APPENDIX 11-X2

HEC-RAS RESULTS FOR LOWE PRE-MINING DRAINAGE CHANNELS (2 YR-6 HR, 10 YR-6 HR, 25 YR-6 HR, AND 100 YR-6 HR STORM EVENTS)

MARCH 2003

Profile Output Table - Lowe Pre-mine 2 yr-6 hr
HEC-RAS Plan: Premine Plan Reach: Lowe 3/6/2003

River Sta.	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	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
38.83	253.0	5,279.19	5,280.91	5,280.59	5,281.28	0.010475	4.87	51.99	35.34	0.71			4.87	1.72
38.5775*	253.0	5,278.85	5,280.64	5,280.33	5,281.01	0.010925	4.91	51.51	35.75	0.72			4.91	1.79
38.325*	253.0	5,278.52	5,280.33	5,280.07	5,280.72	0.012110	5.02	50.44	36.74	0.75			5.02	1.81
38.0725*	253.0	5,278.19	5,280.00	5,279.78	5,280.40	0.013505	5.10	49.59	38.29	0.79			5.10	1.81
37.82*	253.0	5,277.85	5,279.64	5,279.45	5,280.05	0.014674	5.13	49.34	40.29	0.82			5.13	1.79
37.5675*	253.0	5,277.51	5,279.27	5,279.11	5,279.67	0.015702	5.11	49.52	42.84	0.84			5.11	1.76
37.315*	253.0	5,277.18	5,278.85	5,278.74	5,279.26	0.017355	5.14	49.19	45.45	0.87			5.14	1.67
37.0625*	253.0	5,276.84	5,278.38	5,278.32	5,278.80	0.019406	5.20	48.67	48.17	0.91			5.20	1.54
36.81	253.0	5,276.51	5,277.97	5,277.85	5,278.33	0.016357	4.81	52.59	51.93	0.84	0.54		4.81	1.46
36.5625*	253.0	5,276.19	5,277.58	5,277.46	5,277.91	0.016552	4.60	55.04	58.26	0.83			4.60	1.39
36.315*	253.0	5,275.86	5,277.20	5,277.07	5,277.49	0.016198	4.39	57.67	64.43	0.82			4.39	1.34
36.0675*	253.0	5,275.54	5,276.81	5,276.67	5,277.08	0.016097	4.21	60.02	70.91	0.81			4.21	1.27
35.82*	253.0	5,275.22	5,276.42	5,276.28	5,276.67	0.015896	4.04	62.60	78.04	0.80			4.04	1.20
35.5725*	253.0	5,274.90	5,276.03	5,275.92	5,276.27	0.015987	3.91	64.71	85.18	0.79			3.91	1.13
35.325*	253.0	5,274.58	5,275.66	5,275.53	5,275.87	0.015009	3.70	68.37	93.20	0.76			3.70	1.08
35.0775*	253.0	5,274.25	5,275.43	5,275.13	5,275.56	0.008280	2.93	86.44	107.24	0.57			2.93	1.18
34.83	253.0	5,273.93	5,275.33	5,274.76	5,275.40	0.003049	2.02	125.25	128.10	0.36			2.02	1.40
34.4225*	253.0	5,273.47	5,275.21	5,274.43	5,275.27	0.001995	1.87	135.46	113.35	0.30			1.87	1.74
34.015*	253.0	5,273.02	5,275.13	5,274.11	5,275.18	0.001411	1.81	139.77	94.32	0.26			1.81	2.11
33.6075*	253.0	5,272.56	5,275.06	5,273.88	5,275.11	0.001213	1.90	132.95	73.88	0.25			1.90	2.50
33.2	253.0	5,272.10	5,274.97	5,273.66	5,275.05	0.001391	2.25	112.31	52.85	0.27			2.25	2.87
32.97*	253.0	5,272.04	5,274.90	5,273.72	5,275.01	0.001866	2.65	95.33	45.23	0.32			2.65	2.86
32.74*	253.0	5,271.98	5,274.78	5,273.79	5,274.95	0.002710	3.29	76.81	37.54	0.41			3.29	2.80
32.51*	253.0	5,271.92	5,274.53	5,273.95	5,274.85	0.005537	4.60	56.21	40.28	0.59		0.61	4.50	2.61
32.28*	253.0	5,271.86	5,274.19	5,274.19	5,274.69	0.010098	6.13	53.19	52.28	0.82		2.34	4.76	2.33
32.05	253.0	5,271.80	5,273.95	5,273.57	5,274.13	0.004843	4.45	86.04	76.18	0.58	1.53	2.81	2.94	2.15
31.819*	253.0	5,271.55	5,273.76	5,273.48	5,274.00	0.006314	5.19	76.47	71.25	0.67	1.75	2.99	3.31	2.21
31.588*	253.0	5,271.30	5,273.53	5,273.37	5,273.83	0.007973	5.86	69.35	65.68	0.76	2.31	3.06	3.65	2.23
31.357*	253.0	5,271.05	5,273.27	5,273.19	5,273.63	0.009363	6.32	64.07	61.09	0.83	2.73	3.15	3.95	2.22
31.126*	253.0	5,270.80	5,272.99	5,272.96	5,273.40	0.010622	6.66	60.51	58.65	0.88	3.05	3.16	4.18	2.19
30.895*	253.0	5,270.55	5,272.68	5,272.68	5,273.14	0.012181	7.00	57.20	56.45	0.94	3.32	3.22	4.42	2.13
30.664*	253.0	5,270.30	5,272.36	5,272.40	5,272.85	0.013656	7.22	54.92	55.27	0.99	3.55	3.24	4.61	2.06
30.433*	253.0	5,270.05	5,272.06	5,272.10	5,272.54	0.014238	7.23	54.32	55.05	1.01	3.68	3.12	4.66	2.01
30.202*	253.0	5,269.80	5,271.78	5,271.78	5,272.22	0.013464	6.98	55.81	55.67	0.98	3.69	2.89	4.53	1.98
29.971*	253.0	5,269.55	5,271.42	5,271.46	5,271.90	0.015666	7.22	53.50	56.04	1.05	3.91	2.74	4.73	1.87
29.74	253.0	5,269.30	5,271.15	5,271.13	5,271.56	0.013715	6.75	56.50	57.23	0.98	3.80	2.41	4.48	1.85
29.4955*	253.0	5,268.88	5,270.90	5,270.90	5,271.34	0.012722	6.89	56.90	56.55	0.96	3.54	2.77	4.45	2.02
29.2511*	253.0	5,268.46	5,270.59	5,270.63	5,271.10	0.013498	7.30	54.12	54.13	0.99	3.48	3.11	4.68	2.13
29.0066*	253.0	5,268.03	5,270.26	5,270.32	5,270.84	0.013866	7.56	51.61	50.82	1.01	3.44	3.32	4.90	2.23
28.7622*	253.0	5,267.61	5,269.94	5,270.04	5,270.55	0.013775	7.70	50.35	48.93	1.01	3.32	3.48	5.02	2.33
28.5177*	253.0	5,267.19	5,269.58	5,269.72	5,270.26	0.014281	7.93	48.38	47.64	1.03	3.17	3.62	5.23	2.39
28.2733*	253.0	5,266.77	5,269.23	5,269.40	5,269.95	0.014393	8.06	47.38	47.07	1.04	3.00	3.67	5.34	2.46
28.0288*	253.0	5,266.34	5,268.83	5,269.00	5,269.60	0.015499	8.30	45.49	46.29	1.08	2.92	3.66	5.56	2.49
27.7844*	253.0	5,265.92	5,268.32	5,268.57	5,269.19	0.019094	8.80	42.07	44.19	1.18	2.84	4.05	6.01	2.40
27.54	253.0	5,265.50	5,268.10	5,268.01	5,268.59	0.009878	6.74	53.39	44.35	0.86	2.20	3.76	4.74	2.60
27.314*	253.0	5,265.38	5,267.84	5,267.80	5,268.37	0.010493	6.64	50.82	43.47	0.88	1.91	3.40	4.98	2.46
27.088*	253.0	5,265.26	5,267.64	5,267.58	5,268.15	0.009842	6.27	51.56	45.25	0.85	1.58	2.93	4.91	2.38
26.862*	253.0	5,265.14	5,267.45	5,267.41	5,267.93	0.009399	5.96	52.26	48.18	0.83	1.24	2.46	4.84	2.31
26.636*	253.0	5,265.02	5,267.27	5,267.21	5,267.72	0.008693	5.62	53.45	51.66	0.79	0.89	2.00	4.73	2.25
26.41*	253.0	5,264.90	5,267.01	5,266.97	5,267.50	0.010167	5.74	49.44	54.24	0.84	0.34	1.46	5.12	2.11
26.184*	253.0	5,264.78	5,266.79	5,266.72	5,267.27	0.010284	5.58	48.00	51.57	0.84		1.05	5.27	2.01
25.958*	253.0	5,264.66	5,266.58	5,266.44	5,267.03	0.010096	5.38	47.65	46.26	0.83		0.54	5.31	1.92
25.732*	253.0	5,264.54	5,266.38	5,266.21	5,266.79	0.009717	5.15	49.15	38.96	0.81			5.15	1.84
25.506*	253.0	5,264.42	5,266.21	5,265.98	5,266.57	0.008605	4.85	52.16	41.30	0.76			4.85	1.79
25.28	253.0	5,264.30	5,266.07	5,265.77	5,266.38	0.007106	4.47	56.61	43.93	0.69			4.47	1.77
25.0392*	253.0	5,264.14	5,265.90	5,265.57	5,266.21	0.007105	4.44	57.01	44.73	0.69			4.44	1.76
24.7984*	253.0	5,263.98	5,265.74	5,265.43	5,266.04	0.007151	4.41	57.31	45.59	0.69			4.41	1.76
24.5576*	253.0	5,263.82	5,265.57	5,265.27	5,265.87	0.007044	4.36	58.05	46.57	0.69			4.36	1.75
24.3169*	253.0	5,263.65	5,265.40	5,265.10	5,265.70	0.006989	4.33	58.39	47.81	0.69		0.31	4.33	1.75
24.0761*	253.0	5,263.49	5,265.24	5,264.95	5,265.53	0.006996	4.32	58.63	48.81	0.69		0.48	4.32	1.75
23.8353*	253.0	5,263.33	5,265.07	5,264.78	5,265.36	0.007040	4.31	58.85	49.74	0.69		0.63	4.30	1.74
23.5946*	253.0	5,263.17	5,264.90	5,264.63	5,265.19	0.006997	4.29	59.25	50.88	0.68	0.27	0.78	4.27	1.73
23.3538*	253.0	5,263.01	5,264.74	5,264.48	5,265.02	0.007037	4.30	59.39	52.12	0.69	0.56	0.90	4.26	1.73

Profile Output Table - Lowe Pre-mine 2 yr-6 hr
HEC-RAS Plan: Premine Plan Reach: Lowe 3/6/2003

River Sta.	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	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
23.1130*	253.0	5,262.85	5,264.56	5,264.32	5,264.85	0.007118	4.30	59.56	53.67	0.69	0.79	1.01	4.25	1.71
22.8723*	253.0	5,262.68	5,264.39	5,264.15	5,264.68	0.007297	4.32	59.76	55.89	0.70	0.99	1.12	4.23	1.71
22.6315*	253.0	5,262.52	5,264.21	5,264.00	5,264.50	0.007526	4.35	60.27	59.33	0.71	1.18	1.24	4.20	1.69
22.3907*	253.0	5,262.36	5,264.03	5,263.84	5,264.32	0.007771	4.36	61.83	66.25	0.72	1.34	1.34	4.09	1.67
22.15	253.0	5,262.20	5,263.90	5,263.67	5,264.13	0.006387	4.00	73.25	88.34	0.65	1.43	1.35	3.45	1.70
21.6716*	253.0	5,261.85	5,263.52	5,263.31	5,263.80	0.007319	4.29	63.16	65.54	0.70	1.43	1.49	4.01	1.67
21.1933*	253.0	5,261.50	5,263.15	5,262.93	5,263.44	0.007590	4.38	60.43	58.06	0.71	1.53	1.58	4.19	1.65
20.715*	253.0	5,261.15	5,262.77	5,262.55	5,263.07	0.007722	4.44	59.14	55.10	0.72	1.53	1.63	4.28	1.62
20.2366*	253.0	5,260.80	5,262.40	5,262.19	5,262.71	0.007669	4.46	58.58	53.12	0.72	1.52	1.68	4.32	1.60
19.7583*	253.0	5,260.45	5,262.05	5,261.81	5,262.35	0.007220	4.41	59.12	51.70	0.70	1.48	1.70	4.28	1.60
19.28	253.0	5,260.10	5,261.77	5,261.43	5,262.03	0.005576	4.10	63.57	50.93	0.62	1.39	1.61	3.98	1.67
19.052*	253.0	5,260.02	5,261.64	5,261.32	5,261.90	0.005923	4.16	63.05	52.37	0.64	1.49	1.67	4.01	1.62
18.824*	253.0	5,259.94	5,261.49	5,261.21	5,261.76	0.006372	4.24	62.55	54.42	0.66	1.59	1.73	4.04	1.55
18.596*	253.0	5,259.86	5,261.32	5,261.08	5,261.61	0.007257	4.38	61.40	57.48	0.70	1.72	1.82	4.12	1.46
18.368*	253.0	5,259.78	5,261.12	5,260.96	5,261.43	0.008656	4.57	60.51	63.59	0.75	1.86	1.92	4.18	1.34
18.14	253.0	5,259.70	5,261.03	5,260.79	5,261.23	0.005965	3.86	78.81	86.79	0.63	1.84	1.85	3.21	1.33
17.702*	253.0	5,259.30	5,260.67	5,260.48	5,260.94	0.007492	4.29	66.47	72.26	0.70	1.73	1.89	3.81	1.37
17.264*	253.0	5,258.90	5,260.31	5,260.13	5,260.60	0.007894	4.39	62.56	65.28	0.72	1.63	1.87	4.04	1.41
16.826*	253.0	5,258.50	5,260.00	5,259.76	5,260.27	0.006914	4.22	63.73	62.33	0.68	1.46	1.67	3.97	1.50
16.388*	253.0	5,258.10	5,259.80	5,259.38	5,260.00	0.004430	3.68	72.66	62.11	0.56	1.22	1.39	3.48	1.70
15.95	315.0	5,257.70	5,259.49	5,259.14	5,259.77	0.005669	4.30	76.44	61.01	0.63	1.33	1.53	4.12	1.79
15.736*	315.0	5,257.43	5,259.33	5,259.01	5,259.64	0.006054	4.53	73.87	59.95	0.66	1.48	1.55	4.26	1.90
15.522*	315.0	5,257.16	5,259.17	5,258.90	5,259.51	0.006537	4.78	71.33	58.86	0.69	1.67	1.57	4.42	2.00
15.308*	315.0	5,256.89	5,258.99	5,258.75	5,259.36	0.006868	5.02	69.51	57.83	0.71	1.85	1.57	4.53	2.10
15.094*	315.0	5,256.62	5,258.80	5,258.59	5,259.20	0.007218	5.29	67.97	59.10	0.73	1.86	1.54	4.63	2.18
14.88	315.0	5,256.35	5,258.73	5,258.45	5,259.05	0.005044	4.84	84.77	84.16	0.62	1.57	1.35	3.72	2.38
14.6633*	315.0	5,256.07	5,258.40	5,258.27	5,258.89	0.008315	5.82	64.02	63.72	0.79	1.73	1.47	4.92	2.33
14.4466*	315.0	5,255.78	5,258.23	5,258.15	5,258.71	0.008146	5.77	64.45	60.29	0.78	1.88	1.68	4.89	2.45
14.23*	315.0	5,255.50	5,257.93	5,257.93	5,258.50	0.010520	6.27	59.01	59.88	0.87	1.63	2.01	5.34	2.43
14.0133*	315.0	5,255.22	5,257.66	5,257.70	5,258.25	0.011587	6.43	57.60	59.24	0.91	1.18	2.33	5.47	2.44
13.7966*	315.0	5,254.93	5,257.31	5,257.42	5,257.97	0.014495	6.83	54.03	54.19	1.00	0.58	2.67	5.83	2.38
13.58	315.0	5,254.65	5,257.29	5,257.06	5,257.67	0.007540	5.40	71.00	76.32	0.74	0.59	2.52	4.44	2.64
13.3557*	315.0	5,254.48	5,257.06	5,256.92	5,257.50	0.008070	5.58	65.11	57.05	0.77	0.65	2.07	4.84	2.58
13.1314*	315.0	5,254.30	5,256.62	5,256.61	5,257.26	0.013116	6.46	49.84	48.49	0.96	0.22	1.31	6.32	2.32
12.9071*	315.0	5,254.13	5,256.35	5,256.33	5,256.96	0.013138	6.28	50.48	40.17	0.95	0.09	0.96	6.24	2.22
12.6828*	315.0	5,253.95	5,256.10	5,256.03	5,256.66	0.012510	6.01	52.47	41.23	0.92	0.10	0.62	6.00	2.15
12.4585*	315.0	5,253.78	5,255.88	5,255.76	5,256.37	0.011314	5.67	55.58	43.47	0.88	0.24	0.24	5.67	2.10
12.2342*	315.0	5,253.60	5,255.72	5,255.49	5,256.12	0.008673	5.10	61.79	46.86	0.77	0.52	0.08	5.10	2.12
12.01	315.0	5,253.43	5,255.63	5,255.23	5,255.93	0.005745	4.40	71.87	51.00	0.64	0.70	0.18	4.38	2.20
10.77	315.0	5,252.90	5,255.04	5,254.60	5,255.29	0.004396	4.12	83.72	66.66	0.57	1.40	1.17	3.76	2.14
10.09*	315.0	5,252.41	5,254.59	5,254.33	5,254.94	0.005955	5.04	75.65	60.89	0.67	2.13	1.65	4.16	2.18
9.41	315.0	5,251.92	5,254.34	5,254.00	5,254.56	0.004267	4.79	100.93	77.36	0.58	2.36	1.78	3.12	2.42
9.01*	315.0	5,251.66	5,253.87	5,253.76	5,254.35	0.008789	6.09	65.94	55.47	0.81	2.69	2.08	4.78	2.21
8.61*	315.0	5,251.40	5,253.59	5,253.46	5,254.03	0.008221	5.60	65.28	54.53	0.78	2.28	1.74	4.83	2.19
8.21	315.0	5,251.14	5,253.38	5,253.08	5,253.73	0.006210	4.82	71.85	57.08	0.67	1.80	1.36	4.38	2.24
7.99*	315.0	5,250.89	5,253.23	5,252.94	5,253.59	0.006283	5.00	71.10	55.86	0.68	1.96	1.50	4.43	2.34
7.77*	315.0	5,250.64	5,253.07	5,252.83	5,253.46	0.006432	5.22	70.17	53.69	0.70	2.20	1.63	4.49	2.43
7.55*	315.0	5,250.38	5,252.92	5,252.67	5,253.32	0.006561	5.45	69.69	52.16	0.71	2.44	1.77	4.52	2.54
7.33*	315.0	5,250.13	5,252.74	5,252.54	5,253.19	0.007228	5.85	67.97	51.38	0.75	2.71	1.93	4.63	2.61
7.11*	315.0	5,249.88	5,252.51	5,252.40	5,253.02	0.008806	6.48	64.87	51.54	0.82	3.05	2.17	4.86	2.63
6.89	315.0	5,249.63	5,252.27	5,252.27	5,252.84	0.010727	7.18	63.33	53.32	0.95	3.37	2.54	4.97	2.64
6.66666*	315.0	5,249.38	5,251.96	5,252.02	5,252.61	0.011521	7.35	59.18	51.02	0.94	3.26	2.48	5.32	2.58
6.44333*	315.0	5,249.14	5,251.70	5,251.76	5,252.36	0.011052	7.18	58.24	50.38	0.92	2.99	2.37	5.41	2.56
6.22*	315.0	5,248.89	5,251.42	5,251.50	5,252.10	0.011245	7.12	56.45	50.12	0.92	2.73	2.26	5.58	2.53
5.99666*	315.0	5,248.64	5,251.13	5,251.24	5,251.84	0.011923	7.14	54.09	50.37	0.94	2.42	2.15	5.82	2.49
5.77333*	315.0	5,248.40	5,250.90	5,250.97	5,251.56	0.011094	6.83	55.26	52.55	0.91	2.12	1.98	5.70	2.50
5.55	315.0	5,248.15	5,250.77	5,250.71	5,251.26	0.007716	5.88	67.12	67.74	0.76	1.77	1.70	4.69	2.62
5.30333*	315.0	5,247.92	5,250.59	5,250.54	5,251.06	0.007587	5.87	69.47	70.80	0.76	1.85	1.78	4.53	2.67
5.05666*	315.0	5,247.70	5,250.38	5,250.38	5,250.86	0.007973	6.00	70.11	73.85	0.78	1.92	1.88	4.49	2.68
4.81*	315.0	5,247.48	5,250.19	5,250.17	5,250.66	0.007979	6.03	72.31	77.61	0.78	1.99	1.95	4.36	2.71
4.56333*	315.0	5,247.25	5,250.01	5,249.99	5,250.46	0.007758	5.99	75.86	82.89	0.77	2.03	1.98	4.15	2.76
4.31666*	315.0	5,247.02	5,249.90	5,249.80	5,250.26	0.006133	5.51	87.31	93.03	0.69	1.96	1.89	3.61	2.88
4.07	315.0	5,246.80	5,249.85	5,249.60	5,250.09	0.004146	4.76	107.97	108.70	0.57	1.85	1.67	2.92	3.05

Profile Output Table - Lowe Pre-mine 2 yr-6 hr
HEC-RAS Plan: Premine Plan Reach: Lowe 3/6/2003

River Sta.	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	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
3.57333*	315.0	5,246.38	5,249.21	5,249.21	5,249.76	0.009061	6.63	64.42	57.75	0.83	2.65	1.64	4.89	2.83
3.07666*	315.0	5,245.95	5,248.64	5,248.69	5,249.25	0.010882	7.03	61.02	54.37	0.90	2.95	1.21	5.16	2.69
2.58	315.0	5,245.53	5,248.38	5,248.13	5,248.74	0.006128	5.63	77.57	56.20	0.68	2.77	0.86	4.06	2.85
2.17333*	315.0	5,245.22	5,247.96	5,247.85	5,248.44	0.008377	6.03	65.30	52.62	0.79	2.65	0.88	4.82	2.74
1.76666*	315.0	5,244.90	5,247.65	5,247.50	5,248.10	0.008207	5.66	65.42	55.02	0.77	2.28	0.96	4.81	2.75
1.36	315.0	5,244.59	5,247.19	5,247.16	5,247.71	0.011693	5.94	58.59	54.89	0.89	2.24	0.90	5.38	2.60
.68*	315.0	5,243.50	5,246.53	5,246.44	5,246.95	0.009949	5.40	65.27	59.86	0.82	2.32		4.83	3.03
0	315.0	5,242.41	5,245.70	5,245.70	5,246.18	0.013212	5.81	60.86	74.03	0.93	2.59		5.18	3.29
						Max	8.80					**Avg**	4.46	
						Min	1.81							
						Avg	5.30							

Profile Output Table - Lowe Pre-mine 10 yr-6 hr
HEC-RAS Plan: Premine Plan Reach: Lowe 3/6/2003

River Sta.	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	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
38.83	735.0	5,279.19	5,282.23	5,281.88	5,283.01	0.011738	7.10	103.54	43.21	0.81			7.10	3.04
38.5775*	735.0	5,278.85	5,281.89	5,281.62	5,282.70	0.012845	7.18	102.36	45.16	0.84			7.18	3.04
38.325*	735.0	5,278.52	5,281.52	5,281.34	5,282.35	0.014442	7.30	100.69	47.51	0.88			7.30	3.00
38.0725*	735.0	5,278.19	5,281.15	5,281.03	5,281.97	0.015560	7.28	100.91	50.67	0.91			7.28	2.96
37.82*	735.0	5,277.85	5,280.71	5,280.65	5,281.56	0.017201	7.41	99.23	53.17	0.95	0.81		7.41	2.85
37.5675*	735.0	5,277.51	5,280.30	5,280.24	5,281.12	0.016955	7.29	101.23	56.18	0.94	1.51		7.26	2.79
37.315*	735.0	5,277.18	5,279.78	5,279.77	5,280.66	0.019603	7.55	97.89	57.99	1.00	1.97		7.51	2.60
37.0625*	735.0	5,276.84	5,279.33	5,279.33	5,280.16	0.018730	7.36	100.99	60.93	0.98	2.40		7.28	2.49
36.81	735.0	5,276.51	5,278.76	5,278.85	5,279.66	0.021461	7.62	97.87	62.50	1.04	2.78		7.51	2.25
36.5625*	735.0	5,276.19	5,278.37	5,278.39	5,279.12	0.019684	6.92	107.03	72.68	0.99	2.22		6.87	2.18
36.315*	735.0	5,275.86	5,277.97	5,277.92	5,278.61	0.018674	6.42	114.82	82.61	0.95	1.64		6.40	2.11
36.0675*	735.0	5,275.54	5,277.56	5,277.48	5,278.12	0.018121	6.05	121.61	92.39	0.92	1.00		6.04	2.02
35.82*	735.0	5,275.22	5,277.22	5,277.06	5,277.68	0.015013	5.43	135.28	103.92	0.84	0.38		5.43	2.00
35.5725*	735.0	5,274.90	5,277.03	5,276.64	5,277.33	0.009016	4.40	167.20	120.32	0.66	0.26		4.40	2.13
35.325*	735.0	5,274.58	5,276.95	5,276.21	5,277.13	0.004249	3.35	219.90	138.49	0.46	0.38	0.48	3.34	2.37
35.0775*	735.0	5,274.25	5,276.93	5,275.79	5,277.03	0.001941	2.55	290.45	159.14	0.32	0.41	0.63	2.53	2.68
34.83	735.0	5,273.93	5,276.92	5,275.38	5,276.98	0.000950	1.99	378.08	186.32	0.23	0.39	0.62	1.94	2.99
34.4225*	735.0	5,273.47	5,276.86	5,275.11	5,276.93	0.000917	2.12	351.37	147.03	0.23		0.56	2.09	3.39
34.015*	735.0	5,273.02	5,276.80	5,274.87	5,276.88	0.000979	2.35	314.72	115.57	0.24		0.52	2.34	3.78
33.6075*	735.0	5,272.56	5,276.70	5,274.69	5,276.82	0.001222	2.79	264.30	86.61	0.27		0.49	2.78	4.14
33.2	735.0	5,272.10	5,276.52	5,274.66	5,276.74	0.001992	3.71	198.44	58.75	0.35		0.43	3.70	4.42
32.97*	735.0	5,272.04	5,276.37	5,274.80	5,276.68	0.002798	4.45	167.47	55.52	0.42		0.95	4.39	4.33
32.74*	735.0	5,271.98	5,276.10	5,275.04	5,276.58	0.004313	5.63	139.21	58.90	0.55		1.53	5.28	4.12
32.51*	735.0	5,271.92	5,275.44	5,275.44	5,276.40	0.010939	8.21	104.05	58.04	0.87		2.96	7.06	3.52
32.28*	735.0	5,271.86	5,275.04	5,275.24	5,276.15	0.015194	9.68	99.69	57.81	1.07	1.39	5.01	7.37	3.18
32.05	735.0	5,271.80	5,275.09	5,274.42	5,275.41	0.004918	6.21	175.20	81.04	0.64	3.14	4.08	4.20	3.29
31.819*	735.0	5,271.55	5,274.91	5,274.37	5,275.29	0.005654	6.79	166.88	81.85	0.69	3.24	4.23	4.40	3.36
31.588*	735.0	5,271.30	5,274.67	5,274.26	5,275.14	0.007142	7.64	153.59	81.79	0.78	3.45	4.51	4.79	3.37
31.357*	735.0	5,271.05	5,274.40	5,274.14	5,274.96	0.008474	8.30	141.93	76.13	0.85	3.98	4.63	5.18	3.35
31.126*	735.0	5,270.80	5,274.09	5,273.91	5,274.74	0.010024	8.92	131.45	71.56	0.93	4.53	4.72	5.59	3.29
30.895*	735.0	5,270.55	5,273.73	5,273.65	5,274.49	0.011838	9.47	121.76	66.85	1.00	5.06	4.91	6.04	3.18
30.664*	735.0	5,270.30	5,273.40	5,273.36	5,274.20	0.012781	9.68	117.06	63.91	1.04	5.40	4.93	6.28	3.10
30.433*	735.0	5,270.05	5,273.07	5,273.06	5,273.90	0.013544	9.79	114.14	62.52	1.07	5.61	4.91	6.44	3.02
30.202*	735.0	5,269.80	5,272.72	5,272.72	5,273.58	0.014574	9.93	111.35	61.77	1.11	5.80	4.92	6.60	2.92
29.971*	735.0	5,269.55	5,272.34	5,272.40	5,273.24	0.016193	10.15	107.77	61.33	1.15	6.05	4.92	6.82	2.79
29.74	735.0	5,269.30	5,272.13	5,272.03	5,272.90	0.013434	9.39	115.18	62.27	1.06	5.73	4.50	6.38	2.83
29.4955*	735.0	5,268.88	5,271.91	5,271.84	5,272.69	0.012652	9.49	116.36	62.03	1.04	5.50	4.65	6.32	3.03
29.2511*	735.0	5,268.46	5,271.64	5,271.62	5,272.47	0.012615	9.76	115.35	61.60	1.04	5.37	4.84	6.37	3.18
29.0066*	735.0	5,268.03	5,271.38	5,271.38	5,272.24	0.012160	9.86	115.50	61.45	1.03	5.17	4.91	6.36	3.35
28.7622*	735.0	5,267.61	5,271.04	5,271.13	5,272.00	0.013084	10.33	111.72	61.16	1.07	5.14	5.13	6.58	3.43
28.5177*	735.0	5,267.19	5,270.72	5,270.85	5,271.73	0.013326	10.57	110.04	61.32	1.08	5.00	5.20	6.68	3.53
28.2733*	735.0	5,266.77	5,270.32	5,270.51	5,271.44	0.014608	11.01	105.96	60.81	1.13	5.07	5.31	6.94	3.55
28.0288*	735.0	5,266.34	5,269.84	5,270.13	5,271.08	0.016509	11.46	100.09	58.33	1.19	5.02	5.89	7.34	3.50
27.7844*	735.0	5,265.92	5,269.39	5,269.67	5,270.68	0.017411	11.59	96.97	56.28	1.22	4.79	6.42	7.58	3.47
27.54	735.0	5,265.50	5,269.48	5,269.24	5,270.21	0.008110	8.77	125.32	57.71	0.85	3.74	5.30	5.86	3.98
27.314*	735.0	5,265.38	5,269.02	5,269.02	5,269.98	0.010810	9.48	109.33	56.19	0.97	3.43	5.51	6.72	3.64
27.088*	735.0	5,265.26	5,268.66	5,268.75	5,269.74	0.012402	9.62	101.76	54.08	1.03	3.24	5.34	7.22	3.40
26.862*	735.0	5,265.14	5,268.37	5,268.52	5,269.47	0.012875	9.43	99.99	54.93	1.04	2.95	4.95	7.35	3.23
26.636*	735.0	5,265.02	5,268.17	5,268.27	5,269.20	0.011953	8.93	102.90	57.65	1.00	2.57	4.42	7.14	3.15
26.41*	735.0	5,264.90	5,267.96	5,268.05	5,268.94	0.011494	8.57	104.84	60.87	0.98	2.22	3.94	7.01	3.06
26.184*	735.0	5,264.78	5,267.76	5,267.85	5,268.69	0.011067	8.25	106.72	64.46	0.95	1.90	3.48	6.89	2.98
25.958*	735.0	5,264.66	5,267.54	5,267.63	5,268.46	0.011212	8.09	106.43	68.16	0.95	1.56	3.04	6.91	2.88
25.732*	735.0	5,264.54	5,267.43	5,267.43	5,268.23	0.009273	7.43	114.18	72.66	0.87	1.26	2.58	6.44	2.89
25.506*	735.0	5,264.42	5,267.28	5,267.19	5,268.01	0.008466	7.05	117.71	76.44	0.83	0.97	2.17	6.24	2.86
25.28	735.0	5,264.30	5,267.18	5,266.92	5,267.80	0.007035	6.50	125.63	79.06	0.76	0.73	1.88	5.85	2.88
25.0392*	735.0	5,264.14	5,267.00	5,266.77	5,267.63	0.007063	6.52	124.62	78.83	0.76	0.92	1.82	5.90	2.86
24.7984*	735.0	5,263.98	5,266.83	5,266.58	5,267.46	0.006993	6.50	124.55	79.11	0.76	1.09	1.75	5.90	2.85
24.5576*	735.0	5,263.82	5,266.65	5,266.39	5,267.29	0.007011	6.51	123.70	79.35	0.76	1.25	1.66	5.94	2.83
24.3169*	735.0	5,263.65	5,266.48	5,266.23	5,267.12	0.006943	6.49	123.82	80.03	0.76	1.41	1.59	5.94	2.83
24.0761*	735.0	5,263.49	5,266.28	5,265.99	5,266.94	0.007313	6.60	120.83	79.03	0.77	1.57	1.52	6.08	2.79
23.8353*	735.0	5,263.33	5,266.10	5,265.75	5,266.77	0.007415	6.63	120.04	78.81	0.78	1.73	1.47	6.12	2.77
23.5946*	735.0	5,263.17	5,265.91	5,265.64	5,266.59	0.007648	6.69	118.67	77.91	0.79	1.88	1.44	6.19	2.74
23.3538*	735.0	5,263.01	5,265.71	5,265.46	5,266.40	0.007949	6.76	117.39	75.13	0.80	2.03	1.52	6.26	2.70

Profile Output Table - Lowe Pre-mine 10 yr-6 hr
HEC-RAS Plan: Premine Plan Reach: Lowe 3/6/2003

River Sta.	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	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
23.1130*	735.0	5,262.85	5,265.49	5,265.29	5,266.20	0.008489	6.87	115.57	70.68	0.83	2.19	1.88	6.36	2.64
22.8723*	735.0	5,262.68	5,265.29	5,265.14	5,265.99	0.008798	6.89	116.34	70.83	0.84	2.29	2.43	6.32	2.61
22.6315*	735.0	5,262.52	5,265.08	5,264.97	5,265.77	0.009033	6.89	119.59	77.63	0.85	2.41	2.51	6.15	2.56
22.3907*	735.0	5,262.36	5,264.97	5,264.78	5,265.54	0.007552	6.38	136.63	93.67	0.78	2.40	2.42	5.38	2.61
22.15	735.0	5,262.20	5,265.00	5,264.49	5,265.32	0.004193	5.03	180.81	104.05	0.59	2.58	2.00	4.07	2.80
21.6716*	735.0	5,261.85	5,264.65	5,264.25	5,265.09	0.005249	5.68	157.18	98.35	0.66	2.25	2.27	4.68	2.79
21.1933*	735.0	5,261.50	5,264.23	5,263.92	5,264.80	0.006503	6.26	134.35	81.03	0.73	2.20	2.52	5.47	2.73
20.715*	735.0	5,261.15	5,263.83	5,263.53	5,264.46	0.007185	6.54	123.55	68.71	0.77	2.35	2.65	5.95	2.68
20.2366*	735.0	5,260.80	5,263.48	5,263.17	5,264.12	0.007150	6.59	120.39	61.85	0.77	2.62	2.68	6.11	2.68
19.7583*	735.0	5,260.45	5,263.12	5,262.79	5,263.78	0.007125	6.64	118.58	59.17	0.77	2.61	2.71	6.20	2.67
19.28	735.0	5,260.10	5,262.79	5,262.44	5,263.44	0.006823	6.60	118.64	57.14	0.76	2.58	2.70	6.20	2.69
19.052*	735.0	5,260.02	5,262.61	5,262.33	5,263.28	0.007358	6.72	117.82	59.53	0.78	2.70	2.80	6.24	2.59
18.824*	735.0	5,259.94	5,262.43	5,262.20	5,263.11	0.007934	6.83	117.82	63.05	0.81	2.81	2.90	6.24	2.49
18.596*	735.0	5,259.86	5,262.14	5,262.08	5,262.91	0.010074	7.28	113.14	69.00	0.90	2.92	3.14	6.50	2.28
18.368*	735.0	5,259.78	5,262.03	5,261.92	5,262.65	0.008663	6.76	131.74	92.12	0.83	3.07	2.39	5.58	2.25
18.14	735.0	5,259.70	5,262.12	5,261.63	5,262.41	0.004089	4.95	196.36	121.79	0.58	2.57	2.34	3.74	2.42
17.702*	735.0	5,259.30	5,261.73	5,261.36	5,262.18	0.005846	5.84	152.83	92.02	0.69	2.86	2.50	4.81	2.43
17.264*	735.0	5,258.90	5,261.48	5,261.04	5,261.94	0.005341	5.76	148.67	80.85	0.67	2.67	2.64	4.94	2.58
16.826*	735.0	5,258.50	5,261.31	5,260.70	5,261.72	0.004191	5.38	156.57	77.93	0.60	2.37	2.45	4.69	2.81
16.388*	735.0	5,258.10	5,261.20	5,260.32	5,261.54	0.003008	4.86	171.33	76.89	0.52	2.07	2.19	4.29	3.10
15.95	926.0	5,257.70	5,260.78	5,260.26	5,261.35	0.005144	6.28	163.84	73.85	0.67	2.51	2.76	5.65	3.08
15.736*	926.0	5,257.43	5,260.61	5,260.18	5,261.23	0.005620	6.61	160.36	75.14	0.70	2.68	2.85	5.77	3.18
15.522*	926.0	5,257.16	5,260.43	5,260.04	5,261.10	0.006118	6.94	158.62	78.77	0.73	2.78	2.91	5.84	3.27
15.308*	926.0	5,256.89	5,259.97	5,259.94	5,260.91	0.009731	8.27	138.67	84.48	0.91	2.97	3.26	6.68	3.08
15.094*	926.0	5,256.62	5,259.92	5,259.82	5,260.66	0.007584	7.69	161.09	94.79	0.82	3.14	2.89	5.75	3.30
14.88	926.0	5,256.35	5,259.97	5,259.54	5,260.45	0.004624	6.51	203.39	106.23	0.65	3.06	2.33	4.55	3.62
14.6633*	926.0	5,256.07	5,259.75	5,259.47	5,260.33	0.005620	7.07	186.65	102.69	0.71	3.12	2.67	4.96	3.69
14.4466*	926.0	5,255.78	5,259.43	5,259.37	5,260.18	0.007525	7.91	166.66	102.07	0.82	3.15	2.98	5.56	3.65
14.23*	926.0	5,255.50	5,259.25	5,259.25	5,260.01	0.007625	7.98	169.02	110.11	0.82	2.89	3.01	5.48	3.75
14.0133*	926.0	5,255.22	5,258.73	5,258.95	5,259.78	0.011984	9.28	141.65	101.70	1.01	3.02	3.60	6.54	3.51
13.7966*	926.0	5,254.93	5,258.75	5,258.62	5,259.40	0.006988	7.54	179.14	110.03	0.78	2.48	3.35	5.17	3.82
13.58	926.0	5,254.65	5,258.82	5,258.14	5,259.21	0.004033	6.09	232.40	131.32	0.60	2.04	2.75	3.98	4.17
13.3557*	926.0	5,254.48	5,258.61	5,258.19	5,259.11	0.004583	6.55	202.72	111.74	0.65	2.31	2.71	4.57	4.13
13.1314*	926.0	5,254.30	5,257.88	5,257.73	5,258.93	0.010328	8.76	135.05	89.75	0.94	2.80	2.85	6.86	3.58
12.9071*	926.0	5,254.13	5,257.72	5,257.72	5,258.70	0.008959	8.28	131.88	71.24	0.88	2.74	2.99	7.02	3.59
12.6828*	926.0	5,253.95	5,257.26	5,257.42	5,258.45	0.011900	8.94	114.88	65.10	1.00	2.62	2.70	8.06	3.31
12.4585*	926.0	5,253.78	5,256.88	5,257.12	5,258.16	0.013788	9.18	107.39	61.00	1.07	2.50	2.24	8.62	3.10
12.2342*	926.0	5,253.60	5,256.90	5,256.75	5,257.82	0.008772	7.80	126.52	63.16	0.86	2.34	2.10	7.32	3.30
12.01	926.0	5,253.43	5,256.89	5,256.46	5,257.58	0.005950	6.76	145.72	65.33	0.72	2.24	1.88	6.35	3.46
10.77	926.0	5,252.90	5,256.42	5,255.64	5,256.90	0.003936	5.88	183.27	76.92	0.60	2.85	2.15	5.05	3.52
10.09*	926.0	5,252.41	5,255.98	5,255.50	5,256.58	0.005334	7.04	171.45	76.97	0.70	3.47	2.71	5.40	3.57
9.41	926.0	5,251.92	5,255.89	5,254.93	5,256.21	0.003228	6.03	228.19	85.90	0.56	3.50	2.71	4.06	3.97
9.01*	926.0	5,251.66	5,255.13	5,255.00	5,256.02	0.008945	8.83	147.65	77.94	0.90	4.06	3.24	6.27	3.47
8.61*	926.0	5,251.40	5,254.90	5,254.64	5,255.72	0.007519	7.96	143.77	65.38	0.82	3.96	2.98	6.44	3.50
8.21	926.0	5,251.14	5,254.81	5,254.28	5,255.43	0.005111	6.70	161.55	67.22	0.68	3.31	2.43	5.73	3.67
7.99*	926.0	5,250.89	5,254.66	5,254.17	5,255.32	0.005416	7.02	158.23	65.78	0.70	3.52	2.63	5.85	3.77
7.77*	926.0	5,250.64	5,254.49	5,254.06	5,255.20	0.005919	7.43	154.08	64.66	0.74	3.76	2.88	6.01	3.85
7.55*	926.0	5,250.38	5,254.31	5,253.94	5,255.08	0.006495	7.89	150.90	64.26	0.77	4.01	3.16	6.14	3.93
7.33*	926.0	5,250.13	5,254.06	5,253.84	5,254.94	0.007868	8.66	144.77	65.39	0.85	4.31	3.56	6.40	3.93
7.11*	926.0	5,249.88	5,253.71	5,253.71	5,254.75	0.010637	9.83	135.47	67.31	0.99	4.78	4.14	6.84	3.83
6.89	926.0	5,249.63	5,253.74	5,253.54	5,254.51	0.008152	9.08	155.98	71.72	0.86	4.65	4.02	5.94	4.11
6.66666*	926.0	5,249.38	5,253.33	5,253.33	5,254.31	0.009947	9.79	141.17	69.07	1.01	4.75	4.19	6.56	3.95
6.44333*	926.0	5,249.14	5,252.97	5,253.01	5,254.08	0.011037	10.08	131.06	64.61	1.00	4.91	4.18	7.07	3.83
6.22*	926.0	5,248.89	5,252.66	5,252.81	5,253.84	0.011389	10.09	127.10	63.73	1.01	4.83	4.06	7.29	3.77
5.99666*	926.0	5,248.64	5,252.34	5,252.53	5,253.58	0.012071	10.15	123.40	64.50	1.04	4.74	3.92	7.50	3.70
5.77333*	926.0	5,248.40	5,251.98	5,252.30	5,253.29	0.013295	10.29	122.46	73.51	1.08	4.65	3.49	7.56	3.58
5.55	926.0	5,248.15	5,251.42	5,251.86	5,252.93	0.017904	10.96	113.96	75.75	1.22	4.50	4.28	8.13	3.27
5.30333*	926.0	5,247.92	5,251.52	5,251.66	5,252.52	0.010948	9.24	141.53	84.27	0.97	4.06	3.82	6.54	3.60
5.05666*	926.0	5,247.70	5,251.49	5,251.43	5,252.26	0.008265	8.35	162.78	92.84	0.86	3.80	3.53	5.69	3.79
4.81*	926.0	5,247.48	5,251.36	5,251.14	5,252.04	0.007441	8.05	178.32	108.14	0.81	3.72	3.15	5.19	3.88
4.56333*	926.0	5,247.25	5,251.33	5,251.00	5,251.82	0.005387	7.10	211.04	122.88	0.70	3.38	2.85	4.39	4.08
4.31666*	926.0	5,247.02	5,251.33	5,250.78	5,251.65	0.003605	6.05	252.63	133.27	0.58	2.96	2.62	3.67	4.31
4.07	926.0	5,246.80	5,251.33	5,250.51	5,251.55	0.002429	5.16	299.16	143.14	0.48	2.59	2.38	3.10	4.53

Profile Output Table - Lowe Pre-mine 10 yr-6 hr
HEC-RAS Plan: Premine Plan Reach: Lowe 3/6/2003

River Sta.	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	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
3.57333*	926.0	5,246.38	5,250.59	5,250.46	5,251.30	0.006983	8.31	173.19	100.10	0.80	4.23	2.45	5.35	4.21
3.07666*	926.0	5,245.95	5,250.07	5,249.90	5,250.89	0.008028	8.80	150.06	68.86	0.85	4.70	2.77	6.17	4.12
2.58	926.0	5,245.53	5,249.84	5,249.30	5,250.45	0.005800	7.77	167.22	67.10	0.73	4.45	2.34	5.54	4.31
2.17333*	926.0	5,245.22	5,249.12	5,249.10	5,250.13	0.010129	9.21	132.44	63.97	0.94	4.76	2.67	6.99	3.90
1.76666*	926.0	5,244.90	5,248.75	5,248.72	5,249.72	0.009912	8.71	132.49	65.63	0.92	4.41	2.64	6.99	3.85
1.36	926.0	5,244.59	5,248.35	5,248.35	5,249.31	0.010397	8.43	131.99	70.48	0.93	3.96	2.64	7.02	3.76
.68*	926.0	5,243.50	5,247.38	5,247.53	5,248.47	0.014603	8.90	120.37	70.77	1.07	4.53	1.45	7.69	3.88
0	926.0	5,242.41	5,246.74	5,246.74	5,247.63	0.012728	8.11	130.23	104.54	0.99	4.60		7.11	4.33
						Max	11.59					**Avg**	5.95	
						Min	1.99							
						Avg	7.48							

Profile Output Table - Lowe Pre-mine 25 yr-6 hr
HEC-RAS Plan: Premine Plan Reach: Lowe 3/6/2003

River Sta.	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	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
38.83	1,089.0	5,279.19	5,282.85	5,282.59	5,283.91	0.012999	8.28	131.53	46.94	0.87			8.28	3.66
38.5775*	1,089.0	5,278.85	5,282.50	5,282.31	5,283.57	0.014108	8.31	130.98	49.68	0.90			8.31	3.65
38.325*	1,089.0	5,278.52	5,282.10	5,281.99	5,283.20	0.015215	8.40	129.76	52.52	0.93	0.98		8.39	3.58
38.0725*	1,089.0	5,278.19	5,281.65	5,281.63	5,282.79	0.016999	8.59	127.19	55.09	0.98	1.56		8.56	3.46
37.82*	1,089.0	5,277.85	5,281.24	5,281.24	5,282.36	0.016948	8.49	129.09	58.06	0.98	2.10	0.61	8.44	3.39
37.5675*	1,089.0	5,277.51	5,280.71	5,280.81	5,281.90	0.019617	8.78	125.15	60.10	1.04	2.55	0.59	8.70	3.20
37.315*	1,089.0	5,277.18	5,280.34	5,280.36	5,281.42	0.017137	8.35	132.59	63.36	0.98	2.92	1.00	8.21	3.16
37.0625*	1,089.0	5,276.84	5,279.69	5,279.87	5,280.92	0.022498	8.97	123.57	64.73	1.10	3.38	0.64	8.81	2.85
36.81	1,089.0	5,276.51	5,279.35	5,279.38	5,280.37	0.017344	8.19	136.43	68.54	0.98	3.50	1.04	7.98	2.84
36.5625*	1,089.0	5,276.19	5,278.63	5,278.83	5,279.81	0.027034	8.75	125.92	76.99	1.18	3.21		8.65	2.44
36.315*	1,089.0	5,275.86	5,278.31	5,278.37	5,279.20	0.020898	7.59	144.69	89.46	1.03	2.55	0.23	7.53	2.45
36.0675*	1,089.0	5,275.54	5,277.98	5,277.91	5,278.68	0.016745	6.73	162.72	101.43	0.92	1.97	0.49	6.69	2.44
35.82*	1,089.0	5,275.22	5,277.82	5,277.45	5,278.28	0.009529	5.41	202.33	115.76	0.71	1.53	0.91	5.38	2.60
35.5725*	1,089.0	5,274.90	5,277.77	5,277.02	5,278.04	0.004760	4.21	261.50	132.82	0.51	1.21	1.06	4.16	2.87
35.325*	1,089.0	5,274.58	5,277.76	5,276.57	5,277.92	0.002404	3.29	337.13	153.04	0.37	0.98	1.03	3.23	3.18
35.0775*	1,089.0	5,274.25	5,277.75	5,276.14	5,277.86	0.001270	2.61	430.07	178.05	0.28	0.80	0.93	2.53	3.50
34.83	1,089.0	5,273.93	5,277.75	5,275.71	5,277.82	0.000704	2.11	544.83	211.69	0.21	0.66	0.81	2.00	3.82
34.4225*	1,089.0	5,273.47	5,277.70	5,275.44	5,277.78	0.000776	2.34	481.41	163.28	0.22	0.29	0.82	2.26	4.23
34.015*	1,089.0	5,273.02	5,277.63	5,275.28	5,277.74	0.000924	2.68	415.28	126.16	0.25		0.84	2.62	4.61
33.6075*	1,089.0	5,272.56	5,277.51	5,275.15	5,277.68	0.001270	3.28	337.51	94.02	0.29		0.91	3.23	4.95
33.2	1,089.0	5,272.10	5,277.27	5,275.23	5,277.58	0.002326	4.51	243.86	63.72	0.39		1.04	4.47	5.17
32.97*	1,089.0	5,272.04	5,277.05	5,275.45	5,277.51	0.003343	5.44	207.88	62.55	0.47		1.57	5.24	5.01
32.74*	1,089.0	5,271.98	5,276.71	5,275.80	5,277.39	0.005131	6.80	176.76	64.33	0.61		2.40	6.16	4.73
32.51*	1,089.0	5,271.92	5,276.09	5,276.09	5,277.21	0.010369	9.09	143.22	61.66	0.87	0.48	4.10	7.60	4.17
32.28*	1,089.0	5,271.86	5,275.53	5,275.81	5,276.96	0.016009	11.17	128.99	62.19	1.13	2.42	6.16	8.44	3.67
32.05	1,089.0	5,271.80	5,275.69	5,274.86	5,276.11	0.005070	7.14	224.44	83.60	0.67	3.84	4.71	4.85	3.89
31.819*	1,089.0	5,271.55	5,275.52	5,274.84	5,275.99	0.005619	7.64	216.93	84.56	0.71	3.94	4.83	5.02	3.97
31.588*	1,089.0	5,271.30	5,275.30	5,274.81	5,275.85	0.006462	8.27	206.77	84.98	0.77	4.11	5.00	5.27	4.00
31.357*	1,089.0	5,271.05	5,275.00	5,274.64	5,275.67	0.008118	9.20	190.05	83.20	0.86	4.47	5.31	5.73	3.95
31.126*	1,089.0	5,270.80	5,274.71	5,274.43	5,275.47	0.009255	9.77	178.36	78.36	0.92	5.00	5.38	6.11	3.91
30.895*	1,089.0	5,270.55	5,274.37	5,274.19	5,275.24	0.010750	10.36	166.71	74.12	0.99	5.54	5.49	6.53	3.82
30.664*	1,089.0	5,270.30	5,273.98	5,273.92	5,274.96	0.012461	10.88	155.79	69.77	1.06	6.06	5.69	6.99	3.68
30.433*	1,089.0	5,270.05	5,273.64	5,273.58	5,274.66	0.013290	11.05	150.49	66.97	1.09	6.39	5.70	7.24	3.59
30.202*	1,089.0	5,269.80	5,273.25	5,273.25	5,274.34	0.014684	11.31	144.69	65.16	1.14	6.73	5.75	7.53	3.45
29.971*	1,089.0	5,269.55	5,272.93	5,272.93	5,274.00	0.014620	11.16	144.85	64.69	1.14	6.77	5.63	7.52	3.38
29.74	1,089.0	5,269.30	5,272.69	5,272.60	5,273.66	0.013073	10.62	150.67	65.13	1.08	6.57	5.30	7.23	3.39
29.4955*	1,089.0	5,268.88	5,272.46	5,272.37	5,273.45	0.012624	10.77	151.35	65.03	1.07	6.38	5.43	7.20	3.58
29.2511*	1,089.0	5,268.46	5,272.21	5,272.17	5,273.24	0.012449	10.99	151.09	64.93	1.07	6.24	5.57	7.21	3.75
29.0066*	1,089.0	5,268.03	5,271.94	5,271.94	5,273.01	0.012242	11.15	150.85	64.99	1.06	6.08	5.63	7.22	3.91
28.7622*	1,089.0	5,267.61	5,271.58	5,271.68	5,272.77	0.013487	11.74	145.35	64.90	1.12	6.12	5.89	7.49	3.97
28.5177*	1,089.0	5,267.19	5,271.26	5,271.42	5,272.51	0.013646	11.95	144.33	65.67	1.13	5.98	5.93	7.55	4.07
28.2733*	1,089.0	5,266.77	5,270.83	5,271.08	5,272.22	0.015276	12.53	138.15	64.91	1.19	5.98	6.39	7.88	4.06
28.0288*	1,089.0	5,266.34	5,270.38	5,270.71	5,271.87	0.016355	12.80	132.82	62.22	1.22	5.92	6.92	8.20	4.04
27.7844*	1,089.0	5,265.92	5,269.94	5,270.28	5,271.49	0.017116	12.95	128.94	59.80	1.25	5.78	7.41	8.45	4.02
27.54	1,089.0	5,265.50	5,270.13	5,269.84	5,271.05	0.008238	9.99	164.50	61.53	0.89	4.54	6.09	6.62	4.63
27.314*	1,089.0	5,265.38	5,269.67	5,269.67	5,270.82	0.010296	10.57	147.94	61.06	0.99	4.24	6.28	7.36	4.29
27.088*	1,089.0	5,265.26	5,269.34	5,269.39	5,270.59	0.011065	10.56	140.80	60.38	1.01	3.81	6.09	7.73	4.08
26.862*	1,089.0	5,265.14	5,268.93	5,269.11	5,270.32	0.013011	10.81	131.47	59.17	1.08	3.65	5.97	8.28	3.79
26.636*	1,089.0	5,265.02	5,268.81	5,268.85	5,270.01	0.010715	9.84	140.79	61.85	0.98	3.21	5.25	7.73	3.79
26.41*	1,089.0	5,264.90	5,268.42	5,268.62	5,269.75	0.012710	10.13	133.37	63.72	1.06	2.99	5.05	8.17	3.52
26.184*	1,089.0	5,264.78	5,268.27	5,268.37	5,269.46	0.011178	9.47	140.48	67.60	0.99	2.62	4.48	7.75	3.49
25.958*	1,089.0	5,264.66	5,268.15	5,268.16	5,269.19	0.009578	8.79	149.46	72.18	0.92	2.27	3.93	7.29	3.49
25.732*	1,089.0	5,264.54	5,267.81	5,267.95	5,268.96	0.011314	9.07	141.71	75.51	0.98	1.98	3.62	7.68	3.27
25.506*	1,089.0	5,264.42	5,267.80	5,267.73	5,268.71	0.008264	8.02	159.61	82.04	0.85	1.69	3.05	6.82	3.38
25.28	1,089.0	5,264.30	5,267.72	5,267.51	5,268.51	0.006887	7.42	172.17	91.28	0.78	1.43	2.53	6.33	3.42
25.0392*	1,089.0	5,264.14	5,267.53	5,267.34	5,268.34	0.007007	7.47	169.95	90.12	0.78	1.59	2.51	6.41	3.39
24.7984*	1,089.0	5,263.98	5,267.36	5,267.16	5,268.16	0.007013	7.48	169.22	89.66	0.78	1.73	2.49	6.44	3.38
24.5576*	1,089.0	5,263.82	5,267.19	5,266.98	5,267.99	0.006942	7.46	169.24	89.77	0.78	1.87	2.44	6.43	3.37
24.3169*	1,089.0	5,263.65	5,267.02	5,266.82	5,267.82	0.006827	7.42	170.21	90.46	0.78	2.00	2.40	6.40	3.37
24.0761*	1,089.0	5,263.49	5,266.84	5,266.66	5,267.65	0.006913	7.45	169.33	91.06	0.78	2.14	2.35	6.43	3.35
23.8353*	1,089.0	5,263.33	5,266.66	5,266.50	5,267.48	0.007064	7.50	168.25	92.03	0.79	2.28	2.30	6.47	3.33
23.5946*	1,089.0	5,263.17	5,266.48	5,266.33	5,267.30	0.007121	7.52	168.40	93.63	0.79	2.41	2.25	6.47	3.31
23.3538*	1,089.0	5,263.01	5,266.29	5,266.13	5,267.12	0.007257	7.55	168.54	96.33	0.80	2.51	2.18	6.46	3.28

Profile Output Table - Lowe Pre-mine 25 yr-6 hr
HEC-RAS Plan: Premine Plan Reach: Lowe 3/6/2003

River Sta.	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	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
23.1130*	1,089.0	5,262.85	5,266.03	5,265.96	5,266.92	0.008176	7.83	162.56	98.53	0.84	2.68	2.08	6.70	3.18
22.8723*	1,089.0	5,262.68	5,265.82	5,265.82	5,266.71	0.008407	7.85	163.98	103.90	0.85	2.79	1.95	6.64	3.14
22.6315*	1,089.0	5,262.52	5,265.48	5,265.55	5,266.48	0.010485	8.35	154.22	102.18	0.94	3.07	1.95	7.06	2.96
22.3907*	1,089.0	5,262.36	5,265.56	5,265.29	5,266.19	0.006289	6.88	201.15	126.73	0.74	3.02	1.66	5.41	3.20
22.15	1,089.0	5,262.20	5,265.62	5,264.90	5,265.99	0.003630	5.50	258.32	137.47	0.57	2.97	1.51	4.22	3.42
21.6716*	1,089.0	5,261.85	5,265.29	5,264.75	5,265.78	0.004476	6.18	223.44	118.18	0.63	2.81	1.56	4.87	3.44
21.1933*	1,089.0	5,261.50	5,264.89	5,264.47	5,265.54	0.005506	6.83	193.55	98.48	0.70	2.49	2.82	5.63	3.39
20.715*	1,089.0	5,261.15	5,264.49	5,264.12	5,265.24	0.006301	7.27	172.70	81.53	0.75	2.59	3.00	6.31	3.34
20.2366*	1,089.0	5,260.80	5,264.08	5,263.73	5,264.92	0.006913	7.58	160.29	71.00	0.79	2.72	3.13	6.79	3.28
19.7583*	1,089.0	5,260.45	5,263.72	5,263.39	5,264.59	0.006996	7.67	155.37	63.96	0.79	3.02	3.18	7.01	3.27
19.28	1,089.0	5,260.10	5,263.32	5,263.02	5,264.24	0.007390	7.87	149.97	60.39	0.81	3.16	3.25	7.26	3.22
19.052*	1,089.0	5,260.02	5,263.15	5,262.88	5,264.07	0.007793	7.95	150.63	63.99	0.83	3.18	3.35	7.23	3.13
18.824*	1,089.0	5,259.94	5,262.98	5,262.77	5,263.89	0.007967	7.93	154.82	70.54	0.84	3.12	3.40	7.03	3.04
18.596*	1,089.0	5,259.86	5,262.60	5,262.42	5,263.66	0.010940	8.67	146.55	83.91	0.97	3.64	2.50	7.43	2.74
18.368*	1,089.0	5,259.78	5,262.74	5,262.46	5,263.33	0.005937	6.82	210.80	123.61	0.72	3.18	2.43	5.17	2.96
18.14	1,089.0	5,259.70	5,262.85	5,262.00	5,263.13	0.002912	5.04	310.53	166.45	0.51	2.01	2.54	3.51	3.15
17.702*	1,089.0	5,259.30	5,262.36	5,261.83	5,262.94	0.005438	6.67	218.49	134.09	0.70	2.50	2.31	4.98	3.06
17.264*	1,089.0	5,258.90	5,262.18	5,261.54	5,262.71	0.004509	6.31	208.73	92.27	0.64	3.02	2.64	5.22	3.28
16.826*	1,089.0	5,258.50	5,262.04	5,261.17	5,262.52	0.003638	5.94	215.88	85.00	0.58	2.74	2.73	5.04	3.54
16.388*	1,089.0	5,258.10	5,261.94	5,260.86	5,262.36	0.002793	5.49	230.67	83.23	0.52	2.45	2.50	4.72	3.84
15.95	1,370.0	5,257.70	5,261.38	5,260.87	5,262.16	0.005471	7.41	209.94	78.53	0.72	3.14	3.32	6.53	3.68
15.736*	1,370.0	5,257.43	5,261.17	5,260.77	5,262.03	0.006217	7.87	204.20	81.00	0.76	3.32	3.47	6.71	3.74
15.522*	1,370.0	5,257.16	5,260.79	5,260.69	5,261.85	0.008449	8.85	188.03	84.20	0.88	3.62	3.78	7.29	3.63
15.308*	1,370.0	5,256.89	5,260.61	5,260.61	5,261.67	0.008627	9.04	196.60	95.35	0.89	3.66	3.73	6.97	3.72
15.094*	1,370.0	5,256.62	5,260.50	5,260.39	5,261.38	0.007420	8.63	218.58	103.90	0.83	3.86	3.40	6.27	3.88
14.88	1,370.0	5,256.35	5,260.59	5,260.08	5,261.16	0.004601	7.31	271.02	114.40	0.67	3.71	2.75	5.05	4.24
14.6633*	1,370.0	5,256.07	5,260.31	5,260.00	5,261.03	0.005894	8.10	247.33	114.17	0.75	3.84	3.08	5.54	4.24
14.4466*	1,370.0	5,255.78	5,259.91	5,259.91	5,260.86	0.008277	9.19	218.95	113.49	0.88	4.04	3.49	6.26	4.13
14.23*	1,370.0	5,255.50	5,259.63	5,259.78	5,260.68	0.009463	9.64	211.59	116.84	0.94	3.88	3.84	6.47	4.13
14.0133*	1,370.0	5,255.22	5,259.26	5,259.43	5,260.44	0.011259	10.18	200.20	117.55	1.01	3.57	4.32	6.84	4.04
13.7966*	1,370.0	5,254.93	5,259.42	5,259.14	5,260.12	0.006250	8.19	263.68	142.29	0.77	2.96	3.45	5.20	4.49
13.58	1,370.0	5,254.65	5,259.52	5,258.76	5,259.94	0.003583	6.55	335.50	158.59	0.58	2.42	2.97	4.08	4.87
13.3557*	1,370.0	5,254.48	5,259.23	5,258.71	5,259.84	0.004736	7.49	279.37	137.72	0.68	2.83	3.01	4.90	4.75
13.1314*	1,370.0	5,254.30	5,258.89	5,258.48	5,259.71	0.005865	8.18	236.02	116.04	0.75	3.20	3.03	5.80	4.59
12.9071*	1,370.0	5,254.13	5,258.43	5,258.43	5,259.54	0.007915	9.08	193.65	94.65	0.86	3.54	3.10	7.07	4.30
12.6828*	1,370.0	5,253.95	5,257.95	5,258.05	5,259.33	0.010307	9.82	163.10	73.81	0.97	3.70	3.40	8.40	4.00
12.4585*	1,370.0	5,253.78	5,257.51	5,257.78	5,259.07	0.012545	10.28	148.24	67.80	1.06	3.67	3.23	9.24	3.73
12.2342*	1,370.0	5,253.60	5,257.15	5,257.46	5,258.76	0.013582	10.35	143.08	65.58	1.09	3.52	2.93	9.57	3.55
12.01	1,370.0	5,253.43	5,257.56	5,257.12	5,258.47	0.006001	7.85	190.44	69.44	0.75	3.13	2.49	7.19	4.13
10.77	1,370.0	5,252.90	5,257.14	5,256.30	5,257.76	0.003925	6.77	240.35	82.22	0.62	3.41	2.59	5.70	4.24
10.09*	1,370.0	5,252.41	5,256.67	5,256.10	5,257.44	0.005384	8.07	227.38	85.59	0.73	4.05	3.08	6.03	4.26
9.41	1,370.0	5,251.92	5,256.60	5,255.45	5,257.04	0.003593	7.16	291.33	94.40	0.60	4.05	3.31	4.70	4.68
9.01*	1,370.0	5,251.66	5,256.07	5,255.73	5,256.87	0.006065	8.72	227.83	89.29	0.77	4.32	3.40	6.01	4.41
8.61*	1,370.0	5,251.40	5,255.65	5,255.31	5,256.64	0.006898	8.89	195.90	72.64	0.82	4.53	3.27	6.99	4.25
8.21	1,370.0	5,251.14	5,255.61	5,254.86	5,256.37	0.004728	7.53	217.08	72.07	0.68	3.86	2.87	6.31	4.47
7.99*	1,370.0	5,250.89	5,255.46	5,254.82	5,256.27	0.005067	7.91	212.66	71.06	0.71	4.08	3.11	6.44	4.56
7.77*	1,370.0	5,250.64	5,255.28	5,254.67	5,256.16	0.005566	8.37	207.73	70.77	0.74	4.32	3.35	6.60	4.64
7.55*	1,370.0	5,250.38	5,255.04	5,254.63	5,256.03	0.006626	9.12	200.13	72.75	0.81	4.52	3.73	6.85	4.66
7.33*	1,370.0	5,250.13	5,254.51	5,254.50	5,255.85	0.010480	10.89	175.20	72.10	1.00	5.28	4.56	7.82	4.38
7.11*	1,370.0	5,249.88	5,254.44	5,254.44	5,255.63	0.009684	10.78	187.95	76.21	1.02	5.33	4.68	7.29	4.56
6.89	1,370.0	5,249.63	5,254.44	5,254.12	5,255.37	0.007947	10.14	208.71	78.58	0.88	5.33	4.60	6.56	4.81
6.66666*	1,370.0	5,249.38	5,254.11	5,253.98	5,255.18	0.008723	10.55	197.78	77.50	0.92	5.29	4.67	6.93	4.73
6.44333*	1,370.0	5,249.14	5,253.79	5,253.78	5,254.99	0.009280	10.78	189.39	76.49	0.95	5.20	4.65	7.23	4.65
6.22*	1,370.0	5,248.89	5,253.45	5,253.45	5,254.77	0.009989	10.99	181.35	76.18	0.98	5.19	4.48	7.55	4.56
5.99666*	1,370.0	5,248.64	5,252.94	5,253.21	5,254.50	0.012372	11.63	166.23	76.09	1.08	5.66	4.25	8.24	4.30
5.77333*	1,370.0	5,248.40	5,252.44	5,252.90	5,254.18	0.015167	12.15	157.65	79.37	1.18	5.76	4.57	8.69	4.04
5.55	1,370.0	5,248.15	5,251.88	5,252.44	5,253.78	0.019167	12.67	149.37	81.21	1.30	5.67	5.35	9.17	3.73
5.30333*	1,370.0	5,247.92	5,252.19	5,252.02	5,253.30	0.009761	10.06	201.52	100.50	0.95	4.79	4.05	6.80	4.27
5.05666*	1,370.0	5,247.70	5,252.08	5,252.08	5,253.01	0.008426	9.51	223.81	115.14	0.89	4.59	3.73	6.12	4.38
4.81*	1,370.0	5,247.48	5,252.07	5,251.80	5,252.74	0.006092	8.38	262.36	126.81	0.76	4.12	3.46	5.22	4.59
4.56333*	1,370.0	5,247.25	5,252.08	5,251.52	5,252.55	0.004270	7.27	308.34	137.24	0.64	3.65	3.19	4.44	4.83
4.31666*	1,370.0	5,247.02	5,252.08	5,251.23	5,252.42	0.003013	6.32	358.52	146.88	0.55	3.22	2.93	3.82	5.06
4.07	1,370.0	5,246.80	5,252.09	5,250.92	5,252.33	0.002147	5.51	412.75	155.68	0.46	2.86	2.68	3.32	5.29

Profile Output Table - Lowe Pre-mine 25 yr-6 hr
HEC-RAS Plan: Premine Plan Reach: Lowe 3/6/2003

River Sta.	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	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
3.57333*	1,370.0	5,246.38	5,251.53	5,251.03	5,252.13	0.004744	8.06	277.99	124.63	0.69	4.32	2.76	4.93	5.15
3.07666*	1,370.0	5,245.95	5,250.82	5,250.55	5,251.77	0.007502	9.73	208.22	87.15	0.85	5.41	2.65	6.58	4.87
2.58	1,370.0	5,245.53	5,250.57	5,249.94	5,251.36	0.005922	8.89	218.44	72.59	0.76	5.22	2.96	6.27	5.04
2.17333*	1,370.0	5,245.22	5,249.80	5,249.80	5,251.03	0.009673	10.34	178.86	70.92	0.95	5.49	3.33	7.66	4.58
1.76666*	1,370.0	5,244.90	5,249.23	5,249.38	5,250.61	0.011581	10.48	165.24	69.63	1.02	5.54	3.39	8.29	4.33
1.36	1,370.0	5,244.59	5,248.91	5,248.98	5,250.15	0.010671	9.74	172.05	74.76	0.98	4.96	3.24	7.96	4.32
.68*	1,370.0	5,243.50	5,247.89	5,248.13	5,249.30	0.014556	10.25	158.52	78.08	1.11	5.36	2.41	8.64	4.39
0	1,370.0	5,242.41	5,247.30	5,247.30	5,248.43	0.012177	9.19	173.08	120.39	1.01	5.22	1.12	7.92	4.89
						Max	12.95					**Avg**	6.55	
						Min	2.11							
						Avg	8.44							

Profile Output Table - Lowe Pre-mine 100 yr-6 hr
HEC-RAS Plan: Premine Plan Reach: Lowe 3/6/2003

River Sta.	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	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
38.83	1,597.0	5,279.19	5,283.55	5,283.45	5,284.98	0.013694	9.62	168.01	58.79	0.92	1.21	1.56	9.51	4.36
38.5775*	1,597.0	5,278.85	5,283.12	5,283.10	5,284.62	0.015049	9.81	164.34	58.20	0.96	1.77	1.50	9.72	4.27
38.325*	1,597.0	5,278.52	5,282.72	5,282.72	5,284.22	0.015691	9.85	164.20	59.13	0.98	2.32	1.76	9.73	4.20
38.0725*	1,597.0	5,278.19	5,282.22	5,282.37	5,283.80	0.017769	10.12	159.99	60.16	1.04	2.76	1.89	9.98	4.03
37.82*	1,597.0	5,277.85	5,281.88	5,281.94	5,283.33	0.016082	9.72	167.89	63.17	0.99	3.16	2.12	9.51	4.03
37.5675*	1,597.0	5,277.51	5,281.26	5,281.47	5,282.87	0.019816	10.24	159.34	64.17	1.09	3.59	2.10	10.02	3.75
37.315*	1,597.0	5,277.18	5,280.94	5,281.01	5,282.35	0.016598	9.60	171.47	67.59	1.00	3.81	2.23	9.31	3.76
37.0625*	1,597.0	5,276.84	5,280.23	5,280.51	5,281.85	0.021803	10.31	159.44	68.47	1.13	4.30	2.09	10.02	3.39
36.81	1,597.0	5,276.51	5,279.75	5,279.97	5,281.28	0.020795	10.04	164.61	71.36	1.10	4.51	2.06	9.70	3.24
36.5625*	1,597.0	5,276.19	5,279.04	5,279.42	5,280.66	0.027986	10.25	158.95	80.82	1.24	4.19	1.68	10.05	2.85
36.315*	1,597.0	5,275.86	5,278.77	5,278.89	5,279.94	0.020070	8.72	186.17	93.61	1.05	3.38	1.75	8.58	2.91
36.0675*	1,597.0	5,275.54	5,278.73	5,278.35	5,279.43	0.010211	6.74	241.66	109.36	0.77	2.59	1.83	6.61	3.19
35.82*	1,597.0	5,275.22	5,278.73	5,277.89	5,279.15	0.005239	5.25	311.97	126.99	0.56	2.01	1.69	5.12	3.51
35.5725*	1,597.0	5,274.90	5,278.74	5,277.42	5,279.00	0.002815	4.16	396.69	147.14	0.42	1.59	1.51	4.03	3.84
35.325*	1,597.0	5,274.58	5,278.75	5,276.97	5,278.92	0.001586	3.36	497.62	170.95	0.32	1.28	1.31	3.21	4.17
35.0775*	1,597.0	5,274.25	5,278.76	5,276.53	5,278.87	0.000925	2.74	620.02	200.94	0.25	1.04	1.13	2.58	4.51
34.83	1,597.0	5,273.93	5,278.76	5,276.05	5,278.84	0.000554	2.25	773.91	242.25	0.20	0.85	0.97	2.06	4.83
34.4225*	1,597.0	5,273.47	5,278.71	5,275.90	5,278.81	0.000672	2.58	655.34	182.48	0.22	0.65	1.05	2.44	5.24
34.015*	1,597.0	5,273.02	5,278.62	5,275.73	5,278.76	0.000877	3.05	547.29	139.23	0.25	0.33	1.15	2.92	5.60
33.6075*	1,597.0	5,272.56	5,278.48	5,275.74	5,278.70	0.001314	3.82	432.73	102.87	0.30		1.32	3.69	5.92
33.2	1,597.0	5,272.10	5,278.14	5,275.93	5,278.59	0.002673	5.43	302.02	69.57	0.43		1.66	5.29	6.04
32.97*	1,597.0	5,272.04	5,277.87	5,276.23	5,278.50	0.003842	6.50	261.97	69.74	0.52		2.31	6.10	5.83
32.74*	1,597.0	5,271.98	5,277.48	5,276.73	5,278.38	0.005581	7.93	228.22	68.74	0.65	0.45	3.41	7.00	5.50
32.51*	1,597.0	5,271.92	5,276.74	5,276.74	5,278.18	0.010946	10.50	184.71	66.22	0.92	1.78	5.29	8.65	4.82
32.28*	1,597.0	5,271.86	5,276.15	5,276.51	5,277.92	0.016004	12.64	169.18	67.74	1.17	3.44	7.30	9.44	4.29
32.05	1,597.0	5,271.80	5,276.40	5,275.41	5,276.96	0.005356	8.29	285.12	87.92	0.71	4.65	5.38	5.60	4.60
31.819*	1,597.0	5,271.55	5,276.23	5,275.39	5,276.83	0.005670	8.67	278.49	87.78	0.74	4.71	5.51	5.73	4.68
31.588*	1,597.0	5,271.30	5,276.03	5,275.31	5,276.69	0.006244	9.19	269.81	88.44	0.78	4.86	5.62	5.92	4.73
31.357*	1,597.0	5,271.05	5,275.78	5,275.26	5,276.53	0.007187	9.88	256.87	88.24	0.84	5.08	5.82	6.22	4.73
31.126*	1,597.0	5,270.80	5,275.45	5,275.08	5,276.34	0.008685	10.75	238.93	85.92	0.92	5.50	6.09	6.68	4.65
30.895*	1,597.0	5,270.55	5,275.12	5,274.85	5,276.13	0.009852	11.33	225.36	81.55	0.98	6.03	6.20	7.09	4.57
30.664*	1,597.0	5,270.30	5,274.74	5,274.58	5,275.87	0.011390	11.94	211.20	77.42	1.05	6.60	6.34	7.56	4.44
30.433*	1,597.0	5,270.05	5,274.33	5,274.28	5,275.59	0.012856	12.40	199.46	73.41	1.11	7.09	6.51	8.01	4.28
30.202*	1,597.0	5,269.80	5,273.95	5,273.95	5,275.27	0.013915	12.64	192.27	70.77	1.15	7.46	6.57	8.31	4.15
29.971*	1,597.0	5,269.55	5,273.49	5,273.58	5,274.94	0.015929	13.07	182.15	68.12	1.22	7.96	6.71	8.77	3.94
29.74	1,597.0	5,269.30	5,273.35	5,273.22	5,274.59	0.012939	12.07	195.05	68.53	1.11	7.51	6.16	8.19	4.05
29.4955*	1,597.0	5,268.88	5,273.16	5,273.01	5,274.39	0.012089	12.06	198.60	68.89	1.08	7.23	6.17	8.04	4.28
29.2511*	1,597.0	5,268.46	5,272.84	5,272.84	5,274.17	0.012937	12.59	193.39	68.65	1.12	7.28	6.44	8.26	4.38
29.0066*	1,597.0	5,268.03	5,272.56	5,272.61	5,273.94	0.013021	12.85	192.13	68.91	1.13	7.17	6.52	8.31	4.53
28.7622*	1,597.0	5,267.61	5,272.21	5,272.37	5,273.70	0.013811	13.31	188.23	69.37	1.16	7.17	6.71	8.48	4.60
28.5177*	1,597.0	5,267.19	5,271.85	5,272.10	5,273.44	0.014459	13.67	184.78	69.52	1.19	7.09	6.95	8.64	4.66
28.2733*	1,597.0	5,266.77	5,271.46	5,271.76	5,273.13	0.015216	13.99	180.31	68.23	1.22	6.99	7.46	8.86	4.69
28.0288*	1,597.0	5,266.34	5,271.06	5,271.35	5,272.81	0.015690	14.15	176.38	66.49	1.23	6.83	7.91	9.05	4.72
27.7844*	1,597.0	5,265.92	5,270.63	5,270.97	5,272.46	0.016308	14.32	171.85	64.23	1.26	6.71	8.38	9.29	4.71
27.54	1,597.0	5,265.50	5,270.92	5,270.57	5,272.06	0.008326	11.34	214.76	66.10	0.92	5.37	6.92	7.44	5.42
27.314*	1,597.0	5,265.38	5,270.40	5,270.40	5,271.83	0.010361	11.99	193.78	65.14	1.02	5.19	7.20	8.24	5.02
27.088*	1,597.0	5,265.26	5,270.06	5,270.16	5,271.60	0.010940	11.94	186.35	65.61	1.04	4.68	7.02	8.57	4.80
26.862*	1,597.0	5,265.14	5,269.63	5,269.87	5,271.34	0.012461	12.13	175.39	64.90	1.10	4.35	6.93	9.11	4.49
26.636*	1,597.0	5,265.02	5,269.58	5,269.58	5,271.00	0.009698	10.86	190.90	67.46	0.97	3.79	6.06	8.37	4.56
26.41*	1,597.0	5,264.90	5,268.99	5,269.29	5,270.73	0.013419	11.76	170.92	67.28	1.12	3.82	6.20	9.34	4.09
26.184*	1,597.0	5,264.78	5,268.88	5,269.05	5,270.39	0.011278	10.83	182.99	71.36	1.03	3.37	5.50	8.73	4.10
25.958*	1,597.0	5,264.66	5,268.81	5,268.81	5,270.09	0.009145	9.87	198.92	76.54	0.93	2.95	4.82	8.03	4.15
25.732*	1,597.0	5,264.54	5,268.32	5,268.57	5,269.85	0.012230	10.62	181.47	79.45	1.05	2.77	4.71	8.80	3.78
25.506*	1,597.0	5,264.42	5,268.40	5,268.35	5,269.55	0.008421	9.21	210.06	88.32	0.88	2.37	3.90	7.60	3.98
25.28	1,597.0	5,264.30	5,268.39	5,268.17	5,269.32	0.006425	8.25	238.11	102.81	0.78	2.04	3.21	6.71	4.09
25.0392*	1,597.0	5,264.14	5,268.15	5,268.00	5,269.15	0.006948	8.49	229.20	100.17	0.81	2.20	3.25	6.97	4.01
24.7984*	1,597.0	5,263.98	5,267.99	5,267.84	5,268.98	0.006883	8.47	229.13	99.64	0.80	2.33	3.24	6.97	4.01
24.5576*	1,597.0	5,263.82	5,267.82	5,267.63	5,268.81	0.006782	8.44	230.04	100.47	0.80	2.46	3.18	6.94	4.00
24.3169*	1,597.0	5,263.65	5,267.66	5,267.46	5,268.64	0.006705	8.41	231.30	101.97	0.80	2.58	3.11	6.90	4.01
24.0761*	1,597.0	5,263.49	5,267.43	5,267.29	5,268.46	0.007146	8.59	225.86	101.88	0.82	2.74	3.11	7.07	3.94
23.8353*	1,597.0	5,263.33	5,267.23	5,267.14	5,268.28	0.007381	8.68	223.80	102.66	0.83	2.87	3.10	7.14	3.90
23.5946*	1,597.0	5,263.17	5,267.06	5,266.96	5,268.09	0.007297	8.63	226.22	104.99	0.83	2.93	3.05	7.06	3.89
23.3538*	1,597.0	5,263.01	5,266.79	5,266.79	5,267.90	0.008082	8.90	219.67	106.63	0.87	3.10	3.05	7.27	3.78

Profile Output Table - Lowe Pre-mine 100 yr-6 hr
HEC-RAS Plan: Premine Plan Reach: Lowe 3/6/2003

River Sta.	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	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
23.1130*	1,597.0	5,262.85	5,266.53	5,266.60	5,267.69	0.008894	9.15	214.76	109.46	0.91	3.29	3.02	7.44	3.68
22.8723*	1,597.0	5,262.68	5,266.36	5,266.41	5,267.46	0.008597	8.98	223.08	116.74	0.89	3.35	2.91	7.16	3.68
22.6315*	1,597.0	5,262.52	5,266.23	5,266.23	5,267.19	0.007562	8.49	244.21	129.00	0.84	3.37	2.74	6.54	3.71
22.3907*	1,597.0	5,262.36	5,266.33	5,265.87	5,266.94	0.004696	7.03	303.42	139.59	0.67	3.42	2.41	5.26	3.97
22.15	1,597.0	5,262.20	5,266.38	5,265.49	5,266.78	0.003023	5.87	367.85	150.29	0.54	3.26	2.09	4.34	4.18
21.6716*	1,597.0	5,261.85	5,266.12	5,265.12	5,266.62	0.003429	6.39	338.41	147.79	0.58	3.13	1.93	4.72	4.27
21.1933*	1,597.0	5,261.50	5,265.75	5,265.15	5,266.42	0.004336	7.19	292.67	139.99	0.65	3.05	1.70	5.46	4.25
20.715*	1,597.0	5,261.15	5,265.32	5,264.81	5,266.17	0.005306	7.89	248.06	100.68	0.72	2.82	3.30	6.44	4.17
20.2366*	1,597.0	5,260.80	5,264.92	5,264.46	5,265.90	0.005864	8.28	226.09	84.99	0.76	2.96	3.48	7.06	4.13
19.7583*	1,597.0	5,260.45	5,264.51	5,264.10	5,265.59	0.006460	8.65	210.30	75.25	0.79	3.09	3.62	7.59	4.06
19.28	1,597.0	5,260.10	5,263.96	5,263.71	5,265.23	0.007957	9.32	189.95	66.02	0.87	3.55	3.88	8.41	3.86
19.052*	1,597.0	5,260.02	5,263.65	5,263.60	5,265.02	0.009419	9.75	184.57	70.46	0.94	3.68	4.13	8.65	3.63
18.824*	1,597.0	5,259.94	5,263.48	5,263.48	5,264.79	0.009421	9.63	191.53	76.46	0.94	3.85	4.15	8.34	3.54
18.596*	1,597.0	5,259.86	5,263.03	5,263.40	5,264.54	0.012787	10.44	186.64	98.84	1.07	4.49	3.04	8.56	3.17
18.368*	1,597.0	5,259.78	5,263.58	5,263.18	5,264.13	0.004203	6.85	339.48	169.46	0.64	2.53	2.87	4.70	3.80
18.14	1,597.0	5,259.70	5,263.70	5,262.60	5,263.97	0.002195	5.17	459.86	190.18	0.47	2.30	2.56	3.47	4.00
17.702*	1,597.0	5,259.30	5,263.42	5,262.64	5,263.85	0.002963	6.07	380.09	167.62	0.54	2.47	2.52	4.20	4.12
17.264*	1,597.0	5,258.90	5,263.09	5,262.11	5,263.69	0.003737	6.84	310.75	132.16	0.61	2.70	2.48	5.14	4.19
16.826*	1,597.0	5,258.50	5,262.94	5,261.82	5,263.53	0.003284	6.65	303.92	112.68	0.58	2.54	2.71	5.25	4.44
16.388*	1,597.0	5,258.10	5,262.85	5,261.49	5,263.38	0.002688	6.28	312.47	104.38	0.53	2.28	2.88	5.11	4.75
15.95	2,017.0	5,257.70	5,262.15	5,261.60	5,263.18	0.005620	8.61	271.99	84.41	0.75	3.78	3.91	7.42	4.44
15.736*	2,017.0	5,257.43	5,261.81	5,261.53	5,263.02	0.007109	9.46	258.23	90.98	0.84	3.83	4.23	7.81	4.38
15.522*	2,017.0	5,257.16	5,261.48	5,261.48	5,262.84	0.008637	10.20	251.20	98.16	0.92	4.12	4.45	8.03	4.32
15.308*	2,017.0	5,256.89	5,261.08	5,261.33	5,262.60	0.010765	11.06	242.41	102.38	1.02	4.72	4.64	8.32	4.19
15.094*	2,017.0	5,256.62	5,261.22	5,260.98	5,262.25	0.007010	9.56	296.34	112.82	0.84	4.66	3.81	6.81	4.60
14.88	2,017.0	5,256.35	5,261.33	5,260.69	5,262.02	0.004569	8.22	359.19	124.12	0.68	4.40	3.22	5.62	4.98
14.6633*	2,017.0	5,256.07	5,260.98	5,260.61	5,261.89	0.006235	9.32	329.05	136.55	0.79	4.63	3.22	6.13	4.91
14.4466*	2,017.0	5,255.78	5,260.49	5,260.41	5,261.70	0.009013	10.65	288.86	132.58	0.94	5.01	3.84	6.98	4.71
14.23*	2,017.0	5,255.50	5,260.42	5,260.42	5,261.48	0.007776	10.09	315.94	146.83	0.88	4.60	3.78	6.38	4.92
14.0133*	2,017.0	5,255.22	5,260.25	5,260.16	5,261.19	0.007080	9.69	336.10	155.75	0.84	4.20	3.85	6.00	5.03
13.7966*	2,017.0	5,254.93	5,260.37	5,259.89	5,260.97	0.004326	7.98	412.84	168.02	0.66	3.43	3.51	4.89	5.44
13.58	2,017.0	5,254.65	5,260.44	5,259.45	5,260.84	0.002837	6.71	489.56	178.12	0.54	2.84	3.19	4.12	5.79
13.3557*	2,017.0	5,254.48	5,260.20	5,259.50	5,260.76	0.003542	7.53	427.37	164.64	0.61	2.99	3.25	4.72	5.72
13.1314*	2,017.0	5,254.30	5,259.93	5,259.46	5,260.67	0.004242	8.20	375.66	150.11	0.66	3.39	3.19	5.37	5.63
12.9071*	2,017.0	5,254.13	5,259.56	5,259.21	5,260.55	0.005299	8.98	322.61	136.10	0.74	3.86	3.05	6.25	5.43
12.6828*	2,017.0	5,253.95	5,258.82	5,258.82	5,260.35	0.008775	10.64	239.74	97.40	0.93	4.49	3.53	8.41	4.87
12.4585*	2,017.0	5,253.78	5,258.49	5,258.66	5,260.14	0.009385	10.79	221.73	85.63	0.96	4.56	3.25	9.10	4.71
12.2342*	2,017.0	5,253.60	5,257.89	5,258.27	5,259.88	0.012630	11.67	193.36	71.92	1.10	4.74	3.72	10.43	4.29
12.01	2,017.0	5,253.43	5,258.37	5,257.92	5,259.57	0.006039	9.09	249.48	77.31	0.78	3.99	2.82	8.08	4.94
10.77	2,017.0	5,252.90	5,258.04	5,257.03	5,258.83	0.003830	7.72	317.33	88.88	0.63	3.97	3.06	6.36	5.14
10.09*	2,017.0	5,252.41	5,257.69	5,256.90	5,258.54	0.004541	8.68	321.91	97.92	0.69	4.46	3.34	6.27	5.28
9.41	2,017.0	5,251.92	5,257.64	5,256.06	5,258.18	0.003496	8.15	399.65	113.97	0.62	4.28	3.83	5.05	5.72
9.01*	2,017.0	5,251.66	5,257.12	5,256.41	5,258.02	0.005231	9.48	326.59	108.56	0.75	4.41	3.95	6.18	5.46
8.61*	2,017.0	5,251.40	5,256.53	5,255.95	5,257.79	0.006837	10.21	265.86	88.31	0.84	4.79	3.73	7.59	5.13
8.21	2,017.0	5,251.14	5,256.54	5,255.69	5,257.50	0.004607	8.60	287.11	106.89	0.70	4.48	3.15	7.03	5.40
7.99*	2,017.0	5,250.89	5,256.37	5,255.58	5,257.40	0.005017	9.05	281.12	120.82	0.73	4.72	3.43	7.17	5.48
7.77*	2,017.0	5,250.64	5,256.06	5,255.52	5,257.28	0.006261	10.01	266.66	111.46	0.81	4.86	3.95	7.56	5.42
7.55*	2,017.0	5,250.38	5,255.55	5,255.51	5,257.11	0.009104	11.59	239.27	80.96	0.97	5.52	4.75	8.43	5.17
7.33*	2,017.0	5,250.13	5,255.44	5,255.44	5,256.92	0.009074	11.78	248.24	101.78	1.09	5.71	5.02	8.13	5.31
7.11*	2,017.0	5,249.88	5,254.91	5,255.20	5,256.70	0.012913	13.43	224.75	81.16	1.14	6.74	5.90	8.97	5.03
6.89	2,017.0	5,249.63	5,255.32	5,254.91	5,256.41	0.007510	11.22	281.85	132.21	0.88	5.98	5.17	7.16	5.69
6.66666*	2,017.0	5,249.38	5,255.12	5,254.77	5,256.26	0.007225	11.15	282.29	116.15	0.87	5.68	5.03	7.15	5.74
6.44333*	2,017.0	5,249.14	5,254.55	5,254.54	5,256.04	0.009630	12.34	251.57	87.68	1.00	6.00	5.20	8.02	5.41
6.22*	2,017.0	5,248.89	5,254.42	5,254.42	5,255.83	0.008547	11.80	265.52	97.32	0.94	5.50	4.51	7.60	5.53
5.99666*	2,017.0	5,248.64	5,253.69	5,254.06	5,255.58	0.012380	13.20	229.21	92.83	1.12	6.03	5.06	8.80	5.05
5.77333*	2,017.0	5,248.40	5,253.03	5,253.56	5,255.23	0.016236	14.04	207.21	88.54	1.25	6.89	5.53	9.73	4.63
5.55	2,017.0	5,248.15	5,252.43	5,253.40	5,254.81	0.020005	14.51	196.02	87.90	1.37	6.88	6.45	10.29	4.28
5.30333*	2,017.0	5,247.92	5,252.96	5,253.09	5,254.17	0.008771	10.92	291.14	127.73	0.93	5.42	4.22	6.93	5.04
5.05666*	2,017.0	5,247.70	5,252.92	5,252.69	5,253.84	0.006810	9.85	329.75	135.25	0.83	4.87	4.11	6.12	5.22
4.81*	2,017.0	5,247.48	5,252.96	5,252.39	5,253.61	0.004759	8.55	384.85	143.10	0.70	4.24	3.86	5.24	5.48
4.56333*	2,017.0	5,247.25	5,252.99	5,252.06	5,253.46	0.003427	7.49	441.09	150.05	0.60	3.79	3.59	4.57	5.74
4.31666*	2,017.0	5,247.02	5,253.00	5,251.74	5,253.35	0.002514	6.60	499.58	156.56	0.52	3.42	3.32	4.04	5.98
4.07	2,017.0	5,246.80	5,253.01	5,251.41	5,253.28	0.001874	5.85	561.19	162.98	0.45	3.10	3.07	3.59	6.21

Profile Output Table - Lowe Pre-mine 100 yr-6 hr
HEC-RAS Plan: Premine Plan Reach: Lowe 3/6/2003

River Sta.	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	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
3.57333*	2,017.0	5,246.38	5,252.52	5,251.69	5,253.10	0.003808	8.30	421.37	162.58	0.64	4.56	2.89	4.79	6.14
3.07666*	2,017.0	5,245.95	5,251.79	5,251.38	5,252.80	0.006328	10.31	304.70	110.42	0.81	5.86	3.09	6.62	5.84
2.58	2,017.0	5,245.53	5,251.43	5,250.71	5,252.45	0.006167	10.25	286.91	87.73	0.80	6.12	2.93	7.03	5.90
2.17333*	2,017.0	5,245.22	5,250.58	5,250.58	5,252.11	0.009659	11.75	236.81	79.21	0.98	6.43	3.80	8.52	5.36
1.76666*	2,017.0	5,244.90	5,249.97	5,250.14	5,251.69	0.011360	11.90	218.95	76.15	1.05	6.50	4.06	9.21	5.07
1.36	2,017.0	5,244.59	5,249.43	5,249.73	5,251.20	0.012676	11.78	212.34	78.88	1.09	6.27	4.11	9.50	4.84
.68*	2,017.0	5,243.50	5,248.50	5,248.87	5,250.30	0.014481	11.74	208.62	85.84	1.15	6.39	3.28	9.67	5.00
0	2,017.0	5,242.41	5,248.08	5,248.08	5,249.38	0.010140	10.00	246.20	145.86	0.96	5.58	2.26	8.19	5.67
						Max	14.51							
						Min	2.25					**Avg**	7.13	
						Avg	9.44							