



AUTORITÀ DI BACINO REGIONALE

PIANO DI BACINO STRALCIO SUL RISCHIO IDROGEOLOGICO

(ai sensi dell'art.1, comma 1, del D.L. 180/1998 convertito in L. 267/1998)
Caratteristiche idrauliche e geologiche del territorio
Valutazione del rischio idraulico e geomorfologico

VERIFICHE IDRAULICHE

Ambito di Bacino di rilievo regionale:
LETIMBRO

Bacino:
TEIRO

Comuni:
STELLA
VARAZZE



APPROVAZIONE	Delibera del Consiglio Provinciale di Savona n. 47 del 25/11/2003
ULTIMA MODIFICA DELL'ELABORATO	Decreto del Direttore Generale n. 140 del 24/05/2018
ENTRATA IN VIGORE	Pubblicazione sul BURL n. 28 parte II dell'11/07/2018

Allegato – Verifiche idrauliche

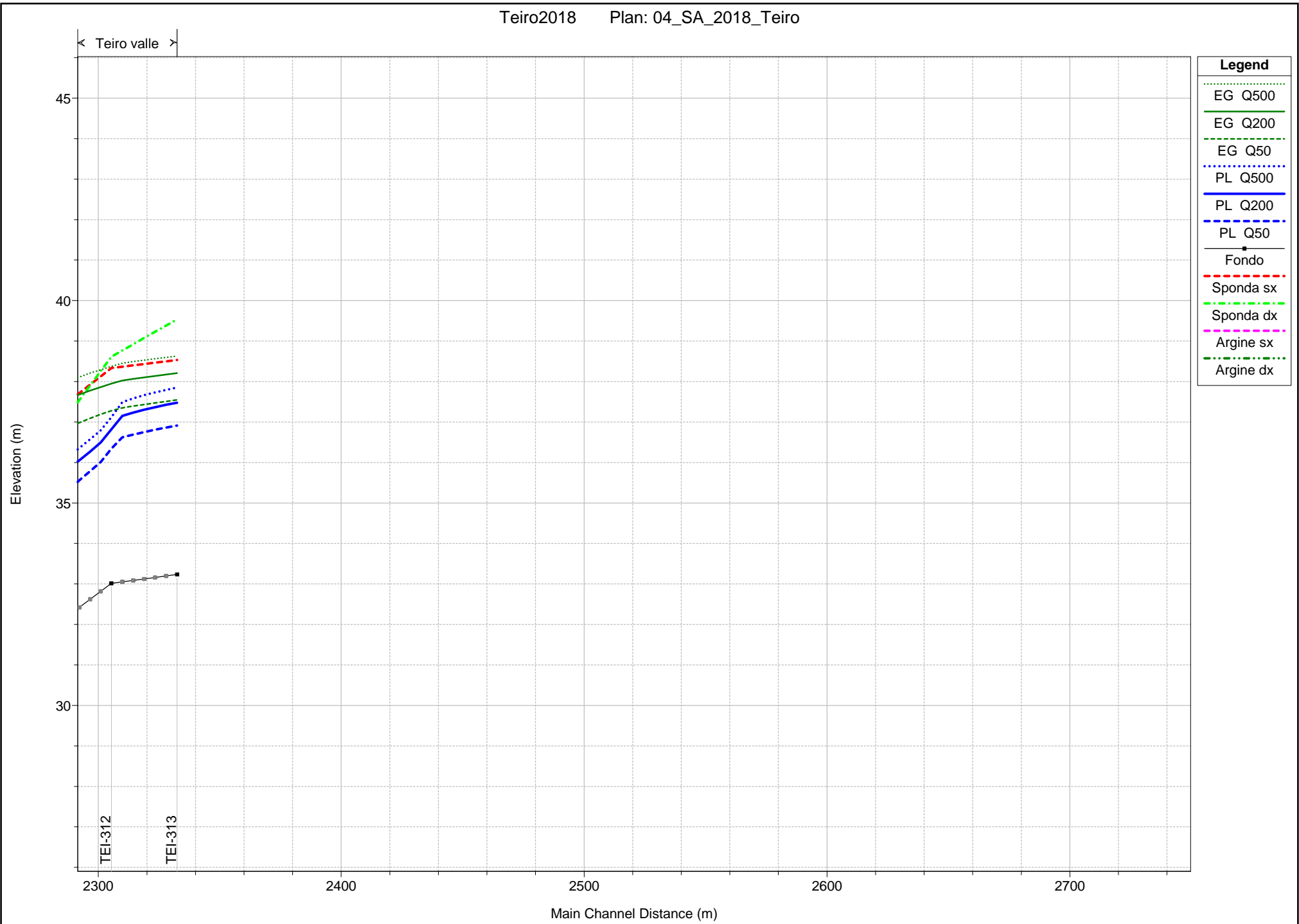
Torrente Teiro

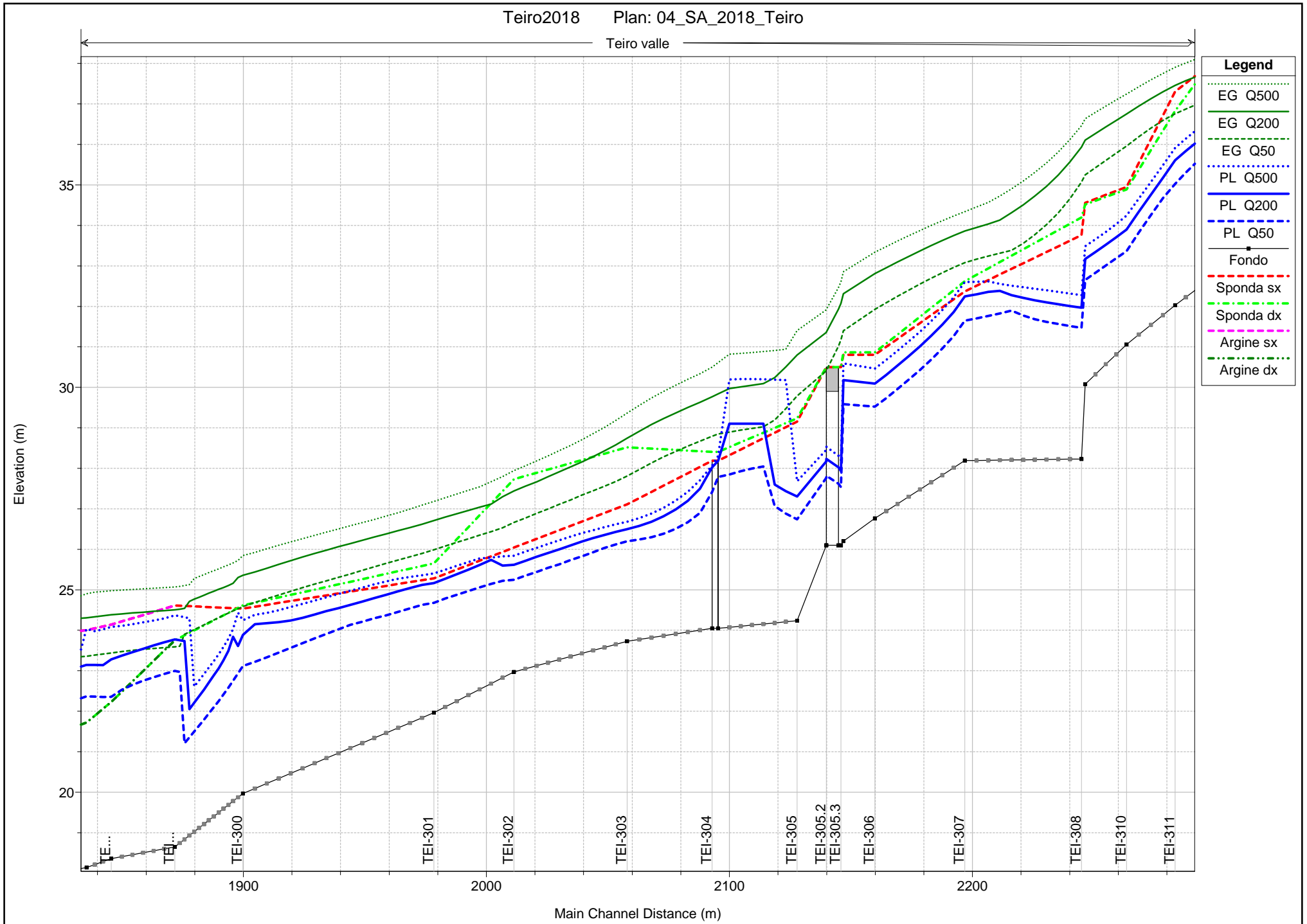
da località Lagoscuro alla foce

Sezioni TEI-313 – TEI-1

- profili di corrente
- sezioni idrauliche
- tabella dei risultati

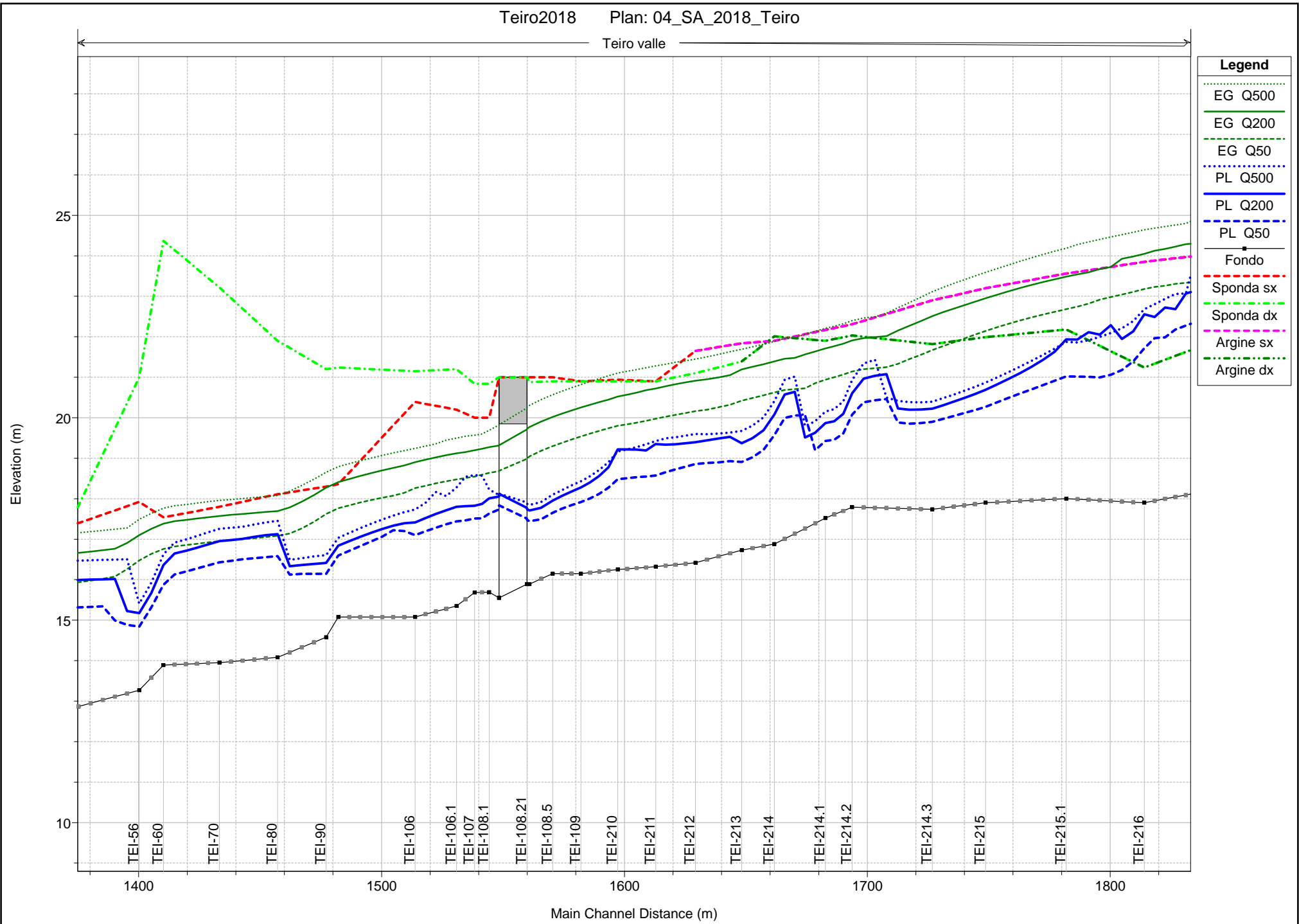
Teiro2018 Plan: 04_SA_2018_Teiro



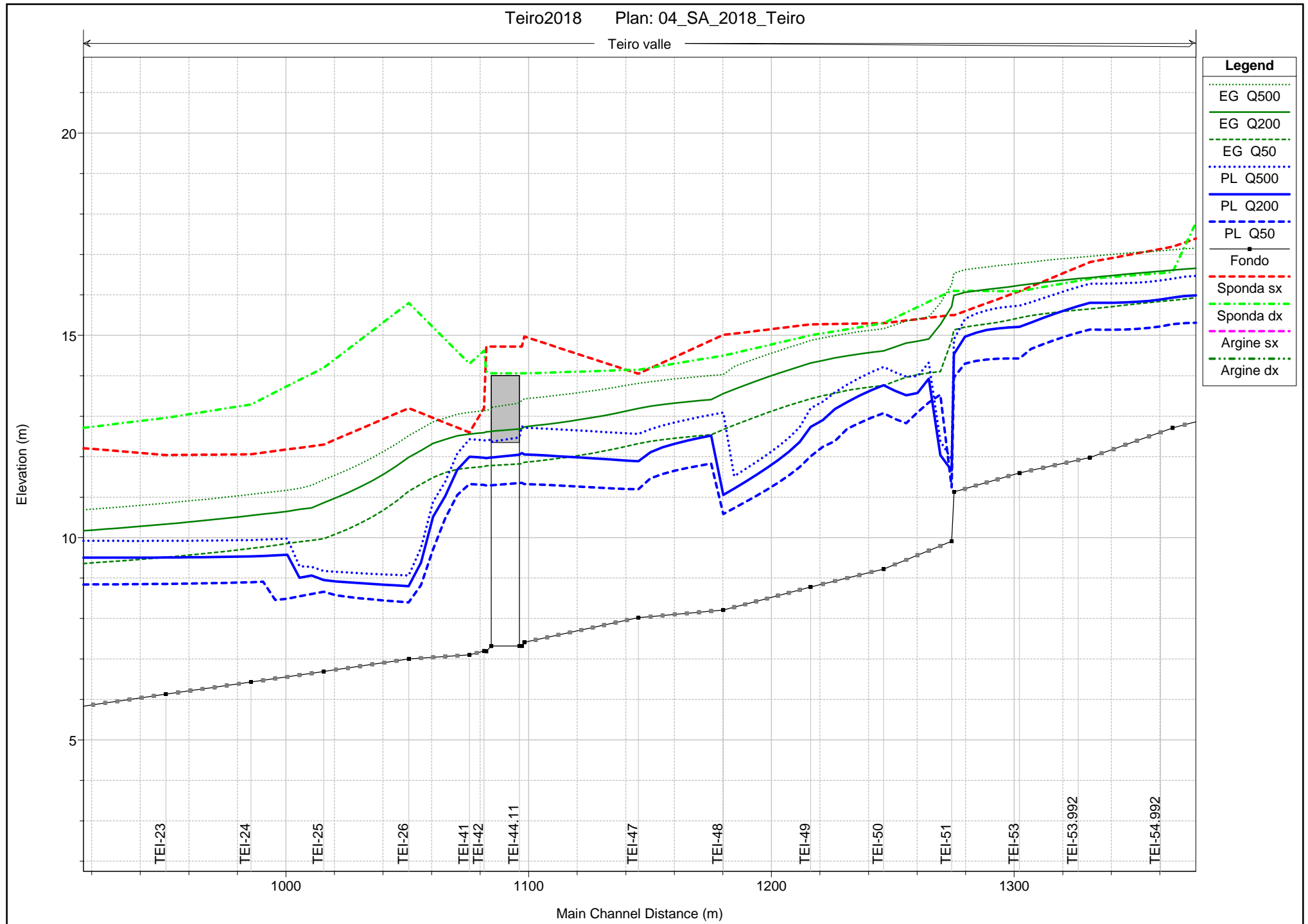


Teiro2018 Plan: 04_SA_2018_Teiro

Teiro valle



Legend	
EG Q500	(Dotted Green Line)
EG Q200	(Solid Green Line)
EG Q50	(Dashed Green Line)
PL Q500	(Dotted Blue Line)
PL Q200	(Solid Blue Line)
PL Q50	(Dashed Blue Line)
Fondo	(Grey Line with Squares)
Sponda sx	(Dashed Red Line)
Sponda dx	(Dashed Green Line)
Argine sx	(Dotted Red Line)
Argine dx	(Dotted Green Line)

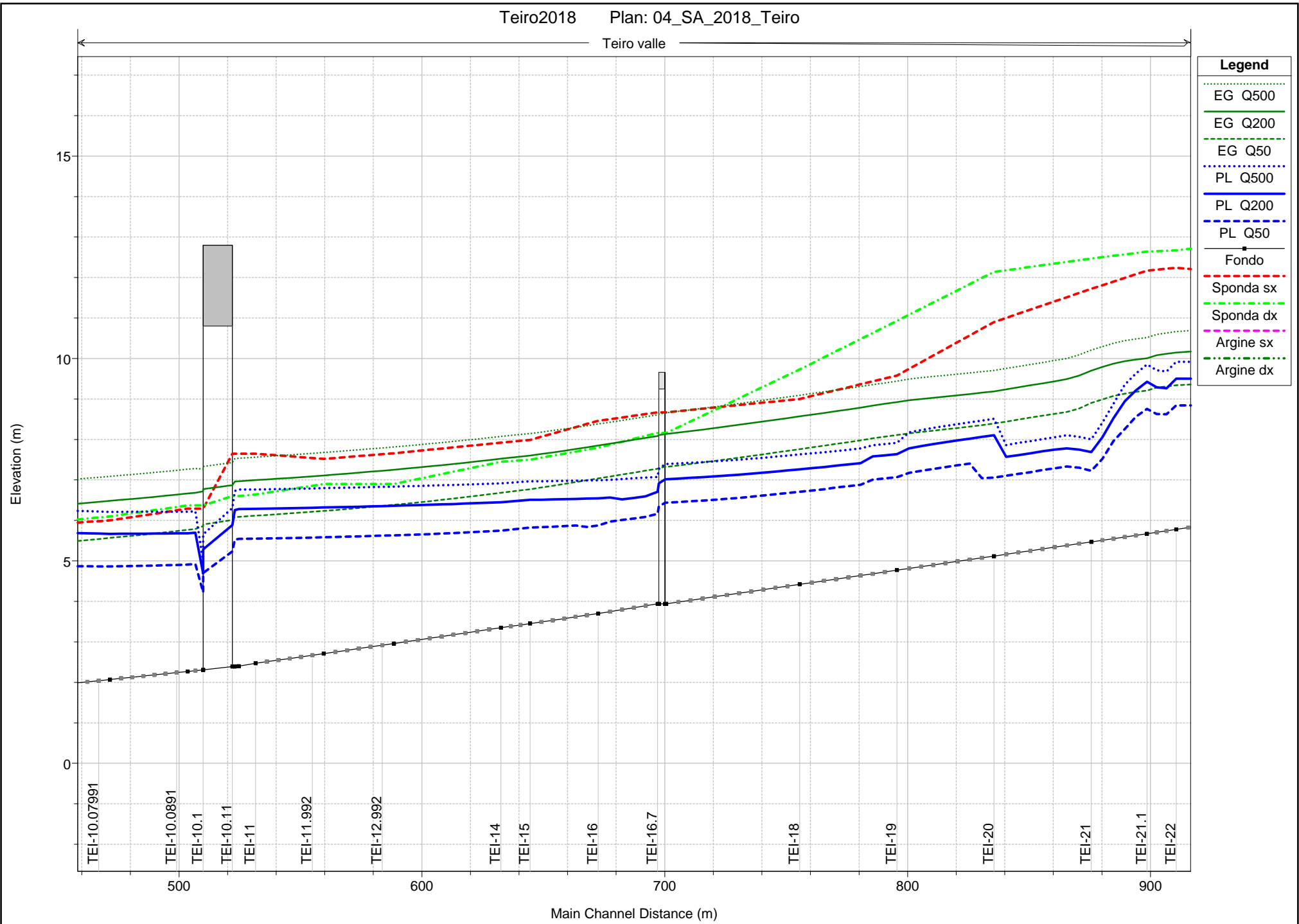


1 cm Horiz. = 20 m 1 cm Vert. = 1.2 m

Modificato con DDG n. 140 del 24/05/2018

Teiro2018 Plan: 04_SA_2018_Teiro

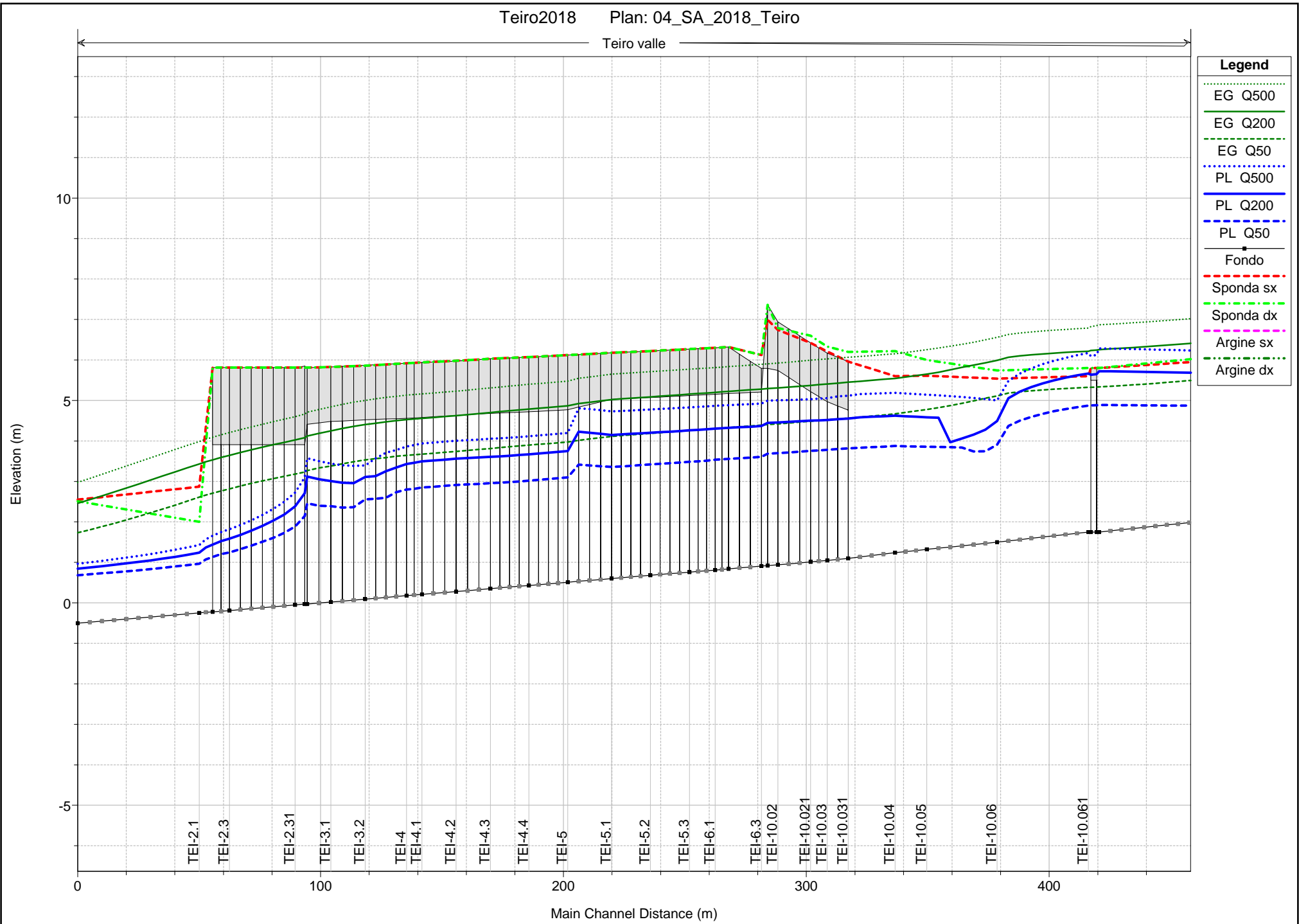
Teiro valle



Legend	
EG Q500	(Dotted Green Line)
EG Q200	(Solid Green Line)
EG Q50	(Dashed Green Line)
PL Q500	(Dotted Blue Line)
PL Q200	(Solid Blue Line)
PL Q50	(Dashed Blue Line)
Fondo	(Dotted Grey Line)
Sponda sx	(Dashed Red Line)
Sponda dx	(Dashed Green Line)
Argine sx	(Dotted Magenta Line)
Argine dx	(Dotted Black Line)

Teiro2018 Plan: 04_SA_2018_Teiro

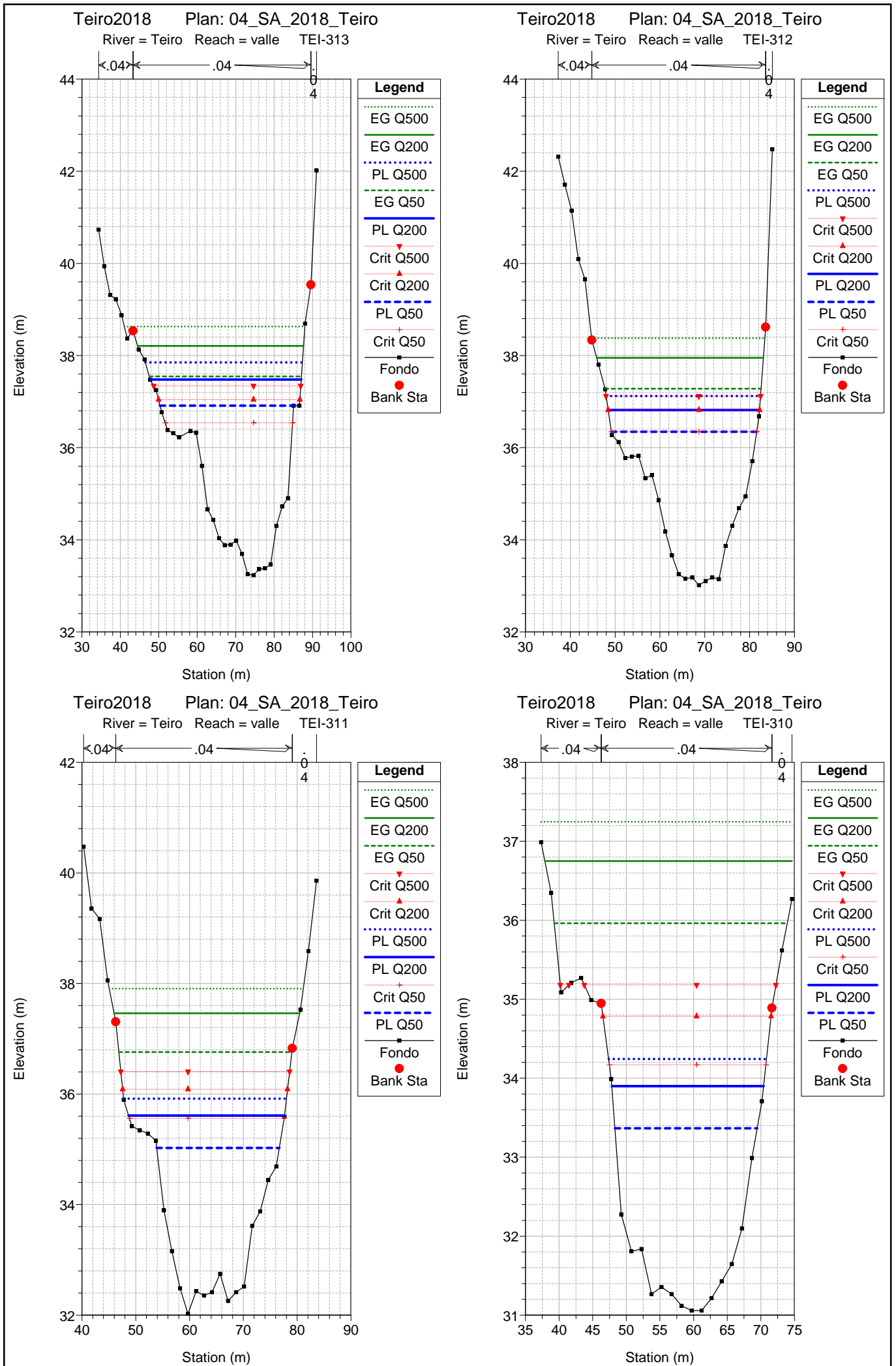
Teiro valle

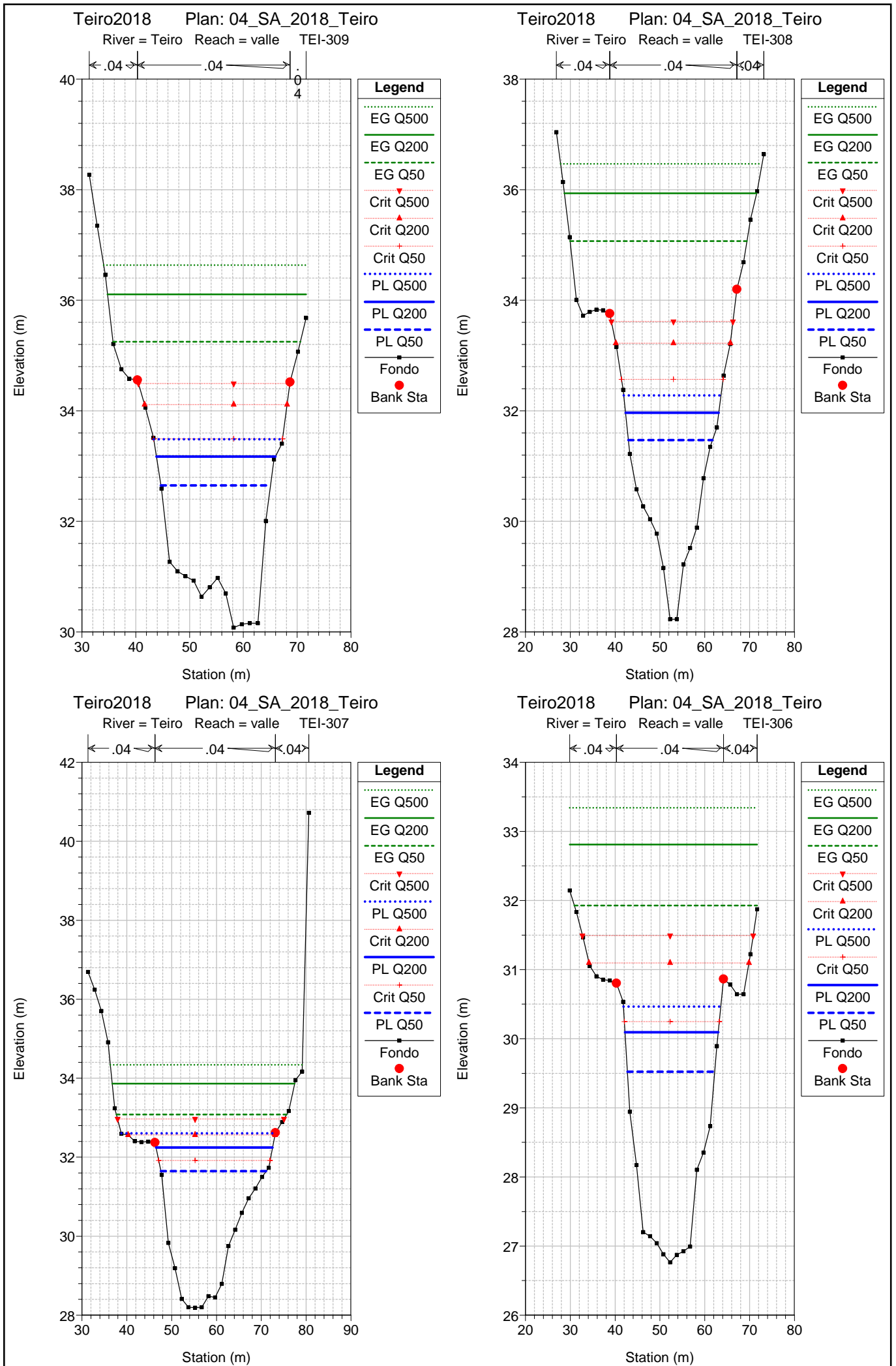


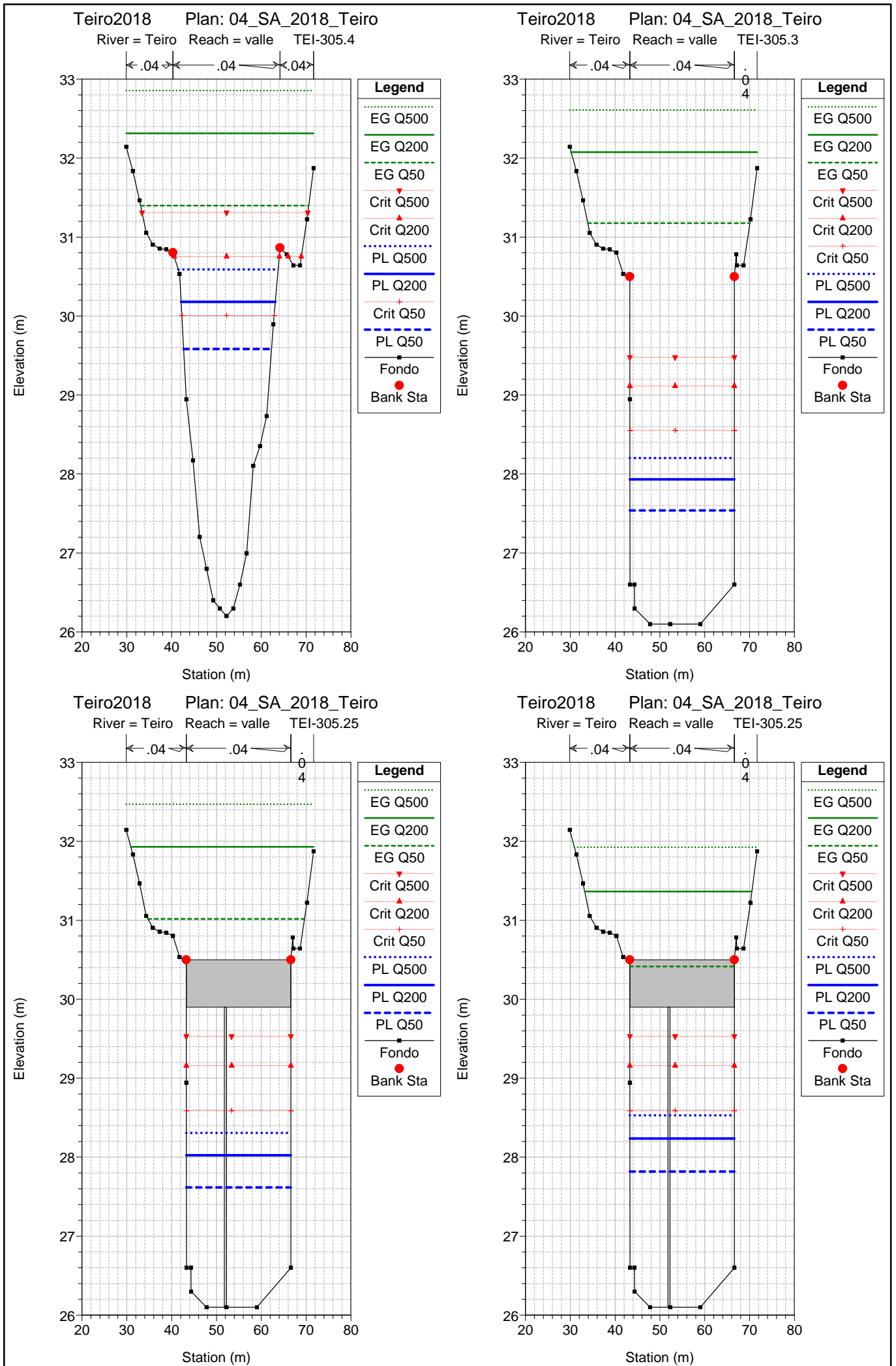
Legend	
EG Q500	Solid Green Line
EG Q200	Dashed Green Line
EG Q50	Dotted Green Line
PL Q500	Solid Blue Line
PL Q200	Dashed Blue Line
PL Q50	Dotted Blue Line
Fondo	Solid Black Line with Markers
Sponda sx	Dashed Red Line
Sponda dx	Dashed Green Line
Argine sx	Dotted Red Line
Argine dx	Dotted Green Line

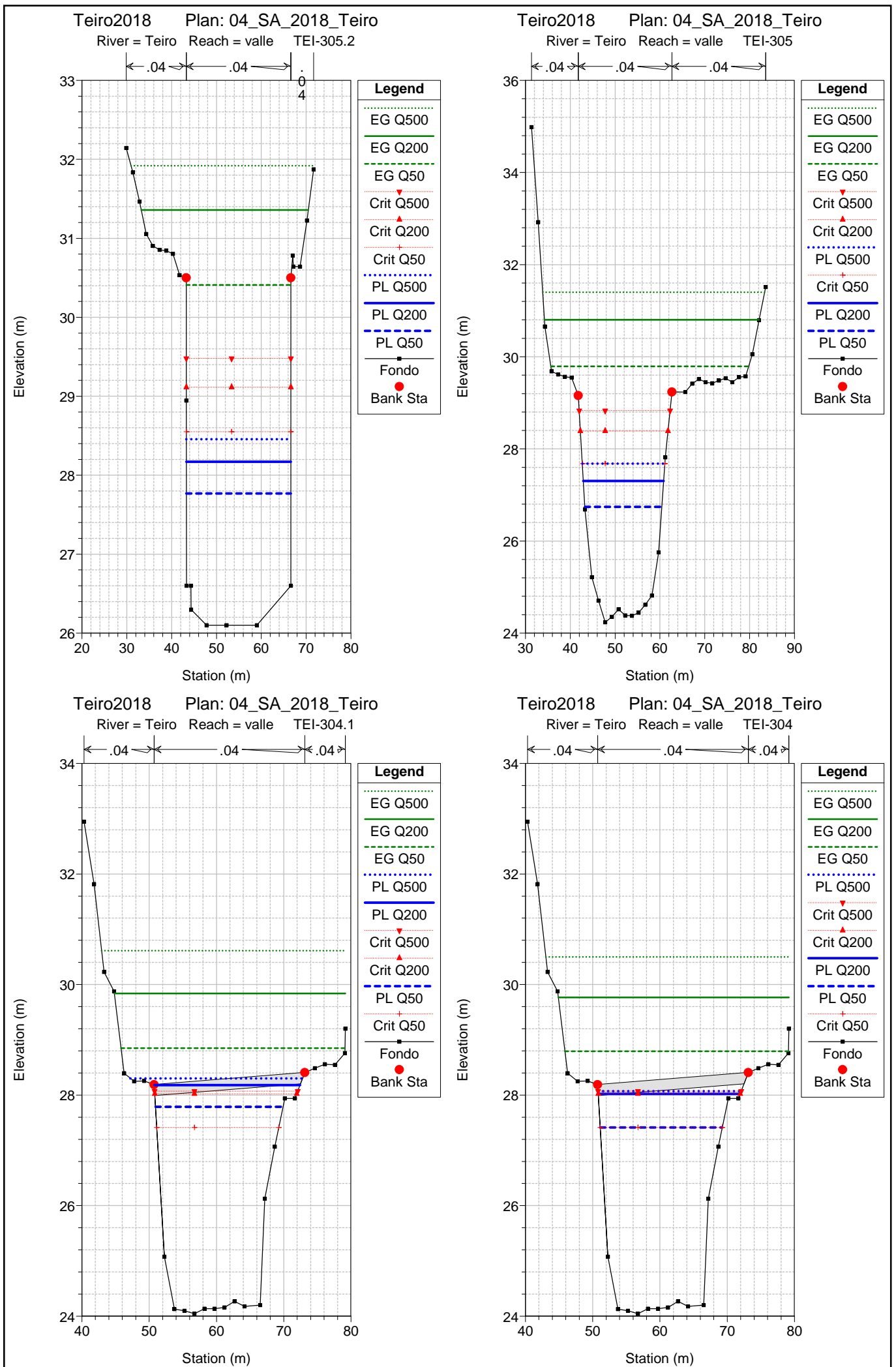
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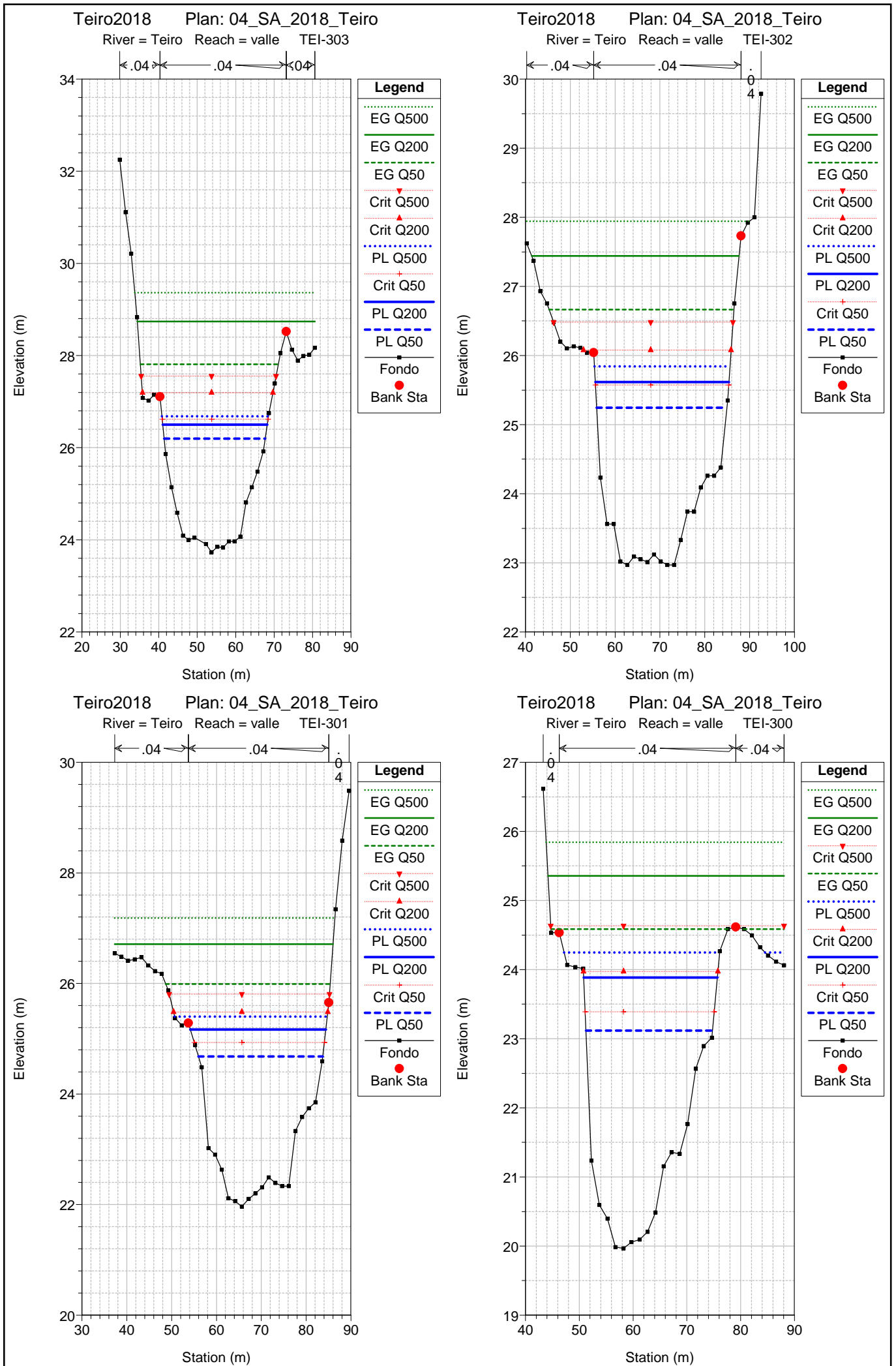
Modificato con DDG n. 140 del 24/05/2018

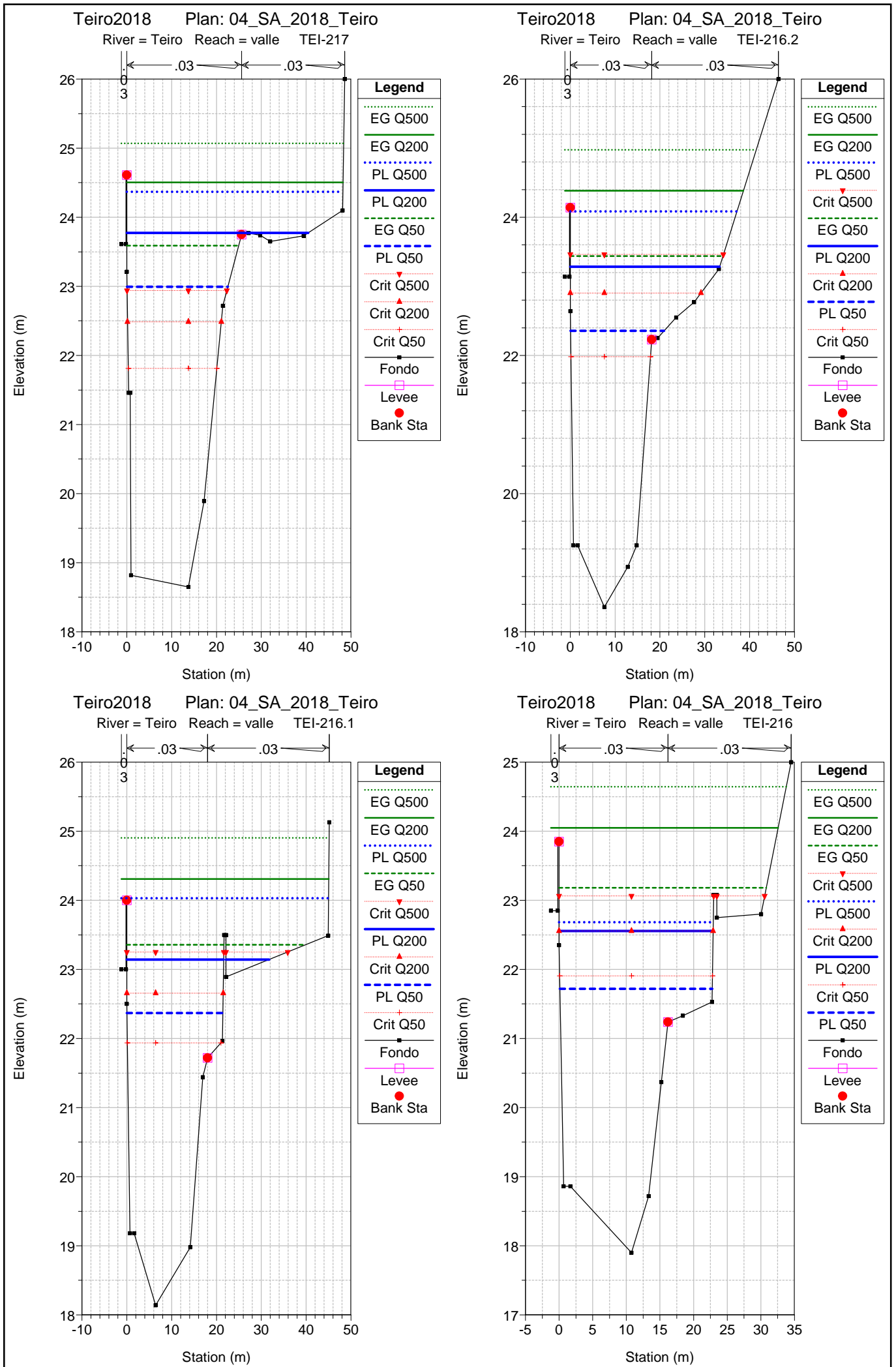


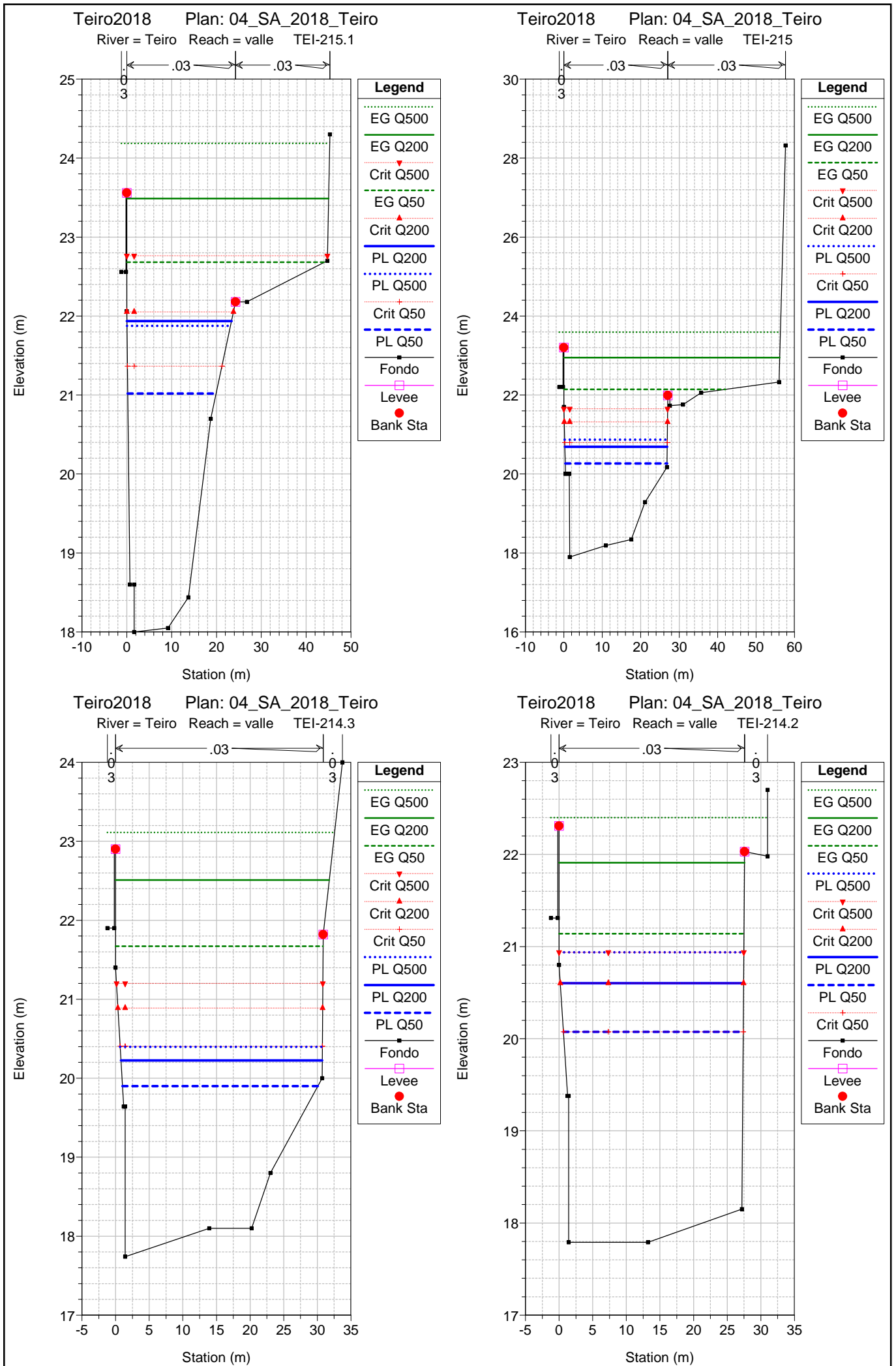


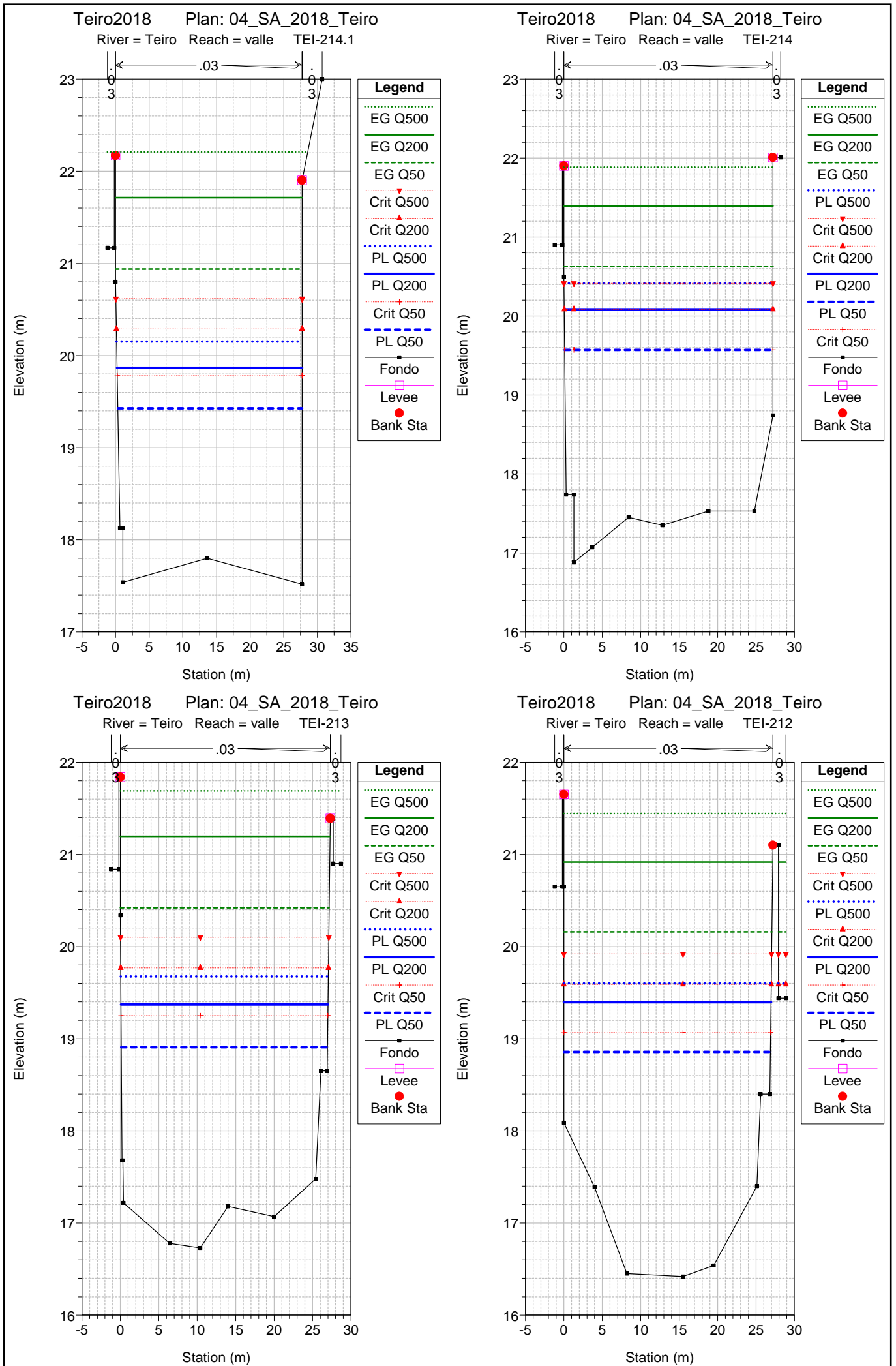


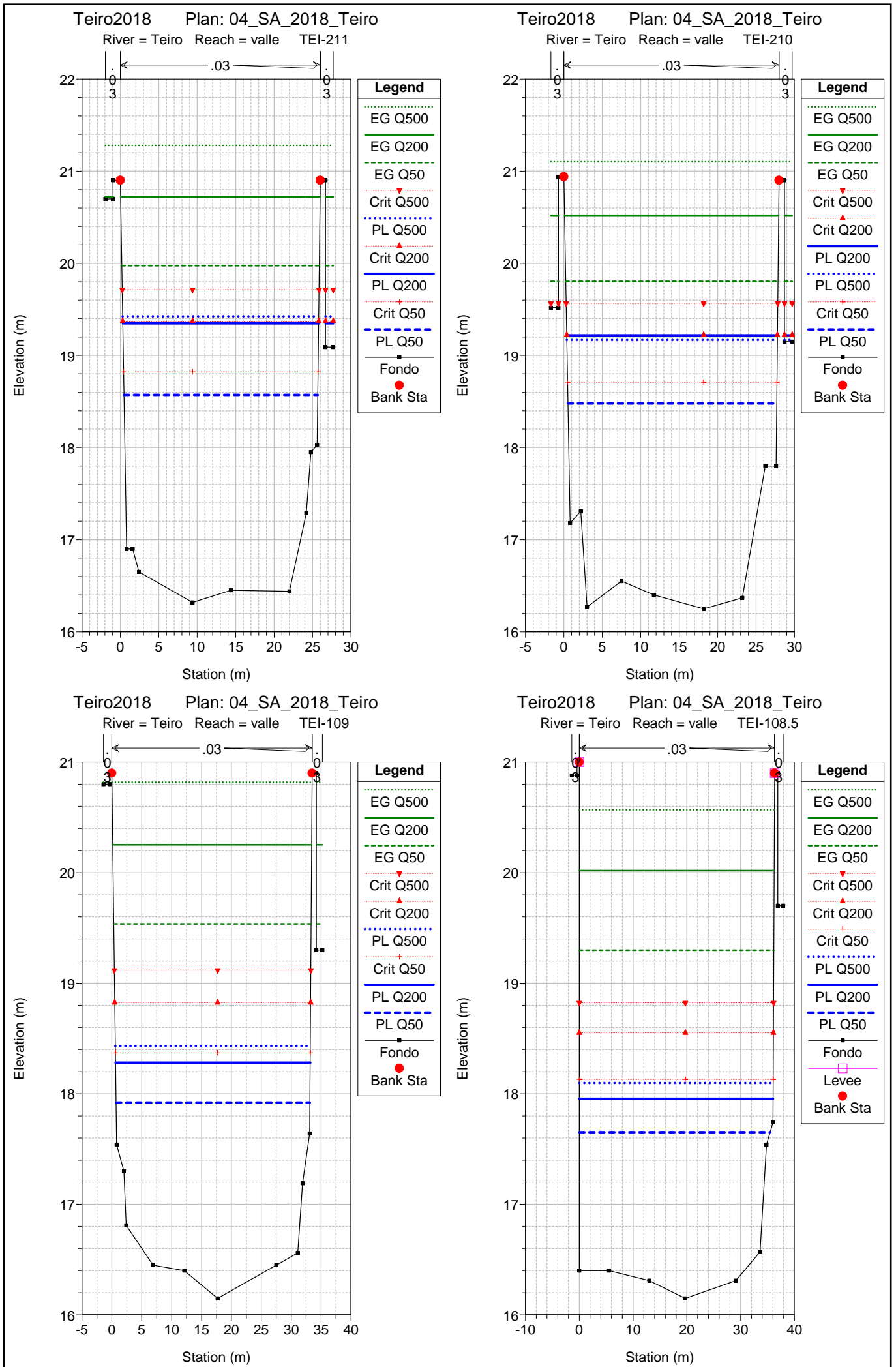


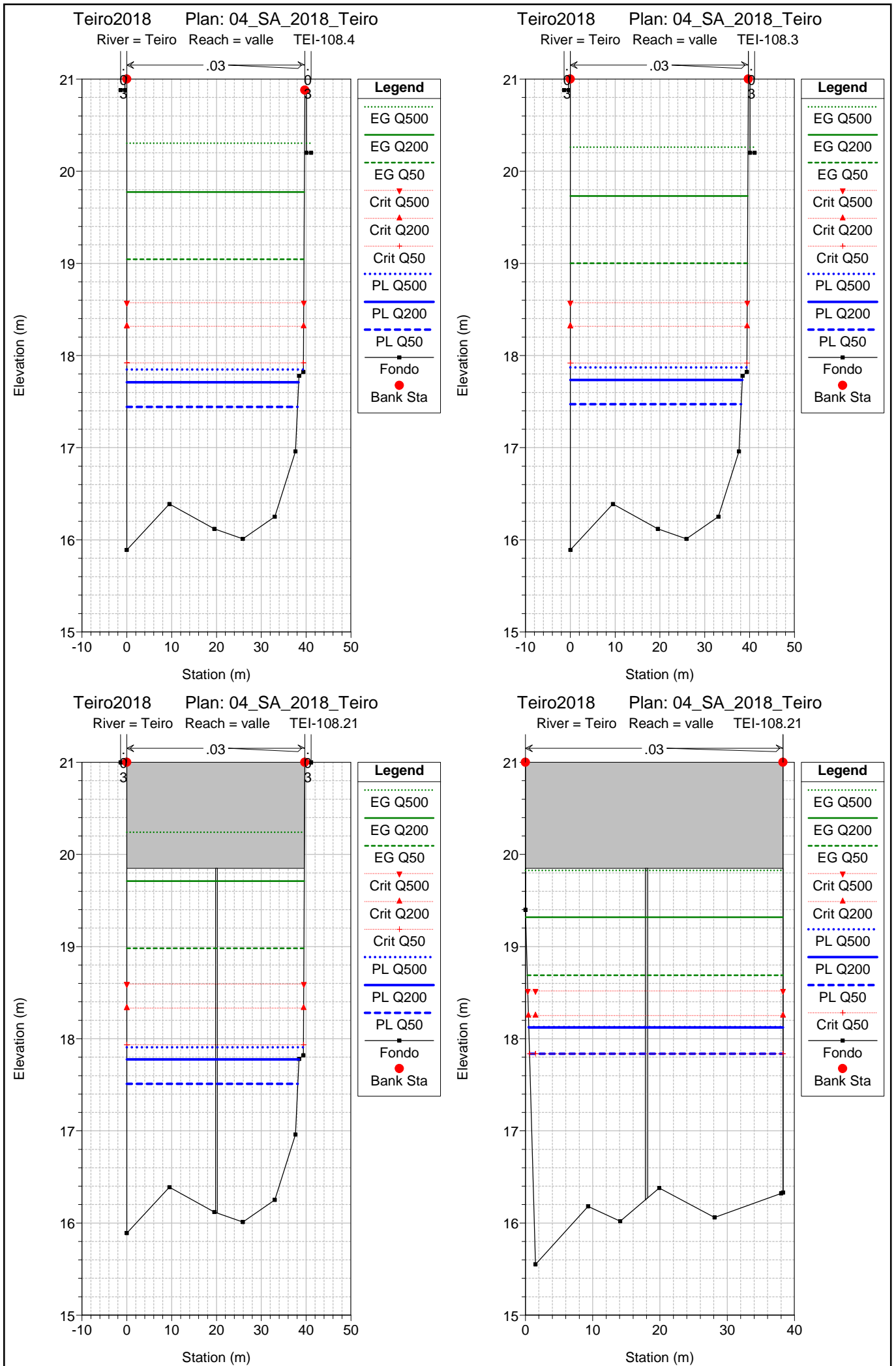


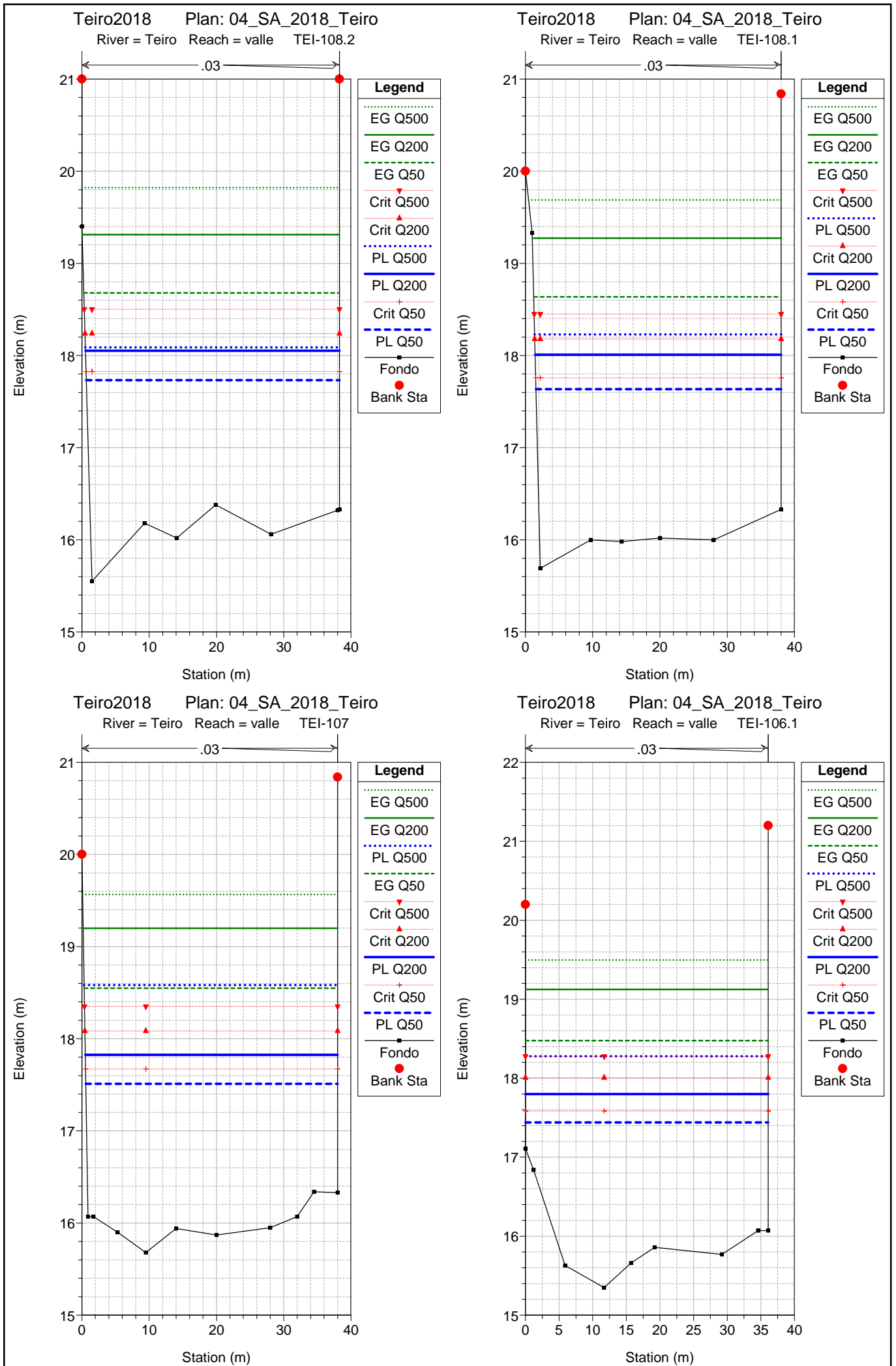


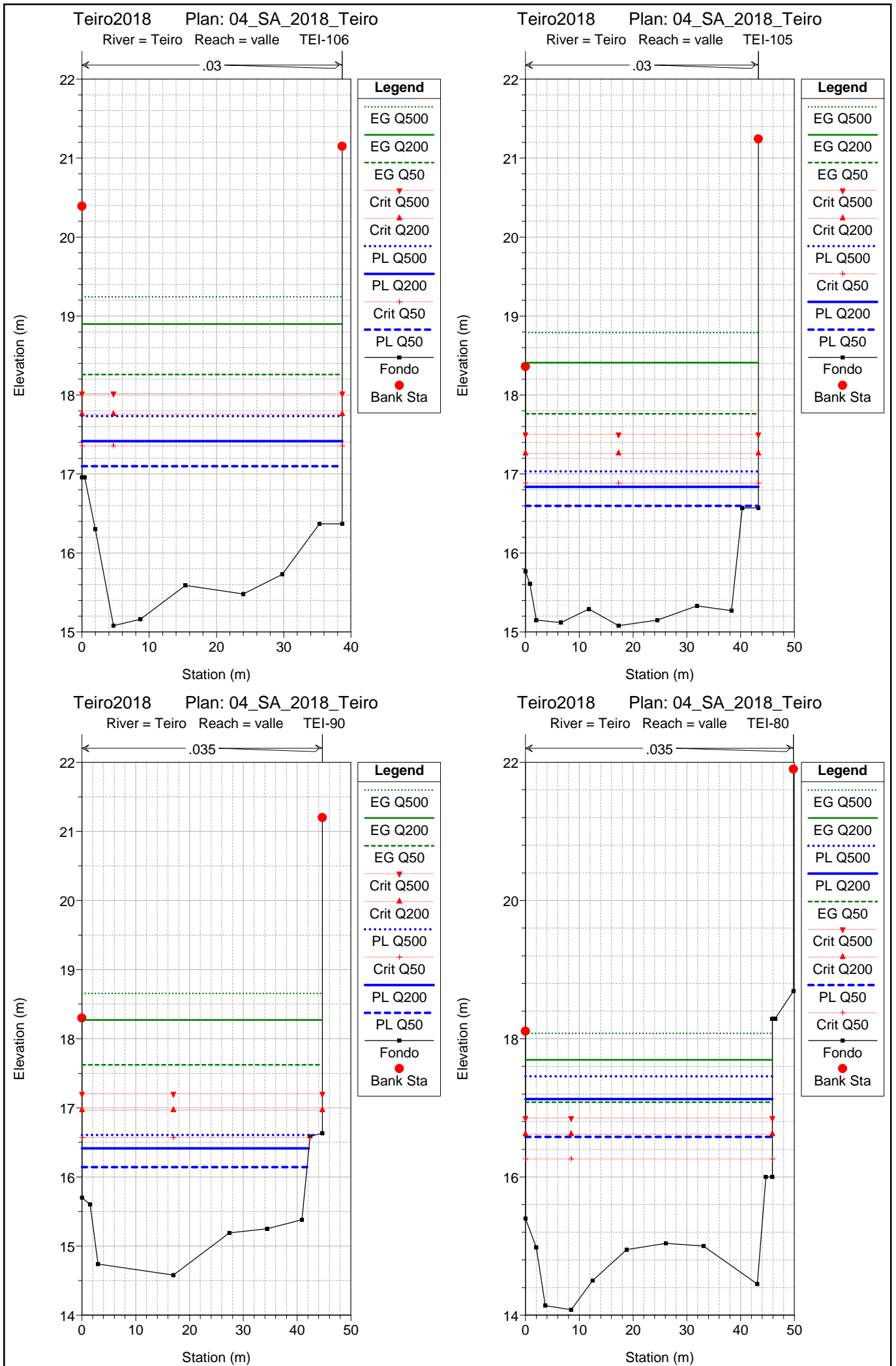


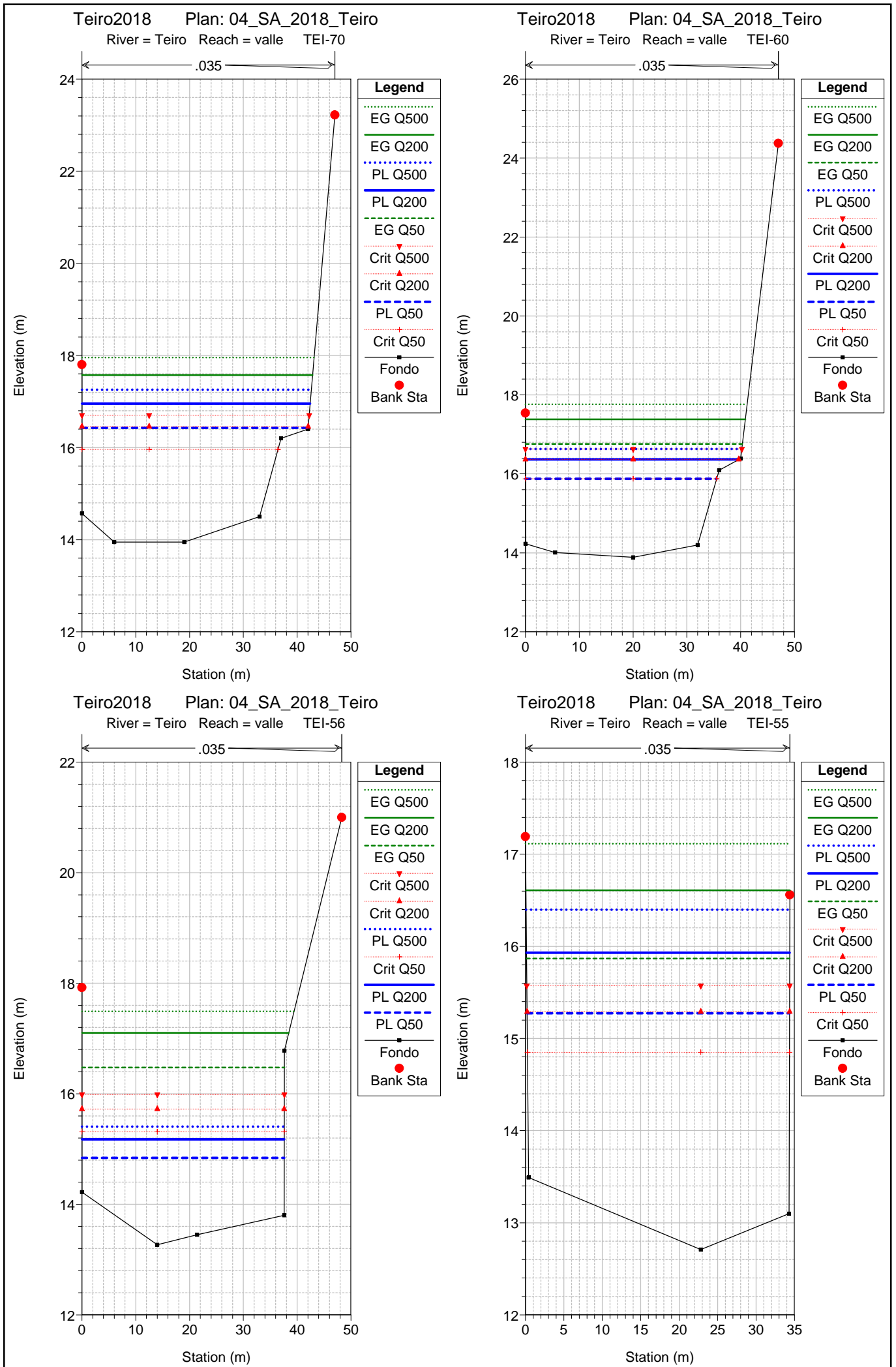


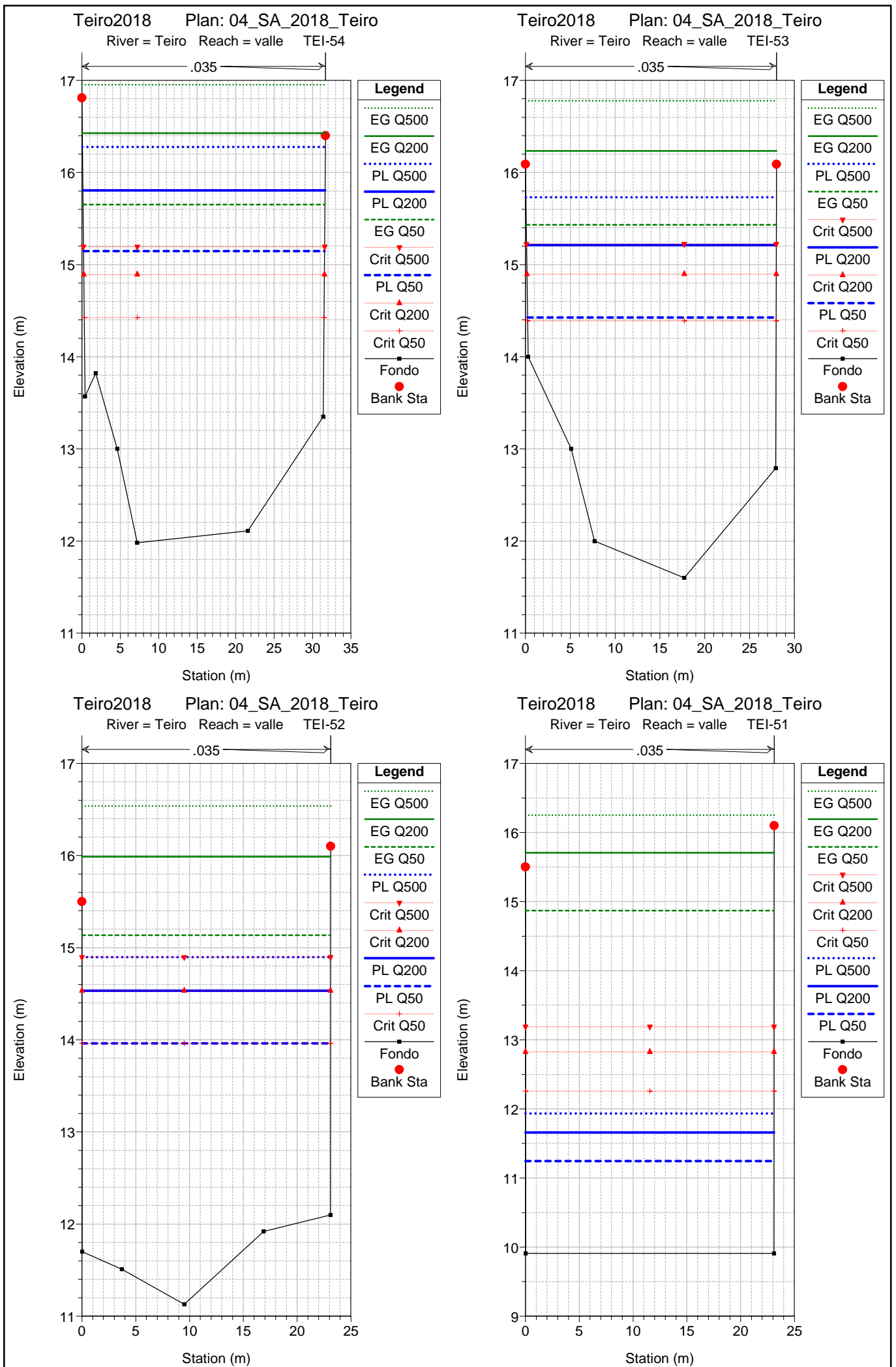


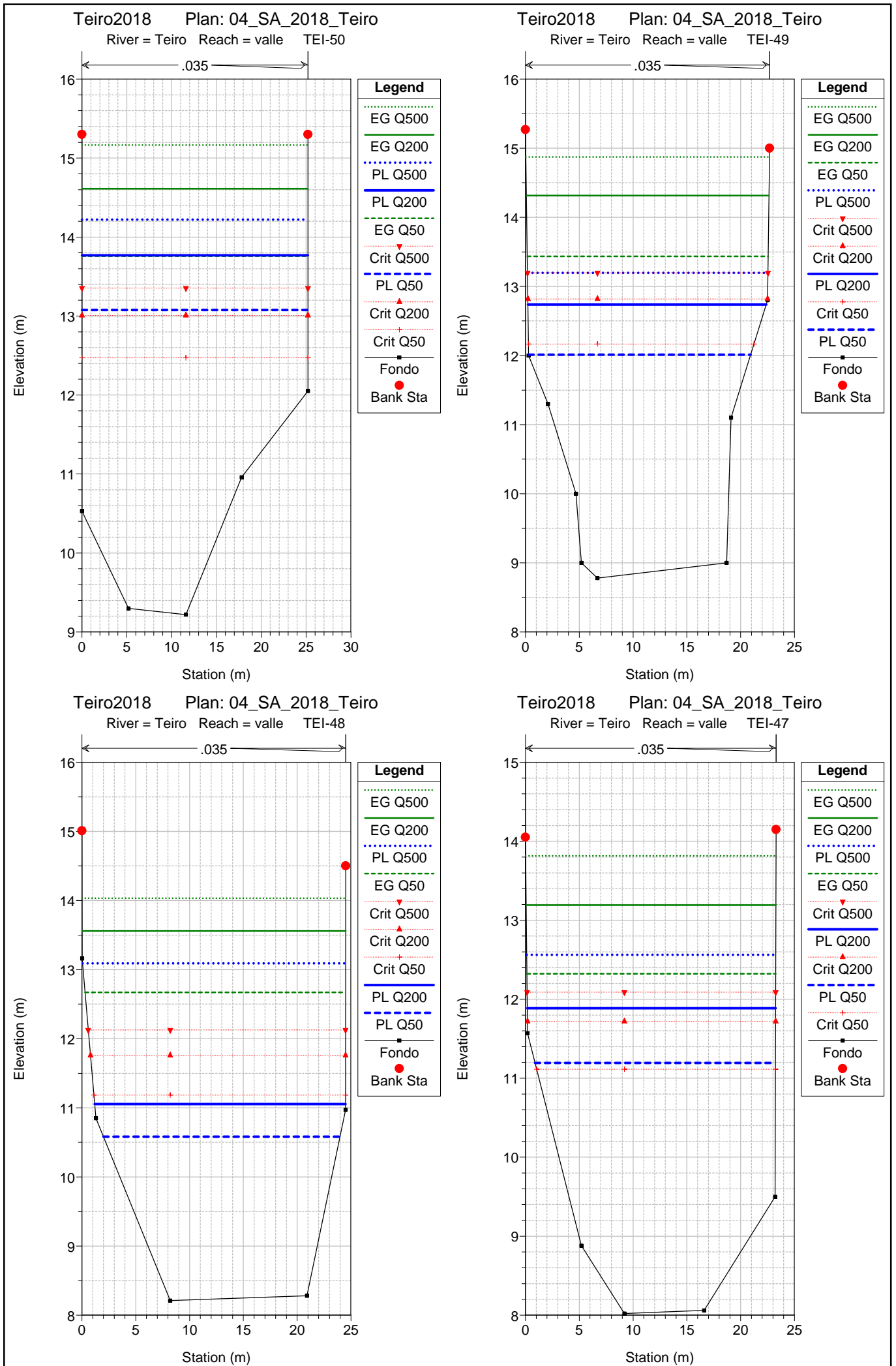


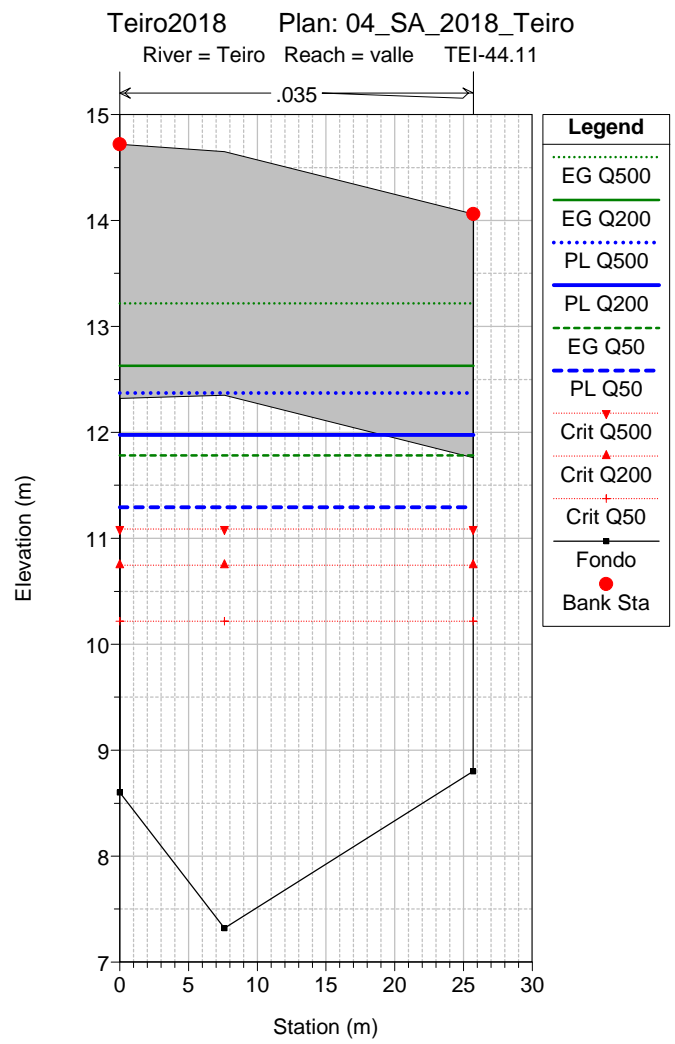
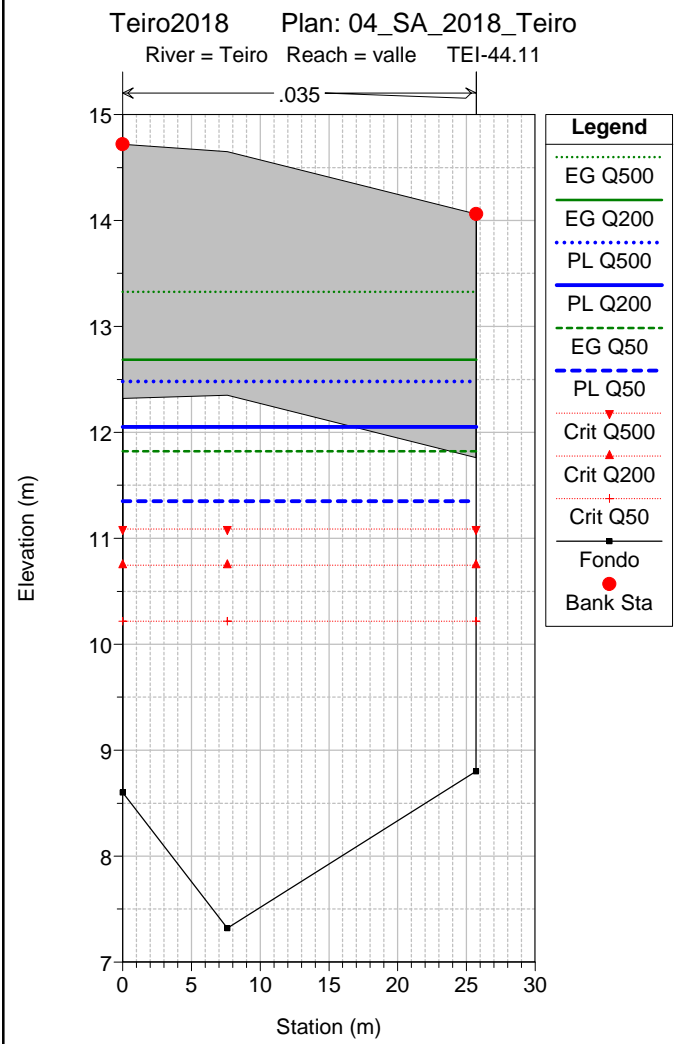
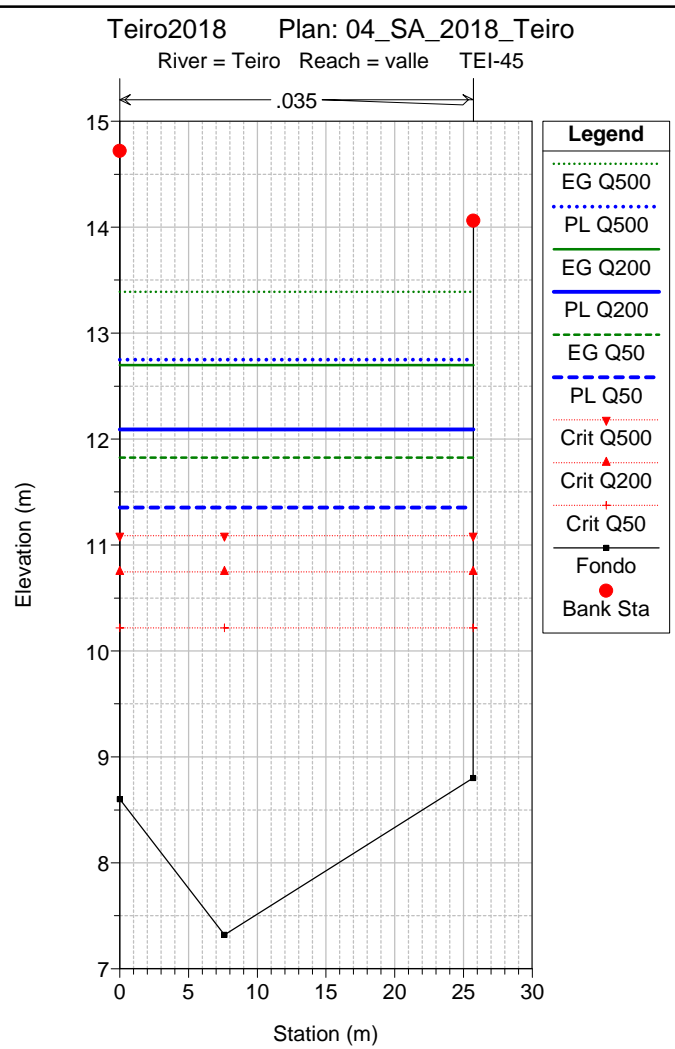
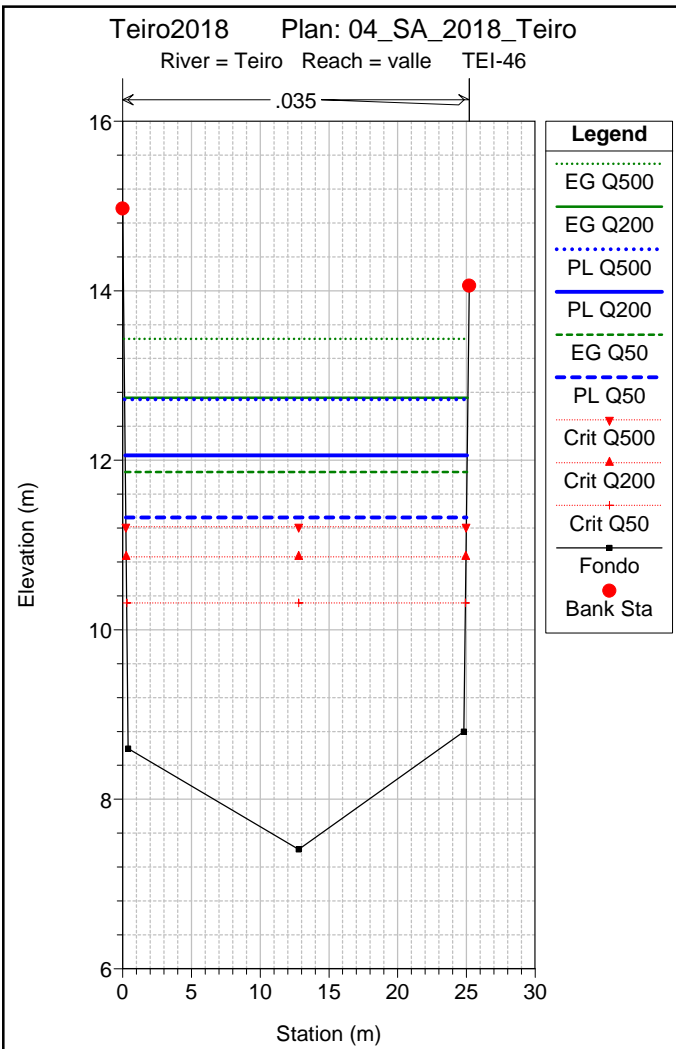


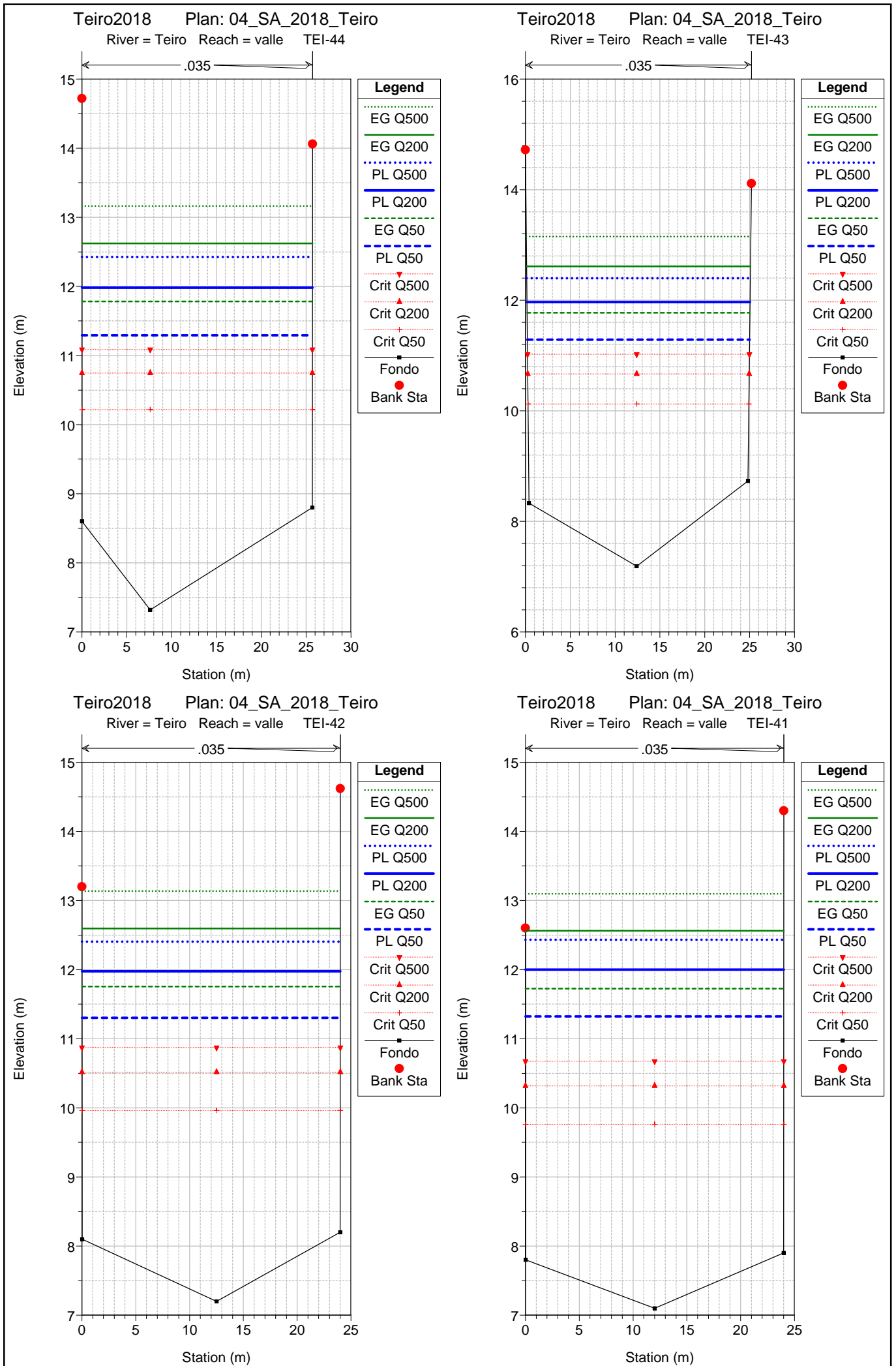


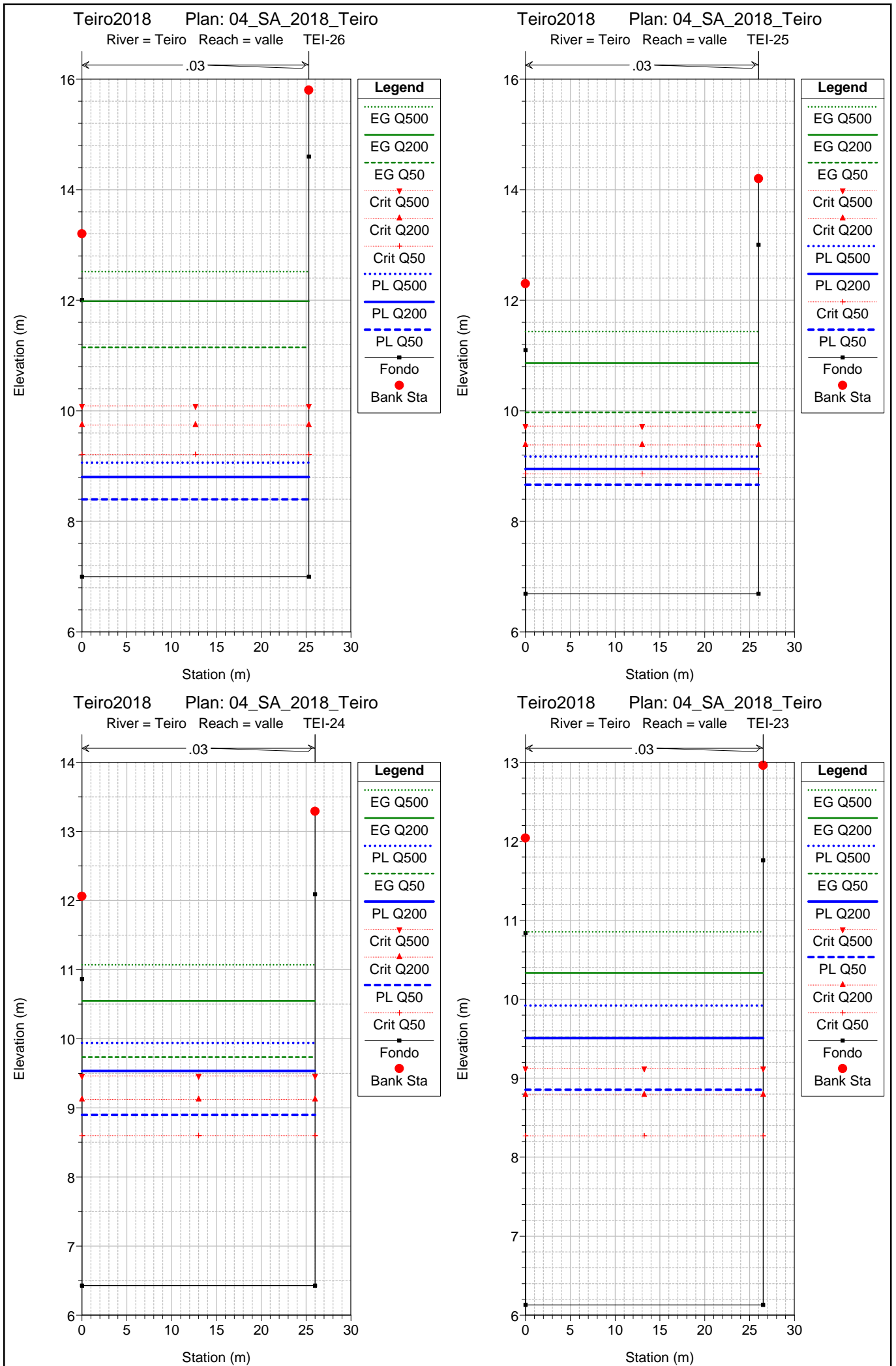


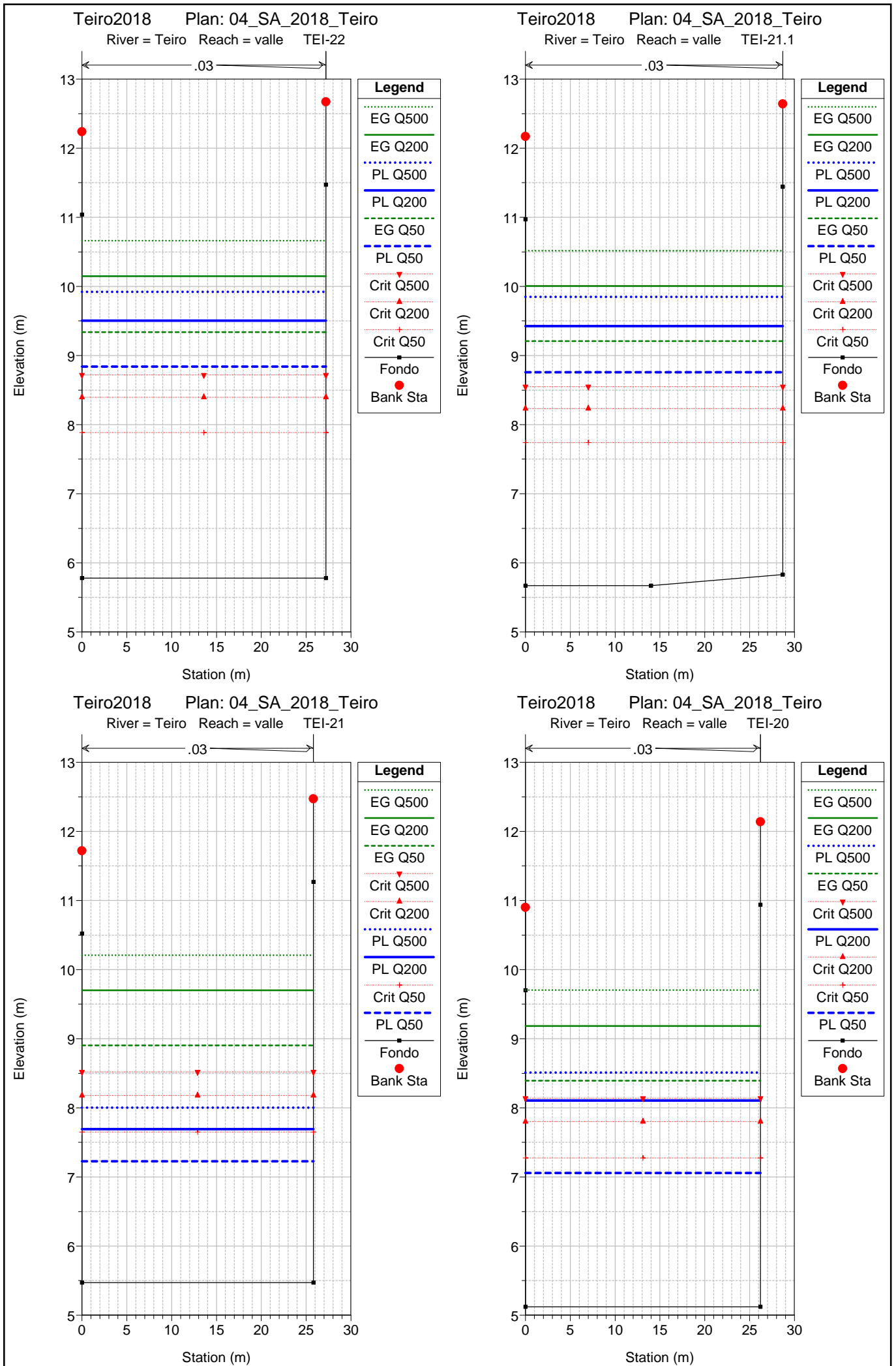


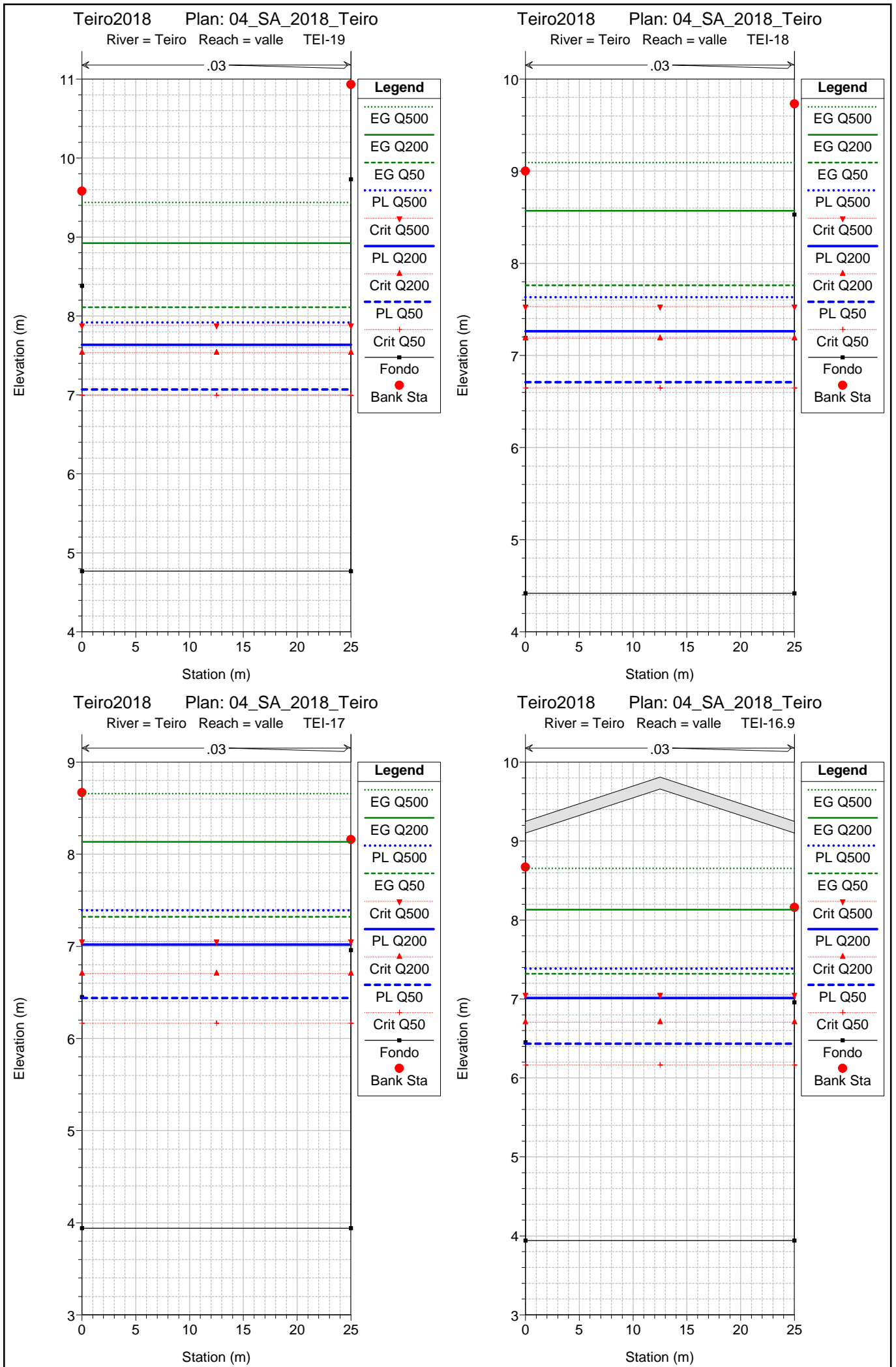


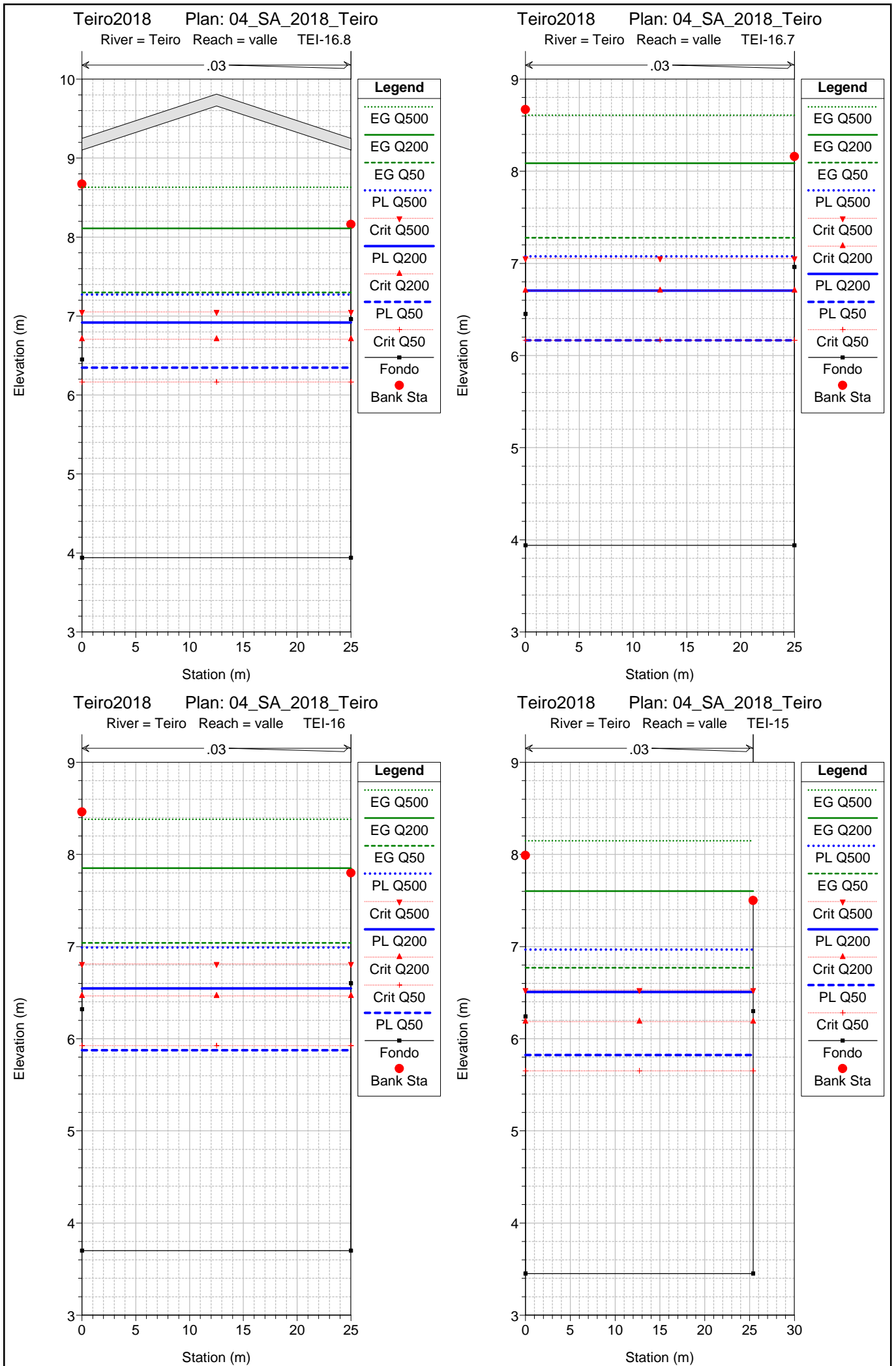


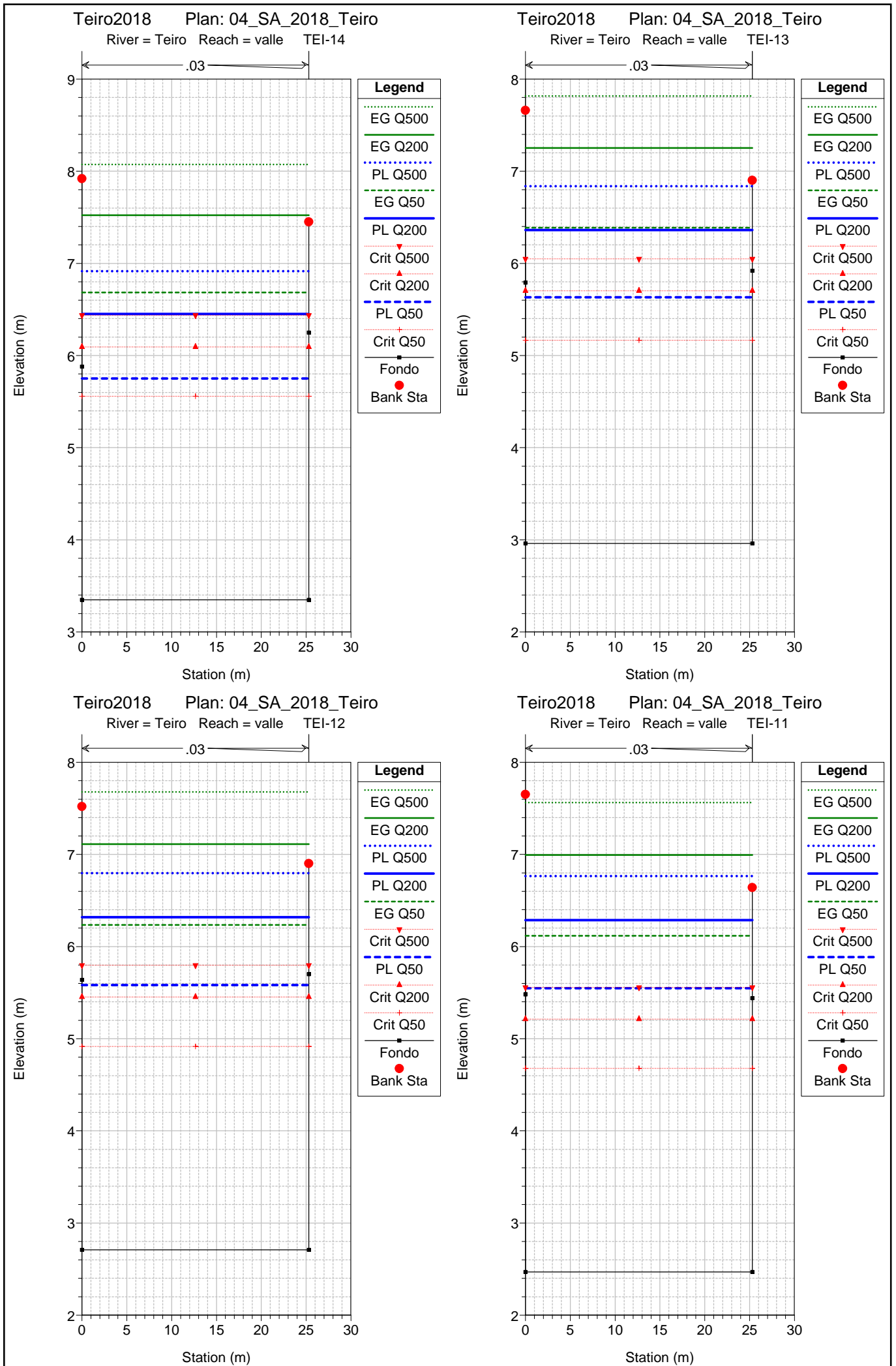


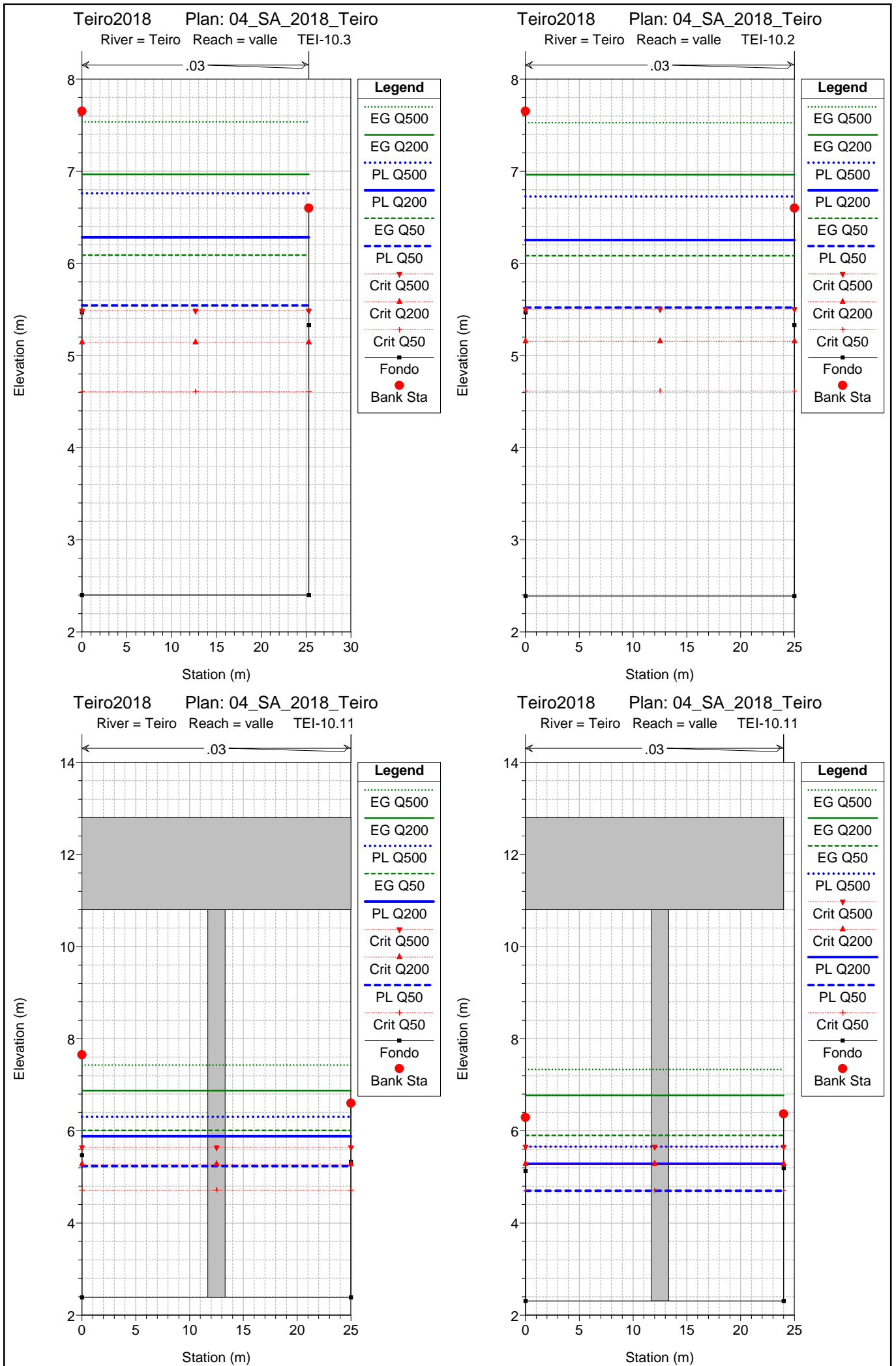


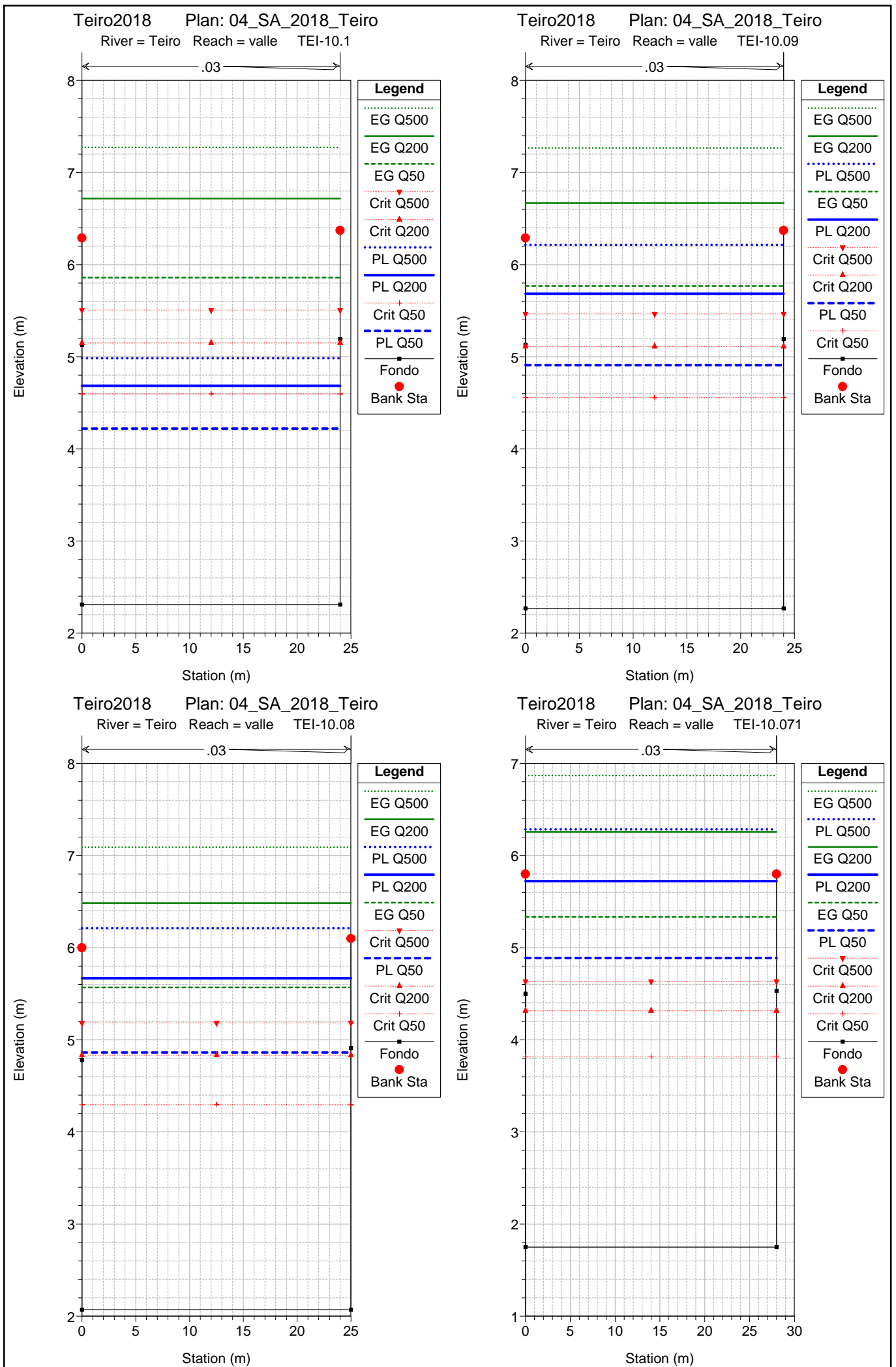


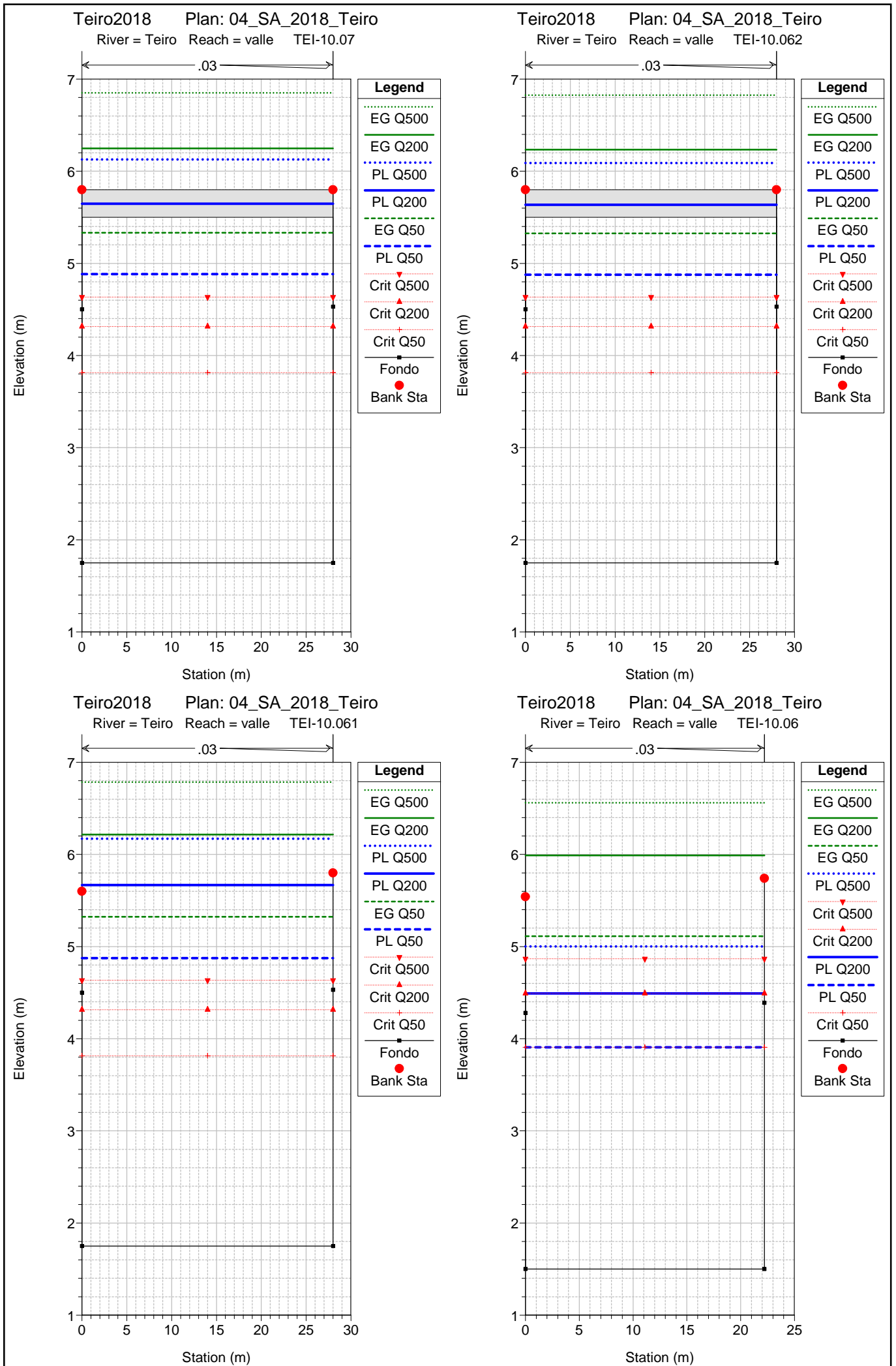


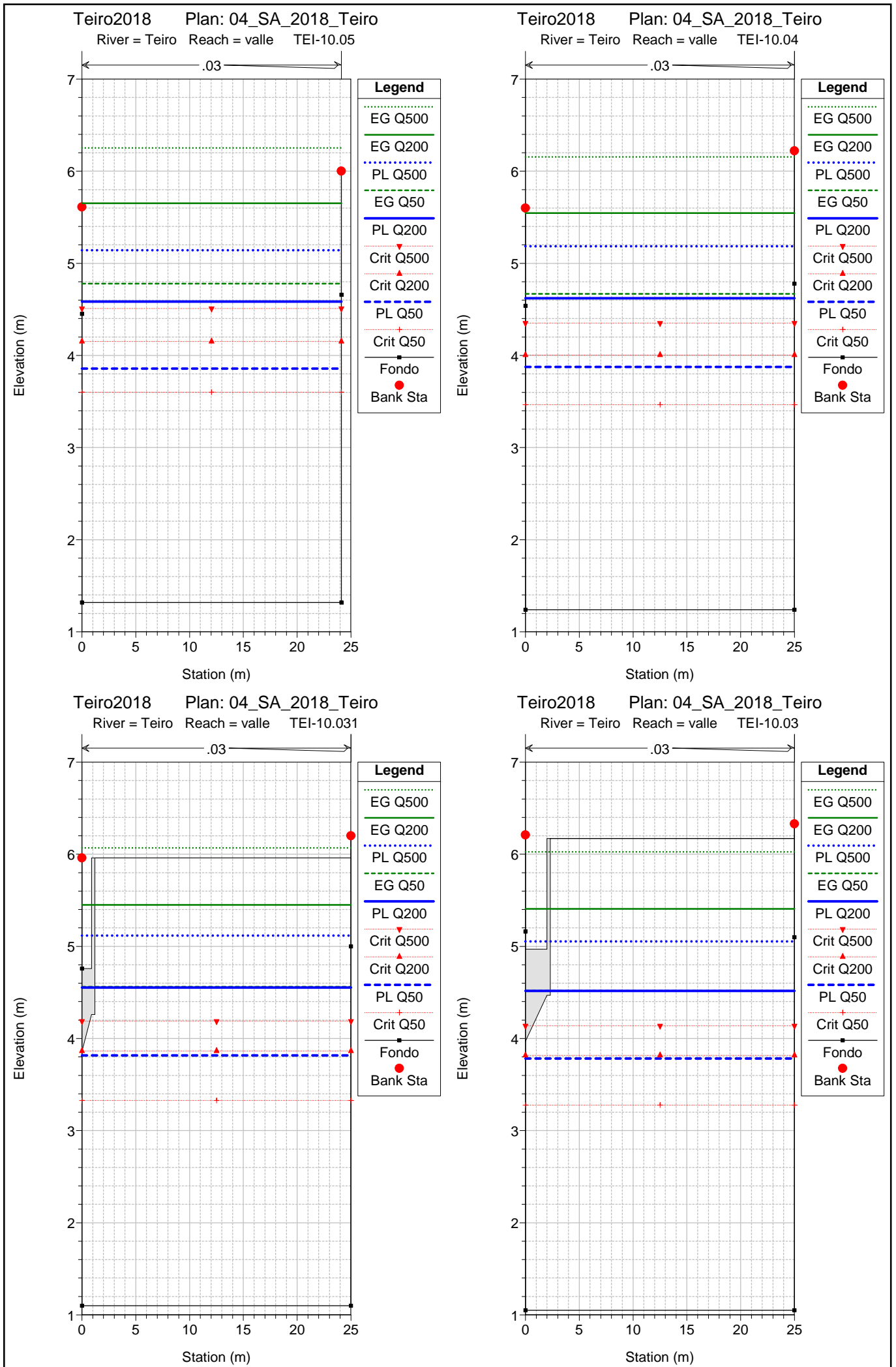


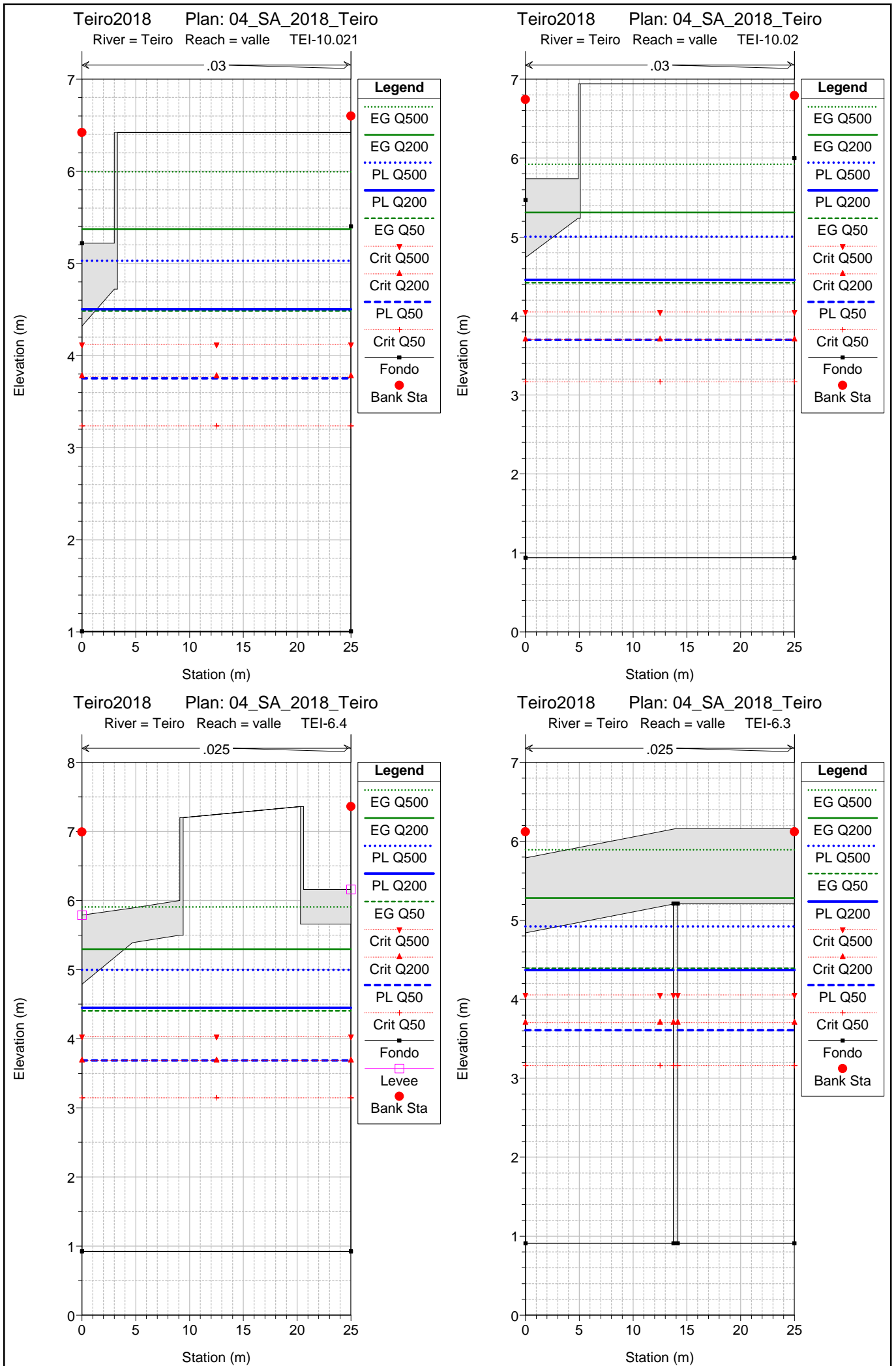


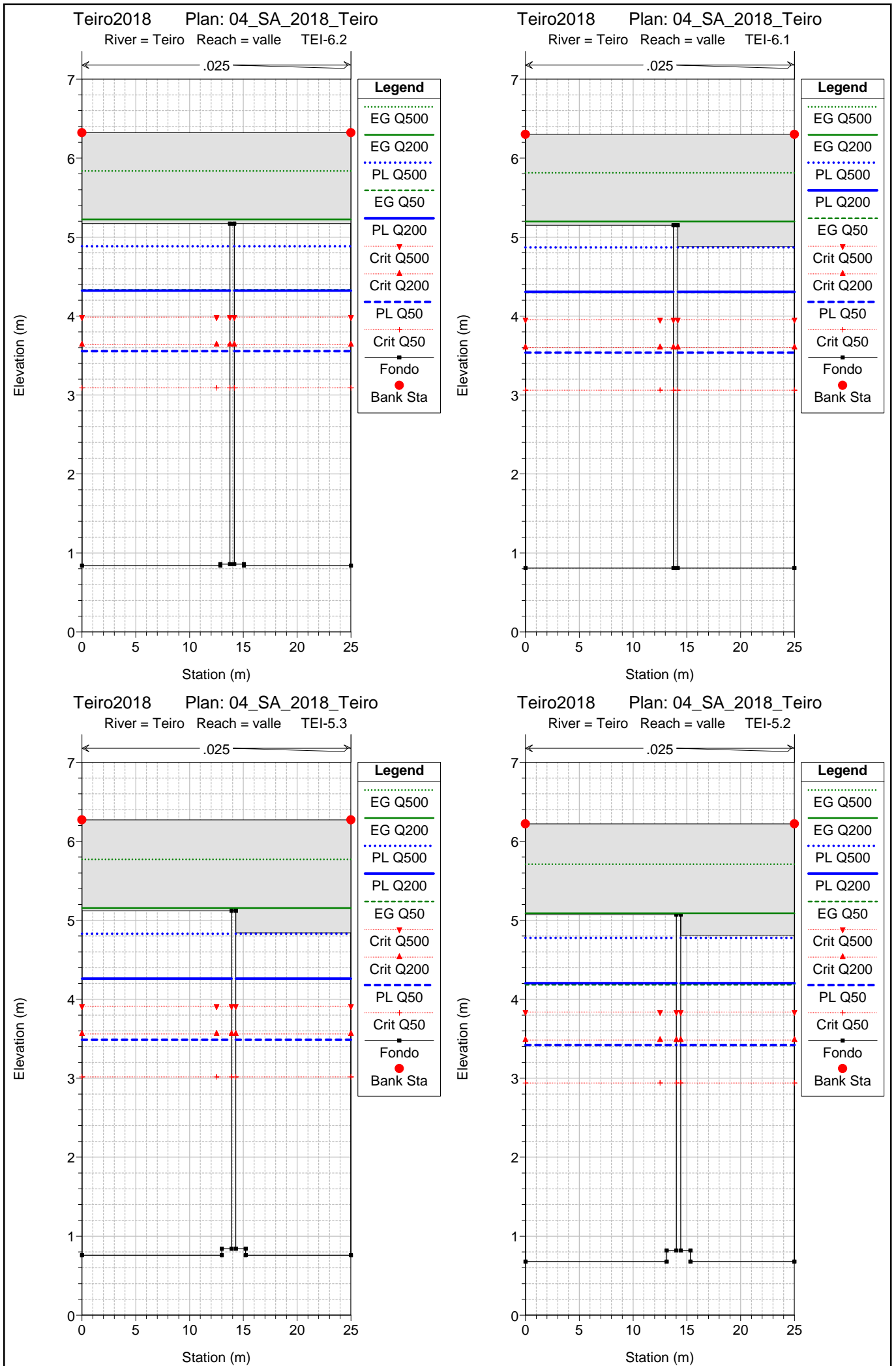


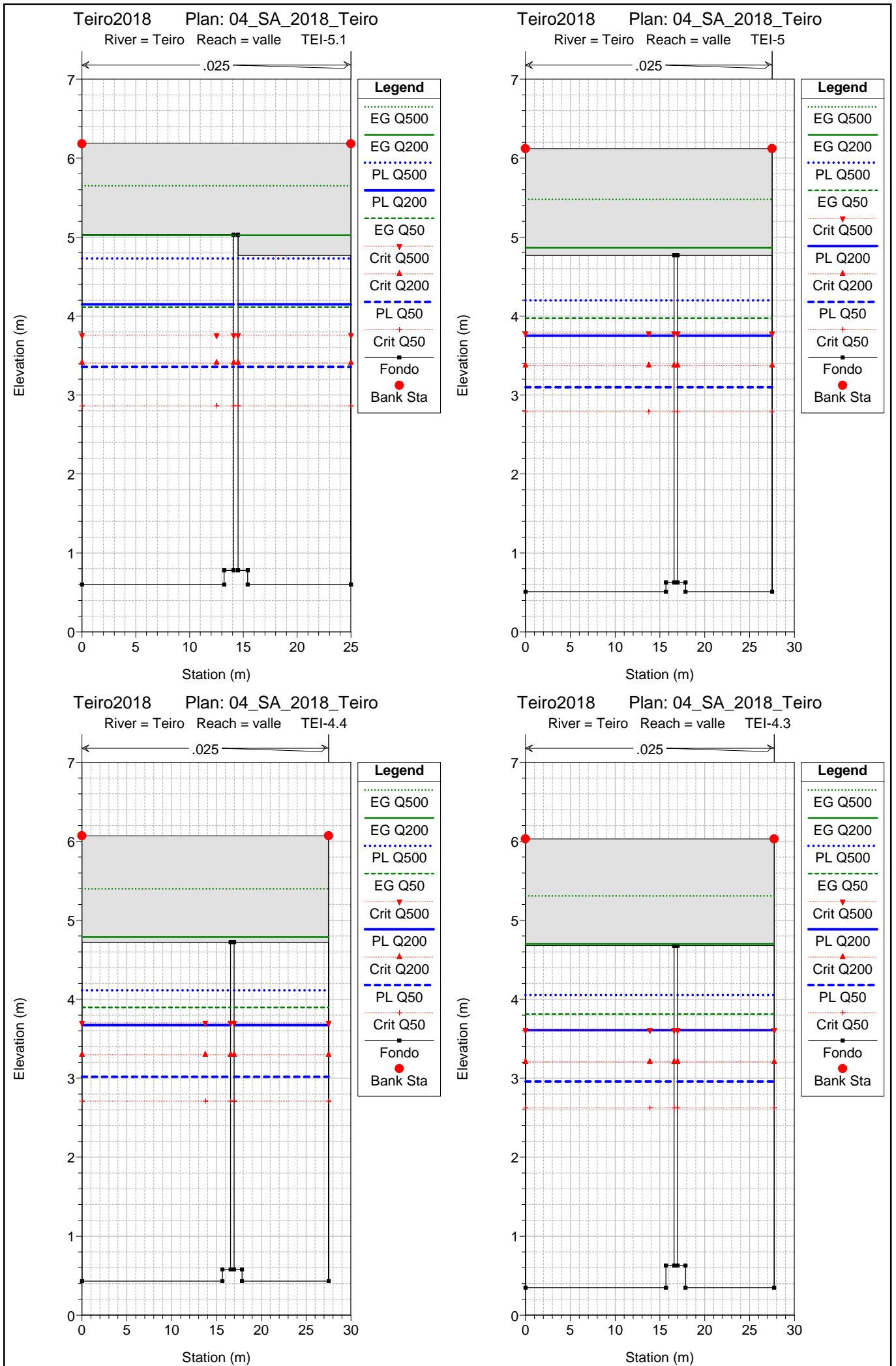


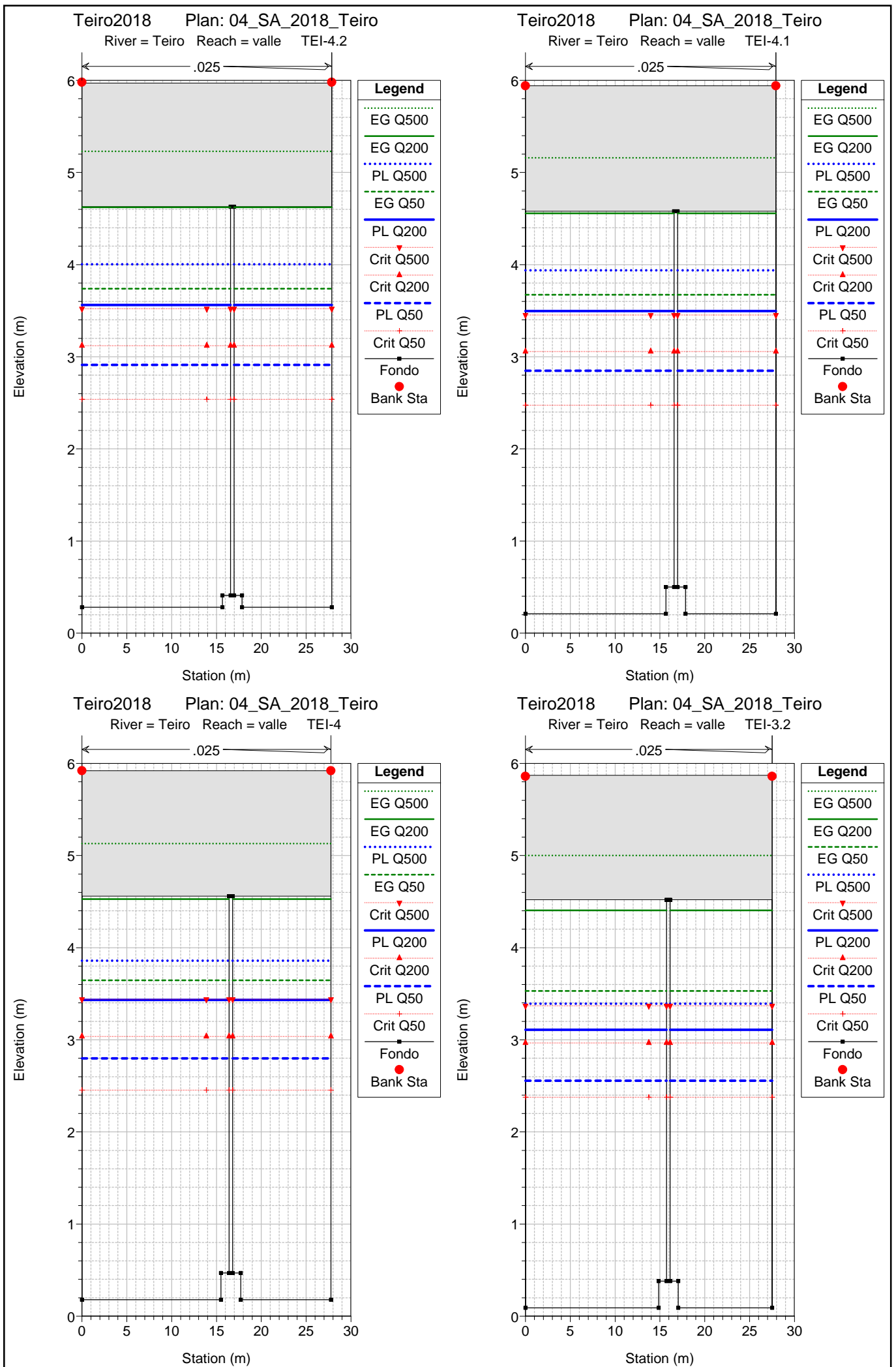


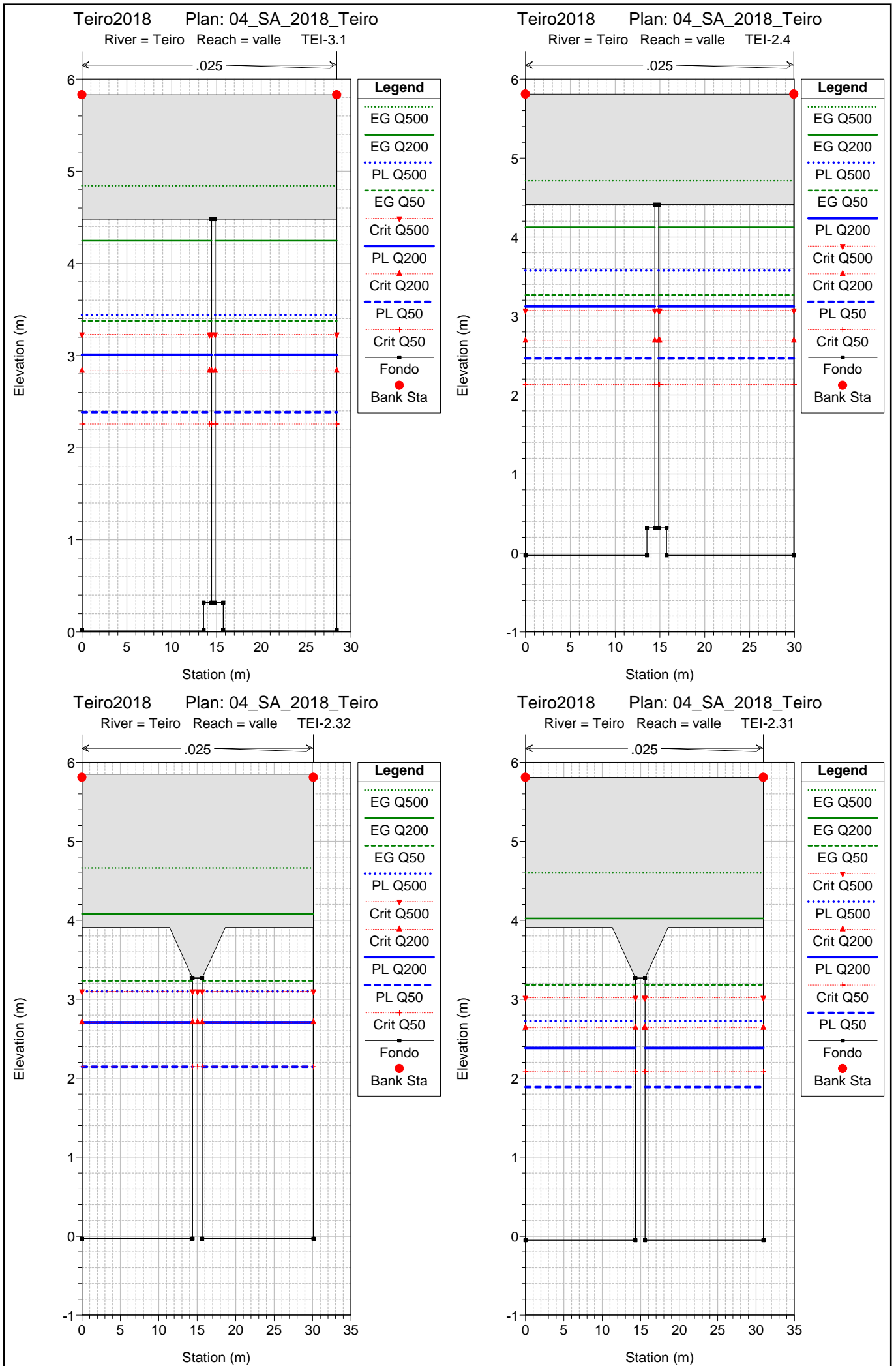


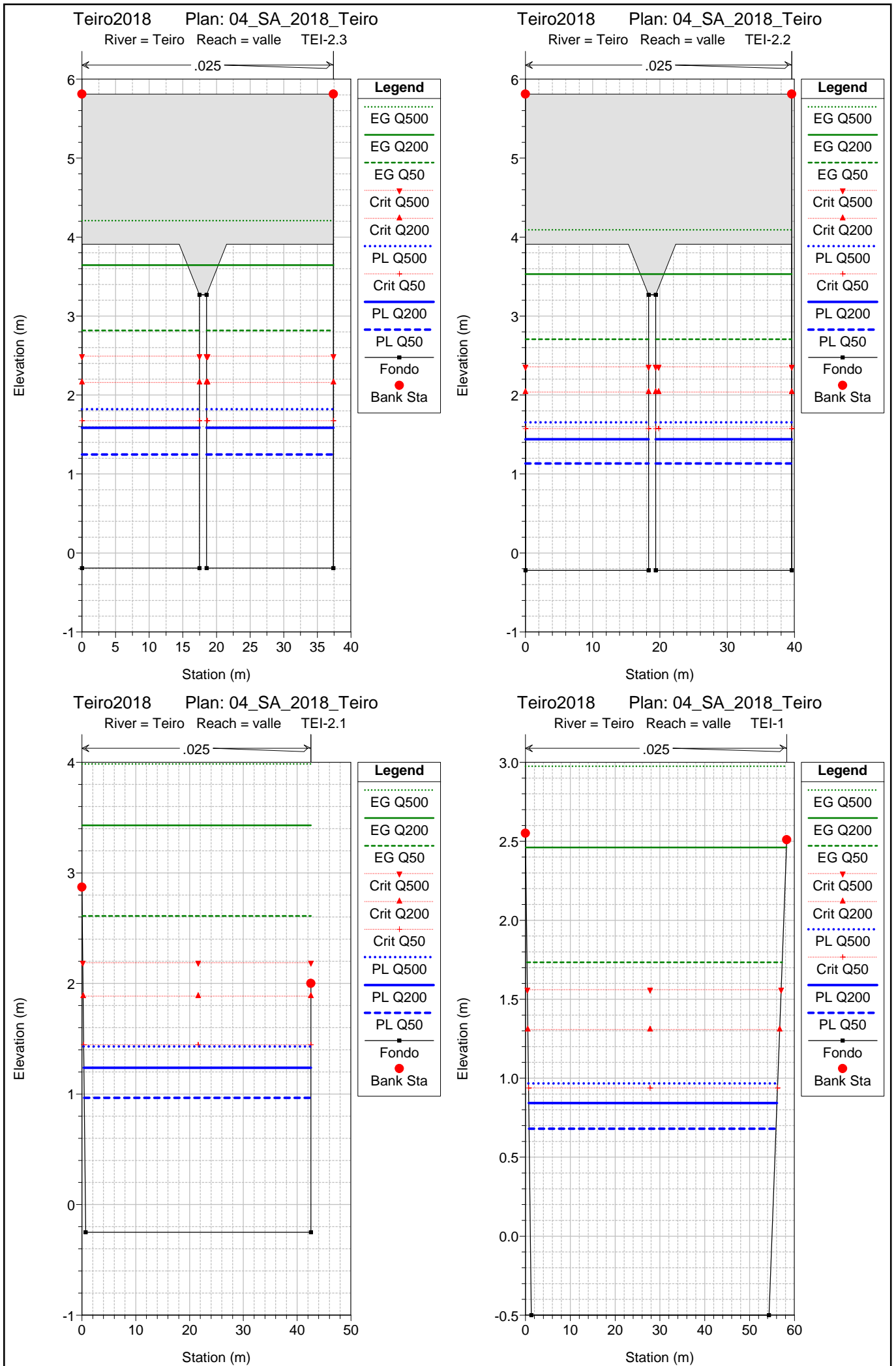












HEC-RAS Plan: 04_Teiro River: Teiro Reach: valle

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
valle	313	Q50	260.00	33.23	36.91	38.53	1.62	39.53	2.62	36.54	37.55	0.008251	3.52	73.85	36.26	0.79
valle	313	Q200	360.00	33.23	37.48	38.53	1.05	39.53	2.06	37.04	38.21	0.007639	3.79	95.03	39.30	0.78
valle	313	Q500	430.00	33.23	37.85	38.53	0.68	39.53	1.68	37.34	38.63	0.007089	3.91	109.97	40.88	0.76
valle	312	Q50	260.00	33.02	36.35	38.34	1.99	38.62	2.27	36.35	37.28	0.013396	4.29	60.67	32.44	1.00
valle	312	Q200	360.00	33.02	36.82	38.34	1.52	38.62	1.80	36.82	37.95	0.012707	4.71	76.37	33.77	1.00
valle	312	Q500	430.00	33.02	37.12	38.34	1.22	38.62	1.50	37.12	38.38	0.012341	4.97	86.60	34.45	1.00
valle	311	Q50	260.00	32.03	35.02	37.31	2.28	36.83	1.80	35.56	36.76	0.024325	5.83	44.59	22.80	1.33
valle	311	Q200	360.00	32.03	35.61	37.31	1.69	36.83	1.22	36.08	37.46	0.024030	6.02	59.76	29.00	1.34
valle	311	Q500	430.00	32.03	35.92	37.31	1.39	36.83	0.91	36.41	37.91	0.022777	6.25	68.80	30.27	1.32
valle	310	Q50	260.00	31.06	33.37	34.95	1.58	34.89	1.52	34.17	35.96	0.042268	7.14	36.43	21.14	1.74
valle	310	Q200	360.00	31.06	33.90	34.95	1.05	34.89	0.99	34.78	36.75	0.035531	7.48	48.13	22.56	1.63
valle	310	Q500	430.00	31.06	34.24	34.95	0.71	34.89	0.65	35.18	37.25	0.032537	7.68	56.00	23.46	1.59
valle	309	Q50	260.00	30.08	32.65	34.56	1.91	34.52	1.87	33.49	35.25	0.042169	7.14	36.41	20.37	1.70
valle	309	Q200	360.00	30.08	33.17	34.56	1.39	34.52	1.35	34.11	36.11	0.037702	7.59	47.43	22.12	1.65
valle	309	Q500	430.00	30.08	33.49	34.56	1.07	34.52	1.03	34.50	36.64	0.037112	7.86	54.69	23.95	1.66
valle	308	Q50	260.00	28.23	31.47	33.76	2.29	34.20	2.73	32.57	35.07	0.063957	8.41	30.93	18.76	2.09
valle	308	Q200	360.00	28.23	31.97	33.76	1.79	34.20	2.23	33.22	35.93	0.056304	8.83	40.79	20.79	2.01
valle	308	Q500	430.00	28.23	32.28	33.76	1.48	34.20	1.92	33.62	36.47	0.051767	9.07	47.43	21.69	1.96
valle	307	Q50	260.00	28.19	31.65	32.37	0.72	32.62	0.97	31.92	33.08	0.018580	5.30	49.02	23.53	1.17
valle	307	Q200	360.00	28.19	32.24	32.37	0.13	32.62	0.38	32.56	33.86	0.016949	5.64	63.87	26.01	1.15
valle	307	Q500	430.00	28.19	32.60	32.37	-0.23	32.62	0.02	32.97	34.34	0.015845	5.85	74.57	34.33	1.13
valle	306	Q50	260.00	26.76	29.52	30.80	1.28	30.86	1.34	30.25	31.93	0.034313	6.87	37.83	19.47	1.57
valle	306	Q200	360.00	26.76	30.09	30.80	0.71	30.86	0.77	31.10	32.81	0.030286	7.30	49.31	20.79	1.51
valle	306	Q500	430.00	26.76	30.47	30.80	0.34	30.86	0.40	31.49	33.34	0.028136	7.51	57.24	21.72	1.48
valle	305.4	Q50	260.00	26.20	29.58	30.80	1.22	30.86	1.28	30.01	31.40	0.021956	5.97	43.55	19.61	1.28
valle	305.4	Q200	360.00	26.20	30.18	30.80	0.62	30.86	0.68	30.75	32.31	0.020765	6.47	55.65	21.01	1.27
valle	305.4	Q500	430.00	26.20	30.59	30.80	0.21	30.86	0.27	31.31	32.86	0.019774	6.67	64.49	22.28	1.25
valle	305.3	Q50	260.00	26.10	27.54	30.50	2.96	30.50	2.96	28.55	31.18	0.088729	8.45	30.77	23.30	2.35
valle	305.3	Q200	360.00	26.10	27.93	30.50	2.57	30.50	2.57	29.12	32.07	0.074359	9.02	39.92	23.31	2.20
valle	305.3	Q500	430.00	26.10	28.20	30.50	2.30	30.50	2.30	29.48	32.61	0.066794	9.30	46.24	23.31	2.11
valle	305.25		Bridge													
valle	305.2	Q50	260.00	26.10	27.77	30.50	2.73	30.50	2.73	28.55	30.41	0.053336	7.20	36.10	23.31	1.85
valle	305.2	Q200	360.00	26.10	28.17	30.50	2.33	30.50	2.33	29.12	31.36	0.049219	7.91	45.51	23.31	1.81
valle	305.2	Q500	430.00	26.10	28.46	30.50	2.04	30.50	2.04	29.48	31.92	0.045816	8.24	52.17	23.31	1.76
valle	305	Q50	260.00	24.23	26.74	29.16	2.41	29.23	2.49	27.68	29.79	0.044026	7.73	33.62	17.17	1.76
valle	305	Q200	360.00	24.23	27.30	29.16	1.85	29.23	1.93	28.39	30.80	0.039364	8.29	43.45	17.91	1.70
valle	305	Q500	430.00	24.23	27.68	29.16	1.47	29.23	1.55	28.83	31.40	0.036544	8.55	50.31	18.42	1.65
valle	304.1	Q50	260.00	24.05	27.79	27.99	0.20	28.20	0.41	27.41	28.85	0.009834	4.57	56.95	18.96	0.84
valle	304.1	Q200	360.00	24.05	28.18	27.99	-0.19	28.20	0.02	28.02	29.84	0.033070	5.70	63.11	2.28	0.90
valle	304.1	Q500	430.00	24.05	28.30	27.99	-0.31	28.20	-0.10	28.07	30.61	0.065365	6.74	64.03	15.20	1.04

HEC-RAS Plan: 04_Teiro River: Teiro Reach: valle (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
valle	304	Q50	260.00	24.05	27.41	27.99	0.58	28.20	0.79	27.41	28.79	0.014154	5.20	50.00	18.14	1.00
valle	304	Q200	360.00	24.05	28.02	27.99	-0.03	28.20	0.18	28.02	29.77	0.019544	5.85	61.54	17.75	0.94
valle	304	Q500	430.00	24.05	28.07	27.99	-0.08	28.20	0.13	28.07	30.50	0.033373	6.90	62.28	12.97	1.10
valle	303	Q50	260.00	23.73	26.20	27.11	0.91	28.52	2.32	26.62	27.81	0.024881	5.62	46.25	26.28	1.35
valle	303	Q200	360.00	23.73	26.50	27.11	0.61	28.52	2.02	27.20	28.74	0.029509	6.64	54.25	27.18	1.50
valle	303	Q500	430.00	23.73	26.68	27.11	0.43	28.52	1.84	27.55	29.36	0.032345	7.26	59.26	27.73	1.58
valle	302	Q50	260.00	22.97	25.25	26.04	0.80	27.73	2.49	25.57	26.66	0.023202	5.28	49.25	29.03	1.29
valle	302	Q200	360.00	22.97	25.61	26.04	0.43	27.73	2.12	26.08	27.44	0.023940	5.99	60.14	29.78	1.34
valle	302	Q500	430.00	22.97	25.84	26.04	0.20	27.73	1.89	26.48	27.94	0.024519	6.42	66.95	30.21	1.38
valle	301	Q50	260.00	21.96	24.68	25.28	0.60	25.65	0.97	24.93	25.99	0.019283	5.07	51.26	27.72	1.19
valle	301	Q200	360.00	21.96	25.17	25.28	0.12	25.65	0.49	25.48	26.71	0.018478	5.50	65.43	30.23	1.19
valle	301	Q500	430.00	21.96	25.40	25.28	-0.12	25.65	0.25	25.81	27.18	0.019239	5.91	73.00	34.07	1.23
valle	300	Q50	260.00	19.97	23.12	24.54	1.42	24.62	1.50	23.39	24.59	0.019499	5.37	48.42	23.53	1.19
valle	300	Q200	360.00	19.97	23.89	24.54	0.65	24.62	0.73	23.97	25.36	0.014072	5.38	66.98	24.86	1.05
valle	300	Q500	430.00	19.97	24.25	24.54	0.29	24.62	0.37	24.64	25.84	0.015457	5.60	77.14	32.45	1.10
valle	217	Q50	260.00	18.65	22.99	24.61	1.62	23.75	0.76	21.81	23.59	0.002680	3.42	76.07	22.48	0.59
valle	217	Q200	360.00	18.65	23.77	24.61	0.84	23.75	-0.02	22.49	24.51	0.002944	3.79	95.75	40.45	0.63
valle	217	Q500	430.00	18.65	24.37	24.61	0.24	23.75	-0.62	22.94	25.07	0.002445	3.77	123.19	48.22	0.58
valle	216.2	Q50	260.00	18.36	22.36	24.14	1.78	22.23	-0.13	21.98	23.44	0.005431	4.61	56.58	20.86	0.83
valle	216.2	Q200	360.00	18.36	23.28	24.14	0.86	22.23	-1.05	22.90	24.38	0.004260	4.73	82.20	33.29	0.75
valle	216.2	Q500	430.00	18.36	24.08	24.14	0.06	22.23	-1.85	23.46	24.98	0.002993	4.37	110.42	37.15	0.64
valle	216.1	Q50	260.00	18.14	22.37	24.00	1.63	21.72	-0.65	21.94	23.36	0.004750	4.43	59.92	21.40	0.79
valle	216.1	Q200	360.00	18.14	23.14	24.00	0.86	21.72	-1.42	22.65	24.31	0.004468	4.84	77.82	31.22	0.77
valle	216.1	Q500	430.00	18.14	24.03	24.00	-0.03	21.72	-2.31	23.25	24.90	0.002891	4.34	116.32	46.21	0.63
valle	216	Q50	260.00	17.90	21.72	23.85	2.13	21.24	-0.48	21.91	23.18	0.007959	5.39	49.88	22.64	1.00
valle	216	Q200	360.00	17.90	22.56	23.85	1.29	21.24	-1.32	22.56	24.05	0.006386	5.54	68.94	22.91	0.91
valle	216	Q500	430.00	17.90	22.68	23.85	1.17	21.24	-1.44	23.06	24.64	0.008110	6.36	71.87	22.93	1.03
valle	215.1	Q50	260.00	18.00	21.02	23.56	2.54	22.18	1.16	21.36	22.68	0.011693	5.71	45.54	19.71	1.20
valle	215.1	Q200	360.00	18.00	21.94	23.56	1.62	22.18	0.24	22.05	23.49	0.008588	5.52	65.25	23.34	1.05
valle	215.1	Q500	430.00	18.00	21.88	23.56	1.68	22.18	0.30	22.76	24.19	0.012987	6.74	63.84	23.10	1.29
valle	215	Q50	260.00	17.90	20.27	23.20	2.93	21.99	1.72	20.80	22.14	0.019659	6.07	42.83	26.48	1.52
valle	215	Q200	360.00	17.90	20.69	23.20	2.51	21.99	1.30	21.32	22.95	0.018030	6.66	54.06	26.63	1.49
valle	215	Q500	430.00	17.90	20.87	23.20	2.33	21.99	1.12	21.65	23.59	0.019717	7.31	58.84	26.70	1.57
valle	214.3	Q50	260.00	17.74	19.90	22.90	3.00	21.82	1.92	20.40	21.67	0.019807	5.90	44.07	29.03	1.53
valle	214.3	Q200	360.00	17.74	20.22	22.90	2.68	21.82	1.60	20.89	22.51	0.020664	6.70	53.75	29.92	1.60
valle	214.3	Q500	430.00	17.74	20.40	22.90	2.50	21.82	1.42	21.20	23.11	0.022094	7.30	58.88	30.05	1.67
valle	214.2	Q50	260.00	17.79	20.08	22.31	2.23	22.03	1.95	20.08	21.14	0.008155	4.57	56.85	26.73	1.00
valle	214.2	Q200	360.00	17.79	20.60	22.31	1.71	22.03	1.43	20.60	21.91	0.007826	5.06	71.10	27.26	1.00
valle	214.2	Q500	430.00	17.79	20.94	22.31	1.37	22.03	1.09	20.94	22.40	0.007690	5.36	80.25	27.47	1.00

HEC-RAS Plan: 04_Teiro River: Teiro Reach: valle (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
valle	214.1	Q50	260.00	17.52	19.43	22.17	2.74	21.90	2.47	19.78	20.94	0.014995	5.45	47.71	27.40	1.32
valle	214.1	Q200	360.00	17.52	19.87	22.17	2.30	21.90	2.03	20.29	21.71	0.014062	6.02	59.80	27.51	1.30
valle	214.1	Q500	430.00	17.52	20.15	22.17	2.02	21.90	1.75	20.62	22.21	0.013613	6.35	67.67	27.57	1.29
valle	214	Q50	260.00	16.88	19.57	21.90	2.33	22.01	2.44	19.57	20.63	0.008149	4.55	57.16	27.10	1.00
valle	214	Q200	360.00	16.88	20.08	21.90	1.82	22.01	1.93	20.08	21.39	0.007904	5.07	71.05	27.15	1.00
valle	214	Q500	430.00	16.88	20.41	21.90	1.49	22.01	1.60	20.41	21.89	0.007802	5.37	80.00	27.19	1.00
valle	213	Q50	260.00	16.73	18.91	21.84	2.93	21.39	2.48	19.25	20.42	0.013992	5.45	47.67	26.83	1.31
valle	213	Q200	360.00	16.73	19.37	21.84	2.47	21.39	2.02	19.77	21.19	0.012875	5.98	60.17	26.93	1.28
valle	213	Q500	430.00	16.73	19.68	21.84	2.16	21.39	1.71	20.10	21.69	0.012305	6.29	68.40	27.00	1.26
valle	212	Q50	260.00	16.42	18.86	21.65	2.79	21.10	2.24	19.07	20.16	0.010667	5.06	51.41	26.87	1.17
valle	212	Q200	360.00	16.42	19.40	21.65	2.25	21.10	1.70	19.59	20.92	0.009388	5.46	65.91	26.95	1.11
valle	212	Q500	430.00	16.42	19.60	21.65	2.05	21.10	1.50	19.92	21.45	0.010438	6.02	71.56	27.98	1.18
valle	211	Q50	260.00	16.32	18.57	20.90	2.33	20.90	2.33	18.82	19.97	0.011333	5.25	49.55	25.21	1.19
valle	211	Q200	360.00	16.32	19.35	20.90	1.55	20.90	1.55	19.37	20.72	0.007648	5.19	69.53	26.47	1.01
valle	211	Q500	430.00	16.32	19.42	20.90	1.48	20.90	1.48	19.71	21.28	0.010043	6.04	71.49	26.50	1.15
valle	210	Q50	260.00	16.25	18.48	20.94	2.46	20.90	2.42	18.71	19.80	0.011357	5.10	51.00	27.16	1.19
valle	210	Q200	360.00	16.25	19.22	20.94	1.72	20.90	1.68	19.22	20.52	0.007665	5.06	71.22	28.42	1.00
valle	210	Q500	430.00	16.25	19.17	20.94	1.77	20.90	1.73	19.57	21.10	0.011630	6.16	69.77	28.40	1.23
valle	109	Q50	260.00	16.15	17.92	20.90	2.98	20.90	2.98	18.37	19.54	0.018666	5.63	46.16	32.42	1.51
valle	109	Q200	360.00	16.15	18.28	20.90	2.62	20.90	2.62	18.82	20.25	0.017329	6.22	57.87	32.55	1.49
valle	109	Q500	430.00	16.15	18.43	20.90	2.47	20.90	2.47	19.12	20.82	0.019039	6.85	62.82	32.61	1.57
valle	108.5	Q50	260.00	16.15	17.65	21.00	3.35	20.90	3.25	18.13	19.30	0.021970	5.68	45.75	35.48	1.60
valle	108.5	Q200	360.00	16.15	17.95	21.00	3.05	20.90	2.95	18.55	20.02	0.021571	6.37	56.55	36.02	1.62
valle	108.5	Q500	430.00	16.15	18.10	21.00	2.90	20.90	2.80	18.82	20.57	0.023185	6.96	61.75	36.03	1.70
valle	108.4	Q50	260.00	15.89	17.44	21.00	3.56	20.88	3.44	17.92	19.04	0.023166	5.61	46.37	38.07	1.62
valle	108.4	Q200	360.00	15.89	17.71	21.00	3.29	20.88	3.17	18.32	19.77	0.023388	6.36	56.56	38.33	1.67
valle	108.4	Q500	430.00	15.89	17.85	21.00	3.15	20.88	3.03	18.57	20.31	0.025720	6.95	61.91	39.40	1.77
valle	108.3	Q50	260.00	15.89	17.47	21.00	3.53	21.00	3.53	17.92	19.00	0.021509	5.48	47.44	38.10	1.57
valle	108.3	Q200	360.00	15.89	17.73	21.00	3.27	21.00	3.27	18.32	19.73	0.022165	6.26	57.51	38.36	1.63
valle	108.3	Q500	430.00	15.89	17.87	21.00	3.13	21.00	3.13	18.57	20.26	0.024597	6.85	62.77	39.40	1.73
valle	108.21		Bridge													
valle	108.2	Q50	260.00	15.55	17.73	21.00	3.27	21.00	3.27	17.83	18.68	0.009882	4.31	60.28	37.65	1.09
valle	108.2	Q200	360.00	15.55	18.05	21.00	2.95	21.00	2.95	18.24	19.31	0.010513	4.97	72.40	37.78	1.15
valle	108.2	Q500	430.00	15.55	18.09	21.00	2.91	21.00	2.91	18.50	19.82	0.014156	5.83	73.72	37.79	1.33
valle	108.1	Q50	260.00	15.69	17.63	20.00	2.37	20.84	3.21	17.76	18.64	0.010339	4.44	58.62	36.44	1.12
valle	108.1	Q200	360.00	15.69	18.01	20.00	1.99	20.84	2.83	18.18	19.27	0.010131	4.98	72.26	36.56	1.13
valle	108.1	Q500	430.00	15.69	18.23	20.00	1.77	20.84	2.61	18.45	19.69	0.010318	5.35	80.31	36.64	1.15
valle	107	Q50	260.00	15.68	17.51	20.00	2.49	20.84	3.33	17.67	18.55	0.011213	4.52	57.58	37.43	1.16
valle	107	Q200	360.00	15.68	17.82	20.00	2.18	20.84	3.02	18.08	19.20	0.011815	5.19	69.34	37.50	1.22
valle	107	Q500	430.00	15.68	18.58	20.00	1.42	20.84	2.26	18.35	19.57	0.005626	4.40	97.82	37.68	0.87

HEC-RAS Plan: 04_Teiro River: Teiro Reach: valle (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
valle	106.1	Q50	260.00	15.35	17.44	20.20	2.76	21.20	3.76	17.58	18.48	0.010476	4.51	57.70	36.10	1.14
valle	106.1	Q200	360.00	15.35	17.80	20.20	2.40	21.20	3.40	18.01	19.12	0.010492	5.10	70.64	36.10	1.16
valle	106.1	Q500	430.00	15.35	18.28	20.20	1.92	21.20	2.92	18.28	19.50	0.007449	4.89	87.94	36.10	1.00
valle	106	Q50	260.00	15.08	17.10	20.39	3.29	21.15	4.05	17.36	18.26	0.013591	4.77	54.47	38.70	1.28
valle	106	Q200	360.00	15.08	17.41	20.39	2.97	21.15	3.74	17.76	18.90	0.013568	5.40	66.67	38.70	1.31
valle	106	Q500	430.00	15.08	17.73	20.39	2.66	21.15	3.42	18.02	19.24	0.011230	5.44	78.99	38.70	1.22
valle	105	Q50	260.00	15.08	16.60	18.36	1.76	21.24	4.64	16.89	17.76	0.015835	4.78	54.36	43.30	1.36
valle	105	Q200	360.00	15.08	16.84	18.36	1.52	21.24	4.40	17.26	18.41	0.017160	5.56	64.79	43.30	1.45
valle	105	Q500	430.00	15.08	17.03	18.36	1.33	21.24	4.21	17.50	18.79	0.016480	5.87	73.21	43.30	1.44
valle	90	Q50	260.00	14.58	16.14	18.30	2.16	21.20	5.06	16.57	17.62	0.030329	5.39	48.25	41.85	1.60
valle	90	Q200	360.00	14.58	16.41	18.30	1.89	21.20	4.79	16.97	18.27	0.029365	6.04	59.61	42.18	1.62
valle	90	Q500	430.00	14.58	16.61	18.30	1.69	21.20	4.59	17.20	18.65	0.028486	6.34	67.84	43.43	1.62
valle	80	Q50	260.00	14.08	16.58	18.11	1.53	21.90	5.32	16.26	17.08	0.005930	3.14	82.81	45.90	0.75
valle	80	Q200	360.00	14.08	17.13	18.11	0.98	21.90	4.77	16.62	17.69	0.004847	3.34	107.91	45.90	0.69
valle	80	Q500	430.00	14.08	17.46	18.11	0.65	21.90	4.44	16.85	18.08	0.004548	3.50	123.00	45.90	0.68
valle	70	Q50	260.00	13.95	16.43	17.80	1.37	23.22	6.79	15.96	16.95	0.005647	3.21	80.98	42.02	0.74
valle	70	Q200	360.00	13.95	16.95	17.80	0.85	23.22	6.27	16.46	17.57	0.004997	3.49	103.20	42.41	0.71
valle	70	Q500	430.00	13.95	17.26	17.80	0.54	23.22	5.96	16.70	17.96	0.004909	3.70	116.11	42.63	0.72
valle	60	Q50	260.00	13.89	15.88	17.54	1.66	24.37	8.49	15.88	16.76	0.010738	4.16	62.54	35.55	1.00
valle	60	Q200	360.00	13.89	16.36	17.54	1.18	24.37	8.01	16.36	17.38	0.010340	4.47	80.57	39.66	1.00
valle	60	Q500	430.00	13.89	16.63	17.54	0.91	24.37	7.74	16.63	17.76	0.010058	4.72	91.16	40.21	1.00
valle	56	Q50	260.00	13.27	14.84	17.92	3.08	21.00	6.16	15.31	16.47	0.031979	5.67	45.88	37.60	1.64
valle	56	Q200	360.00	13.27	15.17	17.92	2.75	21.00	5.83	15.72	17.10	0.027854	6.15	58.53	37.60	1.57
valle	56	Q500	430.00	13.27	15.41	17.92	2.51	21.00	5.59	15.99	17.49	0.025420	6.40	67.24	37.60	1.53
valle	55	Q50	260.00	12.71	15.27	17.19	1.92	16.56	1.29	14.85	15.87	0.005618	3.41	76.20	34.16	0.73
valle	55	Q200	360.00	12.71	15.93	17.19	1.26	16.56	0.63	15.29	16.61	0.004763	3.65	98.68	34.25	0.69
valle	55	Q500	430.00	12.71	16.40	17.19	0.79	16.56	0.16	15.57	17.11	0.004251	3.75	114.67	34.31	0.65
valle	54.992		Lat Struct													
valle	54	Q50	260.00	11.98	15.15	16.81	1.66	16.40	1.25	14.43	15.65	0.003859	3.15	82.44	31.37	0.62
valle	54	Q200	360.00	11.98	15.81	16.81	1.00	16.40	0.59	14.89	16.43	0.003677	3.49	103.21	31.52	0.62
valle	54	Q500	430.00	11.98	16.28	16.81	0.53	16.40	0.12	15.19	16.95	0.003471	3.64	118.04	31.62	0.60
valle	53.992		Lat Struct													
valle	53	Q50	260.00	11.60	14.43	16.09	1.66	16.09	1.66	14.39	15.43	0.009929	4.44	58.53	27.71	0.98
valle	53	Q200	360.00	11.60	15.21	16.09	0.88	16.09	0.88	14.90	16.23	0.007088	4.48	80.36	27.85	0.84
valle	53	Q500	430.00	11.60	15.73	16.09	0.36	16.09	0.36	15.22	16.78	0.006076	4.53	94.85	27.94	0.79
valle	52	Q50	260.00	11.13	13.96	15.50	1.54	16.10	2.14	13.96	15.14	0.011312	4.80	54.16	23.10	1.00
valle	52	Q200	360.00	11.13	14.53	15.50	0.97	16.10	1.57	14.53	15.99	0.011085	5.35	67.33	23.10	1.00
valle	52	Q500	430.00	11.13	14.90	15.50	0.60	16.10	1.20	14.90	16.54	0.011032	5.67	75.78	23.11	1.00

HEC-RAS Plan: 04_Teiro River: Teiro Reach: valle (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
valle	51	Q50	260.00	9.91	11.24	15.50	4.26	16.10	4.86	12.26	14.87	0.068582	8.43	30.83	23.09	2.33
valle	51	Q200	360.00	9.91	11.66	15.50	3.84	16.10	4.44	12.83	15.71	0.055771	8.92	40.38	23.10	2.15
valle	51	Q500	430.00	9.91	11.93	15.50	3.57	16.10	4.17	13.19	16.25	0.050316	9.21	46.71	23.10	2.07
valle	50	Q50	260.00	9.22	13.08	15.30	2.22	15.30	2.22	12.47	13.76	0.005039	3.66	70.96	25.20	0.70
valle	50	Q200	360.00	9.22	13.77	15.30	1.53	15.30	1.53	13.01	14.61	0.004932	4.07	88.44	25.20	0.69
valle	50	Q500	430.00	9.22	14.22	15.30	1.08	15.30	1.08	13.35	15.17	0.004887	4.31	99.82	25.20	0.69
valle	49	Q50	260.00	8.78	12.01	15.27	3.26	15.00	2.99	12.17	13.43	0.012891	5.28	49.20	20.62	1.09
valle	49	Q200	360.00	8.78	12.74	15.27	2.53	15.00	2.26	12.82	14.31	0.011249	5.56	64.71	22.14	1.04
valle	49	Q500	430.00	8.78	13.20	15.27	2.07	15.00	1.80	13.20	14.87	0.010342	5.74	74.95	22.35	1.00
valle	48	Q50	260.00	8.21	10.58	15.01	4.43	14.50	3.92	11.18	12.67	0.023779	6.40	40.62	21.99	1.50
valle	48	Q200	360.00	8.21	11.05	15.01	3.96	14.50	3.45	11.76	13.56	0.022958	7.01	51.33	23.31	1.51
valle	48	Q500	430.00	8.21	13.09	15.01	1.92	14.50	1.41	12.13	14.03	0.004405	4.30	99.97	24.46	0.68
valle	47	Q50	260.00	8.02	11.19	14.05	2.86	14.15	2.96	11.11	12.32	0.009331	4.71	55.26	22.34	0.95
valle	47	Q200	360.00	8.02	11.89	14.05	2.16	14.15	2.26	11.72	13.19	0.008487	5.06	71.08	23.08	0.92
valle	47	Q500	430.00	8.02	12.56	14.05	1.49	14.15	1.59	12.09	13.82	0.006673	4.96	86.69	23.15	0.82
valle	46	Q50	260.00	7.41	11.33	14.97	3.64	14.06	2.73	10.31	11.86	0.003424	3.24	80.31	24.76	0.57
valle	46	Q200	360.00	7.41	12.06	14.97	2.91	14.06	2.00	10.86	12.74	0.003549	3.66	98.45	24.86	0.59
valle	46	Q500	430.00	7.41	12.72	14.97	2.25	14.06	1.34	11.22	13.43	0.003198	3.74	114.89	24.96	0.56
valle	45	Q50	260.00	7.32	11.35	14.72	3.37	14.06	2.71	10.22	11.83	0.002963	3.05	85.38	25.70	0.53
valle	45	Q200	360.00	7.32	12.09	14.72	2.63	14.06	1.97	10.75	12.70	0.003097	3.45	104.34	25.70	0.55
valle	45	Q500	430.00	7.32	12.75	14.72	1.97	14.06	1.31	11.09	13.39	0.002820	3.55	121.29	25.70	0.52
valle	44.11		Bridge													
valle	44	Q50	260.00	7.32	11.29	14.72	3.43	14.06	2.77	10.22	11.78	0.003136	3.10	83.81	25.70	0.55
valle	44	Q200	360.00	7.32	11.98	14.72	2.74	14.06	2.08	10.75	12.62	0.003360	3.55	101.55	25.70	0.57
valle	44	Q500	430.00	7.32	12.43	14.72	2.29	14.06	1.63	11.09	13.16	0.003486	3.81	112.94	25.70	0.58
valle	43	Q50	260.00	7.19	11.29	14.72	3.43	14.11	2.82	10.12	11.77	0.002969	3.09	84.13	24.78	0.54
valle	43	Q200	360.00	7.19	11.97	14.72	2.75	14.11	2.14	10.67	12.61	0.003290	3.57	100.93	24.87	0.57
valle	43	Q500	430.00	7.19	12.40	14.72	2.32	14.11	1.71	11.02	13.15	0.003475	3.85	111.67	24.93	0.58
valle	42	Q50	260.00	7.20	11.30	13.20	1.90	14.62	3.32	9.96	11.76	0.002685	2.99	87.04	24.00	0.50
valle	42	Q200	360.00	7.20	11.98	13.20	1.22	14.62	2.64	10.52	12.60	0.003088	3.49	103.24	24.00	0.54
valle	42	Q500	430.00	7.20	12.41	13.20	0.79	14.62	2.21	10.87	13.14	0.003325	3.79	113.54	24.00	0.56
valle	41	Q50	260.00	7.10	11.32	12.60	1.28	14.30	2.98	9.76	11.73	0.002267	2.82	92.31	24.00	0.46
valle	41	Q200	360.00	7.10	12.00	12.60	0.60	14.30	2.30	10.32	12.56	0.002676	3.31	108.60	24.01	0.50
valle	41	Q500	430.00	7.10	12.43	12.60	0.17	14.30	1.87	10.68	13.10	0.002919	3.61	118.96	24.01	0.52
valle	26	Q50	260.00	7.00	8.40	13.20	4.80	15.80	7.40	9.21	11.15	0.035657	7.34	35.41	25.30	1.98
valle	26	Q200	360.00	7.00	8.80	13.20	4.40	15.80	7.00	9.74	11.98	0.030651	7.90	45.55	25.30	1.88
valle	26	Q500	430.00	7.00	9.06	13.20	4.14	15.80	6.74	10.09	12.52	0.028421	8.24	52.21	25.30	1.83
valle	25	Q50	260.00	6.69	8.66	12.30	3.64	14.20	5.54	8.86	9.97	0.011296	5.07	51.28	26.00	1.15
valle	25	Q200	360.00	6.69	8.95	12.30	3.35	14.20	5.25	9.38	10.86	0.014106	6.13	58.76	26.00	1.30
valle	25	Q500	430.00	6.69	9.17	12.30	3.13	14.20	5.03	9.72	11.43	0.014975	6.66	64.58	26.00	1.35

HEC-RAS Plan: 04_Teiro River: Teiro Reach: valle (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
valle	24	Q50	260.00	6.43	8.90	12.06	3.16	13.29	4.39	8.60	9.73	0.005596	4.05	64.13	26.00	0.82
valle	24	Q200	360.00	6.43	9.53	12.06	2.53	13.29	3.76	9.12	10.55	0.005258	4.46	80.72	26.00	0.81
valle	24	Q500	430.00	6.43	9.94	12.06	2.12	13.29	3.35	9.46	11.07	0.005157	4.71	91.23	26.00	0.80
valle	23	Q50	260.00	6.13	8.85	12.04	3.19	12.96	4.11	8.27	9.52	0.003935	3.60	72.20	26.50	0.70
valle	23	Q200	360.00	6.13	9.51	12.04	2.53	12.96	3.45	8.79	10.33	0.003887	4.02	89.52	26.50	0.70
valle	23	Q500	430.00	6.13	9.92	12.04	2.12	12.96	3.04	9.12	10.85	0.003907	4.28	100.41	26.50	0.70
valle	22	Q50	260.00	5.78	8.84	12.24	3.40	12.67	3.83	7.88	9.34	0.002589	3.12	83.26	27.20	0.57
valle	22	Q200	360.00	5.78	9.50	12.24	2.74	12.67	3.17	8.39	10.15	0.002720	3.55	101.29	27.20	0.59
valle	22	Q500	430.00	5.78	9.92	12.24	2.32	12.67	2.75	8.72	10.66	0.002813	3.82	112.62	27.20	0.60
valle	21.1	Q50	260.00	5.67	8.76	12.17	3.41	12.64	3.88	7.74	9.21	0.002324	2.97	87.42	28.70	0.54
valle	21.1	Q200	360.00	5.67	9.42	12.17	2.75	12.64	3.22	8.23	10.01	0.002419	3.38	106.59	28.70	0.56
valle	21.1	Q500	430.00	5.67	9.85	12.17	2.32	12.64	2.79	8.55	10.52	0.002481	3.62	118.79	28.70	0.57
valle	21	Q50	260.00	5.47	7.23	11.72	4.49	12.47	5.24	7.65	8.90	0.016591	5.74	45.30	25.80	1.38
valle	21	Q200	360.00	5.47	7.69	11.72	4.03	12.47	4.78	8.18	9.70	0.015163	6.28	57.29	25.80	1.35
valle	21	Q500	430.00	5.47	8.00	11.72	3.72	12.47	4.47	8.52	10.21	0.014316	6.58	65.37	25.80	1.32
valle	20	Q50	260.00	5.12	7.06	10.90	3.84	12.14	5.08	7.28	8.39	0.011729	5.12	50.79	26.20	1.17
valle	20	Q200	360.00	5.12	8.11	10.90	2.79	12.14	4.03	7.80	9.19	0.005821	4.60	78.26	26.20	0.85
valle	20	Q500	430.00	5.12	8.51	10.90	2.39	12.14	3.63	8.14	9.70	0.005626	4.84	88.84	26.20	0.84
valle	19	Q50	260.00	4.77	7.07	9.58	2.51	10.93	3.86	7.00	8.11	0.007589	4.52	57.51	25.00	0.95
valle	19	Q200	360.00	4.77	7.64	9.58	1.94	10.93	3.29	7.54	8.92	0.007356	5.03	71.63	25.00	0.95
valle	19	Q500	430.00	4.77	7.92	9.58	1.66	10.93	3.01	7.88	9.44	0.007857	5.46	78.70	25.00	0.98
valle	18	Q50	260.00	4.42	6.71	9.00	2.29	9.73	3.02	6.65	7.76	0.007697	4.54	57.25	25.00	0.96
valle	18	Q200	360.00	4.42	7.26	9.00	1.74	9.73	2.47	7.18	8.57	0.007537	5.07	71.07	25.00	0.96
valle	18	Q500	430.00	4.42	7.63	9.00	1.37	9.73	2.10	7.53	9.09	0.007385	5.35	80.31	25.00	0.95
valle	17	Q50	260.00	3.94	6.44	8.67	2.23	8.16	1.72	6.17	7.32	0.005857	4.16	62.49	25.00	0.84
valle	17	Q200	360.00	3.94	7.02	8.67	1.65	8.16	1.14	6.71	8.13	0.005896	4.68	76.97	25.00	0.85
valle	17	Q500	430.00	3.94	7.39	8.67	1.28	8.16	0.77	7.05	8.66	0.005928	4.98	86.30	25.00	0.86
valle	16.9	Q50	260.00	3.94	6.43	9.10	2.67	9.10	2.67	6.16	7.32	0.005896	4.17	62.35	25.00	0.84
valle	16.9	Q200	360.00	3.94	7.01	9.10	2.09	9.10	2.09	6.71	8.13	0.005928	4.69	76.83	25.00	0.85
valle	16.9	Q500	430.00	3.94	7.39	9.10	1.71	9.10	1.71	7.05	8.66	0.005957	4.99	86.16	25.00	0.86
valle	16.8	Q50	260.00	3.94	6.35	9.10	2.75	9.10	2.75	6.16	7.30	0.006598	4.32	60.14	25.00	0.89
valle	16.8	Q200	360.00	3.94	6.92	9.10	2.18	9.10	2.18	6.71	8.11	0.006541	4.84	74.41	25.00	0.90
valle	16.8	Q500	430.00	3.94	7.27	9.10	1.83	9.10	1.83	7.05	8.63	0.006610	5.16	83.28	25.00	0.90
valle	16.7	Q50	260.00	3.94	6.17	8.67	2.50	8.16	1.99	6.17	7.28	0.008420	4.67	55.63	25.00	1.00
valle	16.7	Q200	360.00	3.94	6.71	8.67	1.96	8.16	1.45	6.71	8.09	0.008209	5.21	69.13	25.00	1.00
valle	16.7	Q500	430.00	3.94	7.08	8.67	1.59	8.16	1.08	7.05	8.61	0.007956	5.49	78.38	25.00	0.99
valle	16	Q50	260.00	3.70	5.88	8.46	2.58	7.80	1.92	5.93	7.04	0.009039	4.78	54.38	25.00	1.03
valle	16	Q200	360.00	3.70	6.55	8.46	1.91	7.80	1.25	6.47	7.85	0.007503	5.06	71.17	25.00	0.96
valle	16	Q500	430.00	3.70	6.99	8.46	1.47	7.80	0.81	6.81	8.38	0.006861	5.23	82.26	25.00	0.92

HEC-RAS Plan: 04_Teiro River: Teiro Reach: valle (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
valle	15	Q50	260.00	3.45	5.82	7.99	2.17	7.50	1.68	5.65	6.77	0.006651	4.31	60.27	25.40	0.89
valle	15	Q200	360.00	3.45	6.51	7.99	1.48	7.50	0.99	6.19	7.60	0.005812	4.64	77.65	25.40	0.85
valle	15	Q500	430.00	3.45	6.97	7.99	1.02	7.50	0.53	6.53	8.15	0.005402	4.81	89.33	25.40	0.82
valle	14	Q50	260.00	3.35	5.75	7.92	2.17	7.45	1.70	5.56	6.68	0.006475	4.28	60.72	25.30	0.88
valle	14	Q200	360.00	3.35	6.45	7.92	1.47	7.45	1.00	6.09	7.52	0.005616	4.59	78.44	25.30	0.83
valle	14	Q500	430.00	3.35	6.92	7.92	1.00	7.45	0.53	6.44	8.07	0.005227	4.77	90.21	25.30	0.81
valle	13	Q50	260.00	2.96	5.63	7.66	2.03	6.90	1.27	5.17	6.39	0.004631	3.84	67.63	25.30	0.75
valle	13	Q200	360.00	2.96	6.36	7.66	1.30	6.90	0.54	5.70	7.25	0.004227	4.18	86.07	25.30	0.72
valle	13	Q500	430.00	2.96	6.84	7.66	0.82	6.90	0.06	6.05	7.82	0.004056	4.38	98.09	25.30	0.71
valle	12.992		Lat Struct													
valle	12	Q50	260.00	2.71	5.58	7.52	1.94	6.90	1.32	4.92	6.24	0.003703	3.58	72.70	25.30	0.67
valle	12	Q200	360.00	2.71	6.32	7.52	1.20	6.90	0.58	5.45	7.11	0.003531	3.94	91.31	25.30	0.66
valle	12	Q500	430.00	2.71	6.80	7.52	0.72	6.90	0.10	5.80	7.68	0.003460	4.16	103.39	25.30	0.66
valle	11.992		Lat Struct													
valle	11	Q50	260.00	2.47	5.55	7.65	2.10	6.64	1.09	4.68	6.12	0.002994	3.34	77.88	25.30	0.61
valle	11	Q200	360.00	2.47	6.29	7.65	1.36	6.64	0.35	5.21	6.99	0.002981	3.73	96.56	25.30	0.61
valle	11	Q500	430.00	2.47	6.76	7.65	0.88	6.64	-0.12	5.56	7.56	0.002981	3.96	108.66	25.30	0.61
valle	10.3992		Lat Struct													
valle	10.3	Q50	260.00	2.40	5.54	7.65	2.11	6.60	1.06	4.61	6.09	0.002805	3.27	79.56	25.30	0.59
valle	10.3	Q200	360.00	2.40	6.28	7.65	1.37	6.60	0.32	5.14	6.97	0.002829	3.66	98.25	25.30	0.59
valle	10.3	Q500	430.00	2.40	6.76	7.65	0.89	6.60	-0.16	5.49	7.54	0.002847	3.90	110.34	25.30	0.60
valle	10.2992		Lat Struct													
valle	10.2	Q50	260.00	2.39	5.52	7.65	2.13	6.60	1.08	4.62	6.08	0.002918	3.32	78.30	25.00	0.60
valle	10.2	Q200	360.00	2.39	6.25	7.65	1.40	6.60	0.35	5.15	6.96	0.002953	3.73	96.59	25.00	0.61
valle	10.2	Q500	430.00	2.39	6.73	7.65	0.92	6.60	-0.13	5.50	7.53	0.002979	3.97	108.40	25.00	0.61
valle	10.11		Bridge													
valle	10.1	Q50	260.00	2.31	4.22	6.29	2.07	6.37	2.15	4.60	5.86	0.014845	5.67	45.87	24.00	1.31
valle	10.1	Q200	360.00	2.31	4.68	6.29	1.61	6.37	1.69	5.15	6.72	0.014421	6.32	56.99	24.00	1.31
valle	10.1	Q500	430.00	2.31	4.98	6.29	1.31	6.37	1.39	5.51	7.27	0.014250	6.70	64.15	24.00	1.31
valle	10.09	Q50	260.00	2.27	4.91	6.29	1.38	6.37	1.46	4.56	5.77	0.005425	4.11	63.32	24.00	0.81
valle	10.09	Q200	360.00	2.27	5.68	6.29	0.61	6.37	0.69	5.11	6.67	0.004721	4.39	81.92	24.00	0.76
valle	10.09	Q500	430.00	2.27	6.22	6.29	0.07	6.37	0.15	5.47	7.27	0.004350	4.54	94.68	24.00	0.73
valle	10.0892		Lat Struct													
valle	10.0891		Lat Struct													
valle	10.08	Q50	260.00	2.07	4.86	6.00	1.14	6.10	1.24	4.30	5.57	0.004152	3.72	69.82	25.00	0.71
valle	10.08	Q200	360.00	2.07	5.67	6.00	0.33	6.10	0.43	4.83	6.48	0.003665	4.00	89.94	25.00	0.67
valle	10.08	Q500	430.00	2.07	6.21	6.00	-0.21	6.10	-0.11	5.18	7.09	0.003416	4.15	103.56	25.00	0.65

HEC-RAS Plan: 04_Teiro River: Teiro Reach: valle (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
valle	10.07992	Lat Struct														
valle	10.07991	Lat Struct														
valle	10.071	Q50	260.00	1.75	4.89	5.80	0.91	5.80	0.91	3.81	5.33	0.002247	2.96	87.85	28.00	0.53
valle	10.071	Q200	360.00	1.75	5.72	5.80	0.08	5.80	0.08	4.31	6.26	0.002089	3.24	111.25	28.00	0.52
valle	10.071	Q500	430.00	1.75	6.28	5.80	-0.48	5.80	-0.48	4.64	6.87	0.002000	3.39	126.95	28.00	0.51
valle	10.07	Q50	260.00	1.75	4.88	5.50	0.62	5.50	0.62	3.81	5.33	0.002254	2.96	87.77	28.00	0.53
valle	10.07	Q200	360.00	1.75	5.65	5.50	-0.15	5.50	-0.15	4.31	6.25	0.005409	3.43	105.01		0.55
valle	10.07	Q500	430.00	1.75	6.13	5.50	-0.63	5.50	-0.63	4.64	6.85	0.009497	3.77	114.19	28.00	0.57
valle	10.06992	Lat Struct														
valle	10.06991	Lat Struct														
valle	10.062	Q50	260.00	1.75	4.88	5.50	0.62	5.50	0.62	3.81	5.33	0.002270	2.97	87.57	28.00	0.54
valle	10.062	Q200	360.00	1.75	5.64	5.50	-0.13	5.50	-0.13	4.31	6.23	0.005409	3.43	105.01		0.56
valle	10.062	Q500	430.00	1.75	6.09	5.50	-0.59	5.50	-0.59	4.64	6.83	0.009801	3.80	113.12	28.00	0.58
valle	10.061	Q50	260.00	1.75	4.87	5.60	0.73	5.80	0.93	3.81	5.32	0.002277	2.97	87.48	28.00	0.54
valle	10.061	Q200	360.00	1.75	5.67	5.60	-0.07	5.80	0.13	4.31	6.22	0.002182	3.28	109.67	28.00	0.53
valle	10.061	Q500	430.00	1.75	6.17	5.60	-0.57	5.80	-0.37	4.64	6.79	0.002158	3.47	123.78	28.00	0.53
valle	10.06	Q50	260.00	1.50	3.91	5.54	1.63	5.74	1.83	3.91	5.11	0.008568	4.86	53.46	22.20	1.00
valle	10.06	Q200	360.00	1.50	4.49	5.54	1.05	5.74	1.25	4.49	5.99	0.008432	5.42	66.42	22.20	1.00
valle	10.06	Q500	430.00	1.50	5.00	5.54	0.54	5.74	0.74	4.87	6.56	0.007461	5.53	77.75	22.20	0.94
valle	10.05	Q50	260.00	1.32	3.86	5.61	1.75	6.00	2.14	3.60	4.78	0.006067	4.25	61.14	24.10	0.85
valle	10.05	Q200	360.00	1.32	4.59	5.61	1.02	6.00	1.41	4.15	5.65	0.005353	4.57	78.69	24.10	0.81
valle	10.05	Q500	430.00	1.32	5.14	5.61	0.47	6.00	0.86	4.51	6.25	0.004736	4.67	92.13	24.10	0.76
valle	10.04	Q50	260.00	1.24	3.87	5.60	1.73	6.22	2.35	3.46	4.67	0.004972	3.95	65.87	25.00	0.78
valle	10.04	Q200	360.00	1.24	4.62	5.60	0.98	6.22	1.60	4.00	5.55	0.004424	4.26	84.54	25.00	0.74
valle	10.04	Q500	430.00	1.24	5.19	5.60	0.41	6.22	1.03	4.35	6.15	0.003954	4.36	98.65	25.00	0.70
valle	10.031	Q50	260.00	1.10	3.82	3.86	0.04	5.96	2.14	3.33	4.56	0.004527	3.83	67.89	25.00	0.74
valle	10.031	Q200	360.00	1.10	4.55	3.86	-0.69	5.96	1.41	3.86	5.45	0.004399	4.20	85.77	23.80	0.72
valle	10.031	Q500	430.00	1.10	5.12	3.86	-1.26	5.96	0.84	4.19	6.07	0.004253	4.32	99.54	24.70	0.69
valle	10.03	Q50	260.00	1.05	3.78	3.97	0.19	6.17	2.39	3.28	4.52	0.004448	3.81	68.28	25.00	0.74
valle	10.03	Q200	360.00	1.05	4.52	3.97	-0.55	6.17	1.65	3.82	5.41	0.004532	4.18	86.04	22.70	0.72
valle	10.03	Q500	430.00	1.05	5.05	3.97	-1.08	6.17	1.12	4.14	6.03	0.004665	4.37	98.44	24.70	0.70
valle	10.021	Q50	260.00	1.01	3.75	4.32	0.57	6.42	2.67	3.24	4.49	0.004385	3.79	68.60	25.00	0.73
valle	10.021	Q200	360.00	1.01	4.50	4.32	-0.18	6.42	1.92	3.78	5.37	0.004233	4.13	87.18	23.63	0.71
valle	10.021	Q500	430.00	1.01	5.03	4.32	-0.71	6.42	1.39	4.12	5.99	0.004423	4.35	98.85	21.70	0.69
valle	10.02	Q50	260.00	0.94	3.70	4.74	1.04	6.94	3.24	3.17	4.42	0.004314	3.77	68.96	25.00	0.72
valle	10.02	Q200	360.00	0.94	4.46	4.74	0.28	6.94	2.48	3.70	5.31	0.003927	4.09	87.92	25.00	0.70
valle	10.02	Q500	430.00	0.94	5.00	4.74	-0.26	6.94	1.94	4.05	5.92	0.004008	4.25	101.24	22.42	0.67

HEC-RAS Plan: 04_Teiro River: Teiro Reach: valle (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
valle	6.4	Q50	260.00	0.92	3.68	4.79	1.11	5.66	1.98	3.15	4.41	0.002974	3.76	69.12	25.00	0.72
valle	6.4	Q200	360.00	0.92	4.45	4.79	0.34	5.66	1.21	3.69	5.30	0.002704	4.08	88.16	25.00	0.69
valle	6.4	Q500	430.00	0.92	5.00	4.79	-0.21	5.66	0.66	4.03	5.91	0.002648	4.23	101.73	23.39	0.67
valle	6.3	Q50	260.00	0.91	3.61	4.84	1.23	5.21	1.60	3.16	4.39	0.004149	3.92	66.36	24.60	0.76
valle	6.3	Q200	360.00	0.91	4.37	4.84	0.47	5.21	0.84	3.70	5.28	0.003878	4.23	85.09	24.60	0.73
valle	6.3	Q500	430.00	0.91	4.92	4.84	-0.08	5.21	0.29	4.06	5.89	0.004016	4.36	98.56	21.52	0.70
valle	6.2	Q50	260.00	0.84	3.56	5.17	1.61	5.17	1.61	3.09	4.33	0.004079	3.90	66.75	24.59	0.75
valle	6.2	Q200	360.00	0.84	4.32	5.17	0.85	5.17	0.85	3.64	5.22	0.003814	4.21	85.58	24.59	0.72
valle	6.2	Q500	430.00	0.84	4.88	5.17	0.29	5.17	0.29	3.99	5.84	0.003567	4.33	99.37	24.59	0.69
valle	6.1	Q50	260.00	0.81	3.54	5.15	1.61	4.88	1.34	3.06	4.30	0.004018	3.88	67.09	24.60	0.75
valle	6.1	Q200	360.00	0.81	4.31	5.15	0.84	4.88	0.57	3.60	5.20	0.003762	4.19	85.99	24.60	0.71
valle	6.1	Q500	430.00	0.81	4.87	5.15	0.28	4.88	0.01	3.96	5.81	0.003520	4.31	99.84	24.60	0.68
valle	5.3	Q50	260.00	0.76	3.49	5.12	1.63	4.84	1.35	3.02	4.26	0.004044	3.88	66.96	24.60	0.75
valle	5.3	Q200	360.00	0.76	4.26	5.12	0.86	4.84	0.58	3.56	5.15	0.003762	4.18	86.02	24.60	0.71
valle	5.3	Q500	430.00	0.76	4.83	5.12	0.29	4.84	0.01	3.91	5.77	0.003511	4.30	99.96	24.60	0.68
valle	5.2	Q50	260.00	0.68	3.42	5.07	1.65	4.81	1.39	2.94	4.18	0.004007	3.87	67.19	24.60	0.75
valle	5.2	Q200	360.00	0.68	4.20	5.07	0.87	4.81	0.61	3.48	5.09	0.003714	4.17	86.43	24.60	0.71
valle	5.2	Q500	430.00	0.68	4.78	5.07	0.29	4.81	0.03	3.84	5.71	0.003456	4.28	100.54	24.60	0.68
valle	5.1	Q50	260.00	0.60	3.36	5.03	1.67	4.77	1.41	2.86	4.11	0.003954	3.85	67.51	24.60	0.74
valle	5.1	Q200	360.00	0.60	4.15	5.03	0.88	4.77	0.62	3.41	5.02	0.003650	4.14	86.97	24.60	0.70
valle	5.1	Q500	430.00	0.60	4.73	5.03	0.30	4.77	0.04	3.76	5.65	0.003389	4.25	101.26	24.60	0.67
valle	5	Q50	290.00	0.51	3.10	4.77	1.67	4.77	1.67	2.79	3.97	0.004670	4.15	69.96	27.12	0.82
valle	5	Q200	410.00	0.51	3.75	4.77	1.02	4.77	1.02	3.37	4.87	0.004809	4.67	87.70	27.12	0.83
valle	5	Q500	500.00	0.51	4.20	4.77	0.57	4.77	0.57	3.78	5.48	0.004929	5.01	99.79	27.12	0.83
valle	4.4	Q50	290.00	0.43	3.02	4.72	1.70	4.72	1.70	2.71	3.90	0.004679	4.15	69.91	27.10	0.82
valle	4.4	Q200	410.00	0.43	3.67	4.72	1.05	4.72	1.05	3.30	4.79	0.004831	4.68	87.57	27.10	0.83
valle	4.4	Q500	500.00	0.43	4.11	4.72	0.61	4.72	0.61	3.70	5.40	0.004959	5.02	99.58	27.10	0.84
valle	4.3	Q50	290.00	0.35	2.96	4.68	1.72	4.68	1.72	2.62	3.81	0.004537	4.10	70.80	27.34	0.81
valle	4.3	Q200	410.00	0.35	3.61	4.68	1.07	4.68	1.07	3.21	4.70	0.004693	4.63	88.60	27.34	0.82
valle	4.3	Q500	500.00	0.35	4.05	4.68	0.63	4.68	0.63	3.61	5.31	0.004819	4.96	100.74	27.34	0.83
valle	4.2	Q50	290.00	0.28	2.91	4.63	1.72	4.63	1.72	2.54	3.74	0.004318	4.03	72.02	27.45	0.79
valle	4.2	Q200	410.00	0.28	3.56	4.63	1.07	4.63	1.07	3.12	4.62	0.004508	4.56	89.86	27.45	0.81
valle	4.2	Q500	500.00	0.28	4.00	4.63	0.63	4.63	0.63	3.52	5.23	0.004650	4.90	102.01	27.45	0.81
valle	4.1	Q50	290.00	0.21	2.85	4.58	1.73	4.58	1.73	2.47	3.67	0.004318	4.02	72.09	27.52	0.79
valle	4.1	Q200	410.00	0.21	3.50	4.58	1.08	4.58	1.08	3.06	4.56	0.004510	4.56	89.93	27.52	0.81
valle	4.1	Q500	500.00	0.21	3.94	4.58	0.64	4.58	0.64	3.45	5.16	0.004652	4.90	102.08	27.52	0.81
valle	4	Q50	290.00	0.18	2.80	4.56	1.76	4.56	1.76	2.45	3.65	0.004477	4.08	71.13	27.36	0.81
valle	4	Q200	410.00	0.18	3.43	4.56	1.13	4.56	1.13	3.04	4.53	0.004718	4.64	88.45	27.36	0.82
valle	4	Q500	500.00	0.18	3.86	4.56	0.70	4.56	0.70	3.44	5.13	0.004903	4.99	100.14	27.36	0.83
valle	3.2	Q50	290.00	0.09	2.56	4.52	1.96	4.52	1.96	2.38	3.53	0.005487	4.37	66.30	27.10	0.89

HEC-RAS Plan: 04_Teiro River: Teiro Reach: valle (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
valle	3.2	Q200	410.00	0.09	3.11	4.52	1.41	4.52	1.41	2.97	4.40	0.006002	5.04	81.31	27.10	0.93
valle	3.2	Q500	500.00	0.09	3.39	4.52	1.13	4.52	1.13	3.37	5.00	0.006867	5.62	88.98	27.10	0.99
valle	3.1	Q50	290.00	0.02	2.39	4.48	2.09	4.48	2.09	2.26	3.38	0.005742	4.41	65.77	28.02	0.92
valle	3.1	Q200	410.00	0.02	3.01	4.48	1.47	4.48	1.47	2.83	4.25	0.005707	4.93	83.22	28.02	0.91
valle	3.1	Q500	500.00	0.02	3.44	4.48	1.04	4.48	1.04	3.23	4.84	0.005716	5.25	95.29	28.02	0.91
valle	2.4	Q50	290.00	-0.03	2.46	4.41	1.95	4.41	1.95	2.13	3.27	0.004354	3.97	72.98	29.54	0.81
valle	2.4	Q200	410.00	-0.03	3.12	4.41	1.29	4.41	1.29	2.69	4.12	0.004313	4.44	92.45	29.54	0.80
valle	2.4	Q500	500.00	-0.03	3.57	4.41	0.84	4.41	0.84	3.07	4.71	0.004321	4.72	105.85	29.54	0.80
valle	2.32	Q50	290.00	-0.03	2.15	3.91	1.76	3.91	1.76	2.15	3.23	0.006732	4.62	62.75	28.85	1.00
valle	2.32	Q200	410.00	-0.03	2.71	3.91	1.20	3.91	1.20	2.71	4.08	0.006743	5.19	79.02	28.85	1.00
valle	2.32	Q500	500.00	-0.03	3.10	3.91	0.81	3.91	0.81	3.10	4.66	0.006774	5.54	90.27	28.85	1.00
valle	2.31	Q50	290.00	-0.05	1.89	3.91	2.02	3.91	2.02	2.08	3.18	0.008976	5.04	57.49	29.70	1.16
valle	2.31	Q200	410.00	-0.05	2.38	3.91	1.53	3.91	1.53	2.64	4.02	0.008976	5.67	72.25	29.70	1.16
valle	2.31	Q500	500.00	-0.05	2.72	3.91	1.19	3.91	1.19	3.02	4.60	0.009010	6.07	82.41	29.70	1.16
valle	2.3	Q50	290.00	-0.19	1.25	3.91	2.66	3.91	2.66	1.68	2.82	0.014443	5.55	52.24	36.34	1.48
valle	2.3	Q200	410.00	-0.19	1.58	3.91	2.33	3.91	2.33	2.16	3.64	0.014921	6.36	64.48	36.34	1.52
valle	2.3	Q500	500.00	-0.19	1.82	3.91	2.09	3.91	2.09	2.49	4.21	0.015083	6.85	73.02	36.34	1.54
valle	2.2	Q50	290.00	-0.22	1.13	3.91	2.78	3.91	2.78	1.57	2.71	0.015367	5.56	52.18	38.55	1.53
valle	2.2	Q200	410.00	-0.22	1.44	3.91	2.47	3.91	2.47	2.04	3.53	0.016148	6.41	63.97	38.55	1.59
valle	2.2	Q500	500.00	-0.22	1.66	3.91	2.25	3.91	2.25	2.36	4.09	0.016392	6.92	72.28	38.55	1.61
valle	2.1	Q50	290.00	-0.25	0.97	2.87	1.90	2.00	1.03	1.45	2.61	0.016727	5.68	51.03	42.12	1.65
valle	2.1	Q200	410.00	-0.25	1.24	2.87	1.63	2.00	0.76	1.88	3.43	0.017267	6.56	62.52	42.18	1.72
valle	2.1	Q500	500.00	-0.25	1.43	2.87	1.44	2.00	0.57	2.19	3.99	0.017331	7.08	70.59	42.23	1.75
valle	1	Q50	290.00	-0.50	0.68	2.55	1.87	2.51	1.83	0.94	1.73	0.010937	4.55	63.76	55.07	1.35
valle	1	Q200	410.00	-0.50	0.84	2.55	1.71	2.51	1.67	1.31	2.46	0.014219	5.63	72.78	55.36	1.57
valle	1	Q500	500.00	-0.50	0.97	2.55	1.58	2.51	1.54	1.56	2.98	0.015789	6.28	79.63	55.57	1.67

Allegato – Verifiche idrauliche

Rio Arzocco

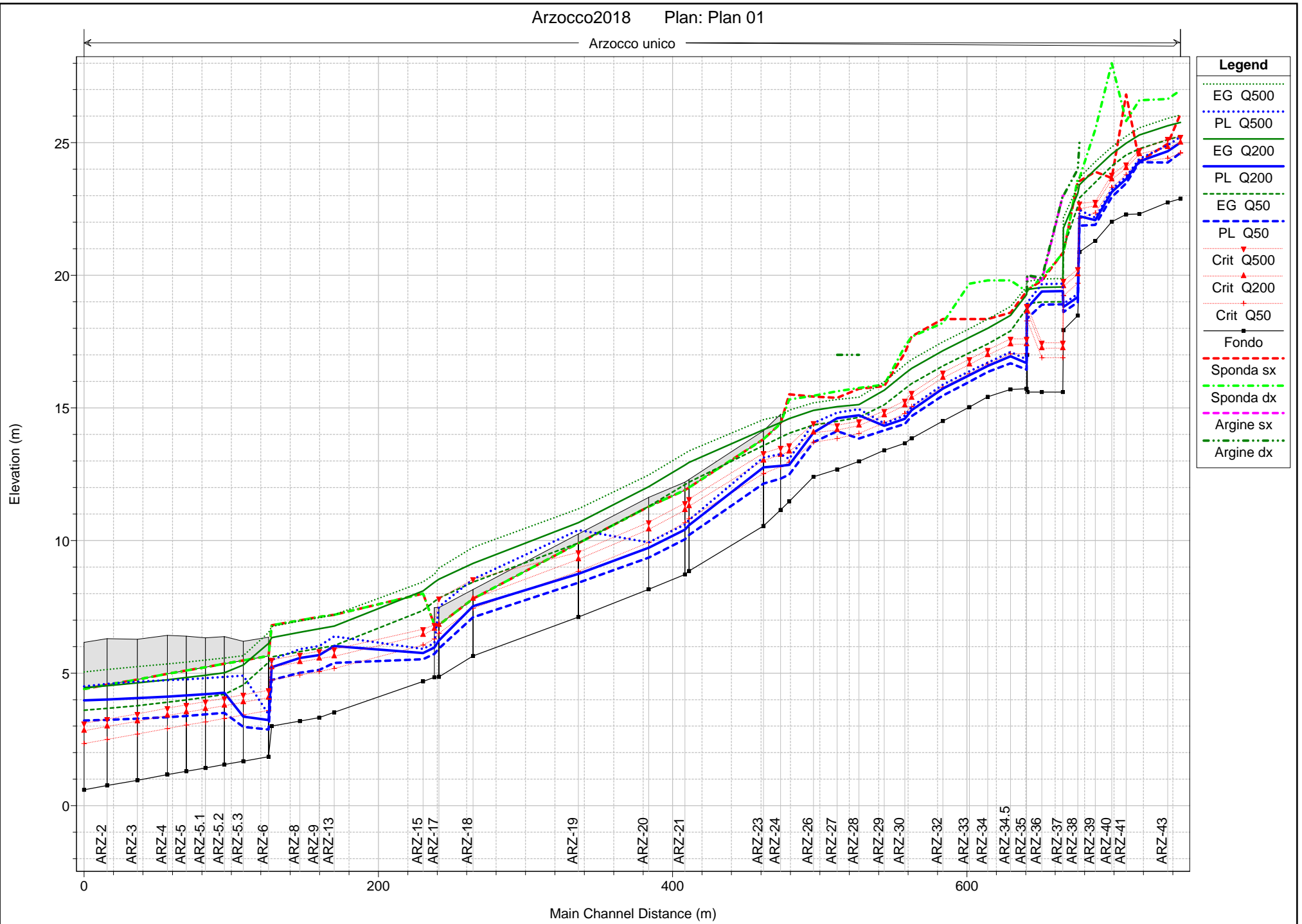
dal capannone comunale alla foce

Sezioni ARZ-44 – ARZ-1

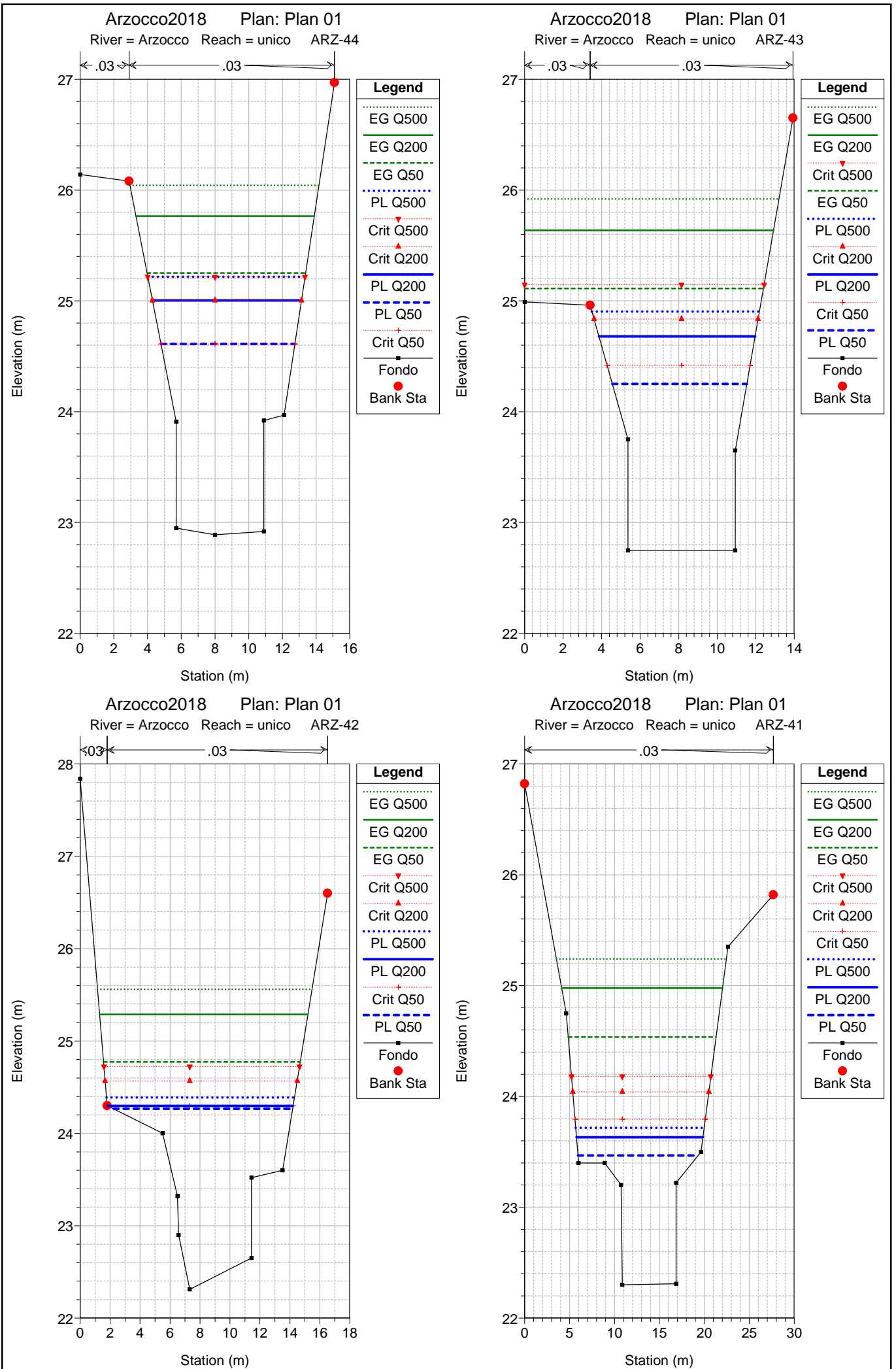
- profili di corrente
- sezioni idrauliche
- tabella dei risultati

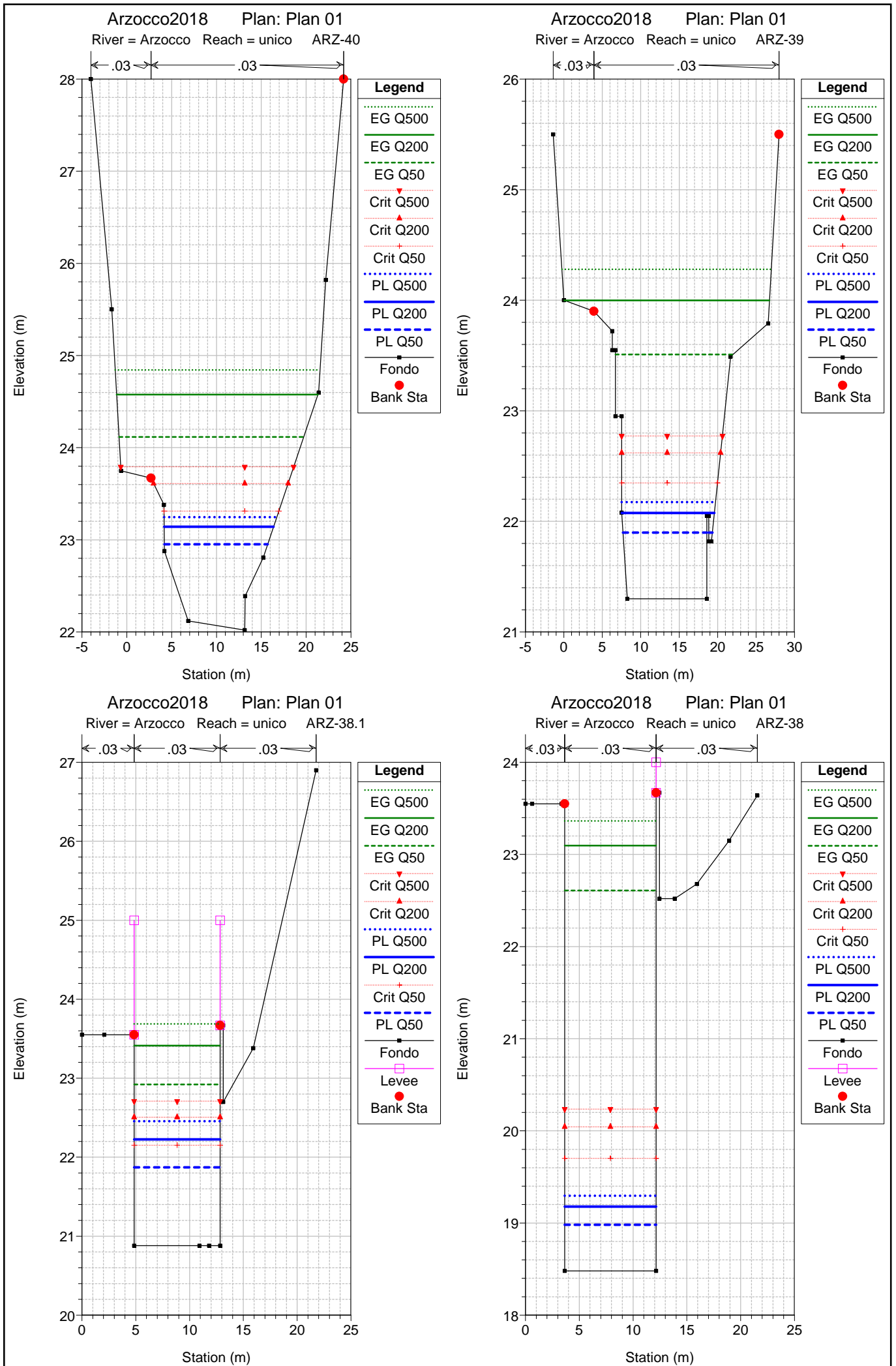
Arzocco2018 Plan: Plan 01

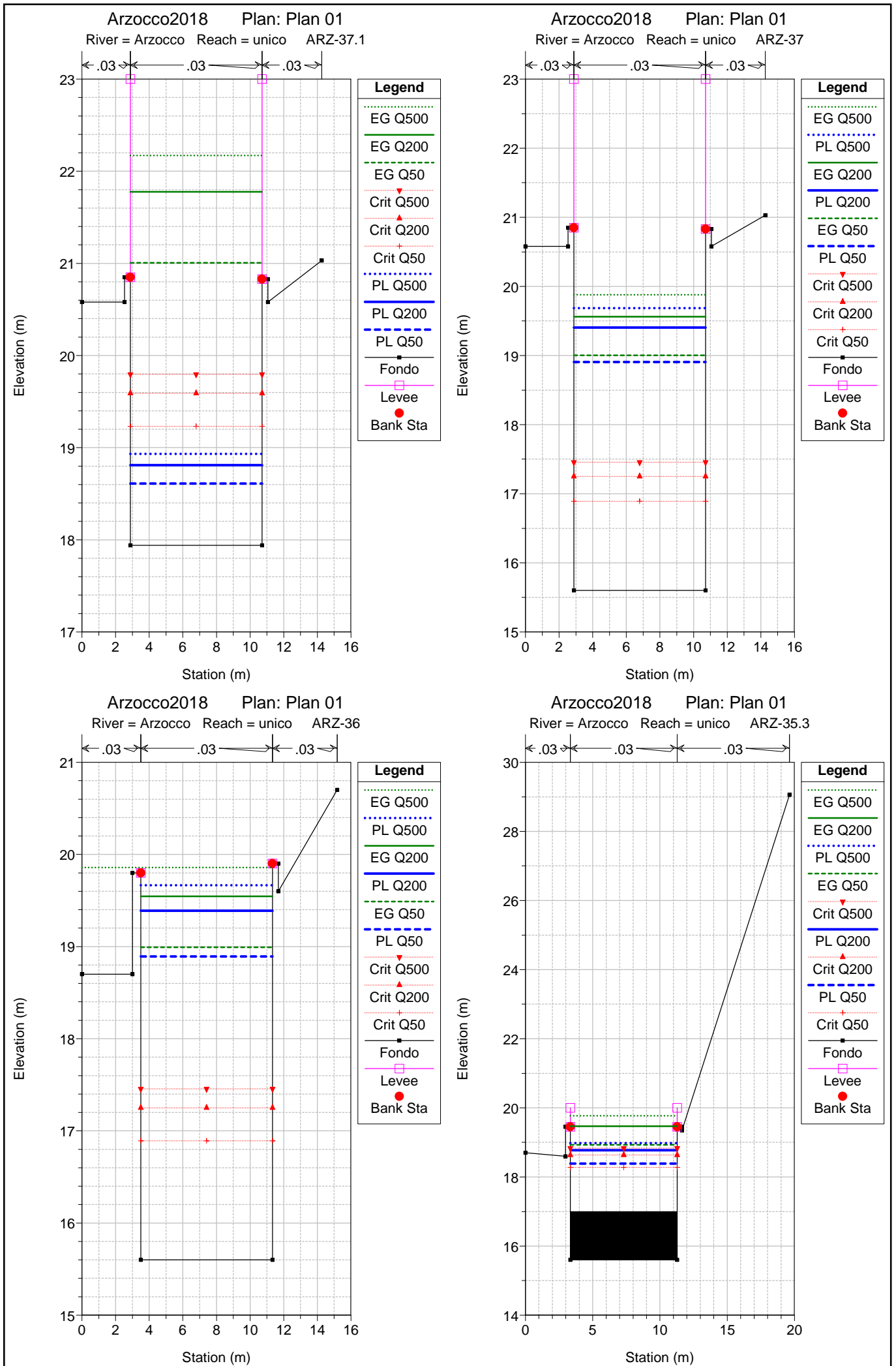
Arzocco unico

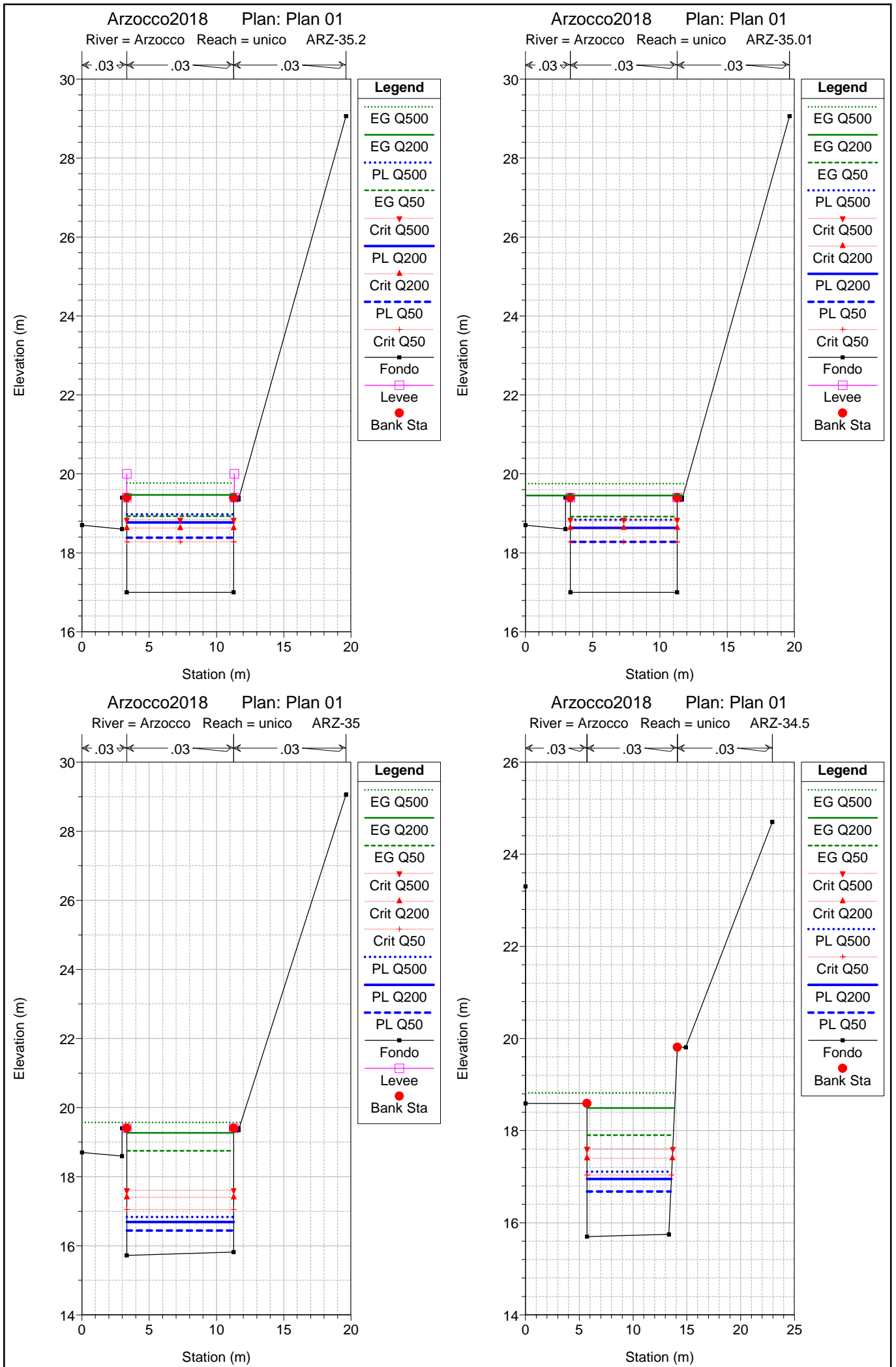


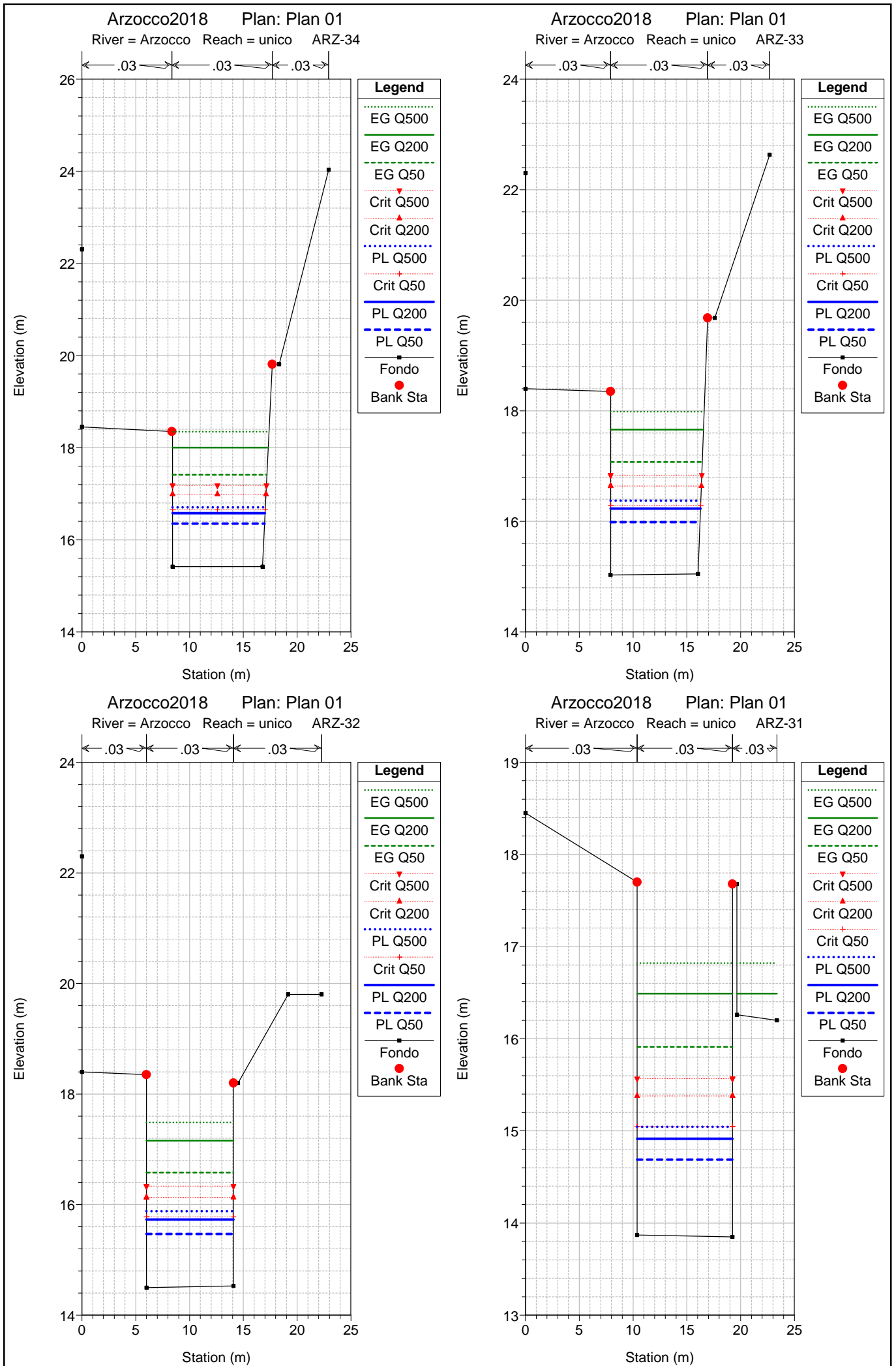
Legend	
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EG Q200	(Green solid line)
PL Q200	(Blue solid line)
EG Q50	(Red dashed line)
PL Q50	(Blue dashed line)
Crit Q500	(Red inverted triangle)
Crit Q200	(Red triangle)
Crit Q50	(Red cross)
Fondo	(Black solid line with squares)
Sponda sx	(Red dashed line)
Sponda dx	(Green dashed line)
Argine sx	(Magenta dashed line)
Argine dx	(Green dashed line)

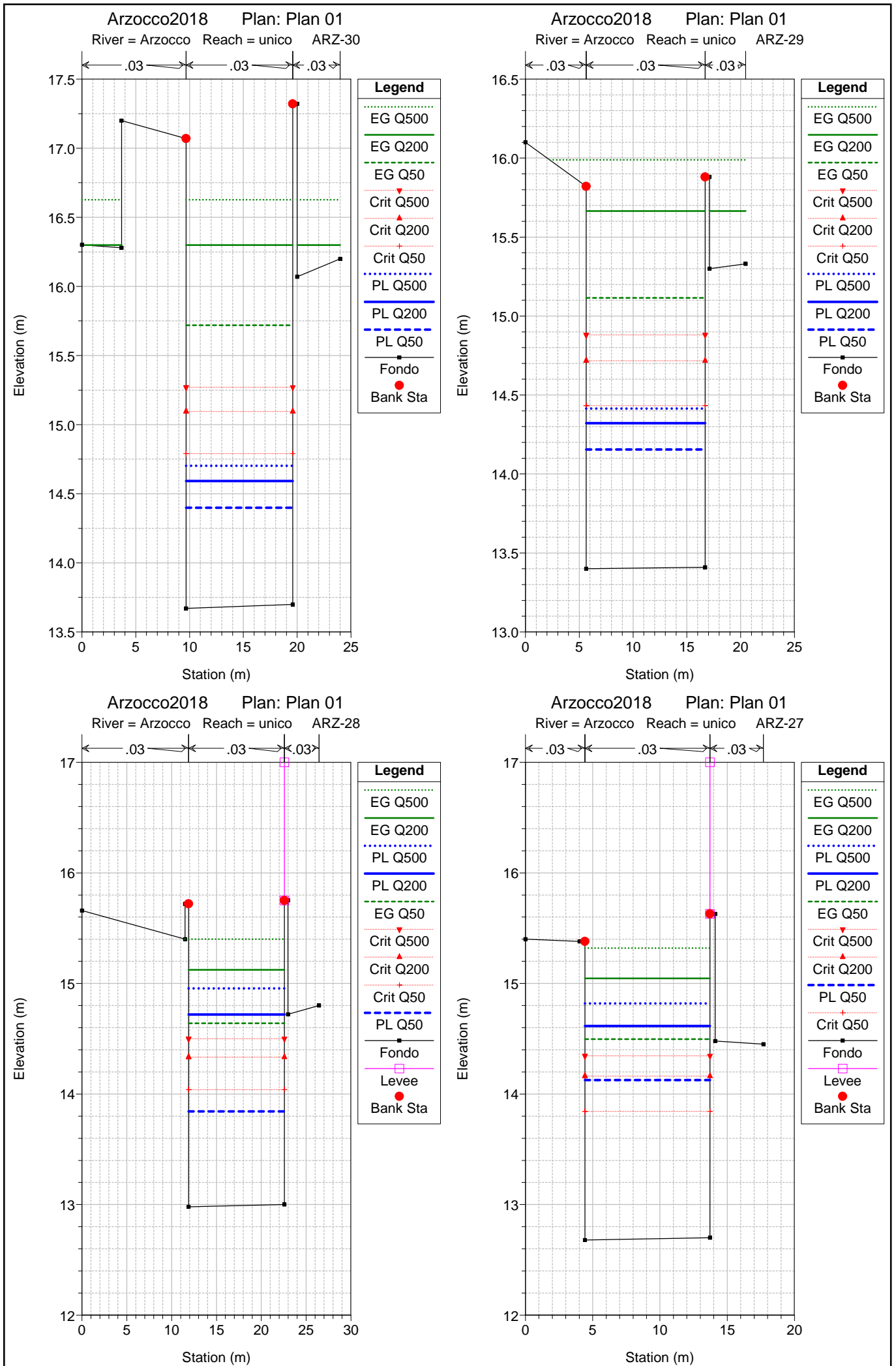


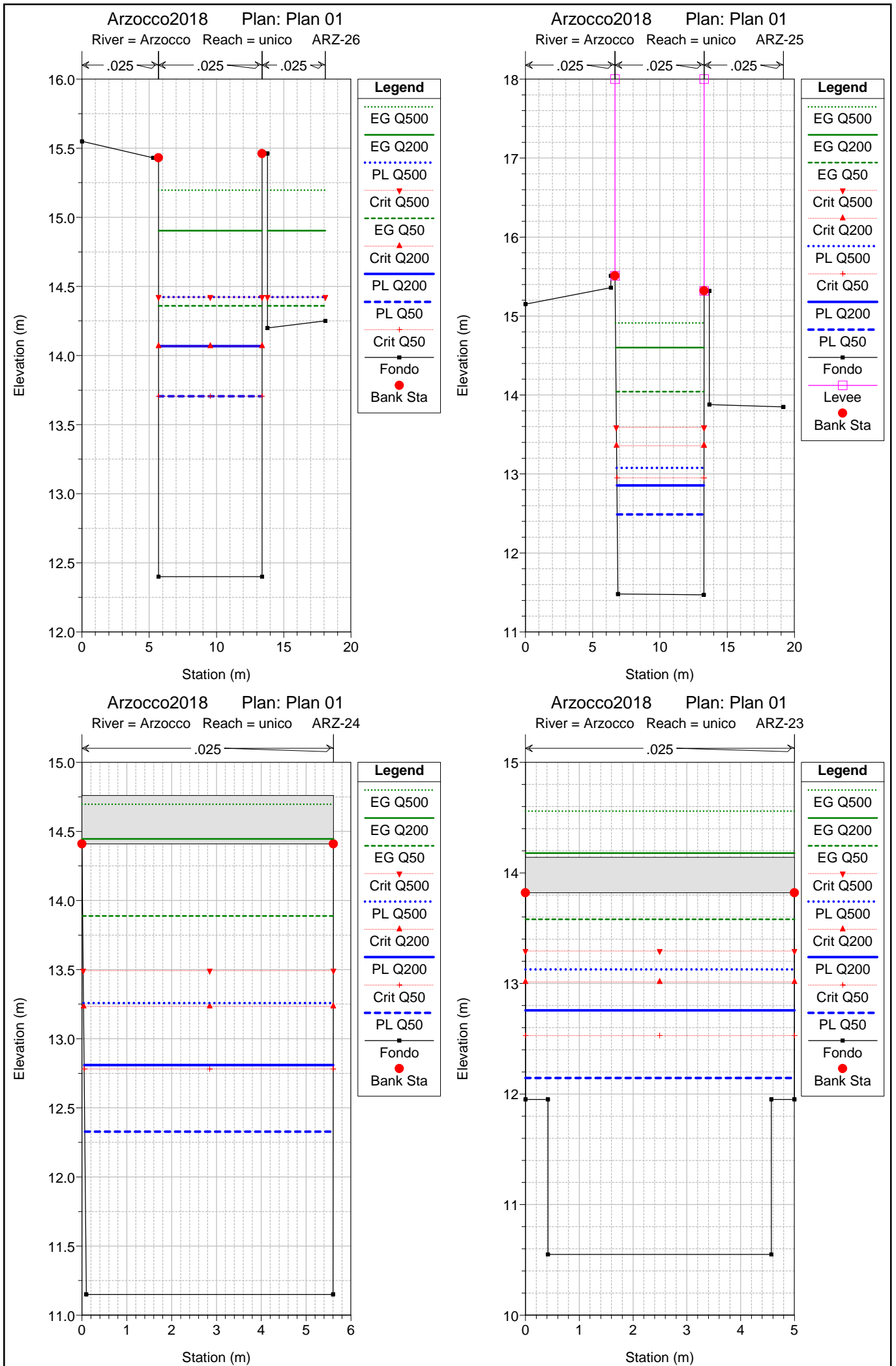


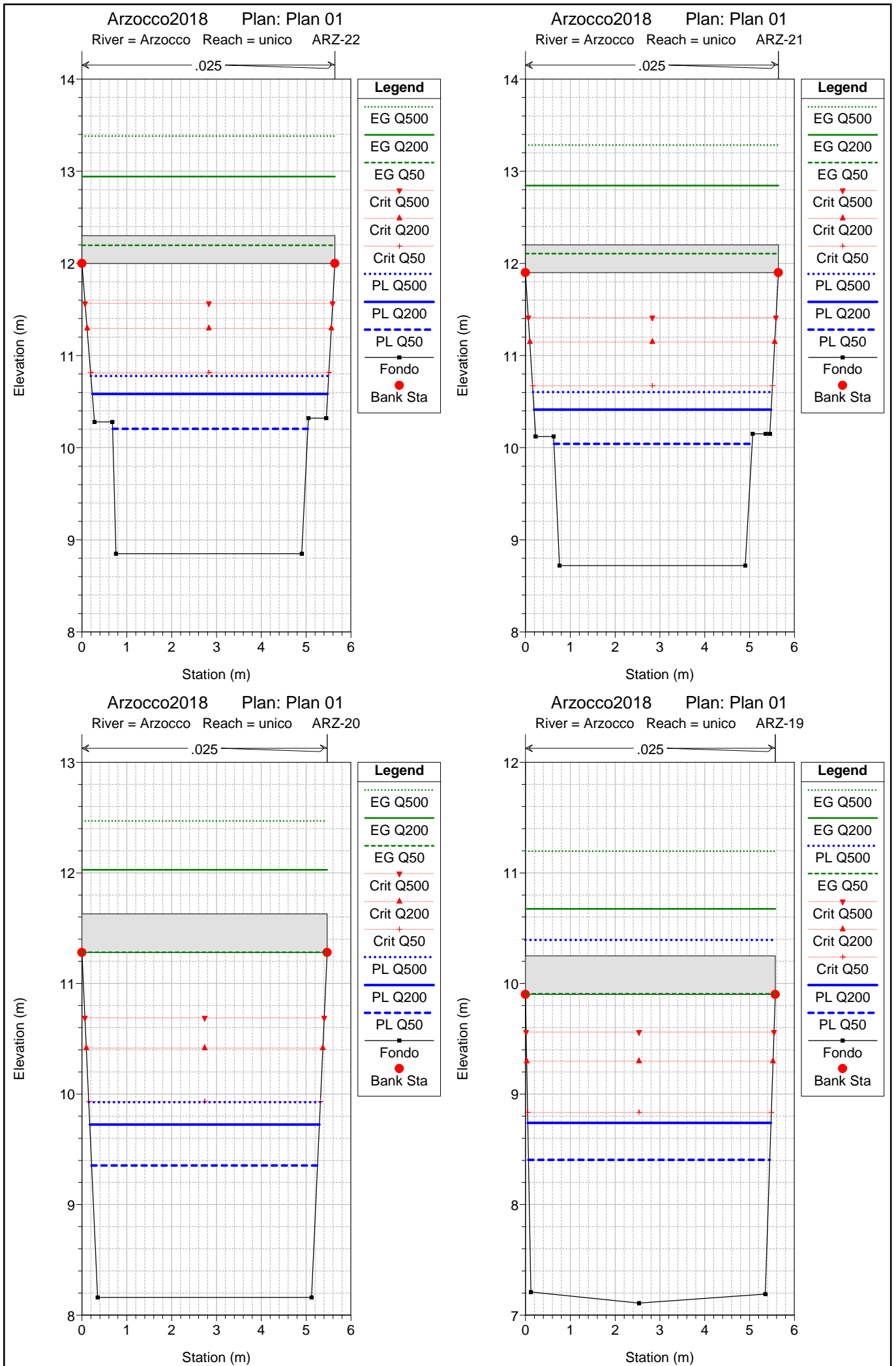


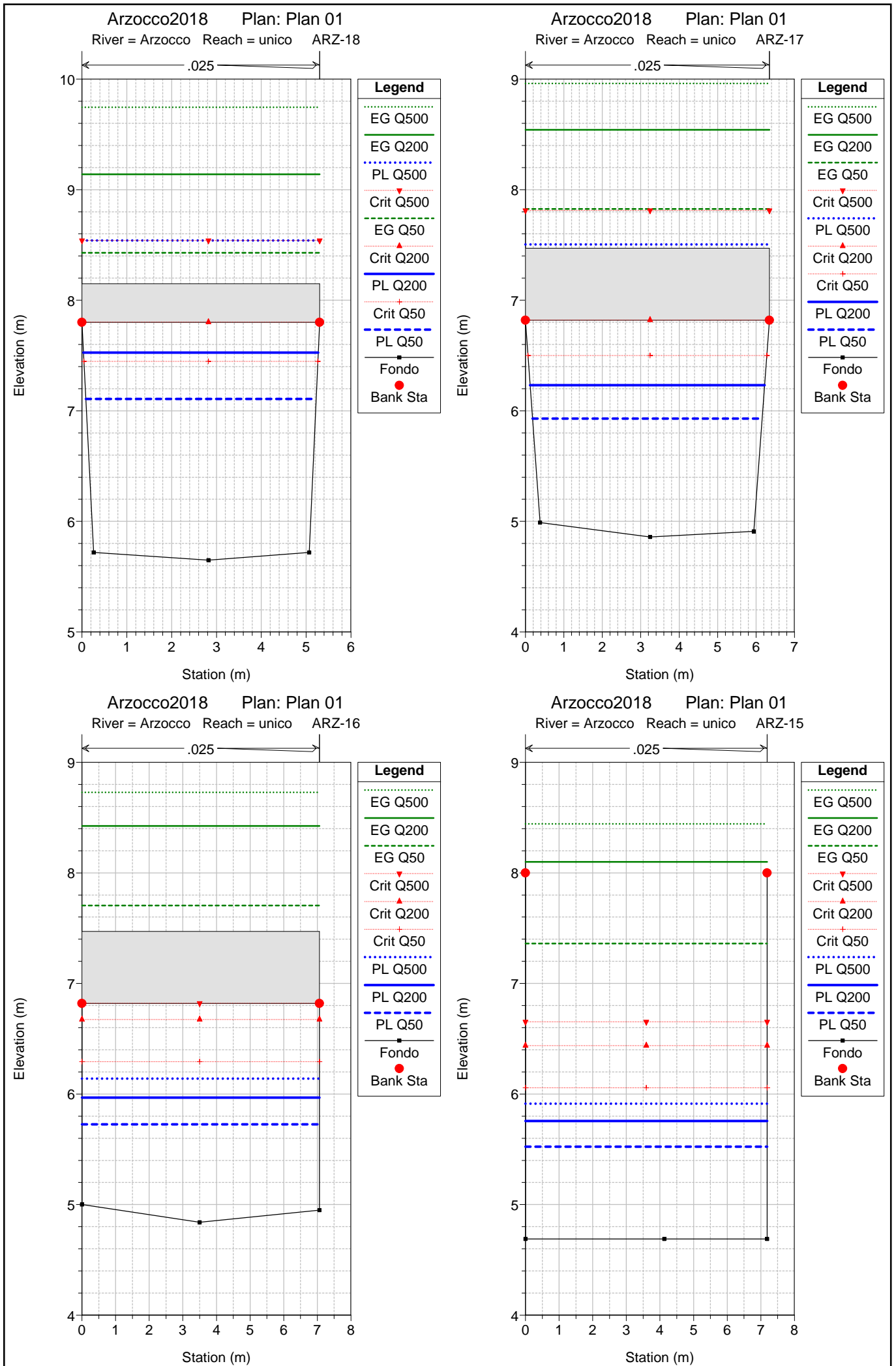


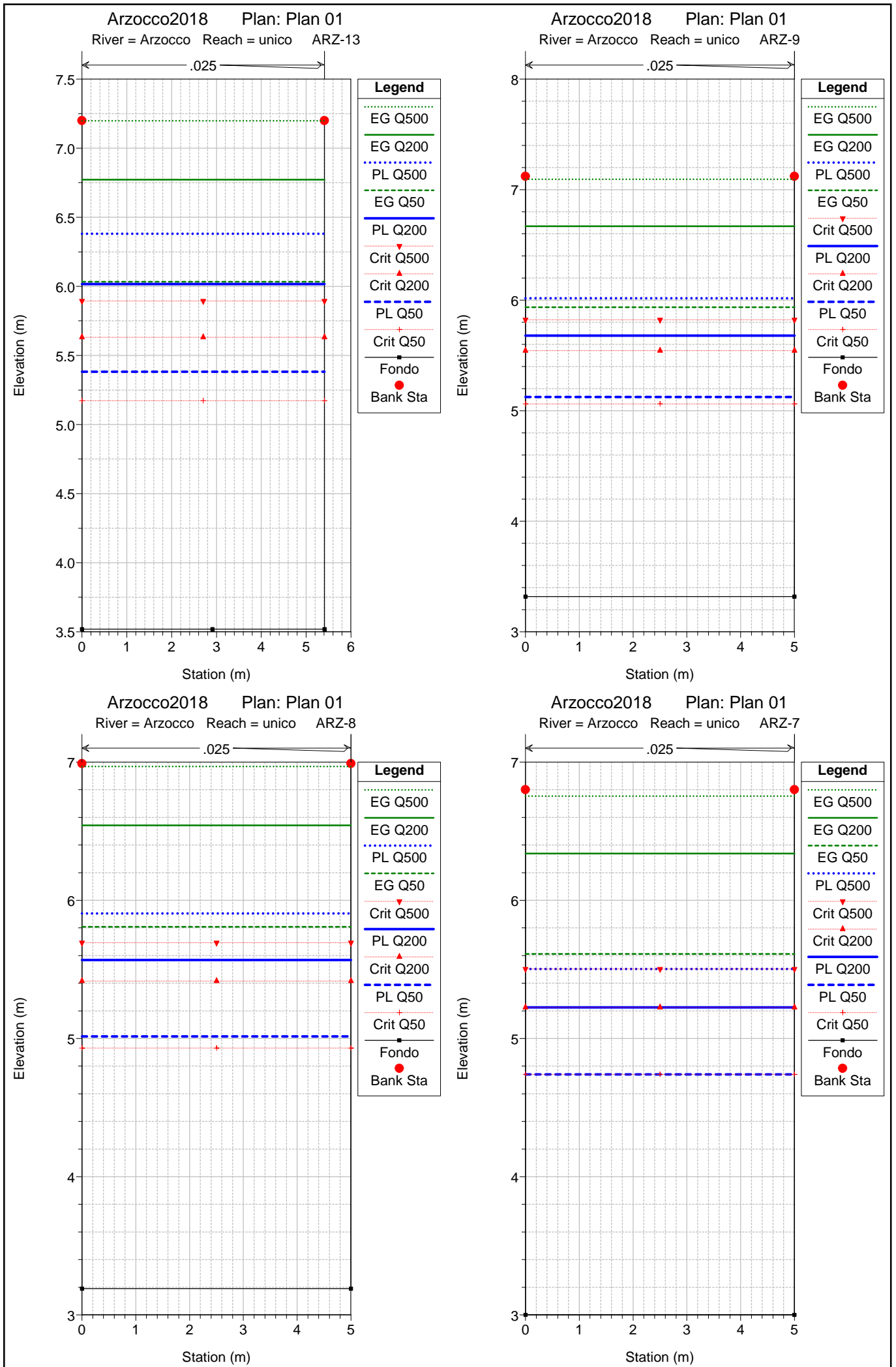


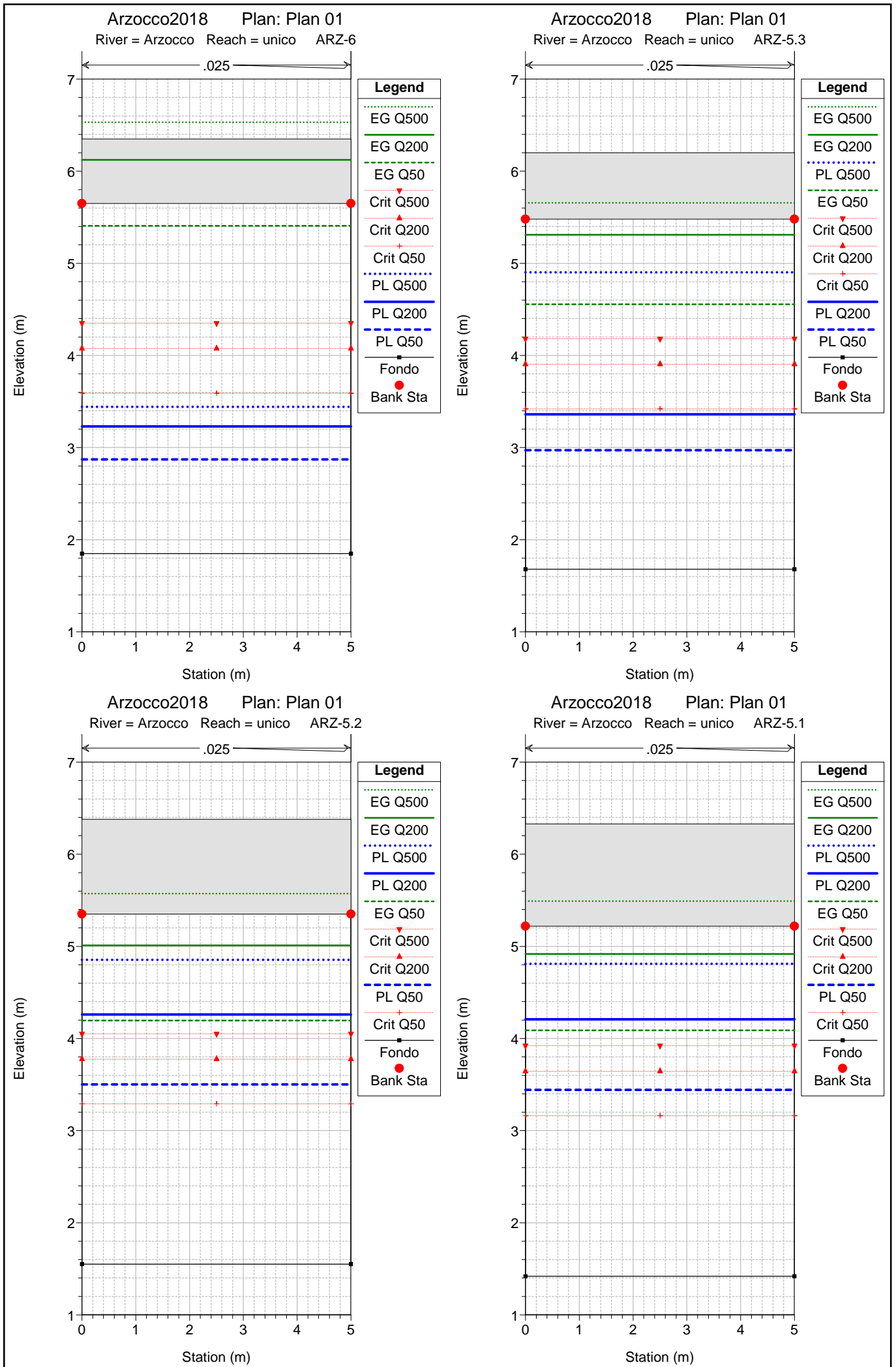


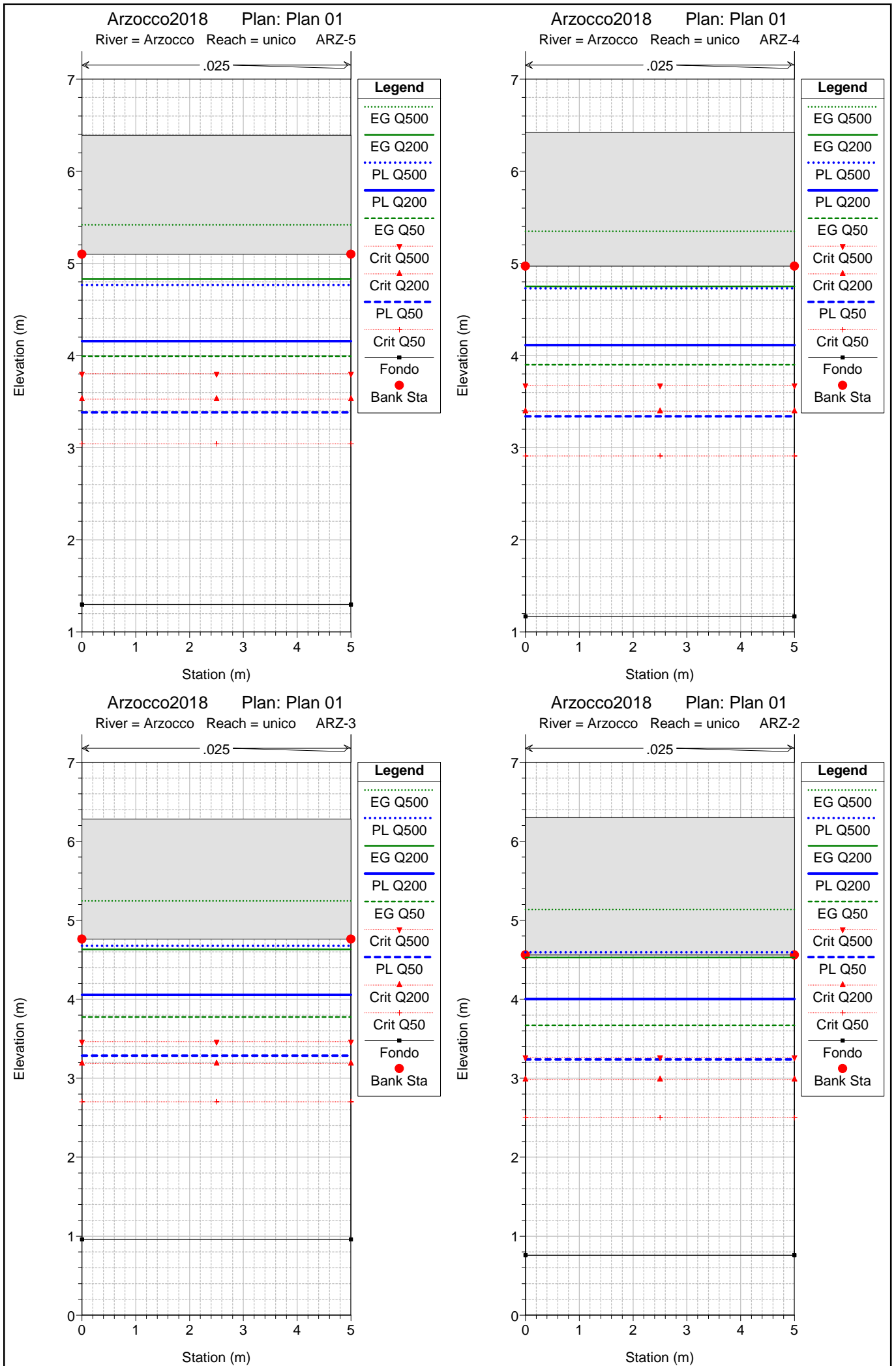


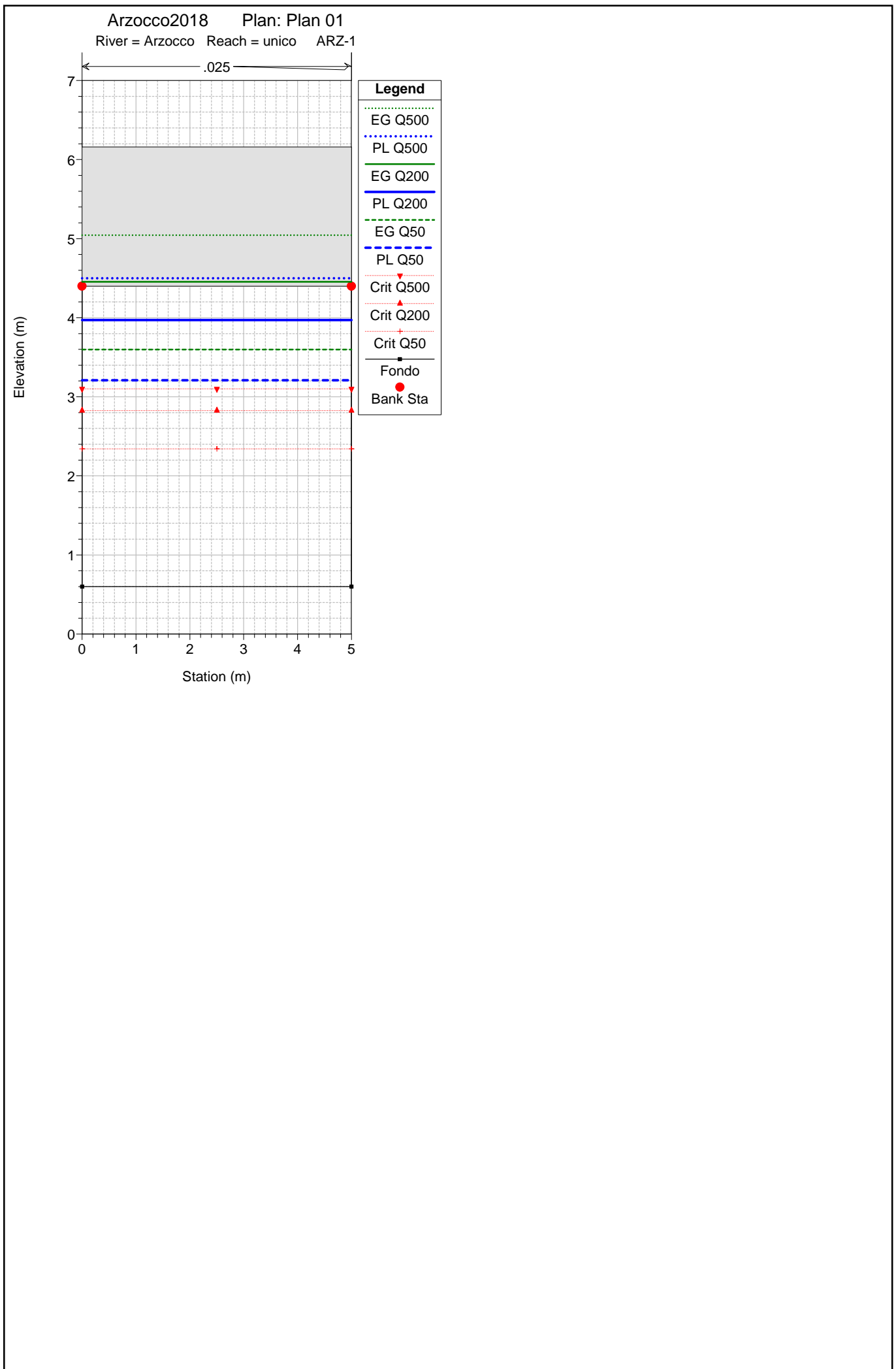












HEC-RAS Plan: Plan 01 River: Arzocco Reach: unico

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
unico	44	Q50	36.00	22.89	24.61	26.08	1.47	26.97	2.36	24.61	25.25	0.011660	3.54	10.17	7.95	1.00
unico	44	Q200	52.00	22.89	25.00	26.08	1.08	26.97	1.97	25.00	25.76	0.011020	3.86	13.46	8.85	1.00
unico	44	Q500	62.00	22.89	25.22	26.08	0.86	26.97	1.75	25.22	26.04	0.010750	4.02	15.41	9.34	1.00
unico	43	Q50	36.00	22.75	24.25	24.96	0.71	26.65	2.40	24.42	25.11	0.016464	4.11	8.75	6.99	1.17
unico	43	Q200	52.00	22.75	24.68	24.96	0.28	26.65	1.97	24.84	25.64	0.014553	4.34	11.99	8.11	1.14
unico	43	Q500	62.00	22.75	24.90	24.96	0.06	26.65	1.75	25.15	25.92	0.013861	4.46	13.89	8.71	1.13
unico	42	Q50	36.00	22.31	24.26	24.30	0.04	26.60	2.34	24.30	24.77	0.011680	3.16	11.40	11.95	1.03
unico	42	Q200	52.00	22.31	24.30	24.30	0.00	26.60	2.30	24.57	25.29	0.022663	4.41	11.80	12.39	1.44
unico	42	Q500	62.00	22.31	24.39	24.30	-0.09	26.60	2.21	24.72	25.56	0.024079	4.79	12.94	12.55	1.50
unico	41	Q50	36.00	22.30	23.47	26.82	3.35	25.82	2.35	23.79	24.54	0.044960	4.58	7.87	13.37	1.90
unico	41	Q200	52.00	22.30	23.63	26.82	3.19	25.82	2.19	24.04	24.98	0.043447	5.14	10.12	14.06	1.93
unico	41	Q500	62.00	22.30	23.72	26.82	3.10	25.82	2.10	24.18	25.24	0.043229	5.47	11.34	14.29	1.96
unico	40	Q50	36.00	22.02	22.95	23.67	0.72	28.00	5.05	23.31	24.12	0.038713	4.79	7.52	11.51	1.89
unico	40	Q200	52.00	22.02	23.14	23.67	0.53	28.00	4.86	23.61	24.58	0.036774	5.31	9.80	12.19	1.89
unico	40	Q500	62.00	22.02	23.25	23.67	0.42	28.00	4.75	23.79	24.84	0.036541	5.60	11.07	12.56	1.90
unico	39	Q50	36.00	21.30	21.90	23.90	2.00	25.50	3.60	22.35	23.51	0.068153	5.62	6.41	11.39	2.39
unico	39	Q200	52.00	21.30	22.08	23.90	1.82	25.50	3.42	22.62	24.00	0.062997	6.14	8.47	12.07	2.34
unico	39	Q500	62.00	21.30	22.17	23.90	1.73	25.50	3.33	22.77	24.28	0.059573	6.43	9.64	12.22	2.31
unico	38.1	Q50	36.00	20.88	21.87	23.55	1.68	23.67	1.80	22.15	22.92	0.025193	4.54	7.93	8.00	1.45
unico	38.1	Q200	52.00	20.88	22.23	23.55	1.32	23.67	1.44	22.51	23.41	0.020784	4.83	10.77	8.00	1.33
unico	38.1	Q500	62.00	20.88	22.46	23.55	1.09	23.67	1.21	22.71	23.69	0.018450	4.91	12.61	8.00	1.25
unico	38	Q50	36.00	18.48	18.98	23.55	4.57	23.67	4.69	19.70	22.61	0.186375	8.44	4.27	8.50	3.80
unico	38	Q200	52.00	18.48	19.18	23.55	4.37	23.67	4.49	20.04	23.10	0.137022	8.77	5.93	8.50	3.35
unico	38	Q500	62.00	18.48	19.30	23.55	4.25	23.67	4.37	20.24	23.36	0.119038	8.94	6.94	8.50	3.16
unico	37.1	Q50	36.00	17.94	18.61	20.85	2.24	20.83	2.22	19.23	21.01	0.089083	6.86	5.25	7.83	2.67
unico	37.1	Q200	52.00	17.94	18.81	20.85	2.04	20.83	2.02	19.59	21.78	0.082462	7.63	6.81	7.83	2.61
unico	37.1	Q500	62.00	17.94	18.93	20.85	1.92	20.83	1.90	19.80	22.17	0.077976	7.97	7.78	7.83	2.55
unico	37	Q50	36.00	15.60	18.91	20.85	1.94	20.83	1.92	16.89	19.00	0.000800	1.39	25.89	7.83	0.24
unico	37	Q200	52.00	15.60	19.41	20.85	1.44	20.83	1.42	17.25	19.56	0.001140	1.74	29.80	7.83	0.29
unico	37	Q500	62.00	15.60	19.69	20.85	1.16	20.83	1.14	17.46	19.88	0.001341	1.94	32.00	7.83	0.31
unico	36	Q50	36.00	15.60	18.89	19.80	0.91	19.90	1.01	16.89	18.99	0.000808	1.40	25.79	7.83	0.25
unico	36	Q200	52.00	15.60	19.39	19.80	0.41	19.90	0.51	17.25	19.54	0.001155	1.75	29.66	7.83	0.29
unico	36	Q500	62.00	15.60	19.66	19.80	0.14	19.90	0.24	17.46	19.86	0.001360	1.95	31.83	7.83	0.31
unico	35.3	Q50	36.00	17.00	18.38	19.45	1.07	19.45	1.07	18.28	18.93	0.009300	3.27	11.00	7.95	0.89
unico	35.3	Q200	52.00	17.00	18.77	19.45	0.68	19.45	0.68	18.63	19.47	0.009339	3.69	14.09	7.95	0.88
unico	35.3	Q500	62.00	17.00	18.98	19.45	0.47	19.45	0.47	18.84	19.77	0.009627	3.94	15.74	7.95	0.89
unico	35.2	Q50	36.00	17.00	18.38	19.40	1.02	19.40	1.02	18.28	18.93	0.009337	3.28	10.99	7.95	0.89
unico	35.2	Q200	52.00	17.00	18.77	19.40	0.63	19.40	0.63	18.63	19.47	0.009367	3.69	14.08	7.95	0.89

HEC-RAS Plan: Plan 01 River: Arzocco Reach: unico (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
unico	35.2	Q500	62.00	17.00	18.98	19.40	0.42	19.40	0.42	18.84	19.77	0.009653	3.94	15.73	7.95	0.89
unico	35.01	Q50	36.00	17.00	18.28	19.40	1.12	19.40	1.12	18.28	18.92	0.011795	3.54	10.17	7.95	1.00
unico	35.01	Q200	52.00	17.00	18.63	19.40	0.77	19.40	0.77	18.63	19.45	0.011895	4.01	12.98	7.95	1.00
unico	35.01	Q500	62.00	17.00	18.84	19.40	0.56	19.40	0.56	18.84	19.76	0.011959	4.24	14.61	7.95	1.00
unico	35	Q50	36.00	15.72	16.44	19.40	2.96	19.40	2.96	17.05	18.75	0.084972	6.72	5.35	7.95	2.62
unico	35	Q200	52.00	15.72	16.69	19.40	2.71	19.40	2.71	17.40	19.27	0.067383	7.12	7.30	7.95	2.37
unico	35	Q500	62.00	15.72	16.83	19.40	2.57	19.40	2.57	17.61	19.57	0.061156	7.33	8.46	7.95	2.27
unico	34.5	Q50	36.00	15.70	16.68	18.59	1.91	19.81	3.13	17.04	17.90	0.030555	4.90	7.35	7.78	1.61
unico	34.5	Q200	52.00	15.70	16.95	18.59	1.64	19.81	2.86	17.40	18.49	0.029668	5.50	9.45	7.84	1.60
unico	34.5	Q500	62.00	15.70	17.11	18.59	1.48	19.81	2.70	17.60	18.82	0.029137	5.80	10.69	7.87	1.59
unico	34	Q50	36.00	15.42	16.35	18.35	2.00	19.81	3.46	16.65	17.41	0.026434	4.56	7.90	8.56	1.51
unico	34	Q200	52.00	15.42	16.58	18.35	1.77	19.81	3.23	16.99	18.00	0.028221	5.29	9.83	8.61	1.58
unico	34	Q500	62.00	15.42	16.70	18.35	1.65	19.81	3.11	17.18	18.35	0.029218	5.68	10.91	8.63	1.61
unico	33	Q50	36.00	15.03	15.99	18.35	2.36	19.68	3.69	16.29	17.08	0.026955	4.62	7.79	8.31	1.52
unico	33	Q200	52.00	15.03	16.23	18.35	2.12	19.68	3.45	16.64	17.66	0.027632	5.29	9.83	8.36	1.56
unico	33	Q500	62.00	15.03	16.38	18.35	1.97	19.68	3.30	16.84	17.98	0.027641	5.61	11.04	8.39	1.56
unico	32	Q50	36.00	14.50	15.47	18.35	2.88	18.20	2.73	15.78	16.58	0.027767	4.67	7.71	8.09	1.53
unico	32	Q200	52.00	14.50	15.73	18.35	2.62	18.20	2.47	16.13	17.16	0.027720	5.30	9.81	8.09	1.54
unico	32	Q500	62.00	14.50	15.88	18.35	2.47	18.20	2.32	16.33	17.49	0.027653	5.62	11.04	8.09	1.54
unico	31	Q50	36.00	13.85	14.69	17.70	3.01	17.68	2.99	15.05	15.91	0.034884	4.90	7.35	8.87	1.72
unico	31	Q200	52.00	13.85	14.91	17.70	2.79	17.68	2.77	15.38	16.49	0.034513	5.56	9.35	8.87	1.73
unico	31	Q500	62.00	13.85	15.04	17.70	2.66	17.68	2.64	15.57	16.82	0.034317	5.90	10.50	8.87	1.73
unico	30	Q50	36.00	13.67	14.40	17.07	2.67	17.32	2.92	14.79	15.72	0.043817	5.09	7.07	9.91	1.92
unico	30	Q200	52.00	13.67	14.59	17.07	2.48	17.32	2.73	15.10	16.30	0.043010	5.79	8.98	9.91	1.94
unico	30	Q500	62.00	13.67	14.70	17.07	2.37	17.32	2.62	15.27	16.63	0.042574	6.15	10.09	9.91	1.94
unico	29	Q50	36.00	13.40	14.16	15.82	1.66	15.88	1.72	14.43	15.11	0.029419	4.34	8.30	11.05	1.60
unico	29	Q200	52.00	13.40	14.32	15.82	1.50	15.88	1.56	14.72	15.66	0.032704	5.13	10.13	11.05	1.71
unico	29	Q500	62.00	13.40	14.41	15.82	1.41	15.88	1.47	14.88	15.99	0.034320	5.56	11.16	11.05	1.77
unico	28	Q50	36.00	12.98	13.84	15.72	1.88	15.75	1.91	14.04	14.64	0.021217	3.96	9.10	10.67	1.37
unico	28	Q200	52.00	12.98	14.72	15.72	1.00	15.75	1.03	14.33	15.12	0.005015	2.82	18.44	10.67	0.68
unico	28	Q500	62.00	12.98	14.95	15.72	0.77	15.75	0.80	14.50	15.40	0.004859	2.96	20.96	10.67	0.67
unico	27	Q50	36.00	12.68	14.13	15.38	1.25	15.63	1.50	13.84	14.50	0.005793	2.70	13.34	9.29	0.72
unico	27	Q200	52.00	12.68	14.62	15.38	0.76	15.63	1.01	14.16	15.05	0.005039	2.91	17.89	9.29	0.67
unico	27	Q500	62.00	12.68	14.82	15.38	0.56	15.63	0.81	14.35	15.32	0.005345	3.14	19.77	9.29	0.69
unico	26	Q50	36.00	12.40	13.71	15.43	1.72	15.46	1.75	13.71	14.36	0.008279	3.58	10.06	7.70	1.00
unico	26	Q200	52.00	12.40	14.07	15.43	1.36	15.46	1.39	14.07	14.90	0.008363	4.05	12.85	7.70	1.00
unico	26	Q500	62.00	12.40	14.42	15.43	1.01	15.46	1.04	14.42	15.20	0.006608	3.92	16.42	12.00	0.88

HEC-RAS Plan: Plan 01 River: Arzocco Reach: unico (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
unico	25	Q50	36.00	11.47	12.49	15.51	3.02	15.32	2.83	12.95	14.04	0.026871	5.52	6.52	6.46	1.76
unico	25	Q200	52.00	11.47	12.85	15.51	2.66	15.32	2.47	13.36	14.60	0.022300	5.85	8.89	6.48	1.60
unico	25	Q500	62.00	11.47	13.08	15.51	2.43	15.32	2.24	13.59	14.91	0.020455	6.00	10.33	6.49	1.52
unico	24	Q50	36.00	11.15	12.33	14.41	2.08	14.41	2.08	12.78	13.89	0.024613	5.53	6.51	5.54	1.63
unico	24	Q200	52.00	11.15	12.81	14.41	1.60	14.41	1.60	13.23	14.45	0.019033	5.67	9.18	5.56	1.41
unico	24	Q500	62.00	11.15	13.26	14.41	1.15	14.41	1.15	13.49	14.70	0.013821	5.31	11.67	5.57	1.17
unico	23	Q50	36.00	10.55	12.15	13.82	1.67	13.82	1.67	12.53	13.58	0.022609	5.31	6.79	5.00	1.45
unico	23	Q200	52.00	10.55	12.76	13.82	1.06	13.82	1.06	13.01	14.18	0.016419	5.28	9.85	5.00	1.20
unico	23	Q500	62.00	10.55	13.13	13.82	0.69	13.82	0.69	13.29	14.56	0.014545	5.30	11.70	5.00	1.11
unico	22	Q50	36.00	8.85	10.21	12.00	1.79	12.00	1.79	10.82	12.20	0.030864	6.25	5.76	4.35	1.74
unico	22	Q200	52.00	8.85	10.58	12.00	1.42	12.00	1.42	11.29	12.94	0.032953	6.81	7.64	5.25	1.80
unico	22	Q500	62.00	8.85	10.78	12.00	1.22	12.00	1.22	11.57	13.38	0.032664	7.15	8.67	5.30	1.78
unico	21	Q50	36.00	8.72	10.04	11.90	1.86	11.90	1.86	10.67	12.10	0.032332	6.36	5.66	4.42	1.80
unico	21	Q200	52.00	8.72	10.41	11.90	1.49	11.90	1.49	11.15	12.84	0.034123	6.91	7.53	5.29	1.85
unico	21	Q500	62.00	8.72	10.60	11.90	1.30	11.90	1.30	11.41	13.28	0.033728	7.25	8.55	5.33	1.83
unico	20	Q50	36.00	8.16	9.35	11.28	1.93	11.28	1.93	9.93	11.28	0.031036	6.15	5.85	5.04	1.82
unico	20	Q200	52.00	8.16	9.72	11.28	1.56	11.28	1.56	10.42	12.03	0.029188	6.73	7.73	5.12	1.75
unico	20	Q500	62.00	8.16	9.93	11.28	1.35	11.28	1.35	10.69	12.47	0.029069	7.06	8.78	5.17	1.73
unico	19	Q50	36.00	7.11	8.41	9.90	1.49	9.90	1.49	8.83	9.91	0.022250	5.43	6.63	5.38	1.56
unico	19	Q200	52.00	7.11	8.74	9.90	1.16	9.90	1.16	9.30	10.68	0.023311	6.16	8.44	5.42	1.58
unico	19	Q500	62.00	7.11	10.39	9.90	-0.49	9.90	-0.49	9.56	11.20	0.015371	3.97	15.61	5.57	0.70
unico	18	Q50	36.00	5.65	7.11	7.80	0.69	7.80	0.69	7.45	8.43	0.017878	5.09	7.07	5.14	1.39
unico	18	Q200	52.00	5.65	7.53	7.80	0.27	7.80	0.27	7.80	9.14	0.017536	5.62	9.25	5.24	1.35
unico	18	Q500	62.00	5.65	8.54	7.80	-0.74	7.80	-0.74	8.54	9.74	0.026182	4.86	12.76	5.30	0.91
unico	17	Q50	36.00	4.86	5.93	6.82	0.89	6.82	0.89	6.50	7.83	0.032394	6.10	5.90	5.97	1.96
unico	17	Q200	52.00	4.86	6.23	6.82	0.59	6.82	0.59	6.82	8.54	0.030615	6.73	7.72	6.10	1.91
unico	17	Q500	62.00	4.86	7.50	6.82	-0.68	6.82	-0.68	7.81	8.96	0.042166	5.35	11.60	6.35	1.05
unico	16	Q50	36.00	4.84	5.73	6.82	1.09	6.82	1.09	6.29	7.71	0.041098	6.23	5.77	7.06	2.20
unico	16	Q200	52.00	4.84	5.97	6.82	0.85	6.82	0.85	6.67	8.42	0.038763	6.94	7.49	7.06	2.15
unico	16	Q500	62.00	4.84	6.14	6.82	0.68	6.82	0.68	6.82	8.73	0.035174	7.13	8.70	7.06	2.05
unico	15	Q50	36.00	4.69	5.52	8.00	2.48	8.00	2.48	6.06	7.36	0.037967	6.01	5.99	7.19	2.10
unico	15	Q200	52.00	4.69	5.76	8.00	2.24	8.00	2.24	6.44	8.10	0.037323	6.78	7.67	7.19	2.10
unico	15	Q500	62.00	4.69	5.91	8.00	2.09	8.00	2.09	6.65	8.44	0.035040	7.05	8.80	7.19	2.03
unico	13	Q50	36.00	3.52	5.38	7.20	1.82	7.20	1.82	5.17	6.03	0.007012	3.57	10.07	5.41	0.84
unico	13	Q200	52.00	3.52	6.02	7.20	1.18	7.20	1.18	5.63	6.77	0.006539	3.85	13.51	5.41	0.78
unico	13	Q500	62.00	3.52	6.38	7.20	0.82	7.20	0.82	5.89	7.20	0.006462	4.01	15.48	5.41	0.76
unico	9	Q50	36.00	3.32	5.12	7.12	2.00	7.12	2.00	5.06	5.94	0.009348	3.99	9.02	5.00	0.95
unico	9	Q200	52.00	3.32	5.68	7.12	1.44	7.12	1.44	5.54	6.67	0.009369	4.41	11.80	5.00	0.92

HEC-RAS Plan: Plan 01 River: Arzocco Reach: unico (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
unico	9	Q500	62.00	3.32	6.02	7.12	1.10	7.12	1.10	5.82	7.09	0.009325	4.60	13.49	5.00	0.89
unico	8	Q50	36.00	3.19	5.02	6.99	1.97	6.99	1.97	4.93	5.81	0.009057	3.95	9.13	5.00	0.93
unico	8	Q200	52.00	3.19	5.57	6.99	1.42	6.99	1.42	5.41	6.54	0.009186	4.37	11.89	5.00	0.91
unico	8	Q500	62.00	3.19	5.91	6.99	1.08	6.99	1.08	5.69	6.97	0.009171	4.57	13.58	5.00	0.88
unico	7	Q50	36.00	3.00	4.74	6.80	2.06	6.80	2.06	4.74	5.61	0.010330	4.14	8.70	5.00	1.00
unico	7	Q200	52.00	3.00	5.22	6.80	1.58	6.80	1.58	5.22	6.34	0.010988	4.67	11.12	5.00	1.00
unico	7	Q500	62.00	3.00	5.50	6.80	1.30	6.80	1.30	5.50	6.75	0.011385	4.95	12.51	5.00	1.00
unico	6	Q50	36.00	1.85	2.87	5.65	2.78	5.65	2.78	3.59	5.41	0.047820	7.06	5.10	5.00	2.23
unico	6	Q200	52.00	1.85	3.23	5.65	2.42	5.65	2.42	4.08	6.12	0.041477	7.53	6.90	5.00	2.05
unico	6	Q500	62.00	1.85	3.44	5.65	2.21	5.65	2.21	4.35	6.53	0.039303	7.79	7.96	5.00	1.97
unico	5.3	Q50	36.00	1.68	2.97	5.48	2.51	5.48	2.51	3.42	4.55	0.024067	5.58	6.46	5.00	1.57
unico	5.3	Q200	52.00	1.68	3.36	5.48	2.12	5.48	2.12	3.91	5.31	0.023736	6.18	8.41	5.00	1.52
unico	5.3	Q500	62.00	1.68	4.90	5.48	0.58	5.48	0.58	4.18	5.66	0.005871	3.85	16.11	5.00	0.68
unico	5.2	Q50	36.00	1.55	3.50	5.35	1.85	5.35	1.85	3.29	4.20	0.007520	3.69	9.76	5.00	0.84
unico	5.2	Q200	52.00	1.55	4.26	5.35	1.09	5.35	1.09	3.78	5.01	0.006485	3.84	13.55	5.00	0.74
unico	5.2	Q500	62.00	1.55	4.85	5.35	0.50	5.35	0.50	4.05	5.57	0.005499	3.75	16.52	5.00	0.66
unico	5.1	Q50	36.00	1.42	3.44	5.22	1.78	5.22	1.78	3.16	4.09	0.006826	3.56	10.11	5.00	0.80
unico	5.1	Q200	52.00	1.42	4.21	5.22	1.01	5.22	1.01	3.65	4.92	0.006018	3.73	13.94	5.00	0.71
unico	5.1	Q500	62.00	1.42	4.81	5.22	0.41	5.22	0.41	3.92	5.49	0.005146	3.66	16.95	5.00	0.63
unico	5	Q50	36.00	1.30	3.38	5.10	1.72	5.10	1.72	3.04	3.99	0.006288	3.45	10.42	5.00	0.76
unico	5	Q200	52.00	1.30	4.16	5.10	0.94	5.10	0.94	3.53	4.83	0.005648	3.64	14.28	5.00	0.69
unico	5	Q500	62.00	1.30	4.77	5.10	0.33	5.10	0.33	3.80	5.42	0.004861	3.58	17.33	5.00	0.61
unico	4	Q50	36.00	1.17	3.34	4.97	1.63	4.97	1.63	2.91	3.90	0.005635	3.32	10.85	5.00	0.72
unico	4	Q200	52.00	1.17	4.11	4.97	0.86	4.97	0.86	3.40	4.75	0.005220	3.53	14.72	5.00	0.66
unico	4	Q500	62.00	1.17	4.73	4.97	0.24	4.97	0.24	3.68	5.35	0.004545	3.48	17.80	5.00	0.59
unico	3	Q50	36.00	0.96	3.29	4.76	1.48	4.76	1.48	2.70	3.77	0.004677	3.10	11.62	5.00	0.65
unico	3	Q200	52.00	0.96	4.06	4.76	0.70	4.76	0.70	3.19	4.63	0.004577	3.36	15.48	5.00	0.61
unico	3	Q500	62.00	0.96	4.68	4.76	0.08	4.76	0.08	3.46	5.24	0.004070	3.34	18.58	5.00	0.55
unico	2	Q50	36.00	0.76	3.24	4.56	1.32	4.56	1.32	2.50	3.67	0.003943	2.91	12.39	5.00	0.59
unico	2	Q200	52.00	0.76	4.00	4.56	0.56	4.56	0.56	2.99	4.53	0.004058	3.21	16.22	5.00	0.57
unico	2	Q500	62.00	0.76	4.59	4.56	-0.03	4.56	-0.03	3.26	5.14	0.006009	3.26	19.00		0.53
unico	1	Q50	36.00	0.60	3.21	4.40	1.19	4.40	1.19	2.34	3.60	0.003435	2.76	13.05	5.00	0.55
unico	1	Q200	52.00	0.60	3.97	4.40	0.43	4.40	0.43	2.83	4.46	0.003677	3.09	16.85	5.00	0.54
unico	1	Q500	62.00	0.60	4.50	4.40	-0.10	4.40	-0.10	3.10	5.04	0.006010	3.26	19.00		0.53

Allegato – Verifiche idrauliche

Rio Garombo

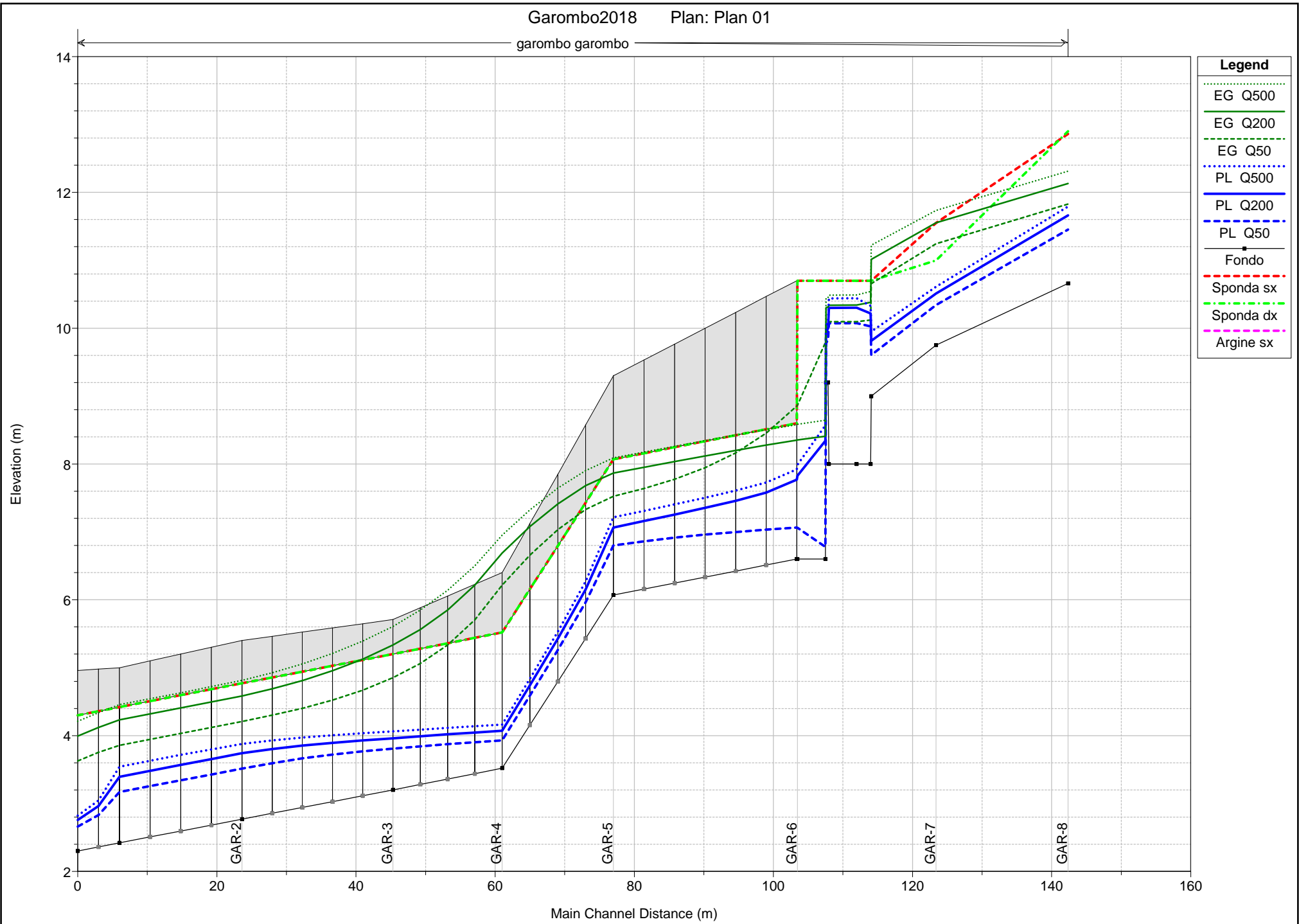
tratto terminale

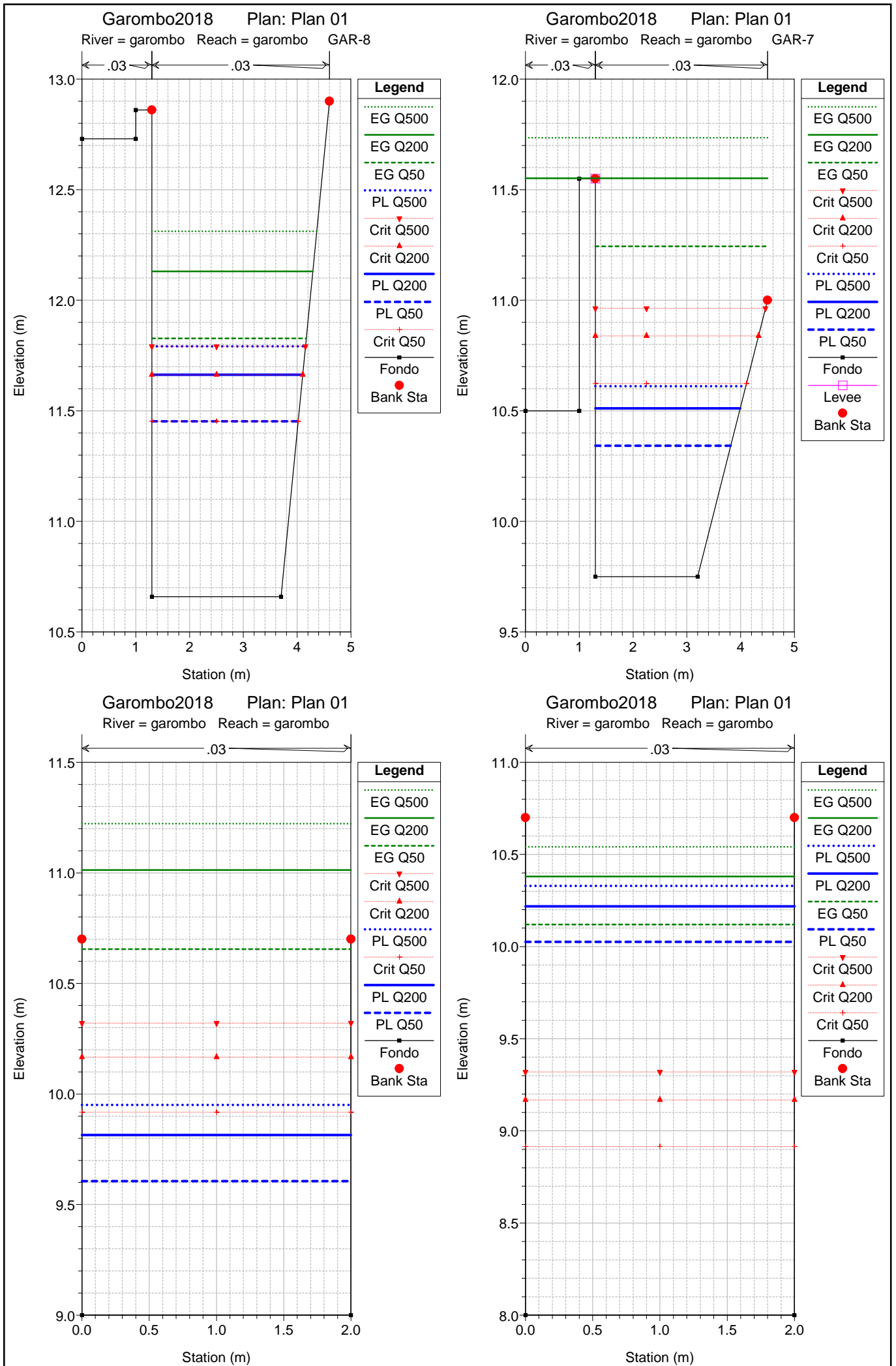
Sezioni GAR-8 – GAR-1

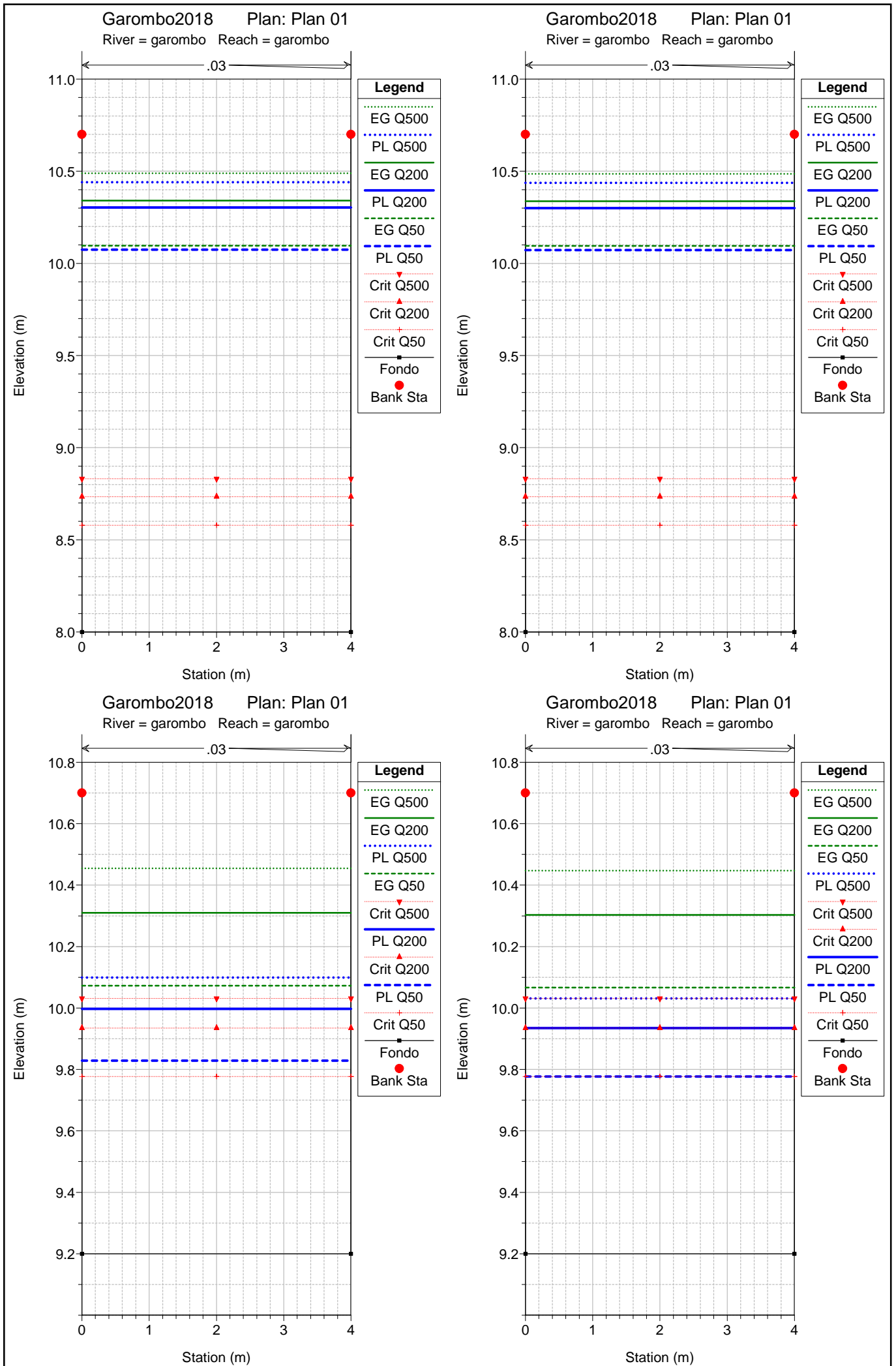
- profili di corrente
- sezioni idrauliche
- tabella dei risultati

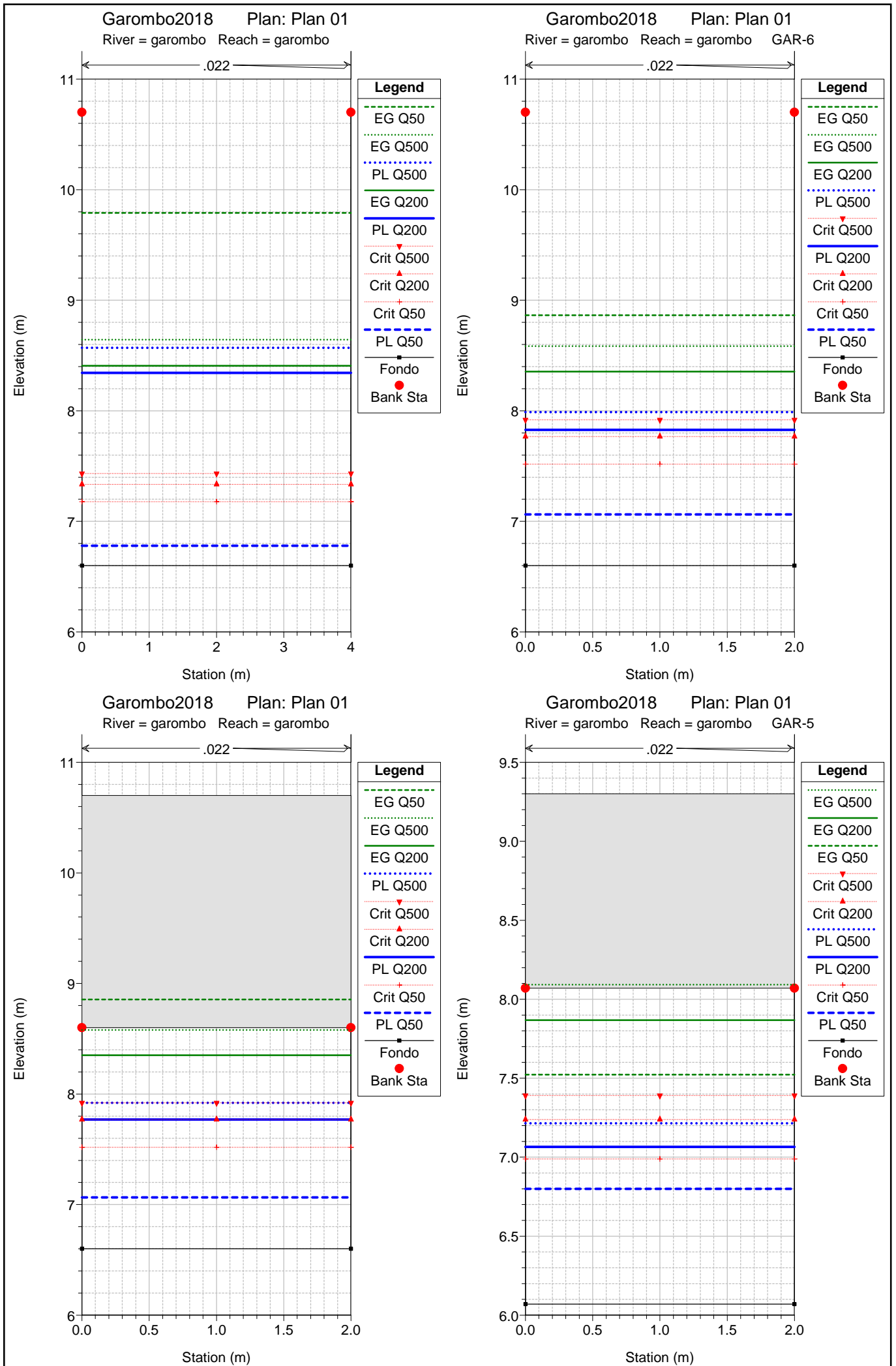
Garombo2018 Plan: Plan 01

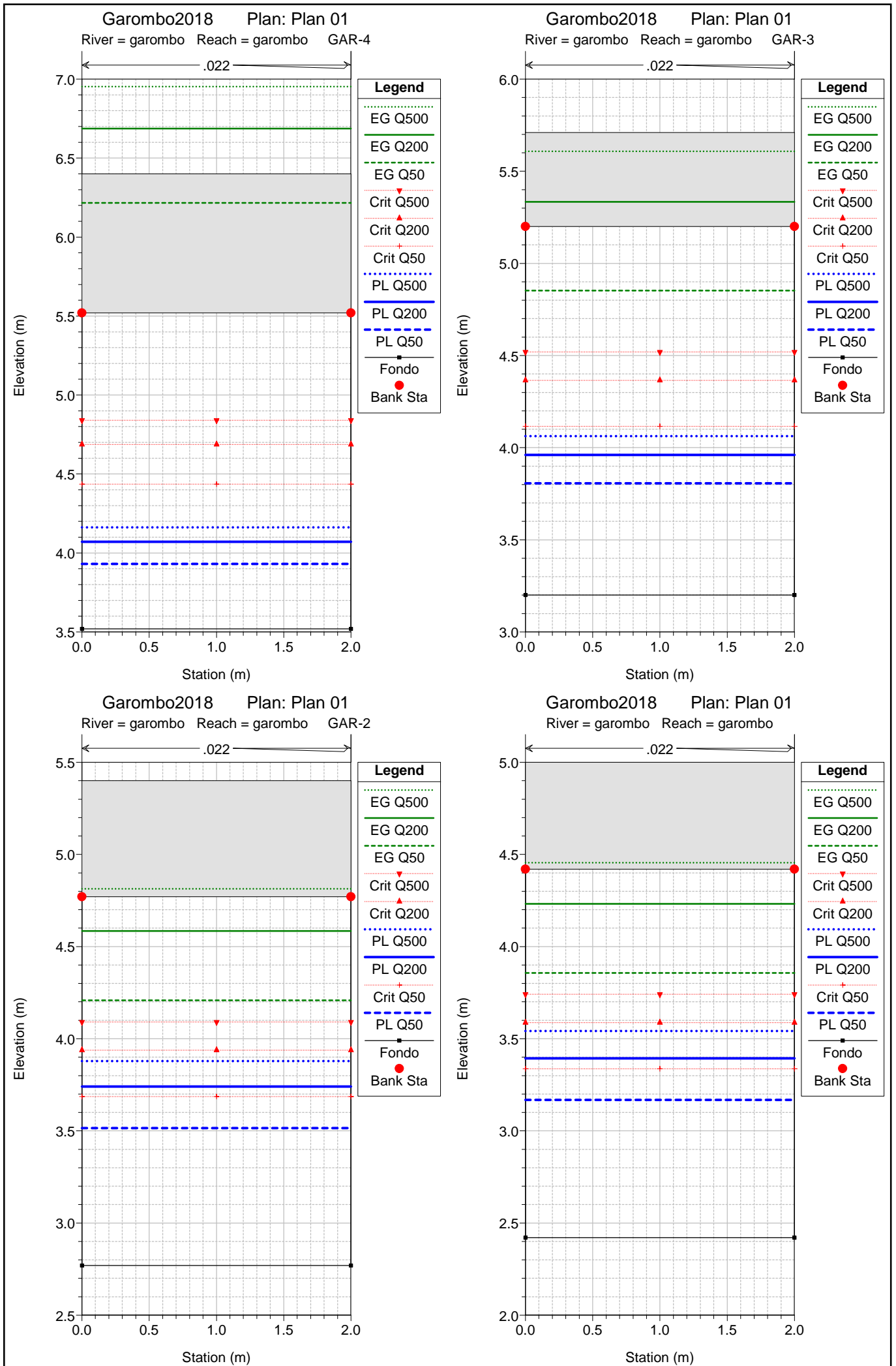
garombo garombo

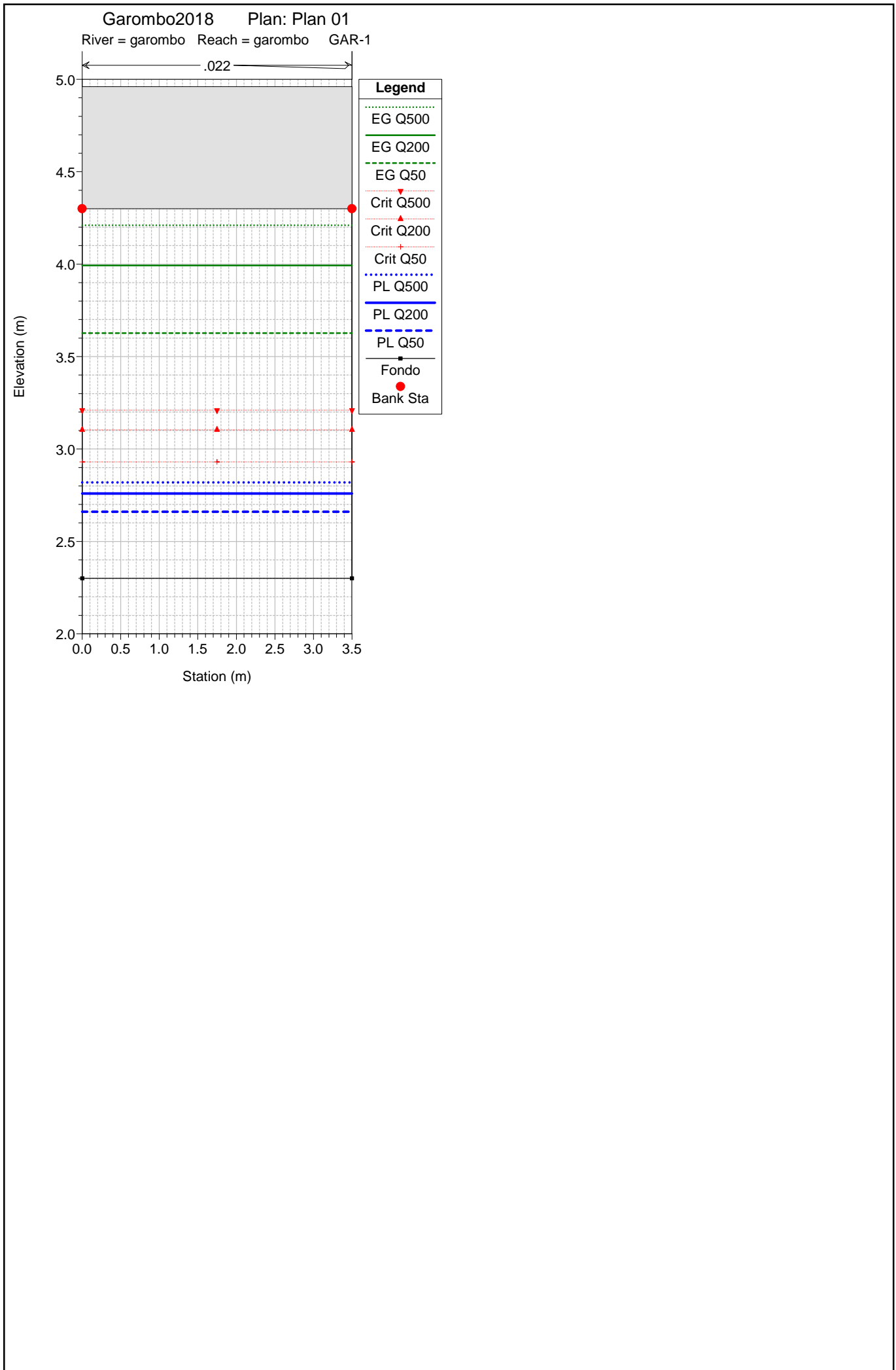












HEC-RAS Plan: Plan 01 River: garombo Reach: garombo

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
garombo	8 GAR-8	Q50	5.50	10.66	11.45	12.86	1.41	12.90	1.45	11.45	11.83	0.016636	2.71	2.03	2.72	1.00
garombo	8 GAR-8	Q200	7.90	10.66	11.66	12.86	1.20	12.90	1.24	11.66	12.13	0.016975	3.03	2.61	2.80	1.00
garombo	8 GAR-8	Q500	9.50	10.66	11.79	12.86	1.07	12.90	1.11	11.79	12.31	0.017192	3.20	2.97	2.85	1.00
garombo	7 GAR-7	Q50	5.50	9.75	10.34	11.55	1.21	11.00	0.66	10.62	11.24	0.055746	4.21	1.31	2.52	1.86
garombo	7 GAR-7	Q200	7.90	9.75	10.51	11.55	1.04	11.00	0.49	10.84	11.55	0.051037	4.52	1.75	2.69	1.79
garombo	7 GAR-7	Q500	9.50	9.75	10.61	11.55	0.94	11.00	0.39	10.96	11.74	0.049339	4.70	2.02	2.80	1.76
garombo	6.5	Q50	5.50	9.00	9.61	10.70	1.09	10.70	1.09	9.92	10.66	0.067968	4.54	1.21	2.00	1.86
garombo	6.5	Q200	7.90	9.00	9.81	10.70	0.89	10.70	0.89	10.17	11.01	0.061594	4.85	1.63	2.00	1.72
garombo	6.5	Q500	9.50	9.00	9.95	10.70	0.75	10.70	0.75	10.32	11.22	0.058529	4.99	1.90	2.00	1.63
garombo	6.4	Q50	5.50	8.00	10.03	10.70	0.67	10.70	0.67	8.92	10.12	0.002833	1.36	4.05	2.00	0.30
garombo	6.4	Q200	7.90	8.00	10.22	10.70	0.48	10.70	0.48	9.17	10.38	0.004685	1.78	4.44	2.00	0.38
garombo	6.4	Q500	9.50	8.00	10.33	10.70	0.37	10.70	0.37	9.32	10.54	0.006025	2.04	4.66	2.00	0.43
garombo	6.3	Q50	5.50	8.00	10.07	10.70	0.63	10.70	0.63	8.58	10.10	0.000386	0.66	8.30	4.00	0.15
garombo	6.3	Q200	7.90	8.00	10.30	10.70	0.40	10.70	0.40	8.73	10.34	0.000605	0.86	9.21	4.00	0.18
garombo	6.3	Q500	9.50	8.00	10.44	10.70	0.26	10.70	0.26	8.83	10.49	0.000751	0.97	9.76	4.00	0.20
garombo	6.22	Q50	5.50	8.00	10.07	10.70	0.63	10.70	0.63	8.58	10.09	0.000387	0.66	8.29	4.00	0.15
garombo	6.22	Q200	7.90	8.00	10.30	10.70	0.40	10.70	0.40	8.73	10.34	0.000607	0.86	9.20	4.00	0.18
garombo	6.22	Q500	9.50	8.00	10.44	10.70	0.26	10.70	0.26	8.83	10.49	0.000754	0.97	9.75	4.00	0.20
garombo	6.21	Q50	5.50	9.20	9.83	10.70	0.87	10.70	0.87	9.78	10.07	0.011513	2.19	2.51	4.00	0.88
garombo	6.21	Q200	7.90	9.20	10.00	10.70	0.70	10.70	0.70	9.93	10.31	0.011680	2.48	3.19	4.00	0.89
garombo	6.21	Q500	9.50	9.20	10.10	10.70	0.60	10.70	0.60	10.03	10.45	0.011863	2.64	3.60	4.00	0.89
garombo	6.2	Q50	5.50	9.20	9.78	10.70	0.92	10.70	0.92	9.78	10.07	0.014925	2.38	2.31	4.00	1.00
garombo	6.2	Q200	7.90	9.20	9.93	10.70	0.77	10.70	0.77	9.93	10.30	0.014892	2.69	2.94	4.00	1.00
garombo	6.2	Q500	9.50	9.20	10.03	10.70	0.67	10.70	0.67	10.03	10.45	0.014947	2.86	3.32	4.00	1.00
garombo	6.1	Q50	5.50	6.60	6.78	10.70	3.92	10.70	3.92	7.18	9.79	0.318301	7.69	0.72	4.00	5.80
garombo	6.1	Q200	7.90	6.60	8.34	10.70	2.36	10.70	2.36	7.33	8.41	0.000684	1.13	6.97	4.00	0.27
garombo	6.1	Q500	9.50	6.60	8.57	10.70	2.13	10.70	2.13	7.43	8.64	0.000711	1.21	7.88	4.00	0.27
garombo	6 GAR-6	Q50	5.50	6.60	7.06	10.70	3.64	10.70	3.64	7.52	8.86	0.079470	5.95	0.92	2.00	2.79
garombo	6 GAR-6	Q200	7.90	6.60	7.83	10.70	2.87	10.70	2.87	7.77	8.36	0.011067	3.22	2.46	2.00	0.93
garombo	6 GAR-6	Q500	9.50	6.60	7.99	10.70	2.71	10.70	2.71	7.92	8.58	0.011698	3.42	2.77	2.00	0.93
garombo	5.9	Q50	5.50	6.60	7.06	8.60	1.54	8.60	1.54	7.52	8.85	0.078729	5.93	0.93	2.00	2.78
garombo	5.9	Q200	7.90	6.60	7.77	8.60	0.83	8.60	0.83	7.77	8.35	0.012619	3.38	2.34	2.00	1.00
garombo	5.9	Q500	9.50	6.60	7.92	8.60	0.68	8.60	0.68	7.92	8.58	0.013279	3.60	2.64	2.00	1.00
garombo	5 GAR-5	Q50	5.50	6.07	6.80	8.07	1.27	8.07	1.27	6.99	7.52	0.021706	3.77	1.46	2.00	1.41
garombo	5 GAR-5	Q200	7.90	6.07	7.07	8.07	1.00	8.07	1.00	7.24	7.87	0.019258	3.97	1.99	2.00	1.27
garombo	5 GAR-5	Q500	9.50	6.07	7.21	8.07	0.86	8.07	0.86	7.39	8.09	0.019255	4.15	2.29	2.00	1.24
garombo	4 GAR-4	Q50	5.50	3.52	3.93	5.52	1.59	5.52	1.59	4.44	6.22	0.112534	6.70	0.82	2.00	3.34
garombo	4 GAR-4	Q200	7.90	3.52	4.07	5.52	1.45	5.52	1.45	4.69	6.69	0.098743	7.17	1.10	2.00	3.08
garombo	4 GAR-4	Q500	9.50	3.52	4.16	5.52	1.36	5.52	1.36	4.84	6.95	0.092772	7.40	1.28	2.00	2.95
garombo	3 GAR-3	Q50	5.50	3.20	3.81	5.20	1.39	5.20	1.39	4.12	4.85	0.036374	4.53	1.21	2.00	1.86
garombo	3 GAR-3	Q200	7.90	3.20	3.96	5.20	1.24	5.20	1.24	4.36	5.33	0.039920	5.19	1.52	2.00	1.90
garombo	3 GAR-3	Q500	9.50	3.20	4.06	5.20	1.14	5.20	1.14	4.52	5.61	0.041000	5.51	1.72	2.00	1.89

HEC-RAS Plan: Plan 01 River: garombo Reach: garombo (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (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
garombo	2 GAR-2	Q50	5.50	2.77	3.52	4.77	1.25	4.77	1.25	3.69	4.21	0.020481	3.69	1.49	2.00	1.36
garombo	2 GAR-2	Q200	7.90	2.77	3.74	4.77	1.03	4.77	1.03	3.94	4.58	0.020623	4.07	1.94	2.00	1.32
garombo	2 GAR-2	Q500	9.50	2.77	3.88	4.77	0.89	4.77	0.89	4.09	4.81	0.020931	4.28	2.22	2.00	1.30
garombo	1.1	Q50	5.50	2.42	3.17	4.42	1.25	4.42	1.25	3.34	3.86	0.020286	3.68	1.50	2.00	1.36
garombo	1.1	Q200	7.90	2.42	3.39	4.42	1.03	4.42	1.03	3.59	4.23	0.020419	4.06	1.95	2.00	1.31
garombo	1.1	Q500	9.50	2.42	3.54	4.42	0.88	4.42	0.88	3.74	4.46	0.020299	4.23	2.24	2.00	1.28
garombo	1 GAR-1	Q50	5.50	2.30	2.66	4.30	1.64	4.30	1.64	2.93	3.63	0.045866	4.35	1.26	3.50	2.31
garombo	1 GAR-1	Q200	7.90	2.30	2.76	4.30	1.54	4.30	1.54	3.10	3.99	0.045233	4.92	1.60	3.50	2.32
garombo	1 GAR-1	Q500	9.50	2.30	2.82	4.30	1.48	4.30	1.48	3.21	4.21	0.044737	5.22	1.82	3.50	2.31