



Accordo di Pianificazione ai sensi dell' art. 57 della L.R. 36/1997
tra Autorità di bacino del fiume Po Regione Liguria e Provincia di Genova

V1 – Verifiche idrauliche per l'individuazione delle aree inondabili e delle fasce fluviali (TREBBIA)

Allegato tecnico alle Norme di attuazione

PROGETTO	VARIANTE AL PIANO TERRITORIALE DI COORDINAMENTO DELLA PROVINCIA DI GENOVA CON VALORE ED EFFETTI DEL PIANO DI BACINO PER LA PARTE DEL TERRITORIO PROVINCIALE COMPRESA NEL BACINO DEL FIUME PO
Codice : 1.2 / 17 / 04	

N. / Titolo elaborato :	V1 - VERIFICHE IDRAULICHE – Trebbia
Nome file :	V1b_Verifiche idrauliche_Trebbia.pdf

REV	DATA	REDATTO	VERIFICATO	APPROVATO
	06/2010	Ufficio Progettazione Territoriale	Il Dirigente del Servizio Pianificazione generale	Il Direttore
		Ufficio Pianificazione di Bacino e Protezione Civile	Arch. Andrea Pasetti	Dott. Geol. Mauro Lombardi

Indice

Fiume Trebbia

Torrente Brugneto

Torrente Solive

Torrente Cassinghenno

Torrente Sermigliasca

Torrente Pescia

Torrente Terenzzone

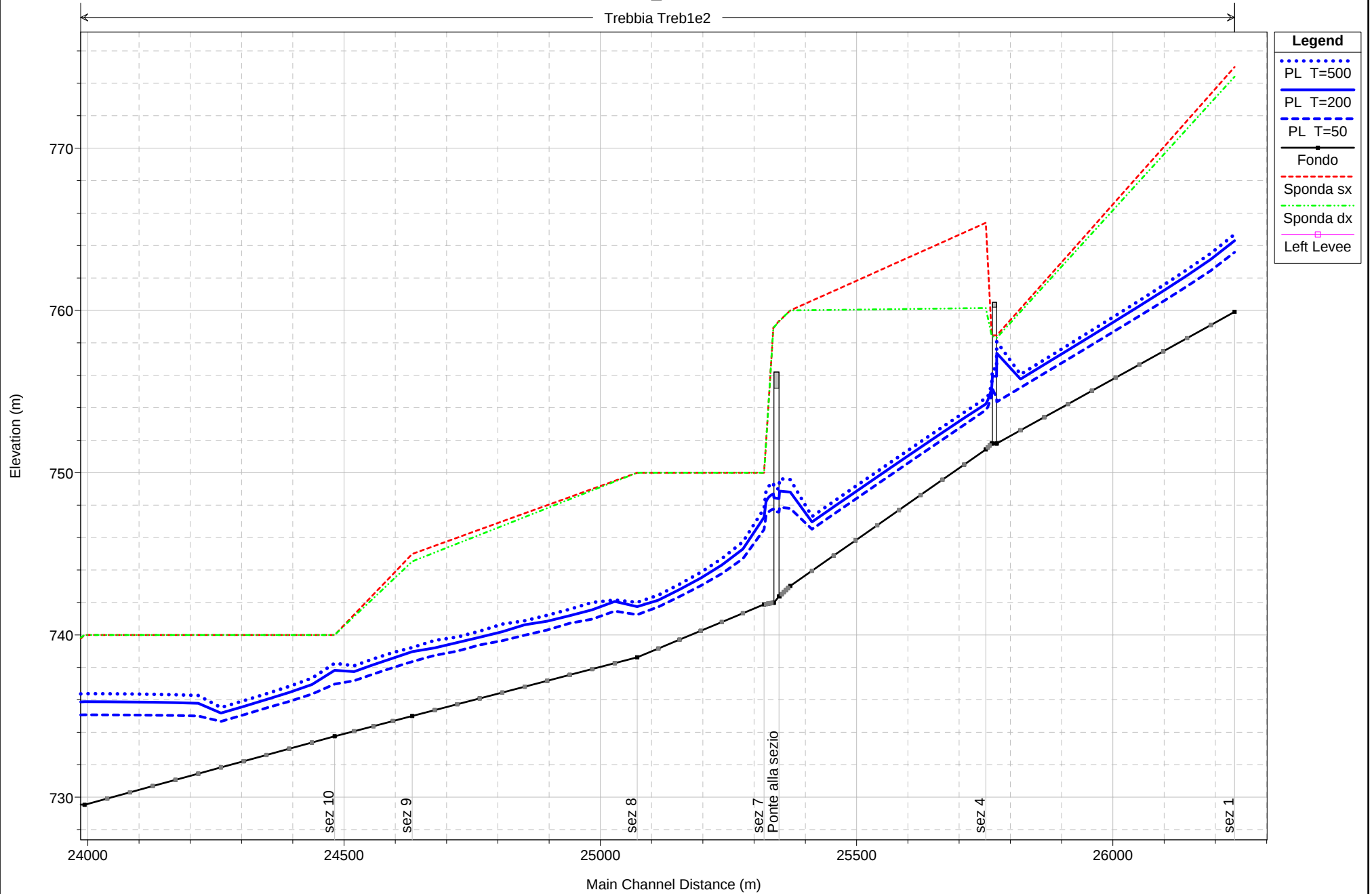
Nota Bene: tutti i valori di quota riportati nei tabulati che seguono non devono considerarsi in valore assoluto, ma considerarsi riferiti al sistema cartografico di dettaglio utilizzato come descritto nei paragrafi 3.3.1 e 4.2 della relazione idraulica.

Fiume Trebbia

- Profili di corrente
- Sezioni idrauliche
- Tabelle dei risultati

Trebbia_Stato di fatto

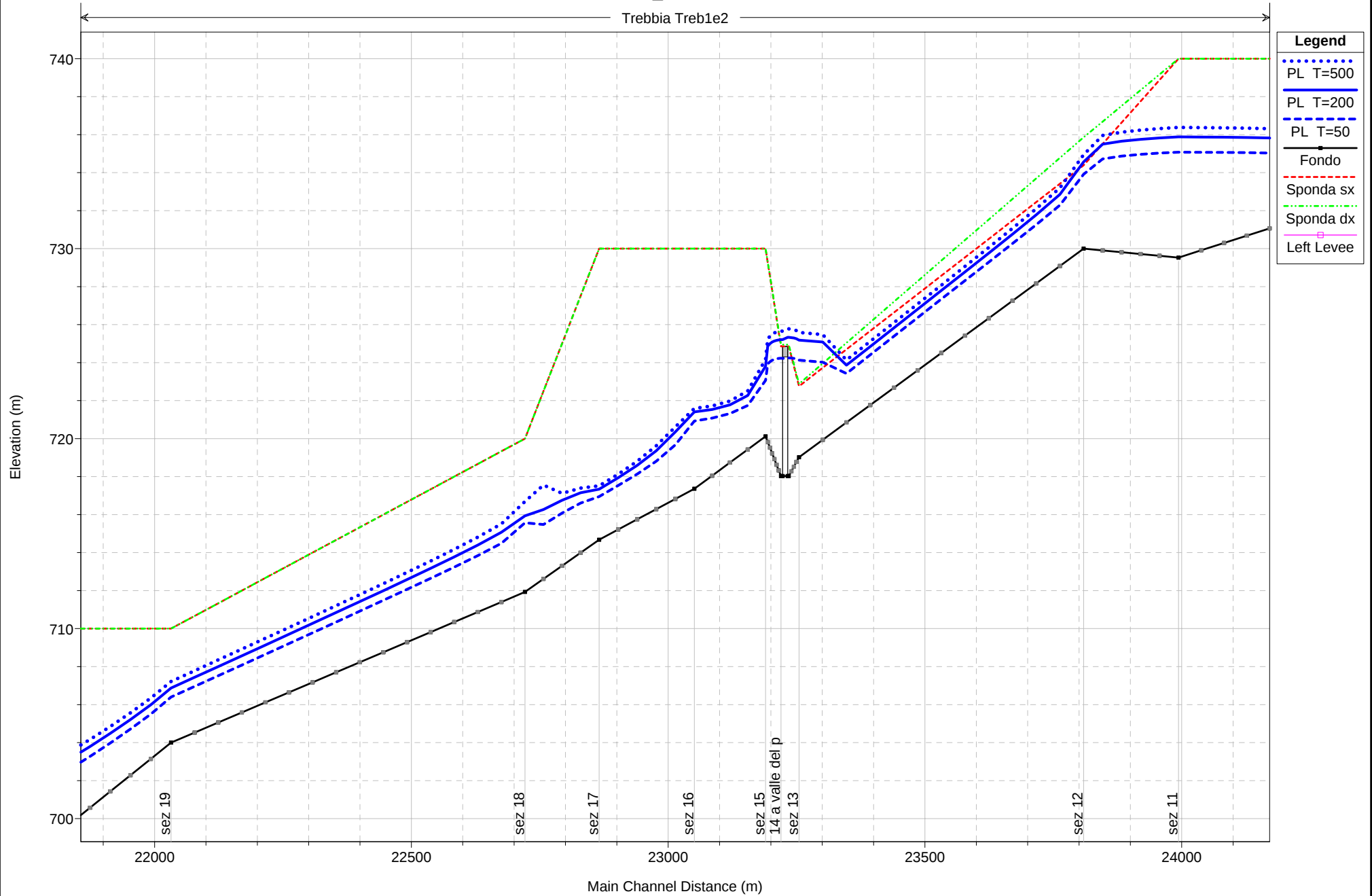
Trebbia Treb1e2



1 cm Horiz. = 100 m 1 cm Vert. = 3.158531 m

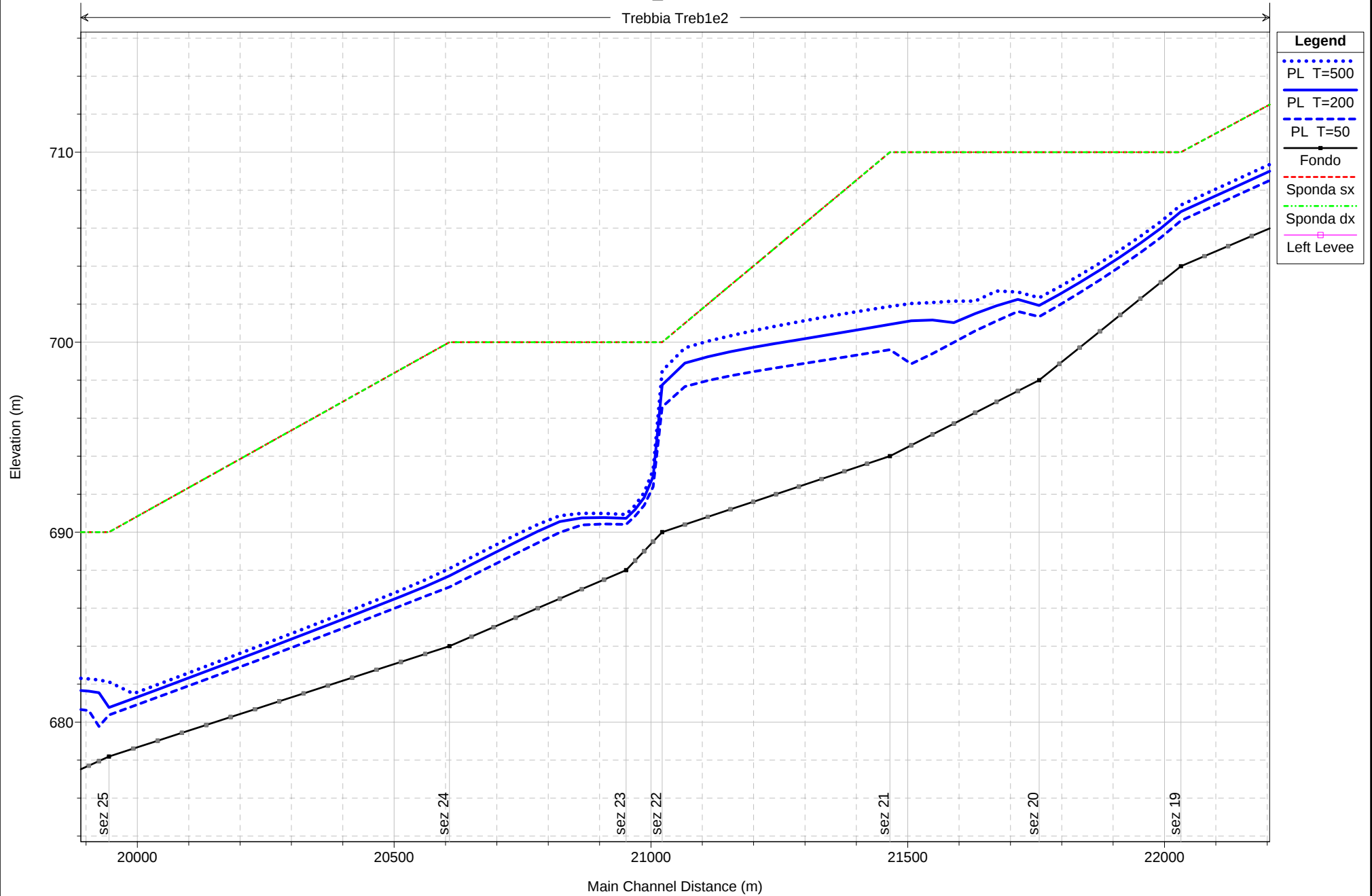
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Trebbia Treb1e2



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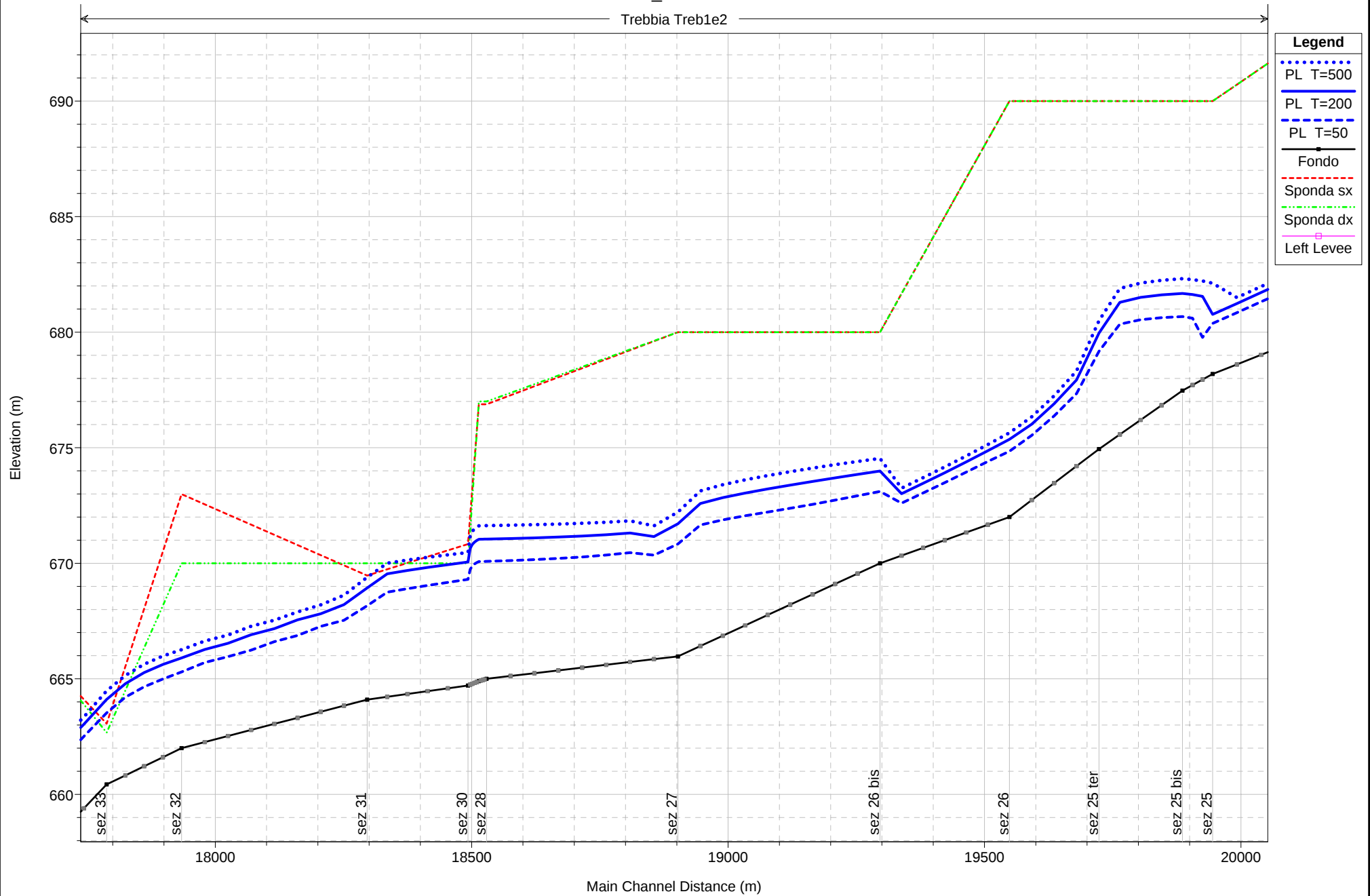
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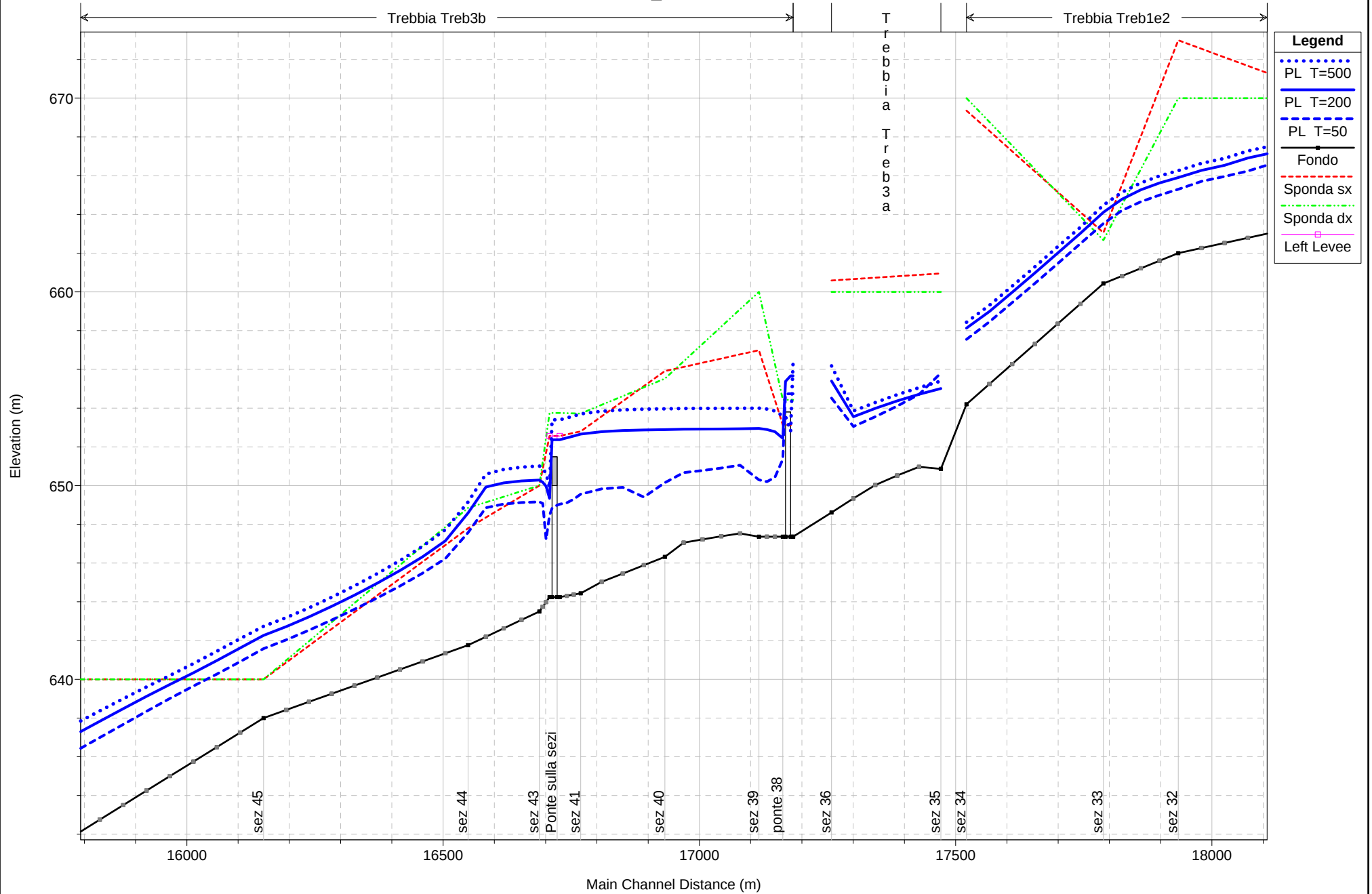
1 cm Horiz. = 100 m 1 cm Vert. = 2.703434 m

Trebbia_Stato di fatto

Trebbia Treb1e2



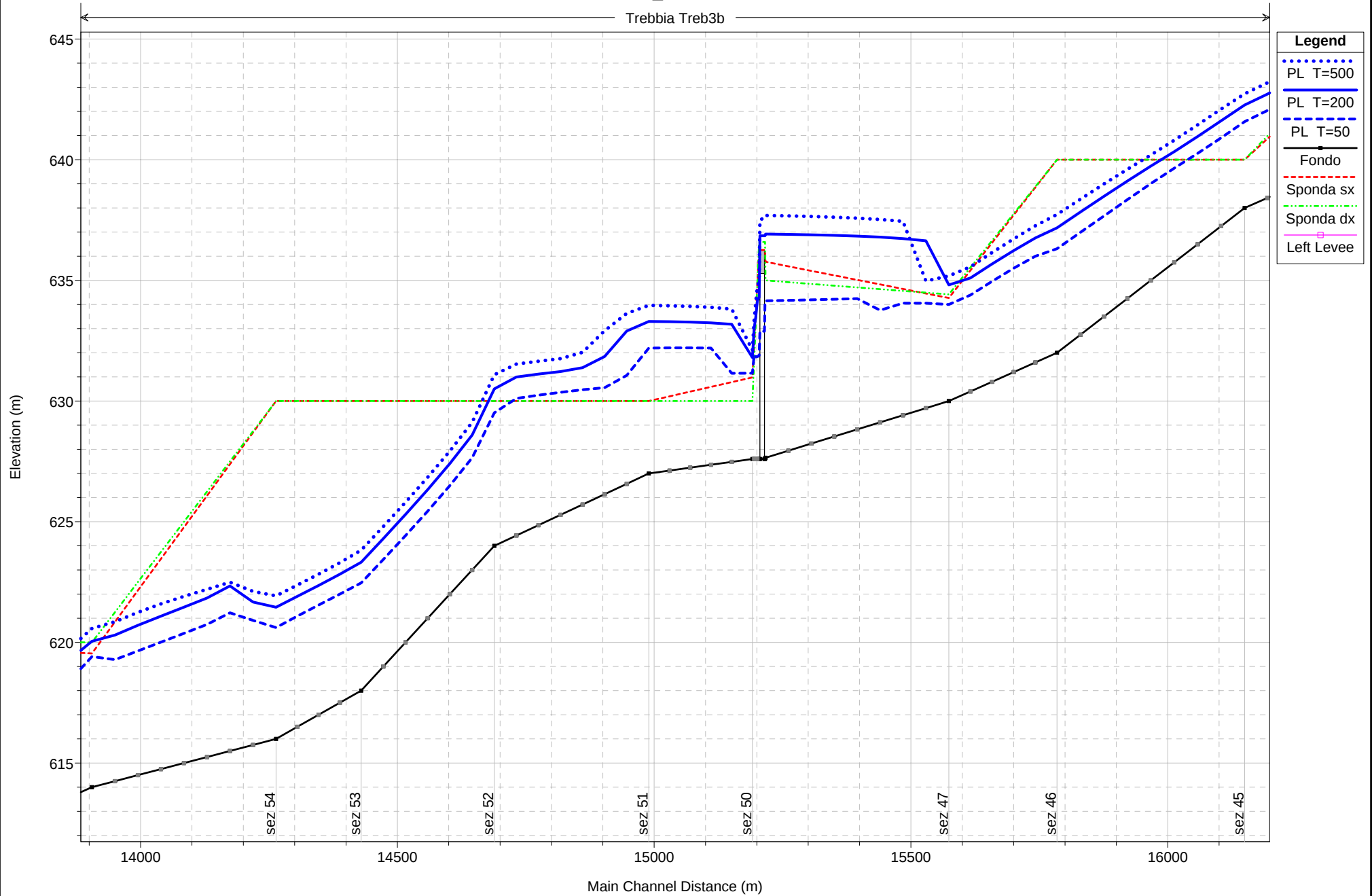
Trebbia_Stato di fatto



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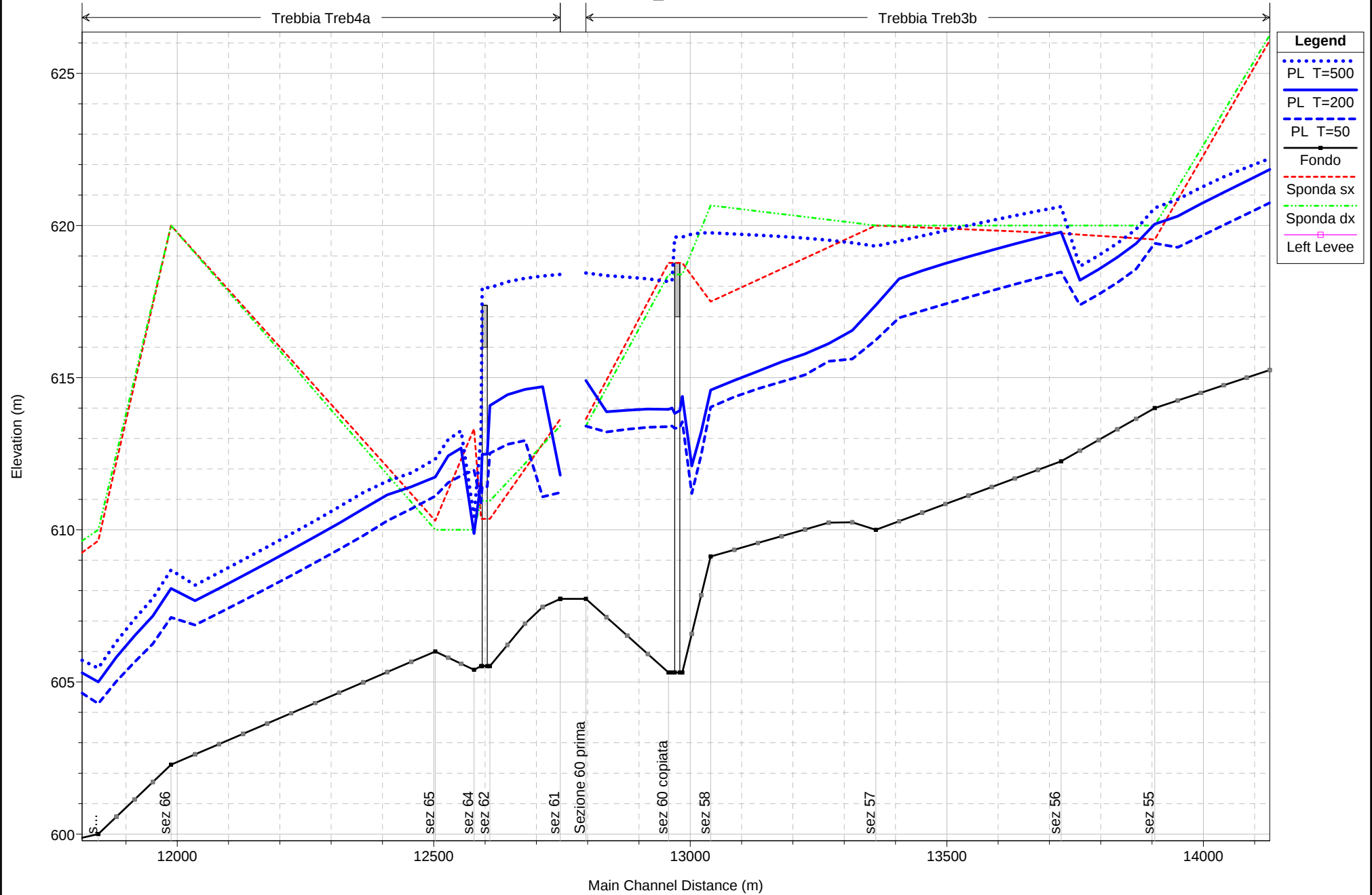
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Trebbia Treb3b



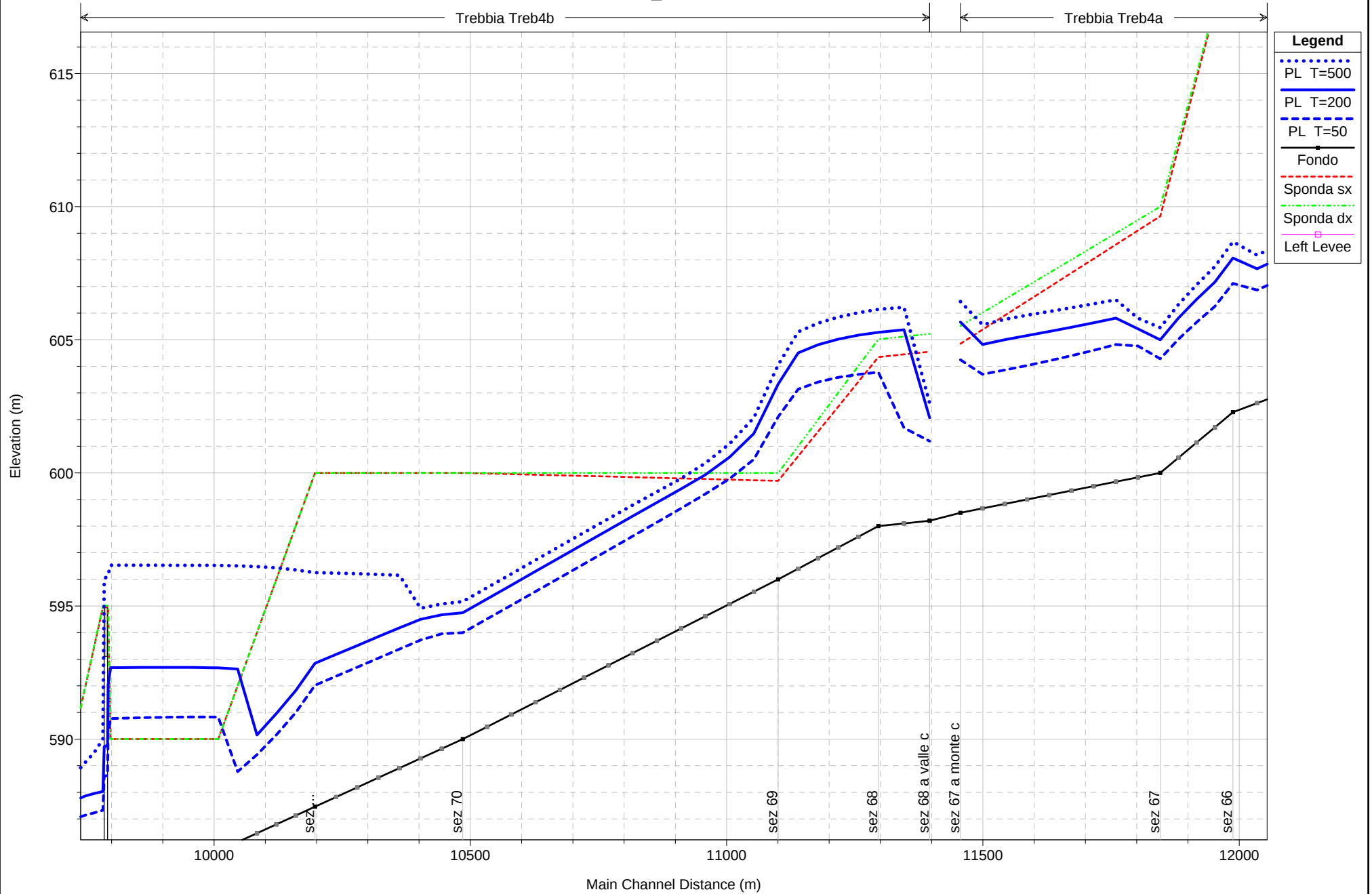
1 cm Horiz. = 100 m 1 cm Vert. = 2.12813 m

Trebbia_Stato di fatto



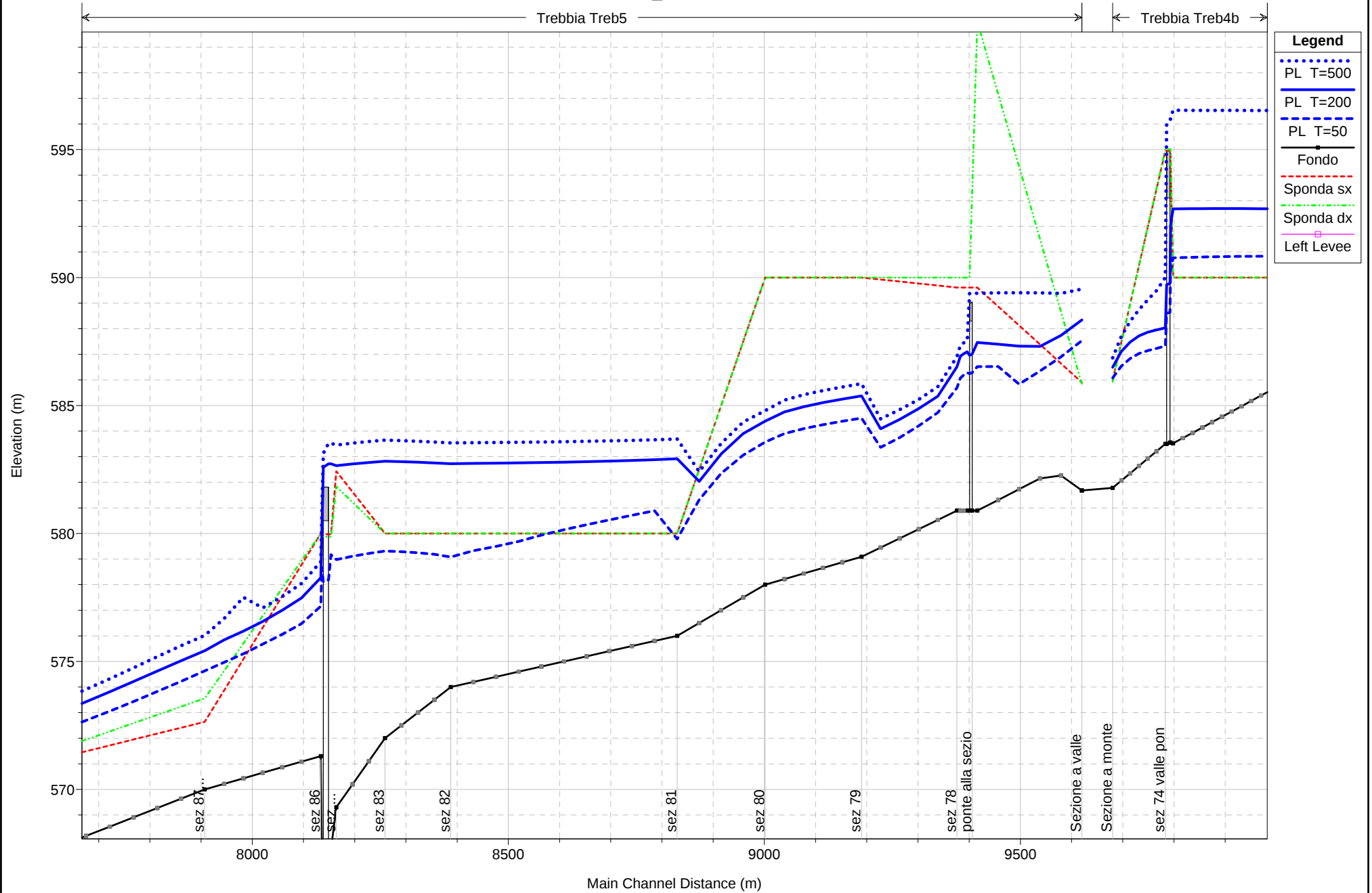
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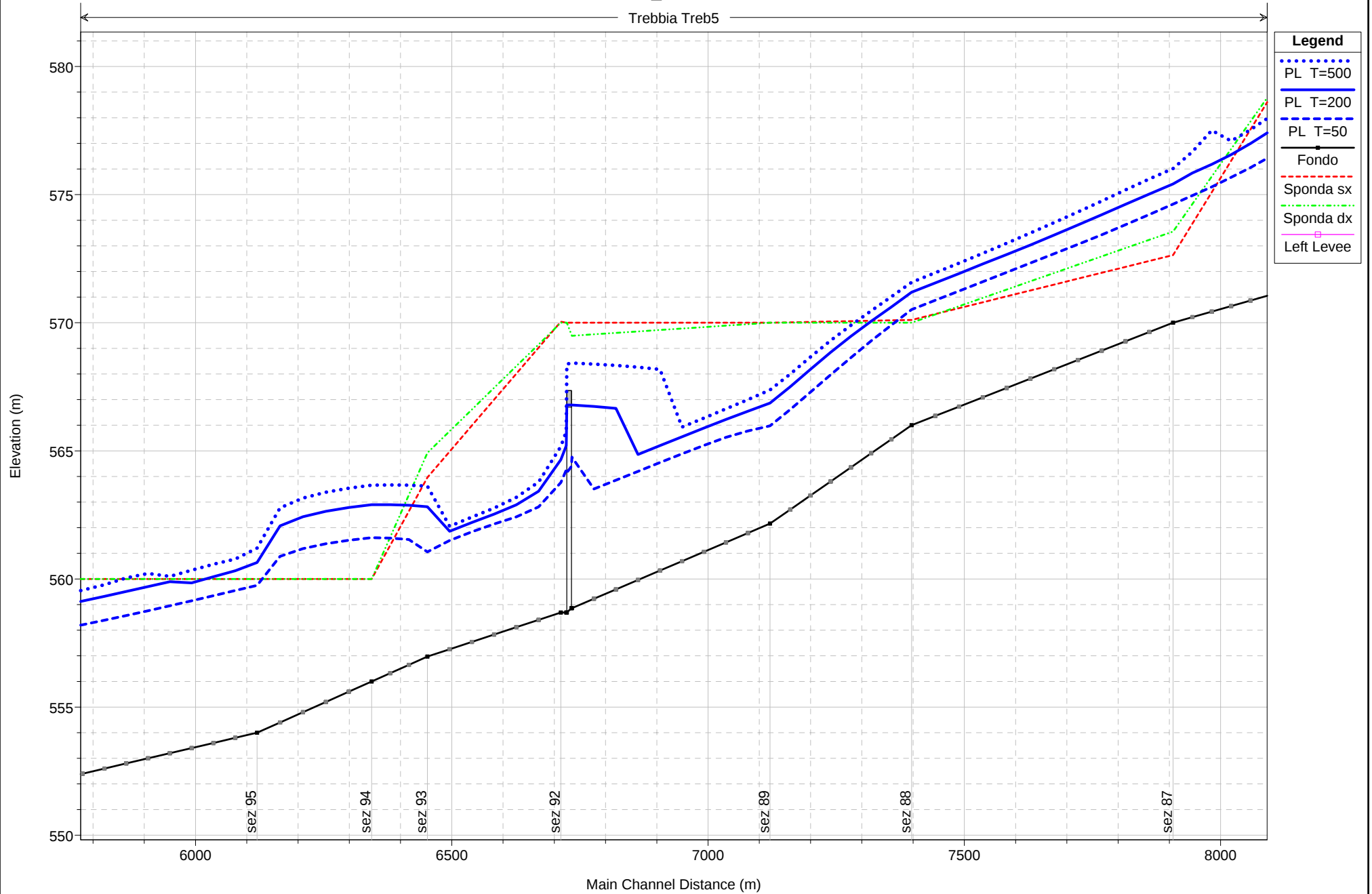
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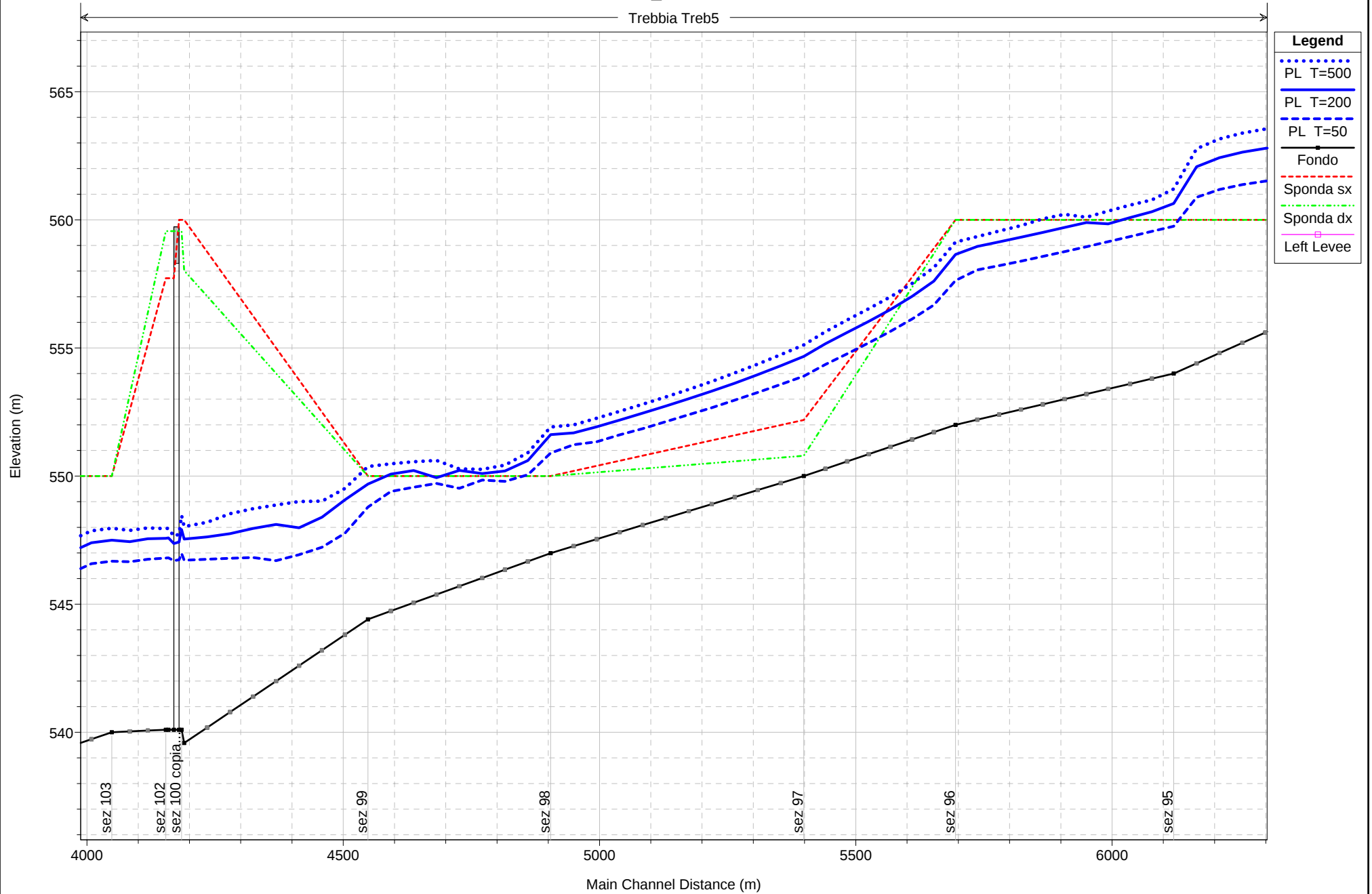
Trebbia_Stato di fatto

Trebbia Treb5

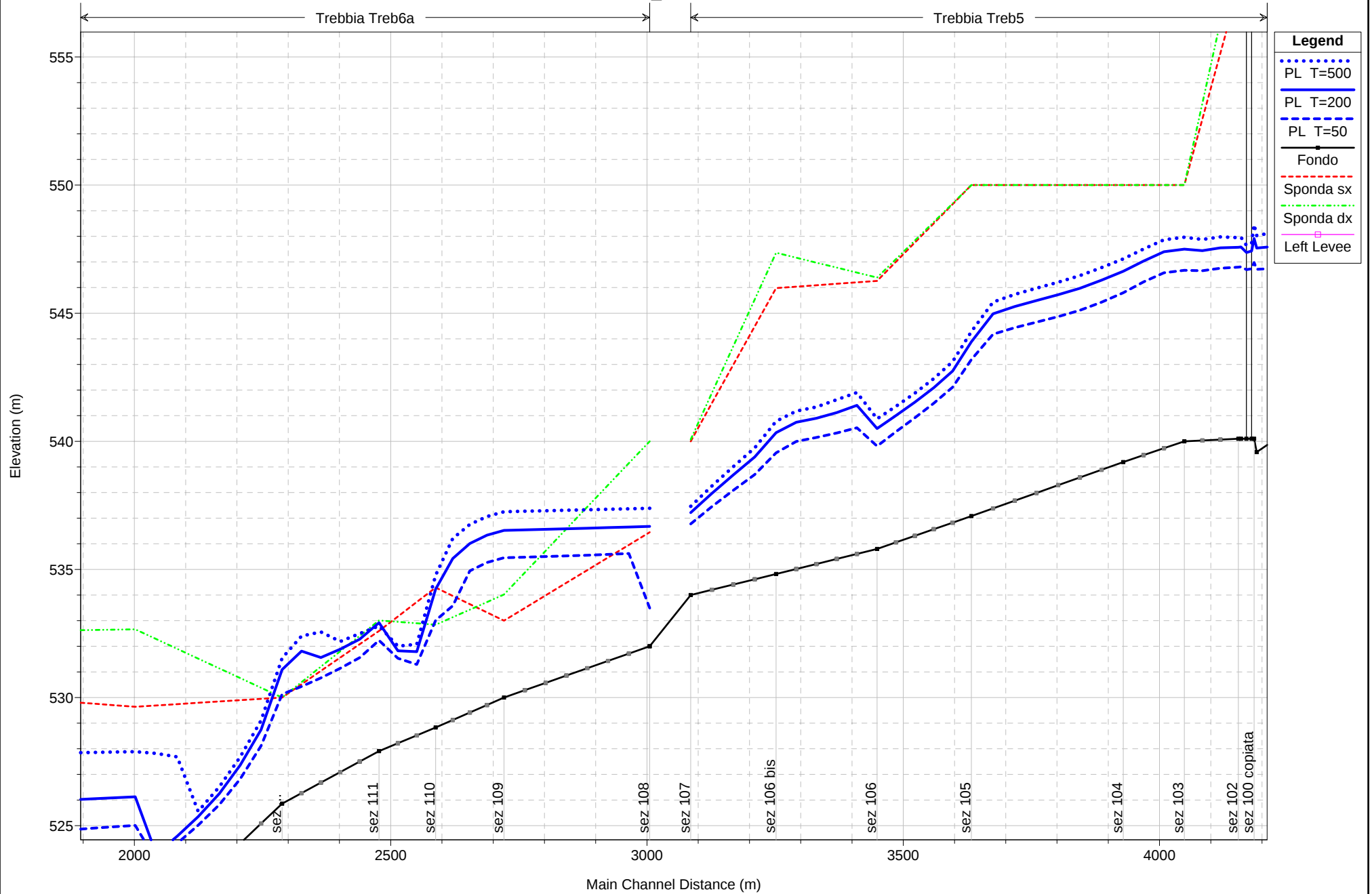


Trebbia_Stato di fatto

Trebbia Treb5



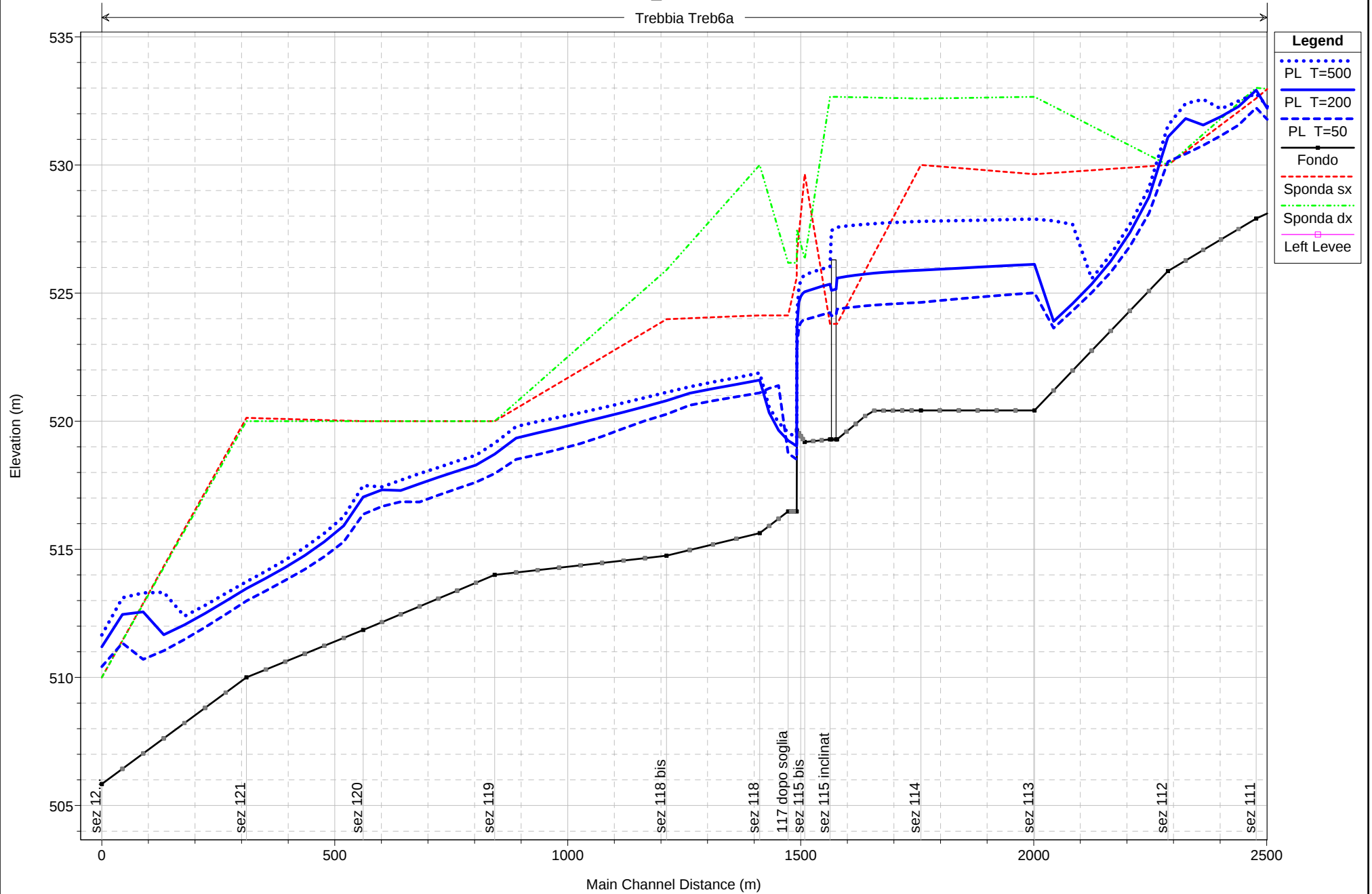
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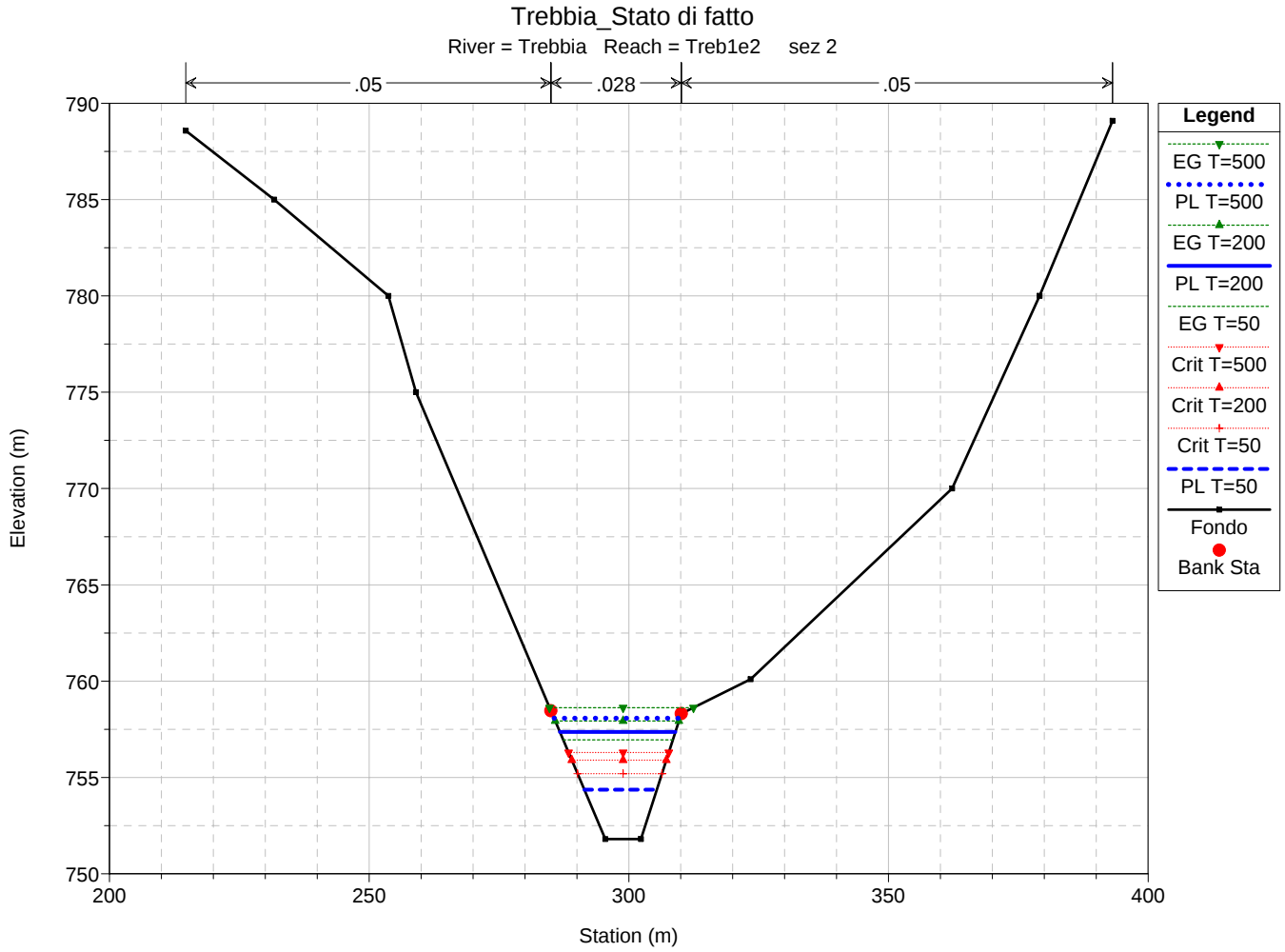
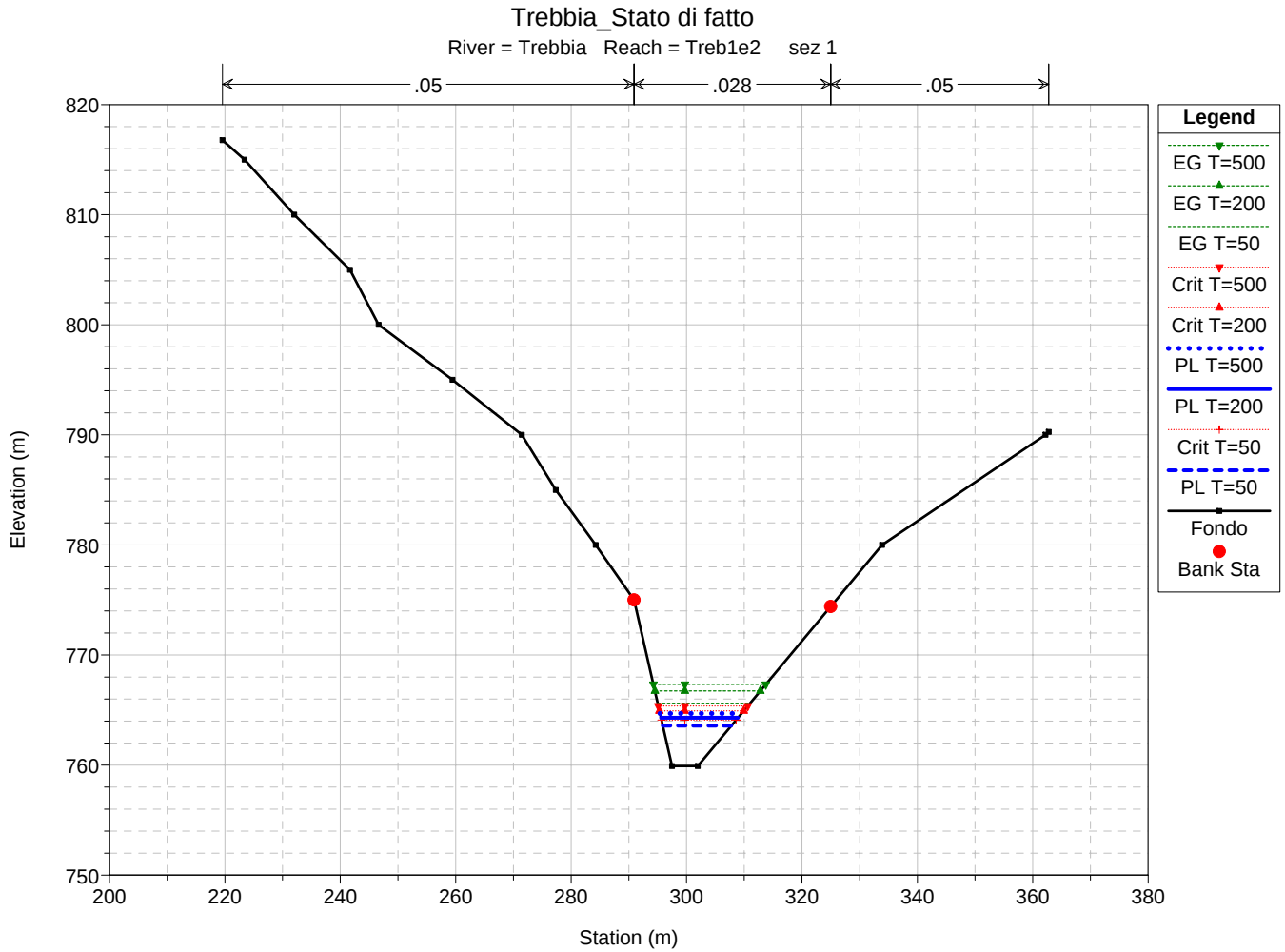
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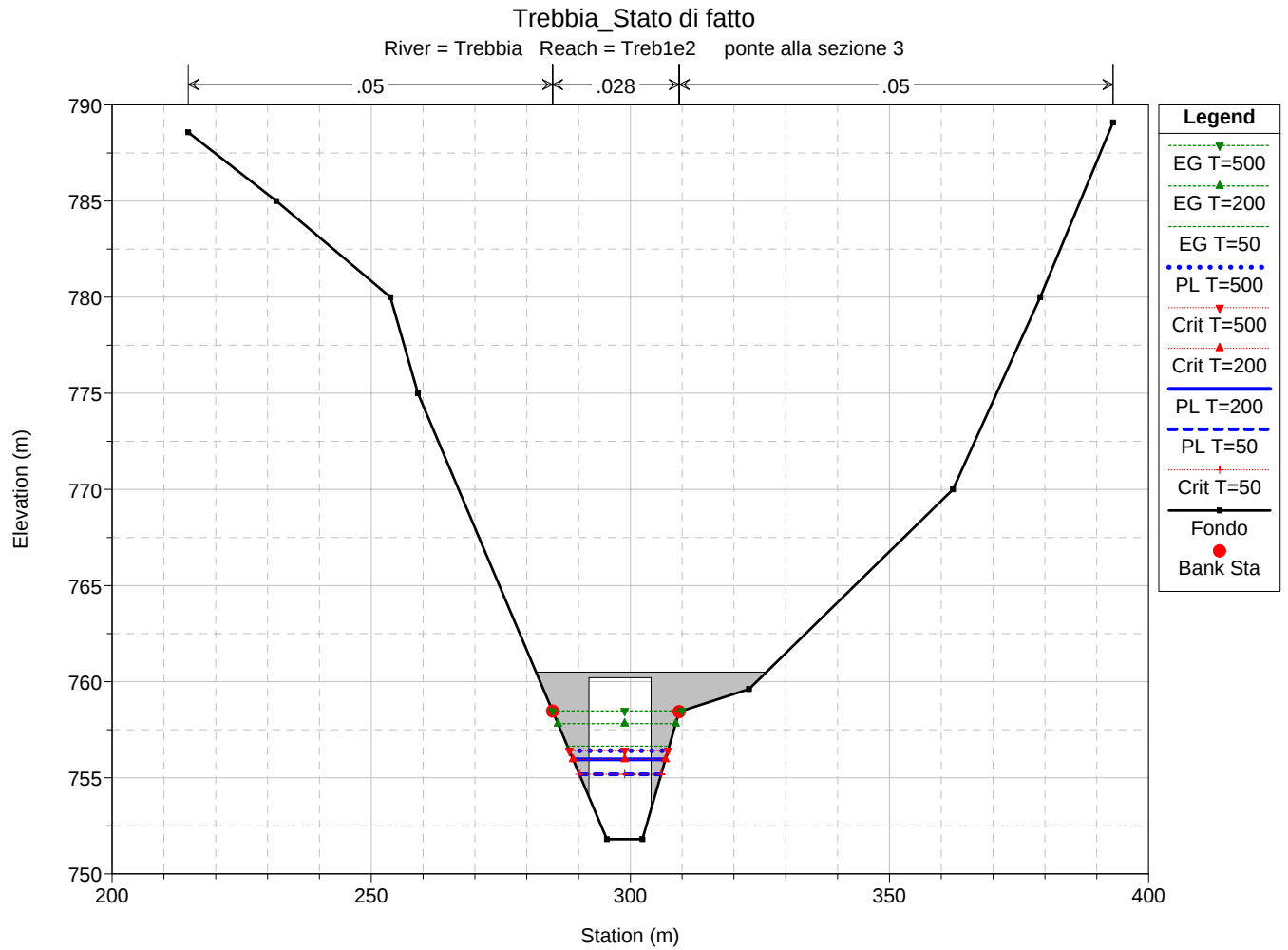
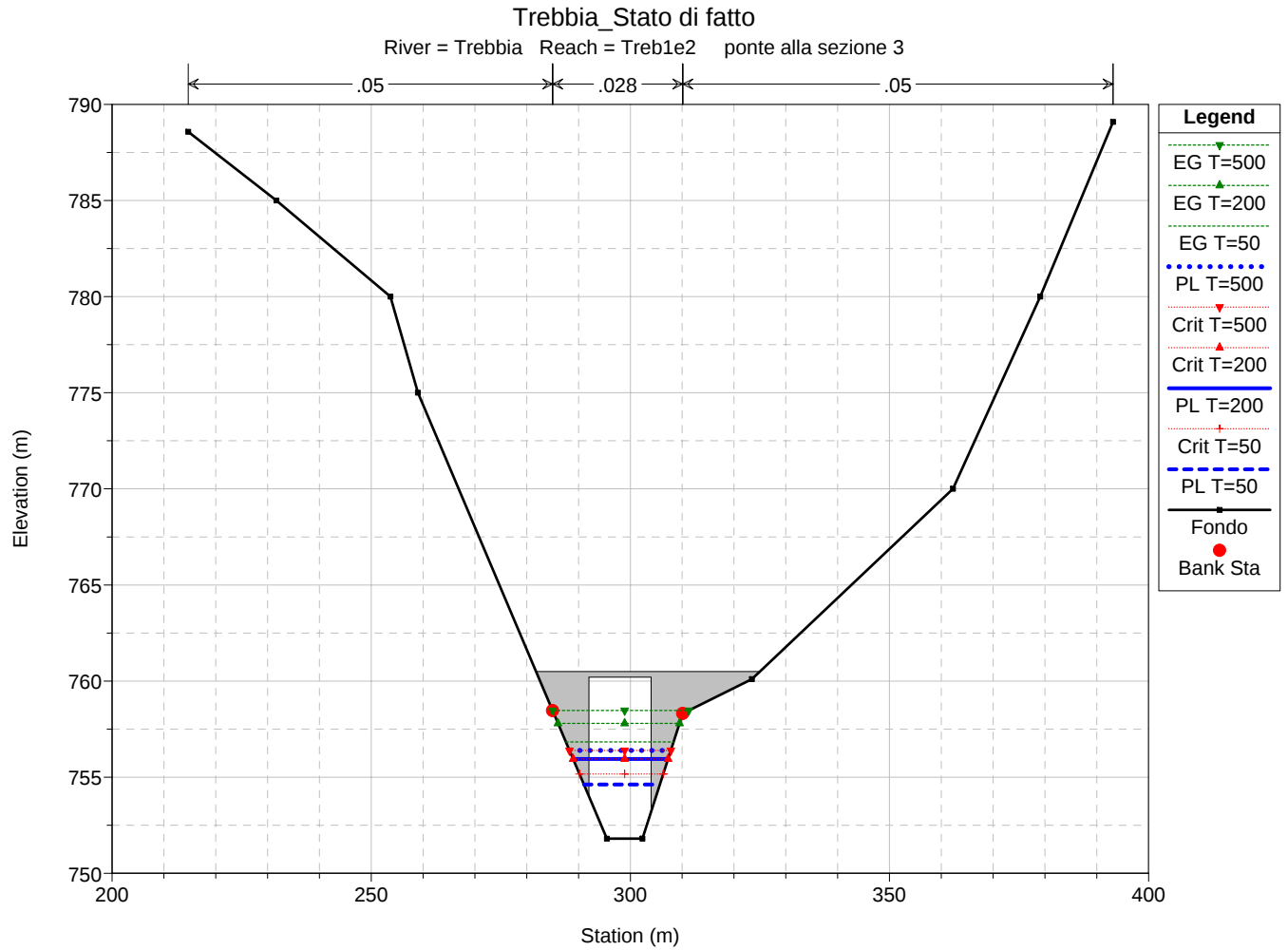
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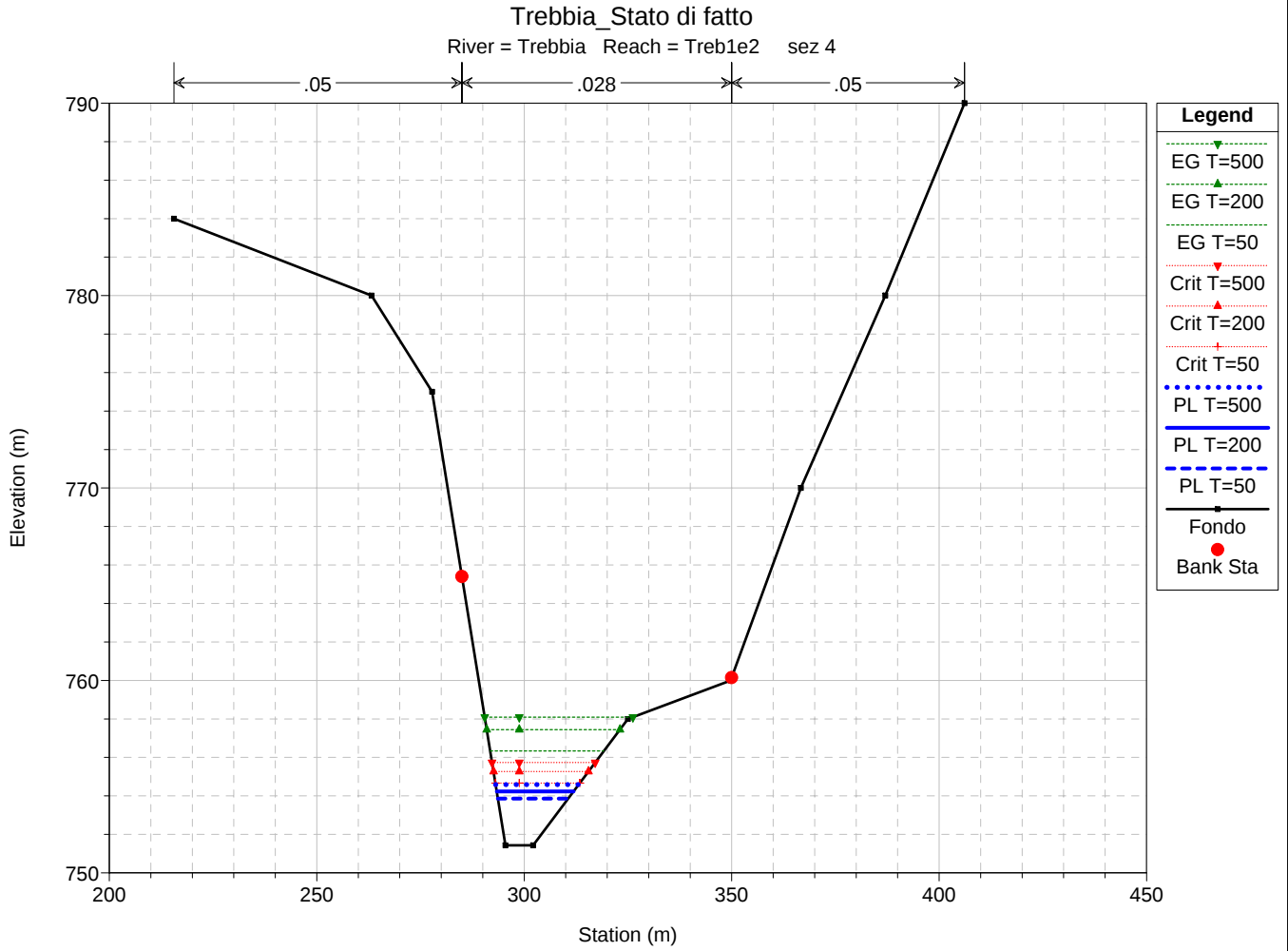
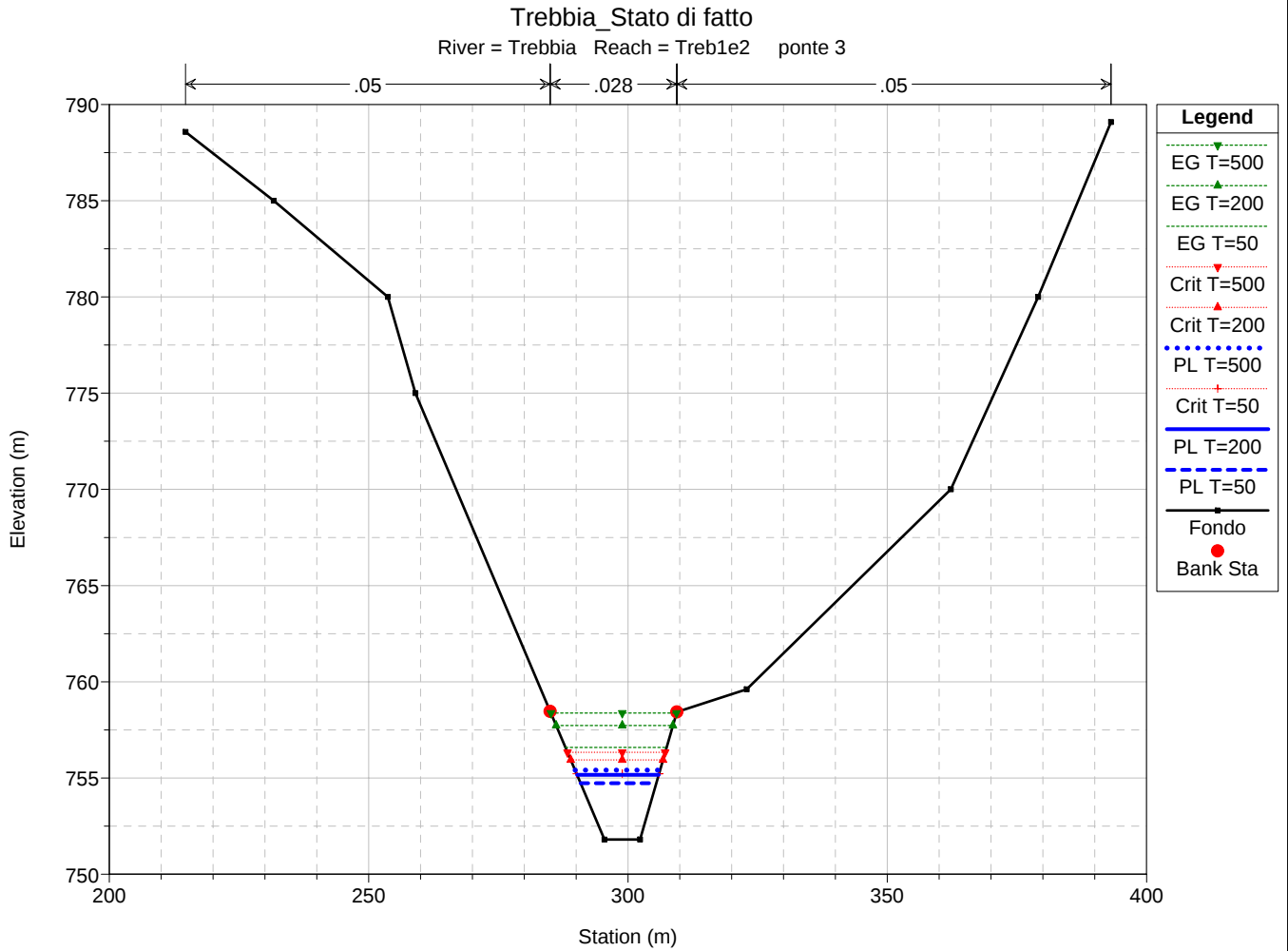
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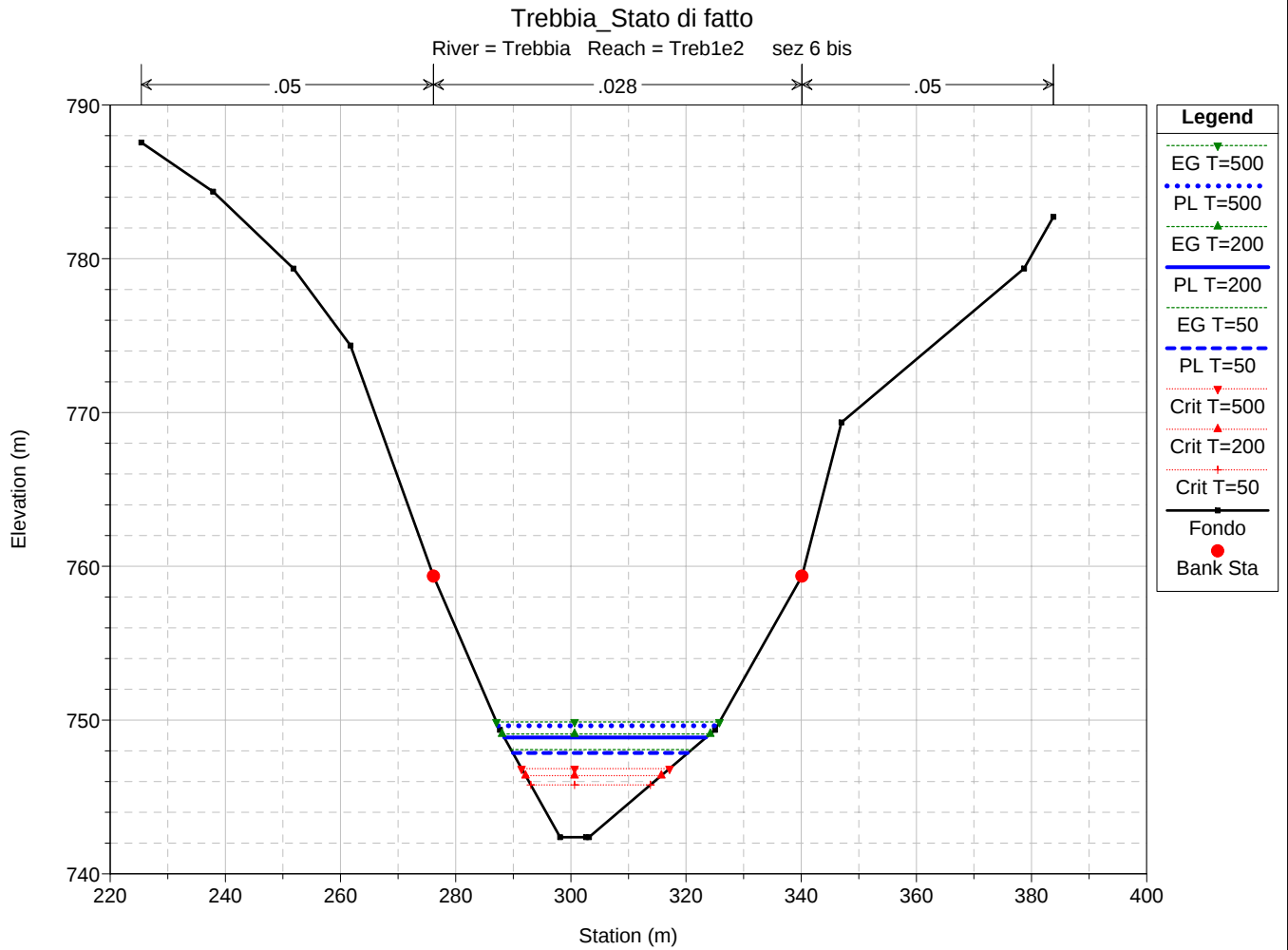
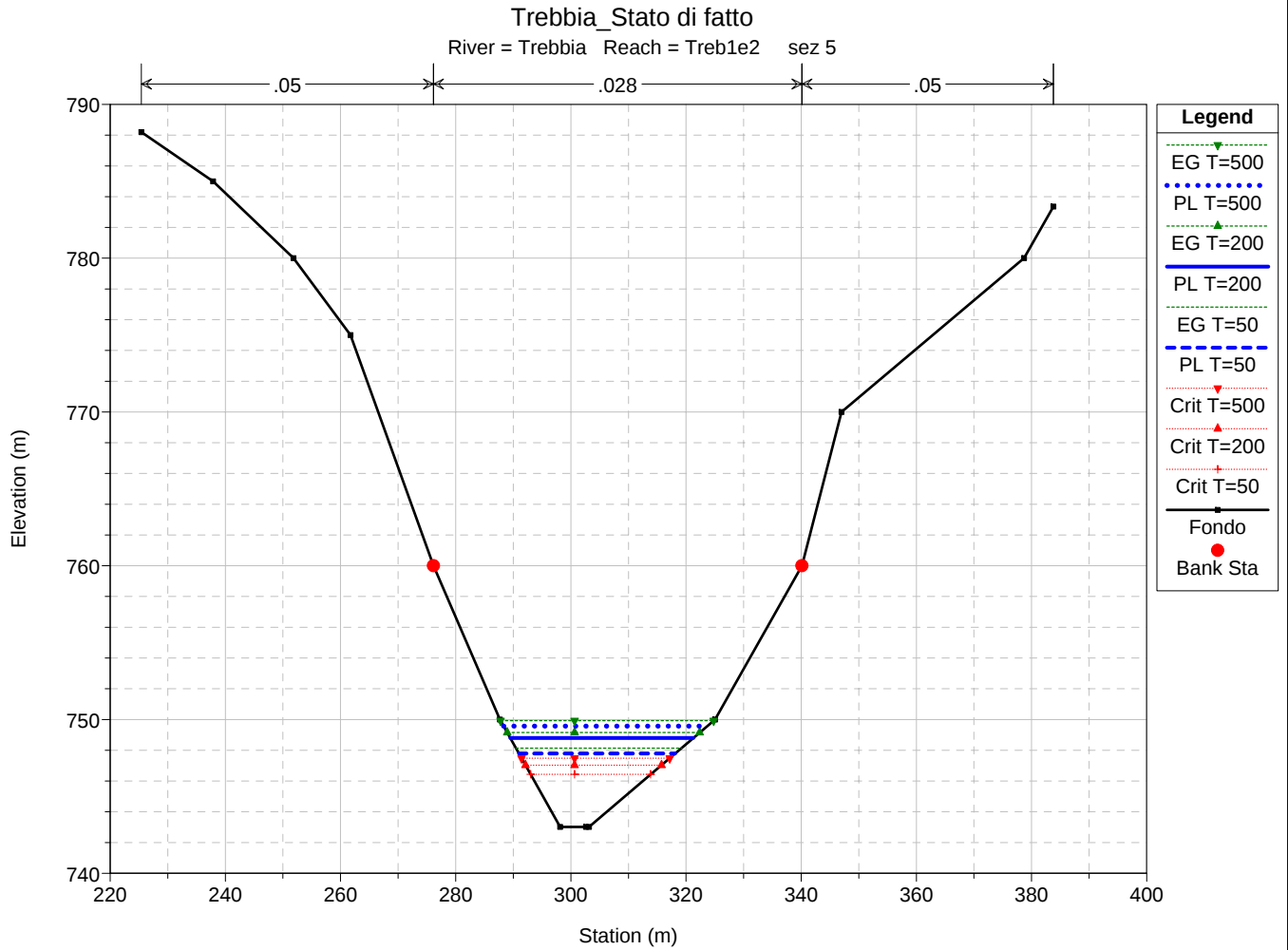


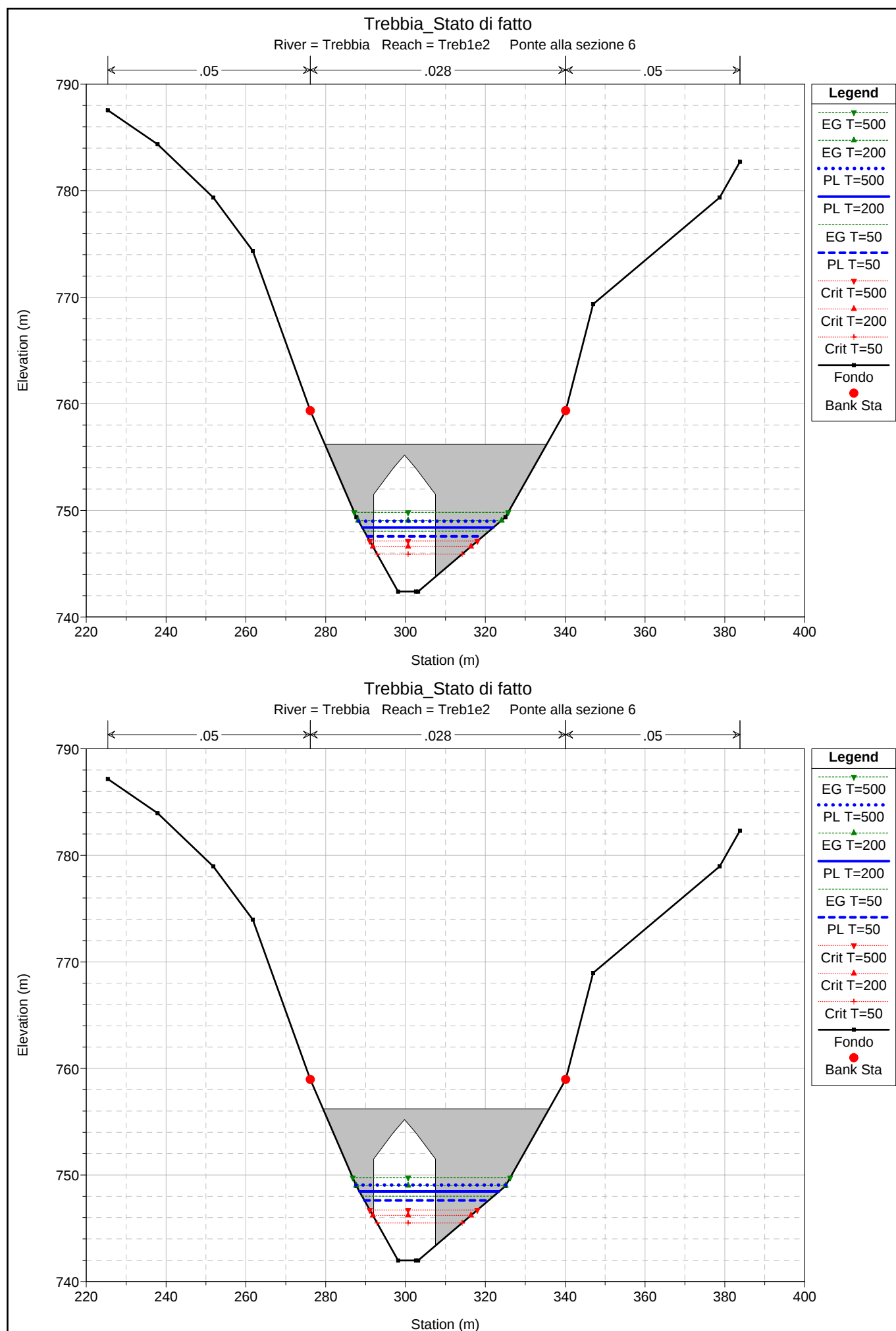
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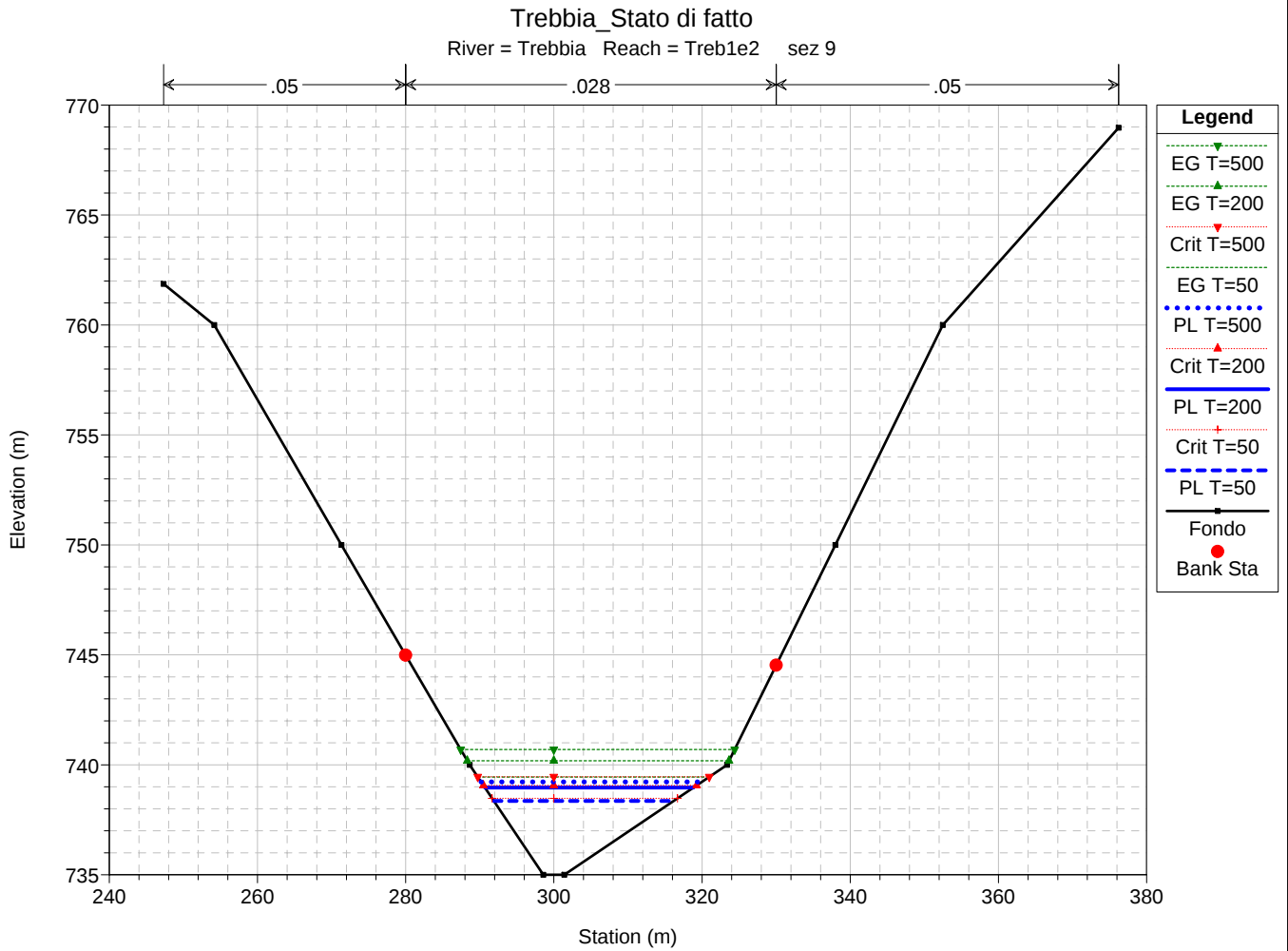
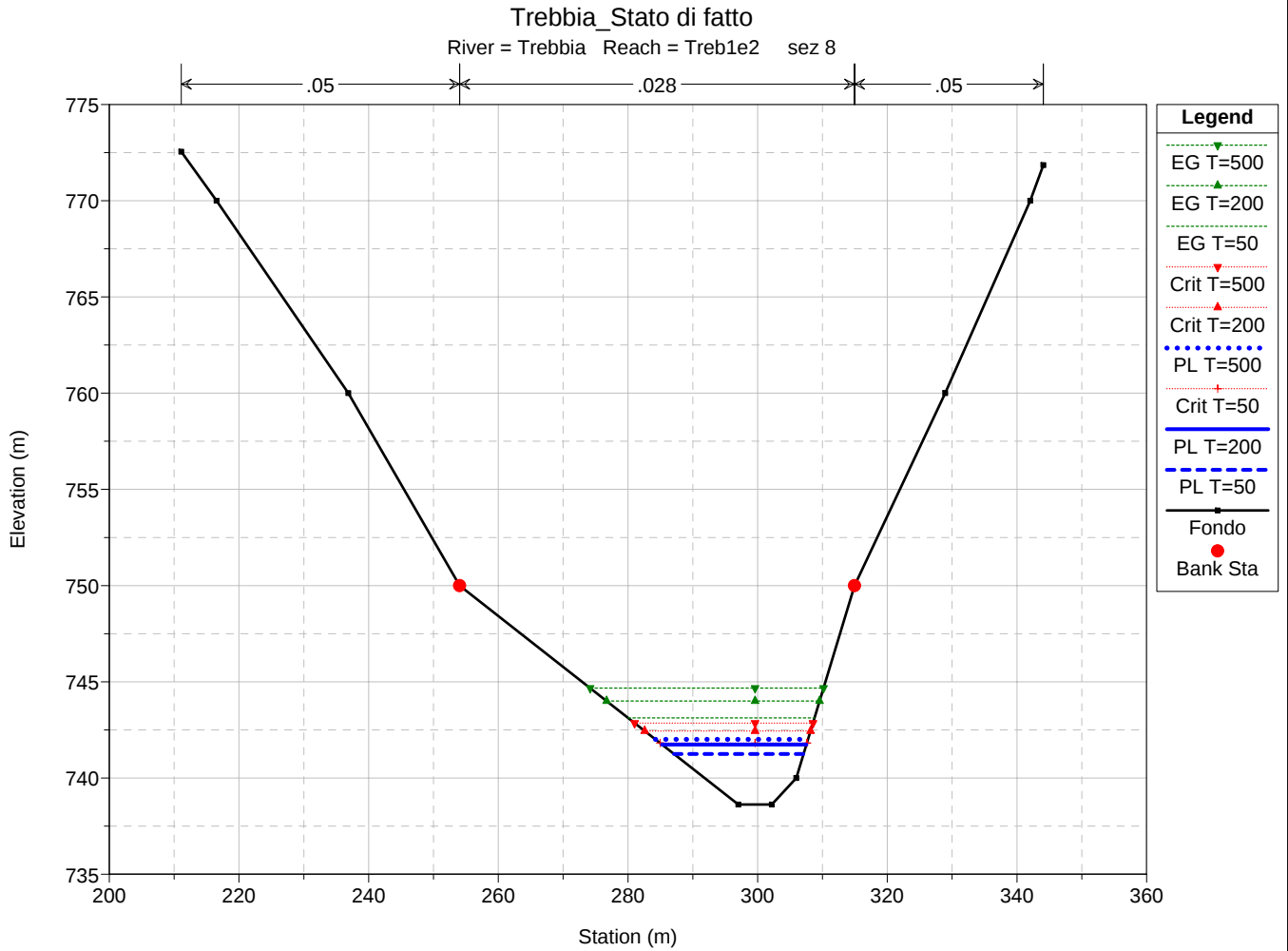


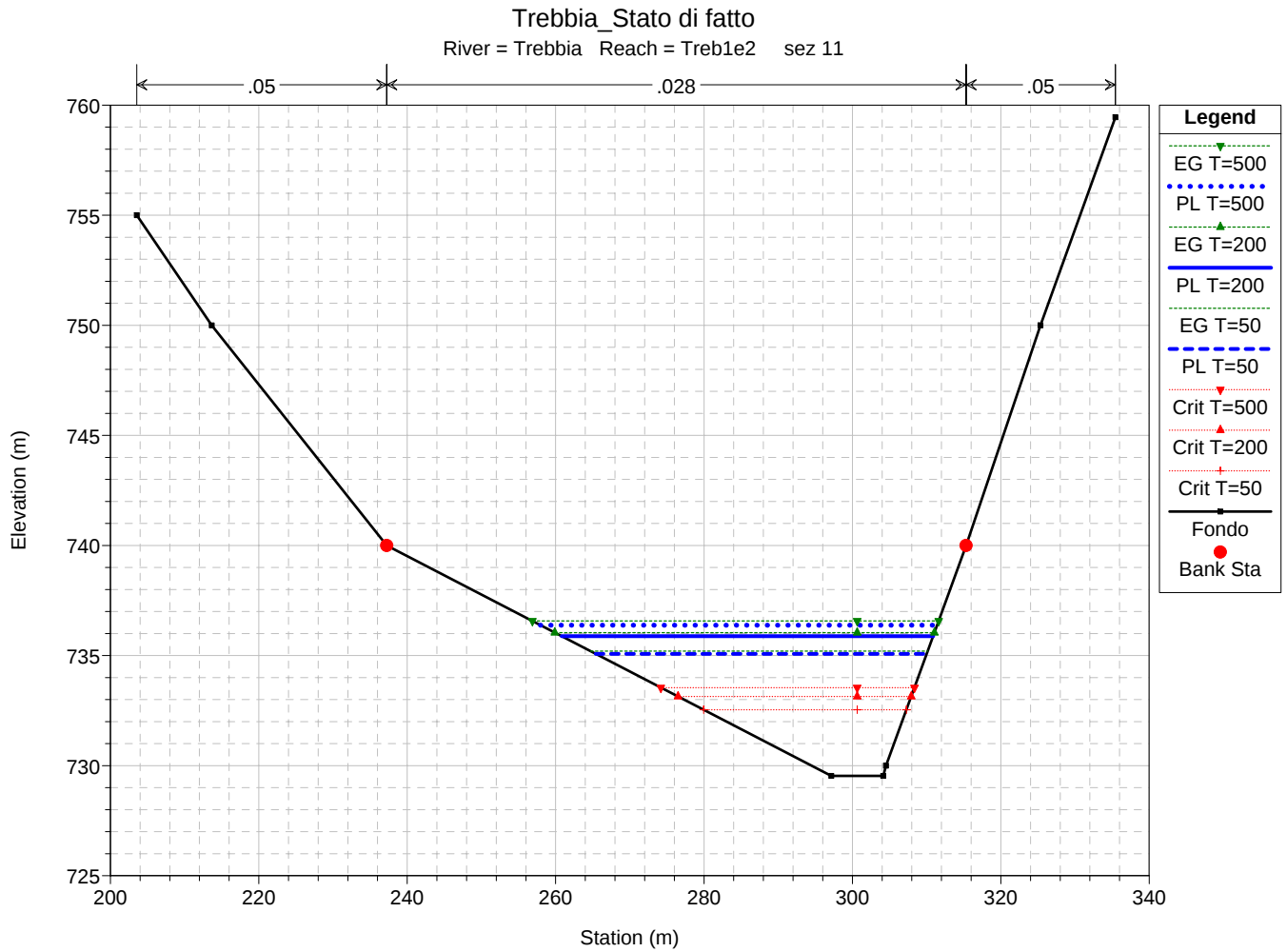
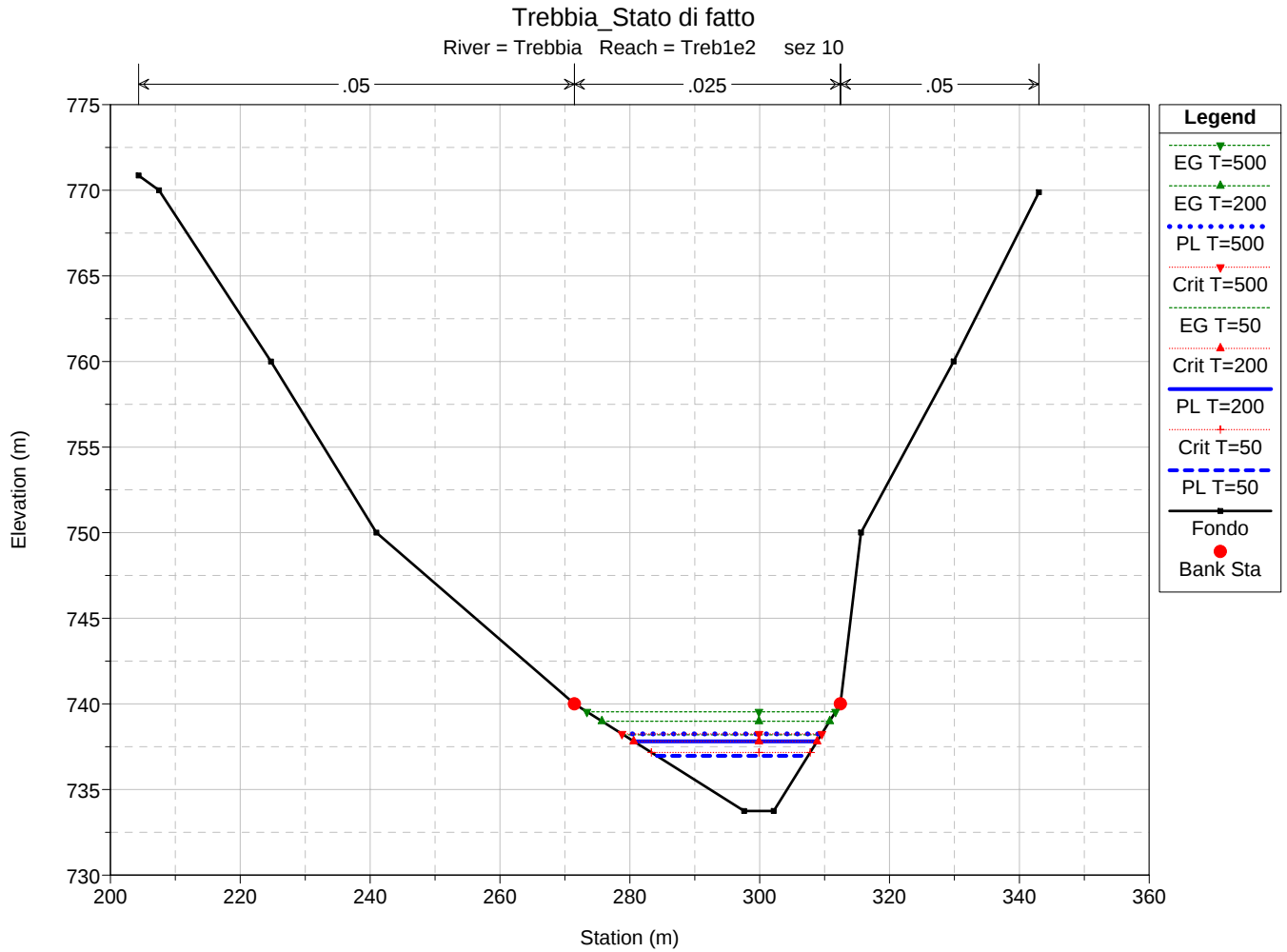


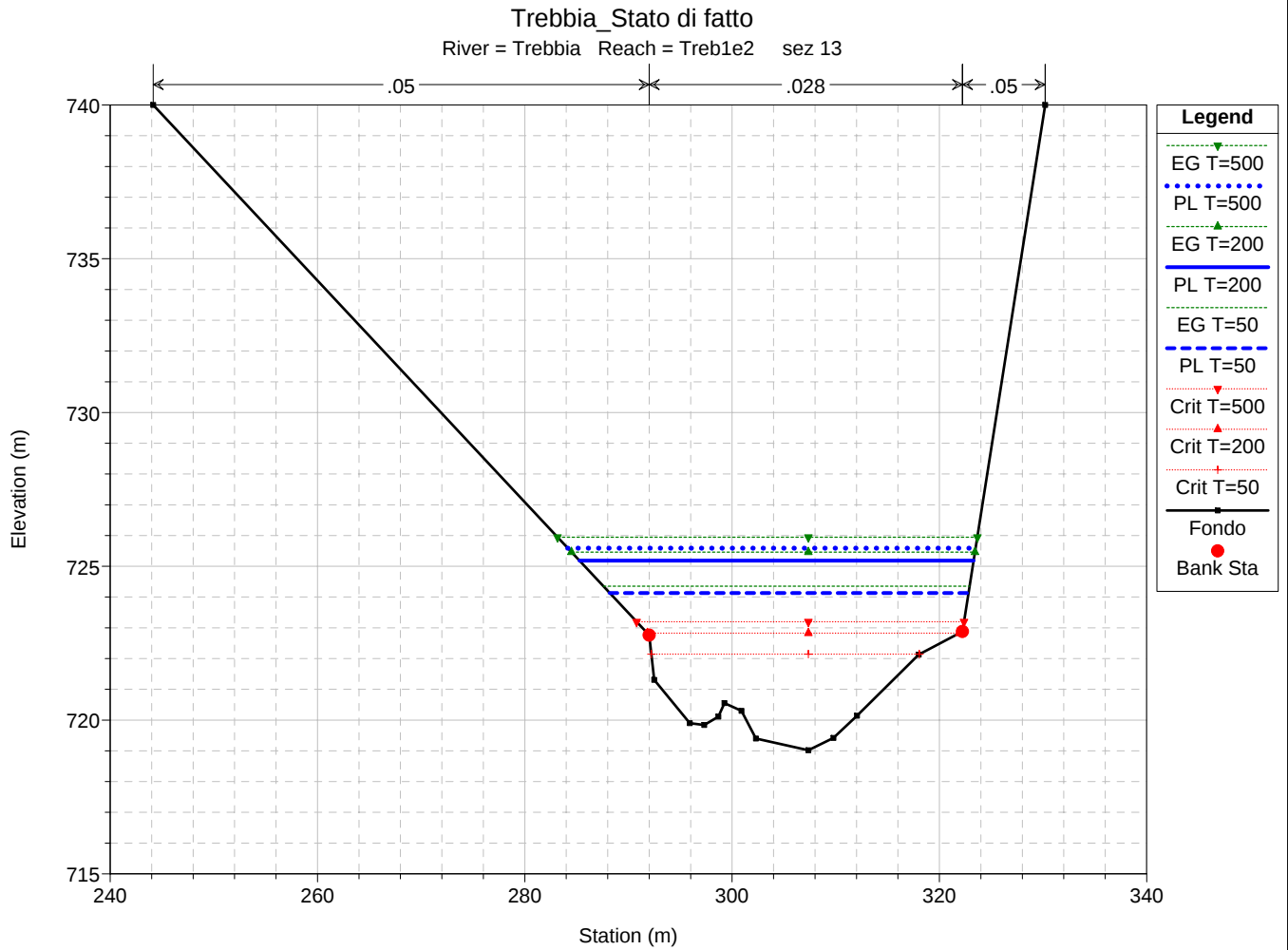
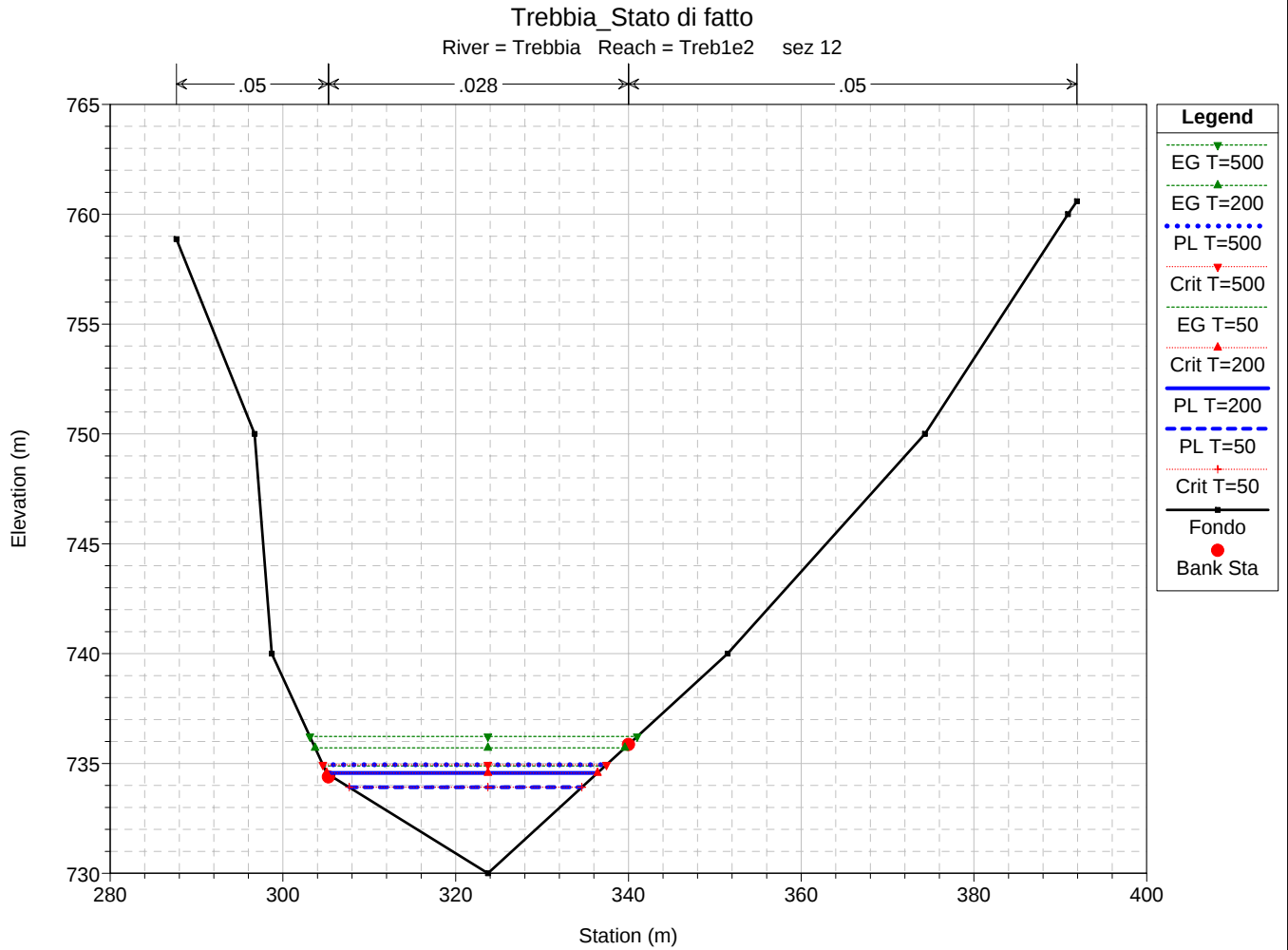


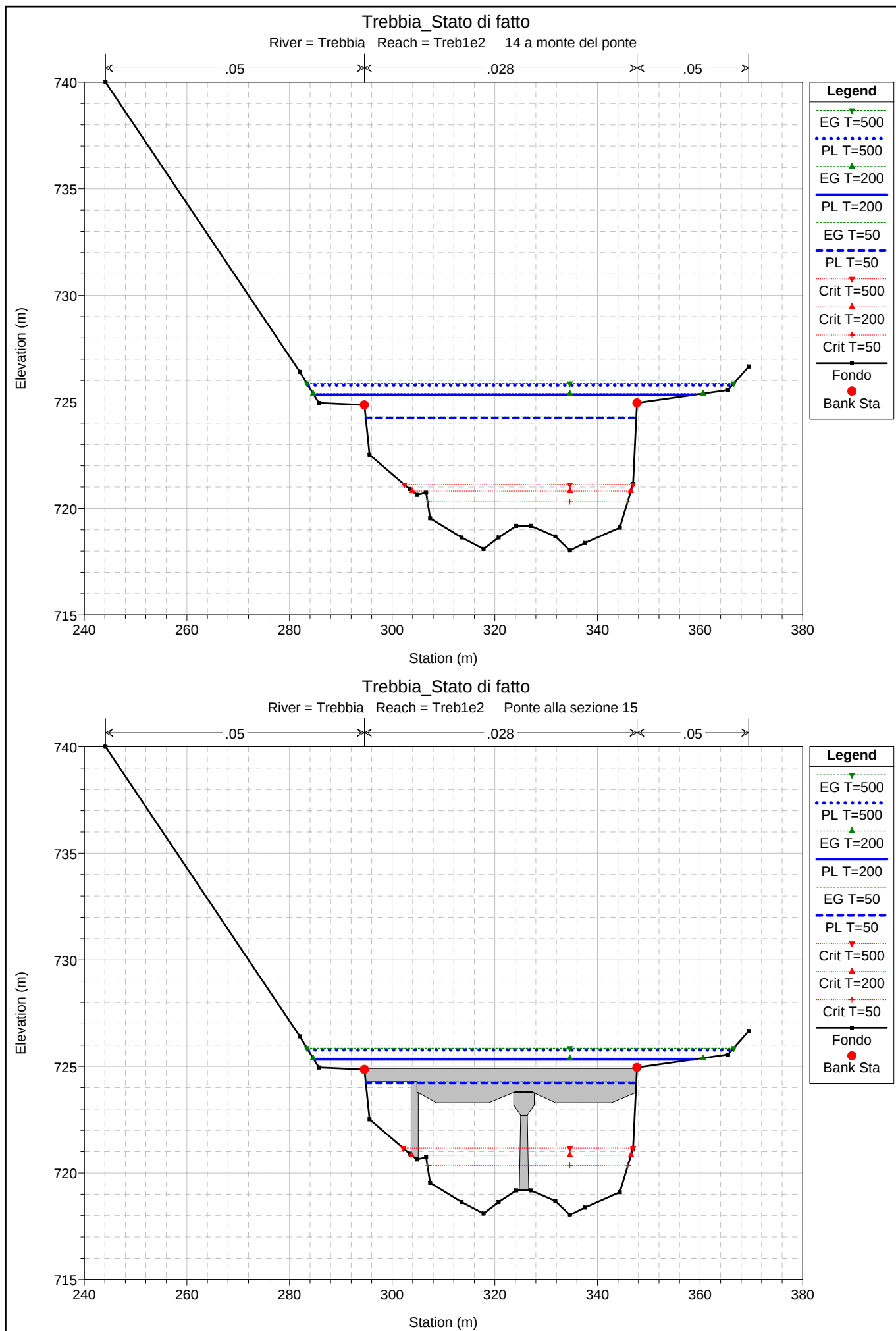


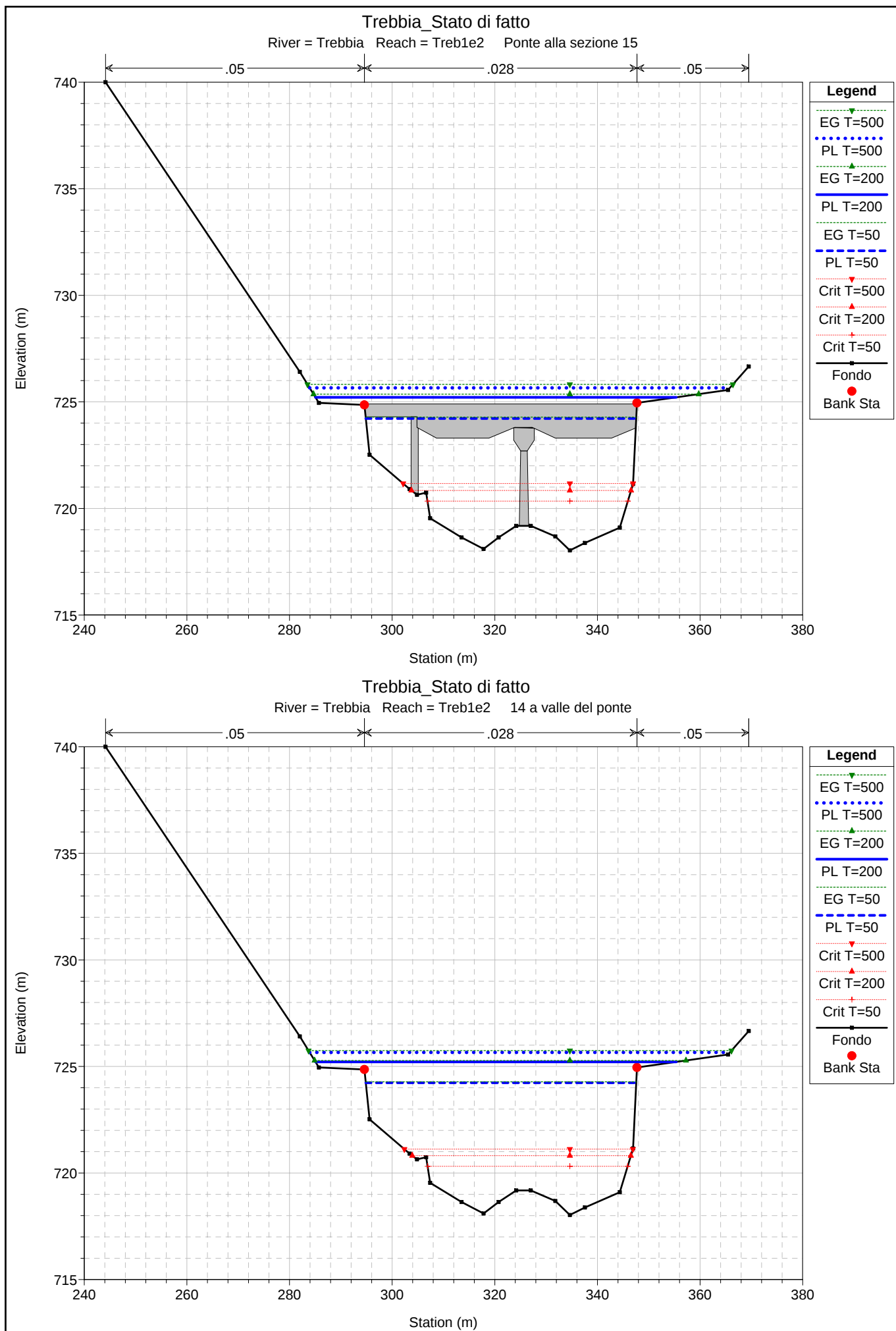


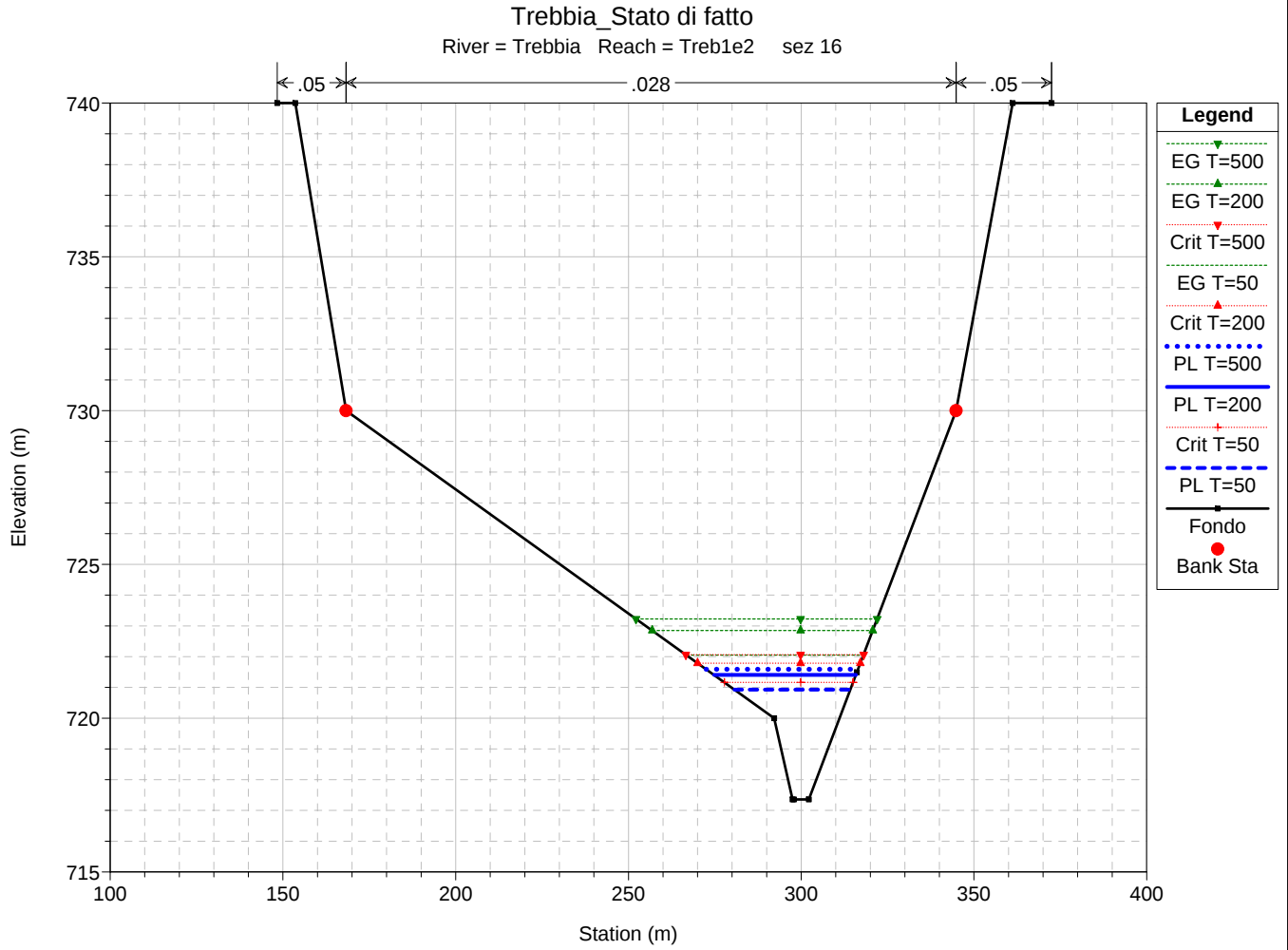
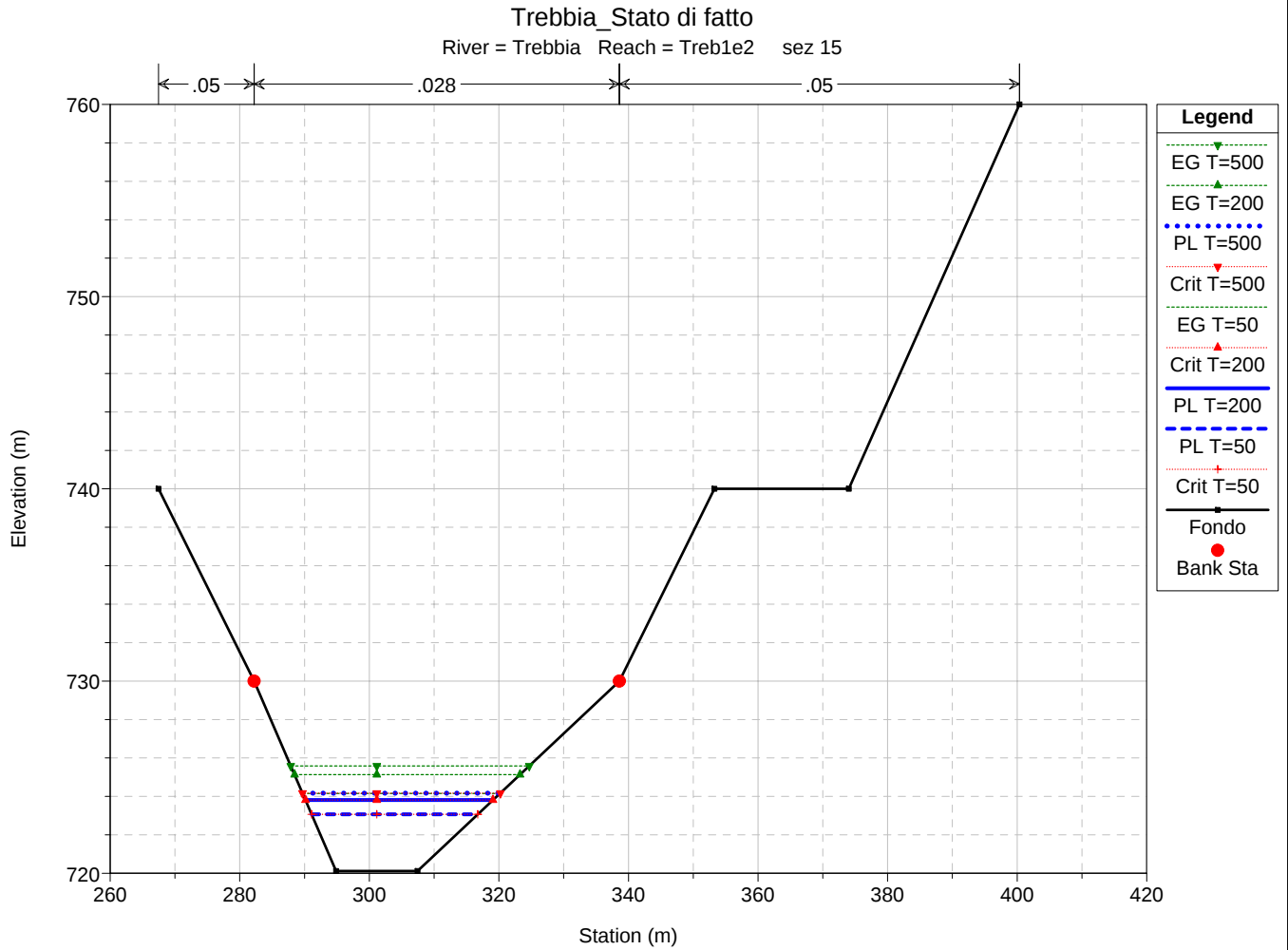


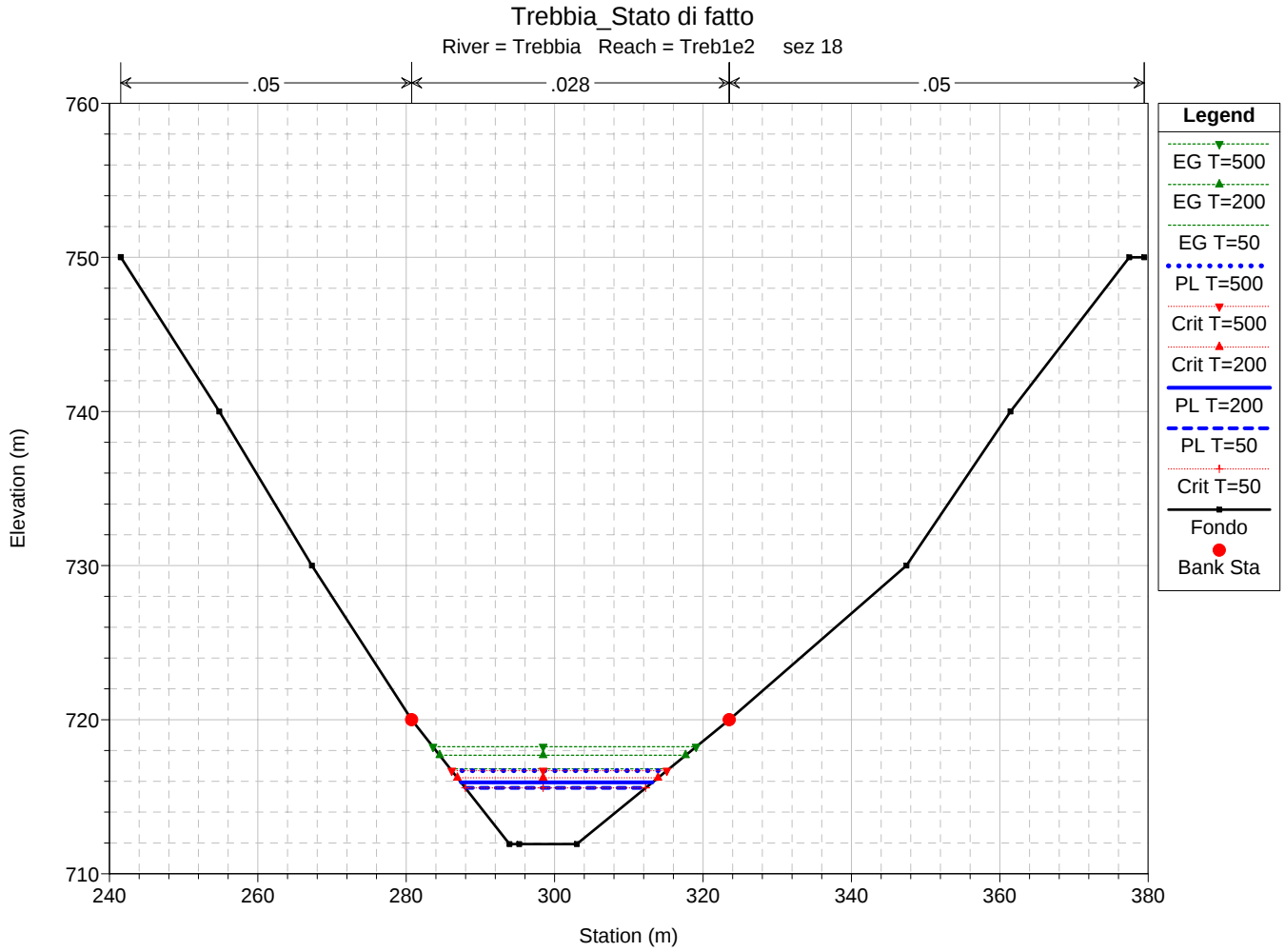
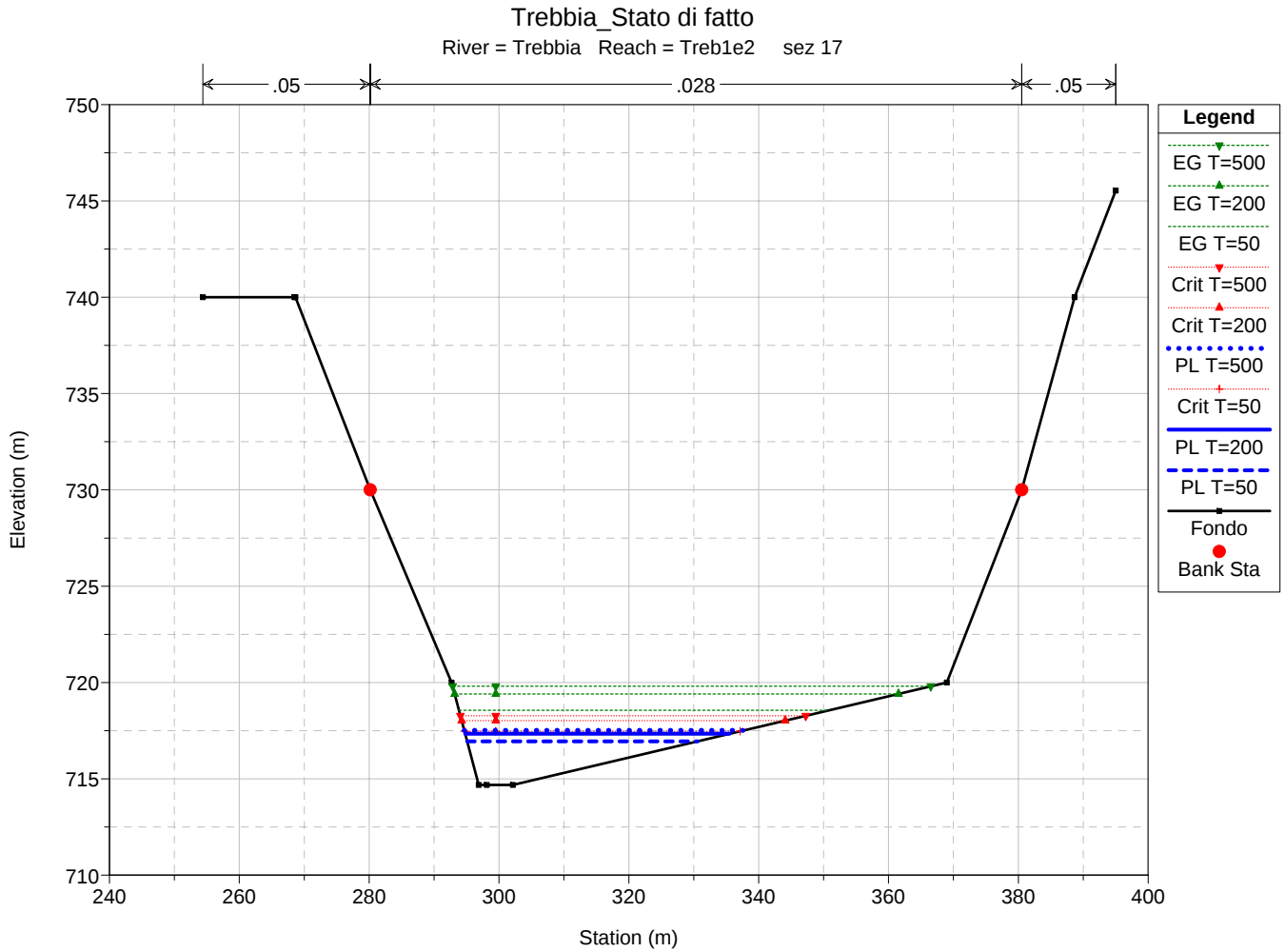


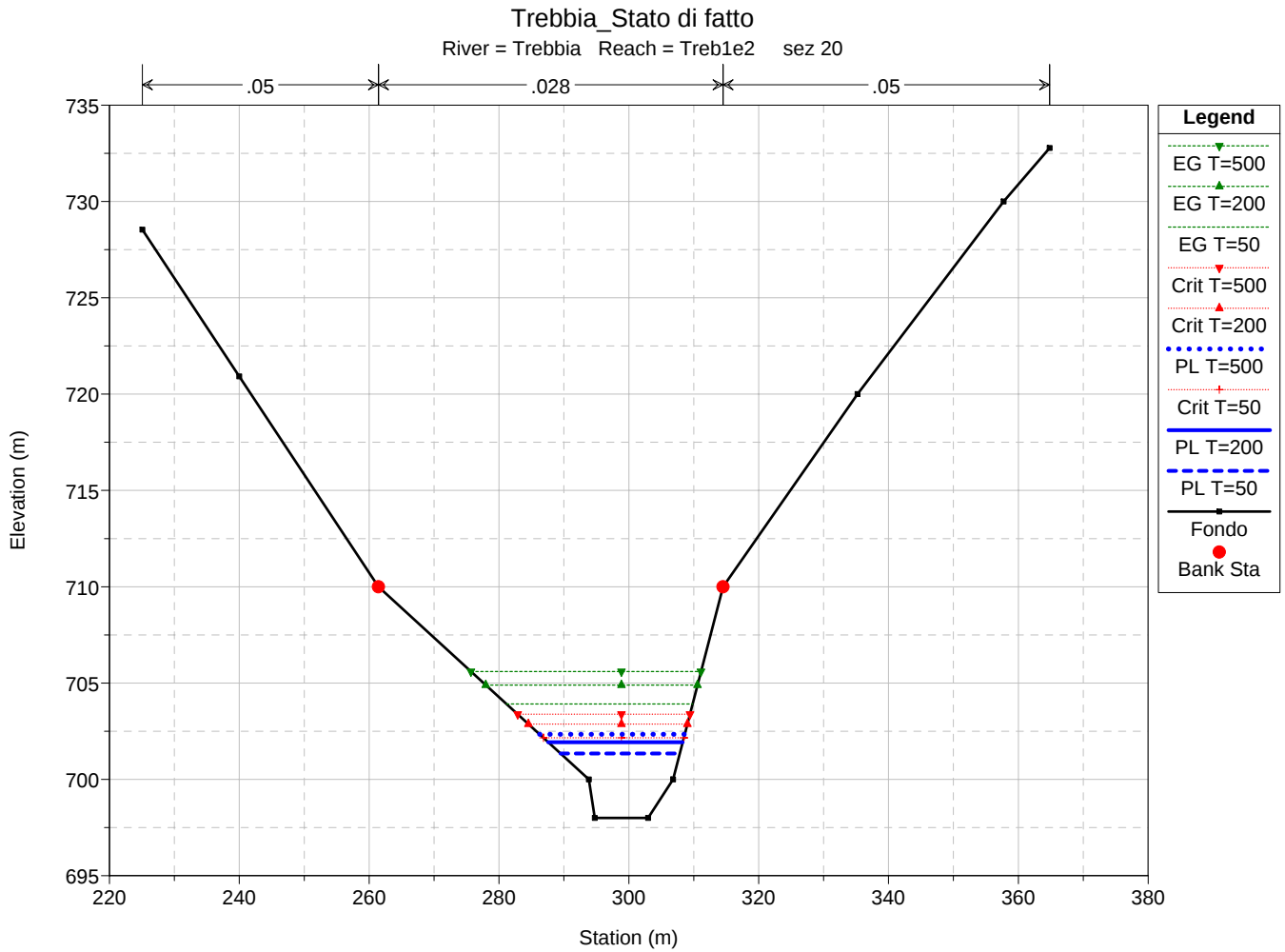
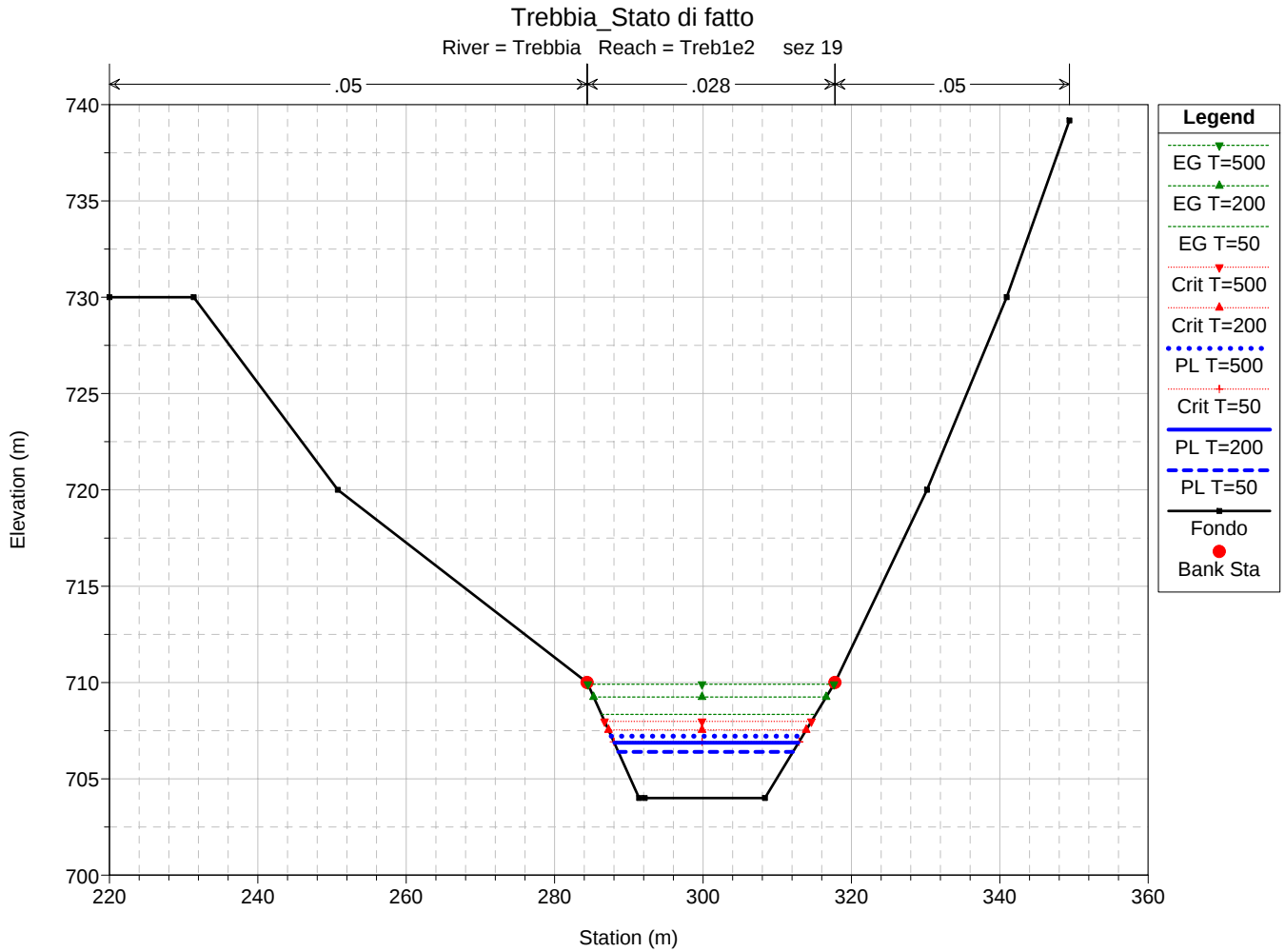


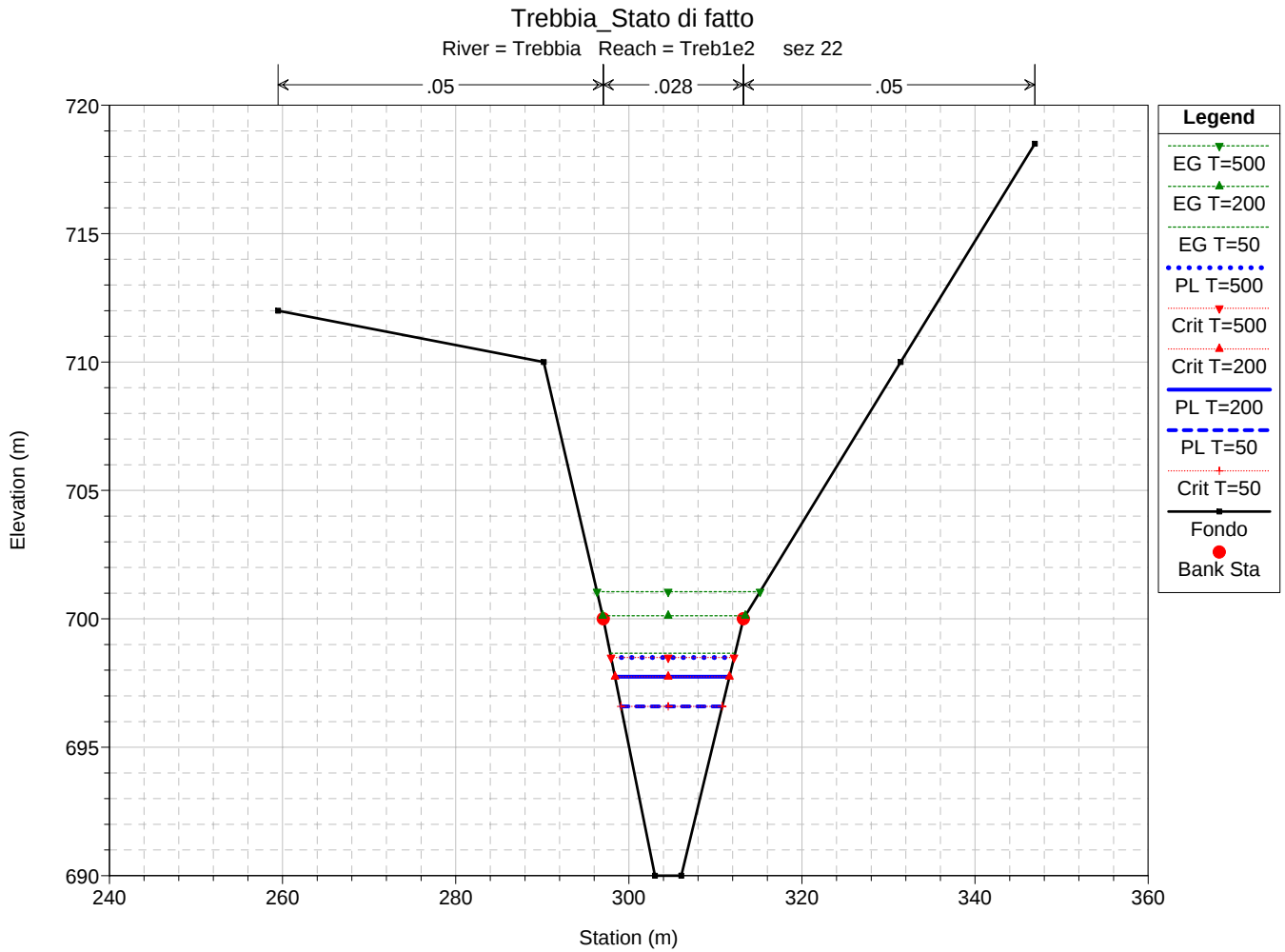
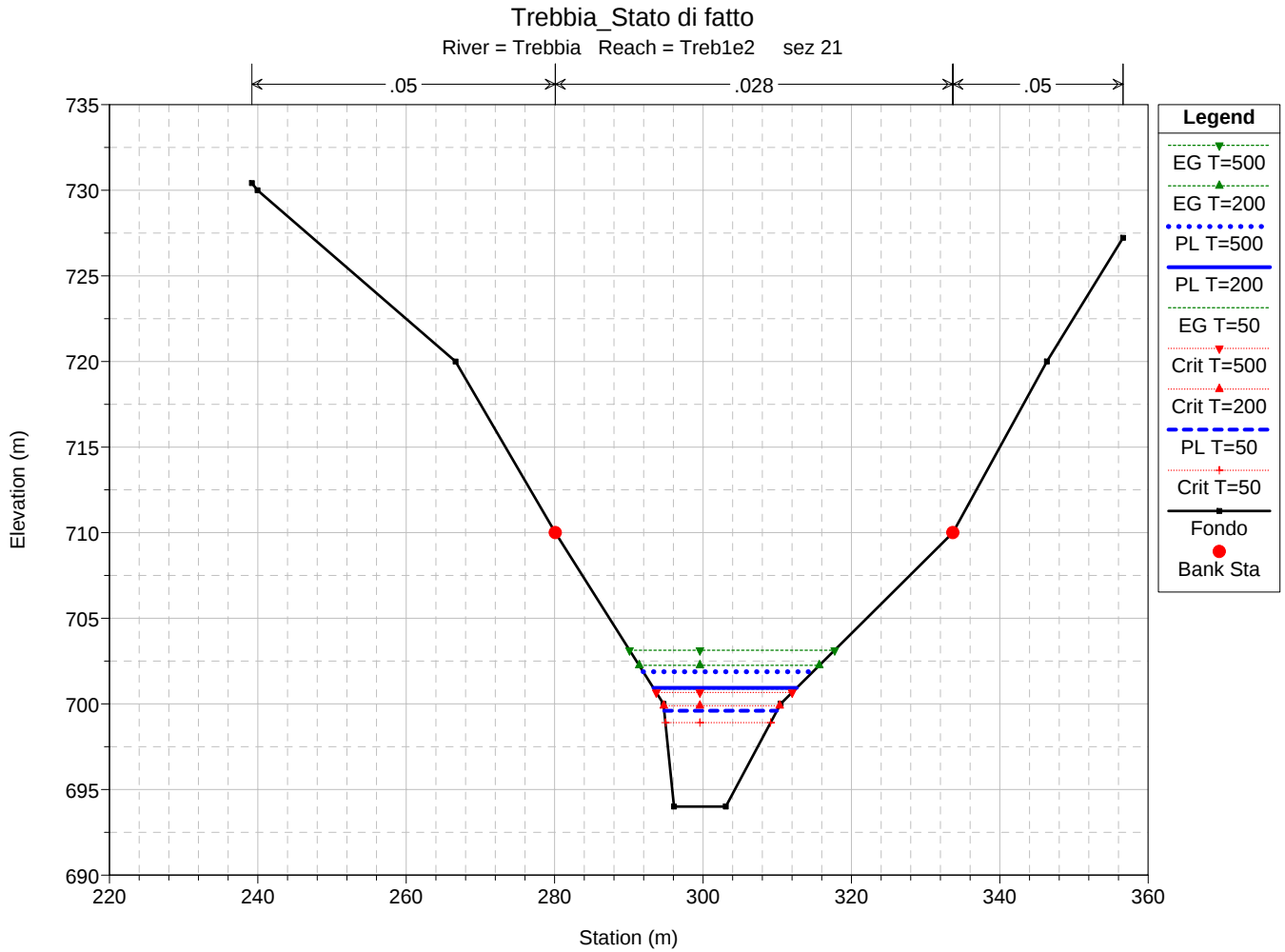


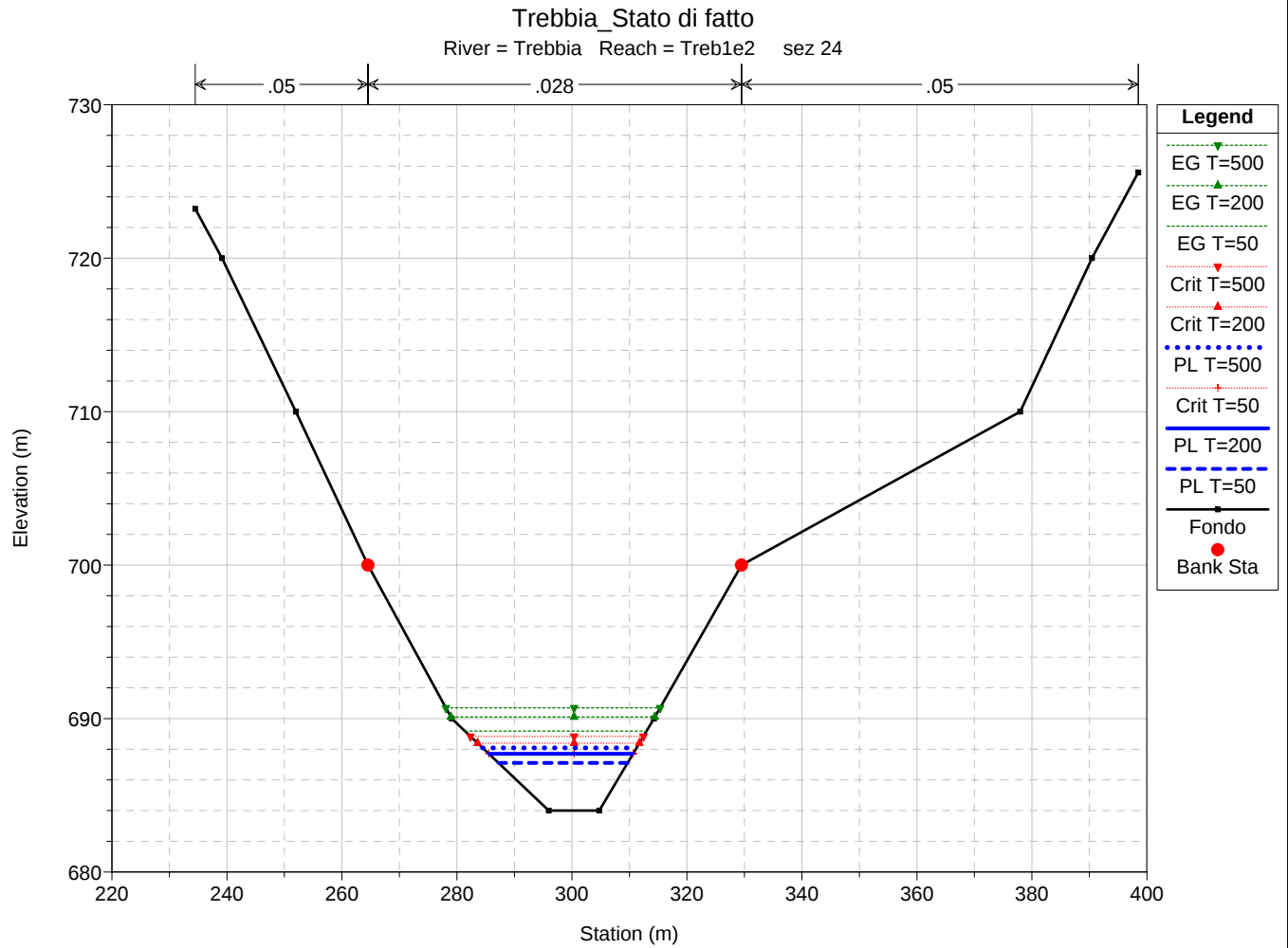
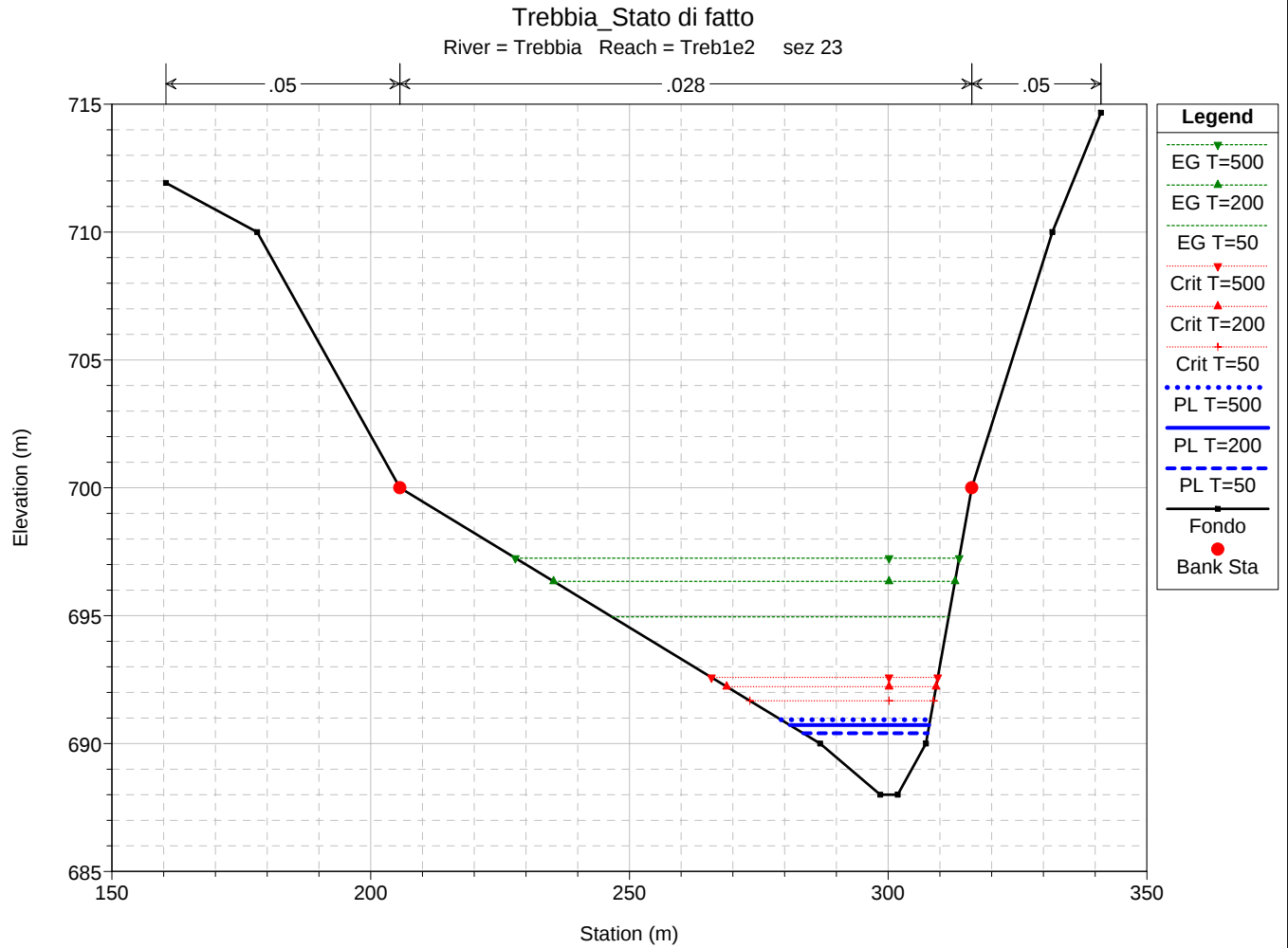


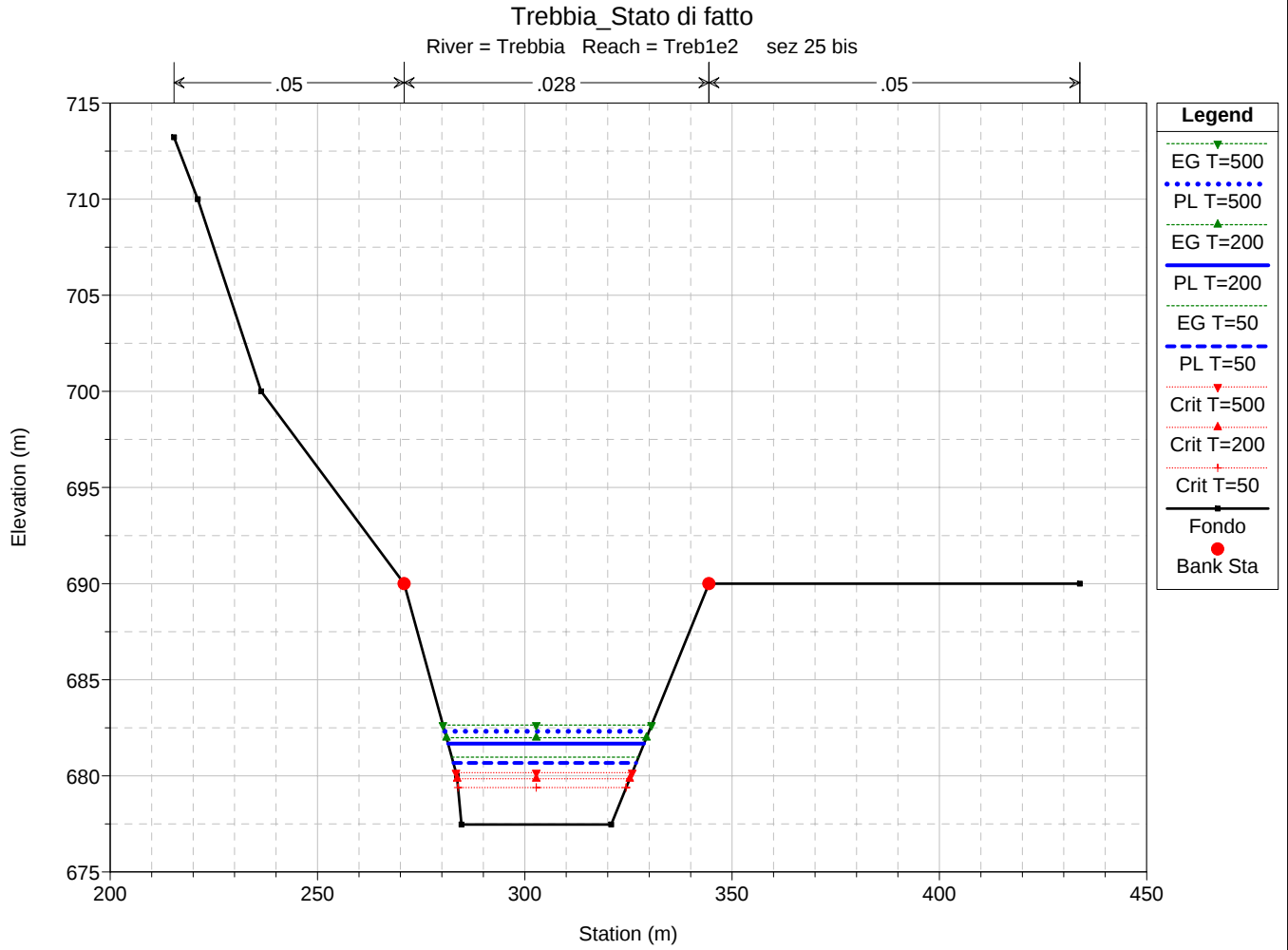
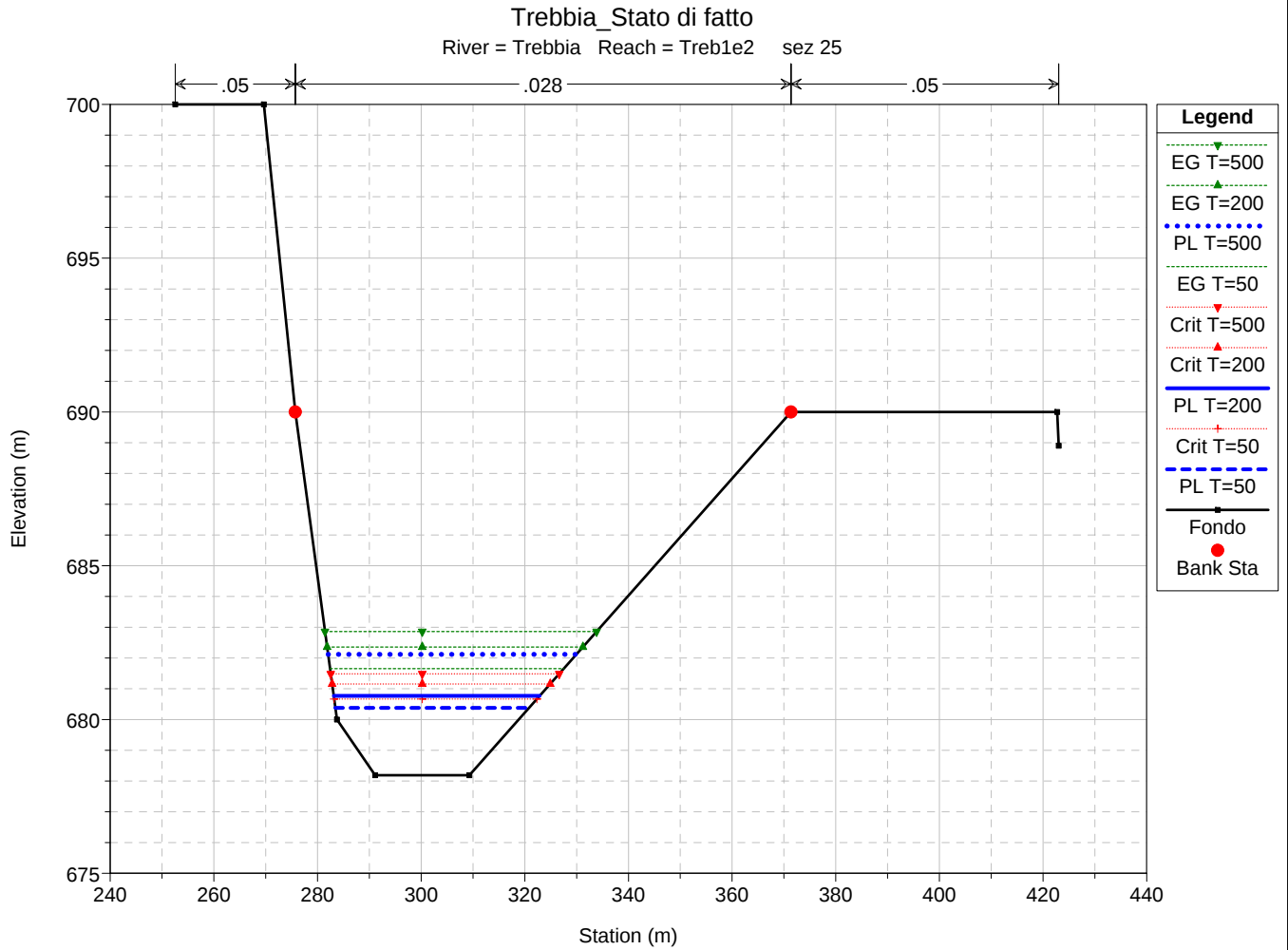


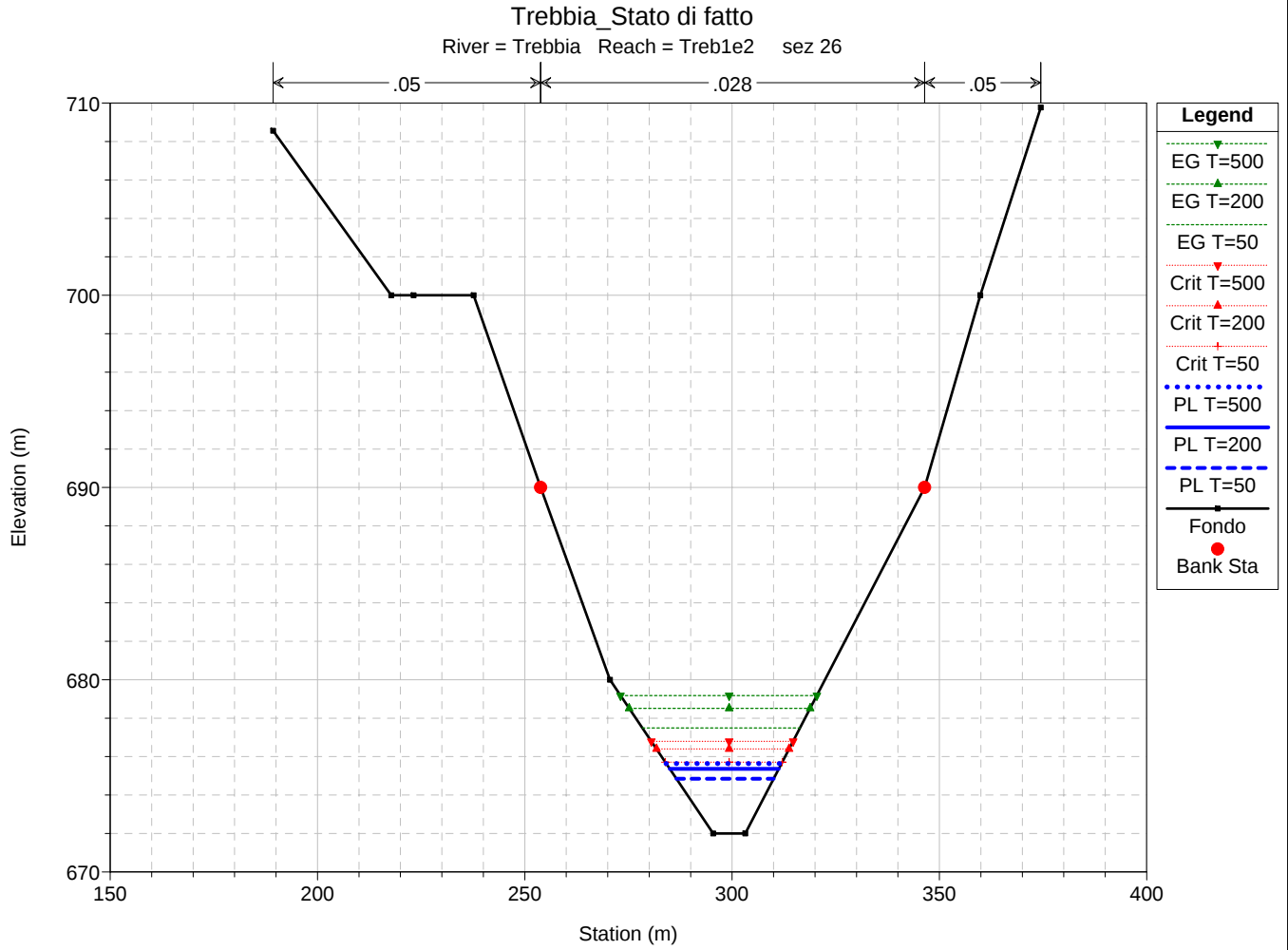
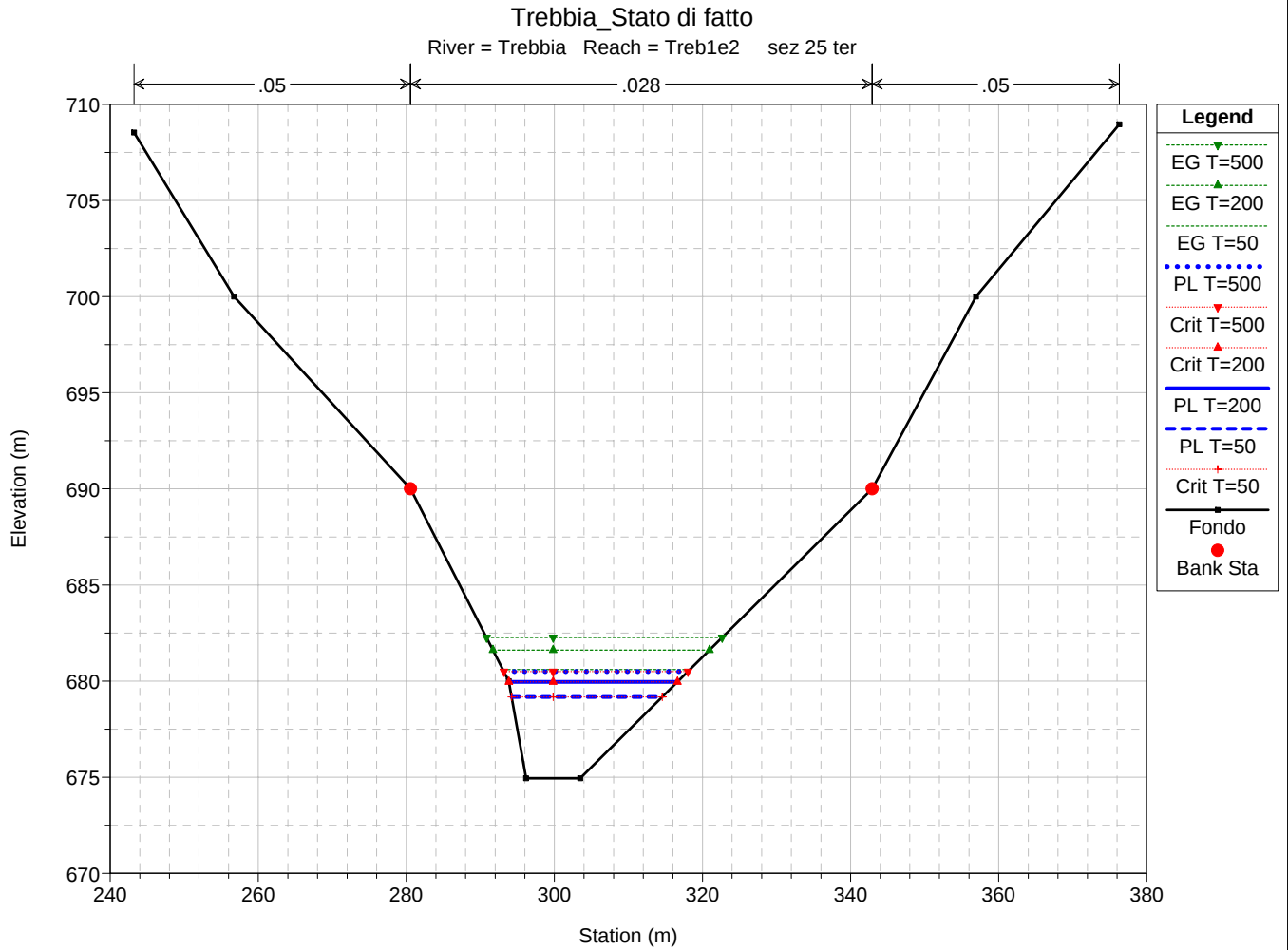


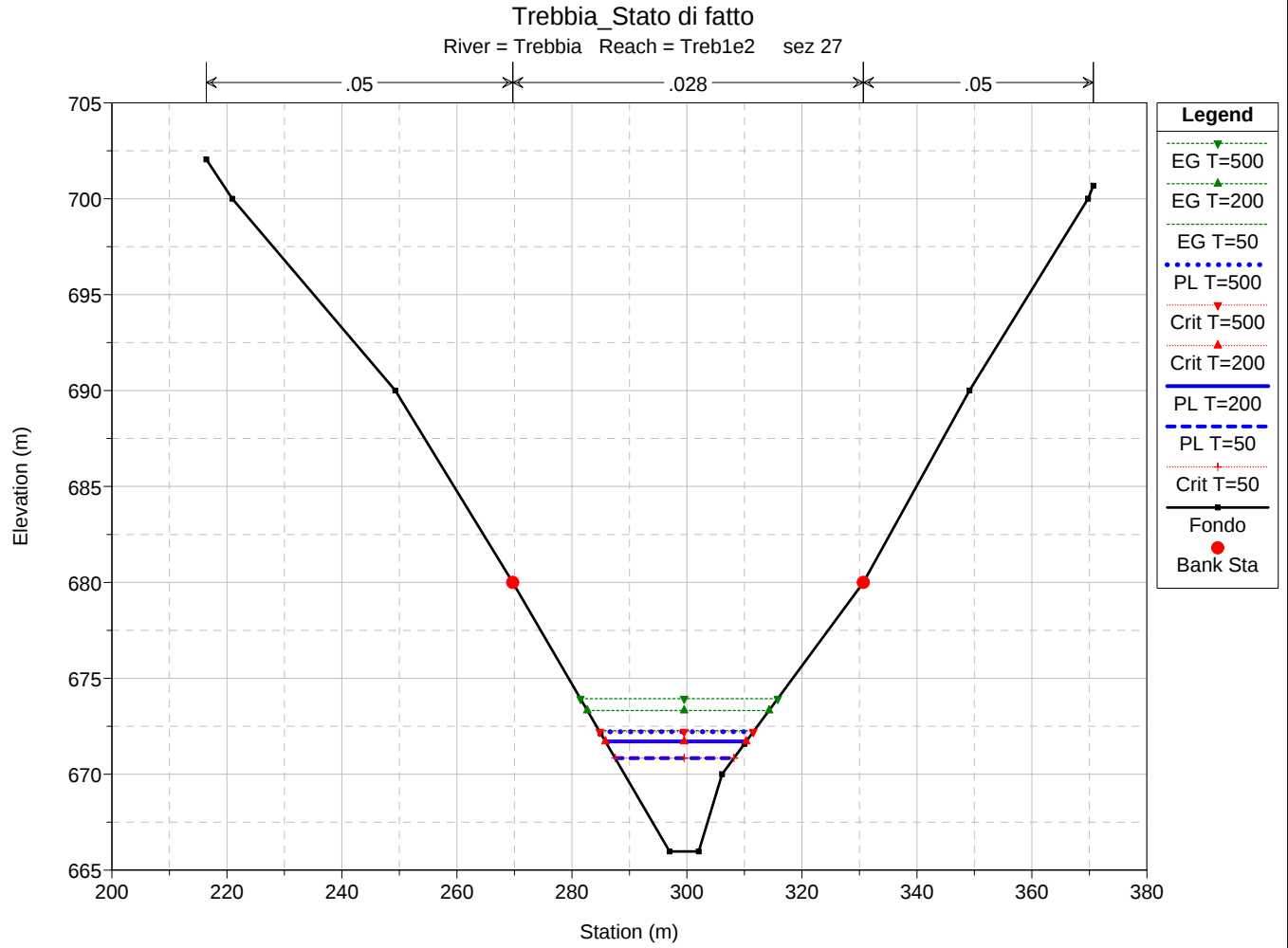
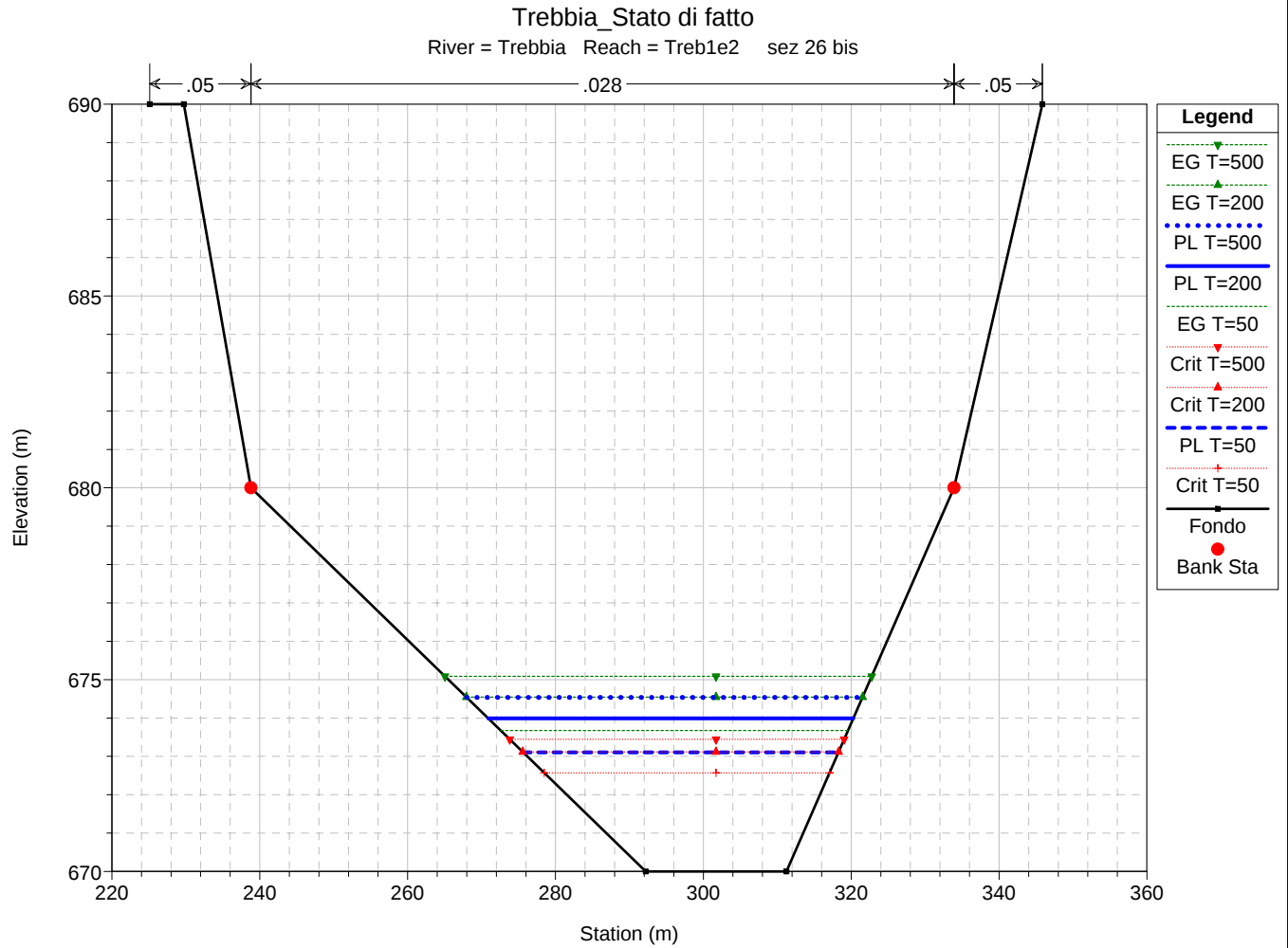


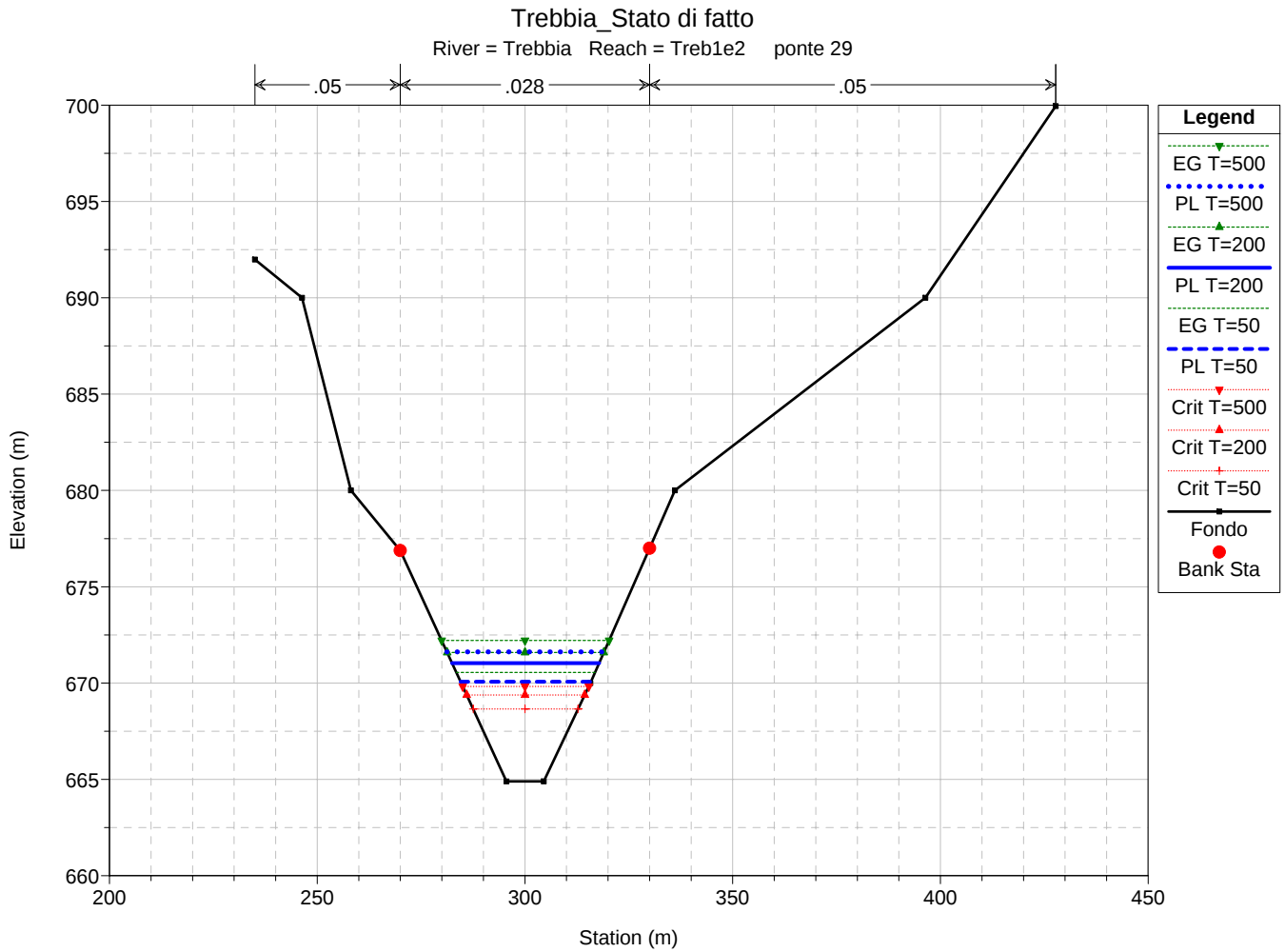
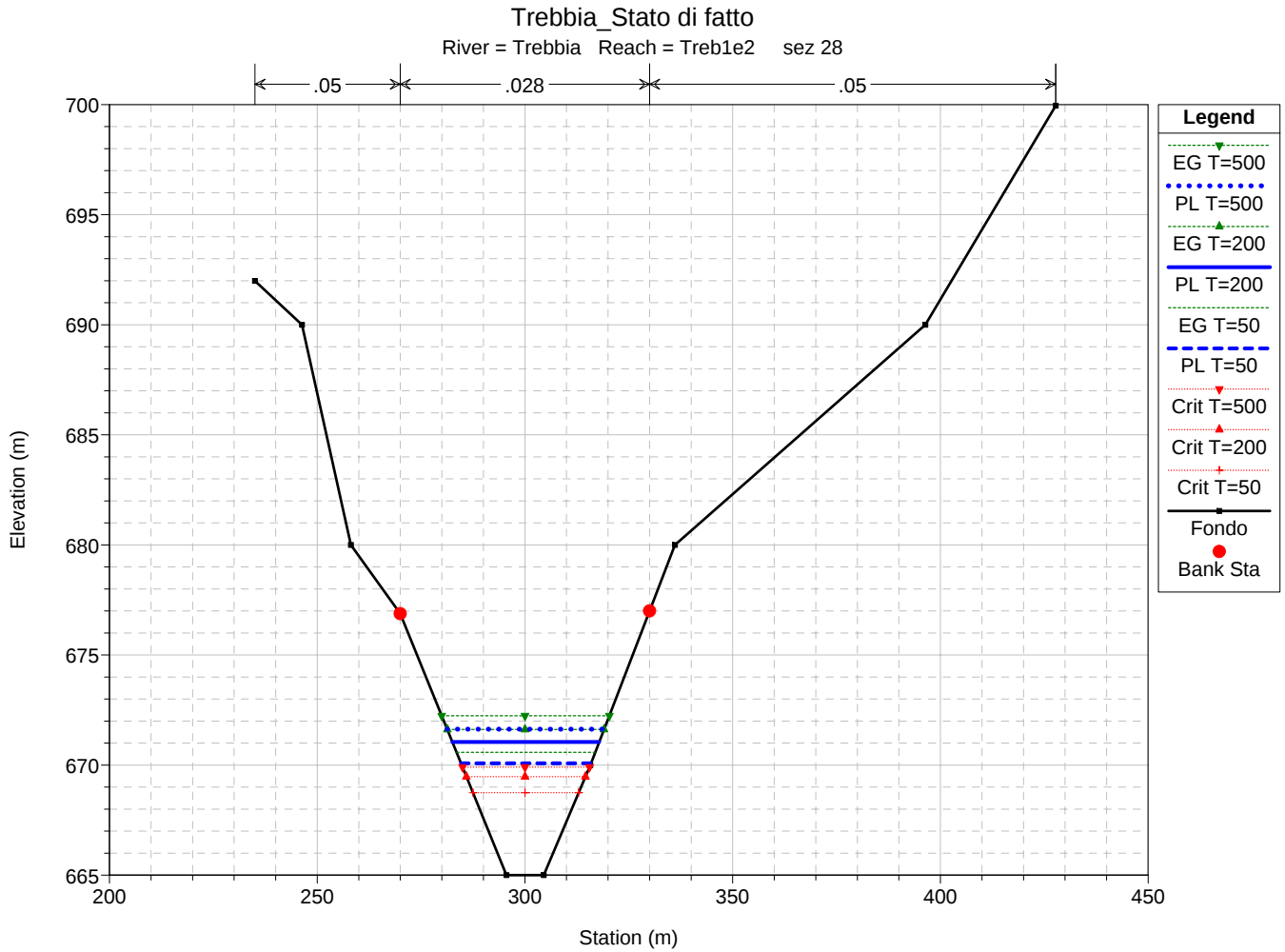


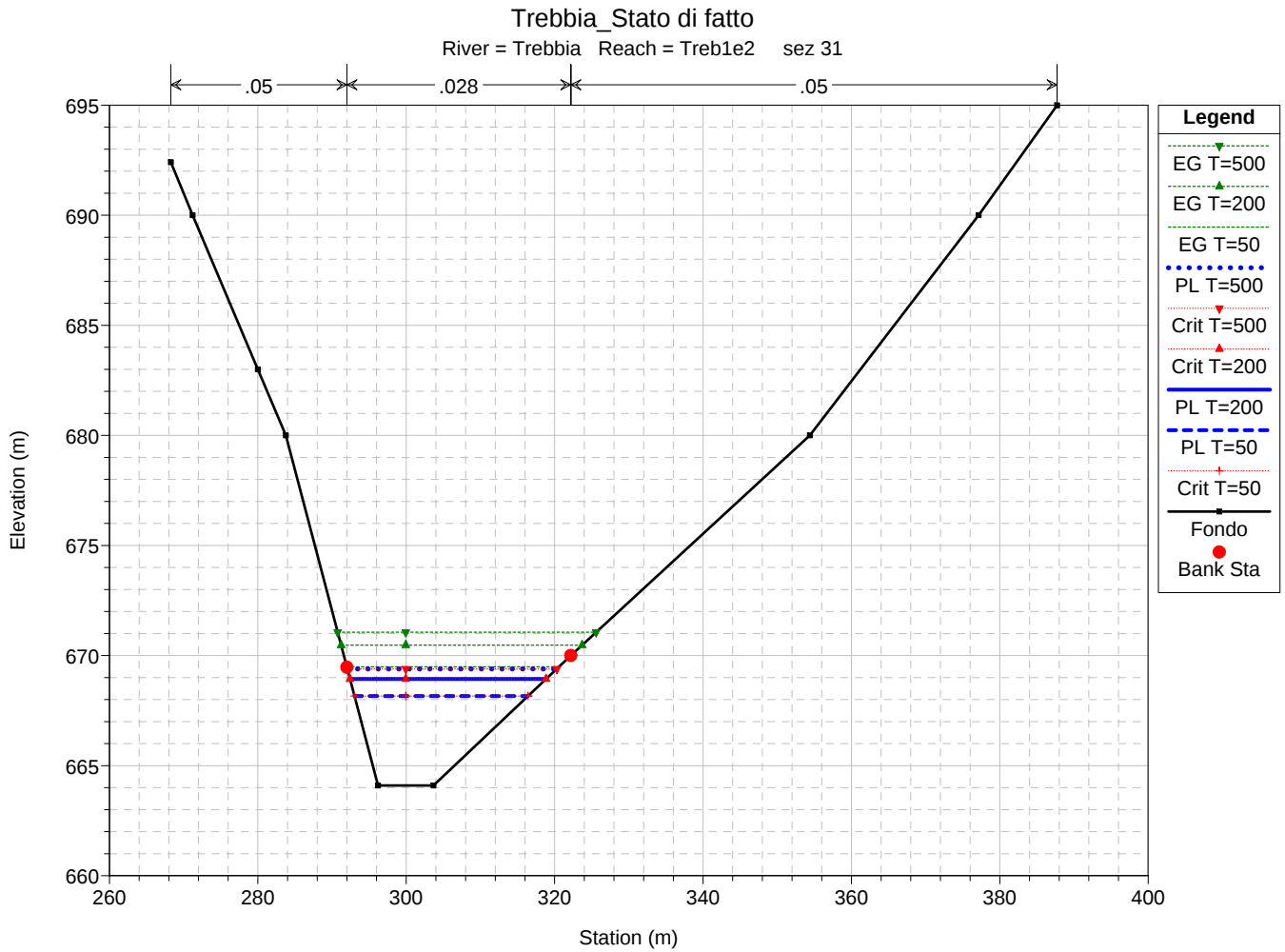
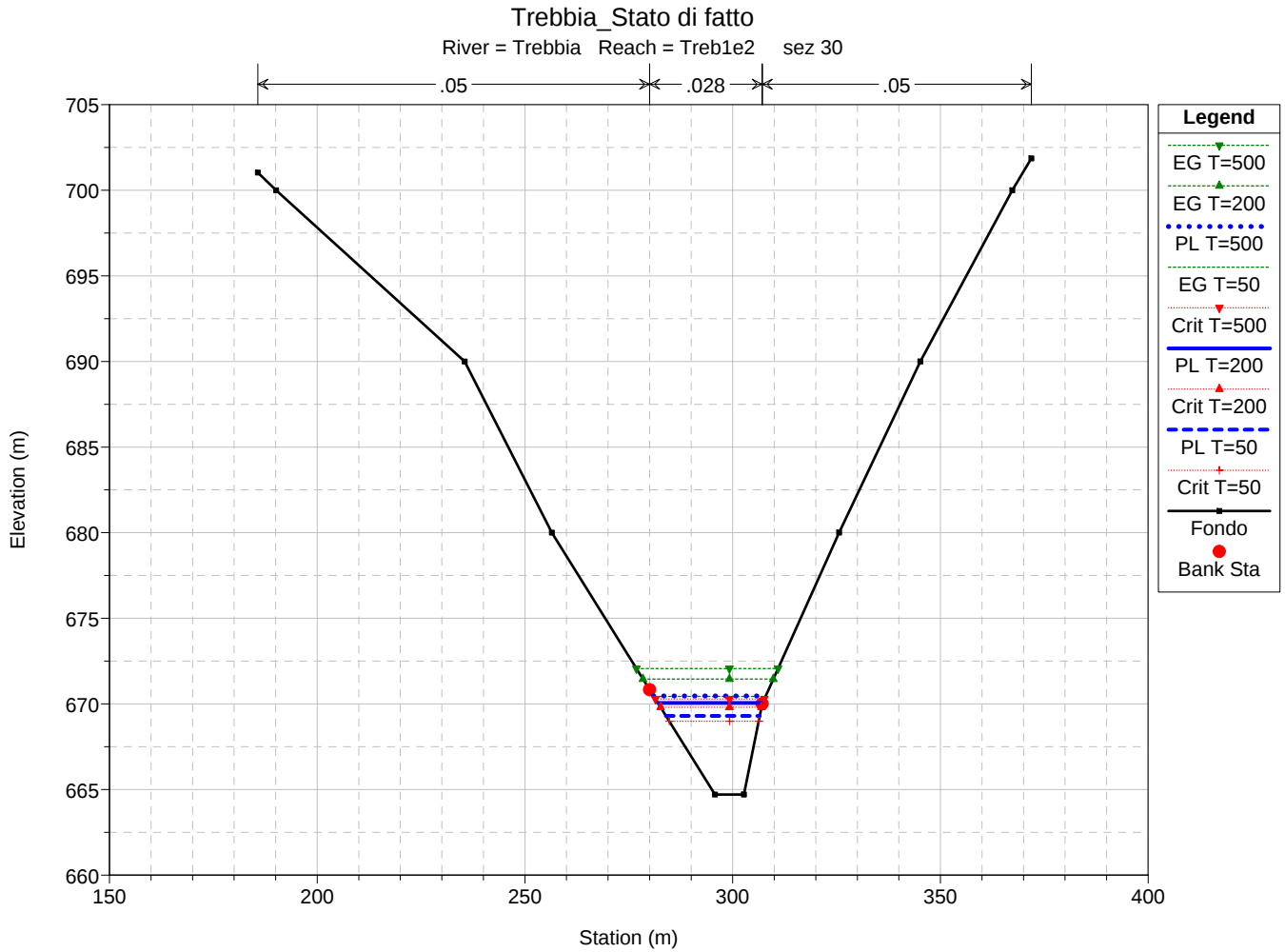


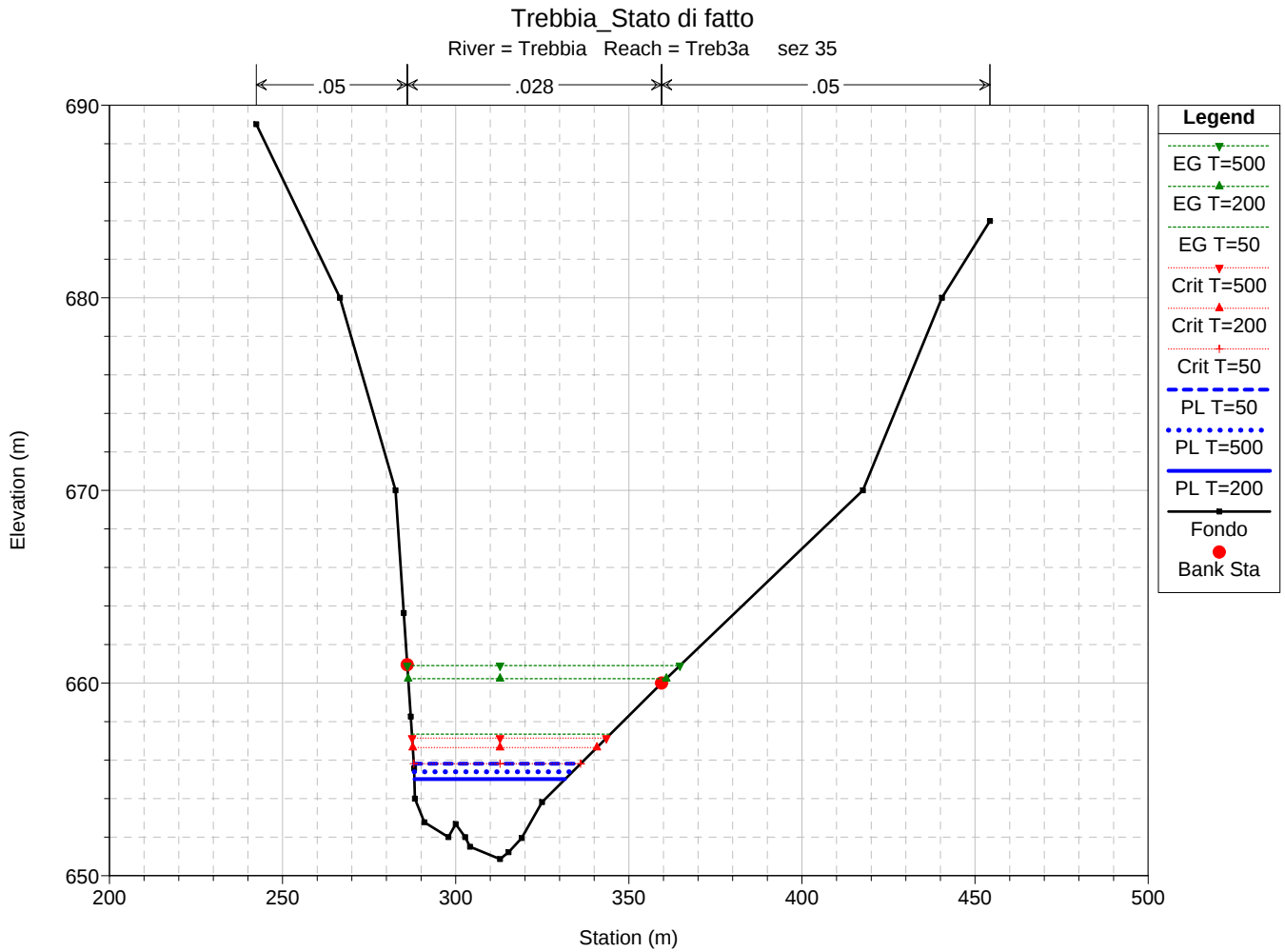
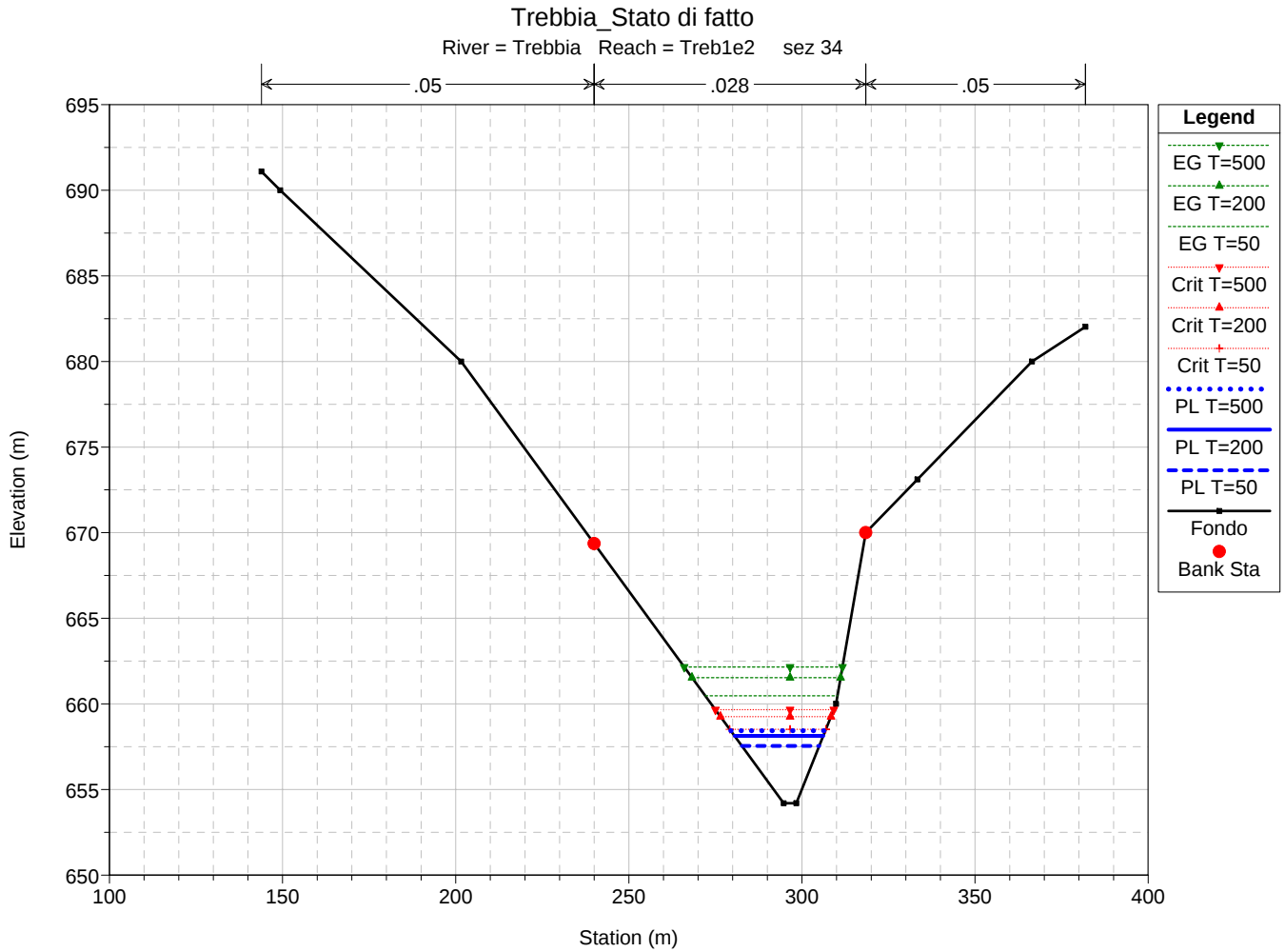


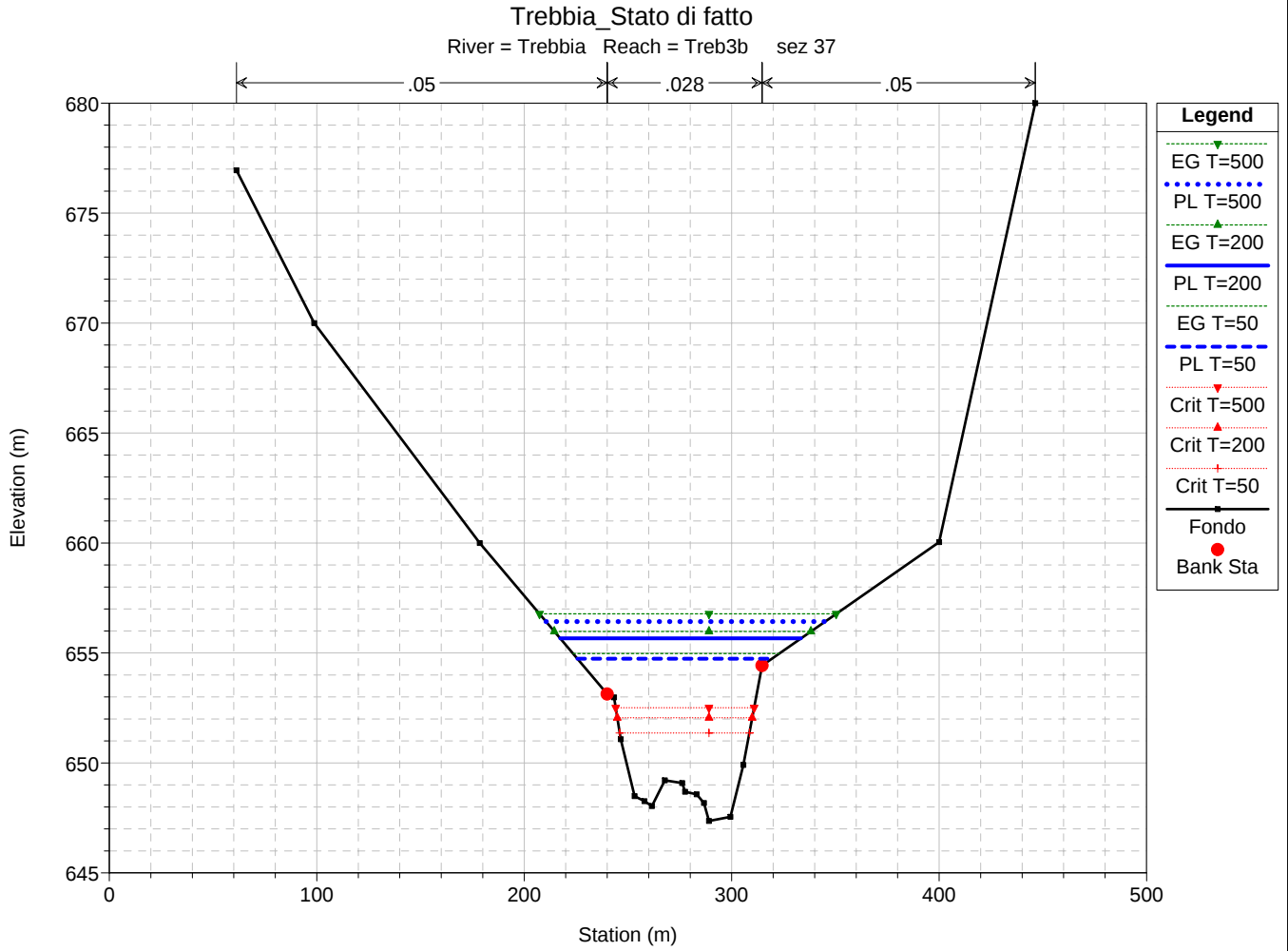
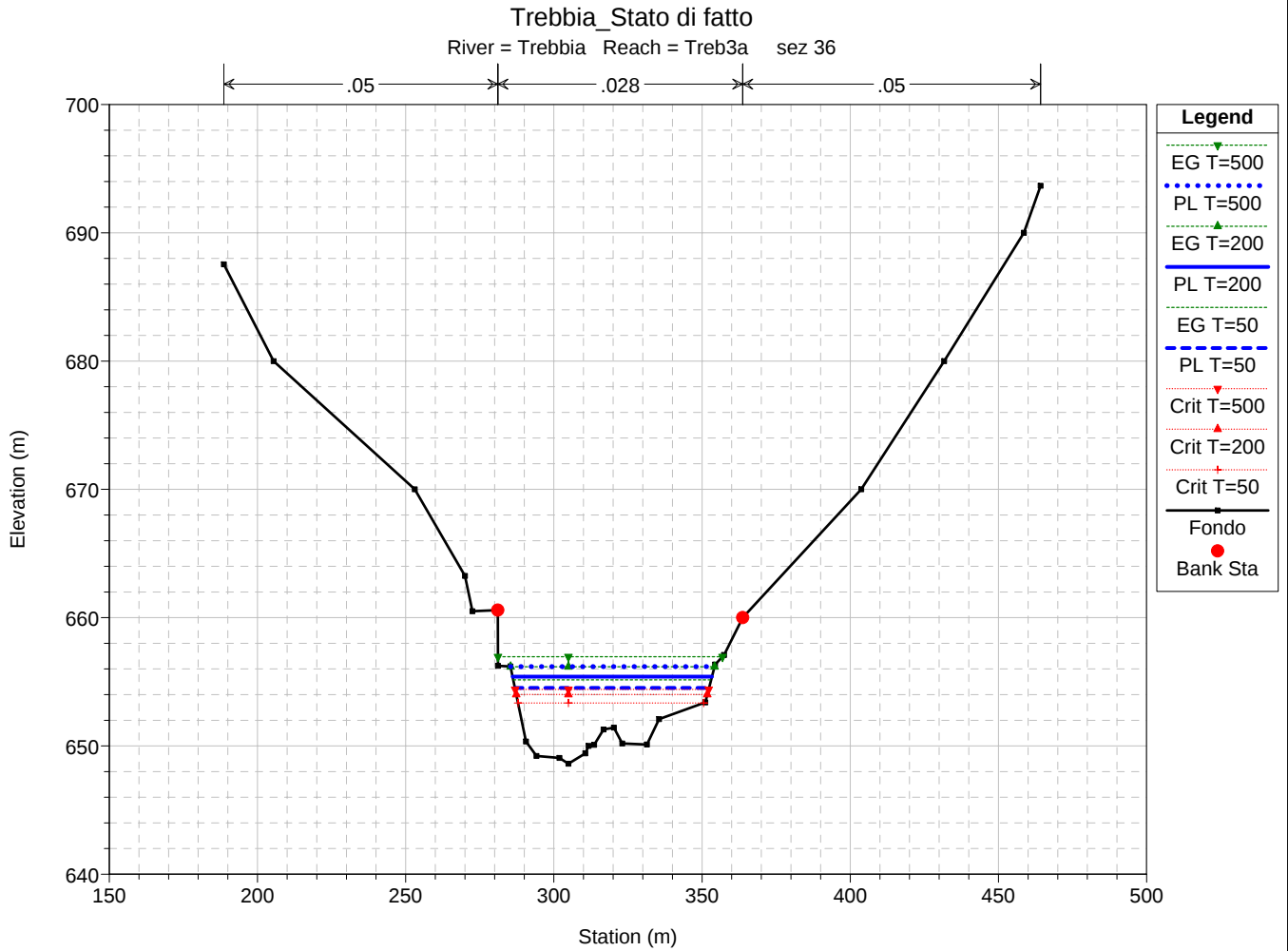


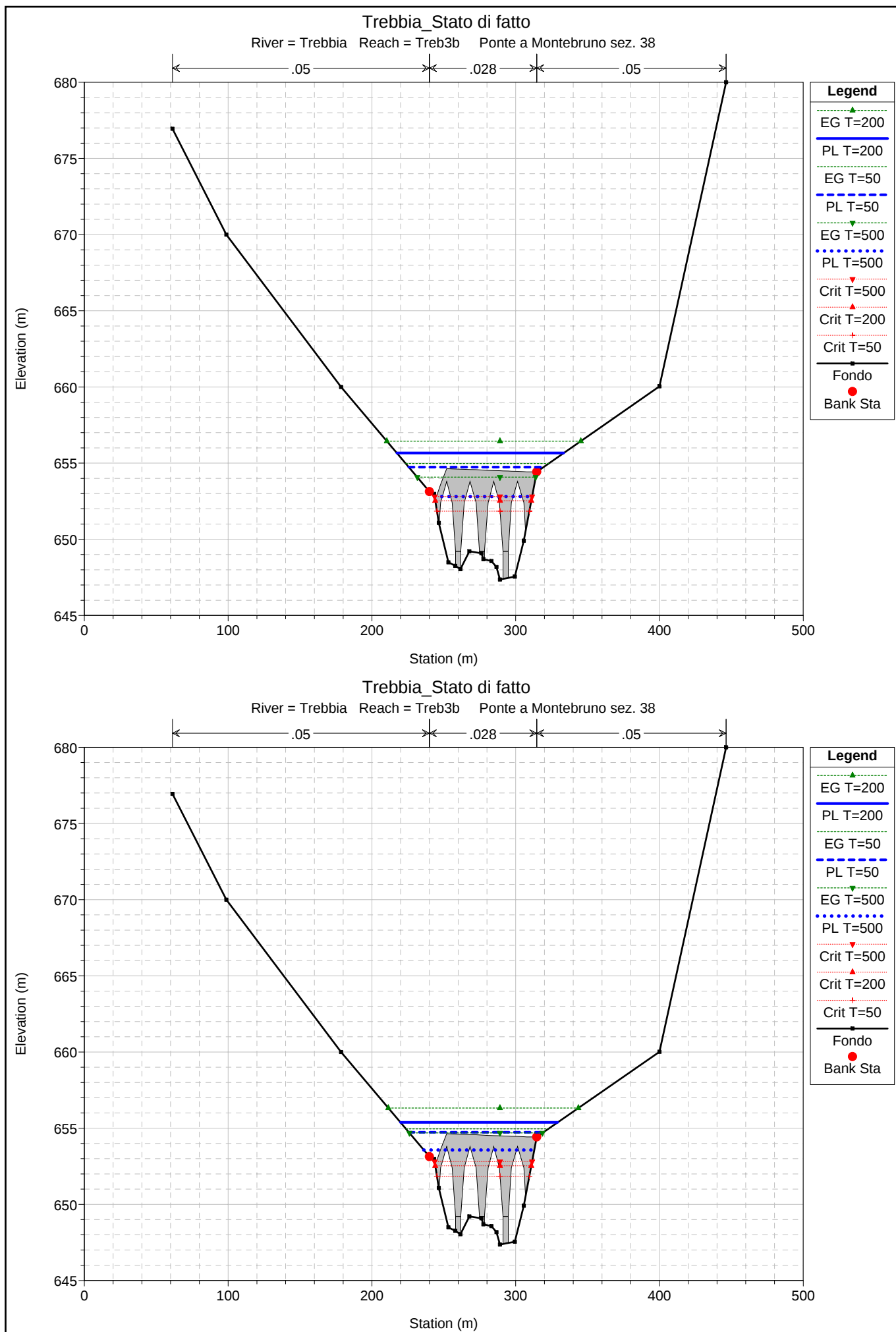


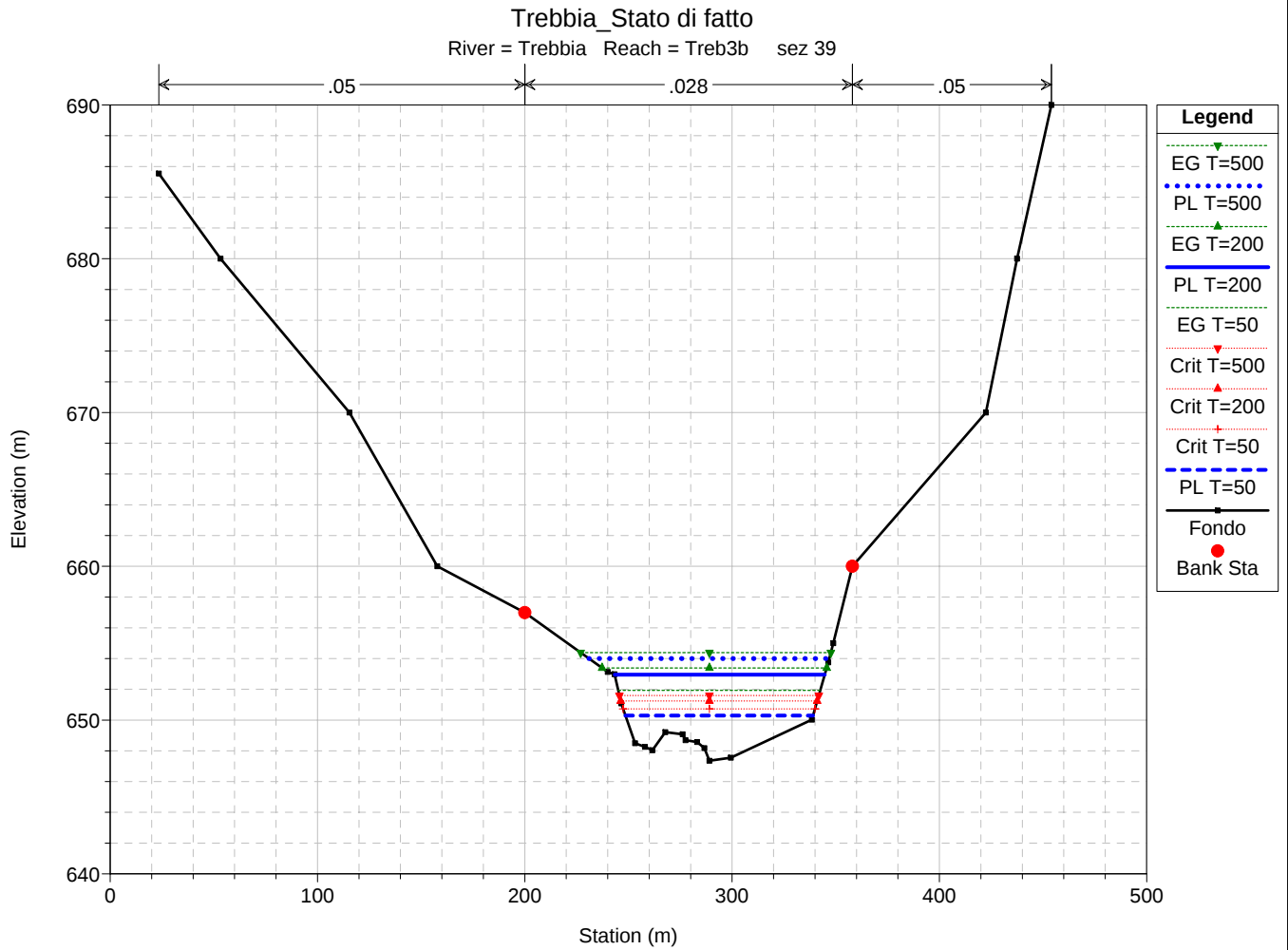
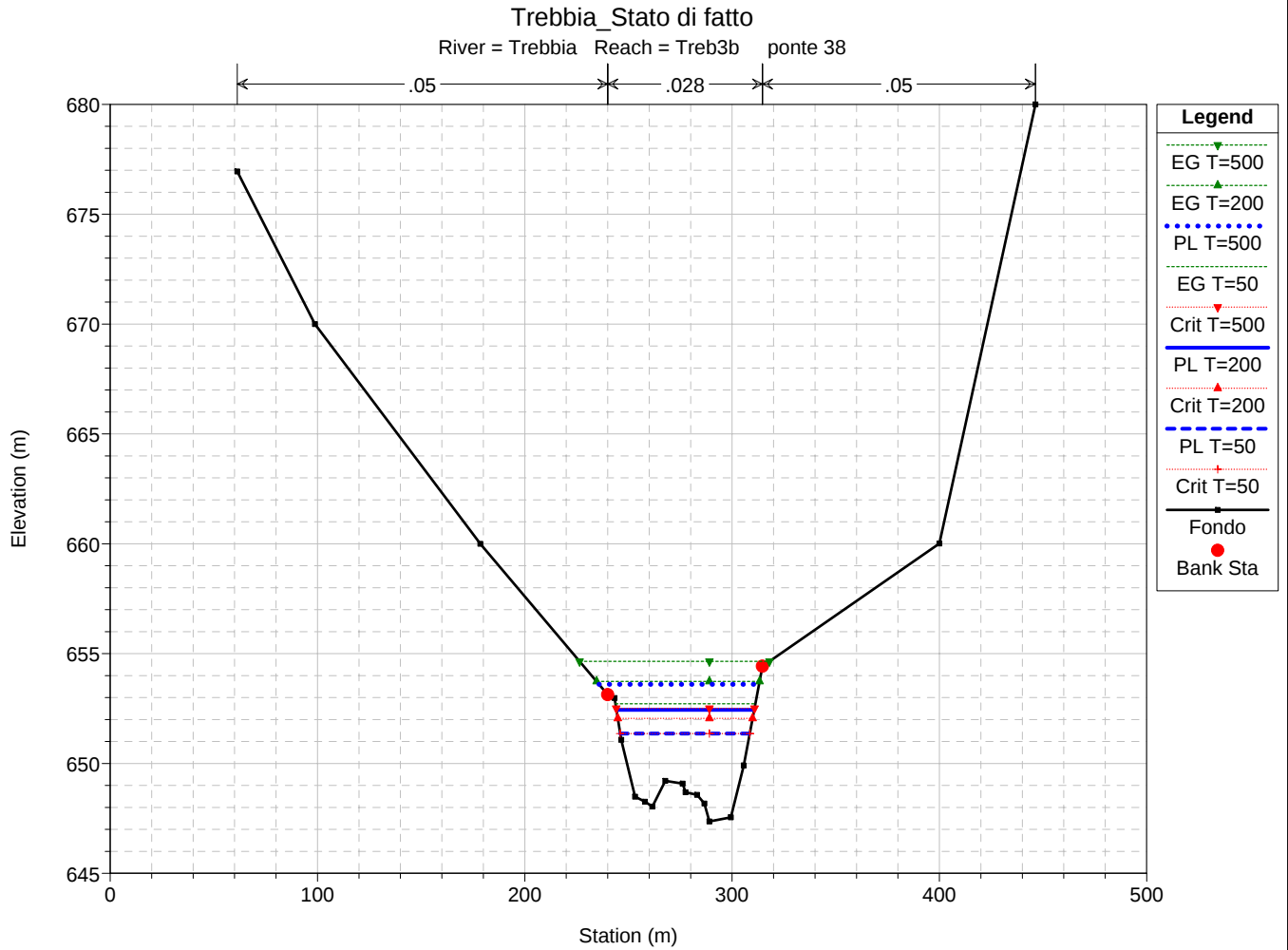


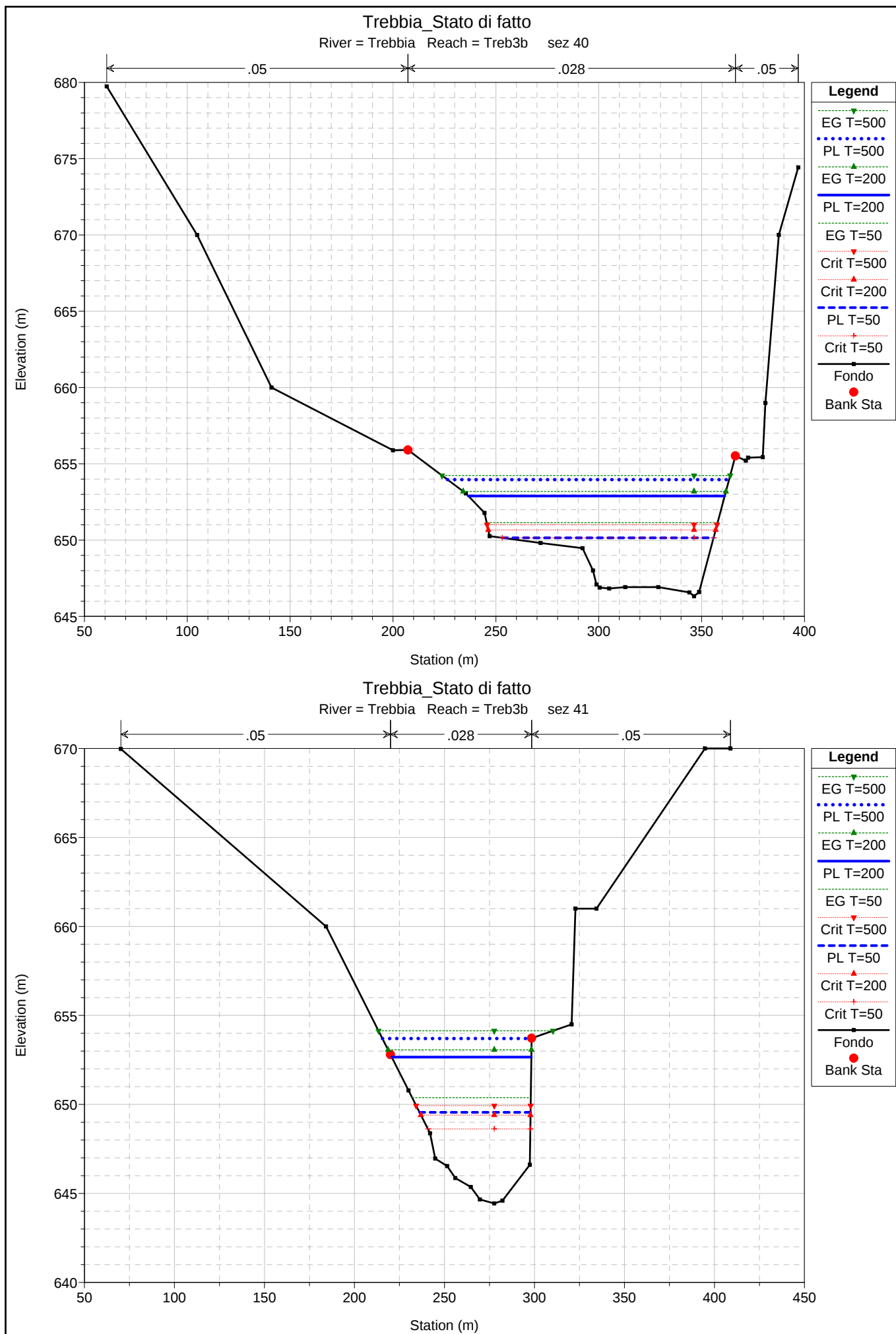


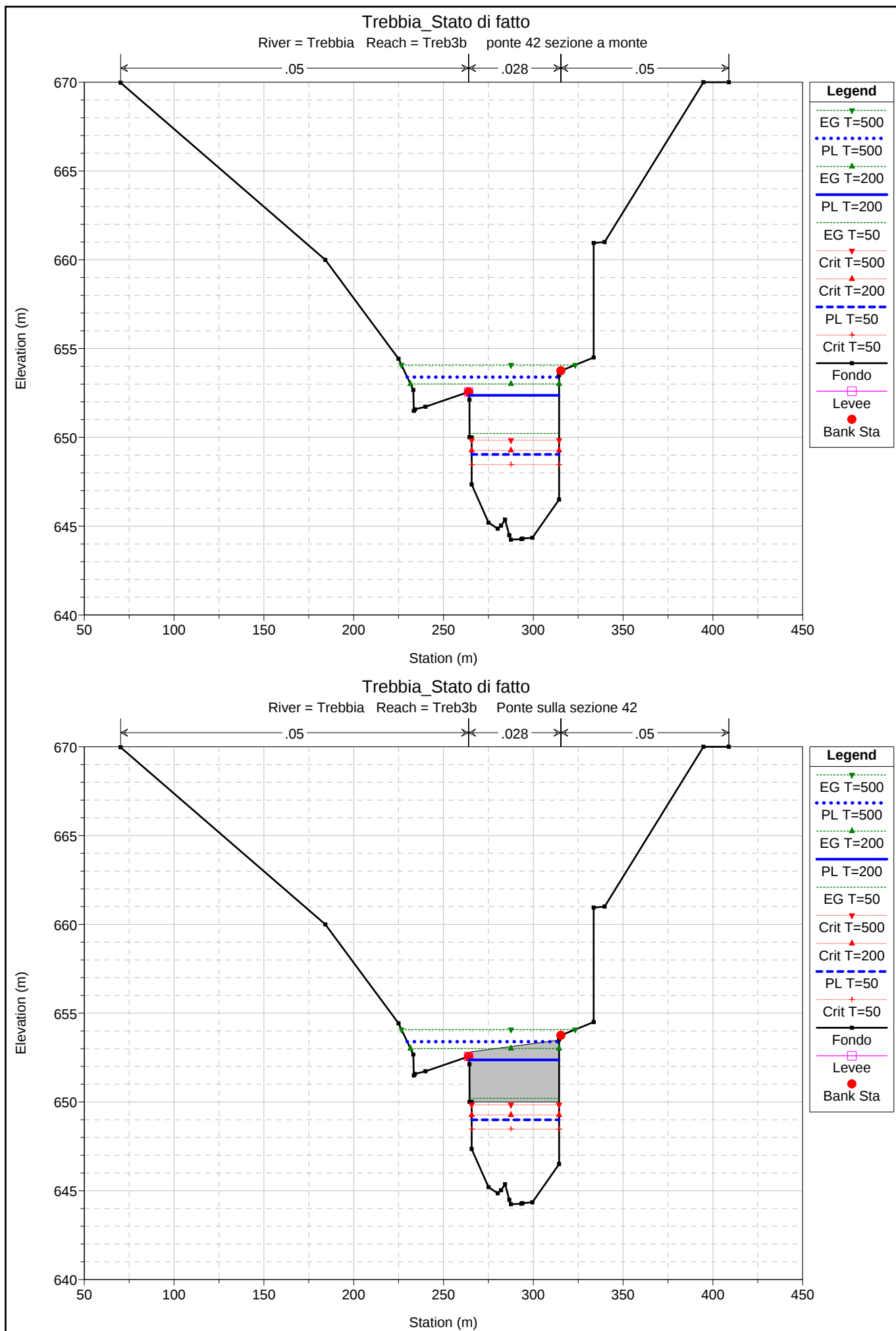


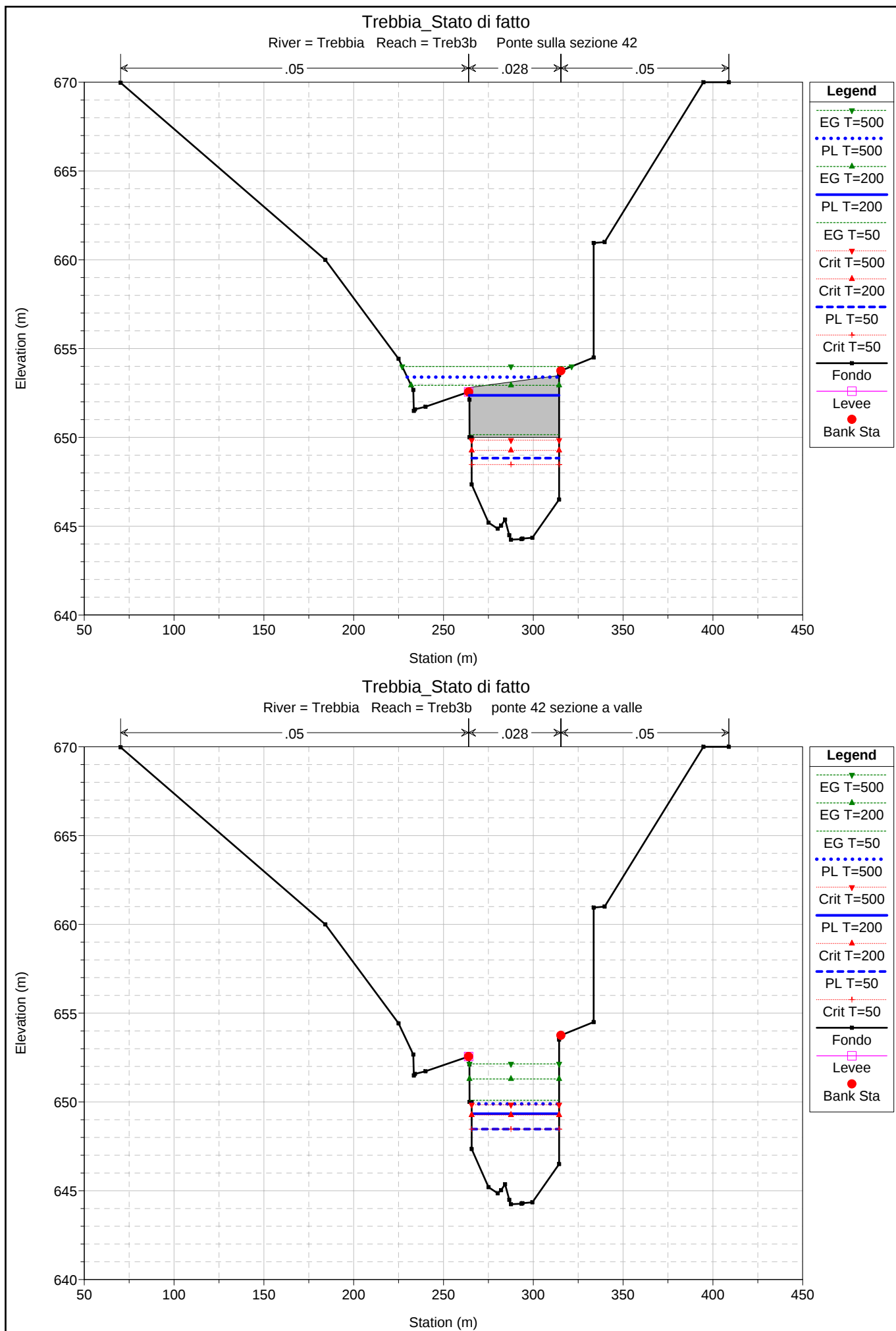


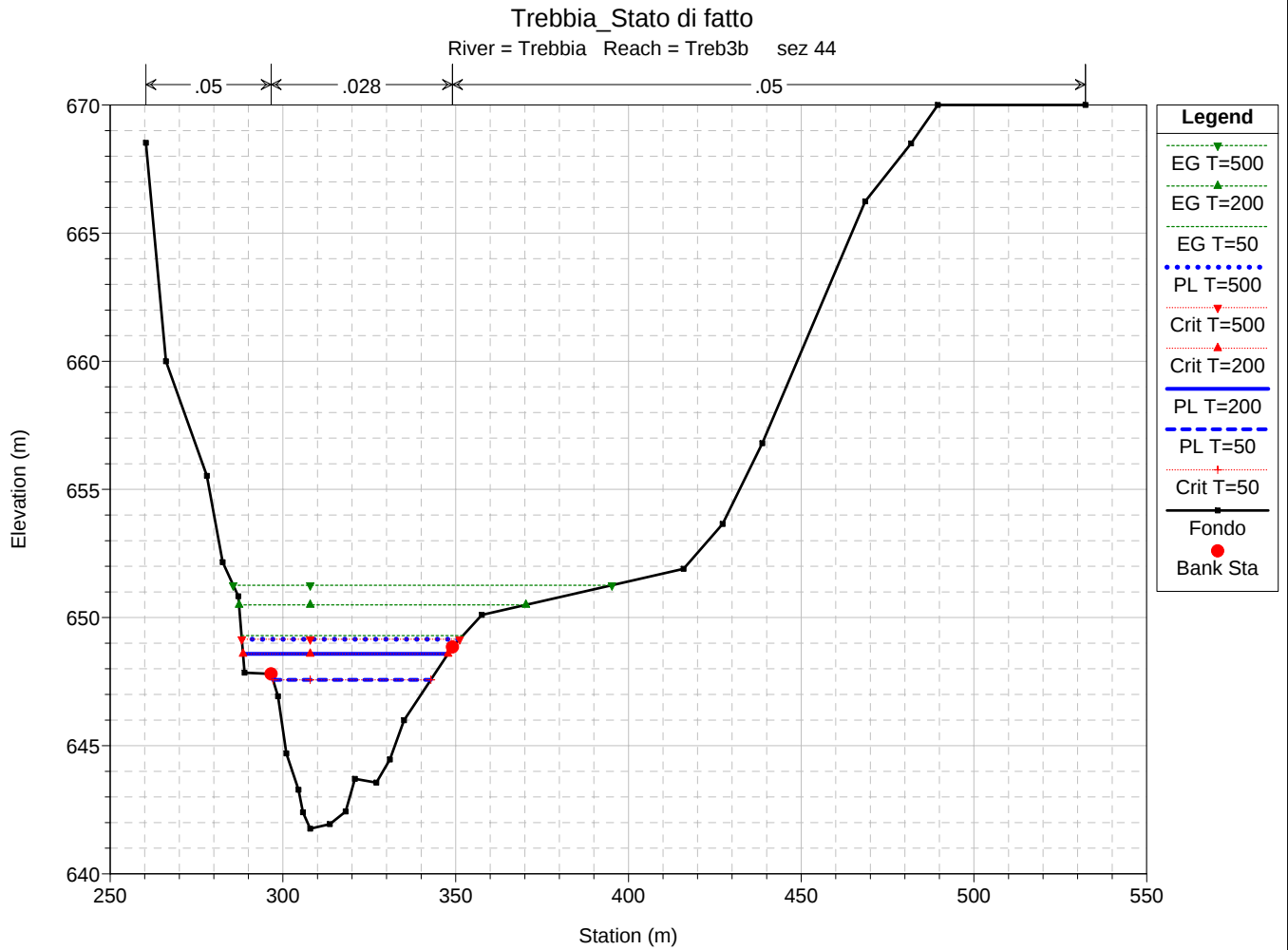
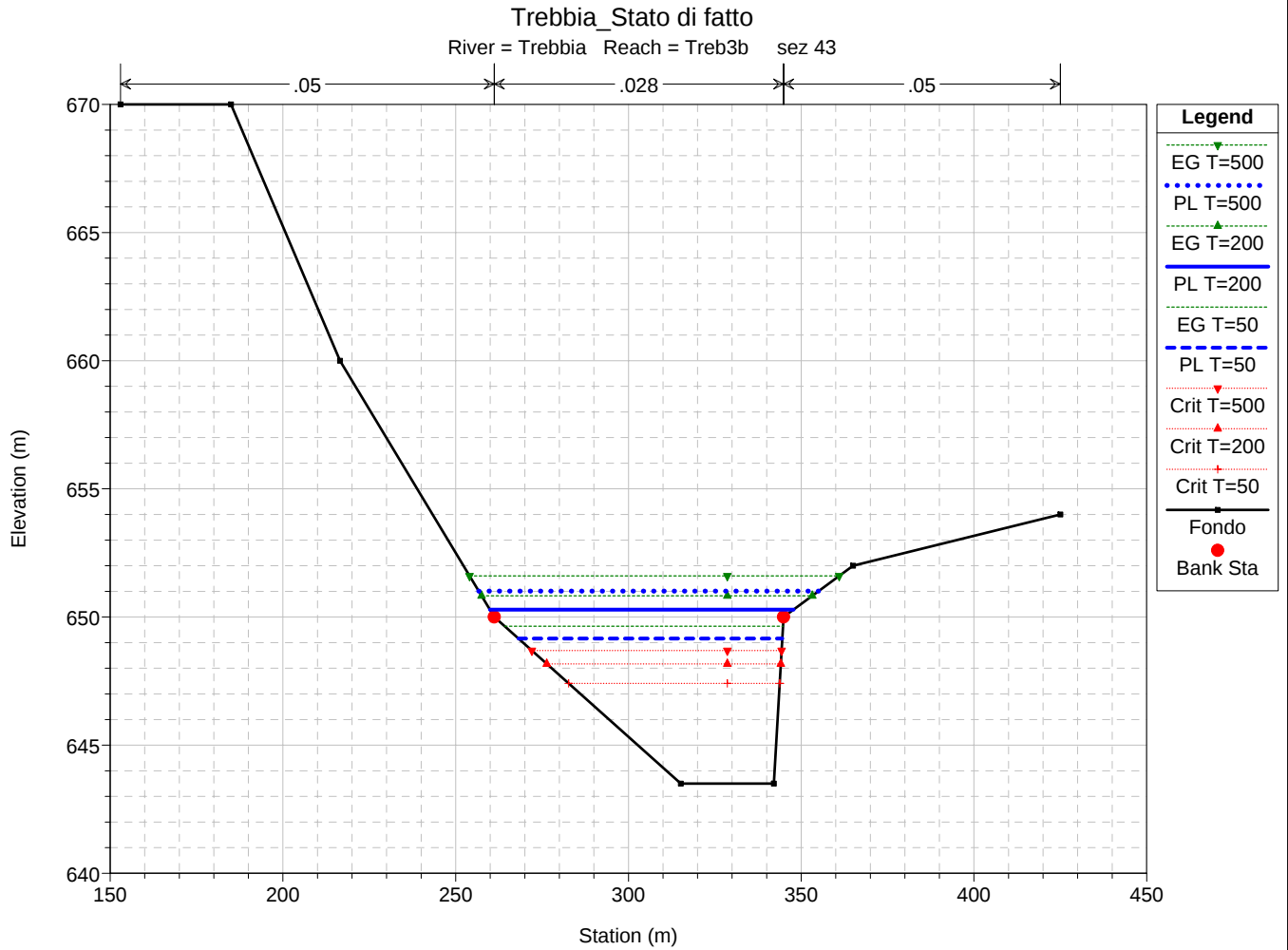


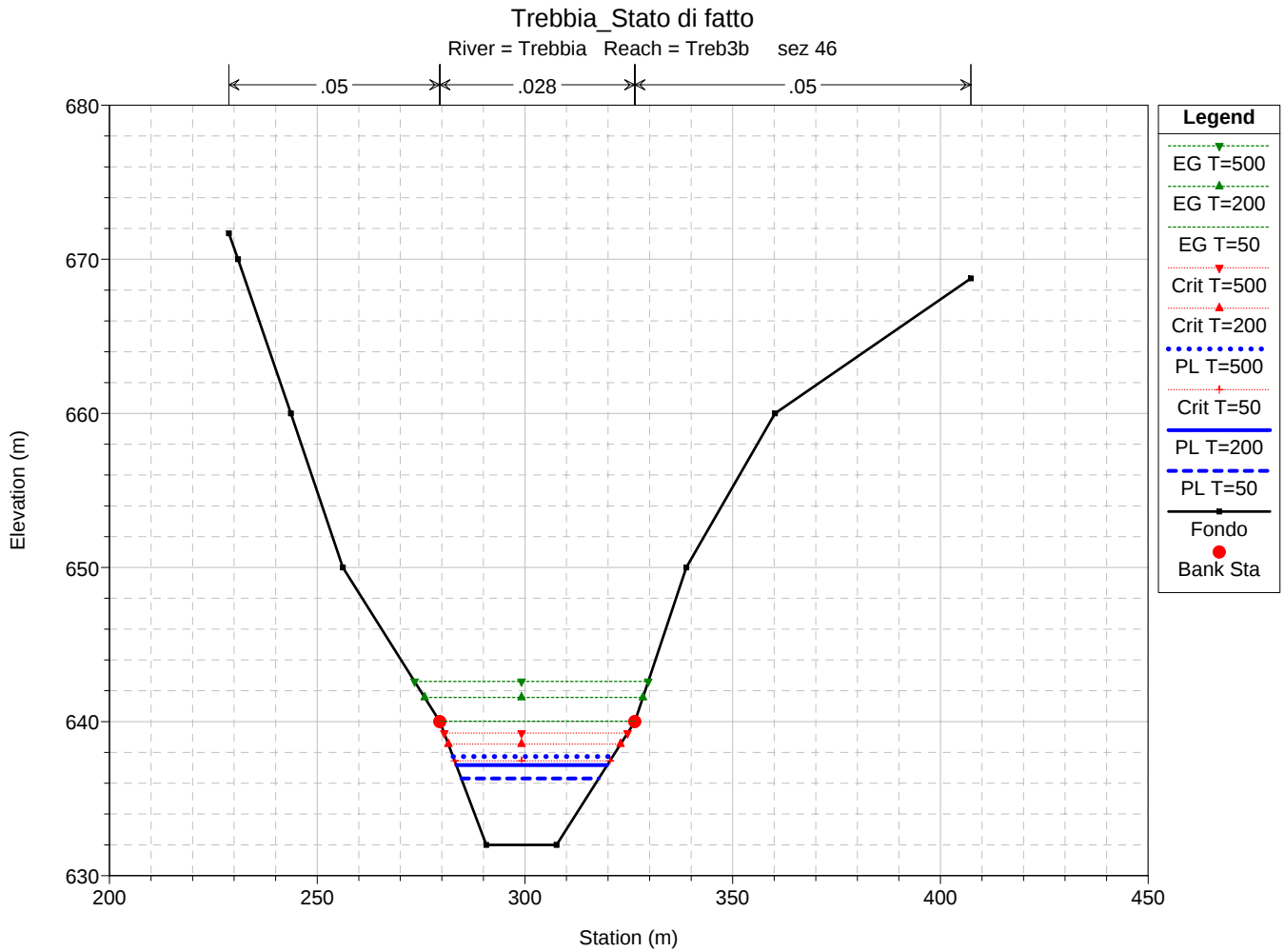
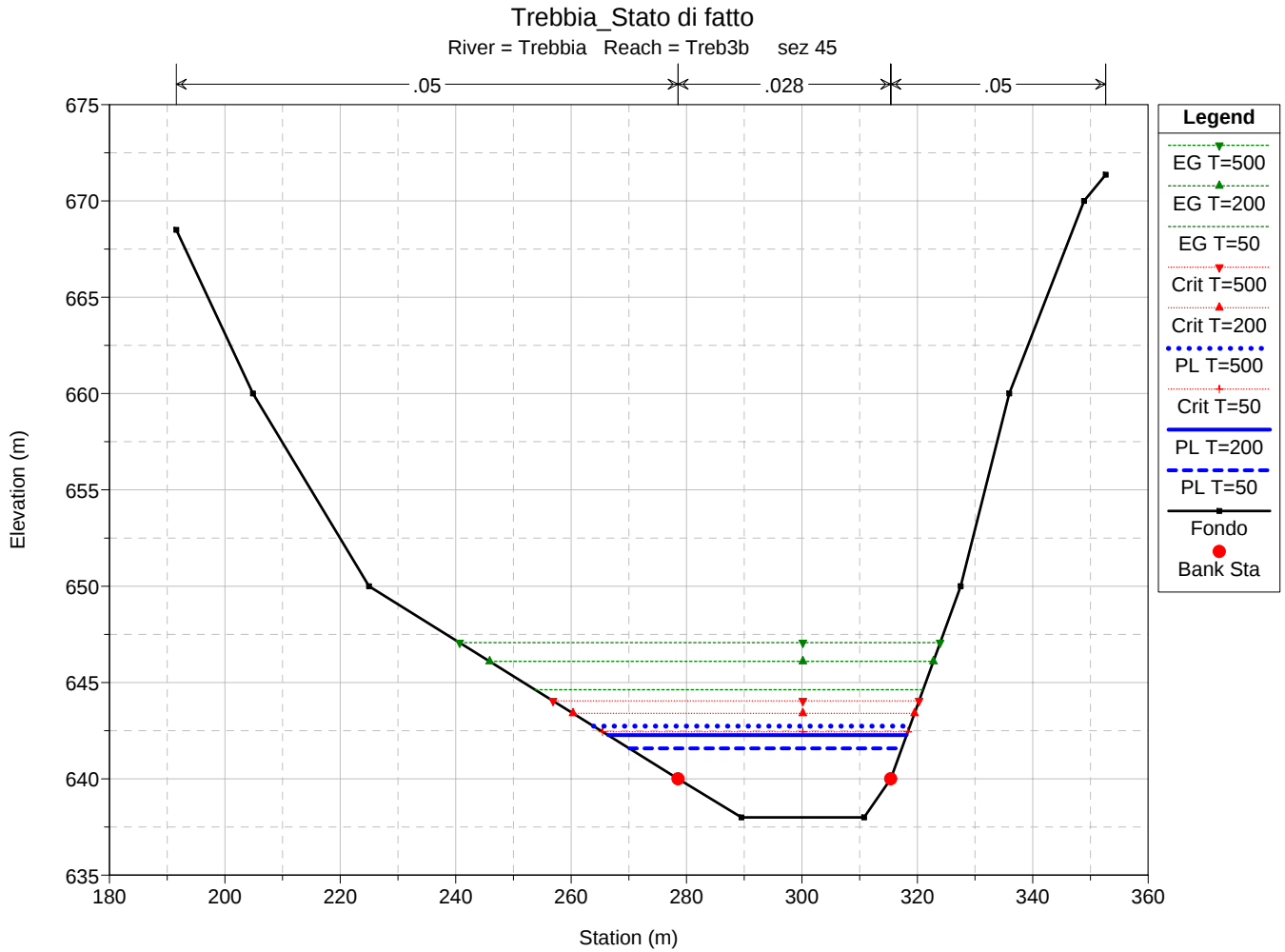


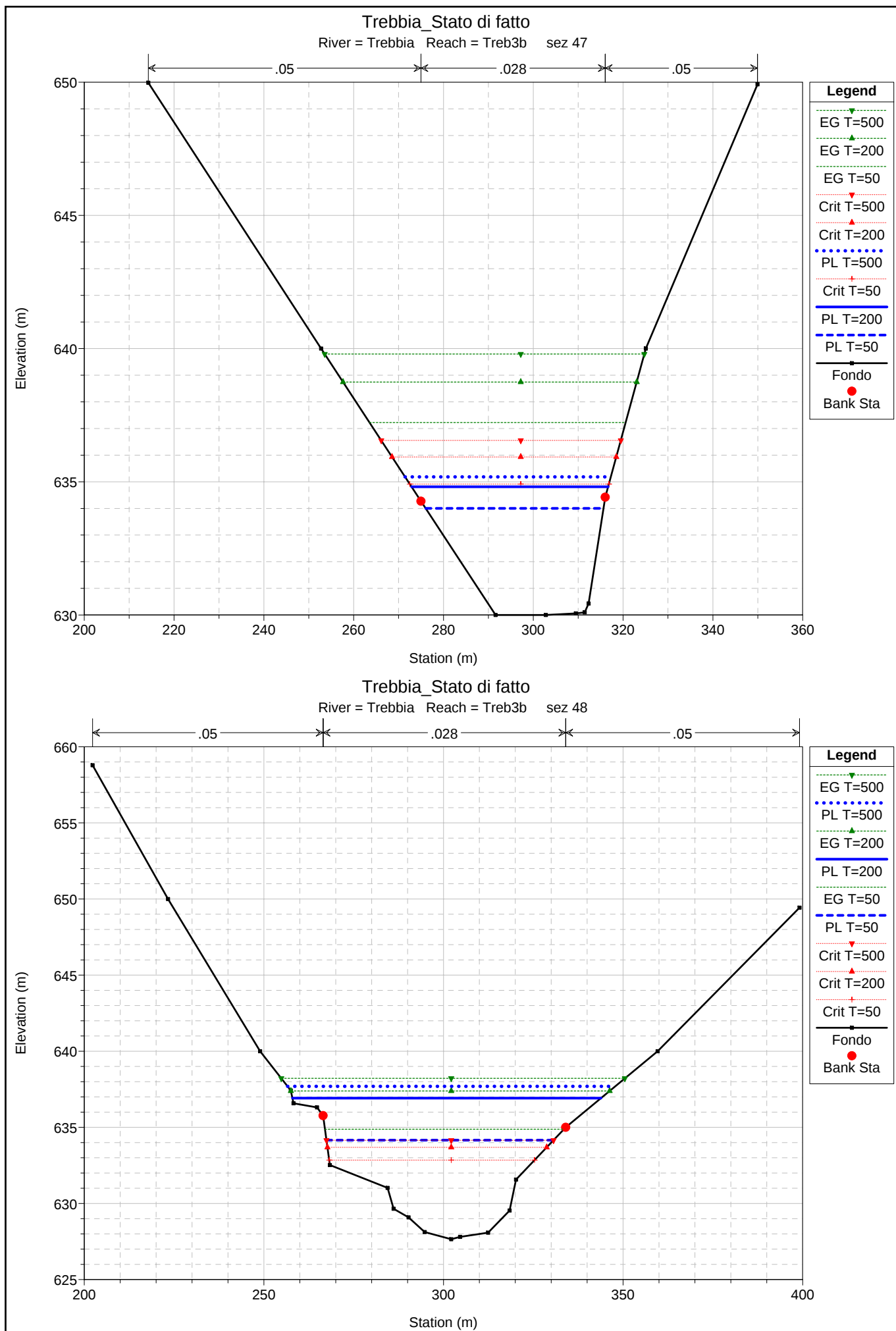


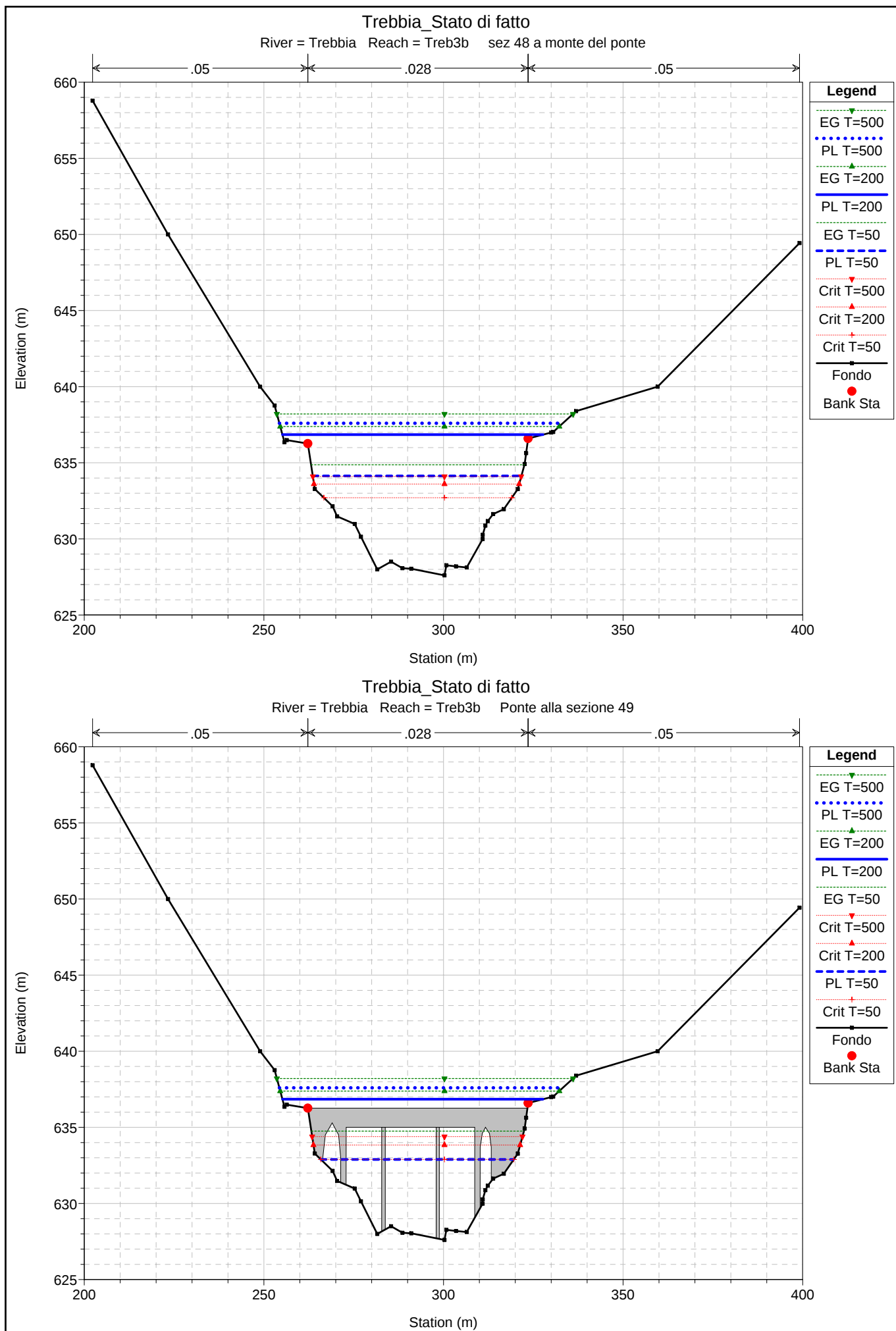


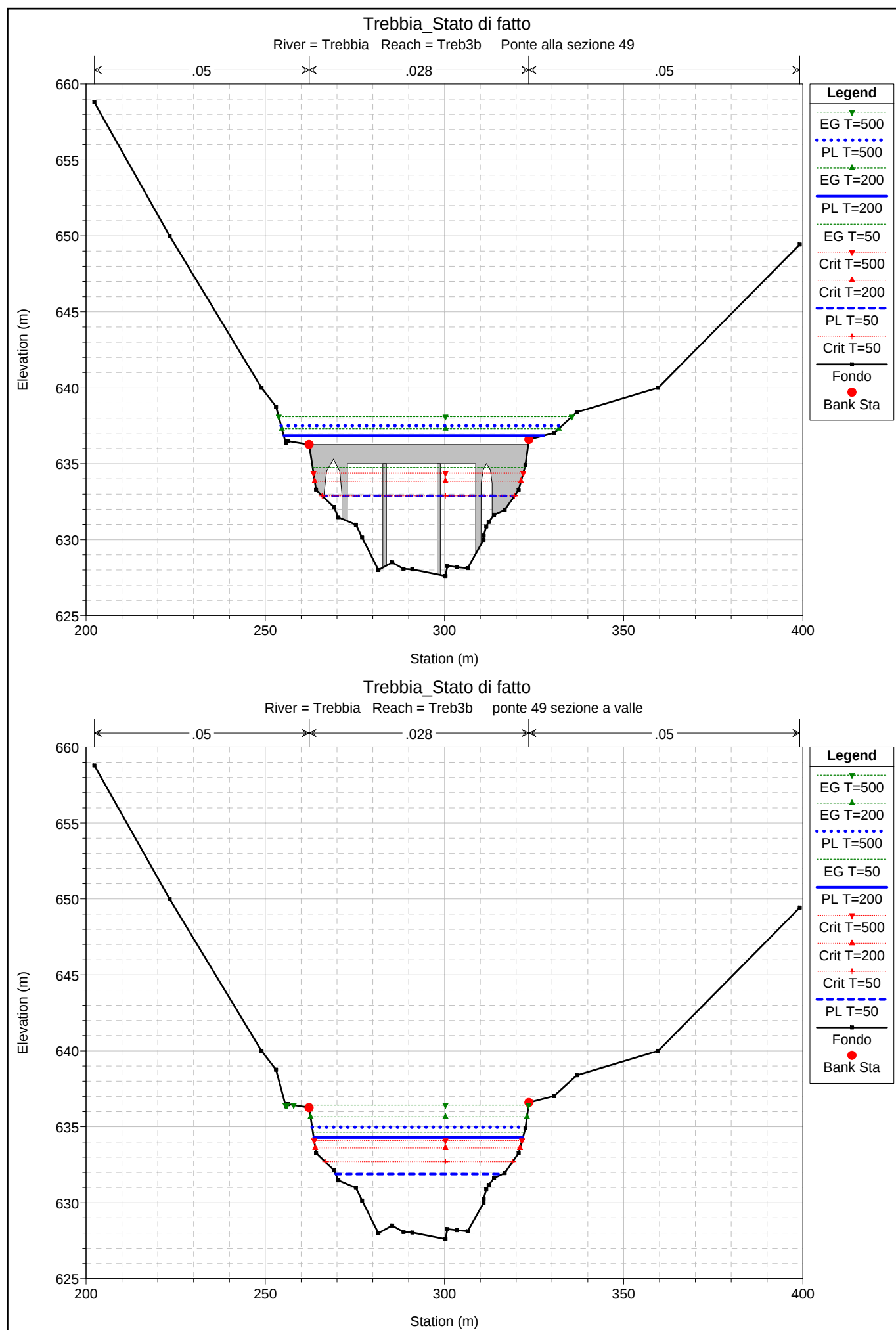


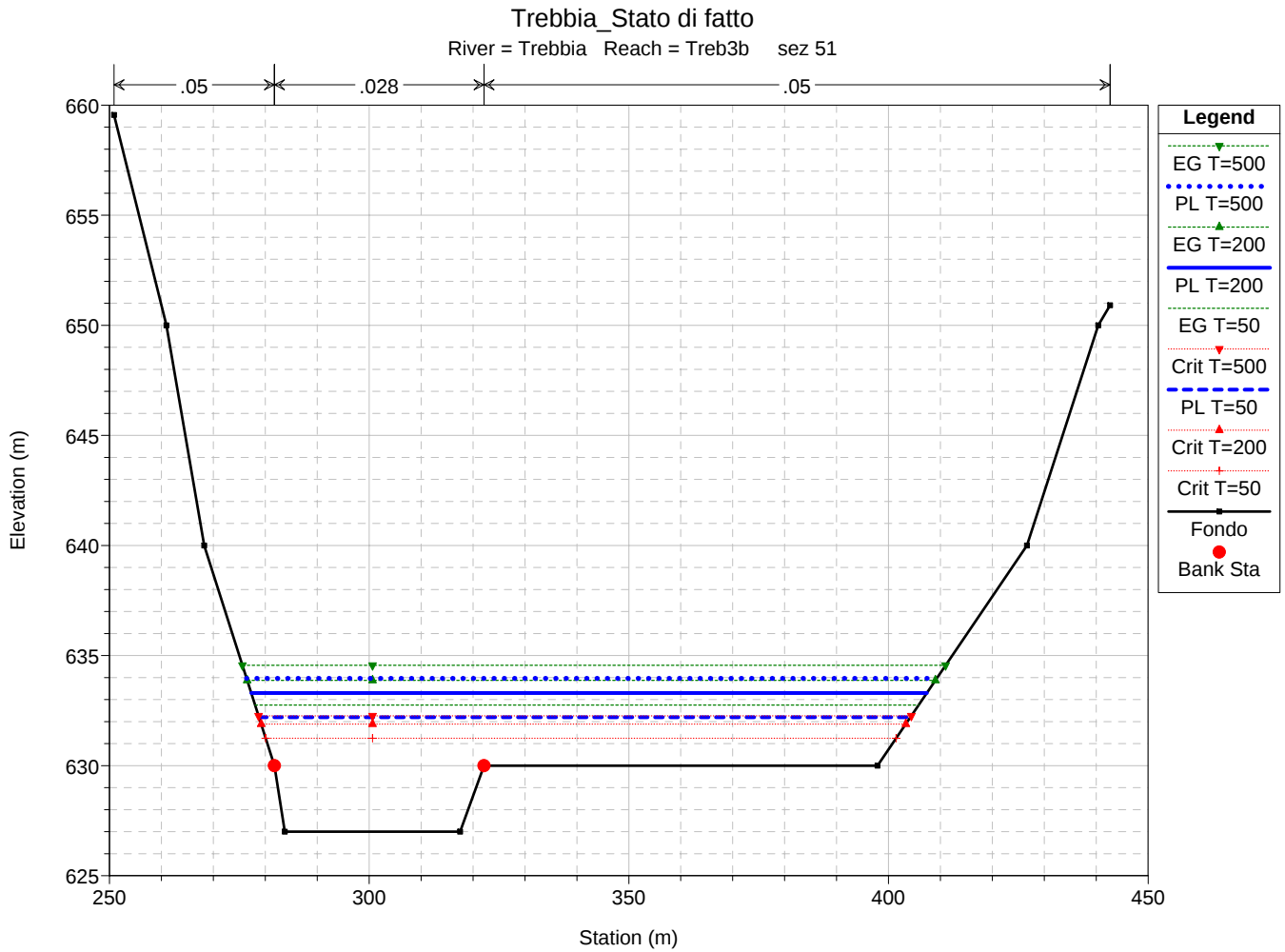
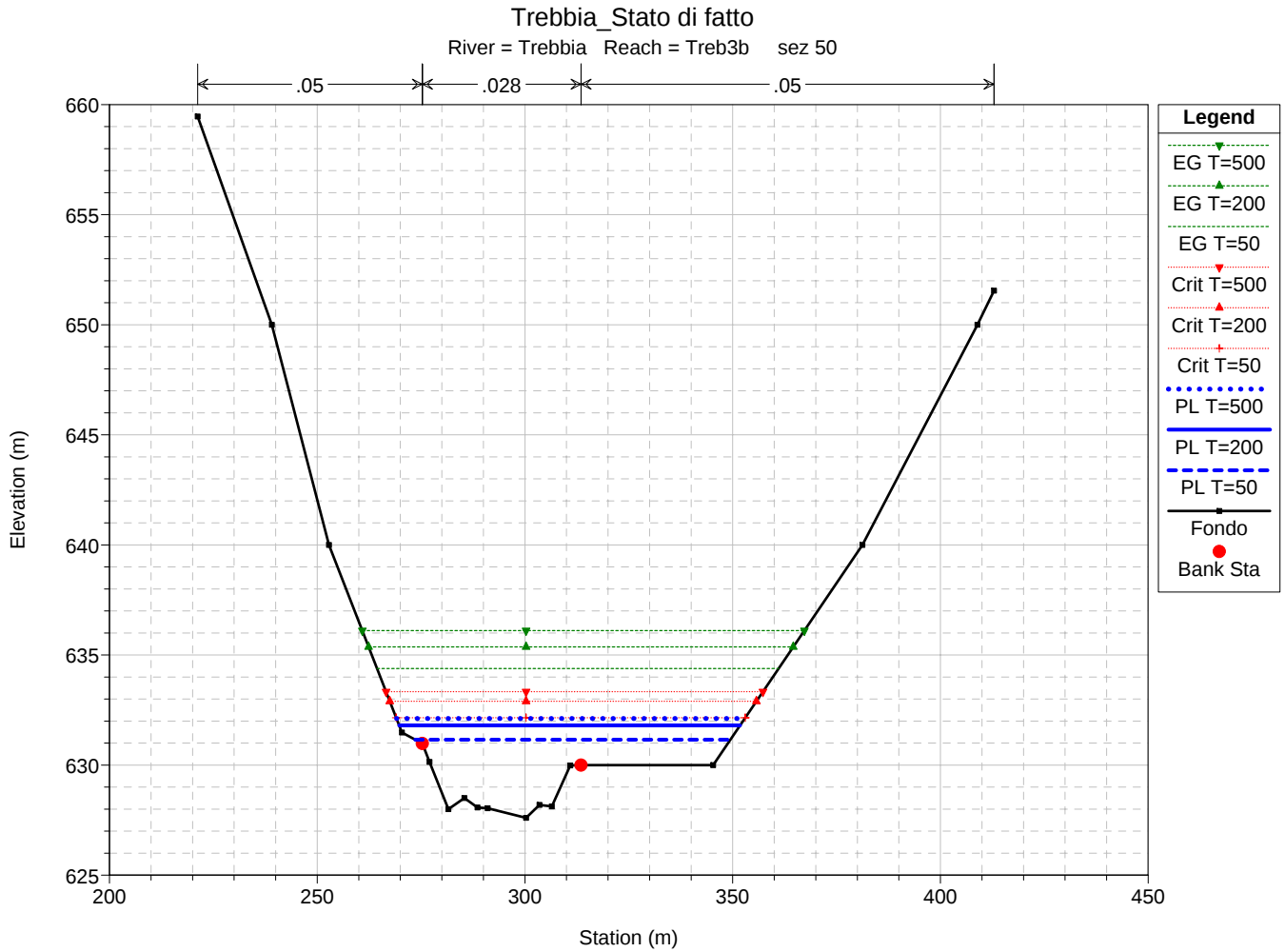


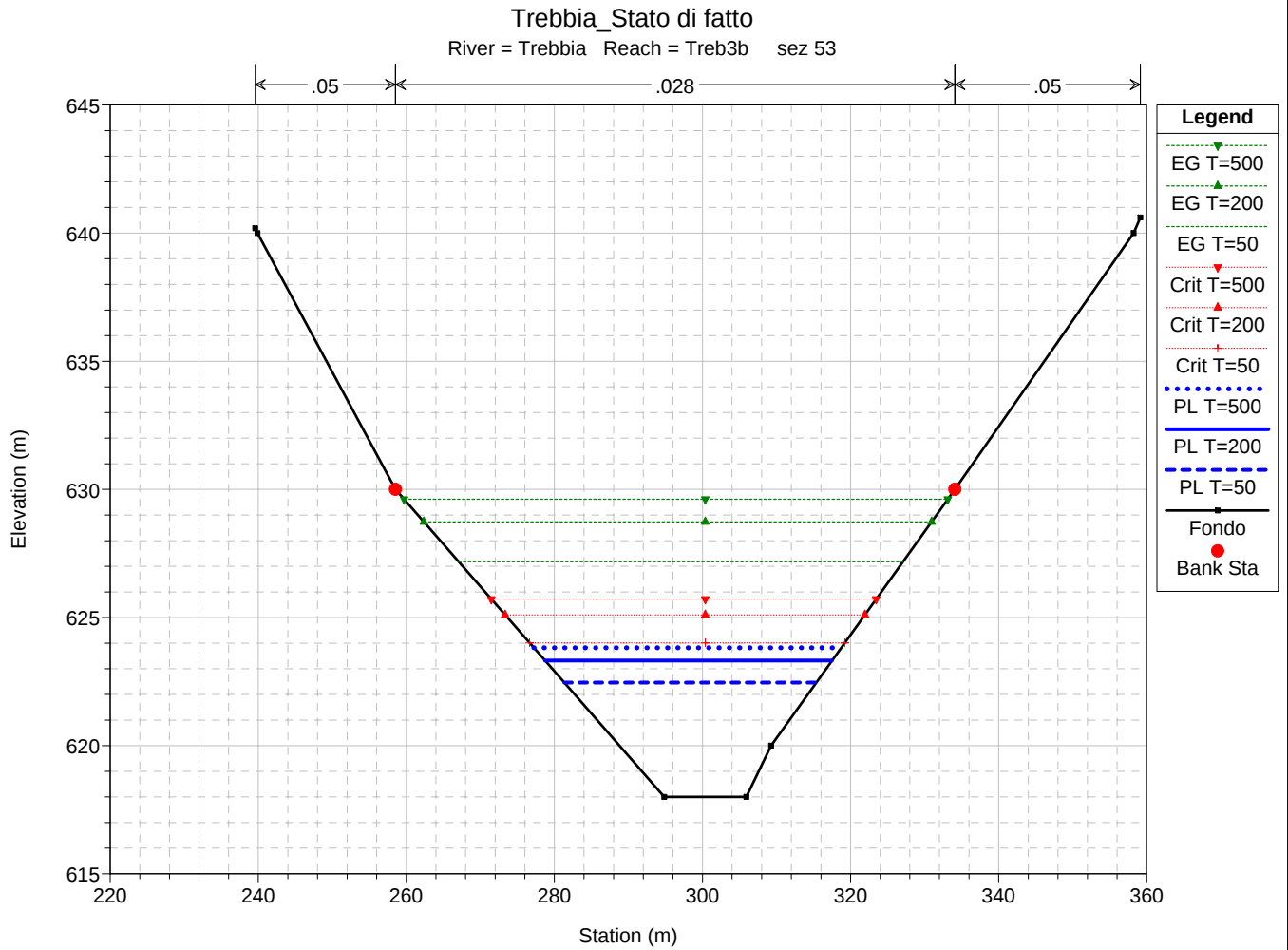
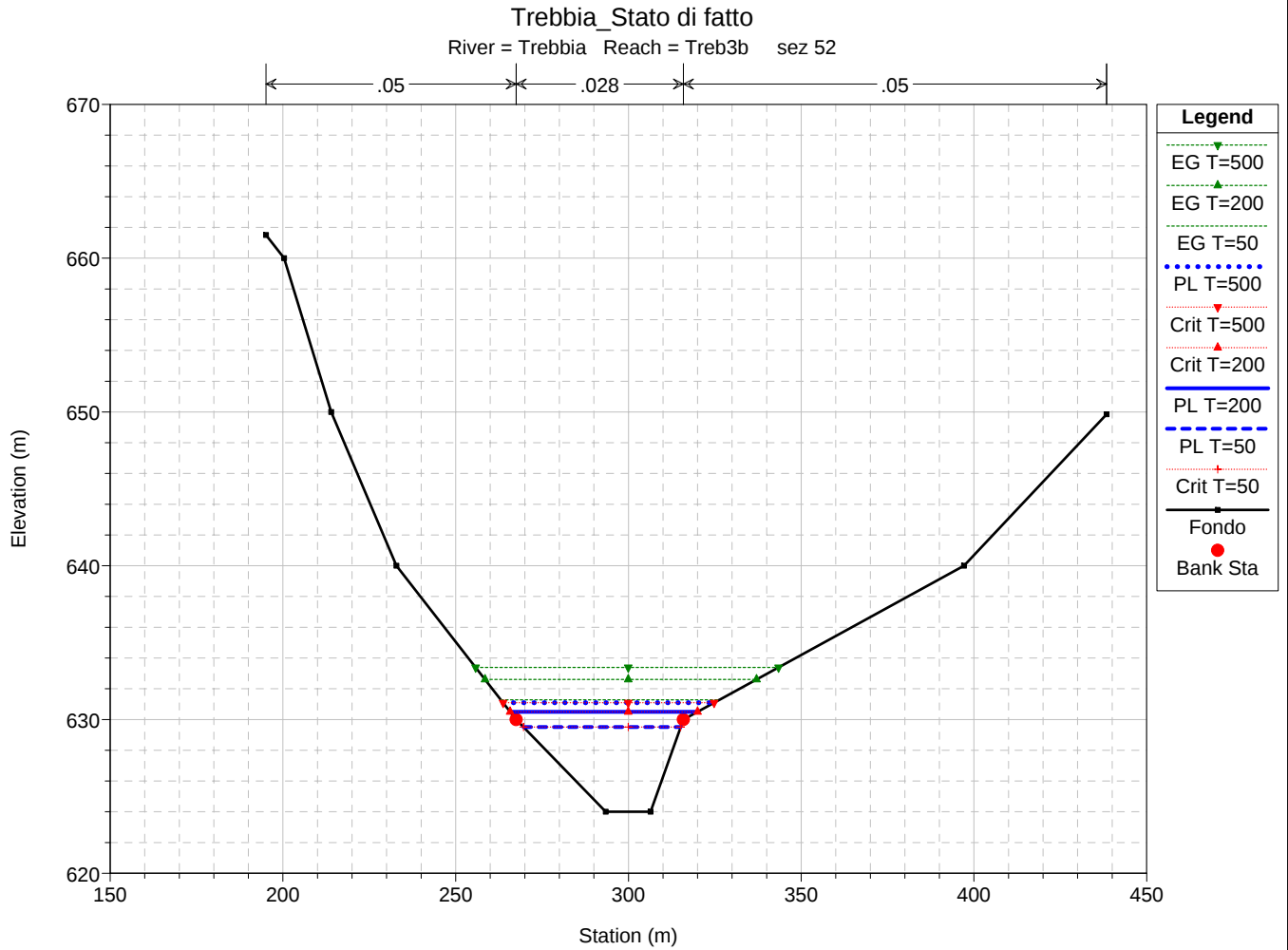


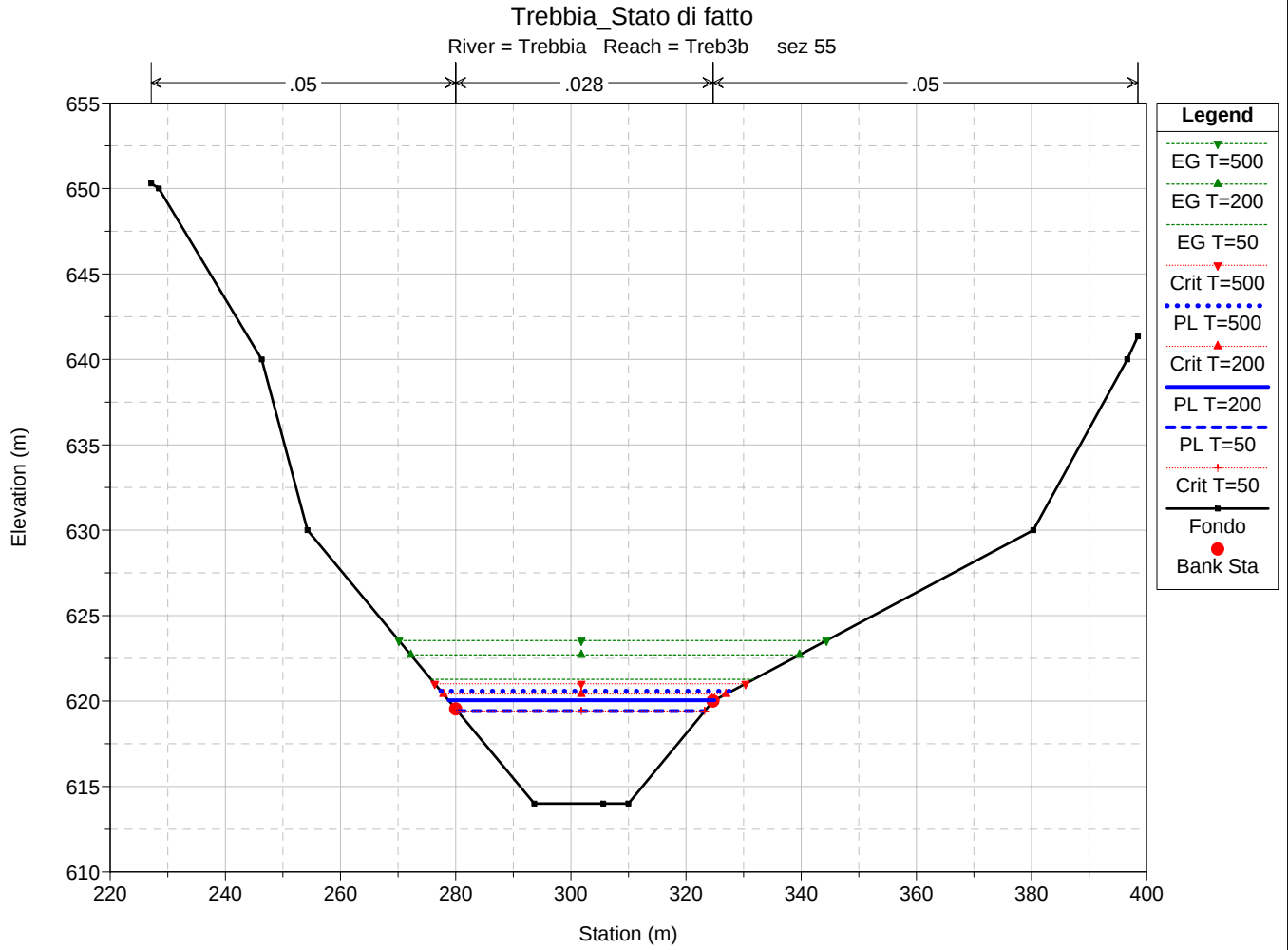
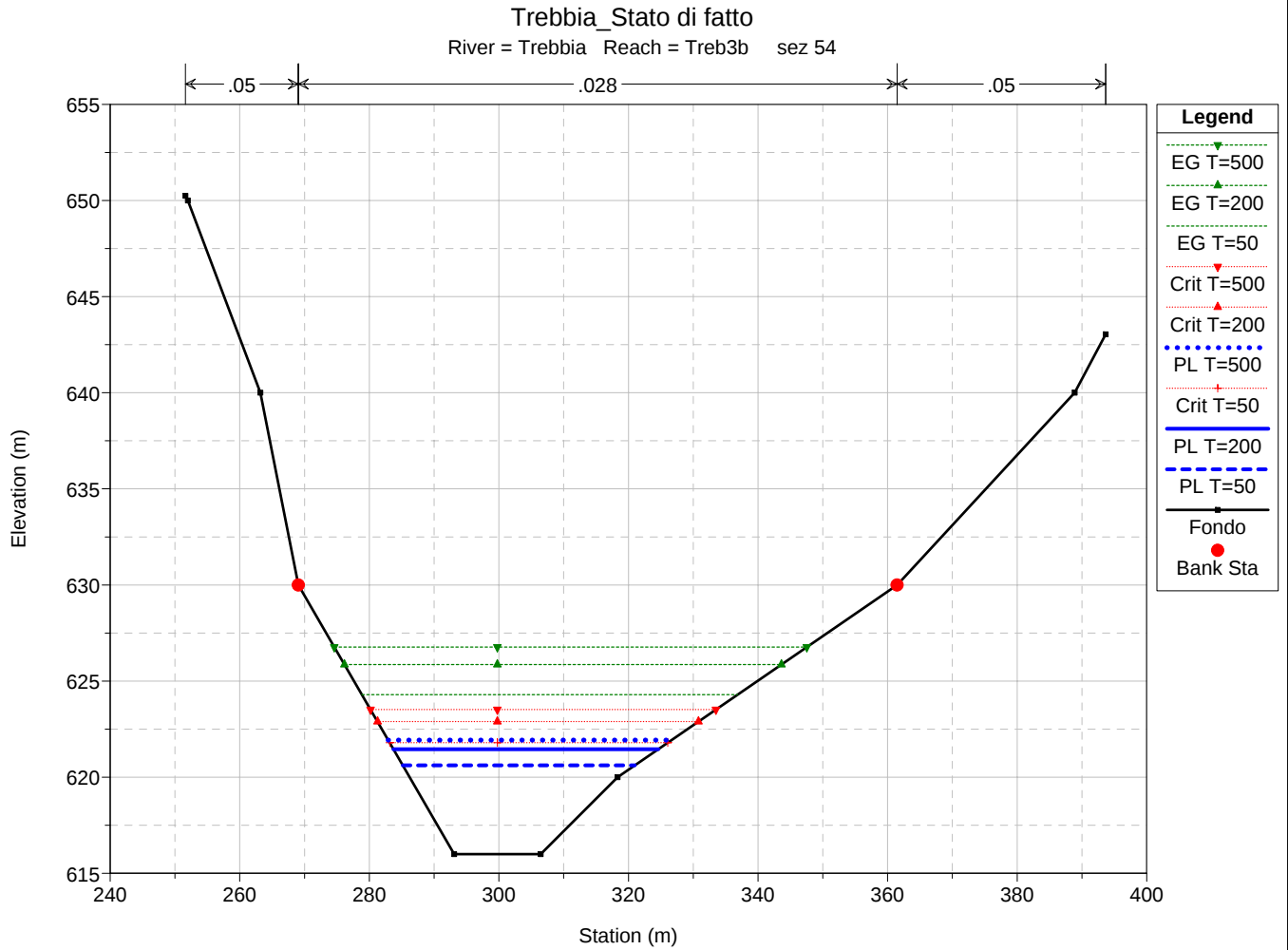


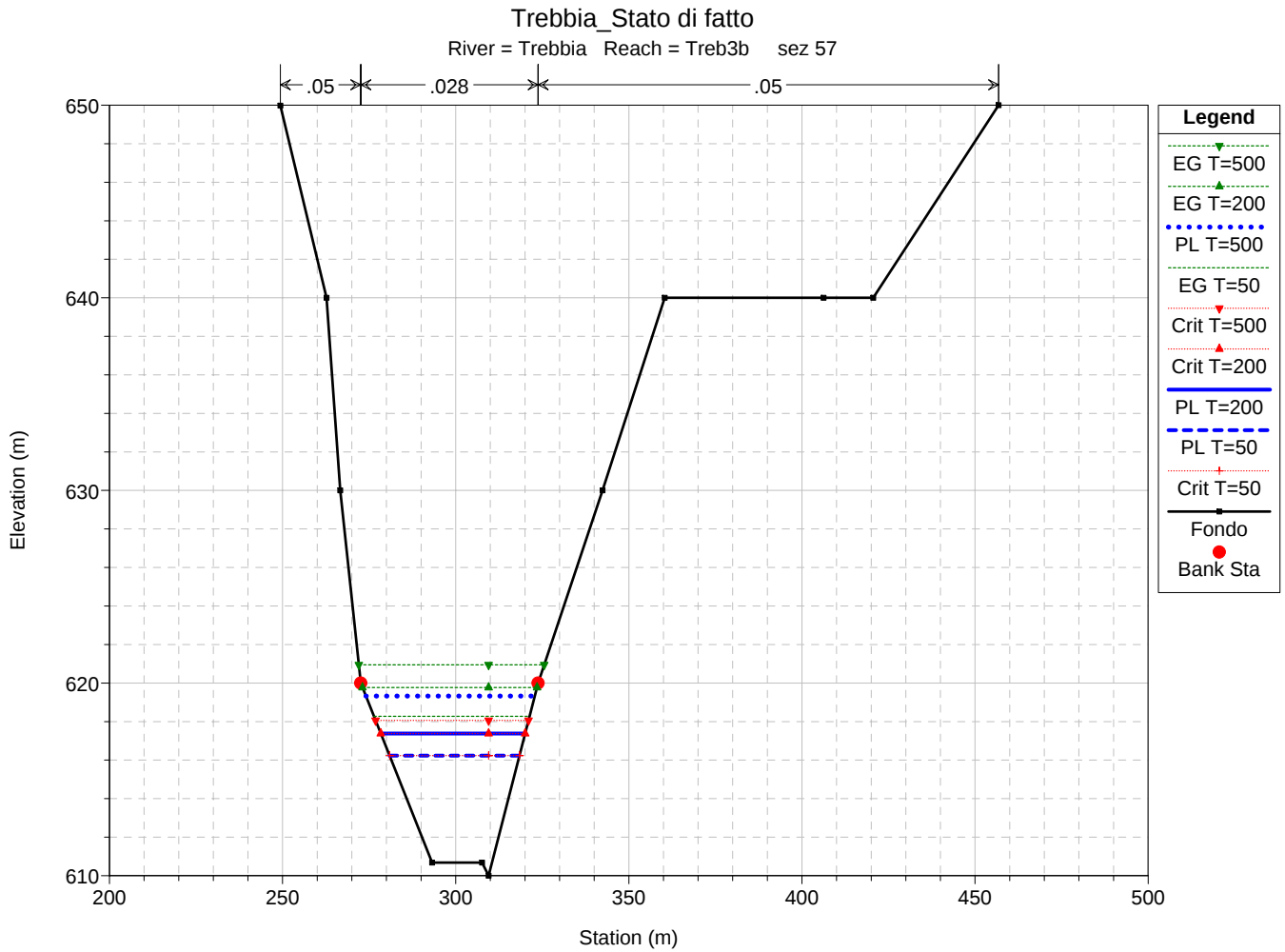
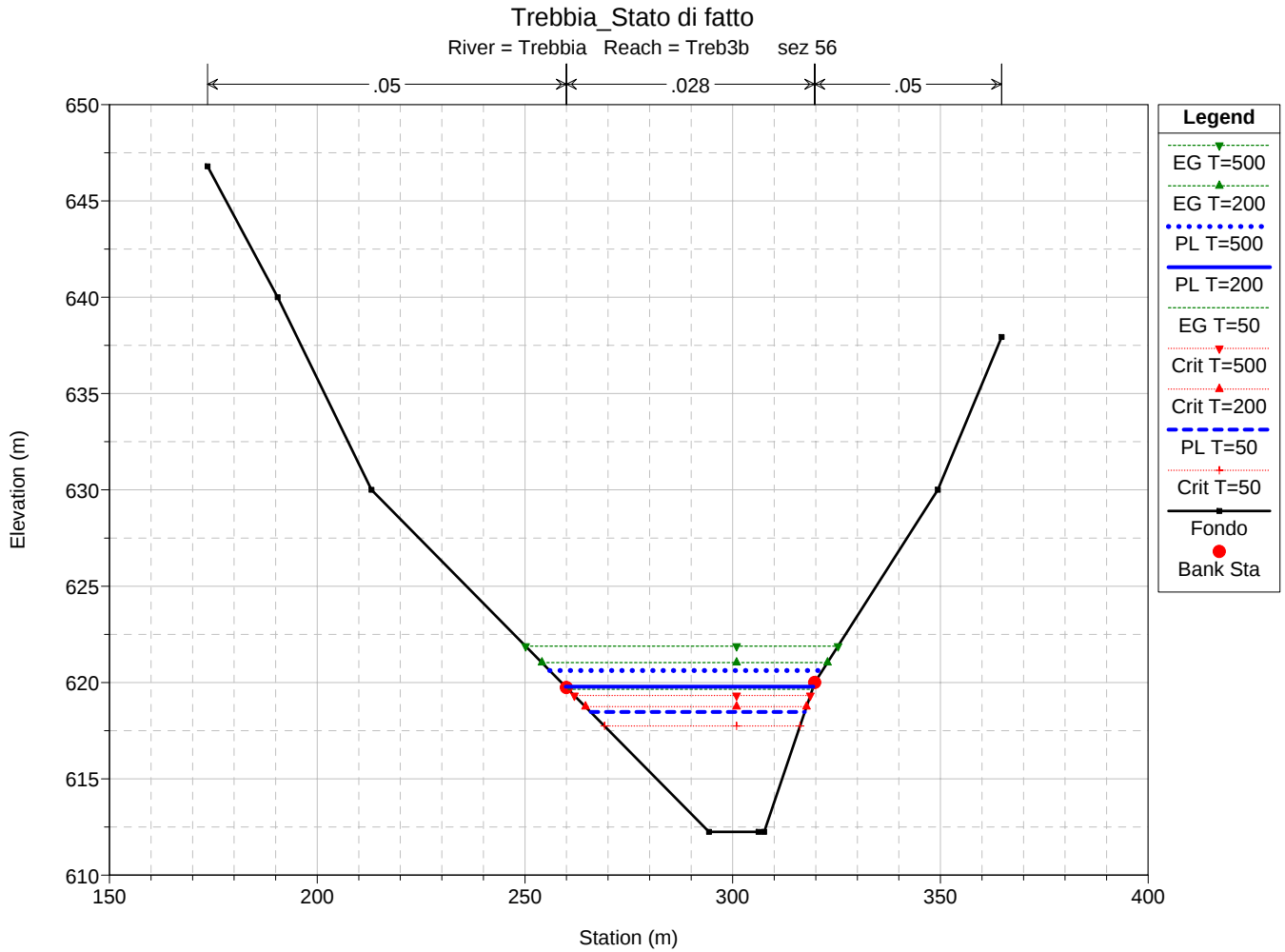


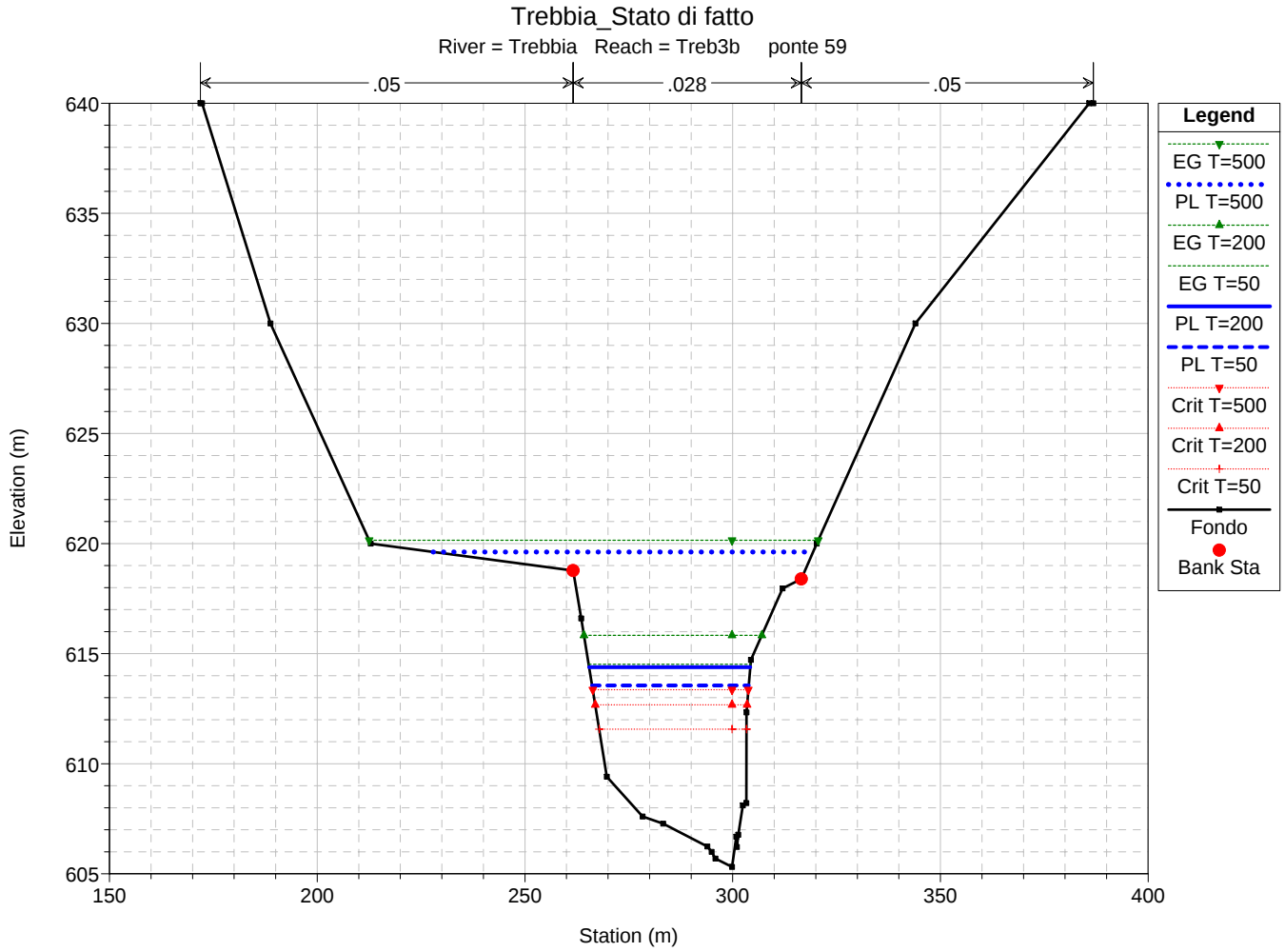
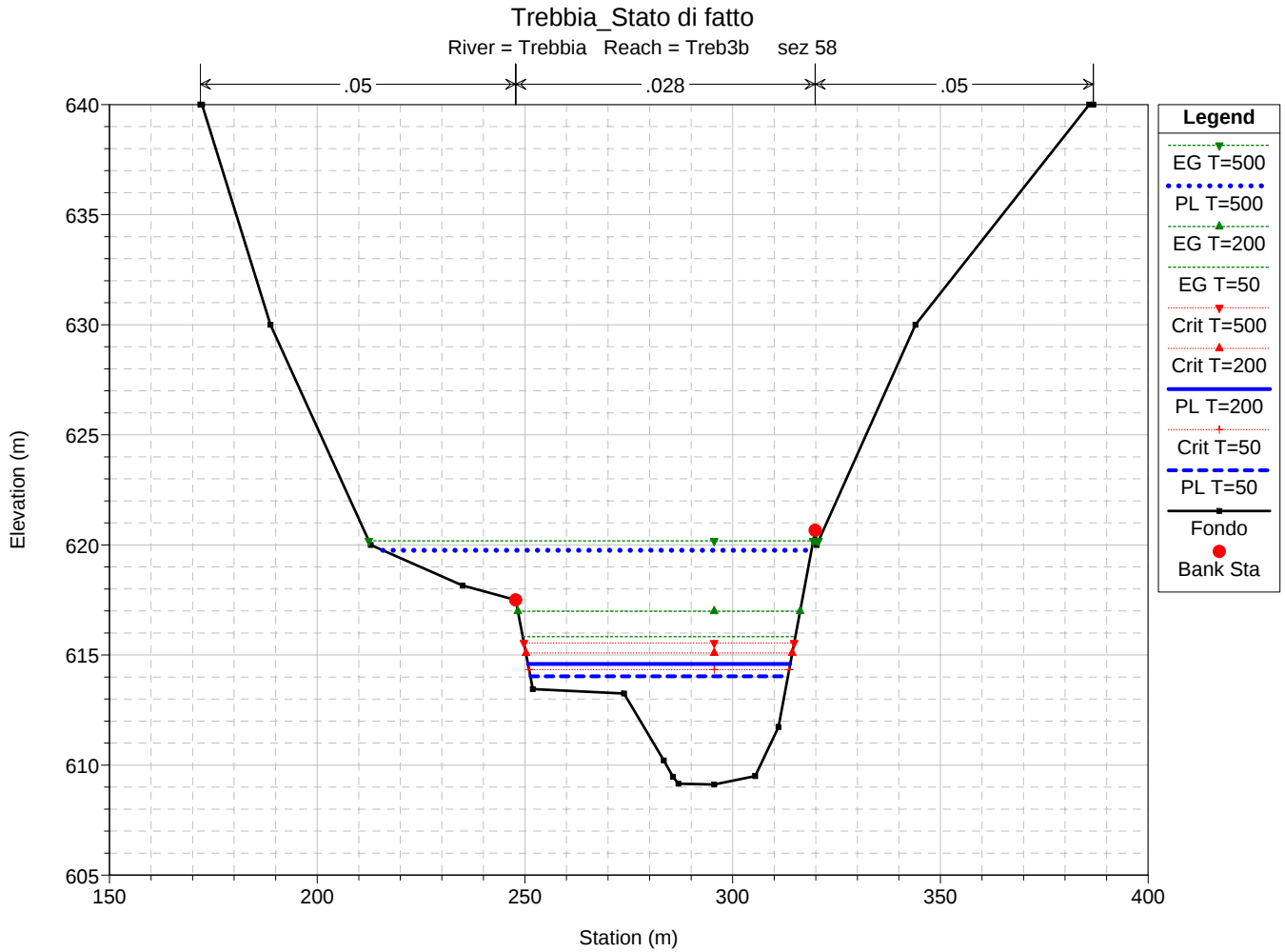


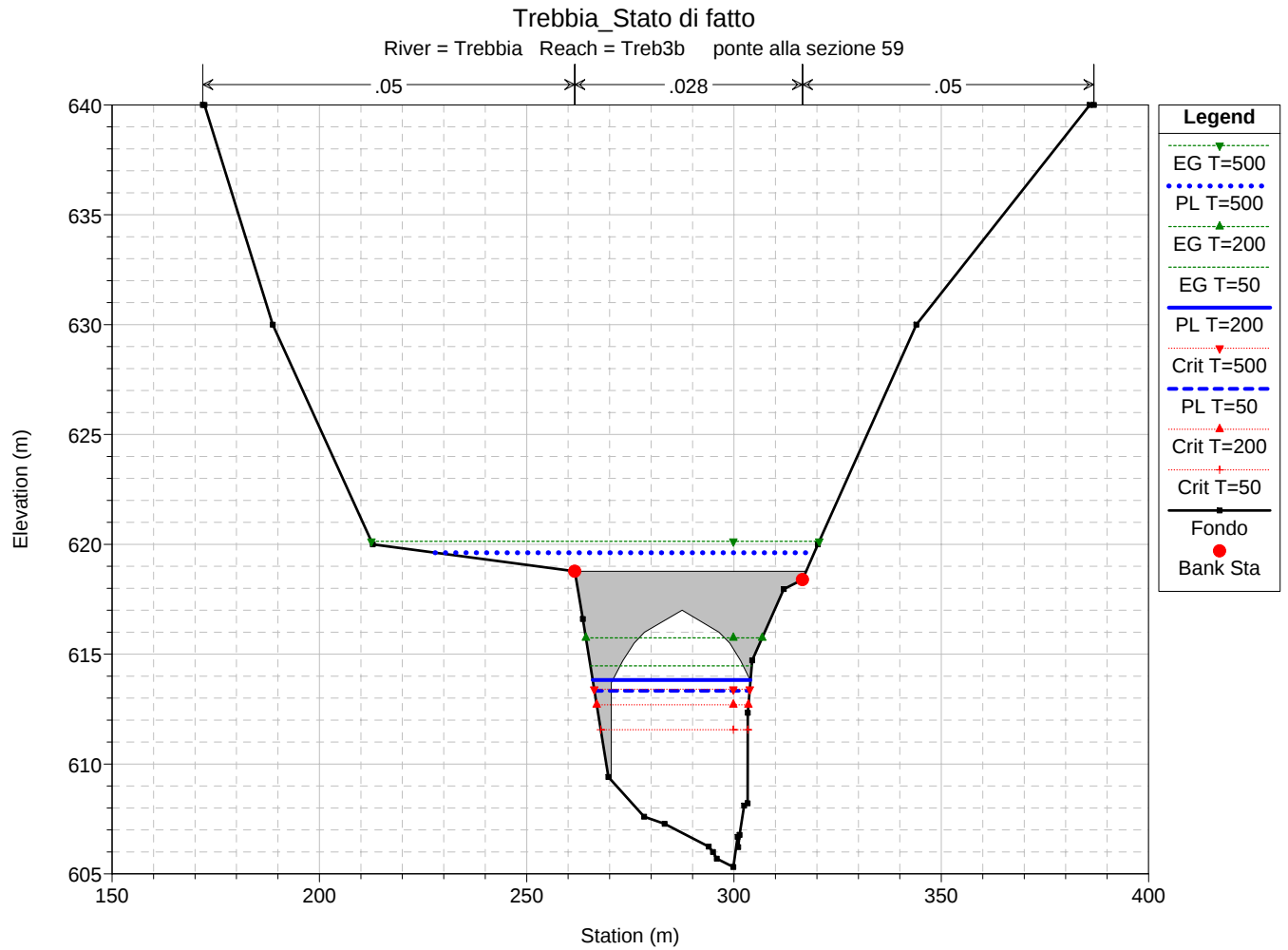
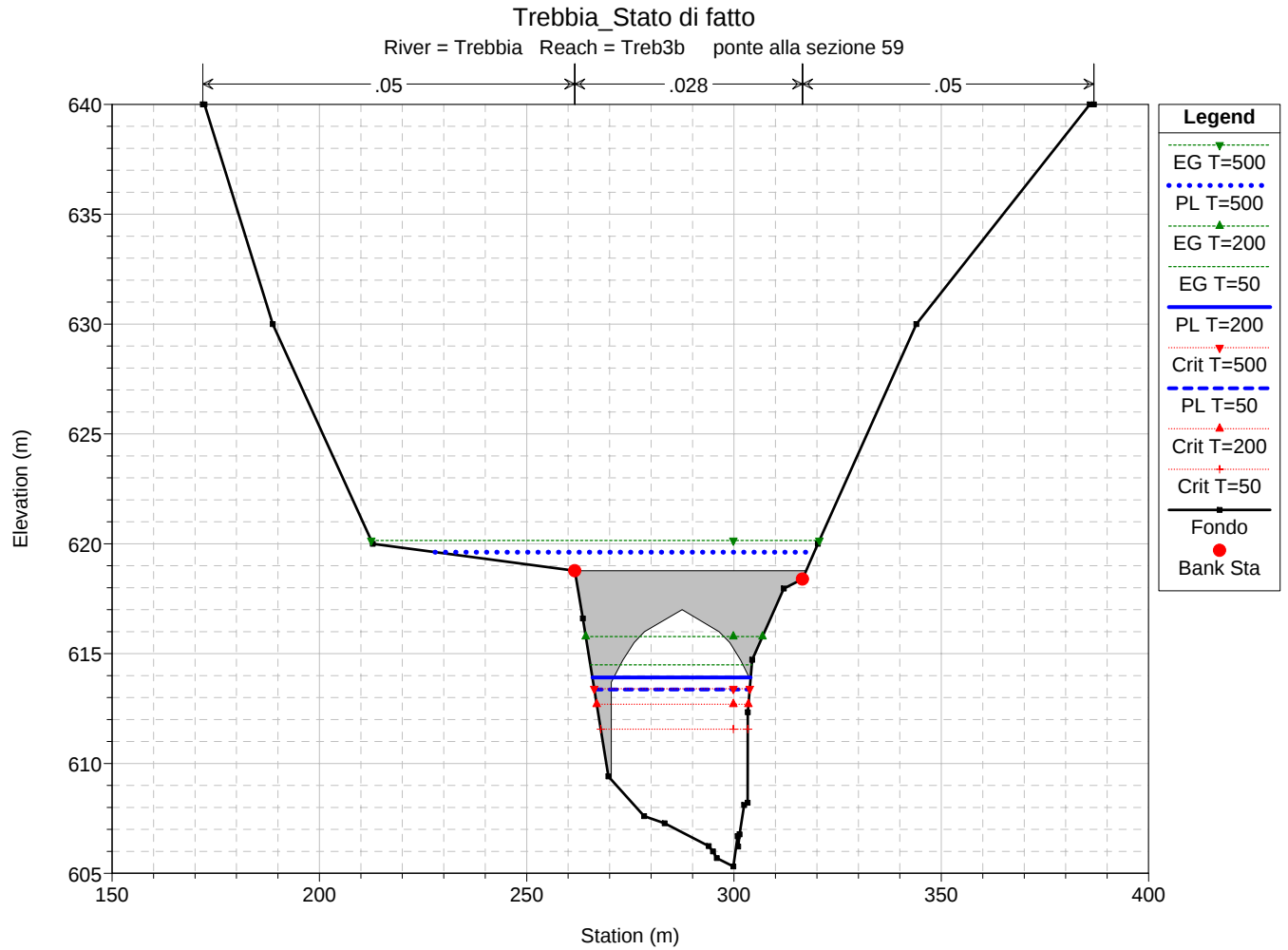


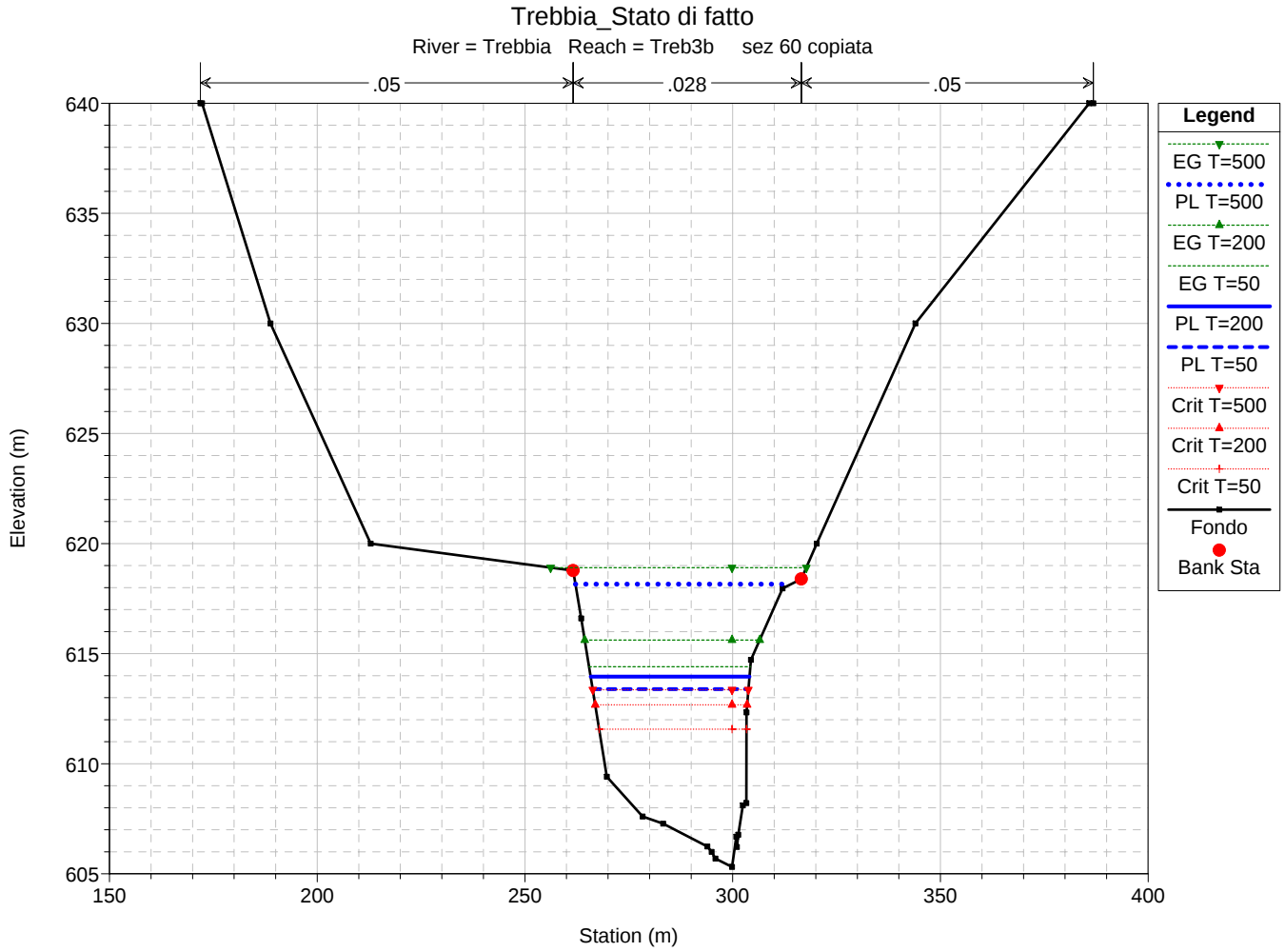
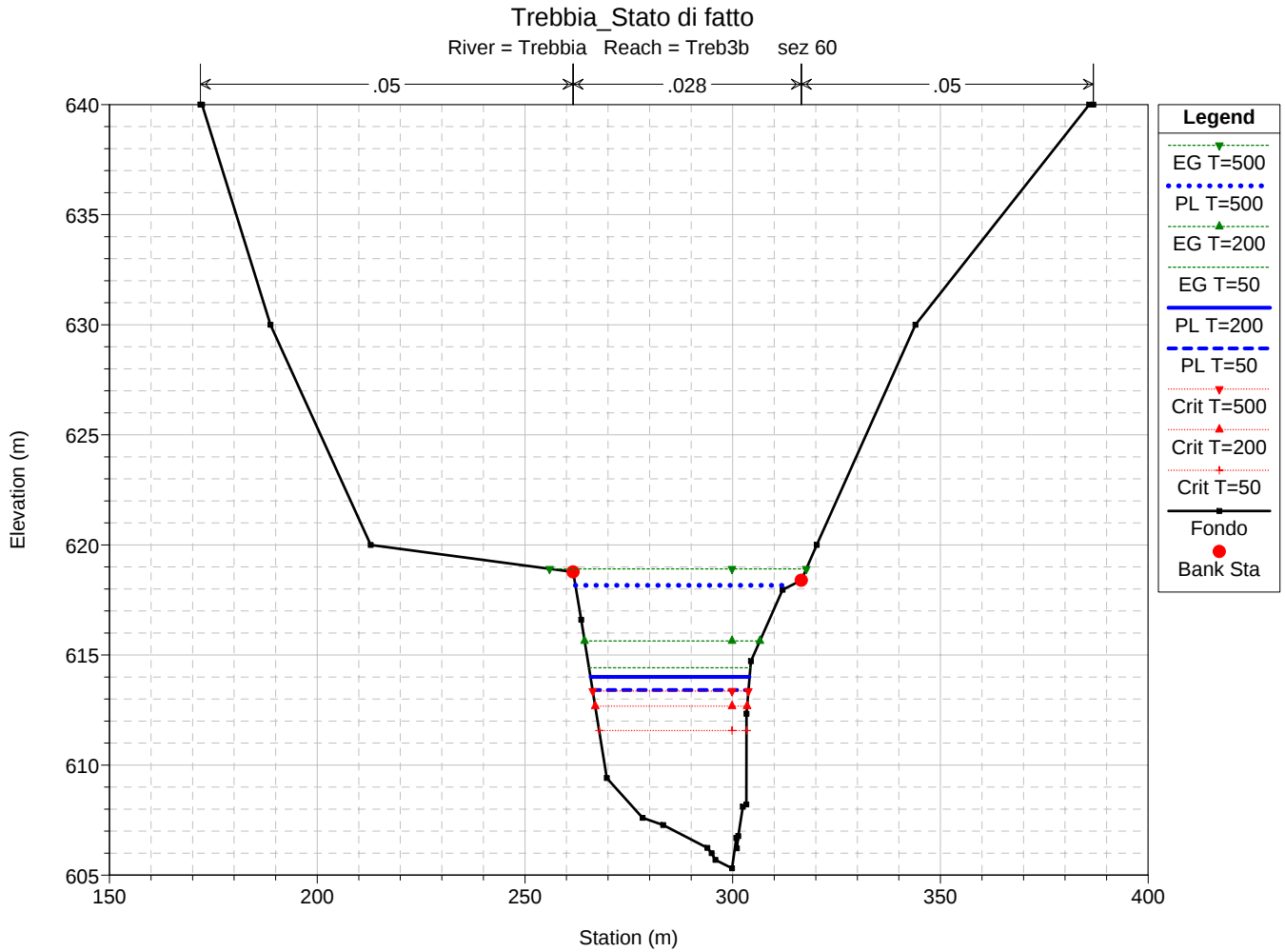


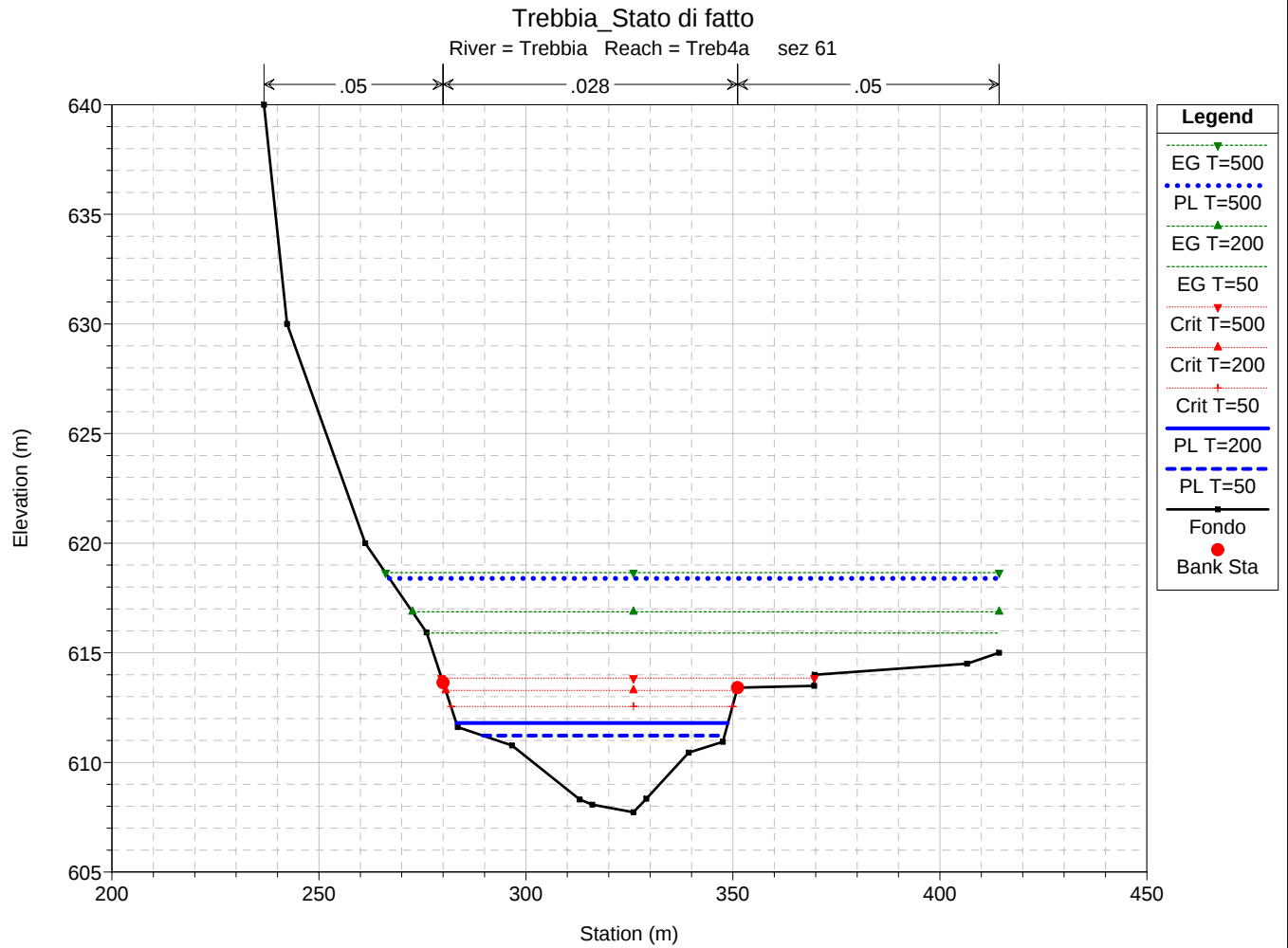
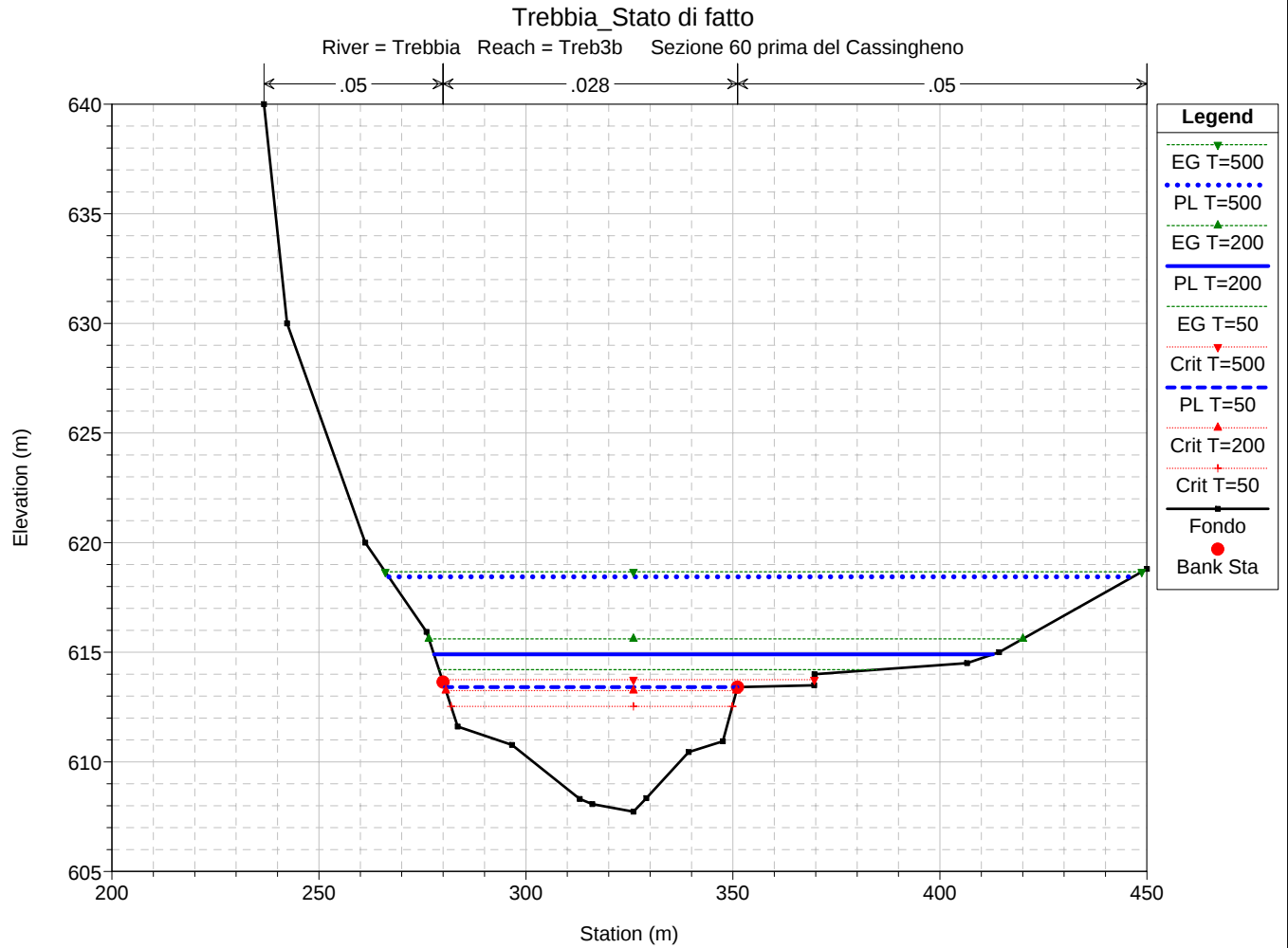


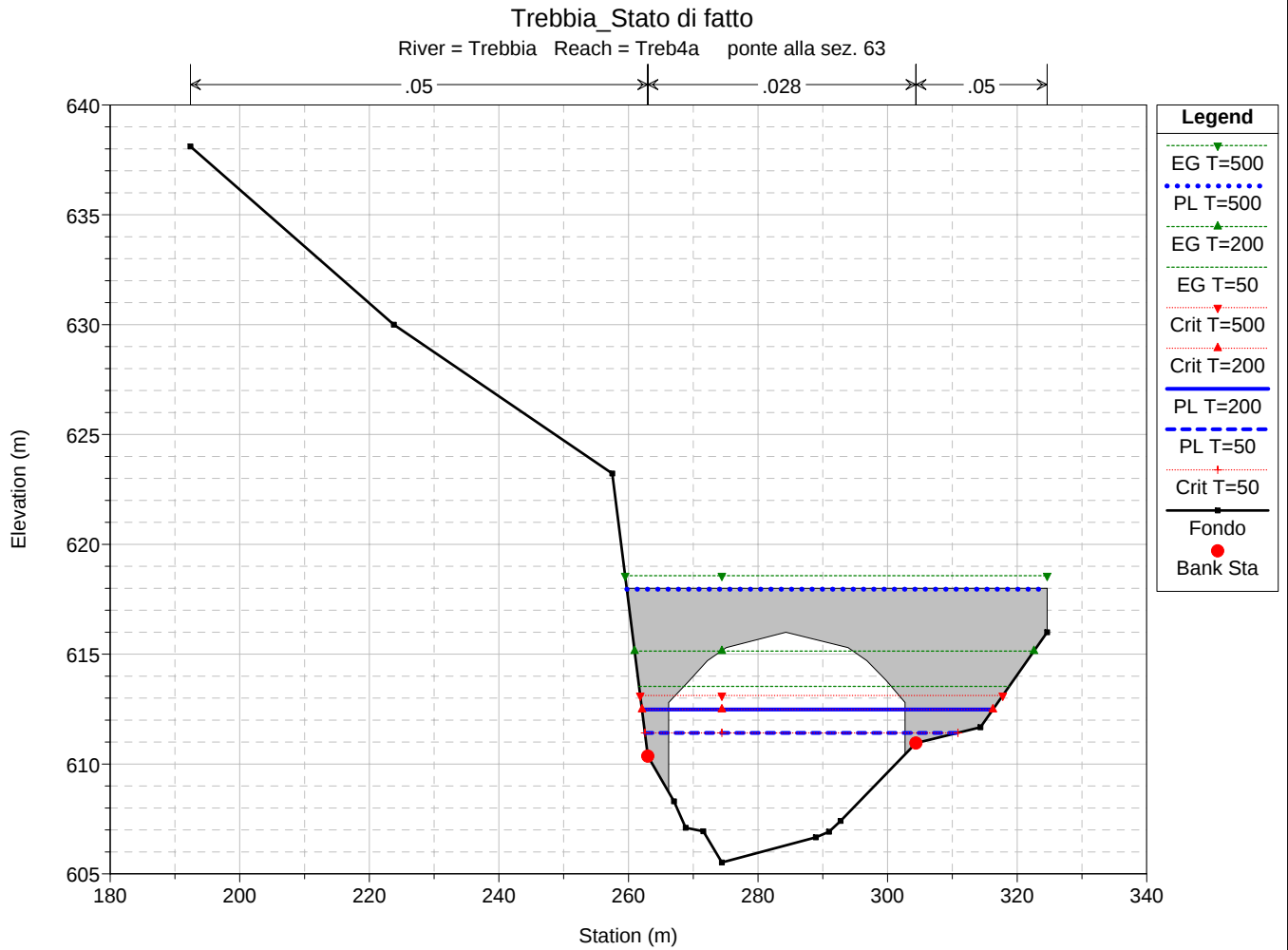
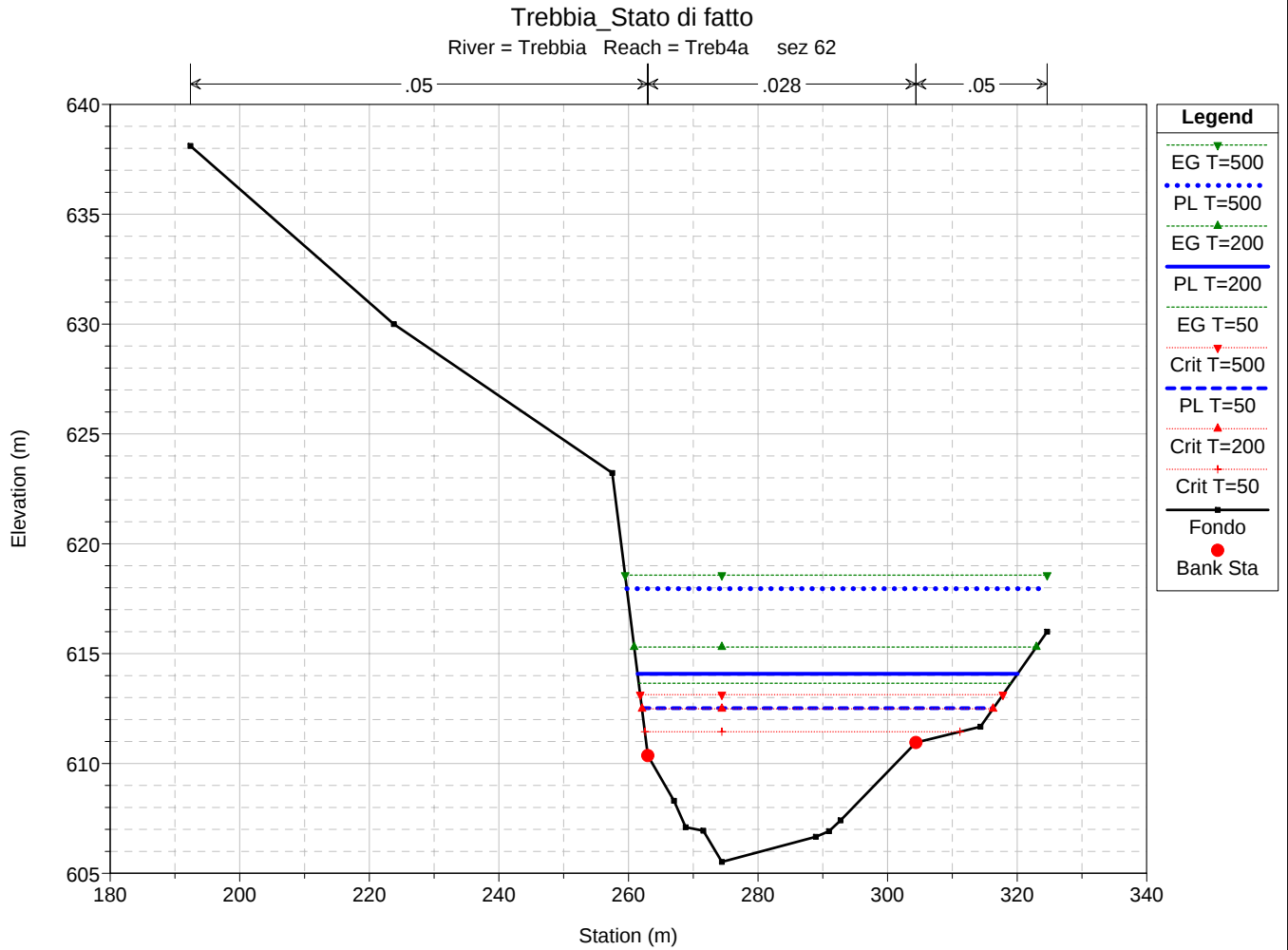


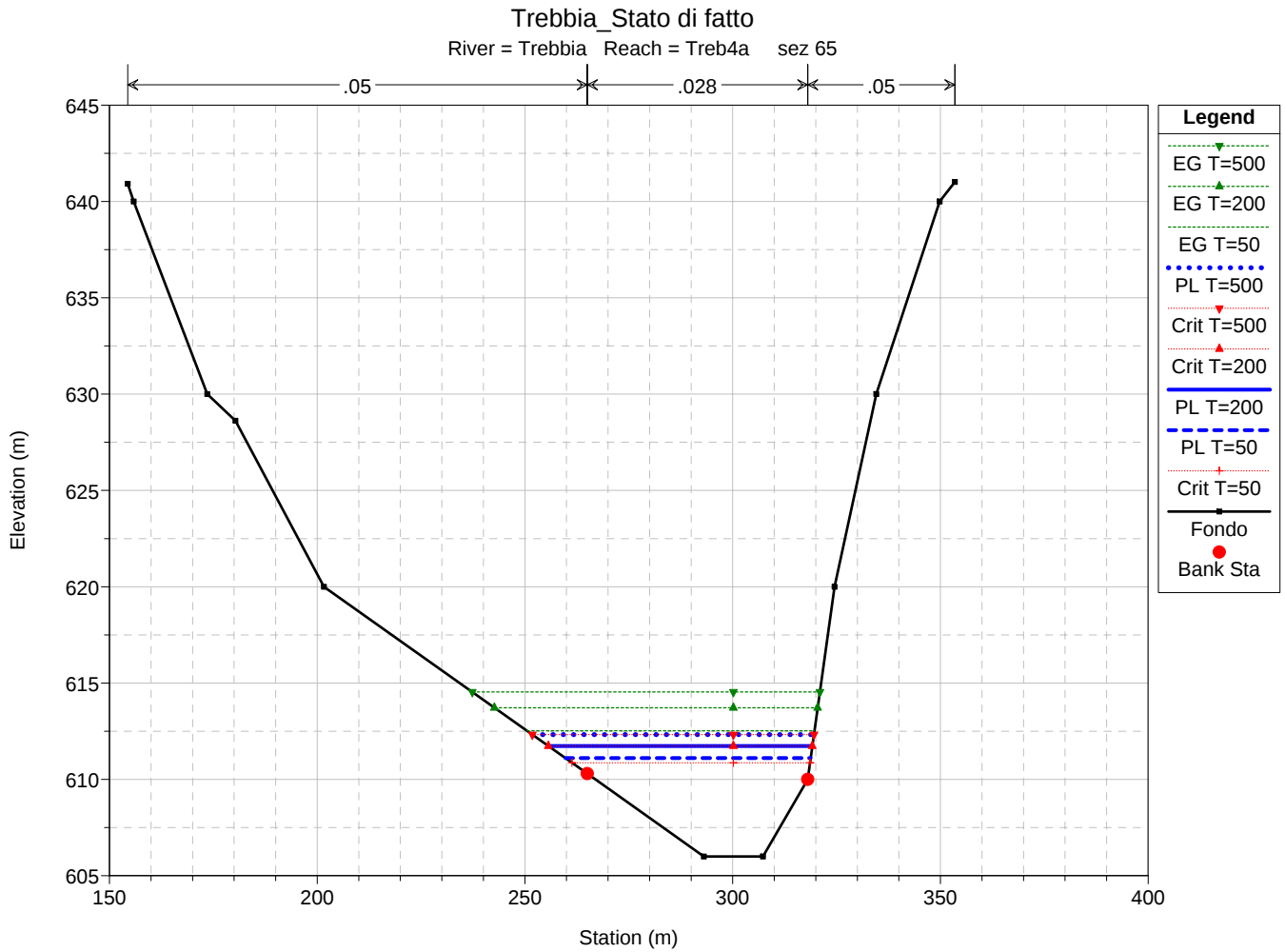
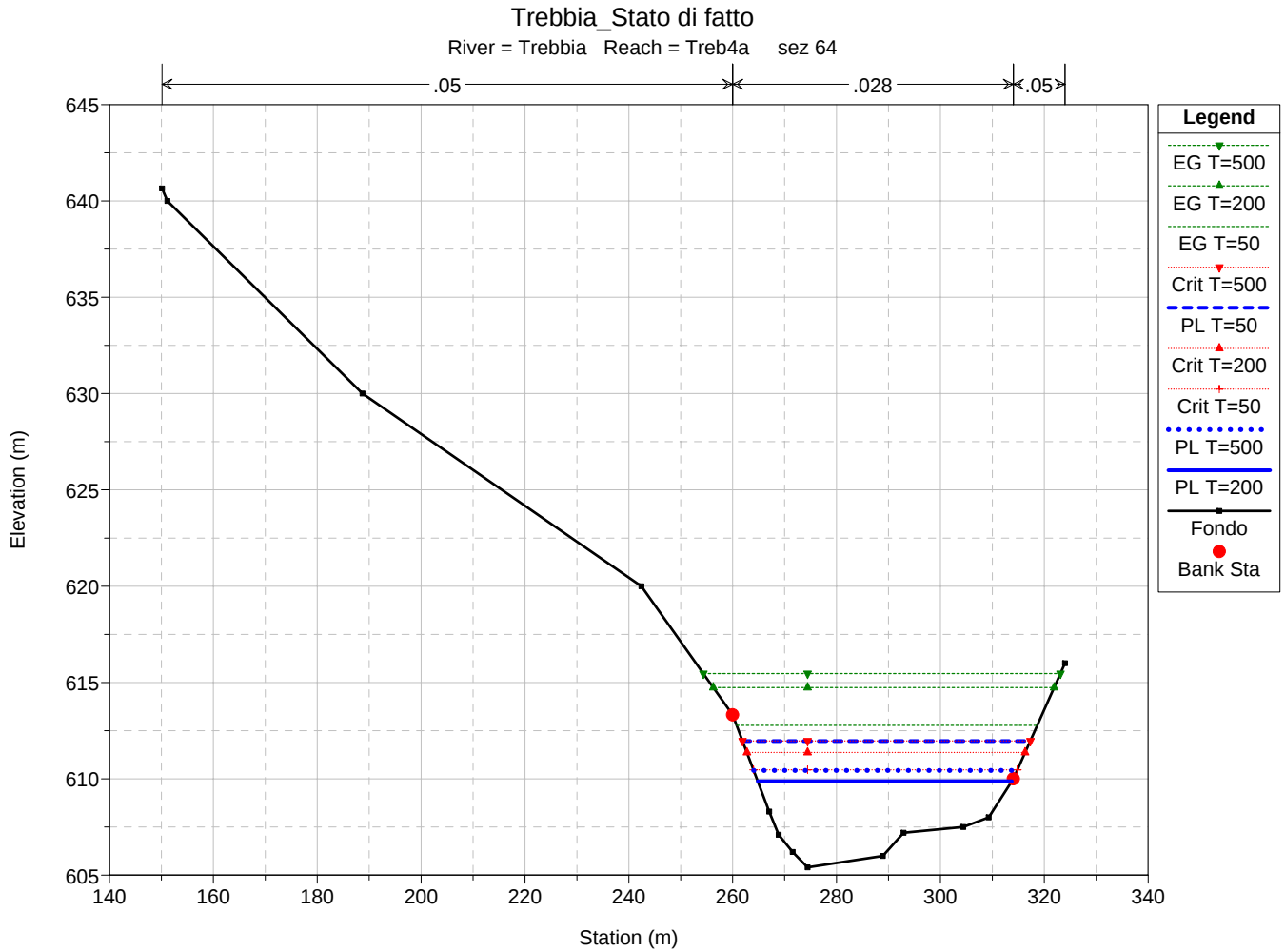


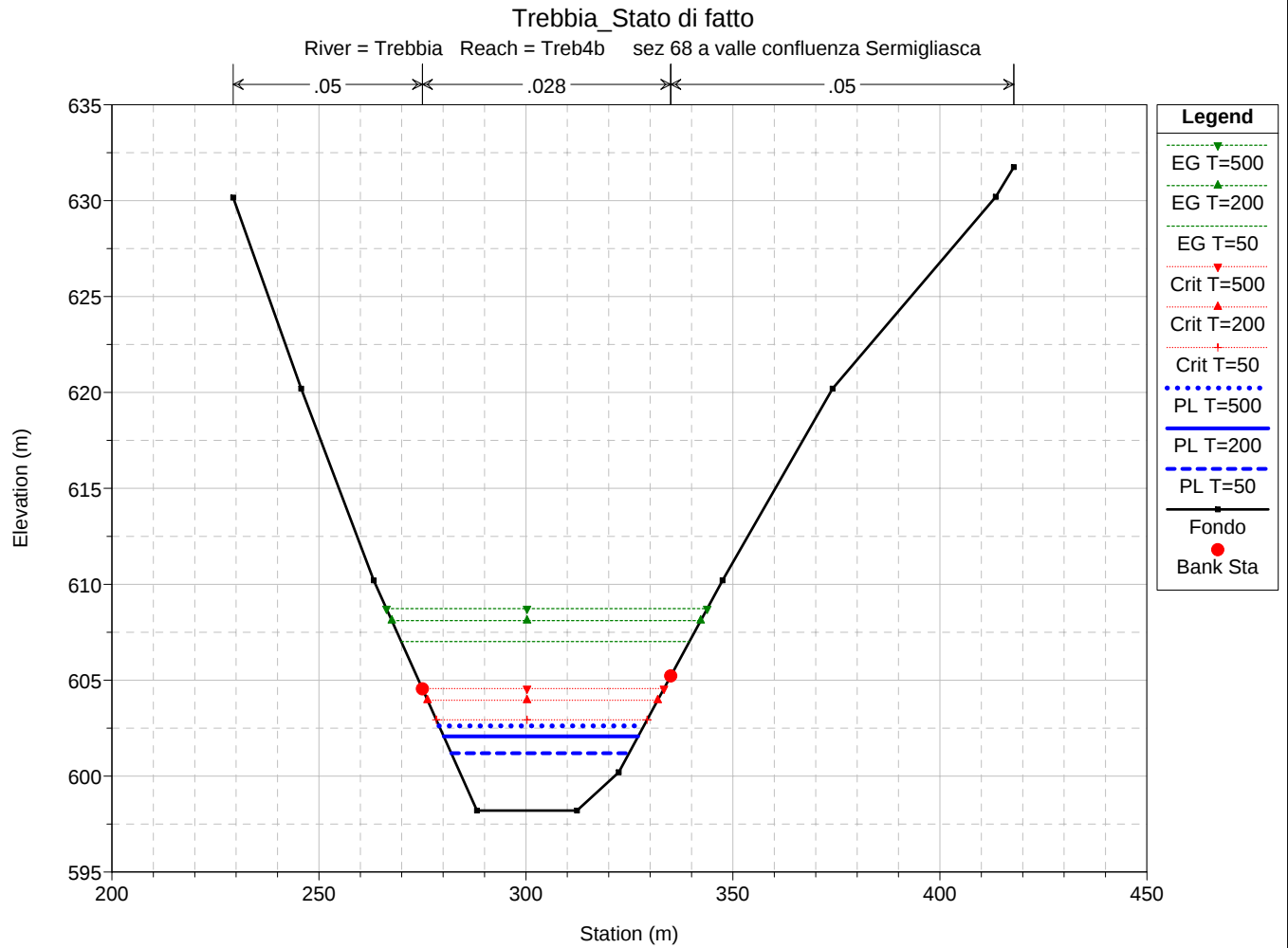
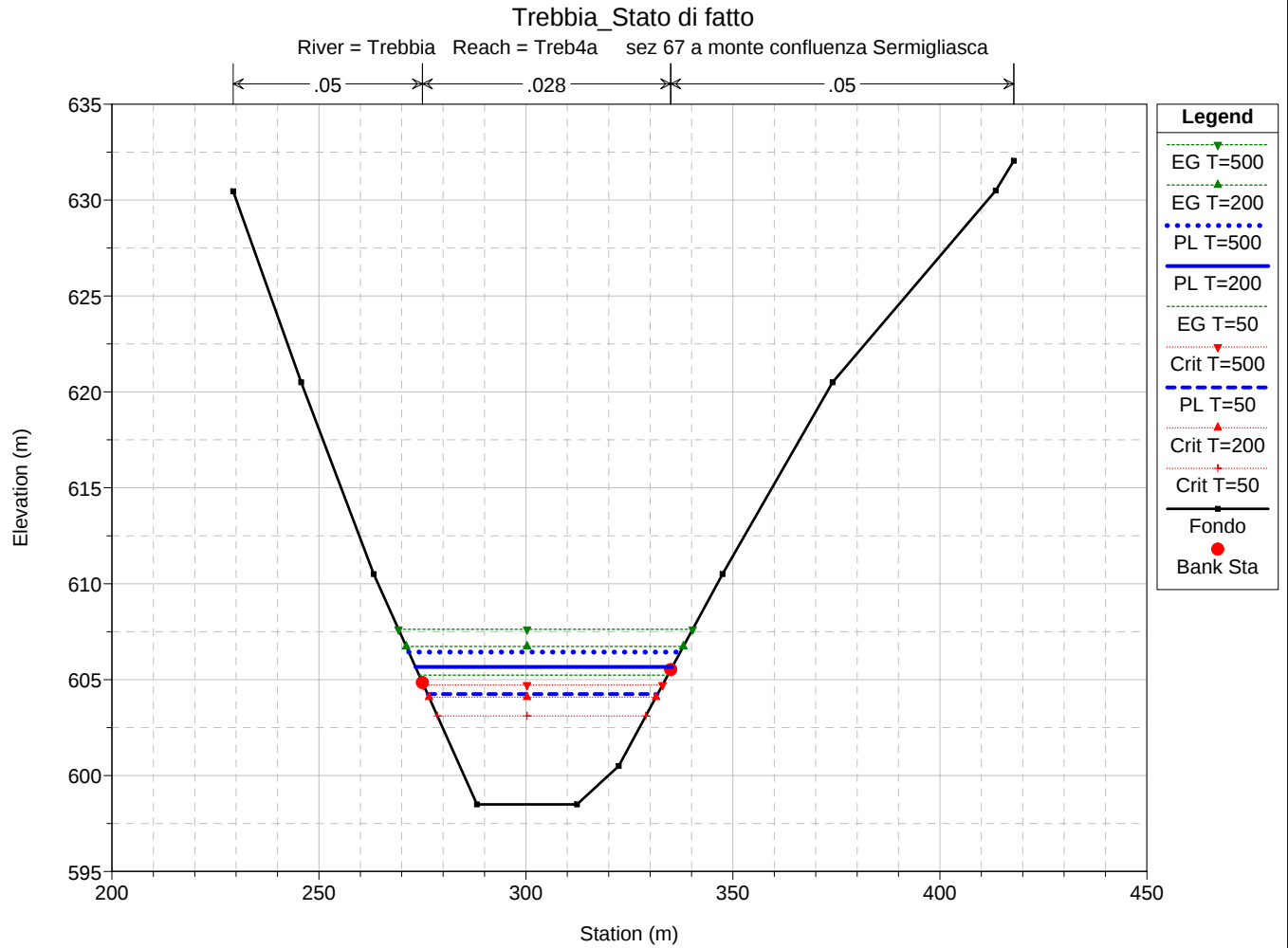


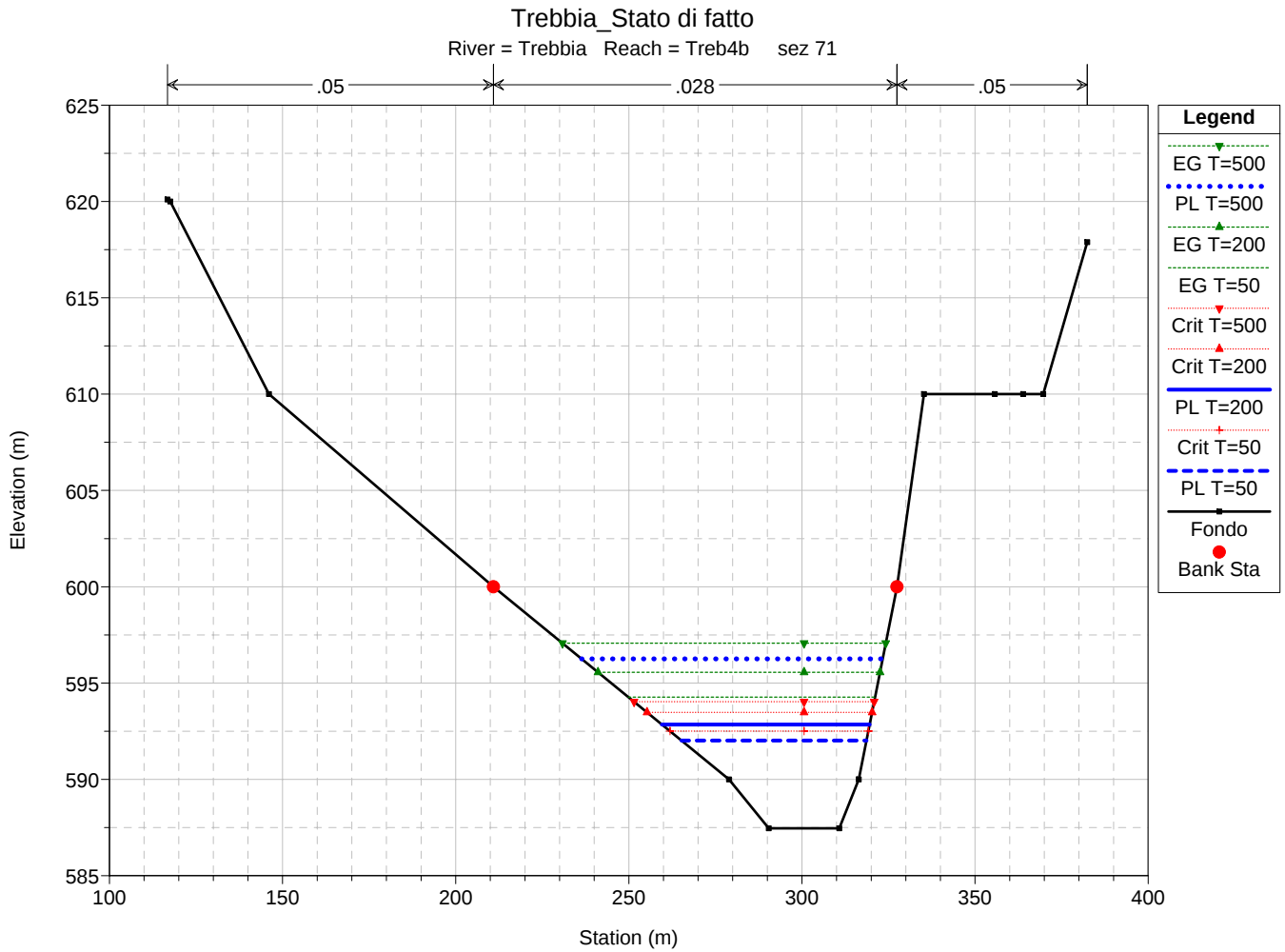
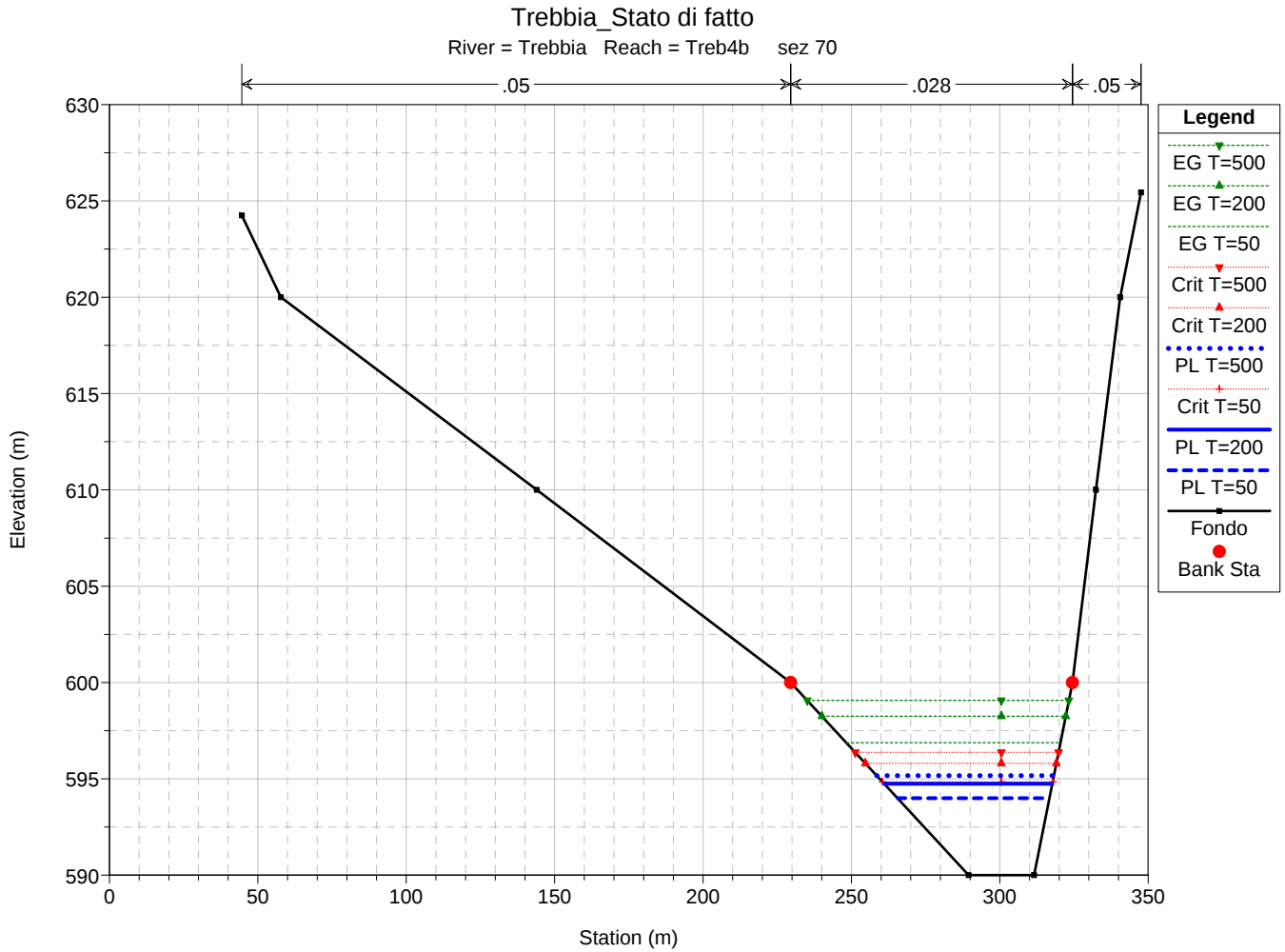


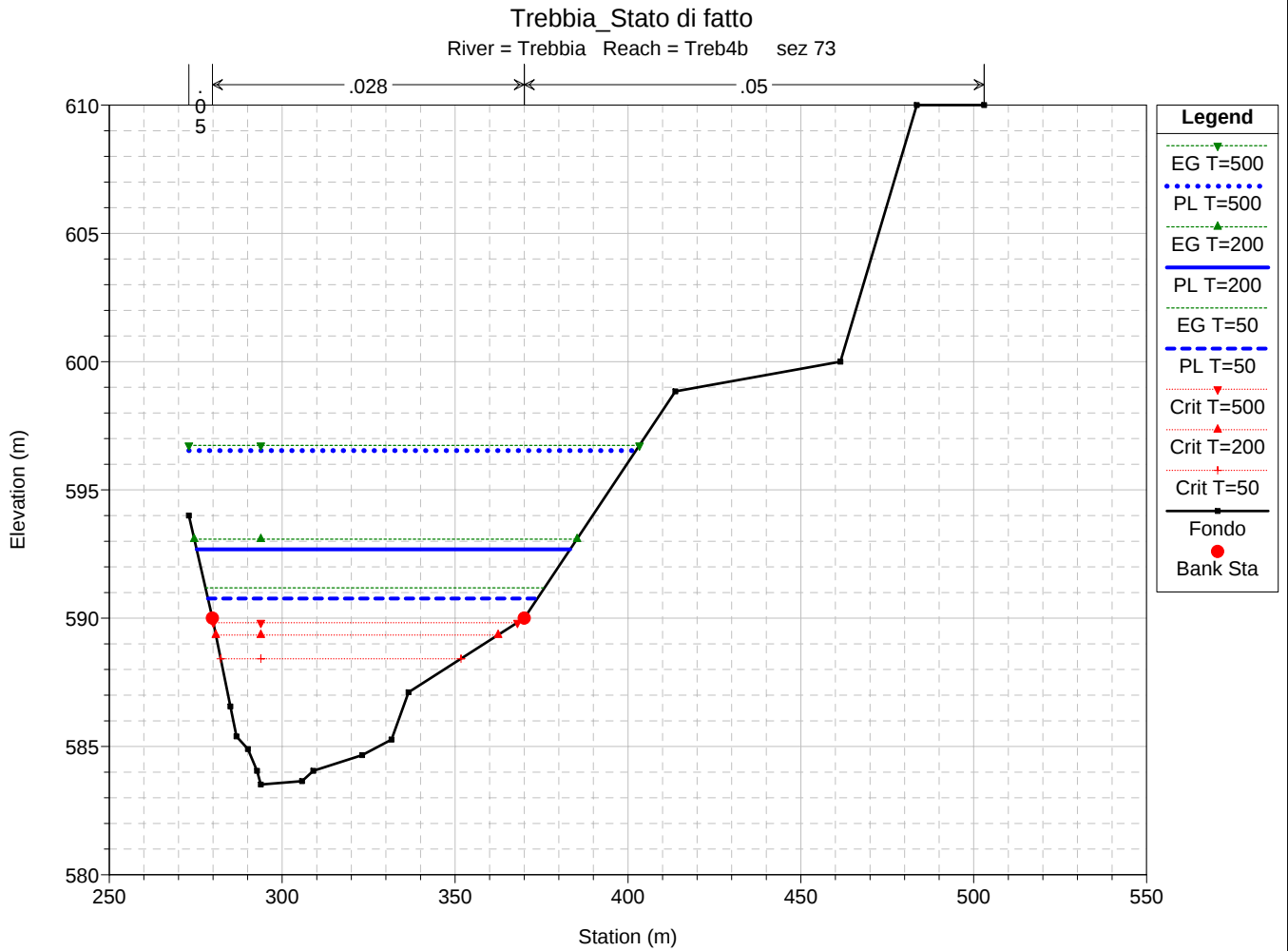
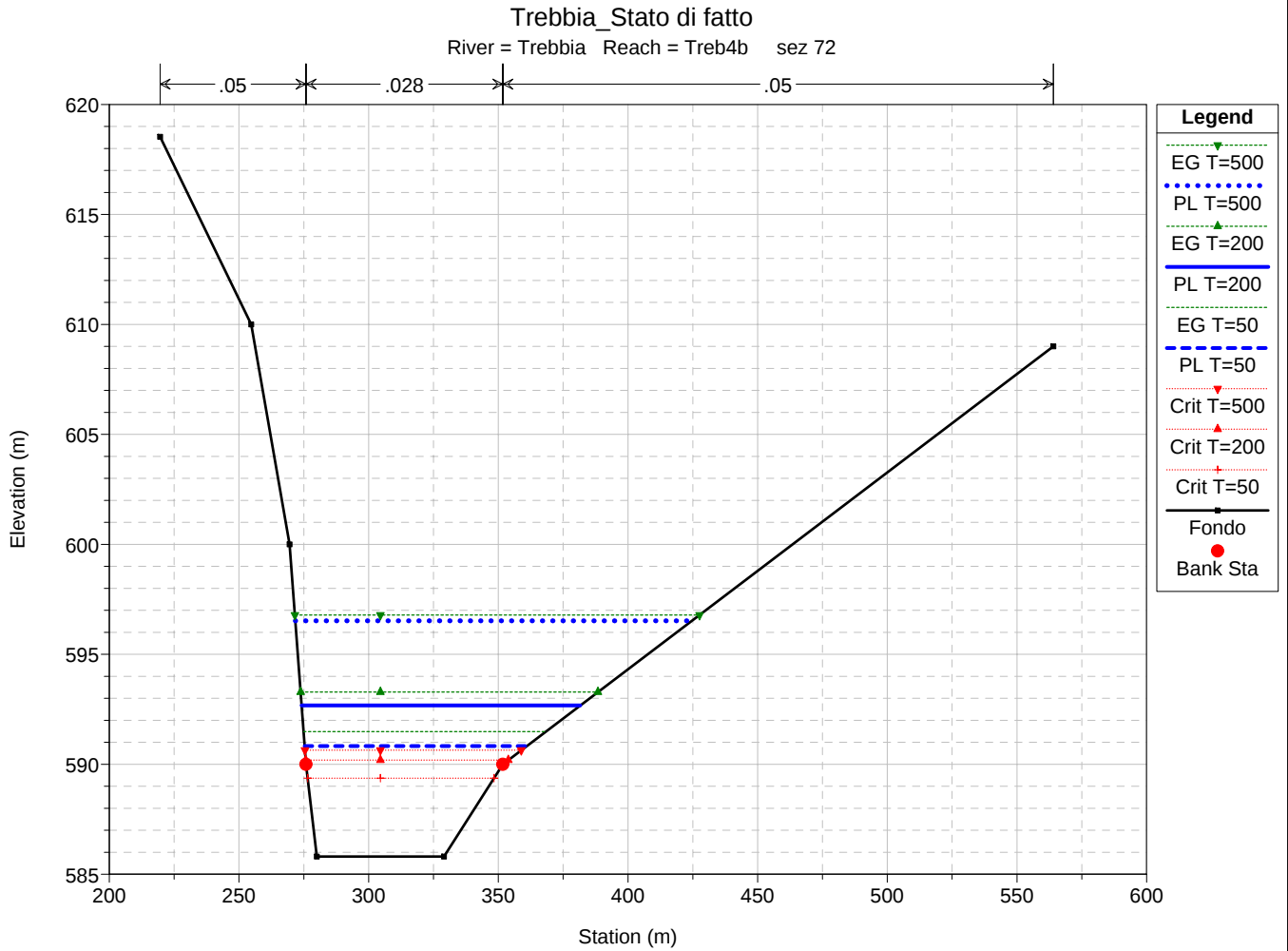


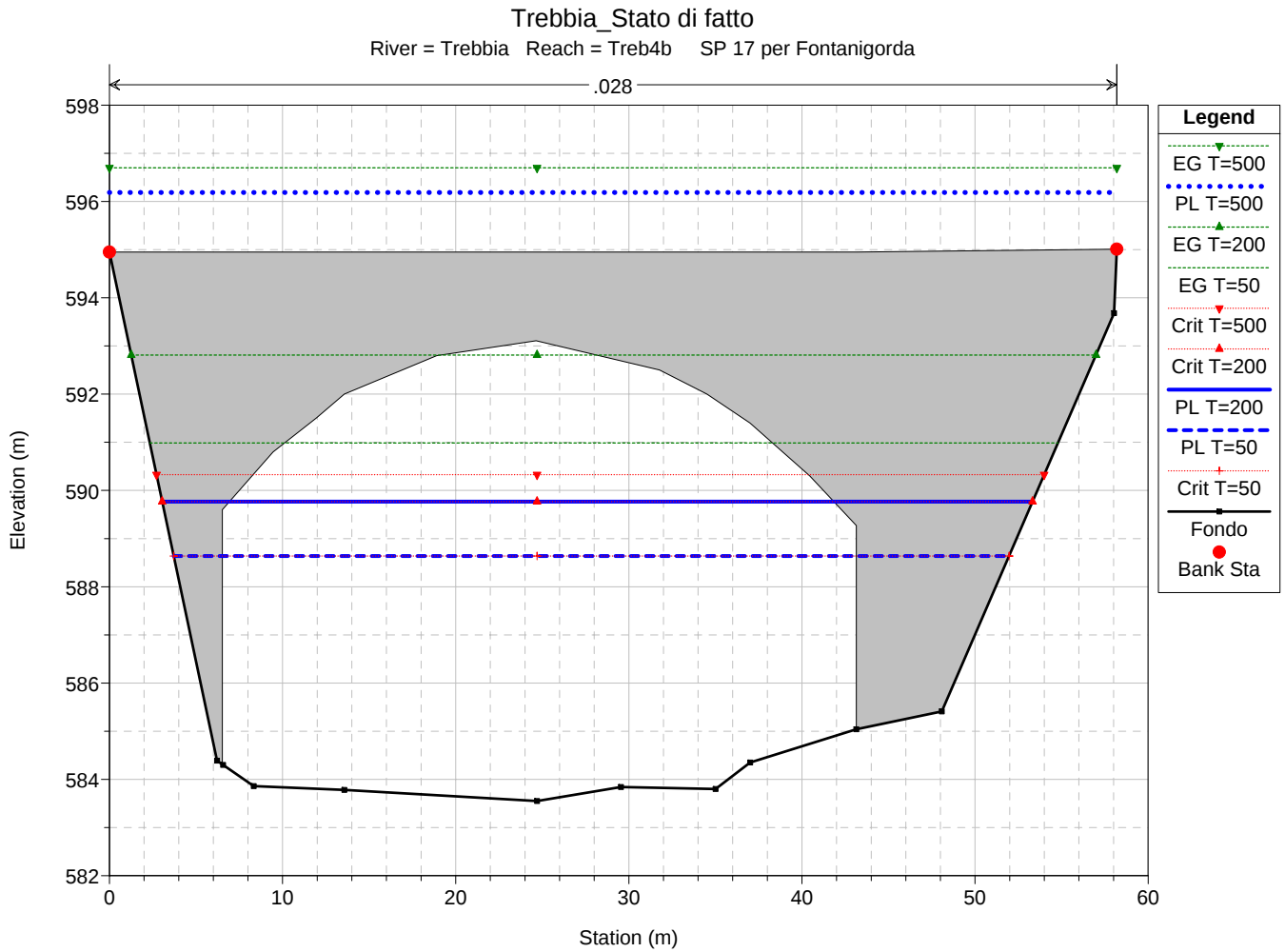
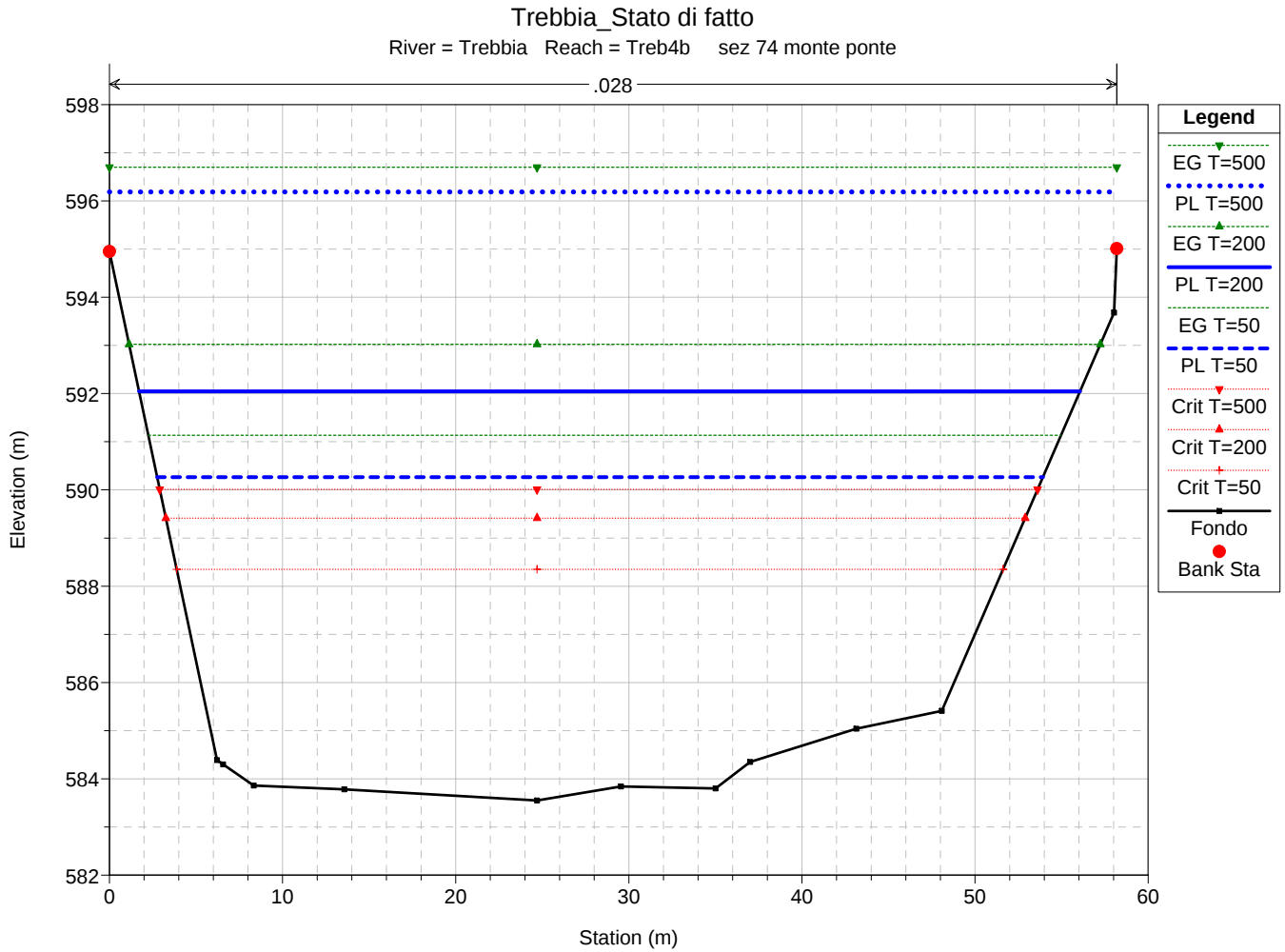


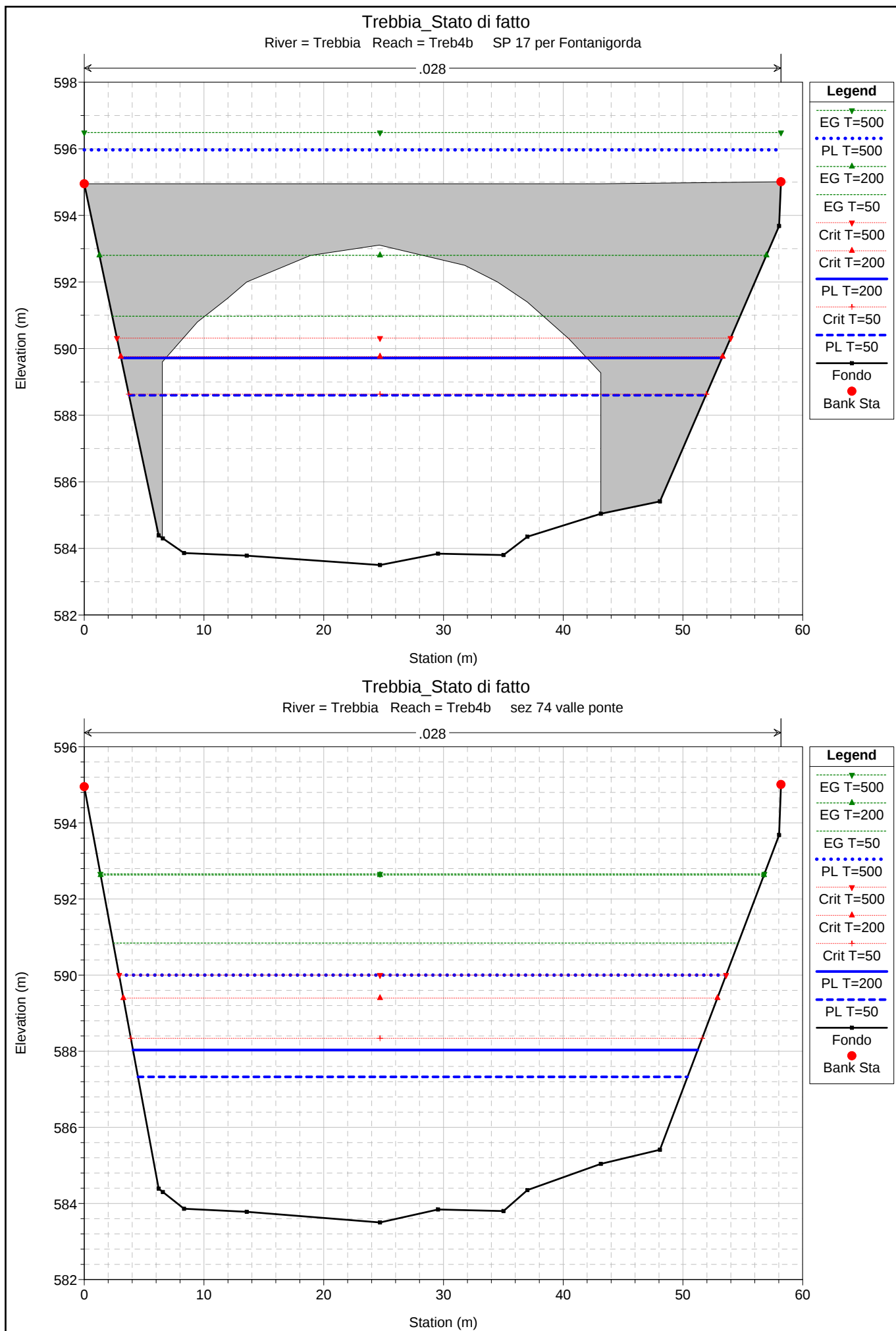


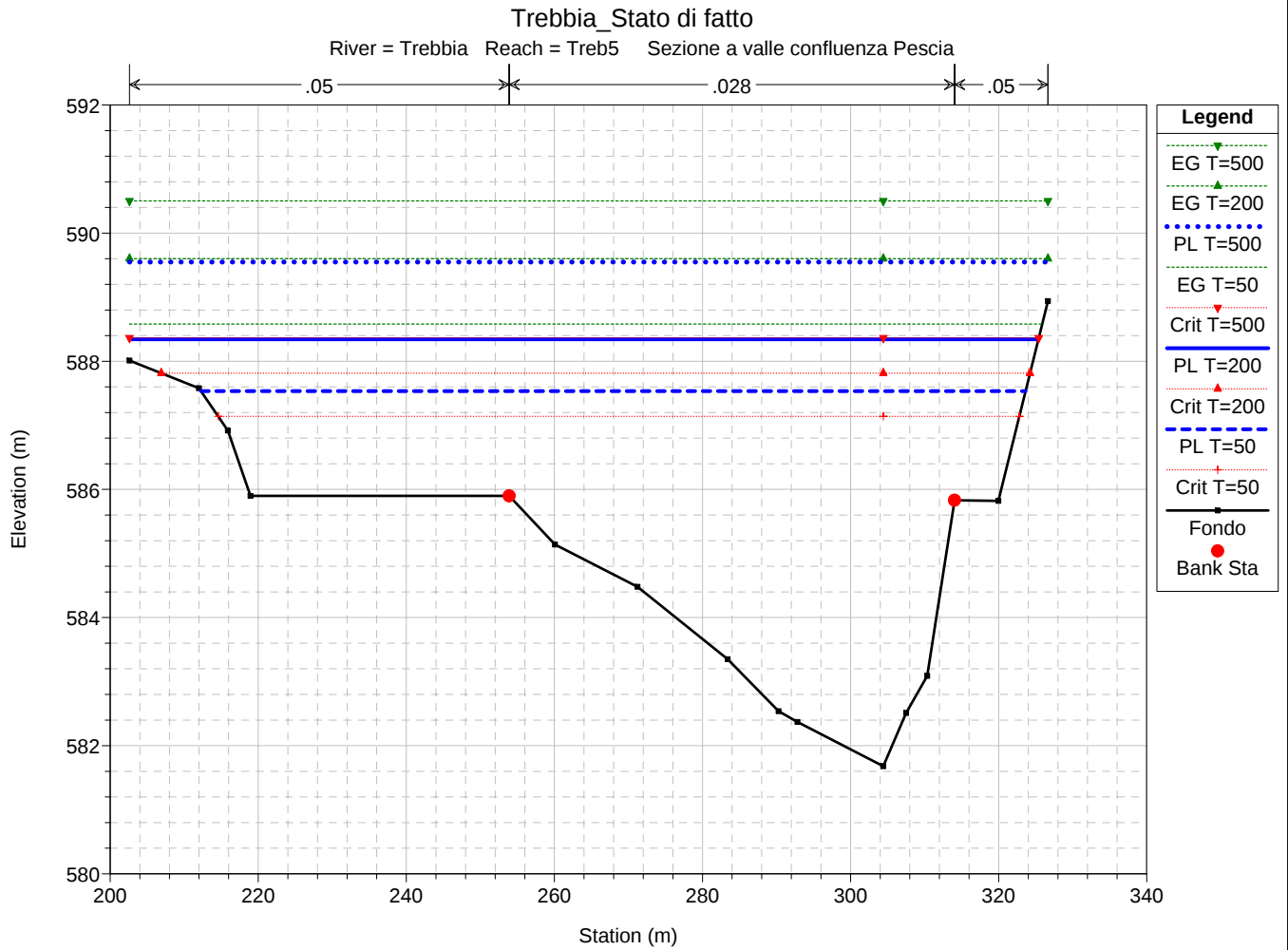
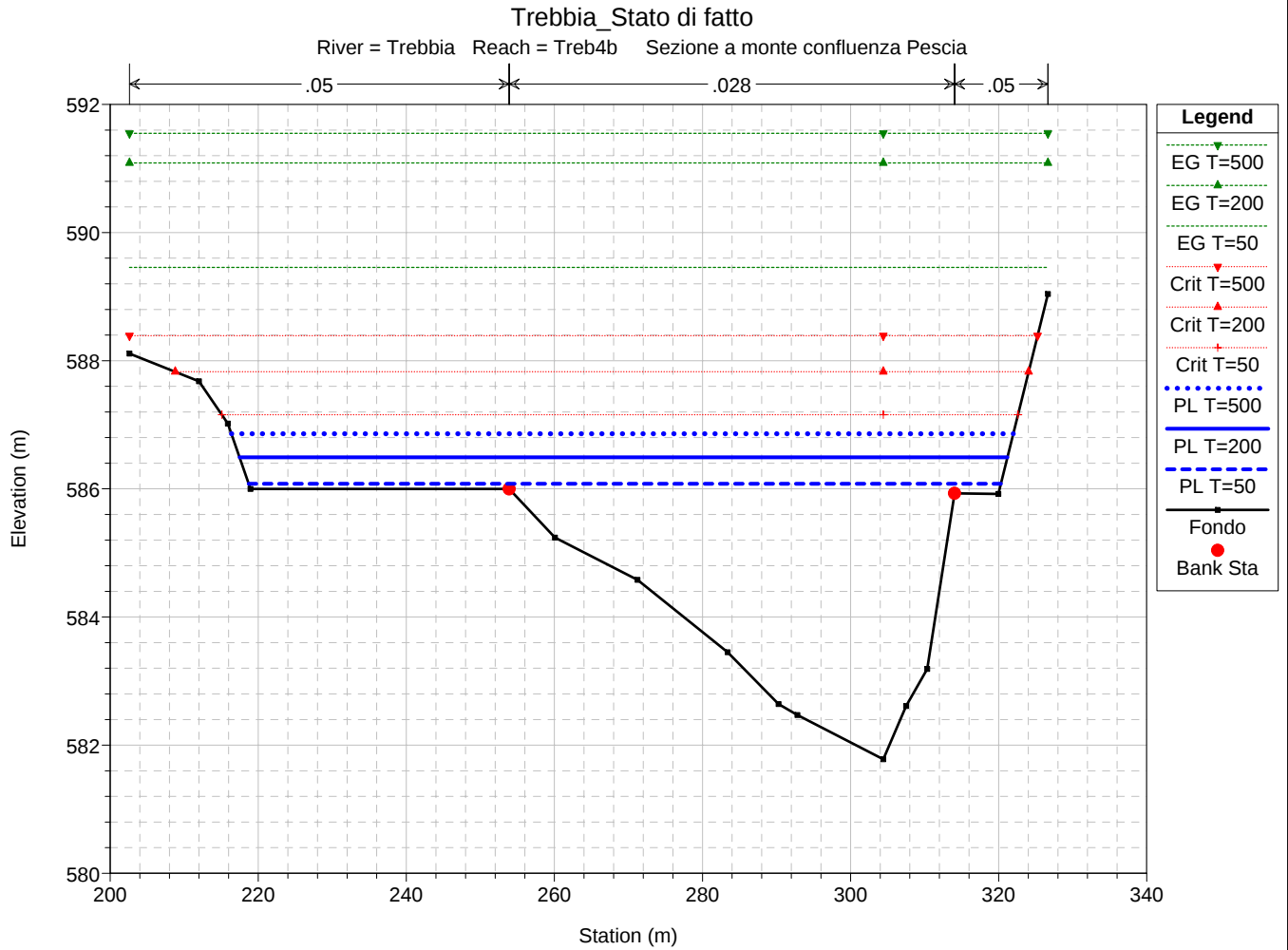


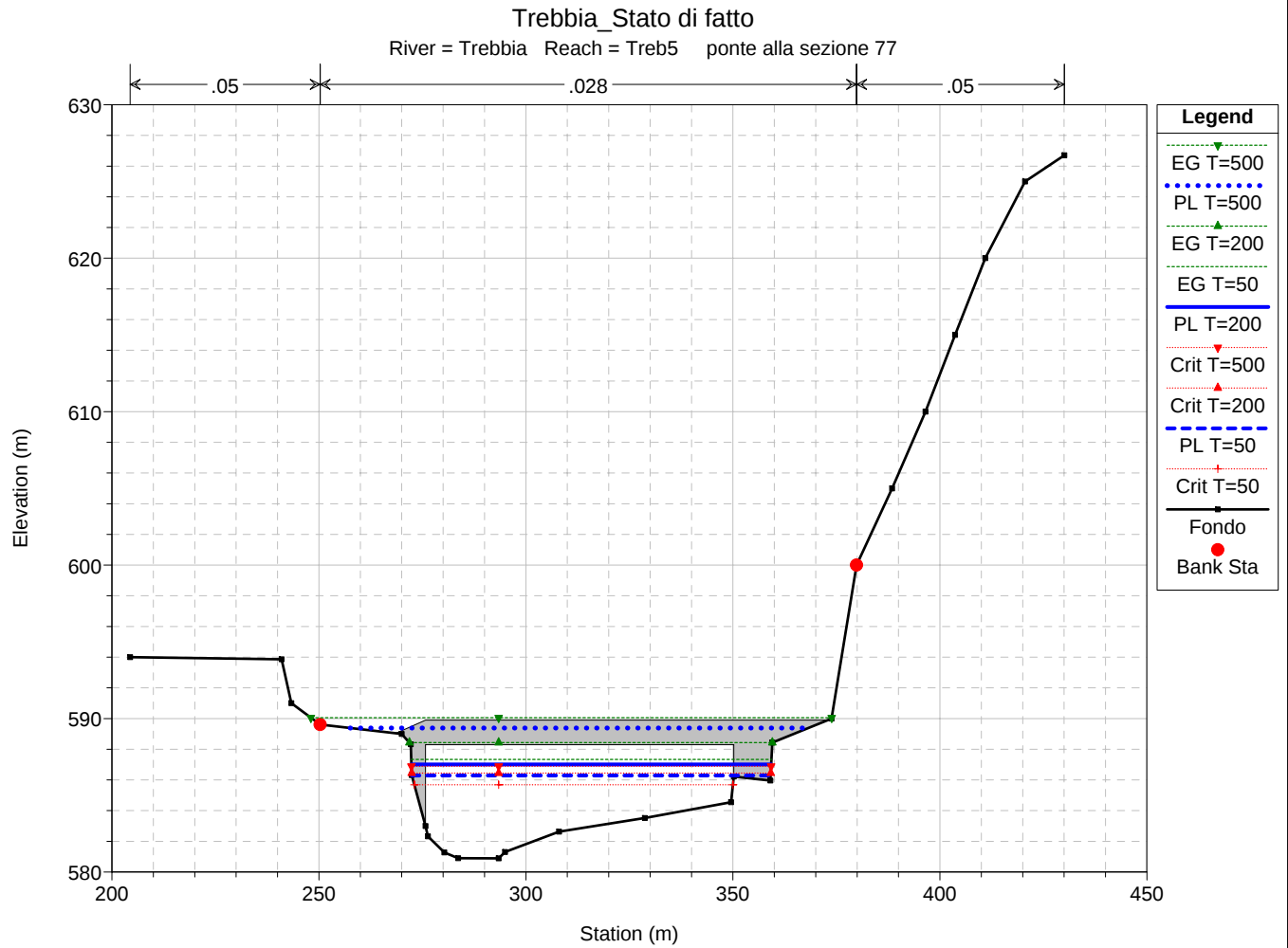
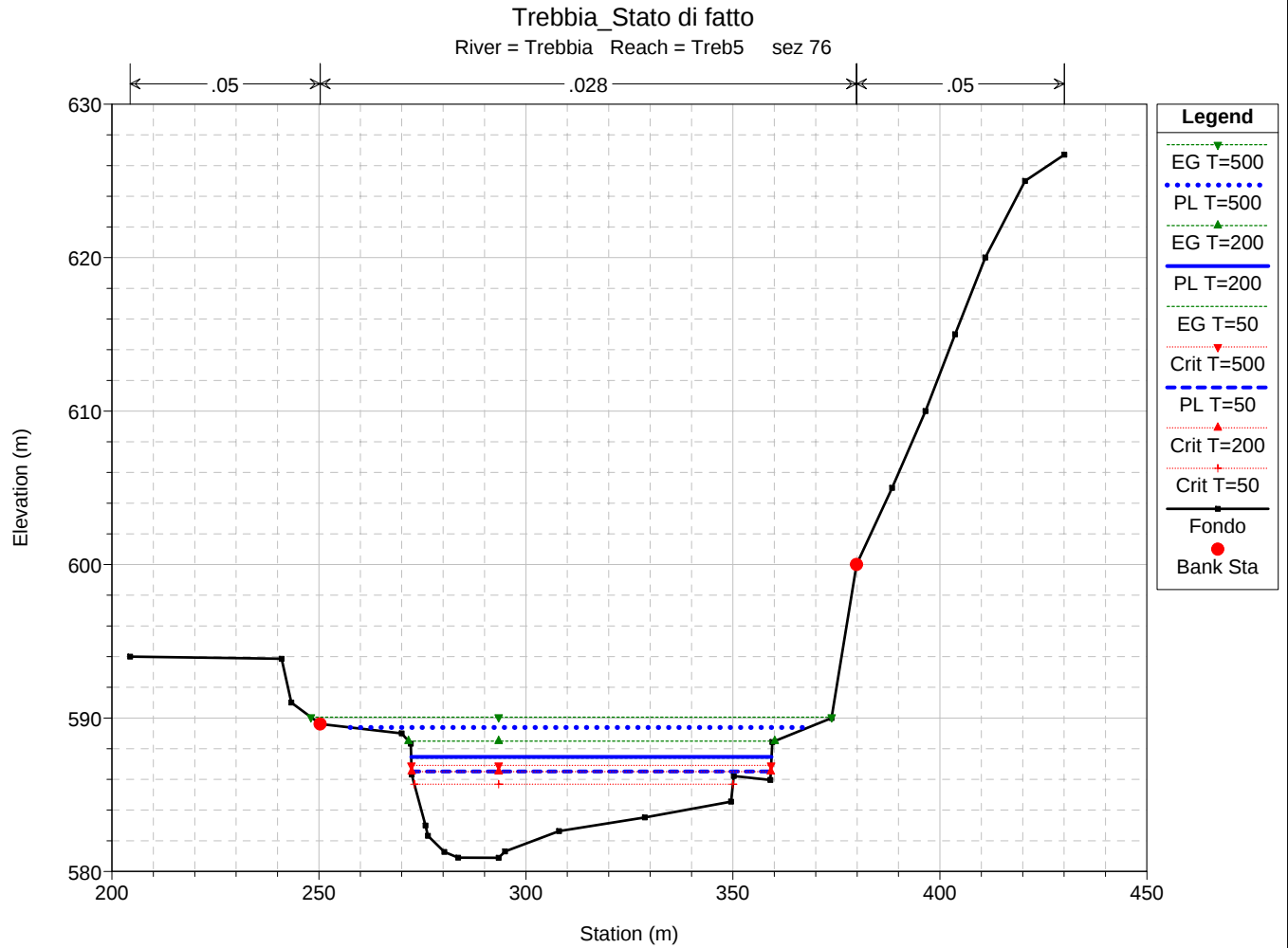


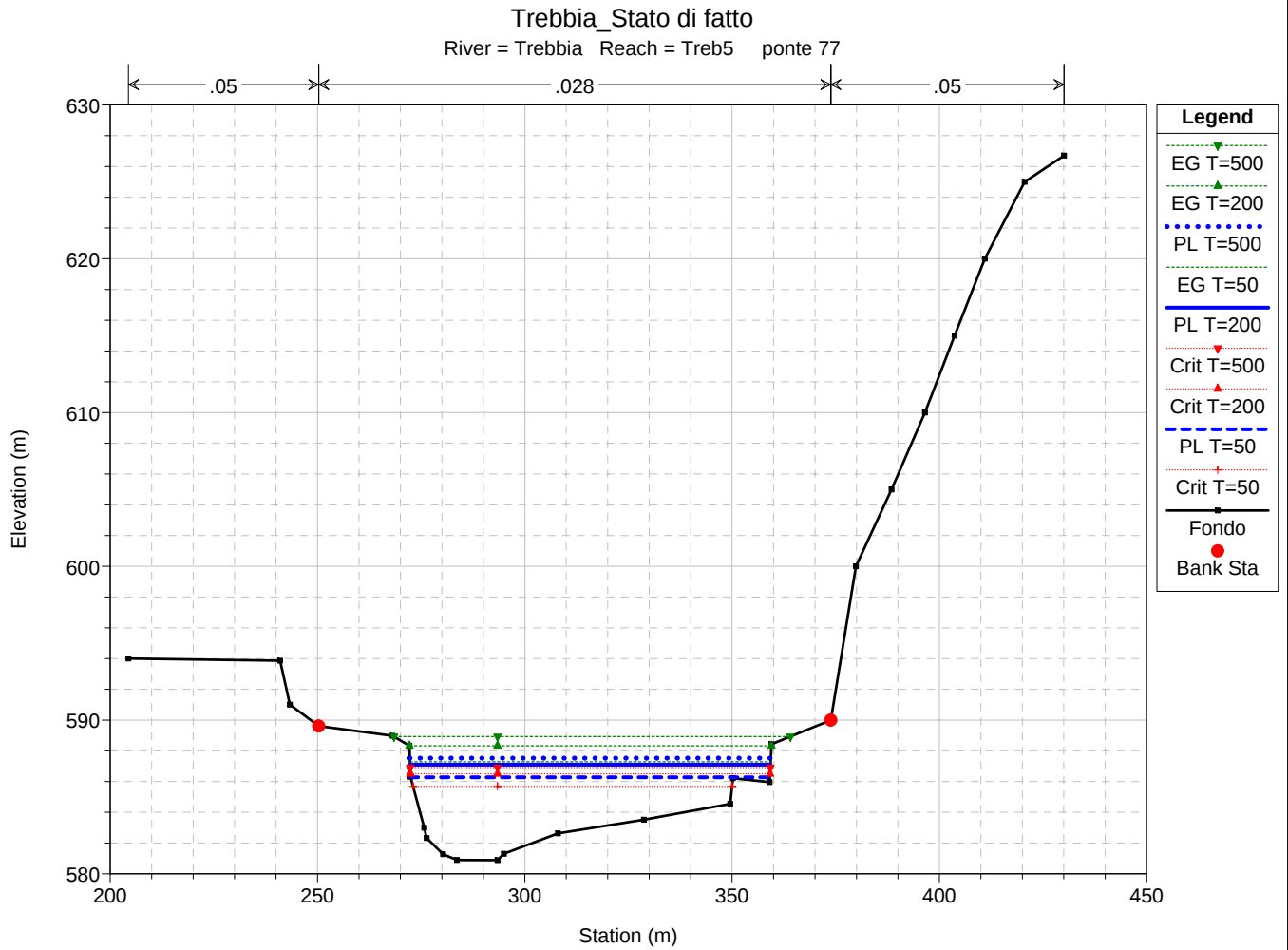
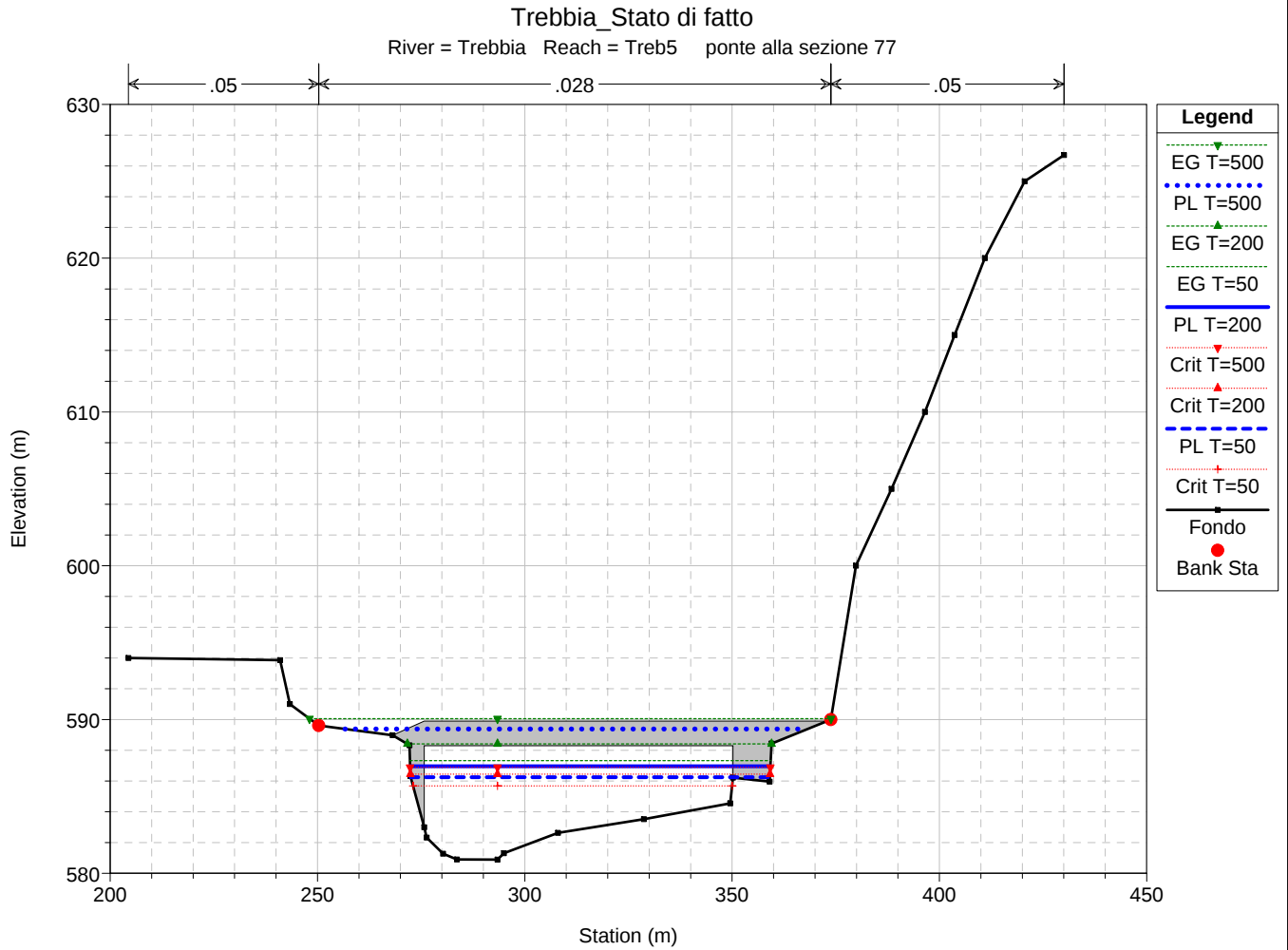


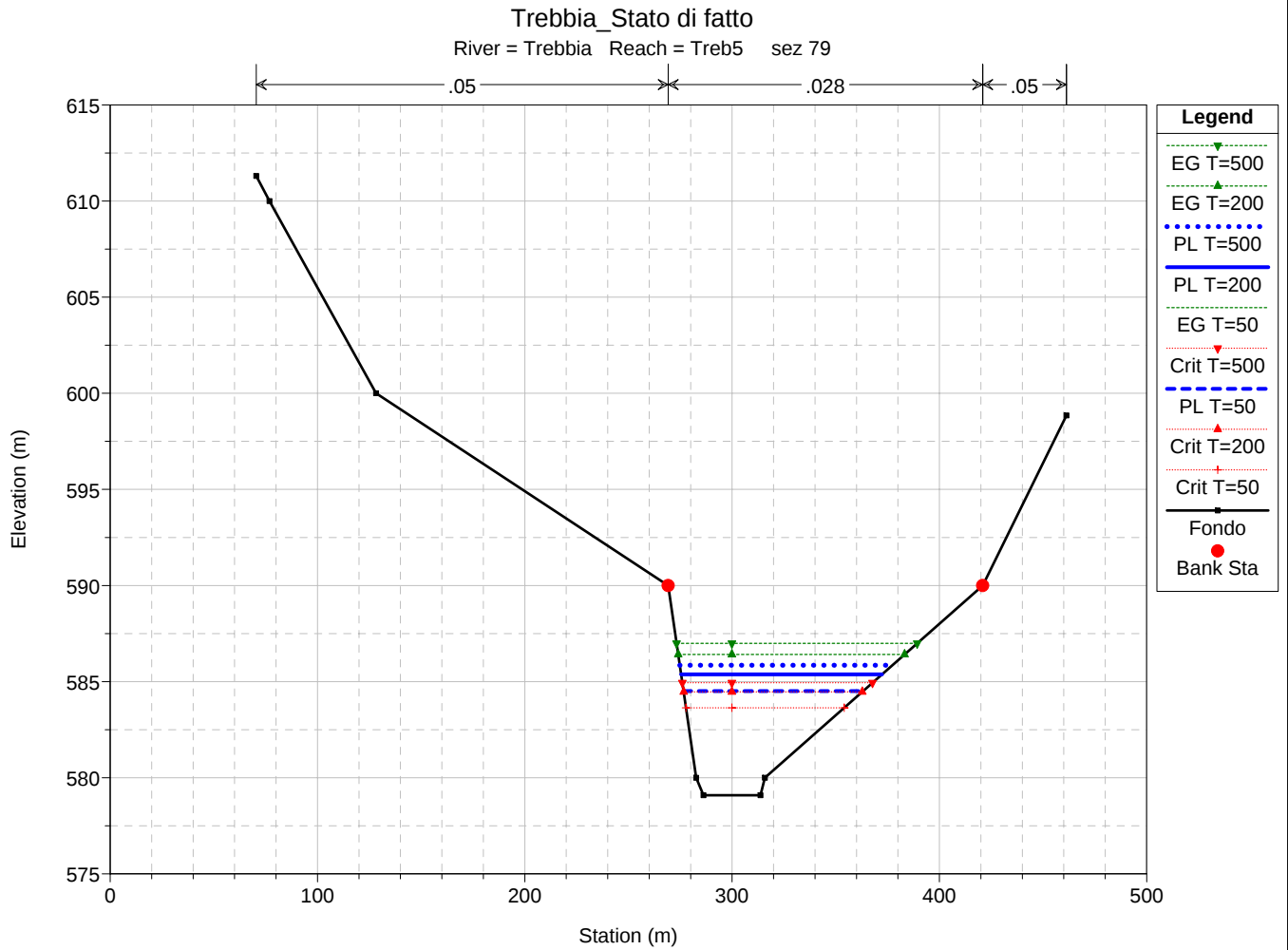
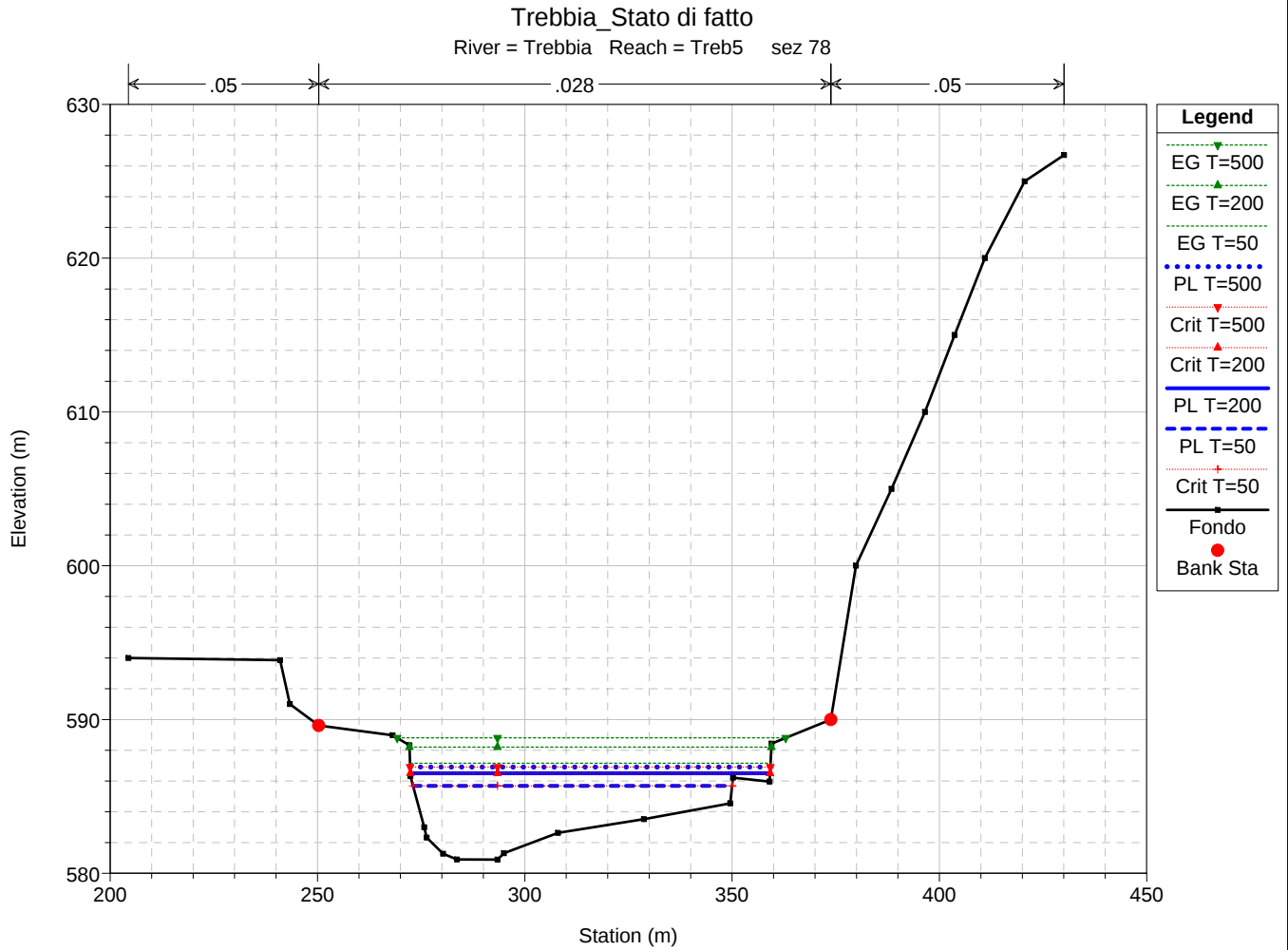


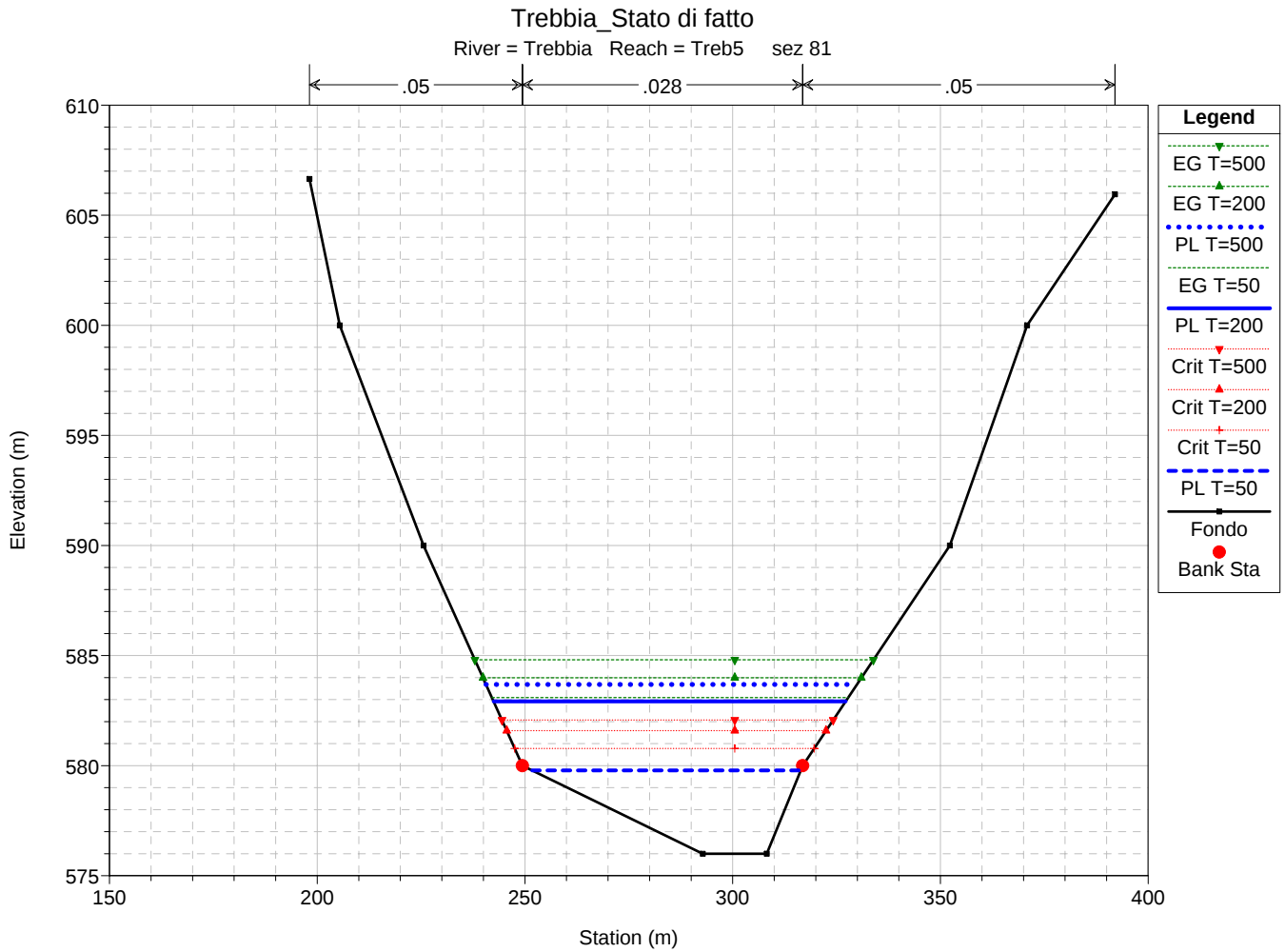
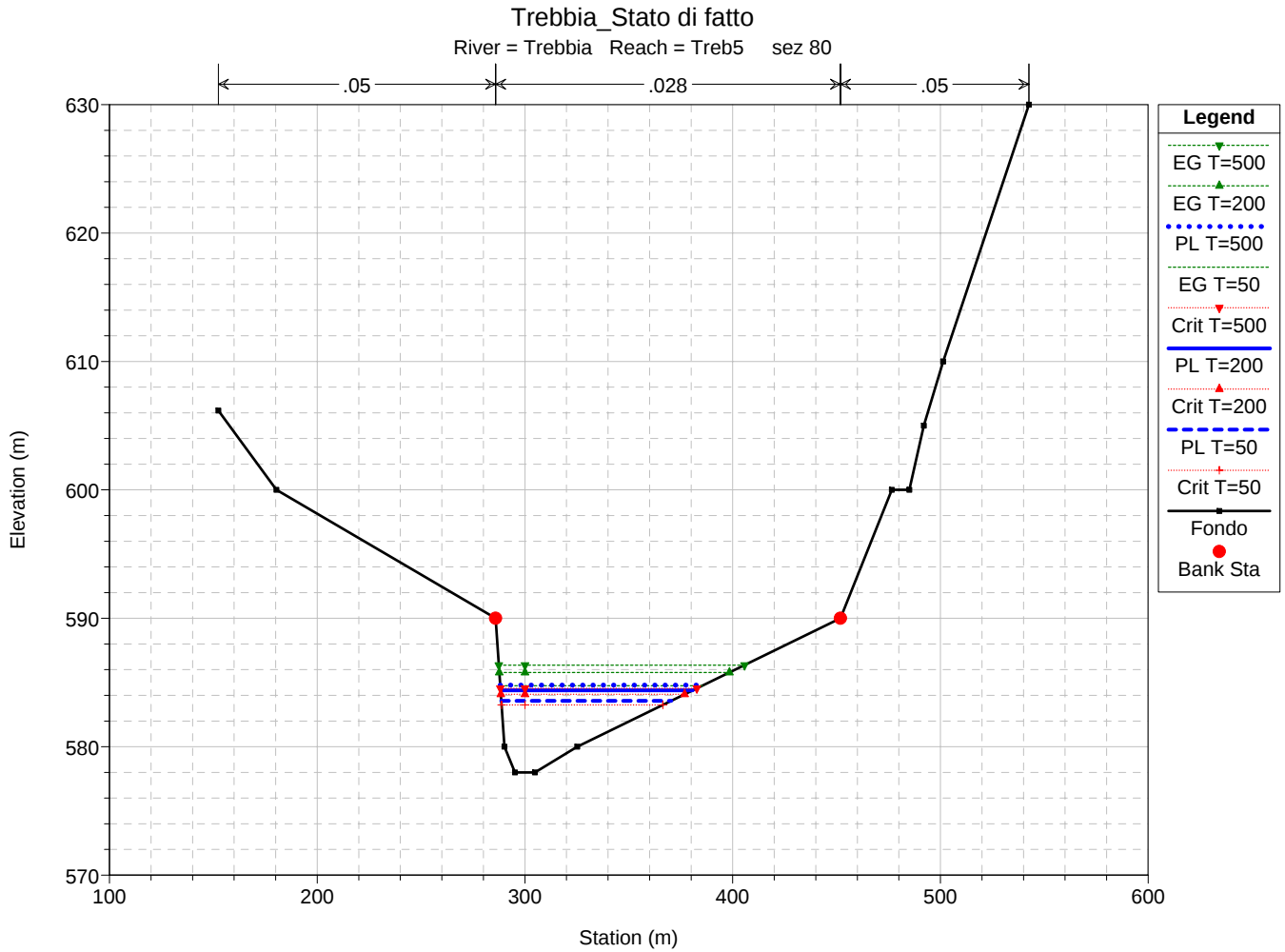


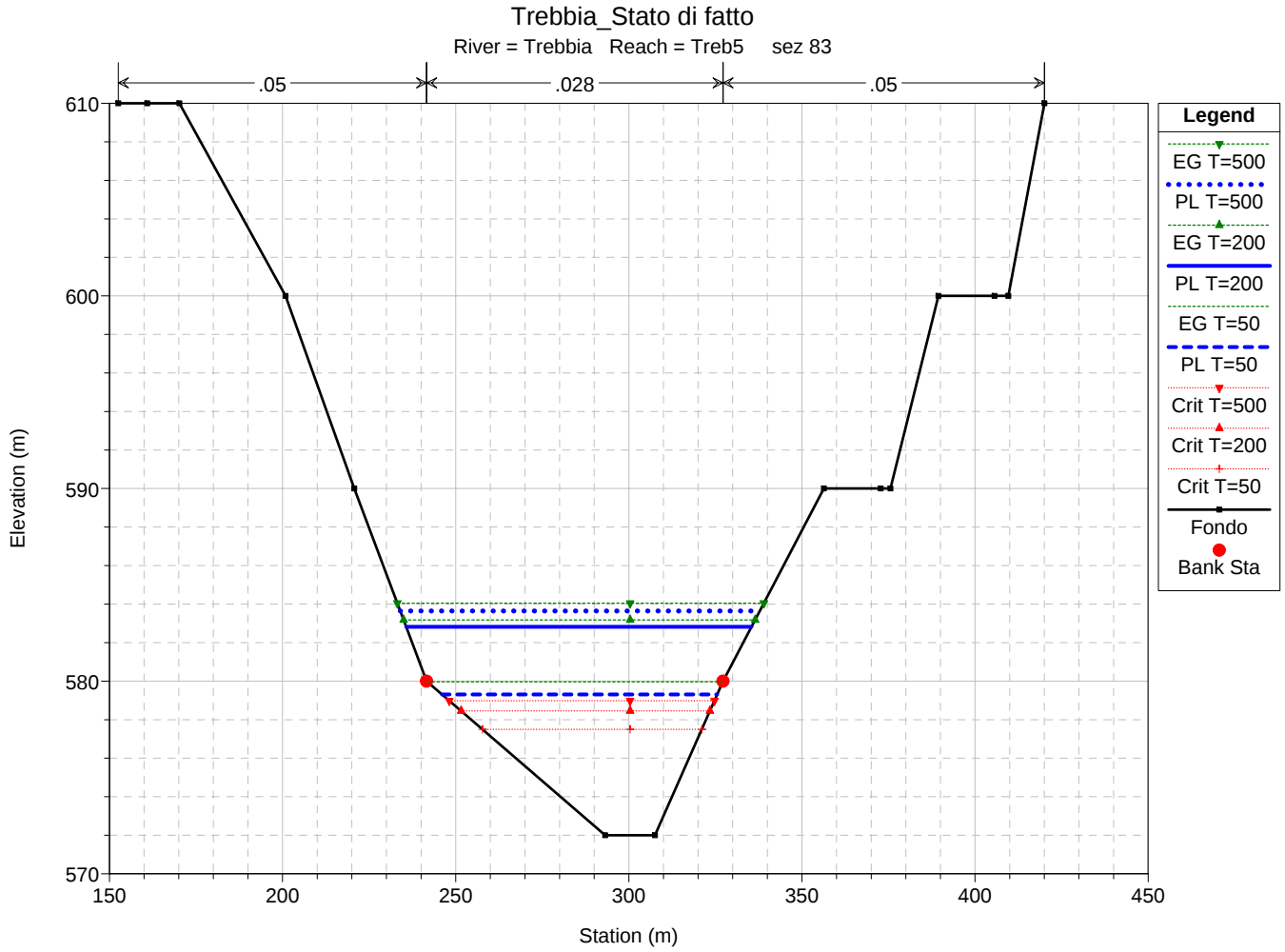
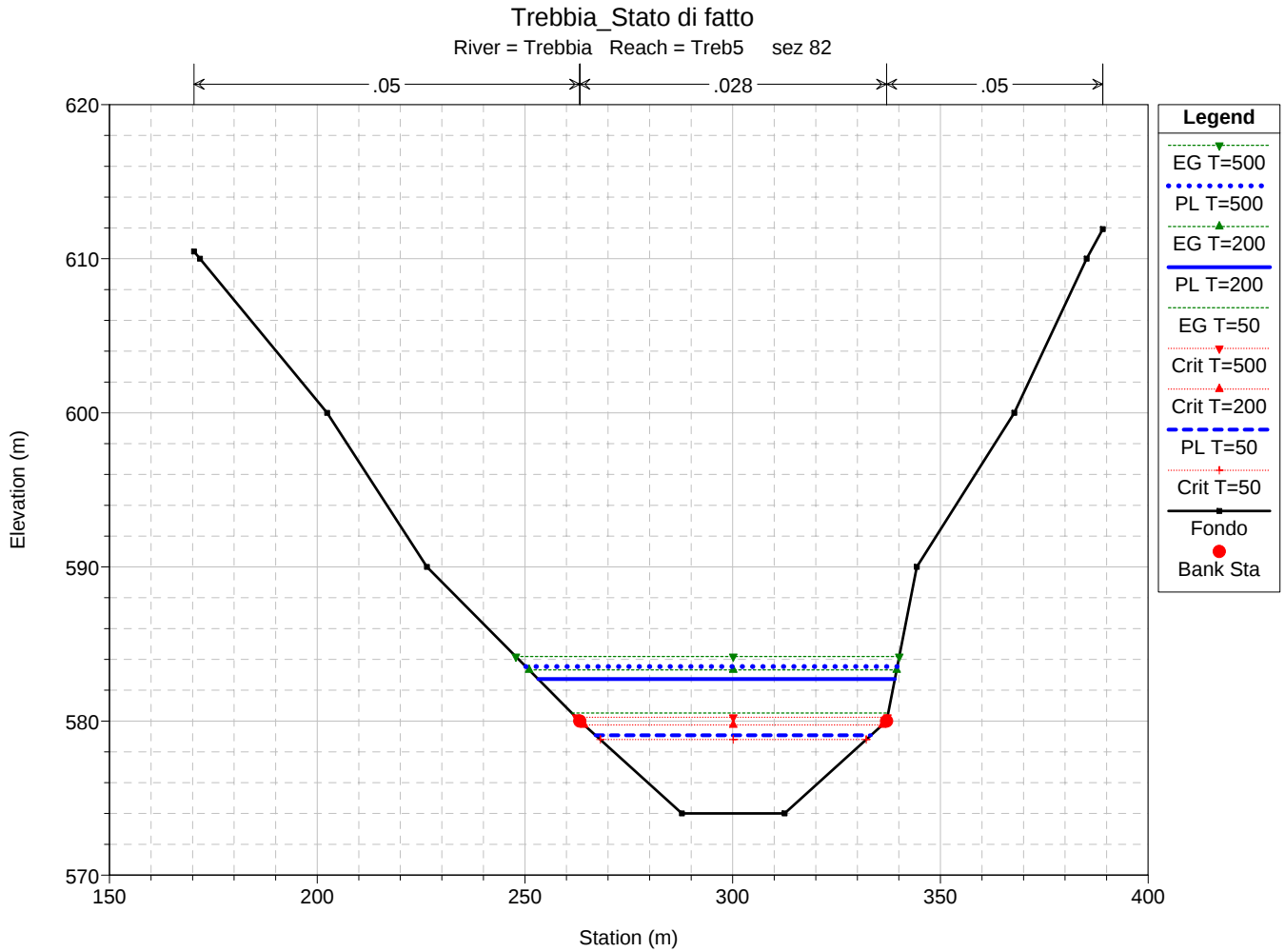


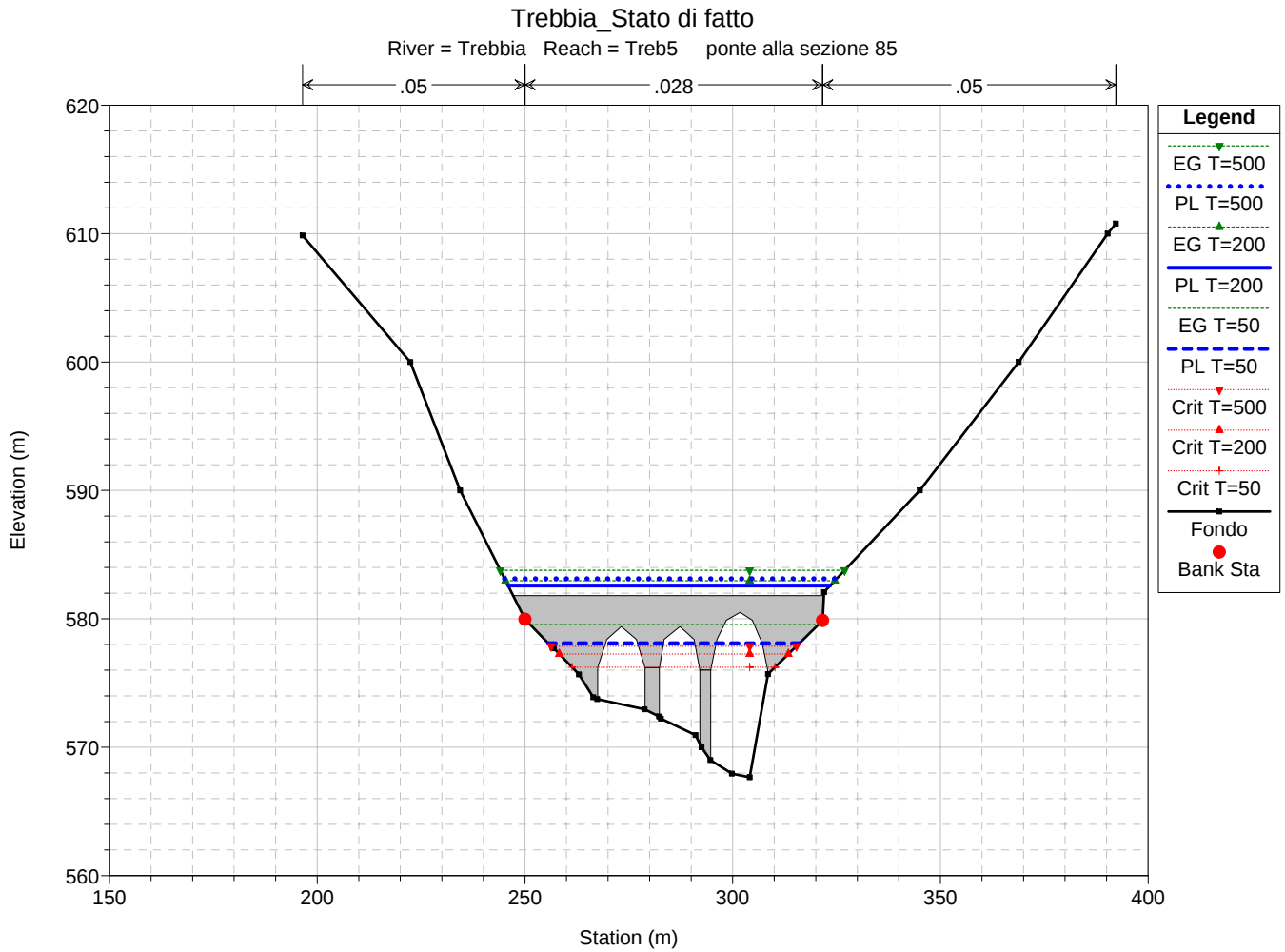
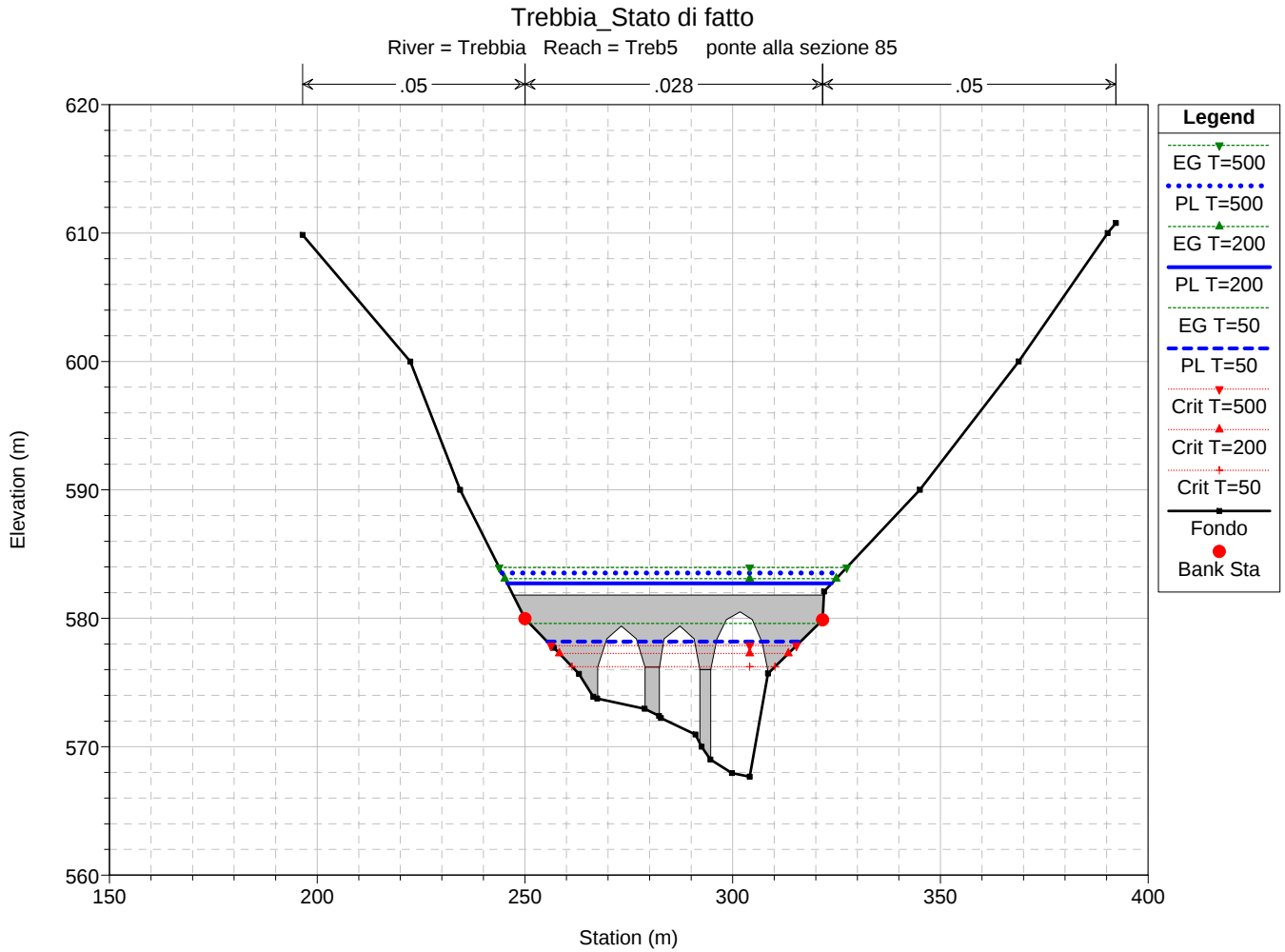


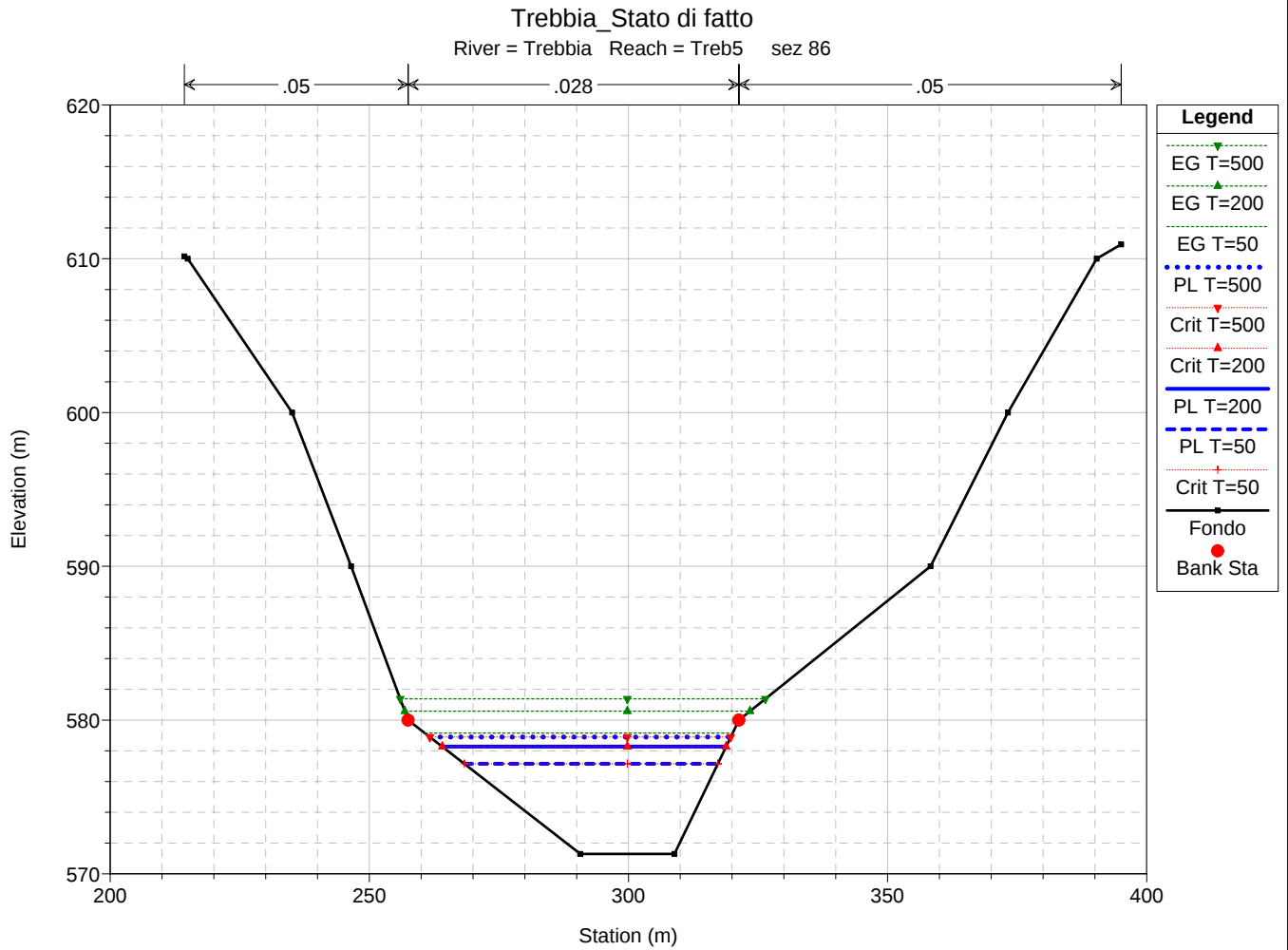
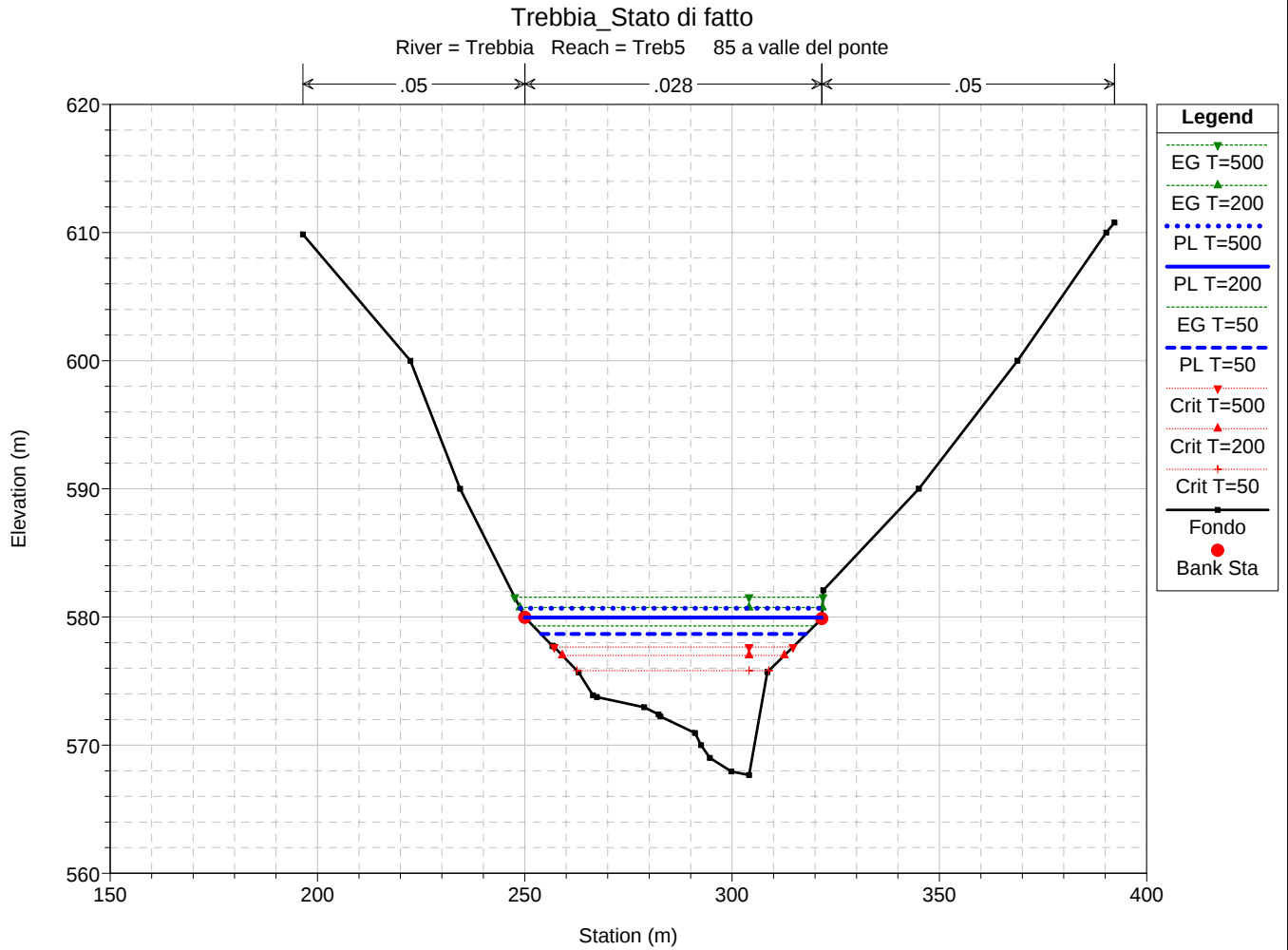


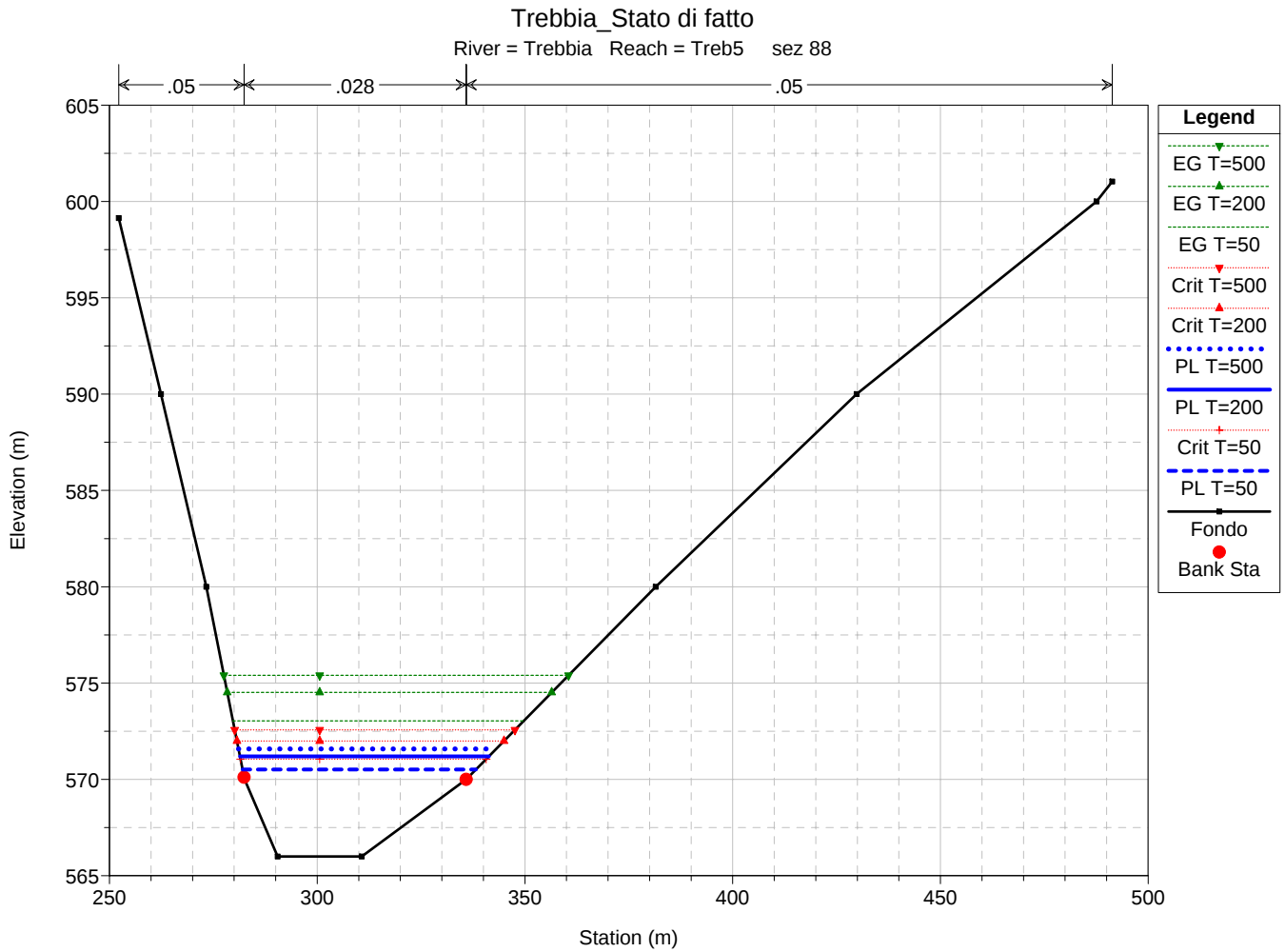
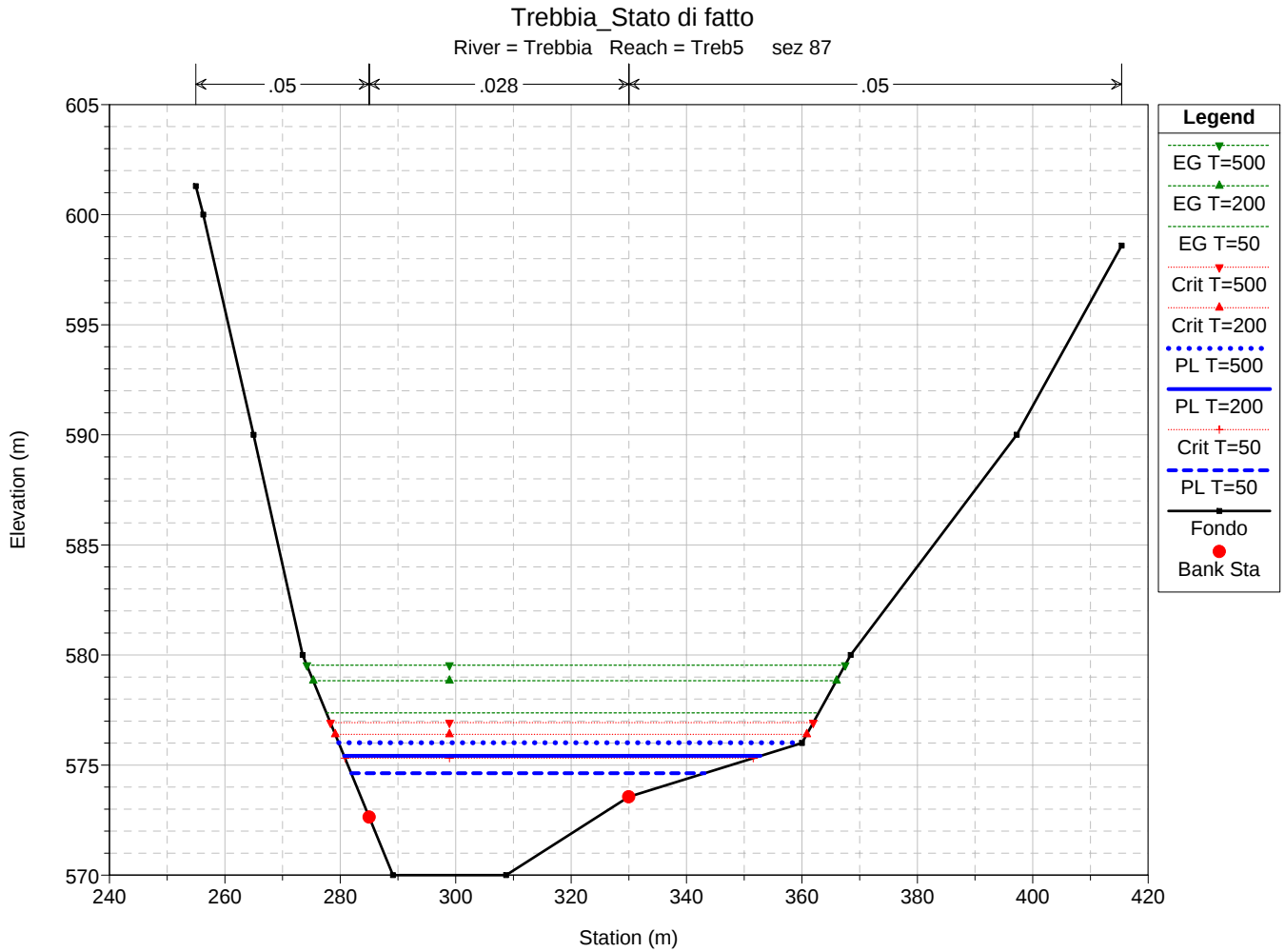


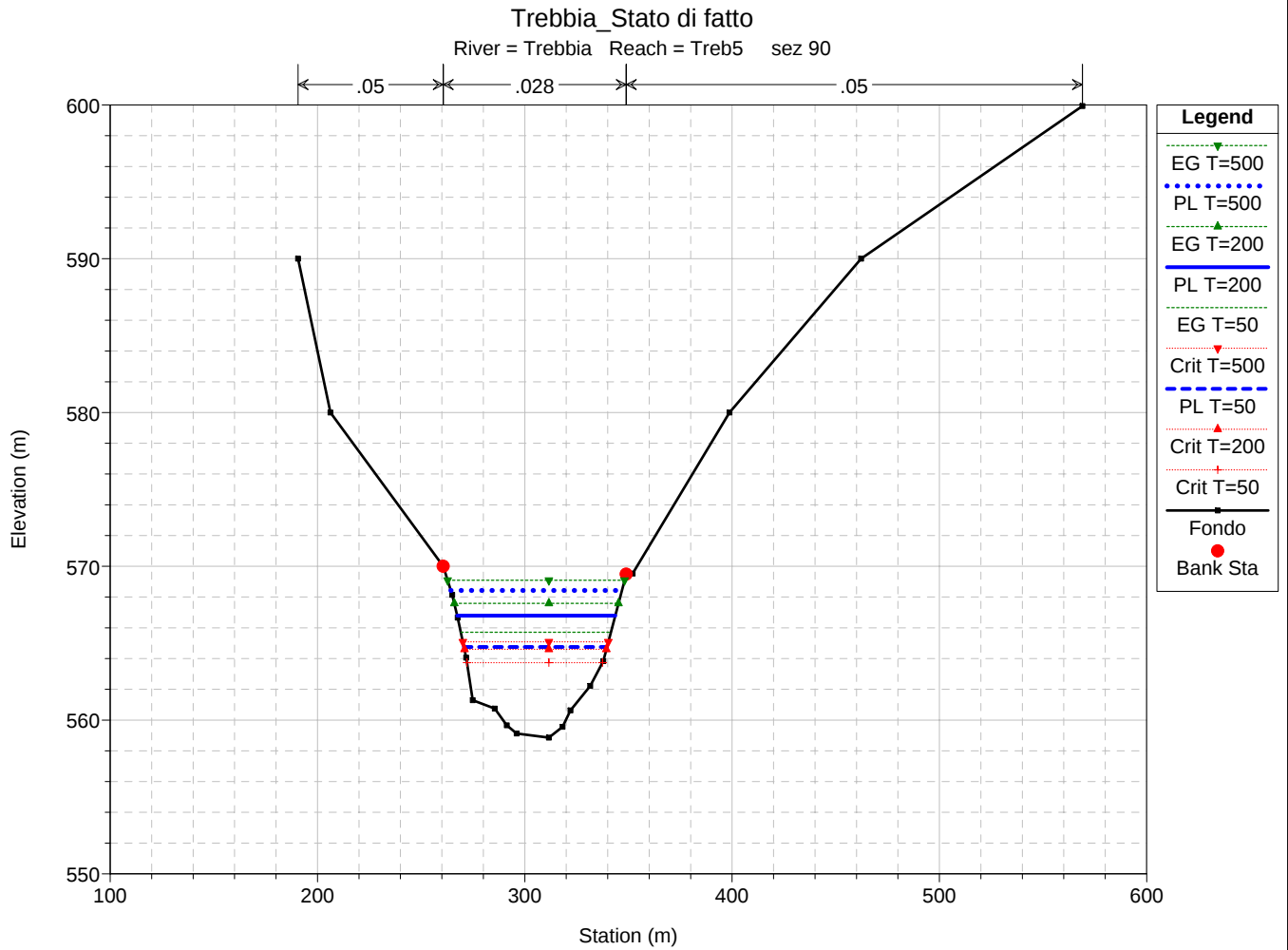
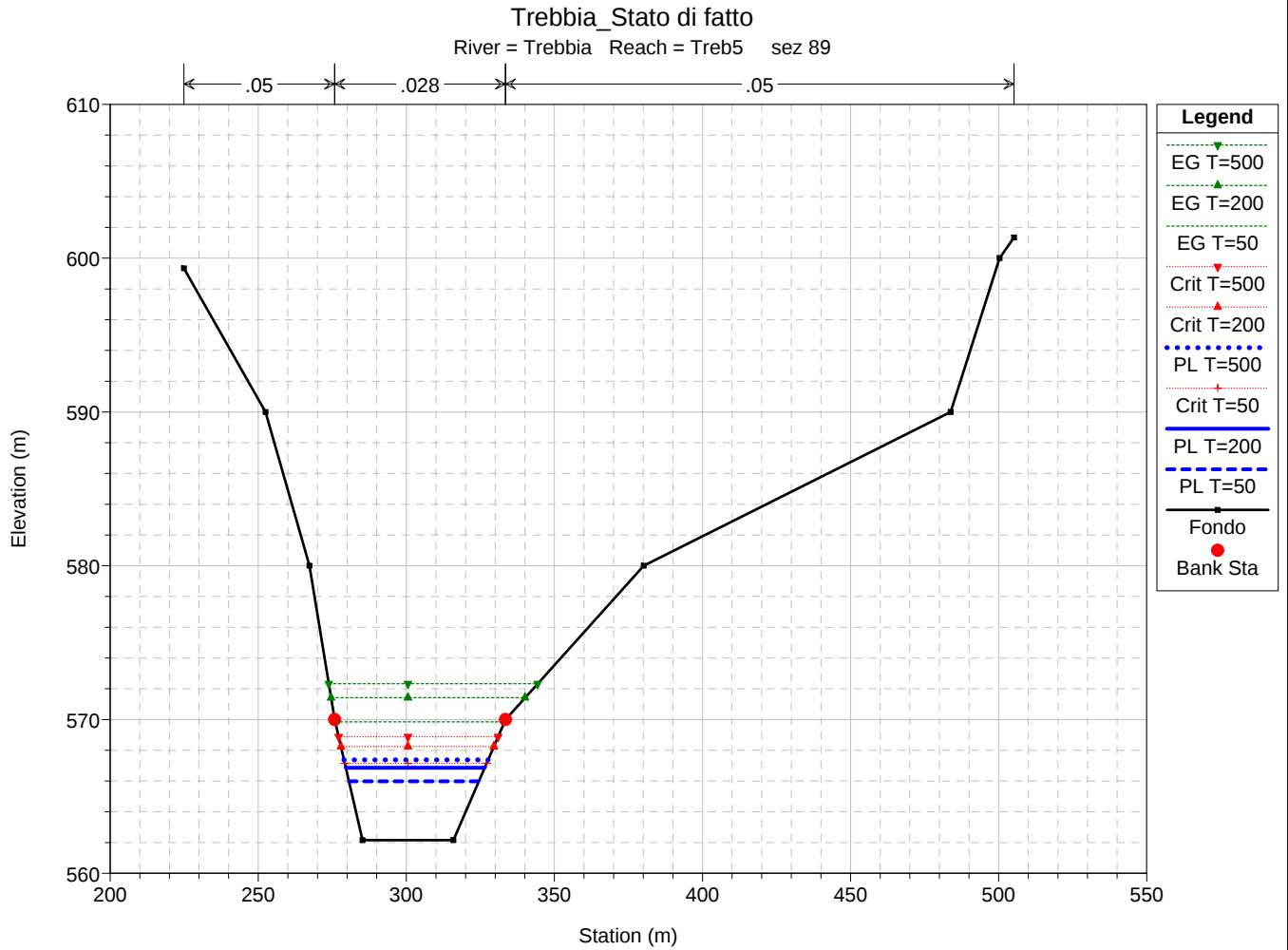


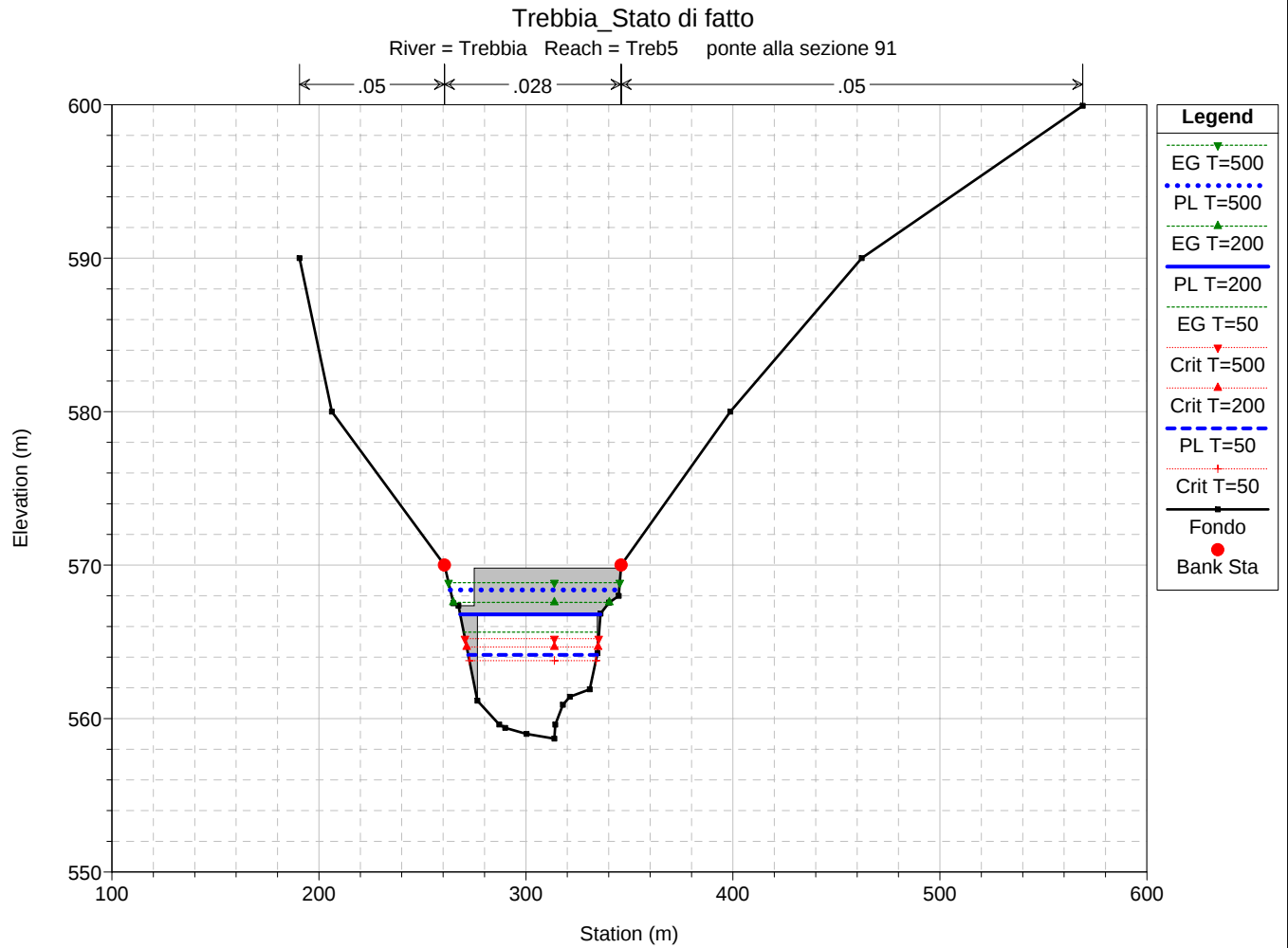
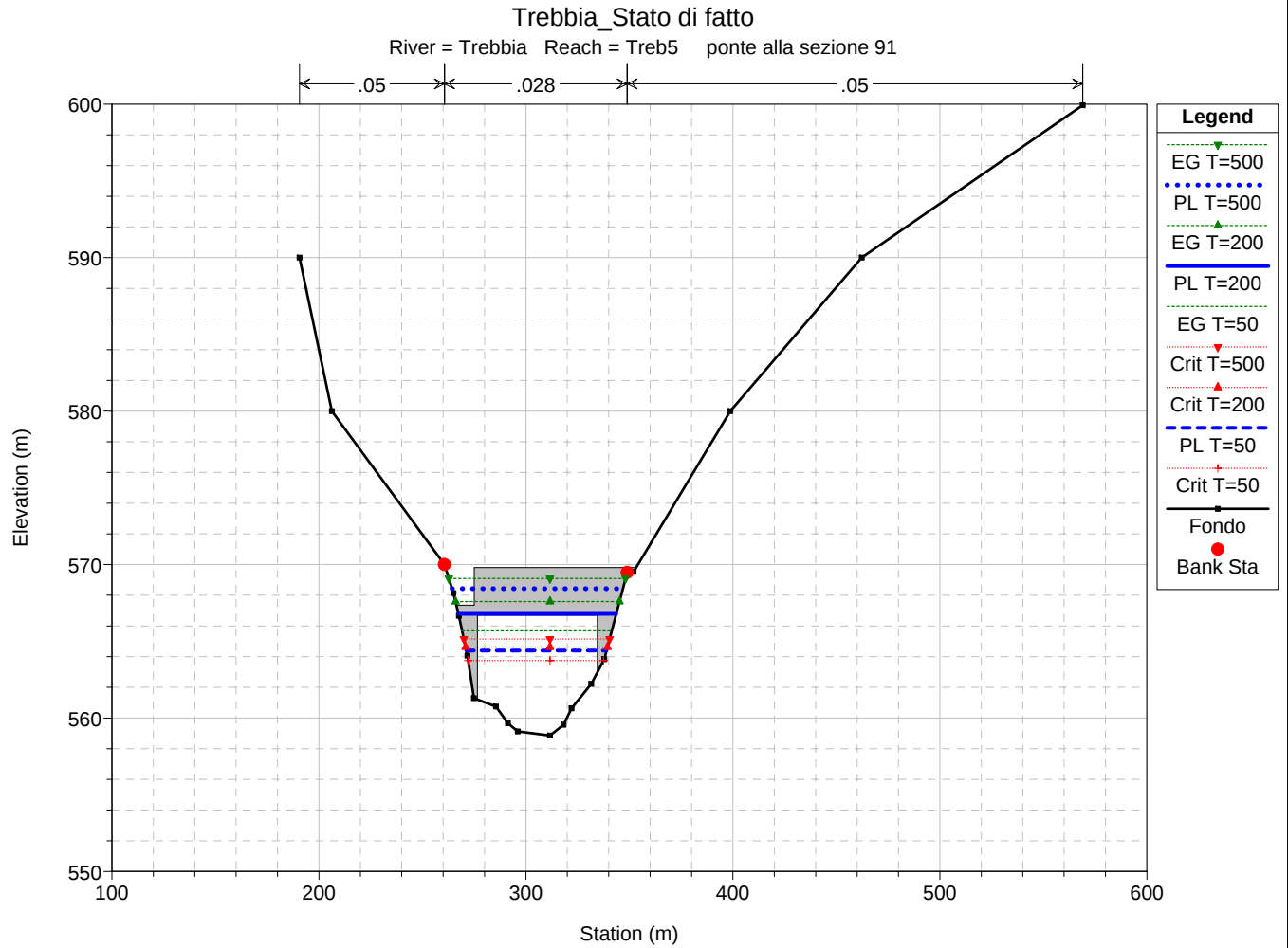


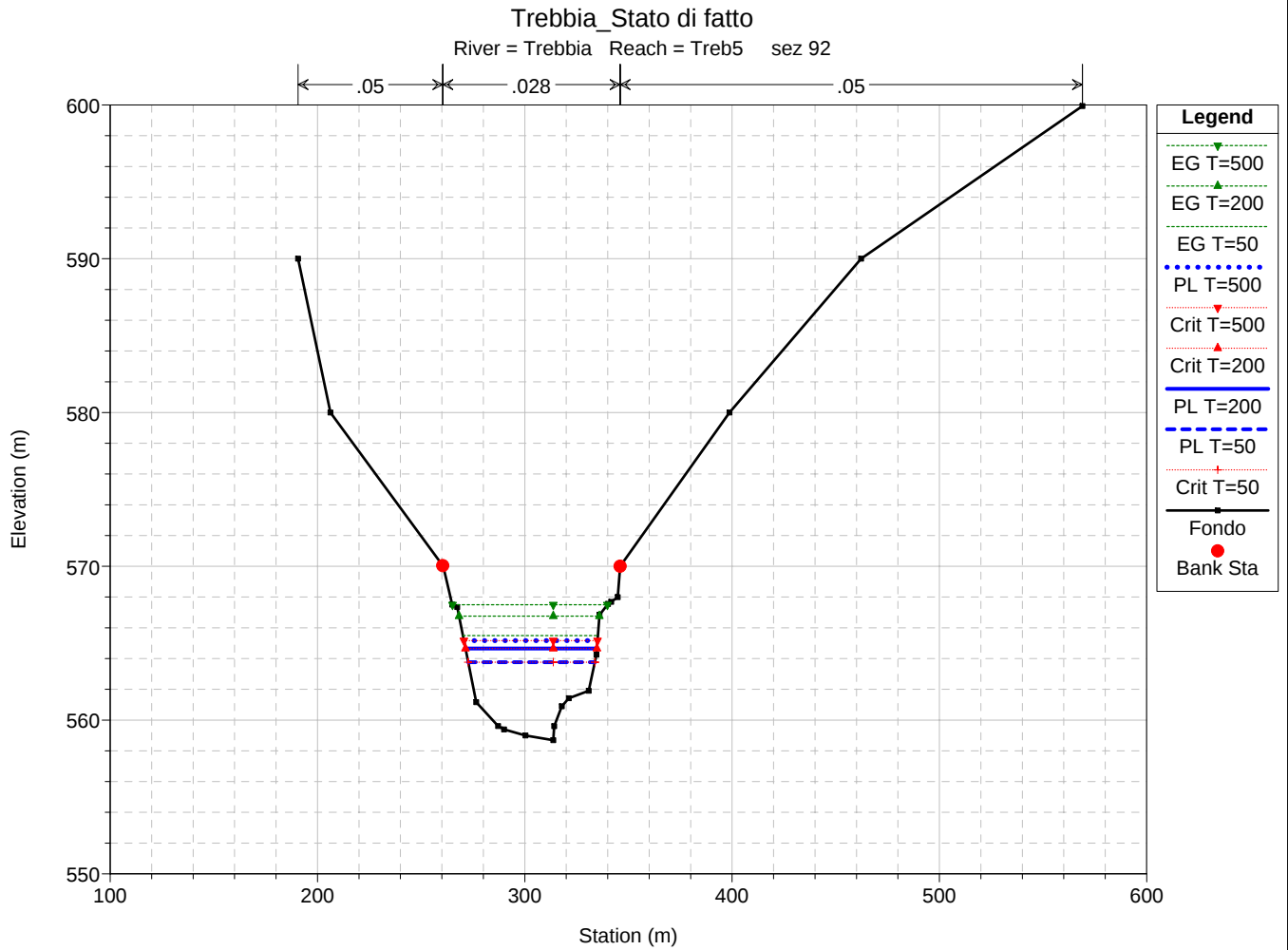
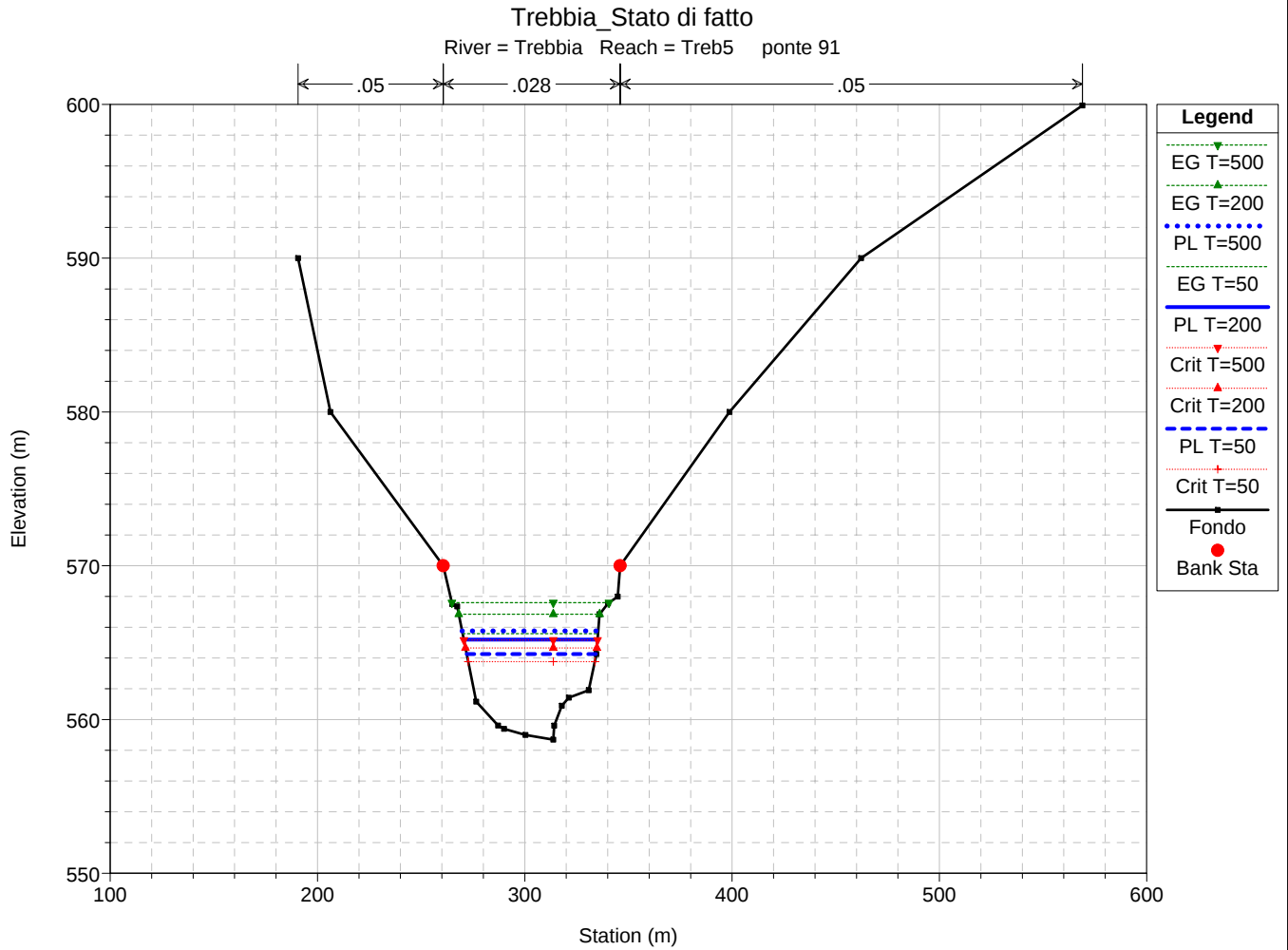


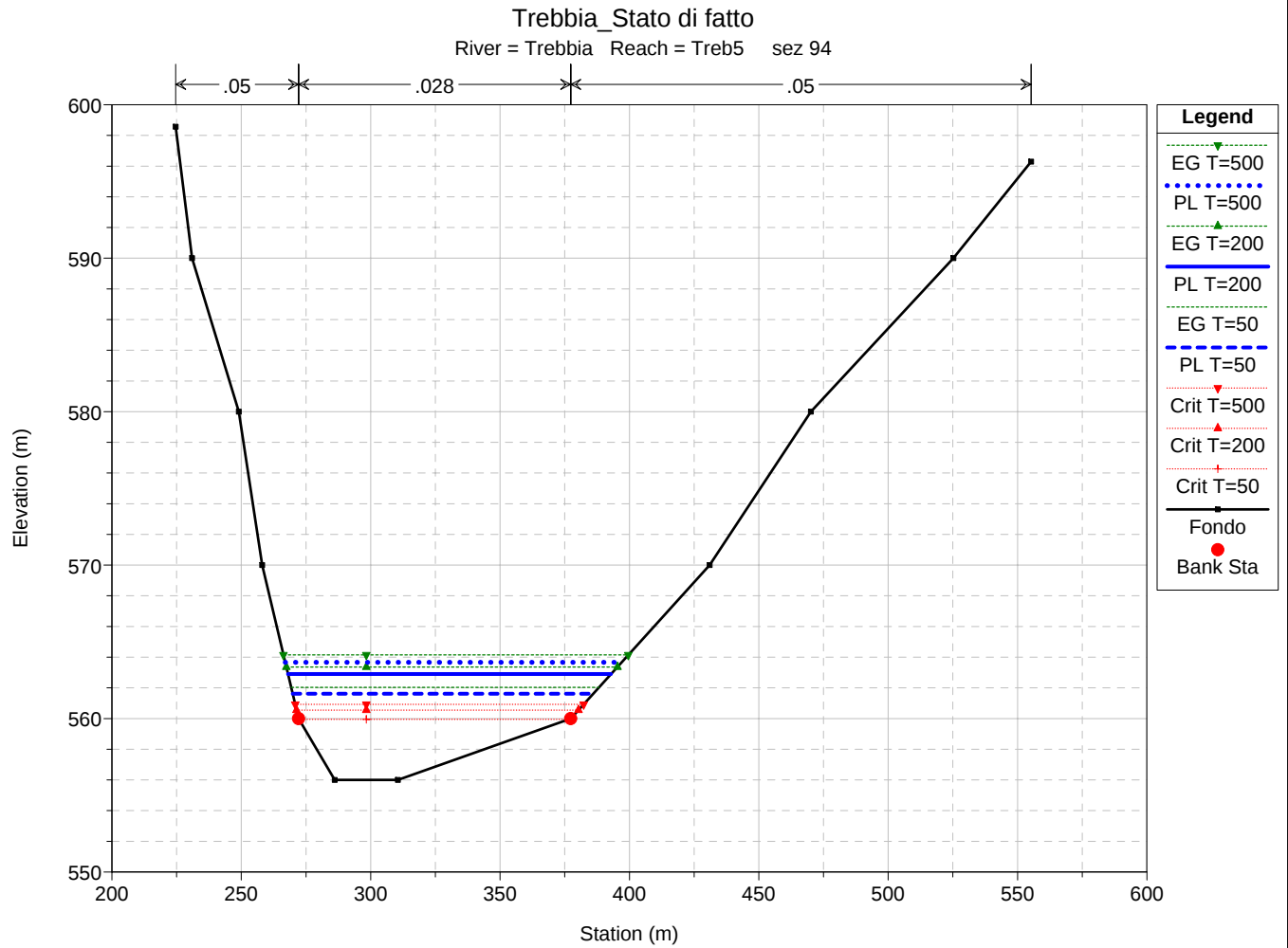
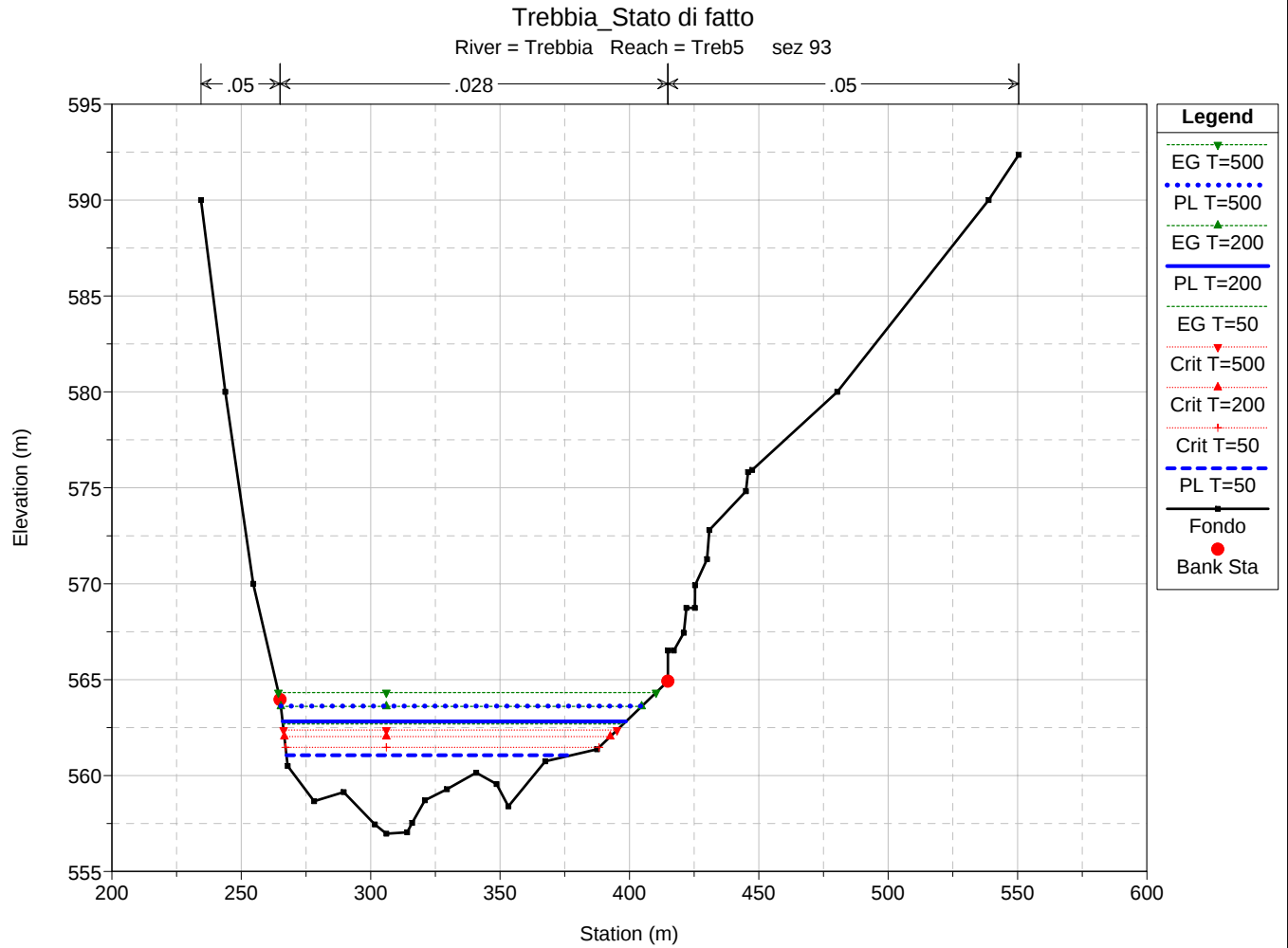


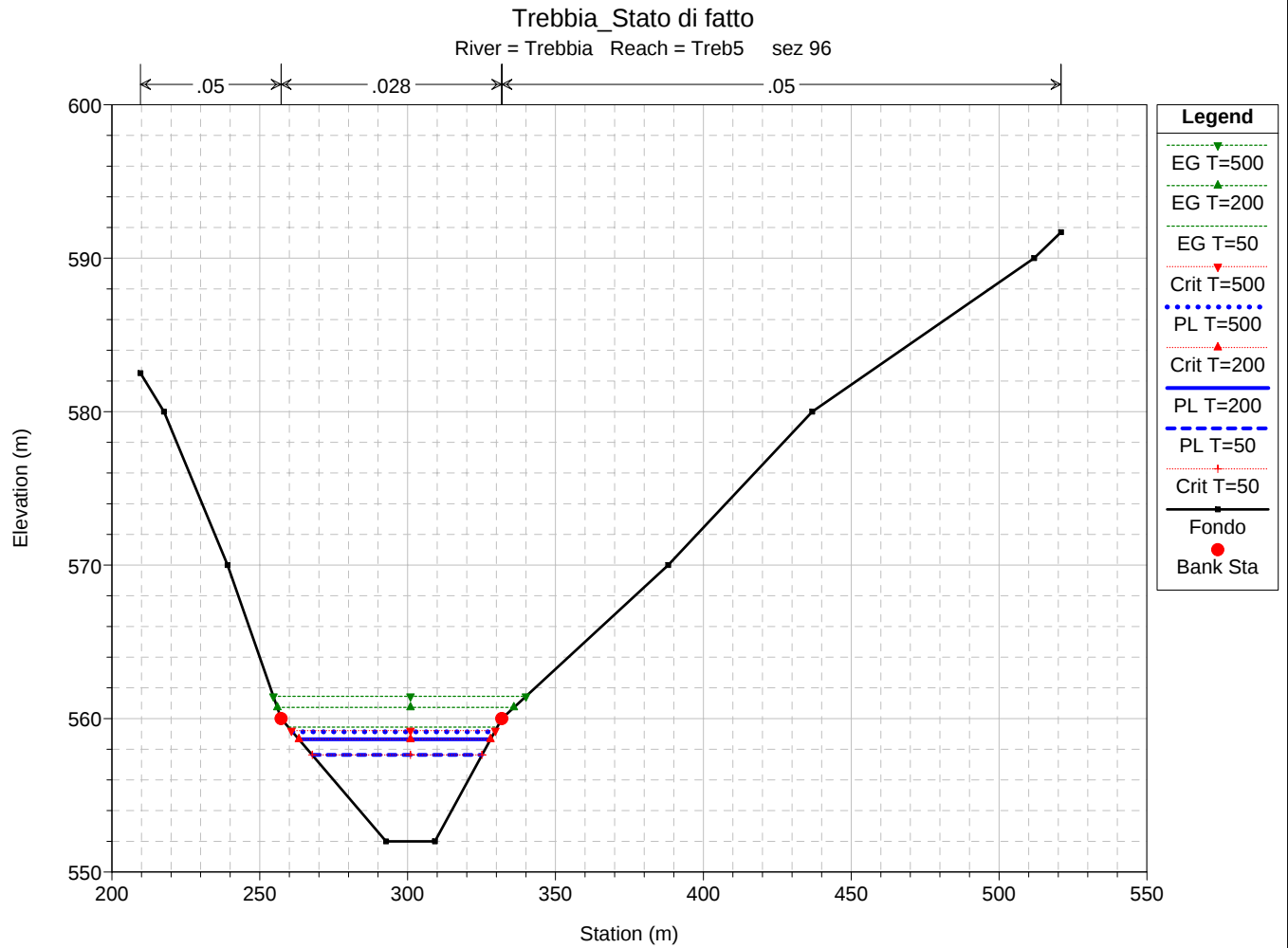
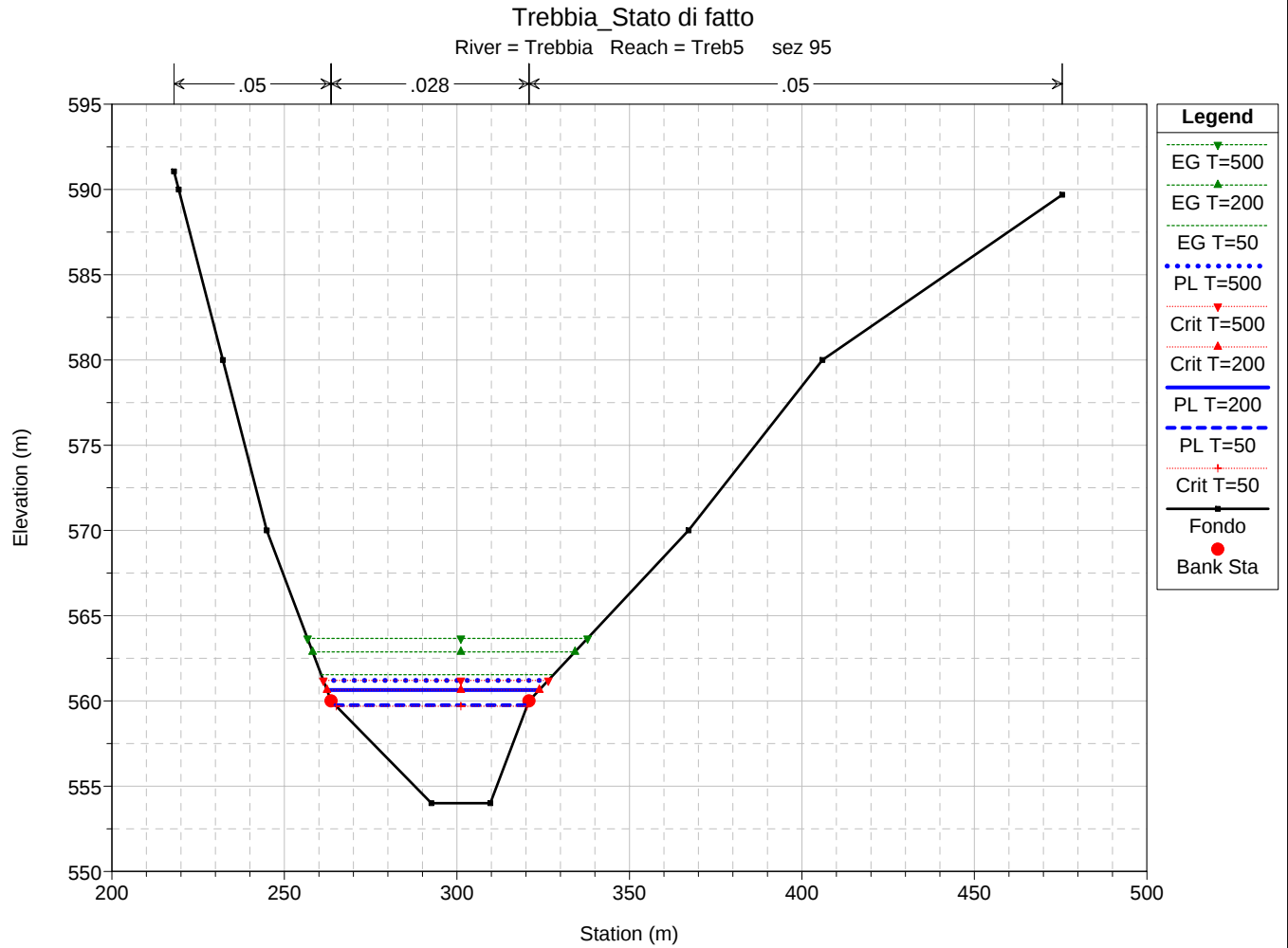


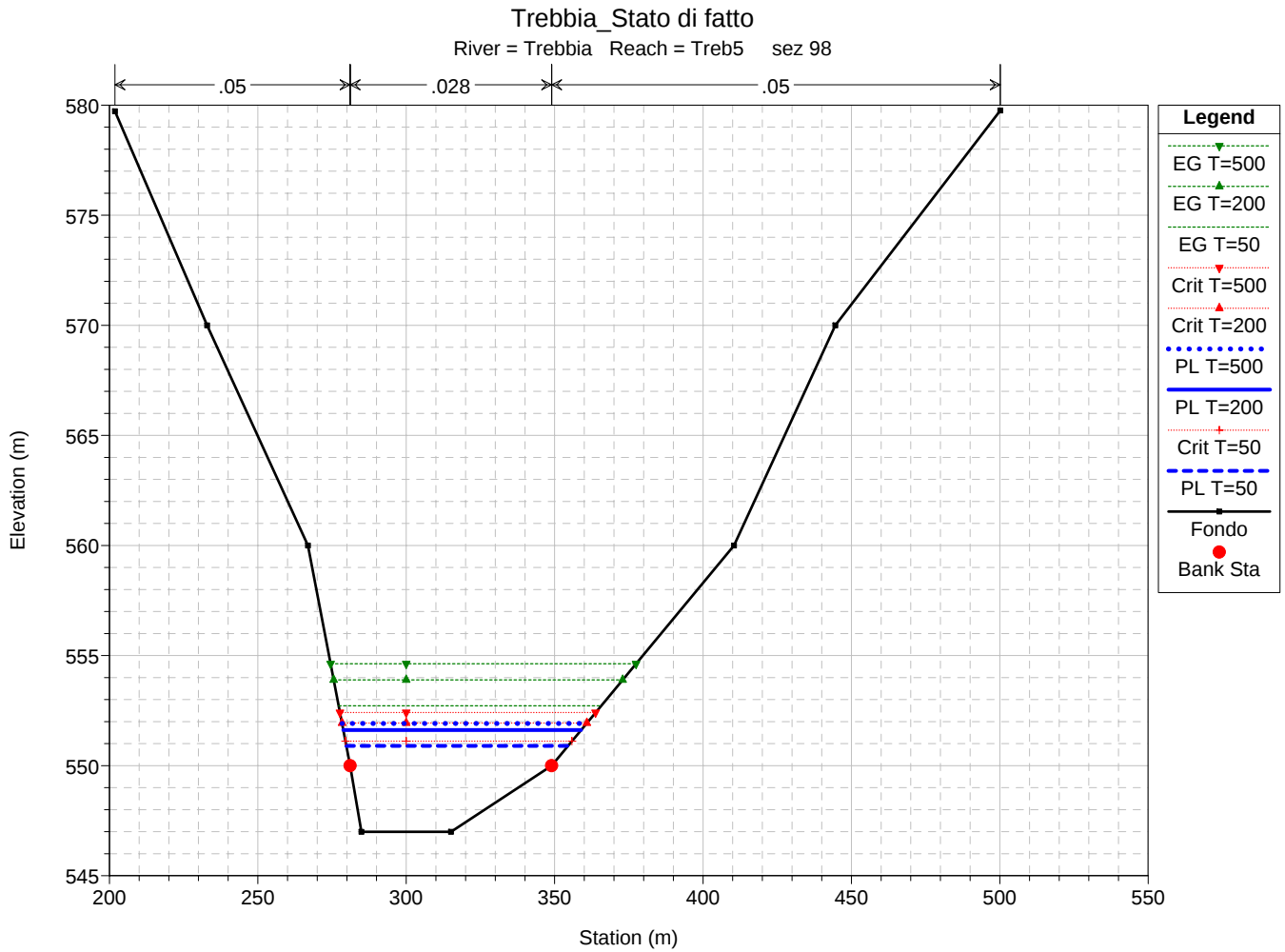
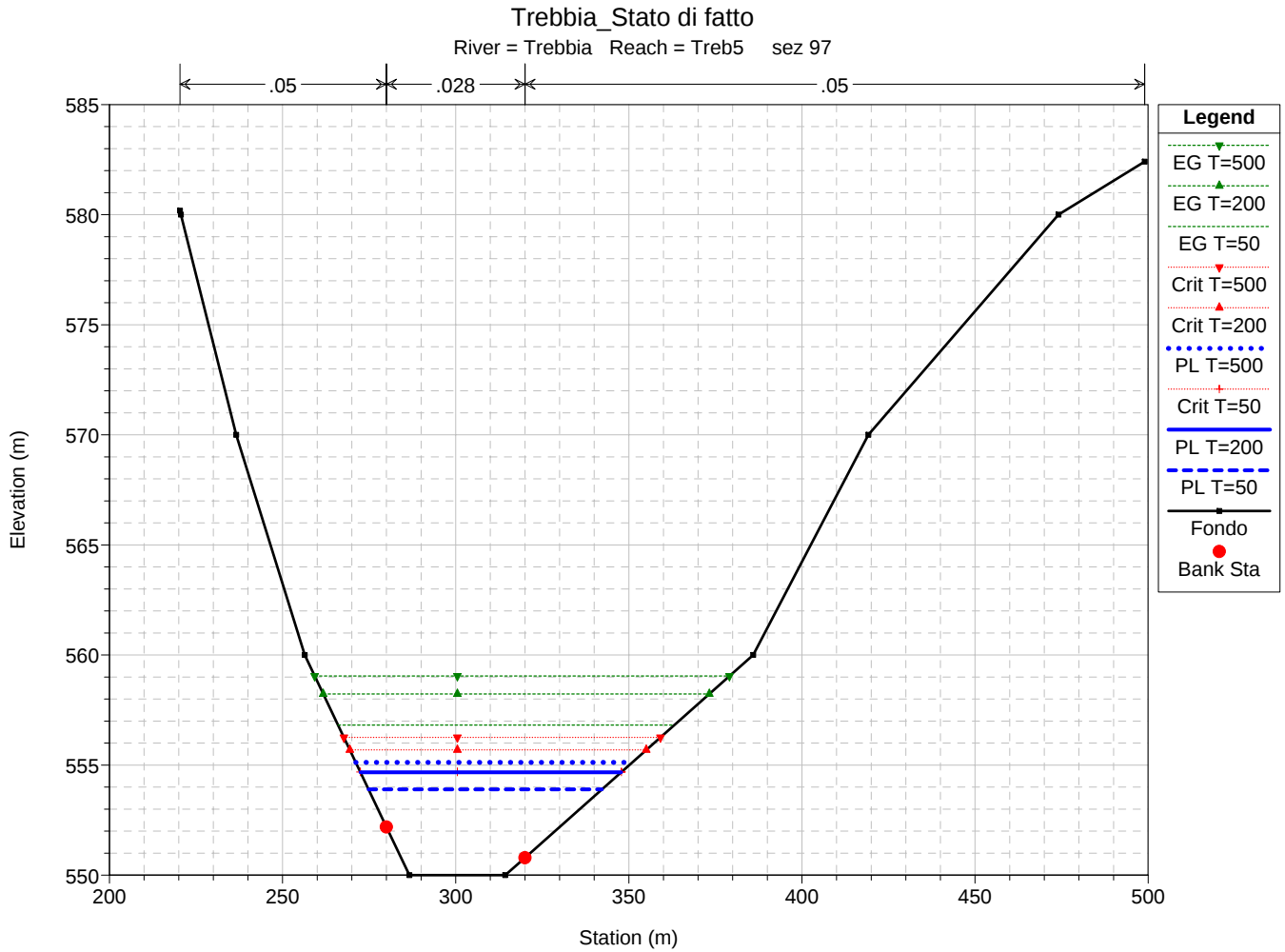






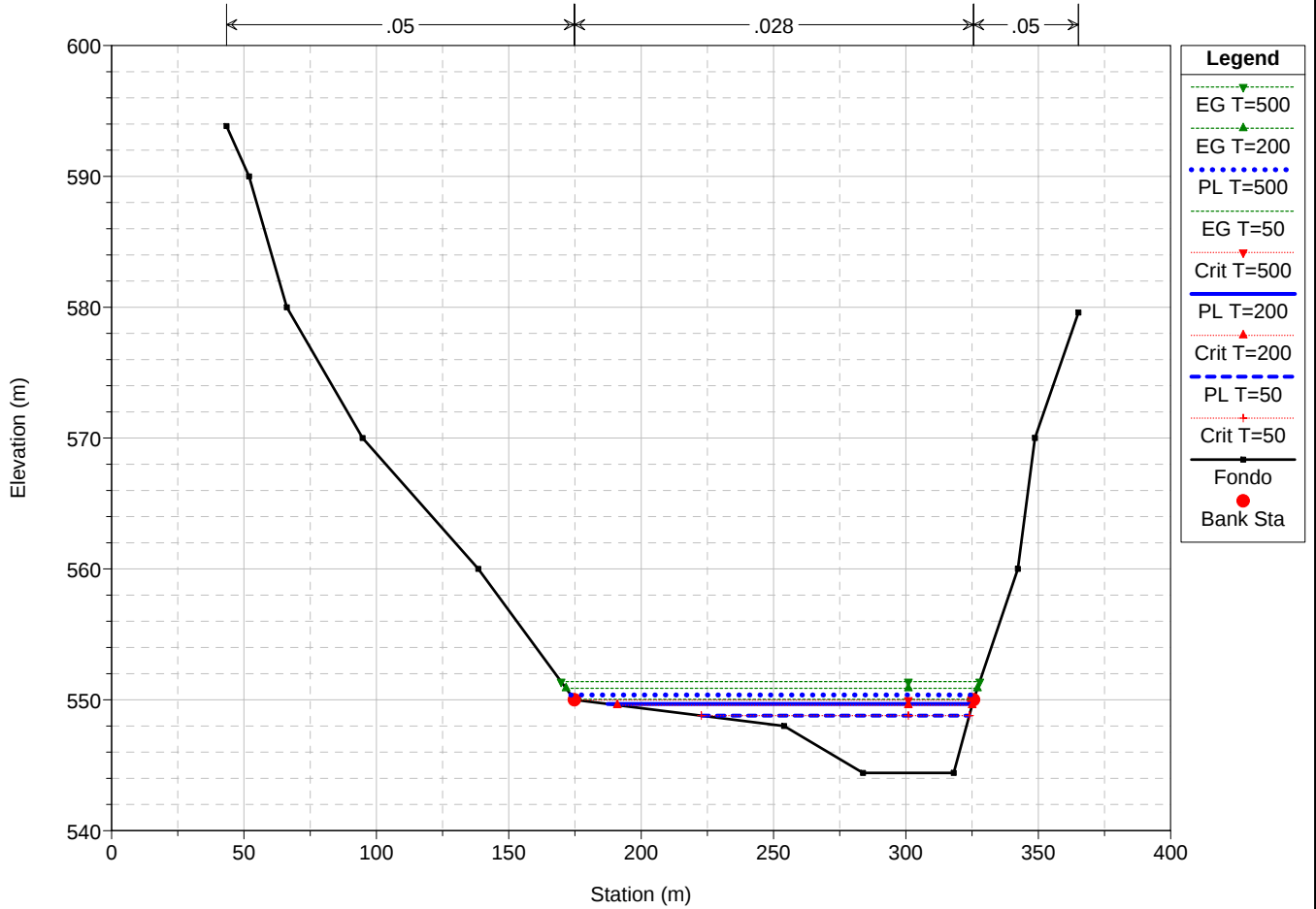






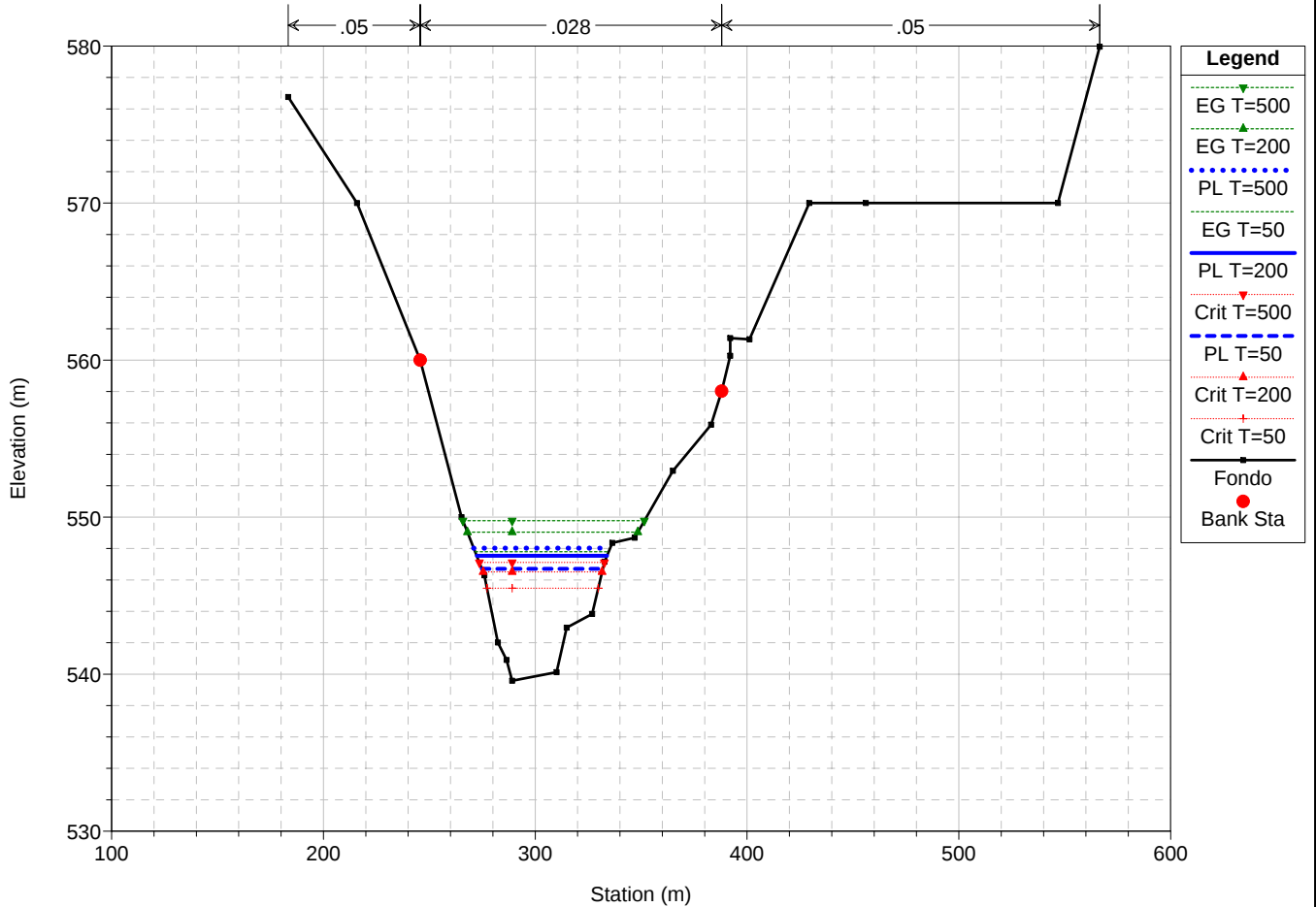
Trebbia_Stato di fatto

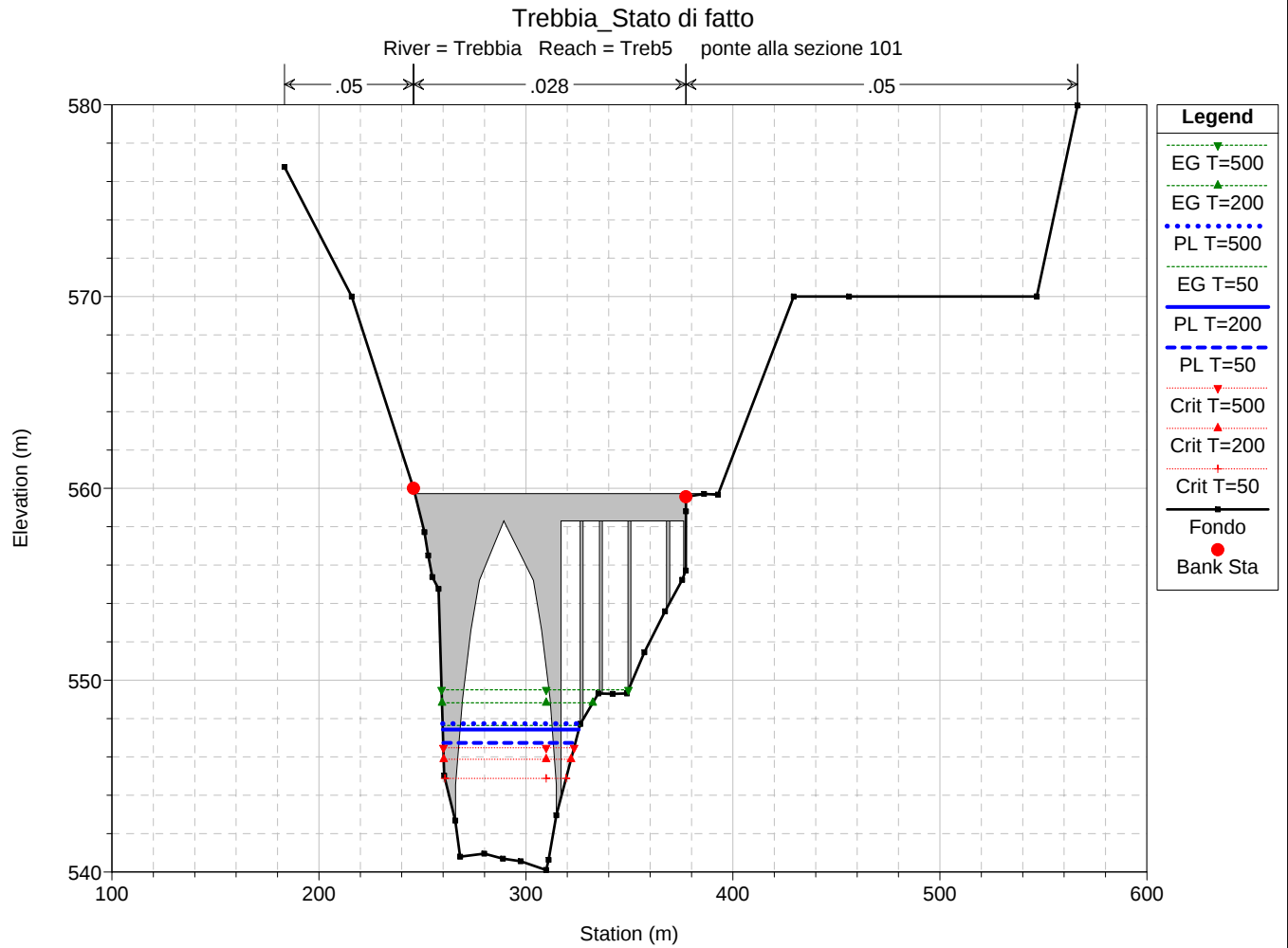
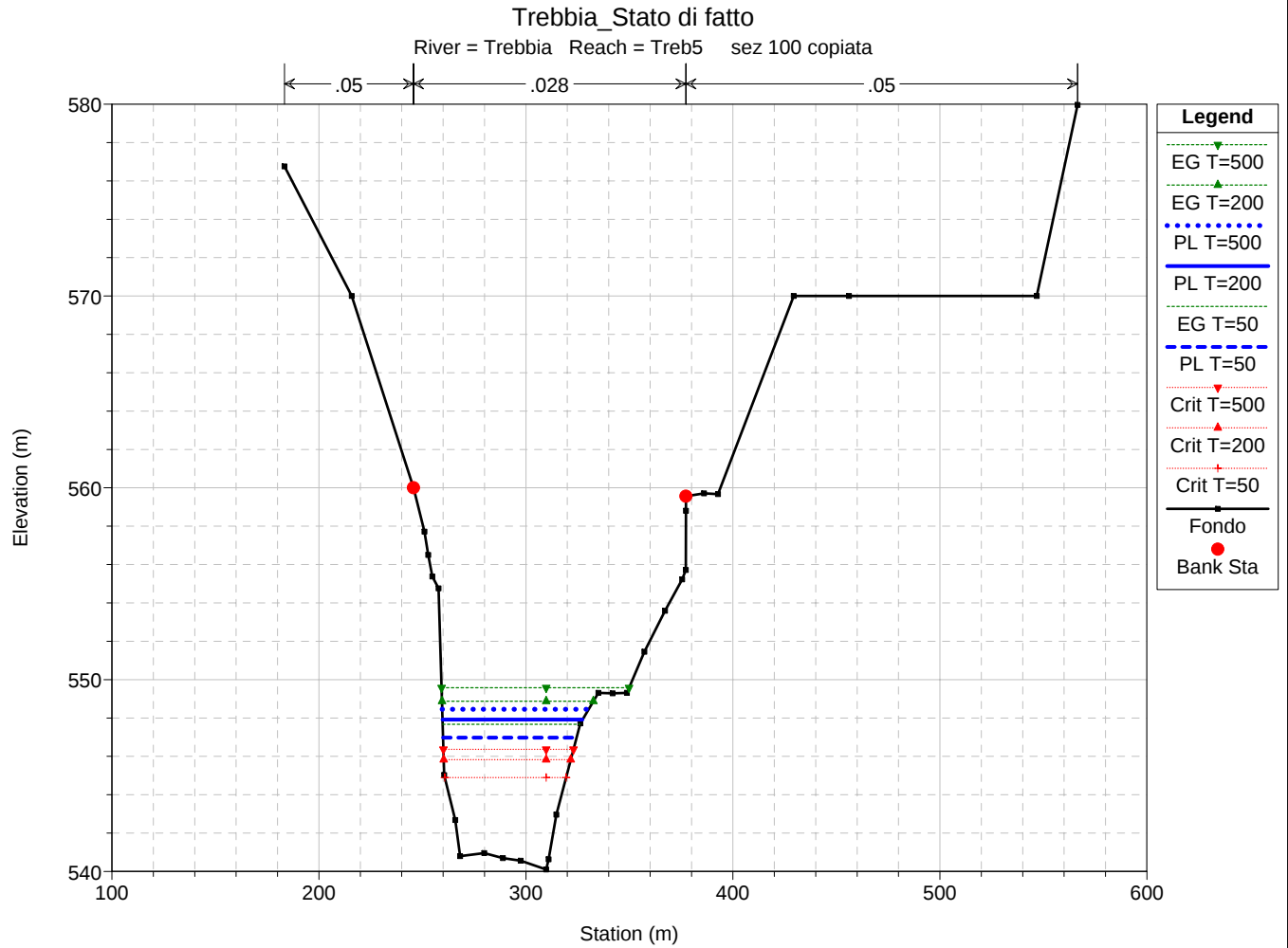
River = Trebbia Reach = Treb5 sez 99

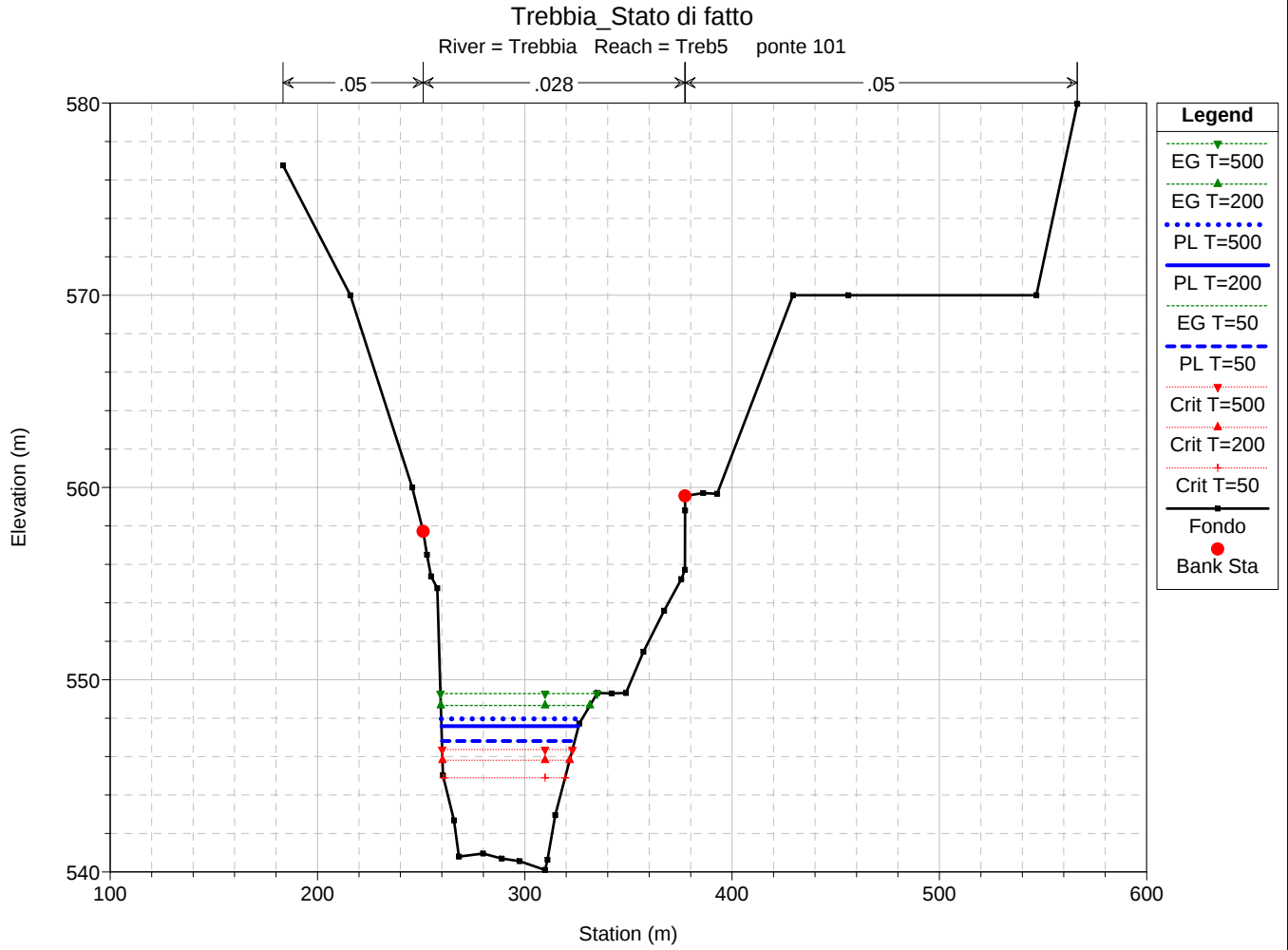
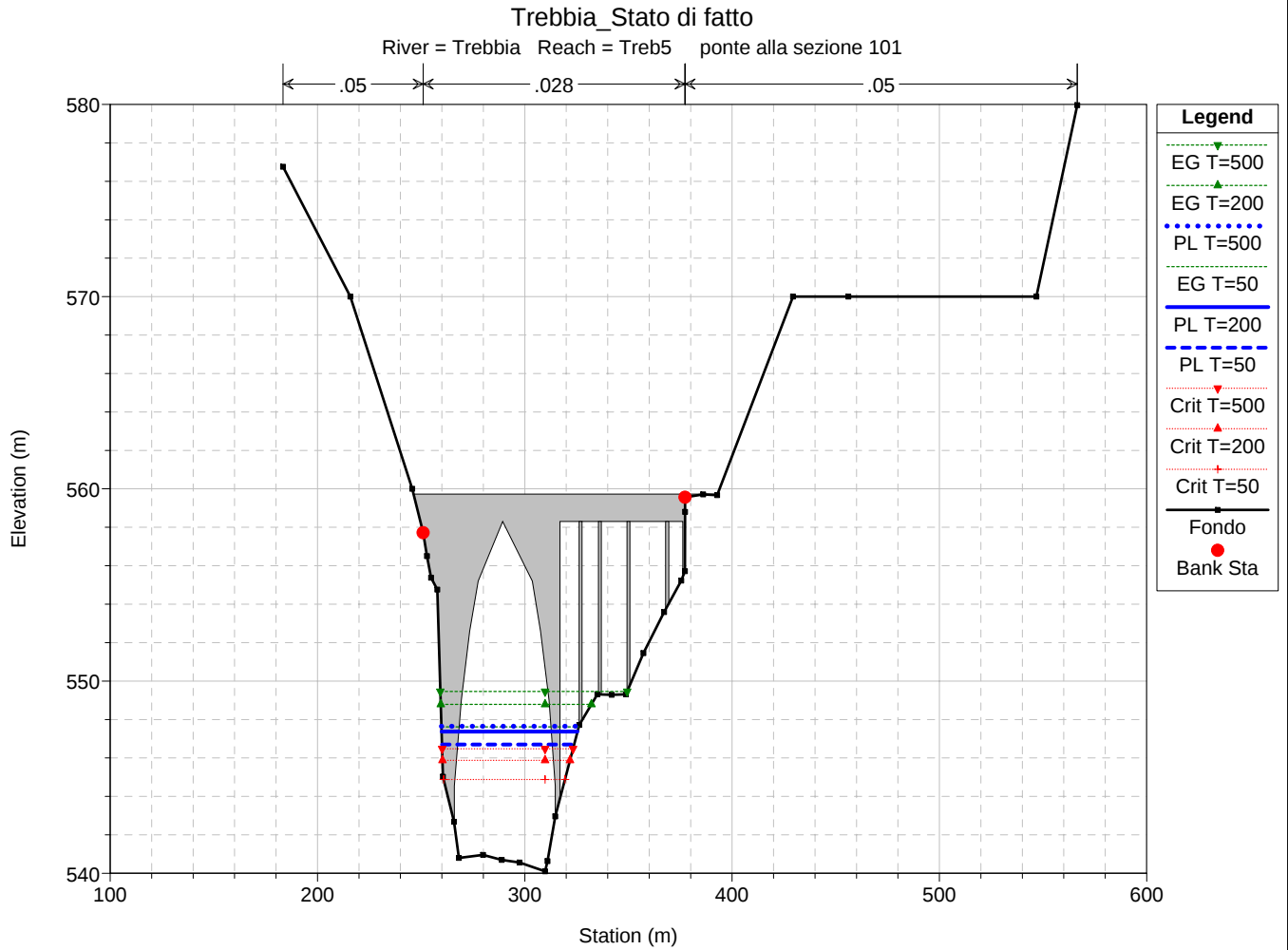


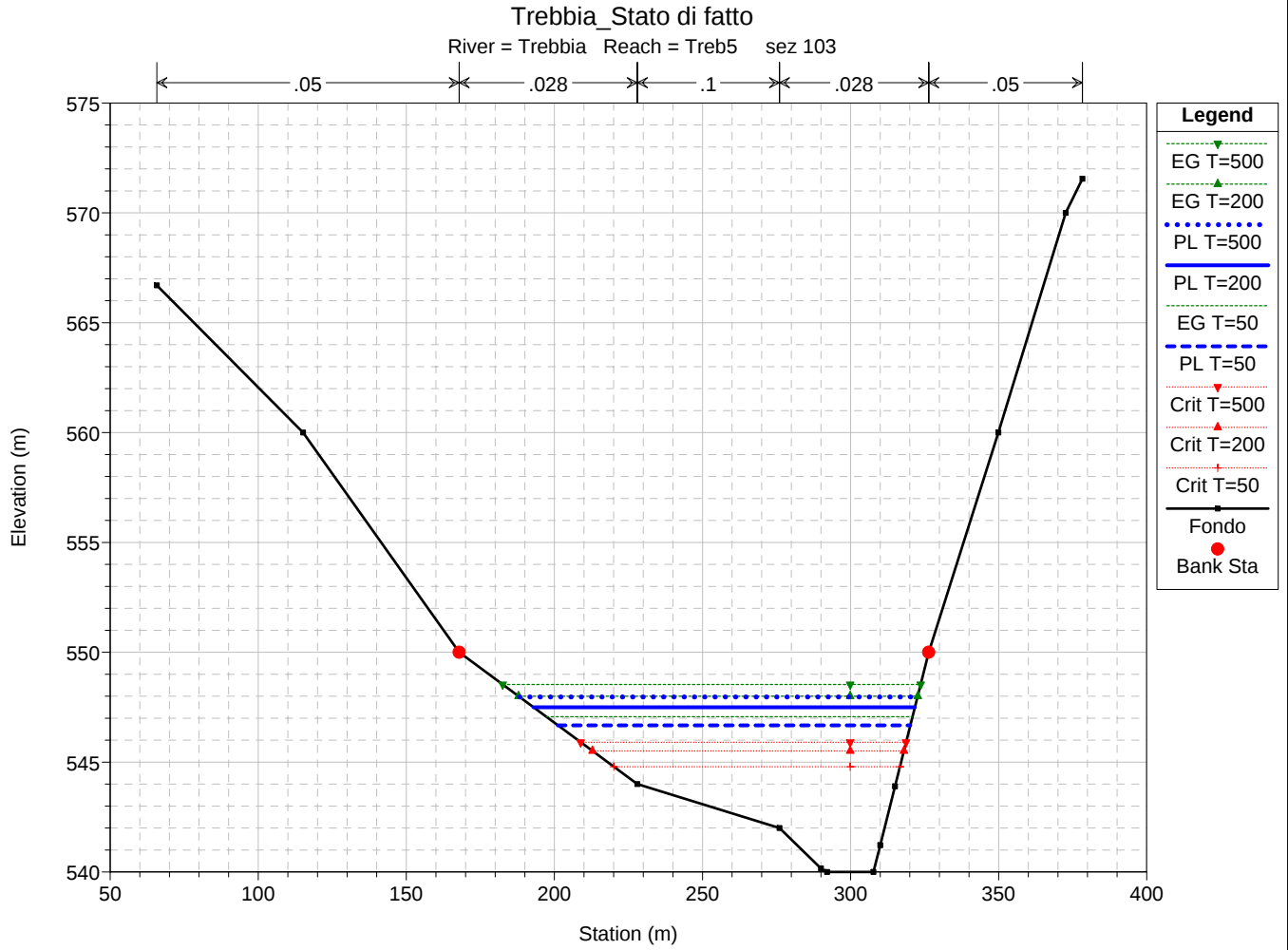
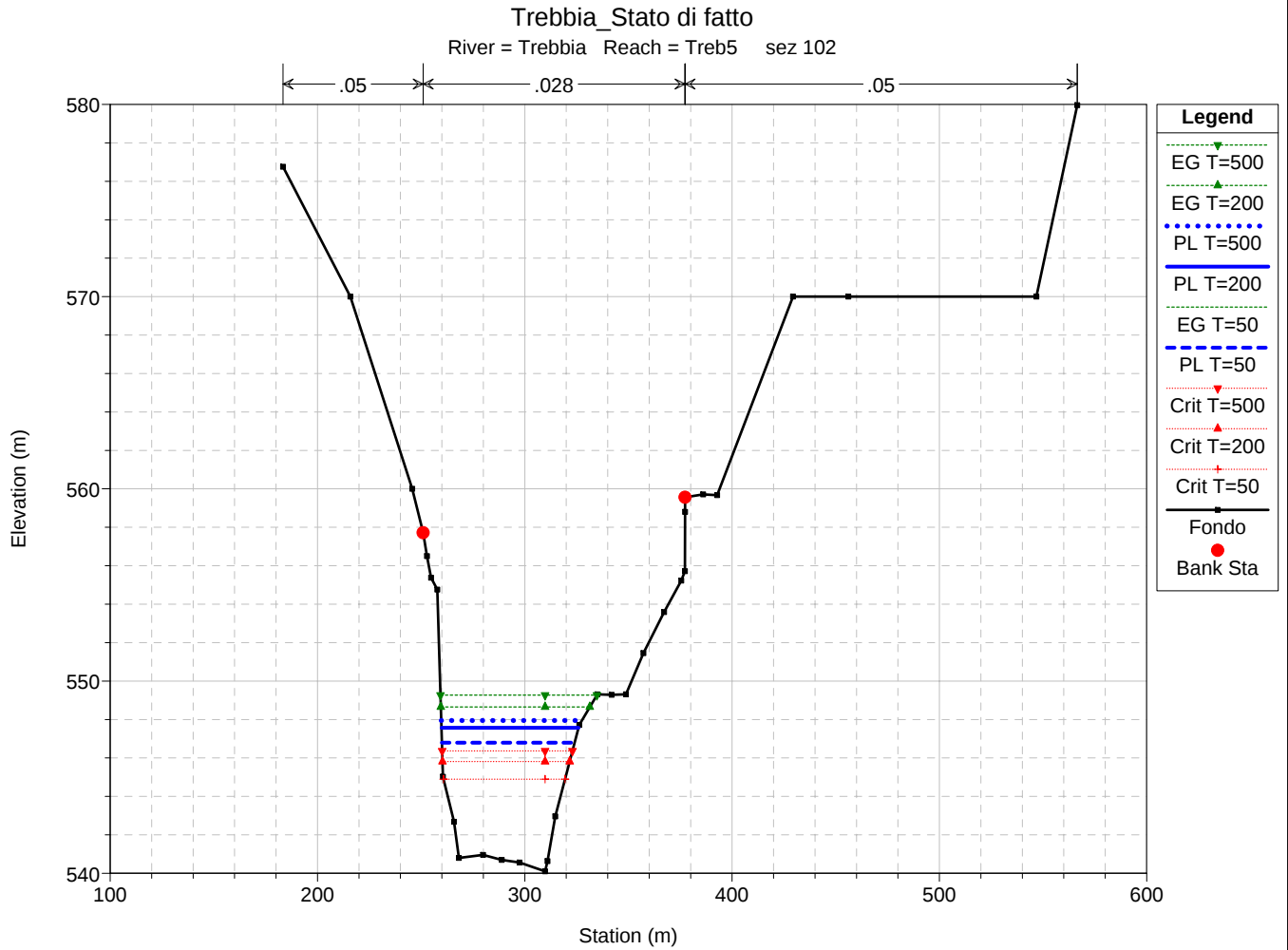
Trebbia_Stato di fatto

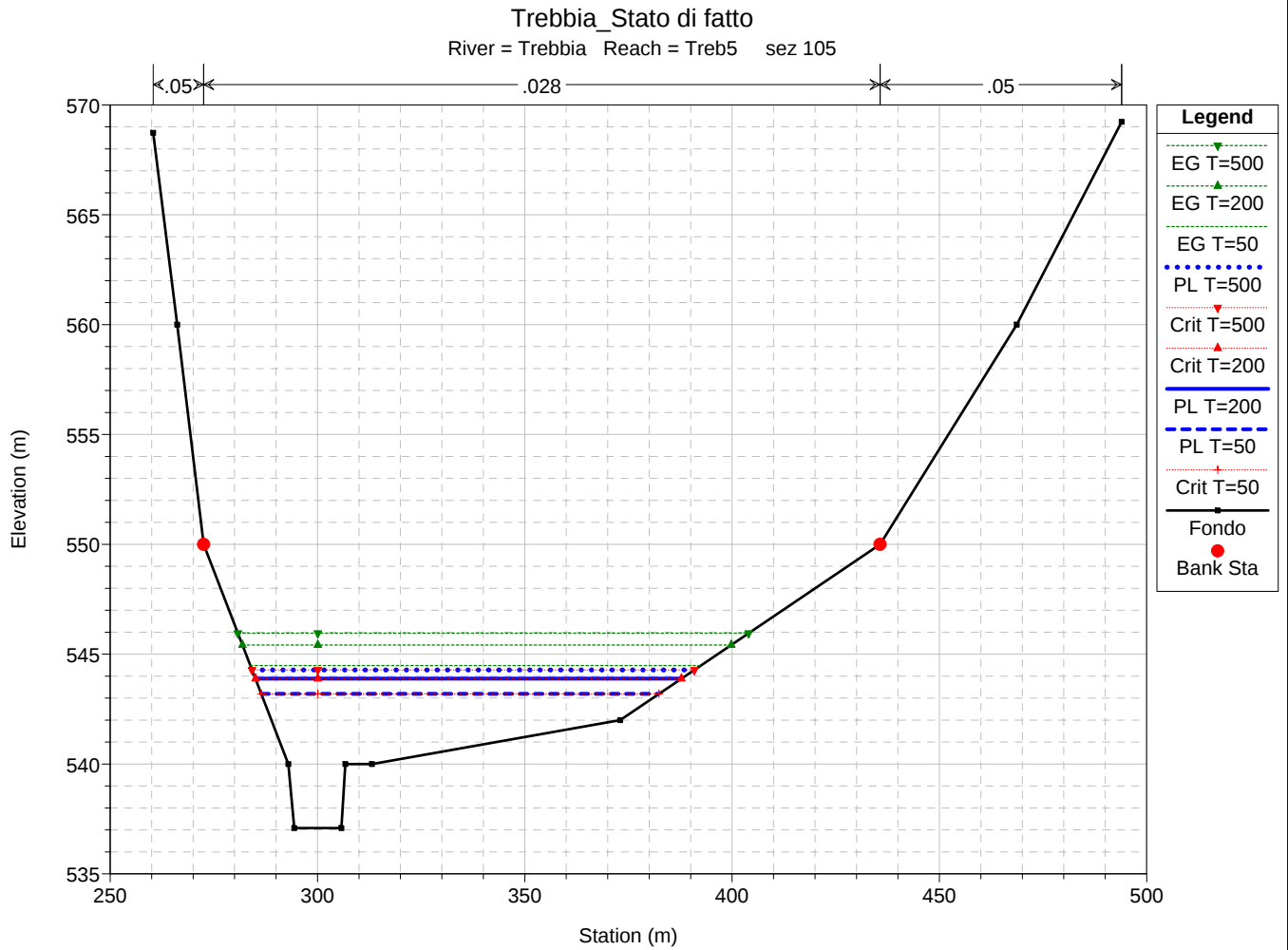
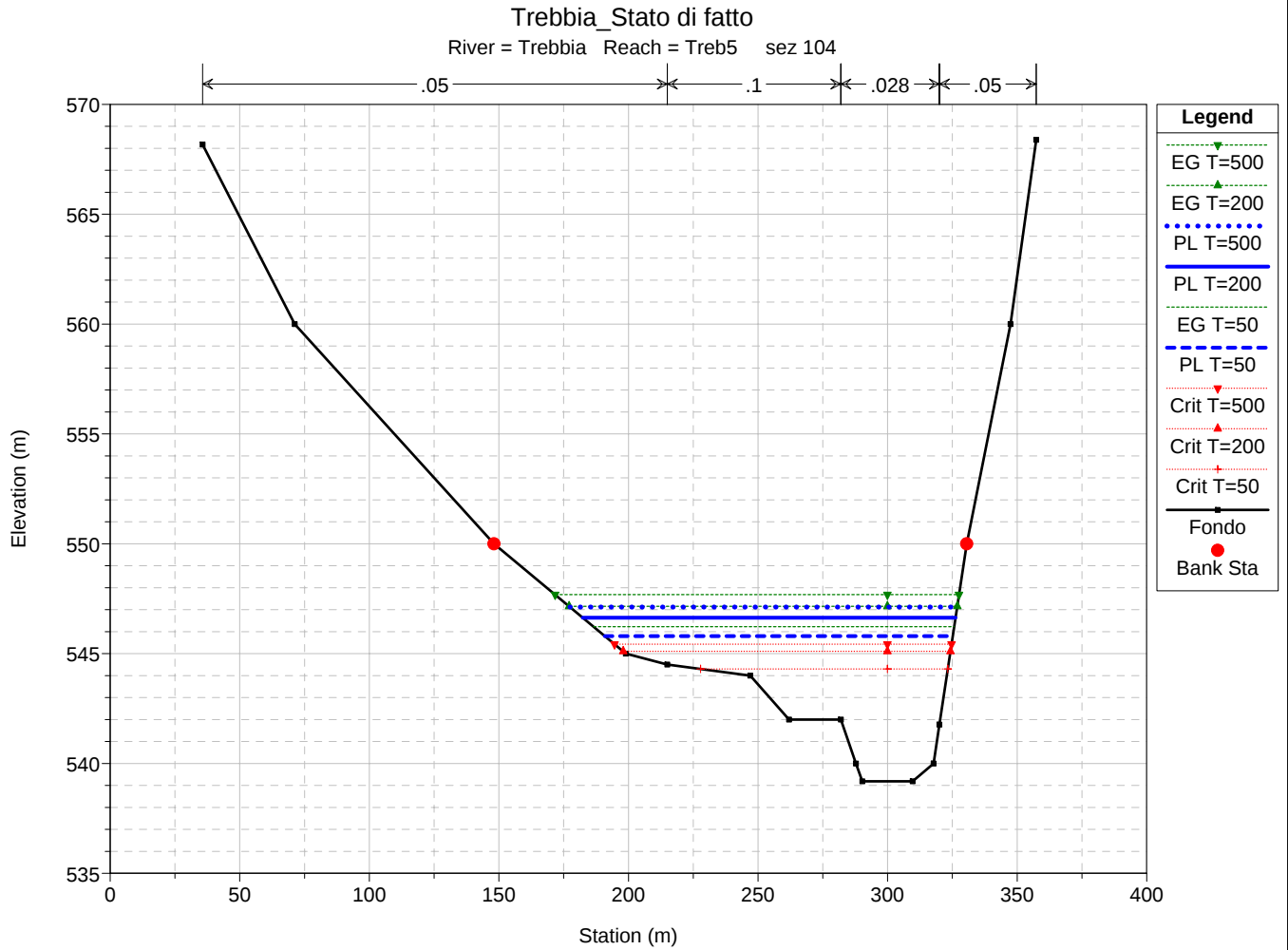
River = Trebbia Reach = Treb5 sez 100

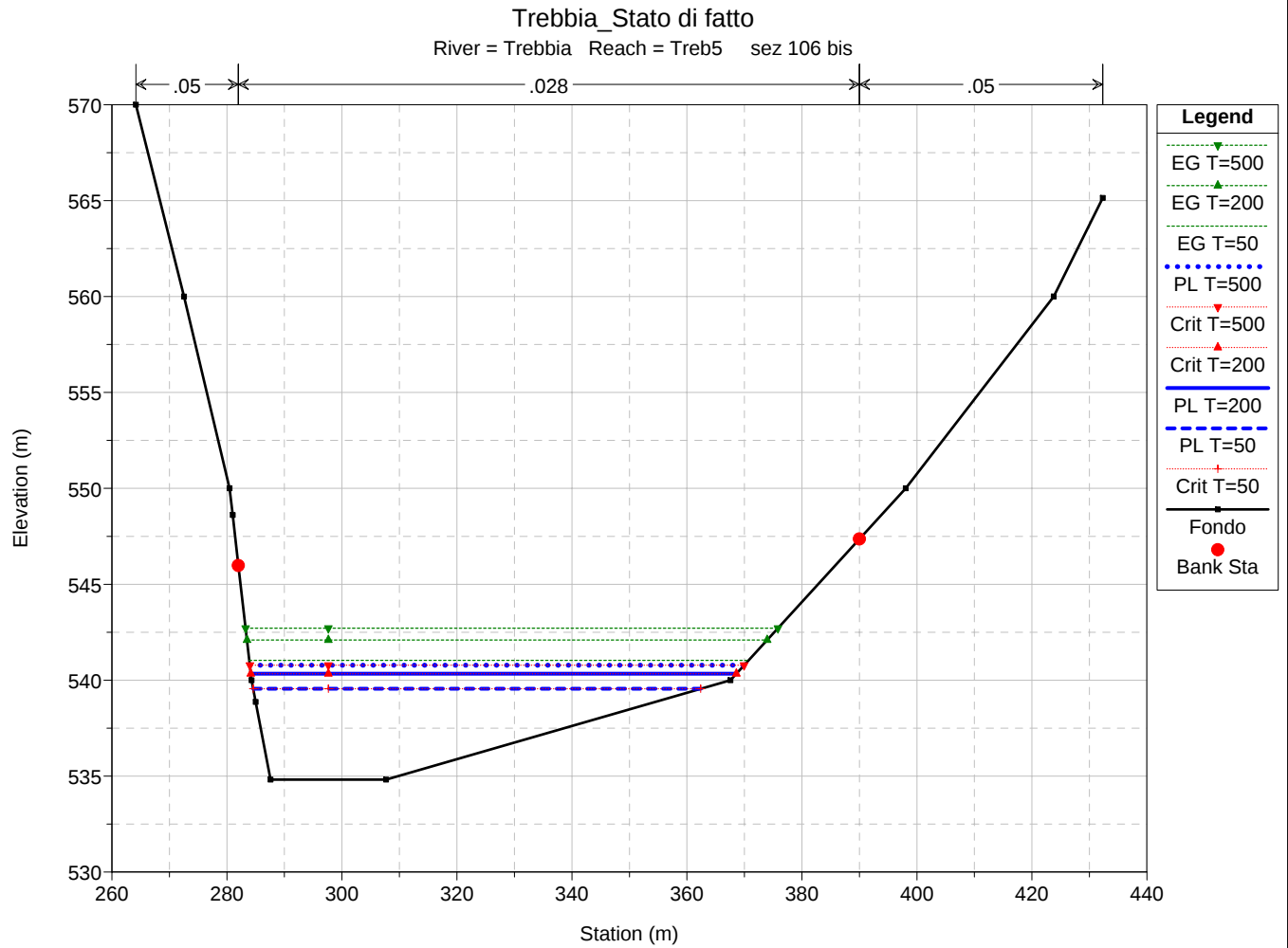
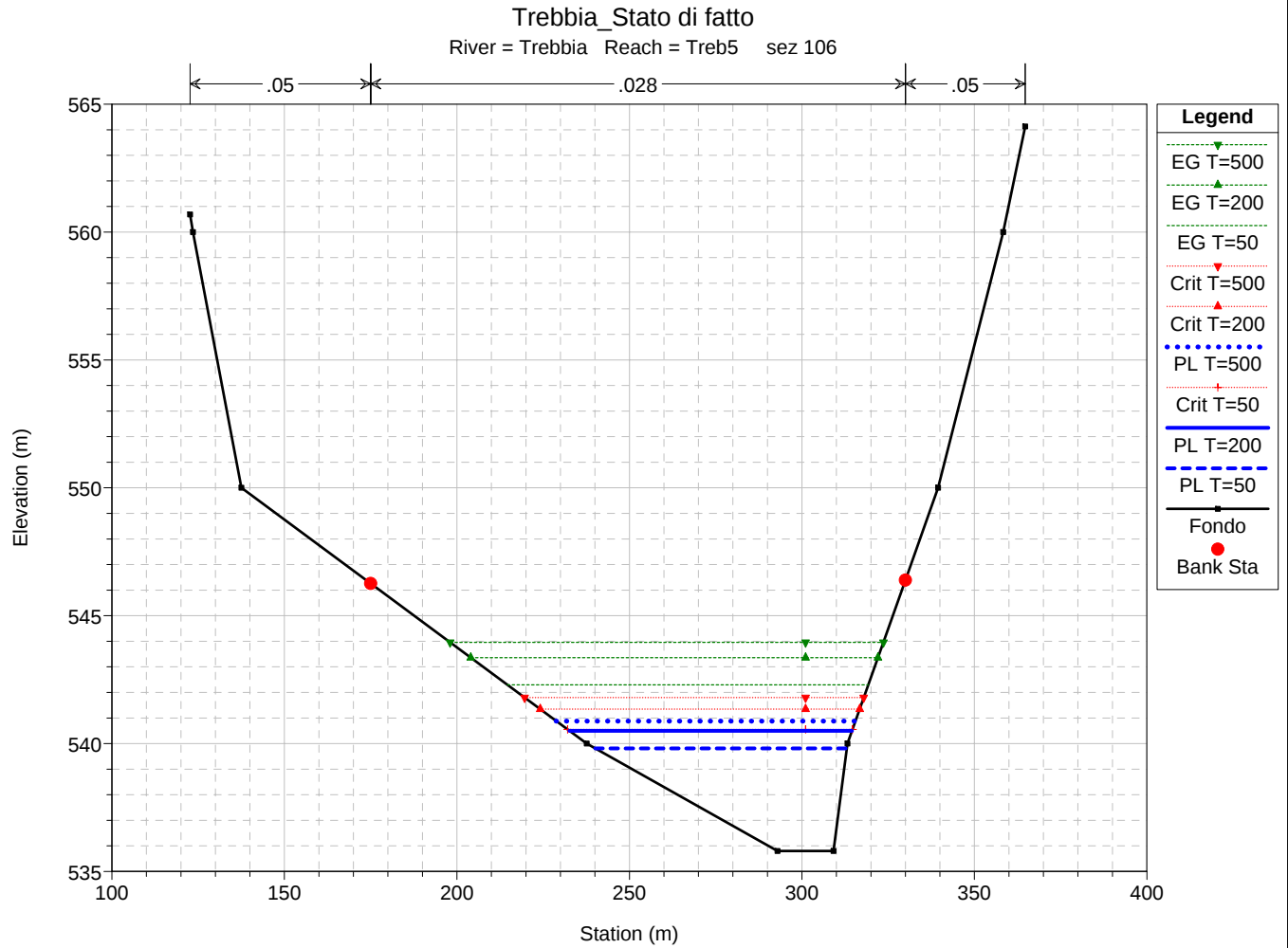


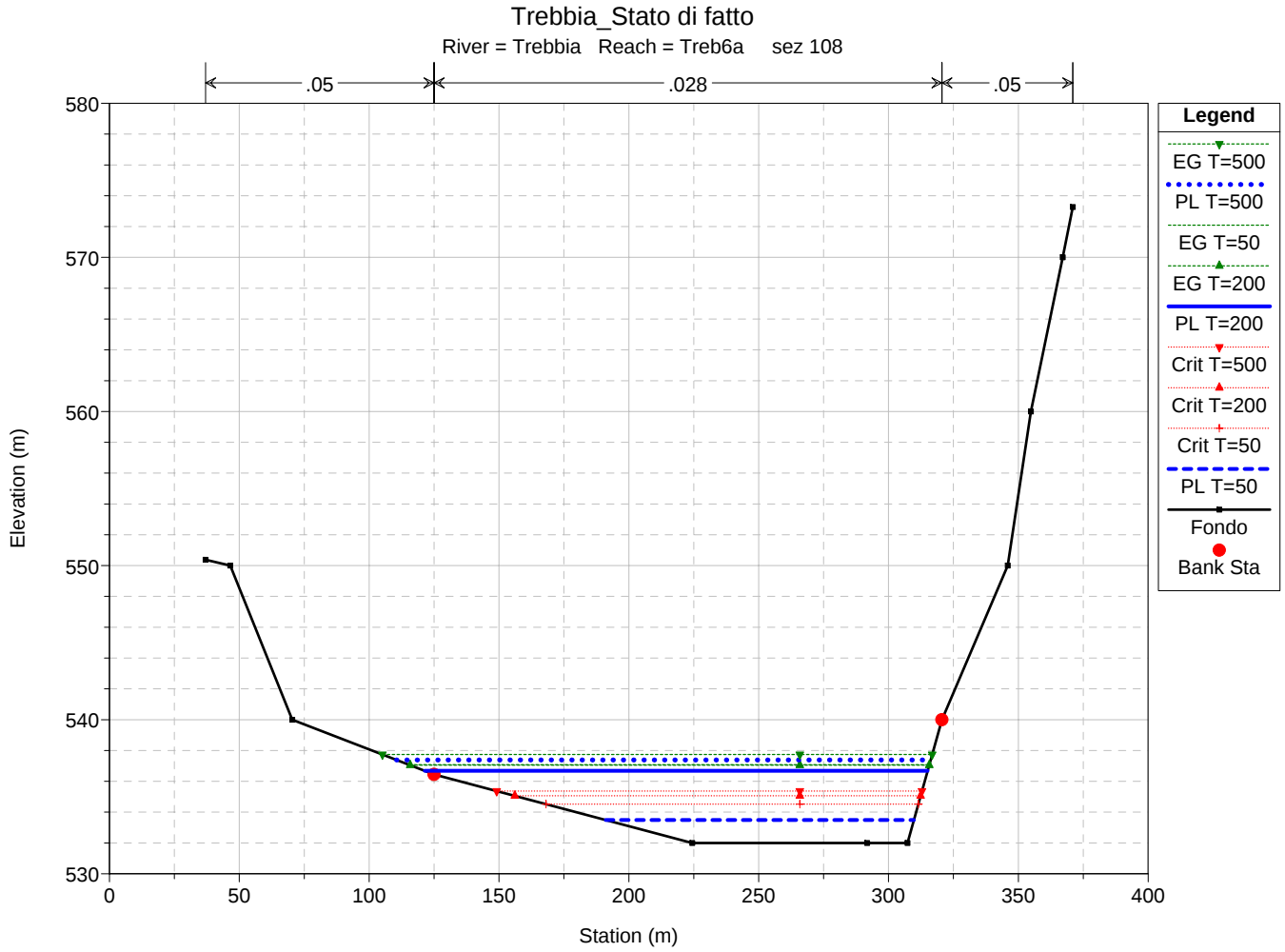
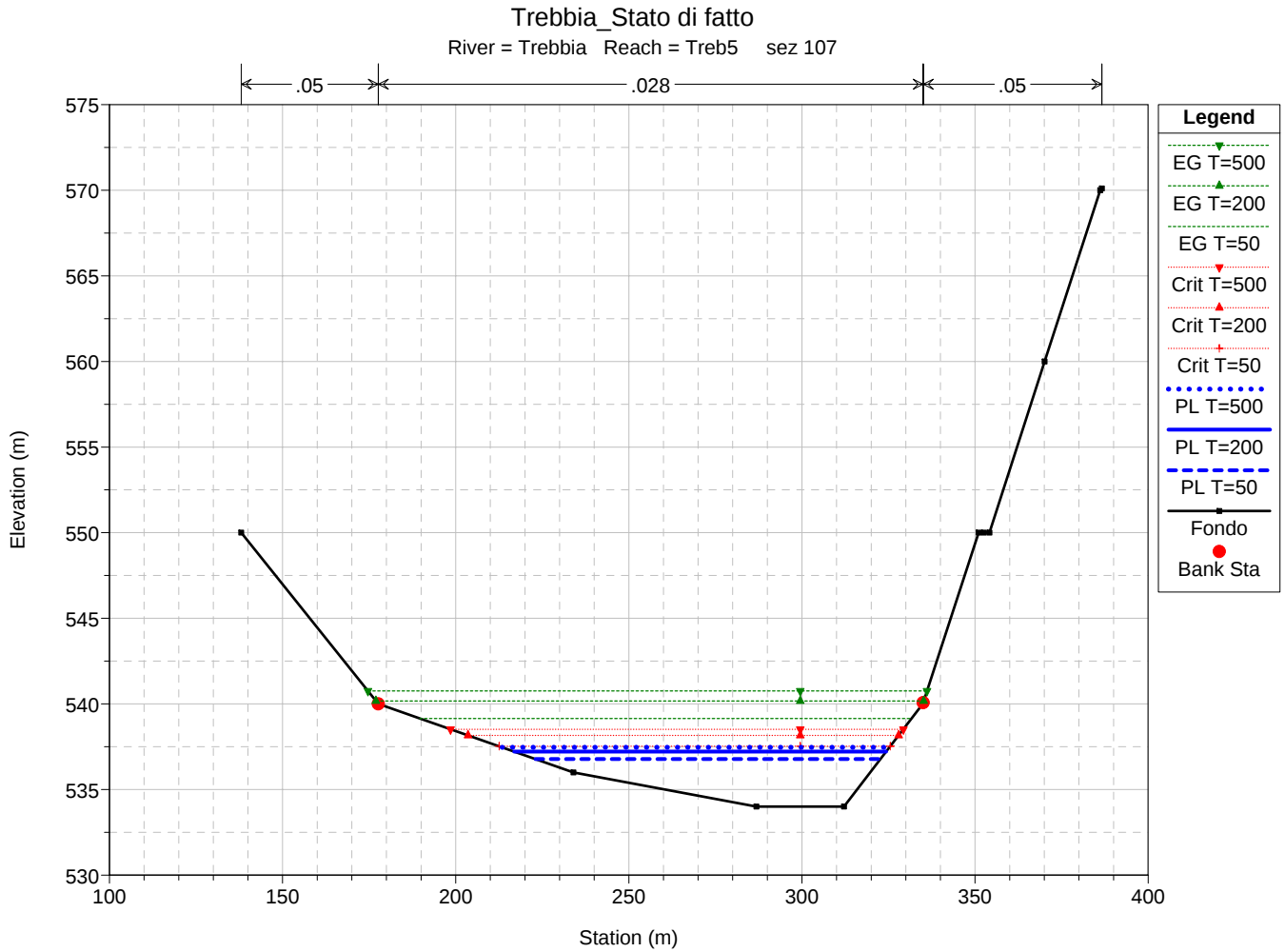


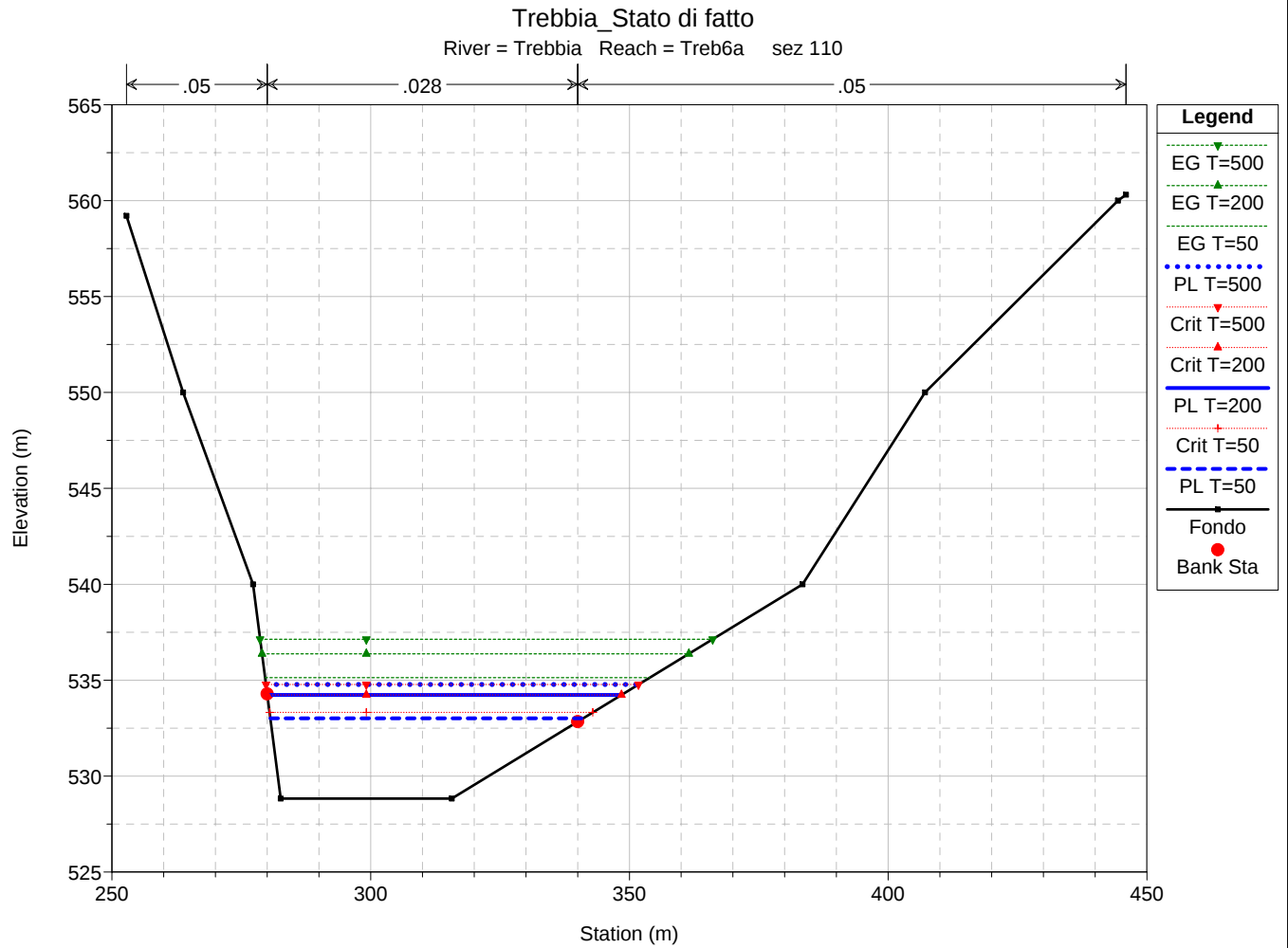
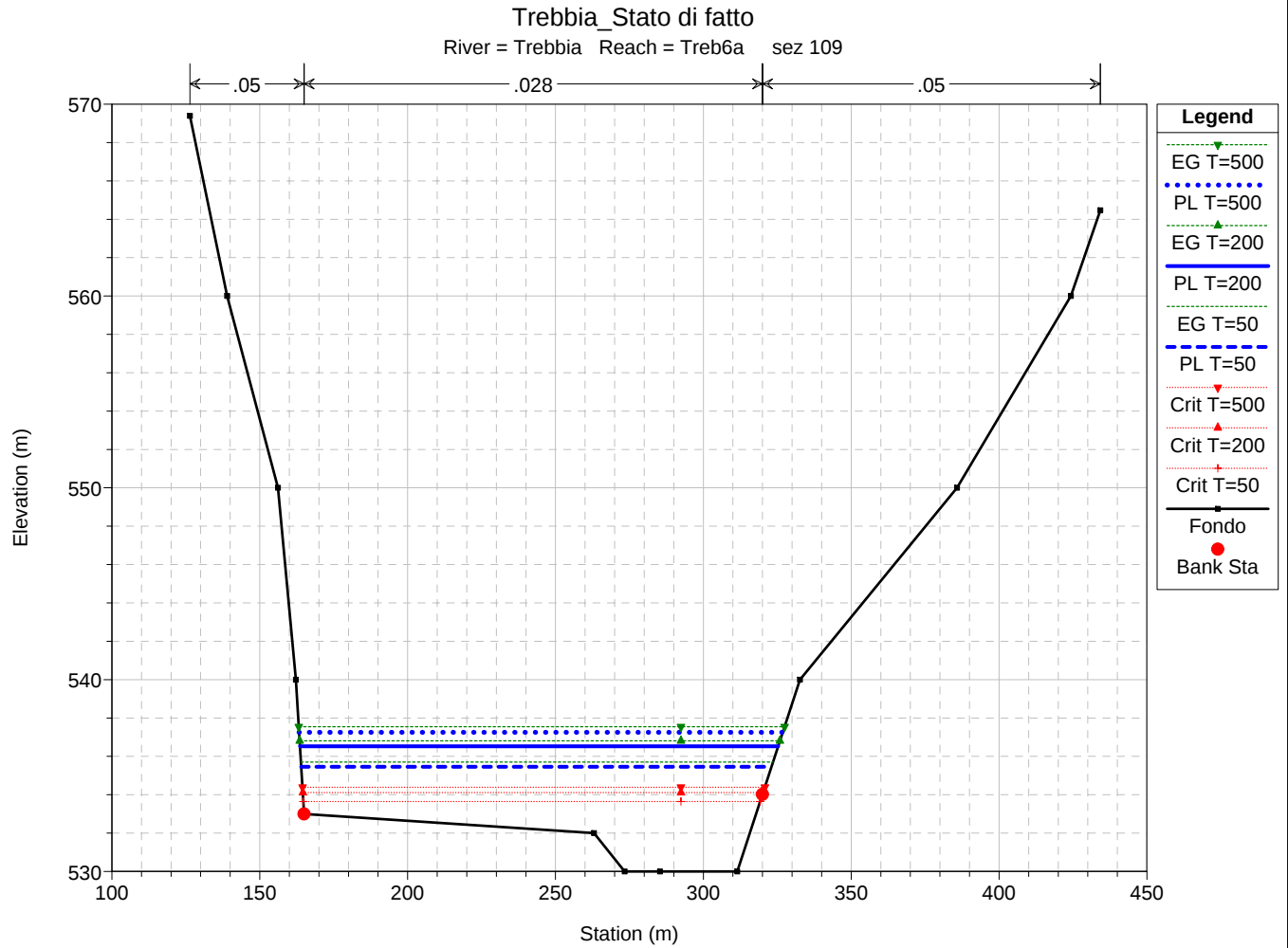


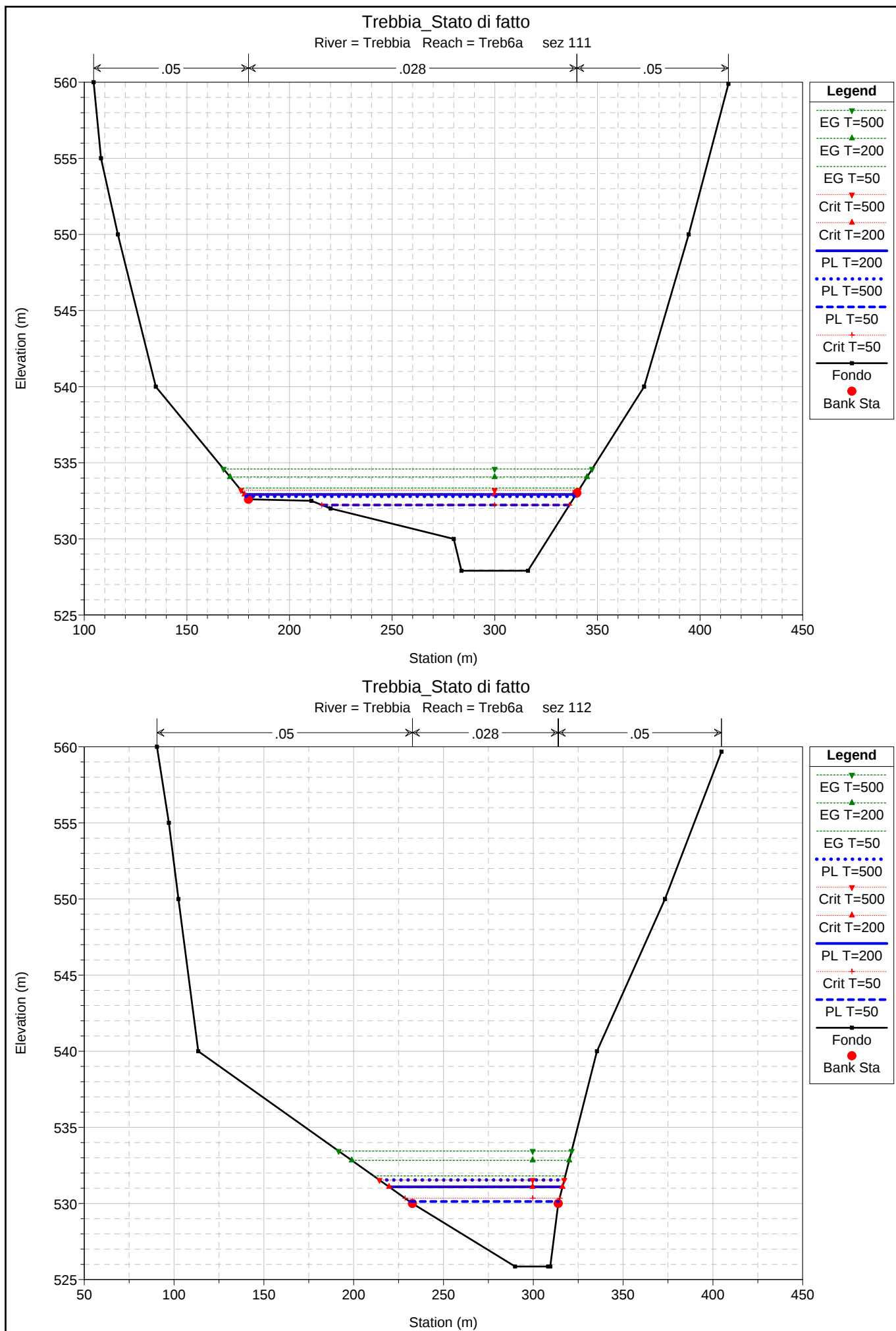


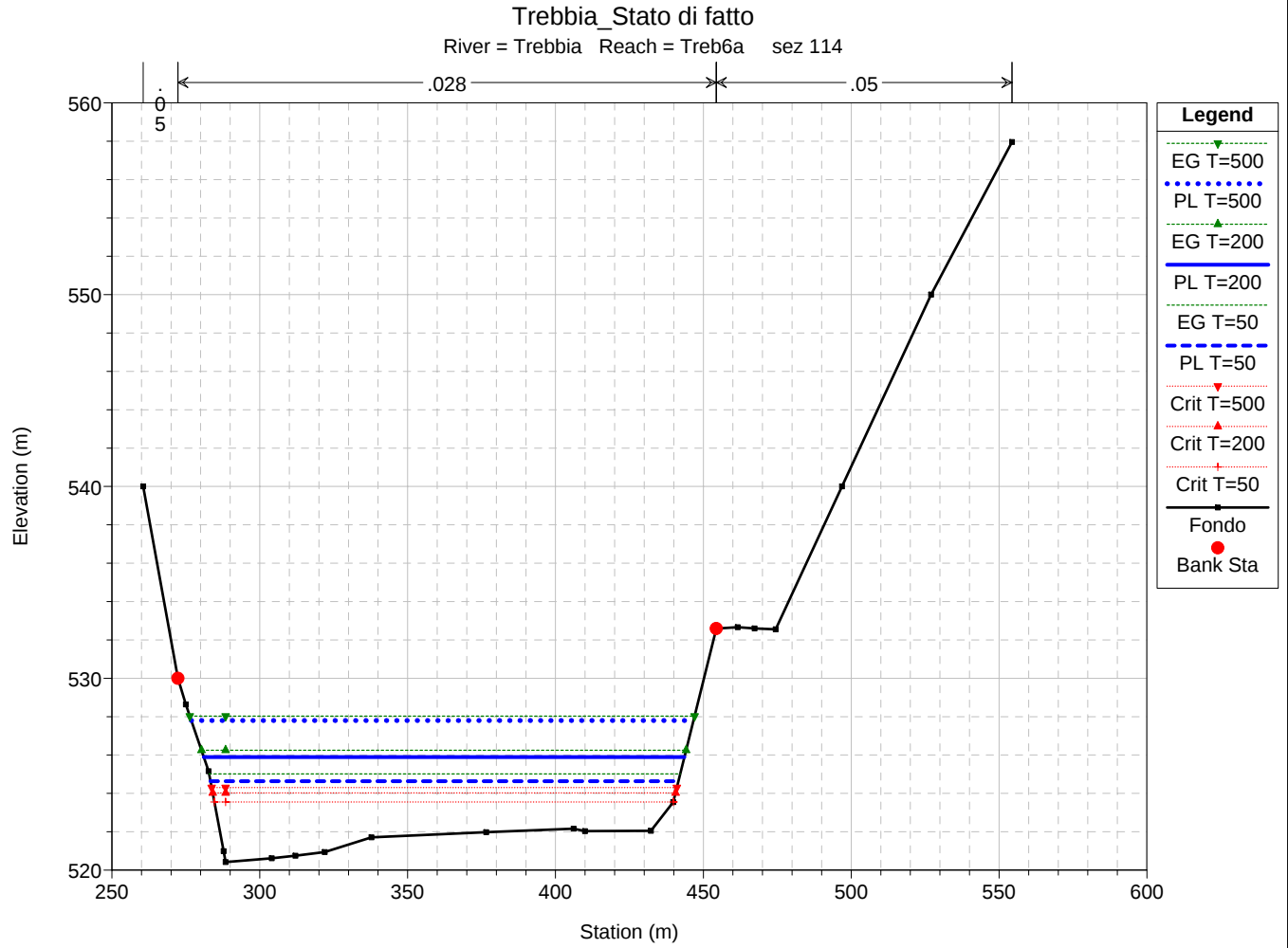
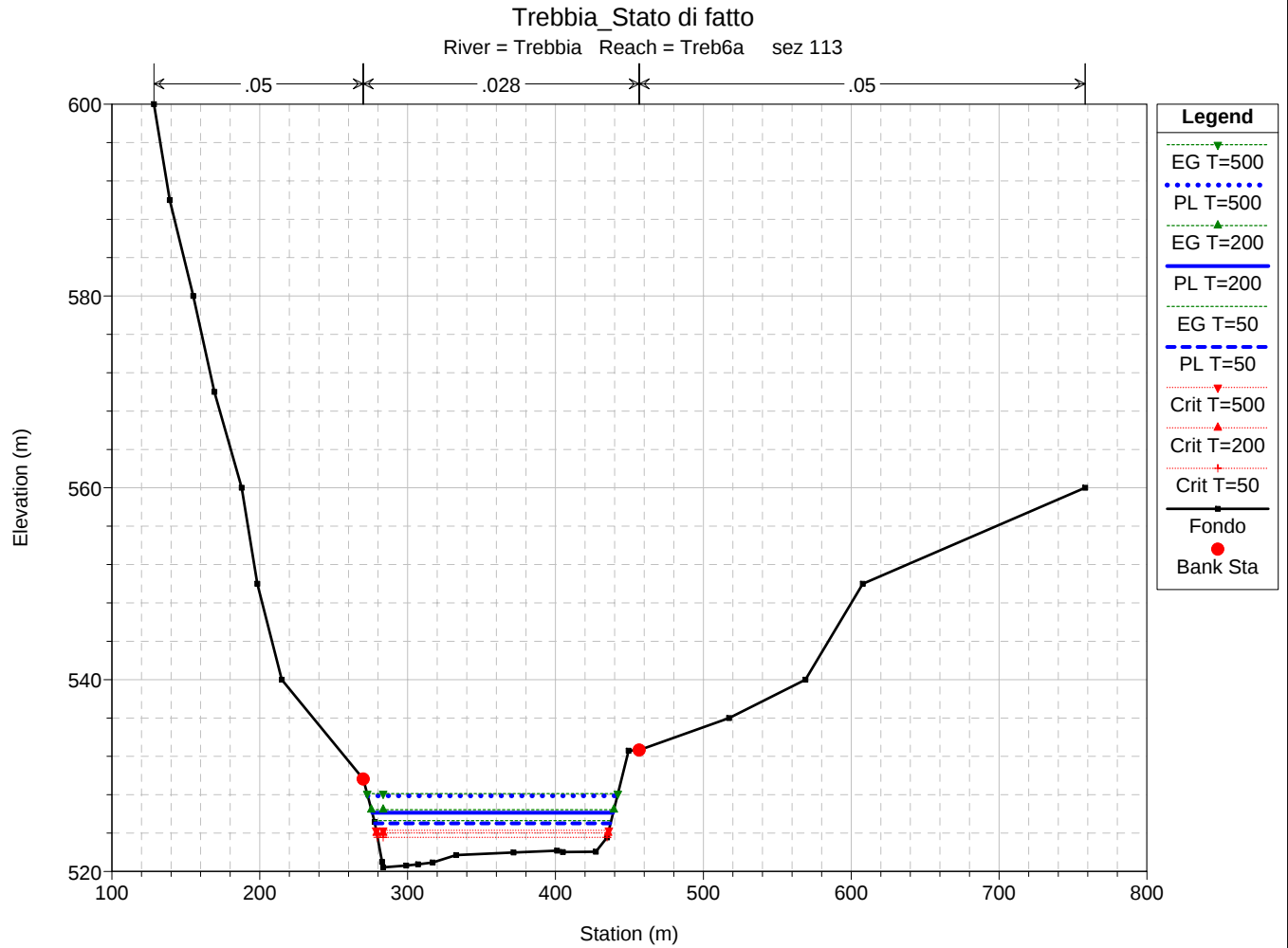


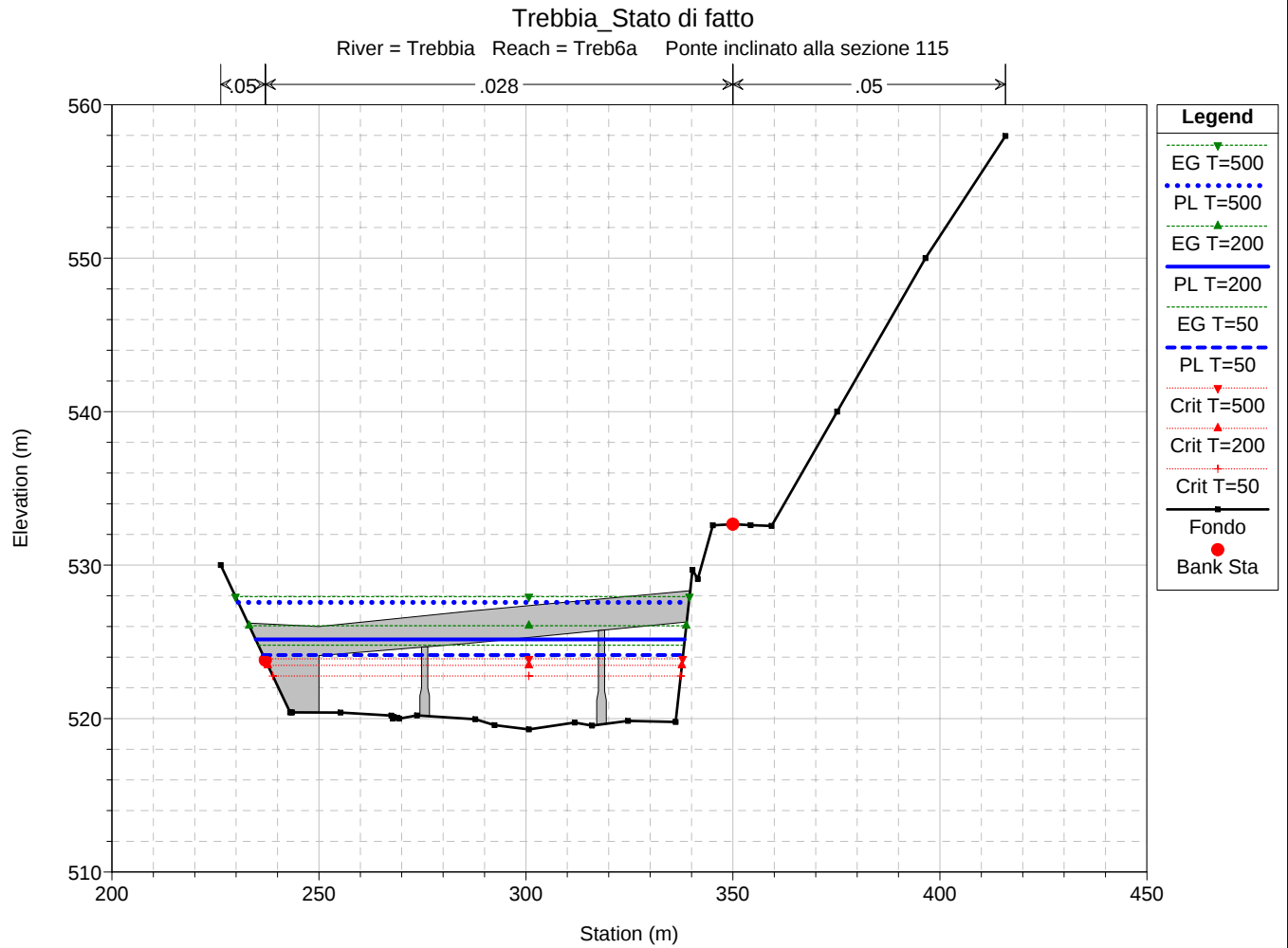
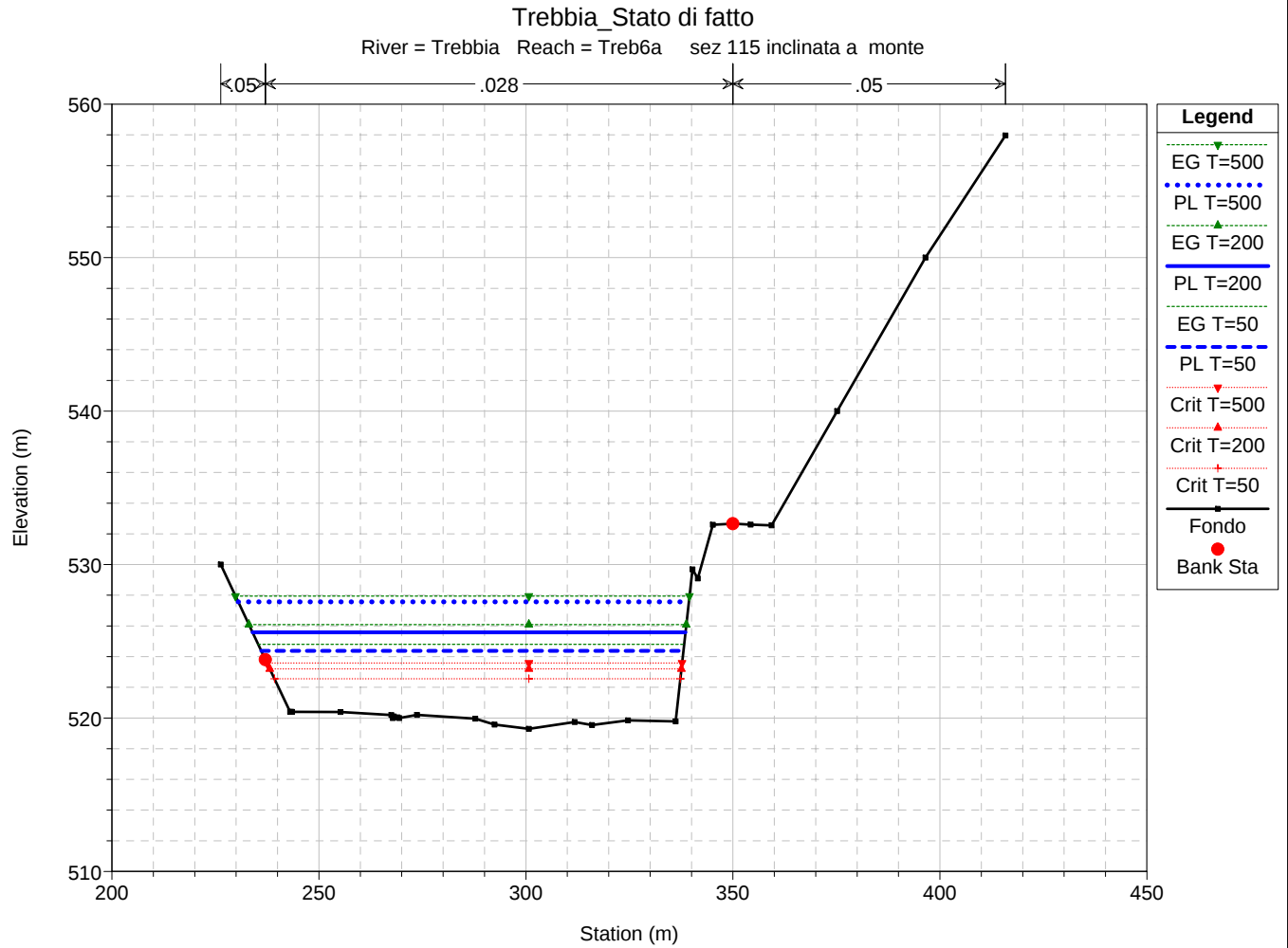


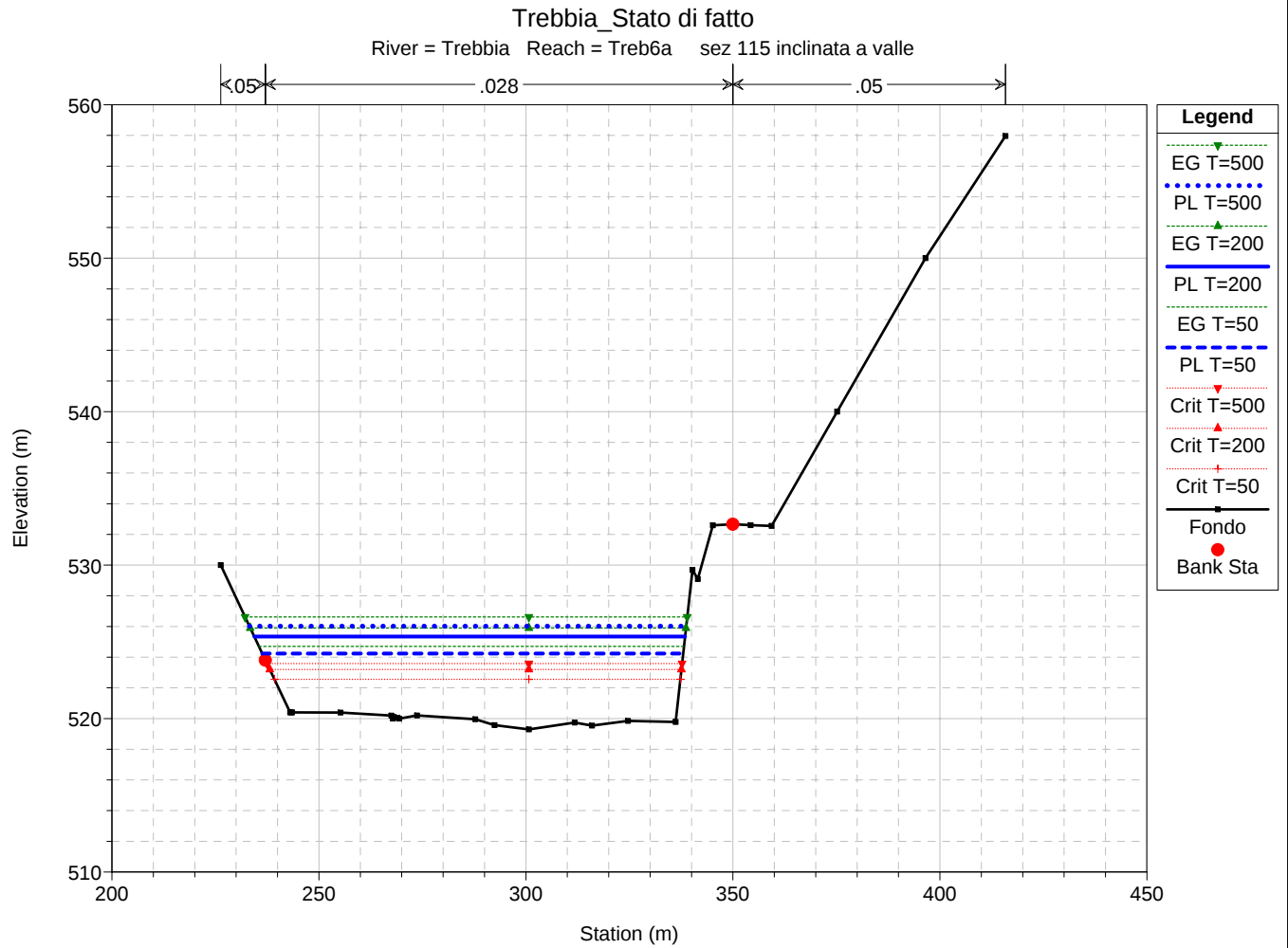
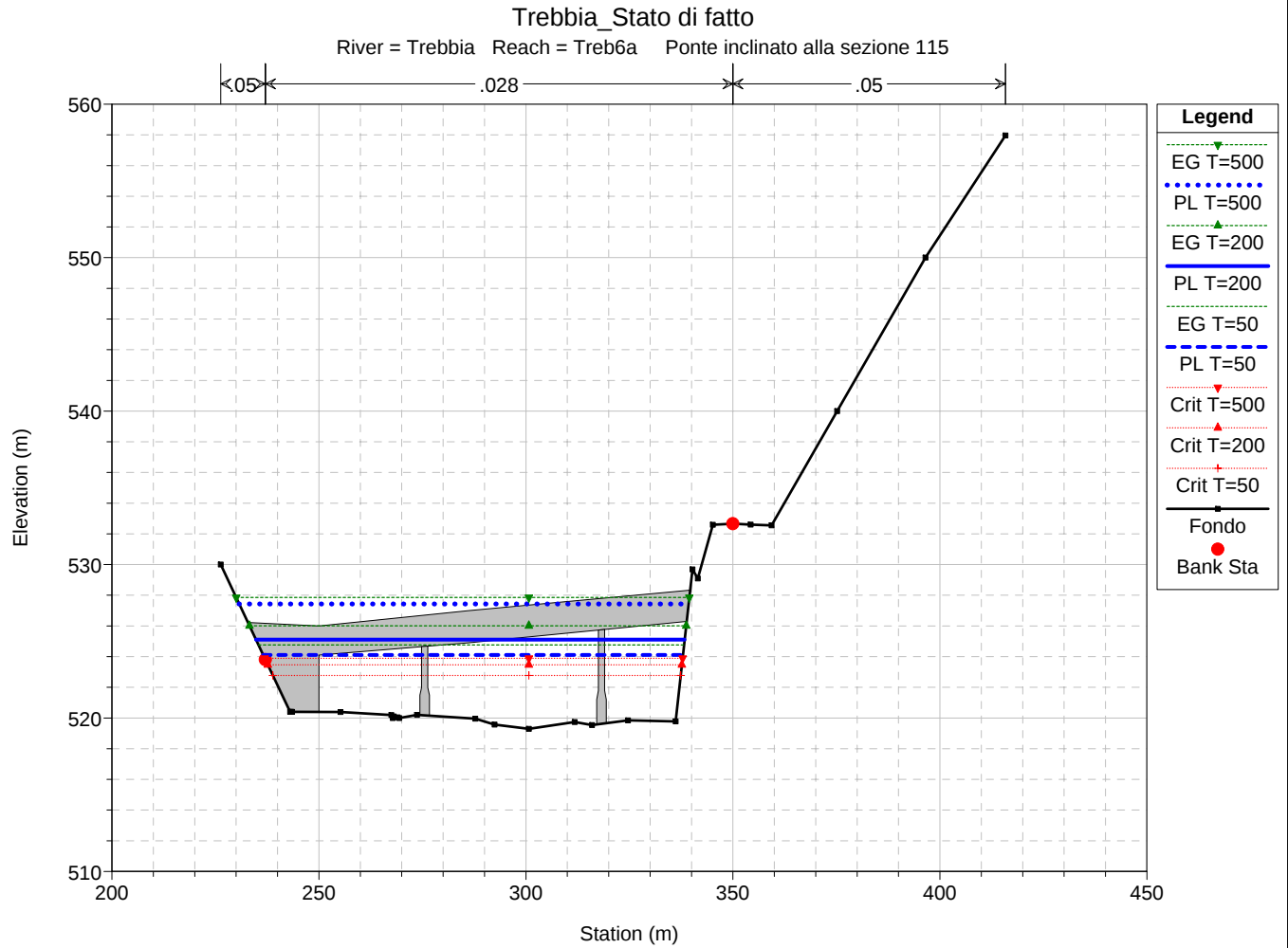


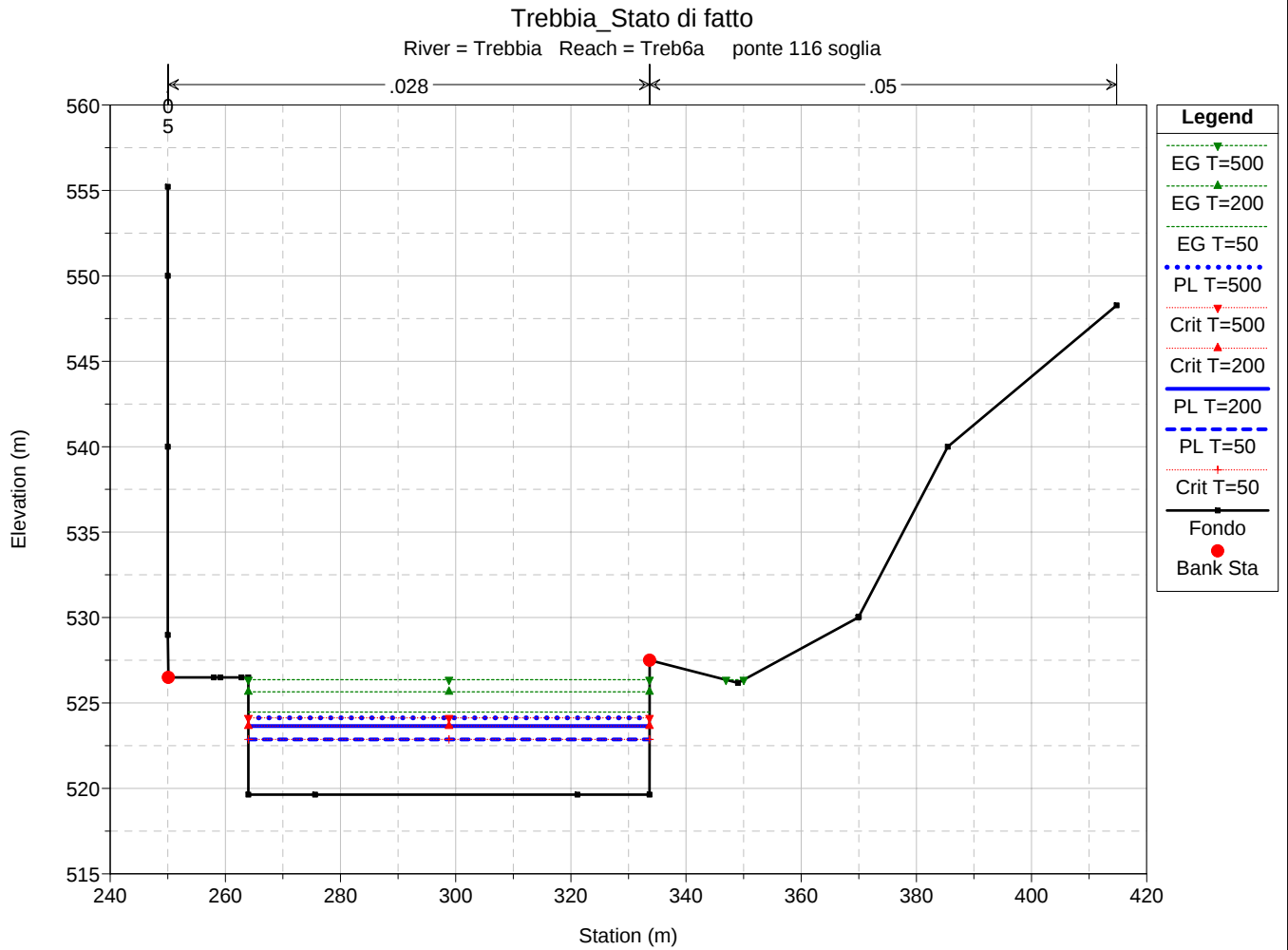
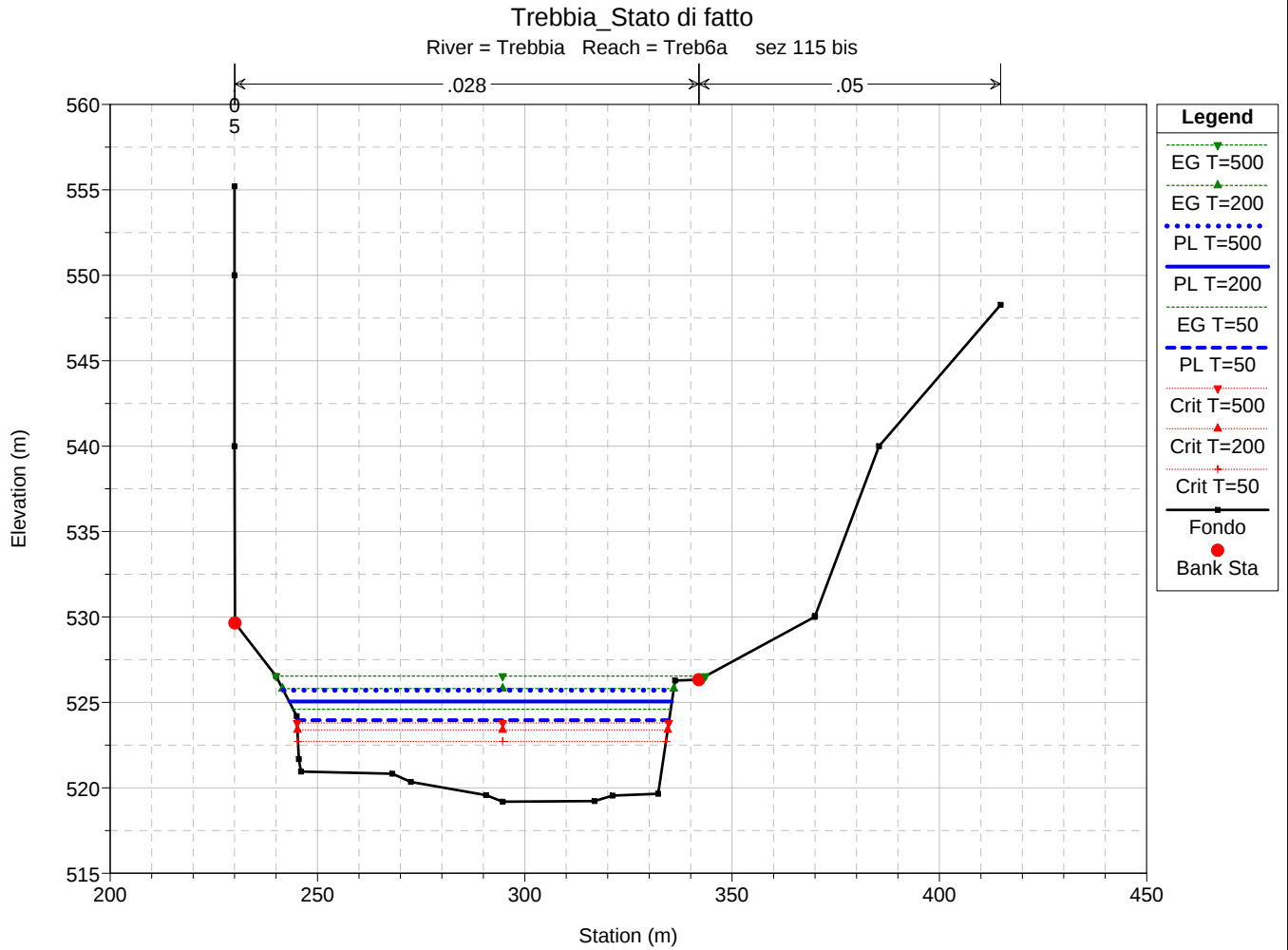


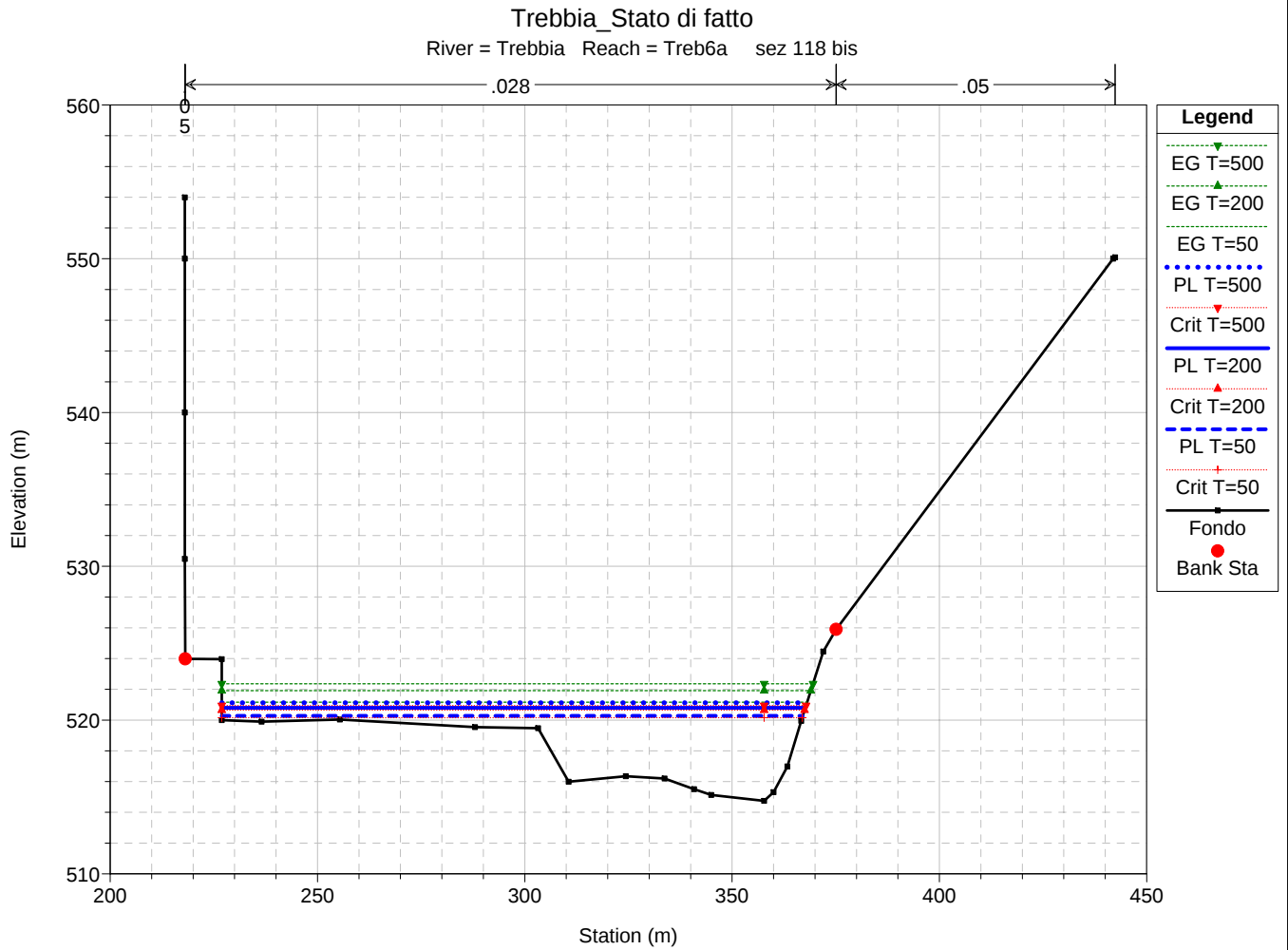
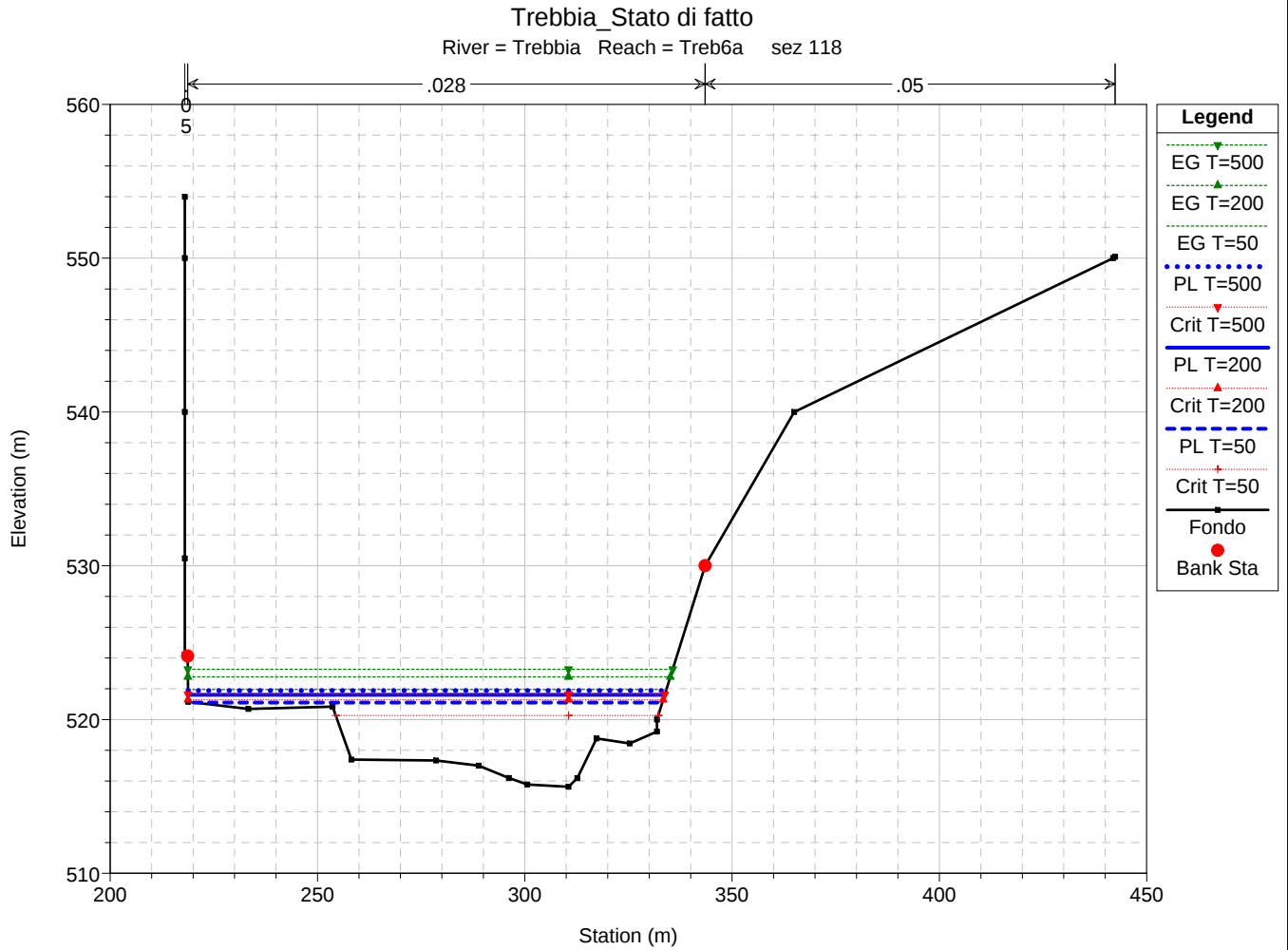


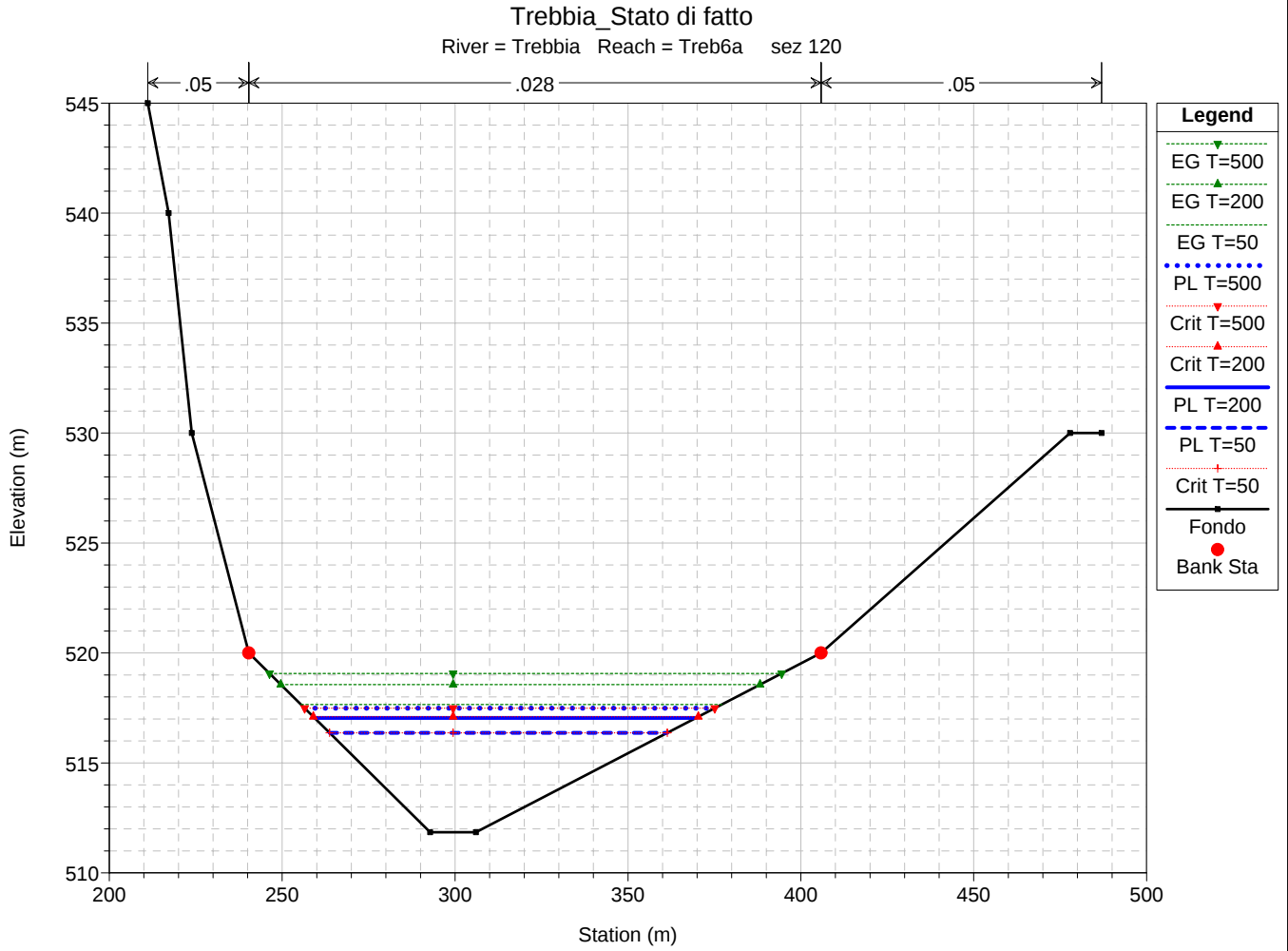
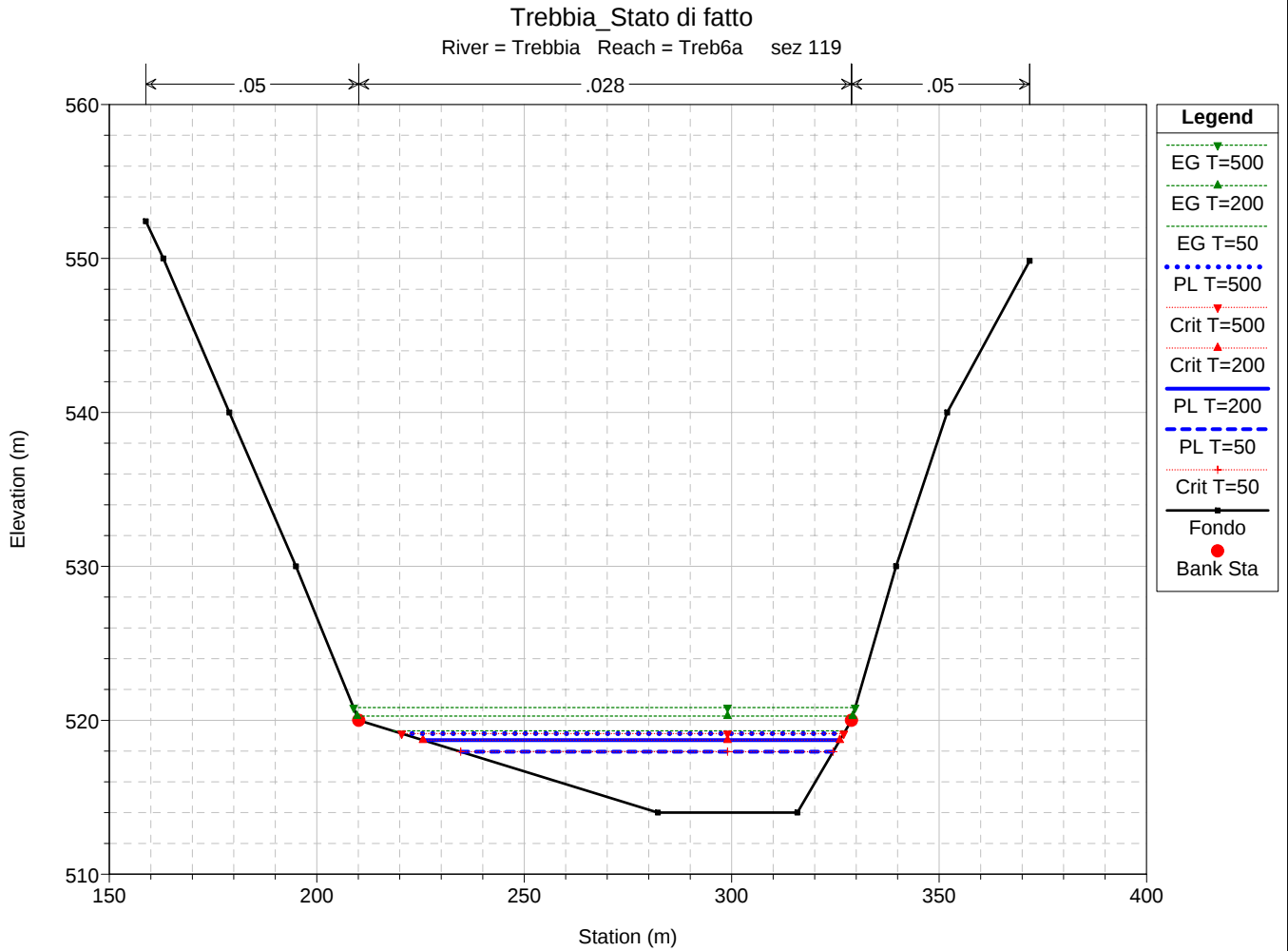












HEC-RAS Plan: 03_Trebbia

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Treb1e2	999001 sez 1	T=50	190.00	759.91	763.58	775.00	11.42	774.41	10.83	764.09	765.62	0.012803	6.32	30.06	11.90	1.27
Treb1e2	999001 sez 1	T=200	270.00	759.91	764.30	775.00	10.70	774.41	10.11	764.93	766.73	0.012804	6.91	39.09	13.35	1.29
Treb1e2	999001 sez 1	T=500	320.00	759.91	764.69	775.00	10.31	774.41	9.72	765.36	767.33	0.012804	7.21	44.40	14.13	1.30
Treb1e2	998002 sez 2	T=50	190.00	751.80	754.36	758.46	4.10	758.31	3.95	755.20	756.95	0.019516	7.12	26.67	13.95	1.64
Treb1e2	998002 sez 2	T=200	270.00	751.80	757.36	758.46	1.10	758.31	0.95	755.90	757.93	0.001905	3.33	80.98	22.25	0.56
Treb1e2	998002 sez 2	T=500	320.00	751.80	758.08	758.46	0.38	758.31	0.23	756.29	758.62	0.001625	3.28	97.50	24.21	0.52
Treb1e2	997004 ponte alla sezio		Bridge													
Treb1e2	997003 ponte 3	T=50	190.00	751.80	754.73	758.46	3.73	758.43	3.70	755.22	756.59	0.012276	6.05	31.39	14.59	1.32
Treb1e2	997003 ponte 3	T=200	270.00	751.80	755.17	758.46	3.29	758.43	3.26	755.94	757.73	0.014575	7.09	38.09	15.76	1.46
Treb1e2	997003 ponte 3	T=500	320.00	751.80	755.41	758.46	3.05	758.43	3.02	756.33	758.37	0.015746	7.63	41.92	16.39	1.52
Treb1e2	996004 sez 4	T=50	200.00	751.43	753.86	765.40	11.54	760.15	6.29	754.67	756.33	0.021209	6.97	28.70	16.95	1.71
Treb1e2	996004 sez 4	T=200	280.00	751.43	754.23	765.40	11.17	760.15	5.92	755.27	757.44	0.023673	7.94	35.27	18.51	1.84
Treb1e2	996004 sez 4	T=500	350.00	751.43	754.59	765.40	10.81	760.15	5.56	755.73	758.10	0.022712	8.29	42.20	20.04	1.82
Treb1e2	995005 sez 5	T=50	200.00	743.02	747.79	760.00	12.21	760.00	12.21	746.43	748.14	0.001477	2.61	76.73	27.13	0.49
Treb1e2	995005 sez 5	T=200	280.00	743.02	748.80	760.00	11.20	760.00	11.20	747.03	749.16	0.001205	2.63	106.48	31.81	0.46
Treb1e2	995005 sez 5	T=500	350.00	743.02	749.57	760.00	10.43	760.00	10.43	747.49	749.93	0.001055	2.65	132.21	35.36	0.44
Treb1e2	994007 sez 6 bis	T=50	200.00	742.38	747.86	759.36	11.50	759.36	11.50	745.78	748.08	0.000786	2.06	97.10	30.41	0.37
Treb1e2	994007 sez 6 bis	T=200	280.00	742.38	748.86	759.36	10.50	759.36	10.50	746.39	749.10	0.000708	2.16	129.92	35.05	0.36
Treb1e2	994007 sez 6 bis	T=500	350.00	742.38	749.63	759.36	9.73	759.36	9.73	746.85	749.88	0.000647	2.22	157.92	38.06	0.35
Treb1e2	994006.5 Ponte alla sezio		Bridge													
Treb1e2	994006 sez 6	T=50	200.00	741.98	747.76	758.96	11.20	758.96	11.20	745.39	747.94	0.000615	1.88	106.43	31.80	0.33
Treb1e2	994006 sez 6	T=200	280.00	741.98	748.69	758.96	10.27	758.96	10.27	746.00	748.90	0.000602	2.03	138.04	36.11	0.33
Treb1e2	994006 sez 6	T=500	350.00	741.98	749.39	758.96	9.57	758.96	9.57	746.45	749.62	0.000580	2.13	163.99	38.48	0.33
Treb1e2	993007 sez 7	T=50	200.00	741.88	746.50	750.00	3.50	750.00	3.50	746.50	747.80	0.007480	5.05	39.60	15.08	0.99
Treb1e2	993007 sez 7	T=200	280.00	741.88	747.25	750.00	2.75	750.00	2.75	747.25	748.74	0.007220	5.42	51.69	17.19	1.00
Treb1e2	993007 sez 7	T=500	350.00	741.88	747.78	750.00	2.22	750.00	2.22	747.78	749.44	0.007162	5.71	61.32	18.70	1.01
Treb1e2	992008 sez 8	T=50	210.00	738.62	741.25	750.00	8.75	750.00	8.75	741.82	743.12	0.014923	6.06	34.63	19.99	1.47
Treb1e2	992008 sez 8	T=200	300.00	738.62	741.74	750.00	8.26	750.00	8.26	742.44	744.00	0.014818	6.66	45.01	22.29	1.50
Treb1e2	992008 sez 8	T=500	370.00	738.62	742.01	750.00	7.99	750.00	7.99	742.85	744.67	0.015896	7.23	51.15	23.54	1.57
Treb1e2	991009 sez 9	T=50	210.00	735.00	738.35	744.99	6.64	744.53	6.18	738.48	739.44	0.007743	4.63	45.39	24.24	1.08
Treb1e2	991009 sez 9	T=200	300.00	735.00	738.97	744.99	6.02	744.53	5.56	739.06	740.18	0.007023	4.88	61.50	28.17	1.05
Treb1e2	991009 sez 9	T=500	370.00	735.00	739.22	744.99	5.77	744.53	5.31	739.45	740.70	0.007928	5.38	68.76	29.77	1.13
Treb1e2	990010 sez 10	T=50	220.00	733.75	736.97	740.00	3.03	740.00	3.03	737.17	738.20	0.006775	4.91	44.78	23.29	1.13
Treb1e2	990010 sez 10	T=200	320.00	733.75	737.82	740.00	2.18	740.00	2.18	737.82	738.99	0.004930	4.80	66.69	28.25	1.00
Treb1e2	990010 sez 10	T=500	400.00	733.75	738.25	740.00	1.75	740.00	1.75	738.25	739.54	0.004802	5.03	79.57	30.79	1.00
Treb1e2	989011 sez 11	T=50	220.00	729.53	735.08	740.00	4.92	740.00	4.92	732.54	735.20	0.000426	1.54	142.81	44.60	0.27
Treb1e2	989011 sez 11	T=200	320.00	729.53	735.88	740.00	4.12	740.00	4.12	733.14	736.04	0.000479	1.77	180.90	50.07	0.30
Treb1e2	989011 sez 11	T=500	400.00	729.53	736.38	740.00	3.62	740.00	3.62	733.54	736.57	0.000524	1.94	206.67	53.46	0.31

HEC-RAS Plan: 03_Trebbia (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
Treb1e2	988012 sez 12	T=50	230.00	730.00	733.92	734.39	0.47	735.86	1.94	733.92	734.89	0.006446	4.36	52.71	26.92	1.00
Treb1e2	988012 sez 12	T=200	340.00	730.00	734.57	734.39	-0.18	735.86	1.29	734.57	735.71	0.006100	4.73	71.83	31.36	1.00
Treb1e2	988012 sez 12	T=500	420.00	730.00	734.94	734.39	-0.55	735.86	0.92	734.94	736.23	0.005839	5.02	83.88	32.84	0.99
Treb1e2	987013 sez 13	T=50	230.00	719.02	724.13	722.76	-1.37	722.88	-1.25	722.14	724.35	0.000661	2.07	113.43	34.62	0.35
Treb1e2	987013 sez 13	T=200	340.00	719.02	725.18	722.76	-2.42	722.88	-2.30	722.82	725.46	0.000610	2.36	151.60	38.03	0.35
Treb1e2	987013 sez 13	T=500	420.00	719.02	725.59	722.76	-2.83	722.88	-2.71	723.20	725.95	0.000700	2.67	167.35	39.35	0.38
Treb1e2	986016 14 a monte del p	T=50	230.00	718.03	724.25	724.86	0.61	724.95	0.70	720.31	724.29	0.000094	0.92	250.68	52.72	0.13
Treb1e2	986016 14 a monte del p	T=200	340.00	718.03	725.33	724.86	-0.47	724.95	-0.38	720.81	725.39	0.000107	1.10	314.02	74.05	0.15
Treb1e2	986016 14 a monte del p	T=500	420.00	718.03	725.78	724.86	-0.92	724.95	-0.83	721.12	725.86	0.000126	1.26	349.71	82.64	0.16
Treb1e2	986015 Ponte alla sezio	Bridge														
Treb1e2	986014 14 a valle del p	T=50	230.00	718.03	724.24	724.86	0.62	724.95	0.71	720.31	724.28	0.000095	0.92	249.90	52.71	0.13
Treb1e2	986014 14 a valle del p	T=200	340.00	718.03	725.21	724.86	-0.35	724.95	-0.26	720.81	725.28	0.000115	1.13	305.52	70.32	0.15
Treb1e2	986014 14 a valle del p	T=500	420.00	718.03	725.66	724.86	-0.80	724.95	-0.71	721.12	725.74	0.000135	1.28	339.77	81.89	0.17
Treb1e2	985015 sez 15	T=50	260.00	720.12	723.07	730.00	6.93	730.00	6.93	723.07	724.15	0.006306	4.62	56.31	25.64	0.99
Treb1e2	985015 sez 15	T=200	390.00	720.12	723.81	730.00	6.19	730.00	6.19	723.81	725.13	0.006017	5.09	76.64	28.94	1.00
Treb1e2	985015 sez 15	T=500	460.00	720.12	724.17	730.00	5.83	730.00	5.83	724.17	725.59	0.005840	5.27	87.31	30.53	0.99
Treb1e2	984016 sez 16	T=50	260.00	717.36	720.93	730.00	9.07	730.00	9.07	721.16	722.05	0.009225	4.69	55.46	33.54	1.16
Treb1e2	984016 sez 16	T=200	390.00	717.36	721.40	730.00	8.60	730.00	8.60	721.79	722.85	0.010699	5.33	73.24	41.06	1.27
Treb1e2	984016 sez 16	T=500	460.00	717.36	721.59	730.00	8.41	730.00	8.41	722.06	723.23	0.011591	5.67	81.10	43.97	1.33
Treb1e2	983017 sez 17	T=50	260.00	714.68	716.95	730.00	13.05	730.00	13.05	717.47	718.56	0.018248	5.63	46.22	35.52	1.57
Treb1e2	983017 sez 17	T=200	390.00	714.68	717.34	730.00	12.66	730.00	12.66	718.02	719.41	0.019369	6.37	61.20	40.76	1.66
Treb1e2	983017 sez 17	T=500	460.00	714.68	717.52	730.00	12.48	730.00	12.48	718.27	719.80	0.019814	6.70	68.66	43.13	1.69
Treb1e2	982018 sez 18	T=50	300.00	711.93	715.57	720.00	4.43	720.00	4.43	715.57	716.81	0.006154	4.93	60.81	24.31	1.00
Treb1e2	982018 sez 18	T=200	410.00	711.93	715.94	720.00	4.06	720.00	4.06	716.23	717.69	0.007840	5.86	69.95	25.83	1.14
Treb1e2	982018 sez 18	T=500	500.00	711.93	716.69	720.00	3.31	720.00	3.31	716.69	718.24	0.005755	5.51	90.68	28.99	1.00
Treb1e2	981019 sez 19	T=50	300.00	704.00	706.40	710.00	3.60	710.00	3.60	706.92	708.34	0.012429	6.18	48.56	23.54	1.37
Treb1e2	981019 sez 19	T=200	410.00	704.00	706.87	710.00	3.13	710.00	3.13	707.54	709.25	0.012452	6.83	60.01	24.83	1.40
Treb1e2	981019 sez 19	T=500	500.00	704.00	707.22	710.00	2.78	710.00	2.78	707.98	709.91	0.012454	7.27	68.76	25.78	1.42
Treb1e2	980020 sez 20	T=50	300.00	698.00	701.34	710.00	8.66	710.00	8.66	702.16	703.91	0.015556	7.10	42.26	18.37	1.49
Treb1e2	980020 sez 20	T=200	410.00	698.00	701.93	710.00	8.07	710.00	8.07	702.87	704.90	0.015344	7.63	53.74	20.73	1.51
Treb1e2	980020 sez 20	T=500	500.00	698.00	702.34	710.00	7.66	710.00	7.66	703.38	705.60	0.015276	8.00	62.51	22.36	1.53
Treb1e2	979021 sez 21	T=50	310.00	694.00	699.60	710.00	10.40	710.00	10.40	698.91	700.87	0.004787	4.99	62.09	15.19	0.79
Treb1e2	979021 sez 21	T=200	430.00	694.00	700.94	710.00	9.06	710.00	9.06	699.89	702.25	0.004324	5.07	84.76	19.33	0.77
Treb1e2	979021 sez 21	T=500	520.00	694.00	701.88	710.00	8.12	710.00	8.12	700.67	703.14	0.003786	4.97	104.59	22.88	0.74
Treb1e2	978022 sez 22	T=50	310.00	690.00	696.59	700.00	3.41	700.00	3.41	696.59	698.66	0.008995	6.37	48.63	11.70	1.00
Treb1e2	978022 sez 22	T=200	430.00	690.00	697.75	700.00	2.25	700.00	2.25	697.75	700.12	0.008757	6.82	63.01	13.22	1.00
Treb1e2	978022 sez 22	T=500	520.00	690.00	698.49	700.00	1.51	700.00	1.51	698.49	701.06	0.008620	7.10	73.25	14.20	1.00

HEC-RAS Plan: 03_Trebbia (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
Treb1e2	977023 sez 23	T=50	310.00	688.00	690.41	700.00	9.59	700.00	9.59	691.67	694.95	0.048239	9.45	32.81	24.08	2.58
Treb1e2	977023 sez 23	T=200	430.00	688.00	690.72	700.00	9.28	700.00	9.28	692.23	696.34	0.051703	10.50	40.95	26.96	2.72
Treb1e2	977023 sez 23	T=500	520.00	688.00	690.93	700.00	9.07	700.00	9.07	692.59	697.25	0.053498	11.14	46.68	28.81	2.79
Treb1e2	976024 sez 24	T=50	310.00	684.00	687.11	700.00	12.89	700.00	12.89	687.71	689.18	0.012355	6.37	48.64	22.47	1.38
Treb1e2	976024 sez 24	T=200	430.00	684.00	687.70	700.00	12.30	700.00	12.30	688.40	690.10	0.011896	6.86	62.64	25.06	1.39
Treb1e2	976024 sez 24	T=500	520.00	684.00	688.08	700.00	11.92	700.00	11.92	688.84	690.70	0.011637	7.16	72.60	26.76	1.39
Treb1e2	975225 sez 25	T=50	310.00	678.19	680.38	690.00	9.62	690.00	9.62	680.66	681.65	0.010242	5.01	61.92	37.37	1.24
Treb1e2	975225 sez 25	T=200	430.00	678.19	680.77	690.00	9.23	690.00	9.23	681.16	682.36	0.010419	5.59	76.96	39.73	1.28
Treb1e2	975225 sez 25	T=500	520.00	678.19	682.12	690.00	7.88	690.00	7.88	681.49	682.86	0.002973	3.82	136.10	47.91	0.72
Treb1e2	975125 sez 25 bis	T=50	310.00	677.47	680.67	690.00	9.33	690.00	9.33	679.39	680.97	0.001210	2.43	127.73	44.09	0.46
Treb1e2	975125 sez 25 bis	T=200	430.00	677.47	681.68	690.00	8.33	690.00	8.33	679.85	681.99	0.000930	2.48	173.47	47.25	0.41
Treb1e2	975125 sez 25 bis	T=500	520.00	677.47	682.31	690.00	7.69	690.00	7.69	680.16	682.64	0.000839	2.55	204.29	49.26	0.40
Treb1e2	975025 sez 25 ter	T=50	310.00	674.94	679.17	690.00	10.83	690.00	10.83	679.17	680.60	0.006643	5.30	58.52	20.34	1.00
Treb1e2	975025 sez 25 ter	T=200	430.00	674.94	679.96	690.00	10.04	690.00	10.04	679.96	681.61	0.006428	5.70	75.49	22.77	1.00
Treb1e2	975025 sez 25 ter	T=500	520.00	674.94	680.50	690.00	9.50	690.00	9.50	680.50	682.26	0.006253	5.89	88.25	24.85	1.00
Treb1e2	974126 sez 26	T=50	320.00	672.00	674.85	690.00	15.15	690.00	15.15	675.71	677.49	0.018360	7.20	44.43	23.46	1.67
Treb1e2	974126 sez 26	T=200	450.00	672.00	675.36	690.00	14.64	690.00	14.64	676.40	678.51	0.018243	7.86	57.22	26.29	1.70
Treb1e2	974126 sez 26	T=500	540.00	672.00	675.64	690.00	14.36	690.00	14.36	676.80	679.18	0.018724	8.33	64.84	27.84	1.74
Treb1e2	974026 sez 26 bis	T=50	320.00	670.00	673.11	680.00	6.89	680.00	6.89	672.57	673.67	0.003060	3.34	95.83	42.67	0.71
Treb1e2	974026 sez 26 bis	T=200	450.00	670.00	673.99	680.00	6.01	680.00	6.01	673.12	674.54	0.002268	3.30	136.52	49.39	0.63
Treb1e2	974026 sez 26 bis	T=500	540.00	670.00	674.54	680.00	5.46	680.00	5.46	673.44	675.08	0.001950	3.28	164.68	53.55	0.60
Treb1e2	973027 sez 27	T=50	320.00	665.97	670.83	680.00	9.17	680.00	9.17	670.83	672.28	0.006394	5.32	60.14	20.65	1.00
Treb1e2	973027 sez 27	T=200	450.00	665.97	671.71	680.00	8.29	680.00	8.29	671.71	673.33	0.006112	5.63	79.89	24.50	1.00
Treb1e2	973027 sez 27	T=500	540.00	665.97	672.21	680.00	7.79	680.00	7.79	672.21	673.94	0.005965	5.82	92.85	26.73	1.00
Treb1e2	972028 sez 28	T=50	320.00	665.00	670.08	676.88	6.80	677.00	6.92	668.74	670.58	0.001721	3.12	102.51	31.31	0.55
Treb1e2	972028 sez 28	T=200	450.00	665.00	671.05	676.88	5.83	677.00	5.95	669.47	671.62	0.001620	3.34	134.66	35.35	0.55
Treb1e2	972028 sez 28	T=500	540.00	665.00	671.63	676.88	5.25	677.00	5.37	669.91	672.24	0.001567	3.46	155.96	37.79	0.54
Treb1e2	971029 ponte 29	T=50	320.00	664.90	670.07	676.88	6.81	677.00	6.93	668.65	670.55	0.001625	3.06	104.47	31.39	0.54
Treb1e2	971029 ponte 29	T=200	450.00	664.90	671.04	676.88	5.84	677.00	5.96	669.38	671.59	0.001548	3.29	136.70	35.41	0.53
Treb1e2	971029 ponte 29	T=500	540.00	664.90	671.62	676.88	5.26	677.00	5.38	669.83	672.21	0.001506	3.42	158.03	37.84	0.53
Treb1e2	970030 sez 30	T=50	320.00	664.71	669.30	670.83	1.53	670.00	0.70	668.99	670.44	0.004749	4.71	67.88	22.59	0.87
Treb1e2	970030 sez 30	T=200	450.00	664.71	670.05	670.83	0.78	670.00	-0.05	669.80	671.46	0.004983	5.25	85.78	25.19	0.91
Treb1e2	970030 sez 30	T=500	540.00	664.71	670.47	670.83	0.37	670.00	-0.46	670.29	672.06	0.005132	5.60	96.53	27.01	0.93
Treb1e2	969031 sez 31	T=50	320.00	664.10	668.16	669.47	1.31	670.00	1.84	668.16	669.49	0.006321	5.10	62.69	23.40	1.00
Treb1e2	969031 sez 31	T=200	450.00	664.10	668.93	669.47	0.54	670.00	1.07	668.93	670.47	0.006069	5.49	81.92	26.42	1.00
Treb1e2	969031 sez 31	T=500	540.00	664.10	669.39	669.47	0.08	670.00	0.61	669.39	671.06	0.005947	5.71	94.52	28.23	1.00
Treb1e2	968032 sez 32	T=50	320.00	662.00	665.30	672.99	7.69	670.00	4.70	665.44	666.64	0.007425	5.14	62.31	26.99	1.08
Treb1e2	968032 sez 32	T=200	450.00	662.00	665.90	672.99	7.09	670.00	4.10	666.13	667.53	0.007518	5.66	79.55	29.97	1.11
Treb1e2	968032 sez 32	T=500	540.00	662.00	666.26	672.99	6.73	670.00	3.74	666.54	668.07	0.007586	5.96	90.64	31.73	1.13

HEC-RAS Plan: 03_Trebbia (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Treb1e2	967033 sez 33	T=50	320.00	660.43	663.53	663.06	-0.47	662.67	-0.86	664.00	665.37	0.011124	6.02	54.05	28.69	1.32
Treb1e2	967033 sez 33	T=200	450.00	660.43	664.11	663.06	-1.05	662.67	-1.44	664.68	666.28	0.009602	6.57	72.02	32.93	1.28
Treb1e2	967033 sez 33	T=500	540.00	660.43	664.48	663.06	-1.42	662.67	-1.81	665.09	666.84	0.008874	6.88	84.64	35.60	1.25
Treb1e2	966034 sez 34	T=50	330.00	654.20	657.55	669.36	11.81	670.00	12.45	658.51	660.48	0.019944	7.58	43.52	22.36	1.73
Treb1e2	966034 sez 34	T=200	470.00	654.20	658.13	669.36	11.23	670.00	11.87	659.25	661.53	0.019203	8.17	57.50	25.62	1.74
Treb1e2	966034 sez 34	T=500	560.00	654.20	658.43	669.36	10.93	670.00	11.57	659.66	662.16	0.019260	8.55	65.48	27.31	1.76
Treb3a	965035 sez 35	T=50	820.00	650.86	655.81	660.95	5.14	660.00	4.19	655.81	657.35	0.005625	5.49	149.32	48.16	1.00
Treb3a	965035 sez 35	T=200	1140.00	650.86	655.01	660.95	5.94	660.00	4.99	656.65	660.23	0.023979	10.12	112.64	43.52	2.01
Treb3a	965035 sez 35	T=500	1350.00	650.86	655.40	660.95	5.55	660.00	4.60	657.14	660.90	0.022537	10.40	129.84	45.73	1.97
Treb3a	964036 sez 36	T=50	845.00	648.61	654.52	660.59	6.07	660.00	5.48	653.35	655.15	0.001827	3.51	240.94	65.49	0.58
Treb3a	964036 sez 36	T=200	1170.00	648.61	655.40	660.59	5.19	660.00	4.60	654.02	656.18	0.001783	3.91	299.27	67.27	0.59
Treb3a	964036 sez 36	T=500	1380.00	648.61	656.18	660.59	4.41	660.00	3.82	654.41	656.96	0.001498	3.92	352.38	68.84	0.55
Treb3b	963037 sez 37	T=50	870.00	647.36	654.74	653.13	-1.61	654.43	-0.31	651.36	654.97	0.000399	2.15	416.01	93.74	0.29
Treb3b	963037 sez 37	T=200	1200.00	647.36	655.66	653.13	-2.53	654.43	-1.23	652.05	655.98	0.000440	2.50	513.08	116.10	0.32
Treb3b	963037 sez 37	T=500	1450.00	647.36	656.43	653.13	-3.30	654.43	-2.00	652.51	656.78	0.000428	1.57	608.45	134.49	0.19
Treb3b	963036.5 Ponte a Montebro		Bridge													
Treb3b	962038 ponte 38	T=50	870.00	647.36	651.36	653.13	1.77	654.43	3.07	651.36	652.72	0.005742	5.16	168.74	62.50	1.00
Treb3b	962038 ponte 38	T=200	1200.00	647.36	652.44	653.13	0.69	654.43	1.99	652.05	653.73	0.003776	5.03	238.48	66.48	0.85
Treb3b	962038 ponte 38	T=500	1450.00	647.36	653.60	653.13	-0.47	654.43	0.83	652.51	654.65	0.002368	4.54	320.29	77.18	0.69
Treb3b	961039 sez 39	T=50	870.00	647.36	650.30	656.99	6.69	660.00	9.70	650.73	651.93	0.012613	5.67	153.47	90.53	1.39
Treb3b	961039 sez 39	T=200	1200.00	647.36	652.95	656.99	4.04	660.00	7.05	651.24	653.39	0.001080	2.93	408.93	101.35	0.47
Treb3b	961039 sez 39	T=500	1450.00	647.36	654.00	656.99	2.99	660.00	6.00	651.60	654.39	0.000827	2.77	523.49	115.89	0.42
Treb3b	960040 sez 40	T=50	900.00	646.32	650.15	655.91	5.76	655.52	5.37	650.15	651.14	0.006212	4.41	204.09	102.74	1.00
Treb3b	960040 sez 40	T=200	1250.00	646.32	652.89	655.91	3.02	655.52	2.63	650.67	653.19	0.000698	2.41	518.77	124.66	0.38
Treb3b	960040 sez 40	T=500	1520.00	646.32	653.96	655.91	1.95	655.52	1.56	651.01	654.24	0.000528	2.31	658.87	136.89	0.34
Treb3b	959041 sez 41	T=50	900.00	644.44	649.55	652.80	3.25	653.72	4.17	648.63	650.38	0.002466	4.04	222.97	61.68	0.68
Treb3b	959041 sez 41	T=200	1250.00	644.44	652.66	652.80	0.14	653.72	1.06	649.40	653.07	0.000699	2.85	438.96	77.56	0.38
Treb3b	959041 sez 41	T=500	1520.00	644.44	653.70	652.80	-0.90	653.72	0.02	649.93	654.14	0.000601	2.92	522.79	82.90	0.36
Treb3b	958042 ponte 42 sezione	T=50	900.00	644.24	649.04	652.56	3.52	653.75	4.71	648.47	650.22	0.003419	4.81	187.11	48.67	0.78
Treb3b	958042 ponte 42 sezione	T=200	1250.00	644.24	652.37	652.56	0.19	653.75	1.38	649.27	653.01	0.000966	3.55	352.01	50.17	0.43
Treb3b	958042 ponte 42 sezione	T=500	1520.00	644.24	653.40	652.56	-0.84	653.75	0.35	649.84	654.08	0.000894	3.69	446.90	84.57	0.42
Treb3b	958041.5 Ponte sulla sezi		Bridge													
Treb3b	958041 ponte 42 sezione	T=50	900.00	644.24	648.47	652.56	4.09	653.75	5.28	648.47	650.10	0.005674	5.65	159.36	48.67	1.00
Treb3b	958041 ponte 42 sezione	T=200	1250.00	644.24	649.34	652.56	3.22	653.75	4.41	649.27	651.30	0.005224	6.20	201.54	48.67	0.97
Treb3b	958041 ponte 42 sezione	T=500	1520.00	644.24	649.89	652.56	2.67	653.75	3.86	649.84	652.15	0.005237	6.66	228.33	48.67	0.98
Treb3b	957043 sez 43	T=50	900.00	643.50	649.16	650.00	0.84	650.00	0.84	647.41	649.64	0.001329	3.08	292.35	76.37	0.50
Treb3b	957043 sez 43	T=200	1250.00	643.50	650.29	650.00	-0.29	650.00	-0.29	648.17	650.83	0.001174	3.26	384.32	87.89	0.49

HEC-RAS Plan: 03_Trebbia (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Treb3b	957043 sez 43	T=500	1520.00	643.50	651.01	650.00	-1.01	650.00	-1.01	648.69	651.60	0.001061	3.41	451.70	98.39	0.47
Treb3b	956044 sez 44	T=50	920.00	641.76	647.57	647.80	0.23	648.85	1.28	647.57	649.29	0.005429	5.81	158.27	45.69	1.00
Treb3b	956044 sez 44	T=200	1280.00	641.76	648.59	647.80	-0.79	648.85	0.26	648.59	650.49	0.004879	6.13	213.64	59.34	0.97
Treb3b	956044 sez 44	T=500	1550.00	641.76	649.15	647.80	-1.35	648.85	-0.30	649.15	651.26	0.004686	6.46	248.29	63.03	0.97
Treb3b	955045 sez 45	T=50	920.00	638.00	641.58	640.00	-1.58	640.00	-1.58	642.45	644.63	0.010496	7.79	124.52	47.23	1.40
Treb3b	955045 sez 45	T=200	1280.00	638.00	642.27	640.00	-2.27	640.00	-2.27	643.40	646.10	0.010282	8.79	158.42	51.73	1.43
Treb3b	955045 sez 45	T=500	1550.00	638.00	642.73	640.00	-2.73	640.00	-2.73	644.05	647.07	0.010073	9.39	183.35	54.80	1.44
Treb3b	954046 sez 46	T=50	920.00	632.00	636.31	640.00	3.69	640.00	3.69	637.46	640.02	0.012912	8.53	107.80	33.09	1.51
Treb3b	954046 sez 46	T=200	1280.00	632.00	637.18	640.00	2.82	640.00	2.82	638.54	641.57	0.012588	9.29	137.80	36.33	1.52
Treb3b	954046 sez 46	T=500	1550.00	632.00	637.73	640.00	2.27	640.00	2.27	639.26	642.60	0.012521	9.78	158.51	38.41	1.54
Treb3b	953047 sez 47	T=50	950.00	630.00	634.00	634.27	0.27	634.42	0.42	634.92	637.23	0.012208	7.95	119.44	39.61	1.46
Treb3b	953047 sez 47	T=200	1340.00	630.00	634.81	634.27	-0.54	634.42	-0.39	635.93	638.74	0.011323	8.79	153.16	43.78	1.45
Treb3b	953047 sez 47	T=500	1600.00	630.00	635.19	634.27	-0.92	634.42	-0.77	636.55	639.80	0.011697	9.52	169.93	45.84	1.50
Treb3b	952049 sez 48	T=50	950.00	627.65	634.16	635.77	1.61	635.00	0.84	632.85	634.87	0.001853	3.75	253.00	63.22	0.60
Treb3b	952049 sez 48	T=200	1340.00	627.65	636.92	635.77	-1.15	635.00	-1.92	633.68	637.39	0.000653	3.05	451.53	85.91	0.38
Treb3b	952049 sez 48	T=500	1600.00	627.65	637.69	635.77	-1.92	635.00	-2.69	634.15	638.22	0.000632	3.23	519.74	91.20	0.38
Treb3b	952048 sez 48 a monte d	T=50	950.00	627.60	634.13	636.26	2.13	636.59	2.46	632.70	634.87	0.001749	3.80	249.78	58.07	0.59
Treb3b	952048 sez 48 a monte d	T=200	1340.00	627.60	636.85	636.26	-0.59	636.59	-0.26	633.60	637.38	0.000732	3.24	416.53	72.55	0.40
Treb3b	952048 sez 48 a monte d	T=500	1600.00	627.60	637.60	636.26	-1.34	636.59	-1.01	634.10	638.21	0.000729	3.47	473.89	78.93	0.41
Treb3b	951048.5 Ponte alla sezio		Bridge													
Treb3b	951048 ponte 49 sezione	T=50	950.00	627.60	631.88	636.26	4.38	636.59	4.71	632.70	634.65	0.011638	7.37	128.94	46.55	1.41
Treb3b	951048 ponte 49 sezione	T=200	1340.00	627.60	634.30	636.26	1.96	636.59	2.29	633.60	635.66	0.003101	5.17	259.32	58.37	0.78
Treb3b	951048 ponte 49 sezione	T=500	1600.00	627.60	634.97	636.26	1.29	636.59	1.62	634.10	636.43	0.002856	5.35	299.08	59.54	0.76
Treb3b	950050 sez 50	T=50	950.00	627.60	631.15	630.98	-0.17	630.00	-1.15	632.15	634.38	0.015700	8.38	140.26	75.88	1.65
Treb3b	950050 sez 50	T=200	1340.00	627.60	631.80	630.98	-0.82	630.00	-1.80	632.90	635.37	0.013516	9.00	191.76	82.04	1.58
Treb3b	950050 sez 50	T=500	1600.00	627.60	632.11	630.98	-1.13	630.00	-2.11	633.34	636.11	0.013661	9.61	217.46	83.80	1.62
Treb3b	949051 sez 51	T=50	950.00	627.00	632.20	630.00	-2.20	630.00	-2.20	631.25	632.75	0.001370	3.69	376.41	125.41	0.53
Treb3b	949051 sez 51	T=200	1340.00	627.00	633.30	630.00	-3.30	630.00	-3.30	631.89	633.87	0.001164	3.89	517.03	130.07	0.50
Treb3b	949051 sez 51	T=500	1600.00	627.00	633.97	630.00	-3.97	630.00	-3.97	632.26	634.56	0.001074	4.00	604.87	132.89	0.49
Treb3b	948052 sez 52	T=50	950.00	624.00	629.51	630.00	0.49	630.00	0.49	629.51	631.28	0.005367	5.89	161.27	45.52	1.00
Treb3b	948052 sez 52	T=200	1340.00	624.00	630.50	630.00	-0.50	630.00	-0.50	630.50	632.61	0.004925	6.42	209.94	54.23	0.99
Treb3b	948052 sez 52	T=500	1600.00	624.00	631.09	630.00	-1.09	630.00	-1.09	631.09	633.39	0.004556	6.73	243.80	61.04	0.97
Treb3b	947053 sez 53	T=50	950.00	618.00	622.46	630.00	7.54	630.00	7.54	624.01	627.18	0.018759	9.62	98.75	34.05	1.80
Treb3b	947053 sez 53	T=200	1340.00	618.00	623.32	630.00	6.68	630.00	6.68	625.10	628.73	0.017771	10.30	130.04	38.78	1.80
Treb3b	947053 sez 53	T=500	1600.00	618.00	623.82	630.00	6.18	630.00	6.18	625.72	629.62	0.017258	10.67	149.99	41.52	1.79
Treb3b	946054 sez 54	T=50	950.00	616.00	620.61	630.00	9.39	630.00	9.39	621.79	624.30	0.013350	8.50	111.73	35.80	1.54
Treb3b	946054 sez 54	T=200	1340.00	616.00	621.46	630.00	8.54	630.00	8.54	622.89	625.86	0.013603	9.30	144.08	40.89	1.58
Treb3b	946054 sez 54	T=500	1600.00	616.00	621.93	630.00	8.07	630.00	8.07	623.52	626.77	0.013754	9.75	164.13	43.75	1.61

HEC-RAS Plan: 03_Trebbia (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
Treb3b	945055 sez 55	T=50	970.00	614.00	619.41	619.54	0.13	620.00	0.59	619.41	621.28	0.005272	6.05	160.41	42.93	1.00
Treb3b	945055 sez 55	T=200	1360.00	614.00	620.05	619.54	-0.51	620.00	-0.05	620.41	622.70	0.006417	7.22	188.60	46.18	1.12
Treb3b	945055 sez 55	T=500	1620.00	614.00	620.58	619.54	-1.04	620.00	-0.58	621.02	623.54	0.006119	7.63	214.24	50.44	1.12
Treb3b	944056 sez 56	T=50	970.00	612.25	618.47	619.74	1.27	620.00	1.53	617.74	619.65	0.003130	4.81	201.74	51.55	0.78
Treb3b	944056 sez 56	T=200	1360.00	612.25	619.78	619.74	-0.04	620.00	0.22	618.75	621.03	0.002670	4.95	274.53	59.61	0.74
Treb3b	944056 sez 56	T=500	1620.00	612.25	620.62	619.74	-0.88	620.00	-0.62	619.33	621.89	0.002184	4.99	326.90	65.62	0.68
Treb3b	943057 sez 57	T=50	970.00	610.00	616.24	620.00	3.76	620.00	3.76	616.24	618.27	0.005369	6.32	153.37	37.54	1.00
Treb3b	943057 sez 57	T=200	1360.00	610.00	617.38	620.00	2.62	620.00	2.62	617.38	619.77	0.005153	6.84	198.79	41.71	1.00
Treb3b	943057 sez 57	T=500	1620.00	610.00	619.32	620.00	0.68	620.00	0.68	618.06	620.95	0.002688	5.65	286.52	48.77	0.74
Treb3b	942058 sez 58	T=50	970.00	609.12	614.03	617.50	3.47	620.66	6.63	614.34	615.83	0.007985	5.94	163.27	62.01	1.17
Treb3b	942058 sez 58	T=200	1360.00	609.12	614.59	617.50	2.91	620.66	6.07	615.09	616.99	0.008489	6.86	198.24	63.12	1.24
Treb3b	942058 sez 58	T=500	1620.00	609.12	619.76	617.50	-2.26	620.66	0.90	615.55	620.19	0.000489	2.92	588.41	103.18	0.34
Treb3b	941059 ponte 59	T=50	970.00	605.31	613.55	618.77	5.22	618.39	4.84	611.57	614.52	0.001850	4.35	223.09	37.72	0.57
Treb3b	941059 ponte 59	T=200	1360.00	605.31	614.38	618.77	4.39	618.39	4.01	612.67	615.83	0.002465	5.34	254.90	38.81	0.66
Treb3b	941059 ponte 59	T=500	1620.00	605.31	619.62	618.77	-0.85	618.39	-1.23	613.36	620.15	0.000563	3.22	518.03	91.45	0.34
Treb3b	941058.5 ponte alla sezio	Bridge														
Treb3b	940060 sez 60	T=50	970.00	605.31	613.41	618.77	5.36	618.39	4.98	611.57	614.42	0.001987	4.46	217.70	37.53	0.59
Treb3b	940060 sez 60	T=200	1360.00	605.31	614.00	618.77	4.77	618.39	4.39	612.67	615.64	0.002930	5.66	240.20	38.31	0.72
Treb3b	940060 sez 60	T=500	1620.00	605.31	618.16	618.77	0.61	618.39	0.23	613.36	618.91	0.000944	3.84	422.36	52.00	0.43
Treb3b	940059 sez 60 copiata	T=50	970.00	605.31	613.39	618.77	5.38	618.39	5.00	611.57	614.41	0.002008	4.47	216.91	37.50	0.59
Treb3b	940059 sez 60 copiata	T=200	1360.00	605.31	613.96	618.77	4.81	618.39	4.43	612.67	615.61	0.002996	5.71	238.37	38.25	0.73
Treb3b	940059 sez 60 copiata	T=500	1620.00	605.31	618.16	618.77	0.61	618.39	0.23	613.36	618.91	0.000945	3.84	421.97	51.92	0.43
Treb3b	940000 Sezione 60 prima	T=50	990.00	607.73	613.41	613.64	0.23	613.41	0.00	612.53	614.20	0.002355	3.96	250.12	70.70	0.67
Treb3b	940000 Sezione 60 prima	T=200	1380.00	607.73	614.91	613.64	-1.27	613.41	-1.50	613.25	615.61	0.001342	3.77	410.71	135.05	0.54
Treb3b	940000 Sezione 60 prima	T=500	1640.00	607.73	618.44	613.64	-4.80	613.41	-5.03	613.75	618.67	0.000243	2.29	965.00	179.72	0.25
Treb4a	939061 sez 61	T=50	1000.00	607.73	611.22	613.64	2.42	613.41	2.19	612.55	615.90	0.033637	9.58	104.34	58.37	2.29
Treb4a	939061 sez 61	T=200	1400.00	607.73	611.79	613.64	1.85	613.41	1.62	613.28	616.87	0.028838	9.98	140.23	65.57	2.18
Treb4a	939061 sez 61	T=500	1700.00	607.73	618.39	613.64	-4.75	613.41	-4.98	613.85	618.65	0.000272	2.41	902.96	147.24	0.26
Treb4a	938062 sez 62	T=50	1000.00	605.52	612.51	610.36	-2.15	610.95	-1.56	611.44	613.65	0.002185	4.75	221.49	54.25	0.68
Treb4a	938062 sez 62	T=200	1400.00	605.52	614.08	610.36	-3.72	610.95	-3.13	612.49	615.30	0.001655	4.96	310.04	58.66	0.62
Treb4a	938062 sez 62	T=500	1700.00	605.52	617.96	610.36	-7.60	610.95	-7.01	613.13	618.57	0.000472	3.60	553.86	64.89	0.36
Treb4a	938061 ponte alla sez.	Bridge														
Treb4a	937063 ponte 63	T=50	1000.00	605.52	610.88	610.36	-0.52	610.95	0.07	611.41	613.48	0.008250	7.13	140.26	41.39	1.23
Treb4a	937063 ponte 63	T=200	1400.00	605.52	611.62	610.36	-1.26	610.95	-0.67	612.41	615.05	0.008461	8.20	171.36	43.23	1.29
Treb4a	937063 ponte 63	T=500	1700.00	605.52	613.10	610.36	-2.74	610.95	-2.15	613.10	615.80	0.004451	7.30	238.00	46.78	0.98
Treb4a	936064 sez 64	T=50	1000.00	605.40	611.96	613.32	1.36	610.00	-1.96	610.46	612.77	0.001666	4.01	252.04	55.39	0.59
Treb4a	936064 sez 64	T=200	1400.00	605.40	609.88	613.32	3.44	610.00	0.12	611.37	614.74	0.018694	9.77	143.32	48.94	1.82

HEC-RAS Plan: 03_Trebbia (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
Treb4a	936064 sez 64	T=500	1700.00	605.40	610.43	613.32	2.89	610.00	-0.43	611.97	615.47	0.015800	9.94	171.21	50.74	1.72
Treb4a	935065 sez 65	T=50	1000.00	606.00	611.11	610.30	-0.81	610.00	-1.11	610.86	612.52	0.004128	5.28	191.49	59.03	0.89
Treb4a	935065 sez 65	T=200	1400.00	606.00	611.73	610.30	-1.43	610.00	-1.73	611.73	613.72	0.004666	6.26	230.04	63.54	0.98
Treb4a	935065 sez 65	T=500	1700.00	606.00	612.32	610.30	-2.02	610.00	-2.32	612.32	614.54	0.004389	6.63	268.71	67.77	0.97
Treb4a	934066 sez 66	T=50	1050.00	602.28	607.12	620.00	12.88	620.00	12.88	607.12	608.80	0.005321	5.74	183.03	54.36	1.00
Treb4a	934066 sez 66	T=200	1470.00	602.28	608.07	620.00	11.93	620.00	11.93	608.07	610.02	0.005071	6.18	237.95	60.88	1.00
Treb4a	934066 sez 66	T=500	1780.00	602.28	608.68	620.00	11.32	620.00	11.32	608.68	610.80	0.004946	6.44	276.22	65.03	1.00
Treb4a	933067 sez 67	T=50	1050.00	600.00	604.29	609.64	5.35	610.00	5.71	605.24	607.34	0.013537	7.74	135.59	51.87	1.53
Treb4a	933067 sez 67	T=200	1470.00	600.00	605.00	609.64	4.64	610.00	5.00	606.15	608.59	0.013350	8.40	175.02	58.61	1.55
Treb4a	933067 sez 67	T=500	1780.00	600.00	605.45	609.64	4.19	610.00	4.55	606.71	609.39	0.013214	8.79	202.59	62.90	1.56
Treb4a	933001 sez 67 a monte c	T=50	1050.00	598.50	604.25	604.85	0.60	605.52	1.27	603.11	605.23	0.002295	4.40	238.50	55.55	0.68
Treb4a	933001 sez 67 a monte c	T=200	1470.00	598.50	605.67	604.85	-0.82	605.52	-0.15	604.09	606.73	0.001854	4.57	321.97	62.06	0.63
Treb4a	933001 sez 67 a monte c	T=500	1780.00	598.50	606.43	604.85	-1.58	605.52	-0.91	604.72	607.63	0.001735	4.84	371.02	65.58	0.62
Treb4b	933000 sez 68 a valle c	T=50	1100.00	598.20	601.19	604.55	3.36	605.22	4.03	602.93	607.01	0.028861	10.69	102.91	42.94	2.20
Treb4b	933000 sez 68 a valle c	T=200	1550.00	598.20	602.07	604.55	2.48	605.22	3.15	603.96	608.10	0.022014	10.88	142.44	46.97	1.99
Treb4b	933000 sez 68 a valle c	T=500	1850.00	598.20	602.62	604.55	1.93	605.22	2.60	604.56	608.73	0.019138	10.95	168.88	49.48	1.89
Treb4b	932068 sez 68	T=50	1100.00	598.00	603.78	604.35	0.57	605.02	1.24	602.71	604.85	0.002463	4.58	240.41	55.71	0.70
Treb4b	932068 sez 68	T=200	1550.00	598.00	605.28	604.35	-0.93	605.02	-0.26	603.76	606.42	0.001921	4.72	329.08	62.58	0.64
Treb4b	932068 sez 68	T=500	1850.00	598.00	606.14	604.35	-1.79	605.02	-1.12	604.36	607.34	0.001674	4.86	384.80	66.54	0.62
Treb4b	931069 sez 69	T=50	1100.00	596.00	602.11	599.70	-2.41	600.00	-2.11	602.11	604.26	0.004337	6.58	180.70	48.39	0.95
Treb4b	931069 sez 69	T=200	1550.00	596.00	603.33	599.70	-3.63	600.00	-3.33	603.33	605.88	0.003881	7.22	244.97	56.38	0.93
Treb4b	931069 sez 69	T=500	1850.00	596.00	604.06	599.70	-4.36	600.00	-4.06	604.06	606.82	0.003683	7.58	287.49	61.09	0.93
Treb4b	930070 sez 70	T=50	1100.00	590.00	594.00	600.00	6.00	600.00	6.00	594.84	596.87	0.011383	7.51	146.42	51.19	1.42
Treb4b	930070 sez 70	T=200	1550.00	590.00	594.75	600.00	5.25	600.00	5.25	595.81	598.25	0.011516	8.30	186.84	56.65	1.46
Treb4b	930070 sez 70	T=500	1850.00	590.00	595.17	600.00	4.83	600.00	4.83	596.37	599.07	0.011690	8.75	211.33	59.72	1.49
Treb4b	929071 sez 71	T=50	1100.00	587.46	592.02	600.00	7.98	600.00	7.98	592.50	594.27	0.008033	6.65	165.39	53.47	1.21
Treb4b	929071 sez 71	T=200	1550.00	587.46	592.85	600.00	7.15	600.00	7.15	593.48	595.56	0.008106	7.30	212.44	60.02	1.24
Treb4b	929071 sez 71	T=500	1850.00	587.46	596.25	600.00	3.75	600.00	3.75	594.03	597.07	0.001427	4.00	462.50	86.91	0.55
Treb4b	928072 sez 72	T=50	1170.00	585.80	590.83	590.00	-0.83	590.00	-0.83	589.37	591.48	0.001513	3.60	328.91	85.62	0.55
Treb4b	928072 sez 72	T=200	1650.00	585.80	592.67	590.00	-2.67	590.00	-2.67	590.19	593.28	0.000879	3.48	507.48	107.46	0.45
Treb4b	928072 sez 72	T=500	1950.00	585.80	596.52	590.00	-6.52	590.00	-6.52	590.64	596.79	0.000212	2.37	1008.63	152.91	0.24
Treb4b	927080 sez 73	T=50	1170.00	583.52	590.77	590.00	-0.77	590.00	-0.77	588.42	591.19	0.000881	2.86	411.05	95.33	0.43
Treb4b	927080 sez 73	T=200	1650.00	583.52	592.68	590.00	-2.68	590.00	-2.68	589.35	593.08	0.000534	2.81	605.68	108.05	0.35
Treb4b	927080 sez 73	T=500	1950.00	583.52	596.53	590.00	-6.53	590.00	-6.53	589.83	596.73	0.000148	2.02	1065.32	129.31	0.20
Treb4b	927073 sez 74 monte pon	T=50	1170.00	583.55	590.26	594.95	4.69	595.01	4.75	588.35	591.13	0.001564	4.13	282.96	51.16	0.56
Treb4b	927073 sez 74 monte pon	T=200	1650.00	583.55	592.05	594.95	2.90	595.01	2.96	589.41	593.02	0.001333	4.38	377.04	54.36	0.53
Treb4b	927073 sez 74 monte pon	T=500	1950.00	583.55	596.19	594.95	-1.24	595.01	-1.18	590.01	596.70	0.000447	3.18	613.49	58.19	0.31
Treb4b	927072 SP 17 per Fontan		Bridge													

HEC-RAS Plan: 03_Trebbia (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
Treb4b	925075 sez 74 valle pon	T=50	1170.00	583.50	587.33	594.95	7.62	595.01	7.68	588.34	590.84	0.013042	8.30	140.88	45.90	1.51
Treb4b	925075 sez 74 valle pon	T=200	1650.00	583.50	588.03	594.95	6.92	595.01	6.98	589.40	592.63	0.013599	9.50	173.67	47.17	1.58
Treb4b	925075 sez 74 valle pon	T=500	1950.00	583.50	590.00	594.95	4.95	595.01	5.01	590.00	592.66	0.004992	7.22	270.03	50.69	1.00
Treb4b	925000 Sezione a monte	T=50	1170.00	581.78	586.08	586.00	-0.08	585.93	-0.15	587.16	589.46	0.016822	8.15	147.04	101.59	1.69
Treb4b	925000 Sezione a monte	T=200	1650.00	581.78	586.49	586.00	-0.49	585.93	-0.56	587.83	591.09	0.018869	9.60	189.36	103.71	1.83
Treb4b	925000 Sezione a monte	T=500	1950.00	581.78	586.86	586.00	-0.86	585.93	-0.93	588.39	591.55	0.016663	9.80	227.95	105.60	1.76
Treb5	924900 Sezione a valle	T=50	1220.00	581.68	587.53	585.90	-1.63	585.83	-1.70	587.14	588.58	0.002886	4.72	311.67	111.36	0.76
Treb5	924900 Sezione a valle	T=200	1700.00	581.68	588.34	585.90	-2.44	585.83	-2.51	587.81	589.60	0.002789	5.25	407.99	122.78	0.77
Treb5	924900 Sezione a valle	T=500	2010.00	581.68	589.55	585.90	-3.65	585.83	-3.72	588.36	590.50	0.001639	4.68	556.99	124.06	0.61
Treb5	924076 sez 76	T=50	1220.00	580.89	586.52	589.61	3.09	600.00	13.48	585.69	587.39	0.002758	4.13	295.57	86.76	0.71
Treb5	924076 sez 76	T=200	1700.00	580.89	587.46	589.61	2.15	600.00	12.54	586.51	588.50	0.002430	4.50	377.79	87.05	0.69
Treb5	924076 sez 76	T=500	2010.00	580.89	589.39	589.61	0.22	600.00	10.61	586.91	590.06	0.001313	3.63	553.57	110.66	0.52
Treb5	924075 ponte alla sezio		Bridge													
Treb5	923077 ponte 77	T=50	1220.00	580.89	586.28	589.61	3.33	590.00	3.72	585.69	587.28	0.003480	4.44	275.06	86.65	0.79
Treb5	923077 ponte 77	T=200	1700.00	580.89	587.10	589.61	2.51	590.00	2.90	586.51	588.33	0.003227	4.92	345.87	86.93	0.79
Treb5	923077 ponte 77	T=500	2010.00	580.89	587.53	589.61	2.08	590.00	2.47	586.91	588.93	0.003242	5.24	383.37	87.07	0.80
Treb5	922078 sez 78	T=50	1220.00	580.89	585.69	589.61	3.92	590.00	4.31	585.69	587.15	0.005556	5.37	227.40	76.95	1.00
Treb5	922078 sez 78	T=200	1700.00	580.89	586.51	589.61	3.10	590.00	3.49	586.51	588.20	0.005402	5.77	294.79	86.75	1.00
Treb5	922078 sez 78	T=500	2010.00	580.89	586.91	589.61	2.70	590.00	3.09	586.91	588.80	0.005272	6.10	329.51	86.88	1.00
Treb5	921079 sez 79	T=50	1220.00	579.09	584.51	590.00	5.49	590.00	5.49	583.64	585.36	0.002629	4.10	297.24	86.57	0.71
Treb5	921079 sez 79	T=200	1700.00	579.09	585.38	590.00	4.62	590.00	4.62	584.47	586.41	0.002689	4.51	376.98	96.88	0.73
Treb5	921079 sez 79	T=500	2010.00	579.09	585.85	590.00	4.15	590.00	4.15	584.94	586.99	0.002731	4.74	424.46	102.53	0.74
Treb5	920080 sez 80	T=50	1220.00	578.00	583.57	590.00	6.43	590.00	6.43	583.25	584.75	0.004224	4.82	253.37	81.82	0.87
Treb5	920080 sez 80	T=200	1700.00	578.00	584.39	590.00	5.61	590.00	5.61	584.08	585.79	0.004246	5.24	324.49	92.51	0.89
Treb5	920080 sez 80	T=500	2010.00	578.00	584.80	590.00	5.20	590.00	5.20	584.55	586.36	0.004377	5.52	363.82	97.92	0.91
Treb5	919081 sez 81	T=50	1220.00	576.00	579.78	580.00	0.22	580.00	0.22	580.78	583.09	0.016670	8.05	151.51	64.65	1.68
Treb5	919081 sez 81	T=200	1700.00	576.00	582.92	580.00	-2.92	580.00	-2.92	581.59	583.99	0.001811	4.62	387.77	84.72	0.64
Treb5	919081 sez 81	T=500	2010.00	576.00	583.69	580.00	-3.69	580.00	-3.69	582.07	584.81	0.001595	4.74	454.79	89.28	0.61
Treb5	918082 sez 82	T=50	1230.00	574.00	579.08	580.00	0.92	580.00	0.92	578.80	580.52	0.004303	5.32	231.14	66.30	0.91
Treb5	918082 sez 82	T=200	1710.00	574.00	582.72	580.00	-2.72	580.00	-2.72	579.75	583.32	0.000742	3.42	513.04	85.83	0.42
Treb5	918082 sez 82	T=500	2020.00	574.00	583.54	580.00	-3.54	580.00	-3.54	580.24	584.19	0.000702	3.59	584.29	89.41	0.42
Treb5	917083 sez 83	T=50	1230.00	572.00	579.31	580.00	0.69	580.00	0.69	577.50	579.97	0.001479	3.58	343.29	79.50	0.55
Treb5	917083 sez 83	T=200	1710.00	572.00	582.82	580.00	-2.82	580.00	-2.82	578.45	583.18	0.000389	2.65	661.42	99.73	0.31
Treb5	917083 sez 83	T=500	2020.00	572.00	583.65	580.00	-3.65	580.00	-3.65	578.98	584.05	0.000380	2.81	745.54	103.86	0.31
Treb5	916084 sez 84	T=50	1230.00	569.30	578.98	582.43	3.45	581.83	2.85	577.37	579.80	0.001712	4.02	306.21	63.73	0.58
Treb5	916084 sez 84	T=200	1710.00	569.30	582.65	582.43	-0.22	581.83	-0.82	578.30	583.12	0.000540	3.04	563.60	83.85	0.35
Treb5	916084 sez 84	T=500	2020.00	569.30	583.45	582.43	-1.02	581.83	-1.62	578.85	583.99	0.000538	3.25	631.75	85.81	0.36

HEC-RAS Plan: 03_Trebbia (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Treb5	915085 85 a monte del p	T=50	1230.00	567.66	579.18	579.97	0.80	579.87	0.70	575.81	579.70	0.000904	3.21	383.25	67.06	0.43
Treb5	915085 85 a monte del p	T=200	1710.00	567.66	582.72	579.97	-2.75	579.87	-2.85	577.00	583.09	0.000351	2.69	642.55	78.14	0.29
Treb5	915085 85 a monte del p	T=500	2020.00	567.66	583.52	579.97	-3.55	579.87	-3.65	577.66	583.95	0.000366	2.91	706.90	81.74	0.30
Treb5	915084.5 ponte alla sezio		Bridge													
Treb5	915084 85 a valle del p	T=50	1230.00	567.66	578.67	579.97	1.30	579.87	1.20	575.81	579.30	0.001151	3.51	350.15	63.95	0.48
Treb5	915084 85 a valle del p	T=200	1710.00	567.66	579.96	579.97	0.01	579.87	-0.09	577.00	580.74	0.001220	3.91	437.71	71.62	0.50
Treb5	915084 85 a valle del p	T=500	2020.00	567.66	580.68	579.97	-0.71	579.87	-0.81	577.66	581.55	0.001176	4.13	489.57	72.87	0.50
Treb5	914086 sez 86	T=50	1230.00	571.30	577.16	580.00	2.84	580.00	2.84	577.16	579.16	0.005166	6.27	196.33	48.90	1.00
Treb5	914086 sez 86	T=200	1710.00	571.30	578.27	580.00	1.73	580.00	1.73	578.27	580.58	0.004933	6.73	254.14	54.75	1.00
Treb5	914086 sez 86	T=500	2020.00	571.30	578.90	580.00	1.10	580.00	1.10	578.90	581.38	0.004830	6.98	289.48	58.04	1.00
Treb5	913087 sez 87	T=50	1230.00	570.00	574.63	572.64	-1.99	573.56	-1.07	575.31	577.37	0.007769	7.37	175.24	61.28	1.23
Treb5	913087 sez 87	T=200	1710.00	570.00	575.42	572.64	-2.78	573.56	-1.86	576.40	578.83	0.007602	8.30	227.64	72.17	1.26
Treb5	913087 sez 87	T=500	2020.00	570.00	576.02	572.64	-3.38	573.56	-2.46	576.92	579.54	0.006729	8.49	273.42	80.32	1.21
Treb5	912088 sez 88	T=50	1230.00	566.00	570.51	570.11	-0.40	570.00	-0.51	571.05	573.04	0.008291	7.04	175.25	56.17	1.24
Treb5	912088 sez 88	T=200	1710.00	566.00	571.19	570.11	-1.08	570.00	-1.19	571.99	574.51	0.008485	8.08	214.75	59.90	1.30
Treb5	912088 sez 88	T=500	2020.00	566.00	571.58	570.11	-1.47	570.00	-1.58	572.57	575.40	0.008647	8.68	238.18	62.01	1.33
Treb5	911089 sez 89	T=50	1240.00	562.16	565.98	570.00	4.02	570.00	4.02	567.15	569.85	0.013237	8.72	142.24	43.83	1.54
Treb5	911089 sez 89	T=200	1725.00	562.16	566.87	570.00	3.13	570.00	3.13	568.24	571.42	0.012319	9.45	182.55	46.89	1.53
Treb5	911089 sez 89	T=500	2040.00	562.16	567.38	570.00	2.62	570.00	2.62	568.88	572.33	0.011966	9.86	206.98	48.66	1.53
Treb5	910090 sez 90	T=50	1240.00	558.86	564.76	570.00	5.24	569.49	4.73	563.73	565.71	0.002306	4.34	286.00	69.00	0.68
Treb5	910090 sez 90	T=200	1725.00	558.86	566.79	570.00	3.21	569.49	2.70	564.60	567.59	0.001292	3.98	433.47	76.22	0.53
Treb5	910090 sez 90	T=500	2040.00	558.86	568.43	570.00	1.57	569.49	1.06	565.09	569.10	0.000845	3.62	563.54	82.53	0.44
Treb5	910089 ponte alla sezio		Bridge													
Treb5	909091 ponte 91	T=50	1240.00	558.69	564.25	570.00	5.75	570.00	5.75	563.76	565.58	0.003530	5.10	243.11	62.62	0.83
Treb5	909091 ponte 91	T=200	1725.00	558.69	565.20	570.00	4.80	570.00	4.80	564.65	566.85	0.003454	5.69	303.32	64.56	0.84
Treb5	909091 ponte 91	T=500	2040.00	558.69	565.76	570.00	4.24	570.00	4.24	565.17	567.60	0.003417	6.00	339.76	65.70	0.84
Treb5	908092 sez 92	T=50	1240.00	558.69	563.76	570.04	6.28	570.00	6.24	563.76	565.49	0.005312	5.83	212.65	61.11	1.00
Treb5	908092 sez 92	T=200	1725.00	558.69	564.65	570.04	5.39	570.00	5.35	564.65	566.76	0.005032	6.43	268.38	63.45	1.00
Treb5	908092 sez 92	T=500	2040.00	558.69	565.17	570.04	4.87	570.00	4.83	565.17	567.50	0.004921	6.77	301.50	64.50	1.00
Treb5	907093 sez 93	T=50	1240.00	556.97	561.06	563.96	2.90	564.92	3.86	561.47	562.69	0.010175	5.66	219.12	110.10	1.28
Treb5	907093 sez 93	T=200	1725.00	556.97	562.82	563.96	1.14	564.92	2.10	562.03	563.61	0.002519	3.93	438.42	132.70	0.69
Treb5	907093 sez 93	T=500	2040.00	556.97	563.62	563.96	0.34	564.92	1.30	562.37	564.33	0.001799	3.72	547.83	139.58	0.60
Treb5	906094 sez 94	T=50	1240.00	556.00	561.61	560.00	-1.61	560.00	-1.61	559.95	562.03	0.001006	2.88	437.86	116.14	0.46
Treb5	906094 sez 94	T=200	1725.00	556.00	562.90	560.00	-2.90	560.00	-2.90	560.55	563.36	0.000769	3.02	592.80	124.85	0.42
Treb5	906094 sez 94	T=500	2040.00	556.00	563.66	560.00	-3.66	560.00	-3.66	560.92	564.15	0.000684	3.11	689.68	129.99	0.40
Treb5	905095 sez 95	T=50	1240.00	554.00	559.75	560.00	0.25	560.00	0.25	559.69	561.54	0.004947	5.93	209.21	55.69	0.98
Treb5	905095 sez 95	T=200	1725.00	554.00	560.64	560.00	-0.64	560.00	-0.64	560.64	562.88	0.004816	6.63	261.48	61.53	0.99
Treb5	905095 sez 95	T=500	2040.00	554.00	561.21	560.00	-1.21	560.00	-1.21	561.21	563.67	0.004535	6.96	297.36	65.21	0.98

HEC-RAS Plan: 03_Trebbia (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
Treb5	904096 sez 96	T=50	1240.00	552.00	557.64	560.00	2.36	560.00	2.36	557.64	559.44	0.005165	5.95	208.37	57.43	1.00
Treb5	904096 sez 96	T=200	1725.00	552.00	558.65	560.00	1.35	560.00	1.35	558.65	560.72	0.004942	6.38	270.22	64.77	1.00
Treb5	904096 sez 96	T=500	2040.00	552.00	559.13	560.00	0.87	560.00	0.87	559.22	561.45	0.005096	6.74	302.49	68.29	1.02
Treb5	903097 sez 97	T=50	1240.00	550.00	553.90	552.19	-1.71	550.79	-3.11	554.69	556.81	0.008650	7.84	185.38	67.41	1.31
Treb5	903097 sez 97	T=200	1725.00	550.00	554.67	552.19	-2.48	550.79	-3.88	555.69	558.23	0.008379	8.76	240.49	75.27	1.33
Treb5	903097 sez 97	T=500	2040.00	550.00	555.12	552.19	-2.93	550.79	-4.33	556.26	559.04	0.008232	9.26	275.29	79.84	1.34
Treb5	902098 sez 98	T=50	1250.00	546.99	550.90	550.00	-0.90	550.00	-0.90	551.11	552.72	0.006442	5.99	211.41	74.67	1.09
Treb5	902098 sez 98	T=200	1740.00	546.99	551.62	550.00	-1.62	550.00	-1.62	551.93	553.90	0.006111	6.71	267.26	80.13	1.10
Treb5	902098 sez 98	T=500	2055.00	546.99	551.91	550.00	-1.91	550.00	-1.91	552.41	554.63	0.006608	7.33	291.14	82.35	1.16
Treb5	901099 sez 99	T=50	1250.00	544.41	548.79	550.00	1.21	550.00	1.21	548.79	550.04	0.005814	4.95	252.40	101.25	1.00
Treb5	901099 sez 99	T=200	1740.00	544.41	549.69	550.00	0.31	550.00	0.31	549.59	550.88	0.005220	4.84	359.42	137.89	0.96
Treb5	901099 sez 99	T=500	2055.00	544.41	550.37	550.00	-0.37	550.00	-0.37	549.98	551.38	0.003579	4.46	461.19	152.74	0.81
Treb5	900100 sez 100	T=50	1250.00	539.58	546.71	560.00	13.29	558.02	11.31	545.48	547.80	0.002264	4.61	271.00	57.16	0.68
Treb5	900100 sez 100	T=200	1740.00	539.58	547.54	560.00	12.46	558.02	10.48	546.51	549.05	0.002783	5.44	320.00	61.52	0.76
Treb5	900100 sez 100	T=500	2055.00	539.58	548.03	560.00	11.97	558.02	9.99	547.12	549.78	0.003044	5.86	350.59	64.42	0.80
Treb5	900099.5 sez 100 copiata	T=50	1250.00	540.10	546.98	560.00	13.02	559.56	12.58	544.89	547.67	0.001265	3.68	339.35	64.49	0.51
Treb5	900099.5 sez 100 copiata	T=200	1740.00	540.10	547.91	560.00	12.09	559.56	11.65	545.83	548.87	0.001517	4.34	400.84	67.60	0.57
Treb5	900099.5 sez 100 copiata	T=500	2055.00	540.10	548.46	560.00	11.54	559.56	11.10	546.36	549.58	0.001673	4.69	438.48	70.74	0.60
Treb5	900099 ponte alla sezio	Bridge														
Treb5	899101 ponte 101	T=50	1250.00	540.10	546.81	557.72	10.91	559.56	12.75	544.89	547.55	0.001394	3.81	328.37	64.02	0.54
Treb5	899101 ponte 101	T=200	1740.00	540.10	547.59	557.72	10.13	559.56	11.97	545.82	548.66	0.001769	4.59	378.97	66.13	0.61
Treb5	899101 ponte 101	T=500	2055.00	540.10	547.97	557.72	9.75	559.56	11.59	546.36	549.28	0.002067	5.08	404.37	67.91	0.66
Treb5	898102 sez 102	T=50	1250.00	540.10	546.80	557.72	10.92	559.56	12.76	544.89	547.54	0.001403	3.81	327.69	64.00	0.54
Treb5	898102 sez 102	T=200	1740.00	540.10	547.57	557.72	10.15	559.56	11.99	545.82	548.65	0.001783	4.60	377.95	66.08	0.61
Treb5	898102 sez 102	T=500	2055.00	540.10	547.95	557.72	9.77	559.56	11.61	546.36	549.27	0.002085	5.10	403.08	67.80	0.67
Treb5	897103 sez 103	T=50	1250.00	540.00	546.68	550.00	3.32	550.00	3.32	544.79	547.07	0.001606	2.78	450.35	119.02	0.46
Treb5	897103 sez 103	T=200	1740.00	540.00	547.50	550.00	2.50	550.00	2.50	545.51	548.00	0.001835	3.15	552.31	128.81	0.49
Treb5	897103 sez 103	T=500	2055.00	540.00	547.97	550.00	2.03	550.00	2.03	545.91	548.54	0.001937	3.35	613.86	134.37	0.50
Treb5	896104 sez 104	T=50	1250.00	539.19	545.80	550.00	4.20	550.00	4.20	544.30	546.23	0.009529	2.91	430.22	134.26	0.52
Treb5	896104 sez 104	T=200	1740.00	539.19	546.64	550.00	3.36	550.00	3.36	545.10	547.15	0.008765	3.18	546.89	143.87	0.52
Treb5	896104 sez 104	T=500	2055.00	539.19	547.12	550.00	2.88	550.00	2.88	545.43	547.68	0.008398	3.33	617.76	149.40	0.52
Treb5	895105 sez 105	T=50	1250.00	537.08	543.19	550.00	6.81	550.00	6.81	543.19	544.48	0.005970	5.04	248.22	95.89	1.00
Treb5	895105 sez 105	T=200	1740.00	537.08	543.88	550.00	6.12	550.00	6.12	543.88	545.42	0.005601	5.49	317.03	102.74	1.00
Treb5	895105 sez 105	T=500	2055.00	537.08	544.28	550.00	5.72	550.00	5.72	544.28	545.95	0.005445	5.73	358.52	106.66	1.00
Treb5	894206 sez 106	T=50	1250.00	535.80	539.81	546.26	6.45	546.39	6.58	540.55	542.30	0.011969	6.99	178.88	72.93	1.42
Treb5	894206 sez 106	T=200	1740.00	535.80	540.50	546.26	5.76	546.39	5.89	541.35	543.36	0.011344	7.49	232.19	81.90	1.42
Treb5	894206 sez 106	T=500	2055.00	535.80	540.88	546.26	5.38	546.39	5.51	541.80	543.96	0.011074	7.77	264.36	86.72	1.42

HEC-RAS Plan: 03_Trebbia (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
Treb5	894106 sez 106 bis	T=50	1250.00	534.82	539.55	545.98	6.43	547.36	7.81	539.55	541.04	0.005591	5.40	231.60	77.81	1.00
Treb5	894106 sez 106 bis	T=200	1740.00	534.82	540.34	545.98	5.64	547.36	7.02	540.34	542.10	0.005362	5.88	295.93	84.44	1.00
Treb5	894106 sez 106 bis	T=500	2055.00	534.82	540.78	545.98	5.20	547.36	6.58	540.78	542.71	0.005151	6.16	333.82	85.97	1.00
Treb5	893107 sez 107	T=50	1250.00	534.00	536.78	540.00	3.22	540.07	3.29	537.52	539.15	0.016308	6.82	183.16	99.64	1.61
Treb5	893107 sez 107	T=200	1740.00	534.00	537.22	540.00	2.79	540.07	2.85	538.16	540.17	0.016746	7.62	228.43	107.46	1.67
Treb5	893107 sez 107	T=500	2055.00	534.00	537.46	540.00	2.54	540.07	2.61	538.52	540.76	0.016974	8.04	255.48	111.87	1.70
Treb6a	892108 sez 108	T=50	1260.00	532.00	533.49	536.45	2.96	540.00	6.51	534.52	537.07	0.040482	8.39	150.22	118.66	2.38
Treb6a	892108 sez 108	T=200	1750.00	532.00	536.68	536.45	-0.23	540.00	3.32	535.06	537.05	0.001112	2.69	650.75	193.63	0.46
Treb6a	892108 sez 108	T=500	2070.00	532.00	537.39	536.45	-0.94	540.00	2.61	535.37	537.74	0.000837	2.63	791.71	205.66	0.42
Treb6a	891109 sez 109	T=50	1260.00	530.00	535.45	533.00	-2.45	534.02	-1.43	533.65	535.70	0.000668	2.20	576.40	159.02	0.36
Treb6a	891109 sez 109	T=200	1750.00	530.00	536.52	533.00	-3.52	534.02	-2.50	534.11	536.81	0.000551	2.36	747.92	161.72	0.35
Treb6a	891109 sez 109	T=500	2070.00	530.00	537.25	533.00	-4.25	534.02	-3.23	534.39	537.55	0.000479	2.42	866.05	163.55	0.33
Treb6a	890110 sez 110	T=50	1260.00	528.83	533.01	534.29	1.28	532.84	-0.17	533.32	535.13	0.007095	6.44	195.60	60.44	1.13
Treb6a	890110 sez 110	T=200	1750.00	528.83	534.23	534.29	0.06	532.84	-1.39	534.23	536.38	0.004871	6.50	274.15	68.42	0.98
Treb6a	890110 sez 110	T=500	2070.00	528.83	534.78	534.29	-0.49	532.84	-1.94	534.78	537.14	0.004624	6.83	312.26	71.98	0.97
Treb6a	889111 sez 111	T=50	1260.00	527.91	532.23	532.60	0.37	533.01	0.78	532.23	533.34	0.005902	4.67	269.96	120.64	1.00
Treb6a	889111 sez 111	T=200	1750.00	527.91	532.92	532.60	-0.32	533.01	0.09	532.92	534.07	0.005834	4.75	369.05	161.54	1.00
Treb6a	889111 sez 111	T=500	2070.00	527.91	532.79	532.60	-0.19	533.01	0.22	533.20	534.59	0.009839	5.95	348.23	160.14	1.28
Treb6a	888112 sez 112	T=50	1260.00	525.86	530.13	530.00	-0.13	530.00	-0.13	530.34	531.81	0.007091	5.75	219.37	83.06	1.12
Treb6a	888112 sez 112	T=200	1750.00	525.86	531.09	530.00	-1.09	530.00	-1.09	531.09	532.83	0.004907	5.86	305.81	96.60	0.98
Treb6a	888112 sez 112	T=500	2070.00	525.86	531.54	530.00	-1.54	530.00	-1.54	531.54	533.45	0.004631	6.15	350.43	102.89	0.97
Treb6a	887113 sez 113	T=50	1260.00	520.42	525.01	529.64	4.63	532.66	7.65	523.55	525.31	0.000953	2.41	522.55	159.33	0.43
Treb6a	887113 sez 113	T=200	1750.00	520.42	526.12	529.64	3.52	532.66	6.54	524.02	526.44	0.000711	2.49	702.11	162.96	0.38
Treb6a	887113 sez 113	T=500	2070.00	520.42	527.89	529.64	1.75	532.66	4.77	524.29	528.11	0.000329	2.08	994.84	168.83	0.27
Treb6a	886114 sez 114	T=50	1260.00	520.42	524.64	530.00	5.36	532.59	7.95	523.55	525.01	0.001406	2.72	463.55	158.28	0.51
Treb6a	886114 sez 114	T=200	1750.00	520.42	525.89	530.00	4.11	532.59	6.70	524.02	526.25	0.000849	2.63	664.92	162.56	0.42
Treb6a	886114 sez 114	T=500	2070.00	520.42	527.80	530.00	2.20	532.59	4.79	524.30	528.03	0.000346	2.11	981.53	169.83	0.28
Treb6a	885152 sez 115 inclinat	T=50	1260.00	519.29	524.37	523.80	-0.57	532.66	8.29	522.56	524.81	0.001009	2.91	432.77	101.97	0.45
Treb6a	885152 sez 115 inclinat	T=200	1750.00	519.29	525.59	523.80	-1.79	532.66	7.07	523.20	526.09	0.000859	3.15	558.03	104.58	0.43
Treb6a	885152 sez 115 inclinat	T=500	2070.00	519.29	527.57	523.80	-3.77	532.66	5.09	523.58	527.95	0.000436	2.72	769.68	108.85	0.32
Treb6a	885151 Ponte inclinato		Bridge													
Treb6a	885150 sez 115 inclinat	T=50	1260.00	519.29	524.24	523.80	-0.44	532.66	8.42	522.56	524.70	0.001121	3.01	418.94	101.68	0.47
Treb6a	885150 sez 115 inclinat	T=200	1750.00	519.29	525.35	523.80	-1.55	532.66	7.31	523.20	525.90	0.000993	3.29	533.21	104.07	0.46
Treb6a	885150 sez 115 inclinat	T=500	2070.00	519.29	526.02	523.80	-2.22	532.66	6.64	523.58	526.62	0.000936	3.45	603.58	105.51	0.45
Treb6a	885115 sez 115 bis	T=50	1260.00	519.19	523.96	529.65	5.69	526.33	2.37	522.72	524.60	0.001707	3.56	354.00	89.77	0.57
Treb6a	885115 sez 115 bis	T=200	1750.00	519.19	525.05	529.65	4.60	526.33	1.28	523.39	525.81	0.001515	3.86	453.47	92.31	0.56
Treb6a	885115 sez 115 bis	T=500	2070.00	519.19	525.72	529.65	3.93	526.33	0.61	523.80	526.54	0.001427	4.02	515.52	94.14	0.55
Treb6a	884117 ponte 116 soglia	T=50	1260.00	519.64	522.87	526.50	3.63	527.50	4.63	522.87	524.47	0.005823	5.61	224.67	69.67	1.00

HEC-RAS Plan: 03_Trebbia (Continued)

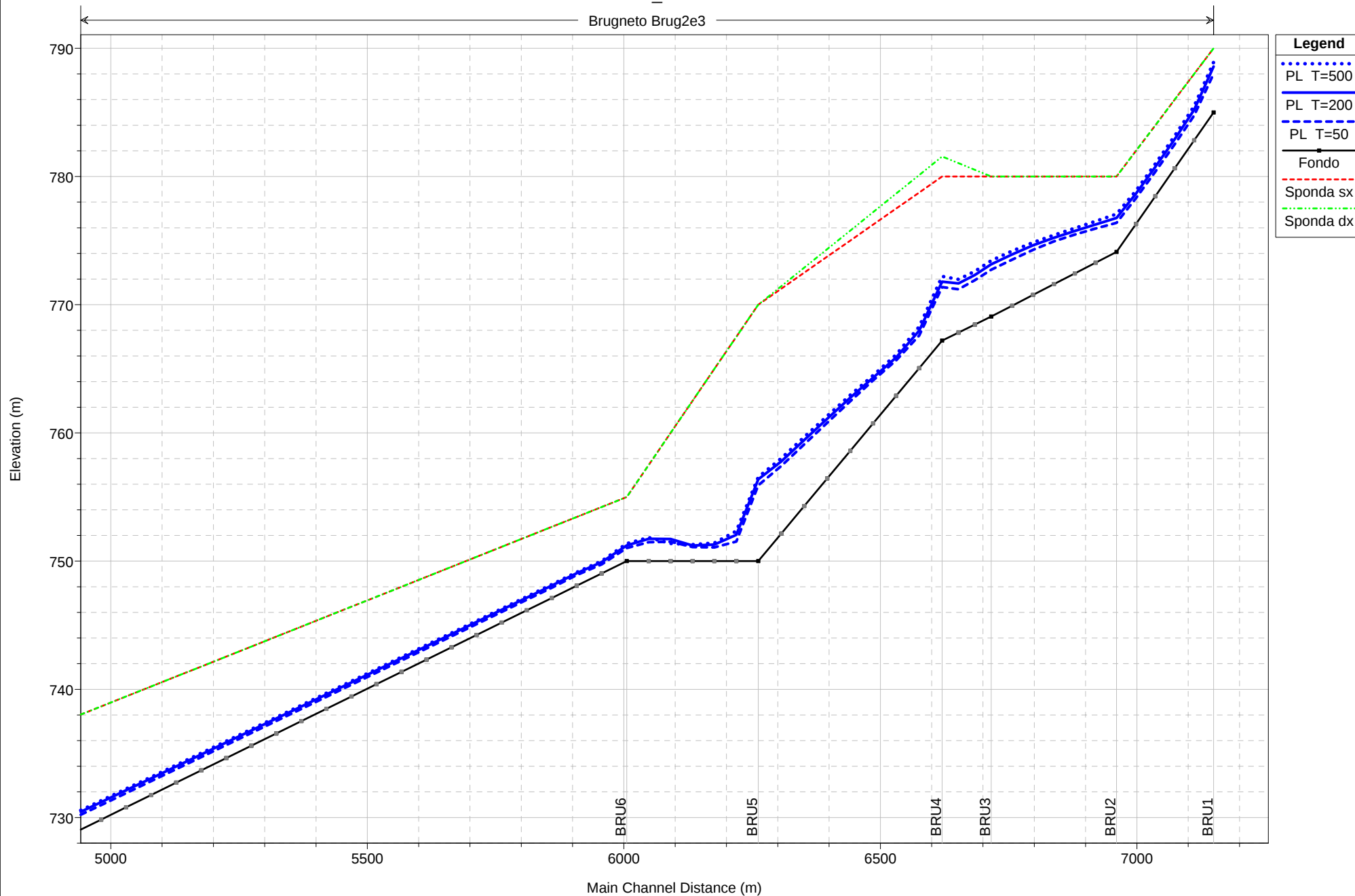
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Treb6a	884117 ponte 116 soglia	T=200	1750.00	519.64	523.65	526.50	2.85	527.50	3.85	523.65	525.65	0.005592	6.27	279.25	69.67	1.00
Treb6a	884117 ponte 116 soglia	T=500	2070.00	519.64	524.13	526.50	2.37	527.50	3.37	524.13	526.36	0.005452	6.62	312.72	69.67	1.00
Treb6a	884116 116 dopo soglia	T=50	1260.00	516.48	518.51	525.60	7.09	526.18	7.67	519.99	524.07	0.044655	10.45	120.63	73.28	2.60
Treb6a	884116 116 dopo soglia	T=200	1750.00	516.48	519.02	525.60	6.58	526.18	7.16	520.75	525.22	0.035427	11.03	158.61	74.13	2.41
Treb6a	884116 116 dopo soglia	T=500	2070.00	516.48	519.34	525.60	6.26	526.18	6.84	521.21	525.92	0.031743	11.37	182.08	74.66	2.32
Treb6a	883117 117 dopo soglia	T=50	1260.00	516.48	518.74	524.13	5.39	526.18	7.44	519.99	523.02	0.029229	9.17	137.42	73.66	2.14
Treb6a	883117 117 dopo soglia	T=200	1750.00	516.48	519.24	524.13	4.89	526.18	6.94	520.75	524.34	0.025791	10.00	174.99	74.50	2.08
Treb6a	883117 117 dopo soglia	T=500	2070.00	516.48	519.56	524.13	4.58	526.18	6.62	521.21	525.11	0.024113	10.44	198.32	75.02	2.05
Treb6a	882118 sez 118	T=50	1260.00	515.63	521.11	524.13	3.02	530.00	8.89	520.26	521.96	0.003567	4.09	308.25	112.98	0.79
Treb6a	882118 sez 118	T=200	1750.00	515.63	521.61	524.13	2.53	530.00	8.39	521.29	522.77	0.004019	4.79	365.45	114.97	0.86
Treb6a	882118 sez 118	T=500	2070.00	515.63	521.88	524.13	2.25	530.00	8.12	521.64	523.26	0.004285	5.21	397.42	115.30	0.90
Treb6a	882000 sez 118 bis	T=50	1260.00	514.75	520.27	523.98	3.71	525.90	5.63	520.15	521.17	0.005123	4.19	300.43	140.13	0.91
Treb6a	882000 sez 118 bis	T=200	1750.00	514.75	520.80	523.98	3.18	525.90	5.10	520.64	521.91	0.004795	4.67	374.63	140.75	0.91
Treb6a	882000 sez 118 bis	T=500	2070.00	514.75	521.13	523.98	2.85	525.90	4.77	520.95	522.36	0.004584	4.92	420.95	141.14	0.91
Treb6a	881119 sez 119	T=50	1260.00	514.00	517.96	520.00	2.04	520.00	2.04	517.96	519.31	0.005589	5.16	244.07	89.75	1.00
Treb6a	881119 sez 119	T=200	1750.00	514.00	518.71	520.00	1.29	520.00	1.29	518.71	520.28	0.005307	5.54	315.91	100.46	1.00
Treb6a	881119 sez 119	T=500	2070.00	514.00	519.14	520.00	0.86	520.00	0.86	519.14	520.82	0.005190	5.75	360.14	106.53	1.00
Treb6a	880120 sez 120	T=50	1260.00	511.85	516.37	520.00	3.63	520.00	3.63	516.37	517.66	0.005685	5.03	250.57	97.66	1.00
Treb6a	880120 sez 120	T=200	1750.00	511.85	517.04	520.00	2.96	520.00	2.96	517.10	518.56	0.005662	5.46	320.75	110.28	1.02
Treb6a	880120 sez 120	T=500	2070.00	511.85	517.49	520.00	2.51	520.00	2.51	517.49	519.07	0.005339	5.57	371.74	118.60	1.00
Treb6a	879121 sez 121	T=50	1260.00	510.00	512.99	520.13	7.14	520.00	7.01	513.47	514.76	0.010834	5.90	213.48	106.25	1.33
Treb6a	879121 sez 121	T=200	1750.00	510.00	513.47	520.13	6.66	520.00	6.53	514.07	515.65	0.011290	6.55	267.33	117.45	1.39
Treb6a	879121 sez 121	T=500	2070.00	510.00	513.73	520.13	6.40	520.00	6.27	514.46	516.17	0.011588	6.91	299.48	123.66	1.42
Treb6a	878122 sez 122	T=50	1260.00	505.84	510.42	510.00	-0.42	510.00	-0.42	510.42	511.98	0.005352	5.52	228.36	73.99	1.00
Treb6a	878122 sez 122	T=200	1750.00	505.84	511.20	510.00	-1.20	510.00	-1.20	511.20	513.12	0.004936	6.15	286.39	76.03	0.99
Treb6a	878122 sez 122	T=500	2070.00	505.84	511.66	510.00	-1.66	510.00	-1.66	511.66	513.80	0.004754	6.50	321.69	77.25	0.99

Torrente Brugneto

- Profili di corrente
- Sezioni idrauliche
- Tabelle dei risultati

Trebbia_Stato di fatto

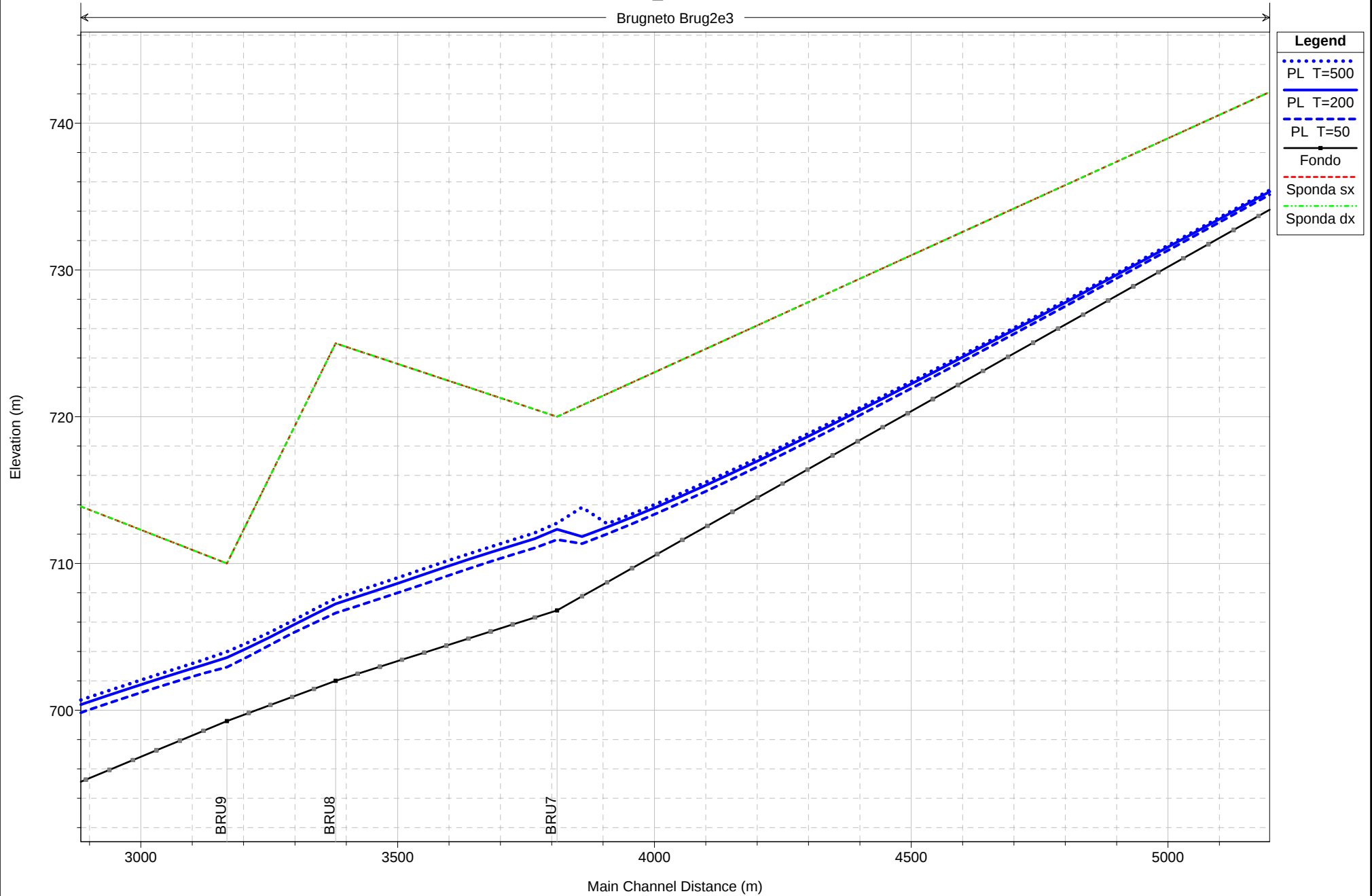
Brugneto Brug2e3



1 cm Horiz. = 100 m 1 cm Vert. = 4 m

Trebbia_Stato di fatto

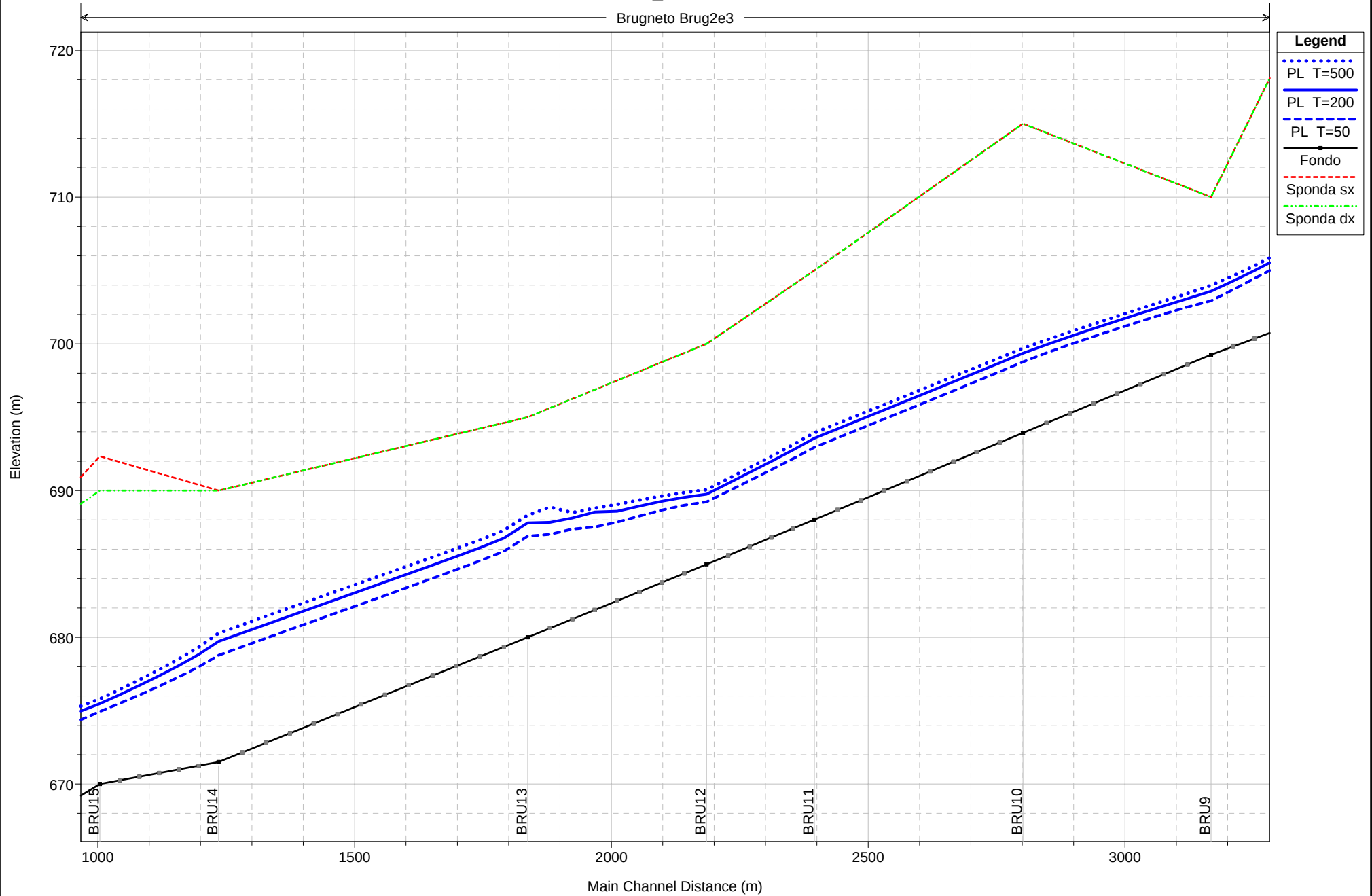
Brugneto Brug2e3



1 cm Horiz. = 100 m 1 cm Vert. = 3.5 m

Trebbia_Stato di fatto

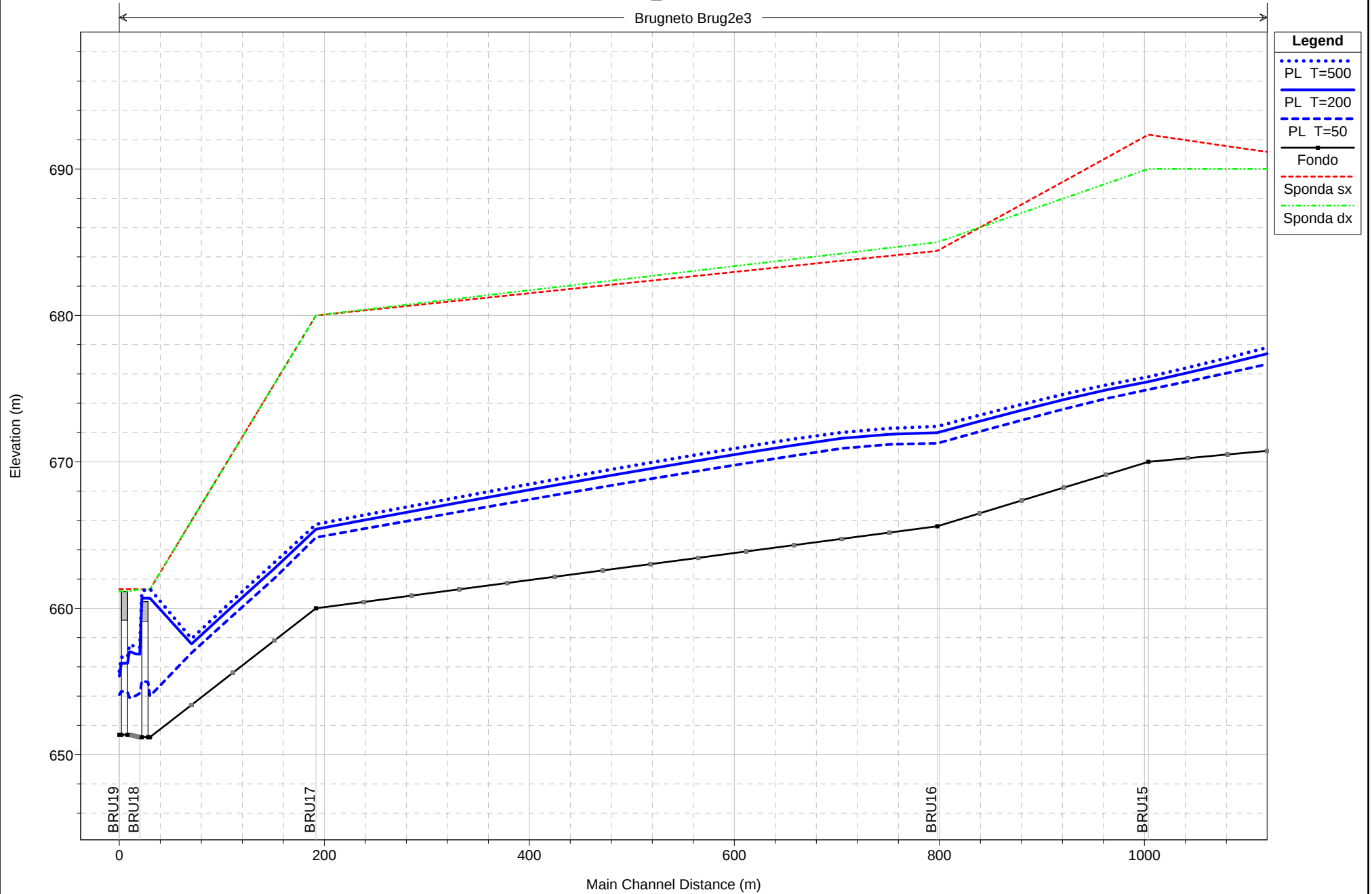
Brugneto Brug2e3



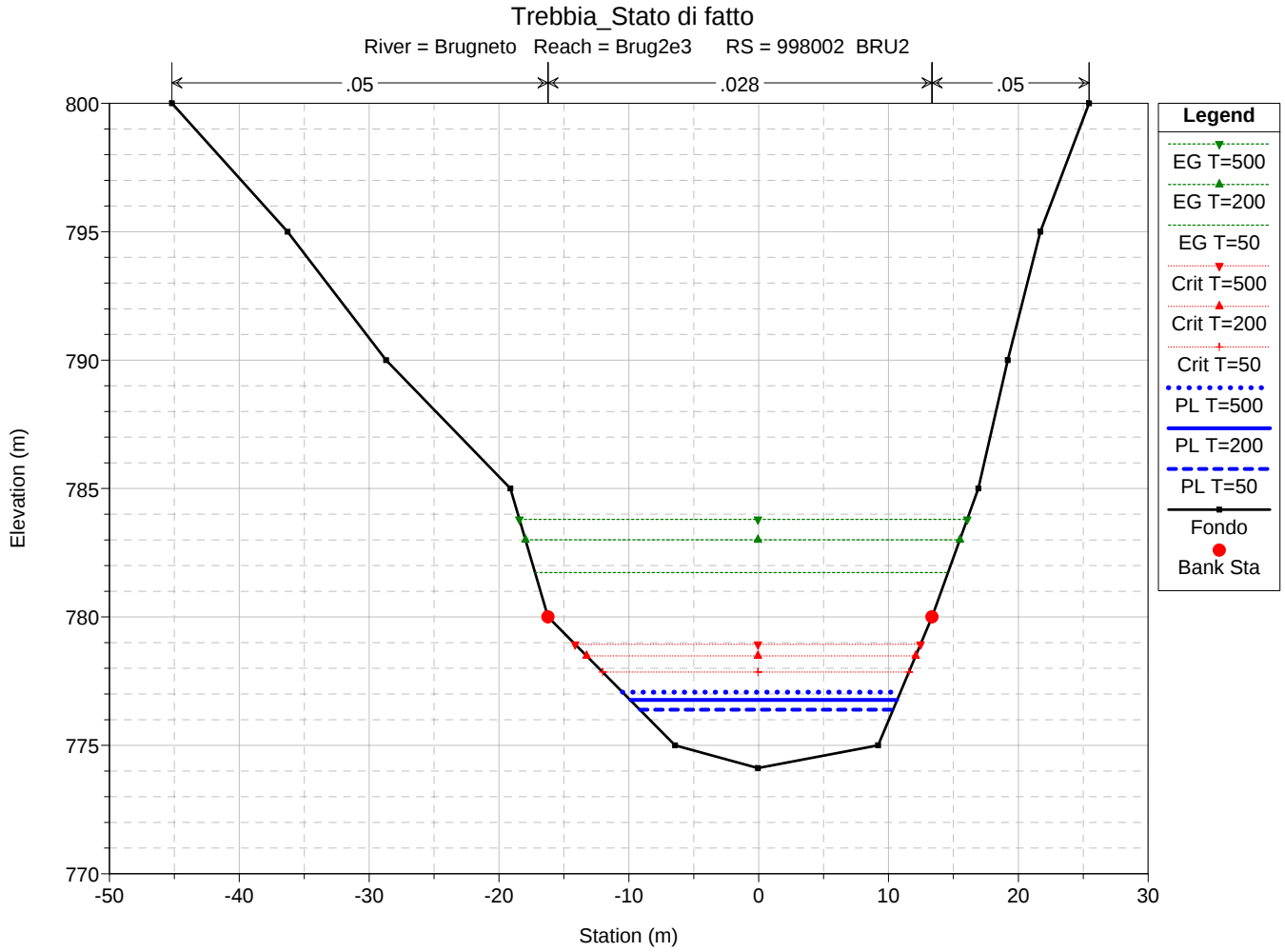
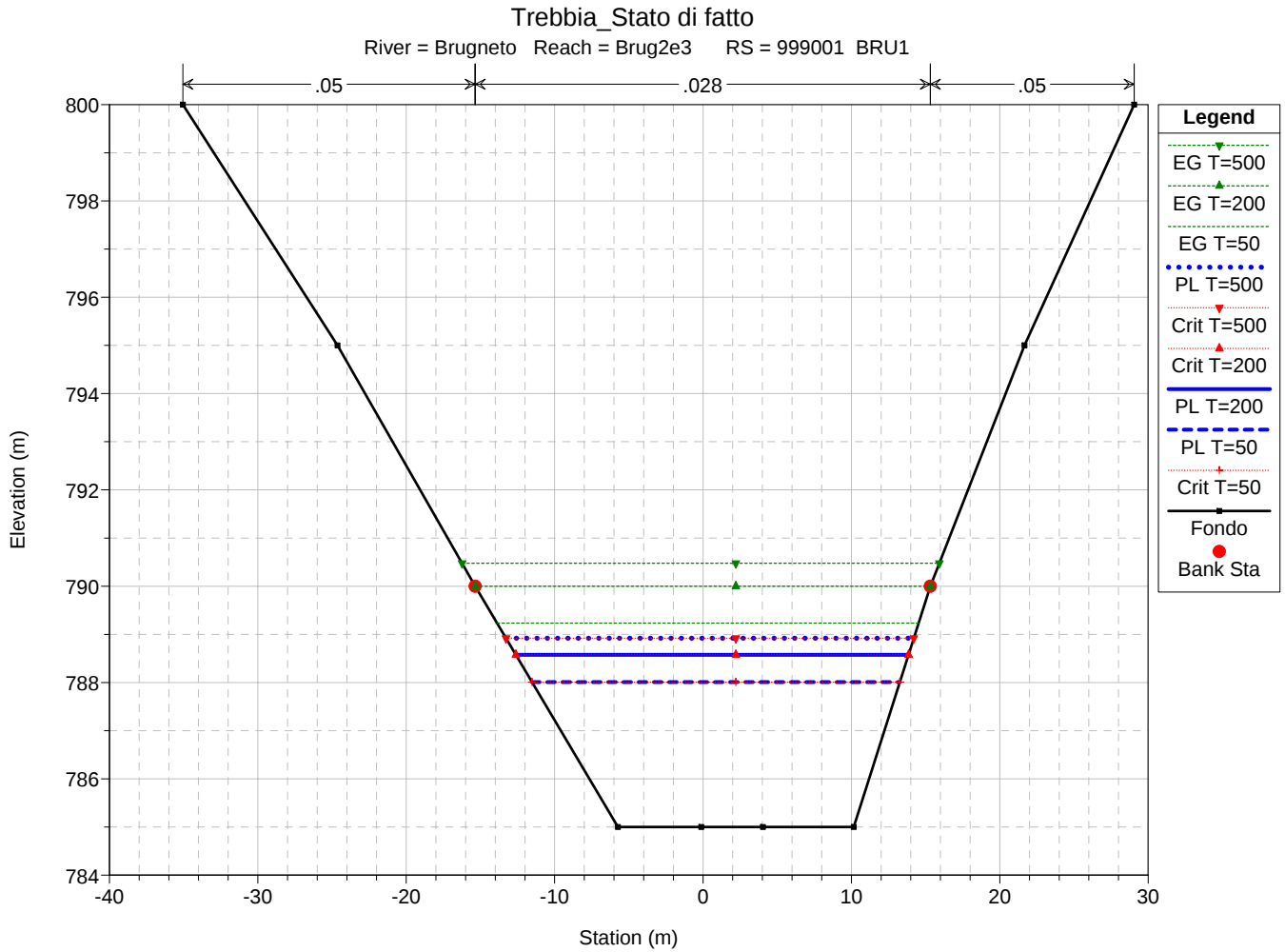
1 cm Horiz. = 100 m 1 cm Vert. = 3.5 m

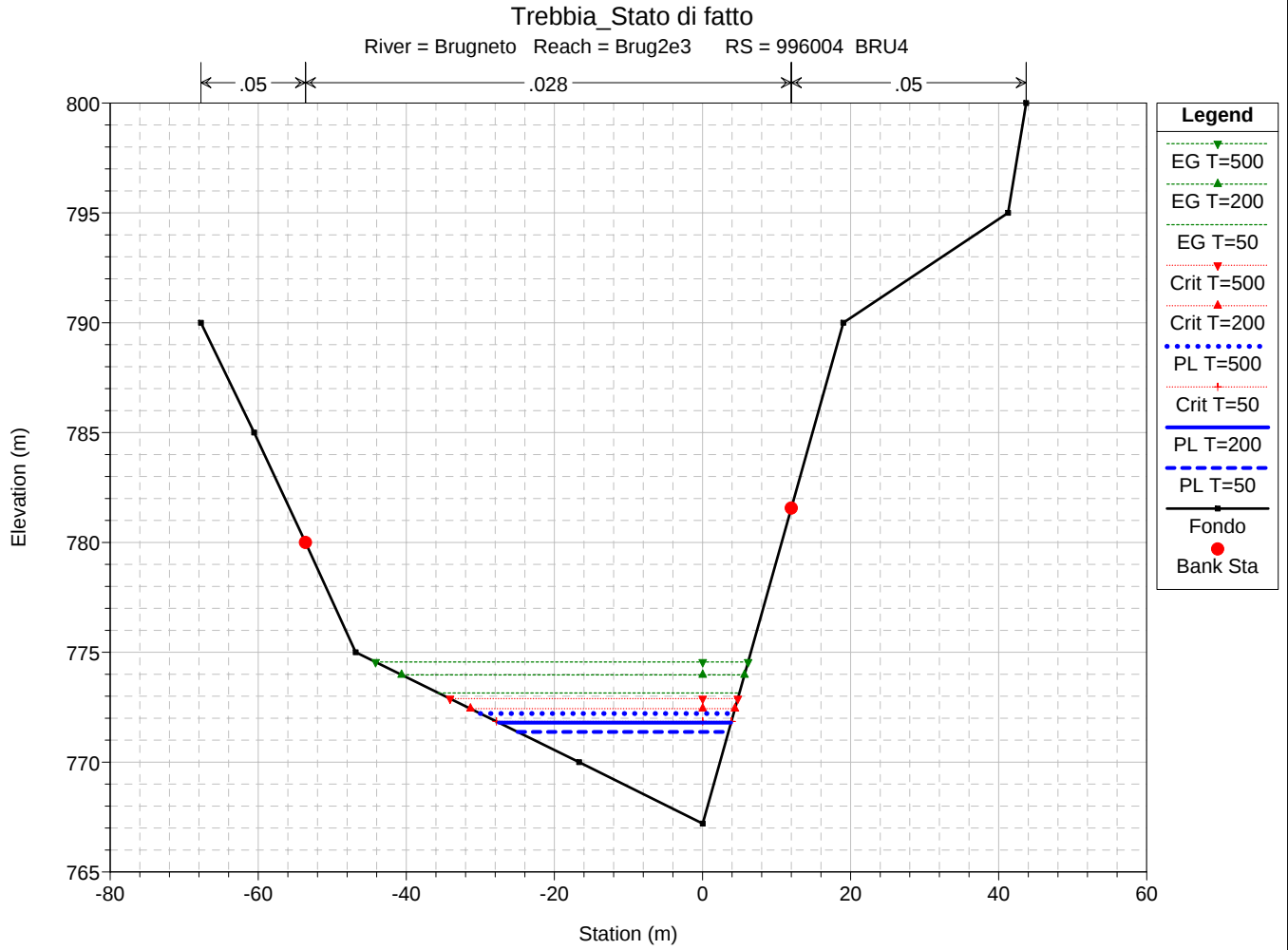
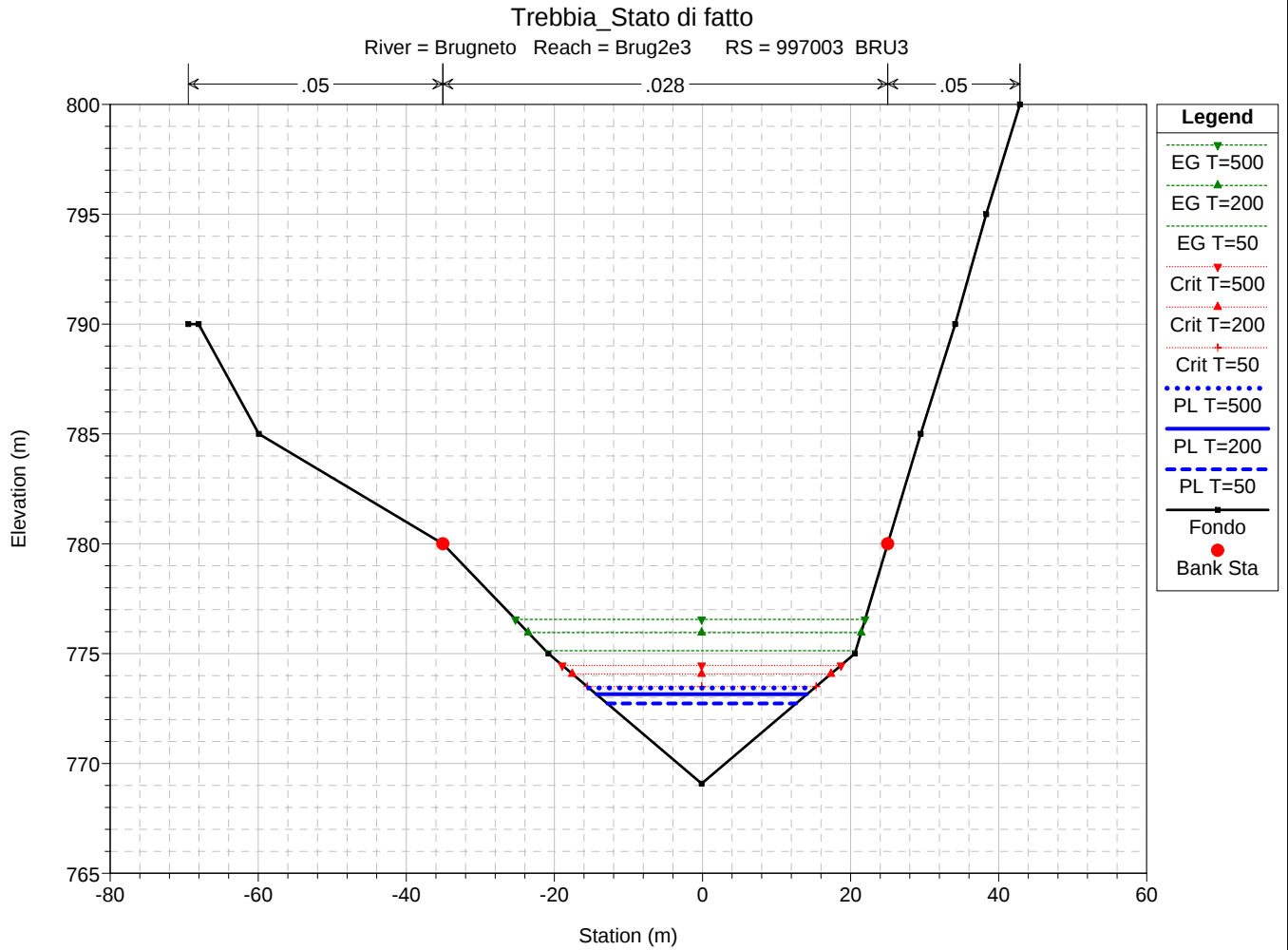
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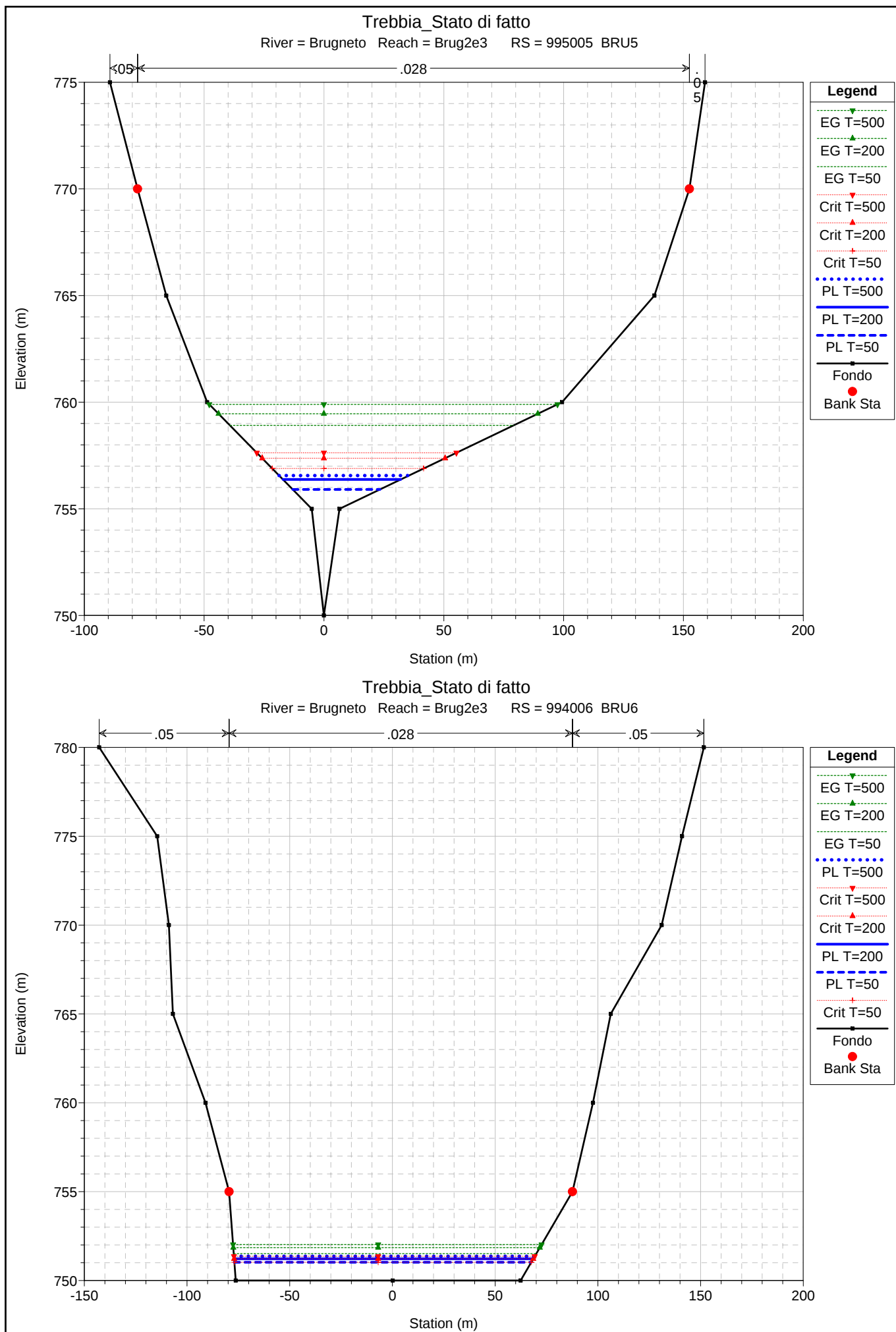
Brugneto Brug2e3

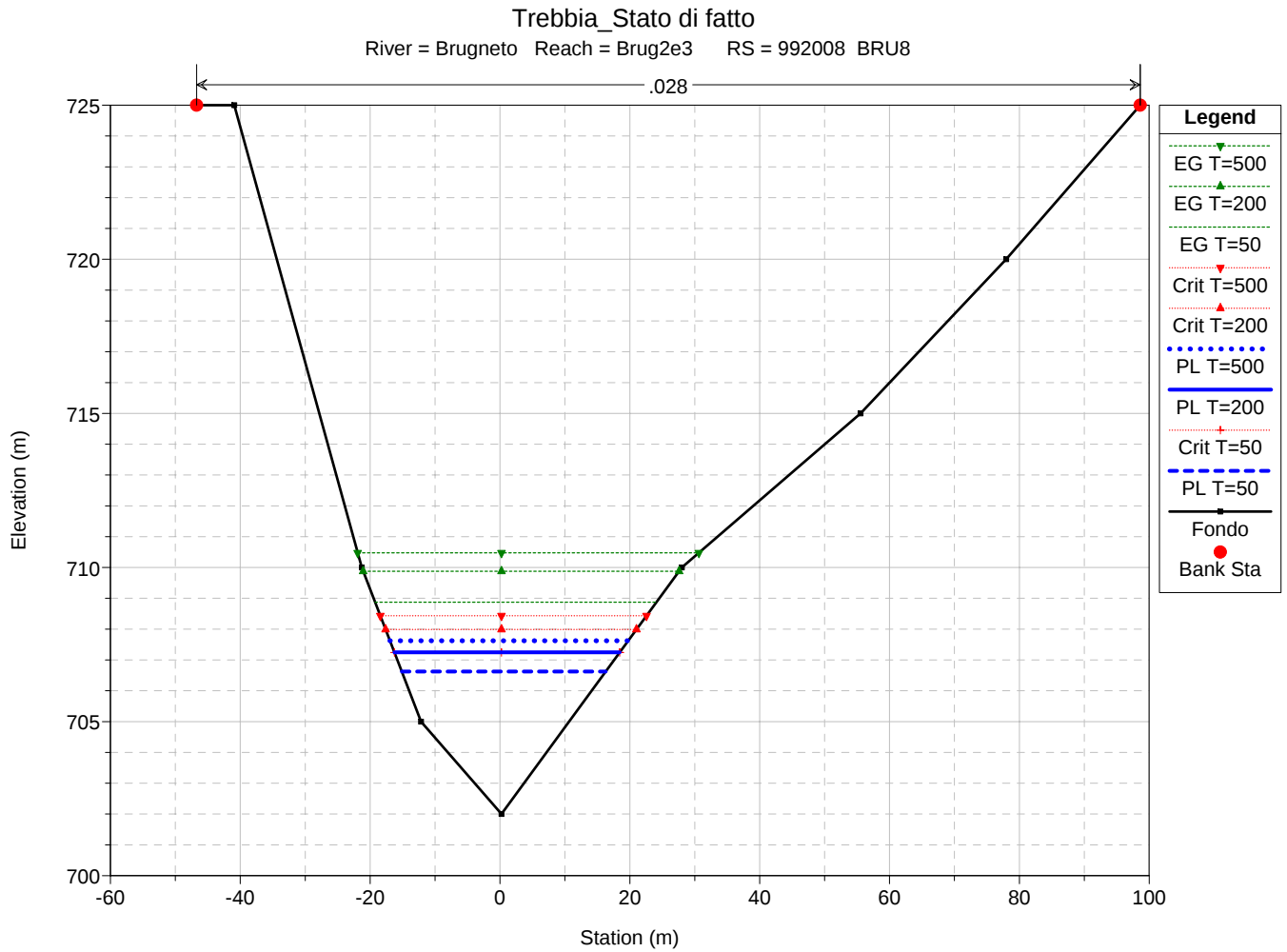
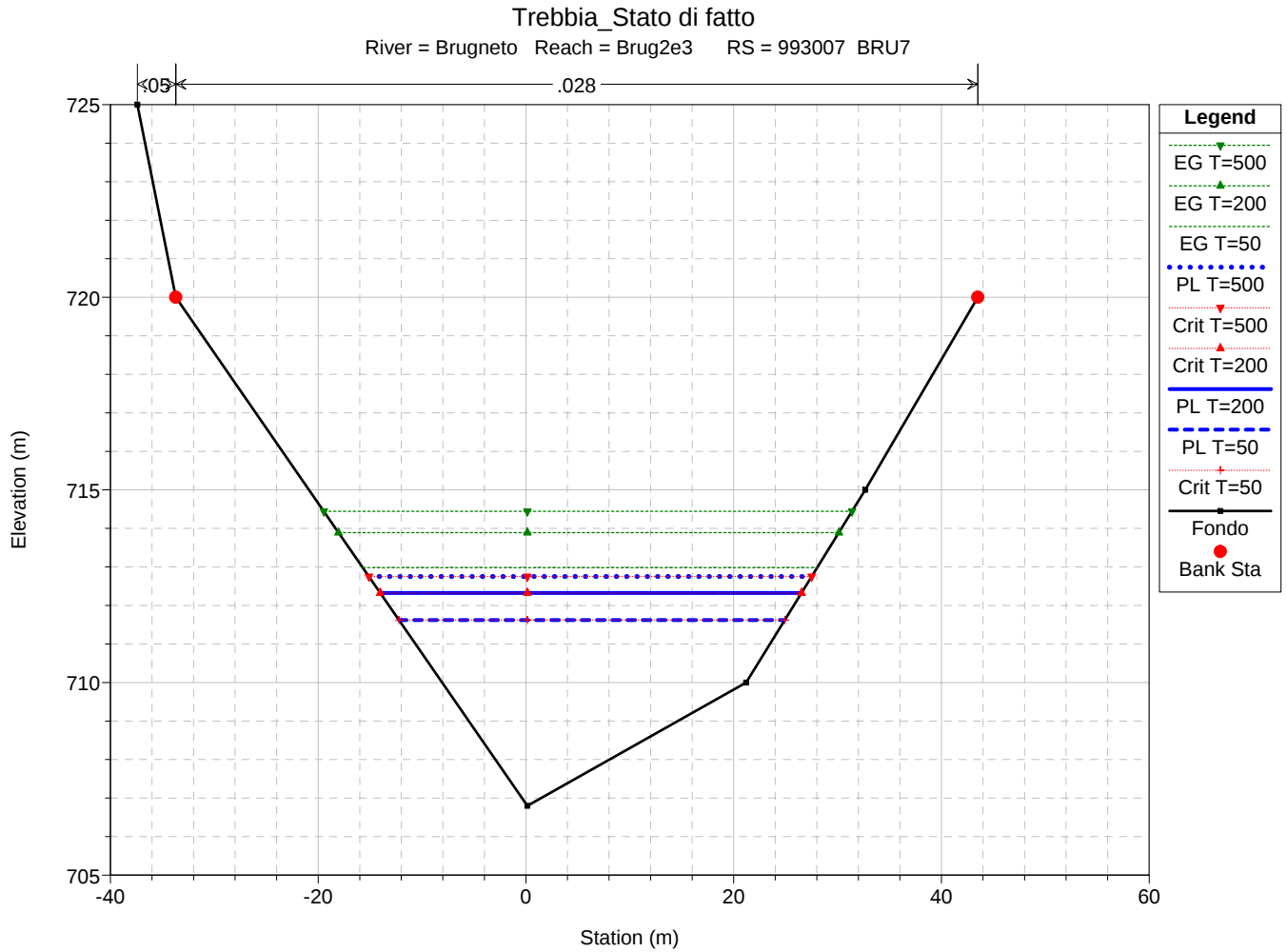


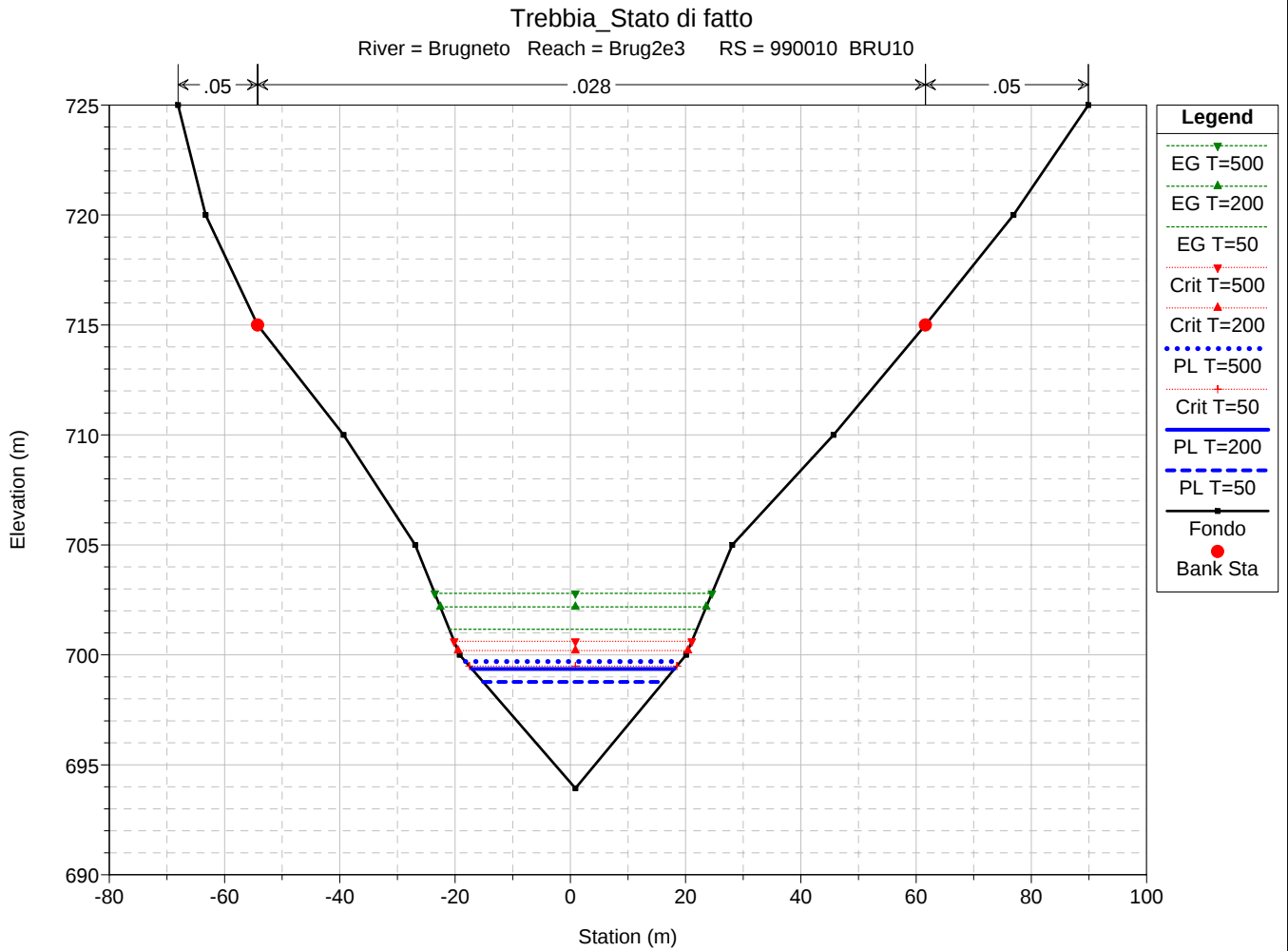
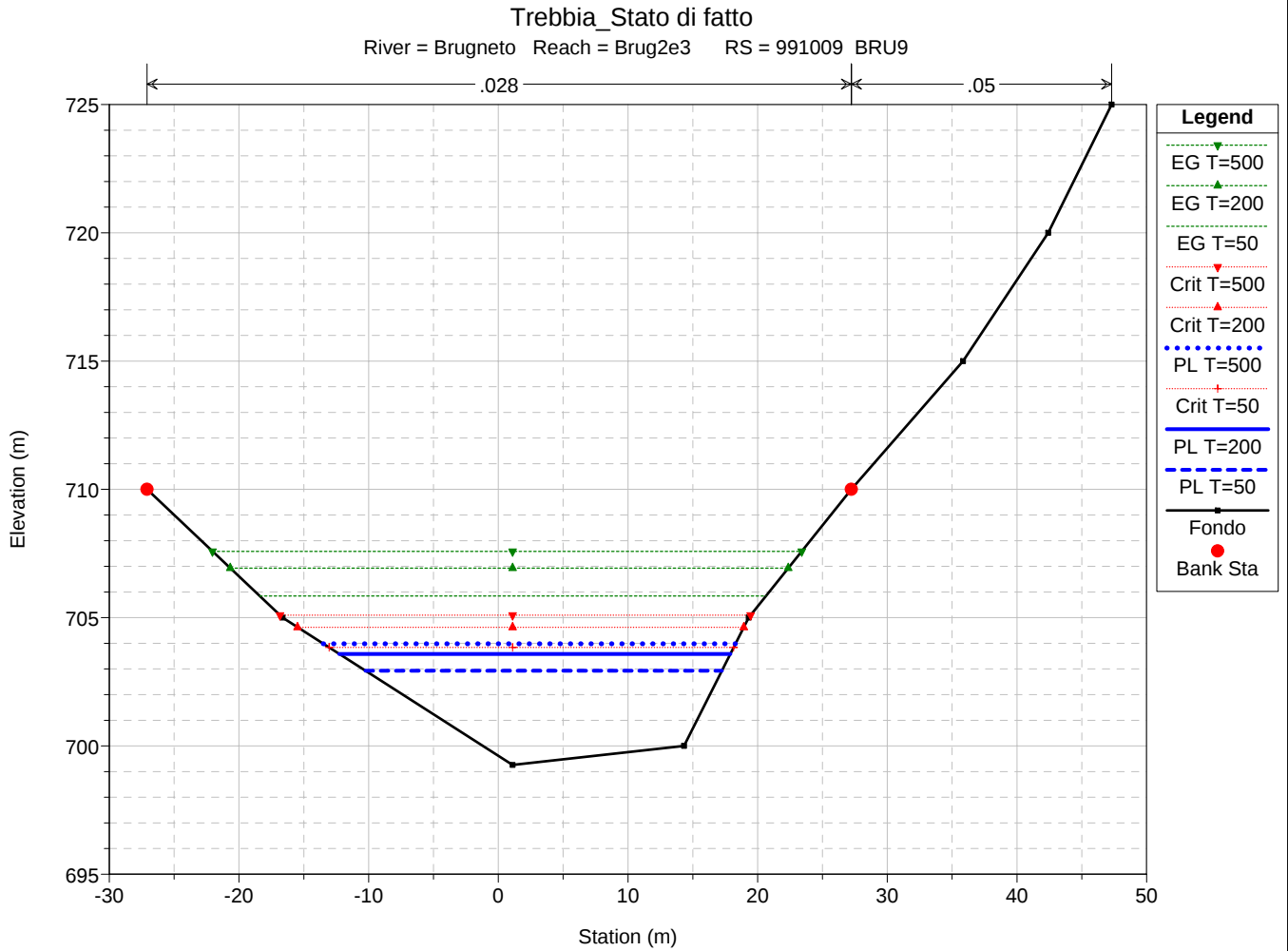
1 cm Horiz. = 50 m 1 cm Vert. = 3.5 m

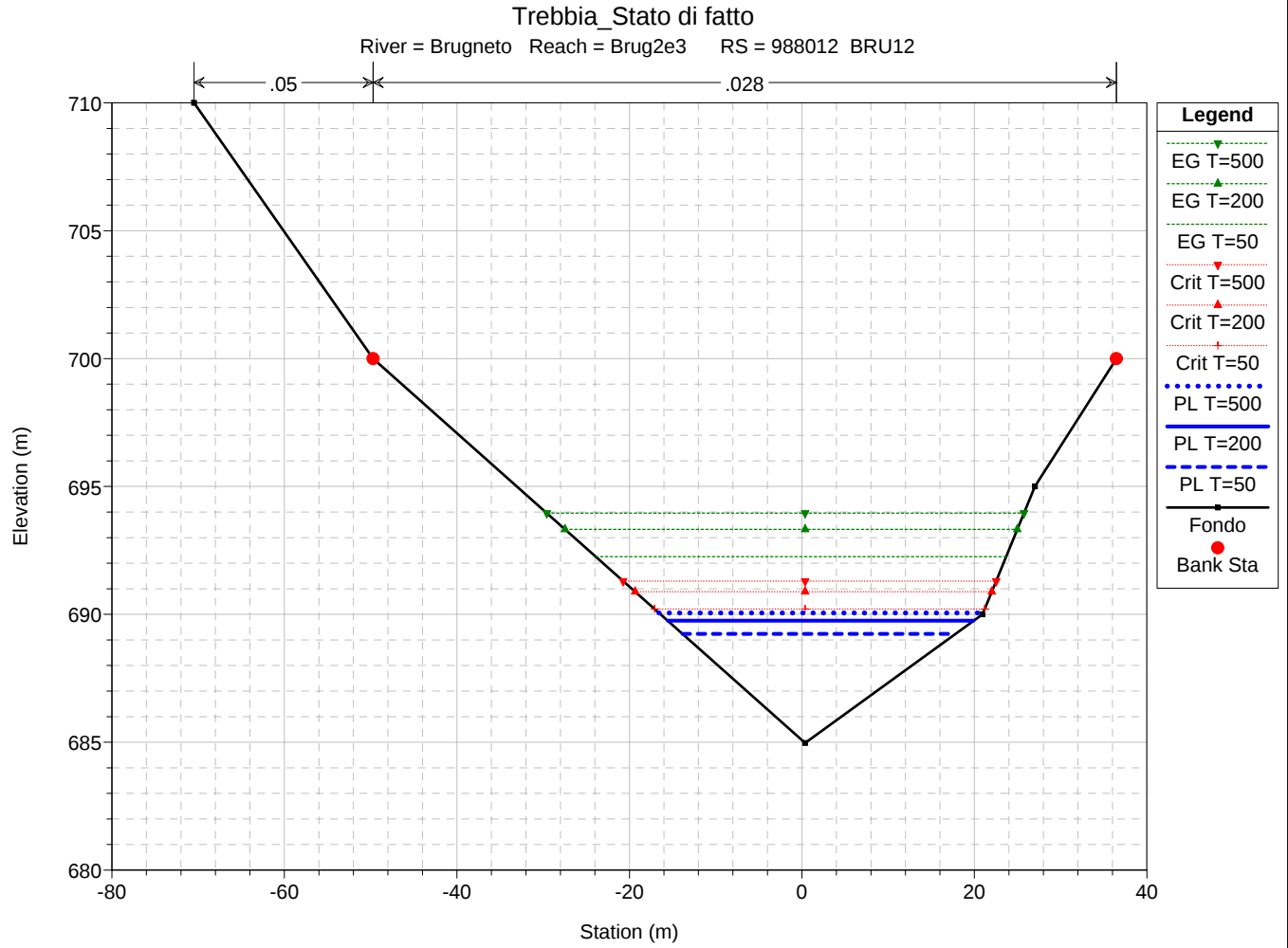
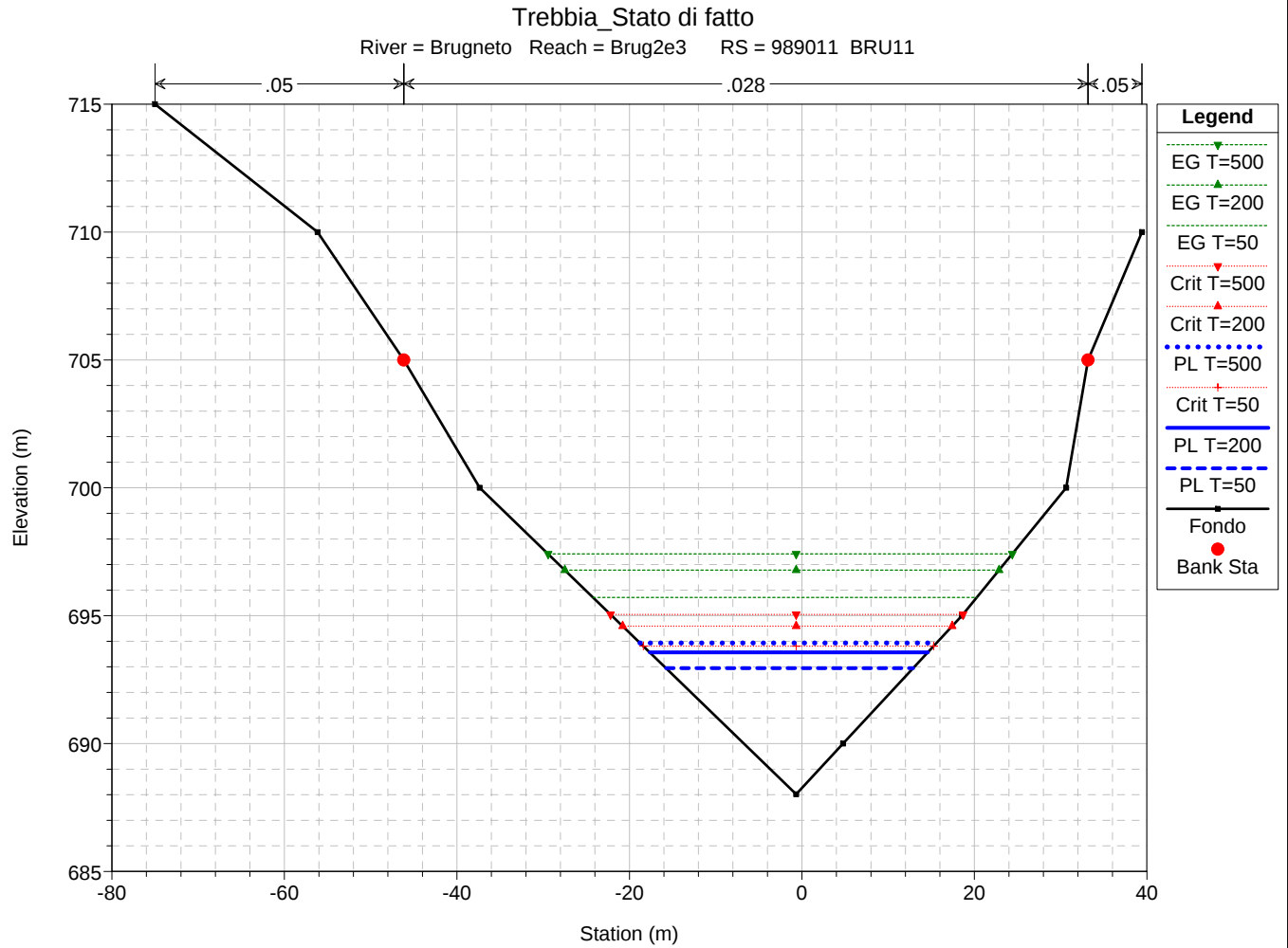


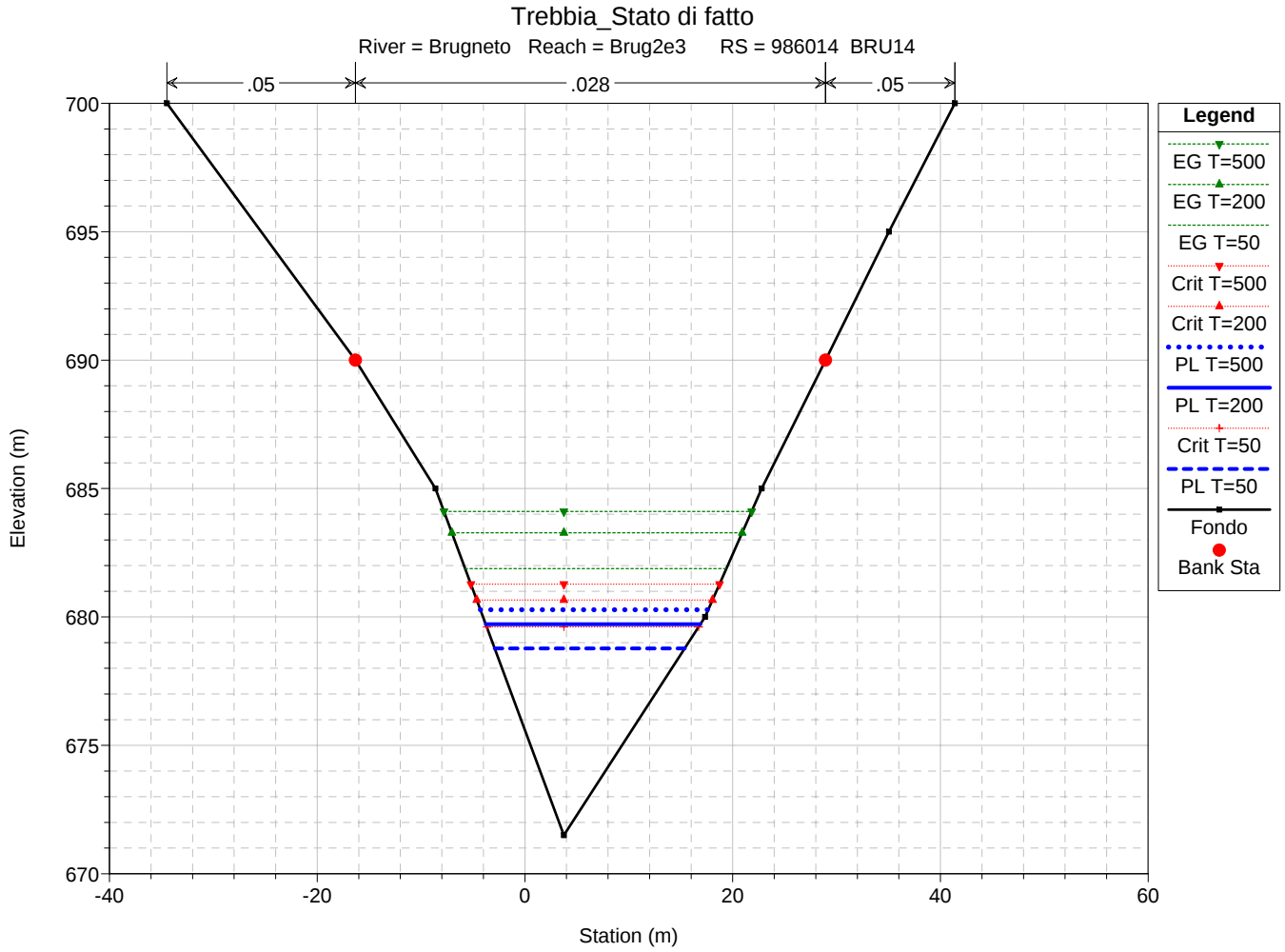
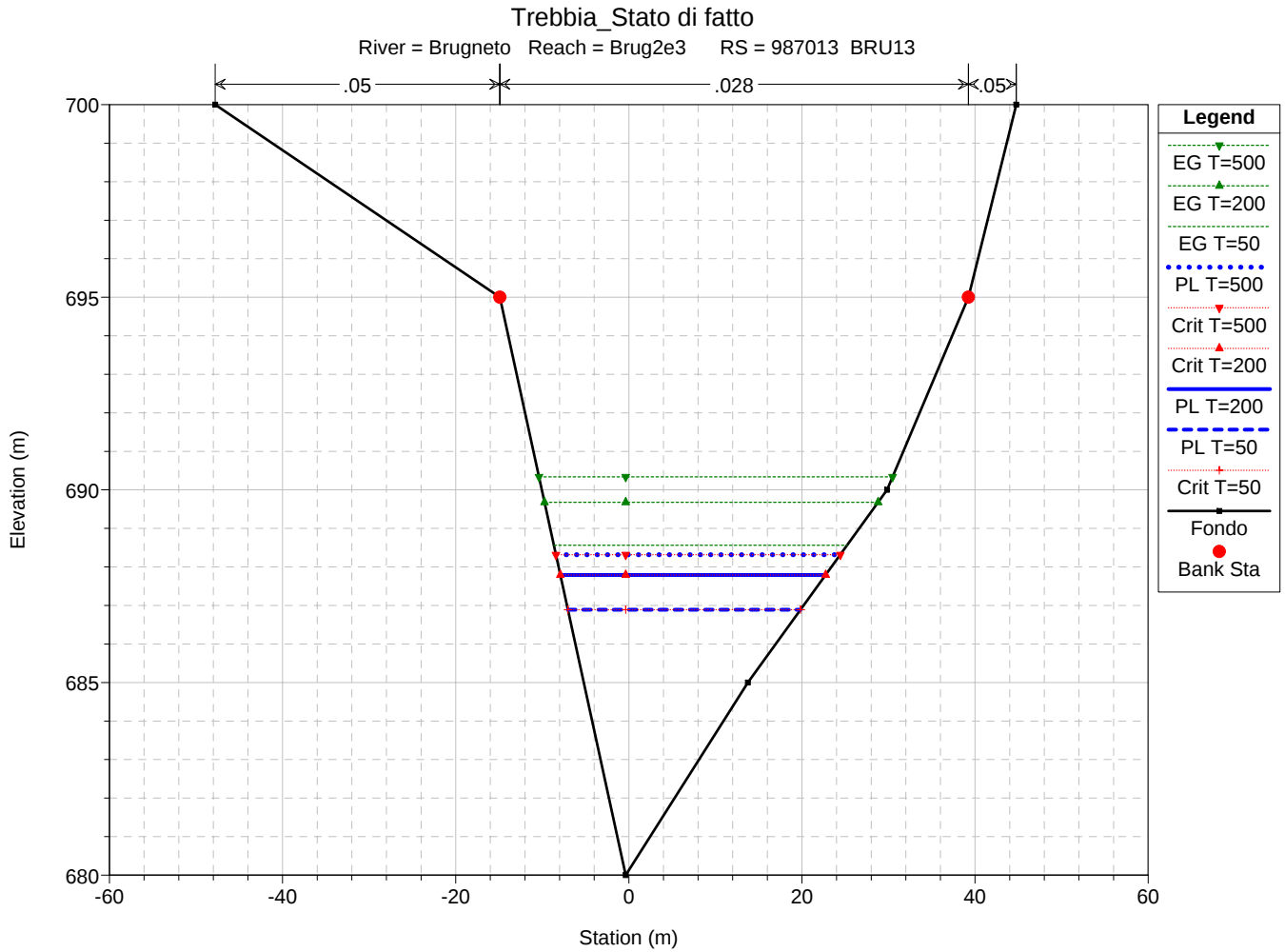


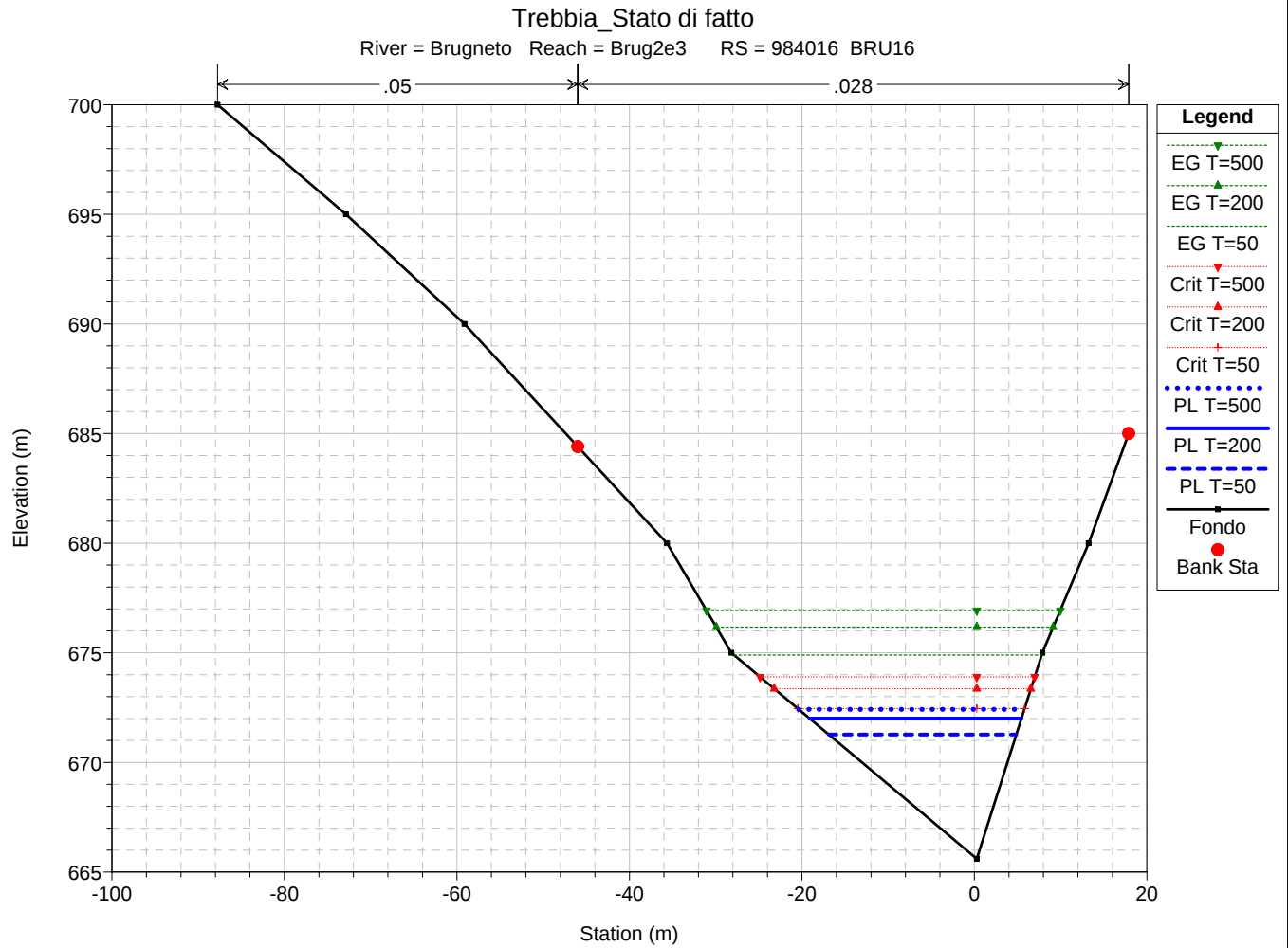
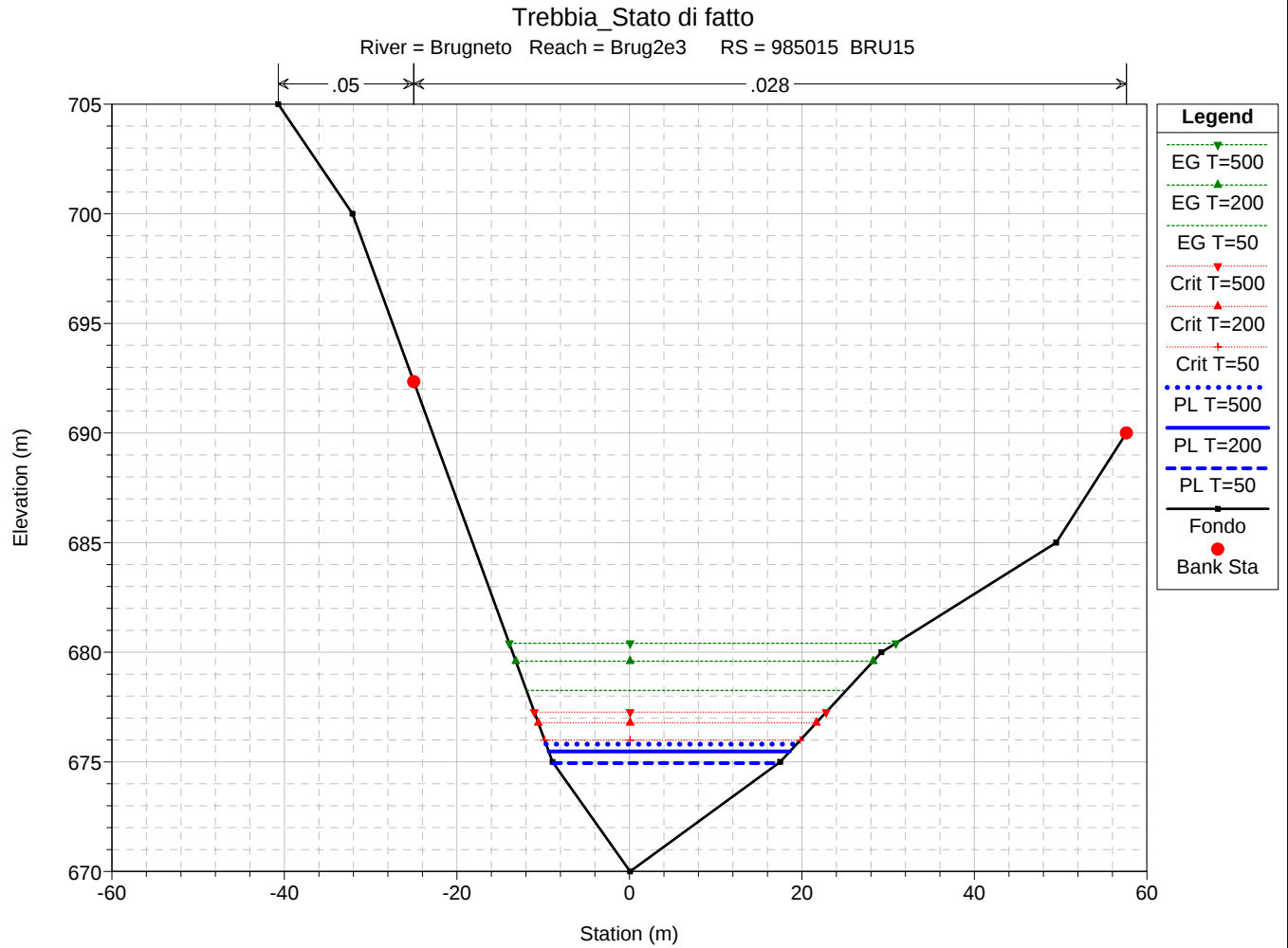


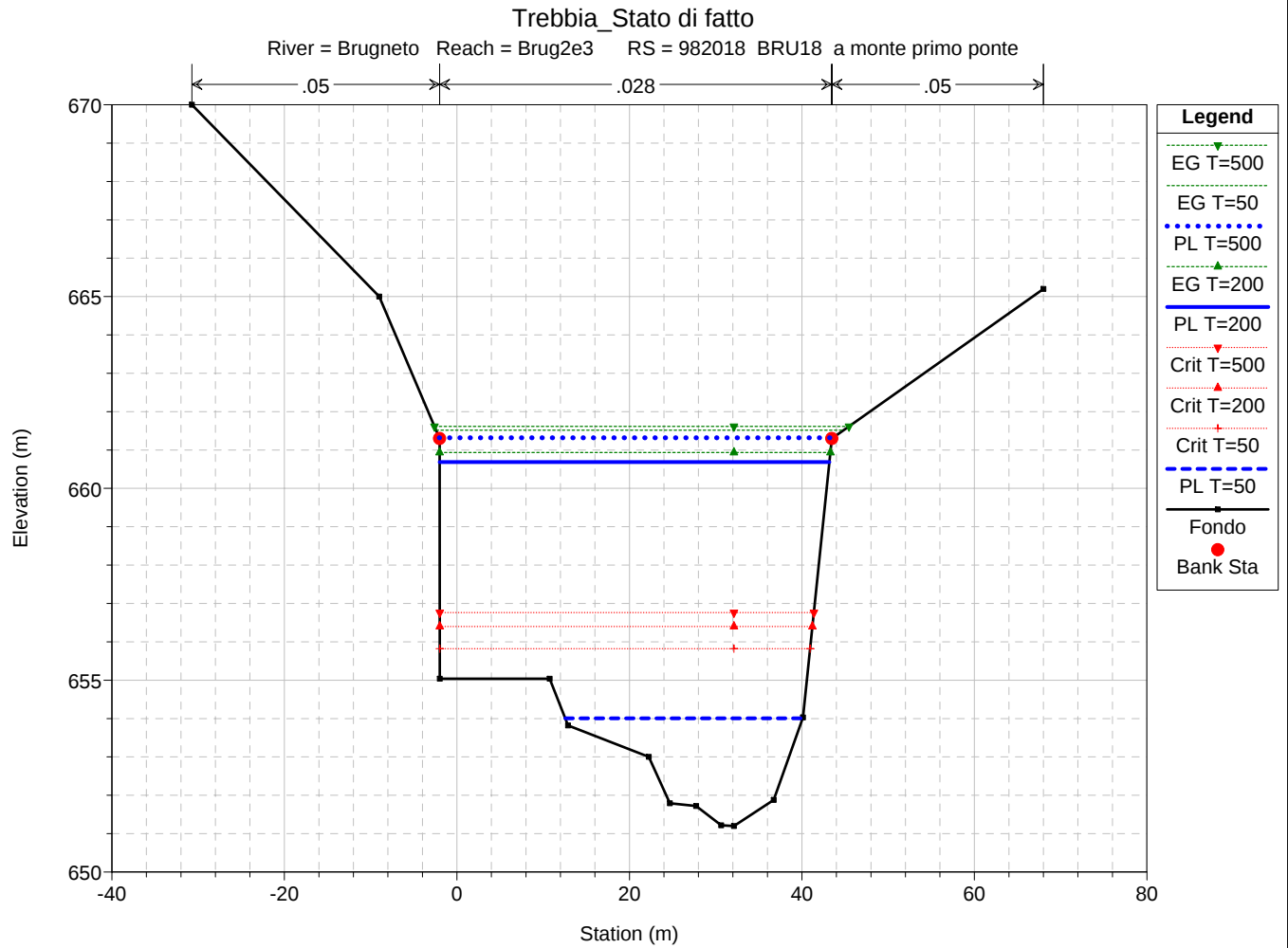
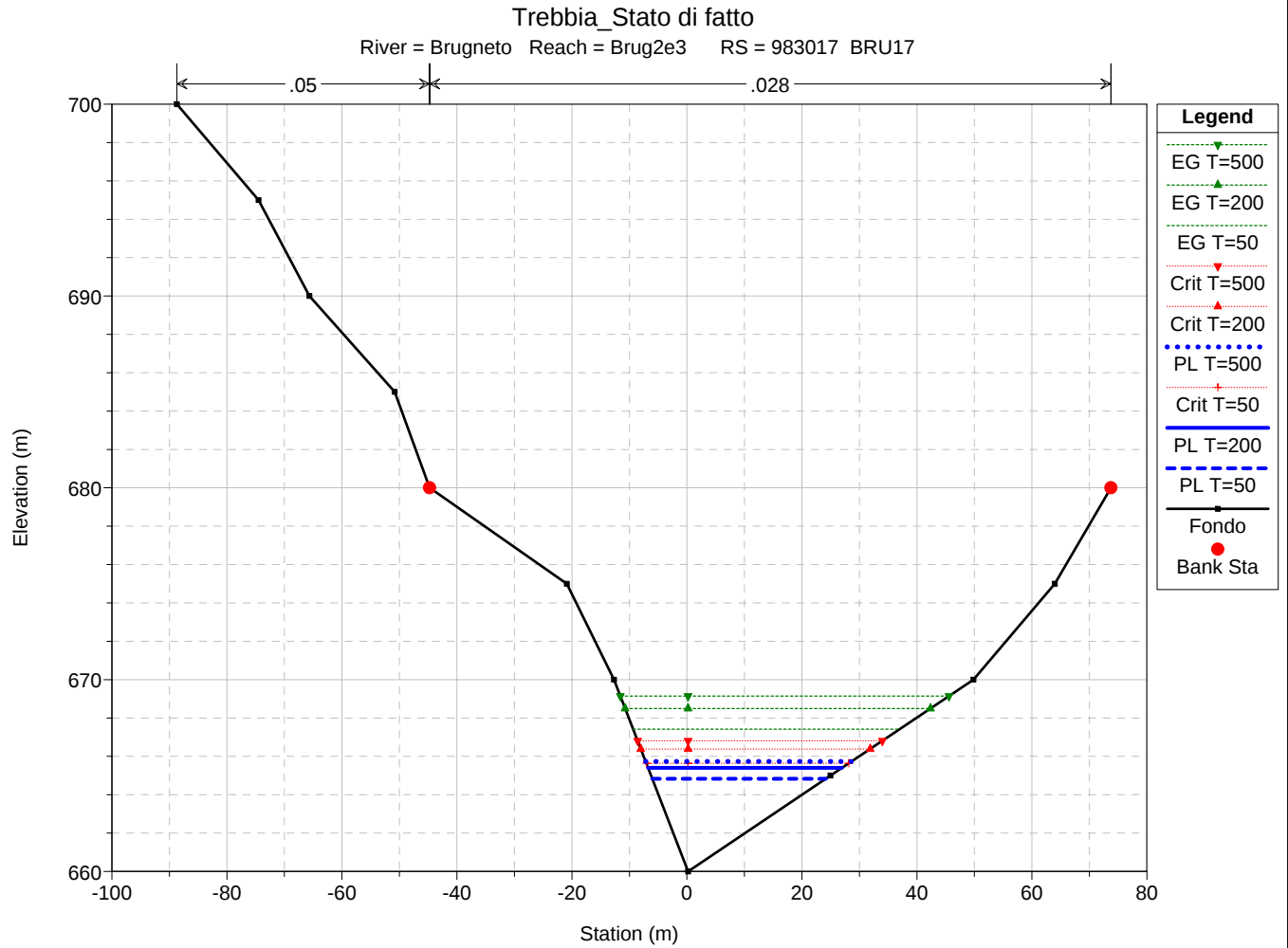


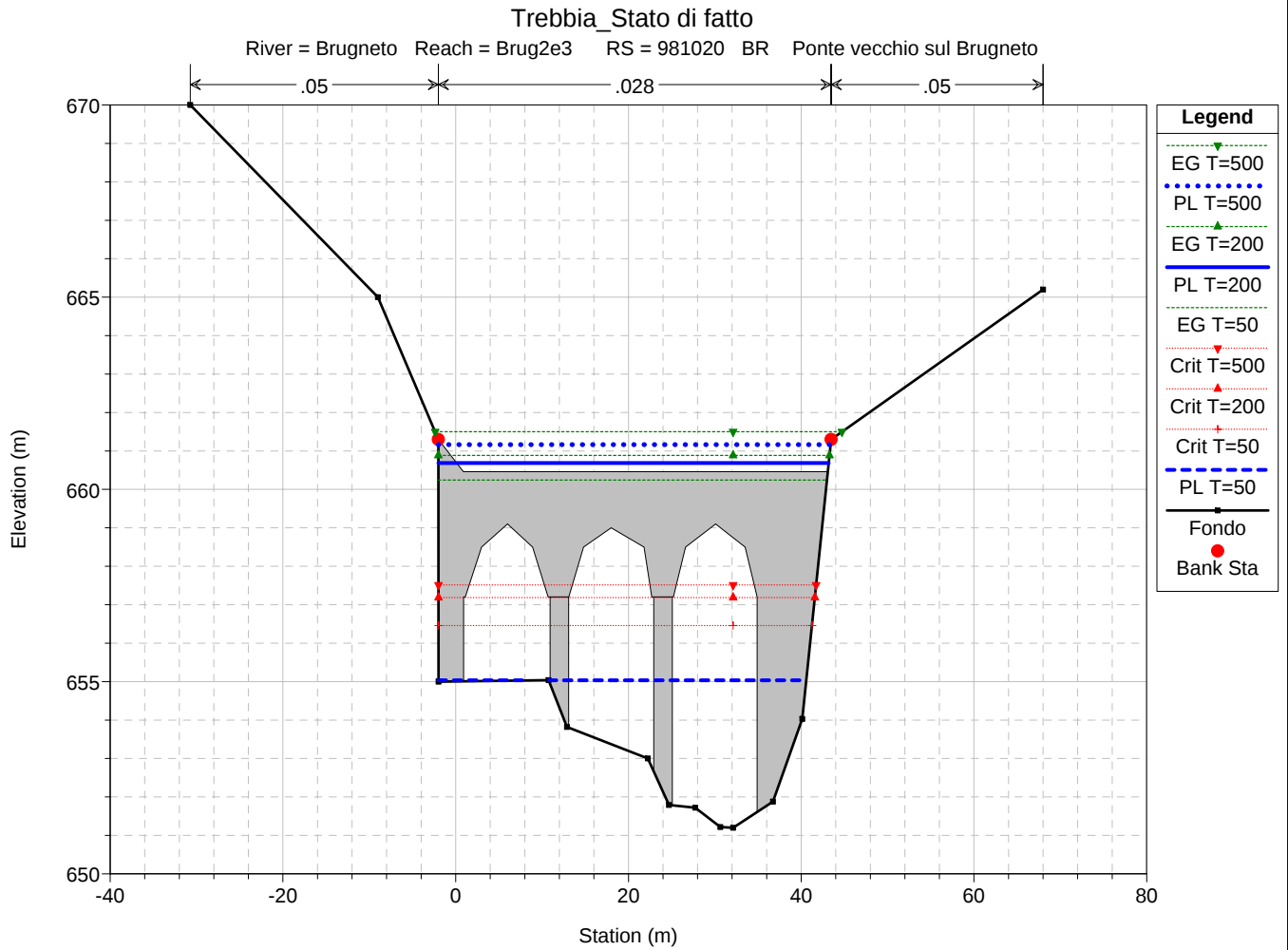
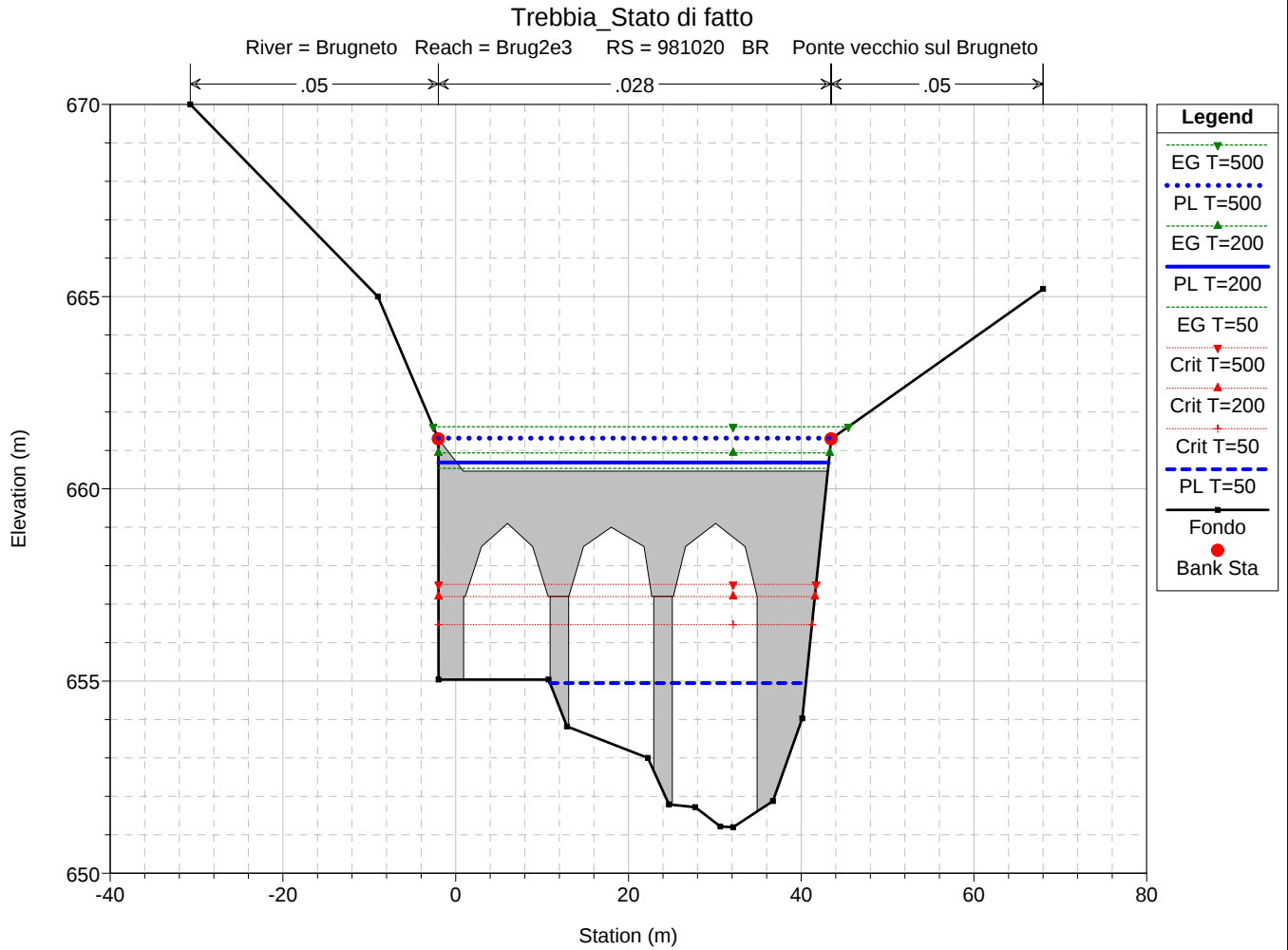


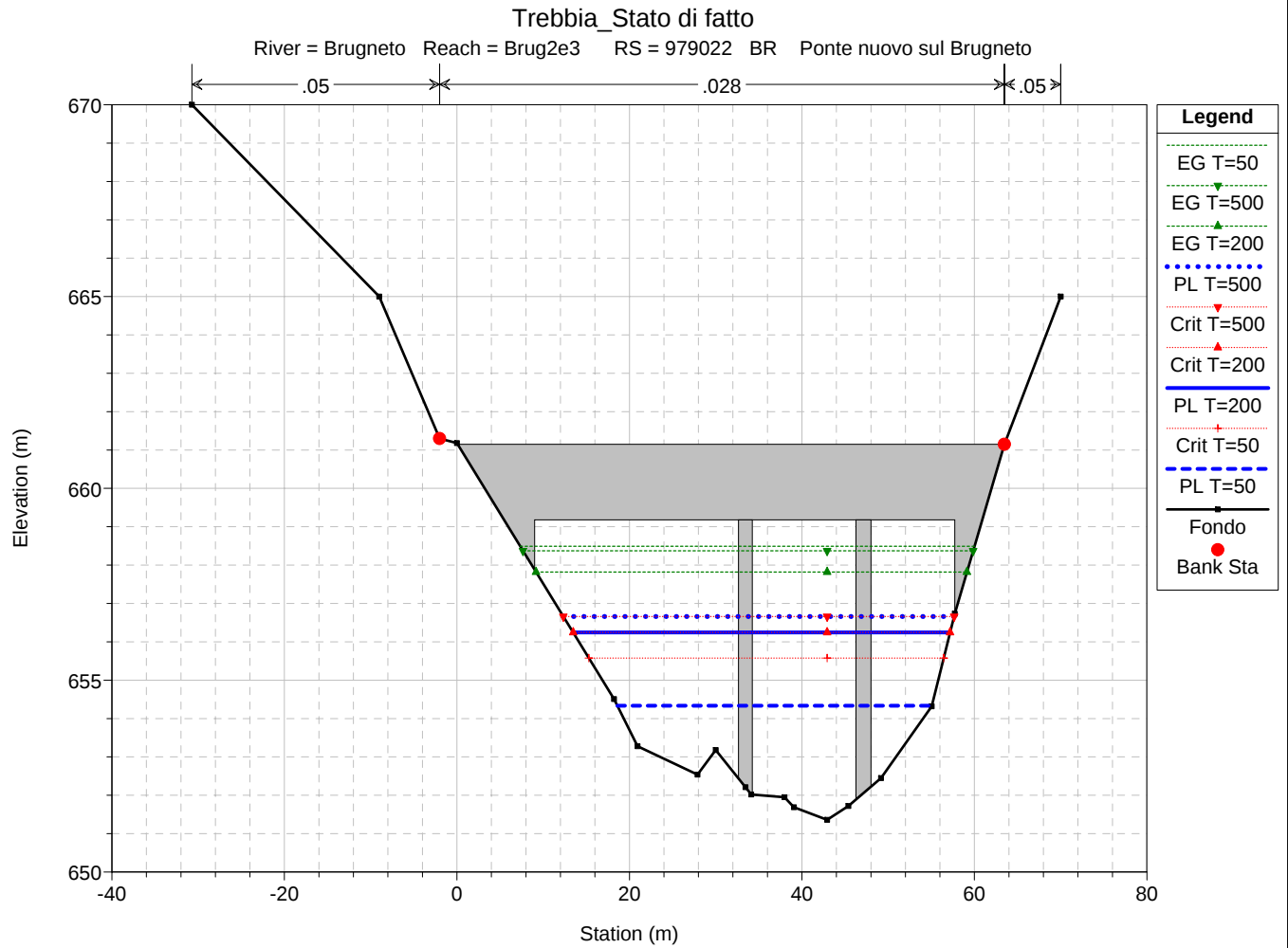
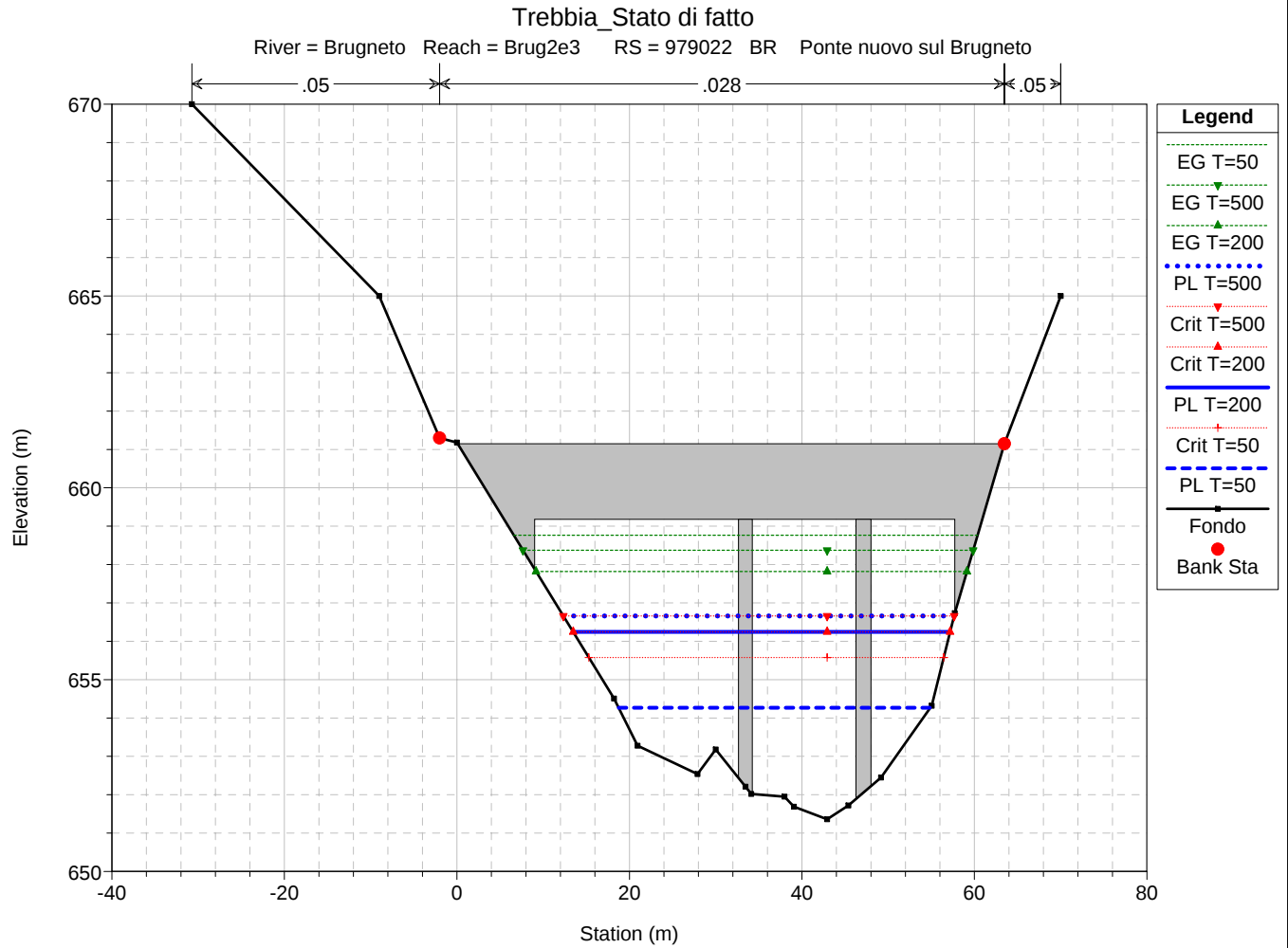






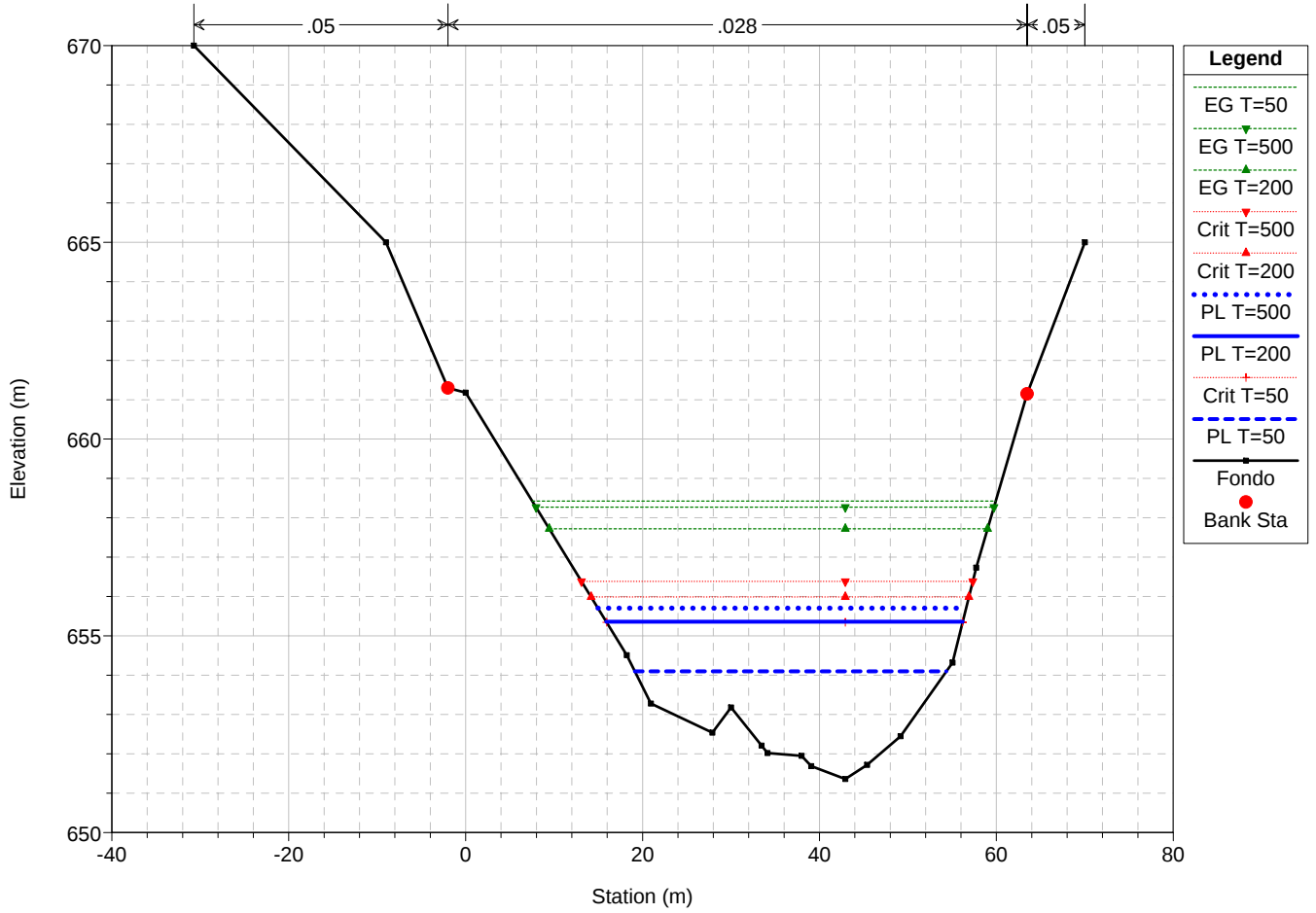






Trebbia_Stato di fatto

River = Brugneto Reach = Brug2e3 RS = 979021 BRU19 a valle secondo ponte



HEC-RAS Plan: 03_Trebbia River: Brugneto Reach: Brug2e3

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Brug2e3	999001 BRU1	T=50	300.00	785.00	788.01	790.00	1.99	790.00	1.99	788.01	789.23	0.006262	4.91	61.15	24.78	1.00
Brug2e3	999001 BRU1	T=200	400.00	785.00	788.58	790.00	1.42	790.00	1.42	788.58	790.00	0.006029	5.28	75.70	26.46	1.00
Brug2e3	999001 BRU1	T=500	470.00	785.00	788.92	790.00	1.08	790.00	1.08	788.92	790.48	0.005982	5.53	85.02	27.48	1.00
Brug2e3	998002 BRU2	T=50	320.00	774.12	776.39	780.00	3.61	780.00	3.61	777.86	781.73	0.047134	10.24	31.25	19.50	2.58
Brug2e3	998002 BRU2	T=200	430.00	774.12	776.77	780.00	3.23	780.00	3.23	778.48	783.01	0.044741	11.07	38.86	20.56	2.57
Brug2e3	998002 BRU2	T=500	520.00	774.12	777.07	780.00	2.93	780.00	2.93	778.94	783.80	0.041950	11.49	45.25	21.41	2.52
Brug2e3	997003 BRU3	T=50	320.00	769.08	772.73	780.00	7.27	780.00	7.27	773.50	775.13	0.017500	6.87	46.57	25.52	1.62
Brug2e3	997003 BRU3	T=200	430.00	769.08	773.15	780.00	6.85	780.00	6.85	774.07	775.96	0.017643	7.42	57.94	28.47	1.66
Brug2e3	997003 BRU3	T=500	520.00	769.08	773.44	780.00	6.56	780.00	6.56	774.46	776.56	0.017891	7.82	66.47	30.49	1.69
Brug2e3	996004 BRU4	T=50	350.00	767.20	771.38	780.00	8.62	781.56	10.18	771.85	773.15	0.011369	5.90	59.34	28.48	1.30
Brug2e3	996004 BRU4	T=200	470.00	767.20	771.80	780.00	8.20	781.56	9.76	772.43	773.97	0.012283	6.53	71.92	31.37	1.38
Brug2e3	996004 BRU4	T=500	580.00	767.20	772.21	780.00	7.79	781.56	9.35	772.89	774.56	0.011814	6.79	85.46	34.21	1.37
Brug2e3	995005 BRU5	T=50	390.00	750.00	755.91	770.00	14.09	770.00	14.09	756.89	758.91	0.033894	7.68	50.79	36.42	2.08
Brug2e3	995005 BRU5	T=200	550.00	750.00	756.38	770.00	13.62	770.00	13.62	757.37	759.46	0.032269	7.78	70.73	49.14	2.07
Brug2e3	995005 BRU5	T=500	650.00	750.00	756.56	770.00	13.44	770.00	13.44	757.63	759.90	0.033345	8.09	80.31	54.20	2.12
Brug2e3	994006 BRU6	T=50	450.00	750.00	751.02	755.00	3.98	755.00	3.98	751.02	751.51	0.007577	3.11	144.90	144.49	0.99
Brug2e3	994006 BRU6	T=200	610.00	750.00	751.23	755.00	3.77	755.00	3.77	751.23	751.85	0.007637	3.50	174.13	145.64	1.02
Brug2e3	994006 BRU6	T=500	700.00	750.00	751.37	755.00	3.63	755.00	3.63	751.37	752.02	0.007001	3.60	194.58	146.43	1.00
Brug2e3	993007 BRU7	T=50	520.00	706.80	711.62	720.00	8.38	720.00	8.38	711.62	712.98	0.005832	5.17	100.67	37.14	1.00
Brug2e3	993007 BRU7	T=200	710.00	706.80	712.33	720.00	7.67	720.00	7.67	712.33	713.89	0.005507	5.54	128.07	40.57	1.00
Brug2e3	993007 BRU7	T=500	840.00	706.80	712.75	720.00	7.25	720.00	7.25	712.75	714.44	0.005371	5.77	145.68	42.62	1.00
Brug2e3	992008 BRU8	T=50	520.00	702.00	706.62	725.00	18.38	725.00	18.38	707.24	708.88	0.010883	6.65	78.23	31.41	1.34
Brug2e3	992008 BRU8	T=200	710.00	702.00	707.25	725.00	17.75	725.00	17.75	707.99	709.88	0.010695	7.19	98.77	34.70	1.36
Brug2e3	992008 BRU8	T=500	840.00	702.00	707.62	725.00	17.38	725.00	17.38	708.43	710.48	0.010564	7.49	112.19	36.69	1.37
Brug2e3	991009 BRU9	T=50	520.00	699.26	702.93	710.00	7.07	710.00	7.07	703.84	705.84	0.014370	7.56	68.78	27.50	1.53
Brug2e3	991009 BRU9	T=200	710.00	699.26	703.59	710.00	6.41	710.00	6.41	704.63	706.93	0.013623	8.10	87.66	30.17	1.52
Brug2e3	991009 BRU9	T=500	840.00	699.26	703.98	710.00	6.02	710.00	6.02	705.10	707.58	0.013275	8.41	99.91	31.79	1.51
Brug2e3	990010 BRU10	T=50	520.00	693.93	698.77	715.00	16.23	715.00	16.23	699.49	701.16	0.012044	6.85	75.87	31.34	1.41
Brug2e3	990010 BRU10	T=200	710.00	693.93	699.36	715.00	15.64	715.00	15.64	700.20	702.18	0.012170	7.44	95.45	35.16	1.44
Brug2e3	990010 BRU10	T=500	840.00	693.93	699.70	715.00	15.30	715.00	15.30	700.62	702.80	0.012375	7.81	107.60	37.33	1.47
Brug2e3	989011 BRU11	T=50	520.00	688.02	692.95	705.00	12.05	705.00	12.05	693.81	695.72	0.013809	7.37	70.54	28.65	1.50
Brug2e3	989011 BRU11	T=200	710.00	688.02	693.57	705.00	11.43	705.00	11.43	694.59	696.78	0.013678	7.94	89.42	32.25	1.52
Brug2e3	989011 BRU11	T=500	840.00	688.02	693.93	705.00	11.07	705.00	11.07	695.05	697.41	0.013602	8.26	101.65	34.39	1.53
Brug2e3	988012 BRU12	T=50	520.00	684.97	689.24	700.00	10.76	700.00	10.76	690.21	692.26	0.017766	7.70	67.51	31.65	1.68
Brug2e3	988012 BRU12	T=200	710.00	684.97	689.75	700.00	10.25	700.00	10.25	690.89	693.32	0.018038	8.37	84.78	35.47	1.73
Brug2e3	988012 BRU12	T=500	840.00	684.97	690.06	700.00	9.94	700.00	9.94	691.30	693.96	0.018048	8.75	95.98	37.58	1.75
Brug2e3	987013 BRU13	T=50	520.00	680.00	686.89	695.00	8.11	695.00	8.11	686.89	688.56	0.006130	5.73	90.76	26.88	1.00
Brug2e3	987013 BRU13	T=200	710.00	680.00	687.79	695.00	7.21	695.00	7.21	687.79	689.68	0.005880	6.08	116.68	30.65	1.00
Brug2e3	987013 BRU13	T=500	840.00	680.00	688.32	695.00	6.68	695.00	6.68	688.32	690.34	0.005773	6.30	133.40	32.85	1.00
Brug2e3	986014 BRU14	T=50	520.00	671.50	678.78	690.00	11.23	690.00	11.23	679.61	681.88	0.012002	7.81	66.56	18.30	1.31

HEC-RAS Plan: 03_Trebbia River: Brugnato Reach: Brug2e3 (Continued)

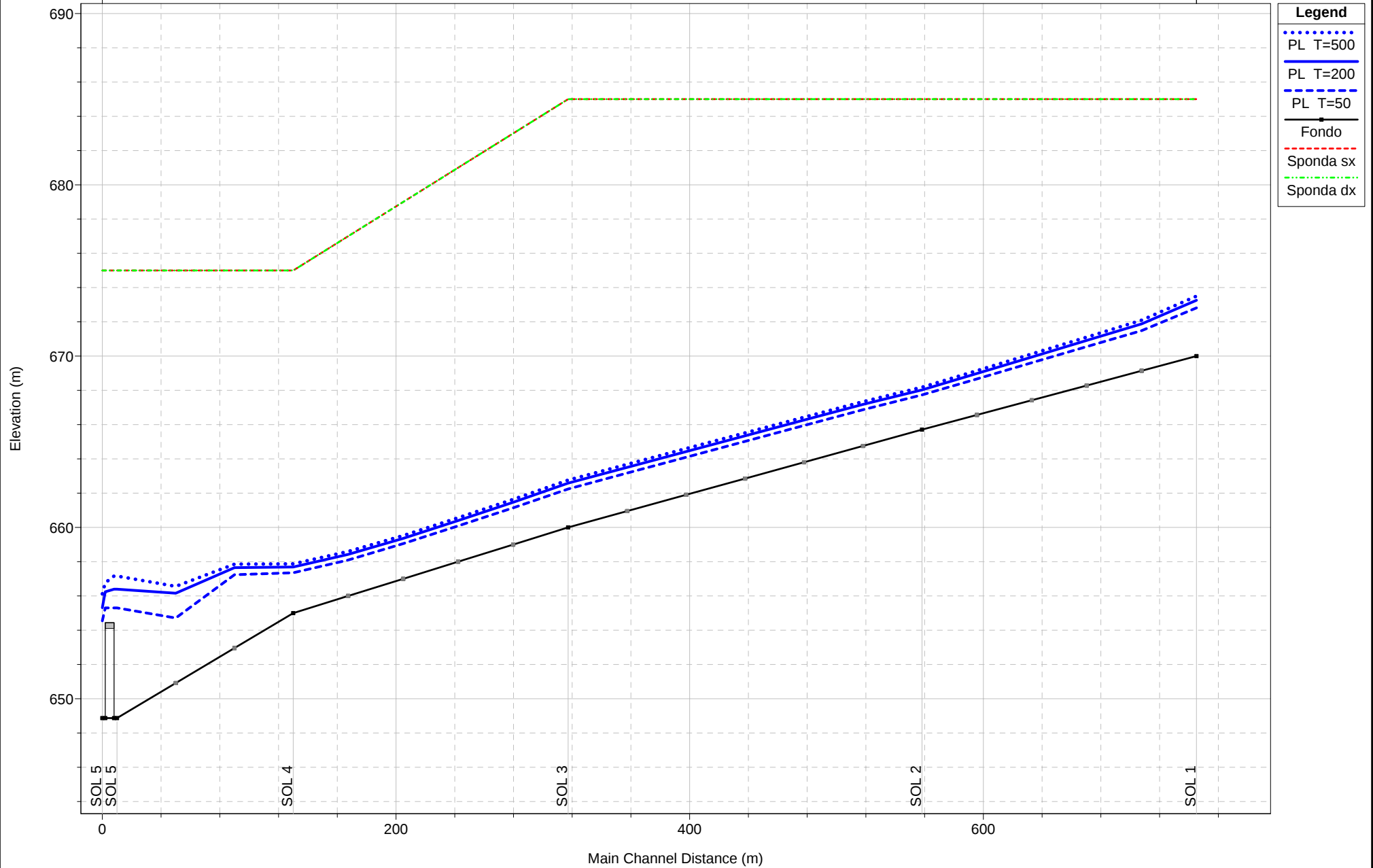
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Brug2e3	986014 BRU14	T=200	710.00	671.50	679.72	690.00	10.28	690.00	10.28	680.66	683.28	0.011668	8.36	84.96	20.67	1.32
Brug2e3	986014 BRU14	T=500	840.00	671.50	680.28	690.00	9.72	690.00	9.72	681.28	684.11	0.011444	8.67	96.89	21.94	1.32
Brug2e3	985015 BRU15	T=50	520.00	670.00	674.94	692.34	17.40	690.00	15.06	675.99	678.26	0.016849	8.07	64.45	26.09	1.64
Brug2e3	985015 BRU15	T=200	710.00	670.00	675.48	692.34	16.86	690.00	14.52	676.78	679.59	0.017618	8.99	79.02	27.98	1.71
Brug2e3	985015 BRU15	T=500	840.00	670.00	675.81	692.34	16.53	690.00	14.19	677.27	680.41	0.017962	9.51	88.35	29.05	1.74
Brug2e3	984016 BRU16	T=50	520.00	665.60	671.27	684.41	13.14	685.00	13.73	672.45	674.90	0.017083	8.44	61.63	21.75	1.60
Brug2e3	984016 BRU16	T=200	710.00	665.60	672.00	684.41	12.41	685.00	13.00	673.36	676.17	0.016738	9.05	78.45	24.53	1.62
Brug2e3	984016 BRU16	T=500	840.00	665.60	672.42	684.41	11.99	685.00	12.58	673.90	676.93	0.016614	9.41	89.24	26.17	1.63
Brug2e3	983017 BRU17	T=50	520.00	660.00	664.84	680.00	15.16	680.00	15.16	665.64	667.42	0.013416	7.12	73.03	30.20	1.46
Brug2e3	983017 BRU17	T=200	710.00	660.00	665.40	680.00	14.60	680.00	14.60	666.39	668.50	0.013901	7.80	91.03	33.72	1.52
Brug2e3	983017 BRU17	T=500	840.00	660.00	665.73	680.00	14.27	680.00	14.27	666.81	669.15	0.014137	8.19	102.62	35.81	1.54
Brug2e3	982018 BRU18	T=50	520.00	651.20	654.01	661.30	7.29	661.30	7.29	655.82	661.52	0.067510	12.14	42.82	27.53	3.11
Brug2e3	982018 BRU18	T=200	710.00	651.20	660.69	661.30	0.61	661.30	0.61	656.40	660.94	0.000381	2.22	320.25	45.19	0.27
Brug2e3	982018 BRU18	T=500	840.00	651.20	661.32	661.30	-0.02	661.30	-0.02	656.76	661.62	0.000412	2.41	349.04	45.64	0.28
Brug2e3	981020	Bridge														
Brug2e3	981019 BRU18	T=50	520.00	651.20	654.20	661.30	7.10	661.30	7.10	655.82	660.13	0.046898	10.79	48.18	27.98	2.63
Brug2e3	981019 BRU18	T=200	710.00	651.20	656.86	661.30	4.44	661.30	4.44	656.40	657.99	0.003806	4.70	151.02	43.42	0.80
Brug2e3	981019 BRU18	T=500	840.00	651.20	657.32	661.30	3.98	661.30	3.98	656.75	658.55	0.003608	4.91	171.10	43.64	0.79
Brug2e3	980020 BRU19	T=50	520.00	651.36	653.90	661.30	7.40	661.15	7.25	655.34	659.53	0.054477	10.51	49.46	34.12	2.79
Brug2e3	980020 BRU19	T=200	710.00	651.36	657.05	661.30	4.25	661.15	4.10	655.99	657.86	0.002266	4.00	177.69	46.84	0.65
Brug2e3	980020 BRU19	T=500	840.00	651.36	657.52	661.30	3.78	661.15	3.63	656.38	658.42	0.002245	4.19	200.53	48.77	0.66
Brug2e3	979022	Bridge														
Brug2e3	979021 BRU19	T=50	520.00	651.36	654.10	661.30	7.20	661.15	7.05	655.34	658.42	0.036686	9.22	56.42	35.20	2.32
Brug2e3	979021 BRU19	T=200	710.00	651.36	655.36	661.30	5.94	661.15	5.79	655.99	657.72	0.010742	6.81	104.33	40.31	1.35
Brug2e3	979021 BRU19	T=500	840.00	651.36	655.70	661.30	5.60	661.15	5.45	656.38	658.27	0.010346	7.10	118.37	41.63	1.34

Torrente Solive

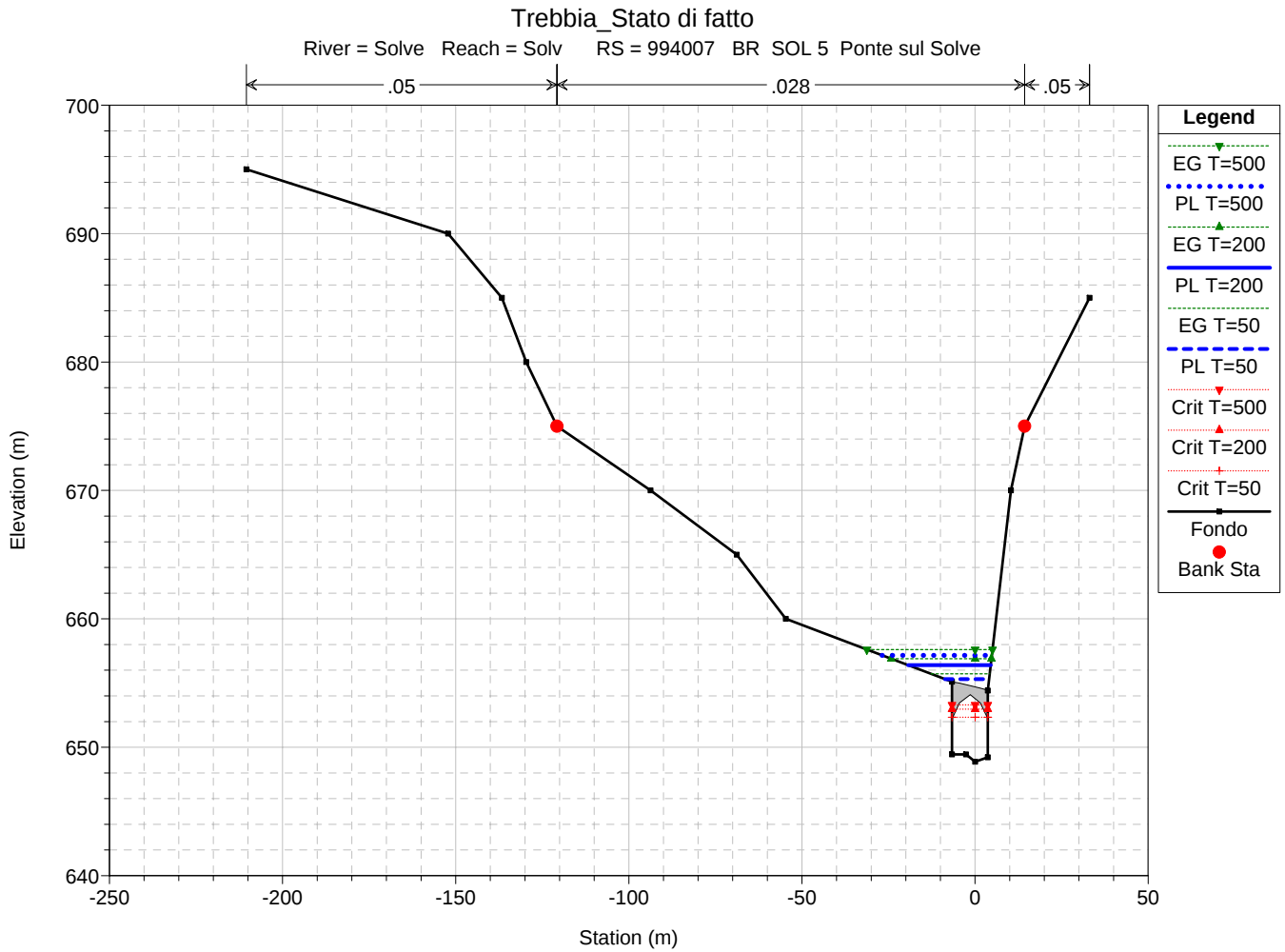
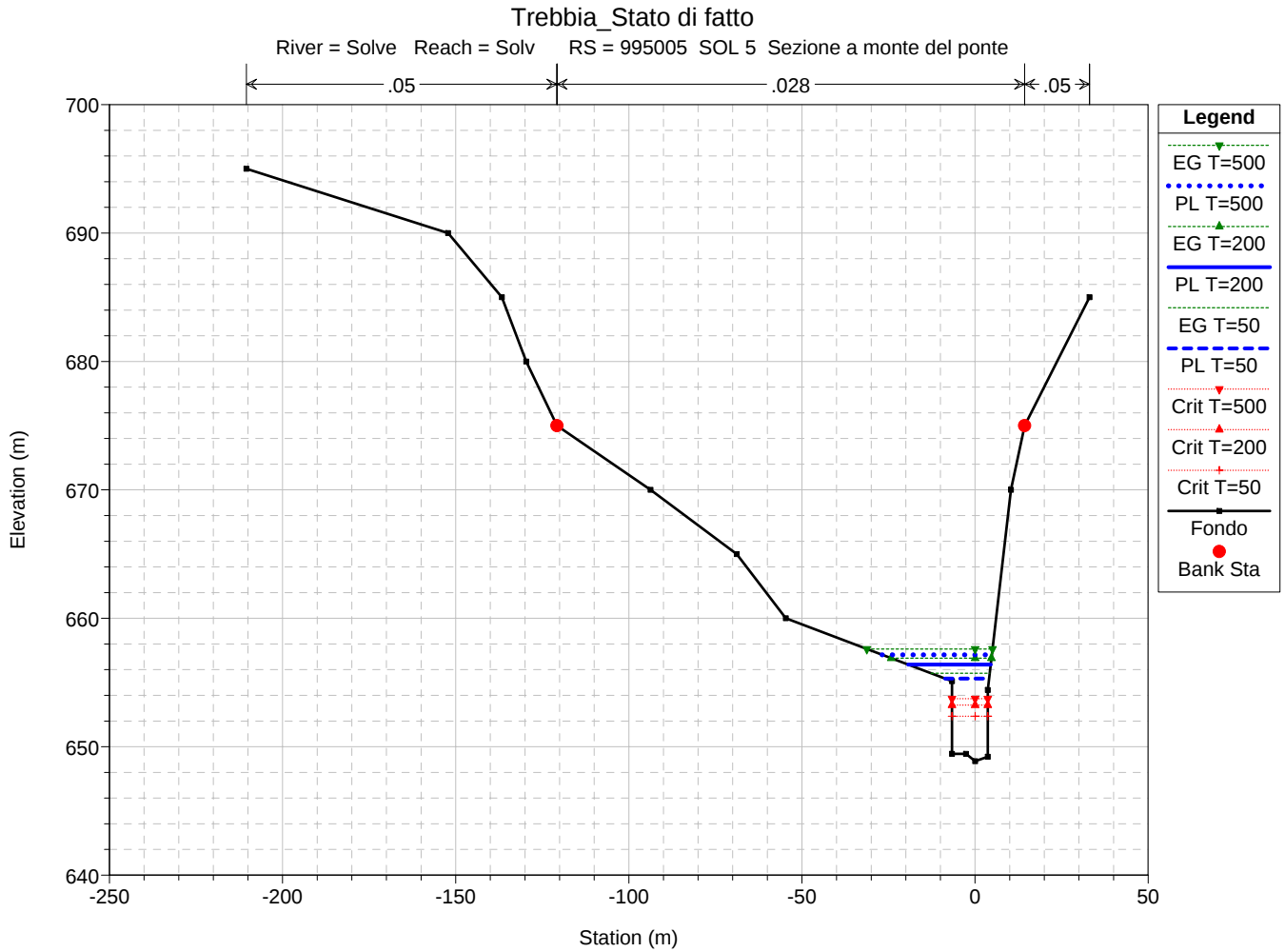
- Profili di corrente
- Sezioni idrauliche
- Tabelle dei risultati

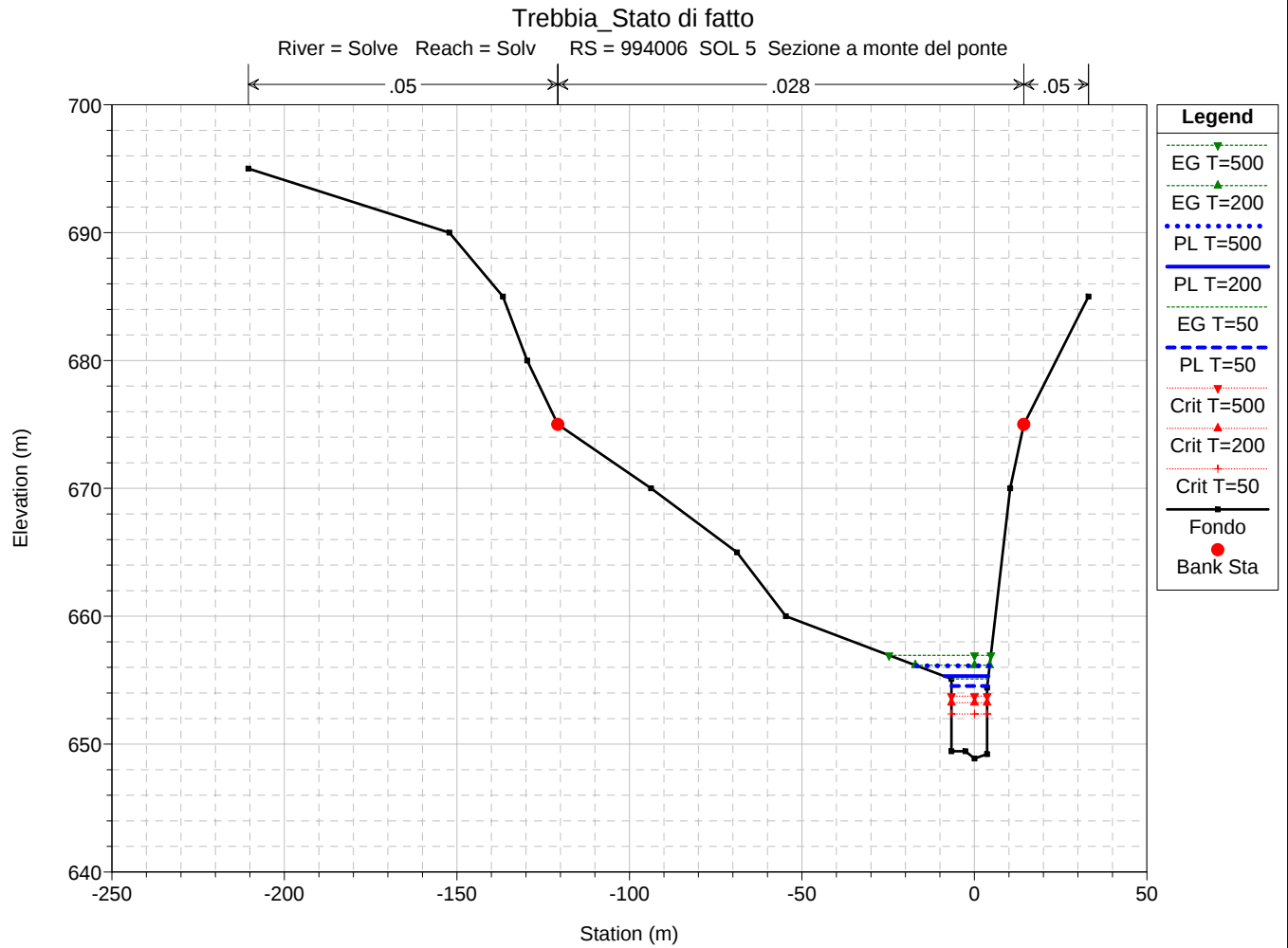
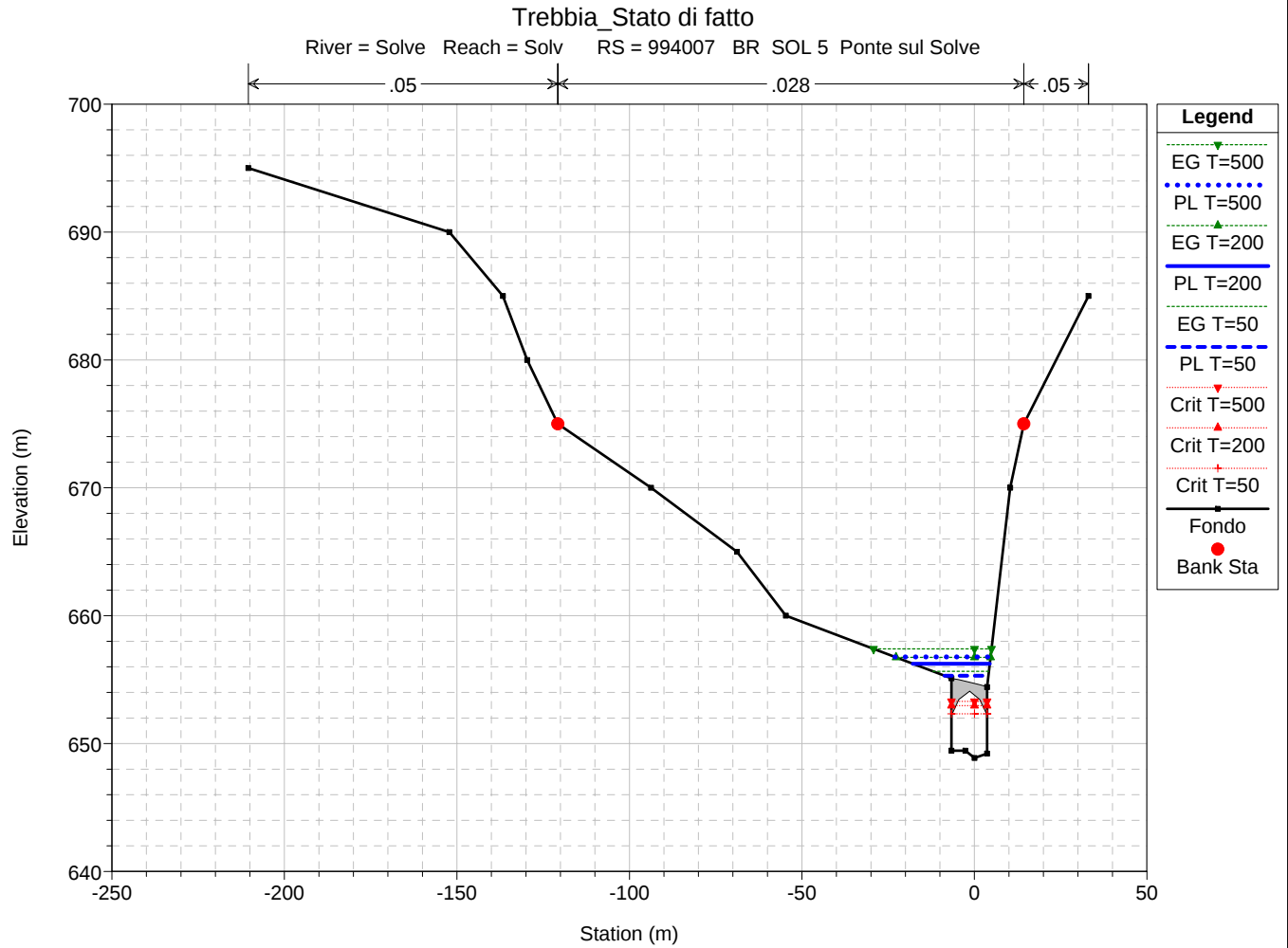
Trebbia_Stato di fatto

Solve Solv



1 cm Horiz. = 35 m 1 cm Vert. = 3 m





HEC-RAS Plan: 03_Trebbia River: Solve Reach: Solv

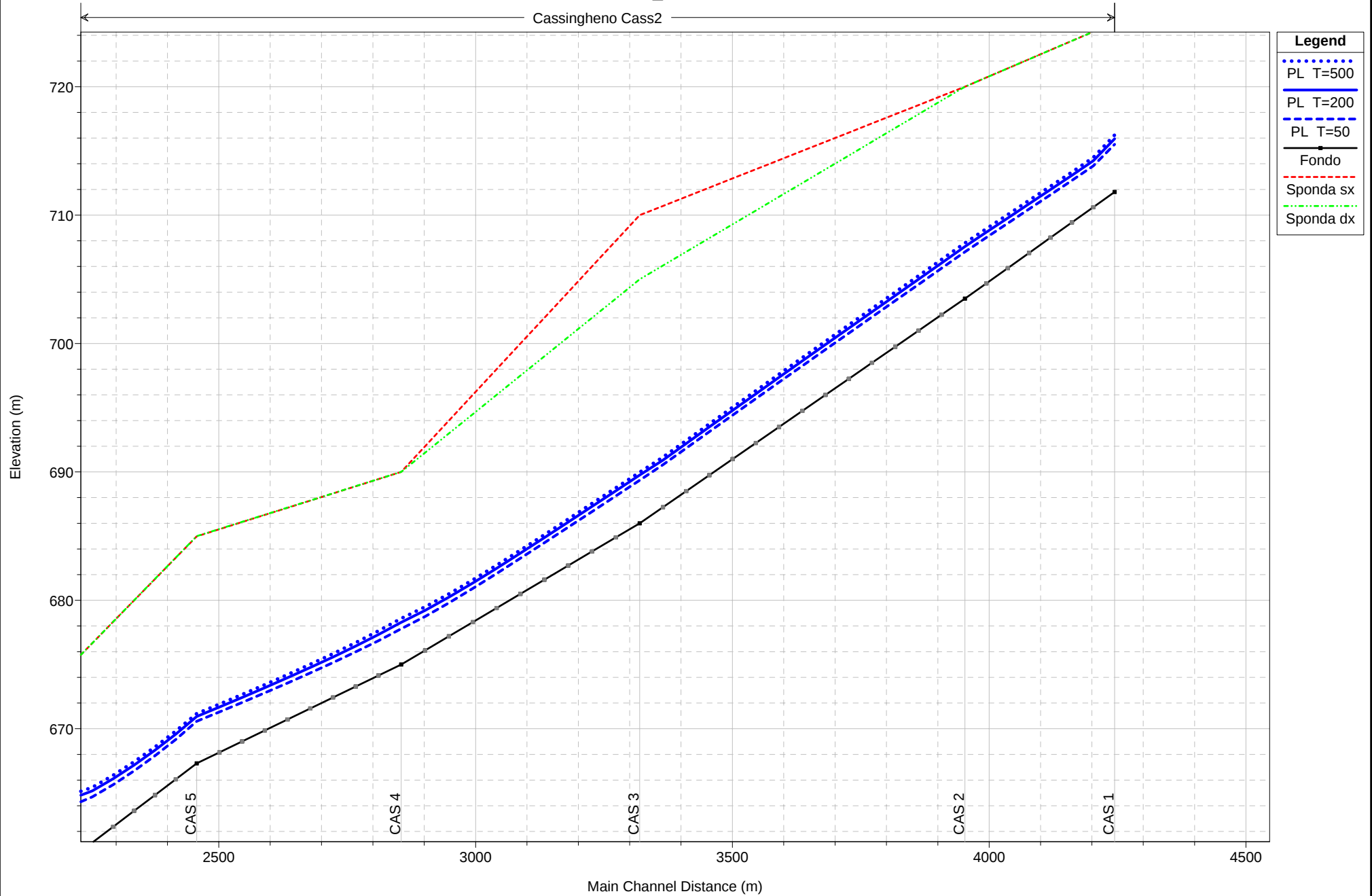
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Solv	999001 SOL 1	T=50	180.00	670.00	672.81	685.00	12.19	685.00	12.19	672.81	673.51	0.006954	3.70	48.59	34.55	1.00
Solv	999001 SOL 1	T=200	260.00	670.00	673.26	685.00	11.74	685.00	11.74	673.26	674.07	0.006580	3.98	65.36	40.07	0.99
Solv	999001 SOL 1	T=500	310.00	670.00	673.50	685.00	11.50	685.00	11.50	673.50	674.37	0.006436	4.12	75.20	42.98	0.99
Solv	998002 SOL 2	T=50	180.00	665.71	667.74	685.00	17.26	685.00	17.26	668.29	669.42	0.026404	5.75	31.29	30.88	1.82
Solv	998002 SOL 2	T=200	260.00	665.71	668.03	685.00	16.97	685.00	16.97	668.70	670.08	0.026875	6.35	40.96	35.33	1.88
Solv	998002 SOL 2	T=500	310.00	665.71	668.18	685.00	16.82	685.00	16.82	668.92	670.44	0.027071	6.65	46.61	37.69	1.91
Solv	997003 SOL 3	T=50	180.00	660.00	662.25	685.00	22.75	685.00	22.75	662.80	663.91	0.022357	5.72	31.49	28.05	1.72
Solv	997003 SOL 3	T=200	260.00	660.00	662.58	685.00	22.42	685.00	22.42	663.24	664.57	0.022124	6.24	41.66	32.26	1.75
Solv	997003 SOL 3	T=500	310.00	660.00	662.76	685.00	22.24	685.00	22.24	663.47	664.92	0.022001	6.51	47.63	34.50	1.77
Solv	996004 SOL 4	T=50	180.00	655.00	657.35	675.00	17.65	675.00	17.65	657.90	658.99	0.021705	5.68	31.68	26.96	1.67
Solv	996004 SOL 4	T=200	260.00	655.00	657.69	675.00	17.31	675.00	17.31	658.35	659.69	0.021953	6.26	41.56	30.88	1.72
Solv	996004 SOL 4	T=500	310.00	655.00	657.87	675.00	17.13	675.00	17.13	658.60	660.06	0.022136	6.56	47.28	32.94	1.75
Solv	995005 SOL 5	T=50	180.00	648.87	655.30	675.00	19.70	675.00	19.70	652.37	655.72	0.001765	2.84	63.30	12.75	0.41
Solv	995005 SOL 5	T=200	260.00	648.87	656.39	675.00	18.61	675.00	18.61	653.24	656.89	0.002519	3.12	83.21	23.87	0.53
Solv	995005 SOL 5	T=500	310.00	648.87	657.16	675.00	17.84	675.00	17.84	653.74	657.61	0.002208	2.96	104.59	31.73	0.52
Solv	994007 SOL 5		Bridge													
Solv	994006 SOL 5	T=50	180.00	648.87	654.55	675.00	20.45	675.00	20.45	652.36	655.09	0.002300	3.27	55.04	10.42	0.45
Solv	994006 SOL 5	T=200	260.00	648.87	655.31	675.00	19.69	675.00	19.69	653.24	656.17	0.003684	4.10	63.38	12.83	0.59
Solv	994006 SOL 5	T=500	310.00	648.87	656.12	675.00	18.88	675.00	18.88	653.75	656.95	0.004116	4.02	77.14	21.12	0.67

Torrente Cassingheno

- Profili di corrente
- Sezioni idrauliche
- Tabelle dei risultati

Trebbia_Stato di fatto

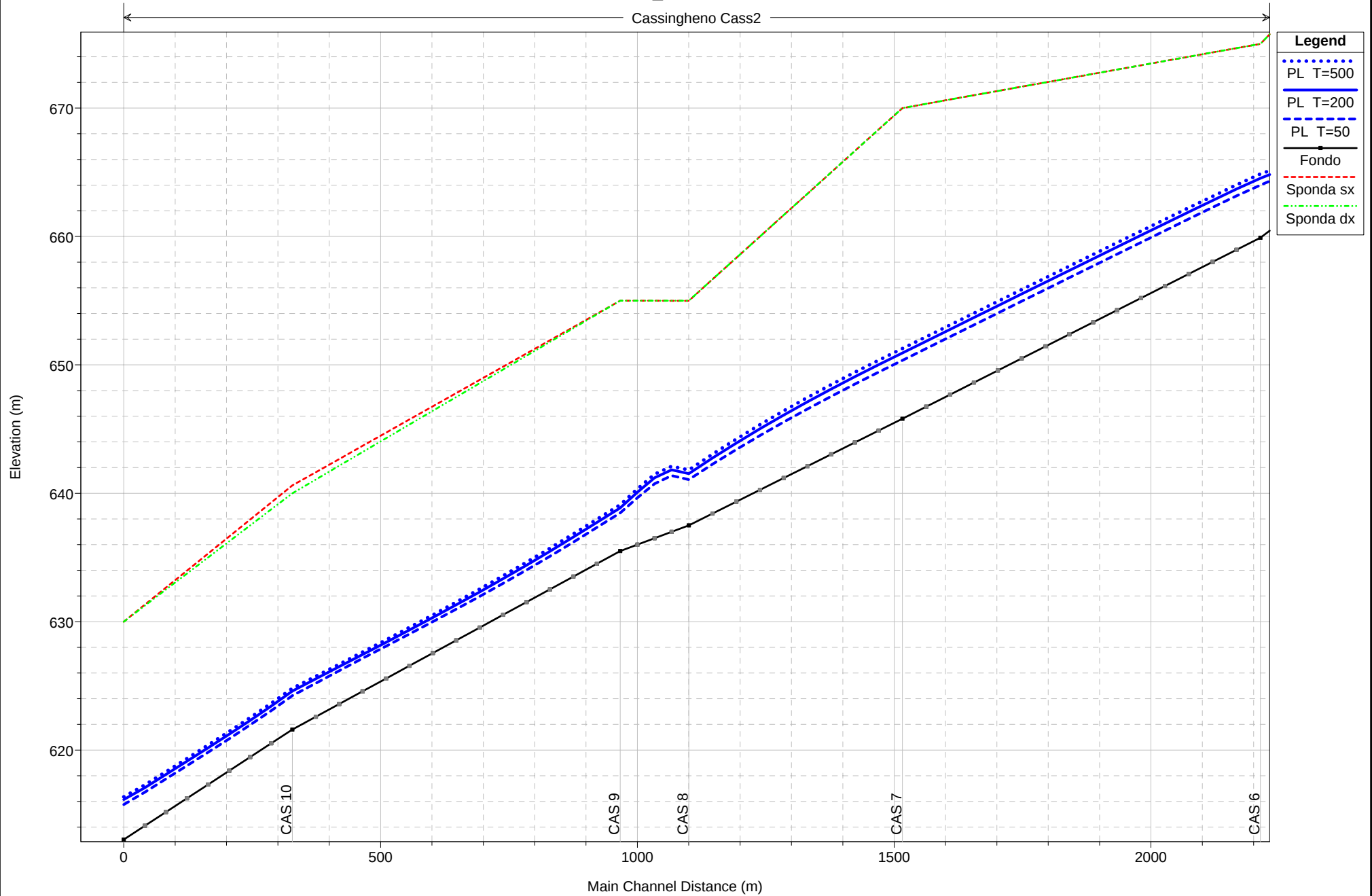
Cassingheno Cass2



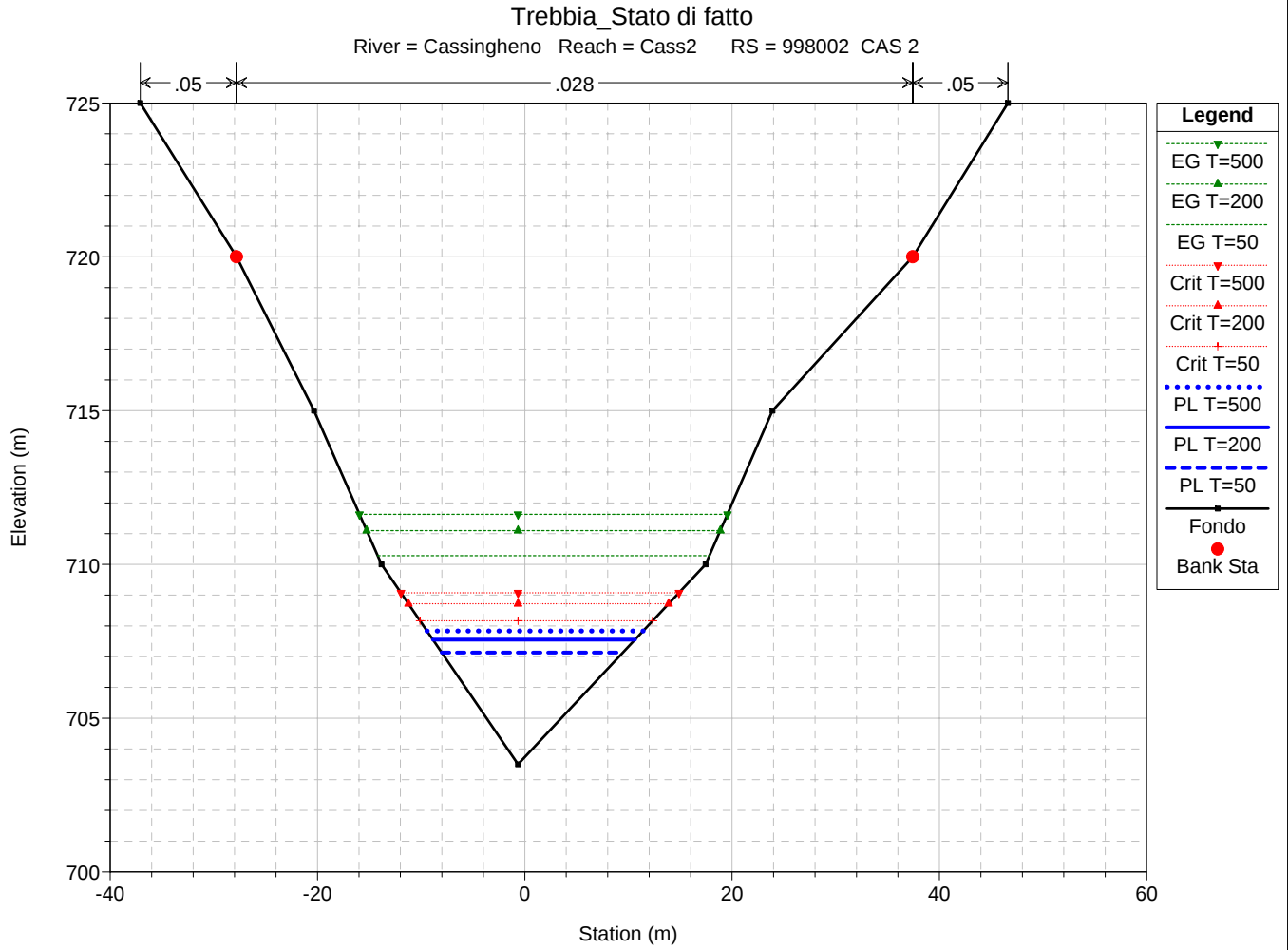
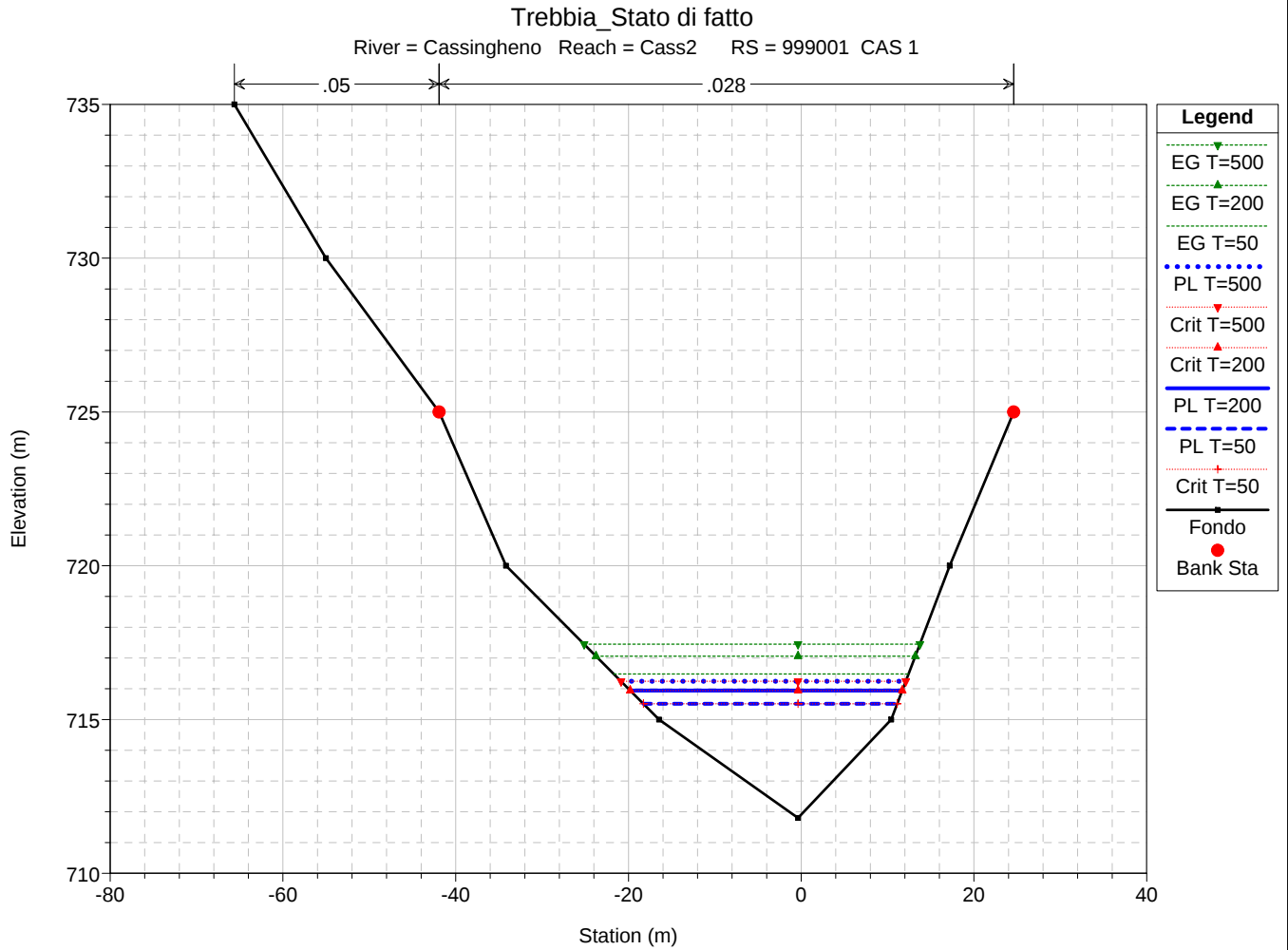
1 cm Horiz. = 100 m 1 cm Vert. = 4 m

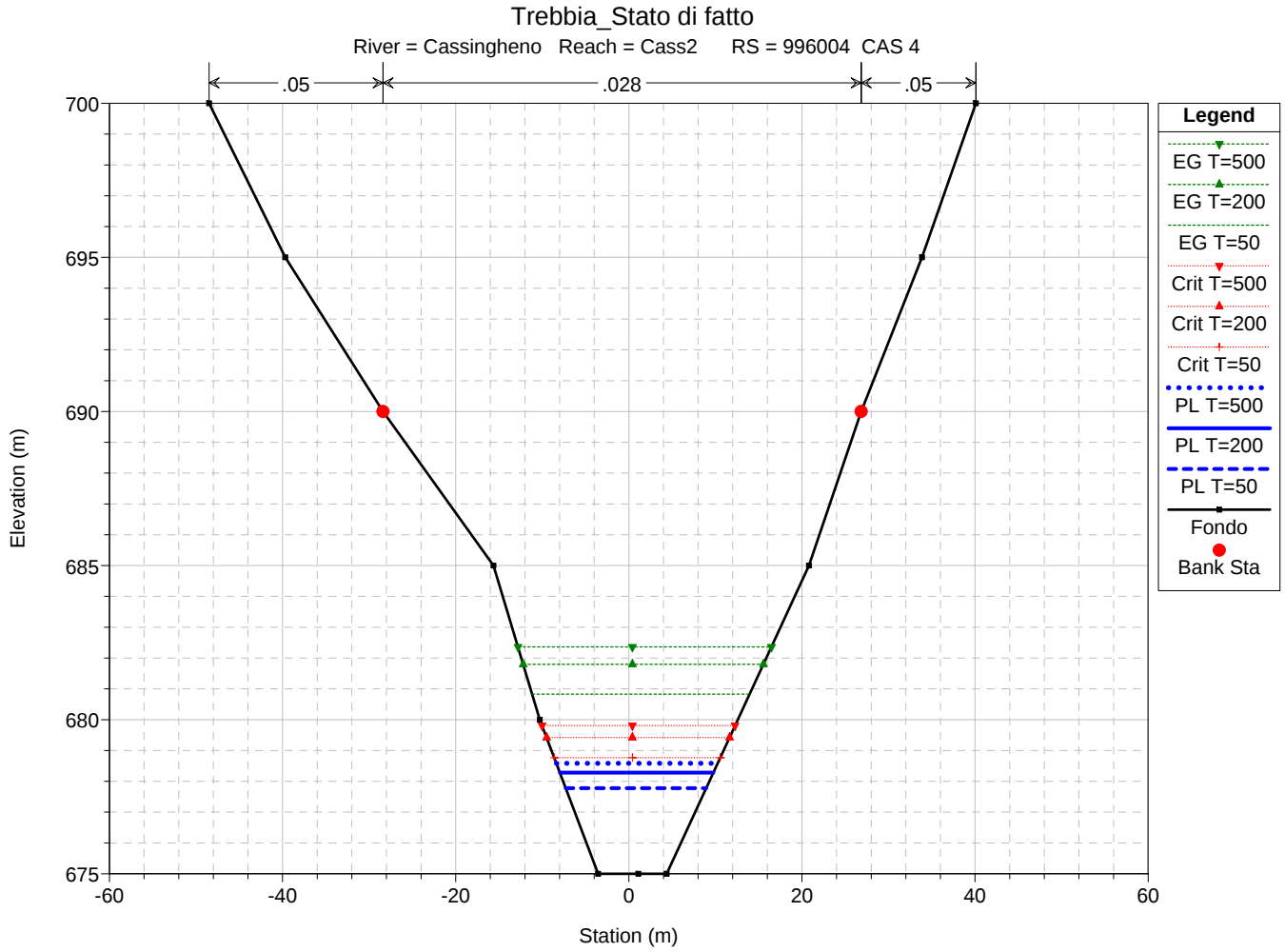
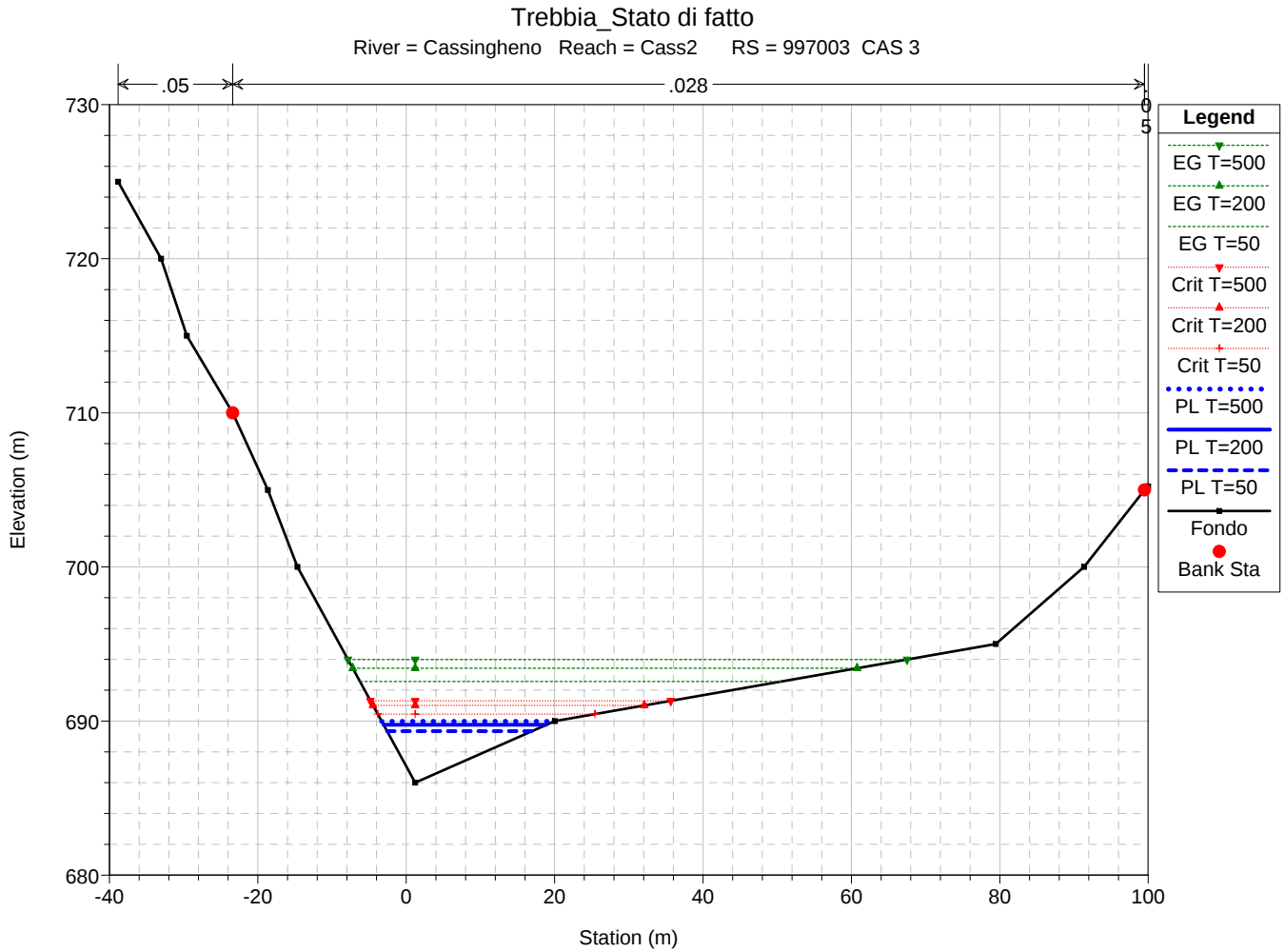
Trebbia_Stato di fatto

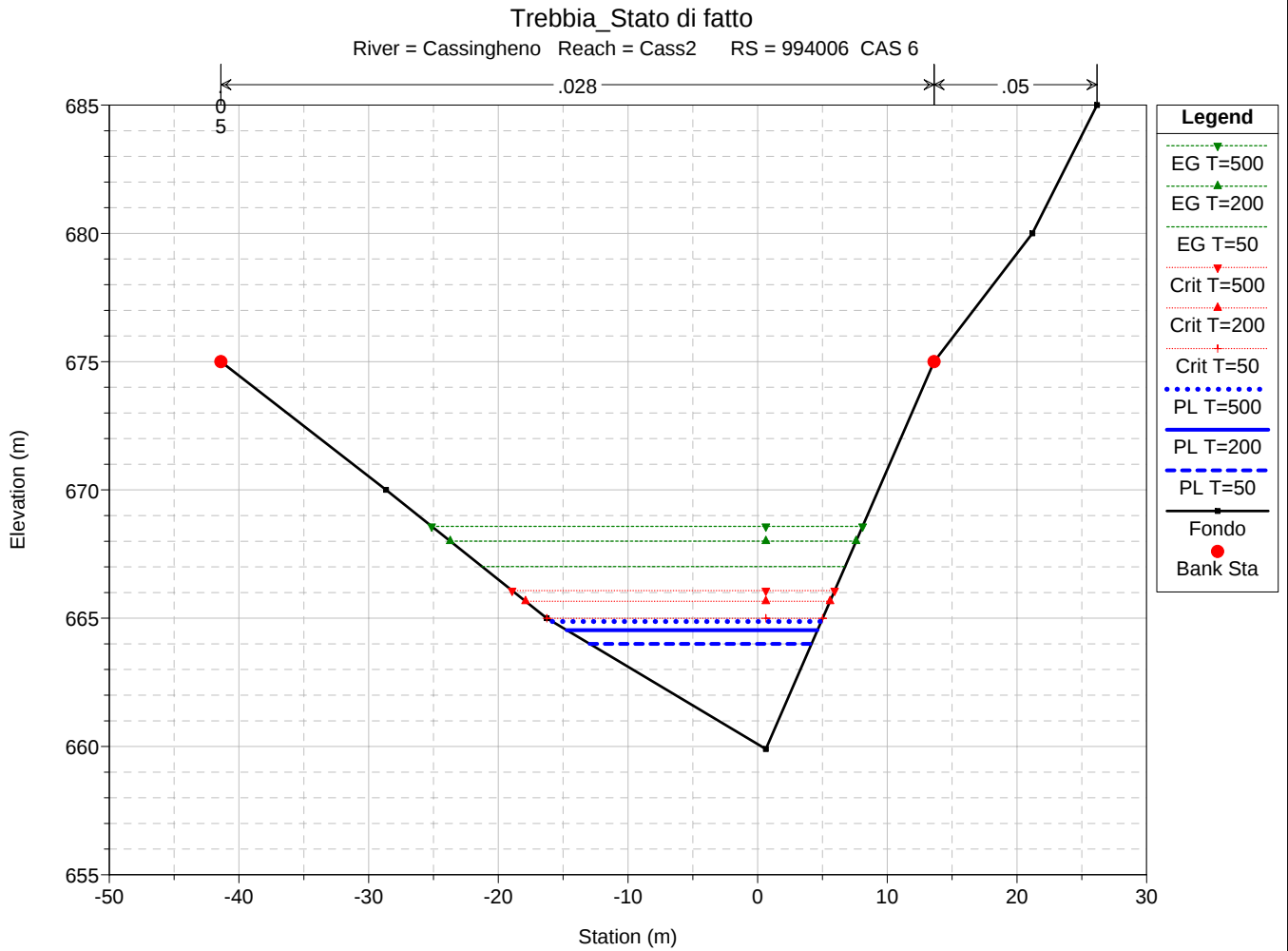
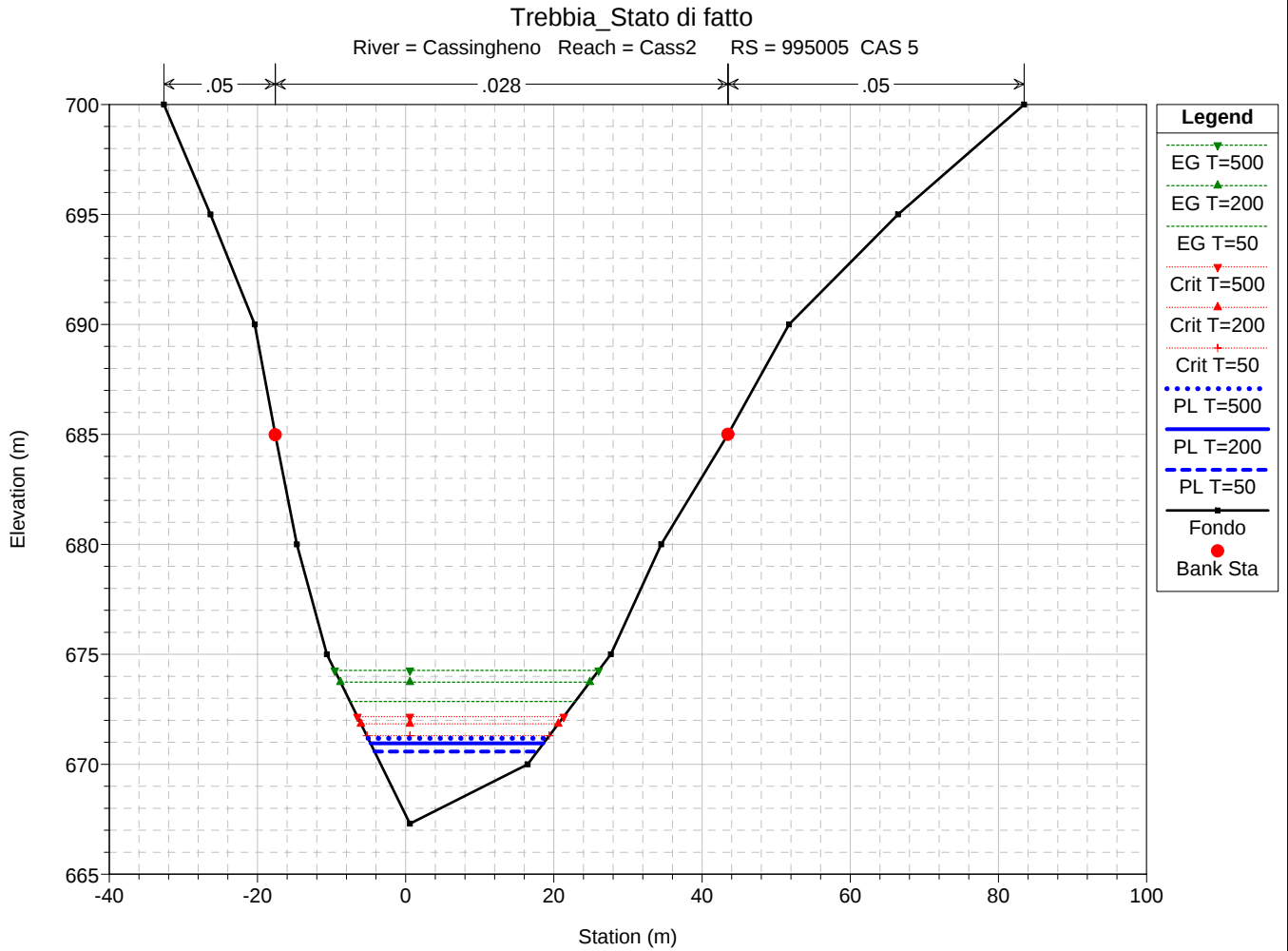
Cassinghen Cass2

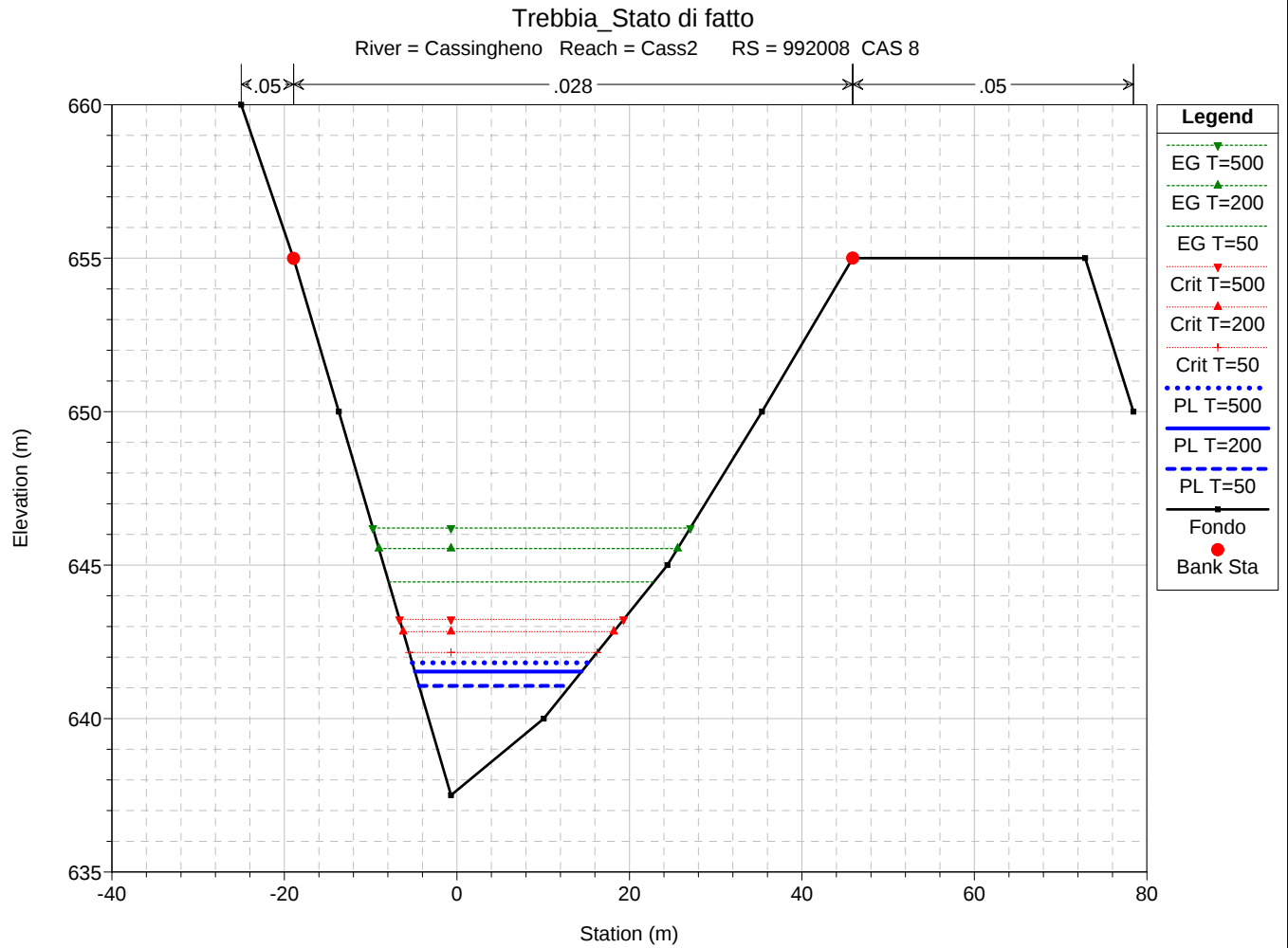
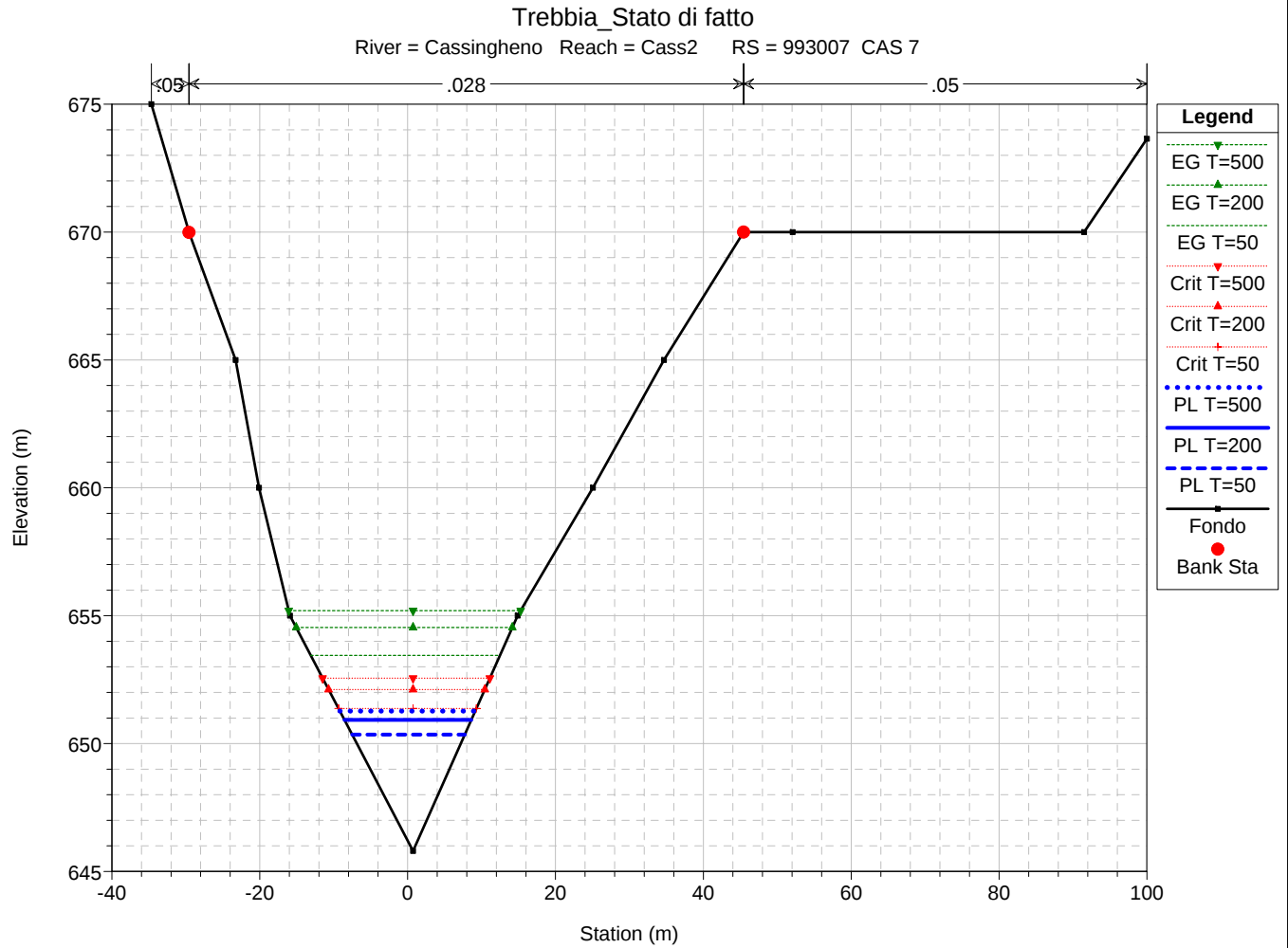


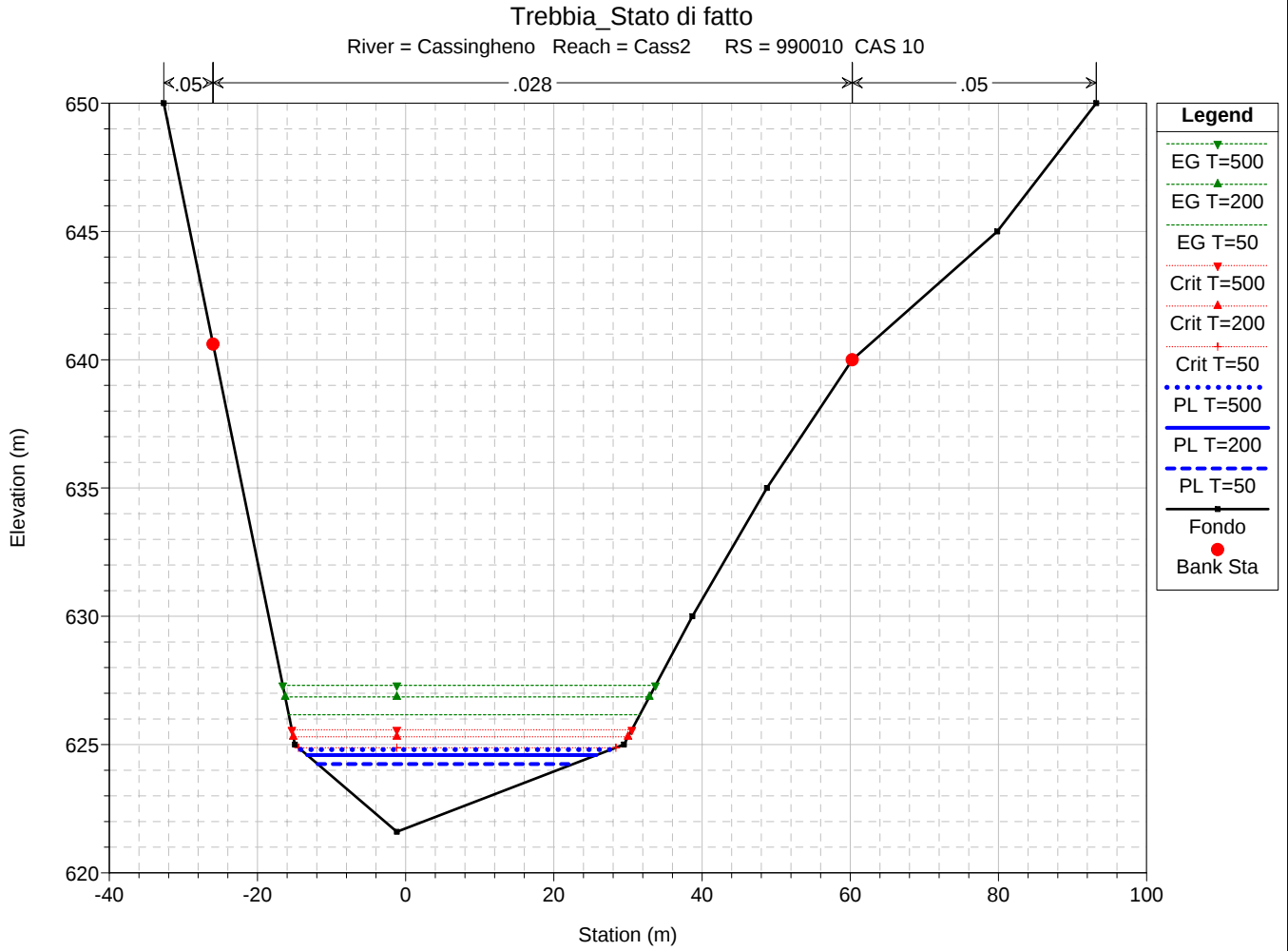
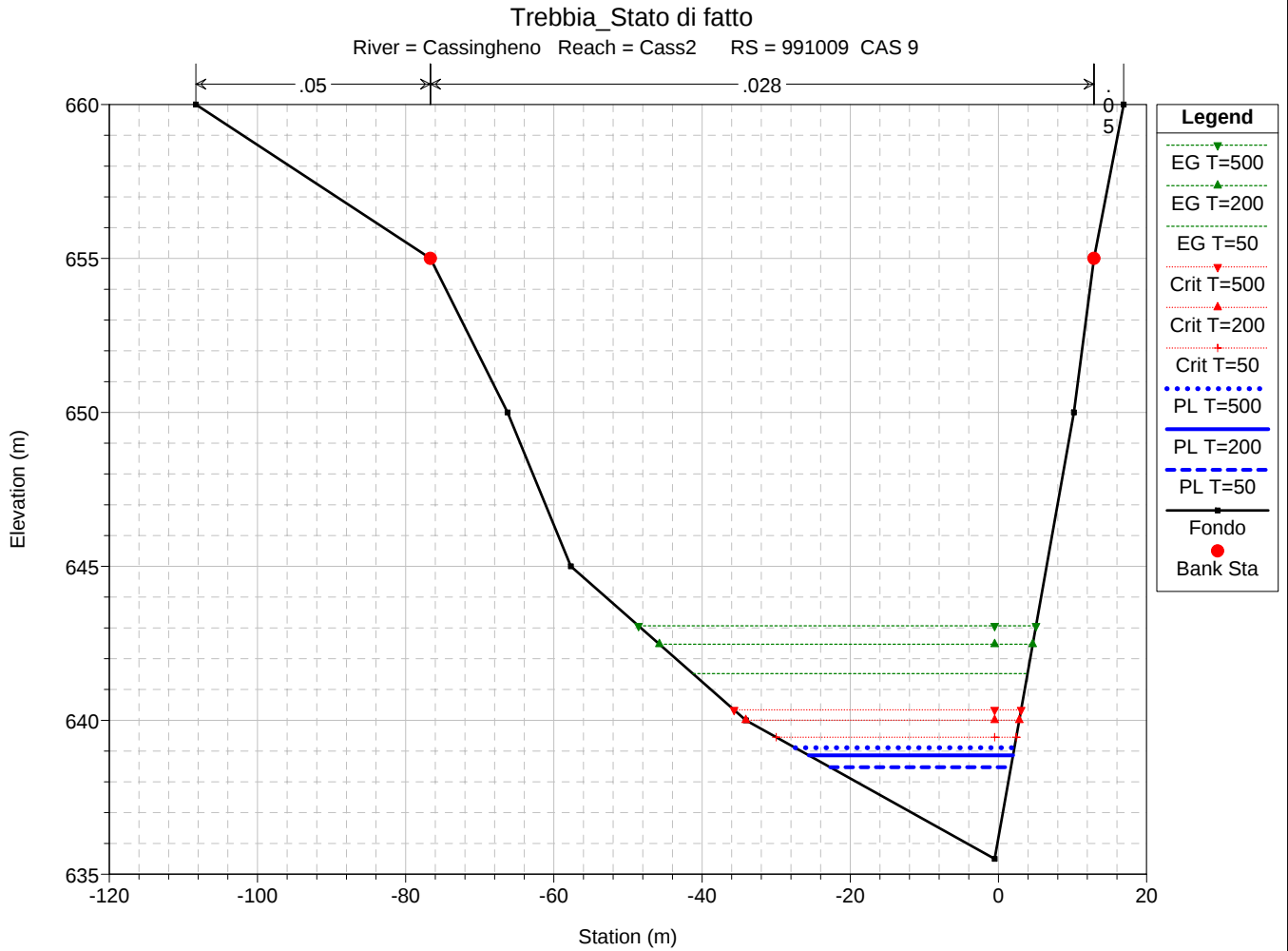
1 cm Horiz. = 100 m 1 cm Vert. = 4 m





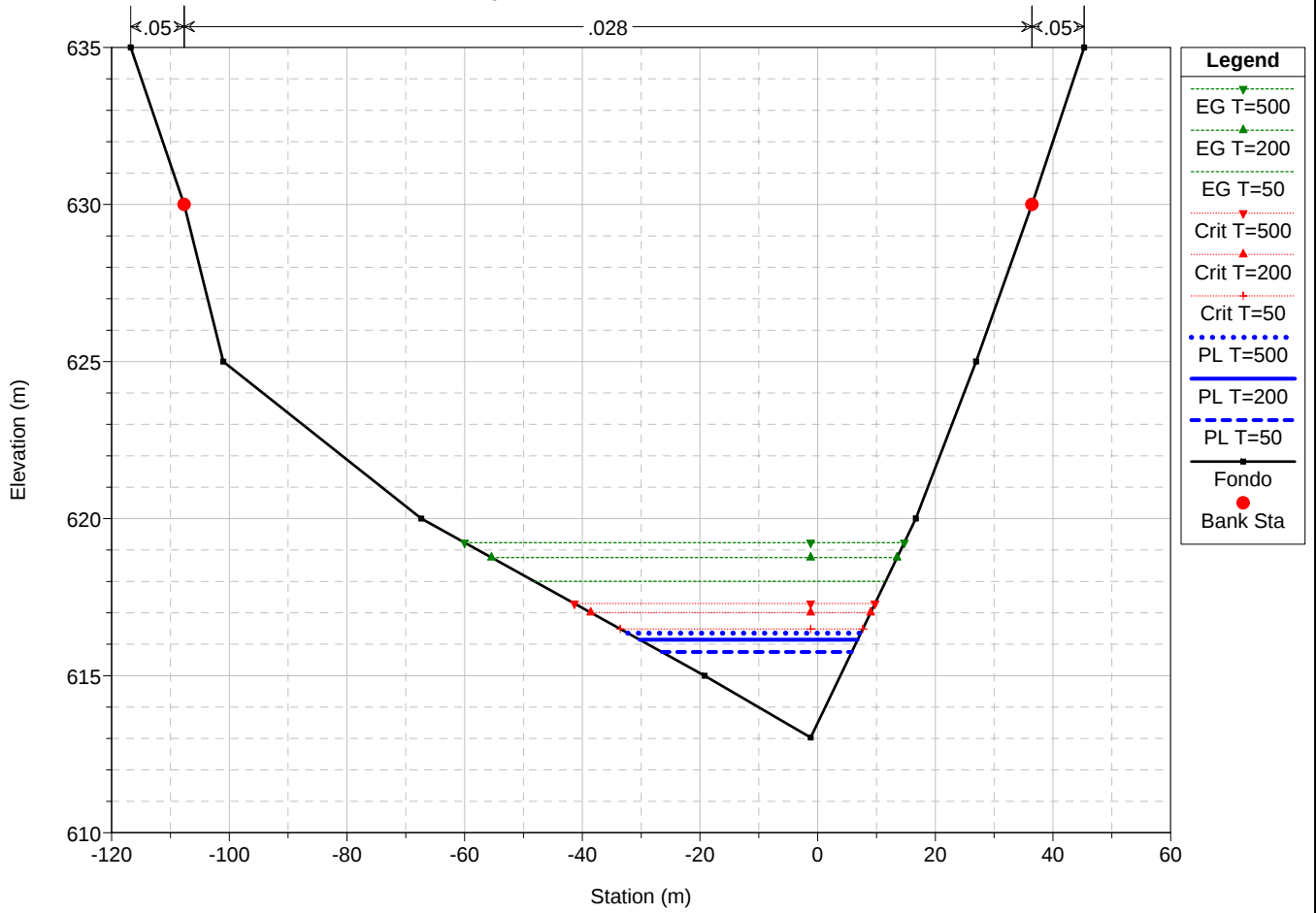






Trebbia_Stato di fatto

River = Cassingheno Reach = Cass2 RS = 989011 CAS 11



HEC-RAS Plan: 03_Trebbia River: Cassingheno Reach: Cass2

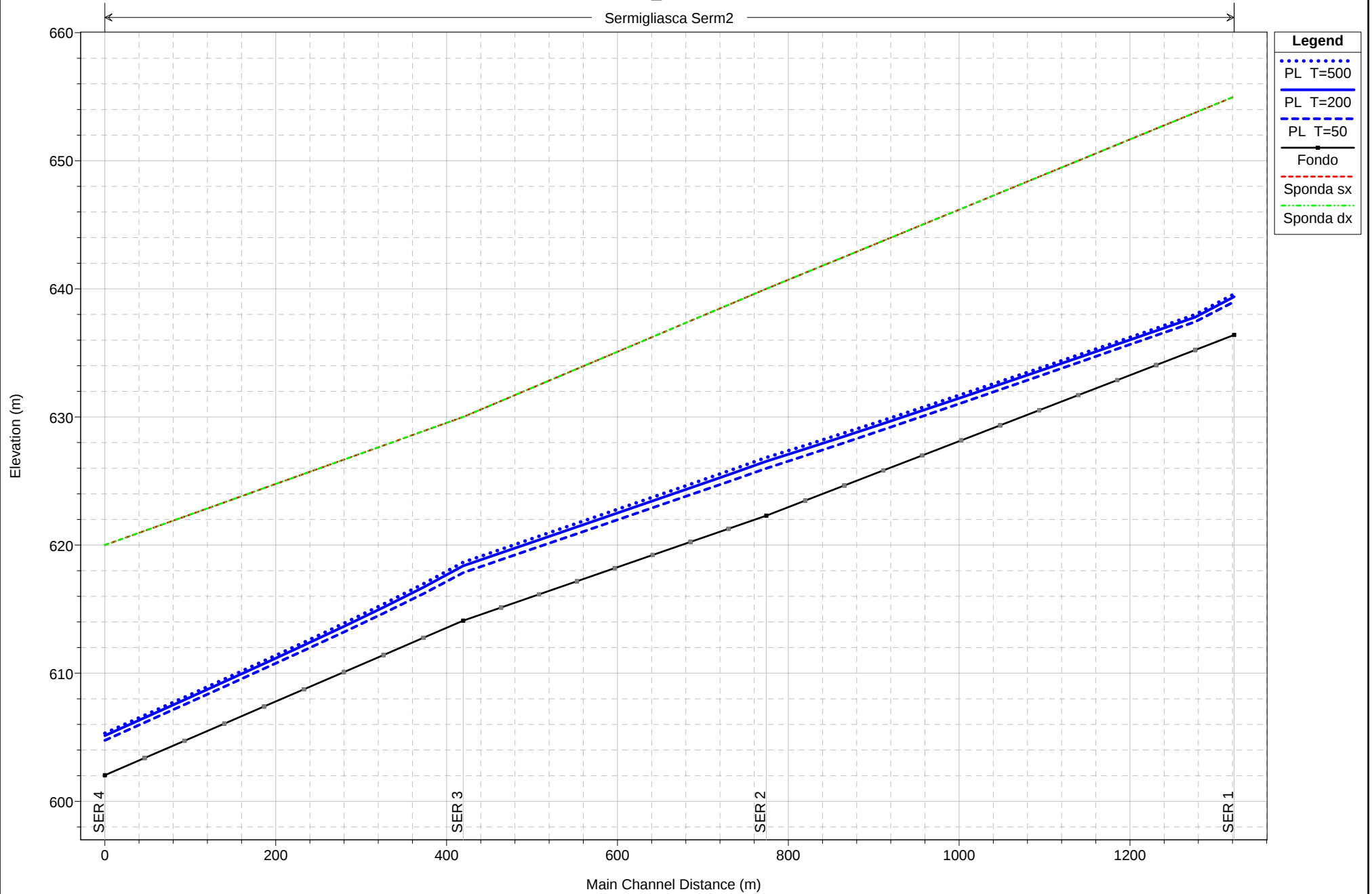
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Cass2	999001 CAS 1	T=50	250.00	711.80	715.51	725.00	9.49	725.00	9.49	715.51	716.48	0.006382	4.36	57.37	29.37	1.00
Cass2	999001 CAS 1	T=200	330.00	711.80	715.94	725.00	9.06	725.00	9.06	715.94	717.06	0.006167	4.68	70.51	31.49	1.00
Cass2	999001 CAS 1	T=500	390.00	711.80	716.24	725.00	8.76	725.00	8.76	716.24	717.45	0.005991	4.87	80.15	32.96	1.00
Cass2	998002 CAS 2	T=50	250.00	703.50	707.14	720.00	12.86	720.00	12.86	708.17	710.28	0.024341	7.86	31.80	17.49	1.86
Cass2	998002 CAS 2	T=200	330.00	703.50	707.56	720.00	12.44	720.00	12.44	708.72	711.10	0.023667	8.34	39.58	19.52	1.87
Cass2	998002 CAS 2	T=500	390.00	703.50	707.83	720.00	12.17	720.00	12.17	709.07	711.63	0.023208	8.63	45.19	20.85	1.87
Cass2	997003 CAS 3	T=50	260.00	686.00	689.35	710.00	20.65	705.00	15.65	690.45	692.56	0.027693	7.95	32.72	19.55	1.96
Cass2	997003 CAS 3	T=200	350.00	686.00	689.76	710.00	20.24	705.00	15.24	691.01	693.43	0.027075	8.49	41.24	21.95	1.98
Cass2	997003 CAS 3	T=500	410.00	686.00	689.98	710.00	20.02	705.00	15.02	691.31	694.00	0.027511	8.88	46.16	23.22	2.01
Cass2	996004 CAS 4	T=50	260.00	675.00	677.78	690.00	12.22	690.00	12.22	678.76	680.83	0.020320	7.74	33.61	16.24	1.72
Cass2	996004 CAS 4	T=200	350.00	675.00	678.28	690.00	11.72	690.00	11.72	679.42	681.80	0.019678	8.30	42.15	17.74	1.72
Cass2	996004 CAS 4	T=500	410.00	675.00	678.58	690.00	11.42	690.00	11.42	679.81	682.36	0.019307	8.61	47.62	18.64	1.72
Cass2	995005 CAS 5	T=50	260.00	667.30	670.58	684.98	14.40	685.00	14.42	671.30	672.86	0.017730	6.68	38.90	21.97	1.60
Cass2	995005 CAS 5	T=200	350.00	667.30	670.96	684.98	14.03	685.00	14.04	671.84	673.73	0.018163	7.39	47.38	23.36	1.66
Cass2	995005 CAS 5	T=500	410.00	667.30	671.18	684.98	13.80	685.00	13.82	672.16	674.26	0.018411	7.79	52.66	24.18	1.68
Cass2	994006 CAS 6	T=50	270.00	659.90	664.00	675.00	11.00	675.00	11.00	665.00	667.01	0.021321	7.69	35.11	17.12	1.71
Cass2	994006 CAS 6	T=200	370.00	659.90	664.54	675.00	10.46	675.00	10.46	665.66	668.00	0.020848	8.25	44.85	19.35	1.73
Cass2	994006 CAS 6	T=500	440.00	659.90	664.87	675.00	10.13	675.00	10.13	666.08	668.58	0.020330	8.53	51.55	20.74	1.73
Cass2	993007 CAS 7	T=50	270.00	645.80	650.35	669.99	19.64	670.00	19.65	651.37	653.45	0.019563	7.80	34.62	15.22	1.65
Cass2	993007 CAS 7	T=200	370.00	645.80	650.92	669.99	19.07	670.00	19.08	652.12	654.54	0.019453	8.42	43.94	17.15	1.68
Cass2	993007 CAS 7	T=500	440.00	645.80	651.27	669.99	18.72	670.00	18.73	652.56	655.20	0.019382	8.78	50.11	18.31	1.69
Cass2	992008 CAS 8	T=50	270.00	637.50	641.07	654.99	13.92	655.00	13.93	642.15	644.45	0.025569	8.15	33.12	17.51	1.89
Cass2	992008 CAS 8	T=200	370.00	637.50	641.53	654.99	13.46	655.00	13.47	642.83	645.54	0.025495	8.87	41.71	19.33	1.93
Cass2	992008 CAS 8	T=500	440.00	637.50	641.82	654.99	13.17	655.00	13.18	643.23	646.21	0.025443	9.28	47.40	20.45	1.95
Cass2	991009 CAS 9	T=50	280.00	635.50	638.47	655.00	16.53	655.00	16.53	639.45	641.52	0.030193	7.73	36.23	24.37	2.02
Cass2	991009 CAS 9	T=200	390.00	635.50	638.86	655.00	16.14	655.00	16.14	640.00	642.47	0.030381	8.42	46.34	27.56	2.07
Cass2	991009 CAS 9	T=500	470.00	635.50	639.11	655.00	15.89	655.00	15.89	640.34	643.07	0.030388	8.82	53.30	29.56	2.10
Cass2	990010 CAS 10	T=50	280.00	621.60	624.24	640.61	16.37	640.00	15.76	624.88	626.17	0.020808	6.15	45.56	34.50	1.71
Cass2	990010 CAS 10	T=200	390.00	621.60	624.59	640.61	16.02	640.00	15.41	625.31	626.86	0.020792	6.67	58.43	39.07	1.74
Cass2	990010 CAS 10	T=500	470.00	621.60	624.80	640.61	15.81	640.00	15.20	625.58	627.31	0.020896	7.01	67.08	41.86	1.77
Cass2	989011 CAS 11	T=50	290.00	613.03	615.76	630.00	14.24	630.00	14.24	616.49	618.00	0.023740	6.64	43.68	32.30	1.82
Cass2	989011 CAS 11	T=200	410.00	613.03	616.15	630.00	13.85	630.00	13.85	617.01	618.76	0.023138	7.16	57.25	37.07	1.84
Cass2	989011 CAS 11	T=500	490.00	613.03	616.35	630.00	13.65	630.00	13.65	617.30	619.23	0.023436	7.52	65.16	39.59	1.87

Torrente Sermigliasca

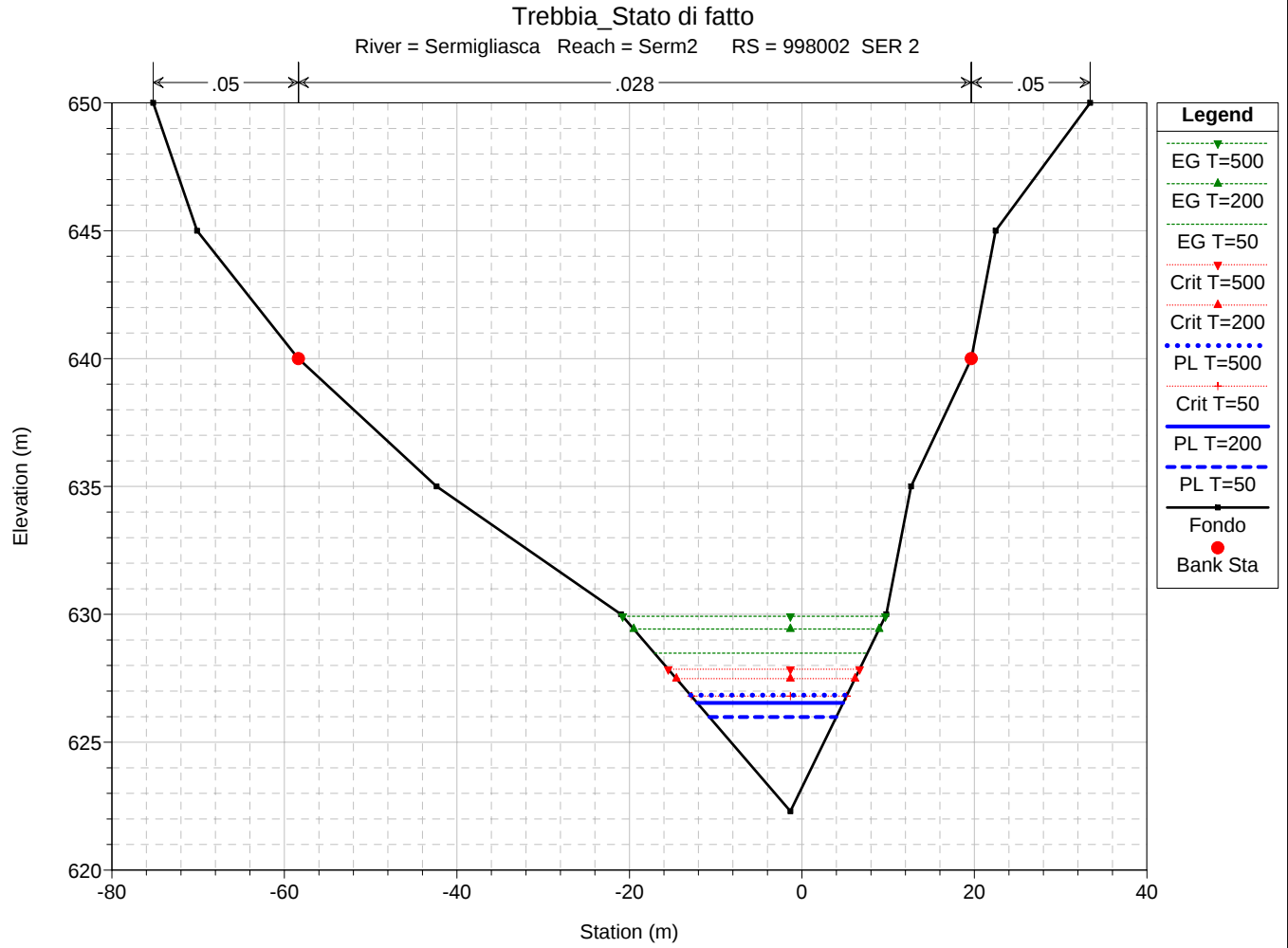
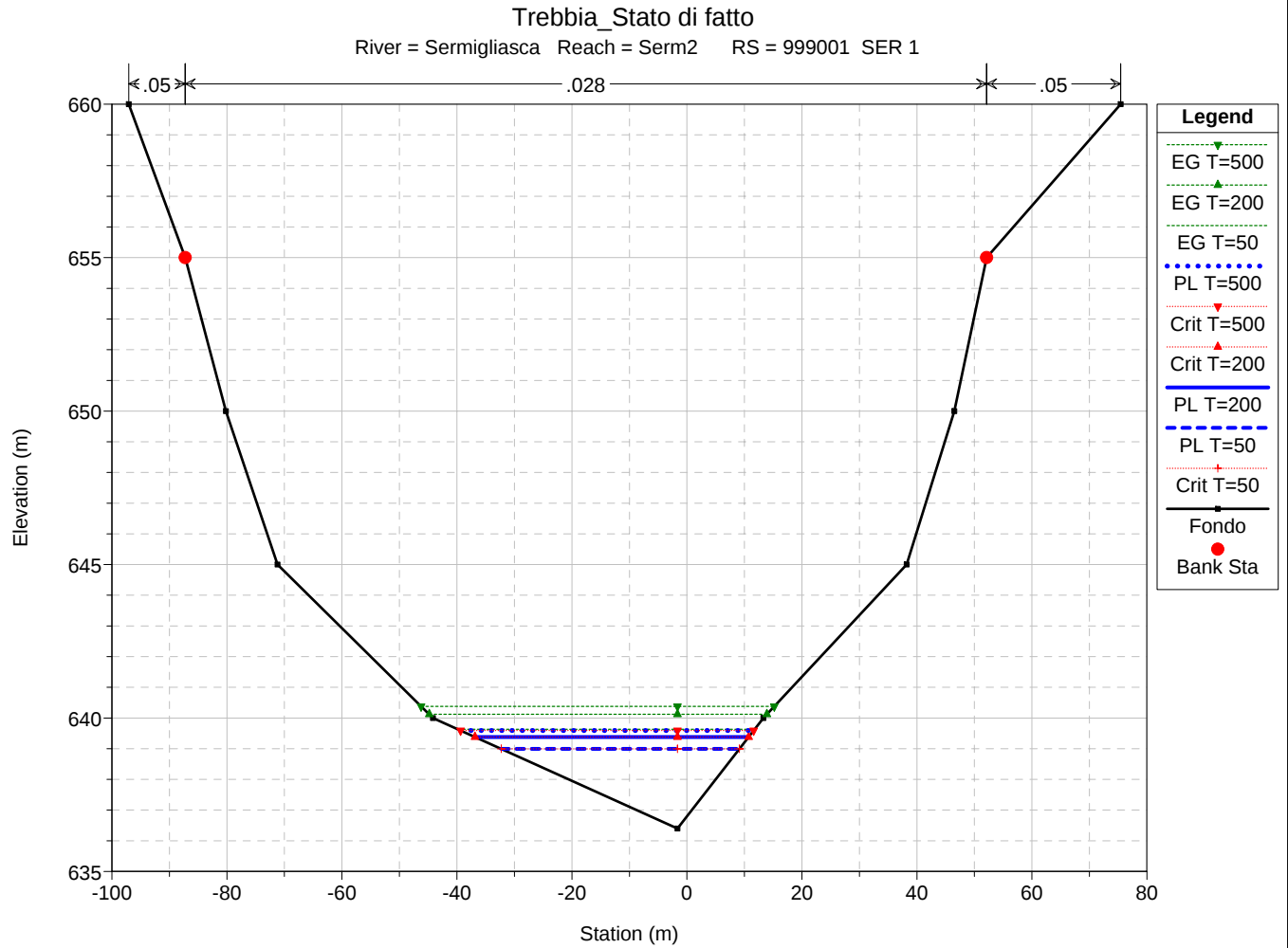
- Profili di corrente
- Sezioni idrauliche
- Tabelle dei risultati

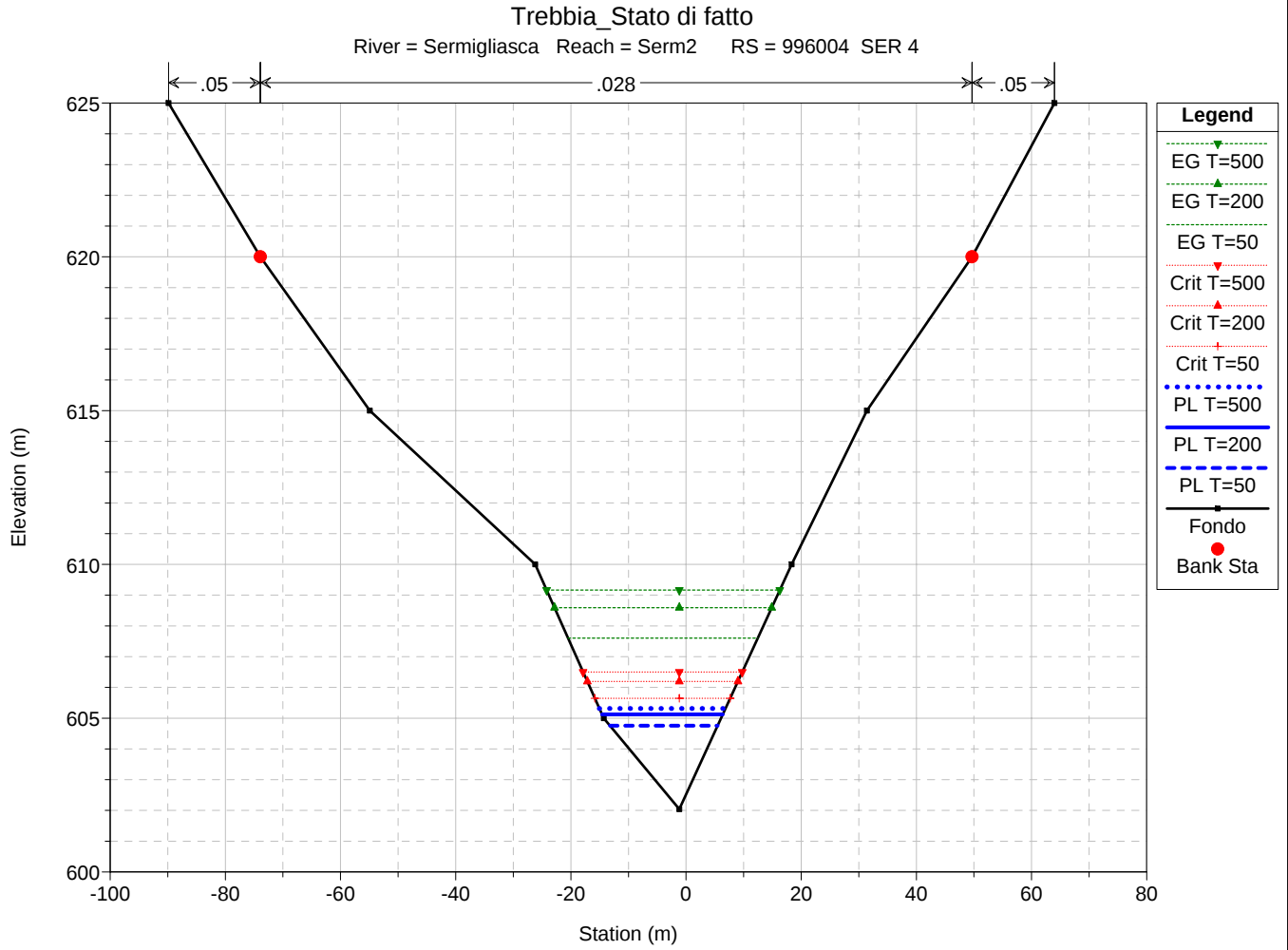
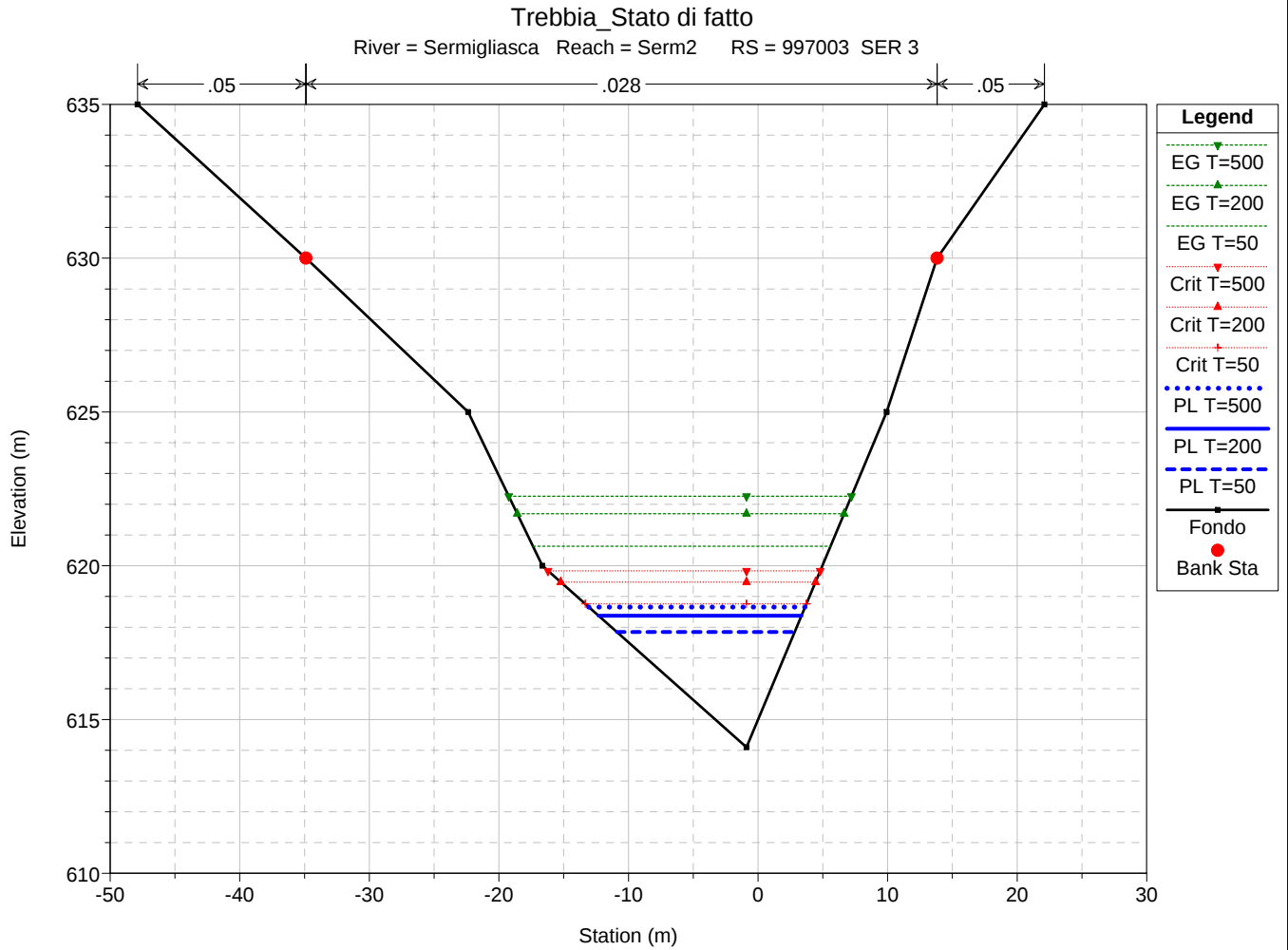
Trebbia_Stato di fatto

Sermigliasca Serm2



1 cm Horiz. = 60 m 1 cm Vert. = 4 m





HEC-RAS Plan: 03_Trebbia River: Sermigliasca Reach: Serm2

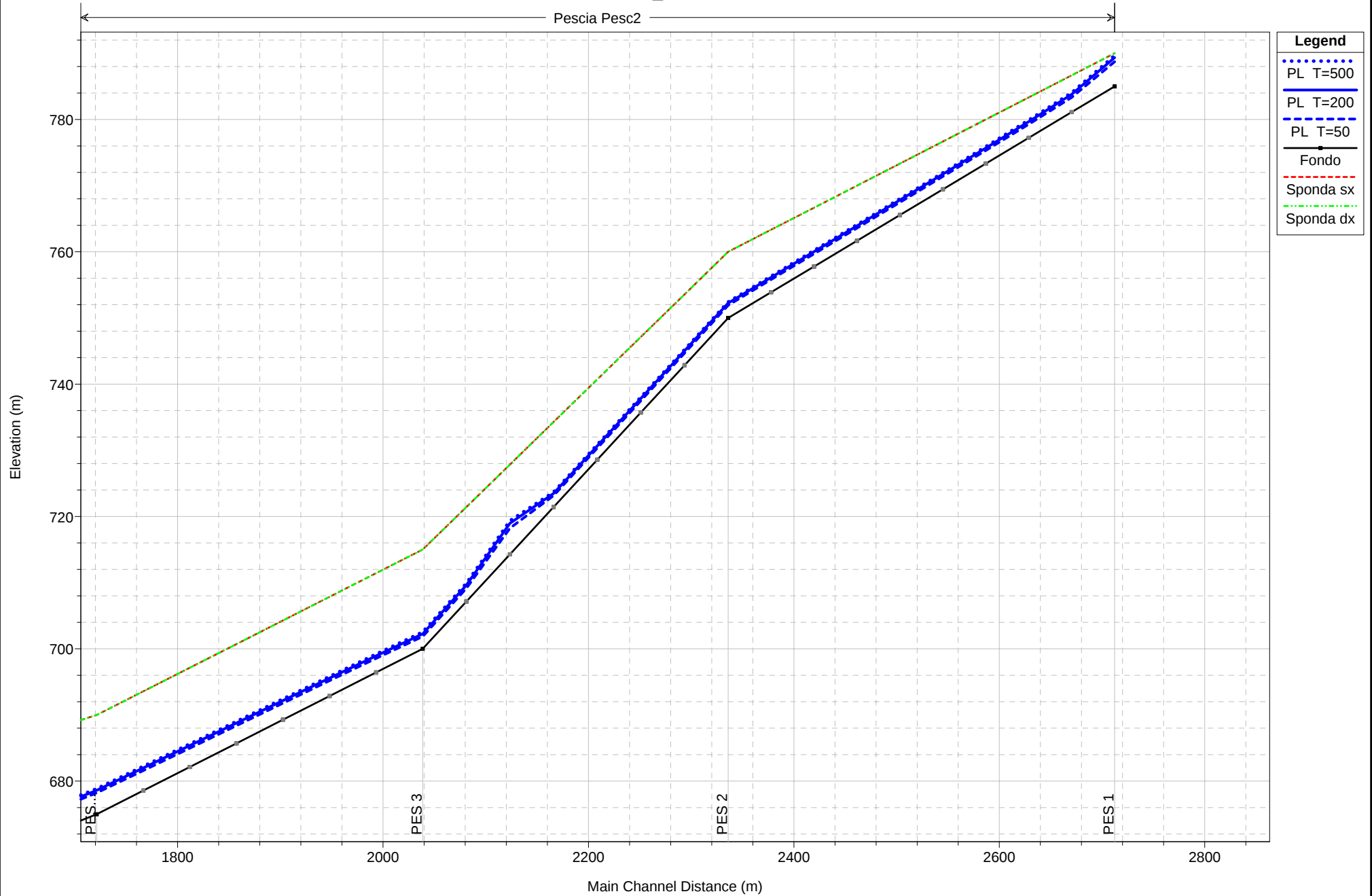
Reach	River Sta		Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Serm2	999001	SER 1	T=50	190.00	636.40	638.99	655.00	16.01	655.00	16.01	638.99	639.63	0.007035	3.54	53.69	41.40	0.99
Serm2	999001	SER 1	T=200	270.00	636.40	639.38	655.00	15.62	655.00	15.62	639.38	640.12	0.006772	3.81	70.89	47.58	1.00
Serm2	999001	SER 1	T=500	320.00	636.40	639.59	655.00	15.41	655.00	15.41	639.59	640.38	0.006587	3.93	81.36	50.97	0.99
Serm2	998002	SER 2	T=50	190.00	622.30	625.99	640.00	14.01	640.00	14.01	626.80	628.48	0.019915	7.00	27.14	14.72	1.65
Serm2	998002	SER 2	T=200	270.00	622.30	626.54	640.00	13.46	640.00	13.46	627.49	629.42	0.019095	7.53	35.88	16.93	1.65
Serm2	998002	SER 2	T=500	320.00	622.30	626.84	640.00	13.16	640.00	13.16	627.86	629.92	0.018662	7.78	41.11	18.12	1.65
Serm2	997003	SER 3	T=50	190.00	614.10	617.84	630.00	12.16	630.00	12.16	618.76	620.63	0.022777	7.40	25.67	13.71	1.73
Serm2	997003	SER 3	T=200	270.00	614.10	618.37	630.00	11.63	630.00	11.63	619.47	621.69	0.022673	8.07	33.47	15.66	1.76
Serm2	997003	SER 3	T=500	320.00	614.10	618.66	630.00	11.34	630.00	11.34	619.83	622.26	0.022598	8.41	38.06	16.70	1.78
Serm2	996004	SER 4	T=50	190.00	602.04	604.76	620.00	15.24	620.00	15.24	605.65	607.60	0.030869	7.48	25.42	18.71	2.05
Serm2	996004	SER 4	T=200	270.00	602.04	605.12	620.00	14.88	620.00	14.88	606.20	608.59	0.031361	8.25	32.71	20.98	2.11
Serm2	996004	SER 4	T=500	320.00	602.04	605.31	620.00	14.69	620.00	14.69	606.50	609.17	0.031558	8.70	36.80	21.90	2.14

Torrente Pescia

- Profili di corrente
- Sezioni idrauliche
- Tabelle dei risultati

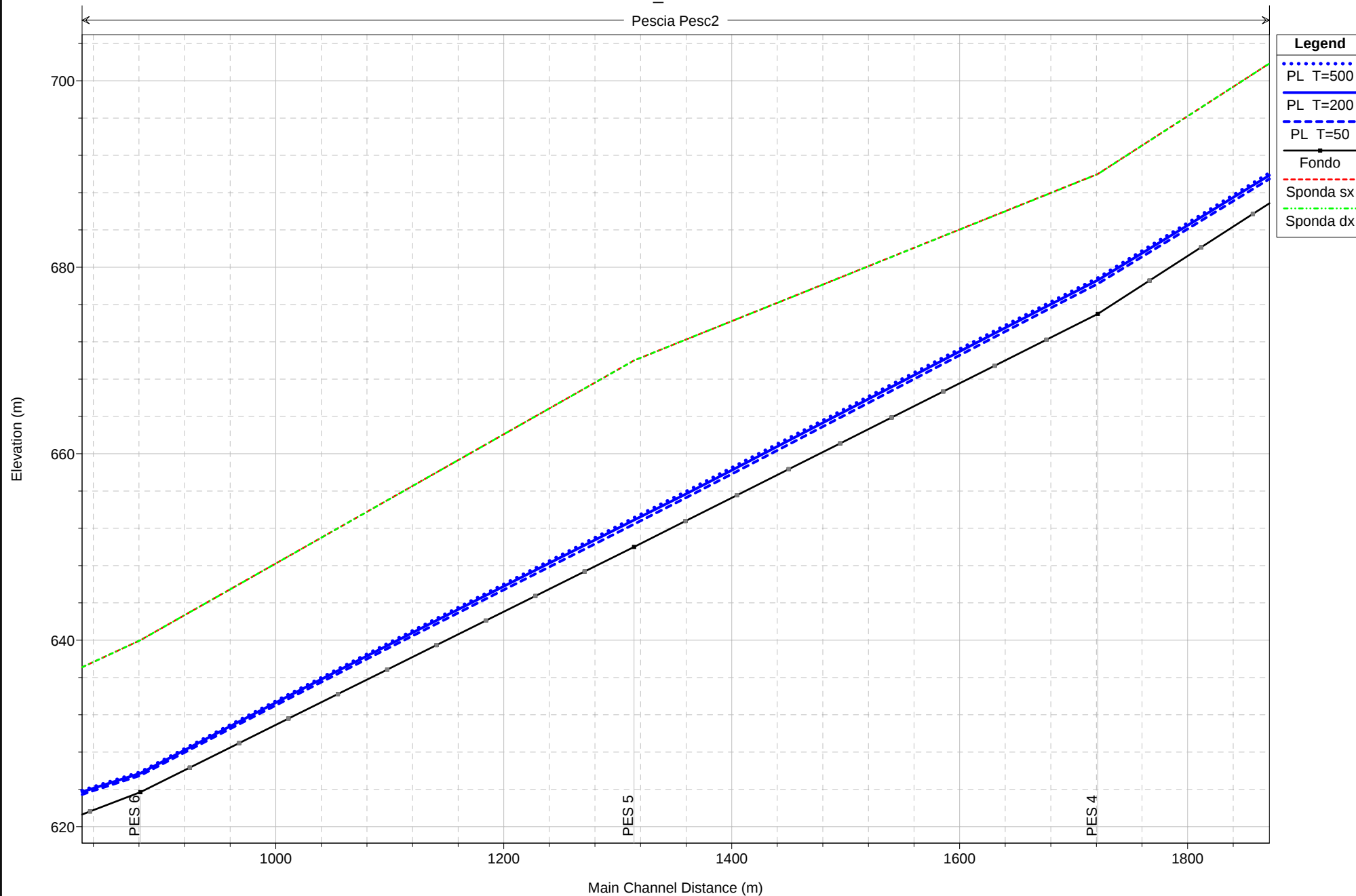
Trebbia_Stato di fatto

Pescia Pesc2



Trebbia_Stato di fatto

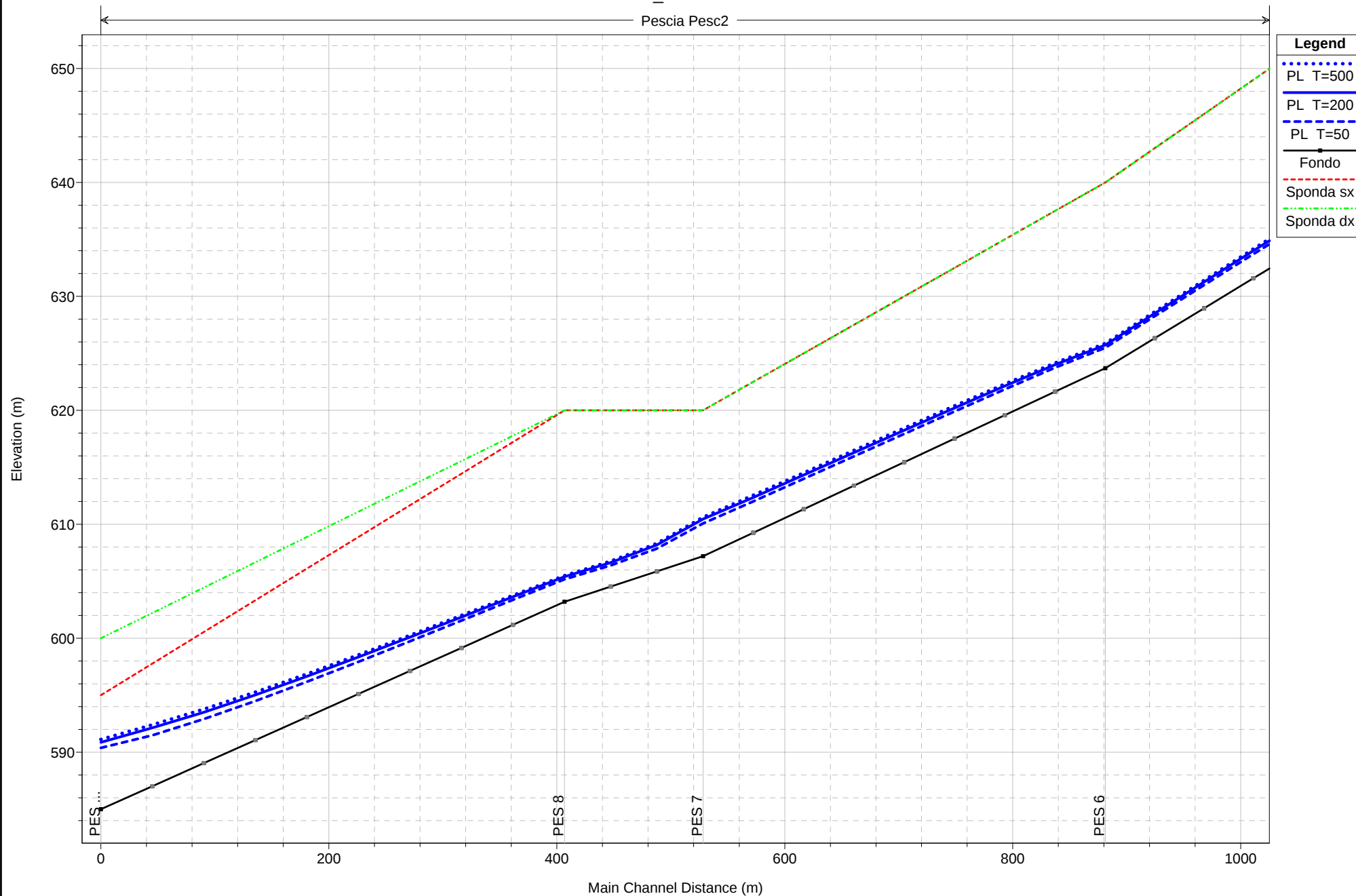
Pescia Pesc2



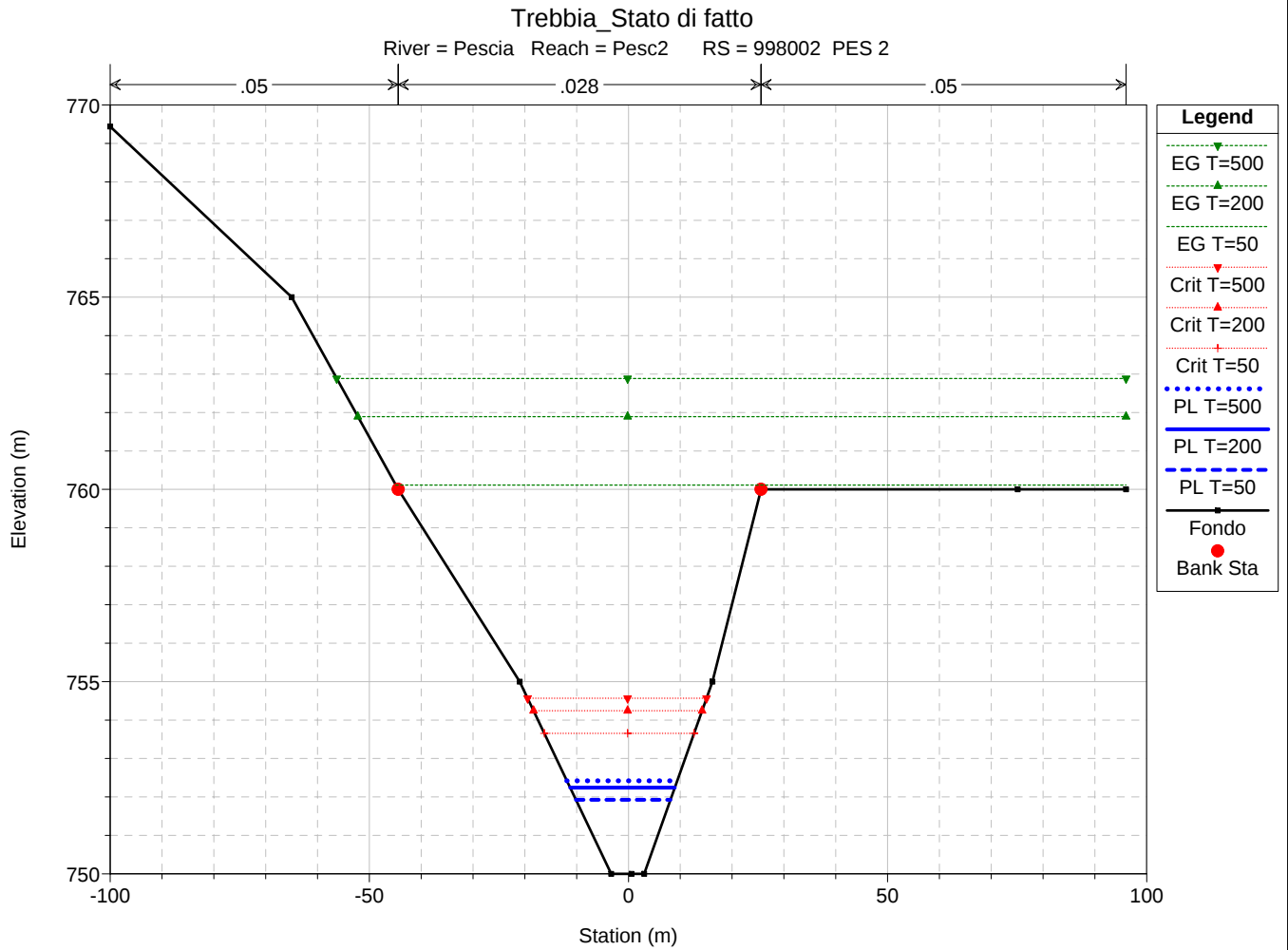
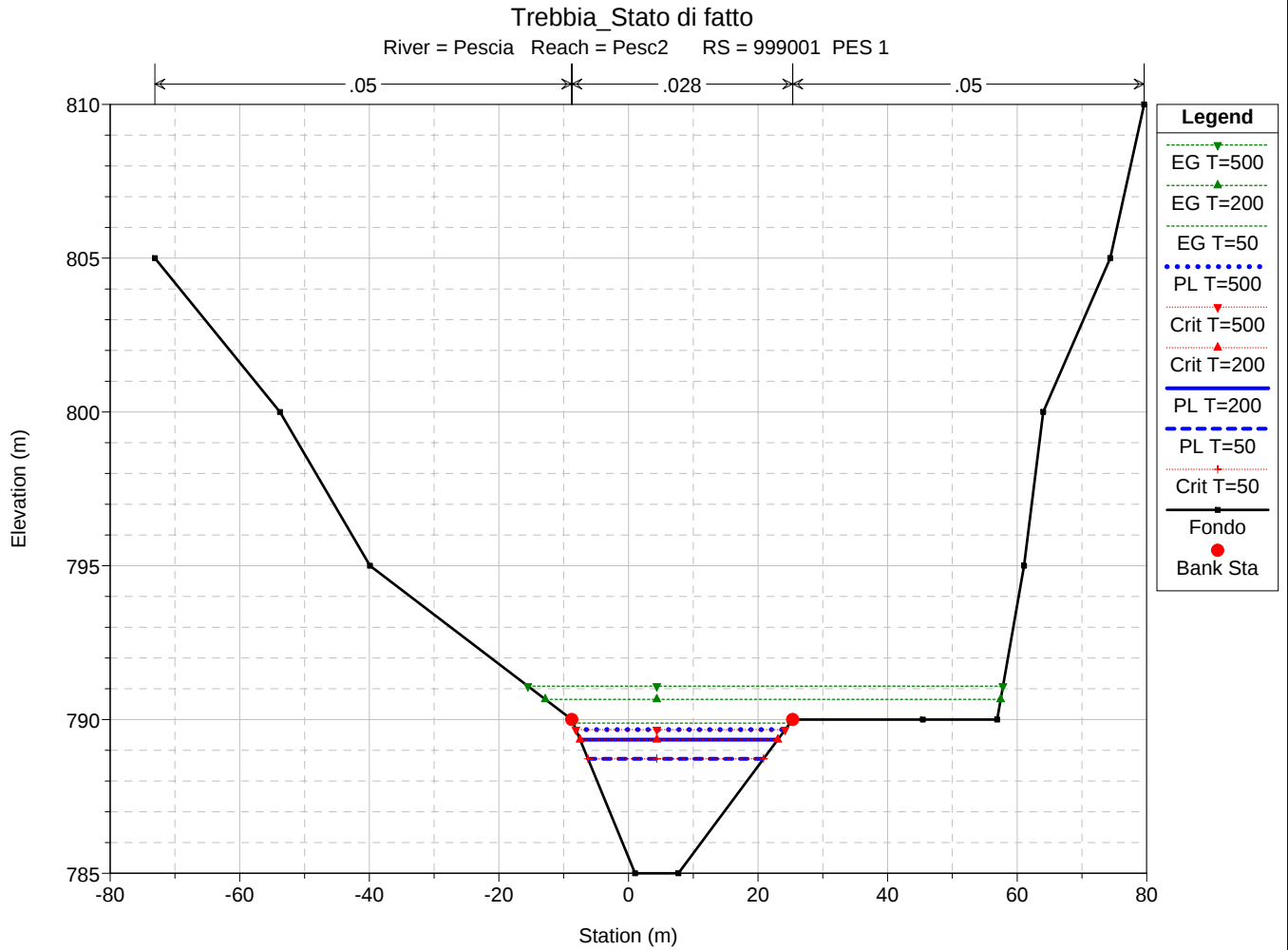
1 cm Horiz. = 45 m 1 cm Vert. = 5.5 m

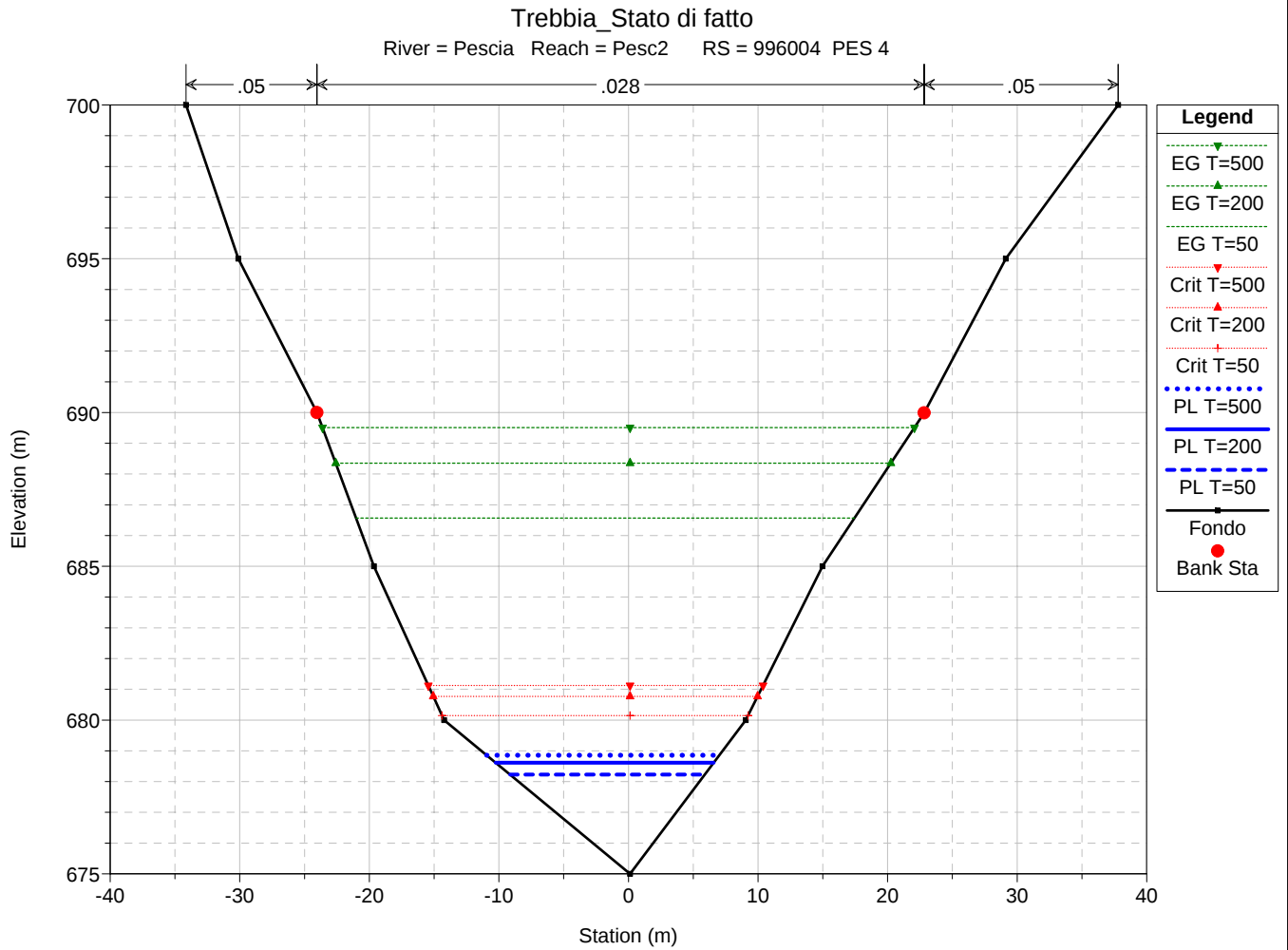
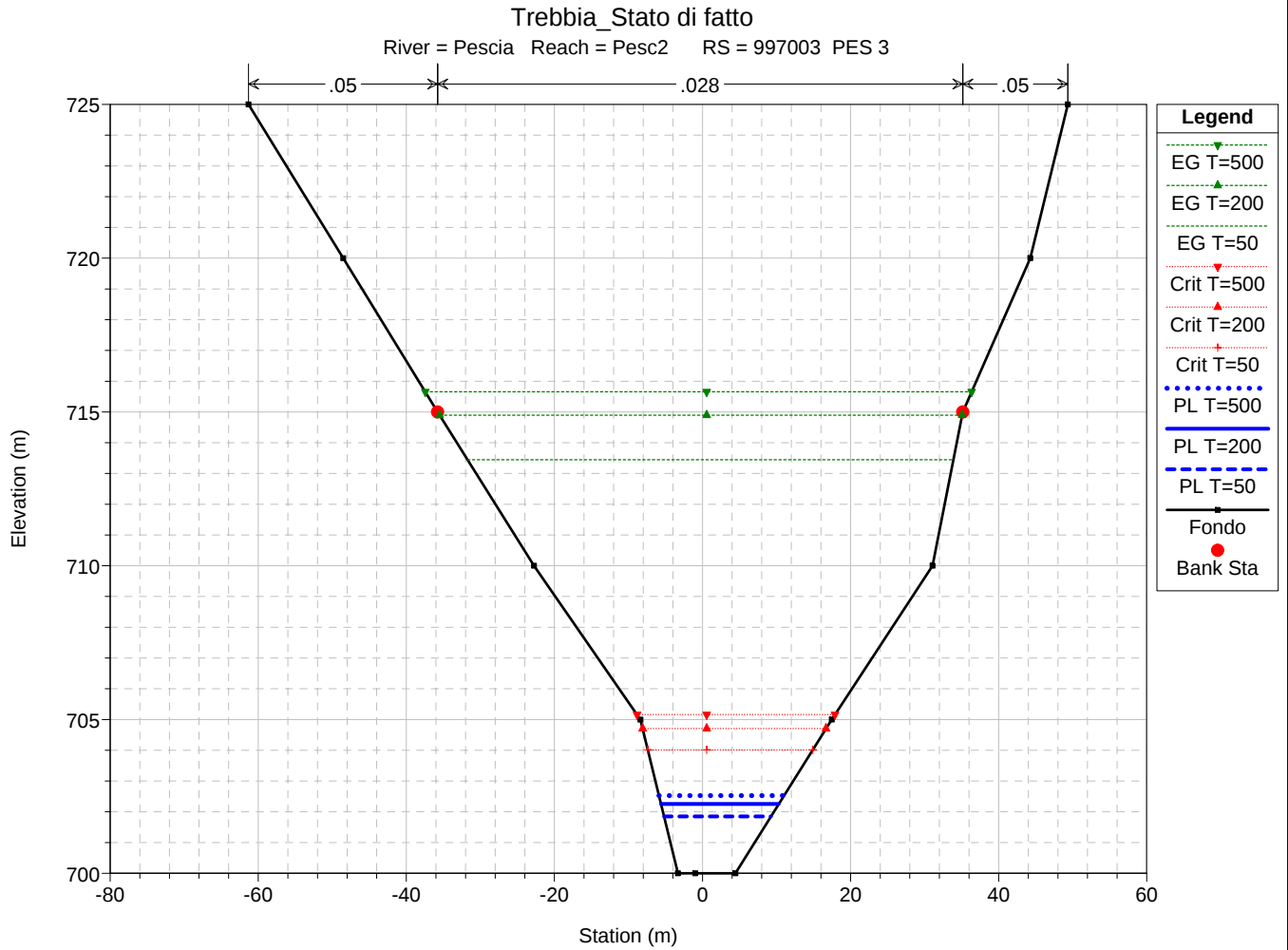
Trebbia_Stato di fatto

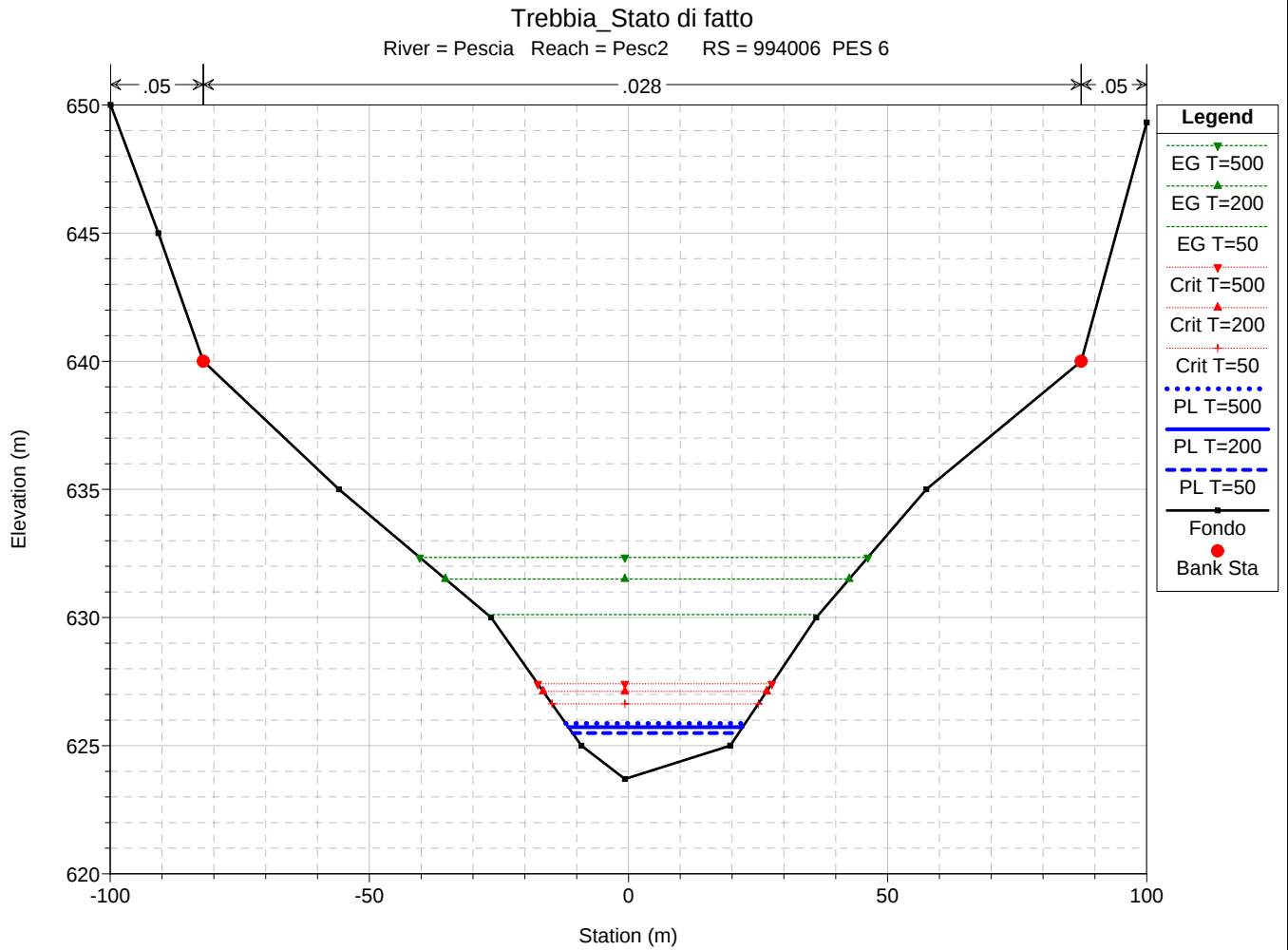
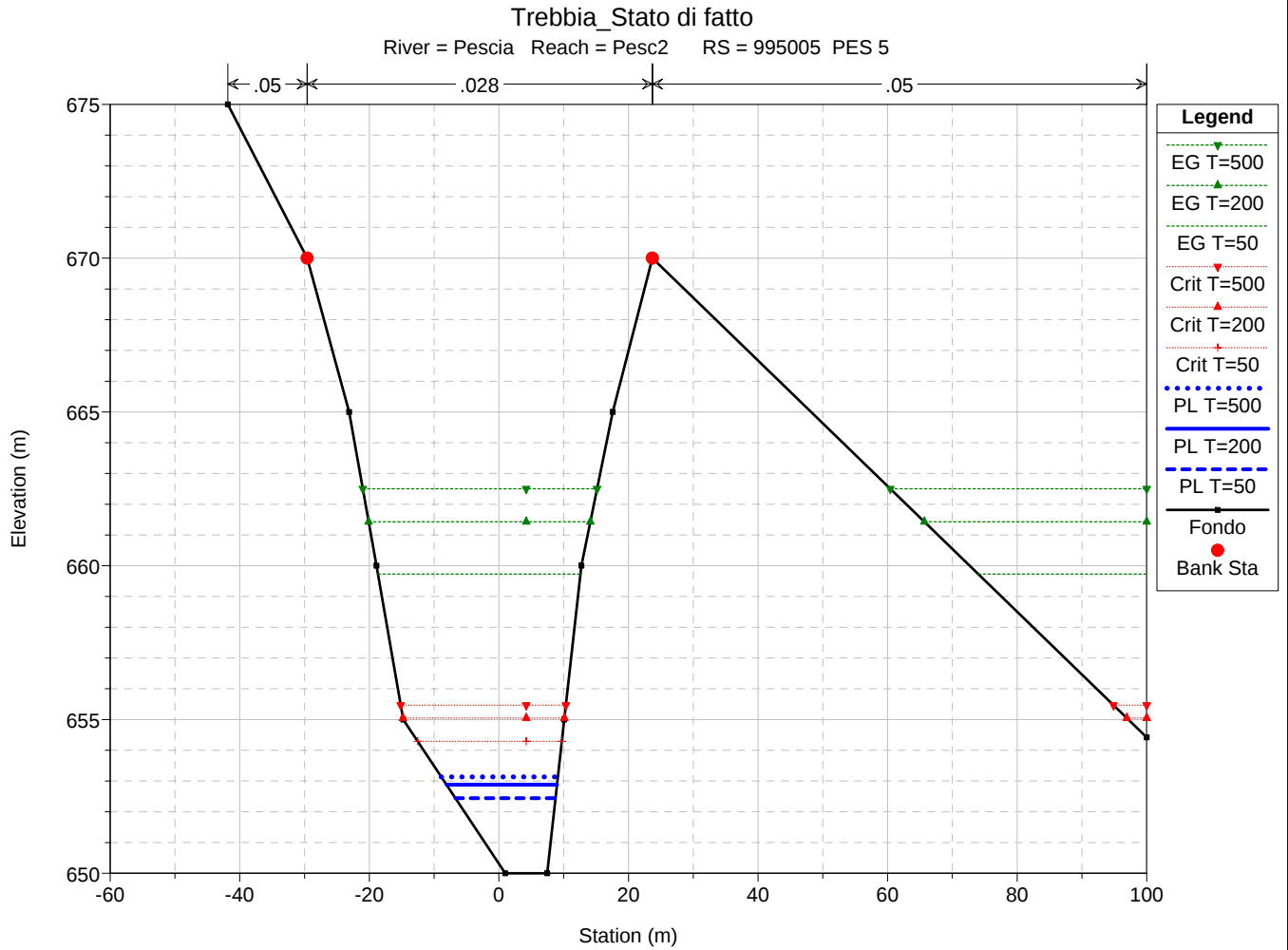
Pescia Pesc2

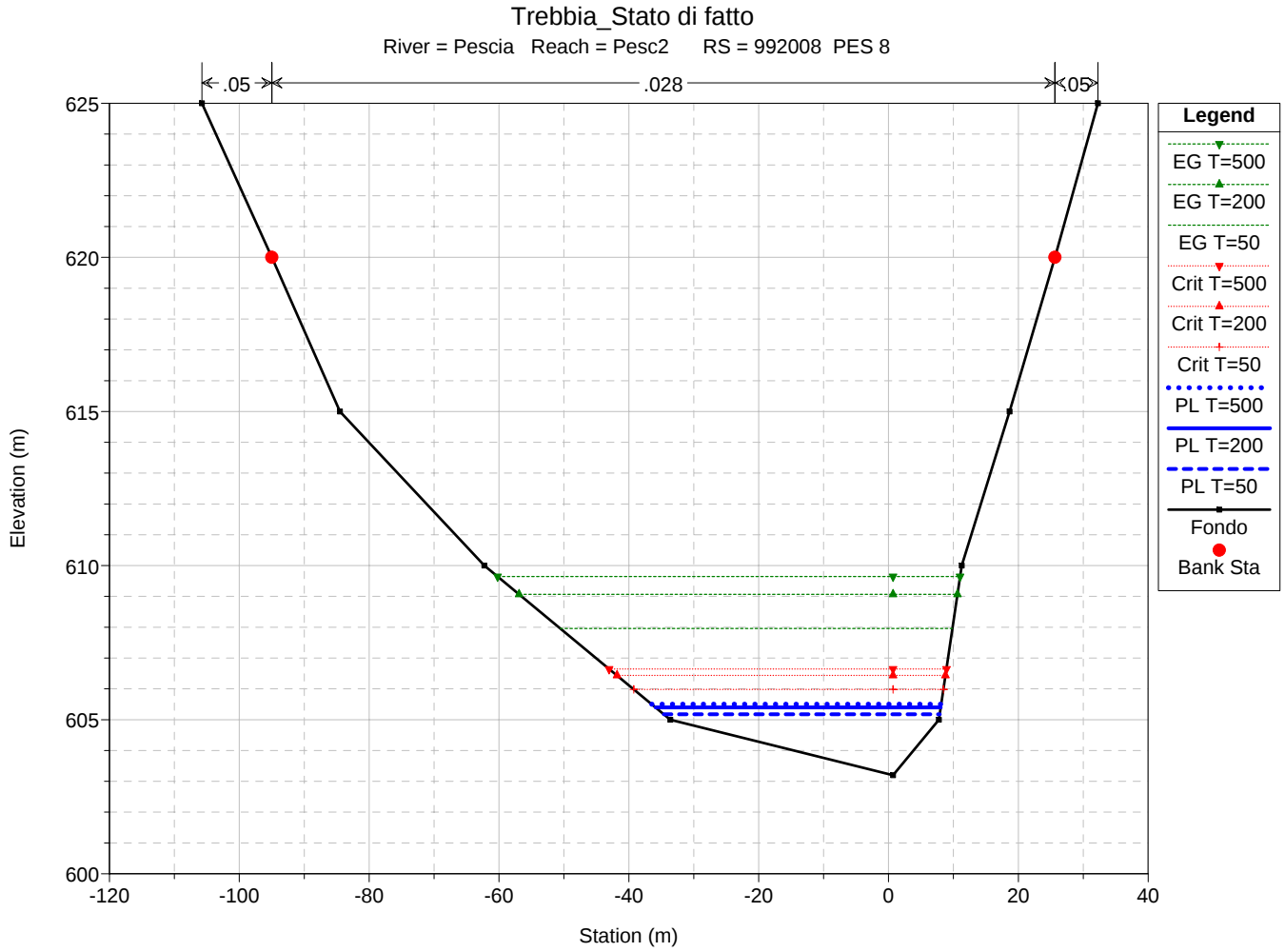
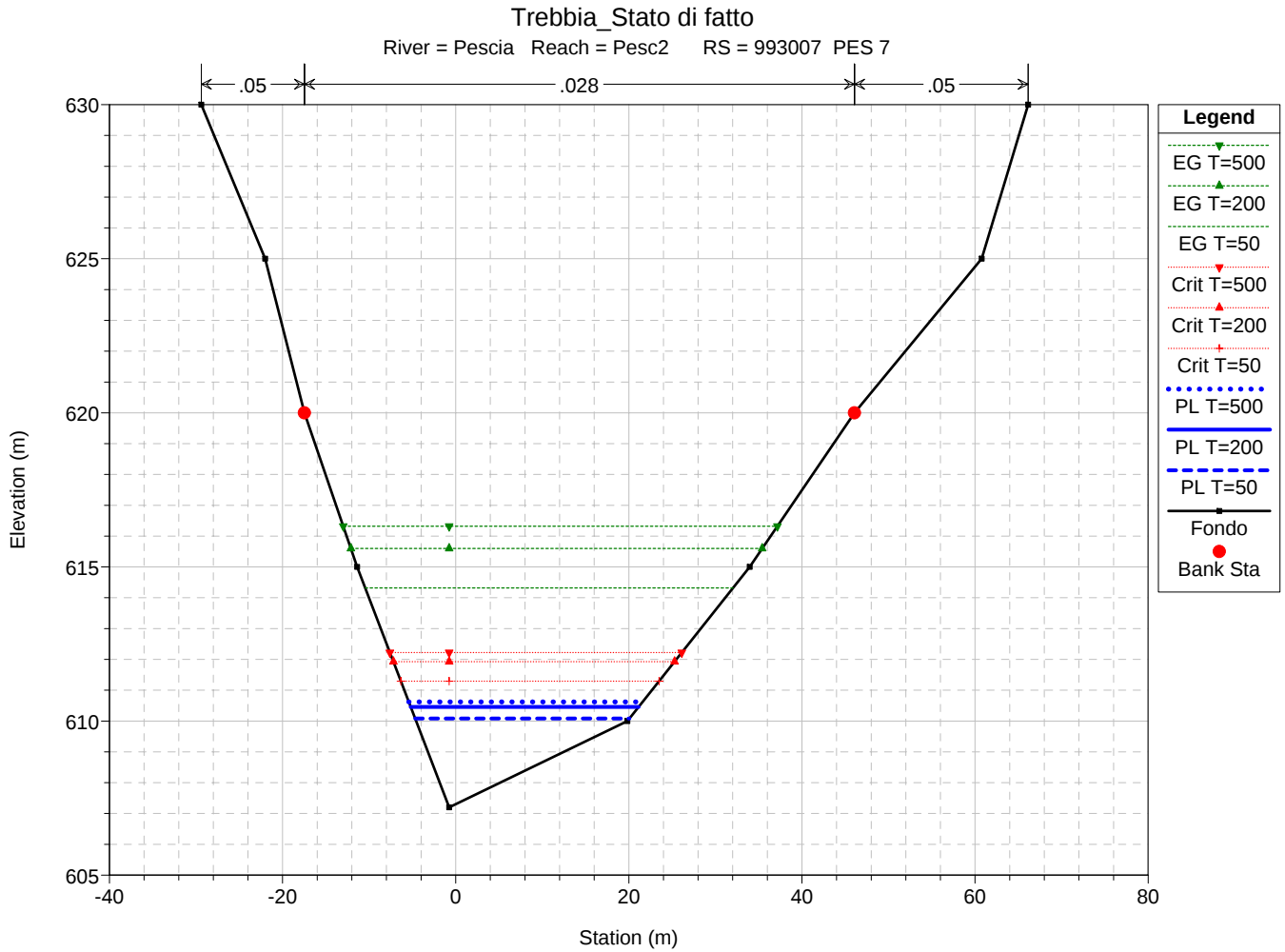


1 cm Horiz. = 45 m 1 cm Vert. = 4.5 m



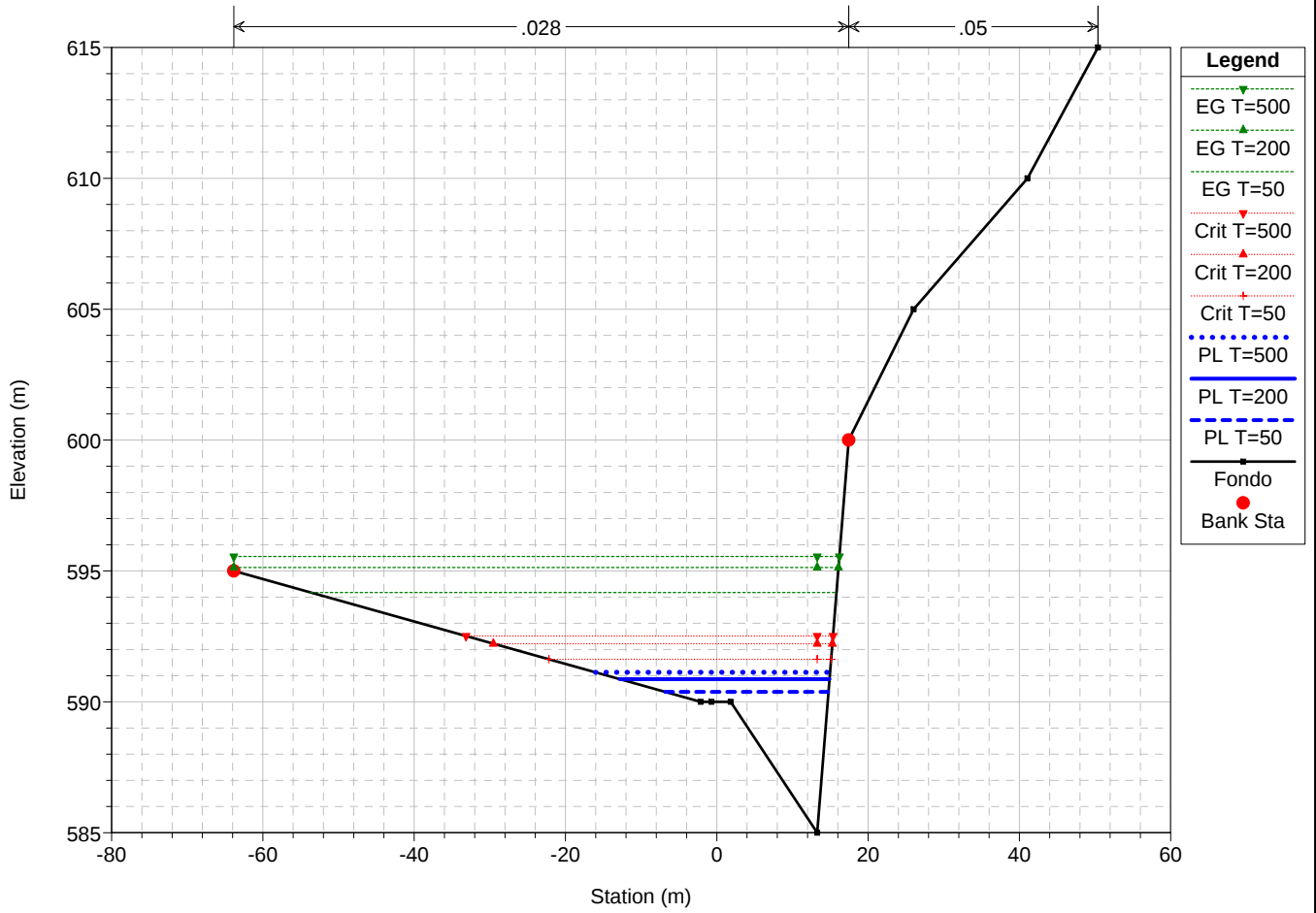






Trebbia_Stato di fatto

River = Pescia Reach = Pesc2 RS = 991009 PES 9



HEC-RAS Plan: 03_Trebbia River: Pescia Reach: Pesc2

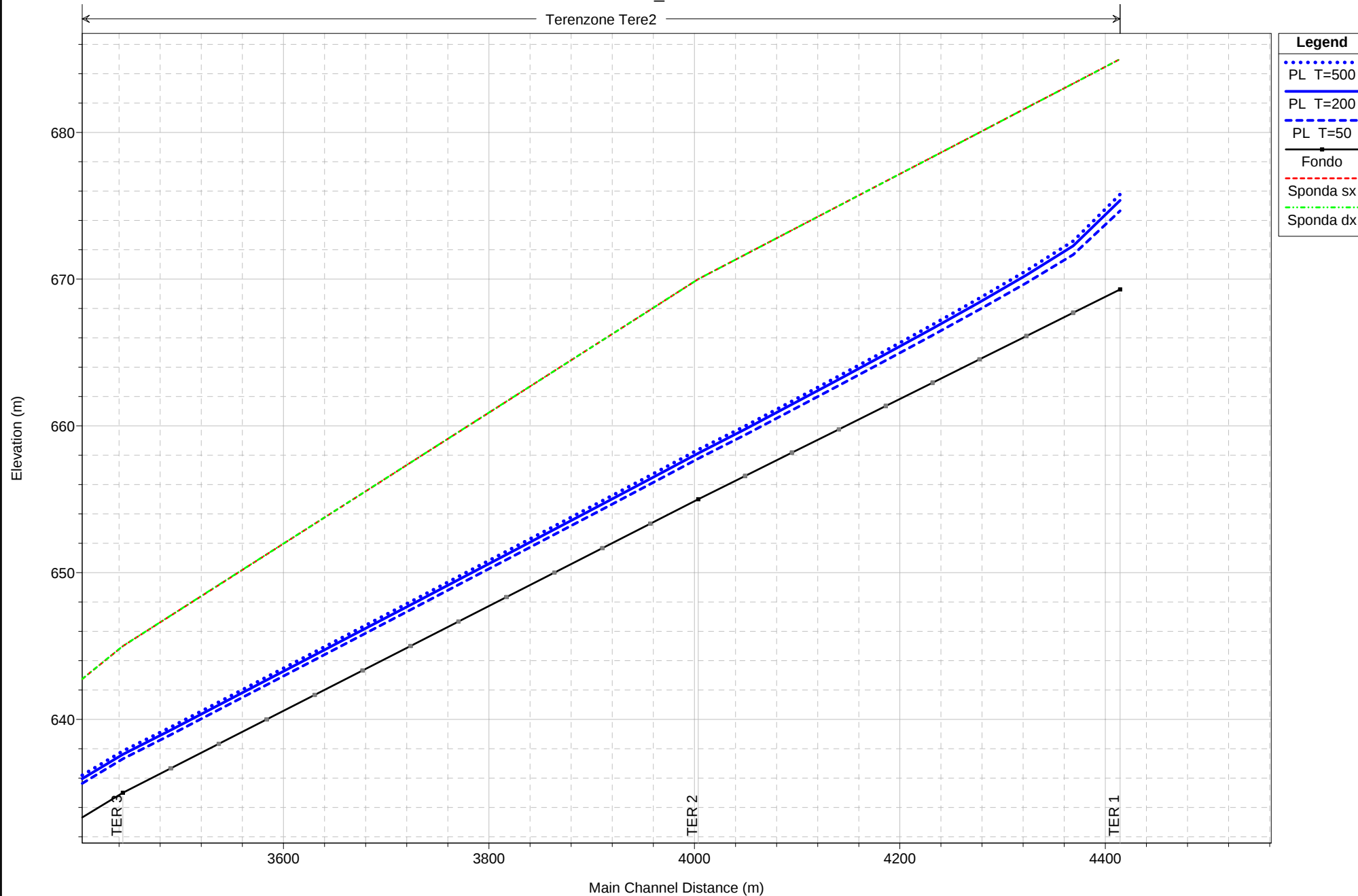
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Pesc2	999001 PES 1	T=50	300.00	785.00	788.72	790.00	1.28	790.00	1.28	788.72	789.88	0.006214	4.77	62.89	27.10	1.00
Pesc2	999001 PES 1	T=200	410.00	785.00	789.35	790.00	0.65	790.00	0.65	789.35	790.66	0.005903	5.07	80.83	30.51	0.99
Pesc2	999001 PES 1	T=500	480.00	785.00	789.67	790.00	0.33	790.00	0.33	789.67	791.09	0.005884	5.27	91.00	32.29	1.00
Pesc2	998002 PES 2	T=50	300.00	750.00	751.92	760.00	8.08	760.00	8.08	753.65	760.11	0.093041	12.68	23.66	18.23	3.55
Pesc2	998002 PES 2	T=200	410.00	750.00	752.24	760.00	7.76	760.00	7.76	754.24	761.89	0.092710	13.76	29.79	20.20	3.62
Pesc2	998002 PES 2	T=500	480.00	750.00	752.42	760.00	7.58	760.00	7.58	754.57	762.89	0.092397	14.33	33.49	21.30	3.65
Pesc2	997003 PES 3	T=50	310.00	700.00	701.85	715.00	13.15	715.00	13.15	704.01	713.45	0.123109	15.09	20.55	14.45	4.04
Pesc2	997003 PES 3	T=200	420.00	700.00	702.25	715.00	12.75	715.00	12.75	704.71	714.90	0.108871	15.75	26.66	15.90	3.88
Pesc2	997003 PES 3	T=500	500.00	700.00	702.53	715.00	12.47	715.00	12.47	705.16	715.65	0.100131	16.05	31.15	16.89	3.77
Pesc2	996004 PES 4	T=50	310.00	675.00	678.23	690.00	11.77	689.99	11.76	680.15	686.57	0.076336	12.80	24.23	15.02	3.22
Pesc2	996004 PES 4	T=200	420.00	675.00	678.61	690.00	11.39	689.99	11.38	680.77	688.35	0.076698	13.83	30.37	16.82	3.28
Pesc2	996004 PES 4	T=500	500.00	675.00	678.85	690.00	11.15	689.99	11.14	681.12	689.51	0.076939	14.46	34.57	17.94	3.33
Pesc2	995005 PES 5	T=50	320.00	650.00	652.44	670.00	17.56	670.00	17.56	654.29	659.73	0.062717	11.96	26.75	15.45	2.90
Pesc2	995005 PES 5	T=200	440.00	650.00	652.88	670.00	17.12	670.00	17.12	655.05	661.43	0.061761	12.95	33.97	17.08	2.93
Pesc2	995005 PES 5	T=500	520.00	650.00	653.13	670.00	16.87	670.00	16.87	655.47	662.50	0.062060	13.56	38.34	18.00	2.97
Pesc2	994006 PES 6	T=50	320.00	623.70	625.49	640.00	14.51	640.00	14.51	626.63	630.11	0.067616	9.53	33.59	32.06	2.97
Pesc2	994006 PES 6	T=200	440.00	623.70	625.73	640.00	14.27	640.00	14.27	627.12	631.50	0.068531	10.65	41.33	33.66	3.07
Pesc2	994006 PES 6	T=500	520.00	623.70	625.87	640.00	14.13	640.00	14.13	627.42	632.35	0.069080	11.28	46.10	34.61	3.12
Pesc2	993007 PES 7	T=50	330.00	607.20	610.08	620.00	9.92	620.00	9.92	611.30	614.32	0.041728	9.12	36.19	24.75	2.41
Pesc2	993007 PES 7	T=200	460.00	607.20	610.46	620.00	9.54	620.00	9.54	611.93	615.60	0.040370	10.04	45.80	26.33	2.43
Pesc2	993007 PES 7	T=500	530.00	607.20	610.62	620.00	9.38	620.00	9.38	612.22	616.32	0.041168	10.58	50.11	27.01	2.48
Pesc2	992008 PES 8	T=50	330.00	603.20	605.18	620.00	14.82	620.00	14.82	605.98	607.96	0.040654	7.39	44.63	42.51	2.30
Pesc2	992008 PES 8	T=200	460.00	603.20	605.40	620.00	14.60	620.00	14.60	606.43	609.07	0.043378	8.49	54.19	43.94	2.44
Pesc2	992008 PES 8	T=500	530.00	603.20	605.50	620.00	14.50	620.00	14.50	606.65	609.64	0.044900	9.02	58.77	44.60	2.51
Pesc2	991009 PES 9	T=50	340.00	585.00	590.38	595.00	4.62	600.00	9.62	591.63	594.18	0.034912	8.64	39.37	21.59	2.04
Pesc2	991009 PES 9	T=200	470.00	585.00	590.87	595.00	4.13	600.00	9.13	592.22	595.13	0.036777	9.15	51.38	27.74	2.15
Pesc2	991009 PES 9	T=500	550.00	585.00	591.13	595.00	3.87	600.00	8.87	592.51	595.56	0.036286	9.32	58.98	31.00	2.16

Torrente Terenzone

- Profili di corrente
- Sezioni idrauliche
- Tabelle dei risultati

Trebbia_Stato di fatto

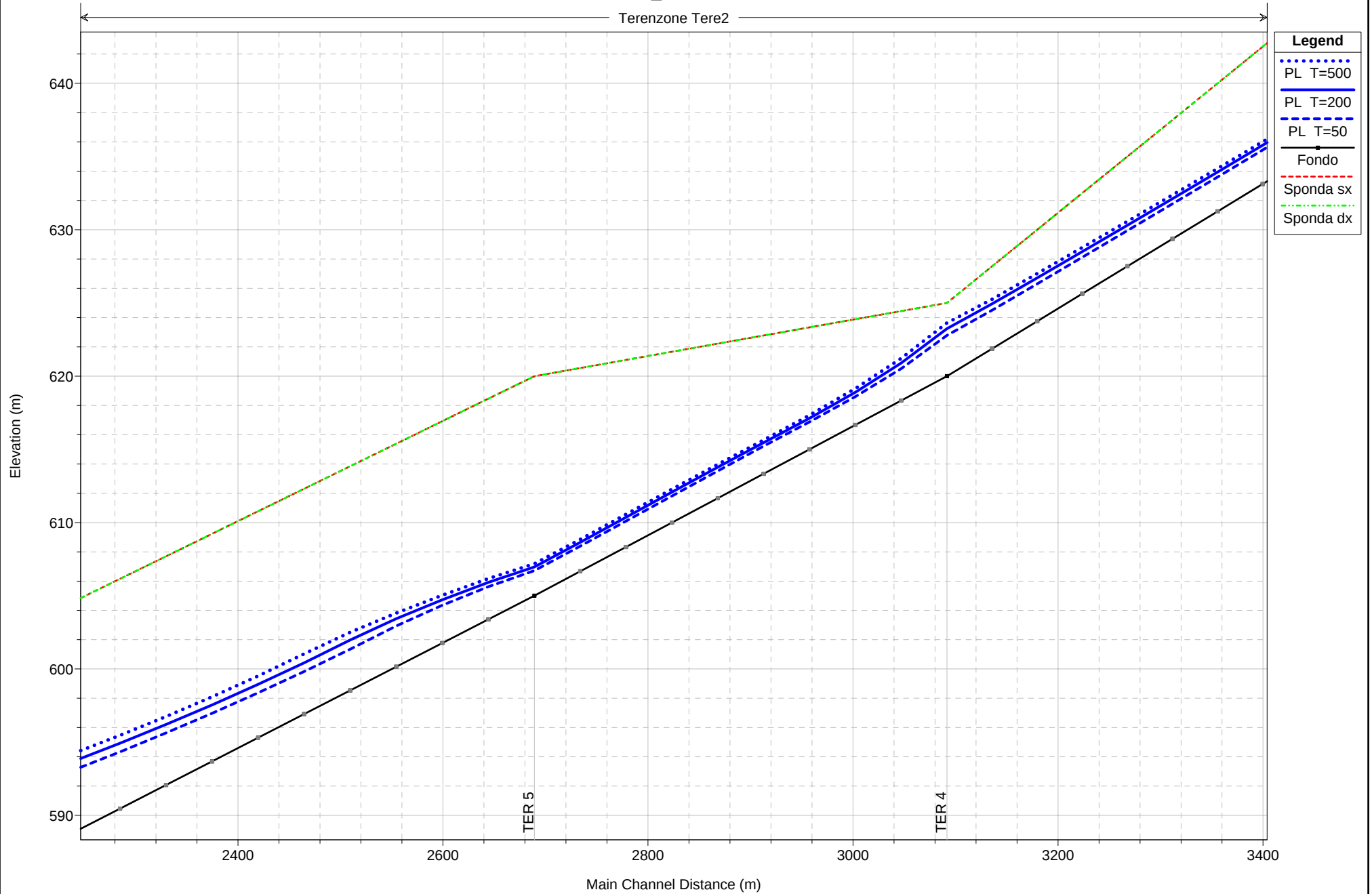
Terenzone Tere2



1 cm Horiz. = 50 m 1 cm Vert. = 3.5 m

Trebbia_Stato di fatto

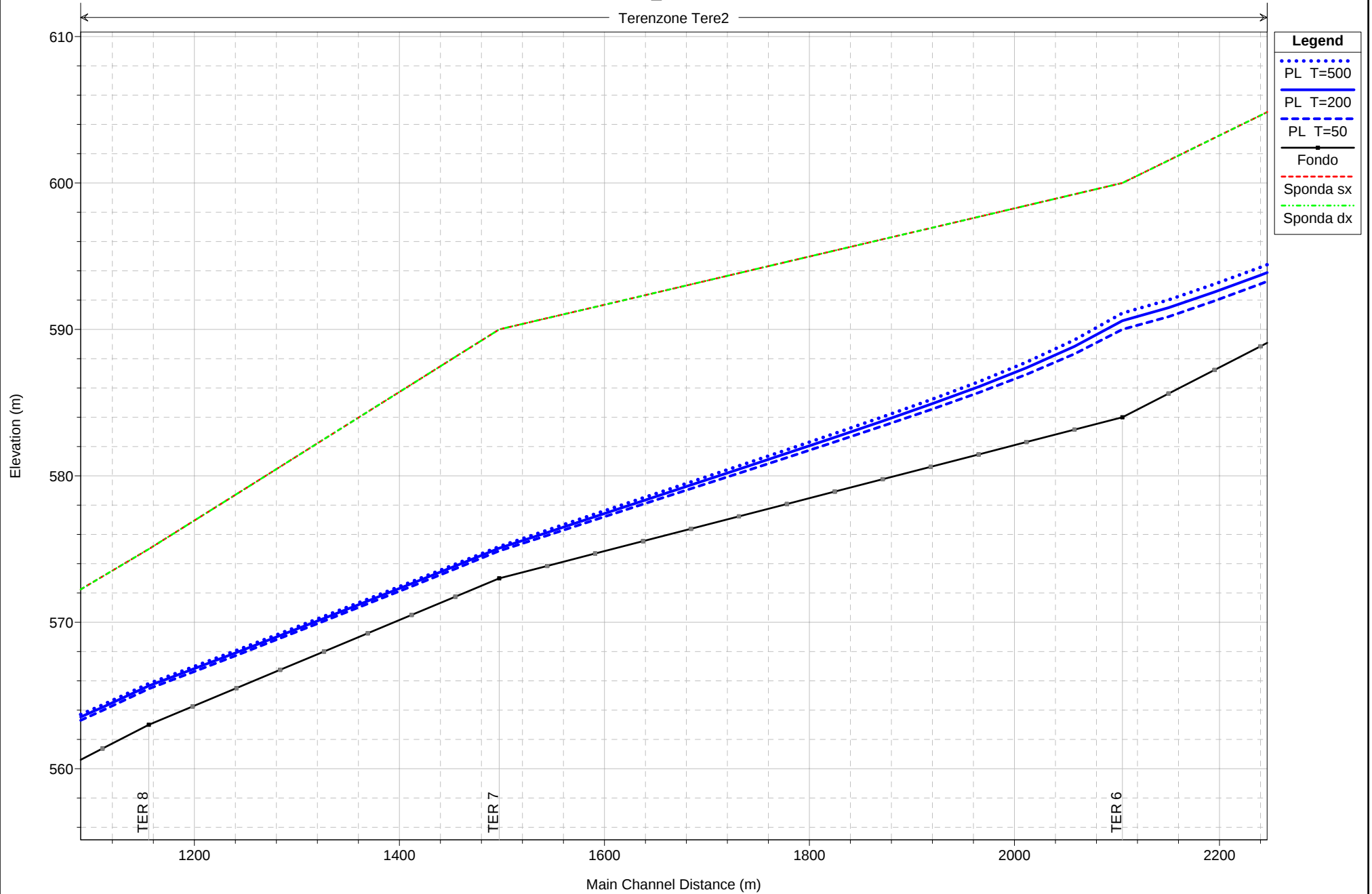
Terenzzone Tere2



1 cm Horiz. = 50 m 1 cm Vert. = 3.5 m

Trebbia_Stato di fatto

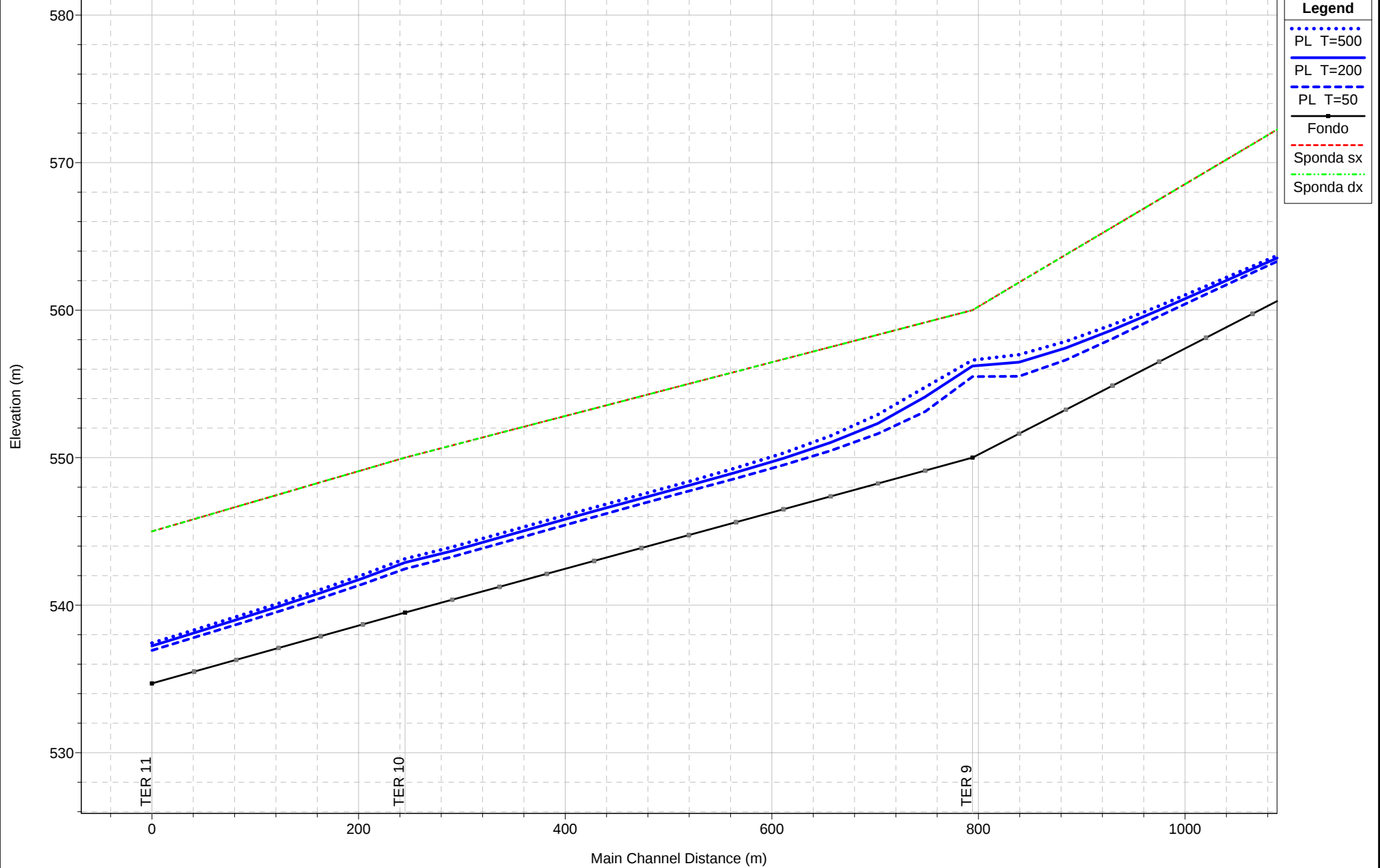
Terenzzone Tere2



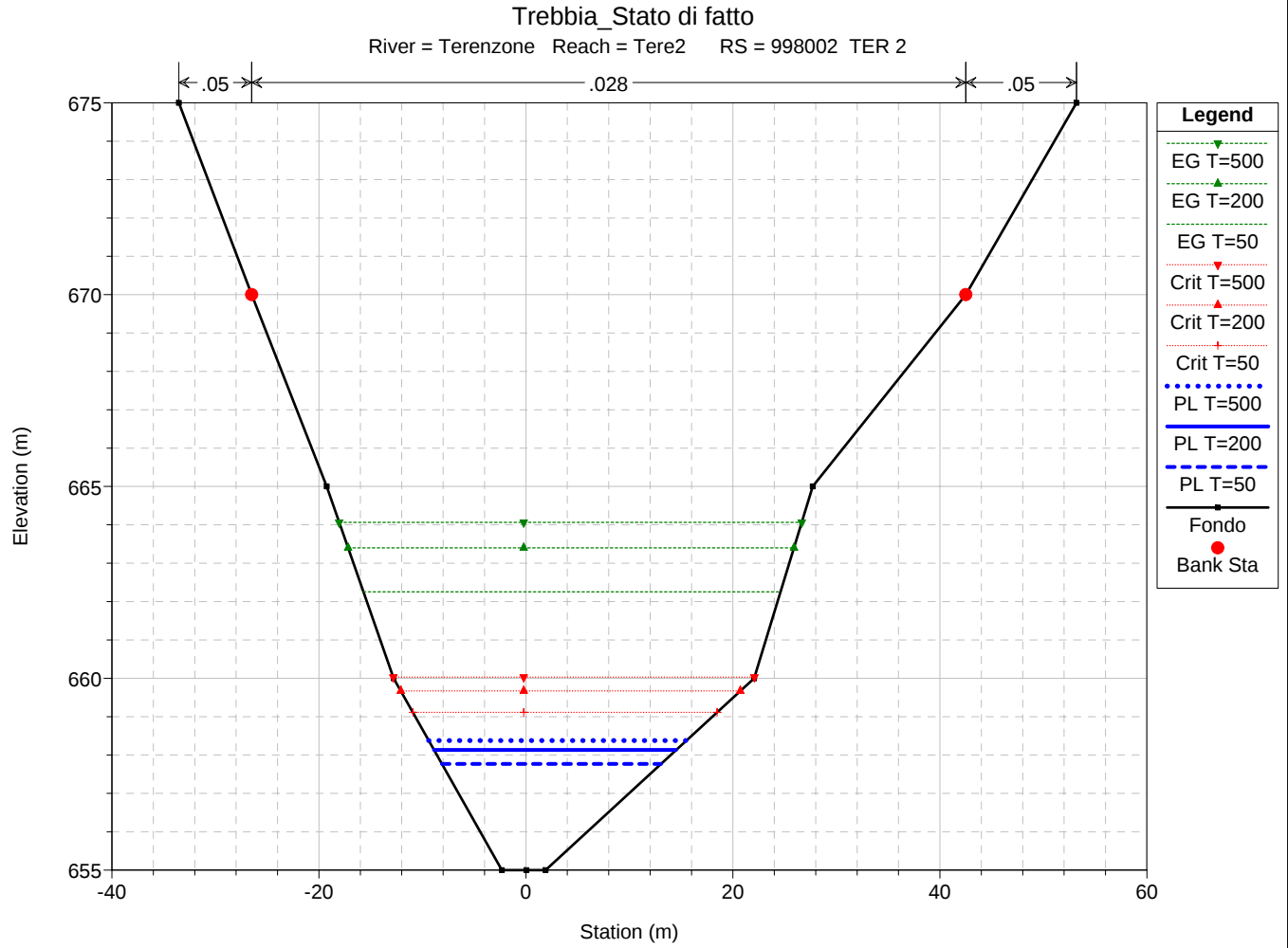
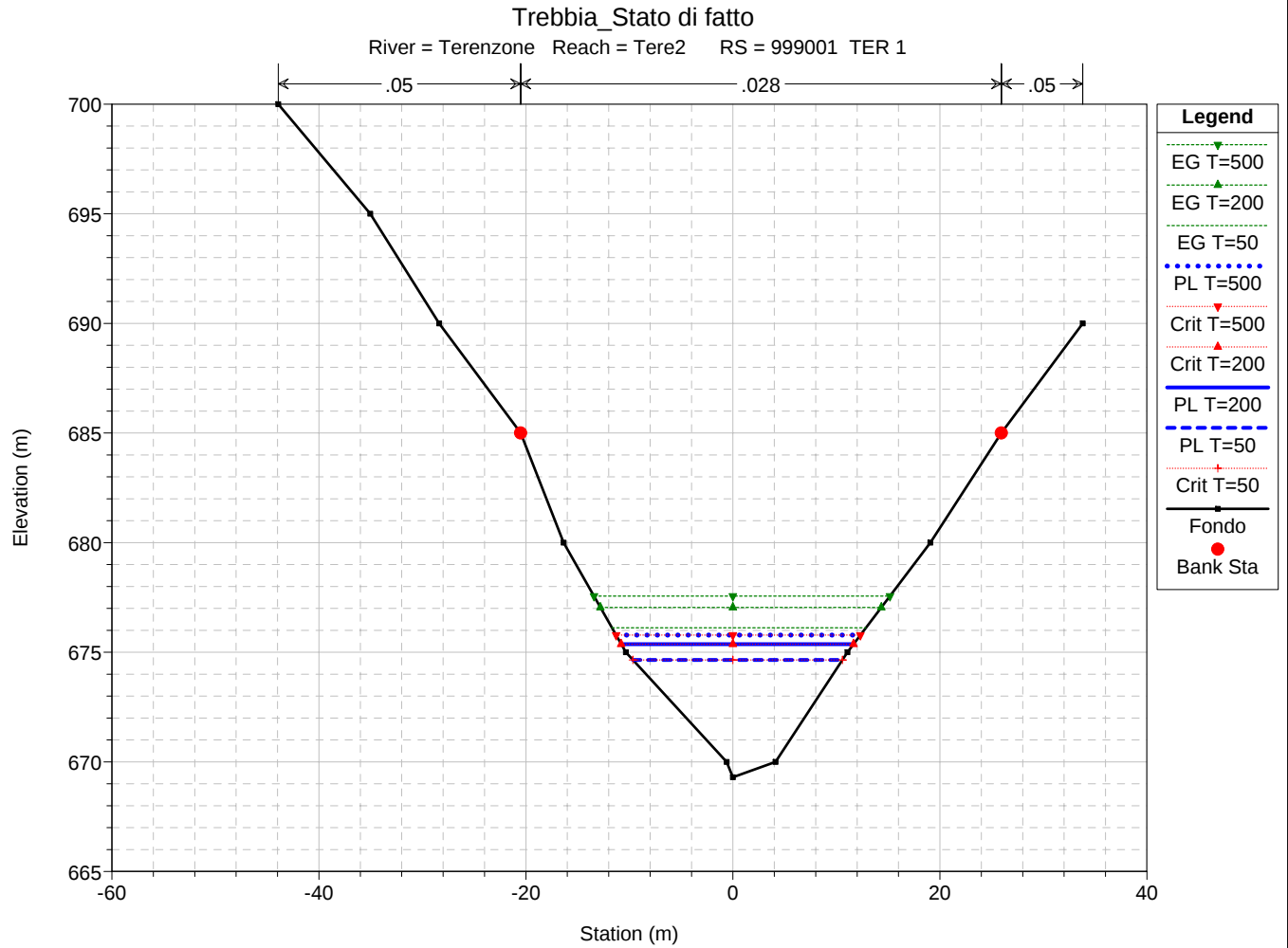
1 cm Horiz. = 50 m 1 cm Vert. = 3.5 m

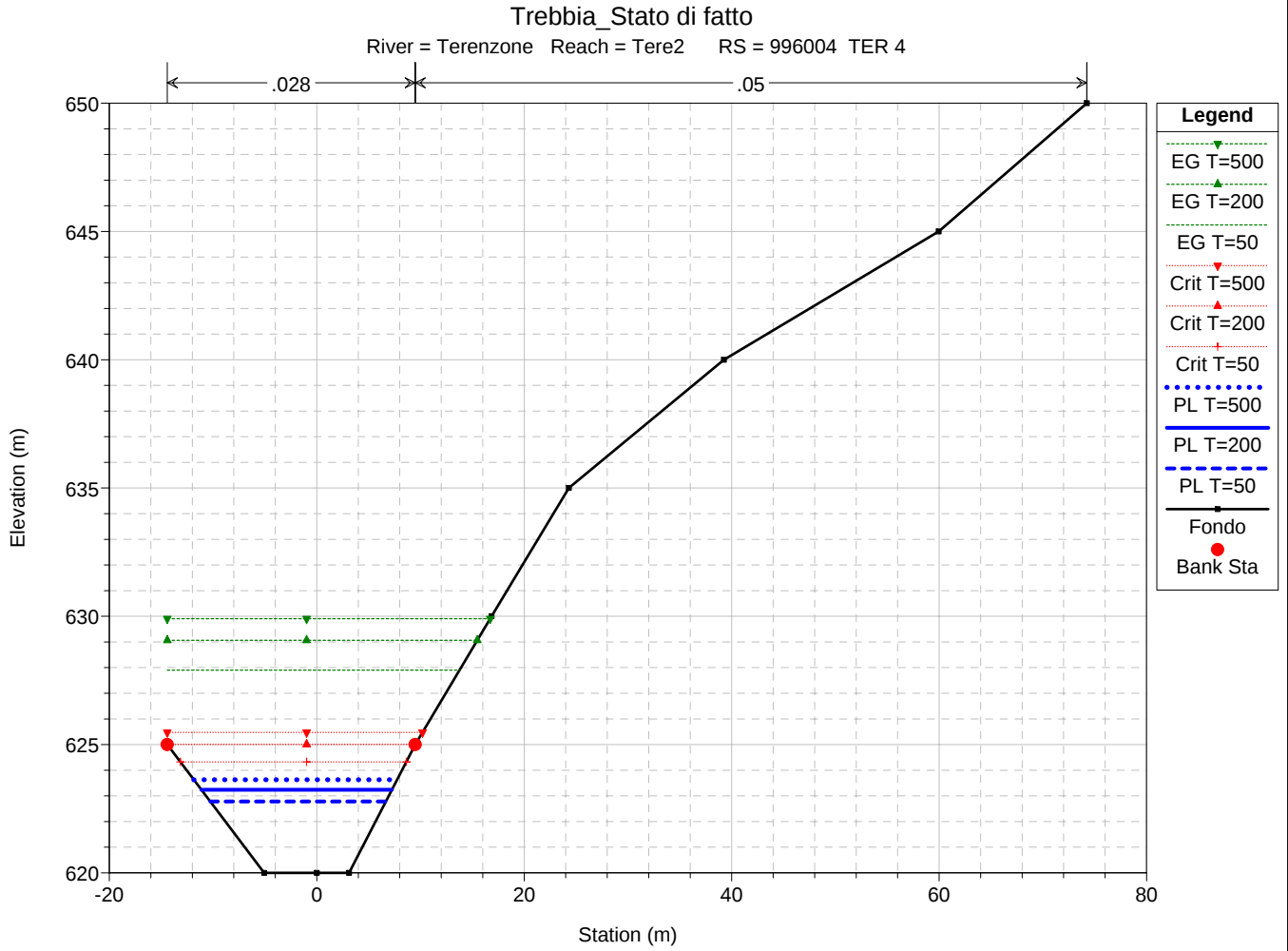
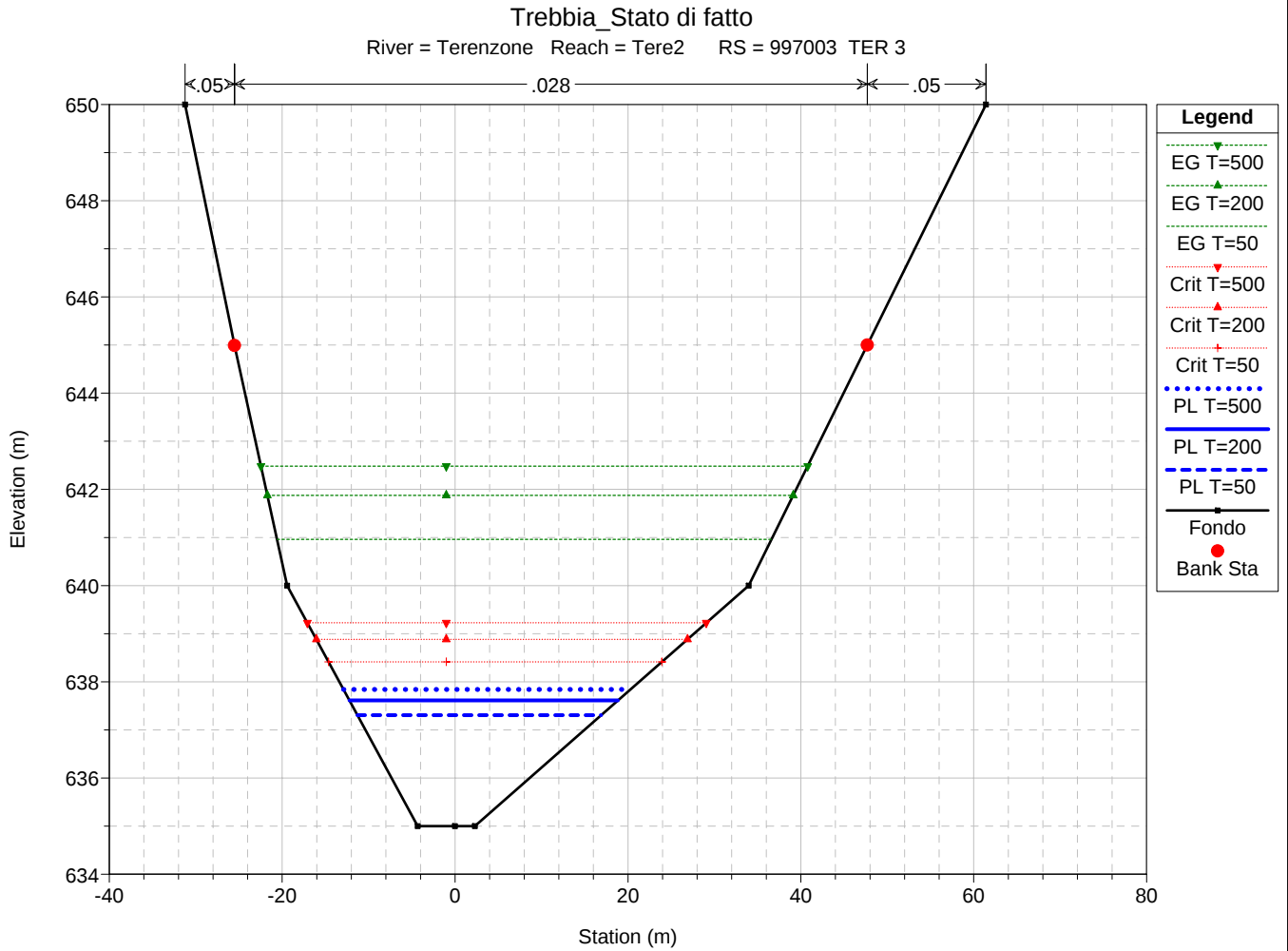
Trebbia_Stato di fatto

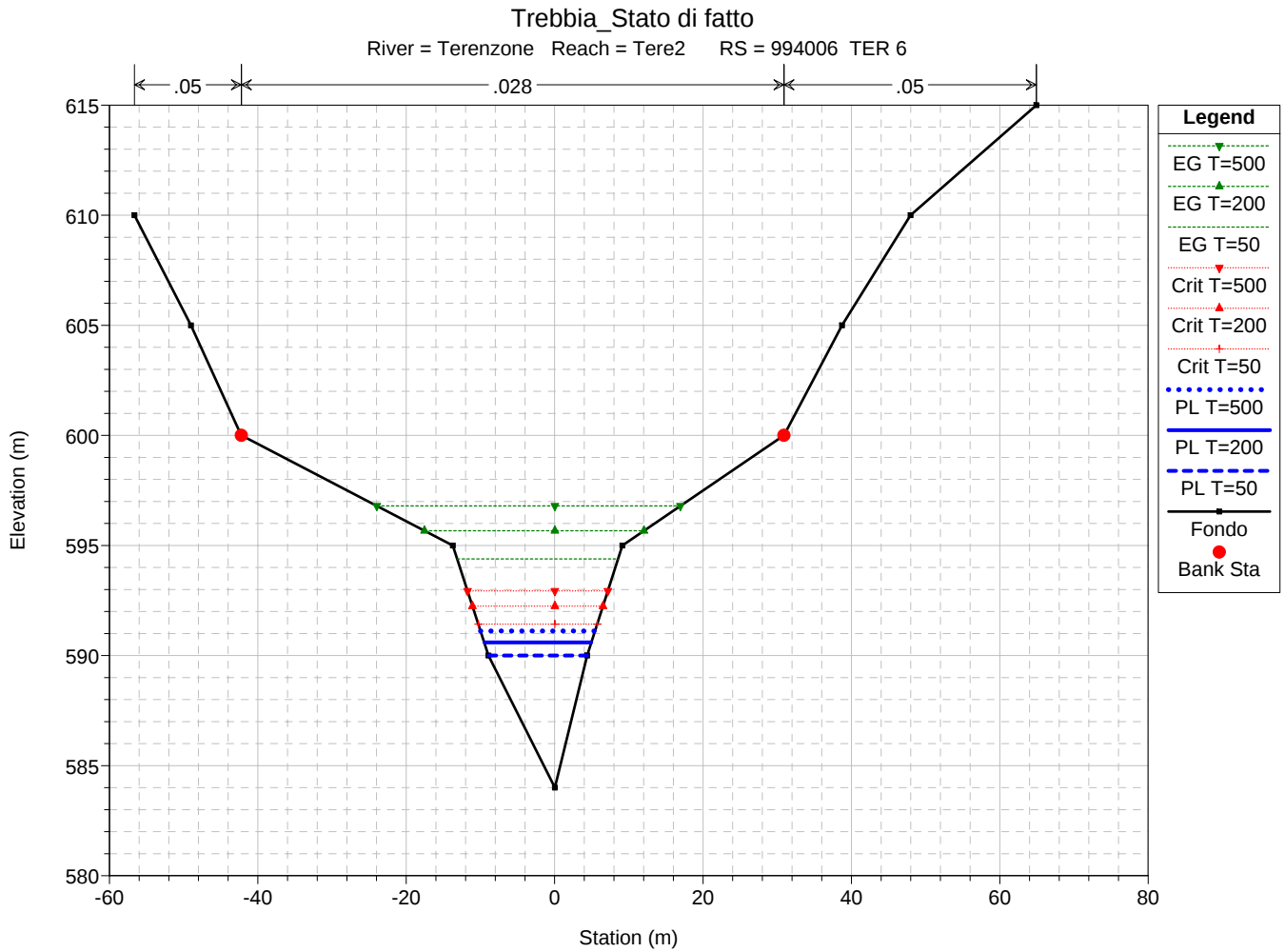
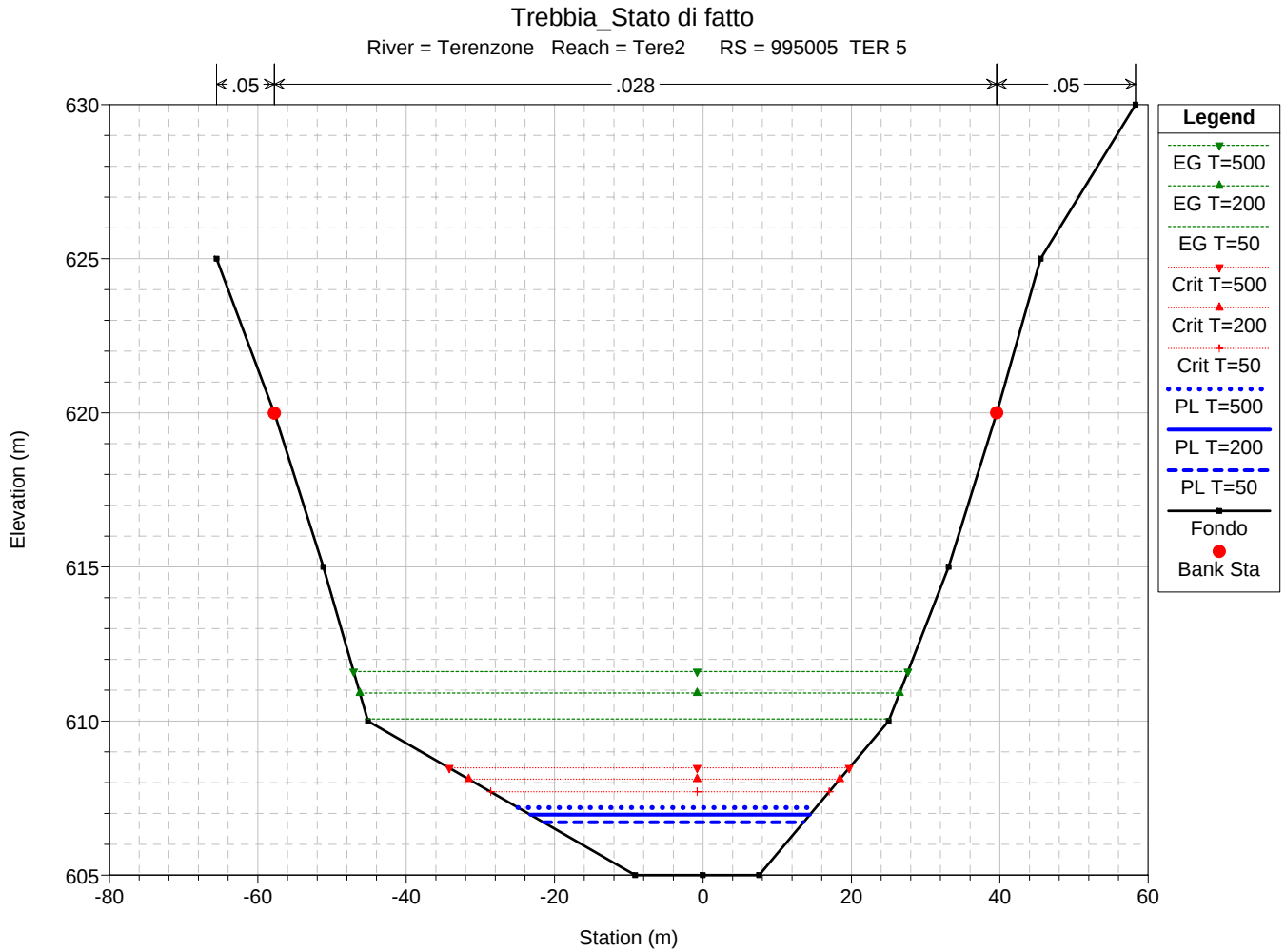
Terenzone Tere2

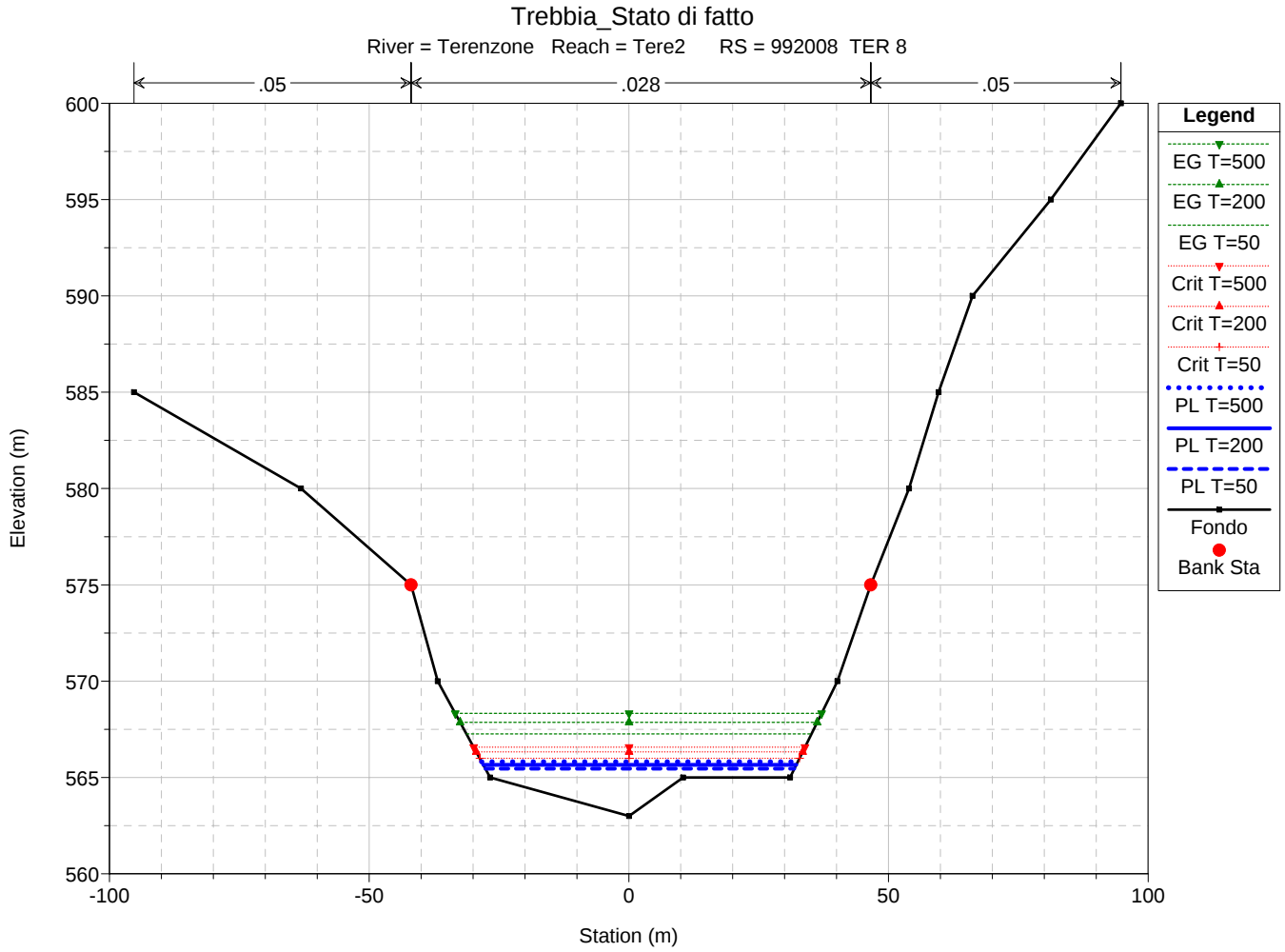
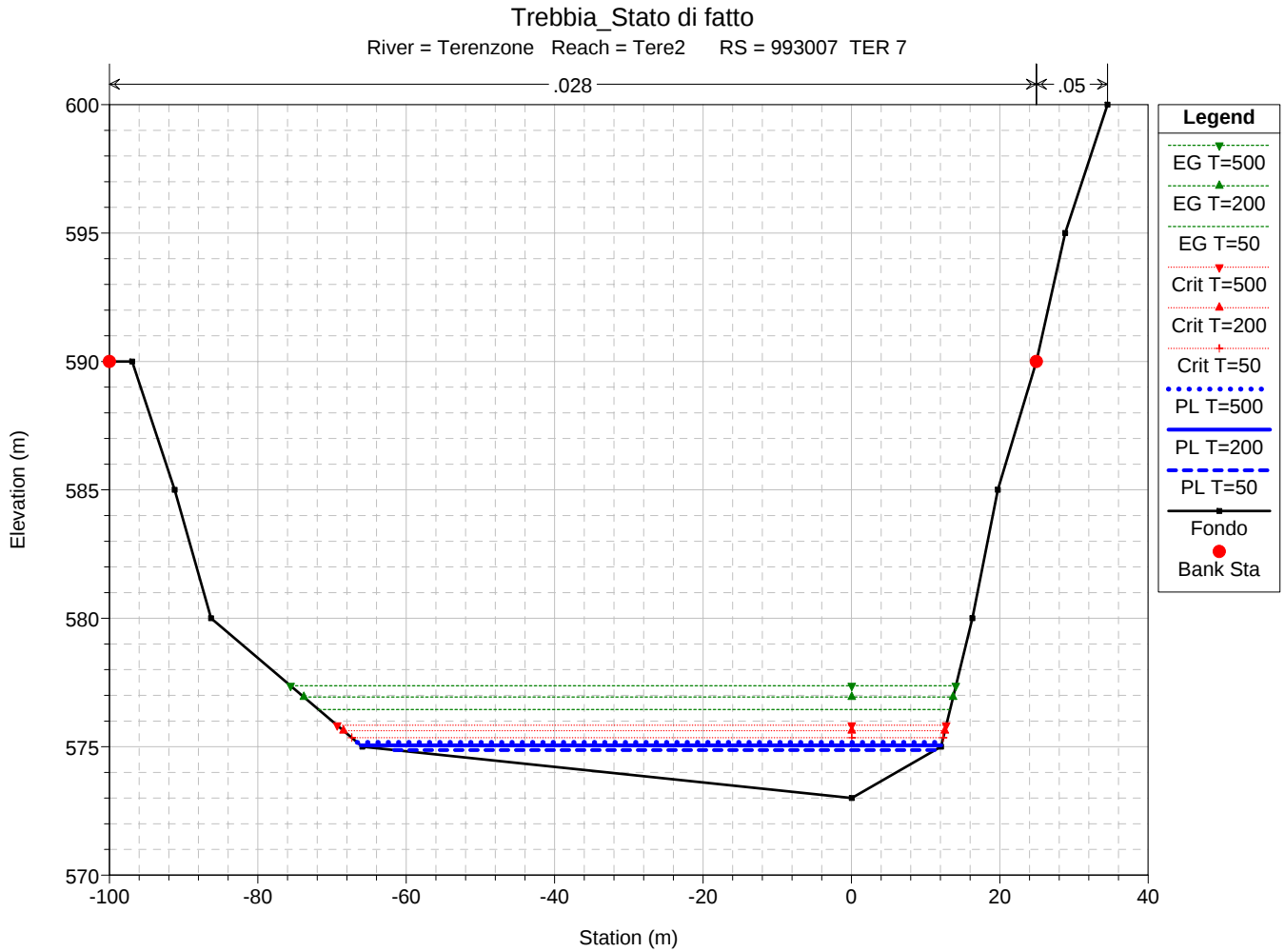


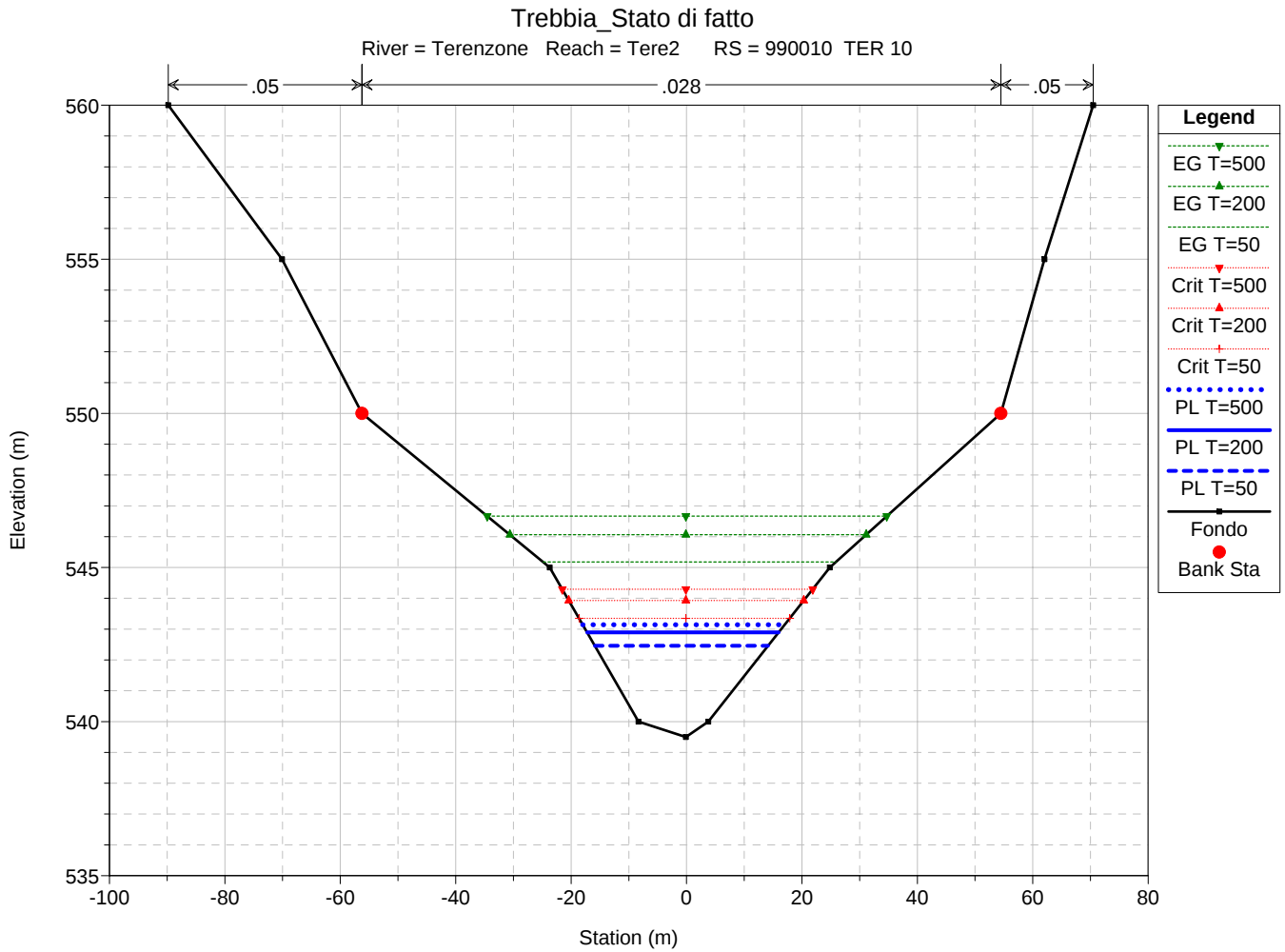
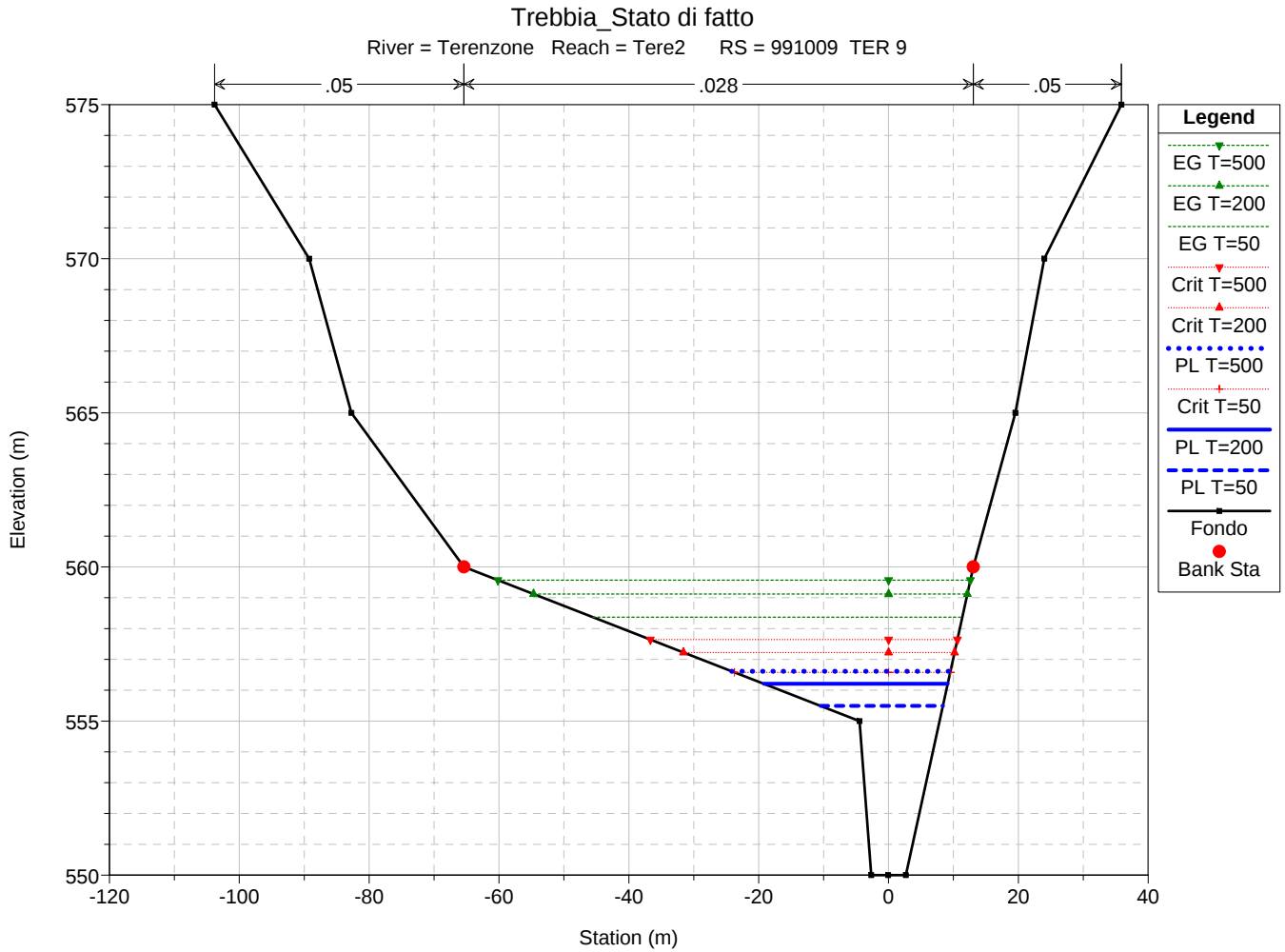
1 cm Horiz. = 50 m 1 cm Vert. = 3.5 m

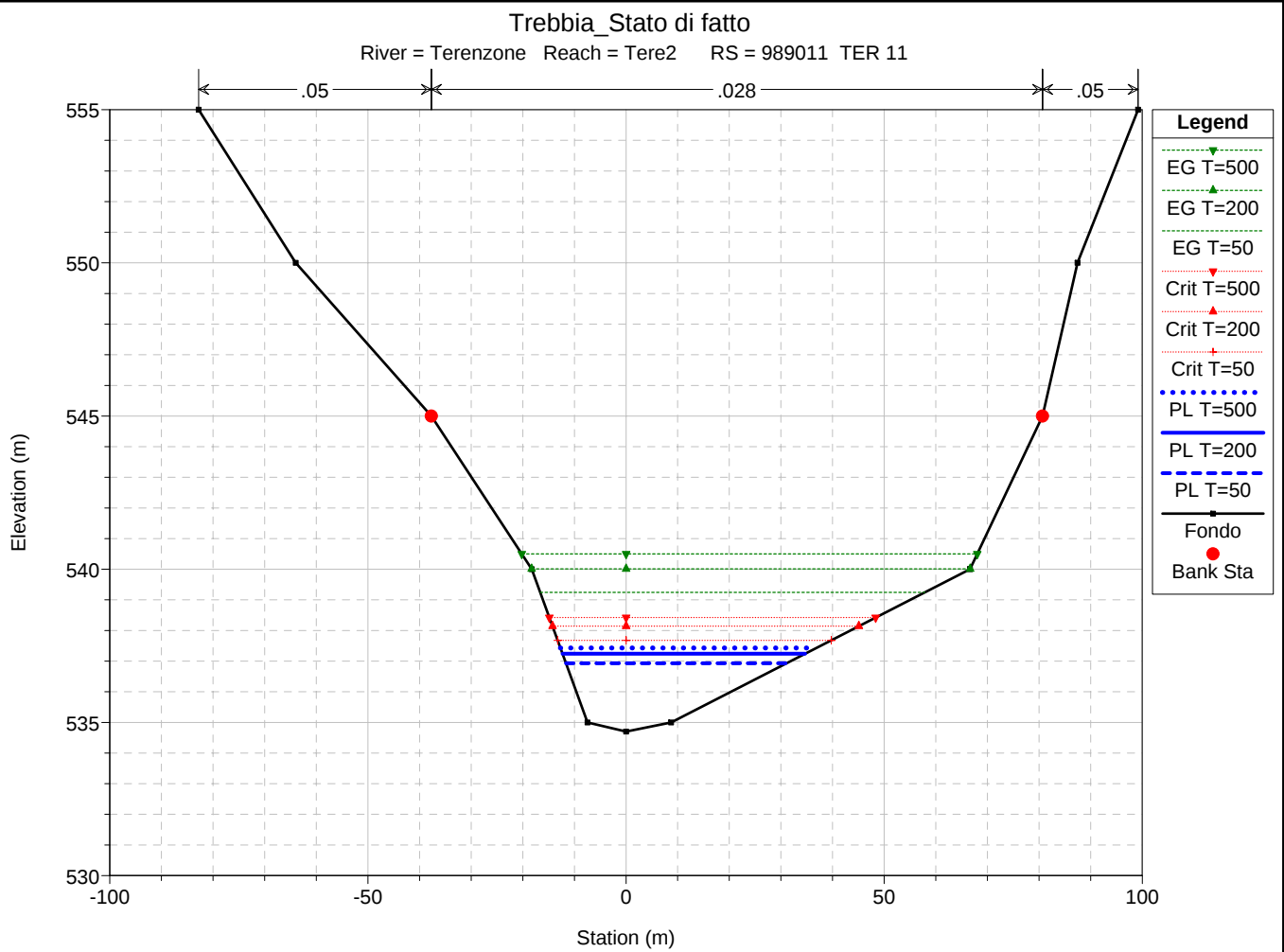












HEC-RAS Plan: 03_Trebbia River: Terenzone Reach: Tere2

Reach	River Sta		Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Tere2	999001	TER 1	T=50	320.00	669.30	674.65	685.00	10.35	685.00	10.35	674.65	676.11	0.006392	5.36	59.74	20.25	1.00
Tere2	999001	TER 1	T=200	430.00	669.30	675.37	685.00	9.63	685.00	9.63	675.37	677.04	0.006219	5.73	75.07	22.44	1.00
Tere2	999001	TER 1	T=500	500.00	669.30	675.78	685.00	9.22	685.00	9.22	675.78	677.56	0.006072	5.91	84.56	23.60	1.00
Tere2	998002	TER 2	T=50	330.00	655.00	657.77	670.00	12.23	670.00	12.23	659.11	662.26	0.037246	9.38	35.17	21.17	2.32
Tere2	998002	TER 2	T=200	440.00	655.00	658.13	670.00	11.87	670.00	11.87	659.67	663.40	0.037973	10.17	43.26	23.39	2.39
Tere2	998002	TER 2	T=500	520.00	655.00	658.38	670.00	11.62	670.00	11.62	660.03	664.07	0.037525	10.56	49.22	24.90	2.40
Tere2	997003	TER 3	T=50	340.00	635.00	637.31	644.99	7.68	645.00	7.69	638.41	640.96	0.036041	8.47	40.14	28.19	2.27
Tere2	997003	TER 3	T=200	450.00	635.00	637.61	644.99	7.38	645.00	7.39	638.88	641.88	0.036498	9.15	49.18	31.05	2.32
Tere2	997003	TER 3	T=500	540.00	635.00	637.84	644.99	7.15	645.00	7.16	639.23	642.48	0.036055	9.54	56.58	33.20	2.33
Tere2	996004	TER 4	T=50	350.00	620.00	622.78	625.00	2.22	625.00	2.22	624.32	627.90	0.033987	10.03	34.91	16.92	2.23
Tere2	996004	TER 4	T=200	460.00	620.00	623.24	625.00	1.76	625.00	1.76	625.01	629.06	0.032921	10.69	43.03	18.37	2.23
Tere2	996004	TER 4	T=500	560.00	620.00	623.63	625.00	1.37	625.00	1.37	625.48	629.91	0.031487	11.10	50.45	19.60	2.21
Tere2	995005	TER 5	T=50	360.00	605.00	606.71	619.99	13.28	620.00	13.29	607.70	610.07	0.038209	8.11	44.36	35.04	2.30
Tere2	995005	TER 5	T=200	470.00	605.00	606.96	619.99	13.03	620.00	13.04	608.12	610.91	0.038697	8.80	53.42	37.70	2.36
Tere2	995005	TER 5	T=500	580.00	605.00	607.19	619.99	12.80	620.00	12.81	608.48	611.60	0.038352	9.31	62.33	40.15	2.38
Tere2	994006	TER 6	T=50	370.00	584.00	590.00	600.00	10.00	600.00	10.00	591.43	594.39	0.023742	9.29	39.84	13.28	1.71
Tere2	994006	TER 6	T=200	480.00	584.00	590.59	600.00	9.41	600.00	9.41	592.25	595.67	0.023965	9.98	48.09	14.42	1.75
Tere2	994006	TER 6	T=500	590.00	584.00	591.11	600.00	8.89	600.00	8.89	592.94	596.80	0.024120	10.56	55.87	15.42	1.77
Tere2	993007	TER 7	T=50	380.00	573.00	574.87	590.00	15.13	590.00	15.13	575.35	576.45	0.026651	5.57	68.25	72.95	1.84
Tere2	993007	TER 7	T=200	500.00	573.00	575.06	590.00	14.94	590.00	14.94	575.62	576.93	0.027126	6.07	82.33	78.25	1.89
Tere2	993007	TER 7	T=500	600.00	573.00	575.17	590.00	14.83	590.00	14.83	575.83	577.37	0.028093	6.58	91.18	78.81	1.95
Tere2	992008	TER 8	T=50	380.00	563.00	565.46	575.00	9.54	575.00	9.54	566.00	567.26	0.025551	5.95	63.85	59.50	1.83
Tere2	992008	TER 8	T=200	500.00	563.00	565.66	575.00	9.34	575.00	9.34	566.33	567.86	0.025255	6.58	75.98	60.28	1.87
Tere2	992008	TER 8	T=500	600.00	563.00	565.81	575.00	9.19	575.00	9.19	566.57	568.33	0.025035	7.03	85.36	60.87	1.89
Tere2	991009	TER 9	T=50	390.00	550.00	555.49	560.00	4.51	560.00	4.51	556.58	558.37	0.016372	7.52	51.88	18.85	1.45
Tere2	991009	TER 9	T=200	520.00	550.00	556.21	560.00	3.79	560.00	3.79	557.22	559.12	0.017779	7.56	68.78	28.32	1.55
Tere2	991009	TER 9	T=500	620.00	550.00	556.61	560.00	3.39	560.00	3.39	557.64	559.57	0.017611	7.62	81.39	33.70	1.56
Tere2	990010	TER 10	T=50	400.00	539.50	542.46	550.00	7.54	550.00	7.54	543.35	545.18	0.019387	7.31	54.74	30.00	1.73
Tere2	990010	TER 10	T=200	540.00	539.50	542.89	550.00	7.11	550.00	7.11	543.93	546.06	0.019190	7.89	68.47	33.17	1.75
Tere2	990010	TER 10	T=500	640.00	539.50	543.14	550.00	6.86	550.00	6.86	544.30	546.66	0.019615	8.32	76.96	34.99	1.79
Tere2	989011	TER 11	T=50	400.00	534.70	536.93	545.00	8.07	545.00	8.07	537.68	539.25	0.023342	6.74	59.36	42.73	1.82
Tere2	989011	TER 11	T=200	540.00	534.70	537.24	545.00	7.76	545.00	7.76	538.14	540.01	0.023991	7.37	73.23	46.98	1.89
Tere2	989011	TER 11	T=500	640.00	534.70	537.43	545.00	7.57	545.00	7.57	538.42	540.50	0.024411	7.76	82.45	49.60	1.92