APPENDIX 11-Y1

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

OCTOBER 2006

Profile Output Table - Lowe North Post-mine 2 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North LoweR4	11.71	86.0	5,380.41	5,380.93	5,380.89	5,381.04	0.015032	2.59	33.40	107.15	0.80	0.56		2.57	0.52
North LoweR4	11.35*	86.0	5,379.91	5,380.47	5,380.40	5,380.55	0.012147	2.27	37.91	123.61	0.72	0.34		2.27	0.56
North LoweR4	10.99*	86.0	5,379.41	5,379.95	5,379.92	5,380.04	0.016827	2.41	35.75	135.18	0.82			2.41	0.54
North LoweR4	10.63	86.0	5,378.91	5,379.61	5,379.44	5,379.64	0.004308	1.49	57.60	160.67	0.44	0.15		1.49	0.70
North LoweR4	10.2933*	86.0	5,378.60	5,379.43	5,379.25	5,379.48	0.005193	1.78	48.25	118.48	0.49			1.78	0.83
North LoweR4	9.95666*	86.0	5,378.28	5,379.00	5,379.00	5,379.18	0.023418	3.37	25.55	74.80	1.02			3.37	0.72
North LoweR4	9.62	86.0	5,377.97	5,378.48	5,378.41	5,378.57	0.011106	2.33	36.87	106.85	0.70			2.33	0.51
North LoweR4	9.25*	86.0	5,377.58	5,378.09	5,378.00	5,378.18	0.010056	2.31	37.24	101.71	0.67			2.31	0.51
North LoweR4	8.88*	86.0	5,377.18	5,377.68	5,377.60	5,377.77	0.011787	2.48	34.70	96.05	0.73			2.48	0.50
North LoweR4	8.51	86.0	5,376.79	5,377.31	5,377.20	5,377.40	0.008468	2.29	37.48	90.89	0.63			2.29	0.52
North LoweR4	8.11*	86.0	5,376.42	5,376.99	5,376.87	5,377.07	0.007933	2.26	38.04	89.81	0.61			2.26	0.57
North LoweR4	7.71*	86.0	5,376.05	5,376.65	5,376.54	5,376.73	0.009184	2.37	36.32	89.31	0.65			2.37	0.59
North LoweR4	7.31	86.0	5,375.68	5,376.36	5,376.19	5,376.43	0.005723	2.04	42.29	92.43	0.53	0.27	0.40	2.03	0.68
North LoweR4	6.87666*	86.0	5,375.17	5,376.06	5,375.87	5,376.16	0.006834	2.49	34.49	62.84	0.59			2.49	0.89
North LoweR4	6.44333*	86.0	5,374.65	5,375.80	5,375.45	5,375.91	0.004500	2.68	32.14	38.38	0.52			2.68	1.15
North LoweR4	6.01	86.0	5,374.14	5,375.15	5,375.15	5,375.57	0.017395	5.18	16.61	20.10	1.00			5.18	1.01
North LoweR4	5.808*	86.0	5,372.62	5,373.35	5,373.70	5,374.50	0.081134	8.60	10.00	18.07	2.04			8.60	0.73
North LoweR4	5.606*	86.0	5,371.10	5,371.89	5,372.21	5,372.93	0.070153	8.21	10.48	18.23	1.91			8.21	0.79
North LoweR4	5.404*	86.0	5,369.59	5,370.37	5,370.70	5,371.47	0.074392	8.44	10.19	17.73	1.96			8.44	0.78
North LoweR4	5.202*	86.0	5,368.07	5,368.82	5,369.17	5,369.97	0.074378	8.59	10.01	16.92	1.97			8.59	0.75
North LoweR4	5.00	86.0	5,366.55	5,367.25	5,367.62	5,368.43	0.076816	8.71	9.88	16.74	2.00			8.71	0.70
North LoweR4	4.75*	86.0	5,363.66	5,364.35	5,364.78	5,365.90	0.122291	10.00	8.60	16.82	2.47			10.00	0.69
North LoweR4	4.5*	86.0	5,360.77	5,361.54	5,361.95	5,362.97	0.109020	9.61	8.95	17.06	2.34			9.61	0.77
North LoweR4	4.25*	86.0	5,357.89	5,358.68	5,359.10	5,360.17	0.114344	9.82	8.76	16.73	2.39			9.82	0.79
North LoweR4	4.00	86.0	5,355.00	5,355.83	5,356.24	5,357.30	0.114725	9.76	8.82	17.01	2.39			9.76	0.83
North LoweR4	3.75*	86.0	5,352.99	5,353.90	5,354.24	5,354.99	0.066887	8.37	10.28	16.66	1.88			8.37	0.91
North LoweR4	3.5*	86.0	5,350.98	5,351.83	5,352.21	5,353.11	0.081858	9.09	9.47	15.80	2.07			9.09	0.85
North LoweR4	3.25*	86.0	5,348.97	5,349.80	5,350.20	5,351.11	0.078118	9.21	9.34	14.66	2.03			9.21	0.83
North LoweR4	3.00	86.0	5,346.96	5,347.74	5,348.16	5,349.14	0.078673	9.50	9.06	13.46	2.04			9.50	0.78
North LoweR4	2.75*	86.0	5,346.12	5,347.34	5,347.40	5,347.87	0.021200	5.84	14.73	17.21	1.11			5.84	1.22
North LoweR4	2.50	86.0	5,345.28	5,346.41	5,346.61	5,347.12	0.036899	6.75	12.74	18.19	1.42			6.75	1.13
North LoweR4	2.25*	86.0	5,344.31	5,345.40	5,345.62	5,346.18	0.038129	7.09	12.13	16.46	1.46			7.09	1.08
North LoweR4	2.00	86.0	5,343.35	5,345.27	5,344.65	5,345.43	0.003494	3.17	27.11	34.44	0.48			3.17	1.92

The reclaimed reach is between River Station 6.01 and 2.00. This reach of channel is riprapped. The remaining upstream reach is undisturbed or pre-mine channel.The riprapped reach and the undisturbed reach upstream of the mine lease were not included in determining the maximum, minimum and average velocities. The shaded areas on the table indicate riprapped reaches.

Max	N/A	
Min	N/A	
Avg	N/A	
		Avg N/A

North LoweR3	15.89	33.0	5,391.12	5,391.70	5,391.65	5,391.80	0.014643	2.55	12.96	40.53	0.79			2.55	0.58
North LoweR3	15.5066*	33.0	5,390.56	5,391.23	5,391.13	5,391.31	0.010431	2.39	13.81	36.82	0.69			2.39	0.66
North LoweR3	15.1233*	33.0	5,390.01	5,390.60	5,390.59	5,390.75	0.022916	3.12	10.59	34.21	0.99			3.12	0.59
North LoweR3	14.74	33.0	5,389.45	5,390.07	5,390.00	5,390.13	0.007430	2.04	19.02	69.20	0.58		0.80	1.74	0.62
North LoweR3	14.32*	33.0	5,389.06	5,389.65	5,389.56	5,389.75	0.010994	2.54	12.97	32.75	0.71			2.54	0.59
North LoweR3	13.9*	33.0	5,388.66	5,389.24	5,389.14	5,389.34	0.009020	2.45	13.45	32.53	0.66			2.45	0.58
North LoweR3	13.48	33.0	5,388.27	5,388.77	5,388.70	5,388.89	0.012880	2.78	11.85	68.59	0.77			2.78	0.50
North LoweR3	13.1*	33.0	5,387.89	5,388.34	5,388.26	5,388.43	0.010947	2.32	14.21	47.14	0.70			2.32	0.45
North LoweR3	12.72*	33.0	5,387.50	5,387.86	5,387.81	5,387.94	0.014991	2.25	14.65	56.10	0.78			2.25	0.36
North LoweR3	12.34	33.0	5,387.12	5,387.44	5,387.36	5,387.48	0.008620	1.60	20.65	87.31	0.58			1.60	0.32
North LoweR3	11.98*	33.0	5,386.77	5,387.13	5,387.05	5,387.17	0.009482	1.66	19.83	84.82	0.61			1.66	0.35
North LoweR3	11.62*	33.0	5,386.43	5,386.85	5,386.74	5,386.88	0.006769	1.50	22.04	85.74	0.52			1.50	0.42
North LoweR3	11.26	33.0	5,386.08	5,386.47	5,386.43	5,386.53	0.015809	2.04	16.21	109.67	0.77			2.04	0.39
North LoweR3	11.06*	33.0	5,385.73	5,386.16	5,386.11	5,386.22	0.014196	1.99	16.55	73.07	0.74			1.99	0.43
North LoweR3	10.86*	33.0	5,385.38	5,385.82	5,385.78	5,385.89	0.017818	2.16	15.30	71.21	0.82			2.16	0.44
North LoweR3	10.66*	33.0	5,385.02	5,385.51	5,385.46	5,385.57	0.013333	1.97	16.75	71.82	0.72			1.97	0.49
North LoweR3	10.46*	33.0	5,384.67	5,385.15	5,385.12	5,385.23	0.019206	2.21	14.92	70.68	0.85			2.21	0.48
North LoweR3	10.26*	33.0	5,384.32	5,384.86	5,384.77	5,384.91	0.011017	1.84	17.91	73.54	0.66			1.84	0.54
North LoweR3	10.06	33.0	5,383.97	5,384.42	5,384.42	5,384.55	0.031577	2.94	11.22	50.34	1.10			2.94	0.45
North LoweR3	9.795*	33.0	5,382.29	5,382.71	5,382.83	5,383.09	0.097457	4.97	6.64	31.60	1.91			4.97	0.42
North LoweR3	9.53*	33.0	5,380.60	5,381.13	5,381.22	5,381.43	0.056696	4.40	7.50	28.49	1.51			4.40	0.53
North LoweR3	9.265*	33.0	5,378.92	5,379.45	5,379.60	5,379.91	0.079151	5.45	6.05	21.41	1.81			5.45	0.53
North LoweR3	9.00	33.0	5,377.23	5,377.80	5,377.96	5,378.32	0.065702	5.75	5.74	16.22	1.70			5.75	0.57
North LoweR3	8.75*	33.0	5,374.46	5,375.02	5,375.26	5,375.86	0.128811	7.36	4.48	14.53	2.33			7.36	0.56
North LoweR3	8.5*	33.0	5,371.69	5,372.29	5,372.51	5,373.01	0.097622	6.77	4.87	14.53	2.06			6.77	0.60
North LoweR3	8.25*	33.0	5,368.93	5,369.48	5,369.71	5,370.31	0.117434	7.35	4.49	13.61	2.25			7.35	0.54

Profile Output Table - Lowe North Post-mine 2 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North LoweR3	8.00	33.0	5,366.16	5,366.65	5,366.89	5,367.46	0.109951	7.24	4.56	13.41	2.19			7.24	0.49
North LoweR3	7.75*	33.0	5,364.55	5,365.19	5,365.31	5,365.61	0.043851	5.20	6.35	15.42	1.43			5.20	0.64
North LoweR3	7.5*	33.0	5,362.94	5,363.51	5,363.69	5,364.09	0.076860	6.11	5.40	15.73	1.84			6.11	0.57
North LoweR3	7.25*	33.0	5,361.33	5,361.89	5,362.04	5,362.38	0.058777	5.59	5.90	16.03	1.62			5.59	0.56
North LoweR3	7.00	33.0	5,359.72	5,360.18	5,360.35	5,360.73	0.072105	5.92	5.58	16.21	1.78			5.92	0.46
North LoweR3	6.75*	33.0	5,358.74	5,359.40	5,359.41	5,359.65	0.021939	4.02	8.20	17.42	1.03			4.02	0.66
North LoweR3	6.5*	33.0	5,357.75	5,358.34	5,358.47	5,358.78	0.046524	5.29	6.24	15.46	1.47			5.29	0.59
North LoweR3	6.25*	33.0	5,356.76	5,357.46	5,357.52	5,357.79	0.031220	4.61	7.15	16.10	1.22			4.61	0.70
North LoweR3	6.00	33.0	5,355.78	5,356.48	5,356.59	5,356.88	0.040440	5.09	6.49	15.32	1.38			5.09	0.70
North LoweR3	5.75*	33.0	5,354.78	5,355.43	5,355.54	5,355.83	0.044011	5.11	6.46	16.19	1.42			5.11	0.65
North LoweR3	5.5*	33.0	5,353.79	5,354.41	5,354.51	5,354.77	0.040297	4.79	6.89	17.80	1.36			4.79	0.62
North LoweR3	5.25*	33.0	5,352.79	5,353.38	5,353.48	5,353.73	0.042159	4.73	6.98	19.02	1.38			4.73	0.59
North LoweR3	5.00	33.0	5,351.80	5,352.38	5,352.46	5,352.70	0.039791	4.50	7.33	20.57	1.33			4.50	0.58
North LoweR3	4.75*	33.0	5,350.95	5,351.66	5,351.68	5,351.90	0.024093	3.96	8.32	19.40	1.07			3.96	0.71
North LoweR3	4.5*	33.0	5,350.10	5,350.76	5,350.86	5,351.13	0.036782	4.89	6.74	15.72	1.32			4.89	0.66
North LoweR3	4.25*	33.0	5,349.25	5,349.89	5,349.97	5,350.27	0.032262	4.92	6.70	13.97	1.25			4.92	0.64
North LoweR3	4.00	33.0	5,348.40	5,348.96	5,349.07	5,349.39	0.037646	5.24	6.30	13.39	1.35			5.24	0.56
North LoweR3	3.75*	33.0	5,347.65	5,348.18	5,348.24	5,348.47	0.032460	4.29	7.68	19.88	1.22			4.29	0.53
North LoweR3	3.5*	33.0	5,346.90	5,347.38	5,347.43	5,347.62	0.034895	3.93	8.41	26.32	1.22			3.93	0.48
North LoweR3	3.25*	33.0	5,346.15	5,346.60	5,346.63	5,346.78	0.030526	3.38	9.78	34.77	1.12			3.38	0.45
North LoweR3	3.00	33.0	5,345.40	5,345.80	5,345.82	5,345.96	0.034787	3.22	10.24	43.05	1.16			3.22	0.40
North LoweR3	2.75*	33.0	5,344.21	5,344.75	5,344.65	5,344.82	0.010518	2.16	15.31	47.99	0.67			2.16	0.54
North LoweR3	2.50	33.0	5,343.02	5,344.67	5,343.49	5,344.67	0.000061	0.38	90.26	93.84	0.06	0.03	0.09	0.37	1.65

The reclaimed reach is between River Station 10.06 and 2.50. The remaining upstream reach is undisturbed or pre-mine channel.The riprapped reach and the undisturbed reach upstream of the mine lease were not included in determining the maximum, minimum and average velocities. The shaded areas on the table indicate riprapped reaches.

Max 5.24
Min 3.22
Avg 4.47

Avg 4.47

North LoweR2	14.00	112.0	5,342.50	5,344.35	5,343.85	5,344.59	0.005097	3.88	28.84	21.12	0.59			3.88	1.85
North LoweR2	13.5*	112.0	5,342.25	5,344.09	5,343.61	5,344.33	0.005237	3.92	28.56	21.04	0.59			3.92	1.84
North LoweR2	13.00	112.0	5,341.99	5,343.83	5,343.34	5,344.07	0.005285	3.93	28.47	21.02	0.60			3.93	1.84
North LoweR2	12.5*	112.0	5,341.73	5,343.58	5,343.08	5,343.81	0.005153	3.90	28.73	21.09	0.59			3.90	1.85
North LoweR2	12.00	112.0	5,341.48	5,343.33	5,342.83	5,343.57	0.005112	3.89	28.81	21.11	0.59			3.89	1.85
North LoweR2	11.5*	112.0	5,341.23	5,343.08	5,342.59	5,343.32	0.005102	3.88	28.83	21.12	0.59			3.88	1.85
North LoweR2	11.00	112.0	5,340.98	5,342.84	5,342.33	5,343.07	0.005081	3.88	28.87	21.13	0.58			3.88	1.85
North LoweR2	10.5*	112.0	5,340.73	5,342.58	5,342.08	5,342.81	0.005169	3.90	28.70	21.08	0.59			3.90	1.85
North LoweR2	10.0	112.0	5,340.47	5,342.32	5,341.82	5,342.56	0.005117	3.89	28.80	21.11	0.59			3.89	1.85
North LoweR2	9.00	112.0	5,339.96	5,341.81	5,341.32	5,342.05	0.005097	3.88	28.84	21.12	0.59			3.88	1.85
North LoweR2	8.00	112.0	5,339.45	5,341.30	5,340.80	5,341.54	0.005102	3.88	28.83	21.12	0.59			3.88	1.85
North LoweR2	7.00	112.0	5,338.94	5,340.79	5,340.29	5,341.03	0.005102	3.88	28.83	21.12	0.59			3.88	1.85
North LoweR2	6.00	112.0	5,338.43	5,340.29	5,339.78	5,340.52	0.005046	3.87	28.94	21.15	0.58			3.87	1.86
North LoweR2	5.00	112.0	5,337.93	5,339.78	5,339.29	5,340.02	0.005107	3.89	28.82	21.12	0.59			3.89	1.85
North LoweR2	4.00	112.0	5,337.42	5,339.27	5,338.77	5,339.51	0.005117	3.89	28.80	21.11	0.59			3.89	1.85
North LoweR2	3.00	112.0	5,336.91	5,338.77	5,338.27	5,339.00	0.005066	3.87	28.90	21.14	0.58			3.87	1.86
North LoweR2	2.00	112.0	5,336.40	5,338.28	5,337.75	5,338.51	0.004801	3.80	29.46	21.30	0.57			3.80	1.88
North LoweR2	1.00	112.0	5,335.89	5,337.86	5,337.25	5,338.06	0.004056	3.58	31.29	21.81	0.53			3.58	1.97
North LoweR2	0.00	112.0	5,335.39	5,337.56	5,336.75	5,337.72	0.002605	3.12	36.51	29.92	0.43	0.33	0.33	3.07	2.17

This entire reach will be reclaimed.

Max 3.93
Min 3.12
Avg 3.83

Avg 3.83

North LoweR1	12.73	17.0	5,355.00	5,355.40	5,355.30	5,355.48	0.008973	2.21	7.68	20.40	0.64			2.21	0.40
North LoweR1	12.00	17.0	5,354.39	5,354.82	5,354.69	5,354.89	0.007212	2.06	8.26	20.81	0.58			2.06	0.43
North LoweR1	11.00	17.0	5,353.70	5,354.14	5,354.00	5,354.20	0.006749	2.02	8.40	20.61	0.56			2.02	0.44
North LoweR1	10.00	17.0	5,353.00	5,353.43	5,353.30	5,353.50	0.007322	2.08	8.19	20.58	0.58			2.08	0.43
North LoweR1	9.00	17.0	5,352.30	5,352.76	5,352.61	5,352.82	0.006210	1.97	8.63	20.73	0.54			1.97	0.46
North LoweR1	8.00	17.0	5,351.60	5,352.02	5,351.91	5,352.09	0.008547	2.18	7.81	20.52	0.62			2.18	0.42
North LoweR1	7.00	17.0	5,350.90	5,351.45	5,351.22	5,351.49	0.003472	1.64	10.39	21.28	0.41			1.64	0.55
North LoweR1	6.00	17.0	5,350.25	5,350.68	5,350.68	5,350.87	0.022245	3.52	4.83	12.57	1.00			3.52	0.43
North LoweR1	5.75*	17.0	5,349.63	5,350.03	5,350.06	5,350.25	0.027661	3.78	4.50	12.41	1.11			3.78	0.40
North LoweR1	5.5*	17.0	5,349.01	5,349.44	5,349.44	5,349.63	0.022508	3.54	4.81	12.56	1.01			3.54	0.43
North LoweR1	5.25*	17.0	5,348.39	5,348.80	5,348.82	5,349.01	0.026431	3.73	4.56	12.44	1.08			3.73	0.41
North LoweR1	5.00	17.0	5,347.77	5,348.19	5,348.20	5,348.39	0.023229	3.57	4.76	12.53	1.02			3.57	0.42

Profile Output Table - Lowe North Post-mine 2 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North LoweR1	4.75*	17.0	5,347.16	5,347.56	5,347.58	5,347.77	0.026759	3.74	4.55	12.43	1.09			3.74	0.41
North LoweR1	4.5*	17.0	5,346.54	5,346.97	5,346.97	5,347.16	0.022685	3.54	4.80	12.55	1.01			3.54	0.43
North LoweR1	4.25*	17.0	5,345.92	5,346.33	5,346.35	5,346.54	0.026322	3.72	4.57	12.44	1.08			3.72	0.41
North LoweR1	4.00	17.0	5,345.30	5,345.72	5,345.73	5,345.92	0.023322	3.58	4.75	12.53	1.02			3.58	0.42
North LoweR1	3.75*	17.0	5,344.68	5,345.09	5,345.11	5,345.30	0.025789	3.70	4.60	12.46	1.07			3.70	0.41
North LoweR1	3.5*	17.0	5,344.06	5,344.48	5,344.49	5,344.68	0.024466	3.63	4.68	12.50	1.05			3.63	0.42
North LoweR1	3.25*	17.0	5,343.44	5,343.86	5,343.87	5,344.06	0.024466	3.63	4.68	12.50	1.05			3.63	0.42
North LoweR1	3.00	17.0	5,342.82	5,343.23	5,343.25	5,343.44	0.025270	3.67	4.63	12.47	1.06			3.67	0.41
North LoweR1	2.75*	17.0	5,342.20	5,342.62	5,342.63	5,342.82	0.024565	3.64	4.67	12.49	1.05			3.64	0.42
North LoweR1	2.5*	17.0	5,341.58	5,342.00	5,342.01	5,342.20	0.024565	3.64	4.67	12.49	1.05			3.64	0.42
North LoweR1	2.25*	17.0	5,340.96	5,341.37	5,341.39	5,341.58	0.025373	3.68	4.62	12.47	1.06			3.68	0.41
North LoweR1	2.00	17.0	5,340.34	5,340.76	5,340.77	5,340.96	0.024466	3.63	4.68	12.50	1.05			3.63	0.42
North LoweR1	1.75*	17.0	5,339.72	5,340.13	5,340.15	5,340.34	0.025476	3.68	4.62	12.47	1.07			3.68	0.41
North LoweR1	1.5*	17.0	5,339.10	5,339.52	5,339.53	5,339.72	0.024565	3.64	4.67	12.49	1.05			3.64	0.42
North LoweR1	1.25*	17.0	5,338.49	5,338.91	5,338.92	5,339.11	0.024565	3.64	4.67	12.49	1.05			3.64	0.42
North LoweR1	1.00	17.0	5,337.87	5,338.29	5,338.30	5,338.49	0.024466	3.63	4.68	12.50	1.05			3.63	0.42
North LoweR1	.75*	17.0	5,337.25	5,337.74	5,337.68	5,337.88	0.013969	3.03	5.62	12.94	0.81			3.03	0.49
North LoweR1	.5*	17.0	5,336.63	5,337.63	5,337.06	5,337.66	0.001149	1.31	12.98	15.99	0.26			1.31	1.00
North LoweR1	.25*	17.0	5,336.01	5,337.63	5,336.44	5,337.63	0.000197	0.71	23.98	19.69	0.11			0.71	1.62
North LoweR1	0.00	17.0	5,335.39	5,337.63	5,335.82	5,337.63	0.000057	0.46	37.33	23.41	0.06			0.46	2.23

This entire reach will be reclaimed. The riprapped reach was not included in determining the maximum, minimum, and average velocities.

							Max	2.21					Avg	2.02	
							Min	1.64							
							Avg	2.02							
North Lowe	90.01	125.0	5,335.39	5,337.35	5,336.84	5,337.60	0.005115	4.01	31.16	21.77	0.59			4.01	1.96
North Lowe	89.63	125.0	5,335.20	5,337.16	5,336.64	5,337.41	0.005101	4.01	31.19	21.78	0.59			4.01	1.96
North Lowe	88.65*	125.0	5,334.70	5,336.66	5,336.15	5,336.91	0.005101	4.01	31.19	21.78	0.59			4.01	1.96
North Lowe	87.67	125.0	5,334.20	5,336.16	5,335.64	5,336.41	0.005101	4.01	31.19	21.78	0.59			4.01	1.96
North Lowe	86.66*	125.0	5,333.69	5,335.66	5,335.14	5,335.91	0.005014	3.98	31.38	21.83	0.59			3.98	1.97
North Lowe	85.65	125.0	5,333.19	5,335.15	5,334.63	5,335.40	0.005096	4.01	31.20	21.78	0.59			4.01	1.96
North Lowe	84.66*	125.0	5,332.68	5,334.64	5,334.13	5,334.89	0.005101	4.01	31.19	21.78	0.59			4.01	1.96
North Lowe	83.67	125.0	5,332.17	5,334.14	5,333.61	5,334.39	0.005057	4.00	31.28	21.80	0.59			4.00	1.97
North Lowe	82.68*	125.0	5,331.67	5,333.63	5,333.12	5,333.88	0.005149	4.02	31.08	21.75	0.59			4.02	1.96
North Lowe	81.69	125.0	5,331.16	5,333.13	5,332.60	5,333.38	0.005067	4.00	31.26	21.80	0.59			4.00	1.97
North Lowe	81.0166*	125.0	5,330.82	5,332.78	5,332.27	5,333.03	0.005105	4.01	31.18	21.77	0.59			4.01	1.96
North Lowe	80.3433*	125.0	5,330.48	5,332.43	5,331.92	5,332.68	0.005264	4.05	30.84	21.68	0.60			4.05	1.95
North Lowe	79.67	125.0	5,330.14	5,332.02	5,331.59	5,332.30	0.005986	4.24	29.45	21.29	0.64			4.24	1.88
North Lowe	78.94*	125.0	5,329.70	5,331.59	5,331.14	5,331.87	0.005881	4.22	29.64	21.35	0.63			4.22	1.89
North Lowe	78.21*	125.0	5,329.27	5,331.15	5,330.72	5,331.43	0.006004	4.25	29.42	21.29	0.64			4.25	1.88
North Lowe	77.48	125.0	5,328.83	5,330.71	5,330.27	5,330.99	0.006040	4.26	29.36	21.27	0.64			4.26	1.88
North Lowe	76.7533*	125.0	5,328.39	5,330.28	5,329.84	5,330.56	0.005933	4.23	29.55	21.32	0.63			4.23	1.89
North Lowe	76.0266*	125.0	5,327.96	5,329.84	5,329.40	5,330.12	0.006052	4.26	29.34	21.26	0.64			4.26	1.88
North Lowe	75.30	125.0	5,327.52	5,329.40	5,328.97	5,329.68	0.006034	4.26	29.37	21.27	0.64			4.26	1.88
North Lowe	74.62*	125.0	5,327.11	5,328.99	5,328.55	5,329.27	0.006028	4.25	29.38	21.27	0.64			4.25	1.88
North Lowe	73.94*	125.0	5,326.70	5,328.58	5,328.15	5,328.86	0.006034	4.26	29.37	21.27	0.64			4.26	1.88
North Lowe	73.26	125.0	5,326.29	5,328.17	5,327.73	5,328.45	0.006058	4.26	29.33	21.26	0.64			4.26	1.88
North Lowe	72.5833*	125.0	5,325.88	5,327.76	5,327.33	5,328.04	0.006052	4.26	29.34	21.26	0.64			4.26	1.88
North Lowe	71.9066*	125.0	5,325.47	5,327.35	5,326.91	5,327.63	0.006052	4.26	29.34	21.26	0.64			4.26	1.88
North Lowe	71.23	125.0	5,325.06	5,326.94	5,326.51	5,327.22	0.006016	4.25	29.40	21.28	0.64			4.25	1.88
North Lowe	70.5233*	125.0	5,324.64	5,326.51	5,326.08	5,326.80	0.006112	4.28	29.23	21.23	0.64			4.28	1.87
North Lowe	69.8166*	125.0	5,324.21	5,326.09	5,325.66	5,326.37	0.005992	4.25	29.44	21.29	0.64			4.25	1.88
North Lowe	69.11	125.0	5,323.79	5,325.68	5,325.23	5,325.95	0.005951	4.24	29.52	21.31	0.63			4.24	1.89
North Lowe	68.12*	125.0	5,323.19	5,325.11	5,324.64	5,325.37	0.005605	4.15	30.15	21.49	0.62			4.15	1.92
North Lowe	67.13	125.0	5,322.58	5,324.19	5,324.03	5,324.61	0.010932	5.26	23.78	19.63	0.84			5.26	1.60
North Lowe	66.726*	125.0	5,322.34	5,323.81	5,323.62	5,324.18	0.009916	4.91	25.48	21.79	0.80			4.91	1.46
North Lowe	66.322*	125.0	5,322.10	5,323.45	5,323.25	5,323.78	0.009346	4.64	26.95	24.07	0.77			4.64	1.35
North Lowe	65.918*	125.0	5,321.85	5,323.12	5,322.89	5,323.41	0.008374	4.31	28.97	26.62	0.73			4.31	1.27
North Lowe	65.514*	125.0	5,321.61	5,322.84	5,322.57	5,323.08	0.007103	3.95	31.64	29.39	0.67			3.95	1.23
North Lowe	65.11	125.0	5,321.37	5,322.25	5,322.25	5,322.66	0.017606	5.13	24.35	30.29	1.01			5.13	0.88
North Lowe	64.696*	125.0	5,320.43	5,321.21	5,321.31	5,321.74	0.026209	5.83	21.43	29.70	1.21			5.83	0.78
North Lowe	64.282*	125.0	5,319.49	5,320.34	5,320.37	5,320.78	0.019565	5.31	23.54	30.12	1.06			5.31	0.85
North Lowe	63.868*	125.0	5,318.55	5,319.35	5,319.43	5,319.86	0.024609	5.72	21.87	29.79	1.18			5.72	0.80
North Lowe	63.454*	125.0	5,317.61	5,318.45	5,318.50	5,318.90	0.020876	5.42	23.05	30.03	1.09			5.42	0.84
North Lowe	63.04	125.0	5,316.67	5,317.48	5,317.55	5,317.97	0.023857	5.66	22.09	29.83	1.16			5.66	0.81
North Lowe	62.634*	125.0	5,315.75	5,316.58	5,316.64	5,317.05	0.021596	5.48	22.80	29.98	1.11			5.48	0.83

Profile Output Table - Lowe North Post-mine 2 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North Lowe	62.228*	125.0	5,314.82	5,315.63	5,315.70	5,316.12	0.023710	5.65	22.13	29.84	1.16			5.65	0.81
North Lowe	61.822*	125.0	5,313.90	5,314.73	5,314.78	5,315.20	0.021726	5.49	22.76	29.97	1.11			5.49	0.83
North Lowe	61.416*	125.0	5,312.97	5,313.78	5,313.86	5,314.27	0.023661	5.64	22.15	29.85	1.15			5.64	0.81
North Lowe	61.01	125.0	5,312.05	5,312.88	5,312.93	5,313.35	0.021770	5.50	22.75	29.97	1.11			5.50	0.83
North Lowe	60.592*	125.0	5,311.10	5,311.92	5,311.98	5,312.40	0.022992	5.59	22.35	29.89	1.14			5.59	0.81
North Lowe	60.174*	125.0	5,310.14	5,310.96	5,311.02	5,311.44	0.022852	5.58	22.40	29.90	1.14			5.58	0.82
North Lowe	59.756*	125.0	5,309.19	5,310.01	5,310.07	5,310.49	0.022852	5.58	22.40	29.90	1.14			5.58	0.82
North Lowe	59.338*	125.0	5,308.23	5,309.05	5,309.11	5,309.53	0.022852	5.58	22.40	29.90	1.14			5.58	0.82
North Lowe	58.92	125.0	5,307.28	5,308.10	5,308.17	5,308.58	0.022852	5.58	22.40	29.90	1.14			5.58	0.82
North Lowe	58.504*	125.0	5,306.34	5,307.16	5,307.22	5,307.64	0.022438	5.55	22.53	29.92	1.13			5.55	0.82
North Lowe	58.088*	125.0	5,305.39	5,306.20	5,306.27	5,306.69	0.023468	5.63	22.21	29.86	1.15			5.63	0.81
North Lowe	57.672*	125.0	5,304.45	5,305.28	5,305.34	5,305.75	0.021813	5.50	22.73	29.96	1.11			5.50	0.83
North Lowe	57.256*	125.0	5,303.50	5,304.31	5,304.39	5,304.80	0.023516	5.63	22.19	29.85	1.15			5.63	0.81
North Lowe	56.84	125.0	5,302.56	5,303.39	5,303.45	5,303.86	0.021770	5.50	22.75	29.97	1.11			5.50	0.83
North Lowe	56.3475*	125.0	5,301.44	5,302.25	5,302.33	5,302.74	0.023086	5.60	22.32	29.88	1.14			5.60	0.81
North Lowe	55.855*	125.0	5,300.32	5,301.14	5,301.20	5,301.62	0.022438	5.55	22.53	29.92	1.13			5.55	0.82
North Lowe	55.3625*	125.0	5,299.20	5,300.01	5,300.08	5,300.50	0.023086	5.60	22.32	29.88	1.14			5.60	0.81
North Lowe	54.87	125.0	5,298.08	5,299.46	5,298.96	5,299.61	0.003757	3.10	40.26	33.29	0.50			3.10	1.38
North Lowe	54.425*	125.0	5,297.75	5,299.30	5,298.72	5,299.45	0.003381	3.11	40.21	30.58	0.48			3.11	1.55
North Lowe	53.98*	125.0	5,297.43	5,299.14	5,298.52	5,299.30	0.003393	3.23	38.70	27.76	0.48			3.23	1.71
North Lowe	53.535*	125.0	5,297.10	5,298.95	5,298.34	5,299.14	0.003875	3.51	35.64	24.87	0.52			3.51	1.85
North Lowe	53.09	127.0	5,296.78	5,298.57	5,298.24	5,298.90	0.007558	4.63	27.41	20.71	0.71			4.63	1.79
North Lowe	52.42*	127.0	5,296.27	5,298.05	5,297.74	5,298.38	0.007717	4.67	27.21	20.65	0.72			4.67	1.78
North Lowe	51.75*	127.0	5,295.75	5,297.54	5,297.22	5,297.87	0.007558	4.63	27.41	20.71	0.71			4.63	1.79
North Lowe	51.08	127.0	5,295.24	5,297.02	5,296.70	5,297.36	0.007685	4.66	27.25	20.66	0.72			4.66	1.78
North Lowe	50.4033*	127.0	5,294.72	5,296.50	5,296.18	5,296.84	0.007685	4.66	27.25	20.66	0.72			4.66	1.78
North Lowe	49.7266*	127.0	5,294.20	5,295.98	5,295.66	5,296.32	0.007677	4.66	27.26	20.67	0.71			4.66	1.78
North Lowe	49.05	127.0	5,293.68	5,295.45	5,295.15	5,295.79	0.007749	4.67	27.17	20.64	0.72			4.67	1.77
North Lowe	48.636*	127.0	5,293.36	5,295.14	5,294.82	5,295.47	0.007701	4.66	27.23	20.66	0.72			4.66	1.78
North Lowe	48.222*	127.0	5,293.04	5,294.83	5,294.50	5,295.16	0.007566	4.63	27.40	20.71	0.71			4.63	1.78
North Lowe	47.808*	127.0	5,292.73	5,294.51	5,294.20	5,294.85	0.007677	4.66	27.26	20.67	0.71			4.66	1.78
North Lowe	47.394*	127.0	5,292.41	5,294.20	5,293.87	5,294.53	0.007496	4.62	27.49	20.73	0.71			4.62	1.79
North Lowe	46.98	127.0	5,292.09	5,293.64	5,293.56	5,294.13	0.012800	5.58	22.74	19.31	0.91			5.58	1.55
North Lowe	46.58*	127.0	5,291.78	5,293.19	5,293.07	5,293.61	0.011760	5.23	24.29	21.46	0.87			5.23	1.41
North Lowe	46.18*	127.0	5,291.47	5,292.78	5,292.62	5,293.15	0.010707	4.88	26.02	23.84	0.82			4.88	1.31
North Lowe	45.78*	127.0	5,291.17	5,292.38	5,292.22	5,292.71	0.010323	4.65	27.30	26.24	0.80			4.65	1.21
North Lowe	45.38*	127.0	5,290.86	5,292.05	5,291.83	5,292.32	0.008338	4.19	30.33	29.12	0.72			4.19	1.19
North Lowe	44.98	127.0	5,290.55	5,291.44	5,291.44	5,291.85	0.017569	5.16	24.62	30.34	1.01			5.16	0.89
North Lowe	44.568*	127.0	5,289.79	5,290.66	5,290.68	5,291.09	0.019059	5.30	23.98	30.21	1.05			5.30	0.87
North Lowe	44.156*	127.0	5,289.03	5,289.91	5,289.91	5,290.33	0.017969	5.20	24.44	30.30	1.02			5.20	0.88
North Lowe	43.744*	127.0	5,288.26	5,289.13	5,289.15	5,289.56	0.019317	5.32	23.88	30.19	1.05			5.32	0.87
North Lowe	43.332*	127.0	5,287.50	5,288.39	5,288.39	5,288.80	0.017569	5.16	24.62	30.34	1.01			5.16	0.89
North Lowe	42.92	127.0	5,286.74	5,287.61	5,287.63	5,288.05	0.019280	5.32	23.89	30.19	1.05			5.32	0.87
North Lowe	42.506*	127.0	5,285.97	5,286.85	5,286.85	5,287.27	0.017935	5.19	24.45	30.31	1.02			5.19	0.88
North Lowe	42.092*	127.0	5,285.20	5,286.07	5,286.09	5,286.50	0.019022	5.29	23.99	30.21	1.05			5.29	0.87
North Lowe	41.678*	127.0	5,284.44	5,285.32	5,285.33	5,285.74	0.017969	5.20	24.44	30.30	1.02			5.20	0.88
North Lowe	41.264*	127.0	5,283.67	5,284.54	5,284.56	5,284.97	0.018986	5.29	24.01	30.22	1.05			5.29	0.87
North Lowe	40.85	127.0	5,282.90	5,283.77	5,283.78	5,284.20	0.018627	5.26	24.16	30.25	1.04			5.26	0.87
North Lowe	40.345*	127.0	5,281.97	5,282.85	5,282.87	5,283.27	0.018627	5.26	24.16	30.25	1.04			5.26	0.87
North Lowe	39.84*	127.0	5,281.04	5,281.92	5,281.93	5,282.34	0.018627	5.26	24.16	30.25	1.04			5.26	0.87
North Lowe	39.335*	127.0	5,280.12	5,281.00	5,281.01	5,281.42	0.018242	5.22	24.32	30.28	1.03			5.22	0.88
North Lowe	38.83	127.0	5,279.19	5,280.24	5,280.08	5,280.53	0.009994	4.30	29.54	31.30	0.78			4.30	1.05

The entire reach will be reclaimed. The riprapped reaches were not included in determining the maximum, minimum and average velocities. The shaded areas on the table indicate riprapped reaches.

								Max	5.58						
								Min	3.11					Avg	4.32
								Avg	4.32						

Lowe	38.325*	127.0	5,278.52	5,279.67	5,279.55	5,279.99	0.011275	4.55	27.91	29.80	0.83			4.55	1.15
Lowe	37.82*	127.0	5,277.85	5,279.08	5,278.98	5,279.40	0.012281	4.54	27.95	31.95	0.86			4.54	1.23
Lowe	37.315*	127.0	5,277.18	5,278.29	5,278.29	5,278.67	0.018036	4.95	25.68	34.58	1.01			4.95	1.10
Lowe	36.81	127.0	5,276.51	5,277.48	5,277.43	5,277.77	0.014352	4.31	29.46	41.63	0.90		0.43	4.31	0.97
Lowe	36.315*	127.0	5,275.86	5,276.74	5,276.71	5,277.01	0.016489	4.16	30.65	52.01	0.94		0.71	4.14	0.88
Lowe	35.82*	127.0	5,275.22	5,276.07	5,275.99	5,276.26	0.012727	3.55	36.35	66.82	0.82		0.97	3.49	0.85
Lowe	35.325*	127.0	5,274.58	5,275.26	5,275.26	5,275.49	0.020073	3.85	33.69	77.43	0.99		1.21	3.77	0.68

Profile Output Table - Lowe North Post-mine 2 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
Lowe 34.83	127.0	5,273.93	5,274.29	5,274.53	5,275.23	0.206487	7.76	16.52	73.68	2.83		2.08	7.69	0.36
Lowe 34.4225*	127.0	5,273.47	5,274.48	5,274.20	5,274.57	0.004003	2.34	55.81	80.08	0.48	0.50	0.95	2.28	1.01
Lowe 34.015*	127.0	5,273.02	5,274.39	5,273.87	5,274.45	0.001884	1.96	66.28	69.60	0.34	0.42	0.80	1.92	1.37
Lowe 33.6075*	127.0	5,272.56	5,274.34	5,273.57	5,274.39	0.001044	1.74	74.69	60.09	0.27	0.37	0.71	1.70	1.78
Lowe 33.20	146.0	5,272.10	5,274.29	5,273.36	5,274.35	0.000992	1.93	77.19	50.79	0.27	0.40	0.77	1.89	2.19
Lowe 32.8166*	146.0	5,272.00	5,274.20	5,273.41	5,274.30	0.001762	2.57	59.00	40.74	0.36	0.54	1.00	2.47	2.19
Lowe 32.4333*	146.0	5,271.91	5,273.90	5,273.57	5,274.18	0.005775	4.32	36.76	32.46	0.64	0.85	1.50	3.97	1.99
Lowe 32.05	146.0	5,271.81	5,273.85	5,273.60	5,273.98	0.003891	3.81	63.94	75.82	0.52	1.22	1.90	2.28	2.04
Lowe 31.588*	146.0	5,271.31	5,273.17	5,273.17	5,273.67	0.012319	5.77	28.09	34.18	0.91	1.19	1.54	5.20	1.86
Lowe 31.126*	146.0	5,270.80	5,272.39	5,272.44	5,272.92	0.020180	5.84	25.10	30.30	1.10	0.72	0.80	5.82	1.59
Lowe 30.664*	146.0	5,270.30	5,271.61	5,271.84	5,272.39	0.048943	7.09	20.60	34.14	1.61			7.09	1.31
Lowe 30.202*	146.0	5,269.79	5,271.35	5,271.26	5,271.63	0.012780	4.22	34.62	46.13	0.85	0.65		4.22	1.56
Lowe 29.74	146.0	5,269.29	5,270.81	5,270.70	5,271.04	0.011862	3.90	37.46	53.00	0.81	0.59		3.90	1.52
Lowe 29.3*	146.0	5,268.53	5,270.29	5,270.17	5,270.52	0.012023	3.86	37.79	54.36	0.82			3.86	1.76
Lowe 28.86*	146.0	5,267.76	5,269.64	5,269.57	5,269.93	0.014857	4.31	33.89	48.40	0.91			4.31	1.88
Lowe 28.42*	146.0	5,267.00	5,269.03	5,268.96	5,269.31	0.013006	4.27	34.19	44.58	0.86			4.27	2.03
Lowe 27.98*	146.0	5,266.23	5,268.24	5,268.24	5,268.63	0.018468	4.99	29.25	39.12	1.02			4.99	2.01
Lowe 27.54	146.0	5,265.47	5,267.76	5,267.51	5,267.99	0.007622	3.80	38.43	39.60	0.68			3.80	2.29
Lowe 27.088*	146.0	5,265.23	5,267.40	5,267.19	5,267.63	0.008298	3.81	38.34	42.25	0.70			3.81	2.17
Lowe 26.636*	146.0	5,264.99	5,267.00	5,266.82	5,267.23	0.009488	3.88	37.62	44.82	0.75			3.88	2.00
Lowe 26.184*	146.0	5,264.76	5,266.56	5,266.40	5,266.80	0.009764	3.91	37.33	45.07	0.76			3.91	1.80
Lowe 25.732*	146.0	5,264.52	5,266.02	5,265.91	5,266.31	0.011921	4.32	33.80	40.84	0.84			4.32	1.49
Lowe 25.28	146.0	5,264.28	5,265.61	5,265.38	5,265.85	0.007774	3.86	37.85	39.27	0.69			3.86	1.33
Lowe 24.8328*	146.0	5,263.98	5,265.30	5,265.05	5,265.50	0.007221	3.58	40.74	44.75	0.66			3.58	1.32
Lowe 24.3857*	146.0	5,263.68	5,265.01	5,264.76	5,265.18	0.006695	3.34	43.68	50.38	0.63			3.34	1.33
Lowe 23.9385*	146.0	5,263.38	5,264.73	5,264.48	5,264.89	0.006388	3.16	46.19	55.97	0.61			3.16	1.35
Lowe 23.4914*	146.0	5,263.08	5,264.46	5,264.21	5,264.60	0.006248	3.02	48.28	61.52	0.60			3.02	1.38
Lowe 23.0442*	146.0	5,262.78	5,264.19	5,263.94	5,264.32	0.006079	2.90	50.39	67.08	0.59			2.90	1.41
Lowe 22.5971*	146.0	5,262.48	5,263.93	5,263.67	5,264.05	0.005900	2.79	52.31	72.67	0.58		0.45	2.79	1.45
Lowe 22.15	146.0	5,262.18	5,263.61	5,263.40	5,263.75	0.007899	3.03	48.36	74.39	0.66		0.72	3.02	1.43
Lowe 21.6716*	146.0	5,261.84	5,263.23	5,263.02	5,263.37	0.007795	3.03	48.31	73.39	0.65		0.84	3.02	1.39
Lowe 21.1933*	146.0	5,261.50	5,262.85	5,262.65	5,263.00	0.007838	3.06	47.89	72.04	0.66		0.97	3.05	1.35
Lowe 20.715*	146.0	5,261.16	5,262.47	5,262.28	5,262.62	0.007906	3.12	46.94	69.04	0.66	0.17	1.07	3.11	1.31
Lowe 20.2366*	146.0	5,260.81	5,262.09	5,261.90	5,262.25	0.007588	3.23	45.42	62.08	0.66	0.50	1.14	3.21	1.28
Lowe 19.7583*	146.0	5,260.47	5,261.73	5,261.51	5,261.90	0.006949	3.32	44.41	55.25	0.64	0.75	1.21	3.29	1.26
Lowe 19.28	146.0	5,260.13	5,261.38	5,261.14	5,261.57	0.006754	3.50	42.37	48.34	0.64	0.97	1.30	3.45	1.25
Lowe 18.9*	146.0	5,260.00	5,261.16	5,260.93	5,261.31	0.006303	3.15	46.76	58.57	0.61	0.74	1.08	3.12	1.16
Lowe 18.52*	146.0	5,259.87	5,260.94	5,260.72	5,261.07	0.006227	2.93	50.10	68.81	0.60	0.51	0.85	2.91	1.07
Lowe 18.14	146.0	5,259.74	5,260.68	5,260.50	5,260.82	0.007449	2.91	50.29	79.61	0.64	0.10	0.58	2.90	0.94
Lowe 17.702*	146.0	5,259.34	5,260.35	5,260.16	5,260.49	0.007455	2.98	48.94	73.43	0.64	0.30	0.21	2.98	1.01
Lowe 17.264*	146.0	5,258.94	5,260.00	5,259.82	5,260.15	0.007841	3.12	46.76	68.02	0.66	0.39		3.12	1.06
Lowe 16.826*	146.0	5,258.53	5,259.64	5,259.46	5,259.80	0.008083	3.26	44.85	62.89	0.68	0.47		3.25	1.11
Lowe 16.388*	146.0	5,258.13	5,259.30	5,259.09	5,259.47	0.007297	3.27	44.80	58.34	0.65	0.54		3.26	1.17
Lowe 15.95	155.0	5,257.73	5,258.98	5,258.74	5,259.15	0.006857	3.40	45.80	54.11	0.64	0.65		3.38	1.24
Lowe 15.5933*	155.0	5,257.27	5,258.69	5,258.46	5,258.90	0.007403	3.68	42.56	49.32	0.67	0.78		3.64	1.42
Lowe 15.2366*	155.0	5,256.81	5,258.34	5,258.15	5,258.60	0.008898	4.17	38.27	46.51	0.74	0.91		4.05	1.52
Lowe 14.88	155.0	5,256.35	5,258.07	5,257.82	5,258.32	0.006619	4.14	40.47	44.91	0.66	1.24	0.61	3.83	1.71
Lowe 14.4466*	155.0	5,255.78	5,257.70	5,257.47	5,258.00	0.008061	4.47	36.14	43.31	0.73	0.69	0.85	4.29	1.92
Lowe 14.0133*	155.0	5,255.22	5,257.11	5,257.09	5,257.55	0.014010	5.34	30.17	38.91	0.94		1.07	5.14	1.89
Lowe 13.58	155.0	5,254.65	5,256.68	5,256.55	5,256.99	0.010111	4.70	38.04	50.47	0.79		1.62	4.07	2.03
Lowe 13.1875*	155.0	5,254.35	5,256.15	5,256.06	5,256.55	0.012993	5.06	30.65	31.98	0.90		0.37	5.06	1.80
Lowe 12.795*	155.0	5,254.04	5,255.68	5,255.58	5,256.05	0.012167	4.85	31.97	32.93	0.87			4.85	1.64
Lowe 12.4025*	155.0	5,253.74	5,255.30	5,255.12	5,255.60	0.009705	4.35	35.60	36.42	0.78			4.35	1.56
Lowe 12.01	155.0	5,253.43	5,255.10	5,254.67	5,255.27	0.004927	3.31	46.82	43.46	0.56			3.31	1.67
Lowe 11.5966*	155.0	5,253.25	5,254.90	5,254.49	5,255.07	0.005149	3.30	47.02	45.43	0.57			3.30	1.65
Lowe 11.1833*	155.0	5,253.08	5,254.68	5,254.31	5,254.85	0.005210	3.30	47.08	47.63	0.57	0.35	0.25	3.29	1.60
Lowe 10.77	155.0	5,252.90	5,254.48	5,254.11	5,254.64	0.004692	3.22	49.26	54.06	0.55	0.63	0.55	3.15	1.58
Lowe 10.3166*	155.0	5,252.57	5,254.24	5,253.88	5,254.43	0.004729	3.51	48.35	57.02	0.56	0.93	0.87	3.21	1.67
Lowe 9.86333*	155.0	5,252.25	5,253.94	5,253.74	5,254.18	0.006094	4.16	45.13	53.80	0.64	1.49	1.20	3.43	1.69
Lowe 9.41	155.0	5,251.92	5,253.65	5,253.52	5,253.89	0.006728	4.63	50.57	66.15	0.69	1.87	1.51	3.06	1.73
Lowe 9.01*	155.0	5,251.66	5,253.38	5,253.26	5,253.65	0.007944	4.80	45.27	57.20	0.74	2.03	1.36	3.42	1.72
Lowe 8.61*	155.0	5,251.40	5,253.09	5,252.95	5,253.38	0.008707	4.81	42.44	51.01	0.76	2.20	1.08	3.65	1.69
Lowe 8.21	155.0	5,251.14	5,252.80	5,252.66	5,253.08	0.008780	4.70	41.56	47.43	0.76	2.31	0.71	3.73	1.66
Lowe 7.77*	155.0	5,250.64	5,252.46	5,252.32	5,252.76	0.008793	4.93	40.40	45.81	0.77	2.28	1.01	3.84	1.82
Lowe 7.33*	155.0	5,250.13	5,252.18	5,252.00	5,252.47	0.007333	4.86	42.38	45.74	0.71	2.19	1.25	3.66	2.05
Lowe 6.89	155.0	5,249.63	5,251.72	5,251.72	5,252.14	0.011072	5.85	36.13	43.74	0.87	2.46	1.61	4.29	2.08

Profile Output Table - Lowe North Post-mine 2 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
Lowe 6.44333*	155.0	5,249.14	5,251.12	5,251.16	5,251.63	0.012350	5.95	31.28	41.06	0.91	1.81	1.29	4.96	1.98
Lowe 5.99666*	155.0	5,248.64	5,250.54	5,250.55	5,251.06	0.013668	5.83	28.14	34.32	0.94	1.22	0.85	5.51	1.90
Lowe 5.55	155.0	5,248.15	5,250.25	5,249.96	5,250.55	0.006794	4.42	37.62	43.78	0.68	0.98	0.77	4.12	2.10
Lowe 5.05666*	155.0	5,247.70	5,249.90	5,249.65	5,250.21	0.006813	4.54	38.78	51.62	0.68	1.10	0.89	4.00	2.20
Lowe 4.56333*	155.0	5,247.25	5,249.51	5,249.37	5,249.85	0.007658	4.84	38.89	60.00	0.72	1.23	1.00	3.99	2.26
Lowe 4.07	155.0	5,246.80	5,249.18	5,249.08	5,249.48	0.006526	4.65	45.62	73.75	0.68	1.28	1.18	3.40	2.38
Lowe 3.57333*	155.0	5,246.38	5,248.63	5,248.60	5,249.07	0.009775	5.48	34.11	45.45	0.82	1.50	0.66	4.54	2.25
Lowe 3.07666*	155.0	5,245.95	5,248.14	5,248.14	5,248.56	0.009885	5.52	35.81	46.84	0.82	1.73		4.33	2.19
Lowe 2.58	155.0	5,245.53	5,247.80	5,247.63	5,248.07	0.006075	4.62	46.22	52.20	0.65	1.77		3.35	2.27
Lowe 2.17333*	155.0	5,245.22	5,247.51	5,247.39	5,247.81	0.006960	4.89	44.03	51.06	0.69	1.88		3.52	2.29
Lowe 1.76666*	155.0	5,244.90	5,247.24	5,247.12	5,247.53	0.006693	4.91	44.30	51.02	0.68	1.84		3.50	2.34
Lowe 1.36	155.0	5,244.59	5,246.79	5,246.79	5,247.22	0.009020	5.70	37.05	47.74	0.79	1.77		4.18	2.20
Lowe .906667*	155.0	5,243.86	5,246.07	5,246.25	5,246.72	0.012632	6.52	26.65	41.98	0.92	0.98		5.82	2.21
Lowe .453333*	155.0	5,243.14	5,245.30	5,245.33	5,246.06	0.016406	6.99	22.19	15.82	1.04			6.99	2.16
Lowe 0.00	155.0	5,242.41	5,244.58	5,244.63	5,245.37	0.017472	7.09	21.85	15.96	1.07			7.09	2.17
						Max	**7.76**					**Avg**	**3.87**	
						Min	**1.74**							
						Avg	**4.19**							

The entire reach is undisturbed and is downstream of the mine lease.

Profile Output Table - Lowe North Post-mine 10 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North LoweR4	11.71	230.0	5,380.41	5,381.20	5,381.15	5,381.41	0.014475	3.75	62.79	117.43	0.87	1.28		3.66	0.78
North LoweR4	11.35*	230.0	5,379.91	5,380.69	5,380.63	5,380.88	0.014097	3.50	66.30	129.75	0.85	1.06		3.47	0.78
North LoweR4	10.99*	230.0	5,379.41	5,380.19	5,380.13	5,380.36	0.014398	3.34	69.18	145.10	0.84	0.85		3.32	0.78
North LoweR4	10.63	230.0	5,378.91	5,379.95	5,379.65	5,380.01	0.003347	2.05	113.09	165.92	0.43	0.63		2.03	1.04
North LoweR4	10.2933*	230.0	5,378.60	5,379.78	5,379.50	5,379.87	0.004813	2.51	91.96	129.87	0.52	0.67		2.50	1.18
North LoweR4	9.95666*	230.0	5,378.28	5,379.34	5,379.34	5,379.59	0.021103	4.05	56.79	116.56	1.02			4.05	1.06
North LoweR4	9.62	230.0	5,377.97	5,378.77	5,378.66	5,378.95	0.010469	3.36	68.41	109.54	0.75			3.36	0.80
North LoweR4	9.25*	230.0	5,377.58	5,378.39	5,378.26	5,378.57	0.010181	3.39	67.82	105.03	0.74			3.39	0.81
North LoweR4	8.88*	230.0	5,377.18	5,377.99	5,377.88	5,378.18	0.010533	3.49	65.91	100.35	0.76			3.49	0.81
North LoweR4	8.51	230.0	5,376.79	5,377.66	5,377.49	5,377.83	0.008175	3.29	69.99	96.41	0.68			3.29	0.87
North LoweR4	8.11*	230.0	5,376.42	5,377.35	5,377.16	5,377.51	0.007706	3.23	71.32	96.67	0.66			3.23	0.93
North LoweR4	7.71*	230.0	5,376.05	5,377.12	5,376.83	5,377.25	0.004917	2.84	81.44	98.25	0.54	0.51	0.68	2.82	1.07
North LoweR4	7.31	230.0	5,375.68	5,377.01	5,376.48	5,377.09	0.002143	2.24	104.76	99.53	0.37	0.77	0.81	2.20	1.33
North LoweR4	6.87666*	230.0	5,375.17	5,376.90	5,376.27	5,377.00	0.002091	2.46	94.49	77.17	0.38	0.49	0.52	2.43	1.73
North LoweR4	6.44333*	230.0	5,374.65	5,376.74	5,376.02	5,376.89	0.002809	3.05	75.32	51.76	0.45			3.05	2.09
North LoweR4	6.01	230.0	5,374.14	5,375.94	5,375.94	5,376.63	0.014715	6.65	34.58	25.20	1.00			6.65	1.80
North LoweR4	5.808*	230.0	5,372.62	5,373.91	5,374.48	5,375.74	0.061217	10.86	21.17	21.68	1.94			10.86	1.29
North LoweR4	5.606*	230.0	5,371.10	5,372.38	5,372.99	5,374.39	0.069995	11.39	20.19	21.31	2.06			11.39	1.28
North LoweR4	5.404*	230.0	5,369.59	5,370.86	5,371.49	5,372.94	0.072932	11.58	19.86	21.09	2.10			11.58	1.27
North LoweR4	5.202*	230.0	5,368.07	5,369.33	5,369.98	5,371.46	0.073273	11.69	19.67	20.61	2.11			11.69	1.26
North LoweR4	5.00	230.0	5,366.55	5,367.77	5,368.43	5,369.96	0.074206	11.87	19.38	19.99	2.12			11.87	1.22
North LoweR4	4.75*	230.0	5,363.66	5,364.81	5,365.58	5,367.61	0.108876	13.41	17.16	19.71	2.53			13.41	1.15
North LoweR4	4.5*	230.0	5,360.77	5,361.97	5,362.74	5,364.81	0.113467	13.53	17.00	19.86	2.58			13.53	1.20
North LoweR4	4.25*	230.0	5,357.89	5,359.13	5,359.91	5,361.97	0.113403	13.53	17.00	19.82	2.58			13.53	1.24
North LoweR4	4.00	230.0	5,355.00	5,356.27	5,357.05	5,359.14	0.113761	13.59	16.93	19.62	2.58			13.59	1.27
North LoweR4	3.75*	230.0	5,352.99	5,354.39	5,355.07	5,356.64	0.075141	12.03	19.11	19.45	2.14			12.03	1.40
North LoweR4	3.5*	230.0	5,350.98	5,352.37	5,353.08	5,354.74	0.075716	12.37	18.60	18.21	2.16			12.37	1.39
North LoweR4	3.25*	230.0	5,348.97	5,350.36	5,351.10	5,352.85	0.074860	12.67	18.15	16.81	2.15			12.67	1.39
North LoweR4	3.00	230.0	5,346.96	5,348.34	5,349.13	5,350.96	0.074890	13.01	17.68	15.48	2.14			13.01	1.38
North LoweR4	2.75*	230.0	5,346.12	5,347.83	5,348.27	5,349.29	0.037208	9.71	23.70	19.51	1.55			9.71	1.71
North LoweR4	2.50	230.0	5,345.28	5,347.02	5,347.41	5,348.32	0.036993	9.15	25.15	22.73	1.53			9.15	1.74
North LoweR4	2.25*	230.0	5,344.31	5,346.07	5,346.47	5,347.41	0.035267	9.31	24.71	20.92	1.51			9.31	1.76
North LoweR4	2.00	230.0	5,343.35	5,346.42	5,345.56	5,346.69	0.003766	4.22	54.56	157.31	0.53			4.22	3.07

The reclaimed reach is between River Station 6.01 and 2.00. This reach of channel is riprapped. The remaining upstream reach is undisturbed or pre-mine channel.The riprapped reach and the undisturbed reach upstream of the mine lease were not included in determining the maximum, minimum and average velocities. The shaded areas on the table indicate riprapped reaches.

							Max	N/A					Avg	N/A	
							Min	N/A							
							Avg	N/A							

North LoweR3	15.89	98.0	5,391.12	5,392.03	5,391.95	5,392.24	0.013009	3.64	26.96	45.15	0.83			3.64	0.91
North LoweR3	15.5066*	98.0	5,390.56	5,391.57	5,391.46	5,391.76	0.011627	3.54	27.70	44.46	0.79			3.54	1.01
North LoweR3	15.1233*	98.0	5,390.01	5,390.93	5,390.93	5,391.20	0.019344	4.18	23.57	45.46	1.00	0.09	0.73	4.16	0.92
North LoweR3	14.74	98.0	5,389.45	5,390.44	5,390.23	5,390.53	0.004921	2.60	45.40	74.46	0.53	0.72	1.47	2.16	0.99
North LoweR3	14.32*	98.0	5,389.06	5,390.06	5,389.94	5,390.24	0.009104	3.45	30.85	67.75	0.72		0.77	3.18	1.00
North LoweR3	13.9*	98.0	5,388.66	5,389.68	5,389.48	5,389.87	0.008291	3.48	28.18	62.52	0.69			3.48	1.02
North LoweR3	13.48	98.0	5,388.27	5,389.11	5,389.07	5,389.41	0.015234	4.35	22.54	106.01	0.92			4.35	0.84
North LoweR3	13.1*	98.0	5,387.89	5,388.64	5,388.57	5,388.84	0.013265	3.55	27.62	77.62	0.83			3.55	0.75
North LoweR3	12.72*	98.0	5,387.50	5,388.10	5,388.06	5,388.27	0.016710	3.31	29.57	68.81	0.89			3.31	0.60
North LoweR3	12.34	98.0	5,387.12	5,387.66	5,387.56	5,387.75	0.009033	2.32	42.30	107.24	0.65	0.25		2.32	0.54
North LoweR3	11.98*	98.0	5,386.77	5,387.37	5,387.24	5,387.45	0.007884	2.30	42.95	104.46	0.61	0.46	0.26	2.28	0.60
North LoweR3	11.62*	98.0	5,386.43	5,387.01	5,386.94	5,387.12	0.010961	2.62	39.53	118.96	0.72	0.72	0.44	2.48	0.58
North LoweR3	11.26	98.0	5,386.08	5,386.67	5,386.57	5,386.75	0.009828	2.44	45.11	121.65	0.68	1.50	0.58	2.17	0.59
North LoweR3	11.06*	98.0	5,385.73	5,386.36	5,386.31	5,386.50	0.014819	2.98	33.08	89.70	0.83	0.41	0.52	2.96	0.63
North LoweR3	10.86*	98.0	5,385.38	5,386.04	5,385.99	5,386.18	0.015487	3.02	32.50	82.61	0.85		0.24	3.02	0.66
North LoweR3	10.66*	98.0	5,385.02	5,385.72	5,385.67	5,385.86	0.014403	2.96	33.10	81.62	0.82			2.96	0.70
North LoweR3	10.46*	98.0	5,384.67	5,385.37	5,385.34	5,385.52	0.017310	3.16	31.03	79.72	0.89			3.16	0.70
North LoweR3	10.26*	98.0	5,384.32	5,385.06	5,384.99	5,385.19	0.013168	2.90	33.83	80.57	0.79			2.90	0.74
North LoweR3	10.06	98.0	5,383.97	5,384.67	5,384.67	5,384.84	0.021788	3.39	28.92	81.77	0.99			3.39	0.70
North LoweR3	9.795*	98.0	5,382.29	5,382.93	5,383.13	5,383.56	0.090652	6.35	15.42	48.04	1.98			6.35	0.64
North LoweR3	9.53*	98.0	5,380.60	5,381.39	5,381.57	5,381.95	0.057344	6.01	16.30	39.11	1.64			6.01	0.79
North LoweR3	9.265*	98.0	5,378.92	5,379.76	5,380.01	5,380.56	0.066626	7.18	13.64	28.00	1.81			7.18	0.84
North LoweR3	9.00	98.0	5,377.23	5,378.17	5,378.48	5,379.16	0.059295	8.00	12.25	19.49	1.78			8.00	0.94
North LoweR3	8.75*	98.0	5,374.46	5,375.33	5,375.77	5,376.91	0.116221	10.08	9.73	18.17	2.43			10.08	0.87
North LoweR3	8.5*	98.0	5,371.69	5,372.61	5,373.04	5,374.12	0.105372	9.89	9.91	17.68	2.33			9.89	0.92
North LoweR3	8.25*	98.0	5,368.93	5,369.81	5,370.28	5,371.44	0.108861	10.23	9.58	16.61	2.37			10.23	0.88

Profile Output Table - Lowe North Post-mine 10 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North LoweR3	8.00	98.0	5,366.16	5,366.98	5,367.46	5,368.69	0.110442	10.50	9.34	15.72	2.40			10.50	0.82
North LoweR3	7.75*	98.0	5,364.55	5,365.54	5,365.85	5,366.54	0.054401	8.02	12.22	18.16	1.72			8.02	0.99
North LoweR3	7.5*	98.0	5,362.94	5,363.87	5,364.22	5,364.99	0.068944	8.51	11.52	18.73	1.91			8.51	0.93
North LoweR3	7.25*	98.0	5,361.33	5,362.22	5,362.55	5,363.28	0.066413	8.26	11.87	19.63	1.87			8.26	0.89
North LoweR3	7.00	98.0	5,359.72	5,360.53	5,360.86	5,361.60	0.068679	8.31	11.79	19.82	1.90			8.31	0.81
North LoweR3	6.75*	98.0	5,358.74	5,359.81	5,359.93	5,360.37	0.027266	6.01	16.30	22.27	1.24			6.01	1.07
North LoweR3	6.5*	98.0	5,357.75	5,358.78	5,359.00	5,359.51	0.040030	6.86	14.29	21.38	1.48			6.86	1.03
North LoweR3	6.25*	98.0	5,356.76	5,357.86	5,358.05	5,358.53	0.036928	6.59	14.87	22.23	1.42			6.59	1.10
North LoweR3	6.00	98.0	5,355.78	5,356.92	5,357.11	5,357.59	0.038536	6.59	14.86	22.91	1.44			6.59	1.14
North LoweR3	5.75*	98.0	5,354.78	5,355.83	5,356.05	5,356.56	0.043966	6.86	14.28	22.92	1.53			6.86	1.05
North LoweR3	5.5*	98.0	5,353.79	5,354.79	5,355.00	5,355.47	0.041769	6.65	14.73	23.85	1.49			6.65	1.00
North LoweR3	5.25*	98.0	5,352.79	5,353.75	5,353.94	5,354.42	0.042143	6.59	14.86	24.56	1.49			6.59	0.95
North LoweR3	5.00	98.0	5,351.80	5,352.72	5,352.90	5,353.37	0.040905	6.44	15.22	25.48	1.47			6.44	0.92
North LoweR3	4.75*	98.0	5,350.95	5,352.10	5,352.16	5,352.56	0.022375	5.45	17.98	24.54	1.12			5.45	1.15
North LoweR3	4.5*	98.0	5,350.10	5,351.20	5,351.38	5,351.86	0.032784	6.51	15.06	20.95	1.35			6.51	1.10
North LoweR3	4.25*	98.0	5,349.25	5,350.38	5,350.54	5,351.07	0.030542	6.66	14.72	18.67	1.32			6.66	1.13
North LoweR3	4.00	98.0	5,348.40	5,349.46	5,349.67	5,350.26	0.032826	7.15	13.71	16.38	1.38			7.15	1.06
North LoweR3	3.75*	98.0	5,347.65	5,348.48	5,348.70	5,349.20	0.049485	6.84	14.34	25.32	1.60			6.84	0.83
North LoweR3	3.5*	98.0	5,346.90	5,347.71	5,347.81	5,348.12	0.032082	5.12	19.14	37.77	1.27			5.12	0.81
North LoweR3	3.25*	98.0	5,346.15	5,346.84	5,346.94	5,347.22	0.038809	4.92	19.93	48.27	1.35			4.92	0.69
North LoweR3	3.00	98.0	5,345.40	5,346.05	5,346.11	5,346.31	0.030861	4.09	23.96	64.39	1.18			4.09	0.65
North LoweR3	2.75*	98.0	5,344.21	5,345.84	5,344.95	5,345.85	0.000430	0.97	102.14	104.97	0.17		0.22	0.96	1.63
North LoweR3	2.50	98.0	5,343.02	5,345.84	5,343.81	5,345.84	0.000041	0.50	224.50	135.57	0.06	0.14	0.19	0.44	2.82

The reclaimed reach is between River Station 10.06 and 2.50. The remaining upstream reach is undisturbed or pre-mine channel.The riprapped reach and the undisturbed reach upstream of the mine lease were not included in determining the maximum, minimum and average velocities. The shaded areas on the table indicate riprapped reaches.

Max 7.15 **Avg 6.14**
Min 4.09
Avg 6.14

North LoweR2	14.00	307.0	5,342.50	5,345.28	5,345.01	5,345.75	0.005848	5.77	67.62	72.83	0.68	1.44	1.21	4.54	2.78
North LoweR2	13.5*	307.0	5,342.25	5,345.00	5,344.83	5,345.45	0.005828	5.70	72.52	89.39	0.68	1.41	1.22	4.23	2.75
North LoweR2	13.00	307.0	5,341.99	5,344.90	5,344.62	5,345.16	0.003387	4.56	110.76	143.78	0.52	1.21	1.17	2.77	2.91
North LoweR2	12.5*	307.0	5,341.73	5,344.54	5,344.31	5,344.95	0.005124	5.45	79.86	108.53	0.64	1.17	1.16	3.84	2.81
North LoweR2	12.00	307.0	5,341.48	5,344.29	5,344.08	5,344.70	0.005113	5.44	78.85	99.86	0.64	1.32	1.04	3.89	2.81
North LoweR2	11.5*	307.0	5,341.23	5,344.03	5,343.82	5,344.43	0.005143	5.44	77.85	91.28	0.64	1.41	1.09	3.94	2.80
North LoweR2	11.00	307.0	5,340.98	5,343.76	5,343.54	5,344.17	0.005201	5.44	77.15	85.62	0.64	1.49	1.12	3.98	2.78
North LoweR2	10.5*	307.0	5,340.73	5,343.53	5,343.32	5,343.90	0.004775	5.25	84.88	103.79	0.62	1.40	1.06	3.62	2.80
North LoweR2	10.0	307.0	5,340.47	5,343.44	5,343.08	5,343.65	0.002838	4.24	117.35	131.86	0.48	1.35	0.95	2.62	2.97
North LoweR2	9.00	307.0	5,339.96	5,342.93	5,342.48	5,343.29	0.004113	5.11	79.66	76.30	0.58	1.31	1.31	3.85	2.97
North LoweR2	8.00	307.0	5,339.45	5,342.38	5,341.87	5,342.84	0.004949	5.55	65.23	54.86	0.63	1.39	1.13	4.71	2.93
North LoweR2	7.00	307.0	5,338.94	5,341.86	5,341.36	5,342.33	0.005148	5.63	61.86	44.68	0.64	1.40	1.30	4.96	2.92
North LoweR2	6.00	307.0	5,338.43	5,341.35	5,340.85	5,341.82	0.005134	5.62	62.04	43.70	0.64	1.40	1.40	4.95	2.91
North LoweR2	5.00	307.0	5,337.93	5,340.85	5,340.36	5,341.31	0.005002	5.56	63.73	46.73	0.64	1.39	1.39	4.82	2.92
North LoweR2	4.00	307.0	5,337.42	5,340.29	5,339.84	5,340.78	0.005534	5.76	60.17	42.96	0.67	1.41	1.40	5.10	2.87
North LoweR2	3.00	307.0	5,336.91	5,339.66	5,339.39	5,340.19	0.006404	5.99	60.63	54.35	0.71	1.37	1.37	5.06	2.75
North LoweR2	2.00	307.0	5,336.40	5,339.20	5,338.97	5,339.58	0.004832	5.28	79.25	77.91	0.62	1.59	1.38	3.87	2.80
North LoweR2	1.00	307.0	5,335.89	5,338.84	5,338.50	5,339.13	0.003590	4.75	99.02	118.93	0.54	1.21	1.21	3.10	2.95
North LoweR2	0.00	307.0	5,335.39	5,338.27	5,337.89	5,338.71	0.005037	5.52	71.25	80.47	0.64	1.33	0.93	4.31	2.88

This entire reach will be reclaimed.

Max 5.99 **Avg 4.11**
Min 4.24
Avg 5.37

North LoweR1	12.73	77.0	5,355.00	5,355.98	5,355.79	5,356.20	0.008681	3.76	20.50	23.87	0.71			3.76	0.98
North LoweR1	12.00	77.0	5,354.39	5,355.44	5,355.18	5,355.62	0.006800	3.43	22.42	24.89	0.64			3.43	1.05
North LoweR1	11.00	77.0	5,353.70	5,354.74	5,354.49	5,354.93	0.007040	3.51	21.97	24.24	0.65			3.51	1.04
North LoweR1	10.00	77.0	5,353.00	5,354.05	5,353.79	5,354.24	0.006951	3.49	22.07	24.29	0.65			3.49	1.05
North LoweR1	9.00	77.0	5,352.30	5,353.35	5,353.10	5,353.54	0.006924	3.48	22.11	24.32	0.64			3.48	1.05
North LoweR1	8.00	77.0	5,351.60	5,352.67	5,352.40	5,352.85	0.006749	3.45	22.30	24.39	0.64			3.45	1.06
North LoweR1	7.00	77.0	5,350.90	5,352.23	5,351.70	5,352.34	0.003126	2.67	28.84	25.97	0.45			2.67	1.33
North LoweR1	6.00	77.0	5,350.25	5,351.34	5,351.34	5,351.78	0.017035	5.31	14.51	16.56	1.00			5.31	1.09
North LoweR1	5.75*	77.0	5,349.63	5,350.58	5,350.71	5,351.20	0.028145	6.31	12.21	15.70	1.26			6.31	0.95
North LoweR1	5.5*	77.0	5,349.01	5,350.02	5,350.10	5,350.55	0.022757	5.86	13.13	16.05	1.14			5.86	1.01
North LoweR1	5.25*	77.0	5,348.39	5,349.37	5,349.47	5,349.94	0.025521	6.10	12.63	15.86	1.20			6.10	0.98
North LoweR1	5.00	77.0	5,347.77	5,348.77	5,348.86	5,349.32	0.023815	5.96	12.93	15.97	1.17			5.96	1.00

Profile Output Table - Lowe North Post-mine 10 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North LoweR1	4.75*	77.0	5,347.15	5,348.13	5,348.23	5,348.70	0.024847	6.04	12.74	15.90	1.19			6.04	0.98
North LoweR1	4.5*	77.0	5,346.54	5,347.53	5,347.63	5,348.09	0.024584	6.02	12.79	15.92	1.18			6.02	0.99
North LoweR1	4.25*	77.0	5,345.92	5,346.90	5,347.00	5,347.47	0.025249	6.08	12.67	15.88	1.20			6.08	0.98
North LoweR1	4.00	77.0	5,345.30	5,346.28	5,346.39	5,346.85	0.025249	6.08	12.67	15.88	1.20			6.08	0.98
North LoweR1	3.75*	77.0	5,344.68	5,345.67	5,345.76	5,346.23	0.024628	6.02	12.78	15.92	1.18			6.02	0.99
North LoweR1	3.5*	77.0	5,344.06	5,345.05	5,345.15	5,345.61	0.024628	6.02	12.78	15.92	1.18			6.02	0.99
North LoweR1	3.25*	77.0	5,343.44	5,344.43	5,344.52	5,344.99	0.024239	5.99	12.85	15.94	1.18			5.99	0.99
North LoweR1	3.00	77.0	5,342.82	5,343.81	5,343.91	5,344.37	0.024759	6.04	12.76	15.91	1.19			6.04	0.98
North LoweR1	2.75*	77.0	5,342.20	5,343.18	5,343.28	5,343.75	0.025069	6.06	12.70	15.89	1.19			6.06	0.98
North LoweR1	2.5*	77.0	5,341.58	5,342.56	5,342.67	5,343.13	0.025069	6.06	12.70	15.89	1.19			6.06	0.98
North LoweR1	2.25*	77.0	5,340.96	5,341.94	5,342.04	5,342.51	0.025069	6.06	12.70	15.89	1.19			6.06	0.98
North LoweR1	2.00	77.0	5,340.34	5,341.32	5,341.43	5,341.89	0.025069	6.06	12.70	15.89	1.19			6.06	0.98
North LoweR1	1.75*	77.0	5,339.72	5,340.70	5,340.80	5,341.27	0.025069	6.06	12.70	15.89	1.19			6.06	0.98
North LoweR1	1.5*	77.0	5,339.10	5,340.08	5,340.19	5,340.65	0.025069	6.06	12.70	15.89	1.19			6.06	0.98
North LoweR1	1.25*	77.0	5,338.49	5,339.48	5,339.57	5,340.04	0.024367	6.00	12.83	15.94	1.18			6.00	0.99
North LoweR1	1.00	77.0	5,337.87	5,338.85	5,338.96	5,339.43	0.025613	6.11	12.61	15.85	1.21			6.11	0.98
North LoweR1	.75*	77.0	5,337.25	5,338.55	5,338.33	5,338.83	0.009137	4.27	18.01	17.78	0.75			4.27	1.30
North LoweR1	.5*	77.0	5,336.63	5,338.53	5,337.72	5,338.64	0.002184	2.58	29.87	21.41	0.38			2.58	1.90
North LoweR1	.25*	77.0	5,336.01	5,338.54	5,337.09	5,338.58	0.000727	1.74	44.37	25.15	0.23			1.74	2.52
North LoweR1	0.00	77.0	5,335.39	5,338.54	5,336.48	5,338.56	0.000288	1.26	62.90	52.07	0.15	0.10	0.10	1.22	3.15
This entire reach will be reclaimed. The riprapped reach was not included in determining the maximum, minimum, and average velocities.							**Max**	**3.76**					**Avg**	**3.40**	
							Min	**2.67**							
							Avg	**3.40**							
North Lowe	90.01	372.0	5,335.39	5,338.23	5,338.08	5,338.52	0.004427	5.11	120.32	131.48	0.59	1.68	1.53	3.09	2.84
North Lowe	89.63	372.0	5,335.20	5,338.11	5,337.89	5,338.36	0.003786	4.82	129.03	134.63	0.55	1.63	1.49	2.88	2.91
North Lowe	88.65*	372.0	5,334.70	5,337.59	5,337.44	5,337.93	0.004738	5.36	110.83	121.38	0.62	1.65	1.52	3.36	2.89
North Lowe	87.67	372.0	5,334.20	5,337.19	5,337.00	5,337.48	0.003920	5.01	118.90	120.36	0.57	1.62	1.43	3.13	2.99
North Lowe	86.66*	372.0	5,333.69	5,336.68	5,336.45	5,337.05	0.004603	5.43	102.38	99.56	0.61	1.68	1.51	3.63	2.99
North Lowe	85.65	372.0	5,333.19	5,336.11	5,335.94	5,336.54	0.005412	5.78	90.76	82.32	0.66	1.88	1.52	4.10	2.92
North Lowe	84.66*	372.0	5,332.68	5,335.56	5,335.41	5,335.99	0.005623	5.82	92.38	89.60	0.67	1.84	1.58	4.03	2.88
North Lowe	83.67	372.0	5,332.17	5,335.06	5,334.90	5,335.44	0.005076	5.55	101.88	103.88	0.64	1.73	1.62	3.65	2.89
North Lowe	82.68*	372.0	5,331.67	5,334.57	5,334.42	5,334.93	0.004898	5.47	103.76	103.92	0.63	1.78	1.58	3.59	2.90
North Lowe	81.69	372.0	5,331.16	5,334.29	5,333.92	5,334.50	0.002797	4.39	136.60	118.85	0.48	1.55	1.51	2.72	3.13
North Lowe	81.0166*	372.0	5,330.82	5,334.00	5,333.63	5,334.28	0.003323	4.85	117.04	103.89	0.53	1.46	1.62	3.18	3.18
North Lowe	80.3433*	372.0	5,330.48	5,333.66	5,333.28	5,334.03	0.003972	5.31	98.79	84.62	0.58	1.43	1.69	3.77	3.18
North Lowe	79.67	372.0	5,330.14	5,333.11	5,332.89	5,333.68	0.006261	6.31	73.98	61.11	0.71	1.55	1.80	5.03	2.97
North Lowe	78.94*	372.0	5,329.70	5,332.67	5,332.49	5,333.21	0.006094	6.22	77.20	68.20	0.70	1.51	1.78	4.82	2.97
North Lowe	78.21*	372.0	5,329.27	5,332.09	5,332.09	5,332.71	0.007586	6.65	73.65	76.48	0.78	1.51	1.82	5.05	2.82
North Lowe	77.48	372.0	5,328.83	5,331.63	5,331.62	5,332.03	0.005715	5.74	103.70	126.39	0.67	1.53	1.80	3.59	2.80
North Lowe	76.7533*	372.0	5,328.39	5,331.17	5,331.17	5,331.60	0.006057	5.88	99.40	120.08	0.69	1.66	1.58	3.74	2.78
North Lowe	76.0266*	372.0	5,327.96	5,330.69	5,330.69	5,331.13	0.006404	5.95	98.18	118.70	0.71	1.75	1.54	3.79	2.73
North Lowe	75.30	372.0	5,327.52	5,330.49	5,330.22	5,330.73	0.003345	4.61	131.92	125.78	0.52	1.67	1.35	2.82	2.97
North Lowe	74.62*	372.0	5,327.11	5,329.96	5,329.88	5,330.41	0.006031	5.98	91.48	97.50	0.69	1.73	1.67	4.07	2.85
North Lowe	73.94*	372.0	5,326.70	5,329.54	5,329.48	5,330.00	0.006058	5.98	89.90	90.57	0.70	1.75	1.80	4.14	2.84
North Lowe	73.26	372.0	5,326.29	5,329.29	5,329.02	5,329.61	0.004157	5.17	108.03	96.83	0.58	1.62	1.78	3.44	3.00
North Lowe	72.5833*	372.0	5,325.88	5,328.83	5,328.69	5,329.27	0.005365	5.81	90.21	84.00	0.66	1.80	1.63	4.12	2.95
North Lowe	71.9066*	372.0	5,325.47	5,328.45	5,328.25	5,328.91	0.005401	5.87	85.98	74.60	0.66	1.87	1.52	4.33	2.98
North Lowe	71.23	372.0	5,325.06	5,328.21	5,327.83	5,328.57	0.003957	5.26	97.19	73.94	0.57	1.83	1.44	3.83	3.15
North Lowe	70.5233*	372.0	5,324.64	5,327.71	5,327.40	5,328.24	0.005561	6.10	76.05	59.82	0.68	1.65	1.63	4.89	3.07
North Lowe	69.8166*	372.0	5,324.21	5,327.02	5,326.97	5,327.74	0.008537	7.03	62.85	53.85	0.82	1.66	1.69	5.92	2.81
North Lowe	69.11	372.0	5,323.79	5,326.67	5,326.50	5,327.16	0.006073	6.06	81.96	67.67	0.70	1.48	2.03	4.54	2.88
North Lowe	68.12*	372.0	5,323.19	5,326.10	5,325.92	5,326.56	0.005695	5.92	85.36	72.02	0.68	1.47	1.98	4.36	2.91
North Lowe	67.13	372.0	5,322.58	5,325.38	5,325.33	5,325.93	0.007022	6.37	78.97	73.72	0.75	1.59	1.97	4.71	2.80
North Lowe	66.726*	372.0	5,322.34	5,324.96	5,324.96	5,325.60	0.008472	6.59	66.18	69.90	0.81	1.06	1.33	5.62	2.62
North Lowe	66.322*	372.0	5,322.10	5,324.45	5,324.30	5,325.18	0.010960	6.86	54.22	30.11	0.90			6.86	2.35
North Lowe	65.918*	372.0	5,321.85	5,324.09	5,323.88	5,324.74	0.009860	6.46	57.59	32.44	0.85			6.46	2.24
North Lowe	65.514*	372.0	5,321.61	5,323.78	5,323.49	5,324.34	0.008611	6.02	61.78	35.00	0.80			6.02	2.17
North Lowe	65.11	372.0	5,321.37	5,323.13	5,323.13	5,323.89	0.014432	7.00	53.15	35.54	1.01			7.00	1.76
North Lowe	64.696*	372.0	5,320.43	5,321.93	5,322.19	5,323.03	0.025200	8.43	44.13	33.98	1.30			8.43	1.50
North Lowe	64.282*	372.0	5,319.49	5,321.07	5,321.25	5,322.04	0.020975	7.93	46.91	34.47	1.20			7.93	1.58
North Lowe	63.868*	372.0	5,318.55	5,320.09	5,320.31	5,321.13	0.023040	8.18	45.47	34.21	1.25			8.18	1.54
North Lowe	63.454*	372.0	5,317.61	5,319.16	5,319.37	5,320.18	0.022463	8.11	45.85	34.28	1.24			8.11	1.55
North Lowe	63.04	372.0	5,316.67	5,318.22	5,318.43	5,319.24	0.022463	8.11	45.85	34.28	1.24			8.11	1.55
North Lowe	62.634*	372.0	5,315.75	5,317.29	5,317.51	5,318.32	0.022863	8.16	45.58	34.23	1.25			8.16	1.54

Profile Output Table - Lowe North Post-mine 10 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North Lowe	62.228*	372.0	5,314.82	5,316.36	5,316.58	5,317.39	0.022939	8.17	45.53	34.23	1.25			8.17	1.54
North Lowe	61.822*	372.0	5,313.90	5,315.44	5,315.66	5,316.47	0.022612	8.13	45.75	34.26	1.24			8.13	1.54
North Lowe	61.416*	372.0	5,312.97	5,314.50	5,314.73	5,315.55	0.023220	8.20	45.35	34.19	1.26			8.20	1.53
North Lowe	61.01	372.0	5,312.05	5,313.59	5,313.81	5,314.62	0.022587	8.13	45.77	34.27	1.24			8.13	1.54
North Lowe	60.592*	372.0	5,311.10	5,312.65	5,312.86	5,313.67	0.022587	8.13	45.77	34.27	1.24			8.13	1.54
North Lowe	60.174*	372.0	5,310.14	5,311.67	5,311.90	5,312.72	0.023168	8.20	45.38	34.20	1.25			8.20	1.53
North Lowe	59.756*	372.0	5,309.19	5,310.74	5,310.95	5,311.76	0.022538	8.12	45.80	34.27	1.24			8.12	1.55
North Lowe	59.338*	372.0	5,308.23	5,309.76	5,309.99	5,310.81	0.023117	8.19	45.42	34.21	1.25			8.19	1.53
North Lowe	58.92	372.0	5,307.28	5,308.83	5,309.04	5,309.85	0.022562	8.13	45.78	34.27	1.24			8.13	1.54
North Lowe	58.504*	372.0	5,306.34	5,307.89	5,308.10	5,308.91	0.022562	8.13	45.78	34.27	1.24			8.13	1.54
North Lowe	58.088*	372.0	5,305.39	5,306.92	5,307.15	5,307.97	0.023117	8.19	45.42	34.21	1.25			8.19	1.53
North Lowe	57.672*	372.0	5,304.45	5,306.00	5,306.21	5,307.02	0.022513	8.12	45.82	34.28	1.24			8.12	1.55
North Lowe	57.256*	372.0	5,303.50	5,305.03	5,305.26	5,306.08	0.023142	8.19	45.40	34.20	1.25			8.19	1.53
North Lowe	56.84	372.0	5,302.56	5,304.11	5,304.32	5,305.13	0.022513	8.12	45.82	34.28	1.24			8.12	1.55
North Lowe	56.3475*	372.0	5,301.44	5,302.98	5,303.20	5,304.01	0.022964	8.17	45.52	34.22	1.25			8.17	1.54
North Lowe	55.855*	372.0	5,300.32	5,301.86	5,302.08	5,302.89	0.022687	8.14	45.70	34.25	1.24			8.14	1.54
North Lowe	55.3625*	372.0	5,299.20	5,300.74	5,300.96	5,301.77	0.022687	8.14	45.70	34.25	1.24			8.14	1.54
North Lowe	54.87	372.0	5,298.08	5,300.67	5,299.84	5,300.97	0.003619	4.38	85.01	40.56	0.53			4.38	2.59
North Lowe	54.425*	372.0	5,297.75	5,300.46	5,299.67	5,300.80	0.004102	4.68	79.45	37.53	0.57			4.68	2.71
North Lowe	53.98*	372.0	5,297.43	5,300.16	5,299.55	5,300.58	0.005103	5.27	76.68	91.35	0.63	0.57	0.55	4.85	2.73
North Lowe	53.535*	372.0	5,297.10	5,299.86	5,299.80	5,300.33	0.005838	5.71	87.84	131.67	0.68	1.05	1.03	4.24	2.76
North Lowe	53.09	386.0	5,296.78	5,299.60	5,299.60	5,300.02	0.005920	5.88	110.10	151.60	0.69	1.57	1.45	3.51	2.82
North Lowe	52.42*	386.0	5,296.27	5,299.00	5,299.10	5,299.54	0.007665	6.50	94.03	133.34	0.78	1.62	1.59	4.11	2.73
North Lowe	51.75*	386.0	5,295.75	5,298.54	5,298.56	5,299.02	0.006731	6.21	99.13	132.16	0.73	1.57	1.62	3.89	2.79
North Lowe	51.08	386.0	5,295.24	5,297.98	5,298.05	5,298.53	0.007700	6.54	90.81	120.83	0.78	1.57	1.72	4.25	2.74
North Lowe	50.4033*	386.0	5,294.72	5,297.41	5,297.50	5,297.96	0.008031	6.58	93.50	134.95	0.79	1.53	1.73	4.13	2.69
North Lowe	49.7266*	386.0	5,294.20	5,296.89	5,296.99	5,297.37	0.007366	6.30	103.97	160.76	0.76	1.47	1.66	3.71	2.69
North Lowe	49.05	386.0	5,293.68	5,296.45	5,296.41	5,296.75	0.004938	5.29	132.03	177.47	0.62	1.59	1.48	2.92	2.77
North Lowe	48.636*	386.0	5,293.36	5,296.26	5,296.19	5,296.56	0.004396	5.18	132.33	168.90	0.60	1.48	1.46	2.92	2.90
North Lowe	48.222*	386.0	5,293.04	5,295.90	5,295.90	5,296.33	0.005820	5.90	108.11	148.70	0.68	1.38	1.58	3.57	2.86
North Lowe	47.808*	386.0	5,292.73	5,295.63	5,295.58	5,296.08	0.005807	5.95	101.89	126.74	0.68	1.41	1.66	3.79	2.90
North Lowe	47.394*	386.0	5,292.41	5,295.27	5,295.27	5,295.80	0.006796	6.37	88.85	105.30	0.74	1.44	1.77	4.34	2.86
North Lowe	46.98	386.0	5,292.09	5,295.00	5,294.94	5,295.52	0.006378	6.26	88.63	97.68	0.72	1.42	1.80	4.36	2.91
North Lowe	46.58*	386.0	5,291.78	5,294.30	5,294.30	5,295.16	0.012069	7.43	53.15	42.78	0.95	0.56	0.73	7.26	2.52
North Lowe	46.18*	386.0	5,291.47	5,293.67	5,293.72	5,294.61	0.015093	7.76	49.73	29.20	1.05			7.76	2.20
North Lowe	45.78*	386.0	5,291.17	5,293.16	5,293.25	5,294.10	0.016390	7.79	49.56	30.91	1.08			7.79	1.99
North Lowe	45.38*	386.0	5,290.86	5,292.64	5,292.79	5,293.62	0.018759	7.94	48.59	32.67	1.15			7.94	1.78
North Lowe	44.98	386.0	5,290.55	5,292.13	5,292.35	5,293.18	0.022486	8.22	46.98	34.48	1.24			8.22	1.58
North Lowe	44.568*	386.0	5,289.79	5,291.58	5,291.59	5,292.36	0.014454	7.09	54.45	35.75	1.01			7.09	1.79
North Lowe	44.156*	386.0	5,289.03	5,290.66	5,290.83	5,291.63	0.020053	7.91	48.80	34.79	1.18			7.91	1.63
North Lowe	43.744*	386.0	5,288.26	5,289.97	5,290.06	5,290.84	0.017220	7.52	51.35	35.23	1.10			7.52	1.71
North Lowe	43.332*	386.0	5,287.50	5,289.16	5,289.30	5,290.09	0.018788	7.74	49.87	34.98	1.14			7.74	1.66
North Lowe	42.92	386.0	5,286.74	5,288.42	5,288.54	5,289.33	0.018092	7.64	50.51	35.09	1.12			7.64	1.68
North Lowe	42.506*	386.0	5,285.97	5,287.64	5,287.77	5,288.56	0.018559	7.71	50.08	35.01	1.14			7.71	1.67
North Lowe	42.092*	386.0	5,285.20	5,286.88	5,287.00	5,287.79	0.018129	7.65	50.47	35.08	1.12			7.65	1.68
North Lowe	41.678*	386.0	5,284.44	5,286.11	5,286.24	5,287.03	0.018483	7.70	50.15	35.03	1.13			7.70	1.67
North Lowe	41.264*	386.0	5,283.67	5,285.34	5,285.47	5,286.26	0.018389	7.68	50.23	35.04	1.13			7.68	1.67
North Lowe	40.85	386.0	5,282.90	5,284.57	5,284.70	5,285.49	0.018389	7.68	50.23	35.04	1.13			7.68	1.67
North Lowe	40.345*	386.0	5,281.97	5,283.63	5,283.77	5,284.56	0.018943	7.76	49.74	34.96	1.15			7.76	1.66
North Lowe	39.84*	386.0	5,281.04	5,282.71	5,282.84	5,283.63	0.018483	7.70	50.15	35.03	1.13			7.70	1.67
North Lowe	39.335*	386.0	5,280.12	5,281.79	5,281.92	5,282.71	0.018483	7.70	50.15	35.03	1.13			7.70	1.67
North Lowe	38.83	386.0	5,279.19	5,281.19	5,280.99	5,281.79	0.009763	6.21	62.14	37.02	0.84			6.21	2.00

The entire reach will be reclaimed. The riprapped reaches were not included in determining the maximum, minimum and average velocities. The shaded areas on the table indicate riprapped reaches.

Max	7.94		**Avg**	4.40
Min	4.39			
Avg	5.95			

Lowe	38.325*	386.0	5,278.52	5,280.59	5,280.49	5,281.25	0.011870	6.53	59.12	38.03	0.92			6.53	2.07
Lowe	37.82*	386.0	5,277.85	5,279.89	5,279.89	5,280.59	0.014640	6.73	57.31	41.34	1.01			6.73	2.03
Lowe	37.315*	386.0	5,277.18	5,279.03	5,279.12	5,279.77	0.017941	6.89	56.14	47.30	1.10		0.90	6.88	1.85
Lowe	36.81	386.0	5,276.51	5,278.03	5,278.16	5,278.80	0.020667	7.09	55.55	52.68	1.17	0.83	2.16	6.95	1.52
Lowe	36.315*	386.0	5,275.86	5,277.35	5,277.35	5,277.88	0.014470	5.94	67.99	68.43	0.98	1.16	2.06	5.68	1.49
Lowe	35.82*	386.0	5,275.22	5,276.47	5,276.56	5,277.04	0.019660	6.14	66.28	80.50	1.10	1.27	2.24	5.82	1.25
Lowe	35.325*	386.0	5,274.58	5,276.06	5,275.76	5,276.29	0.005718	3.96	108.65	108.34	0.62	1.27	1.66	3.55	1.48

Profile Output Table - Lowe North Post-mine 10 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
Lowe 34.83	386.0	5,273.93	5,276.02	5,274.97	5,276.08	0.000908	2.09	223.09	157.10	0.27	0.83	0.95	1.73	2.09
Lowe 34.4225*	386.0	5,273.47	5,275.97	5,274.69	5,276.04	0.000831	2.22	194.64	109.14	0.26	0.79	0.90	1.98	2.50
Lowe 34.015*	386.0	5,273.02	5,275.94	5,274.42	5,276.01	0.000721	2.26	184.47	85.32	0.25	0.70	0.90	2.09	2.92
Lowe 33.6075*	386.0	5,272.56	5,275.91	5,274.17	5,275.99	0.000663	2.34	174.54	68.05	0.24	0.65	0.99	2.21	3.35
Lowe 33.20	490.0	5,272.10	5,275.79	5,274.18	5,275.95	0.001183	3.28	156.50	55.32	0.33	0.84	1.37	3.13	3.68
Lowe 32.8166*	490.0	5,272.00	5,275.58	5,274.42	5,275.88	0.002292	4.46	121.18	50.84	0.45	1.20	1.66	4.04	3.58
Lowe 32.4333*	490.0	5,271.91	5,274.94	5,274.94	5,275.70	0.008508	7.54	82.91	56.37	0.85	2.10	2.64	5.91	3.02
Lowe 32.05	490.0	5,271.81	5,275.13	5,274.27	5,275.30	0.002703	4.63	164.11	81.27	0.47	2.37	2.76	2.99	3.32
Lowe 31.588*	490.0	5,271.31	5,274.40	5,274.40	5,275.07	0.008351	7.47	94.80	72.33	0.84	2.40	2.99	5.17	3.09
Lowe 31.126*	490.0	5,270.80	5,273.43	5,273.61	5,274.49	0.014972	8.47	64.42	45.35	1.08	2.72	2.84	7.61	2.63
Lowe 30.664*	490.0	5,270.30	5,272.60	5,272.82	5,273.69	0.020215	8.45	59.98	44.64	1.21	2.63	2.33	8.17	2.29
Lowe 30.202*	490.0	5,269.79	5,272.09	5,272.12	5,272.86	0.014708	7.06	70.74	51.54	1.02	2.27	1.71	6.93	2.30
Lowe 29.74	490.0	5,269.29	5,271.56	5,271.48	5,272.15	0.011906	6.18	80.31	59.37	0.91	2.04	1.20	6.10	2.27
Lowe 29.3*	490.0	5,268.53	5,271.03	5,270.95	5,271.62	0.011944	6.20	79.80	58.51	0.92	1.79	1.07	6.14	2.50
Lowe 28.86*	490.0	5,267.76	5,270.43	5,270.38	5,271.07	0.013222	6.41	76.86	57.13	0.96	1.47	0.85	6.38	2.67
Lowe 28.42*	490.0	5,267.00	5,269.87	5,269.81	5,270.49	0.012743	6.35	77.37	55.93	0.94	1.03	0.64	6.33	2.87
Lowe 27.98*	490.0	5,266.23	5,269.18	5,269.18	5,269.88	0.015057	6.69	73.23	53.93	1.01			6.69	2.95
Lowe 27.54	490.0	5,265.47	5,268.78	5,268.51	5,269.29	0.008814	5.72	85.71	53.18	0.79		0.22	5.72	3.31
Lowe 27.088*	490.0	5,265.23	5,268.36	5,268.12	5,268.89	0.008895	5.84	83.87	51.08	0.80		0.42	5.84	3.13
Lowe 26.636*	490.0	5,264.99	5,267.92	5,267.70	5,268.48	0.009325	6.00	81.70	49.98	0.82		0.56	6.00	2.93
Lowe 26.184*	490.0	5,264.76	5,267.48	5,267.28	5,268.05	0.009484	6.09	80.58	49.44	0.83		0.67	6.08	2.72
Lowe 25.732*	490.0	5,264.52	5,266.98	5,266.83	5,267.60	0.010328	6.31	77.81	49.15	0.87		0.68	6.30	2.46
Lowe 25.28	490.0	5,264.28	5,266.55	5,266.36	5,267.15	0.009627	6.21	80.56	63.62	0.84		0.76	6.08	2.27
Lowe 24.8328*	490.0	5,263.98	5,266.19	5,265.95	5,266.71	0.008768	5.81	85.05	57.59	0.80		0.85	5.76	2.21
Lowe 24.3857*	490.0	5,263.68	5,265.86	5,265.58	5,266.32	0.008002	5.44	90.76	61.67	0.76		0.99	5.40	2.18
Lowe 23.9385*	490.0	5,263.38	5,265.54	5,265.25	5,265.96	0.007514	5.15	96.00	66.85	0.74		1.12	5.10	2.16
Lowe 23.4914*	490.0	5,263.08	5,265.24	5,264.94	5,265.61	0.007233	4.91	100.88	72.90	0.72		1.27	4.86	2.16
Lowe 23.0442*	490.0	5,262.78	5,264.94	5,264.63	5,265.28	0.007088	4.69	105.70	80.02	0.70		1.41	4.64	2.16
Lowe 22.5971*	490.0	5,262.48	5,264.64	5,264.34	5,264.96	0.007216	4.50	110.13	89.38	0.70	0.24	1.58	4.45	2.16
Lowe 22.15	490.0	5,262.18	5,264.32	5,264.07	5,264.62	0.007428	4.42	112.51	97.00	0.71	0.92	1.72	4.36	2.14
Lowe 21.6716*	490.0	5,261.84	5,263.97	5,263.68	5,264.28	0.007026	4.50	110.65	89.40	0.69	1.11	1.77	4.43	2.13
Lowe 21.1933*	490.0	5,261.50	5,263.63	5,263.31	5,263.95	0.006593	4.58	109.02	82.26	0.68	1.28	1.83	4.49	2.13
Lowe 20.715*	490.0	5,261.16	5,263.31	5,262.95	5,263.65	0.006041	4.65	107.90	75.21	0.66	1.45	1.86	4.54	2.15
Lowe 20.2366*	490.0	5,260.81	5,263.02	5,262.61	5,263.37	0.005536	4.74	106.58	68.46	0.64	1.61	1.91	4.60	2.21
Lowe 19.7583*	490.0	5,260.47	5,262.73	5,262.28	5,263.10	0.005410	4.96	102.87	61.68	0.65	1.78	2.00	4.76	2.26
Lowe 19.28	490.0	5,260.13	5,262.13	5,262.00	5,262.74	0.009994	6.34	80.50	52.95	0.86	2.29	2.53	6.09	2.00
Lowe 18.9*	490.0	5,260.00	5,261.88	5,261.67	5,262.35	0.008575	5.58	90.74	63.73	0.79	1.93	2.17	5.40	1.88
Lowe 18.52*	490.0	5,259.87	5,261.63	5,261.38	5,262.02	0.007685	5.04	100.02	75.16	0.74	1.64	1.88	4.90	1.76
Lowe 18.14	490.0	5,259.74	5,261.42	5,261.12	5,261.73	0.006405	4.48	115.97	109.04	0.67	1.37	1.08	4.23	1.68
Lowe 17.702*	490.0	5,259.34	5,261.11	5,260.80	5,261.44	0.006512	4.63	108.94	83.50	0.68	1.48	1.44	4.50	1.77
Lowe 17.264*	490.0	5,258.94	5,260.80	5,260.49	5,261.15	0.006621	4.77	105.41	77.66	0.69	1.57	1.28	4.65	1.86
Lowe 16.826*	490.0	5,258.53	5,260.52	5,260.16	5,260.87	0.006169	4.79	105.18	73.33	0.67	1.63	1.10	4.66	1.99
Lowe 16.388*	490.0	5,258.13	5,260.28	5,259.84	5,260.62	0.005350	4.72	107.55	69.86	0.63	1.66	0.94	4.56	2.15
Lowe 15.95	514.0	5,257.73	5,260.00	5,259.55	5,260.38	0.005440	4.96	107.88	66.46	0.65	1.78	0.83	4.76	2.27
Lowe 15.5933*	514.0	5,257.27	5,259.71	5,259.34	5,260.16	0.006306	5.50	100.90	64.78	0.70	2.04	1.28	5.09	2.44
Lowe 15.2366*	514.0	5,256.81	5,259.34	5,259.00	5,259.90	0.007763	6.22	98.80	82.09	0.78	1.94	1.72	5.20	2.53
Lowe 14.88	514.0	5,256.35	5,259.27	5,258.92	5,259.62	0.004374	5.33	132.89	93.74	0.60	2.21	1.73	3.87	2.92
Lowe 14.4466*	514.0	5,255.78	5,258.65	5,258.65	5,259.33	0.009190	7.09	93.94	82.11	0.86	2.08	2.52	5.47	2.87
Lowe 14.0133*	514.0	5,255.22	5,258.06	5,258.17	5,258.87	0.012236	7.71	83.39	68.48	0.97	2.14	3.21	6.16	2.84
Lowe 13.58	514.0	5,254.65	5,257.88	5,257.59	5,258.25	0.005347	5.57	128.02	95.78	0.65	1.29	2.54	4.02	3.23
Lowe 13.1875*	514.0	5,254.35	5,257.21	5,257.21	5,257.96	0.010634	7.22	82.40	62.26	0.91	1.43	2.68	6.24	2.86
Lowe 12.795*	514.0	5,254.04	5,256.68	5,256.71	5,257.51	0.012305	7.38	73.47	55.41	0.97	1.39	1.61	7.00	2.64
Lowe 12.4025*	514.0	5,253.74	5,256.27	5,256.17	5,256.98	0.010606	6.76	77.95	51.26	0.90	1.34	1.56	6.59	2.53
Lowe 12.01	514.0	5,253.43	5,256.15	5,255.66	5,256.58	0.005504	5.31	99.70	57.18	0.66	1.34	1.28	5.16	2.71
Lowe 11.5966*	514.0	5,253.25	5,255.92	5,255.45	5,256.35	0.005496	5.33	101.01	60.00	0.66	1.50	1.44	5.09	2.67
Lowe 11.1833*	514.0	5,253.08	5,255.71	5,255.25	5,256.12	0.005301	5.28	104.17	61.47	0.65	1.88	1.57	4.93	2.62
Lowe 10.77	514.0	5,252.90	5,255.56	5,255.03	5,255.90	0.004178	4.84	119.83	70.56	0.58	2.07	1.59	4.29	2.66
Lowe 10.3166*	514.0	5,252.57	5,255.30	5,254.85	5,255.69	0.004851	5.40	114.17	67.50	0.63	2.48	1.89	4.50	2.73
Lowe 9.86333*	514.0	5,252.25	5,254.85	5,254.68	5,255.41	0.007809	6.73	100.95	67.79	0.80	3.12	2.44	5.09	2.60
Lowe 9.41	514.0	5,251.92	5,254.72	5,254.33	5,255.05	0.005309	5.97	130.79	80.13	0.67	3.15	2.32	3.93	2.80
Lowe 9.01*	514.0	5,251.66	5,254.40	5,254.14	5,254.86	0.007357	6.76	110.02	69.62	0.78	3.52	2.45	4.67	2.74
Lowe 8.61*	514.0	5,251.40	5,254.13	5,253.89	5,254.64	0.007731	6.82	104.06	63.98	0.80	3.65	2.29	4.94	2.73
Lowe 8.21	514.0	5,251.14	5,253.82	5,253.65	5,254.38	0.008655	7.04	97.76	61.17	0.84	3.74	2.14	5.26	2.68
Lowe 7.77*	514.0	5,250.64	5,253.49	5,253.34	5,254.09	0.008884	7.36	95.82	59.67	0.85	3.83	2.42	5.36	2.85
Lowe 7.33*	514.0	5,250.13	5,253.23	5,253.05	5,253.81	0.008142	7.39	99.04	60.22	0.82	3.78	2.67	5.19	3.10
Lowe 6.89	514.0	5,249.63	5,252.75	5,252.75	5,253.49	0.011194	8.47	90.12	60.07	0.96	4.11	3.41	5.70	3.11

Profile Output Table - Lowe North Post-mine 10 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
Lowe 6.44333*	514.0	5,249.14	5,252.20	5,252.25	5,253.02	0.010876	8.32	84.94	56.02	0.95	3.82	3.17	6.05	3.06
Lowe 5.99666*	514.0	5,248.64	5,251.60	5,251.72	5,252.52	0.012027	8.38	79.08	55.83	0.99	3.47	2.95	6.50	2.96
Lowe 5.55	514.0	5,248.15	5,250.92	5,251.17	5,251.92	0.014787	8.56	77.12	69.61	1.07	2.86	2.75	6.66	2.77
Lowe 5.05666*	514.0	5,247.70	5,250.79	5,250.79	5,251.41	0.008564	7.11	101.91	81.23	0.83	2.77	2.66	5.04	3.09
Lowe 4.56333*	514.0	5,247.25	5,250.54	5,250.39	5,250.98	0.006341	6.38	123.24	96.44	0.72	2.66	2.46	4.17	3.29
Lowe 4.07	514.0	5,246.80	5,250.47	5,249.96	5,250.67	0.002955	4.75	182.25	128.96	0.50	2.17	1.91	2.82	3.67
Lowe 3.57333*	514.0	5,246.38	5,249.68	5,249.67	5,250.39	0.009268	7.75	94.54	70.80	0.87	3.52	1.88	5.44	3.30
Lowe 3.07666*	514.0	5,245.95	5,249.16	5,249.14	5,249.87	0.009958	7.91	90.97	60.43	0.90	3.77	1.97	5.65	3.21
Lowe 2.58	514.0	5,245.53	5,248.87	5,248.55	5,249.36	0.006656	6.74	105.94	59.86	0.74	3.60	1.53	4.85	3.34
Lowe 2.17333*	514.0	5,245.22	5,248.61	5,248.33	5,249.10	0.006792	6.84	107.09	62.36	0.75	3.57	1.65	4.80	3.39
Lowe 1.76666*	514.0	5,244.90	5,248.35	5,248.08	5,248.84	0.006578	6.89	109.64	65.01	0.74	3.46	1.74	4.69	3.45
Lowe 1.36	514.0	5,244.59	5,247.79	5,247.79	5,248.50	0.010090	8.22	93.52	63.37	0.90	3.77	1.86	5.50	3.20
Lowe .906667*	514.0	5,243.86	5,247.15	5,247.28	5,248.01	0.011491	8.69	86.31	62.34	0.96	3.63	1.86	5.96	3.29
Lowe .453333*	514.0	5,243.14	5,246.59	5,246.76	5,247.51	0.011380	8.70	84.24	63.26	0.96	3.31	1.84	6.10	3.45
Lowe 0.00	514.0	5,242.41	5,246.03	5,246.26	5,247.00	0.011294	8.67	81.80	87.30	0.95	2.94	1.83	6.28	3.62
						Max	**8.70**					**Avg**	**5.20**	
						Min	**2.09**							
						Avg	**6.03**							

The entire reach is undisturbed and is downstream of the mine lease.

Profile Output Table - Lowe North Post-mine 25 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North LoweR4	11.71	331.0	5,380.41	5,381.33	5,381.29	5,381.62	0.014920	4.36	78.67	122.63	0.91	1.59		4.21	0.92
North LoweR4	11.35*	331.0	5,379.91	5,380.80	5,380.77	5,381.07	0.015473	4.16	80.85	132.79	0.92	1.38		4.09	0.89
North LoweR4	10.99*	331.0	5,379.41	5,380.33	5,380.26	5,380.54	0.012964	3.73	89.35	147.88	0.83	1.14		3.70	0.92
North LoweR4	10.63	331.0	5,378.91	5,380.13	5,379.75	5,380.21	0.003173	2.32	143.81	168.75	0.44	0.79		2.30	1.22
North LoweR4	10.2933*	331.0	5,378.60	5,379.94	5,379.64	5,380.08	0.005030	2.92	114.26	134.11	0.55	0.91		2.90	1.34
North LoweR4	9.95666*	331.0	5,378.28	5,379.48	5,379.48	5,379.79	0.019885	4.42	74.95	129.88	1.02	0.76		4.42	1.20
North LoweR4	9.62	331.0	5,377.97	5,378.93	5,378.80	5,379.16	0.010227	3.84	86.18	111.02	0.77			3.84	0.96
North LoweR4	9.25*	331.0	5,377.58	5,378.55	5,378.42	5,378.79	0.010110	3.89	85.15	106.87	0.77			3.89	0.97
North LoweR4	8.88*	331.0	5,377.18	5,378.17	5,378.03	5,378.41	0.009919	3.93	84.31	102.80	0.76			3.93	0.99
North LoweR4	8.51	331.0	5,376.79	5,377.88	5,377.65	5,378.08	0.007402	3.64	90.97	99.81	0.67			3.64	1.09
North LoweR4	8.11*	331.0	5,376.42	5,377.65	5,377.32	5,377.82	0.005139	3.27	101.46	101.74	0.57	0.39	0.65	3.26	1.23
North LoweR4	7.71*	331.0	5,376.05	5,377.53	5,376.99	5,377.65	0.002738	2.75	122.45	103.18	0.43	0.78	0.87	2.70	1.48
North LoweR4	7.31	331.0	5,375.68	5,377.48	5,376.64	5,377.55	0.001369	2.25	151.79	104.56	0.32	0.85	0.88	2.18	1.79
North LoweR4	6.87666*	331.0	5,375.17	5,377.39	5,376.46	5,377.49	0.001485	2.55	133.52	84.15	0.34	0.72	0.74	2.48	2.22
North LoweR4	6.44333*	331.0	5,374.65	5,377.24	5,376.31	5,377.41	0.002166	3.26	103.77	62.82	0.41	0.59	0.61	3.19	2.59
North LoweR4	6.01	331.0	5,374.14	5,376.35	5,376.35	5,377.18	0.014052	7.29	45.43	27.83	1.00			7.29	2.21
North LoweR4	5.808*	331.0	5,372.62	5,374.22	5,374.89	5,376.35	0.054578	11.72	28.25	23.62	1.89			11.72	1.60
North LoweR4	5.606*	331.0	5,371.10	5,372.66	5,373.41	5,375.10	0.066056	12.54	26.40	23.02	2.06			12.54	1.56
North LoweR4	5.404*	331.0	5,369.59	5,371.13	5,371.90	5,373.70	0.070882	12.87	25.72	22.75	2.13			12.87	1.54
North LoweR4	5.202*	331.0	5,368.07	5,369.60	5,370.40	5,372.24	0.072154	13.05	25.37	22.25	2.15			13.05	1.53
North LoweR4	5.00	331.0	5,366.55	5,368.04	5,368.85	5,370.76	0.073427	13.24	24.99	21.64	2.17			13.24	1.49
North LoweR4	4.75*	331.0	5,363.66	5,365.07	5,366.01	5,368.48	0.103778	14.82	22.34	21.25	2.55			14.82	1.41
North LoweR4	4.5*	331.0	5,360.77	5,362.21	5,363.16	5,365.76	0.111576	15.13	21.88	21.31	2.63			15.13	1.44
North LoweR4	4.25*	331.0	5,357.89	5,359.36	5,360.32	5,362.95	0.113211	15.21	21.77	21.24	2.65			15.21	1.47
North LoweR4	4.00	331.0	5,355.00	5,356.50	5,357.47	5,360.12	0.113317	15.26	21.69	21.01	2.65			15.26	1.50
North LoweR4	3.75*	331.0	5,352.99	5,354.64	5,355.50	5,357.56	0.078117	13.72	24.13	20.70	2.24			13.72	1.65
North LoweR4	3.5*	331.0	5,350.98	5,352.65	5,353.53	5,355.64	0.075400	13.89	23.83	19.42	2.21			13.89	1.67
North LoweR4	3.25*	331.0	5,348.97	5,350.66	5,351.58	5,353.77	0.073712	14.17	23.36	17.96	2.19			14.17	1.69
North LoweR4	3.00	331.0	5,346.96	5,348.66	5,349.63	5,351.91	0.073005	14.48	22.86	16.58	2.17			14.48	1.70
North LoweR4	2.75*	331.0	5,346.12	5,348.07	5,348.72	5,350.15	0.044519	11.56	28.63	20.67	1.73			11.56	1.95
North LoweR4	2.50	331.0	5,345.28	5,347.30	5,347.81	5,348.99	0.039342	10.43	31.74	24.64	1.62			10.43	2.02
North LoweR4	2.25*	331.0	5,344.31	5,346.40	5,346.90	5,348.06	0.034993	10.31	32.09	23.10	1.54			10.31	2.09
North LoweR4	2.00	331.0	5,343.35	5,346.65	5,346.03	5,347.10	0.005751	5.41	61.22	162.64	0.66			5.41	3.30

The reclaimed reach is between River Station 6.01 and 2.00. This reach of channel is riprapped. The remaining upstream reach is undisturbed or pre-mine channel.The riprapped reach and the undisturbed reach upstream of the mine lease were not included in determining the maximum, minimum and average velocities. The shaded areas on the table indicate riprapped reaches.

							Max	N/A					Avg	N/A	
							Min	N/A							
							Avg	N/A							

North LoweR3	15.89	144.0	5,391.12	5,392.21	5,392.12	5,392.47	0.012533	4.10	35.09	47.63	0.84			4.10	1.08
North LoweR3	15.5066*	144.0	5,390.56	5,391.73	5,391.63	5,391.99	0.012275	4.07	35.36	48.06	0.83		0.18	4.07	1.17
North LoweR3	15.1233*	144.0	5,390.01	5,391.08	5,391.08	5,391.43	0.017609	4.73	31.24	51.55	0.99	0.83	1.14	4.61	1.07
North LoweR3	14.74	144.0	5,389.45	5,390.61	5,390.34	5,390.72	0.004960	2.99	58.22	76.89	0.55	0.95	1.77	2.47	1.16
North LoweR3	14.32*	144.0	5,389.06	5,390.29	5,390.13	5,390.47	0.006660	3.55	48.45	82.75	0.64	0.77	1.33	2.97	1.23
North LoweR3	13.9*	144.0	5,388.66	5,389.92	5,389.70	5,390.15	0.007919	3.89	37.08	84.85	0.70		0.18	3.88	1.26
North LoweR3	13.48	144.0	5,388.27	5,389.28	5,389.28	5,389.69	0.016508	5.10	28.24	109.86	0.98			5.10	1.01
North LoweR3	13.1*	144.0	5,387.89	5,388.79	5,388.73	5,389.05	0.014011	4.08	35.26	91.42	0.88			4.08	0.90
North LoweR3	12.72*	144.0	5,387.50	5,388.21	5,388.20	5,388.44	0.018551	3.87	37.17	80.51	0.96			3.87	0.71
North LoweR3	12.34	144.0	5,387.12	5,387.78	5,387.65	5,387.89	0.008575	2.66	54.44	110.87	0.66	0.56	0.31	2.64	0.66
North LoweR3	11.98*	144.0	5,386.77	5,387.48	5,387.34	5,387.59	0.007965	2.69	54.78	110.90	0.64	0.71	0.55	2.63	0.71
North LoweR3	11.62*	144.0	5,386.43	5,387.11	5,387.04	5,387.25	0.011434	3.06	50.75	121.53	0.76	1.12	0.72	2.84	0.68
North LoweR3	11.26	144.0	5,386.08	5,386.79	5,386.67	5,386.89	0.008893	2.74	59.99	147.26	0.67	1.65	0.80	2.40	0.71
North LoweR3	11.06*	144.0	5,385.73	5,386.47	5,386.42	5,386.65	0.014420	3.44	43.72	113.71	0.85	0.68	0.85	3.29	0.74
North LoweR3	10.86*	144.0	5,385.38	5,386.14	5,386.10	5,386.33	0.016032	3.53	40.87	85.67	0.89	0.18	0.67	3.52	0.76
North LoweR3	10.66*	144.0	5,385.02	5,385.83	5,385.77	5,386.01	0.014528	3.42	42.18	85.43	0.85		0.41	3.41	0.81
North LoweR3	10.46*	144.0	5,384.67	5,385.48	5,385.45	5,385.68	0.017062	3.59	40.11	84.09	0.92			3.59	0.81
North LoweR3	10.26*	144.0	5,384.32	5,385.18	5,385.11	5,385.35	0.013361	3.33	43.21	84.30	0.82			3.33	0.86
North LoweR3	10.06	144.0	5,383.97	5,384.77	5,384.77	5,385.00	0.020780	3.84	37.48	100.78	1.00			3.84	0.80
North LoweR3	9.795*	144.0	5,382.29	5,383.04	5,383.25	5,383.75	0.088181	6.74	21.35	59.60	1.99			6.74	0.75
North LoweR3	9.53*	144.0	5,380.60	5,381.52	5,381.73	5,382.19	0.056130	6.59	21.84	44.88	1.67			6.59	0.92
North LoweR3	9.265*	144.0	5,378.92	5,379.92	5,380.22	5,380.87	0.061645	7.82	18.41	31.37	1.80			7.82	1.00
North LoweR3	9.00	144.0	5,377.23	5,378.37	5,378.75	5,379.57	0.054499	8.77	16.42	21.32	1.76			8.77	1.14
North LoweR3	8.75*	144.0	5,374.46	5,375.50	5,376.05	5,377.45	0.109376	11.20	12.86	19.55	2.43			11.20	1.04
North LoweR3	8.5*	144.0	5,371.69	5,372.76	5,373.32	5,374.74	0.107215	11.28	12.77	18.93	2.42			11.28	1.07
North LoweR3	8.25*	144.0	5,368.93	5,369.98	5,370.56	5,372.04	0.108222	11.53	12.49	18.02	2.44			11.53	1.05

Profile Output Table - Lowe North Post-mine 25 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North LoweR3	8.00	144.0	5,366.16	5,367.15	5,367.77	5,369.32	0.108846	11.82	12.18	16.94	2.46			11.82	0.99
North LoweR3	7.75*	144.0	5,364.55	5,365.71	5,366.13	5,367.07	0.059603	9.34	15.42	19.48	1.85			9.34	1.16
North LoweR3	7.5*	144.0	5,362.94	5,364.05	5,364.49	5,365.47	0.067922	9.57	15.05	20.27	1.96			9.57	1.11
North LoweR3	7.25*	144.0	5,361.33	5,362.39	5,362.81	5,363.76	0.067713	9.39	15.34	21.22	1.95			9.39	1.06
North LoweR3	7.00	144.0	5,359.72	5,360.70	5,361.13	5,362.06	0.068369	9.34	15.42	21.64	1.95			9.34	0.98
North LoweR3	6.75*	144.0	5,358.74	5,360.00	5,360.19	5,360.75	0.030102	6.95	20.72	24.51	1.33			6.95	1.25
North LoweR3	6.5*	144.0	5,357.75	5,358.99	5,359.26	5,359.87	0.039127	7.56	19.06	24.21	1.50			7.56	1.24
North LoweR3	6.25*	144.0	5,356.76	5,358.06	5,358.30	5,358.90	0.037800	7.35	19.58	25.25	1.47			7.35	1.30
North LoweR3	6.00	144.0	5,355.78	5,357.12	5,357.35	5,357.94	0.038759	7.28	19.77	26.37	1.48			7.28	1.34
North LoweR3	5.75*	144.0	5,354.78	5,356.02	5,356.29	5,356.91	0.043484	7.56	19.04	26.18	1.56			7.56	1.24
North LoweR3	5.5*	144.0	5,353.79	5,354.97	5,355.22	5,355.83	0.042167	7.43	19.39	26.81	1.54			7.43	1.18
North LoweR3	5.25*	144.0	5,352.79	5,353.93	5,354.17	5,354.77	0.042182	7.37	19.53	27.31	1.54			7.37	1.13
North LoweR3	5.00	144.0	5,351.80	5,352.89	5,353.14	5,353.72	0.041071	7.31	19.72	28.02	1.52	0.66		7.30	1.09
North LoweR3	4.75*	144.0	5,350.95	5,352.31	5,352.40	5,352.90	0.022132	6.15	23.46	27.69	1.15	0.62		6.14	1.36
North LoweR3	4.5*	144.0	5,350.10	5,351.44	5,351.64	5,352.22	0.030169	7.10	20.28	23.22	1.34			7.10	1.34
North LoweR3	4.25*	144.0	5,349.25	5,350.62	5,350.84	5,351.47	0.029579	7.40	19.47	20.55	1.34			7.40	1.37
North LoweR3	4.00	144.0	5,348.40	5,349.72	5,349.99	5,350.70	0.031433	7.93	18.17	17.93	1.39			7.93	1.32
North LoweR3	3.75*	144.0	5,347.65	5,348.62	5,348.93	5,349.61	0.056428	7.98	18.05	27.90	1.75			7.98	0.97
North LoweR3	3.5*	144.0	5,346.90	5,347.85	5,347.99	5,348.38	0.034085	5.79	24.85	42.63	1.34			5.79	0.95
North LoweR3	3.25*	144.0	5,346.15	5,346.97	5,347.09	5,347.43	0.040025	5.49	26.21	54.98	1.40			5.49	0.81
North LoweR3	3.00	144.0	5,345.40	5,346.34	5,346.23	5,346.49	0.011084	3.14	45.82	84.85	0.75			3.14	0.94
North LoweR3	2.75*	144.0	5,344.21	5,346.30	5,345.09	5,346.31	0.000271	0.98	154.00	120.38	0.14	0.20	0.31	0.94	2.09
North LoweR3	2.50	144.0	5,343.02	5,346.30	5,343.96	5,346.30	0.000045	0.59	290.66	151.63	0.06	0.19	0.24	0.50	3.28

The reclaimed reach is between River Station 10.06 and 2.50. The remaining upstream reach is undisturbed or pre-mine channel.The riprapped reach and the undisturbed reach upstream of the mine lease were not included in determining the maximum, minimum and average velocities. The shaded areas on the table indicate riprapped reaches.

							Max	**7.98**					**Avg**	**6.76**	
							Min	**3.14**							
							Avg	**6.76**							

North LoweR2	14.00	445.0	5,342.50	5,345.61	5,345.60	5,346.20	0.006552	6.69	95.82	98.60	0.74	1.92	1.64	4.64	3.10
North LoweR2	13.5*	445.0	5,342.25	5,345.30	5,345.27	5,345.85	0.006438	6.53	102.10	105.38	0.73	1.82	1.80	4.36	3.05
North LoweR2	13.00	445.0	5,341.99	5,345.27	5,344.97	5,345.51	0.002996	4.73	169.00	175.03	0.50	1.13	1.57	2.63	3.28
North LoweR2	12.5*	445.0	5,341.73	5,344.94	5,344.82	5,345.33	0.004489	5.69	134.38	162.65	0.61	1.45	1.47	3.31	3.21
North LoweR2	12.00	445.0	5,341.48	5,344.69	5,344.54	5,345.09	0.004565	5.74	127.43	140.06	0.62	1.68	1.38	3.49	3.21
North LoweR2	11.5*	445.0	5,341.23	5,344.44	5,344.26	5,344.84	0.004684	5.80	122.33	126.43	0.63	1.78	1.40	3.64	3.20
North LoweR2	11.00	445.0	5,340.98	5,344.12	5,343.97	5,344.58	0.005264	6.05	113.14	113.10	0.66	1.92	1.44	3.93	3.14
North LoweR2	10.5*	445.0	5,340.73	5,343.98	5,343.73	5,344.30	0.003864	5.32	138.59	137.54	0.57	1.76	1.33	3.21	3.24
North LoweR2	10.0	445.0	5,340.47	5,343.92	5,343.41	5,344.09	0.002157	4.17	189.62	168.89	0.43	1.54	1.13	2.35	3.45
North LoweR2	9.00	445.0	5,339.96	5,343.45	5,343.01	5,343.80	0.003471	5.35	127.16	107.02	0.55	1.60	1.57	3.50	3.49
North LoweR2	8.00	445.0	5,339.45	5,342.93	5,342.52	5,343.41	0.004337	5.96	102.59	82.83	0.61	1.70	1.53	4.34	3.48
North LoweR2	7.00	445.0	5,338.94	5,342.35	5,341.95	5,342.93	0.005152	6.39	88.57	65.42	0.67	1.70	1.64	5.02	3.41
North LoweR2	6.00	445.0	5,338.43	5,341.82	5,341.43	5,342.41	0.005231	6.42	86.10	56.98	0.67	1.80	1.87	5.17	3.39
North LoweR2	5.00	445.0	5,337.93	5,341.37	5,340.94	5,341.90	0.004792	6.20	91.21	60.46	0.64	1.83	1.83	4.88	3.44
North LoweR2	4.00	445.0	5,337.42	5,340.72	5,340.42	5,341.36	0.005997	6.71	80.81	53.32	0.71	1.91	1.90	5.51	3.30
North LoweR2	3.00	445.0	5,336.91	5,340.01	5,339.95	5,340.70	0.007326	7.06	82.03	69.28	0.78	1.89	1.89	5.42	3.10
North LoweR2	2.00	445.0	5,336.40	5,339.56	5,339.36	5,340.00	0.005041	5.96	109.80	91.41	0.65	2.08	1.77	4.05	3.16
North LoweR2	1.00	445.0	5,335.89	5,339.30	5,338.91	5,339.55	0.002881	4.78	164.18	163.08	0.50	1.45	1.40	2.71	3.41
North LoweR2	0.00	445.0	5,335.39	5,338.57	5,338.56	5,339.15	0.006044	6.55	101.84	123.56	0.71	1.63	1.31	4.37	3.18

This entire reach will be reclaimed.

							Max	**7.06**					**Avg**	**4.03**	
							Min	**4.17**							
							Avg	**5.90**							

North LoweR1	12.73	126.0	5,355.00	5,356.30	5,356.07	5,356.61	0.008582	4.41	28.55	25.82	0.74			4.41	1.30
North LoweR1	12.00	126.0	5,354.39	5,355.78	5,355.47	5,356.03	0.006761	4.03	31.27	27.13	0.66			4.03	1.39
North LoweR1	11.00	126.0	5,353.70	5,355.08	5,354.78	5,355.35	0.006985	4.12	30.60	26.29	0.67			4.12	1.38
North LoweR1	10.00	126.0	5,353.00	5,354.39	5,354.08	5,354.65	0.006974	4.11	30.63	26.32	0.67			4.11	1.39
North LoweR1	9.00	126.0	5,352.30	5,353.69	5,353.38	5,353.95	0.006992	4.12	30.61	26.33	0.67			4.12	1.39
North LoweR1	8.00	126.0	5,351.60	5,353.06	5,352.68	5,353.29	0.005942	3.89	32.35	26.75	0.62			3.89	1.46
North LoweR1	7.00	126.0	5,350.90	5,352.67	5,351.99	5,352.82	0.002980	3.08	40.93	28.63	0.45			3.08	1.77
North LoweR1	6.00	126.0	5,350.25	5,351.70	5,351.70	5,352.27	0.016146	6.05	20.84	18.71	1.01			6.05	1.45
North LoweR1	5.75*	126.0	5,349.63	5,350.90	5,351.09	5,351.71	0.026826	7.22	17.44	17.59	1.28			7.22	1.26
North LoweR1	5.5*	126.0	5,349.01	5,350.31	5,350.46	5,351.06	0.023965	6.94	18.14	17.83	1.21			6.94	1.30
North LoweR1	5.25*	126.0	5,348.39	5,349.68	5,349.84	5,350.45	0.024771	7.02	17.94	17.75	1.23			7.02	1.29
North LoweR1	5.00	126.0	5,347.77	5,349.06	5,349.22	5,349.83	0.025257	7.07	17.82	17.71	1.24			7.07	1.29

Profile Output Table - Lowe North Post-mine 25 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North LoweR1	4.75*	126.0	5,347.15	5,348.44	5,348.60	5,349.21	0.024805	7.03	17.93	17.75	1.23			7.03	1.29
North LoweR1	4.5*	126.0	5,346.54	5,347.83	5,348.00	5,348.60	0.024805	7.03	17.93	17.75	1.23			7.03	1.29
North LoweR1	4.25*	126.0	5,345.92	5,347.21	5,347.37	5,347.98	0.024737	7.02	17.94	17.76	1.23			7.02	1.29
North LoweR1	4.00	126.0	5,345.30	5,346.60	5,346.75	5,347.36	0.024600	7.01	17.98	17.77	1.23			7.01	1.29
North LoweR1	3.75*	126.0	5,344.68	5,345.98	5,346.13	5,346.74	0.024397	6.99	18.03	17.79	1.22			6.99	1.30
North LoweR1	3.5*	126.0	5,344.06	5,345.36	5,345.51	5,346.12	0.024566	7.00	17.99	17.77	1.23			7.00	1.30
North LoweR1	3.25*	126.0	5,343.44	5,344.73	5,344.90	5,345.50	0.025222	7.07	17.82	17.72	1.24			7.07	1.29
North LoweR1	3.00	126.0	5,342.82	5,344.11	5,344.27	5,344.88	0.024771	7.02	17.94	17.75	1.23			7.02	1.29
North LoweR1	2.75*	126.0	5,342.20	5,343.49	5,343.65	5,344.26	0.024771	7.02	17.94	17.75	1.23			7.02	1.29
North LoweR1	2.5*	126.0	5,341.58	5,342.88	5,343.03	5,343.64	0.024634	7.01	17.97	17.77	1.23			7.01	1.29
North LoweR1	2.25*	126.0	5,340.96	5,342.26	5,342.41	5,343.02	0.024364	6.98	18.04	17.79	1.22			6.98	1.30
North LoweR1	2.00	126.0	5,340.34	5,341.63	5,341.80	5,342.40	0.024703	7.02	17.95	17.76	1.23			7.02	1.29
North LoweR1	1.75*	126.0	5,339.72	5,341.01	5,341.17	5,341.78	0.025187	7.07	17.83	17.72	1.24			7.07	1.29
North LoweR1	1.5*	126.0	5,339.10	5,340.39	5,340.55	5,341.16	0.025187	7.07	17.83	17.72	1.24			7.07	1.29
North LoweR1	1.25*	126.0	5,338.49	5,339.79	5,339.94	5,340.55	0.024465	6.99	18.01	17.78	1.22			6.99	1.30
North LoweR1	1.00	126.0	5,337.87	5,339.16	5,339.32	5,339.93	0.024737	7.02	17.94	17.76	1.23			7.02	1.29
North LoweR1	.75*	126.0	5,337.25	5,338.89	5,338.71	5,339.30	0.010344	5.17	24.38	19.81	0.82			5.17	1.64
North LoweR1	.5*	126.0	5,336.63	5,338.89	5,338.09	5,339.06	0.003013	3.33	37.89	23.55	0.46			3.33	2.26
North LoweR1	.25*	126.0	5,336.01	5,338.90	5,337.46	5,338.98	0.001141	2.34	53.88	27.32	0.29			2.34	2.89
North LoweR1	0.00	126.0	5,335.39	5,338.91	5,336.84	5,338.95	0.000417	1.68	93.36	112.50	0.19	0.27	0.27	1.35	3.52

This entire reach will be reclaimed. The riprapped reach was not included in determining the maximum, minimum, and average velocities.

							Max	**4.41**					**Avg**	**3.97**	
							Min	**3.08**							
							Avg	**3.97**							
North Lowe	90.01	553.0	5,335.39	5,338.60	5,338.35	5,338.91	0.004255	5.54	172.57	149.38	0.60	2.05	1.91	3.20	3.21
North Lowe	89.63	553.0	5,335.20	5,338.48	5,338.17	5,338.75	0.003710	5.26	182.75	152.62	0.56	1.98	1.84	3.03	3.28
North Lowe	88.65*	553.0	5,334.70	5,337.98	5,337.76	5,338.33	0.004509	5.80	162.03	140.44	0.62	2.00	2.01	3.41	3.28
North Lowe	87.67	553.0	5,334.20	5,337.62	5,337.29	5,337.91	0.003518	5.29	173.19	130.21	0.55	2.05	1.79	3.19	3.42
North Lowe	86.66*	553.0	5,333.69	5,337.15	5,336.85	5,337.52	0.004100	5.77	154.52	118.84	0.60	2.09	1.83	3.58	3.46
North Lowe	85.65	553.0	5,333.19	5,336.52	5,336.33	5,337.02	0.005630	6.55	127.10	96.17	0.69	2.39	1.99	4.35	3.33
North Lowe	84.66*	553.0	5,332.68	5,335.93	5,335.80	5,336.45	0.005977	6.63	129.06	105.28	0.71	2.34	2.04	4.28	3.25
North Lowe	83.67	553.0	5,332.17	5,335.46	5,335.27	5,335.87	0.004971	6.10	147.33	121.79	0.65	2.16	2.05	3.75	3.29
North Lowe	82.68*	553.0	5,331.67	5,335.02	5,334.75	5,335.38	0.004333	5.78	153.68	116.64	0.61	2.18	2.05	3.60	3.35
North Lowe	81.69	553.0	5,331.16	5,334.79	5,334.23	5,334.99	0.002431	4.61	199.11	131.93	0.46	1.85	1.80	2.78	3.62
North Lowe	81.0166*	553.0	5,330.82	5,334.54	5,334.03	5,334.81	0.002802	5.05	176.61	117.72	0.50	1.83	1.94	3.13	3.72
North Lowe	80.3433*	553.0	5,330.48	5,334.23	5,333.77	5,334.59	0.003387	5.58	152.08	101.86	0.55	1.82	2.08	3.64	3.75
North Lowe	79.67	553.0	5,330.14	5,333.61	5,333.47	5,334.26	0.006108	7.06	108.67	77.47	0.73	2.01	2.38	5.09	3.47
North Lowe	78.94*	553.0	5,329.70	5,333.02	5,333.02	5,333.75	0.007314	7.46	103.55	81.19	0.79	2.06	2.46	5.34	3.32
North Lowe	78.21*	553.0	5,329.27	5,332.56	5,332.56	5,333.20	0.006919	7.20	115.10	100.55	0.77	2.04	2.33	4.80	3.29
North Lowe	77.48	553.0	5,328.83	5,332.02	5,331.89	5,332.39	0.005074	6.01	154.34	134.89	0.65	2.04	2.28	3.58	3.18
North Lowe	76.7533*	553.0	5,328.39	5,331.45	5,331.45	5,331.97	0.006975	6.82	133.76	129.39	0.76	2.31	2.05	4.13	3.06
North Lowe	76.0266*	553.0	5,327.96	5,331.09	5,330.97	5,331.50	0.005573	6.21	147.29	129.04	0.68	2.29	1.97	3.75	3.13
North Lowe	75.30	553.0	5,327.52	5,330.91	5,330.50	5,331.15	0.003121	4.95	186.21	135.65	0.52	2.06	1.68	2.97	3.39
North Lowe	74.62*	553.0	5,327.11	5,330.36	5,330.25	5,330.85	0.005791	6.53	135.15	116.19	0.70	2.15	2.20	4.09	3.25
North Lowe	73.94*	553.0	5,326.70	5,329.97	5,329.83	5,330.46	0.005662	6.49	132.10	104.52	0.69	2.24	2.30	4.19	3.27
North Lowe	73.26	553.0	5,326.29	5,329.74	5,329.38	5,330.09	0.003928	5.63	154.97	109.90	0.58	2.06	2.16	3.57	3.45
North Lowe	72.5833*	553.0	5,325.88	5,329.32	5,329.08	5,329.78	0.004814	6.23	134.59	97.25	0.64	2.28	2.11	4.11	3.44
North Lowe	71.9066*	553.0	5,325.47	5,328.98	5,328.70	5,329.45	0.004731	6.27	129.83	89.39	0.64	2.35	1.96	4.26	3.51
North Lowe	71.23	553.0	5,325.06	5,328.78	5,328.26	5,329.16	0.003567	5.69	142.65	87.56	0.56	2.23	1.79	3.88	3.72
North Lowe	70.5233*	553.0	5,324.64	5,328.17	5,328.01	5,328.83	0.005905	7.04	107.39	74.26	0.72	2.22	2.14	5.15	3.53
North Lowe	69.8166*	553.0	5,324.21	5,327.55	5,327.55	5,328.34	0.007719	7.69	95.65	68.54	0.81	2.22	2.42	5.78	3.33
North Lowe	69.11	553.0	5,323.79	5,327.11	5,326.93	5,327.69	0.006182	6.86	113.77	76.95	0.73	1.95	2.62	4.86	3.32
North Lowe	68.12*	553.0	5,323.19	5,326.53	5,326.34	5,327.08	0.005874	6.72	118.45	82.17	0.71	1.99	2.53	4.67	3.34
North Lowe	67.13	553.0	5,322.58	5,325.79	5,325.73	5,326.42	0.007208	7.20	110.92	84.14	0.78	2.21	2.57	4.99	3.21
North Lowe	66.726*	553.0	5,322.34	5,325.46	5,325.42	5,326.13	0.007231	7.04	104.91	83.97	0.78	1.82	2.19	5.27	3.12
North Lowe	66.322*	553.0	5,322.10	5,325.10	5,325.08	5,325.81	0.007679	7.01	95.74	83.42	0.79	1.35	1.66	5.78	3.00
North Lowe	65.918*	553.0	5,321.85	5,324.57	5,324.40	5,325.44	0.010363	7.48	74.93	54.55	0.90	0.52	0.47	7.38	2.72
North Lowe	65.514*	553.0	5,321.61	5,324.25	5,324.00	5,325.01	0.009316	7.00	79.05	37.85	0.85			7.00	2.64
North Lowe	65.11	553.0	5,321.37	5,323.62	5,323.62	5,324.55	0.013384	7.76	71.27	38.47	1.00			7.76	2.25
North Lowe	64.696*	553.0	5,320.43	5,322.33	5,322.68	5,323.73	0.024093	9.47	58.40	36.41	1.32			9.47	1.90
North Lowe	64.282*	553.0	5,319.49	5,321.45	5,321.74	5,322.75	0.021765	9.15	60.43	36.75	1.26			9.15	1.96
North Lowe	63.868*	553.0	5,318.55	5,320.49	5,320.80	5,321.82	0.022528	9.26	59.73	36.63	1.28			9.26	1.94
North Lowe	63.454*	553.0	5,317.61	5,319.54	5,319.86	5,320.89	0.022953	9.32	59.36	36.57	1.29			9.32	1.93
North Lowe	63.04	553.0	5,316.67	5,318.60	5,318.92	5,319.94	0.022709	9.28	59.57	36.60	1.28			9.28	1.93
North Lowe	62.634*	553.0	5,315.75	5,317.68	5,318.00	5,319.02	0.022709	9.28	59.57	36.60	1.28			9.28	1.93

Profile Output Table - Lowe North Post-mine 25 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North Lowe	62.228*	553.0	5,314.82	5,316.75	5,317.07	5,318.10	0.023076	9.33	59.25	36.55	1.29			9.33	1.93
North Lowe	61.822*	553.0	5,313.90	5,315.84	5,316.15	5,317.17	0.022668	9.28	59.61	36.61	1.28			9.28	1.94
North Lowe	61.416*	553.0	5,312.97	5,314.90	5,315.22	5,316.25	0.023117	9.34	59.22	36.55	1.29			9.34	1.92
North Lowe	61.01	553.0	5,312.05	5,313.98	5,314.30	5,315.32	0.022688	9.28	59.59	36.61	1.28			9.28	1.93
North Lowe	60.592*	553.0	5,311.10	5,313.04	5,313.35	5,314.37	0.022688	9.28	59.59	36.61	1.28			9.28	1.93
North Lowe	60.174*	553.0	5,310.14	5,312.07	5,312.39	5,313.42	0.023035	9.33	59.29	36.56	1.29			9.33	1.93
North Lowe	59.756*	553.0	5,309.19	5,311.13	5,311.44	5,312.46	0.022628	9.27	59.65	36.62	1.28			9.27	1.94
North Lowe	59.338*	553.0	5,308.23	5,310.16	5,310.48	5,311.51	0.023055	9.33	59.27	36.55	1.29			9.33	1.93
North Lowe	58.92	553.0	5,307.28	5,309.22	5,309.53	5,310.55	0.022628	9.27	59.65	36.62	1.28			9.27	1.94
North Lowe	58.504*	553.0	5,306.34	5,308.28	5,308.59	5,309.61	0.022628	9.27	59.65	36.62	1.28			9.27	1.94
North Lowe	58.088*	553.0	5,305.39	5,307.32	5,307.64	5,308.67	0.022994	9.32	59.32	36.56	1.29			9.32	1.93
North Lowe	57.672*	553.0	5,304.45	5,306.39	5,306.70	5,307.72	0.022608	9.27	59.66	36.62	1.28			9.27	1.94
North Lowe	57.256*	553.0	5,303.50	5,305.43	5,305.75	5,306.78	0.023076	9.33	59.25	36.55	1.29			9.33	1.93
North Lowe	56.84	553.0	5,302.56	5,304.50	5,304.81	5,305.83	0.022608	9.27	59.66	36.62	1.28			9.27	1.94
North Lowe	56.3475*	553.0	5,301.44	5,303.38	5,303.69	5,304.71	0.022608	9.27	59.66	36.62	1.28			9.27	1.94
North Lowe	55.855*	553.0	5,300.32	5,302.25	5,302.57	5,303.59	0.022871	9.30	59.43	36.58	1.29			9.30	1.93
North Lowe	55.3625*	553.0	5,299.20	5,301.13	5,301.45	5,302.48	0.022871	9.30	59.43	36.58	1.29			9.30	1.93
North Lowe	54.87	553.0	5,298.08	5,301.11	5,300.33	5,301.56	0.004526	5.35	103.47	54.20	0.61	0.14	0.13	5.34	3.03
North Lowe	54.425*	553.0	5,297.75	5,300.79	5,300.19	5,301.33	0.005390	5.90	105.05	124.41	0.67	0.67	0.68	5.26	3.04
North Lowe	53.98*	553.0	5,297.43	5,300.49	5,300.49	5,301.06	0.005973	6.28	120.39	165.14	0.70	1.15	1.13	4.59	3.06
North Lowe	53.535*	553.0	5,297.10	5,300.11	5,300.24	5,300.73	0.007321	6.88	125.84	169.41	0.77	1.61	1.52	4.39	3.01
North Lowe	53.09	578.0	5,296.78	5,299.88	5,299.92	5,300.37	0.006788	6.79	155.84	183.50	0.75	2.04	1.89	3.71	3.09
North Lowe	52.42*	578.0	5,296.27	5,299.35	5,299.41	5,299.88	0.007301	7.01	147.16	169.46	0.78	2.07	2.03	3.93	3.08
North Lowe	51.75*	578.0	5,295.75	5,298.87	5,298.91	5,299.39	0.006852	6.87	148.67	163.81	0.75	2.02	2.08	3.89	3.12
North Lowe	51.08	578.0	5,295.24	5,298.35	5,298.41	5,298.90	0.007220	7.03	142.69	155.66	0.77	2.03	2.16	4.05	3.11
North Lowe	50.4033*	578.0	5,294.72	5,297.69	5,297.83	5,298.31	0.008739	7.46	136.57	164.54	0.84	2.05	2.25	4.23	2.97
North Lowe	49.7266*	578.0	5,294.20	5,297.17	5,297.24	5,297.67	0.007480	6.90	152.18	176.29	0.78	2.12	2.12	3.80	2.97
North Lowe	49.05	578.0	5,293.68	5,296.79	5,296.64	5,297.07	0.004503	5.55	194.79	195.06	0.61	2.03	1.81	2.97	3.11
North Lowe	48.636*	578.0	5,293.36	5,296.56	5,296.44	5,296.88	0.004557	5.72	186.21	183.62	0.62	1.98	1.84	3.10	3.20
North Lowe	48.222*	578.0	5,293.04	5,296.31	5,296.23	5,296.68	0.004792	5.97	175.12	172.90	0.64	1.92	1.89	3.30	3.27
North Lowe	47.808*	578.0	5,292.73	5,296.05	5,295.98	5,296.47	0.005121	6.24	163.81	162.53	0.66	1.86	1.97	3.53	3.32
North Lowe	47.394*	578.0	5,292.41	5,295.78	5,295.69	5,296.24	0.005339	6.44	153.45	148.91	0.68	1.81	2.07	3.77	3.37
North Lowe	46.98	578.0	5,292.09	5,295.63	5,295.39	5,296.02	0.004228	5.96	164.36	143.16	0.61	1.74	2.00	3.52	3.54
North Lowe	46.58*	578.0	5,291.78	5,295.06	5,295.06	5,295.79	0.007165	7.17	106.37	99.76	0.78	1.48	1.83	5.43	3.28
North Lowe	46.18*	578.0	5,291.47	5,294.32	5,294.34	5,295.38	0.012652	8.25	70.31	42.01	0.99	0.33	0.33	8.22	2.85
North Lowe	45.78*	578.0	5,291.17	5,293.75	5,293.80	5,294.84	0.014177	8.38	68.99	34.48	1.04			8.38	2.58
North Lowe	45.38*	578.0	5,290.86	5,293.42	5,293.32	5,294.32	0.011366	7.60	76.07	37.37	0.94			7.60	2.56
North Lowe	44.98	578.0	5,290.55	5,292.85	5,292.85	5,293.81	0.013350	7.86	73.51	38.82	1.01			7.86	2.30
North Lowe	44.568*	578.0	5,289.79	5,291.86	5,292.09	5,293.10	0.019427	8.93	64.71	37.44	1.20			8.93	2.07
North Lowe	44.156*	578.0	5,289.03	5,291.19	5,291.33	5,292.31	0.016850	8.51	67.91	37.95	1.12			8.51	2.16
North Lowe	43.744*	578.0	5,288.26	5,290.35	5,290.57	5,291.57	0.019012	8.87	65.18	37.51	1.19			8.87	2.09
North Lowe	43.332*	578.0	5,287.50	5,289.61	5,289.80	5,290.80	0.018289	8.75	66.05	37.65	1.16			8.75	2.11
North Lowe	42.92	578.0	5,286.74	5,288.85	5,289.04	5,290.04	0.018289	8.75	66.05	37.65	1.16			8.75	2.11
North Lowe	42.506*	578.0	5,285.97	5,288.07	5,288.27	5,289.27	0.018577	8.80	65.70	37.59	1.17			8.80	2.10
North Lowe	42.092*	578.0	5,285.20	5,287.31	5,287.51	5,288.50	0.018364	8.76	65.95	37.64	1.17			8.76	2.11
North Lowe	41.678*	578.0	5,284.44	5,286.55	5,286.74	5,287.74	0.018364	8.76	65.95	37.64	1.17			8.76	2.11
North Lowe	41.264*	578.0	5,283.67	5,285.77	5,285.97	5,286.97	0.018608	8.80	65.66	37.59	1.17			8.80	2.10
North Lowe	40.85	578.0	5,282.90	5,285.00	5,285.20	5,286.20	0.018455	8.78	65.84	37.62	1.17			8.78	2.10
North Lowe	40.345*	578.0	5,281.97	5,284.08	5,284.28	5,285.27	0.018364	8.76	65.95	37.64	1.17			8.76	2.11
North Lowe	39.84*	578.0	5,281.04	5,283.14	5,283.34	5,284.34	0.018486	8.78	65.81	37.61	1.17			8.78	2.10
North Lowe	39.335*	578.0	5,280.12	5,282.22	5,282.42	5,283.42	0.018486	8.78	65.81	37.61	1.17			8.78	2.10
North Lowe	38.83	578.0	5,279.19	5,281.28	5,281.49	5,282.49	0.018824	8.84	65.40	37.55	1.18			8.84	2.09

The entire reach will be reclaimed. The riprapped reaches were not included in determining the maximum, minimum and average velocities. The shaded areas on the table indicate riprapped reaches.

Max 8.38
Min 4.61
Avg 6.47

Avg 4.42

Lowe	38.325*	578.0	5,278.52	5,280.99	5,280.99	5,281.91	0.013439	7.69	75.18	41.48	1.01			7.69	2.47
Lowe	37.82*	578.0	5,277.85	5,280.34	5,280.36	5,281.21	0.014227	7.48	77.23	46.96	1.02		0.28	7.48	2.49
Lowe	37.315*	578.0	5,277.18	5,279.36	5,279.53	5,280.37	0.018900	8.08	72.50	53.01	1.16	0.79	1.82	7.97	2.18
Lowe	36.81	578.0	5,276.51	5,278.34	5,278.55	5,279.38	0.020297	8.25	72.75	56.88	1.20	1.76	2.82	7.95	1.83
Lowe	36.315*	578.0	5,275.86	5,277.57	5,277.70	5,278.38	0.017499	7.35	83.78	73.18	1.11	1.81	2.69	6.90	1.71
Lowe	35.82*	578.0	5,275.22	5,276.73	5,276.85	5,277.48	0.018845	7.07	88.49	88.04	1.13	1.91	2.75	6.53	1.51
Lowe	35.325*	578.0	5,274.58	5,276.78	5,276.04	5,276.95	0.002459	3.51	195.70	133.80	0.44	1.32	1.54	2.95	2.20

Profile Output Table - Lowe North Post-mine 25 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
Lowe 34.83	578.0	5,273.93	5,276.79	5,275.23	5,276.84	0.000564	2.07	354.05	182.38	0.22	0.89	0.98	1.63	2.86
Lowe 34.4225*	578.0	5,273.47	5,276.74	5,274.98	5,276.82	0.000641	2.37	285.79	128.88	0.24	0.75	0.98	2.02	3.27
Lowe 34.015*	578.0	5,273.02	5,276.70	5,274.74	5,276.79	0.000648	2.55	253.61	96.70	0.25	0.82	1.00	2.28	3.68
Lowe 33.6075*	578.0	5,272.56	5,276.65	5,274.52	5,276.77	0.000671	2.75	228.36	75.62	0.25	0.80	1.05	2.53	4.09
Lowe 33.20	755.0	5,272.10	5,276.46	5,274.68	5,276.72	0.001429	4.12	194.87	58.35	0.37	1.10	1.64	3.87	4.36
Lowe 32.8166*	755.0	5,272.00	5,276.17	5,275.01	5,276.63	0.002876	5.63	152.95	57.70	0.53	1.57	2.04	4.94	4.17
Lowe 32.4333*	755.0	5,271.91	5,275.48	5,275.48	5,276.44	0.008651	8.68	114.14	58.47	0.88	2.57	3.65	6.61	3.57
Lowe 32.05	755.0	5,271.81	5,275.70	5,274.65	5,275.94	0.002973	5.46	210.99	83.70	0.51	2.96	3.33	3.58	3.89
Lowe 31.588*	755.0	5,271.31	5,274.94	5,274.89	5,275.69	0.007897	8.28	135.80	79.85	0.84	2.97	3.81	5.56	3.63
Lowe 31.126*	755.0	5,270.80	5,274.25	5,274.25	5,275.26	0.009536	8.55	107.16	59.92	0.91	2.89	3.21	7.05	3.45
Lowe 30.664*	755.0	5,270.30	5,273.03	5,273.39	5,274.53	0.020114	9.97	80.29	48.62	1.25	3.45	3.20	9.40	2.73
Lowe 30.202*	755.0	5,269.79	5,272.46	5,272.61	5,273.60	0.016159	8.61	90.56	54.03	1.11	3.01	2.49	8.34	2.67
Lowe 29.74	755.0	5,269.29	5,271.81	5,271.93	5,272.81	0.016432	8.08	95.13	60.63	1.10	2.82	1.91	7.94	2.52
Lowe 29.3*	755.0	5,268.53	5,271.25	5,271.39	5,272.30	0.017605	8.27	92.58	59.60	1.14	2.59	1.76	8.16	2.72
Lowe 28.86*	755.0	5,267.76	5,270.68	5,270.83	5,271.76	0.017893	8.34	91.50	58.42	1.15	2.25	1.55	8.25	2.92
Lowe 28.42*	755.0	5,267.00	5,270.14	5,270.27	5,271.18	0.016747	8.19	92.85	57.35	1.11	1.82	1.33	8.13	3.14
Lowe 27.98*	755.0	5,266.23	5,269.56	5,269.64	5,270.57	0.015873	8.06	93.93	56.14	1.08	1.30	1.03	8.04	3.33
Lowe 27.54	755.0	5,265.47	5,269.30	5,269.02	5,269.99	0.008315	6.65	114.16	56.54	0.81	1.13	0.96	6.61	3.83
Lowe 27.088*	755.0	5,265.23	5,268.90	5,268.61	5,269.60	0.008537	6.75	112.20	54.55	0.82	0.50	1.26	6.73	3.67
Lowe 26.636*	755.0	5,264.99	5,268.44	5,268.21	5,269.20	0.009220	7.00	108.28	53.02	0.85		1.46	6.97	3.45
Lowe 26.184*	755.0	5,264.76	5,268.03	5,267.78	5,268.79	0.008827	6.98	109.01	53.25	0.84		1.59	6.93	3.27
Lowe 25.732*	755.0	5,264.52	5,267.41	5,267.35	5,268.32	0.011485	7.67	99.85	54.02	0.95		1.60	7.56	2.89
Lowe 25.28	755.0	5,264.28	5,267.01	5,266.96	5,267.81	0.009827	7.28	112.98	75.44	0.88		1.93	6.68	2.73
Lowe 24.8328*	755.0	5,263.98	5,266.64	5,266.51	5,267.36	0.009150	6.88	116.67	78.65	0.85		1.56	6.47	2.66
Lowe 24.3857*	755.0	5,263.68	5,266.29	5,266.04	5,266.94	0.008506	6.49	121.46	81.75	0.82		1.29	6.22	2.61
Lowe 23.9385*	755.0	5,263.38	5,265.96	5,265.70	5,266.55	0.008195	6.19	125.49	81.35	0.80		1.21	6.02	2.58
Lowe 23.4914*	755.0	5,263.08	5,265.64	5,265.35	5,266.17	0.007945	5.89	130.87	79.70	0.78		1.71	5.77	2.56
Lowe 23.0442*	755.0	5,262.78	5,265.32	5,265.03	5,265.80	0.007789	5.62	136.73	85.89	0.76	0.32	1.95	5.52	2.54
Lowe 22.5971*	755.0	5,262.48	5,265.01	5,264.71	5,265.45	0.007323	5.37	143.57	93.02	0.74	0.98	2.02	5.26	2.53
Lowe 22.15	755.0	5,262.18	5,264.73	5,264.39	5,265.12	0.006639	5.07	152.94	101.31	0.70	1.42	2.06	4.94	2.55
Lowe 21.6716*	755.0	5,261.84	5,264.41	5,264.03	5,264.82	0.006127	5.12	151.67	93.45	0.68	1.57	2.09	4.98	2.57
Lowe 21.1933*	755.0	5,261.50	5,264.13	5,263.67	5,264.54	0.005532	5.15	151.49	86.31	0.66	1.70	2.12	4.98	2.63
Lowe 20.715*	755.0	5,261.16	5,263.87	5,263.34	5,264.28	0.004981	5.20	151.09	79.30	0.63	1.84	2.14	5.00	2.71
Lowe 20.2366*	755.0	5,260.81	5,263.62	5,263.03	5,264.05	0.004655	5.33	148.75	72.54	0.62	1.97	2.20	5.08	2.81
Lowe 19.7583*	755.0	5,260.47	5,263.34	5,262.74	5,263.82	0.004760	5.64	141.95	65.63	0.64	2.16	2.32	5.32	2.87
Lowe 19.28	755.0	5,260.13	5,262.50	5,262.49	5,263.45	0.011948	7.92	100.52	55.21	0.98	3.00	3.21	7.51	2.37
Lowe 18.9*	755.0	5,260.00	5,262.24	5,262.10	5,262.96	0.009850	6.89	114.56	66.36	0.88	2.54	2.75	6.59	2.24
Lowe 18.52*	755.0	5,259.87	5,262.01	5,261.77	5,262.57	0.008203	6.08	129.26	78.64	0.79	2.16	2.37	5.84	2.14
Lowe 18.14	755.0	5,259.74	5,261.90	5,261.51	5,262.26	0.005189	4.92	170.16	116.99	0.63	1.71	1.81	4.44	2.16
Lowe 17.702*	755.0	5,259.34	5,261.58	5,261.18	5,262.01	0.005876	5.30	149.44	89.66	0.68	1.89	1.86	5.05	2.24
Lowe 17.264*	755.0	5,258.94	5,261.30	5,260.88	5,261.75	0.005839	5.43	145.51	83.38	0.68	1.98	1.74	5.19	2.36
Lowe 16.826*	755.0	5,258.53	5,261.06	5,260.57	5,261.50	0.005353	5.43	146.23	79.25	0.66	2.02	1.59	5.16	2.53
Lowe 16.388*	755.0	5,258.13	5,260.83	5,260.26	5,261.28	0.004873	5.43	148.17	80.34	0.63	1.71	1.46	5.10	2.70
Lowe 15.95	791.0	5,257.73	5,260.49	5,260.01	5,261.04	0.005765	5.99	142.29	82.07	0.69	1.62	1.43	5.56	2.76
Lowe 15.5933*	791.0	5,257.27	5,260.08	5,259.73	5,260.78	0.007923	6.94	130.18	83.20	0.81	2.22	1.90	6.08	2.81
Lowe 15.2366*	791.0	5,256.81	5,259.81	5,259.71	5,260.50	0.007692	7.14	138.85	88.28	0.81	2.79	2.25	5.70	3.00
Lowe 14.88	791.0	5,256.35	5,259.77	5,259.34	5,260.21	0.004524	6.15	182.18	102.63	0.63	2.82	2.16	4.34	3.42
Lowe 14.4466*	791.0	5,255.78	5,259.15	5,259.15	5,259.92	0.008525	7.87	139.31	94.58	0.86	2.86	3.09	5.68	3.37
Lowe 14.0133*	791.0	5,255.22	5,258.63	5,258.77	5,259.52	0.010458	8.44	131.52	98.84	0.94	2.69	3.18	6.01	3.41
Lowe 13.58	791.0	5,254.65	5,258.54	5,258.02	5,258.92	0.004352	5.95	197.21	118.95	0.61	1.87	2.73	4.01	3.89
Lowe 13.1875*	791.0	5,254.35	5,257.68	5,257.51	5,258.65	0.010888	8.43	116.43	87.09	0.95	2.37	3.26	6.79	3.33
Lowe 12.795*	791.0	5,254.04	5,257.29	5,257.29	5,258.25	0.009951	8.07	110.85	65.61	0.91	2.26	2.70	7.14	3.25
Lowe 12.4025*	791.0	5,253.74	5,256.58	5,256.74	5,257.76	0.014509	8.79	94.29	56.10	1.08	2.16	2.34	8.39	2.83
Lowe 12.01	791.0	5,253.43	5,256.69	5,256.20	5,257.30	0.005657	6.32	132.83	63.76	0.70	1.91	1.86	5.96	3.26
Lowe 11.5966*	791.0	5,253.25	5,256.47	5,255.99	5,257.06	0.005568	6.30	135.33	64.21	0.69	2.31	1.98	5.85	3.22
Lowe 11.1833*	791.0	5,253.08	5,256.26	5,255.76	5,256.83	0.005371	6.23	139.33	65.88	0.68	2.54	2.08	5.68	3.18
Lowe 10.77	791.0	5,252.90	5,256.15	5,255.50	5,256.59	0.004080	5.62	162.44	74.89	0.60	2.65	2.00	4.87	3.25
Lowe 10.3166*	791.0	5,252.57	5,255.84	5,255.33	5,256.38	0.005074	6.38	152.47	72.91	0.67	3.09	2.37	5.19	3.27
Lowe 9.86333*	791.0	5,252.25	5,255.39	5,255.17	5,256.09	0.007634	7.70	139.70	75.32	0.82	3.72	2.93	5.66	3.14
Lowe 9.41	791.0	5,251.92	5,255.33	5,254.74	5,255.72	0.004744	6.54	180.98	83.15	0.66	3.67	2.81	4.37	3.41
Lowe 9.01*	791.0	5,251.66	5,254.98	5,254.61	5,255.55	0.006921	7.61	152.88	77.39	0.79	4.08	2.75	5.17	3.32
Lowe 8.61*	791.0	5,251.40	5,254.68	5,254.38	5,255.33	0.007647	7.84	140.45	68.29	0.82	4.35	2.81	5.63	3.28
Lowe 8.21	791.0	5,251.14	5,254.36	5,254.13	5,255.08	0.008462	8.07	131.96	64.49	0.86	4.50	2.70	5.99	3.22
Lowe 7.77*	791.0	5,250.64	5,254.05	5,253.85	5,254.81	0.008643	8.39	130.61	64.05	0.87	4.57	3.01	6.06	3.41
Lowe 7.33*	791.0	5,250.13	5,253.67	5,253.56	5,254.51	0.009771	9.02	126.35	64.34	0.93	4.74	3.51	6.26	3.54
Lowe 6.89	791.0	5,249.63	5,253.36	5,253.30	5,254.19	0.009919	9.27	129.77	68.05	0.93	4.64	4.01	6.10	3.73

Profile Output Table - Lowe North Post-mine 25 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
Lowe 6.44333*	791.0	5,249.14	5,252.81	5,252.81	5,253.77	0.010012	9.27	120.86	62.81	0.94	4.48	3.80	6.54	3.67
Lowe 5.99666*	791.0	5,248.64	5,252.10	5,252.26	5,253.27	0.012465	9.75	108.23	61.59	1.04	4.43	3.70	7.31	3.45
Lowe 5.55	791.0	5,248.15	5,251.29	5,251.63	5,252.61	0.016646	10.18	103.79	74.10	1.17	4.02	3.83	7.62	3.14
Lowe 5.05666*	791.0	5,247.70	5,251.29	5,251.22	5,252.01	0.008256	7.97	144.48	89.56	0.84	3.51	3.28	5.47	3.59
Lowe 4.56333*	791.0	5,247.25	5,251.10	5,250.77	5,251.58	0.005713	6.96	183.06	118.43	0.71	3.23	2.67	4.32	3.85
Lowe 4.07	791.0	5,246.80	5,251.08	5,250.36	5,251.29	0.002505	5.00	264.44	139.08	0.48	2.46	2.24	2.99	4.28
Lowe 3.57333*	791.0	5,246.38	5,250.31	5,250.22	5,251.03	0.007755	8.25	145.78	92.37	0.83	4.09	2.26	5.43	3.93
Lowe 3.07666*	791.0	5,245.95	5,249.73	5,249.66	5,250.57	0.009330	8.82	127.02	65.67	0.90	4.57	2.62	6.23	3.78
Lowe 2.58	791.0	5,245.53	5,249.42	5,249.05	5,250.07	0.007027	7.88	140.17	64.01	0.78	4.41	2.18	5.64	3.89
Lowe 2.17333*	791.0	5,245.22	5,249.15	5,248.82	5,249.79	0.007123	7.95	142.26	66.67	0.79	4.38	2.28	5.56	3.93
Lowe 1.76666*	791.0	5,244.90	5,248.90	5,248.57	5,249.52	0.006845	7.94	146.58	69.67	0.78	4.24	2.32	5.40	4.00
Lowe 1.36	791.0	5,244.59	5,248.33	5,248.33	5,249.18	0.009967	9.26	129.67	70.32	0.92	4.54	2.56	6.10	3.74
Lowe .906667*	791.0	5,243.86	5,247.66	5,247.78	5,248.69	0.011645	9.87	119.60	68.90	0.99	4.53	2.62	6.61	3.80
Lowe .453333*	791.0	5,243.14	5,247.10	5,247.27	5,248.18	0.011497	9.85	117.69	68.98	0.99	4.28	2.59	6.72	3.96
Lowe 0.00	791.0	5,242.41	5,246.53	5,246.76	5,247.67	0.011506	9.85	115.27	99.35	0.99	4.00	2.58	6.86	4.12
						Max	**10.18**					**Avg**	**5.90**	
						Min	**2.07**							
						Avg	**6.99**							

The entire reach is undisturbed and is downstream of the mine lease.

Profile Output Table - Lowe North Post-mine 100 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North LoweR4	11.71	475.0	5,380.41	5,381.49	5,381.47	5,381.87	0.014986	5.01	99.57	129.16	0.95	1.94		4.77	1.08
North LoweR4	11.35*	475.0	5,379.91	5,380.94	5,380.93	5,381.31	0.016489	4.88	99.53	136.59	0.98	1.75		4.77	1.03
North LoweR4	10.99*	475.0	5,379.41	5,380.50	5,380.40	5,380.77	0.011514	4.15	115.95	151.47	0.82	1.43		4.10	1.09
North LoweR4	10.63	475.0	5,378.91	5,380.35	5,379.89	5,380.46	0.003054	2.65	182.02	172.21	0.44	0.97		2.61	1.44
North LoweR4	10.2933*	475.0	5,378.60	5,380.15	5,379.81	5,380.32	0.005289	3.38	141.98	139.60	0.58	1.17		3.35	1.55
North LoweR4	9.95666*	475.0	5,378.28	5,379.65	5,379.65	5,380.03	0.017768	4.93	96.65	131.64	1.01	1.24		4.91	1.37
North LoweR4	9.62	475.0	5,377.97	5,379.13	5,378.98	5,379.43	0.010034	4.39	108.20	112.84	0.79		0.55	4.39	1.16
North LoweR4	9.25*	475.0	5,377.58	5,378.76	5,378.60	5,379.06	0.009727	4.41	107.79	109.25	0.78		0.49	4.41	1.18
North LoweR4	8.88*	475.0	5,377.18	5,378.45	5,378.22	5,378.73	0.007907	4.19	113.45	106.56	0.71		0.56	4.19	1.27
North LoweR4	8.51	475.0	5,376.79	5,378.26	5,377.84	5,378.47	0.004760	3.64	130.92	106.01	0.57	0.35	0.68	3.63	1.47
North LoweR4	8.11*	475.0	5,376.42	5,378.15	5,377.52	5,378.30	0.002784	3.14	153.80	108.45	0.45	0.80	0.93	3.09	1.73
North LoweR4	7.71*	475.0	5,376.05	5,378.09	5,377.19	5,378.20	0.001608	2.69	182.40	109.98	0.35	0.93	0.98	2.60	2.04
North LoweR4	7.31	475.0	5,375.68	5,378.06	5,376.85	5,378.14	0.000962	2.33	224.50	193.72	0.28	0.93	0.35	2.12	2.38
North LoweR4	6.87666*	475.0	5,375.17	5,377.98	5,376.71	5,378.10	0.001132	2.70	199.30	209.39	0.31	0.89	0.33	2.38	2.81
North LoweR4	6.44333*	475.0	5,374.65	5,377.85	5,376.65	5,378.03	0.001669	3.43	162.83	150.90	0.38	0.90	0.57	2.92	3.20
North LoweR4	6.01	475.0	5,374.14	5,376.85	5,376.85	5,377.82	0.013261	7.91	60.02	31.02	1.00			7.91	2.71
North LoweR4	5.808*	475.0	5,372.62	5,374.61	5,375.38	5,377.05	0.048390	12.54	37.87	26.04	1.83			12.54	1.99
North LoweR4	5.606*	475.0	5,371.10	5,373.01	5,373.91	5,375.90	0.061047	13.64	34.82	25.15	2.04			13.64	1.91
North LoweR4	5.404*	475.0	5,369.59	5,371.46	5,372.47	5,374.57	0.067498	14.16	33.54	24.70	2.14			14.16	1.87
North LoweR4	5.202*	475.0	5,368.07	5,369.92	5,371.00	5,373.17	0.070387	14.45	32.87	24.20	2.18			14.45	1.85
North LoweR4	5.00	475.0	5,366.55	5,368.36	5,369.49	5,371.71	0.072130	14.68	32.36	23.62	2.21			14.68	1.81
North LoweR4	4.75*	475.0	5,363.66	5,365.38	5,366.50	5,369.50	0.098624	16.29	29.16	23.10	2.55			16.29	1.71
North LoweR4	4.5*	475.0	5,360.77	5,362.50	5,363.66	5,366.87	0.108825	16.79	28.30	23.08	2.67			16.79	1.73
North LoweR4	4.25*	475.0	5,357.89	5,359.64	5,360.82	5,364.11	0.111920	16.96	28.01	22.96	2.71			16.96	1.75
North LoweR4	4.00	475.0	5,355.00	5,356.79	5,357.97	5,361.30	0.112494	17.05	27.86	22.68	2.71			17.05	1.79
North LoweR4	3.75*	475.0	5,352.99	5,354.94	5,356.03	5,358.70	0.080932	15.55	30.54	22.20	2.34			15.55	1.95
North LoweR4	3.5*	475.0	5,350.98	5,352.98	5,354.08	5,356.74	0.075420	15.56	30.53	20.87	2.27			15.56	2.00
North LoweR4	3.25*	475.0	5,348.97	5,351.02	5,352.16	5,354.88	0.072728	15.78	30.11	19.36	2.23			15.78	2.05
North LoweR4	3.00	475.0	5,346.96	5,349.05	5,350.24	5,353.06	0.071681	16.08	29.55	17.90	2.20			16.08	2.09
North LoweR4	2.75*	475.0	5,346.12	5,348.38	5,349.27	5,351.19	0.050231	13.45	35.31	22.14	1.88			13.45	2.26
North LoweR4	2.50	475.0	5,345.28	5,347.59	5,348.30	5,349.86	0.043894	12.09	39.30	26.50	1.75			12.09	2.31
North LoweR4	2.25*	475.0	5,344.31	5,346.80	5,347.41	5,348.81	0.034639	11.39	41.70	25.61	1.57			11.39	2.49
North LoweR4	2.00	475.0	5,343.35	5,347.08	5,346.58	5,347.16	0.001382	2.95	250.69	168.42	0.33	1.46	0.29	1.89	3.73

The reclaimed reach is between River Station 6.01 and 2.00. This reach of channel is riprapped. The remaining upstream reach is undisturbed or pre-mine channel.The riprapped reach and the undisturbed reach upstream of the mine lease were not included in determining the maximum, minimum and average velocities. The shaded areas on the table indicate riprapped reaches.

								Max	N/A				Avg	N/A	
								Min	N/A						
								Avg	N/A						

North LoweR3	15.89	210.0	5,391.12	5,392.43	5,392.32	5,392.75	0.011574	4.54	46.27	50.85	0.84			4.54	1.31
North LoweR3	15.5066*	210.0	5,390.56	5,391.88	5,391.84	5,392.26	0.014106	4.93	42.94	53.15	0.92	0.61	0.76	4.89	1.32
North LoweR3	15.1233*	210.0	5,390.01	5,391.30	5,391.30	5,391.71	0.014542	5.15	43.83	63.01	0.94	1.32	1.43	4.79	1.29
North LoweR3	14.74	210.0	5,389.45	5,390.82	5,390.50	5,390.97	0.004911	3.42	74.76	79.91	0.57	1.18	2.10	2.81	1.37
North LoweR3	14.32*	210.0	5,389.06	5,390.40	5,390.35	5,390.67	0.009140	4.47	57.57	85.51	0.76	1.20	1.85	3.65	1.34
North LoweR3	13.9*	210.0	5,388.66	5,390.20	5,389.94	5,390.36	0.004581	3.48	83.27	130.02	0.55	1.27	0.87	2.52	1.54
North LoweR3	13.48	210.0	5,388.27	5,389.54	5,389.54	5,390.03	0.015458	5.67	37.06	115.49	0.99			5.67	1.27
North LoweR3	13.1*	210.0	5,387.89	5,388.87	5,388.92	5,389.31	0.021907	5.36	39.17	97.99	1.11			5.36	0.98
North LoweR3	12.72*	210.0	5,387.50	5,388.21	5,388.35	5,388.69	0.037519	5.55	37.83	81.49	1.37			5.55	0.71
North LoweR3	12.34	210.0	5,387.12	5,387.91	5,387.76	5,388.05	0.008386	3.07	69.40	115.18	0.67	0.83	0.63	3.03	0.79
North LoweR3	11.98*	210.0	5,386.77	5,387.60	5,387.46	5,387.75	0.008579	3.18	68.53	117.95	0.69	0.97	0.82	3.06	0.83
North LoweR3	11.62*	210.0	5,386.43	5,387.23	5,387.15	5,387.41	0.010838	3.46	66.52	125.06	0.77	1.50	0.99	3.16	0.80
North LoweR3	11.26	210.0	5,386.08	5,386.92	5,386.78	5,387.05	0.008929	3.20	82.57	179.34	0.70	1.43	1.05	2.54	0.84
North LoweR3	11.06*	210.0	5,385.73	5,386.60	5,386.57	5,386.83	0.013175	3.84	59.25	117.54	0.85	1.27	1.14	3.54	0.87
North LoweR3	10.86*	210.0	5,385.38	5,386.27	5,386.23	5,386.52	0.015593	4.07	52.22	91.67	0.91	0.72	1.04	4.02	0.89
North LoweR3	10.66*	210.0	5,385.02	5,385.95	5,385.91	5,386.20	0.014826	3.97	53.13	89.26	0.89	0.20	0.84	3.95	0.93
North LoweR3	10.46*	210.0	5,384.67	5,385.61	5,385.57	5,385.87	0.016571	4.10	51.41	89.29	0.94		0.60	4.08	0.94
North LoweR3	10.26*	210.0	5,384.32	5,385.31	5,385.25	5,385.54	0.013912	3.87	54.41	92.45	0.86		0.36	3.86	0.99
North LoweR3	10.06	210.0	5,383.97	5,384.91	5,384.91	5,385.19	0.019212	4.29	48.98	125.30	1.00			4.29	0.94
North LoweR3	9.795*	210.0	5,382.29	5,383.15	5,383.40	5,384.00	0.084014	7.37	28.48	67.00	1.99			7.37	0.86
North LoweR3	9.53*	210.0	5,380.60	5,381.67	5,381.91	5,382.48	0.056051	7.23	29.05	51.95	1.70			7.23	1.07
North LoweR3	9.265*	210.0	5,378.92	5,380.11	5,380.47	5,381.21	0.056095	8.41	24.99	36.13	1.77		0.51	8.40	1.19
North LoweR3	9.00	210.0	5,377.23	5,378.62	5,379.20	5,380.04	0.047999	9.57	22.12	24.94	1.72		1.45	9.50	1.39
North LoweR3	8.75*	210.0	5,374.46	5,375.70	5,376.38	5,378.07	0.102442	12.35	17.01	21.25	2.43			12.35	1.24
North LoweR3	8.5*	210.0	5,371.69	5,372.96	5,373.65	5,375.44	0.106081	12.66	16.59	20.48	2.48			12.66	1.27
North LoweR3	8.25*	210.0	5,368.93	5,370.18	5,370.90	5,372.77	0.106864	12.92	16.25	19.52	2.50			12.92	1.25

Profile Output Table - Lowe North Post-mine 100 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North LoweR3	8.00	210.0	5,366.16	5,367.36	5,368.11	5,370.08	0.107447	13.24	15.87	18.41	2.51			13.24	1.20
North LoweR3	7.75*	210.0	5,364.55	5,365.91	5,366.47	5,367.72	0.064841	10.79	19.46	21.04	1.98			10.79	1.36
North LoweR3	7.5*	210.0	5,362.94	5,364.26	5,364.80	5,366.05	0.067840	10.74	19.55	22.06	2.01			10.74	1.32
North LoweR3	7.25*	210.0	5,361.33	5,362.60	5,363.13	5,364.33	0.068100	10.56	19.88	23.12	2.01			10.56	1.27
North LoweR3	7.00	210.0	5,359.72	5,360.90	5,361.43	5,362.62	0.069160	10.50	20.01	23.76	2.02			10.50	1.18
North LoweR3	6.75*	210.0	5,358.74	5,360.21	5,360.48	5,361.20	0.033283	8.00	26.24	27.05	1.43			8.00	1.47
North LoweR3	6.5*	210.0	5,357.75	5,359.23	5,359.54	5,360.30	0.038541	8.32	25.25	27.46	1.53			8.32	1.48
North LoweR3	6.25*	210.0	5,356.76	5,358.28	5,358.58	5,359.33	0.038229	8.21	25.60	28.70	1.52		0.81	8.20	1.52
North LoweR3	6.00	210.0	5,355.78	5,357.33	5,357.63	5,358.37	0.038883	8.18	25.76	29.97	1.53	0.30	1.34	8.15	1.55
North LoweR3	5.75*	210.0	5,354.78	5,356.23	5,356.56	5,357.33	0.043456	8.41	24.98	29.64	1.60	0.53		8.41	1.45
North LoweR3	5.5*	210.0	5,353.79	5,355.17	5,355.50	5,356.26	0.042190	8.38	25.12	29.92	1.59	0.93		8.36	1.38
North LoweR3	5.25*	210.0	5,352.79	5,354.12	5,354.45	5,355.21	0.041558	8.37	25.21	30.37	1.58	1.30		8.33	1.33
North LoweR3	5.00	210.0	5,351.80	5,353.08	5,353.42	5,354.17	0.041226	8.38	25.35	31.13	1.57	1.68		8.28	1.28
North LoweR3	4.75*	210.0	5,350.95	5,352.54	5,352.71	5,353.31	0.022970	7.10	30.13	31.97	1.21	1.46		6.97	1.58
North LoweR3	4.5*	210.0	5,350.10	5,351.71	5,351.98	5,352.66	0.028174	7.81	26.97	27.23	1.34	0.75		7.79	1.61
North LoweR3	4.25*	210.0	5,349.25	5,350.91	5,351.19	5,351.94	0.028323	8.14	25.81	22.83	1.35			8.14	1.66
North LoweR3	4.00	210.0	5,348.40	5,350.04	5,350.36	5,351.21	0.029441	8.67	24.23	19.86	1.38			8.67	1.64
North LoweR3	3.75*	210.0	5,347.65	5,348.79	5,349.20	5,350.07	0.060868	9.09	23.11	31.07	1.86			9.09	1.14
North LoweR3	3.5*	210.0	5,346.90	5,348.00	5,348.20	5,348.69	0.037766	6.64	31.63	47.76	1.44			6.64	1.10
North LoweR3	3.25*	210.0	5,346.15	5,347.11	5,347.27	5,347.68	0.040308	6.07	34.58	62.74	1.44			6.07	0.96
North LoweR3	3.00	210.0	5,345.40	5,346.75	5,346.38	5,346.84	0.003942	2.47	85.19	105.63	0.48		0.15	2.47	1.35
North LoweR3	2.75*	210.0	5,344.21	5,346.75	5,345.24	5,346.77	0.000230	1.08	212.32	135.89	0.13	0.26	0.38	0.99	2.54
North LoweR3	2.50	210.0	5,343.02	5,346.76	5,344.13	5,346.76	0.000053	0.71	364.32	171.89	0.07	0.24	0.28	0.58	3.74

The reclaimed reach is between River Station 10.06 and 2.50. The remaining upstream reach is undisturbed or pre-mine channel.The riprapped reach and the undisturbed reach upstream of the mine lease were not included in determining the maximum, minimum and average velocities. The shaded areas on the table indicate riprapped reaches.

Max 9.09 **Avg 7.49**
Min 2.47
Avg 7.52

North LoweR2	14.00	643.0	5,342.50	5,346.00	5,346.00	5,346.65	0.006548	7.36	138.91	119.30	0.75	2.11	2.28	4.63	3.50
North LoweR2	13.5*	643.0	5,342.25	5,345.60	5,345.68	5,346.28	0.007566	7.63	136.63	127.60	0.80	2.06	2.40	4.71	3.35
North LoweR2	13.00	643.0	5,341.99	5,345.60	5,345.28	5,345.85	0.003129	5.21	231.08	205.64	0.52	1.31	1.96	2.78	3.61
North LoweR2	12.5*	643.0	5,341.73	5,345.38	5,345.20	5,345.70	0.003592	5.64	214.35	196.00	0.56	1.67	1.83	3.00	3.65
North LoweR2	12.00	643.0	5,341.48	5,345.13	5,344.91	5,345.50	0.003960	5.92	197.95	179.90	0.59	1.97	1.64	3.25	3.65
North LoweR2	11.5*	643.0	5,341.23	5,344.87	5,344.64	5,345.27	0.004294	6.14	184.71	162.88	0.62	2.08	1.69	3.48	3.64
North LoweR2	11.00	643.0	5,340.98	5,344.56	5,344.37	5,345.02	0.004819	6.43	170.24	146.22	0.65	2.24	1.76	3.78	3.58
North LoweR2	10.5*	643.0	5,340.73	5,344.47	5,344.07	5,344.76	0.003138	5.37	216.21	175.34	0.53	1.98	1.54	2.97	3.74
North LoweR2	10.0	643.0	5,340.47	5,344.43	5,343.71	5,344.59	0.001781	4.23	285.91	208.55	0.40	1.69	1.28	2.25	3.96
North LoweR2	9.00	643.0	5,339.96	5,344.00	5,343.48	5,344.34	0.003007	5.58	195.44	140.92	0.53	1.83	1.79	3.29	4.04
North LoweR2	8.00	643.0	5,339.45	5,343.51	5,343.11	5,343.99	0.003800	6.29	160.58	115.99	0.59	1.92	1.85	4.00	4.06
North LoweR2	7.00	643.0	5,338.94	5,342.94	5,342.62	5,343.55	0.004649	6.88	135.85	93.50	0.65	1.98	2.01	4.73	4.00
North LoweR2	6.00	643.0	5,338.43	5,342.37	5,342.04	5,343.06	0.005191	7.19	121.60	72.63	0.69	2.22	2.32	5.29	3.94
North LoweR2	5.00	643.0	5,337.93	5,341.98	5,341.53	5,342.56	0.004355	6.72	133.40	76.91	0.63	2.21	2.21	4.82	4.05
North LoweR2	4.00	643.0	5,337.42	5,341.12	5,341.02	5,341.99	0.007161	8.03	104.00	62.96	0.80	2.50	2.49	6.18	3.69
North LoweR2	3.00	643.0	5,336.91	5,340.47	5,340.47	5,341.25	0.007213	7.82	118.67	89.22	0.79	2.37	2.37	5.42	3.56
North LoweR2	2.00	643.0	5,336.40	5,339.89	5,339.75	5,340.46	0.005927	6.99	141.90	103.72	0.72	2.63	2.24	4.53	3.49
North LoweR2	1.00	643.0	5,335.89	5,339.66	5,339.30	5,339.92	0.002975	5.25	227.15	187.90	0.52	1.81	1.69	2.83	3.77
North LoweR2	0.00	643.0	5,335.39	5,339.04	5,338.99	5,339.55	0.005057	6.68	175.92	193.29	0.67	1.85	1.62	3.66	3.65

This entire reach will be reclaimed.

Max 8.03 **Avg 3.98**
Min 4.23
Avg 6.39

North LoweR1	12.73	202.0	5,355.00	5,356.71	5,356.44	5,357.11	0.008460	5.11	39.51	28.25	0.76			5.11	1.71
North LoweR1	12.00	202.0	5,354.39	5,356.21	5,355.83	5,356.54	0.006672	4.66	43.39	29.93	0.68			4.66	1.82
North LoweR1	11.00	202.0	5,353.70	5,355.50	5,355.15	5,355.86	0.006974	4.79	42.21	28.82	0.70			4.79	1.80
North LoweR1	10.00	202.0	5,353.00	5,354.81	5,354.45	5,355.16	0.006975	4.78	42.22	28.84	0.70			4.78	1.81
North LoweR1	9.00	202.0	5,352.30	5,354.12	5,353.75	5,354.47	0.006811	4.74	42.58	28.93	0.69			4.74	1.82
North LoweR1	8.00	202.0	5,351.60	5,353.55	5,353.05	5,353.85	0.005353	4.37	46.27	29.71	0.62			4.37	1.95
North LoweR1	7.00	202.0	5,350.90	5,353.21	5,352.36	5,353.40	0.002914	3.53	57.15	31.85	0.46			3.53	2.31
North LoweR1	6.00	202.0	5,350.25	5,352.15	5,352.15	5,352.86	0.015059	6.77	29.85	21.41	1.01			6.77	1.90
North LoweR1	5.75*	202.0	5,349.63	5,351.28	5,351.53	5,352.32	0.025484	8.16	24.75	19.93	1.29			8.16	1.65
North LoweR1	5.5*	202.0	5,349.01	5,350.69	5,350.91	5,351.68	0.023960	7.98	25.30	20.09	1.25			7.98	1.68
North LoweR1	5.25*	202.0	5,348.39	5,350.06	5,350.29	5,351.07	0.024545	8.05	25.08	20.03	1.27			8.05	1.67
North LoweR1	5.00	202.0	5,347.77	5,349.43	5,349.67	5,350.46	0.025259	8.14	24.83	19.95	1.28			8.14	1.66

Profile Output Table - Lowe North Post-mine 100 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North LoweR1	4.75*	202.0	5,347.15	5,348.82	5,349.05	5,349.83	0.024871	8.09	24.97	19.99	1.28			8.09	1.67
North LoweR1	4.5*	202.0	5,346.54	5,348.21	5,348.44	5,349.22	0.024491	8.05	25.10	20.03	1.27			8.05	1.67
North LoweR1	4.25*	202.0	5,345.92	5,347.58	5,347.82	5,348.61	0.025203	8.13	24.85	19.96	1.28			8.13	1.66
North LoweR1	4.00	202.0	5,345.30	5,346.96	5,347.20	5,347.99	0.025203	8.13	24.85	19.96	1.28			8.13	1.66
North LoweR1	3.75*	202.0	5,344.68	5,346.35	5,346.58	5,347.36	0.024844	8.09	24.98	19.99	1.28			8.09	1.67
North LoweR1	3.5*	202.0	5,344.06	5,345.73	5,345.96	5,346.74	0.024844	8.09	24.98	19.99	1.28			8.09	1.67
North LoweR1	3.25*	202.0	5,343.44	5,345.11	5,345.34	5,346.12	0.024844	8.09	24.98	19.99	1.28			8.09	1.67
North LoweR1	3.00	202.0	5,342.82	5,344.49	5,344.72	5,345.50	0.024844	8.09	24.98	19.99	1.28			8.09	1.67
North LoweR1	2.75*	202.0	5,342.20	5,343.87	5,344.10	5,344.88	0.024844	8.09	24.98	19.99	1.28			8.09	1.67
North LoweR1	2.5*	202.0	5,341.58	5,343.25	5,343.48	5,344.26	0.024816	8.08	24.99	20.00	1.27			8.08	1.67
North LoweR1	2.25*	202.0	5,340.96	5,342.63	5,342.86	5,343.64	0.024789	8.08	25.00	20.00	1.27			8.08	1.67
North LoweR1	2.00	202.0	5,340.34	5,342.01	5,342.24	5,343.02	0.024707	8.07	25.03	20.01	1.27			8.07	1.67
North LoweR1	1.75*	202.0	5,339.72	5,341.39	5,341.62	5,342.40	0.024518	8.05	25.09	20.03	1.27			8.05	1.67
North LoweR1	1.5*	202.0	5,339.10	5,340.77	5,341.00	5,341.78	0.024599	8.06	25.07	20.02	1.27			8.06	1.67
North LoweR1	1.25*	202.0	5,338.49	5,340.16	5,340.40	5,341.17	0.024599	8.06	25.07	20.02	1.27			8.06	1.67
North LoweR1	1.00	202.0	5,337.87	5,339.53	5,339.77	5,340.56	0.025231	8.13	24.84	19.95	1.28			8.13	1.66
North LoweR1	.75*	202.0	5,337.25	5,338.92	5,339.16	5,339.93	0.024844	8.09	24.98	19.99	1.28			8.09	1.67
North LoweR1	.5*	202.0	5,336.63	5,339.29	5,338.53	5,339.56	0.004089	4.23	47.74	25.94	0.55			4.23	2.66
North LoweR1	.25*	202.0	5,336.01	5,339.31	5,337.92	5,339.45	0.001544	3.05	72.95	78.08	0.35	0.37	0.37	2.77	3.30
North LoweR1	0.00	202.0	5,335.39	5,339.35	5,337.29	5,339.40	0.000477	2.00	151.99	143.06	0.20	0.51	0.50	1.33	3.96
This entire reach will be reclaimed. The riprapped reach was not included in determining the maximum, minimum, and average velocities.							**Max**	**5.11**					**Avg**	**4.57**	
							Min	**3.53**							
							Avg	**4.57**							
North Lowe	90.01	820.0	5,335.39	5,339.02	5,338.69	5,339.36	0.004204	6.07	239.79	169.65	0.61	2.42	2.28	3.42	3.63
North Lowe	89.63	820.0	5,335.20	5,338.90	5,338.50	5,339.20	0.003767	5.83	250.66	172.71	0.58	2.35	2.20	3.27	3.70
North Lowe	88.65*	820.0	5,334.70	5,338.45	5,338.15	5,338.80	0.004037	6.10	231.87	152.57	0.60	2.43	2.39	3.54	3.75
North Lowe	87.67	820.0	5,334.20	5,338.10	5,337.65	5,338.41	0.003340	5.72	238.39	137.93	0.55	2.48	2.23	3.44	3.90
North Lowe	86.66*	820.0	5,333.69	5,337.69	5,337.29	5,338.05	0.003659	6.10	221.46	129.49	0.58	2.53	2.22	3.70	4.00
North Lowe	85.65	820.0	5,333.19	5,336.97	5,336.80	5,337.57	0.005989	7.47	173.73	111.45	0.73	2.92	2.47	4.72	3.78
North Lowe	84.66*	820.0	5,332.68	5,336.36	5,336.28	5,336.96	0.006247	7.48	178.01	121.28	0.74	2.87	2.54	4.61	3.68
North Lowe	83.67	820.0	5,332.17	5,335.96	5,335.67	5,336.37	0.004399	6.42	210.88	130.46	0.63	2.64	2.48	3.89	3.79
North Lowe	82.68*	820.0	5,331.67	5,335.58	5,335.14	5,335.94	0.003782	6.09	222.89	132.27	0.59	2.50	2.44	3.68	3.91
North Lowe	81.69	820.0	5,331.16	5,335.38	5,334.57	5,335.59	0.002182	4.91	281.57	147.41	0.45	2.14	2.07	2.91	4.21
North Lowe	81.0166*	820.0	5,330.82	5,335.14	5,334.42	5,335.42	0.002523	5.38	252.86	133.34	0.49	2.16	2.23	3.24	4.32
North Lowe	80.3433*	820.0	5,330.48	5,334.84	5,334.26	5,335.22	0.003087	6.00	219.99	117.50	0.54	2.21	2.43	3.73	4.36
North Lowe	79.67	820.0	5,330.14	5,334.06	5,334.03	5,334.88	0.006917	8.26	146.17	89.63	0.79	2.60	3.08	5.61	3.92
North Lowe	78.94*	820.0	5,329.70	5,333.54	5,333.54	5,334.35	0.007144	8.27	149.97	97.85	0.80	2.63	3.04	5.47	3.84
North Lowe	78.21*	820.0	5,329.27	5,332.86	5,333.02	5,333.76	0.008953	8.78	148.35	116.31	0.89	2.70	3.03	5.53	3.59
North Lowe	77.48	820.0	5,328.83	5,332.37	5,332.20	5,332.82	0.005496	6.81	204.24	142.78	0.69	2.61	2.85	4.01	3.54
North Lowe	76.7533*	820.0	5,328.39	5,331.87	5,331.80	5,332.40	0.006566	7.33	190.51	143.47	0.75	2.87	2.44	4.30	3.47
North Lowe	76.0266*	820.0	5,327.96	5,331.54	5,331.32	5,331.96	0.005097	6.61	208.58	140.88	0.67	2.78	2.34	3.93	3.58
North Lowe	75.30	820.0	5,327.52	5,331.36	5,330.84	5,331.64	0.003145	5.49	250.20	145.85	0.53	2.49	2.05	3.28	3.84
North Lowe	74.62*	820.0	5,327.11	5,330.88	5,330.68	5,331.36	0.005069	6.86	200.89	136.05	0.67	2.55	2.59	4.08	3.77
North Lowe	73.94*	820.0	5,326.70	5,330.51	5,330.25	5,331.00	0.005100	6.93	192.29	121.68	0.68	2.64	2.71	4.26	3.81
North Lowe	73.26	820.0	5,326.29	5,330.30	5,329.79	5,330.66	0.003618	6.08	220.60	125.92	0.58	2.43	2.50	3.72	4.01
North Lowe	72.5833*	820.0	5,325.88	5,329.91	5,329.53	5,330.38	0.004280	6.64	196.27	112.63	0.63	2.68	2.52	4.18	4.03
North Lowe	71.9066*	820.0	5,325.47	5,329.58	5,329.16	5,330.08	0.004312	6.77	188.18	104.77	0.63	2.77	2.38	4.36	4.11
North Lowe	71.23	820.0	5,325.06	5,329.38	5,328.78	5,329.81	0.003504	6.33	199.40	102.03	0.57	2.65	2.16	4.11	4.32
North Lowe	70.5233*	820.0	5,324.64	5,328.74	5,328.59	5,329.48	0.005822	7.84	153.29	87.48	0.73	2.83	2.68	5.35	4.10
North Lowe	69.8166*	820.0	5,324.21	5,328.10	5,328.10	5,329.00	0.007468	8.54	137.15	80.72	0.82	2.75	3.12	5.98	3.89
North Lowe	69.11	820.0	5,323.79	5,327.62	5,327.42	5,328.31	0.006354	7.77	155.44	87.67	0.76	2.45	3.20	5.28	3.83
North Lowe	68.12*	820.0	5,323.19	5,327.01	5,326.83	5,327.67	0.006202	7.67	160.56	93.28	0.75	2.53	3.11	5.11	3.82
North Lowe	67.13	820.0	5,322.58	5,326.28	5,326.21	5,327.00	0.007166	8.03	155.07	96.70	0.80	2.77	3.14	5.29	3.69
North Lowe	66.726*	820.0	5,322.34	5,325.98	5,325.89	5,326.71	0.006813	7.73	151.99	96.95	0.78	2.44	2.81	5.39	3.64
North Lowe	66.322*	820.0	5,322.10	5,325.60	5,325.60	5,326.41	0.007337	7.77	141.22	96.02	0.80	2.15	2.49	5.81	3.50
North Lowe	65.918*	820.0	5,321.85	5,325.22	5,325.26	5,326.10	0.008021	7.85	129.09	95.07	0.83	1.73	2.03	6.35	3.37
North Lowe	65.514*	820.0	5,321.61	5,324.92	5,324.89	5,325.78	0.007667	7.54	124.57	96.74	0.81	1.21	1.44	6.58	3.31
North Lowe	65.11	820.0	5,321.37	5,324.21	5,324.21	5,325.36	0.012647	8.61	95.25	42.05	1.01			8.61	2.84
North Lowe	64.696*	820.0	5,320.43	5,322.84	5,323.28	5,324.57	0.022735	10.54	77.83	39.48	1.32			10.54	2.41
North Lowe	64.282*	820.0	5,319.49	5,321.91	5,322.34	5,323.62	0.022458	10.49	78.16	39.53	1.31			10.49	2.42
North Lowe	63.868*	820.0	5,318.55	5,320.97	5,321.40	5,322.68	0.022572	10.51	78.03	39.51	1.32			10.51	2.42
North Lowe	63.454*	820.0	5,317.61	5,320.02	5,320.46	5,321.75	0.022801	10.55	77.76	39.47	1.32			10.55	2.41
North Lowe	63.04	820.0	5,316.67	5,319.08	5,319.52	5,320.81	0.022785	10.54	77.78	39.48	1.32			10.54	2.41
North Lowe	62.634*	820.0	5,315.75	5,318.16	5,318.60	5,319.89	0.022785	10.54	77.78	39.48	1.32			10.54	2.41

Profile Output Table - Lowe North Post-mine 100 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
North Lowe	62.228*	820.0	5,314.82	5,317.24	5,317.67	5,318.96	0.022621	10.52	77.97	39.50	1.32			10.52	2.42
North Lowe	61.822*	820.0	5,313.90	5,316.32	5,316.75	5,318.04	0.022621	10.52	77.97	39.50	1.32			10.52	2.42
North Lowe	61.416*	820.0	5,312.97	5,315.38	5,315.82	5,317.11	0.022752	10.54	77.82	39.48	1.32			10.54	2.41
North Lowe	61.01	820.0	5,312.05	5,314.46	5,314.90	5,316.19	0.022752	10.54	77.82	39.48	1.32			10.54	2.41
North Lowe	60.592*	820.0	5,311.10	5,313.51	5,313.95	5,315.24	0.022752	10.54	77.82	39.48	1.32			10.54	2.41
North Lowe	60.174*	820.0	5,310.14	5,312.56	5,312.99	5,314.28	0.022604	10.51	77.99	39.51	1.32			10.51	2.42
North Lowe	59.756*	820.0	5,309.19	5,311.61	5,312.04	5,313.33	0.022604	10.51	77.99	39.51	1.32			10.51	2.42
North Lowe	59.338*	820.0	5,308.23	5,310.65	5,311.08	5,312.37	0.022719	10.53	77.85	39.49	1.32			10.53	2.41
North Lowe	58.92	820.0	5,307.28	5,309.69	5,310.13	5,311.42	0.022719	10.53	77.85	39.49	1.32			10.53	2.41
North Lowe	58.504*	820.0	5,306.34	5,308.75	5,309.19	5,310.48	0.022719	10.53	77.85	39.49	1.32			10.53	2.41
North Lowe	58.088*	820.0	5,305.39	5,307.81	5,308.24	5,309.52	0.022572	10.51	78.03	39.51	1.32			10.51	2.42
North Lowe	57.672*	820.0	5,304.45	5,306.87	5,307.30	5,308.58	0.022572	10.51	78.03	39.51	1.32			10.51	2.42
North Lowe	57.256*	820.0	5,303.50	5,305.92	5,306.35	5,307.64	0.022702	10.53	77.87	39.49	1.32			10.53	2.42
North Lowe	56.84	820.0	5,302.56	5,304.98	5,305.41	5,306.70	0.022702	10.53	77.87	39.49	1.32			10.53	2.42
North Lowe	56.3475*	820.0	5,301.44	5,303.86	5,304.29	5,305.58	0.022637	10.52	77.95	39.50	1.32			10.52	2.42
North Lowe	55.855*	820.0	5,300.32	5,302.74	5,303.17	5,304.45	0.022523	10.50	78.09	39.52	1.32			10.50	2.42
North Lowe	55.3625*	820.0	5,299.20	5,301.61	5,302.05	5,303.34	0.022884	10.56	77.66	39.46	1.33			10.56	2.41
North Lowe	54.87	820.0	5,298.08	5,300.49	5,300.92	5,302.22	0.022818	10.55	77.74	39.47	1.32			10.55	2.41
North Lowe	54.425*	820.0	5,297.75	5,301.25	5,301.25	5,301.83	0.005231	6.52	188.14	225.53	0.67	1.26	1.44	4.36	3.50
North Lowe	53.98*	820.0	5,297.43	5,300.78	5,300.95	5,301.51	0.007307	7.48	175.87	217.02	0.79	1.70	1.68	4.66	3.35
North Lowe	53.535*	820.0	5,297.10	5,300.51	5,300.60	5,301.10	0.006720	7.29	203.92	224.43	0.76	2.04	1.97	4.02	3.41
North Lowe	53.09	859.0	5,296.78	5,300.22	5,300.26	5,300.73	0.006924	7.46	224.61	220.62	0.77	2.45	2.32	3.82	3.44
North Lowe	52.42*	859.0	5,296.27	5,299.73	5,299.76	5,300.25	0.006901	7.48	218.15	202.69	0.77	2.49	2.44	3.94	3.46
North Lowe	51.75*	859.0	5,295.75	5,299.21	5,299.26	5,299.77	0.007193	7.64	208.24	186.79	0.79	2.55	2.57	4.12	3.46
North Lowe	51.08	859.0	5,295.24	5,298.74	5,298.75	5,299.29	0.006914	7.55	206.67	175.65	0.77	2.57	2.63	4.16	3.49
North Lowe	50.4033*	859.0	5,294.72	5,298.02	5,298.14	5,298.67	0.008975	8.21	192.54	182.80	0.87	2.77	2.72	4.46	3.30
North Lowe	49.7266*	859.0	5,294.20	5,297.51	5,297.52	5,298.02	0.007335	7.45	215.13	194.71	0.79	2.73	2.54	3.99	3.31
North Lowe	49.05	859.0	5,293.68	5,297.17	5,296.91	5,297.46	0.004243	5.91	273.60	215.11	0.61	2.46	2.13	3.14	3.49
North Lowe	48.636*	859.0	5,293.36	5,296.96	5,296.70	5,297.28	0.004343	6.12	262.10	202.55	0.62	2.44	2.18	3.28	3.59
North Lowe	48.222*	859.0	5,293.04	5,296.72	5,296.52	5,297.09	0.004546	6.38	249.17	191.21	0.63	2.42	2.24	3.45	3.68
North Lowe	47.808*	859.0	5,292.73	5,296.50	5,296.31	5,296.89	0.004545	6.50	241.87	182.01	0.64	2.37	2.29	3.55	3.77
North Lowe	47.394*	859.0	5,292.41	5,296.31	5,296.07	5,296.71	0.004304	6.49	240.02	174.97	0.62	2.28	2.30	3.58	3.90
North Lowe	46.98	859.0	5,292.09	5,296.17	5,295.83	5,296.53	0.003647	6.18	249.97	171.02	0.58	2.15	2.24	3.44	4.08
North Lowe	46.58*	859.0	5,291.78	5,295.83	5,295.64	5,296.37	0.004554	6.77	203.60	152.66	0.64	1.92	2.16	4.22	4.05
North Lowe	46.18*	859.0	5,291.47	5,295.25	5,295.25	5,296.12	0.007001	7.81	141.68	112.36	0.79	1.63	1.88	6.06	3.78
North Lowe	45.78*	859.0	5,291.17	5,294.52	5,294.53	5,295.73	0.011530	8.84	98.34	53.85	0.98	0.61	0.69	8.73	3.34
North Lowe	45.38*	859.0	5,290.86	5,293.83	5,293.97	5,295.19	0.014590	9.35	91.91	39.84	1.08			9.35	2.97
North Lowe	44.98	859.0	5,290.55	5,293.42	5,293.48	5,294.65	0.013421	8.91	96.36	42.21	1.04			8.91	2.87
North Lowe	44.568*	859.0	5,289.79	5,292.41	5,292.72	5,293.96	0.018722	10.00	85.90	40.69	1.21			10.00	2.62
North Lowe	44.156*	859.0	5,289.03	5,291.67	5,291.96	5,293.19	0.018070	9.88	86.95	40.85	1.19			9.88	2.64
North Lowe	43.744*	859.0	5,288.26	5,290.88	5,291.19	5,292.43	0.018647	9.99	86.02	40.71	1.21			9.99	2.62
North Lowe	43.332*	859.0	5,287.50	5,290.12	5,290.43	5,291.67	0.018559	9.97	86.16	40.73	1.21			9.97	2.62
North Lowe	42.92	859.0	5,286.74	5,289.36	5,289.67	5,290.91	0.018559	9.97	86.16	40.73	1.21			9.97	2.62
North Lowe	42.506*	859.0	5,285.97	5,288.59	5,288.90	5,290.14	0.018522	9.96	86.22	40.74	1.21			9.96	2.62
North Lowe	42.092*	859.0	5,285.20	5,287.83	5,288.13	5,289.36	0.018460	9.95	86.32	40.75	1.21			9.95	2.63
North Lowe	41.678*	859.0	5,284.44	5,287.07	5,287.37	5,288.60	0.018460	9.95	86.32	40.75	1.21			9.95	2.63
North Lowe	41.264*	859.0	5,283.67	5,286.30	5,286.60	5,287.83	0.018313	9.92	86.56	40.79	1.20			9.92	2.63
North Lowe	40.85	859.0	5,282.90	5,285.52	5,285.83	5,287.06	0.018485	9.96	86.28	40.75	1.21			9.96	2.62
North Lowe	40.345*	859.0	5,281.97	5,284.60	5,284.90	5,286.13	0.018374	9.94	86.46	40.77	1.20			9.94	2.63
North Lowe	39.84*	859.0	5,281.04	5,283.66	5,283.97	5,285.21	0.018609	9.98	86.08	40.72	1.21			9.98	2.62
North Lowe	39.335*	859.0	5,280.12	5,282.75	5,283.04	5,284.28	0.018423	9.94	86.38	40.76	1.20			9.94	2.63
North Lowe	38.83	859.0	5,279.19	5,281.81	5,282.12	5,283.36	0.018659	9.99	86.00	40.71	1.21			9.99	2.62

The entire reach will be reclaimed. The riprapped reaches were not included in determining the maximum, minimum and average velocities. The shaded areas on the table indicate riprapped reaches.

Max 9.35
Min 4.91
Avg 7.04

Avg 4.50

Lowe	38.325*	859.0	5,278.52	5,281.35	5,281.60	5,282.75	0.017456	9.46	90.77	44.58	1.17			9.46	2.83
Lowe	37.82*	859.0	5,277.85	5,280.88	5,280.91	5,281.94	0.012360	8.29	105.59	56.82	1.00	1.13	1.61	8.13	3.03
Lowe	37.315*	859.0	5,277.18	5,279.74	5,280.04	5,281.12	0.019240	9.49	93.79	58.48	1.22	1.87	2.66	9.16	2.56
Lowe	36.81	859.0	5,276.51	5,278.71	5,279.08	5,280.12	0.020636	9.66	94.50	61.77	1.26	2.61	3.54	9.09	2.20
Lowe	36.315*	859.0	5,275.86	5,277.84	5,278.12	5,279.04	0.020579	8.98	104.20	78.89	1.24	2.57	3.44	8.24	1.98
Lowe	35.82*	859.0	5,275.22	5,277.70	5,277.24	5,278.10	0.005084	5.41	186.33	113.61	0.64	1.95	2.36	4.61	2.48
Lowe	35.325*	859.0	5,274.58	5,277.73	5,276.38	5,277.86	0.001214	3.21	332.72	153.55	0.33	1.32	1.57	2.58	3.15

Profile Output Table - Lowe North Post-mine 100 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
Lowe 34.83	859.0	5,273.93	5,277.75	5,275.54	5,277.80	0.000383	2.09	543.28	211.47	0.19	0.97	1.00	1.58	3.82
Lowe 34.4225*	859.0	5,273.47	5,277.70	5,275.35	5,277.78	0.000499	2.52	419.77	150.35	0.22	0.84	1.09	2.05	4.23
Lowe 34.015*	859.0	5,273.02	5,277.65	5,275.14	5,277.76	0.000577	2.84	352.10	111.62	0.24	0.88	1.13	2.44	4.63
Lowe 33.6075*	859.0	5,272.56	5,277.59	5,274.97	5,277.73	0.000660	3.18	303.31	85.03	0.26	0.95	1.21	2.83	5.03
Lowe 33.20	1,156.0	5,272.10	5,277.28	5,275.32	5,277.68	0.001701	5.12	245.02	63.84	0.42	1.40	1.90	4.72	5.18
Lowe 32.8166*	1,156.0	5,272.00	5,276.88	5,275.79	5,277.56	0.003441	6.95	197.05	65.30	0.59	2.00	2.59	5.87	4.88
Lowe 32.4333*	1,156.0	5,271.91	5,276.14	5,276.14	5,277.35	0.008824	10.01	154.45	63.10	0.92	2.64	4.70	7.48	4.23
Lowe 32.05	1,156.0	5,271.81	5,276.42	5,275.14	5,276.75	0.003227	6.44	272.44	87.62	0.55	3.63	3.95	4.24	4.61
Lowe 31.588*	1,156.0	5,271.31	5,275.88	5,275.48	5,276.53	0.005220	8.07	216.26	88.07	0.71	3.41	4.15	5.35	4.57
Lowe 31.126*	1,156.0	5,270.80	5,275.02	5,275.02	5,276.19	0.008361	9.46	158.95	73.76	0.89	3.41	3.74	7.27	4.22
Lowe 30.664*	1,156.0	5,270.30	5,273.67	5,274.12	5,275.53	0.017459	11.21	113.38	55.31	1.23	3.98	4.00	10.20	3.37
Lowe 30.202*	1,156.0	5,269.79	5,272.83	5,273.27	5,274.64	0.020483	10.92	110.65	56.43	1.29	4.01	3.48	10.45	3.04
Lowe 29.74	1,156.0	5,269.29	5,272.29	5,272.51	5,273.68	0.016272	9.52	124.92	63.10	1.15	3.54	2.71	9.25	3.00
Lowe 29.3*	1,156.0	5,268.53	5,271.85	5,271.98	5,273.14	0.014251	9.17	129.53	62.65	1.08	3.24	2.52	8.92	3.32
Lowe 28.86*	1,156.0	5,267.76	5,271.37	5,271.43	5,272.60	0.012871	8.92	132.87	61.94	1.03	2.94	2.32	8.70	3.61
Lowe 28.42*	1,156.0	5,267.00	5,270.80	5,270.86	5,272.04	0.012938	8.96	131.73	60.78	1.03	2.66	2.12	8.78	3.80
Lowe 27.98*	1,156.0	5,266.23	5,270.16	5,270.25	5,271.45	0.013632	9.12	128.65	59.39	1.05	2.32	1.85	8.99	3.93
Lowe 27.54	1,156.0	5,265.47	5,269.93	5,269.63	5,270.87	0.008091	7.80	150.90	60.20	0.83	1.97	1.54	7.66	4.46
Lowe 27.088*	1,156.0	5,265.23	5,269.52	5,269.25	5,270.50	0.008368	7.94	147.35	57.93	0.85	1.56	1.95	7.85	4.29
Lowe 26.636*	1,156.0	5,264.99	5,269.08	5,268.86	5,270.11	0.008966	8.17	143.27	56.69	0.88	1.03	2.24	8.07	4.08
Lowe 26.184*	1,156.0	5,264.76	5,268.65	5,268.45	5,269.69	0.009121	8.24	143.10	57.49	0.88	0.21	2.40	8.08	3.89
Lowe 25.732*	1,156.0	5,264.52	5,268.03	5,268.03	5,269.23	0.011102	8.85	135.66	61.12	0.97		2.51	8.52	3.51
Lowe 25.28	1,156.0	5,264.28	5,267.30	5,267.58	5,268.65	0.014538	9.57	135.70	81.76	1.09		2.96	8.52	3.02
Lowe 24.8328*	1,156.0	5,263.98	5,267.01	5,267.13	5,268.13	0.011797	8.64	147.90	86.83	0.99		2.58	7.82	3.03
Lowe 24.3857*	1,156.0	5,263.68	5,266.81	5,266.71	5,267.67	0.008939	7.61	166.74	94.11	0.86		2.30	6.93	3.13
Lowe 23.9385*	1,156.0	5,263.38	5,266.46	5,266.32	5,267.26	0.008614	7.26	172.14	99.90	0.84		2.04	6.72	3.08
Lowe 23.4914*	1,156.0	5,263.08	5,266.12	5,265.92	5,266.86	0.008360	6.98	176.49	106.08	0.83	0.70	1.77	6.55	3.04
Lowe 23.0442*	1,156.0	5,262.78	5,265.79	5,265.48	5,266.47	0.007878	6.67	182.64	110.50	0.80	1.21	1.57	6.33	3.01
Lowe 22.5971*	1,156.0	5,262.48	5,265.52	5,265.14	5,266.11	0.006934	6.25	194.62	115.30	0.75	1.62	1.49	5.94	3.04
Lowe 22.15	1,156.0	5,262.18	5,265.31	5,264.82	5,265.80	0.005528	5.67	216.12	124.87	0.67	1.88	1.39	5.35	3.13
Lowe 21.6716*	1,156.0	5,261.84	5,265.07	5,264.47	5,265.55	0.004831	5.62	215.21	99.62	0.64	1.94	2.36	5.37	3.23
Lowe 21.1933*	1,156.0	5,261.50	5,264.85	5,264.15	5,265.33	0.004343	5.65	215.65	92.54	0.61	2.02	2.38	5.36	3.35
Lowe 20.715*	1,156.0	5,261.16	5,264.63	5,263.84	5,265.13	0.004034	5.75	213.51	85.54	0.60	2.11	2.42	5.41	3.47
Lowe 20.2366*	1,156.0	5,260.81	5,264.40	5,263.57	5,264.93	0.003978	5.99	207.25	78.70	0.60	2.24	2.51	5.58	3.59
Lowe 19.7583*	1,156.0	5,260.47	5,264.11	5,263.33	5,264.73	0.004348	6.46	194.10	71.33	0.64	2.49	2.70	5.96	3.64
Lowe 19.28	1,156.0	5,260.13	5,263.13	5,263.13	5,264.37	0.011036	9.11	136.56	59.07	0.98	3.62	3.75	8.46	3.00
Lowe 18.9*	1,156.0	5,260.00	5,262.41	5,262.67	5,263.82	0.017241	9.64	125.94	67.58	1.18	3.62	3.89	9.18	2.41
Lowe 18.52*	1,156.0	5,259.87	5,262.53	5,262.28	5,263.30	0.008151	7.16	171.07	83.51	0.83	2.71	2.86	6.76	2.66
Lowe 18.14	1,156.0	5,259.74	5,262.56	5,261.94	5,262.95	0.003997	5.28	260.03	160.32	0.59	1.25	2.29	4.45	2.82
Lowe 17.702*	1,156.0	5,259.34	5,262.17	5,261.65	5,262.73	0.005451	6.12	210.36	127.55	0.68	1.51	1.69	5.50	2.83
Lowe 17.264*	1,156.0	5,258.94	5,261.91	5,261.41	5,262.49	0.005395	6.24	203.17	105.57	0.68	1.80	2.21	5.69	2.97
Lowe 16.826*	1,156.0	5,258.53	5,261.68	5,261.06	5,262.26	0.005100	6.29	203.20	98.95	0.67	2.03	2.09	5.69	3.15
Lowe 16.388*	1,156.0	5,258.13	5,261.47	5,260.74	5,262.05	0.004703	6.28	205.30	93.59	0.65	2.21	1.96	5.63	3.34
Lowe 15.95	1,206.0	5,257.73	5,261.07	5,260.42	5,261.80	0.005928	7.04	191.38	87.19	0.73	2.53	2.00	6.30	3.34
Lowe 15.5933*	1,206.0	5,257.27	5,260.61	5,260.51	5,261.54	0.008173	8.11	176.36	88.90	0.85	3.18	2.53	6.84	3.34
Lowe 15.2366*	1,206.0	5,256.81	5,260.38	5,260.24	5,261.23	0.007659	8.19	190.73	95.70	0.83	3.62	2.82	6.32	3.57
Lowe 14.88	1,206.0	5,256.35	5,260.38	5,259.85	5,260.92	0.004564	7.01	247.84	111.70	0.66	3.48	2.60	4.87	4.03
Lowe 14.4466*	1,206.0	5,255.78	5,259.74	5,259.74	5,260.63	0.008163	8.81	199.58	110.84	0.87	3.76	3.25	6.04	3.96
Lowe 14.0133*	1,206.0	5,255.22	5,259.09	5,259.24	5,260.20	0.011164	9.78	180.96	112.13	1.00	3.36	4.09	6.66	3.87
Lowe 13.58	1,206.0	5,254.65	5,259.20	5,258.51	5,259.65	0.004153	6.67	286.19	148.23	0.62	2.37	2.97	4.21	4.55
Lowe 13.1875*	1,206.0	5,254.35	5,258.67	5,258.40	5,259.45	0.006151	7.97	211.24	108.19	0.76	2.97	3.10	5.71	4.32
Lowe 12.795*	1,206.0	5,254.04	5,257.91	5,257.91	5,259.13	0.009767	9.30	153.82	73.31	0.94	3.36	3.45	7.84	3.87
Lowe 12.4025*	1,206.0	5,253.74	5,257.22	5,257.44	5,258.67	0.012807	9.89	134.28	65.69	1.06	3.23	3.12	8.98	3.48
Lowe 12.01	1,206.0	5,253.43	5,257.36	5,256.88	5,258.18	0.005785	7.45	176.71	68.21	0.73	2.84	2.46	6.82	3.93
Lowe 11.5966*	1,206.0	5,253.25	5,257.12	5,256.63	5,257.94	0.005751	7.44	178.87	68.50	0.73	3.13	2.57	6.74	3.87
Lowe 11.1833*	1,206.0	5,253.08	5,256.91	5,256.39	5,257.69	0.005593	7.38	183.98	71.09	0.72	3.22	2.65	6.56	3.83
Lowe 10.77	1,206.0	5,252.90	5,256.84	5,256.07	5,257.43	0.004152	6.58	215.83	79.99	0.63	3.27	2.47	5.59	3.94
Lowe 10.3166*	1,206.0	5,252.57	5,256.49	5,255.95	5,257.21	0.005362	7.53	201.67	79.08	0.71	3.76	2.91	5.98	3.92
Lowe 9.86333*	1,206.0	5,252.25	5,256.08	5,255.78	5,256.92	0.007259	8.71	194.62	85.85	0.83	4.31	3.28	6.20	3.83
Lowe 9.41	1,206.0	5,251.92	5,256.07	5,255.23	5,256.55	0.004487	7.34	243.75	86.79	0.66	4.29	3.33	4.95	4.15
Lowe 9.01*	1,206.0	5,251.66	5,255.75	5,255.20	5,256.40	0.005995	8.28	214.83	84.00	0.76	4.66	3.08	5.61	4.09
Lowe 8.61*	1,206.0	5,251.40	5,255.38	5,254.98	5,256.19	0.007480	8.96	189.49	74.03	0.84	5.08	3.30	6.36	3.97
Lowe 8.21	1,206.0	5,251.14	5,255.03	5,254.75	5,255.96	0.008389	9.29	176.26	68.54	0.89	5.33	3.32	6.84	3.89
Lowe 7.77*	1,206.0	5,250.64	5,254.69	5,254.47	5,255.69	0.008932	9.76	173.21	68.72	0.92	5.45	3.74	6.96	4.05
Lowe 7.33*	1,206.0	5,250.13	5,254.34	5,254.22	5,255.39	0.009678	10.29	171.59	70.69	0.96	5.53	4.23	7.03	4.21
Lowe 6.89	1,206.0	5,249.63	5,254.18	5,253.92	5,255.07	0.008159	9.84	188.59	76.04	0.88	5.13	4.43	6.39	4.55

Profile Output Table - Lowe North Post-mine 100 yr-6 hr
HEC-RAS Plan: Plan 02 Lowe North Drainages October 2006

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)
Lowe 6.44333*	1,206.0	5,249.14	5,253.52	5,253.52	5,254.68	0.009648	10.50	169.45	73.12	0.96	5.03	4.49	7.12	4.38
Lowe 5.99666*	1,206.0	5,248.64	5,252.74	5,253.00	5,254.19	0.012282	11.14	150.74	72.12	1.07	5.36	4.10	8.00	4.10
Lowe 5.55	1,206.0	5,248.15	5,251.73	5,252.24	5,253.47	0.018510	12.03	137.52	79.43	1.27	5.27	4.97	8.77	3.58
Lowe 5.05666*	1,206.0	5,247.70	5,251.84	5,251.67	5,252.77	0.008882	9.33	197.61	107.96	0.90	4.41	3.64	6.10	4.14
Lowe 4.56333*	1,206.0	5,247.25	5,251.82	5,251.35	5,252.29	0.004553	7.18	273.91	132.34	0.66	3.56	3.08	4.40	4.57
Lowe 4.07	1,206.0	5,246.80	5,251.82	5,250.76	5,252.05	0.002231	5.39	371.98	151.30	0.47	2.77	2.58	3.24	5.02
Lowe 3.57333*	1,206.0	5,246.38	5,251.23	5,250.80	5,251.84	0.005181	8.03	242.15	116.82	0.71	4.26	2.66	4.98	4.85
Lowe 3.07666*	1,206.0	5,245.95	5,250.41	5,250.25	5,251.44	0.009121	10.00	174.65	77.12	0.92	5.46	2.75	6.91	4.46
Lowe 2.58	1,206.0	5,245.53	5,250.07	5,249.69	5,250.94	0.007586	9.27	183.12	68.85	0.84	5.36	2.90	6.59	4.54
Lowe 2.17333*	1,206.0	5,245.22	5,249.79	5,249.43	5,250.64	0.007575	9.28	186.58	71.48	0.84	5.32	2.94	6.46	4.57
Lowe 1.76666*	1,206.0	5,244.90	5,249.53	5,249.16	5,250.34	0.007308	9.23	192.11	74.46	0.83	5.18	2.95	6.28	4.63
Lowe 1.36	1,206.0	5,244.59	5,248.89	5,248.89	5,249.98	0.010718	10.71	170.13	74.63	0.98	5.65	3.23	7.09	4.30
Lowe .906667*	1,206.0	5,243.86	5,248.29	5,248.41	5,249.50	0.011301	11.02	165.91	77.16	1.01	5.44	3.15	7.27	4.43
Lowe .453333*	1,206.0	5,243.14	5,247.74	5,247.92	5,249.01	0.011234	11.04	164.49	78.98	1.01	5.19	3.01	7.33	4.60
Lowe 0.00	1,206.0	5,242.41	5,247.13	5,247.37	5,248.50	0.011689	11.18	159.38	114.88	1.03	5.04	2.93	7.57	4.72
						Max	**12.03**					**Avg**	**6.56**	
						Min	**2.09**							
						Avg	**7.97**							

The entire reach is undisturbed and is downstream of the mine lease.