Detailed Bridge Output
50-yr - Existing Condition

Plan: As-Built Pump Box Brook Pump Box Brook RS: 173.47 Profile: Q50

E.G. US. (ft)	557.10	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	556.98	E.G. Elev (ft)	556.89	556.37
Q Total (cfs)	625.00	W.S. Elev (ft)	556.13	554.81
Q Bridge (cfs)	625.00	Crit W.S. (ft)	554.80	554.81
Q Weir (cfs)		Max Chl Dpth (ft)	5.46	4.14
Weir Sta Lft (ft)		Vel Total (ft/s)	7.01	10.02
Weir Sta Rgt (ft)		Flow Area (sq ft)	89.15	62.36
Weir Submerg		Froude # Chl	0.53	0.87
Weir Max Depth (ft)		Specif Force (cu ft)	338.11	295.26
Min El Weir Flow (ft)	565.28	Hydr Depth (ft)	4.46	3.12
Min El Prs (ft)	559.17	W.P. Total (ft)	20.40	20.42
Delta EG (ft)	1.72	Conv. Total (cfs)	10118.4	5573.0
Delta WS (ft)	2.23	Top Width (ft)	20.00	20.00
BR Open Area (sq ft)	149.50	Frctn Loss (ft)	0.28	0.13
BR Open Vel (ft/s)	10.02	C & E Loss (ft)	0.24	0.47
Coef of Q		Shear Total (lb/sq ft)	1.04	2.40
Br Sel Method	Energy only	Power Total (lb/ft s)	0.00	0.00

Detailed Bridge Output
50-yr - Proposed Condition

Plan: Conc. Mat -.5TOF Pump Box Brook Pump Box Brook RS: 173.47 Profile: Q50

E.G. US. (ft)	556.36	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	556.19	E.G. Elev (ft)	556.16	555.73
Q Total (cfs)	625.00	W.S. Elev (ft)	555.41	554.64
Q Bridge (cfs)	625.00	Crit W.S. (ft)	554.03	554.03
Q Weir (cfs)		Max Chl Dpth (ft)	4.74	3.97
Weir Sta Lft (ft)		Vel Total (ft/s)	6.94	8.37
Weir Sta Rgt (ft)		Flow Area (sq ft)	90.06	74.66
Weir Submerg		Froude # Chl	0.58	0.76
Weir Max Depth (ft)		Specif Force (cu ft)	338.04	302.40
Min El Weir Flow (ft)	565.28	Hydr Depth (ft)	4.50	3.73
Min El Prs (ft)	559.17	W.P. Total (ft)	28.51	26.97
Delta EG (ft)	0.98	Conv. Total (cfs)	8230.9	6248.8
Delta WS (ft)	1.44	Top Width (ft)	20.00	20.00
BR Open Area (sq ft)	165.25	Frctn Loss (ft)	0.33	0.12
BR Open Vel (ft/s)	8.37	C & E Loss (ft)	0.10	0.23
Coef of Q		Shear Total (lb/sq ft)	1.14	1.73
Br Sel Method	Energy only	Power Total (lb/ft s)	0.00	0.00

Detailed Bridge Output
100-yr - Existing Condition

Plan: As-Built Pump Box Brook Pump Box Brook RS: 173.47 Profile: Q100

E.G. US. (ft)	557.66	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	557.52	E.G. Elev (ft)	557.42	556.88
Q Total (cfs)	730.00	W.S. Elev (ft)	556.55	555.16
Q Bridge (cfs)	730.00	Crit W.S. (ft)	555.13	555.16
Q Weir (cfs)		Max Chl Dpth (ft)	5.88	4.49
Weir Sta Lft (ft)		Vel Total (ft/s)	7.48	10.55
Weir Sta Rgt (ft)		Flow Area (sq ft)	97.56	69.21
Weir Submerg		Froude # Chl	0.54	0.88
Weir Max Depth (ft)		Specif Force (cu ft)	410.92	362.38
Min El Weir Flow (ft)	565.28	Hydr Depth (ft)	4.88	3.46
Min El Prs (ft)	559.17	W.P. Total (ft)	20.40	20.42
Delta EG (ft)	2.00	Conv. Total (cfs)	11758.6	6630.0
Delta WS (ft)	2.66	Top Width (ft)	20.00	20.00
BR Open Area (sq ft)	149.50	Frctn Loss (ft)	0.28	0.15
BR Open Vel (ft/s)	10.55	C & E Loss (ft)	0.26	0.47
Coef of Q		Shear Total (lb/sq ft)	1.15	2.57
Br Sel Method	Energy only	Power Total (lb/ft s)	0.00	0.00

Detailed Bridge Output
100-yr - Proposed Condition

Plan: Conc. Mat -.5TOF Pump Box Brook Pump Box Brook RS: 173.47 Profile: Q100

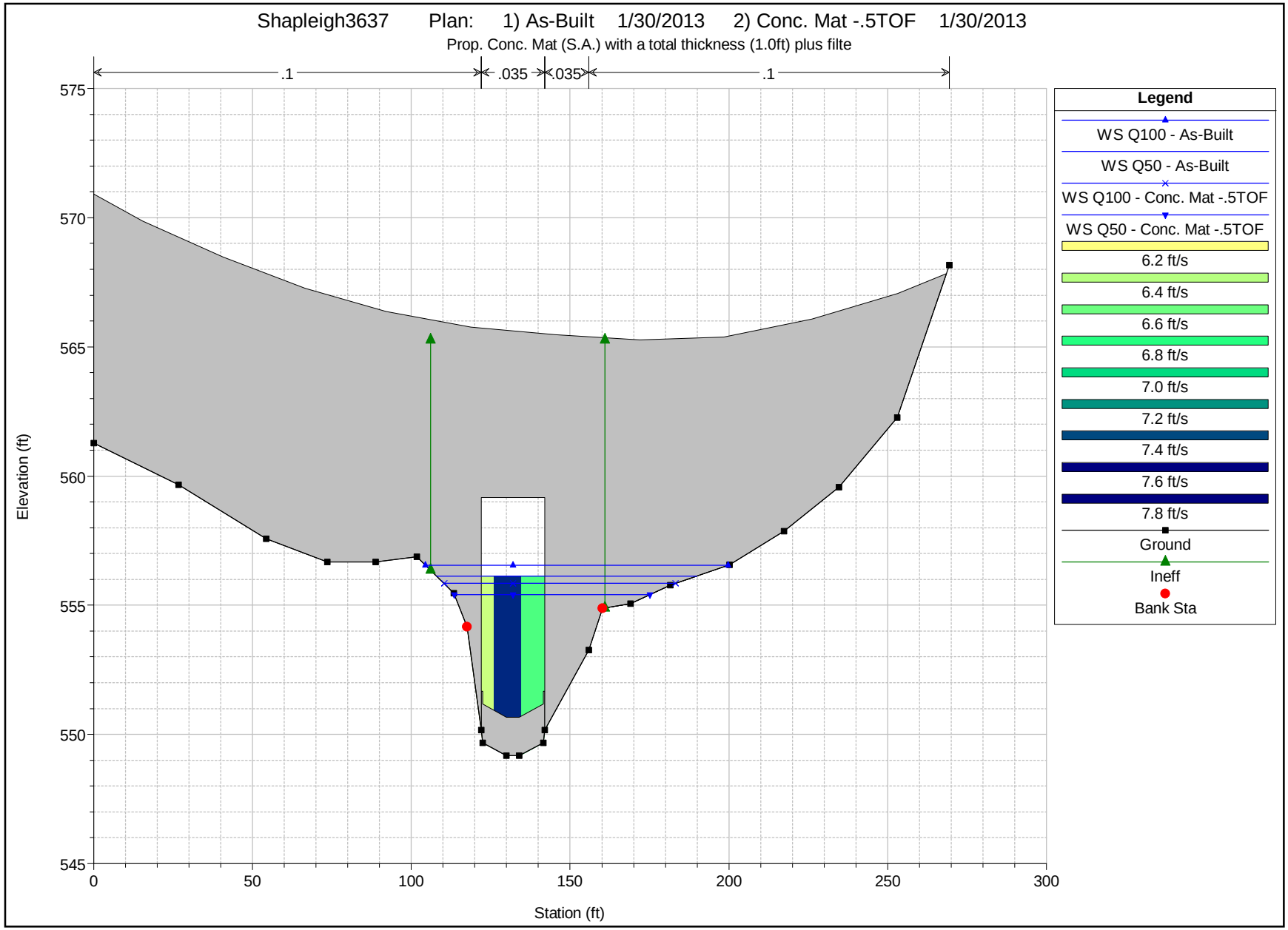
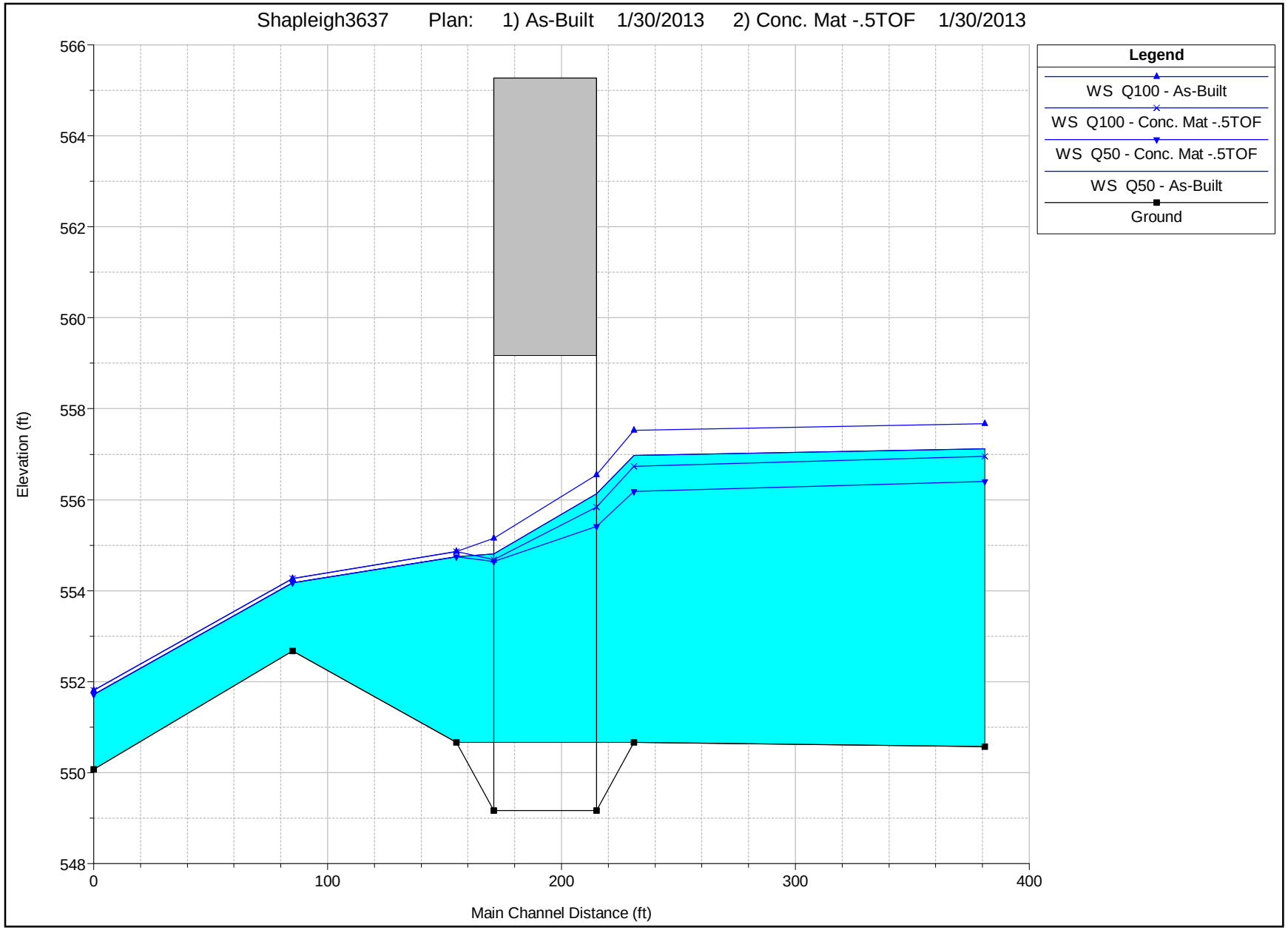
E.G. US. (ft)	556.92	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	556.73	E.G. Elev (ft)	556.69	556.13
Q Total (cfs)	730.00	W.S. Elev (ft)	555.84	554.69
Q Bridge (cfs)	730.00	Crit W.S. (ft)	554.36	554.36
Q Weir (cfs)		Max Chl Dpth (ft)	5.17	4.02
Weir Sta Lft (ft)		Vel Total (ft/s)	7.40	9.66
Weir Sta Rgt (ft)		Flow Area (sq ft)	98.66	75.56
Weir Submerg		Froude # Chl	0.59	0.88
Weir Max Depth (ft)		Specif Force (cu ft)	411.66	362.32
Min El Weir Flow (ft)	565.28	Hydr Depth (ft)	4.93	3.78
Min El Prs (ft)	559.17	W.P. Total (ft)	29.37	27.06
Delta EG (ft)	1.26	Conv. Total (cfs)	9394.5	6360.9
Delta WS (ft)	1.87	Top Width (ft)	20.00	20.00
BR Open Area (sq ft)	165.25	Frctn Loss (ft)	0.38	0.15
BR Open Vel (ft/s)	9.66	C & E Loss (ft)	0.18	0.33
Coef of Q		Shear Total (lb/sq ft)	1.27	2.30
Br Sel Method	Energy only	Power Total (lb/ft s)	0.00	0.00

HEC-RAS Model
Detailed Output

HEC-RAS River: Pump Box Brook Reach: Pump Box Brook

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Pump Box Brook	381	Q50	As-Built	625.00	550.57	557.12		557.14	0.000122	1.35	748.67	247.03	0.11
Pump Box Brook	381	Q50	Conc. Mat -.5TOF	625.00	550.57	556.40		556.44	0.000227	1.66	574.31	235.87	0.14
Pump Box Brook	381	Q100	As-Built	730.00	550.57	557.67		557.70	0.000110	1.38	887.55	255.18	0.10
Pump Box Brook	381	Q100	Conc. Mat -.5TOF	730.00	550.57	556.95		556.99	0.000191	1.65	707.03	244.41	0.13
Pump Box Brook	231	Q50	As-Built	625.00	550.67	556.98	553.64	557.10	0.000525	2.83	236.57	138.68	0.22
Pump Box Brook	231	Q50	Conc. Mat -.5TOF	625.00	550.67	556.19	553.64	556.36	0.000935	3.37	193.09	83.78	0.29
Pump Box Brook	231	Q100	As-Built	730.00	550.67	557.52	553.87	557.66	0.000506	2.97	266.42	157.43	0.22
Pump Box Brook	231	Q100	Conc. Mat -.5TOF	730.00	550.67	556.73	553.87	556.92	0.000848	3.48	223.11	120.20	0.28
Pump Box Brook	173.47			Bridge									
Pump Box Brook	155	Q50	As-Built	625.00	550.67	554.75		555.38	0.005893	6.37	99.12	41.15	0.65
Pump Box Brook	155	Q50	Conc. Mat -.5TOF	625.00	550.67	554.75		555.38	0.005893	6.37	99.12	41.15	0.65
Pump Box Brook	155	Q100	As-Built	730.00	550.67	554.86		555.66	0.007098	7.17	103.68	43.66	0.72
Pump Box Brook	155	Q100	Conc. Mat -.5TOF	730.00	550.67	554.86		555.66	0.007098	7.17	103.68	43.66	0.72
Pump Box Brook	85	Q50	As-Built	625.00	552.67	554.17	554.17	554.58	0.019577	5.17	120.99	149.14	1.01
Pump Box Brook	85	Q50	Conc. Mat -.5TOF	625.00	552.67	554.17	554.17	554.58	0.019577	5.17	120.99	149.14	1.01
Pump Box Brook	85	Q100	As-Built	730.00	552.67	554.27	554.27	554.72	0.019038	5.40	135.26	153.30	1.01
Pump Box Brook	85	Q100	Conc. Mat -.5TOF	730.00	552.67	554.27	554.27	554.72	0.019038	5.40	135.26	153.30	1.01
Pump Box Brook	0	Q50	As-Built	625.00	550.07	551.72	551.72	552.15	0.020104	5.28	118.47	143.21	1.02
Pump Box Brook	0	Q50	Conc. Mat -.5TOF	625.00	550.07	551.72	551.72	552.15	0.020104	5.28	118.47	143.21	1.02
Pump Box Brook	0	Q100	As-Built	730.00	550.07	551.82	551.82	552.29	0.019339	5.53	131.91	144.10	1.02
Pump Box Brook	0	Q100	Conc. Mat -.5TOF	730.00	550.07	551.82	551.82	552.29	0.019339	5.53	131.91	144.10	1.02

HEC-RAS Model
Bridge Upstream Fascia



HEC-RAS Model
Stream Profile