



REGIONE  
SICILIA



PROVINCIA  
PALERMO



COMUNE DI  
CASTELLANASICULA

OGGETTO:

PROGETTO DEFINITIVO PER LA REALIZZAZIONE DI UN IMPIANTO AGRI-VOLTAICO  
DI POTENZA NOMINALE 31.047,8 kWp E RELATIVE OPERE DI CONNESSIONE  
ALLA RTN IN LOC. TUDIA, COMUNE DI CASTELLANA SICULA (PA)

ELABORATO:

## RELAZIONE IDROLOGICA E ANALISI IDRAULICA APPENDICE -B-



PROPONENTE:



SPK Sole S.r.l.  
VIALE ABRUZZI 94  
20131 - MILANO (MI)  
P.IVA - 12327840968  
REA - MI - 2654565

PROGETTAZIONE:



Ing. Carmen Martone  
Iscr. n. 1872  
Ordine Ingegneri Potenza  
C.F. MRTCMN73D56H703E



EGM PROJECT SRL



Geol. Raffaele Nardone  
Iscr. n. 243  
Ordine Geologi Basilicata  
C.F. NRDRFL71H04A509H

EGM PROJECT S.R.L.  
VIA VERRASTRO 15/A  
85100- POTENZA (PZ)  
P.IVA 02094310766  
REA PZ-206983

Livello prog.	Cat. opera	N° . prog.elaborato	Tipo elaborato	N° foglio	Tot. fogli	Nome file	Scala
PD	I.IF	6	R			RS06REL0045A0	
REV.	DATA	DESCRIZIONE			ESEGUITO	VERIFICATO	APPROVATO
00	NOVEMBRE 2022	Emissione				Ing. Carmen Martone EGM Project	Ing. Carmen Martone EGM Project

River	Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
River 3	Reach 3	222	PF 1	3.39	765.89	766.27	766.27	766.38	0.018904	1.43	2.38	11.82	1.02
River 3	Reach 3	222	PF 2	3.91	765.89	766.30	766.30	766.41	0.017982	1.47	2.66	12.20	1.00
River 3	Reach 3	222	PF 3	4.72	765.89	766.32	766.32	766.45	0.017867	1.56	3.02	12.62	1.02
River 3	Reach 3	195.17*	PF 1	3.39	760.14	760.28	760.56	764.29	2.301560	8.86	0.38	4.50	9.71
River 3	Reach 3	195.17*	PF 2	3.91	760.14	760.29	760.58	764.39	2.117168	8.97	0.44	4.74	9.44
River 3	Reach 3	195.17*	PF 3	4.72	760.14	760.31	760.61	764.46	1.854681	9.02	0.52	5.10	8.99
River 3	Reach 3	168.33*	PF 1	3.39	754.40	754.67	754.82	755.13	0.113123	2.98	1.14	7.40	2.39
River 3	Reach 3	168.33*	PF 2	3.91	754.40	754.69	754.84	755.19	0.115740	3.14	1.25	7.76	2.44
River 3	Reach 3	168.33*	PF 3	4.72	754.40	754.71	754.87	755.26	0.111629	3.30	1.45	8.38	2.44
River 3	Reach 3	141.50*	PF 1	3.39	748.65	748.87	749.07	749.98	0.384354	4.66	0.73	5.85	4.23
River 3	Reach 3	141.50*	PF 2	3.91	748.65	748.89	749.11	750.04	0.368865	4.76	0.82	6.22	4.18
River 3	Reach 3	141.50*	PF 3	4.72	748.65	748.91	749.15	750.19	0.376064	5.02	0.94	6.66	4.27
River 3	Reach 3	90	PF 1	3.39	737.51	737.73	737.82	738.09	0.178609	2.65	1.28	13.60	2.75
River 3	Reach 3	90	PF 2	3.91	737.51	737.74	737.84	738.14	0.181982	2.81	1.39	13.73	2.81
River 3	Reach 3	90	PF 3	4.72	737.51	737.75	737.86	738.19	0.168983	2.93	1.61	14.06	2.77
River 3	Reach 3	46	PF 1	3.39	728.95	729.25	729.43	730.02	0.182131	3.88	0.87	5.26	3.04
River 3	Reach 3	46	PF 2	3.91	728.95	729.27	729.46	730.07	0.178734	3.97	0.98	5.64	3.03
River 3	Reach 3	46	PF 3	4.72	728.95	729.29	729.50	730.20	0.188774	4.23	1.12	6.07	3.15
River 2	Reach 2	233	PF 1	1.86	688.37	688.69	688.69	688.77	0.020460	1.28	1.45	8.98	1.01
River 2	Reach 2	233	PF 2	2.14	688.37	688.71	688.71	688.80	0.019824	1.33	1.61	9.27	1.01
River 2	Reach 2	233	PF 3	2.59	688.37	688.73	688.73	688.83	0.018551	1.39	1.87	9.74	1.00
River 2	Reach 2	177	PF 1	1.86	683.07	683.22	683.36	684.85	1.787349	5.65	0.33	6.27	7.86
River 2	Reach 2	177	PF 2	2.14	683.07	683.23	683.38	684.98	1.708852	5.86	0.37	6.35	7.80
River 2	Reach 2	177	PF 3	2.59	683.07	683.23	683.40	685.21	1.653271	6.23	0.42	6.43	7.83
River 2	Reach 2	148.80*	PF 1	1.86	678.37	678.70	678.80	678.99	0.068927	2.41	0.77	4.56	1.87
River 2	Reach 2	148.80*	PF 2	2.14	678.37	678.71	678.82	679.04	0.070354	2.52	0.85	4.78	1.91
River 2	Reach 2	148.80*	PF 3	2.59	678.37	678.74	678.85	679.10	0.072670	2.68	0.97	5.08	1.96
River 2	Reach 2	120.60*	PF 1	1.86	673.67	673.92	674.14	675.14	0.354522	4.89	0.38	2.64	4.11
River 2	Reach 2	120.60*	PF 2	2.14	673.67	673.94	674.17	675.20	0.333847	4.97	0.43	2.79	4.04
River 2	Reach 2	120.60*	PF 3	2.59	673.67	673.97	674.22	675.28	0.307322	5.08	0.51	3.00	3.93
River 2	Reach 2	92.40*	PF 1	1.86	668.98	669.31	669.47	669.88	0.107590	3.34	0.56	2.77	2.38
River 2	Reach 2	92.40*	PF 2	2.14	668.98	669.33	669.50	669.96	0.110921	3.51	0.61	2.88	2.43
River 2	Reach 2	92.40*	PF 3	2.59	668.98	669.36	669.55	670.07	0.115609	3.75	0.69	3.03	2.51
River 2	Reach 2	64.20*	PF 1	1.86	664.28	664.57	664.80	665.60	0.222111	4.48	0.42	2.27	3.35
River 2	Reach 2	64.20*	PF 2	2.14	664.28	664.59	664.83	665.67	0.213177	4.60	0.47	2.37	3.31
River 2	Reach 2	64.20*	PF 3	2.59	664.28	664.63	664.89	665.78	0.202365	4.76	0.54	2.52	3.27
River 2	Reach 2	36	PF 1	1.86	659.58	659.91	660.11	660.67	0.135902	3.85	0.48	2.26	2.65
River 2	Reach 2	36	PF 2	2.14	659.58	659.93	660.16	660.78	0.139215	4.07	0.53	2.34	2.71
River 2	Reach 2	36	PF 3	2.59	659.58	659.96	660.20	660.94	0.143431	4.39	0.59	2.44	2.79
River 1	Reach 1	549	PF 1	14.18	700.04	700.99	700.99	701.25	0.013882	2.26	6.26	12.25	1.01
River 1	Reach 1	549	PF 2	16.35	700.04	701.05	701.05	701.33	0.013483	2.32	7.04	12.95	1.01
River 1	Reach 1	549	PF 3	19.00	700.04	701.11	701.11	701.41	0.013374	2.42	7.87	13.65	1.01
River 1	Reach 1	522.33*	PF 1	14.18	698.94	699.55	699.80	700.44	0.086316	4.18	3.39	10.45	2.35
River 1	Reach 1	522.33*	PF 2	16.35	698.94	699.58	699.86	700.53	0.085123	4.32	3.79	11.01	2.35
River 1	Reach 1	522.33*	PF 3	19.00	698.94	699.63	699.91	700.62	0.081456	4.42	4.30	11.69	2.33
River 1	Reach 1	495.67*	PF 1	14.18	697.85	698.45	698.56	698.85	0.037286	2.82	5.02	14.93	1.55
River 1	Reach 1	495.67*	PF 2	16.35	697.85	698.47	698.61	698.93	0.038233	2.99	5.47	15.25	1.59
River 1	Reach 1	495.67*	PF 3	19.00	697.85	698.51	698.66	699.03	0.039479	3.19	5.95	15.54	1.64
River 1	Reach 1	469	PF 1	14.18	696.75	697.13	697.28	697.63	0.057136	3.13	4.53	15.85	1.87
River 1	Reach 1	469	PF 2	16.35	696.75	697.16	697.32	697.71	0.055681	3.28	4.99	16.09	1.87
River 1	Reach 1	469	PF 3	19.00	696.75	697.19	697.37	697.80	0.054192	3.44	5.53	16.38	1.88
River 1	Reach 1	397	PF 1	14.18	693.97	694.86	694.94	695.23	0.021173	2.71	5.24	10.59	1.23
River 1	Reach 1	397	PF 2	16.35	693.97	694.91	695.00	695.32	0.021330	2.82	5.80	11.14	1.25
River 1	Reach 1	397	PF 3	19.00	693.97	694.96	695.07	695.41	0.021523	2.98	6.39	11.78	1.27
River 1	Reach 1	284	PF 1	14.18	680.03	680.34	680.90	687.08	1.305863	11.49	1.23	6.37	8.34
River 1	Reach 1	284	PF 2	16.35	680.03	680.37	680.96	687.21	1.161424	11.58	1.41	6.59	7.99
River 1	Reach 1	284	PF 3	19.00	680.03	680.40	681.04	687.35	1.029492	11.68	1.63	6.86	7.65
River 1	Reach 1	213	PF 1	14.18	675.47	676.06	676.26	676.73	0.041675	3.64	3.96	9.58	1.72
River 1	Reach 1	213	PF 2	16.35	675.47	676.09	676.33	676.85	0.042593	3.87	4.31	9.81	1.76
River 1	Reach 1	213	PF 3	19.00	675.47	676.13	676.40	676.99	0.043608	4.13	4.72	10.05	1.81
River 1	Reach 1	164.00*	PF 1	14.18	669.16	669.69	670.16	672.33	0.267866	7.20	1.97	6.23	4.09
River 1	Reach 1	164.00*	PF 2	16.35	669.16	669.73	670.23	672.46	0.251597	7.32	2.23	6.56	4.01
River 1	Reach 1	164.00*	PF 3	19.00	669.16	669.77	670.32	672.62	0.236114	7.46	2.55	6.93	3.93

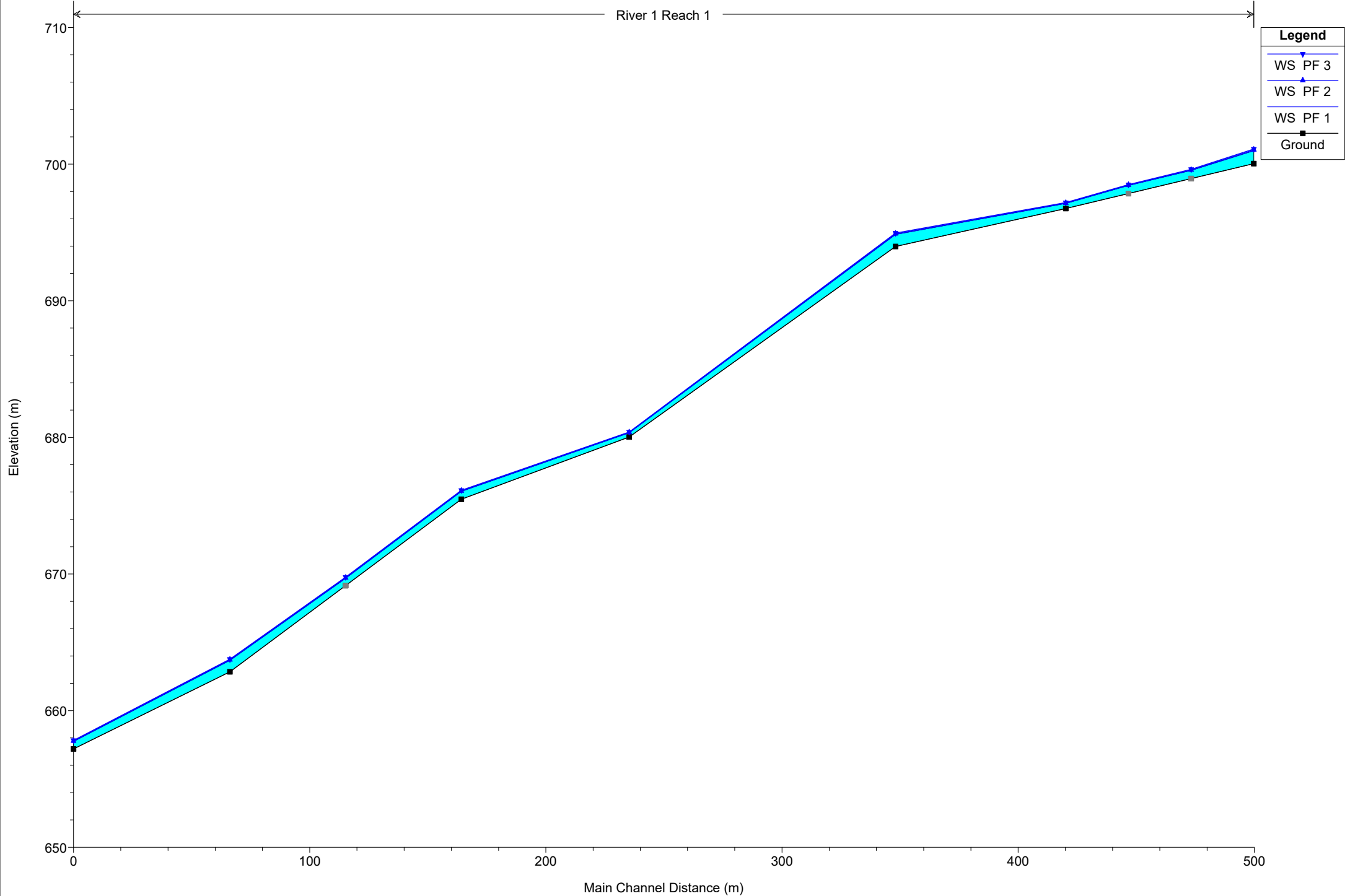
HEC-RAS Plan: plan01 (Continued)

River	Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
River 1	Reach 1	115	PF 1	14.18	662.84	663.68	664.08	665.08	0.086233	5.24	2.71	5.73	2.43
River 1	Reach 1	115	PF 2	16.35	662.84	663.73	664.15	665.26	0.088594	5.49	2.98	5.99	2.49
River 1	Reach 1	115	PF 3	19.00	662.84	663.77	664.25	665.50	0.090830	5.82	3.27	6.22	2.55
River 1	Reach 1	49	PF 1	14.18	657.20	657.75	658.08	659.00	0.096466	4.96	2.87	7.76	2.53
River 1	Reach 1	49	PF 2	16.35	657.20	657.79	658.15	659.15	0.094618	5.18	3.18	8.02	2.54
River 1	Reach 1	49	PF 3	19.00	657.20	657.83	658.23	659.33	0.093533	5.45	3.53	8.30	2.56

tudia

Geom: stato di fatto

River 1 Reach 1



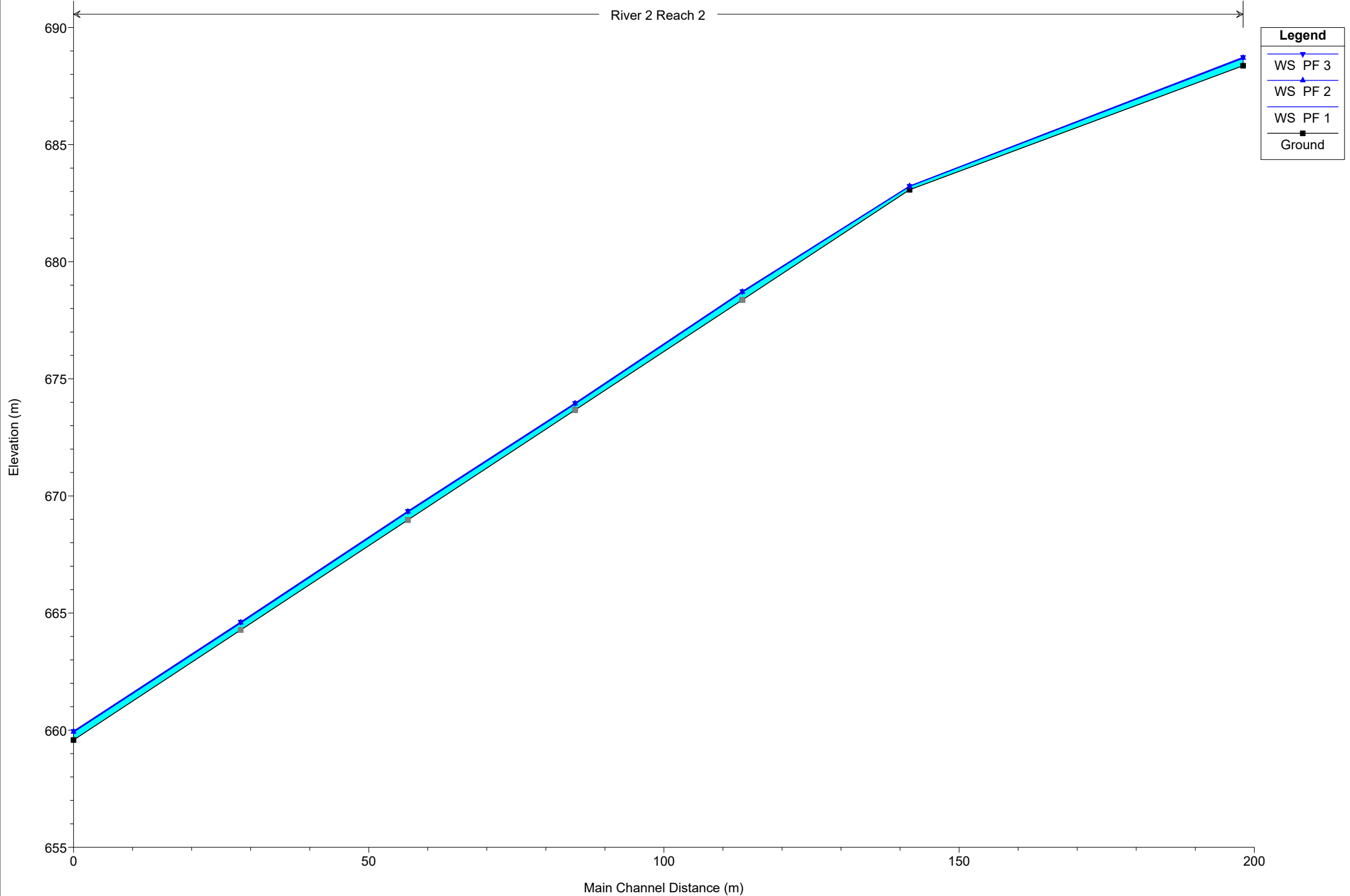
**Legend**

- WS PF 3
- WS PF 2
- WS PF 1
- Ground

tudia

Geom: stato di fatto

River 2 Reach 2



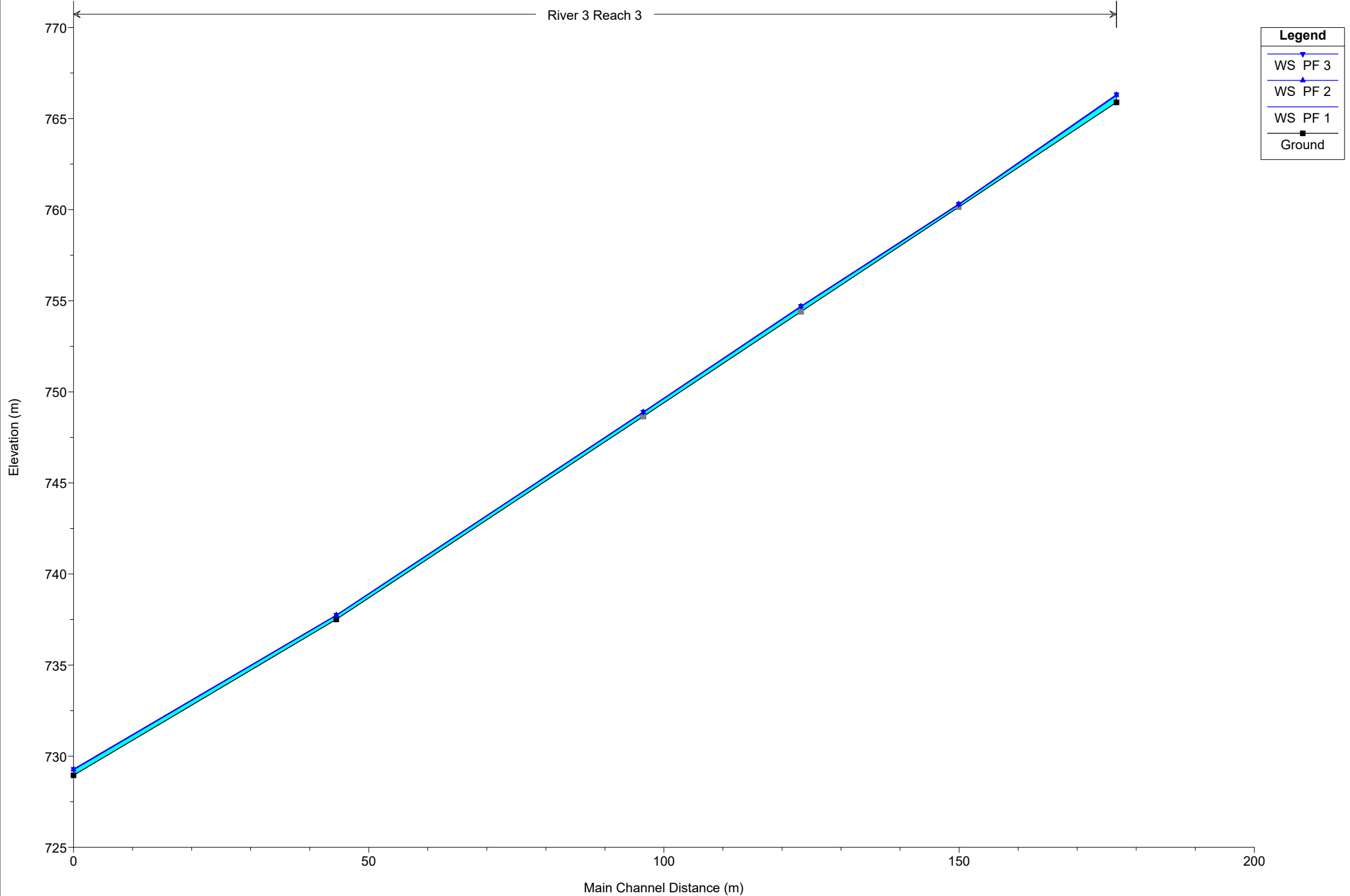
**Legend**

- WS PF 3
- WS PF 2
- WS PF 1
- Ground

tudia

Geom: stato di fatto

River 3 Reach 3



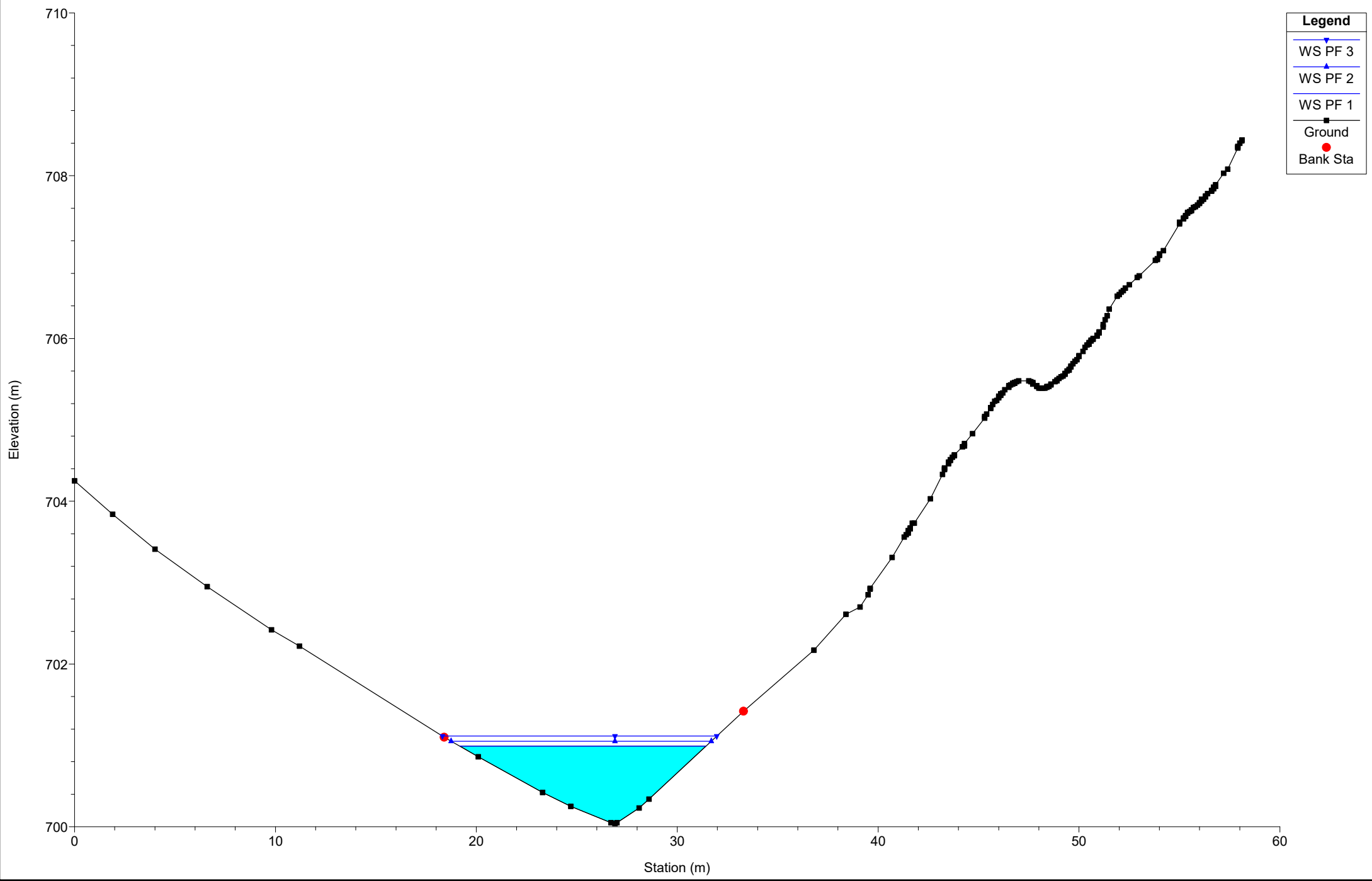
**Legend**

- WS PF 3
- WS PF 2
- WS PF 1
- Ground

tudia

Geom: stato di fatto

River = River 1 Reach = Reach 1 RS = 549



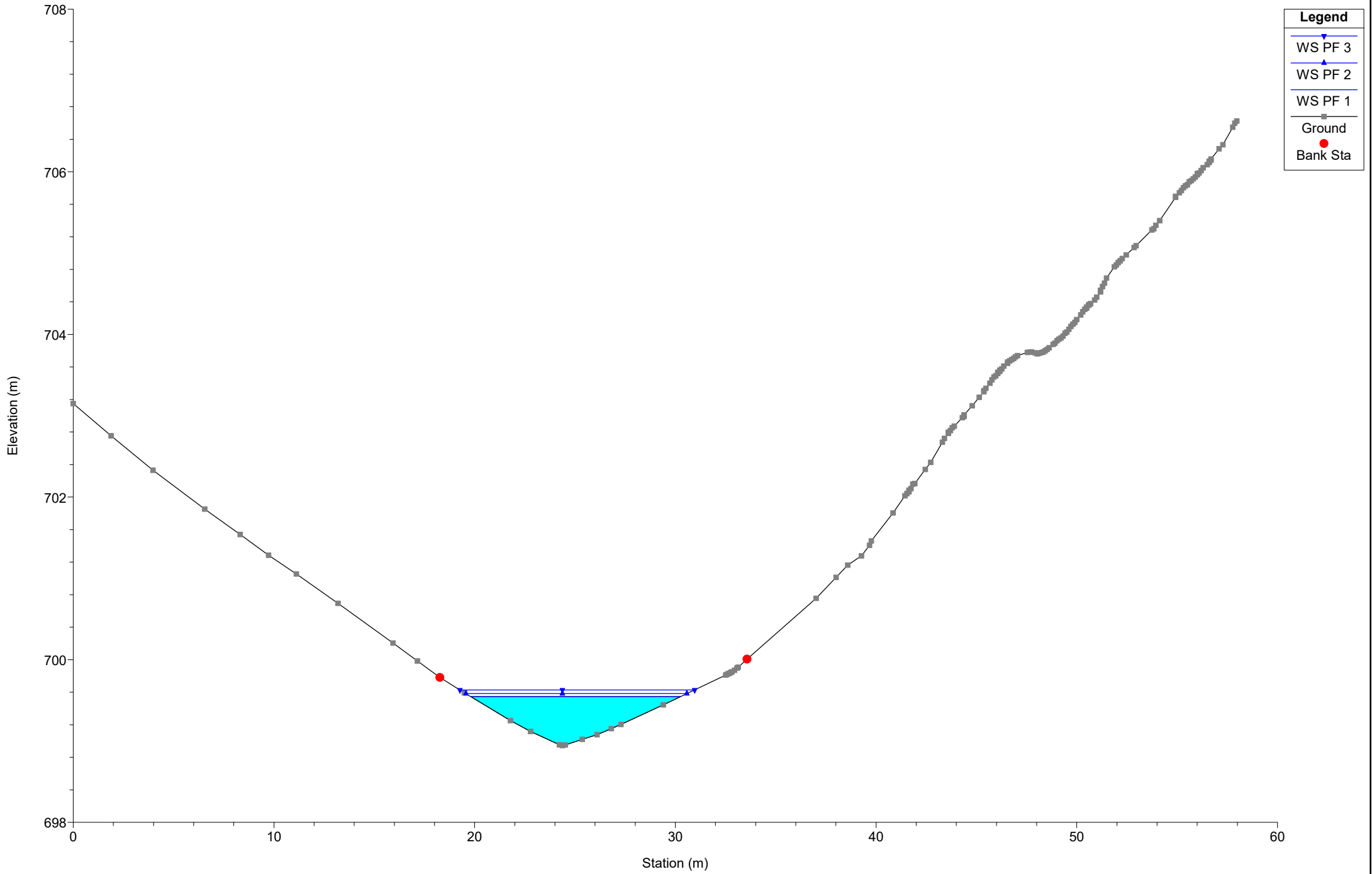
**Legend**

- WS PF 3
- WS PF 2
- WS PF 1
- Ground
- Bank Sta

tudia

Geom: stato di fatto

River = River 1 Reach = Reach 1 RS = 522.33\*

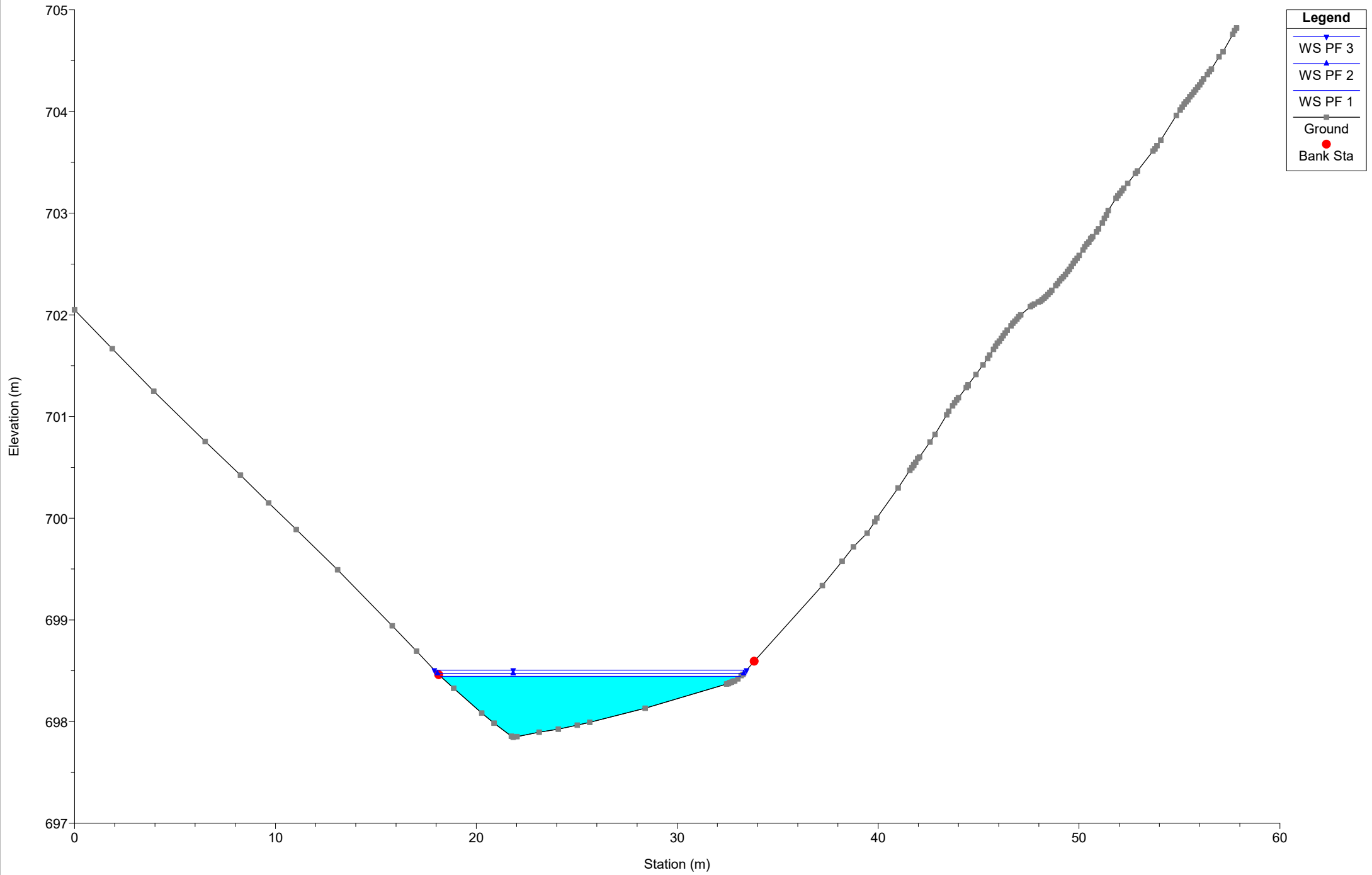




tudia

Geom: stato di fatto

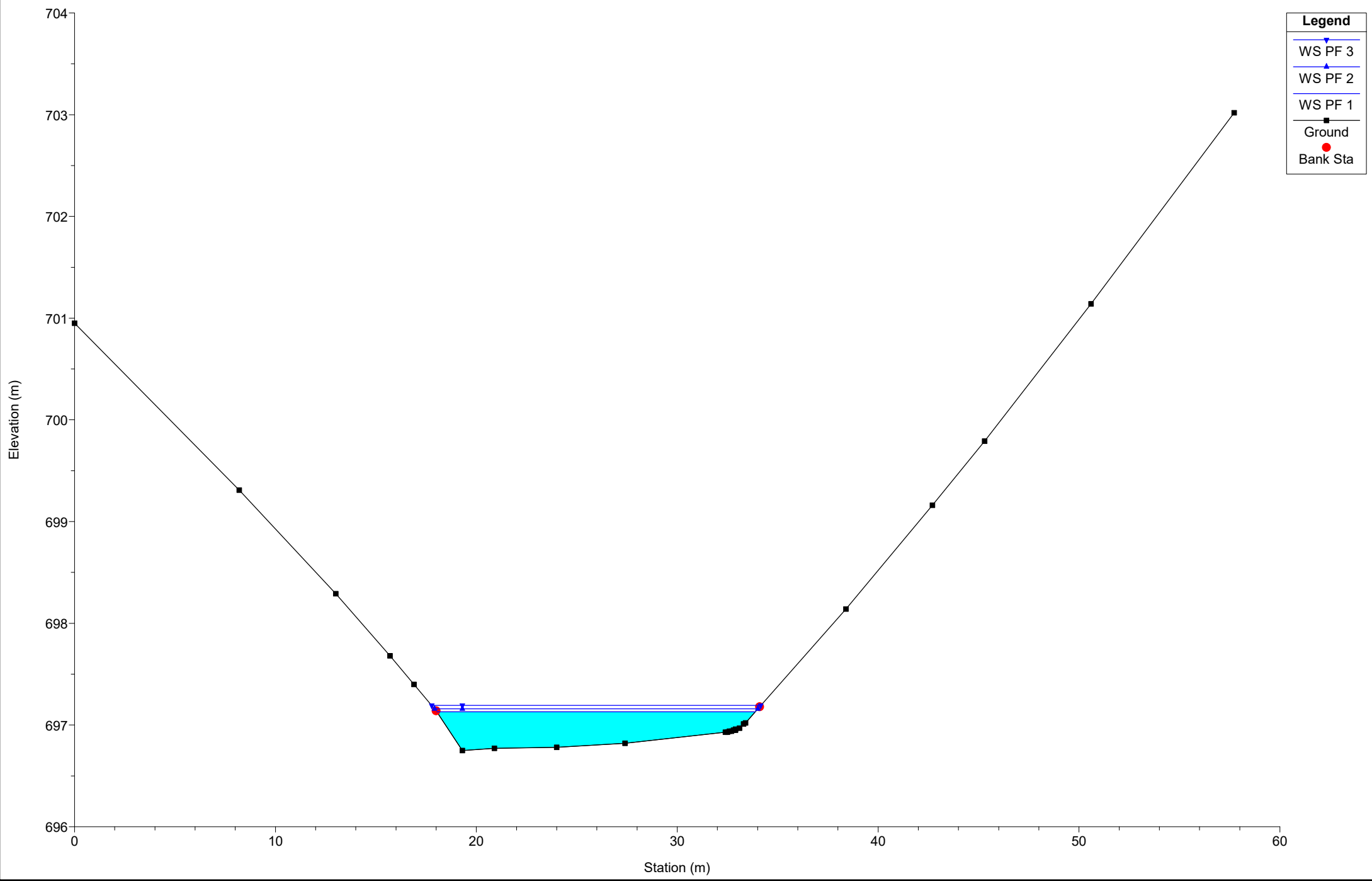
River = River 1 Reach = Reach 1 RS = 495.67\*



tudia

Geom: stato di fatto

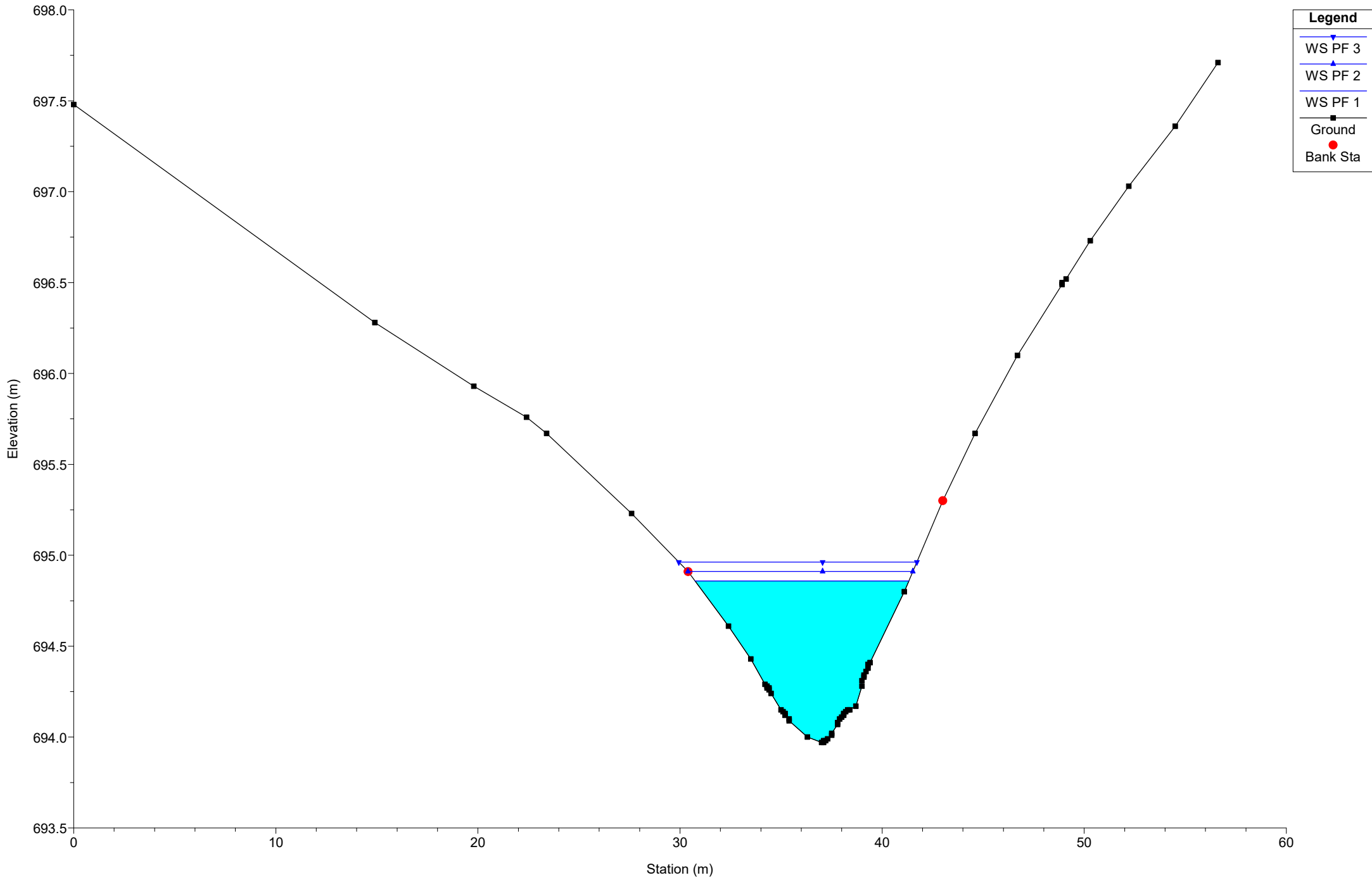
River = River 1 Reach = Reach 1 RS = 469



tudia

Geom: stato di fatto

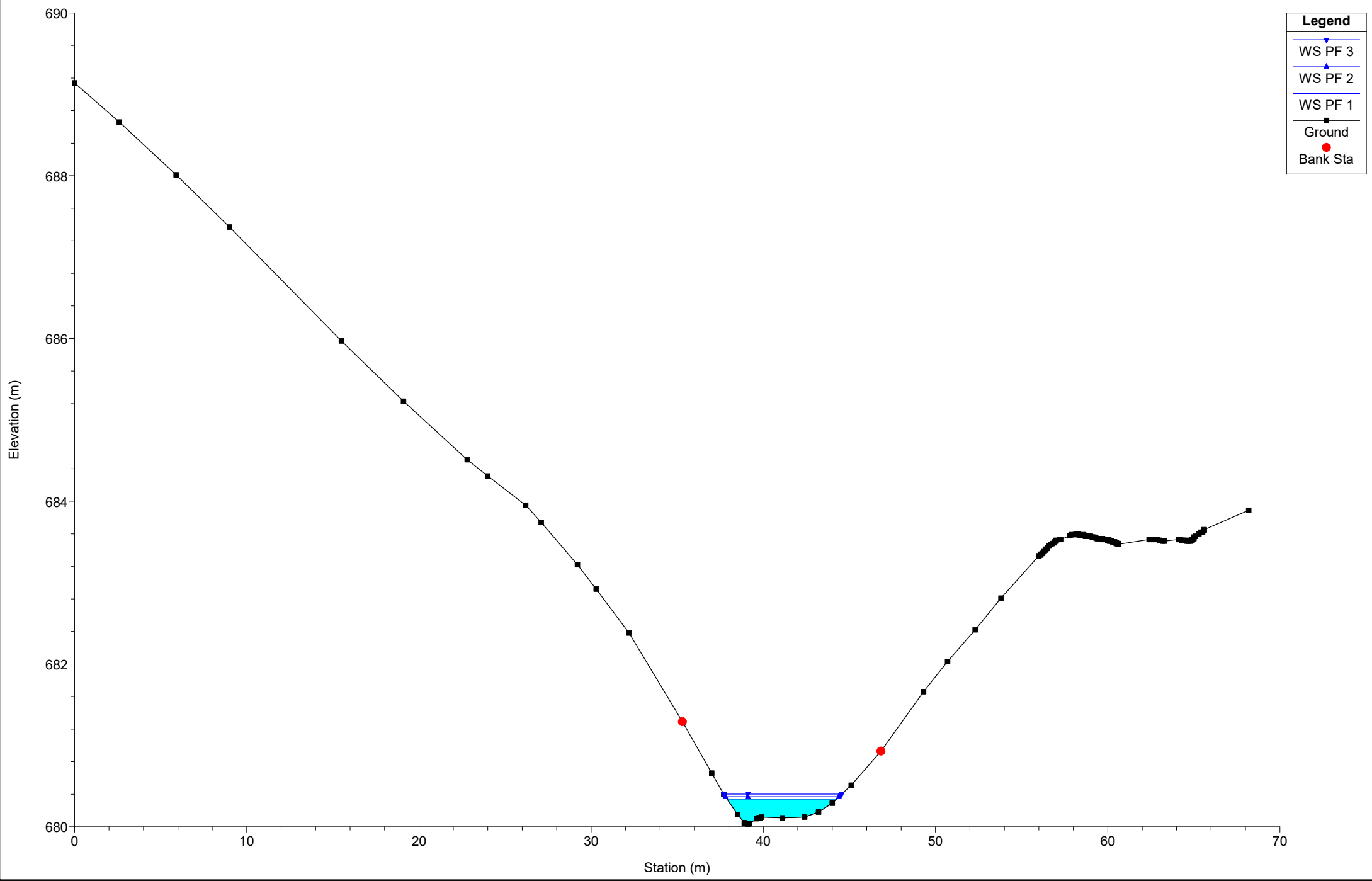
River = River 1 Reach = Reach 1 RS = 397



tudia

Geom: stato di fatto

River = River 1 Reach = Reach 1 RS = 284



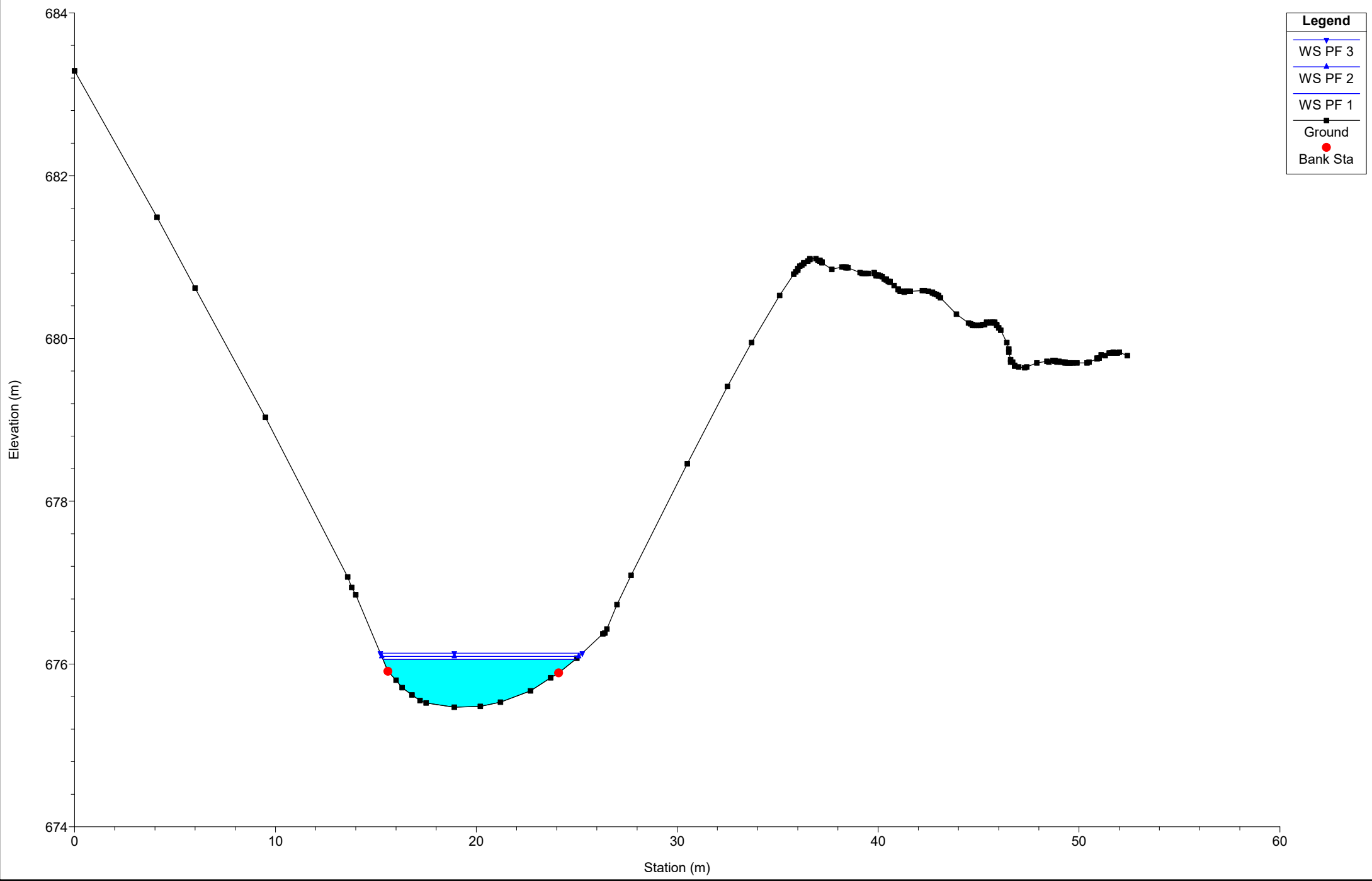
**Legend**

- WS PF 3
- WS PF 2
- WS PF 1
- Ground
- Bank Sta

tudia

Geom: stato di fatto

River = River 1 Reach = Reach 1 RS = 213



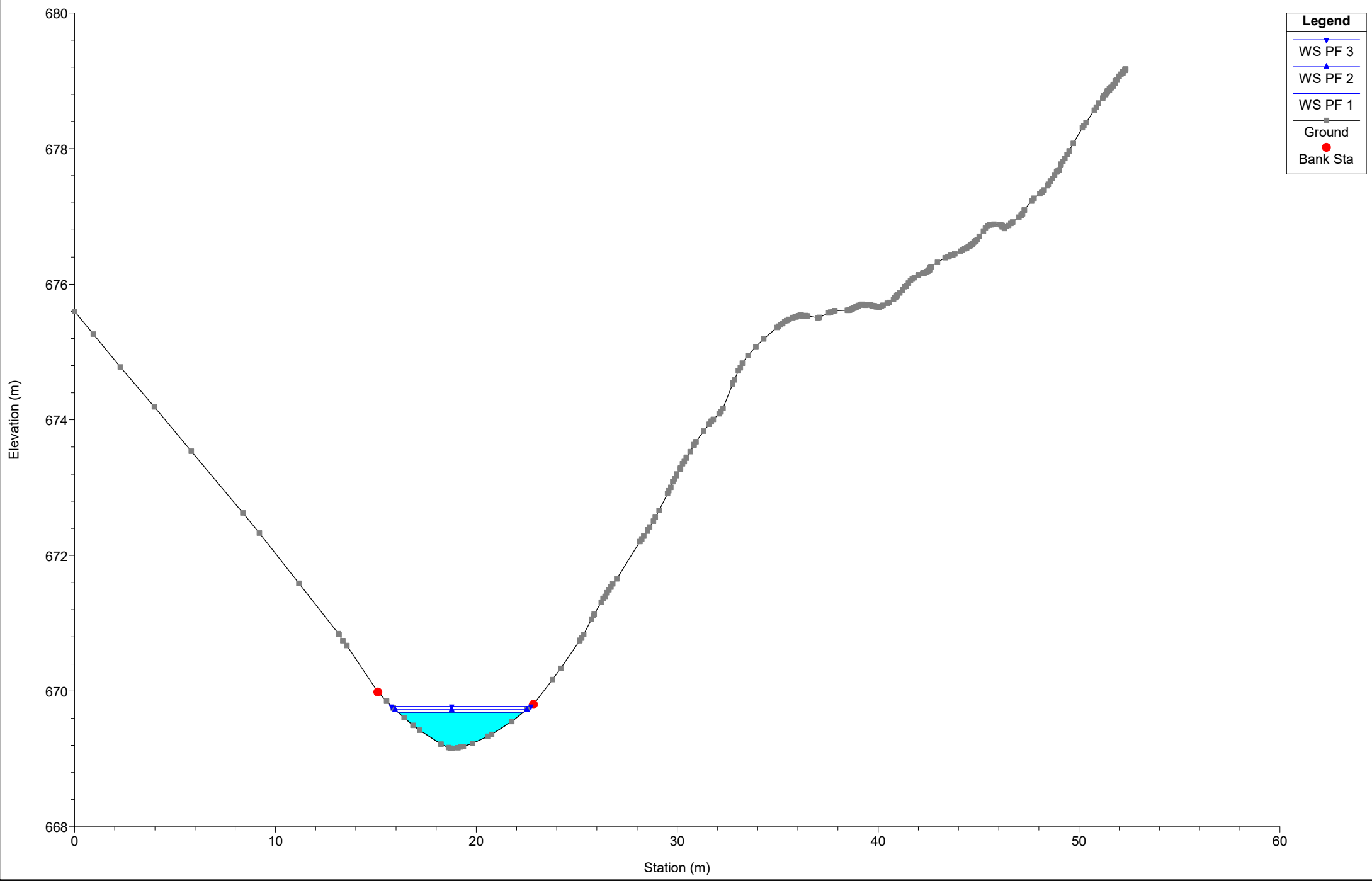
**Legend**

- WS PF 3
- WS PF 2
- WS PF 1
- Ground
- Bank Sta

tudia

Geom: stato di fatto

River = River 1 Reach = Reach 1 RS = 164.00\*



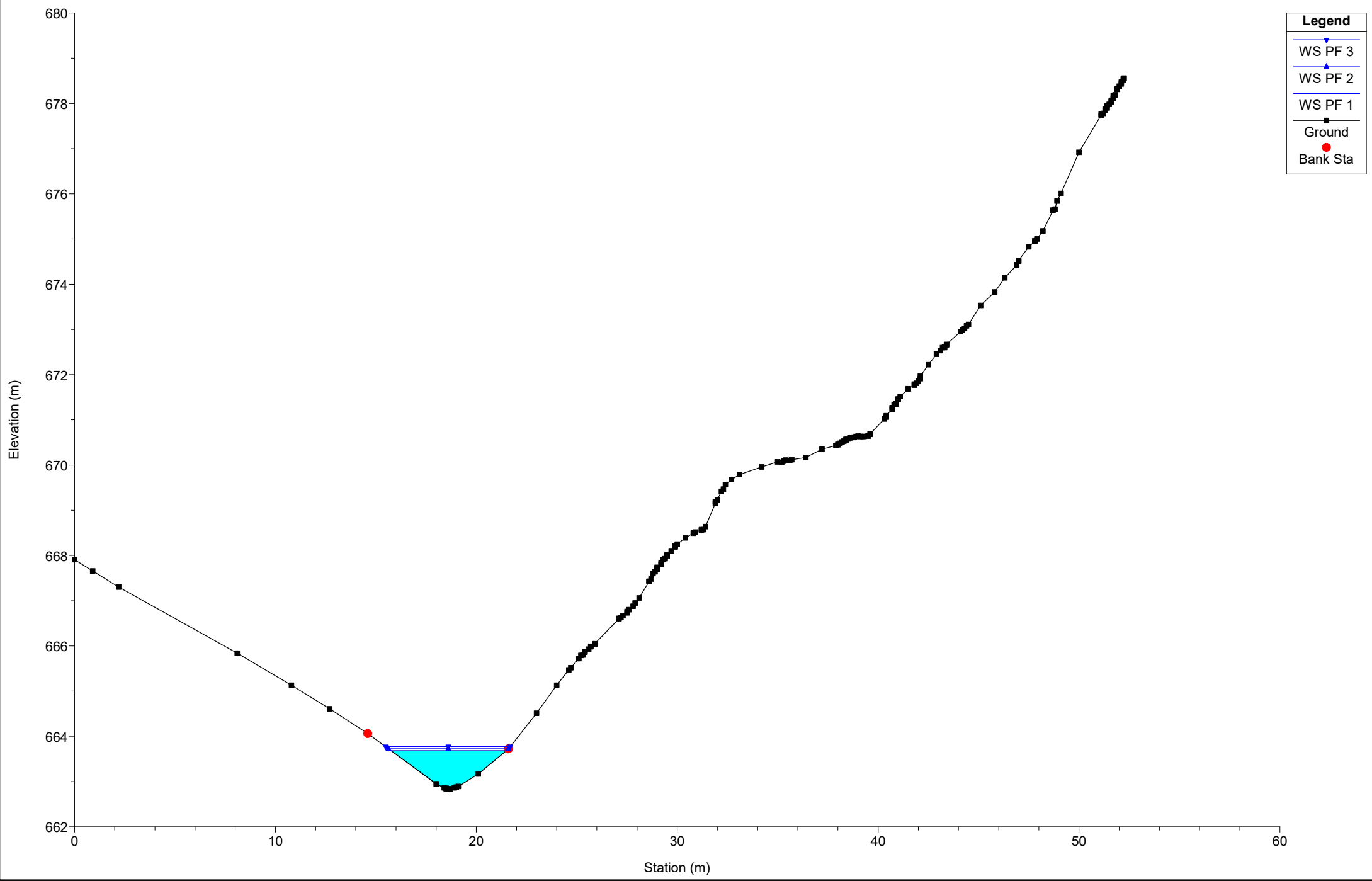
**Legend**

- WS PF 3
- WS PF 2
- WS PF 1
- Ground
- Bank Sta

tudia

Geom: stato di fatto

River = River 1 Reach = Reach 1 RS = 115



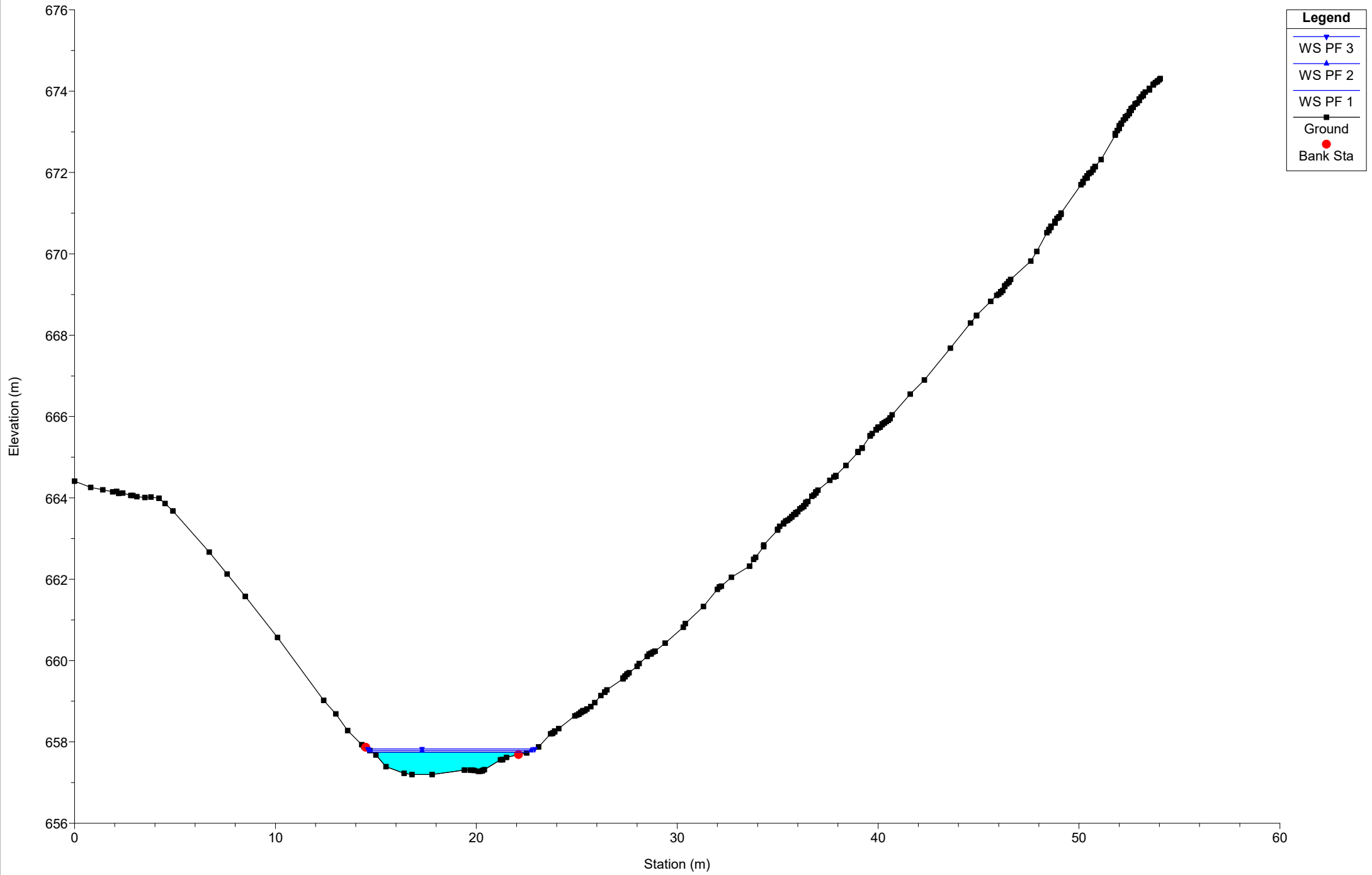
**Legend**

- WS PF 3
- WS PF 2
- WS PF 1
- Ground
- Bank Sta

tudia

Geom: stato di fatto

River = River 1 Reach = Reach 1 RS = 49



**Legend**

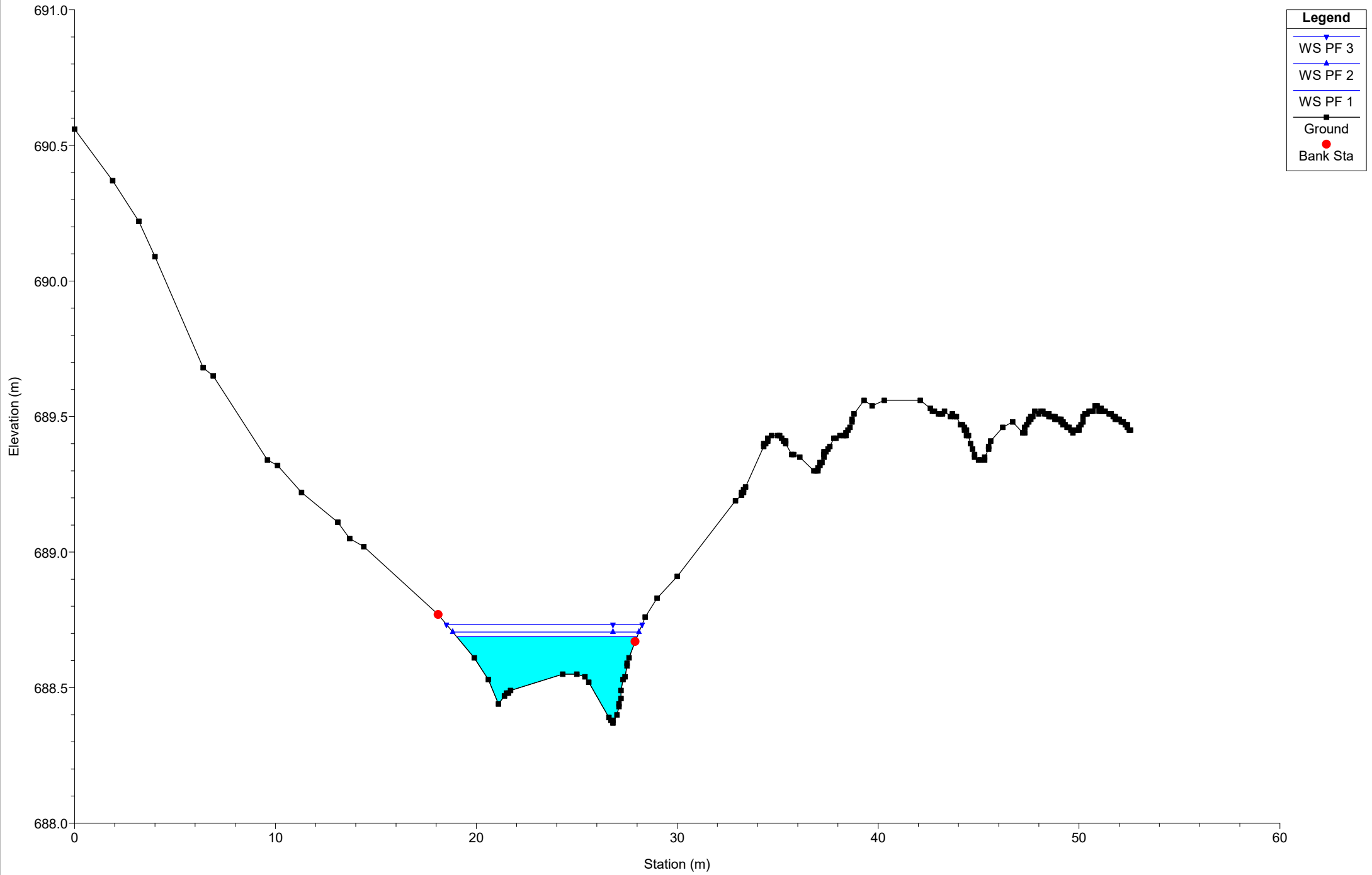
- WS PF 3 (blue line with downward triangle)
- WS PF 2 (blue line with upward triangle)
- WS PF 1 (blue line)
- Ground (black line with square)
- Bank Sta (red circle)



tudia

Geom: stato di fatto

River = River 2 Reach = Reach 2 RS = 233



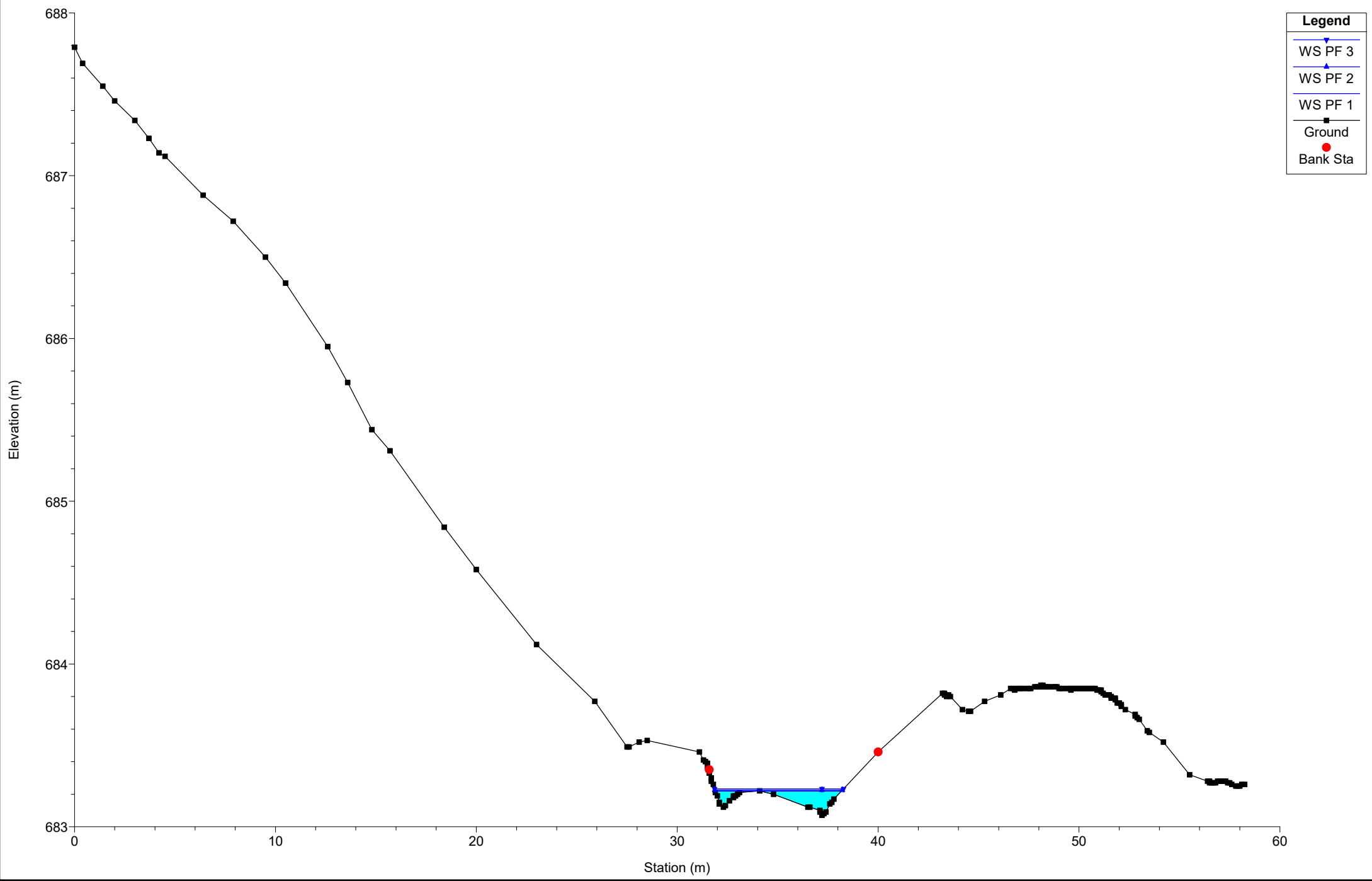
**Legend**

- WS PF 3
- WS PF 2
- WS PF 1
- Ground
- Bank Sta

tudia

Geom: stato di fatto

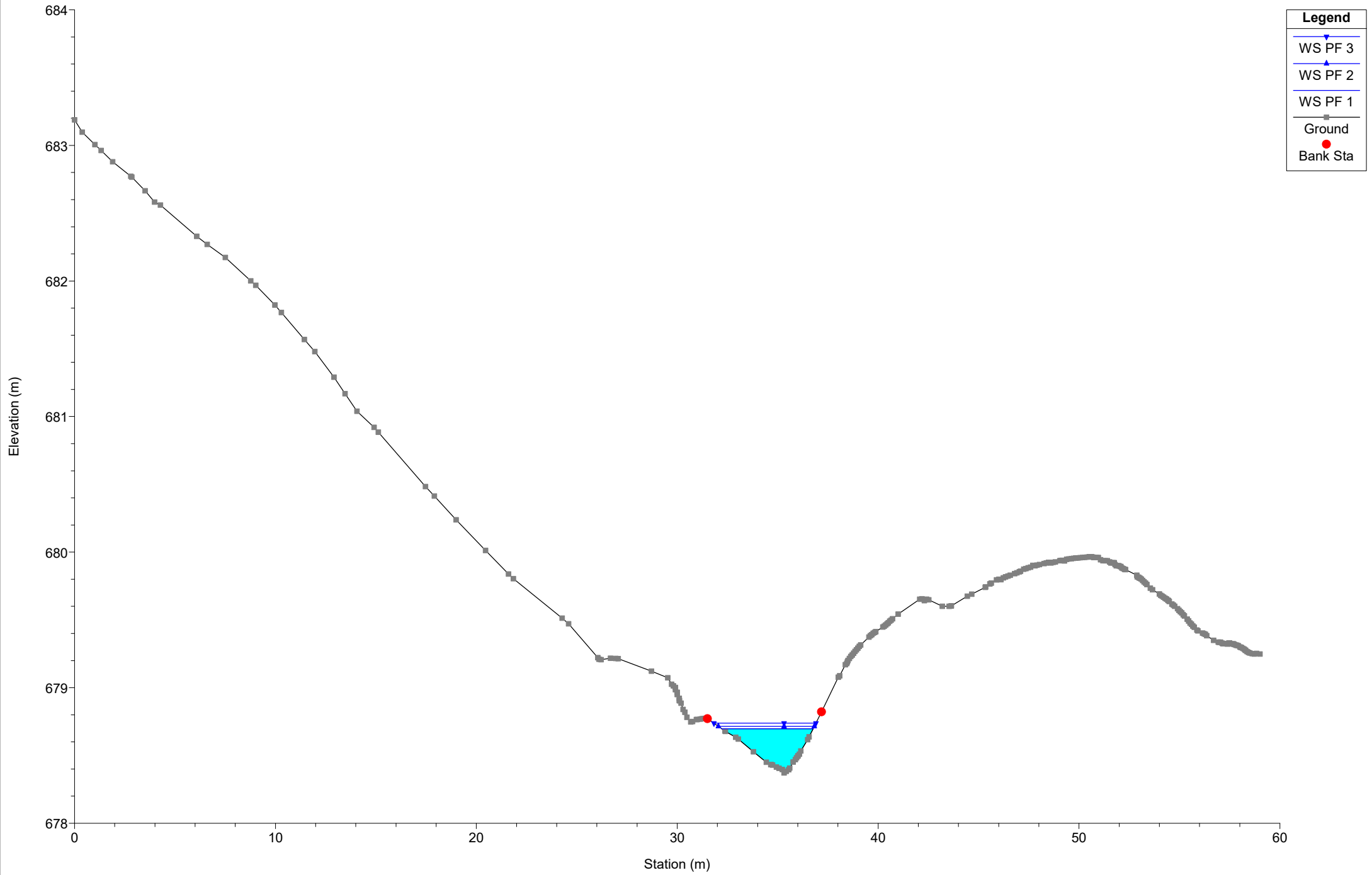
River = River 2 Reach = Reach 2 RS = 177



tudia

Geom: stato di fatto

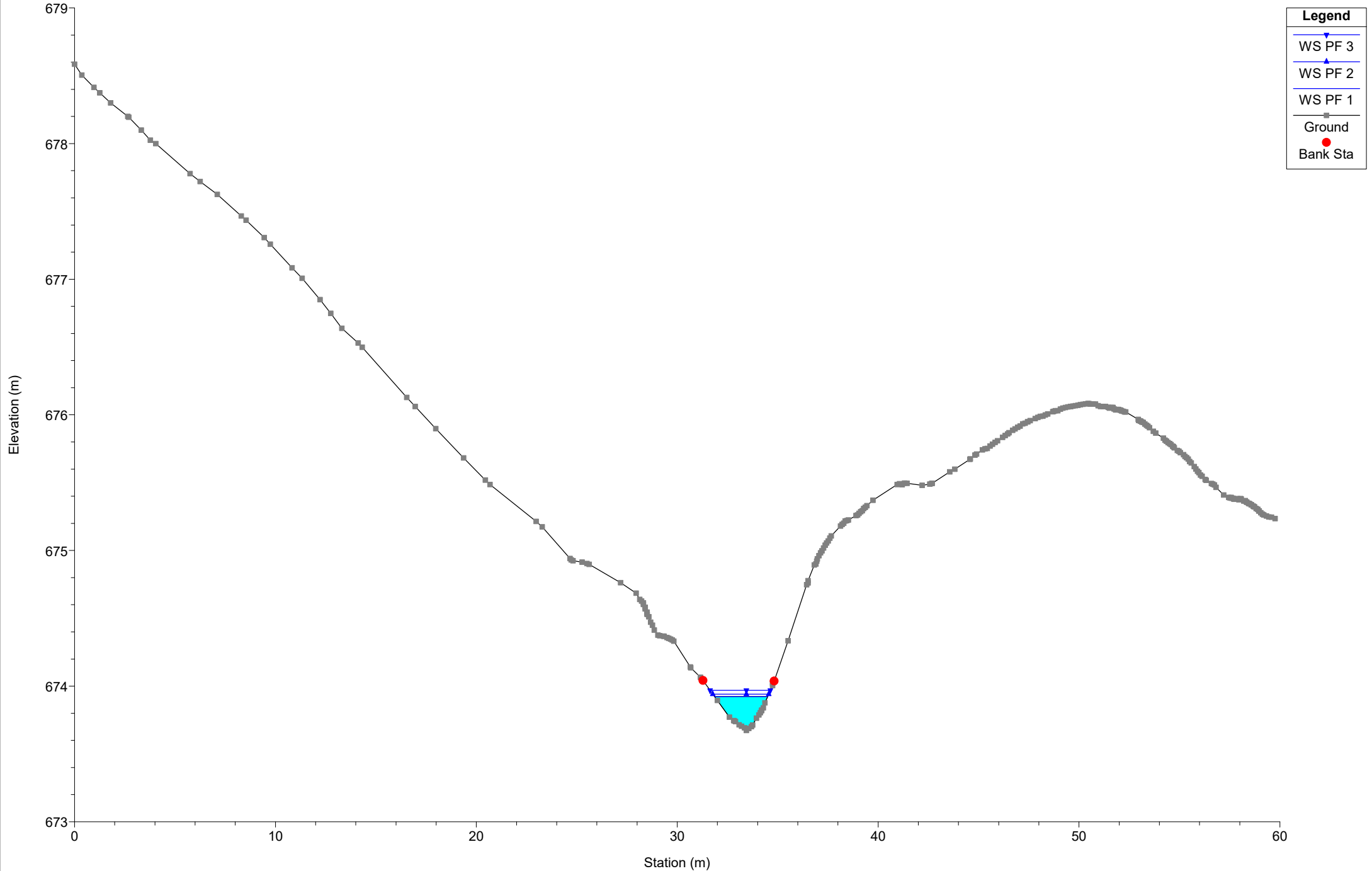
River = River 2 Reach = Reach 2 RS = 148.80\*



tudia

Geom: stato di fatto

River = River 2 Reach = Reach 2 RS = 120.60\*



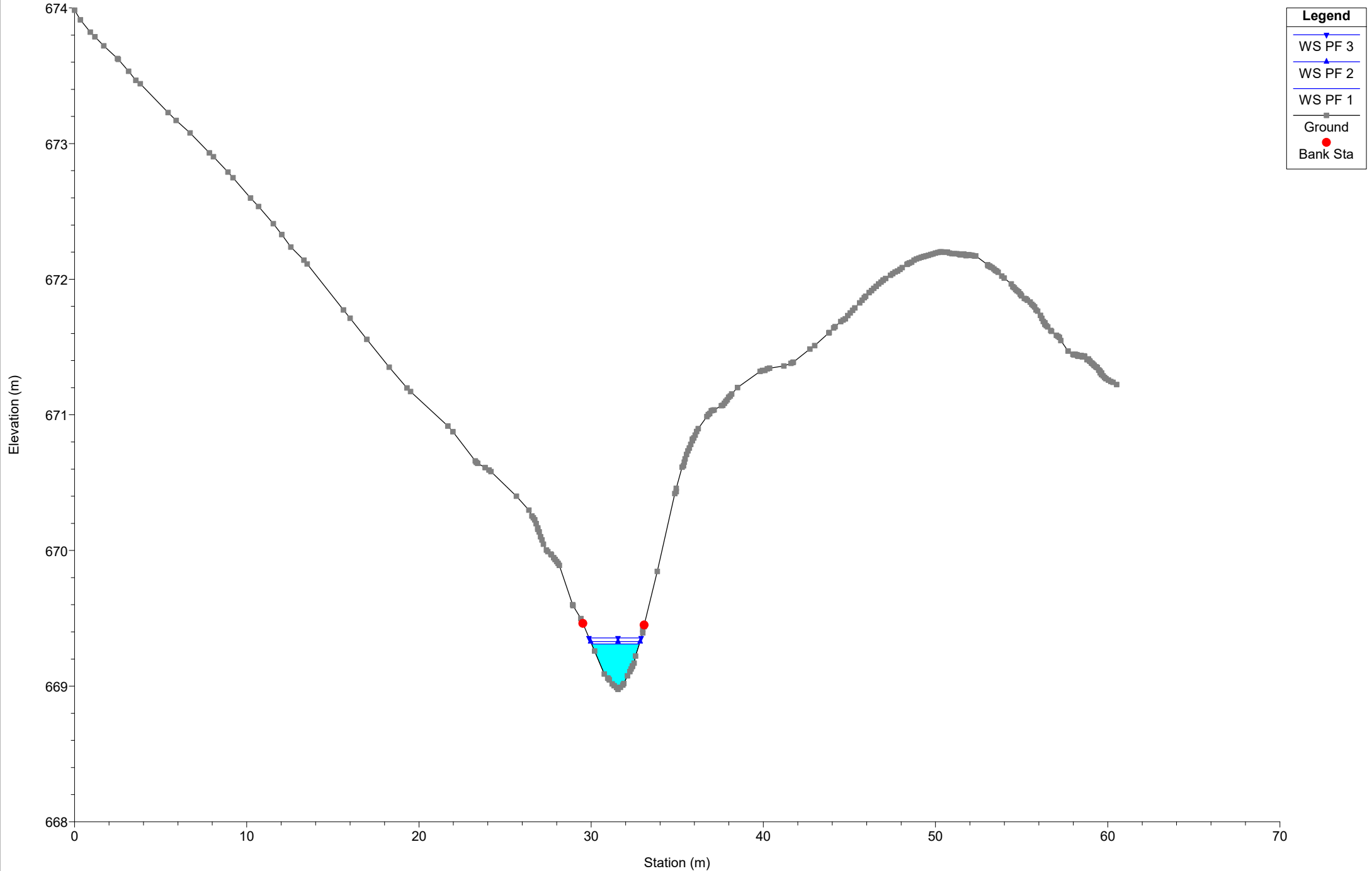
**Legend**

- WS PF 3
- WS PF 2
- WS PF 1
- Ground
- Bank Sta

tudia

Geom: stato di fatto

River = River 2 Reach = Reach 2 RS = 92.40\*



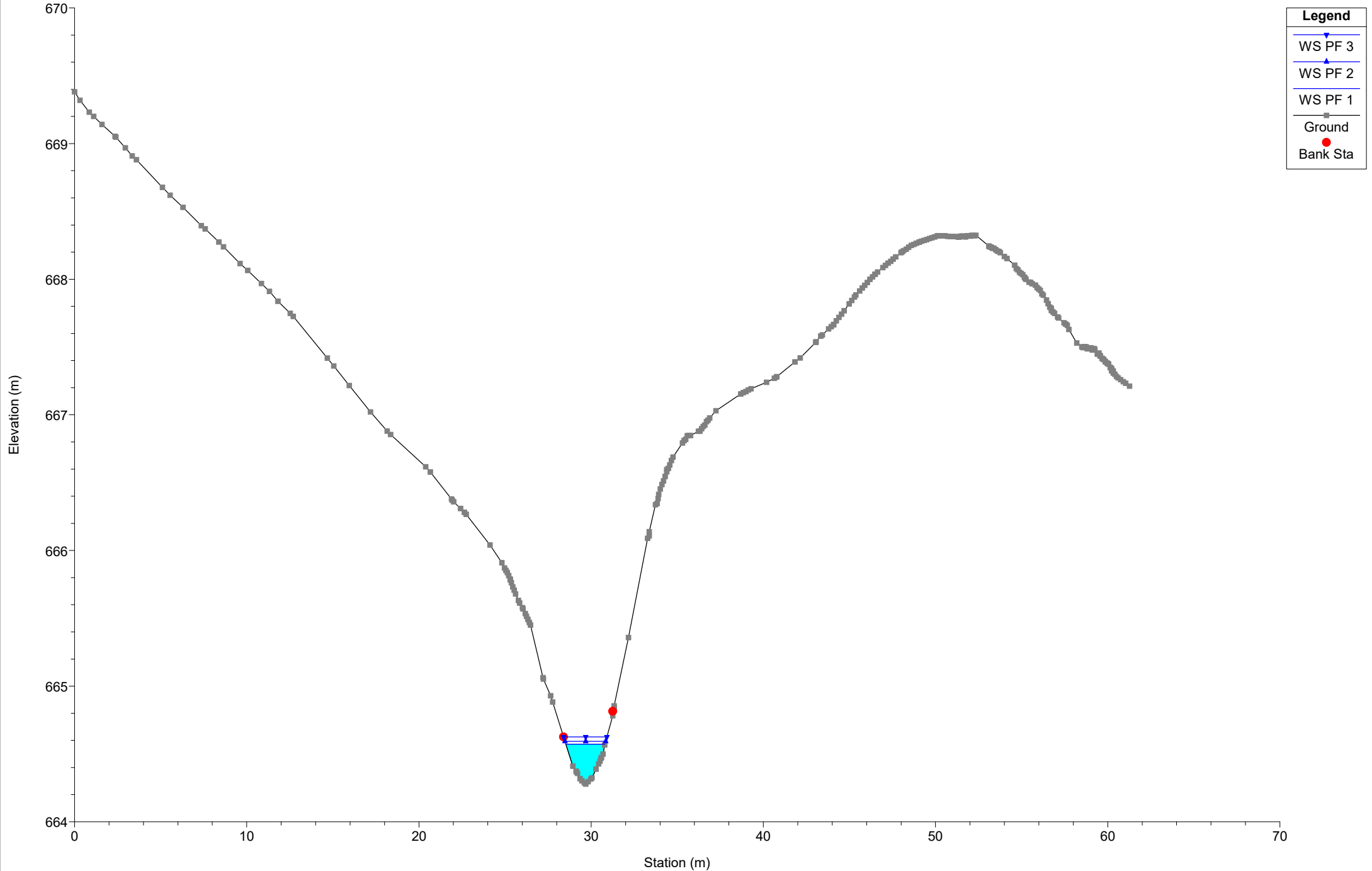
**Legend**

- WS PF 3
- WS PF 2
- WS PF 1
- Ground
- Bank Sta

tudia

Geom: stato di fatto

River = River 2 Reach = Reach 2 RS = 64.20\*



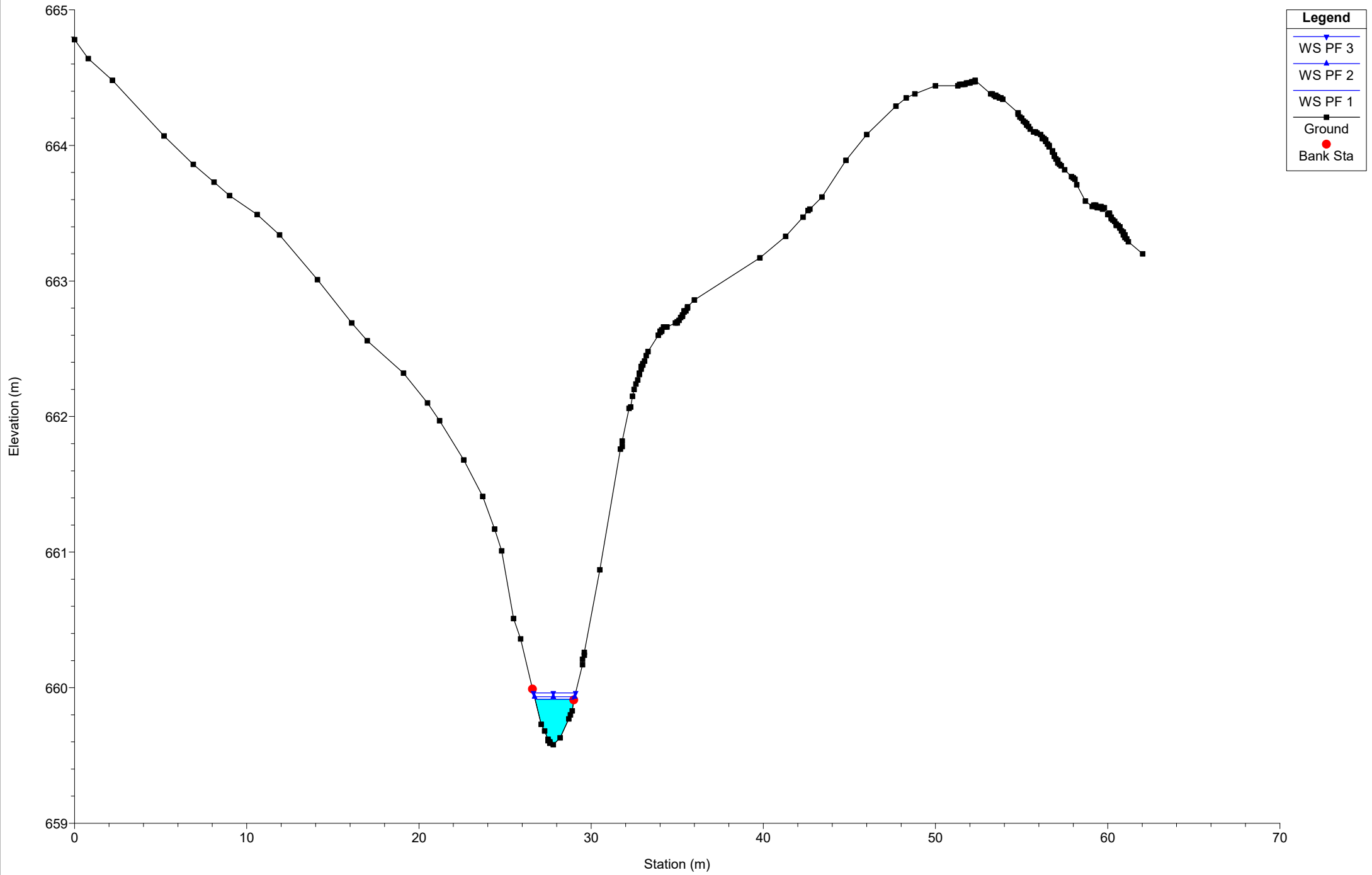
**Legend**

- WS PF 3 (blue line with downward triangle)
- WS PF 2 (blue line with upward triangle)
- WS PF 1 (blue line with square)
- Ground (grey line with square)
- Bank Sta (red circle)

# tudia

Geom: stato di fatto

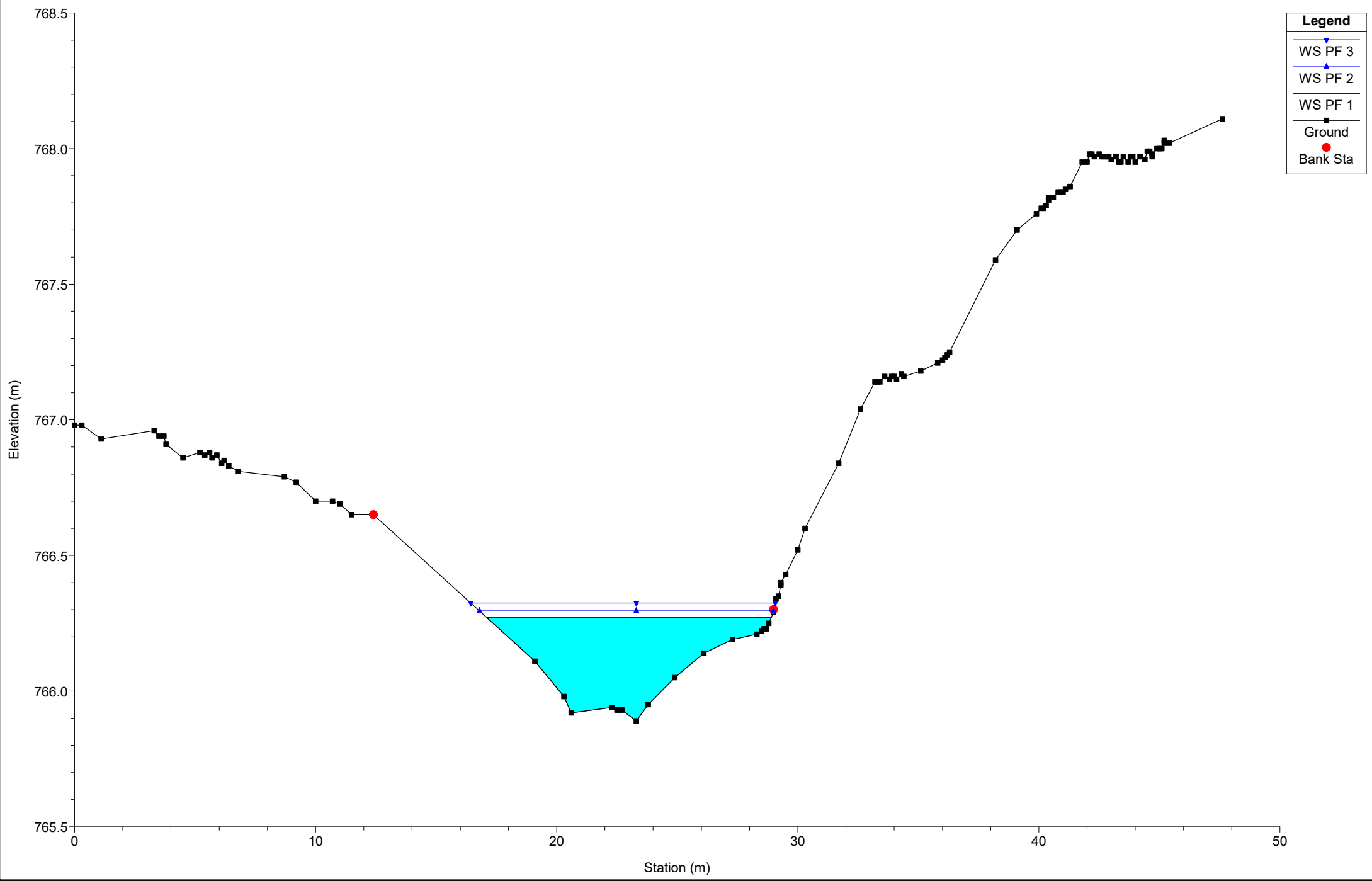
River = River 2 Reach = Reach 2 RS = 36



tudia

Geom: stato di fatto

River = River 3 Reach = Reach 3 RS = 222



**Legend**

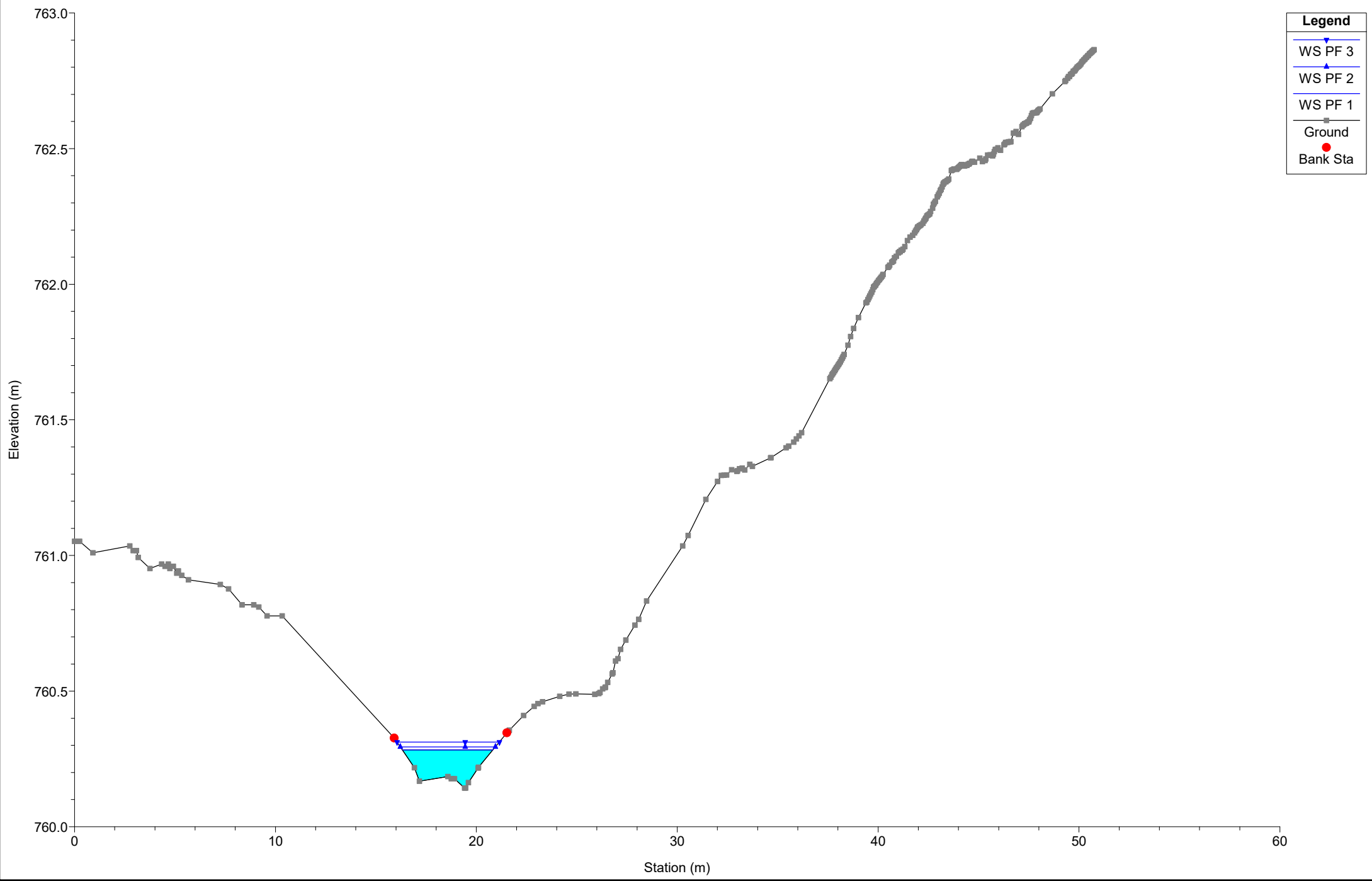
- WS PF 3
- WS PF 2
- WS PF 1
- Ground
- Bank Sta



tudia

Geom: stato di fatto

River = River 3 Reach = Reach 3 RS = 195.17\*



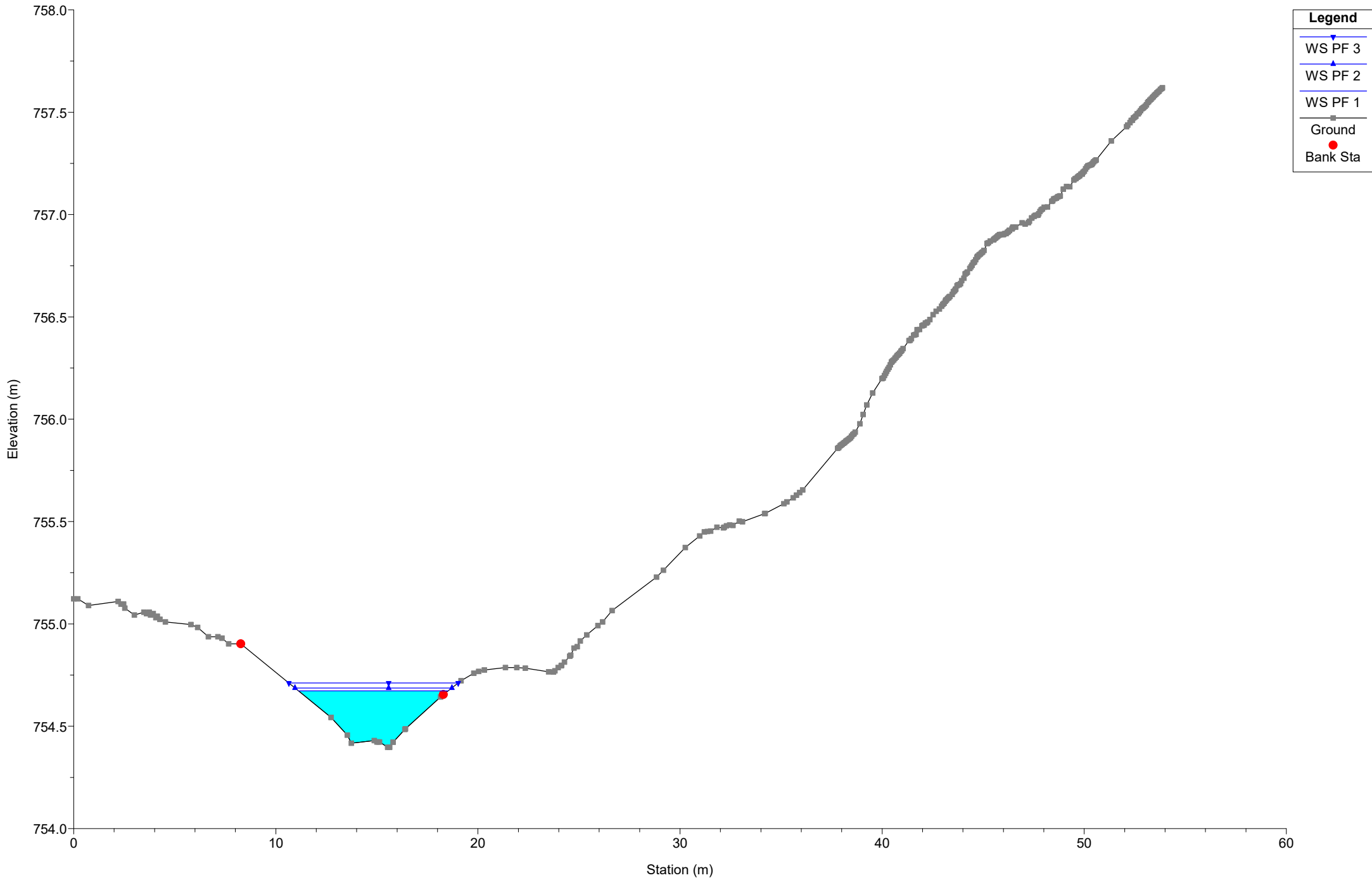
**Legend**

- WS PF 3 (Blue line with downward triangle)
- WS PF 2 (Blue line with upward triangle)
- WS PF 1 (Blue line with upward triangle)
- Ground (Grey line with square)
- Bank Sta (Red circle)

tudia

Geom: stato di fatto

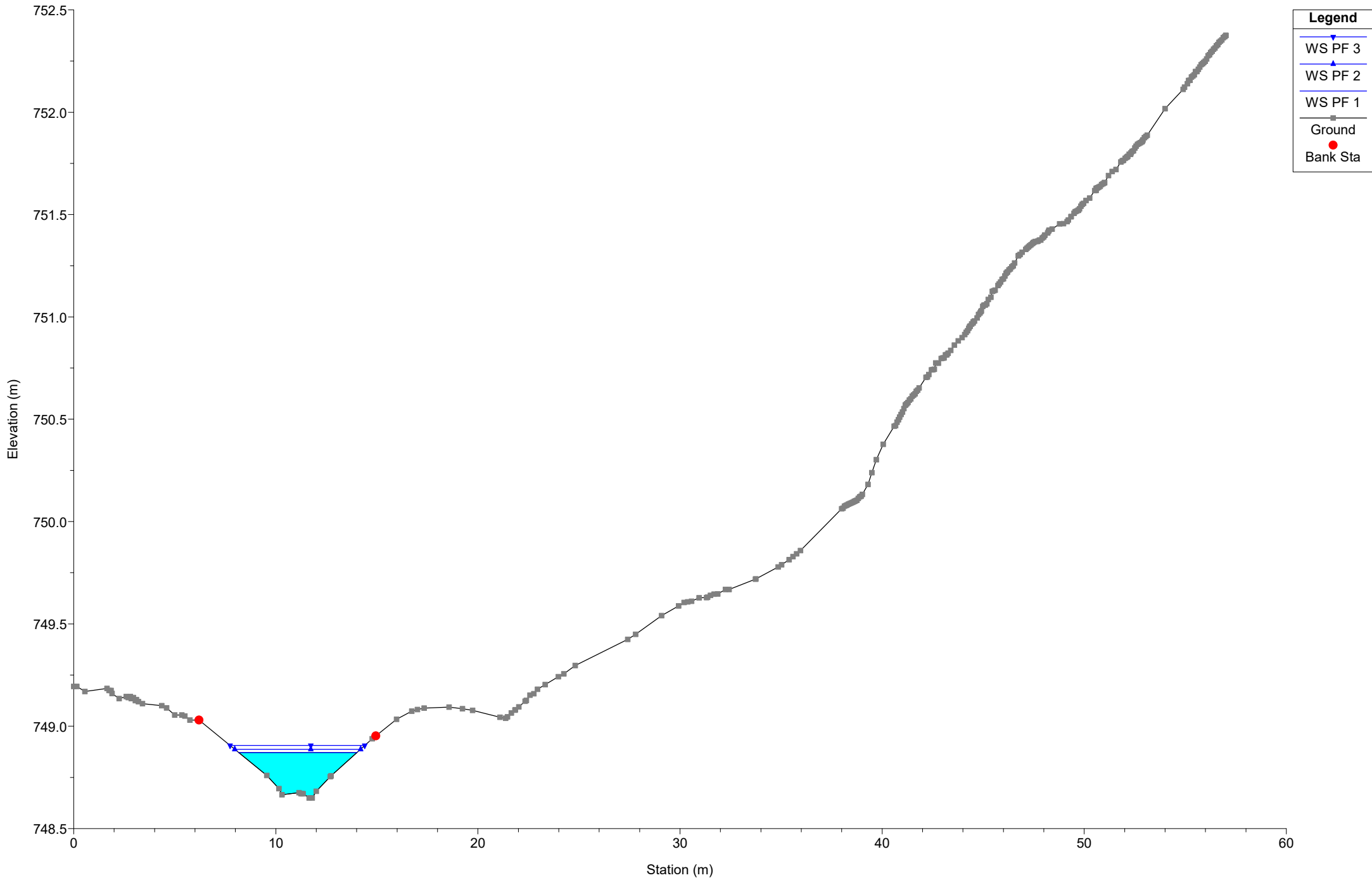
River = River 3 Reach = Reach 3 RS = 168.33\*



tudia

Geom: stato di fatto

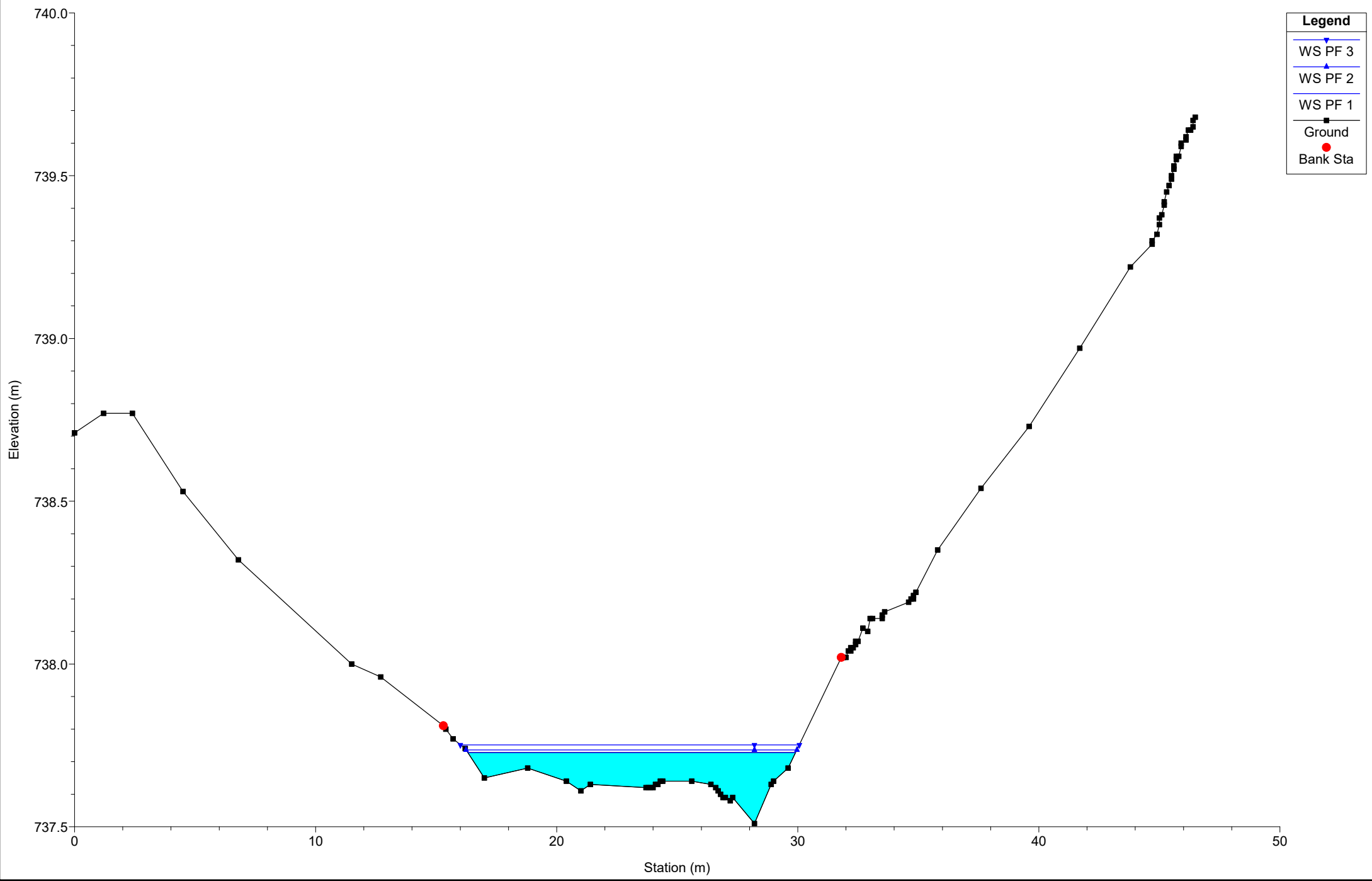
River = River 3 Reach = Reach 3 RS = 141.50\*



tudia

Geom: stato di fatto

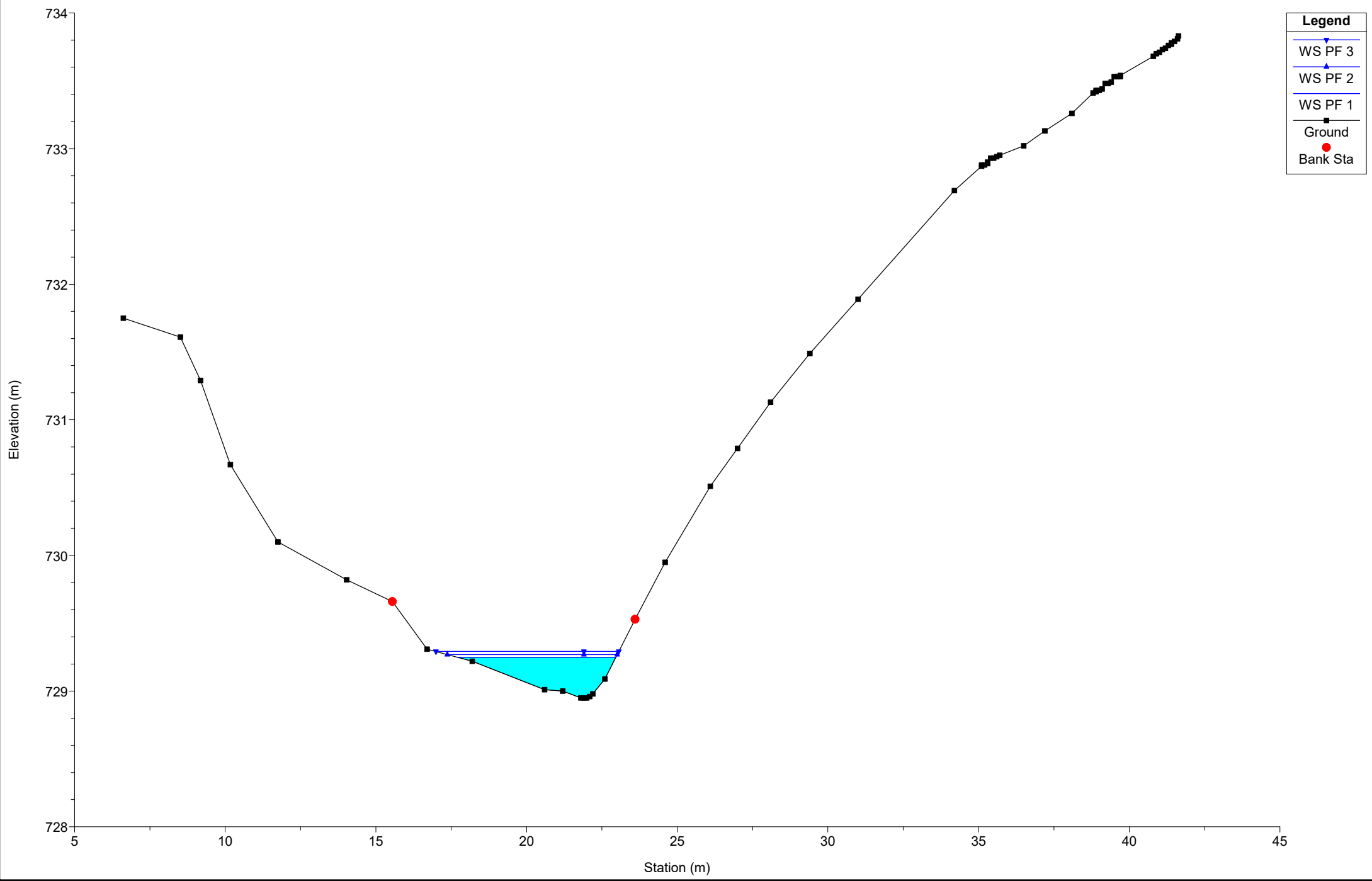
River = River 3 Reach = Reach 3 RS = 90



tudia

Geom: stato di fatto

River = River 3 Reach = Reach 3 RS = 46



**Legend**

- WS PF 3
- WS PF 2
- WS PF 1
- Ground
- Bank Sta