	0.11	0.08	0.03	0.02	0.05	0.02
Mainstem	5281.263	Capital Flood	9200.00	1266.00	1272.01	1272.01	0.000200	1.81	1.34	6877.37	1646.24	0.15	0.12	0.05	0.05	0.09	0.07
Mainstem	5281.263	LACDPW 50yr Burn	7321.00	1266.00	1272.01	1272.01	0.000126	1.44	1.06	6877.37	1646.24	0.12	0.09	0.03	0.03	0.05	0.04
Mainstem	5281.263	FIS 100yr	4640.00	1266.00	1271.49	1272.01	0.017128	16.07	16.07	288.67	1440.82	1.41	1.41	4.18	4.18	67.11	67.11
Mainstem	5061.813	Capital Flood	9200.00	1264.00	1270.01	1270.01	0.000150	1.64	1.26	7328.02	1562.14	0.13	0.10	0.04	0.04	0.07	0.05
Mainstem	5061.813	LACDPW 50yr Burn	7321.00	1264.00	1270.01	1270.01	0.000095	1.31	1.00	7328.02	1562.14	0.11	0.08	0.03	0.03	0.03	0.03
Mainstem	5061.813	FIS 100yr	4640.00	1264.00	1270.01	1270.01	0.000038	0.83	0.63	7328.02	1562.14	0.07	0.05	0.01	0.01	0.01	0.01
Mainstem	4842.770	Capital Flood	9200.00	1262.00	1268.14	1266.01	0.000039	0.88	0.74	12462.51	1886.72	0.07	0.05	0.01	0.02	0.01	0.01

HEC-RAS Plan: Existing Revised River: Newhall Reach: Mainstem (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Slope	Vel Chnl	Vel Total	Flow Area	Top Width	Froude # Chl	Froude # XS	Shear Chan	Shear Total	Power Chan	Power Total
			(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(ft/s)	(sq ft)	(ft)			(lb/sq ft)	(lb/sq ft)	(lb/ft s)	(lb/ft s)
Mainstem	4842.770	LACDPW 50yr Burn	7321.00	1262.00	1268.09	1266.01	0.000025	0.71	0.59	12369.69	1886.60	0.06	0.04	0.01	0.01	0.01	0.01
Mainstem	4842.770	FIS 100yr	4640.00	1262.00	1269.61	1266.01	0.000005	0.38	0.30	15237.48	1891.15	0.03	0.02	0.00	0.00	0.00	0.00
Mainstem	4542.760	Capital Flood	9200.00	1258.88	1268.01	1268.01	0.000540	3.81	2.42	3805.11	738.78	0.27	0.20	0.20	0.17	0.77	0.41
Mainstem	4542.760	LACDPW 50yr Burn	7321.00	1258.88	1268.01	1268.01	0.000342	3.03	1.92	3805.11	738.78	0.21	0.16	0.13	0.11	0.39	0.21
Mainstem	4542.760	FIS 100yr	4640.00	1258.88	1266.58	1266.58	0.007920	13.32	13.32	348.33	655.35	1.00	1.00	2.60	2.60	34.60	34.60
Mainstem	4386.823	Capital Flood	9200.00	1256.78	1266.01	1266.01	0.000635	3.73	2.55	3601.09	729.75	0.28	0.21	0.20	0.19	0.76	0.49
Mainstem	4386.823	LACDPW 50yr Burn	7321.00	1256.78	1266.01	1266.01	0.000402	2.97	2.03	3601.09	729.75	0.23	0.17	0.13	0.12	0.39	0.25
Mainstem	4386.823	FIS 100yr	4640.00	1256.78	1263.20	1264.44	0.015687	16.62	16.62	279.19	636.18	1.37	1.37	4.29	4.29	71.37	71.37
Mainstem	4043.350	Capital Flood	9200.00	1254.00	1262.05	1263.03	0.016810	14.25	14.25	645.39	557.76	1.37	1.37	3.47	3.47	49.47	49.47
Mainstem	4043.350	LACDPW 50yr Burn	7321.00	1254.00	1264.87	1262.31	0.001400	5.53	5.19	1410.13	852.12	0.42	0.50	0.45	0.33	2.49	1.69
Mainstem	4043.350	FIS 100yr	4640.00	1254.00	1263.13	1261.06	0.002044	5.30	5.30	876.27	629.93	0.48	0.48	0.46	0.46	2.46	2.46
Mainstem	3920.755	Capital Flood	9200.00	1254.00	1264.01	1264.01	0.000911	5.39	3.03	3035.22	803.51	0.35	0.35	0.39	0.21	2.10	0.64
Mainstem	3920.755	LACDPW 50yr Burn	7321.00	1254.00	1263.23	1263.23	0.004374	10.95	8.38	873.48	624.09	0.76	1.09	1.67	0.76	18.28	6.39
Mainstem	3920.755	FIS 100yr	4640.00	1254.00	1260.23	1260.23	0.008187	13.11	13.11	354.06	307.58	1.00	1.00	2.56	2.56	33.49	33.49
Mainstem	3813.951	Capital Flood	9200.00	1253.96	1262.21	1259.43	0.000781	4.93	3.25	2827.36	808.14	0.33	0.39	0.33	0.17	1.62	0.55
Mainstem	3813.951	LACDPW 50yr Burn	7321.00	1253.96	1260.63	1258.71	0.001642	6.00	4.18	1750.80	640.76	0.46	0.57	0.53	0.28	3.18	1.16
Mainstem	3813.951	FIS 100yr	4640.00	1253.96	1260.02	1257.55	0.001440	5.56	5.55	835.60	470.70	0.43	0.45	0.46	0.42	2.54	2.36
Mainstem	3790		Bridge														
Mainstem	3786.11	Capital Flood	9200.00	1252.42	1262.24	1258.78	0.000369	3.99	2.46	3733.62	804.08	0.23	0.25	0.20	0.10	0.79	0.26
Mainstem	3786.11	LACDPW 50yr Burn	7321.00	1252.42	1259.70	1257.95	0.003047	9.24	9.24	791.93	596.11	0.64	0.64	1.18	1.18	10.93	10.93
Mainstem	3786.11	FIS 100yr	4640.00	1252.42	1259.41	1256.65	0.001415	6.13	6.13	756.63	527.25	0.43	0.43	0.53	0.53	3.23	3.23
Mainstem	3758.278	Capital Flood	9200.00	1252.42	1259.03	1258.78	0.006778	12.94	12.94	711.03	482.09	0.94	0.94	2.39	2.39	30.95	30.95
Mainstem	3758.278	LACDPW 50yr Burn	7321.00	1252.42	1259.50	1257.95	0.003360	9.53	9.53	767.90	563.78	0.67	0.67	1.27	1.27	12.10	12.10
Mainstem	3758.278	FIS 100yr	4640.00	1252.42	1259.35	1256.65	0.001453	6.18	6.18	750.23	519.71	0.44	0.44	0.54	0.54	3.33	3.33
Mainstem	3715		Bridge														
Mainstem	3684.454	Capital Flood	9200.00	1249.36	1255.90	1255.90	0.001481	13.59	13.59	676.82	178.23	1.00	1.00	0.50	0.50	6.83	6.83
Mainstem	3684.454	LACDPW 50yr Burn	7321.00	1249.36	1253.74	1255.08	0.004227	17.26	17.26	424.26	115.87	1.59	1.59	0.93	0.93	16.11	16.11
Mainstem	3684.454	FIS 100yr	4640.00	1249.36	1252.45	1253.75	0.006968	16.86	16.86	275.18	114.89	1.92	1.92	1.02	1.02	17.23	17.23
Mainstem	3533.212	Capital Flood	9200.00	1244.00	1254.13	1255.59	0.001574	16.46	9.66	952.05	621.90	0.99	2.30	0.68	0.15	11.18	1.42
Mainstem	3533.212	LACDPW 50yr Burn	7321.00	1244.00	1250.94	1252.60	0.003163	20.23	20.23	361.84	54.19	1.38	1.38	1.10	1.10	22.31	22.31
Mainstem	3533.212	FIS 100yr	4640.00	1244.00	1248.30	1250.37	0.005855	21.03	21.03	220.69	52.63	1.81	1.81	1.36	1.36	28.64	28.64
Mainstem	3301.384	Capital Flood	9200.00	1240.00	1251.21	1251.21	0.002921	10.06	3.65	2519.35	1267.31	0.57	0.89	1.33	0.36	13.36	1.30
Mainstem	3301.384	LACDPW 50yr Burn	7321.00	1240.00	1253.26	1250.92	0.000309	3.68	1.42	5142.26	1303.19	0.19	0.19	0.17	0.07	0.62	0.11
Mainstem	3301.384	FIS 100yr	4640.00	1240.00	1246.61	1250.27	0.018905	19.79	19.79	234.51	37.64	1.40	1.40	5.84	5.84	115.65	115.65
Mainstem	3036.790	Capital Flood	9200.00	1236.00	1248.01	1248.01	0.000343	1.54	1.07	8601.90	2726.19	0.18	0.11	0.05	0.07	0.07	0.07
Mainstem	3036.790	LACDPW 50yr Burn	7321.00	1236.00	1247.72	1247.72	0.009399	17.76	17.76	412.29	2448.77	1.00	1.00	4.17	4.17	74.09	74.09
Mainstem	3036.790	FIS 100yr	4640.00	1236.00	1246.45	1244.62	0.005318	12.86	12.86	360.95	1734.62	0.74	0.74	2.23	2.23	28.66	28.66
Mainstem	2802.783	Capital Flood	9200.00	1234.00	1246.01	1246.01	0.006044	9.90	5.12	1798.61	1085.55	0.80	1.01	1.56	0.61	15.41	3.14
Mainstem	2802.783	LACDPW 50yr Burn	7321.00	1234.00	1246.01	1246.01	0.003827	7.88	4.07	1798.61	1085.55	0.64	0.81	0.99	0.39	7.77	1.58
Mainstem	2802.783	FIS 100yr	4640.00	1234.00	1243.15	1243.15	0.009775	16.19	16.19	286.55	140.61	1.00	1.00	3.67	3.67	59.42	59.42
Mainstem	2417.090	Capital Flood	9200.00	1230.00	1240.83	1240.83	0.006166	10.17	4.24	2172.31	1520.00	0.82	1.08	1.63	0.54	16.54	2.30
Mainstem	2417.090	LACDPW 50yr Burn	7321.00	1230.00	1240.74	1240.74	0.004466	8.55	3.59	2040.54	1478.25	0.70	0.93	1.16	0.38	9.88	1.37
Mainstem	2417.090	FIS 100yr	4640.00	1230.00	1239.46	1240.07	0.011846	14.85	14.85	312.56	613.01	1.12	1.12	3.38	3.38	50.17	50.17
Mainstem	2100.483	Capital Flood	9200.00	1226.00	1237.01	1237.01	0.004779	5.74	3.16	2908.94	2002.65	0.67	0.60	0.65	0.43	3.72	1.36
Mainstem	2100.483	LACDPW 50yr Burn	7321.00	1226.00	1237.01	1237.01	0.003026	4.57	2.52	2908.94	2002.65	0.53	0.48	0.41	0.27	1.87	0.68

HEC-RAS Plan: Existing Revised River: Newhall Reach: Mainstem (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Slope	Vel Chnl	Vel Total	Flow Area	Top Width	Froude # Chl	Froude # XS	Shear Chan	Shear Total	Power Chan	Power Total
			(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(ft/s)	(sq ft)	(ft)			(lb/sq ft)	(lb/sq ft)	(lb/ft s)	(lb/ft s)
Mainstem	2100.483	FIS 100yr	4640.00	1226.00	1233.81	1236.58	0.013477	17.81	17.81	260.51	62.39	1.15	1.15	4.59	4.59	81.70	81.70
Mainstem	1698.544	Capital Flood	9200.00	1220.00	1232.01	1232.01	0.004532	5.89	3.79	2427.66	1289.66	0.66	0.59	0.66	0.52	3.91	1.99
Mainstem	1698.544	LACDPW 50yr Burn	7321.00	1220.00	1231.55	1232.01	0.024252	13.21	13.21	554.09	899.24	1.51	1.51	3.39	3.39	44.85	44.85
Mainstem	1698.544	FIS 100yr	4640.00	1220.00	1227.54	1228.70	0.015134	18.65	18.65	248.77	56.41	1.25	1.25	5.06	5.06	94.38	94.38
Mainstem	1190.624	Capital Flood	9200.00	1214.00	1226.50	1227.01	0.010427	12.68	9.98	922.25	1155.41	1.08	1.60	2.58	1.14	32.74	11.39
Mainstem	1190.624	LACDPW 50yr Burn	7321.00	1214.00	1226.46	1226.69	0.006866	10.22	8.11	902.22	1134.23	0.87	1.29	1.69	0.75	17.23	6.07
Mainstem	1190.624	FIS 100yr	4640.00	1214.00	1222.74	1222.27	0.008195	14.55	14.55	318.95	42.10	0.93	0.93	2.99	2.99	43.50	43.50
Mainstem	483.097	Capital Flood	9200.00	1214.00	1218.14	1218.20	0.014536	12.93	5.48	1680.33	1824.80	1.27	2.02	2.89	0.83	37.41	4.57
Mainstem	483.097	LACDPW 50yr Burn	7321.00	1214.00	1218.20	1218.20	0.008092	9.78	4.07	1797.37	1835.10	0.95	1.46	1.64	0.49	16.05	2.01
Mainstem	483.097	FIS 100yr	4640.00	1214.00	1217.89	1217.89	0.009061	9.87	9.87	470.20	917.00	0.99	0.99	1.71	1.71	16.90	16.90
Mainstem	58.617	Capital Flood	9200.00	1214.00	1215.35	1214.94	0.004001	3.66	3.57	2576.69	2105.54	0.57	0.58	0.32	0.31	1.16	1.09
Mainstem	58.617	LACDPW 50yr Burn	7321.00	1214.00	1215.18	1214.81	0.004001	3.37	3.29	2225.79	2060.47	0.56	0.57	0.28	0.27	0.94	0.89
Mainstem	58.617	FIS 100yr	4640.00	1214.00	1214.90	1214.60	0.004000	2.84	2.79	1664.08	1980.74	0.54	0.54	0.22	0.21	0.61	0.58

ISTING

HEC-RAS Version 4.1.0 Jan 2010
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

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

PROJECT DATA
Project Title: Newhall Creek
Project File : Newhall.prj
Run Date and Time: 6/3/2015 10:27:43 AM

Project in English units

Project Description:
Newhall Creek Hydraulic & Scour Analysis
February 2015

PLAN DATA

Plan Title: Existing Revised
Plan File : C:\Projects\Dockweiler\HECRAS\Newhall.p01

Geometry Title: Existing Revised
Geometry File : C:\Projects\Dockweiler\HECRAS\Newhall.g01

Flow Title : Existing
Flow File : C:\Projects\Dockweiler\HECRAS\Newhall.f01

Plan Summary Information:
Number of: Cross Sections = 34 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 2 Lateral Structures = 0

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

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

FLOW DATA

Flow Title: Existing
Flow File : C:\Projects\Dockweiler\HECRAS\Newhall.f01

Flow Data (cfs)

River	Reach	RS	Capital Flood	LACDPW 50yr Burn	FIS 100yr
Newhall	Mainstem	10505.32	9200	7321	4640

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Newhall	Mainstem	Capital Flood	Critical	Normal S = 0.004
Newhall	Mainstem	LACDPW 50yr Burn	Critical	Normal S = 0.004
Newhall	Mainstem	FIS 100yr	Critical	Normal S = 0.004

GEOMETRY DATA

Geometry Title: Existing Revised
Geometry File : C:\Projects\Dockweiler\HECRAS\Newhall.g01

CROSS SECTION

RIVER: Newhall
REACH: Mainstem RS: 10505.32

INPUT
Description:
Station Elevation Data num= 232

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1331.34	.49	1331.35	9.76	1331.85	11.07	1331.84	12.62	1331.83
44.74	1330	81.04	1330	89.4	1330.04	89.73	1330.04	89.93	1330.03
90.1	1330.03	90.29	1330.04	103.25	1330.42	106.37	1330.41	112.73	1330.6
116.04	1330.61	119.85	1330.75	126.63	1330.78	145.17	1332	193.56	1332
203	1332.73	211.43	1333.39	214.21	1333.61	219.56	1334	234.44	1334
235.58	1332.99	236.7	1332	236.97	1331.77	238.97	1330	239.52	1329.52
241.24	1328	244.43	1325.19	245.23	1324.48	245.78	1324	246.83	1323.07
248.05	1322	253	1321.66	254.56	1321.64	256.36	1321.53	256.85	1321.51
262.1	1321.21	301.39	1320.94	301.77	1320.95	305.47	1321.13	306	1321.16
312.47	1321.17	315.96	1321.43	321.37	1321.85	323.39	1322	324.19	1322.76
325.49	1324	326.92	1325.36	327.59	1326	328.81	1327.17	329.67	1328
329.91	1328.23	334.85	1333.05	335.33	1333.53	337.31	1335.49	337.83	1336
338.34	1336.49	339.34	1337.46	341.41	1339.47	341.95	1340	342.7	1340
345.09	1340	351.77	1340	355.09	1340	378.36	1341.32	380.57	1341.36
385.88	1342	396.47	1343.35	400.22	1343.71	403.58	1344	408.32	1344.98
414.84	1346	418.16	1346.75	420.17	1347.1	433	1350	433.35	1350.1
433.7	1350.21	434.72	1350.46	438.38	1351.32	441.71	1352	444.76	1352.68
449.68	1353.75	450.27	1353.87	450.91	1354	452.56	1354.4	459.18	1356
461.02	1356.43	462	1356.59	465.04	1357.1	475.23	1359.36	479.28	1360.15
480.59	1360.36	482.36	1360.65	488.32	1362	493.59	1363.05	496.81	1363.82
500.12	1364.55	501.27	1364.8	502.9	1365.15	505.13	1365.65	508.1	1366.36
511.47	1367.15	514.13	1367.77	518.12	1368.69	525.52	1370.42	526.39	1370.62
540.85	1373.97	540.94	1374	540.96	1374	546.76	1375.36	549.43	1376
556.12	1377.6	556.88	1377.79	557.23	1377.87	559.33	1378.36	566.31	1380
569.1	1380.64	569.94	1380.86	570.68	1381.04	580	1383.31	589.24	1385.41
589.71	1385.52	590.27	1385.65	591.71	1386	598	1387.48	602.28	1388.46
605.91	1389.27	609.33	1389.99	609.39	1390	613.54	1391.05	616.96	1392
620.22	1392.93	622.38	1393.43	632.1	1396	633.48	1396.29	634.05	1396.49
636.56	1397.23	642.06	1398.91	643.33	1399.37	645.3	1400	649.88	1401.34

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  653.29 1402.34   658.8    1404  660.29 1404.43  662.55 1405.12  664.59 1405.74
  667.86 1406.63   670.8 1407.53  675.41 1408.81  685.53 1411.89  685.69 1411.94
  685.79 1411.97   685.9    1412  686.18 1412.08  698.08 1415.95  698.25    1416
  698.45 1416.07  705.99 1418.55  709.87 1419.78  712.21 1420.54  715.77 1421.64
  716.88    1422  721.26 1423.54  724.31 1424.78  727.32    1426  730.63 1427.35
  732.19    1428  734.43 1428.93     737    1430  737.08 1430.04  737.12 1430.05
  741.72    1432  744.53 1432.41  746.75 1432.73  754.75    1434  806.33    1434
  838.06    1434  866.55 1432.78  873.28 1432.85  876.87 1432.79  879.48  1432.8
  881.71 1432.81  887.33 1432.89   894.3 1432.88  899.56 1433.08  910.39 1433.09
  914.72 1433.21  916.97 1433.22  922.12 1433.33  937.76  1433.4  962.86    1434
  979.64    1434  980.08 1434.11  981.85 1434.59  982.98  1434.9  986.92    1436
  990.77 1437.05  994.41    1438 1001.41 1438.54 1007.75  1438.6 1012.83 1438.84
 1014.25 1438.84 1016.26 1438.86 1021.84 1439.12  1045.6 1439.53 1046.39 1439.52
 1059.92 1439.52 1081.24    1440 1106.09    1440 1109.92 1440.65 1113.22 1441.26
 1117.22    1442 1119.64 1443.14 1121.47    1444 1124.83 1445.58 1125.73    1446
 1129.83 1447.94 1130.06 1448.06 1134.11    1450 1134.37 1450.13 1134.91 1450.37
 1137.05 1451.23 1138.46 1451.82 1138.93    1452 1199.28    1452 1202.39 1451.89
 1202.73 1451.89 1205.36 1451.81

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  219.56     .03  341.95    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        219.56  341.95           511.76  511.76  511.76             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0  219.56    1345

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 9993.571

INPUT
Description:
Station Elevation Data    num=     178
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1320.39    5.29 1320.41    8.93 1320.43    16.4 1320.46   25.41  1320.5
   27.34  1320.5   39.42 1320.54   43.32 1320.55   45.69 1320.56   49.24 1320.58
   77.45 1320.69   82.18 1320.69   87.21  1320.7   91.43  1320.7   97.95 1320.71
   106.5 1320.74  111.85 1320.75  149.34 1320.85  161.09 1320.84   180.3 1320.84
  182.75 1320.84  187.04 1320.84  205.48 1320.87  213.87 1320.89  234.43 1320.89
  240.59 1320.92  245.52 1320.96  249.27 1320.99  283.94 1321.05   290.8 1321.09
  411.11    1322  449.72    1322  451.14 1320.93  452.37    1320  515.92    1320
   523.9  1320.9  534.56    1322  537.49 1322.38  551.72    1324  579.76    1324
  581.91 1322.48   582.6    1322  584.15  1320.9  585.39    1320  586.06 1319.52
  588.18    1318  589.73 1316.91     591    1316  703.27    1316  706.43 1317.41
  707.72    1318  708.92 1318.55  710.24 1319.15  712.09    1320  713.32 1320.56
  716.42    1322  716.94 1322.24  720.73    1324  732.52    1324   753.9 1324.95
  770.87 1325.79  771.45 1325.81     773 1325.89  773.23  1325.9  775.23    1326
  789.07 1326.83  793.14 1327.08  809.34    1328  813.67 1328.67  822.68    1330
  826.36 1331.35  828.73 1332.18  830.15 1332.74   833.4    1334  836.19  1334.4
  843.65  1335.4  847.31    1336  848.07    1336  849.05 1336.49  852.04    1338
  854.55 1339.27     856    1340  857.77 1340.89  866.23  1345.1  867.67 1345.81
  868.04    1346  868.49 1346.22  869.17 1346.56  876.06    1350  879.14  1351.5
  880.15    1352  883.43 1353.59  884.26    1354  888.06 1355.82  888.43    1356
  890.98 1357.13  892.97    1358   897.2 1359.68  898.02    1360  902.97 1361.95
   903.1    1362  903.11    1362  908.53    1364  908.81 1364.09  912.66 1365.43
  919.01    1366  930.38 1366.32  933.26    1368  935.69 1369.35  936.46 1369.78
  939.38 1371.19  940.92    1372   944.2 1373.61  945.01    1374  945.11 1374.05
  949.09    1376  950.52  1376.7  954.32 1378.56  957.25    1380  960.11 1381.41
  964.01 1383.21   967.2 1384.69  970.06    1386   972.8 1387.26  974.38    1388
  975.36 1388.46  978.66    1390  980.84 1391.03  984.14 1391.44  988.16    1392
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  990.43    1392   991.2    1392   994.5  1393.7  995.08    1394   997.6 1395.29
  999.13 1396.08 1002.85    1398 1006.27 1399.76 1007.11 1400.18 1010.78    1402
 1010.98  1402.1  1011.9 1402.56 1014.72    1404  1016.1  1404.7 1018.66    1406
 1020.89  1407.1 1022.67    1408 1023.88 1408.61 1026.78    1410 1028.98 1410.96
  1031.1 1411.95 1031.22    1412 1039.49 1413.63  1041.3    1414 1042.31 1414.45
 1045.83    1416 1047.84 1416.89 1050.36    1418 1052.14 1418.87 1054.41    1420
 1056.19 1420.96 1058.09    1422 1058.86 1422.42 1061.77    1424 1062.69 1424.51
 1065.51    1426 1068.58 1427.59 1071.17 1428.93 1073.28    1430 1075.51 1431.09
  1077.6    1432 1081.59 1433.58 1084.52    1434  1087.7    1434 1104.26    1434
 1117.86 1434.38 1178.12    1436 1178.21 1436.01

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  551.72     .03  720.73    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        551.72  720.73           376.66  376.66  376.66             .1       .3

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 9616.907

INPUT
Description:
Station Elevation Data    num=     272
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    1330    2.03    1330   21.41 1328.98   38.67 1328.14   39.69  1328.1
   41.54    1328   42.77 1327.53   46.79    1326   50.25 1324.64   51.84    1324
   54.13 1322.89   57.57 1321.24   60.04    1320   63.07 1318.48   64.05    1318
   65.73 1317.15   67.56 1316.23   68.14    1316   69.78    1316   80.46    1316
   80.56    1316   83.12    1316   89.74    1316   93.78    1316    96.5    1316
   98.91    1316  102.03    1316  107.14    1316  108.85    1316  111.26    1316
   127.6 1315.82  127.92 1315.82   171.4 1315.67  187.53 1315.67  191.15 1315.66
   203.1 1315.56  218.75  1315.3  223.48 1315.28  237.73 1315.19  239.53 1315.16
  241.16 1315.14  269.55 1314.97  270.56 1314.97  275.69 1314.92  285.64 1314.94
  293.96 1314.96  304.32  1314.9  327.67 1315.35  332.16 1315.54   334.7 1315.49
  336.38 1315.58  338.83 1315.56  340.58 1315.62   342.3 1315.66  347.06 1315.72
  348.94 1315.73   350.1 1315.74  355.37 1315.78  356.55  1315.8  362.21 1315.84
  363.43 1315.86  363.93 1315.87  369.92 1315.92  371.13 1315.93  377.55 1315.98
  378.78 1315.99  379.88    1316  383.79 1317.02  386.08  1317.6  386.31 1317.65
  387.69    1318  389.23 1318.38  391.42  1318.9  393.47  1319.4  394.23 1319.58
  395.99    1320  399.65    1320  400.37    1320  400.63    1320  406.49    1320
  407.25    1320  407.88    1320   413.3    1320  414.06    1320  418.85    1320
   419.6    1320   422.9    1320  427.64    1320  428.45    1320  432.67    1320
  433.56    1320  434.36    1320  438.22    1320  439.15    1320   439.5    1320
  440.32    1320  444.01    1320  444.81    1320  446.73    1320  450.46    1320
  466.07    1320  466.54    1320   468.2    1320  469.89    1320   470.3    1320
   470.4    1320  470.88    1320  471.34 1319.66  473.63    1318  474.38 1317.89
  494.64 1317.43  496.51 1317.46  497.89 1317.49  502.89 1317.84  503.45 1317.86
  503.69 1317.87   509.1    1318  515.44    1318  516.33    1318  524.84    1318
  529.91    1318  531.55    1318  551.38    1318  559.79 1317.43  562.34  1317.3
  564.81 1317.21  576.26 1316.85  579.07 1316.82  585.89 1316.68  588.25 1316.67
  591.45 1316.73  597.93 1316.78  614.08 1317.46  614.85  1317.5  619.68 1317.65
  621.71 1317.74  627.67    1318  841.82    1318  847.32 1318.45  849.07  1318.6
  856.48 1319.23  865.55    1320  867.35 1321.03  869.02    1322  891.89    1322
  892.55 1320.71  893.49 1318.86  894.37 1317.11   895.6 1314.66  895.93    1314
  896.12 1313.63  896.93    1312   982.2    1312  985.26 1313.77  985.65    1314
  986.72 1314.62   989.1    1316  989.79  1316.4  992.57    1318  995.21 1319.53
  996.03    1320  996.89 1320.49  999.46    1322 1007.07 1322.48 1024.85 1323.58
 1029.76 1323.89 1031.61    1324 1036.23 1325.79 1036.74    1326 1040.88 1327.77
 1041.41    1328 1042.02 1328.27  1045.8    1330 1048.86 1331.43 1052.26 1333.07
  1054.2    1334 1055.27 1334.53  1058.2    1336 1059.48 1336.64 1062.16    1338
 1064.78 1339.33 1066.09    1340 1066.63 1340.24 1070.49    1342 1073.16 1342.43
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 1080.14 1343.61 1081.81 1343.89 1082.48    1344 1083.39 1344.41 1086.02 1345.59
 1086.95    1346 1089.14    1347 1093.26 1348.86 1095.72    1350  1099.2 1351.79
 1099.64    1352 1100.37 1352.38 1103.56    1354 1104.54 1354.51 1107.46    1356
 1113.11  1358.9 1114.22 1359.49 1116.63 1360.79 1121.86 1363.17 1123.64    1364
 1125.05  1364.7 1127.78    1366 1130.54  1367.4 1134.02 1369.18  1135.7    1370
 1136.81 1370.53 1139.77    1372 1144.44    1372 1152.21 1372.74 1157.69 1373.42
 1159.57 1373.59 1160.36 1373.68 1162.54    1374 1163.99 1374.59 1167.63    1376
 1167.76 1376.06 1169.53 1376.78  1172.5    1378 1175.84 1379.39 1178.75 1380.65
 1181.94    1382 1185.93 1383.68 1189.29 1385.33 1190.84    1386 1192.54 1386.69
 1195.57    1388  1197.3  1388.7 1200.21    1390 1200.59    1390 1205.24 1391.83
  1205.7    1392 1205.91 1392.11 1209.12  1395.5 1216.73 1396.37 1222.94    1398
 1224.53 1398.74 1227.28    1400 1229.76 1401.14 1231.63    1402 1234.97 1403.53
 1235.99    1404 1236.92 1404.46 1240.97 1406.38 1244.35    1408 1247.11 1409.33
 1249.83  1410.7 1253.32 1412.52 1256.08    1414 1257.43 1414.79 1259.61    1416
 1263.08 1417.97 1263.13    1418 1272.08 1419.19 1278.41    1420 1280.41 1420.85
  1283.3    1422 1284.56  1422.5 1287.57 1423.47 1289.45    1424 1290.44  1424.3
 1290.71 1424.38 1293.54 1424.98 1300.81    1426 1302.66 1426.31 1303.66  1426.5
 1304.92 1426.71 1305.63 1426.81

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  891.89     .03  999.46    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        891.89  999.46           387.77  387.77  387.77             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0     865    1322       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 9229.136

INPUT
Description:
Station Elevation Data    num=     495
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1418.01     .06    1418    4.68 1416.95    8.71    1416   12.68 1415.09
   14.02 1414.79   15.93 1414.33   17.19    1414   19.96 1413.14    23.5    1412
   23.97 1411.85   29.98    1410   30.89 1409.72   32.09 1409.39   38.42 1407.54
   43.45    1406   45.14 1405.52   49.06 1404.08   49.26    1404   49.36 1403.96
   54.56    1402   56.24 1401.33   62.56 1399.02   64.54 1398.32   65.41    1398
   67.56 1397.16   79.98    1392   84.18 1390.13    84.5    1390      85  1389.8
   93.71    1388   93.86    1388   95.01  1387.8   95.73 1387.67  102.47 1386.62
  104.34    1386  109.21 1384.22  109.85    1384  114.81 1382.57  117.17 1381.75
  119.15 1381.32  120.91 1380.99  123.24 1380.85  135.15 1378.61  136.35 1378.48
   137.1 1378.47  137.61 1378.46  138.77 1378.41  147.21    1378  152.42  1377.8
  153.09 1377.69  153.34 1377.69   154.2 1377.62  161.76 1377.55  161.97 1377.55
  162.38 1377.56  163.02 1377.62  166.01 1377.83  181.15 1377.84  181.67 1377.85
  181.87 1377.84  186.32 1377.91     187 1377.83  189.24 1377.58  190.44 1377.17
  193.89    1376  195.94  1375.3  199.52    1374  203.88 1373.14  206.99    1372
  210.68 1370.58  212.19    1370  213.24 1369.57  220.02 1366.47  221.06    1366
  224.29 1364.42  225.02    1364  225.25 1363.86  225.46 1363.74  228.75    1362
  235.03 1358.65  236.17    1358  237.09 1357.47  239.65    1356  241.86 1354.72
  245.01 1352.91  247.38 1351.54  250.06    1350  250.94 1349.49  253.52    1348
  254.75  1347.3  257.01    1346  257.92 1345.48  259.52 1344.57  260.53    1344
  262.52 1342.91  264.16    1342  266.81 1340.54  267.77    1340  270.52 1338.47
  272.96 1337.15   274.2 1336.45  276.48 1335.32  279.21    1334  283.07 1332.18
  283.45    1332  283.75 1331.86  284.65 1331.42  290.97 1328.36  291.72    1328
  294.38 1326.76  296.01    1326  296.66 1325.71   300.3    1324  303.71 1322.65
  305.21    1322   308.1 1320.96  311.58    1320  315.41 1319.02  318.77    1318
  319.03    1318  320.18    1318  333.09 1317.74  369.09    1317  418.05    1316
  419.49    1316  429.88 1315.16  435.13 1314.96  443.31  1314.6  446.68 1314.46
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 454.24 1314.17  455.07 1314.13  457.41    1314  462.68    1314  478.85 1313.76
 491.42 1313.63  560.31    1312  813.37    1312  837.78 1312.25  852.99 1312.29
 870.59 1312.28  872.68 1312.29  873.53  1312.3  884.93    1312  985.54    1312
 1020.6 1310.64 1029.27 1311.26 1038.41  1311.9  1039.6    1312 1039.76    1312
1047.63 1313.13 1053.89    1314  1054.9  1314.1 1060.86 1314.54  1079.7    1316
1080.55    1316 1101.41  1317.7 1104.38    1318 1105.38 1317.04 1106.56 1315.46
1107.46  1315.3  1107.8 1314.67 1109.09 1312.27 1109.16 1312.14 1109.24    1312
1109.41 1311.67  1110.6 1309.64 1112.72    1308 1201.67    1308 1211.88 1308.85
1225.91    1310 1228.09  1311.3 1229.25    1312 1232.44 1313.89 1232.64    1314
1232.83 1314.11 1236.12    1316 1239.19 1317.79 1239.54    1318 1250.77    1318
1269.62 1317.05 1271.92 1316.94 1295.36    1316  1296.3    1316  1296.6    1316
1296.79    1316 1299.76 1314.92 1301.76    1314 1302.28 1313.69 1306.11    1312
1328.31    1312 1409.12 1313.84 1416.14    1314 1434.08    1314 1464.17 1314.72
1464.79 1314.74 1500.36 1315.54  1502.5 1315.59 1512.12 1315.82 1518.95    1316
 1521.2    1316 1545.92 1317.11 1554.49 1317.56 1555.98 1317.62 1558.78 1317.73
1564.51    1318 1577.79 1318.51 1582.56 1318.72 1591.03 1319.08 1611.86 1319.91
1612.77 1319.95 1613.98    1320 1621.87 1320.32 1626.07  1320.4 1629.95  1320.5
1640.41 1320.82  1652.7 1321.22 1676.35    1322 1677.37    1322 1696.88 1322.88
1703.17 1323.15 1721.87    1324 1722.59    1324 1724.56 1324.22 1726.26 1324.23
1764.61    1326 1775.47    1326 1797.04  1327.6  1803.8    1328 1808.79 1328.91
1816.05 1329.71 1818.77    1330 1827.83  1331.1 1836.34  1331.9 1836.61 1331.94
1837.26    1332  1844.8 1333.18 1850.52 1333.74 1851.28 1333.84  1852.7    1334
1862.36  1335.8 1866.71 1335.96 1867.22    1336 1871.39 1336.35 1876.71 1337.06
 1886.8 1337.27 1888.35 1337.41 1891.23 1337.17 1892.86 1337.28 1902.79 1337.42
1906.43 1337.27 1909.09  1337.5 1912.07 1337.59 1916.66    1338 1922.75 1339.07
 1936.2  1339.6 1939.94    1340 1942.09    1340 1943.05 1340.29 1948.82    1342
1952.41 1343.14 1958.74 1344.99 1961.68    1346  1964.3  1346.9 1967.64    1348
1970.99 1349.46 1972.21    1350 1976.48 1351.99 1976.49    1352 1976.52 1352.01
1981.32    1354 1987.06 1356.79 1988.65  1357.5 1989.62    1358 1990.61 1358.51
1991.88 1359.17 1996.17 1361.36  1999.2 1362.71 2001.64    1364 2003.44 1364.86
2005.58    1366 2008.33 1367.47 2009.41    1368 2011.57 1369.12  2012.1 1369.38
 2016.3 1371.12  2018.6    1372 2018.91 1372.13 2023.57    1374 2024.19 1374.27
2028.29    1376 2029.04 1376.34 2035.93 1379.41 2036.76 1379.78 2037.25    1380
2038.35 1380.37 2043.78    1382 2046.61 1383.01 2048.41 1383.51 2050.08    1384
2053.95 1385.12 2060.33 1387.27  2062.8    1388 2065.27 1388.74 2067.89  1389.7
2072.88 1391.24 2075.05    1392 2077.57 1393.06 2080.02    1394  2081.3 1394.55
2081.66  1394.7 2085.72    1396 2086.08    1396 2086.87    1396  2097.7 1397.95
2097.97    1398 2098.43 1398.12 2105.58    1400 2110.43 1401.28  2112.3 1401.62
2114.68    1402 2126.01 1403.25 2129.86    1404 2134.79 1404.93 2138.49    1406
2141.77 1406.98 2145.45    1408 2151.74  1409.8 2152.43    1410 2154.28 1410.55
2159.05    1412 2165.55 1413.13 2170.08    1414  2172.3 1414.67 2175.24    1416
2178.64 1417.59 2179.52    1418  2183.5 1419.88    2184 1420.11 2185.98 1421.04
2186.71 1421.38  2186.8 1421.42 2186.91 1421.47 2188.05    1422  2189.9 1422.86
2192.36    1424 2193.94 1424.73 2196.67    1426 2198.11 1426.68 2199.46 1427.31
2202.54 1428.74    2204  1429.4 2206.95 1430.78 2208.87 1431.65 2211.34  1432.8
2213.99    1434 2215.64 1434.75  2218.4    1436 2219.42 1436.46 2221.83 1437.55
2222.56 1437.87 2222.84    1438 2230.28 1441.37 2231.01 1441.71 2231.63    1442
2233.37 1442.77 2240.65    1446 2243.56 1447.24  2245.3    1448 2247.64    1449
 2250.1    1450 2257.86 1451.35 2258.22 1451.41 2259.63 1451.66 2260.25 1451.76
2261.36 1451.89 2262.19 1451.91 2265.31    1452 2277.57 1452.39 2280.92 1452.46
2288.78 1452.75  2295.5 1453.01 2300.47 1453.24 2305.28 1453.51  2312.8    1454
   2319 1454.42 2322.84 1454.77 2335.21    1456 2335.71 1456.09 2344.71 1457.64
2346.81    1458 2353.99 1459.47 2355.42 1459.66 2357.32    1460 2365.89 1461.24
2369.28    1462    2374 1463.44 2375.79    1464 2378.35 1464.79 2381.11  1465.3
2384.42    1466 2387.86  1466.7  2390.9 1467.24 2395.93 1468.49 2401.61    1470
2402.05 1470.12  2402.7  1470.3 2404.98 1470.64 2414.08    1472 2414.35 1472.04
2414.61 1472.09 2415.56 1472.25 2423.18 1473.25 2423.85 1473.35 2427.06 1473.82
2428.91    1474 2432.96 1474.38 2434.34  1474.5  2441.3 1475.09 2446.53 1475.64
2450.68 1476.12 2451.41  1476.2 2455.83 1476.72 2459.99 1477.17 2466.43 1477.81
2466.97 1477.87  2467.8    1478 2475.77 1479.36 2476.32  1479.6 2477.24    1480
 2479.4 1480.83 2482.09    1482 2483.38 1482.42 2487.07    1484 2487.82 1484.21
2492.65    1486  2493.3 1486.21 2495.42 1486.91 2498.54    1488 2500.72 1489.01
2502.94    1490 2503.71 1490.41 2506.67    1492 2508.69 1493.08 2510.42    1494
2512.79 1495.27 2514.18    1496    2518 1497.96 2520.16 1499.08 2521.99    1500
2524.48 1501.26 2526.62  1502.4 2532.43 1505.51 2533.32    1506 2536.86 1507.95
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 2536.95    1508 2537.24 1508.16  2540.7    1510 2547.97 1513.73 2548.26 1513.88
 2548.84 1514.17 2552.85    1516 2555.79 1517.33 2558.59 1518.63 2561.57    1520
 2563.14 1520.74 2565.85    1522 2568.18 1523.09 2570.12    1524 2574.12 1525.82
 2574.51    1526 2575.27 1526.33 2577.59 1527.35 2579.05    1528 2582.41 1529.47
 2583.55    1530 2587.14 1531.48 2588.25    1532 2589.07 1532.37 2593.14    1534
 2597.55 1535.63 2599.93 1536.31 2603.26 1536.85 2606.74 1537.47 2609.51    1538
 2612.88 1538.53 2616.63 1539.15 2625.95    1540 2627.89    1540 2628.93    1540
 2638.77    1540  2643.4    1540 2645.77 1538.93 2649.63    1537 2651.13 1536.17

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045 1104.38     .03 1250.77    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1104.38 1250.77           620.65  620.65  620.65             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    1100    1318       F
    1255    1440    1318       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 8608.484

INPUT
Description:
Station Elevation Data    num=     500
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1422.66    5.89 1423.65     8.1 1424.37   15.77 1424.32   17.54 1424.55
    18.1 1424.61   20.77 1424.42   22.52 1423.75   28.43 1421.73   29.81 1420.93
   31.98 1419.82   33.12 1419.28   34.77 1418.48   37.79 1417.04   42.44 1414.84
   43.75 1414.07   46.48 1412.61    47.7 1411.91    50.5 1410.39   52.44 1409.28
   55.84  1407.4   56.84 1406.85   58.34    1406    60.1 1405.02   61.89    1404
   63.04 1403.35   64.67 1402.41   65.19 1402.12   71.03 1399.24   71.66 1398.91
   76.01 1396.96    77.4 1396.26    81.7 1394.38   82.58    1394   86.73 1392.18
   91.57 1390.08   96.42    1388   97.02 1387.77  101.51    1386  102.28  1385.7
  106.56    1384  107.39 1383.68  112.44 1381.67  113.82 1381.14   121.3  1378.1
  121.99 1377.83  126.92 1375.91  127.76 1375.57  129.82 1374.72  131.58    1374
  133.88 1373.05  136.54    1372  138.49 1371.21  140.06 1370.59  143.55 1369.24
  147.18 1367.75  150.76  1366.4  153.16 1365.38  156.32    1364  157.08 1363.68
  160.42 1362.22  164.09 1360.63  165.49    1360  168.16 1358.86   170.8 1357.84
  174.26 1356.62  176.37 1355.69  178.22 1354.85  180.85    1354   183.8 1352.99
  186.88    1352  188.73 1351.38  190.85  1350.7  192.35  1350.2     209 1344.78
  209.94 1344.47  211.34    1344  215.75 1342.53  221.14  1340.7   222.4 1340.28
  223.04 1340.06  229.25 1338.21  243.83    1334  250.15 1332.19  250.79    1332
   253.7 1331.43  260.34    1330  262.43 1329.59  269.52    1328  273.36 1327.76
  275.49 1327.37  276.34 1327.29  300.59 1325.53  301.24 1325.42  303.19 1325.06
  304.21 1324.88  309.07    1324  313.49    1322   316.6 1320.58  317.66  1320.1
  337.47    1320  339.96 1321.59  340.61    1322  342.62 1323.28  343.77    1324
  346.41 1325.66  346.96    1326  352.56 1326.69  360.16 1327.44  362.71 1327.72
  363.56 1327.82  366.13    1328  380.75    1328   382.6 1327.82  400.36    1326
  448.92    1326  458.18 1325.82  470.37 1325.48  480.13 1325.18  507.23 1324.39
  523.48    1324  546.22    1324  560.12 1323.71  561.21  1323.7  570.15 1323.57
  571.16 1323.55   596.4 1323.01  635.37    1322  648.22    1322  650.86 1321.94
  757.42    1320  783.16    1320  859.71 1318.23  871.49    1318  880.82    1318
  901.28  1317.7  910.41 1317.59  916.72 1317.54 1032.85    1316 1057.43    1316
 1098.22 1314.65 1108.36  1314.3 1119.29    1314 1125.23    1314 1146.62 1313.06
 1156.05 1312.76 1162.48 1312.52 1163.95 1312.46 1173.44    1312 1181.32    1312
 1181.86 1311.98 1182.48 1311.97 1194.68 1311.67 1200.07 1311.52 1210.29 1311.18
 1239.79 1310.48 1240.82 1310.46 1246.91 1310.41 1260.36 1310.34 1277.73    1310
 1294.28    1310 1299.24 1309.93  1300.4 1309.91 1311.75 1309.76 1314.38  1309.7
 1315.55 1309.68 1317.09 1309.63 1318.11 1309.62 1402.62 1308.08 1406.35    1308
 1416.85    1308 1492.61 1306.99 1524.67 1306.64 1543.26 1306.58 1555.74 1306.47
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1589.46    1306 1592.56    1306 1597.47 1305.86 1603.45 1305.76 1677.69 1305.86
1682.25    1306 1713.96    1306 1714.95 1305.81 1718.37    1304 1719.94 1303.05
1724.04 1300.59 1725.03    1300 1800.25    1300 1802.32 1300.88 1804.88    1302
1806.84    1302 1829.05 1303.67 1829.85 1303.72 1833.33    1304 1842.95  1304.4
1847.33  1304.6 1860.24 1305.15 1862.83 1305.24 1880.28 1305.57  1898.4    1306
1899.78    1306  1929.2 1306.62    1938 1306.85 1947.85 1307.07 1961.87 1307.34
1966.19 1307.41 1972.55  1307.5 1986.69    1308 1987.86 1308.22 1988.93 1308.45
1990.57 1308.75 1997.35    1310 2001.54 1310.79 2008.14    1312  2011.6 1313.45
2014.56 1314.62 2016.66    1316 2017.43 1316.41 2019.78    1318 2020.48 1318.47
2022.47 1319.64 2023.07    1320 2025.38 1321.34 2026.46    1322 2028.46 1323.15
2032.44 1325.05 2034.16 1326.08 2037.21    1328  2039.4 1328.89 2041.74 1329.86
2046.24    1332 2048.19 1332.82 2050.66    1334 2052.02  1334.6 2054.92    1336
2059.53 1338.62 2061.23  1339.5 2061.97    1340 2062.53 1340.37 2063.04 1340.72
2066.63 1343.07 2068.19  1344.1  2073.3  1347.3 2074.37    1348  2076.7 1349.44
2077.72    1350 2079.78 1351.11 2081.41    1352 2086.02 1352.81 2092.03    1354
 2109.9    1354 2128.28 1352.69 2131.56 1352.73 2139.52 1352.74  2140.6 1352.75
 2146.8 1352.82 2147.98 1352.83 2154.09 1352.91 2155.36 1352.92 2161.42 1352.99
2162.75 1353.01 2163.26 1353.01 2165.36 1353.03 2168.75 1353.08 2170.13 1353.09
2170.81  1353.1 2172.57 1353.12 2173.81 1353.14 2175.23 1353.15  2179.8 1353.21
2181.24 1353.22 2184.88 1353.27 2186.01 1353.28  2187.1  1353.3  2188.3 1353.31
2193.59 1353.38 2194.43 1353.39 2195.89 1353.41 2197.23 1353.42  2201.2 1353.48
 2201.8 1353.48 2215.24 1352.91 2215.97 1352.94 2217.78 1353.02  2218.8 1353.06
2220.98 1353.16 2222.43 1353.22 2224.87 1352.97 2226.81  1353.1 2228.43  1353.2
2230.13 1353.13 2232.45 1353.24 2237.21 1352.84 2238.99 1352.72 2241.54 1352.54
2242.69 1352.37 2243.73  1352.2 2269.13 1352.15 2270.55 1352.09 2271.66 1352.11
2278.95 1352.32 2279.91 1352.36 2288.03 1352.91 2292.33 1353.28  2297.8 1353.62
2301.46    1354 2302.38  1354.7 2307.11    1356 2317.81    1356 2337.18 1357.17
2338.47  1357.2 2340.49 1357.26 2344.75 1357.48 2345.63 1357.51 2347.55 1357.56
2355.47    1358 2359.62 1358.27 2360.88 1358.31  2368.3 1358.66 2369.34 1358.69
 2378.2  1358.7 2380.76  1358.8 2382.91 1358.88 2387.47 1358.92 2388.56 1358.96
2391.25 1359.07 2399.98    1360 2401.88    1360 2403.17 1361.71  2403.7 1362.36
2405.11 1363.58 2407.16 1364.68 2409.89    1366 2413.79 1368.09 2416.88 1370.04
2418.64 1371.08  2423.3 1373.57 2424.49 1374.19 2427.94 1375.91 2430.57 1377.23
 2432.2    1378 2433.08 1378.42 2436.42    1380 2438.33 1380.93 2442.28 1382.86
2447.17 1385.34 2447.87 1385.69 2448.48    1386 2449.16 1386.34 2450.38 1386.97
2458.91 1391.41 2460.05    1392 2461.83 1392.93 2467.77    1396 2517.84    1396
2530.87 1395.28 2531.64 1395.28 2533.36 1395.29 2537.14 1395.33 2537.73 1395.33
2539.79 1395.34 2543.68 1395.39 2544.59 1395.39  2545.3  1395.4 2559.67 1394.86
2561.51 1394.91 2562.03 1394.86 2562.63 1394.83 2564.99 1394.91 2567.16 1394.97
2567.93 1394.99 2576.09 1395.18 2588.33 1394.67  2588.9 1394.66 2592.79  1394.3
2601.14 1394.24 2604.34 1394.34 2614.58 1394.64  2617.7 1394.83 2629.64  1395.9
2630.52    1396 2631.08 1396.15 2639.61    1398 2644.11  1399.2 2644.89 1399.27
 2651.3 1399.94  2652.5 1400.06 2683.03    1402  2684.3 1402.38 2687.59 1403.37
2694.33 1405.37 2695.58 1405.73 2696.51    1406 2709.82 1406.55 2716.59 1406.85
2737.76    1408 2749.02 1409.47  2754.1    1410 2764.33 1411.57 2765.45 1411.75
2767.44    1412 2803.48    1412 2811.33 1413.19 2812.53 1413.38 2815.56 1413.84
2817.15    1414 2819.76    1414 2825.14 1413.05 2826.84 1412.76 2830.55 1412.39
2835.98 1411.49 2838.27 1411.52 2841.33 1411.72 2850.24 1413.18 2852.06 1413.49
2854.46    1414 2860.28 1415.02 2862.96 1415.51  2865.1    1416 2869.29 1417.33
 2872.2 1418.49 2875.51    1420 2878.31  1421.3  2883.5 1423.85 2890.18    1424
2894.07 1424.67 2895.34 1424.67 2897.41 1424.64 2901.11 1424.77 2903.05 1424.74
2904.12 1424.74 2908.57 1424.83 2929.56 1425.66 2935.29 1425.98 2952.62 1427.84
2953.63    1428 2958.36 1428.86 2965.22    1430 2970.78 1431.95 2971.82 1432.37
2980.45    1436 2987.57    1436 2990.87    1438 2993.13 1439.35 2993.68 1439.65
2996.63 1440.99 2998.92    1442 2999.81 1442.36 3000.51 1442.66 3006.96 1445.33
3008.68    1446 3011.44 1447.19 3013.47    1448 3015.24 1448.79 3018.13    1450
 3022.2 1451.45 3024.87 1452.32  3027.6 1453.12  3035.1 1454.03 3038.22 1454.95
   3044 1455.66 3054.03 1456.75 3065.93    1458 3068.02  1458.1  3089.8    1460
3090.41 1460.06 3097.32 1460.15 3098.71 1460.19 3135.35 1460.96 3148.78 1461.43
3151.45  1461.5 3157.86 1461.65  3165.4    1462  3167.1    1462 3173.31 1463.13
3176.07 1464.78 3177.33  1465.6 3178.64 1466.47 3182.03 1468.71 3183.81    1470
3184.56 1470.51 3186.63    1472 3187.65 1472.73 3189.08 1473.77 3191.48  1475.5
3195.76 1478.45 3196.51 1478.99 3199.17  1480.8 3201.63    1482 3203.65 1482.97
3205.69 1484.03 3209.31    1486 3210.95 1486.96 3212.81    1488 3215.01 1489.29
 3219.2 1491.71 3219.72    1492 3220.38 1492.36 3225.03 1494.86 3229.16    1496
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Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045 1713.96     .03  1898.4    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1713.96  1898.4           392.15  392.15  392.15             .1       .3

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 8216.339

INPUT
Description:
Station Elevation Data    num=     442
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1452.17     .97    1452    4.08 1451.22    9.54    1450   11.55 1449.51
   21.63    1448   27.75 1447.18   32.02    1446   36.54  1444.8   40.05    1444
   49.56    1442   51.18  1441.5   55.76    1440   59.97    1438   62.74 1436.64
    65.7 1435.25   67.65 1434.36   69.77 1433.43   72.96    1432   77.58    1430
   80.03 1428.93   83.24 1427.42   89.92  1424.7    91.6    1424   95.63 1422.36
   97.25 1421.67  101.29    1420  103.12 1419.23  106.12    1418  110.51  1416.3
  111.37    1416  112.82 1415.54  118.66    1414  119.44 1413.74  126.46    1412
  126.97 1411.83  127.97 1411.56  135.82 1409.75  137.35 1409.39  138.74 1409.05
  143.24    1408  144.14 1407.77  152.04    1406  153.19 1405.73  163.31 1403.68
  166.48 1403.06  169.03  1402.6  172.09    1402  180.92 1400.26  182.11 1400.02
  191.65 1398.08  194.23 1397.31  196.81 1396.48  197.91 1396.09  202.92 1394.09
   207.7 1392.21  208.25    1392   213.1 1390.14  218.12 1388.26  218.83    1388
  221.98 1386.81  224.13    1386  227.19 1384.67  230.02 1383.42   232.6 1382.29
  233.32    1382  237.36 1380.21  241.65  1378.3  242.34    1378  245.71 1376.47
  246.78    1376  249.17 1374.91  249.73 1374.66  252.32 1373.91  255.91 1372.62
  256.48 1372.42   262.1 1370.67  262.68 1370.47  263.92    1370  268.76 1368.39
  269.79    1368  273.75 1366.61  275.32    1366  277.23  1365.3  279.67  1364.5
   285.3 1362.58  286.02 1362.29  291.32 1360.61  292.07 1360.34   293.2    1360
  298.02  1358.5   299.7    1358  303.37 1356.88  305.22 1356.33  305.97  1356.1
  310.31 1354.71  311.55 1354.36  316.56 1352.75  317.79 1352.39   318.9    1352
  323.51 1350.53  325.03    1350  328.84 1348.78  331.16    1348  332.79 1347.48
  338.47 1345.34  341.71    1344  344.69 1342.75  347.69 1341.53  351.43    1340
  354.68 1338.71   356.5    1338  358.81 1337.11  360.71 1336.39   361.6    1336
  365.52 1334.35  367.88 1333.38  371.36    1332  374.29 1330.86  377.38 1329.76
  382.42    1328   385.5 1326.96  388.46 1326.08  394.86 1324.25  395.81    1324
  419.82    1324  430.58 1323.54  435.43 1323.85  437.61    1324  439.54    1324
  442.47 1323.07  444.32    1322  445.88 1321.09  447.74    1320  450.32 1318.48
  451.15    1318  451.83  1317.6  452.49 1317.21  454.02 1316.32  454.56    1316
  473.81    1316  477.69 1317.69  478.42    1318  480.01 1318.69  483.09    1320
  483.67 1320.25  487.81    1322   488.5 1322.04  491.76 1322.24  504.67    1322
  537.88    1322  569.04 1320.58  574.35 1320.38  582.11    1320  673.01    1320
  683.66 1319.89  684.25 1319.89  694.77 1319.61  705.72 1319.25  709.06 1319.31
  714.86 1319.37  718.92 1319.37  723.84 1319.35  797.82    1318  811.87    1318
  915.76 1316.62  922.01 1316.56  966.93    1316  975.93 1314.99  978.58 1314.82
  991.98    1314  998.13 1313.86 1008.87 1313.57 1034.62 1312.82 1046.97 1312.54
 1050.15 1312.48  1064.7    1312 1101.19    1312 1160.96 1310.32 1162.56  1310.3
 1165.98 1310.24 1167.79 1310.19 1175.24    1310 1204.53    1310 1214.41 1309.65
 1215.85 1309.61 1221.35 1309.51 1226.55 1309.35 1232.18 1309.19 1242.62 1308.85
 1267.86 1308.28 1276.38 1308.05 1278.09    1308 1292.82 1307.76 1293.76 1307.75
 1390.23    1306 1447.71    1306 1452.96 1305.88 1501.81    1304 1606.46    1304
 1641.59  1304.1 1655.94    1304 1757.51    1304 1765.75  1303.6 1801.06    1302
 1810.75    1302 1818.57 1300.33 1819.96    1300 1820.52 1299.77 1824.65    1298
 1893.51    1296 2015.04    1296  2015.7 1297.19 2016.15    1298 2016.87 1299.33
 2017.23    1300 2018.16 1301.76 2018.29    1302 2125.27    1302 2135.89 1303.84
 2137.07    1304 2137.65 1304.18 2144.23    1306  2146.4  1306.7 2150.01    1308
 2153.07 1309.28 2154.96    1310 2156.94 1310.77 2161.87 1313.19 2163.56    1314
 2164.29 1314.37 2167.39    1316 2168.94 1316.83 2171.18    1318 2173.51 1319.23
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 2178.28 1321.79 2180.35 1322.88 2185.66 1325.73  2186.3 1326.11 2188.48 1327.19
 2192.04 1328.98 2192.93 1329.34 2194.78    1330 2196.78 1330.83 2200.13    1332
 2201.55  1332.6 2202.34 1332.98 2203.05 1333.32 2207.57 1334.85 2208.58 1335.19
  2213.3 1336.77 2214.42 1337.14 2218.87 1338.22 2219.79 1338.42 2222.67 1338.99
 2223.66 1339.29 2231.62 1340.61 2232.79 1340.93 2234.74 1341.38    2237 1341.73
 2240.97 1342.57 2243.37 1342.72 2247.38 1343.59 2248.74    1344 2251.41 1344.83
 2252.32  1345.1 2256.88 1346.52 2259.19 1347.01 2269.48  1350.3 2270.65 1350.67
 2275.07 1352.05 2277.23  1352.7 2281.48    1354 2282.76 1354.38 2283.28 1354.54
 2288.81 1356.25 2289.67 1356.52 2295.43 1358.31 2299.55 1359.73 2302.99 1360.81
 2305.64    1362 2306.48 1362.37 2310.13    1364 2310.64 1364.22 2314.69    1366
  2319.3    1368 2320.65 1368.56 2324.59 1370.24 2328.76    1372 2329.72 1372.34
 2330.78 1372.73 2334.42    1374 2340.39    1376 2347.62    1378 2355.18 1379.39
 2358.52 1379.53 2361.59 1379.77 2362.14 1379.74 2377.08 1379.34 2382.16 1378.69
 2383.36 1378.86 2385.25 1379.54 2386.43    1380 2387.98 1380.47 2388.62 1380.64
 2391.85 1381.52 2395.81 1382.56 2401.17    1384 2404.06 1384.76 2405.48 1385.15
 2408.62    1386 2411.89 1386.93 2414.02 1387.59 2415.52    1388 2420.47    1389
 2425.71 1389.97 2435.83 1390.93 2439.31 1391.25 2441.45 1391.57 2442.26 1391.67
 2443.13 1391.76 2444.06 1391.84 2453.38  1391.3 2459.22    1392 2474.49    1392
 2475.25 1392.12 2481.62 1393.17  2484.2    1394 2485.47 1394.47  2489.5    1396
 2492.13    1396 2503.18 1396.48 2515.89 1396.93 2517.41 1396.98 2519.01 1397.04
  2531.8  1397.5 2535.03 1397.61 2535.55 1397.63 2545.87    1398 2547.41 1398.56
 2549.46  1399.3 2551.42    1400 2563.57 1400.56 2565.44 1400.64 2573.42 1401.01
 2574.15 1401.04 2581.23 1401.31 2596.89    1402 2598.32 1402.18 2599.56 1402.32
 2600.52 1402.43 2607.42 1403.25 2614.37    1404  2625.1 1404.45 2640.16 1405.05
 2642.54 1405.11 2646.78 1405.21 2650.05  1405.3 2650.88 1405.33 2663.14 1405.68
 2676.39 1405.98 2679.44    1406 2708.77    1406 2714.16 1405.64 2718.13 1405.57
 2719.49 1405.51 2725.78 1405.22 2729.37 1405.15 2734.24 1404.95 2763.51 1404.68
 2767.97 1404.68 2773.34 1404.87 2778.92 1405.13 2794.41    1406 2796.84    1406
 2814.41 1407.35 2823.41    1408 2834.66    1408 2845.87 1408.89 2848.34 1408.96
 2850.85 1409.06 2854.63    1410 2879.12    1410 2888.36 1411.96 2895.67    1412
 2899.83    1412 2901.56 1412.21 2904.62 1412.37 2906.43 1412.49 2909.42 1413.09
  2912.4 1413.38 2914.33    1414 2920.28    1414 2972.91 1415.53 2990.53    1416
 2992.58 1416.78 2993.11 1416.98 2994.88 1417.66 2996.71 1418.43 3003.31 1421.51
 3006.63 1423.07 3008.15 1423.77 3009.35 1424.34 3012.87    1426 3014.06 1426.57
 3020.98 1429.84 3025.71 1431.98  3030.7    1434 3034.55 1435.55 3035.65    1436
  3037.4 1436.48 3041.56 1437.58 3043.18    1438 3046.18 1439.04 3048.53 1439.85
 3049.38 1440.17  3053.7    1442 3057.02 1443.68 3057.67    1444 3065.39 1447.89
 3069.68 1450.04 3073.61    1452 3075.57 1452.98 3077.63    1454 3081.76    1456
 3082.88 1456.53 3087.68 1458.77  3090.3    1460 3093.18 1461.33 3094.66    1462
 3100.38    1462 3102.39 1462.41 3103.09 1462.72 3105.14 1463.59 3106.13    1464
 3108.44 1464.69 3112.68    1466 3121.39 1467.36    3125    1468 3144.68    1468
 3145.89 1467.54 3147.93 1466.89

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045 1810.75     .03 2018.29    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1810.75 2018.29           261.89  261.89  261.89             .1       .3

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 7954.452

INPUT
Description:
Station Elevation Data    num=     494
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    1480   10.94    1480   12.72 1479.68   18.72    1478   21.75 1477.04
   25.23    1476   28.75 1474.73   33.19 1472.87   33.98 1472.54   35.35    1472
    37.6 1471.02   40.47    1470   42.28 1469.22   43.34 1468.72    47.6 1467.32
   48.92 1466.76   50.51  1466.1    52.1 1465.41   57.03 1463.93   59.08 1463.02
   61.63  1461.8   63.36 1460.98   64.72 1460.31   66.51 1459.42   68.08 1458.69
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  69.78 1457.87   71.91 1456.91    73.5 1456.15   75.28 1455.46   78.13 1454.52
  80.95 1453.32   86.08 1451.28   88.29 1450.51   90.64 1449.59   94.39 1448.15
  96.96  1447.2   98.61 1446.58  100.99 1445.71  104.65  1444.7  107.19 1443.76
  112.4 1442.51  114.82 1441.63  122.77    1440  123.41 1439.86  132.14    1438
 135.38 1437.13  138.69 1436.17  143.24 1434.79  145.91    1434  153.24    1432
 153.85 1431.85  158.23 1430.41  162.92  1428.8  164.11 1428.39  169.32 1426.69
 170.34 1426.37  171.57    1426  176.59 1424.45  178.14    1424  182.72 1422.66
 184.04 1422.29  184.68 1422.08  190.61 1420.33  191.18 1420.16  198.29  1418.2
 198.97    1418   206.5 1416.04  214.21 1414.03  214.76  1413.8  218.57    1412
 222.85    1410  227.17    1408  228.33 1407.51  232.26  1405.7   240.3 1402.04
 244.26  1400.2   246.8 1398.95  248.62    1398  255.77 1394.36  257.87 1393.27
 261.58 1391.06   263.4    1390  266.67 1388.12  273.29 1384.15  274.56 1383.44
 276.54    1382  278.03 1380.87  279.33    1380  281.74 1378.05  282.56 1377.75
  284.2 1377.14  287.72    1376  290.71 1374.97  293.98 1374.13  296.22 1373.44
 297.85 1373.01  298.73 1372.78  304.73 1371.27  306.25 1370.92  311.58 1369.63
 315.29 1368.68  320.55  1367.4  321.94  1367.1  324.35 1366.55   334.9 1364.31
 335.91  1364.1  341.88 1362.94  346.58    1362  347.26 1361.87  348.74 1361.71
 362.08 1360.32  365.07 1360.11  366.31    1360  373.97 1359.26  374.94 1359.12
 378.07 1358.64  381.65 1358.19  384.97 1357.51  386.88 1356.99   392.1    1356
 394.17 1355.64  395.24 1355.52  398.45 1355.14  406.88 1353.23  408.47 1352.71
 409.92 1352.41  418.14 1350.61  418.86 1350.47  421.07    1350  423.91 1349.39
 425.41 1349.04  426.72 1348.73  429.03 1348.21   436.6 1346.19  444.51 1343.98
 451.92 1341.84  453.75 1341.25  455.58 1340.67  457.54    1340  458.73  1339.6
 463.07    1338  464.04 1337.68  468.46    1336  469.33 1335.72  471.01 1335.12
 475.16 1333.49  478.85    1332  485.42 1330.21  486.22    1330  489.39  1329.4
 496.72    1328  503.61 1326.66  506.82    1326  517.91 1325.34  543.17    1324
 559.06 1322.86  569.08    1322  578.06 1320.46  580.59    1320  600.75    1320
 652.84 1318.24  657.25    1318  658.72 1316.72  659.53    1316  661.31 1314.45
 661.83    1314  677.56    1314  680.17 1314.93  683.22    1316  684.63 1316.19
 690.71 1317.03  692.91 1317.24  693.52 1317.32  699.03    1318  733.91    1318
 747.01 1317.24  770.79    1316  779.75 1315.74  798.12 1315.32  805.33 1315.18
 818.05 1315.01  823.68 1314.95  831.94 1314.93  836.76 1314.88  844.98 1314.78
 873.15 1314.84  892.91 1314.75  915.33 1314.55  921.88 1314.45   923.2 1314.45
 938.48 1314.28  941.46 1314.27   945.1 1314.22  950.46 1314.19  951.47 1314.17
 980.03    1314 1054.27    1314 1097.71 1312.15 1100.83    1312 1104.28    1312
1115.92 1311.62 1158.86 1311.13 1163.68 1311.15 1194.09 1311.06 1206.86 1310.94
1209.29 1310.92 1221.26 1310.76 1229.75 1310.67  1230.7 1310.65 1243.21 1310.49
1252.44 1310.41 1269.59    1310 1292.07    1310 1294.91 1309.94 1390.94 1308.02
1391.98    1308 1404.87    1308 1426.23 1307.35 1430.66  1307.1 1443.49 1306.51
1449.77 1306.27 1455.14    1306 1487.42    1306 1515.51 1305.49 1520.67 1305.54
1521.71 1305.53 1526.11 1305.48 1539.61 1305.25 1541.73 1305.22 1557.06 1304.98
1603.15    1304 1612.86    1304  1613.7 1303.98 1615.81 1303.94 1681.12 1302.52
1685.07 1302.45 1708.33    1302 1708.56    1302 1725.82 1301.66 1728.49 1301.62
1769.19 1300.92 1787.26 1300.62 1790.74 1300.55 1809.77 1300.23 1811.69  1300.2
1813.27 1300.17 1821.74 1300.04 1823.76    1300 1843.44 1299.73 1893.08 1298.95
1895.01 1298.93 1903.78 1298.82  1948.3    1298 1957.74    1298 1958.33 1297.81
1964.16    1296 1965.69 1295.95 2028.66    1294 2032.41    1294 2064.12 1293.09
2070.85 1293.08 2107.83  1292.7 2116.31 1292.71 2123.71 1292.75 2126.54 1292.75
2182.93 1293.28  2192.3 1293.44 2216.02 1293.27 2216.74 1293.33 2218.22 1293.45
 2218.8 1293.41 2219.61 1293.49 2223.93    1294 2224.61 1295.27 2224.99    1296
2225.59 1297.13 2226.03    1298 2235.25 1298.87 2240.91  1299.4 2248.77    1300
2249.34    1300 2275.35 1300.36 2276.45 1300.37 2304.17 1300.75 2359.71 1301.03
2360.55 1301.05 2364.18 1301.03 2375.49 1301.19 2385.93 1301.36 2390.79 1301.42
2404.11 1301.61 2413.72 1301.62 2420.03 1301.75 2432.45 1301.88 2443.88 1301.93
2446.19    1302 2454.76    1302 2457.15 1302.04 2466.68  1302.4 2470.18 1302.44
2495.18    1304 2496.98    1304  2508.9 1305.61 2511.58    1306 2519.79 1307.05
2527.41    1308 2537.37  1309.6 2540.84    1310 2546.22    1312 2551.68    1314
2552.32 1314.24 2558.09 1316.31 2558.87 1316.65 2564.51 1318.63 2567.43 1319.82
2570.03  1320.9 2572.71    1322 2574.28 1322.67 2575.07 1323.02 2578.86 1324.56
2579.67 1324.92 2584.83 1327.05 2587.54 1328.16 2589.94 1329.13 2592.19    1330
2597.52 1331.97 2601.02 1333.27 2602.59 1333.86 2605.61 1334.97 2607.16 1335.55
2614.49 1338.21 2617.07 1339.15 2619.31    1340 2623.07 1341.45 2625.35 1342.26
2626.16 1342.54 2627.89 1343.25 2629.15 1343.74 2631.38 1344.55 2633.15  1345.3
2635.21 1346.05  2637.5 1347.05 2641.31 1348.61 2643.29 1349.55  2645.9 1350.73
2650.07 1352.77 2651.72 1353.57 2653.57 1354.56 2654.75 1355.14 2656.77 1356.22
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 2658.06  1356.9 2659.62 1357.74 2662.77 1359.42 2664.61 1360.39  2666.2 1361.21
 2668.13  1362.2 2670.38 1363.36  2673.4 1364.85 2675.08 1365.73  2676.8 1366.65
  2681.1 1368.89 2682.79 1369.83 2684.34 1370.65 2686.79    1372 2688.23 1372.81
 2689.56 1373.57  2692.3 1375.05 2694.63 1376.27 2695.96 1376.87 2701.87 1378.17
 2703.41 1378.81  2706.9 1379.13 2712.47 1380.41 2714.38 1380.82  2718.4 1381.74
 2720.54    1382 2724.86 1382.47 2725.97 1382.43 2729.11  1382.2 2734.68    1383
  2743.6 1383.99 2746.94 1384.44 2747.68 1384.52 2748.57 1384.64 2752.42 1385.13
 2754.03 1385.45 2764.45  1387.5 2766.08 1387.81 2767.03    1388 2774.05 1389.22
 2777.26 1390.07 2777.83 1390.12 2778.74 1390.22 2779.38 1390.28  2783.3 1390.26
 2788.66 1390.68 2798.76  1391.3  2803.9 1391.73 2808.91 1392.09 2811.89 1392.32
 2819.57 1392.87 2822.55 1393.11  2824.7 1393.27 2829.53  1393.6  2831.2 1393.73
 2838.34 1394.18 2839.08 1394.22 2843.15 1394.52 2854.67  1395.2  2856.2 1395.32
 2856.89 1395.36 2858.22 1395.41 2866.43    1396 2868.82 1396.16 2871.67 1396.34
 2879.53    1397 2883.78  1397.4 2884.94 1397.46  2889.2    1398 2893.37 1398.49
 2899.42 1399.23 2902.74 1399.69  2905.1    1400 2911.65 1400.81 2913.71 1401.12
  2919.4 1401.74 2923.86  1402.3 2926.44 1402.63 2929.59 1402.98 2938.31    1404
 2947.75    1405 2950.32 1405.19  2958.8    1406  2959.5 1406.07  2966.6 1406.69
 2971.56 1407.14 2974.76 1407.41  2976.1  1407.6 2979.49    1408 2986.82  1408.7
 2989.94 1409.07 2994.08 1409.64 2995.54 1409.82 3008.01    1412 3008.86 1412.15
 3016.51 1413.46 3019.34    1414 3020.11 1414.14 3021.44 1414.35 3031.48    1416
 3033.43 1416.34 3034.21 1416.48 3035.81 1416.77 3047.25 1418.71 3050.25 1419.23
 3058.77 1420.73 3061.53 1421.21 3069.87  1422.7 3072.11 1423.13 3080.45 1424.74
 3083.33 1425.31 3086.57    1426 3091.13 1426.89 3094.03 1427.51 3097.69 1428.36
 3103.63 1429.67 3107.35 1430.41 3110.62 1431.09 3113.03 1431.58 3115.77 1432.19
 3124.66    1434 3126.01  1434.3 3127.48 1434.64 3135.79 1436.66 3140.79 1437.92
 3144.46 1438.79 3146.76 1439.42 3150.92 1440.49 3155.73 1441.85 3158.47 1442.62
 3160.27 1443.17 3162.92    1444 3166.01 1444.92 3169.39    1446  3170.4 1446.32
 3170.96  1446.5 3173.43 1447.26 3174.69 1447.64 3183.82 1449.05 3185.49 1449.54
 3190.37    1450 3195.76 1450.45 3201.13    1450 3204.15    1450

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045 1957.74     .03 2248.77    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1957.74 2248.77           317.92  317.92  317.92             .1       .3

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 7636.535

INPUT
Description: 76+36
Station Elevation Data    num=     500
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   146.9  1487.1  153.98    1486  158.33 1485.31  160.06 1485.02  169.66 1483.52
  177.17 1482.01  183.16 1480.74  186.07 1480.19  192.54 1478.83   194.8 1478.35
  196.47    1478  203.63 1476.48   207.4 1475.74  211.81 1474.81  215.81    1474
  220.68 1472.99  226.18 1471.89  231.44 1470.93  236.12    1470  239.95 1469.22
  241.61 1468.89   246.3 1467.95  252.35 1466.58  269.62 1462.49  271.71 1461.99
  273.82 1461.62  275.08 1461.42  277.62  1461.1  283.61    1460  287.44 1459.36
  290.07 1458.94  297.22 1457.78  299.27 1457.58   302.5 1457.06  306.04 1456.56
  309.36    1456  319.94 1454.66   324.2    1454  332.78 1453.04  338.25 1452.38
  340.62    1452  353.61 1450.53  356.98    1450  370.47 1448.27  373.61 1447.43
  375.03 1447.18  381.01    1446  386.27    1445  391.09 1444.13  408.46 1441.09
  410.84  1440.8  412.38 1440.54  419.02 1439.35  420.58 1439.03  424.78 1438.22
  431.34    1437  441.45 1435.04  448.76  1433.7  450.29 1433.44  454.25 1432.67
  462.89 1430.97  467.69    1430   475.8 1428.38  477.66    1428  481.35 1427.24
  487.52    1426  489.34 1425.63  490.41  1425.4   491.5 1425.15  499.07 1423.68
  500.56 1423.37   508.9 1421.53  514.87 1420.19  522.82 1418.51  526.83 1417.69
  531.75 1416.74  539.13 1415.48  541.39 1415.06  543.29 1414.76     548    1414
  550.98 1413.51  552.34  1413.3  556.78 1412.53  561.69 1411.72  565.82 1411.14
  570.38 1410.45   575.1 1409.54  577.85 1409.07  579.81 1408.59  582.01    1408
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  585.6  1407.2  588.04 1406.58  593.04 1405.37  595.18 1404.82  600.48 1403.58
 603.37 1402.72  605.22    1402  607.23 1401.21  610.49    1400  614.51 1398.44
 616.95 1397.59  621.13    1396  623.37 1395.17  626.42    1394  631.52 1392.14
 636.44 1390.37  637.46    1390   642.1 1388.31  643.67 1387.71  651.76 1384.69
 653.59    1384  656.83 1382.88  659.33    1382   660.4 1381.67   665.6    1380
 668.57 1379.08  671.85    1378  677.42 1376.43  678.91    1376  680.46 1375.58
 686.19    1374  692.61 1372.61   695.2    1372  705.04 1370.05  718.93    1368
 726.78 1366.98  734.63    1366  743.77 1364.39  746.01    1364  756.07 1362.16
 768.06 1358.57  769.93    1358  771.34 1357.59  777.14    1356   782.2 1354.64
 784.12    1354  789.25 1352.15  794.93    1350   797.2 1349.15  804.28  1346.6
 805.93    1346  807.46 1345.45   811.3 1344.16   816.2 1342.53  817.81    1342
 821.47 1340.76  823.68    1340  829.66    1338  832.98 1336.97  839.68 1334.96
 842.79    1334  846.16 1332.94  853.68 1330.59  857.17 1329.47  861.49    1328
 865.99 1326.43  867.83  1325.8  872.02    1324   876.3    1322  880.52 1320.15
 881.79 1319.84   890.5 1318.64  905.48    1318  908.48 1317.84   913.3 1317.54
 914.42 1317.24  918.85    1316  922.39 1314.97  925.99    1314  931.07 1312.41
 932.44    1312  946.95 1310.49   949.8 1310.21  951.24  1310.1  953.54    1310
 968.58    1310   972.4 1310.64  979.98 1311.34  984.56 1311.75   986.9    1312
 990.87    1312  992.11 1311.52  996.34    1310 1020.48    1310 1023.84  1310.6
1029.49 1311.51 1031.11 1311.79 1032.39    1312 1034.59 1312.18 1036.72 1312.32
1079.18 1312.07 1081.64    1312 1087.41    1312 1103.13 1311.78 1115.52 1311.64
1117.68 1311.61 1122.53 1311.55 1164.03 1311.09 1168.53 1311.05 1175.83 1310.94
1177.87 1310.92  1184.3 1310.83 1194.76 1310.73  1239.9    1310  1303.2    1308
1378.17    1308 1380.67 1307.93 1417.96 1307.03 1423.09 1306.89 1446.38    1306
1459.65    1306 1489.45 1305.59 1505.46 1305.62 1507.95 1305.61 1510.27 1305.59
1512.34 1305.56  1515.7 1305.56 1518.28 1305.53 1536.78 1305.47 1543.47 1305.43
 1563.9 1305.35 1569.31 1305.38 1608.64 1304.94 1618.49 1304.86 1635.95 1304.57
1639.69 1304.49 1649.61 1304.45 1651.51 1304.42 1662.49 1304.32 1682.89    1304
1708.46    1304 1727.45 1303.46 1739.77 1303.14 1765.07 1302.58 1780.14    1302
1790.28    1302 1797.52 1301.47 1798.62 1301.44 1833.18  1300.4 1844.09    1300
 1848.9    1300 1902.52 1298.69 1936.87    1298 2025.06    1298  2047.2 1297.52
2054.49 1297.73 2058.36    1298 2098.25    1298 2133.75 1297.13 2142.26 1296.96
2176.54    1296 2191.12    1296 2249.49 1294.44  2259.7    1294 2265.42    1292
2271.01 1291.02  2280.2    1290 2287.27 1289.76 2289.19 1289.77 2301.79    1290
 2377.6    1290 2394.01 1291.95 2406.37    1296 2411.36 1296.15 2416.99  1296.3
2423.99 1296.53 2436.51 1296.83 2462.07 1297.07 2467.41 1297.04 2468.45 1297.04
2476.04  1297.1 2479.46 1297.06 2502.89 1297.02 2509.15 1296.99 2516.55 1296.91
2548.78  1296.7 2559.23 1296.69 2562.84 1296.68 2578.85 1296.68 2638.82 1296.49
2646.64 1296.44 2672.51 1296.53 2679.18  1296.7 2684.59 1296.68 2686.31 1296.71
2702.54 1297.12 2707.66  1297.3 2712.53 1297.35 2727.97  1297.9 2730.49    1298
2731.73 1298.32 2736.45    1300 2737.75 1300.63 2741.01    1302 2744.27 1303.49
2745.45    1304 2748.76 1305.74 2752.62 1307.79 2754.33 1308.89 2756.14    1310
2759.39    1312 2760.83  1312.9 2766.36 1316.42 2767.64 1317.24 2771.72 1319.93
2776.12 1322.65 2782.27 1326.93 2782.99 1327.44 2786.38 1329.95 2789.83 1332.43
2796.61 1337.19 2797.42 1337.75  2801.2    1340 2802.74 1340.93  2804.5    1342
2806.59 1343.28 2808.82 1344.59 2810.98 1345.79 2812.65 1346.84 2814.46    1348
2816.92 1349.48 2817.72    1350 2818.76 1350.67 2821.47    1352 2831.26 1353.88
2843.69    1356 2845.18  1356.2  2853.7 1356.79 2856.78 1356.56 2860.59  1356.6
2870.61 1355.75  2872.7 1355.58 2873.95 1355.45 2875.35 1355.39 2879.38 1355.11
2883.19 1354.97 2885.72 1354.97  2888.8 1354.93 2897.24    1355 2899.47 1355.07
2903.28 1355.18  2909.7 1355.42  2911.9 1355.53 2915.41 1355.87 2924.81 1356.14
2929.19  1356.1 2932.54  1356.1  2936.6    1356 2942.92 1355.59 2944.28 1355.59
2947.62 1355.76 2948.94 1355.66 2950.49 1355.56 2951.86 1355.36 2961.42 1354.03
2971.81 1352.39 2973.96    1352 2975.08 1351.75 2980.61 1350.63 2987.38 1348.85
 2988.4 1348.52 2991.45    1348 2995.98 1346.89 3000.55    1346 3002.25 1345.72
3007.81 1344.87 3012.05 1344.79 3018.72 1345.28 3024.98 1345.62 3026.53 1345.72
3029.83    1346 3036.17 1346.77 3044.22    1348 3052.54  1348.5 3054.03 1348.52
 3060.8 1348.19 3062.41    1348 3066.09 1347.45  3068.1 1347.16    3075 1345.73
3076.41 1345.49  3078.1 1345.16 3079.72 1344.83 3080.96  1344.6  3082.7 1344.27
 3094.1    1342 3096.01 1341.63 3097.55 1341.32 3099.62 1340.91 3103.57 1340.09
3108.12 1339.21 3110.17 1338.86 3113.83 1338.35 3120.55    1340 3125.37 1341.11
3127.56  1341.7 3128.61    1342 3131.51 1342.82 3133.24  1343.3 3136.13    1344
3139.94 1345.19 3143.11 1346.28 3146.39 1346.97 3149.05    1348 3150.85 1348.62
3154.46    1350 3159.26    1352 3162.27 1353.24 3163.93    1354 3171.41 1357.45
3172.57    1358 3173.62 1358.48  3180.1 1361.33 3181.87    1362 3183.74 1362.73
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 3187.13    1364 3188.18 1364.42 3192.43    1366 3194.87 1366.94 3203.12    1370
 3205.61 1370.84 3208.29 1371.68 3214.92  1373.6 3221.34 1375.44 3223.51    1376
 3227.65 1377.18 3230.67    1378 3234.78 1379.07 3236.02 1379.34 3240.34 1380.35
 3242.54 1380.83 3247.45 1382.01 3248.74 1382.34 3250.76 1382.87 3253.68 1383.59
 3255.93 1384.19 3259.26 1385.04 3266.29 1386.87 3267.47 1387.18 3268.87 1387.56
 3270.45    1388 3273.59 1388.94 3280.06  1390.8 3282.15 1391.47 3287.14 1393.12
 3292.52 1394.84 3295.26 1395.75 3298.43 1396.79 3307.59 1399.99 3310.16 1400.92
 3313.22    1402 3314.55 1402.48 3319.55 1404.24 3325.08 1406.17  3329.3 1407.62
 3333.18 1408.88 3334.33 1409.23 3335.83 1409.68 3354.27  1414.6 3355.53 1414.93
 3358.69 1415.77  3364.6  1417.3 3372.45 1419.18 3376.26 1420.16 3378.61 1420.76
 3381.17 1421.39 3383.83 1422.09 3387.12 1422.93 3398.31 1425.85 3400.43 1426.46
 3407.89 1428.62 3409.71 1429.18 3411.01 1429.61  3412.2    1430 3415.34 1431.01
 3416.87 1431.49 3420.54 1432.67 3425.64 1434.22 3428.13 1435.01 3431.54    1436
 3434.03 1436.56 3444.19    1440 3450.18    1442 3451.93 1442.57 3455.88 1443.88
 3460.65 1445.41 3466.97 1447.33 3469.39    1448 3473.18 1448.91 3477.63    1450
  3482.8 1451.29 3485.79    1452 3492.25 1452.84 3499.49    1454 3506.46  1454.8
 3516.28    1456 3539.81    1456 3545.44 1454.51 3547.18    1454 3550.03 1453.23

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
   146.9    .045 2098.25     .03 2436.51    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       2098.25 2436.51           623.25  623.25  623.25             .1       .3

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 7013.289

INPUT
Description:
Station Elevation Data    num=     499
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    1452   11.06    1452   21.42 1450.54   24.95 1450.05    34.9 1448.09
   40.45 1446.27   44.21 1444.64   45.66 1444.34   49.84 1442.48   50.84    1442
    53.7 1440.68   55.08    1440   57.15    1439   59.13    1438   59.95 1437.58
   60.75 1437.18    62.8 1436.27   68.72 1433.99    70.2 1433.37   73.62 1432.19
   75.27 1431.51   77.02 1430.86   79.52    1430   81.75  1429.2   85.12    1428
    86.6 1427.45    89.8 1426.47   92.28 1425.67   94.55 1425.07    97.8 1424.14
     102 1423.39  105.48 1422.36  109.45 1421.61  112.45 1421.08  115.13 1420.66
  117.12 1420.32  123.75 1419.28  125.68 1418.92  127.44 1418.45  133.63 1417.52
  137.94 1416.26  138.79    1416  141.49 1415.15   145.1    1414  146.54 1413.55
  152.26 1411.77  153.09 1411.53     156 1410.64  159.37  1409.6  161.72 1408.88
  164.15 1408.16  168.76 1406.73   170.3 1406.26  176.29 1404.37  181.52 1402.66
  183.35    1402  186.87 1400.82  189.16    1400  189.93 1399.73  196.72 1397.37
  197.82 1396.94  201.74 1395.58  203.03 1395.09  204.25 1394.62  205.88    1394
  209.03 1392.88  211.34    1392  213.26 1391.31  215.85 1390.32  226.35 1386.21
  227.64 1385.73  235.96  1383.1  239.63    1382  240.62 1381.69  241.71 1381.37
  244.19 1380.65   246.4    1380  249.34 1379.13  252.04 1378.46  255.97 1377.29
  260.09    1376  261.51 1375.64  266.89    1374  273.12    1372   276.4 1370.76
  280.32 1369.43  283.63    1368  286.18 1366.93   288.3    1366  292.22 1364.72
  294.33    1364  305.18    1362  306.98 1361.59  314.02    1360  321.78 1358.05
  328.89    1356  333.34 1354.63  335.53    1354  338.77 1353.03  341.78    1352
  345.11 1350.89  347.76 1350.39  355.26 1349.35  358.92 1348.73  366.61    1348
  369.62 1347.58  370.96 1347.36  383.89 1346.38  385.11 1346.37  388.07    1346
  395.07 1345.26  396.81 1344.92  399.17 1344.52  401.69 1344.17  407.53  1343.2
  409.75 1342.88  412.33 1342.43  417.88 1341.55  421.22  1340.9  422.66 1340.63
  425.61    1340  428.52 1339.41  429.41 1339.24  436.34 1337.75  437.35 1337.48
  444.96 1335.87  446.36 1335.46  448.51 1334.84   450.8 1334.14   455.6 1332.24
  460.39 1330.45  469.44 1327.03  470.22 1326.75  472.26    1326  473.71 1325.45
  477.81    1324  481.64  1322.8  485.23 1321.78  488.16  1320.9  492.38 1319.52
  493.75 1318.98  496.38    1318  498.07 1317.44  500.21 1316.64  501.08 1316.34
  504.37 1315.19  505.69 1314.62  509.35 1313.05  515.68    1312  522.09 1311.22
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 525.72 1310.92   535.7    1310  546.79    1310  562.02 1308.58   569.4    1308
  571.2    1308  597.55 1306.85   599.2 1306.83  609.51    1306  614.23    1306
 621.08 1305.66  622.76 1305.58  651.93    1304  660.13    1304   669.2 1303.49
 683.93    1302   702.3    1300  718.88    1300  766.38    1298   776.5 1297.82
 777.72 1297.81     798 1297.47  848.59 1296.83  885.43  1296.5  890.35 1296.45
 912.33  1296.3  929.73 1296.15  932.85 1296.16  934.53 1296.18   945.1 1296.16
  951.1 1296.24  969.14 1296.27  992.57  1296.4  994.47 1296.42 1045.24 1296.06
1046.09 1296.07 1050.28    1296 1084.31    1296 1087.54 1296.06 1116.85 1296.26
1124.03 1296.26 1125.71 1296.25 1155.29    1296 1174.96    1296 1192.32 1295.58
1195.59 1295.54 1215.21 1295.21 1224.78 1295.09 1239.75 1295.05 1250.17 1295.23
1255.65  1295.4 1263.43 1295.68 1266.04 1295.65 1270.01 1295.88  1272.5    1296
1284.48  1297.4 1287.38 1297.72 1292.21    1298 1301.53    1298 1311.55 1297.69
1313.24 1297.66 1321.36  1297.4 1346.56 1296.45 1351.01 1296.29 1358.21    1296
1359.95    1296 1372.45 1295.55 1410.94 1295.12 1415.35 1295.19 1416.88 1295.19
1418.84 1295.21 1434.72  1295.3 1438.45  1295.3 1468.93 1294.97 1486.29 1294.67
1491.65 1294.61 1495.81 1294.54 1501.44 1294.52  1524.3 1294.22 1525.41 1294.21
1526.83 1294.19 1555.14    1294 1575.04 1293.93 1596.25 1293.79 1614.68 1293.68
1631.77 1293.63 1643.77 1293.66  1662.3 1293.45 1665.68 1293.44 1666.74 1293.43
 1672.8 1293.33 1689.64 1293.18 1692.48 1293.13 1701.37    1293 1711.62 1292.87
1740.29 1292.65 1743.94 1292.68 1747.24 1292.69 1751.15 1292.71 1753.52  1292.7
1756.46 1292.72 1765.48  1292.8 1767.56 1292.77 1825.13 1292.56 1838.95 1292.41
1861.63    1292 1873.19    1292 1887.55 1291.49 1888.64  1291.5 1892.08 1291.38
1893.99 1291.39 1897.53 1291.26 1923.69 1290.68 1932.47 1290.72 2032.84    1290
2136.66    1290 2141.46 1289.93 2142.34 1289.94 2144.07 1289.94 2169.85 1289.89
2178.49 1289.83 2182.03 1289.76 2183.31 1289.73 2184.61 1289.71    2221 1289.03
2234.42 1288.85 2238.25 1288.81 2241.46 1288.79 2256.59 1288.62 2266.13 1288.57
2271.02 1288.57 2280.17 1288.59 2312.32 1288.85 2321.35    1289 2331.61 1289.15
2353.07 1289.51 2364.78 1289.68 2375.54 1289.81 2386.13    1290  2415.8    1290
 2423.4 1288.85 2425.38 1288.38 2426.93    1288 2431.37    1286 2433.24 1285.15
2435.81    1284 2517.24    1284 2521.76 1284.08 2524.77 1284.15 2535.09 1284.41
2536.98 1284.45 2600.66    1286 2601.55 1286.62 2602.71 1287.43 2603.54    1288
 2605.5 1289.36 2606.43    1290 2608.36 1291.34 2609.32    1292 2621.05 1293.67
2623.17    1294 2688.59    1296 2705.57    1296  2729.1 1297.17 2753.06    1298
2796.55    1298  2799.9 1298.28 2804.01 1298.93 2811.08    1300 2813.13 1301.47
2813.97    1302 2817.67 1303.87  2819.9 1305.01 2821.74 1305.92 2825.52 1307.86
2826.29 1308.27 2830.03 1310.21 2835.02 1312.83 2837.22    1314 2839.51 1315.02
 2841.7    1316 2847.22  1317.9 2852.91 1319.59 2854.64    1320  2856.1 1320.49
2860.95    1322 2864.28 1323.05  2867.2 1324.53 2870.29    1326 2874.07    1328
2877.66    1330 2878.71 1330.59 2881.28    1332 2887.26 1335.11 2888.11 1335.58
 2888.9    1336 2890.13 1336.64 2893.03    1338 2894.71 1338.75 2897.52    1340
2900.59 1341.19 2903.42    1342 2906.99 1343.21  2909.1    1344 2912.75 1345.39
2914.34    1346 2915.98 1346.66 2918.67    1348 2920.78 1349.08 2923.05 1350.26
2926.65    1352 2929.22 1353.35 2930.51    1354 2932.74 1355.19 2934.29    1356
2935.86 1356.85 2937.22 1357.57    2942  1359.4 2943.47    1360 2945.61 1360.56
2951.37    1362 2952.17 1362.25 2955.63 1363.24  2962.9 1365.25 2965.23  1365.7
2966.76    1366 2967.69  1366.2 2968.58 1366.32 2969.64 1366.44  2974.3 1366.98
2977.12 1367.69 2985.25 1368.08 2988.05  1368.2 2992.39 1367.75 2993.27 1367.67
2999.86    1368 3002.38 1368.29  3003.3 1368.46 3007.38 1369.12 3011.75    1368
3012.78 1367.72 3016.09 1366.64 3018.14    1366 3021.13 1364.96 3024.17    1364
3025.03 1363.73 3032.69 1361.76  3042.4 1359.58 3045.24 1358.98 3047.34 1358.51
3049.57    1358 3053.63 1357.09 3055.71 1356.61    3058 1356.01 3063.24 1354.82
3068.43 1353.71 3069.46 1353.46 3071.09 1353.15 3072.65 1352.81 3076.79    1352
3079.53 1351.41 3080.55 1351.17  3083.3 1350.77 3090.08 1349.57 3093.54 1349.31
3096.94 1348.96 3099.74 1348.78 3107.93 1348.12 3110.31    1348 3120.05 1347.79
3122.79 1347.62 3128.16 1347.73 3131.14  1348.4 3139.78 1348.89 3144.24 1349.24
3147.41 1349.61 3148.29 1349.72 3150.27    1350 3155.72 1350.75 3158.18 1351.18
3160.54  1351.6 3163.99    1352 3170.69 1353.07 3173.81 1353.61  3176.5    1354
 3181.3 1354.73 3189.75 1355.97 3195.43 1356.71 3196.67 1356.87 3200.34 1357.29
3206.15 1358.29 3209.67 1359.21 3213.76    1360 3219.07 1360.97 3221.32 1361.41
3222.98  1361.8 3226.53    1363 3229.01 1363.76  3234.3 1365.65 3235.42    1366
3240.47 1367.83 3246.23 1369.93 3249.99 1371.26 3251.86    1372 3252.65 1372.25
3254.26  1372.7 3258.59    1374 3259.67 1374.33 3265.35    1376 3266.49 1376.36
3270.07 1377.45 3274.87 1378.89  3278.5    1380 3284.42 1381.99 3289.85    1384
3292.33 1384.88 3295.42    1386 3297.57 1386.74 3299.53 1387.44 3301.76 1388.25
3305.62 1389.61 3308.65 1390.73 3311.76    1392 3313.02 1392.45 3316.01 1393.63
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  3316.8    1394 3321.17    1396 3327.72 1398.82  3329.6 1399.62 3330.48    1400
 3331.44 1400.41 3332.58 1400.89 3339.84    1404 3343.45 1405.45 3344.81    1406
 3347.58 1407.09 3349.57    1408 3353.53 1409.73 3355.45 1410.54 3358.64    1412
 3359.68 1412.48 3363.01    1414 3370.39 1415.51 3373.79    1416 3378.76 1416.89
 3379.98 1417.14 3382.08 1417.56 3383.81  1417.8 3383.88 1417.79

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  2415.8     .03 2623.17    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        2415.8 2623.17           472.99  472.99  472.99             .1       .3

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 6540.300

INPUT
Description:
Station Elevation Data    num=     450
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    1448    8.88    1448    19.7 1446.64   23.17    1446   29.58 1444.39
    31.1    1444   33.65 1443.33   42.63 1440.71   44.95    1440   48.97 1438.71
   51.26    1438    55.9 1436.18   56.52 1435.95   66.05 1432.12   70.59 1430.48
   71.19 1430.26   73.24 1429.45   76.83    1428   78.78 1427.17   80.29  1426.5
   86.49    1424   87.37  1423.6   89.22 1422.79   90.43 1422.39   91.77    1422
   94.66 1421.05   95.94  1420.6  100.02 1419.48  102.02 1418.95  106.83 1417.64
  107.36 1417.52  109.08 1417.02  110.76 1416.58   112.4 1416.17   115.5 1415.46
  118.44 1414.71  119.14 1414.53  124.29 1413.34  127.21 1412.74  131.25 1411.88
  133.62 1411.52  135.57 1411.18  139.22 1410.55  146.62 1409.38  150.19 1408.91
  158.34    1408  162.54 1407.55  170.85 1406.62   172.6 1406.42  173.19 1406.32
  175.52    1406  180.99 1405.31  181.92 1405.17   184.3 1404.88  186.24 1404.52
     193 1403.81  196.58 1403.03  204.94 1402.39  212.05    1402  216.96 1401.71
  218.87 1401.59  225.79 1401.48  228.27 1401.31  233.21 1401.39  234.95 1401.32
     238 1401.41  244.93 1401.25  251.45 1401.07     253 1400.99  256.67  1400.7
  262.23 1400.51   263.9 1400.33  272.52  1399.5  274.62 1399.12  279.41    1398
  285.48 1396.43  286.09 1396.26  286.99    1396   292.1 1394.66  294.43    1394
  296.74  1393.4   297.8  1393.1  299.86 1392.43  301.04    1392  304.86  1390.7
  310.76 1388.48  312.75 1387.74   313.3 1387.53  317.32    1386  320.97 1384.62
  322.63    1384  324.89 1383.14  327.91    1382  332.57 1380.18  333.26 1379.92
  335.39 1379.05  338.01    1378  342.87    1376  344.24 1375.43  350.35  1372.8
  352.13    1372  353.31 1371.48  354.19  1371.1  358.88 1368.99   364.8 1366.38
  365.68    1366  367.32  1365.3  369.97    1364  371.47 1363.24  374.02    1362
  377.22 1360.42  379.27 1359.32  381.68    1358  383.23 1357.18  385.37    1356
  387.88 1354.63  389.02    1354  391.29 1352.97  392.33 1352.51  393.42    1352
  396.28 1350.81  398.14    1350  401.28 1348.68  402.75    1348  407.68 1345.83
   410.2 1344.75  411.96    1344  413.68 1343.26  416.85    1342  423.94 1338.61
  425.11    1338  428.79 1336.11  429.52 1335.73  435.93 1332.77  437.75    1332
  440.69 1330.89  447.19  1328.4  448.14 1328.06  453.34    1326  455.32 1325.19
   458.3    1324  460.19 1323.25  467.03 1320.58  468.44    1320  469.11 1319.74
  472.27 1318.61  474.19    1318  477.31 1316.81  479.81    1316  487.52 1314.56
  489.52    1314  498.87 1312.76  503.09 1312.21  510.94  1311.2  520.99    1310
  528.56    1309  537.79    1308  558.99 1306.19  561.17    1306  575.08 1304.21
  576.89    1304  579.98 1303.63  594.43    1302  610.47 1300.16  612.06    1300
  614.89 1299.82   632.1 1298.87  635.16 1298.72  645.36    1298  657.17    1298
  670.79 1297.28  691.44    1296  693.13    1296  702.39  1295.6  719.41 1295.53
  720.75  1295.5  726.76 1295.39  731.87 1295.28  738.83 1295.07  746.23 1294.83
  748.45 1294.72  760.04    1294  774.24    1294  783.08 1293.84  785.81  1293.8
  799.61 1293.42  835.22 1292.74  843.95 1292.73  873.56 1292.22  900.74 1291.49
  912.43  1291.2  920.46 1291.14  932.56 1290.92  945.77 1290.82  950.43 1290.83
  957.52  1290.8  961.77  1290.8  972.14 1290.71  977.62 1290.65  981.11 1290.66
  985.24 1290.65   999.1 1290.58 1004.26 1290.54 1042.95    1290 1055.79    1290
 1070.75 1289.52 1072.14 1289.52 1079.77 1289.43 1100.59 1289.12 1102.07 1289.11
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 1113.85 1289.14 1123.72 1289.04 1128.36 1289.06 1133.06  1289.1 1140.41 1288.96
  1149.6  1288.9 1160.04 1288.93 1169.72 1288.93 1211.04    1288 1233.76    1288
 1245.54 1287.78 1263.38    1288 1300.75    1288 1304.06 1288.29 1304.76 1288.37
 1306.63  1288.6 1316.98    1290 1317.51 1290.04 1319.22    1290 1372.42    1290
 1403.46 1288.46 1419.42    1288 1450.06    1288 1467.55 1288.47 1470.53 1288.43
 1475.19  1288.4 1482.09 1288.49 1484.53 1288.48 1530.76 1288.62 1537.26 1288.59
 1556.56 1288.47 1560.94 1288.43 1579.66  1288.2 1590.17 1288.05 1592.88    1288
  1595.8    1288 1643.59 1287.59 1648.43 1287.54 1650.77 1287.51 1658.54 1287.46
 1681.96 1287.26  1689.2 1287.16 1691.37 1287.12 1694.19  1287.1 1724.65 1286.39
 1730.61 1286.33 1736.58 1286.06 1738.65    1286 1748.43    1286  1764.4 1285.65
 1766.86 1285.63 1788.72 1285.35 1796.05 1285.28 1830.57 1285.49 1837.78 1285.61
  1841.5 1285.62 1850.37 1285.75 1851.85 1285.76  1861.4  1285.9 1862.01 1285.91
 1869.63    1286 1893.87    1286  1905.8 1285.86 1909.18 1285.82 1912.76 1285.86
 1916.88 1285.82 2001.19 1285.85 2009.32  1285.8 2019.62 1285.69 2143.87    1284
 2198.86    1284 2212.16 1284.46 2244.61 1284.83 2261.52 1284.77  2314.8    1284
  2422.5    1284 2426.98 1282.16 2430.51 1280.72 2432.26    1280 2434.38 1279.87
 2435.72  1279.8 2441.54 1279.45  2444.2  1279.3 2446.36 1279.17 2484.41 1278.48
 2501.25 1278.77 2504.28 1278.84 2504.83 1278.85 2508.09 1278.92 2518.36 1279.03
 2519.06 1279.04 2522.55 1279.13 2532.76 1279.38 2543.45 1279.64 2545.59 1279.68
 2554.62 1279.68 2558.44    1280 2560.27 1281.52 2560.85    1282 2563.18 1283.94
 2565.38 1284.89 2567.13 1285.63 2568.32    1286 2572.38 1287.18 2575.66    1288
 2579.38 1289.01 2583.88    1290 2585.87 1290.43 2588.53 1291.07 2592.23    1292
 2593.45  1292.3 2596.04 1293.01 2599.57 1293.95 2605.41    1296 2607.24  1296.7
 2610.12    1298 2613.81 1299.68 2614.53    1300  2616.2 1300.72 2619.01    1302
 2620.78 1302.74 2623.76    1304 2625.73 1304.82 2628.68    1306 2631.94 1307.19
 2633.84    1308  2638.4 1309.72 2639.01    1310 2640.49 1310.66 2647.64  1313.3
 2649.51    1314 2651.78 1314.84 2654.88    1316 2660.17 1317.97  2660.8 1318.21
 2665.53    1320 2667.36 1320.71 2670.72    1322 2673.79 1323.04 2680.08  1325.3
 2681.31 1325.66 2682.61    1326  2688.2    1328 2689.68 1328.52 2694.94    1330
 2696.07 1330.31 2705.56  1332.9 2709.39    1334 2710.37 1334.27 2712.29 1334.84
 2716.36    1336 2717.45 1336.28  2718.5 1336.52  2720.6 1336.83 2723.78 1337.39
 2727.49    1338 2728.12 1338.11 2733.42 1338.94 2735.45 1339.02  2737.8 1339.16
  2743.9 1339.42 2746.35  1339.5 2747.43 1339.56 2750.91    1340 2754.83 1340.33
 2756.81 1340.83 2757.81 1340.99 2759.25 1341.23  2761.6 1341.54 2763.47 1341.85
 2764.73 1341.97 2766.47 1342.05 2768.71 1342.17 2777.04 1342.68 2778.01 1342.75
 2779.54 1342.83 2782.53 1342.98 2787.04 1343.28 2787.96 1343.26 2789.47  1343.3
 2794.65 1343.54 2798.84 1343.68 2799.85 1343.69 2804.71 1343.82 2807.26 1343.93
 2809.58 1344.09 2811.72 1344.16 2812.76 1344.15 2822.01 1344.16 2822.75 1344.16
  2831.5 1344.21 2834.31 1344.23 2836.44 1344.31 2838.43 1344.35 2841.96 1344.61
 2846.41 1345.08 2850.29 1345.34 2854.99    1346 2857.48 1346.34 2858.17 1346.49
  2858.7 1346.59  2865.4 1347.61 2874.83 1349.08 2878.01 1349.59 2880.63    1350
  2884.6 1350.75 2887.38 1351.33 2897.29 1352.88 2903.41    1354 2903.97  1354.1
 2916.47 1356.07 2917.25 1356.17 2919.05 1356.45 2927.01 1357.63 2935.07 1358.72
 2939.19 1359.42 2942.16    1360 2943.41    1360 2948.33 1359.57 2949.11 1359.65
 2957.96 1359.54 2958.78  1359.6 2963.55    1360 2968.88    1362 2970.98 1362.78
  2972.7  1363.5 2973.75    1364 2978.22 1365.28 2980.35    1366 2984.65 1367.38
 2991.42  1369.6 2992.62    1370 2995.61 1370.98 2997.38 1371.59 2998.55    1372
 2999.53 1372.35  3009.8    1376 3011.24 1376.51  3015.4    1378 3018.55    1378

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  2422.5     .03 2567.13    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        2422.5 2567.13             285.6   285.6   285.6             .1       .3

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 6254.699

INPUT
Description:
Station Elevation Data    num=     380
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Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1391.13	.72	1390.94	2.4	1390.44	11.62	1388.05	11.79	1388
20.46	1386	23.94	1385.28	30.31	1384	40.34	1382	51.65	1380.4
55.11	1380	61.33	1379.24	67.87	1378.41	74.51	1378	81.94	1377.16
94.24	1376.02	94.29	1376.02	94.46	1376	103.96	1374.13	104.21	1374.08
104.58	1374	105.26	1373.93	109.48	1373.6	109.73	1373.58	111.36	1373.39
112.04	1373.3	117.93	1372.62	123.12	1372	123.22	1371.94	126.55	1370
128.05	1369.43	132.35	1368.47	136.33	1367.01	139.95	1366	144.67	1365.05
145.91	1364.74	148.76	1364	150.61	1363.35	154.95	1362	159.22	1360.57
160.42	1360.16	160.96	1360	165.62	1358.34	166.75	1358	169.1	1357.14
174.78	1355.05	177.97	1354	182.37	1352.56	184.21	1352	188.21	1350.77
190.83	1350	191.75	1349.67	194.48	1348.57	197.47	1347.52	201.63	1346
206.41	1344.18	207.21	1343.88	208.21	1343.47	211.92	1342	213.04	1341.52
216.67	1340	220.17	1338.5	221.37	1338	230.25	1334.05	230.3	1334.03
230.35	1334	230.5	1333.93	235.27	1332	236.59	1331.48	240.59	1329.84
242.87	1328.89	245.57	1328	249.16	1326.74	251.34	1326	252.04	1325.75
256.48	1324	256.61	1323.95	257.2	1323.69	261.58	1322	265.57	1320.47
270.13	1319.09	274.11	1318	275.41	1317.69	287.06	1314.18	287.5	1314
288.27	1313.7	291.32	1312.92	295.06	1312	296.94	1311.52	303.16	1310
303.57	1309.89	303.6	1309.9	304.27	1309.84	306.2	1309.25	309.57	1308.47
310.97	1308.16	311.26	1308.1	317.56	1307.39	319.26	1307.07	321.49	1306.63
327.62	1305.78	329.77	1305.26	333.67	1304.42	334.38	1304.27	335.61	1304
339.74	1303.17	342.75	1302.54	347.01	1301.52	353.23	1300	353.61	1299.94
354.26	1299.78	356.36	1299.36	358.05	1299	360.98	1298.47	361.84	1298.27
368.63	1297.1	370.4	1296.66	373.43	1296	376.89	1295.34	379.06	1294.86
380.68	1294.51	382.67	1294	386.12	1293.25	390.61	1292	395.89	1290.62
397.89	1290	404.18	1289.27	406.89	1288.98	413.77	1288	415.79	1288
423.96	1287.53	450.12	1286.44	468.21	1286.06	468.66	1286.05	471.45	1286
519.37	1286	530.98	1285.54	533.23	1285.53	566.72	1285.62	569.42	1285.61
582.73	1285.68	584.2	1285.68	586.98	1285.66	588.33	1285.64	592.22	1285.65
596.17	1285.6	600.84	1285.59	619.7	1285.8	620.06	1285.79	620.24	1285.79
630.41	1285.85	632.13	1285.85	642.53	1285.78	643.55	1285.8	679.96	1285.51
681.68	1285.55	708.43	1285.39	712.16	1285.31	748.32	1284.83	766.35	1284.63
797.89	1284.55	812.27	1284.45	820.14	1284.38	833.79	1284.22	835.99	1284.21
856.54	1283.97	856.63	1283.97	859.93	1283.94	861.13	1283.94	868.54	1283.87
894.13	1283.74	908.53	1283.75	909.95	1283.74	924.34	1283.7	925.24	1283.7
928.65	1283.67	939.53	1283.62	944.54	1283.56	960.8	1283.43	983.01	1283.2
986.55	1283.17	999.33	1283.12	1007.18	1283.02	1022.07	1282.89	1026.23	1282.83
1032.07	1282.79	1076.54	1282.02	1076.71	1282.02	1077.05	1282.01	1077.1	1282.01
1078.71	1282	1139.93	1282	1144.72	1282.47	1152.3	1283.73	1153.98	1284
1155.46	1284.14	1163.2	1284.72	1163.76	1284.73	1169.99	1285.09	1191.29	1285.05
1196.9	1284.86	1198.3	1284.81	1208.06	1284.53	1220.27	1284	1236.07	1284
1237.86	1283.93	1294.32	1283.61	1297.91	1283.51	1299.81	1283.63	1306.57	1284
1310.27	1284.19	1310.42	1284.2	1310.53	1284.2	1310.64	1284.21	1313.6	1284.39
1325.48	1285.04	1340.86	1286	1341.22	1286.06	1345.03	1286.64	1355.15	1288
1406.78	1288	1413.38	1286.39	1414.96	1286	1419.24	1285.15	1424.63	1284
1445.1	1282.36	1449.35	1282	1956.82	1282	1965.12	1281.74	1996.04	1280.86
2010.98	1280.01	2011.16	1280	2064.41	1280	2087.42	1280.48	2094.69	1280.65
2145.58	1282	2163.35	1282	2167.4	1280.26	2168	1280	2174.15	1277.35
2177.27	1276	2230.48	1276	2232.15	1277.73	2232.41	1278	2232.67	1278.24
2234.46	1280	2236.98	1281.87	2237.12	1282	2237.35	1282.05	2244.28	1283.63
2248.03	1284	2253.47	1284	2255.67	1284.26	2279.58	1286	2286.27	1286
2292.29	1286.67	2294.23	1286.71	2298.78	1286.92	2302.04	1286.98	2307.82	1288
2326.85	1288	2329.78	1288.28	2330.34	1288.26	2334.32	1288.6	2342.43	1290
2361.26	1290	2362.64	1290.32	2364.34	1290.43	2375.64	1292	2376.7	1292
2382.86	1293.18	2386.86	1294	2389.62	1295.02	2392.06	1296	2392.78	1296.31
2397.05	1298	2402.39	1300.08	2405.63	1301.3	2412.74	1303.9	2412.9	1303.96
2413.03	1304	2413.53	1304.23	2417.18	1306	2419.25	1307.07	2420.32	1307.38
2421.1	1307.67	2422.05	1307.87	2426.87	1309.28	2430.28	1310	2432.22	1310.52
2433.34	1310.65	2436.11	1311.23	2438.4	1311.63	2445.21	1312.61	2449.5	1313.26
2453.06	1313.32	2453.83	1313.33	2454.82	1313.35	2455.44	1313.44	2461.85	1314.31
2464.15	1314.56	2465.7	1314.83	2468.03	1315.16	2470.31	1315.4	2474.69	1315.94
2476.13	1315.99	2476.14	1315.99	2477.83	1315.92	2477.97	1315.91	2482.23	1315.76
2482.69	1315.74	2483.33	1315.72	2490.12	1315.44	2492.03	1315.38	2493.81	1315.33
2495.92	1315.29	2497.42	1315.27	2501.49	1315.27	2504.96	1315.26	2507.16	1316

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 2509.47    1316  2512.1 1316.85 2515.43    1318 2518.39 1319.23 2524.35 1321.36
 2525.96    1322 2528.08 1322.89 2529.63 1323.57  2531.7 1324.54 2533.88 1325.58
 2539.21    1328 2540.89 1328.77 2543.23    1330 2544.08 1330.45 2544.24 1330.54
 2544.28 1330.55 2544.34 1330.58  2544.7 1330.76 2545.56 1331.17 2546.13 1331.44
 2549.63 1333.21 2551.44    1334 2552.06 1334.25 2556.15    1336  2557.8  1336.7
  2560.6    1338 2567.25 1341.06 2568.31 1341.58 2569.33    1342 2570.68 1342.56
 2579.13    1346 2581.21  1346.8 2584.14    1348 2586.43 1348.91  2589.1    1350
 2592.58 1351.55 2593.67    1352 2595.19 1352.72 2598.04    1354 2599.64 1354.78
 2602.42    1356 2604.06 1356.82 2606.82    1358 2611.37 1359.93 2614.19 1361.09
 2620.58 1363.09 2621.66 1363.49 2623.25    1364 2623.94 1364.23 2625.52 1364.72
 2629.49    1366 2634.25 1367.52  2635.5 1367.91 2635.64 1367.96 2635.84 1368.05
 2635.97  1368.1  2639.8    1370 2640.69 1370.46 2643.62    1372 2706.77    1372

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045 2163.35     .03 2237.12    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       2163.35 2237.12            295.47  295.47  295.47             .1       .3

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 5959.225

INPUT
Description:
Station Elevation Data    num=     457
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1371.76    4.51 1371.39   17.91    1370   18.66    1370   26.46 1368.73
   28.78 1368.29   30.84    1368   38.11 1366.74   41.81    1366   49.67 1364.57
   52.28    1364   53.63 1363.69   58.51 1362.57   59.89 1362.24   61.01    1362
   65.92 1360.77   68.98    1360   69.51 1359.91   70.55 1359.61   76.92    1358
   82.54  1356.6   84.67    1356   93.77 1354.33   95.29  1354.1   95.76 1354.08
   96.52    1354  104.85 1352.71  105.85 1352.68  111.32 1352.51  122.87 1352.38
  126.09 1352.34  127.16 1352.35  128.06 1352.35  141.24 1352.25  149.15    1352
  149.46 1351.99  149.53 1351.99  167.53 1351.32  169.68 1351.32  175.88 1351.01
  179.33 1350.85  187.26 1350.37  193.04    1350  195.31 1349.77  203.35 1348.81
  214.41    1348  216.39 1347.77  217.05 1347.63  228.19 1345.91  228.51 1345.85
     229 1345.77  229.53 1345.71  230.27  1345.6  231.11 1345.48  238.69 1344.31
  244.36 1343.52   249.7 1342.86   260.6 1342.09   261.7    1342  271.14 1340.98
  275.42 1340.79  279.39 1340.35  283.16 1340.03  283.36    1340   283.9 1339.93
  297.65    1338  302.64 1337.52  303.93 1337.41  312.78    1336  318.08 1335.35
  322.48 1334.74  326.43    1334  327.93 1333.55  333.75    1332  335.11 1331.61
  339.06 1330.36  340.87    1330  342.79 1329.33  346.83    1328  350.24 1326.84
  352.61    1326  360.98 1322.78  361.78 1322.46  362.89    1322  365.72 1320.84
  367.84    1320  368.38 1319.79  371.69 1318.49  372.37 1318.23  372.91    1318
  375.27 1317.02  377.73    1316   379.2 1315.39  381.92 1314.25  382.49    1314
  386.34 1312.41  389.44 1311.14  392.27    1310  394.85 1308.96  397.53    1308
  399.17 1307.34  402.58    1306  406.09 1304.52  407.32    1304  410.87 1302.51
  412.08    1302  412.38 1301.88  414.75 1301.09  416.71 1300.42  418.25    1300
  419.48 1299.68   423.3 1299.06  427.47 1298.35  430.16    1298  437.56 1297.03
  439.47 1296.88  441.55  1296.6  448.87 1296.46  451.82 1296.25  456.02 1296.58
  467.82 1297.22  473.82    1298  476.96 1298.42  481.01 1298.89  501.17    1298
  502.37    1298  502.95    1298  504.48  1297.5  506.07 1297.17   508.9    1296
  511.49  1294.8  512.61 1294.23  513.08    1294  516.13 1292.46  517.09    1292
  519.59 1290.87     523  1289.2  525.39    1288   528.7 1286.48  530.08    1286
  531.42 1285.59  535.85    1284  546.21 1282.27  548.46    1282  566.14 1281.12
  586.93 1280.56  591.48 1280.39  594.11  1280.3  596.51 1280.22  597.61 1280.19
  609.11    1280  620.71 1279.86  624.76 1279.82  625.53  1279.8  629.21 1279.77
  652.67 1279.52  656.96 1279.45  665.77 1279.33  691.78 1278.98  697.36 1278.96
  699.51 1278.95  700.34 1278.94  709.82 1278.91  716.31 1278.95   719.4 1278.96
  743.73 1278.72  750.06 1278.56  751.72 1278.55  761.49  1278.4  766.05 1278.36
  767.71 1278.35  770.14 1278.35  772.11 1278.36  776.13 1278.43   787.2  1278.5
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  792.86 1278.56  801.92 1278.54  805.07  1278.6  812.42 1278.56  820.83 1278.57
  826.08 1278.58  839.52 1278.54  840.56 1278.54  841.35 1278.53  856.34 1278.33
  859.56 1278.34  862.05 1278.35  863.32 1278.35  870.54 1278.61  872.14 1278.59
  914.15 1278.78  921.32 1278.61  925.39 1278.54  928.94 1278.47  931.42 1278.44
  939.81 1278.38  942.79 1278.34  964.57    1278  970.91    1278  973.36    1278
  974.86    1278  975.53    1278  976.37    1278  977.85    1278   980.9    1278
  987.06    1278  988.44    1278 1030.34 1277.51 1035.68 1277.49 1036.92 1277.48
 1043.09 1277.42 1047.66  1277.4 1050.72 1277.38 1058.88 1277.28 1093.06 1277.23
 1097.91 1277.23 1099.65 1277.24 1103.07 1277.25  1106.8 1277.26 1111.16 1277.26
 1115.54 1277.24 1125.49 1277.25 1161.82  1277.8 1163.67 1277.78 1170.26    1278
 1171.81    1278 1178.44    1278 1180.68    1278 1182.33    1278 1191.97    1278
 1200.46    1278 1209.07    1278 1231.73    1278 1252.08 1277.07 1255.54 1276.89
 1259.74  1276.7 1271.96 1276.46 1275.22 1276.34 1275.81  1276.3    1289 1276.24
 1302.03 1276.19 1307.91  1276.1 1309.12 1276.14 1324.66 1276.28 1325.71 1276.31
 1330.71 1276.49 1331.97 1276.55 1345.49 1276.82  1346.9 1276.88 1357.75  1277.3
 1364.19 1277.49  1371.2    1278    1386 1278.77 1399.73 1279.25 1401.31  1279.3
 1408.96  1279.5 1412.81 1279.61 1413.95 1279.64 1418.52 1279.64 1420.36  1279.7
 1424.79 1279.65 1426.08 1279.68 1426.94 1279.71 1436.89 1279.65 1445.06 1279.51
 1447.28 1279.46 1486.27    1278 1489.83    1278 1495.75    1278 1508.57    1278
  1515.2    1278 1526.64    1278 1534.09    1278 1544.13    1278 1555.66    1278
 1571.69    1278 1574.79 1277.92 1575.12 1277.92 1581.51 1277.88 1582.15 1277.88
  1600.6 1277.78 1606.78 1277.76 1646.23 1277.74 1647.89 1277.75 1649.53 1277.76
 1702.72    1278 1717.69    1278 1719.17    1278 1721.11    1278 1721.42    1278
 1761.91    1278 1770.19    1278 1773.09    1278 1778.36    1278 1804.05    1278
 1812.51    1278 1816.32    1278 1817.78    1278 1820.08    1278 1822.39    1278
 1824.89    1278 1841.42 1278.15 1912.97 1278.09 1921.03 1278.03 1921.19 1278.03
 1921.33 1278.03  1921.5 1278.03 1937.47 1278.08  1937.8 1278.08 1997.15 1278.14
 2006.77    1278 2012.77    1278 2014.84    1278 2019.06    1278 2022.55    1278
 2048.34    1278 2051.78    1278 2053.84    1278 2058.02    1278 2059.37    1278
 2069.63    1278 2070.85    1278 2128.67    1278 2131.23    1278 2133.43    1278
 2135.95    1278 2138.27    1278 2140.99    1278 2144.15    1278 2147.69    1278
 2156.54    1278 2163.03    1278 2169.57    1278 2170.07    1278 2170.66    1278
 2170.69    1278 2180.49    1278 2183.32    1278 2189.72    1278 2194.69 1276.23
 2195.34    1276 2200.59  1274.1 2200.86    1274 2204.91 1273.89 2214.93 1273.61
 2222.26  1273.4 2223.34 1273.38 2225.73 1273.31 2225.89  1273.3 2227.03 1273.29
 2242.34 1272.88 2289.94 1273.72  2292.7    1274 2293.32 1274.63 2294.66    1276
 2295.36 1276.71 2296.62    1278 2297.51 1278.91 2298.57    1280 2300.53 1281.99
 2300.54    1282 2300.55 1282.01  2301.3 1282.93 2301.76 1283.55  2302.9 1285.09
 2303.68 1285.91 2305.09 1287.76 2306.48 1289.57 2307.84 1291.34 2309.15 1293.06
 2310.44 1294.75 2311.54 1296.21 2311.74 1296.48 2313.09 1298.26 2313.34  1298.6
 2314.66 1300.33 2315.93    1302 2316.23 1302.41 2317.43    1304 2317.82 1304.53
 2318.94    1306 2319.45  1306.7 2320.43    1308 2321.15 1308.98 2321.92    1310
 2323.03  1311.5  2323.4    1312 2324.16 1313.03 2326.41 1316.29 2327.32 1317.61
 2327.68  1317.8 2334.25 1317.63 2335.45 1317.65 2336.15 1317.67 2337.15 1317.64
 2342.87 1317.48 2344.04 1317.43 2344.89 1317.45  2346.6 1317.42 2347.21 1317.44
 2348.41 1317.45 2358.59 1317.53 2360.54 1317.55 2365.05 1317.58 2367.17    1318
 2368.33    1318 2368.66    1318 2373.71 1319.89 2373.99    1320 2378.22 1321.53
 2380.58 1322.39 2385.16    1324 2390.64 1325.93 2390.84    1326 2391.45 1326.24
 2395.98    1328 2397.53 1328.61 2401.12    1330 2406.85 1332.24 2409.58  1333.3
 2411.39    1334 2412.71 1334.51 2416.91    1336 2419.49 1336.95 2422.38    1338
 2425.09 1339.01 2427.76    1340 2431.02 1341.22 2433.07    1342 2434.56 1342.27
 2444.18    1344 2446.34 1344.53 2452.52    1346 2456.76 1347.62 2457.74    1348
 2458.77 1348.39 2460.63 1349.09 2468.29    1352 2470.84 1352.97 2473.61    1354
 2476.87 1355.21 2478.05 1355.65 2478.99    1356 2479.84 1356.27 2485.16    1358
 2487.15 1358.64 2491.37    1360  2494.3 1360.88 2497.84    1362  2503.8 1363.16
 2506.92    1364 2515.61 1365.16 2521.52    1366  2522.9    1366 2523.51    1366
 2536.76    1366 2541.99    1366

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045 2189.72     .03 2296.62    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       2189.72 2296.62           322.03  322.03  322.03             .1       .3
 Ineffective Flow     num=       1
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Sta L	Sta R	Elev	Permanent
0	1450	1280	F

CROSS SECTION

RIVER: Newhall
REACH: Mainstem RS: 5637.197

INPUT
Description:
Station Elevation Data num= 333

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1314	2.29	1314	7.87	1314	12.68	1314	14.66	1314
27.33	1314	30.49	1314	31.55	1314	31.63	1314	32.77	1313.74
39.26	1312	43.78	1310.84	47.27	1310	49.2	1309.46	55.56	1308
56.7	1307.64	61.93	1306	64.19	1305.28	68.1	1304	68.43	1303.89
68.61	1303.84	74.02	1302	76.66	1301.22	80.33	1300	84.55	1298.57
91.12	1296.35	92.14	1296	94.02	1295.37	98.08	1294	103.3	1292.26
104.11	1292	104.84	1291.77	106.72	1291.17	110.11	1290	111.72	1289.44
116.03	1288	119.12	1287	122.11	1286	125.34	1284.94	128.27	1284
131.46	1283.02	134.83	1282	140.1	1280.53	141.94	1280	146	1278.9
149.16	1278	155.27	1276.51	156.11	1276.31	157.33	1276	163.78	1274.51
165.81	1274	178.67	1272.22	181.08	1272	182.95	1272	193.24	1272
196.9	1272	199.65	1272	210.65	1272	239.32	1270.91	242.5	1270.85
264	1270	264.99	1270	266.31	1270	273.73	1270	280.65	1270
286.09	1270	304.61	1269.18	312.86	1269.21	321.8	1268.98	329.32	1269
334.54	1268.8	341.94	1268.5	343.91	1268.45	353.94	1268	361.45	1268
399.28	1268	418.32	1268	418.96	1268	428.62	1268	448.15	1268.62
453.2	1268.78	455.81	1268.85	469.73	1269.36	471.63	1269.43	480.79	1269.77
487.15	1269.98	487.65	1270	487.86	1270	510.31	1270.2	521.64	1270.27
523.91	1270.29	527.34	1270.31	542.33	1270.4	573.17	1270.34	573.93	1270.34
582.28	1270.25	586.99	1270.23	587.97	1270.23	594.99	1270.25	597.21	1270.23
602.67	1270.25	614.93	1270.32	618.03	1270.34	625.52	1270.44	679.32	1270.54
683.89	1270.56	685.82	1270.56	693.7	1270.54	697.4	1270.52	709.93	1270.54
713.86	1270.53	717.01	1270.56	720.02	1270.54	738.67	1270.58	780.72	1270.84
786.12	1270.88	787.4	1270.88	795.98	1270.91	823.62	1271.19	833.3	1271.26
837.58	1271.29	846.52	1271.31	849.74	1271.31	860.25	1271.44	862.49	1271.46
864.54	1271.47	879.13	1271.53	886.57	1271.6	888.13	1271.61	890.22	1271.63
892.73	1271.64	903.32	1271.59	932.01	1271.61	933.22	1271.61	937.86	1271.62
941.32	1271.64	941.62	1271.64	965.43	1271.6	974.56	1271.69	1060.19	1272
1078.01	1272	1079.06	1272	1085.1	1272	1088.1	1272	1090.61	1272
1124.46	1272.87	1129.46	1273.05	1137.37	1273.21	1141.83	1273.3	1150.28	1273.65
1152.93	1273.71	1158.9	1273.95	1159.73	1274	1159.97	1274	1173.39	1274.6
1183.46	1275.04	1196.53	1275.72	1202.03	1276	1203.2	1276	1203.23	1276
1205.92	1276	1214.83	1276	1233.18	1276	1237.33	1276	1238.41	1276
1239.95	1276	1240.37	1276	1247.84	1276	1248.81	1276	1254.03	1276
1293.58	1275.56	1467.48	1275.57	1469.86	1275.63	1476.23	1275.52	1477.73	1275.55
1487.51	1275.73	1491.38	1275.81	1502.2	1276	1505.02	1276	1512.41	1276
1514.12	1276	1522.6	1276	1522.64	1276	1530.42	1276	1531.31	1276
1541.66	1276	1542.08	1276	1552.54	1276	1553.16	1276	1553.85	1276
1565.42	1276	1572.28	1276	1581.74	1276	1590.08	1276	1598.04	1276
1609.66	1276	1632.01	1276	1632.25	1276	1640.09	1276	1641.27	1276
1667.24	1276	1669.41	1276	1680.03	1276	1687.48	1276	1698.04	1276
1699.29	1276	1702.68	1276	1704.82	1274.39	1705.34	1274	1705.66	1273.76
1708	1272	1709.18	1271.11	1710.66	1270	1716.65	1270	1719.35	1270
1722.78	1270	1729.76	1270	1741.33	1270	1742.66	1270	1757.75	1270
1758.46	1270	1759.81	1270	1760.11	1270.39	1761.35	1272	1762.14	1273.06
1765.29	1277.22	1766.43	1278.75	1769.95	1283.46	1774.56	1290.21	1776.49	1293.05
1777.19	1294	1778.12	1295.28	1779.24	1296.82	1780.2	1298	1780.72	1298.62
1781.85	1300	1783.01	1301.38	1783.53	1302	1785.18	1303.92	1785.24	1304
1785.54	1304.34	1787.06	1306	1787.98	1306.95	1788.97	1308	1789.68	1308.72
1791.64	1310.7	1792.92	1312	1794.71	1312	1800.59	1313.18	1806.49	1314
1819.27	1315.77	1819.72	1315.81	1820.61	1315.87	1821.48	1316	1827.1	1316
1837.86	1317.61	1840.48	1318	1844.99	1318.68	1855.7	1320	1861.13	1321.09

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 1862.52 1321.38 1863.38 1321.55 1866.02    1322 1869.57 1322.58 1878.12    1324
 1879.28 1324.29 1883.66  1325.4 1886.58    1326 1886.67 1326.02  1886.7 1326.03
  1889.8 1326.99 1891.61 1327.16 1894.01 1327.47 1896.31    1328 1897.54 1328.22
  1900.1 1328.71 1905.76 1329.69  1907.4    1330 1908.39 1330.12 1908.64 1330.13
 1915.08 1330.22 1915.18 1330.22 1915.98 1330.26 1920.26    1330 1924.06 1329.67
 1925.66 1329.49 1928.59 1329.13 1929.56 1329.02 1930.49 1328.91 1932.67 1328.62
 1937.49    1328 1944.99 1326.99 1949.76  1326.1 1954.48 1325.41 1957.12 1324.94
 1964.16 1323.91 1966.07  1323.4  1967.5 1323.29 1968.48 1323.32 1971.24 1323.57
 1973.19 1323.61 1977.87 1324.46  1981.2 1325.04 1982.75  1325.3 1987.52 1326.14
 1989.82 1326.52 1991.98 1326.88 1993.81 1327.22 2000.15 1328.28 2002.26 1328.65
 2005.39 1329.17 2011.94    1330 2012.79  1330.1 2013.19 1330.17 2015.47  1330.6
 2017.27 1331.02 2021.47    1332 2022.94 1332.34 2029.54 1333.88 2029.94 1333.98
 2030.02    1334 2036.14  1335.5 2038.04    1336 2038.93  1336.2 2039.15 1336.27
 2044.67 1337.95 2044.81    1338 2044.82    1338 2056.53 1340.95 2057.78 1341.39
 2059.65 1341.85 2060.26    1342 2101.82    1342

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045 1702.68     .03 1765.29    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1702.68 1765.29           355.93  355.93  355.93             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    1700    1276       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 5281.263

INPUT
Description:
Station Elevation Data    num=     318
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1286.89     3.5 1286.35    8.96  1285.3      17    1284   17.93 1283.87
   18.55 1283.78   21.07 1283.29   27.26    1282   29.82 1281.58   38.26    1280
   39.41 1279.95   47.81 1279.63   60.81 1279.08   64.76 1278.81   68.78 1278.85
   75.83 1278.54  107.46 1278.44     109 1278.42  114.08 1278.38  116.37 1278.33
  133.21    1278  134.72    1278   135.1    1278  137.23    1278   137.5    1278
  153.63    1278  154.13    1278  165.45    1278  194.81    1278  200.02    1278
  201.95    1278  207.89    1278  209.19    1278   216.4    1278  220.57    1278
  225.86    1278  231.82    1278  234.48    1278  248.21    1278  256.93    1278
  260.05    1278   272.6    1278  280.18    1278  282.21    1278  286.86    1278
  301.63    1278  305.34    1278  316.21 1276.84  324.28    1276  325.93 1275.69
  333.33    1274   336.3 1273.48  342.58    1272   348.1 1271.34  348.35 1271.32
  350.21 1271.12  363.38    1270  376.85 1269.75  379.19  1269.7  432.36 1269.05
  436.77 1269.05  442.99 1269.03  450.88 1269.01  457.04    1269  464.48 1268.97
  527.81 1268.84  538.72 1268.67  542.56 1268.66  543.78 1268.64  561.03  1268.4
  565.32 1268.37  567.22 1268.34  588.12    1268  590.13    1268  590.28    1268
  592.63 1267.92  593.95 1267.87  597.52 1267.73  619.33 1266.88  628.86 1266.52
  642.21    1266   653.9 1264.52  656.21 1264.21   656.4 1264.19  657.96    1264
  659.17    1264  661.38    1264  662.53    1264  684.25    1264  724.97 1263.51
  729.02 1263.51  760.31 1263.53  778.52 1263.49  782.07 1263.48  784.43 1263.47
  802.18 1263.42  803.87 1263.41  804.26 1263.41   819.7 1263.34  827.18 1263.34
  835.09 1263.32   890.6 1263.52  895.01 1263.55  895.27 1263.55  895.37 1263.55
  971.19 1263.93  971.27 1263.93   980.1    1264  980.93    1264  983.06 1264.07
  983.53 1264.09  984.85 1264.15  998.76 1264.71 1007.79 1265.08 1010.94 1265.19
  1013.3 1265.28 1027.51 1265.47  1030.8  1265.6 1035.51 1265.72 1035.89 1265.73
 1049.53 1265.72 1051.66 1265.77 1059.73 1265.75 1060.19 1265.76 1061.47 1265.79
 1079.91 1265.75 1080.73 1265.77 1084.98 1265.76  1096.3 1265.77 1106.72 1265.81
 1107.56 1265.83 1122.71    1266 1142.62    1266 1143.01    1266 1144.91    1266
 1154.59 1266.13 1169.69 1266.23 1171.24 1266.24 1175.61  1266.3 1177.09 1266.31
  1178.8 1266.32 1180.91 1266.33 1184.04 1266.35 1267.62    1268 1268.15    1268
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 1268.45    1268 1269.88    1268 1271.51    1268 1272.23    1268 1274.83    1268
 1281.42    1268 1283.56    1268 1287.03    1268 1288.08    1268 1291.13    1268
 1294.37    1268 1300.49    1268 1303.11    1268 1344.87 1268.71 1346.89 1268.72
 1351.96  1268.8 1370.43 1268.96 1402.68    1270 1408.51    1270 1409.06    1270
 1409.53    1270 1411.07    1270 1411.78    1270 1420.12    1270 1430.96    1270
 1431.61    1270 1432.13    1270 1432.55    1270 1537.32    1270 1541.62    1270
 1544.02    1270 1544.07    1270 1544.17    1270 1548.48    1270 1563.06    1270
 1575.37    1270 1578.81    1270 1593.43    1270 1599.61    1270 1607.71    1270
 1674.44    1270 1676.97    1270 1677.95    1270  1681.8    1270 1710.01 1271.19
  1711.3 1271.25 1719.04  1271.6 1723.49 1271.73 1724.74  1271.8 1727.98    1272
 1729.75 1273.74 1730.02    1274 1730.68    1274 1738.49    1274 1739.82    1274
 1742.85    1274 1743.49    1274 1759.66    1274 1781.14    1274 1792.91    1274
 1823.55 1273.03 1835.99 1272.59 1848.65    1272 1852.06    1272 1854.53    1272
 1854.63    1272 1854.79    1272 1873.38    1272  1875.4    1272 1884.23    1272
 1938.29    1272 1996.29    1272 2004.75    1272 2008.63    1272 2020.38    1272
 2020.45    1272 2020.75    1272 2021.44    1272 2022.09    1272 2022.31    1272
 2034.22    1272 2035.71    1272 2036.02 1271.69 2037.67    1270 2037.75 1269.92
 2038.07 1269.59 2039.41  1268.2 2039.61    1268 2041.26  1266.3 2041.58    1266
 2057.76    1266 2066.17    1266  2067.4    1266  2070.6    1266 2073.12    1266
 2075.55    1266 2079.84 1266.84 2084.69    1268 2095.33 1269.29  2101.5    1270
 2107.82 1271.62 2109.25    1272 2109.86 1272.12  2112.4 1272.79 2114.93 1273.44
 2117.21    1274 2119.15 1274.55 2124.06    1276 2127.24 1277.01 2129.92 1277.86
 2130.65 1278.11 2136.18    1280 2137.49 1280.52 2141.47    1282 2145.42 1283.51
 2148.35 1284.95 2150.22 1285.78 2152.24  1286.9 2154.19    1288 2155.12 1288.53
 2157.75    1290 2159.43 1290.95 2160.99 1291.81 2165.09    1294  2168.4 1295.67
 2169.04    1296 2170.16 1296.57 2173.34    1298 2174.66 1298.64 2179.56  1301.1
 2183.45 1303.24 2184.11 1303.59 2184.87    1304 2186.24 1304.75 2189.25 1306.39
 2193.89 1308.92 2194.89 1309.45 2195.93    1310 2196.87 1310.49 2199.68    1312
 2202.23 1313.31 2203.51    1314 2204.84 1314.68 2208.19 1316.25 2210.33 1317.13
 2213.06 1318.36 2216.88    1320 2217.14  1320.1 2217.27 1320.16 2217.43 1320.23
 2217.63 1320.33 2221.04    1322 2221.77  1322.4 2224.59    1324  2226.2  1324.9
 2228.09    1326  2229.9 1327.02 2231.54    1328 2236.83 1330.84 2238.94    1332
 2242.38 1333.42 2244.02    1334    2249 1335.54 2250.31 1335.85 2250.59 1335.92
 2250.79 1335.94 2251.31    1336 2257.19    1336 2257.61    1336 2258.61 1335.87
 2259.62 1335.75 2266.81 1334.81 2267.84 1334.66

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045 2034.22     .03 2109.25    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       2034.22 2109.25           219.45  219.45  219.45             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    2030    1272       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 5061.813

INPUT
Description:
Station Elevation Data    num=     235
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1280.13    1.16    1280   17.98 1278.23   20.78    1278   33.36 1276.55
   38.35    1276   39.37 1275.89   57.63    1274    61.8  1273.6   69.51 1272.94
      81    1272   89.31 1271.21  100.95    1270  108.51 1269.22  110.44 1268.97
  117.37    1268  123.14 1267.22  132.07    1266  145.95 1264.55  151.08    1264
  165.86 1262.83  178.18    1262  178.98 1261.95  196.76 1260.91  205.01 1260.58
   205.7 1260.55   209.6 1260.34  217.01  1260.3  217.63 1260.27  218.62 1260.21
  222.12 1260.26  223.16 1260.21   223.4  1260.2  224.63 1260.17  231.14 1260.13
  236.04  1260.2  243.66 1260.28  254.62 1260.41  314.51 1260.87   320.4 1260.83
  323.48 1260.84  327.56 1260.85  335.05 1260.84  339.78 1260.88  340.43 1260.87
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   354.9 1260.98  355.61 1260.97  370.88 1260.88  380.75 1260.94  385.03 1260.93
  446.96 1261.36   447.8 1261.37  448.54 1261.38  472.65 1261.52  486.05 1261.69
   487.8 1261.68  489.87 1261.71  503.71 1261.91  504.42  1261.9  508.77 1261.97
  510.39    1262  514.06    1262  560.57    1262  579.14    1262  583.39    1262
  586.32    1262  586.45    1262  589.47    1262  635.47    1262  646.75    1262
  659.29    1262  666.33 1262.24  689.12 1262.84  698.46 1262.89  701.82 1262.96
  708.15 1263.06  709.42 1263.08  714.36 1263.17  717.43 1263.22  718.12 1263.26
  733.17 1263.41  750.95    1264  751.75    1264  762.35    1264  764.27    1264
     776    1264  777.92    1264  791.81    1264  794.09    1264  799.67    1264
  801.61    1264  821.52    1264  822.18    1264  822.89 1264.02  831.69 1264.28
  833.59  1264.3  878.21    1266  878.84    1266  881.12    1266  883.83    1266
  884.73    1266  900.15    1266  903.89    1266  906.23    1266   906.8    1266
  917.96    1266  920.88    1266 1041.41 1267.95 1044.12    1268 1045.19    1268
 1045.86    1268 1049.67    1268 1080.25 1268.46 1179.26 1268.83 1323.97    1268
 1324.03    1268 1324.08    1268 1324.43    1268 1324.57    1268 1325.15    1268
 1325.96    1268 1371.34    1268 1382.92    1268 1388.57    1268 1394.32 1268.86
 1398.72 1269.69  1400.4    1270 1401.95 1270.57 1402.34 1270.51 1403.94 1270.92
 1404.93 1271.18 1409.69 1270.85 1411.03 1270.97 1412.95 1271.14 1413.47 1271.19
 1417.97 1271.05 1421.13 1271.24 1442.79 1270.99 1456.42 1270.15 1458.93    1270
 1461.46 1268.44 1462.39    1268 1462.89    1268 1463.58 1268.06 1463.73 1268.05
 1463.87 1268.07 1467.61 1268.84 1472.97    1270 1485.95    1270 1529.23    1270
 1529.95    1270 1530.08    1270 1530.09    1270  1530.1    1270 1530.22    1270
 1536.12    1270 1537.44    1270  1543.1 1269.92 1543.23 1269.92 1547.59 1269.93
 1557.39 1269.89 1557.89 1269.88 1639.19 1269.92 1644.67    1270 1644.87    1270
 1645.53    1270 1659.56    1270 1661.43  1269.4 1661.74  1269.3  1665.7    1268
 1670.99 1266.46 1673.36    1266 1682.57 1264.53 1685.86    1264 1696.86    1264
  1702.4    1264 1704.31    1264 1717.18    1264 1717.97 1265.12 1718.58    1266
 1719.91 1267.92 1720.01 1268.06 1721.59 1270.28 1722.75    1272 1723.55 1272.31
 1727.92    1274 1730.51 1274.52 1737.19 1275.86 1737.87    1276 1739.48 1276.38
 1746.69    1278 1749.15 1278.77 1753.15    1280 1755.52 1280.88 1758.62    1282
 1762.26 1283.42 1765.21 1284.59 1768.42    1286 1771.33 1287.32 1772.88    1288
 1774.35 1288.65 1778.25 1290.48 1781.19 1291.82 1781.58    1292 1782.68 1292.53
 1785.74    1294 1787.15 1294.69 1788.29 1295.32 1791.95 1297.09 1795.75 1299.25
 1797.05    1300 1800.19 1301.87 1800.39    1302 1800.48 1302.06 1800.58 1302.12
 1804.77 1304.71 1809.25 1307.37 1810.27    1308 1813.38 1309.86 1813.62    1310
 1814.26 1310.39 1816.99    1312 1817.73 1312.41 1823.38 1315.56 1826.03 1316.93
 1828.38    1318  1830.5 1318.95 1837.49 1321.97 1837.55    1322 1837.61    1322
 1843.53    1322 1844.63 1321.89 1845.19 1321.82  1847.9 1321.47 1848.38 1321.41

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045 1659.56     .03 1721.59    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1659.56 1721.59           219.04  219.04  219.04             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    1650    1270       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 4842.770

INPUT
Description:
Station Elevation Data    num=     269
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1293.36    6.57    1292    8.46 1291.56    8.64 1291.54   13.63    1290
   17.96 1288.72    19.2    1288   20.36    1288   20.63    1288   23.31 1286.63
   25.27    1286   26.96    1286   27.44 1285.81   27.65 1285.73   29.19 1284.99
   30.46 1284.16   31.18    1284   31.28    1284   35.45 1282.22   35.94    1282
   39.79 1280.24   40.23    1280   41.02  1279.6   44.11    1278   47.83 1276.25
   48.72 1275.81   50.53    1275   51.55  1274.5   51.74 1274.41   52.48    1274
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   52.57 1273.95   56.36    1272   58.45 1271.12   64.84 1268.65   65.78 1268.23
   68.23 1267.01   70.28    1266   70.56 1265.88   76.09 1264.26   81.83 1262.42
   83.44    1262   85.91 1261.34   90.82    1260   91.86 1259.68    98.3    1258
   99.37    1258  116.85 1257.37  119.62 1257.39  141.65 1256.93  265.44    1256
  265.45    1256  265.48    1256  265.63    1256  271.35    1256  274.28    1256
  283.57 1255.69  284.07 1255.68   285.8  1255.7  367.21 1255.49   376.6 1255.59
  381.23 1255.62  409.78    1256  411.72    1256  416.68    1256  422.87    1256
  423.77    1256  426.94    1256  429.48    1256  442.01    1256  446.13    1256
  449.27    1256  456.11    1256  458.19    1256  459.22    1256  494.77 1256.33
  501.79 1256.37  507.99  1256.4  542.95 1256.65  561.31 1256.75  592.49 1256.89
     608 1256.87  612.27 1256.94  622.79 1256.86  630.25 1257.04  630.58 1257.05
  635.92 1257.01  646.82 1257.19  653.21 1257.19  655.47 1257.21  659.94 1257.26
  673.58 1257.37  689.29 1257.52  691.59 1257.56  714.53    1258  715.78    1258
  717.33    1258  719.04    1258   724.6    1258  726.51    1258  730.21    1258
   773.8 1258.56  790.18 1258.67  796.38 1258.71  803.03 1258.79  821.75 1259.05
  832.61 1259.23   836.3 1259.29  869.02 1259.91  870.04 1259.93  873.04    1260
  873.83    1260  873.99    1260  875.61    1260   875.8    1260  875.85    1260
  878.96    1260   893.2    1260  896.22    1260  904.66 1260.14  921.27  1260.3
  931.58 1260.42  933.55 1260.46  943.61 1260.66  948.84 1260.78  951.34 1260.83
  965.86 1261.19 1003.73    1262 1005.48    1262 1013.35    1262 1015.78    1262
 1018.83    1262 1027.54    1262 1036.24    1262 1037.29    1262 1042.15    1262
 1046.18    1262 1053.06 1262.28    1056 1262.39 1076.36 1262.59 1153.75    1264
 1156.47    1264  1159.4    1264 1166.14    1264 1169.52    1264 1174.15    1264
 1179.76    1264 1182.25    1264 1185.84    1264 1199.14 1264.26 1207.28 1264.42
 1210.87 1264.49 1213.08 1264.53 1265.43 1265.49 1293.56    1266 1294.21    1266
 1294.41    1266  1297.8 1266.04 1297.81 1266.04 1314.24 1266.22 1340.86 1266.43
 1358.23 1266.52 1365.01 1266.54 1411.26 1266.76 1411.92 1266.76  1414.8 1266.76
 1474.55 1266.54 1489.02 1266.41    1492 1266.39 1509.35 1266.23 1510.11 1266.23
 1521.44  1266.2 1524.33 1266.18 1528.16 1266.18 1555.88    1266 1559.98    1266
 1561.46    1266 1570.13    1266 1572.44    1266 1574.09    1266 1582.38    1266
 1591.75    1266 1605.23    1266 1606.28    1266 1612.02    1266 1613.06    1266
 1672.78    1266 1677.34    1266 1683.81 1266.78 1687.25 1267.21 1693.14 1267.88
 1694.22    1268 1720.39    1268 1726.79    1268 1750.62 1266.73 1752.67 1266.32
  1754.2 1266.02 1754.28    1266 1754.34    1266 1757.42    1266 1757.58 1266.04
 1757.99 1266.13 1792.72 1267.05 1794.33 1267.03 1797.65 1266.95 1814.06  1266.6
 1852.53    1266 1856.62    1266 1863.45    1266 1866.28    1266 1866.76    1266
 1868.68    1266 1870.11    1266 1880.56 1264.86 1890.24    1264 1897.68 1263.54
 1900.26 1263.38 1920.38    1262  1927.1    1262 1927.31    1262 1949.23    1262
 1949.27 1262.07 1949.96  1263.3 1950.15 1263.63 1950.36    1264 1951.16 1265.43
 1951.48    1266 1952.25 1267.38  1952.6    1268 1953.36 1269.36 1953.72    1270
 1954.47 1271.34 1954.84    1272 1955.59 1273.33 1956.26 1274.51 1956.71 1275.33
 1958.43 1278.38 1958.79 1279.03 1959.44    1280 1960.64 1280.81 1962.22    1282
 1964.73 1283.66 1966.13 1284.56  1968.4    1286  1969.7 1286.79 1971.66    1288
 1974.01 1289.43 1976.22 1290.78 1977.55  1291.6 1980.13 1293.13 1981.59    1294
 1982.66 1294.61 1985.03    1296 1986.87 1297.04 1988.54    1298 1991.31 1299.58
 1993.75  1300.9 1997.85  1303.1    2000    1304 2000.93 1304.38 2008.38 1307.52
 2012.36 1309.23 2013.33 1309.67  2014.4    1310 2017.86 1310.99 2021.17    1312
 2026.02    1312 2033.94    1312 2039.26 1310.99 2040.43 1310.77

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045 1868.68     .03 1951.48    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1868.68 1951.48           300.01  300.01  300.01             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    1865    1266       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 4542.760
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INPUT
Description:
Station Elevation Data    num=     262
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1261.09    8.58 1261.21   68.11 1261.83   75.54 1261.95   78.62    1262
   78.82    1262   79.41    1262   80.96    1262   81.97    1262   83.61    1262
  113.16    1262  116.83    1262   123.6    1262  165.39 1262.58  246.21 1262.07
   246.4 1262.07   252.7    1262  254.62    1262  281.73    1262  292.41    1262
   304.9 1262.12  320.96 1262.26  340.13 1262.39  353.79 1262.47  378.61 1262.61
  384.38 1262.62  388.91 1262.65  467.47 1262.52  472.64  1262.5  474.94 1262.49
  487.44 1262.43   490.8 1262.42  492.28 1262.42  524.11 1262.75  525.02 1262.78
  526.45 1262.82  529.34  1262.8  530.41 1262.83  531.88 1262.88   533.3 1262.93
  545.59    1262     547    1262  553.04    1262  560.76    1262  561.46    1262
   561.8    1262  562.06    1262  562.95    1262  563.22 1262.12  564.36  1262.7
  565.24 1263.15  566.92    1264  572.17 1265.56  573.42 1265.93  573.61    1266
  573.64    1266  574.09 1266.01  574.46 1266.03  597.53 1266.73  627.92 1267.63
  635.45 1267.86   640.3    1268   644.2    1268  649.53    1268   669.2    1268
  671.32 1266.96  675.17 1265.06  677.36    1264  680.47 1262.52  681.69    1262
  683.07 1261.42  686.34    1260  696.38  1259.4  697.82 1259.32  705.15 1258.88
  721.92 1259.38  722.83    1260     725 1261.49  725.75    1262  727.85 1263.43
  728.67    1264  728.79 1264.05  730.44 1264.73  733.37    1266  736.49 1267.12
  738.76    1268  742.52 1269.37     747 1271.05  749.65    1272  754.61 1273.57
  755.01 1273.55  756.77 1273.87  757.11 1273.86     767 1273.82  768.55 1273.81
   777.2 1273.78  780.39 1273.62   781.7  1273.6  794.32 1273.32  798.14 1273.25
     801 1273.43  804.02 1273.47  807.29 1273.55  812.92 1273.59   813.6 1273.59
   813.9 1273.59  817.51  1273.6  821.07 1273.58  821.96 1273.65  825.34 1273.62
  828.79 1273.59  831.79  1273.7  838.65  1273.7  841.32  1273.7   842.6 1273.71
  845.36 1273.72  848.12 1273.72  850.12  1273.7  852.72  1273.7  854.06 1273.64
  861.11 1273.62     862 1273.57  866.35 1273.57  871.55 1273.59  872.07  1273.6
  872.63  1273.6  873.67  1273.6  875.04 1273.61  876.12 1273.66  882.92 1273.68
  885.23  1273.7  889.58 1273.71  893.28  1273.7  895.79 1273.69  899.76  1273.7
  902.35  1273.7  903.89  1273.7  907.81 1273.73  911.51 1273.78  914.87  1273.8
  915.71 1273.81  919.21 1273.82  922.57 1273.82  926.02 1273.81  930.12 1273.81
  931.65 1273.84  933.43 1273.85  937.58 1273.86  939.03 1273.87  942.86 1273.91
  945.62 1273.92  946.18 1273.93   948.9 1273.93  954.12  1273.9  955.77  1273.9
  956.34 1273.91  961.01 1273.92  962.69 1273.92  967.59 1273.96  970.49    1274
  973.56 1274.27  973.67 1274.28  974.33 1274.32  974.41 1274.33  978.66 1274.78
  981.38 1275.03  982.73 1275.18  984.62 1275.44  985.88 1275.62  988.14    1276
     990  1276.1   990.5  1276.1  994.76 1276.27  995.96 1276.32  997.12 1276.33
    1001 1276.47 1002.01 1276.51 1005.17 1276.63 1005.93 1276.65 1015.45  1276.8
 1018.99  1276.9 1019.73 1276.93 1028.24 1277.19 1029.63 1277.21 1031.65 1277.26
 1045.33 1277.29 1047.02  1277.3 1047.68 1277.32 1049.61 1277.36  1051.5 1277.41
 1051.87 1277.41 1053.57 1277.45 1060.36 1277.48 1060.44 1277.48    1062 1277.52
 1062.05 1277.52 1063.43 1277.55 1065.38 1277.58 1079.74 1277.64 1080.93 1277.65
 1081.53 1277.66 1090.63 1277.71 1093.39 1277.69 1111.72 1277.55 1120.86 1277.52
 1122.85 1277.51 1130.93 1277.49 1139.52 1277.47 1142.86 1277.45 1151.01 1277.43
 1161.51 1277.31 1164.41 1277.24 1172.74 1277.19 1176.41 1277.11 1181.59 1277.08
 1186.32 1277.07 1192.22 1276.93 1198.74  1276.9 1202.53 1276.84 1211.76 1276.77
  1217.9 1276.68 1222.61 1276.64  1226.6 1276.63 1240.89 1276.56 1243.14 1276.54
 1244.41 1276.54 1271.75 1276.31 1273.86 1276.29 1282.79  1276.1 1284.59  1276.1
 1285.08 1276.12 1286.35 1276.16 1300.02 1276.31 1300.49 1276.34 1304.29 1276.52
 1306.76 1276.64 1319.89 1277.18 1321.85 1277.25 1322.81 1277.31 1344.14  1277.9
 1344.76 1277.94 1347.68    1278 1357.97  1278.1  1358.9 1278.12 1370.95 1278.24
 1371.92 1278.26 1372.57 1278.26 1384.65 1278.42 1391.38 1278.52  1399.7 1278.63
 1406.42  1278.7 1407.76 1278.68 1416.57 1278.78 1422.77 1278.83 1435.92 1278.73
 1450.28 1278.79 1460.56  1278.8 1471.24 1278.79 1477.95 1278.78  1486.9 1278.75
 1500.85  1278.8 1520.36 1279.14

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045   669.2     .03  754.61    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         669.2  754.61           155.94  155.94  155.94             .1       .3
Ineffective Flow     num=       1
```

Sta L	Sta R	Elev	Permanent
0	650	1268	F

CROSS SECTION

RIVER: Newhall
REACH: Mainstem RS: 4386.823

INPUT
Description:
Station Elevation Data num= 239

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1258.97	48.16	1259.73	51.97	1259.78	65.97	1260	67.16	1260
71.78	1260	72.66	1260	74.44	1260	171.21	1260	171.22	1260
171.26	1260	171.33	1260	171.35	1260	171.37	1260	185.64	1260.09
185.99	1260.11	186.29	1260.12	204.29	1260.45	208.65	1260.76	215.34	1261.05
224.31	1261.72	224.82	1261.76	228.42	1262	238.4	1262	250.75	1262
262.33	1262	272.91	1262	294.19	1262	295.28	1262	311.86	1261.58
383.8	1260.48	387.13	1260.51	390.89	1260.54	396.17	1260.57	406.63	1260.6
418.76	1260.69	423.4	1260.7	436.04	1260.73	441.29	1260.74	484.17	1260.61
487.58	1260.59	490.46	1260.57	494.98	1260.55	536.06	1261.02	538.76	1261.09
542.94	1261.1	545.57	1261.18	547.39	1261.23	548.86	1261.28	552.97	1261.4
554.97	1261.46	560.31	1261.63	563.11	1261.71	570.38	1261.93	572.67	1262
573.9	1262.57	577.07	1264	639.11	1265.96	640.41	1266	640.48	1266
640.52	1266	641.3	1266	642	1266	642.6	1266	643.67	1266
648.34	1265.56	648.75	1265.49	657.02	1264.06	657.36	1264.01	657.38	1264
657.42	1263.97	660.34	1262	660.58	1261.83	663.29	1260	664.19	1259.39
666.25	1258	666.71	1257.7	667.96	1256.86	668.08	1256.78	690.75	1257.29
702.8	1258	707.83	1259.67	708.83	1260	713.2	1261.4	715.2	1262
718.57	1262.97	722.44	1264	724.38	1264.53	729.72	1266	735.1	1267.43
737.72	1268	746.24	1268.64	751.18	1269.03	765.49	1270	766.62	1270
769.14	1270	773.11	1270	773.51	1270	801.12	1270.43	808.42	1270.44
838.72	1270.59	858.7	1270.75	894.82	1271.02	950.55	1271.38	966.21	1271.49
979.95	1271.56	1020.3	1272	1031.92	1272	1034.31	1272	1035.38	1272
1041.14	1272	1041.44	1272	1042.08	1272.02	1042.21	1272.02	1055.48	1272.27
1055.77	1272.27	1056.36	1272.29	1057.1	1272.3	1065.5	1272.48	1066.97	1272.52
1094.59	1274	1095.08	1274	1096.86	1274	1097.21	1274	1097.65	1274
1098.07	1274	1101.15	1274	1101.34	1274	1102.31	1274	1102.5	1274
1107.54	1274	1108.68	1274	1109.74	1274	1112.27	1274	1113.11	1274
1113.32	1274	1116.85	1274	1120.21	1274	1125.81	1274.2	1139.14	1274.31
1139.69	1274.3	1141.97	1274.28	1152.29	1274.32	1153.52	1274.31	1157.56	1274.3
1169.52	1274.35	1171.28	1274.35	1183.63	1274.41	1193.44	1274.46	1206.43	1274.49
1207.66	1274.48	1234.04	1274.73	1241.05	1274.79	1243.12	1274.83	1252.45	1274.96
1257.84	1275.03	1263.67	1275.12	1272.55	1275.24	1277.65	1275.3	1284.85	1275.41
1287.16	1275.43	1292.49	1275.48	1302.8	1275.63	1305.94	1275.67	1313.99	1275.73
1315.04	1275.74	1321.63	1275.67	1336.68	1275.65	1338.62	1275.63	1342.47	1275.6
1348.26	1275.57	1360.03	1275.55	1364.11	1275.53	1365.22	1275.54	1373.11	1275.46
1379.85	1275.39	1385.31	1275.46	1403.75	1275.4	1420.05	1275.55	1423.47	1275.59
1427.52	1275.61	1429.49	1275.63	1432.38	1275.62	1434.78	1275.61	1455.17	1275.71
1456.36	1275.7	1457.8	1275.7	1459.29	1275.7	1461.28	1275.7	1464.29	1275.68
1465.29	1275.66	1465.92	1275.66	1497.08	1275.36	1503.38	1275.3	1503.5	1275.29
1515.19	1275.24	1519.14	1275.23	1521.01	1275.21	1526.67	1275.27	1534.96	1275.12
1537.17	1275.08	1543.04	1274.99	1545.79	1274.96	1548.75	1275.01	1555.95	1274.95
1567.07	1274.92	1577.42	1274.94	1580.87	1274.96	1616.13	1275.1	1625.61	1275.18
1650.8	1275.54	1653.02	1275.53	1656.32	1275.52	1657.45	1275.54	1659.19	1275.54
1660.39	1275.55	1665.18	1275.57	1667.06	1275.57	1690.54	1275.2	1690.94	1275.18
1694.76	1275.06	1695.39	1275.04	1707.02	1274.94	1710.75	1274.78	1711.99	1274.72
1716.33	1274.53	1717.62	1274.48	1725.52	1274.13	1727.32	1274.05	1727.63	1274.04
1728.46	1274	1729.13	1273.37	1730.56	1272	1731.22	1271.37	1732.65	1270
1742.39	1268.1	1742.9	1268	1743.03	1268	1747.18	1267.69		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.045	640.41	.03	729.72	.045

```
Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        640.41  729.72           343.47  343.47  343.47             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0     640    1266       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 4043.350

INPUT
Description:
Station Elevation Data    num=     182
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1264.15    2.85    1264     7.1    1264    9.16    1264    9.86    1264
   14.24    1264   37.83    1264    37.9    1264   39.47    1264   42.74    1264
   42.77    1264   43.52    1264   43.61    1264   44.17    1264   44.78    1264
   45.66    1264   50.53    1264   53.67    1264   54.92    1264   55.82    1264
   75.72    1264   90.85    1264   92.95    1264   95.54    1264   110.5    1264
  110.62    1264   111.4    1264  111.41    1264  112.12    1264  113.16    1264
  113.43    1264  113.96    1264  121.72    1264  136.25 1262.84  140.09 1262.83
  142.94 1262.82  145.68 1262.81  148.05 1262.79  163.04  1262.4  163.82 1262.38
  167.43 1262.29  178.98    1262   187.5    1262   194.1 1260.98  195.49 1260.92
  197.21 1260.91  203.28 1261.36  204.24 1261.34  205.76 1261.29  207.32 1261.35
   207.9 1261.34  209.93 1261.33  211.62 1261.28  213.09 1261.14  213.89 1261.12
  216.19 1261.07  217.16 1261.04   225.4 1260.82  228.09 1260.77  230.99 1260.72
  232.36 1260.83  233.59 1260.81  236.47 1260.75  238.16 1260.76  239.54 1260.73
  241.45 1260.76  244.35 1260.69  245.88 1260.66  248.38 1260.76  251.26 1260.67
  252.08 1260.69  253.61 1260.64  254.26 1260.56  257.64 1260.47  259.61 1260.41
  260.79 1260.16  264.78  1260.1  265.12 1260.11   267.8 1260.07  268.21 1260.12
  271.31 1260.02  271.91    1260  274.43 1259.86  275.01 1259.83  278.14 1259.66
  279.97 1259.56  281.14 1259.51   284.2 1259.34  284.85 1259.31  285.57 1259.27
   288.1 1259.13  290.05 1259.05  291.11 1259.01  292.74 1258.95  295.68 1258.88
  296.66 1258.84  298.38    1258  301.27 1256.58   303.9    1256  304.59    1256
   304.6    1256  308.05    1256  310.59    1256  323.07 1255.14  341.02    1254
  348.22    1254  348.89    1254  359.89    1254  361.69 1255.81  361.87    1256
  363.85 1257.96  363.89    1258  364.26 1258.37  365.88    1260  366.04 1260.16
  367.87    1262  368.16 1262.29  369.86    1264  371.75 1264.75  374.02 1265.49
  374.75 1265.64  374.92 1265.69  375.18 1265.77  375.52 1265.86  376.92    1266
  384.92 1266.12  389.16 1266.18  395.13 1266.28  399.74 1266.38   402.3 1266.38
  415.07  1266.7  461.22  1266.4  464.39 1266.35  467.79  1266.3  471.99 1266.29
  472.51 1266.29  473.52 1266.29  475.44  1266.3  475.69  1266.3  519.17    1266
  522.72    1266  523.63 1265.93  529.47 1265.38  541.32 1264.28   544.7    1264
  548.69    1264  562.09    1264  566.04    1264  570.78    1264  573.58    1264
  580.56    1264  596.68    1264  644.25 1262.32  648.91    1262  666.78  1261.1
  694.91    1260  699.64    1260  731.98  1259.4  750.86 1259.03  753.43 1258.98
  759.94 1258.87  778.67 1258.51  792.89 1258.26   803.8    1258   804.4    1258
  805.49    1258  847.28 1256.44  859.29    1256  861.74 1255.93  888.48  1255.2
  892.92 1255.15  902.61 1254.91  923.77 1254.54  938.08 1254.48  944.22 1254.45
  967.36 1254.35  968.63 1254.34  975.11 1254.31 1004.67    1254  1008.5    1254
 1009.64    1254 1014.97    1254

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  121.72     .03  369.86    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        121.72  369.86           122.59  122.59  122.59             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
     415    1015    1266       F
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CROSS SECTION

RIVER: Newhall
REACH: Mainstem RS: 3920.755

INPUT
Description:
Station Elevation Data num= 171

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1263.73	2.94	1263.61	28.91	1262	31.62	1262	31.93	1262
34.55	1262	36.22	1262	36.55	1262	36.9	1262	39.37	1262
39.76	1262	42.16	1262	57.99	1262	58.31	1262	60.22	1262
60.55	1262	62.4	1262	62.74	1262	64.47	1262	66.25	1262
66.59	1262	68.32	1262	68.66	1262	70.34	1262	70.69	1262
72.32	1262	99.43	1262	99.85	1262	102.44	1262	104.27	1262
104.57	1262	106.47	1262	106.69	1262	108.68	1262	108.83	1262
110.89	1262	110.95	1262	112.15	1262	113.21	1262	131.15	1262
134.38	1262	136.32	1262	137.51	1262	139.32	1262	141.18	1262
142.47	1262	144.59	1262	154.86	1262	157.47	1262	164.41	1262
166.56	1262	177.49	1262	178.01	1262	178.49	1262	185.96	1262
185.98	1262	186.05	1262	201.09	1261.28	201.62	1261.28	203.1	1261.26
203.66	1261.25	205.29	1261.21	210.01	1261.2	210.6	1261.19	212.34	1261.15
219.68	1262	228.64	1262	229	1262	232.85	1261.28	234.54	1261.18
234.97	1261.15	237.4	1261.01	239.05	1260.83	239.63	1260.79	240.52	1260.71
241.1	1260.66	241.69	1260.63	246.32	1260	248.97	1258.02	248.99	1258
249.01	1257.98	251.56	1256	252.78	1254.99	254.04	1254	259.26	1254
259.55	1254	260.85	1254	264.35	1254	277.21	1254	278.53	1254
279.46	1254	302.54	1254	302.66	1254	302.68	1254	303.7	1254.72
305.39	1256	306.87	1257.07	308.05	1258	309.68	1259.18	313.96	1261.82
314.24	1262	314.48	1262.14	318.68	1264	328.59	1264	329.76	1264
339.36	1264	361.79	1264.42	376.05	1264	378.69	1264	386.42	1264
391.76	1264	400.09	1264	402.66	1264	436.45	1264	437.21	1264
450.75	1264	451.03	1264	452.42	1264	454.44	1264	455.63	1264
459.8	1264	459.91	1264	460.02	1264	473.27	1264	473.34	1264
480.48	1263.85	495.67	1263.75	498.48	1263.69	499.76	1263.66	506.13	1263.59
512.08	1263.42	529.78	1263.13	531.5	1263.1	545.95	1262.67	546.15	1262.66
546.4	1262.65	548.39	1262.6	551.77	1262.49	564.93	1262	602.83	1260.01
602.95	1260	602.96	1260	611.26	1259.56	617.34	1259.22	629.92	1258.5
633.07	1258.31	644.35	1258	652.8	1258	653.51	1258	664.46	1258
669.38	1258	674.96	1258	684.88	1258	693.64	1258	706.7	1257.48
709.94	1257.37	715.38	1257.2	734.87	1256.54	751.48	1256	754.57	1255.94
769.82	1255.47	815.59	1254	815.97	1254	817.85	1254	821.96	1254
822.3	1254	823.96	1254	833.96	1254	834.82	1254	838.89	1254
839.54	1254								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.045	219.68	.03	314.24	.045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
219.68 314.24 106.8 106.8 106.8 .1 .3
Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
320	840	1264	F

CROSS SECTION

RIVER: Newhall
REACH: Mainstem RS: 3813.951

INPUT
Description:
Station Elevation Data num= 239

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1263.54	.03	1263.54	4.28	1263.14	6.66	1263.12	7.03	1263.12
9.55	1263.1	9.91	1263.09	12.61	1263.07	15.1	1262.85	15.53	1262.84
19	1262.82	19.41	1262.82	32.28	1262	37.36	1262	37.96	1262
42.98	1262	43.45	1262	44.1	1262	44.8	1262	49.77	1262
50.56	1262	55.5	1262	59.65	1262	60.45	1262	65.26	1262
66.1	1262	70.88	1262	71.76	1262	72.2	1262	76.94	1262
77.86	1262	82.58	1262	83.54	1262	88.26	1262	89.24	1262
93.94	1262	100.18	1262	101.2	1262	101.75	1262	106.7	1262
107.52	1262	112.8	1262	113.42	1262	119.07	1262	119.48	1262
125.51	1262	125.66	1262	129.24	1262	132.45	1262	135.27	1262
135.75	1262	141.25	1262	144.68	1262	149.98	1262	153.89	1262
155.29	1261.87	155.43	1261.86	155.75	1261.85	159.2	1261.66	159.56	1261.65
162.23	1261.5	163.37	1261.48	165.14	1261.27	165.83	1261.25	167.68	1261.22
177.79	1261.45	178.19	1261.44	179.49	1261.4	179.9	1261.39	181.33	1261.5
182.61	1261.46	184.61	1261.36	185	1261.35	186.62	1261.27	188.6	1261.2
189.82	1261.09	190.29	1261.08	193.08	1260.99	197.76	1260.47	198.37	1260.46
202.67	1260.38	203.17	1260.35	203.7	1260.34	204.11	1260.33	204.54	1260.34
209.22	1260.3	210.12	1260.3	214.92	1260.27	217.49	1260.34	221.87	1260.27
222.5	1260.28	223.23	1260.29	223.52	1260.29	228.03	1260.25	228.3	1260.24
229.12	1260.23	229.37	1260.23	233.47	1260.38	233.81	1260.36	240.6	1260.31
246.4	1260	246.49	1260	247.4	1260	247.74	1259.98	252.91	1259.94
253.9	1259.94	254.06	1259.93	258.22	1260	258.7	1260.02	258.71	1260.02
260.62	1260.09	264.19	1260.17	264.94	1260.09	267.48	1260.12	270.72	1260.13
270.91	1260.13	271.16	1260.14	274.03	1260.15	276.27	1260	277.06	1259.91
277.16	1259.82	278.53	1259.34	281.45	1258.32	282	1258	284.29	1256.4
284.85	1256	285.11	1255.83	286.98	1254.9	288.23	1254	288.32	1254
291.45	1254	291.51	1254	291.76	1254	292.49	1254	295.68	1254
296.77	1254	296.94	1254	298.35	1254	298.57	1254	302.15	1254
304.01	1254	304.38	1254	305.36	1254	305.78	1254	307.69	1254
310.84	1254	311.42	1254	314.23	1254	316.99	1254	318.55	1254
340.79	1254	341.83	1254	343.53	1254	367.46	1254	371.54	1254
395.31	1254	398.1	1254	398.37	1254	399.55	1254	399.69	1254
400.18	1254	400.3	1254	402.91	1254	404.11	1253.96	404.21	1253.96
404.39	1253.96	407.72	1254	412.31	1255.17	415.16	1256.01	416.55	1256.54
418.15	1257.15	419.13	1257.16	419.67	1257.15	420.97	1257.11	422.47	1257.03
424.75	1256.78	426.78	1257.28	429.23	1258.12	429.28	1258.13	430.82	1258.69
432.66	1259.34	436.4	1260	438.84	1260.04	439.11	1260.05	439.81	1260.07
444.35	1260.22	448.32	1260.35	451.95	1260.4	453.68	1260.39	461.7	1260.36
467.59	1260.31	468.71	1260.29	469.51	1260.3	471.04	1260.24	484.84	1260.27
494.49	1260.13	495.02	1260.11	501.33	1260.05	501.58	1260.04	506.74	1260.15
524.69	1260.25	527.08	1260.18	542.39	1260	548.76	1260	575.32	1260
600.18	1259.52	606.73	1259.39	622.75	1259.06	632.37	1258.86	643.47	1258.68
652.91	1258.49	655.73	1258.46	676.54	1258.26	677.42	1258.24	679.87	1258.2
680.9	1258.19	682.06	1258.17	692.09	1258	693.51	1258	699.35	1258
701.56	1258	702.72	1258	720.51	1258	721.23	1258	728.3	1257.79
732.41	1257.75	733.5	1257.73	749.16	1257.27	753.59	1257.23	764.7	1256.95
770.31	1256.83	777.51	1256.81	779.38	1256.82	788.66	1256.8	817.9	1256
821.1	1256	829.01	1256	832.04	1256	837.06	1256		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.045	274.03	.03	453.68	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
274.03	453.68	27.84	27.84	27.84	.3	.5

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
440	840	1260.5	F

BRIDGE

RIVER: Newhall
REACH: Mainstem RS: 3790

```
INPUT
Description:
Distance from Upstream XS =       1
Deck/Roadway Width        =      20
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
     270    1260    1258     440    1260    1258

Upstream Bridge Cross Section Data
Station Elevation Data    num=     239
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1263.54     .03 1263.54    4.28 1263.14    6.66 1263.12    7.03 1263.12
    9.55  1263.1    9.91 1263.09   12.61 1263.07    15.1 1262.85   15.53 1262.84
      19 1262.82   19.41 1262.82   32.28    1262   37.36    1262   37.96    1262
   42.98    1262   43.45    1262    44.1    1262    44.8    1262   49.77    1262
   50.56    1262    55.5    1262   59.65    1262   60.45    1262   65.26    1262
    66.1    1262   70.88    1262   71.76    1262    72.2    1262   76.94    1262
   77.86    1262   82.58    1262   83.54    1262   88.26    1262   89.24    1262
   93.94    1262  100.18    1262   101.2    1262  101.75    1262   106.7    1262
  107.52    1262   112.8    1262  113.42    1262  119.07    1262  119.48    1262
  125.51    1262  125.66    1262  129.24    1262  132.45    1262  135.27    1262
  135.75    1262  141.25    1262  144.68    1262  149.98    1262  153.89    1262
  155.29 1261.87  155.43 1261.86  155.75 1261.85   159.2 1261.66  159.56 1261.65
  162.23  1261.5  163.37 1261.48  165.14 1261.27  165.83 1261.25  167.68 1261.22
  177.79 1261.45  178.19 1261.44  179.49  1261.4   179.9 1261.39  181.33  1261.5
  182.61 1261.46  184.61 1261.36     185 1261.35  186.62 1261.27   188.6  1261.2
  189.82 1261.09  190.29 1261.08  193.08 1260.99  197.76 1260.47  198.37 1260.46
  202.67 1260.38  203.17 1260.35   203.7 1260.34  204.11 1260.33  204.54 1260.34
  209.22  1260.3  210.12  1260.3  214.92 1260.27  217.49 1260.34  221.87 1260.27
   222.5 1260.28  223.23 1260.29  223.52 1260.29  228.03 1260.25   228.3 1260.24
  229.12 1260.23  229.37 1260.23  233.47 1260.38  233.81 1260.36   240.6 1260.31
   246.4    1260  246.49    1260   247.4    1260  247.74 1259.98  252.91 1259.94
   253.9 1259.94  254.06 1259.93  258.22    1260   258.7 1260.02  258.71 1260.02
  260.62 1260.09  264.19 1260.17  264.94 1260.09  267.48 1260.12  270.72 1260.13
  270.91 1260.13  271.16 1260.14  274.03 1260.15  276.27    1260  277.06 1259.91
  277.16 1259.82  278.53 1259.34  281.45 1258.32     282    1258  284.29  1256.4
  284.85    1256  285.11 1255.83  286.98  1254.9  288.23    1254  288.32    1254
  291.45    1254  291.51    1254  291.76    1254  292.49    1254  295.68    1254
  296.77    1254  296.94    1254  298.35    1254  298.57    1254  302.15    1254
  304.01    1254  304.38    1254  305.36    1254  305.78    1254  307.69    1254
  310.84    1254  311.42    1254  314.23    1254  316.99    1254  318.55    1254
  340.79    1254  341.83    1254  343.53    1254  367.46    1254  371.54    1254
  395.31    1254   398.1    1254  398.37    1254  399.55    1254  399.69    1254
  400.18    1254   400.3    1254  402.91    1254  404.11 1253.96  404.21 1253.96
  404.39 1253.96  407.72    1254  412.31 1255.17  415.16 1256.01  416.55 1256.54
  418.15 1257.15  419.13 1257.16  419.67 1257.15  420.97 1257.11  422.47 1257.03
  424.75 1256.78  426.78 1257.28  429.23 1258.12  429.28 1258.13  430.82 1258.69
  432.66 1259.34   436.4    1260  438.84 1260.04  439.11 1260.05  439.81 1260.07
  444.35 1260.22  448.32 1260.35  451.95  1260.4  453.68 1260.39   461.7 1260.36
  467.59 1260.31  468.71 1260.29  469.51  1260.3  471.04 1260.24  484.84 1260.27
  494.49 1260.13  495.02 1260.11  501.33 1260.05  501.58 1260.04  506.74 1260.15
  524.69 1260.25  527.08 1260.18  542.39    1260  548.76    1260  575.32    1260
  600.18 1259.52  606.73 1259.39  622.75 1259.06  632.37 1258.86  643.47 1258.68
  652.91 1258.49  655.73 1258.46  676.54 1258.26  677.42 1258.24  679.87  1258.2
   680.9 1258.19  682.06 1258.17  692.09    1258  693.51    1258  699.35    1258
  701.56    1258  702.72    1258  720.51    1258  721.23    1258   728.3 1257.79
  732.41 1257.75   733.5 1257.73  749.16 1257.27  753.59 1257.23   764.7 1256.95
  770.31 1256.83  777.51 1256.81  779.38 1256.82  788.66  1256.8   817.9    1256
   821.1    1256  829.01    1256  832.04    1256  837.06    1256

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

```
       0    .045  274.03     .03  453.68    .045

Bank Sta: Left   Right    Coeff Contr.   Expan.
        274.03  453.68             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
     440     840  1260.5       F

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
     270    1260    1258     440    1260    1258

Downstream Bridge Cross Section Data
Station Elevation Data    num=     168
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1259.56    2.52 1259.56    4.22 1259.56    7.44 1259.55    9.16 1259.55
   12.35 1259.55   14.08 1259.55   17.21 1259.55   22.23 1259.48   24.05 1259.48
   27.04 1259.48   28.85 1259.48   31.86 1259.48   36.63 1259.48    39.7 1259.48
   41.49 1259.48    44.5 1259.48   46.35 1259.48   49.31 1259.48   51.22 1259.48
   66.52    1258   68.91    1258   69.71    1258    74.4    1258   76.65    1258
   80.35    1258   83.48    1258   86.17    1258   90.19    1258   93.64    1258
  101.29    1258  106.68    1258  116.34    1258  118.31    1258  119.95    1258
  124.13    1258   132.3    1258  141.54    1258   143.1    1258  144.33    1258
   145.4    1258  146.37    1258   156.2    1258     181  1258.8  183.99  1258.9
  186.29 1258.91  191.59 1258.96  193.72 1258.98  200.59  1259.2  215.56 1258.99
  220.37 1259.41  220.98  1259.4   222.5 1259.38  222.92 1259.38   224.3 1259.37
   233.6 1259.99  233.62 1259.99  233.75    1260  239.79    1260  241.78    1260
   242.4    1260  243.19    1260  269.69    1260  271.64    1260   272.5    1260
  277.35    1260  286.95    1260  288.53    1260  293.39    1260  293.61    1260
  296.08    1260  296.48    1260  301.55    1260  305.73    1260   306.8    1260
  307.45    1260  309.23    1260  311.85    1260  312.45 1258.87  312.92    1258
  313.45    1257  313.99    1256  314.38 1255.28  314.83 1254.44  315.01 1254.11
  315.07    1254  315.42 1253.98  358.93 1252.53  362.64 1252.51  369.78 1252.48
  372.82 1252.51  383.55 1252.54   395.6 1252.42  396.61 1252.42  400.14 1252.46
  401.56 1252.51  405.23 1252.48  405.44 1252.48  412.29 1252.95  412.31 1252.95
   417.3 1252.93  421.18 1253.29  422.43  1253.4  428.96    1254  429.39 1254.59
  430.35    1256  430.44 1256.12  430.58 1256.32  431.74    1258  432.08 1258.53
   433.1    1260  435.68    1260  436.24    1260  436.45    1260  439.65    1260
  442.21    1260  442.36    1260  443.56    1260   444.6    1260  445.66    1260
  449.79    1260  449.92    1260  450.05    1260  457.49    1260  461.46    1260
  461.59    1260  464.51    1260  464.59    1260   469.3    1260   471.9    1260
  471.95    1260     474    1260  474.04    1260  480.94    1260  483.12    1260
  483.15    1260  537.13    1260  542.56    1260  544.26    1260  545.18    1260
  551.12 1259.86  564.14 1259.56  623.81    1258   627.5    1258   629.8    1258
  632.47    1258  696.93 1256.06  697.97 1256.05  699.31    1256  700.32    1256
  703.21    1256   716.5    1256  716.94    1256  726.94 1255.76  737.38 1255.57
     752 1255.27  757.12 1255.11  761.59 1255.04  767.58 1254.98  773.52 1254.95
  779.33 1254.69  780.45  1254.7  782.09  1254.7  788.51 1254.46  790.93 1254.44
  791.96 1254.43  804.03    1254  804.08    1254

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .03  311.85     .03   433.1    .045

Bank Sta: Left   Right    Coeff Contr.   Expan.
        311.85   433.1             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     250    1260       F
     500    1000    1260       F

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
```

```
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Piers =  10

Pier Data
Pier Station     Upstream=     298    Downstream=     323
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     309    Downstream=     334
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     320    Downstream=     345
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     331    Downstream=     356
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     342    Downstream=     367
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     353    Downstream=     375
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     364    Downstream=     389
Upstream     num=       2
    Width   Elev    Width   Elev
```

```
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     375    Downstream=     400
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     386    Downstream=     411
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     397    Downstream=     422
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
       Momentum               Cd   =       2
Selected Low Flow Methods = Highest Energy Answer

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

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

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 3786.11

INPUT
Description:
Station Elevation Data    num=     168
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1259.56    2.52 1259.56    4.22 1259.56    7.44 1259.55    9.16 1259.55
   12.35 1259.55   14.08 1259.55   17.21 1259.55   22.23 1259.48   24.05 1259.48
   27.04 1259.48   28.85 1259.48   31.86 1259.48   36.63 1259.48    39.7 1259.48
```

```
   41.49 1259.48    44.5 1259.48   46.35 1259.48   49.31 1259.48   51.22 1259.48
   66.52    1258   68.91    1258   69.71    1258    74.4    1258   76.65    1258
   80.35    1258   83.48    1258   86.17    1258   90.19    1258   93.64    1258
  101.29    1258  106.68    1258  116.34    1258  118.31    1258  119.95    1258
  124.13    1258   132.3    1258  141.54    1258   143.1    1258  144.33    1258
   145.4    1258  146.37    1258   156.2    1258     181  1258.8  183.99  1258.9
  186.29 1258.91  191.59 1258.96  193.72 1258.98  200.59  1259.2  215.56 1258.99
  220.37 1259.41  220.98  1259.4   222.5 1259.38  222.92 1259.38   224.3 1259.37
   233.6 1259.99  233.62 1259.99  233.75    1260  239.79    1260  241.78    1260
   242.4    1260  243.19    1260  269.69    1260  271.64    1260   272.5    1260
  277.35    1260  286.95    1260  288.53    1260  293.39    1260  293.61    1260
  296.08    1260  296.48    1260  301.55    1260  305.73    1260   306.8    1260
  307.45    1260  309.23    1260  311.85    1260  312.45 1258.87  312.92    1258
  313.45    1257  313.99    1256  314.38 1255.28  314.83 1254.44  315.01 1254.11
  315.07    1254  315.42 1253.98  358.93 1252.53  362.64 1252.51  369.78 1252.48
  372.82 1252.51  383.55 1252.54   395.6 1252.42  396.61 1252.42  400.14 1252.46
  401.56 1252.51  405.23 1252.48  405.44 1252.48  412.29 1252.95  412.31 1252.95
   417.3 1252.93  421.18 1253.29  422.43  1253.4  428.96    1254  429.39 1254.59
  430.35    1256  430.44 1256.12  430.58 1256.32  431.74    1258  432.08 1258.53
   433.1    1260  435.68    1260  436.24    1260  436.45    1260  439.65    1260
  442.21    1260  442.36    1260  443.56    1260   444.6    1260  445.66    1260
  449.79    1260  449.92    1260  450.05    1260  457.49    1260  461.46    1260
  461.59    1260  464.51    1260  464.59    1260   469.3    1260   471.9    1260
  471.95    1260     474    1260  474.04    1260  480.94    1260  483.12    1260
  483.15    1260  537.13    1260  542.56    1260  544.26    1260  545.18    1260
  551.12 1259.86  564.14 1259.56  623.81    1258   627.5    1258   629.8    1258
  632.47    1258  696.93 1256.06  697.97 1256.05  699.31    1256  700.32    1256
  703.21    1256   716.5    1256  716.94    1256  726.94 1255.76  737.38 1255.57
     752 1255.27  757.12 1255.11  761.59 1255.04  767.58 1254.98  773.52 1254.95
  779.33 1254.69  780.45  1254.7  782.09  1254.7  788.51 1254.46  790.93 1254.44
  791.96 1254.43  804.03    1254  804.08    1254

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .03  311.85     .03   433.1    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        311.85   433.1            27.83   27.83   27.83             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     250    1260       F
     500    1000    1260       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 3758.278

INPUT
Description:
Station Elevation Data    num=     168
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1259.56    2.52 1259.56    4.22 1259.56    7.44 1259.55    9.16 1259.55
   12.35 1259.55   14.08 1259.55   17.21 1259.55   22.23 1259.48   24.05 1259.48
   27.04 1259.48   28.85 1259.48   31.86 1259.48   36.63 1259.48    39.7 1259.48
   41.49 1259.48    44.5 1259.48   46.35 1259.48   49.31 1259.48   51.22 1259.48
   66.52    1258   68.91    1258   69.71    1258    74.4    1258   76.65    1258
   80.35    1258   83.48    1258   86.17    1258   90.19    1258   93.64    1258
  101.29    1258  106.68    1258  116.34    1258  118.31    1258  119.95    1258
  124.13    1258   132.3    1258  141.54    1258   143.1    1258  144.33    1258
   145.4    1258  146.37    1258   156.2    1258     181  1258.8  183.99  1258.9
  186.29 1258.91  191.59 1258.96  193.72 1258.98  200.59  1259.2  215.56 1258.99
  220.37 1259.41  220.98  1259.4   222.5 1259.38  222.92 1259.38   224.3 1259.37
   233.6 1259.99  233.62 1259.99  233.75    1260  239.79    1260  241.78    1260
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   242.4    1260  243.19    1260  269.69    1260  271.64    1260   272.5    1260
  277.35    1260  286.95    1260  288.53    1260  293.39    1260  293.61    1260
  296.08    1260  296.48    1260  301.55    1260  305.73    1260   306.8    1260
  307.45    1260  309.23    1260  311.85    1260  312.45 1258.87  312.92    1258
  313.45    1257  313.99    1256  314.38 1255.28  314.83 1254.44  315.01 1254.11
  315.07    1254  315.42 1253.98  358.93 1252.53  362.64 1252.51  369.78 1252.48
  372.82 1252.51  383.55 1252.54   395.6 1252.42  396.61 1252.42  400.14 1252.46
  401.56 1252.51  405.23 1252.48  405.44 1252.48  412.29 1252.95  412.31 1252.95
   417.3 1252.93  421.18 1253.29  422.43  1253.4  428.96    1254  429.39 1254.59
  430.35    1256  430.44 1256.12  430.58 1256.32  431.74    1258  432.08 1258.53
   433.1    1260  435.68    1260  436.24    1260  436.45    1260  439.65    1260
  442.21    1260  442.36    1260  443.56    1260   444.6    1260  445.66    1260
  449.79    1260  449.92    1260  450.05    1260  457.49    1260  461.46    1260
  461.59    1260  464.51    1260  464.59    1260   469.3    1260   471.9    1260
  471.95    1260     474    1260  474.04    1260  480.94    1260  483.12    1260
  483.15    1260  537.13    1260  542.56    1260  544.26    1260  545.18    1260
  551.12 1259.86  564.14 1259.56  623.81    1258   627.5    1258   629.8    1258
  632.47    1258  696.93 1256.06  697.97 1256.05  699.31    1256  700.32    1256
  703.21    1256   716.5    1256  716.94    1256  726.94 1255.76  737.38 1255.57
     752 1255.27  757.12 1255.11  761.59 1255.04  767.58 1254.98  773.52 1254.95
  779.33 1254.69  780.45  1254.7  782.09  1254.7  788.51 1254.46  790.93 1254.44
  791.96 1254.43  804.03    1254  804.08    1254

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .03  311.85     .03   433.1    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        311.85   433.1            73.82   73.82   73.82             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     250    1260          F
     500    1000    1260          F

BRIDGE


RIVER: Newhall
REACH: Mainstem           RS: 3715

INPUT
Description: Railroad Avenue Bridge
Distance from Upstream XS =      10
Deck/Roadway Width        =      50
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
     300    1260    1258     450    1260    1258

Upstream Bridge Cross Section Data
Station Elevation Data    num=     168
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1259.56    2.52 1259.56    4.22 1259.56    7.44 1259.55    9.16 1259.55
   12.35 1259.55   14.08 1259.55   17.21 1259.55   22.23 1259.48   24.05 1259.48
   27.04 1259.48   28.85 1259.48   31.86 1259.48   36.63 1259.48    39.7 1259.48
   41.49 1259.48    44.5 1259.48   46.35 1259.48   49.31 1259.48   51.22 1259.48
   66.52    1258   68.91    1258   69.71    1258    74.4    1258   76.65    1258
   80.35    1258   83.48    1258   86.17    1258   90.19    1258   93.64    1258
  101.29    1258  106.68    1258  116.34    1258  118.31    1258  119.95    1258
  124.13    1258   132.3    1258  141.54    1258   143.1    1258  144.33    1258
   145.4    1258  146.37    1258   156.2    1258     181  1258.8  183.99  1258.9
  186.29 1258.91  191.59 1258.96  193.72 1258.98  200.59  1259.2  215.56 1258.99
  220.37 1259.41  220.98  1259.4   222.5 1259.38  222.92 1259.38   224.3 1259.37
   233.6 1259.99  233.62 1259.99  233.75    1260  239.79    1260  241.78    1260
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   242.4    1260  243.19    1260  269.69    1260  271.64    1260   272.5    1260
  277.35    1260  286.95    1260  288.53    1260  293.39    1260  293.61    1260
  296.08    1260  296.48    1260  301.55    1260  305.73    1260   306.8    1260
  307.45    1260  309.23    1260  311.85    1260  312.45 1258.87  312.92    1258
  313.45    1257  313.99    1256  314.38 1255.28  314.83 1254.44  315.01 1254.11
  315.07    1254  315.42 1253.98  358.93 1252.53  362.64 1252.51  369.78 1252.48
  372.82 1252.51  383.55 1252.54   395.6 1252.42  396.61 1252.42  400.14 1252.46
  401.56 1252.51  405.23 1252.48  405.44 1252.48  412.29 1252.95  412.31 1252.95
   417.3 1252.93  421.18 1253.29  422.43  1253.4  428.96    1254  429.39 1254.59
  430.35    1256  430.44 1256.12  430.58 1256.32  431.74    1258  432.08 1258.53
   433.1    1260  435.68    1260  436.24    1260  436.45    1260  439.65    1260
  442.21    1260  442.36    1260  443.56    1260   444.6    1260  445.66    1260
  449.79    1260  449.92    1260  450.05    1260  457.49    1260  461.46    1260
  461.59    1260  464.51    1260  464.59    1260   469.3    1260   471.9    1260
  471.95    1260     474    1260  474.04    1260  480.94    1260  483.12    1260
  483.15    1260  537.13    1260  542.56    1260  544.26    1260  545.18    1260
  551.12 1259.86  564.14 1259.56  623.81    1258   627.5    1258   629.8    1258
  632.47    1258  696.93 1256.06  697.97 1256.05  699.31    1256  700.32    1256
  703.21    1256   716.5    1256  716.94    1256  726.94 1255.76  737.38 1255.57
     752 1255.27  757.12 1255.11  761.59 1255.04  767.58 1254.98  773.52 1254.95
  779.33 1254.69  780.45  1254.7  782.09  1254.7  788.51 1254.46  790.93 1254.44
  791.96 1254.43  804.03    1254  804.08    1254

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .03  311.85     .03   433.1    .045

Bank Sta: Left   Right    Coeff Contr.   Expan.
        311.85   433.1             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     250    1260          F
     500    1000    1260          F

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
     320    1260    1258     460    1260    1258

Downstream Bridge Cross Section Data
Station Elevation Data    num=     144
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1259.01    32.6 1258.77   33.43 1258.77   35.03 1258.77   35.87 1258.77
   37.46 1258.77   38.31 1258.77   39.88 1258.77   40.73 1258.77   42.27 1258.77
   55.85  1258.6   56.59  1258.6   57.79  1258.6   58.52  1258.6   59.74  1258.6
   61.66  1258.6    62.9  1258.6   63.62  1258.6   64.84  1258.6   65.59  1258.6
   66.78  1258.6   67.56  1258.6   73.75    1258   74.72    1258   75.05    1258
   76.95    1258   83.66    1258   85.02    1258   86.18    1258   87.17    1258
   88.65    1258   89.92    1258   92.75    1258  110.11    1258  113.24    1258
  113.88    1258  114.41    1258  129.01    1258  131.56    1258  134.44    1258
  134.93    1258  135.32    1258  135.65    1258  135.96    1258  139.03    1258
  170.34 1259.01  181.47 1259.09  188.71  1259.3  204.18  1259.7  208.19 1259.76
  211.68 1259.78  212.82 1259.77   218.2    1260  228.57    1260   232.6    1260
  260.37    1260  260.65    1260  262.28    1260  283.53    1260  284.02    1260
  287.54    1260  302.12    1260   302.6    1260  305.89    1260  306.46    1260
  310.45    1260  311.16    1260  316.06    1260   321.9    1260  322.43    1260
   327.1    1260  328.83    1260   329.4    1260  334.39    1260  335.81    1260
  336.29    1260  338.51    1260   339.2 1258.59  339.48    1258  340.45 1256.02
  340.46    1256  340.48 1255.95  341.44    1254  341.76 1253.35  342.42    1252
  345.47 1251.53   346.1 1251.44  349.25 1251.33  353.99 1250.86  365.59 1250.23
  367.21 1250.24  380.19 1250.11  381.01  1250.1  381.04  1250.1  382.97 1250.08
  382.98 1250.08  394.96    1250  396.27 1249.99  396.29 1249.99   396.3 1249.99
  401.97 1249.93  402.49 1249.92  412.14  1249.8  412.79 1249.78  414.33 1249.75
  424.51 1249.59  426.55 1249.54  430.92 1249.46  434.43 1249.36  452.87 1249.61
  456.39    1250  456.49 1250.34  456.62 1250.76  456.78 1251.32  457.08 1252.41
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  457.33 1253.36  457.41 1253.64  457.47 1253.87  457.83 1255.11  458.08 1255.96
  458.33 1256.86  458.61 1257.81  458.86 1258.72  459.04 1259.43  459.19    1260
  460.94    1260  527.65    1260  528.51    1260  530.19    1260  531.27    1260
  533.12    1260  534.15    1260  547.52    1260  613.51 1258.11  617.88    1258
  660.91 1256.56  670.27 1256.24  677.62    1256  681.89    1256   684.1    1256
  685.44    1256  692.37    1256  739.26 1254.84   756.9 1254.44

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  338.51    .013  459.19    .045

Bank Sta: Left   Right    Coeff Contr.   Expan.
        338.51  459.19             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     300    1260       F
     500     800    1260       F

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Bridge Coefficient Sets =  1

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

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

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

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 3684.454

INPUT
Description:
Station Elevation Data    num=     144
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1259.01    32.6 1258.77   33.43 1258.77   35.03 1258.77   35.87 1258.77
   37.46 1258.77   38.31 1258.77   39.88 1258.77   40.73 1258.77   42.27 1258.77
   55.85  1258.6   56.59  1258.6   57.79  1258.6   58.52  1258.6   59.74  1258.6
   61.66  1258.6    62.9  1258.6   63.62  1258.6   64.84  1258.6   65.59  1258.6
   66.78  1258.6   67.56  1258.6   73.75    1258   74.72    1258   75.05    1258
   76.95    1258   83.66    1258   85.02    1258   86.18    1258   87.17    1258
   88.65    1258   89.92    1258   92.75    1258  110.11    1258  113.24    1258
  113.88    1258  114.41    1258  129.01    1258  131.56    1258  134.44    1258
  134.93    1258  135.32    1258  135.65    1258  135.96    1258  139.03    1258
  170.34 1259.01  181.47 1259.09  188.71  1259.3  204.18  1259.7  208.19 1259.76
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  211.68 1259.78  212.82 1259.77   218.2    1260  228.57    1260   232.6    1260
  260.37    1260  260.65    1260  262.28    1260  283.53    1260  284.02    1260
  287.54    1260  302.12    1260   302.6    1260  305.89    1260  306.46    1260
  310.45    1260  311.16    1260  316.06    1260   321.9    1260  322.43    1260
   327.1    1260  328.83    1260   329.4    1260  334.39    1260  335.81    1260
  336.29    1260  338.51    1260   339.2 1258.59  339.48    1258  340.45 1256.02
  340.46    1256  340.48 1255.95  341.44    1254  341.76 1253.35  342.42    1252
  345.47 1251.53   346.1 1251.44  349.25 1251.33  353.99 1250.86  365.59 1250.23
  367.21 1250.24  380.19 1250.11  381.01  1250.1  381.04  1250.1  382.97 1250.08
  382.98 1250.08  394.96    1250  396.27 1249.99  396.29 1249.99   396.3 1249.99
  401.97 1249.93  402.49 1249.92  412.14  1249.8  412.79 1249.78  414.33 1249.75
  424.51 1249.59  426.55 1249.54  430.92 1249.46  434.43 1249.36  452.87 1249.61
  456.39    1250  456.49 1250.34  456.62 1250.76  456.78 1251.32  457.08 1252.41
  457.33 1253.36  457.41 1253.64  457.47 1253.87  457.83 1255.11  458.08 1255.96
  458.33 1256.86  458.61 1257.81  458.86 1258.72  459.04 1259.43  459.19    1260
  460.94    1260  527.65    1260  528.51    1260  530.19    1260  531.27    1260
  533.12    1260  534.15    1260  547.52    1260  613.51 1258.11  617.88    1258
  660.91 1256.56  670.27 1256.24  677.62    1256  681.89    1256   684.1    1256
  685.44    1256  692.37    1256  739.26 1254.84   756.9 1254.44

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  338.51    .013  459.19    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        338.51  459.19           151.24  151.24  151.24             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     300    1260       F
     500     800    1260       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 3533.212

INPUT
Description:
Station Elevation Data    num=     123
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1254.59   13.07    1254   17.31    1254   22.02    1254   23.64    1254
   37.33    1254   46.37    1254   65.06    1254   82.86 1253.86   83.45 1253.84
   88.56    1254   90.23    1254   93.81 1254.11  100.43 1254.25  115.38 1254.47
  128.45 1254.47  134.33 1254.42  137.05 1254.39  153.55 1254.18  166.53    1254
  174.63  1253.9  178.01 1253.86  180.97 1253.82  182.27 1253.82  196.56 1253.62
  212.37 1253.57  229.91  1253.4  261.25 1253.14   267.8  1253.1   272.2 1253.09
  282.71 1253.05  287.47 1253.02  294.77 1253.05  304.88 1252.97  306.08 1252.97
  306.71 1252.96  336.32 1252.99  347.32 1252.92  355.36  1252.9  425.52 1252.35
  429.14 1252.33  431.04 1252.32  447.19 1252.35  450.91 1252.29   452.7 1252.32
  453.37 1252.33  455.21 1252.36  460.65 1252.52  464.84 1252.47  471.38 1252.44
  472.04 1252.46  496.76 1253.63  499.53  1253.7  501.58 1253.78   507.9    1254
  510.27    1254  517.46    1254  522.82 1253.93  523.57 1253.96  598.64 1253.94
  602.06 1253.97  604.67    1254   605.5    1254  605.69    1254  626.97    1254
  627.13    1254  631.86    1254  632.28    1254  633.31    1254  637.99    1254
  638.56 1252.85  639.46 1251.03  639.71 1250.52  640.85 1248.22  640.98 1247.95
  641.01  1247.9  642.15 1245.61  642.95    1244  666.05    1244  667.86    1244
  669.59    1244  693.04    1244  693.16 1245.33  693.33  1247.1  693.57  1249.6
  693.66 1250.64  693.83 1252.33  694.01 1252.18  694.45  1254.2  694.84    1256
  725.25 1257.58  733.42    1258  735.06 1258.19  735.69  1258.2  740.45 1258.56
  746.71 1258.97   746.8 1258.97  755.13  1258.8  762.07 1258.45  767.07 1258.36
  780.19 1258.25  788.69    1258  791.77    1258   793.3    1258  795.37    1258
  804.83 1257.84  806.32 1257.82  806.84  1257.8  810.01 1257.73  813.96 1257.61
  819.85  1257.4  823.66 1257.34  838.86 1256.81  863.19    1256  868.41    1256
  874.44    1256  879.44    1256  879.96    1256  886.04    1256  894.78    1256
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  906.24 1255.76  950.38 1254.78  957.01 1254.62

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  631.86    .013  694.45    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        631.86  694.45           231.83  231.83  231.83             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0     600    1254       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 3301.384

INPUT
Description:
Station Elevation Data    num=     222
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1248.76    6.63 1248.84    9.12 1248.91    19.5    1249   27.04 1249.19
   30.83 1249.23   37.66 1249.28   42.57 1249.36   47.68 1249.33   50.25 1249.39
   55.85 1249.27   64.56 1249.46   65.95 1249.48  112.73 1249.43  125.18 1249.57
  132.56 1249.63  135.25 1249.67  147.16 1249.76  148.28 1249.76   157.4 1249.78
  159.07 1249.78  185.51    1250  188.62    1250  192.64    1250  198.54    1250
  227.84    1250  247.33    1250  249.29    1250  250.35    1250  255.78    1250
  258.32    1250  259.95    1250  274.26    1250  280.13    1250  308.33  1249.3
   315.8  1249.3  320.68 1249.35  327.53 1249.36  367.33  1249.7  367.67  1249.7
  367.96 1249.71  385.29 1249.86  386.67 1249.88  390.55  1249.9  395.64 1249.92
  414.04    1250  414.43    1250  414.51    1250  414.53    1250  434.68    1250
  438.68    1250  441.37    1250  443.41    1250   468.8    1250  469.03    1250
  475.71    1250   479.6    1250  487.96 1250.14  488.89 1250.14   490.1 1250.15
  500.21 1250.32  501.35 1250.33  509.78 1250.49  510.62 1250.48  514.21 1250.63
  601.46 1250.44  602.66 1250.43  613.99 1250.26  619.71 1250.17  627.74 1250.11
  632.55 1250.09   632.9  1250.1  641.19 1250.09  641.75  1250.1  649.98 1250.19
  651.24 1250.19  664.77    1250  666.48    1250  666.84    1250  667.01    1250
   682.1    1250  684.55    1250  687.52    1250  688.47    1250  699.14    1250
  703.32    1250  704.09    1250  709.47    1250  710.25    1250  718.64    1250
  719.66    1250  731.79    1250  733.25    1250  751.03    1250   751.3 1249.42
  751.96    1248  752.53 1246.77  752.89    1246  753.69 1244.29  754.62  1242.3
  754.72  1242.1  755.58 1240.26  755.71    1240  757.42    1240  760.38    1240
  779.34    1240  780.66    1240  781.13    1240  789.05    1240  789.23 1240.97
  789.48 1242.41  789.92 1244.81  790.35  1247.2  791.91 1247.77  796.36    1252
  802.89 1252.77  809.01 1253.51   811.3 1253.79  813.66    1254  814.62    1254
  816.45    1254  839.54    1254  843.77    1254  874.81 1254.35  877.35 1254.36
  884.24 1254.31  886.97  1254.3   904.5 1254.29  926.96 1254.13  935.04    1254
 1015.76    1254  1019.5    1254 1021.44 1254.12    1022 1254.15 1033.52 1254.88
 1043.88 1255.29 1056.99    1256 1058.22    1256 1091.26    1256 1097.61    1256
 1124.95    1256 1125.65    1256 1125.79    1256 1142.36 1255.37 1150.65 1255.08
 1162.51  1254.5 1171.91    1254 1178.46 1253.37 1194.89    1252 1207.94 1250.91
 1212.86 1250.56 1215.78 1250.34 1217.91  1250.2 1222.16    1250  1238.2 1249.65
 1239.23 1249.61 1240.33 1249.57 1246.15 1249.45 1247.76 1249.39 1249.38 1249.33
 1251.71 1249.27 1253.99 1249.18 1256.57 1249.08 1260.85 1248.92  1272.1 1248.59
 1275.34 1248.43 1279.33 1248.24 1284.34    1248 1285.11    1248 1287.07    1248
 1290.83    1248  1292.5    1248 1294.38 1248.33 1295.02 1248.37 1299.72 1249.06
 1300.88 1249.23  1302.1 1249.41 1302.53 1249.48 1310.07 1249.79 1315.87 1249.71
  1318.8 1249.66    1333 1249.37  1335.1 1249.33 1337.32  1249.3 1345.15 1249.07
 1356.35 1249.04 1360.81 1248.91 1363.66 1248.89 1367.27 1248.78 1382.98 1248.68
 1404.32 1248.45 1412.07 1248.43 1414.86 1248.42 1432.86 1248.44 1436.14 1248.44
 1437.08 1248.44 1440.56 1248.44 1443.01 1248.44  1459.1 1248.47 1461.38 1248.46
 1470.67  1248.5  1474.7 1248.48 1482.17  1248.5 1486.04 1248.48 1495.97 1248.51
  1498.2  1248.5 1505.51 1248.51 1510.16 1248.52 1524.86 1248.54 1537.44 1248.57
 1540.43 1248.58 1549.92 1248.63 1551.68 1248.63 1556.77 1248.67 1563.43 1248.67
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 1573.02 1248.76 1599.82 1248.89 1604.36 1248.88 1612.52 1248.92 1618.71 1248.88
 1620.99  1248.9 1676.07 1248.99

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  751.03     .03  796.36    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        751.03  796.36           264.59  264.59  264.59             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     700    1250       F
    1200    1700    1250       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 3036.790

INPUT
Description:
Station Elevation Data    num=     412
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1259.96   16.26    1258   16.76 1257.75    21.3    1256    22.7 1255.19
   24.96    1254   26.05 1253.38   28.53    1252   29.16 1251.65   31.47 1250.34
   32.09    1250   32.29 1249.89    35.7    1248   39.17 1246.06    39.3    1246
   39.61 1245.82   46.94    1242   47.93 1241.84   50.49 1241.47   52.34  1241.2
   53.81    1241   62.54 1241.07   65.69 1240.89   96.07 1241.43   103.2    1242
  104.07    1242  106.45    1242  132.79    1242  137.07    1242  139.76    1242
  139.82    1242  143.64    1242   145.5    1242  149.06    1242  161.94    1242
  164.94    1242  170.51    1242  173.87    1242  178.16    1242  237.51 1240.87
  239.76 1240.84  255.01  1240.6  261.83 1240.47  284.26 1240.34  284.93 1240.35
  293.53 1240.33  295.09 1240.34  303.29 1240.37  306.02 1240.37  314.22 1240.51
  318.72 1240.51  320.94 1240.51   327.1 1240.52  337.56  1240.7  376.08 1241.05
  386.06 1241.18  422.57 1241.68  444.68    1242  447.33    1242  450.96    1242
  452.69    1242  453.43    1242  458.38    1242  469.01    1242  469.04    1242
  471.29    1242  536.24    1242  574.11 1242.36  574.88 1242.38  578.65 1242.39
  582.06 1242.43  643.27 1242.33   647.7 1242.28  650.23 1242.27  655.28 1242.24
  667.88 1242.28  670.37 1242.25  674.61 1242.23  681.95 1242.26  686.79 1242.27
  702.56  1242.3  705.87  1242.3  719.95 1242.32  720.74 1242.32  726.55 1242.34
  742.24 1242.44  744.31 1242.47  748.23 1242.51   756.1 1242.63  759.08 1242.67
  773.75 1242.89  774.63  1242.9  779.16 1242.97  785.19 1243.06  795.18 1243.14
  818.72 1243.39  847.74    1244  855.48    1244  856.67    1244  867.78    1244
  874.66    1244  877.89    1244  882.91    1244  889.85    1244  900.76    1244
  901.67    1244  910.06    1244  910.56    1244  913.72    1244   937.5    1244
  953.23    1244  953.24    1244  954.25    1244  972.69    1244  985.31    1244
  992.47    1244 1004.19    1244 1028.12    1244 1029.85    1244 1034.65    1244
 1035.75    1244 1041.96    1244 1044.71    1244 1170.81 1245.93 1174.05 1245.93
 1174.28 1245.93 1177.14    1246  1177.9    1246 1182.96    1246  1186.6    1246
 1188.76    1246 1198.55    1246  1202.2    1246  1233.6 1246.53 1264.01 1246.73
 1272.32 1246.78 1282.15 1246.81 1292.75 1246.88 1294.04  1246.9 1297.41 1246.91
 1333.35 1247.32 1357.35 1247.35 1363.54 1247.34 1366.82 1247.34 1391.15 1247.21
 1394.05  1247.2 1520.61 1247.91 1526.77    1248 1526.89    1248 1527.01    1248
 1529.08    1248 1531.73    1248 1531.81    1248 1567.92    1248 1576.21    1248
 1587.65    1248  1589.3    1248 1594.14    1248    1604    1248 1611.83    1248
 1648.35 1248.72 1678.89  1248.6  1681.7 1248.58 1691.03 1248.53 1778.14    1248
 1789.07    1248 1792.62    1248 1795.68    1248 1796.51    1248 1798.12    1248
  1821.8    1248  1834.6    1248 1838.08    1248 1838.99    1248 1840.63    1248
 1852.29    1248 1889.34    1248 1889.49    1248 1890.87    1248 1891.02    1248
 1892.72    1248 1892.87    1248 1895.03    1248 1895.15    1248  1897.7    1248
 1897.82    1248 1901.19    1248 1908.96    1248 1909.04    1248  1912.7    1248
 1912.74    1248 1918.01    1248 1924.74    1248 1926.45    1248  1927.9  1247.4
 1930.56    1246 1931.08 1244.83 1931.45    1244 1931.95 1242.88 1932.35    1242
 1932.82 1240.95 1933.24    1240 1933.64  1239.1 1934.14    1238  1934.3 1237.64
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 1934.34 1237.58 1934.89 1236.36 1934.98 1236.17 1935.05    1236 1948.66    1236
  1948.8    1236 1961.69    1236 1961.78    1236 1963.83    1236 1964.15    1236
 1966.11    1236 1966.46 1237.91 1966.65 1238.93 1966.85    1240 1966.89  1240.2
 1967.01 1240.55 1967.56 1243.03 1969.18    1248 1976.37 1248.69 1983.73 1249.39
 1984.78 1249.49 1990.31    1250 2010.18 1250.98 2011.93 1251.08 2017.16 1251.35
 2029.93    1252 2037.15    1252 2041.07    1252 2050.12    1252 2052.06    1252
    2054    1252 2060.97    1252 2062.13    1252 2099.31 1251.25 2116.93 1250.87
 2119.45 1250.81 2130.64 1250.62    2150 1250.23 2151.63 1250.22 2157.45 1250.24
 2158.05 1250.25 2162.23 1250.37 2172.89 1250.26 2177.93 1250.18 2178.24 1250.19
 2193.54 1250.03 2193.84 1250.04 2193.91 1250.04 2204.36 1250.19 2204.68 1250.19
 2210.42  1250.3 2221.35 1250.47 2230.05 1250.41 2239.64 1250.19  2240.3 1250.18
 2244.07 1250.08 2246.24    1250 2246.48    1250 2252.18 1249.55 2259.78 1249.08
 2277.31    1248 2281.03 1246.56 2282.48    1246 2286.03 1245.04 2287.66 1244.61
  2289.7 1244.13 2292.78    1244 2300.09 1242.89  2303.4    1242 2306.18    1242
 2306.73    1242 2308.15    1242 2310.85 1243.14 2312.86    1244 2313.01    1244
 2313.05    1244 2313.53    1244 2327.45 1244.84 2328.14 1244.87  2331.2 1244.99
 2331.44    1245 2333.86 1245.09 2334.04  1245.1 2336.09 1245.18 2339.38 1245.28
 2340.36  1245.3 2357.47 1245.43 2361.58 1245.43 2368.47 1245.33 2372.42 1245.33
 2414.16 1244.98 2416.85 1244.98  2422.3 1244.99 2428.39 1245.01 2438.27 1245.06
 2440.09 1245.07 2443.87  1245.1 2448.97 1245.15 2452.24 1245.18 2515.94 1245.45
 2520.21 1245.48 2532.77 1245.59 2542.11 1245.68 2543.88 1245.69 2573.93    1246
 2575.31    1246 2577.04    1246 2579.22    1246 2583.82    1246 2587.06    1246
 2587.28    1246 2589.34 1246.02  2590.6 1246.03  2653.4 1246.51 2688.32 1246.82
 2700.22 1246.95 2716.29 1247.06 2755.87 1247.28 2758.31 1247.28 2764.58 1247.31
 2772.46 1247.38 2796.83 1247.35 2801.85 1247.28 2811.26 1247.39 2813.32 1247.42
 2813.91 1247.41 2819.88 1247.46 2826.52 1247.46 2838.01 1247.45    2843 1247.43
 2846.14  1247.4 2855.63 1247.38 2865.28 1247.37 2867.52 1247.37 2876.95 1247.33
 2881.81 1247.35 2884.23 1247.36 2896.88 1247.29 2899.56  1247.3 2904.81 1247.31
 2907.37  1247.3 2910.42 1247.27 2926.85 1247.23 2932.09 1247.17 2943.45  1247.1
 2948.37 1247.05  2957.8 1246.98 2960.47 1246.96 2963.47 1246.94 2984.66 1246.94
  2989.1 1246.93 2994.04 1246.94 3002.25 1246.97 3008.27 1246.99 3015.89 1246.98
 3026.32 1246.98 3031.43 1246.98 3043.89 1246.91 3049.59 1246.89 3050.24 1246.88
 3050.69 1246.88 3064.36 1246.78  3075.2 1246.67 3081.03 1246.63 3086.27 1246.57
 3108.35    1246 3108.71    1246 3110.87    1246 3113.66    1246  3117.8    1246
 3118.48    1246 3120.54    1246 3120.88    1246 3123.48    1246 3124.79    1246
 3128.24    1246 3133.38    1246 3138.76    1246 3140.95    1246 3141.95    1246
 3146.22    1246 3146.52    1246 3155.05    1246 3156.91    1246 3158.42    1246
 3160.54    1246 3160.63    1246  3162.8    1246 3164.12    1246    3166 1244.93
 3167.17    1244 3168.46  1242.8 3169.37    1242 3170.07    1242 3172.49    1242
 3173.39  1242.7 3175.04    1244 3175.67 1244.15 3176.32 1244.26 3182.41 1245.51
 3182.76 1245.59 3182.83  1245.6 3186.33    1246 3196.97 1246.17 3226.52 1246.42
 3227.24 1246.42 3234.49 1246.46

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065 1789.07     .03 2029.93    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1789.07 2029.93           234.01  234.01  234.01             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    1800    1248       F
    2100    3300    1248       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 2802.783

INPUT
Description:
Station Elevation Data    num=     189
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1243.85    13.2 1243.94   16.27    1244   17.71    1244   20.31    1244
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   34.24    1244   39.36    1244   39.61    1244   53.51    1244   53.97    1244
   61.98    1244   66.35    1244   66.69    1244   66.99    1244   78.93    1244
   80.72    1244   82.54    1244  100.51    1244   102.9    1244  103.39    1244
  108.52    1244  108.68    1244  111.21    1244  130.88 1244.37  140.41 1244.44
   141.3 1244.44  146.81 1244.49  165.88 1244.44  299.96 1245.62  325.08 1245.85
  339.01    1246  340.63    1246  352.75 1246.29  390.45 1246.48  390.68 1246.48
   391.6 1246.47  402.42 1246.41  406.44 1246.38  420.76 1246.34  429.02 1246.31
  430.93  1246.3  445.71 1246.18  452.33  1246.1  459.58    1246  467.35    1246
  482.81    1246  487.45    1246   494.9    1246  499.05    1246  502.55 1246.05
  516.04    1246  537.23    1246  538.04    1246  617.93    1246   618.3    1246
  620.61    1246  625.88    1246  637.27    1246  645.17    1246  673.03    1246
  676.42    1246     678    1246  683.78    1246   699.5    1246  699.63    1246
  701.33    1246  709.07    1246  712.29    1246  738.21 1244.75     739 1244.71
   746.2 1244.37  746.96 1244.34  747.35 1244.32  754.08    1244  754.57 1243.19
  755.26    1242  755.67  1241.3  756.43    1240  756.74 1239.48  757.61    1238
  757.68 1237.87  757.84 1237.61  758.65 1236.23  758.79    1236  759.72 1234.41
  759.96    1234  770.02    1234  787.69    1234  788.03  1235.7  788.39  1237.4
  788.96 1240.38  789.47 1242.98  789.71    1244  790.59 1244.19  793.47 1244.77
  802.14    1246  804.86 1246.57  805.48 1246.68  809.24 1247.31  812.28 1247.41
  814.91 1247.11  823.55 1247.67  825.35 1247.63  838.18 1247.35  848.02 1247.28
  852.85 1247.21  859.91 1247.15  864.66 1247.08   871.2 1246.96  878.47 1246.82
  885.57 1246.67   888.1 1246.61  890.32 1246.59   909.2 1246.06  909.61 1246.04
  910.01 1246.04  910.64    1246  929.56 1245.43  930.86  1245.4  939.57 1245.25
  946.85  1245.1  954.03 1244.96  954.61 1244.95  956.11 1244.92  957.86 1244.91
  972.29 1244.73  988.44 1244.43  997.57 1244.27 1004.39  1244.2 1005.81 1244.18
    1010 1244.15 1013.23 1244.15 1014.56 1244.17    1015 1244.17 1036.61 1244.13
 1036.81 1244.13 1037.59 1244.15 1037.87 1244.16 1041.07 1244.18 1041.65  1244.2
 1042.51 1244.23 1043.38 1244.27 1043.47 1244.27 1044.69 1244.33 1047.29 1244.39
 1047.54  1244.4 1049.55  1244.5 1050.62 1244.55 1053.68  1244.7 1068.47 1245.17
 1071.33 1245.36 1074.52 1245.56 1077.44 1245.74 1079.08  1245.8 1081.25    1246
 1086.21    1246 1089.15    1246 1092.65    1246 1100.67    1246 1100.68    1246
 1100.69 1245.99 1106.34 1244.62 1109.07    1244 1114.81  1242.3 1115.84    1242
 1116.37 1241.84  1122.6    1240 1126.79    1240 1129.04    1240 1129.37    1240
 1134.96    1240 1138.01 1241.26 1139.72    1242 1144.67  1242.1 1148.83 1242.17
 1159.25 1242.37 1159.33 1242.37 1201.13 1242.95 1207.54 1243.02 1213.11 1243.08
 1213.29 1243.08 1217.93 1243.15 1232.01  1243.2 1255.92 1243.41 1260.25 1243.42
 1317.87  1243.9 1326.31    1244 1326.33    1244  1326.4    1244

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  709.07     .03  802.14    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        709.07  802.14           385.69  385.69  385.69             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     700    1246       F
     850    1350    1246       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 2417.090

INPUT
Description:
Station Elevation Data    num=     220
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1239.03    1.79 1239.05     4.2 1239.07   16.53  1239.2   24.86 1239.23
   25.54 1239.23   29.39 1239.24   30.27 1239.24    39.4  1239.2   51.76 1239.34
   62.71  1239.5   67.55 1239.59    73.3 1239.62   76.97 1239.69   77.33  1239.7
   85.16 1239.62  146.29    1240  156.28    1240  157.09    1240  161.47    1240
  165.65    1240  190.87 1240.29  193.92 1240.31  196.29 1240.32  196.47 1240.32
  238.54 1240.35  240.19 1240.34  241.53 1240.33  241.78 1240.33   255.4 1240.35
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  261.61 1240.37  295.02 1240.27  297.28  1240.3  297.68  1240.3  309.99 1240.32
  310.33 1240.32   310.9 1240.32  323.34 1240.44  326.81 1240.42  335.89 1240.42
  339.75 1240.46  384.65 1240.77  399.24 1240.72  403.66 1240.73  410.32 1240.71
  417.32 1240.72  445.61 1240.83  499.88    1240  502.59    1240  502.74    1240
  508.76    1240  513.44    1240  515.37    1240  515.68    1240  515.85    1240
  516.67 1239.55  518.12  1239.4  522.82 1238.84  525.41 1238.74  528.38 1238.45
   530.2 1238.46  531.45 1238.44  539.27 1238.16  539.94 1238.12  540.18 1238.12
  540.52 1238.11  552.72 1238.15  554.13  1238.2  555.26 1238.21   556.3 1238.21
  557.17 1238.21  558.09 1238.23   560.2 1238.27  561.09 1238.31  562.05 1238.33
  576.68 1238.65  583.59 1238.73   587.1  1238.8  588.71 1238.83  594.47 1238.93
  601.83 1239.06  604.84 1239.11  608.75 1239.18  614.68 1239.32  615.68 1239.34
  618.98 1239.42  629.01 1239.68  629.21 1239.68   629.4 1239.69  629.67 1239.69
  638.73 1239.92  638.89 1239.93  642.12    1240  645.61    1240  645.76    1240
  662.24    1240  663.62    1240  674.44    1240  689.04    1240  689.88    1240
  710.28    1240  711.52    1240  711.94    1240  712.14    1240  713.92    1240
  714.31    1240  715.03    1240  723.96    1240  744.19    1240  748.49    1240
  749.95    1240  757.57    1240  763.64    1240  768.67    1240  773.06    1240
  778.21 1239.43  789.83    1238  789.87 1237.94  790.18 1237.41  790.53 1236.79
  790.99    1236  791.69 1234.81  792.16    1234  792.85 1232.82  793.32    1232
  794.02 1230.82  794.49    1230  817.81    1230  821.88    1230  821.89 1230.05
  822.39    1232  822.57 1232.68   822.9    1234  823.13 1234.88   823.3 1235.56
  823.66 1236.97  823.92    1238  834.43 1239.34  835.31 1239.45   837.7 1239.76
   840.5    1240  842.63    1240  845.66 1240.07  846.11 1240.07  910.31 1240.57
  925.96  1240.6  936.95 1240.64  939.95 1240.64 1052.74    1240 1058.42    1240
 1060.27    1240 1072.02    1240 1072.49    1240 1073.26    1240  1073.6    1240
 1112.63 1239.03 1118.32 1238.91 1124.77 1238.85 1132.28 1238.79 1176.93 1238.68
 1178.38 1238.72 1179.19 1238.75 1180.84  1238.8 1182.26 1238.84 1183.96 1238.89
 1185.34 1238.93 1189.34 1238.95 1191.49 1239.02  1193.4 1239.08 1195.94 1239.17
 1205.36 1239.52 1207.88 1239.56 1218.56    1240 1230.64    1240 1233.03    1240
 1235.12 1239.65 1237.59 1239.23 1237.95 1239.17 1244.81    1238 1248.89  1236.5
 1250.21    1236 1254.74 1234.32 1255.62    1234 1256.03    1234  1257.1    1234
 1259.77    1234 1266.22    1234 1267.32    1234 1267.53    1234 1267.84 1234.24
 1270.05    1236 1270.44 1236.32 1272.57    1238 1275.07 1238.05 1275.78 1238.06
 1354.42 1238.83 1357.85 1238.87  1367.4 1238.81 1370.13  1238.8 1375.18 1238.84
 1376.51 1238.84 1379.97 1238.84 1382.83 1238.86 1392.19 1238.93 1399.63 1238.89
 1408.93 1238.95 1411.62 1238.94 1413.75 1238.95 1417.62 1238.92 1424.31 1238.87
 1430.99 1238.84 1432.06 1238.86 1435.89 1238.85 1443.46 1238.85 1492.07 1239.03
 1497.68 1239.01 1502.96 1239.01 1514.57 1239.05 1517.95 1239.03 1521.02 1239.01

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  757.57     .03  845.66    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        757.57  845.66           316.61  316.61  316.61             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     750    1240       F
     900    1550    1240       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 2100.483

INPUT
Description:
Station Elevation Data    num=     284
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1233.91    6.37    1234    7.06    1234   17.97 1234.13   23.08 1234.19
   39.06 1234.38   48.87 1234.48   57.69 1234.55    62.1 1234.59   75.03 1234.61
   86.49 1234.69   97.62 1234.74  102.89 1234.76  117.31 1234.81  144.66 1234.76
  165.39 1234.59  169.18  1234.6  174.06 1234.55  184.79 1234.59  185.27 1234.59
  188.62 1234.62  190.27 1234.61  193.23 1234.63  203.87 1234.74  208.29 1234.83
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  219.46 1234.79  236.74 1235.46  240.07 1235.57  243.22 1235.61  251.09 1235.73
  252.26 1235.77  256.51 1235.64  261.23 1235.83  264.21 1235.86  315.86 1235.79
  318.73  1235.8  323.56 1235.81  324.57 1235.82  325.17 1235.82  326.57 1235.81
  343.88 1235.75  375.49    1236  389.11    1236  394.82    1236  407.25    1236
  410.07    1236   410.3    1236  419.31    1236  421.48    1236  426.45    1236
  434.37 1236.13  434.65 1236.13  436.52 1236.18  436.73 1236.18  473.05 1236.87
  481.77 1236.94  496.63 1236.81  499.81 1236.82  510.56  1236.8  524.93 1236.85
  533.44 1236.85  563.42 1236.81  593.64 1236.85   601.7 1236.93  612.11 1236.92
  613.79 1236.93  627.68 1236.98  630.52 1237.01  681.02 1237.05   682.2 1237.03
  706.49  1237.1  713.54 1237.02  717.12 1237.05  718.14 1237.04  736.27 1236.75
  753.22 1236.17  755.67 1236.07  755.76 1236.07  758.41    1236  758.49    1236
  764.57    1236  765.97    1236  771.84    1236  772.53    1236  781.08    1236
  837.21 1235.01  837.47    1235  840.89 1234.84  841.29 1234.82  846.14 1234.59
  846.83 1234.55   854.3  1234.2  855.54 1234.14  858.43    1234  858.71 1232.57
  858.82    1232  859.14 1230.34  859.21    1230  859.54 1228.33   859.6 1228.05
   859.6    1228  859.95 1226.26     860    1226  882.48    1226  891.89    1226
  891.91 1226.13  891.95 1226.33  892.01 1226.67  892.22 1227.87  892.24 1227.97
  892.48 1229.28  892.57 1229.77  892.84 1231.19  893.06 1232.35   893.2 1233.15
  893.29 1233.65  893.35    1234  915.74  1235.8  918.01    1236  918.24    1236
  918.76    1236  918.87    1236  989.11 1236.79  993.86 1236.84 1003.67 1236.85
 1013.53 1236.84 1017.82 1236.85  1022.7 1236.87 1034.54 1236.91  1044.4 1236.89
 1046.12 1236.89 1051.85 1236.93 1066.33 1236.97 1076.94 1236.97 1087.43 1236.94
 1091.13 1236.95 1092.31 1236.95 1093.19 1236.95 1101.68 1236.95 1123.62 1236.83
 1129.55 1236.84 1138.66 1236.76 1142.75 1236.76 1145.83 1236.73 1154.86 1236.67
 1191.08 1236.04 1191.36 1236.04 1192.36    1236  1193.1    1236 1197.17    1236
    1321    1236 1325.63    1236 1326.94    1236 1333.95    1236 1337.51    1236
 1337.99    1236 1344.18 1234.66 1347.09    1234 1351.68  1232.1 1351.92    1232
 1351.98 1231.97 1355.99    1230 1358.26    1230 1360.53    1230 1367.42 1231.92
 1367.73    1232 1374.02 1233.55 1375.91    1234 1377.52    1234 1382.77    1234
 1391.39    1234 1430.09 1235.02 1435.75 1235.15 1447.25 1235.32 1451.64  1235.4
 1453.43 1235.43 1457.82  1235.5 1464.66 1235.53 1468.09 1235.57 1470.09 1235.58
 1481.51 1235.53  1485.8 1235.54 1488.62 1235.54 1496.43 1235.48 1499.53 1235.47
 1501.82 1235.45 1509.83  1235.4 1513.91 1235.36 1524.97 1235.31 1528.86 1235.29
 1537.07 1235.24 1538.88 1235.22  1548.6 1235.09 1551.18 1235.07 1559.93 1235.03
 1566.52 1235.04 1573.44 1235.05 1583.89 1235.15 1596.62 1235.13  1598.6 1235.12
 1616.59 1235.11 1626.19 1235.18 1627.71 1235.18    1631 1235.19 1633.93 1235.22
  1639.7 1235.27 1649.22 1235.27  1653.2 1235.29 1661.37  1235.3 1666.01 1235.33
 1684.17 1235.39 1697.25 1235.42 1698.62 1235.42 1704.34  1235.4 1707.92 1235.37
 1719.01 1235.23 1732.21 1235.17 1733.11 1235.17 1740.25 1235.11 1741.18 1235.11
 1755.42 1234.96  1775.2 1234.98 1787.03  1235.1 1788.14 1235.11 1803.41  1235.3
 1804.61 1235.31 1818.59 1235.43 1824.56 1235.51 1825.94 1235.51 1838.24 1235.63
  1842.7 1235.65 1843.43 1235.65 1850.51 1235.66 1851.07 1235.67 1855.21 1235.73
 1862.33 1235.69 1896.72 1235.71 1897.96 1235.72 1906.36 1235.76 1930.86 1235.88
  1935.1  1235.9 1950.28    1236 1960.04 1236.07  1960.2 1236.08 1978.66 1236.23
    1980 1236.24 1985.05 1236.28 2007.01 1236.35 2009.14 1236.37 2011.03 1236.39
 2013.19 1236.41 2016.38 1236.44 2017.99 1236.46 2019.87 1236.46 2033.55 1236.69
 2058.98 1236.91 2069.27 1236.92 2070.47 1236.93  2072.4 1236.94 2074.35 1236.94
 2124.01 1237.36 2131.63 1237.42 2141.93 1237.55 2146.48 1237.59 2176.22    1238
 2177.71    1238 2183.24    1238 2184.53    1238 2185.91    1238 2188.44    1238
 2189.37    1238 2193.01    1238  2196.2 1236.77 2198.31    1236 2200.39    1236
  2203.7    1236 2206.92 1237.57 2207.76    1238 2207.82    1238 2207.86    1238
 2229.27    1238 2230.22    1238 2272.12  1238.9 2276.49  1238.9

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  706.49     .03 1003.67    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        706.49 1003.67           401.94  401.94  401.94             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     700    1237       F
    1050    2300    1237       F

CROSS SECTION
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RIVER: Newhall
REACH: Mainstem           RS: 1698.544

INPUT
Description:
Station Elevation Data    num=     192
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  1228.7   34.82 1229.18   37.04 1229.23    42.9  1229.3   43.57 1229.31
   45.37 1229.33   50.05 1229.38   50.72 1229.39   51.79  1229.4   55.08 1229.45
   68.32 1229.51   69.16 1229.52  119.31    1230  122.78    1230  128.16    1230
  131.36    1230  137.94    1230  163.07    1230  167.76    1230  172.93    1230
  181.92 1230.06  185.47 1230.05  185.66 1230.06  188.33 1230.08  221.57 1230.41
   224.3 1230.43  237.79 1230.48  258.14 1230.42   260.2 1230.39  277.14 1230.43
  301.51 1230.67  309.06 1230.74  388.75    1232  389.35    1232  392.87    1232
  395.59    1232  395.62    1232  395.86    1232  409.04    1232  415.29    1232
  424.43    1232   429.9    1232   438.5    1232  440.15    1232  484.26 1232.35
  487.81 1232.35  490.89 1232.35  508.28 1232.38  550.14 1232.21  552.38 1232.21
  564.41 1232.13  564.63 1232.13  565.91 1232.12   579.1 1232.07  581.94  1232.1
  582.42 1232.11  582.48 1232.11  594.53 1232.14   594.7 1232.14  605.65 1232.21
  613.18 1232.28  613.98 1232.28  622.93 1232.37  638.23 1232.43  652.77 1232.43
  659.17 1232.42  662.05 1232.44  670.77 1232.41  673.94 1232.42  681.41 1232.44
  693.74 1232.46  695.99 1232.46  717.28 1232.39  744.19    1232   744.7    1232
  749.57    1232  754.91    1232  806.11    1232  815.26    1232  815.63    1232
  821.86 1231.75  831.95 1231.39  835.22 1231.33  840.31 1231.17  845.54 1231.11
  856.03 1231.03  869.48    1230  873.29    1230  873.52 1229.45  873.81 1228.76
  874.33 1227.54  874.99    1226  875.12 1225.68  875.83    1224  875.85 1223.96
   875.9 1223.84  876.56 1222.26  876.67    1222  877.33 1220.43  877.51    1220
  888.84    1220  899.07    1220  900.05    1220  904.38    1220  906.04    1220
  907.89    1220  908.21 1221.71  908.26    1222  909.11 1224.43  910.51 1228.67
  910.78 1229.47  910.89 1229.81  910.93 1229.86  911.12    1230  916.23  1230.2
  916.58  1230.2   943.1 1230.61  953.98 1230.58   959.5 1230.57  969.47 1230.47
  973.31 1230.46  975.09 1230.47  979.94 1230.53  989.53 1230.63  994.64 1230.68
 1009.09 1230.91 1020.39 1230.89 1027.21  1230.9 1031.45 1230.91 1041.19    1231
 1075.97    1232 1076.28    1232 1076.69    1232 1079.29    1232 1082.32    1232
 1083.83    1232 1091.17    1232 1095.72    1232 1102.27    1232 1105.62    1232
 1107.56    1232 1110.12    1232 1149.89    1232 1160.77    1232 1162.55    1232
 1173.64    1232  1183.5    1232 1187.42    1232 1190.83 1231.93 1190.92 1231.93
 1299.77  1231.5 1303.85 1231.56 1327.57 1230.87 1328.66 1230.75 1330.33  1230.6
 1330.98 1230.63 1331.73 1230.55 1334.25 1230.28  1335.1 1230.18 1336.82    1230
  1340.8 1228.87 1344.11    1228 1348.85 1226.15 1349.22    1226 1350.48    1226
 1352.74 1226.23 1354.05 1226.35 1361.72 1227.11 1370.32    1228 1373.95    1228
 1381.09    1228    1383    1228 1396.02    1228 1401.71    1228 1411.44    1228
 1412.51    1228 1420.88    1228 1460.67    1228 1501.53    1228 1505.24    1228
 1507.23    1228 1511.79    1228  1514.5    1228 1529.39 1228.23 1531.42 1228.25
 1538.29 1228.36 1552.68 1228.56 1564.37 1228.68 1569.72 1228.72  1578.6 1228.81
 1586.95 1228.91 1592.22 1228.98

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  806.11     .03 1075.97    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        806.11 1075.97           507.92  507.92  507.92             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     800    1232       F
    1100    1600    1232       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 1190.624
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INPUT
Description:
Station Elevation Data    num=     138
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    1224     .25    1224    3.71 1224.04    4.25 1224.04    4.71 1224.04
    56.9 1224.67   64.13 1224.71   69.52 1224.74   98.09 1224.96  124.14 1225.16
  146.05 1225.31  163.99 1225.47  208.11    1226  208.66    1226  213.13    1226
  214.47    1226  215.87    1226   240.5    1226  260.49    1226  265.45    1226
  323.85    1226  328.18    1226  332.17    1226  332.84    1226  333.91    1226
  334.35    1226  338.22    1226  342.52    1226  377.32    1227   377.8 1227.01
  378.15 1227.01  386.31 1227.12  395.09 1227.21   396.7 1227.25  410.18 1227.48
  417.84 1227.53  422.07 1227.53  423.78 1227.54   480.5 1227.62  485.14 1227.68
  492.42 1227.72  493.18 1227.71  497.21 1227.72  497.83 1227.73  501.04 1227.74
  503.35 1227.71  511.17 1227.69   527.1 1227.51  548.68 1227.29     574 1226.86
  574.69 1226.85  610.32 1226.39   613.3 1226.37  632.38    1226  632.92    1226
  633.83    1226  639.16    1226  648.26    1226  649.67    1226   651.5    1226
  652.26    1226  669.49    1226  704.67    1226  712.24 1226.09  810.76  1226.6
  813.44  1226.6  855.11 1226.42  860.23 1226.38  860.62 1226.38  877.61 1226.32
  877.72 1226.32   890.1 1226.27  892.62 1226.27   945.6    1226  966.99    1226
 1003.96    1226 1011.04    1226 1017.12    1226 1043.96    1226 1044.34    1226
 1047.05    1226  1047.2    1226 1048.45 1225.96 1064.23 1225.51 1091.37 1224.59
 1107.79    1224  1109.1 1223.51 1113.08    1222 1113.19 1221.44 1113.48    1220
 1113.68 1219.03 1113.83  1218.3 1114.12 1216.88 1114.31 1215.96 1114.54 1214.81
 1114.71    1214 1130.46    1214 1131.84    1214 1132.62    1214  1148.8    1214
 1149.01 1215.68 1149.27 1217.73 1149.34 1218.21 1149.54 1218.28 1154.29    1224
 1155.55 1224.06 1158.93 1224.23 1161.73 1224.36 1169.16 1224.66 1170.19 1224.65
  1202.1 1225.19 1211.95 1225.18 1247.05 1224.95 1252.99 1224.96 1260.56 1224.98
 1266.79 1224.99 1275.99 1225.06 1360.39    1226 1360.42    1226 1360.44    1226
 1360.47    1226  1360.5    1226 1363.66    1226 1367.03    1226 1374.31    1226
 1379.63    1226  1385.3    1226 1399.29    1226 1401.94    1226 1405.12    1226
 1408.04    1226 1414.99    1226  1417.3    1226 1423.09    1226 1432.88 1224.96
 1433.63 1224.88 1441.62    1224  1444.4 1223.34

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065 1048.45     .03  1202.1    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1048.45  1202.1           707.53  707.53  707.53             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     810    1227       F
    1350    1450    1227       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 483.097

INPUT
Description:
Station Elevation Data    num=     241
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1219.09    8.27 1219.03   44.22 1218.73  109.24  1218.3   123.1 1218.14
  123.27 1218.14  123.67 1218.13  130.94 1218.11  131.61 1218.11  144.15 1218.06
  149.45    1218  151.34    1218  159.29    1218  167.81    1218  171.37    1218
  178.22    1218  179.45    1218  180.12    1218  183.97    1218  197.94    1218
  199.11    1218  245.02    1218  253.17    1218  266.25    1218  288.23    1218
   294.9    1218  298.37    1218  370.91    1218  372.37 1217.99  373.31    1218
   381.7    1218  384.63    1218  397.48    1218  415.07    1218  416.78    1218
  418.81    1218  441.86    1218  443.39    1218  443.77    1218  444.54    1218
  454.68    1218   456.7    1218  464.09 1217.89  465.77 1217.85  499.77 1217.16
   522.7 1216.66  539.78 1216.32  549.61 1216.07  550.27 1216.06  552.61    1216
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  552.85    1216  553.04    1216  554.09    1216  564.35    1216  615.62    1216
  620.22    1216  627.25    1216  630.75    1216  640.87    1216   644.4    1216
  644.82    1216   664.1    1216  684.59    1216  685.08    1216  685.28    1216
  711.51    1216  714.21    1216  714.64    1216  715.78 1216.01  734.28 1216.07
  746.61 1216.11   746.7 1216.11  762.63  1216.2  782.58 1216.34  783.01 1216.34
  784.71 1216.35  787.24 1216.37  789.18 1216.37  798.14 1216.42  802.53 1216.47
  804.57 1216.49   836.7 1216.85   840.6 1216.87  847.04 1216.93  875.69 1217.09
  885.45 1217.14  888.57 1217.14  943.12 1216.62   946.7 1216.64  950.22 1216.67
  957.19 1216.54  961.05 1216.55  966.64 1216.47  971.51 1216.41  973.71 1216.39
  975.62 1216.36  978.37 1216.39  979.88 1216.36  990.88 1216.35   996.1  1216.4
 1000.89 1216.46  1010.7 1216.61  1017.3 1216.68 1019.87  1216.7 1031.24 1216.89
 1032.57  1216.9 1040.63 1217.03 1047.83 1217.14  1051.6 1217.14 1056.71 1217.21
 1067.22 1217.21 1070.41 1217.24  1152.9 1217.99 1153.04 1217.99 1154.09    1218
 1161.03    1218 1161.97    1218 1165.62    1218 1176.62    1218 1179.94    1218
 1192.82    1218 1195.99    1218 1196.58    1218 1211.98    1218 1213.01    1218
 1248.48    1218 1300.14    1218 1300.88    1218 1301.35    1218  1304.9    1218
 1307.85    1218 1321.09 1217.79 1331.57  1217.7 1333.06 1217.69 1348.78    1218
 1350.87    1218 1402.22    1218 1403.11    1218 1405.75    1218 1407.76    1218
 1409.92    1218 1412.72    1218 1413.52    1218  1449.2    1218 1565.11    1218
 1565.76    1218 1567.02    1218 1567.15    1218 1570.23    1218 1572.56    1218
  1583.5    1218 1589.43    1218 1600.39    1218  1601.8    1218 1603.91    1218
 1618.94    1218 1620.42    1218 1622.91    1218 1648.79 1217.72 1652.21 1217.71
 1669.28  1217.7 1700.02 1217.96 1701.19 1217.97 1701.97 1217.95 1701.98 1217.95
 1701.99 1217.95  1702.1 1217.94 1702.19 1217.94 1702.27 1217.93 1702.38 1217.93
 1702.66 1217.92  1702.7 1217.91 1703.16 1217.89 1703.93 1217.85 1704.26 1217.83
 1706.27 1217.73 1714.05 1217.33  1729.2 1216.56 1733.68 1216.33 1740.09    1216
 1740.44 1215.81  1742.8 1214.57  1743.6 1214.14 1743.87    1214 1745.24    1214
    1769    1214 1777.99    1214 1834.71    1214  1835.7    1214  1837.4    1214
 1838.87    1214 1843.49    1214 1843.57    1214 1847.85    1214 1847.96    1214
 1849.52    1214 1849.77 1214.14 1850.09 1214.34 1851.95 1215.34 1853.13    1216
 1853.63 1216.28 1853.89 1216.43 1855.32 1217.12 1857.26    1218 1857.81    1218
 1858.06    1218 1858.11    1218 1859.41    1218 1859.52    1218 1861.05    1218
 1863.47    1218 1863.72    1218 1865.29    1218 1867.12    1218 1868.84    1218
  1870.6    1218 1872.42    1218 1874.53    1218 1875.05    1218 1876.55    1218
 1876.73    1218 1879.11    1218 1879.65    1218 1880.75    1218 1881.03    1218
 1881.47    1218 1884.35    1218 1884.82    1218 1885.33    1218 1886.96    1218
  1887.4    1218 1888.23    1218 1888.35    1218 1888.59    1218 1889.18    1218
 1931.38    1218 1933.75    1218 1933.88    1218 1936.69    1218 1938.09    1218
 1997.06 1218.78

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065 1701.19     .03 1859.41    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1701.19 1859.41           424.48  424.48  424.48             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    1700    1218       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 58.617

INPUT
Description:
Station Elevation Data    num=     302
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    1219    1.15 1218.99    2.91 1218.98    3.61 1218.97    8.99 1218.93
    9.66 1218.93  112.12 1218.27  145.54    1218  146.37    1218  149.09    1218
   149.6    1218  150.15    1218  150.39    1218  150.79    1218  150.82    1218
  284.79 1217.34  304.74 1217.28  320.29 1217.19  329.19 1217.16  357.15 1217.09
  362.47 1217.08  435.24 1216.62  440.63  1216.6  451.66 1216.51  465.34 1216.43
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  477.83 1216.35  479.19 1216.34  490.02  1216.3  497.27 1216.26  539.95    1216
  540.75    1216  544.05    1216  552.58    1216  553.69    1216  555.66    1216
  564.88 1215.92  601.82 1215.61  616.92 1215.48  686.03 1215.09   686.9 1215.09
  694.19 1215.05  700.68 1215.02  705.74    1215  707.47    1215  722.98 1214.91
  729.48 1214.88  740.86 1214.84  847.78    1214  851.52    1214  852.81    1214
  872.55    1214   887.8    1214  888.19    1214  895.51    1214  901.74    1214
  922.64    1214   925.8    1214  929.83    1214  931.51    1214  941.17    1214
  942.25    1214   942.7    1214  959.78    1214   960.6    1214  960.89    1214
  968.13    1214  968.15    1214  968.23    1214 1243.06    1214 1244.11    1214
 1244.43    1214 1245.43    1214 1246.42    1214 1299.46    1214 1299.64    1214
 1300.65    1214 1302.08    1214 1369.08    1214    1370    1214 1370.11    1214
 1371.01    1214    1372    1214 1372.08    1214 1372.96    1214 1373.03    1214
 1373.96    1214 1379.26    1214 1380.32    1214 1530.43    1214 1543.67    1214
 1551.57    1214 1624.54    1214 1624.87    1214  1637.4    1214 1646.91    1214
 1651.53    1214 1681.54    1214 1683.05    1214  1707.8    1214 1708.47    1214
 1709.97    1214 1710.98    1214 1741.62    1214 1765.99    1214 1768.38    1214
  1769.2    1214 1775.26    1214    1788    1214 1799.67    1214 1815.16    1214
 1823.89    1214 1878.42    1214 1880.69    1214 1885.77    1214 1898.26    1214
 1898.46    1214 1906.29    1214  1965.2    1214 1972.59    1214 1983.75    1214
  1987.7    1214 2004.86    1214 2004.97    1214 2008.51    1214 2023.79    1214
 2024.73    1214 2025.24    1214  2025.9    1214 2031.21    1214 2032.24    1214
 2033.76    1214 2035.37    1214 2168.86    1214 2170.02    1214 2173.24    1214
 2177.59    1214 2179.89    1214    2183    1214 2186.04    1214 2186.62    1214
 2189.66    1214  2190.6    1214 2194.59    1214 2195.21    1214 2196.89    1214
 2198.04    1214 2207.61    1214 2212.74    1214 2218.89    1214 2219.59    1214
 2220.24    1214  2220.3    1214 2220.59    1214 2227.15    1214 2227.83    1214
 2233.36    1214 2234.59    1214 2234.88    1214  2240.9    1214 2241.06    1214
  2241.4    1214 2242.61    1214 2242.68    1214 2242.95    1214 2244.36    1214
 2244.43    1214 2244.65    1214 2250.27    1214 2255.35    1214 2255.54    1214
  2255.8    1214 2257.65    1214 2259.96    1214 2266.06    1214 2271.72    1214
 2271.98    1214 2294.75    1214 2316.27    1214  2317.9    1214 2320.74    1214
 2322.93    1214 2322.98    1214 2325.05    1214 2328.46    1214 2330.49    1214
 2330.61    1214 2334.78    1214 2355.28    1214 2355.47    1214 2360.49    1214
 2361.08    1214 2362.11    1214 2367.02    1214 2368.05    1214 2369.31    1214
 2370.37    1214 2385.13    1214 2385.82    1214 2387.26    1214 2393.86    1214
 2403.55    1214 2408.94    1214 2413.04    1214 2413.36    1214  2413.7    1214
 2416.79    1214 2421.81    1214 2422.76    1214 2423.26    1214 2424.67    1214
 2425.36    1214 2425.96    1214 2426.63    1214 2436.39    1214 2437.01    1214
 2437.31    1214 2437.85    1214 2438.05    1214 2442.32    1214 2448.64    1214
 2448.98    1214  2449.3    1214 2449.68    1214    2450    1214  2512.1    1214
 2512.45    1214 2512.67    1214 2512.94    1214 2513.29    1214 2530.86    1214
 2530.98    1214 2531.03    1214 2531.06    1214 2531.15    1214 2531.28    1214
 2531.36    1214 2532.97 1214.06 2556.36 1214.23 2570.96 1214.29 2581.41  1214.3
 2592.03 1214.28 2604.05 1214.24 2605.27 1214.24 2612.31 1214.22 2615.57 1214.25
 2616.28 1214.26  2621.4 1214.26 2622.49 1214.27 2641.22 1214.32 2643.95 1214.34
 2649.56 1214.36 2653.84 1214.41    2654 1214.41  2654.1 1214.41 2661.14 1214.49
 2668.52 1214.52 2668.91 1214.52 2676.95 1214.54 2688.17 1214.76 2700.69 1214.85
 2753.09 1215.43 2764.23 1215.46 2767.94 1215.47 2777.38 1215.46 2778.22 1215.45
 2788.05 1215.45  2797.6 1215.47 2802.69 1215.46 2806.46 1215.44  2850.4 1215.83
 2858.74    1216 2860.73    1216 2861.05    1216 2862.42    1216 2863.72    1216
  2874.2    1216 2876.01    1216 2885.68    1216  2891.9    1216 2895.63    1216
 2909.34    1216 2912.72    1216 2951.49    1216 2952.36    1216 2953.53    1216
 2955.09    1216 2955.43    1216 2955.68    1216 2965.95 1216.32 3019.81 1217.61
 3031.09 1217.95 3032.76 1218.41 3034.78 1218.89 3036.75  1219.4 3048.82 1220.01
 3050.56 1220.61 3052.17 1221.22 3053.78 1221.85  3055.6 1222.51 3057.66 1223.22
 3059.75 1223.95 3065.42  1224.5

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  540.75     .03 2581.41    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        540.75 2581.41               0       0       0             .1       .3
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SUMMARY OF MANNING'S N VALUES
River:Newhall

Reach	River Sta.	n1	n2	n3
Mainstem	10505.32	.045	.03	.045
Mainstem	9993.571	.045	.03	.045
Mainstem	9616.907	.045	.03	.045
Mainstem	9229.136	.045	.03	.045
Mainstem	8608.484	.045	.03	.045
Mainstem	8216.339	.045	.03	.045
Mainstem	7954.452	.045	.03	.045
Mainstem	7636.535	.045	.03	.045
Mainstem	7013.289	.045	.03	.045
Mainstem	6540.300	.045	.03	.045
Mainstem	6254.699	.045	.03	.045
Mainstem	5959.225	.045	.03	.045
Mainstem	5637.197	.045	.03	.045
Mainstem	5281.263	.045	.03	.045
Mainstem	5061.813	.045	.03	.045
Mainstem	4842.770	.045	.03	.045
Mainstem	4542.760	.045	.03	.045
Mainstem	4386.823	.045	.03	.045
Mainstem	4043.350	.045	.03	.045
Mainstem	3920.755	.045	.03	.045
Mainstem	3813.951	.045	.03	.045
Mainstem	3790	Bridge		
Mainstem	3786.11	.03	.03	.045
Mainstem	3758.278	.03	.03	.045
Mainstem	3715	Bridge		
Mainstem	3684.454	.065	.013	.045
Mainstem	3533.212	.065	.013	.045
Mainstem	3301.384	.065	.03	.045
Mainstem	3036.790	.065	.03	.045
Mainstem	2802.783	.065	.03	.045
Mainstem	2417.090	.065	.03	.045
Mainstem	2100.483	.065	.03	.045
Mainstem	1698.544	.065	.03	.045
Mainstem	1190.624	.065	.03	.045
Mainstem	483.097	.065	.03	.045
Mainstem	58.617	.065	.03	.045

SUMMARY OF REACH LENGTHS
River: Newhall

Reach	River Sta.	Left	Channel	Right
Mainstem	10505.32	511.76	511.76	511.76
Mainstem	9993.571	376.66	376.66	376.66
Mainstem	9616.907	387.77	387.77	387.77
Mainstem	9229.136	620.65	620.65	620.65
Mainstem	8608.484	392.15	392.15	392.15
Mainstem	8216.339	261.89	261.89	261.89
Mainstem	7954.452	317.92	317.92	317.92
Mainstem	7636.535	623.25	623.25	623.25
Mainstem	7013.289	472.99	472.99	472.99
Mainstem	6540.300	285.6	285.6	285.6
Mainstem	6254.699	295.47	295.47	295.47
Mainstem	5959.225	322.03	322.03	322.03
Mainstem	5637.197	355.93	355.93	355.93
Mainstem	5281.263	219.45	219.45	219.45
Mainstem	5061.813	219.04	219.04	219.04
Mainstem	4842.770	300.01	300.01	300.01

Mainstem	4542.760	155.94	155.94	155.94
Mainstem	4386.823	343.47	343.47	343.47
Mainstem	4043.350	122.59	122.59	122.59
Mainstem	3920.755	106.8	106.8	106.8
Mainstem	3813.951	27.84	27.84	27.84
Mainstem	3790	Bridge		
Mainstem	3786.11	27.83	27.83	27.83
Mainstem	3758.278	73.82	73.82	73.82
Mainstem	3715	Bridge		
Mainstem	3684.454	151.24	151.24	151.24
Mainstem	3533.212	231.83	231.83	231.83
Mainstem	3301.384	264.59	264.59	264.59
Mainstem	3036.790	234.01	234.01	234.01
Mainstem	2802.783	385.69	385.69	385.69
Mainstem	2417.090	316.61	316.61	316.61
Mainstem	2100.483	401.94	401.94	401.94
Mainstem	1698.544	507.92	507.92	507.92
Mainstem	1190.624	707.53	707.53	707.53
Mainstem	483.097	424.48	424.48	424.48
Mainstem	58.617	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Newhall

Reach	River Sta.	Contr.	Expan.
Mainstem	10505.32	.1	.3
Mainstem	9993.571	.1	.3
Mainstem	9616.907	.1	.3
Mainstem	9229.136	.1	.3
Mainstem	8608.484	.1	.3
Mainstem	8216.339	.1	.3
Mainstem	7954.452	.1	.3
Mainstem	7636.535	.1	.3
Mainstem	7013.289	.1	.3
Mainstem	6540.300	.1	.3
Mainstem	6254.699	.1	.3
Mainstem	5959.225	.1	.3
Mainstem	5637.197	.1	.3
Mainstem	5281.263	.1	.3
Mainstem	5061.813	.1	.3
Mainstem	4842.770	.1	.3
Mainstem	4542.760	.1	.3
Mainstem	4386.823	.1	.3
Mainstem	4043.350	.1	.3
Mainstem	3920.755	.1	.3
Mainstem	3813.951	.3	.5
Mainstem	3790	Bridge	
Mainstem	3786.11	.3	.5
Mainstem	3758.278	.3	.5
Mainstem	3715	Bridge	
Mainstem	3684.454	.3	.5
Mainstem	3533.212	.1	.3
Mainstem	3301.384	.1	.3
Mainstem	3036.790	.1	.3
Mainstem	2802.783	.1	.3
Mainstem	2417.090	.1	.3
Mainstem	2100.483	.1	.3
Mainstem	1698.544	.1	.3
Mainstem	1190.624	.1	.3
Mainstem	483.097	.1	.3
Mainstem	58.617	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Mainstem	10505.32	Capital Flood	9200.00	1320.94	1328.77	1328.77	1332.23	0.007543	14.92	616.54	90.10	1.01
Mainstem	9993.571	Capital Flood	9200.00	1316.00	1320.07	1322.31	1325.61	0.024789	18.89	491.24	191.20	1.70
Mainstem	9616.907	Capital Flood	9200.00	1312.00	1318.92	1318.92	1322.10	0.007625	14.31	642.86	810.37	1.00
Mainstem	9229.136	Capital Flood	9200.00	1308.00	1312.67	1314.05	1317.51	0.018855	17.65	521.20	687.19	1.50
Mainstem	8608.484	Capital Flood	9200.00	1300.00	1306.54	1307.09	1308.74	0.009317	12.05	846.71	376.99	1.06
Mainstem	8216.339	Capital Flood	9200.00	1296.00	1299.45	1300.53	1303.17	0.022540	15.47	594.53	195.68	1.56
Mainstem	7954.452	Capital Flood	9200.00	1292.70	1298.51	1297.00	1299.30	0.002653	7.12	1302.25	311.06	0.58
Mainstem	7636.535	Capital Flood	9200.00	1289.76	1295.87	1295.87	1297.81	0.008299	11.18	823.26	209.96	0.99
Mainstem	7013.289	Capital Flood	9200.00	1284.00	1288.44	1289.25	1291.32	0.013039	13.62	675.43	179.03	1.24
Mainstem	6540.300	Capital Flood	9200.00	1278.48	1284.70	1285.28	1286.86	0.006556	11.96	903.44	439.23	0.92
Mainstem	6254.699	Capital Flood	9200.00	1276.00	1282.94	1283.50	1284.84	0.007069	13.45	1455.45	934.79	0.96
Mainstem	5959.225	Capital Flood	9200.00	1272.88	1278.59	1279.65	1281.96	0.012592	15.67	939.13	1404.28	1.26
Mainstem	5637.197	Capital Flood	9200.00	1270.00	1276.01	1276.01	1276.05	0.000398	2.89	5753.83	1607.07	0.22
Mainstem	5281.263	Capital Flood	9200.00	1266.00	1272.01	1272.01	1272.04	0.000200	1.81	6877.37	1646.24	0.15
Mainstem	5061.813	Capital Flood	9200.00	1264.00	1270.01	1270.01	1270.03	0.000150	1.64	7328.02	1562.14	0.13
Mainstem	4842.770	Capital Flood	9200.00	1262.00	1268.14	1266.01	1268.15	0.000039	0.88	12462.51	1886.72	0.07
Mainstem	4542.760	Capital Flood	9200.00	1258.88	1268.01	1268.01	1268.11	0.000540	3.81	3805.11	738.78	0.27
Mainstem	4386.823	Capital Flood	9200.00	1256.78	1266.01	1266.01	1266.12	0.000635	3.73	3601.09	729.75	0.28
Mainstem	4043.350	Capital Flood	9200.00	1254.00	1262.05	1263.03	1265.21	0.016810	14.25	645.39	557.76	1.37
Mainstem	3920.755	Capital Flood	9200.00	1254.00	1264.01	1264.01	1264.24	0.000911	5.39	3035.22	803.51	0.35
Mainstem	3813.951	Capital Flood	9200.00	1253.96	1262.21	1259.43	1262.49	0.000781	4.93	2827.36	808.14	0.33
Mainstem	3790		Bridge									
Mainstem	3786.11	Capital Flood	9200.00	1252.42	1262.24	1258.78	1262.39	0.000369	3.99	3733.62	804.08	0.23
Mainstem	3758.278	Capital Flood	9200.00	1252.42	1259.03	1258.78	1261.63	0.006778	12.94	711.03	482.09	0.94
Mainstem	3715		Bridge									
Mainstem	3684.454	Capital Flood	9200.00	1249.36	1255.90	1255.90	1258.77	0.001481	13.59	676.82	178.23	1.00
Mainstem	3533.212	Capital Flood	9200.00	1244.00	1254.13	1255.59	1258.19	0.001574	16.46	952.05	621.90	0.99
Mainstem	3301.384	Capital Flood	9200.00	1240.00	1251.21	1251.21	1252.01	0.002921	10.06	2519.35	1267.31	0.57
Mainstem	3036.790	Capital Flood	9200.00	1236.00	1248.01	1248.01	1248.03	0.000343	1.54	8601.90	2726.19	0.18
Mainstem	2802.783	Capital Flood	9200.00	1234.00	1246.01	1246.01	1246.86	0.006044	9.90	1798.61	1085.55	0.80
Mainstem	2417.090	Capital Flood	9200.00	1230.00	1240.83	1240.83	1241.65	0.006166	10.17	2172.31	1520.00	0.82
Mainstem	2100.483	Capital Flood	9200.00	1226.00	1237.01	1237.01	1237.27	0.004779	5.74	2908.94	2002.65	0.67
Mainstem	1698.544	Capital Flood	9200.00	1220.00	1232.01	1232.01	1232.33	0.004532	5.89	2427.66	1289.66	0.66
Mainstem	1190.624	Capital Flood	9200.00	1214.00	1226.50	1227.01	1228.79	0.010427	12.68	922.25	1155.41	1.08
Mainstem	483.097	Capital Flood	9200.00	1214.00	1218.14	1218.20	1220.02	0.014536	12.93	1680.33	1824.80	1.27
Mainstem	58.617	Capital Flood	9200.00	1214.00	1215.35	1214.94	1215.55	0.004001	3.66	2576.69	2105.54	0.57

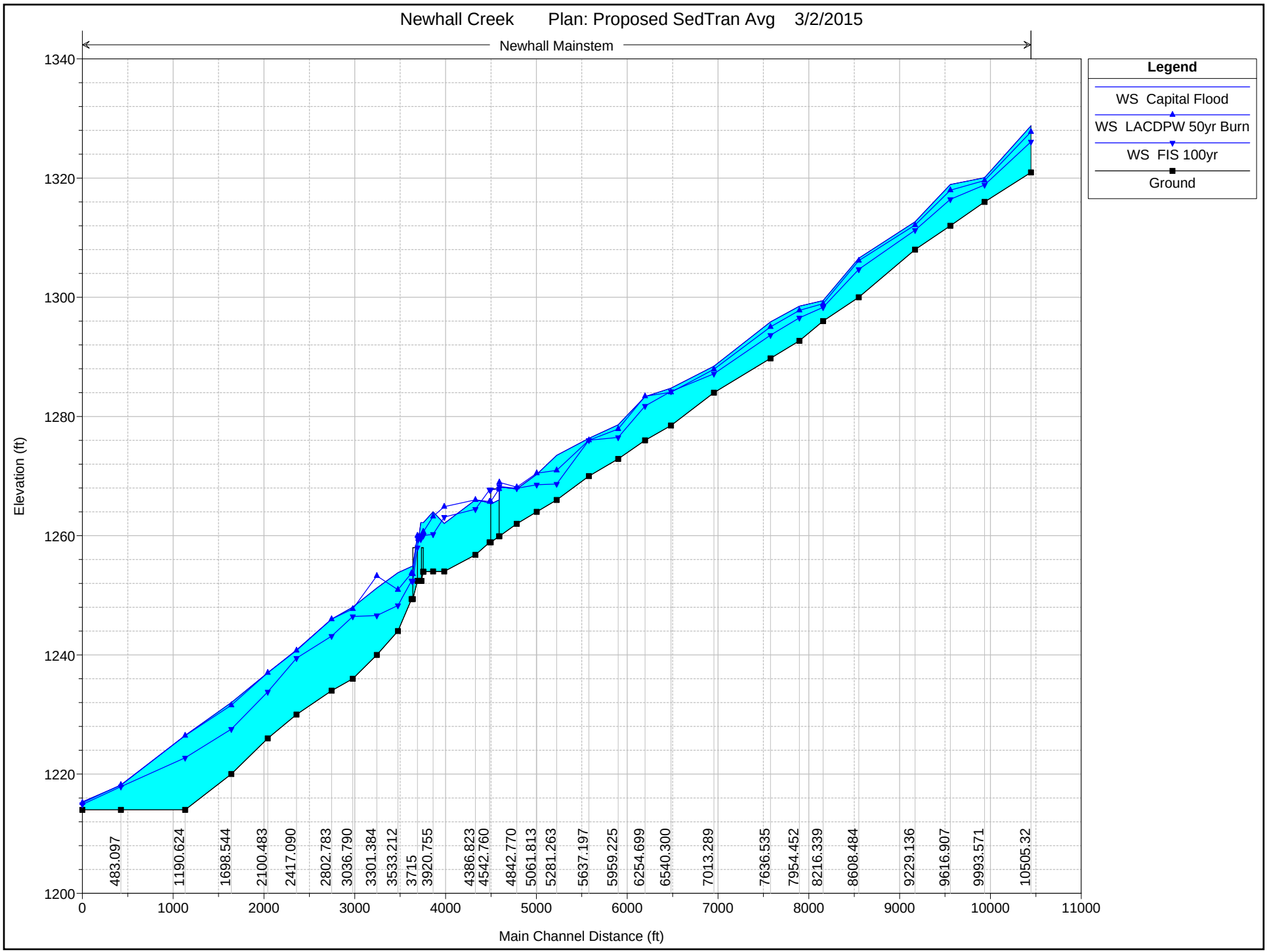
Profile Output Table - Standard Table 2

Reach	River Sta	Profile	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
Mainstem	10505.32	Capital Flood	1332.23	1328.77	3.46	1.79	0.84		9200.00		90.10
Mainstem	9993.571	Capital Flood	1325.61	1320.07	5.54	6.41	0.21	3.85	9196.15		191.20
Mainstem	9616.907	Capital Flood	1322.10	1318.92	3.18	2.97	0.13		9200.00		810.37
Mainstem	9229.136	Capital Flood	1317.51	1312.67	4.84	4.42	0.17		9200.00		687.19
Mainstem	8608.484	Capital Flood	1308.74	1306.54	2.20	7.98	0.79	201.86	8987.78	10.36	376.99
Mainstem	8216.339	Capital Flood	1303.17	1299.45	3.72	5.41	0.15		9200.00		195.68
Mainstem	7954.452	Capital Flood	1299.30	1298.51	0.79	1.38	0.12	9.59	9190.41		311.06
Mainstem	7636.535	Capital Flood	1297.81	1295.87	1.94	4.72	0.01		9200.00		209.96
Mainstem	7013.289	Capital Flood	1291.32	1288.44	2.88	6.39	0.09		9200.00		179.03
Mainstem	6540.300	Capital Flood	1286.86	1284.70	2.16	4.25	0.22	278.02	8921.98		439.23

Mainstem	6254.699	Capital Flood	1284.84	1282.94	1.90	1.94	0.08	3158.87	6037.90	3.23	934.79
Mainstem	5959.225	Capital Flood	1281.96	1278.59	3.37	2.73	0.15	1094.33	8105.45	0.22	1404.28
Mainstem	5637.197	Capital Flood	1276.05	1276.01	0.05	0.10	0.01	8238.85	961.15		1607.07
Mainstem	5281.263	Capital Flood	1272.04	1272.01	0.03	0.04	0.00	8608.00	592.00	0.00	1646.24
Mainstem	5061.813	Capital Flood	1270.03	1270.01	0.02	0.02	0.00	8717.86	482.14		1562.14
Mainstem	4842.770	Capital Flood	1268.15	1268.14	0.01	0.03	0.01	8840.24	359.58	0.17	1886.72
Mainstem	4542.760	Capital Flood	1268.11	1268.01	0.10	0.09	0.00	7511.27	1688.73		738.78
Mainstem	4386.823	Capital Flood	1266.12	1266.01	0.11	0.51	0.14	7410.91	1789.09		729.75
Mainstem	4043.350	Capital Flood	1265.21	1262.05	3.16	0.61	0.30		9200.00		557.76
Mainstem	3920.755	Capital Flood	1264.24	1264.01	0.24	0.09	0.00	676.52	3665.65	4857.83	803.51
Mainstem	3813.951	Capital Flood	1262.49	1262.21	0.27			186.29	6042.31	2971.40	808.14
Mainstem	3790		Bridge								
Mainstem	3786.11	Capital Flood	1262.39	1262.24	0.15	0.03	0.74	2079.24	4394.80	2725.96	804.08
Mainstem	3758.278	Capital Flood	1261.63	1259.03	2.60	0.08	1.06		9200.00		482.09
Mainstem	3715		Bridge								
Mainstem	3684.454	Capital Flood	1258.77	1255.90	2.87	0.15	0.40		9200.00		178.23
Mainstem	3533.212	Capital Flood	1258.19	1254.13	4.06	0.23	0.36	327.54	8872.47		621.90
Mainstem	3301.384	Capital Flood	1252.01	1251.21	0.79	0.20	0.23	1471.30	4274.66	3454.04	1267.31
Mainstem	3036.790	Capital Flood	1248.03	1248.01	0.02	0.21	0.08	7016.71	653.61	1529.68	2726.19
Mainstem	2802.783	Capital Flood	1246.86	1246.01	0.85	2.35	0.01	973.56	4377.33	3849.11	1085.55
Mainstem	2417.090	Capital Flood	1241.65	1240.83	0.83	1.71	0.17	1205.30	4260.14	3734.56	1520.00
Mainstem	2100.483	Capital Flood	1237.27	1237.01	0.27	1.87	0.01	1583.93	3702.61	3913.47	2002.65
Mainstem	1698.544	Capital Flood	1232.33	1232.01	0.32	2.24	0.05	1423.33	3922.52	3854.15	1289.66
Mainstem	1190.624	Capital Flood	1228.79	1226.50	2.30	3.34	0.20	91.78	8399.56	708.66	1155.41
Mainstem	483.097	Capital Flood	1220.02	1218.14	1.88	8.65	0.12	2604.06	6584.58	11.36	1824.80
Mainstem	58.617	Capital Flood	1215.55	1215.35	0.20				8989.55	210.45	2105.54

Profile Output Table - Standard Table 3

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Vel Total (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Froude # XS	Shear Chan (lb/sq ft)	Shear Total (lb/sq ft)	Power Chan (lb/ft s)	Power Total (lb/ft s)
Mainstem	10505.32	Capital Flood	9200.00	1320.94	1328.77	1328.77	0.007543	14.92	14.92	616.54	90.10	1.01	1.01	3.04	3.04	45.40	45.40
Mainstem	9993.571	Capital Flood	9200.00	1316.00	1320.07	1322.31	0.024789	18.89	18.73	491.24	191.20	1.70	2.08	5.83	3.93	110.21	73.61
Mainstem	9616.907	Capital Flood	9200.00	1312.00	1318.92	1318.92	0.007625	14.31	14.31	642.86	810.37	1.00	1.00	2.87	2.87	41.00	41.00
Mainstem	9229.136	Capital Flood	9200.00	1308.00	1312.67	1314.05	0.018855	17.65	17.65	521.20	687.19	1.50	1.50	4.92	4.92	86.88	86.88
Mainstem	8608.484	Capital Flood	9200.00	1300.00	1306.54	1307.09	0.009317	12.05	10.87	846.71	376.99	1.06	1.40	2.33	1.30	28.02	14.12
Mainstem	8216.339	Capital Flood	9200.00	1296.00	1299.45	1300.53	0.022540	15.47	15.47	594.53	195.68	1.56	1.56	4.22	4.22	65.37	65.37
Mainstem	7954.452	Capital Flood	9200.00	1292.70	1298.51	1297.00	0.002653	7.12	7.06	1302.25	311.06	0.58	0.61	0.77	0.69	5.50	4.85
Mainstem	7636.535	Capital Flood	9200.00	1289.76	1295.87	1295.87	0.008299	11.18	11.18	823.26	209.96	0.99	0.99	2.02	2.02	22.57	22.57
Mainstem	7013.289	Capital Flood	9200.00	1284.00	1288.44	1289.25	0.013039	13.62	13.62	675.43	179.03	1.24	1.24	3.04	3.04	41.44	41.44
Mainstem	6540.300	Capital Flood	9200.00	1278.48	1284.70	1285.28	0.006556	11.96	10.18	903.44	439.23	0.92	1.45	2.11	0.84	25.21	8.53
Mainstem	6254.699	Capital Flood	9200.00	1276.00	1282.94	1283.50	0.007069	13.45	6.32	1455.45	934.79	0.96	1.56	2.56	0.68	34.45	4.33
Mainstem	5959.225	Capital Flood	9200.00	1272.88	1278.59	1279.65	0.012592	15.67	9.80	939.13	1404.28	1.26	2.44	3.72	0.89	58.29	8.72
Mainstem	5637.197	Capital Flood	9200.00	1270.00	1276.01	1276.01	0.000398	2.89	1.60	5753.83	1607.07	0.22	0.16	0.12	0.09	0.36	0.14
Mainstem	5281.263	Capital Flood	9200.00	1266.00	1272.01	1272.01	0.000200	1.81	1.34	6877.37	1646.24	0.15	0.12	0.05	0.05	0.09	0.07
Mainstem	5061.813	Capital Flood	9200.00	1264.00	1270.01	1270.01	0.000150	1.64	1.26	7328.02	1562.14	0.13	0.10	0.04	0.04	0.07	0.05
Mainstem	4842.770	Capital Flood	9200.00	1262.00	1268.14	1266.01	0.000039	0.88	0.74	12462.51	1886.72	0.07	0.05	0.01	0.02	0.01	0.01
Mainstem	4542.760	Capital Flood	9200.00	1258.88	1268.01	1268.01	0.000540	3.81	2.42	3805.11	738.78	0.27	0.20	0.20	0.17	0.77	0.41
Mainstem	4386.823	Capital Flood	9200.00	1256.78	1266.01	1266.01	0.000635	3.73	2.55	3601.09	729.75	0.28	0.21	0.20	0.19	0.76	0.49
Mainstem	4043.350	Capital Flood	9200.00	1254.00	1262.05	1263.03	0.016810	14.25	14.25	645.39	557.76	1.37	1.37	3.47	3.47	49.47	49.47
Mainstem	3920.755	Capital Flood	9200.00	1254.00	1264.01	1264.01	0.000911	5.39	3.03	3035.22	803.51	0.35	0.35	0.39	0.21	2.10	0.64
Mainstem	3813.951	Capital Flood	9200.00	1253.96	1262.21	1259.43	0.000781	4.93	3.25	2827.36	808.14	0.33	0.39	0.33	0.17	1.62	0.55
Mainstem	3790		Bridge														
Mainstem	3786.11	Capital Flood	9200.00	1252.42	1262.24	1258.78	0.000369	3.99	2.46	3733.62	804.08	0.23	0.25	0.20	0.10	0.79	0.26
Mainstem	3758.278	Capital Flood	9200.00	1252.42	1259.03	1258.78	0.006778	12.94	12.94	711.03	482.09	0.94	0.94	2.39	2.39	30.95	30.95
Mainstem	3715		Bridge														
Mainstem	3684.454	Capital Flood	9200.00	1249.36	1255.90	1255.90	0.001481	13.59	13.59	676.82	178.23	1.00	1.00	0.50	0.50	6.83	6.83
Mainstem	3533.212	Capital Flood	9200.00	1244.00	1254.13	1255.59	0.001574	16.46	9.66	952.05	621.90	0.99	2.30	0.68	0.15	11.18	1.42
Mainstem	3301.384	Capital Flood	9200.00	1240.00	1251.21	1251.21	0.002921	10.06	3.65	2519.35	1267.31	0.57	0.89	1.33	0.36	13.36	1.30
Mainstem	3036.790	Capital Flood	9200.00	1236.00	1248.01	1248.01	0.000343	1.54	1.07	8601.90	2726.19	0.18	0.11	0.05	0.07	0.07	0.07
Mainstem	2802.783	Capital Flood	9200.00	1234.00	1246.01	1246.01	0.006044	9.90	5.12	1798.61	1085.55	0.80	1.01	1.56	0.61	15.41	3.14
Mainstem	2417.090	Capital Flood	9200.00	1230.00	1240.83	1240.83	0.006166	10.17	4.24	2172.31	1520.00	0.82	1.08	1.63	0.54	16.54	2.30
Mainstem	2100.483	Capital Flood	9200.00	1226.00	1237.01	1237.01	0.004779	5.74	3.16	2908.94	2002.65	0.67	0.60	0.65	0.43	3.72	1.36
Mainstem	1698.544	Capital Flood	9200.00	1220.00	1232.01	1232.01	0.004532	5.89	3.79	2427.66	1289.66	0.66	0.59	0.66	0.52	3.91	1.99
Mainstem	1190.624	Capital Flood	9200.00	1214.00	1226.50	1227.01	0.010427	12.68	9.98	922.25	1155.41	1.08	1.60	2.58	1.14	32.74	11.39
Mainstem	483.097	Capital Flood	9200.00	1214.00	1218.14	1218.20	0.014536	12.93	5.48	1680.33	1824.80	1.27	2.02	2.89	0.83	37.41	4.57
Mainstem	58.617	Capital Flood	9200.00	1214.00	1215.35	1214.94	0.004001	3.66	3.57	2576.69	2105.54	0.57	0.58	0.32	0.31	1.16	1.09


Newhall Creek Plan: Proposed SedTran Avg 3/2/2015
Newhall Mainstem
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Elevation (ft)
Main Channel Distance (ft)
1340
1320
1300
1280
1260
1240
1220
1200
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
483.097
1190.624
1698.544
2100.483
2417.090
2802.783
3036.790
3301.384
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3715
3920.755
4386.823
4542.760
4842.770
5061.813
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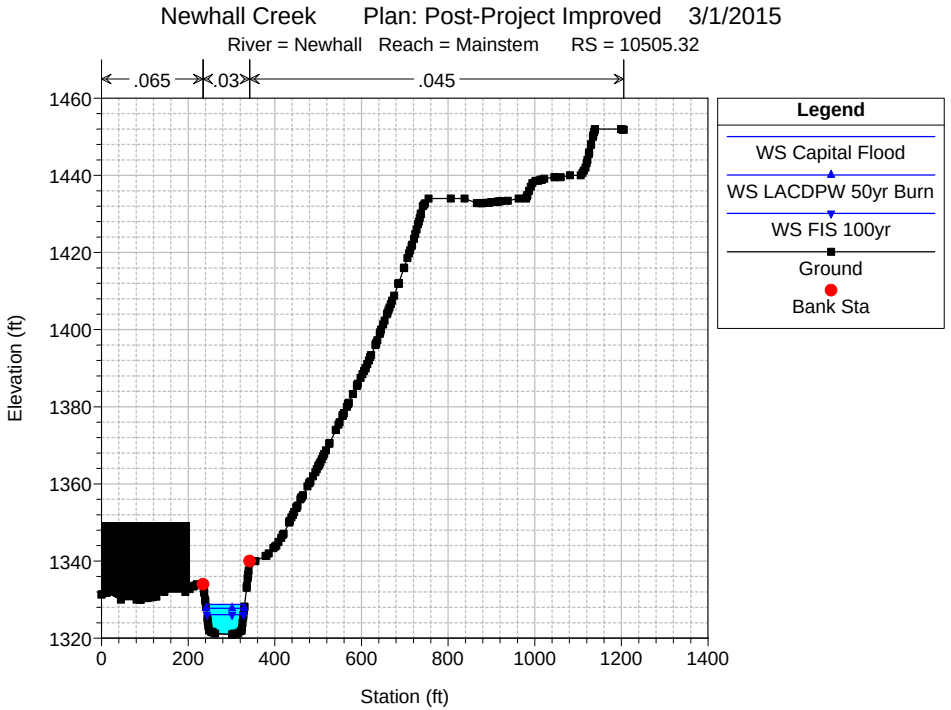
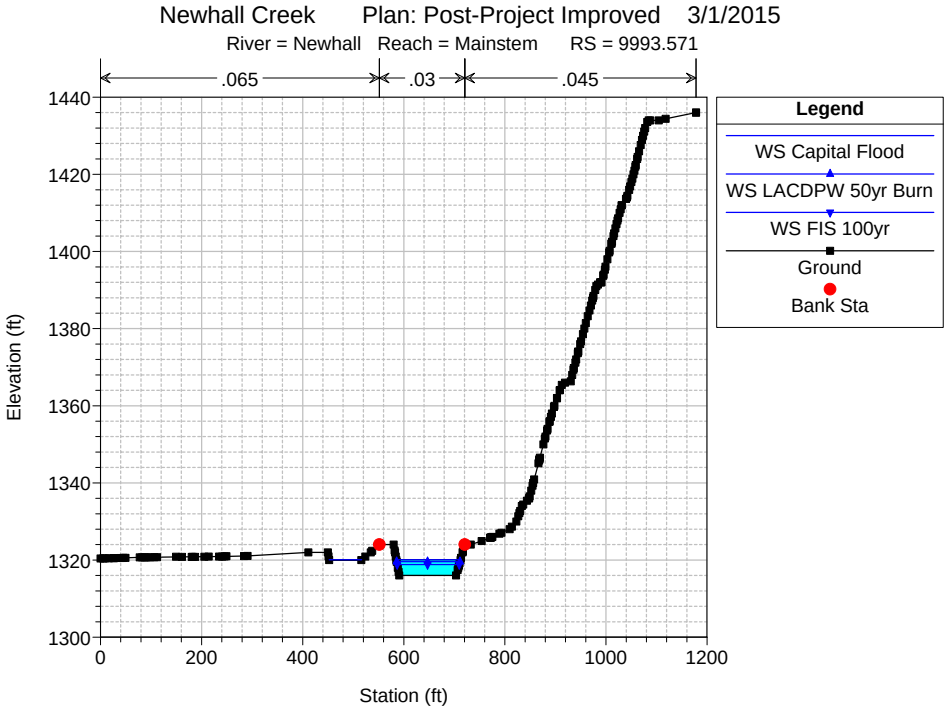
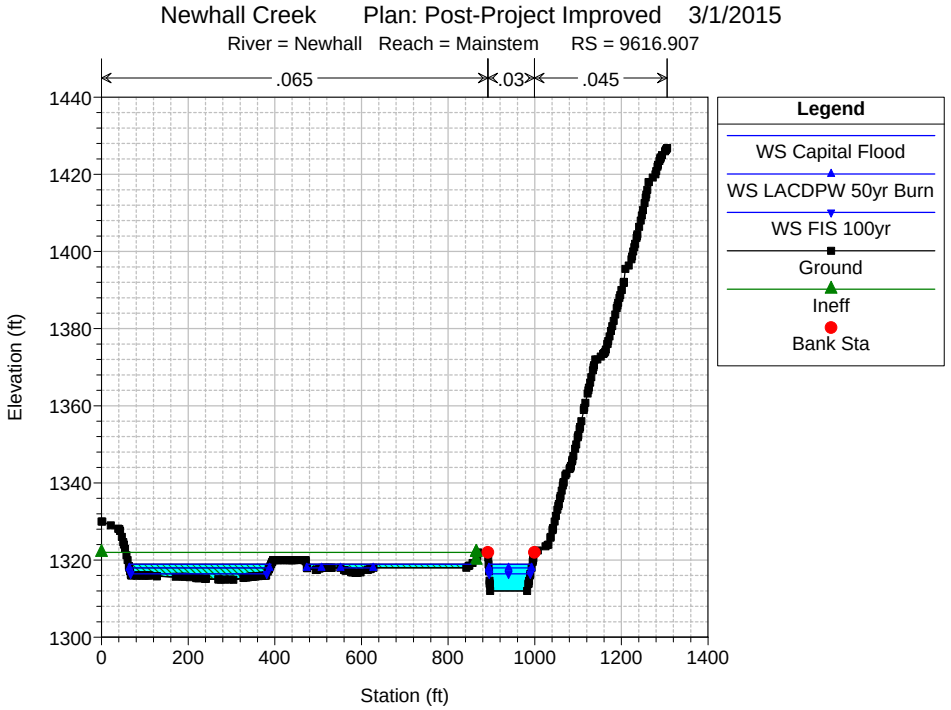
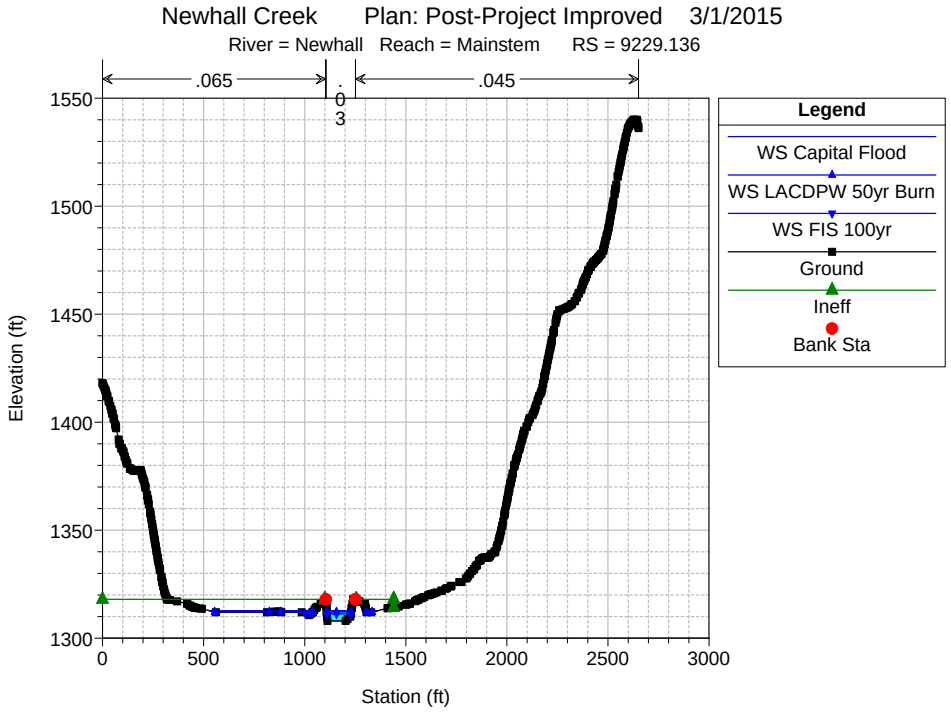
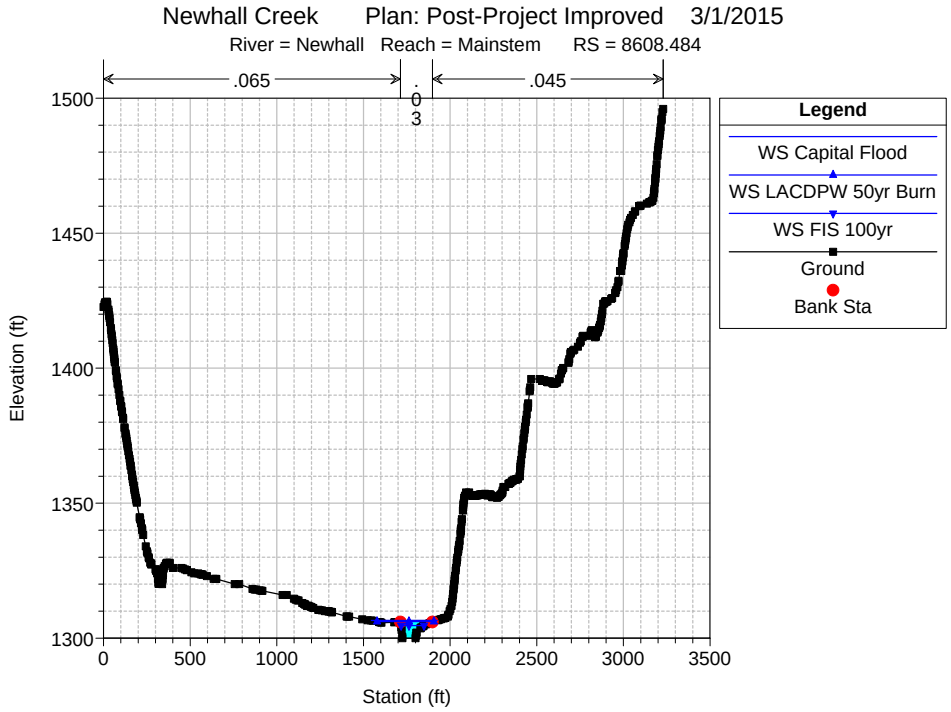
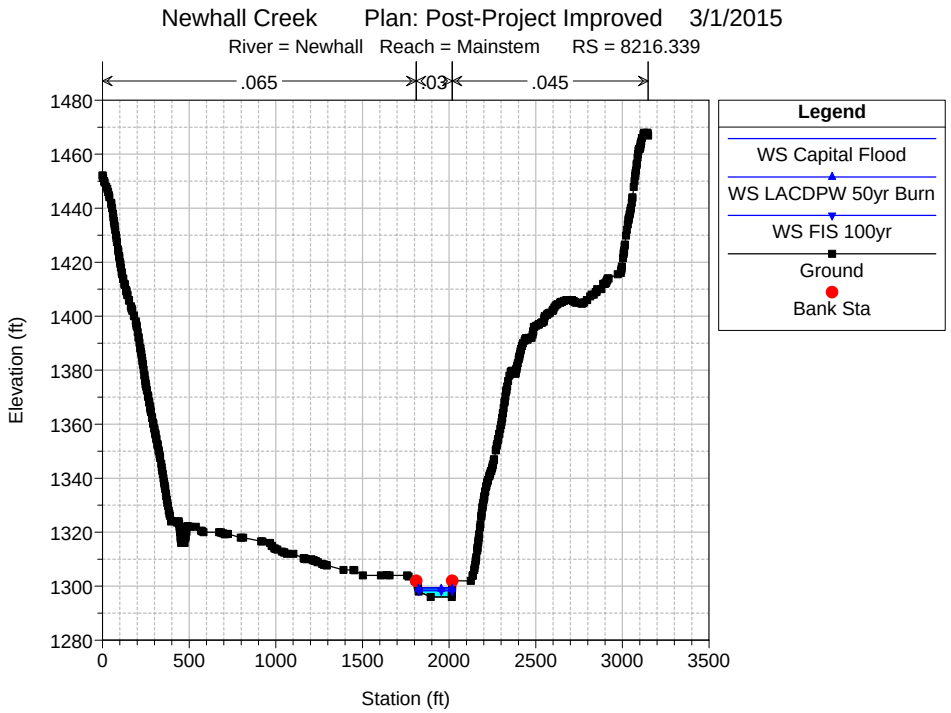


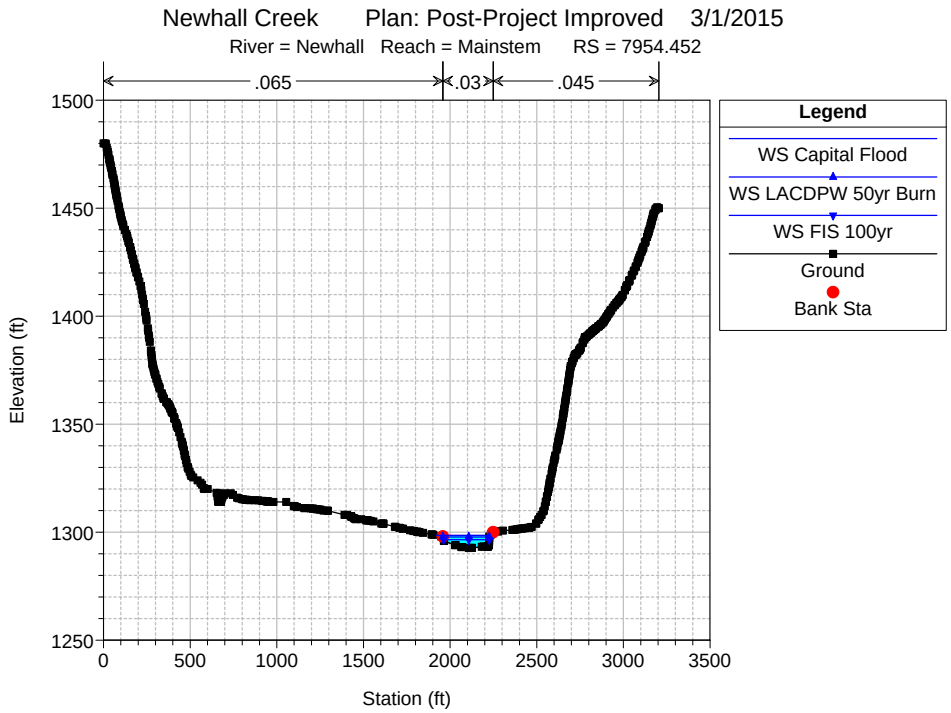


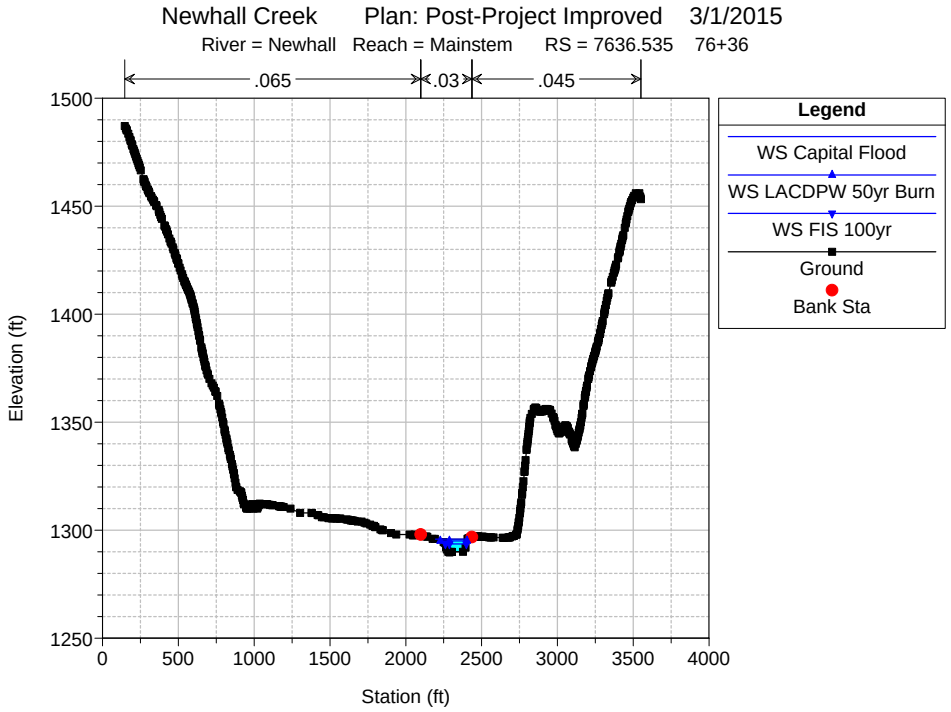



Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 9229.136
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta


Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 8608.484
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Bank Sta


Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 8216.339
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Bank Sta


Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 7954.452
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Bank Sta


Newhall Creek Plan: Post-Project Improved 3/1/2015
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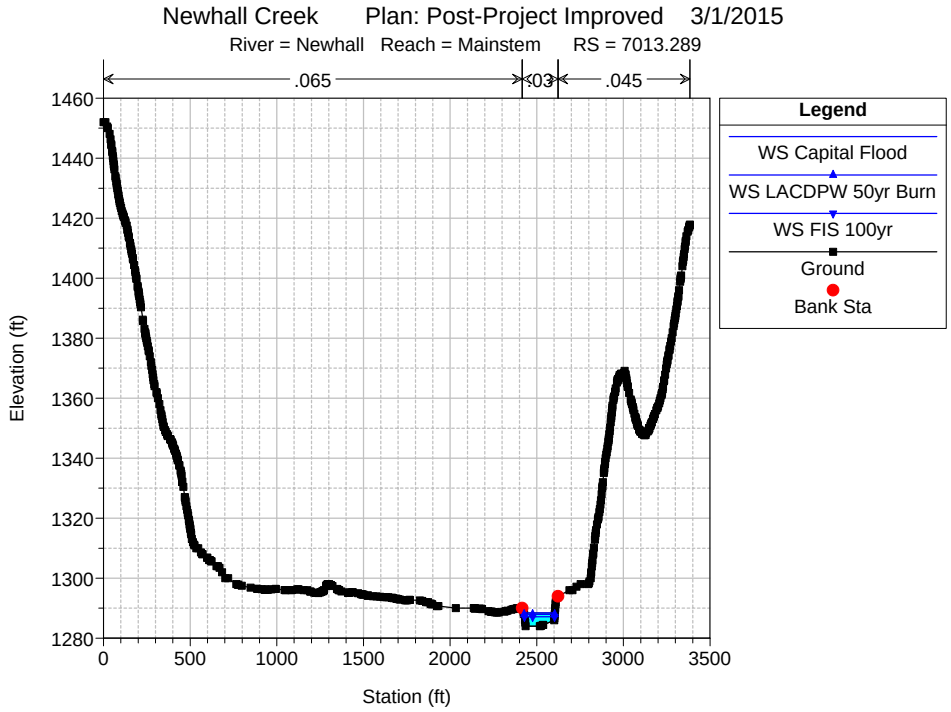
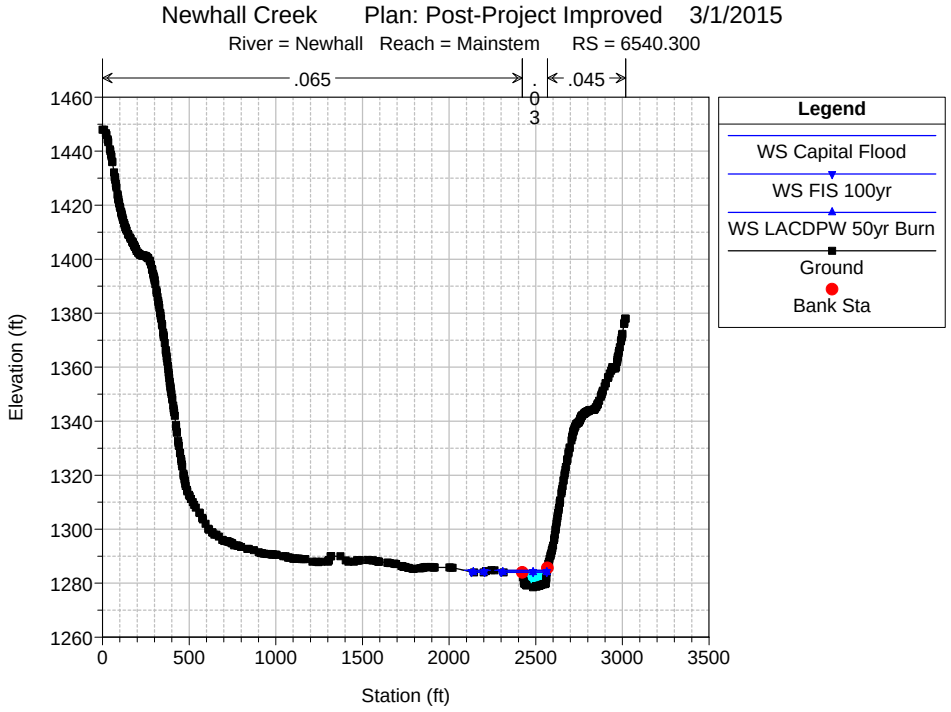
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Bank Sta


Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 7013.289
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Bank Sta


Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 6540.300
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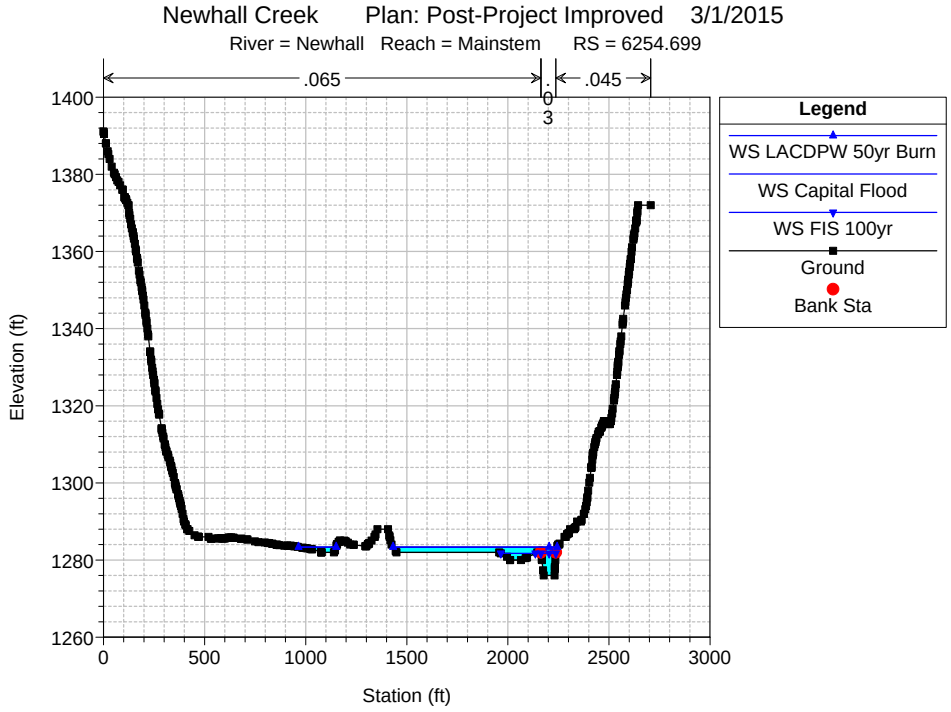
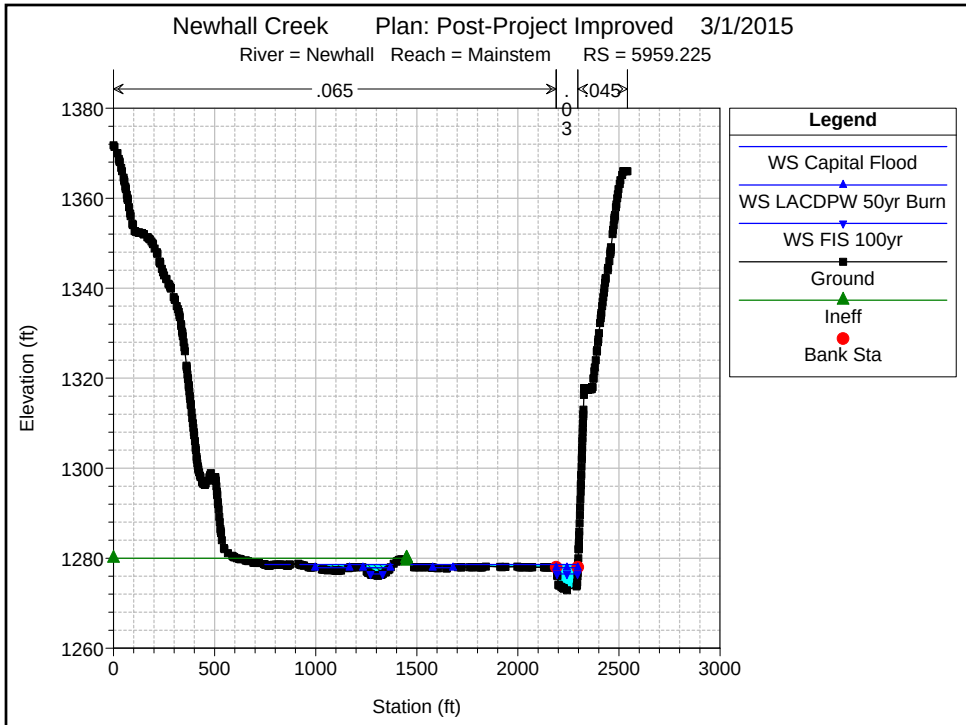
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS FIS 100yr
WS LACDPW 50yr Burn
Ground
Bank Sta


Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 6254.699
.065
.045
Elevation (ft)
Station (ft)
Legend
WS LACDPW 50yr Burn
WS Capital Flood
WS FIS 100yr
Ground
Bank Sta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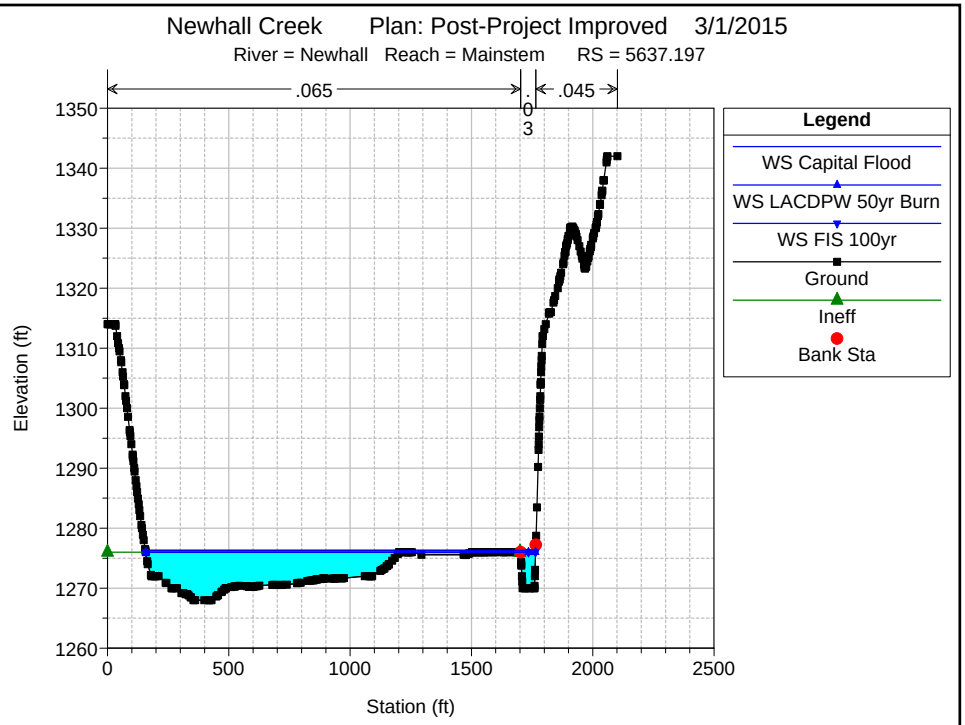
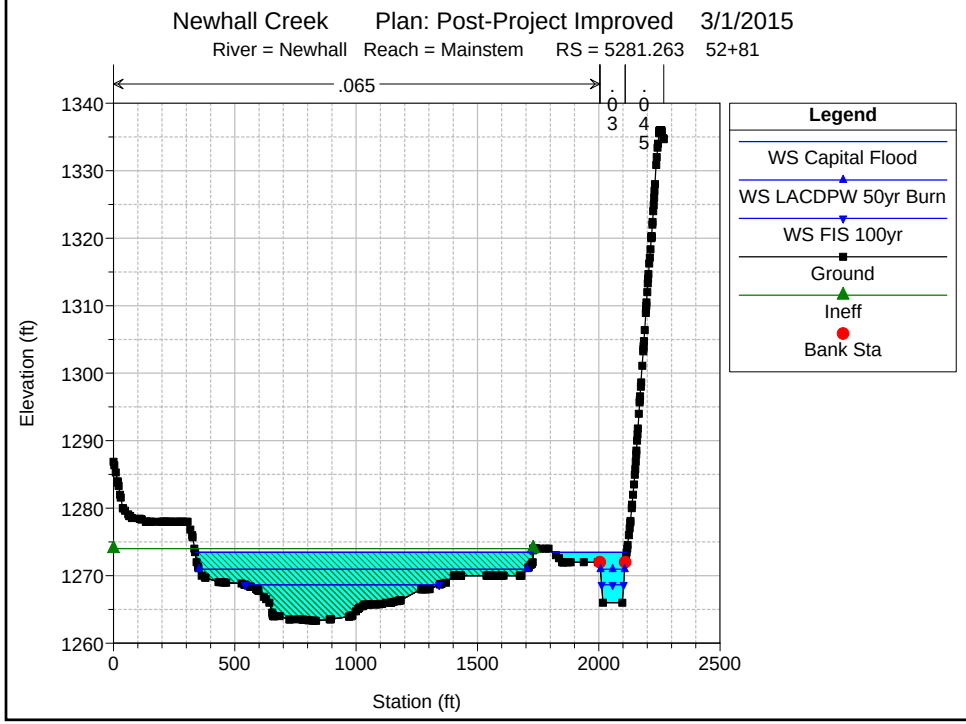
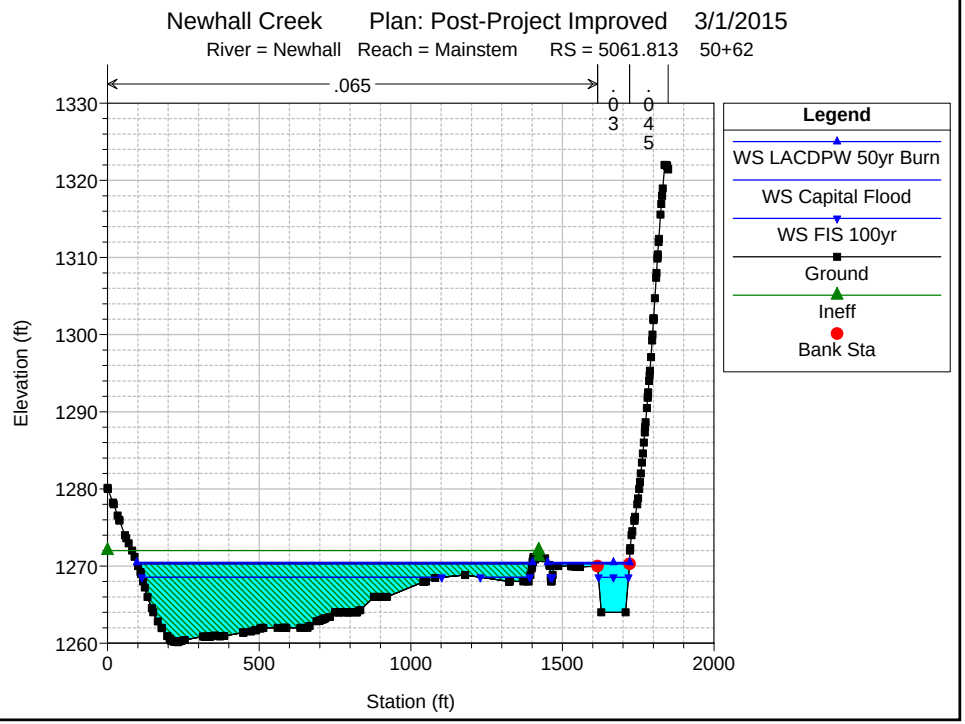
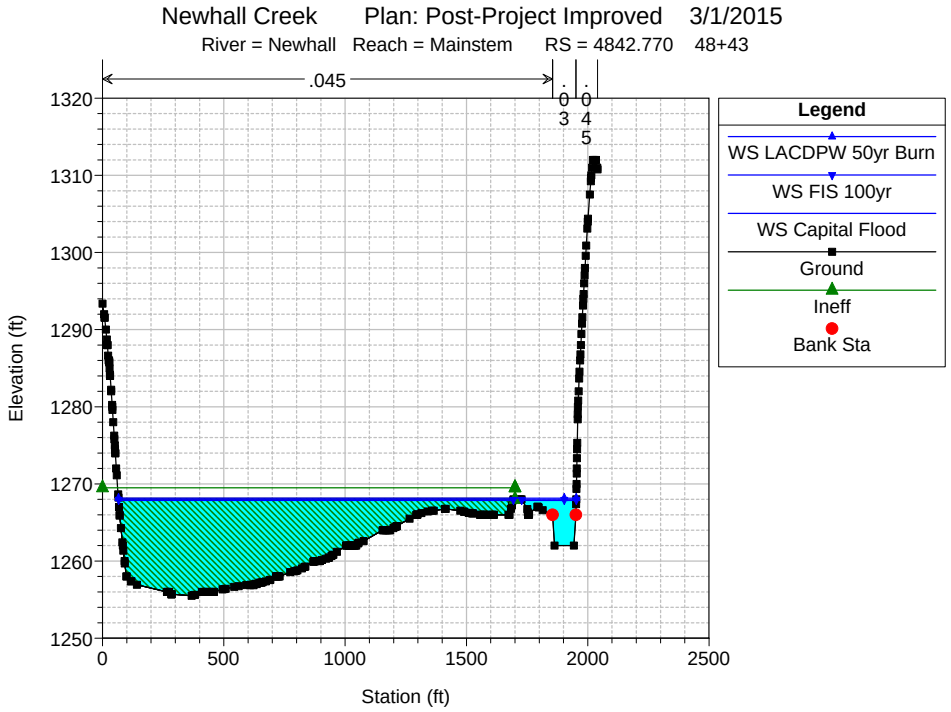
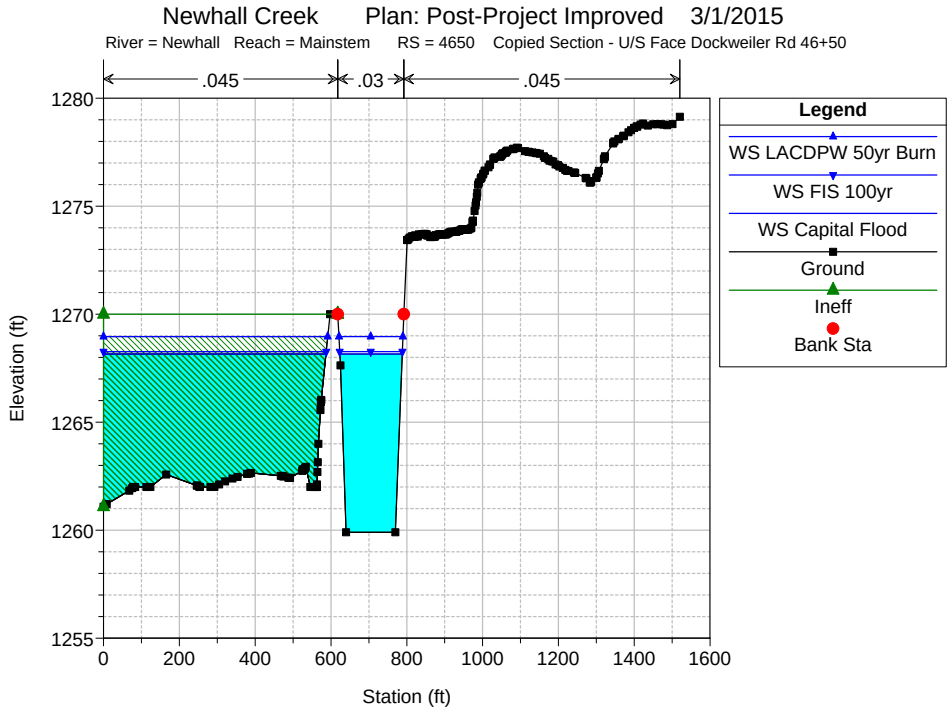
River = Newhall Reach = Mainstem RS = 5959.225
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

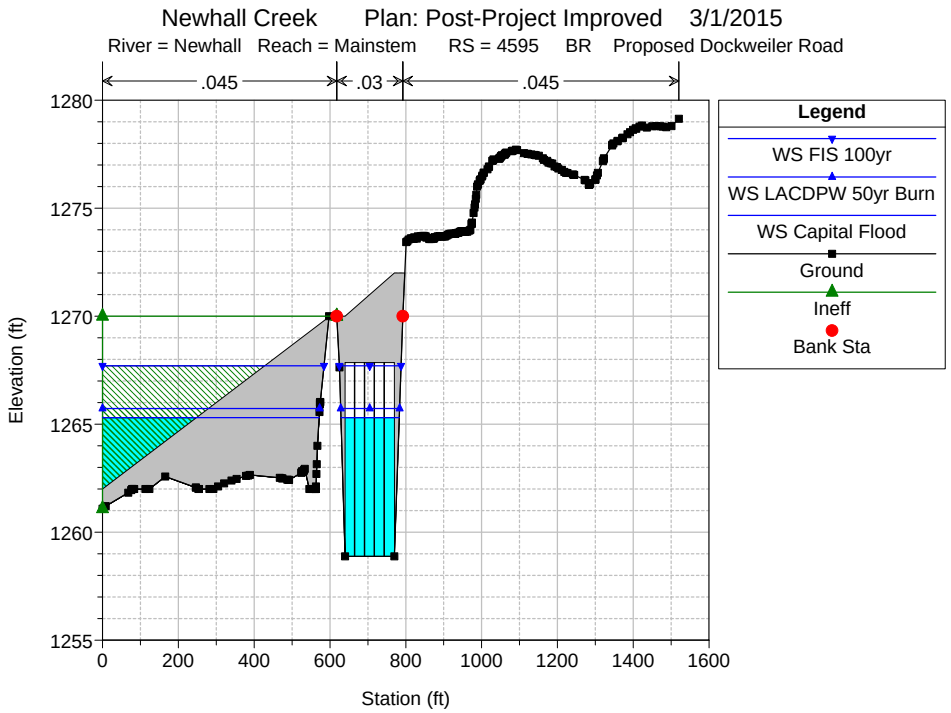

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 5637.197
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

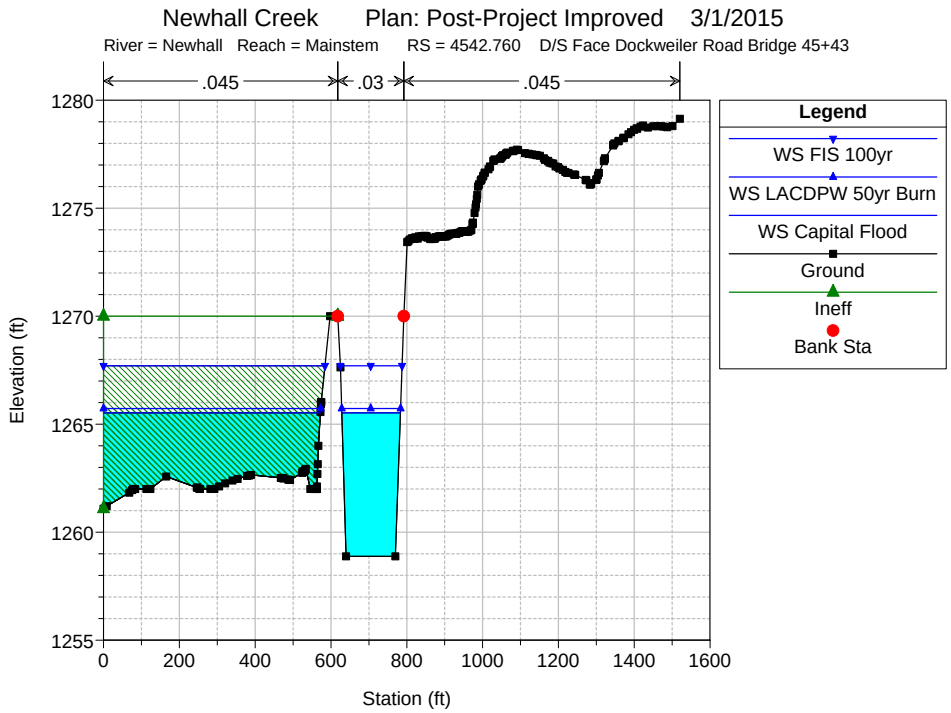

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 5281.263 52+81
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

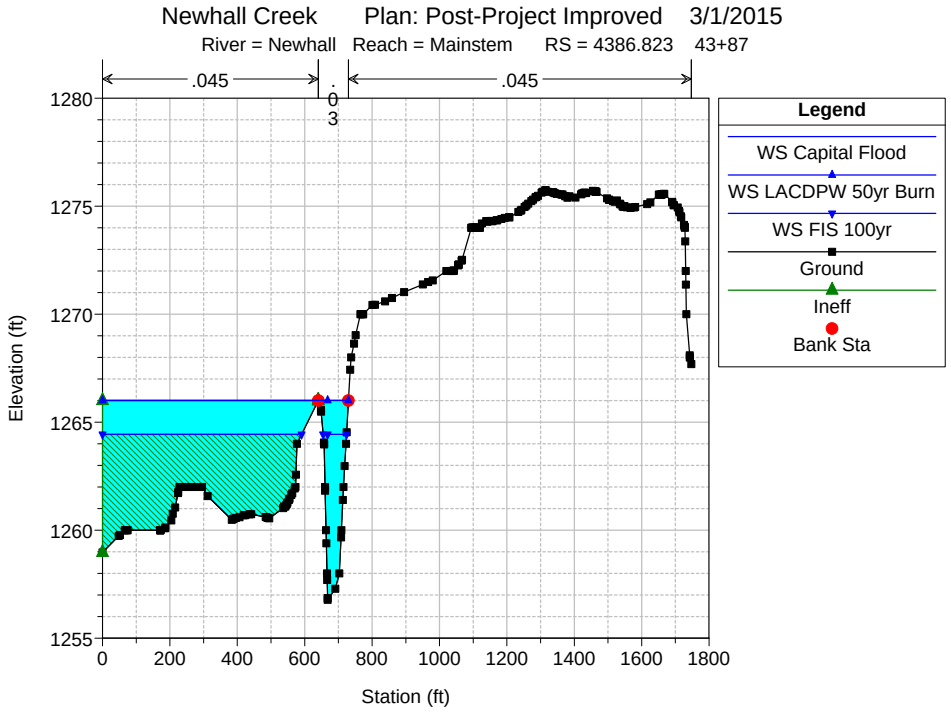

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 5061.813 50+62
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS LACDPW 50yr Burn
WS Capital Flood
WS FIS 100yr
Ground
Ineff
Bank Sta

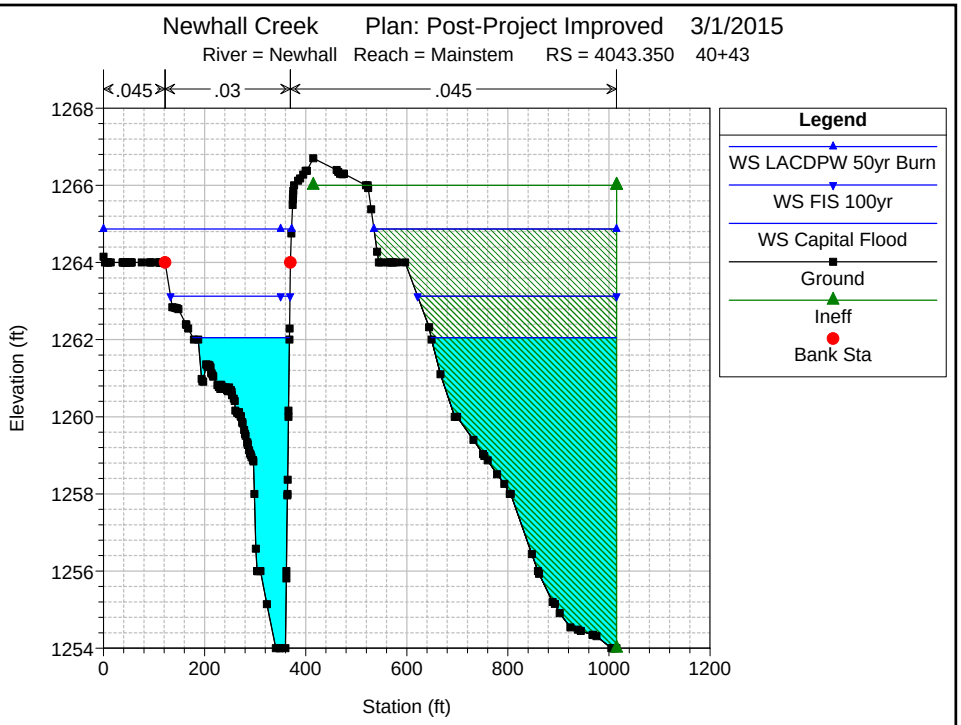

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 4842.770 48+43
.045
.03
.045
Elevation (ft)
Station (ft)
Legend
WS LACDPW 50yr Burn
WS FIS 100yr
WS Capital Flood
Ground
Ineff
Bank Sta

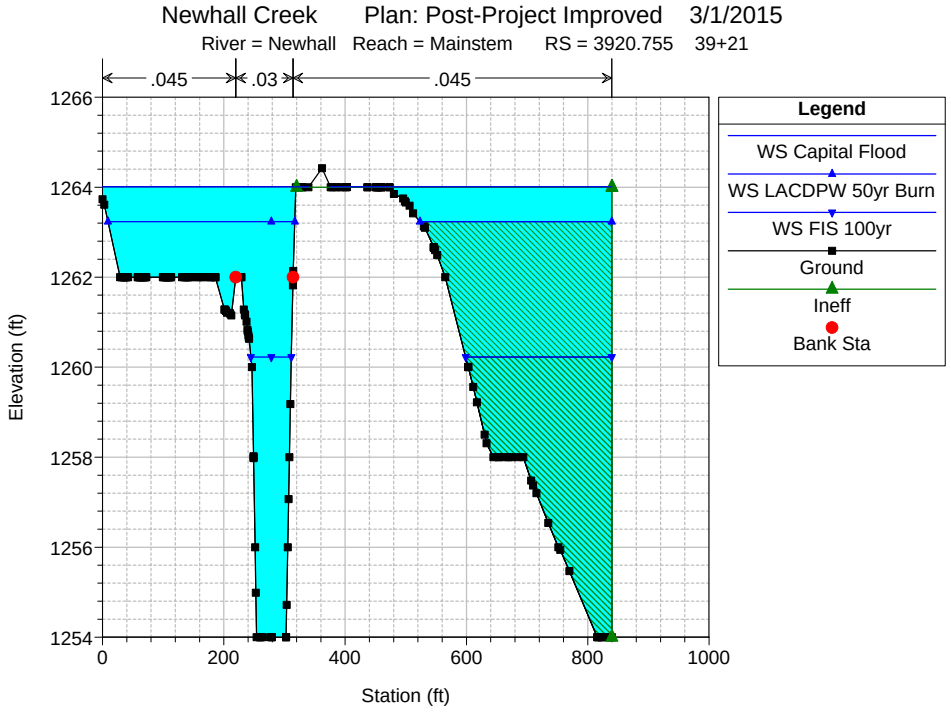

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 4650 Copied Section - U/S Face Dockweiler Rd 46+50
.045
.03
.045
Elevation (ft)
Station (ft)
Legend
WS LACDPW 50yr Burn
WS FIS 100yr
WS Capital Flood
Ground
Ineff
Bank Sta

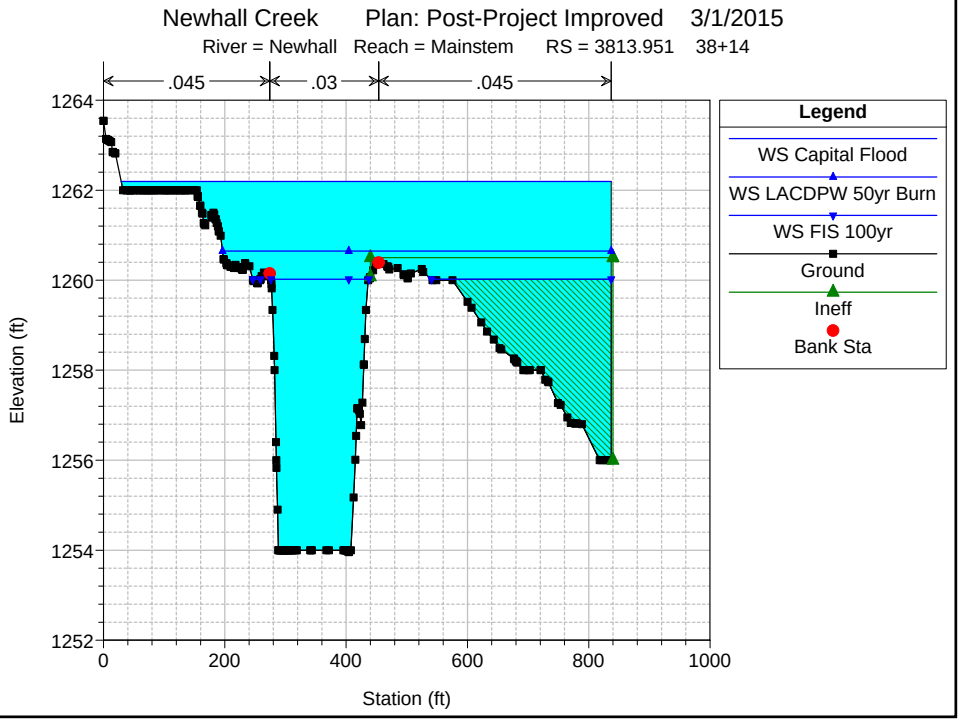

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 4595 BR Proposed Dockweiler Road
.045
.03
.045
Elevation (ft)
Station (ft)
Legend
WS FIS 100yr
WS LACDPW 50yr Burn
WS Capital Flood
Ground
Ineff
Bank Sta

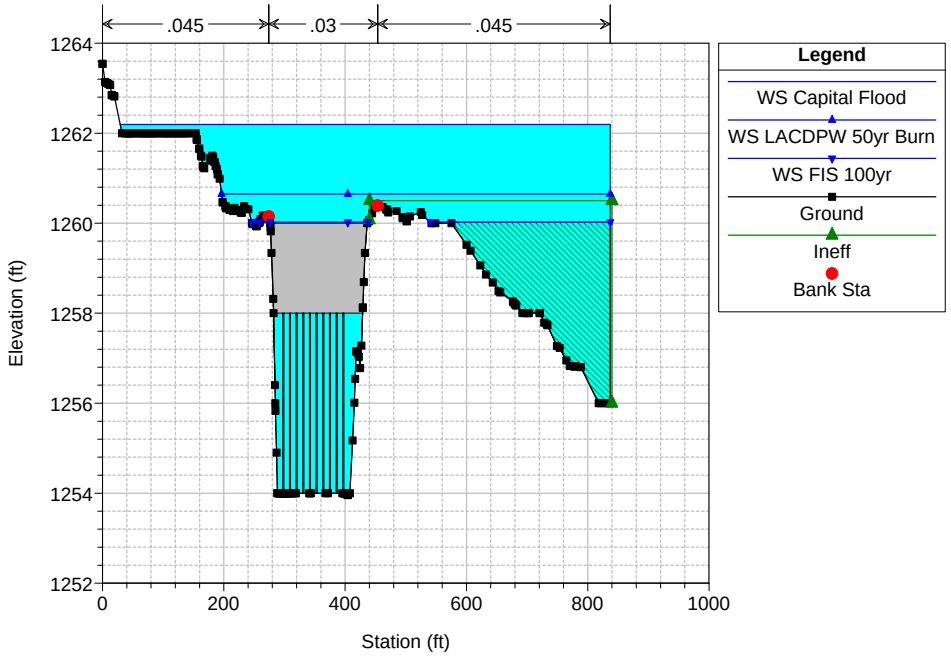

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 4542.760 D/S Face Dockweiler Road Bridge 45+43
.045
.03
.045
Elevation (ft)
Station (ft)
Legend
WS FIS 100yr
WS LACDPW 50yr Burn
WS Capital Flood
Ground
Ineff
Bank Sta

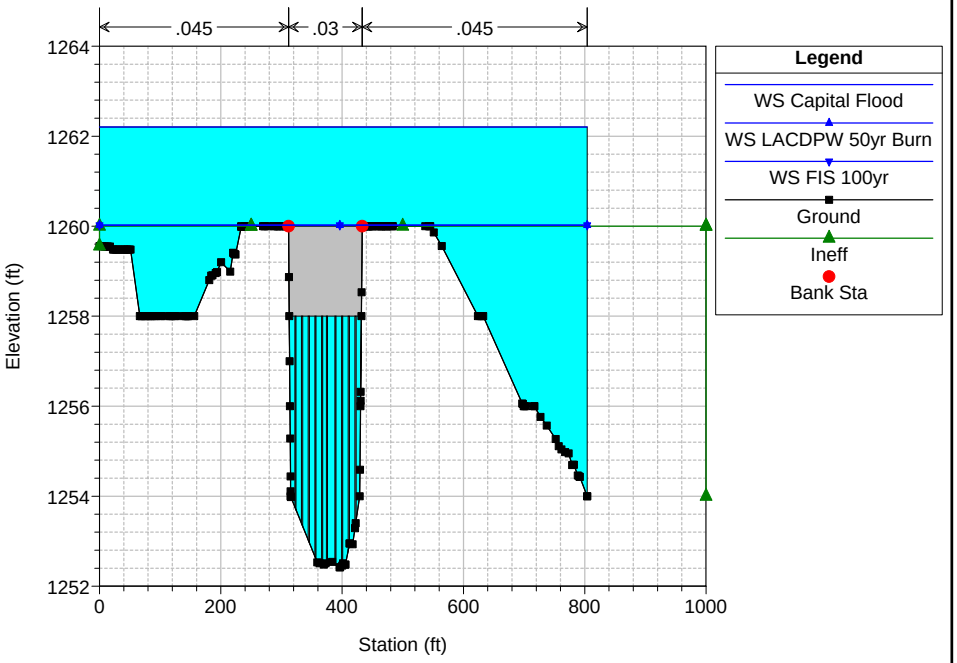

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 4386.823 43+87
.045
.03
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

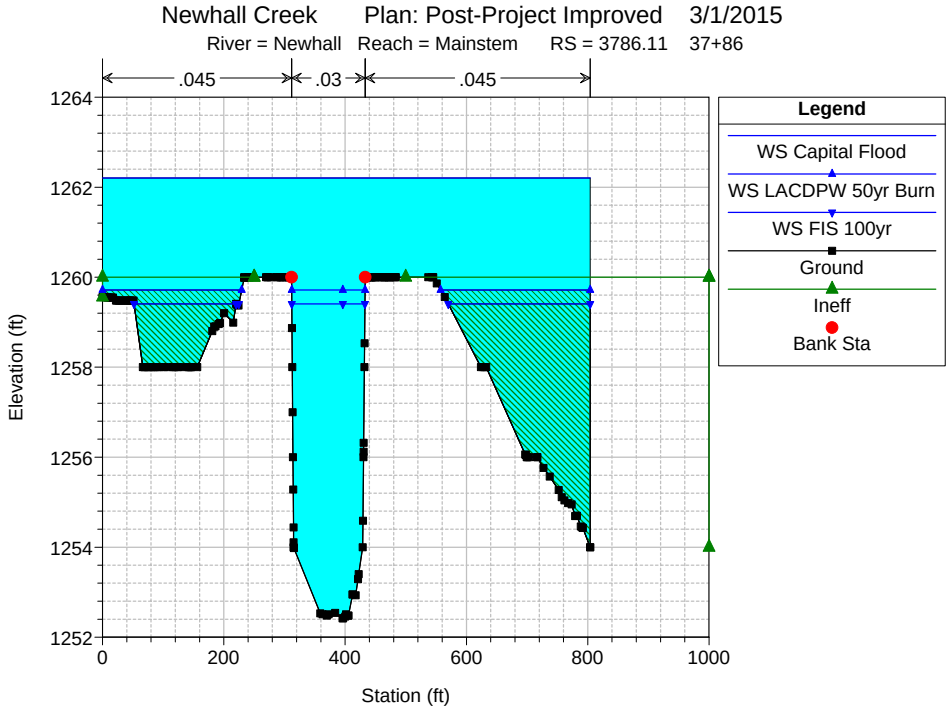

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 4043.350 40+43
.045
.03
.045
Legend
WS LACDPW 50yr Burn
WS FIS 100yr
WS Capital Flood
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

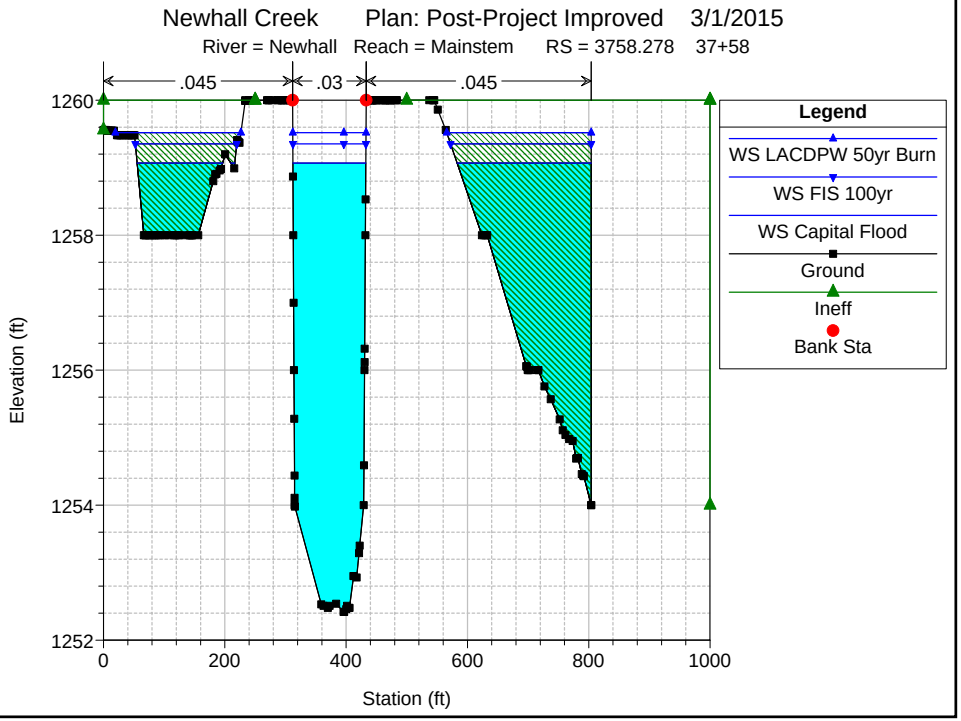

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 3920.755 39+21
.045
.03
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

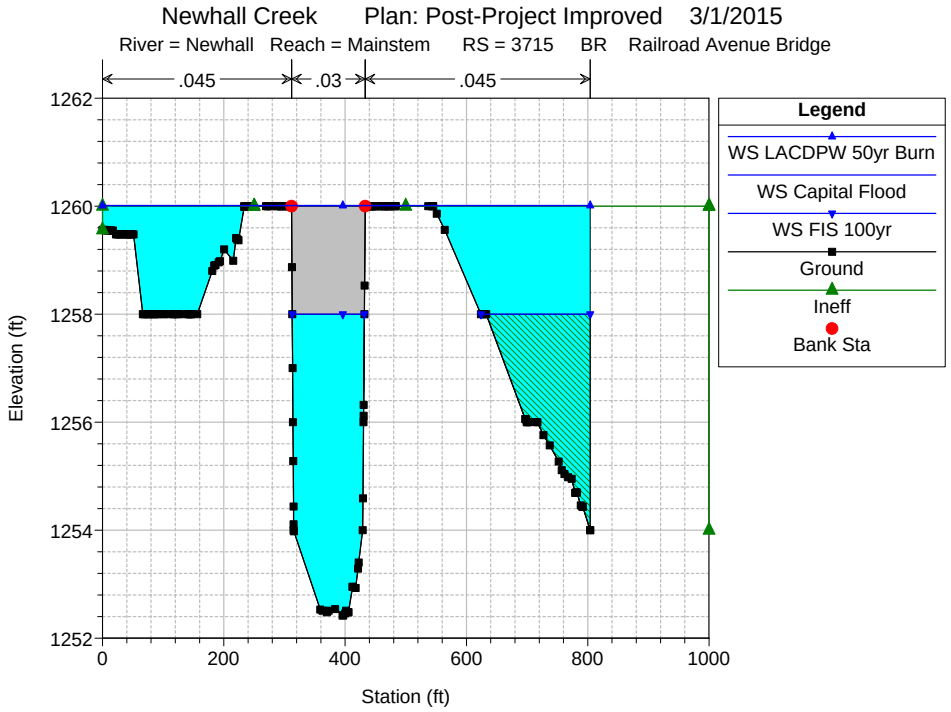

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 3813.951 38+14
.045
.03
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

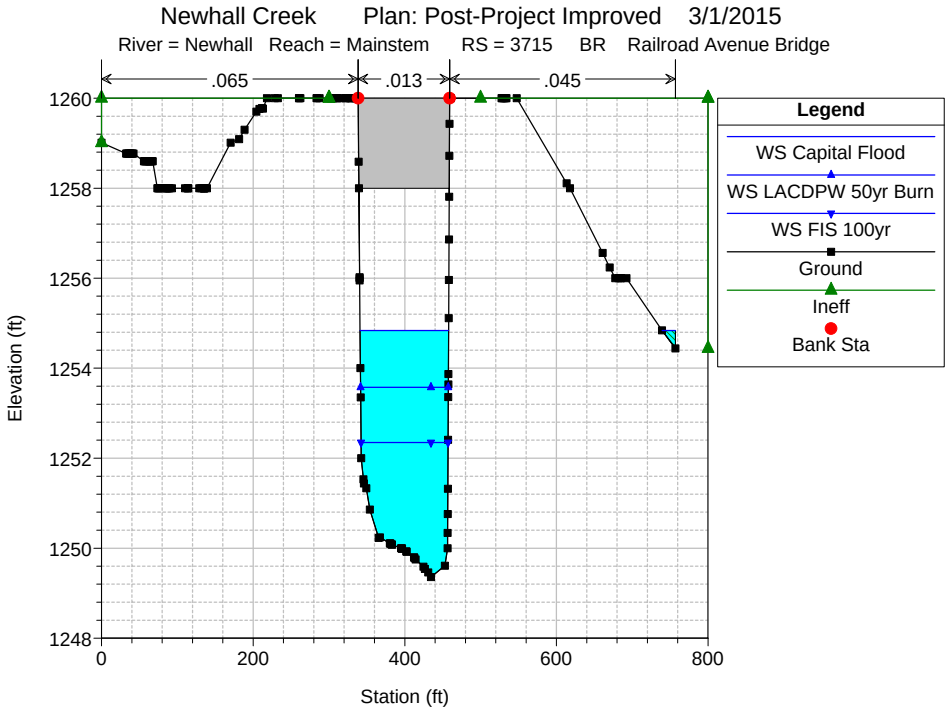

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 3790 BR Southern Pacific Railroad
.045
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

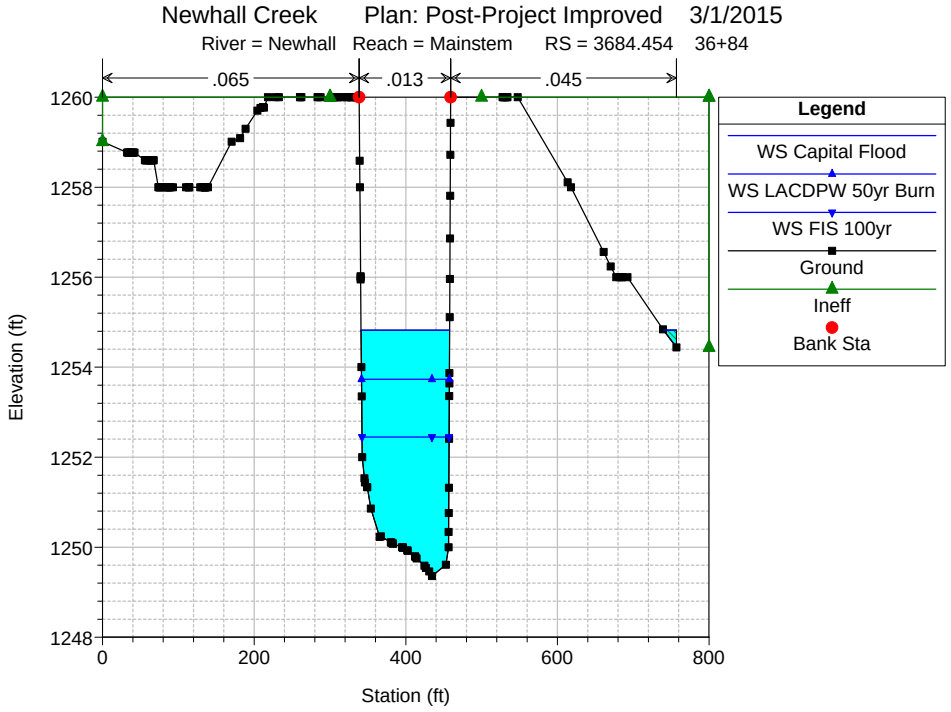

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 3790 BR Southern Pacific Railroad
.045
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

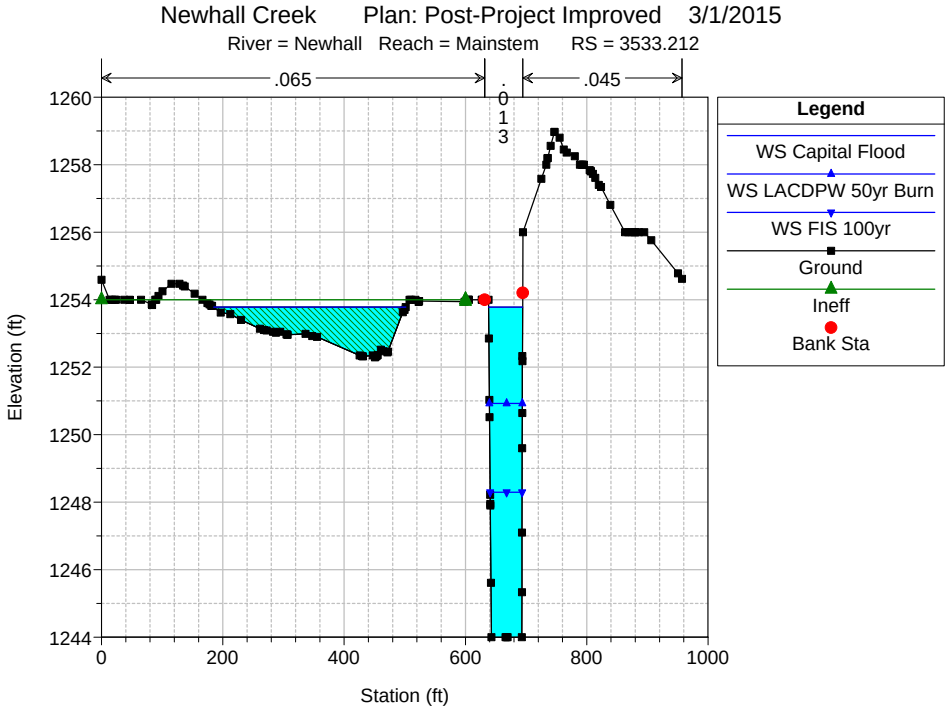

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 3786.11 37+86
.045
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

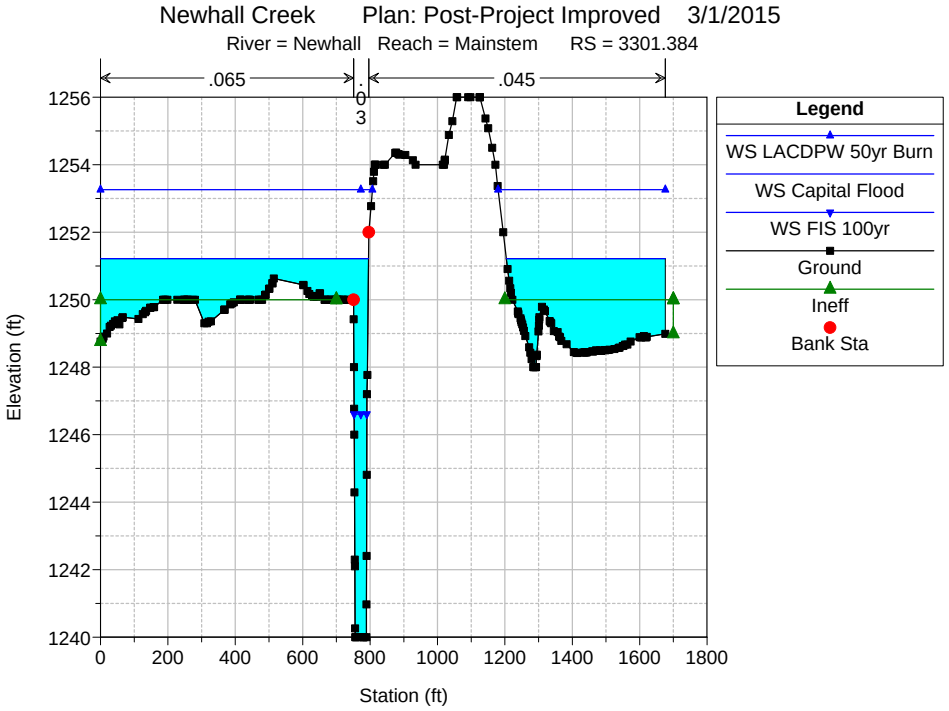

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 3758.278 37+58
.045
.03
.045
Elevation (ft)
Station (ft)
Legend
WS LACDPW 50yr Burn
WS FIS 100yr
WS Capital Flood
Ground
Ineff
Bank Sta

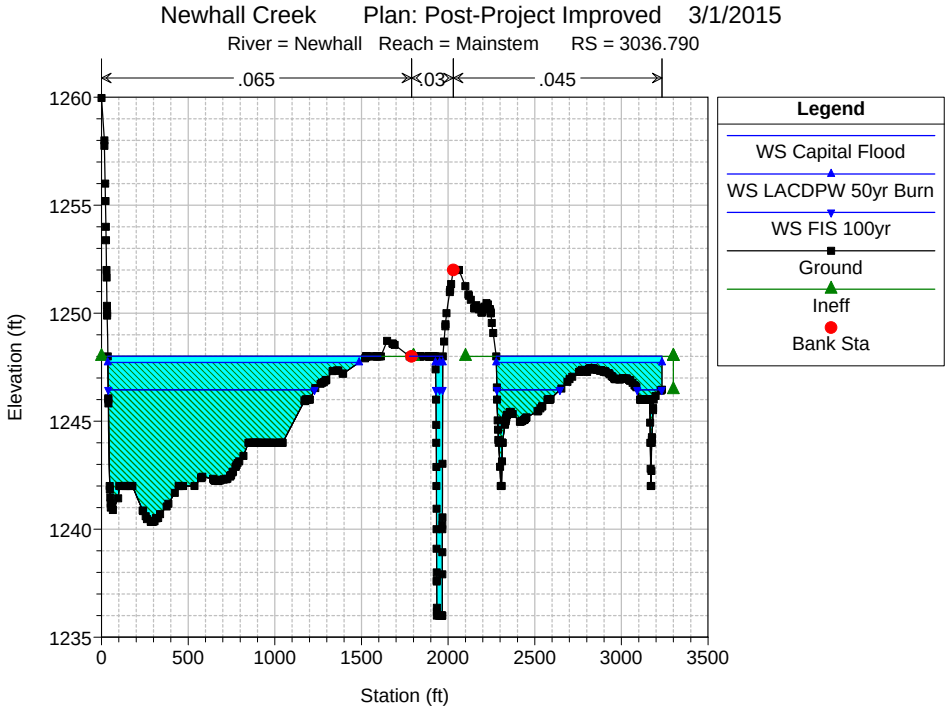

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 3715 BR Railroad Avenue Bridge
.045
.03
.045
Legend
WS LACDPW 50yr Burn
WS Capital Flood
WS FIS 100yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

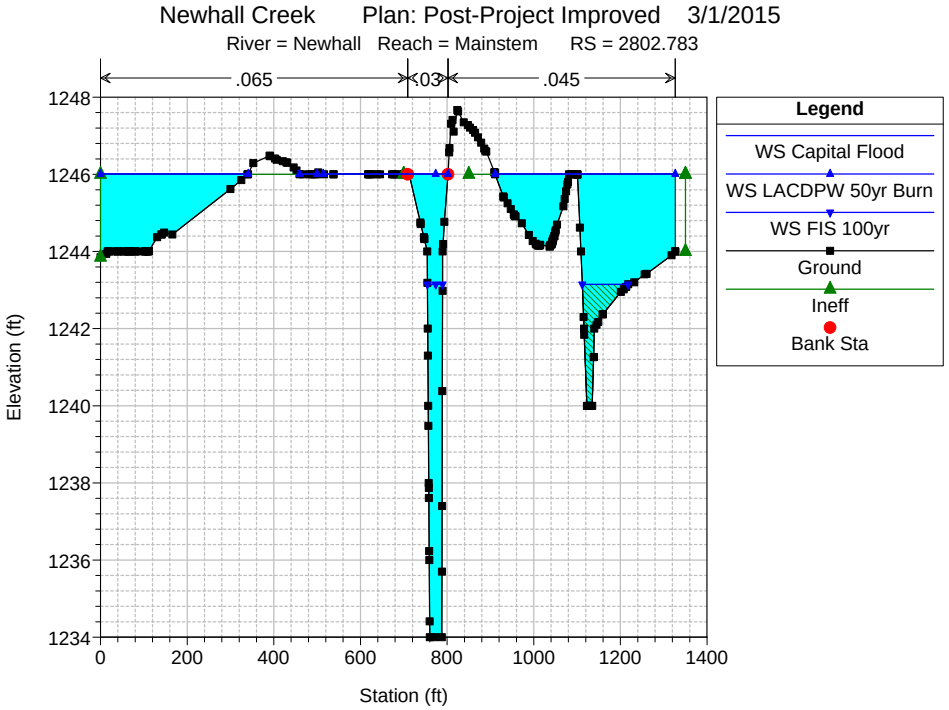

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 3715 BR Railroad Avenue Bridge
.065
.013
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

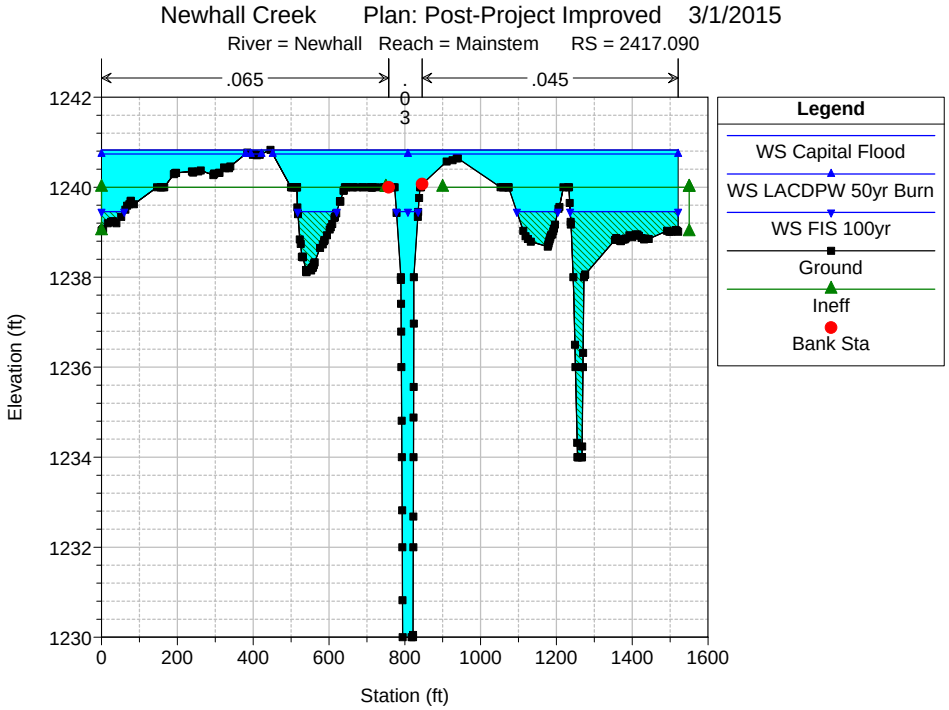

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 3684.454 36+84
.065
.013
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

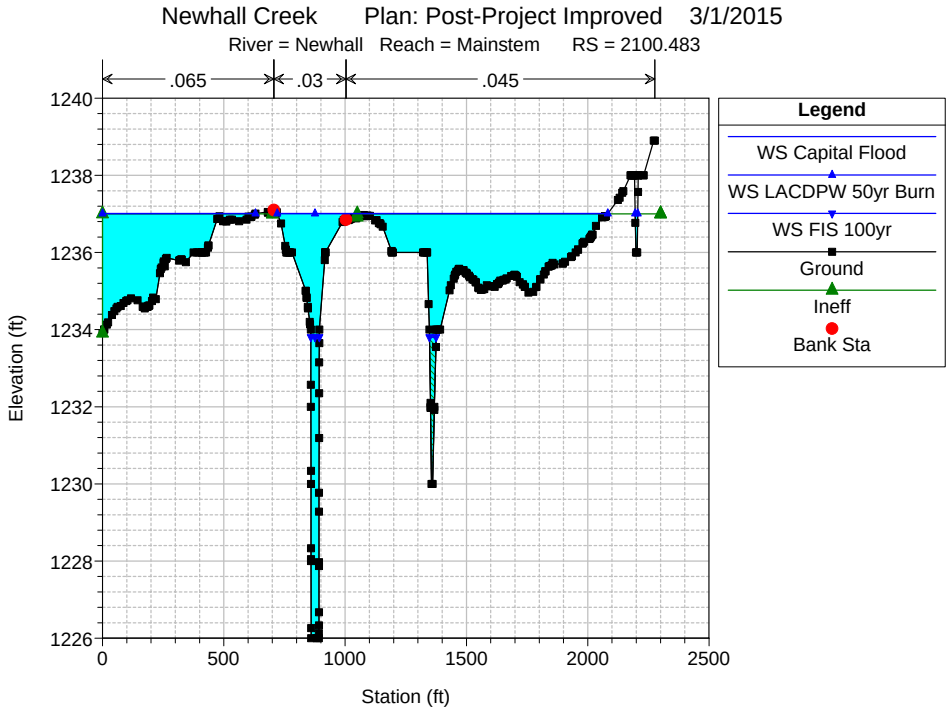

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 3533.212
.065
.013
.045
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

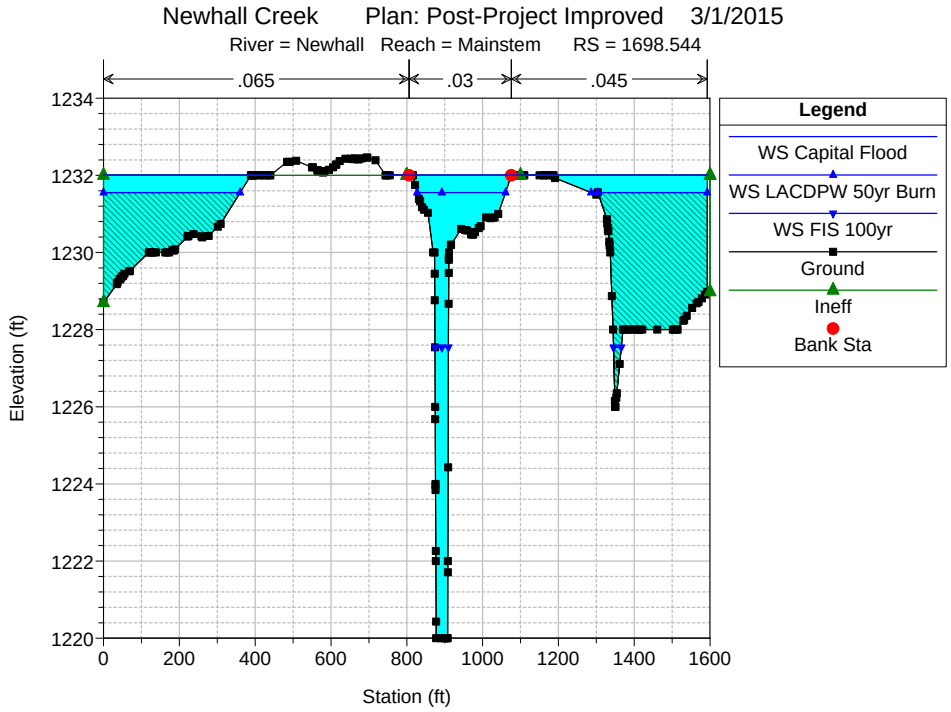

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 3301.384
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS LACDPW 50yr Burn
WS Capital Flood
WS FIS 100yr
Ground
Ineff
Bank Sta

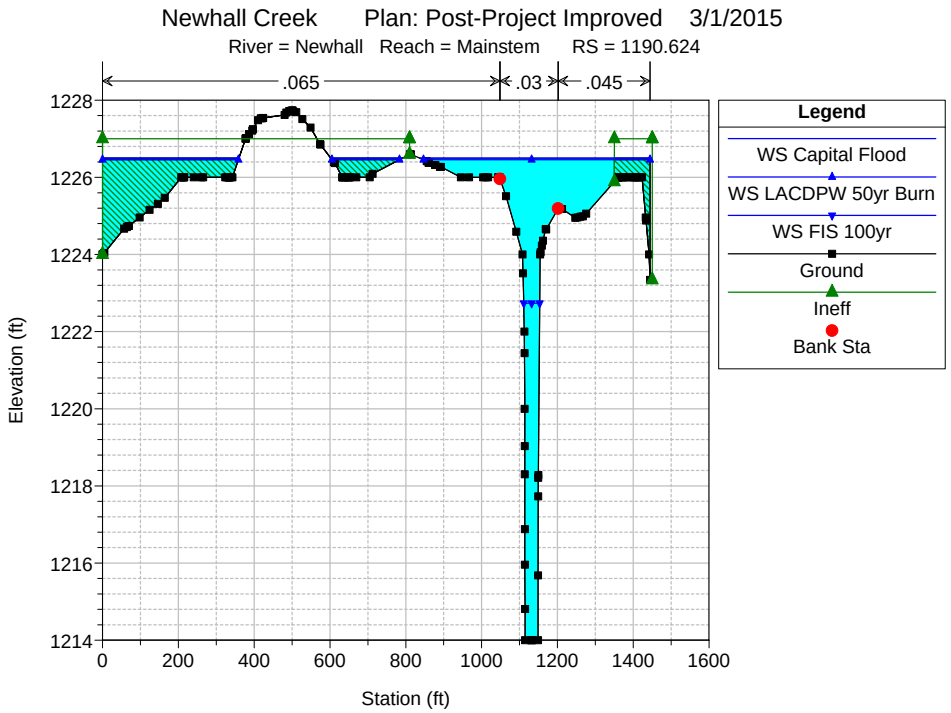

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 3036.790
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

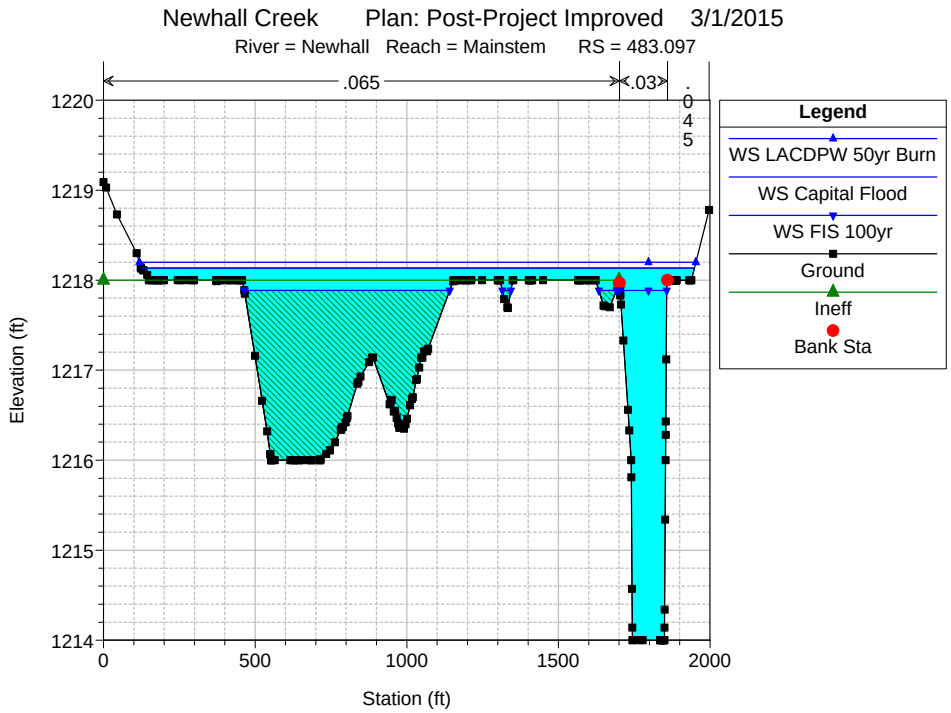

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 2802.783
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta

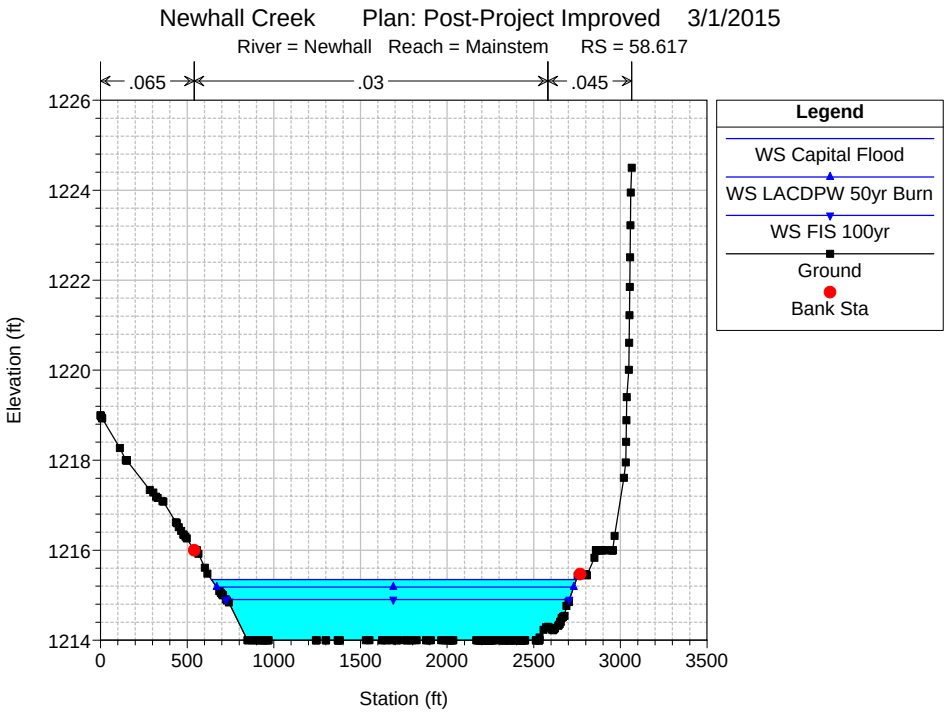

Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 2417.090
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta


Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 2100.483
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta


Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 1698.544
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta


Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 1190.624
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Ineff
Bank Sta


Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 483.097
.065
.03
.045
Elevation (ft)
Station (ft)
Legend
WS LACDPW 50yr Burn
WS Capital Flood
WS FIS 100yr
Ground
Ineff
Bank Sta


Newhall Creek Plan: Post-Project Improved 3/1/2015
River = Newhall Reach = Mainstem RS = 58.617
.065
.03
.045
Elevation (ft)
1226
1224
1222
1220
1218
1216
1214
0
500
1000
1500
2000
2500
3000
3500
Station (ft)
Legend
WS Capital Flood
WS LACDPW 50yr Burn
WS FIS 100yr
Ground
Bank Sta

HEC-RAS Plan: ProposedImproved River: Newhall Reach: Mainstem

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Slope	Vel Chnl	Vel Total	Flow Area	Top Width	Froude # Chl	Froude # XS	Shear Chan	Shear Total	Power Chan	Power Total
			(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(ft/s)	(sq ft)	(ft)			(lb/sq ft)	(lb/sq ft)	(lb/ft s)	(lb/ft s)
Mainstem	10505.32	Capital Flood	9200.00	1320.94	1328.77	1328.77	0.007543	14.92	14.92	616.54	90.10	1.01	1.01	3.04	3.04	45.40	45.40
Mainstem	10505.32	LACDPW 50yr Burn	7321.00	1320.94	1327.76	1327.76	0.007733	13.90	13.90	526.87	87.91	1.00	1.00	2.75	2.75	38.22	38.22
Mainstem	10505.32	FIS 100yr	4640.00	1320.94	1326.08	1326.08	0.008434	12.15	12.15	381.90	84.25	1.01	1.01	2.30	2.30	27.93	27.93
Mainstem	9993.571	Capital Flood	9200.00	1316.00	1320.07	1322.33	0.024803	18.89	18.73	491.17	191.20	1.70	2.08	5.84	3.93	110.29	73.66
Mainstem	9993.571	LACDPW 50yr Burn	7321.00	1316.00	1319.59	1321.54	0.023944	17.17	17.17	426.38	125.23	1.64	1.64	5.01	5.01	86.06	86.06
Mainstem	9993.571	FIS 100yr	4640.00	1316.00	1318.85	1319.67	0.020992	13.89	13.89	334.09	122.57	1.48	1.48	3.53	3.53	49.00	49.00
Mainstem	9616.907	Capital Flood	9200.00	1312.00	1318.92	1318.92	0.007625	14.31	14.31	642.86	810.37	1.00	1.00	2.87	2.87	41.00	41.00
Mainstem	9616.907	LACDPW 50yr Burn	7321.00	1312.00	1317.97	1317.97	0.007877	13.34	13.34	548.92	531.39	1.00	1.00	2.60	2.60	34.66	34.66
Mainstem	9616.907	FIS 100yr	4640.00	1312.00	1316.44	1316.44	0.008496	11.58	11.58	400.53	409.58	1.00	1.00	2.14	2.14	24.84	24.84
Mainstem	9229.136	Capital Flood	9200.00	1308.00	1312.67	1314.05	0.018855	17.65	17.65	521.20	687.19	1.50	1.50	4.92	4.92	86.88	86.88
Mainstem	9229.136	LACDPW 50yr Burn	7321.00	1308.00	1312.13	1313.24	0.018411	16.08	16.08	455.20	579.32	1.46	1.46	4.26	4.26	68.44	68.44
Mainstem	9229.136	FIS 100yr	4640.00	1308.00	1311.26	1311.93	0.016862	13.17	13.17	352.39	143.19	1.34	1.34	3.08	3.08	40.60	40.60
Mainstem	8608.484	Capital Flood	9200.00	1300.00	1306.56	1307.04	0.009257	12.05	10.76	855.18	380.58	1.05	1.40	2.32	1.29	28.01	13.89
Mainstem	8608.484	LACDPW 50yr Burn	7321.00	1300.00	1306.15	1306.31	0.008577	10.81	10.30	710.45	328.00	1.00	1.29	1.94	1.15	20.93	11.88
Mainstem	8608.484	FIS 100yr	4640.00	1300.00	1304.69	1304.69	0.009020	10.45	10.45	444.10	132.38	1.01	1.01	1.86	1.86	19.47	19.47
Mainstem	8216.339	Capital Flood	9200.00	1296.00	1299.44	1300.53	0.022904	15.55	15.55	591.62	195.64	1.58	1.58	4.27	4.27	66.44	66.44
Mainstem	8216.339	LACDPW 50yr Burn	7321.00	1296.00	1298.94	1299.93	0.026179	14.83	14.83	493.71	194.19	1.64	1.64	4.11	4.11	61.00	61.00
Mainstem	8216.339	FIS 100yr	4640.00	1296.00	1298.32	1298.99	0.026078	12.40	12.40	374.21	192.42	1.57	1.57	3.14	3.14	38.96	38.96
Mainstem	7954.452	Capital Flood	9200.00	1292.70	1298.51	1297.00	0.002656	7.13	7.07	1302.13	311.04	0.58	0.61	0.77	0.69	5.51	4.86
Mainstem	7954.452	LACDPW 50yr Burn	7321.00	1292.70	1297.80	1296.51	0.002793	6.67	6.67	1098.30	267.58	0.58	0.58	0.71	0.71	4.72	4.72
Mainstem	7954.452	FIS 100yr	4640.00	1292.70	1296.55	1295.72	0.003609	6.05	6.05	767.06	262.91	0.62	0.62	0.65	0.65	3.95	3.95
Mainstem	7636.535	Capital Flood	9200.00	1289.76	1295.87	1295.87	0.008297	11.17	11.17	823.34	209.97	0.99	0.99	2.02	2.02	22.56	22.56
Mainstem	7636.535	LACDPW 50yr Burn	7321.00	1289.76	1295.04	1295.04	0.008579	11.04	11.04	662.90	176.36	1.00	1.00	2.00	2.00	22.09	22.09
Mainstem	7636.535	FIS 100yr	4640.00	1289.76	1293.65	1293.65	0.009037	10.30	10.30	450.54	138.47	1.01	1.01	1.83	1.83	18.80	18.80
Mainstem	7013.289	Capital Flood	9200.00	1284.00	1288.44	1289.17	0.013044	13.62	13.62	675.35	179.02	1.24	1.24	3.04	3.04	41.46	41.46
Mainstem	7013.289	LACDPW 50yr Burn	7321.00	1284.00	1287.93	1288.38	0.013059	12.52	12.52	584.82	176.34	1.21	1.21	2.68	2.68	33.57	33.57
Mainstem	7013.289	FIS 100yr	4640.00	1284.00	1287.17	1287.37	0.012071	10.26	10.26	452.18	173.56	1.12	1.12	1.95	1.95	20.02	20.02
Mainstem	6540.300	Capital Flood	9200.00	1278.48	1284.76	1285.11	0.006420	11.91	9.91	928.25	452.19	0.91	1.45	2.08	0.82	24.82	8.11
Mainstem	6540.300	LACDPW 50yr Burn	7321.00	1278.48	1284.07	1283.78	0.006652	11.15	10.96	668.04	315.36	0.91	1.35	1.90	0.87	21.21	9.57
Mainstem	6540.300	FIS 100yr	4640.00	1278.48	1284.21	1282.57	0.002419	6.84	6.50	713.40	339.46	0.55	0.83	0.71	0.32	4.86	2.05
Mainstem	6254.699	Capital Flood	9200.00	1276.00	1283.32	1283.81	0.005881	12.77	5.07	1815.51	987.74	0.89	1.36	2.26	0.67	28.89	3.41
Mainstem	6254.699	LACDPW 50yr Burn	7321.00	1276.00	1283.39	1283.39	0.003448	9.85	3.88	1888.05	996.47	0.68	1.02	1.34	0.41	13.21	1.58
Mainstem	6254.699	FIS 100yr	4640.00	1276.00	1281.75	1281.75	0.007067	11.74	8.37	554.25	244.21	0.93	1.31	2.09	0.99	24.50	8.27
Mainstem	5959.225	Capital Flood	9200.00	1272.88	1278.60	1279.81	0.013351	16.16	9.67	951.04	1413.28	1.29	2.54	3.96	0.96	63.96	9.24
Mainstem	5959.225	LACDPW 50yr Burn	7321.00	1272.88	1277.90	1279.42	0.017045	16.49	16.14	453.71	512.53	1.42	1.96	4.33	2.31	71.50	37.21
Mainstem	5959.225	FIS 100yr	4640.00	1272.88	1276.49	1277.62	0.024056	15.61	15.61	297.33	161.33	1.60	1.60	4.35	4.35	67.86	67.86
Mainstem	5637.197	Capital Flood	9200.00	1270.00	1276.32	1276.01	0.000578	3.60	1.47	6261.56	1608.56	0.27	0.16	0.19	0.14	0.68	0.21
Mainstem	5637.197	LACDPW 50yr Burn	7321.00	1270.00	1276.01	1276.01	0.000480	3.17	1.27	5753.83	1607.07	0.24	0.15	0.15	0.11	0.47	0.14
Mainstem	5637.197	FIS 100yr	4640.00	1270.00	1276.01	1276.01	0.000193	2.01	0.81	5753.83	1607.07	0.15	0.10	0.06	0.04	0.12	0.03
Mainstem	5281.263	Capital Flood	9200.00	1266.00	1273.47	1273.47	0.004990	12.31	9.51	967.50	1698.69	0.83	1.19	2.06	0.98	25.30	9.29
Mainstem	5281.263	LACDPW 50yr Burn	7321.00	1266.00	1270.96	1272.52	0.015376	16.40	16.40	446.51	1452.51	1.37	1.37	4.19	4.19	68.65	68.65
Mainstem	5281.263	FIS 100yr	4640.00	1266.00	1268.66	1270.54	0.050875	20.42	20.42	227.28	891.00	2.27	2.27	7.85	7.85	160.18	160.18
Mainstem	5061.813	Capital Flood	9200.00	1264.00	1270.28	1271.47	0.010464	15.59	14.14	650.54	1570.30	1.17	1.75	3.52	1.57	54.94	22.18
Mainstem	5061.813	LACDPW 50yr Burn	7321.00	1264.00	1270.48	1270.52	0.005818	11.89	10.41	703.05	1576.01	0.88	1.29	2.03	0.93	24.13	9.69
Mainstem	5061.813	FIS 100yr	4640.00	1264.00	1268.54	1268.54	0.008299	11.41	11.37	407.96	1255.38	0.99	1.01	2.08	1.99	23.80	22.67
Mainstem	4842.770	Capital Flood	9200.00	1262.00	1267.85	1269.08	0.011209	16.15	13.41	686.13	1849.24	1.21	1.57	3.78	2.12	61.09	28.49

HEC-RAS Plan: ProposedImproved River: Newhall Reach: Mainstem (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Slope	Vel Chnl	Vel Total	Flow Area	Top Width	Froude # Chl	Froude # XS	Shear Chan	Shear Total	Power Chan	Power Total
			(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(ft/s)	(sq ft)	(ft)			(lb/sq ft)	(lb/sq ft)	(lb/ft s)	(lb/ft s)
Mainstem	4842.770	LACDPW 50yr Burn	7321.00	1262.00	1268.15	1268.00	0.005809	12.04	9.67	757.01	1886.74	0.88	1.18	2.07	1.07	24.88	10.37
Mainstem	4842.770	FIS 100yr	4640.00	1262.00	1267.94	1266.69	0.002669	7.97	6.57	706.37	1851.97	0.59	0.76	0.92	0.52	7.29	3.39
Mainstem	4650	Capital Flood	9200.00	1259.90	1268.15	1265.15	0.001683	7.58	7.58	1213.32	751.32	0.49	0.49	0.76	0.76	5.74	5.74
Mainstem	4650	LACDPW 50yr Burn	7321.00	1259.90	1268.96	1264.42	0.000777	5.43	5.43	1347.77	760.15	0.34	0.34	0.38	0.38	2.06	2.06
Mainstem	4650	FIS 100yr	4640.00	1259.90	1268.27	1263.25	0.000409	3.77	3.77	1232.22	752.57	0.24	0.24	0.19	0.19	0.70	0.70
Mainstem	4595		Bridge														
Mainstem	4542.760	Capital Flood	9200.00	1258.88	1265.53	1264.13	0.003551	9.73	9.73	945.44	726.59	0.69	0.69	1.33	1.33	12.91	12.91
Mainstem	4542.760	LACDPW 50yr Burn	7321.00	1258.88	1265.73	1263.40	0.002032	7.50	7.50	976.73	728.02	0.53	0.53	0.78	0.78	5.85	5.85
Mainstem	4542.760	FIS 100yr	4640.00	1258.88	1267.70	1262.24	0.000345	3.60	3.60	1290.31	746.83	0.23	0.23	0.17	0.17	0.60	0.60
Mainstem	4386.823	Capital Flood	9200.00	1256.78	1266.01	1266.01	0.000635	3.73	2.55	3601.09	729.75	0.28	0.21	0.20	0.19	0.76	0.49
Mainstem	4386.823	LACDPW 50yr Burn	7321.00	1256.78	1266.01	1266.01	0.000402	2.97	2.03	3601.09	729.75	0.23	0.17	0.13	0.12	0.39	0.25
Mainstem	4386.823	FIS 100yr	4640.00	1256.78	1264.44	1264.44	0.008080	12.94	12.94	358.68	660.03	1.00	1.00	2.50	2.50	32.32	32.32
Mainstem	4043.350	Capital Flood	9200.00	1254.00	1262.05	1263.03	0.016810	14.25	14.25	645.39	557.76	1.37	1.37	3.47	3.47	49.47	49.47
Mainstem	4043.350	LACDPW 50yr Burn	7321.00	1254.00	1264.87	1262.31	0.001400	5.53	5.19	1410.18	852.13	0.42	0.50	0.45	0.33	2.49	1.69
Mainstem	4043.350	FIS 100yr	4640.00	1254.00	1263.13	1261.06	0.002044	5.30	5.30	876.27	629.93	0.48	0.48	0.46	0.46	2.46	2.46
Mainstem	3920.755	Capital Flood	9200.00	1254.00	1264.01	1264.01	0.000911	5.39	3.03	3035.22	803.51	0.35	0.35	0.39	0.21	2.10	0.64
Mainstem	3920.755	LACDPW 50yr Burn	7321.00	1254.00	1263.23	1263.23	0.004374	10.95	8.38	873.48	624.09	0.76	1.09	1.67	0.76	18.28	6.39
Mainstem	3920.755	FIS 100yr	4640.00	1254.00	1260.23	1260.23	0.008187	13.11	13.11	354.06	307.58	1.00	1.00	2.56	2.56	33.49	33.49
Mainstem	3813.951	Capital Flood	9200.00	1253.96	1262.19	1259.43	0.000792	4.96	3.27	2809.90	807.81	0.34	0.40	0.33	0.17	1.64	0.56
Mainstem	3813.951	LACDPW 50yr Burn	7321.00	1253.96	1260.65	1258.71	0.001622	5.97	4.16	1759.72	640.89	0.46	0.57	0.52	0.27	3.13	1.14
Mainstem	3813.951	FIS 100yr	4640.00	1253.96	1260.02	1257.55	0.001440	5.56	5.55	835.60	470.70	0.43	0.45	0.46	0.42	2.54	2.36
Mainstem	3790		Bridge														
Mainstem	3786.11	Capital Flood	9200.00	1252.42	1262.21	1258.78	0.000442	4.36	2.48	3702.40	804.08	0.26	0.28	0.24	0.12	1.03	0.31
Mainstem	3786.11	LACDPW 50yr Burn	7321.00	1252.42	1259.71	1257.95	0.003025	9.22	9.22	793.72	596.99	0.63	0.63	1.18	1.18	10.85	10.85
Mainstem	3786.11	FIS 100yr	4640.00	1252.42	1259.41	1256.65	0.001415	6.13	6.13	756.63	527.25	0.43	0.43	0.53	0.53	3.23	3.23
Mainstem	3758.278	Capital Flood	9200.00	1252.42	1259.07	1258.78	0.006631	12.85	12.85	715.94	488.79	0.93	0.93	2.35	2.35	30.25	30.25
Mainstem	3758.278	LACDPW 50yr Burn	7321.00	1252.42	1259.52	1257.95	0.003329	9.51	9.51	770.17	566.15	0.66	0.66	1.26	1.26	11.98	11.98
Mainstem	3758.278	FIS 100yr	4640.00	1252.42	1259.35	1256.65	0.001453	6.18	6.18	750.23	519.71	0.44	0.44	0.54	0.54	3.33	3.33
Mainstem	3715		Bridge														
Mainstem	3684.454	Capital Flood	9200.00	1249.36	1254.82	1255.90	0.002884	16.73	16.73	549.96	133.53	1.36	1.36	0.81	0.81	13.55	13.55
Mainstem	3684.454	LACDPW 50yr Burn	7321.00	1249.36	1253.73	1255.08	0.004266	17.30	17.30	423.06	115.86	1.60	1.60	0.94	0.94	16.26	16.26
Mainstem	3684.454	FIS 100yr	4640.00	1249.36	1252.45	1253.75	0.006968	16.86	16.86	275.18	114.89	1.92	1.92	1.02	1.02	17.23	17.23
Mainstem	3533.212	Capital Flood	9200.00	1244.00	1253.78	1255.59	0.001707	17.74	17.74	518.69	372.90	1.03	1.03	0.78	0.78	13.76	13.76
Mainstem	3533.212	LACDPW 50yr Burn	7321.00	1244.00	1250.93	1252.60	0.003182	20.27	20.27	361.14	54.18	1.38	1.38	1.11	1.11	22.45	22.45
Mainstem	3533.212	FIS 100yr	4640.00	1244.00	1248.30	1250.37	0.005855	21.03	21.03	220.69	52.63	1.81	1.81	1.36	1.36	28.64	28.64
Mainstem	3301.384	Capital Flood	9200.00	1240.00	1251.21	1251.21	0.002921	10.06	3.65	2519.35	1267.31	0.57	0.89	1.33	0.36	13.36	1.30
Mainstem	3301.384	LACDPW 50yr Burn	7321.00	1240.00	1253.26	1250.92	0.000309	3.68	1.42	5142.26	1303.19	0.19	0.19	0.17	0.07	0.62	0.11
Mainstem	3301.384	FIS 100yr	4640.00	1240.00	1246.61	1250.27	0.018905	19.79	19.79	234.51	37.64	1.40	1.40	5.84	5.84	115.65	115.65
Mainstem	3036.790	Capital Flood	9200.00	1236.00	1248.01	1248.01	0.000343	1.54	1.07	8601.90	2726.19	0.18	0.11	0.05	0.07	0.07	0.07
Mainstem	3036.790	LACDPW 50yr Burn	7321.00	1236.00	1247.72	1247.72	0.009399	17.76	17.76	412.29	2448.77	1.00	1.00	4.17	4.17	74.09	74.09
Mainstem	3036.790	FIS 100yr	4640.00	1236.00	1246.45	1244.62	0.005318	12.86	12.86	360.95	1734.62	0.74	0.74	2.23	2.23	28.66	28.66
Mainstem	2802.783	Capital Flood	9200.00	1234.00	1246.01	1246.01	0.006044	9.90	5.12	1798.61	1085.55	0.80	1.01	1.56	0.61	15.41	3.14
Mainstem	2802.783	LACDPW 50yr Burn	7321.00	1234.00	1246.01	1246.01	0.003827	7.88	4.07	1798.61	1085.55	0.64	0.81	0.99	0.39	7.77	1.58
Mainstem	2802.783	FIS 100yr	4640.00	1234.00	1243.15	1243.15	0.009775	16.19	16.19	286.55	140.61	1.00	1.00	3.67	3.67	59.42	59.42

HEC-RAS Plan: ProposedImproved River: Newhall Reach: Mainstem (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Slope	Vel Chnl	Vel Total	Flow Area	Top Width	Froude # Chl	Froude # XS	Shear Chan	Shear Total	Power Chan	Power Total
			(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(ft/s)	(sq ft)	(ft)			(lb/sq ft)	(lb/sq ft)	(lb/ft s)	(lb/ft s)
Mainstem	2417.090	Capital Flood	9200.00	1230.00	1240.83	1240.83	0.006166	10.17	4.24	2172.31	1520.00	0.82	1.08	1.63	0.54	16.54	2.30
Mainstem	2417.090	LACDPW 50yr Burn	7321.00	1230.00	1240.74	1240.74	0.004466	8.55	3.59	2040.54	1478.25	0.70	0.93	1.16	0.38	9.88	1.37
Mainstem	2417.090	FIS 100yr	4640.00	1230.00	1239.46	1240.07	0.011846	14.85	14.85	312.56	613.01	1.12	1.12	3.38	3.38	50.17	50.17
Mainstem	2100.483	Capital Flood	9200.00	1226.00	1237.01	1237.01	0.004779	5.74	3.16	2908.94	2002.65	0.67	0.60	0.65	0.43	3.72	1.36
Mainstem	2100.483	LACDPW 50yr Burn	7321.00	1226.00	1237.01	1237.01	0.003026	4.57	2.52	2908.94	2002.65	0.53	0.48	0.41	0.27	1.87	0.68
Mainstem	2100.483	FIS 100yr	4640.00	1226.00	1233.81	1236.58	0.013477	17.81	17.81	260.51	62.39	1.15	1.15	4.59	4.59	81.70	81.70
Mainstem	1698.544	Capital Flood	9200.00	1220.00	1232.01	1232.01	0.004532	5.89	3.79	2427.66	1289.66	0.66	0.59	0.66	0.52	3.91	1.99
Mainstem	1698.544	LACDPW 50yr Burn	7321.00	1220.00	1231.55	1232.01	0.024252	13.21	13.21	554.09	899.24	1.51	1.51	3.39	3.39	44.85	44.85
Mainstem	1698.544	FIS 100yr	4640.00	1220.00	1227.54	1228.70	0.015134	18.65	18.65	248.77	56.41	1.25	1.25	5.06	5.06	94.38	94.38
Mainstem	1190.624	Capital Flood	9200.00	1214.00	1226.50	1227.01	0.010427	12.68	9.98	922.25	1155.41	1.08	1.60	2.58	1.14	32.74	11.39
Mainstem	1190.624	LACDPW 50yr Burn	7321.00	1214.00	1226.46	1226.69	0.006866	10.22	8.11	902.22	1134.23	0.87	1.29	1.69	0.75	17.23	6.07
Mainstem	1190.624	FIS 100yr	4640.00	1214.00	1222.74	1222.27	0.008195	14.55	14.55	318.95	42.10	0.93	0.93	2.99	2.99	43.50	43.50
Mainstem	483.097	Capital Flood	9200.00	1214.00	1218.14	1218.20	0.014536	12.93	5.48	1680.33	1824.80	1.27	2.02	2.89	0.83	37.41	4.57
Mainstem	483.097	LACDPW 50yr Burn	7321.00	1214.00	1218.20	1218.20	0.008092	9.78	4.07	1797.37	1835.10	0.95	1.46	1.64	0.49	16.05	2.01
Mainstem	483.097	FIS 100yr	4640.00	1214.00	1217.89	1217.89	0.009061	9.87	9.87	470.20	917.00	0.99	0.99	1.71	1.71	16.90	16.90
Mainstem	58.617	Capital Flood	9200.00	1214.00	1215.35	1214.93	0.004001	3.57	3.57	2576.69	2105.54	0.57	0.57	0.31	0.31	1.09	1.09
Mainstem	58.617	LACDPW 50yr Burn	7321.00	1214.00	1215.18	1214.81	0.004001	3.29	3.29	2225.79	2060.47	0.56	0.56	0.27	0.27	0.89	0.89
Mainstem	58.617	FIS 100yr	4640.00	1214.00	1214.90	1214.60	0.004000	2.79	2.79	1664.08	1980.74	0.54	0.54	0.21	0.21	0.58	0.58

HEC-RAS Version 4.1.0 Jan 2010
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

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X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X      X   X     X  X    X
X     X  X        X           X   X    X    X   X
XXXXXXX  XXXX     X       XXX XXXX     XXXXXX    XXXX
X     X  X        X           X  X     X    X       X
X     X  X        X    X      X   X    X    X       X
X     X  XXXXXX    XXXX       X    X   X    X   XXXXX
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PROJECT DATA
Project Title: Newhall Creek
Project File : Newhall.prj
Run Date and Time: 6/3/2015 11:01:14 AM

Project in English units

Project Description:
Newhall Creek Hydraulic & Scour Analysis
February 2015

PLAN DATA

Plan Title: Post-Project Improved
Plan File : C:\Projects\Dockweiler\HECRAS\Newhall.p07

Geometry Title: Post-Project Improved
Geometry File : C:\Projects\Dockweiler\HECRAS\Newhall.g05

Flow Title : Existing
Flow File : C:\Projects\Dockweiler\HECRAS\Newhall.f01

Plan Summary Information:
Number of: Cross Sections = 35 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 3 Lateral Structures = 0

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

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

FLOW DATA

Flow Title: Existing
Flow File : C:\Projects\Dockweiler\HECRAS\Newhall.f01

Flow Data (cfs)

River	Reach	RS	Capital Flood	LACDPW 50yr Burn	FIS 100yr
Newhall	Mainstem	10505.32	9200	7321	4640

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Newhall	Mainstem	Capital Flood	Critical	Normal S = 0.004
Newhall	Mainstem	LACDPW 50yr Burn	Critical	Normal S = 0.004
Newhall	Mainstem	FIS 100yr	Critical	Normal S = 0.004

GEOMETRY DATA

Geometry Title: Post-Project Improved
Geometry File : C:\Projects\Dockweiler\HECRAS\Newhall.g05

CROSS SECTION

RIVER: Newhall
REACH: Mainstem RS: 10505.32

INPUT
Description:
Station Elevation Data num= 232

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1331.34	.49	1331.35	9.76	1331.85	11.07	1331.84	12.62	1331.83
44.74	1330	81.04	1330	89.4	1330.04	89.73	1330.04	89.93	1330.03
90.1	1330.03	90.29	1330.04	103.25	1330.42	106.37	1330.41	112.73	1330.6
116.04	1330.61	119.85	1330.75	126.63	1330.78	145.17	1332	193.56	1332
203	1332.73	211.43	1333.39	214.21	1333.61	219.56	1334	234.44	1334
235.58	1332.99	236.7	1332	236.97	1331.77	238.97	1330	239.52	1329.52
241.24	1328	244.43	1325.19	245.23	1324.48	245.78	1324	246.83	1323.07
248.05	1322	253	1321.66	254.56	1321.64	256.36	1321.53	256.85	1321.51
262.1	1321.21	301.39	1320.94	301.77	1320.95	305.47	1321.13	306	1321.16
312.47	1321.17	315.96	1321.43	321.37	1321.85	323.39	1322	324.19	1322.76
325.49	1324	326.92	1325.36	327.59	1326	328.81	1327.17	329.67	1328
329.91	1328.23	334.85	1333.05	335.33	1333.53	337.31	1335.49	337.83	1336
338.34	1336.49	339.34	1337.46	341.41	1339.47	341.95	1340	342.7	1340
345.09	1340	351.77	1340	355.09	1340	378.36	1341.32	380.57	1341.36
385.88	1342	396.47	1343.35	400.22	1343.71	403.58	1344	408.32	1344.98
414.84	1346	418.16	1346.75	420.17	1347.1	433	1350	433.35	1350.1
433.7	1350.21	434.72	1350.46	438.38	1351.32	441.71	1352	444.76	1352.68
449.68	1353.75	450.27	1353.87	450.91	1354	452.56	1354.4	459.18	1356
461.02	1356.43	462	1356.59	465.04	1357.1	475.23	1359.36	479.28	1360.15
480.59	1360.36	482.36	1360.65	488.32	1362	493.59	1363.05	496.81	1363.82
500.12	1364.55	501.27	1364.8	502.9	1365.15	505.13	1365.65	508.1	1366.36
511.47	1367.15	514.13	1367.77	518.12	1368.69	525.52	1370.42	526.39	1370.62
540.85	1373.97	540.94	1374	540.96	1374	546.76	1375.36	549.43	1376
556.12	1377.6	556.88	1377.79	557.23	1377.87	559.33	1378.36	566.31	1380
569.1	1380.64	569.94	1380.86	570.68	1381.04	580	1383.31	589.24	1385.41
589.71	1385.52	590.27	1385.65	591.71	1386	598	1387.48	602.28	1388.46

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  605.91 1389.27  609.33 1389.99  609.39    1390  613.54 1391.05  616.96    1392
  620.22 1392.93  622.38 1393.43   632.1    1396  633.48 1396.29  634.05 1396.49
  636.56 1397.23  642.06 1398.91  643.33 1399.37   645.3    1400  649.88 1401.34
  653.29 1402.34   658.8    1404  660.29 1404.43  662.55 1405.12  664.59 1405.74
  667.86 1406.63   670.8 1407.53  675.41 1408.81  685.53 1411.89  685.69 1411.94
  685.79 1411.97   685.9    1412  686.18 1412.08  698.08 1415.95  698.25    1416
  698.45 1416.07  705.99 1418.55  709.87 1419.78  712.21 1420.54  715.77 1421.64
  716.88    1422  721.26 1423.54  724.31 1424.78  727.32    1426  730.63 1427.35
  732.19    1428  734.43 1428.93     737    1430  737.08 1430.04  737.12 1430.05
  741.72    1432  744.53 1432.41  746.75 1432.73  754.75    1434  806.33    1434
  838.06    1434  866.55 1432.78  873.28 1432.85  876.87 1432.79  879.48  1432.8
  881.71 1432.81  887.33 1432.89   894.3 1432.88  899.56 1433.08  910.39 1433.09
  914.72 1433.21  916.97 1433.22  922.12 1433.33  937.76  1433.4  962.86    1434
  979.64    1434  980.08 1434.11  981.85 1434.59  982.98  1434.9  986.92    1436
  990.77 1437.05  994.41    1438 1001.41 1438.54 1007.75  1438.6 1012.83 1438.84
 1014.25 1438.84 1016.26 1438.86 1021.84 1439.12  1045.6 1439.53 1046.39 1439.52
 1059.92 1439.52 1081.24    1440 1106.09    1440 1109.92 1440.65 1113.22 1441.26
 1117.22    1442 1119.64 1443.14 1121.47    1444 1124.83 1445.58 1125.73    1446
 1129.83 1447.94 1130.06 1448.06 1134.11    1450 1134.37 1450.13 1134.91 1450.37
 1137.05 1451.23 1138.46 1451.82 1138.93    1452 1199.28    1452 1202.39 1451.89
 1202.73 1451.89 1205.36 1451.81

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  234.44     .03  341.95    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        234.44  341.95           511.76  511.76  511.76             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0     203    1350

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 9993.571

INPUT
Description:
Station Elevation Data    num=     178
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1320.39    5.29 1320.41    8.93 1320.43    16.4 1320.46   25.41  1320.5
   27.34  1320.5   39.42 1320.54   43.32 1320.55   45.69 1320.56   49.24 1320.58
   77.45 1320.69   82.18 1320.69   87.21  1320.7   91.43  1320.7   97.95 1320.71
   106.5 1320.74  111.85 1320.75  149.34 1320.85  161.09 1320.84   180.3 1320.84
  182.75 1320.84  187.04 1320.84  205.48 1320.87  213.87 1320.89  234.43 1320.89
  240.59 1320.92  245.52 1320.96  249.27 1320.99  283.94 1321.05   290.8 1321.09
  411.11    1322  449.72    1322  451.14 1320.93  452.37    1320  515.92    1320
   523.9  1320.9  534.56    1322  537.49 1322.38  551.72    1324  579.76    1324
  581.91 1322.48   582.6    1322  584.15  1320.9  585.39    1320  586.06 1319.52
  588.18    1318  589.73 1316.91     591    1316  703.27    1316  706.43 1317.41
  707.72    1318  708.92 1318.55  710.24 1319.15  712.09    1320  713.32 1320.56
  716.42    1322  716.94 1322.24  720.73    1324  732.52    1324   753.9 1324.95
  770.87 1325.79  771.45 1325.81     773 1325.89  773.23  1325.9  775.23    1326
  789.07 1326.83  793.14 1327.08  809.34    1328  813.67 1328.67  822.68    1330
  826.36 1331.35  828.73 1332.18  830.15 1332.74   833.4    1334  836.19  1334.4
  843.65  1335.4  847.31    1336  848.07    1336  849.05 1336.49  852.04    1338
  854.55 1339.27     856    1340  857.77 1340.89  866.23  1345.1  867.67 1345.81
  868.04    1346  868.49 1346.22  869.17 1346.56  876.06    1350  879.14  1351.5
  880.15    1352  883.43 1353.59  884.26    1354  888.06 1355.82  888.43    1356
  890.98 1357.13  892.97    1358   897.2 1359.68  898.02    1360  902.97 1361.95
   903.1    1362  903.11    1362  908.53    1364  908.81 1364.09  912.66 1365.43
  919.01    1366  930.38 1366.32  933.26    1368  935.69 1369.35  936.46 1369.78
  939.38 1371.19  940.92    1372   944.2 1373.61  945.01    1374  945.11 1374.05
```

949.09	1376	950.52	1376.7	954.32	1378.56	957.25	1380	960.11	1381.41
964.01	1383.21	967.2	1384.69	970.06	1386	972.8	1387.26	974.38	1388
975.36	1388.46	978.66	1390	980.84	1391.03	984.14	1391.44	988.16	1392
990.43	1392	991.2	1392	994.5	1393.7	995.08	1394	997.6	1395.29
999.13	1396.08	1002.85	1398	1006.27	1399.76	1007.11	1400.18	1010.78	1402
1010.98	1402.1	1011.9	1402.56	1014.72	1404	1016.1	1404.7	1018.66	1406
1020.89	1407.1	1022.67	1408	1023.88	1408.61	1026.78	1410	1028.98	1410.96
1031.1	1411.95	1031.22	1412	1039.49	1413.63	1041.3	1414	1042.31	1414.45
1045.83	1416	1047.84	1416.89	1050.36	1418	1052.14	1418.87	1054.41	1420
1056.19	1420.96	1058.09	1422	1058.86	1422.42	1061.77	1424	1062.69	1424.51
1065.51	1426	1068.58	1427.59	1071.17	1428.93	1073.28	1430	1075.51	1431.09
1077.6	1432	1081.59	1433.58	1084.52	1434	1087.7	1434	1104.26	1434
1117.86	1434.38	1178.12	1436	1178.21	1436.01				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.065	551.72	.03	720.73	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
551.72	720.73	376.66	376.66	.1	.3

CROSS SECTION

RIVER: Newhall
REACH: Mainstem RS: 9616.907

INPUT
Description:
Station Elevation Data num= 272

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1330	2.03	1330	21.41	1328.98	38.67	1328.14	39.69	1328.1
41.54	1328	42.77	1327.53	46.79	1326	50.25	1324.64	51.84	1324
54.13	1322.89	57.57	1321.24	60.04	1320	63.07	1318.48	64.05	1318
65.73	1317.15	67.56	1316.23	68.14	1316	69.78	1316	80.46	1316
80.56	1316	83.12	1316	89.74	1316	93.78	1316	96.5	1316
98.91	1316	102.03	1316	107.14	1316	108.85	1316	111.26	1316
127.6	1315.82	127.92	1315.82	171.4	1315.67	187.53	1315.67	191.15	1315.66
203.1	1315.56	218.75	1315.3	223.48	1315.28	237.73	1315.19	239.53	1315.16
241.16	1315.14	269.55	1314.97	270.56	1314.97	275.69	1314.92	285.64	1314.94
293.96	1314.96	304.32	1314.9	327.67	1315.35	332.16	1315.54	334.7	1315.49
336.38	1315.58	338.83	1315.56	340.58	1315.62	342.3	1315.66	347.06	1315.72
348.94	1315.73	350.1	1315.74	355.37	1315.78	356.55	1315.8	362.21	1315.84
363.43	1315.86	363.93	1315.87	369.92	1315.92	371.13	1315.93	377.55	1315.98
378.78	1315.99	379.88	1316	383.79	1317.02	386.08	1317.6	386.31	1317.65
387.69	1318	389.23	1318.38	391.42	1318.9	393.47	1319.4	394.23	1319.58
395.99	1320	399.65	1320	400.37	1320	400.63	1320	406.49	1320
407.25	1320	407.88	1320	413.3	1320	414.06	1320	418.85	1320
419.6	1320	422.9	1320	427.64	1320	428.45	1320	432.67	1320
433.56	1320	434.36	1320	438.22	1320	439.15	1320	439.5	1320
440.32	1320	444.01	1320	444.81	1320	446.73	1320	450.46	1320
466.07	1320	466.54	1320	468.2	1320	469.89	1320	470.3	1320
470.4	1320	470.88	1320	471.34	1319.66	473.63	1318	474.38	1317.89
494.64	1317.43	496.51	1317.46	497.89	1317.49	502.89	1317.84	503.45	1317.86
503.69	1317.87	509.1	1318	515.44	1318	516.33	1318	524.84	1318
529.91	1318	531.55	1318	551.38	1318	559.79	1317.43	562.34	1317.3
564.81	1317.21	576.26	1316.85	579.07	1316.82	585.89	1316.68	588.25	1316.67
591.45	1316.73	597.93	1316.78	614.08	1317.46	614.85	1317.5	619.68	1317.65
621.71	1317.74	627.67	1318	841.82	1318	847.32	1318.45	849.07	1318.6
856.48	1319.23	865.55	1320	867.35	1321.03	869.02	1322	891.89	1322
892.55	1320.71	893.49	1318.86	894.37	1317.11	895.6	1314.66	895.93	1314
896.12	1313.63	896.93	1312	982.2	1312	985.26	1313.77	985.65	1314
986.72	1314.62	989.1	1316	989.79	1316.4	992.57	1318	995.21	1319.53
996.03	1320	996.89	1320.49	999.46	1322	1007.07	1322.48	1024.85	1323.58
1029.76	1323.89	1031.61	1324	1036.23	1325.79	1036.74	1326	1040.88	1327.77

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 1041.41    1328 1042.02 1328.27  1045.8    1330 1048.86 1331.43 1052.26 1333.07
  1054.2    1334 1055.27 1334.53  1058.2    1336 1059.48 1336.64 1062.16    1338
 1064.78 1339.33 1066.09    1340 1066.63 1340.24 1070.49    1342 1073.16 1342.43
 1080.14 1343.61 1081.81 1343.89 1082.48    1344 1083.39 1344.41 1086.02 1345.59
 1086.95    1346 1089.14    1347 1093.26 1348.86 1095.72    1350  1099.2 1351.79
 1099.64    1352 1100.37 1352.38 1103.56    1354 1104.54 1354.51 1107.46    1356
 1113.11  1358.9 1114.22 1359.49 1116.63 1360.79 1121.86 1363.17 1123.64    1364
 1125.05  1364.7 1127.78    1366 1130.54  1367.4 1134.02 1369.18  1135.7    1370
 1136.81 1370.53 1139.77    1372 1144.44    1372 1152.21 1372.74 1157.69 1373.42
 1159.57 1373.59 1160.36 1373.68 1162.54    1374 1163.99 1374.59 1167.63    1376
 1167.76 1376.06 1169.53 1376.78  1172.5    1378 1175.84 1379.39 1178.75 1380.65
 1181.94    1382 1185.93 1383.68 1189.29 1385.33 1190.84    1386 1192.54 1386.69
 1195.57    1388  1197.3  1388.7 1200.21    1390 1200.59    1390 1205.24 1391.83
  1205.7    1392 1205.91 1392.11 1209.12  1395.5 1216.73 1396.37 1222.94    1398
 1224.53 1398.74 1227.28    1400 1229.76 1401.14 1231.63    1402 1234.97 1403.53
 1235.99    1404 1236.92 1404.46 1240.97 1406.38 1244.35    1408 1247.11 1409.33
 1249.83  1410.7 1253.32 1412.52 1256.08    1414 1257.43 1414.79 1259.61    1416
 1263.08 1417.97 1263.13    1418 1272.08 1419.19 1278.41    1420 1280.41 1420.85
  1283.3    1422 1284.56  1422.5 1287.57 1423.47 1289.45    1424 1290.44  1424.3
 1290.71 1424.38 1293.54 1424.98 1300.81    1426 1302.66 1426.31 1303.66  1426.5
 1304.92 1426.71 1305.63 1426.81

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  891.89     .03  999.46    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        891.89  999.46           387.77  387.77  387.77             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0     865    1322       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 9229.136

INPUT
Description:
Station Elevation Data    num=     495
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1418.01     .06    1418    4.68 1416.95    8.71    1416   12.68 1415.09
   14.02 1414.79   15.93 1414.33   17.19    1414   19.96 1413.14    23.5    1412
   23.97 1411.85   29.98    1410   30.89 1409.72   32.09 1409.39   38.42 1407.54
   43.45    1406   45.14 1405.52   49.06 1404.08   49.26    1404   49.36 1403.96
   54.56    1402   56.24 1401.33   62.56 1399.02   64.54 1398.32   65.41    1398
   67.56 1397.16   79.98    1392   84.18 1390.13    84.5    1390      85  1389.8
   93.71    1388   93.86    1388   95.01  1387.8   95.73 1387.67  102.47 1386.62
  104.34    1386  109.21 1384.22  109.85    1384  114.81 1382.57  117.17 1381.75
  119.15 1381.32  120.91 1380.99  123.24 1380.85  135.15 1378.61  136.35 1378.48
   137.1 1378.47  137.61 1378.46  138.77 1378.41  147.21    1378  152.42  1377.8
  153.09 1377.69  153.34 1377.69   154.2 1377.62  161.76 1377.55  161.97 1377.55
  162.38 1377.56  163.02 1377.62  166.01 1377.83  181.15 1377.84  181.67 1377.85
  181.87 1377.84  186.32 1377.91     187 1377.83  189.24 1377.58  190.44 1377.17
  193.89    1376  195.94  1375.3  199.52    1374  203.88 1373.14  206.99    1372
  210.68 1370.58  212.19    1370  213.24 1369.57  220.02 1366.47  221.06    1366
  224.29 1364.42  225.02    1364  225.25 1363.86  225.46 1363.74  228.75    1362
  235.03 1358.65  236.17    1358  237.09 1357.47  239.65    1356  241.86 1354.72
  245.01 1352.91  247.38 1351.54  250.06    1350  250.94 1349.49  253.52    1348
  254.75  1347.3  257.01    1346  257.92 1345.48  259.52 1344.57  260.53    1344
  262.52 1342.91  264.16    1342  266.81 1340.54  267.77    1340  270.52 1338.47
  272.96 1337.15   274.2 1336.45  276.48 1335.32  279.21    1334  283.07 1332.18
  283.45    1332  283.75 1331.86  284.65 1331.42  290.97 1328.36  291.72    1328
  294.38 1326.76  296.01    1326  296.66 1325.71   300.3    1324  303.71 1322.65
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 305.21    1322   308.1 1320.96  311.58    1320  315.41 1319.02  318.77    1318
 319.03    1318  320.18    1318  333.09 1317.74  369.09    1317  418.05    1316
 419.49    1316  429.88 1315.16  435.13 1314.96  443.31  1314.6  446.68 1314.46
 454.24 1314.17  455.07 1314.13  457.41    1314  462.68    1314  478.85 1313.76
 491.42 1313.63  560.31    1312  813.37    1312  837.78 1312.25  852.99 1312.29
 870.59 1312.28  872.68 1312.29  873.53  1312.3  884.93    1312  985.54    1312
 1020.6 1310.64 1029.27 1311.26 1038.41  1311.9  1039.6    1312 1039.76    1312
1047.63 1313.13 1053.89    1314  1054.9  1314.1 1060.86 1314.54  1079.7    1316
1080.55    1316 1101.41  1317.7 1104.38    1318 1105.38 1317.04 1106.56 1315.46
1107.46  1315.3  1107.8 1314.67 1109.09 1312.27 1109.16 1312.14 1109.24    1312
1109.41 1311.67  1110.6 1309.64 1112.72    1308 1201.67    1308 1211.88 1308.85
1225.91    1310 1228.09  1311.3 1229.25    1312 1232.44 1313.89 1232.64    1314
1232.83 1314.11 1236.12    1316 1239.19 1317.79 1239.54    1318 1250.77    1318
1269.62 1317.05 1271.92 1316.94 1295.36    1316  1296.3    1316  1296.6    1316
1296.79    1316 1299.76 1314.92 1301.76    1314 1302.28 1313.69 1306.11    1312
1328.31    1312 1409.12 1313.84 1416.14    1314 1434.08    1314 1464.17 1314.72
1464.79 1314.74 1500.36 1315.54  1502.5 1315.59 1512.12 1315.82 1518.95    1316
 1521.2    1316 1545.92 1317.11 1554.49 1317.56 1555.98 1317.62 1558.78 1317.73
1564.51    1318 1577.79 1318.51 1582.56 1318.72 1591.03 1319.08 1611.86 1319.91
1612.77 1319.95 1613.98    1320 1621.87 1320.32 1626.07  1320.4 1629.95  1320.5
1640.41 1320.82  1652.7 1321.22 1676.35    1322 1677.37    1322 1696.88 1322.88
1703.17 1323.15 1721.87    1324 1722.59    1324 1724.56 1324.22 1726.26 1324.23
1764.61    1326 1775.47    1326 1797.04  1327.6  1803.8    1328 1808.79 1328.91
1816.05 1329.71 1818.77    1330 1827.83  1331.1 1836.34  1331.9 1836.61 1331.94
1837.26    1332  1844.8 1333.18 1850.52 1333.74 1851.28 1333.84  1852.7    1334
1862.36  1335.8 1866.71 1335.96 1867.22    1336 1871.39 1336.35 1876.71 1337.06
 1886.8 1337.27 1888.35 1337.41 1891.23 1337.17 1892.86 1337.28 1902.79 1337.42
1906.43 1337.27 1909.09  1337.5 1912.07 1337.59 1916.66    1338 1922.75 1339.07
 1936.2  1339.6 1939.94    1340 1942.09    1340 1943.05 1340.29 1948.82    1342
1952.41 1343.14 1958.74 1344.99 1961.68    1346  1964.3  1346.9 1967.64    1348
1970.99 1349.46 1972.21    1350 1976.48 1351.99 1976.49    1352 1976.52 1352.01
1981.32    1354 1987.06 1356.79 1988.65  1357.5 1989.62    1358 1990.61 1358.51
1991.88 1359.17 1996.17 1361.36  1999.2 1362.71 2001.64    1364 2003.44 1364.86
2005.58    1366 2008.33 1367.47 2009.41    1368 2011.57 1369.12  2012.1 1369.38
 2016.3 1371.12  2018.6    1372 2018.91 1372.13 2023.57    1374 2024.19 1374.27
2028.29    1376 2029.04 1376.34 2035.93 1379.41 2036.76 1379.78 2037.25    1380
2038.35 1380.37 2043.78    1382 2046.61 1383.01 2048.41 1383.51 2050.08    1384
2053.95 1385.12 2060.33 1387.27  2062.8    1388 2065.27 1388.74 2067.89  1389.7
2072.88 1391.24 2075.05    1392 2077.57 1393.06 2080.02    1394  2081.3 1394.55
2081.66  1394.7 2085.72    1396 2086.08    1396 2086.87    1396  2097.7 1397.95
2097.97    1398 2098.43 1398.12 2105.58    1400 2110.43 1401.28  2112.3 1401.62
2114.68    1402 2126.01 1403.25 2129.86    1404 2134.79 1404.93 2138.49    1406
2141.77 1406.98 2145.45    1408 2151.74  1409.8 2152.43    1410 2154.28 1410.55
2159.05    1412 2165.55 1413.13 2170.08    1414  2172.3 1414.67 2175.24    1416
2178.64 1417.59 2179.52    1418  2183.5 1419.88    2184 1420.11 2185.98 1421.04
2186.71 1421.38  2186.8 1421.42 2186.91 1421.47 2188.05    1422  2189.9 1422.86
2192.36    1424 2193.94 1424.73 2196.67    1426 2198.11 1426.68 2199.46 1427.31
2202.54 1428.74    2204  1429.4 2206.95 1430.78 2208.87 1431.65 2211.34  1432.8
2213.99    1434 2215.64 1434.75  2218.4    1436 2219.42 1436.46 2221.83 1437.55
2222.56 1437.87 2222.84    1438 2230.28 1441.37 2231.01 1441.71 2231.63    1442
2233.37 1442.77 2240.65    1446 2243.56 1447.24  2245.3    1448 2247.64    1449
 2250.1    1450 2257.86 1451.35 2258.22 1451.41 2259.63 1451.66 2260.25 1451.76
2261.36 1451.89 2262.19 1451.91 2265.31    1452 2277.57 1452.39 2280.92 1452.46
2288.78 1452.75  2295.5 1453.01 2300.47 1453.24 2305.28 1453.51  2312.8    1454
   2319 1454.42 2322.84 1454.77 2335.21    1456 2335.71 1456.09 2344.71 1457.64
2346.81    1458 2353.99 1459.47 2355.42 1459.66 2357.32    1460 2365.89 1461.24
2369.28    1462    2374 1463.44 2375.79    1464 2378.35 1464.79 2381.11  1465.3
2384.42    1466 2387.86  1466.7  2390.9 1467.24 2395.93 1468.49 2401.61    1470
2402.05 1470.12  2402.7  1470.3 2404.98 1470.64 2414.08    1472 2414.35 1472.04
2414.61 1472.09 2415.56 1472.25 2423.18 1473.25 2423.85 1473.35 2427.06 1473.82
2428.91    1474 2432.96 1474.38 2434.34  1474.5  2441.3 1475.09 2446.53 1475.64
2450.68 1476.12 2451.41  1476.2 2455.83 1476.72 2459.99 1477.17 2466.43 1477.81
2466.97 1477.87  2467.8    1478 2475.77 1479.36 2476.32  1479.6 2477.24    1480
 2479.4 1480.83 2482.09    1482 2483.38 1482.42 2487.07    1484 2487.82 1484.21
2492.65    1486  2493.3 1486.21 2495.42 1486.91 2498.54    1488 2500.72 1489.01
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 2502.94    1490 2503.71 1490.41 2506.67    1492 2508.69 1493.08 2510.42    1494
 2512.79 1495.27 2514.18    1496    2518 1497.96 2520.16 1499.08 2521.99    1500
 2524.48 1501.26 2526.62  1502.4 2532.43 1505.51 2533.32    1506 2536.86 1507.95
 2536.95    1508 2537.24 1508.16  2540.7    1510 2547.97 1513.73 2548.26 1513.88
 2548.84 1514.17 2552.85    1516 2555.79 1517.33 2558.59 1518.63 2561.57    1520
 2563.14 1520.74 2565.85    1522 2568.18 1523.09 2570.12    1524 2574.12 1525.82
 2574.51    1526 2575.27 1526.33 2577.59 1527.35 2579.05    1528 2582.41 1529.47
 2583.55    1530 2587.14 1531.48 2588.25    1532 2589.07 1532.37 2593.14    1534
 2597.55 1535.63 2599.93 1536.31 2603.26 1536.85 2606.74 1537.47 2609.51    1538
 2612.88 1538.53 2616.63 1539.15 2625.95    1540 2627.89    1540 2628.93    1540
 2638.77    1540  2643.4    1540 2645.77 1538.93 2649.63    1537 2651.13 1536.17

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065 1104.38     .03 1250.77    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1104.38 1250.77           620.65  620.65  620.65             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    1100    1318       F
    1255    1440    1318       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 8608.484

INPUT
Description:
Station Elevation Data    num=     500
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1422.66    5.89 1423.65     8.1 1424.37   15.77 1424.32   17.54 1424.55
    18.1 1424.61   20.77 1424.42   22.52 1423.75   28.43 1421.73   29.81 1420.93
   31.98 1419.82   33.12 1419.28   34.77 1418.48   37.79 1417.04   42.44 1414.84
   43.75 1414.07   46.48 1412.61    47.7 1411.91    50.5 1410.39   52.44 1409.28
   55.84  1407.4   56.84 1406.85   58.34    1406    60.1 1405.02   61.89    1404
   63.04 1403.35   64.67 1402.41   65.19 1402.12   71.03 1399.24   71.66 1398.91
   76.01 1396.96    77.4 1396.26    81.7 1394.38   82.58    1394   86.73 1392.18
   91.57 1390.08   96.42    1388   97.02 1387.77  101.51    1386  102.28  1385.7
  106.56    1384  107.39 1383.68  112.44 1381.67  113.82 1381.14   121.3  1378.1
  121.99 1377.83  126.92 1375.91  127.76 1375.57  129.82 1374.72  131.58    1374
  133.88 1373.05  136.54    1372  138.49 1371.21  140.06 1370.59  143.55 1369.24
  147.18 1367.75  150.76  1366.4  153.16 1365.38  156.32    1364  157.08 1363.68
  160.42 1362.22  164.09 1360.63  165.49    1360  168.16 1358.86   170.8 1357.84
  174.26 1356.62  176.37 1355.69  178.22 1354.85  180.85    1354   183.8 1352.99
  186.88    1352  188.73 1351.38  190.85  1350.7  192.35  1350.2     209 1344.78
  209.94 1344.47  211.34    1344  215.75 1342.53  221.14  1340.7   222.4 1340.28
  223.04 1340.06  229.25 1338.21  243.83    1334  250.15 1332.19  250.79    1332
   253.7 1331.43  260.34    1330  262.43 1329.59  269.52    1328  273.36 1327.76
  275.49 1327.37  276.34 1327.29  300.59 1325.53  301.24 1325.42  303.19 1325.06
  304.21 1324.88  309.07    1324  313.49    1322   316.6 1320.58  317.66  1320.1
  337.47    1320  339.96 1321.59  340.61    1322  342.62 1323.28  343.77    1324
  346.41 1325.66  346.96    1326  352.56 1326.69  360.16 1327.44  362.71 1327.72
  363.56 1327.82  366.13    1328  380.75    1328   382.6 1327.82  400.36    1326
  448.92    1326  458.18 1325.82  470.37 1325.48  480.13 1325.18  507.23 1324.39
  523.48    1324  546.22    1324  560.12 1323.71  561.21  1323.7  570.15 1323.57
  571.16 1323.55   596.4 1323.01  635.37    1322  648.22    1322  650.86 1321.94
  757.42    1320  783.16    1320  859.71 1318.23  871.49    1318  880.82    1318
  901.28  1317.7  910.41 1317.59  916.72 1317.54 1032.85    1316 1057.43    1316
 1098.22 1314.65 1108.36  1314.3 1119.29    1314 1125.23    1314 1146.62 1313.06
 1156.05 1312.76 1162.48 1312.52 1163.95 1312.46 1173.44    1312 1181.32    1312
 1181.86 1311.98 1182.48 1311.97 1194.68 1311.67 1200.07 1311.52 1210.29 1311.18
 1239.79 1310.48 1240.82 1310.46 1246.91 1310.41 1260.36 1310.34 1277.73    1310
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1294.28    1310 1299.24 1309.93  1300.4 1309.91 1311.75 1309.76 1314.38  1309.7
1315.55 1309.68 1317.09 1309.63 1318.11 1309.62 1402.62 1308.08 1406.35    1308
1416.85    1308 1492.61 1306.99 1524.67 1306.64 1543.26 1306.58 1555.74 1306.47
1589.46    1306 1592.56    1306 1597.47 1305.86 1603.45 1305.76 1677.69 1305.86
1682.25    1306 1713.96    1306 1714.95 1305.81 1718.37    1304 1719.94 1303.05
1724.04 1300.59 1725.03    1300 1800.25    1300 1802.32 1300.88 1804.88    1302
1806.84    1302 1829.05 1303.67 1829.85 1303.72 1833.33    1304 1842.95  1304.4
1847.33  1304.6 1860.24 1305.15 1862.83 1305.24 1880.28 1305.57  1898.4    1306
1899.78    1306  1929.2 1306.62    1938 1306.85 1947.85 1307.07 1961.87 1307.34
1966.19 1307.41 1972.55  1307.5 1986.69    1308 1987.86 1308.22 1988.93 1308.45
1990.57 1308.75 1997.35    1310 2001.54 1310.79 2008.14    1312  2011.6 1313.45
2014.56 1314.62 2016.66    1316 2017.43 1316.41 2019.78    1318 2020.48 1318.47
2022.47 1319.64 2023.07    1320 2025.38 1321.34 2026.46    1322 2028.46 1323.15
2032.44 1325.05 2034.16 1326.08 2037.21    1328  2039.4 1328.89 2041.74 1329.86
2046.24    1332 2048.19 1332.82 2050.66    1334 2052.02  1334.6 2054.92    1336
2059.53 1338.62 2061.23  1339.5 2061.97    1340 2062.53 1340.37 2063.04 1340.72
2066.63 1343.07 2068.19  1344.1  2073.3  1347.3 2074.37    1348  2076.7 1349.44
2077.72    1350 2079.78 1351.11 2081.41    1352 2086.02 1352.81 2092.03    1354
 2109.9    1354 2128.28 1352.69 2131.56 1352.73 2139.52 1352.74  2140.6 1352.75
 2146.8 1352.82 2147.98 1352.83 2154.09 1352.91 2155.36 1352.92 2161.42 1352.99
2162.75 1353.01 2163.26 1353.01 2165.36 1353.03 2168.75 1353.08 2170.13 1353.09
2170.81  1353.1 2172.57 1353.12 2173.81 1353.14 2175.23 1353.15  2179.8 1353.21
2181.24 1353.22 2184.88 1353.27 2186.01 1353.28  2187.1  1353.3  2188.3 1353.31
2193.59 1353.38 2194.43 1353.39 2195.89 1353.41 2197.23 1353.42  2201.2 1353.48
 2201.8 1353.48 2215.24 1352.91 2215.97 1352.94 2217.78 1353.02  2218.8 1353.06
2220.98 1353.16 2222.43 1353.22 2224.87 1352.97 2226.81  1353.1 2228.43  1353.2
2230.13 1353.13 2232.45 1353.24 2237.21 1352.84 2238.99 1352.72 2241.54 1352.54
2242.69 1352.37 2243.73  1352.2 2269.13 1352.15 2270.55 1352.09 2271.66 1352.11
2278.95 1352.32 2279.91 1352.36 2288.03 1352.91 2292.33 1353.28  2297.8 1353.62
2301.46    1354 2302.38  1354.7 2307.11    1356 2317.81    1356 2337.18 1357.17
2338.47  1357.2 2340.49 1357.26 2344.75 1357.48 2345.63 1357.51 2347.55 1357.56
2355.47    1358 2359.62 1358.27 2360.88 1358.31  2368.3 1358.66 2369.34 1358.69
 2378.2  1358.7 2380.76  1358.8 2382.91 1358.88 2387.47 1358.92 2388.56 1358.96
2391.25 1359.07 2399.98    1360 2401.88    1360 2403.17 1361.71  2403.7 1362.36
2405.11 1363.58 2407.16 1364.68 2409.89    1366 2413.79 1368.09 2416.88 1370.04
2418.64 1371.08  2423.3 1373.57 2424.49 1374.19 2427.94 1375.91 2430.57 1377.23
 2432.2    1378 2433.08 1378.42 2436.42    1380 2438.33 1380.93 2442.28 1382.86
2447.17 1385.34 2447.87 1385.69 2448.48    1386 2449.16 1386.34 2450.38 1386.97
2458.91 1391.41 2460.05    1392 2461.83 1392.93 2467.77    1396 2517.84    1396
2530.87 1395.28 2531.64 1395.28 2533.36 1395.29 2537.14 1395.33 2537.73 1395.33
2539.79 1395.34 2543.68 1395.39 2544.59 1395.39  2545.3  1395.4 2559.67 1394.86
2561.51 1394.91 2562.03 1394.86 2562.63 1394.83 2564.99 1394.91 2567.16 1394.97
2567.93 1394.99 2576.09 1395.18 2588.33 1394.67  2588.9 1394.66 2592.79  1394.3
2601.14 1394.24 2604.34 1394.34 2614.58 1394.64  2617.7 1394.83 2629.64  1395.9
2630.52    1396 2631.08 1396.15 2639.61    1398 2644.11  1399.2 2644.89 1399.27
 2651.3 1399.94  2652.5 1400.06 2683.03    1402  2684.3 1402.38 2687.59 1403.37
2694.33 1405.37 2695.58 1405.73 2696.51    1406 2709.82 1406.55 2716.59 1406.85
2737.76    1408 2749.02 1409.47  2754.1    1410 2764.33 1411.57 2765.45 1411.75
2767.44    1412 2803.48    1412 2811.33 1413.19 2812.53 1413.38 2815.56 1413.84
2817.15    1414 2819.76    1414 2825.14 1413.05 2826.84 1412.76 2830.55 1412.39
2835.98 1411.49 2838.27 1411.52 2841.33 1411.72 2850.24 1413.18 2852.06 1413.49
2854.46    1414 2860.28 1415.02 2862.96 1415.51  2865.1    1416 2869.29 1417.33
 2872.2 1418.49 2875.51    1420 2878.31  1421.3  2883.5 1423.85 2890.18    1424
2894.07 1424.67 2895.34 1424.67 2897.41 1424.64 2901.11 1424.77 2903.05 1424.74
2904.12 1424.74 2908.57 1424.83 2929.56 1425.66 2935.29 1425.98 2952.62 1427.84
2953.63    1428 2958.36 1428.86 2965.22    1430 2970.78 1431.95 2971.82 1432.37
2980.45    1436 2987.57    1436 2990.87    1438 2993.13 1439.35 2993.68 1439.65
2996.63 1440.99 2998.92    1442 2999.81 1442.36 3000.51 1442.66 3006.96 1445.33
3008.68    1446 3011.44 1447.19 3013.47    1448 3015.24 1448.79 3018.13    1450
 3022.2 1451.45 3024.87 1452.32  3027.6 1453.12  3035.1 1454.03 3038.22 1454.95
   3044 1455.66 3054.03 1456.75 3065.93    1458 3068.02  1458.1  3089.8    1460
3090.41 1460.06 3097.32 1460.15 3098.71 1460.19 3135.35 1460.96 3148.78 1461.43
3151.45  1461.5 3157.86 1461.65  3165.4    1462  3167.1    1462 3173.31 1463.13
3176.07 1464.78 3177.33  1465.6 3178.64 1466.47 3182.03 1468.71 3183.81    1470
3184.56 1470.51 3186.63    1472 3187.65 1472.73 3189.08 1473.77 3191.48  1475.5
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 3195.76 1478.45 3196.51 1478.99 3199.17  1480.8 3201.63    1482 3203.65 1482.97
 3205.69 1484.03 3209.31    1486 3210.95 1486.96 3212.81    1488 3215.01 1489.29
  3219.2 1491.71 3219.72    1492 3220.38 1492.36 3225.03 1494.86 3229.16    1496

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065 1713.96     .03  1898.4    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1713.96  1898.4           392.15  392.15  392.15             .1       .3

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 8216.339

INPUT
Description:
Station Elevation Data    num=     442
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1452.17     .97    1452    4.08 1451.22    9.54    1450   11.55 1449.51
   21.63    1448   27.75 1447.18   32.02    1446   36.54  1444.8   40.05    1444
   49.56    1442   51.18  1441.5   55.76    1440   59.97    1438   62.74 1436.64
    65.7 1435.25   67.65 1434.36   69.77 1433.43   72.96    1432   77.58    1430
   80.03 1428.93   83.24 1427.42   89.92  1424.7    91.6    1424   95.63 1422.36
   97.25 1421.67  101.29    1420  103.12 1419.23  106.12    1418  110.51  1416.3
  111.37    1416  112.82 1415.54  118.66    1414  119.44 1413.74  126.46    1412
  126.97 1411.83  127.97 1411.56  135.82 1409.75  137.35 1409.39  138.74 1409.05
  143.24    1408  144.14 1407.77  152.04    1406  153.19 1405.73  163.31 1403.68
  166.48 1403.06  169.03  1402.6  172.09    1402  180.92 1400.26  182.11 1400.02
  191.65 1398.08  194.23 1397.31  196.81 1396.48  197.91 1396.09  202.92 1394.09
   207.7 1392.21  208.25    1392   213.1 1390.14  218.12 1388.26  218.83    1388
  221.98 1386.81  224.13    1386  227.19 1384.67  230.02 1383.42   232.6 1382.29
  233.32    1382  237.36 1380.21  241.65  1378.3  242.34    1378  245.71 1376.47
  246.78    1376  249.17 1374.91  249.73 1374.66  252.32 1373.91  255.91 1372.62
  256.48 1372.42   262.1 1370.67  262.68 1370.47  263.92    1370  268.76 1368.39
  269.79    1368  273.75 1366.61  275.32    1366  277.23  1365.3  279.67  1364.5
   285.3 1362.58  286.02 1362.29  291.32 1360.61  292.07 1360.34   293.2    1360
  298.02  1358.5   299.7    1358  303.37 1356.88  305.22 1356.33  305.97  1356.1
  310.31 1354.71  311.55 1354.36  316.56 1352.75  317.79 1352.39   318.9    1352
  323.51 1350.53  325.03    1350  328.84 1348.78  331.16    1348  332.79 1347.48
  338.47 1345.34  341.71    1344  344.69 1342.75  347.69 1341.53  351.43    1340
  354.68 1338.71   356.5    1338  358.81 1337.11  360.71 1336.39   361.6    1336
  365.52 1334.35  367.88 1333.38  371.36    1332  374.29 1330.86  377.38 1329.76
  382.42    1328   385.5 1326.96  388.46 1326.08  394.86 1324.25  395.81    1324
  419.82    1324  430.58 1323.54  435.43 1323.85  437.61    1324  439.54    1324
  442.47 1323.07  444.32    1322  445.88 1321.09  447.74    1320  450.32 1318.48
  451.15    1318  451.83  1317.6  452.49 1317.21  454.02 1316.32  454.56    1316
  473.81    1316  477.69 1317.69  478.42    1318  480.01 1318.69  483.09    1320
  483.67 1320.25  487.81    1322   488.5 1322.04  491.76 1322.24  504.67    1322
  537.88    1322  569.04 1320.58  574.35 1320.38  582.11    1320  673.01    1320
  683.66 1319.89  684.25 1319.89  694.77 1319.61  705.72 1319.25  709.06 1319.31
  714.86 1319.37  718.92 1319.37  723.84 1319.35  797.82    1318  811.87    1318
  915.76 1316.62  922.01 1316.56  966.93    1316  975.93 1314.99  978.58 1314.82
  991.98    1314  998.13 1313.86 1008.87 1313.57 1034.62 1312.82 1046.97 1312.54
 1050.15 1312.48  1064.7    1312 1101.19    1312 1160.96 1310.32 1162.56  1310.3
 1165.98 1310.24 1167.79 1310.19 1175.24    1310 1204.53    1310 1214.41 1309.65
 1215.85 1309.61 1221.35 1309.51 1226.55 1309.35 1232.18 1309.19 1242.62 1308.85
 1267.86 1308.28 1276.38 1308.05 1278.09    1308 1292.82 1307.76 1293.76 1307.75
 1390.23    1306 1447.71    1306 1452.96 1305.88 1501.81    1304 1606.46    1304
 1641.59  1304.1 1655.94    1304 1757.51    1304 1765.75  1303.6 1801.06    1302
 1810.75    1302 1818.57 1300.33 1819.96    1300 1820.52 1299.77 1824.65    1298
 1893.51    1296 2015.04    1296  2015.7 1297.19 2016.15    1298 2016.87 1299.33
 2017.23    1300 2018.16 1301.76 2018.29    1302 2125.27    1302 2135.89 1303.84
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 2137.07    1304 2137.65 1304.18 2144.23    1306  2146.4  1306.7 2150.01    1308
 2153.07 1309.28 2154.96    1310 2156.94 1310.77 2161.87 1313.19 2163.56    1314
 2164.29 1314.37 2167.39    1316 2168.94 1316.83 2171.18    1318 2173.51 1319.23
 2178.28 1321.79 2180.35 1322.88 2185.66 1325.73  2186.3 1326.11 2188.48 1327.19
 2192.04 1328.98 2192.93 1329.34 2194.78    1330 2196.78 1330.83 2200.13    1332
 2201.55  1332.6 2202.34 1332.98 2203.05 1333.32 2207.57 1334.85 2208.58 1335.19
  2213.3 1336.77 2214.42 1337.14 2218.87 1338.22 2219.79 1338.42 2222.67 1338.99
 2223.66 1339.29 2231.62 1340.61 2232.79 1340.93 2234.74 1341.38    2237 1341.73
 2240.97 1342.57 2243.37 1342.72 2247.38 1343.59 2248.74    1344 2251.41 1344.83
 2252.32  1345.1 2256.88 1346.52 2259.19 1347.01 2269.48  1350.3 2270.65 1350.67
 2275.07 1352.05 2277.23  1352.7 2281.48    1354 2282.76 1354.38 2283.28 1354.54
 2288.81 1356.25 2289.67 1356.52 2295.43 1358.31 2299.55 1359.73 2302.99 1360.81
 2305.64    1362 2306.48 1362.37 2310.13    1364 2310.64 1364.22 2314.69    1366
  2319.3    1368 2320.65 1368.56 2324.59 1370.24 2328.76    1372 2329.72 1372.34
 2330.78 1372.73 2334.42    1374 2340.39    1376 2347.62    1378 2355.18 1379.39
 2358.52 1379.53 2361.59 1379.77 2362.14 1379.74 2377.08 1379.34 2382.16 1378.69
 2383.36 1378.86 2385.25 1379.54 2386.43    1380 2387.98 1380.47 2388.62 1380.64
 2391.85 1381.52 2395.81 1382.56 2401.17    1384 2404.06 1384.76 2405.48 1385.15
 2408.62    1386 2411.89 1386.93 2414.02 1387.59 2415.52    1388 2420.47    1389
 2425.71 1389.97 2435.83 1390.93 2439.31 1391.25 2441.45 1391.57 2442.26 1391.67
 2443.13 1391.76 2444.06 1391.84 2453.38  1391.3 2459.22    1392 2474.49    1392
 2475.25 1392.12 2481.62 1393.17  2484.2    1394 2485.47 1394.47  2489.5    1396
 2492.13    1396 2503.18 1396.48 2515.89 1396.93 2517.41 1396.98 2519.01 1397.04
  2531.8  1397.5 2535.03 1397.61 2535.55 1397.63 2545.87    1398 2547.41 1398.56
 2549.46  1399.3 2551.42    1400 2563.57 1400.56 2565.44 1400.64 2573.42 1401.01
 2574.15 1401.04 2581.23 1401.31 2596.89    1402 2598.32 1402.18 2599.56 1402.32
 2600.52 1402.43 2607.42 1403.25 2614.37    1404  2625.1 1404.45 2640.16 1405.05
 2642.54 1405.11 2646.78 1405.21 2650.05  1405.3 2650.88 1405.33 2663.14 1405.68
 2676.39 1405.98 2679.44    1406 2708.77    1406 2714.16 1405.64 2718.13 1405.57
 2719.49 1405.51 2725.78 1405.22 2729.37 1405.15 2734.24 1404.95 2763.51 1404.68
 2767.97 1404.68 2773.34 1404.87 2778.92 1405.13 2794.41    1406 2796.84    1406
 2814.41 1407.35 2823.41    1408 2834.66    1408 2845.87 1408.89 2848.34 1408.96
 2850.85 1409.06 2854.63    1410 2879.12    1410 2888.36 1411.96 2895.67    1412
 2899.83    1412 2901.56 1412.21 2904.62 1412.37 2906.43 1412.49 2909.42 1413.09
  2912.4 1413.38 2914.33    1414 2920.28    1414 2972.91 1415.53 2990.53    1416
 2992.58 1416.78 2993.11 1416.98 2994.88 1417.66 2996.71 1418.43 3003.31 1421.51
 3006.63 1423.07 3008.15 1423.77 3009.35 1424.34 3012.87    1426 3014.06 1426.57
 3020.98 1429.84 3025.71 1431.98  3030.7    1434 3034.55 1435.55 3035.65    1436
  3037.4 1436.48 3041.56 1437.58 3043.18    1438 3046.18 1439.04 3048.53 1439.85
 3049.38 1440.17  3053.7    1442 3057.02 1443.68 3057.67    1444 3065.39 1447.89
 3069.68 1450.04 3073.61    1452 3075.57 1452.98 3077.63    1454 3081.76    1456
 3082.88 1456.53 3087.68 1458.77  3090.3    1460 3093.18 1461.33 3094.66    1462
 3100.38    1462 3102.39 1462.41 3103.09 1462.72 3105.14 1463.59 3106.13    1464
 3108.44 1464.69 3112.68    1466 3121.39 1467.36    3125    1468 3144.68    1468
 3145.89 1467.54 3147.93 1466.89

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065 1810.75     .03 2018.29    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1810.75 2018.29           261.89  261.89  261.89             .1       .3

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 7954.452

INPUT
Description:
Station Elevation Data    num=     494
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    1480   10.94    1480   12.72 1479.68   18.72    1478   21.75 1477.04
   25.23    1476   28.75 1474.73   33.19 1472.87   33.98 1472.54   35.35    1472
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37.6	1471.02	40.47	1470	42.28	1469.22	43.34	1468.72	47.6	1467.32
48.92	1466.76	50.51	1466.1	52.1	1465.41	57.03	1463.93	59.08	1463.02
61.63	1461.8	63.36	1460.98	64.72	1460.31	66.51	1459.42	68.08	1458.69
69.78	1457.87	71.91	1456.91	73.5	1456.15	75.28	1455.46	78.13	1454.52
80.95	1453.32	86.08	1451.28	88.29	1450.51	90.64	1449.59	94.39	1448.15
96.96	1447.2	98.61	1446.58	100.99	1445.71	104.65	1444.7	107.19	1443.76
112.4	1442.51	114.82	1441.63	122.77	1440	123.41	1439.86	132.14	1438
135.38	1437.13	138.69	1436.17	143.24	1434.79	145.91	1434	153.24	1432
153.85	1431.85	158.23	1430.41	162.92	1428.8	164.11	1428.39	169.32	1426.69
170.34	1426.37	171.57	1426	176.59	1424.45	178.14	1424	182.72	1422.66
184.04	1422.29	184.68	1422.08	190.61	1420.33	191.18	1420.16	198.29	1418.2
198.97	1418	206.5	1416.04	214.21	1414.03	214.76	1413.8	218.57	1412
222.85	1410	227.17	1408	228.33	1407.51	232.26	1405.7	240.3	1402.04
244.26	1400.2	246.8	1398.95	248.62	1398	255.77	1394.36	257.87	1393.27
261.58	1391.06	263.4	1390	266.67	1388.12	273.29	1384.15	274.56	1383.44
276.54	1382	278.03	1380.87	279.33	1380	281.74	1378.05	282.56	1377.75
284.2	1377.14	287.72	1376	290.71	1374.97	293.98	1374.13	296.22	1373.44
297.85	1373.01	298.73	1372.78	304.73	1371.27	306.25	1370.92	311.58	1369.63
315.29	1368.68	320.55	1367.4	321.94	1367.1	324.35	1366.55	334.9	1364.31
335.91	1364.1	341.88	1362.94	346.58	1362	347.26	1361.87	348.74	1361.71
362.08	1360.32	365.07	1360.11	366.31	1360	373.97	1359.26	374.94	1359.12
378.07	1358.64	381.65	1358.19	384.97	1357.51	386.88	1356.99	392.1	1356
394.17	1355.64	395.24	1355.52	398.45	1355.14	406.88	1353.23	408.47	1352.71
409.92	1352.41	418.14	1350.61	418.86	1350.47	421.07	1350	423.91	1349.39
425.41	1349.04	426.72	1348.73	429.03	1348.21	436.6	1346.19	444.51	1343.98
451.92	1341.84	453.75	1341.25	455.58	1340.67	457.54	1340	458.73	1339.6
463.07	1338	464.04	1337.68	468.46	1336	469.33	1335.72	471.01	1335.12
475.16	1333.49	478.85	1332	485.42	1330.21	486.22	1330	489.39	1329.4
496.72	1328	503.61	1326.66	506.82	1326	517.91	1325.34	543.17	1324
559.06	1322.86	569.08	1322	578.06	1320.46	580.59	1320	600.75	1320
652.84	1318.24	657.25	1318	658.72	1316.72	659.53	1316	661.31	1314.45
661.83	1314	677.56	1314	680.17	1314.93	683.22	1316	684.63	1316.19
690.71	1317.03	692.91	1317.24	693.52	1317.32	699.03	1318	733.91	1318
747.01	1317.24	770.79	1316	779.75	1315.74	798.12	1315.32	805.33	1315.18
818.05	1315.01	823.68	1314.95	831.94	1314.93	836.76	1314.88	844.98	1314.78
873.15	1314.84	892.91	1314.75	915.33	1314.55	921.88	1314.45	923.2	1314.45
938.48	1314.28	941.46	1314.27	945.1	1314.22	950.46	1314.19	951.47	1314.17
980.03	1314	1054.27	1314	1097.71	1312.15	1100.83	1312	1104.28	1312
1115.92	1311.62	1158.86	1311.13	1163.68	1311.15	1194.09	1311.06	1206.86	1310.94
1209.29	1310.92	1221.26	1310.76	1229.75	1310.67	1230.7	1310.65	1243.21	1310.49
1252.44	1310.41	1269.59	1310	1292.07	1310	1294.91	1309.94	1390.94	1308.02
1391.98	1308	1404.87	1308	1426.23	1307.35	1430.66	1307.1	1443.49	1306.51
1449.77	1306.27	1455.14	1306	1487.42	1306	1515.51	1305.49	1520.67	1305.54
1521.71	1305.53	1526.11	1305.48	1539.61	1305.25	1541.73	1305.22	1557.06	1304.98
1603.15	1304	1612.86	1304	1613.7	1303.98	1615.81	1303.94	1681.12	1302.52
1685.07	1302.45	1708.33	1302	1708.56	1302	1725.82	1301.66	1728.49	1301.62
1769.19	1300.92	1787.26	1300.62	1790.74	1300.55	1809.77	1300.23	1811.69	1300.2
1813.27	1300.17	1821.74	1300.04	1823.76	1300	1843.44	1299.73	1893.08	1298.95
1895.01	1298.93	1903.78	1298.82	1948.3	1298	1957.74	1298	1958.33	1297.81
1964.16	1296	1965.69	1295.95	2028.66	1294	2032.41	1294	2064.12	1293.09
2070.85	1293.08	2107.83	1292.7	2116.31	1292.71	2123.71	1292.75	2126.54	1292.75
2182.93	1293.28	2192.3	1293.44	2216.02	1293.27	2216.74	1293.33	2218.22	1293.45
2218.8	1293.41	2219.61	1293.49	2223.93	1294	2224.61	1295.27	2224.99	1296
2225.59	1297.13	2226.03	1298	2235.25	1298.87	2240.91	1299.4	2248.77	1300
2249.34	1300	2275.35	1300.36	2276.45	1300.37	2304.17	1300.75	2359.71	1301.03
2360.55	1301.05	2364.18	1301.03	2375.49	1301.19	2385.93	1301.36	2390.79	1301.42
2404.11	1301.61	2413.72	1301.62	2420.03	1301.75	2432.45	1301.88	2443.88	1301.93
2446.19	1302	2454.76	1302	2457.15	1302.04	2466.68	1302.4	2470.18	1302.44
2495.18	1304	2496.98	1304	2508.9	1305.61	2511.58	1306	2519.79	1307.05
2527.41	1308	2537.37	1309.6	2540.84	1310	2546.22	1312	2551.68	1314
2552.32	1314.24	2558.09	1316.31	2558.87	1316.65	2564.51	1318.63	2567.43	1319.82
2570.03	1320.9	2572.71	1322	2574.28	1322.67	2575.07	1323.02	2578.86	1324.56
2579.67	1324.92	2584.83	1327.05	2587.54	1328.16	2589.94	1329.13	2592.19	1330
2597.52	1331.97	2601.02	1333.27	2602.59	1333.86	2605.61	1334.97	2607.16	1335.55
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 2626.16 1342.54 2627.89 1343.25 2629.15 1343.74 2631.38 1344.55 2633.15  1345.3
 2635.21 1346.05  2637.5 1347.05 2641.31 1348.61 2643.29 1349.55  2645.9 1350.73
 2650.07 1352.77 2651.72 1353.57 2653.57 1354.56 2654.75 1355.14 2656.77 1356.22
 2658.06  1356.9 2659.62 1357.74 2662.77 1359.42 2664.61 1360.39  2666.2 1361.21
 2668.13  1362.2 2670.38 1363.36  2673.4 1364.85 2675.08 1365.73  2676.8 1366.65
  2681.1 1368.89 2682.79 1369.83 2684.34 1370.65 2686.79    1372 2688.23 1372.81
 2689.56 1373.57  2692.3 1375.05 2694.63 1376.27 2695.96 1376.87 2701.87 1378.17
 2703.41 1378.81  2706.9 1379.13 2712.47 1380.41 2714.38 1380.82  2718.4 1381.74
 2720.54    1382 2724.86 1382.47 2725.97 1382.43 2729.11  1382.2 2734.68    1383
  2743.6 1383.99 2746.94 1384.44 2747.68 1384.52 2748.57 1384.64 2752.42 1385.13
 2754.03 1385.45 2764.45  1387.5 2766.08 1387.81 2767.03    1388 2774.05 1389.22
 2777.26 1390.07 2777.83 1390.12 2778.74 1390.22 2779.38 1390.28  2783.3 1390.26
 2788.66 1390.68 2798.76  1391.3  2803.9 1391.73 2808.91 1392.09 2811.89 1392.32
 2819.57 1392.87 2822.55 1393.11  2824.7 1393.27 2829.53  1393.6  2831.2 1393.73
 2838.34 1394.18 2839.08 1394.22 2843.15 1394.52 2854.67  1395.2  2856.2 1395.32
 2856.89 1395.36 2858.22 1395.41 2866.43    1396 2868.82 1396.16 2871.67 1396.34
 2879.53    1397 2883.78  1397.4 2884.94 1397.46  2889.2    1398 2893.37 1398.49
 2899.42 1399.23 2902.74 1399.69  2905.1    1400 2911.65 1400.81 2913.71 1401.12
  2919.4 1401.74 2923.86  1402.3 2926.44 1402.63 2929.59 1402.98 2938.31    1404
 2947.75    1405 2950.32 1405.19  2958.8    1406  2959.5 1406.07  2966.6 1406.69
 2971.56 1407.14 2974.76 1407.41  2976.1  1407.6 2979.49    1408 2986.82  1408.7
 2989.94 1409.07 2994.08 1409.64 2995.54 1409.82 3008.01    1412 3008.86 1412.15
 3016.51 1413.46 3019.34    1414 3020.11 1414.14 3021.44 1414.35 3031.48    1416
 3033.43 1416.34 3034.21 1416.48 3035.81 1416.77 3047.25 1418.71 3050.25 1419.23
 3058.77 1420.73 3061.53 1421.21 3069.87  1422.7 3072.11 1423.13 3080.45 1424.74
 3083.33 1425.31 3086.57    1426 3091.13 1426.89 3094.03 1427.51 3097.69 1428.36
 3103.63 1429.67 3107.35 1430.41 3110.62 1431.09 3113.03 1431.58 3115.77 1432.19
 3124.66    1434 3126.01  1434.3 3127.48 1434.64 3135.79 1436.66 3140.79 1437.92
 3144.46 1438.79 3146.76 1439.42 3150.92 1440.49 3155.73 1441.85 3158.47 1442.62
 3160.27 1443.17 3162.92    1444 3166.01 1444.92 3169.39    1446  3170.4 1446.32
 3170.96  1446.5 3173.43 1447.26 3174.69 1447.64 3183.82 1449.05 3185.49 1449.54
 3190.37    1450 3195.76 1450.45 3201.13    1450 3204.15    1450

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065 1957.74     .03 2248.77    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1957.74 2248.77            317.92  317.92  317.92             .1       .3

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 7636.535

INPUT
Description: 76+36
Station Elevation Data    num=     500
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
   146.9  1487.1  153.98    1486  158.33 1485.31  160.06 1485.02  169.66 1483.52
  177.17 1482.01  183.16 1480.74  186.07 1480.19  192.54 1478.83   194.8 1478.35
  196.47    1478  203.63 1476.48   207.4 1475.74  211.81 1474.81  215.81    1474
  220.68 1472.99  226.18 1471.89  231.44 1470.93  236.12    1470  239.95 1469.22
  241.61 1468.89   246.3 1467.95  252.35 1466.58  269.62 1462.49  271.71 1461.99
  273.82 1461.62  275.08 1461.42  277.62  1461.1  283.61    1460  287.44 1459.36
  290.07 1458.94  297.22 1457.78  299.27 1457.58   302.5 1457.06  306.04 1456.56
  309.36    1456  319.94 1454.66   324.2    1454  332.78 1453.04  338.25 1452.38
  340.62    1452  353.61 1450.53  356.98    1450  370.47 1448.27  373.61 1447.43
  375.03 1447.18  381.01    1446  386.27    1445  391.09 1444.13  408.46 1441.09
  410.84  1440.8  412.38 1440.54  419.02 1439.35  420.58 1439.03  424.78 1438.22
  431.34    1437  441.45 1435.04  448.76  1433.7  450.29 1433.44  454.25 1432.67
  462.89 1430.97  467.69    1430   475.8 1428.38  477.66    1428  481.35 1427.24
  487.52    1426  489.34 1425.63  490.41  1425.4   491.5 1425.15  499.07 1423.68
  500.56 1423.37   508.9 1421.53  514.87 1420.19  522.82 1418.51  526.83 1417.69
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 531.75 1416.74  539.13 1415.48  541.39 1415.06  543.29 1414.76     548    1414
 550.98 1413.51  552.34  1413.3  556.78 1412.53  561.69 1411.72  565.82 1411.14
 570.38 1410.45   575.1 1409.54  577.85 1409.07  579.81 1408.59  582.01    1408
  585.6  1407.2  588.04 1406.58  593.04 1405.37  595.18 1404.82  600.48 1403.58
 603.37 1402.72  605.22    1402  607.23 1401.21  610.49    1400  614.51 1398.44
 616.95 1397.59  621.13    1396  623.37 1395.17  626.42    1394  631.52 1392.14
 636.44 1390.37  637.46    1390   642.1 1388.31  643.67 1387.71  651.76 1384.69
 653.59    1384  656.83 1382.88  659.33    1382   660.4 1381.67   665.6    1380
 668.57 1379.08  671.85    1378  677.42 1376.43  678.91    1376  680.46 1375.58
 686.19    1374  692.61 1372.61   695.2    1372  705.04 1370.05  718.93    1368
 726.78 1366.98  734.63    1366  743.77 1364.39  746.01    1364  756.07 1362.16
 768.06 1358.57  769.93    1358  771.34 1357.59  777.14    1356   782.2 1354.64
 784.12    1354  789.25 1352.15  794.93    1350   797.2 1349.15  804.28  1346.6
 805.93    1346  807.46 1345.45   811.3 1344.16   816.2 1342.53  817.81    1342
 821.47 1340.76  823.68    1340  829.66    1338  832.98 1336.97  839.68 1334.96
 842.79    1334  846.16 1332.94  853.68 1330.59  857.17 1329.47  861.49    1328
 865.99 1326.43  867.83  1325.8  872.02    1324   876.3    1322  880.52 1320.15
 881.79 1319.84   890.5 1318.64  905.48    1318  908.48 1317.84   913.3 1317.54
 914.42 1317.24  918.85    1316  922.39 1314.97  925.99    1314  931.07 1312.41
 932.44    1312  946.95 1310.49   949.8 1310.21  951.24  1310.1  953.54    1310
 968.58    1310   972.4 1310.64  979.98 1311.34  984.56 1311.75   986.9    1312
 990.87    1312  992.11 1311.52  996.34    1310 1020.48    1310 1023.84  1310.6
1029.49 1311.51 1031.11 1311.79 1032.39    1312 1034.59 1312.18 1036.72 1312.32
1079.18 1312.07 1081.64    1312 1087.41    1312 1103.13 1311.78 1115.52 1311.64
1117.68 1311.61 1122.53 1311.55 1164.03 1311.09 1168.53 1311.05 1175.83 1310.94
1177.87 1310.92  1184.3 1310.83 1194.76 1310.73  1239.9    1310  1303.2    1308
1378.17    1308 1380.67 1307.93 1417.96 1307.03 1423.09 1306.89 1446.38    1306
1459.65    1306 1489.45 1305.59 1505.46 1305.62 1507.95 1305.61 1510.27 1305.59
1512.34 1305.56  1515.7 1305.56 1518.28 1305.53 1536.78 1305.47 1543.47 1305.43
 1563.9 1305.35 1569.31 1305.38 1608.64 1304.94 1618.49 1304.86 1635.95 1304.57
1639.69 1304.49 1649.61 1304.45 1651.51 1304.42 1662.49 1304.32 1682.89    1304
1708.46    1304 1727.45 1303.46 1739.77 1303.14 1765.07 1302.58 1780.14    1302
1790.28    1302 1797.52 1301.47 1798.62 1301.44 1833.18  1300.4 1844.09    1300
 1848.9    1300 1902.52 1298.69 1936.87    1298 2025.06    1298  2047.2 1297.52
2054.49 1297.73 2058.36    1298 2098.25    1298 2133.75 1297.13 2142.26 1296.96
2176.54    1296 2191.12    1296 2249.49 1294.44  2259.7    1294 2265.42    1292
2271.01 1291.02  2280.2    1290 2287.27 1289.76 2289.19 1289.77 2301.79    1290
 2377.6    1290 2394.01 1291.95 2406.37    1296 2411.36 1296.15 2416.99  1296.3
2423.99 1296.53 2436.51 1296.83 2462.07 1297.07 2467.41 1297.04 2468.45 1297.04
2476.04  1297.1 2479.46 1297.06 2502.89 1297.02 2509.15 1296.99 2516.55 1296.91
2548.78  1296.7 2559.23 1296.69 2562.84 1296.68 2578.85 1296.68 2638.82 1296.49
2646.64 1296.44 2672.51 1296.53 2679.18  1296.7 2684.59 1296.68 2686.31 1296.71
2702.54 1297.12 2707.66  1297.3 2712.53 1297.35 2727.97  1297.9 2730.49    1298
2731.73 1298.32 2736.45    1300 2737.75 1300.63 2741.01    1302 2744.27 1303.49
2745.45    1304 2748.76 1305.74 2752.62 1307.79 2754.33 1308.89 2756.14    1310
2759.39    1312 2760.83  1312.9 2766.36 1316.42 2767.64 1317.24 2771.72 1319.93
2776.12 1322.65 2782.27 1326.93 2782.99 1327.44 2786.38 1329.95 2789.83 1332.43
2796.61 1337.19 2797.42 1337.75  2801.2    1340 2802.74 1340.93  2804.5    1342
2806.59 1343.28 2808.82 1344.59 2810.98 1345.79 2812.65 1346.84 2814.46    1348
2816.92 1349.48 2817.72    1350 2818.76 1350.67 2821.47    1352 2831.26 1353.88
2843.69    1356 2845.18  1356.2  2853.7 1356.79 2856.78 1356.56 2860.59  1356.6
2870.61 1355.75  2872.7 1355.58 2873.95 1355.45 2875.35 1355.39 2879.38 1355.11
2883.19 1354.97 2885.72 1354.97  2888.8 1354.93 2897.24    1355 2899.47 1355.07
2903.28 1355.18  2909.7 1355.42  2911.9 1355.53 2915.41 1355.87 2924.81 1356.14
2929.19  1356.1 2932.54  1356.1  2936.6    1356 2942.92 1355.59 2944.28 1355.59
2947.62 1355.76 2948.94 1355.66 2950.49 1355.56 2951.86 1355.36 2961.42 1354.03
2971.81 1352.39 2973.96    1352 2975.08 1351.75 2980.61 1350.63 2987.38 1348.85
 2988.4 1348.52 2991.45    1348 2995.98 1346.89 3000.55    1346 3002.25 1345.72
3007.81 1344.87 3012.05 1344.79 3018.72 1345.28 3024.98 1345.62 3026.53 1345.72
3029.83    1346 3036.17 1346.77 3044.22    1348 3052.54  1348.5 3054.03 1348.52
 3060.8 1348.19 3062.41    1348 3066.09 1347.45  3068.1 1347.16    3075 1345.73
3076.41 1345.49  3078.1 1345.16 3079.72 1344.83 3080.96  1344.6  3082.7 1344.27
 3094.1    1342 3096.01 1341.63 3097.55 1341.32 3099.62 1340.91 3103.57 1340.09
3108.12 1339.21 3110.17 1338.86 3113.83 1338.35 3120.55    1340 3125.37 1341.11
3127.56  1341.7 3128.61    1342 3131.51 1342.82 3133.24  1343.3 3136.13    1344
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3139.94	1345.19	3143.11	1346.28	3146.39	1346.97	3149.05	1348	3150.85	1348.62
3154.46	1350	3159.26	1352	3162.27	1353.24	3163.93	1354	3171.41	1357.45
3172.57	1358	3173.62	1358.48	3180.1	1361.33	3181.87	1362	3183.74	1362.73
3187.13	1364	3188.18	1364.42	3192.43	1366	3194.87	1366.94	3203.12	1370
3205.61	1370.84	3208.29	1371.68	3214.92	1373.6	3221.34	1375.44	3223.51	1376
3227.65	1377.18	3230.67	1378	3234.78	1379.07	3236.02	1379.34	3240.34	1380.35
3242.54	1380.83	3247.45	1382.01	3248.74	1382.34	3250.76	1382.87	3253.68	1383.59
3255.93	1384.19	3259.26	1385.04	3266.29	1386.87	3267.47	1387.18	3268.87	1387.56
3270.45	1388	3273.59	1388.94	3280.06	1390.8	3282.15	1391.47	3287.14	1393.12
3292.52	1394.84	3295.26	1395.75	3298.43	1396.79	3307.59	1399.99	3310.16	1400.92
3313.22	1402	3314.55	1402.48	3319.55	1404.24	3325.08	1406.17	3329.3	1407.62
3333.18	1408.88	3334.33	1409.23	3335.83	1409.68	3354.27	1414.6	3355.53	1414.93
3358.69	1415.77	3364.6	1417.3	3372.45	1419.18	3376.26	1420.16	3378.61	1420.76
3381.17	1421.39	3383.83	1422.09	3387.12	1422.93	3398.31	1425.85	3400.43	1426.46
3407.89	1428.62	3409.71	1429.18	3411.01	1429.61	3412.2	1430	3415.34	1431.01
3416.87	1431.49	3420.54	1432.67	3425.64	1434.22	3428.13	1435.01	3431.54	1436
3434.03	1436.56	3444.19	1440	3450.18	1442	3451.93	1442.57	3455.88	1443.88
3460.65	1445.41	3466.97	1447.33	3469.39	1448	3473.18	1448.91	3477.63	1450
3482.8	1451.29	3485.79	1452	3492.25	1452.84	3499.49	1454	3506.46	1454.8
3516.28	1456	3539.81	1456	3545.44	1454.51	3547.18	1454	3550.03	1453.23

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
146.9	.065	2098.25	.03	2436.51	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
2098.25	2436.51	623.25	623.25	.1	.3

CROSS SECTION

RIVER: Newhall
REACH: Mainstem RS: 7013.289

INPUT
Description:
Station Elevation Data num= 499

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1452	11.06	1452	21.42	1450.54	24.95	1450.05	34.9	1448.09
40.45	1446.27	44.21	1444.64	45.66	1444.34	49.84	1442.48	50.84	1442
53.7	1440.68	55.08	1440	57.15	1439	59.13	1438	59.95	1437.58
60.75	1437.18	62.8	1436.27	68.72	1433.99	70.2	1433.37	73.62	1432.19
75.27	1431.51	77.02	1430.86	79.52	1430	81.75	1429.2	85.12	1428
86.6	1427.45	89.8	1426.47	92.28	1425.67	94.55	1425.07	97.8	1424.14
102	1423.39	105.48	1422.36	109.45	1421.61	112.45	1421.08	115.13	1420.66
117.12	1420.32	123.75	1419.28	125.68	1418.92	127.44	1418.45	133.63	1417.52
137.94	1416.26	138.79	1416	141.49	1415.15	145.1	1414	146.54	1413.55
152.26	1411.77	153.09	1411.53	156	1410.64	159.37	1409.6	161.72	1408.88
164.15	1408.16	168.76	1406.73	170.3	1406.26	176.29	1404.37	181.52	1402.66
183.35	1402	186.87	1400.82	189.16	1400	189.93	1399.73	196.72	1397.37
197.82	1396.94	201.74	1395.58	203.03	1395.09	204.25	1394.62	205.88	1394
209.03	1392.88	211.34	1392	213.26	1391.31	215.85	1390.32	226.35	1386.21
227.64	1385.73	235.96	1383.1	239.63	1382	240.62	1381.69	241.71	1381.37
244.19	1380.65	246.4	1380	249.34	1379.13	252.04	1378.46	255.97	1377.29
260.09	1376	261.51	1375.64	266.89	1374	273.12	1372	276.4	1370.76
280.32	1369.43	283.63	1368	286.18	1366.93	288.3	1366	292.22	1364.72
294.33	1364	305.18	1362	306.98	1361.59	314.02	1360	321.78	1358.05
328.89	1356	333.34	1354.63	335.53	1354	338.77	1353.03	341.78	1352
345.11	1350.89	347.76	1350.39	355.26	1349.35	358.92	1348.73	366.61	1348
369.62	1347.58	370.96	1347.36	383.89	1346.38	385.11	1346.37	388.07	1346
395.07	1345.26	396.81	1344.92	399.17	1344.52	401.69	1344.17	407.53	1343.2
409.75	1342.88	412.33	1342.43	417.88	1341.55	421.22	1340.9	422.66	1340.63
425.61	1340	428.52	1339.41	429.41	1339.24	436.34	1337.75	437.35	1337.48
444.96	1335.87	446.36	1335.46	448.51	1334.84	450.8	1334.14	455.6	1332.24
460.39	1330.45	469.44	1327.03	470.22	1326.75	472.26	1326	473.71	1325.45

477.81	1324	481.64	1322.8	485.23	1321.78	488.16	1320.9	492.38	1319.52
493.75	1318.98	496.38	1318	498.07	1317.44	500.21	1316.64	501.08	1316.34
504.37	1315.19	505.69	1314.62	509.35	1313.05	515.68	1312	522.09	1311.22
525.72	1310.92	535.7	1310	546.79	1310	562.02	1308.58	569.4	1308
571.2	1308	597.55	1306.85	599.2	1306.83	609.51	1306	614.23	1306
621.08	1305.66	622.76	1305.58	651.93	1304	660.13	1304	669.2	1303.49
683.93	1302	702.3	1300	718.88	1300	766.38	1298	776.5	1297.82
777.72	1297.81	798	1297.47	848.59	1296.83	885.43	1296.5	890.35	1296.45
912.33	1296.3	929.73	1296.15	932.85	1296.16	934.53	1296.18	945.1	1296.16
951.1	1296.24	969.14	1296.27	992.57	1296.4	994.47	1296.42	1045.24	1296.06
1046.09	1296.07	1050.28	1296	1084.31	1296	1087.54	1296.06	1116.85	1296.26
1124.03	1296.26	1125.71	1296.25	1155.29	1296	1174.96	1296	1192.32	1295.58
1195.59	1295.54	1215.21	1295.21	1224.78	1295.09	1239.75	1295.05	1250.17	1295.23
1255.65	1295.4	1263.43	1295.68	1266.04	1295.65	1270.01	1295.88	1272.5	1296
1284.48	1297.4	1287.38	1297.72	1292.21	1298	1301.53	1298	1311.55	1297.69
1313.24	1297.66	1321.36	1297.4	1346.56	1296.45	1351.01	1296.29	1358.21	1296
1359.95	1296	1372.45	1295.55	1410.94	1295.12	1415.35	1295.19	1416.88	1295.19
1418.84	1295.21	1434.72	1295.3	1438.45	1295.3	1468.93	1294.97	1486.29	1294.67
1491.65	1294.61	1495.81	1294.54	1501.44	1294.52	1524.3	1294.22	1525.41	1294.21
1526.83	1294.19	1555.14	1294	1575.04	1293.93	1596.25	1293.79	1614.68	1293.68
1631.77	1293.63	1643.77	1293.66	1662.3	1293.45	1665.68	1293.44	1666.74	1293.43
1672.8	1293.33	1689.64	1293.18	1692.48	1293.13	1701.37	1293	1711.62	1292.87
1740.29	1292.65	1743.94	1292.68	1747.24	1292.69	1751.15	1292.71	1753.52	1292.7
1756.46	1292.72	1765.48	1292.8	1767.56	1292.77	1825.13	1292.56	1838.95	1292.41
1861.63	1292	1873.19	1292	1887.55	1291.49	1888.64	1291.5	1892.08	1291.38
1893.99	1291.39	1897.53	1291.26	1923.69	1290.68	1932.47	1290.72	2032.84	1290
2136.66	1290	2141.46	1289.93	2142.34	1289.94	2144.07	1289.94	2169.85	1289.89
2178.49	1289.83	2182.03	1289.76	2183.31	1289.73	2184.61	1289.71	2221	1289.03
2234.42	1288.85	2238.25	1288.81	2241.46	1288.79	2256.59	1288.62	2266.13	1288.57
2271.02	1288.57	2280.17	1288.59	2312.32	1288.85	2321.35	1289	2331.61	1289.15
2353.07	1289.51	2364.78	1289.68	2375.54	1289.81	2386.13	1290	2415.8	1290
2423.4	1288.85	2425.38	1288.38	2426.93	1288	2431.37	1286	2433.24	1285.15
2435.81	1284	2517.24	1284	2521.76	1284.08	2524.77	1284.15	2535.09	1284.41
2536.98	1284.45	2600.66	1286	2601.55	1286.62	2602.71	1287.43	2603.54	1288
2605.5	1289.36	2606.43	1290	2608.36	1291.34	2609.32	1292	2621.05	1293.67
2623.17	1294	2688.59	1296	2705.57	1296	2729.1	1297.17	2753.06	1298
2796.55	1298	2799.9	1298.28	2804.01	1298.93	2811.08	1300	2813.13	1301.47
2813.97	1302	2817.67	1303.87	2819.9	1305.01	2821.74	1305.92	2825.52	1307.86
2826.29	1308.27	2830.03	1310.21	2835.02	1312.83	2837.22	1314	2839.51	1315.02
2841.7	1316	2847.22	1317.9	2852.91	1319.59	2854.64	1320	2856.1	1320.49
2860.95	1322	2864.28	1323.05	2867.2	1324.53	2870.29	1326	2874.07	1328
2877.66	1330	2878.71	1330.59	2881.28	1332	2887.26	1335.11	2888.11	1335.58
2888.9	1336	2890.13	1336.64	2893.03	1338	2894.71	1338.75	2897.52	1340
2900.59	1341.19	2903.42	1342	2906.99	1343.21	2909.1	1344	2912.75	1345.39
2914.34	1346	2915.98	1346.66	2918.67	1348	2920.78	1349.08	2923.05	1350.26
2926.65	1352	2929.22	1353.35	2930.51	1354	2932.74	1355.19	2934.29	1356
2935.86	1356.85	2937.22	1357.57	2942	1359.4	2943.47	1360	2945.61	1360.56
2951.37	1362	2952.17	1362.25	2955.63	1363.24	2962.9	1365.25	2965.23	1365.7
2966.76	1366	2967.69	1366.2	2968.58	1366.32	2969.64	1366.44	2974.3	1366.98
2977.12	1367.69	2985.25	1368.08	2988.05	1368.2	2992.39	1367.75	2993.27	1367.67
2999.86	1368	3002.38	1368.29	3003.3	1368.46	3007.38	1369.12	3011.75	1368
3012.78	1367.72	3016.09	1366.64	3018.14	1366	3021.13	1364.96	3024.17	1364
3025.03	1363.73	3032.69	1361.76	3042.4	1359.58	3045.24	1358.98	3047.34	1358.51
3049.57	1358	3053.63	1357.09	3055.71	1356.61	3058	1356.01	3063.24	1354.82
3068.43	1353.71	3069.46	1353.46	3071.09	1353.15	3072.65	1352.81	3076.79	1352
3079.53	1351.41	3080.55	1351.17	3083.3	1350.77	3090.08	1349.57	3093.54	1349.31
3096.94	1348.96	3099.74	1348.78	3107.93	1348.12	3110.31	1348	3120.05	1347.79
3122.79	1347.62	3128.16	1347.73	3131.14	1348.4	3139.78	1348.89	3144.24	1349.24
3147.41	1349.61	3148.29	1349.72	3150.27	1350	3155.72	1350.75	3158.18	1351.18
3160.54	1351.6	3163.99	1352	3170.69	1353.07	3173.81	1353.61	3176.5	1354
3181.3	1354.73	3189.75	1355.97	3195.43	1356.71	3196.67	1356.87	3200.34	1357.29
3206.15	1358.29	3209.67	1359.21	3213.76	1360	3219.07	1360.97	3221.32	1361.41
3222.98	1361.8	3226.53	1363	3229.01	1363.76	3234.3	1365.65	3235.42	1366
3240.47	1367.83	3246.23	1369.93	3249.99	1371.26	3251.86	1372	3252.65	1372.25
3254.26	1372.7	3258.59	1374	3259.67	1374.33	3265.35	1376	3266.49	1376.36

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 3270.07 1377.45 3274.87 1378.89  3278.5    1380 3284.42 1381.99 3289.85    1384
 3292.33 1384.88 3295.42    1386 3297.57 1386.74 3299.53 1387.44 3301.76 1388.25
 3305.62 1389.61 3308.65 1390.73 3311.76    1392 3313.02 1392.45 3316.01 1393.63
  3316.8    1394 3321.17    1396 3327.72 1398.82  3329.6 1399.62 3330.48    1400
 3331.44 1400.41 3332.58 1400.89 3339.84    1404 3343.45 1405.45 3344.81    1406
 3347.58 1407.09 3349.57    1408 3353.53 1409.73 3355.45 1410.54 3358.64    1412
 3359.68 1412.48 3363.01    1414 3370.39 1415.51 3373.79    1416 3378.76 1416.89
 3379.98 1417.14 3382.08 1417.56 3383.81  1417.8 3383.88 1417.79

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  2415.8     .03 2623.17    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        2415.8 2623.17           472.99  472.99  472.99             .1       .3

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 6540.300

INPUT
Description:
Station Elevation Data    num=     450
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    1448    8.88    1448    19.7 1446.64   23.17    1446   29.58 1444.39
    31.1    1444   33.65 1443.33   42.63 1440.71   44.95    1440   48.97 1438.71
   51.26    1438    55.9 1436.18   56.52 1435.95   66.05 1432.12   70.59 1430.48
   71.19 1430.26   73.24 1429.45   76.83    1428   78.78 1427.17   80.29  1426.5
   86.49    1424   87.37  1423.6   89.22 1422.79   90.43 1422.39   91.77    1422
   94.66 1421.05   95.94  1420.6  100.02 1419.48  102.02 1418.95  106.83 1417.64
  107.36 1417.52  109.08 1417.02  110.76 1416.58   112.4 1416.17   115.5 1415.46
  118.44 1414.71  119.14 1414.53  124.29 1413.34  127.21 1412.74  131.25 1411.88
  133.62 1411.52  135.57 1411.18  139.22 1410.55  146.62 1409.38  150.19 1408.91
  158.34    1408  162.54 1407.55  170.85 1406.62   172.6 1406.42  173.19 1406.32
  175.52    1406  180.99 1405.31  181.92 1405.17   184.3 1404.88  186.24 1404.52
     193 1403.81  196.58 1403.03  204.94 1402.39  212.05    1402  216.96 1401.71
  218.87 1401.59  225.79 1401.48  228.27 1401.31  233.21 1401.39  234.95 1401.32
     238 1401.41  244.93 1401.25  251.45 1401.07     253 1400.99  256.67  1400.7
  262.23 1400.51   263.9 1400.33  272.52  1399.5  274.62 1399.12  279.41    1398
  285.48 1396.43  286.09 1396.26  286.99    1396   292.1 1394.66  294.43    1394
  296.74  1393.4   297.8  1393.1  299.86 1392.43  301.04    1392  304.86  1390.7
  310.76 1388.48  312.75 1387.74   313.3 1387.53  317.32    1386  320.97 1384.62
  322.63    1384  324.89 1383.14  327.91    1382  332.57 1380.18  333.26 1379.92
  335.39 1379.05  338.01    1378  342.87    1376  344.24 1375.43  350.35  1372.8
  352.13    1372  353.31 1371.48  354.19  1371.1  358.88 1368.99   364.8 1366.38
  365.68    1366  367.32  1365.3  369.97    1364  371.47 1363.24  374.02    1362
  377.22 1360.42  379.27 1359.32  381.68    1358  383.23 1357.18  385.37    1356
  387.88 1354.63  389.02    1354  391.29 1352.97  392.33 1352.51  393.42    1352
  396.28 1350.81  398.14    1350  401.28 1348.68  402.75    1348  407.68 1345.83
   410.2 1344.75  411.96    1344  413.68 1343.26  416.85    1342  423.94 1338.61
  425.11    1338  428.79 1336.11  429.52 1335.73  435.93 1332.77  437.75    1332
  440.69 1330.89  447.19  1328.4  448.14 1328.06  453.34    1326  455.32 1325.19
   458.3    1324  460.19 1323.25  467.03 1320.58  468.44    1320  469.11 1319.74
  472.27 1318.61  474.19    1318  477.31 1316.81  479.81    1316  487.52 1314.56
  489.52    1314  498.87 1312.76  503.09 1312.21  510.94  1311.2  520.99    1310
  528.56    1309  537.79    1308  558.99 1306.19  561.17    1306  575.08 1304.21
  576.89    1304  579.98 1303.63  594.43    1302  610.47 1300.16  612.06    1300
  614.89 1299.82   632.1 1298.87  635.16 1298.72  645.36    1298  657.17    1298
  670.79 1297.28  691.44    1296  693.13    1296  702.39  1295.6  719.41 1295.53
  720.75  1295.5  726.76 1295.39  731.87 1295.28  738.83 1295.07  746.23 1294.83
  748.45 1294.72  760.04    1294  774.24    1294  783.08 1293.84  785.81  1293.8
  799.61 1293.42  835.22 1292.74  843.95 1292.73  873.56 1292.22  900.74 1291.49
  912.43  1291.2  920.46 1291.14  932.56 1290.92  945.77 1290.82  950.43 1290.83
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  957.52  1290.8  961.77  1290.8  972.14 1290.71  977.62 1290.65  981.11 1290.66
  985.24 1290.65   999.1 1290.58 1004.26 1290.54 1042.95    1290 1055.79    1290
 1070.75 1289.52 1072.14 1289.52 1079.77 1289.43 1100.59 1289.12 1102.07 1289.11
 1113.85 1289.14 1123.72 1289.04 1128.36 1289.06 1133.06  1289.1 1140.41 1288.96
  1149.6  1288.9 1160.04 1288.93 1169.72 1288.93 1211.04    1288 1233.76    1288
 1245.54 1287.78 1263.38    1288 1300.75    1288 1304.06 1288.29 1304.76 1288.37
 1306.63  1288.6 1316.98    1290 1317.51 1290.04 1319.22    1290 1372.42    1290
 1403.46 1288.46 1419.42    1288 1450.06    1288 1467.55 1288.47 1470.53 1288.43
 1475.19  1288.4 1482.09 1288.49 1484.53 1288.48 1530.76 1288.62 1537.26 1288.59
 1556.56 1288.47 1560.94 1288.43 1579.66  1288.2 1590.17 1288.05 1592.88    1288
  1595.8    1288 1643.59 1287.59 1648.43 1287.54 1650.77 1287.51 1658.54 1287.46
 1681.96 1287.26  1689.2 1287.16 1691.37 1287.12 1694.19  1287.1 1724.65 1286.39
 1730.61 1286.33 1736.58 1286.06 1738.65    1286 1748.43    1286  1764.4 1285.65
 1766.86 1285.63 1788.72 1285.35 1796.05 1285.28 1830.57 1285.49 1837.78 1285.61
  1841.5 1285.62 1850.37 1285.75 1851.85 1285.76  1861.4  1285.9 1862.01 1285.91
 1869.63    1286 1893.87    1286  1905.8 1285.86 1909.18 1285.82 1912.76 1285.86
 1916.88 1285.82 2001.19 1285.85 2009.32  1285.8 2019.62 1285.69 2143.87    1284
 2198.86    1284 2212.16 1284.46 2244.61 1284.83 2261.52 1284.77  2314.8    1284
  2422.5    1284 2426.98 1282.16 2430.51 1280.72 2432.26    1280 2434.38 1279.87
 2435.72  1279.8 2441.54 1279.45  2444.2  1279.3 2446.36 1279.17 2484.41 1278.48
 2501.25 1278.77 2504.28 1278.84 2504.83 1278.85 2508.09 1278.92 2518.36 1279.03
 2519.06 1279.04 2522.55 1279.13 2532.76 1279.38 2543.45 1279.64 2545.59 1279.68
 2554.62 1279.68 2558.44    1280 2560.27 1281.52 2560.85    1282 2563.18 1283.94
 2565.38 1284.89 2567.13 1285.63 2568.32    1286 2572.38 1287.18 2575.66    1288
 2579.38 1289.01 2583.88    1290 2585.87 1290.43 2588.53 1291.07 2592.23    1292
 2593.45  1292.3 2596.04 1293.01 2599.57 1293.95 2605.41    1296 2607.24  1296.7
 2610.12    1298 2613.81 1299.68 2614.53    1300  2616.2 1300.72 2619.01    1302
 2620.78 1302.74 2623.76    1304 2625.73 1304.82 2628.68    1306 2631.94 1307.19
 2633.84    1308  2638.4 1309.72 2639.01    1310 2640.49 1310.66 2647.64  1313.3
 2649.51    1314 2651.78 1314.84 2654.88    1316 2660.17 1317.97  2660.8 1318.21
 2665.53    1320 2667.36 1320.71 2670.72    1322 2673.79 1323.04 2680.08  1325.3
 2681.31 1325.66 2682.61    1326  2688.2    1328 2689.68 1328.52 2694.94    1330
 2696.07 1330.31 2705.56  1332.9 2709.39    1334 2710.37 1334.27 2712.29 1334.84
 2716.36    1336 2717.45 1336.28  2718.5 1336.52  2720.6 1336.83 2723.78 1337.39
 2727.49    1338 2728.12 1338.11 2733.42 1338.94 2735.45 1339.02  2737.8 1339.16
  2743.9 1339.42 2746.35  1339.5 2747.43 1339.56 2750.91    1340 2754.83 1340.33
 2756.81 1340.83 2757.81 1340.99 2759.25 1341.23  2761.6 1341.54 2763.47 1341.85
 2764.73 1341.97 2766.47 1342.05 2768.71 1342.17 2777.04 1342.68 2778.01 1342.75
 2779.54 1342.83 2782.53 1342.98 2787.04 1343.28 2787.96 1343.26 2789.47  1343.3
 2794.65 1343.54 2798.84 1343.68 2799.85 1343.69 2804.71 1343.82 2807.26 1343.93
 2809.58 1344.09 2811.72 1344.16 2812.76 1344.15 2822.01 1344.16 2822.75 1344.16
  2831.5 1344.21 2834.31 1344.23 2836.44 1344.31 2838.43 1344.35 2841.96 1344.61
 2846.41 1345.08 2850.29 1345.34 2854.99    1346 2857.48 1346.34 2858.17 1346.49
  2858.7 1346.59  2865.4 1347.61 2874.83 1349.08 2878.01 1349.59 2880.63    1350
  2884.6 1350.75 2887.38 1351.33 2897.29 1352.88 2903.41    1354 2903.97  1354.1
 2916.47 1356.07 2917.25 1356.17 2919.05 1356.45 2927.01 1357.63 2935.07 1358.72
 2939.19 1359.42 2942.16    1360 2943.41    1360 2948.33 1359.57 2949.11 1359.65
 2957.96 1359.54 2958.78  1359.6 2963.55    1360 2968.88    1362 2970.98 1362.78
  2972.7  1363.5 2973.75    1364 2978.22 1365.28 2980.35    1366 2984.65 1367.38
 2991.42  1369.6 2992.62    1370 2995.61 1370.98 2997.38 1371.59 2998.55    1372
 2999.53 1372.35  3009.8    1376 3011.24 1376.51  3015.4    1378 3018.55    1378

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  2422.5     .03 2567.13    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        2422.5 2567.13             285.6   285.6   285.6             .1       .3

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 6254.699
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INPUT
Description:
Station Elevation Data num= 380

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1391.13	.72	1390.94	2.4	1390.44	11.62	1388.05	11.79	1388
20.46	1386	23.94	1385.28	30.31	1384	40.34	1382	51.65	1380.4
55.11	1380	61.33	1379.24	67.87	1378.41	74.51	1378	81.94	1377.16
94.24	1376.02	94.29	1376.02	94.46	1376	103.96	1374.13	104.21	1374.08
104.58	1374	105.26	1373.93	109.48	1373.6	109.73	1373.58	111.36	1373.39
112.04	1373.3	117.93	1372.62	123.12	1372	123.22	1371.94	126.55	1370
128.05	1369.43	132.35	1368.47	136.33	1367.01	139.95	1366	144.67	1365.05
145.91	1364.74	148.76	1364	150.61	1363.35	154.95	1362	159.22	1360.57
160.42	1360.16	160.96	1360	165.62	1358.34	166.75	1358	169.1	1357.14
174.78	1355.05	177.97	1354	182.37	1352.56	184.21	1352	188.21	1350.77
190.83	1350	191.75	1349.67	194.48	1348.57	197.47	1347.52	201.63	1346
206.41	1344.18	207.21	1343.88	208.21	1343.47	211.92	1342	213.04	1341.52
216.67	1340	220.17	1338.5	221.37	1338	230.25	1334.05	230.3	1334.03
230.35	1334	230.5	1333.93	235.27	1332	236.59	1331.48	240.59	1329.84
242.87	1328.89	245.57	1328	249.16	1326.74	251.34	1326	252.04	1325.75
256.48	1324	256.61	1323.95	257.2	1323.69	261.58	1322	265.57	1320.47
270.13	1319.09	274.11	1318	275.41	1317.69	287.06	1314.18	287.5	1314
288.27	1313.7	291.32	1312.92	295.06	1312	296.94	1311.52	303.16	1310
303.57	1309.89	303.6	1309.9	304.27	1309.84	306.2	1309.25	309.57	1308.47
310.97	1308.16	311.26	1308.1	317.56	1307.39	319.26	1307.07	321.49	1306.63
327.62	1305.78	329.77	1305.26	333.67	1304.42	334.38	1304.27	335.61	1304
339.74	1303.17	342.75	1302.54	347.01	1301.52	353.23	1300	353.61	1299.94
354.26	1299.78	356.36	1299.36	358.05	1299	360.98	1298.47	361.84	1298.27
368.63	1297.1	370.4	1296.66	373.43	1296	376.89	1295.34	379.06	1294.86
380.68	1294.51	382.67	1294	386.12	1293.25	390.61	1292	395.89	1290.62
397.89	1290	404.18	1289.27	406.89	1288.98	413.77	1288	415.79	1288
423.96	1287.53	450.12	1286.44	468.21	1286.06	468.66	1286.05	471.45	1286
519.37	1286	530.98	1285.54	533.23	1285.53	566.72	1285.62	569.42	1285.61
582.73	1285.68	584.2	1285.68	586.98	1285.66	588.33	1285.64	592.22	1285.65
596.17	1285.6	600.84	1285.59	619.7	1285.8	620.06	1285.79	620.24	1285.79
630.41	1285.85	632.13	1285.85	642.53	1285.78	643.55	1285.8	679.96	1285.51
681.68	1285.55	708.43	1285.39	712.16	1285.31	748.32	1284.83	766.35	1284.63
797.89	1284.55	812.27	1284.45	820.14	1284.38	833.79	1284.22	835.99	1284.21
856.54	1283.97	856.63	1283.97	859.93	1283.94	861.13	1283.94	868.54	1283.87
894.13	1283.74	908.53	1283.75	909.95	1283.74	924.34	1283.7	925.24	1283.7
928.65	1283.67	939.53	1283.62	944.54	1283.56	960.8	1283.43	983.01	1283.2
986.55	1283.17	999.33	1283.12	1007.18	1283.02	1022.07	1282.89	1026.23	1282.83
1032.07	1282.79	1076.54	1282.02	1076.71	1282.02	1077.05	1282.01	1077.1	1282.01
1078.71	1282	1139.93	1282	1144.72	1282.47	1152.3	1283.73	1153.98	1284
1155.46	1284.14	1163.2	1284.72	1163.76	1284.73	1169.99	1285.09	1191.29	1285.05
1196.9	1284.86	1198.3	1284.81	1208.06	1284.53	1220.27	1284	1236.07	1284
1237.86	1283.93	1294.32	1283.61	1297.91	1283.51	1299.81	1283.63	1306.57	1284
1310.27	1284.19	1310.42	1284.2	1310.53	1284.2	1310.64	1284.21	1313.6	1284.39
1325.48	1285.04	1340.86	1286	1341.22	1286.06	1345.03	1286.64	1355.15	1288
1406.78	1288	1413.38	1286.39	1414.96	1286	1419.24	1285.15	1424.63	1284
1445.1	1282.36	1449.35	1282	1956.82	1282	1965.12	1281.74	1996.04	1280.86
2010.98	1280.01	2011.16	1280	2064.41	1280	2087.42	1280.48	2094.69	1280.65
2145.58	1282	2163.35	1282	2167.4	1280.26	2168	1280	2174.15	1277.35
2177.27	1276	2230.48	1276	2232.15	1277.73	2232.41	1278	2232.67	1278.24
2234.46	1280	2236.98	1281.87	2237.12	1282	2237.35	1282.05	2244.28	1283.63
2248.03	1284	2253.47	1284	2255.67	1284.26	2279.58	1286	2286.27	1286
2292.29	1286.67	2294.23	1286.71	2298.78	1286.92	2302.04	1286.98	2307.82	1288
2326.85	1288	2329.78	1288.28	2330.34	1288.26	2334.32	1288.6	2342.43	1290
2361.26	1290	2362.64	1290.32	2364.34	1290.43	2375.64	1292	2376.7	1292
2382.86	1293.18	2386.86	1294	2389.62	1295.02	2392.06	1296	2392.78	1296.31
2397.05	1298	2402.39	1300.08	2405.63	1301.3	2412.74	1303.9	2412.9	1303.96
2413.03	1304	2413.53	1304.23	2417.18	1306	2419.25	1307.07	2420.32	1307.38
2421.1	1307.67	2422.05	1307.87	2426.87	1309.28	2430.28	1310	2432.22	1310.52
2433.34	1310.65	2436.11	1311.23	2438.4	1311.63	2445.21	1312.61	2449.5	1313.26
2453.06	1313.32	2453.83	1313.33	2454.82	1313.35	2455.44	1313.44	2461.85	1314.31
2464.15	1314.56	2465.7	1314.83	2468.03	1315.16	2470.31	1315.4	2474.69	1315.94

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 2476.13 1315.99 2476.14 1315.99 2477.83 1315.92 2477.97 1315.91 2482.23 1315.76
 2482.69 1315.74 2483.33 1315.72 2490.12 1315.44 2492.03 1315.38 2493.81 1315.33
 2495.92 1315.29 2497.42 1315.27 2501.49 1315.27 2504.96 1315.26 2507.16    1316
 2509.47    1316  2512.1 1316.85 2515.43    1318 2518.39 1319.23 2524.35 1321.36
 2525.96    1322 2528.08 1322.89 2529.63 1323.57  2531.7 1324.54 2533.88 1325.58
 2539.21    1328 2540.89 1328.77 2543.23    1330 2544.08 1330.45 2544.24 1330.54
 2544.28 1330.55 2544.34 1330.58  2544.7 1330.76 2545.56 1331.17 2546.13 1331.44
 2549.63 1333.21 2551.44    1334 2552.06 1334.25 2556.15    1336  2557.8  1336.7
  2560.6    1338 2567.25 1341.06 2568.31 1341.58 2569.33    1342 2570.68 1342.56
 2579.13    1346 2581.21  1346.8 2584.14    1348 2586.43 1348.91  2589.1    1350
 2592.58 1351.55 2593.67    1352 2595.19 1352.72 2598.04    1354 2599.64 1354.78
 2602.42    1356 2604.06 1356.82 2606.82    1358 2611.37 1359.93 2614.19 1361.09
 2620.58 1363.09 2621.66 1363.49 2623.25    1364 2623.94 1364.23 2625.52 1364.72
 2629.49    1366 2634.25 1367.52  2635.5 1367.91 2635.64 1367.96 2635.84 1368.05
 2635.97  1368.1  2639.8    1370 2640.69 1370.46 2643.62    1372 2706.77    1372

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065 2163.35     .03 2237.12    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       2163.35 2237.12            295.47  295.47  295.47             .1       .3

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 5959.225

INPUT
Description:
Station Elevation Data    num=     457
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1371.76    4.51 1371.39   17.91    1370   18.66    1370   26.46 1368.73
   28.78 1368.29   30.84    1368   38.11 1366.74   41.81    1366   49.67 1364.57
   52.28    1364   53.63 1363.69   58.51 1362.57   59.89 1362.24   61.01    1362
   65.92 1360.77   68.98    1360   69.51 1359.91   70.55 1359.61   76.92    1358
   82.54  1356.6   84.67    1356   93.77 1354.33   95.29  1354.1   95.76 1354.08
   96.52    1354  104.85 1352.71  105.85 1352.68  111.32 1352.51  122.87 1352.38
  126.09 1352.34  127.16 1352.35  128.06 1352.35  141.24 1352.25  149.15    1352
  149.46 1351.99  149.53 1351.99  167.53 1351.32  169.68 1351.32  175.88 1351.01
  179.33 1350.85  187.26 1350.37  193.04    1350  195.31 1349.77  203.35 1348.81
  214.41    1348  216.39 1347.77  217.05 1347.63  228.19 1345.91  228.51 1345.85
     229 1345.77  229.53 1345.71  230.27  1345.6  231.11 1345.48  238.69 1344.31
  244.36 1343.52   249.7 1342.86   260.6 1342.09   261.7    1342  271.14 1340.98
  275.42 1340.79  279.39 1340.35  283.16 1340.03  283.36    1340   283.9 1339.93
  297.65    1338  302.64 1337.52  303.93 1337.41  312.78    1336  318.08 1335.35
  322.48 1334.74  326.43    1334  327.93 1333.55  333.75    1332  335.11 1331.61
  339.06 1330.36  340.87    1330  342.79 1329.33  346.83    1328  350.24 1326.84
  352.61    1326  360.98 1322.78  361.78 1322.46  362.89    1322  365.72 1320.84
  367.84    1320  368.38 1319.79  371.69 1318.49  372.37 1318.23  372.91    1318
  375.27 1317.02  377.73    1316   379.2 1315.39  381.92 1314.25  382.49    1314
  386.34 1312.41  389.44 1311.14  392.27    1310  394.85 1308.96  397.53    1308
  399.17 1307.34  402.58    1306  406.09 1304.52  407.32    1304  410.87 1302.51
  412.08    1302  412.38 1301.88  414.75 1301.09  416.71 1300.42  418.25    1300
  419.48 1299.68   423.3 1299.06  427.47 1298.35  430.16    1298  437.56 1297.03
  439.47 1296.88  441.55  1296.6  448.87 1296.46  451.82 1296.25  456.02 1296.58
  467.82 1297.22  473.82    1298  476.96 1298.42  481.01 1298.89  501.17    1298
  502.37    1298  502.95    1298  504.48  1297.5  506.07 1297.17   508.9    1296
  511.49  1294.8  512.61 1294.23  513.08    1294  516.13 1292.46  517.09    1292
  519.59 1290.87     523  1289.2  525.39    1288   528.7 1286.48  530.08    1286
  531.42 1285.59  535.85    1284  546.21 1282.27  548.46    1282  566.14 1281.12
  586.93 1280.56  591.48 1280.39  594.11  1280.3  596.51 1280.22  597.61 1280.19
  609.11    1280  620.71 1279.86  624.76 1279.82  625.53  1279.8  629.21 1279.77
  652.67 1279.52  656.96 1279.45  665.77 1279.33  691.78 1278.98  697.36 1278.96
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  699.51 1278.95  700.34 1278.94  709.82 1278.91  716.31 1278.95   719.4 1278.96
  743.73 1278.72  750.06 1278.56  751.72 1278.55  761.49  1278.4  766.05 1278.36
  767.71 1278.35  770.14 1278.35  772.11 1278.36  776.13 1278.43   787.2  1278.5
  792.86 1278.56  801.92 1278.54  805.07  1278.6  812.42 1278.56  820.83 1278.57
  826.08 1278.58  839.52 1278.54  840.56 1278.54  841.35 1278.53  856.34 1278.33
  859.56 1278.34  862.05 1278.35  863.32 1278.35  870.54 1278.61  872.14 1278.59
  914.15 1278.78  921.32 1278.61  925.39 1278.54  928.94 1278.47  931.42 1278.44
  939.81 1278.38  942.79 1278.34  964.57    1278  970.91    1278  973.36    1278
  974.86    1278  975.53    1278  976.37    1278  977.85    1278   980.9    1278
  987.06    1278  988.44    1278 1030.34 1277.51 1035.68 1277.49 1036.92 1277.48
 1043.09 1277.42 1047.66  1277.4 1050.72 1277.38 1058.88 1277.28 1093.06 1277.23
 1097.91 1277.23 1099.65 1277.24 1103.07 1277.25  1106.8 1277.26 1111.16 1277.26
 1115.54 1277.24 1125.49 1277.25 1161.82  1277.8 1163.67 1277.78 1170.26    1278
 1171.81    1278 1178.44    1278 1180.68    1278 1182.33    1278 1191.97    1278
 1200.46    1278 1209.07    1278 1231.73    1278 1252.08 1277.07 1255.54 1276.89
 1259.74  1276.7 1271.96 1276.46 1275.22 1276.34 1275.81  1276.3    1289 1276.24
 1302.03 1276.19 1307.91  1276.1 1309.12 1276.14 1324.66 1276.28 1325.71 1276.31
 1330.71 1276.49 1331.97 1276.55 1345.49 1276.82  1346.9 1276.88 1357.75  1277.3
 1364.19 1277.49  1371.2    1278    1386 1278.77 1399.73 1279.25 1401.31  1279.3
 1408.96  1279.5 1412.81 1279.61 1413.95 1279.64 1418.52 1279.64 1420.36  1279.7
 1424.79 1279.65 1426.08 1279.68 1426.94 1279.71 1436.89 1279.65 1445.06 1279.51
 1447.28 1279.46 1486.27    1278 1489.83    1278 1495.75    1278 1508.57    1278
  1515.2    1278 1526.64    1278 1534.09    1278 1544.13    1278 1555.66    1278
 1571.69    1278 1574.79 1277.92 1575.12 1277.92 1581.51 1277.88 1582.15 1277.88
  1600.6 1277.78 1606.78 1277.76 1646.23 1277.74 1647.89 1277.75 1649.53 1277.76
 1702.72    1278 1717.69    1278 1719.17    1278 1721.11    1278 1721.42    1278
 1761.91    1278 1770.19    1278 1773.09    1278 1778.36    1278 1804.05    1278
 1812.51    1278 1816.32    1278 1817.78    1278 1820.08    1278 1822.39    1278
 1824.89    1278 1841.42 1278.15 1912.97 1278.09 1921.03 1278.03 1921.19 1278.03
 1921.33 1278.03  1921.5 1278.03 1937.47 1278.08  1937.8 1278.08 1997.15 1278.14
 2006.77    1278 2012.77    1278 2014.84    1278 2019.06    1278 2022.55    1278
 2048.34    1278 2051.78    1278 2053.84    1278 2058.02    1278 2059.37    1278
 2069.63    1278 2070.85    1278 2128.67    1278 2131.23    1278 2133.43    1278
 2135.95    1278 2138.27    1278 2140.99    1278 2144.15    1278 2147.69    1278
 2156.54    1278 2163.03    1278 2169.57    1278 2170.07    1278 2170.66    1278
 2170.69    1278 2180.49    1278 2183.32    1278 2189.72    1278 2194.69 1276.23
 2195.34    1276 2200.59  1274.1 2200.86    1274 2204.91 1273.89 2214.93 1273.61
 2222.26  1273.4 2223.34 1273.38 2225.73 1273.31 2225.89  1273.3 2227.03 1273.29
 2242.34 1272.88 2289.94 1273.72  2292.7    1274 2293.32 1274.63 2294.66    1276
 2295.36 1276.71 2296.62    1278 2297.51 1278.91 2298.57    1280 2300.53 1281.99
 2300.54    1282 2300.55 1282.01  2301.3 1282.93 2301.76 1283.55  2302.9 1285.09
 2303.68 1285.91 2305.09 1287.76 2306.48 1289.57 2307.84 1291.34 2309.15 1293.06
 2310.44 1294.75 2311.54 1296.21 2311.74 1296.48 2313.09 1298.26 2313.34  1298.6
 2314.66 1300.33 2315.93    1302 2316.23 1302.41 2317.43    1304 2317.82 1304.53
 2318.94    1306 2319.45  1306.7 2320.43    1308 2321.15 1308.98 2321.92    1310
 2323.03  1311.5  2323.4    1312 2324.16 1313.03 2326.41 1316.29 2327.32 1317.61
 2327.68  1317.8 2334.25 1317.63 2335.45 1317.65 2336.15 1317.67 2337.15 1317.64
 2342.87 1317.48 2344.04 1317.43 2344.89 1317.45  2346.6 1317.42 2347.21 1317.44
 2348.41 1317.45 2358.59 1317.53 2360.54 1317.55 2365.05 1317.58 2367.17    1318
 2368.33    1318 2368.66    1318 2373.71 1319.89 2373.99    1320 2378.22 1321.53
 2380.58 1322.39 2385.16    1324 2390.64 1325.93 2390.84    1326 2391.45 1326.24
 2395.98    1328 2397.53 1328.61 2401.12    1330 2406.85 1332.24 2409.58  1333.3
 2411.39    1334 2412.71 1334.51 2416.91    1336 2419.49 1336.95 2422.38    1338
 2425.09 1339.01 2427.76    1340 2431.02 1341.22 2433.07    1342 2434.56 1342.27
 2444.18    1344 2446.34 1344.53 2452.52    1346 2456.76 1347.62 2457.74    1348
 2458.77 1348.39 2460.63 1349.09 2468.29    1352 2470.84 1352.97 2473.61    1354
 2476.87 1355.21 2478.05 1355.65 2478.99    1356 2479.84 1356.27 2485.16    1358
 2487.15 1358.64 2491.37    1360  2494.3 1360.88 2497.84    1362  2503.8 1363.16
 2506.92    1364 2515.61 1365.16 2521.52    1366  2522.9    1366 2523.51    1366
 2536.76    1366 2541.99    1366

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065 2189.72     .03 2296.62    .045
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Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.    Expan.
       2189.72 2296.62           322.03  322.03  322.03             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    1450    1280       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 5637.197

INPUT
Description:
Station Elevation Data    num=     333
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    1314    2.29    1314    7.87    1314   12.68    1314   14.66    1314
   27.33    1314   30.49    1314   31.55    1314   31.63    1314   32.77 1313.74
   39.26    1312   43.78 1310.84   47.27    1310    49.2 1309.46   55.56    1308
    56.7 1307.64   61.93    1306   64.19 1305.28    68.1    1304   68.43 1303.89
   68.61 1303.84   74.02    1302   76.66 1301.22   80.33    1300   84.55 1298.57
   91.12 1296.35   92.14    1296   94.02 1295.37   98.08    1294   103.3 1292.26
  104.11    1292  104.84 1291.77  106.72 1291.17  110.11    1290  111.72 1289.44
  116.03    1288  119.12    1287  122.11    1286  125.34 1284.94  128.27    1284
  131.46 1283.02  134.83    1282   140.1 1280.53  141.94    1280     146  1278.9
  149.16    1278  155.27 1276.51  156.11 1276.31  157.33    1276  163.78 1274.51
  165.81    1274  178.67 1272.22  181.08    1272  182.95    1272  193.24    1272
   196.9    1272  199.65    1272  210.65    1272  239.32 1270.91   242.5 1270.85
     264    1270  264.99    1270  266.31    1270  273.73    1270  280.65    1270
  286.09    1270  304.61 1269.18  312.86 1269.21   321.8 1268.98  329.32    1269
  334.54  1268.8  341.94  1268.5  343.91 1268.45  353.94    1268  361.45    1268
  399.28    1268  418.32    1268  418.96    1268  428.62    1268  448.15 1268.62
   453.2 1268.78  455.81 1268.85  469.73 1269.36  471.63 1269.43  480.79 1269.77
  487.15 1269.98  487.65    1270  487.86    1270  510.31  1270.2  521.64 1270.27
  523.91 1270.29  527.34 1270.31  542.33  1270.4  573.17 1270.34  573.93 1270.34
  582.28 1270.25  586.99 1270.23  587.97 1270.23  594.99 1270.25  597.21 1270.23
  602.67 1270.25  614.93 1270.32  618.03 1270.34  625.52 1270.44  679.32 1270.54
  683.89 1270.56  685.82 1270.56   693.7 1270.54   697.4 1270.52  709.93 1270.54
  713.86 1270.53  717.01 1270.56  720.02 1270.54  738.67 1270.58  780.72 1270.84
  786.12 1270.88   787.4 1270.88  795.98 1270.91  823.62 1271.19   833.3 1271.26
  837.58 1271.29  846.52 1271.31  849.74 1271.31  860.25 1271.44  862.49 1271.46
  864.54 1271.47  879.13 1271.53  886.57  1271.6  888.13 1271.61  890.22 1271.63
  892.73 1271.64  903.32 1271.59  932.01 1271.61  933.22 1271.61  937.86 1271.62
  941.32 1271.64  941.62 1271.64  965.43  1271.6  974.56 1271.69 1060.19    1272
 1078.01    1272 1079.06    1272  1085.1    1272  1088.1    1272 1090.61    1272
 1124.46 1272.87 1129.46 1273.05 1137.37 1273.21 1141.83  1273.3 1150.28 1273.65
 1152.93 1273.71  1158.9 1273.95 1159.73    1274 1159.97    1274 1173.39  1274.6
 1183.46 1275.04 1196.53 1275.72 1202.03    1276  1203.2    1276 1203.23    1276
 1205.92    1276 1214.83    1276 1233.18    1276 1237.33    1276 1238.41    1276
 1239.95    1276 1240.37    1276 1247.84    1276 1248.81    1276 1254.03    1276
 1293.58 1275.56 1467.48 1275.57 1469.86 1275.63 1476.23 1275.52 1477.73 1275.55
 1487.51 1275.73 1491.38 1275.81  1502.2    1276 1505.02    1276 1512.41    1276
 1514.12    1276  1522.6    1276 1522.64    1276 1530.42    1276 1531.31    1276
 1541.66    1276 1542.08    1276 1552.54    1276 1553.16    1276 1553.85    1276
 1565.42    1276 1572.28    1276 1581.74    1276 1590.08    1276 1598.04    1276
 1609.66    1276 1632.01    1276 1632.25    1276 1640.09    1276 1641.27    1276
 1667.24    1276 1669.41    1276 1680.03    1276 1687.48    1276 1698.04    1276
 1699.29    1276 1702.68    1276 1704.82 1274.39 1705.34    1274 1705.66 1273.76
    1708    1272 1709.18 1271.11 1710.66    1270 1716.65    1270 1719.35    1270
 1722.78    1270 1729.76    1270 1741.33    1270 1742.66    1270 1757.75    1270
 1758.46    1270 1759.81    1270 1760.11 1270.39 1761.35    1272 1762.14 1273.06
 1765.29 1277.22 1766.43 1278.75 1769.95 1283.46 1774.56 1290.21 1776.49 1293.05
 1777.19    1294 1778.12 1295.28 1779.24 1296.82  1780.2    1298 1780.72 1298.62
 1781.85    1300 1783.01 1301.38 1783.53    1302 1785.18 1303.92 1785.24    1304
 1785.54 1304.34 1787.06    1306 1787.98 1306.95 1788.97    1308 1789.68 1308.72
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 1791.64  1310.7 1792.92    1312 1794.71    1312 1800.59 1313.18 1806.49    1314
 1819.27 1315.77 1819.72 1315.81 1820.61 1315.87 1821.48    1316  1827.1    1316
 1837.86 1317.61 1840.48    1318 1844.99 1318.68  1855.7    1320 1861.13 1321.09
 1862.52 1321.38 1863.38 1321.55 1866.02    1322 1869.57 1322.58 1878.12    1324
 1879.28 1324.29 1883.66  1325.4 1886.58    1326 1886.67 1326.02  1886.7 1326.03
  1889.8 1326.99 1891.61 1327.16 1894.01 1327.47 1896.31    1328 1897.54 1328.22
  1900.1 1328.71 1905.76 1329.69  1907.4    1330 1908.39 1330.12 1908.64 1330.13
 1915.08 1330.22 1915.18 1330.22 1915.98 1330.26 1920.26    1330 1924.06 1329.67
 1925.66 1329.49 1928.59 1329.13 1929.56 1329.02 1930.49 1328.91 1932.67 1328.62
 1937.49    1328 1944.99 1326.99 1949.76  1326.1 1954.48 1325.41 1957.12 1324.94
 1964.16 1323.91 1966.07  1323.4  1967.5 1323.29 1968.48 1323.32 1971.24 1323.57
 1973.19 1323.61 1977.87 1324.46  1981.2 1325.04 1982.75  1325.3 1987.52 1326.14
 1989.82 1326.52 1991.98 1326.88 1993.81 1327.22 2000.15 1328.28 2002.26 1328.65
 2005.39 1329.17 2011.94    1330 2012.79  1330.1 2013.19 1330.17 2015.47  1330.6
 2017.27 1331.02 2021.47    1332 2022.94 1332.34 2029.54 1333.88 2029.94 1333.98
 2030.02    1334 2036.14  1335.5 2038.04    1336 2038.93  1336.2 2039.15 1336.27
 2044.67 1337.95 2044.81    1338 2044.82    1338 2056.53 1340.95 2057.78 1341.39
 2059.65 1341.85 2060.26    1342 2101.82    1342

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065 1702.68     .03 1765.29    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1702.68 1765.29           355.93  355.93  355.93             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    1700    1276       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 5281.263

INPUT
Description: 52+81
Station Elevation Data    num=     293
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1286.89     3.5 1286.35    8.96  1285.3      17    1284   17.93 1283.87
   18.55 1283.78   21.07 1283.29   27.26    1282   29.82 1281.58   38.26    1280
   39.41 1279.95   47.81 1279.63   60.81 1279.08   64.76 1278.81   68.78 1278.85
   75.83 1278.54  107.46 1278.44     109 1278.42  114.08 1278.38  116.37 1278.33
  133.21    1278  134.72    1278   135.1    1278  137.23    1278   137.5    1278
  153.63    1278  154.13    1278  165.45    1278  194.81    1278  200.02    1278
  201.95    1278  207.89    1278  209.19    1278   216.4    1278  220.57    1278
  225.86    1278  231.82    1278  234.48    1278  248.21    1278  256.93    1278
  260.05    1278   272.6    1278  280.18    1278  282.21    1278  286.86    1278
  301.63    1278  305.34    1278  316.21 1276.84  324.28    1276  325.93 1275.69
  333.33    1274   336.3 1273.48  342.58    1272   348.1 1271.34  348.35 1271.32
  350.21 1271.12  363.38    1270  376.85 1269.75  379.19  1269.7  432.36 1269.05
  436.77 1269.05  442.99 1269.03  450.88 1269.01  457.04    1269  464.48 1268.97
  527.81 1268.84  538.72 1268.67  542.56 1268.66  543.78 1268.64  561.03  1268.4
  565.32 1268.37  567.22 1268.34  588.12    1268  590.13    1268  590.28    1268
  592.63 1267.92  593.95 1267.87  597.52 1267.73  619.33 1266.88  628.86 1266.52
  642.21    1266   653.9 1264.52  656.21 1264.21   656.4 1264.19  657.96    1264
  659.17    1264  661.38    1264  662.53    1264  684.25    1264  724.97 1263.51
  729.02 1263.51  760.31 1263.53  778.52 1263.49  782.07 1263.48  784.43 1263.47
  802.18 1263.42  803.87 1263.41  804.26 1263.41   819.7 1263.34  827.18 1263.34
  835.09 1263.32   890.6 1263.52  895.01 1263.55  895.27 1263.55  895.37 1263.55
  971.19 1263.93  971.27 1263.93   980.1    1264  980.93    1264  983.06 1264.07
  983.53 1264.09  984.85 1264.15  998.76 1264.71 1007.79 1265.08 1010.94 1265.19
  1013.3 1265.28 1027.51 1265.47  1030.8  1265.6 1035.51 1265.72 1035.89 1265.73
 1049.53 1265.72 1051.66 1265.77 1059.73 1265.75 1060.19 1265.76 1061.47 1265.79
 1079.91 1265.75 1080.73 1265.77 1084.98 1265.76  1096.3 1265.77 1106.72 1265.81
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 1107.56 1265.83 1122.71    1266 1142.62    1266 1143.01    1266 1144.91    1266
 1154.59 1266.13 1169.69 1266.23 1171.24 1266.24 1175.61  1266.3 1177.09 1266.31
  1178.8 1266.32 1180.91 1266.33 1184.04 1266.35 1267.62    1268 1268.15    1268
 1268.45    1268 1269.88    1268 1271.51    1268 1272.23    1268 1274.83    1268
 1281.42    1268 1283.56    1268 1287.03    1268 1288.08    1268 1291.13    1268
 1294.37    1268 1300.49    1268 1303.11    1268 1344.87 1268.71 1346.89 1268.72
 1351.96  1268.8 1370.43 1268.96 1402.68    1270 1408.51    1270 1409.06    1270
 1409.53    1270 1411.07    1270 1411.78    1270 1420.12    1270 1430.96    1270
 1431.61    1270 1432.13    1270 1432.55    1270 1537.32    1270 1541.62    1270
 1544.02    1270 1544.07    1270 1544.17    1270 1548.48    1270 1563.06    1270
 1575.37    1270 1578.81    1270 1593.43    1270 1599.61    1270 1607.71    1270
 1674.44    1270 1676.97    1270 1677.95    1270  1681.8    1270 1710.01 1271.19
  1711.3 1271.25 1719.04  1271.6 1723.49 1271.73 1724.74  1271.8 1727.98    1272
 1729.75 1273.74 1730.02    1274 1730.68    1274 1738.49    1274 1739.82    1274
 1742.85    1274 1743.49    1274 1759.66    1274 1781.14    1274 1792.91    1274
 1823.55 1273.03 1835.99 1272.59 1848.65    1272 1852.06    1272 1854.53    1272
 1854.63    1272 1854.79    1272 1873.38    1272  1875.4    1272 1884.23    1272
 1938.29    1272 1996.29    1272 2004.75    1272    2005    1272    2017    1266
    2097    1266 2109.25    1272 2109.86 1272.12  2112.4 1272.79 2114.93 1273.44
 2117.21    1274 2119.15 1274.55 2124.06    1276 2127.24 1277.01 2129.92 1277.86
 2130.65 1278.11 2136.18    1280 2137.49 1280.52 2141.47    1282 2145.42 1283.51
 2148.35 1284.95 2150.22 1285.78 2152.24  1286.9 2154.19    1288 2155.12 1288.53
 2157.75    1290 2159.43 1290.95 2160.99 1291.81 2165.09    1294  2168.4 1295.67
 2169.04    1296 2170.16 1296.57 2173.34    1298 2174.66 1298.64 2179.56  1301.1
 2183.45 1303.24 2184.11 1303.59 2184.87    1304 2186.24 1304.75 2189.25 1306.39
 2193.89 1308.92 2194.89 1309.45 2195.93    1310 2196.87 1310.49 2199.68    1312
 2202.23 1313.31 2203.51    1314 2204.84 1314.68 2208.19 1316.25 2210.33 1317.13
 2213.06 1318.36 2216.88    1320 2217.14  1320.1 2217.27 1320.16 2217.43 1320.23
 2217.63 1320.33 2221.04    1322 2221.77  1322.4 2224.59    1324  2226.2  1324.9
 2228.09    1326  2229.9 1327.02 2231.54    1328 2236.83 1330.84 2238.94    1332
 2242.38 1333.42 2244.02    1334    2249 1335.54 2250.31 1335.85 2250.59 1335.92
 2250.79 1335.94 2251.31    1336 2257.19    1336 2257.61    1336 2258.61 1335.87
 2259.62 1335.75 2266.81 1334.81 2267.84 1334.66

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065    2005     .03 2109.25    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          2005 2109.25           219.45  219.45  219.45             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    1730    1274       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 5061.813

INPUT
Description: 50+62
Station Elevation Data    num=     218
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1280.13    1.16    1280   17.98 1278.23   20.78    1278   33.36 1276.55
   38.35    1276   39.37 1275.89   57.63    1274    61.8  1273.6   69.51 1272.94
      81    1272   89.31 1271.21  100.95    1270  108.51 1269.22  110.44 1268.97
  117.37    1268  123.14 1267.22  132.07    1266  145.95 1264.55  151.08    1264
  165.86 1262.83  178.18    1262  178.98 1261.95  196.76 1260.91  205.01 1260.58
   205.7 1260.55   209.6 1260.34  217.01  1260.3  217.63 1260.27  218.62 1260.21
  222.12 1260.26  223.16 1260.21   223.4  1260.2  224.63 1260.17  231.14 1260.13
  236.04  1260.2  243.66 1260.28  254.62 1260.41  314.51 1260.87   320.4 1260.83
  323.48 1260.84  327.56 1260.85  335.05 1260.84  339.78 1260.88  340.43 1260.87
   354.9 1260.98  355.61 1260.97  370.88 1260.88  380.75 1260.94  385.03 1260.93
  446.96 1261.36   447.8 1261.37  448.54 1261.38  472.65 1261.52  486.05 1261.69
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   487.8 1261.68  489.87 1261.71  503.71 1261.91  504.42  1261.9  508.77 1261.97
  510.39    1262  514.06    1262  560.57    1262  579.14    1262  583.39    1262
  586.32    1262  586.45    1262  589.47    1262  635.47    1262  646.75    1262
  659.29    1262  666.33 1262.24  689.12 1262.84  698.46 1262.89  701.82 1262.96
  708.15 1263.06  709.42 1263.08  714.36 1263.17  717.43 1263.22  718.12 1263.26
  733.17 1263.41  750.95    1264  751.75    1264  762.35    1264  764.27    1264
     776    1264  777.92    1264  791.81    1264  794.09    1264  799.67    1264
  801.61    1264  821.52    1264  822.18    1264  822.89 1264.02  831.69 1264.28
  833.59  1264.3  878.21    1266  878.84    1266  881.12    1266  883.83    1266
  884.73    1266  900.15    1266  903.89    1266  906.23    1266   906.8    1266
  917.96    1266  920.88    1266 1041.41 1267.95 1044.12    1268 1045.19    1268
 1045.86    1268 1049.67    1268 1080.25 1268.46 1179.26 1268.83 1323.97    1268
 1324.03    1268 1324.08    1268 1324.43    1268 1324.57    1268 1325.15    1268
 1325.96    1268 1371.34    1268 1382.92    1268 1388.57    1268 1394.32 1268.86
 1398.72 1269.69  1400.4    1270 1401.95 1270.57 1402.34 1270.51 1403.94 1270.92
 1404.93 1271.18 1409.69 1270.85 1411.03 1270.97 1412.95 1271.14 1413.47 1271.19
 1417.97 1271.05 1421.13 1271.24 1442.79 1270.99 1456.42 1270.15 1458.93    1270
 1461.46 1268.44 1462.39    1268 1462.89    1268 1463.58 1268.06 1463.73 1268.05
 1463.87 1268.07 1467.61 1268.84 1472.97    1270 1485.95    1270 1529.23    1270
 1529.95    1270 1530.08    1270 1530.09    1270  1530.1    1270 1530.22    1270
 1536.12    1270 1537.44    1270  1543.1 1269.92 1543.23 1269.92 1547.59 1269.93
 1557.39 1269.89 1557.89 1269.88    1616    1270    1628    1264    1708    1264
 1721.59 1270.28 1722.75    1272 1723.55 1272.31 1727.92    1274 1730.51 1274.52
 1737.19 1275.86 1737.87    1276 1739.48 1276.38 1746.69    1278 1749.15 1278.77
 1753.15    1280 1755.52 1280.88 1758.62    1282 1762.26 1283.42 1765.21 1284.59
 1768.42    1286 1771.33 1287.32 1772.88    1288 1774.35 1288.65 1778.25 1290.48
 1781.19 1291.82 1781.58    1292 1782.68 1292.53 1785.74    1294 1787.15 1294.69
 1788.29 1295.32 1791.95 1297.09 1795.75 1299.25 1797.05    1300 1800.19 1301.87
 1800.39    1302 1800.48 1302.06 1800.58 1302.12 1804.77 1304.71 1809.25 1307.37
 1810.27    1308 1813.38 1309.86 1813.62    1310 1814.26 1310.39 1816.99    1312
 1817.73 1312.41 1823.38 1315.56 1826.03 1316.93 1828.38    1318  1830.5 1318.95
 1837.49 1321.97 1837.55    1322 1837.61    1322 1843.53    1322 1844.63 1321.89
 1845.19 1321.82  1847.9 1321.47 1848.38 1321.41

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065    1616     .03 1721.59    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          1616 1721.59           219.04  219.04  219.04             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    1422    1272       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 4842.770

INPUT
Description: 48+43
Station Elevation Data    num=     253
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1293.36    6.57    1292    8.46 1291.56    8.64 1291.54   13.63    1290
   17.96 1288.72    19.2    1288   20.36    1288   20.63    1288   23.31 1286.63
   25.27    1286   26.96    1286   27.44 1285.81   27.65 1285.73   29.19 1284.99
   30.46 1284.16   31.18    1284   31.28    1284   35.45 1282.22   35.94    1282
   39.79 1280.24   40.23    1280   41.02  1279.6   44.11    1278   47.83 1276.25
   48.72 1275.81   50.53    1275   51.55  1274.5   51.74 1274.41   52.48    1274
   52.57 1273.95   56.36    1272   58.45 1271.12   64.84 1268.65   65.78 1268.23
   68.23 1267.01   70.28    1266   70.56 1265.88   76.09 1264.26   81.83 1262.42
   83.44    1262   85.91 1261.34   90.82    1260   91.86 1259.68    98.3    1258
   99.37    1258  116.85 1257.37  119.62 1257.39  141.65 1256.93  265.44    1256
  265.45    1256  265.48    1256  265.63    1256  271.35    1256  274.28    1256
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  283.57 1255.69  284.07 1255.68   285.8  1255.7  367.21 1255.49   376.6 1255.59
  381.23 1255.62  409.78    1256  411.72    1256  416.68    1256  422.87    1256
  423.77    1256  426.94    1256  429.48    1256  442.01    1256  446.13    1256
  449.27    1256  456.11    1256  458.19    1256  459.22    1256  494.77 1256.33
  501.79 1256.37  507.99  1256.4  542.95 1256.65  561.31 1256.75  592.49 1256.89
     608 1256.87  612.27 1256.94  622.79 1256.86  630.25 1257.04  630.58 1257.05
  635.92 1257.01  646.82 1257.19  653.21 1257.19  655.47 1257.21  659.94 1257.26
  673.58 1257.37  689.29 1257.52  691.59 1257.56  714.53    1258  715.78    1258
  717.33    1258  719.04    1258   724.6    1258  726.51    1258  730.21    1258
   773.8 1258.56  790.18 1258.67  796.38 1258.71  803.03 1258.79  821.75 1259.05
  832.61 1259.23   836.3 1259.29  869.02 1259.91  870.04 1259.93  873.04    1260
  873.83    1260  873.99    1260  875.61    1260   875.8    1260  875.85    1260
  878.96    1260   893.2    1260  896.22    1260  904.66 1260.14  921.27  1260.3
  931.58 1260.42  933.55 1260.46  943.61 1260.66  948.84 1260.78  951.34 1260.83
  965.86 1261.19 1003.73    1262 1005.48    1262 1013.35    1262 1015.78    1262
 1018.83    1262 1027.54    1262 1036.24    1262 1037.29    1262 1042.15    1262
 1046.18    1262 1053.06 1262.28    1056 1262.39 1076.36 1262.59 1153.75    1264
 1156.47    1264  1159.4    1264 1166.14    1264 1169.52    1264 1174.15    1264
 1179.76    1264 1182.25    1264 1185.84    1264 1199.14 1264.26 1207.28 1264.42
 1210.87 1264.49 1213.08 1264.53 1265.43 1265.49 1293.56    1266 1294.21    1266
 1294.41    1266  1297.8 1266.04 1297.81 1266.04 1314.24 1266.22 1340.86 1266.43
 1358.23 1266.52 1365.01 1266.54 1411.26 1266.76 1411.92 1266.76  1414.8 1266.76
 1474.55 1266.54 1489.02 1266.41    1492 1266.39 1509.35 1266.23 1510.11 1266.23
 1521.44  1266.2 1524.33 1266.18 1528.16 1266.18 1555.88    1266 1559.98    1266
 1561.46    1266 1570.13    1266 1572.44    1266 1574.09    1266 1582.38    1266
 1591.75    1266 1605.23    1266 1606.28    1266 1612.02    1266 1613.06    1266
 1672.78    1266 1677.34    1266 1683.81 1266.78 1687.25 1267.21 1693.14 1267.88
 1694.22    1268 1720.39    1268 1726.79    1268 1750.62 1266.73 1752.67 1266.32
  1754.2 1266.02 1754.28    1266 1754.34    1266 1757.42    1266 1757.58 1266.04
 1757.99 1266.13 1792.72 1267.05 1794.33 1267.03 1797.65 1266.95 1814.06  1266.6
 1852.53    1266    1855    1266    1863    1262    1943    1262 1951.48    1266
 1952.25 1267.38  1952.6    1268 1953.36 1269.36 1953.72    1270 1954.47 1271.34
 1954.84    1272 1955.59 1273.33 1956.26 1274.51 1956.71 1275.33 1958.43 1278.38
 1958.79 1279.03 1959.44    1280 1960.64 1280.81 1962.22    1282 1964.73 1283.66
 1966.13 1284.56  1968.4    1286  1969.7 1286.79 1971.66    1288 1974.01 1289.43
 1976.22 1290.78 1977.55  1291.6 1980.13 1293.13 1981.59    1294 1982.66 1294.61
 1985.03    1296 1986.87 1297.04 1988.54    1298 1991.31 1299.58 1993.75  1300.9
 1997.85  1303.1    2000    1304 2000.93 1304.38 2008.38 1307.52 2012.36 1309.23
 2013.33 1309.67  2014.4    1310 2017.86 1310.99 2021.17    1312 2026.02    1312
 2033.94    1312 2039.26 1310.99 2040.43 1310.77

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045    1855     .03 1951.48    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          1855 1951.48           192.77  192.77  192.77             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    1700  1269.5       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 4650

INPUT
Description: Copied Section - U/S Face Dockweiler Rd 46+50
Station Elevation Data    num=     226
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1261.09    8.58 1261.21   68.11 1261.83   75.54 1261.95   78.62    1262
   78.82    1262   79.41    1262   80.96    1262   81.97    1262   83.61    1262
  113.16    1262  116.83    1262   123.6    1262  165.39 1262.58  246.21 1262.07
   246.4 1262.07   252.7    1262  254.62    1262  281.73    1262  292.41    1262
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   304.9 1262.12  320.96 1262.26  340.13 1262.39  353.79 1262.47  378.61 1262.61
  384.38 1262.62  388.91 1262.65  467.47 1262.52  472.64  1262.5  474.94 1262.49
  487.44 1262.43   490.8 1262.42  492.28 1262.42  524.11 1262.75  525.02 1262.78
  526.45 1262.82  529.34  1262.8  530.41 1262.83  531.88 1262.88   533.3 1262.93
  545.59    1262     547    1262  553.04    1262  560.76    1262  561.46    1262
   561.8    1262  562.06    1262  562.95    1262  563.22 1262.12  564.36  1262.7
  565.24 1263.15  566.92    1264  572.17 1265.56  573.42 1265.93  573.61    1266
  573.64    1266  574.09 1266.01  574.46 1266.03  597.53    1270     618    1270
     625 1267.63     640  1259.9     770  1259.9     792    1270     801 1273.43
  804.02 1273.47  807.29 1273.55  812.92 1273.59   813.6 1273.59   813.9 1273.59
  817.51  1273.6  821.07 1273.58  821.96 1273.65  825.34 1273.62  828.79 1273.59
  831.79  1273.7  838.65  1273.7  841.32  1273.7   842.6 1273.71  845.36 1273.72
  848.12 1273.72  850.12  1273.7  852.72  1273.7  854.06 1273.64  861.11 1273.62
     862 1273.57  866.35 1273.57  871.55 1273.59  872.07  1273.6  872.63  1273.6
  873.67  1273.6  875.04 1273.61  876.12 1273.66  882.92 1273.68  885.23  1273.7
  889.58 1273.71  893.28  1273.7  895.79 1273.69  899.76  1273.7  902.35  1273.7
  903.89  1273.7  907.81 1273.73  911.51 1273.78  914.87  1273.8  915.71 1273.81
  919.21 1273.82  922.57 1273.82  926.02 1273.81  930.12 1273.81  931.65 1273.84
  933.43 1273.85  937.58 1273.86  939.03 1273.87  942.86 1273.91  945.62 1273.92
  946.18 1273.93   948.9 1273.93  954.12  1273.9  955.77  1273.9  956.34 1273.91
  961.01 1273.92  962.69 1273.92  967.59 1273.96  970.49    1274  973.56 1274.27
  973.67 1274.28  974.33 1274.32  974.41 1274.33  978.66 1274.78  981.38 1275.03
  982.73 1275.18  984.62 1275.44  985.88 1275.62  988.14    1276     990  1276.1
   990.5  1276.1  994.76 1276.27  995.96 1276.32  997.12 1276.33    1001 1276.47
 1002.01 1276.51 1005.17 1276.63 1005.93 1276.65 1015.45  1276.8 1018.99  1276.9
 1019.73 1276.93 1028.24 1277.19 1029.63 1277.21 1031.65 1277.26 1045.33 1277.29
 1047.02  1277.3 1047.68 1277.32 1049.61 1277.36  1051.5 1277.41 1051.87 1277.41
 1053.57 1277.45 1060.36 1277.48 1060.44 1277.48    1062 1277.52 1062.05 1277.52
 1063.43 1277.55 1065.38 1277.58 1079.74 1277.64 1080.93 1277.65 1081.53 1277.66
 1090.63 1277.71 1093.39 1277.69 1111.72 1277.55 1120.86 1277.52 1122.85 1277.51
 1130.93 1277.49 1139.52 1277.47 1142.86 1277.45 1151.01 1277.43 1161.51 1277.31
 1164.41 1277.24 1172.74 1277.19 1176.41 1277.11 1181.59 1277.08 1186.32 1277.07
 1192.22 1276.93 1198.74  1276.9 1202.53 1276.84 1211.76 1276.77  1217.9 1276.68
 1222.61 1276.64  1226.6 1276.63 1240.89 1276.56 1243.14 1276.54 1244.41 1276.54
 1271.75 1276.31 1273.86 1276.29 1282.79  1276.1 1284.59  1276.1 1285.08 1276.12
 1286.35 1276.16 1300.02 1276.31 1300.49 1276.34 1304.29 1276.52 1306.76 1276.64
 1319.89 1277.18 1321.85 1277.25 1322.81 1277.31 1344.14  1277.9 1344.76 1277.94
 1347.68    1278 1357.97  1278.1  1358.9 1278.12 1370.95 1278.24 1371.92 1278.26
 1372.57 1278.26 1384.65 1278.42 1391.38 1278.52  1399.7 1278.63 1406.42  1278.7
 1407.76 1278.68 1416.57 1278.78 1422.77 1278.83 1435.92 1278.73 1450.28 1278.79
 1460.56  1278.8 1471.24 1278.79 1477.95 1278.78  1486.9 1278.75 1500.85  1278.8
 1520.36 1279.14

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045     618     .03     792    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           618     792           107.24  107.24  107.24             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0     618    1270       F

BRIDGE


RIVER: Newhall
REACH: Mainstem           RS: 4595

INPUT
Description: Proposed Dockweiler Road
Distance from Upstream XS =       2
Deck/Roadway Width        =      92
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
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```
    num=       7
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
       0    1262             600    1270             618    1270
     640    1270 1267.85     770    1272 1267.85     792    1272
     800    1272

Upstream Bridge Cross Section Data
Station Elevation Data    num=     226
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1261.09    8.58 1261.21   68.11 1261.83   75.54 1261.95   78.62    1262
   78.82    1262   79.41    1262   80.96    1262   81.97    1262   83.61    1262
  113.16    1262  116.83    1262   123.6    1262  165.39 1262.58  246.21 1262.07
   246.4 1262.07   252.7    1262  254.62    1262  281.73    1262  292.41    1262
   304.9 1262.12  320.96 1262.26  340.13 1262.39  353.79 1262.47  378.61 1262.61
  384.38 1262.62  388.91 1262.65  467.47 1262.52  472.64  1262.5  474.94 1262.49
  487.44 1262.43   490.8 1262.42  492.28 1262.42  524.11 1262.75  525.02 1262.78
  526.45 1262.82  529.34  1262.8  530.41 1262.83  531.88 1262.88   533.3 1262.93
  545.59    1262     547    1262  553.04    1262  560.76    1262  561.46    1262
   561.8    1262  562.06    1262  562.95    1262  563.22 1262.12  564.36  1262.7
  565.24 1263.15  566.92    1264  572.17 1265.56  573.42 1265.93  573.61    1266
  573.64    1266  574.09 1266.01  574.46 1266.03  597.53    1270     618    1270
     625 1267.63     640  1259.9     770  1259.9     792    1270     801 1273.43
  804.02 1273.47  807.29 1273.55  812.92 1273.59   813.6 1273.59   813.9 1273.59
  817.51  1273.6  821.07 1273.58  821.96 1273.65  825.34 1273.62  828.79 1273.59
  831.79  1273.7  838.65  1273.7  841.32  1273.7   842.6 1273.71  845.36 1273.72
  848.12 1273.72  850.12  1273.7  852.72  1273.7  854.06 1273.64  861.11 1273.62
     862 1273.57  866.35 1273.57  871.55 1273.59  872.07  1273.6  872.63  1273.6
  873.67  1273.6  875.04 1273.61  876.12 1273.66  882.92 1273.68  885.23  1273.7
  889.58 1273.71  893.28  1273.7  895.79 1273.69  899.76  1273.7  902.35  1273.7
  903.89  1273.7  907.81 1273.73  911.51 1273.78  914.87  1273.8  915.71 1273.81
  919.21 1273.82  922.57 1273.82  926.02 1273.81  930.12 1273.81  931.65 1273.84
  933.43 1273.85  937.58 1273.86  939.03 1273.87  942.86 1273.91  945.62 1273.92
  946.18 1273.93   948.9 1273.93  954.12  1273.9  955.77  1273.9  956.34 1273.91
  961.01 1273.92  962.69 1273.92  967.59 1273.96  970.49    1274  973.56 1274.27
  973.67 1274.28  974.33 1274.32  974.41 1274.33  978.66 1274.78  981.38 1275.03
  982.73 1275.18  984.62 1275.44  985.88 1275.62  988.14    1276     990  1276.1
   990.5  1276.1  994.76 1276.27  995.96 1276.32  997.12 1276.33    1001 1276.47
 1002.01 1276.51 1005.17 1276.63 1005.93 1276.65 1015.45  1276.8 1018.99  1276.9
 1019.73 1276.93 1028.24 1277.19 1029.63 1277.21 1031.65 1277.26 1045.33 1277.29
 1047.02  1277.3 1047.68 1277.32 1049.61 1277.36  1051.5 1277.41 1051.87 1277.41
 1053.57 1277.45 1060.36 1277.48 1060.44 1277.48    1062 1277.52 1062.05 1277.52
 1063.43 1277.55 1065.38 1277.58 1079.74 1277.64 1080.93 1277.65 1081.53 1277.66
 1090.63 1277.71 1093.39 1277.69 1111.72 1277.55 1120.86 1277.52 1122.85 1277.51
 1130.93 1277.49 1139.52 1277.47 1142.86 1277.45 1151.01 1277.43 1161.51 1277.31
 1164.41 1277.24 1172.74 1277.19 1176.41 1277.11 1181.59 1277.08 1186.32 1277.07
 1192.22 1276.93 1198.74  1276.9 1202.53 1276.84 1211.76 1276.77  1217.9 1276.68
 1222.61 1276.64  1226.6 1276.63 1240.89 1276.56 1243.14 1276.54 1244.41 1276.54
 1271.75 1276.31 1273.86 1276.29 1282.79  1276.1 1284.59  1276.1 1285.08 1276.12
 1286.35 1276.16 1300.02 1276.31 1300.49 1276.34 1304.29 1276.52 1306.76 1276.64
 1319.89 1277.18 1321.85 1277.25 1322.81 1277.31 1344.14  1277.9 1344.76 1277.94
 1347.68    1278 1357.97  1278.1  1358.9 1278.12 1370.95 1278.24 1371.92 1278.26
 1372.57 1278.26 1384.65 1278.42 1391.38 1278.52  1399.7 1278.63 1406.42  1278.7
 1407.76 1278.68 1416.57 1278.78 1422.77 1278.83 1435.92 1278.73 1450.28 1278.79
 1460.56  1278.8 1471.24 1278.79 1477.95 1278.78  1486.9 1278.75 1500.85  1278.8
 1520.36 1279.14

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045     618     .03     792    .045

Bank Sta: Left   Right    Coeff Contr.   Expan.
          618     792            .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0     618    1270       F
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Downstream  Deck/Roadway Coordinates
    num=       7
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
       0    1262             600    1270             618    1270
     640    1270 1267.85     770    1272 1267.85     792    1272
     800    1272

Downstream Bridge Cross Section Data
Station Elevation Data    num=     226
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1261.09    8.58 1261.21   68.11 1261.83   75.54 1261.95   78.62    1262
   78.82    1262   79.41    1262   80.96    1262   81.97    1262   83.61    1262
  113.16    1262  116.83    1262   123.6    1262  165.39 1262.58  246.21 1262.07
   246.4 1262.07   252.7    1262  254.62    1262  281.73    1262  292.41    1262
   304.9 1262.12  320.96 1262.26  340.13 1262.39  353.79 1262.47  378.61 1262.61
  384.38 1262.62  388.91 1262.65  467.47 1262.52  472.64  1262.5  474.94 1262.49
  487.44 1262.43   490.8 1262.42  492.28 1262.42  524.11 1262.75  525.02 1262.78
  526.45 1262.82  529.34  1262.8  530.41 1262.83  531.88 1262.88   533.3 1262.93
  545.59    1262     547    1262  553.04    1262  560.76    1262  561.46    1262
   561.8    1262  562.06    1262  562.95    1262  563.22 1262.12  564.36  1262.7
  565.24 1263.15  566.92    1264  572.17 1265.56  573.42 1265.93  573.61    1266
  573.64    1266  574.09 1266.01  574.46 1266.03  597.53    1270     618    1270
     625 1267.63     640 1258.88     770 1258.88     792    1270     801 1273.43
  804.02 1273.47  807.29 1273.55  812.92 1273.59   813.6 1273.59   813.9 1273.59
  817.51  1273.6  821.07 1273.58  821.96 1273.65  825.34 1273.62  828.79 1273.59
  831.79  1273.7  838.65  1273.7  841.32  1273.7   842.6 1273.71  845.36 1273.72
  848.12 1273.72  850.12  1273.7  852.72  1273.7  854.06 1273.64  861.11 1273.62
     862 1273.57  866.35 1273.57  871.55 1273.59  872.07  1273.6  872.63  1273.6
  873.67  1273.6  875.04 1273.61  876.12 1273.66  882.92 1273.68  885.23  1273.7
  889.58 1273.71  893.28  1273.7  895.79 1273.69  899.76  1273.7  902.35  1273.7
  903.89  1273.7  907.81 1273.73  911.51 1273.78  914.87  1273.8  915.71 1273.81
  919.21 1273.82  922.57 1273.82  926.02 1273.81  930.12 1273.81  931.65 1273.84
  933.43 1273.85  937.58 1273.86  939.03 1273.87  942.86 1273.91  945.62 1273.92
  946.18 1273.93   948.9 1273.93  954.12  1273.9  955.77  1273.9  956.34 1273.91
  961.01 1273.92  962.69 1273.92  967.59 1273.96  970.49    1274  973.56 1274.27
  973.67 1274.28  974.33 1274.32  974.41 1274.33  978.66 1274.78  981.38 1275.03
  982.73 1275.18  984.62 1275.44  985.88 1275.62  988.14    1276     990  1276.1
   990.5  1276.1  994.76 1276.27  995.96 1276.32  997.12 1276.33    1001 1276.47
 1002.01 1276.51 1005.17 1276.63 1005.93 1276.65 1015.45  1276.8 1018.99  1276.9
 1019.73 1276.93 1028.24 1277.19 1029.63 1277.21 1031.65 1277.26 1045.33 1277.29
 1047.02  1277.3 1047.68 1277.32 1049.61 1277.36  1051.5 1277.41 1051.87 1277.41
 1053.57 1277.45 1060.36 1277.48 1060.44 1277.48    1062 1277.52 1062.05 1277.52
 1063.43 1277.55 1065.38 1277.58 1079.74 1277.64 1080.93 1277.65 1081.53 1277.66
 1090.63 1277.71 1093.39 1277.69 1111.72 1277.55 1120.86 1277.52 1122.85 1277.51
 1130.93 1277.49 1139.52 1277.47 1142.86 1277.45 1151.01 1277.43 1161.51 1277.31
 1164.41 1277.24 1172.74 1277.19 1176.41 1277.11 1181.59 1277.08 1186.32 1277.07
 1192.22 1276.93 1198.74  1276.9 1202.53 1276.84 1211.76 1276.77  1217.9 1276.68
 1222.61 1276.64  1226.6 1276.63 1240.89 1276.56 1243.14 1276.54 1244.41 1276.54
 1271.75 1276.31 1273.86 1276.29 1282.79  1276.1 1284.59  1276.1 1285.08 1276.12
 1286.35 1276.16 1300.02 1276.31 1300.49 1276.34 1304.29 1276.52 1306.76 1276.64
 1319.89 1277.18 1321.85 1277.25 1322.81 1277.31 1344.14  1277.9 1344.76 1277.94
 1347.68    1278 1357.97  1278.1  1358.9 1278.12 1370.95 1278.24 1371.92 1278.26
 1372.57 1278.26 1384.65 1278.42 1391.38 1278.52  1399.7 1278.63 1406.42  1278.7
 1407.76 1278.68 1416.57 1278.78 1422.77 1278.83 1435.92 1278.73 1450.28 1278.79
 1460.56  1278.8 1471.24 1278.79 1477.95 1278.78  1486.9 1278.75 1500.85  1278.8
 1520.36 1279.14

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045     618     .03     792    .045

Bank Sta: Left   Right    Coeff Contr.   Expan.
          618     792            .3       .5
Ineffective Flow     num=       1
```

```
   Sta L   Sta R    Elev  Permanent
       0     618    1270       F

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Piers =  4

Pier Data
Pier Station     Upstream=     665    Downstream=     665
Upstream     num=       2
    Width   Elev    Width   Elev
    1.33  1259.9    1.33 1267.85
Downstream     num=       2
    Width   Elev    Width   Elev
    1.33  1259.9    1.33 1267.85
Debris Width  =        4
Debris Height =        4

Pier Data
Pier Station     Upstream=     691    Downstream=     691
Upstream     num=       2
    Width   Elev    Width   Elev
    1.33  1259.9    1.33 1267.85
Downstream     num=       2
    Width   Elev    Width   Elev
    1.33  1259.9    1.33 1267.85
Debris Width  =        4
Debris Height =        4

Pier Data
Pier Station     Upstream=     717    Downstream=     717
Upstream     num=       2
    Width   Elev    Width   Elev
    1.33  1259.9    1.33 1267.85
Downstream     num=       2
    Width   Elev    Width   Elev
    1.33  1259.9    1.33 1267.85
Debris Width  =        4
Debris Height =        4

Pier Data
Pier Station     Upstream=     743    Downstream=     743
Upstream     num=       2
    Width   Elev    Width   Elev
    1.33  1259.9    1.33 1267.85
Downstream     num=       2
    Width   Elev    Width   Elev
    1.33  1259.9    1.33 1267.85
Debris Width  =        4
Debris Height =        4

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
       Momentum              Cd   =       2
       Yarnell               KVal =    1.25
Selected Low Flow Methods = Highest Energy Answer
```

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

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

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 4542.760

INPUT
Description: D/S Face Dockweiler Road Bridge 45+43
Station Elevation Data    num=     226
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1261.09    8.58 1261.21   68.11 1261.83   75.54 1261.95   78.62    1262
   78.82    1262   79.41    1262   80.96    1262   81.97    1262   83.61    1262
  113.16    1262  116.83    1262   123.6    1262  165.39 1262.58  246.21 1262.07
   246.4 1262.07   252.7    1262  254.62    1262  281.73    1262  292.41    1262
   304.9 1262.12  320.96 1262.26  340.13 1262.39  353.79 1262.47  378.61 1262.61
  384.38 1262.62  388.91 1262.65  467.47 1262.52  472.64  1262.5  474.94 1262.49
  487.44 1262.43   490.8 1262.42  492.28 1262.42  524.11 1262.75  525.02 1262.78
  526.45 1262.82  529.34  1262.8  530.41 1262.83  531.88 1262.88   533.3 1262.93
  545.59    1262     547    1262  553.04    1262  560.76    1262  561.46    1262
   561.8    1262  562.06    1262  562.95    1262  563.22 1262.12  564.36  1262.7
  565.24 1263.15  566.92    1264  572.17 1265.56  573.42 1265.93  573.61    1266
  573.64    1266  574.09 1266.01  574.46 1266.03  597.53    1270     618    1270
     625 1267.63     640 1258.88     770 1258.88     792    1270     801 1273.43
  804.02 1273.47  807.29 1273.55  812.92 1273.59   813.6 1273.59   813.9 1273.59
  817.51  1273.6  821.07 1273.58  821.96 1273.65  825.34 1273.62  828.79 1273.59
  831.79  1273.7  838.65  1273.7  841.32  1273.7   842.6 1273.71  845.36 1273.72
  848.12 1273.72  850.12  1273.7  852.72  1273.7  854.06 1273.64  861.11 1273.62
     862 1273.57  866.35 1273.57  871.55 1273.59  872.07  1273.6  872.63  1273.6
  873.67  1273.6  875.04 1273.61  876.12 1273.66  882.92 1273.68  885.23  1273.7
  889.58 1273.71  893.28  1273.7  895.79 1273.69  899.76  1273.7  902.35  1273.7
  903.89  1273.7  907.81 1273.73  911.51 1273.78  914.87  1273.8  915.71 1273.81
  919.21 1273.82  922.57 1273.82  926.02 1273.81  930.12 1273.81  931.65 1273.84
  933.43 1273.85  937.58 1273.86  939.03 1273.87  942.86 1273.91  945.62 1273.92
  946.18 1273.93   948.9 1273.93  954.12  1273.9  955.77  1273.9  956.34 1273.91
  961.01 1273.92  962.69 1273.92  967.59 1273.96  970.49    1274  973.56 1274.27
  973.67 1274.28  974.33 1274.32  974.41 1274.33  978.66 1274.78  981.38 1275.03
  982.73 1275.18  984.62 1275.44  985.88 1275.62  988.14    1276     990  1276.1
   990.5  1276.1  994.76 1276.27  995.96 1276.32  997.12 1276.33    1001 1276.47
 1002.01 1276.51 1005.17 1276.63 1005.93 1276.65 1015.45  1276.8 1018.99  1276.9
 1019.73 1276.93 1028.24 1277.19 1029.63 1277.21 1031.65 1277.26 1045.33 1277.29
 1047.02  1277.3 1047.68 1277.32 1049.61 1277.36  1051.5 1277.41 1051.87 1277.41
 1053.57 1277.45 1060.36 1277.48 1060.44 1277.48    1062 1277.52 1062.05 1277.52
 1063.43 1277.55 1065.38 1277.58 1079.74 1277.64 1080.93 1277.65 1081.53 1277.66
 1090.63 1277.71 1093.39 1277.69 1111.72 1277.55 1120.86 1277.52 1122.85 1277.51
 1130.93 1277.49 1139.52 1277.47 1142.86 1277.45 1151.01 1277.43 1161.51 1277.31
 1164.41 1277.24 1172.74 1277.19 1176.41 1277.11 1181.59 1277.08 1186.32 1277.07
 1192.22 1276.93 1198.74  1276.9 1202.53 1276.84 1211.76 1276.77  1217.9 1276.68
 1222.61 1276.64  1226.6 1276.63 1240.89 1276.56 1243.14 1276.54 1244.41 1276.54
 1271.75 1276.31 1273.86 1276.29 1282.79  1276.1 1284.59  1276.1 1285.08 1276.12
 1286.35 1276.16 1300.02 1276.31 1300.49 1276.34 1304.29 1276.52 1306.76 1276.64
 1319.89 1277.18 1321.85 1277.25 1322.81 1277.31 1344.14  1277.9 1344.76 1277.94
 1347.68    1278 1357.97  1278.1  1358.9 1278.12 1370.95 1278.24 1371.92 1278.26
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 1372.57 1278.26 1384.65 1278.42 1391.38 1278.52  1399.7 1278.63 1406.42  1278.7
 1407.76 1278.68 1416.57 1278.78 1422.77 1278.83 1435.92 1278.73 1450.28 1278.79
 1460.56  1278.8 1471.24 1278.79 1477.95 1278.78  1486.9 1278.75 1500.85  1278.8
 1520.36 1279.14

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045     618     .03     792    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           618     792           155.94  155.94  155.94             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0     618    1270       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 4386.823

INPUT
Description: 43+87
Station Elevation Data    num=     239
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1258.97   48.16 1259.73   51.97 1259.78   65.97    1260   67.16    1260
   71.78    1260   72.66    1260   74.44    1260  171.21    1260  171.22    1260
  171.26    1260  171.33    1260  171.35    1260  171.37    1260  185.64 1260.09
  185.99 1260.11  186.29 1260.12  204.29 1260.45  208.65 1260.76  215.34 1261.05
  224.31 1261.72  224.82 1261.76  228.42    1262   238.4    1262  250.75    1262
  262.33    1262  272.91    1262  294.19    1262  295.28    1262  311.86 1261.58
   383.8 1260.48  387.13 1260.51  390.89 1260.54  396.17 1260.57  406.63  1260.6
  418.76 1260.69   423.4  1260.7  436.04 1260.73  441.29 1260.74  484.17 1260.61
  487.58 1260.59  490.46 1260.57  494.98 1260.55  536.06 1261.02  538.76 1261.09
  542.94  1261.1  545.57 1261.18  547.39 1261.23  548.86 1261.28  552.97  1261.4
  554.97 1261.46  560.31 1261.63  563.11 1261.71  570.38 1261.93  572.67    1262
   573.9 1262.57  577.07    1264  639.11 1265.96  640.41    1266  640.48    1266
  640.52    1266   641.3    1266     642    1266   642.6    1266  643.67    1266
  648.34 1265.56  648.75 1265.49  657.02 1264.06  657.36 1264.01  657.38    1264
  657.42 1263.97  660.34    1262  660.58 1261.83  663.29    1260  664.19 1259.39
  666.25    1258  666.71  1257.7  667.96 1256.86  668.08 1256.78  690.75 1257.29
   702.8    1258  707.83 1259.67  708.83    1260   713.2  1261.4   715.2    1262
  718.57 1262.97  722.44    1264  724.38 1264.53  729.72    1266   735.1 1267.43
  737.72    1268  746.24 1268.64  751.18 1269.03  765.49    1270  766.62    1270
  769.14    1270  773.11    1270  773.51    1270  801.12 1270.43  808.42 1270.44
  838.72 1270.59   858.7 1270.75  894.82 1271.02  950.55 1271.38  966.21 1271.49
  979.95 1271.56  1020.3    1272 1031.92    1272 1034.31    1272 1035.38    1272
 1041.14    1272 1041.44    1272 1042.08 1272.02 1042.21 1272.02 1055.48 1272.27
 1055.77 1272.27 1056.36 1272.29  1057.1  1272.3  1065.5 1272.48 1066.97 1272.52
 1094.59    1274 1095.08    1274 1096.86    1274 1097.21    1274 1097.65    1274
 1098.07    1274 1101.15    1274 1101.34    1274 1102.31    1274  1102.5    1274
 1107.54    1274 1108.68    1274 1109.74    1274 1112.27    1274 1113.11    1274
 1113.32    1274 1116.85    1274 1120.21    1274 1125.81  1274.2 1139.14 1274.31
 1139.69  1274.3 1141.97 1274.28 1152.29 1274.32 1153.52 1274.31 1157.56  1274.3
 1169.52 1274.35 1171.28 1274.35 1183.63 1274.41 1193.44 1274.46 1206.43 1274.49
 1207.66 1274.48 1234.04 1274.73 1241.05 1274.79 1243.12 1274.83 1252.45 1274.96
 1257.84 1275.03 1263.67 1275.12 1272.55 1275.24 1277.65  1275.3 1284.85 1275.41
 1287.16 1275.43 1292.49 1275.48  1302.8 1275.63 1305.94 1275.67 1313.99 1275.73
 1315.04 1275.74 1321.63 1275.67 1336.68 1275.65 1338.62 1275.63 1342.47  1275.6
 1348.26 1275.57 1360.03 1275.55 1364.11 1275.53 1365.22 1275.54 1373.11 1275.46
 1379.85 1275.39 1385.31 1275.46 1403.75  1275.4 1420.05 1275.55 1423.47 1275.59
 1427.52 1275.61 1429.49 1275.63 1432.38 1275.62 1434.78 1275.61 1455.17 1275.71
 1456.36  1275.7  1457.8  1275.7 1459.29  1275.7 1461.28  1275.7 1464.29 1275.68
 1465.29 1275.66 1465.92 1275.66 1497.08 1275.36 1503.38  1275.3  1503.5 1275.29
 1515.19 1275.24 1519.14 1275.23 1521.01 1275.21 1526.67 1275.27 1534.96 1275.12
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 1537.17 1275.08 1543.04 1274.99 1545.79 1274.96 1548.75 1275.01 1555.95 1274.95
 1567.07 1274.92 1577.42 1274.94 1580.87 1274.96 1616.13  1275.1 1625.61 1275.18
  1650.8 1275.54 1653.02 1275.53 1656.32 1275.52 1657.45 1275.54 1659.19 1275.54
 1660.39 1275.55 1665.18 1275.57 1667.06 1275.57 1690.54  1275.2 1690.94 1275.18
 1694.76 1275.06 1695.39 1275.04 1707.02 1274.94 1710.75 1274.78 1711.99 1274.72
 1716.33 1274.53 1717.62 1274.48 1725.52 1274.13 1727.32 1274.05 1727.63 1274.04
 1728.46    1274 1729.13 1273.37 1730.56    1272 1731.22 1271.37 1732.65    1270
 1742.39  1268.1  1742.9    1268 1743.03    1268 1747.18 1267.69

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  640.41     .03  729.72    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        640.41  729.72           343.47  343.47  343.47             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0     640    1266       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 4043.350

INPUT
Description: 40+43
Station Elevation Data    num=     182
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1264.15    2.85    1264     7.1    1264    9.16    1264    9.86    1264
   14.24    1264   37.83    1264    37.9    1264   39.47    1264   42.74    1264
   42.77    1264   43.52    1264   43.61    1264   44.17    1264   44.78    1264
   45.66    1264   50.53    1264   53.67    1264   54.92    1264   55.82    1264
   75.72    1264   90.85    1264   92.95    1264   95.54    1264   110.5    1264
  110.62    1264   111.4    1264  111.41    1264  112.12    1264  113.16    1264
  113.43    1264  113.96    1264  121.72    1264  136.25 1262.84  140.09 1262.83
  142.94 1262.82  145.68 1262.81  148.05 1262.79  163.04  1262.4  163.82 1262.38
  167.43 1262.29  178.98    1262   187.5    1262   194.1 1260.98  195.49 1260.92
  197.21 1260.91  203.28 1261.36  204.24 1261.34  205.76 1261.29  207.32 1261.35
   207.9 1261.34  209.93 1261.33  211.62 1261.28  213.09 1261.14  213.89 1261.12
  216.19 1261.07  217.16 1261.04   225.4 1260.82  228.09 1260.77  230.99 1260.72
  232.36 1260.83  233.59 1260.81  236.47 1260.75  238.16 1260.76  239.54 1260.73
  241.45 1260.76  244.35 1260.69  245.88 1260.66  248.38 1260.76  251.26 1260.67
  252.08 1260.69  253.61 1260.64  254.26 1260.56  257.64 1260.47  259.61 1260.41
  260.79 1260.16  264.78  1260.1  265.12 1260.11   267.8 1260.07  268.21 1260.12
  271.31 1260.02  271.91    1260  274.43 1259.86  275.01 1259.83  278.14 1259.66
  279.97 1259.56  281.14 1259.51   284.2 1259.34  284.85 1259.31  285.57 1259.27
   288.1 1259.13  290.05 1259.05  291.11 1259.01  292.74 1258.95  295.68 1258.88
  296.66 1258.84  298.38    1258  301.27 1256.58   303.9    1256  304.59    1256
   304.6    1256  308.05    1256  310.59    1256  323.07 1255.14  341.02    1254
  348.22    1254  348.89    1254  359.89    1254  361.69 1255.81  361.87    1256
  363.85 1257.96  363.89    1258  364.26 1258.37  365.88    1260  366.04 1260.16
  367.87    1262  368.16 1262.29  369.86    1264  371.75 1264.75  374.02 1265.49
  374.75 1265.64  374.92 1265.69  375.18 1265.77  375.52 1265.86  376.92    1266
  384.92 1266.12  389.16 1266.18  395.13 1266.28  399.74 1266.38   402.3 1266.38
  415.07  1266.7  461.22  1266.4  464.39 1266.35  467.79  1266.3  471.99 1266.29
  472.51 1266.29  473.52 1266.29  475.44  1266.3  475.69  1266.3  519.17    1266
  522.72    1266  523.63 1265.93  529.47 1265.38  541.32 1264.28   544.7    1264
  548.69    1264  562.09    1264  566.04    1264  570.78    1264  573.58    1264
  580.56    1264  596.68    1264  644.25 1262.32  648.91    1262  666.78  1261.1
  694.91    1260  699.64    1260  731.98  1259.4  750.86 1259.03  753.43 1258.98
  759.94 1258.87  778.67 1258.51  792.89 1258.26   803.8    1258   804.4    1258
  805.49    1258  847.28 1256.44  859.29    1256  861.74 1255.93  888.48  1255.2
  892.92 1255.15  902.61 1254.91  923.77 1254.54  938.08 1254.48  944.22 1254.45
  967.36 1254.35  968.63 1254.34  975.11 1254.31 1004.67    1254  1008.5    1254
```

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 1009.64    1254 1014.97    1254

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  121.72     .03  369.86    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        121.72  369.86           122.59  122.59  122.59             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
     415    1015    1266       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 3920.755

INPUT
Description: 39+21
Station Elevation Data    num=     171
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1263.73    2.94 1263.61   28.91    1262   31.62    1262   31.93    1262
   34.55    1262   36.22    1262   36.55    1262    36.9    1262   39.37    1262
   39.76    1262   42.16    1262   57.99    1262   58.31    1262   60.22    1262
   60.55    1262    62.4    1262   62.74    1262   64.47    1262   66.25    1262
   66.59    1262   68.32    1262   68.66    1262   70.34    1262   70.69    1262
   72.32    1262   99.43    1262   99.85    1262  102.44    1262  104.27    1262
  104.57    1262  106.47    1262  106.69    1262  108.68    1262  108.83    1262
  110.89    1262  110.95    1262  112.15    1262  113.21    1262  131.15    1262
  134.38    1262  136.32    1262  137.51    1262  139.32    1262  141.18    1262
  142.47    1262  144.59    1262  154.86    1262  157.47    1262  164.41    1262
  166.56    1262  177.49    1262  178.01    1262  178.49    1262  185.96    1262
  185.98    1262  186.05    1262  201.09 1261.28  201.62 1261.28   203.1 1261.26
  203.66 1261.25  205.29 1261.21  210.01  1261.2   210.6 1261.19  212.34 1261.15
  219.68    1262  228.64    1262     229    1262  232.85 1261.28  234.54 1261.18
  234.97 1261.15   237.4 1261.01  239.05 1260.83  239.63 1260.79  240.52 1260.71
   241.1 1260.66  241.69 1260.63  246.32    1260  248.97 1258.02  248.99    1258
  249.01 1257.98  251.56    1256  252.78 1254.99  254.04    1254  259.26    1254
  259.55    1254  260.85    1254  264.35    1254  277.21    1254  278.53    1254
  279.46    1254  302.54    1254  302.66    1254  302.68    1254   303.7 1254.72
  305.39    1256  306.87 1257.07  308.05    1258  309.68 1259.18  313.96 1261.82
  314.24    1262  314.48 1262.14  318.68    1264  328.59    1264  329.76    1264
  339.36    1264  361.79 1264.42  376.05    1264  378.69    1264  386.42    1264
  391.76    1264  400.09    1264  402.66    1264  436.45    1264  437.21    1264
  450.75    1264  451.03    1264  452.42    1264  454.44    1264  455.63    1264
   459.8    1264  459.91    1264  460.02    1264  473.27    1264  473.34    1264
  480.48 1263.85  495.67 1263.75  498.48 1263.69  499.76 1263.66  506.13 1263.59
  512.08 1263.42  529.78 1263.13   531.5  1263.1  545.95 1262.67  546.15 1262.66
   546.4 1262.65  548.39  1262.6  551.77 1262.49  564.93    1262  602.83 1260.01
  602.95    1260  602.96    1260  611.26 1259.56  617.34 1259.22  629.92  1258.5
  633.07 1258.31  644.35    1258   652.8    1258  653.51    1258  664.46    1258
  669.38    1258  674.96    1258  684.88    1258  693.64    1258   706.7 1257.48
  709.94 1257.37  715.38  1257.2  734.87 1256.54  751.48    1256  754.57 1255.94
  769.82 1255.47  815.59    1254  815.97    1254  817.85    1254  821.96    1254
   822.3    1254  823.96    1254  833.96    1254  834.82    1254  838.89    1254
  839.54    1254

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  219.68     .03  314.24    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        219.68  314.24           106.8   106.8   106.8             .1       .3
Ineffective Flow     num=       1
```

Sta L	Sta R	Elev	Permanent
320	840	1264	F

CROSS SECTION

RIVER: Newhall
REACH: Mainstem RS: 3813.951

INPUT
Description: 38+14
Station Elevation Data num= 239

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1263.54	.03	1263.54	4.28	1263.14	6.66	1263.12	7.03	1263.12
9.55	1263.1	9.91	1263.09	12.61	1263.07	15.1	1262.85	15.53	1262.84
19	1262.82	19.41	1262.82	32.28	1262	37.36	1262	37.96	1262
42.98	1262	43.45	1262	44.1	1262	44.8	1262	49.77	1262
50.56	1262	55.5	1262	59.65	1262	60.45	1262	65.26	1262
66.1	1262	70.88	1262	71.76	1262	72.2	1262	76.94	1262
77.86	1262	82.58	1262	83.54	1262	88.26	1262	89.24	1262
93.94	1262	100.18	1262	101.2	1262	101.75	1262	106.7	1262
107.52	1262	112.8	1262	113.42	1262	119.07	1262	119.48	1262
125.51	1262	125.66	1262	129.24	1262	132.45	1262	135.27	1262
135.75	1262	141.25	1262	144.68	1262	149.98	1262	153.89	1262
155.29	1261.87	155.43	1261.86	155.75	1261.85	159.2	1261.66	159.56	1261.65
162.23	1261.5	163.37	1261.48	165.14	1261.27	165.83	1261.25	167.68	1261.22
177.79	1261.45	178.19	1261.44	179.49	1261.4	179.9	1261.39	181.33	1261.5
182.61	1261.46	184.61	1261.36	185	1261.35	186.62	1261.27	188.6	1261.2
189.82	1261.09	190.29	1261.08	193.08	1260.99	197.76	1260.47	198.37	1260.46
202.67	1260.38	203.17	1260.35	203.7	1260.34	204.11	1260.33	204.54	1260.34
209.22	1260.3	210.12	1260.3	214.92	1260.27	217.49	1260.34	221.87	1260.27
222.5	1260.28	223.23	1260.29	223.52	1260.29	228.03	1260.25	228.3	1260.24
229.12	1260.23	229.37	1260.23	233.47	1260.38	233.81	1260.36	240.6	1260.31
246.4	1260	246.49	1260	247.4	1260	247.74	1259.98	252.91	1259.94
253.9	1259.94	254.06	1259.93	258.22	1260	258.7	1260.02	258.71	1260.02
260.62	1260.09	264.19	1260.17	264.94	1260.09	267.48	1260.12	270.72	1260.13
270.91	1260.13	271.16	1260.14	274.03	1260.15	276.27	1260	277.06	1259.91
277.16	1259.82	278.53	1259.34	281.45	1258.32	282	1258	284.29	1256.4
284.85	1256	285.11	1255.83	286.98	1254.9	288.23	1254	288.32	1254
291.45	1254	291.51	1254	291.76	1254	292.49	1254	295.68	1254
296.77	1254	296.94	1254	298.35	1254	298.57	1254	302.15	1254
304.01	1254	304.38	1254	305.36	1254	305.78	1254	307.69	1254
310.84	1254	311.42	1254	314.23	1254	316.99	1254	318.55	1254
340.79	1254	341.83	1254	343.53	1254	367.46	1254	371.54	1254
395.31	1254	398.1	1254	398.37	1254	399.55	1254	399.69	1254
400.18	1254	400.3	1254	402.91	1254	404.11	1253.96	404.21	1253.96
404.39	1253.96	407.72	1254	412.31	1255.17	415.16	1256.01	416.55	1256.54
418.15	1257.15	419.13	1257.16	419.67	1257.15	420.97	1257.11	422.47	1257.03
424.75	1256.78	426.78	1257.28	429.23	1258.12	429.28	1258.13	430.82	1258.69
432.66	1259.34	436.4	1260	438.84	1260.04	439.11	1260.05	439.81	1260.07
444.35	1260.22	448.32	1260.35	451.95	1260.4	453.68	1260.39	461.7	1260.36
467.59	1260.31	468.71	1260.29	469.51	1260.3	471.04	1260.24	484.84	1260.27
494.49	1260.13	495.02	1260.11	501.33	1260.05	501.58	1260.04	506.74	1260.15
524.69	1260.25	527.08	1260.18	542.39	1260	548.76	1260	575.32	1260
600.18	1259.52	606.73	1259.39	622.75	1259.06	632.37	1258.86	643.47	1258.68
652.91	1258.49	655.73	1258.46	676.54	1258.26	677.42	1258.24	679.87	1258.2
680.9	1258.19	682.06	1258.17	692.09	1258	693.51	1258	699.35	1258
701.56	1258	702.72	1258	720.51	1258	721.23	1258	728.3	1257.79
732.41	1257.75	733.5	1257.73	749.16	1257.27	753.59	1257.23	764.7	1256.95
770.31	1256.83	777.51	1256.81	779.38	1256.82	788.66	1256.8	817.9	1256
821.1	1256	829.01	1256	832.04	1256	837.06	1256		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.045	274.03	.03	453.68	.045

```
Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        274.03  453.68            27.84   27.84   27.84             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
     440     840  1260.5       F

BRIDGE


RIVER: Newhall
REACH: Mainstem           RS: 3790

INPUT
Description: Southern Pacific Railroad
Distance from Upstream XS =       1
Deck/Roadway Width        =      20
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
     270    1260    1258     440    1260    1258

Upstream Bridge Cross Section Data
Station Elevation Data    num=     239
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1263.54     .03 1263.54    4.28 1263.14    6.66 1263.12    7.03 1263.12
    9.55  1263.1    9.91 1263.09   12.61 1263.07    15.1 1262.85   15.53 1262.84
      19 1262.82   19.41 1262.82   32.28    1262   37.36    1262   37.96    1262
   42.98    1262   43.45    1262    44.1    1262    44.8    1262   49.77    1262
   50.56    1262    55.5    1262   59.65    1262   60.45    1262   65.26    1262
    66.1    1262   70.88    1262   71.76    1262    72.2    1262   76.94    1262
   77.86    1262   82.58    1262   83.54    1262   88.26    1262   89.24    1262
   93.94    1262  100.18    1262   101.2    1262  101.75    1262   106.7    1262
  107.52    1262   112.8    1262  113.42    1262  119.07    1262  119.48    1262
  125.51    1262  125.66    1262  129.24    1262  132.45    1262  135.27    1262
  135.75    1262  141.25    1262  144.68    1262  149.98    1262  153.89    1262
  155.29 1261.87  155.43 1261.86  155.75 1261.85   159.2 1261.66  159.56 1261.65
  162.23  1261.5  163.37 1261.48  165.14 1261.27  165.83 1261.25  167.68 1261.22
  177.79 1261.45  178.19 1261.44  179.49  1261.4   179.9 1261.39  181.33  1261.5
  182.61 1261.46  184.61 1261.36     185 1261.35  186.62 1261.27   188.6  1261.2
  189.82 1261.09  190.29 1261.08  193.08 1260.99  197.76 1260.47  198.37 1260.46
  202.67 1260.38  203.17 1260.35   203.7 1260.34  204.11 1260.33  204.54 1260.34
  209.22  1260.3  210.12  1260.3  214.92 1260.27  217.49 1260.34  221.87 1260.27
   222.5 1260.28  223.23 1260.29  223.52 1260.29  228.03 1260.25   228.3 1260.24
  229.12 1260.23  229.37 1260.23  233.47 1260.38  233.81 1260.36   240.6 1260.31
   246.4    1260  246.49    1260   247.4    1260  247.74 1259.98  252.91 1259.94
   253.9 1259.94  254.06 1259.93  258.22    1260   258.7 1260.02  258.71 1260.02
  260.62 1260.09  264.19 1260.17  264.94 1260.09  267.48 1260.12  270.72 1260.13
  270.91 1260.13  271.16 1260.14  274.03 1260.15  276.27    1260  277.06 1259.91
  277.16 1259.82  278.53 1259.34  281.45 1258.32     282    1258  284.29  1256.4
  284.85    1256  285.11 1255.83  286.98  1254.9  288.23    1254  288.32    1254
  291.45    1254  291.51    1254  291.76    1254  292.49    1254  295.68    1254
  296.77    1254  296.94    1254  298.35    1254  298.57    1254  302.15    1254
  304.01    1254  304.38    1254  305.36    1254  305.78    1254  307.69    1254
  310.84    1254  311.42    1254  314.23    1254  316.99    1254  318.55    1254
  340.79    1254  341.83    1254  343.53    1254  367.46    1254  371.54    1254
  395.31    1254   398.1    1254  398.37    1254  399.55    1254  399.69    1254
  400.18    1254   400.3    1254  402.91    1254  404.11 1253.96  404.21 1253.96
  404.39 1253.96  407.72    1254  412.31 1255.17  415.16 1256.01  416.55 1256.54
  418.15 1257.15  419.13 1257.16  419.67 1257.15  420.97 1257.11  422.47 1257.03
  424.75 1256.78  426.78 1257.28  429.23 1258.12  429.28 1258.13  430.82 1258.69
  432.66 1259.34   436.4    1260  438.84 1260.04  439.11 1260.05  439.81 1260.07
  444.35 1260.22  448.32 1260.35  451.95  1260.4  453.68 1260.39   461.7 1260.36
  467.59 1260.31  468.71 1260.29  469.51  1260.3  471.04 1260.24  484.84 1260.27
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  494.49 1260.13  495.02 1260.11  501.33 1260.05  501.58 1260.04  506.74 1260.15
  524.69 1260.25  527.08 1260.18  542.39    1260  548.76    1260  575.32    1260
  600.18 1259.52  606.73 1259.39  622.75 1259.06  632.37 1258.86  643.47 1258.68
  652.91 1258.49  655.73 1258.46  676.54 1258.26  677.42 1258.24  679.87  1258.2
   680.9 1258.19  682.06 1258.17  692.09    1258  693.51    1258  699.35    1258
  701.56    1258  702.72    1258  720.51    1258  721.23    1258   728.3 1257.79
  732.41 1257.75   733.5 1257.73  749.16 1257.27  753.59 1257.23   764.7 1256.95
  770.31 1256.83  777.51 1256.81  779.38 1256.82  788.66  1256.8   817.9    1256
   821.1    1256  829.01    1256  832.04    1256  837.06    1256

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  274.03     .03  453.68    .045

Bank Sta: Left   Right    Coeff Contr.   Expan.
        274.03  453.68             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
     440     840  1260.5       F

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
     270    1260    1258     440    1260    1258

Downstream Bridge Cross Section Data
Station Elevation Data    num=     168
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1259.56    2.52 1259.56    4.22 1259.56    7.44 1259.55    9.16 1259.55
   12.35 1259.55   14.08 1259.55   17.21 1259.55   22.23 1259.48   24.05 1259.48
   27.04 1259.48   28.85 1259.48   31.86 1259.48   36.63 1259.48    39.7 1259.48
   41.49 1259.48    44.5 1259.48   46.35 1259.48   49.31 1259.48   51.22 1259.48
   66.52    1258   68.91    1258   69.71    1258    74.4    1258   76.65    1258
   80.35    1258   83.48    1258   86.17    1258   90.19    1258   93.64    1258
  101.29    1258  106.68    1258  116.34    1258  118.31    1258  119.95    1258
  124.13    1258   132.3    1258  141.54    1258   143.1    1258  144.33    1258
   145.4    1258  146.37    1258   156.2    1258     181  1258.8  183.99  1258.9
  186.29 1258.91  191.59 1258.96  193.72 1258.98  200.59  1259.2  215.56 1258.99
  220.37 1259.41  220.98  1259.4   222.5 1259.38  222.92 1259.38   224.3 1259.37
   233.6 1259.99  233.62 1259.99  233.75    1260  239.79    1260  241.78    1260
   242.4    1260  243.19    1260  269.69    1260  271.64    1260   272.5    1260
  277.35    1260  286.95    1260  288.53    1260  293.39    1260  293.61    1260
  296.08    1260  296.48    1260  301.55    1260  305.73    1260   306.8    1260
  307.45    1260  309.23    1260  311.85    1260  312.45 1258.87  312.92    1258
  313.45    1257  313.99    1256  314.38 1255.28  314.83 1254.44  315.01 1254.11
  315.07    1254  315.42 1253.98  358.93 1252.53  362.64 1252.51  369.78 1252.48
  372.82 1252.51  383.55 1252.54   395.6 1252.42  396.61 1252.42  400.14 1252.46
  401.56 1252.51  405.23 1252.48  405.44 1252.48  412.29 1252.95  412.31 1252.95
   417.3 1252.93  421.18 1253.29  422.43  1253.4  428.96    1254  429.39 1254.59
  430.35    1256  430.44 1256.12  430.58 1256.32  431.74    1258  432.08 1258.53
   433.1    1260  435.68    1260  436.24    1260  436.45    1260  439.65    1260
  442.21    1260  442.36    1260  443.56    1260   444.6    1260  445.66    1260
  449.79    1260  449.92    1260  450.05    1260  457.49    1260  461.46    1260
  461.59    1260  464.51    1260  464.59    1260   469.3    1260   471.9    1260
  471.95    1260     474    1260  474.04    1260  480.94    1260  483.12    1260
  483.15    1260  537.13    1260  542.56    1260  544.26    1260  545.18    1260
  551.12 1259.86  564.14 1259.56  623.81    1258   627.5    1258   629.8    1258
  632.47    1258  696.93 1256.06  697.97 1256.05  699.31    1256  700.32    1256
  703.21    1256   716.5    1256  716.94    1256  726.94 1255.76  737.38 1255.57
     752 1255.27  757.12 1255.11  761.59 1255.04  767.58 1254.98  773.52 1254.95
  779.33 1254.69  780.45  1254.7  782.09  1254.7  788.51 1254.46  790.93 1254.44
  791.96 1254.43  804.03    1254  804.08    1254

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

```
       0    .045  311.85     .03   433.1    .045

Bank Sta: Left   Right    Coeff Contr.   Expan.
        311.85   433.1            .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     250    1260       F
     500    1000    1260       F

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Piers =  10

Pier Data
Pier Station     Upstream=     298    Downstream=     323
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     309    Downstream=     334
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     320    Downstream=     345
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     331    Downstream=     356
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     342    Downstream=     367
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
```

```
Pier Station     Upstream=     353    Downstream=     375
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     364    Downstream=     389
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     375    Downstream=     400
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     386    Downstream=     411
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Pier Data
Pier Station     Upstream=     397    Downstream=     422
Upstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260
Downstream     num=       2
    Width   Elev    Width   Elev
       2    1252       2    1260

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
       Momentum              Cd   =       2
Selected Low Flow Methods = Highest Energy Answer

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

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

CROSS SECTION
```

```
RIVER: Newhall
REACH: Mainstem          RS: 3786.11

INPUT
Description: 37+86
Station Elevation Data    num=     168
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1259.56    2.52 1259.56    4.22 1259.56    7.44 1259.55    9.16 1259.55
   12.35 1259.55   14.08 1259.55   17.21 1259.55   22.23 1259.48   24.05 1259.48
   27.04 1259.48   28.85 1259.48   31.86 1259.48   36.63 1259.48    39.7 1259.48
   41.49 1259.48    44.5 1259.48   46.35 1259.48   49.31 1259.48   51.22 1259.48
   66.52    1258   68.91    1258   69.71    1258    74.4    1258   76.65    1258
   80.35    1258   83.48    1258   86.17    1258   90.19    1258   93.64    1258
  101.29    1258  106.68    1258  116.34    1258  118.31    1258  119.95    1258
  124.13    1258   132.3    1258  141.54    1258   143.1    1258  144.33    1258
   145.4    1258  146.37    1258   156.2    1258     181  1258.8  183.99  1258.9
  186.29 1258.91  191.59 1258.96  193.72 1258.98  200.59  1259.2  215.56 1258.99
  220.37 1259.41  220.98  1259.4   222.5 1259.38  222.92 1259.38   224.3 1259.37
   233.6 1259.99  233.62 1259.99  233.75    1260  239.79    1260  241.78    1260
   242.4    1260  243.19    1260  269.69    1260  271.64    1260   272.5    1260
  277.35    1260  286.95    1260  288.53    1260  293.39    1260  293.61    1260
  296.08    1260  296.48    1260  301.55    1260  305.73    1260   306.8    1260
  307.45    1260  309.23    1260  311.85    1260  312.45 1258.87  312.92    1258
  313.45    1257  313.99    1256  314.38 1255.28  314.83 1254.44  315.01 1254.11
  315.07    1254  315.42 1253.98  358.93 1252.53  362.64 1252.51  369.78 1252.48
  372.82 1252.51  383.55 1252.54   395.6 1252.42  396.61 1252.42  400.14 1252.46
  401.56 1252.51  405.23 1252.48  405.44 1252.48  412.29 1252.95  412.31 1252.95
   417.3 1252.93  421.18 1253.29  422.43  1253.4  428.96    1254  429.39 1254.59
  430.35    1256  430.44 1256.12  430.58 1256.32  431.74    1258  432.08 1258.53
   433.1    1260  435.68    1260  436.24    1260  436.45    1260  439.65    1260
  442.21    1260  442.36    1260  443.56    1260   444.6    1260  445.66    1260
  449.79    1260  449.92    1260  450.05    1260  457.49    1260  461.46    1260
  461.59    1260  464.51    1260  464.59    1260   469.3    1260   471.9    1260
  471.95    1260     474    1260  474.04    1260  480.94    1260  483.12    1260
  483.15    1260  537.13    1260  542.56    1260  544.26    1260  545.18    1260
  551.12 1259.86  564.14 1259.56  623.81    1258   627.5    1258   629.8    1258
  632.47    1258  696.93 1256.06  697.97 1256.05  699.31    1256  700.32    1256
  703.21    1256   716.5    1256  716.94    1256  726.94 1255.76  737.38 1255.57
     752 1255.27  757.12 1255.11  761.59 1255.04  767.58 1254.98  773.52 1254.95
  779.33 1254.69  780.45  1254.7  782.09  1254.7  788.51 1254.46  790.93 1254.44
  791.96 1254.43  804.03    1254  804.08    1254

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  311.85     .03   433.1    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        311.85   433.1             27.83   27.83   27.83             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     250    1260       F
     500    1000    1260       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem          RS: 3758.278

INPUT
Description: 37+58
Station Elevation Data    num=     168
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
```

```
      0 1259.56    2.52 1259.56    4.22 1259.56    7.44 1259.55    9.16 1259.55
  12.35 1259.55   14.08 1259.55   17.21 1259.55   22.23 1259.48   24.05 1259.48
  27.04 1259.48   28.85 1259.48   31.86 1259.48   36.63 1259.48    39.7 1259.48
  41.49 1259.48    44.5 1259.48   46.35 1259.48   49.31 1259.48   51.22 1259.48
  66.52    1258   68.91    1258   69.71    1258    74.4    1258   76.65    1258
  80.35    1258   83.48    1258   86.17    1258   90.19    1258   93.64    1258
 101.29    1258  106.68    1258  116.34    1258  118.31    1258  119.95    1258
 124.13    1258   132.3    1258  141.54    1258   143.1    1258  144.33    1258
  145.4    1258  146.37    1258   156.2    1258     181  1258.8  183.99  1258.9
 186.29 1258.91  191.59 1258.96  193.72 1258.98  200.59  1259.2  215.56 1258.99
 220.37 1259.41  220.98  1259.4   222.5 1259.38  222.92 1259.38   224.3 1259.37
  233.6 1259.99  233.62 1259.99  233.75    1260  239.79    1260  241.78    1260
  242.4    1260  243.19    1260  269.69    1260  271.64    1260   272.5    1260
 277.35    1260  286.95    1260  288.53    1260  293.39    1260  293.61    1260
 296.08    1260  296.48    1260  301.55    1260  305.73    1260   306.8    1260
 307.45    1260  309.23    1260  311.85    1260  312.45 1258.87  312.92    1258
 313.45    1257  313.99    1256  314.38 1255.28  314.83 1254.44  315.01 1254.11
 315.07    1254  315.42 1253.98  358.93 1252.53  362.64 1252.51  369.78 1252.48
 372.82 1252.51  383.55 1252.54   395.6 1252.42  396.61 1252.42  400.14 1252.46
 401.56 1252.51  405.23 1252.48  405.44 1252.48  412.29 1252.95  412.31 1252.95
  417.3 1252.93  421.18 1253.29  422.43  1253.4  428.96    1254  429.39 1254.59
 430.35    1256  430.44 1256.12  430.58 1256.32  431.74    1258  432.08 1258.53
  433.1    1260  435.68    1260  436.24    1260  436.45    1260  439.65    1260
 442.21    1260  442.36    1260  443.56    1260   444.6    1260  445.66    1260
 449.79    1260  449.92    1260  450.05    1260  457.49    1260  461.46    1260
 461.59    1260  464.51    1260  464.59    1260   469.3    1260   471.9    1260
 471.95    1260     474    1260  474.04    1260  480.94    1260  483.12    1260
 483.15    1260  537.13    1260  542.56    1260  544.26    1260  545.18    1260
 551.12 1259.86  564.14 1259.56  623.81    1258   627.5    1258   629.8    1258
 632.47    1258  696.93 1256.06  697.97 1256.05  699.31    1256  700.32    1256
 703.21    1256   716.5    1256  716.94    1256  726.94 1255.76  737.38 1255.57
    752 1255.27  757.12 1255.11  761.59 1255.04  767.58 1254.98  773.52 1254.95
 779.33 1254.69  780.45  1254.7  782.09  1254.7  788.51 1254.46  790.93 1254.44
 791.96 1254.43  804.03    1254  804.08    1254

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  311.85     .03   433.1    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        311.85   433.1            73.82   73.82   73.82             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     250    1260       F
     500    1000    1260       F

BRIDGE


RIVER: Newhall
REACH: Mainstem           RS: 3715

INPUT
Description: Railroad Avenue Bridge
Distance from Upstream XS =      10
Deck/Roadway Width        =      50
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
     300    1260    1258     450    1260    1258

Upstream Bridge Cross Section Data
Station Elevation Data    num=     168
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
```

```
      0 1259.56    2.52 1259.56    4.22 1259.56    7.44 1259.55    9.16 1259.55
  12.35 1259.55   14.08 1259.55   17.21 1259.55   22.23 1259.48   24.05 1259.48
  27.04 1259.48   28.85 1259.48   31.86 1259.48   36.63 1259.48    39.7 1259.48
  41.49 1259.48    44.5 1259.48   46.35 1259.48   49.31 1259.48   51.22 1259.48
  66.52    1258   68.91    1258   69.71    1258    74.4    1258   76.65    1258
  80.35    1258   83.48    1258   86.17    1258   90.19    1258   93.64    1258
 101.29    1258  106.68    1258  116.34    1258  118.31    1258  119.95    1258
 124.13    1258   132.3    1258  141.54    1258   143.1    1258  144.33    1258
  145.4    1258  146.37    1258   156.2    1258     181  1258.8  183.99  1258.9
 186.29 1258.91  191.59 1258.96  193.72 1258.98  200.59  1259.2  215.56 1258.99
 220.37 1259.41  220.98  1259.4   222.5 1259.38  222.92 1259.38   224.3 1259.37
  233.6 1259.99  233.62 1259.99  233.75    1260  239.79    1260  241.78    1260
  242.4    1260  243.19    1260  269.69    1260  271.64    1260   272.5    1260
 277.35    1260  286.95    1260  288.53    1260  293.39    1260  293.61    1260
 296.08    1260  296.48    1260  301.55    1260  305.73    1260   306.8    1260
 307.45    1260  309.23    1260  311.85    1260  312.45 1258.87  312.92    1258
 313.45    1257  313.99    1256  314.38 1255.28  314.83 1254.44  315.01 1254.11
 315.07    1254  315.42 1253.98  358.93 1252.53  362.64 1252.51  369.78 1252.48
 372.82 1252.51  383.55 1252.54   395.6 1252.42  396.61 1252.42  400.14 1252.46
 401.56 1252.51  405.23 1252.48  405.44 1252.48  412.29 1252.95  412.31 1252.95
  417.3 1252.93  421.18 1253.29  422.43  1253.4  428.96    1254  429.39 1254.59
 430.35    1256  430.44 1256.12  430.58 1256.32  431.74    1258  432.08 1258.53
  433.1    1260  435.68    1260  436.24    1260  436.45    1260  439.65    1260
 442.21    1260  442.36    1260  443.56    1260   444.6    1260  445.66    1260
 449.79    1260  449.92    1260  450.05    1260  457.49    1260  461.46    1260
 461.59    1260  464.51    1260  464.59    1260   469.3    1260   471.9    1260
 471.95    1260     474    1260  474.04    1260  480.94    1260  483.12    1260
 483.15    1260  537.13    1260  542.56    1260  544.26    1260  545.18    1260
 551.12 1259.86  564.14 1259.56  623.81    1258   627.5    1258   629.8    1258
 632.47    1258  696.93 1256.06  697.97 1256.05  699.31    1256  700.32    1256
 703.21    1256   716.5    1256  716.94    1256  726.94 1255.76  737.38 1255.57
    752 1255.27  757.12 1255.11  761.59 1255.04  767.58 1254.98  773.52 1254.95
 779.33 1254.69  780.45  1254.7  782.09  1254.7  788.51 1254.46  790.93 1254.44
 791.96 1254.43  804.03    1254  804.08    1254

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .045  311.85     .03   433.1    .045

Bank Sta: Left   Right    Coeff Contr.   Expan.
        311.85   433.1             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     250    1260       F
     500    1000    1260       F

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
     320    1260    1258     460    1260    1258

Downstream Bridge Cross Section Data
Station Elevation Data    num=     144
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1259.01    32.6 1258.77   33.43 1258.77   35.03 1258.77   35.87 1258.77
   37.46 1258.77   38.31 1258.77   39.88 1258.77   40.73 1258.77   42.27 1258.77
   55.85  1258.6   56.59  1258.6   57.79  1258.6   58.52  1258.6   59.74  1258.6
   61.66  1258.6    62.9  1258.6   63.62  1258.6   64.84  1258.6   65.59  1258.6
   66.78  1258.6   67.56  1258.6   73.75    1258   74.72    1258   75.05    1258
   76.95    1258   83.66    1258   85.02    1258   86.18    1258   87.17    1258
   88.65    1258   89.92    1258   92.75    1258  110.11    1258  113.24    1258
  113.88    1258  114.41    1258  129.01    1258  131.56    1258  134.44    1258
  134.93    1258  135.32    1258  135.65    1258  135.96    1258  139.03    1258
  170.34 1259.01  181.47 1259.09  188.71  1259.3  204.18  1259.7  208.19 1259.76
  211.68 1259.78  212.82 1259.77   218.2    1260  228.57    1260   232.6    1260
```

```
  260.37    1260  260.65    1260  262.28    1260  283.53    1260  284.02    1260
  287.54    1260  302.12    1260   302.6    1260  305.89    1260  306.46    1260
  310.45    1260  311.16    1260  316.06    1260   321.9    1260  322.43    1260
   327.1    1260  328.83    1260   329.4    1260  334.39    1260  335.81    1260
  336.29    1260  338.51    1260   339.2 1258.59  339.48    1258  340.45 1256.02
  340.46    1256  340.48 1255.95  341.44    1254  341.76 1253.35  342.42    1252
  345.47 1251.53   346.1 1251.44  349.25 1251.33  353.99 1250.86  365.59 1250.23
  367.21 1250.24  380.19 1250.11  381.01  1250.1  381.04  1250.1  382.97 1250.08
  382.98 1250.08  394.96    1250  396.27 1249.99  396.29 1249.99   396.3 1249.99
  401.97 1249.93  402.49 1249.92  412.14  1249.8  412.79 1249.78  414.33 1249.75
  424.51 1249.59  426.55 1249.54  430.92 1249.46  434.43 1249.36  452.87 1249.61
  456.39    1250  456.49 1250.34  456.62 1250.76  456.78 1251.32  457.08 1252.41
  457.33 1253.36  457.41 1253.64  457.47 1253.87  457.83 1255.11  458.08 1255.96
  458.33 1256.86  458.61 1257.81  458.86 1258.72  459.04 1259.43  459.19    1260
  460.94    1260  527.65    1260  528.51    1260  530.19    1260  531.27    1260
  533.12    1260  534.15    1260  547.52    1260  613.51 1258.11  617.88    1258
  660.91 1256.56  670.27 1256.24  677.62    1256  681.89    1256   684.1    1256
  685.44    1256  692.37    1256  739.26 1254.84   756.9 1254.44

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  338.51    .013  459.19    .045

Bank Sta: Left   Right    Coeff Contr.   Expan.
        338.51  459.19             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     300    1260       F
     500     800    1260       F

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Bridge Coefficient Sets =  1

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

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

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

CROSS SECTION


RIVER: Newhall
REACH: Mainstem          RS: 3684.454

INPUT
Description: 36+84
```

Station Elevation Data num= 144

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1259.01	32.6	1258.77	33.43	1258.77	35.03	1258.77	35.87	1258.77
37.46	1258.77	38.31	1258.77	39.88	1258.77	40.73	1258.77	42.27	1258.77
55.85	1258.6	56.59	1258.6	57.79	1258.6	58.52	1258.6	59.74	1258.6
61.66	1258.6	62.9	1258.6	63.62	1258.6	64.84	1258.6	65.59	1258.6
66.78	1258.6	67.56	1258.6	73.75	1258	74.72	1258	75.05	1258
76.95	1258	83.66	1258	85.02	1258	86.18	1258	87.17	1258
88.65	1258	89.92	1258	92.75	1258	110.11	1258	113.24	1258
113.88	1258	114.41	1258	129.01	1258	131.56	1258	134.44	1258
134.93	1258	135.32	1258	135.65	1258	135.96	1258	139.03	1258
170.34	1259.01	181.47	1259.09	188.71	1259.3	204.18	1259.7	208.19	1259.76
211.68	1259.78	212.82	1259.77	218.2	1260	228.57	1260	232.6	1260
260.37	1260	260.65	1260	262.28	1260	283.53	1260	284.02	1260
287.54	1260	302.12	1260	302.6	1260	305.89	1260	306.46	1260
310.45	1260	311.16	1260	316.06	1260	321.9	1260	322.43	1260
327.1	1260	328.83	1260	329.4	1260	334.39	1260	335.81	1260
336.29	1260	338.51	1260	339.2	1258.59	339.48	1258	340.45	1256.02
340.46	1256	340.48	1255.95	341.44	1254	341.76	1253.35	342.42	1252
345.47	1251.53	346.1	1251.44	349.25	1251.33	353.99	1250.86	365.59	1250.23
367.21	1250.24	380.19	1250.11	381.01	1250.1	381.04	1250.1	382.97	1250.08
382.98	1250.08	394.96	1250	396.27	1249.99	396.29	1249.99	396.3	1249.99
401.97	1249.93	402.49	1249.92	412.14	1249.8	412.79	1249.78	414.33	1249.75
424.51	1249.59	426.55	1249.54	430.92	1249.46	434.43	1249.36	452.87	1249.61
456.39	1250	456.49	1250.34	456.62	1250.76	456.78	1251.32	457.08	1252.41
457.33	1253.36	457.41	1253.64	457.47	1253.87	457.83	1255.11	458.08	1255.96
458.33	1256.86	458.61	1257.81	458.86	1258.72	459.04	1259.43	459.19	1260
460.94	1260	527.65	1260	528.51	1260	530.19	1260	531.27	1260
533.12	1260	534.15	1260	547.52	1260	613.51	1258.11	617.88	1258
660.91	1256.56	670.27	1256.24	677.62	1256	681.89	1256	684.1	1256
685.44	1256	692.37	1256	739.26	1254.84	756.9	1254.44		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.065	338.51	.013	459.19	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
338.51	459.19	151.24	151.24	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	300	1260	F
500	800	1260	F

CROSS SECTION

RIVER: Newhall
REACH: Mainstem RS: 3533.212

INPUT
Description:
Station Elevation Data num= 123

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1254.59	13.07	1254	17.31	1254	22.02	1254	23.64	1254
37.33	1254	46.37	1254	65.06	1254	82.86	1253.86	83.45	1253.84
88.56	1254	90.23	1254	93.81	1254.11	100.43	1254.25	115.38	1254.47
128.45	1254.47	134.33	1254.42	137.05	1254.39	153.55	1254.18	166.53	1254
174.63	1253.9	178.01	1253.86	180.97	1253.82	182.27	1253.82	196.56	1253.62
212.37	1253.57	229.91	1253.4	261.25	1253.14	267.8	1253.1	272.2	1253.09
282.71	1253.05	287.47	1253.02	294.77	1253.05	304.88	1252.97	306.08	1252.97
306.71	1252.96	336.32	1252.99	347.32	1252.92	355.36	1252.9	425.52	1252.35
429.14	1252.33	431.04	1252.32	447.19	1252.35	450.91	1252.29	452.7	1252.32
453.37	1252.33	455.21	1252.36	460.65	1252.52	464.84	1252.47	471.38	1252.44
472.04	1252.46	496.76	1253.63	499.53	1253.7	501.58	1253.78	507.9	1254
510.27	1254	517.46	1254	522.82	1253.93	523.57	1253.96	598.64	1253.94

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  602.06 1253.97  604.67    1254   605.5    1254  605.69    1254  626.97    1254
  627.13    1254  631.86    1254  632.28    1254  633.31    1254  637.99    1254
  638.56 1252.85  639.46 1251.03  639.71 1250.52  640.85 1248.22  640.98 1247.95
  641.01  1247.9  642.15 1245.61  642.95    1244  666.05    1244  667.86    1244
  669.59    1244  693.04    1244  693.16 1245.33  693.33  1247.1  693.57  1249.6
  693.66 1250.64  693.83 1252.33  694.01 1252.18  694.45  1254.2  694.84    1256
  725.25 1257.58  733.42    1258  735.06 1258.19  735.69  1258.2  740.45 1258.56
  746.71 1258.97   746.8 1258.97  755.13  1258.8  762.07 1258.45  767.07 1258.36
  780.19 1258.25  788.69    1258  791.77    1258   793.3    1258  795.37    1258
  804.83 1257.84  806.32 1257.82  806.84  1257.8  810.01 1257.73  813.96 1257.61
  819.85  1257.4  823.66 1257.34  838.86 1256.81  863.19    1256  868.41    1256
  874.44    1256  879.44    1256  879.96    1256  886.04    1256  894.78    1256
  906.24 1255.76  950.38 1254.78  957.01 1254.62

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  631.86    .013  694.45    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        631.86  694.45           231.83  231.83  231.83             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0     600    1254       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 3301.384

INPUT
Description:
Station Elevation Data    num=     222
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1248.76    6.63 1248.84    9.12 1248.91    19.5    1249   27.04 1249.19
   30.83 1249.23   37.66 1249.28   42.57 1249.36   47.68 1249.33   50.25 1249.39
   55.85 1249.27   64.56 1249.46   65.95 1249.48  112.73 1249.43  125.18 1249.57
  132.56 1249.63  135.25 1249.67  147.16 1249.76  148.28 1249.76   157.4 1249.78
  159.07 1249.78  185.51    1250  188.62    1250  192.64    1250  198.54    1250
  227.84    1250  247.33    1250  249.29    1250  250.35    1250  255.78    1250
  258.32    1250  259.95    1250  274.26    1250  280.13    1250  308.33  1249.3
   315.8  1249.3  320.68 1249.35  327.53 1249.36  367.33  1249.7  367.67  1249.7
  367.96 1249.71  385.29 1249.86  386.67 1249.88  390.55  1249.9  395.64 1249.92
  414.04    1250  414.43    1250  414.51    1250  414.53    1250  434.68    1250
  438.68    1250  441.37    1250  443.41    1250   468.8    1250  469.03    1250
  475.71    1250   479.6    1250  487.96 1250.14  488.89 1250.14   490.1 1250.15
  500.21 1250.32  501.35 1250.33  509.78 1250.49  510.62 1250.48  514.21 1250.63
  601.46 1250.44  602.66 1250.43  613.99 1250.26  619.71 1250.17  627.74 1250.11
  632.55 1250.09   632.9  1250.1  641.19 1250.09  641.75  1250.1  649.98 1250.19
  651.24 1250.19  664.77    1250  666.48    1250  666.84    1250  667.01    1250
   682.1    1250  684.55    1250  687.52    1250  688.47    1250  699.14    1250
  703.32    1250  704.09    1250  709.47    1250  710.25    1250  718.64    1250
  719.66    1250  731.79    1250  733.25    1250  751.03    1250   751.3 1249.42
  751.96    1248  752.53 1246.77  752.89    1246  753.69 1244.29  754.62  1242.3
  754.72  1242.1  755.58 1240.26  755.71    1240  757.42    1240  760.38    1240
  779.34    1240  780.66    1240  781.13    1240  789.05    1240  789.23 1240.97
  789.48 1242.41  789.92 1244.81  790.35  1247.2  791.91 1247.77  796.36    1252
  802.89 1252.77  809.01 1253.51   811.3 1253.79  813.66    1254  814.62    1254
  816.45    1254  839.54    1254  843.77    1254  874.81 1254.35  877.35 1254.36
  884.24 1254.31  886.97  1254.3   904.5 1254.29  926.96 1254.13  935.04    1254
 1015.76    1254  1019.5    1254 1021.44 1254.12    1022 1254.15 1033.52 1254.88
 1043.88 1255.29 1056.99    1256 1058.22    1256 1091.26    1256 1097.61    1256
 1124.95    1256 1125.65    1256 1125.79    1256 1142.36 1255.37 1150.65 1255.08
 1162.51  1254.5 1171.91    1254 1178.46 1253.37 1194.89    1252 1207.94 1250.91
 1212.86 1250.56 1215.78 1250.34 1217.91  1250.2 1222.16    1250  1238.2 1249.65
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 1239.23 1249.61 1240.33 1249.57 1246.15 1249.45 1247.76 1249.39 1249.38 1249.33
 1251.71 1249.27 1253.99 1249.18 1256.57 1249.08 1260.85 1248.92  1272.1 1248.59
 1275.34 1248.43 1279.33 1248.24 1284.34    1248 1285.11    1248 1287.07    1248
 1290.83    1248  1292.5    1248 1294.38 1248.33 1295.02 1248.37 1299.72 1249.06
 1300.88 1249.23  1302.1 1249.41 1302.53 1249.48 1310.07 1249.79 1315.87 1249.71
  1318.8 1249.66    1333 1249.37  1335.1 1249.33 1337.32  1249.3 1345.15 1249.07
 1356.35 1249.04 1360.81 1248.91 1363.66 1248.89 1367.27 1248.78 1382.98 1248.68
 1404.32 1248.45 1412.07 1248.43 1414.86 1248.42 1432.86 1248.44 1436.14 1248.44
 1437.08 1248.44 1440.56 1248.44 1443.01 1248.44  1459.1 1248.47 1461.38 1248.46
 1470.67  1248.5  1474.7 1248.48 1482.17  1248.5 1486.04 1248.48 1495.97 1248.51
  1498.2  1248.5 1505.51 1248.51 1510.16 1248.52 1524.86 1248.54 1537.44 1248.57
 1540.43 1248.58 1549.92 1248.63 1551.68 1248.63 1556.77 1248.67 1563.43 1248.67
 1573.02 1248.76 1599.82 1248.89 1604.36 1248.88 1612.52 1248.92 1618.71 1248.88
 1620.99  1248.9 1676.07 1248.99

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  751.03     .03  796.36    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        751.03  796.36           264.59  264.59  264.59             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     700    1250       F
    1200    1700    1250       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 3036.790

INPUT
Description:
Station Elevation Data    num=     412
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 1259.96   16.26    1258   16.76 1257.75    21.3    1256    22.7 1255.19
   24.96    1254   26.05 1253.38   28.53    1252   29.16 1251.65   31.47 1250.34
   32.09    1250   32.29 1249.89    35.7    1248   39.17 1246.06    39.3    1246
   39.61 1245.82   46.94    1242   47.93 1241.84   50.49 1241.47   52.34  1241.2
   53.81    1241   62.54 1241.07   65.69 1240.89   96.07 1241.43   103.2    1242
  104.07    1242  106.45    1242  132.79    1242  137.07    1242  139.76    1242
  139.82    1242  143.64    1242   145.5    1242  149.06    1242  161.94    1242
  164.94    1242  170.51    1242  173.87    1242  178.16    1242  237.51 1240.87
  239.76 1240.84  255.01  1240.6  261.83 1240.47  284.26 1240.34  284.93 1240.35
  293.53 1240.33  295.09 1240.34  303.29 1240.37  306.02 1240.37  314.22 1240.51
  318.72 1240.51  320.94 1240.51   327.1 1240.52  337.56  1240.7  376.08 1241.05
  386.06 1241.18  422.57 1241.68  444.68    1242  447.33    1242  450.96    1242
  452.69    1242  453.43    1242  458.38    1242  469.01    1242  469.04    1242
  471.29    1242  536.24    1242  574.11 1242.36  574.88 1242.38  578.65 1242.39
  582.06 1242.43  643.27 1242.33   647.7 1242.28  650.23 1242.27  655.28 1242.24
  667.88 1242.28  670.37 1242.25  674.61 1242.23  681.95 1242.26  686.79 1242.27
  702.56  1242.3  705.87  1242.3  719.95 1242.32  720.74 1242.32  726.55 1242.34
  742.24 1242.44  744.31 1242.47  748.23 1242.51   756.1 1242.63  759.08 1242.67
  773.75 1242.89  774.63  1242.9  779.16 1242.97  785.19 1243.06  795.18 1243.14
  818.72 1243.39  847.74    1244  855.48    1244  856.67    1244  867.78    1244
  874.66    1244  877.89    1244  882.91    1244  889.85    1244  900.76    1244
  901.67    1244  910.06    1244  910.56    1244  913.72    1244   937.5    1244
  953.23    1244  953.24    1244  954.25    1244  972.69    1244  985.31    1244
  992.47    1244 1004.19    1244 1028.12    1244 1029.85    1244 1034.65    1244
 1035.75    1244 1041.96    1244 1044.71    1244 1170.81 1245.93 1174.05 1245.93
 1174.28 1245.93 1177.14    1246  1177.9    1246 1182.96    1246  1186.6    1246
 1188.76    1246 1198.55    1246  1202.2    1246  1233.6 1246.53 1264.01 1246.73
 1272.32 1246.78 1282.15 1246.81 1292.75 1246.88 1294.04  1246.9 1297.41 1246.91
 1333.35 1247.32 1357.35 1247.35 1363.54 1247.34 1366.82 1247.34 1391.15 1247.21
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 1394.05  1247.2 1520.61 1247.91 1526.77    1248 1526.89    1248 1527.01    1248
 1529.08    1248 1531.73    1248 1531.81    1248 1567.92    1248 1576.21    1248
 1587.65    1248  1589.3    1248 1594.14    1248    1604    1248 1611.83    1248
 1648.35 1248.72 1678.89  1248.6  1681.7 1248.58 1691.03 1248.53 1778.14    1248
 1789.07    1248 1792.62    1248 1795.68    1248 1796.51    1248 1798.12    1248
  1821.8    1248  1834.6    1248 1838.08    1248 1838.99    1248 1840.63    1248
 1852.29    1248 1889.34    1248 1889.49    1248 1890.87    1248 1891.02    1248
 1892.72    1248 1892.87    1248 1895.03    1248 1895.15    1248  1897.7    1248
 1897.82    1248 1901.19    1248 1908.96    1248 1909.04    1248  1912.7    1248
 1912.74    1248 1918.01    1248 1924.74    1248 1926.45    1248  1927.9  1247.4
 1930.56    1246 1931.08 1244.83 1931.45    1244 1931.95 1242.88 1932.35    1242
 1932.82 1240.95 1933.24    1240 1933.64  1239.1 1934.14    1238  1934.3 1237.64
 1934.34 1237.58 1934.89 1236.36 1934.98 1236.17 1935.05    1236 1948.66    1236
  1948.8    1236 1961.69    1236 1961.78    1236 1963.83    1236 1964.15    1236
 1966.11    1236 1966.46 1237.91 1966.65 1238.93 1966.85    1240 1966.89  1240.2
 1967.01 1240.55 1967.56 1243.03 1969.18    1248 1976.37 1248.69 1983.73 1249.39
 1984.78 1249.49 1990.31    1250 2010.18 1250.98 2011.93 1251.08 2017.16 1251.35
 2029.93    1252 2037.15    1252 2041.07    1252 2050.12    1252 2052.06    1252
    2054    1252 2060.97    1252 2062.13    1252 2099.31 1251.25 2116.93 1250.87
 2119.45 1250.81 2130.64 1250.62    2150 1250.23 2151.63 1250.22 2157.45 1250.24
 2158.05 1250.25 2162.23 1250.37 2172.89 1250.26 2177.93 1250.18 2178.24 1250.19
 2193.54 1250.03 2193.84 1250.04 2193.91 1250.04 2204.36 1250.19 2204.68 1250.19
 2210.42  1250.3 2221.35 1250.47 2230.05 1250.41 2239.64 1250.19  2240.3 1250.18
 2244.07 1250.08 2246.24    1250 2246.48    1250 2252.18 1249.55 2259.78 1249.08
 2277.31    1248 2281.03 1246.56 2282.48    1246 2286.03 1245.04 2287.66 1244.61
  2289.7 1244.13 2292.78    1244 2300.09 1242.89  2303.4    1242 2306.18    1242
 2306.73    1242 2308.15    1242 2310.85 1243.14 2312.86    1244 2313.01    1244
 2313.05    1244 2313.53    1244 2327.45 1244.84 2328.14 1244.87  2331.2 1244.99
 2331.44    1245 2333.86 1245.09 2334.04  1245.1 2336.09 1245.18 2339.38 1245.28
 2340.36  1245.3 2357.47 1245.43 2361.58 1245.43 2368.47 1245.33 2372.42 1245.33
 2414.16 1244.98 2416.85 1244.98  2422.3 1244.99 2428.39 1245.01 2438.27 1245.06
 2440.09 1245.07 2443.87  1245.1 2448.97 1245.15 2452.24 1245.18 2515.94 1245.45
 2520.21 1245.48 2532.77 1245.59 2542.11 1245.68 2543.88 1245.69 2573.93    1246
 2575.31    1246 2577.04    1246 2579.22    1246 2583.82    1246 2587.06    1246
 2587.28    1246 2589.34 1246.02  2590.6 1246.03  2653.4 1246.51 2688.32 1246.82
 2700.22 1246.95 2716.29 1247.06 2755.87 1247.28 2758.31 1247.28 2764.58 1247.31
 2772.46 1247.38 2796.83 1247.35 2801.85 1247.28 2811.26 1247.39 2813.32 1247.42
 2813.91 1247.41 2819.88 1247.46 2826.52 1247.46 2838.01 1247.45    2843 1247.43
 2846.14  1247.4 2855.63 1247.38 2865.28 1247.37 2867.52 1247.37 2876.95 1247.33
 2881.81 1247.35 2884.23 1247.36 2896.88 1247.29 2899.56  1247.3 2904.81 1247.31
 2907.37  1247.3 2910.42 1247.27 2926.85 1247.23 2932.09 1247.17 2943.45  1247.1
 2948.37 1247.05  2957.8 1246.98 2960.47 1246.96 2963.47 1246.94 2984.66 1246.94
  2989.1 1246.93 2994.04 1246.94 3002.25 1246.97 3008.27 1246.99 3015.89 1246.98
 3026.32 1246.98 3031.43 1246.98 3043.89 1246.91 3049.59 1246.89 3050.24 1246.88
 3050.69 1246.88 3064.36 1246.78  3075.2 1246.67 3081.03 1246.63 3086.27 1246.57
 3108.35    1246 3108.71    1246 3110.87    1246 3113.66    1246  3117.8    1246
 3118.48    1246 3120.54    1246 3120.88    1246 3123.48    1246 3124.79    1246
 3128.24    1246 3133.38    1246 3138.76    1246 3140.95    1246 3141.95    1246
 3146.22    1246 3146.52    1246 3155.05    1246 3156.91    1246 3158.42    1246
 3160.54    1246 3160.63    1246  3162.8    1246 3164.12    1246    3166 1244.93
 3167.17    1244 3168.46  1242.8 3169.37    1242 3170.07    1242 3172.49    1242
 3173.39  1242.7 3175.04    1244 3175.67 1244.15 3176.32 1244.26 3182.41 1245.51
 3182.76 1245.59 3182.83  1245.6 3186.33    1246 3196.97 1246.17 3226.52 1246.42
 3227.24 1246.42 3234.49 1246.46

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065 1789.07     .03 2029.93    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1789.07 2029.93          234.01  234.01  234.01             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    1800    1248       F
    2100    3300    1248       F
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CROSS SECTION

RIVER: Newhall
REACH: Mainstem RS: 2802.783

INPUT
Description:
Station Elevation Data num= 189

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1243.85	13.2	1243.94	16.27	1244	17.71	1244	20.31	1244
34.24	1244	39.36	1244	39.61	1244	53.51	1244	53.97	1244
61.98	1244	66.35	1244	66.69	1244	66.99	1244	78.93	1244
80.72	1244	82.54	1244	100.51	1244	102.9	1244	103.39	1244
108.52	1244	108.68	1244	111.21	1244	130.88	1244.37	140.41	1244.44
141.3	1244.44	146.81	1244.49	165.88	1244.44	299.96	1245.62	325.08	1245.85
339.01	1246	340.63	1246	352.75	1246.29	390.45	1246.48	390.68	1246.48
391.6	1246.47	402.42	1246.41	406.44	1246.38	420.76	1246.34	429.02	1246.31
430.93	1246.3	445.71	1246.18	452.33	1246.1	459.58	1246	467.35	1246
482.81	1246	487.45	1246	494.9	1246	499.05	1246	502.55	1246.05
516.04	1246	537.23	1246	538.04	1246	617.93	1246	618.3	1246
620.61	1246	625.88	1246	637.27	1246	645.17	1246	673.03	1246
676.42	1246	678	1246	683.78	1246	699.5	1246	699.63	1246
701.33	1246	709.07	1246	712.29	1246	738.21	1244.75	739	1244.71
746.2	1244.37	746.96	1244.34	747.35	1244.32	754.08	1244	754.57	1243.19
755.26	1242	755.67	1241.3	756.43	1240	756.74	1239.48	757.61	1238
757.68	1237.87	757.84	1237.61	758.65	1236.23	758.79	1236	759.72	1234.41
759.96	1234	770.02	1234	787.69	1234	788.03	1235.7	788.39	1237.4
788.96	1240.38	789.47	1242.98	789.71	1244	790.59	1244.19	793.47	1244.77
802.14	1246	804.86	1246.57	805.48	1246.68	809.24	1247.31	812.28	1247.41
814.91	1247.11	823.55	1247.67	825.35	1247.63	838.18	1247.35	848.02	1247.28
852.85	1247.21	859.91	1247.15	864.66	1247.08	871.2	1246.96	878.47	1246.82
885.57	1246.67	888.1	1246.61	890.32	1246.59	909.2	1246.06	909.61	1246.04
910.01	1246.04	910.64	1246	929.56	1245.43	930.86	1245.4	939.57	1245.25
946.85	1245.1	954.03	1244.96	954.61	1244.95	956.11	1244.92	957.86	1244.91
972.29	1244.73	988.44	1244.43	997.57	1244.27	1004.39	1244.2	1005.81	1244.18
1010	1244.15	1013.23	1244.15	1014.56	1244.17	1015	1244.17	1036.61	1244.13
1036.81	1244.13	1037.59	1244.15	1037.87	1244.16	1041.07	1244.18	1041.65	1244.2
1042.51	1244.23	1043.38	1244.27	1043.47	1244.27	1044.69	1244.33	1047.29	1244.39
1047.54	1244.4	1049.55	1244.5	1050.62	1244.55	1053.68	1244.7	1068.47	1245.17
1071.33	1245.36	1074.52	1245.56	1077.44	1245.74	1079.08	1245.8	1081.25	1246
1086.21	1246	1089.15	1246	1092.65	1246	1100.67	1246	1100.68	1246
1100.69	1245.99	1106.34	1244.62	1109.07	1244	1114.81	1242.3	1115.84	1242
1116.37	1241.84	1122.6	1240	1126.79	1240	1129.04	1240	1129.37	1240
1134.96	1240	1138.01	1241.26	1139.72	1242	1144.67	1242.1	1148.83	1242.17
1159.25	1242.37	1159.33	1242.37	1201.13	1242.95	1207.54	1243.02	1213.11	1243.08
1213.29	1243.08	1217.93	1243.15	1232.01	1243.2	1255.92	1243.41	1260.25	1243.42
1317.87	1243.9	1326.31	1244	1326.33	1244	1326.4	1244		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.065	709.07	.03	802.14	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
709.07	802.14	385.69	385.69	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	700	1246	F
850	1350	1246	F

CROSS SECTION

RIVER: Newhall

REACH: Mainstem RS: 2417.090

INPUT
Description:
Station Elevation Data num= 220

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1239.03	1.79	1239.05	4.2	1239.07	16.53	1239.2	24.86	1239.23
25.54	1239.23	29.39	1239.24	30.27	1239.24	39.4	1239.2	51.76	1239.34
62.71	1239.5	67.55	1239.59	73.3	1239.62	76.97	1239.69	77.33	1239.7
85.16	1239.62	146.29	1240	156.28	1240	157.09	1240	161.47	1240
165.65	1240	190.87	1240.29	193.92	1240.31	196.29	1240.32	196.47	1240.32
238.54	1240.35	240.19	1240.34	241.53	1240.33	241.78	1240.33	255.4	1240.35
261.61	1240.37	295.02	1240.27	297.28	1240.3	297.68	1240.3	309.99	1240.32
310.33	1240.32	310.9	1240.32	323.34	1240.44	326.81	1240.42	335.89	1240.42
339.75	1240.46	384.65	1240.77	399.24	1240.72	403.66	1240.73	410.32	1240.71
417.32	1240.72	445.61	1240.83	499.88	1240	502.59	1240	502.74	1240
508.76	1240	513.44	1240	515.37	1240	515.68	1240	515.85	1240
516.67	1239.55	518.12	1239.4	522.82	1238.84	525.41	1238.74	528.38	1238.45
530.2	1238.46	531.45	1238.44	539.27	1238.16	539.94	1238.12	540.18	1238.12
540.52	1238.11	552.72	1238.15	554.13	1238.2	555.26	1238.21	556.3	1238.21
557.17	1238.21	558.09	1238.23	560.2	1238.27	561.09	1238.31	562.05	1238.33
576.68	1238.65	583.59	1238.73	587.1	1238.8	588.71	1238.83	594.47	1238.93
601.83	1239.06	604.84	1239.11	608.75	1239.18	614.68	1239.32	615.68	1239.34
618.98	1239.42	629.01	1239.68	629.21	1239.68	629.4	1239.69	629.67	1239.69
638.73	1239.92	638.89	1239.93	642.12	1240	645.61	1240	645.76	1240
662.24	1240	663.62	1240	674.44	1240	689.04	1240	689.88	1240
710.28	1240	711.52	1240	711.94	1240	712.14	1240	713.92	1240
714.31	1240	715.03	1240	723.96	1240	744.19	1240	748.49	1240
749.95	1240	757.57	1240	763.64	1240	768.67	1240	773.06	1240
778.21	1239.43	789.83	1238	789.87	1237.94	790.18	1237.41	790.53	1236.79
790.99	1236	791.69	1234.81	792.16	1234	792.85	1232.82	793.32	1232
794.02	1230.82	794.49	1230	817.81	1230	821.88	1230	821.89	1230.05
822.39	1232	822.57	1232.68	822.9	1234	823.13	1234.88	823.3	1235.56
823.66	1236.97	823.92	1238	834.43	1239.34	835.31	1239.45	837.7	1239.76
840.5	1240	842.63	1240	845.66	1240.07	846.11	1240.07	910.31	1240.57
925.96	1240.6	936.95	1240.64	939.95	1240.64	1052.74	1240	1058.42	1240
1060.27	1240	1072.02	1240	1072.49	1240	1073.26	1240	1073.6	1240
1112.63	1239.03	1118.32	1238.91	1124.77	1238.85	1132.28	1238.79	1176.93	1238.68
1178.38	1238.72	1179.19	1238.75	1180.84	1238.8	1182.26	1238.84	1183.96	1238.89
1185.34	1238.93	1189.34	1238.95	1191.49	1239.02	1193.4	1239.08	1195.94	1239.17
1205.36	1239.52	1207.88	1239.56	1218.56	1240	1230.64	1240	1233.03	1240
1235.12	1239.65	1237.59	1239.23	1237.95	1239.17	1244.81	1238	1248.89	1236.5
1250.21	1236	1254.74	1234.32	1255.62	1234	1256.03	1234	1257.1	1234
1259.77	1234	1266.22	1234	1267.32	1234	1267.53	1234	1267.84	1234.24
1270.05	1236	1270.44	1236.32	1272.57	1238	1275.07	1238.05	1275.78	1238.06
1354.42	1238.83	1357.85	1238.87	1367.4	1238.81	1370.13	1238.8	1375.18	1238.84
1376.51	1238.84	1379.97	1238.84	1382.83	1238.86	1392.19	1238.93	1399.63	1238.89
1408.93	1238.95	1411.62	1238.94	1413.75	1238.95	1417.62	1238.92	1424.31	1238.87
1430.99	1238.84	1432.06	1238.86	1435.89	1238.85	1443.46	1238.85	1492.07	1239.03
1497.68	1239.01	1502.96	1239.01	1514.57	1239.05	1517.95	1239.03	1521.02	1239.01

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.065	757.57	.03	845.66	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
757.57	845.66	316.61	316.61	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	750	1240	F
900	1550	1240	F

CROSS SECTION

RIVER: Newhall
REACH: Mainstem RS: 2100.483

INPUT
Description:
Station Elevation Data num= 284

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1233.91	6.37	1234	7.06	1234	17.97	1234.13	23.08	1234.19
39.06	1234.38	48.87	1234.48	57.69	1234.55	62.1	1234.59	75.03	1234.61
86.49	1234.69	97.62	1234.74	102.89	1234.76	117.31	1234.81	144.66	1234.76
165.39	1234.59	169.18	1234.6	174.06	1234.55	184.79	1234.59	185.27	1234.59
188.62	1234.62	190.27	1234.61	193.23	1234.63	203.87	1234.74	208.29	1234.83
219.46	1234.79	236.74	1235.46	240.07	1235.57	243.22	1235.61	251.09	1235.73
252.26	1235.77	256.51	1235.64	261.23	1235.83	264.21	1235.86	315.86	1235.79
318.73	1235.8	323.56	1235.81	324.57	1235.82	325.17	1235.82	326.57	1235.81
343.88	1235.75	375.49	1236	389.11	1236	394.82	1236	407.25	1236
410.07	1236	410.3	1236	419.31	1236	421.48	1236	426.45	1236
434.37	1236.13	434.65	1236.13	436.52	1236.18	436.73	1236.18	473.05	1236.87
481.77	1236.94	496.63	1236.81	499.81	1236.82	510.56	1236.8	524.93	1236.85
533.44	1236.85	563.42	1236.81	593.64	1236.85	601.7	1236.93	612.11	1236.92
613.79	1236.93	627.68	1236.98	630.52	1237.01	681.02	1237.05	682.2	1237.03
706.49	1237.1	713.54	1237.02	717.12	1237.05	718.14	1237.04	736.27	1236.75
753.22	1236.17	755.67	1236.07	755.76	1236.07	758.41	1236	758.49	1236
764.57	1236	765.97	1236	771.84	1236	772.53	1236	781.08	1236
837.21	1235.01	837.47	1235	840.89	1234.84	841.29	1234.82	846.14	1234.59
846.83	1234.55	854.3	1234.2	855.54	1234.14	858.43	1234	858.71	1232.57
858.82	1232	859.14	1230.34	859.21	1230	859.54	1228.33	859.6	1228.05
859.6	1228	859.95	1226.26	860	1226	882.48	1226	891.89	1226
891.91	1226.13	891.95	1226.33	892.01	1226.67	892.22	1227.87	892.24	1227.97
892.48	1229.28	892.57	1229.77	892.84	1231.19	893.06	1232.35	893.2	1233.15
893.29	1233.65	893.35	1234	915.74	1235.8	918.01	1236	918.24	1236
918.76	1236	918.87	1236	989.11	1236.79	993.86	1236.84	1003.67	1236.85
1013.53	1236.84	1017.82	1236.85	1022.7	1236.87	1034.54	1236.91	1044.4	1236.89
1046.12	1236.89	1051.85	1236.93	1066.33	1236.97	1076.94	1236.97	1087.43	1236.94
1091.13	1236.95	1092.31	1236.95	1093.19	1236.95	1101.68	1236.95	1123.62	1236.83
1129.55	1236.84	1138.66	1236.76	1142.75	1236.76	1145.83	1236.73	1154.86	1236.67
1191.08	1236.04	1191.36	1236.04	1192.36	1236	1193.1	1236	1197.17	1236
1321	1236	1325.63	1236	1326.94	1236	1333.95	1236	1337.51	1236
1337.99	1236	1344.18	1234.66	1347.09	1234	1351.68	1232.1	1351.92	1232
1351.98	1231.97	1355.99	1230	1358.26	1230	1360.53	1230	1367.42	1231.92
1367.73	1232	1374.02	1233.55	1375.91	1234	1377.52	1234	1382.77	1234
1391.39	1234	1430.09	1235.02	1435.75	1235.15	1447.25	1235.32	1451.64	1235.4
1453.43	1235.43	1457.82	1235.5	1464.66	1235.53	1468.09	1235.57	1470.09	1235.58
1481.51	1235.53	1485.8	1235.54	1488.62	1235.54	1496.43	1235.48	1499.53	1235.47
1501.82	1235.45	1509.83	1235.4	1513.91	1235.36	1524.97	1235.31	1528.86	1235.29
1537.07	1235.24	1538.88	1235.22	1548.6	1235.09	1551.18	1235.07	1559.93	1235.03
1566.52	1235.04	1573.44	1235.05	1583.89	1235.15	1596.62	1235.13	1598.6	1235.12
1616.59	1235.11	1626.19	1235.18	1627.71	1235.18	1631	1235.19	1633.93	1235.22
1639.7	1235.27	1649.22	1235.27	1653.2	1235.29	1661.37	1235.3	1666.01	1235.33
1684.17	1235.39	1697.25	1235.42	1698.62	1235.42	1704.34	1235.4	1707.92	1235.37
1719.01	1235.23	1732.21	1235.17	1733.11	1235.17	1740.25	1235.11	1741.18	1235.11
1755.42	1234.96	1775.2	1234.98	1787.03	1235.1	1788.14	1235.11	1803.41	1235.3
1804.61	1235.31	1818.59	1235.43	1824.56	1235.51	1825.94	1235.51	1838.24	1235.63
1842.7	1235.65	1843.43	1235.65	1850.51	1235.66	1851.07	1235.67	1855.21	1235.73
1862.33	1235.69	1896.72	1235.71	1897.96	1235.72	1906.36	1235.76	1930.86	1235.88
1935.1	1235.9	1950.28	1236	1960.04	1236.07	1960.2	1236.08	1978.66	1236.23
1980	1236.24	1985.05	1236.28	2007.01	1236.35	2009.14	1236.37	2011.03	1236.39
2013.19	1236.41	2016.38	1236.44	2017.99	1236.46	2019.87	1236.46	2033.55	1236.69
2058.98	1236.91	2069.27	1236.92	2070.47	1236.93	2072.4	1236.94	2074.35	1236.94
2124.01	1237.36	2131.63	1237.42	2141.93	1237.55	2146.48	1237.59	2176.22	1238
2177.71	1238	2183.24	1238	2184.53	1238	2185.91	1238	2188.44	1238
2189.37	1238	2193.01	1238	2196.2	1236.77	2198.31	1236	2200.39	1236
2203.7	1236	2206.92	1237.57	2207.76	1238	2207.82	1238	2207.86	1238
2229.27	1238	2230.22	1238	2272.12	1238.9	2276.49	1238.9		

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Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  706.49     .03 1003.67    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        706.49 1003.67           401.94  401.94  401.94             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     700    1237       F
    1050    2300    1237       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 1698.544

INPUT
Description:
Station Elevation Data    num=     192
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  1228.7   34.82 1229.18   37.04 1229.23    42.9  1229.3   43.57 1229.31
   45.37 1229.33   50.05 1229.38   50.72 1229.39   51.79  1229.4   55.08 1229.45
   68.32 1229.51   69.16 1229.52  119.31    1230  122.78    1230  128.16    1230
  131.36    1230  137.94    1230  163.07    1230  167.76    1230  172.93    1230
  181.92 1230.06  185.47 1230.05  185.66 1230.06  188.33 1230.08  221.57 1230.41
   224.3 1230.43  237.79 1230.48  258.14 1230.42   260.2 1230.39  277.14 1230.43
  301.51 1230.67  309.06 1230.74  388.75    1232  389.35    1232  392.87    1232
  395.59    1232  395.62    1232  395.86    1232  409.04    1232  415.29    1232
  424.43    1232   429.9    1232   438.5    1232  440.15    1232  484.26 1232.35
  487.81 1232.35  490.89 1232.35  508.28 1232.38  550.14 1232.21  552.38 1232.21
  564.41 1232.13  564.63 1232.13  565.91 1232.12   579.1 1232.07  581.94  1232.1
  582.42 1232.11  582.48 1232.11  594.53 1232.14   594.7 1232.14  605.65 1232.21
  613.18 1232.28  613.98 1232.28  622.93 1232.37  638.23 1232.43  652.77 1232.43
  659.17 1232.42  662.05 1232.44  670.77 1232.41  673.94 1232.42  681.41 1232.44
  693.74 1232.46  695.99 1232.46  717.28 1232.39  744.19    1232   744.7    1232
  749.57    1232  754.91    1232  806.11    1232  815.26    1232  815.63    1232
  821.86 1231.75  831.95 1231.39  835.22 1231.33  840.31 1231.17  845.54 1231.11
  856.03 1231.03  869.48    1230  873.29    1230  873.52 1229.45  873.81 1228.76
  874.33 1227.54  874.99    1226  875.12 1225.68  875.83    1224  875.85 1223.96
   875.9 1223.84  876.56 1222.26  876.67    1222  877.33 1220.43  877.51    1220
  888.84    1220  899.07    1220  900.05    1220  904.38    1220  906.04    1220
  907.89    1220  908.21 1221.71  908.26    1222  909.11 1224.43  910.51 1228.67
  910.78 1229.47  910.89 1229.81  910.93 1229.86  911.12    1230  916.23  1230.2
  916.58  1230.2   943.1 1230.61  953.98 1230.58   959.5 1230.57  969.47 1230.47
  973.31 1230.46  975.09 1230.47  979.94 1230.53  989.53 1230.63  994.64 1230.68
 1009.09 1230.91 1020.39 1230.89 1027.21  1230.9 1031.45 1230.91 1041.19    1231
 1075.97    1232 1076.28    1232 1076.69    1232 1079.29    1232 1082.32    1232
 1083.83    1232 1091.17    1232 1095.72    1232 1102.27    1232 1105.62    1232
 1107.56    1232 1110.12    1232 1149.89    1232 1160.77    1232 1162.55    1232
 1173.64    1232  1183.5    1232 1187.42    1232 1190.83 1231.93 1190.92 1231.93
 1299.77  1231.5 1303.85 1231.56 1327.57 1230.87 1328.66 1230.75 1330.33  1230.6
 1330.98 1230.63 1331.73 1230.55 1334.25 1230.28  1335.1 1230.18 1336.82    1230
  1340.8 1228.87 1344.11    1228 1348.85 1226.15 1349.22    1226 1350.48    1226
 1352.74 1226.23 1354.05 1226.35 1361.72 1227.11 1370.32    1228 1373.95    1228
 1381.09    1228    1383    1228 1396.02    1228 1401.71    1228 1411.44    1228
 1412.51    1228 1420.88    1228 1460.67    1228 1501.53    1228 1505.24    1228
 1507.23    1228 1511.79    1228  1514.5    1228 1529.39 1228.23 1531.42 1228.25
 1538.29 1228.36 1552.68 1228.56 1564.37 1228.68 1569.72 1228.72  1578.6 1228.81
 1586.95 1228.91 1592.22 1228.98

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  806.11     .03 1075.97    .045
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```
Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        806.11 1075.97           507.92  507.92  507.92             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     800    1232       F
    1100    1600    1232       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 1190.624

INPUT
Description:
Station Elevation Data    num=     138
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    1224     .25    1224    3.71 1224.04    4.25 1224.04    4.71 1224.04
    56.9 1224.67   64.13 1224.71   69.52 1224.74   98.09 1224.96  124.14 1225.16
  146.05 1225.31  163.99 1225.47  208.11    1226  208.66    1226  213.13    1226
  214.47    1226  215.87    1226   240.5    1226  260.49    1226  265.45    1226
  323.85    1226  328.18    1226  332.17    1226  332.84    1226  333.91    1226
  334.35    1226  338.22    1226  342.52    1226  377.32    1227   377.8 1227.01
  378.15 1227.01  386.31 1227.12  395.09 1227.21   396.7 1227.25  410.18 1227.48
  417.84 1227.53  422.07 1227.53  423.78 1227.54   480.5 1227.62  485.14 1227.68
  492.42 1227.72  493.18 1227.71  497.21 1227.72  497.83 1227.73  501.04 1227.74
  503.35 1227.71  511.17 1227.69   527.1 1227.51  548.68 1227.29     574 1226.86
  574.69 1226.85  610.32 1226.39   613.3 1226.37  632.38    1226  632.92    1226
  633.83    1226  639.16    1226  648.26    1226  649.67    1226   651.5    1226
  652.26    1226  669.49    1226  704.67    1226  712.24 1226.09  810.76  1226.6
  813.44  1226.6  855.11 1226.42  860.23 1226.38  860.62 1226.38  877.61 1226.32
  877.72 1226.32   890.1 1226.27  892.62 1226.27   945.6    1226  966.99    1226
 1003.96    1226 1011.04    1226 1017.12    1226 1043.96    1226 1044.34    1226
 1047.05    1226  1047.2    1226 1048.45 1225.96 1064.23 1225.51 1091.37 1224.59
 1107.79    1224  1109.1 1223.51 1113.08    1222 1113.19 1221.44 1113.48    1220
 1113.68 1219.03 1113.83  1218.3 1114.12 1216.88 1114.31 1215.96 1114.54 1214.81
 1114.71    1214 1130.46    1214 1131.84    1214 1132.62    1214  1148.8    1214
 1149.01 1215.68 1149.27 1217.73 1149.34 1218.21 1149.54 1218.28 1154.29    1224
 1155.55 1224.06 1158.93 1224.23 1161.73 1224.36 1169.16 1224.66 1170.19 1224.65
  1202.1 1225.19 1211.95 1225.18 1247.05 1224.95 1252.99 1224.96 1260.56 1224.98
 1266.79 1224.99 1275.99 1225.06 1360.39    1226 1360.42    1226 1360.44    1226
 1360.47    1226  1360.5    1226 1363.66    1226 1367.03    1226 1374.31    1226
 1379.63    1226  1385.3    1226 1399.29    1226 1401.94    1226 1405.12    1226
 1408.04    1226 1414.99    1226  1417.3    1226 1423.09    1226 1432.88 1224.96
 1433.63 1224.88 1441.62    1224  1444.4 1223.34

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065 1048.45     .03  1202.1    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       1048.45  1202.1           707.53  707.53  707.53             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0     810    1227       F
    1350    1450    1227       F

CROSS SECTION


RIVER: Newhall
REACH: Mainstem           RS: 483.097

INPUT
Description:
```

Station Elevation Data num= 241

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1219.09	8.27	1219.03	44.22	1218.73	109.24	1218.3	123.1	1218.14
123.27	1218.14	123.67	1218.13	130.94	1218.11	131.61	1218.11	144.15	1218.06
149.45	1218	151.34	1218	159.29	1218	167.81	1218	171.37	1218
178.22	1218	179.45	1218	180.12	1218	183.97	1218	197.94	1218
199.11	1218	245.02	1218	253.17	1218	266.25	1218	288.23	1218
294.9	1218	298.37	1218	370.91	1218	372.37	1217.99	373.31	1218
381.7	1218	384.63	1218	397.48	1218	415.07	1218	416.78	1218
418.81	1218	441.86	1218	443.39	1218	443.77	1218	444.54	1218
454.68	1218	456.7	1218	464.09	1217.89	465.77	1217.85	499.77	1217.16
522.7	1216.66	539.78	1216.32	549.61	1216.07	550.27	1216.06	552.61	1216
552.85	1216	553.04	1216	554.09	1216	564.35	1216	615.62	1216
620.22	1216	627.25	1216	630.75	1216	640.87	1216	644.4	1216
644.82	1216	664.1	1216	684.59	1216	685.08	1216	685.28	1216
711.51	1216	714.21	1216	714.64	1216	715.78	1216.01	734.28	1216.07
746.61	1216.11	746.7	1216.11	762.63	1216.2	782.58	1216.34	783.01	1216.34
784.71	1216.35	787.24	1216.37	789.18	1216.37	798.14	1216.42	802.53	1216.47
804.57	1216.49	836.7	1216.85	840.6	1216.87	847.04	1216.93	875.69	1217.09
885.45	1217.14	888.57	1217.14	943.12	1216.62	946.7	1216.64	950.22	1216.67
957.19	1216.54	961.05	1216.55	966.64	1216.47	971.51	1216.41	973.71	1216.39
975.62	1216.36	978.37	1216.39	979.88	1216.36	990.88	1216.35	996.1	1216.4
1000.89	1216.46	1010.7	1216.61	1017.3	1216.68	1019.87	1216.7	1031.24	1216.89
1032.57	1216.9	1040.63	1217.03	1047.83	1217.14	1051.6	1217.14	1056.71	1217.21
1067.22	1217.21	1070.41	1217.24	1152.9	1217.99	1153.04	1217.99	1154.09	1218
1161.03	1218	1161.97	1218	1165.62	1218	1176.62	1218	1179.94	1218
1192.82	1218	1195.99	1218	1196.58	1218	1211.98	1218	1213.01	1218
1248.48	1218	1300.14	1218	1300.88	1218	1301.35	1218	1304.9	1218
1307.85	1218	1321.09	1217.79	1331.57	1217.7	1333.06	1217.69	1348.78	1218
1350.87	1218	1402.22	1218	1403.11	1218	1405.75	1218	1407.76	1218
1409.92	1218	1412.72	1218	1413.52	1218	1449.2	1218	1565.11	1218
1565.76	1218	1567.02	1218	1567.15	1218	1570.23	1218	1572.56	1218
1583.5	1218	1589.43	1218	1600.39	1218	1601.8	1218	1603.91	1218
1618.94	1218	1620.42	1218	1622.91	1218	1648.79	1217.72	1652.21	1217.71
1669.28	1217.7	1700.02	1217.96	1701.19	1217.97	1701.97	1217.95	1701.98	1217.95
1701.99	1217.95	1702.1	1217.94	1702.19	1217.94	1702.27	1217.93	1702.38	1217.93
1702.66	1217.92	1702.7	1217.91	1703.16	1217.89	1703.93	1217.85	1704.26	1217.83
1706.27	1217.73	1714.05	1217.33	1729.2	1216.56	1733.68	1216.33	1740.09	1216
1740.44	1215.81	1742.8	1214.57	1743.6	1214.14	1743.87	1214	1745.24	1214
1769	1214	1777.99	1214	1834.71	1214	1835.7	1214	1837.4	1214
1838.87	1214	1843.49	1214	1843.57	1214	1847.85	1214	1847.96	1214
1849.52	1214	1849.77	1214.14	1850.09	1214.34	1851.95	1215.34	1853.13	1216
1853.63	1216.28	1853.89	1216.43	1855.32	1217.12	1857.26	1218	1857.81	1218
1858.06	1218	1858.11	1218	1859.41	1218	1859.52	1218	1861.05	1218
1863.47	1218	1863.72	1218	1865.29	1218	1867.12	1218	1868.84	1218
1870.6	1218	1872.42	1218	1874.53	1218	1875.05	1218	1876.55	1218
1876.73	1218	1879.11	1218	1879.65	1218	1880.75	1218	1881.03	1218
1881.47	1218	1884.35	1218	1884.82	1218	1885.33	1218	1886.96	1218
1887.4	1218	1888.23	1218	1888.35	1218	1888.59	1218	1889.18	1218
1931.38	1218	1933.75	1218	1933.88	1218	1936.69	1218	1938.09	1218
1997.06	1218.78								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.065	1701.19	.03	1859.41	.045

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
1701.19	1859.41	424.48	424.48	424.48	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
0	1700	1218	F

CROSS SECTION

RIVER: Newhall
REACH: Mainstem RS: 58.617

INPUT
Description:
Station Elevation Data num= 302

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1219	1.15	1218.99	2.91	1218.98	3.61	1218.97	8.99	1218.93
9.66	1218.93	112.12	1218.27	145.54	1218	146.37	1218	149.09	1218
149.6	1218	150.15	1218	150.39	1218	150.79	1218	150.82	1218
284.79	1217.34	304.74	1217.28	320.29	1217.19	329.19	1217.16	357.15	1217.09
362.47	1217.08	435.24	1216.62	440.63	1216.6	451.66	1216.51	465.34	1216.43
477.83	1216.35	479.19	1216.34	490.02	1216.3	497.27	1216.26	539.95	1216
540.75	1216	544.05	1216	552.58	1216	553.69	1216	555.66	1216
564.88	1215.92	601.82	1215.61	616.92	1215.48	686.03	1215.09	686.9	1215.09
694.19	1215.05	700.68	1215.02	705.74	1215	707.47	1215	722.98	1214.91
729.48	1214.88	740.86	1214.84	847.78	1214	851.52	1214	852.81	1214
872.55	1214	887.8	1214	888.19	1214	895.51	1214	901.74	1214
922.64	1214	925.8	1214	929.83	1214	931.51	1214	941.17	1214
942.25	1214	942.7	1214	959.78	1214	960.6	1214	960.89	1214
968.13	1214	968.15	1214	968.23	1214	1243.06	1214	1244.11	1214
1244.43	1214	1245.43	1214	1246.42	1214	1299.46	1214	1299.64	1214
1300.65	1214	1302.08	1214	1369.08	1214	1370	1214	1370.11	1214
1371.01	1214	1372	1214	1372.08	1214	1372.96	1214	1373.03	1214
1373.96	1214	1379.26	1214	1380.32	1214	1530.43	1214	1543.67	1214
1551.57	1214	1624.54	1214	1624.87	1214	1637.4	1214	1646.91	1214
1651.53	1214	1681.54	1214	1683.05	1214	1707.8	1214	1708.47	1214
1709.97	1214	1710.98	1214	1741.62	1214	1765.99	1214	1768.38	1214
1769.2	1214	1775.26	1214	1788	1214	1799.67	1214	1815.16	1214
1823.89	1214	1878.42	1214	1880.69	1214	1885.77	1214	1898.26	1214
1898.46	1214	1906.29	1214	1965.2	1214	1972.59	1214	1983.75	1214
1987.7	1214	2004.86	1214	2004.97	1214	2008.51	1214	2023.79	1214
2024.73	1214	2025.24	1214	2025.9	1214	2031.21	1214	2032.24	1214
2033.76	1214	2035.37	1214	2168.86	1214	2170.02	1214	2173.24	1214
2177.59	1214	2179.89	1214	2183	1214	2186.04	1214	2186.62	1214
2189.66	1214	2190.6	1214	2194.59	1214	2195.21	1214	2196.89	1214
2198.04	1214	2207.61	1214	2212.74	1214	2218.89	1214	2219.59	1214
2220.24	1214	2220.3	1214	2220.59	1214	2227.15	1214	2227.83	1214
2233.36	1214	2234.59	1214	2234.88	1214	2240.9	1214	2241.06	1214
2241.4	1214	2242.61	1214	2242.68	1214	2242.95	1214	2244.36	1214
2244.43	1214	2244.65	1214	2250.27	1214	2255.35	1214	2255.54	1214
2255.8	1214	2257.65	1214	2259.96	1214	2266.06	1214	2271.72	1214
2271.98	1214	2294.75	1214	2316.27	1214	2317.9	1214	2320.74	1214
2322.93	1214	2322.98	1214	2325.05	1214	2328.46	1214	2330.49	1214
2330.61	1214	2334.78	1214	2355.28	1214	2355.47	1214	2360.49	1214
2361.08	1214	2362.11	1214	2367.02	1214	2368.05	1214	2369.31	1214
2370.37	1214	2385.13	1214	2385.82	1214	2387.26	1214	2393.86	1214
2403.55	1214	2408.94	1214	2413.04	1214	2413.36	1214	2413.7	1214
2416.79	1214	2421.81	1214	2422.76	1214	2423.26	1214	2424.67	1214
2425.36	1214	2425.96	1214	2426.63	1214	2436.39	1214	2437.01	1214
2437.31	1214	2437.85	1214	2438.05	1214	2442.32	1214	2448.64	1214
2448.98	1214	2449.3	1214	2449.68	1214	2450	1214	2512.1	1214
2512.45	1214	2512.67	1214	2512.94	1214	2513.29	1214	2530.86	1214
2530.98	1214	2531.03	1214	2531.06	1214	2531.15	1214	2531.28	1214
2531.36	1214	2532.97	1214.06	2556.36	1214.23	2570.96	1214.29	2581.41	1214.3
2592.03	1214.28	2604.05	1214.24	2605.27	1214.24	2612.31	1214.22	2615.57	1214.25
2616.28	1214.26	2621.4	1214.26	2622.49	1214.27	2641.22	1214.32	2643.95	1214.34
2649.56	1214.36	2653.84	1214.41	2654	1214.41	2654.1	1214.41	2661.14	1214.49
2668.52	1214.52	2668.91	1214.52	2676.95	1214.54	2688.17	1214.76	2700.69	1214.85
2753.09	1215.43	2764.23	1215.46	2767.94	1215.47	2777.38	1215.46	2778.22	1215.45
2788.05	1215.45	2797.6	1215.47	2802.69	1215.46	2806.46	1215.44	2850.4	1215.83
2858.74	1216	2860.73	1216	2861.05	1216	2862.42	1216	2863.72	1216
2874.2	1216	2876.01	1216	2885.68	1216	2891.9	1216	2895.63	1216
2909.34	1216	2912.72	1216	2951.49	1216	2952.36	1216	2953.53	1216
2955.09	1216	2955.43	1216	2955.68	1216	2965.95	1216.32	3019.81	1217.61

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 3031.09 1217.95 3032.76 1218.41 3034.78 1218.89 3036.75  1219.4 3048.82 1220.01
 3050.56 1220.61 3052.17 1221.22 3053.78 1221.85  3055.6 1222.51 3057.66 1223.22
 3059.75 1223.95 3065.42  1224.5

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .065  540.75     .03 2581.41    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        540.75 2767.94                0       0       0             .1       .3
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SUMMARY OF MANNING'S N VALUES

River:Newhall

Reach	River Sta.	n1	n2	n3
Mainstem	10505.32	.065	.03	.045
Mainstem	9993.571	.065	.03	.045
Mainstem	9616.907	.065	.03	.045
Mainstem	9229.136	.065	.03	.045
Mainstem	8608.484	.065	.03	.045
Mainstem	8216.339	.065	.03	.045
Mainstem	7954.452	.065	.03	.045
Mainstem	7636.535	.065	.03	.045
Mainstem	7013.289	.065	.03	.045
Mainstem	6540.300	.065	.03	.045
Mainstem	6254.699	.065	.03	.045
Mainstem	5959.225	.065	.03	.045
Mainstem	5637.197	.065	.03	.045
Mainstem	5281.263	.065	.03	.045
Mainstem	5061.813	.065	.03	.045
Mainstem	4842.770	.045	.03	.045
Mainstem	4650	.045	.03	.045
Mainstem	4595	Bridge		
Mainstem	4542.760	.045	.03	.045
Mainstem	4386.823	.045	.03	.045
Mainstem	4043.350	.045	.03	.045
Mainstem	3920.755	.045	.03	.045
Mainstem	3813.951	.045	.03	.045
Mainstem	3790	Bridge		
Mainstem	3786.11	.045	.03	.045
Mainstem	3758.278	.045	.03	.045
Mainstem	3715	Bridge		
Mainstem	3684.454	.065	.013	.045
Mainstem	3533.212	.065	.013	.045
Mainstem	3301.384	.065	.03	.045
Mainstem	3036.790	.065	.03	.045
Mainstem	2802.783	.065	.03	.045
Mainstem	2417.090	.065	.03	.045
Mainstem	2100.483	.065	.03	.045
Mainstem	1698.544	.065	.03	.045
Mainstem	1190.624	.065	.03	.045
Mainstem	483.097	.065	.03	.045
Mainstem	58.617	.065	.03	.045

SUMMARY OF REACH LENGTHS

River: Newhall

Reach	River Sta.	Left	Channel	Right
Mainstem	10505.32	511.76	511.76	511.76
Mainstem	9993.571	376.66	376.66	376.66
Mainstem	9616.907	387.77	387.77	387.77
Mainstem	9229.136	620.65	620.65	620.65
Mainstem	8608.484	392.15	392.15	392.15
Mainstem	8216.339	261.89	261.89	261.89
Mainstem	7954.452	317.92	317.92	317.92
Mainstem	7636.535	623.25	623.25	623.25
Mainstem	7013.289	472.99	472.99	472.99
Mainstem	6540.300	285.6	285.6	285.6
Mainstem	6254.699	295.47	295.47	295.47
Mainstem	5959.225	322.03	322.03	322.03
Mainstem	5637.197	355.93	355.93	355.93
Mainstem	5281.263	219.45	219.45	219.45
Mainstem	5061.813	219.04	219.04	219.04
Mainstem	4842.770	192.77	192.77	192.77
Mainstem	4650	107.24	107.24	107.24
Mainstem	4595	Bridge		
Mainstem	4542.760	155.94	155.94	155.94
Mainstem	4386.823	343.47	343.47	343.47
Mainstem	4043.350	122.59	122.59	122.59
Mainstem	3920.755	106.8	106.8	106.8
Mainstem	3813.951	27.84	27.84	27.84
Mainstem	3790	Bridge		
Mainstem	3786.11	27.83	27.83	27.83
Mainstem	3758.278	73.82	73.82	73.82
Mainstem	3715	Bridge		
Mainstem	3684.454	151.24	151.24	151.24
Mainstem	3533.212	231.83	231.83	231.83
Mainstem	3301.384	264.59	264.59	264.59
Mainstem	3036.790	234.01	234.01	234.01
Mainstem	2802.783	385.69	385.69	385.69
Mainstem	2417.090	316.61	316.61	316.61
Mainstem	2100.483	401.94	401.94	401.94
Mainstem	1698.544	507.92	507.92	507.92
Mainstem	1190.624	707.53	707.53	707.53
Mainstem	483.097	424.48	424.48	424.48
Mainstem	58.617	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Newhall

Reach	River Sta.	Contr.	Expan.
Mainstem	10505.32	.1	.3
Mainstem	9993.571	.1	.3
Mainstem	9616.907	.1	.3
Mainstem	9229.136	.1	.3
Mainstem	8608.484	.1	.3
Mainstem	8216.339	.1	.3
Mainstem	7954.452	.1	.3
Mainstem	7636.535	.1	.3
Mainstem	7013.289	.1	.3
Mainstem	6540.300	.1	.3
Mainstem	6254.699	.1	.3
Mainstem	5959.225	.1	.3
Mainstem	5637.197	.1	.3
Mainstem	5281.263	.1	.3
Mainstem	5061.813	.1	.3

Mainstem	4842.770		.1	.3
Mainstem	4650		.3	.5
Mainstem	4595	Bridge		
Mainstem	4542.760		.3	.5
Mainstem	4386.823		.1	.3
Mainstem	4043.350		.1	.3
Mainstem	3920.755		.1	.3
Mainstem	3813.951		.3	.5
Mainstem	3790	Bridge		
Mainstem	3786.11		.3	.5
Mainstem	3758.278		.3	.5
Mainstem	3715	Bridge		
Mainstem	3684.454		.3	.5
Mainstem	3533.212		.1	.3
Mainstem	3301.384		.1	.3
Mainstem	3036.790		.1	.3
Mainstem	2802.783		.1	.3
Mainstem	2417.090		.1	.3
Mainstem	2100.483		.1	.3
Mainstem	1698.544		.1	.3
Mainstem	1190.624		.1	.3
Mainstem	483.097		.1	.3
Mainstem	58.617		.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Mainstem	10505.32	Capital Flood	9200.00	1320.94	1328.77	1328.77	1332.23	0.007543	14.92	616.54	90.10	1.01
Mainstem	10505.32	LACDPW 50yr Burn	7321.00	1320.94	1327.76	1327.76	1330.76	0.007733	13.90	526.87	87.91	1.00
Mainstem	10505.32	FIS 100yr	4640.00	1320.94	1326.08	1326.08	1328.37	0.008434	12.15	381.90	84.25	1.01
Mainstem	9993.571	Capital Flood	9200.00	1316.00	1320.07	1322.33	1325.61	0.024803	18.89	491.17	191.20	1.70
Mainstem	9993.571	LACDPW 50yr Burn	7321.00	1316.00	1319.59	1321.54	1324.17	0.023944	17.17	426.38	125.23	1.64
Mainstem	9993.571	FIS 100yr	4640.00	1316.00	1318.85	1319.67	1321.84	0.020992	13.89	334.09	122.57	1.48
Mainstem	9616.907	Capital Flood	9200.00	1312.00	1318.92	1318.92	1322.10	0.007625	14.31	642.86	810.37	1.00
Mainstem	9616.907	LACDPW 50yr Burn	7321.00	1312.00	1317.97	1317.97	1320.73	0.007877	13.34	548.92	531.39	1.00
Mainstem	9616.907	FIS 100yr	4640.00	1312.00	1316.44	1316.44	1318.52	0.008496	11.58	400.53	409.58	1.00
Mainstem	9229.136	Capital Flood	9200.00	1308.00	1312.67	1314.05	1317.51	0.018855	17.65	521.20	687.19	1.50
Mainstem	9229.136	LACDPW 50yr Burn	7321.00	1308.00	1312.13	1313.24	1316.14	0.018411	16.08	455.20	579.32	1.46
Mainstem	9229.136	FIS 100yr	4640.00	1308.00	1311.26	1311.93	1313.96	0.016862	13.17	352.39	143.19	1.34
Mainstem	8608.484	Capital Flood	9200.00	1300.00	1306.56	1307.04	1308.78	0.009257	12.05	855.18	380.58	1.05
Mainstem	8608.484	LACDPW 50yr Burn	7321.00	1300.00	1306.15	1306.31	1307.95	0.008577	10.81	710.45	328.00	1.00
Mainstem	8608.484	FIS 100yr	4640.00	1300.00	1304.69	1304.69	1306.39	0.009020	10.45	444.10	132.38	1.01
Mainstem	8216.339	Capital Flood	9200.00	1296.00	1299.44	1300.53	1303.19	0.022904	15.55	591.62	195.64	1.58
Mainstem	8216.339	LACDPW 50yr Burn	7321.00	1296.00	1298.94	1299.93	1302.35	0.026179	14.83	493.71	194.19	1.64
Mainstem	8216.339	FIS 100yr	4640.00	1296.00	1298.32	1298.99	1300.71	0.026078	12.40	374.21	192.42	1.57
Mainstem	7954.452	Capital Flood	9200.00	1292.70	1298.51	1297.00	1299.30	0.002656	7.13	1302.13	311.04	0.58
Mainstem	7954.452	LACDPW 50yr Burn	7321.00	1292.70	1297.80	1296.51	1298.49	0.002793	6.67	1098.30	267.58	0.58
Mainstem	7954.452	FIS 100yr	4640.00	1292.70	1296.55	1295.72	1297.12	0.003609	6.05	767.06	262.91	0.62
Mainstem	7636.535	Capital Flood	9200.00	1289.76	1295.87	1295.87	1297.81	0.008297	11.17	823.34	209.97	0.99
Mainstem	7636.535	LACDPW 50yr Burn	7321.00	1289.76	1295.04	1295.04	1296.93	0.008579	11.04	662.90	176.36	1.00
Mainstem	7636.535	FIS 100yr	4640.00	1289.76	1293.65	1293.65	1295.29	0.009037	10.30	450.54	138.47	1.01
Mainstem	7013.289	Capital Flood	9200.00	1284.00	1288.44	1289.17	1291.32	0.013044	13.62	675.35	179.02	1.24
Mainstem	7013.289	LACDPW 50yr Burn	7321.00	1284.00	1287.93	1288.38	1290.36	0.013059	12.52	584.82	176.34	1.21
Mainstem	7013.289	FIS 100yr	4640.00	1284.00	1287.17	1287.37	1288.80	0.012071	10.26	452.18	173.56	1.12
Mainstem	6540.300	Capital Flood	9200.00	1278.48	1284.76	1285.11	1286.91	0.006420	11.91	928.25	452.19	0.91
Mainstem	6540.300	LACDPW 50yr Burn	7321.00	1278.48	1284.07	1283.78	1286.00	0.006652	11.15	668.04	315.36	0.91
Mainstem	6540.300	FIS 100yr	4640.00	1278.48	1284.21	1282.57	1284.93	0.002419	6.84	713.40	339.46	0.55
Mainstem	6254.699	Capital Flood	9200.00	1276.00	1283.32	1283.81	1285.02	0.005881	12.77	1815.51	987.74	0.89
Mainstem	6254.699	LACDPW 50yr Burn	7321.00	1276.00	1283.39	1283.39	1284.38	0.003448	9.85	1888.05	996.47	0.68
Mainstem	6254.699	FIS 100yr	4640.00	1276.00	1281.75	1281.75	1283.71	0.007067	11.74	554.25	244.21	0.93
Mainstem	5959.225	Capital Flood	9200.00	1272.88	1278.60	1279.81	1282.31	0.013351	16.16	951.04	1413.28	1.29
Mainstem	5959.225	LACDPW 50yr Burn	7321.00	1272.88	1277.90	1279.42	1282.12	0.017045	16.49	453.71	512.53	1.42
Mainstem	5959.225	FIS 100yr	4640.00	1272.88	1276.49	1277.62	1280.27	0.024056	15.61	297.33	161.33	1.60
Mainstem	5637.197	Capital Flood	9200.00	1270.00	1276.32	1276.01	1276.38	0.000578	3.60	6261.56	1608.56	0.27
Mainstem	5637.197	LACDPW 50yr Burn	7321.00	1270.00	1276.01	1276.01	1276.05	0.000480	3.17	5753.83	1607.07	0.24
Mainstem	5637.197	FIS 100yr	4640.00	1270.00	1276.01	1276.01	1276.02	0.000193	2.01	5753.83	1607.07	0.15
Mainstem	5281.263	Capital Flood	9200.00	1266.00	1273.47	1273.47	1275.70	0.004990	12.31	967.50	1698.69	0.83
Mainstem	5281.263	LACDPW 50yr Burn	7321.00	1266.00	1270.96	1272.52	1275.13	0.015376	16.40	446.51	1452.51	1.37
Mainstem	5281.263	FIS 100yr	4640.00	1266.00	1268.66	1270.54	1275.13	0.050875	20.42	227.28	891.00	2.27

Mainstem	5061.813	Capital Flood	9200.00	1264.00	1270.28	1271.47	1274.02	0.010464	15.59	650.54	1570.30	1.17
Mainstem	5061.813	LACDPW 50yr Burn	7321.00	1264.00	1270.48	1270.52	1272.64	0.005818	11.89	703.05	1576.01	0.88
Mainstem	5061.813	FIS 100yr	4640.00	1264.00	1268.54	1268.54	1270.57	0.008299	11.41	407.96	1255.38	0.99
Mainstem	4842.770	Capital Flood	9200.00	1262.00	1267.85	1269.08	1271.65	0.011209	16.15	686.13	1849.24	1.21
Mainstem	4842.770	LACDPW 50yr Burn	7321.00	1262.00	1268.15	1268.00	1270.23	0.005809	12.04	757.01	1886.74	0.88
Mainstem	4842.770	FIS 100yr	4640.00	1262.00	1267.94	1266.69	1268.86	0.002669	7.97	706.37	1851.97	0.59
Mainstem	4650	Capital Flood	9200.00	1259.90	1268.15	1265.15	1269.05	0.001683	7.58	1213.32	751.32	0.49
Mainstem	4650	LACDPW 50yr Burn	7321.00	1259.90	1268.96	1264.42	1269.42	0.000777	5.43	1347.77	760.15	0.34
Mainstem	4650	FIS 100yr	4640.00	1259.90	1268.27	1263.25	1268.49	0.000409	3.77	1232.22	752.57	0.24
Mainstem	4595		Bridge									
Mainstem	4542.760	Capital Flood	9200.00	1258.88	1265.53	1264.13	1267.00	0.003551	9.73	945.44	726.59	0.69
Mainstem	4542.760	LACDPW 50yr Burn	7321.00	1258.88	1265.73	1263.40	1266.60	0.002032	7.50	976.73	728.02	0.53
Mainstem	4542.760	FIS 100yr	4640.00	1258.88	1267.70	1262.24	1267.90	0.000345	3.60	1290.31	746.83	0.23
Mainstem	4386.823	Capital Flood	9200.00	1256.78	1266.01	1266.01	1266.12	0.000635	3.73	3601.09	729.75	0.28
Mainstem	4386.823	LACDPW 50yr Burn	7321.00	1256.78	1266.01	1266.01	1266.08	0.000402	2.97	3601.09	729.75	0.23
Mainstem	4386.823	FIS 100yr	4640.00	1256.78	1264.44	1264.44	1267.03	0.008080	12.94	358.68	660.03	1.00
Mainstem	4043.350	Capital Flood	9200.00	1254.00	1262.05	1263.03	1265.21	0.016810	14.25	645.39	557.76	1.37
Mainstem	4043.350	LACDPW 50yr Burn	7321.00	1254.00	1264.87	1262.31	1265.34	0.001400	5.53	1410.18	852.13	0.42
Mainstem	4043.350	FIS 100yr	4640.00	1254.00	1263.13	1261.06	1263.56	0.002044	5.30	876.27	629.93	0.48
Mainstem	3920.755	Capital Flood	9200.00	1254.00	1264.01	1264.01	1264.24	0.000911	5.39	3035.22	803.51	0.35
Mainstem	3920.755	LACDPW 50yr Burn	7321.00	1254.00	1263.23	1263.23	1264.93	0.004374	10.95	873.48	624.09	0.76
Mainstem	3920.755	FIS 100yr	4640.00	1254.00	1260.23	1260.23	1262.89	0.008187	13.11	354.06	307.58	1.00
Mainstem	3813.951	Capital Flood	9200.00	1253.96	1262.19	1259.43	1262.47	0.000792	4.96	2809.90	807.81	0.34
Mainstem	3813.951	LACDPW 50yr Burn	7321.00	1253.96	1260.65	1258.71	1261.08	0.001622	5.97	1759.72	640.89	0.46
Mainstem	3813.951	FIS 100yr	4640.00	1253.96	1260.02	1257.55	1260.50	0.001440	5.56	835.60	470.70	0.43
Mainstem	3790		Bridge									
Mainstem	3786.11	Capital Flood	9200.00	1252.42	1262.21	1258.78	1262.38	0.000442	4.36	3702.40	804.08	0.26
Mainstem	3786.11	LACDPW 50yr Burn	7321.00	1252.42	1259.71	1257.95	1261.04	0.003025	9.22	793.72	596.99	0.63
Mainstem	3786.11	FIS 100yr	4640.00	1252.42	1259.41	1256.65	1259.99	0.001415	6.13	756.63	527.25	0.43
Mainstem	3758.278	Capital Flood	9200.00	1252.42	1259.07	1258.78	1261.63	0.006631	12.85	715.94	488.79	0.93
Mainstem	3758.278	LACDPW 50yr Burn	7321.00	1252.42	1259.52	1257.95	1260.92	0.003329	9.51	770.17	566.15	0.66
Mainstem	3758.278	FIS 100yr	4640.00	1252.42	1259.35	1256.65	1259.95	0.001453	6.18	750.23	519.71	0.44
Mainstem	3715		Bridge									
Mainstem	3684.454	Capital Flood	9200.00	1249.36	1254.82	1255.90	1259.17	0.002884	16.73	549.96	133.53	1.36
Mainstem	3684.454	LACDPW 50yr Burn	7321.00	1249.36	1253.73	1255.08	1258.38	0.004266	17.30	423.06	115.86	1.60
Mainstem	3684.454	FIS 100yr	4640.00	1249.36	1252.45	1253.75	1256.86	0.006968	16.86	275.18	114.89	1.92
Mainstem	3533.212	Capital Flood	9200.00	1244.00	1253.78	1255.59	1258.67	0.001707	17.74	518.69	372.90	1.03
Mainstem	3533.212	LACDPW 50yr Burn	7321.00	1244.00	1250.93	1252.60	1257.31	0.003182	20.27	361.14	54.18	1.38
Mainstem	3533.212	FIS 100yr	4640.00	1244.00	1248.30	1250.37	1255.16	0.005855	21.03	220.69	52.63	1.81
Mainstem	3301.384	Capital Flood	9200.00	1240.00	1251.21	1251.21	1252.01	0.002921	10.06	2519.35	1267.31	0.57
Mainstem	3301.384	LACDPW 50yr Burn	7321.00	1240.00	1253.26	1250.92	1253.33	0.000309	3.68	5142.26	1303.19	0.19
Mainstem	3301.384	FIS 100yr	4640.00	1240.00	1246.61	1250.27	1252.69	0.018905	19.79	234.51	37.64	1.40
Mainstem	3036.790	Capital Flood	9200.00	1236.00	1248.01	1248.01	1248.03	0.000343	1.54	8601.90	2726.19	0.18
Mainstem	3036.790	LACDPW 50yr Burn	7321.00	1236.00	1247.72	1247.72	1252.62	0.009399	17.76	412.29	2448.77	1.00
Mainstem	3036.790	FIS 100yr	4640.00	1236.00	1246.45	1244.62	1249.01	0.005318	12.86	360.95	1734.62	0.74

Mainstem	2802.783	Capital Flood	9200.00	1234.00	1246.01	1246.01	1246.86	0.006044	9.90	1798.61	1085.55	0.80
Mainstem	2802.783	LACDPW 50yr Burn	7321.00	1234.00	1246.01	1246.01	1246.55	0.003827	7.88	1798.61	1085.55	0.64
Mainstem	2802.783	FIS 100yr	4640.00	1234.00	1243.15	1243.15	1247.22	0.009775	16.19	286.55	140.61	1.00
Mainstem	2417.090	Capital Flood	9200.00	1230.00	1240.83	1240.83	1241.65	0.006166	10.17	2172.31	1520.00	0.82
Mainstem	2417.090	LACDPW 50yr Burn	7321.00	1230.00	1240.74	1240.74	1241.34	0.004466	8.55	2040.54	1478.25	0.70
Mainstem	2417.090	FIS 100yr	4640.00	1230.00	1239.46	1240.07	1242.88	0.011846	14.85	312.56	613.01	1.12
Mainstem	2100.483	Capital Flood	9200.00	1226.00	1237.01	1237.01	1237.27	0.004779	5.74	2908.94	2002.65	0.67
Mainstem	2100.483	LACDPW 50yr Burn	7321.00	1226.00	1237.01	1237.01	1237.18	0.003026	4.57	2908.94	2002.65	0.53
Mainstem	2100.483	FIS 100yr	4640.00	1226.00	1233.81	1236.58	1238.73	0.013477	17.81	260.51	62.39	1.15
Mainstem	1698.544	Capital Flood	9200.00	1220.00	1232.01	1232.01	1232.33	0.004532	5.89	2427.66	1289.66	0.66
Mainstem	1698.544	LACDPW 50yr Burn	7321.00	1220.00	1231.55	1232.01	1234.27	0.024252	13.21	554.09	899.24	1.51
Mainstem	1698.544	FIS 100yr	4640.00	1220.00	1227.54	1228.70	1232.94	0.015134	18.65	248.77	56.41	1.25
Mainstem	1190.624	Capital Flood	9200.00	1214.00	1226.50	1227.01	1228.79	0.010427	12.68	922.25	1155.41	1.08
Mainstem	1190.624	LACDPW 50yr Burn	7321.00	1214.00	1226.46	1226.69	1227.96	0.006866	10.22	902.22	1134.23	0.87
Mainstem	1190.624	FIS 100yr	4640.00	1214.00	1222.74	1222.27	1226.02	0.008195	14.55	318.95	42.10	0.93
Mainstem	483.097	Capital Flood	9200.00	1214.00	1218.14	1218.20	1220.02	0.014536	12.93	1680.33	1824.80	1.27
Mainstem	483.097	LACDPW 50yr Burn	7321.00	1214.00	1218.20	1218.20	1219.24	0.008092	9.78	1797.37	1835.10	0.95
Mainstem	483.097	FIS 100yr	4640.00	1214.00	1217.89	1217.89	1219.40	0.009061	9.87	470.20	917.00	0.99
Mainstem	58.617	Capital Flood	9200.00	1214.00	1215.35	1214.93	1215.55	0.004001	3.57	2576.69	2105.54	0.57
Mainstem	58.617	LACDPW 50yr Burn	7321.00	1214.00	1215.18	1214.81	1215.35	0.004001	3.29	2225.79	2060.47	0.56
Mainstem	58.617	FIS 100yr	4640.00	1214.00	1214.90	1214.60	1215.02	0.004000	2.79	1664.08	1980.74	0.54

Profile Output Table - Standard Table 2

Reach	River Sta	Profile	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
Mainstem	10505.32	Capital Flood	1332.23	1328.77	3.46	2.05	0.78		9200.00		90.10
Mainstem	10505.32	LACDPW 50yr Burn	1330.76	1327.76	3.00	2.88	0.50		7321.00		87.91
Mainstem	10505.32	FIS 100yr	1328.37	1326.08	2.29				4640.00		84.25
Mainstem	9993.571	Capital Flood	1325.61	1320.07	5.54	6.41	0.21	2.64	9197.36		191.20
Mainstem	9993.571	LACDPW 50yr Burn	1324.17	1319.59	4.58	6.44	0.16		7321.00		125.23
Mainstem	9993.571	FIS 100yr	1321.84	1318.85	3.00	6.47	0.07		4640.00		122.57
Mainstem	9616.907	Capital Flood	1322.10	1318.92	3.18	2.97	0.13		9200.00		810.37
Mainstem	9616.907	LACDPW 50yr Burn	1320.73	1317.97	2.76	3.08	0.11		7321.00		531.39
Mainstem	9616.907	FIS 100yr	1318.52	1316.44	2.08	3.34	0.09		4640.00		409.58
Mainstem	9229.136	Capital Flood	1317.51	1312.67	4.84	4.42	0.17		9200.00		687.19
Mainstem	9229.136	LACDPW 50yr Burn	1316.14	1312.13	4.02	4.47	0.13		7321.00		579.32
Mainstem	9229.136	FIS 100yr	1313.96	1311.26	2.69	4.51	0.06		4640.00		143.19
Mainstem	8608.484	Capital Flood	1308.78	1306.56	2.22	7.95	0.79	147.23	9041.32	11.45	380.58
Mainstem	8608.484	LACDPW 50yr Burn	1307.95	1306.15	1.81	7.52	0.66	30.34	7290.23	0.43	328.00
Mainstem	8608.484	FIS 100yr	1306.39	1304.69	1.70				4640.00		132.38
Mainstem	8216.339	Capital Flood	1303.19	1299.44	3.76	5.43	0.15		9200.00		195.64
Mainstem	8216.339	LACDPW 50yr Burn	1302.35	1298.94	3.41	5.44	0.16		7321.00		194.19
Mainstem	8216.339	FIS 100yr	1300.71	1298.32	2.39	5.61	0.07		4640.00		192.42

Mainstem	7954.452	Capital Flood	1299.30	1298.51	0.79	1.38	0.12	6.63	9193.37		311.04
Mainstem	7954.452	LACDPW 50yr Burn	1298.49	1297.80	0.69	1.44	0.12		7321.00		267.58
Mainstem	7954.452	FIS 100yr	1297.12	1296.55	0.57	1.72	0.11		4640.00		262.91
Mainstem	7636.535	Capital Flood	1297.81	1295.87	1.94	4.87	0.00		9200.00		209.97
Mainstem	7636.535	LACDPW 50yr Burn	1296.93	1295.04	1.89	5.37	0.00		7321.00		176.36
Mainstem	7636.535	FIS 100yr	1295.29	1293.65	1.65	5.74	0.07		4640.00		138.47
Mainstem	7013.289	Capital Flood	1291.32	1288.44	2.88	6.40	0.09		9200.00		179.02
Mainstem	7013.289	LACDPW 50yr Burn	1290.36	1287.93	2.43	6.52	0.05		7321.00		176.34
Mainstem	7013.289	FIS 100yr	1288.80	1287.17	1.64	6.48	0.00		4640.00		173.56
Mainstem	6540.300	Capital Flood	1286.91	1284.76	2.15	4.20	0.22	219.61	8980.39		452.19
Mainstem	6540.300	LACDPW 50yr Burn	1286.00	1284.07	1.93	1.33	0.28	3.49	7317.51		315.36
Mainstem	6540.300	FIS 100yr	1284.93	1284.21	0.72	1.10	0.12	13.78	4626.22		339.46
Mainstem	6254.699	Capital Flood	1285.02	1283.32	1.70	1.75	0.13	3108.57	6084.24	7.19	987.74
Mainstem	6254.699	LACDPW 50yr Burn	1284.38	1283.39	1.00	1.03	0.00	2567.62	4747.02	6.36	996.47
Mainstem	6254.699	FIS 100yr	1283.71	1281.75	1.96	2.29	0.00	401.99	4238.01		244.21
Mainstem	5959.225	Capital Flood	1282.31	1278.60	3.70	2.51	0.20	812.05	8387.71	0.24	1413.28
Mainstem	5959.225	LACDPW 50yr Burn	1282.12	1277.90	4.22	1.94	0.32	6.70	7314.30		512.53
Mainstem	5959.225	FIS 100yr	1280.27	1276.49	3.78	3.20	0.20		4640.00		161.33
Mainstem	5637.197	Capital Flood	1276.38	1276.32	0.05	0.46	0.22	7931.44	1268.56		1608.56
Mainstem	5637.197	LACDPW 50yr Burn	1276.05	1276.01	0.04	0.41	0.21	6265.24	1055.76		1607.07
Mainstem	5637.197	FIS 100yr	1276.02	1276.01	0.02	0.21	0.20	3970.87	669.13		1607.07
Mainstem	5281.263	Capital Flood	1275.70	1273.47	2.23	1.09	0.02	497.16	8694.62	8.22	1698.69
Mainstem	5281.263	LACDPW 50yr Burn	1275.13	1270.96	4.17	0.49	0.41		7321.00		1452.51
Mainstem	5281.263	FIS 100yr	1275.13	1268.66	6.47	0.24	0.65		4640.00		891.00
Mainstem	5061.813	Capital Flood	1274.02	1270.28	3.74	1.53	0.15	83.99	9116.01		1570.30
Mainstem	5061.813	LACDPW 50yr Burn	1272.64	1270.48	2.16	1.92	0.62	119.55	7201.45	0.00	1576.01
Mainstem	5061.813	FIS 100yr	1270.57	1268.54	2.02	0.95	0.33	1.57	4638.43		1255.38
Mainstem	4842.770	Capital Flood	1271.65	1267.85	3.80	2.37	0.01	615.32	8582.71	1.96	1849.24
Mainstem	4842.770	LACDPW 50yr Burn	1270.23	1268.15	2.08	0.32	0.49	574.52	6744.37	2.11	1886.74
Mainstem	4842.770	FIS 100yr	1268.86	1267.94	0.92	0.16	0.21	335.34	4303.58	1.09	1851.97
Mainstem	4650	Capital Flood	1269.05	1268.15	0.89	0.01	0.49		9200.00		751.32
Mainstem	4650	LACDPW 50yr Burn	1269.42	1268.96	0.46				7321.00		760.15
Mainstem	4650	FIS 100yr	1268.49	1268.27	0.22				4640.00		752.57
Mainstem	4595		Bridge								
Mainstem	4542.760	Capital Flood	1267.00	1265.53	1.47	0.20	0.68		9200.00		726.59
Mainstem	4542.760	LACDPW 50yr Burn	1266.60	1265.73	0.87	0.12	0.40		7321.00		728.02
Mainstem	4542.760	FIS 100yr	1267.90	1267.70	0.20	0.15	0.72		4640.00		746.83
Mainstem	4386.823	Capital Flood	1266.12	1266.01	0.11	0.51	0.14	7410.91	1789.09		729.75
Mainstem	4386.823	LACDPW 50yr Burn	1266.08	1266.01	0.07	0.23	0.04	5897.31	1423.69		729.75
Mainstem	4386.823	FIS 100yr	1267.03	1264.44	2.60	1.24	0.65		4640.00		660.03

Mainstem	4043.350	Capital Flood	1265.21	1262.05	3.16	0.61	0.30		9200.00		557.76
Mainstem	4043.350	LACDPW 50yr Burn	1265.34	1264.87	0.47	0.28	0.12	118.38	7201.98	0.64	852.13
Mainstem	4043.350	FIS 100yr	1263.56	1263.13	0.44	0.45	0.22		4640.00		629.93
Mainstem	3920.755	Capital Flood	1264.24	1264.01	0.24	0.09	0.00	676.52	3665.65	4857.83	803.51
Mainstem	3920.755	LACDPW 50yr Burn	1264.93	1263.23	1.70	0.27	0.38	674.70	6643.91	2.39	624.09
Mainstem	3920.755	FIS 100yr	1262.89	1260.23	2.67	0.31	0.66		4640.00		307.58
Mainstem	3813.951	Capital Flood	1262.47	1262.19	0.27			180.33	6055.63	2964.04	807.81
Mainstem	3813.951	LACDPW 50yr Burn	1261.08	1260.65	0.44			25.37	5634.86	1660.77	640.89
Mainstem	3813.951	FIS 100yr	1260.50	1260.02	0.48			0.12	4639.88		470.70
Mainstem	3790		Bridge								
Mainstem	3786.11	Capital Flood	1262.38	1262.21	0.18	0.03	0.72	1486.54	4774.46	2939.01	804.08
Mainstem	3786.11	LACDPW 50yr Burn	1261.04	1259.71	1.32	0.09	0.02		7321.00		596.99
Mainstem	3786.11	FIS 100yr	1259.99	1259.41	0.58	0.04	0.00		4640.00		527.25
Mainstem	3758.278	Capital Flood	1261.63	1259.07	2.56	0.08	1.02		9200.00		488.79
Mainstem	3758.278	LACDPW 50yr Burn	1260.92	1259.52	1.40	0.04	0.54		7321.00		566.15
Mainstem	3758.278	FIS 100yr	1259.95	1259.35	0.59				4640.00		519.71
Mainstem	3715		Bridge								
Mainstem	3684.454	Capital Flood	1259.17	1254.82	4.35	0.03	0.72		9200.00		133.53
Mainstem	3684.454	LACDPW 50yr Burn	1258.38	1253.73	4.65	0.06	0.21		7321.00		115.86
Mainstem	3684.454	FIS 100yr	1256.86	1252.45	4.41				4640.00		114.89
Mainstem	3533.212	Capital Flood	1258.67	1253.78	4.89	0.33	0.16		9200.00		372.90
Mainstem	3533.212	LACDPW 50yr Burn	1257.31	1250.93	6.38	0.55	0.52		7321.00		54.18
Mainstem	3533.212	FIS 100yr	1255.16	1248.30	6.86	0.96	0.73		4640.00		52.63
Mainstem	3301.384	Capital Flood	1252.01	1251.21	0.79	0.20	0.23	1471.30	4274.66	3454.04	1267.31
Mainstem	3301.384	LACDPW 50yr Burn	1253.33	1253.26	0.07	0.23	0.48	2268.45	1903.07	3149.48	1303.19
Mainstem	3301.384	FIS 100yr	1252.69	1246.61	6.08	2.24	0.24		4640.00		37.64
Mainstem	3036.790	Capital Flood	1248.03	1248.01	0.02	0.21	0.08	7016.71	653.61	1529.68	2726.19
Mainstem	3036.790	LACDPW 50yr Burn	1252.62	1247.72	4.90	0.02	0.05		7321.00		2448.77
Mainstem	3036.790	FIS 100yr	1249.01	1246.45	2.57	1.65	0.15		4640.00		1734.62
Mainstem	2802.783	Capital Flood	1246.86	1246.01	0.85	2.35	0.01	973.56	4377.33	3849.11	1085.55
Mainstem	2802.783	LACDPW 50yr Burn	1246.55	1246.01	0.54	1.59	0.01	774.72	3483.31	3062.97	1085.55
Mainstem	2802.783	FIS 100yr	1247.22	1243.15	4.07	2.50	1.04		4640.00		140.61
Mainstem	2417.090	Capital Flood	1241.65	1240.83	0.83	1.71	0.17	1205.30	4260.14	3734.56	1520.00
Mainstem	2417.090	LACDPW 50yr Burn	1241.34	1240.74	0.60	1.15	0.13	916.07	3514.93	2890.00	1478.25
Mainstem	2417.090	FIS 100yr	1242.88	1239.46	3.42	4.14	0.19		4640.00		613.01
Mainstem	2100.483	Capital Flood	1237.27	1237.01	0.27	1.87	0.01	1583.93	3702.61	3913.47	2002.65
Mainstem	2100.483	LACDPW 50yr Burn	1237.18	1237.01	0.17	1.18	0.00	1260.43	2946.39	3114.18	2002.65
Mainstem	2100.483	FIS 100yr	1238.73	1233.81	4.93	4.00	0.15		4640.00		62.39
Mainstem	1698.544	Capital Flood	1232.33	1232.01	0.32	2.24	0.05	1423.33	3922.52	3854.15	1289.66

Mainstem	1698.544	LACDPW 50yr Burn	1234.27	1231.55	2.71	2.66	0.25		7321.00		899.24
Mainstem	1698.544	FIS 100yr	1232.94	1227.54	5.40	5.74	0.05		4640.00		56.41
Mainstem	1190.624	Capital Flood	1228.79	1226.50	2.30	3.34	0.20	91.78	8399.56	708.66	1155.41
Mainstem	1190.624	LACDPW 50yr Burn	1227.96	1226.46	1.50	5.94	0.36	63.68	6712.54	544.79	1134.23
Mainstem	1190.624	FIS 100yr	1226.02	1222.74	3.29	6.09	0.53		4640.00		42.10
Mainstem	483.097	Capital Flood	1220.02	1218.14	1.88	8.65	0.12	2604.06	6584.58	11.36	1824.80
Mainstem	483.097	LACDPW 50yr Burn	1219.24	1218.20	1.04	2.34	0.26	2228.07	5076.55	16.39	1835.10
Mainstem	483.097	FIS 100yr	1219.40	1217.89	1.51	2.45	0.42		4640.00		917.00
Mainstem	58.617	Capital Flood	1215.55	1215.35	0.20				9200.00		2105.54
Mainstem	58.617	LACDPW 50yr Burn	1215.35	1215.18	0.17				7321.00		2060.47
Mainstem	58.617	FIS 100yr	1215.02	1214.90	0.12				4640.00		1980.74

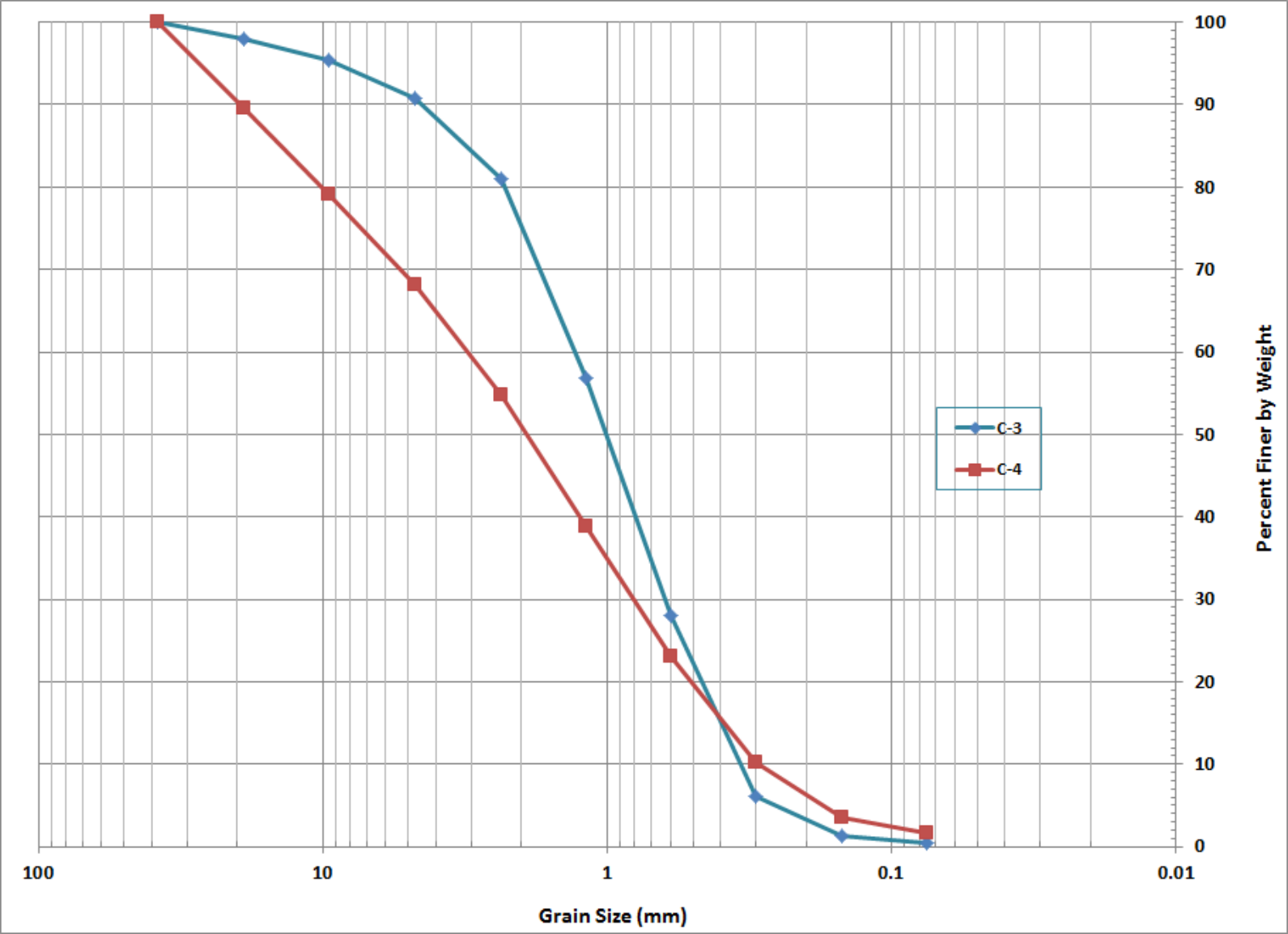
Profile Output Table - Standard Table 3

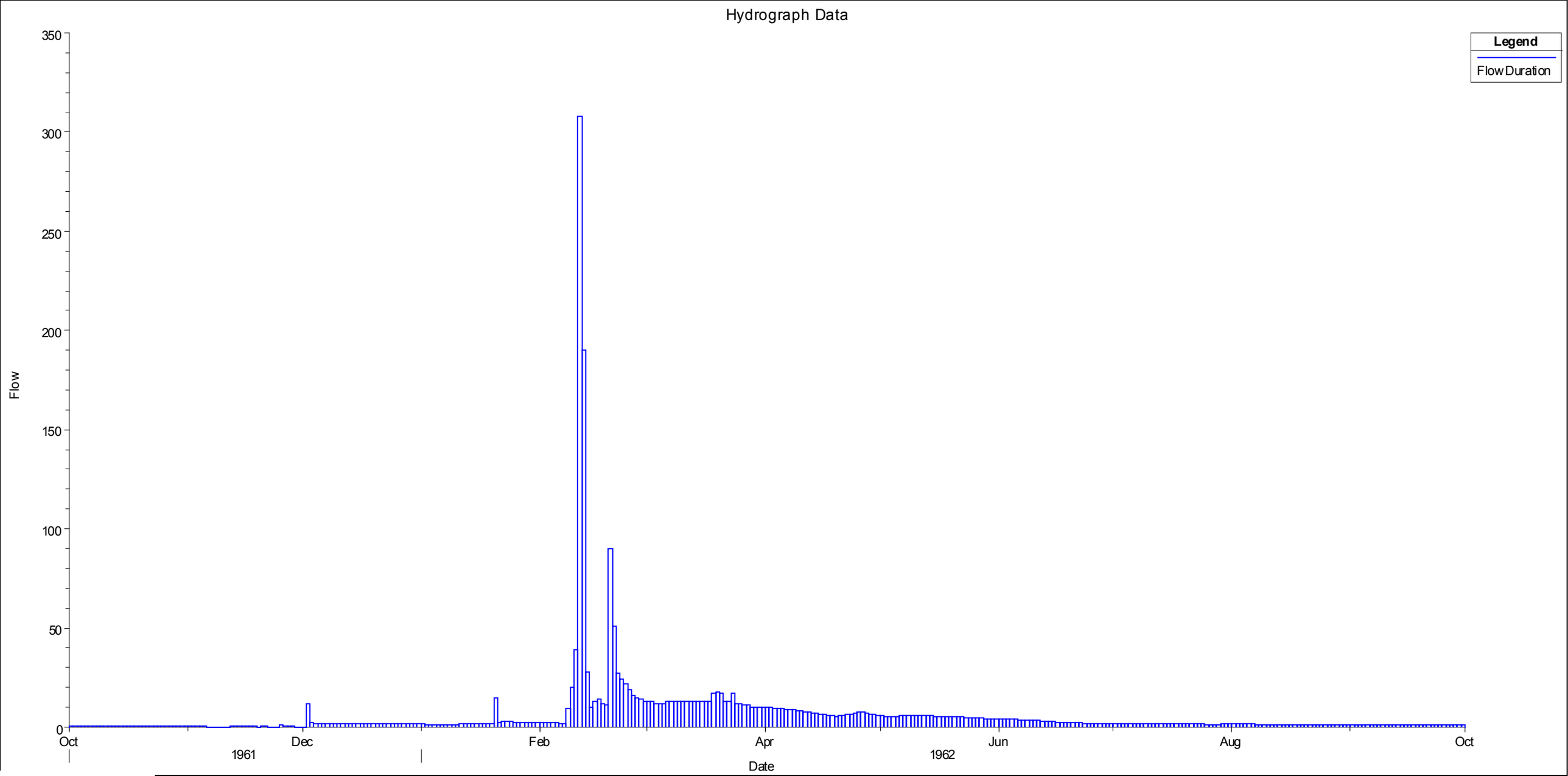
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Vel Total (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Froude # XS	Shear Chan (lb/sq ft)	Shear Total (lb/sq ft)	Power Chan (lb/ft s)	Power Total (lb/ft s)
Mainstem	10505.32	Capital Flood	9200.00	1320.94	1328.77	1328.77	0.007543	14.92	14.92	616.54	90.10	1.01	1.01	3.04	3.04	45.40	45.40
Mainstem	10505.32	LACDPW 50yr Burn	7321.00	1320.94	1327.76	1327.76	0.007733	13.90	13.90	526.87	87.91	1.00	1.00	2.75	2.75	38.22	38.22
Mainstem	10505.32	FIS 100yr	4640.00	1320.94	1326.08	1326.08	0.008434	12.15	12.15	381.90	84.25	1.01	1.01	2.30	2.30	27.93	27.93
Mainstem	9993.571	Capital Flood	9200.00	1316.00	1320.07	1322.33	0.024803	18.89	18.73	491.17	191.20	1.70	2.08	5.84	3.93	110.29	73.66
Mainstem	9993.571	LACDPW 50yr Burn	7321.00	1316.00	1319.59	1321.54	0.023944	17.17	17.17	426.38	125.23	1.64	1.64	5.01	5.01	86.06	86.06
Mainstem	9993.571	FIS 100yr	4640.00	1316.00	1318.85	1319.67	0.020992	13.89	13.89	334.09	122.57	1.48	1.48	3.53	3.53	49.00	49.00
Mainstem	9616.907	Capital Flood	9200.00	1312.00	1318.92	1318.92	0.007625	14.31	14.31	642.86	810.37	1.00	1.00	2.87	2.87	41.00	41.00
Mainstem	9616.907	LACDPW 50yr Burn	7321.00	1312.00	1317.97	1317.97	0.007877	13.34	13.34	548.92	531.39	1.00	1.00	2.60	2.60	34.66	34.66
Mainstem	9616.907	FIS 100yr	4640.00	1312.00	1316.44	1316.44	0.008496	11.58	11.58	400.53	409.58	1.00	1.00	2.14	2.14	24.84	24.84
Mainstem	9229.136	Capital Flood	9200.00	1308.00	1312.67	1314.05	0.018855	17.65	17.65	521.20	687.19	1.50	1.50	4.92	4.92	86.88	86.88
Mainstem	9229.136	LACDPW 50yr Burn	7321.00	1308.00	1312.13	1313.24	0.018411	16.08	16.08	455.20	579.32	1.46	1.46	4.26	4.26	68.44	68.44
Mainstem	9229.136	FIS 100yr	4640.00	1308.00	1311.26	1311.93	0.016862	13.17	13.17	352.39	143.19	1.34	1.34	3.08	3.08	40.60	40.60
Mainstem	8608.484	Capital Flood	9200.00	1300.00	1306.56	1307.04	0.009257	12.05	10.76	855.18	380.58	1.05	1.40	2.32	1.29	28.01	13.89
Mainstem	8608.484	LACDPW 50yr Burn	7321.00	1300.00	1306.15	1306.31	0.008577	10.81	10.30	710.45	328.00	1.00	1.29	1.94	1.15	20.93	11.88
Mainstem	8608.484	FIS 100yr	4640.00	1300.00	1304.69	1304.69	0.009020	10.45	10.45	444.10	132.38	1.01	1.01	1.86	1.86	19.47	19.47
Mainstem	8216.339	Capital Flood	9200.00	1296.00	1299.44	1300.53	0.022904	15.55	15.55	591.62	195.64	1.58	1.58	4.27	4.27	66.44	66.44
Mainstem	8216.339	LACDPW 50yr Burn	7321.00	1296.00	1298.94	1299.93	0.026179	14.83	14.83	493.71	194.19	1.64	1.64	4.11	4.11	61.00	61.00
Mainstem	8216.339	FIS 100yr	4640.00	1296.00	1298.32	1298.99	0.026078	12.40	12.40	374.21	192.42	1.57	1.57	3.14	3.14	38.96	38.96
Mainstem	7954.452	Capital Flood	9200.00	1292.70	1298.51	1297.00	0.002656	7.13	7.07	1302.13	311.04	0.58	0.61	0.77	0.69	5.51	4.86
Mainstem	7954.452	LACDPW 50yr Burn	7321.00	1292.70	1297.80	1296.51	0.002793	6.67	6.67	1098.30	267.58	0.58	0.58	0.71	0.71	4.72	4.72
Mainstem	7954.452	FIS 100yr	4640.00	1292.70	1296.55	1295.72	0.003609	6.05	6.05	767.06	262.91	0.62	0.62	0.65	0.65	3.95	3.95
Mainstem	7636.535	Capital Flood	9200.00	1289.76	1295.87	1295.87	0.008297	11.17	11.17	823.34	209.97	0.99	0.99	2.02	2.02	22.56	22.56
Mainstem	7636.535	LACDPW 50yr Burn	7321.00	1289.76	1295.04	1295.04	0.008579	11.04	11.04	662.90	176.36	1.00	1.00	2.00	2.00	22.09	22.09
Mainstem	7636.535	FIS 100yr	4640.00	1289.76	1293.65	1293.65	0.009037	10.30	10.30	450.54	138.47	1.01	1.01	1.83	1.83	18.80	18.80
Mainstem	7013.289	Capital Flood	9200.00	1284.00	1288.44	1289.17	0.013044	13.62	13.62	675.35	179.02	1.24	1.24	3.04	3.04	41.46	41.46
Mainstem	7013.289	LACDPW 50yr Burn	7321.00	1284.00	1287.93	1288.38	0.013059	12.52	12.52	584.82	176.34	1.21	1.21	2.68	2.68	33.57	33.57
Mainstem	7013.289	FIS 100yr	4640.00	1284.00	1287.17	1287.37	0.012071	10.26	10.26	452.18	173.56	1.12	1.12	1.95	1.95	20.02	20.02
Mainstem	6540.300	Capital Flood	9200.00	1278.48	1284.76	1285.11	0.006420	11.91	9.91	928.25	452.19	0.91	1.45	2.08	0.82	24.82	8.11
Mainstem	6540.300	LACDPW 50yr Burn	7321.00	1278.48	1284.07	1283.78	0.006652	11.15	10.96	668.04	315.36	0.91	1.35	1.90	0.87	21.21	9.57
Mainstem	6540.300	FIS 100yr	4640.00	1278.48	1284.21	1282.57	0.002419	6.84	6.50	713.40	339.46	0.55	0.83	0.71	0.32	4.86	2.05
Mainstem	6254.699	Capital Flood	9200.00	1276.00	1283.32	1283.81	0.005881	12.77	5.07	1815.51	987.74	0.89	1.36	2.26	0.67	28.89	3.41
Mainstem	6254.699	LACDPW 50yr Burn	7321.00	1276.00	1283.39	1283.39	0.003448	9.85	3.88	1888.05	996.47	0.68	1.02	1.34	0.41	13.21	1.58
Mainstem	6254.699	FIS 100yr	4640.00	1276.00	1281.75	1281.75	0.007067	11.74	8.37	554.25	244.21	0.93	1.31	2.09	0.99	24.50	8.27
Mainstem	5959.225	Capital Flood	9200.00	1272.88	1278.60	1279.81	0.013351	16.16	9.67	951.04	1413.28	1.29	2.54	3.96	0.96	63.96	9.24
Mainstem	5959.225	LACDPW 50yr Burn	7321.00	1272.88	1277.90	1279.42	0.017045	16.49	16.14	453.71	512.53	1.42	1.96	4.33	2.31	71.50	37.21
Mainstem	5959.225	FIS 100yr	4640.00	1272.88	1276.49	1277.62	0.024056	15.61	15.61	297.33	161.33	1.60	1.60	4.35	4.35	67.86	67.86
Mainstem	5637.197	Capital Flood	9200.00	1270.00	1276.32	1276.01	0.000578	3.60	1.47	6261.56	1608.56	0.27	0.16	0.19	0.14	0.68	0.21
Mainstem	5637.197	LACDPW 50yr Burn	7321.00	1270.00	1276.01	1276.01	0.000480	3.17	1.27	5753.83	1607.07	0.24	0.15	0.15	0.11	0.47	0.14
Mainstem	5637.197	FIS 100yr	4640.00	1270.00	1276.01	1276.01	0.000193	2.01	0.81	5753.83	1607.07	0.15	0.10	0.06	0.04	0.12	0.03
Mainstem	5281.263	Capital Flood	9200.00	1266.00	1273.47	1273.47	0.004990	12.31	9.51	967.50	1698.69	0.83	1.19	2.06	0.98	25.30	9.29
Mainstem	5281.263	LACDPW 50yr Burn	7321.00	1266.00	1270.96	1272.52	0.015376	16.40	16.40	446.51	1452.51	1.37	1.37	4.19	4.19	68.65	68.65

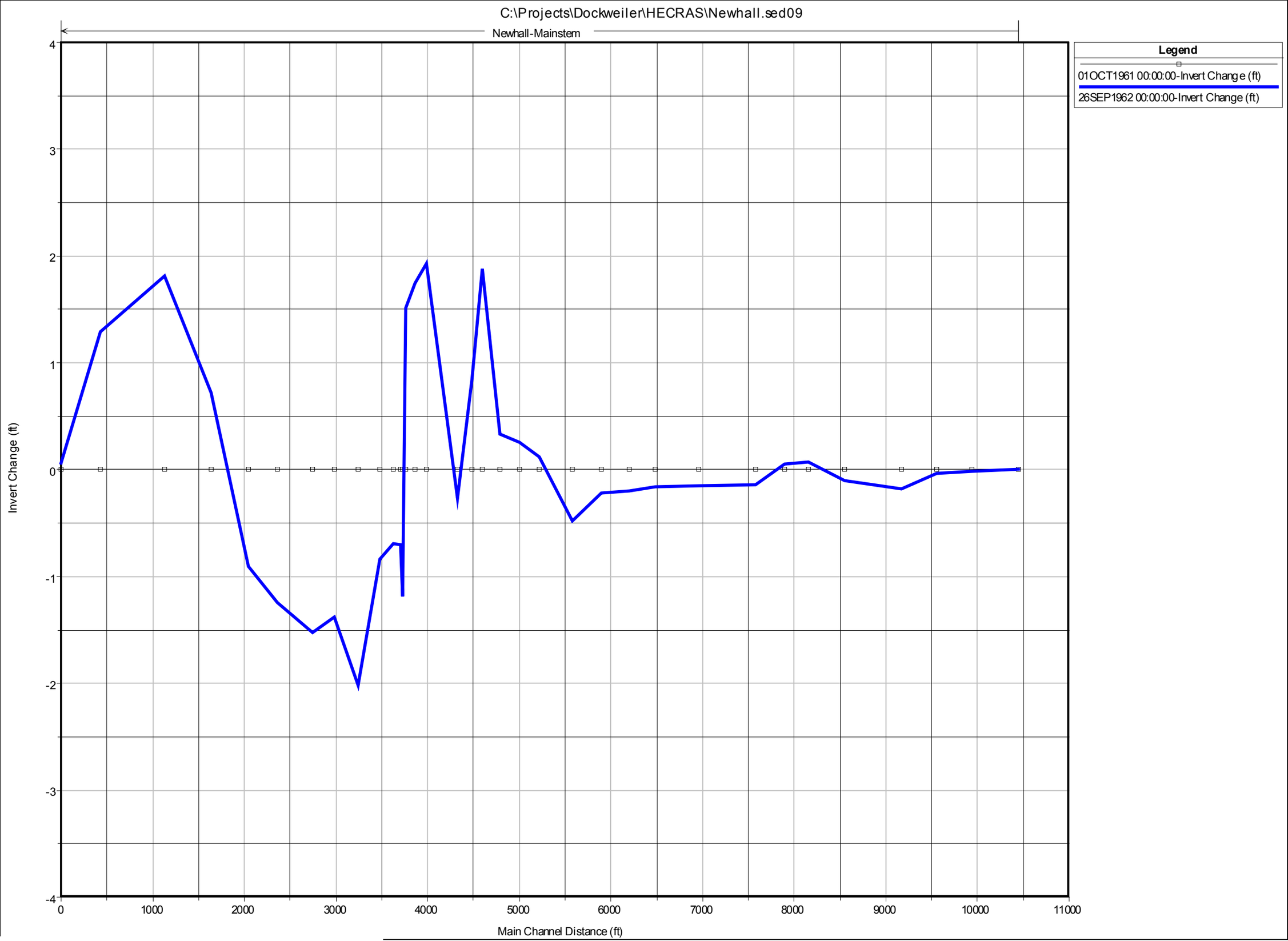
Mainstem	5281.263	FIS 100yr	4640.00	1266.00	1268.66	1270.54	0.050875	20.42	20.42	227.28	891.00	2.27	2.27	7.85	7.85	160.18	160.18
Mainstem	5061.813	Capital Flood	9200.00	1264.00	1270.28	1271.47	0.010464	15.59	14.14	650.54	1570.30	1.17	1.75	3.52	1.57	54.94	22.18
Mainstem	5061.813	LACDPW 50yr Burn	7321.00	1264.00	1270.48	1270.52	0.005818	11.89	10.41	703.05	1576.01	0.88	1.29	2.03	0.93	24.13	9.69
Mainstem	5061.813	FIS 100yr	4640.00	1264.00	1268.54	1268.54	0.008299	11.41	11.37	407.96	1255.38	0.99	1.01	2.08	1.99	23.80	22.67
Mainstem	4842.770	Capital Flood	9200.00	1262.00	1267.85	1269.08	0.011209	16.15	13.41	686.13	1849.24	1.21	1.57	3.78	2.12	61.09	28.49
Mainstem	4842.770	LACDPW 50yr Burn	7321.00	1262.00	1268.15	1268.00	0.005809	12.04	9.67	757.01	1886.74	0.88	1.18	2.07	1.07	24.88	10.37
Mainstem	4842.770	FIS 100yr	4640.00	1262.00	1267.94	1266.69	0.002669	7.97	6.57	706.37	1851.97	0.59	0.76	0.92	0.52	7.29	3.39
Mainstem	4650	Capital Flood	9200.00	1259.90	1268.15	1265.15	0.001683	7.58	7.58	1213.32	751.32	0.49	0.49	0.76	0.76	5.74	5.74
Mainstem	4650	LACDPW 50yr Burn	7321.00	1259.90	1268.96	1264.42	0.000777	5.43	5.43	1347.77	760.15	0.34	0.34	0.38	0.38	2.06	2.06
Mainstem	4650	FIS 100yr	4640.00	1259.90	1268.27	1263.25	0.000409	3.77	3.77	1232.22	752.57	0.24	0.24	0.19	0.19	0.70	0.70
Mainstem	4595		Bridge														
Mainstem	4542.760	Capital Flood	9200.00	1258.88	1265.53	1264.13	0.003551	9.73	9.73	945.44	726.59	0.69	0.69	1.33	1.33	12.91	12.91
Mainstem	4542.760	LACDPW 50yr Burn	7321.00	1258.88	1265.73	1263.40	0.002032	7.50	7.50	976.73	728.02	0.53	0.53	0.78	0.78	5.85	5.85
Mainstem	4542.760	FIS 100yr	4640.00	1258.88	1267.70	1262.24	0.000345	3.60	3.60	1290.31	746.83	0.23	0.23	0.17	0.17	0.60	0.60
Mainstem	4386.823	Capital Flood	9200.00	1256.78	1266.01	1266.01	0.000635	3.73	2.55	3601.09	729.75	0.28	0.21	0.20	0.19	0.76	0.49
Mainstem	4386.823	LACDPW 50yr Burn	7321.00	1256.78	1266.01	1266.01	0.000402	2.97	2.03	3601.09	729.75	0.23	0.17	0.13	0.12	0.39	0.25
Mainstem	4386.823	FIS 100yr	4640.00	1256.78	1264.44	1264.44	0.008080	12.94	12.94	358.68	660.03	1.00	1.00	2.50	2.50	32.32	32.32
Mainstem	4043.350	Capital Flood	9200.00	1254.00	1262.05	1263.03	0.016810	14.25	14.25	645.39	557.76	1.37	1.37	3.47	3.47	49.47	49.47
Mainstem	4043.350	LACDPW 50yr Burn	7321.00	1254.00	1264.87	1262.31	0.001400	5.53	5.19	1410.18	852.13	0.42	0.50	0.45	0.33	2.49	1.69
Mainstem	4043.350	FIS 100yr	4640.00	1254.00	1263.13	1261.06	0.002044	5.30	5.30	876.27	629.93	0.48	0.48	0.46	0.46	2.46	2.46
Mainstem	3920.755	Capital Flood	9200.00	1254.00	1264.01	1264.01	0.000911	5.39	3.03	3035.22	803.51	0.35	0.35	0.39	0.21	2.10	0.64
Mainstem	3920.755	LACDPW 50yr Burn	7321.00	1254.00	1263.23	1263.23	0.004374	10.95	8.38	873.48	624.09	0.76	1.09	1.67	0.76	18.28	6.39
Mainstem	3920.755	FIS 100yr	4640.00	1254.00	1260.23	1260.23	0.008187	13.11	13.11	354.06	307.58	1.00	1.00	2.56	2.56	33.49	33.49
Mainstem	3813.951	Capital Flood	9200.00	1253.96	1262.19	1259.43	0.000792	4.96	3.27	2809.90	807.81	0.34	0.40	0.33	0.17	1.64	0.56
Mainstem	3813.951	LACDPW 50yr Burn	7321.00	1253.96	1260.65	1258.71	0.001622	5.97	4.16	1759.72	640.89	0.46	0.57	0.52	0.27	3.13	1.14
Mainstem	3813.951	FIS 100yr	4640.00	1253.96	1260.02	1257.55	0.001440	5.56	5.55	835.60	470.70	0.43	0.45	0.46	0.42	2.54	2.36
Mainstem	3790		Bridge														
Mainstem	3786.11	Capital Flood	9200.00	1252.42	1262.21	1258.78	0.000442	4.36	2.48	3702.40	804.08	0.26	0.28	0.24	0.12	1.03	0.31
Mainstem	3786.11	LACDPW 50yr Burn	7321.00	1252.42	1259.71	1257.95	0.003025	9.22	9.22	793.72	596.99	0.63	0.63	1.18	1.18	10.85	10.85
Mainstem	3786.11	FIS 100yr	4640.00	1252.42	1259.41	1256.65	0.001415	6.13	6.13	756.63	527.25	0.43	0.43	0.53	0.53	3.23	3.23
Mainstem	3758.278	Capital Flood	9200.00	1252.42	1259.07	1258.78	0.006631	12.85	12.85	715.94	488.79	0.93	0.93	2.35	2.35	30.25	30.25
Mainstem	3758.278	LACDPW 50yr Burn	7321.00	1252.42	1259.52	1257.95	0.003329	9.51	9.51	770.17	566.15	0.66	0.66	1.26	1.26	11.98	11.98
Mainstem	3758.278	FIS 100yr	4640.00	1252.42	1259.35	1256.65	0.001453	6.18	6.18	750.23	519.71	0.44	0.44	0.54	0.54	3.33	3.33
Mainstem	3715		Bridge														
Mainstem	3684.454	Capital Flood	9200.00	1249.36	1254.82	1255.90	0.002884	16.73	16.73	549.96	133.53	1.36	1.36	0.81	0.81	13.55	13.55
Mainstem	3684.454	LACDPW 50yr Burn	7321.00	1249.36	1253.73	1255.08	0.004266	17.30	17.30	423.06	115.86	1.60	1.60	0.94	0.94	16.26	16.26
Mainstem	3684.454	FIS 100yr	4640.00	1249.36	1252.45	1253.75	0.006968	16.86	16.86	275.18	114.89	1.92	1.92	1.02	1.02	17.23	17.23
Mainstem	3533.212	Capital Flood	9200.00	1244.00	1253.78	1255.59	0.001707	17.74	17.74	518.69	372.90	1.03	1.03	0.78	0.78	13.76	13.76
Mainstem	3533.212	LACDPW 50yr Burn	7321.00	1244.00	1250.93	1252.60	0.003182	20.27	20.27	361.14	54.18	1.38	1.38	1.11	1.11	22.45	22.45
Mainstem	3533.212	FIS 100yr	4640.00	1244.00	1248.30	1250.37	0.005855	21.03	21.03	220.69	52.63	1.81	1.81	1.36	1.36	28.64	28.64
Mainstem	3301.384	Capital Flood	9200.00	1240.00	1251.21	1251.21	0.002921	10.06	3.65	2519.35	1267.31	0.57	0.89	1.33	0.36	13.36	1.30
Mainstem	3301.384	LACDPW 50yr Burn	7321.00	1240.00	1253.26	1250.92	0.000309	3.68	1.42	5142.26	1303.19	0.19	0.19	0.17	0.07	0.62	0.11
Mainstem	3301.384	FIS 100yr	4640.00	1240.00	1246.61	1250.27	0.018905	19.79	19.79	234.51	37.64	1.40	1.40	5.84	5.84	115.65	115.65
Mainstem	3036.790	Capital Flood	9200.00	1236.00	1248.01	1248.01	0.000343	1.54	1.07	8601.90	2726.19	0.18	0.11	0.05	0.07	0.07	0.07
Mainstem	3036.790	LACDPW 50yr Burn	7321.00	1236.00	1247.72	1247.72	0.009399	17.76	17.76	412.29	2448.77	1.00	1.00	4.17	4.17	74.09	74.09
Mainstem	3036.790	FIS 100yr	4640.00	1236.00	1246.45	1244.62	0.005318	12.86	12.86	360.95	1734.62	0.74	0.74	2.23	2.23	28.66	28.66
Mainstem	2802.783	Capital Flood	9200.00	1234.00	1246.01	1246.01	0.006044	9.90	5.12	1798.61	1085.55	0.80	1.01	1.56	0.61	15.41	3.14
Mainstem	2802.783	LACDPW 50yr Burn	7321.00	1234.00	1246.01	1246.01	0.003827	7.88	4.07	1798.61	1085.55	0.64	0.81	0.99	0.39	7.77	1.58
Mainstem	2802.783	FIS 100yr	4640.00	1234.00	1243.15	1243.15	0.009775	16.19	16.19	286.55	140.61	1.00	1.00	3.67	3.67	59.42	59.42
Mainstem	2417.090	Capital Flood	9200.00	1230.00	1240.83	1240.83	0.006166	10.17	4.24	2172.31	1520.00	0.82	1.08	1.63	0.54	16.54	2.30
Mainstem	2417.090	LACDPW 50yr Burn	7321.00	1230.00	1240.74	1240.74	0.004466	8.55	3.59	2040.54	1478.25	0.70	0.93	1.16	0.38	9.88	1.37
Mainstem	2417.090	FIS 100yr	4640.00	1230.00	1239.46	1240.07	0.011846	14.85	14.85	312.56	613.01	1.12	1.12	3.38	3.38	50.17	50.17
Mainstem	2100.483	Capital Flood	9200.00	1226.00	1237.01	1237.01	0.004779	5.74	3.16	2908.94	2002.65	0.67	0.60	0.65	0.43	3.72	1.36
Mainstem	2100.483	LACDPW 50yr Burn	7321.00	1226.00	1237.01	1237.01	0.003026	4.57	2.52	2908.94	2002.65	0.53	0.48	0.41	0.27	1.87	0.68
Mainstem	2100.483	FIS 100yr	4640.00	1226.00	1233.81	1236.58	0.013477	17.81	17.81	260.51	62.39	1.15	1.15	4.59	4.59	81.70	81.70
Mainstem	1698.544	Capital Flood	9200.00	1220.00	1232.01	1232.01	0.004532	5.89	3.79	2427.66	1289.66	0.66	0.59	0.66	0.52	3.91	1.99
Mainstem	1698.544	LACDPW 50yr Burn	7321.00	1220.00	1231.55	1232.01	0.024252	13.21	13.21	554.09	899.24	1.51	1.51	3.39	3.39	44.85	44.85
Mainstem	1698.544	FIS 100yr	4640.00	1220.00	1227.54	1228.70	0.015134	18.65	18.65	248.77	56.41	1.25	1.25	5.06	5.06	94.38	94.38
Mainstem	1190.624	Capital Flood	9200.00	1214.00	1226.50	1227.01	0.010427	12.68	9.98	922.25	1155.41	1.08	1.60	2.58	1.14	32.74	11.39
Mainstem	1190.624	LACDPW 50yr Burn	7321.00	1214.00	1226.46	1226.69	0.006866	10.22	8.11	902.22	1134.23	0.87	1.29	1.69	0.75	17.23	6.07
Mainstem	1190.624	FIS 100yr	4640.00	1214.00	1222.74	1222.27	0.008195	14.55	14.55	318.95	42.10	0.93	0.93	2.99	2.99	43.50	43.50
Mainstem	483.097	Capital Flood	9200.00	1214.00	1218.14	1218.20	0.014536	12.93	5.48	1680.33	1824.80	1.27	2.02	2.89	0.83	37.41	4.57
Mainstem	483.097	LACDPW 50yr Burn	7321.00	1214.00	1218.20	1218.20	0.008092	9.78	4.07	1797.37	1835.10	0.95	1.46	1.64	0.49	16.05	2.01

Mainstem	483.097	FIS 100yr	4640.00	1214.00	1217.89	1217.89	0.009061	9.87	9.87	470.20	917.00	0.99	0.99	1.71	1.71	16.90	16.90
Mainstem	58.617	Capital Flood	9200.00	1214.00	1215.35	1214.93	0.004001	3.57	3.57	2576.69	2105.54	0.57	0.57	0.31	0.31	1.09	1.09
Mainstem	58.617	LACDPW 50yr Burn	7321.00	1214.00	1215.18	1214.81	0.004001	3.29	3.29	2225.79	2060.47	0.56	0.56	0.27	0.27	0.89	0.89
Mainstem	58.617	FIS 100yr	4640.00	1214.00	1214.90	1214.60	0.004000	2.79	2.79	1664.08	1980.74	0.54	0.54	0.21	0.21	0.58	0.58

SEDIMENT TRANSPORT


100
90
80
70
60
50
40
30
20
10
0
Percent Finer by Weight
C-3
C-4
100
10
1
0.1
0.01
Grain Size (mm)


Hydrograph Data
Legend
Flow Duration
Flow
350
300
250
200
150
100
50
0
Oct
1961
Dec
Feb
Apr
1962
Jun
Aug
Oct
Date


C:\Projects\Dockweiler\HECRAS\Newhall.sed09
Newhall-Mainstem
Legend
01OCT1961 00:00:00-Invert Change (ft)
26SEP1962 00:00:00-Invert Change (ft)
Invert Change (ft)
Main Channel Distance (ft)
4
3
2
1
0
-1
-2
-3
-4
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000


26Sep1962 00:00:00
Newhall-Mainstem
Legend
26SEP1962 00:00:00-Mass Out Cum: All (tons)
26SEP1962 00:00:00-Mass In Cum: All (tons)
Mass Out Cum: All (tons),Mass In Cum: All (tons)
24000
22000
20000
18000
16000
14000
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
Main Channel Distance (ft)

SCOUR

Scour Analysis								M_s = 0.09															
Existing Condition															Kinematic viscosity		1.00E-06	N-s/m^2					
Newhall Creek, Dockweiler Road Extension															Factor in SP Equation		7.853						
					Erodibility Index METHOD										Shield's Method									
Particle Size, d (mm)	Particle Size, d (m)	Particle % Finer	Soil Sample No.	Hydraulic Section	M_s	Kb	Friction angle (Φ)	Kd	Js	Erod. Index	Threshold stream power, Watt/ m^2	Channel Shear Stress (N/m^2) (τ)	Stream power (W/m^2)	Shield's parameter, θ	Critical Shield's paramter θ_c (from Shields's Diagram)	θ/θ_c	Critical Shear Stress (τ_c)	τ_c/τ	Shear velocity, u*	Particle Reynold's number Re*	Flow condition	Particle's condition	Conditon
Case 1: Existing Base Case, Capital Flood																							
1.042	0.0010	D_{50}	C-3	10505	0.09	0.00000	37	0.754	1	0.000	0.36	145.66	436.6	8.91	0.046	193.70	0.75	0.005	0.382	397.5	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	10505.3	0.09	0.00001	37	0.754	1	0.000	0.85	145.66	436.6	4.61	0.046	100.31	1.45	0.010	0.382	767.6	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	9994	0.09	0.00000	37	0.754	1	0.000	0.36	279.47	1160.2	17.10	0.046	371.65	0.75	0.003	0.529	550.6	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	9993.6	0.09	0.00001	37	0.754	1	0.000	0.85	279.47	1160.2	8.85	0.046	192.46	1.45	0.005	0.529	1063.2	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	9616.9	0.09	0.00000	37	0.754	1	0.000	0.36	137.18	399.0	8.39	0.046	182.43	0.75	0.005	0.370	385.7	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	9616.9	0.09	0.00001	37	0.754	1	0.000	0.85	137.18	399.0	4.35	0.046	94.47	1.45	0.011	0.370	744.9	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	9229.1	0.09	0.00000	37	0.754	1	0.000	0.36	235.64	898.3	14.41	0.046	313.36	0.75	0.003	0.485	505.6	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	9229.1	0.09	0.00001	37	0.754	1	0.000	0.85	235.64	898.3	7.46	0.046	162.27	1.45	0.006	0.485	976.3	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	8608.5	0.09	0.00000	37	0.754	1	0.000	0.36	111.28	291.5	6.81	0.046	147.98	0.75	0.007	0.334	347.4	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	8608.5	0.09	0.00001	37	0.754	1	0.000	0.85	111.28	291.5	3.53	0.046	76.63	1.45	0.013	0.334	670.9	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	8216.3	0.09	0.00000	37	0.754	1	0.000	0.36	204.56	726.6	12.51	0.046	272.03	0.75	0.004	0.452	471.1	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	8216.3	0.09	0.00001	37	0.754	1	0.000	0.85	204.56	726.6	6.48	0.046	140.87	1.45	0.007	0.452	909.6	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	7954.5	0.09	0.00000	37	0.754	1	0.000	0.36	37.03	56.0	2.27	0.046	49.24	0.75	0.020	0.192	200.4	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	7954.5	0.09	0.00001	37	0.754	1	0.000	0.85	37.03	56.0	1.17	0.046	25.50	1.45	0.039	0.192	387.0	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	7636.5	0.09	0.00000	37	0.754	1	0.000	0.36	96.66	236.0	5.91	0.046	128.54	0.75	0.008	0.311	323.8	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	7636.5	0.09	0.00001	37	0.754	1	0.000	0.85	96.66	236.0	3.06	0.046	66.56	1.45	0.015	0.311	625.3	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	7013.3	0.09	0.00000	37	0.754	1	0.000	0.36	145.70	436.7	8.91	0.046	193.76	0.75	0.005	0.382	397.5	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	7013.3	0.09	0.00001	37	0.754	1	0.000	0.85	145.70	436.7	4.62	0.046	100.34	1.45	0.010	0.382	767.7	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	6540.3	0.09	0.00000	37	0.754	1	0.000	0.36	99.78	247.5	6.10	0.046	132.69	0.75	0.008	0.316	329.0	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	6540.3	0.09	0.00001	37	0.754	1	0.000	0.85	99.78	247.5	3.16	0.046	68.71	1.45	0.015	0.316	635.3	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	6254.7	0.09	0.00000	37	0.754	1	0.000	0.36	108.32	280.0	6.63	0.046	144.05	0.75	0.007	0.329	342.8	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	6254.7	0.09	0.00001	37	0.754	1	0.000	0.85	108.32	280.0	3.43	0.046	74.59	1.45	0.013	0.329	661.9	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	5959.2	0.09	0.00000	37	0.754	1	0.000	0.36	189.43	647.5	11.59	0.046	251.91	0.75	0.004	0.435	453.3	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	5959.2	0.09	0.00001	37	0.754	1	0.000	0.85	189.43	647.5	6.00	0.046	130.45	1.45	0.008	0.435	875.3	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	5637.2	0.09	0.00000	37	0.754	1	0.000	0.36	9.07	6.8	0.55	0.046	12.06	0.75	0.083	0.095	99.2	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	5637.2	0.09	0.00001	37	0.754	1	0.000	0.85	9.07	6.8	0.29	0.046	6.25	1.45	0.160	0.095	191.5	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	5281.3	0.09	0.00000	37	0.754	1	0.000	0.36	98.41	242.4	6.02	0.046	130.87	0.75	0.008	0.314	326.7	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	5281.3	0.09	0.00001	37	0.754	1	0.000	0.85	98.41	242.4	3.12	0.046	67.77	1.45	0.015	0.314	630.9	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	5061.8	0.09	0.00000	37	0.754	1	0.000	0.36	168.77	544.5	10.32	0.046	224.43	0.75	0.004	0.411	427.9	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	5061.8	0.09	0.00001	37	0.754	1	0.000	0.85	168.77	544.5	5.35	0.046	116.22	1.45	0.009	0.411	826.2	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	4842.8	0.09	0.00000	37	0.754	1	0.000	0.36	181.09	605.2	11.08	0.046	240.82	0.75	0.004	0.426	443.2	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	4842.8	0.09	0.00001	37	0.754	1	0.000	0.85	181.09	605.2	5.74	0.046	124.71	1.45	0.008	0.426	855.9	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	4650.0	0.09	0.00000	37	0.754	1	0.000	0.36	36.26	54.2	2.22	0.046	48.22	0.75	0.021	0.190	198.3	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	4650.0	0.09	0.00001	37	0.754	1	0.000	0.85	36.26	54.2	1.15	0.046	24.97	1.45	0.040	0.190	383.0	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	4542.8	0.09	0.00000	37	0.754	1	0.000	0.36	63.54	125.8	3.89	0.046	84.50	0.75	0.012	0.252	262.5	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	4542.8	0.09	0.00001	37	0.754	1	0.000	0.85	63.54	125.8	2.01	0.046	43.76	1.45	0.023	0.252	507.0	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	4386.8	0.09	0.00000	37	0.754	1	0.000	0.36	9.81	7.6	0.60	0.046	13.05	0.75	0.077	0.099	103.2	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	4386.8	0.09	0.00001	37	0.754	1	0.000	0.85	9.81	7.6	0.31	0.046	6.76	1.45	0.148	0.099	199.2	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	4043.4	0.09	0.00000	37	0.754	1	0.000	0.36	166.17	531.9	10.16	0.046	220.98	0.75	0.005	0.408	424.6	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	4043.4	0.09	0.00001	37	0.754	1	0.000	0.85	166.17	531.9	5.26	0.046	114.43	1.45	0.009	0.408	819.8	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	3920.8	0.09	0.00000	37	0.754	1	0.000	0.36	18.65	20.0	1.14	0.046	24.80	0.75	0.040	0.137	142.2	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	3920.8	0.09	0.00001	37	0.754	1	0.000	0.85	18.65	20.0	0.59	0.046	12.84	1.45	0.078	0.137	274.7	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	3814.0	0.09	0.00000	37	0.754	1	0.000	0.36	15.88	15.7	0.97	0.046	21.12	0.75	0.047	0.126	131.2	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	3814.0	0.09	0.00001	37	0.754	1	0.000	0.85	15.88	15.7	0.50	0.046	10.94	1.45	0.091	0.126	253.4	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	3786.1	0.09	0.00000	37	0.754	1	0.000	0.36	11.31	9.4	0.69	0.046	15.04	0.75	0.066	0.106	110.8	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	3786.1	0.09	0.00001	37	0.754	1	0.000	0.85	11.31	9.4	0.36	0.046	7.79	1.45	0.128	0.106	213.9	Rough Turbulent	In Motion	compare θ_c and θ

1.042	0.0010	D_{50}	C-3	3758.3	0.09	0.00000	37	0.754	1	0.000	0.36	112.71	297.2	6.89	0.046	149.88	0.75	0.007	0.336	349.7	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	3758.3	0.09	0.00001	37	0.754	1	0.000	0.85	112.71	297.2	3.57	0.046	77.62	1.45	0.013	0.336	675.2	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	3684.5	0.09	0.00000	37	0.754	1	0.000	0.36	38.78	60.0	2.37	0.046	51.57	0.75	0.019	0.197	205.1	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	3684.5	0.09	0.00001	37	0.754	1	0.000	0.85	38.78	60.0	1.23	0.046	26.71	1.45	0.037	0.197	396.1	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	3533.2	0.09	0.00000	37	0.754	1	0.000	0.36	37.14	56.2	2.27	0.046	49.39	0.75	0.020	0.193	200.7	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	3533.2	0.09	0.00001	37	0.754	1	0.000	0.85	37.14	56.2	1.18	0.046	25.58	1.45	0.039	0.193	387.6	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	3301.4	0.09	0.00000	37	0.754	1	0.000	0.36	63.58	125.9	3.89	0.046	84.55	0.75	0.012	0.252	262.6	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	3301.4	0.09	0.00001	37	0.754	1	0.000	0.85	63.58	125.9	2.01	0.046	43.78	1.45	0.023	0.252	507.1	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	3036.8	0.09	0.00000	37	0.754	1	0.000	0.36	2.22	0.8	0.14	0.046	2.95	0.75	0.339	0.047	49.1	Smooth OR Transition	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	3036.8	0.09	0.00001	37	0.754	1	0.000	0.85	2.22	0.8	0.07	0.046	1.53	1.45	0.654	0.047	94.8	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	2802.8	0.09	0.00000	37	0.754	1	0.000	0.36	74.51	159.7	4.56	0.046	99.09	0.75	0.010	0.273	284.3	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	2802.8	0.09	0.00001	37	0.754	1	0.000	0.85	74.51	159.7	2.36	0.046	51.31	1.45	0.019	0.273	549.0	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	2417.1	0.09	0.00000	37	0.754	1	0.000	0.36	77.89	170.7	4.76	0.046	103.58	0.75	0.010	0.279	290.7	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	2417.1	0.09	0.00001	37	0.754	1	0.000	0.85	77.89	170.7	2.47	0.046	53.64	1.45	0.019	0.279	561.3	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	2100.5	0.09	0.00000	37	0.754	1	0.000	0.36	31.02	42.9	1.90	0.046	41.25	0.75	0.024	0.176	183.4	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	2100.5	0.09	0.00001	37	0.754	1	0.000	0.85	31.02	42.9	0.98	0.046	21.36	1.45	0.047	0.176	354.2	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	1698.5	0.09	0.00000	37	0.754	1	0.000	0.36	31.79	44.5	1.94	0.046	42.28	0.75	0.024	0.178	185.7	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	1698.5	0.09	0.00001	37	0.754	1	0.000	0.85	31.79	44.5	1.01	0.046	21.89	1.45	0.046	0.178	358.6	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	1190.6	0.09	0.00000	37	0.754	1	0.000	0.36	123.66	341.5	7.56	0.046	164.45	0.75	0.006	0.352	366.2	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	1190.6	0.09	0.00001	37	0.754	1	0.000	0.85	123.66	341.5	3.92	0.046	85.16	1.45	0.012	0.352	707.2	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	483.1	0.09	0.00000	37	0.754	1	0.000	0.36	138.48	404.7	8.47	0.046	184.15	0.75	0.005	0.372	387.6	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	483.1	0.09	0.00001	37	0.754	1	0.000	0.85	138.48	404.7	4.39	0.046	95.36	1.45	0.010	0.372	748.4	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	58.6	0.09	0.00000	37	0.754	1	0.000	0.36	14.63	13.9	0.89	0.046	19.46	0.75	0.051	0.121	126.0	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	58.6	0.09	0.00001	37	0.754	1	0.000	0.85	14.63	13.9	0.46	0.046	10.07	1.45	0.099	0.121	243.3	Rough Turbulent	In Motion	compare θ_c and θ
												279											
Case 3: Existing Base Case, FIS 100-year																							
1.042	0.0010	D_{50}	C-3	10505	0.09	0.00000	37	0.754	1	0.000	0.36	110.04	286.7	6.73	0.046	146.33	0.75	0.007	0.332	345.5	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	10505.3	0.09	0.00001	37	0.754	1	0.000	0.85	110.04	286.7	3.49	0.046	75.78	1.45	0.013	0.332	667.2	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	9994	0.09	0.00000	37	0.754	1	0.000	0.36	168.93	545.3	10.33	0.046	224.65	0.75	0.004	0.411	428.1	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	9993.6	0.09	0.00001	37	0.754	1	0.000	0.85	168.93	545.3	5.35	0.046	116.33	1.45	0.009	0.411	826.6	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	9616.9	0.09	0.00000	37	0.754	1	0.000	0.36	102.65	258.3	6.28	0.046	136.51	0.75	0.007	0.320	333.7	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	9616.9	0.09	0.00001	37	0.754	1	0.000	0.85	102.65	258.3	3.25	0.046	70.69	1.45	0.014	0.320	644.4	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	2417.1	0.09	0.00000	37	0.754	1	0.000	0.36	147.63	445.4	9.03	0.046	196.32	0.75	0.005	0.384	400.2	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	2417.1	0.09	0.00001	37	0.754	1	0.000	0.85	147.63	445.4	4.68	0.046	101.67	1.45	0.010	0.384	772.8	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	2100.5	0.09	0.00000	37	0.754	1	0.000	0.36	89.24	209.4	5.46	0.046	118.67	0.75	0.008	0.299	311.1	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	2100.5	0.09	0.00001	37	0.754	1	0.000	0.85	89.24	209.4	2.83	0.046	61.46	1.45	0.016	0.299	600.8	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	1698.5	0.09	0.00000	37	0.754	1	0.000	0.36	150.45	458.3	9.20	0.046	200.07	0.75	0.005	0.388	404.0	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	1698.5	0.09	0.00001	37	0.754	1	0.000	0.85	150.45	458.3	4.77	0.046	103.61	1.45	0.010	0.388	780.1	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	1190.6	0.09	0.00000	37	0.754	1	0.000	0.36	31.27	43.4	1.91	0.046	41.58	0.75	0.024	0.177	184.2	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	1190.6	0.09	0.00001	37	0.754	1	0.000	0.85	31.27	43.4	0.99	0.046	21.53	1.45	0.046	0.177	355.6	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	483.1	0.09	0.00000	37	0.754	1	0.000	0.36	87.38	202.8	5.35	0.046	116.20	0.75	0.009	0.296	307.9	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	483.1	0.09	0.00001	37	0.754	1	0.000	0.85	87.38	202.8	2.77	0.046	60.17	1.45	0.017	0.296	594.5	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	58.6	0.09	0.00000	37	0.754	1	0.000	0.36	93.42	224.2	5.71	0.046	124.23	0.75	0.008	0.306	318.3	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	58.6	0.09	0.00001	37	0.754	1	0.000	0.85	93.42	224.2	2.96	0.046	64.33	1.45	0.016	0.306	614.7	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	0.0	0.09	0.00000	37	0.754	1	0.000	0.36	34.04	49.3	2.08	0.046	45.27	0.75	0.022	0.184	192.2	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	0.0	0.09	0.00001	37	0.754	1	0.000	0.85	34.04	49.3	1.08	0.046	23.44	1.45	0.043	0.184	371.1	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	0.0	0.09	0.00000	37	0.754	1	0.000	0.36	99.96	248.2	6.11	0.046	132.93	0.75	0.008	0.316	329.3	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	0.0	0.09	0.00001	37	0.754	1	0.000	0.85	99.96	248.2	3.17	0.046	68.84	1.45	0.015	0.316	635.9	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	0.0	0.09	0.00000	37	0.754	1	0.000	0.36	208.18	745.9	12.73	0.046	276.84	0.75	0.004	0.456	475.2	Rough Turbulent	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	0.0	0.09	0.00001	37	0.754	1	0.000	0.85	208.18	745.9	6.59	0.046	143.36	1.45	0.007	0.456	917.6	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	0.0	0.09	0.00000	37	0.754	1	0.000	0.36	2.88	1.2	0.18	0.046	3.83	0.75	0.261	0.054	55.9	Smooth OR Transition	In Motion	compare θ_c and θ
2.011	0.0020	D_{50}	C-4	0.0	0.09	0.00001	37	0.754	1	0.000	0.85	2.88	1.2	0.09	0.046	1.98	1.45	0.504	0.054	107.9	Rough Turbulent	In Motion	compare θ_c and θ
1.042	0.0010	D_{50}	C-3	0.0	0.09	0.00000	37	0.754	1	0.000	0.36	375.65	1808.1	22.98	0.046	499.55	0.75	0.002	0.613	638.3	Rough Turbulent	In Motion	compare θ_c and θ

Scour Analysis | M_s = *0.09*

Mitigated

Newhall Creek, Dockweiler Road Extension

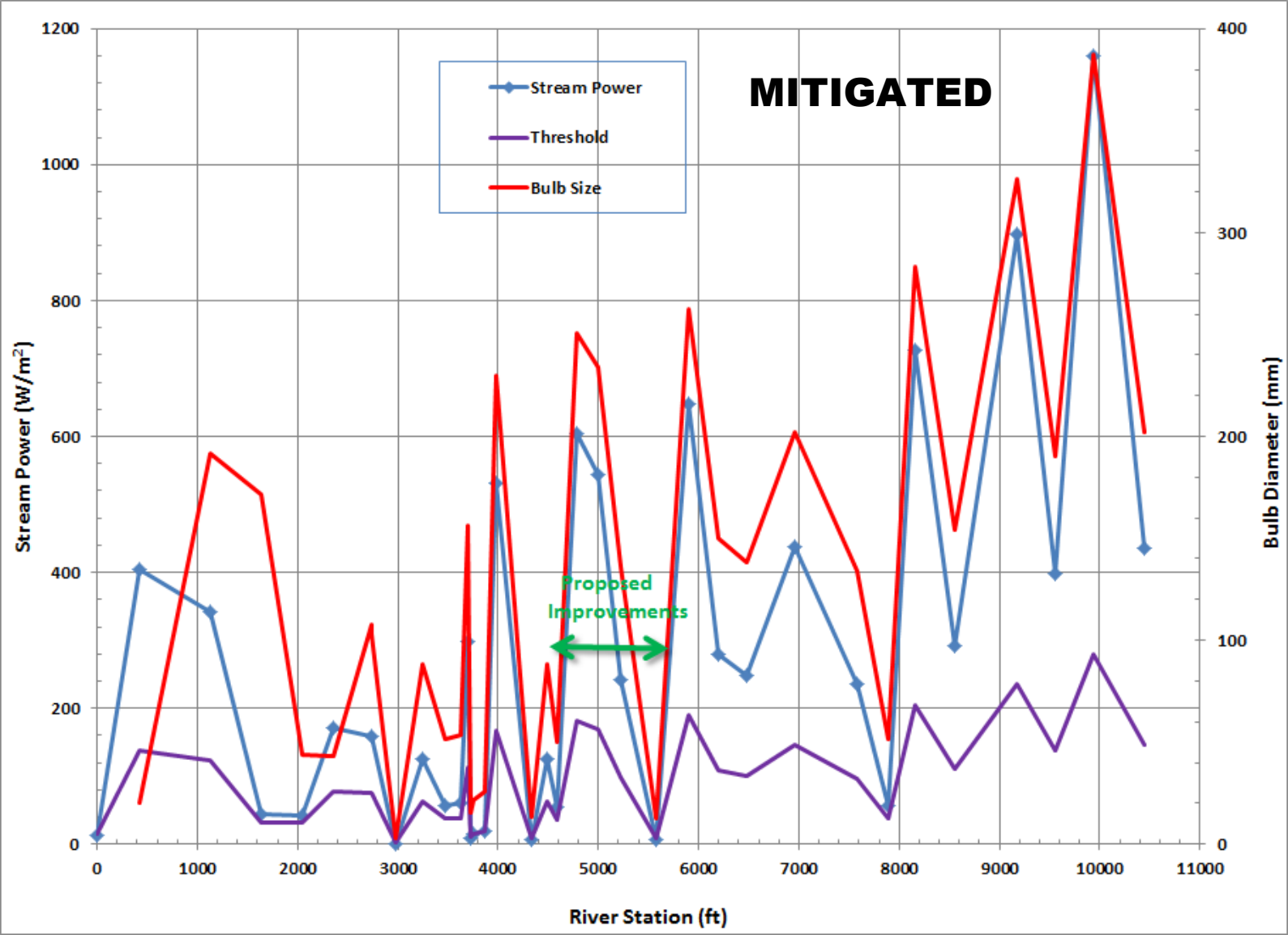
Kinematic viscosity: *1.00E-06* N-s/m^2

Factor in SP Equation: *7.853*

Particle Size, d (mm)	Particle Size, d (m)	Particle % Finer	Soil Sample No.	Hydraulic Section	Erodibility Index METHOD							Channel Shear Stress (N/m^2) (τ)	Stream power (W/m^2)	Shield's Method									
					M_s	Kb	Friction angle (Φ)	Kd	Js	Erod. Index	Threshold stream power, Watt/ m^2			Shield's parameter, θ	Critical Shield's paramter θ_c (from Shields's Diagram)	θ/θ_c	Critical Shear Stress (τ_c)	τ_c/τ	Shear velocity, u*	Particle Reynold's number Re*	Flow condition	Particle's condition	Conditon
Case 1: Existing Base Case, Capital Flood																							
201.7	0.2017	D_{50}	**C-4**	**10505.3**	0.09	8.21051	*37*	0.754	1	0.557	370.99	*145.66*	436.6	0.05	*0.046*	1.00	145.66	1.000	0.382	76994.6	**Rough Turbulent**	**In Motion**	compare θ_c and θ
387.1	0.3871	D_{50}	**C-4**	**9993.6**	0.09	57.99024	*37*	0.754	1	3.933	2792.76	*279.47*	1160.2	0.05	*0.046*	1.00	279.47	1.000	0.529	204622.1	**Rough Turbulent**	**In Motion**	compare θ_c and θ
190.0	0.1900	D_{50}	**C-4**	**9616.9**	0.09	6.85838	*37*	0.754	1	0.465	342.75	*137.18*	399.0	0.05	*0.046*	1.00	137.18	1.000	0.370	70369.7	**Rough Turbulent**	**In Motion**	compare θ_c and θ
326.4	0.3264	D_{50}	**C-4**	**9229.1**	0.09	34.76133	*37*	0.754	1	2.358	1902.57	*235.64*	898.3	0.05	*0.046*	1.00	235.64	1.000	0.485	158424.8	**Rough Turbulent**	**In Motion**	compare θ_c and θ
154.1	0.1541	D_{50}	**C-4**	**8608.5**	0.09	3.66101	*37*	0.754	1	0.248	260.03	*111.28*	291.5	0.05	*0.046*	1.00	111.28	1.000	0.334	51413.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
283.3	0.2833	D_{50}	**C-4**	**8216.3**	0.09	22.74110	*37*	0.754	1	1.542	1383.97	*204.56*	726.6	0.05	*0.046*	1.00	204.56	1.000	0.452	128138.9	**Rough Turbulent**	**In Motion**	compare θ_c and θ
51.3	0.0513	D_{50}	**C-4**	**7954.5**	0.09	0.13490	*37*	0.754	1	0.009	60.85	*37.03*	56.0	0.05	*0.046*	1.00	37.03	1.000	0.192	9869.2	**Rough Turbulent**	**In Motion**	compare θ_c and θ
133.9	0.1339	D_{50}	**C-4**	**7636.5**	0.09	2.39933	*37*	0.754	1	0.163	215.91	*96.66*	236.0	0.05	*0.046*	1.00	96.66	1.000	0.311	41621.7	**Rough Turbulent**	**In Motion**	compare θ_c and θ
201.8	0.2018	D_{50}	**C-4**	**7013.3**	0.09	8.21728	*37*	0.754	1	0.557	371.12	*145.70*	436.7	0.05	*0.046*	1.00	145.70	1.000	0.382	77026.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
138.2	0.1382	D_{50}	**C-4**	**6540.3**	0.09	2.63925	*37*	0.754	1	0.179	225.16	*99.78*	247.5	0.05	*0.046*	1.00	99.78	1.000	0.316	43653.1	**Rough Turbulent**	**In Motion**	compare θ_c and θ
150.0	0.1500	D_{50}	**C-4**	**6254.7**	0.09	3.37657	*37*	0.754	1	0.229	250.94	*108.32*	280.0	0.05	*0.046*	1.00	108.32	1.000	0.329	49375.6	**Rough Turbulent**	**In Motion**	compare θ_c and θ
262.4	0.2624	D_{50}	**C-4**	**5959.2**	0.09	18.05908	*37*	0.754	1	1.225	1164.23	*189.43*	647.5	0.05	*0.046*	1.00	189.43	1.000	0.435	114188.6	**Rough Turbulent**	**In Motion**	compare θ_c and θ
12.6	0.0126	D_{50}	**C-4**	**5637.2**	0.09	0.00198	*37*	0.754	1	0.000	9.50	*9.07*	6.8	0.05	*0.046*	1.00	9.07	1.000	0.095	1196.4	**Rough Turbulent**	**In Motion**	compare θ_c and θ
136.3	0.1363	D_{50}	**C-4**	**5281.3**	0.09	2.53202	*37*	0.754	1	0.172	221.09	*98.41*	242.4	0.05	*0.046*	1.00	98.41	1.000	0.314	42757.1	**Rough Turbulent**	**In Motion**	compare θ_c and θ
233.7	0.2337	D_{50}	**C-4**	**5061.8**	0.09	12.77130	*37*	0.754	1	0.866	450.59	*168.77*	544.5	0.05	*0.046*	1.00	168.77	1.000	0.411	96026.8	**Rough Turbulent**	**In Motion**	compare θ_c and θ
250.8	0.2508	D_{50}	**C-4**	**4842.8**	0.09	15.77730	*37*	0.754	1	1.070	1052.06	*181.09*	605.2	0.05	*0.046*	1.00	181.09	1.000	0.426	106731.2	**Rough Turbulent**	**In Motion**	compare θ_c and θ
50.2	0.0502	D_{50}	**C-4**	**4650.0**	0.09	0.12666	*37*	0.754	1	0.009	59.18	*36.26*	54.2	0.05	*0.046*	1.00	36.26	1.000	0.190	9562.9	**Rough Turbulent**	**In Motion**	compare θ_c and θ
88.0	0.0880	D_{50}	**C-4**	**4542.8**	0.09	0.68154	*37*	0.754	1	0.046	124.10	*63.54*	125.8	0.05	*0.046*	1.00	63.54	1.000	0.252	22183.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
13.6	0.0136	D_{50}	**C-4**	**4386.8**	0.09	0.00251	*37*	0.754	1	0.000	10.54	*9.81*	7.6	0.05	*0.046*	1.00	9.81	1.000	0.099	1345.7	**Rough Turbulent**	**In Motion**	compare θ_c and θ
230.1	0.2301	D_{50}	**C-4**	**4043.4**	0.09	12.19010	*37*	0.754	1	0.827	441.45	*166.17*	531.9	0.05	*0.046*	1.00	166.17	1.000	0.408	93816.4	**Rough Turbulent**	**In Motion**	compare θ_c and θ
25.8	0.0258	D_{50}	**C-4**	**3920.8**	0.09	0.01723	*37*	0.754	1	0.001	24.61	*18.65*	20.0	0.05	*0.046*	1.00	18.65	1.000	0.137	3527.5	**Rough Turbulent**	**In Motion**	compare θ_c and θ
22.0	0.0220	D_{50}	**C-4**	**3814.0**	0.09	0.01064	*37*	0.754	1	0.001	19.90	*15.88*	15.7	0.05	*0.046*	1.00	15.88	1.000	0.126	2771.6	**Rough Turbulent**	**In Motion**	compare θ_c and θ
15.7	0.0157	D_{50}	**C-4**	**3786.1**	0.09	0.00384	*37*	0.754	1	0.000	12.72	*11.31*	9.4	0.05	*0.046*	1.00	11.31	1.000	0.106	1665.9	**Rough Turbulent**	**In Motion**	compare θ_c and θ
156.1	0.1561	D_{50}	**C-4**	**3758.3**	0.09	3.80397	*37*	0.754	1	0.258	264.45	*112.71*	297.2	0.05	*0.046*	1.00	112.71	1.000	0.336	52407.5	**Rough Turbulent**	**In Motion**	compare θ_c and θ
53.7	0.0537	D_{50}	**C-4**	**3684.5**	0.09	0.15494	*37*	0.754	1	0.011	64.67	*38.78*	60.0	0.05	*0.046*	1.00	38.78	1.000	0.197	10577.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
51.4	0.0514	D_{50}	**C-4**	**3533.2**	0.09	0.13611	*37*	0.754	1	0.009	61.09	*37.14*	56.2	0.05	*0.046*	1.00	37.14	1.000	0.193	9913.2	**Rough Turbulent**	**In Motion**	compare θ_c and θ
88.1	0.0881	D_{50}	**C-4**	**3301.4**	0.09	0.68283	*37*	0.754	1	0.046	124.20	*63.58*	125.9	0.05	*0.046*	1.00	63.58	1.000	0.252	22204.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
3.1	0.0031	D_{50}	**C-4**	**3036.8**	0.09	0.00003	*37*	0.754	1	0.000	1.48	*2.22*	0.8	0.05	*0.046*	1.00	2.22	1.000	0.047	144.9	**Rough Turbulent**	**In Motion**	compare θ_c and θ
103.2	0.1032	D_{50}	**C-4**	**2802.8**	0.09	1.09899	*37*	0.754	1	0.075	153.14	*74.51*	159.7	0.05	*0.046*	1.00	74.51	1.000	0.273	28169.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
107.9	0.1079	D_{50}	**C-4**	**2417.1**	0.09	1.25544	*37*	0.754	1	0.085	162.37	*77.89*	170.7	0.05	*0.046*	1.00	77.89	1.000	0.279	30107.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
43.0	0.0430	D_{50}	**C-4**	**2100.5**	0.09	0.07930	*37*	0.754	1	0.005	48.16	*31.02*	42.9	0.05	*0.046*	1.00	31.02	1.000	0.176	7566.8	**Rough Turbulent**	**In Motion**	compare θ_c and θ
44.0	0.0440	D_{50}	**C-4**	**1698.5**	0.09	0.08535	*37*	0.754	1	0.006	49.75	*31.79*	44.5	0.05	*0.046*	1.00	31.79	1.000	0.178	7850.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
171.3	0.1713	D_{50}	**C-4**	**1190.6**	0.09	5.02385	*37*	0.754	1	0.341	298.88	*123.66*	341.5	0.05	*0.046*	1.00	123.66	1.000	0.352	60227.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
191.8	0.1918	D_{50}	**C-4**	**483.1**	0.09	7.05522	*37*	0.754	1	0.478	347.04	*138.48*	404.7	0.05	*0.046*	1.00	138.48	1.000	0.372	71372.4	**Rough Turbulent**	**In Motion**	compare θ_c and θ
20.3	0.0203	D_{50}	**C-4**	**58.6**	0.09	0.00832	*37*	0.754	1	0.001	17.86	*14.63*	13.9	0.05	*0.046*	1.00	14.63	1.000	0.121	2450.8	**Rough Turbulent**	**In Motion**	compare θ_c and θ
													1160										
Case 3: Existing Base Case, FIS 100-year																							
152.4	0.1524	D_{50}	**C-4**	**10505.3**	0.09	3.53998	*37*	0.754	1	0.240	256.21	*110.04*	286.7	0.05	*0.046*	1.00	110.04	1.000	0.332	50556.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
234.0	0.2340	D_{50}	**C-4**	**9993.6**	0.09	12.80766	*37*	0.754	1	0.869	451.15	*168.93*	545.3	0.05	*0.046*	1.00	168.93	1.000	0.411	96163.4	**Rough Turbulent**	**In Motion**	compare θ_c and θ
142.2	0.1422	D_{50}	**C-4**	**9616.9**	0.09	2.87360	*37*	0.754	1	0.195	233.75	*102.65*	258.3	0.05	*0.046*	1.00	102.65	1.000	0.320	45550.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
204.5	0.2045	D_{50}	**C-4**	**9229.1**	0.09	8.54817	*37*	0.754	1	0.580	377.63	*147.63*	445.4	0.05	*0.046*	1.00	147.63	1.000	0.384	78561.9	**Rough Turbulent**	**In Motion**	compare θ_c and θ
123.6	0.1236	D_{50}	**C-4**	**8608.5**	0.09	1.88811	*37*	0.754	1	0.128	194.31	*89.24*	209.4	0.05	*0.046*	1.00	89.24	1.000	0.299	36922.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
208.4	0.2084	D_{50}	**C-4**	**8216.3**	0.09	9.04744	*37*	0.754	1	0.614	387.18	*150.45*	458.3	0.05	*0.046*	1.00	150.45	1.000	0.388	80823.6	**Rough Turbulent**	**In Motion**	compare θ_c and θ
43.3	0.0433	D_{50}	**C-4**	**7954.5**	0.09	0.08123	*37*	0.754	1	0.006	48.68	*31.27*	43.4	0.05	*0.046*	1.00	31.27	1.000	0.177	7658.5	**Rough Turbulent**	**In Motion**	compare θ_c and θ
121.0	0.1210	D_{50}	**C-4**	**7636.5**	0.09	1.77250	*37*	0.754	1	0.120	188.98	*87.38*	202.8	0.05	*0.046*	1.00	87.38	1.000	0.296	35774.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
129.4	0.1294	D_{50}	**C-4**	**7013.3**	0.09	2.16605	*37*	0.754	1	0.147	206.41	*93.42*	224.2	0.05	*0.046*	1.00	93.42	1.000	0.306	39546.6	**Rough Turbulent**	**In Motion**	compare θ_c and θ
47.1	0.0471	D_{50}	**C-4**	**6540.3**	0.09	0.10479	*37*	0.754	1	0.007	54.45	*34.04*	49.3	0.05	*0.046*	1.00	34.04	1.000	0.184	8698.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
138.4	0.1384	D_{50}	**C-4**	**6254.7**	0.09	2.65355	*37*	0.754	1	0.180	225.70	*99.96*	248.2	0.05	*0.046*	1.00	99.96	1.000	0.316	43771.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
288.3	0.2883	D_{50}	**C-4**	**5959.2**	0.09	23.96991	*37*	0.754	1	1.626	1439.68	*208.18*	745.9	0.05	*0.046*	1.00	208.18	1.000	0.456	131555.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
4.0	0.0040	D_{50}	**C-4**	**5637.2**	0.09	0.00006	*37*	0.754	1	0.000	2.09	*2.88*	1.2	0.05	*0.046*	1.00	2.88	1.000	0.054	214.1	**Rough Turbulent**	**In Motion**	compare θ_c and θ
520.3	0.5203	D_{50}	**C-4**	**5281.3**	0.09	140.83140	*37*	0.754	1	9.551	5433.03	*375.65*	1808.1	0.05	*0.046*	1.00	375.65	1.000	0.613	318878.2	**Rough Turbulent**	**In Motion**	compare θ_c and θ
138.2	0.1382	D_{50}	**C-4**	**5061.8**	0.09	2.64163	*37*	0.754	1	0.179	225.25	*99.81*	247.6	0.05	*0.046*	1.00	99.81	1.000	0.316	43672.8	**Rough Turbulent**	**In Motion**	compare θ_c and θ
60.7	0.0607	D_{50}	**C-4**	**4842.8**	0.09	0.22370	*37*	0.754	1	0.015	76.01	*43.83*	72.1	0.05	*0.046*	1.00	43.83	1.000	0.209	12708.9	**Rough Turbulent**	**In Motion**	compare θ_c and θ
12.3	0.0123	D_{50}	**C-4**	**4650.0**	0.09	0.00188	*37*	0.754	1	0.000	9.28	*8.91*	6.6	0.05	*0.046*	1.00	8.91	1.000	0.094	1164.8	**Rough Turbulent**	**In Motion**	compare θ_c and θ
11.0	0.0110	D_{50}	**C-4**	**4542.8**	0.09	0.00135	*37*	0.754	1	0.000	8.01	*7.97*	5.6	0.05	*0.046*	1.00	7.97	1.000	0.089	985.5	**Rough Turbulent**	**In Motion**	compare θ_c and θ
165.7	0.1657	D_{50}	**C-4**	**4386.8**	0.09	4.54737	*37*	0.754	1	0.308	286.06	*119.62*	324.9	0.05	*0.046*	1.00	119.62	1.000	0.346	57300.1	**Rough Turbulent**	**In Motion**	compare θ_c and θ
30.8	0.0308	D_{50}	**C-4**	**4043.4**	0.09	0.02915	*37*	0.754	1	0.002	31.01	*22.22*	26.0	0.05	*0.046*	1.00	22.22	1.000	0.149	4587.4	**Rough Turbulent**	**In Motion**	compare θ_c and θ
169.5	0.1695	D_{50}	**C-4**	**3920.8**	0.09	4.86826	*37*	0.754	1	0.330	294.77	*122.37*	336.2	0.05	*0.046*	1.00	122.37	1.000	0.350	59287.4	**Rough Turbulent**	**In Motion**	compare θ_c and θ
30.3	0.0303	D_{50}	**C-4**	**3814.0**	0.09	0.02783	*37*	0.754	1	0.002	30.38	*21.88*	25.4	0.05	*0.046*	1.00	21.88	1.000	0.148	4482.5	**Rough Turbulent**	**In Motion**	compare θ_c and θ

35.0	0.0350	D_{50}	**C-4**	**3786.1**	0.09	0.04277	*37*	0.754	1	0.003	36.71	*25.25*	31.5	0.05	*0.046*	1.00	25.25	1.000	0.159	5557.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
35.7	0.0357	D_{50}	**C-4**	**3758.3**	0.09	0.04536	*37*	0.754	1	0.003	37.67	*25.75*	32.4	0.05	*0.046*	1.00	25.75	1.000	0.160	5722.9	**Rough Turbulent**	**In Motion**	compare θ_c and θ
67.8	0.0678	D_{50}	**C-4**	**3684.5**	0.09	0.31123	*37*	0.754	1	0.021	87.90	*48.93*	85.0	0.05	*0.046*	1.00	48.93	1.000	0.221	14990.4	**Rough Turbulent**	**In Motion**	compare θ_c and θ
90.3	0.0903	D_{50}	**C-4**	**3533.2**	0.09	0.73738	*37*	0.754	1	0.050	128.48	*65.23*	130.8	0.05	*0.046*	1.00	65.23	1.000	0.255	23073.9	**Rough Turbulent**	**In Motion**	compare θ_c and θ
387.6	0.3876	D_{50}	**C-4**	**3301.4**	0.09	58.22087	*37*	0.754	1	3.949	2801.09	*279.84*	1162.5	0.05	*0.046*	1.00	279.84	1.000	0.529	205028.6	**Rough Turbulent**	**In Motion**	compare θ_c and θ
147.8	0.1478	D_{50}	**C-4**	**3036.8**	0.09	3.23005	*37*	0.754	1	0.219	246.09	*106.73*	273.8	0.05	*0.046*	1.00	106.73	1.000	0.327	48292.5	**Rough Turbulent**	**In Motion**	compare θ_c and θ
243.3	0.2433	D_{50}	**C-4**	**2802.8**	0.09	14.40510	*37*	0.754	1	0.977	475.10	*175.68*	578.3	0.05	*0.046*	1.00	175.68	1.000	0.419	101984.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
224.1	0.2241	D_{50}	**C-4**	**2417.1**	0.09	11.25343	*37*	0.754	1	0.763	426.19	*161.80*	511.1	0.05	*0.046*	1.00	161.80	1.000	0.402	90140.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
304.2	0.3042	D_{50}	**C-4**	**2100.5**	0.09	28.13881	*37*	0.754	1	1.908	1623.67	*219.61*	808.2	0.05	*0.046*	1.00	219.61	1.000	0.469	142537.1	**Rough Turbulent**	**In Motion**	compare θ_c and θ
335.5	0.3355	D_{50}	**C-4**	**1698.5**	0.09	37.77413	*37*	0.754	1	2.562	2024.95	*242.26*	936.4	0.05	*0.046*	1.00	242.26	1.000	0.492	165147.6	**Rough Turbulent**	**In Motion**	compare θ_c and θ
198.3	0.1983	D_{50}	**C-4**	**1190.6**	0.09	7.79334	*37*	0.754	1	0.529	362.57	*143.15*	425.3	0.05	*0.046*	1.00	143.15	1.000	0.378	75013.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
113.6	0.1136	D_{50}	**C-4**	**483.1**	0.09	1.46538	*37*	0.754	1	0.099	173.80	*82.01*	184.4	0.05	*0.046*	1.00	82.01	1.000	0.286	32527.4	**Rough Turbulent**	**In Motion**	compare θ_c and θ
13.9	0.0139	D_{50}	**C-4**	**58.6**	0.09	0.00269	*37*	0.754	1	0.000	10.87	*10.04*	7.9	0.05	*0.046*	1.00	10.04	1.000	0.100	1393.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ

2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*375.65*	1808.1	11.90	*0.046*	258.69	1.45	0.004	0.613	1232.7	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*99.81*	247.6	6.11	*0.046*	132.73	0.75	0.008	0.316	329.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*99.81*	247.6	3.16	*0.046*	68.73	1.45	0.015	0.316	635.4	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*43.83*	72.1	2.68	*0.046*	58.29	0.75	0.017	0.209	218.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*43.83*	72.1	1.39	*0.046*	30.18	1.45	0.033	0.209	421.1	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*8.91*	6.6	0.55	*0.046*	11.85	0.75	0.084	0.094	98.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*8.91*	6.6	0.28	*0.046*	6.14	1.45	0.163	0.094	189.8	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*7.97*	5.6	0.49	*0.046*	10.60	0.75	0.094	0.089	93.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*7.97*	5.6	0.25	*0.046*	5.49	1.45	0.182	0.089	179.5	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*119.62*	324.9	7.32	*0.046*	159.07	0.75	0.006	0.346	360.2	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*119.62*	324.9	3.79	*0.046*	82.38	1.45	0.012	0.346	695.6	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*63.54*	125.8	3.89	*0.046*	84.50	0.75	0.012	0.252	262.5	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*63.54*	125.8	2.01	*0.046*	43.76	1.45	0.023	0.252	507.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*122.37*	336.2	7.49	*0.046*	162.73	0.75	0.006	0.350	364.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*122.37*	336.2	3.88	*0.046*	84.27	1.45	0.012	0.350	703.5	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*21.88*	25.4	1.34	*0.046*	29.10	0.75	0.034	0.148	154.1	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*21.88*	25.4	0.69	*0.046*	15.07	1.45	0.066	0.148	297.5	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*25.25*	31.5	1.54	*0.046*	33.58	0.75	0.030	0.159	165.5	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*25.25*	31.5	0.80	*0.046*	17.39	1.45	0.058	0.159	319.6	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*25.75*	32.4	1.58	*0.046*	34.24	0.75	0.029	0.160	167.1	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*25.75*	32.4	0.82	*0.046*	17.73	1.45	0.056	0.160	322.7	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*48.93*	85.0	2.99	*0.046*	65.07	0.75	0.015	0.221	230.4	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*48.93*	85.0	1.55	*0.046*	33.70	1.45	0.030	0.221	444.9	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*65.23*	130.8	3.99	*0.046*	86.74	0.75	0.012	0.255	266.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*65.23*	130.8	2.07	*0.046*	44.92	1.45	0.022	0.255	513.7	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*279.84*	1162.5	17.12	*0.046*	372.14	0.75	0.003	0.529	551.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*279.84*	1162.5	8.86	*0.046*	192.71	1.45	0.005	0.529	1063.9	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*106.73*	273.8	6.53	*0.046*	141.93	0.75	0.007	0.327	340.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*106.73*	273.8	3.38	*0.046*	73.50	1.45	0.014	0.327	657.1	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*175.68*	578.3	10.75	*0.046*	233.62	0.75	0.004	0.419	436.5	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*175.68*	578.3	5.57	*0.046*	120.98	1.45	0.008	0.419	843.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*161.80*	511.1	9.90	*0.046*	215.17	0.75	0.005	0.402	418.9	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*161.80*	511.1	5.13	*0.046*	111.42	1.45	0.009	0.402	809.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*219.61*	808.2	13.43	*0.046*	292.04	0.75	0.003	0.469	488.1	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*219.61*	808.2	6.96	*0.046*	151.23	1.45	0.007	0.469	942.5	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*242.26*	936.4	14.82	*0.046*	322.16	0.75	0.003	0.492	512.6	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*242.26*	936.4	7.67	*0.046*	166.83	1.45	0.006	0.492	989.9	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*143.15*	425.3	8.76	*0.046*	190.36	0.75	0.005	0.378	394.1	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*143.15*	425.3	4.53	*0.046*	98.58	1.45	0.010	0.378	760.9	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*82.01*	184.4	5.02	*0.046*	109.06	0.75	0.009	0.286	298.3	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*82.01*	184.4	2.60	*0.046*	56.48	1.45	0.018	0.286	576.0	**Rough Turbulent**	**In Motion**	compare θ_c and θ
1.042	0.0010	D_{50}	**C-3**	**0.0**	0.09	0.00000	*37*	0.754	1	0.000	0.36	*10.04*	7.9	0.61	*0.046*	13.35	0.75	0.075	0.100	104.4	**Rough Turbulent**	**In Motion**	compare θ_c and θ
2.011	0.0020	D_{50}	**C-4**	**0.0**	0.09	0.00001	*37*	0.754	1	0.000	0.85	*10.04*	7.9	0.32	*0.046*	6.91	1.45	0.145	0.100	201.5	**Rough Turbulent**	**In Motion**	compare θ_c and θ


MITIGATED
Stream Power
Threshold
Bulb Size
Proposed Improvements
Stream Power (W/m²)
Bulb Diameter (mm)
River Station (ft)
0
200
400
600
800
1000
1200
0
100
200
300
400
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000

SCOUR - EXISTING

Contraction Scour

		Left	Channel	Right
Input Data				
	Average Depth (ft):		5.41	3.79
	Approach Velocity (ft/s):		8.03	6.47
	Br Average Depth (ft):	0.99	4.16	2.43
	BR Opening Flow (cfs):	183.57	4438.28	4588.04
	BR Top WD (ft):	74.01	145.10	417.93
	Grain Size D50 (mm):	1.0	1.0	1.0
	Approach Flow (cfs):		3087.12	6112.88
	Approach Top WD (ft):		71.08	249.24
	K1 Coefficient:		0.640	0.640
Results				
	Scour Depth Ys (ft):		0.52	0.00
	Critical Velocity (ft/s):		2.20	2.08
	Equation:		Live	Live

Pier Scour

All piers have the same scour depth

Input Data

	Pier Shape:	Square nose
	Pier Width (ft):	2.00
	Grain Size D50 (mm):	1.00000
	Depth Upstream (ft):	5.93
	Velocity Upstream (ft/s):	7.69
	K1 Nose Shape:	1.00
	Pier Angle:	
	Pier Length (ft):	30.00
	K2 Angle Coef:	
	K3 Bed Cond Coef:	1.10
	Grain Size D90 (mm):	8.50000
	K4 Armouring Coef:	1.00
	Set K1 value to 1.0 because angle > 5 degrees	

Results

	Scour Depth Ys (ft):	
	Froude #:	
	Equation:	CSU equation

Abutment Scour

		Left	Right
Input Data			
	Station at Toe (ft):	282.00	428.88
	Toe Sta at appr (ft):	227.65	371.54
	Abutment Length (ft):	3.99	249.24
	Depth at Toe (ft):	2.43	2.43
	K1 Shape Coef:	1.00 - Vertical abutment	
	Degree of Skew (degrees):	90.00	90.00
	K2 Skew Coef:	1.00	1.00
	Projected Length L' (ft):	3.99	249.24
	Avg Depth Obstructed Ya (ft):	5.41	3.79
	Flow Obstructed Qe (cfs):	173.14	6112.88
	Area Obstructed Ae (sq ft):	21.55	944.69
Results			
	Scour Depth Ys (ft):	13.37	12.97
	Qe/Ae = Ve:	8.03	8.03
	Froude #:	0.61	0.39
	Equation:	Froehlich	HIRE

Combined Scour Depths

Pier Scour + Contraction Scour (ft):

	Channel:
Left abutment scour + contraction scour (ft):	13.89
Right abutment scour + contraction scour (ft):	12.97

PROPOSED BRIDGE

Contraction Scour

		Left	Channel	Right
Input Data				
	Average Depth (ft):	1.23	5.51	0.92
	Approach Velocity (ft/s):	4.00	16.15	2.05
	Br Average Depth (ft):		6.32	
	BR Opening Flow (cfs):		9200.00	
	BR Top WD (ft):		114.04	
	Grain Size D50 (mm):	2	2	2
	Approach Flow (cfs):	615.32	8582.71	1.96
	Approach Top WD (ft):	125.39	96.48	1.04
	K1 Coefficient:	0.640	0.690	0.640
Results				
	Scour Depth Ys (ft):		0.00	
	Critical Velocity (ft/s):		2.79	
	Equation:		Live	

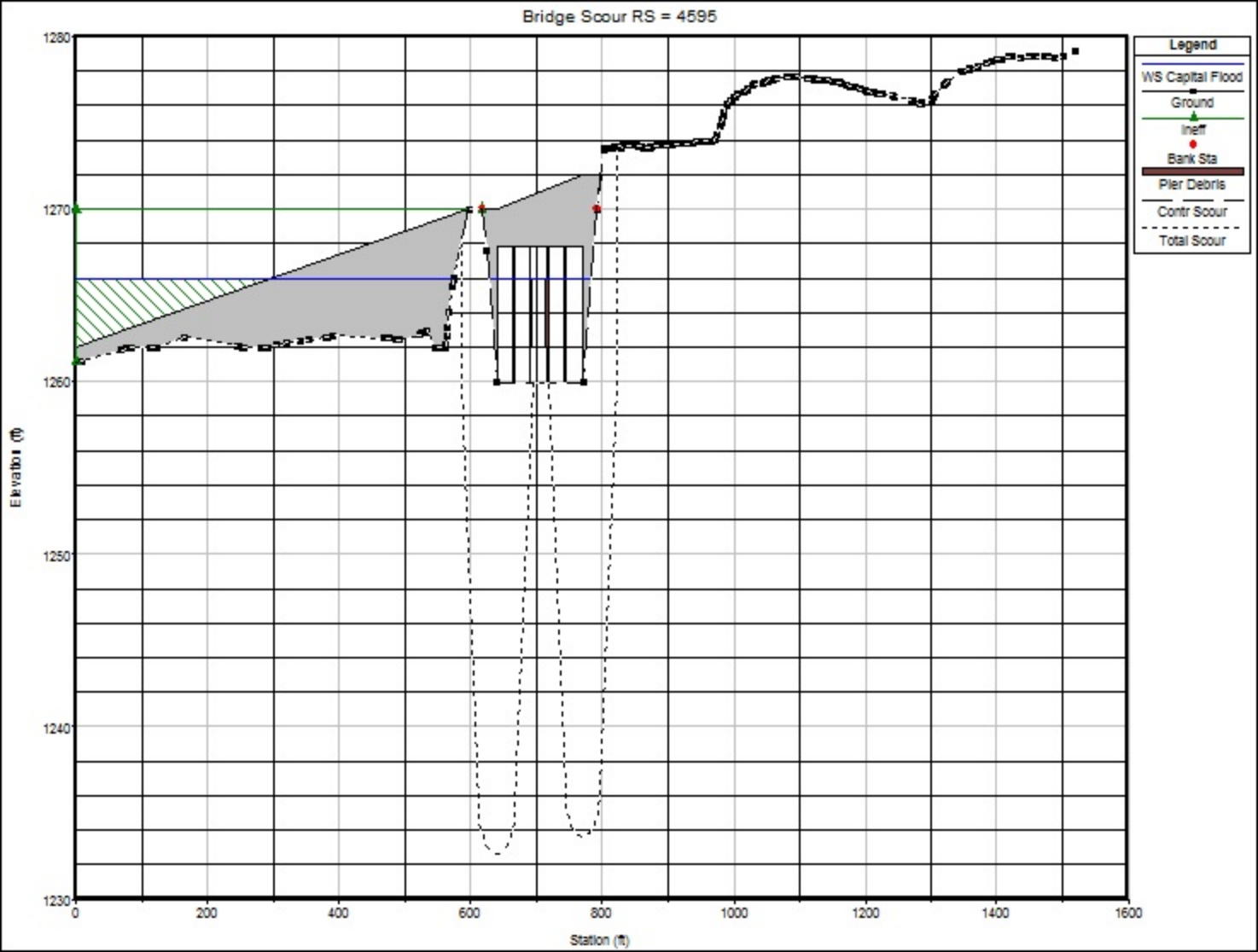
Pier Scour

All piers have the same scour depth

Input Data		
	Pier Shape:	Square nose
	Pier Width (ft):	1.33
	Grain Size D50 (mm):	2.00000
	Depth Upstream (ft):	7.37
	Velocity Upstream (ft/s):	7.58
	K1 Nose Shape:	1.00
	Pier Angle:	
	Pier Length (ft):	92.00
	K2 Angle Coef:	
	K3 Bed Cond Coef:	1.10
	Grain Size D90 (mm):	29.00000
	K4 Armouring Coef:	1.00
	Set K1 value to 1.0 because angle > 5 degrees	
Results		
	Scour Depth Ys (ft):	
	Froude #:	
	Equation:	CSU equation

Abutment Scour

		Left	Right
Input Data			
	Station at Toe (ft):	639.92	770.08
	Toe Sta at appr (ft):	1876.92	1929.56
	Abutment Length (ft):	147.31	22.96
	Depth at Toe (ft):	8.21	8.22
	K1 Shape Coef:	0.82 - Vert. with wing walls	
	Degree of Skew (degrees):	90.00	90.00
	K2 Skew Coef:	1.00	1.00
	Projected Length L' (ft):	147.31	22.96
	Avg Depth Obstructed Ya (ft):	1.86	5.30
	Flow Obstructed Qe (cfs):	2565.59	1952.22
	Area Obstructed Ae (sq ft):	274.51	121.71
Results			
	Scour Depth Ys (ft):	27.32	26.30
	Qe/Ae = Ve:	9.35	16.04
	Froude #:	1.21	1.23
	Equation:	Froehlich	Froehlich


Bridge Scour RS = 4595
Legend
WS Capital Flood
Ground
Ineff
Bank Sta
Pier Debris
Contr Scour
Total Scour
Elevation (ft)
Station (ft)
1280
1270
1260
1250
1240
1230
0
200
400
600
800
1000
1200
1400
1600

COUNTERMEASURES

HY-8 Energy Dissipation Report

External Energy Dissipator

Parameter	Value	Units
Select Culvert and Flow		
Crossing	Dockweiler	
Culvert	Culvert 1	
Flow	4640.00	cfs
Culvert Data		
Culvert Width (including multiple barrels)	100.0	ft
Culvert Height	8.0	ft
Outlet Depth	2.98	ft
Outlet Velocity	15.55	ft/s
Froude Number	1.59	
Tailwater Depth	4.31	ft
Tailwater Velocity	12.16	ft/s
Tailwater Slope (SO)	0.0109	
External Dissipator Data		
External Dissipator Category	Streambed Level Structures	
External Dissipator Type	Riprap Basin	
Restrictions		
Froude Number	<3	
Input Data		
Condition to be used to Compute Basin Outlet Velocity	Envelope Curve	
D50 of the Riprap Mixture		
Note:	Minimum HS/D50 = 2 is Obtained if D50 = 0.754 ft	
D50 of the Riprap Mixture	0.754	ft
DMax of the Riprap Mixture	2.000	ft
Results		
Brink Depth	2.984	ft
Brink Velocity	15.551	ft/s
Depth (YE)	2.984	ft
Riprap Thickness	3.000	ft
Riprap Foreslope	4.0000	ft
Check HS/D50		
Note:	OK if HS/D50 > 2.0	
HS/D50	2.008	
HS/D50 Check	HS/D50 is OK	
Check HS/D50		
Note:	OK if 0.1 < D50/YE < 0.7	
Check D50/YE	0.253	
D50/YE Check	D50/YE is OK	
Basin Length (LB)	400.000	ft
Basin Width	366.667	ft
Apron Length	100.000	ft
Pool Length	300.000	ft
Pool Depth (HS)	1.514	ft
TW/YE	1.444	
Tailwater Depth (TW)	4.307	ft
Average Velocity with TW	2.871	ft/s

Critical Depth (Yc)	1.702	ft
Average Velocity with Yc	7.367	ft/s
Downstream Riprap for High TW		
Distance: 1 LB		
Velocity	4.582	ft/s
Size	0.137	ft
Distance: 2 LB		
Velocity	2.280	ft/s
Size	0.034	ft
Distance: 3 LB		
Velocity	1.515	ft/s
Size	0.015	ft
Distance: 4 LB		
Velocity	1.134	ft/s
Size	0.008	ft

REFERENCES

Project Number : 15006-00 Tested by RB Date 12-Feb-15

Project Name : RIVERTECH, INC. Sampled by T. A Date 2/9/2015

Sample No. C - 3 Depth/Elev. _____ Location: NEWHALL CREEK

Sample Descriptions / Classification : GRAYISH BROWN POORLY GRADE SAND (SP)

HYDROMETER ANALYSIS (ASTM STD HYDROMETER 152H)

Temp.(^{0}C)	Hydro.Rdg.Cor.	K Value	Hygroscopic Moisture		Wt.of Air Dry Sample, (g)	-
			Wet Weight of Soil,(g)		Wt.of Oven Dry Sample, (g)	-
			Dry Weight of Soil,(g)		Material Passing Sieve No.	10
			Moisture Content,(%)			

Specific Gravity = 2.7 (Assumed) Correction Factor = 0.99

Date	Time	Elapsed Time(min)	Temp. (^{0}C)	R'	C	R	% P	% P Corrected	L (cm)	k Value	L/T (cm/min)	Diameter (mm)
		0.25										
		0.50										
		1.00										
		2.00										
		4.00										
		5.00										
		15.0										
		30.0										
		60.0										
		240.0										
		1440.0										

N/A

SIEVE ANALYSIS

Sieve		Weight Retained		Cummulative		Specification
Size	Opening (mm)	Individual (g)	Cummulative (g)	% Retained	% Passing	% Passing
3"	75.0					
2"	50.0					
1-1/2"	38.1		0	0.0	100.0	
1"	25.0					
3/4"	19.0		20.6	2.0	98.0	
1/2"	12.5					
3/8"	9.5		47.92	4.6	95.4	
#4	4.75		94.95	9.2	90.8	
#8	2.36		196.63	19.0	81.0	
#10	2.00					
#16	1.18		447.19	43.1	56.9	
#30	0.600		747.31	72.0	28.0	
#50	0.300		973.8	93.9	6.1	
#100	0.150		1023.8	98.7	1.3	
#200	0.075		1032.40	99.5	0.5	

Total Wt. of Dry Soil,(g)	1037.50

	Moist	Dry
(+)#10 Sieve,(g)	-	-
(-)#10 Sieve,(g)	-	-

Sand & Gravel Particle Descriptions

Shape	Rounded	X
	Angular	
Hardness	Hard & Durable	
	Soft	
	Weathered & Friable	X

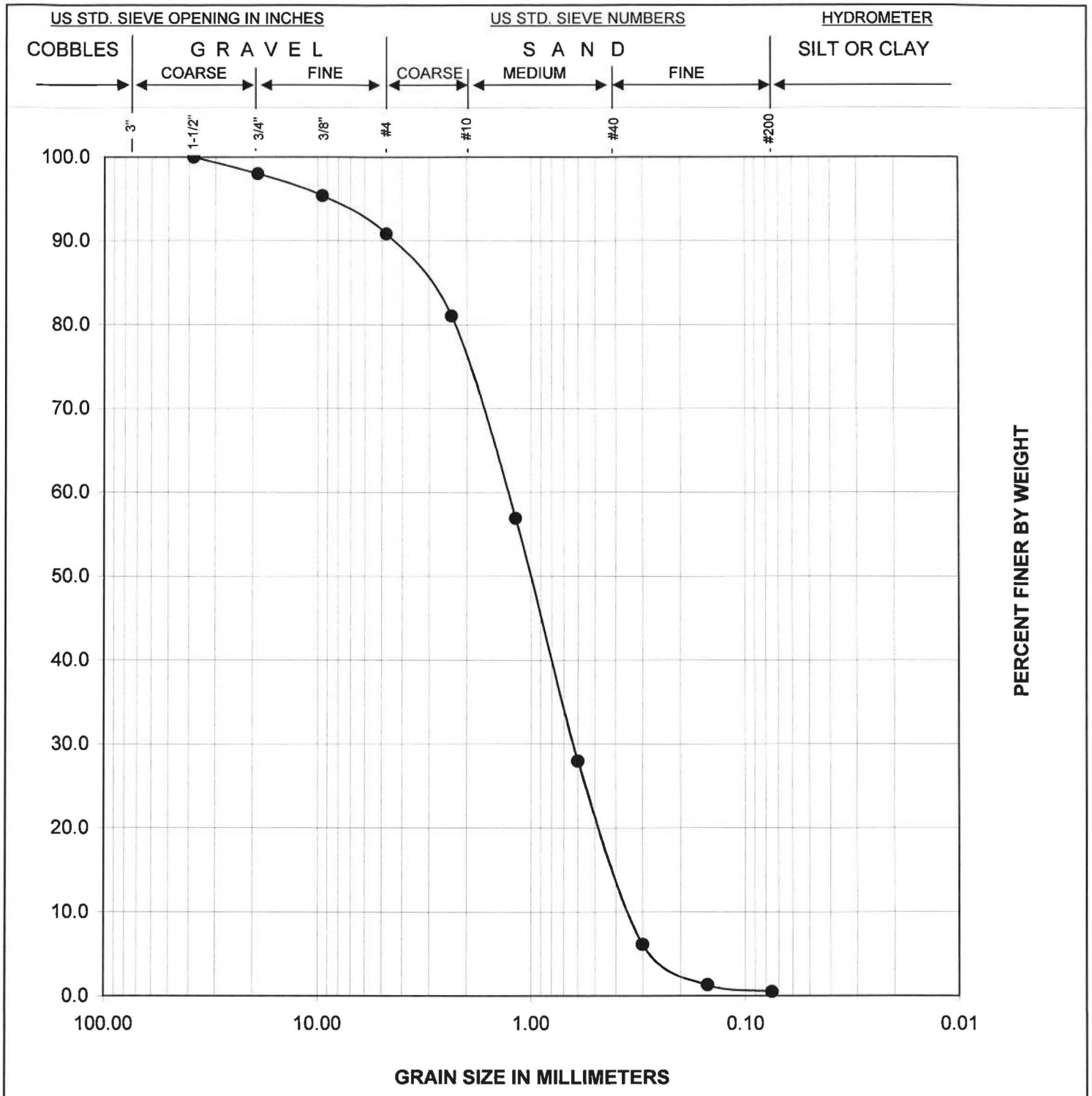
D_{10}	0.36	D_{60}	1.40
D_{30}	0.64		
Coefficient of Uniformity, C_u			3.89
Coefficient of Curvature, C_c			0.81

Remarks : _____

KCG KLING Consulting Group, Inc.

18008 Sky Park Circle, Suite 250
Irvine, Ca. 92614
Tel: (949) 797-6241 Fax: (949) 797-6260

GRAIN - SIZE ANALYSIS



PROJECT NUMBER : 15006-00 PROJECT NAME : RIVERTECH, INC.

SAMPLE NO.	DEPTH	SYMBOL	CLASSIFICATION	NAT.W%	LL	PL	PI
C - 3	0	SP	AYISH BROWN POORLY GRADE SA		-	-	-

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GRAIN - SIZE CURVE

Project Number : 15006-00 Tested by RB Date 12-Feb-15

Project Name : RIVERTECH, INC. Sampled by T. A Date 2/9/2015

Sample No. C - 4 Depth/Elev. _____ Location: NEWHALL CREEK

Sample Descriptions / Classification : GRAYISH BROWN POORLY GRADE SAND (SP)

HYDROMETER ANALYSIS (ASTM STD HYDROMETER 152H)

Temp.(^{0}C)	Hydro.Rdg.Cor.	K Value	Hygroscopic Moisture		Wt.of Air Dry Sample, (g)	-
			Wet Weight of Soil,(g)		Wt.of Oven Dry Sample, (g)	-
			Dry Weight of Soil,(g)		Material Passing Sieve No.	10
			Moisture Content,(%)			

Specific Gravity = 2.7 (Assumed) Correction Factor = 0.99

Date	Time	Elapsed Time(min)	Temp. (^{0}C)	R'	C	R	% P	% P Corrected	L (cm)	k Value	L/T (cm/min)	Diameter (mm)
		0.25										
		0.50										
		1.00										
		2.00										
		4.00										
		5.00										
		15.0										
		30.0										
		60.0										
		240.0										
		1440.0										

N/A

SIEVE ANALYSIS

Sieve Size	Sieve Opening (mm)	Weight Retained Individual (g)	Weight Retained Cummulative (g)	Cummulative % Retained	Cummulative % Passing	Specification % Passing
3"	75.0					
2"	50.0					
1-1/2"	38.1		0	0.0	100.0	
1"	25.0					
3/4"	19.0		126.74	10.5	89.5	
1/2"	12.5					
3/8"	9.5		252.50	20.9	79.1	
#4	4.75		386.00	31.9	68.1	
#8	2.36		548.49	45.3	54.7	
#10	2.00					
#16	1.18		740.90	61.2	38.8	
#30	0.600		931.20	76.9	23.1	
#50	0.300		1086.5	89.8	10.2	
#100	0.150		1168.2	96.5	3.5	
#200	0.075		1189.90	98.3	1.7	

Total Wt. of Dry Soil,(g)	1210.30

	Moist	Dry
(+)#10 Sieve,(g)	-	-
(-)#10 Sieve,(g)	-	-

Sand & Gravel Particle Descriptions

Shape	Rounded	X
	Angular	
Hardness	Hard & Durable	
	Soft	
	Weathered & Friable	X

D_{10}	0.30	D_{60}	3.20
D_{30}	0.80		
Coefficient of Uniformity, C_u			10.67
Coefficient of Curvature, C_c			0.67

Remarks : _____

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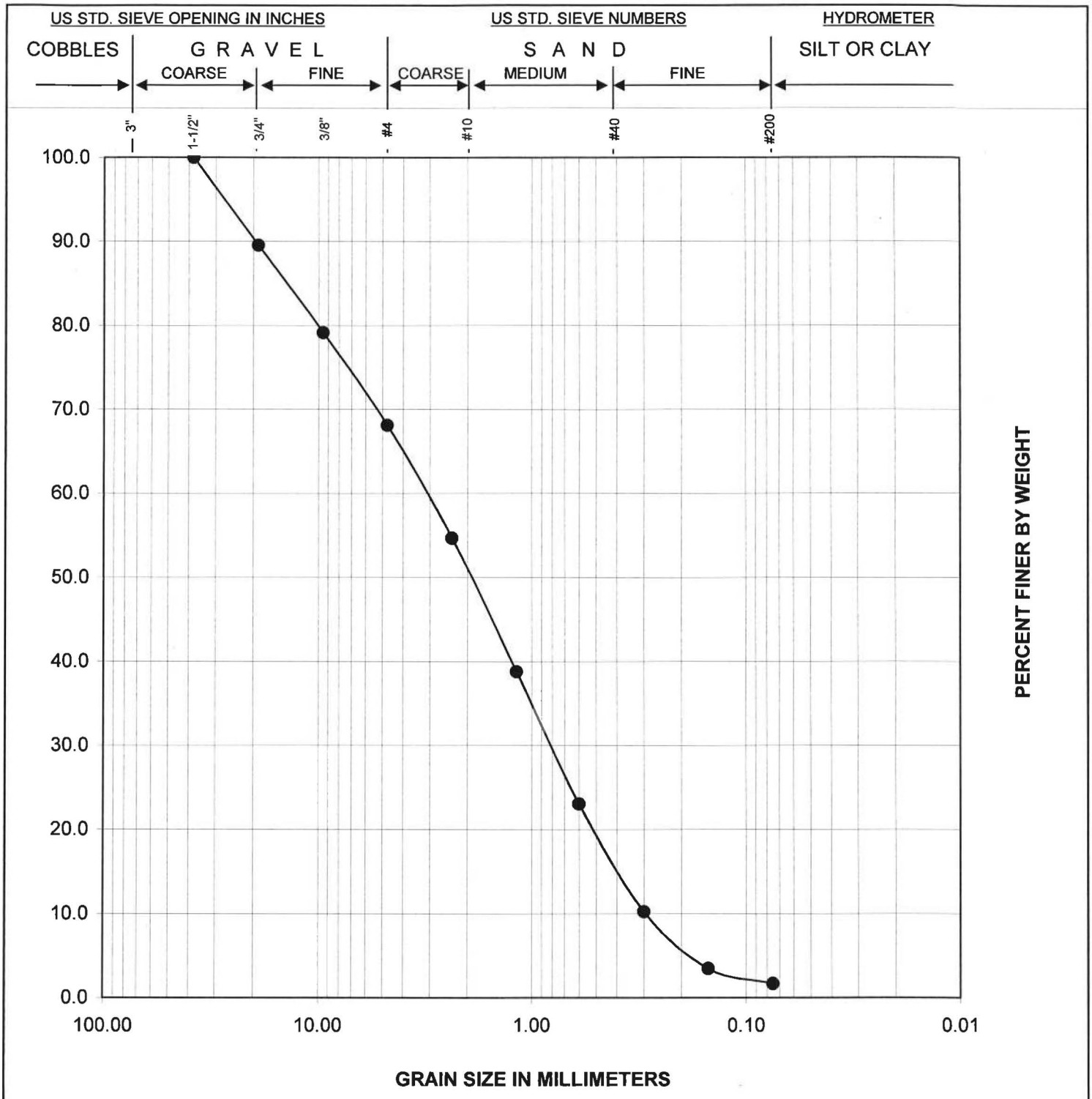
GRAIN - SIZE ANALYSIS



PROJECT NUMBER : 15006-00 PROJECT NAME : RIVERTECH, INC.

SAMPLE NO.	DEPTH	SYMBOL	CLASSIFICATION	NAT.W%	LL	PL	PI
C - 4	0	SP	AYISH BROWN POORLY GRADE SA		-	-	-

KCG KLING Consulting Group, Inc.
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GRAIN - SIZE CURVE

WATER RESOURCES DIVISION
HYDROLOGY SECTION

Q-2229

INFORMATION REQUEST SUMMARY

Date: 1/9/2013

Project Name: Newhall Channel

Project Location: From San Fernando Rd. and Lyons Av. to San Fernando Rd. and Sierra HWY.

T.G. Page: 4640 4641

Grid: J1 A1-C3

Project Engineer: Marine' Gaplandzhyan

Technical Review by: Peter Imaa PG

Information Requested: Hydrologic Data

Information Requested By: George Aintablian, Design Division, DPW, Tel. (626) 458-7959

Information To Be Used: Planning Purposes

Will Information Be Used In Any Litigation? *Yes* ☒*No*

Information Provided:

Location	Subarea Area (ac)	Total Area (ac)	Subarea $Q_{50\text{-clear}}$ (cfs)	Subarea $Q_{50\text{-burned}}$ (cfs)	Total $Q_{50\text{-clear}}$ (cfs)	Total $Q_{50\text{-burned}}$ (cfs)
439N	164	3,493	342	342	5,436	5,714
440N	142	3,635	315	315	5,679	5,957
442N	131	3,766	362	362	5,760	6,039
444N	111	3,877	266	266	5,719	5,993
458N	114	4,719	317	317	7,041	7,342
460N	102	4,822	244	244	7,021	7,321
462N	54	4,875	118	118	7,009	7,307

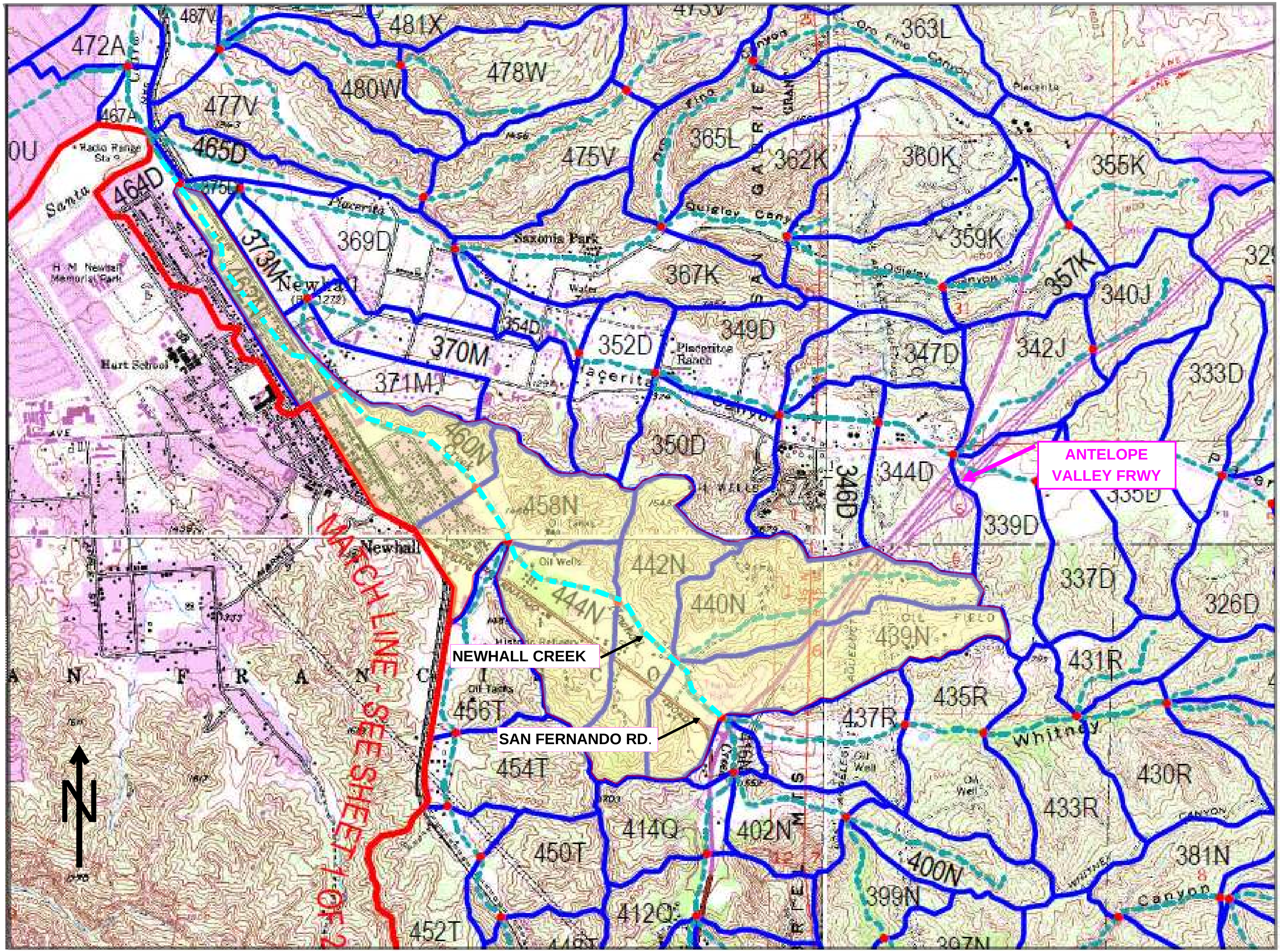
See attached map for locations.

Date Provided: 1/8/2013 via e-mail

References: 2003 Santa Clara River Hydrology Study.

Calculations, Comments, Etc...

The flow rates provided were calculated in 2003 using modified rational method hydrology. The information provided should be used for planning purposes.


ANTELOPE VALLEY FRWY
NEWHALL CREEK
SAN FERNANDO RD.
MATCH LINE - SEE SHEET 1 OF 2
472A
481X
363L
480W
478W
477V
465D
464D
375D
369D
373M
365L
362K
360K
355K
359K
367K
357K
340J
370M
352D
349D
347D
342J
333D
371M
460N
350D
344D
458N
339D
442N
440N
444N
437D
326D
439N
431R
435R
456T
437R
454T
430R
433R
414Q
402N
450T
381N
400N
399N
412Q
452T
Newhall
Placerita
Saxonia Park
Quigley Canyon
Whitney
Hart School

REACH	CAPITAL FLOOD FLOW RATE (cfs)
A	18,800
B	20,900
C	28,100
D	28,200
E	28,800
F	560
G	760
H	860
I	1,300
J	1,500
K	4,600
L	7,600
M	7,800
N	1,100
O	1,300
P	1,500
Q	1,800
R	9,200
S	16,500
T	44,400
U	45,100
V	45,200

LEGEND

Natural Watercourse

A — Reach

PREPARED BY: M.A.	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DATE: 06/14/05	SOUTH FORK SCR / NEWHALL CREEK
SCALE: 1" = 2500'	CAPITAL FLOOD FLOW RATES

2500 0 2500 Feet

N

FEMA

TASK ORDER 21 (DRAFT)

HYDRAULIC ANALYSES AND RESULTS FOR THE SANTA CLARA RIVER AND TRIBUTARIES

FLOOD INSURANCE STUDY LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

Federal Emergency Management Agency - Region IX

1111 Broadway, Suite 1200

Oakland, CA 94607

Prepared by:

HDR

2365 Iron Point Road, Suite 300

Folsom, CA 95630

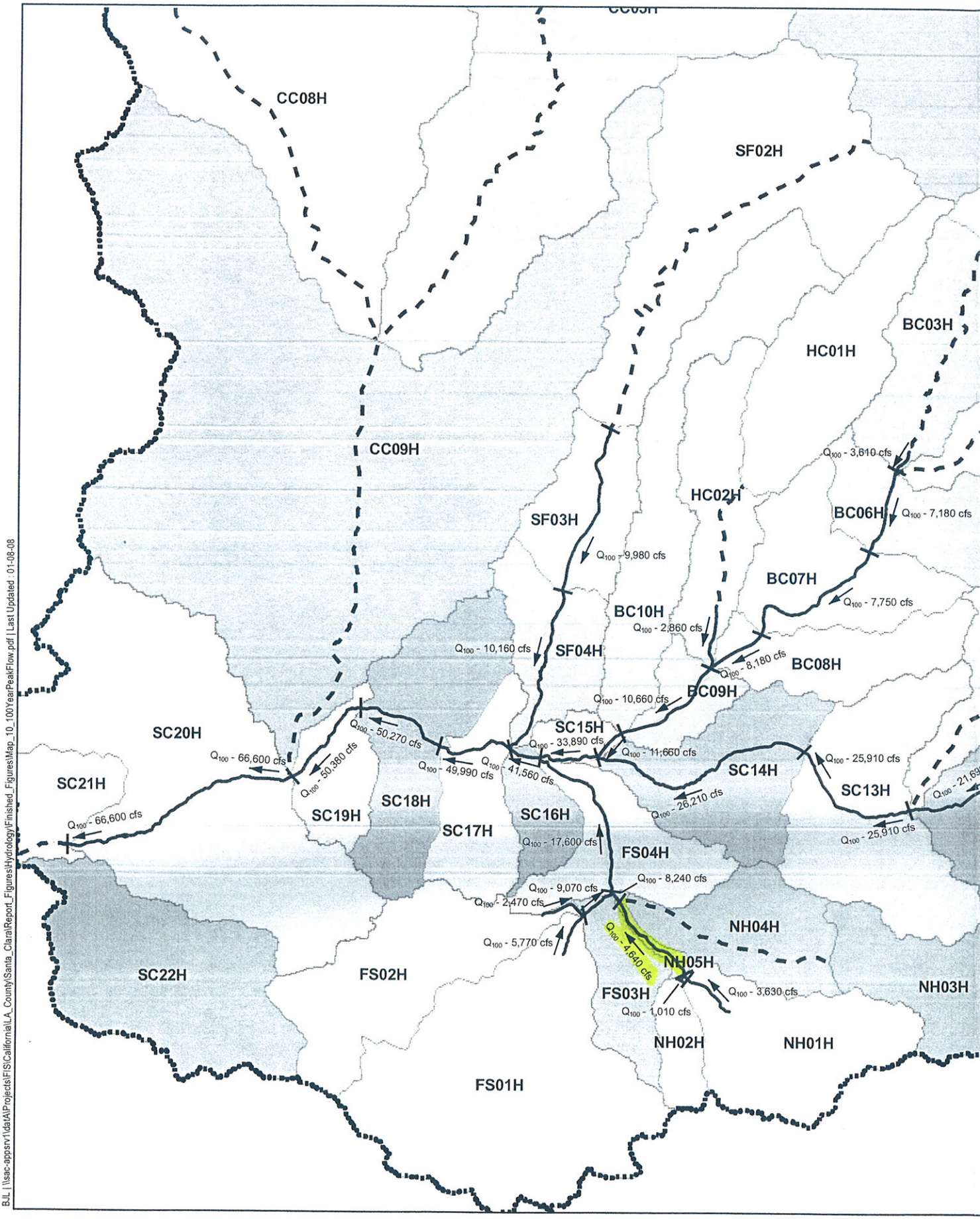
August 2008

HDR

HEC-1 Node	HEC-1 Drainage Area (square miles)	Storm Return Period	Recommended Flow (cfs)	HEC-RAS Flow Change Station Location (ft)
FS02C	23.5	10-Year	4,650	170+60
		50-Year	7,710	
		100-Year	9,070	
		500-Year	12,020	
FS03C2	44.9	10-Year	8,290	138+07
		50-Year	14,780	
		100-Year	17,600	
		500-Year	23,790	
		Newhall Creek		
NH01H	6.0	10-Year	1,920	309+72
		50-Year	3,150	
		100-Year	3,630	
		500-Year	4,680	
NH02H	1.4	10-Year	540	10+78
		50-Year	870	
		100-Year	1,010	
		500-Year	1,330	
NH02C	7.7	10-Year	2,430	100+92
		50-Year	4,020	
		100-Year	4,640	
		500-Year	6,020	
NH05C2	17.3	10-Year	3,610	13+74
		50-Year	6,890	
		100-Year	8,240	
		500-Year	10,990	
		San Francisquito Canyon Creek		
SF02C	45.5	10-Year	4,160	309+72
		50-Year	8,080	
		100-Year	9,980	
		500-Year	14,030	
SF03C	49.0	10-Year	4,240	152+76
		50-Year	8,220	
		100-Year	10,160	
		500-Year	14,300	

4.3 Starting Water Surface Elevation

The Guidelines and Specification Manual for Hazard Mapping Partners provides criteria to accurately determine an acceptable starting water-surface elevation. FEMA Guidelines and Specification Manual for Hazard Mapping Partners manual states the following:

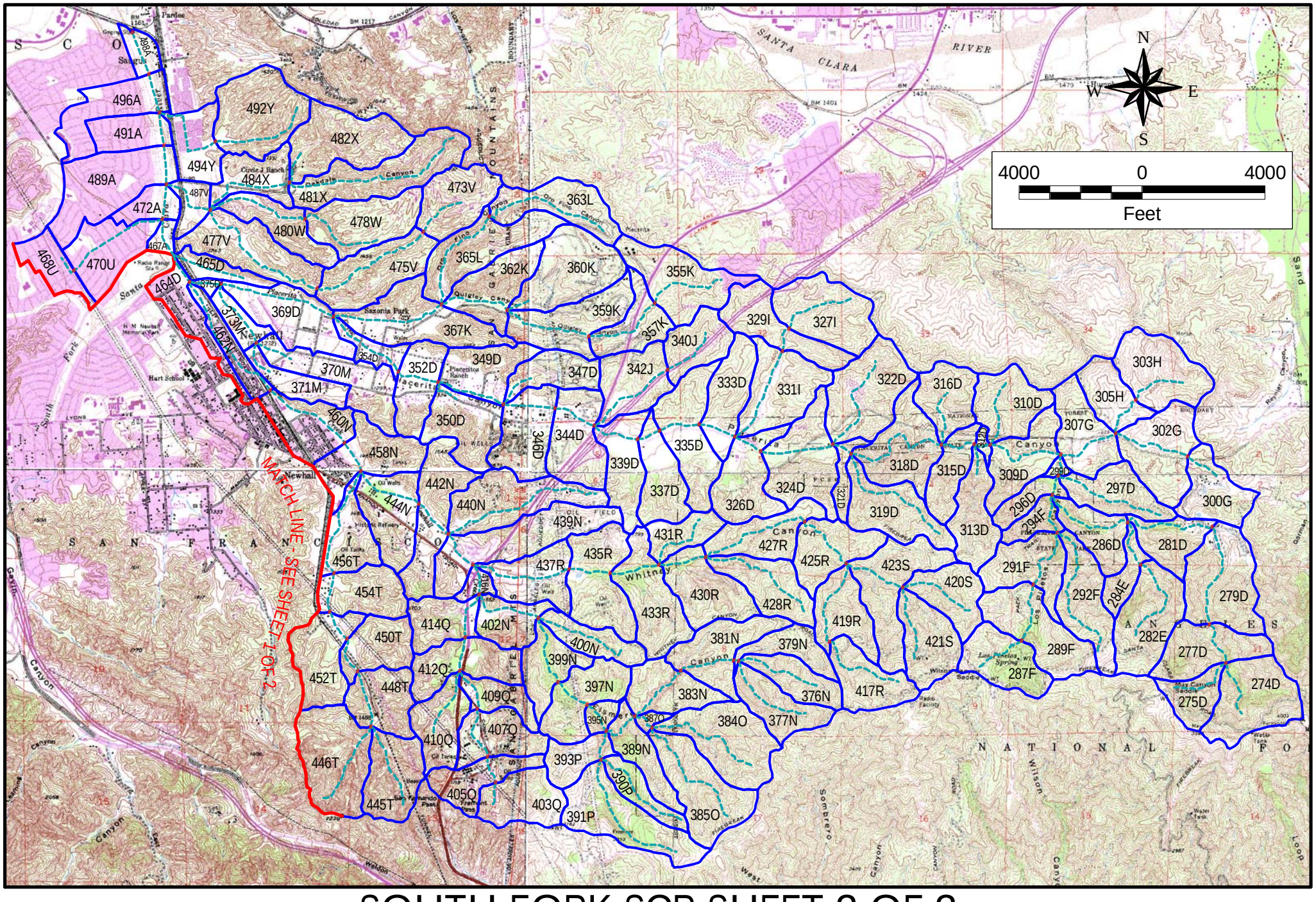


BJL | \\sac-appsrv1\data\Projects\FS\California\LA_County\Santa_Clara\Report_Figures\Hydrology\Finished_Figures\Map_10_100YearPeakFlow.pdf | Last Updated : 01-08-08

RECOMM

HDR ONE COMPANY | *Many Solutions*℠

FEMA



SOUTH FORK SCR SHEET 2 OF 2