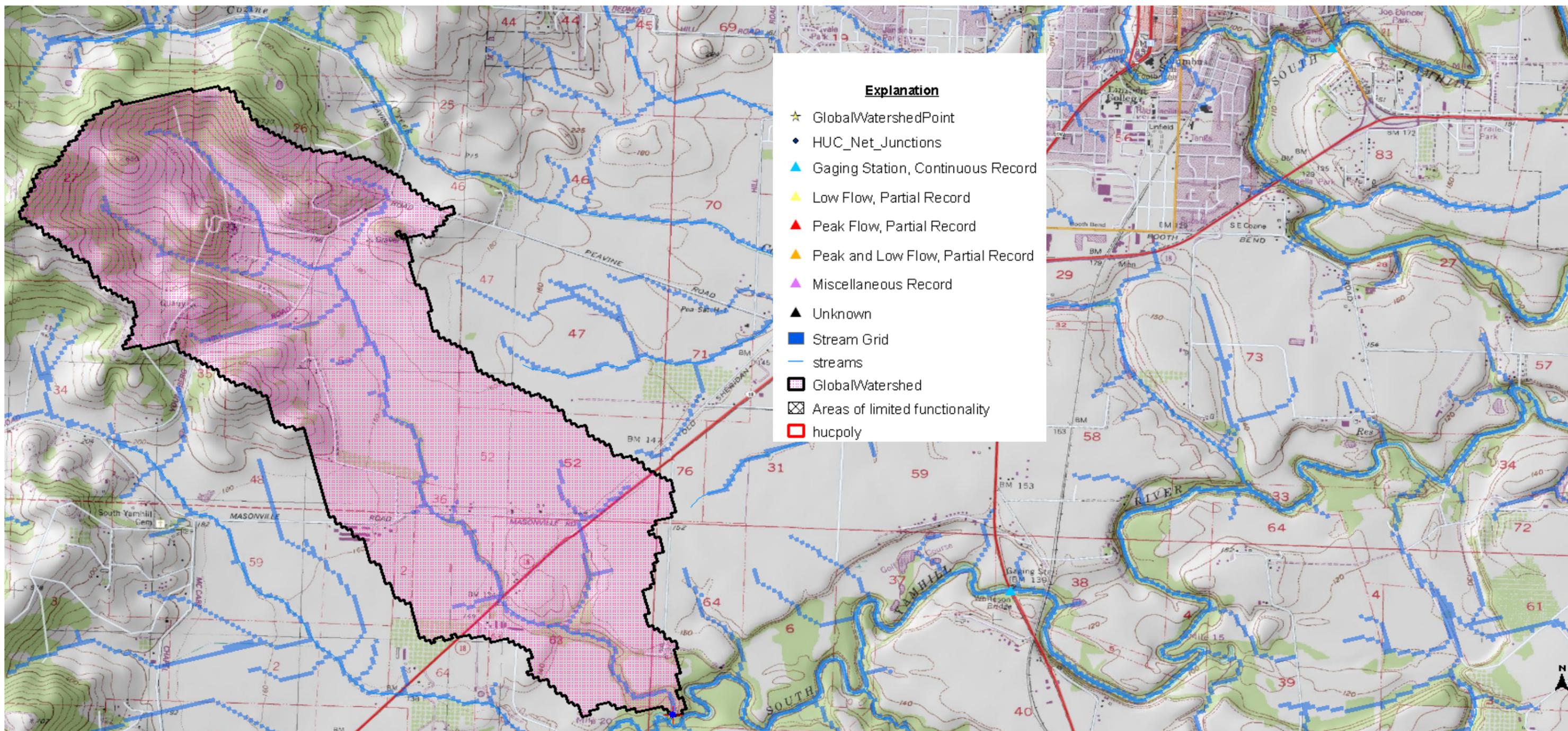


Attachment B

Hydrologic Calculations

Northern Tributary Calculations

StreamStats Print Page



Explanation

- ★ GlobalWatershedPoint
- ◆ HUC_Net_Junctions
- ▲ Gaging Station, Continuous Record
- ▲ Low Flow, Partial Record
- ▲ Peak Flow, Partial Record
- ▲ Peak and Low Flow, Partial Record
- ▲ Miscellaneous Record
- ▲ Unknown
- Stream Grid
- streams
- ▭ GlobalWatershed
- ▭ Areas of limited functionality
- ▭ hucpoly



10/27/2014 1:55:47 PM



Oregon StreamStats

Streamstats Ungaged Site Report

Date: Tue Oct 14 2014 14:59:54 Mountain Daylight Time

Site Location: Oregon

NAD27 Latitude: 45.1597 (45 09 35)

NAD27 Longitude: -123.2354 (-123 14 07)

NAD83 Latitude: 45.1595 (45 09 34)

NAD83 Longitude: -123.2366 (-123 14 12)

Drainage Area: 3.29 mi²

Percent Urban: 6.19 %

Percent Impervious: 1.85 %

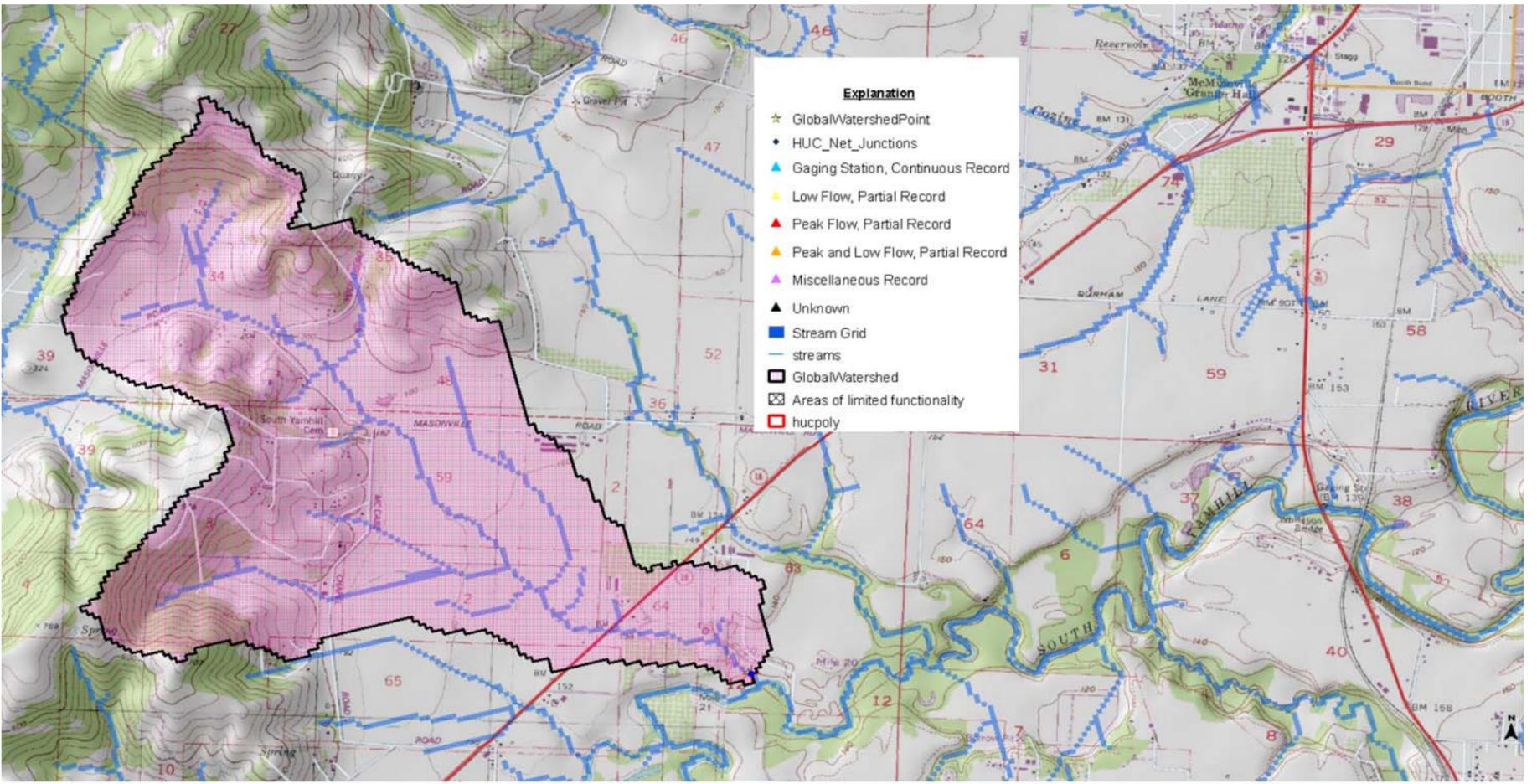
Peak Flows Region Grid Basin Characteristics			
Mean Basin Elevation in feet=252			
100% Reg 2B Western Interior LT 3000 ft Cooper (3.29 mi ²)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	3.29	0.37	7270
Mean Basin Slope from 30m DEM (degrees)	4.8 (below min value 5.62)	5.62	28.3
24 Hour 2 Year Precipitation (inches)	2.04	1.53	4.48

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Peak Flows Region Grid Streamflow Statistics					
Statistic	Flow (ft ³ /s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
PK2	102		2		
PK5	152		2.8		
PK10	186		3.6		
PK25	231		4.8		
PK50	264		5.5		
PK100	298		6.2		

Southern Tributary Calculations

StreamStats Print Page



6/25/2014 12:42:45 PM



Streamstats Ungaged Site Report

Date: Wed Jun 25 2014 12:49:28 Mountain Daylight Time

Site Location: Oregon

NAD27 Latitude: 45.1584 (45 09 30)

NAD27 Longitude: -123.2484 (-123 14 54)

NAD83 Latitude: 45.1582 (45 09 30)

NAD83 Longitude: -123.2496 (-123 14 59)

Drainage Area: 2.83 mi²

Percent Urban: 6.22 %

Percent Impervious: 1.29 %

Peak Flows Region Grid Basin Characteristics

Mean Basin Elevation in feet=266

100% Reg 2B Western Interior LT 3000 ft Cooper (2.83 mi²)

Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	2.83	0.37	7270
Mean Basin Slope from 30m DEM (degrees)	5.38 (below min value 5.62)	5.62	28.3
24 Hour 2 Year Precipitation (inches)	2.08	1.53	4.48

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

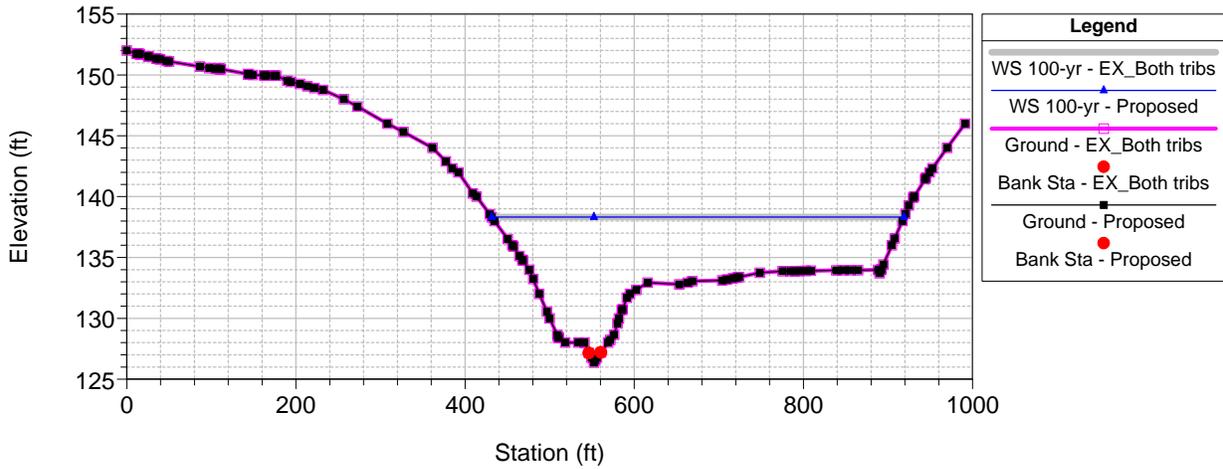
Peak Flows Region Grid Streamflow Statistics

Statistic	Flow (ft ³ /s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
PK2	95.6		2		
PK5	142		2.8		
PK10	174		3.6		
PK25	215		4.8		
PK50	246		5.5		
PK100	277		6.2		
PK500	351		7.5		

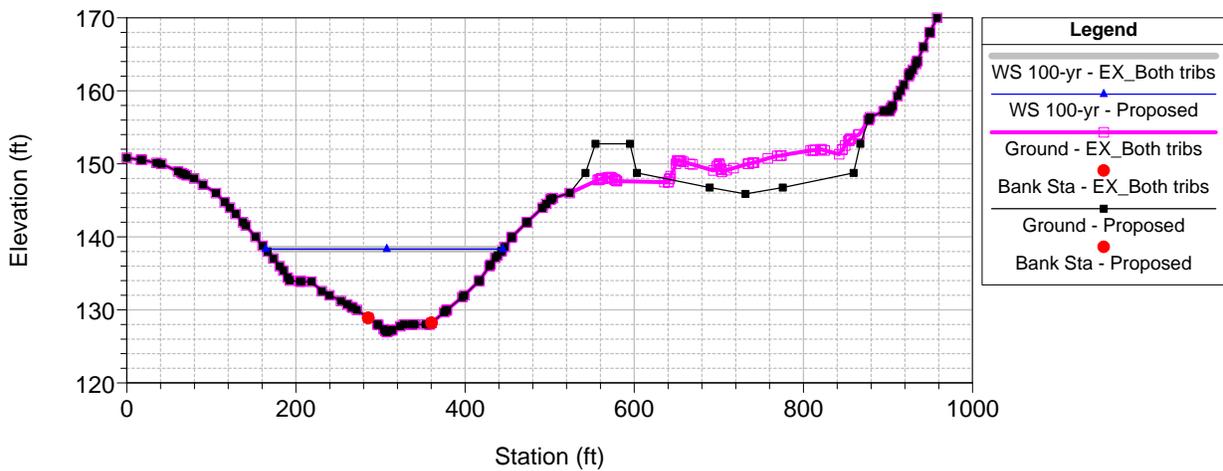
Attachment C

HEC-RAS Model Output

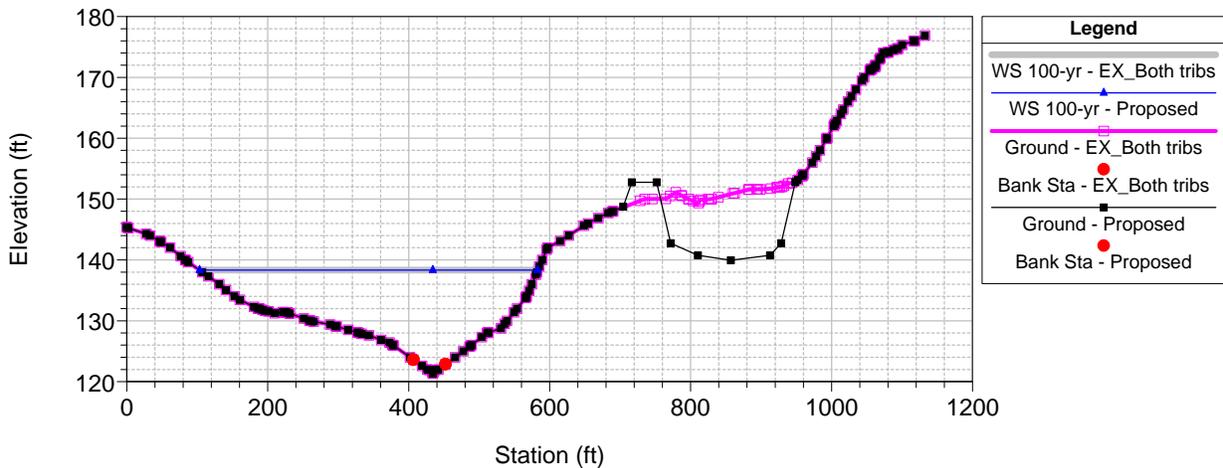
RS = 4449.22 Northern Tributary



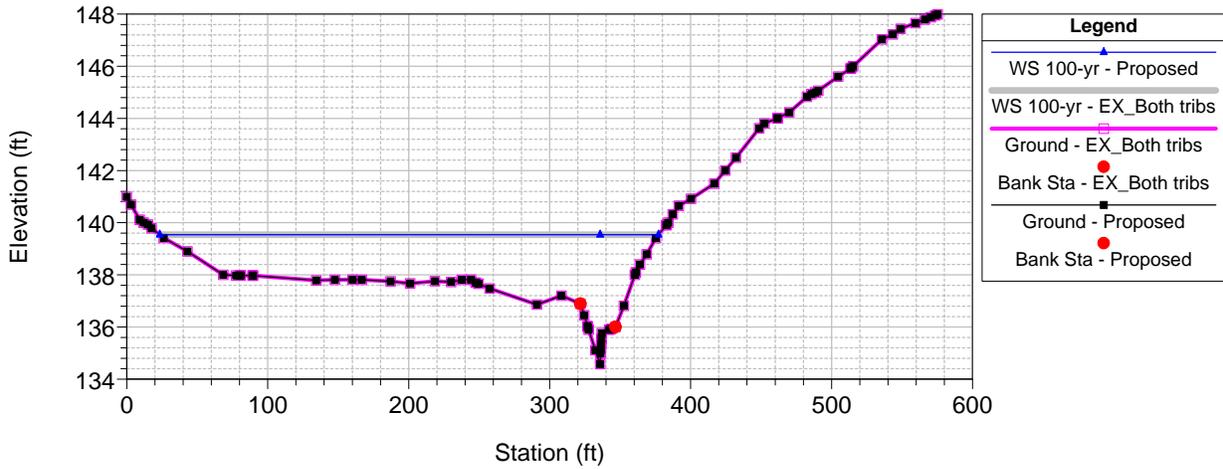
RS = 3850.6 Northern Tributary



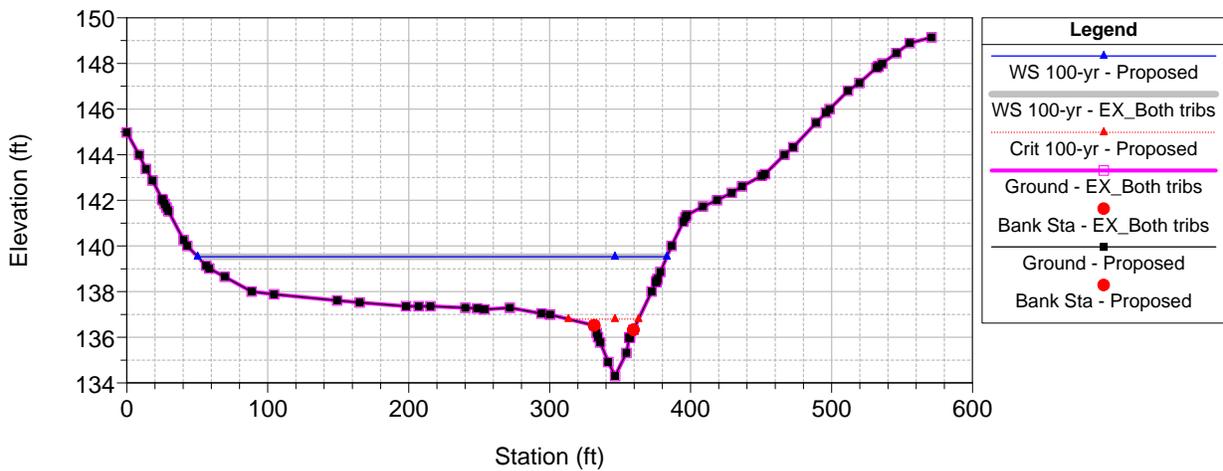
RS = 3249.2 Northern Tributary



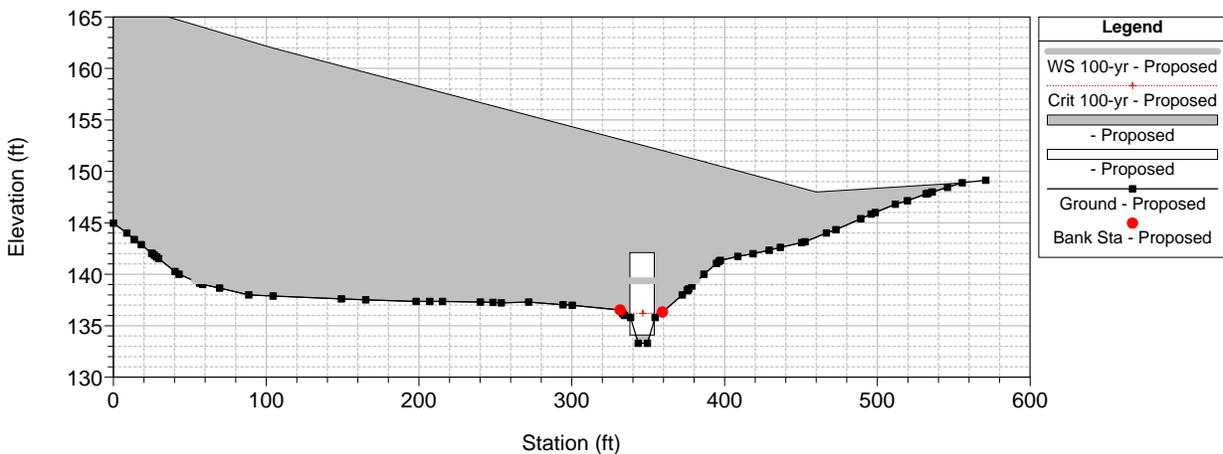
RS = 3365 Southern Tributary



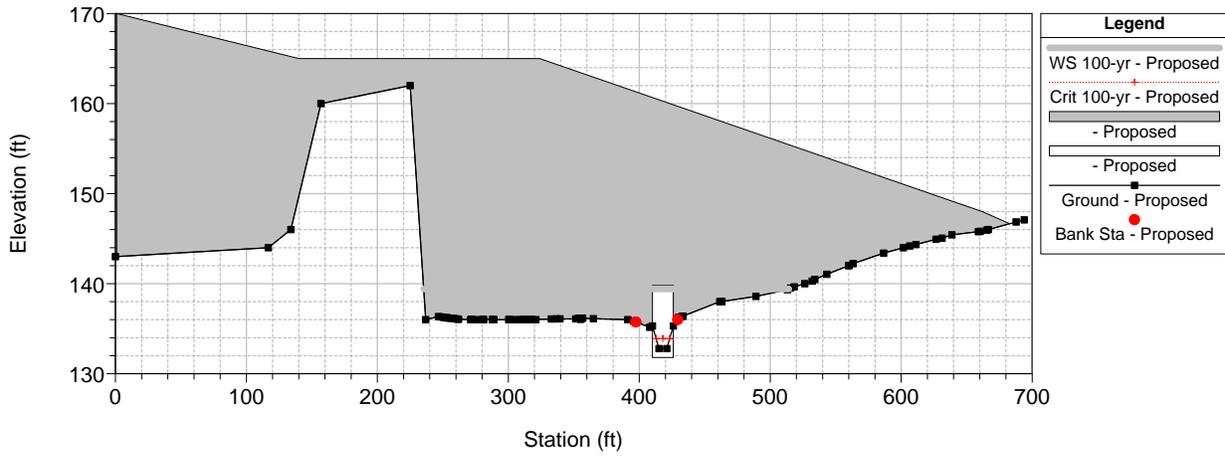
RS = 3316 Southern Tributary



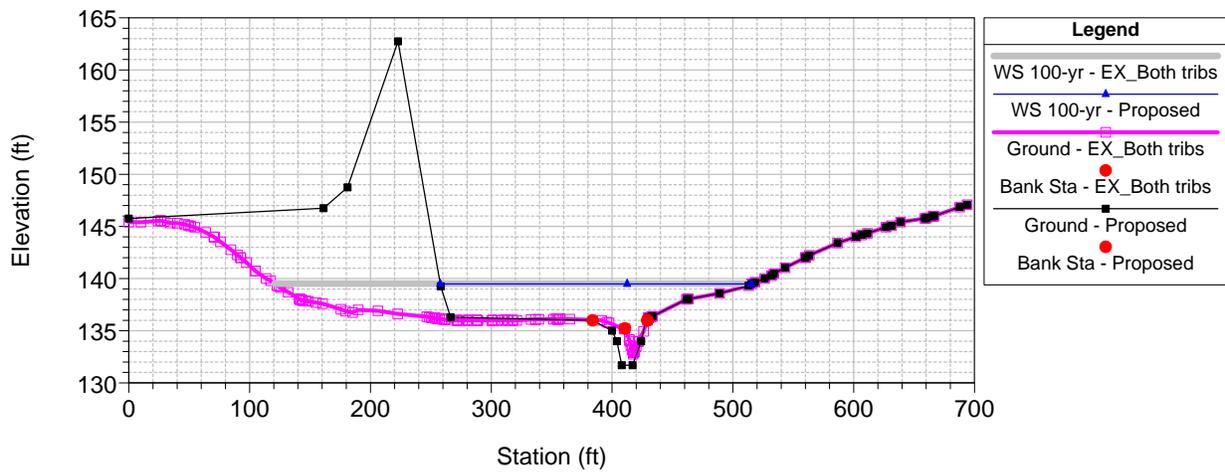
RS = 3200 Culv Southern Tributary



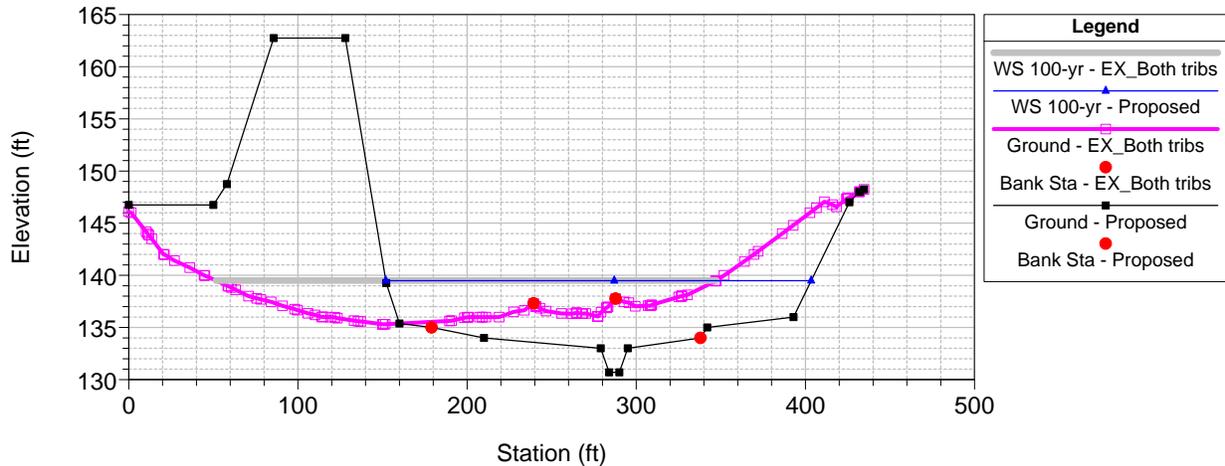
RS = 3200 Culv Southern Tributary



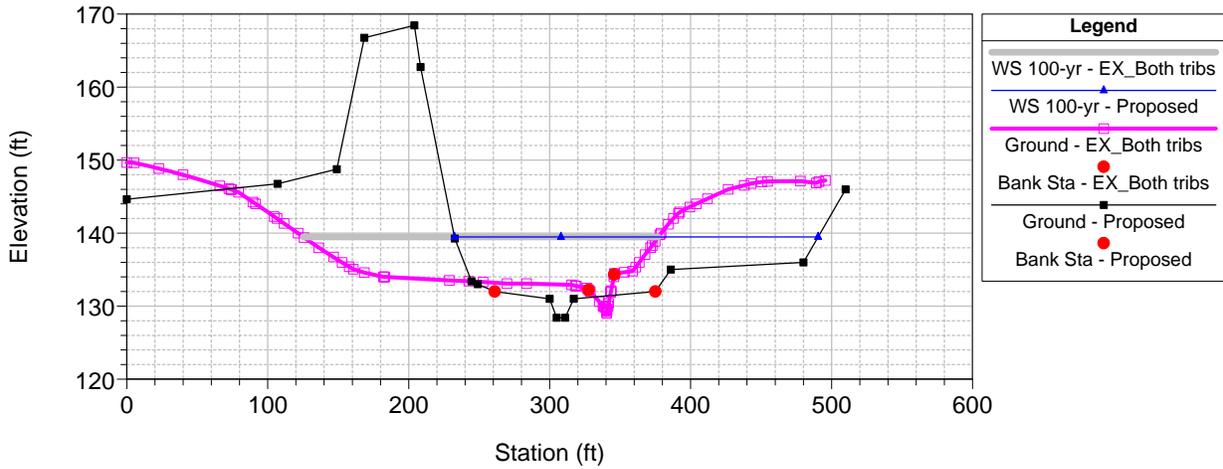
RS = 3052 Southern Tributary



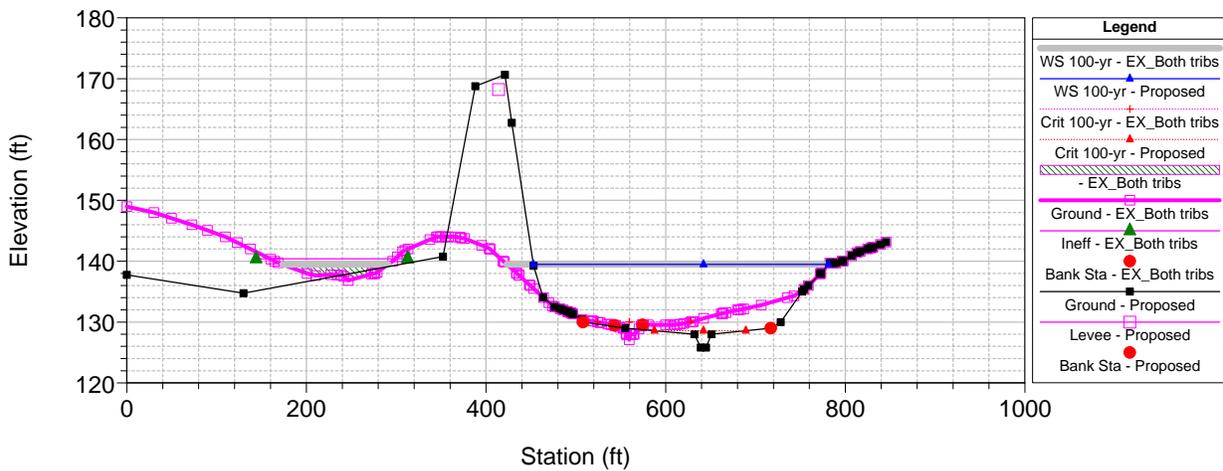
RS = 2865 Southern Tributary



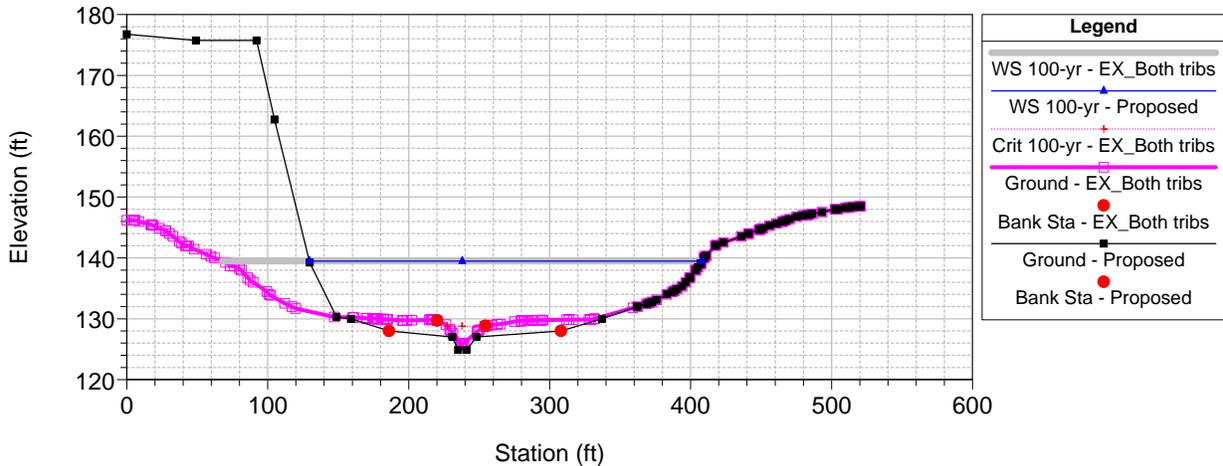
RS = 2462 Southern Tributary



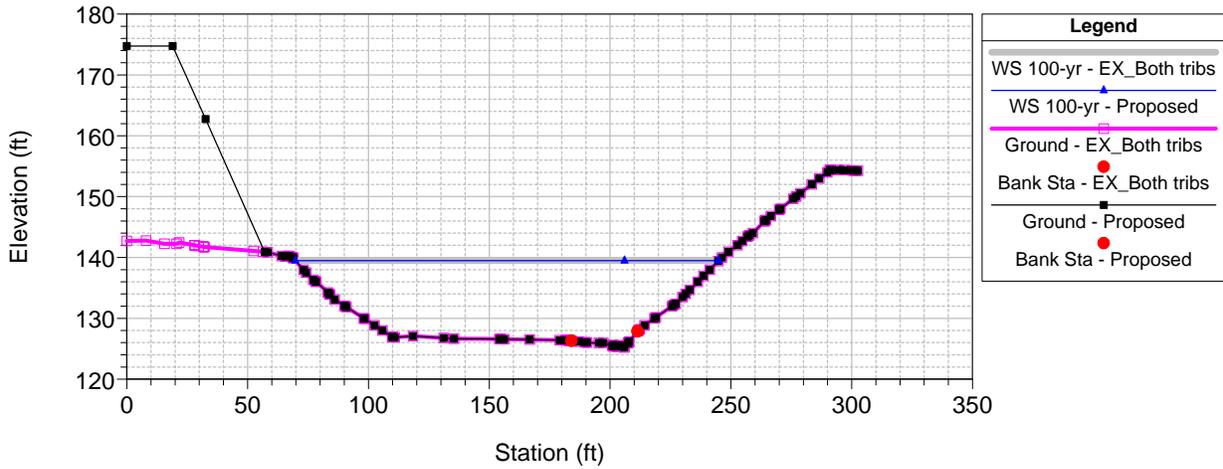
RS = 2090 Southern Tributary



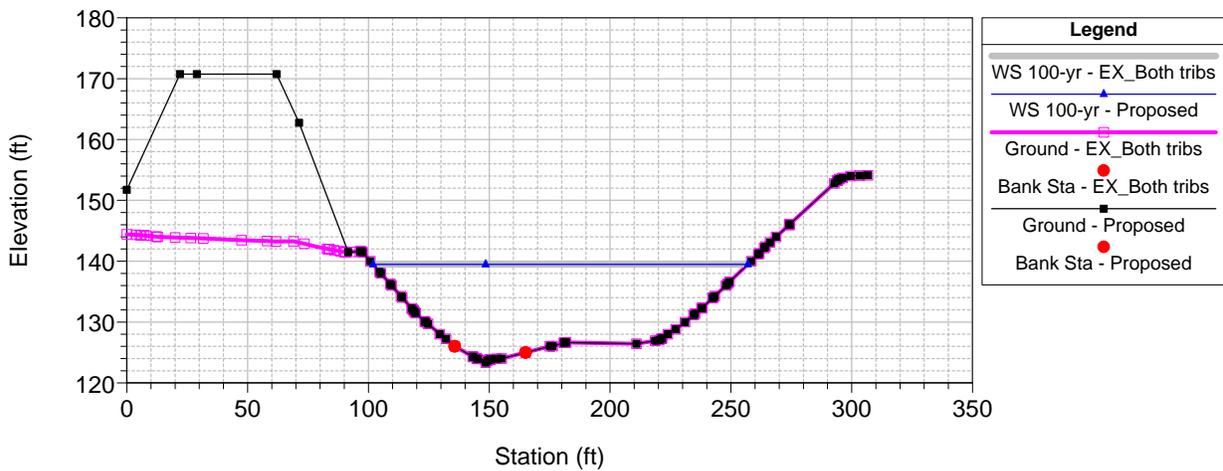
RS = 1866 Southern Tributary



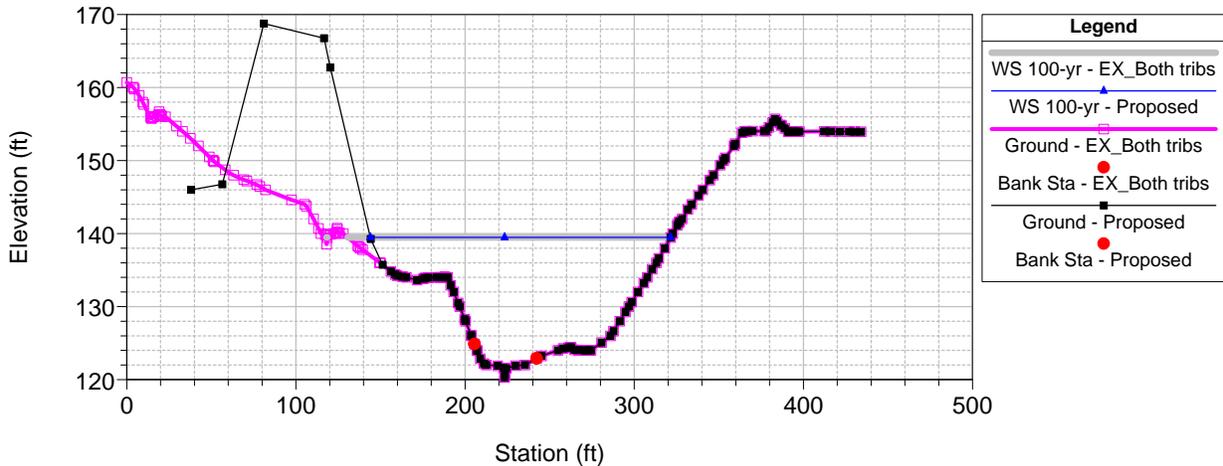
RS = 1763 Southern Tributary



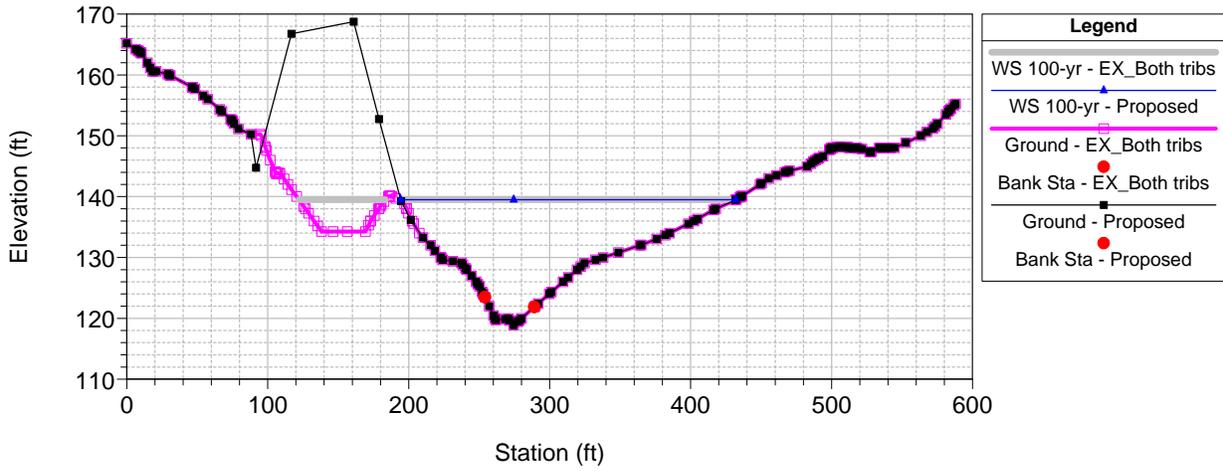
RS = 1520 Southern Tributary



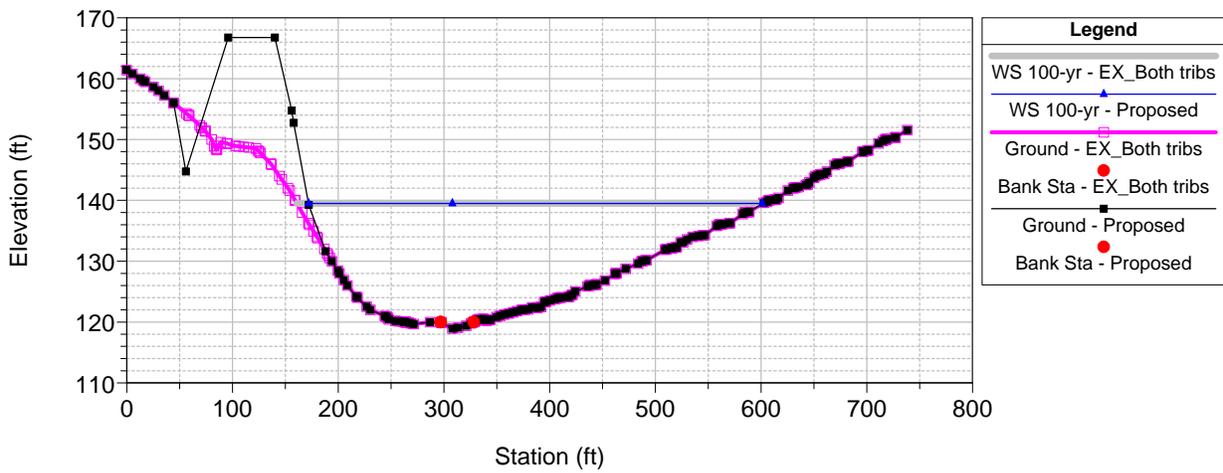
RS = 1204 Southern Tributary



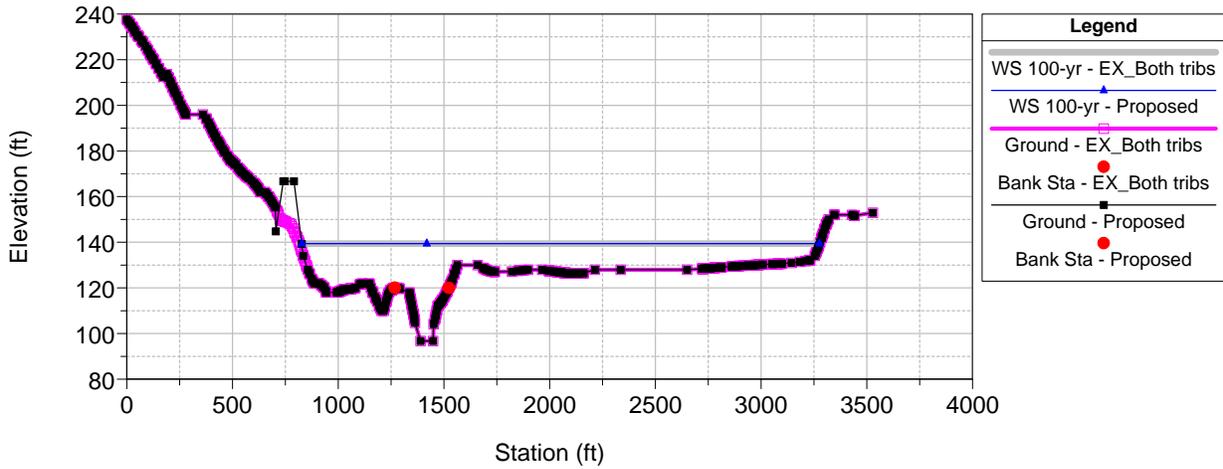
RS = 916 Southern Tributary



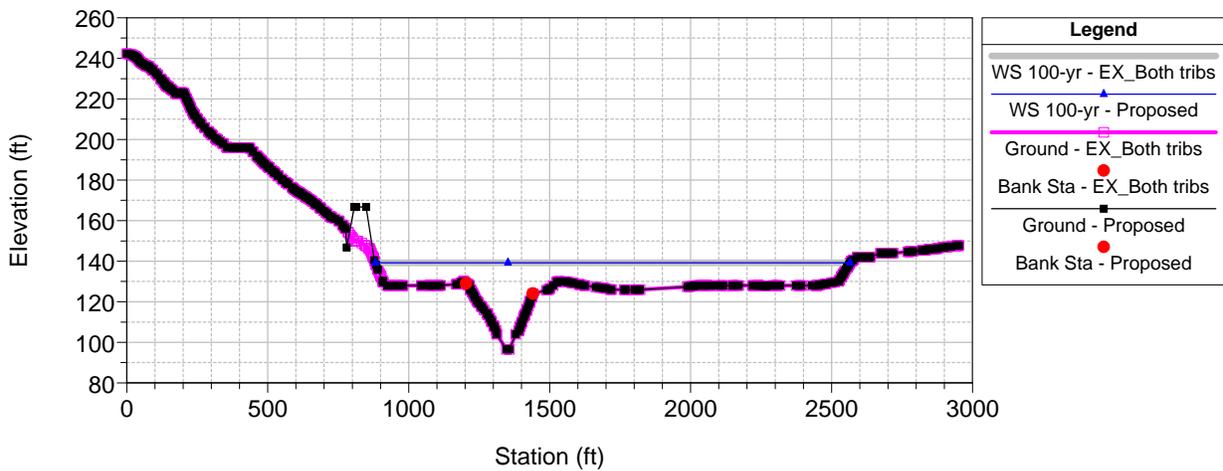
RS = 635 Southern Tributary



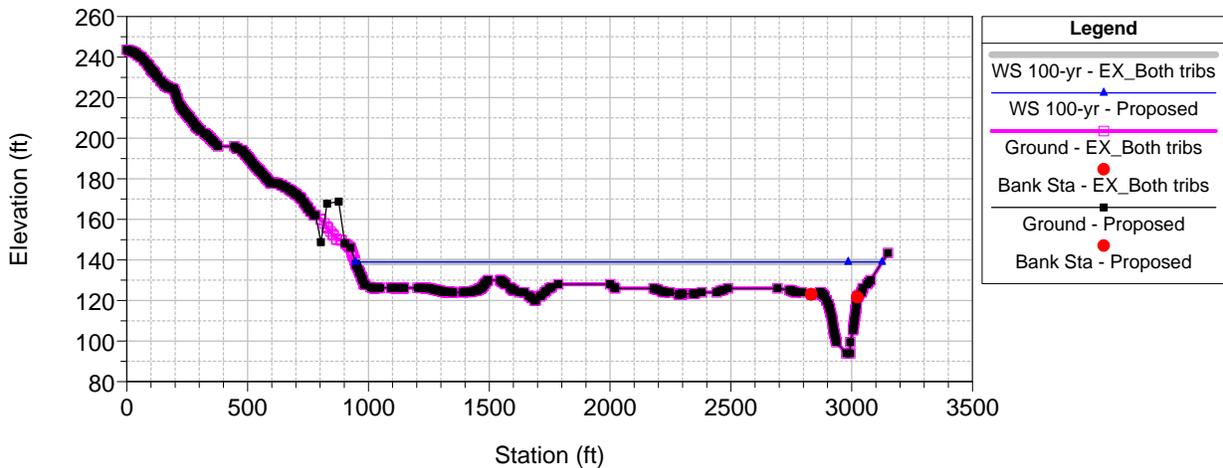
RS = 21.01 South Yamhill River



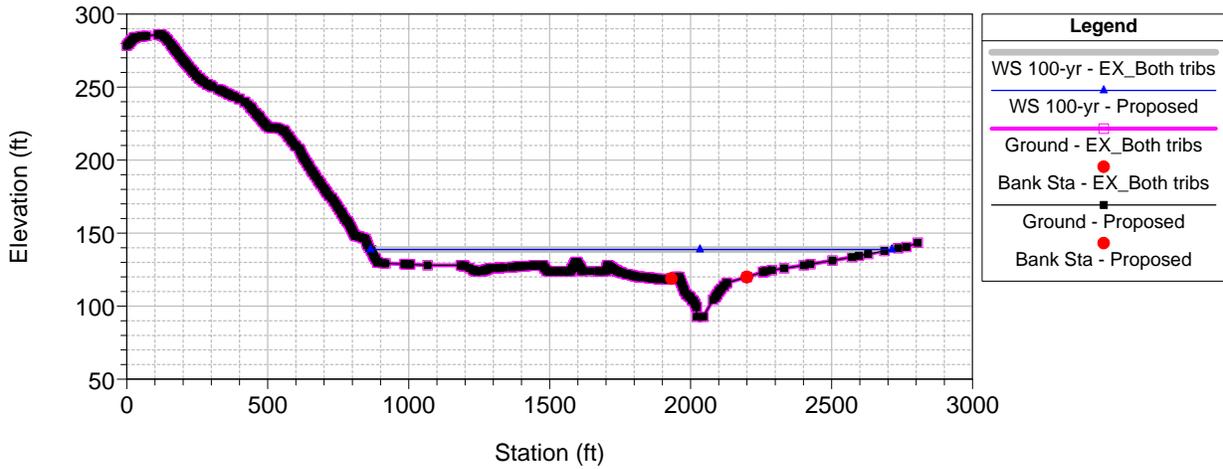
RS = 20.96 South Yamhill River



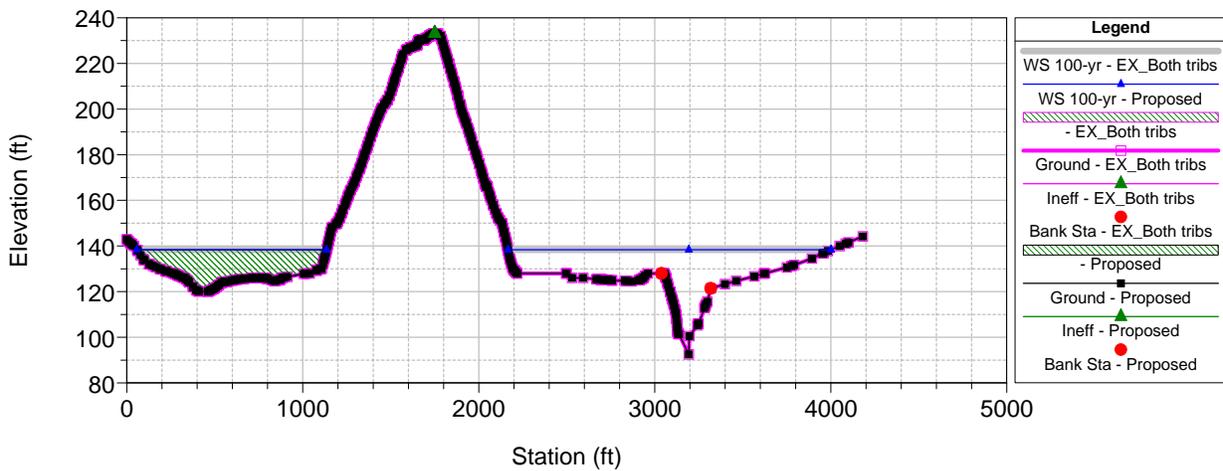
RS = 20.5 South Yamhill River



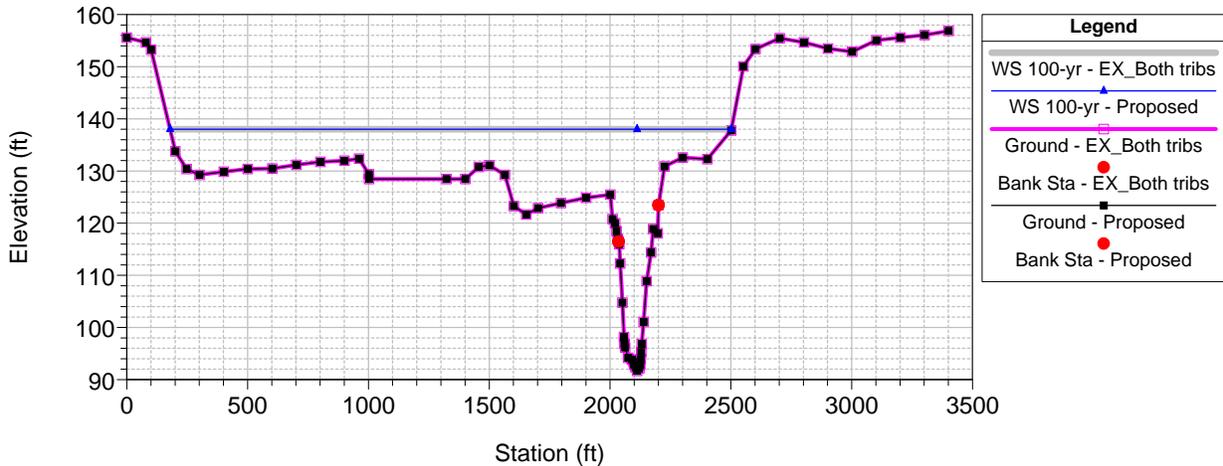
RS = 20.28 South Yamhill River



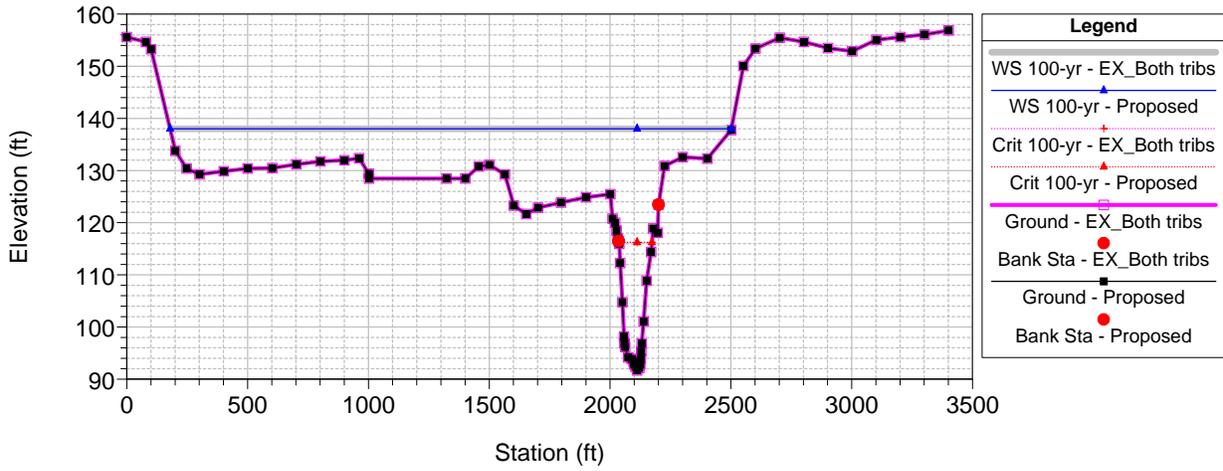
RS = 20.20 South Yamhill River



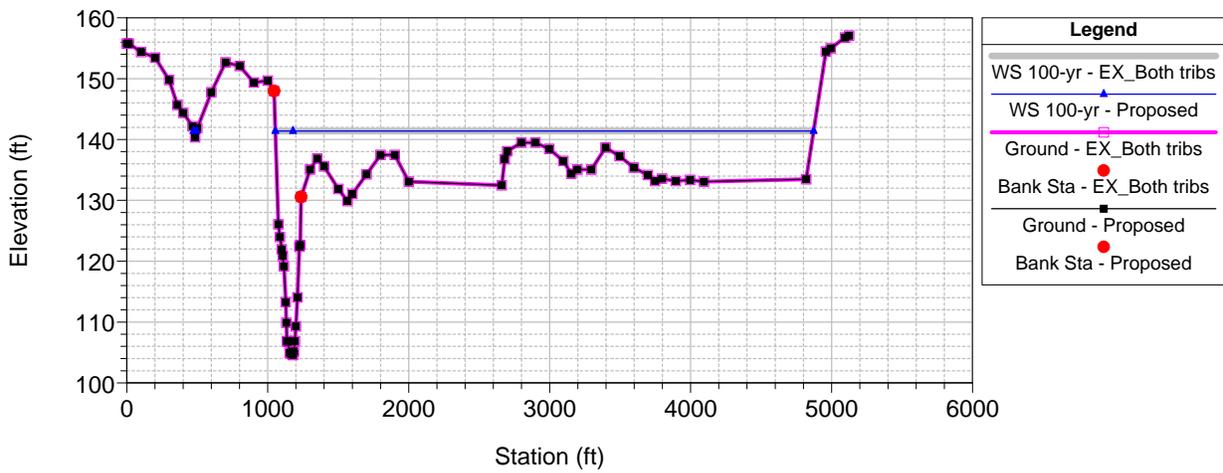
RS = 20.04 South Yamhill River



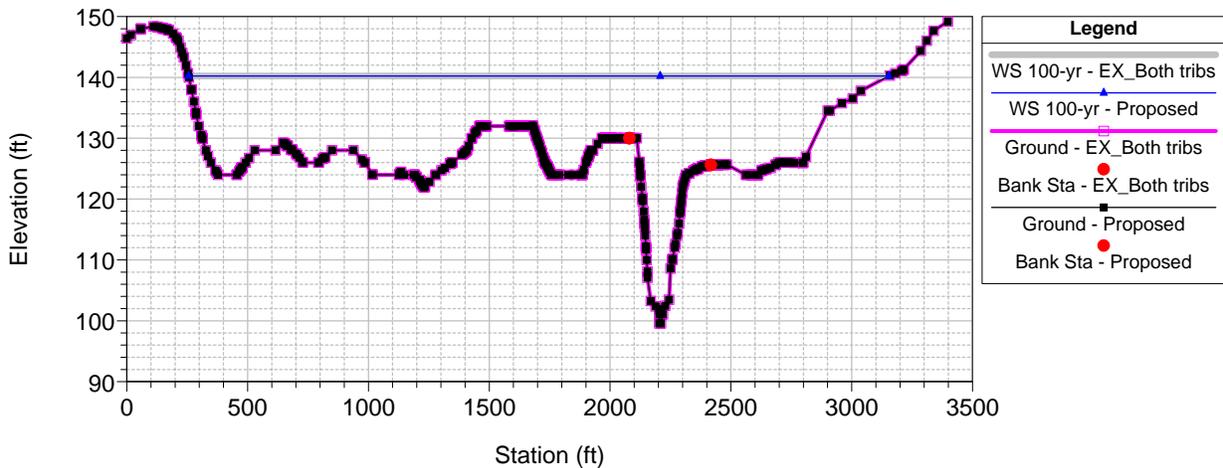
RS = 20.039 South Yamhill River



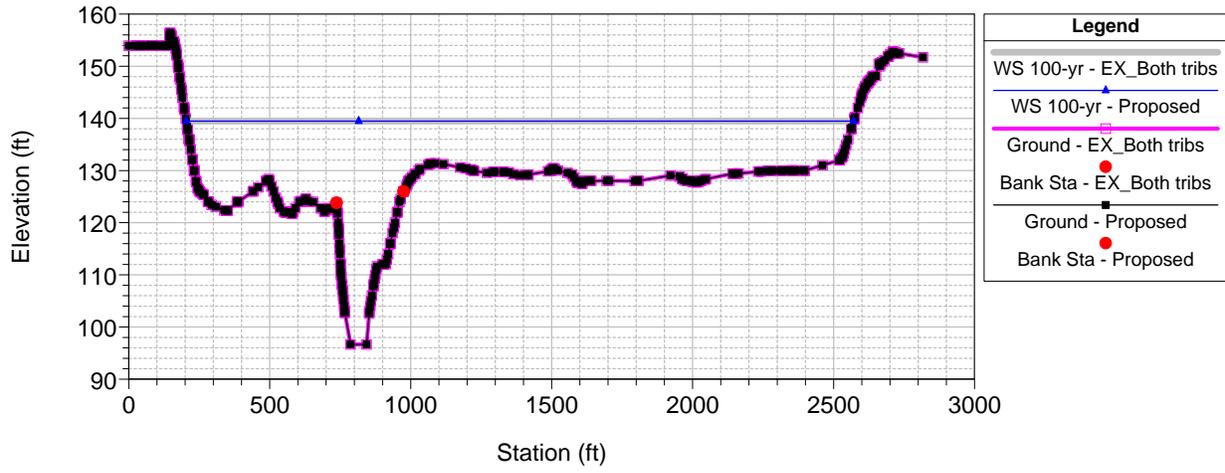
RS = 23.10 South Yamhill River



RS = 22.15 South Yamhill River



RS = 21.15 South Yamhill River



HEC-RAS Profile: 100-yr

River	Reach	River Sta	Profile	Plan	Q Total (cfs)	W.S. Elev (ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)
Yamhill River	Upper	23.10	100-yr	EX_Both tribs	50000	141.39	3.18	29468	3840
Yamhill River	Upper	23.10	100-yr	Proposed	50000	141.39	3.18	29466	3840
Yamhill River	Upper	22.15	100-yr	EX_Both tribs	50000	140.23	1.49	38925	2898
Yamhill River	Upper	22.15	100-yr	Proposed	50000	140.23	1.49	38923	2898
Yamhill River	Upper	21.15	100-yr	EX_Both tribs	50000	139.48	2.33	31060	2367
Yamhill River	Upper	21.15	100-yr	Proposed	50000	139.48	2.33	31058	2367
Yamhill Ri	Lower	21.01	100-yr	EX_Both tribs	50000	139.37	1.97	35050	2460
Yamhill Ri	Lower	21.01	100-yr	Proposed	50000	139.37	1.96	35017	2449
Yamhill Ri	Lower	20.96	100-yr	EX_Both tribs	50000	139.20	3.48	22760	1684
Yamhill Ri	Lower	20.96	100-yr	Proposed	50000	139.20	3.48	22761	1684
Yamhill Ri	Lower	20.5	100-yr	EX_Both tribs	50000	138.97	2.00	31223	2180
Yamhill Ri	Lower	20.5	100-yr	Proposed	50000	138.97	1.99	31223	2180
Yamhill Ri	Lower	20.28	100-yr	EX_Both tribs	50000	138.80	2.47	26334	1850
Yamhill Ri	Lower	20.28	100-yr	Proposed	50000	138.80	2.47	26334	1850
Yamhill Ri	Lower	20.20	100-yr	EX_Both tribs	50000	138.38	3.01	24409	2914
Yamhill Ri	Lower	20.20	100-yr	Proposed	50000	138.38	3.01	24409	2914
Yamhill Ri	Lower Lower	20.04	100-yr	EX_Both tribs	50000	138.00	3.69	24882	2323
Yamhill Ri	Lower Lower	20.04	100-yr	Proposed	50000	138.00	3.69	24882	2323
Yamhill Ri	Lower Lower	20.039	100-yr	EX_Both tribs	50000	138.00	3.69	24881	2323
Yamhill Ri	Lower Lower	20.039	100-yr	Proposed	50000	138.00	3.69	24881	2323
Tributary	Tributary	3365	100-yr	EX_Both tribs	277	139.54	1.05	659	354
Tributary	Tributary	3365	100-yr	Proposed	277	139.54	1.05	659	354
Tributary	Tributary	3316	100-yr	EX_Both tribs	277	139.53	0.93	714	333
Tributary	Tributary	3316	100-yr	Proposed	277	139.53	0.93	714	333
Tributary	Tributary	3052	100-yr	EX_Both tribs	277	139.51	0.65	1077	395
Tributary	Tributary	3052	100-yr	Proposed	277	139.48	0.66	779	257
Tributary	Tributary	2865	100-yr	EX_Both tribs	277	139.50	0.58	824	296
Tributary	Tributary	2865	100-yr	Proposed	277	139.48	0.26	1294	251
Tributary	Tributary	2462	100-yr	EX_Both tribs	277	139.48	0.44	1343	252
Tributary	Tributary	2462	100-yr	Proposed	277	139.48	0.24	1556	258
Tributary	Tributary	2090	100-yr	EX_Both tribs	277	139.48	0.23	2599	476
Tributary	Tributary	2090	100-yr	Proposed	277	139.48	0.11	2991	329
Tributary	Tributary	1866	100-yr	EX_Both tribs	277	139.48	0.21	2780	340
Tributary	Tributary	1866	100-yr	Proposed	277	139.48	0.14	2702	279
Tributary	Tributary	1800			Culvert				
Tributary	Tributary	1763	100-yr	EX_Both tribs	277	139.48	0.29	1808	175
Tributary	Tributary	1763	100-yr	Proposed	277	139.48	0.29	1808	175
Tributary	Tributary	1520	100-yr	EX_Both tribs	277	139.48	0.31	1658	155
Tributary	Tributary	1520	100-yr	Proposed	277	139.48	0.31	1658	155
Tributary	Tributary	1204	100-yr	EX_Both tribs	277	139.48	0.26	1952	191
Tributary	Tributary	1204	100-yr	Proposed	277	139.48	0.26	1926	177

HEC-RAS Profile: 100-yr (Continued)

River	Reach	River Sta	Profile	Plan	Q Total (cfs)	W.S. Elev (ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)
Tributary	Tributary	916	100-yr	EX_Both tribs	277	139.48	0.24	2535	301
Tributary	Tributary	916	100-yr	Proposed	277	139.48	0.24	2300	238
Tributary	Tributary	635	100-yr	EX_Both tribs	277	139.48	0.12	5561	440
Tributary	Tributary	635	100-yr	Proposed	277	139.48	0.12	5517	429
North Tributary	north tributary	4449.22	100-yr	EX_Both tribs	298	138.32	0.32	2689	487
North Tributary	north tributary	4449.22	100-yr	Proposed	298	138.32	0.32	2689	487
North Tributary	north tributary	3850.6	100-yr	EX_Both tribs	298	138.32	0.26	1897	281
North Tributary	north tributary	3850.6	100-yr	Proposed	298	138.32	0.26	1897	281
North Tributary	north tributary	3249.2	100-yr	EX_Both tribs	298	138.32	0.16	4353	480
North Tributary	north tributary	3249.2	100-yr	Proposed	298	138.32	0.16	4353	480