

**Comune di Montalcino**

# **PIANO STRUTTURALE**

**ALLEGATI HEC-RAS ALLA RELAZIONE  
IDROLOGICO-IDRAULICA**

*Ottobre 2023*

# Piano Strutturale

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## Comune di Montalcino

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## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "MONTISI"**

#### **FOSSO TS17711**

MODELLAZIONE PER TR=30 e 200 ANNI

DURATA DI PIOGGIA: 0.5h, 1h e 2h

***Profilo longitudinale***

***Sezioni Trasversali***

***Dati idraulici***

# **ALLEGATI**

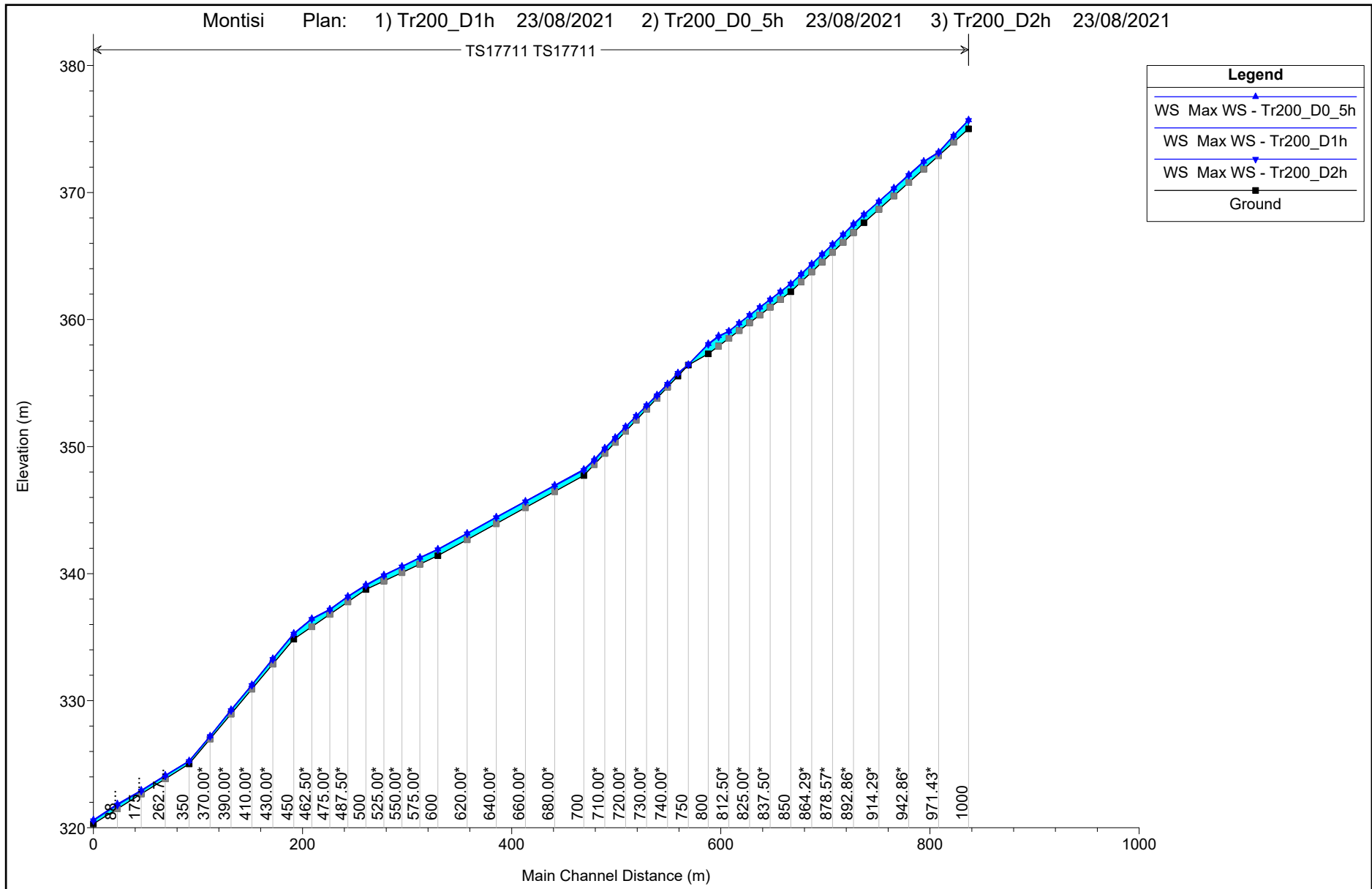
## **MODELLAZIONE HEC-RAS 5.0.7 "MONTISI"**

### **FOSSO TS17711**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    0.5h, 1h e 2h

***Profilo longitudinale***



## **ALLEGATI**

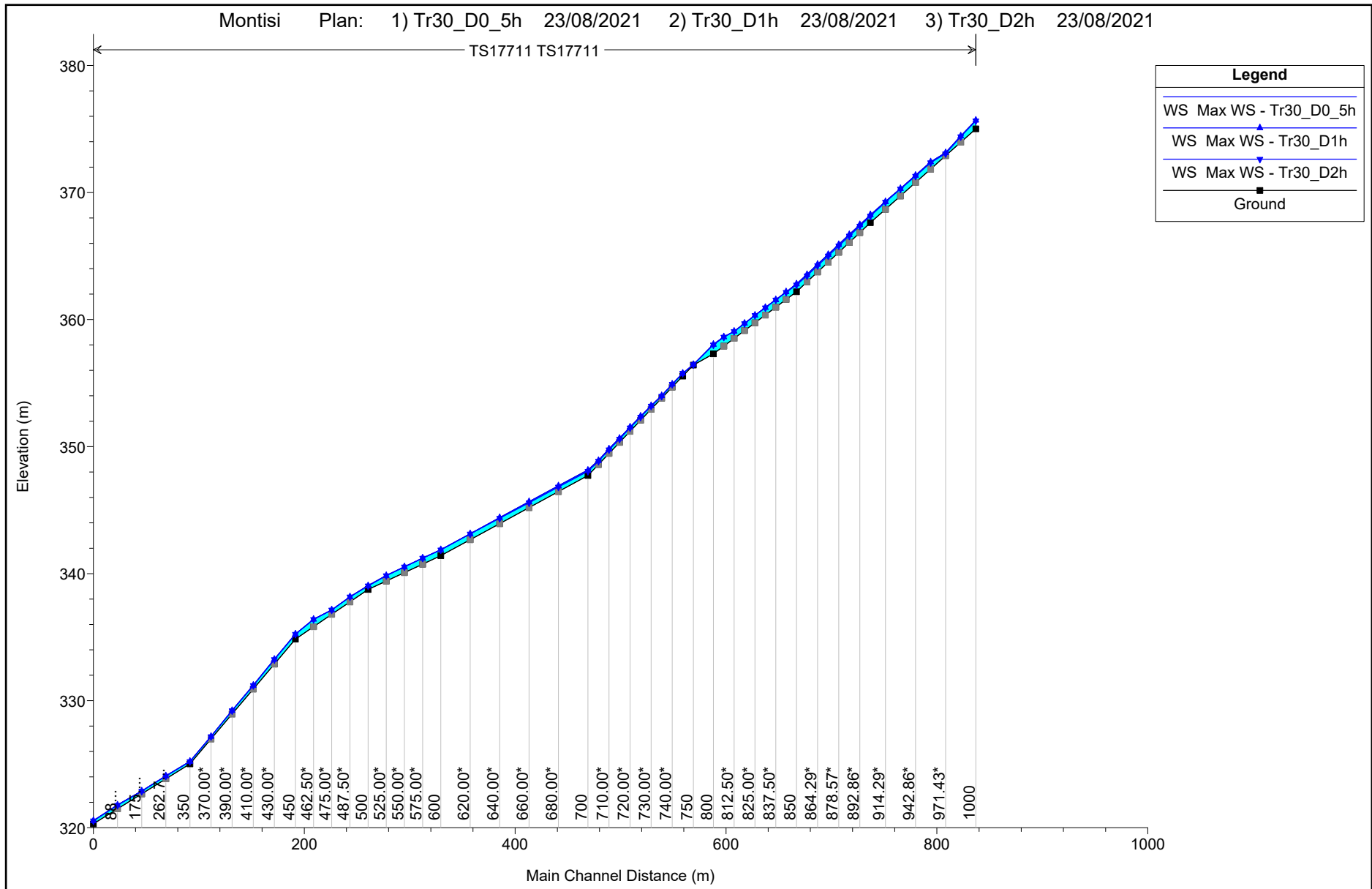
### **MODELLAZIONE HEC-RAS 5.0.7 "MONTISI"**

#### **FOSSO TS17711**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    0.5h, 1h e 2h

***Profilo longitudinale***





# **ALLEGATI**

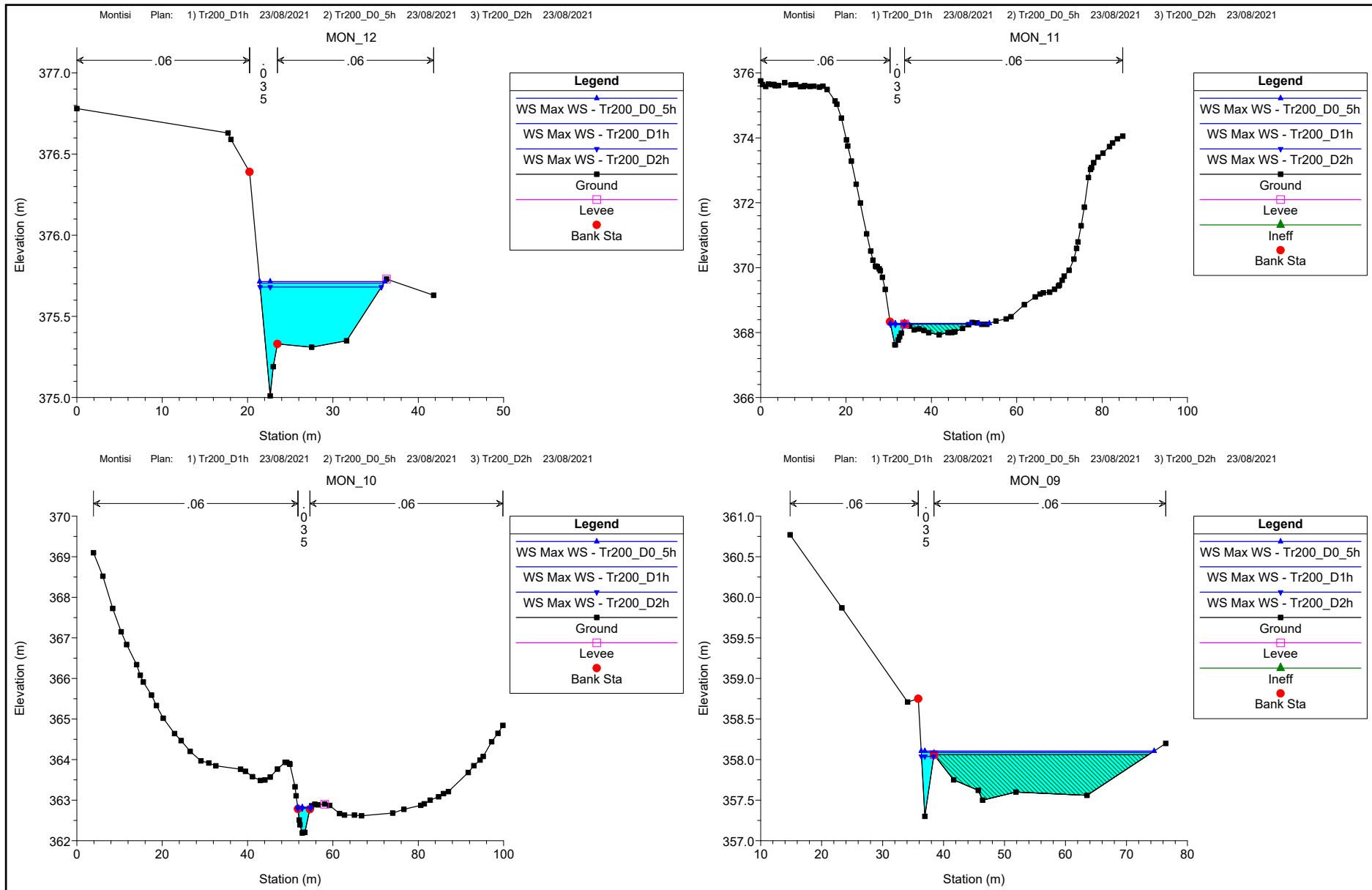
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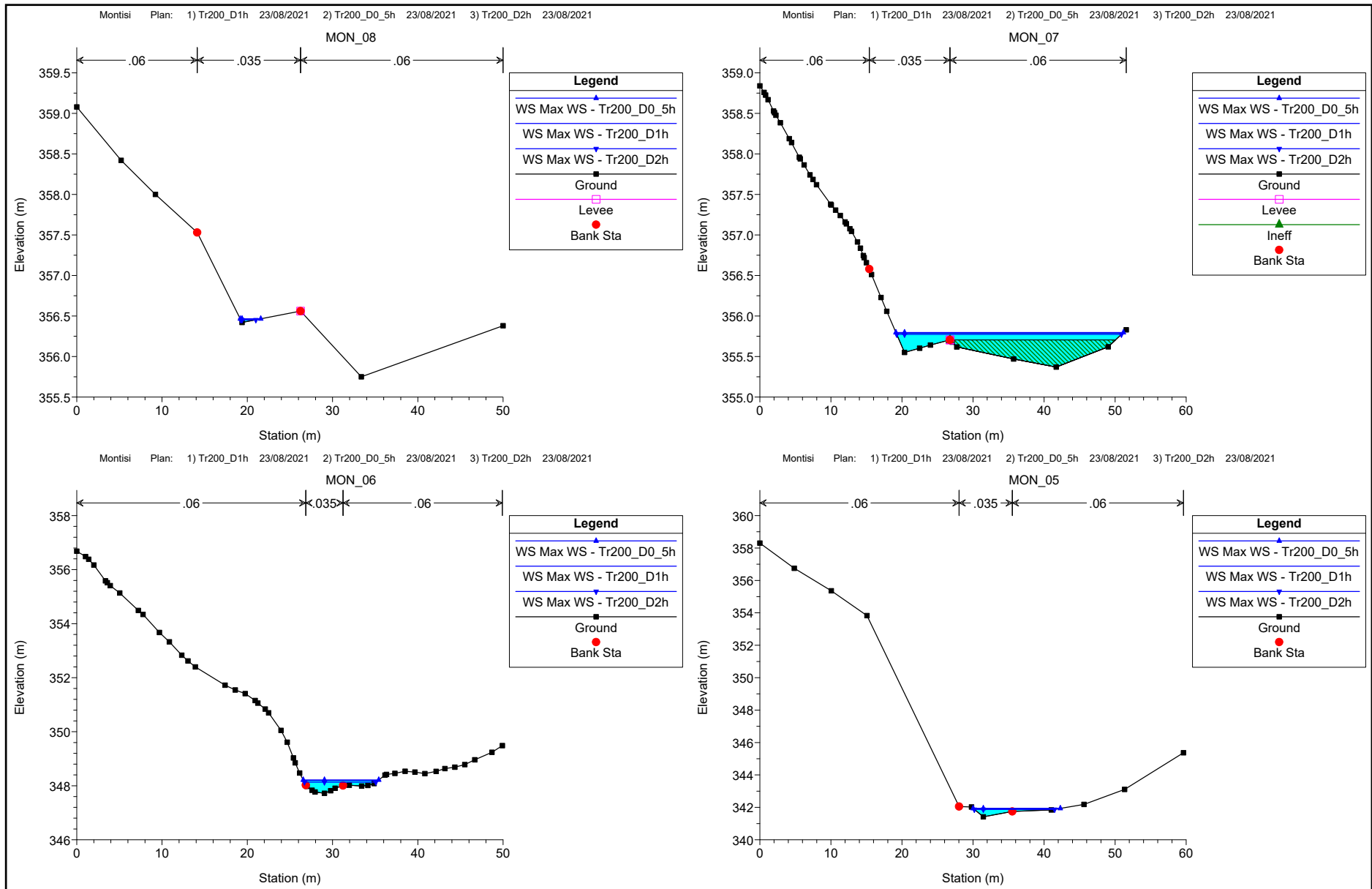
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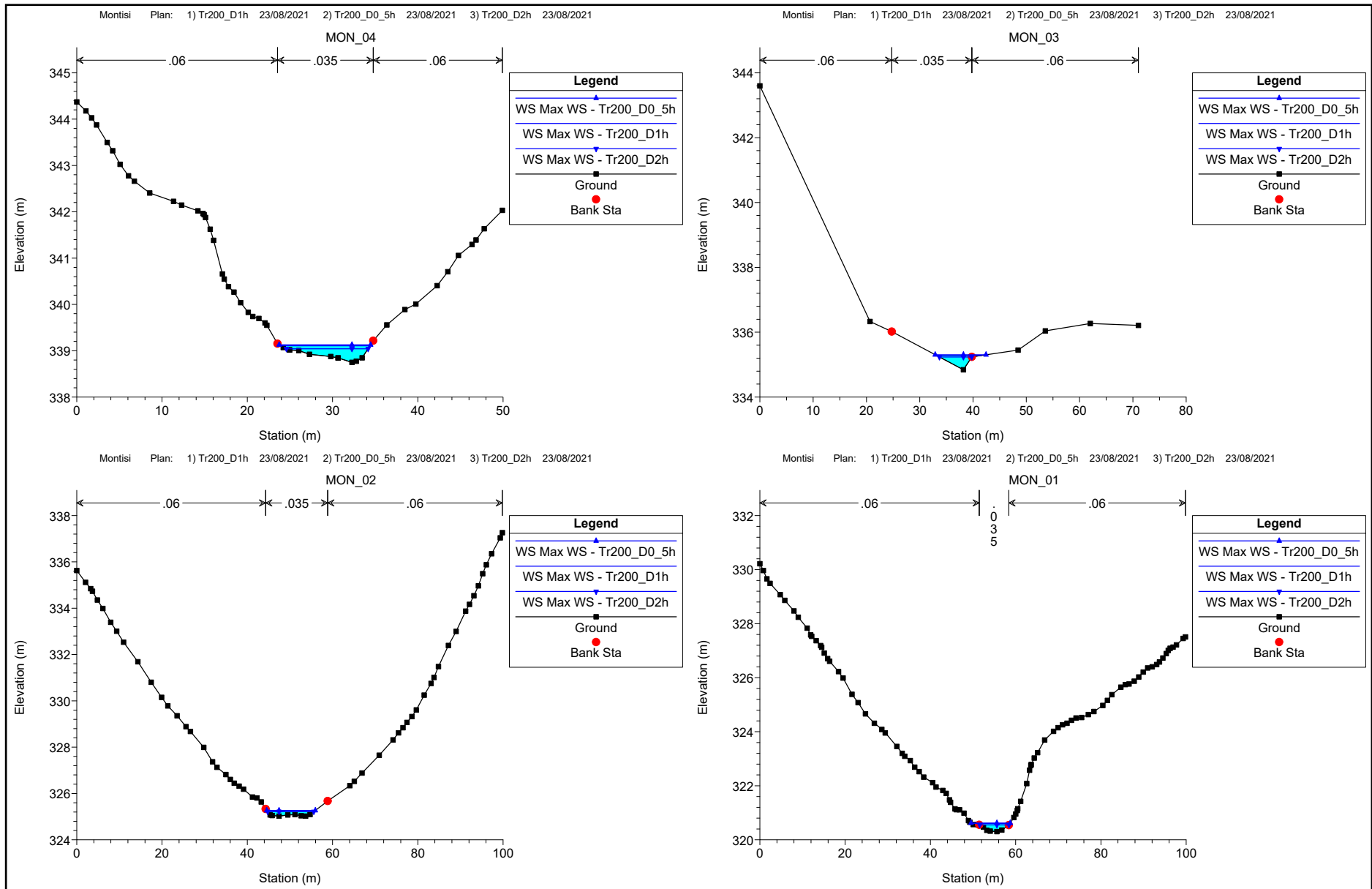
MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    0.5h, 1h e 2h

***Sezioni Trasversali (da monte verso valle)***







## **ALLEGATI**

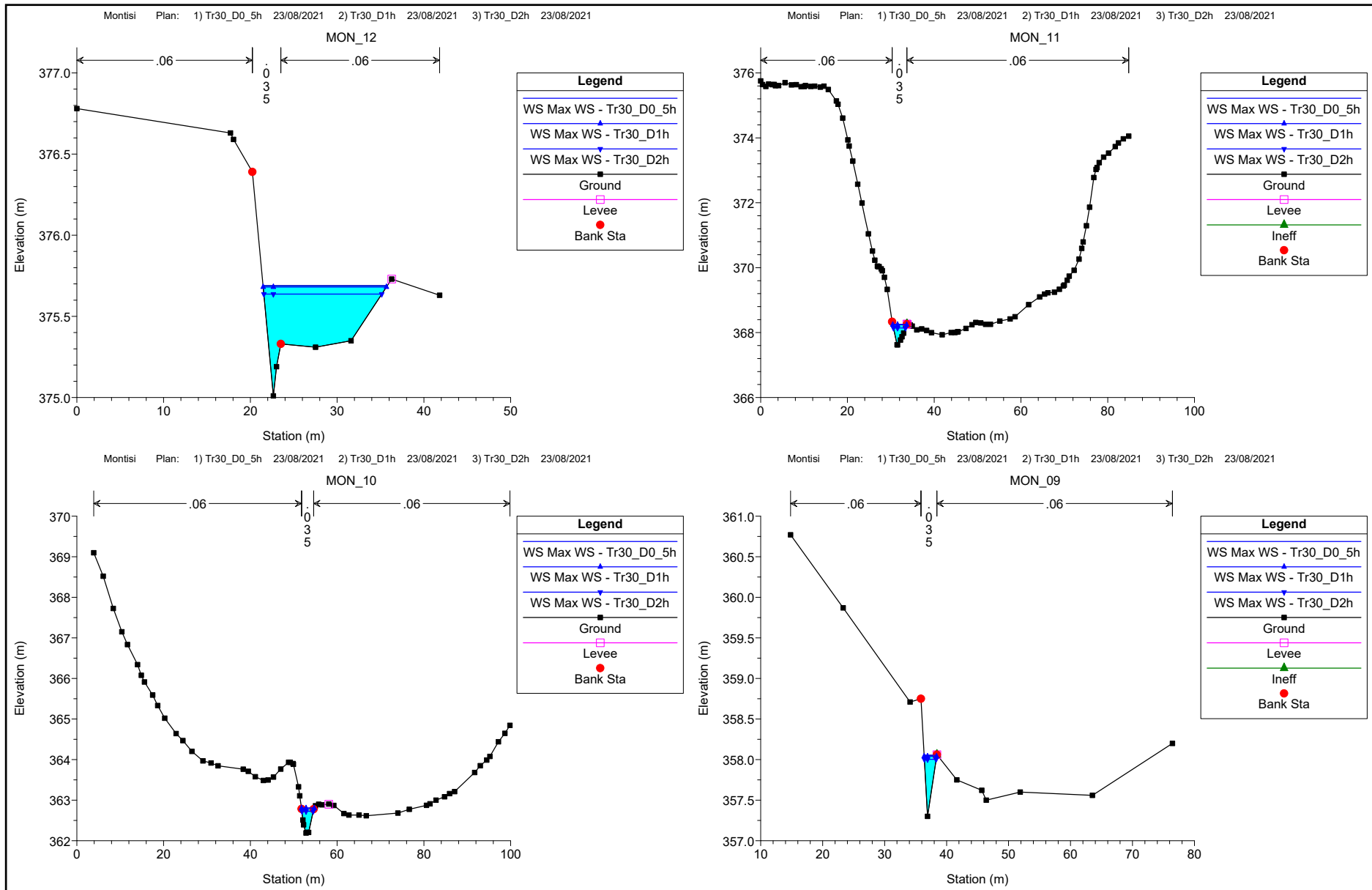
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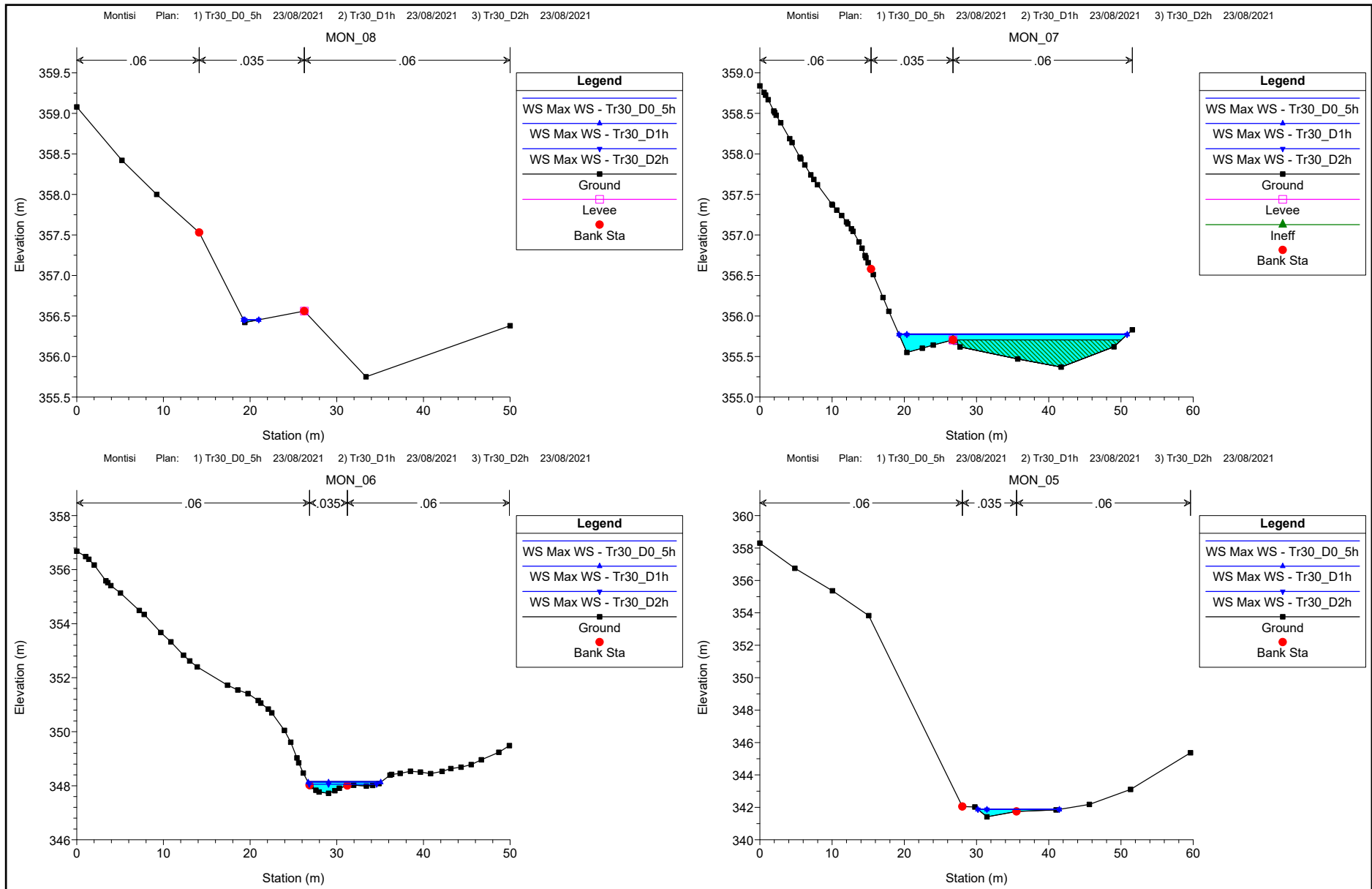
#### **FOSSO TS17711**

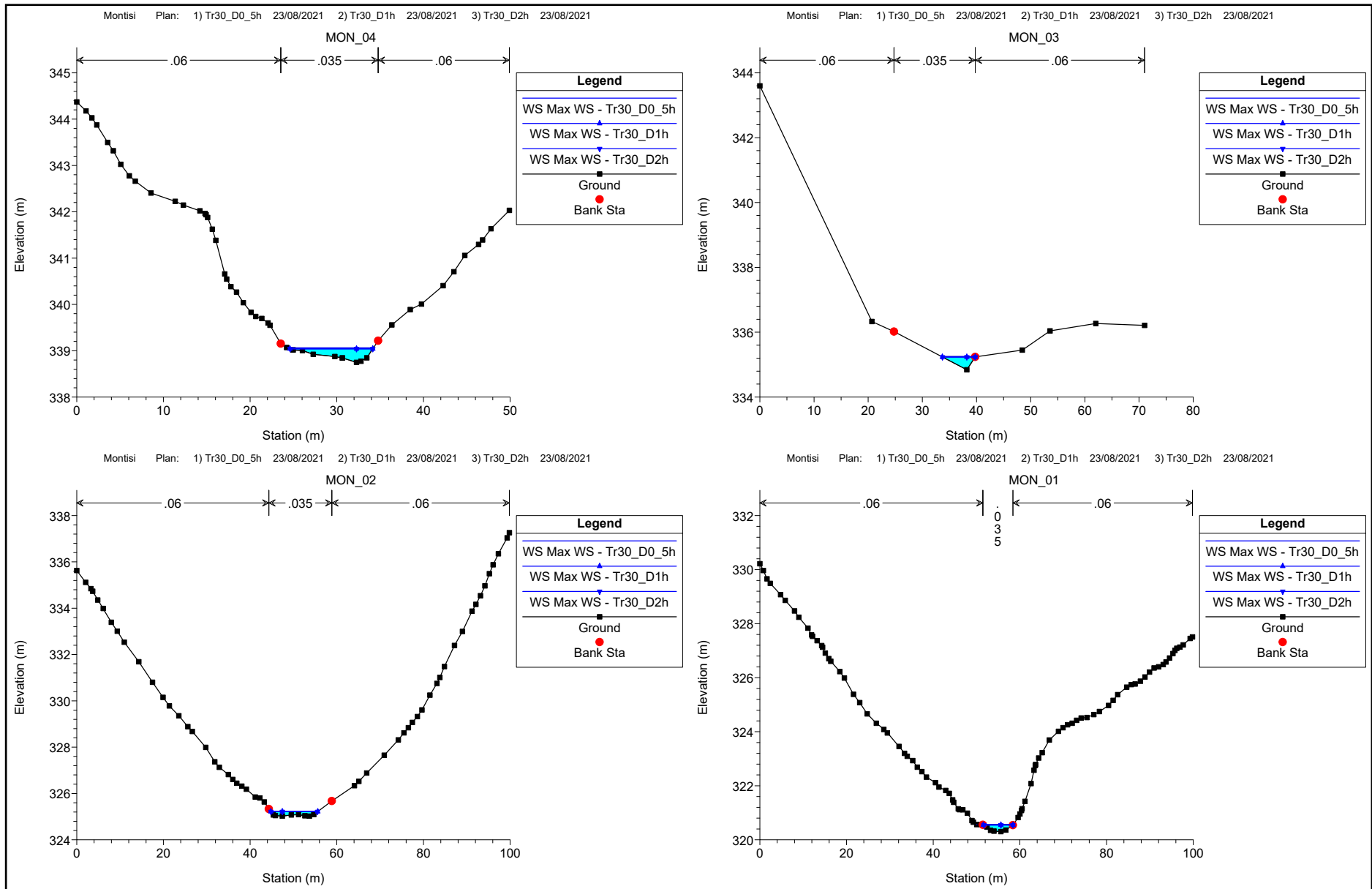
MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    0.5h, 1h e 2h

***Sezioni Trasversali (da monte verso valle)***









# **ALLEGATI**

## **MODELLAZIONE HEC-RAS 5.0.7 "MONTISI"**

### **FOSSO TS17711**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    0.5h, 1h e 2h

***Dati idraulici***

HEC-RAS River: TS17711 Reach: TS17711 Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Vel Left	Vel Right	Flow Area	Top Width	Froude # Chl
				(m <sup>3</sup> /s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m/s)	(m/s)	(m <sup>2</sup> )	(m)	
TS17711	1000	Max WS	Tr200_D1h	5.80	375.01	375.71	375.67	375.81	0.018959	2.03		1.05	4.72	14.56	1.01
TS17711	1000	Max WS	Tr200_D0_5h	6.40	375.01	375.71	375.69	375.83	0.021339	2.18		1.13	4.85	14.68	1.07
TS17711	1000	Max WS	Tr200_D2h	4.10	375.01	375.88		375.74	0.011807	1.56		0.80	4.36	14.21	0.79
TS17711	900	Max WS	Tr200_D1h	5.79	367.62	368.27	368.47	369.43	0.120992	4.78		0.31	1.41	20.64	2.54
TS17711	900	Max WS	Tr200_D0_5h	6.38	367.62	368.28	368.49	369.52	0.127383	4.99		0.49	1.66	21.37	2.61
TS17711	900	Max WS	Tr200_D2h	4.10	367.62	368.24	368.42	368.95	0.079226	3.73			1.10	3.21	2.04
TS17711	850	Max WS	Tr200_D1h	5.79	362.19	362.82	362.90	364.10	0.114257	5.01	0.33	0.41	1.16	3.04	2.48
TS17711	850	Max WS	Tr200_D0_5h	6.38	362.19	362.83	362.90	364.33	0.131067	5.42	0.40	0.49	1.18	3.08	2.66
TS17711	850	Max WS	Tr200_D2h	4.10	362.19	362.80	362.90	363.50	0.066611	3.71	0.15	0.21	1.11	2.92	1.88
TS17711	800	Max WS	Tr200_D1h	5.74	357.30	358.09	358.24	359.70	0.204357	5.99		0.69	1.84	37.84	3.01
TS17711	800	Max WS	Tr200_D0_5h	6.31	357.30	358.11	358.24	359.34	0.168048	5.56		0.87	2.51	38.21	2.74
TS17711	800	Max WS	Tr200_D2h	4.09	357.30	358.04	358.21	359.59	0.194110	5.52			0.74	2.01	2.90
TS17711	750	Max WS	Tr200_D1h	5.75	356.42	356.46	356.56	1171.21	3486.040000	126.41			0.05	2.21	281.55
TS17711	750	Max WS	Tr200_D0_5h	6.33	356.42	356.46	356.56	1057.83	2676.477000	117.29			0.05	2.41	250.25
TS17711	750	Max WS	Tr200_D2h	3.94	356.42	356.45	356.56	1293.06	5396.076000	135.54			0.03	1.77	337.50
TS17711	745.00	Max WS	Tr200_D1h	5.75	355.55	355.79	355.87	356.08	0.127522	2.94		1.13	3.20	31.91	2.38
TS17711	745.00	Max WS	Tr200_D0_5h	6.33	355.55	355.80	355.88	356.10	0.128759	3.03		1.20	3.41	32.02	2.41
TS17711	745.00	Max WS	Tr200_D2h	4.11	355.55	355.77	355.84	356.00	0.107013	2.52		0.90	2.68	31.63	2.15
TS17711	700	Max WS	Tr200_D1h	5.75	347.72	348.20	348.33	348.65	0.049787	3.18	0.66	1.14	2.28	8.77	1.70
TS17711	700	Max WS	Tr200_D0_5h	6.33	347.72	348.21	348.37	348.70	0.051188	3.32	0.71	1.21	2.42	8.86	1.74
TS17711	700	Max WS	Tr200_D2h	4.11	347.72	348.13	348.25	348.54	0.056898	2.95	0.51	0.92	1.70	8.38	1.75
TS17711	600	Max WS	Tr200_D1h	5.75	341.41	341.92	342.05	342.32	0.051040	2.96		0.86	2.45	12.03	1.68
TS17711	600	Max WS	Tr200_D0_5h	6.33	341.41	341.93	342.06	342.36	0.051716	3.06		0.93	2.64	12.28	1.70
TS17711	600	Max WS	Tr200_D2h	4.10	341.41	341.87	341.97	342.19	0.045843	2.57		0.63	1.93	11.30	1.56
TS17711	500	Max WS	Tr200_D1h	5.75	338.75	339.11	339.22	339.50	0.082115	2.77			2.07	10.47	1.99
TS17711	500	Max WS	Tr200_D0_5h	6.33	338.75	339.13	339.24	339.51	0.072144	2.74			2.31	10.73	1.89
TS17711	500	Max WS	Tr200_D2h	4.11	338.75	339.04	339.16	339.46	0.128583	2.87			1.43	9.57	2.38
TS17711	450	Max WS	Tr200_D1h	5.75	334.84	335.29	335.48	336.01	0.126063	3.77		0.48	1.56	8.55	2.52
TS17711	450	Max WS	Tr200_D0_5h	6.32	334.84	335.30	335.50	336.04	0.121595	3.82		0.59	1.73	9.52	2.49
TS17711	450	Max WS	Tr200_D2h	4.10	334.84	335.24	335.41	335.83	0.125527	3.41			1.20	6.07	2.45
TS17711	350	Max WS	Tr200_D1h	5.74	325.02	325.25	325.37	325.66	0.096610	2.83			2.03	11.24	2.13
TS17711	350	Max WS	Tr200_D0_5h	6.32	325.02	325.27	325.39	325.70	0.094153	2.90			2.18	11.39	2.12
TS17711	350	Max WS	Tr200_D2h	4.10	325.02	325.22	325.31	325.54	0.097544	2.52			1.63	10.83	2.07
TS17711	1	Max WS	Tr200_D1h	5.74	320.30	320.60	320.79	321.37	0.148975	3.90	0.66	0.63	1.53	8.94	2.71
TS17711	1	Max WS	Tr200_D0_5h	6.32	320.30	320.62	320.82	321.40	0.136420	3.94	0.80	0.71	1.69	9.19	2.63
TS17711	1	Max WS	Tr200_D2h	4.10	320.30	320.55	320.72	321.25	0.188799	3.69		0.23	1.11	6.88	2.92

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "MONTISI"**

#### **FOSSO TS17711**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    0.5h, 1h e 2h

***Dati idraulici***

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
TS17711	1000	Max WS	Tr30_D0_5h	4.60	375.01	375.69		375.76	0.013716	1.70		0.87	4.49	14.33	0.85
TS17711	1000	Max WS	Tr30_D1h	4.10	375.01	375.68		375.74	0.011774	1.56		0.80	4.37	14.21	0.79
TS17711	1000	Max WS	Tr30_D2h	3.00	375.01	375.64		375.68	0.009594	1.34		0.67	3.76	13.60	0.70
TS17711	900	Max WS	Tr30_D0_5h	4.59	367.62	368.25	368.44	369.10	0.093724	4.09			1.12	3.24	2.22
TS17711	900	Max WS	Tr30_D1h	4.09	367.62	368.24	368.42	368.95	0.079263	3.73			1.10	3.21	2.04
TS17711	900	Max WS	Tr30_D2h	3.00	367.62	368.14	368.38	368.85	0.099013	3.73			0.80	2.78	2.22
TS17711	850	Max WS	Tr30_D0_5h	4.58	362.19	362.81	362.90	363.66	0.079912	4.10	0.20	0.26	1.12	2.95	2.06
TS17711	850	Max WS	Tr30_D1h	4.09	362.19	362.80	362.90	363.50	0.066391	3.70	0.15	0.21	1.11	2.92	1.88
TS17711	850	Max WS	Tr30_D2h	3.00	362.19	362.73	362.90	363.29	0.064117	3.33			0.90	2.61	1.81
TS17711	800	Max WS	Tr30_D0_5h	4.55	357.30	358.05	358.21	359.83	0.216382	5.90			0.77	2.05	3.07
TS17711	800	Max WS	Tr30_D1h	4.09	357.30	358.04	358.21	359.58	0.193286	5.50			0.74	2.01	2.89
TS17711	800	Max WS	Tr30_D2h	2.99	357.30	358.00	358.18	359.02	0.136473	4.47			0.67	1.91	2.41
TS17711	750	Max WS	Tr30_D0_5h	3.94	356.42	356.45	356.56	1293.06	5396.076000	135.54			0.03	1.77	337.50
TS17711	750	Max WS	Tr30_D1h	3.94	356.42	356.45	356.56	1293.06	5396.076000	135.54			0.03	1.77	337.50
TS17711	750	Max WS	Tr30_D2h	3.94	356.42	356.45	356.56	1293.06	5396.076000	135.54			0.03	1.77	337.50
TS17711	745.00	Max WS	Tr30_D0_5h	4.59	355.55	355.78	355.85	356.02	0.114279	2.66		0.98	2.83	31.71	2.23
TS17711	745.00	Max WS	Tr30_D1h	4.09	355.55	355.77	355.84	356.00	0.107075	2.51			2.67	31.62	2.15
TS17711	745.00	Max WS	Tr30_D2h	4.01	355.55	355.77	355.83	356.00	0.113795	2.56		0.90	2.57	31.57	2.21
TS17711	700	Max WS	Tr30_D0_5h	4.59	347.72	348.16	348.28	348.55	0.048769	2.92	0.55	0.98	1.95	8.55	1.65
TS17711	700	Max WS	Tr30_D1h	4.09	347.72	348.13	348.25	348.54	0.057183	2.95	0.51	0.92	1.69	8.37	1.76
TS17711	700	Max WS	Tr30_D2h	3.00	347.72	348.06	348.19	348.54	0.096291	3.13	0.29	0.66	1.08	7.78	2.17
TS17711	600	Max WS	Tr30_D0_5h	4.58	341.41	341.89	341.98	342.23	0.047564	2.70		0.71	2.09	11.52	1.60
TS17711	600	Max WS	Tr30_D1h	4.09	341.41	341.87	341.97	342.19	0.045711	2.57		0.63	1.92	11.29	1.56
TS17711	600	Max WS	Tr30_D2h	4.06	341.41	341.87	341.97	342.19	0.045699	2.56		0.62	1.91	11.27	1.56
TS17711	500	Max WS	Tr30_D0_5h	4.58	338.75	339.06	339.18	339.47	0.112325	2.85			1.61	9.90	2.25
TS17711	500	Max WS	Tr30_D1h	4.09	338.75	339.04	339.16	339.46	0.128394	2.87			1.43	9.57	2.37
TS17711	500	Max WS	Tr30_D2h	4.16	338.75	339.04	339.16	339.49	0.138641	2.96			1.41	9.53	2.46
TS17711	450	Max WS	Tr30_D0_5h	4.57	334.84	335.25	335.44	335.89	0.127954	3.55		0.18	1.29	6.67	2.49
TS17711	450	Max WS	Tr30_D1h	4.09	334.84	335.24	335.41	335.83	0.125610	3.41			1.20	6.06	2.45
TS17711	450	Max WS	Tr30_D2h	4.00	334.84	335.23	335.41	335.81	0.123091	3.37			1.19	6.03	2.42
TS17711	350	Max WS	Tr30_D0_5h	4.57	325.02	325.23	325.33	325.58	0.098861	2.83			1.74	10.94	2.11
TS17711	350	Max WS	Tr30_D1h	4.09	325.02	325.22	325.31	325.54	0.097452	2.51			1.63	10.83	2.07
TS17711	350	Max WS	Tr30_D2h	3.90	325.02	325.21	325.30	325.52	0.098041	2.48			1.57	10.77	2.07
TS17711	1	Max WS	Tr30_D0_5h	4.57	320.30	320.57	320.74	321.29	0.179320	3.77	0.22	0.39	1.21	7.43	2.88
TS17711	1	Max WS	Tr30_D1h	4.09	320.30	320.55	320.72	321.25	0.169179	3.69		0.22	1.11	6.86	2.92
TS17711	1	Max WS	Tr30_D2h	3.82	320.30	320.54	320.71	321.22	0.191778	3.63			1.05	6.69	2.93

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ASSO"**

#### **TORRENTE ASSO**

MODELLAZIONE PER TR=30 e 200 ANNI

DURATA DI PIOGGIA: 2h, 3h, 9h, 12h e 15h

***Profilo longitudinale***

***Sezioni Trasversali***

***Dati idraulici***

# **ALLEGATI**

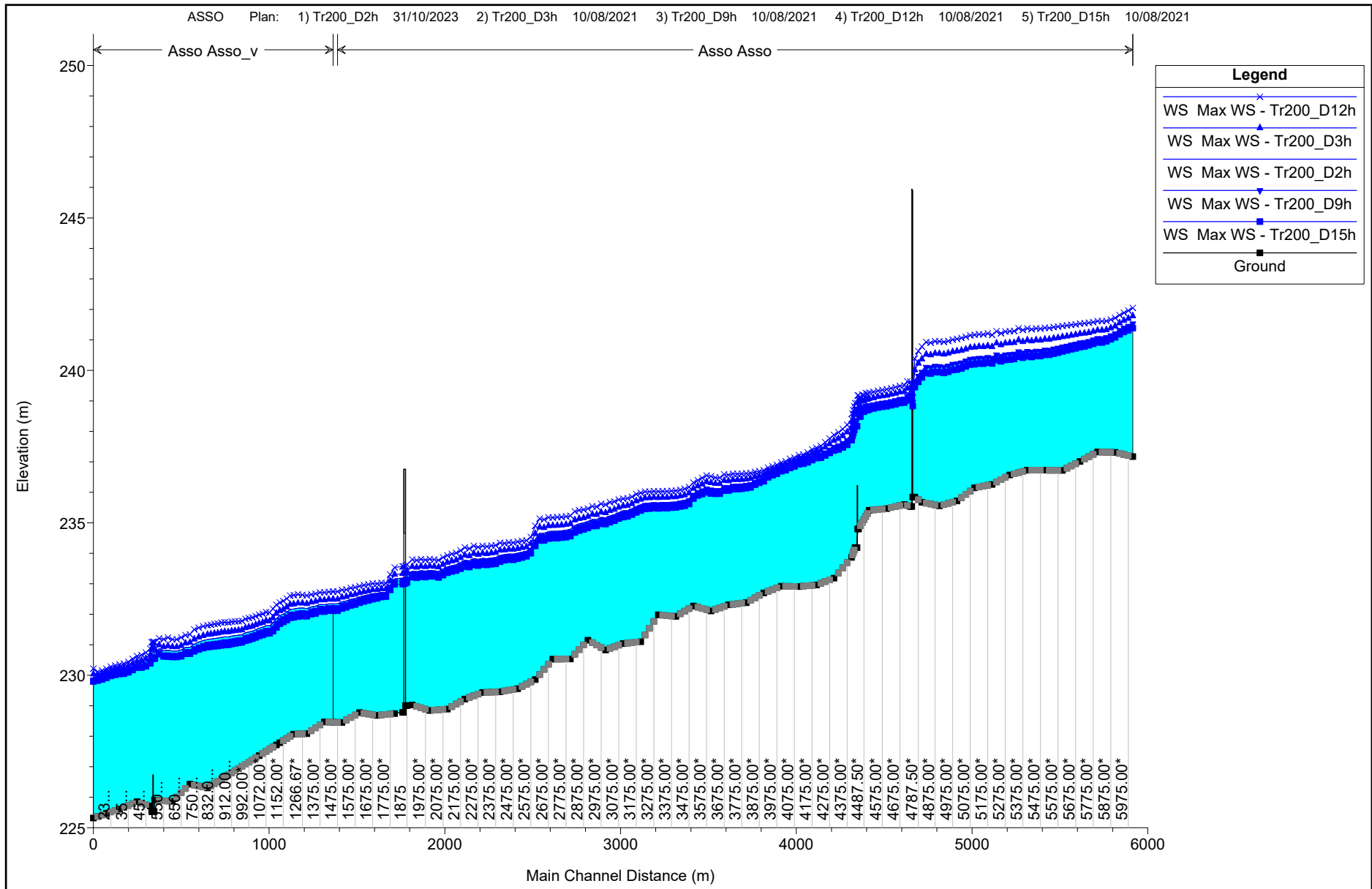
## **MODELLAZIONE HEC-RAS 5.0.7 "ASSO"**

### **TORRENTE ASSO**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    2h, 3h, 9h, 12h e 15h

***Profilo longitudinale***



## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ASSO"**

#### **TORRENTE ASSO**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    2h, 3h, 9h, 12h e 15h

***Profilo longitudinale***





# **ALLEGATI**

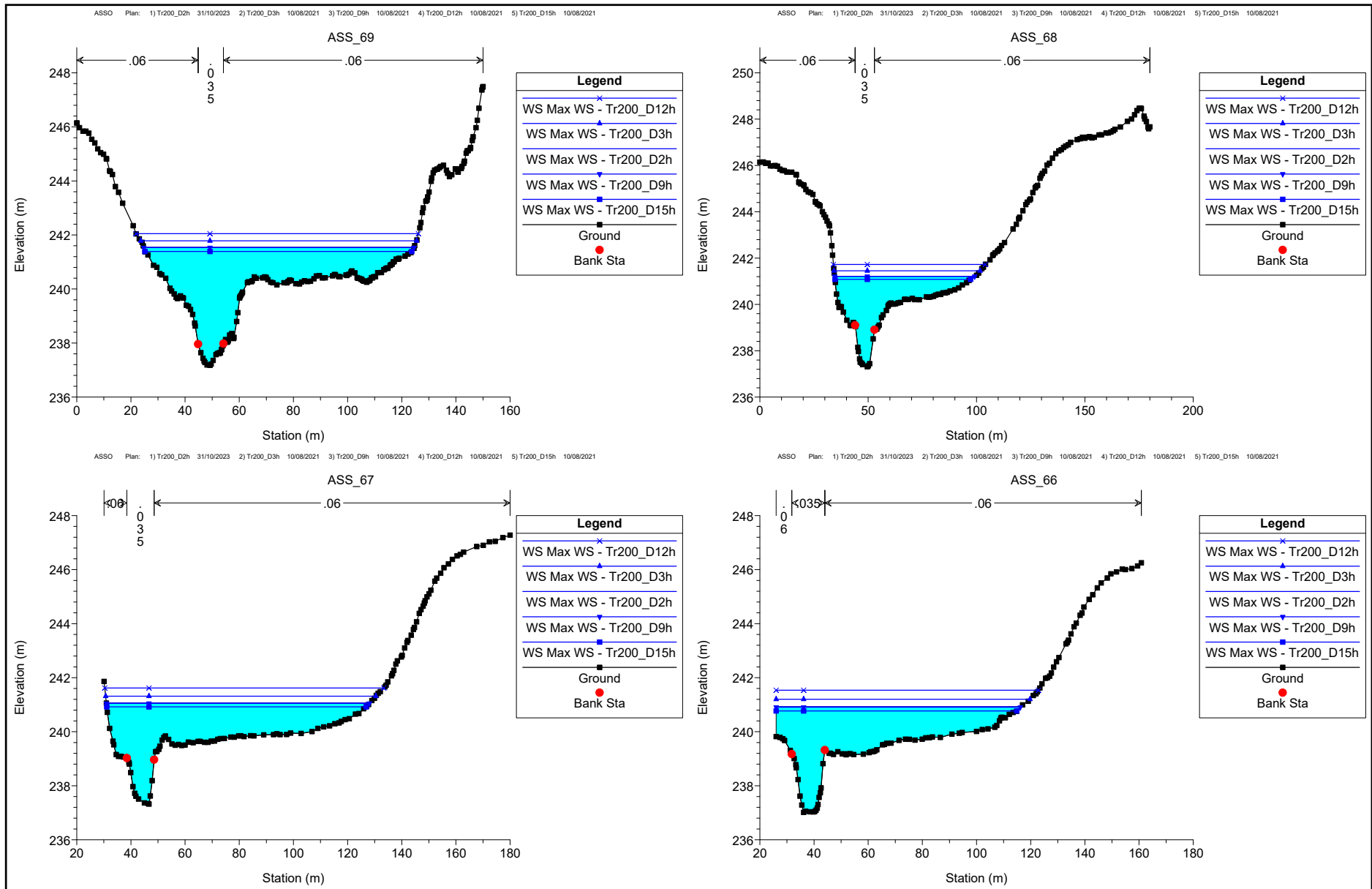
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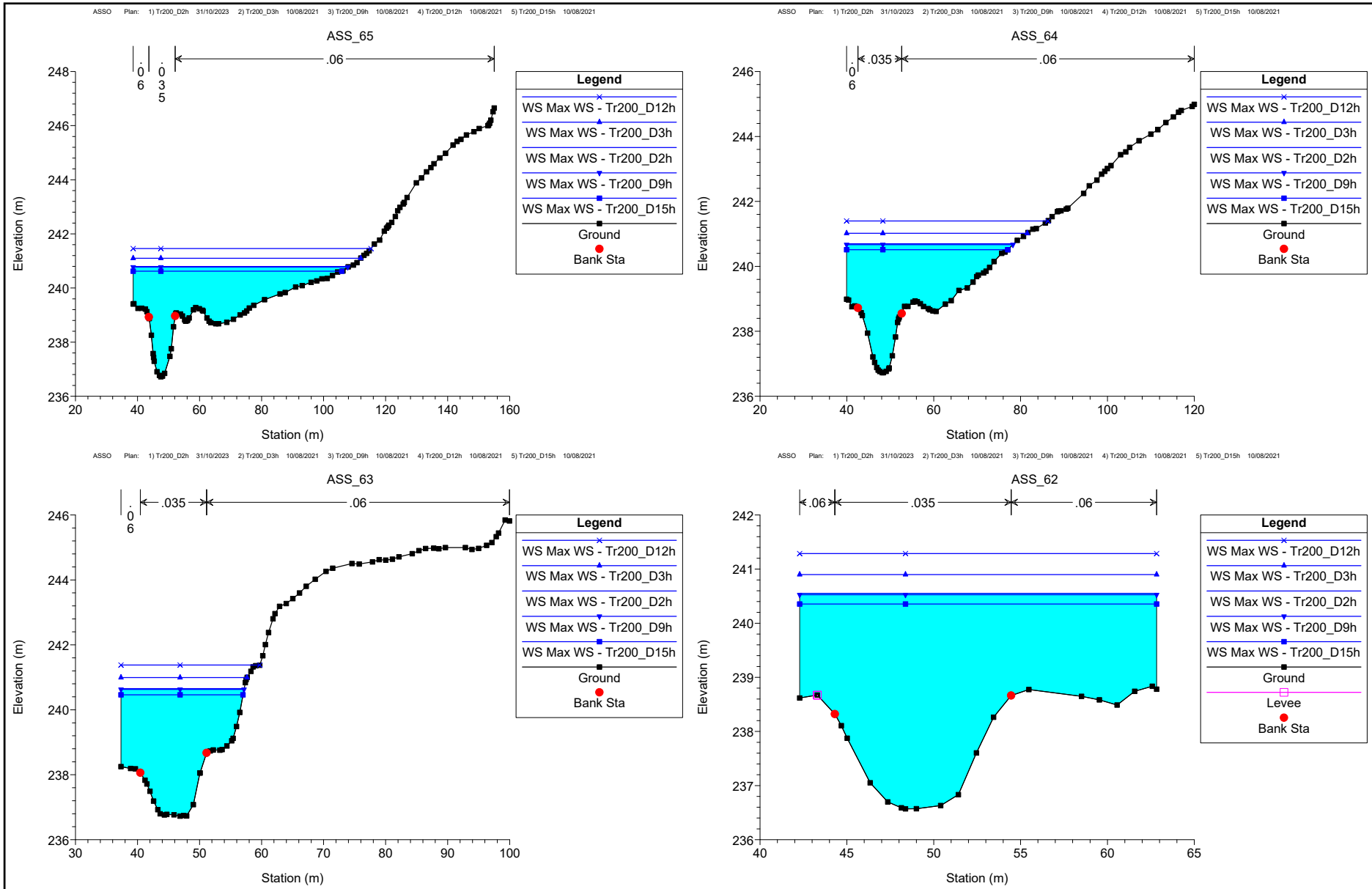
### **TORRENTE ASSO**

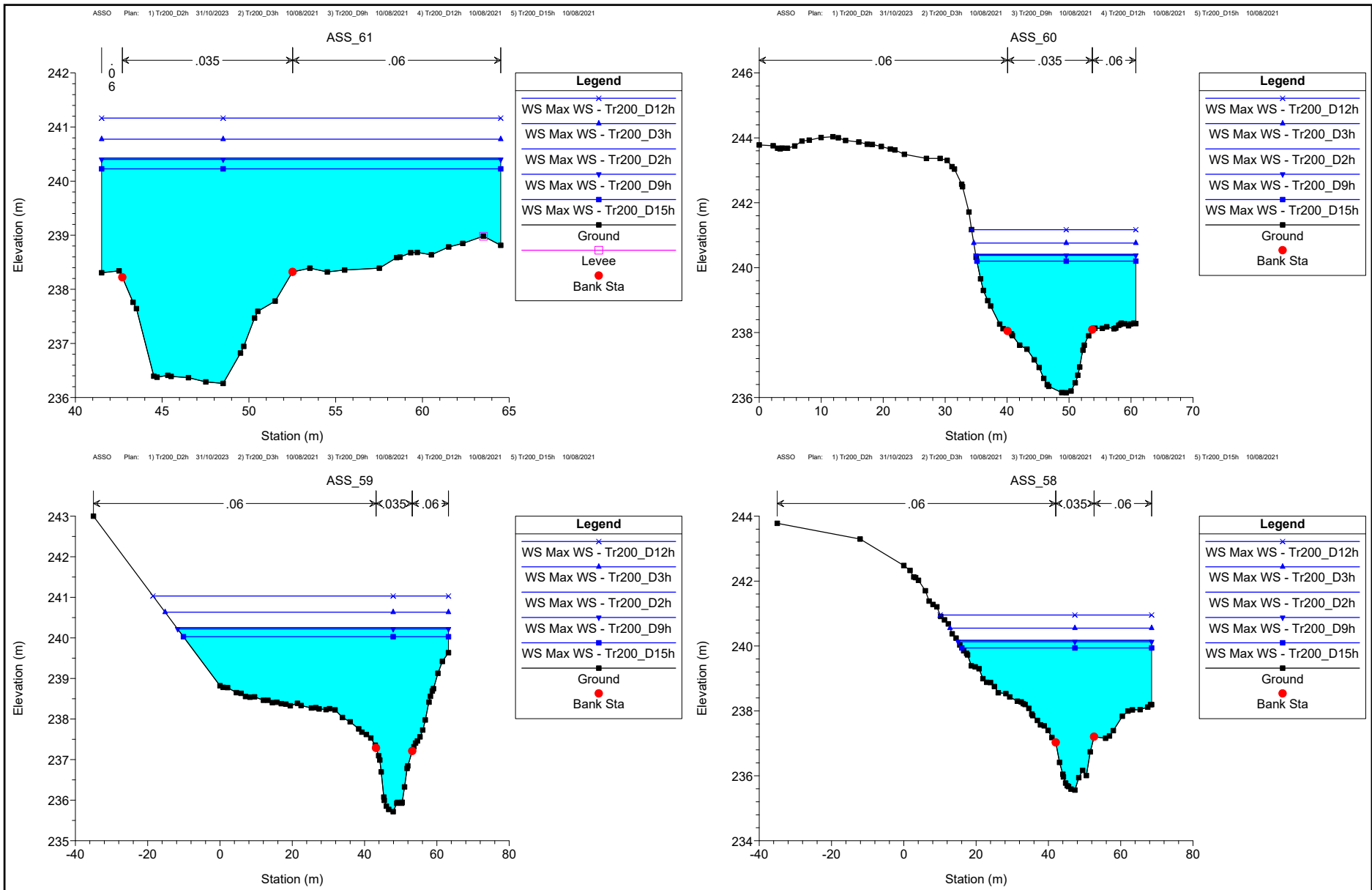
MODELLAZIONE PER      Tr=200 anni

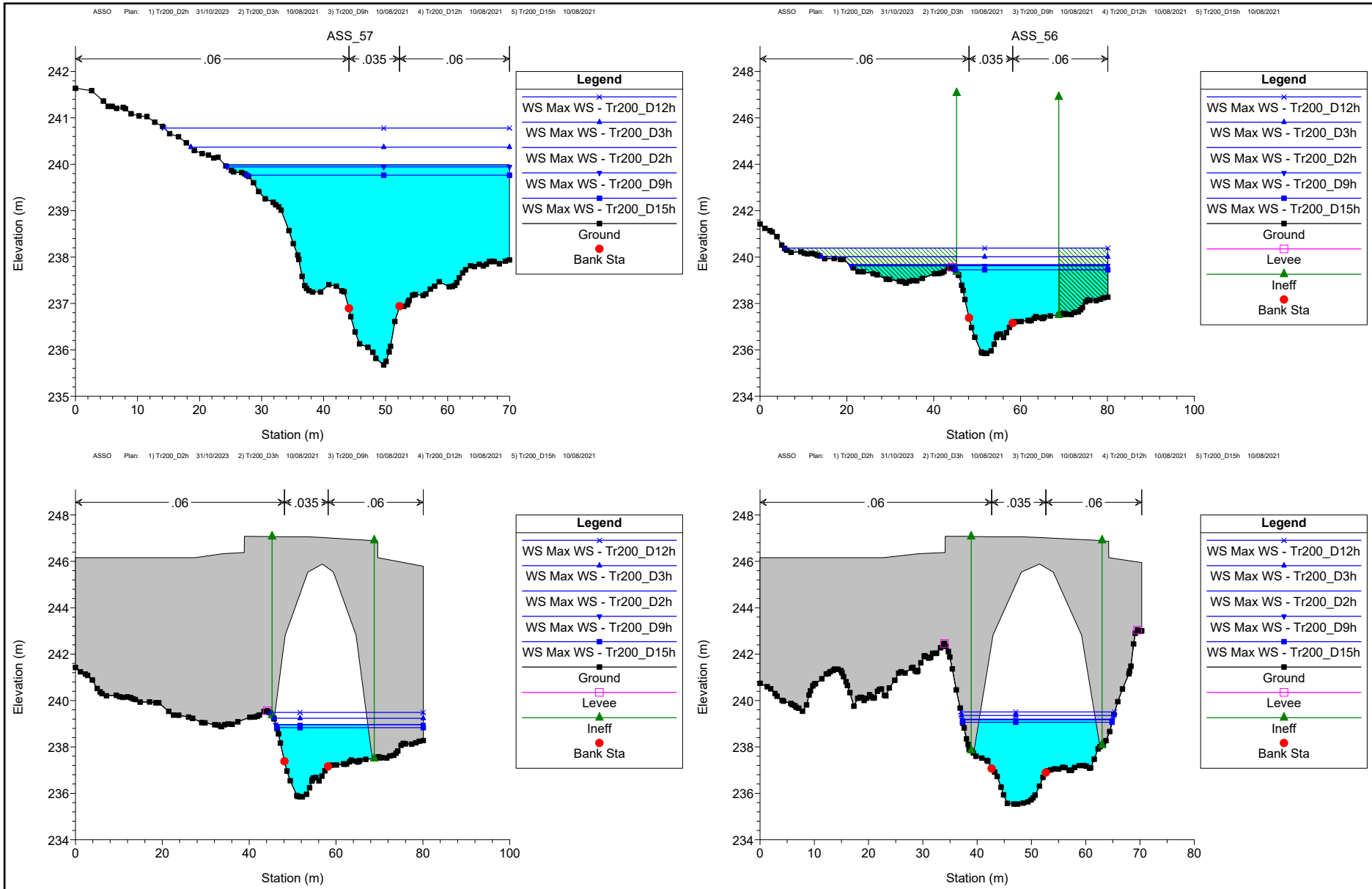
DURATE DI PIOGGIA:    2h, 3h, 9h, 12h e 15h

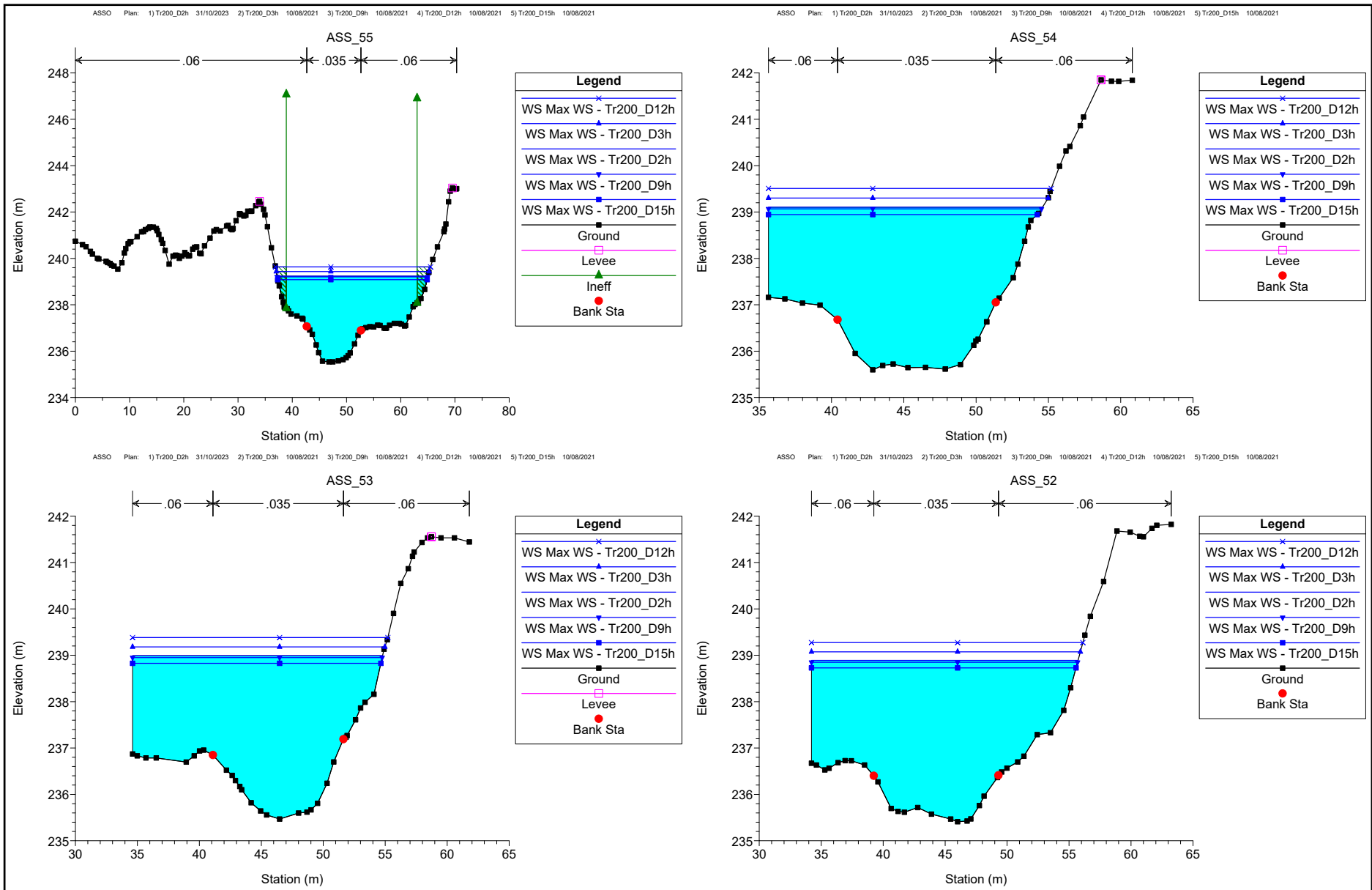
***Sezioni Trasversali (da monte verso valle)***

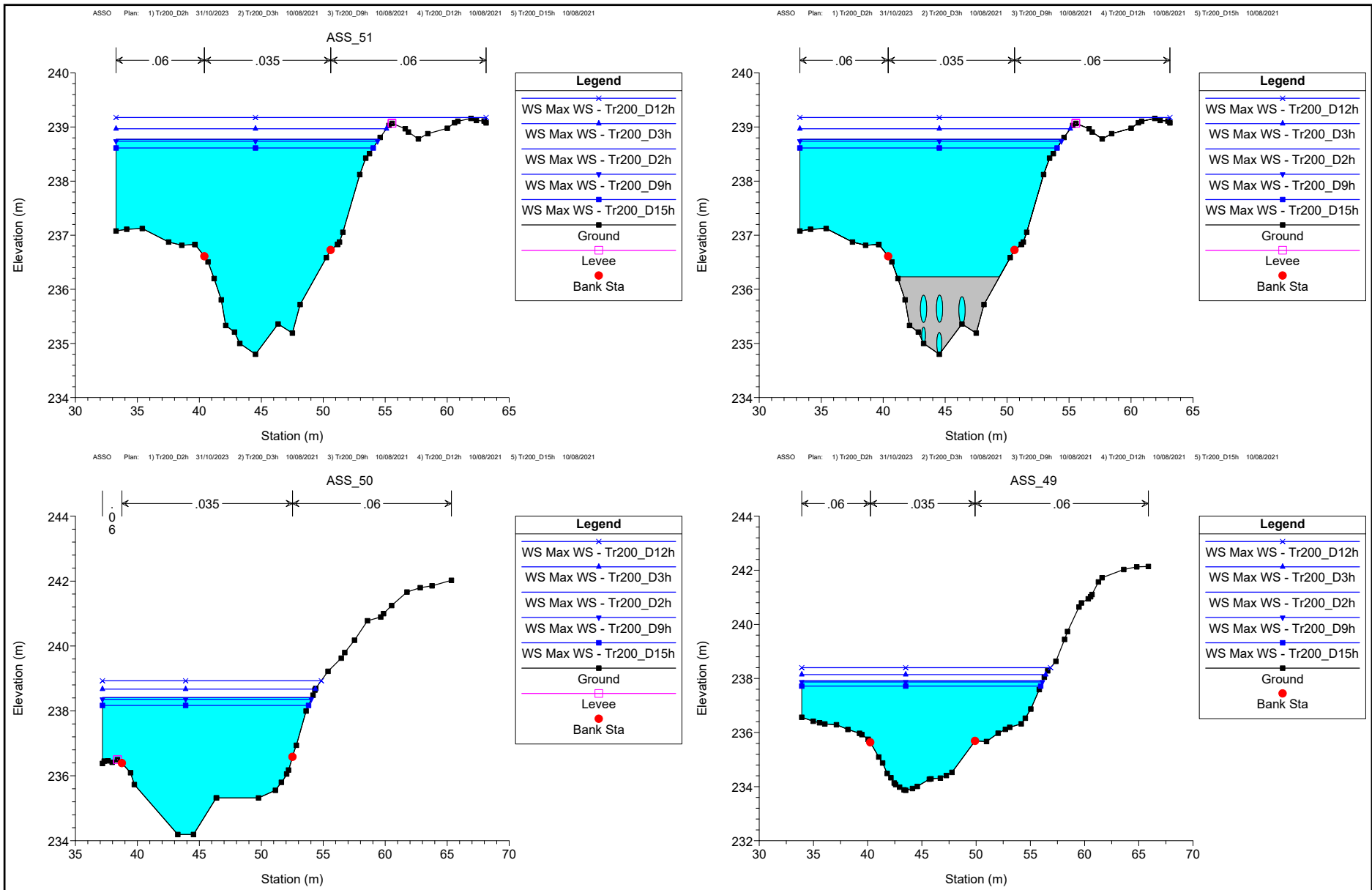




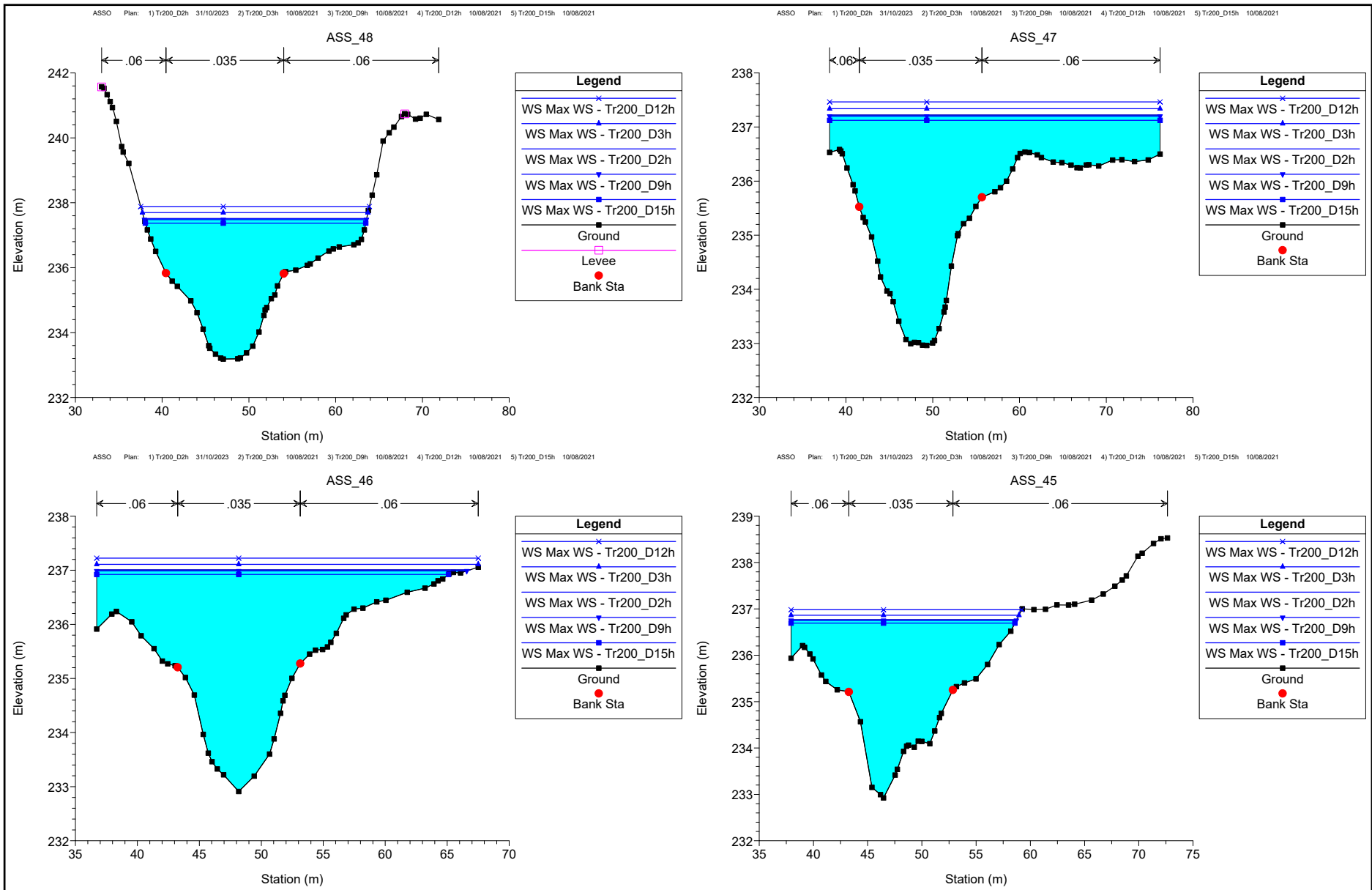


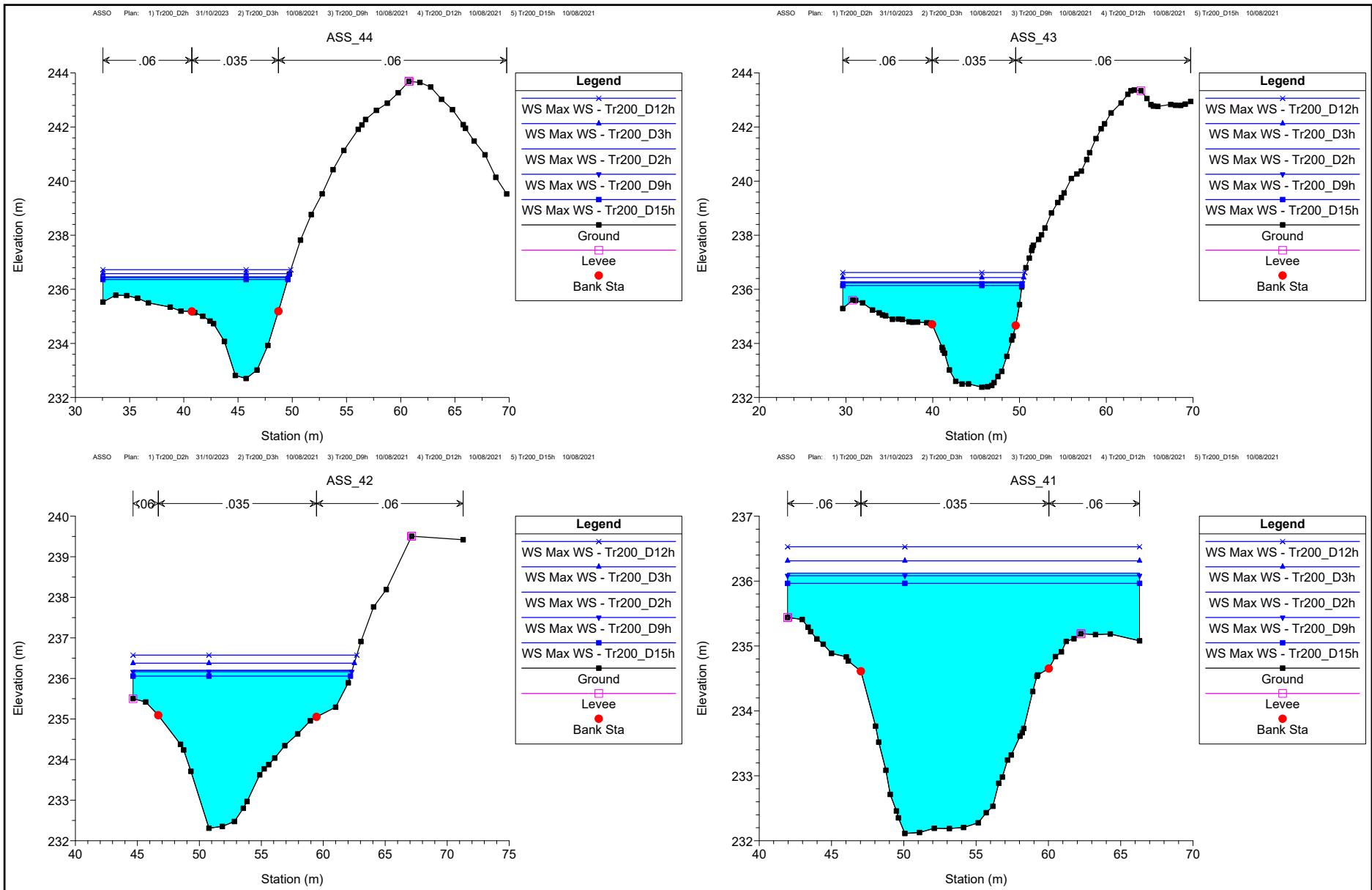


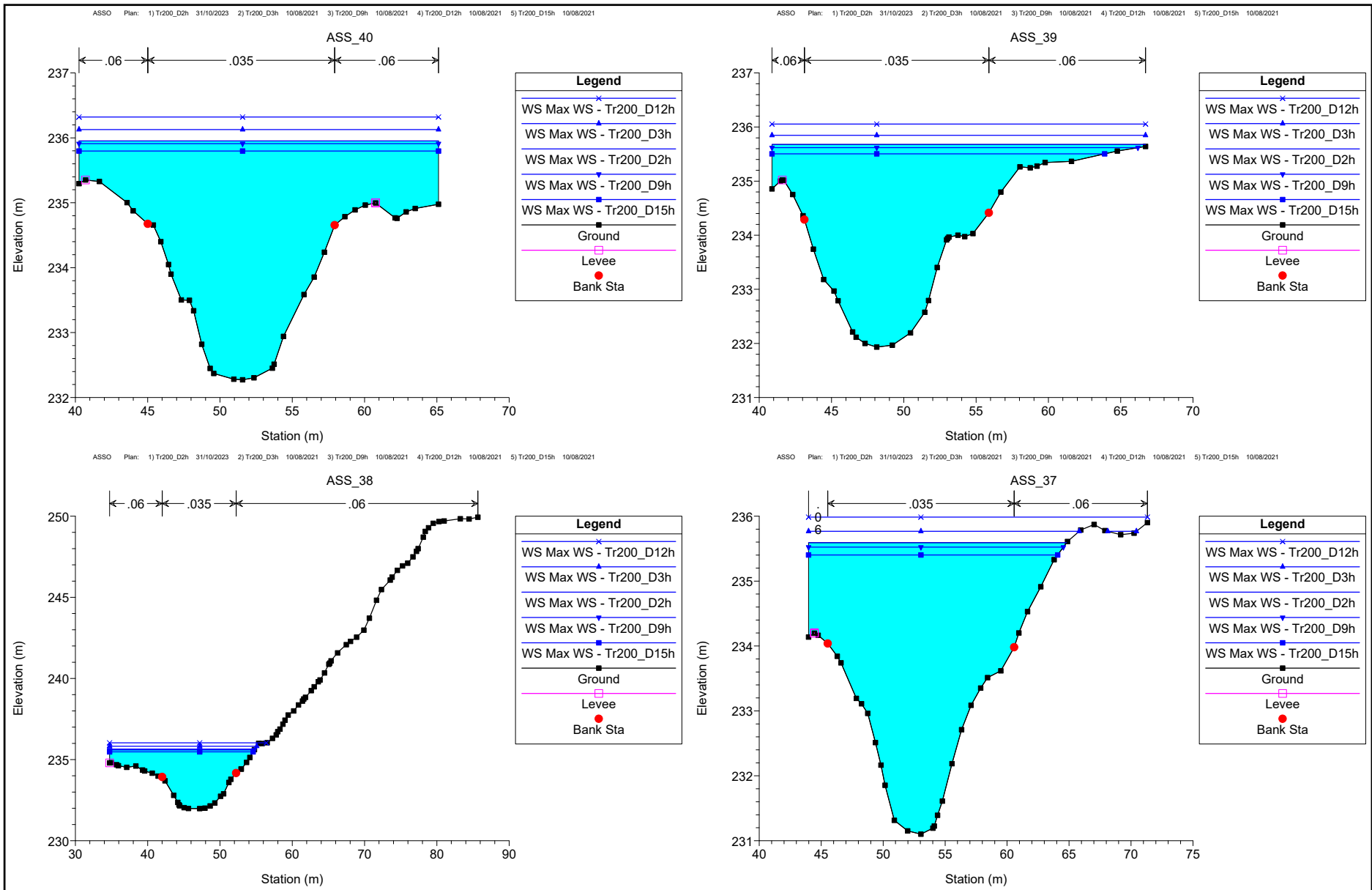


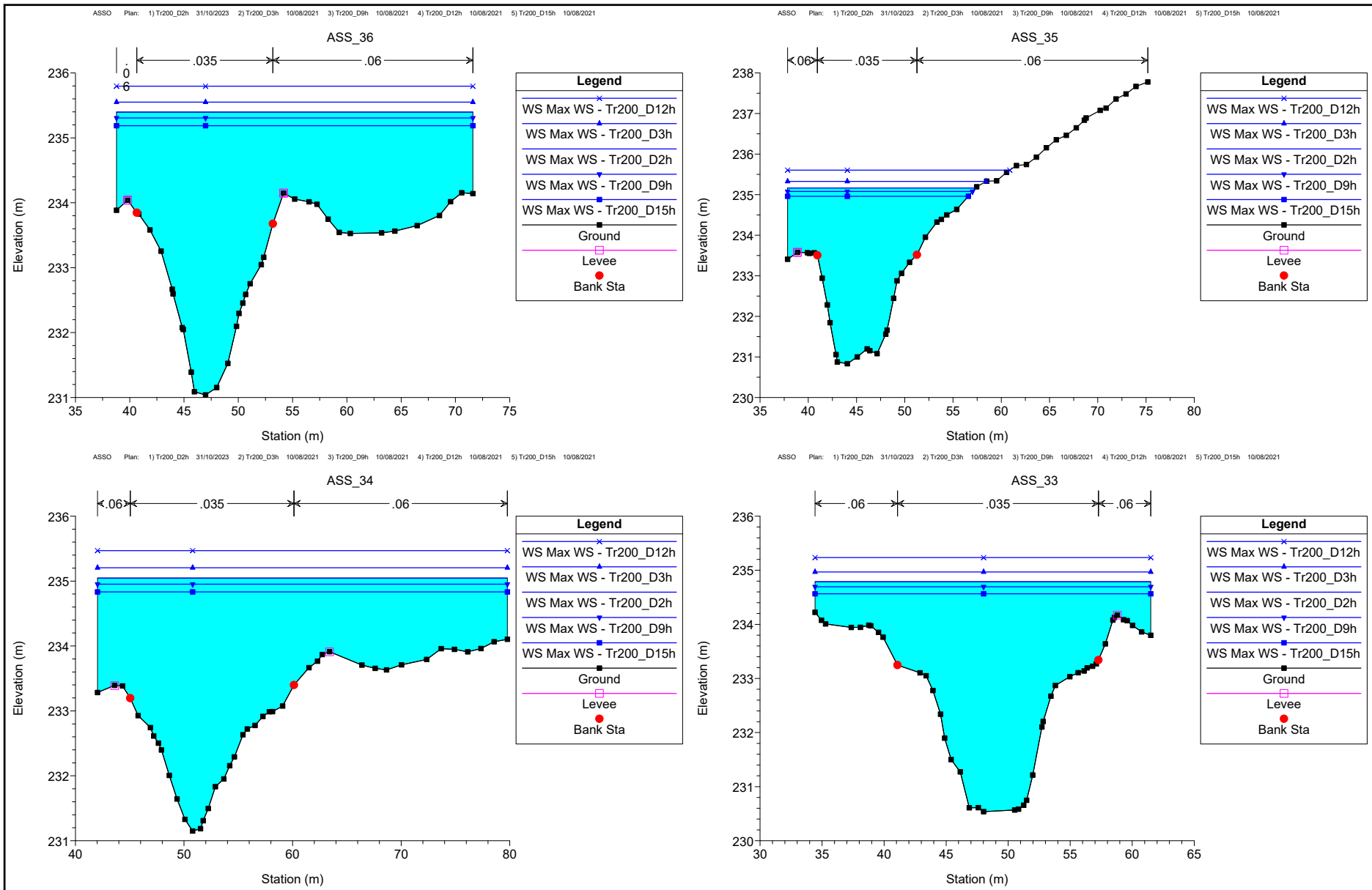


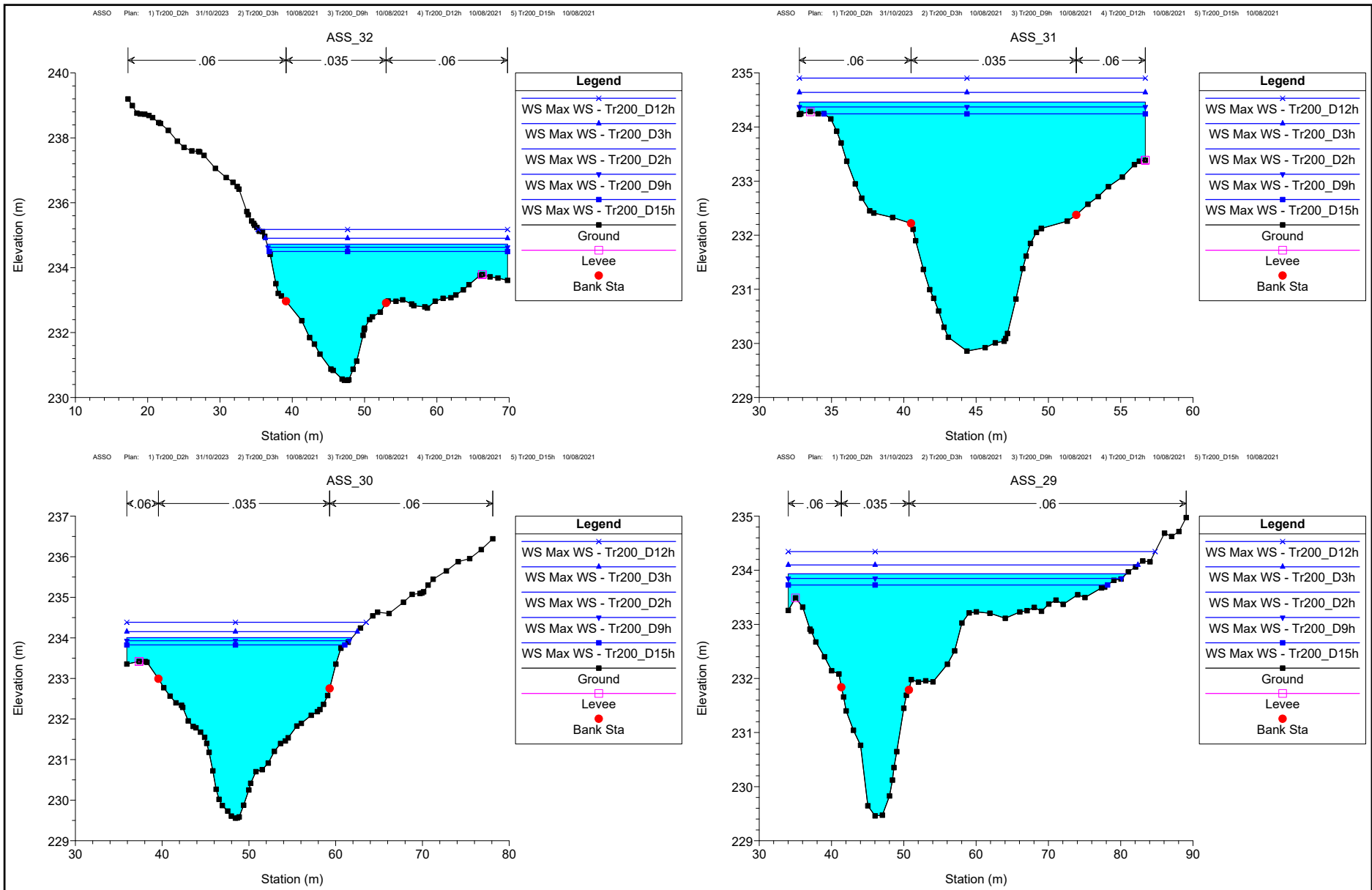


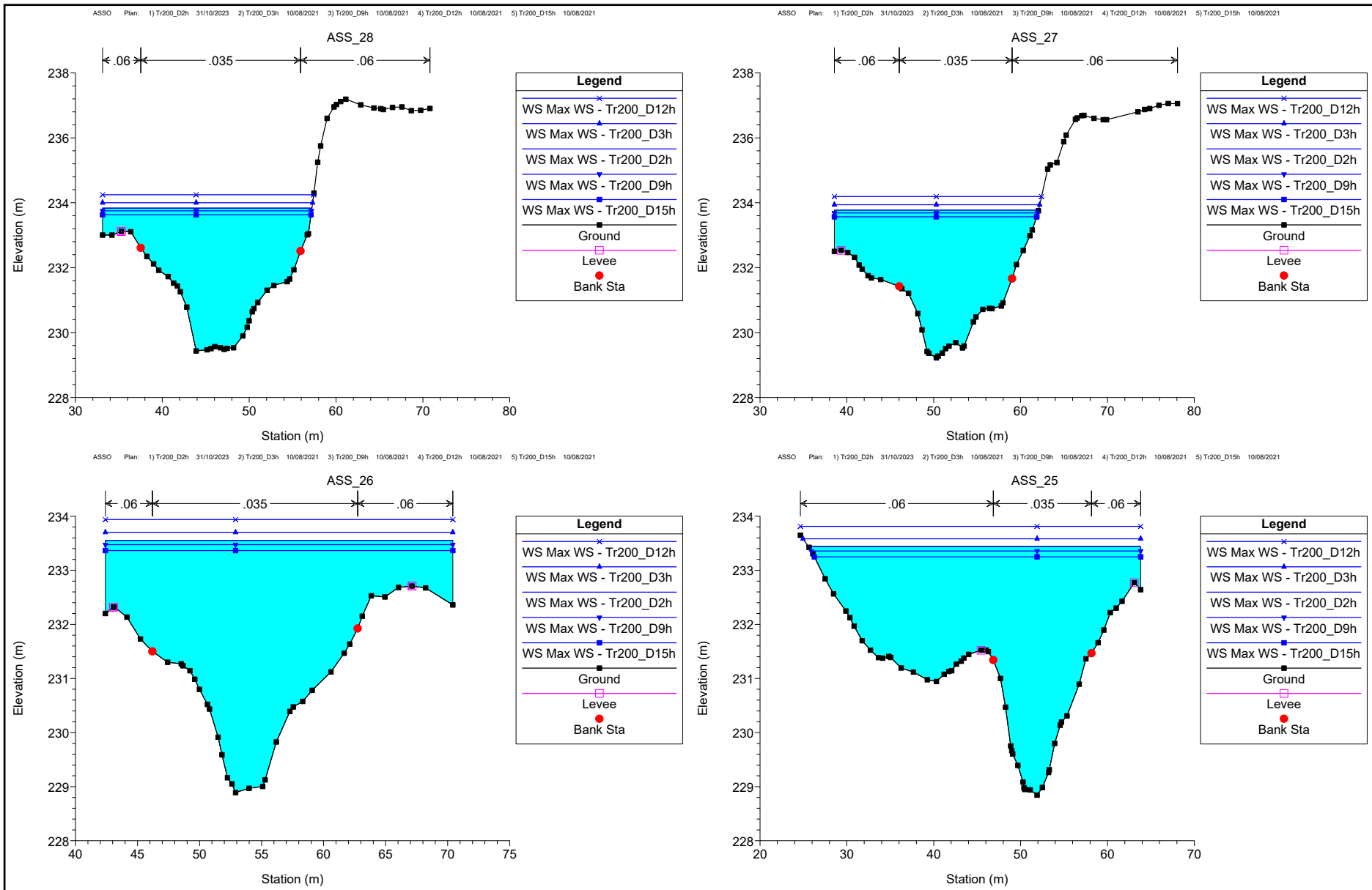


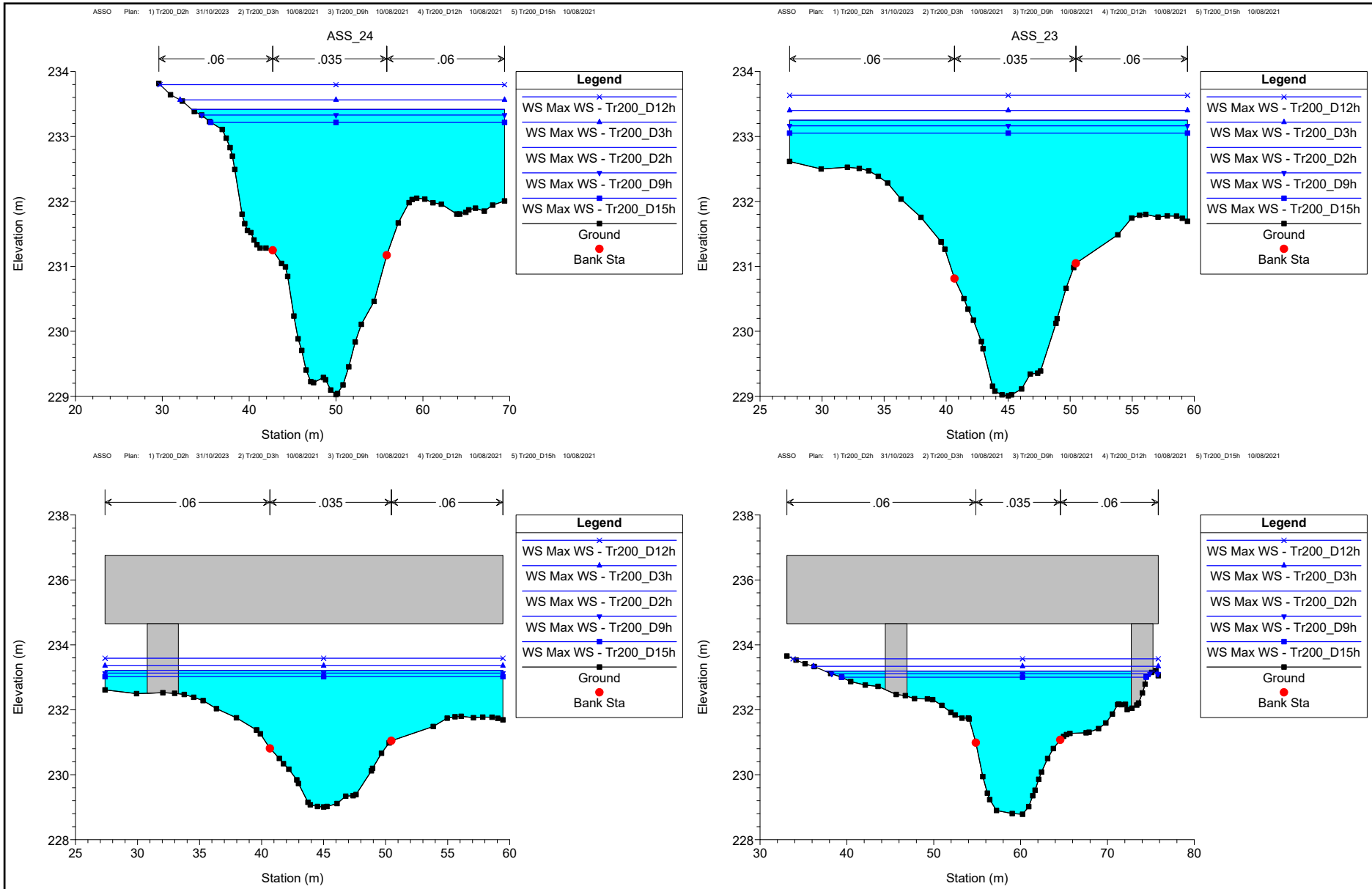


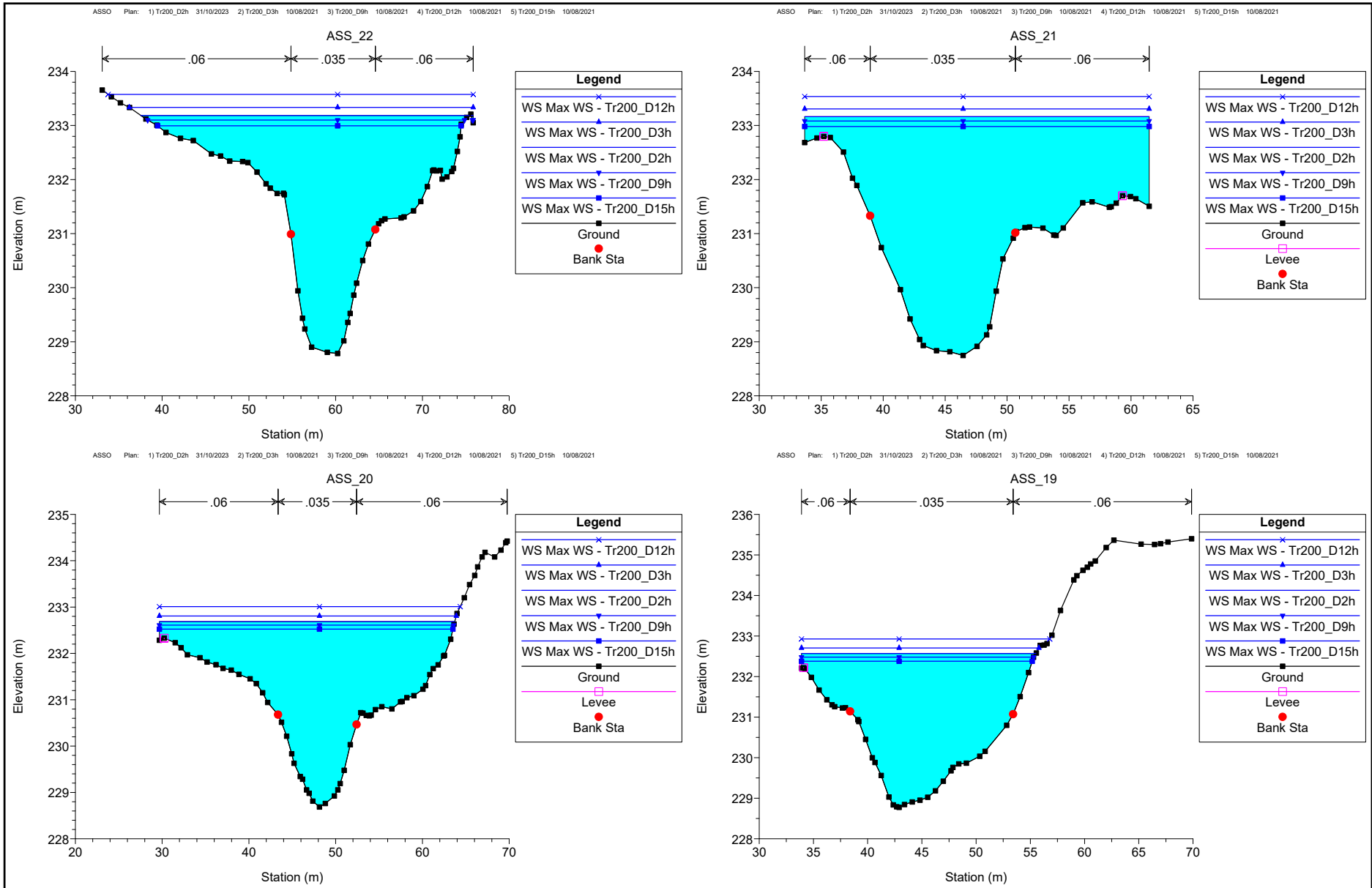




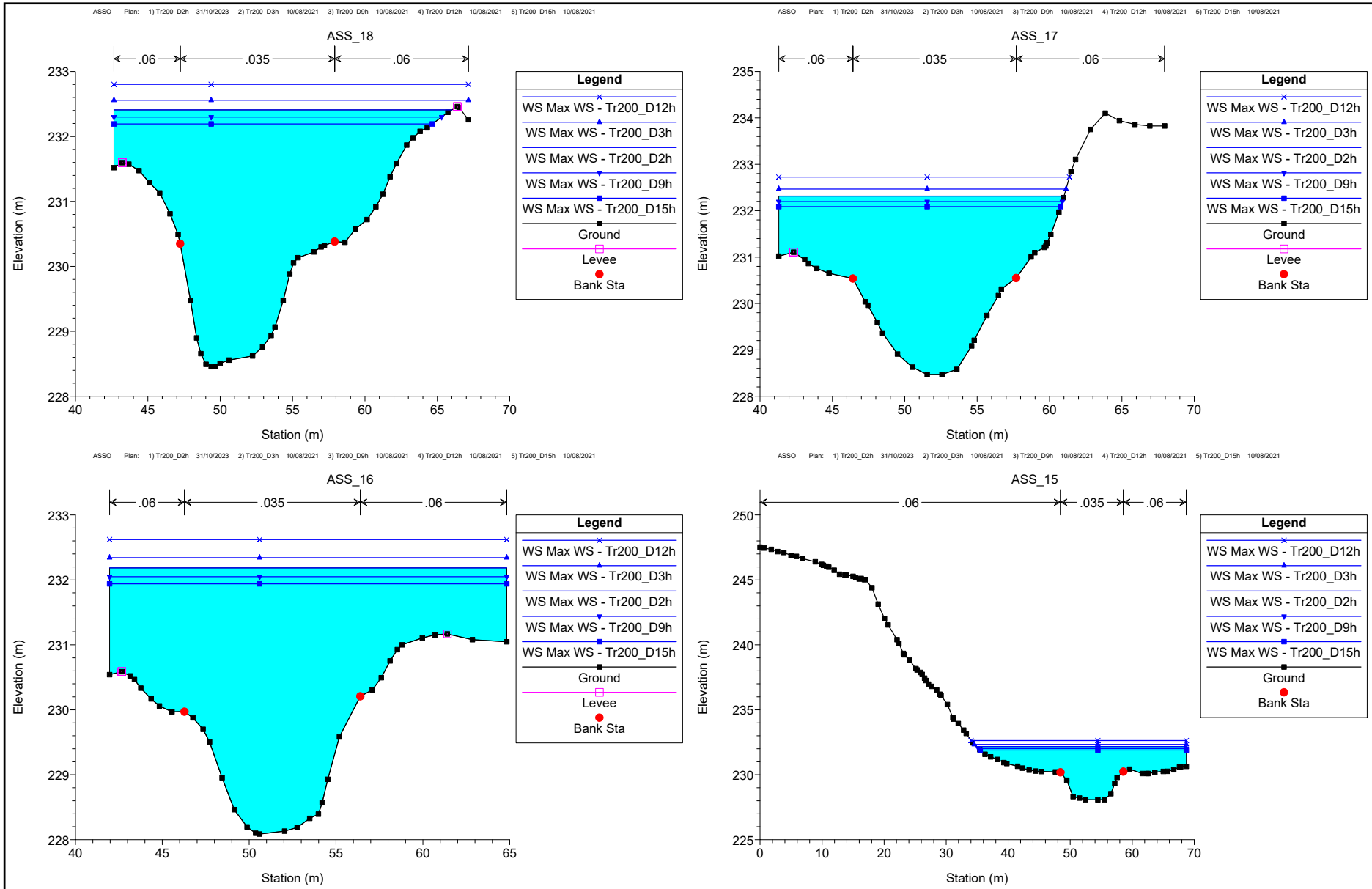


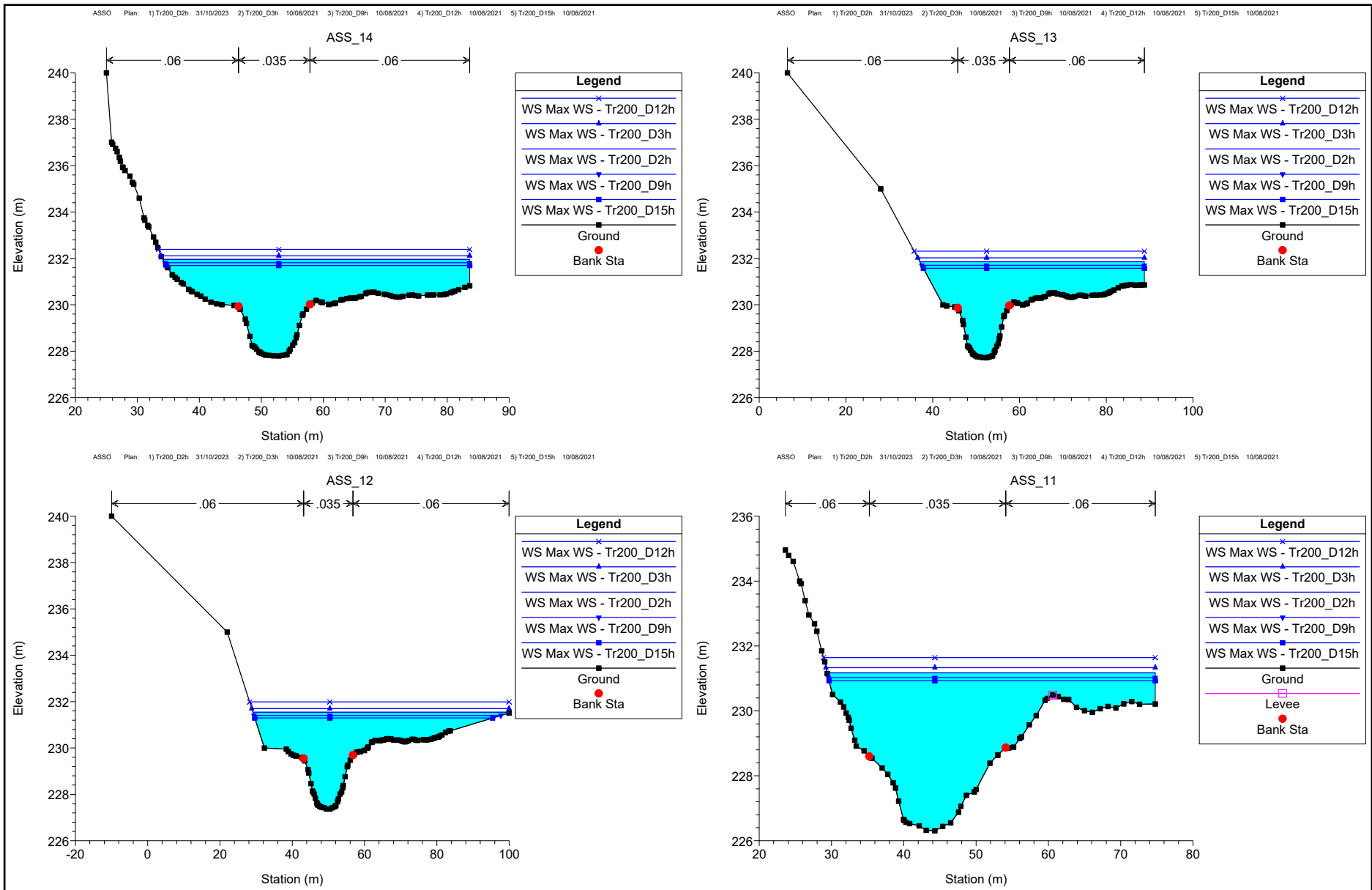


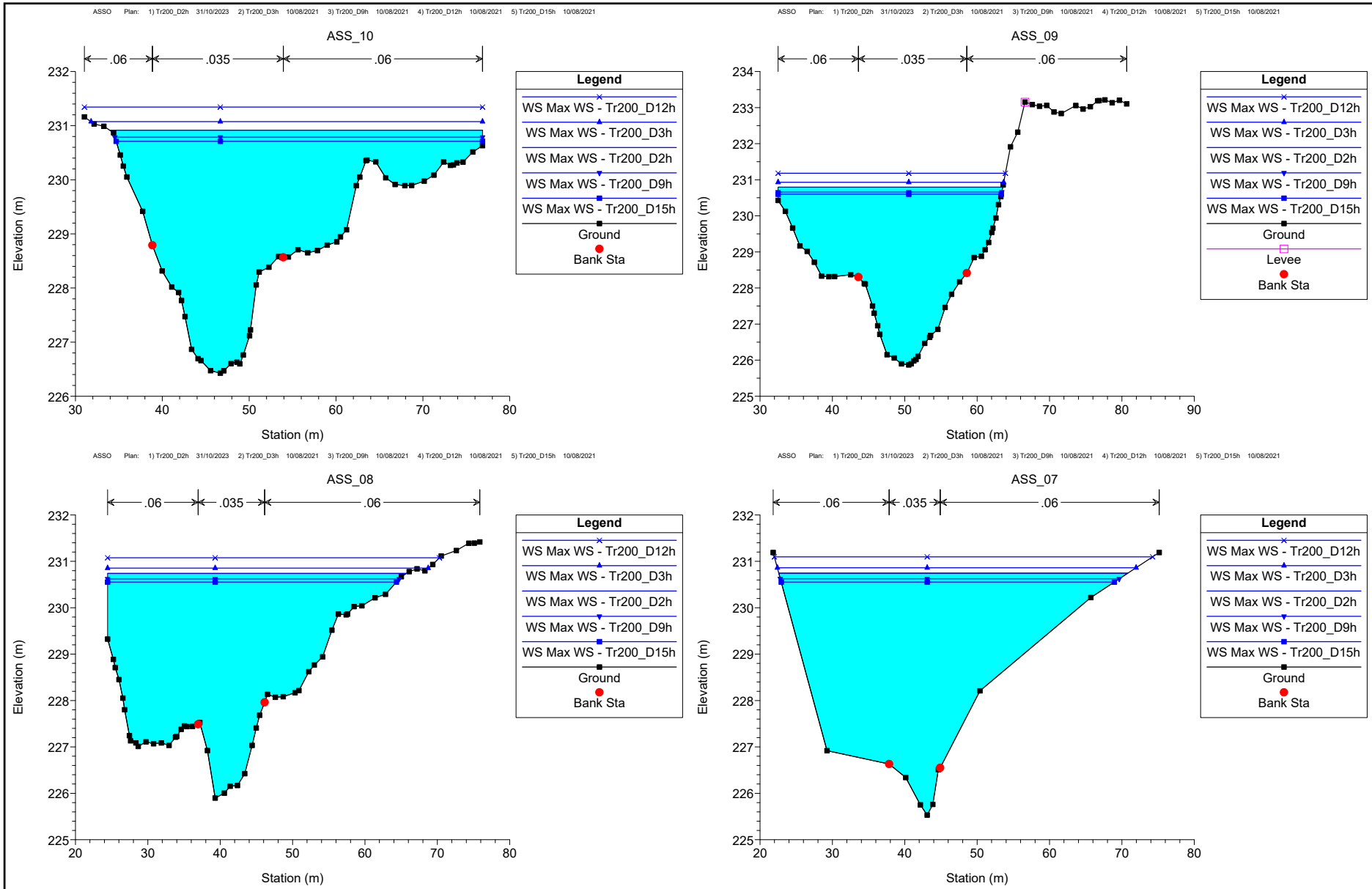


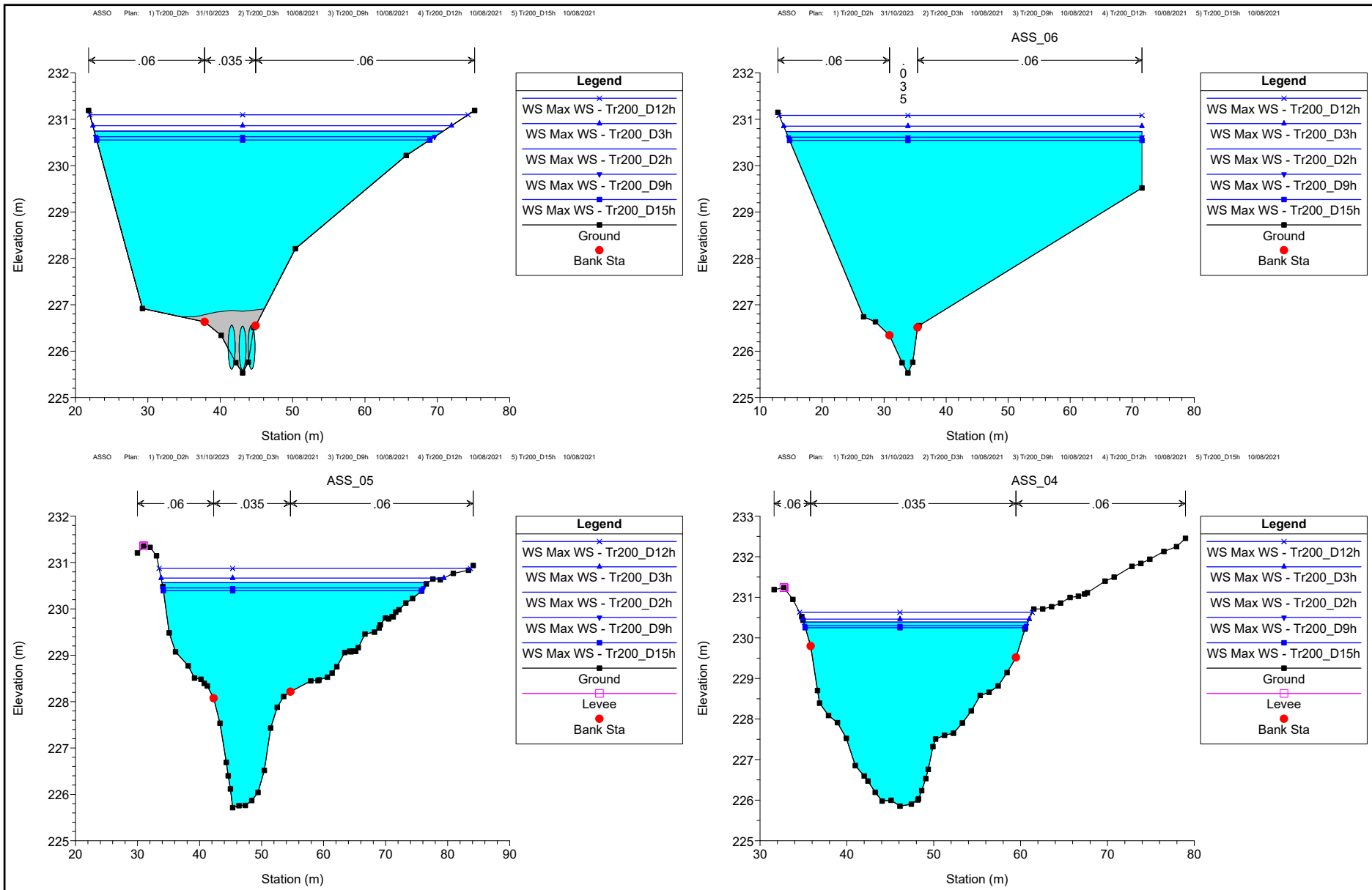


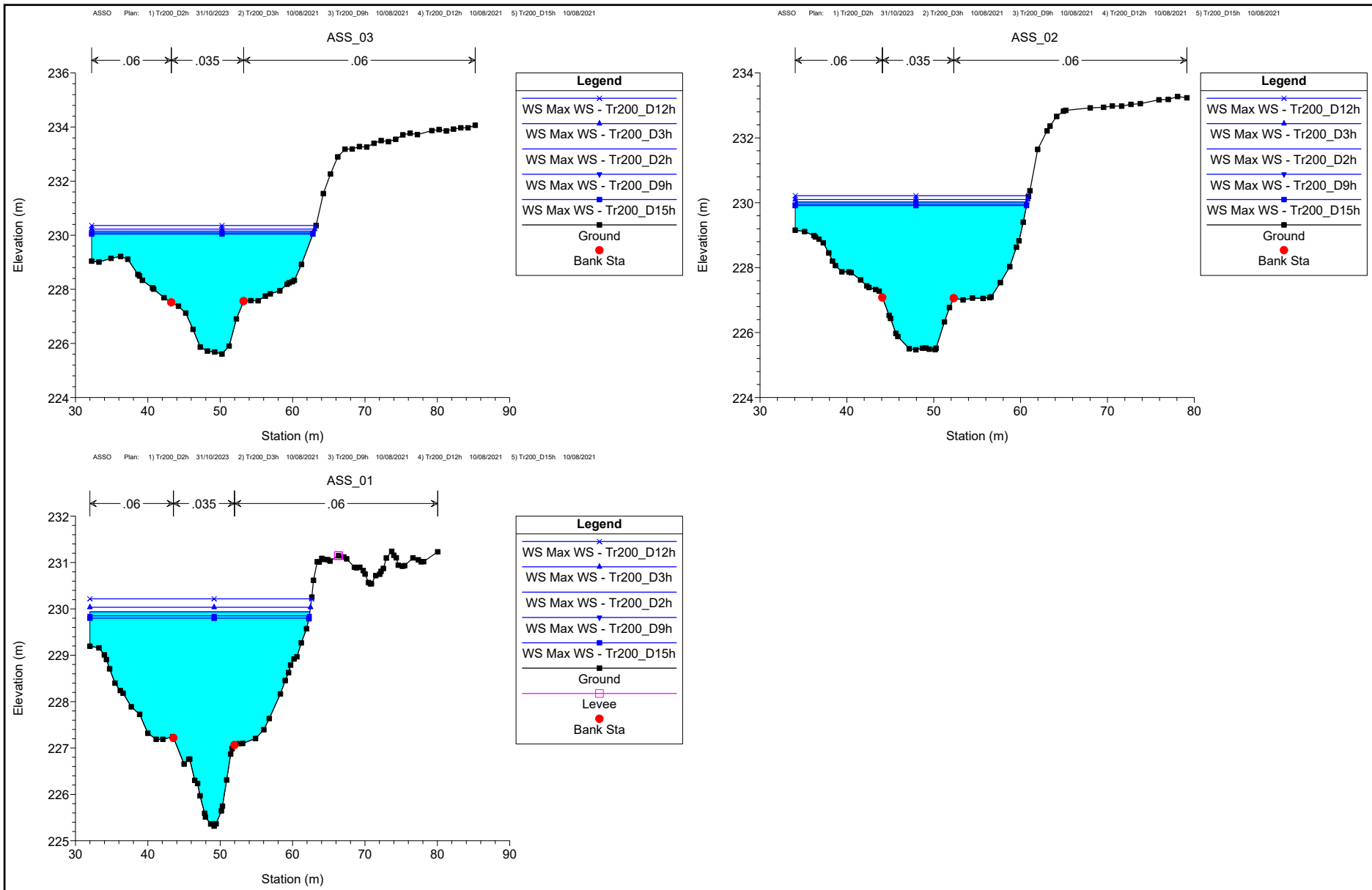












# **ALLEGATI**

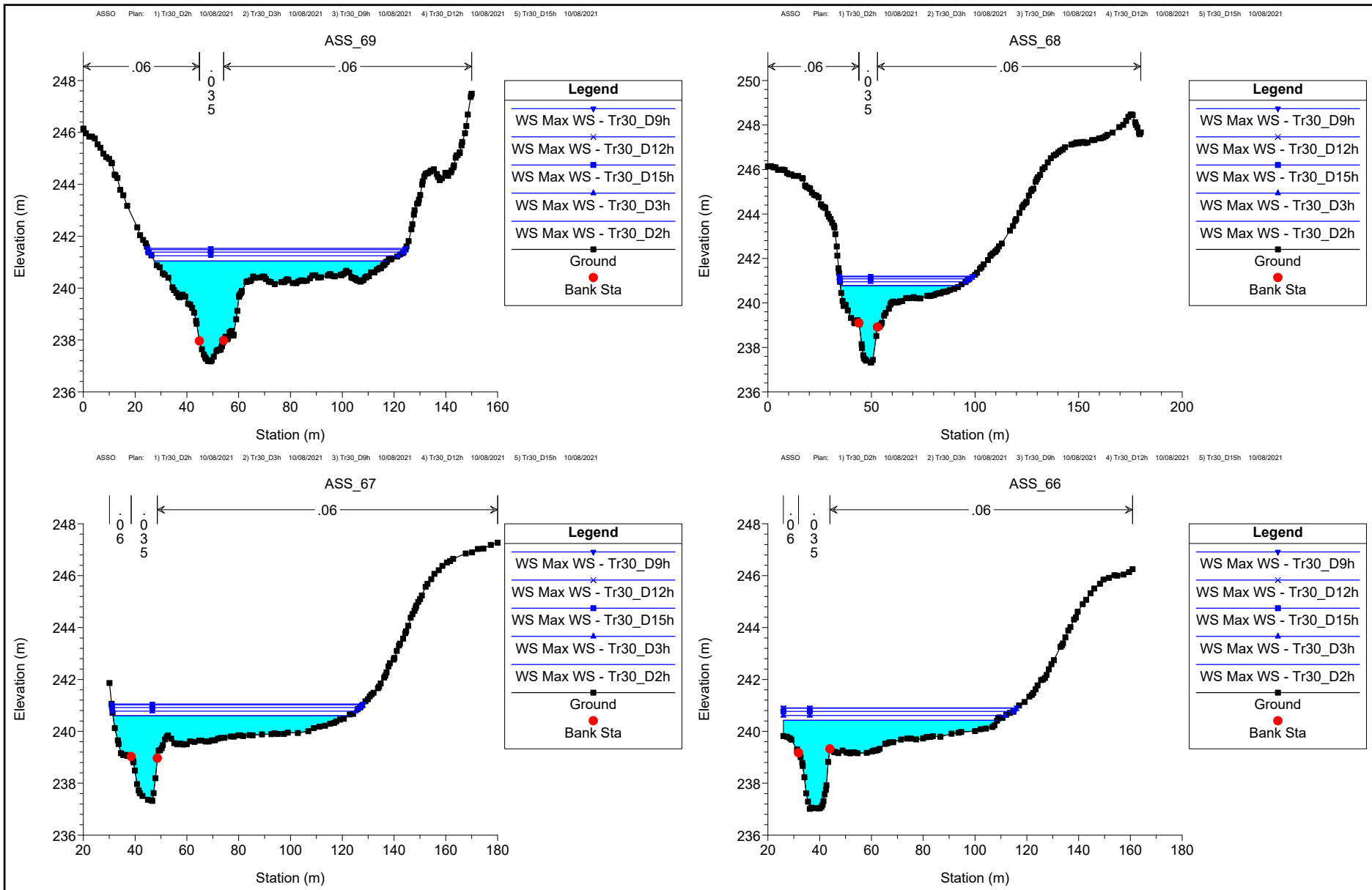
## **MODELLAZIONE HEC-RAS 5.0.7 "ASSO"**

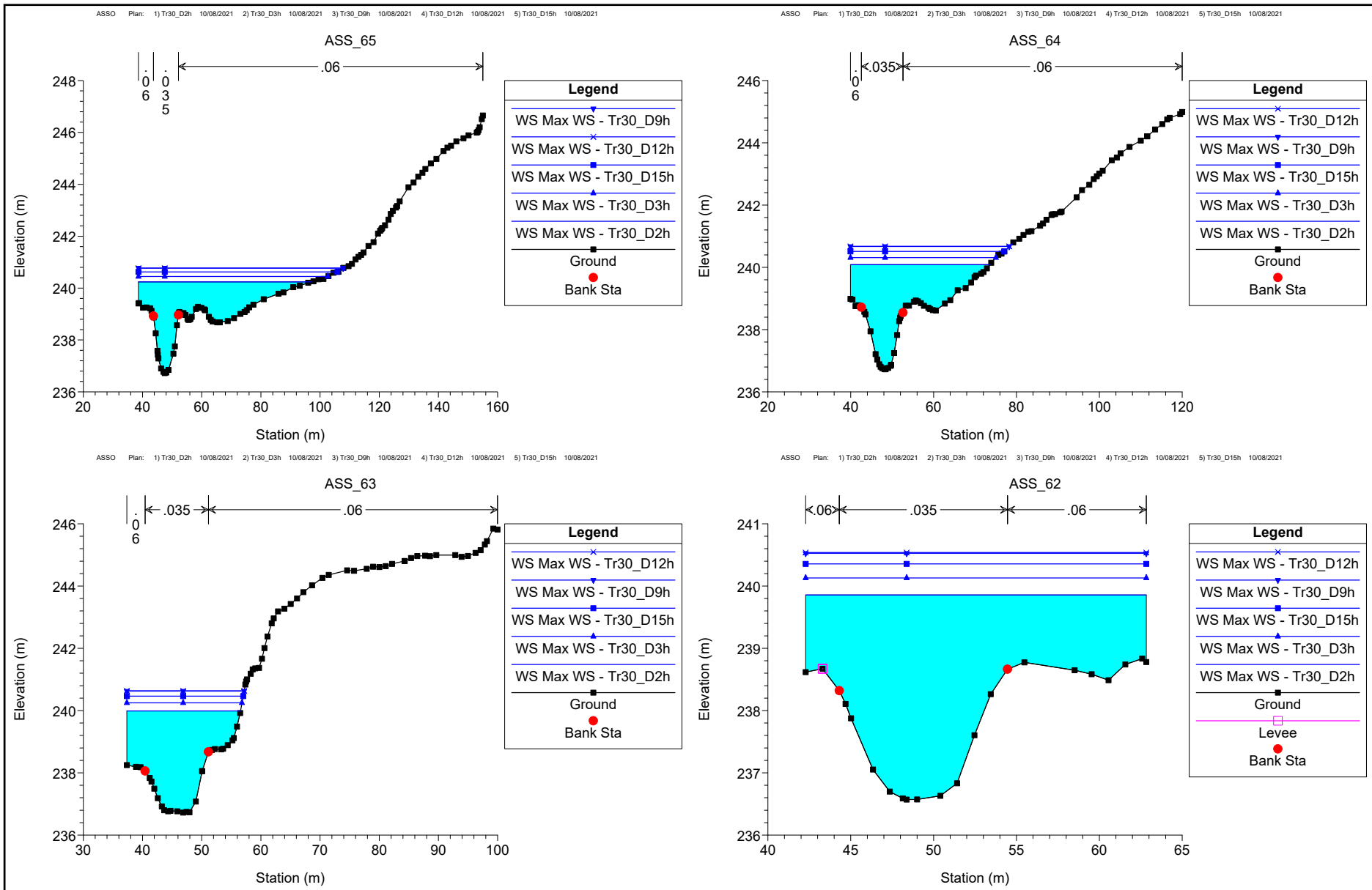
### **TORRENTE ASSO**

MODELLAZIONE PER      Tr=30 anni

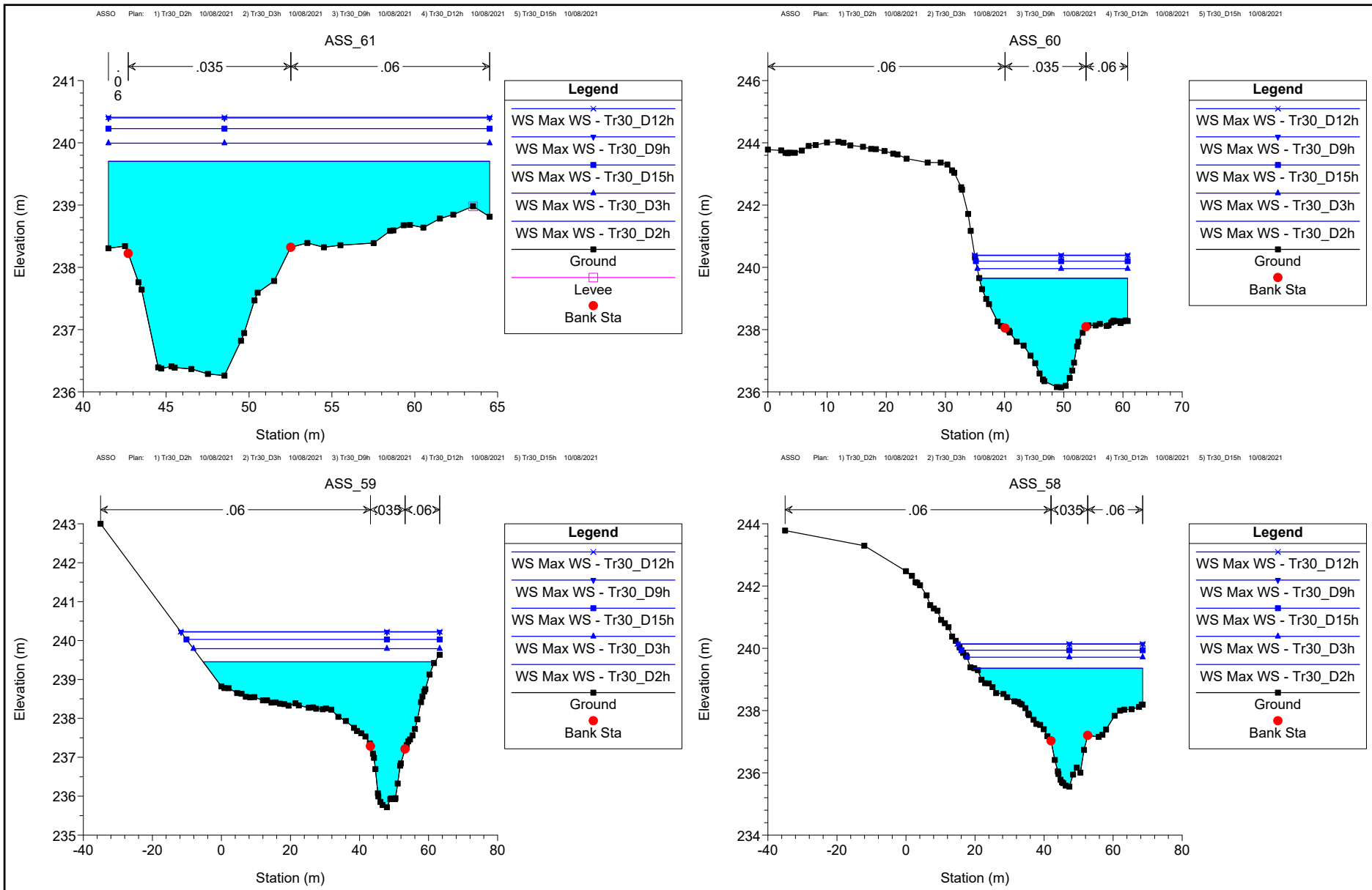
DURATE DI PIOGGIA:    2h, 3h, 9h, 12h e 15h

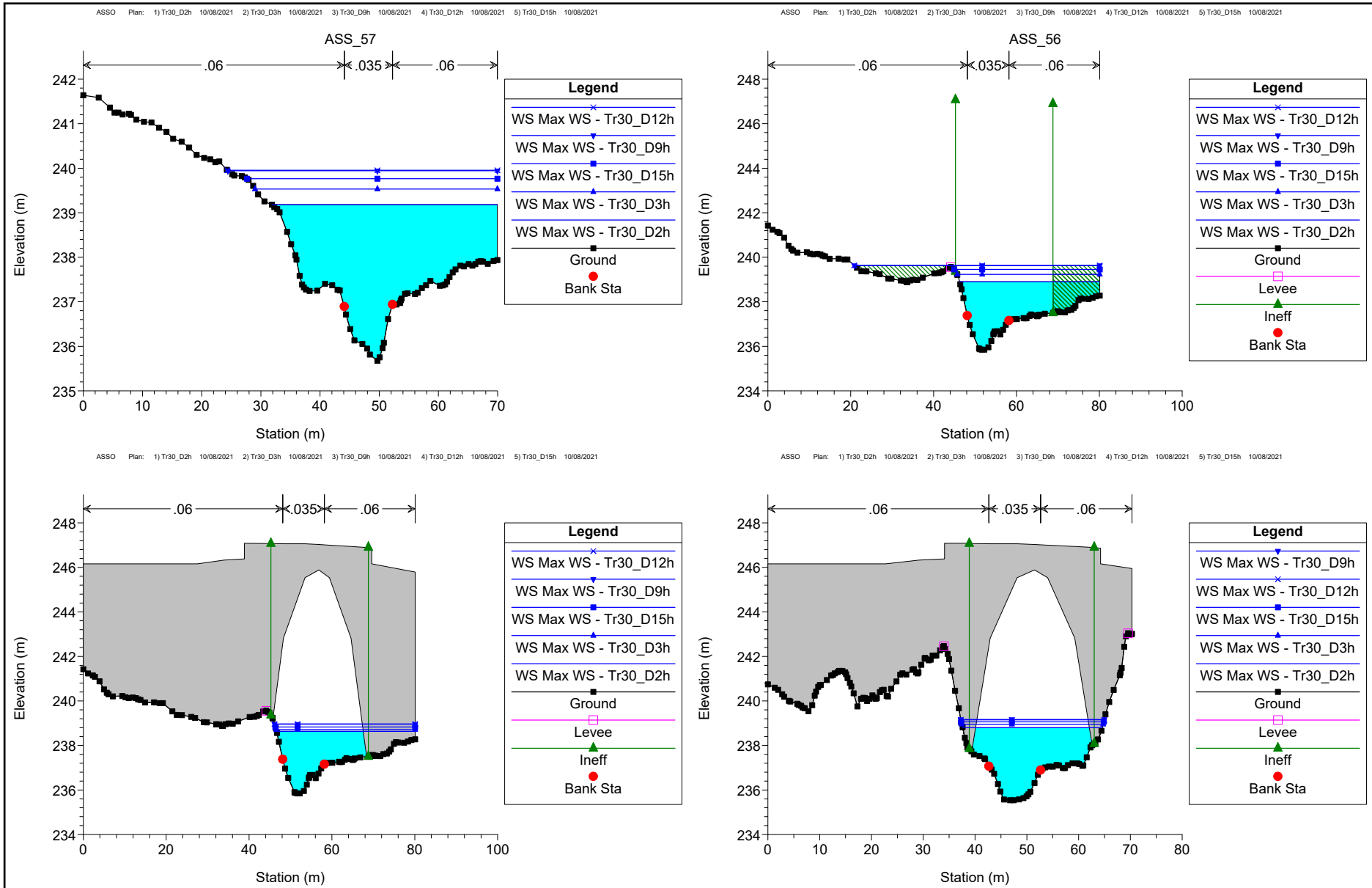
***Sezioni Trasversali (da monte verso valle)***

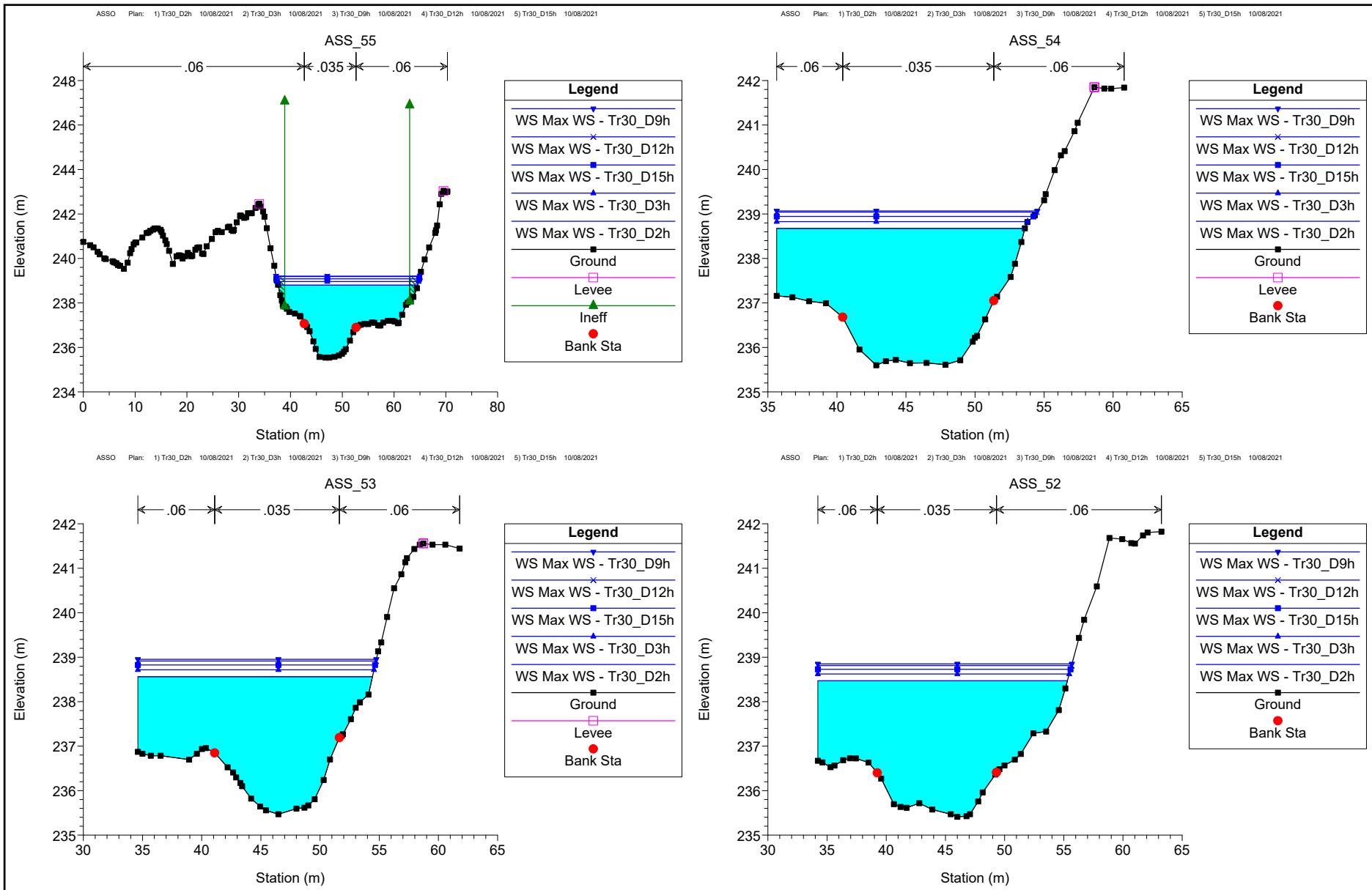


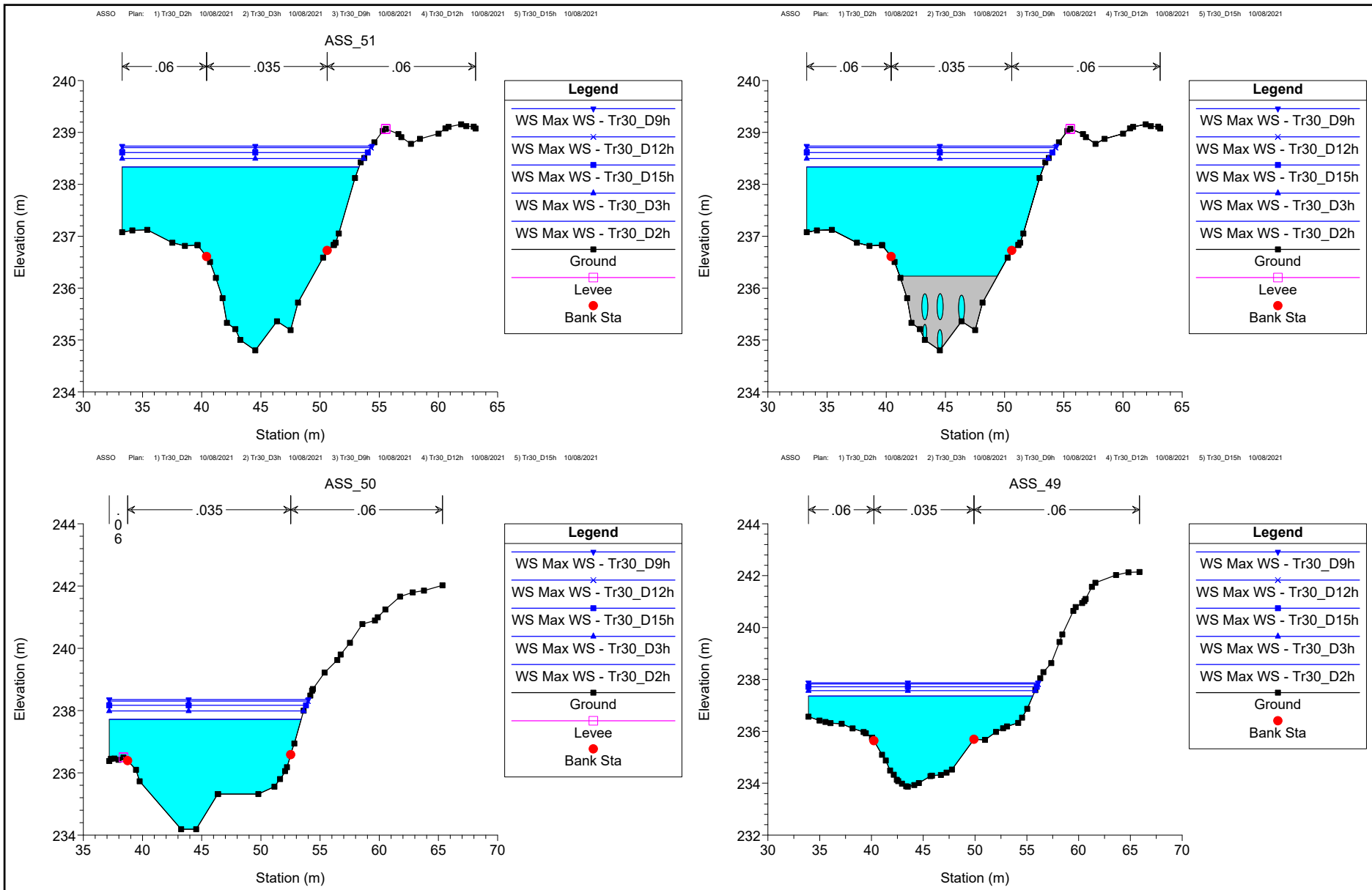


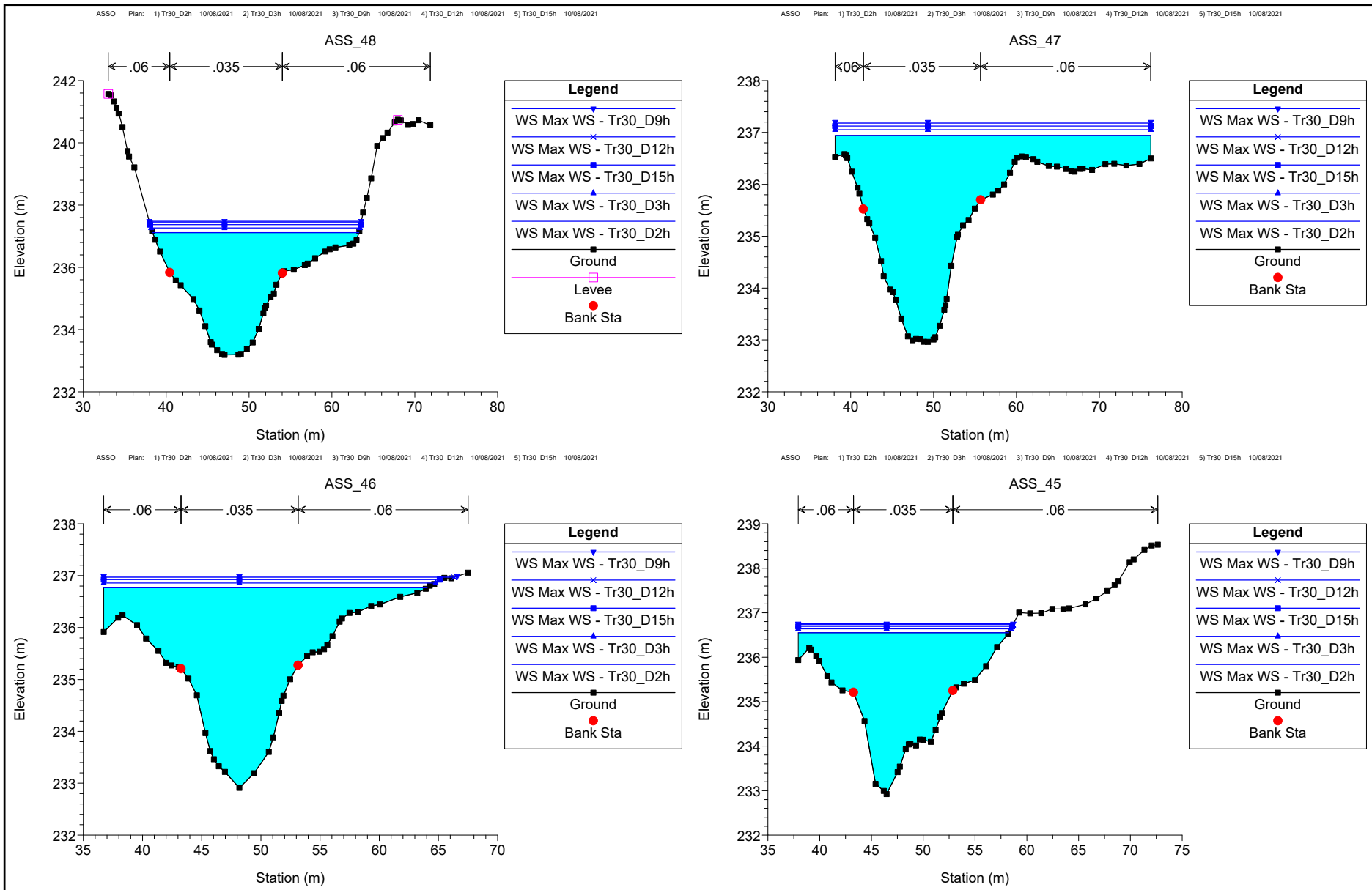


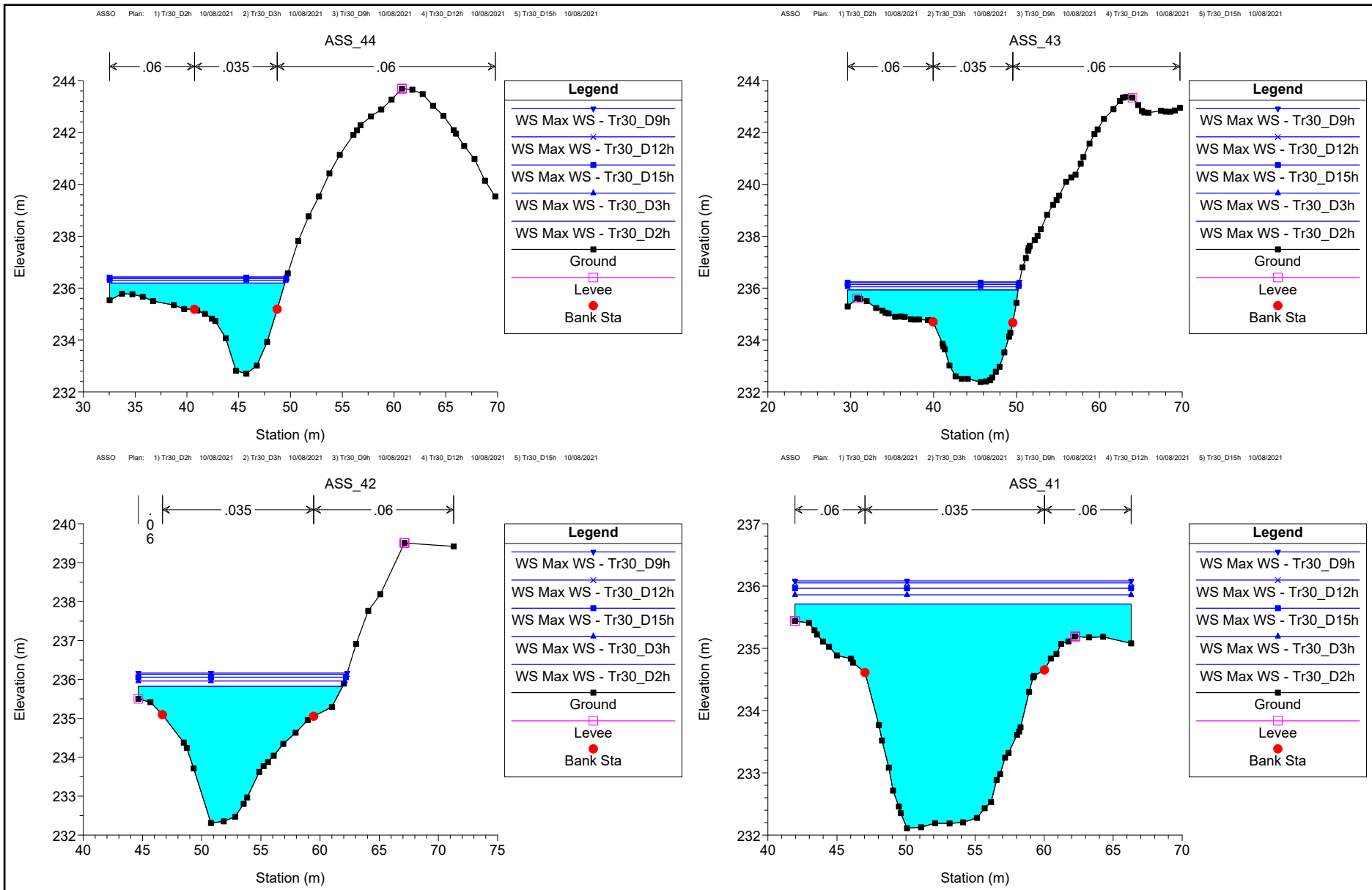


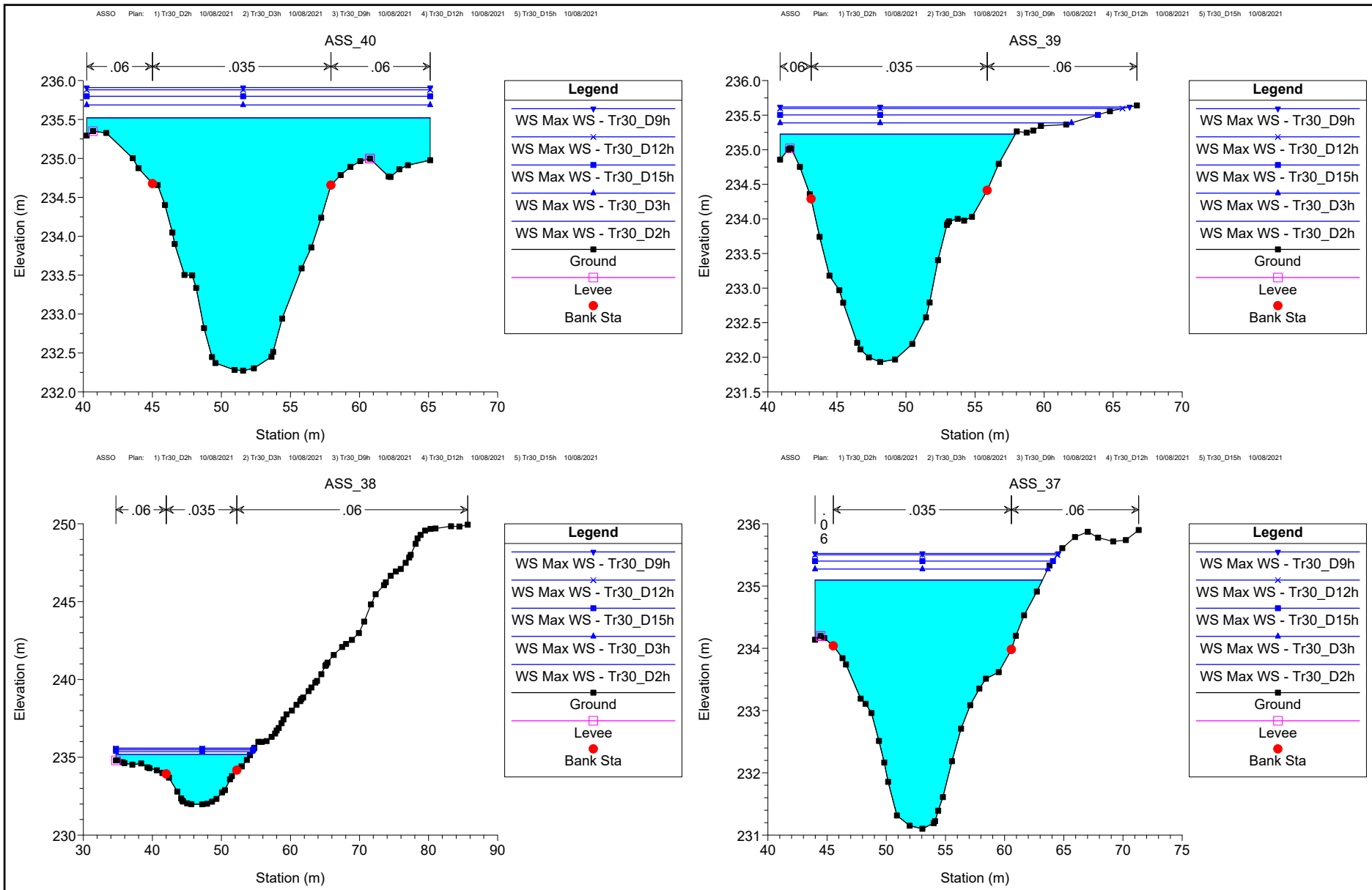


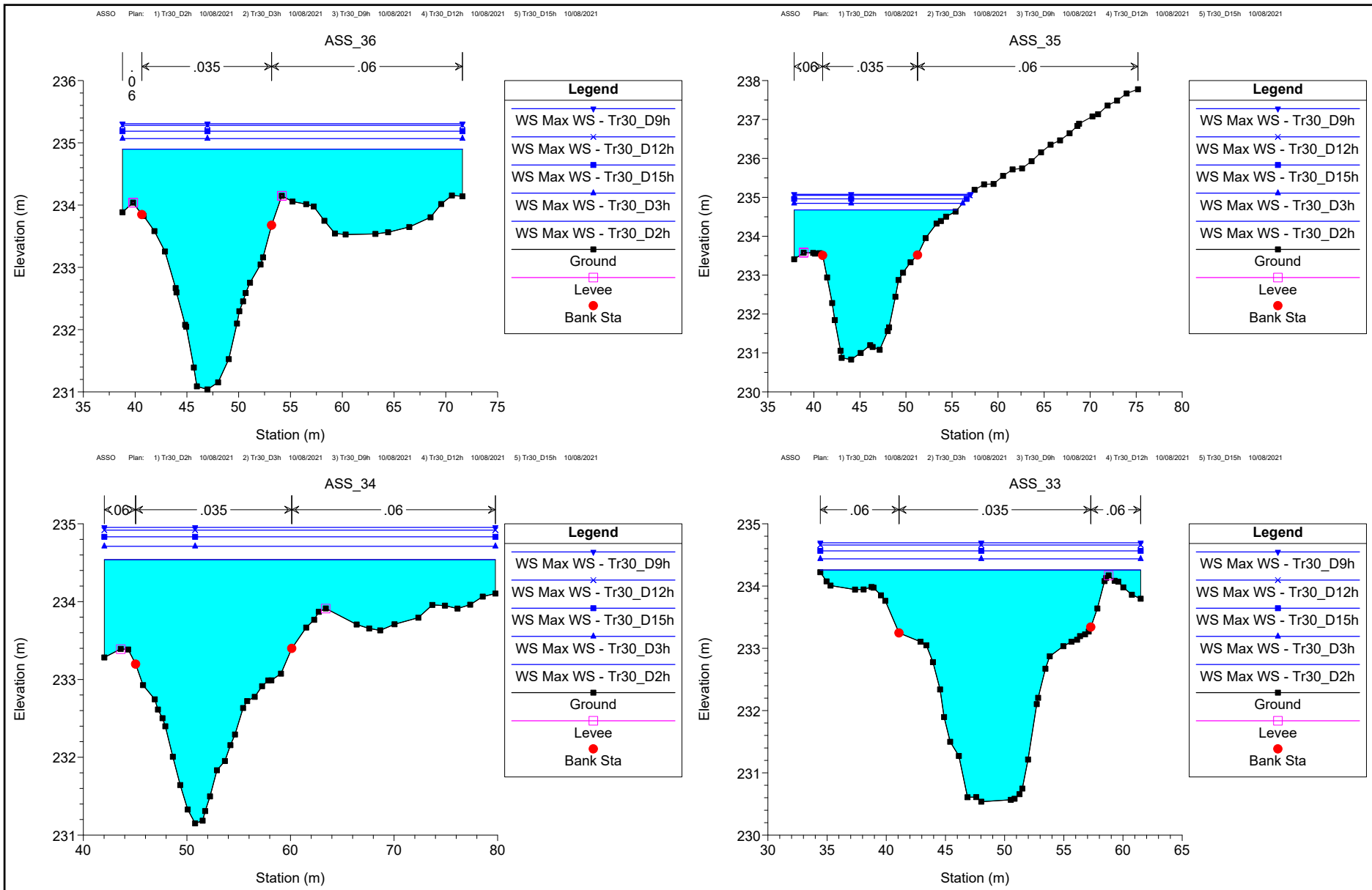




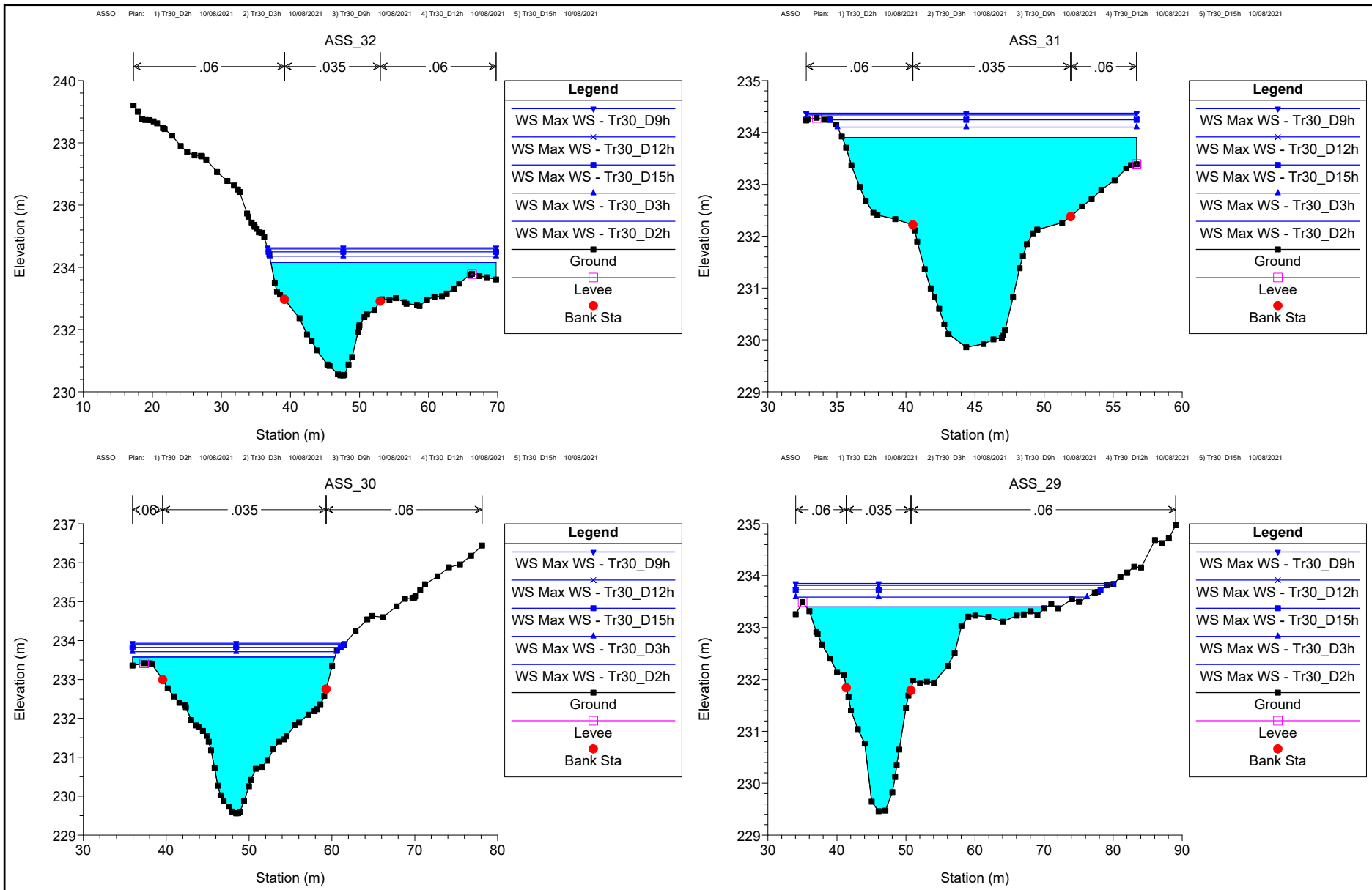


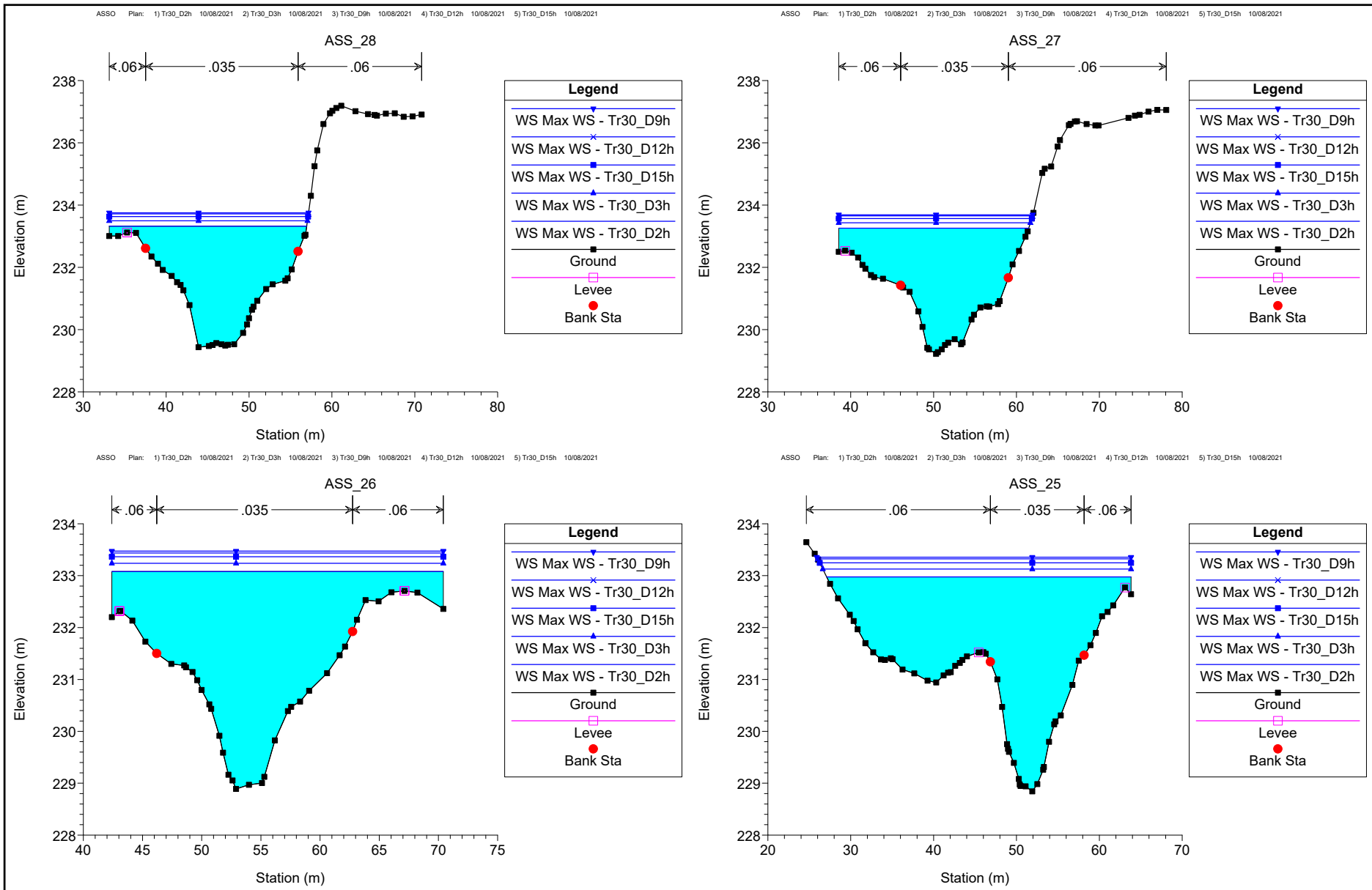


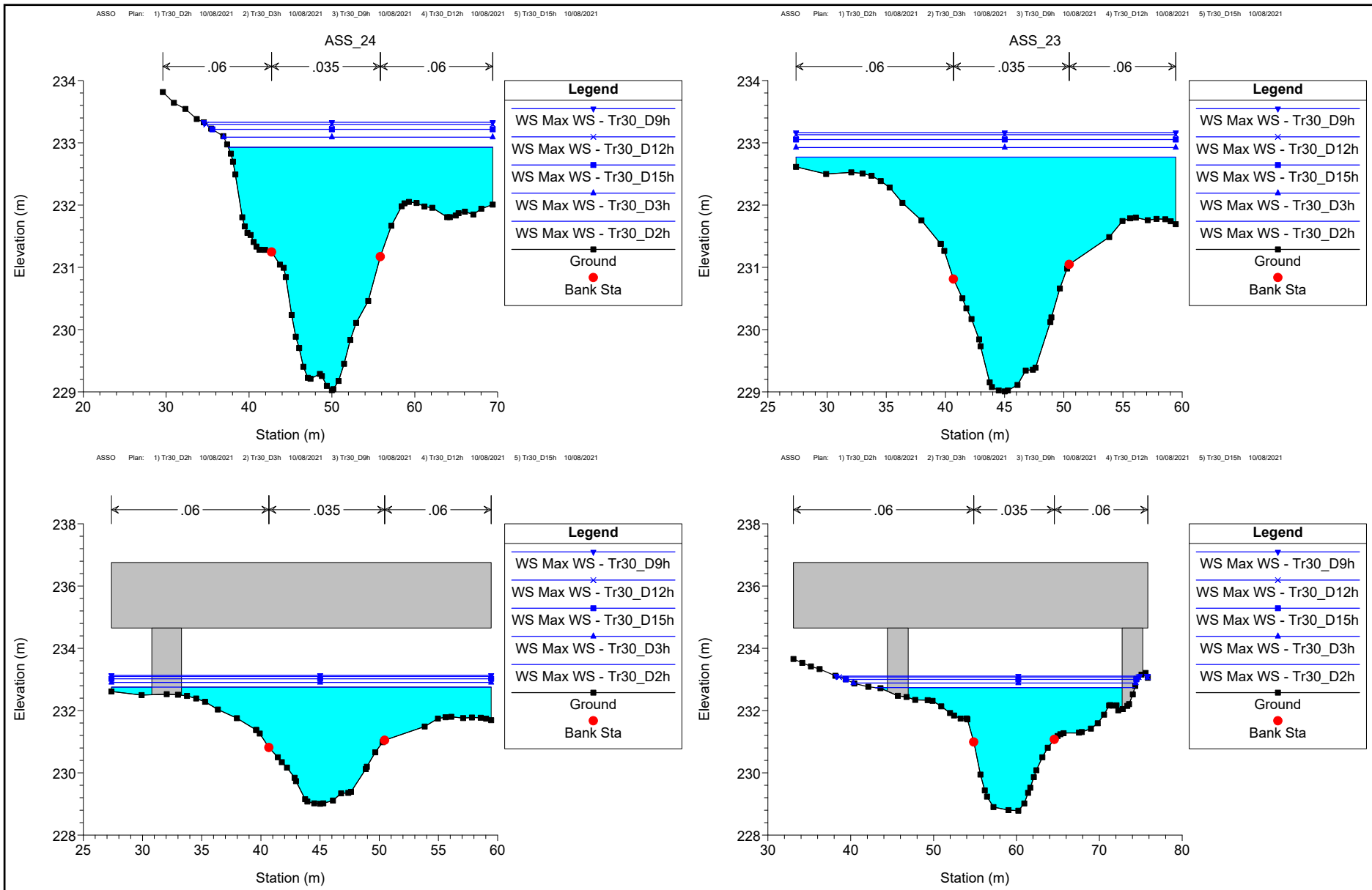


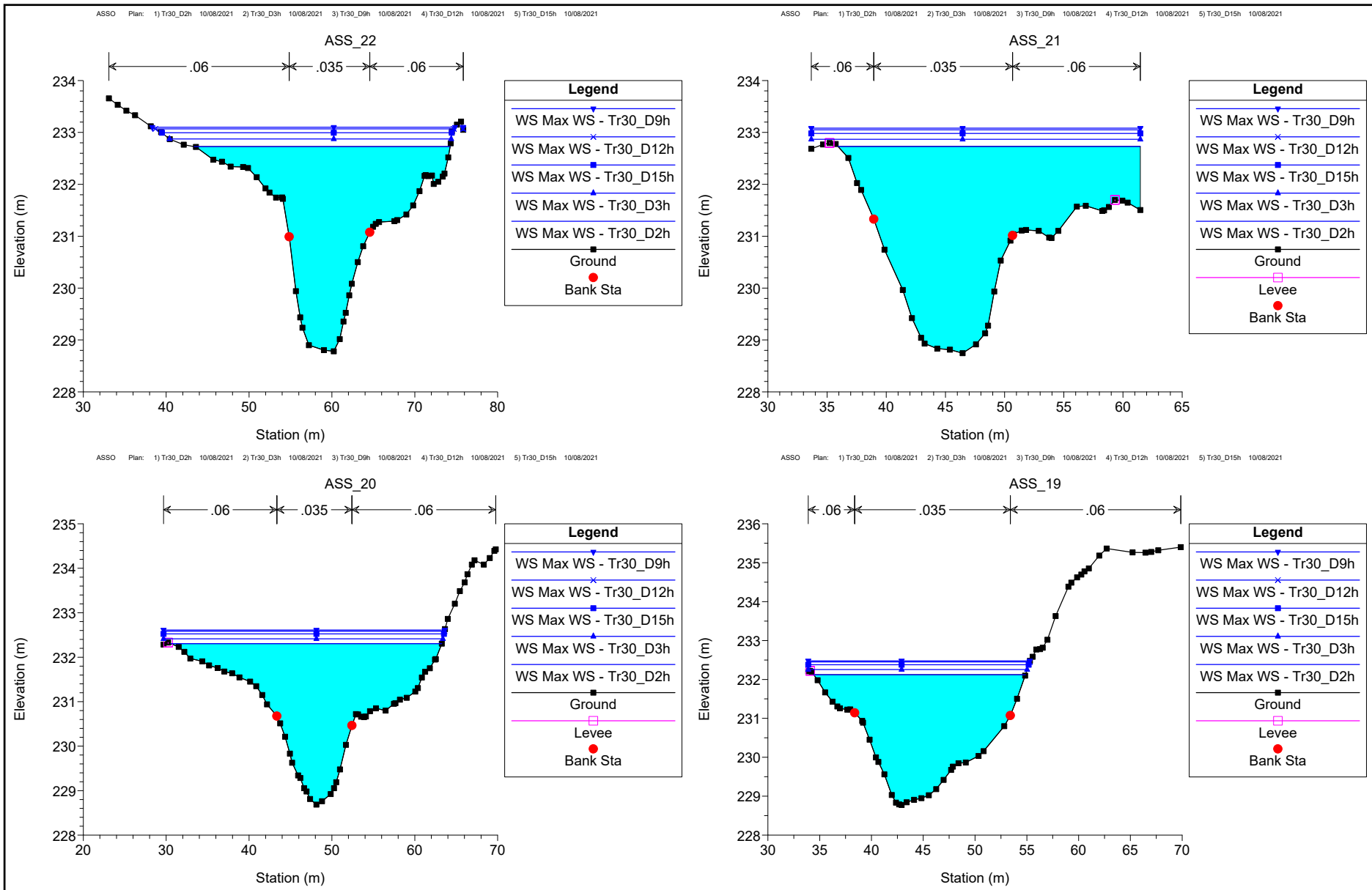


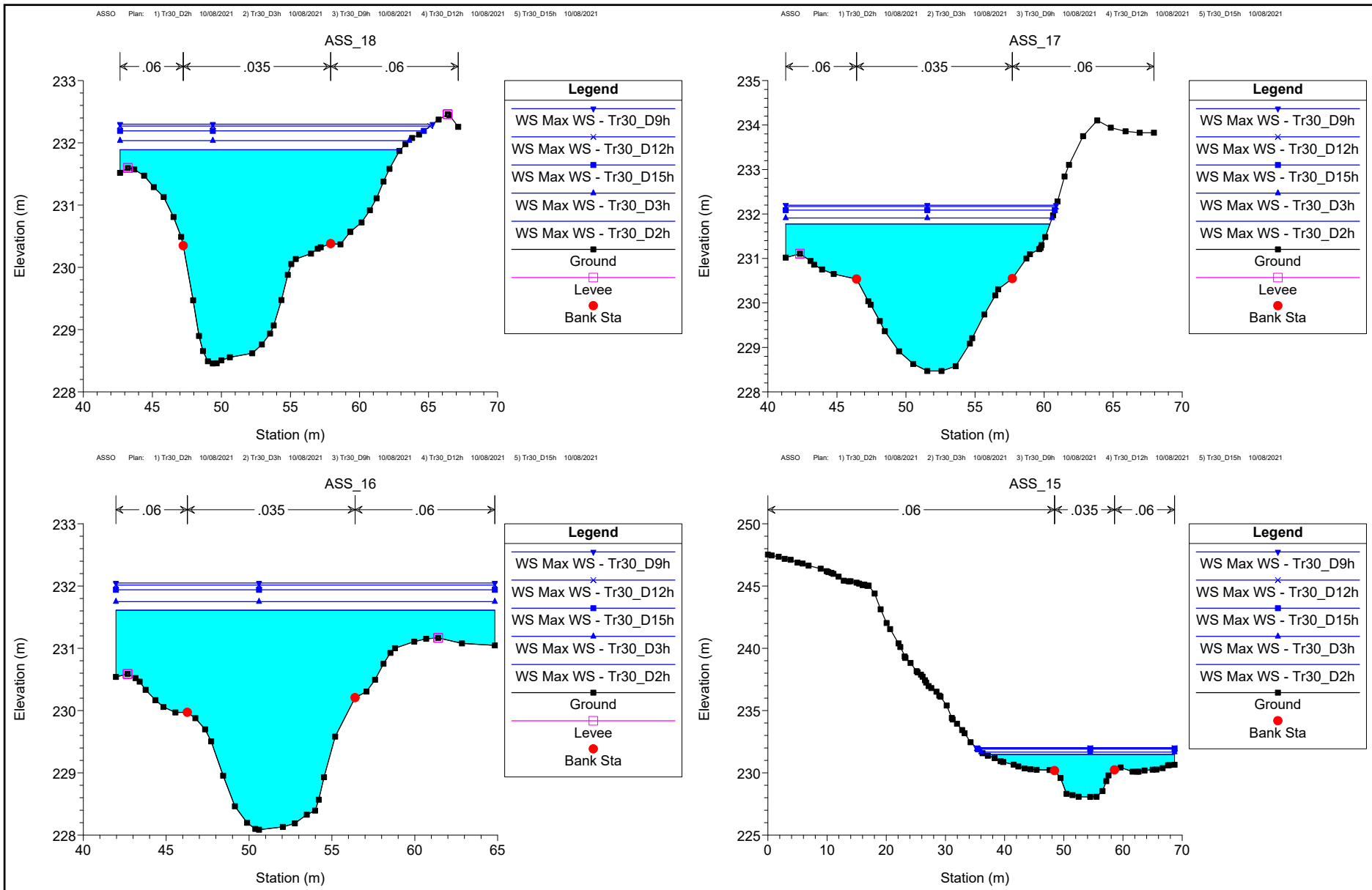


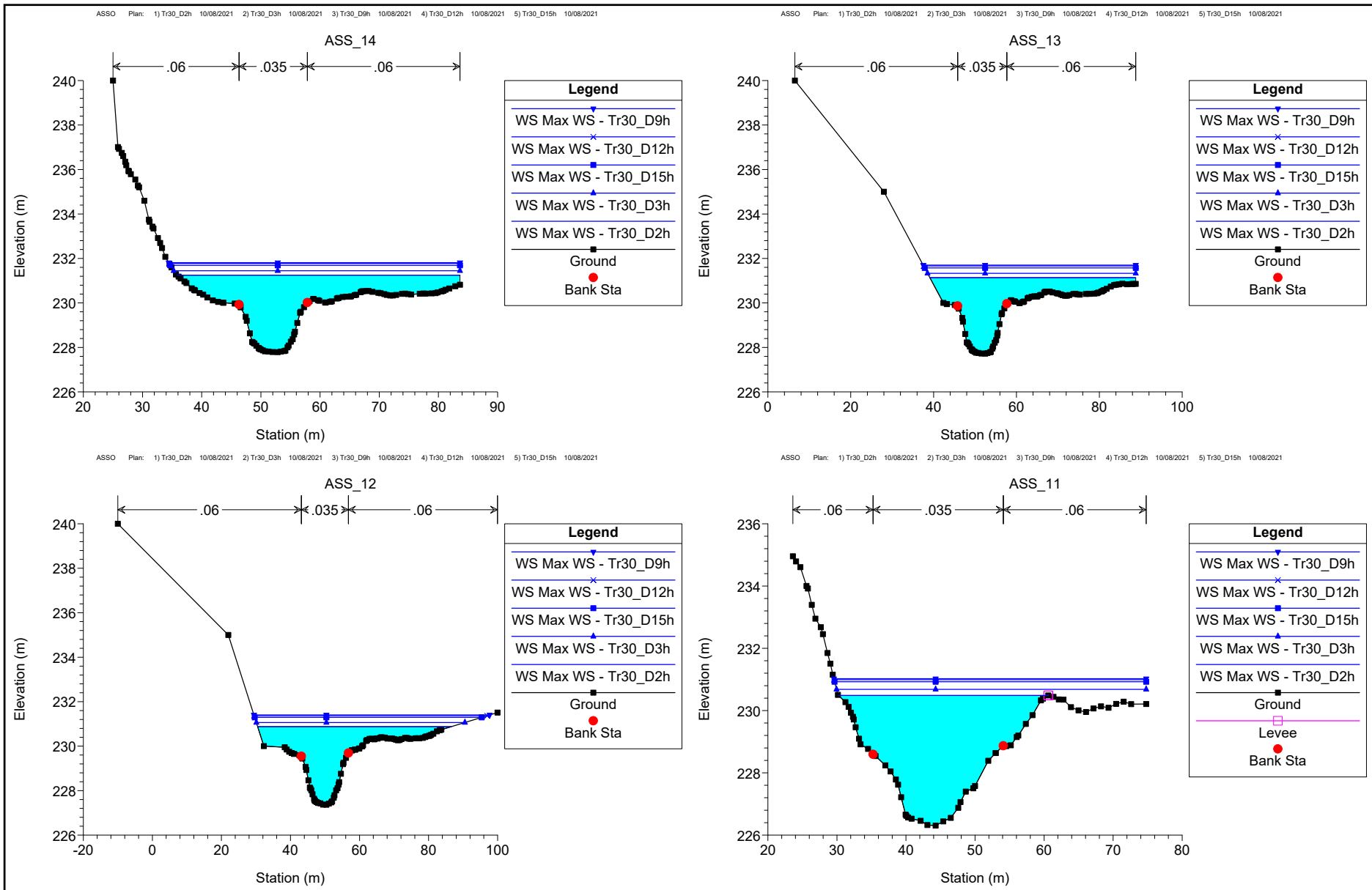


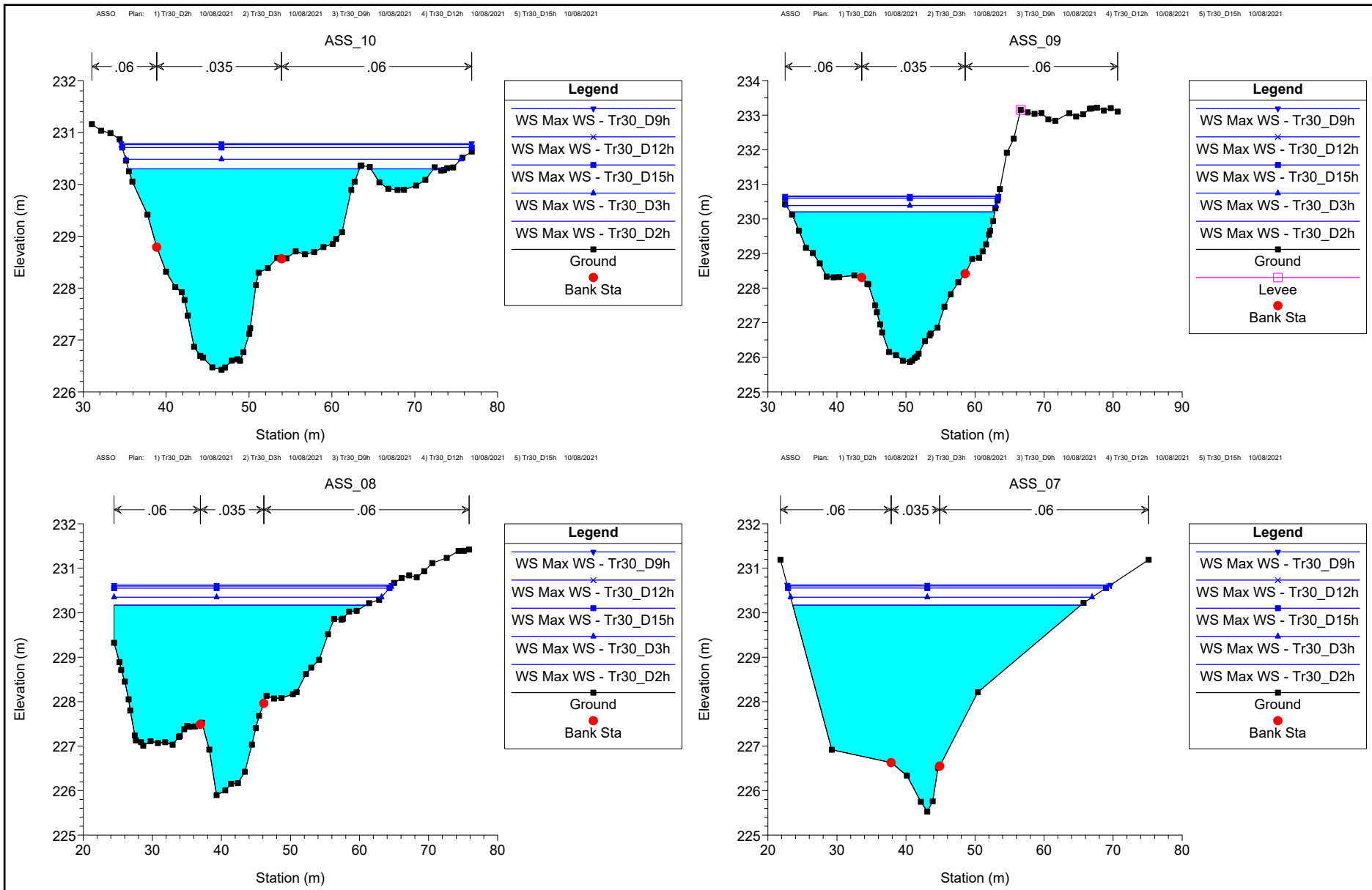


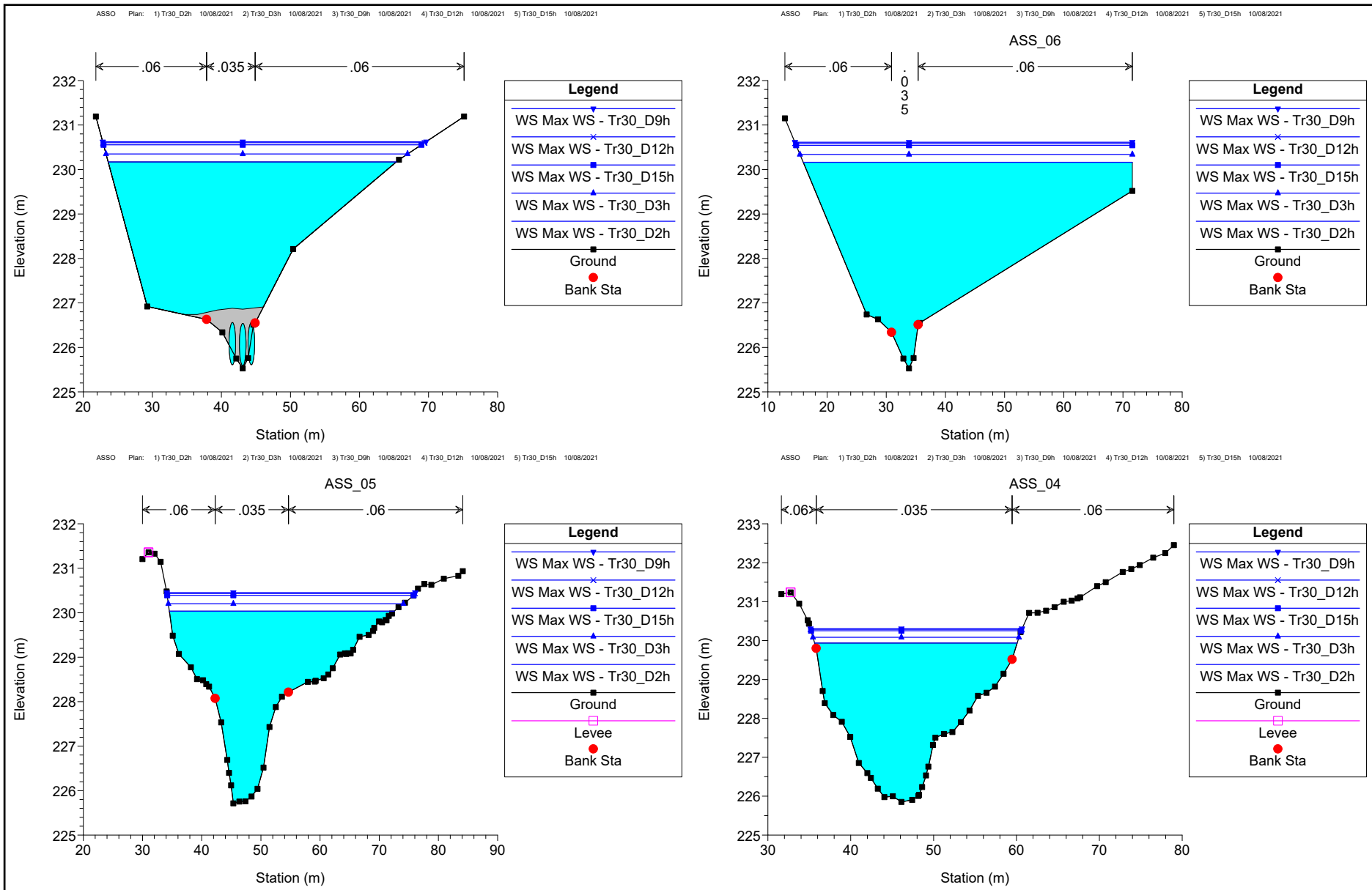




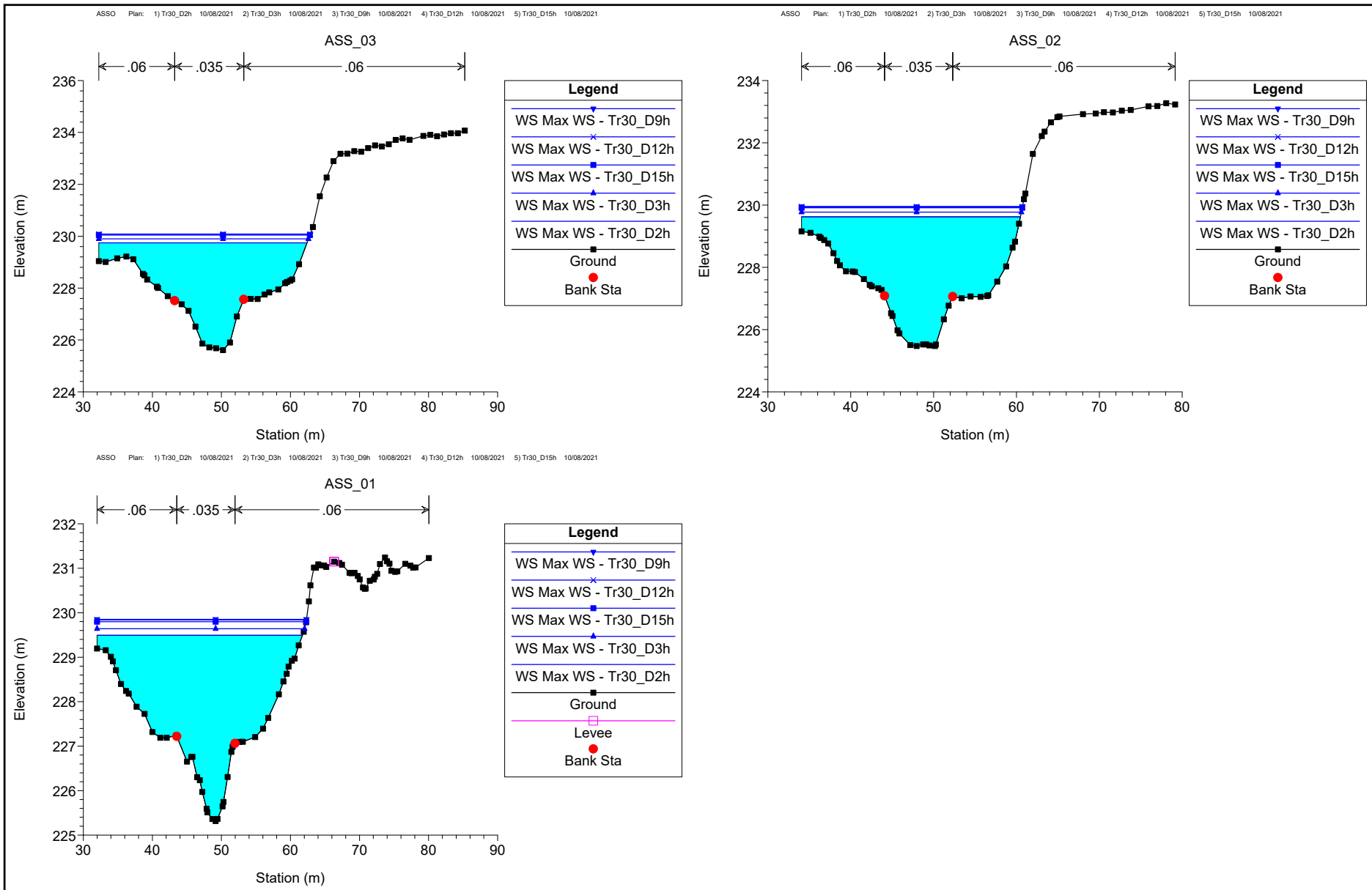












## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ASSO"**

#### **TORRENTE ASSO**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    2h, 3h, 9h, 12h e 15h

***Dati idraulici***

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Asso	6000	Max WS	Tr200_D2h	158.04	237.17	241.54		241.69	0.001006	2.27	0.67	0.60	154.03	99.88	0.36
Asso	6000	Max WS	Tr200_D3h	191.19	237.17	241.78		241.94	0.001018	2.38	0.73	0.68	178.84	101.84	0.37
Asso	6000	Max WS	Tr200_D9h	157.61	237.17	241.53		241.68	0.001012	2.28	0.67	0.60	153.30	99.84	0.36
Asso	6000	Max WS	Tr200_D12h	225.67	237.17	242.05		242.20	0.000990	2.44	0.75	0.74	205.94	104.28	0.36
Asso	6000	Max WS	Tr200_D15h	139.68	237.17	241.39		241.54	0.000999	2.21	0.64	0.55	139.18	98.54	0.36
Asso	5900	Max WS	Tr200_D2h	158.03	237.31	241.22		241.61	0.003093	3.36	1.21	0.88	88.48	64.82	0.58
Asso	5900	Max WS	Tr200_D3h	190.39	237.31	241.45		241.85	0.003103	3.51	1.30	1.00	103.96	67.49	0.59
Asso	5900	Max WS	Tr200_D9h	157.50	237.31	241.21		241.60	0.003121	3.37	1.21	0.88	87.84	64.65	0.58
Asso	5900	Max WS	Tr200_D12h	224.61	237.31	241.72		242.11	0.002897	3.56	1.35	1.08	122.74	70.15	0.58
Asso	5900	Max WS	Tr200_D15h	139.60	237.31	241.08		241.45	0.002966	3.22	1.14	0.81	80.07	62.59	0.57
Asso	5800	Max WS	Tr200_D2h	157.93	237.32	241.07		241.23	0.001748	2.45	0.90	0.75	134.24	97.30	0.44
Asso	5800	Max WS	Tr200_D3h	189.95	237.32	241.32		241.48	0.001629	2.49	0.93	0.82	158.94	99.77	0.43
Asso	5800	Max WS	Tr200_D9h	157.40	237.32	241.05		241.22	0.001783	2.47	0.90	0.76	132.85	97.17	0.44
Asso	5800	Max WS	Tr200_D12h	224.39	237.32	241.62		241.77	0.001419	2.45	0.94	0.86	189.67	103.02	0.40
Asso	5800	Max WS	Tr200_D15h	139.51	237.32	240.92		241.09	0.001802	2.41	0.87	0.71	120.17	95.75	0.44
Asso	5799		Lat Struct												
Asso	5700	Max WS	Tr200_D2h	148.85	237.01	240.92		241.07	0.001412	2.18	0.66	0.69	131.23	90.35	0.39
Asso	5700	Max WS	Tr200_D3h	175.84	237.01	241.20		241.34	0.001261	2.17	0.69	0.73	156.66	93.77	0.37
Asso	5700	Max WS	Tr200_D9h	148.36	237.01	240.91		241.06	0.001450	2.20	0.67	0.70	129.53	90.17	0.39
Asso	5700	Max WS	Tr200_D12h	205.48	237.01	241.54		241.66	0.001055	2.11	0.70	0.76	188.67	96.87	0.34
Asso	5700	Max WS	Tr200_D15h	132.87	237.01	240.77		240.92	0.001494	2.17	0.64	0.66	117.05	88.90	0.40
Asso	5600	Max WS	Tr200_D2h	124.88	236.72	240.80		240.95	0.001630	2.32	0.76	0.77	105.18	69.63	0.40
Asso	5600	Max WS	Tr200_D3h	144.42	236.72	241.10		241.24	0.001356	2.24	0.76	0.78	127.03	73.36	0.37
Asso	5600	Max WS	Tr200_D9h	124.44	236.72	240.77		240.93	0.001681	2.35	0.77	0.78	103.53	69.17	0.41
Asso	5600	Max WS	Tr200_D12h	167.22	236.72	241.46		241.58	0.001093	2.14	0.74	0.79	154.11	76.64	0.34
Asso	5600	Max WS	Tr200_D15h	112.90	236.72	240.62		240.79	0.001787	2.34	0.75	0.75	93.28	67.23	0.42
Asso	5500	Max WS	Tr200_D2h	92.74	236.73	240.70		240.85	0.001254	2.05	0.64	0.71	71.19	38.51	0.37
Asso	5500	Max WS	Tr200_D3h	104.46	236.73	241.02		241.17	0.001056	2.01	0.62	0.71	84.16	41.59	0.34
Asso	5500	Max WS	Tr200_D9h	92.25	236.73	240.67		240.83	0.001286	2.06	0.64	0.72	70.17	38.31	0.37
Asso	5500	Max WS	Tr200_D12h	118.96	236.73	241.40		241.54	0.000894	1.98	0.60	0.69	100.83	46.39	0.32
Asso	5500	Max WS	Tr200_D15h	85.13	236.73	240.51		240.67	0.001367	2.05	0.64	0.70	64.19	37.12	0.38
Asso	5400	Max WS	Tr200_D2h	74.23	236.73	240.65		240.79	0.000803	1.75	0.59	0.59	53.66	19.85	0.30
Asso	5400	Max WS	Tr200_D3h	81.68	236.73	240.99		241.13	0.000695	1.73	0.57	0.60	60.45	20.30	0.29
Asso	5400	Max WS	Tr200_D9h	73.80	236.73	240.63		240.77	0.000816	1.76	0.59	0.59	53.15	19.82	0.30
Asso	5400	Max WS	Tr200_D12h	90.53	236.73	241.38		241.51	0.000612	1.74	0.56	0.54	68.61	22.37	0.27
Asso	5400	Max WS	Tr200_D15h	68.80	236.73	240.46		240.60	0.000848	1.73	0.59	0.57	49.90	19.67	0.31
Asso	5374		Lat Struct												
Asso	5300	Max WS	Tr200_D2h	74.25	236.57	240.55		240.70	0.000939	1.83	0.51	0.68	53.34	20.55	0.32
Asso	5300	Max WS	Tr200_D3h	83.46	236.57	240.90		241.04	0.000826	1.83	0.50	0.70	60.44	20.55	0.31
Asso	5300	Max WS	Tr200_D9h	73.84	236.57	240.53		240.67	0.000958	1.84	0.51	0.68	52.77	20.55	0.32
Asso	5300	Max WS	Tr200_D12h	94.85	236.57	241.29		241.43	0.000743	1.86	0.50	0.72	68.42	20.55	0.30
Asso	5300	Max WS	Tr200_D15h	68.67	236.57	240.36		240.50	0.001007	1.82	0.51	0.66	49.29	20.55	0.33
Asso	5200	Max WS	Tr200_D2h	83.81	236.26	240.43		240.58	0.001052	1.95	0.45	0.75	58.67	23.00	0.33
Asso	5200	Max WS	Tr200_D3h	94.22	236.26	240.77		240.93	0.000923	1.94	0.43	0.77	66.68	23.00	0.32
Asso	5200	Max WS	Tr200_D9h	82.95	236.26	240.40		240.56	0.001062	1.95	0.45	0.74	58.06	23.00	0.34
Asso	5200	Max WS	Tr200_D12h	111.49	236.26	241.17		241.33	0.000895	2.04	0.44	0.83	75.67	23.00	0.32
Asso	5200	Max WS	Tr200_D15h	76.95	236.26	240.23		240.38	0.001115	1.93	0.45	0.72	54.09	23.00	0.34
Asso	5100	Max WS	Tr200_D2h	83.33	236.15	240.41		240.51	0.000584	1.51	0.50	0.57	70.27	25.85	0.26
Asso	5100	Max WS	Tr200_D3h	94.06	236.15	240.76		240.86	0.000525	1.52	0.52	0.58	79.30	26.15	0.25
Asso	5100	Max WS	Tr200_D9h	82.89	236.15	240.38		240.48	0.000597	1.52	0.50	0.58	69.49	25.82	0.26
Asso	5100	Max WS	Tr200_D12h	110.92	236.15	241.17		241.28	0.000504	1.60	0.55	0.61	90.11	26.51	0.25
Asso	5100	Max WS	Tr200_D15h	77.40	236.15	240.20		240.30	0.000634	1.51	0.49	0.57	64.87	25.64	0.27
Asso	5000	Max WS	Tr200_D2h	155.87	235.72	240.26		240.37	0.000847	1.99	0.69	0.67	151.71	75.23	0.32
Asso	5000	Max WS	Tr200_D3h	186.78	235.72	240.63		240.74	0.000770	2.01	0.73	0.71	180.60	78.38	0.31
Asso	5000	Max WS	Tr200_D9h	156.05	235.72	240.22		240.34	0.000890	2.02	0.70	0.68	148.97	74.93	0.33
Asso	5000	Max WS	Tr200_D12h	218.76	235.72	241.03		241.14	0.000883	2.01	0.75	0.74	212.75	81.75	0.29
Asso	5000	Max WS	Tr200_D15h	143.21	235.72	240.03		240.15	0.000969	2.04	0.69	0.67	134.91	73.34	0.34
Asso	4900	Max WS	Tr200_D2h	154.74	235.56	240.18		240.32	0.000907	2.09	0.69	0.85	127.31	53.78	0.33
Asso	4900	Max WS	Tr200_D3h	189.68	235.56	240.55		240.71	0.000920	2.24	0.77	0.93	147.81	55.77	0.34
Asso	4900	Max WS	Tr200_D9h	156.88	235.56	240.13		240.28	0.000979	2.16	0.71	0.87	124.89	53.55	0.34
Asso	4900	Max WS	Tr200_D12h	223.75	235.56	240.95		241.12	0.000876	2.31	0.81	0.97	170.85	58.50	0.34
Asso	4900	Max WS	Tr200_D15h	142.67	235.56	239.94		240.09	0.001013	2.13	0.69	0.85	114.69	52.49	0.35
Asso	4800	Max WS	Tr200_D2h	166.92	235.67	239.99		240.23	0.001766	2.82	0.90	1.19	104.80	45.87	0.46
Asso	4800	Max WS	Tr200_D3h	197.55	235.67	240.37		240.62	0.001666	2.92	0.88	1.25	123.30	51.36	0.45
Asso	4800	Max WS	Tr200_D9h	165.20	235.67	239.94		240.19	0.001816	2.84	0.90	1.19	102.86	45.53	0.47
Asso	4800	Max WS	Tr200_D12h	232.07	235.67	240.78		241.03	0.001527	2.97	0.90	1.29	145.27	55.64	0.44
Asso	4800	Max WS	Tr200_D15h	148.16	235.67	239.77		239.99	0.001763	2.71	0.92	1.12	94.93	42.33	0.46
Asso	4799		Lat Struct												
Asso	4775	Max WS	Tr200_D2h	158.98	235.85	239.67	238.94	240.16	0.003414	3.50	0.94	1.71	60.51	59.47	0.62
Asso	4775	Max WS	Tr200_D3h	190.30	235.85	240.01	239.19	240.55	0.003348	3.71	1.11	1.85	68.54	65.99	0.63
Asso	4775	Max WS	Tr200_D9h	157.53	235.85	239.63	238.93	240.12	0.003542	3.53	0.93	1.72	59.42	59.18	0.63
Asso	4775	Max WS	Tr200_D12h	223.06	235.85	240.39	239.46	240.96	0.003173	3.85	1.25	1.97	77.32	74.49	0.62
Asso	4775	Max WS	Tr200_D15h	143.29	235.85	239.45	238.81	239.93	0.003632	3.44	0.84	1.65	55.31	35.12	0.63
Asso	4760		Bridge												
Asso	4750	Max WS	Tr200_D2h	158.95	235.54	239.23		239.75	0.003633	3.61	1.42	1.58	59.82	27.83	0.64
Asso	4750	Max WS	Tr200_D3h	190.11	235.54	239.43		240.06	0.004128	4.00	1.62	1.79	64.56	28.18	0.69
Asso	4750	Max WS	Tr200_D9h	157.53	235.54	239.21		239.73	0.003695	3.62	1.41	1.58	59.13	27.78	0.65
Asso	4750	Max WS	Tr200_D12h	223.01	235.54	239.63		240.38	0.004554	4.37	1.82	1.99	69.42	28.59	0.73
Asso	4750	Max WS	Tr200_D15h	143.28	235.54	239.09		23							

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Asso	4600	Max WS	Tr200_D12h	165.12	235.47	239.38		239.99	0.003713	3.77	1.53	1.08	57.13	20.60	0.65
Asso	4600	Max WS	Tr200_D15h	109.99	235.47	238.83		239.24	0.003122	3.07	1.25	0.82	45.81	20.03	0.58
Asso	4500	Max WS	Tr200_D2h	108.86	235.41	238.89		239.21	0.002065	2.73	1.02	0.98	53.66	21.51	0.49
Asso	4500	Max WS	Tr200_D3h	127.49	235.41	239.07		239.45	0.002312	3.00	1.11	1.08	57.60	21.69	0.52
Asso	4500	Max WS	Tr200_D9h	107.08	235.41	238.85		239.16	0.002096	2.73	1.02	0.97	52.76	21.47	0.49
Asso	4500	Max WS	Tr200_D12h	147.39	235.41	239.27		239.71	0.002507	3.25	1.20	1.18	61.96	21.90	0.55
Asso	4500	Max WS	Tr200_D15h	97.44	235.41	238.73		239.01	0.002006	2.60	0.97	0.92	50.15	21.35	0.48
Asso	4475	Max WS	Tr200_D2h	103.03	234.80	238.77	237.77	239.09	0.002109	2.68	0.99	0.71	49.61	21.21	0.48
Asso	4475	Max WS	Tr200_D3h	118.63	234.80	238.97	237.94	239.33	0.002249	2.87	1.07	0.75	53.79	21.82	0.50
Asso	4475	Max WS	Tr200_D9h	100.61	234.80	238.74	237.74	239.05	0.002096	2.65	0.97	0.70	48.86	21.10	0.47
Asso	4475	Max WS	Tr200_D12h	136.10	234.80	239.18	238.12	239.59	0.002402	3.09	1.17	0.54	59.81	29.86	0.52
Asso	4475	Max WS	Tr200_D15h	92.02	234.80	238.61	237.64	238.90	0.002036	2.54	0.92	0.67	46.23	20.75	0.46
Asso	4460		Inl Struct												
Asso	4450	Max WS	Tr200_D2h	103.02	234.19	238.41		238.67	0.001487	2.27	0.57	0.43	48.81	16.90	0.40
Asso	4450	Max WS	Tr200_D3h	118.62	234.19	238.67		238.96	0.001512	2.41	0.60	0.48	53.29	17.18	0.41
Asso	4450	Max WS	Tr200_D9h	100.81	234.19	238.36		238.61	0.001503	2.25	0.57	0.43	47.89	16.84	0.40
Asso	4450	Max WS	Tr200_D12h	135.08	234.19	238.93		239.25	0.001541	2.55	0.62	0.51	57.76	17.65	0.42
Asso	4450	Max WS	Tr200_D15h	92.02	234.19	238.17		238.41	0.001545	2.19	0.56	0.41	44.76	16.62	0.41
Asso	4424		Lat Struct												
Asso	4400	Max WS	Tr200_D2h	151.53	233.87	237.92		238.53	0.003882	3.79	1.29	1.34	53.60	22.24	0.66
Asso	4400	Max WS	Tr200_D3h	174.31	233.87	238.14		238.83	0.004012	4.02	1.40	1.44	58.68	22.50	0.68
Asso	4400	Max WS	Tr200_D9h	147.57	233.87	237.87		238.48	0.003877	3.76	1.27	1.32	52.59	22.19	0.66
Asso	4400	Max WS	Tr200_D12h	195.06	233.87	238.40		239.12	0.003880	4.14	1.46	1.48	64.53	22.94	0.67
Asso	4400	Max WS	Tr200_D15h	133.46	233.87	237.72		238.28	0.003795	3.60	1.20	1.25	49.21	22.04	0.64
Asso	4300	Max WS	Tr200_D2h	160.72	233.19	237.51		238.05	0.003324	3.38	0.80	1.01	56.85	25.66	0.60
Asso	4300	Max WS	Tr200_D3h	189.96	233.19	237.70		238.35	0.003770	3.73	0.92	1.17	61.56	25.99	0.65
Asso	4300	Max WS	Tr200_D9h	155.77	233.19	237.48		238.00	0.003243	3.31	0.78	0.98	56.03	25.60	0.59
Asso	4300	Max WS	Tr200_D12h	222.97	233.19	237.89		238.66	0.004234	4.10	1.03	1.34	66.51	26.35	0.69
Asso	4300	Max WS	Tr200_D15h	139.04	233.19	237.37		237.83	0.002953	3.09	0.71	0.88	53.21	25.40	0.56
Asso	4224		Lat Struct												
Asso	4200	Max WS	Tr200_D2h	153.24	232.96	237.22		237.65	0.002905	3.08	0.74	0.83	66.24	38.09	0.56
Asso	4200	Max WS	Tr200_D3h	178.29	232.96	237.34		237.85	0.003361	3.39	0.85	0.97	70.71	38.09	0.60
Asso	4200	Max WS	Tr200_D9h	148.92	232.96	237.20		237.61	0.002827	3.02	0.73	0.81	65.41	38.09	0.55
Asso	4200	Max WS	Tr200_D12h	205.38	232.96	237.46		238.07	0.003802	3.70	0.95	1.11	75.45	38.09	0.65
Asso	4200	Max WS	Tr200_D15h	134.06	232.96	237.12		237.49	0.002547	2.82	0.66	0.73	62.50	38.09	0.52
Asso	4199		Lat Struct												
Asso	4100	Max WS	Tr200_D2h	112.47	232.91	237.01		237.47	0.003249	3.20	0.96	0.72	47.84	30.13	0.58
Asso	4100	Max WS	Tr200_D3h	127.02	232.91	237.11		237.64	0.003612	3.44	1.06	0.81	50.96	30.78	0.61
Asso	4100	Max WS	Tr200_D9h	109.88	232.91	236.99		237.44	0.003185	3.15	0.95	0.71	47.24	29.86	0.57
Asso	4100	Max WS	Tr200_D12h	142.02	232.91	237.22		237.81	0.003874	3.65	1.15	0.92	54.49	30.78	0.64
Asso	4100	Max WS	Tr200_D15h	101.18	232.91	236.92		237.33	0.002934	2.98	0.88	0.69	45.36	28.39	0.55
Asso	4000	Max WS	Tr200_D2h	89.53	232.92	236.77		237.18	0.003547	3.02	0.94	0.92	37.49	20.81	0.58
Asso	4000	Max WS	Tr200_D3h	98.64	232.92	236.86		237.32	0.003767	3.18	1.01	0.98	39.49	21.02	0.60
Asso	4000	Max WS	Tr200_D9h	87.84	232.92	236.75		237.16	0.003494	2.98	0.93	0.90	37.16	20.77	0.58
Asso	4000	Max WS	Tr200_D12h	106.00	232.92	236.98		237.45	0.003712	3.24	1.06	1.02	41.99	21.28	0.60
Asso	4000	Max WS	Tr200_D15h	82.19	232.92	236.69		237.07	0.003323	2.87	0.88	0.86	35.97	20.64	0.56
Asso	3900	Max WS	Tr200_D2h	72.75	232.70	236.46		236.92	0.004800	3.19	1.03	0.60	28.55	17.12	0.64
Asso	3900	Max WS	Tr200_D3h	78.52	232.70	236.58		237.05	0.004646	3.24	1.09	0.63	30.65	17.21	0.64
Asso	3900	Max WS	Tr200_D9h	71.88	232.70	236.44		236.90	0.004849	3.19	1.02	0.60	28.18	17.10	0.64
Asso	3900	Max WS	Tr200_D12h	83.81	232.70	236.73		237.19	0.004282	3.22	1.13	0.64	33.19	17.33	0.62
Asso	3900	Max WS	Tr200_D15h	68.73	232.70	236.36		236.83	0.004982	3.17	0.99	0.58	26.94	17.05	0.65
Asso	3800	Max WS	Tr200_D2h	80.51	232.38	236.27		236.51	0.001670	2.30	0.71	0.35	43.97	20.75	0.41
Asso	3800	Max WS	Tr200_D3h	84.54	232.38	236.43		236.67	0.001515	2.27	0.73	0.36	47.40	20.86	0.39
Asso	3800	Max WS	Tr200_D9h	80.06	232.38	236.24		236.48	0.001717	2.32	0.71	0.35	43.31	20.73	0.41
Asso	3800	Max WS	Tr200_D12h	88.43	232.38	236.62		236.84	0.001340	2.21	0.74	0.36	51.36	20.99	0.37
Asso	3800	Max WS	Tr200_D15h	77.27	232.38	236.14		236.39	0.001804	2.33	0.69	0.35	41.32	20.66	0.42
Asso	3774		Lat Struct												
Asso	3700	Max WS	Tr200_D2h	66.26	232.31	236.20		236.40	0.001722	2.02	0.50	0.55	35.69	17.68	0.41
Asso	3700	Max WS	Tr200_D3h	69.99	232.31	236.38		236.57	0.001511	1.98	0.51	0.56	38.82	17.86	0.39
Asso	3700	Max WS	Tr200_D9h	65.78	232.31	236.16		236.37	0.001785	2.04	0.50	0.55	35.07	17.64	0.42
Asso	3700	Max WS	Tr200_D12h	73.85	232.31	236.57		236.76	0.001307	1.93	0.51	0.57	42.40	18.06	0.37
Asso	3700	Max WS	Tr200_D15h	63.26	232.31	236.06		236.27	0.001928	2.06	0.48	0.53	33.21	17.54	0.43
Asso	3600	Max WS	Tr200_D2h	70.88	232.11	236.12		236.24	0.000756	1.58	0.44	0.42	53.57	24.34	0.28
Asso	3600	Max WS	Tr200_D3h	74.95	232.11	236.31		236.43	0.000679	1.56	0.45	0.44	58.21	24.34	0.27
Asso	3600	Max WS	Tr200_D9h	70.56	232.11	236.08		236.20	0.000784	1.60	0.44	0.42	52.62	24.34	0.29
Asso	3600	Max WS	Tr200_D12h	77.90	232.11	236.53		236.63	0.000582	1.50	0.45	0.44	63.49	24.34	0.25
Asso	3600	Max WS	Tr200_D15h	68.11	232.11	235.96		236.09	0.000844	1.61	0.42	0.40	49.74	24.34	0.30
Asso	3574		Lat Struct												
Asso	3500	Max WS	Tr200_D2h	78.09	232.27	235.95		236.14	0.001438	2.00	0.51	0.60	47.31	24.86	0.39
Asso	3500	Max WS	Tr200_D3h	86.16	232.27	236.13		236.32	0.001383	2.05	0.56	0.65	51.70	24.86	0.38
Asso	3500	Max WS	Tr200_D9h	77.23	232.27	235.91		236.10	0.001490	2.02	0.51	0.60	46.28	24.86	0.39
Asso	3500	Max WS	Tr200_D12h	95.62	232.27	236.32		236.52	0.001342	2.10	0.60	0.69	56.48	24.86	0.38
Asso	3500	Max WS	Tr200_D15h	72.89	232.27	235.80		235.99	0.001559	2.01	0.47	0.57	43.49	24.86	0.40
Asso	3400	Max WS	Tr200_D2h	80.63	231.93	235.68		235.93	0.001879	2.26	0.52	0.36	40.56	25.84	0.44
Asso	3400	Max WS	Tr200_D3h	89.18	231.93	235.85		236.11	0.001827	2.32	0.56	0.45	44.93	25.84	0.44
Asso	3400	Max WS	Tr200_D9h	80.15	231.93	235.62		235.88	0.002019	2.30	0.53	0.34	39.01	25.31	0.45
Asso	3400	Max WS	Tr200_D12h	98.30	231.93	236.05		236.32	0.001703	2.34	0.59	0.54	50.27	25.84	0.42
Asso	3400	Max WS	Tr200_D15h	75.26	231.93	235.50		235.76	0.002087	2.27	0.50	0.32	36.26	23.01	0.46
Asso	3300	Max WS	Tr200_D2h	67.37	231.98	235.65		235.83	0.001252	1.96	0.62	0.48	42.09	20.10	0.36
Asso	3300	Max WS	Tr200_D3h	75.07	231.98	235.82		236.01	0.001265	2.05	0.67	0.51	4		

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m <sup>3</sup> /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m <sup>2</sup> )	Top Width (m)	Froude # Chl
Asso	3200	Max WS	Tr200_D9h	73.48	231.10	235.52		235.65	0.000840	1.61	0.39	0.36	49.45	20.56	0.30
Asso	3200	Max WS	Tr200_D12h	88.59	231.10	235.99		236.12	0.000739	1.66	0.40	0.30	60.48	27.33	0.29
Asso	3200	Max WS	Tr200_D15h	69.27	231.10	235.40		235.53	0.000863	1.58	0.38	0.35	46.98	20.09	0.30
Asso	3100	Max WS	Tr200_D2h	98.92	231.04	235.40		235.55	0.001253	1.97	0.50	0.77	70.37	32.82	0.36
Asso	3100	Max WS	Tr200_D3h	112.50	231.04	235.55		235.73	0.001330	2.10	0.54	0.84	75.43	32.82	0.38
Asso	3100	Max WS	Tr200_D9h	98.42	231.04	235.31		235.48	0.001400	2.04	0.52	0.79	67.41	32.82	0.38
Asso	3100	Max WS	Tr200_D12h	121.77	231.04	235.80		235.96	0.001164	2.06	0.53	0.85	83.48	32.82	0.36
Asso	3100	Max WS	Tr200_D15h	91.20	231.04	235.19		235.35	0.001424	2.00	0.50	0.76	63.46	32.82	0.38
Asso	3000	Max WS	Tr200_D2h	89.75	230.83	235.17		235.45	0.001909	2.45	0.74	0.57	43.58	19.50	0.43
Asso	3000	Max WS	Tr200_D3h	98.95	230.83	235.33		235.63	0.001949	2.55	0.78	0.60	46.81	20.58	0.44
Asso	3000	Max WS	Tr200_D9h	87.70	230.83	235.08		235.37	0.002010	2.47	0.74	0.56	41.90	19.18	0.44
Asso	3000	Max WS	Tr200_D12h	108.05	230.83	235.60		235.91	0.001748	2.54	0.79	0.60	52.96	23.03	0.42
Asso	3000	Max WS	Tr200_D15h	81.93	230.83	234.96		235.24	0.002016	2.41	0.72	0.52	39.64	18.73	0.44
Asso	2999		Lat Struct												
Asso	2900	Max WS	Tr200_D2h	109.31	231.15	235.05		235.24	0.001594	2.15	0.70	0.74	70.27	37.76	0.42
Asso	2900	Max WS	Tr200_D3h	122.88	231.15	235.20		235.41	0.001601	2.23	0.73	0.80	78.27	37.76	0.42
Asso	2900	Max WS	Tr200_D9h	105.82	231.15	234.95		235.15	0.001720	2.18	0.71	0.73	66.75	37.76	0.43
Asso	2900	Max WS	Tr200_D12h	138.22	231.15	235.47		235.67	0.001436	2.24	0.72	0.84	86.26	37.76	0.40
Asso	2900	Max WS	Tr200_D15h	97.16	231.15	234.83		235.03	0.001752	2.13	0.69	0.69	62.22	37.76	0.43
Asso	2800	Max WS	Tr200_D2h	108.83	230.54	234.79		235.03	0.001765	2.24	0.61	0.54	55.66	27.06	0.43
Asso	2800	Max WS	Tr200_D3h	118.36	230.54	234.97		235.22	0.001664	2.27	0.66	0.58	60.56	27.06	0.42
Asso	2800	Max WS	Tr200_D9h	104.33	230.54	234.70		234.94	0.001833	2.24	0.58	0.52	53.16	27.06	0.43
Asso	2800	Max WS	Tr200_D12h	132.56	230.54	235.24		235.49	0.001531	2.30	0.71	0.63	67.76	27.06	0.41
Asso	2800	Max WS	Tr200_D15h	102.53	230.54	234.57		234.83	0.002115	2.33	0.56	0.50	49.65	27.06	0.46
Asso	2700	Max WS	Tr200_D2h	104.65	230.53	234.72		234.90	0.001292	2.03	0.55	0.75	69.55	33.25	0.37
Asso	2700	Max WS	Tr200_D3h	115.71	230.53	234.91		235.09	0.001248	2.08	0.57	0.79	75.71	33.50	0.37
Asso	2700	Max WS	Tr200_D9h	99.63	230.53	234.63		234.80	0.001326	2.01	0.54	0.73	66.47	33.12	0.38
Asso	2700	Max WS	Tr200_D12h	132.85	230.53	235.18		235.37	0.001198	2.15	0.54	0.85	84.90	34.50	0.37
Asso	2700	Max WS	Tr200_D15h	91.55	230.53	234.50		234.66	0.001347	1.97	0.53	0.69	62.11	32.95	0.38
Asso	2699		Lat Struct												
Asso	2600	Max WS	Tr200_D2h	117.70	229.86	234.46		234.77	0.001887	2.61	0.80	0.83	56.97	23.92	0.45
Asso	2600	Max WS	Tr200_D3h	129.47	229.86	234.64		234.97	0.001880	2.69	0.86	0.88	61.27	23.92	0.45
Asso	2600	Max WS	Tr200_D9h	112.26	229.86	234.37		234.67	0.001897	2.57	0.77	0.81	54.84	23.92	0.45
Asso	2600	Max WS	Tr200_D12h	146.82	229.86	234.90		235.25	0.001854	2.80	0.93	0.83	67.59	23.92	0.45
Asso	2600	Max WS	Tr200_D15h	104.13	229.86	234.24		234.53	0.001859	2.48	0.83	0.77	51.80	22.21	0.44
Asso	2500	Max WS	Tr200_D2h	143.19	229.56	234.00		234.37	0.002698	2.70	0.59	0.46	55.85	25.96	0.53
Asso	2500	Max WS	Tr200_D3h	158.51	229.56	234.15		234.55	0.002732	2.82	0.67	0.50	59.77	26.57	0.54
Asso	2500	Max WS	Tr200_D9h	135.84	229.56	233.93		234.28	0.002681	2.64	0.55	0.43	53.92	25.66	0.53
Asso	2500	Max WS	Tr200_D12h	182.87	229.56	234.38		234.83	0.002763	2.99	0.76	0.57	65.97	27.59	0.55
Asso	2500	Max WS	Tr200_D15h	125.96	229.56	233.83		234.16	0.002659	2.56	0.49	0.43	51.27	25.13	0.52
Asso	2400	Max WS	Tr200_D2h	114.46	229.46	233.93		234.25	0.002218	2.78	0.80	0.70	66.25	46.75	0.48
Asso	2400	Max WS	Tr200_D3h	127.41	229.46	234.10		234.42	0.002172	2.84	0.86	0.75	74.06	48.36	0.48
Asso	2400	Max WS	Tr200_D9h	108.27	229.46	233.85		234.17	0.002249	2.76	0.78	0.66	62.36	46.11	0.48
Asso	2400	Max WS	Tr200_D12h	148.42	229.46	234.35		234.67	0.002105	2.92	0.93	0.83	86.43	50.75	0.48
Asso	2400	Max WS	Tr200_D15h	100.04	229.46	233.73		234.04	0.002298	2.72	0.73	0.63	56.90	44.16	0.48
Asso	2399		Lat Struct												
Asso	2300	Max WS	Tr200_D2h	111.84	229.44	233.84		234.04	0.001276	1.99	0.46	0.41	59.74	24.10	0.37
Asso	2300	Max WS	Tr200_D3h	121.83	229.44	234.00		234.21	0.001259	2.05	0.51	0.43	63.69	24.18	0.37
Asso	2300	Max WS	Tr200_D9h	106.57	229.44	233.75		233.94	0.001280	1.96	0.44	0.39	57.72	24.06	0.37
Asso	2300	Max WS	Tr200_D12h	138.88	229.44	234.24		234.48	0.001260	2.16	0.57	0.46	69.65	24.31	0.37
Asso	2300	Max WS	Tr200_D15h	99.51	229.44	233.63		233.82	0.001292	1.91	0.40	0.37	54.84	23.99	0.37
Asso	2200	Max WS	Tr200_D2h	101.26	229.22	233.77		233.96	0.001045	1.98	0.72	0.50	62.20	23.51	0.34
Asso	2200	Max WS	Tr200_D3h	110.35	229.22	233.94		234.13	0.001047	2.05	0.75	0.53	66.11	23.65	0.34
Asso	2200	Max WS	Tr200_D9h	96.55	229.22	233.69		233.86	0.001041	1.95	0.70	0.48	60.18	23.42	0.34
Asso	2200	Max WS	Tr200_D12h	125.27	229.22	234.19		234.40	0.001057	2.15	0.80	0.57	72.09	23.86	0.35
Asso	2200	Max WS	Tr200_D15h	90.06	229.22	233.57		233.73	0.001035	1.90	0.67	0.46	57.36	23.29	0.33
Asso	2100	Max WS	Tr200_D2h	120.74	228.89	233.55		233.78	0.001423	2.18	0.68	0.57	65.22	28.00	0.39
Asso	2100	Max WS	Tr200_D3h	133.05	228.89	233.70		233.95	0.001456	2.27	0.72	0.62	69.40	28.00	0.40
Asso	2100	Max WS	Tr200_D9h	114.94	228.89	233.47		233.69	0.001415	2.14	0.66	0.54	63.02	28.00	0.39
Asso	2100	Max WS	Tr200_D12h	152.19	228.89	233.94		234.21	0.001481	2.40	0.76	0.70	75.96	28.00	0.41
Asso	2100	Max WS	Tr200_D15h	106.66	228.89	233.36		233.57	0.001395	2.07	0.63	0.50	59.95	28.00	0.39
Asso	2099		Lat Struct												
Asso	2000	Max WS	Tr200_D2h	115.75	228.84	233.44		233.60	0.001178	2.06	0.83	0.58	83.72	38.25	0.36
Asso	2000	Max WS	Tr200_D3h	129.47	228.84	233.58		233.76	0.001249	2.18	0.89	0.63	89.18	38.89	0.37
Asso	2000	Max WS	Tr200_D9h	109.87	228.84	233.36		233.51	0.001176	2.03	0.82	0.56	80.52	37.94	0.35
Asso	2000	Max WS	Tr200_D12h	151.00	228.84	233.81		234.01	0.001306	2.32	0.97	0.70	98.18	39.18	0.38
Asso	2000	Max WS	Tr200_D15h	101.15	228.84	233.25		233.39	0.001142	1.95	0.78	0.52	76.46	37.58	0.35
Asso	1900	Max WS	Tr200_D2h	92.44	229.03	233.42		233.54	0.000729	1.68	0.44	0.56	75.98	36.01	0.29
Asso	1900	Max WS	Tr200_D3h	102.64	229.03	233.56		233.70	0.000762	1.77	0.46	0.60	81.32	37.36	0.30
Asso	1900	Max WS	Tr200_D9h	88.06	229.03	233.33		233.45	0.000731	1.66	0.45	0.54	72.87	34.87	0.29
Asso	1900	Max WS	Tr200_D12h	119.58	229.03	233.80		233.95	0.000803	1.89	0.48	0.67	90.41	39.67	0.31
Asso	1900	Max WS	Tr200_D15h	81.74	229.03	233.22		233.33	0.000719	1.61	0.46	0.51	69.00	33.84	0.28
Asso	1875	Max WS	Tr200_D2h	107.22	229.01	233.25	232.20	233.50	0.001616	2.48	0.67	0.85	63.64	32.07	0.42
Asso	1875	Max WS	Tr200_D3h	116.96	229.01	233.40	232.30	233.66	0.001603	2.54	0.73	0.89	68.44	32.07	0.43
Asso	1875	Max WS	Tr200_D9h	102.31	229.01	233.16	232.13	233.42	0.001642	2.46	0.65	0.83	60.87	32.07	0.43
Asso	1875	Max WS	Tr200_D12h	133.91	229.01	233.63	232.42	233.91	0.001611	2.66	0.81	0.95	75.89	32.07	0.43
Asso	1875	Max WS	Tr200_D15h	95.61	229.01	233.05	232.05	233.30	0.001660	2.42	0.60	0.80	57.28	32.07	0.43
Asso	1860		Bridge												
Asso	1850	Max WS	Tr200_D2h	107.19	228.78	233.19		233.45	0.001658	2.50	0.55	0.81	62.98	38.08	0.42
Asso	1850	Max													

Reach	River Sta	Profile	Plan	Q Total (m <sup>3</sup> /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m <sup>2</sup> )	Top Width (m)	Froude # Chl
Asso	1799			Lat Struct											
Asso	1700	Max WS	Tr200_D2h	127.62	228.69	232.69		233.10	0.003002	3.23	0.89	1.17	60.21	34.04	0.57
Asso	1700	Max WS	Tr200_D3h	140.06	228.69	232.81		233.24	0.003068	3.35	0.96	1.23	64.34	34.23	0.58
Asso	1700	Max WS	Tr200_D9h	121.40	228.69	232.61		233.02	0.003018	3.19	0.85	1.14	57.66	33.94	0.57
Asso	1700	Max WS	Tr200_D12h	161.06	228.69	233.01		233.48	0.003136	3.52	1.08	1.31	71.30	34.68	0.59
Asso	1700	Max WS	Tr200_D15h	113.67	228.69	232.52		232.92	0.003007	3.13	0.79	1.10	54.68	33.84	0.57
Asso	1600	Max WS	Tr200_D2h	108.62	228.77	232.57		232.87	0.002085	2.48	0.70	0.54	48.14	21.62	0.47
Asso	1600	Max WS	Tr200_D3h	117.22	228.77	232.70		233.02	0.002056	2.55	0.75	0.57	51.08	21.89	0.47
Asso	1600	Max WS	Tr200_D9h	104.63	228.77	232.48		232.78	0.002173	2.48	0.68	0.55	46.19	21.40	0.48
Asso	1600	Max WS	Tr200_D12h	131.71	228.77	232.93		233.27	0.002006	2.64	0.81	0.56	56.09	22.88	0.47
Asso	1600	Max WS	Tr200_D15h	98.89	228.77	232.38		232.68	0.002215	2.44	0.65	0.53	44.07	21.28	0.48
Asso	1500	Max WS	Tr200_D2h	97.67	228.45	232.41		232.73	0.002132	2.62	0.74	0.75	46.66	23.35	0.47
Asso	1500	Max WS	Tr200_D3h	104.89	228.45	232.56		232.88	0.002071	2.66	0.77	0.74	50.59	24.49	0.47
Asso	1500	Max WS	Tr200_D9h	94.42	228.45	232.30		232.62	0.002278	2.64	0.72	0.77	44.44	22.64	0.49
Asso	1500	Max WS	Tr200_D12h	117.95	228.45	232.80		233.13	0.001970	2.72	0.82	0.82	56.56	24.49	0.46
Asso	1500	Max WS	Tr200_D15h	89.29	228.45	232.19		232.51	0.002335	2.61	0.69	0.77	42.03	22.00	0.49
Asso_v	1449			Lat Struct											
Asso_v	1400	Max WS	Tr200_D2h	96.60	228.47	232.32		232.62	0.002025	2.56	0.84	0.71	45.50	19.71	0.47
Asso_v	1400	Max WS	Tr200_D3h	103.59	228.47	232.47		232.78	0.001951	2.59	0.87	0.73	48.50	19.85	0.46
Asso_v	1400	Max WS	Tr200_D9h	90.66	228.47	232.20		232.49	0.002063	2.51	0.81	0.68	43.17	19.59	0.47
Asso_v	1400	Max WS	Tr200_D12h	112.47	228.47	232.72		233.03	0.001739	2.58	0.88	0.75	53.61	20.08	0.44
Asso_v	1400	Max WS	Tr200_D15h	85.24	228.47	232.09		232.38	0.002095	2.47	0.79	0.65	41.04	19.48	0.47
Asso_v	1399			Lat Struct											
Asso_v	1300	Max WS	Tr200_D2h	96.12	228.09	232.19		232.44	0.001630	2.41	0.83	0.71	52.78	22.86	0.42
Asso_v	1300	Max WS	Tr200_D3h	103.10	228.09	232.34		232.60	0.001572	2.44	0.85	0.75	56.38	22.86	0.42
Asso_v	1300	Max WS	Tr200_D9h	91.32	228.09	232.05		232.31	0.001728	2.41	0.83	0.68	49.65	22.86	0.43
Asso_v	1300	Max WS	Tr200_D12h	111.90	228.09	232.62		232.87	0.001387	2.41	0.84	0.77	62.70	22.86	0.40
Asso_v	1300	Max WS	Tr200_D15h	86.24	228.09	231.94		232.19	0.001765	2.38	0.81	0.65	47.14	22.86	0.43
Asso_v	1200	Max WS	Tr200_D2h	110.97	228.07	232.17		232.37	0.001437	2.26	0.78	0.87	73.27	33.83	0.39
Asso_v	1200	Max WS	Tr200_D3h	121.80	228.07	232.33		232.54	0.001428	2.32	0.83	0.91	78.78	34.18	0.39
Asso_v	1200	Max WS	Tr200_D9h	103.81	228.07	232.02		232.22	0.001522	2.25	0.76	0.85	68.15	33.49	0.39
Asso_v	1200	Max WS	Tr200_D12h	137.37	228.07	232.63		232.83	0.001306	2.34	0.87	0.94	89.00	34.70	0.38
Asso_v	1200	Max WS	Tr200_D15h	96.56	228.07	231.90		232.09	0.001544	2.22	0.73	0.82	64.13	33.22	0.40
Asso_v	1136.00	Max WS	Tr200_D2h	138.70	227.79	231.96		232.14	0.001408	2.29	0.78	0.82	98.22	49.52	0.39
Asso_v	1136.00	Max WS	Tr200_D3h	152.53	227.79	232.12		232.31	0.001386	2.34	0.82	0.87	106.11	49.83	0.39
Asso_v	1136.00	Max WS	Tr200_D9h	127.65	227.79	231.81		232.00	0.001455	2.26	0.75	0.79	91.09	49.20	0.40
Asso_v	1136.00	Max WS	Tr200_D12h	177.89	227.79	232.39		232.59	0.001354	2.42	0.88	0.94	119.74	50.22	0.39
Asso_v	1136.00	Max WS	Tr200_D15h	118.51	227.79	231.69		231.88	0.001492	2.23	0.73	0.76	85.17	48.94	0.40
Asso_v	1120.00	Max WS	Tr200_D2h	149.56	227.72	231.86		232.09	0.001731	2.52	0.81	0.85	96.22	51.76	0.44
Asso_v	1120.00	Max WS	Tr200_D3h	162.31	227.72	232.03		232.25	0.001623	2.52	0.83	0.89	105.06	52.25	0.43
Asso_v	1120.00	Max WS	Tr200_D9h	139.34	227.72	231.70		231.94	0.001871	2.54	0.81	0.82	88.25	51.32	0.45
Asso_v	1120.00	Max WS	Tr200_D12h	186.47	227.72	232.31		232.54	0.001499	2.55	0.85	0.95	120.22	53.08	0.41
Asso_v	1120.00	Max WS	Tr200_D15h	130.45	227.72	231.57		231.82	0.001984	2.55	0.80	0.79	81.74	50.95	0.46
Asso_v	1040.00	Max WS	Tr200_D2h	171.54	227.36	231.54		231.82	0.001941	2.69	0.94	0.70	107.08	70.86	0.47
Asso_v	1040.00	Max WS	Tr200_D3h	190.15	227.36	231.70		231.98	0.001889	2.74	0.97	0.76	118.23	71.18	0.47
Asso_v	1040.00	Max WS	Tr200_D9h	156.39	227.36	231.40		231.68	0.001983	2.65	0.90	0.66	97.35	68.30	0.47
Asso_v	1040.00	Max WS	Tr200_D12h	222.53	227.36	231.99		232.25	0.001739	2.77	1.02	0.85	138.81	71.77	0.45
Asso_v	1040.00	Max WS	Tr200_D15h	143.74	227.36	231.29		231.56	0.001975	2.58	0.86	0.63	90.04	65.77	0.47
Asso_v	800	Max WS	Tr200_D2h	167.94	226.31	231.17		231.37	0.000942	2.07	0.62	0.55	105.04	45.41	0.34
Asso_v	800	Max WS	Tr200_D3h	184.52	226.31	231.33		231.54	0.000964	2.16	0.65	0.60	112.26	45.56	0.35
Asso_v	800	Max WS	Tr200_D9h	154.20	226.31	231.02		231.21	0.000933	2.01	0.58	0.50	98.24	45.24	0.34
Asso_v	800	Max WS	Tr200_D12h	213.11	226.31	231.64		231.87	0.000951	2.25	0.70	0.68	126.42	45.89	0.35
Asso_v	800	Max WS	Tr200_D15h	142.24	226.31	230.93		231.10	0.000884	1.92	0.55	0.46	93.90	45.13	0.32
Asso_v	799			Lat Struct											
Asso_v	774			Lat Struct											
Asso_v	700	Max WS	Tr200_D2h	169.88	226.43	230.92		231.24	0.001938	2.74	0.69	0.83	85.47	42.93	0.47
Asso_v	700	Max WS	Tr200_D3h	189.76	226.43	231.07		231.43	0.002014	2.88	0.63	0.91	92.38	45.07	0.48
Asso_v	700	Max WS	Tr200_D9h	155.19	226.43	230.79		231.10	0.001902	2.64	0.68	0.76	79.91	42.32	0.46
Asso_v	700	Max WS	Tr200_D12h	217.93	226.43	231.34		231.71	0.001951	2.97	0.70	1.00	104.74	45.83	0.48
Asso_v	700	Max WS	Tr200_D15h	142.81	226.43	230.71		230.99	0.001775	2.52	0.64	0.70	76.73	42.18	0.44
Asso_v	600	Max WS	Tr200_D2h	168.80	225.87	230.80		231.07	0.001373	2.49	0.91	0.74	86.56	31.04	0.40
Asso_v	600	Max WS	Tr200_D3h	185.45	225.87	230.93		231.23	0.001454	2.62	0.97	0.79	90.79	31.17	0.42
Asso_v	600	Max WS	Tr200_D9h	154.59	225.87	230.66		230.91	0.001318	2.38	0.86	0.70	82.40	30.90	0.39
Asso_v	600	Max WS	Tr200_D12h	219.26	225.87	231.18		231.54	0.001615	2.87	1.09	0.89	98.63	31.41	0.45
Asso_v	600	Max WS	Tr200_D15h	141.72	225.87	230.60		230.82	0.001181	2.23	0.79	0.65	80.50	30.84	0.37
Asso_v	500	Max WS	Tr200_D2h	180.15	225.90	230.74		230.99	0.001633	2.75	1.33	0.83	105.57	41.26	0.43
Asso_v	500	Max WS	Tr200_D3h	199.12	225.90	230.85		231.14	0.001813	2.95	1.43	0.84	110.42	44.29	0.46
Asso_v	500	Max WS	Tr200_D9h	164.00	225.90	230.62		230.85	0.001522	2.60	1.26	0.78	100.74	40.28	0.42
Asso_v	500	Max WS	Tr200_D12h	233.81	225.90	231.08		231.42	0.002014	3.22	1.55	0.94	120.47	45.83	0.49
Asso_v	500	Max WS	Tr200_D15h	155.42	225.90	230.55		230.77	0.001466	2.53	1.22	0.75	98.01	39.89	0.41
Asso_v	490	Max WS	Tr200_D2h	180.92	225.53	230.74	229.02	230.96	0.0012						

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m <sup>3</sup> /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m <sup>2</sup> )	Top Width (m)	Froude # Chl
Asso_v	400	Max WS	Tr200_D2h	169.37	225.85	230.39		230.70	0.001945	2.44	0.28	0.36	70.00	25.85	0.46
Asso_v	400	Max WS	Tr200_D3h	187.77	225.85	230.46		230.82	0.002201	2.64	0.33	0.40	71.89	26.10	0.49
Asso_v	400	Max WS	Tr200_D9h	154.31	225.85	230.30		230.57	0.001792	2.30	0.24	0.33	67.70	25.54	0.44
Asso_v	400	Max WS	Tr200_D12h	223.41	225.85	230.63		231.08	0.002598	2.98	0.40	0.49	76.29	26.81	0.53
Asso_v	400	Max WS	Tr200_D15h	145.76	225.85	230.25		230.50	0.001699	2.21	0.22	0.31	66.40	25.36	0.42
Asso_v	300	Max WS	Tr200_D2h	158.51	225.61	230.15		230.55	0.002433	3.17	1.02	1.22	73.15	30.72	0.52
Asso_v	300	Max WS	Tr200_D3h	176.56	225.61	230.22		230.69	0.002797	3.44	1.12	1.33	75.30	30.82	0.56
Asso_v	300	Max WS	Tr200_D9h	146.81	225.61	230.09		230.45	0.002253	3.01	0.95	1.16	71.06	30.63	0.50
Asso_v	300	Max WS	Tr200_D12h	207.56	225.61	230.36		230.94	0.003350	3.85	1.28	1.50	79.45	31.01	0.62
Asso_v	300	Max WS	Tr200_D15h	139.18	225.61	230.05		230.38	0.002120	2.90	0.91	1.11	69.83	30.57	0.49
Asso_v	200	Max WS	Tr200_D2h	152.04	225.47	230.02		230.40	0.002173	3.16	1.08	1.29	72.33	26.72	0.50
Asso_v	200	Max WS	Tr200_D3h	165.99	225.47	230.10		230.52	0.002409	3.36	1.16	1.38	74.29	26.77	0.53
Asso_v	200	Max WS	Tr200_D9h	142.78	225.47	229.95		230.30	0.002054	3.03	1.03	1.24	70.50	26.67	0.48
Asso_v	200	Max WS	Tr200_D12h	192.28	225.47	230.22		230.74	0.002879	3.75	1.32	1.54	77.52	26.87	0.58
Asso_v	200	Max WS	Tr200_D15h	136.64	225.47	229.91		230.24	0.001961	2.95	0.99	1.20	69.41	26.63	0.47
Asso_v	1	Max WS	Tr200_D2h	139.90	225.32	229.94	228.87	230.25	0.002136	2.93	1.13	1.15	73.67	30.39	0.48
Asso_v	1	Max WS	Tr200_D3h	147.80	225.32	230.03	228.92	230.35	0.002135	2.98	1.16	1.18	76.66	30.48	0.49
Asso_v	1	Max WS	Tr200_D9h	132.97	225.32	229.85	228.80	230.15	0.002131	2.88	1.10	1.12	71.05	30.32	0.48
Asso_v	1	Max WS	Tr200_D12h	162.83	225.32	230.22	229.08	230.55	0.002135	3.07	1.21	1.23	82.21	30.63	0.49
Asso_v	1	Max WS	Tr200_D15h	129.09	225.32	229.80	228.78	230.10	0.002134	2.85	1.08	1.11	69.50	30.27	0.48

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ASSO"**

#### **TORRENTE ASSO**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    2h, 3h, 9h, 12h e 15h

***Dati idraulici***



Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Asso	6000	Max WS	Tr30_D2h	102.06	237.17	241.05		241.18	0.000934	2.01	0.56	0.45	106.81	90.04	0.34
Asso	6000	Max WS	Tr30_D3h	123.50	237.17	241.25		241.39	0.000982	2.14	0.61	0.51	125.28	95.30	0.35
Asso	6000	Max WS	Tr30_D9h	157.61	237.17	241.53		241.68	0.001012	2.28	0.67	0.60	153.20	99.84	0.36
Asso	6000	Max WS	Tr30_D12h	149.97	237.17	241.48		241.63	0.000993	2.24	0.66	0.58	148.26	99.44	0.36
Asso	6000	Max WS	Tr30_D15h	139.68	237.17	241.39		241.54	0.000999	2.21	0.64	0.55	139.18	98.54	0.36
Asso	5900	Max WS	Tr30_D2h	102.03	237.31	240.78		241.10	0.002739	2.88	0.97	0.63	61.67	57.61	0.53
Asso	5900	Max WS	Tr30_D3h	123.44	237.31	240.95		241.31	0.002949	3.10	1.08	0.74	71.85	60.74	0.56
Asso	5900	Max WS	Tr30_D9h	157.50	237.31	241.21		241.60	0.003121	3.37	1.21	0.88	87.84	64.65	0.58
Asso	5900	Max WS	Tr30_D12h	149.75	237.31	241.17		241.54	0.002990	3.27	1.17	0.85	85.53	64.05	0.57
Asso	5900	Max WS	Tr30_D15h	139.60	237.31	241.08		241.45	0.002966	3.22	1.14	0.81	80.07	62.59	0.57
Asso	5800	Max WS	Tr30_D2h	101.98	237.32	240.60		240.77	0.001882	2.29	0.79	0.59	90.26	90.74	0.44
Asso	5800	Max WS	Tr30_D3h	123.12	237.32	240.78		240.95	0.001867	2.38	0.85	0.66	106.82	93.98	0.44
Asso	5800	Max WS	Tr30_D9h	157.40	237.32	241.05		241.22	0.001783	2.47	0.90	0.76	132.85	97.17	0.44
Asso	5800	Max WS	Tr30_D12h	149.41	237.32	241.02		241.19	0.001692	2.39	0.87	0.73	130.19	96.91	0.43
Asso	5800	Max WS	Tr30_D15h	139.51	237.32	240.92		241.09	0.001802	2.41	0.87	0.71	120.17	95.75	0.44
Asso	5799		Lat Struct												
Asso	5700	Max WS	Tr30_D2h	99.09	237.01	240.43		240.58	0.001598	2.07	0.54	0.56	87.90	82.59	0.40
Asso	5700	Max WS	Tr30_D3h	118.30	237.01	240.61		240.77	0.001573	2.15	0.60	0.63	103.53	85.73	0.40
Asso	5700	Max WS	Tr30_D9h	148.36	237.01	240.91		241.06	0.001450	2.20	0.67	0.70	129.53	90.17	0.39
Asso	5700	Max WS	Tr30_D12h	141.01	237.01	240.89		241.03	0.001350	2.11	0.64	0.67	127.96	90.01	0.38
Asso	5700	Max WS	Tr30_D15h	132.87	237.01	240.77		240.92	0.001494	2.17	0.64	0.66	117.05	88.90	0.40
Asso	5600	Max WS	Tr30_D2h	88.38	236.72	240.24		240.43	0.002146	2.36	0.69	0.72	69.20	58.42	0.45
Asso	5600	Max WS	Tr30_D3h	102.36	236.72	240.45		240.63	0.001999	2.39	0.74	0.74	81.77	63.98	0.44
Asso	5600	Max WS	Tr30_D9h	124.44	236.72	240.77		240.93	0.001681	2.35	0.77	0.78	103.53	69.17	0.41
Asso	5600	Max WS	Tr30_D12h	118.25	236.72	240.77		240.92	0.001529	2.23	0.73	0.74	103.23	69.13	0.39
Asso	5600	Max WS	Tr30_D15h	112.90	236.72	240.62		240.79	0.001787	2.34	0.75	0.75	93.28	67.23	0.42
Asso	5500	Max WS	Tr30_D2h	69.78	236.73	240.09		240.26	0.001758	2.10	0.64	0.68	49.27	33.62	0.42
Asso	5500	Max WS	Tr30_D3h	78.85	236.73	240.31		240.49	0.001558	2.09	0.65	0.71	57.08	35.10	0.40
Asso	5500	Max WS	Tr30_D9h	92.25	236.73	240.67		240.83	0.001286	2.06	0.64	0.72	70.17	38.31	0.37
Asso	5500	Max WS	Tr30_D12h	88.11	236.73	240.67		240.82	0.001165	1.97	0.61	0.68	70.37	38.35	0.35
Asso	5500	Max WS	Tr30_D15h	85.13	236.73	240.51		240.67	0.001367	2.05	0.64	0.70	64.19	37.12	0.38
Asso	5400	Max WS	Tr30_D2h	59.72	236.73	239.99		240.14	0.001130	1.80	0.62	0.55	40.72	19.21	0.35
Asso	5400	Max WS	Tr30_D3h	64.55	236.73	240.25		240.39	0.000955	1.76	0.60	0.56	45.71	19.46	0.32
Asso	5400	Max WS	Tr30_D9h	73.80	236.73	240.63		240.77	0.000816	1.76	0.59	0.59	53.15	19.82	0.30
Asso	5400	Max WS	Tr30_D12h	70.50	236.73	240.64		240.76	0.000737	1.67	0.56	0.56	53.34	19.83	0.29
Asso	5400	Max WS	Tr30_D15h	68.80	236.73	240.46		240.60	0.000848	1.73	0.59	0.57	49.90	19.67	0.31
Asso	5374		Lat Struct												
Asso	5300	Max WS	Tr30_D2h	56.52	236.57	239.86		240.01	0.001310	1.85	0.51	0.62	39.05	20.55	0.36
Asso	5300	Max WS	Tr30_D3h	63.46	236.57	240.13		240.28	0.001138	1.84	0.52	0.65	44.64	20.55	0.35
Asso	5300	Max WS	Tr30_D9h	73.84	236.57	240.53		240.67	0.000958	1.84	0.51	0.68	52.77	20.55	0.32
Asso	5300	Max WS	Tr30_D12h	71.82	236.57	240.54		240.68	0.000893	1.78	0.50	0.66	53.03	20.55	0.31
Asso	5300	Max WS	Tr30_D15h	68.67	236.57	240.36		240.50	0.001007	1.82	0.51	0.66	49.29	20.55	0.33
Asso	5200	Max WS	Tr30_D2h	62.69	236.26	239.70		239.87	0.001480	1.97	0.47	0.66	42.00	23.00	0.38
Asso	5200	Max WS	Tr30_D3h	69.83	236.26	239.99		240.15	0.001227	1.92	0.45	0.69	48.74	23.00	0.35
Asso	5200	Max WS	Tr30_D9h	82.95	236.26	240.40		240.56	0.001062	1.95	0.45	0.74	58.06	23.00	0.34
Asso	5200	Max WS	Tr30_D12h	82.02	236.26	240.41		240.56	0.001025	1.92	0.44	0.73	58.32	23.00	0.33
Asso	5200	Max WS	Tr30_D15h	76.95	236.26	240.23		240.38	0.001115	1.93	0.45	0.72	54.09	23.00	0.34
Asso	5100	Max WS	Tr30_D2h	63.66	236.15	239.65		239.76	0.000853	1.54	0.46	0.55	50.91	25.05	0.30
Asso	5100	Max WS	Tr30_D3h	70.41	236.15	239.96		240.06	0.000697	1.50	0.47	0.56	58.73	25.38	0.28
Asso	5100	Max WS	Tr30_D9h	82.89	236.15	240.38		240.48	0.000597	1.52	0.50	0.58	69.49	25.82	0.26
Asso	5100	Max WS	Tr30_D12h	82.29	236.15	240.39		240.49	0.000581	1.50	0.49	0.57	69.77	25.83	0.26
Asso	5100	Max WS	Tr30_D15h	77.40	236.15	240.20		240.30	0.000634	1.51	0.49	0.57	64.87	25.64	0.27
Asso	5000	Max WS	Tr30_D2h	104.88	235.72	239.45		239.60	0.001255	2.08	0.62	0.64	94.25	67.11	0.37
Asso	5000	Max WS	Tr30_D3h	123.99	235.72	239.79		239.92	0.001030	2.01	0.65	0.63	117.56	71.33	0.34
Asso	5000	Max WS	Tr30_D9h	156.05	235.72	240.22		240.34	0.000890	2.02	0.70	0.68	148.97	74.93	0.33
Asso	5000	Max WS	Tr30_D12h	156.89	235.72	240.23		240.35	0.000889	2.02	0.70	0.68	149.70	75.01	0.33
Asso	5000	Max WS	Tr30_D15h	143.21	235.72	240.03		240.15	0.000969	2.04	0.69	0.67	134.91	73.34	0.34
Asso	4900	Max WS	Tr30_D2h	100.57	235.56	239.36		239.50	0.001068	1.96	0.57	0.73	85.29	48.87	0.35
Asso	4900	Max WS	Tr30_D3h	119.47	235.56	239.71		239.85	0.000933	1.96	0.62	0.76	103.09	50.88	0.33
Asso	4900	Max WS	Tr30_D9h	156.68	235.56	240.13		240.28	0.000979	2.16	0.71	0.87	124.89	53.55	0.34
Asso	4900	Max WS	Tr30_D12h	157.07	235.56	240.14		240.29	0.000971	2.15	0.71	0.87	125.51	53.61	0.34
Asso	4900	Max WS	Tr30_D15h	142.67	235.56	239.94		240.09	0.001013	2.13	0.69	0.85	114.69	52.49	0.35
Asso	4800	Max WS	Tr30_D2h	105.83	235.67	239.18		239.39	0.001909	2.51	0.89	0.97	71.25	38.10	0.46
Asso	4800	Max WS	Tr30_D3h	129.78	235.67	239.53		239.75	0.001802	2.62	0.89	1.06	85.25	40.94	0.46
Asso	4800	Max WS	Tr30_D9h	165.20	235.67	239.94		240.19	0.001816	2.84	0.90	1.19	102.86	45.53	0.47
Asso	4800	Max WS	Tr30_D12h	166.23	235.67	239.96		240.20	0.001816	2.85	0.90	1.19	103.35	45.63	0.47
Asso	4800	Max WS	Tr30_D15h	148.16	235.67	239.77		239.99	0.001763	2.71	0.92	1.12	94.93	42.33	0.46
Asso	4799		Lat Struct												
Asso	4775	Max WS	Tr30_D2h	103.53	235.85	238.90	238.44	239.32	0.004085	3.19	0.73	1.43	42.62	33.84	0.65
Asso	4775	Max WS	Tr30_D3h	126.07	235.85	239.23	238.66	239.68	0.003742	3.32	0.79	1.55	50.19	34.40	0.64
Asso	4775	Max WS	Tr30_D9h	157.53	235.85	239.63	238.93	240.12	0.003542	3.53	0.93	1.72	59.42	59.18	0.63
Asso	4775	Max WS	Tr30_D12h	158.37	235.85	239.64	238.94	240.13	0.003537	3.54	0.94	1.72	59.65	59.25	0.63
Asso	4775	Max WS	Tr30_D15h	143.29	235.85	239.45	238.81	239.93	0.003632	3.44	0.84	1.65	55.31	35.12	0.63
Asso	4760		Bridge												
Asso	4750	Max WS	Tr30_D2h	103.51	235.54	238.80		239.13	0.002737	2.84	1.01	1.17	49.27	26.94	0.54
Asso	4750	Max WS	Tr30_D3h	124.25	235.54	238.96		239.37	0.003135	3.16	1.17	1.33	53.28	27.32	0.59
Asso	4750	Max WS	Tr30_D9h	157.53	235.54	239.21		239.73	0.003695	3.62	1.41	1.58	59.13	27.78	0.65
Asso	4750	Max WS	Tr30_D12h	158.10	235.54	239.18		239.72	0.003818	3.66	1.42	1.59	58.63	27.75	0.66
Asso	4750	Max WS	Tr30_D15h	143.28	235.54	239.09		239.57	0.003551	3.46	1.32	1.49	56.24	27.57	0.63
Asso	4724</														

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Asso	4600	Max WS	Tr30_D12h	120.02	235.47	238.92		239.37	0.003327	3.23	1.32	0.88	47.60	20.11	0.60
Asso	4600	Max WS	Tr30_D15h	109.99	235.47	238.83		239.24	0.003122	3.07	1.25	0.82	45.81	20.03	0.58
Asso	4500	Max WS	Tr30_D2h	74.49	235.41	238.47		238.68	0.001626	2.21	0.82	0.76	44.70	21.09	0.42
Asso	4500	Max WS	Tr30_D3h	87.15	235.41	238.62		238.87	0.001828	2.42	0.90	0.85	47.92	21.24	0.45
Asso	4500	Max WS	Tr30_D9h	107.08	235.41	238.85		239.16	0.002096	2.73	1.02	0.97	52.76	21.47	0.49
Asso	4500	Max WS	Tr30_D12h	106.01	235.41	238.81		239.13	0.002143	2.74	1.02	0.97	51.99	21.43	0.50
Asso	4500	Max WS	Tr30_D15h	97.44	235.41	238.73		239.01	0.002006	2.60	0.97	0.92	50.15	21.35	0.48
Asso	4475	Max WS	Tr30_D2h	73.68	234.80	238.34	237.40	238.57	0.001860	2.28	0.80	0.62	40.59	20.01	0.44
Asso	4475	Max WS	Tr30_D3h	84.12	234.80	238.50	237.54	238.76	0.001961	2.43	0.87	0.65	43.88	20.41	0.45
Asso	4475	Max WS	Tr30_D9h	100.61	234.80	238.74	237.74	239.05	0.002096	2.65	0.97	0.70	48.86	21.10	0.47
Asso	4475	Max WS	Tr30_D12h	98.63	234.80	238.71	237.72	239.01	0.002087	2.63	0.96	0.69	48.22	21.02	0.47
Asso	4475	Max WS	Tr30_D15h	92.02	234.80	238.61	237.64	238.90	0.002036	2.54	0.92	0.67	46.23	20.75	0.46
Asso	4460														
Asso	4450	Max WS	Tr30_D2h	73.68	234.19	237.72		237.93	0.001727	2.08	0.53	0.35	37.34	16.22	0.42
Asso	4450	Max WS	Tr30_D3h	84.09	234.19	237.99		238.22	0.001594	2.14	0.55	0.39	41.77	16.42	0.41
Asso	4450	Max WS	Tr30_D9h	100.61	234.19	238.36		238.61	0.001503	2.25	0.57	0.43	47.89	16.84	0.40
Asso	4450	Max WS	Tr30_D12h	98.58	234.19	238.30		238.56	0.001525	2.25	0.57	0.42	47.02	16.78	0.41
Asso	4450	Max WS	Tr30_D15h	92.02	234.19	238.17		238.41	0.001545	2.19	0.56	0.41	44.76	16.62	0.41
Asso	4424														
Asso	4400	Max WS	Tr30_D2h	101.82	233.87	237.36		237.81	0.003499	3.19	0.99	1.06	41.41	21.66	0.61
Asso	4400	Max WS	Tr30_D3h	120.44	233.87	237.57		238.09	0.003710	3.45	1.12	1.18	45.98	21.88	0.63
Asso	4400	Max WS	Tr30_D9h	147.57	233.87	237.87		238.48	0.003877	3.76	1.27	1.32	52.59	22.19	0.66
Asso	4400	Max WS	Tr30_D12h	144.06	233.87	237.83		238.42	0.003887	3.73	1.26	1.31	51.62	22.15	0.66
Asso	4400	Max WS	Tr30_D15h	133.46	233.87	237.72		238.28	0.003795	3.60	1.20	1.25	49.21	22.04	0.64
Asso	4300	Max WS	Tr30_D2h	104.00	233.19	237.12		237.44	0.002289	2.57	0.55	0.65	46.80	24.89	0.49
Asso	4300	Max WS	Tr30_D3h	124.31	233.19	237.27		237.66	0.002694	2.88	0.65	0.79	50.53	25.20	0.53
Asso	4300	Max WS	Tr30_D9h	155.77	233.19	237.48		238.00	0.003243	3.31	0.78	0.98	56.03	25.60	0.59
Asso	4300	Max WS	Tr30_D12h	151.42	233.19	237.45		237.96	0.003170	3.26	0.76	0.96	55.30	25.55	0.58
Asso	4300	Max WS	Tr30_D15h	139.04	233.19	237.37		237.83	0.002953	3.09	0.71	0.88	53.21	25.40	0.56
Asso	4224														
Asso	4200	Max WS	Tr30_D2h	101.88	232.96	236.94		237.20	0.001914	2.34	0.50	0.54	55.61	38.09	0.45
Asso	4200	Max WS	Tr30_D3h	120.71	232.96	237.05		237.37	0.002283	2.63	0.60	0.65	59.82	38.09	0.49
Asso	4200	Max WS	Tr30_D9h	148.92	232.96	237.20		237.61	0.002827	3.02	0.73	0.81	65.41	38.09	0.55
Asso	4200	Max WS	Tr30_D12h	145.07	232.96	237.18		237.58	0.002756	2.97	0.71	0.79	64.66	38.09	0.54
Asso	4200	Max WS	Tr30_D15h	134.06	232.96	237.12		237.49	0.002547	2.82	0.66	0.73	62.50	38.09	0.52
Asso	4199														
Asso	4100	Max WS	Tr30_D2h	81.47	232.91	236.77		237.08	0.002369	2.59	0.73	0.56	41.02	27.32	0.49
Asso	4100	Max WS	Tr30_D3h	93.02	232.91	236.86		237.22	0.002711	2.83	0.82	0.63	43.56	28.04	0.52
Asso	4100	Max WS	Tr30_D9h	109.88	232.91	236.99		237.44	0.003185	3.15	0.95	0.71	47.24	29.86	0.57
Asso	4100	Max WS	Tr30_D12h	107.32	232.91	236.97		237.40	0.003116	3.10	0.93	0.69	46.68	29.60	0.57
Asso	4100	Max WS	Tr30_D15h	101.18	232.91	236.92		237.33	0.002934	2.98	0.88	0.69	45.36	28.39	0.55
Asso	4000	Max WS	Tr30_D2h	69.58	232.92	236.55		236.87	0.002949	2.60	0.76	0.75	33.06	20.33	0.52
Asso	4000	Max WS	Tr30_D3h	77.47	232.92	236.64		236.99	0.003213	2.78	0.83	0.82	34.79	20.52	0.55
Asso	4000	Max WS	Tr30_D9h	87.84	232.92	236.75		237.16	0.003494	2.98	0.93	0.90	37.16	20.77	0.58
Asso	4000	Max WS	Tr30_D12h	86.23	232.92	236.73		237.13	0.003453	2.95	0.91	0.89	36.79	20.73	0.57
Asso	4000	Max WS	Tr30_D15h	82.19	232.92	236.69		237.07	0.003323	2.87	0.88	0.86	35.97	20.64	0.56
Asso	3900	Max WS	Tr30_D2h	60.90	232.70	236.19		236.64	0.005198	3.08	0.88	0.54	24.07	16.92	0.65
Asso	3900	Max WS	Tr30_D3h	65.78	232.70	236.29		236.75	0.005125	3.15	0.95	0.57	25.74	17.00	0.65
Asso	3900	Max WS	Tr30_D9h	71.88	232.70	236.44		236.90	0.004849	3.19	1.02	0.60	28.18	17.10	0.64
Asso	3900	Max WS	Tr30_D12h	70.80	232.70	236.41		236.88	0.004869	3.18	1.01	0.59	27.81	17.08	0.64
Asso	3900	Max WS	Tr30_D15h	68.73	232.70	236.36		236.83	0.004982	3.17	0.99	0.58	26.94	17.05	0.65
Asso	3800	Max WS	Tr30_D2h	69.50	232.38	235.93		236.18	0.001924	2.30	0.62	0.33	36.99	20.56	0.43
Asso	3800	Max WS	Tr30_D3h	74.25	232.38	236.05		236.30	0.001870	2.33	0.67	0.34	39.47	20.61	0.43
Asso	3800	Max WS	Tr30_D9h	80.06	232.38	236.24		236.48	0.001717	2.32	0.71	0.35	43.31	20.73	0.41
Asso	3800	Max WS	Tr30_D12h	79.13	232.38	236.21		236.46	0.001736	2.32	0.70	0.35	42.73	20.71	0.42
Asso	3800	Max WS	Tr30_D15h	77.27	232.38	236.14		236.39	0.001804	2.33	0.69	0.35	41.32	20.66	0.42
Asso	3774														
Asso	3700	Max WS	Tr30_D2h	56.79	232.31	235.82		236.04	0.002246	2.07	0.42	0.48	29.14	17.26	0.46
Asso	3700	Max WS	Tr30_D3h	60.59	232.31	235.96		236.17	0.002059	2.07	0.46	0.51	31.47	17.44	0.44
Asso	3700	Max WS	Tr30_D9h	65.78	232.31	236.16		236.37	0.001785	2.04	0.50	0.55	35.07	17.64	0.42
Asso	3700	Max WS	Tr30_D12h	64.94	232.31	236.13		236.34	0.001818	2.04	0.49	0.54	34.54	17.61	0.42
Asso	3700	Max WS	Tr30_D15h	63.26	232.31	236.06		236.27	0.001928	2.06	0.48	0.53	33.21	17.54	0.43
Asso	3600	Max WS	Tr30_D2h	60.25	232.11	235.71		235.84	0.000916	1.59	0.37	0.34	43.59	24.34	0.30
Asso	3600	Max WS	Tr30_D3h	65.16	232.11	235.86		235.98	0.000883	1.61	0.40	0.38	47.16	24.34	0.30
Asso	3600	Max WS	Tr30_D9h	70.56	232.11	236.08		236.20	0.000784	1.60	0.44	0.42	52.62	24.34	0.29
Asso	3600	Max WS	Tr30_D12h	69.59	232.11	236.05		236.17	0.000793	1.59	0.43	0.41	51.82	24.34	0.29
Asso	3600	Max WS	Tr30_D15h	68.11	232.11	235.96		236.09	0.000844	1.61	0.42	0.40	49.74	24.34	0.30
Asso	3574														
Asso	3500	Max WS	Tr30_D2h	64.86	232.27	235.52		235.73	0.001897	2.05	0.38	0.51	36.60	24.86	0.43
Asso	3500	Max WS	Tr30_D3h	69.25	232.27	235.69		235.88	0.001663	2.01	0.44	0.55	40.71	24.86	0.41
Asso	3500	Max WS	Tr30_D9h	77.23	232.27	235.91		236.10	0.001490	2.02	0.51	0.60	46.28	24.86	0.39
Asso	3500	Max WS	Tr30_D12h	75.67	232.27	235.88		236.07	0.001489	2.00	0.50	0.59	45.57	24.86	0.39
Asso	3500	Max WS	Tr30_D15h	72.89	232.27	235.80		235.99	0.001559	2.01	0.47	0.57	43.49	24.86	0.40
Asso	3400	Max WS	Tr30_D2h	64.94	231.93	235.23		235.48	0.002329	2.22	0.40	0.40	30.66	17.03	0.47
Asso	3400	Max WS	Tr30_D3h	70.56	231.93	235.39		235.64	0.002166	2.25	0.46	0.28	33.71	21.10	0.46
Asso	3400	Max WS	Tr30_D9h	80.15	231.93	235.62		235.88	0.002019	2.30	0.53	0.34	39.01	25.31	0.45
Asso	3400	Max WS	Tr30_D12h	78.39	231.93	235.60		235.85	0.001991	2.27	0.51	0.34	38.45	24.79	0.45
Asso	3400	Max WS	Tr30_D15h	75.26	231.93	235.50		235.76	0.002087	2.27	0.50	0.32	36.26	23.01	0.46
Asso	3300	Max WS	Tr30_D2h	52.15	231.98	235.19		235.36	0.001415	1.87	0.50	0.40	32.89	19.48	0.37
Asso	3300	Max WS	Tr30_D3h	57.35	231.98	235.36		235.53	0.001343	1.90	0.55	0.43	36.18	19.70	0.37
Asso	3300	Max WS	Tr30_D9h	66.63	231.98	235.59									

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Asso	3200	Max WS	Tr30_D9h	73.48	231.10	235.52		235.65	0.000840	1.61	0.39	0.36	49.45	20.56	0.30
Asso	3200	Max WS	Tr30_D12h	72.18	231.10	235.50		235.63	0.000832	1.59	0.39	0.35	48.99	20.47	0.30
Asso	3200	Max WS	Tr30_D15h	69.27	231.10	235.40		235.53	0.000863	1.58	0.38	0.35	46.98	20.09	0.30
Asso	3100	Max WS	Tr30_D2h	73.81	231.04	234.90		235.05	0.001450	1.88	0.45	0.66	54.01	32.82	0.38
Asso	3100	Max WS	Tr30_D3h	83.34	231.04	235.07		235.22	0.001415	1.94	0.48	0.71	59.59	32.82	0.38
Asso	3100	Max WS	Tr30_D9h	98.42	231.04	235.31		235.48	0.001400	2.04	0.52	0.79	67.41	32.82	0.38
Asso	3100	Max WS	Tr30_D12h	97.15	231.04	235.28		235.45	0.001416	2.04	0.52	0.78	66.53	32.82	0.38
Asso	3100	Max WS	Tr30_D15h	91.20	231.04	235.19		235.35	0.001424	2.00	0.50	0.76	63.46	32.82	0.38
Asso	3000	Max WS	Tr30_D2h	68.21	230.83	234.68		234.92	0.001978	2.24	0.64	0.41	34.51	17.69	0.43
Asso	3000	Max WS	Tr30_D3h	76.36	230.83	234.84		235.11	0.002011	2.35	0.69	0.48	37.51	18.31	0.43
Asso	3000	Max WS	Tr30_D9h	87.70	230.83	235.08		235.37	0.002010	2.47	0.74	0.56	41.90	19.18	0.44
Asso	3000	Max WS	Tr30_D12h	86.88	230.83	235.05		235.34	0.002041	2.47	0.74	0.55	41.33	19.07	0.44
Asso	3000	Max WS	Tr30_D15h	81.93	230.83	234.96		235.24	0.002016	2.41	0.72	0.52	39.64	18.73	0.44
Asso	2999			Lat Struct											
Asso	2900	Max WS	Tr30_D2h	77.40	231.15	234.54		234.72	0.001847	2.01	0.64	0.57	51.16	37.76	0.43
Asso	2900	Max WS	Tr30_D3h	88.66	231.15	234.71		234.90	0.001785	2.08	0.67	0.64	57.64	37.76	0.43
Asso	2900	Max WS	Tr30_D9h	105.82	231.15	234.95		235.15	0.001720	2.18	0.71	0.73	66.75	37.76	0.43
Asso	2900	Max WS	Tr30_D12h	104.43	231.15	234.92		235.12	0.001765	2.19	0.71	0.73	65.46	37.76	0.43
Asso	2900	Max WS	Tr30_D15h	97.16	231.15	234.83		235.03	0.001752	2.13	0.69	0.69	62.22	37.76	0.43
Asso	2800	Max WS	Tr30_D2h	84.51	230.54	234.26		234.50	0.002278	2.22	0.40	0.36	41.30	27.06	0.47
Asso	2800	Max WS	Tr30_D3h	94.61	230.54	234.44		234.69	0.002172	2.28	0.50	0.45	46.14	27.06	0.46
Asso	2800	Max WS	Tr30_D9h	104.33	230.54	234.70		234.94	0.001833	2.24	0.58	0.52	53.16	27.06	0.43
Asso	2800	Max WS	Tr30_D12h	103.00	230.54	234.66		234.90	0.001878	2.24	0.57	0.51	52.15	27.06	0.44
Asso	2800	Max WS	Tr30_D15h	102.53	230.54	234.57		234.83	0.002115	2.33	0.56	0.50	49.65	27.06	0.46
Asso	2700	Max WS	Tr30_D2h	74.35	230.53	234.16		234.32	0.001496	1.90	0.49	0.60	51.06	32.61	0.39
Asso	2700	Max WS	Tr30_D3h	84.02	230.53	234.36		234.52	0.001393	1.93	0.51	0.66	57.55	32.79	0.38
Asso	2700	Max WS	Tr30_D9h	99.63	230.53	234.63		234.80	0.001326	2.01	0.54	0.73	66.47	33.12	0.38
Asso	2700	Max WS	Tr30_D12h	97.53	230.53	234.59		234.76	0.001335	2.00	0.54	0.72	65.28	33.08	0.38
Asso	2700	Max WS	Tr30_D15h	91.55	230.53	234.50		234.66	0.001347	1.97	0.53	0.69	62.11	32.95	0.38
Asso	2699			Lat Struct											
Asso	2600	Max WS	Tr30_D2h	86.15	229.86	233.90		234.16	0.001910	2.34	0.79	0.66	44.44	21.32	0.44
Asso	2600	Max WS	Tr30_D3h	96.56	229.86	234.10		234.37	0.001875	2.42	0.83	0.73	48.73	21.66	0.44
Asso	2600	Max WS	Tr30_D9h	112.26	229.86	234.37		234.67	0.001897	2.57	0.77	0.81	54.84	23.92	0.45
Asso	2600	Max WS	Tr30_D12h	110.02	229.86	234.34		234.64	0.001896	2.55	0.76	0.80	54.01	23.92	0.44
Asso	2600	Max WS	Tr30_D15h	104.13	229.86	234.24		234.53	0.001859	2.48	0.83	0.77	51.80	22.21	0.44
Asso	2500	Max WS	Tr30_D2h	101.63	229.56	233.58		233.85	0.002493	2.31	0.32	0.38	45.13	24.43	0.50
Asso	2500	Max WS	Tr30_D3h	116.45	229.56	233.71		234.03	0.002665	2.49	0.43	0.44	48.49	24.63	0.52
Asso	2500	Max WS	Tr30_D9h	135.84	229.56	233.93		234.28	0.002681	2.64	0.55	0.43	53.92	25.66	0.53
Asso	2500	Max WS	Tr30_D12h	133.24	229.56	233.90		234.25	0.002686	2.63	0.54	0.43	53.15	25.54	0.53
Asso	2500	Max WS	Tr30_D15h	125.96	229.56	233.83		234.16	0.002659	2.56	0.49	0.43	51.27	25.13	0.52
Asso	2400	Max WS	Tr30_D2h	84.22	229.46	233.40		233.73	0.002637	2.72	0.72	0.59	43.40	35.59	0.51
Asso	2400	Max WS	Tr30_D3h	93.24	229.46	233.59		233.92	0.002479	2.74	0.69	0.60	50.82	42.21	0.50
Asso	2400	Max WS	Tr30_D9h	108.27	229.46	233.85		234.17	0.002249	2.76	0.78	0.66	62.36	46.11	0.48
Asso	2400	Max WS	Tr30_D12h	106.12	229.46	233.81		234.13	0.002269	2.75	0.77	0.66	60.74	45.03	0.48
Asso	2400	Max WS	Tr30_D15h	100.04	229.46	233.73		234.04	0.002298	2.72	0.73	0.63	56.90	44.16	0.48
Asso	2399			Lat Struct											
Asso	2300	Max WS	Tr30_D2h	82.86	229.44	233.32		233.49	0.001345	1.81	0.27	0.31	47.46	23.84	0.37
Asso	2300	Max WS	Tr30_D3h	92.66	229.44	233.50		233.67	0.001331	1.88	0.35	0.35	51.60	23.92	0.37
Asso	2300	Max WS	Tr30_D9h	106.57	229.44	233.75		233.94	0.001280	1.96	0.44	0.39	57.72	24.06	0.37
Asso	2300	Max WS	Tr30_D12h	104.73	229.44	233.72		233.91	0.001290	1.95	0.42	0.39	56.86	24.04	0.37
Asso	2300	Max WS	Tr30_D15h	99.51	229.44	233.63		233.82	0.001292	1.91	0.40	0.37	54.84	23.99	0.37
Asso	2200	Max WS	Tr30_D2h	74.48	229.22	233.26		233.40	0.001021	1.76	0.59	0.40	50.21	22.91	0.33
Asso	2200	Max WS	Tr30_D3h	83.51	229.22	233.43		233.59	0.001040	1.85	0.64	0.43	54.20	23.13	0.33
Asso	2200	Max WS	Tr30_D9h	96.55	229.22	233.69		233.86	0.001041	1.95	0.70	0.48	60.18	23.42	0.34
Asso	2200	Max WS	Tr30_D12h	94.88	229.22	233.65		233.83	0.001046	1.94	0.69	0.48	59.33	23.38	0.34
Asso	2200	Max WS	Tr30_D15h	90.06	229.22	233.57		233.73	0.001035	1.90	0.67	0.46	57.36	23.29	0.33
Asso	2100	Max WS	Tr30_D2h	87.12	228.89	233.08		233.26	0.001355	1.91	0.55	0.38	51.97	28.00	0.37
Asso	2100	Max WS	Tr30_D3h	97.88	228.89	233.24		233.43	0.001378	2.00	0.60	0.45	56.45	28.00	0.38
Asso	2100	Max WS	Tr30_D9h	114.94	228.89	233.47		233.69	0.001415	2.14	0.66	0.54	63.02	28.00	0.39
Asso	2100	Max WS	Tr30_D12h	112.77	228.89	233.44		233.65	0.001426	2.13	0.65	0.53	61.97	28.00	0.39
Asso	2100	Max WS	Tr30_D15h	106.66	228.89	233.36		233.57	0.001395	2.07	0.63	0.50	59.95	28.00	0.39
Asso	2099			Lat Struct											
Asso	2000	Max WS	Tr30_D2h	81.57	228.84	232.98		233.10	0.001075	1.79	0.69	0.42	66.34	36.74	0.33
Asso	2000	Max WS	Tr30_D3h	91.96	228.84	233.13		233.26	0.001106	1.87	0.74	0.47	71.97	37.21	0.34
Asso	2000	Max WS	Tr30_D9h	109.87	228.84	233.36		233.51	0.001176	2.03	0.82	0.56	80.52	37.94	0.35
Asso	2000	Max WS	Tr30_D12h	107.12	228.84	233.32		233.48	0.001163	2.00	0.80	0.54	79.30	37.82	0.35
Asso	2000	Max WS	Tr30_D15h	101.15	228.84	233.25		233.39	0.001142	1.95	0.78	0.52	76.46	37.58	0.35
Asso	1900	Max WS	Tr30_D2h	68.25	229.03	232.93		233.03	0.000720	1.51	0.48	0.44	59.59	31.91	0.28
Asso	1900	Max WS	Tr30_D3h	75.33	229.03	233.09		233.20	0.000710	1.55	0.48	0.48	64.81	32.46	0.28
Asso	1900	Max WS	Tr30_D9h	88.06	229.03	233.33		233.45	0.000731	1.66	0.45	0.54	72.87	34.87	0.29
Asso	1900	Max WS	Tr30_D12h	86.02	229.03	233.30		233.41	0.000725	1.64	0.45	0.53	71.70	34.57	0.29
Asso	1900	Max WS	Tr30_D15h	81.74	229.03	233.22		233.33	0.000719	1.61	0.46	0.51	69.00	33.84	0.28
Asso	1875	Max WS	Tr30_D2h	79.35	229.01	232.77	231.70	233.00	0.001696	2.30	0.48	0.72	48.25	32.07	0.42
Asso	1875	Max WS	Tr30_D3h	88.43	229.01	232.93	231.94	233.17	0.001689	2.38	0.55	0.77	53.20	32.07	0.43
Asso	1875	Max WS	Tr30_D9h	102.31	229.01	233.16	232.13	233.42	0.001642	2.46	0.65	0.83	60.87	32.07	0.43
Asso	1875	Max WS	Tr30_D12h	100.24	229.01	233.13	232.12	233.38	0.001646	2.45	0.63	0.82	59.79	32.07	0.43
Asso	1875	Max WS	Tr30_D15h	95.61	229.01	233.05	232.05	233.30	0.001660	2.42	0.60	0.80	57.28	32.07	0.43
Asso	1860			Bridge											
Asso	1850	Max WS	Tr30_D2h	79.34	228.78	232.73		232.96	0.001634	2.27	0.43	0.68	47.04	30.90	0.41
Asso	1850	Max WS	Tr30_D3h	88.43	228.78	232.87		233.12	0.001673	2.36	0.45	0.74	51.85		

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Asso	1799			Lat Struct											
Asso	1700	Max WS	Tr30_D2h	94.95	228.69	232.30		232.67	0.002918	2.93	0.68	0.98	47.31	32.70	0.55
Asso	1700	Max WS	Tr30_D3h	105.94	228.69	232.41		232.81	0.003073	3.09	0.74	1.06	51.02	33.71	0.57
Asso	1700	Max WS	Tr30_D9h	121.40	228.69	232.61		233.02	0.003018	3.19	0.85	1.14	57.66	33.94	0.57
Asso	1700	Max WS	Tr30_D12h	118.93	228.69	232.58		232.99	0.003009	3.17	0.83	1.13	56.76	33.91	0.57
Asso	1700	Max WS	Tr30_D15h	113.67	228.69	232.52		232.92	0.003007	3.13	0.79	1.10	54.68	33.84	0.57
Asso	1600	Max WS	Tr30_D2h	84.81	228.77	232.12		232.40	0.002341	2.34	0.58	0.47	38.69	20.45	0.49
Asso	1600	Max WS	Tr30_D3h	92.46	228.77	232.25		232.54	0.002307	2.41	0.60	0.50	41.40	21.13	0.49
Asso	1600	Max WS	Tr30_D9h	104.63	228.77	232.48		232.78	0.002173	2.48	0.68	0.55	46.19	21.40	0.48
Asso	1600	Max WS	Tr30_D12h	102.82	228.77	232.45		232.75	0.002177	2.47	0.67	0.54	45.59	21.36	0.48
Asso	1600	Max WS	Tr30_D15h	98.89	228.77	232.38		232.68	0.002215	2.44	0.65	0.53	44.07	21.28	0.48
Asso	1500	Max WS	Tr30_D2h	77.14	228.45	231.89		232.20	0.002612	2.57	0.59	0.79	35.66	20.31	0.51
Asso	1500	Max WS	Tr30_D3h	85.33	228.45	232.04		232.37	0.002610	2.66	0.66	0.81	38.68	20.94	0.51
Asso	1500	Max WS	Tr30_D9h	94.42	228.45	232.30		232.62	0.002278	2.64	0.72	0.77	44.44	22.64	0.49
Asso	1500	Max WS	Tr30_D12h	92.78	228.45	232.27		232.59	0.002284	2.63	0.71	0.77	43.76	22.46	0.49
Asso	1500	Max WS	Tr30_D15h	89.29	228.45	232.19		232.51	0.002335	2.61	0.69	0.77	42.03	22.00	0.49
Asso_v	1449			Lat Struct											
Asso_v	1400	Max WS	Tr30_D2h	75.05	228.47	231.78		232.07	0.002500	2.49	0.74	0.60	35.01	19.13	0.50
Asso_v	1400	Max WS	Tr30_D3h	81.49	228.47	231.91		232.22	0.002430	2.55	0.78	0.64	37.60	19.29	0.50
Asso_v	1400	Max WS	Tr30_D9h	90.66	228.47	232.20		232.49	0.002063	2.51	0.81	0.68	43.17	19.59	0.47
Asso_v	1400	Max WS	Tr30_D12h	89.20	228.47	232.17		232.46	0.002071	2.50	0.81	0.67	42.59	19.56	0.47
Asso_v	1400	Max WS	Tr30_D15h	85.24	228.47	232.09		232.38	0.002095	2.47	0.79	0.65	41.04	19.48	0.47
Asso_v	1399			Lat Struct											
Asso_v	1300	Max WS	Tr30_D2h	73.67	228.09	231.61		231.87	0.001988	2.35	0.78	0.54	39.67	22.86	0.45
Asso_v	1300	Max WS	Tr30_D3h	80.64	228.09	231.75		232.01	0.001974	2.41	0.81	0.60	42.79	22.86	0.45
Asso_v	1300	Max WS	Tr30_D9h	91.32	228.09	232.05		232.31	0.001728	2.41	0.83	0.68	49.65	22.86	0.43
Asso_v	1300	Max WS	Tr30_D12h	90.15	228.09	232.02		232.28	0.001754	2.41	0.83	0.67	48.89	22.86	0.43
Asso_v	1300	Max WS	Tr30_D15h	86.24	228.09	231.94		232.19	0.001765	2.38	0.81	0.65	47.14	22.86	0.43
Asso_v	1200	Max WS	Tr30_D2h	81.66	228.07	231.48		231.70	0.002021	2.31	0.68	0.79	50.48	32.02	0.44
Asso_v	1200	Max WS	Tr30_D3h	88.34	228.07	231.67		231.88	0.001786	2.27	0.70	0.81	56.53	32.67	0.42
Asso_v	1200	Max WS	Tr30_D9h	103.81	228.07	232.02		232.22	0.001522	2.25	0.76	0.85	68.15	33.49	0.39
Asso_v	1200	Max WS	Tr30_D12h	101.78	228.07	231.98		232.18	0.001533	2.25	0.75	0.85	66.95	33.41	0.40
Asso_v	1200	Max WS	Tr30_D15h	96.56	228.07	231.90		232.09	0.001544	2.22	0.73	0.82	64.13	33.22	0.40
Asso_v	1136.00	Max WS	Tr30_D2h	98.02	227.79	231.25		231.48	0.002094	2.39	0.70	0.89	63.56	47.81	0.46
Asso_v	1136.00	Max WS	Tr30_D3h	107.04	227.79	231.45		231.66	0.001772	2.31	0.71	0.72	73.34	48.38	0.43
Asso_v	1136.00	Max WS	Tr30_D9h	127.65	227.79	231.81		232.00	0.001455	2.26	0.75	0.79	91.09	49.20	0.40
Asso_v	1136.00	Max WS	Tr30_D12h	125.18	227.79	231.77		231.96	0.001475	2.26	0.75	0.78	89.25	49.12	0.40
Asso_v	1136.00	Max WS	Tr30_D15h	118.51	227.79	231.69		231.88	0.001492	2.23	0.73	0.76	85.17	48.94	0.40
Asso_v	1120.00	Max WS	Tr30_D2h	105.00	227.72	231.13		231.44	0.002669	2.68	0.78	0.67	59.64	49.69	0.52
Asso_v	1120.00	Max WS	Tr30_D3h	116.75	227.72	231.33		231.61	0.002349	2.63	0.80	0.74	69.40	50.25	0.49
Asso_v	1120.00	Max WS	Tr30_D9h	139.34	227.72	231.70		231.94	0.001871	2.54	0.81	0.82	88.25	51.32	0.45
Asso_v	1120.00	Max WS	Tr30_D12h	136.77	227.72	231.66		231.91	0.001909	2.55	0.81	0.82	86.25	51.21	0.45
Asso_v	1120.00	Max WS	Tr30_D15h	130.45	227.72	231.57		231.82	0.001984	2.55	0.80	0.79	81.74	50.95	0.46
Asso_v	1040.00	Max WS	Tr30_D2h	108.73	227.36	230.88		231.15	0.002208	2.48	0.74	0.51	64.73	56.13	0.48
Asso_v	1040.00	Max WS	Tr30_D3h	123.77	227.36	231.06		231.33	0.002101	2.53	0.80	0.57	75.55	60.44	0.47
Asso_v	1040.00	Max WS	Tr30_D9h	156.39	227.36	231.40		231.68	0.001983	2.65	0.90	0.66	97.35	68.30	0.47
Asso_v	1040.00	Max WS	Tr30_D12h	152.56	227.36	231.37		231.64	0.001987	2.63	0.89	0.65	95.01	67.50	0.47
Asso_v	1040.00	Max WS	Tr30_D15h	143.74	227.36	231.29		231.56	0.001975	2.58	0.86	0.63	90.04	65.77	0.47
Asso_v	800	Max WS	Tr30_D2h	108.60	226.31	230.49		230.64	0.000881	1.76	0.46	0.45	69.79	30.36	0.32
Asso_v	800	Max WS	Tr30_D3h	122.18	226.31	230.68		230.84	0.000871	1.82	0.50	0.37	82.76	44.84	0.32
Asso_v	800	Max WS	Tr30_D9h	154.20	226.31	231.02		231.21	0.000933	2.01	0.58	0.50	96.24	45.24	0.34
Asso_v	800	Max WS	Tr30_D12h	150.36	226.31	230.99		231.17	0.000919	1.98	0.57	0.49	96.81	45.20	0.33
Asso_v	800	Max WS	Tr30_D15h	142.24	226.31	230.93		231.10	0.000884	1.92	0.55	0.46	93.90	45.13	0.32
Asso_v	799			Lat Struct											
Asso_v	774			Lat Struct											
Asso_v	700	Max WS	Tr30_D2h	108.64	226.43	230.30		230.53	0.001698	2.25	0.51	0.73	60.08	36.49	0.43
Asso_v	700	Max WS	Tr30_D3h	119.78	226.43	230.48		230.73	0.001683	2.34	0.56	0.61	67.33	40.45	0.43
Asso_v	700	Max WS	Tr30_D9h	155.19	226.43	230.79		231.10	0.001902	2.64	0.68	0.76	79.91	42.32	0.46
Asso_v	700	Max WS	Tr30_D12h	151.86	226.43	230.76		231.07	0.001870	2.61	0.67	0.75	79.03	42.28	0.46
Asso_v	700	Max WS	Tr30_D15h	142.81	226.43	230.71		230.99	0.001775	2.52	0.64	0.70	76.73	42.18	0.44
Asso_v	600	Max WS	Tr30_D2h	108.36	225.87	230.20		230.38	0.001063	1.96	0.67	0.54	68.44	29.61	0.35
Asso_v	600	Max WS	Tr30_D3h	119.36	225.87	230.39		230.57	0.001051	2.02	0.70	0.57	73.99	30.44	0.35
Asso_v	600	Max WS	Tr30_D9h	154.59	225.87	230.66		230.91	0.001318	2.38	0.86	0.70	82.40	30.90	0.39
Asso_v	600	Max WS	Tr30_D12h	150.62	225.87	230.64		230.88	0.001279	2.34	0.84	0.68	81.74	30.88	0.39
Asso_v	600	Max WS	Tr30_D15h	141.72	225.87	230.60		230.82	0.001181	2.23	0.79	0.65	80.50	30.84	0.37
Asso_v	500	Max WS	Tr30_D2h	115.58	225.90	230.17		230.33	0.001220	2.15	1.04	0.64	83.28	36.48	0.37
Asso_v	500	Max WS	Tr30_D3h	133.00	225.90	230.35		230.54	0.001334	2.32	1.12	0.67	90.05	38.74	0.39
Asso_v	500	Max WS	Tr30_D9h	164.00	225.90	230.62		230.85	0.001522	2.60	1.26	0.78	100.74	40.28	0.42
Asso_v	500	Max WS	Tr30_D12h	160.78	225.90	230.60		230.82	0.001495	2.57	1.24	0.77	99.87	40.16	0.41
Asso_v	500	Max WS	Tr30_D15h	155.42	225.90	230.55		230.77	0.001466	2.53	1.22	0.75	98.01	39.89	0.41
Asso_v	490	Max WS	Tr30_D2h	116.15	225.53	230.17	228.39	230.31	0.000929	2.12	0.94	0.65	96.86	41.73	0.34
Asso_v	490	Max WS	Tr3												

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Asso_v	400	Max WS	Tr30_D2h	109.00	225.85	229.93		230.11	0.001423	1.87	0.09	0.19	58.53	24.44	0.38
Asso_v	400	Max WS	Tr30_D3h	123.72	225.85	230.08		230.29	0.001504	2.00	0.15	0.25	62.24	24.87	0.39
Asso_v	400	Max WS	Tr30_D9h	154.31	225.85	230.30		230.57	0.001792	2.30	0.24	0.33	67.70	25.54	0.44
Asso_v	400	Max WS	Tr30_D12h	151.20	225.85	230.29		230.55	0.001749	2.26	0.24	0.32	67.35	25.49	0.43
Asso_v	400	Max WS	Tr30_D15h	145.76	225.85	230.25		230.50	0.001699	2.21	0.22	0.31	66.40	25.36	0.42
Asso_v	300	Max WS	Tr30_D2h	105.52	225.61	229.75		230.00	0.001745	2.48	0.72	0.93	60.77	30.16	0.43
Asso_v	300	Max WS	Tr30_D3h	118.78	225.61	229.90		230.18	0.001831	2.62	0.80	1.00	65.40	30.37	0.45
Asso_v	300	Max WS	Tr30_D9h	146.81	225.61	230.09		230.45	0.002253	3.01	0.95	1.16	71.06	30.63	0.50
Asso_v	300	Max WS	Tr30_D12h	144.04	225.61	230.08		230.43	0.002188	2.96	0.94	1.14	70.82	30.62	0.49
Asso_v	300	Max WS	Tr30_D15h	139.18	225.61	230.05		230.38	0.002120	2.90	0.91	1.11	69.83	30.57	0.49
Asso_v	200	Max WS	Tr30_D2h	105.55	225.47	229.62		229.87	0.001600	2.53	0.81	1.02	61.74	26.42	0.42
Asso_v	200	Max WS	Tr30_D3h	119.25	225.47	229.77		230.05	0.001733	2.70	0.89	1.10	65.67	26.53	0.44
Asso_v	200	Max WS	Tr30_D9h	142.78	225.47	229.95		230.30	0.002054	3.03	1.03	1.24	70.50	26.67	0.48
Asso_v	200	Max WS	Tr30_D12h	140.64	225.47	229.95		230.29	0.002008	3.00	1.02	1.22	70.30	26.66	0.48
Asso_v	200	Max WS	Tr30_D15h	136.64	225.47	229.91		230.24	0.001961	2.95	0.99	1.20	69.41	26.63	0.47
Asso_v	1	Max WS	Tr30_D2h	106.66	225.32	229.49	228.55	229.76	0.002135	2.69	0.97	1.02	60.28	29.74	0.47
Asso_v	1	Max WS	Tr30_D3h	117.42	225.32	229.64	228.67	229.93	0.002139	2.77	1.02	1.06	64.75	30.04	0.48
Asso_v	1	Max WS	Tr30_D9h	132.97	225.32	229.85	228.80	230.15	0.002131	2.88	1.10	1.12	71.05	30.32	0.48
Asso_v	1	Max WS	Tr30_D12h	131.94	225.32	229.84	228.79	230.14	0.002130	2.87	1.09	1.12	70.66	30.31	0.48
Asso_v	1	Max WS	Tr30_D15h	129.09	225.32	229.80	228.78	230.10	0.002134	2.85	1.08	1.11	69.50	30.27	0.48

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ASSO"**

#### **FOSSO RIGUZZO**

MODELLAZIONE PER TR=30 e 200 ANNI

DURATA DI PIOGGIA: 2h, 3h, 9h, 12h e 15h

***Profilo longitudinale***

***Sezioni Trasversali***

***Dati idraulici***

## **ALLEGATI**

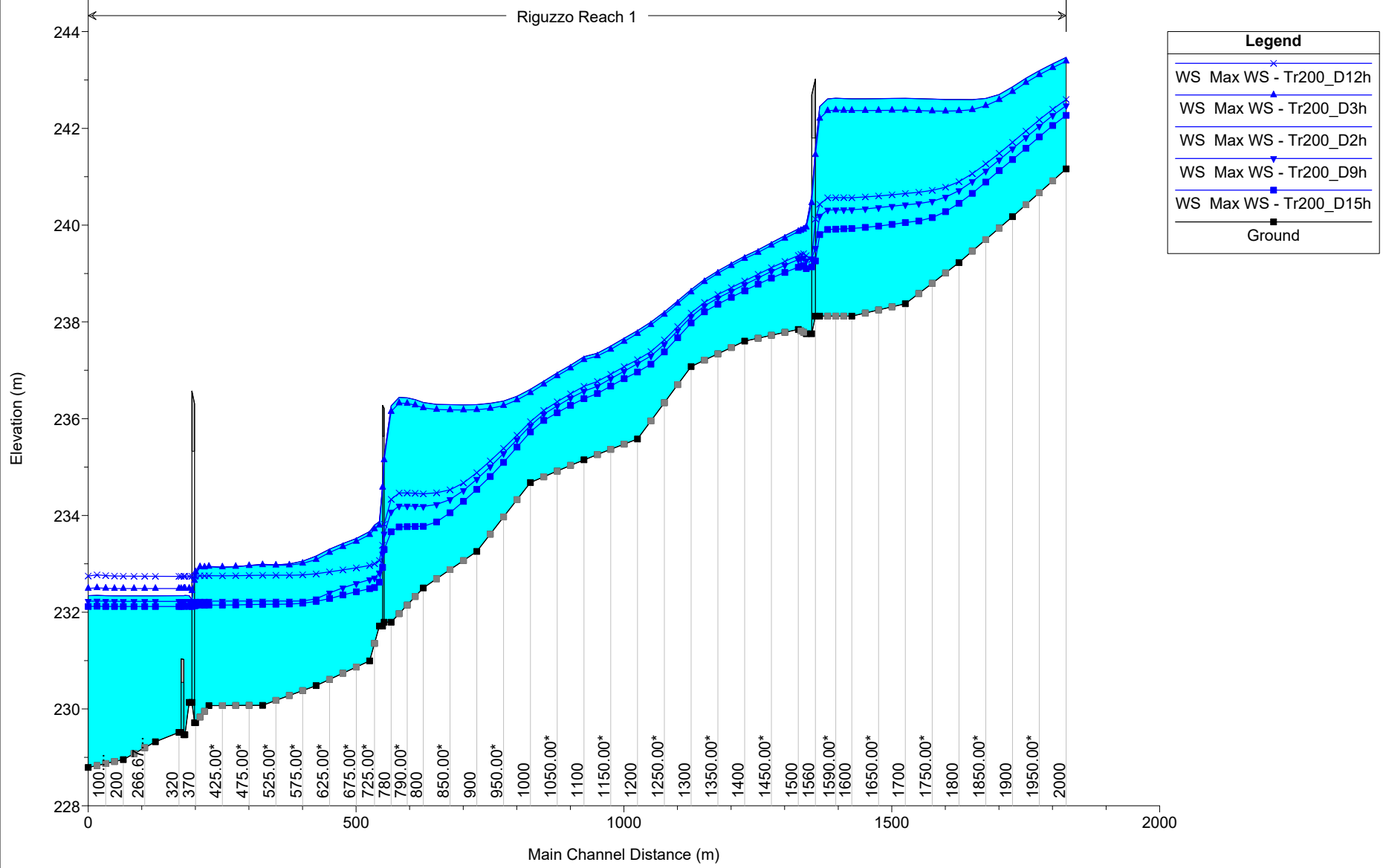
### **MODELLAZIONE HEC-RAS 5.0.7 "ASSO"**

#### **FOSSO RIGUZZO**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    2h, 3h, 9h, 12h e 15h

***Profilo longitudinale***





## **ALLEGATI**

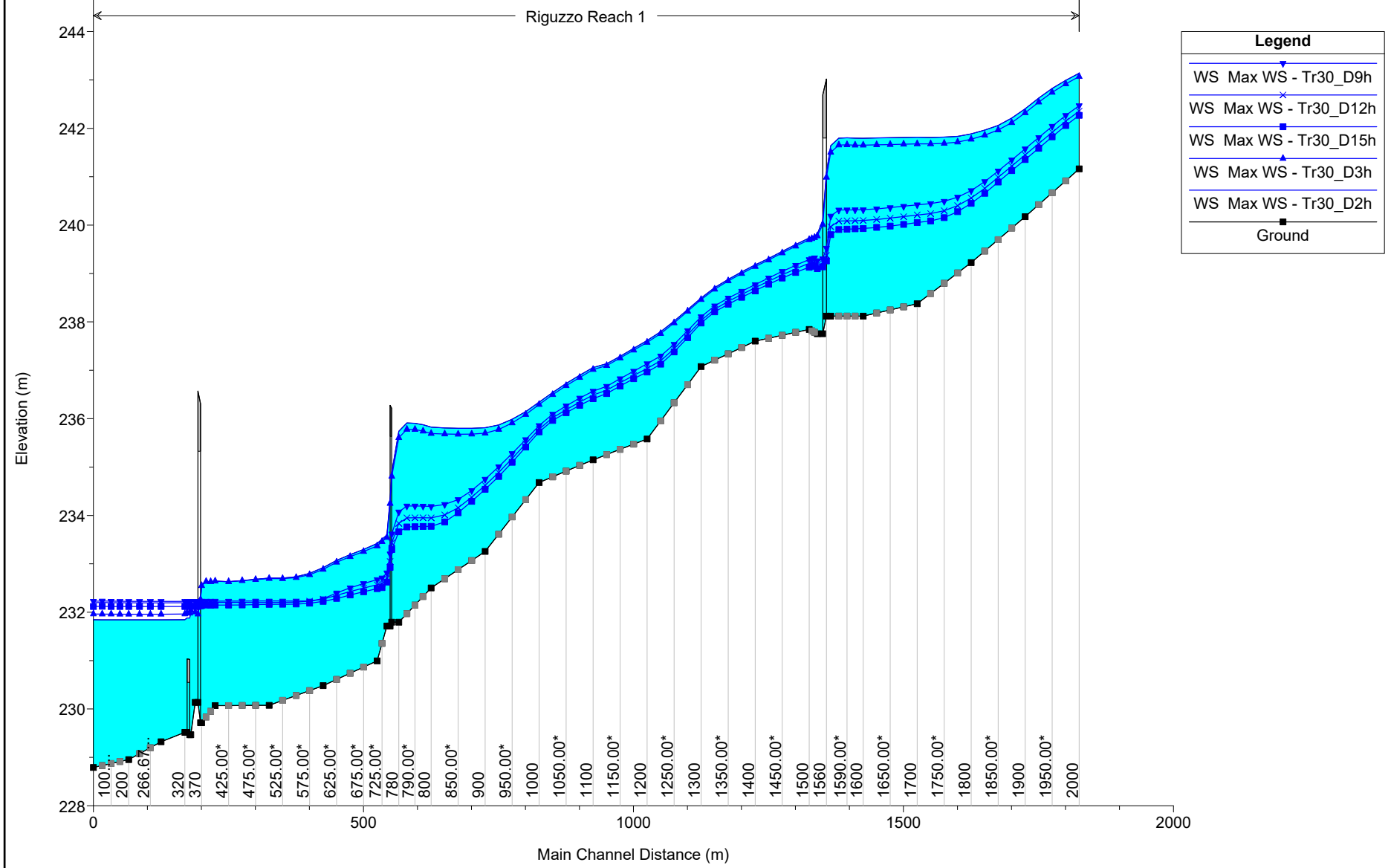
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#### **FOSSO RIGUZZO**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    2h, 3h, 9h, 12h e 15h

***Profilo longitudinale***



## **ALLEGATI**

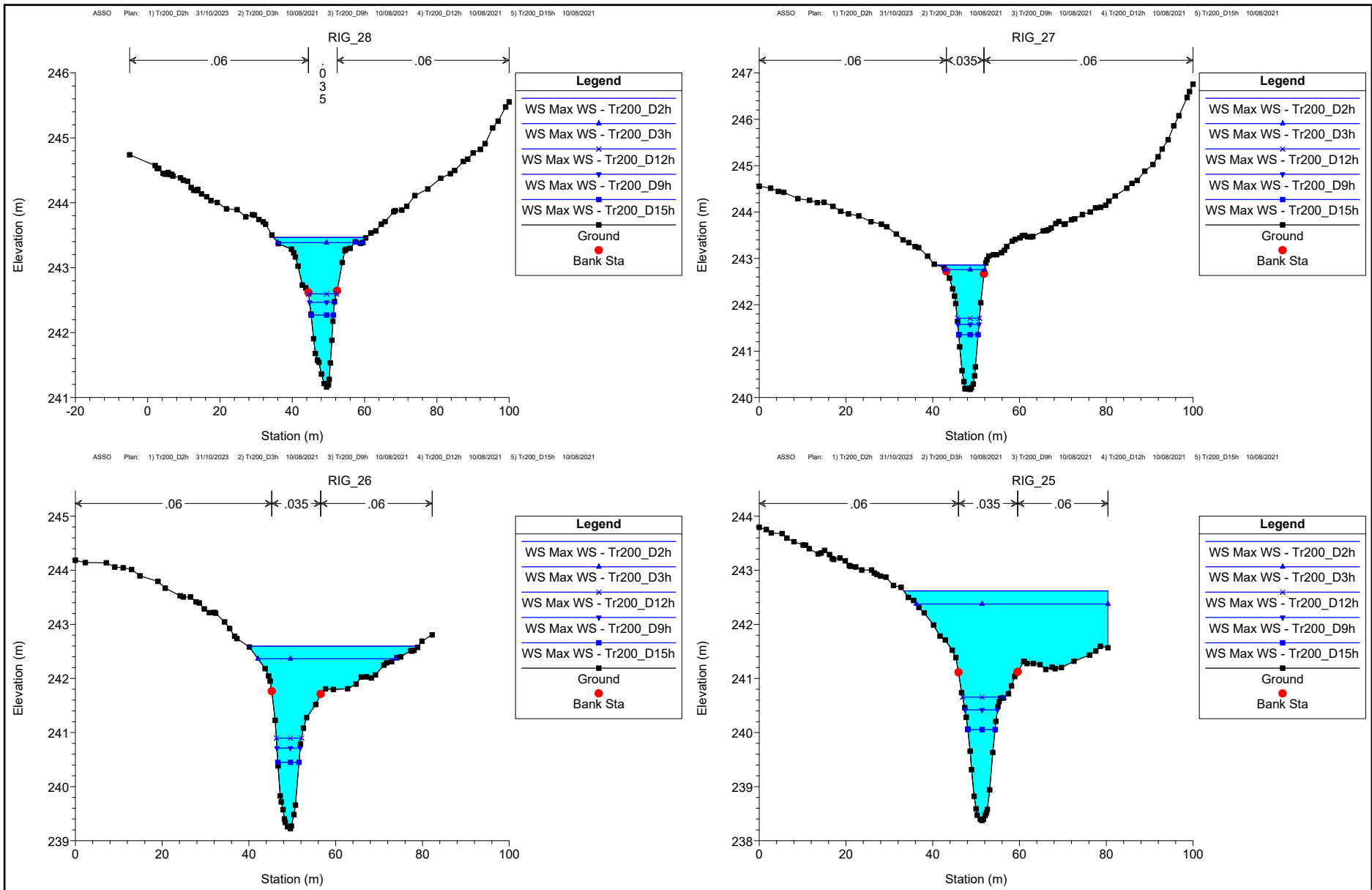
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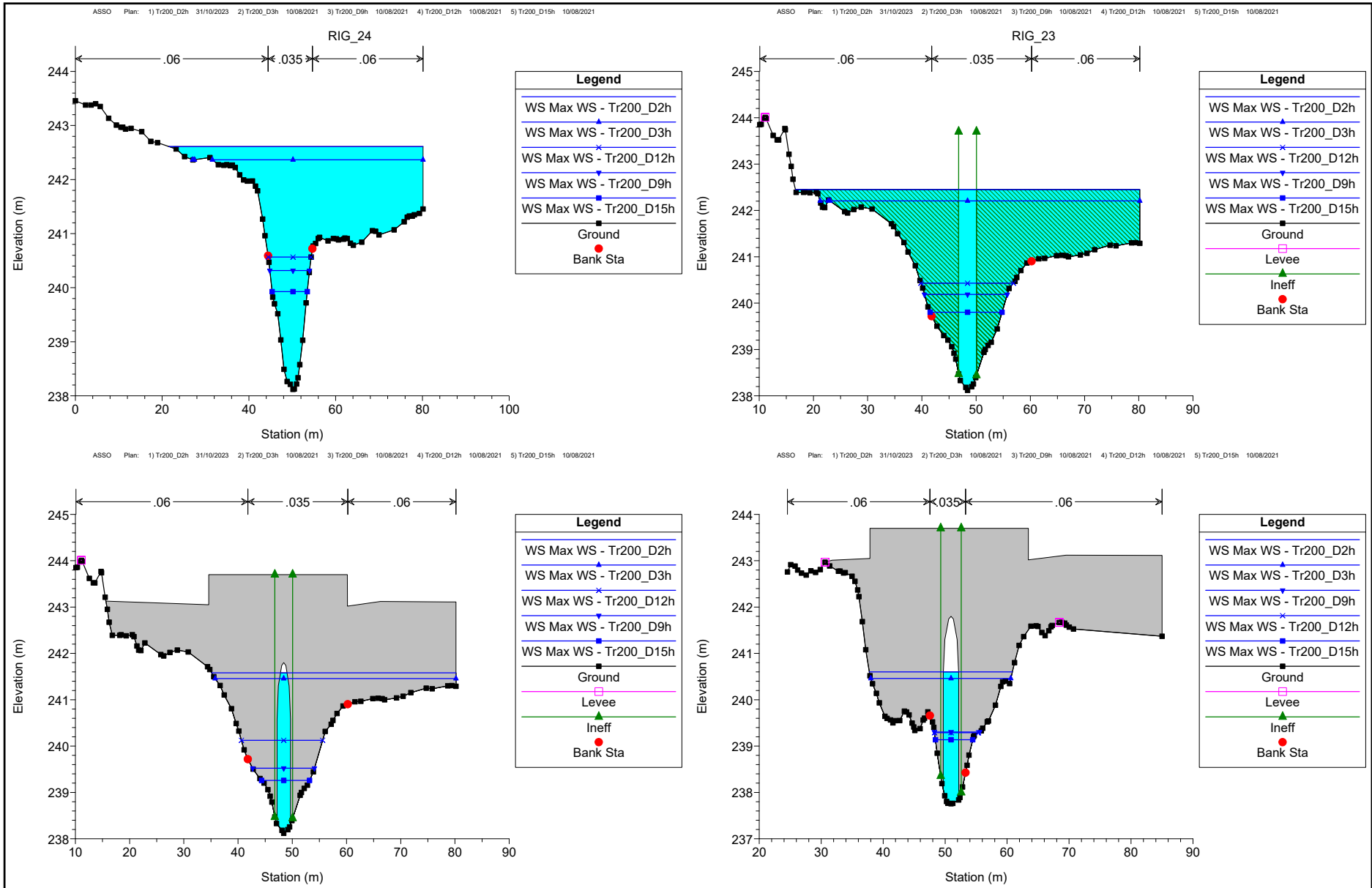
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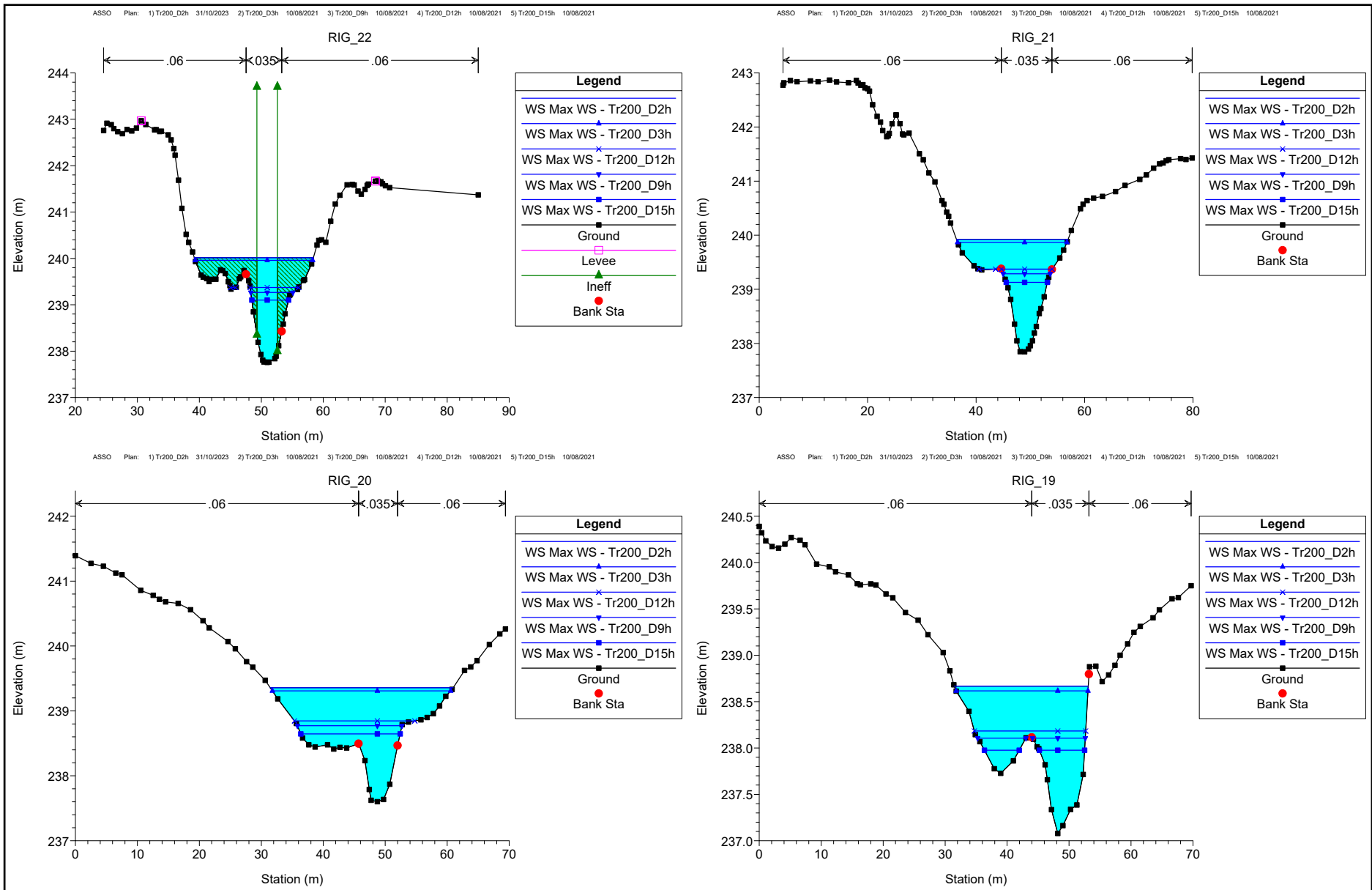
MODELLAZIONE PER      Tr=200 anni

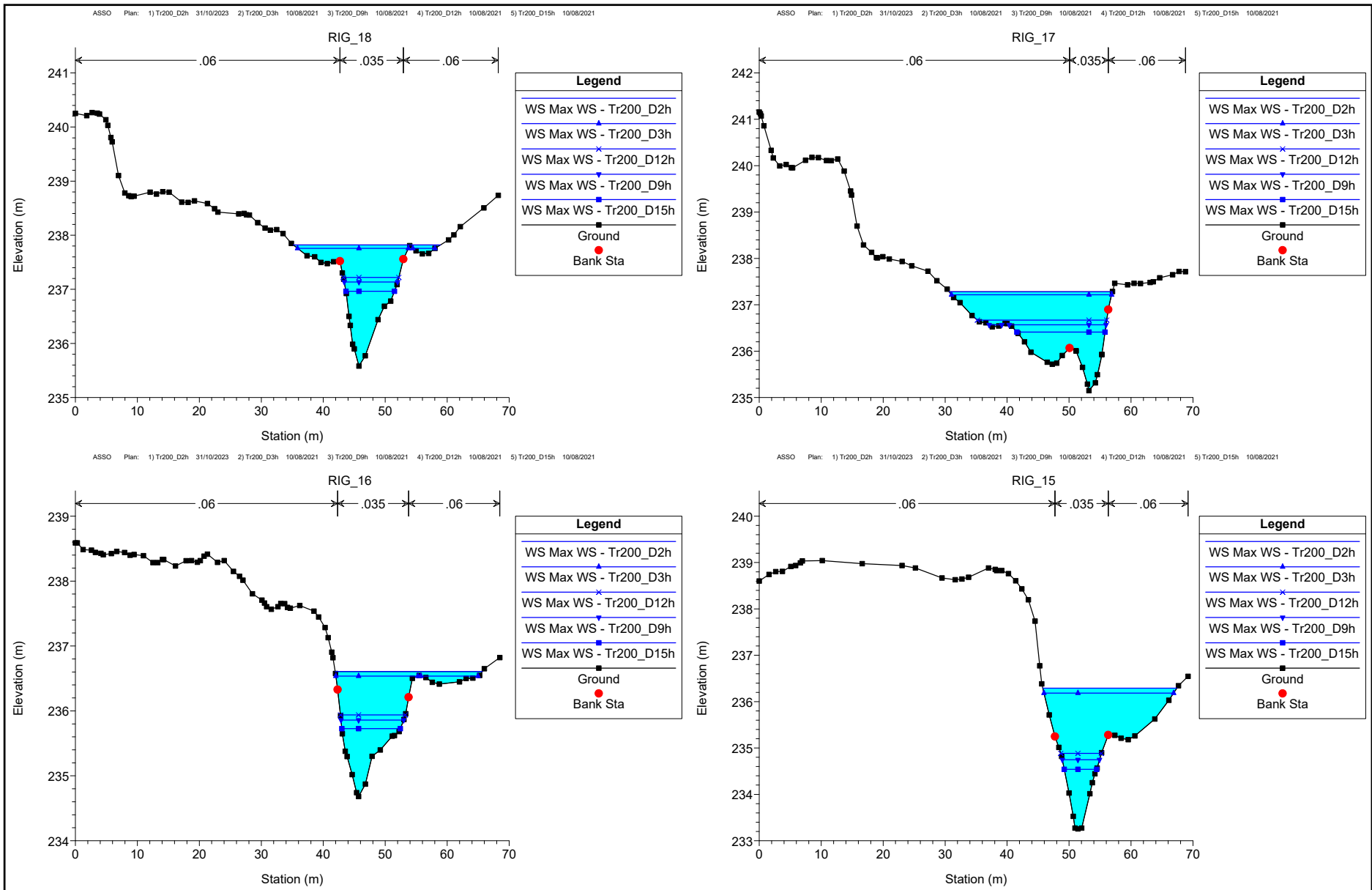
DURATE DI PIOGGIA:    2h, 3h, 9h, 12h e 15h

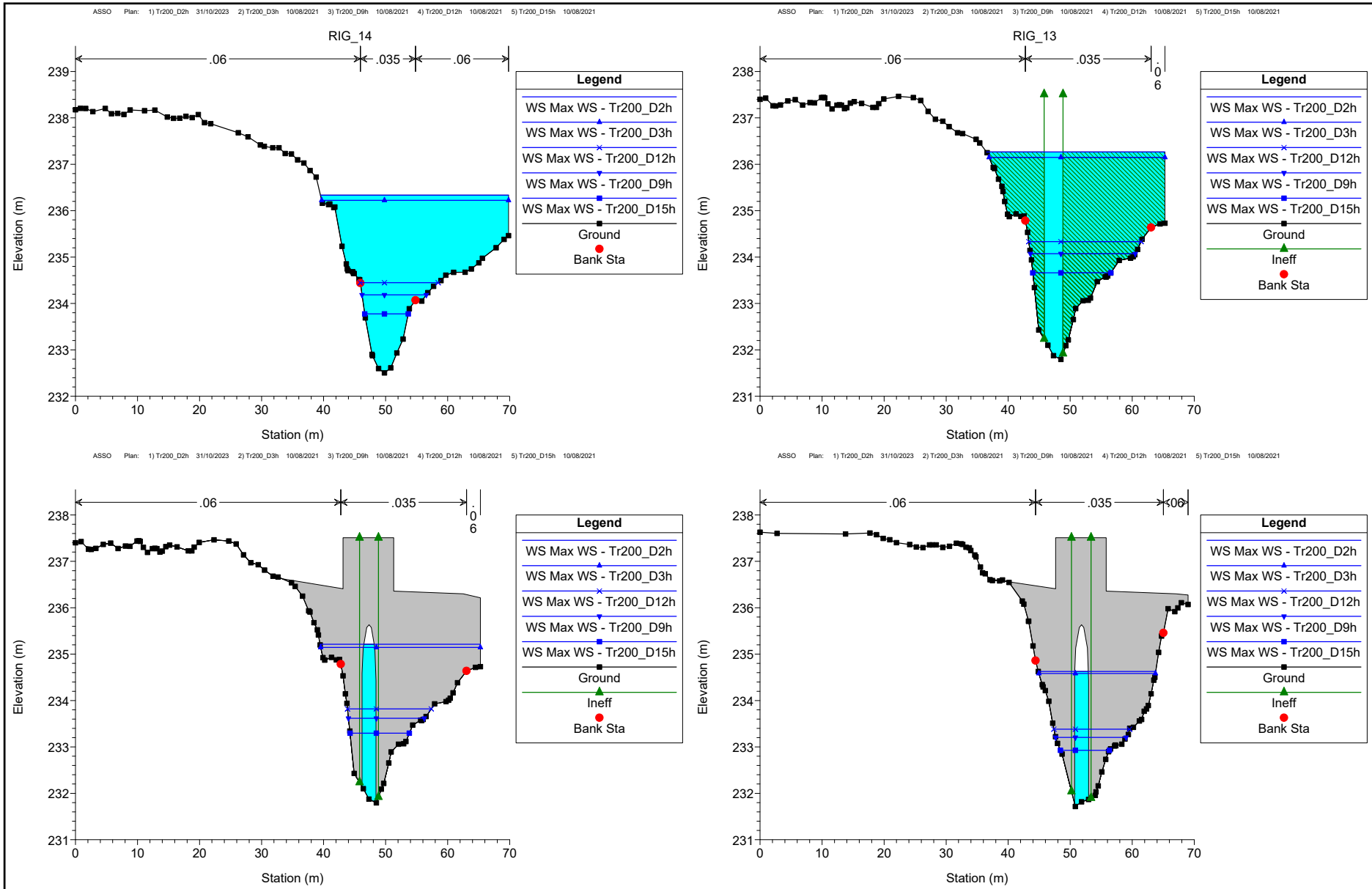
***Sezioni Trasversali (da monte verso valle)***



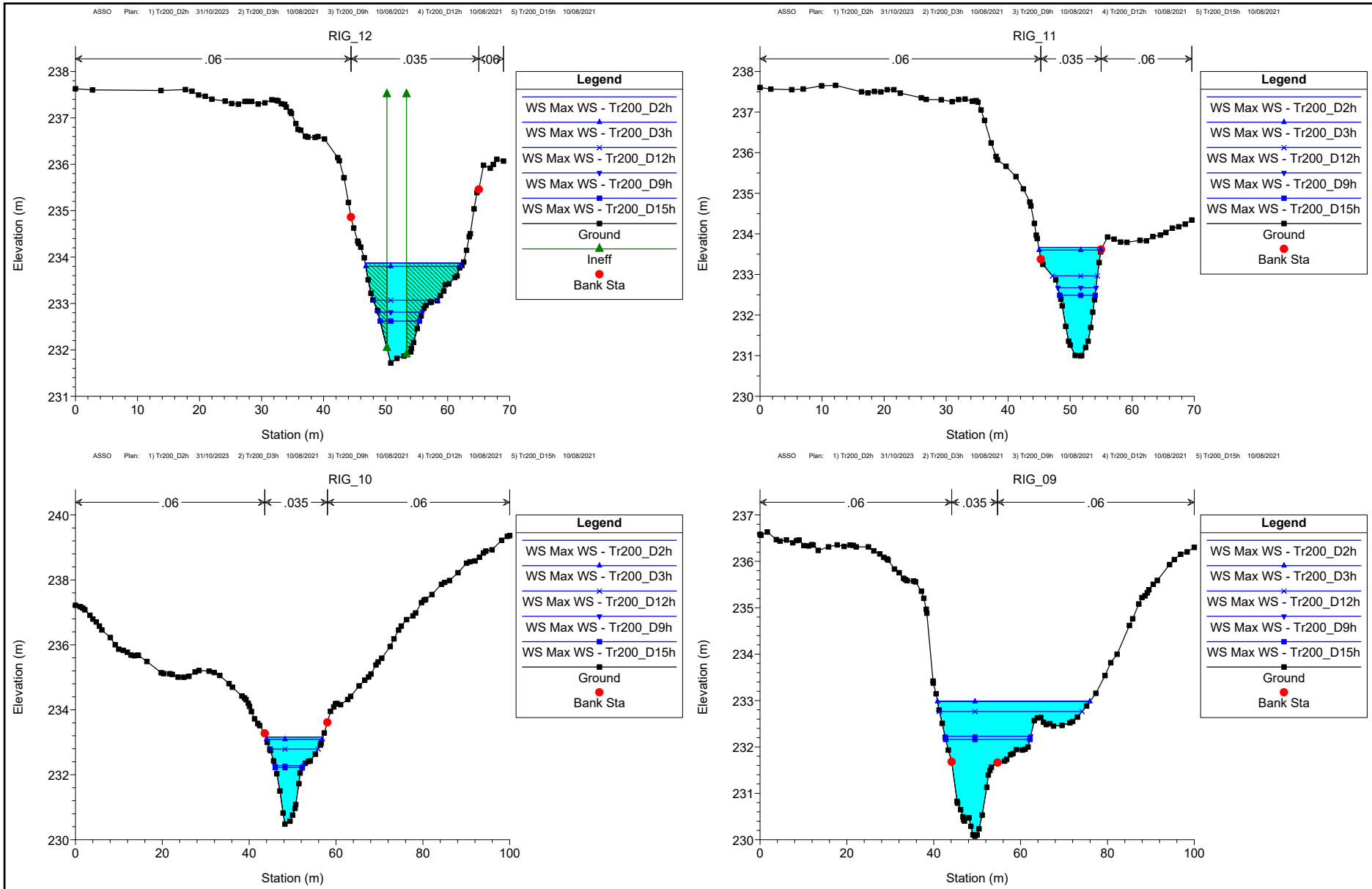


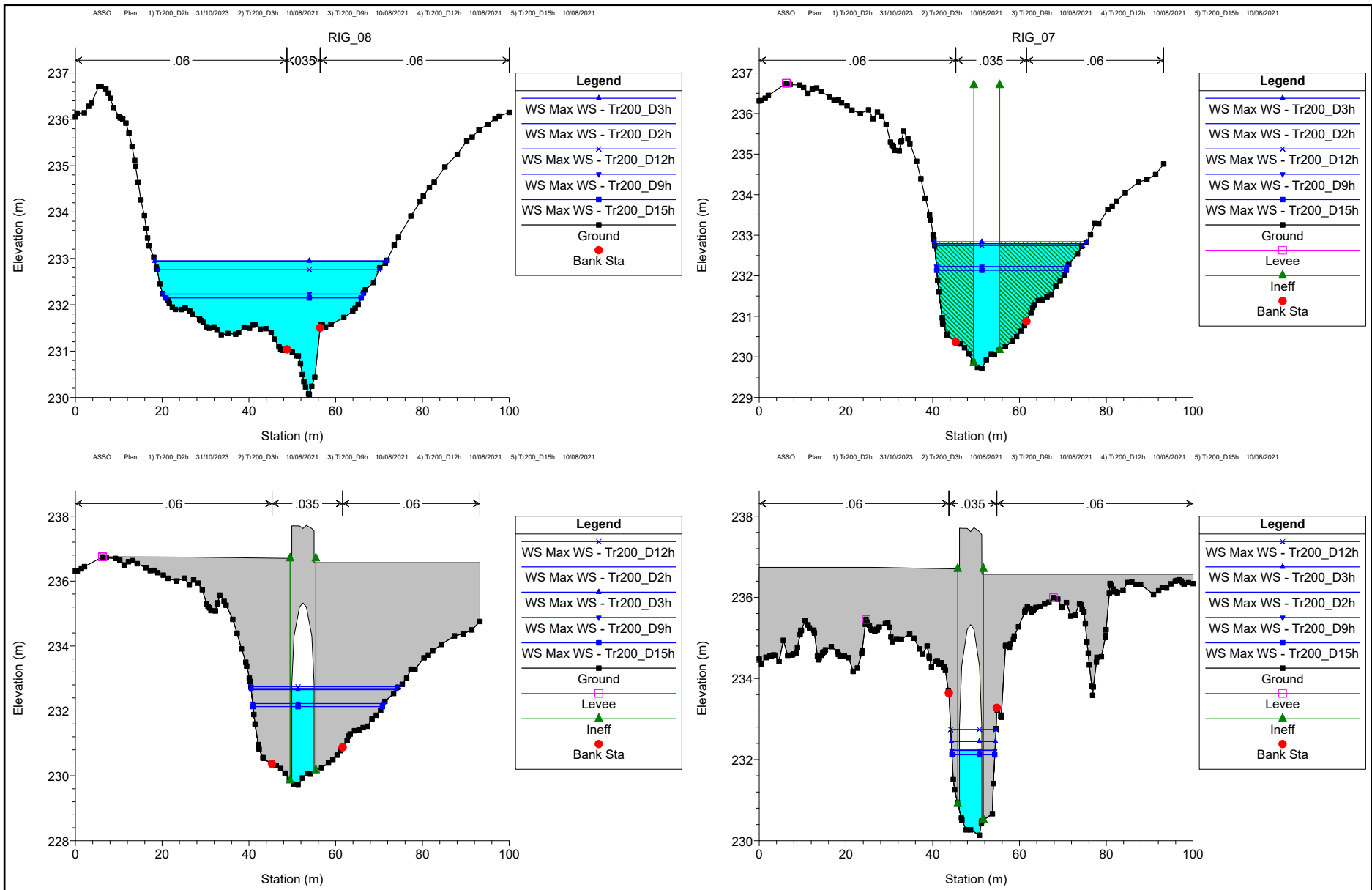


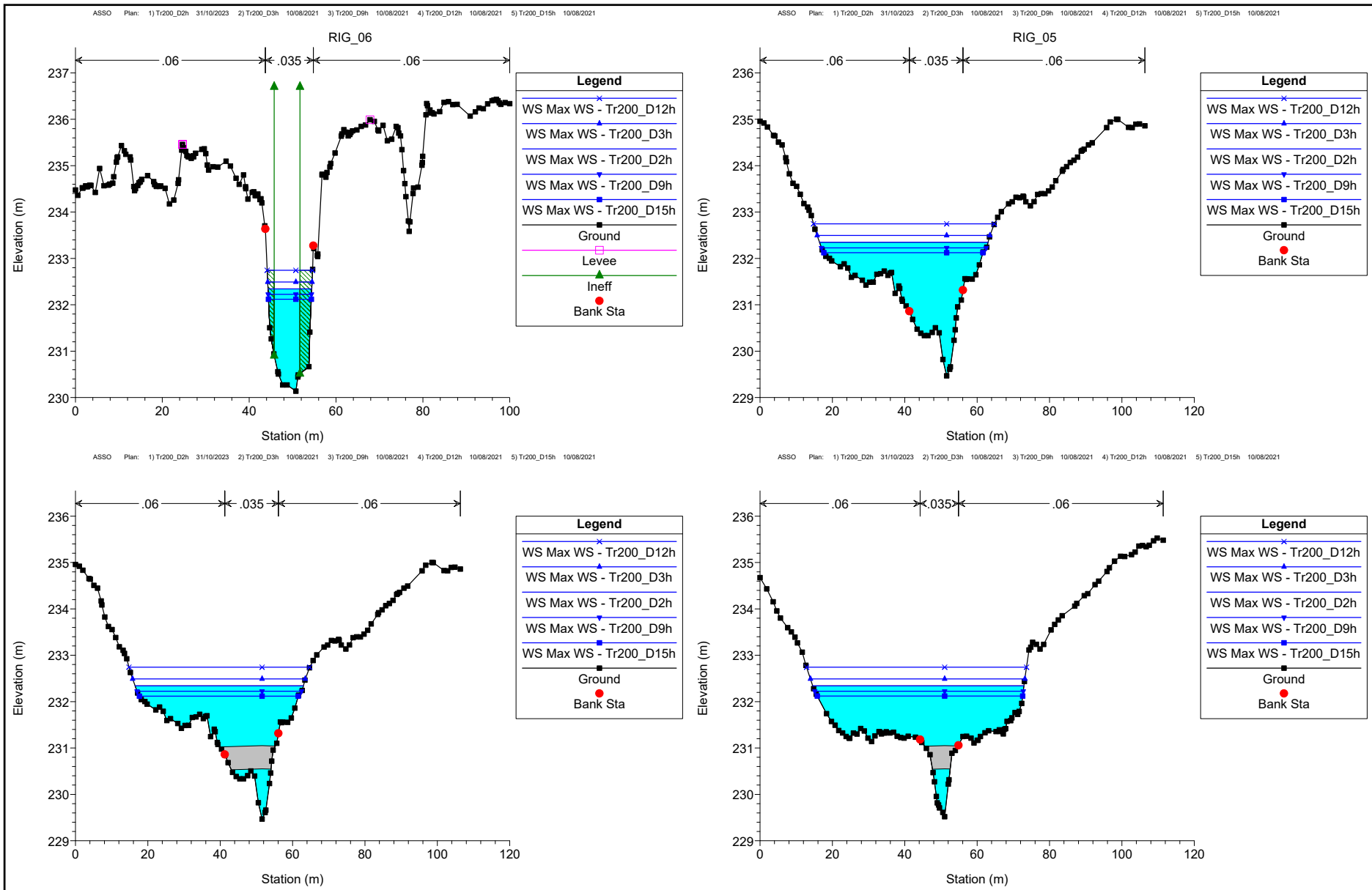


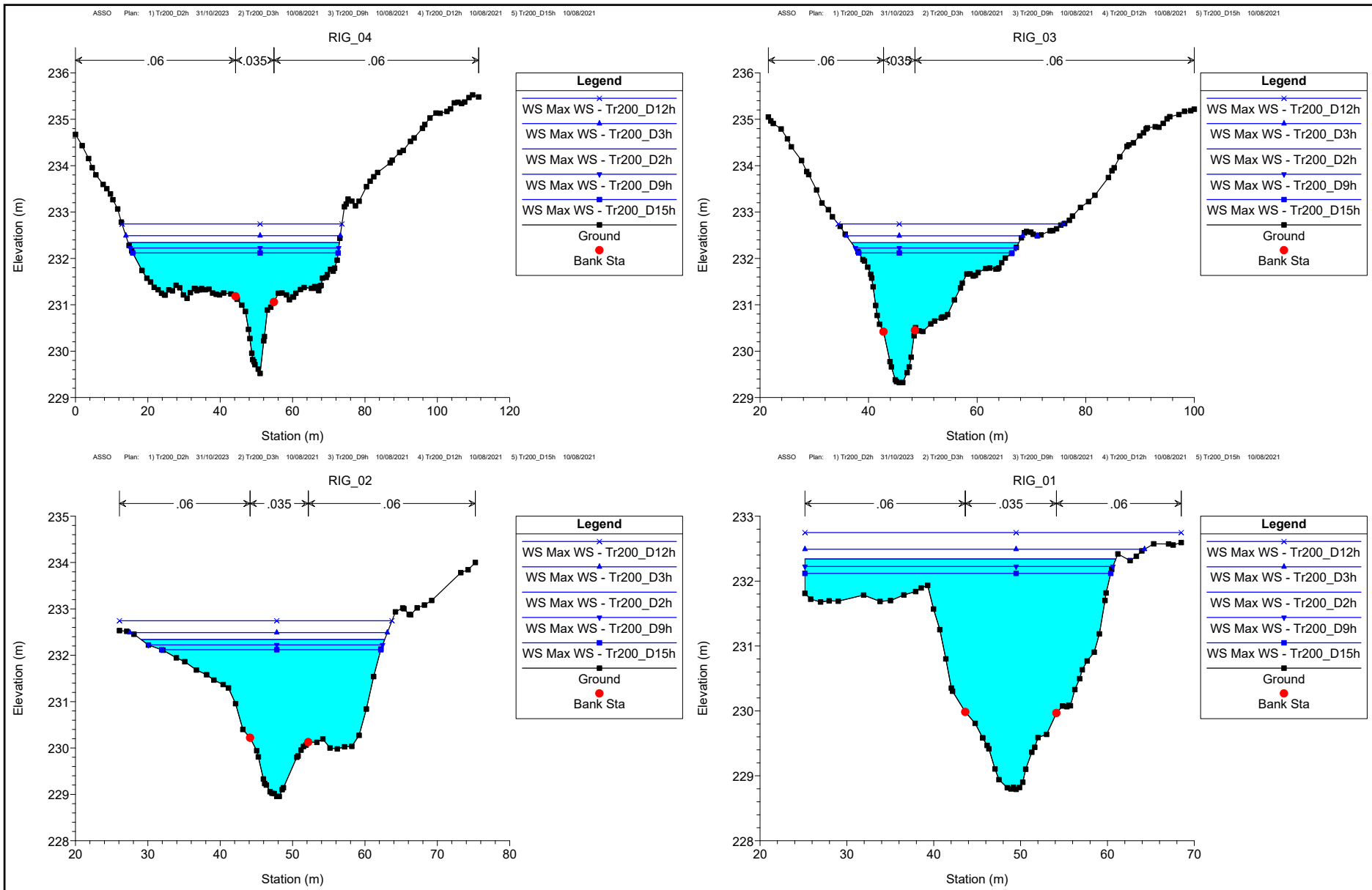












# **ALLEGATI**

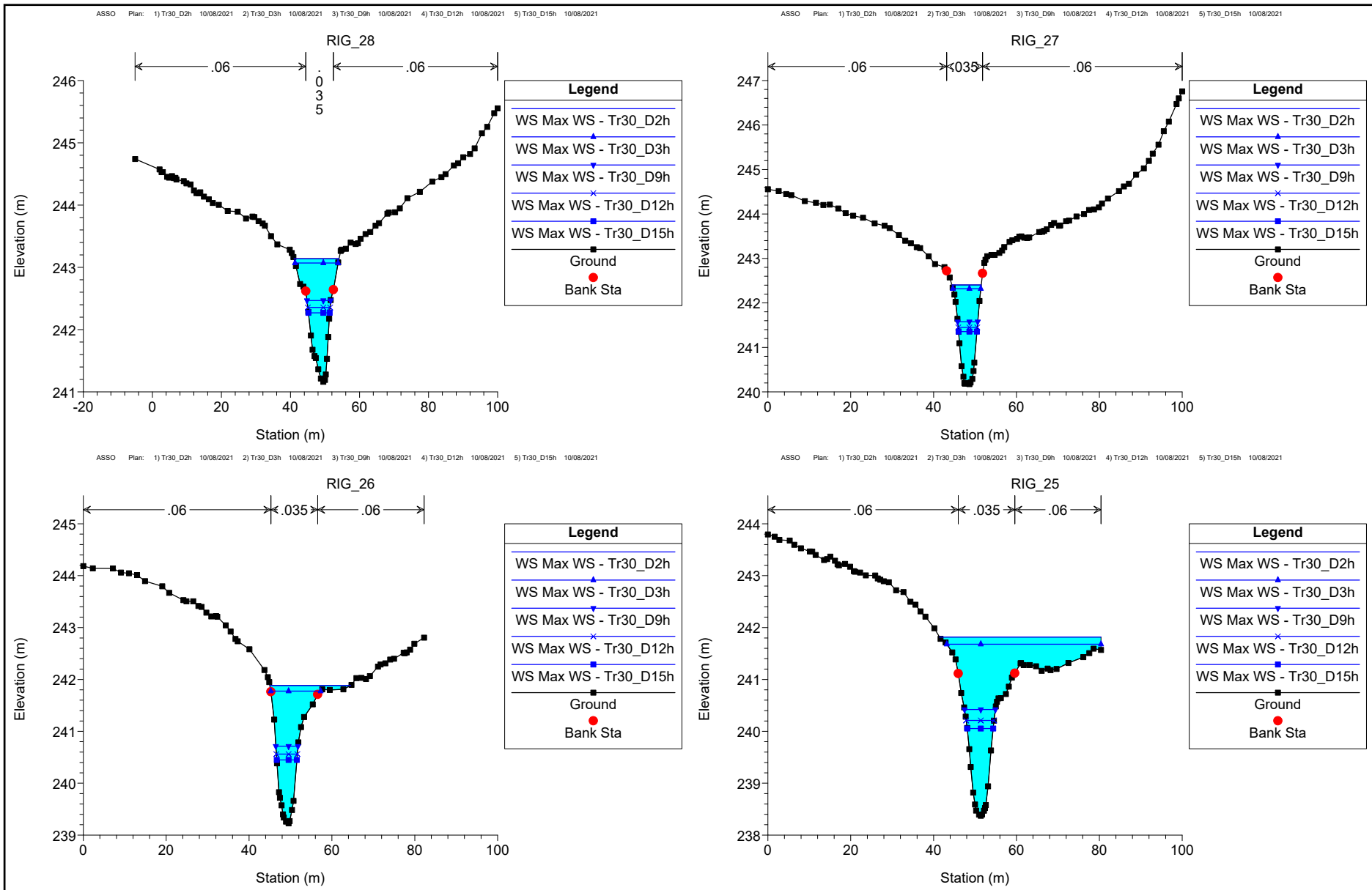
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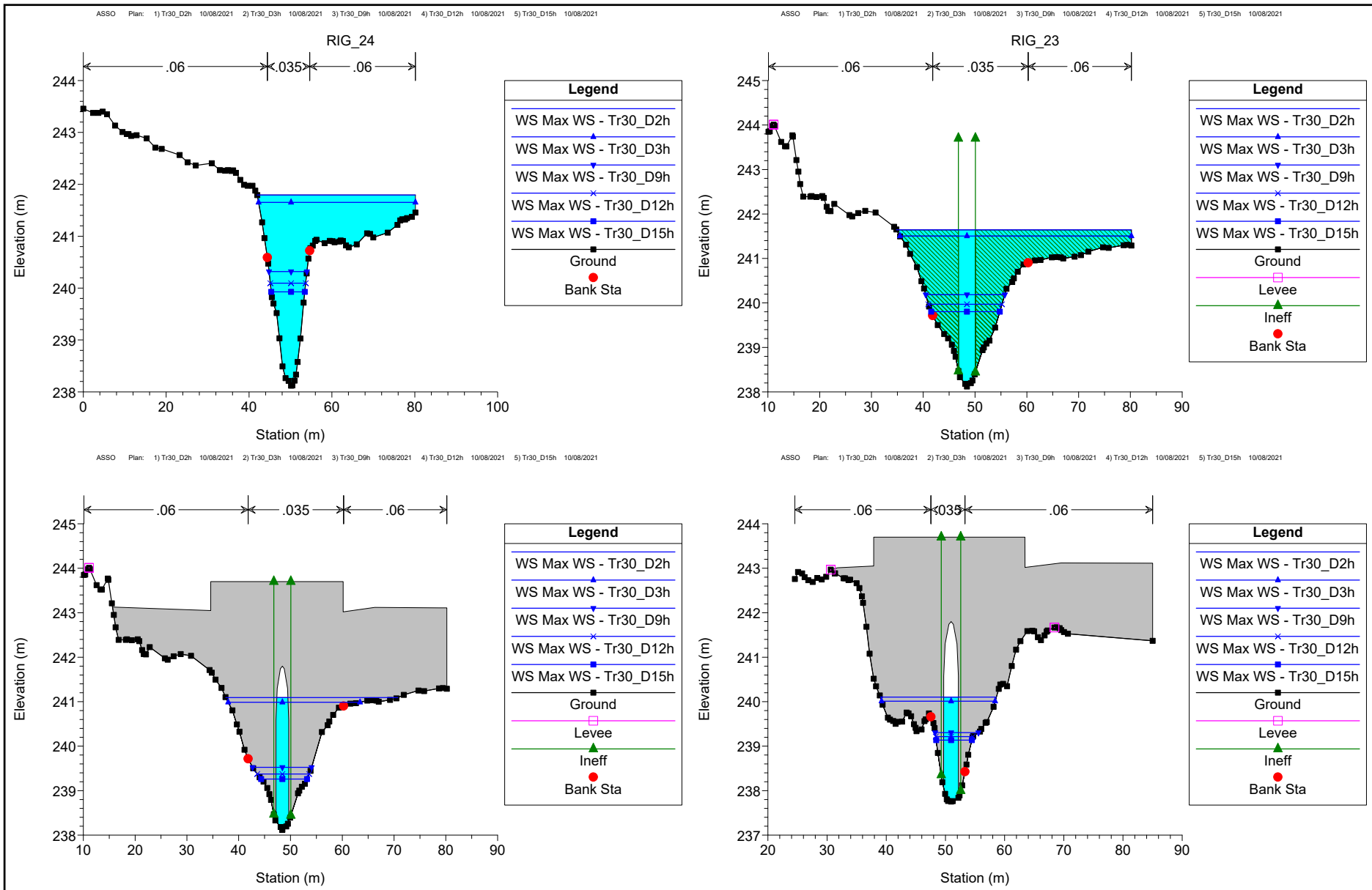
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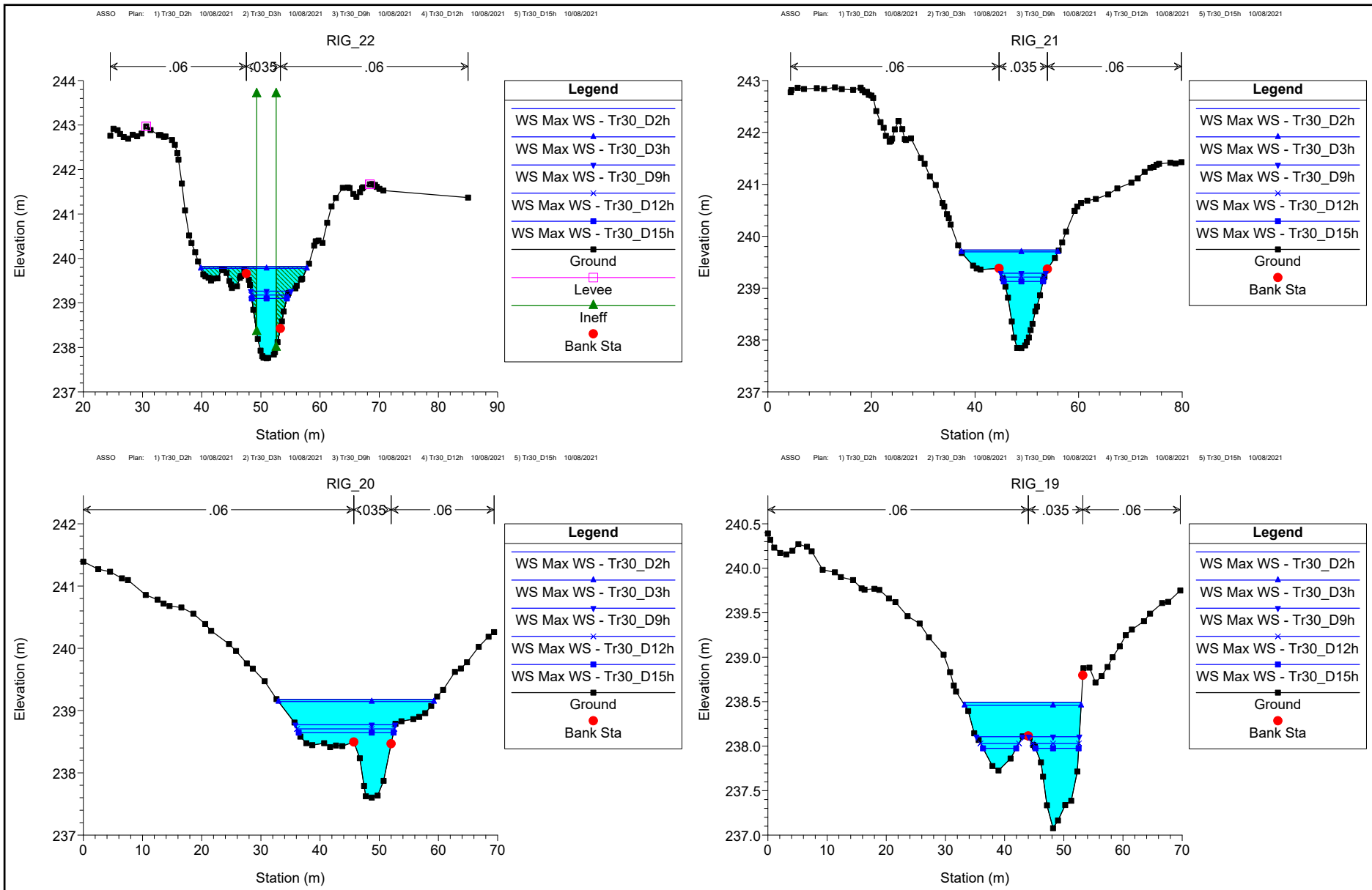
MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    2h, 3h, 9h, 12h e 15h

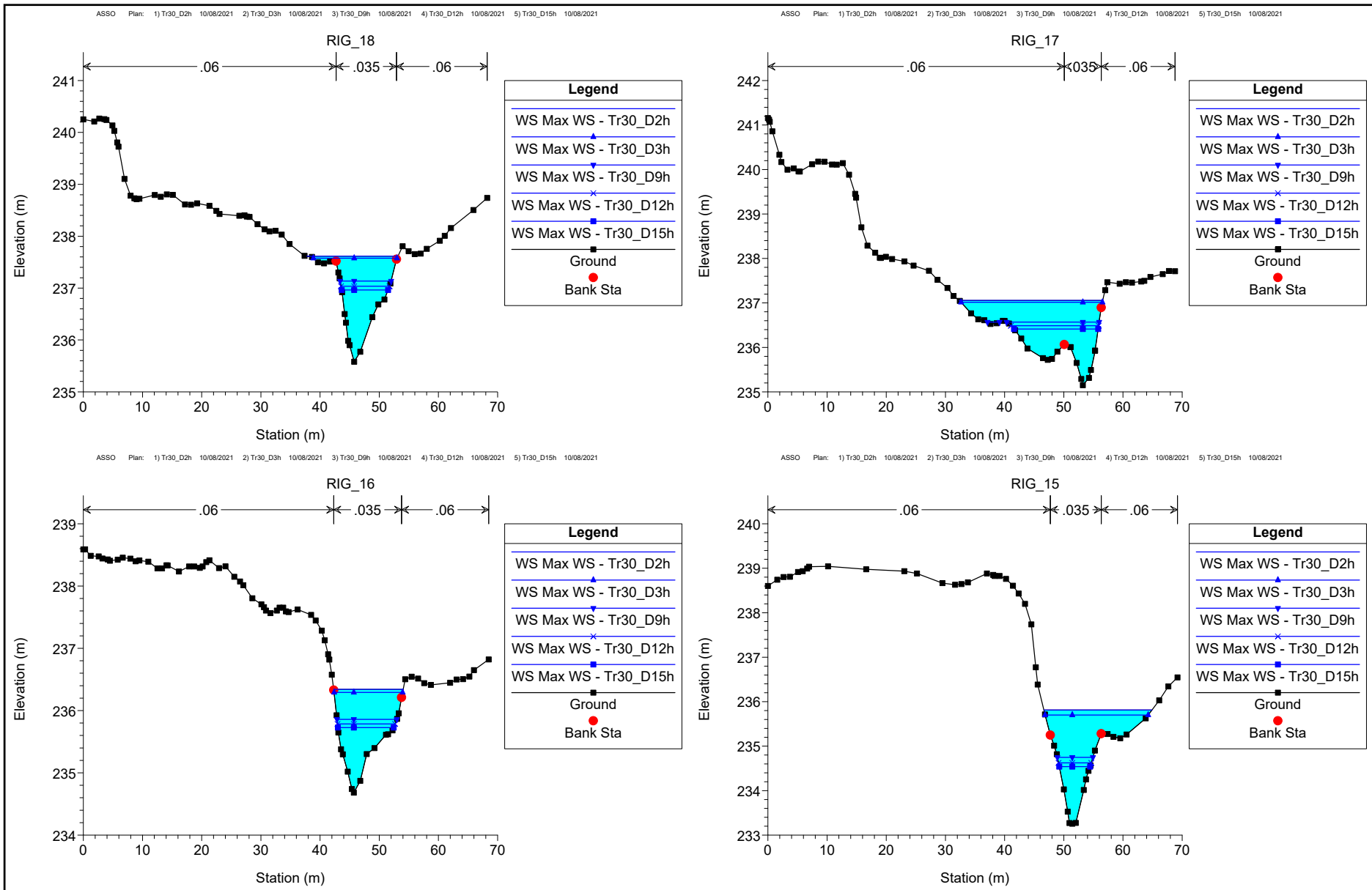
***Sezioni Trasversali (da monte verso valle)***

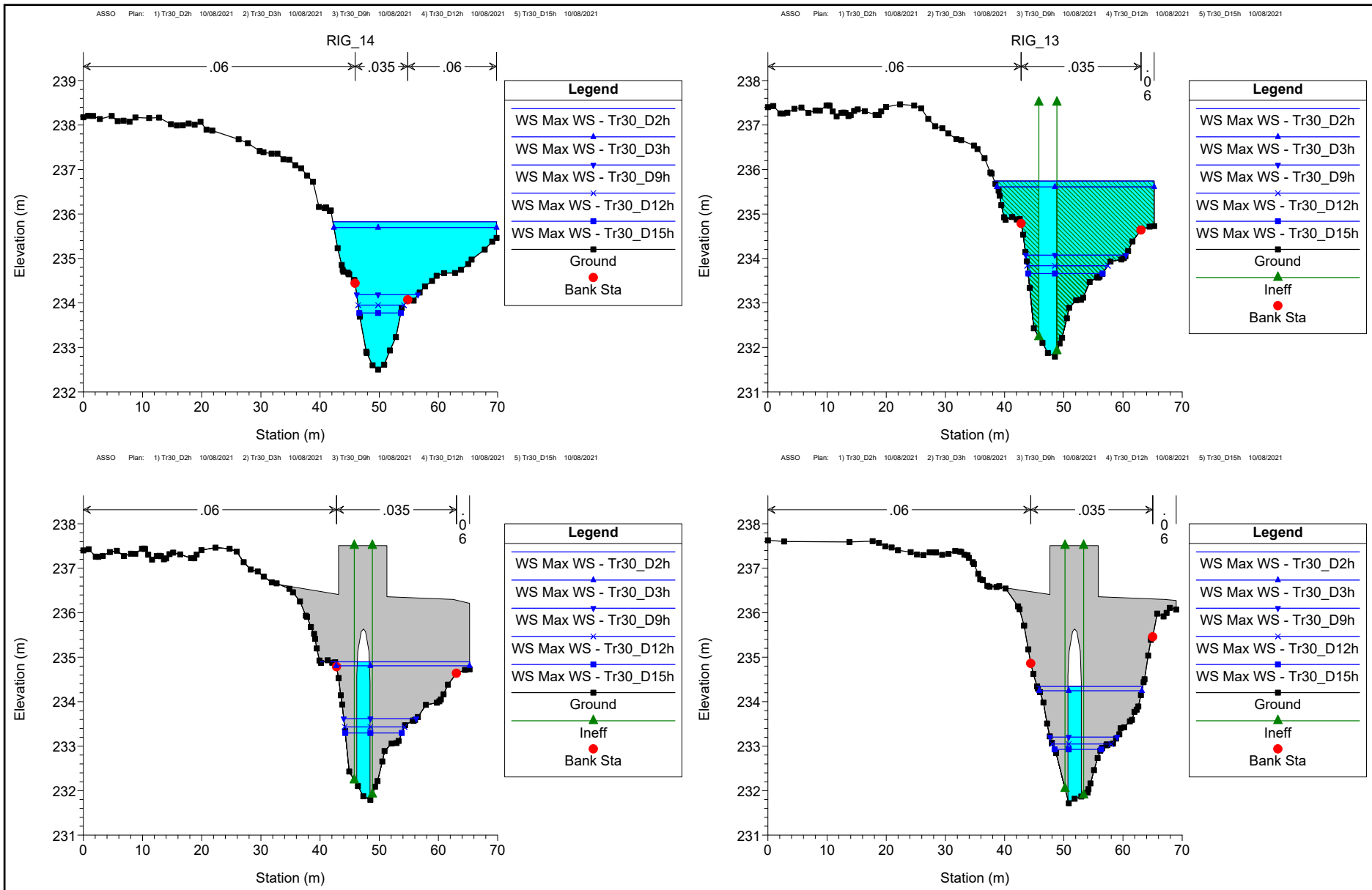


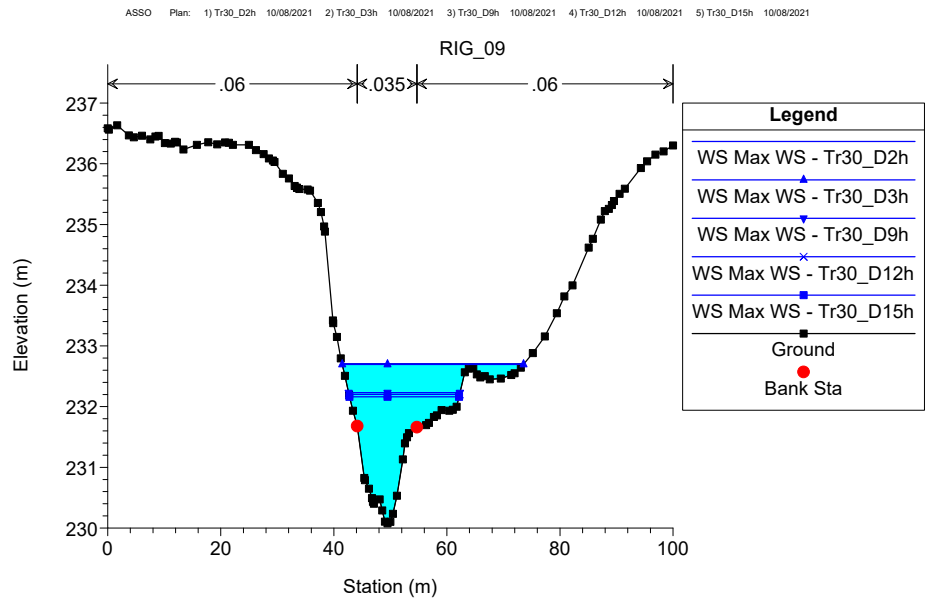
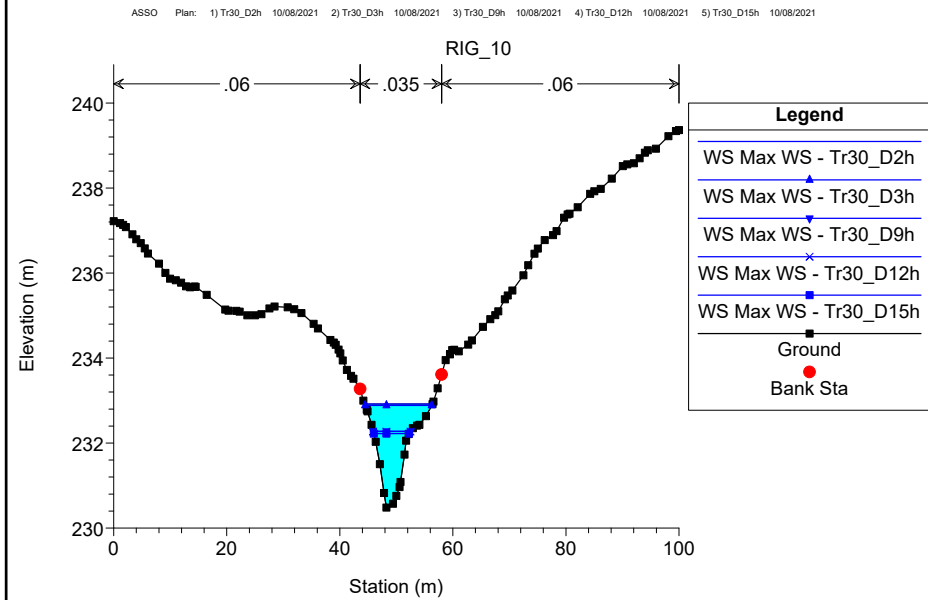
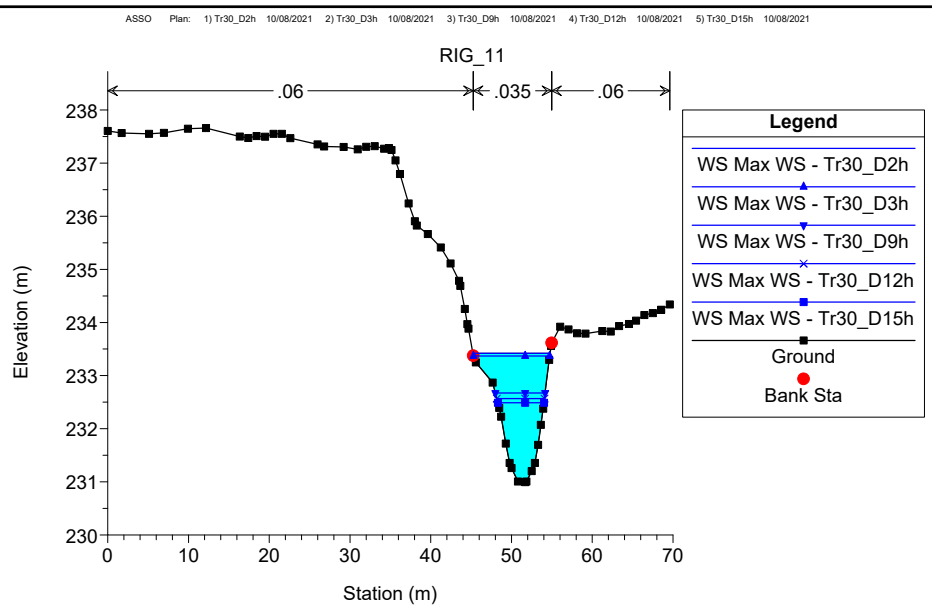
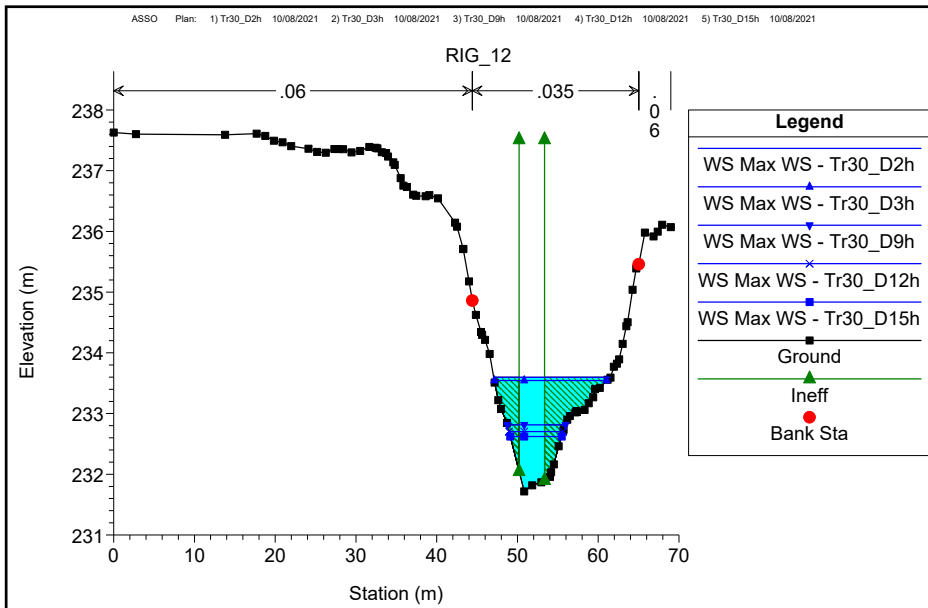


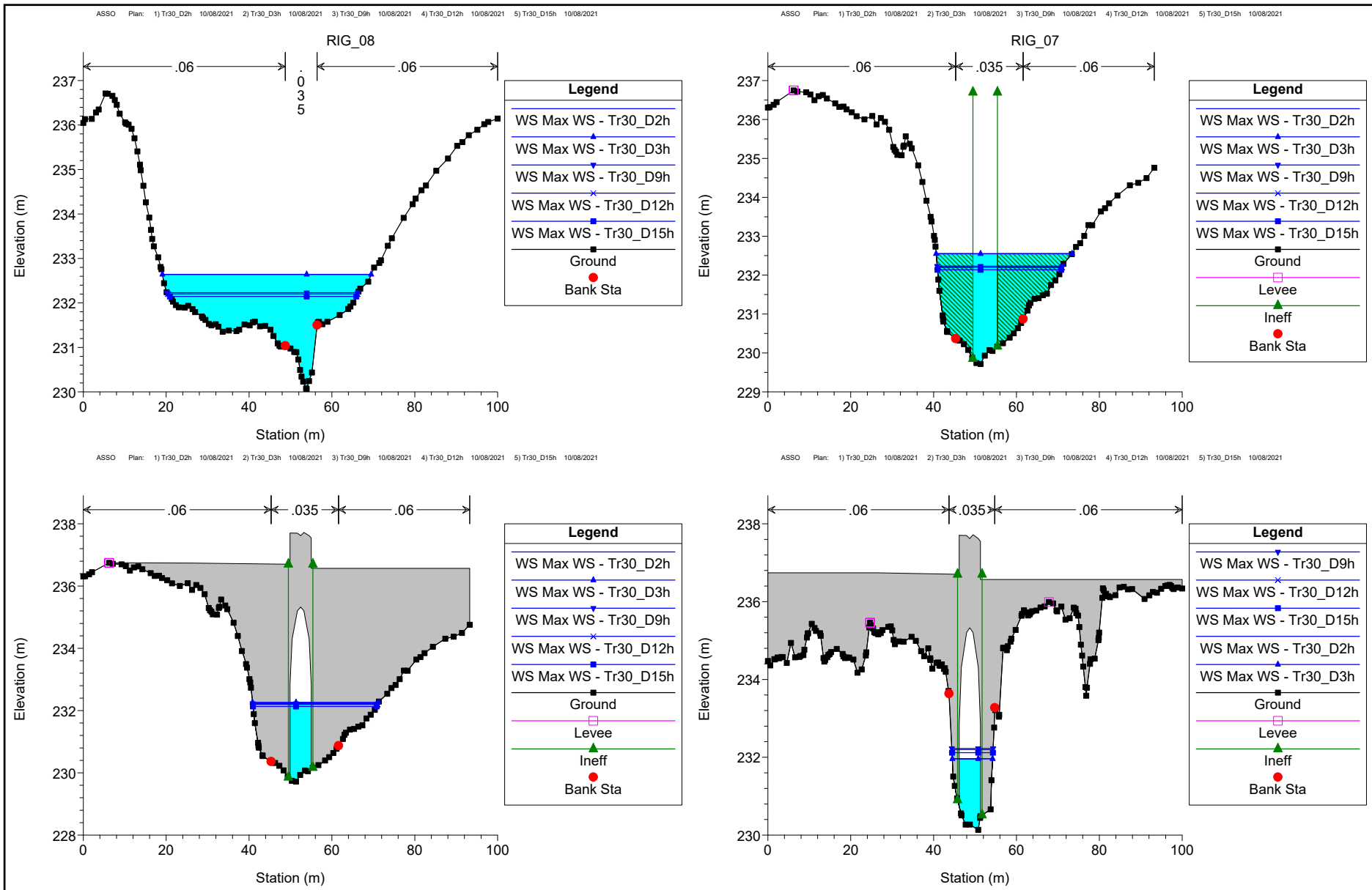


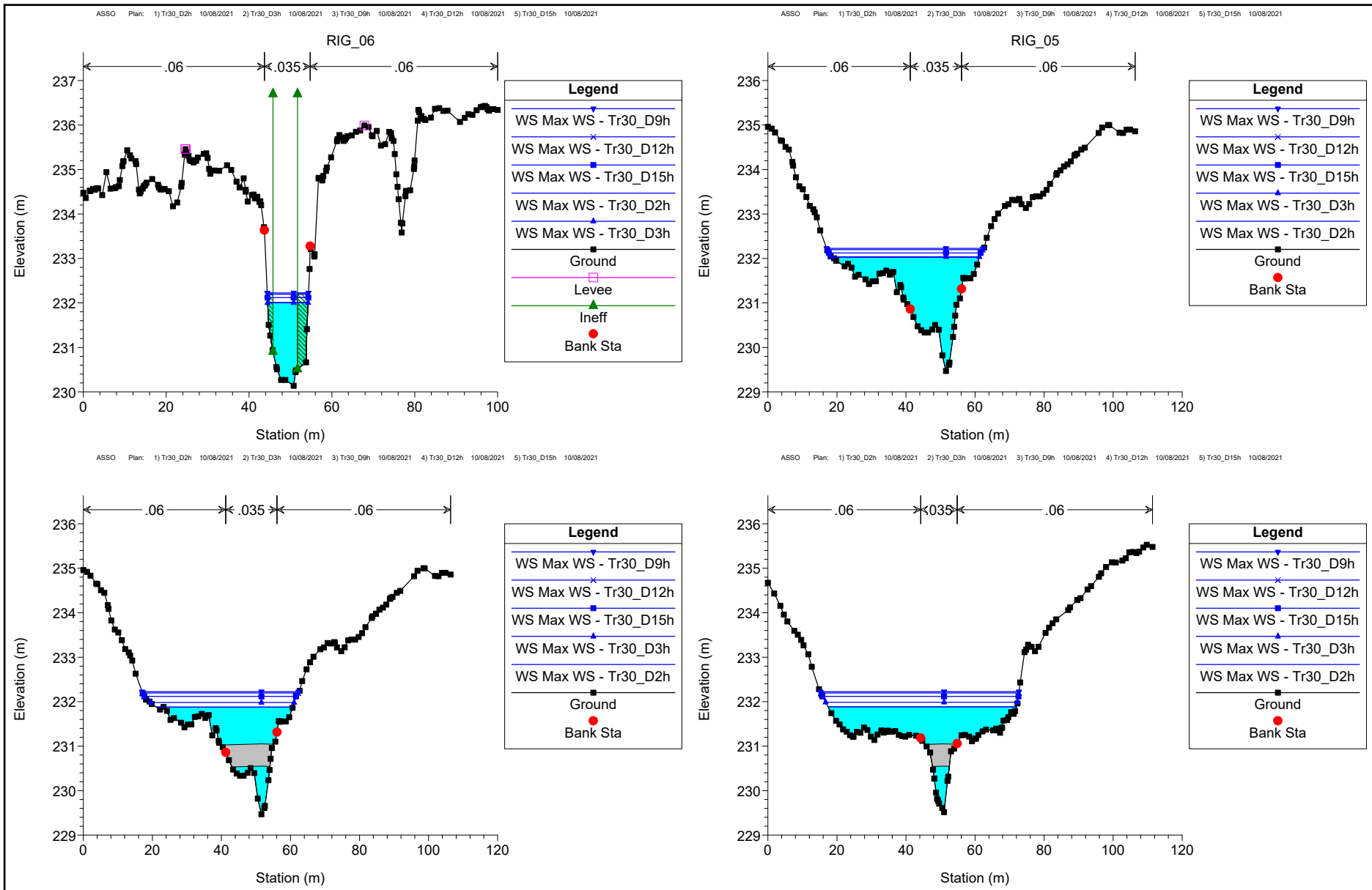


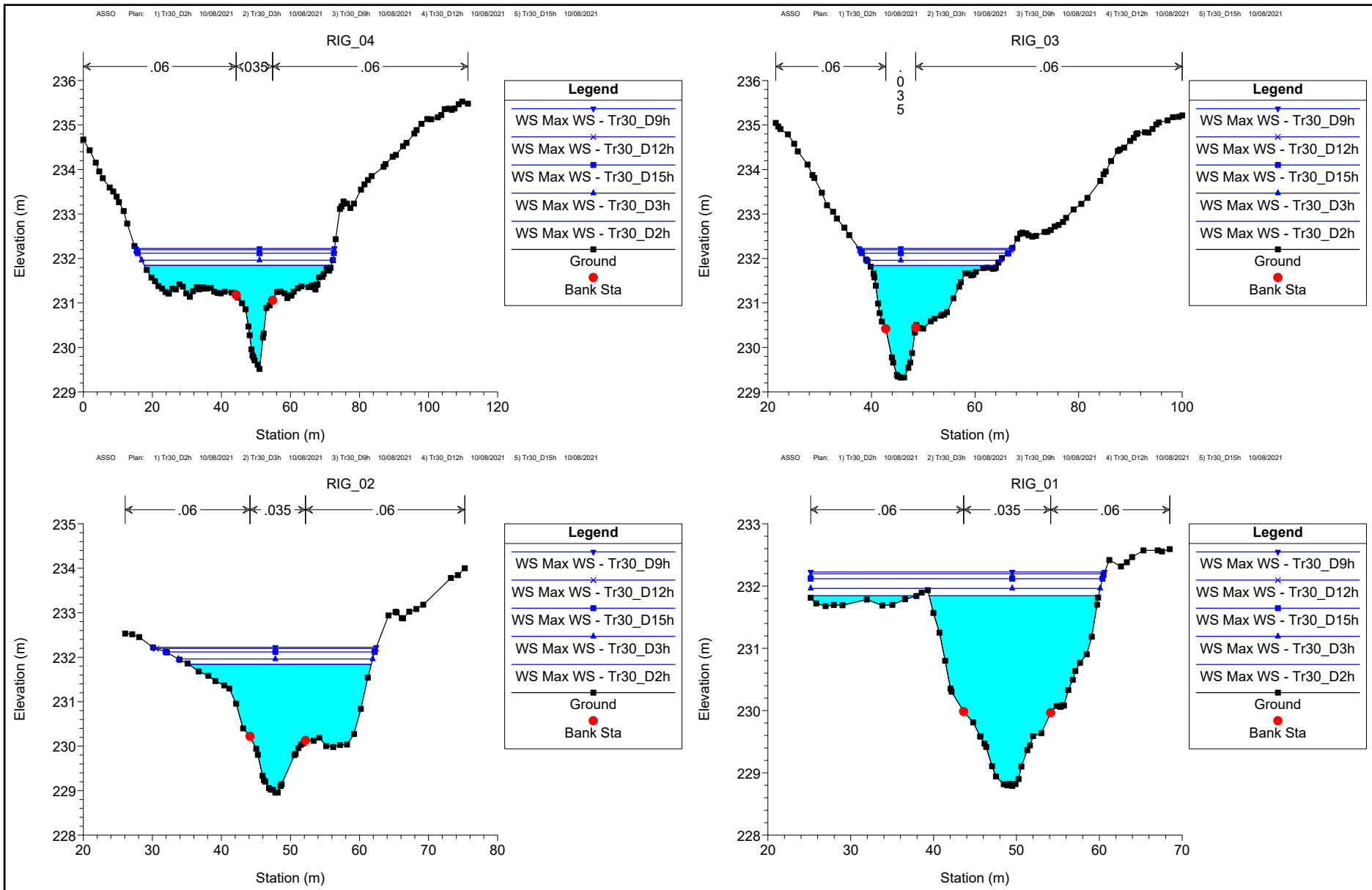












## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ASSO"**

#### **FOSSO RIGUZZO**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    2h, 3h, 9h, 12h e 15h

***Dati idraulici***

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach 1	2000	Max WS	Tr200_D2h	39.88	241.16	243.47	243.17	243.83	0.005164	2.76	0.56	0.42	18.36	25.60	0.68
Reach 1	2000	Max WS	Tr200_D3h	36.70	241.16	243.39	243.09	243.74	0.005280	2.70	0.52	0.44	16.43	22.82	0.68
Reach 1	2000	Max WS	Tr200_D9h	11.70	241.16	242.47		242.68	0.007478	2.05			5.71	6.87	0.72
Reach 1	2000	Max WS	Tr200_D12h	14.00	241.16	242.60		242.82	0.007471	2.11			6.65	7.70	0.72
Reach 1	2000	Max WS	Tr200_D15h	8.40	241.16	242.27		242.45	0.007750	1.90			4.42	6.15	0.72
Reach 1	1900	Max WS	Tr200_D2h	38.75	240.18	242.86		243.29	0.007570	2.91	0.18	0.28	13.41	11.23	0.75
Reach 1	1900	Max WS	Tr200_D3h	36.24	240.18	242.76		243.19	0.008243	2.91	0.11	0.18	12.46	9.08	0.78
Reach 1	1900	Max WS	Tr200_D9h	11.70	240.18	241.58		241.87	0.009392	2.42			4.84	4.85	0.77
Reach 1	1900	Max WS	Tr200_D12h	14.00	240.18	241.71		242.04	0.009463	2.54			5.51	5.11	0.78
Reach 1	1900	Max WS	Tr200_D15h	8.40	240.18	241.36		241.60	0.009251	2.20			3.81	4.43	0.76
Reach 1	1874		Lat Struct												
Reach 1	1800	Max WS	Tr200_D2h	36.37	239.23	242.60		242.68	0.01093	1.39	0.25	0.35	36.02	39.22	0.31
Reach 1	1800	Max WS	Tr200_D3h	35.26	239.23	242.36		242.49	0.011705	1.60	0.24	0.37	27.72	31.68	0.38
Reach 1	1800	Max WS	Tr200_D9h	11.70	239.23	240.71		240.95	0.006958	2.15			5.45	5.35	0.68
Reach 1	1800	Max WS	Tr200_D12h	13.99	239.23	240.90		241.13	0.006355	2.16			6.47	5.62	0.66
Reach 1	1800	Max WS	Tr200_D15h	8.40	239.23	240.45		240.66	0.007877	2.05			4.10	4.86	0.71
Reach 1	1700	Max WS	Tr200_D2h	35.38	238.37	242.62		242.64	0.000191	0.72	0.16	0.27	72.12	47.10	0.14
Reach 1	1700	Max WS	Tr200_D3h	34.29	238.37	242.38		242.40	0.000269	0.80	0.17	0.28	60.99	44.19	0.16
Reach 1	1700	Max WS	Tr200_D9h	11.70	238.37	240.42		240.50	0.001656	1.23			9.53	7.46	0.35
Reach 1	1700	Max WS	Tr200_D12h	13.97	238.37	240.65		240.73	0.001737	1.22			11.43	9.60	0.36
Reach 1	1700	Max WS	Tr200_D15h	8.40	238.37	240.05		240.13	0.001863	1.19			7.03	6.27	0.36
Reach 1	1600	Max WS	Tr200_D2h	33.56	238.12	242.61		242.63	0.000115	0.64	0.10	0.24	86.29	58.59	0.11
Reach 1	1600	Max WS	Tr200_D3h	32.17	238.12	242.37		242.39	0.000151	0.70	0.11	0.24	72.70	49.01	0.12
Reach 1	1600	Max WS	Tr200_D9h	11.70	238.12	240.32		240.36	0.000895	0.95			12.27	9.14	0.26
Reach 1	1600	Max WS	Tr200_D12h	13.97	238.12	240.57		240.61	0.000793	0.96			14.62	9.87	0.25
Reach 1	1600	Max WS	Tr200_D15h	8.40	238.12	239.93		239.97	0.001122	0.94			8.91	8.10	0.29
Reach 1	1580	Max WS	Tr200_D2h	36.43	238.12	242.45	240.58	242.81	0.001306	2.64			13.79	63.51	0.41
Reach 1	1580	Max WS	Tr200_D3h	33.61	238.12	242.20	240.46	242.55	0.001360	2.59			12.98	58.61	0.42
Reach 1	1580	Max WS	Tr200_D9h	11.70	238.12	240.19	239.34	240.36	0.001777	1.84			6.36	15.27	0.42
Reach 1	1580	Max WS	Tr200_D12h	13.97	238.12	240.43	239.48	240.62	0.001708	1.95			7.16	17.05	0.42
Reach 1	1580	Max WS	Tr200_D15h	8.40	238.12	239.80	239.13	239.94	0.001910	1.65			5.10	13.26	0.42
Reach 1	1560		Bridge												
Reach 1	1550	Max WS	Tr200_D2h	36.43	237.76	240.01	240.19	241.37	0.012729	5.15			7.07	19.21	1.12
Reach 1	1550	Max WS	Tr200_D3h	33.61	237.76	239.96	240.07	241.17	0.011821	4.88			6.89	18.96	1.08
Reach 1	1550	Max WS	Tr200_D9h	11.70	237.76	239.27		239.60	0.005501	2.54			4.60	6.80	0.69
Reach 1	1550	Max WS	Tr200_D12h	13.97	237.76	239.37		239.78	0.006139	2.82			4.95	8.63	0.74
Reach 1	1550	Max WS	Tr200_D15h	8.40	237.76	239.10		239.32	0.004304	2.07			4.06	5.92	0.60
Reach 1	1500	Max WS	Tr200_D2h	36.36	237.84	239.92		240.22	0.005428	2.53	0.72	0.55	17.74	20.59	0.68
Reach 1	1500	Max WS	Tr200_D3h	33.57	237.84	239.87		240.15	0.005415	2.46	0.67	0.51	16.61	20.18	0.68
Reach 1	1500	Max WS	Tr200_D9h	11.70	237.84	239.29		239.42	0.004487	1.62			7.22	8.68	0.57
Reach 1	1500	Max WS	Tr200_D12h	13.97	237.84	239.37		239.53	0.005000	1.75	0.05	0.03	8.02	12.40	0.60
Reach 1	1500	Max WS	Tr200_D15h	8.40	237.84	239.13		239.23	0.003735	1.42			5.94	7.59	0.51
Reach 1	1400	Max WS	Tr200_D2h	36.32	237.60	239.36		239.61	0.005678	2.64	0.99	0.69	22.71	29.53	0.70
Reach 1	1400	Max WS	Tr200_D3h	33.55	237.60	239.31		239.55	0.005668	2.58	0.95	0.65	21.27	28.78	0.70
Reach 1	1400	Max WS	Tr200_D9h	11.70	237.60	238.77		238.93	0.005718	1.87	0.56	0.34	8.38	16.88	0.65
Reach 1	1400	Max WS	Tr200_D12h	13.97	237.60	238.85		239.02	0.005783	1.99	0.63	0.22	9.70	19.42	0.66
Reach 1	1400	Max WS	Tr200_D15h	8.40	237.60	238.65		238.78	0.005722	1.68	0.40	0.24	6.31	16.03	0.63
Reach 1	1300	Max WS	Tr200_D2h	36.32	237.08	238.67		238.98	0.009290	2.79	1.14		17.48	21.60	0.85
Reach 1	1300	Max WS	Tr200_D3h	33.55	237.08	238.62		238.92	0.009414	2.73	1.10		16.41	21.28	0.85
Reach 1	1300	Max WS	Tr200_D9h	11.70	237.08	238.11	238.09	238.32	0.012025	2.12	0.66		6.67	16.32	0.89
Reach 1	1300	Max WS	Tr200_D12h	13.97	237.08	238.18	238.17	238.40	0.011033	2.18	0.70		8.02	17.97	0.86
Reach 1	1300	Max WS	Tr200_D15h	8.40	237.08	237.98	237.96	238.17	0.012055	2.02	0.50		4.77	12.90	0.88
Reach 1	1274		Lat Struct												
Reach 1	1200	Max WS	Tr200_D2h	36.31	235.58	237.82	237.60	238.15	0.006341	2.60	0.50	0.30	15.95	23.71	0.72
Reach 1	1200	Max WS	Tr200_D3h	33.55	235.58	237.76	237.53	238.08	0.006469	2.54	0.44	0.24	14.55	21.43	0.72
Reach 1	1200	Max WS	Tr200_D9h	11.70	235.58	237.13		237.28	0.005247	1.69			6.91	8.61	0.60
Reach 1	1200	Max WS	Tr200_D12h	13.97	235.58	237.22		237.39	0.005594	1.82			7.66	8.94	0.63
Reach 1	1200	Max WS	Tr200_D15h	8.40	235.58	236.96		237.08	0.005085	1.53			5.50	7.62	0.58
Reach 1	1100	Max WS	Tr200_D2h	36.30	235.15	237.28		237.43	0.003631	2.12	0.93	0.30	27.01	26.34	0.55
Reach 1	1100	Max WS	Tr200_D3h	33.54	235.15	237.22		237.36	0.003714	2.08	0.90	0.27	25.31	25.85	0.55
Reach 1	1100	Max WS	Tr200_D9h	11.70	235.15	236.57		236.66	0.003987	1.54	0.70		10.57	17.69	0.53
Reach 1	1100	Max WS	Tr200_D12h	13.97	235.15	236.67		236.77	0.004207	1.68	0.64		12.54	20.87	0.55
Reach 1	1100	Max WS	Tr200_D15h	8.40	235.15	236.41		236.49	0.004033	1.40	0.63		8.19	14.22	0.52
Reach 1	1000	Max WS	Tr200_D2h	36.29	234.68	236.61	236.39	236.93	0.006603	2.55	0.31	0.35	15.63	23.74	0.74
Reach 1	1000	Max WS	Tr200_D3h	33.52	234.68	236.54	236.33	236.86	0.006994	2.53	0.27	0.24	14.00	22.43	0.75
Reach 1	1000	Max WS	Tr200_D9h	11.70	234.68	235.86		236.08	0.011946	2.07			5.66	10.11	0.88
Reach 1	1000	Max WS	Tr200_D12h	13.97	234.68	235.94		236.17	0.011354	2.15			6.49	10.46	0.87
Reach 1	1000	Max WS	Tr200_D15h	8.40	234.68	235.73		235.91	0.013055	1.91			4.39	9.44	0.90
Reach 1	900	Max WS	Tr200_D2h	36.06	233.26	236.29	234.29	236.61	0.001687	1.75	0.41	0.57	27.12	21.64	0.39
Reach 1	900	Max WS	Tr200_D3h	33.38	233.26	236.18	234.27	236.32	0.001790	1.74	0.40	0.55	24.85	20.92	0.40
Reach 1	900	Max WS	Tr200_D9h	11.70	233.26	234.75		235.02	0.010041	2.33			5.02	6.00	0.81
Reach 1	900	Max WS	Tr200_D12h	13.97	233.26	234.89		235.17	0.009492	2.37			5.88	6.57	0.80
Reach 1	900	Max WS	Tr200_D15h	8.40	233.26	234.54		234.78	0.010382	2.18			3.86	5.22	0.81
Reach 1	800	Max WS	Tr200_D2h	32.67	232.50	236.33		236.36	0.000210	0.84	0.22	0.32	58.39	30.31	0.15
Reach 1	800	Max WS	Tr200_D3h	30.10	232.50	236.22		236.25	0.000208	0.81	0.20	0.30	55.07	30.12	0.15
Reach 1	800	Max WS	Tr200_D9h	11.70	232.50	234.19		234.27	0.002073	1.28		0.16	9.33	10.36	0.40
Reach 1	800	Max WS	Tr200_D12h	13.94	232.50	234.45		234.52	0.001437	1.20	0.01	0.24	12.40	12.56	0.34
Reach 1	800	Max WS	Tr200_D15h	8.40	232.50	233.77		233.88	0.003467	1.42			5.91	7.01	0.49
Reach 1	780	Max WS	Tr200_D2h	34.17	231.79	236.27	234.29	236.61	0.001209	2.60			13.17	28.75	0.40
Reach 1	780	Max WS	Tr200_D3h	32.91	231.79	236.15	234.23	236.49	0.001230	2.57			12.81	28.35	0.40
Reach 1	780	Max WS	Tr200_D9h	11.70	231.79	234.07	233.09	234.24	0.001508	1.81					



Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach 1	700	Max WS	Tr200_D2h	35.55	230.99	233.67		233.95	0.004672	2.36	0.26	0.10	15.14	10.23	0.60
Reach 1	700	Max WS	Tr200_D3h	33.84	230.99	233.60		233.88	0.004874	2.34	0.23		14.48	9.96	0.61
Reach 1	700	Max WS	Tr200_D9h	11.70	230.99	232.67		232.82	0.003853	1.70			6.86	6.16	0.52
Reach 1	700	Max WS	Tr200_D12h	13.84	230.99	232.97		233.09	0.002938	1.57			8.79	7.26	0.46
Reach 1	700	Max WS	Tr200_D15h	8.38	230.99	232.49		232.60	0.003153	1.45			5.77	5.70	0.46
Reach 1	600	Max WS	Tr200_D2h	36.92	230.48	233.16		233.43	0.005823	2.31			15.97	13.17	0.67
Reach 1	600	Max WS	Tr200_D3h	34.85	230.48	233.09		233.36	0.006153	2.32			15.02	12.85	0.69
Reach 1	600	Max WS	Tr200_D9h	11.57	230.48	232.28		232.43	0.004311	1.71			6.77	6.64	0.54
Reach 1	600	Max WS	Tr200_D12h	13.58	230.48	232.79		232.86	0.001934	1.19			11.44	11.15	0.37
Reach 1	600	Max WS	Tr200_D15h	8.24	230.48	232.22		232.31	0.002438	1.28			6.42	6.25	0.40
Reach 1	500	Max WS	Tr200_D2h	36.90	230.08	232.99		233.07	0.000837	1.33	0.36	0.37	39.74	35.20	0.29
Reach 1	500	Max WS	Tr200_D3h	31.46	230.08	232.98		233.04	0.000622	1.14	0.31	0.31	39.35	35.09	0.25
Reach 1	500	Max WS	Tr200_D9h	2.00	230.08	232.23		232.23	0.000013	0.13	0.03	0.03	18.42	19.72	0.03
Reach 1	500	Max WS	Tr200_D12h	13.59	230.08	232.77		232.78	0.000182	0.58	0.15	0.14	32.07	32.87	0.13
Reach 1	500	Max WS	Tr200_D15h	7.75	230.08	232.16		232.18	0.000237	0.52	0.10	0.12	17.09	19.38	0.14
Reach 1	400	Max WS	Tr200_D2h	36.90	230.07	232.94		232.97	0.000405	0.95	0.40	0.31	71.41	53.45	0.20
Reach 1	400	Max WS	Tr200_D3h	31.42	230.07	232.95		232.96	0.000291	0.80	0.34	0.26	71.61	53.49	0.17
Reach 1	400	Max WS	Tr200_D9h	1.99	230.07	232.23		232.23	0.000007	0.10	0.03	0.03	35.89	46.11	0.03
Reach 1	400	Max WS	Tr200_D12h	13.58	230.07	232.76		232.76	0.000082	0.40	0.17	0.13	61.65	51.14	0.09
Reach 1	400	Max WS	Tr200_D15h	7.37	230.07	232.15		232.15	0.000134	0.41	0.14	0.11	32.11	44.99	0.11
Reach 1	370	Max WS	Tr200_D2h	36.90	229.72	232.79	231.51	233.03	0.001429	2.17			17.02	34.68	0.41
Reach 1	370	Max WS	Tr200_D3h	31.42	229.72	232.84	231.34	233.00	0.000984	1.82			17.28	35.11	0.34
Reach 1	370	Max WS	Tr200_D9h	1.99	229.72	232.23	230.15	232.23	0.000009	0.15			13.68	30.27	0.03
Reach 1	370	Max WS	Tr200_D12h	2.00	229.72	232.75	230.15	232.75	0.000004	0.12			16.75	34.16	0.02
Reach 1	370	Max WS	Tr200_D15h	7.22	229.72	232.14	230.46	232.15	0.000130	0.55			13.13	29.85	0.12
Reach 1	365		Bridge												
Reach 1	360	Max WS	Tr200_D2h	4.99	230.14	232.34		232.35	0.000092	0.42			11.79	10.08	0.10
Reach 1	360	Max WS	Tr200_D3h	4.99	230.14	232.49		232.50	0.000073	0.39			12.67	10.22	0.09
Reach 1	360	Max WS	Tr200_D9h	1.99	230.14	232.23		232.23	0.000018	0.18			11.09	9.97	0.04
Reach 1	360	Max WS	Tr200_D12h	2.00	230.14	232.74		232.74	0.000008	0.14			14.17	10.46	0.03
Reach 1	360	Max WS	Tr200_D15h	2.72	230.14	232.12		232.12	0.000041	0.26			10.47	9.87	0.06
Reach 1	340	Max WS	Tr200_D2h	4.99	229.47	232.35	230.42	232.35	0.000010	0.14	0.04	0.04	51.14	46.56	0.03
Reach 1	340	Max WS	Tr200_D3h	4.99	229.47	232.49	230.42	232.50	0.000007	0.13	0.04	0.03	58.08	47.76	0.03
Reach 1	340	Max WS	Tr200_D9h	1.99	229.47	232.23	230.04	232.23	0.000002	0.06	0.02	0.01	45.56	45.50	0.01
Reach 1	340	Max WS	Tr200_D12h	2.00	229.47	232.74	230.04	232.74	0.000001	0.04	0.01	0.01	70.28	49.98	0.01
Reach 1	340	Max WS	Tr200_D15h	6.36	229.47	232.12	230.50	232.13	0.000027	0.21	0.06	0.05	40.99	43.96	0.05
Reach 1	330		Bridge												
Reach 1	320	Max WS	Tr200_D2h	4.99	229.52	232.34		232.34	0.000011	0.14	0.05	0.05	64.41	58.37	0.03
Reach 1	320	Max WS	Tr200_D3h	4.99	229.52	232.49		232.49	0.000007	0.12	0.05	0.05	73.16	59.25	0.03
Reach 1	320	Max WS	Tr200_D9h	1.99	229.52	232.22		232.22	0.000002	0.06	0.02	0.02	57.68	57.59	0.01
Reach 1	320	Max WS	Tr200_D12h	2.00	229.52	232.74		232.74	0.000001	0.04	0.02	0.02	88.40	60.79	0.01
Reach 1	320	Max WS	Tr200_D15h	2.73	229.52	232.12		232.12	0.000006	0.09	0.03	0.03	51.63	56.75	0.02
Reach 1	300	Max WS	Tr200_D2h	4.99	229.32	232.34		232.34	0.000018	0.22	0.06	0.07	38.89	30.83	0.04
Reach 1	300	Max WS	Tr200_D3h	4.99	229.32	232.49		232.49	0.000014	0.20	0.05	0.07	43.60	32.49	0.04
Reach 1	300	Max WS	Tr200_D9h	1.99	229.32	232.22		232.22	0.000004	0.10	0.02	0.03	35.41	29.57	0.02
Reach 1	300	Max WS	Tr200_D12h	2.00	229.32	232.74		232.74	0.000002	0.07	0.02	0.02	53.32	41.52	0.01
Reach 1	300	Max WS	Tr200_D15h	2.16	229.32	232.12		232.12	0.000005	0.11	0.03	0.03	32.36	28.23	0.02
Reach 1	299		Lat Struct												
Reach 1	200	Max WS	Tr200_D2h	4.98	228.96	232.34		232.34	0.000007	0.15	0.04	0.06	53.06	33.66	0.03
Reach 1	200	Max WS	Tr200_D3h	4.97	228.96	232.49		232.49	0.000006	0.14	0.03	0.06	58.21	35.57	0.03
Reach 1	200	Max WS	Tr200_D9h	1.99	228.96	232.22		232.22	0.000001	0.06	0.01	0.03	49.27	32.38	0.01
Reach 1	200	Max WS	Tr200_D12h	1.92	228.96	232.74		232.74	0.000001	0.05	0.01	0.02	67.70	37.66	0.01
Reach 1	200	Max WS	Tr200_D15h	2.46	228.96	232.12		232.12	0.000002	0.08	0.02	0.04	45.96	30.27	0.02
Reach 1	1	Max WS	Tr200_D2h	6.78	228.79	232.34		232.34	0.000009	0.18	0.04	0.06	56.52	36.42	0.03
Reach 1	1	Max WS	Tr200_D3h	7.88	228.79	232.49		232.49	0.000010	0.19	0.05	0.06	62.22	39.11	0.03
Reach 1	1	Max WS	Tr200_D9h	3.07	228.79	232.23		232.23	0.000002	0.08	0.02	0.03	52.41	35.46	0.02
Reach 1	1	Max WS	Tr200_D12h	8.75	228.79	232.75		232.75	0.000009	0.19	0.05	0.05	73.05	43.33	0.03
Reach 1	1	Max WS	Tr200_D15h	1.57	228.79	232.12		232.12	0.000001	0.05	0.01	0.02	48.64	35.22	0.01

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ASSO"**

#### **FOSSO RIGUZZO**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    2h, 3h, 9h, 12h e 15h

***Dati idraulici***

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach 1	2000	Max WS	Tr30_D2h	28.18	241.16	243.14		243.45	0.005593	2.49	0.58	0.47	12.48	13.08	0.68
Reach 1	2000	Max WS	Tr30_D3h	26.00	241.16	243.07		243.37	0.005735	2.44	0.54	0.44	11.59	12.46	0.68
Reach 1	2000	Max WS	Tr30_D9h	11.70	241.16	242.47		242.68	0.007478	2.05			5.71	6.87	0.72
Reach 1	2000	Max WS	Tr30_D12h	9.80	241.16	242.36		242.55	0.007663	1.97			4.97	6.46	0.72
Reach 1	2000	Max WS	Tr30_D15h	8.40	241.16	242.27		242.45	0.007750	1.90			4.42	6.15	0.72
Reach 1	1900	Max WS	Tr30_D2h	28.17	240.18	242.40		242.84	0.009241	2.92			9.63	7.09	0.80
Reach 1	1900	Max WS	Tr30_D3h	25.98	240.18	242.32		242.74	0.009108	2.87			9.05	6.74	0.79
Reach 1	1900	Max WS	Tr30_D9h	11.70	240.18	241.58		241.87	0.009392	2.42			4.84	4.85	0.77
Reach 1	1900	Max WS	Tr30_D12h	9.80	240.18	241.45		241.72	0.009401	2.31			4.24	4.61	0.77
Reach 1	1900	Max WS	Tr30_D15h	8.40	240.18	241.36		241.60	0.009251	2.20			3.81	4.43	0.76
Reach 1	1874		Lat Struct												
Reach 1	1800	Max WS	Tr30_D2h	27.05	239.23	241.88		242.05	0.003240	1.80	0.14	0.17	15.61	19.47	0.50
Reach 1	1800	Max WS	Tr30_D3h	25.61	239.23	241.77		241.95	0.003909	1.86	0.03	0.10	13.75	12.03	0.54
Reach 1	1800	Max WS	Tr30_D9h	11.70	239.23	240.71		240.95	0.006958	2.15			5.45	5.35	0.68
Reach 1	1800	Max WS	Tr30_D12h	9.79	239.23	240.56		240.79	0.007533	2.10			4.66	5.07	0.70
Reach 1	1800	Max WS	Tr30_D15h	8.40	239.23	240.45		240.66	0.007877	2.05			4.10	4.86	0.71
Reach 1	1700	Max WS	Tr30_D2h	26.65	238.37	241.82		241.86	0.000487	0.91	0.14	0.23	37.86	38.98	0.21
Reach 1	1700	Max WS	Tr30_D3h	25.25	238.37	241.68		241.72	0.000598	0.96	0.14	0.20	32.57	37.23	0.23
Reach 1	1700	Max WS	Tr30_D9h	11.70	238.37	240.42		240.50	0.001656	1.23			9.53	7.46	0.35
Reach 1	1700	Max WS	Tr30_D12h	9.78	238.37	240.21		240.29	0.001773	1.22			8.04	6.72	0.35
Reach 1	1700	Max WS	Tr30_D15h	8.40	238.37	240.05		240.13	0.001863	1.19			7.03	6.27	0.36
Reach 1	1600	Max WS	Tr30_D2h	26.93	238.12	241.80		241.82	0.000264	0.81	0.17	0.23	48.57	38.18	0.16
Reach 1	1600	Max WS	Tr30_D3h	25.40	238.12	241.65		241.68	0.000306	0.84	0.17	0.22	43.11	37.85	0.17
Reach 1	1600	Max WS	Tr30_D9h	11.70	238.12	240.32		240.36	0.000895	0.95			12.27	9.14	0.26
Reach 1	1600	Max WS	Tr30_D12h	9.77	238.12	240.10		240.14	0.001012	0.95			10.31	8.54	0.28
Reach 1	1600	Max WS	Tr30_D15h	8.40	238.12	239.93		239.97	0.001122	0.94			8.91	8.10	0.29
Reach 1	1580	Max WS	Tr30_D2h	27.11	238.12	241.64	240.16	241.95	0.001474	2.43			11.13	45.36	0.42
Reach 1	1580	Max WS	Tr30_D3h	25.46	238.12	241.50	240.08	241.79	0.001495	2.38			10.68	44.70	0.42
Reach 1	1580	Max WS	Tr30_D9h	11.70	238.12	240.19	239.34	240.36	0.001777	1.84			6.36	15.27	0.42
Reach 1	1580	Max WS	Tr30_D12h	9.77	238.12	239.97	239.22	240.12	0.001846	1.73			5.64	14.20	0.42
Reach 1	1580	Max WS	Tr30_D15h	8.40	238.12	239.80	239.13	239.94	0.001910	1.65			5.10	13.26	0.42
Reach 1	1560		Bridge												
Reach 1	1550	Max WS	Tr30_D2h	27.11	237.76	239.81	239.78	240.73	0.009752	4.23			6.41	18.14	0.97
Reach 1	1550	Max WS	Tr30_D3h	25.45	237.76	239.78		240.81	0.009180	4.05			6.29	17.90	0.94
Reach 1	1550	Max WS	Tr30_D9h	11.70	237.76	239.27		239.60	0.005501	2.54			4.60	6.80	0.69
Reach 1	1550	Max WS	Tr30_D12h	9.77	237.76	239.18		239.44	0.004773	2.27			4.31	6.14	0.63
Reach 1	1550	Max WS	Tr30_D15h	8.40	237.76	239.10		239.32	0.004304	2.07			4.06	5.92	0.60
Reach 1	1500	Max WS	Tr30_D2h	27.10	237.84	239.73		239.98	0.005278	2.27	0.54	0.41	14.00	19.00	0.66
Reach 1	1500	Max WS	Tr30_D3h	25.45	237.84	239.70		239.94	0.005209	2.21	0.50	0.38	13.33	18.66	0.65
Reach 1	1500	Max WS	Tr30_D9h	11.70	237.84	239.29		239.42	0.004487	1.62			7.22	8.68	0.57
Reach 1	1500	Max WS	Tr30_D12h	9.77	237.84	239.21		239.32	0.003890	1.48			6.59	8.10	0.53
Reach 1	1500	Max WS	Tr30_D15h	8.40	237.84	239.13		239.23	0.003735	1.42			5.94	7.59	0.51
Reach 1	1400	Max WS	Tr30_D2h	27.09	237.60	239.18		239.40	0.005712	2.43	0.87	0.56	17.70	26.78	0.69
Reach 1	1400	Max WS	Tr30_D3h	25.45	237.60	239.14		239.36	0.005720	2.38	0.85	0.52	16.76	26.26	0.69
Reach 1	1400	Max WS	Tr30_D9h	11.70	237.60	238.77		238.93	0.005718	1.87	0.56	0.34	8.38	16.88	0.65
Reach 1	1400	Max WS	Tr30_D12h	9.77	237.60	238.71		238.85	0.005558	1.75	0.47	0.28	7.29	16.44	0.63
Reach 1	1400	Max WS	Tr30_D15h	8.40	237.60	238.65		238.78	0.005722	1.68	0.40	0.24	6.31	16.03	0.63
Reach 1	1300	Max WS	Tr30_D2h	27.09	237.08	238.49		238.77	0.009568	2.56	1.02		13.88	20.04	0.85
Reach 1	1300	Max WS	Tr30_D3h	25.45	237.08	238.46		238.73	0.009633	2.52	0.99		13.21	19.69	0.84
Reach 1	1300	Max WS	Tr30_D9h	11.70	237.08	238.11	238.09	238.32	0.012025	2.12	0.66		6.67	16.32	0.89
Reach 1	1300	Max WS	Tr30_D12h	9.77	237.08	238.03	238.03	238.24	0.012336	2.08	0.58		5.53	14.37	0.89
Reach 1	1300	Max WS	Tr30_D15h	8.40	237.08	237.98	237.96	238.17	0.012055	2.02	0.50		4.77	12.90	0.88
Reach 1	1274		Lat Struct												
Reach 1	1200	Max WS	Tr30_D2h	27.09	235.58	237.61		237.89	0.006479	2.35	0.26	0.12	11.92	15.39	0.71
Reach 1	1200	Max WS	Tr30_D3h	25.45	235.58	237.58		237.84	0.006443	2.29	0.23	0.06	11.36	14.14	0.70
Reach 1	1200	Max WS	Tr30_D9h	11.70	235.58	237.13		237.28	0.005247	1.69			6.91	8.61	0.60
Reach 1	1200	Max WS	Tr30_D12h	9.77	235.58	237.04		237.17	0.005217	1.61			6.08	8.18	0.60
Reach 1	1200	Max WS	Tr30_D15h	8.40	235.58	236.96		237.08	0.005085	1.53			5.50	7.82	0.58
Reach 1	1100	Max WS	Tr30_D2h	26.97	235.15	237.06		237.19	0.003826	1.96	0.84	0.17	21.32	24.30	0.55
Reach 1	1100	Max WS	Tr30_D3h	25.44	235.15	237.01		237.14	0.003907	1.93	0.83	0.14	20.28	23.89	0.55
Reach 1	1100	Max WS	Tr30_D9h	11.70	235.15	236.57		236.66	0.003987	1.54	0.70		10.57	17.69	0.53
Reach 1	1100	Max WS	Tr30_D12h	9.77	235.15	236.49		236.57	0.003863	1.44	0.66		9.29	14.82	0.51
Reach 1	1100	Max WS	Tr30_D15h	8.40	235.15	236.41		236.49	0.004033	1.40	0.63		8.19	14.22	0.52
Reach 1	1000	Max WS	Tr30_D2h	27.07	234.68	236.34		236.65	0.008591	2.47	0.04	0.23	10.96	11.74	0.81
Reach 1	1000	Max WS	Tr30_D3h	25.38	234.68	236.29		236.60	0.008949	2.45	0.17		10.38	11.58	0.82
Reach 1	1000	Max WS	Tr30_D9h	11.70	234.68	235.86		236.08	0.011946	2.07			5.66	10.11	0.88
Reach 1	1000	Max WS	Tr30_D12h	9.77	234.68	235.78		235.98	0.012498	1.98			4.93	9.73	0.89
Reach 1	1000	Max WS	Tr30_D15h	8.40	234.68	235.73		235.91	0.013055	1.91			4.39	9.44	0.90
Reach 1	900	Max WS	Tr30_D2h	26.38	233.26	235.81		235.97	0.002582	1.81	0.34	0.49	17.56	18.27	0.46
Reach 1	900	Max WS	Tr30_D3h	25.08	233.26	235.70		235.87	0.003109	1.89	0.32	0.47	15.55	17.43	0.50
Reach 1	900	Max WS	Tr30_D9h	11.70	233.26	234.75		235.02	0.010041	2.33			5.02	6.00	0.81
Reach 1	900	Max WS	Tr30_D12h	9.77	233.26	234.62		234.89	0.010561	2.27			4.30	5.55	0.82
Reach 1	900	Max WS	Tr30_D15h	8.40	233.26	234.54		234.78	0.010382	2.18			3.86	5.22	0.81
Reach 1	800	Max WS	Tr30_D2h	24.24	232.50	235.82		235.85	0.000242	0.80	0.23	0.27	43.73	27.66	0.16
Reach 1	800	Max WS	Tr30_D3h	23.75	232.50	235.69		235.72	0.000289	0.85	0.24	0.27	40.12	27.48	0.17
Reach 1	800	Max WS	Tr30_D9h	11.70	232.50	234.19		234.27	0.002073	1.28		0.16	9.33	10.36	0.40
Reach 1	800	Max WS	Tr30_D12h	9.77	232.50	233.95		234.04	0.002791	1.36			7.19	7.72	0.45
Reach 1	800	Max WS	Tr30_D15h	8.40	232.50	233.77		233.88	0.003467	1.42			5.91	7.01	0.49
Reach 1	780	Max WS	Tr30_D2h	28.47	231.79	235.74	234.02	236.05	0.001295	2.46			11.56	27.01	0.40
Reach 1	780	Max WS	Tr30_D3h	27.02	231.79	235.61	233.95	235.91	0.001313	2.42			11.16	26.58	0.40
Reach 1	780	Max WS	Tr30_D9h	11.70	231.79	234.07	233.09	234.24	0.001508	1.81			6.48	16.91	0.40
Reach 1	780	Max WS	Tr30_D12h	9.77	231.79	233.84	232.96	233.98	0.001556	1.70			5.76	13.61	0.39
Reach 1	780	Max WS													

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reach 1	700	Max WS	Tr30_D2h	28.31	230.99	232.42		233.67	0.005081	2.23	0.08		12.70	9.56	0.62
Reach 1	700	Max WS	Tr30_D3h	26.75	230.99	233.37		233.61	0.005112	2.19			12.22	9.44	0.61
Reach 1	700	Max WS	Tr30_D9h	11.70	230.99	232.67		232.82	0.003853	1.70			6.86	6.16	0.52
Reach 1	700	Max WS	Tr30_D12h	9.65	230.99	232.57		232.69	0.003393	1.55			6.24	5.90	0.48
Reach 1	700	Max WS	Tr30_D15h	8.38	230.99	232.49		232.60	0.003153	1.45			5.77	5.70	0.46
Reach 1	600	Max WS	Tr30_D2h	28.47	230.48	232.92		233.17	0.006194	2.20			12.94	12.03	0.68
Reach 1	600	Max WS	Tr30_D3h	26.84	230.48	232.89		233.12	0.005993	2.14			12.52	11.79	0.66
Reach 1	600	Max WS	Tr30_D9h	11.57	230.48	232.28		232.43	0.004311	1.71			6.77	6.64	0.54
Reach 1	600	Max WS	Tr30_D12h	9.44	230.48	232.27		232.37	0.002915	1.40			6.72	6.59	0.44
Reach 1	600	Max WS	Tr30_D15h	8.24	230.48	232.22		232.31	0.002438	1.28			6.42	6.25	0.40
Reach 1	500	Max WS	Tr30_D2h	27.89	230.08	232.71		232.78	0.008072	1.24	0.31	0.29	30.16	32.20	0.29
Reach 1	500	Max WS	Tr30_D3h	26.24	230.08	232.70		232.76	0.007922	1.18	0.29	0.27	29.80	32.07	0.27
Reach 1	500	Max WS	Tr30_D9h	2.00	230.08	232.23		232.23	0.000013	0.13	0.03	0.03	18.42	19.72	0.03
Reach 1	500	Max WS	Tr30_D12h	2.00	230.08	232.20		232.20	0.000014	0.13	0.03	0.03	17.85	19.58	0.03
Reach 1	500	Max WS	Tr30_D15h	7.75	230.08	232.16		232.18	0.000237	0.52	0.10	0.12	17.09	19.38	0.14
Reach 1	400	Max WS	Tr30_D2h	26.00	230.07	232.64		232.66	0.000393	0.85	0.34	0.27	55.92	50.41	0.19
Reach 1	400	Max WS	Tr30_D3h	25.95	230.07	232.64		232.66	0.000392	0.85	0.34	0.27	55.87	50.40	0.19
Reach 1	400	Max WS	Tr30_D9h	1.99	230.07	232.23		232.23	0.000007	0.10	0.03	0.03	35.89	46.11	0.03
Reach 1	400	Max WS	Tr30_D12h	2.00	230.07	232.20		232.20	0.000008	0.10	0.04	0.03	34.56	45.72	0.03
Reach 1	400	Max WS	Tr30_D15h	7.37	230.07	232.15		232.15	0.000134	0.41	0.14	0.11	32.11	44.99	0.11
Reach 1	370	Max WS	Tr30_D2h	25.86	229.72	232.55	231.17	232.69	0.000943	1.66			15.58	32.82	0.33
Reach 1	370	Max WS	Tr30_D3h	25.87	229.72	232.55	231.17	232.69	0.000945	1.66			15.57	32.81	0.33
Reach 1	370	Max WS	Tr30_D9h	1.99	229.72	232.23	230.15	232.23	0.000009	0.15			13.68	30.27	0.03
Reach 1	370	Max WS	Tr30_D12h	1.99	229.72	232.20	230.15	232.20	0.000009	0.15			13.50	30.14	0.03
Reach 1	370	Max WS	Tr30_D15h	7.22	229.72	232.14	230.46	232.15	0.000130	0.55			13.13	29.85	0.12
Reach 1	365		Bridge												
Reach 1	360	Max WS	Tr30_D2h	29.88	230.14	232.01		232.48	0.006159	3.05			9.78	9.76	0.76
Reach 1	360	Max WS	Tr30_D3h	29.59	230.14	232.00		232.47	0.006052	3.03			9.78	9.76	0.75
Reach 1	360	Max WS	Tr30_D9h	1.99	230.14	232.23		232.23	0.000018	0.18			11.09	9.97	0.04
Reach 1	360	Max WS	Tr30_D12h	2.00	230.14	232.20		232.20	0.000019	0.18			10.92	9.94	0.04
Reach 1	360	Max WS	Tr30_D15h	2.72	230.14	232.12		232.12	0.000041	0.26			10.47	9.87	0.06
Reach 1	340	Max WS	Tr30_D2h	29.84	229.47	232.03	231.09	232.08	0.000763	1.08	0.27	0.24	36.82	42.62	0.27
Reach 1	340	Max WS	Tr30_D3h	29.35	229.47	232.04	231.08	232.09	0.000721	1.05	0.26	0.24	37.21	42.87	0.26
Reach 1	340	Max WS	Tr30_D9h	1.99	229.47	232.23	230.04	232.23	0.000002	0.06	0.02	0.01	45.56	45.50	0.01
Reach 1	340	Max WS	Tr30_D12h	2.00	229.47	232.20	230.04	232.20	0.000002	0.06	0.02	0.02	44.23	45.08	0.01
Reach 1	340	Max WS	Tr30_D15h	6.36	229.47	232.12	230.50	232.13	0.000027	0.21	0.06	0.05	40.99	43.96	0.05
Reach 1	330		Bridge												
Reach 1	320	Max WS	Tr30_D2h	5.00	229.52	231.84		231.85	0.000048	0.23	0.07	0.07	36.41	54.17	0.06
Reach 1	320	Max WS	Tr30_D3h	4.82	229.52	231.96		231.96	0.000030	0.19	0.07	0.06	42.82	55.43	0.05
Reach 1	320	Max WS	Tr30_D9h	1.99	229.52	232.22		232.22	0.000002	0.06	0.02	0.02	57.68	57.59	0.01
Reach 1	320	Max WS	Tr30_D12h	1.99	229.52	232.20		232.20	0.000003	0.06	0.02	0.02	56.00	57.37	0.02
Reach 1	320	Max WS	Tr30_D15h	2.73	229.52	232.12		232.12	0.000006	0.09	0.03	0.03	51.63	56.75	0.02
Reach 1	300	Max WS	Tr30_D2h	5.00	229.32	231.84		231.85	0.000049	0.31	0.09	0.09	25.12	24.51	0.07
Reach 1	300	Max WS	Tr30_D3h	4.71	229.32	231.96		231.96	0.000034	0.27	0.07	0.08	28.05	25.78	0.06
Reach 1	300	Max WS	Tr30_D9h	1.99	229.32	232.22		232.22	0.000004	0.10	0.02	0.03	35.41	29.57	0.02
Reach 1	300	Max WS	Tr30_D12h	2.00	229.32	232.20		232.20	0.000004	0.10	0.03	0.03	34.55	29.19	0.02
Reach 1	300	Max WS	Tr30_D15h	2.16	229.32	232.12		232.12	0.000005	0.11	0.03	0.03	32.36	28.23	0.02
Reach 1	299		Lat Struct												
Reach 1	200	Max WS	Tr30_D2h	4.99	228.96	231.84		231.84	0.000016	0.19	0.04	0.08	38.10	26.43	0.04
Reach 1	200	Max WS	Tr30_D3h	4.58	228.96	231.96		231.96	0.000011	0.16	0.04	0.07	41.30	28.13	0.03
Reach 1	200	Max WS	Tr30_D9h	1.99	228.96	232.22		232.22	0.000001	0.06	0.01	0.03	49.27	32.38	0.01
Reach 1	200	Max WS	Tr30_D12h	2.00	228.96	232.20		232.20	0.000001	0.06	0.01	0.03	48.33	31.81	0.01
Reach 1	200	Max WS	Tr30_D15h	2.46	228.96	232.12		232.12	0.000002	0.08	0.02	0.04	45.96	30.27	0.02
Reach 1	1	Max WS	Tr30_D2h	4.62	228.79	231.84		231.85	0.000009	0.15	0.04	0.05	39.10	33.25	0.03
Reach 1	1	Max WS	Tr30_D3h	3.95	228.79	231.96		231.96	0.000006	0.13	0.02	0.04	43.14	34.94	0.02
Reach 1	1	Max WS	Tr30_D9h	3.07	228.79	232.23		232.23	0.000002	0.08	0.02	0.03	52.41	35.46	0.02
Reach 1	1	Max WS	Tr30_D12h	2.99	228.79	232.20		232.20	0.000002	0.08	0.02	0.03	51.37	35.38	0.02
Reach 1	1	Max WS	Tr30_D15h	1.57	228.79	232.12		232.12	0.000001	0.05	0.01	0.02	48.64	35.22	0.01

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA\_INTERMEDIO"**

#### **Orcia\_Intermedio**

MODELLAZIONE PER TR=30 e 200 ANNI

DURATA DI PIOGGIA: 9h, 12h e 15h

***Profilo longitudinale***

***Sezioni Trasversali***

***Dati idraulici***

## **ALLEGATI**

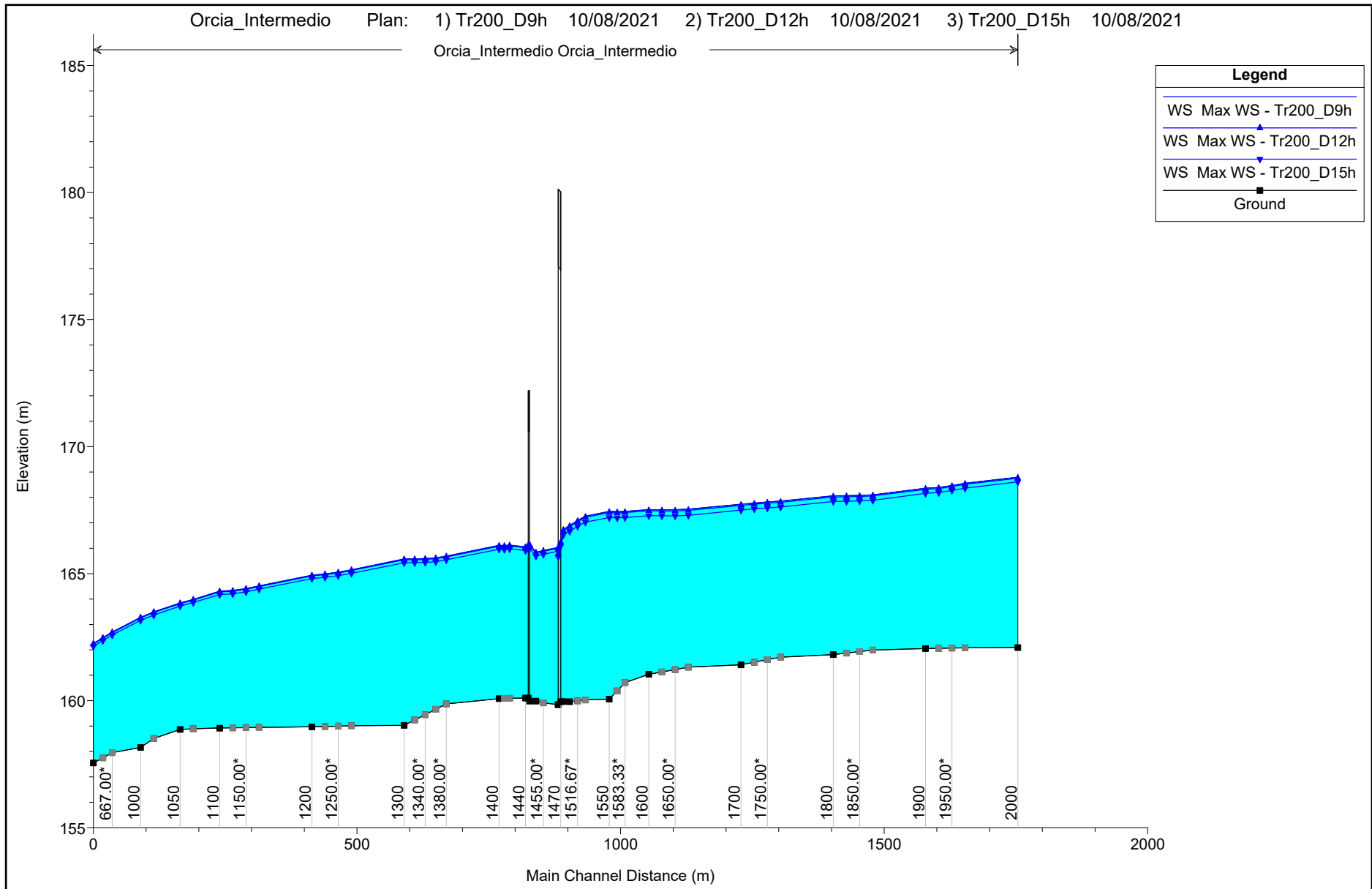
### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA\_INTERMEDIO"**

**Orcia\_Intermedio**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    9h, 12h e 15h

***Profilo longitudinale***



## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA\_INTERMEDIO"**

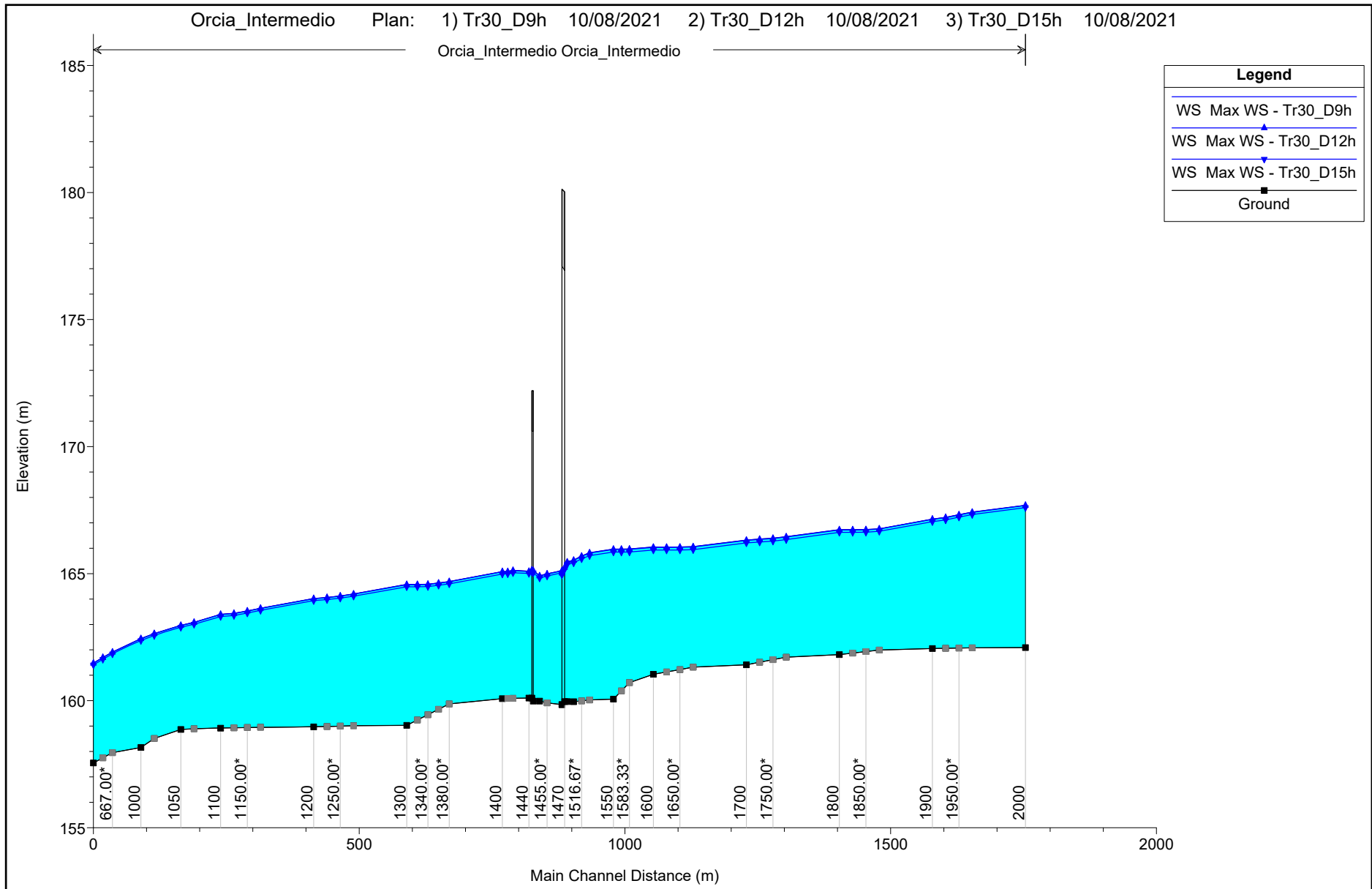
**Orcia\_Intermedio**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    9h, 12h e 15h

***Profilo longitudinale***





## **ALLEGATI**

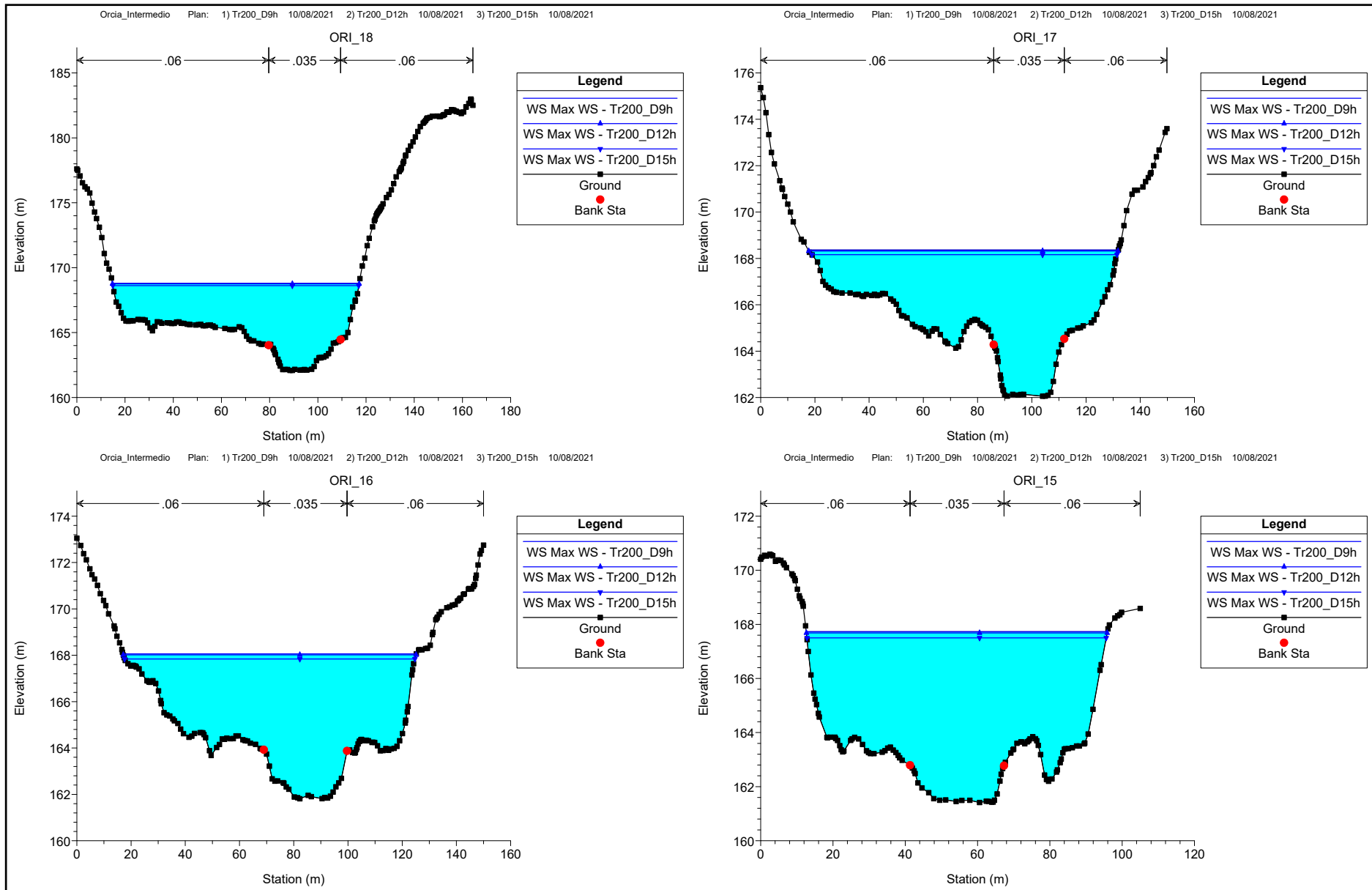
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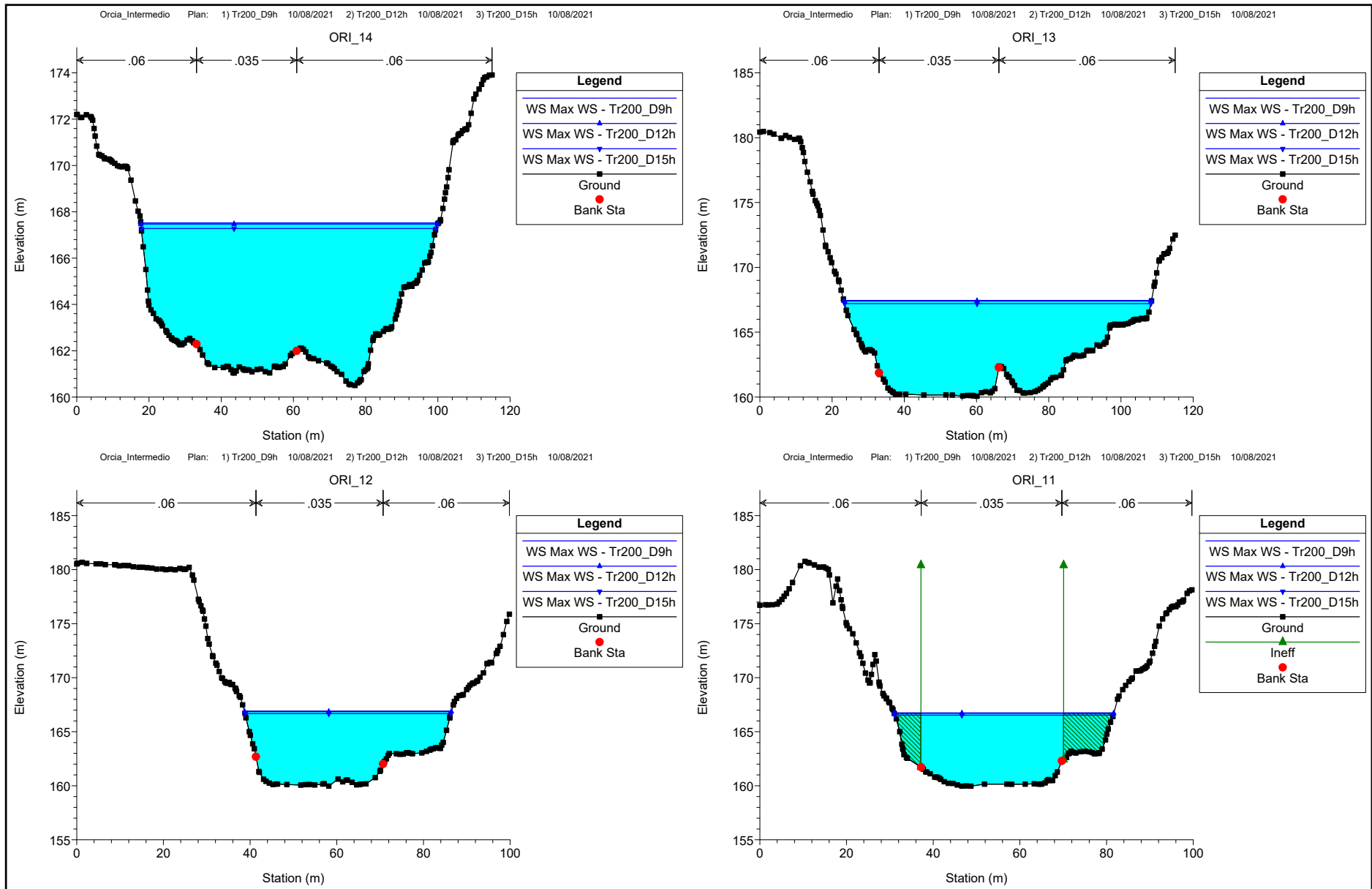
**Orcia\_Intermedio**

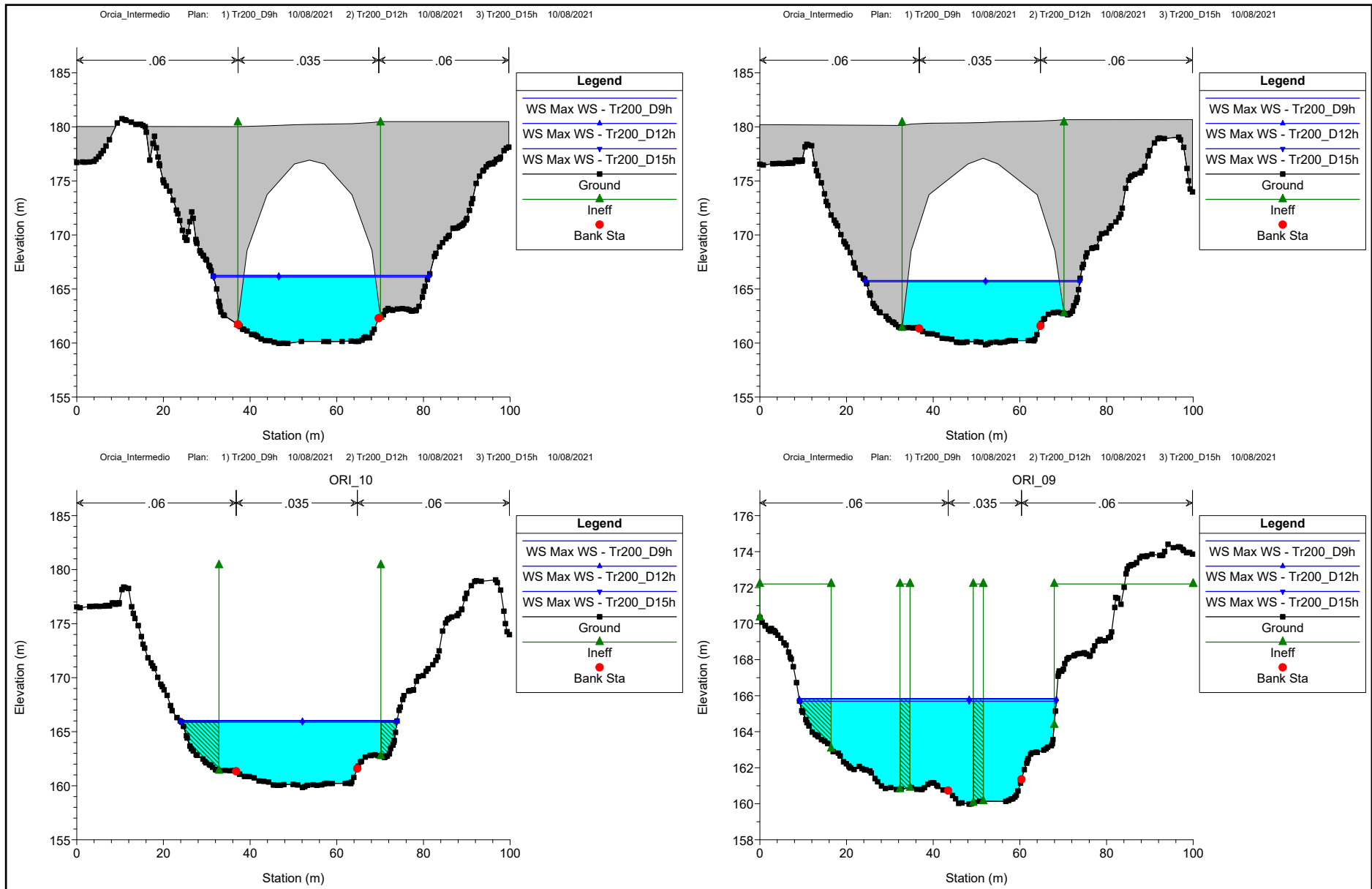
MODELLAZIONE PER      Tr=200 anni

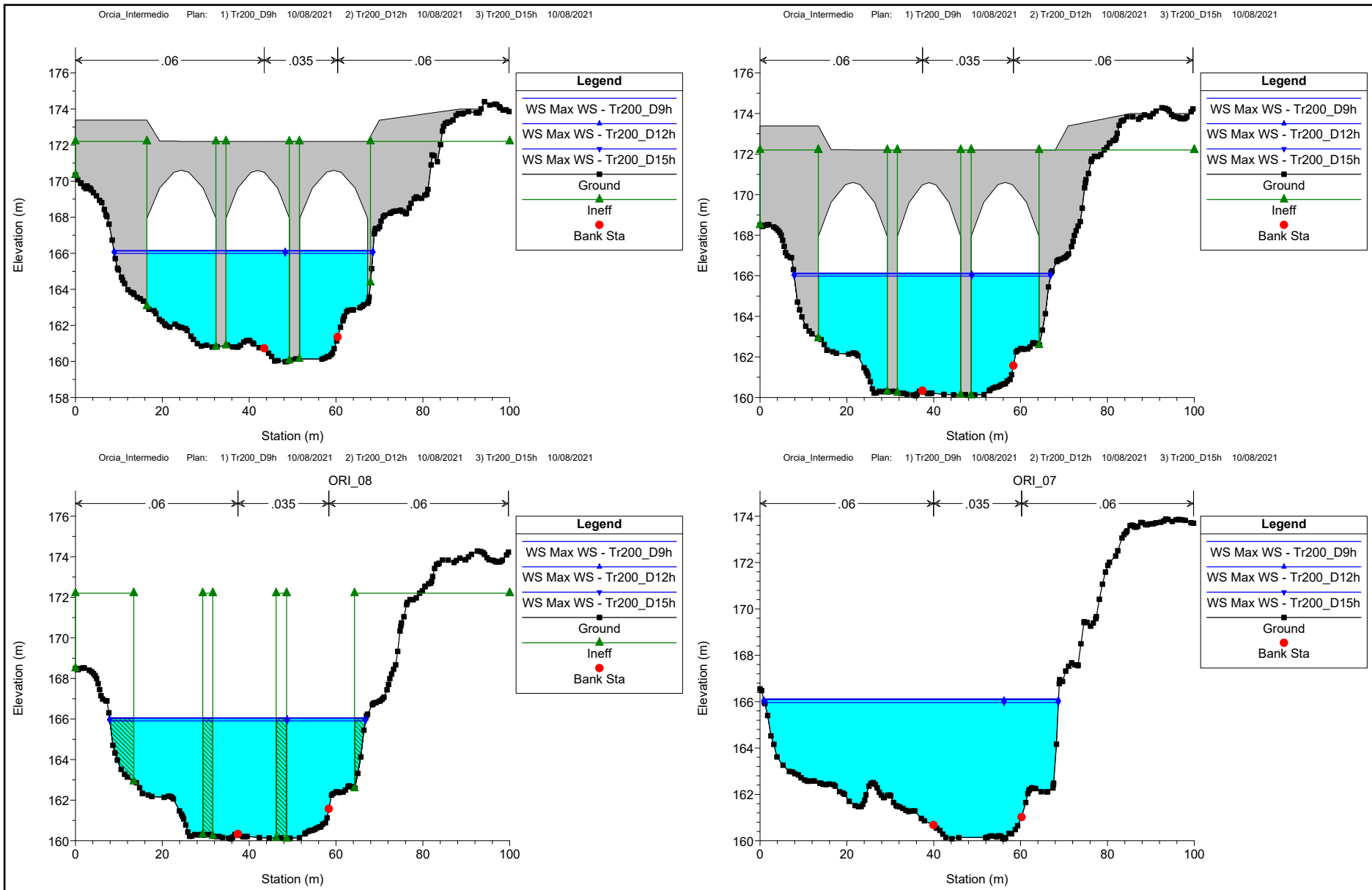
DURATE DI PIOGGIA:    9h, 12h e 15h

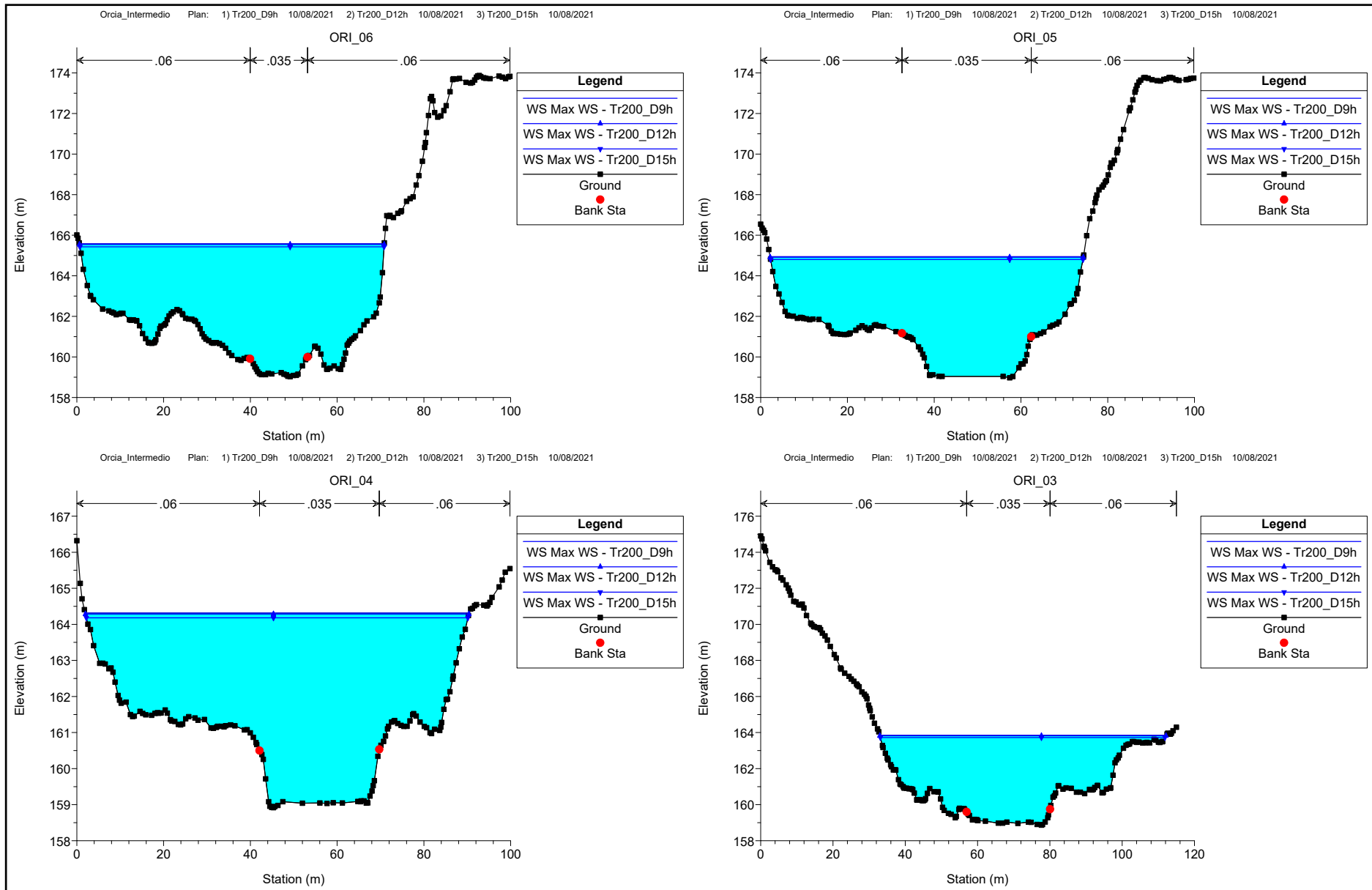
***Sezioni Trasversali (da monte verso valle)***

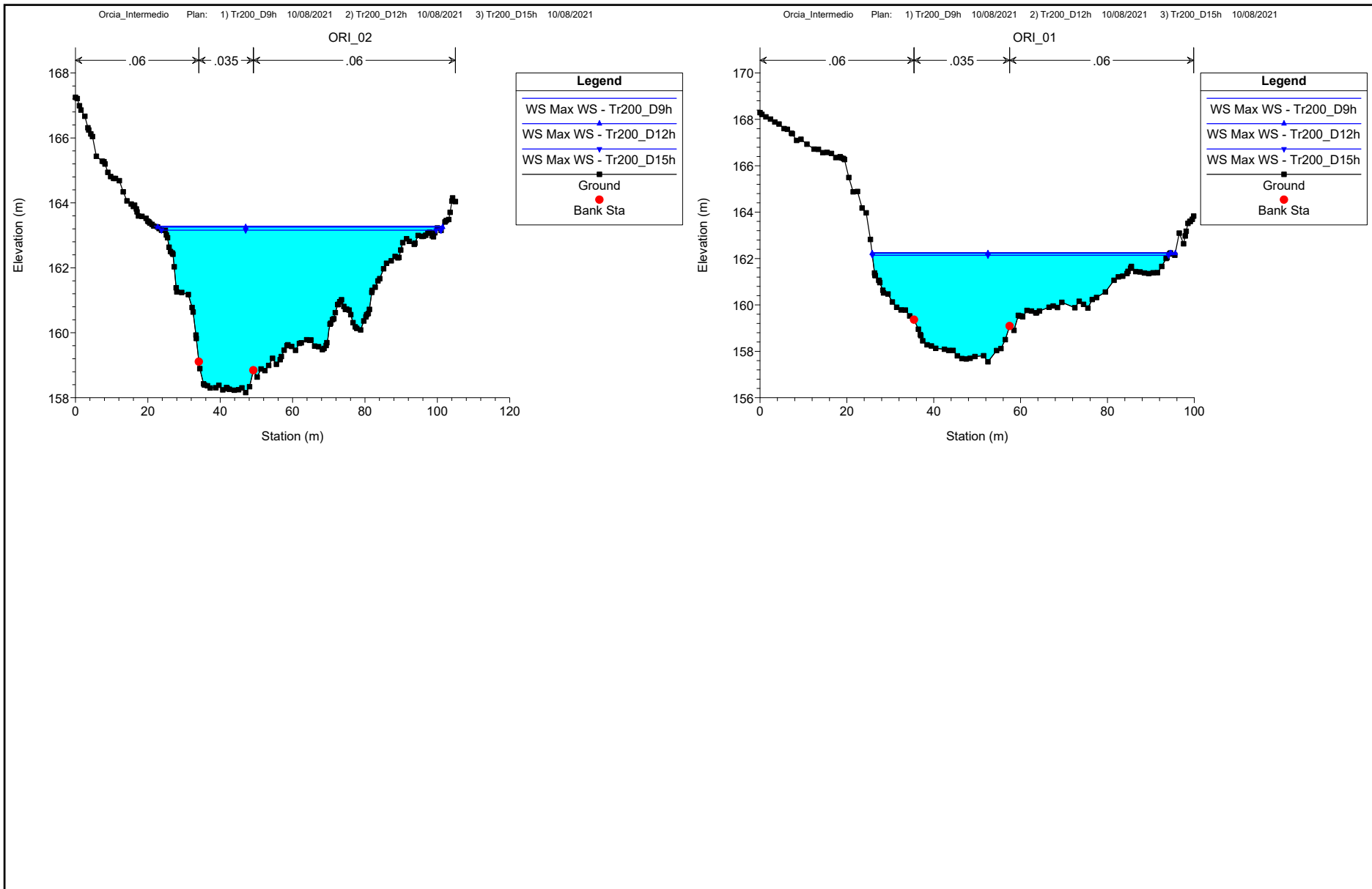














## **ALLEGATI**

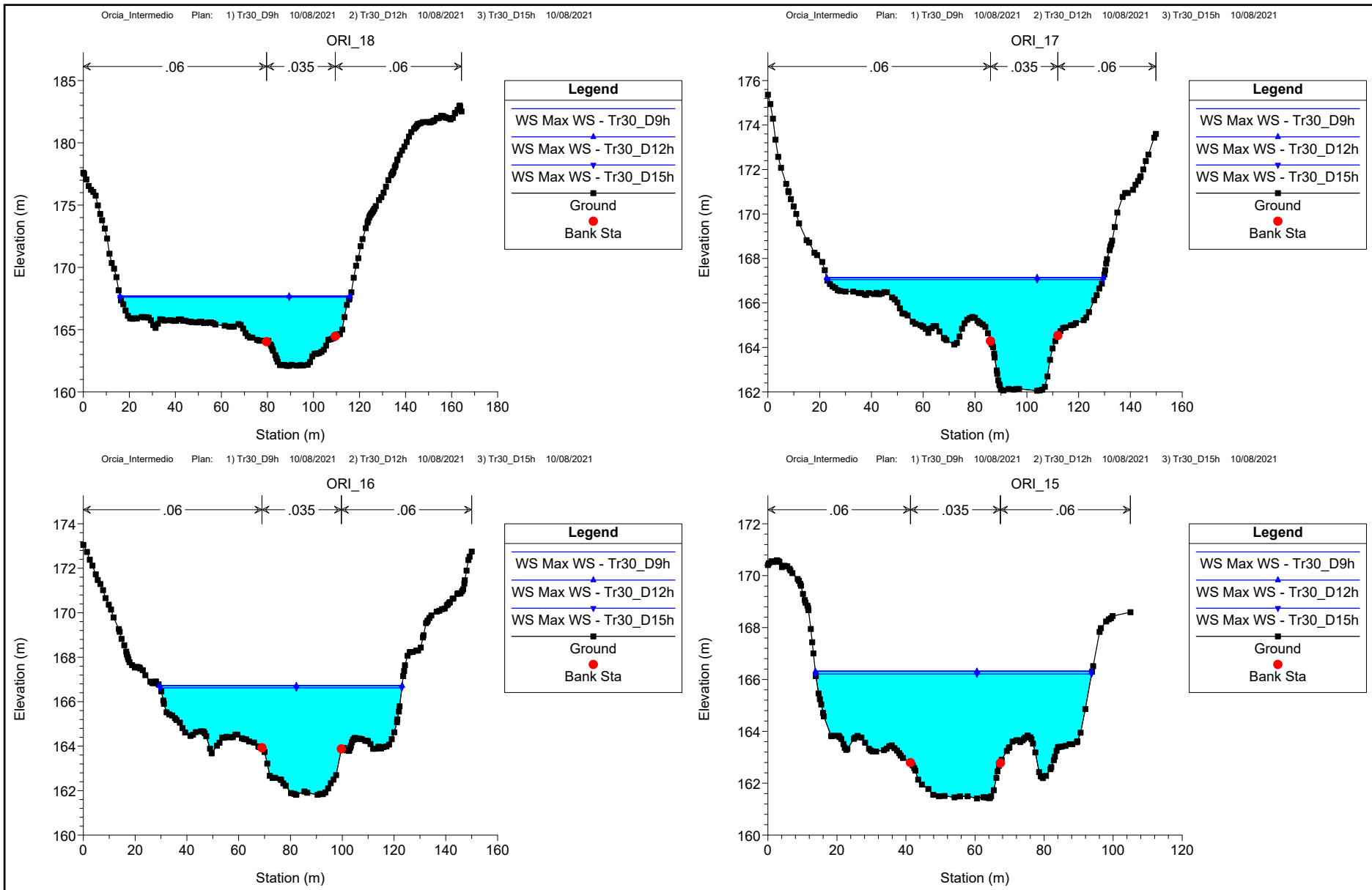
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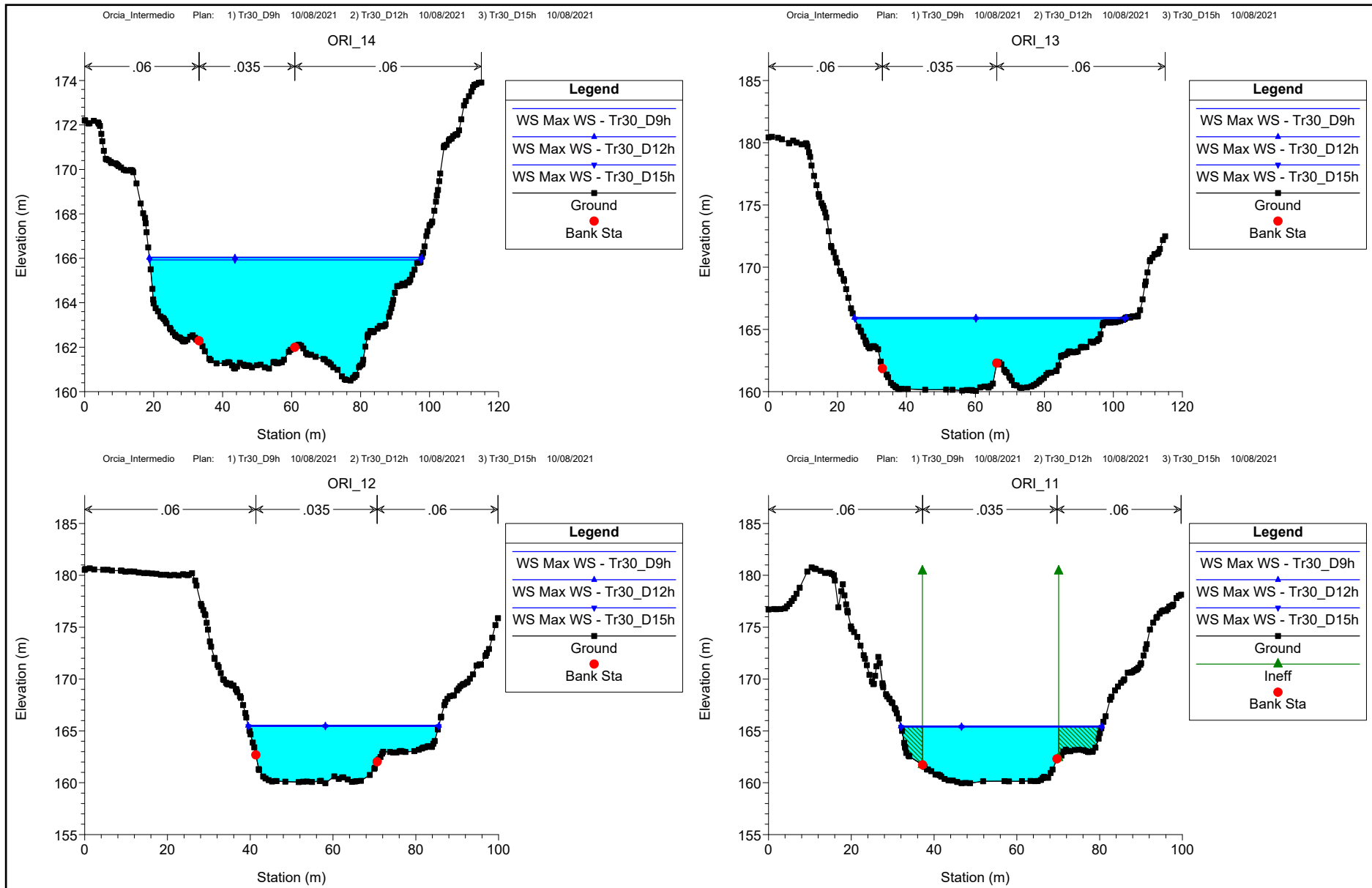
**Orcia\_Intermedio**

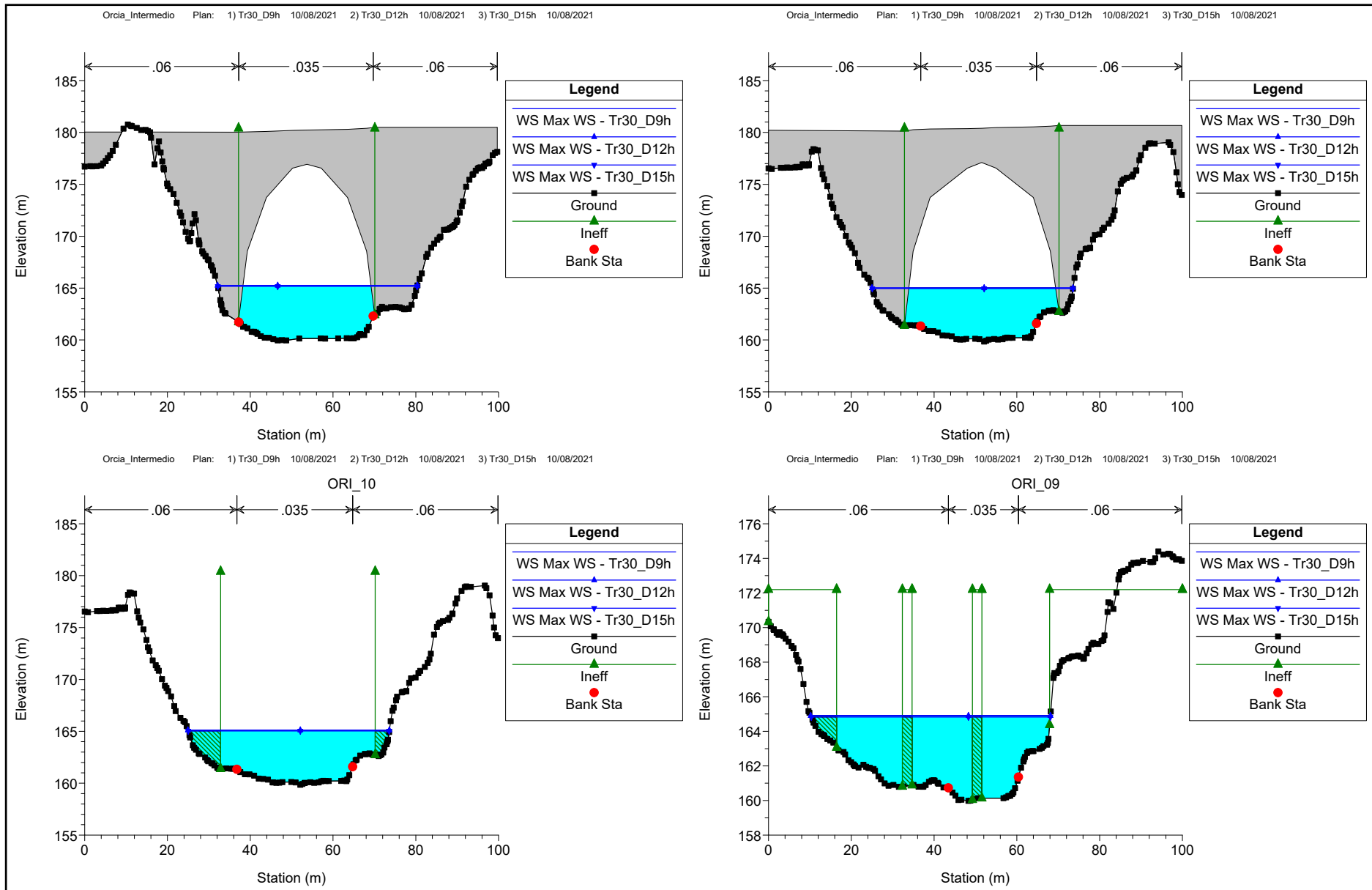
MODELLAZIONE PER      Tr=30 anni

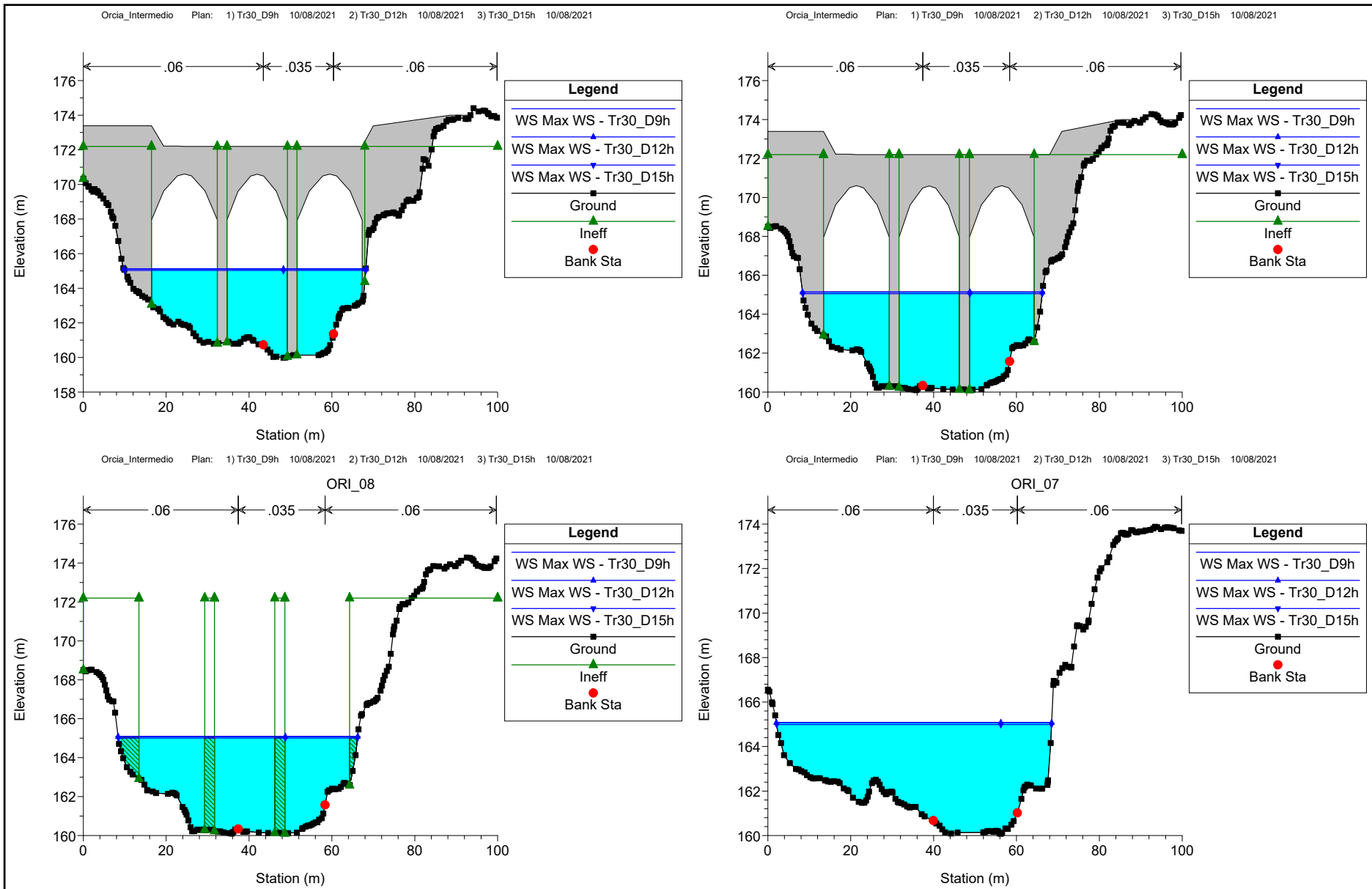
DURATE DI PIOGGIA:    9h, 12h e 15h

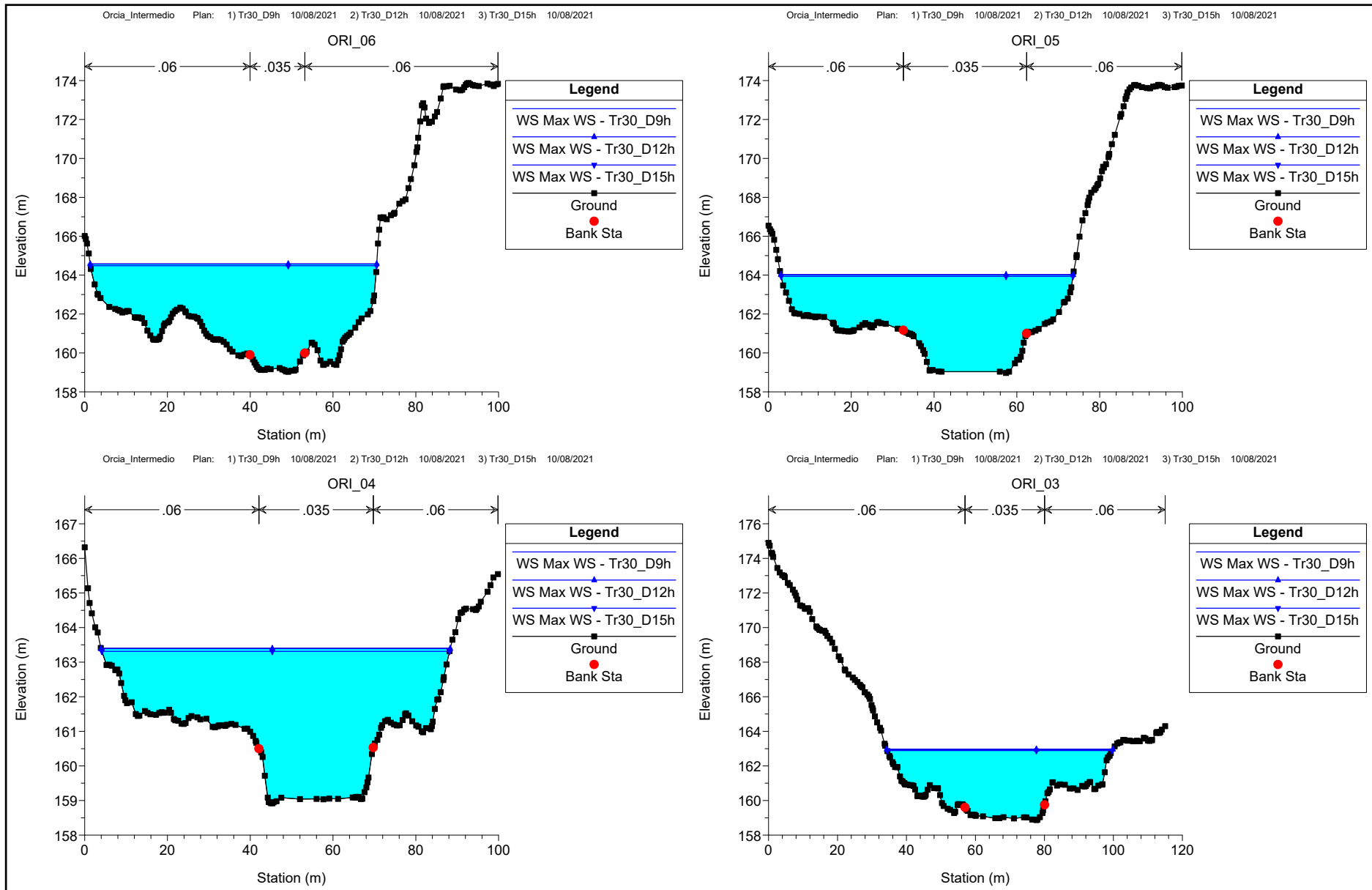
***Sezioni Trasversali (da monte verso valle)***

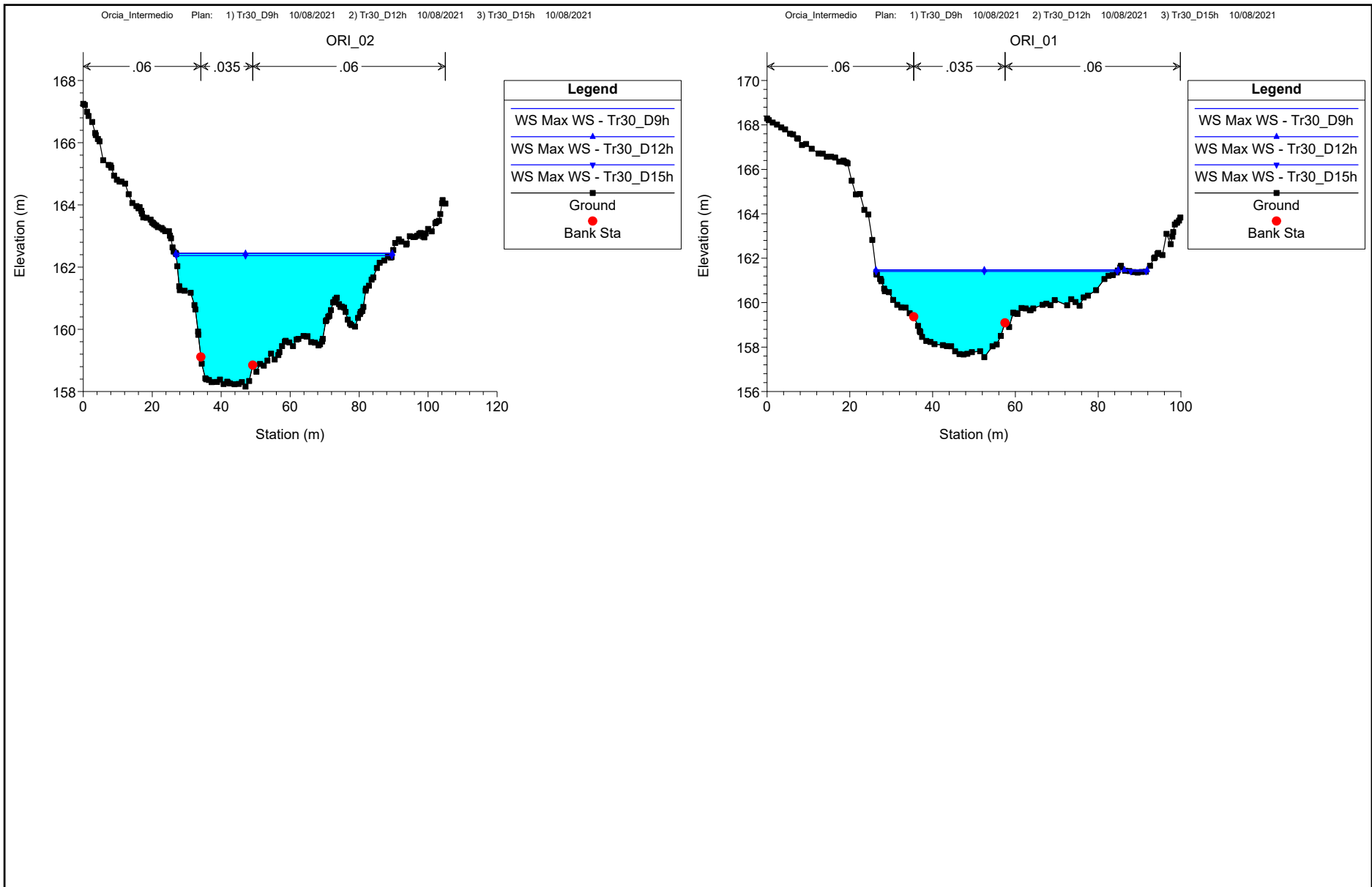












## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA\_INTERMEDIO"**

#### **Orcia\_Intermedio**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    9h, 12h e 15h

#### ***Dati idraulici***



HEC-RAS River: Orcia\_Intermedio Reach: Orcia\_Intermedio Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Orcia_Intermedio	2000	Max WS	Tr200_D9h	984.40	162.09	168.79		169.29	0.001601	3.69	1.45	1.16	410.08	102.41	0.48
Orcia_Intermedio	2000	Max WS	Tr200_D12h	972.32	162.09	168.76		169.25	0.001605	3.68	1.44	1.15	406.15	102.34	0.48
Orcia_Intermedio	2000	Max WS	Tr200_D15h	928.98	162.09	168.61		169.10	0.001626	3.64	1.41	1.13	391.44	102.08	0.48
Orcia_Intermedio	1900	Max WS	Tr200_D9h	984.34	162.06	168.36		169.01	0.002264	4.26	1.48	1.48	380.79	114.43	0.56
Orcia_Intermedio	1900	Max WS	Tr200_D12h	972.21	162.06	168.32		168.96	0.002282	4.26	1.48	1.48	376.02	114.14	0.57
Orcia_Intermedio	1900	Max WS	Tr200_D15h	928.91	162.06	168.16		168.81	0.002363	4.25	1.46	1.46	357.83	112.56	0.57
Orcia_Intermedio	1800	Max WS	Tr200_D9h	984.31	161.81	168.06		168.55	0.001667	3.68	1.35	1.52	413.19	108.23	0.49
Orcia_Intermedio	1800	Max WS	Tr200_D12h	972.20	161.81	168.02		168.51	0.001680	3.68	1.34	1.52	408.31	107.98	0.49
Orcia_Intermedio	1800	Max WS	Tr200_D15h	928.89	161.81	167.84		168.33	0.001747	3.67	1.32	1.51	389.33	107.08	0.50
Orcia_Intermedio	1700	Max WS	Tr200_D9h	984.27	161.41	167.73		168.25	0.001704	3.86	1.66	1.66	384.81	83.32	0.50
Orcia_Intermedio	1700	Max WS	Tr200_D12h	972.20	161.41	167.68		168.20	0.001712	3.85	1.65	1.65	380.95	83.21	0.50
Orcia_Intermedio	1700	Max WS	Tr200_D15h	928.87	161.41	167.50		168.02	0.001763	3.83	1.63	1.63	365.64	82.80	0.51
Orcia_Intermedio	1600	Max WS	Tr200_D9h	984.23	161.04	167.52		167.93	0.001285	3.42	1.44	1.63	423.47	82.50	0.44
Orcia_Intermedio	1600	Max WS	Tr200_D12h	972.19	161.04	167.40		167.88	0.001287	3.40	1.44	1.63	419.58	82.18	0.44
Orcia_Intermedio	1600	Max WS	Tr200_D15h	928.87	161.04	167.28		167.68	0.001317	3.37	1.42	1.62	403.85	81.65	0.44
Orcia_Intermedio	1550	Max WS	Tr200_D9h	984.23	160.06	167.45		167.83	0.000889	3.07	0.91	1.27	448.08	85.24	0.37
Orcia_Intermedio	1550	Max WS	Tr200_D12h	972.19	160.06	167.40		167.78	0.000891	3.06	0.91	1.26	443.97	85.16	0.37
Orcia_Intermedio	1550	Max WS	Tr200_D15h	928.86	160.06	167.21		167.58	0.000907	3.03	0.89	1.24	427.39	84.83	0.37
Orcia_Intermedio	1500	Max WS	Tr200_D9h	984.22	159.96	166.90		167.88	0.002307	4.61	0.87	1.71	253.33	47.78	0.58
Orcia_Intermedio	1500	Max WS	Tr200_D12h	972.19	159.96	166.85		167.83	0.002305	4.59	0.87	1.70	251.24	47.72	0.57
Orcia_Intermedio	1500	Max WS	Tr200_D15h	928.86	159.96	166.67		167.62	0.002331	4.52	0.85	1.66	242.53	47.47	0.58
Orcia_Intermedio	1480	Max WS	Tr200_D9h	984.21	159.96	166.74	164.91	167.88	0.002415	4.73	2.35	2.13	209.02	50.72	0.60
Orcia_Intermedio	1480	Max WS	Tr200_D12h	972.18	159.96	166.70	164.87	167.83	0.002408	4.71	2.33	2.12	207.67	50.66	0.60
Orcia_Intermedio	1480	Max WS	Tr200_D15h	928.86	159.96	166.53	164.73	167.61	0.002410	4.62	2.28	2.06	201.99	50.38	0.59
Orcia_Intermedio	1470		Bridge												
Orcia_Intermedio	1460	Max WS	Tr200_D9h	984.21	159.84	166.03		167.49	0.003859	5.57	2.87	2.26	196.85	50.12	0.74
Orcia_Intermedio	1460	Max WS	Tr200_D12h	972.18	159.84	166.00		167.44	0.003839	5.54	2.85	2.24	195.46	50.03	0.74
Orcia_Intermedio	1460	Max WS	Tr200_D15h	928.86	159.84	165.88		167.26	0.003763	5.41	2.77	2.17	191.16	49.67	0.73
Orcia_Intermedio	1450	Max WS	Tr200_D9h	984.21	159.98	165.84	165.41	167.42	0.005924	6.81	3.41	2.44	213.66	59.37	0.92
Orcia_Intermedio	1450	Max WS	Tr200_D12h	972.18	159.98	165.81	165.39	167.37	0.005910	6.77	3.39	2.42	212.15	59.33	0.92
Orcia_Intermedio	1450	Max WS	Tr200_D15h	928.86	159.98	165.69	165.25	167.20	0.005858	6.65	3.31	2.35	206.61	59.21	0.91
Orcia_Intermedio	1445		Bridge												
Orcia_Intermedio	1440	Max WS	Tr200_D9h	984.21	160.10	166.05		167.31	0.004185	5.85	3.00	2.45	231.14	59.10	0.78
Orcia_Intermedio	1440	Max WS	Tr200_D12h	972.18	160.10	166.02		167.27	0.004165	5.81	2.98	2.43	229.70	59.05	0.78
Orcia_Intermedio	1440	Max WS	Tr200_D15h	928.86	160.10	165.91		167.10	0.004088	5.68	2.91	2.36	224.55	58.90	0.77
Orcia_Intermedio	1400	Max WS	Tr200_D9h	984.21	160.08	166.11		166.99	0.002974	5.03	2.17	1.79	301.88	67.92	0.66
Orcia_Intermedio	1400	Max WS	Tr200_D12h	972.17	160.08	166.08		166.95	0.002967	5.01	2.16	1.78	299.60	67.87	0.66
Orcia_Intermedio	1400	Max WS	Tr200_D15h	928.85	160.08	165.96		166.80	0.002935	4.91	2.11	1.74	291.49	67.67	0.66
Orcia_Intermedio	1300	Max WS	Tr200_D9h	984.19	159.03	165.58		166.35	0.003004	5.26	2.22	2.32	325.22	70.28	0.67
Orcia_Intermedio	1300	Max WS	Tr200_D12h	972.16	159.03	165.54		166.31	0.002993	5.23	2.21	2.31	322.95	70.24	0.67
Orcia_Intermedio	1300	Max WS	Tr200_D15h	928.85	159.03	165.43		166.17	0.002948	5.13	2.15	2.26	314.80	70.11	0.66
Orcia_Intermedio	1200	Max WS	Tr200_D9h	984.18	158.97	164.94		165.78	0.002760	4.56	1.85	1.68	295.70	72.26	0.62
Orcia_Intermedio	1200	Max WS	Tr200_D12h	972.16	158.97	164.91		165.75	0.002749	4.54	1.84	1.67	293.59	72.21	0.62
Orcia_Intermedio	1200	Max WS	Tr200_D15h	928.85	158.97	164.81		165.61	0.002706	4.44	1.79	1.63	285.98	72.03	0.61
Orcia_Intermedio	1100	Max WS	Tr200_D9h	984.16	158.92	164.31		165.21	0.003419	4.86	1.84	1.80	302.94	88.55	0.68
Orcia_Intermedio	1100	Max WS	Tr200_D12h	972.16	158.92	164.28		165.17	0.003415	4.84	1.83	1.79	300.38	88.40	0.68
Orcia_Intermedio	1100	Max WS	Tr200_D15h	928.84	158.92	164.18		165.04	0.003394	4.76	1.78	1.75	291.19	87.96	0.68
Orcia_Intermedio	1050	Max WS	Tr200_D9h	984.16	158.87	163.85	163.44	165.25	0.005786	6.12	2.58	1.89	246.02	79.29	0.89
Orcia_Intermedio	1050	Max WS	Tr200_D12h	972.16	158.87	163.82	163.42	165.21	0.005780	6.10	2.57	1.87	243.87	79.18	0.89
Orcia_Intermedio	1050	Max WS	Tr200_D15h	928.84	158.87	163.72	163.31	165.08	0.005751	6.00	2.52	1.82	236.14	78.76	0.89
Orcia_Intermedio	1000	Max WS	Tr200_D9h	984.16	158.16	163.28	162.99	165.29	0.009213	7.83	1.92	2.86	220.80	79.80	1.13
Orcia_Intermedio	1000	Max WS	Tr200_D12h	972.16	158.16	163.25	162.99	165.25	0.009187	7.79	1.99	2.84	218.70	78.73	1.12
Orcia_Intermedio	1000	Max WS	Tr200_D15h	928.84	158.16	163.16	162.99	165.08	0.009032	7.62	2.00	2.81	211.30	76.10	1.11
Orcia_Intermedio	1	Max WS	Tr200_D9h	984.16	157.55	162.25	163.04	164.99	0.012798	8.23	2.82	2.67	176.41	69.84	1.29
Orcia_Intermedio	1	Max WS	Tr200_D12h	972.16	157.55	162.23	163.00	164.93	0.012718	8.17	2.79	2.69	174.70	69.61	1.28
Orcia_Intermedio	1	Max WS	Tr200_D15h	928.83	157.55	162.14	162.91	164.78	0.012712	8.05	2.72	2.61	168.62	68.22	1.28

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA\_INTERMEDIO"**

**Orcia\_Intermedio**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    9h, 12h e 15h

***Dati idraulici***

Reach	River Sta	Profile	Plan	Q Total (m <sup>3</sup> /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m <sup>2</sup> )	Top Width (m)	Froude # Chl
Orcia_Intermedio	2000	Max WS	Tr30_D9h	647.91	162.09	167.69		168.11	0.001668	3.28	1.15	0.98	298.38	100.00	0.48
Orcia_Intermedio	2000	Max WS	Tr30_D12h	644.61	162.09	167.68		168.10	0.001669	3.28	1.14	0.98	297.23	99.96	0.48
Orcia_Intermedio	2000	Max WS	Tr30_D15h	620.54	162.09	167.60		168.01	0.001667	3.24	1.12	0.97	288.98	99.71	0.47
Orcia_Intermedio	1900	Max WS	Tr30_D9h	647.90	162.06	167.15		167.83	0.002905	4.13	1.20	1.26	247.33	106.98	0.62
Orcia_Intermedio	1900	Max WS	Tr30_D12h	644.55	162.06	167.14		167.82	0.002913	4.13	1.19	1.26	245.97	106.92	0.62
Orcia_Intermedio	1900	Max WS	Tr30_D15h	620.51	162.06	167.05		167.73	0.002963	4.11	1.16	1.24	236.53	106.52	0.62
Orcia_Intermedio	1800	Max WS	Tr30_D9h	647.88	161.81	166.73		167.19	0.002061	3.44	1.24	1.34	277.71	93.87	0.52
Orcia_Intermedio	1800	Max WS	Tr30_D12h	644.52	161.81	166.72		167.17	0.002065	3.43	1.24	1.34	276.48	93.81	0.52
Orcia_Intermedio	1800	Max WS	Tr30_D15h	620.49	161.81	166.62		167.08	0.002091	3.41	1.21	1.32	267.69	93.42	0.52
Orcia_Intermedio	1700	Max WS	Tr30_D9h	647.87	161.41	166.32		166.79	0.002082	3.58	1.43	1.47	269.80	80.17	0.53
Orcia_Intermedio	1700	Max WS	Tr30_D12h	644.51	161.41	166.31		166.78	0.002086	3.57	1.43	1.47	268.65	80.14	0.53
Orcia_Intermedio	1700	Max WS	Tr30_D15h	620.48	161.41	166.21		166.67	0.002110	3.54	1.41	1.45	260.65	79.92	0.53
Orcia_Intermedio	1600	Max WS	Tr30_D9h	647.86	161.04	166.05		166.39	0.001501	3.08	1.28	1.46	304.81	79.02	0.45
Orcia_Intermedio	1600	Max WS	Tr30_D12h	644.50	161.04	166.03		166.37	0.001503	3.07	1.28	1.46	303.61	78.98	0.45
Orcia_Intermedio	1600	Max WS	Tr30_D15h	620.47	161.04	165.93		166.26	0.001514	3.04	1.26	1.44	295.34	78.72	0.45
Orcia_Intermedio	1550	Max WS	Tr30_D9h	647.86	160.06	165.97		166.27	0.000943	2.71	0.72	1.08	323.75	79.18	0.36
Orcia_Intermedio	1550	Max WS	Tr30_D12h	644.49	160.06	165.95		166.25	0.000942	2.70	0.71	1.08	322.57	78.76	0.36
Orcia_Intermedio	1550	Max WS	Tr30_D15h	620.47	160.06	165.85		166.14	0.000936	2.66	0.70	1.06	314.56	78.23	0.36
Orcia_Intermedio	1500	Max WS	Tr30_D9h	647.85	159.96	165.53		166.27	0.002316	3.95	0.67	1.33	189.29	46.10	0.55
Orcia_Intermedio	1500	Max WS	Tr30_D12h	644.49	159.96	165.52		166.26	0.002314	3.94	0.67	1.33	188.66	46.08	0.55
Orcia_Intermedio	1500	Max WS	Tr30_D15h	620.47	159.96	165.42		166.14	0.002290	3.87	0.65	1.29	184.38	45.96	0.55
Orcia_Intermedio	1480	Max WS	Tr30_D9h	647.85	159.96	165.46	163.80	166.24	0.002210	3.90	1.85	1.62	166.93	48.61	0.55
Orcia_Intermedio	1480	Max WS	Tr30_D12h	644.49	159.96	165.45	163.79	166.22	0.002205	3.89	1.84	1.61	166.52	48.59	0.55
Orcia_Intermedio	1480	Max WS	Tr30_D15h	620.47	159.96	165.36	163.70	166.10	0.002164	3.81	1.80	1.57	163.67	48.46	0.54
Orcia_Intermedio	1470		Bridge												
Orcia_Intermedio	1460	Max WS	Tr30_D9h	647.85	159.84	165.12		166.05	0.003060	4.42	2.21	1.64	162.62	48.68	0.64
Orcia_Intermedio	1460	Max WS	Tr30_D12h	644.48	159.84	165.11		166.03	0.003052	4.41	2.20	1.63	162.23	48.67	0.64
Orcia_Intermedio	1460	Max WS	Tr30_D15h	620.47	159.84	165.04		165.92	0.002984	4.31	2.15	1.58	159.50	48.59	0.63
Orcia_Intermedio	1450	Max WS	Tr30_D9h	647.85	159.98	164.92	164.45	166.02	0.005175	5.64	2.72	1.79	170.24	57.96	0.83
Orcia_Intermedio	1450	Max WS	Tr30_D12h	644.48	159.98	164.90	164.44	166.01	0.005166	5.63	2.71	1.79	169.76	57.94	0.83
Orcia_Intermedio	1450	Max WS	Tr30_D15h	620.46	159.98	164.83	164.35	165.90	0.005101	5.53	2.66	1.73	166.26	57.78	0.82
Orcia_Intermedio	1445		Bridge												
Orcia_Intermedio	1440	Max WS	Tr30_D9h	647.85	160.10	165.09		165.94	0.003553	4.77	2.38	1.84	186.95	57.85	0.70
Orcia_Intermedio	1440	Max WS	Tr30_D12h	644.48	160.10	165.08		165.93	0.003546	4.76	2.38	1.83	186.45	57.84	0.70
Orcia_Intermedio	1440	Max WS	Tr30_D15h	620.46	160.10	165.01		165.82	0.003494	4.67	2.33	1.79	182.85	57.75	0.69
Orcia_Intermedio	1400	Max WS	Tr30_D9h	647.85	160.08	165.08		165.73	0.002756	4.26	1.75	1.49	232.72	66.44	0.62
Orcia_Intermedio	1400	Max WS	Tr30_D12h	644.49	160.08	165.07		165.72	0.002754	4.25	1.75	1.49	231.93	66.43	0.62
Orcia_Intermedio	1400	Max WS	Tr30_D15h	620.46	160.08	164.99		165.62	0.002740	4.19	1.71	1.46	226.34	66.34	0.61
Orcia_Intermedio	1300	Max WS	Tr30_D9h	647.84	159.03	164.58		165.14	0.002659	4.41	1.77	1.93	255.53	69.24	0.61
Orcia_Intermedio	1300	Max WS	Tr30_D12h	644.47	159.03	164.57		165.13	0.002656	4.40	1.76	1.93	254.72	69.23	0.61
Orcia_Intermedio	1300	Max WS	Tr30_D15h	620.46	159.03	164.48		165.03	0.002630	4.33	1.72	1.90	249.05	69.16	0.61
Orcia_Intermedio	1200	Max WS	Tr30_D9h	647.83	158.97	164.02		164.63	0.002436	3.79	1.43	1.32	230.15	70.64	0.57
Orcia_Intermedio	1200	Max WS	Tr30_D12h	644.47	158.97	164.01		164.61	0.002433	3.78	1.43	1.32	229.40	70.62	0.57
Orcia_Intermedio	1200	Max WS	Tr30_D15h	620.46	158.97	163.94		164.52	0.002408	3.72	1.39	1.29	224.07	70.50	0.56
Orcia_Intermedio	1100	Max WS	Tr30_D9h	647.82	158.92	163.40		164.12	0.003343	4.22	1.44	1.47	224.02	84.43	0.66
Orcia_Intermedio	1100	Max WS	Tr30_D12h	644.46	158.92	163.39		164.10	0.003343	4.21	1.43	1.47	223.12	84.38	0.66
Orcia_Intermedio	1100	Max WS	Tr30_D15h	620.45	158.92	163.31		164.01	0.003346	4.16	1.40	1.44	216.71	84.01	0.65
Orcia_Intermedio	1050	Max WS	Tr30_D9h	647.82	158.87	162.97		163.99	0.005370	5.15	2.09	1.83	182.87	65.61	0.83
Orcia_Intermedio	1050	Max WS	Tr30_D12h	644.47	158.87	162.96		163.98	0.005367	5.14	2.09	1.83	182.03	65.57	0.83
Orcia_Intermedio	1050	Max WS	Tr30_D15h	620.45	158.87	162.89		163.88	0.005343	5.07	2.05	1.79	177.41	65.21	0.83
Orcia_Intermedio	1000	Max WS	Tr30_D9h	647.82	158.16	162.45	162.60	163.89	0.008102	6.49	1.74	2.52	163.05	62.86	1.02
Orcia_Intermedio	1000	Max WS	Tr30_D12h	644.47	158.16	162.44	162.58	163.88	0.008099	6.48	1.74	2.52	162.45	62.79	1.02
Orcia_Intermedio	1000	Max WS	Tr30_D15h	620.45	158.16	162.37	162.46	163.78	0.008075	6.39	1.70	2.47	158.18	62.51	1.02
Orcia_Intermedio	1	Max WS	Tr30_D9h	647.82	157.55	161.48	162.17	163.69	0.012720	7.16	2.17	2.26	124.73	64.11	1.24
Orcia_Intermedio	1	Max WS	Tr30_D12h	644.46	157.55	161.47	162.15	163.67	0.012729	7.15	2.16	2.26	124.14	63.99	1.24
Orcia_Intermedio	1	Max WS	Tr30_D15h	620.45	157.55	161.41	162.09	163.58	0.012789	7.07	2.11	2.22	120.00	61.98	1.24

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "CINIGIANO"**

#### **FOSSO TS35134**

MODELLAZIONE PER TR=30 e 200 ANNI

DURATA DI PIOGGIA: 0.5h, 1h e 2h

***Profilo longitudinale***

***Sezioni Trasversali***

***Dati idraulici***

## **ALLEGATI**

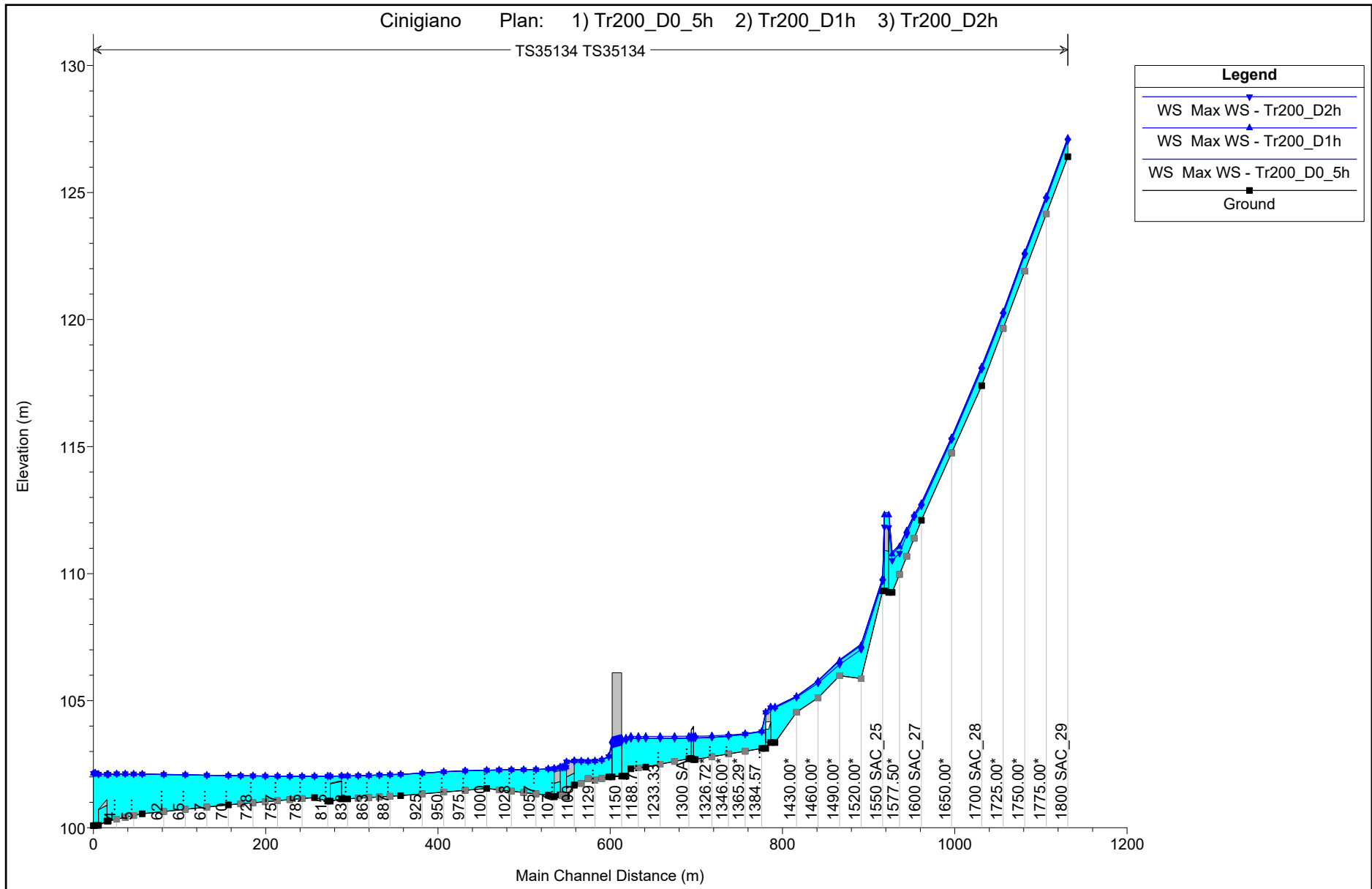
### **MODELLAZIONE HEC-RAS 5.0.7 "CINIGIANO"**

#### **FOSSO TS35134**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    0.5h, 1h e 2h

***Profilo longitudinale***



## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "CINIGIANO"**

**FOSSO TS35134**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    0.5h, 1h e 2h

***Profilo longitudinale***





## **ALLEGATI**

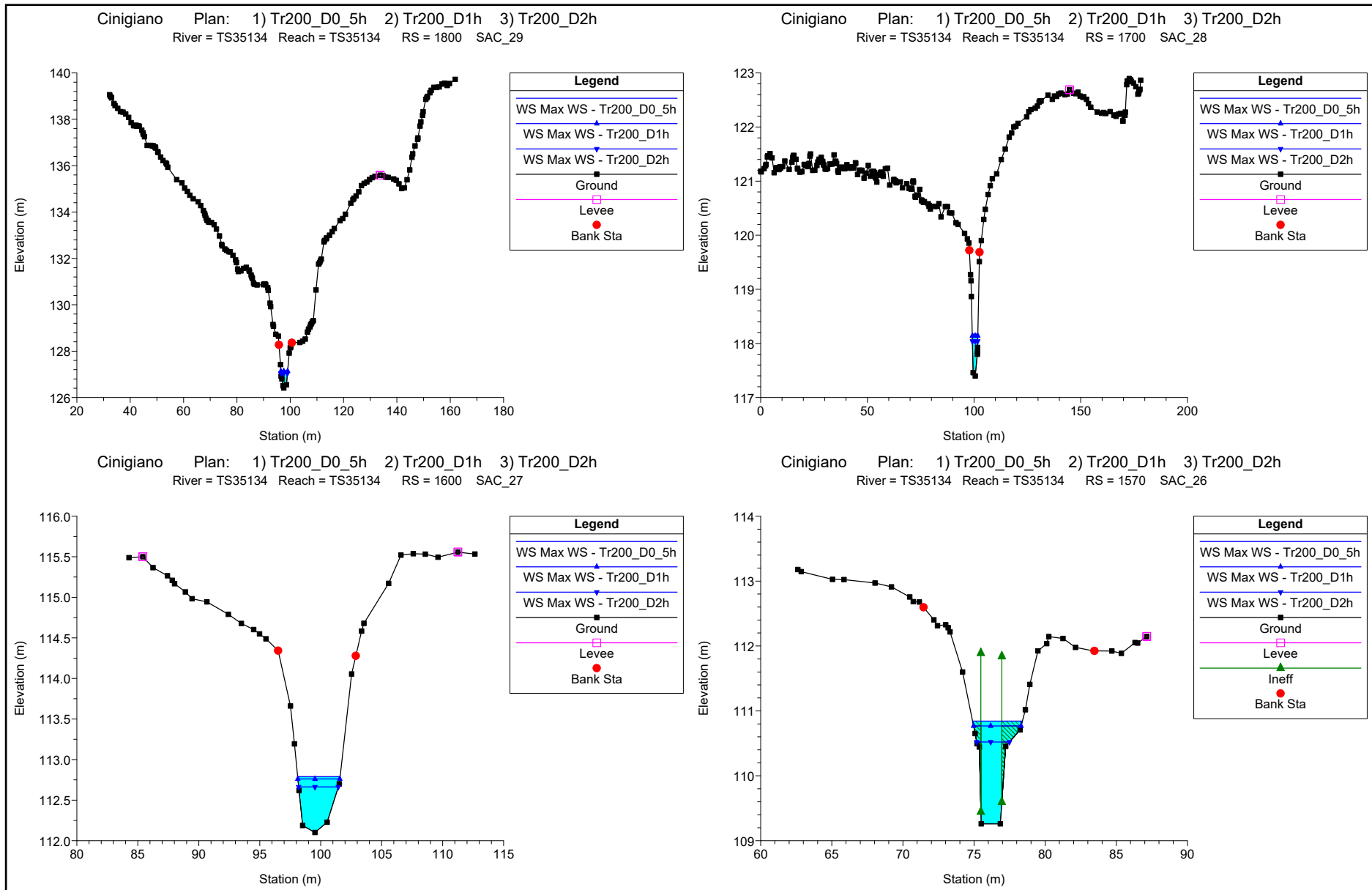
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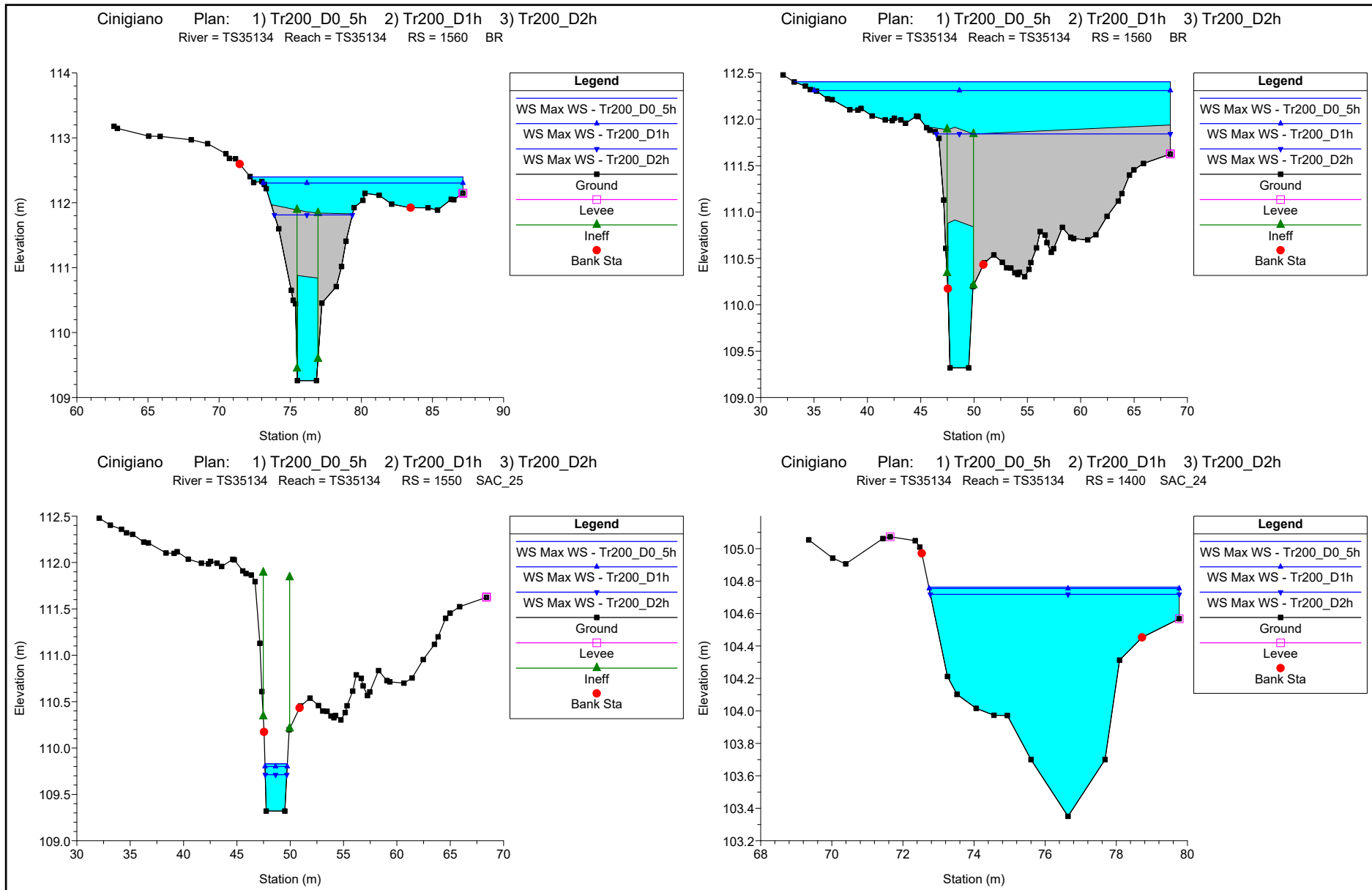
**FOSSO TS35134**

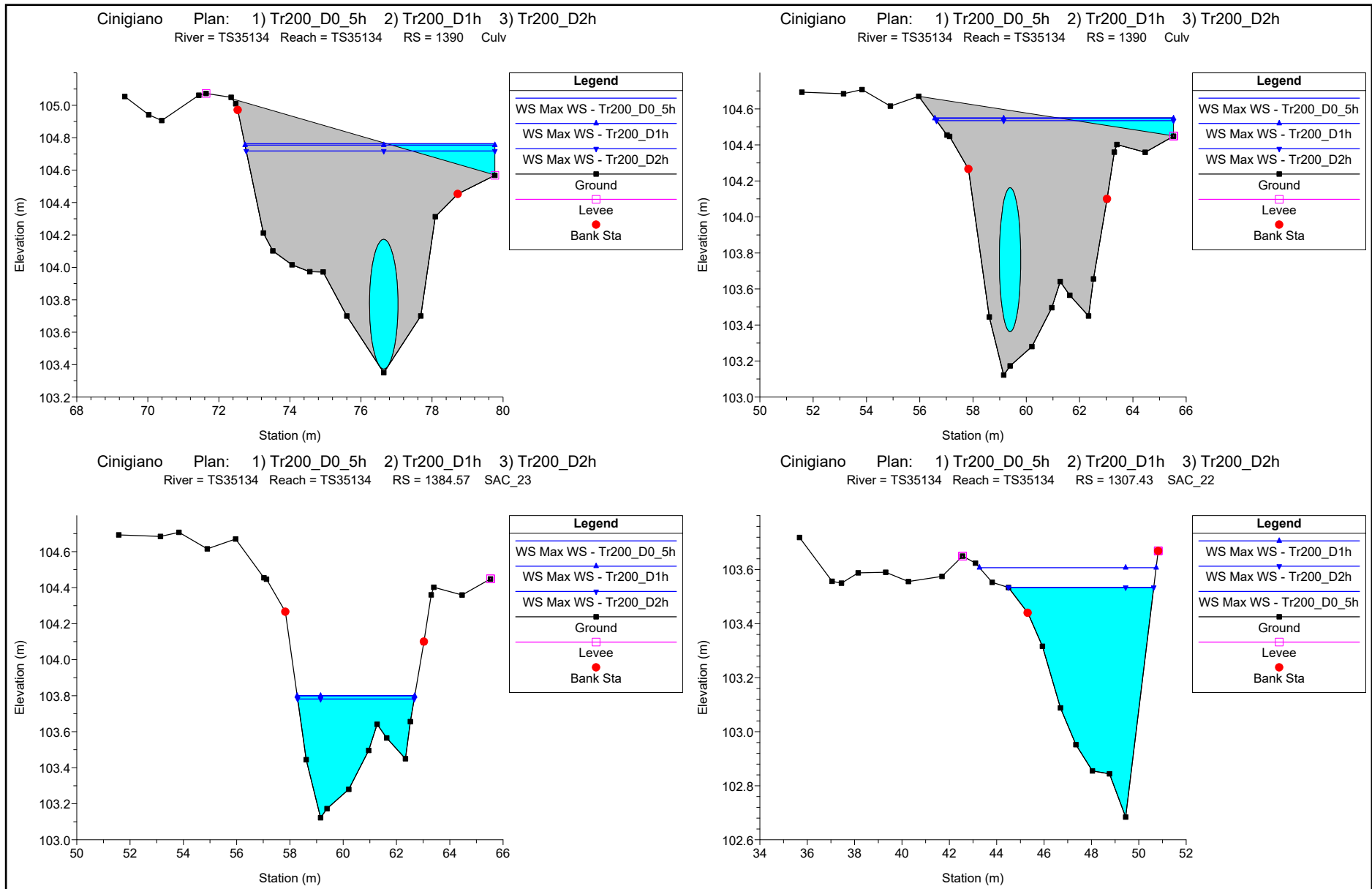
MODELLAZIONE PER      Tr=200 anni

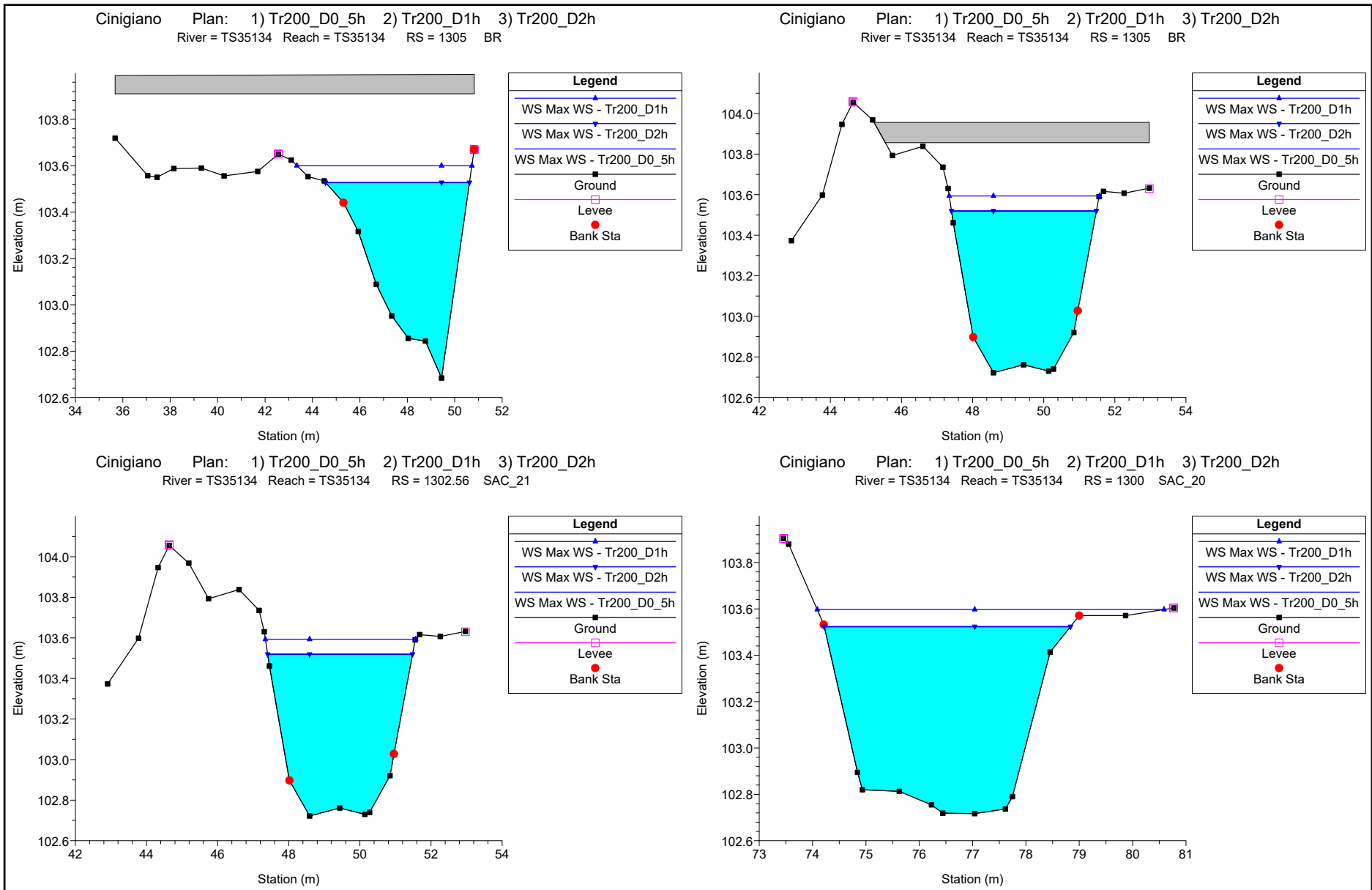
DURATE DI PIOGGIA:    0.5h, 1h e 2h

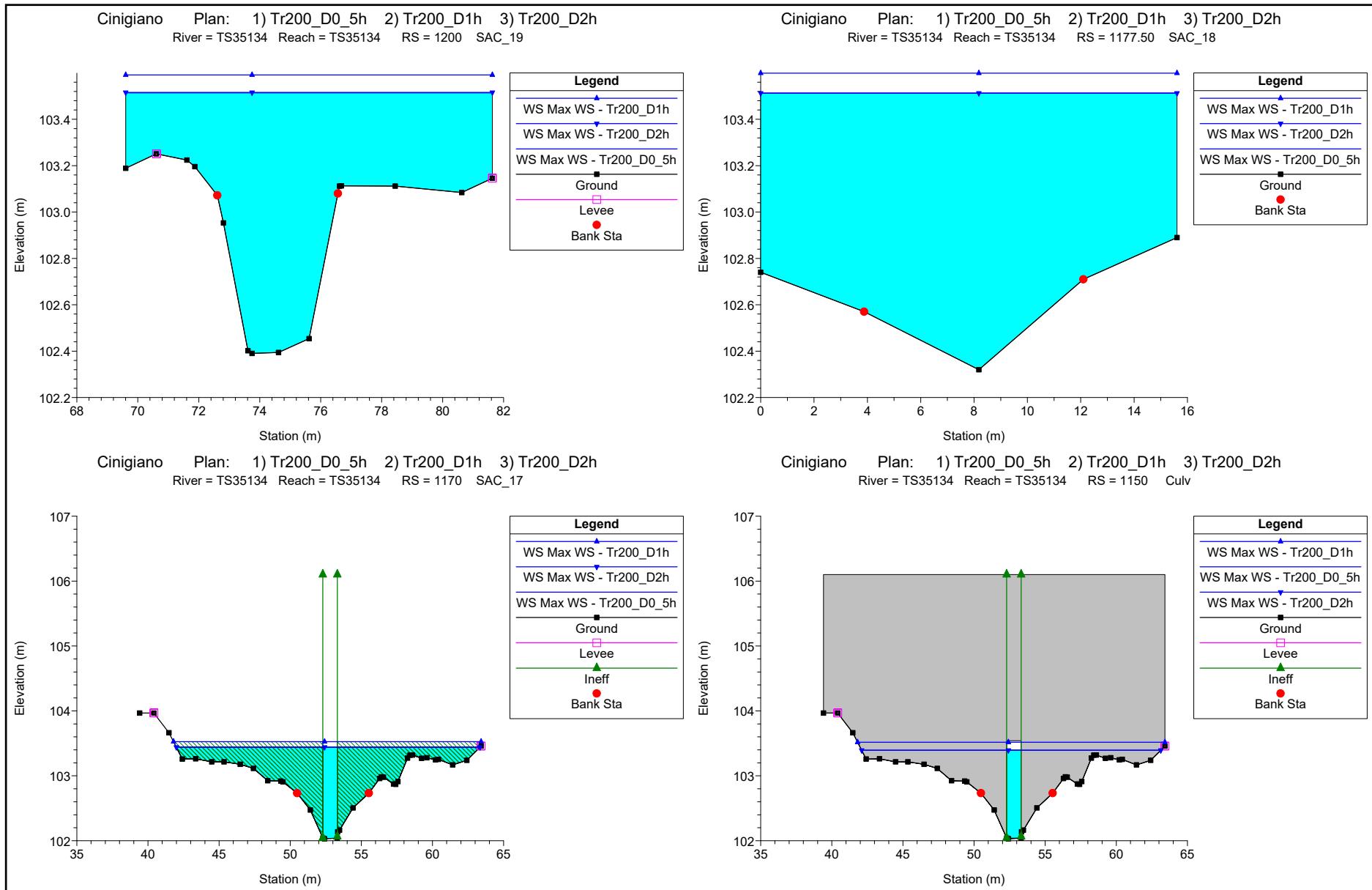
***Sezioni Trasversali (da monte verso valle)***

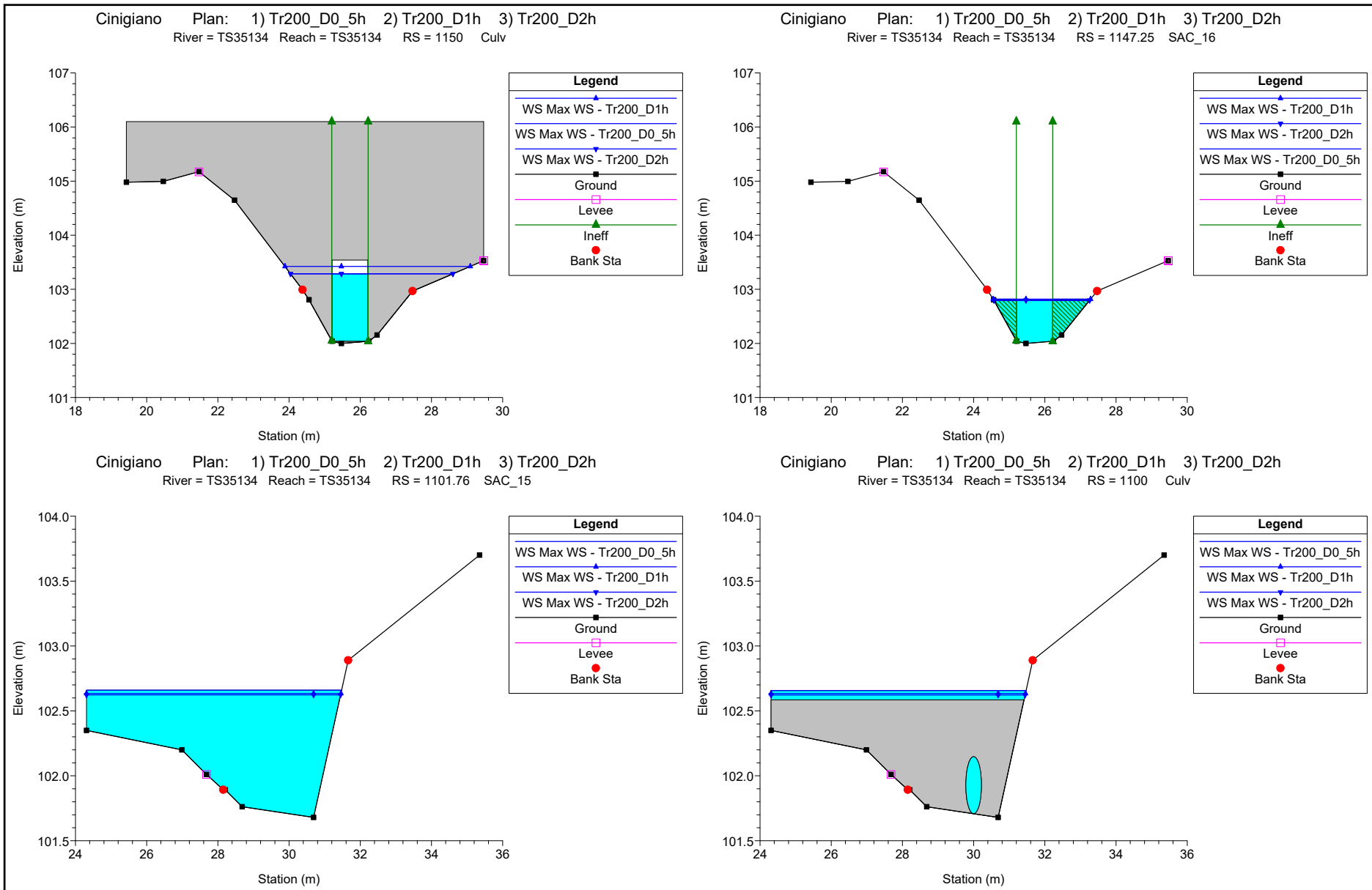


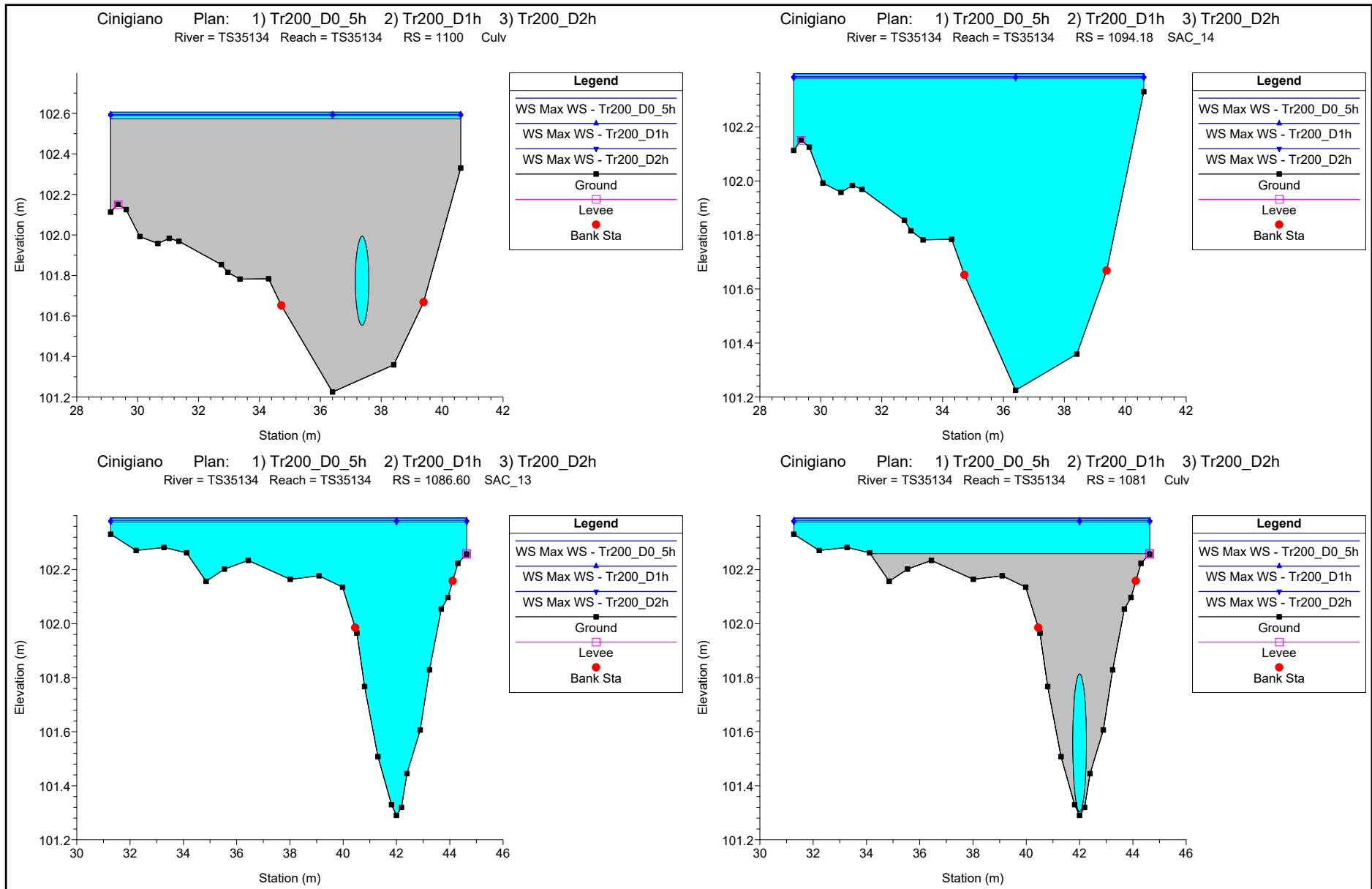




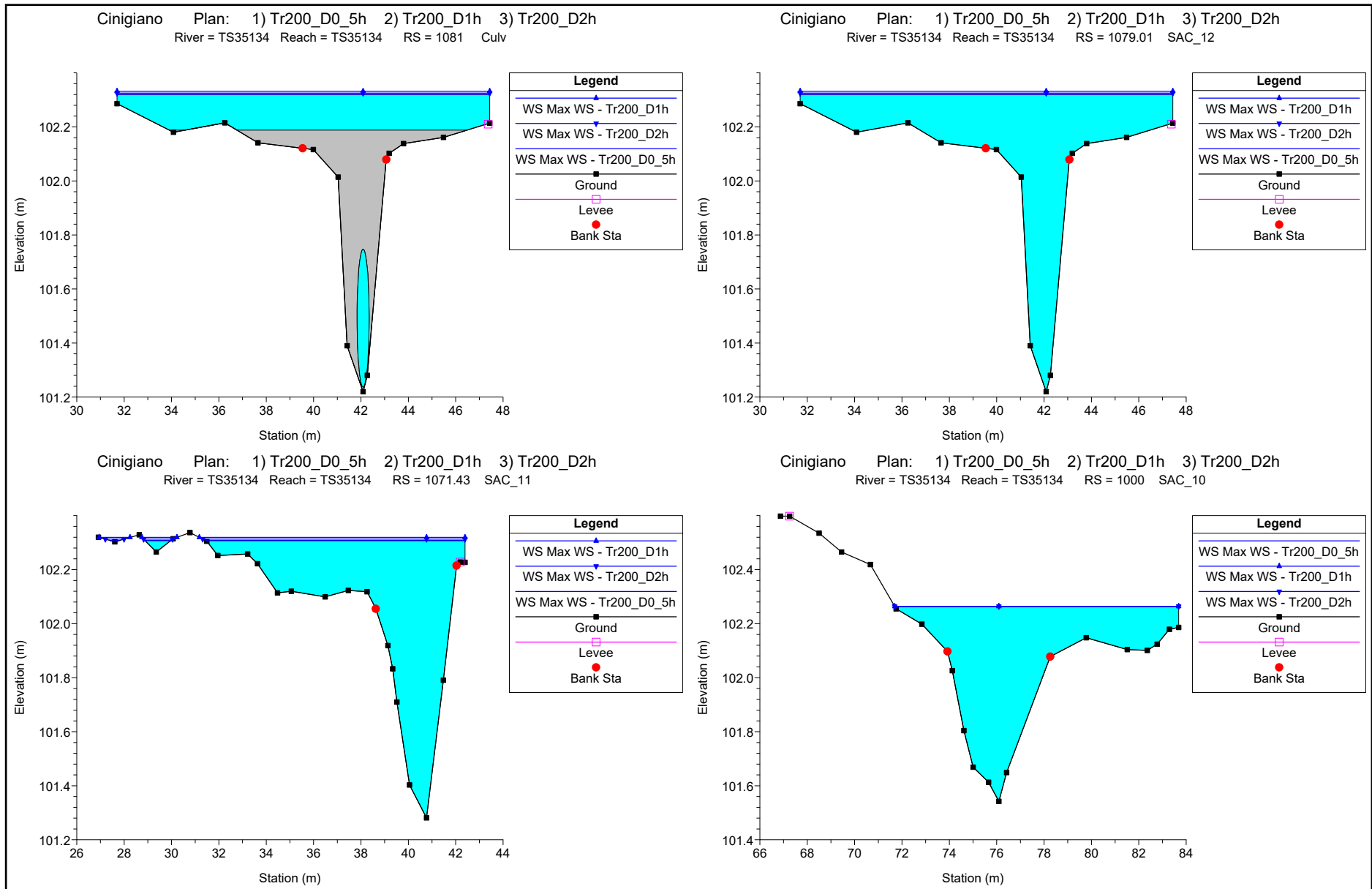


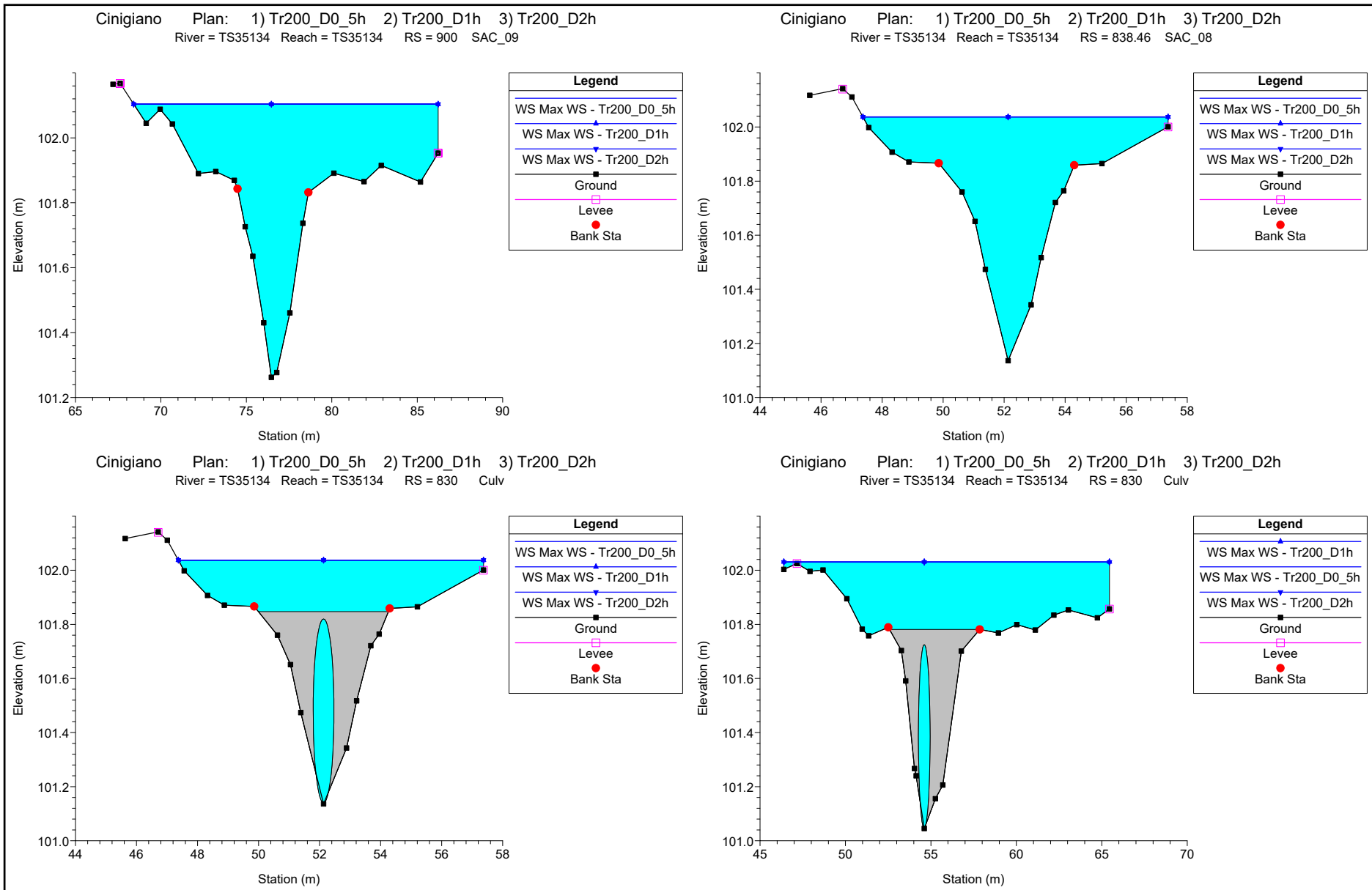


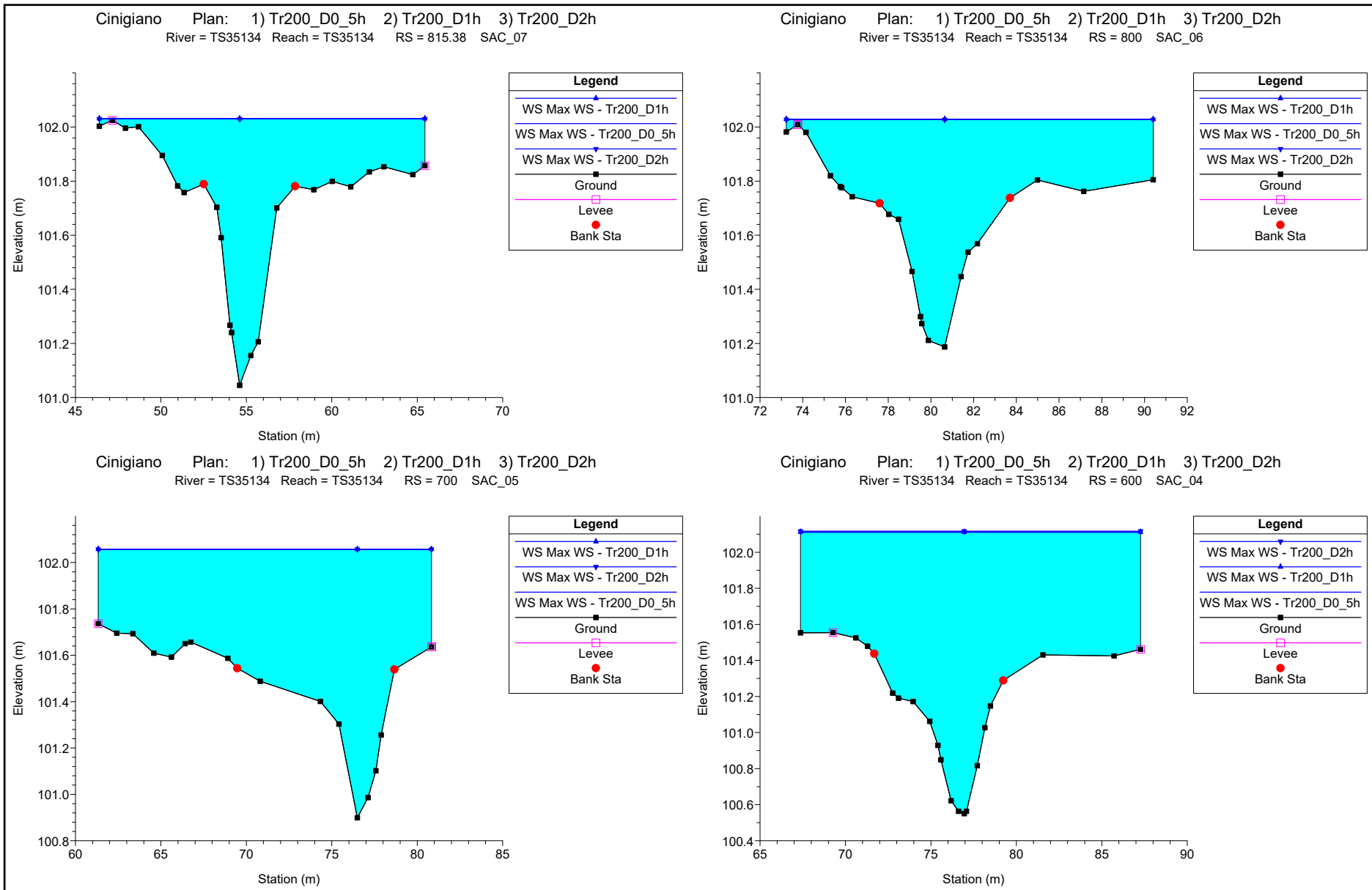


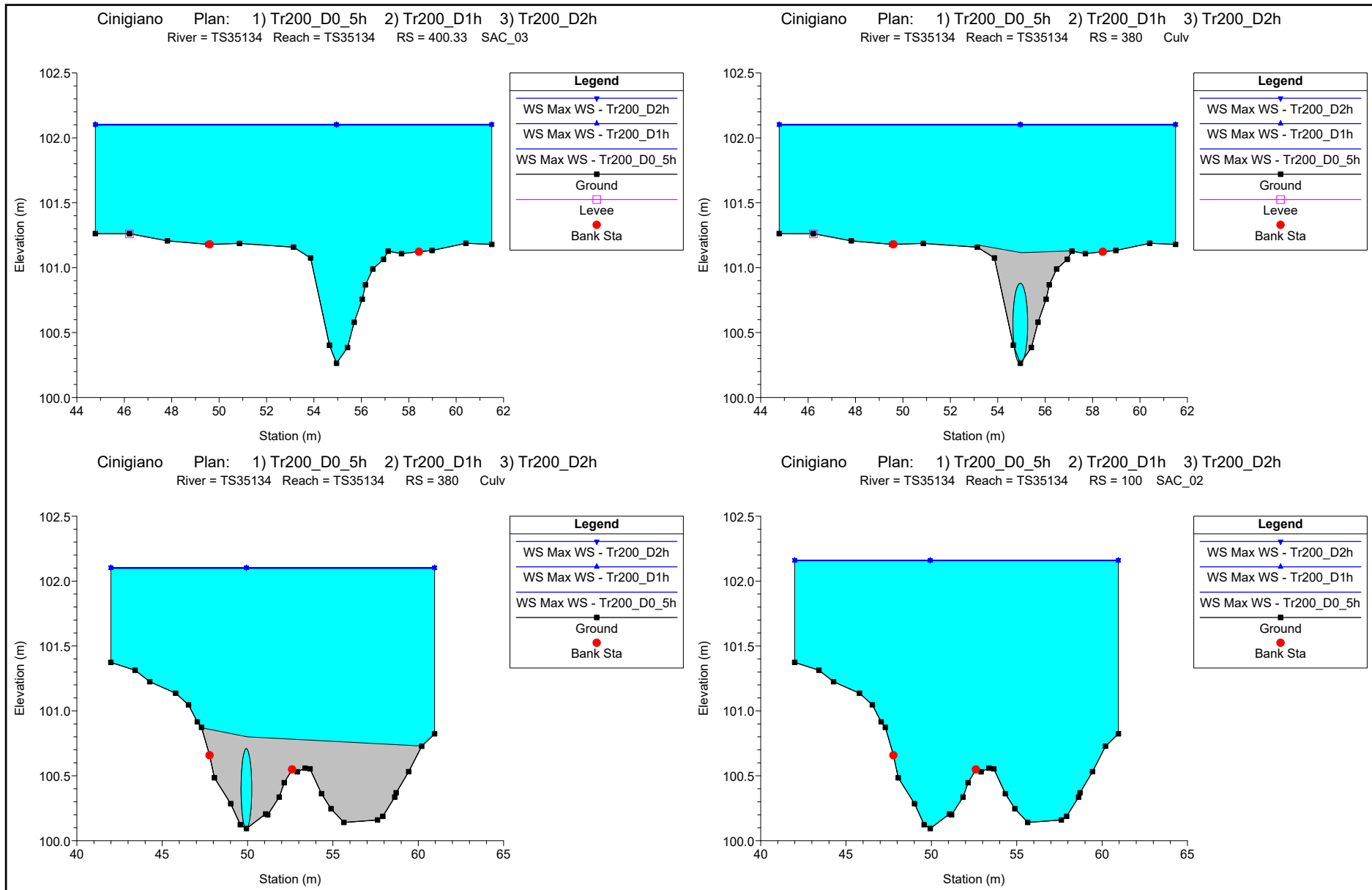




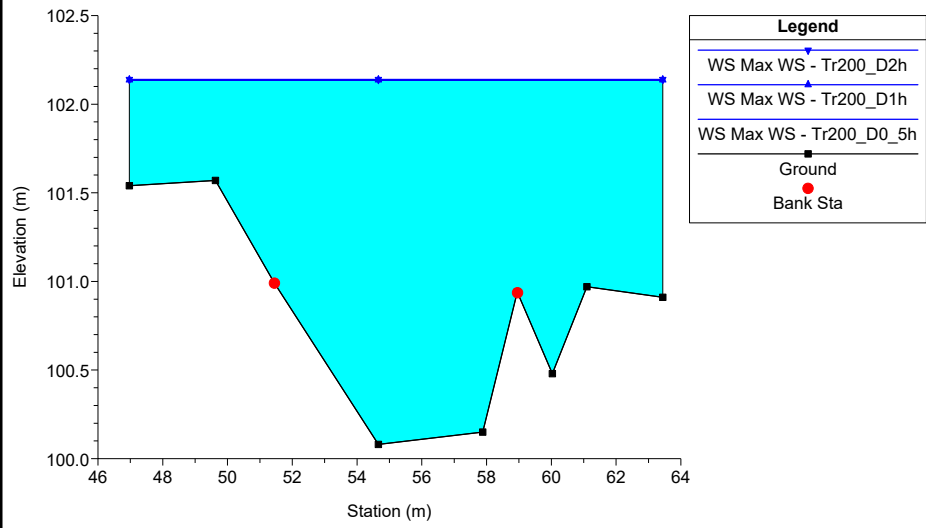








Cinigiano Plan: 1) Tr200\_D0\_5h 2) Tr200\_D1h 3) Tr200\_D2h  
River = TS35134 Reach = TS35134 RS = 1 SAC\_01



## **ALLEGATI**

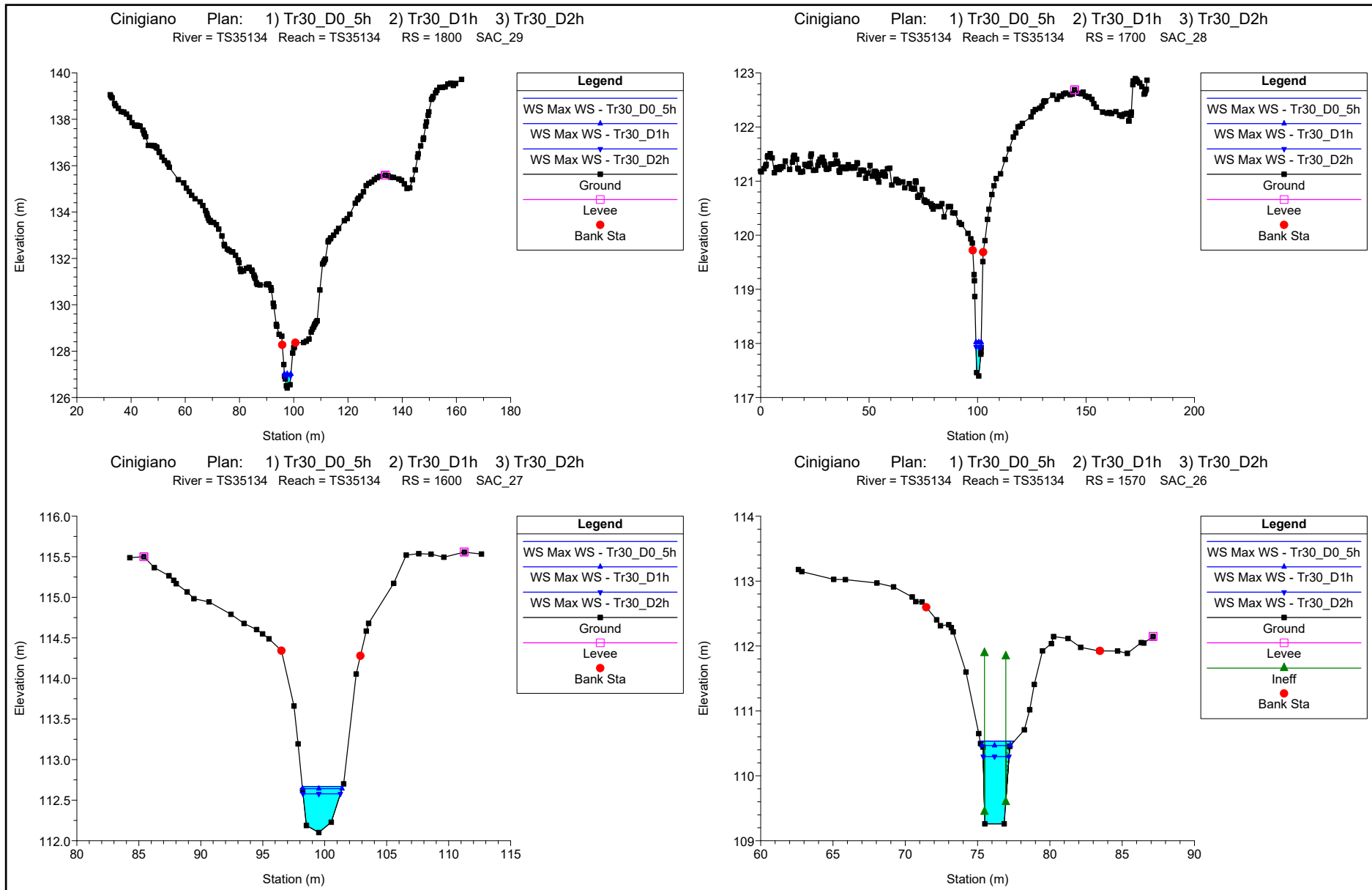
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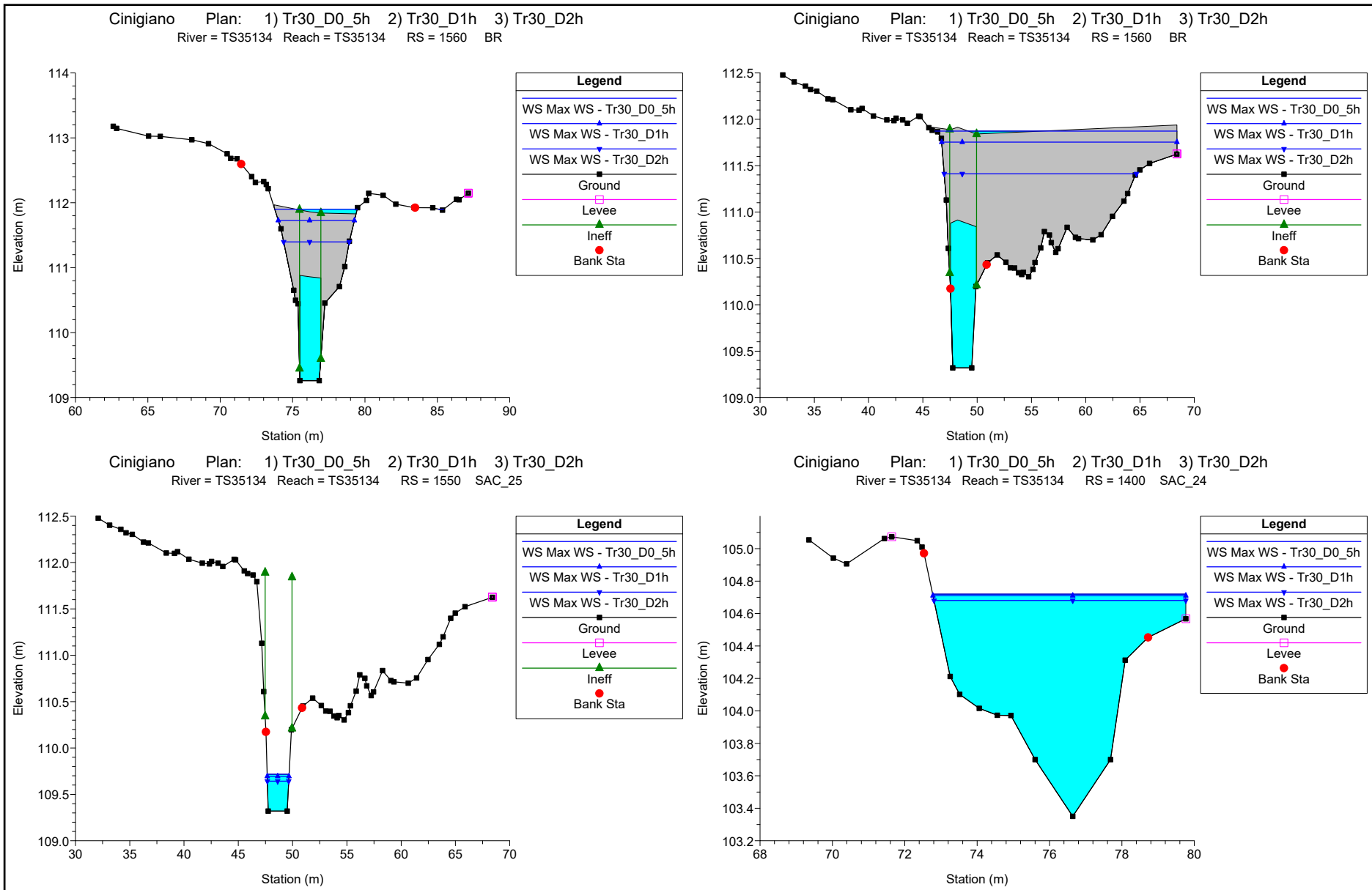
**FOSSO TS35134**

MODELLAZIONE PER      Tr=30 anni

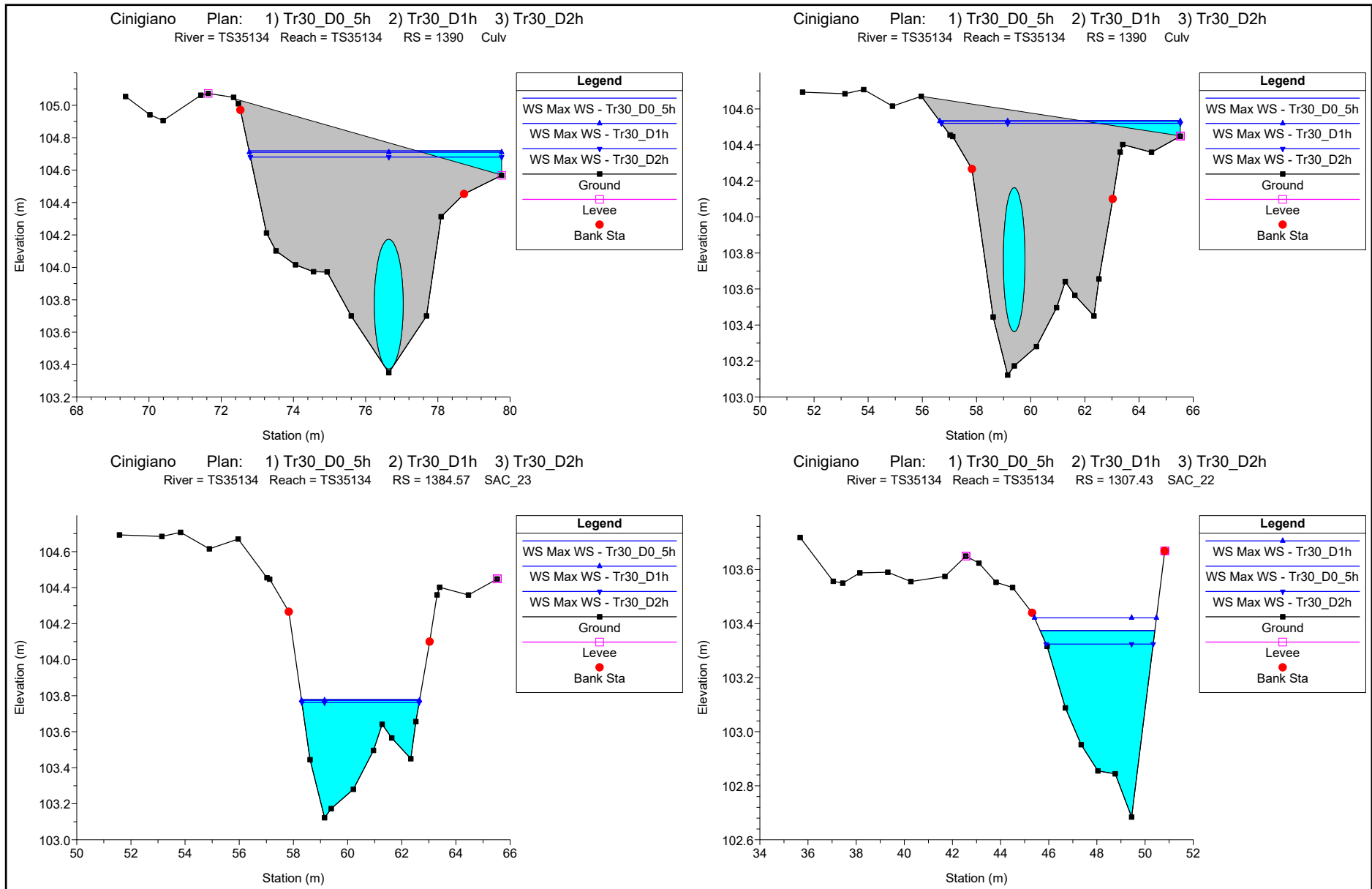
DURATE DI PIOGGIA:    0.5h, 1h e 2h

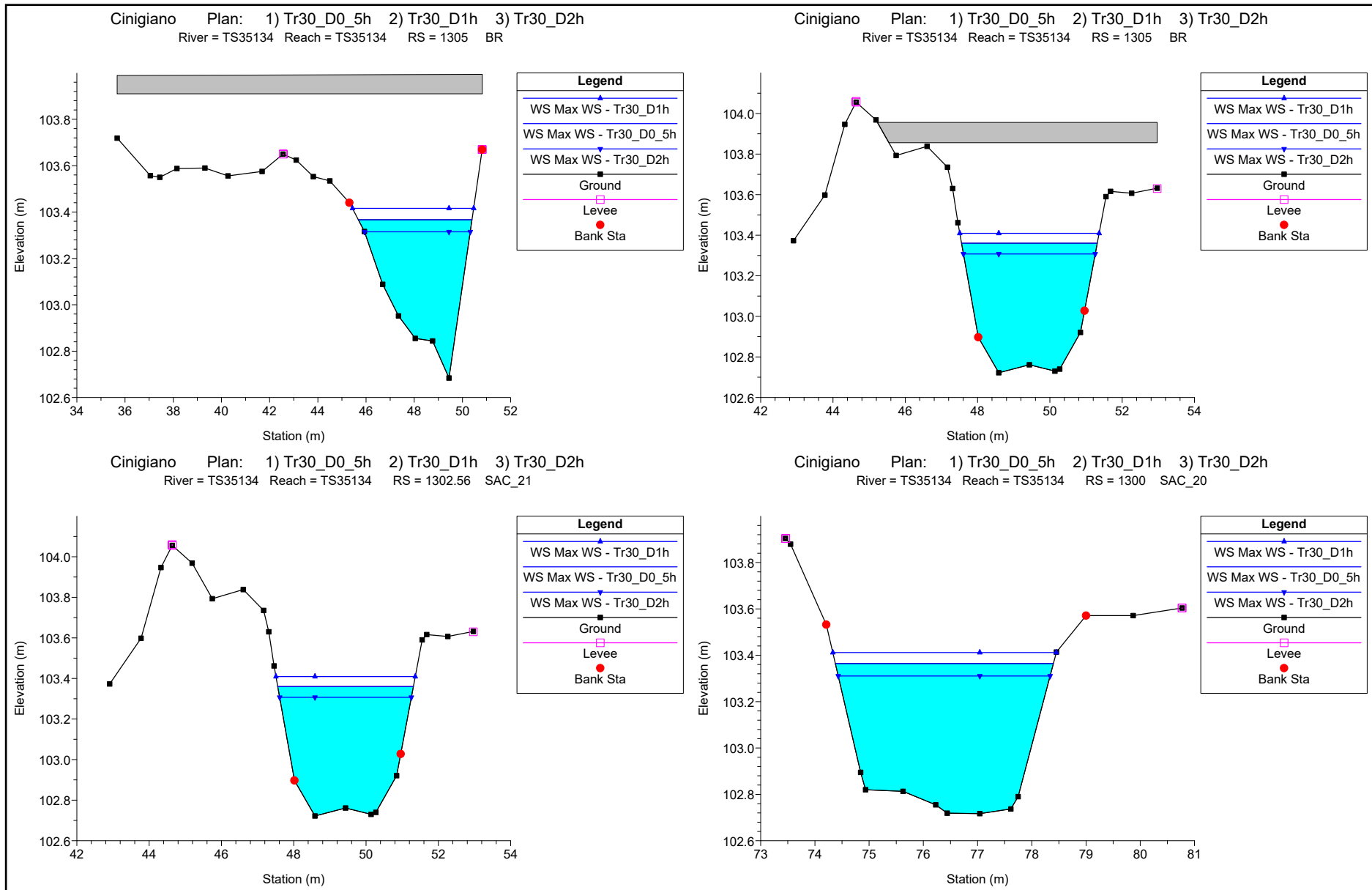
***Sezioni Trasversali (da monte verso valle)***

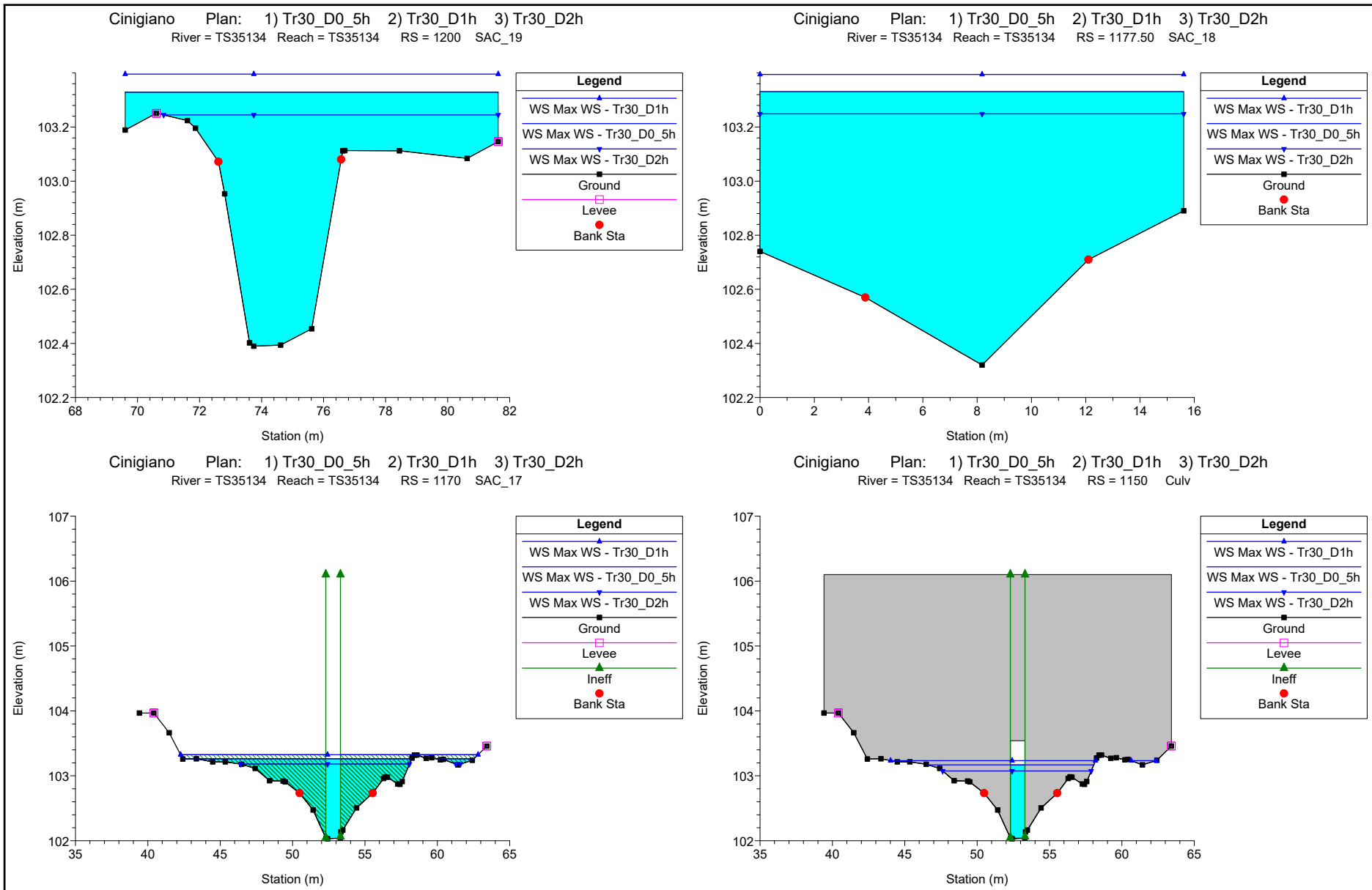


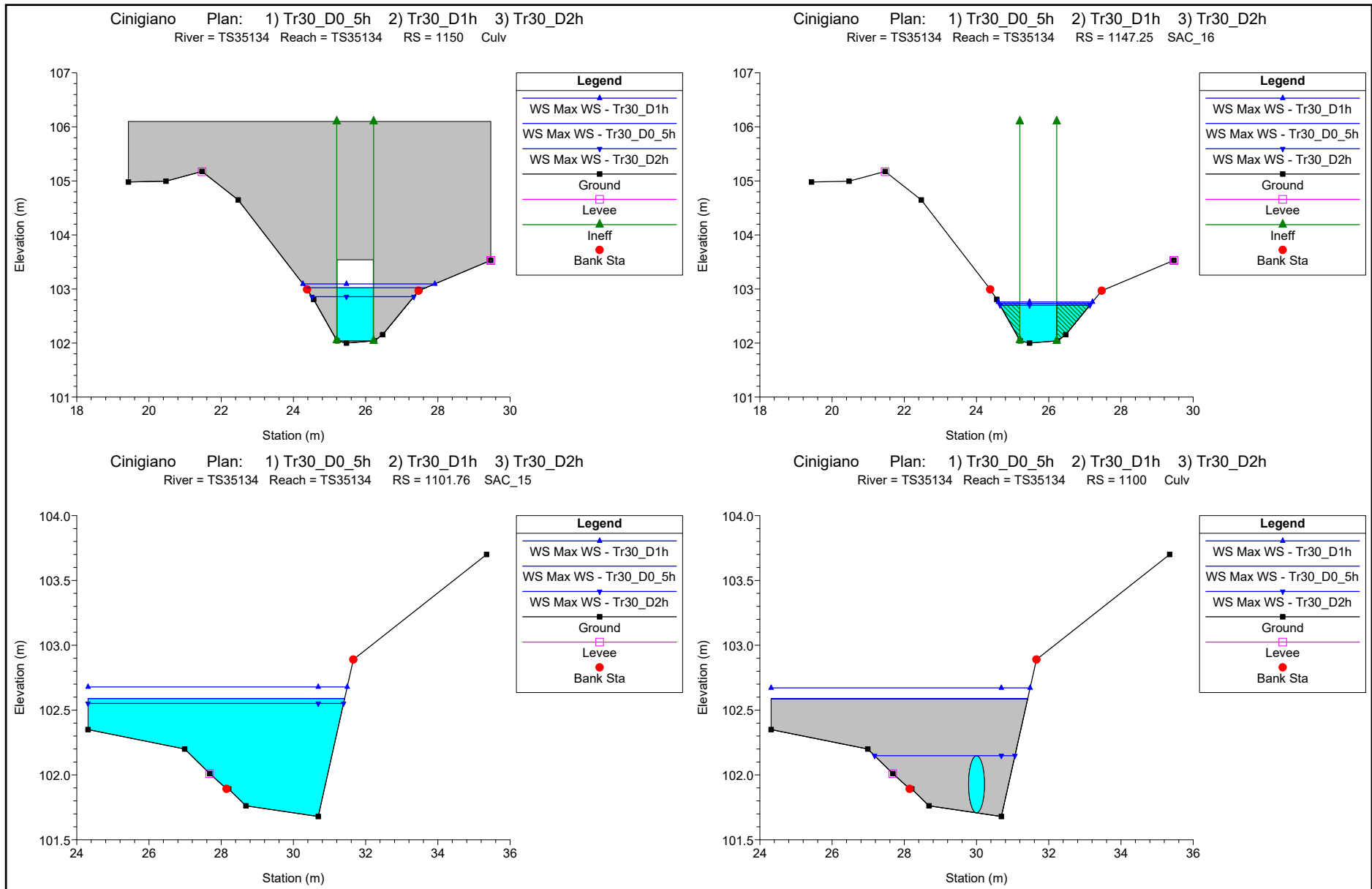


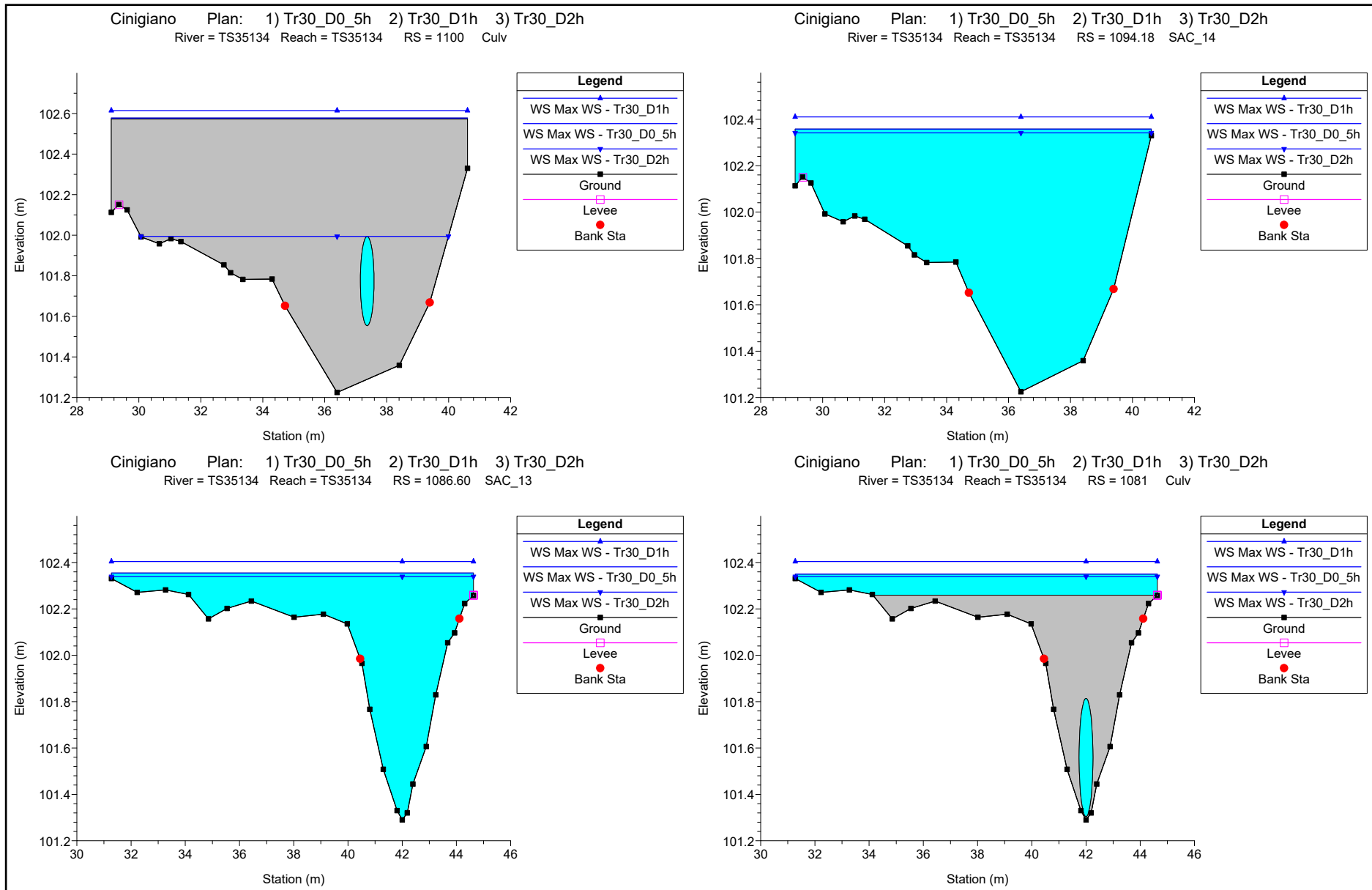


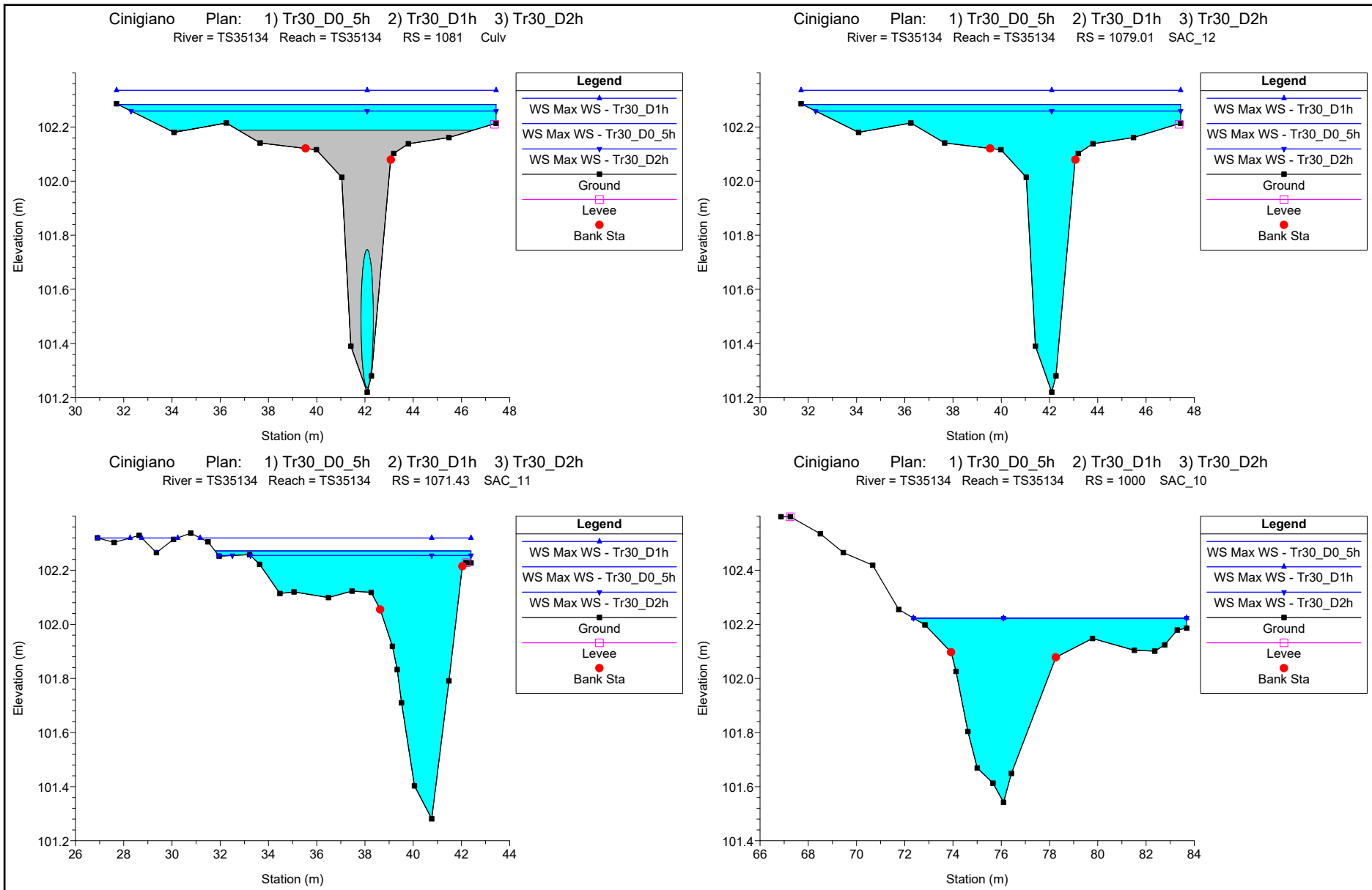


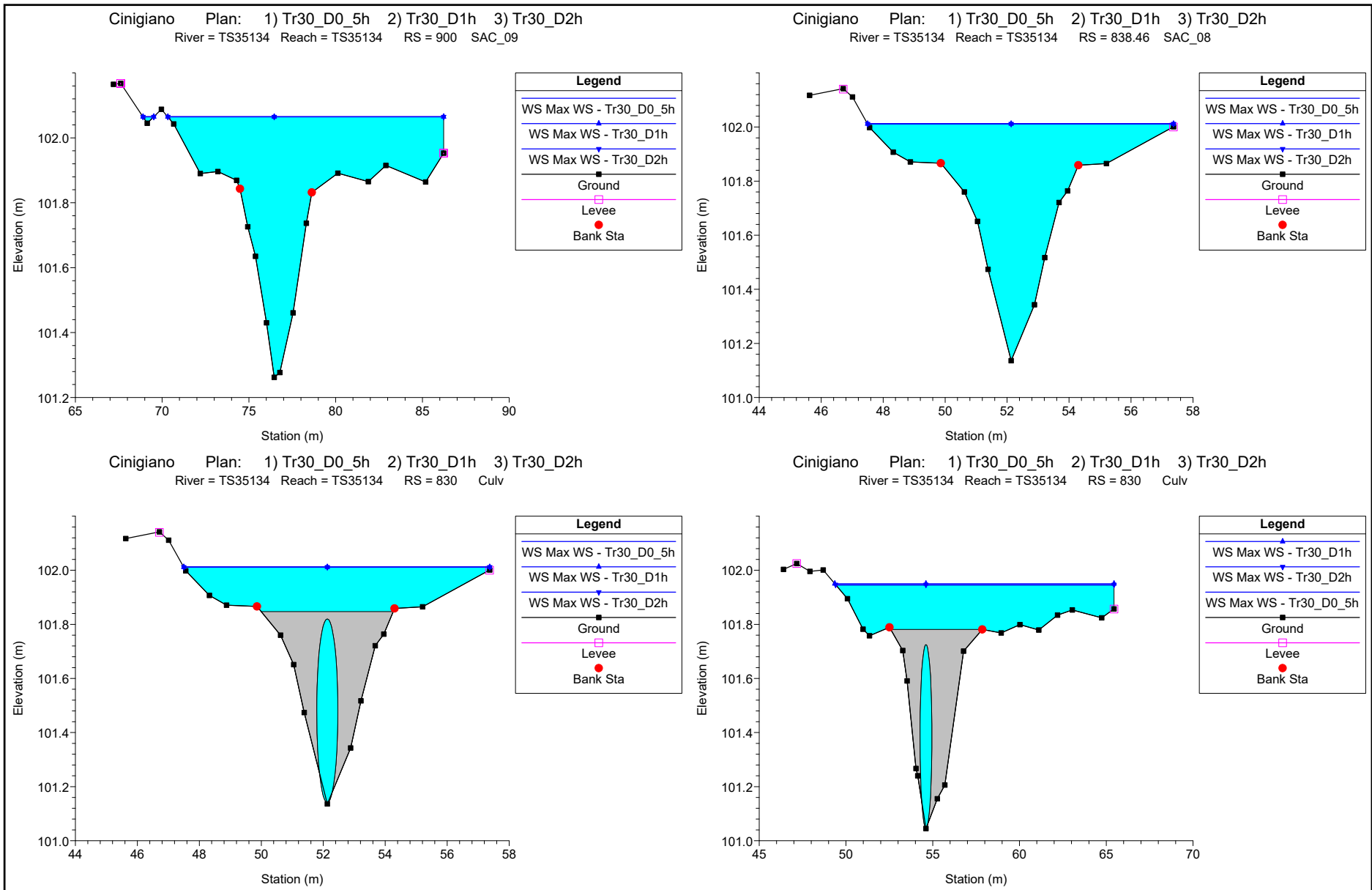


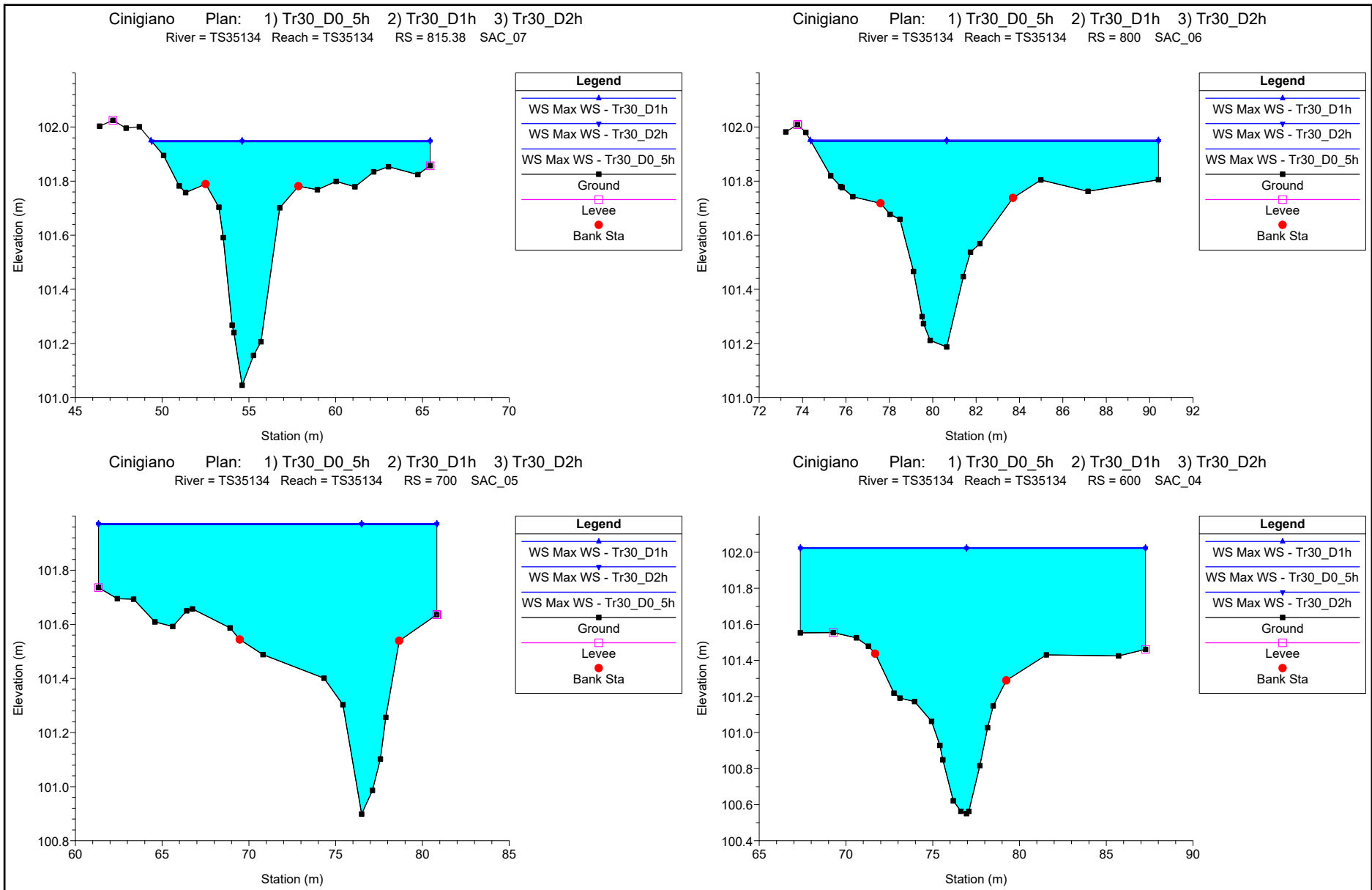




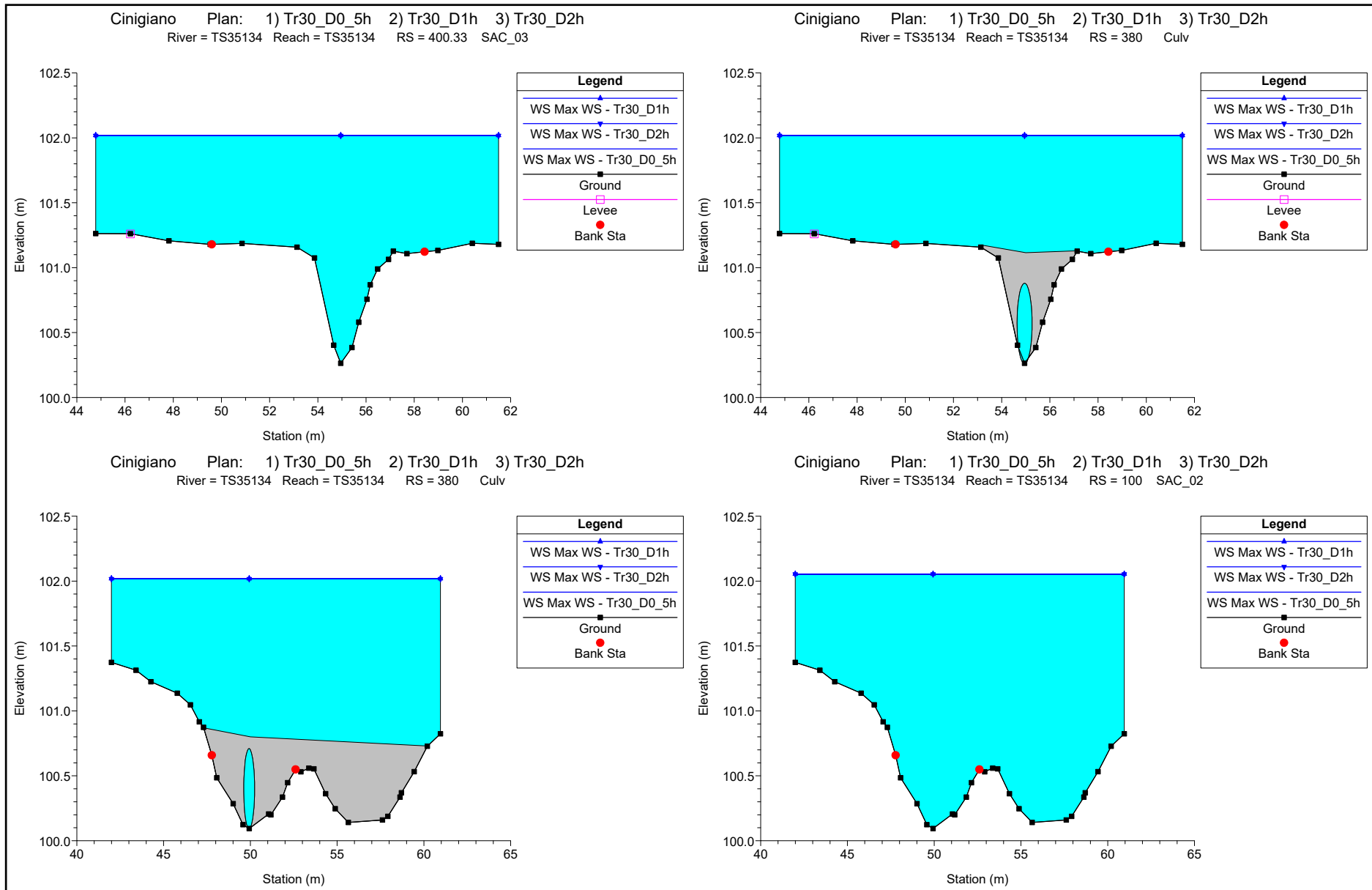






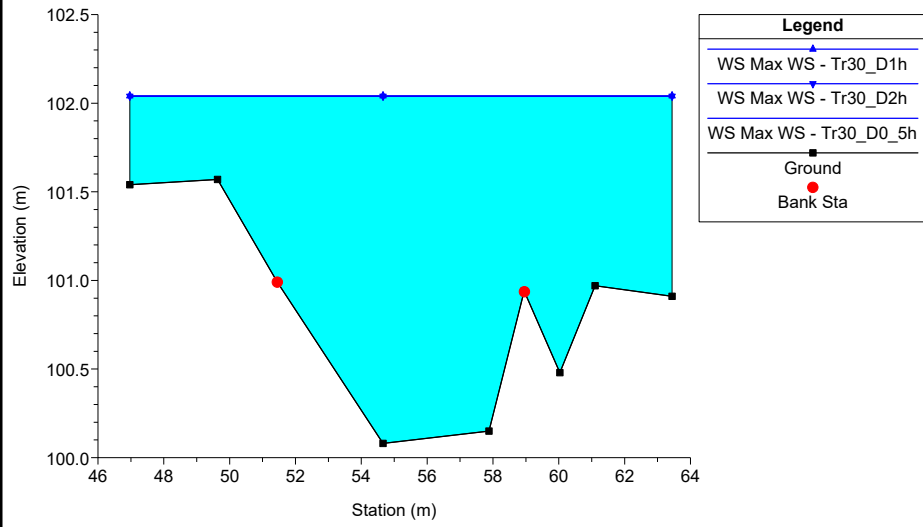






Cinigiano Plan: 1) Tr30\_D0\_5h 2) Tr30\_D1h 3) Tr30\_D2h

River = TS35134 Reach = TS35134 RS = 1 SAC\_01



## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "CINIGIANO"**

#### **FOSSO TS35134**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    0.5h, 1h e 2h

***Dati idraulici***

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
TS35134	1800	Max WS	Tr200_D0_5h	6.40	126.41	127.16	127.51	128.31	0.087351	4.76			1.35	2.57	2.10
TS35134	1800	Max WS	Tr200_D1h	5.90	126.41	127.13	127.46	128.22	0.086051	4.62			1.28	2.54	2.08
TS35134	1800	Max WS	Tr200_D2h	4.40	126.41	127.04	127.32	127.93	0.082272	4.17			1.06	2.43	2.02
TS35134	1700	Max WS	Tr200_D0_5h	6.39	117.40	118.17	118.46	119.11	0.065086	4.28			1.49	2.62	1.81
TS35134	1700	Max WS	Tr200_D1h	5.90	117.40	118.14	118.42	119.03	0.065391	4.19			1.41	2.58	1.81
TS35134	1700	Max WS	Tr200_D2h	4.40	117.40	118.04	118.27	118.77	0.062887	3.79			1.16	2.47	1.77
TS35134	1600	Max WS	Tr200_D0_5h	6.38	112.10	112.79	113.00	113.49	0.050526	3.89			1.73	3.48	1.67
TS35134	1600	Max WS	Tr200_D1h	5.89	112.10	112.76	112.97	113.43	0.050966	3.61			1.63	3.44	1.68
TS35134	1600	Max WS	Tr200_D2h	4.40	112.10	112.66	112.84	113.25	0.054722	3.38			1.30	3.26	1.71
TS35134	1599		Lat Struct												
TS35134	1598		Lat Struct												
TS35134	1570	Max WS	Tr200_D0_5h	6.38	109.26	110.84	110.52	111.23	0.007123	2.76			2.31	3.50	0.70
TS35134	1570	Max WS	Tr200_D1h	5.89	109.26	110.77	110.45	111.13	0.007149	2.68			2.20	3.34	0.70
TS35134	1570	Max WS	Tr200_D2h	4.40	109.26	110.52	110.25	110.81	0.007281	2.40			1.83	2.30	0.69
TS35134	1560		Bridge												
TS35134	1550	Max WS	Tr200_D0_5h	6.38	109.32	109.83	110.35	111.99	0.212771	6.50			0.98	2.10	3.04
TS35134	1550	Max WS	Tr200_D1h	5.89	109.32	109.80	110.30	111.89	0.218523	6.41			0.92	2.08	3.08
TS35134	1550	Max WS	Tr200_D2h	4.40	109.32	109.71	110.14	111.52	0.230105	5.95			0.74	2.02	3.14
TS35134	1400	Max WS	Tr200_D0_5h	1.44	103.35	104.76		104.77	0.000138	0.28		0.07	5.38	7.04	0.10
TS35134	1400	Max WS	Tr200_D1h	1.43	103.35	104.75		104.76	0.000140	0.28		0.07	5.31	7.03	0.10
TS35134	1400	Max WS	Tr200_D2h	1.37	103.35	104.72		104.72	0.000148	0.28		0.06	5.06	7.00	0.10
TS35134	1390		Culvert												
TS35134	1384.57	Max WS	Tr200_D0_5h	1.44	103.12	103.80		103.84	0.003730	0.86			1.68	4.41	0.44
TS35134	1384.57	Max WS	Tr200_D1h	1.42	103.12	103.80		103.84	0.003645	0.85			1.68	4.41	0.44
TS35134	1384.57	Max WS	Tr200_D2h	1.37	103.12	103.78		103.82	0.003918	0.86			1.60	4.37	0.45
TS35134	1307.43	Max WS	Tr200_D0_5h	1.42	102.68	103.53	103.15	103.55	0.000977	0.54	0.07		2.68	6.13	0.24
TS35134	1307.43	Max WS	Tr200_D1h	1.39	102.68	103.61	103.15	103.62	0.000597	0.45	0.07		3.20	7.46	0.19
TS35134	1307.43	Max WS	Tr200_D2h	1.44	102.68	103.53	103.16	103.55	0.000996	0.54	0.07		2.69	6.15	0.25
TS35134	1305		Bridge												
TS35134	1302.56	Max WS	Tr200_D0_5h	1.42	102.72	103.52		103.54	0.000768	0.63	0.17	0.15	2.49	4.07	0.24
TS35134	1302.56	Max WS	Tr200_D1h	1.39	102.72	103.59		103.61	0.000523	0.56	0.15	0.13	2.80	4.23	0.20
TS35134	1302.56	Max WS	Tr200_D2h	1.44	102.72	103.52		103.54	0.000782	0.64	0.17	0.15	2.49	4.07	0.24
TS35134	1300	Max WS	Tr200_D0_5h	1.41	102.72	103.52		103.54	0.000781	0.52			2.72	4.61	0.22
TS35134	1300	Max WS	Tr200_D1h	1.37	102.72	103.60		103.61	0.000512	0.45	0.04	0.03	3.10	6.50	0.18
TS35134	1300	Max WS	Tr200_D2h	1.43	102.72	103.52		103.54	0.000794	0.52			2.72	4.62	0.22
TS35134	1200	Max WS	Tr200_D0_5h	1.25	102.39	103.51		103.52	0.000109	0.27	0.07	0.09	6.70	12.03	0.09
TS35134	1200	Max WS	Tr200_D1h	1.36	102.39	103.59		103.59	0.000092	0.26	0.08	0.09	7.62	12.03	0.08
TS35134	1200	Max WS	Tr200_D2h	1.23	102.39	103.52		103.52	0.000106	0.26	0.07	0.09	6.72	12.03	0.09
TS35134	1177.50	Max WS	Tr200_D0_5h	1.69	102.32	103.51		103.51	0.000028	0.15	0.07	0.06	14.33	15.61	0.05
TS35134	1177.50	Max WS	Tr200_D1h	1.53	102.32	103.60		103.60	0.000017	0.13	0.06	0.05	15.67	15.61	0.04
TS35134	1177.50	Max WS	Tr200_D2h	1.79	102.32	103.51		103.51	0.000031	0.16	0.07	0.07	14.34	15.61	0.05
TS35134	1170	Max WS	Tr200_D0_5h	3.18	102.03	103.44		103.69	0.003925	2.22			1.43	21.34	0.60
TS35134	1170	Max WS	Tr200_D1h	3.47	102.03	103.53		103.79	0.003840	2.28			1.52	21.62	0.60
TS35134	1170	Max WS	Tr200_D2h	3.18	102.03	103.44		103.69	0.003924	2.22			1.43	21.35	0.60
TS35134	1150		Culvert												
TS35134	1147.25	Max WS	Tr200_D0_5h	3.18	102.00	102.79	103.02	103.62	0.028133	4.02			0.79	2.68	1.46
TS35134	1147.25	Max WS	Tr200_D1h	3.47	102.00	102.82	103.08	103.74	0.030339	4.26			0.82	2.74	1.52
TS35134	1147.25	Max WS	Tr200_D2h	3.18	102.00	102.80	103.02	103.62	0.028021	4.02			0.79	2.69	1.45
TS35134	1101.76	Max WS	Tr200_D0_5h	0.44	101.68	102.66		102.66	0.000032	0.13	0.05		4.46	7.16	0.05
TS35134	1101.76	Max WS	Tr200_D1h	0.36	101.68	102.63		102.64	0.000023	0.11	0.04		4.27	7.14	0.04
TS35134	1101.76	Max WS	Tr200_D2h	0.31	101.68	102.62		102.62	0.000019	0.10	0.04		4.20	7.14	0.03
TS35134	1100		Culvert												
TS35134	1094.18	Max WS	Tr200_D0_5h	0.44	101.23	102.40		102.40	0.000007	0.08	0.03	0.02	7.91	11.50	0.02
TS35134	1094.18	Max WS	Tr200_D1h	0.35	101.23	102.39		102.39	0.000005	0.06	0.02	0.02	7.79	11.50	0.02
TS35134	1094.18	Max WS	Tr200_D2h	0.31	101.23	102.38		102.38	0.000004	0.05	0.02	0.02	7.72	11.50	0.02
TS35134	1086.60	Max WS	Tr200_D0_5h	1.04	101.29	102.39		102.40	0.000245	0.34	0.08	0.07	4.39	13.36	0.13
TS35134	1086.60	Max WS	Tr200_D1h	0.92	101.29	102.38		102.39	0.000205	0.31	0.07	0.06	4.27	13.36	0.12
TS35134	1086.60	Max WS	Tr200_D2h	0.87	101.29	102.38		102.38	0.000188	0.29	0.07	0.06	4.19	13.36	0.11
TS35134	1081		Culvert												
TS35134	1079.01	Max WS	Tr200_D0_5h	0.82	101.22	102.32		102.32	0.000391	0.34	0.08	0.10	3.70	15.73	0.14
TS35134	1079.01	Max WS	Tr200_D1h	0.89	101.22	102.33		102.34	0.000407	0.35	0.09	0.10	3.89	15.73	0.15
TS35134	1079.01	Max WS	Tr200_D2h	0.86	101.22	102.33		102.33	0.000403	0.35	0.09	0.10	3.78	15.73	0.15
TS35134	1071.43	Max WS	Tr200_D0_5h	1.21	101.28	102.31		102.32	0.000675	0.50	0.12	0.07	3.25	12.43	0.20
TS35134	1071.43	Max WS	Tr200_D1h	1.28	101.28	102.32		102.33	0.000699	0.52	0.12	0.08	3.41	14.00	0.21
TS35134	1071.43	Max WS	Tr200_D2h	1.25	101.28	102.31		102.32	0.000692	0.51	0.12	0.07	3.32	13.09	0.20
TS35134	1070.5		Lat Struct												
TS35134	1070		Lat Struct												
TS35134	1000	Max WS	Tr200_D0_5h	1.05	101.54	102.26		102.27	0.000707	0.45	0.08	0.12	3.00	11.99	0.21
TS35134	1000	Max WS	Tr200_D1h	1.05	101.54	102.26		102.27	0.000707	0.45	0.08	0.12	3.00	11.99	0.21
TS35134	1000	Max WS	Tr200_D2h	1.05	101.54	102.26		102.27	0.000707	0.45	0.08	0.12	3.00	11.99	0.21
TS35134	900	Max WS	Tr200_D0_5h	2.49	101.26	102.10		102.13	0.001830	0.82	0.18	0.26	4.81	17.81	0.35
TS35134	900	Max WS	Tr200_D1h	2.49	101.26	102.10		102.13	0.001830	0.82	0.18	0.26	4.81	17.81	0.35
TS35134	900	Max WS	Tr200_D2h	2.49	101.26	102.10		102.13	0.001830	0.82	0.18	0.26	4.81	17.81	0.35
TS35134	838.46	Max WS	Tr200_D0_5h	1.53	101.14	102.04		102.06	0.001458	0.65	0.16	0.16	2.88	10.00	0.30

HEC-RAS River: TS35134 Reach: TS35134 Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m <sup>3</sup> /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m <sup>2</sup> )	Top Width (m)	Froude # Chl
TS35134	838.46	Max WS	Tr200_D1h	1.53	101.14	102.04		102.06	0.001458	0.65	0.16	0.16	2.88	10.00	0.30
TS35134	838.46	Max WS	Tr200_D2h	1.53	101.14	102.04		102.06	0.001458	0.65	0.16	0.16	2.88	10.00	0.30
TS35134	830														
TS35134	815.38	Max WS	Tr200_D0_5h	0.08	101.04	102.03		102.03	0.000001	0.02	0.00	0.01	5.42	19.05	0.01
TS35134	815.38	Max WS	Tr200_D1h	0.11	101.04	102.03		102.03	0.000002	0.03	0.01	0.01	5.45	19.05	0.01
TS35134	815.38	Max WS	Tr200_D2h	0.09	101.04	102.03		102.03	0.000001	0.02	0.00	0.01	5.42	19.05	0.01
TS35134	800	Max WS	Tr200_D0_5h	-0.95	101.19	102.03		102.03	0.000156	-0.23	-0.07	-0.08	5.74	17.18	0.10
TS35134	800	Max WS	Tr200_D1h	-0.96	101.19	102.03		102.03	0.000159	-0.23	-0.07	-0.08	5.76	17.18	0.10
TS35134	800	Max WS	Tr200_D2h	-0.98	101.19	102.03		102.03	0.000167	-0.24	-0.07	-0.08	5.74	17.18	0.10
TS35134	700	Max WS	Tr200_D0_5h	-5.57	100.90	102.06		102.07	0.000868	-0.67	-0.27	-0.26	11.00	19.50	0.25
TS35134	700	Max WS	Tr200_D1h	-5.59	100.90	102.06		102.08	0.000864	-0.67	-0.27	-0.26	11.04	19.50	0.25
TS35134	700	Max WS	Tr200_D2h	-5.61	100.90	102.06		102.08	0.000874	-0.67	-0.27	-0.26	11.02	19.50	0.25
TS35134	600	Max WS	Tr200_D0_5h	-12.26	100.55	102.11		102.15	0.001272	-1.06	-0.38	-0.44	16.41	19.90	0.32
TS35134	600	Max WS	Tr200_D1h	-12.23	100.55	102.11		102.16	0.001257	-1.06	-0.38	-0.44	16.45	19.90	0.32
TS35134	600	Max WS	Tr200_D2h	-12.24	100.55	102.12		102.16	0.001241	-1.05	-0.38	-0.44	16.53	19.90	0.32
TS35134	400.33	Max WS	Tr200_D0_5h	-19.62	100.26	102.10		102.19	0.002561	-1.50	-0.69	-0.68	16.92	16.72	0.45
TS35134	400.33	Max WS	Tr200_D1h	-19.56	100.26	102.10		102.19	0.002532	-1.49	-0.69	-0.67	16.95	16.72	0.45
TS35134	400.33	Max WS	Tr200_D2h	-19.62	100.26	102.10		102.20	0.002521	-1.49	-0.69	-0.67	17.00	16.72	0.45
TS35134	380														
TS35134	100	Max WS	Tr200_D0_5h	-19.62	100.09	102.16		102.19	0.000605	-1.05	-0.37	-0.54	29.65	18.97	0.24
TS35134	100	Max WS	Tr200_D1h	-19.71	100.09	102.16		102.19	0.000610	-1.05	-0.38	-0.54	29.68	18.97	0.25
TS35134	100	Max WS	Tr200_D2h	-19.62	100.09	102.16		102.19	0.000601	-1.04	-0.37	-0.54	29.73	18.97	0.24
TS35134	1	Max WS	Tr200_D0_5h	-19.79	100.08	102.14		102.20	0.000860	-1.19	-0.35	-0.48	22.29	16.47	0.28
TS35134	1	Max WS	Tr200_D1h	-19.72	100.08	102.14		102.20	0.000852	-1.18	-0.35	-0.48	22.31	16.47	0.28
TS35134	1	Max WS	Tr200_D2h	-19.78	100.08	102.14		102.20	0.000851	-1.19	-0.35	-0.48	22.36	16.47	0.28

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "CINIGIANO"**

#### **FOSSO TS35134**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    0.5h, 1h e 2h

***Dati idraulici***

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
TS35134	1800	Max WS	Tr30_D0_5h	4.50	126.41	127.05	127.33	127.94	0.081543	4.18			1.08	2.44	2.01
TS35134	1800	Max WS	Tr30_D1h	4.10	126.41	127.02	127.28	127.89	0.086421	4.15			0.99	2.40	2.06
TS35134	1800	Max WS	Tr30_D2h	3.20	126.41	126.94	127.18	127.75	0.095968	3.98			0.80	2.30	2.15
TS35134	1700	Max WS	Tr30_D0_5h	4.49	117.40	118.05	118.28	118.79	0.063264	3.82			1.17	2.48	1.77
TS35134	1700	Max WS	Tr30_D1h	4.10	117.40	118.02	118.24	118.71	0.061738	3.69			1.11	2.45	1.75
TS35134	1700	Max WS	Tr30_D2h	3.20	117.40	117.94	118.13	118.57	0.067782	3.53			0.91	2.36	1.82
TS35134	1600	Max WS	Tr30_D0_5h	4.48	112.10	112.67	112.85	113.26	0.054552	3.40			1.32	3.27	1.71
TS35134	1600	Max WS	Tr30_D1h	4.10	112.10	112.64	112.82	113.21	0.055630	3.33			1.23	3.20	1.72
TS35134	1600	Max WS	Tr30_D2h	3.20	112.10	112.58	112.73	113.07	0.056888	3.10			1.03	3.02	1.69
TS35134	1599		Lat Struct												
TS35134	1598		Lat Struct												
TS35134	1570	Max WS	Tr30_D0_5h	4.48	109.26	110.54	110.26	110.83	0.007276	2.42			1.86	2.37	0.69
TS35134	1570	Max WS	Tr30_D1h	4.10	109.26	110.47	110.20	110.74	0.007320	2.34			1.75	1.97	0.68
TS35134	1570	Max WS	Tr30_D2h	3.20	109.26	110.30	110.06	110.53	0.007454	2.13			1.50	1.79	0.67
TS35134	1560		Bridge												
TS35134	1550	Max WS	Tr30_D0_5h	4.48	109.32	109.72	110.15	111.55	0.230139	5.99			0.75	2.02	3.14
TS35134	1550	Max WS	Tr30_D1h	4.10	109.32	109.69	110.10	111.43	0.230954	5.83			0.70	2.01	3.14
TS35134	1550	Max WS	Tr30_D2h	3.20	109.32	109.64	109.99	111.09	0.224792	5.33			0.60	1.97	3.08
TS35134	1400	Max WS	Tr30_D0_5h	1.37	103.35	104.72		104.72	0.000148	0.28		0.07	5.07	7.00	0.10
TS35134	1400	Max WS	Tr30_D1h	1.36	103.35	104.71		104.71	0.000150	0.28		0.06	5.00	6.99	0.10
TS35134	1400	Max WS	Tr30_D2h	1.31	103.35	104.68		104.68	0.000158	0.28		0.06	4.80	6.96	0.10
TS35134	1390		Culvert												
TS35134	1384.57	Max WS	Tr30_D0_5h	1.37	103.12	103.78		103.82	0.004058	0.87			1.59	4.37	0.46
TS35134	1384.57	Max WS	Tr30_D1h	1.36	103.12	103.77		103.81	0.004110	0.87			1.57	4.36	0.46
TS35134	1384.57	Max WS	Tr30_D2h	1.31	103.12	103.76		103.80	0.004243	0.86			1.52	4.33	0.47
TS35134	1307.43	Max WS	Tr30_D0_5h	1.32	102.68	103.37	103.14	103.40	0.002507	0.72			1.83	4.77	0.37
TS35134	1307.43	Max WS	Tr30_D1h	1.27	102.68	103.42	103.13	103.44	0.001691	0.62			2.06	5.07	0.31
TS35134	1307.43	Max WS	Tr30_D2h	1.37	102.68	103.32	103.15	103.36	0.003855	0.86			1.60	4.45	0.46
TS35134	1305		Bridge												
TS35134	1302.56	Max WS	Tr30_D0_5h	1.32	102.72	103.36		103.39	0.001532	0.76	0.20	0.16	1.87	3.75	0.32
TS35134	1302.56	Max WS	Tr30_D1h	1.27	102.72	103.41		103.43	0.001075	0.67	0.18	0.15	2.05	3.86	0.27
TS35134	1302.56	Max WS	Tr30_D2h	1.37	102.72	103.31		103.35	0.002296	0.87	0.22	0.17	1.67	3.65	0.38
TS35134	1300	Max WS	Tr30_D0_5h	1.31	102.72	103.36		103.39	0.001455	0.64			2.04	4.02	0.29
TS35134	1300	Max WS	Tr30_D1h	1.27	102.72	103.41		103.43	0.001041	0.57			2.23	4.12	0.25
TS35134	1300	Max WS	Tr30_D2h	1.36	102.72	103.31		103.34	0.002166	0.75			1.82	3.91	0.35
TS35134	1200	Max WS	Tr30_D0_5h	1.30	102.39	103.33		103.34	0.000311	0.39	0.07	0.11	4.47	12.03	0.14
TS35134	1200	Max WS	Tr30_D1h	1.08	102.39	103.40		103.40	0.000148	0.29	0.06	0.09	5.27	12.03	0.10
TS35134	1200	Max WS	Tr30_D2h	1.40	102.39	103.24		103.26	0.000602	0.50	0.06	0.11	3.43	10.79	0.20
TS35134	1177.50	Max WS	Tr30_D0_5h	1.73	102.32	103.33		103.33	0.000057	0.19	0.09	0.08	11.49	15.61	0.07
TS35134	1177.50	Max WS	Tr30_D1h	1.48	102.32	103.39		103.40	0.000032	0.15	0.07	0.06	12.49	15.61	0.05
TS35134	1177.50	Max WS	Tr30_D2h	1.87	102.32	103.25		103.25	0.000096	0.23	0.11	0.09	10.21	15.61	0.09
TS35134	1170	Max WS	Tr30_D0_5h	2.58	102.03	103.26		103.48	0.004056	2.06			1.25	18.43	0.59
TS35134	1170	Max WS	Tr30_D1h	2.79	102.03	103.33		103.55	0.004010	2.12			1.32	20.55	0.60
TS35134	1170	Max WS	Tr30_D2h	2.32	102.03	103.18		103.38	0.004120	1.98			1.17	11.99	0.59
TS35134	1150		Culvert												
TS35134	1147.25	Max WS	Tr30_D0_5h	2.58	102.00	102.73	102.89	103.37	0.024313	3.54			0.73	2.56	1.34
TS35134	1147.25	Max WS	Tr30_D1h	2.78	102.00	102.76	102.93	103.45	0.025074	3.68			0.75	2.61	1.37
TS35134	1147.25	Max WS	Tr30_D2h	2.31	102.00	102.70	102.83	103.27	0.023041	3.33			0.69	2.49	1.29
TS35134	1101.76	Max WS	Tr30_D0_5h	0.24	101.68	102.59		102.59	0.000014	0.08	0.03		3.95	7.11	0.03
TS35134	1101.76	Max WS	Tr30_D1h	0.53	101.68	102.68		102.68	0.000043	0.15	0.06		4.59	7.18	0.05
TS35134	1101.76	Max WS	Tr30_D2h	0.23	101.68	102.55		102.55	0.000014	0.08	0.03		3.68	7.08	0.03
TS35134	1100		Culvert												
TS35134	1094.18	Max WS	Tr30_D0_5h	0.24	101.23	102.36		102.36	0.000003	0.04	0.01	0.01	7.46	11.50	0.01
TS35134	1094.18	Max WS	Tr30_D1h	0.53	101.23	102.41		102.41	0.000010	0.09	0.03	0.03	8.06	11.50	0.03
TS35134	1094.18	Max WS	Tr30_D2h	0.22	101.23	102.34		102.34	0.000002	0.04	0.01	0.01	7.27	11.50	0.01
TS35134	1086.60	Max WS	Tr30_D0_5h	0.68	101.29	102.35		102.36	0.000133	0.24	0.05	0.04	3.90	13.36	0.09
TS35134	1086.60	Max WS	Tr30_D1h	1.17	101.29	102.40		102.41	0.000284	0.37	0.09	0.08	4.56	13.36	0.14
TS35134	1086.60	Max WS	Tr30_D2h	0.57	101.29	102.34		102.34	0.000102	0.21	0.04	0.04	3.70	13.36	0.08
TS35134	1081		Culvert												
TS35134	1079.01	Max WS	Tr30_D0_5h	0.67	101.22	102.28		102.29	0.000364	0.31	0.07	0.08	3.13	15.68	0.14
TS35134	1079.01	Max WS	Tr30_D1h	1.14	101.22	102.34		102.34	0.000642	0.44	0.12	0.13	3.95	15.73	0.19
TS35134	1079.01	Max WS	Tr30_D2h	0.56	101.22	102.26		102.26	0.000324	0.29	0.05	0.06	2.75	15.13	0.13
TS35134	1071.43	Max WS	Tr30_D0_5h	1.02	101.28	102.27		102.28	0.000622	0.46	0.10	0.05	2.84	10.78	0.19
TS35134	1071.43	Max WS	Tr30_D1h	1.56	101.28	102.32		102.34	0.001039	0.63	0.15	0.10	3.41	14.04	0.25
TS35134	1071.43	Max WS	Tr30_D2h	0.55	101.28	102.25		102.26	0.000199	0.26	0.06	0.02	2.66	9.73	0.11
TS35134	1070.5		Lat Struct												
TS35134	1070		Lat Struct												
TS35134	1000	Max WS	Tr30_D0_5h	0.87	101.54	102.22		102.23	0.000710	0.43	0.07	0.09	2.53	11.33	0.21
TS35134	1000	Max WS	Tr30_D1h	0.87	101.54	102.22		102.23	0.000710	0.43	0.07	0.09	2.53	11.33	0.21
TS35134	1000	Max WS	Tr30_D2h	0.87	101.54	102.22		102.23	0.000710	0.43	0.07	0.09	2.53	11.33	0.21
TS35134	900	Max WS	Tr30_D0_5h	1.94	101.26	102.06		102.09	0.001544	0.71	0.17	0.21	4.13	16.52	0.31
TS35134	900	Max WS	Tr30_D1h	1.94	101.26	102.06		102.09	0.001544	0.71	0.17	0.21	4.13	16.52	0.31
TS35134	900	Max WS	Tr30_D2h	1.94	101.26	102.06		102.09	0.001544	0.71	0.17	0.21	4.13	16.52	0.31
TS35134	838.46	Max WS	Tr30_D0_5h	1.31	101.14	102.01		102.03	0.001317	0.60	0.14	0.13	2.62	9.88	0.28
TS35134	838.46	Max WS	Tr30_D1h	1.31	101.14	102.01		102.03	0.001317	0.60	0.14	0.13	2.62	9.88	0.28
TS35134	838.46	Max WS	Tr30_D2h	1.31	101.14	102.01		102.03	0.001317	0.60	0.14	0.13	2.62	9.88	0.28
TS35134	830		Culvert												

HEC-RAS River: TS35134 Reach: TS35134 Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m <sup>3</sup> /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m <sup>2</sup> )	Top Width (m)	Froude # Chl
TS35134	815.38	Max WS	Tr30_D0_5h	0.68	101.04	101.95		101.95	0.000186	0.23	0.06	0.06	3.98	16.03	0.11
TS35134	815.38	Max WS	Tr30_D1h	0.70	101.04	101.95		101.95	0.000193	0.24	0.06	0.06	4.05	16.09	0.11
TS35134	815.38	Max WS	Tr30_D2h	0.53	101.04	101.95		101.95	0.000115	0.18	0.04	0.05	4.00	16.05	0.08
TS35134	800	Max WS	Tr30_D0_5h	0.16	101.19	101.95		101.95	0.000008	0.05	0.01	0.01	4.41	16.02	0.02
TS35134	800	Max WS	Tr30_D1h	0.15	101.19	101.95		101.95	0.000008	0.05	0.01	0.01	4.48	16.06	0.02
TS35134	800	Max WS	Tr30_D2h	0.01	101.19	101.95		101.95	0.000000	0.00	0.00	0.00	4.42	16.03	0.00
TS35134	700	Max WS	Tr30_D0_5h	-3.96	100.90	101.97		101.98	0.000716	-0.56	-0.21	-0.21	9.31	19.50	0.22
TS35134	700	Max WS	Tr30_D1h	-3.92	100.90	101.97		101.99	0.000684	-0.55	-0.20	-0.21	9.39	19.50	0.22
TS35134	700	Max WS	Tr30_D2h	-3.83	100.90	101.97		101.98	0.000666	-0.54	-0.20	-0.21	9.33	19.50	0.22
TS35134	600	Max WS	Tr30_D0_5h	-8.39	100.55	102.02		102.05	0.000828	-0.81	-0.28	-0.33	14.65	19.90	0.26
TS35134	600	Max WS	Tr30_D1h	-8.42	100.55	102.03		102.05	0.000825	-0.81	-0.28	-0.33	14.71	19.90	0.26
TS35134	600	Max WS	Tr30_D2h	-8.47	100.55	102.02		102.05	0.000844	-0.82	-0.28	-0.33	14.64	19.90	0.26
TS35134	400.33	Max WS	Tr30_D0_5h	-13.95	100.26	102.02		102.07	0.001691	-1.16	-0.53	-0.53	15.54	16.72	0.36
TS35134	400.33	Max WS	Tr30_D1h	-13.99	100.26	102.02		102.07	0.001685	-1.16	-0.53	-0.53	15.59	16.72	0.36
TS35134	400.33	Max WS	Tr30_D2h	-13.87	100.26	102.02		102.07	0.001688	-1.15	-0.53	-0.52	15.54	16.72	0.36
TS35134	380		Culvert												
TS35134	100	Max WS	Tr30_D0_5h	-13.73	100.09	102.05		102.07	0.000365	-0.78	-0.27	-0.41	27.65	18.97	0.19
TS35134	100	Max WS	Tr30_D1h	-13.76	100.09	102.05		102.07	0.000365	-0.78	-0.27	-0.41	27.70	18.97	0.19
TS35134	100	Max WS	Tr30_D2h	-13.84	100.09	102.05		102.07	0.000371	-0.79	-0.27	-0.41	27.67	18.97	0.19
TS35134	1	Max WS	Tr30_D0_5h	-13.89	100.08	102.04		102.07	0.000522	-0.89	-0.25	-0.36	20.69	16.47	0.22
TS35134	1	Max WS	Tr30_D1h	-13.88	100.08	102.04		102.08	0.000518	-0.89	-0.25	-0.36	20.74	16.47	0.22
TS35134	1	Max WS	Tr30_D2h	-14.00	100.08	102.04		102.07	0.000529	-0.90	-0.25	-0.37	20.71	16.47	0.22



## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "CINIGIANO"**

#### **FOSSO TS78736**

MODELLAZIONE PER TR=30 e 200 ANNI

DURATA DI PIOGGIA: 0.5h, 1h e 2h

***Profilo longitudinale***

***Sezioni Trasversali***

***Dati idraulici***

## **ALLEGATI**

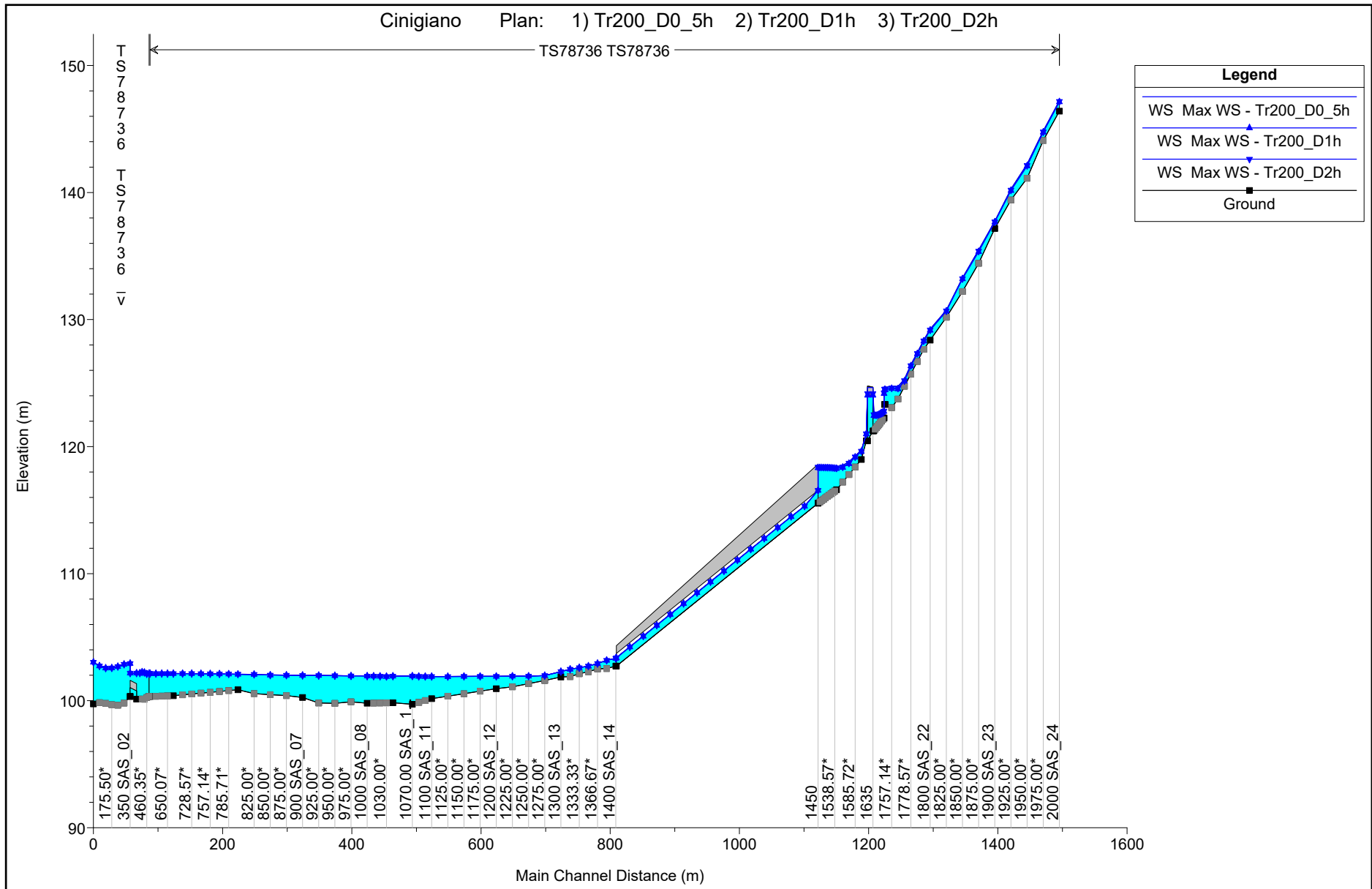
### **MODELLAZIONE HEC-RAS 5.0.7 "CINIGIANO"**

**FOSSO TS78736**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    0.5h, 1h e 2h

***Profilo longitudinale***



## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "CINIGIANO"**

**FOSSO TS78736**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    0.5h, 1h e 2h

***Profilo longitudinale***



## **ALLEGATI**

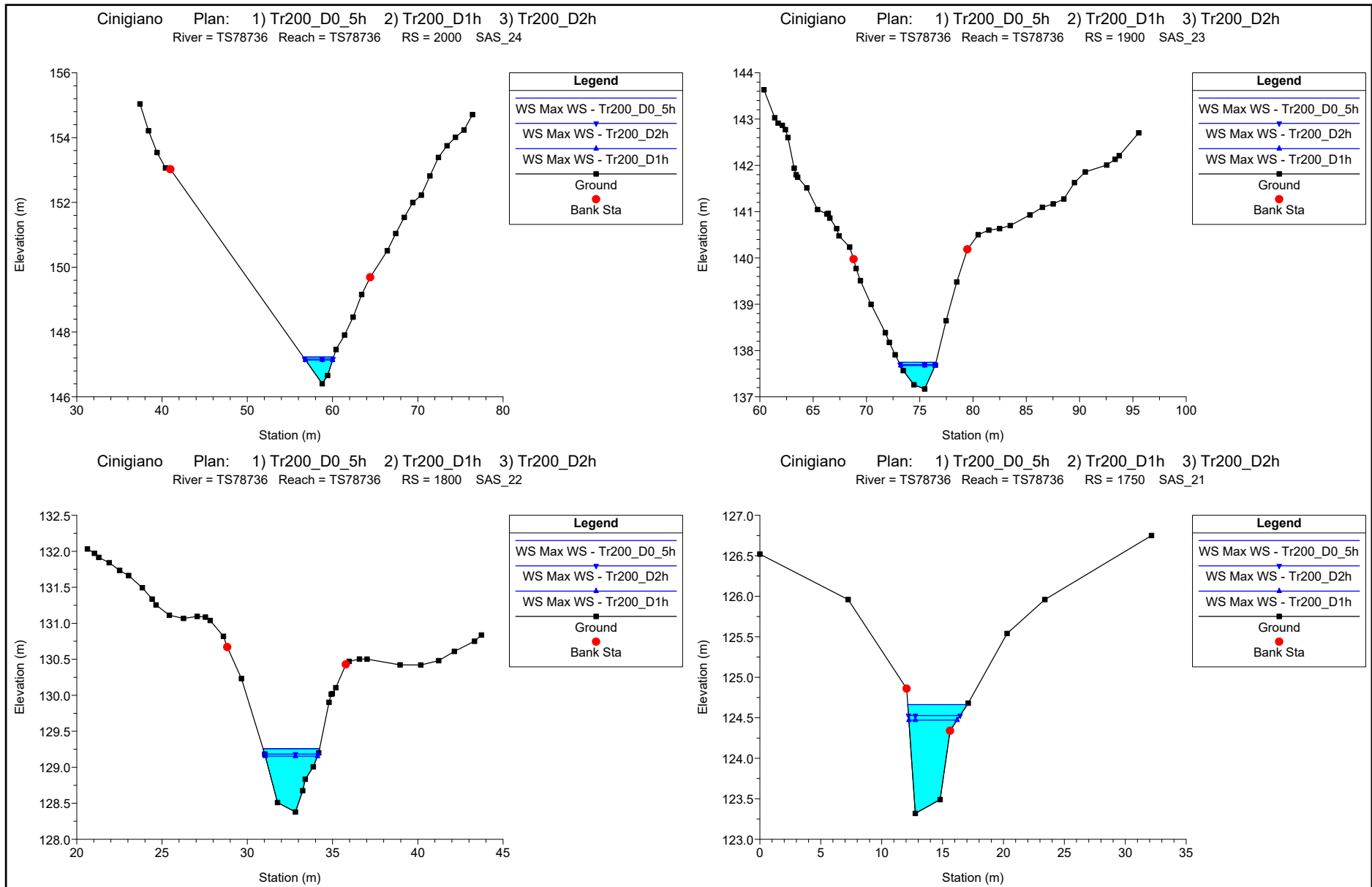
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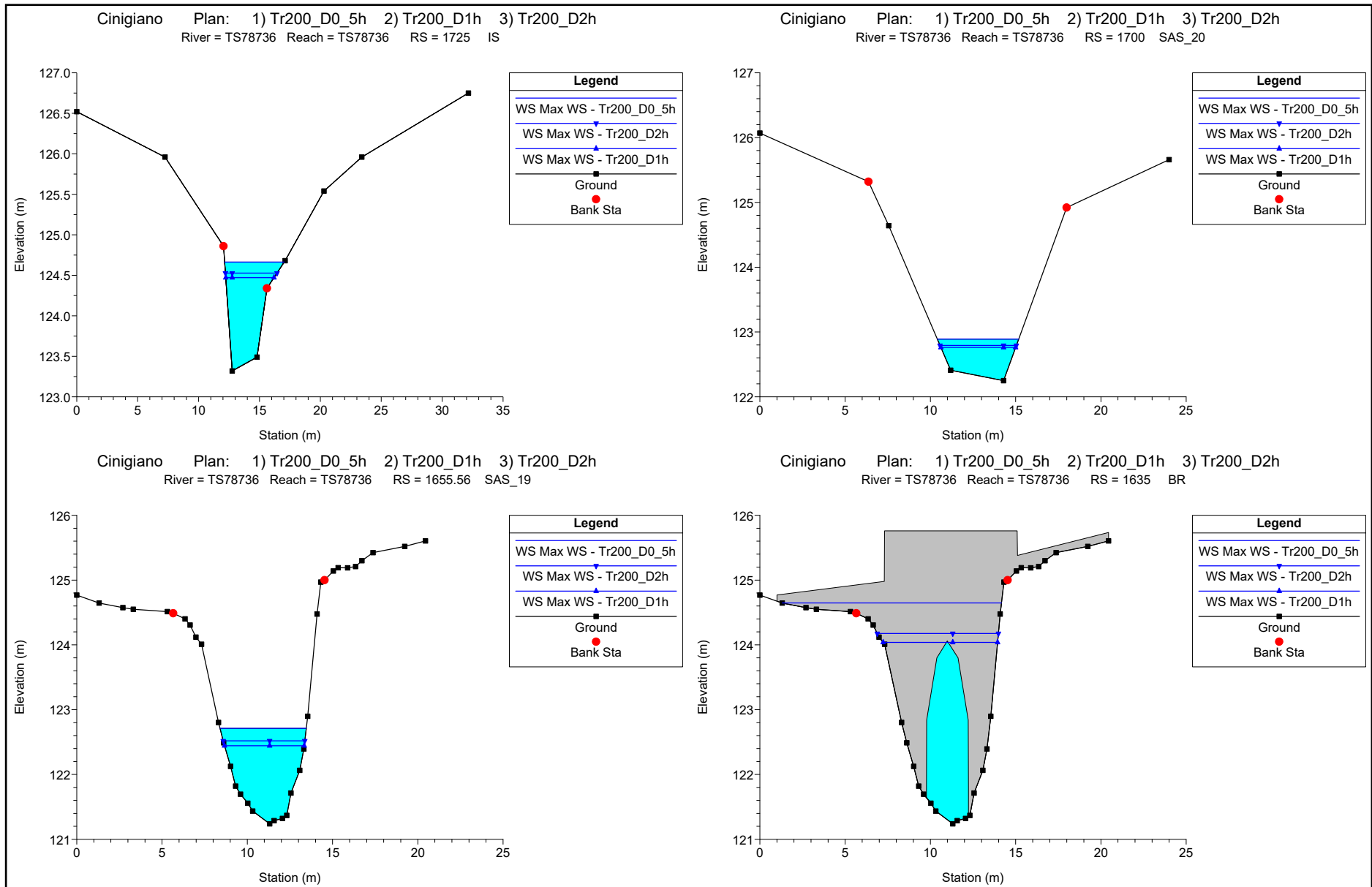
**FOSSO TS78736**

MODELLAZIONE PER      Tr=200 anni

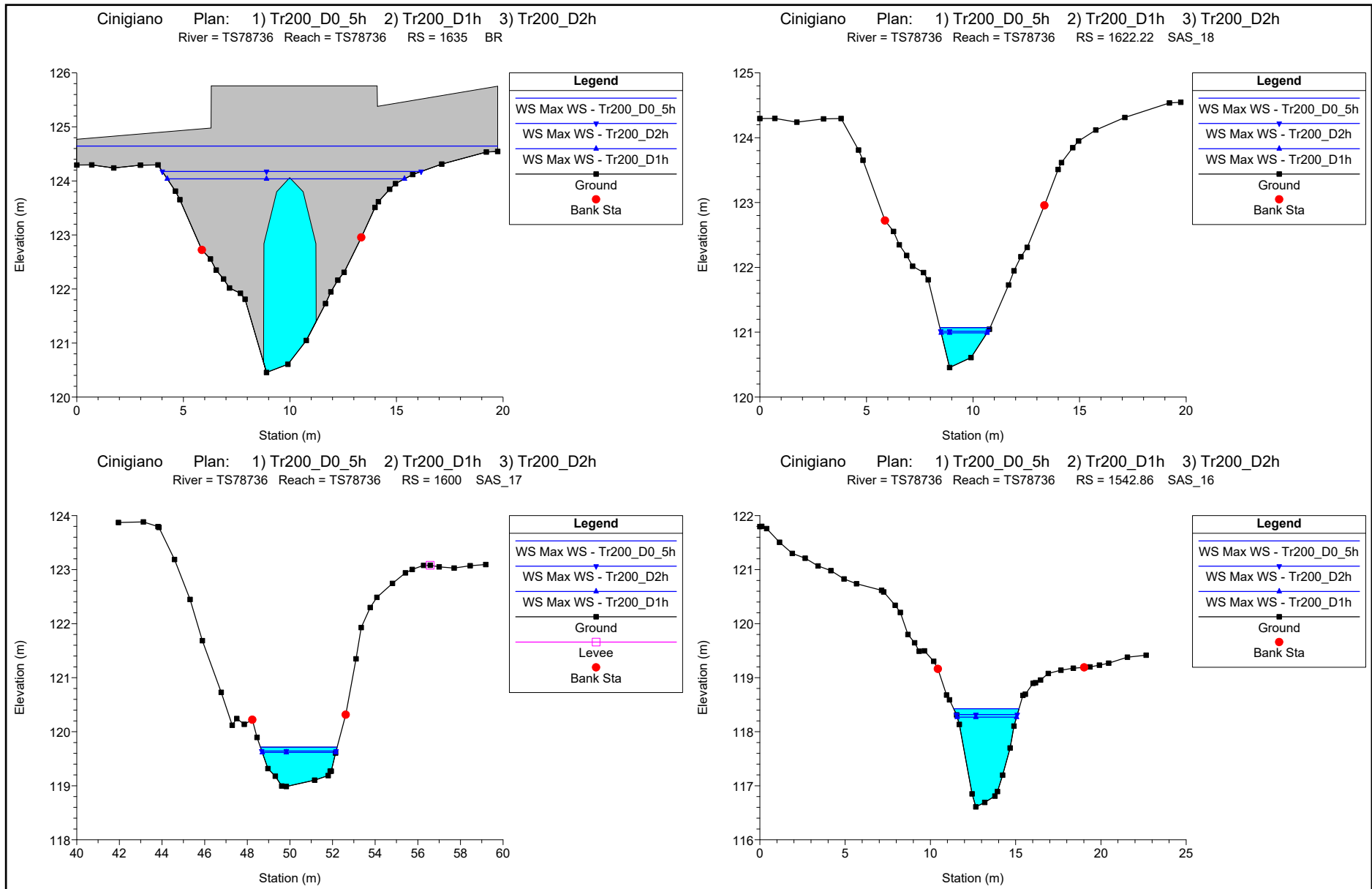
DURATE DI PIOGGIA:    0.5h, 1h e 2h

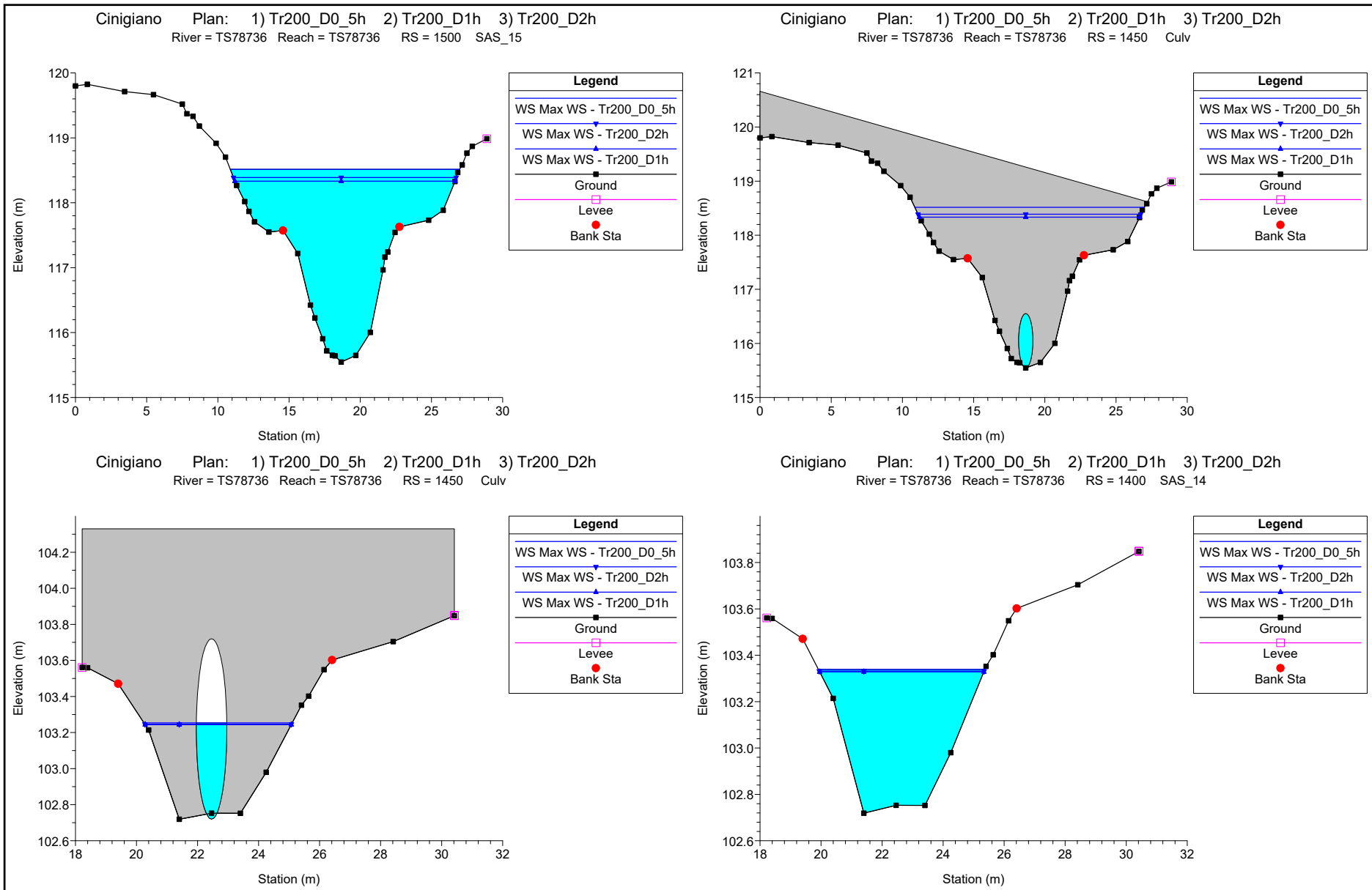
***Sezioni Trasversali (da monte verso valle)***

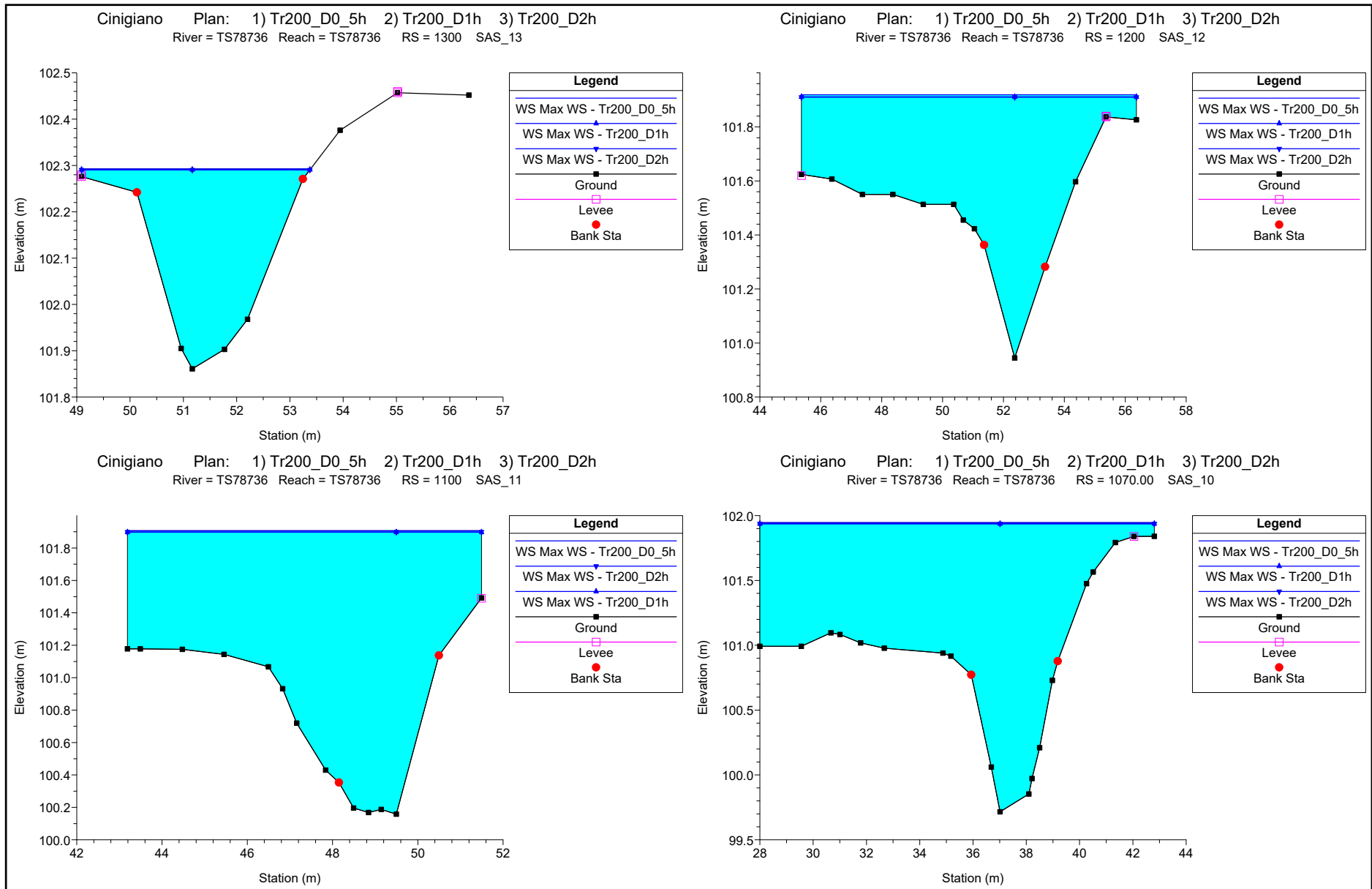


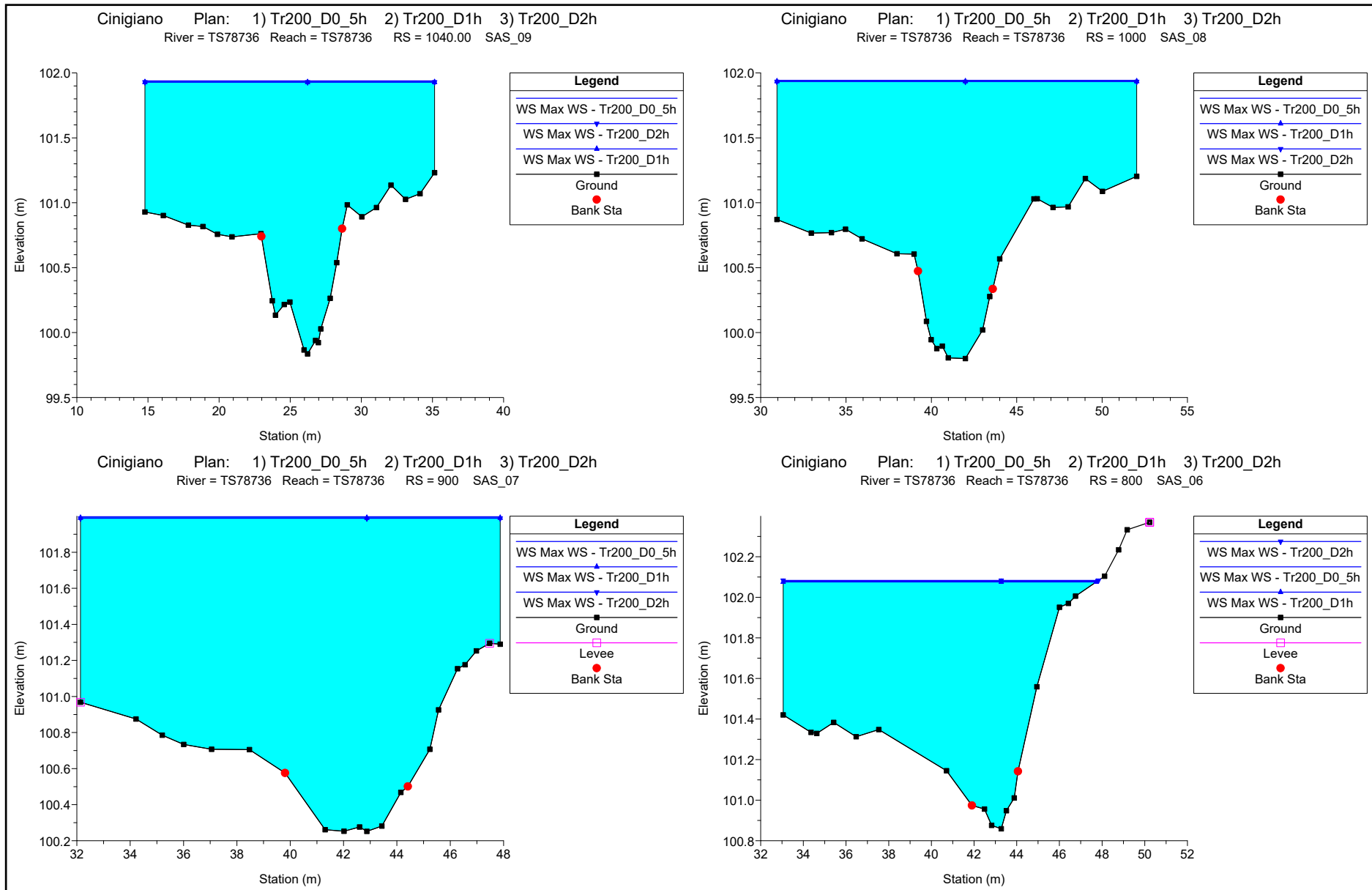


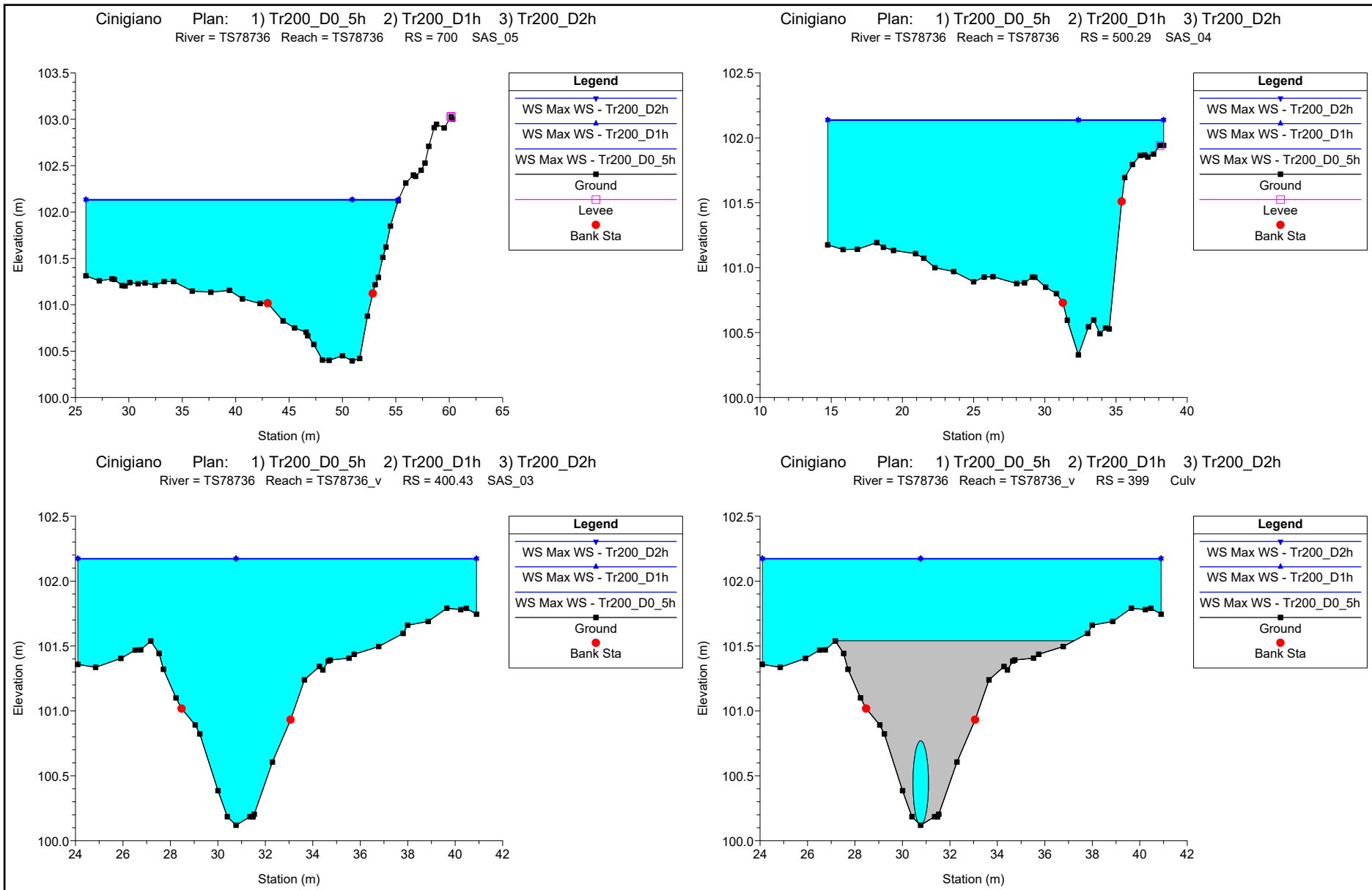


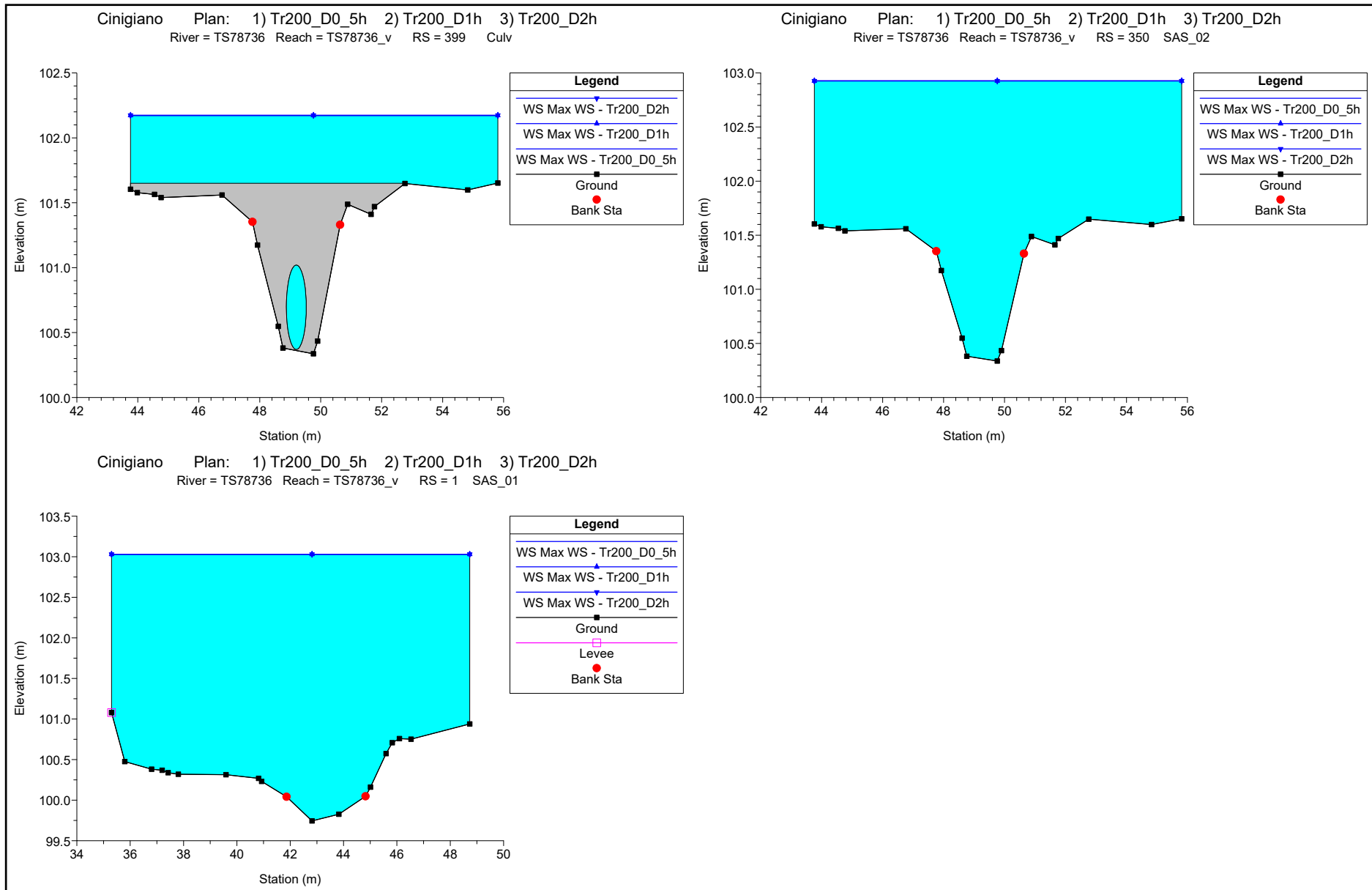












## **ALLEGATI**

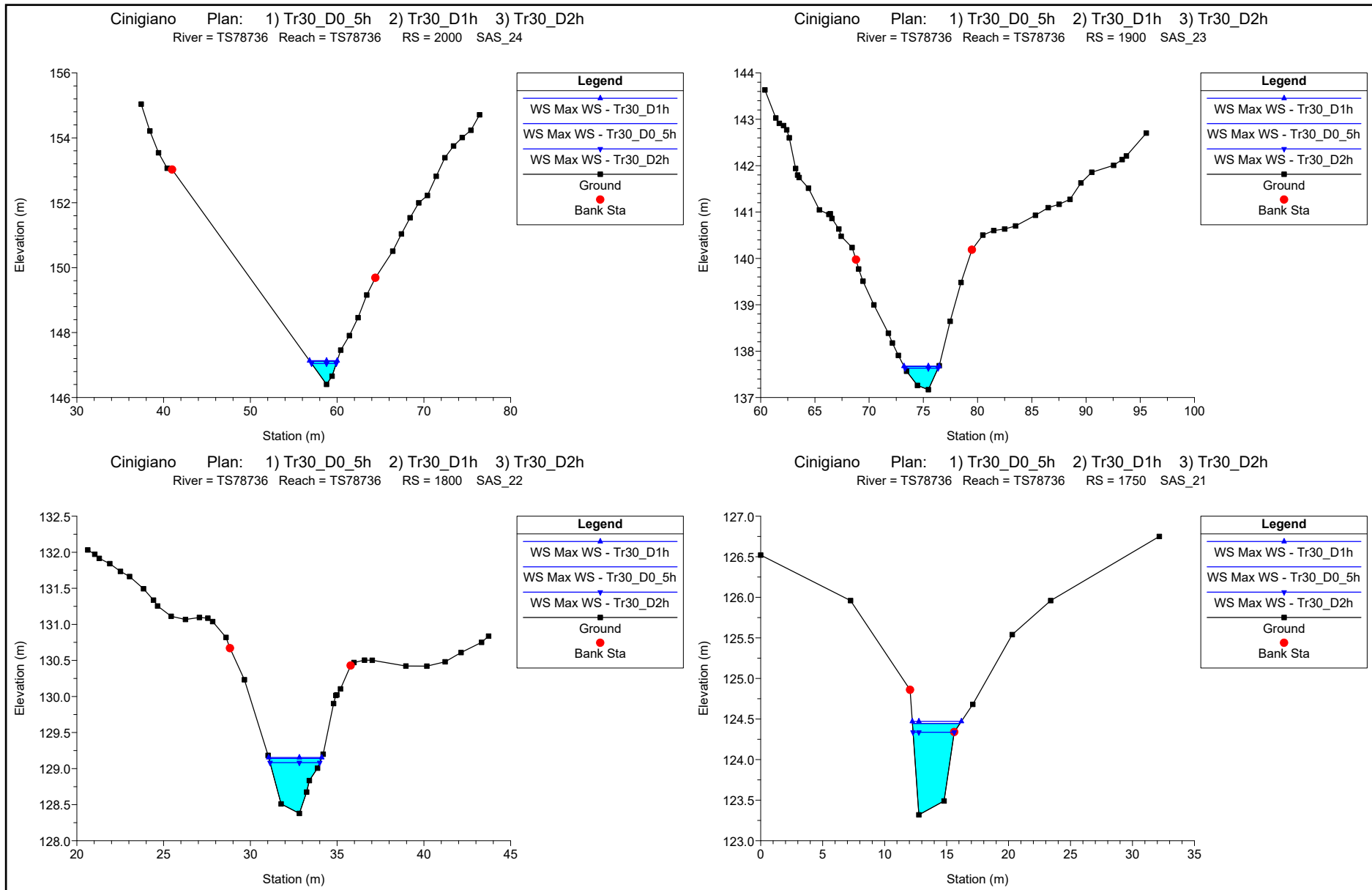
### **MODELLAZIONE HEC-RAS 5.0.7 "CINIGIANO"**

**FOSSO TS78736**

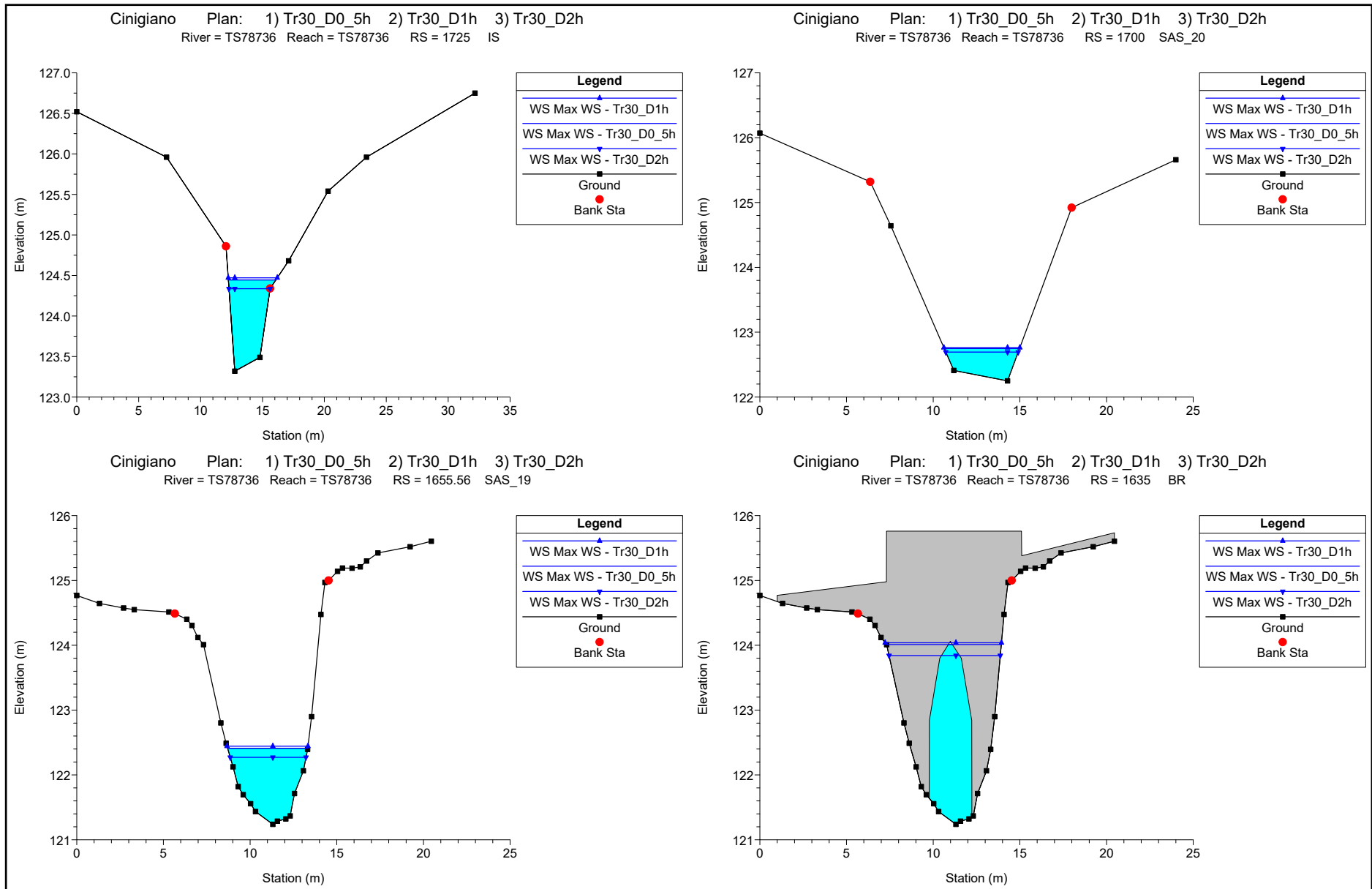
MODELLAZIONE PER      Tr=30 anni

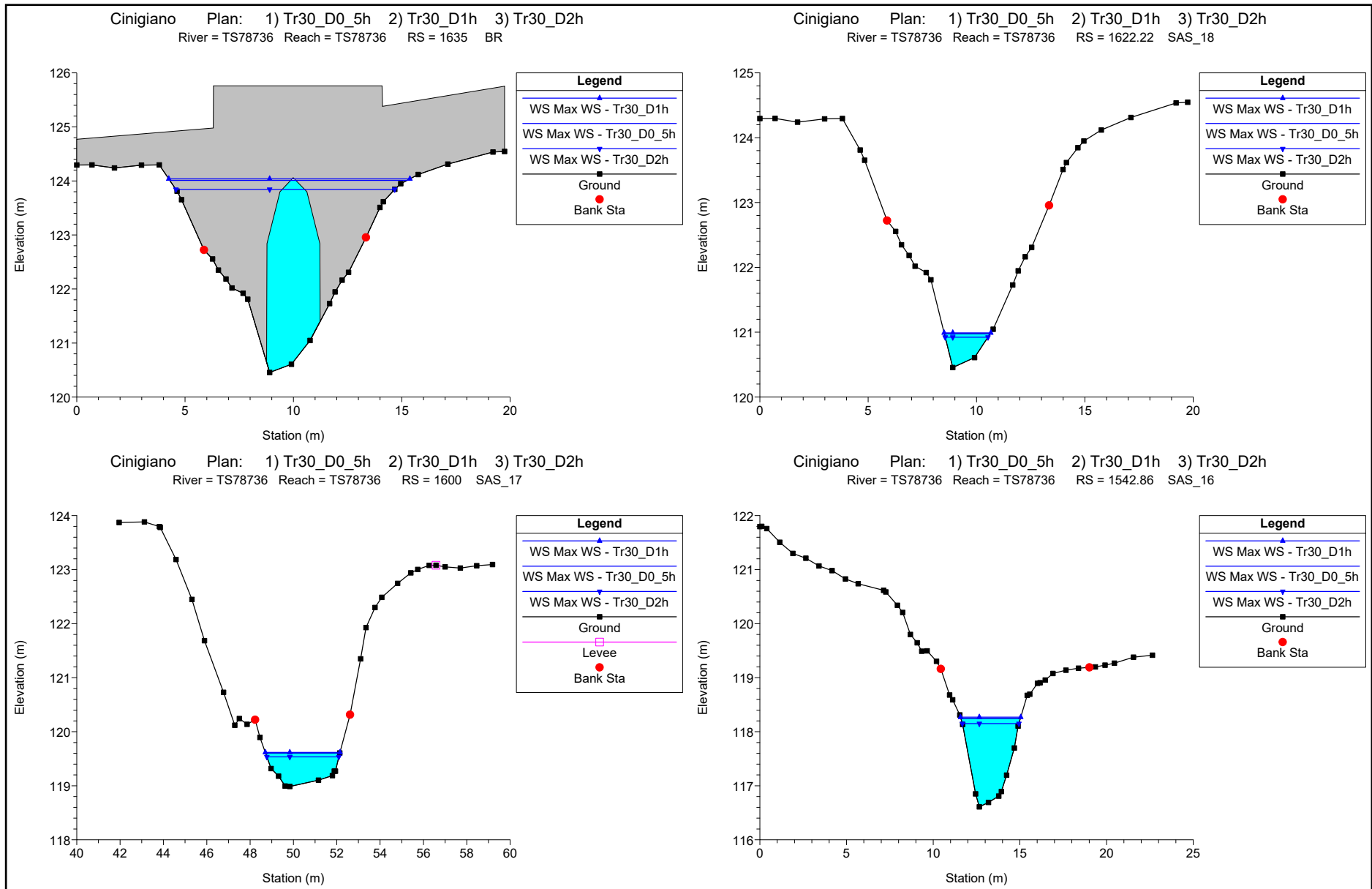
DURATE DI PIOGGIA:    0.5h, 1h e 2h

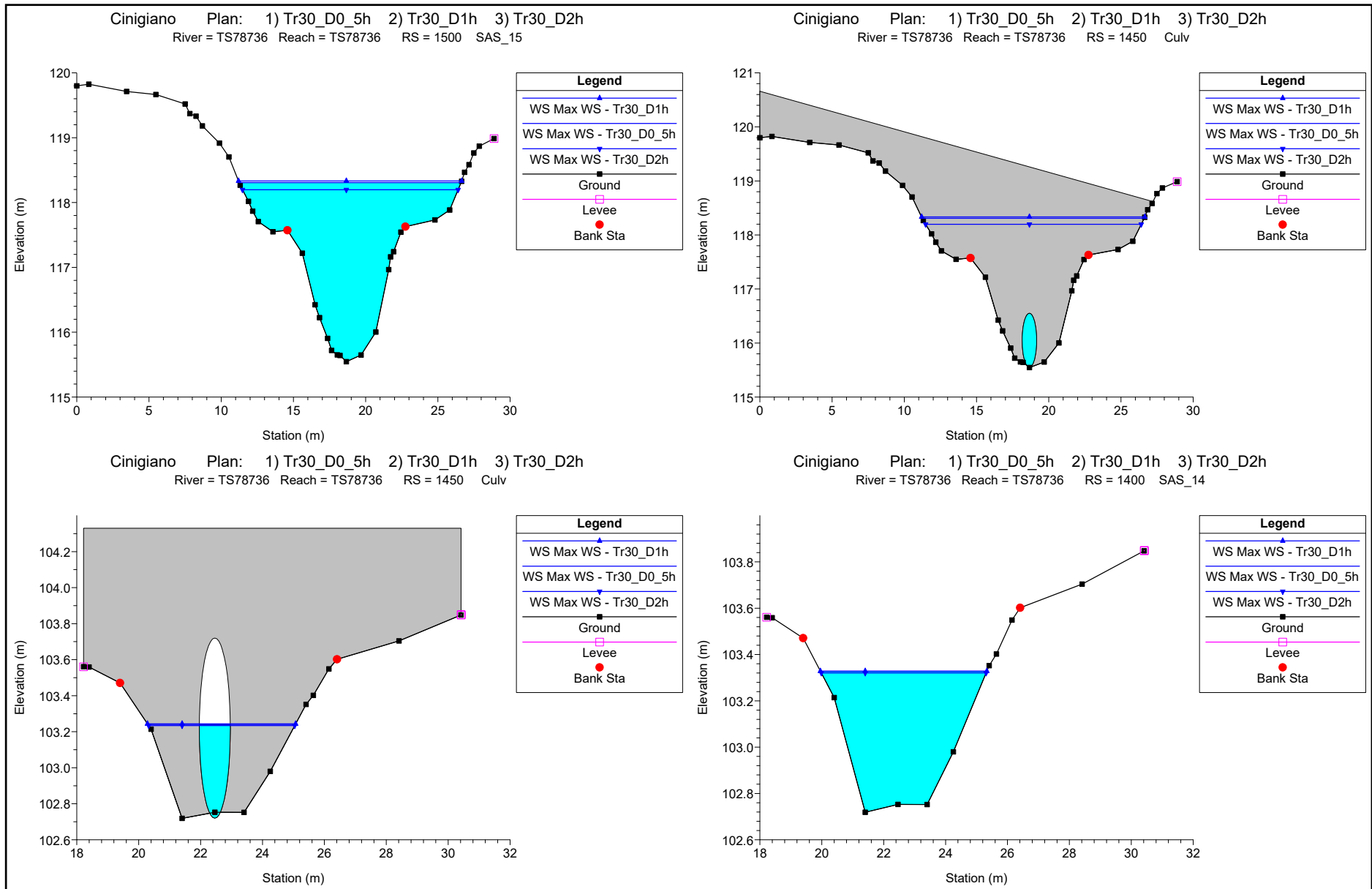
***Sezioni Trasversali (da monte verso valle)***

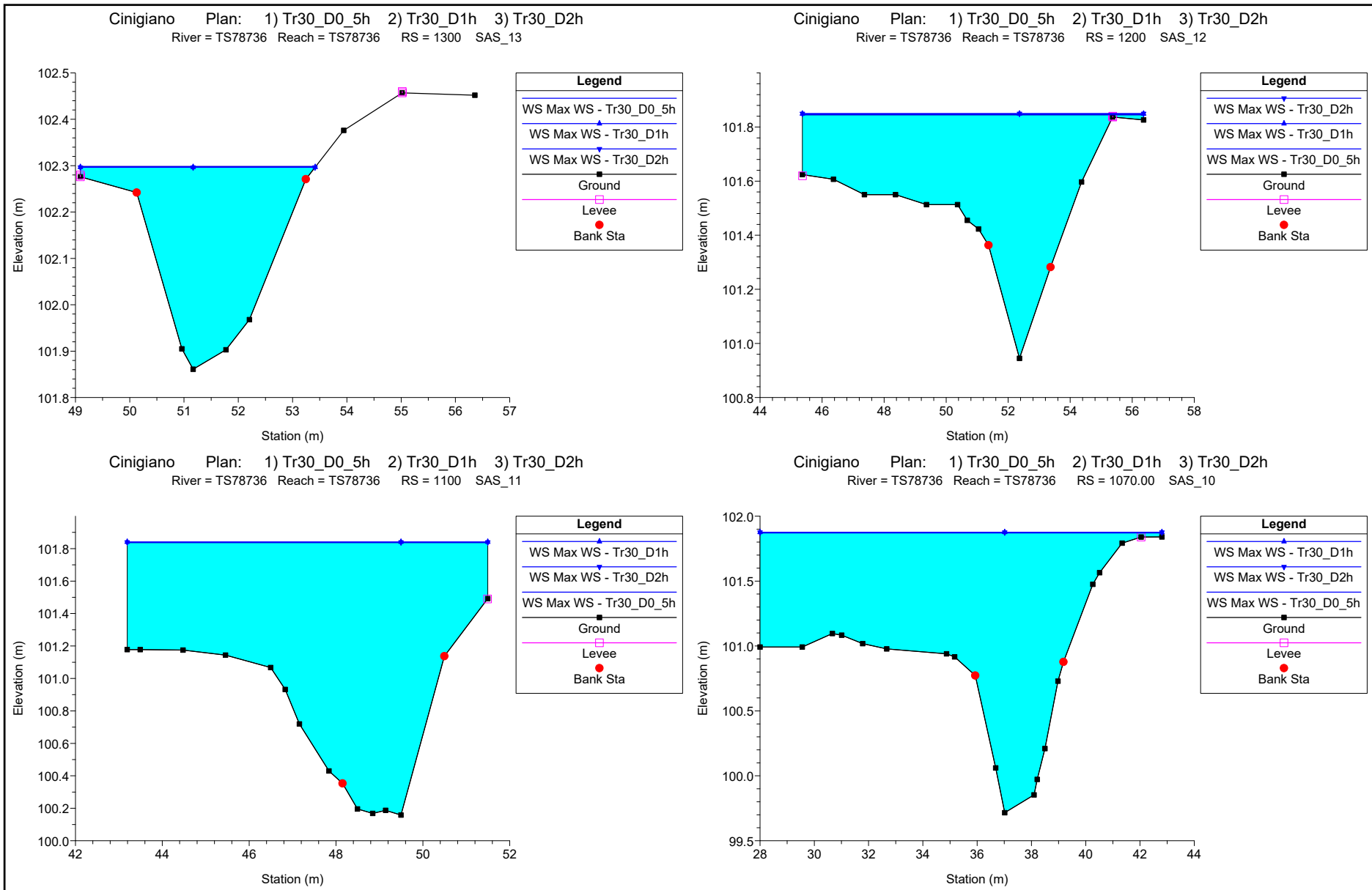


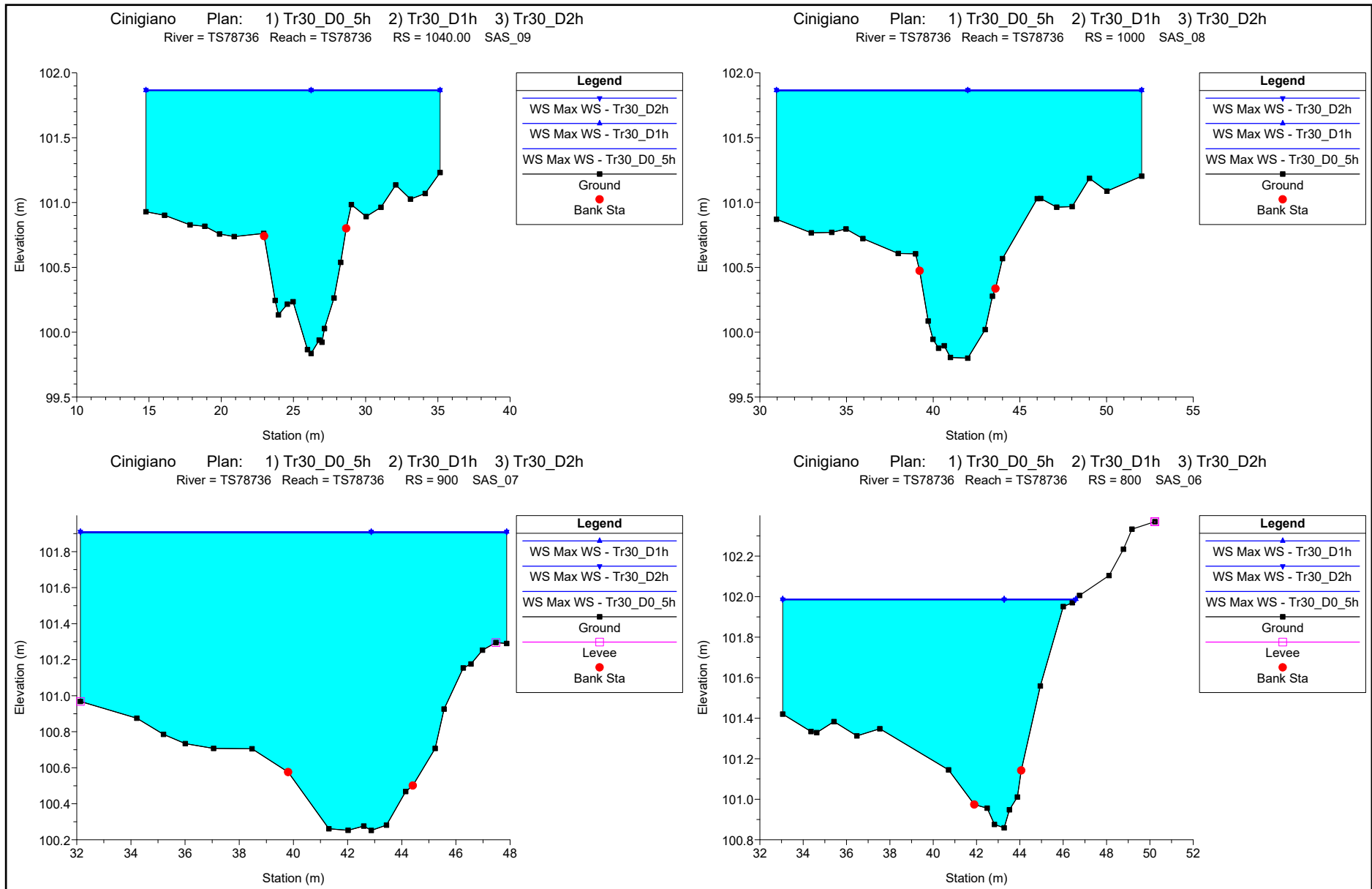


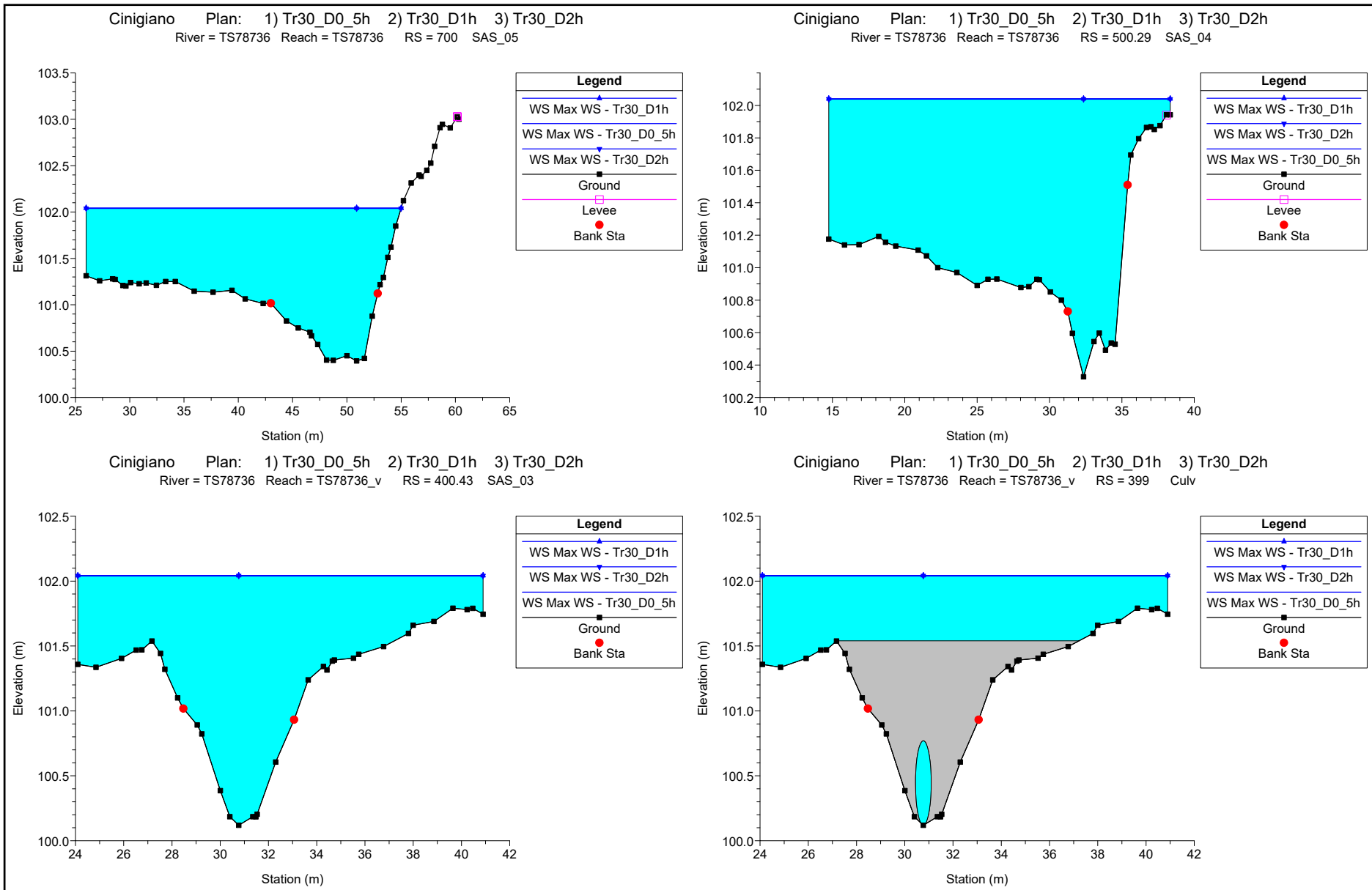




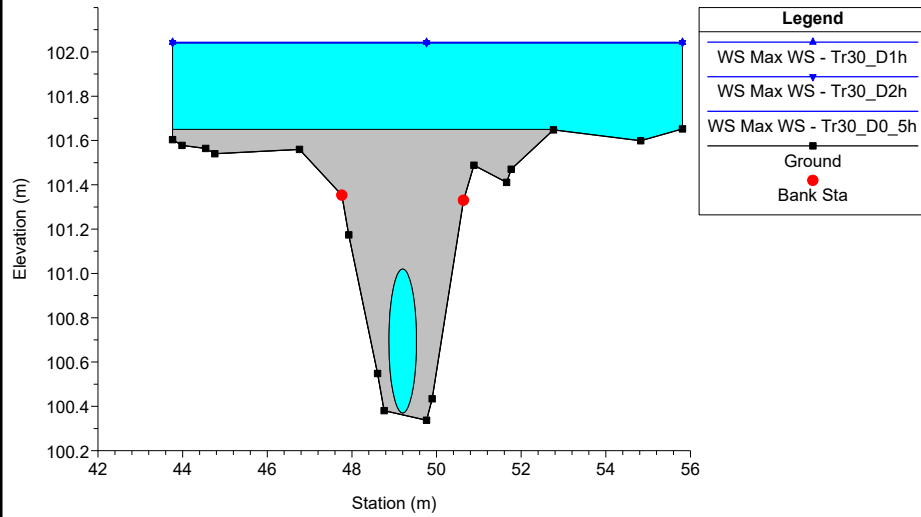




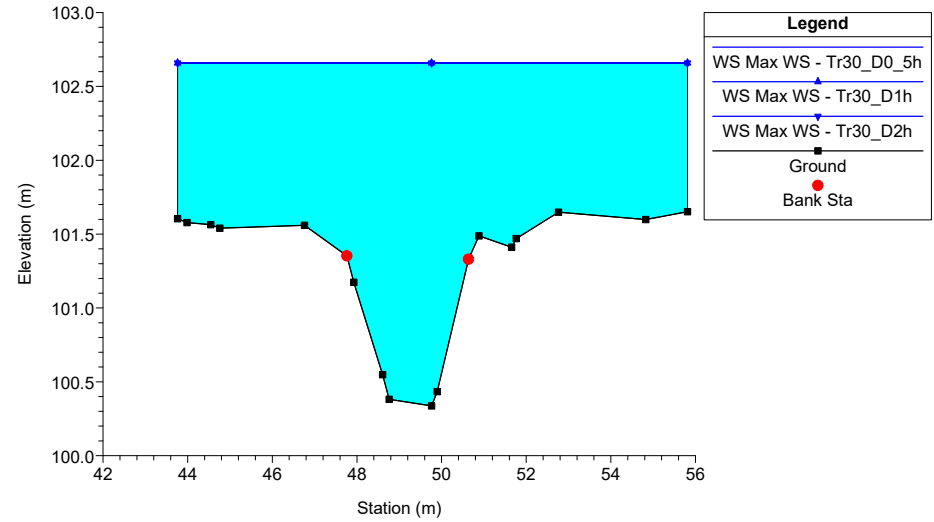




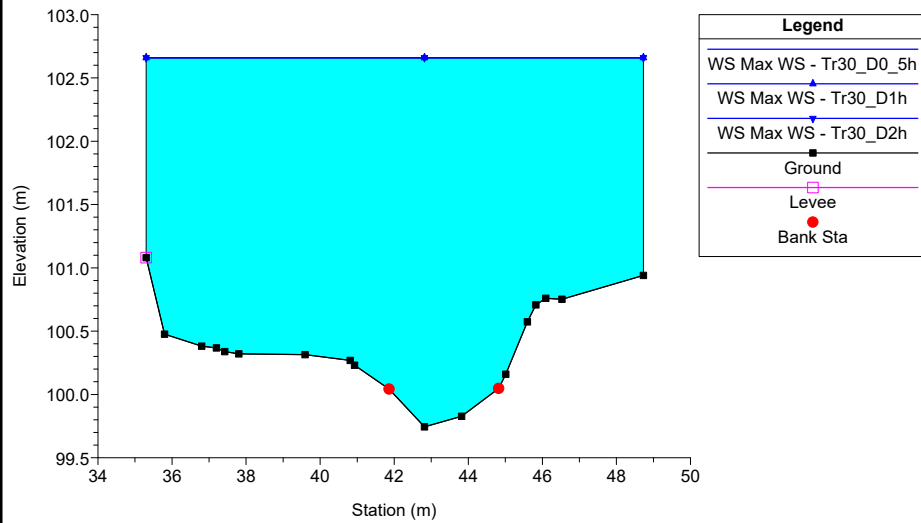
Cinigiano Plan: 1) Tr30\_D0\_5h 2) Tr30\_D1h 3) Tr30\_D2h  
 River = TS78736 Reach = TS78736\_v RS = 399 Culv



Cinigiano Plan: 1) Tr30\_D0\_5h 2) Tr30\_D1h 3) Tr30\_D2h  
 River = TS78736 Reach = TS78736\_v RS = 350 SAS\_02



Cinigiano Plan: 1) Tr30\_D0\_5h 2) Tr30\_D1h 3) Tr30\_D2h  
 River = TS78736 Reach = TS78736\_v RS = 1 SAS\_01



## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "CINIGIANO"**

**FOSSO TS78736**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    0.5h, 1h e 2h

***Dati idraulici***



Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
TS78736	2000	Max WS	Tr200_D0_5h	6.90	146.40	147.23	147.54	148.24	0.084308	4.45			1.55	3.55	2.15
TS78736	2000	Max WS	Tr200_D1h	5.00	146.40	147.14	147.39	147.96	0.080305	4.03			1.24	3.19	2.06
TS78736	2000	Max WS	Tr200_D2h	5.50	146.40	147.17	147.43	148.02	0.078632	4.09			1.34	3.31	2.05
TS78736	1900	Max WS	Tr200_D0_5h	6.89	137.17	137.75	138.13	139.36	0.169520	5.62			1.23	3.48	3.02
TS78736	1900	Max WS	Tr200_D1h	5.00	137.17	137.67	138.00	138.99	0.166479	5.07			0.98	3.23	2.94
TS78736	1900	Max WS	Tr200_D2h	5.50	137.17	137.69	138.04	139.09	0.167943	5.23			1.05	3.31	2.97
TS78736	1800	Max WS	Tr200_D0_5h	6.88	128.38	129.26	129.50	130.03	0.052953	3.89			1.77	3.32	1.70
TS78736	1800	Max WS	Tr200_D1h	4.98	128.38	129.15	129.34	129.77	0.049951	3.49			1.43	3.06	1.63
TS78736	1800	Max WS	Tr200_D2h	5.50	128.38	129.18	129.39	129.85	0.051293	3.61			1.52	3.14	1.66
TS78736	1750	Max WS	Tr200_D0_5h	6.86	123.32	124.66	124.34	124.84	0.006233	1.88	0.38		3.82	4.89	0.59
TS78736	1750	Max WS	Tr200_D1h	4.98	123.32	124.47	124.18	124.62	0.006215	1.70	0.21		2.97	3.96	0.58
TS78736	1750	Max WS	Tr200_D2h	5.49	123.32	124.53	124.23	124.68	0.006180	1.75	0.27		3.21	4.24	0.58
TS78736	1725														
TS78736	1700	Max WS	Tr200_D0_5h	6.86	122.25	122.89	123.03	123.38	0.036192	3.11			2.21	4.77	1.46
TS78736	1700	Max WS	Tr200_D1h	4.98	122.25	122.76	122.91	123.24	0.047378	3.08			1.62	4.38	1.62
TS78736	1700	Max WS	Tr200_D2h	5.49	122.25	122.79	122.94	123.29	0.045163	3.12			1.76	4.48	1.59
TS78736	1655.56	Max WS	Tr200_D0_5h	6.86	121.24	122.71	122.20	122.80	0.002808	1.34			5.13	5.06	0.42
TS78736	1655.56	Max WS	Tr200_D1h	4.98	121.24	122.44	122.06	122.53	0.003401	1.30			3.82	4.67	0.46
TS78736	1655.56	Max WS	Tr200_D2h	5.49	121.24	122.52	122.10	122.61	0.003214	1.32			4.17	4.78	0.45
TS78736	1635														
TS78736	1622.22	Max WS	Tr200_D0_5h	6.86	120.46	121.07	121.64	124.07	0.329213	7.67			0.89	2.36	3.98
TS78736	1622.22	Max WS	Tr200_D1h	4.98	120.46	120.99	121.47	123.49	0.326039	7.01			0.71	2.15	3.89
TS78736	1622.22	Max WS	Tr200_D2h	5.49	120.46	121.02	121.52	123.63	0.322090	7.16			0.77	2.22	3.89
TS78736	1600	Max WS	Tr200_D0_5h	6.86	118.99	119.71	119.90	120.34	0.041030	3.51			1.96	3.60	1.52
TS78736	1600	Max WS	Tr200_D1h	4.98	118.99	119.62	119.75	120.10	0.037781	3.09			1.61	3.45	1.44
TS78736	1600	Max WS	Tr200_D2h	5.49	118.99	119.64	119.80	120.17	0.039268	3.22			1.70	3.49	1.47
TS78736	1542.86	Max WS	Tr200_D0_5h	6.80	116.61	118.43		118.55	0.004350	1.58			4.29	3.83	0.48
TS78736	1542.86	Max WS	Tr200_D1h	4.97	116.61	118.27		118.36	0.003316	1.34			3.72	3.48	0.41
TS78736	1542.86	Max WS	Tr200_D2h	5.49	116.61	118.32		118.42	0.003610	1.41			3.89	3.57	0.43
TS78736	1541														
TS78736	1540														
TS78736	1500	Max WS	Tr200_D0_5h	3.31	115.55	118.52		118.52	0.000017	0.18	0.05	0.05	22.61	16.10	0.04
TS78736	1500	Max WS	Tr200_D1h	3.18	115.55	118.33		118.33	0.000022	0.19	0.05	0.05	19.73	15.45	0.04
TS78736	1500	Max WS	Tr200_D2h	3.22	115.55	118.39		118.39	0.000020	0.18	0.05	0.05	20.60	15.63	0.04
TS78736	1450														
TS78736	1400	Max WS	Tr200_D0_5h	3.31	102.72	103.34		103.45	0.009872	1.51			2.19	5.45	0.76
TS78736	1400	Max WS	Tr200_D1h	3.18	102.72	103.33		103.44	0.009739	1.48			2.14	5.38	0.75
TS78736	1400	Max WS	Tr200_D2h	3.22	102.72	103.33		103.45	0.009774	1.49			2.16	5.40	0.75
TS78736	1399														
TS78736	1398														
TS78736	1300	Max WS	Tr200_D0_5h	1.34	101.86	102.29	102.30	102.42	0.017958	1.57	0.23	0.11	0.89	4.30	0.96
TS78736	1300	Max WS	Tr200_D1h	1.34	101.86	102.29	102.29	102.42	0.018165	1.57	0.22	0.10	0.88	4.28	0.96
TS78736	1300	Max WS	Tr200_D2h	1.34	101.86	102.29	102.29	102.42	0.018294	1.58	0.22	0.10	0.88	4.28	0.97
TS78736	1299														
TS78736	1298														
TS78736	1200	Max WS	Tr200_D0_5h	1.08	100.94	101.92		101.92	0.000316	0.41	0.15	0.12	4.63	11.00	0.15
TS78736	1200	Max WS	Tr200_D1h	0.98	100.94	101.91		101.92	0.000271	0.38	0.14	0.10	4.54	11.00	0.14
TS78736	1200	Max WS	Tr200_D2h	1.21	100.94	101.91		101.92	0.000419	0.47	0.17	0.13	4.53	11.00	0.17
TS78736	1100	Max WS	Tr200_D0_5h	-6.14	100.16	101.91		101.95	0.001059	-1.09	-0.46	-0.30	8.69	8.31	0.28
TS78736	1100	Max WS	Tr200_D1h	-6.11	100.16	101.90		101.94	0.001074	-1.10	-0.46	-0.30	8.61	8.31	0.29
TS78736	1100	Max WS	Tr200_D2h	-5.98	100.16	101.90		101.94	0.001026	-1.07	-0.45	-0.29	8.62	8.31	0.28
TS78736	1070.00	Max WS	Tr200_D0_5h	-8.96	99.72	101.95		101.98	0.000699	-0.96	-0.40	-0.21	14.84	14.81	0.23
TS78736	1070.00	Max WS	Tr200_D1h	-8.86	99.72	101.94		101.97	0.000699	-0.96	-0.40	-0.21	14.70	14.81	0.23
TS78736	1070.00	Max WS	Tr200_D2h	-8.77	99.72	101.94		101.97	0.000686	-0.95	-0.39	-0.21	14.70	14.81	0.23
TS78736	1040.00	Max WS	Tr200_D0_5h	-13.82	99.84	101.94		101.96	0.000482	-0.86	-0.37	-0.32	25.07	20.36	0.21
TS78736	1040.00	Max WS	Tr200_D1h	-13.85	99.84	101.93		101.95	0.000496	-0.87	-0.37	-0.32	24.86	20.36	0.21
TS78736	1040.00	Max WS	Tr200_D2h	-13.50	99.84	101.93		101.95	0.000471	-0.85	-0.36	-0.31	24.88	20.36	0.21
TS78736	1000	Max WS	Tr200_D0_5h	-14.28	99.80	101.94		101.97	0.000454	-0.92	-0.37	-0.32	26.79	21.07	0.21
TS78736	1000	Max WS	Tr200_D1h	-14.28	99.80	101.93		101.96	0.000462	-0.92	-0.37	-0.32	26.61	21.07	0.21
TS78736	1000	Max WS	Tr200_D2h	-14.12	99.80	101.93		101.96	0.000453	-0.91	-0.37	-0.32	26.57	21.07	0.21
TS78736	900	Max WS	Tr200_D0_5h	-9.01	100.25	102.00		102.01	0.000307	-0.69	-0.31	-0.25	20.40	15.74	0.17
TS78736	900	Max WS	Tr200_D1h	-9.37	100.25	101.99		102.01	0.000338	-0.73	-0.32	-0.26	20.29	15.74	0.18
TS78736	900	Max WS	Tr200_D2h	-9.36	100.25	101.99		102.01	0.000338	-0.73	-0.32	-0.26	20.26	15.74	0.18
TS78736	800	Max WS	Tr200_D0_5h	-6.45	100.86	102.08		102.11	0.001283	-1.09	-0.49	-0.26	10.66	14.71	0.33
TS78736	800	Max WS	Tr200_D1h	-6.65	100.86	102.08		102.11	0.001379	-1.13	-0.51	-0.27	10.62	14.67	0.34
TS78736	800	Max WS	Tr200_D2h	-6.60	100.86	102.08		102.12	0.001321	-1.11	-0.50	-0.26	10.73	14.77	0.33
TS78736	799														
TS78736	798														
TS78736	700	Max WS	Tr200_D0_5h	-13.38	100.39	102.13		102.15	0.000275	-0.61	-0.26	-0.17	32.12	29.26	0.16
TS78736	700	Max WS	Tr200_D1h	-13.31	100.39	102.13		102.15	0.000271	-0.61	-0.26	-0.16	32.17	29.27	0.16
TS78736	700	Max WS	Tr200_D2h	-13.50	100.39	102.14		102.15	0.000277	-0.61	-0.26	-0.17	32.25	29.28	0.16
TS78736	500.29	Max WS	Tr200_D0_5h	-13.51	100.33	102.14		102.16	0.000612	-0.86	-0.43	-0.18	25.76	23.59	0.22
TS78736	500.29	Max WS	Tr200_D1h	-13.57	100.33	102.14		102.16	0.000615	-0.86	-0.43	-0.18	25.80	23.59	0.22
TS78736	500.29	Max WS	Tr200_D2h	-13.48	100.33	102.14		102.16	0.000602	-0.85	-0.43	-0.18	25.87	23.59	0.22
TS78736_v	480														

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
TS78736_v	400.43	Max WS	Tr200_D0_5h	-34.59	100.12	102.17		102.60	0.007700	-3.33	-1.11	-1.05	16.20	16.80	0.83
TS78736_v	400.43	Max WS	Tr200_D1h	-34.60	100.12	102.17		102.60	0.007682	-3.33	-1.11	-1.05	16.22	16.80	0.83
TS78736_v	400.43	Max WS	Tr200_D2h	-34.59	100.12	102.17		102.60	0.007650	-3.33	-1.11	-1.05	16.24	16.80	0.82
TS78736_v	399			Culvert											
TS78736_v	350	Max WS	Tr200_D0_5h	-34.59	100.34	102.93		103.20	0.005058	-2.94	-1.22	-1.24	19.08	12.05	0.63
TS78736_v	350	Max WS	Tr200_D1h	-34.59	100.34	102.93		103.20	0.005058	-2.94	-1.22	-1.24	19.08	12.05	0.63
TS78736_v	350	Max WS	Tr200_D2h	-34.59	100.34	102.93		103.20	0.005058	-2.94	-1.22	-1.24	19.08	12.05	0.63
TS78736_v	349			Lat Struct											
TS78736_v	1	Max WS	Tr200_D0_5h	-226.38	99.74	103.03	103.97	106.55	0.034070	-11.17	-4.88	-3.96	36.05	13.43	2.01
TS78736_v	1	Max WS	Tr200_D1h	-226.38	99.74	103.03	103.97	106.55	0.034070	-11.17	-4.88	-3.96	36.05	13.43	2.01
TS78736_v	1	Max WS	Tr200_D2h	-226.38	99.74	103.03	103.97	106.55	0.034070	-11.17	-4.88	-3.96	36.05	13.43	2.01

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "CINIGIANO"**

**FOSSO TS78736**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    0.5h, 1h e 2h

***Dati idraulici***

Reach	River Sta	Profile	Plan	Q Total (m <sup>3</sup> /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m <sup>2</sup> )	Top Width (m)	Froude # Chl
TS78736	2000	Max WS	Tr30_D0_5h	4.80	146.40	147.12	147.37	147.95	0.082596	4.03			1.19	3.13	2.08
TS78736	2000	Max WS	Tr30_D1h	5.00	146.40	147.14	147.39	147.96	0.080305	4.03			1.24	3.19	2.06
TS78736	2000	Max WS	Tr30_D2h	3.90	146.40	147.05	147.29	147.86	0.093664	4.00			0.97	2.84	2.18
TS78736	1900	Max WS	Tr30_D0_5h	4.79	137.17	137.67	137.98	138.94	0.164847	5.00			0.96	3.20	2.92
TS78736	1900	Max WS	Tr30_D1h	5.00	137.17	137.67	138.00	138.99	0.166483	5.07			0.98	3.23	2.94
TS78736	1900	Max WS	Tr30_D2h	3.90	137.17	137.63	137.91	138.71	0.153648	4.60			0.85	3.05	2.78
TS78736	1800	Max WS	Tr30_D0_5h	4.79	128.38	129.14	129.33	129.74	0.049259	3.43			1.40	3.03	1.61
TS78736	1800	Max WS	Tr30_D1h	4.99	128.38	129.15	129.34	129.77	0.049950	3.49			1.43	3.06	1.63
TS78736	1800	Max WS	Tr30_D2h	3.90	128.38	129.08	129.24	129.60	0.046862	3.19			1.22	2.87	1.56
TS78736	1750	Max WS	Tr30_D0_5h	4.78	123.32	124.45	124.16	124.59	0.006257	1.67		0.18	2.87	3.84	0.58
TS78736	1750	Max WS	Tr30_D1h	4.98	123.32	124.47	124.18	124.62	0.006215	1.70		0.21	2.97	3.96	0.58
TS78736	1750	Max WS	Tr30_D2h	3.90	123.32	124.34	124.07	124.46	0.006332	1.57			2.49	3.33	0.58
TS78736	1725		Ini Struct												
TS78736	1700	Max WS	Tr30_D0_5h	4.78	122.25	122.75	122.89	123.22	0.048269	3.06			1.56	4.34	1.63
TS78736	1700	Max WS	Tr30_D1h	4.98	122.25	122.76	122.91	123.24	0.047374	3.08			1.62	4.38	1.62
TS78736	1700	Max WS	Tr30_D2h	3.90	122.25	122.69	122.83	123.13	0.051625	2.92			1.33	4.18	1.65
TS78736	1655.56	Max WS	Tr30_D0_5h	4.78	121.24	122.41	122.04	122.50	0.003499	1.30			3.67	4.62	0.47
TS78736	1655.56	Max WS	Tr30_D1h	4.98	121.24	122.44	122.06	122.53	0.003401	1.30			3.82	4.67	0.46
TS78736	1655.56	Max WS	Tr30_D2h	3.90	121.24	122.27	121.96	122.36	0.003952	1.28			3.04	4.37	0.49
TS78736	1635		Bridge												
TS78736	1622.22	Max WS	Tr30_D0_5h	4.78	120.46	120.98	121.45	123.46	0.332595	6.98			0.68	2.12	3.92
TS78736	1622.22	Max WS	Tr30_D1h	4.98	120.46	120.99	121.47	123.49	0.326038	7.01			0.71	2.15	3.89
TS78736	1622.22	Max WS	Tr30_D2h	3.90	120.46	120.92	121.36	123.27	0.358529	6.79			0.57	1.97	4.02
TS78736	1600	Max WS	Tr30_D0_5h	4.78	118.99	119.61	119.74	120.07	0.036985	3.02			1.58	3.43	1.42
TS78736	1600	Max WS	Tr30_D1h	4.98	118.99	119.62	119.75	120.10	0.037782	3.09			1.61	3.45	1.44
TS78736	1600	Max WS	Tr30_D2h	3.90	118.99	119.54	119.66	119.97	0.040276	2.91			1.34	3.32	1.47
TS78736	1542.86	Max WS	Tr30_D0_5h	4.75	116.61	118.25		118.33	0.003188	1.30			3.65	3.44	0.40
TS78736	1542.86	Max WS	Tr30_D1h	4.97	116.61	118.27		118.36	0.003316	1.34			3.72	3.48	0.41
TS78736	1542.86	Max WS	Tr30_D2h	3.89	116.61	118.15		118.22	0.002720	1.17			3.32	3.26	0.37
TS78736	1541		Lat Struct												
TS78736	1540		Lat Struct												
TS78736	1500	Max WS	Tr30_D0_5h	3.16	115.55	118.31		118.31	0.000023	0.19	0.05	0.05	19.35	15.37	0.04
TS78736	1500	Max WS	Tr30_D1h	3.18	115.55	118.33		118.33	0.000022	0.19	0.05	0.05	19.73	15.45	0.04
TS78736	1500	Max WS	Tr30_D2h	3.07	115.55	118.20		118.20	0.000027	0.20	0.05	0.05	17.69	14.93	0.05
TS78736	1450		Culvert												
TS78736	1400	Max WS	Tr30_D0_5h	3.16	102.72	103.33		103.44	0.009704	1.48			2.13	5.37	0.75
TS78736	1400	Max WS	Tr30_D1h	3.18	102.72	103.33		103.44	0.009739	1.48			2.14	5.38	0.75
TS78736	1400	Max WS	Tr30_D2h	3.07	102.72	103.32		103.43	0.009621	1.47			2.10	5.32	0.75
TS78736	1399		Lat Struct												
TS78736	1398		Lat Struct												
TS78736	1300	Max WS	Tr30_D0_5h	1.32	101.86	102.30	102.29	102.41	0.016263	1.51	0.24	0.12	0.91	4.33	0.92
TS78736	1300	Max WS	Tr30_D1h	1.34	101.86	102.30	102.29	102.42	0.016825	1.54	0.24	0.12	0.90	4.33	0.93
TS78736	1300	Max WS	Tr30_D2h	1.32	101.86	102.30	102.29	102.41	0.016514	1.52	0.24	0.12	0.90	4.32	0.92
TS78736	1299		Lat Struct												
TS78736	1298		Lat Struct												
TS78736	1200	Max WS	Tr30_D0_5h	0.89	100.94	101.85		101.85	0.000350	0.41	0.14	0.10	3.82	11.00	0.15
TS78736	1200	Max WS	Tr30_D1h	0.89	100.94	101.85		101.85	0.000345	0.41	0.14	0.10	3.86	11.00	0.15
TS78736	1200	Max WS	Tr30_D2h	0.69	100.94	101.85		101.85	0.000205	0.31	0.11	0.08	3.86	11.00	0.12
TS78736	1100	Max WS	Tr30_D0_5h	-4.89	100.16	101.84		101.87	0.000813	-0.93	-0.38	-0.25	8.11	8.31	0.25
TS78736	1100	Max WS	Tr30_D1h	-4.87	100.16	101.84		101.87	0.000796	-0.92	-0.38	-0.24	8.14	8.31	0.24
TS78736	1100	Max WS	Tr30_D2h	-4.99	100.16	101.84		101.87	0.000840	-0.95	-0.39	-0.25	8.13	8.31	0.25
TS78736	1070.00	Max WS	Tr30_D0_5h	-7.03	99.72	101.87		101.89	0.000525	-0.81	-0.33	-0.16	13.73	14.81	0.20
TS78736	1070.00	Max WS	Tr30_D1h	-7.11	99.72	101.88		101.90	0.000529	-0.81	-0.33	-0.16	13.80	14.81	0.20
TS78736	1070.00	Max WS	Tr30_D2h	-7.14	99.72	101.88		101.90	0.000534	-0.82	-0.33	-0.16	13.79	14.81	0.20
TS78736	1040.00	Max WS	Tr30_D0_5h	-10.90	99.84	101.87		101.88	0.000360	-0.72	-0.30	-0.26	23.53	20.36	0.18
TS78736	1040.00	Max WS	Tr30_D1h	-11.20	99.84	101.87		101.89	0.000377	-0.74	-0.31	-0.27	23.59	20.36	0.18
TS78736	1040.00	Max WS	Tr30_D2h	-11.04	99.84	101.87		101.89	0.000365	-0.73	-0.31	-0.26	23.63	20.36	0.18
TS78736	1000	Max WS	Tr30_D0_5h	-11.84	99.80	101.86		101.88	0.000376	-0.81	-0.32	-0.28	25.06	21.07	0.19
TS78736	1000	Max WS	Tr30_D1h	-12.02	99.80	101.87		101.89	0.000383	-0.82	-0.33	-0.28	25.16	21.07	0.19
TS78736	1000	Max WS	Tr30_D2h	-11.89	99.80	101.87		101.89	0.000373	-0.81	-0.32	-0.28	25.19	21.07	0.19
TS78736	900	Max WS	Tr30_D0_5h	-7.87	100.25	101.91		101.92	0.000292	-0.65	-0.29	-0.23	18.95	15.74	0.17
TS78736	900	Max WS	Tr30_D1h	-7.88	100.25	101.91		101.92	0.000288	-0.65	-0.28	-0.23	19.04	15.74	0.17
TS78736	900	Max WS	Tr30_D2h	-7.66	100.25	101.91		101.92	0.000273	-0.63	-0.28	-0.23	19.03	15.74	0.16
TS78736	800	Max WS	Tr30_D0_5h	-5.35	100.86	101.98		102.01	0.001264	-1.02	-0.45	-0.27	9.34	13.50	0.32
TS78736	800	Max WS	Tr30_D1h	-5.41	100.86	101.99		102.02	0.001276	-1.03	-0.45	-0.27	9.39	13.53	0.32
TS78736	800	Max WS	Tr30_D2h	-5.38	100.86	101.99		102.01	0.001269	-1.02	-0.45	-0.27	9.36	13.51	0.32
TS78736	799		Lat Struct												
TS78736	798		Lat Struct												
TS78736	700	Max WS	Tr30_D0_5h	-9.91	100.39	102.04		102.05	0.000194	-0.49	-0.20	-0.13	29.47	29.02	0.13
TS78736	700	Max WS	Tr30_D1h	-9.93	100.39	102.04		102.05	0.000193	-0.49	-0.20	-0.13	29.55	29.02	0.13
TS78736	700	Max WS	Tr30_D2h	-9.78	100.39	102.04		102.05	0.000189	-0.48	-0.20	-0.13	29.47	29.02	0.13
TS78736	500.29	Max WS	Tr30_D0_5h	-10.86	100.33	102.04		102.05	0.000519	-0.76	-0.37	-0.13	23.47	23.59	0.20
TS78736	500.29	Max WS	Tr30_D1h	-10.84	100.33	102.04		102.06	0.000513	-0.75	-0.37	-0.13	23.55	23.59	0.20
TS78736	500.29	Max WS	Tr30_D2h	-10.77	100.33	102.04		102.05	0.000509	-0.75	-0.37	-0.13	23.50	23.59	0.20
TS78736_v	480		Lat Struct												
TS78736_v	400.43	Max WS	Tr30_D0_5h	-25.50	100.12	102.04		102.36	0.006045	-2.80	-0.89	-0.81	14.01	16.80	0.72
TS78736_v	400.43	Max WS	Tr30_D1h	-25.50	100.12	102.04		102.36	0.006012	-2.79	-0.89	-0.81	14.04	16.80	0.72
TS78736_v	400.43	Max WS	Tr30_D2h	-25.50	100.12	102.04		102.36	0.006040	-2.80	-0.89	-0.81	14.02	16.80	0.72

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m <sup>3</sup> /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m <sup>2</sup> )	Top Width (m)	Froude # Chl
TS78736_v	399														
TS78736_v	350	Max WS	Tr30_D0_5h	-25.50	100.34	102.66		102.88	0.004654	-2.59	-1.05	-1.06	15.84	12.05	0.59
TS78736_v	350	Max WS	Tr30_D1h	-25.50	100.34	102.66		102.88	0.004653	-2.59	-1.05	-1.06	15.84	12.05	0.59
TS78736_v	350	Max WS	Tr30_D2h	-25.50	100.34	102.66		102.88	0.004653	-2.59	-1.05	-1.06	15.84	12.05	0.59
TS78736_v	349														
TS78736_v	1	Max WS	Tr30_D0_5h	-164.38	99.74	102.66	103.27	105.12	0.027785	-9.28	-4.11	-3.32	31.08	13.43	1.78
TS78736_v	1	Max WS	Tr30_D1h	-164.38	99.74	102.66	103.27	105.12	0.027785	-9.28	-4.11	-3.32	31.08	13.43	1.78
TS78736_v	1	Max WS	Tr30_D2h	-164.38	99.74	102.66	103.27	105.12	0.027785	-9.28	-4.11	-3.32	31.08	13.43	1.78

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA VALLE"**

**Orcia**

MODELLAZIONE PER TR=30 e 200 ANNI

DURATA DI PIOGGIA: 9h, 12h e 15h

***Profilo longitudinale***

***Sezioni Trasversali***

***Dati idraulici***

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA VALLE"**

**Orcia**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    9h, 12h e 15h

***Profilo longitudinale***





## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA VALLE"**

**Orcia**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    9h, 12h e 15h

***Profilo longitudinale***



## **ALLEGATI**

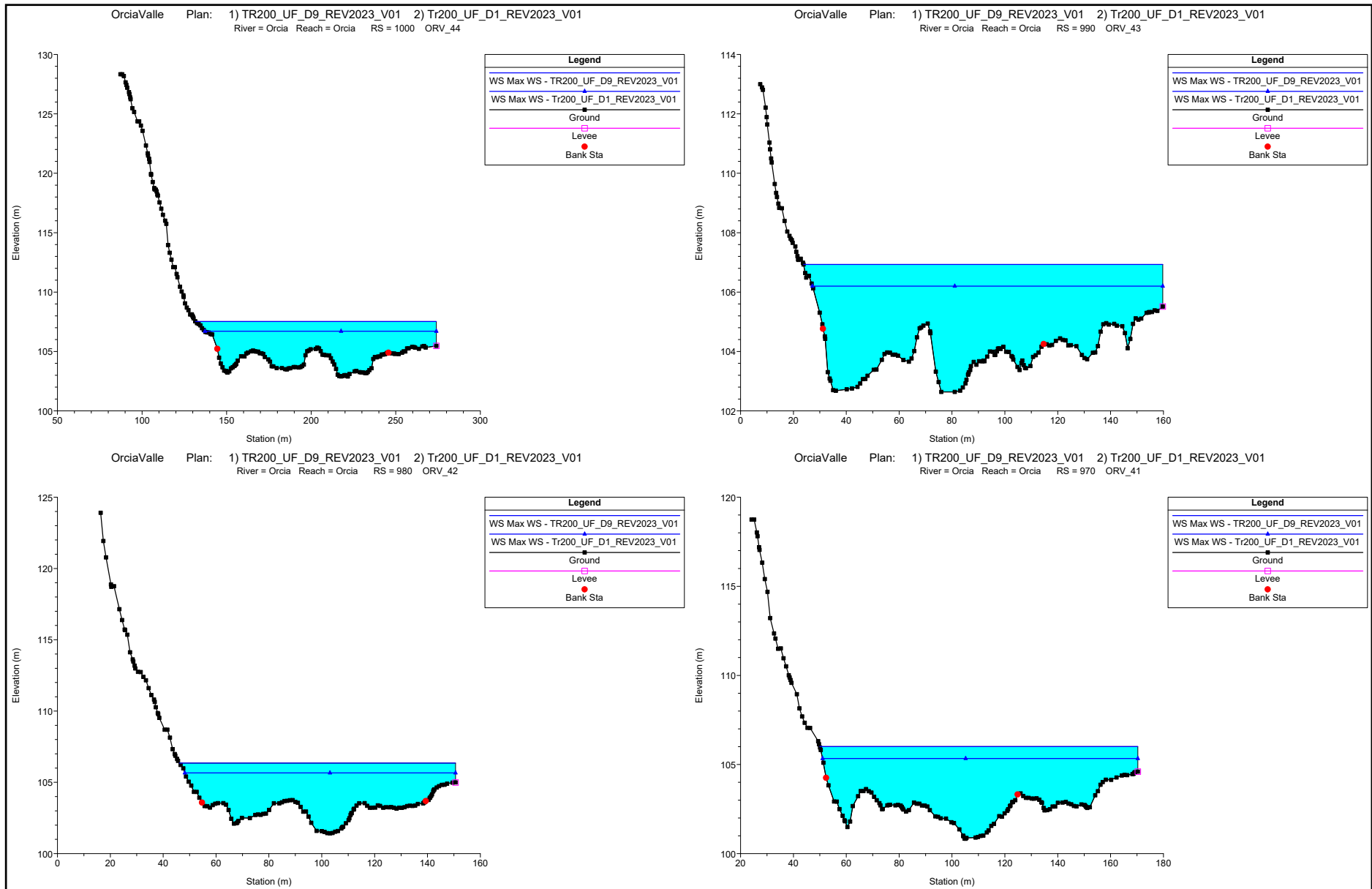
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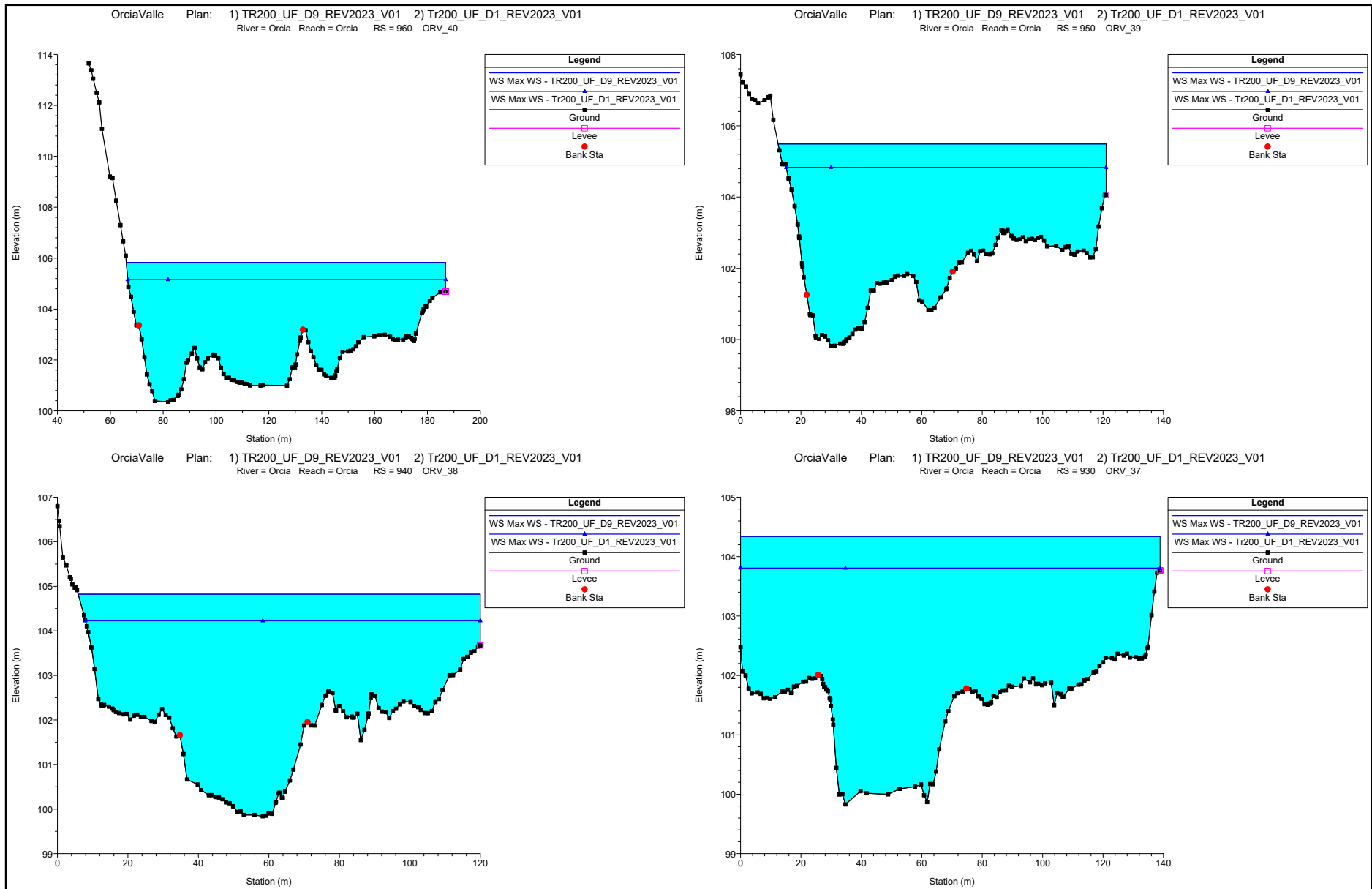
**Orcia**

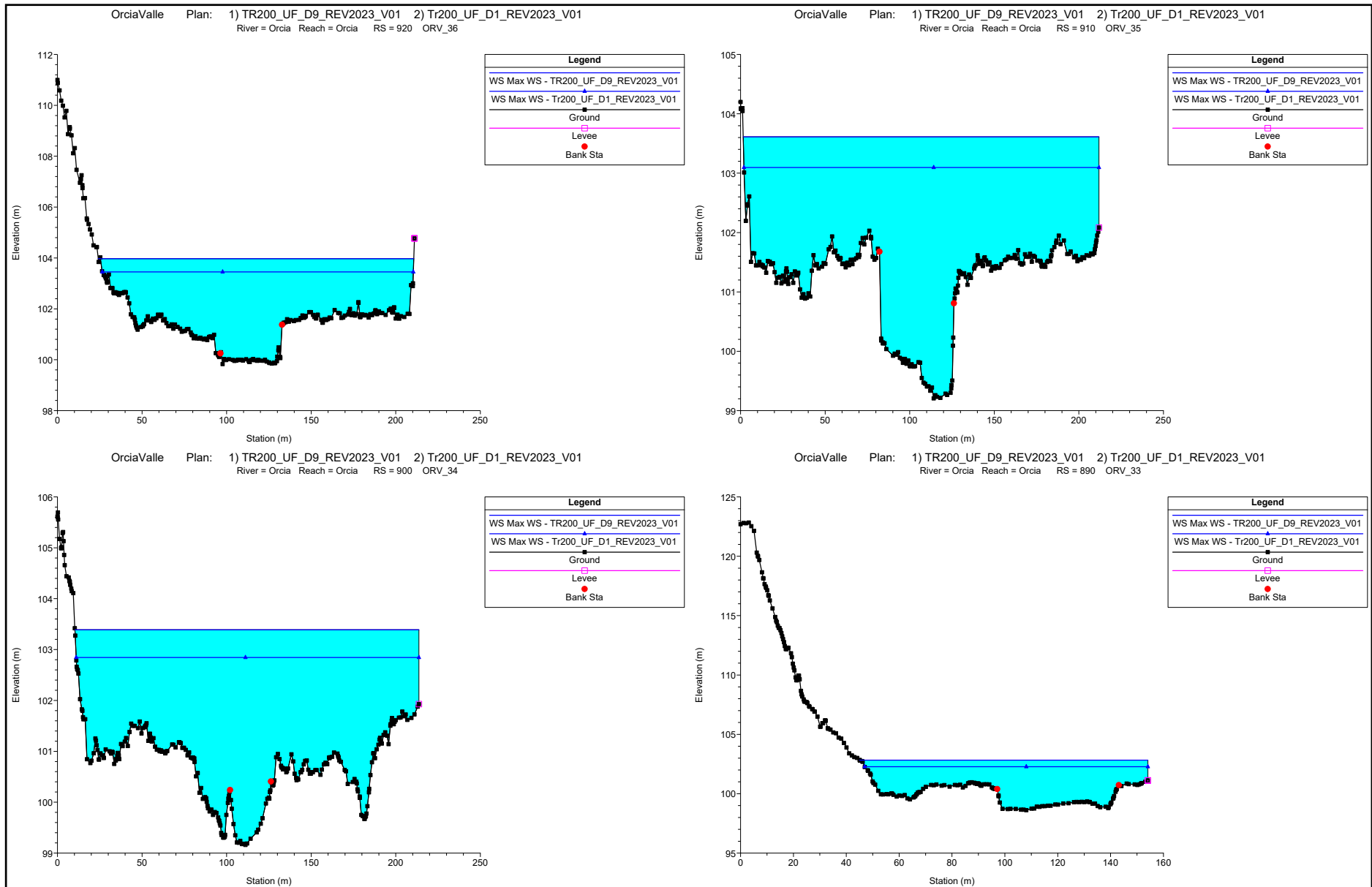
MODELLAZIONE PER      Tr=200 anni

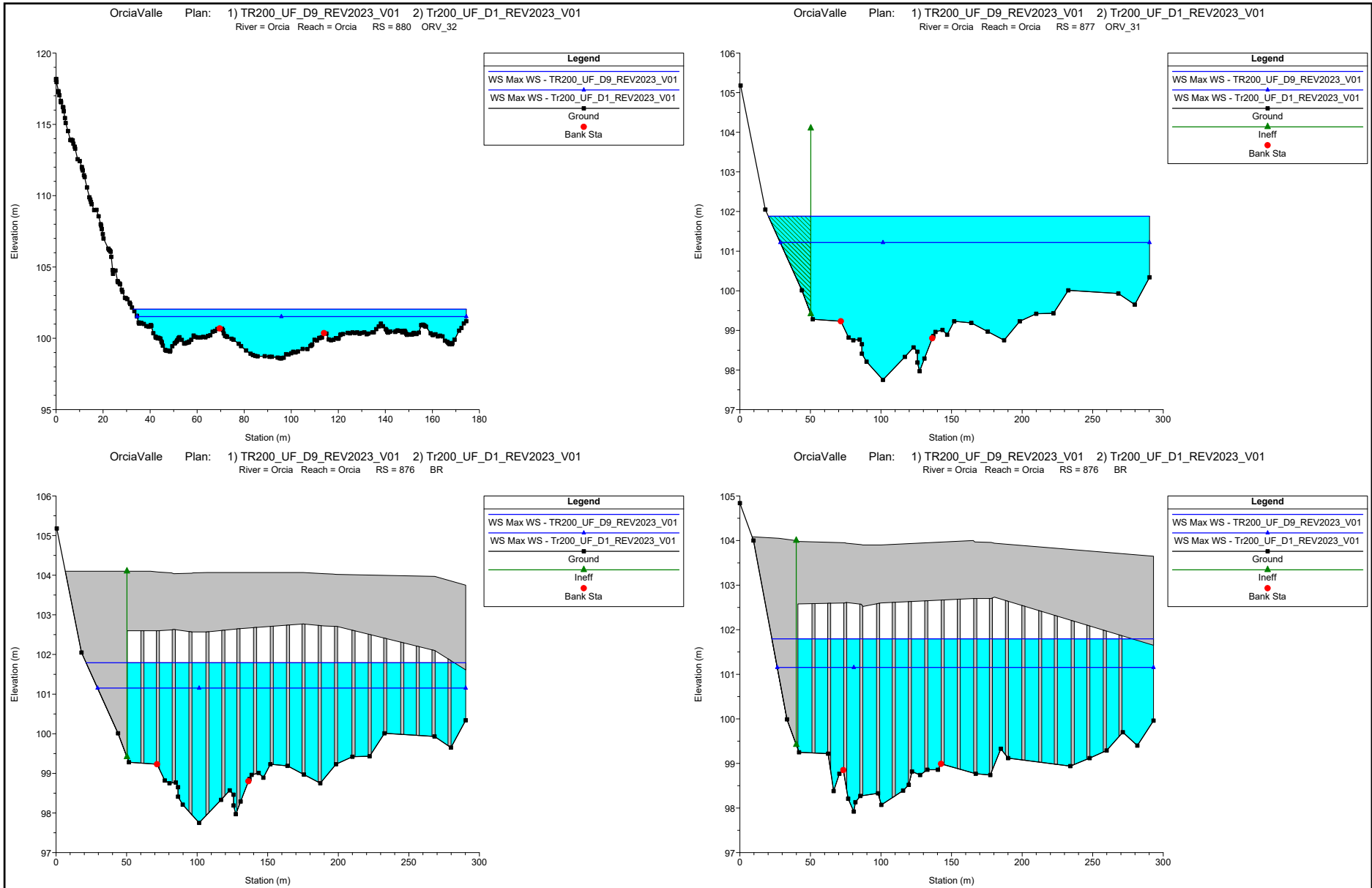
DURATE DI PIOGGIA:    9h, 12h e 15h

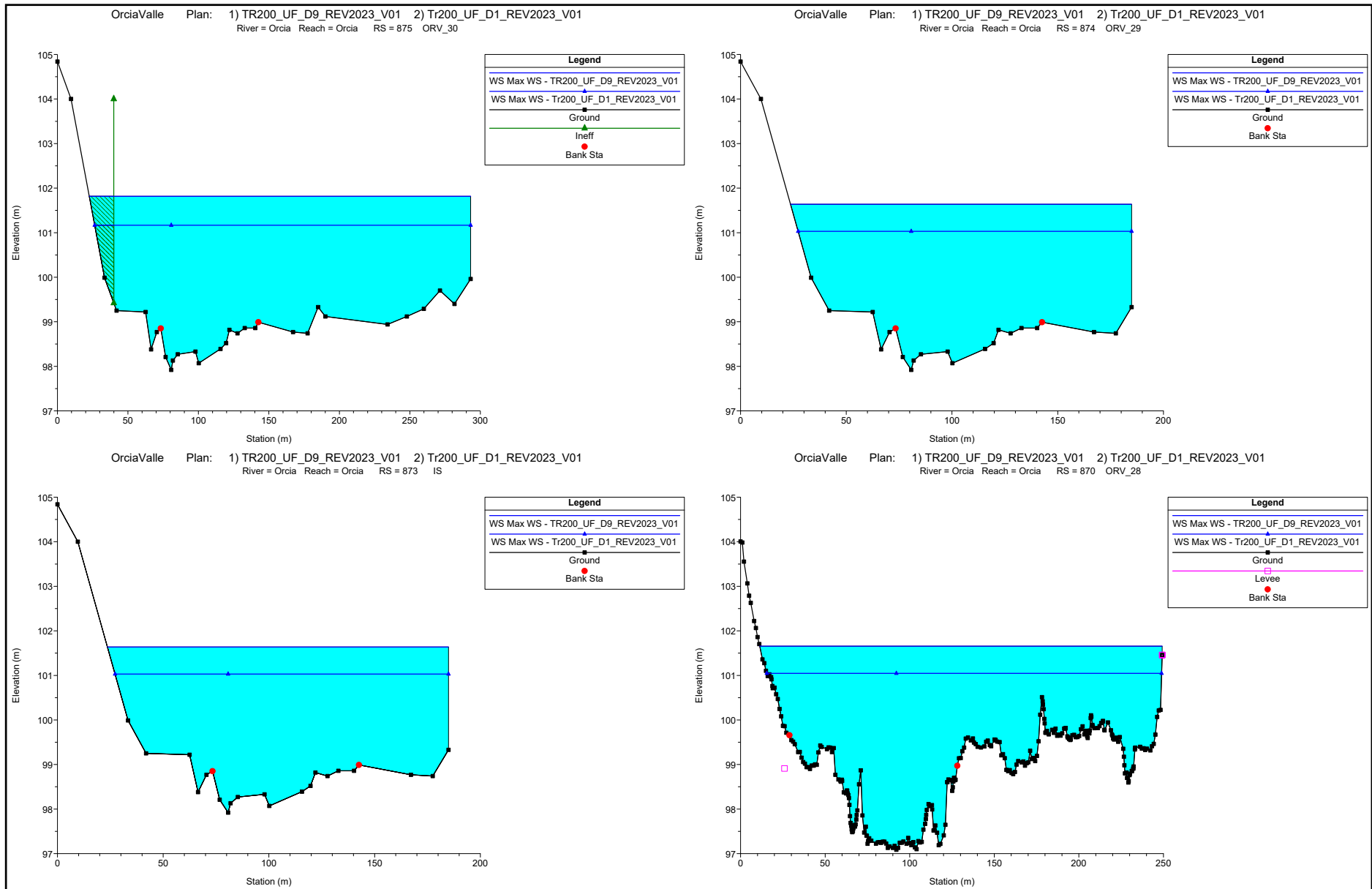
***Sezioni Trasversali (da monte verso valle)***



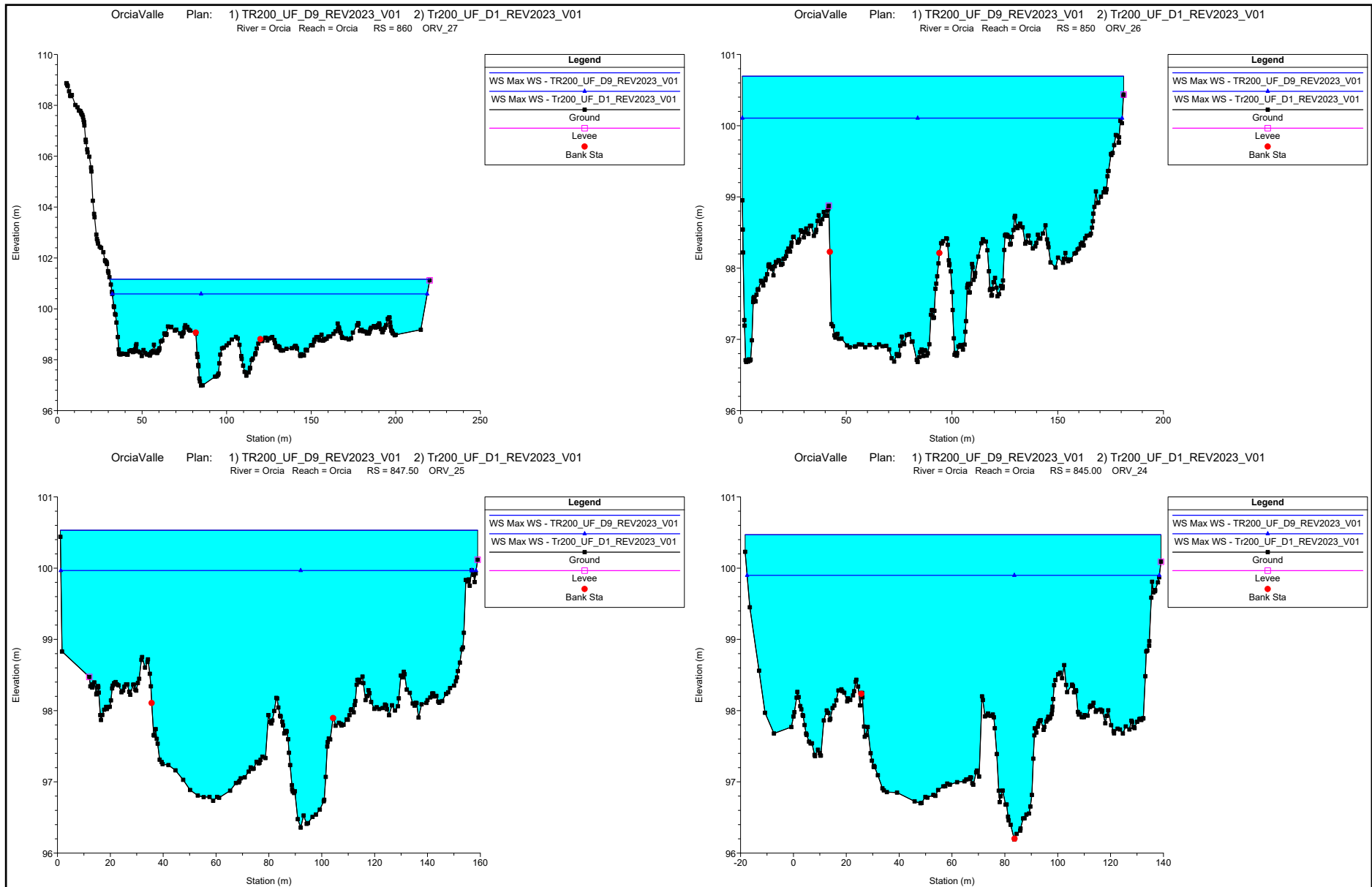


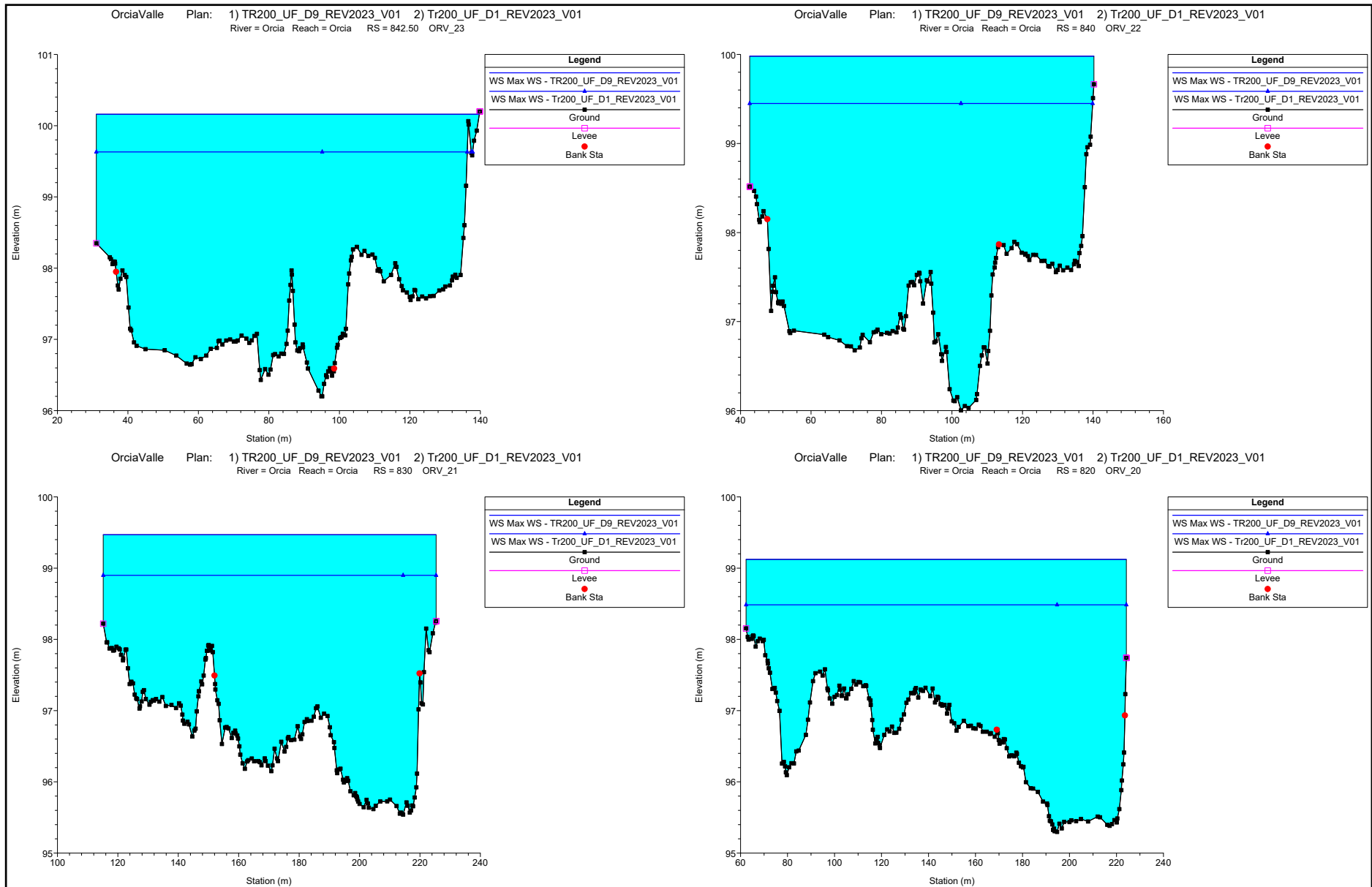


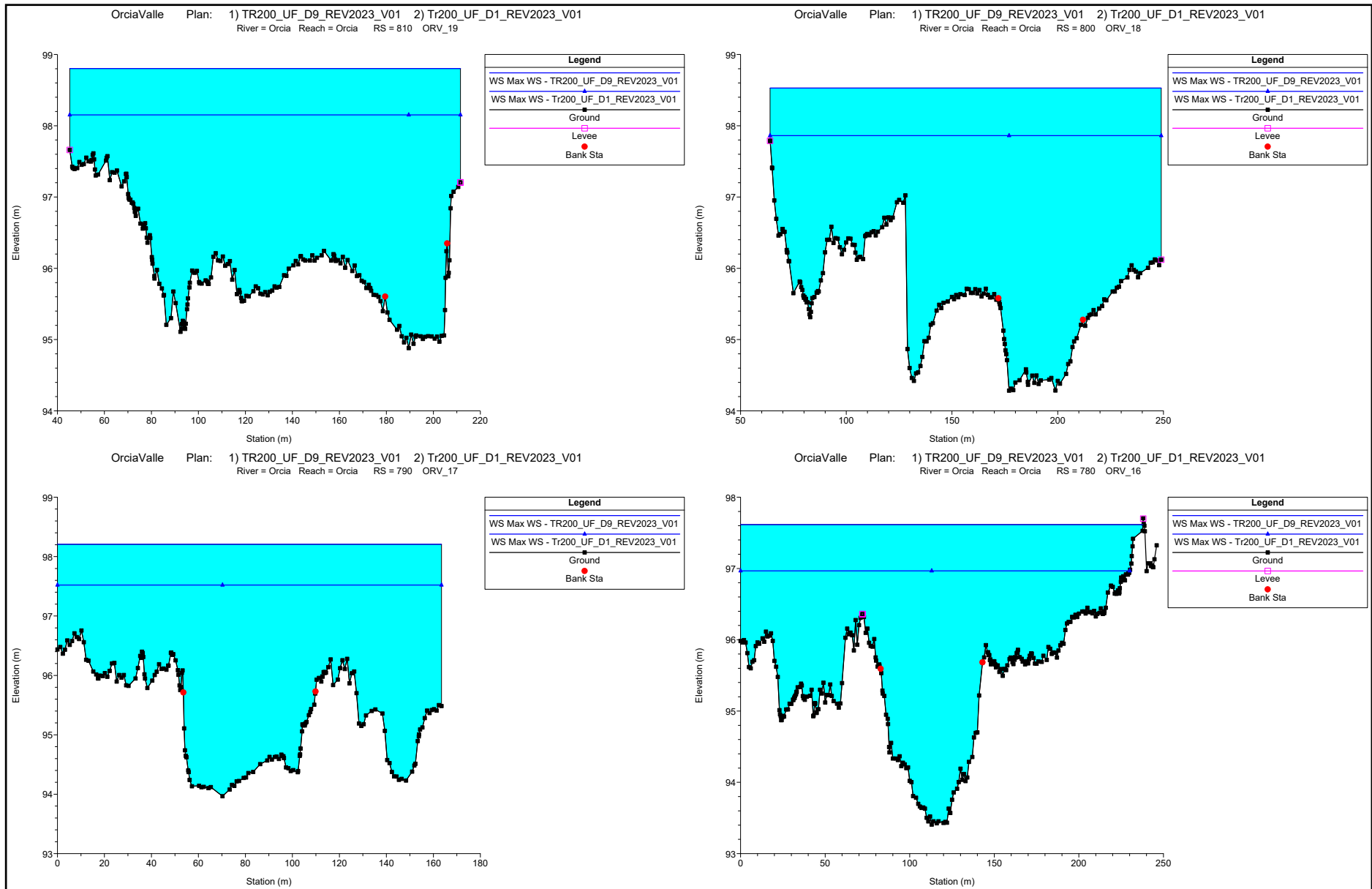


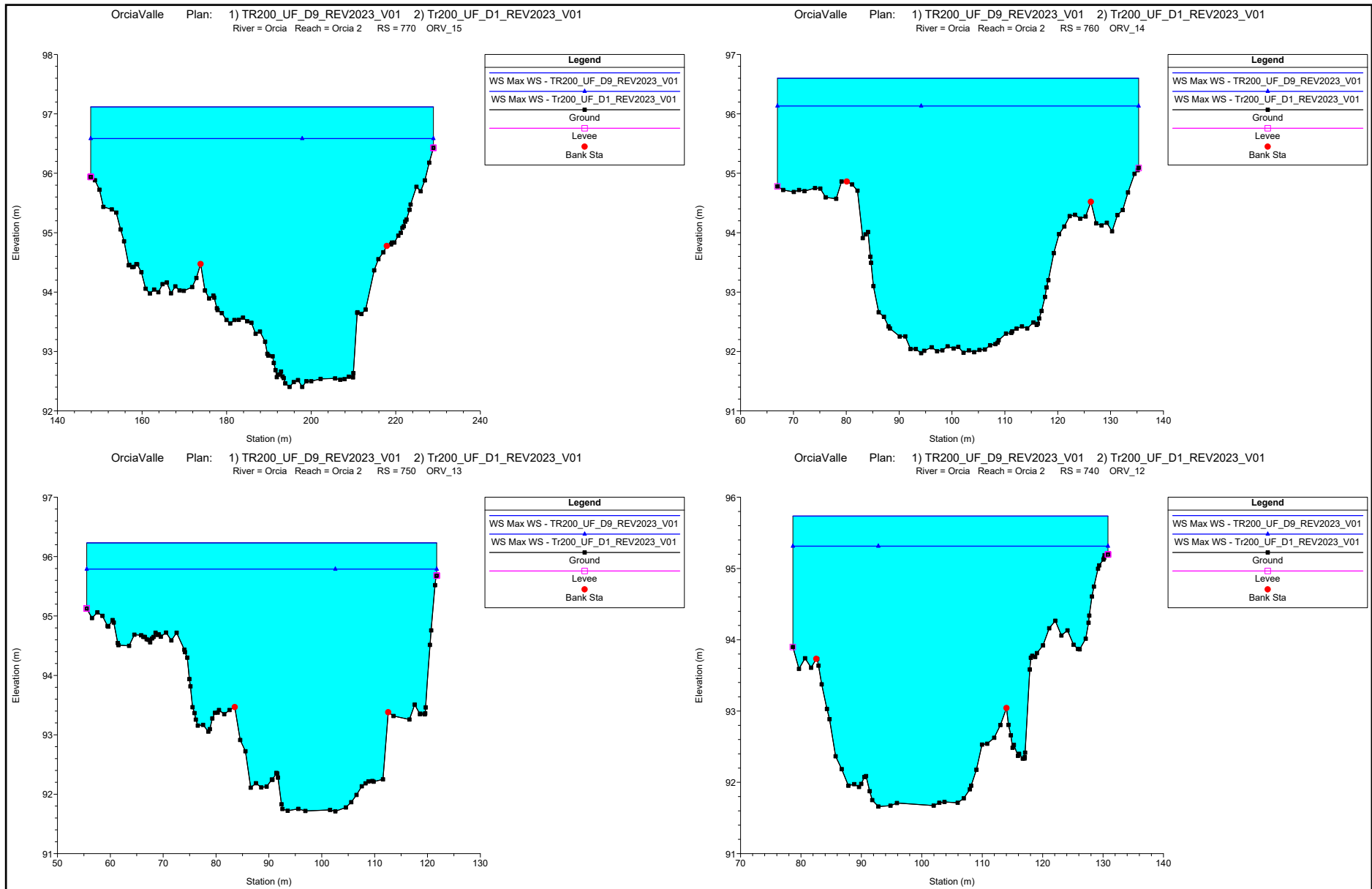


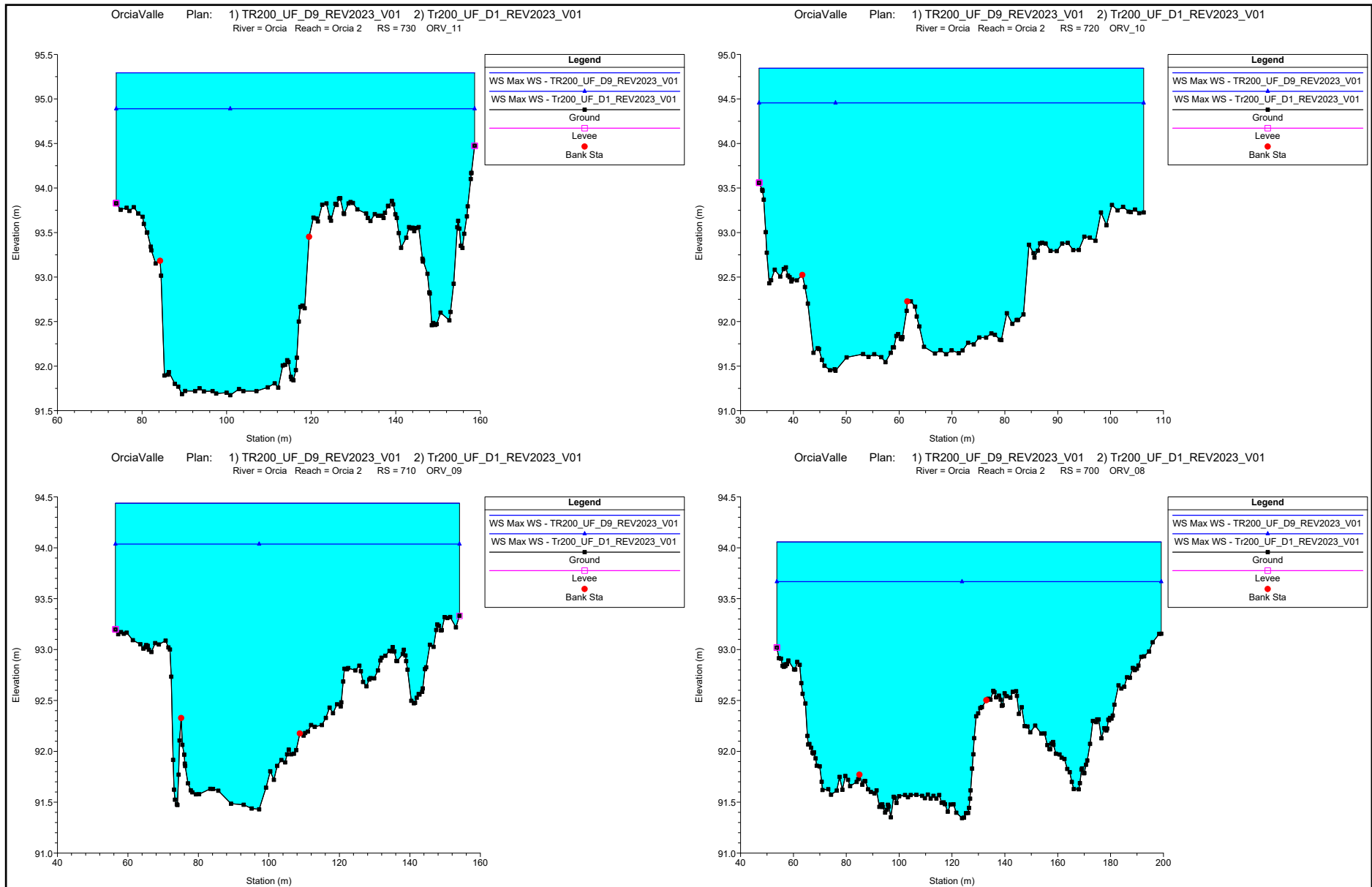


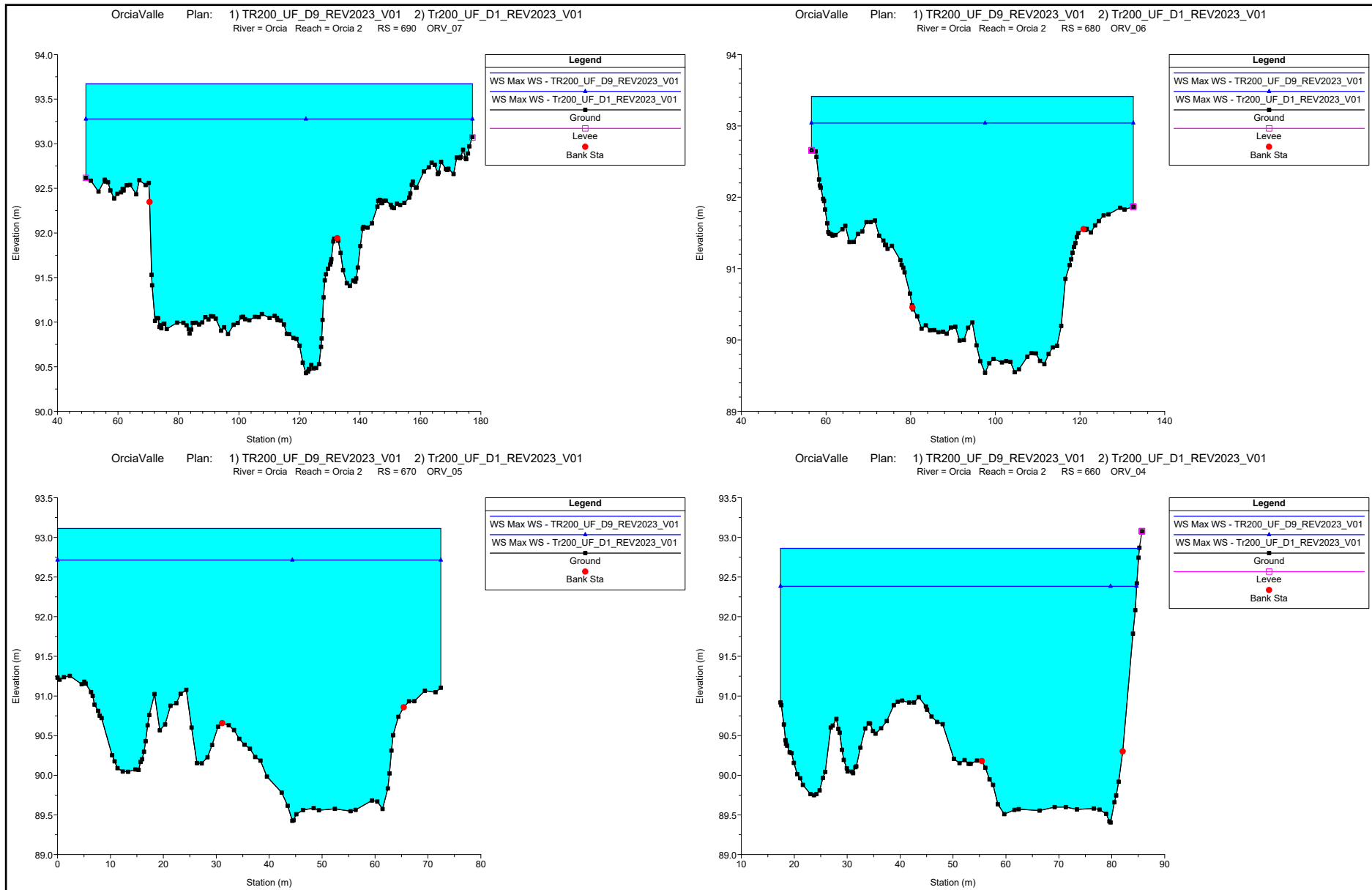


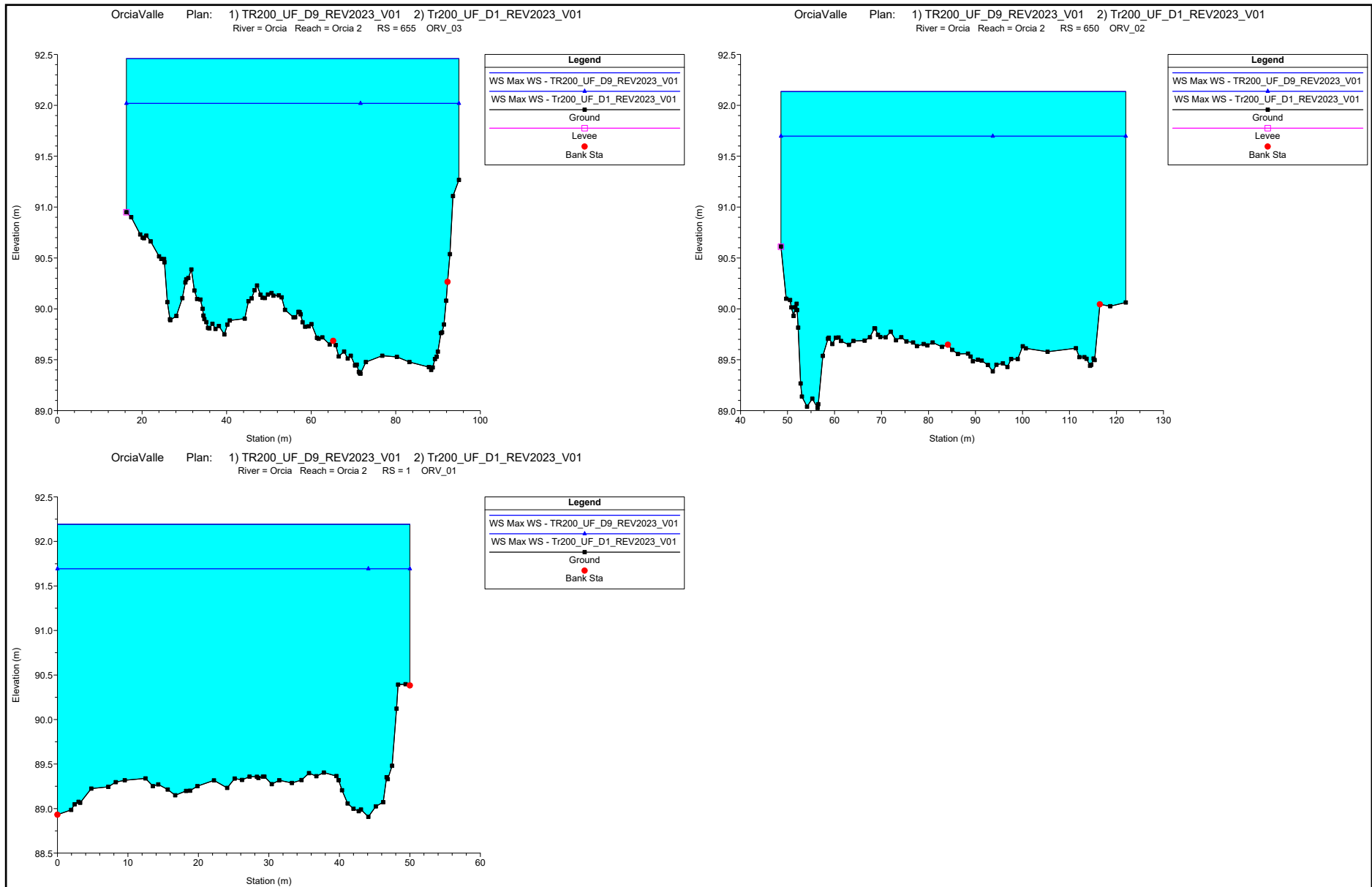












# ALLEGATI

## MODELLAZIONE HEC-RAS 5.0.7 "ORCIA VALLE"

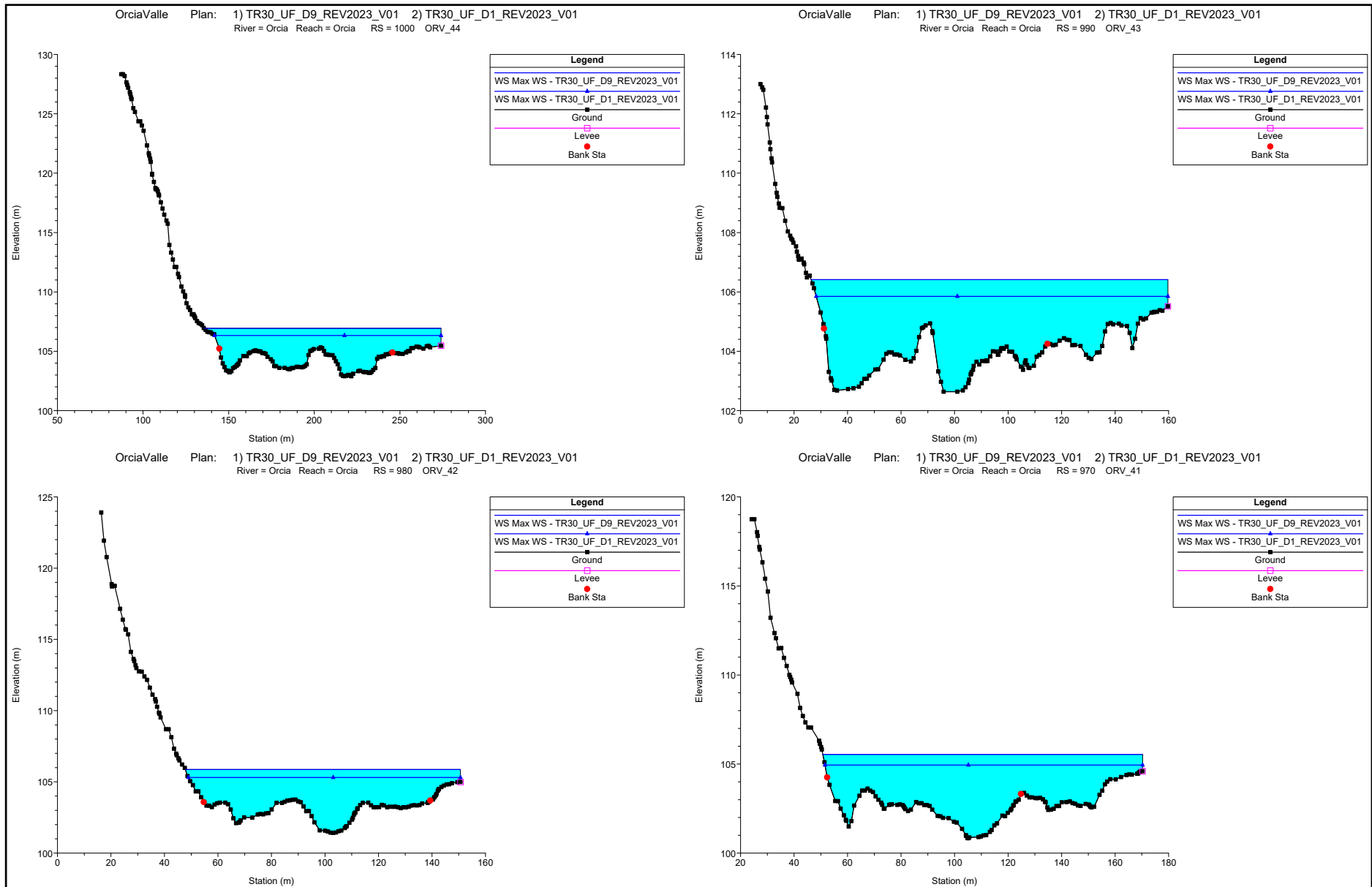
Orcia

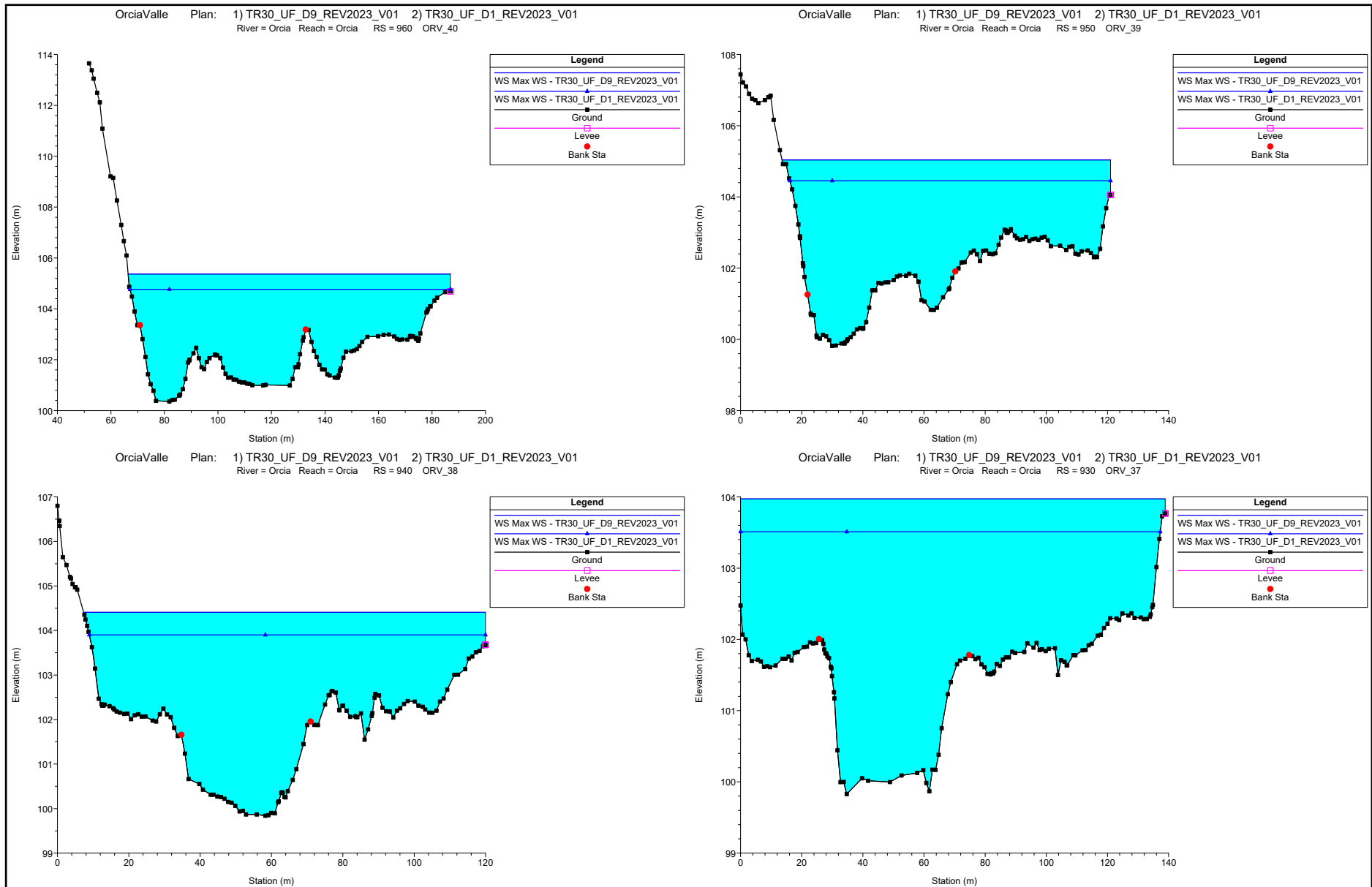
MODELLAZIONE PER Tr=30 anni

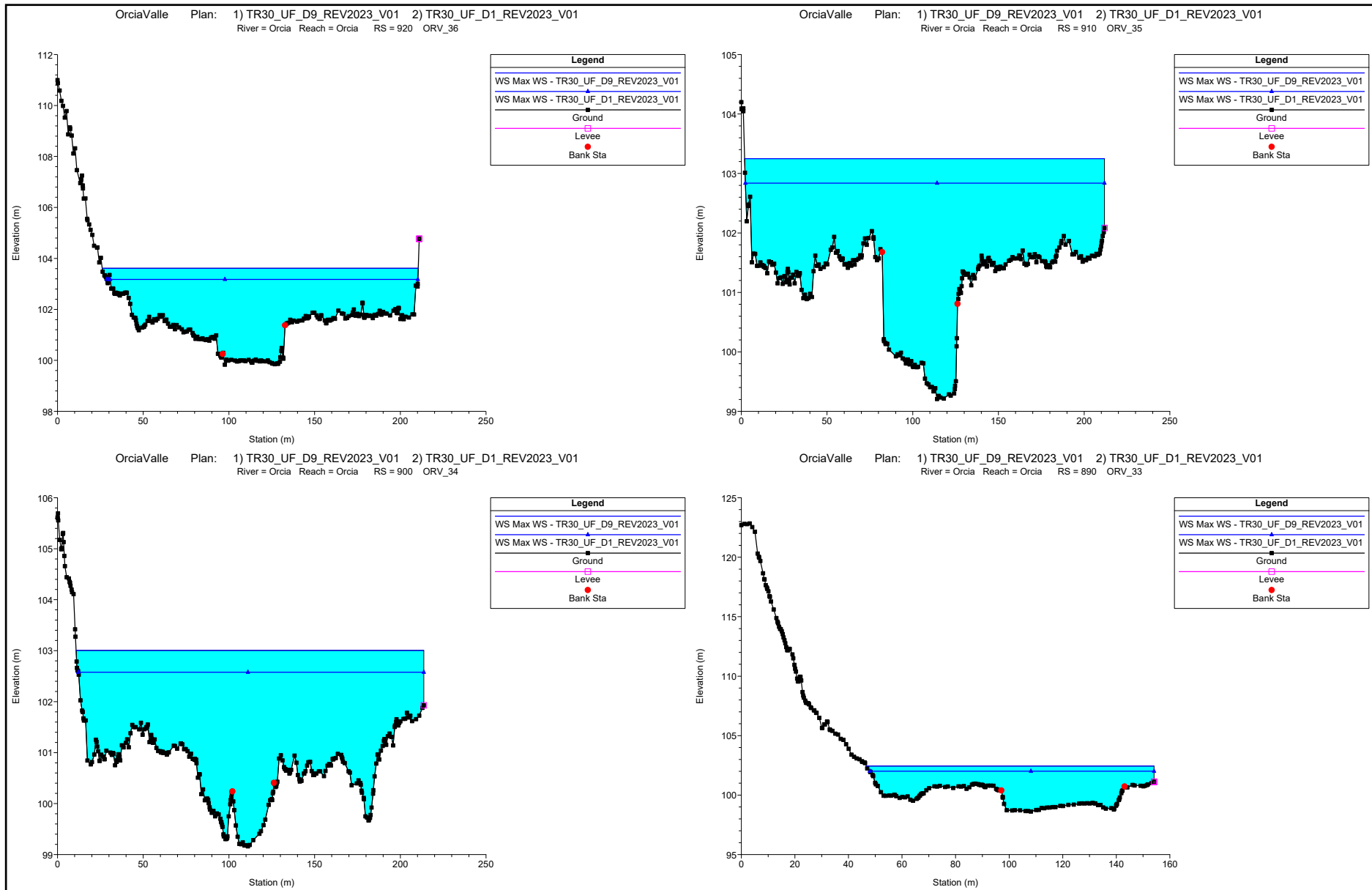
DURATE DI PIOGGIA: 9h, 12h e 15h

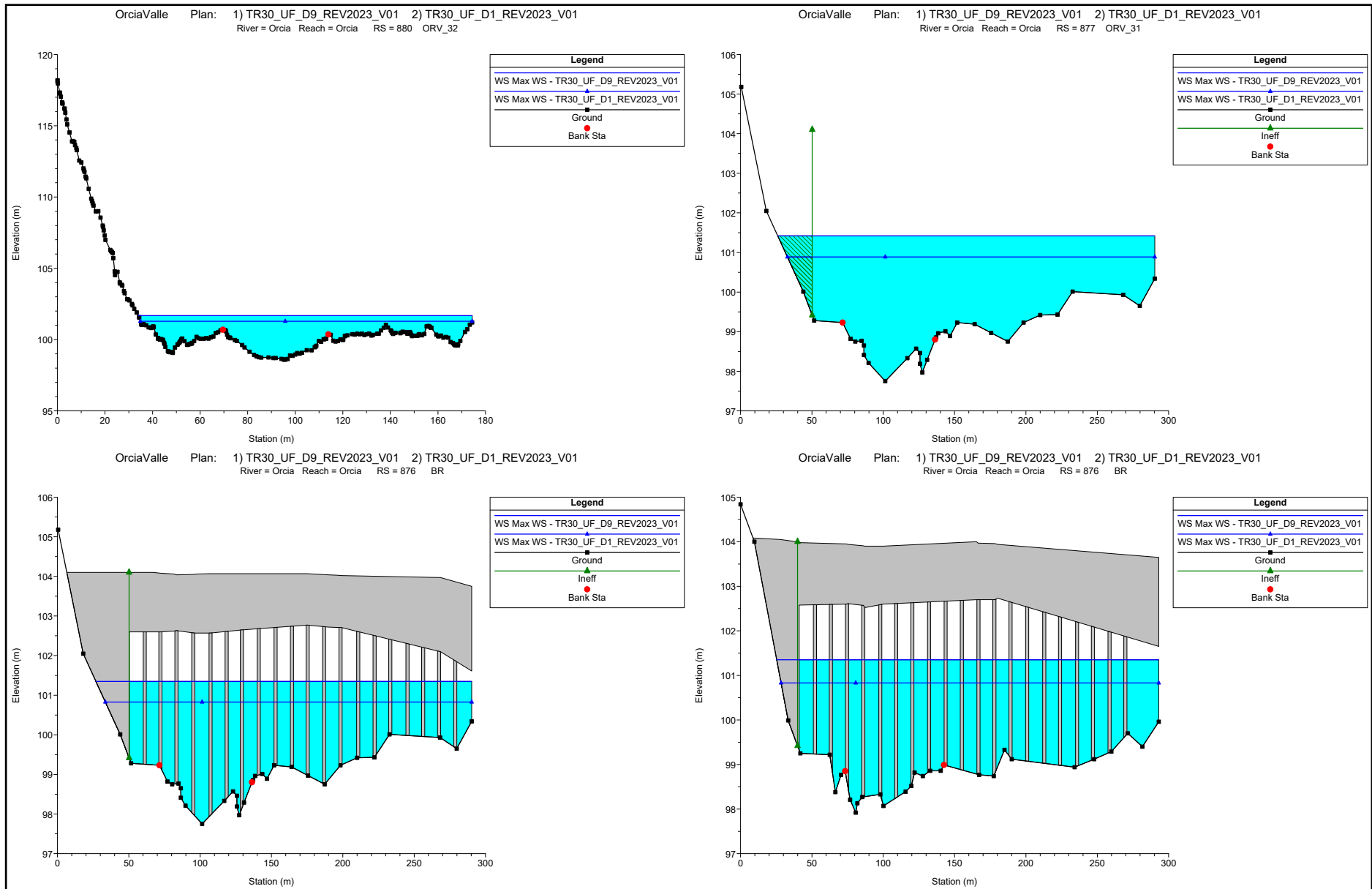
*Sezioni Trasversali (da monte verso valle)*

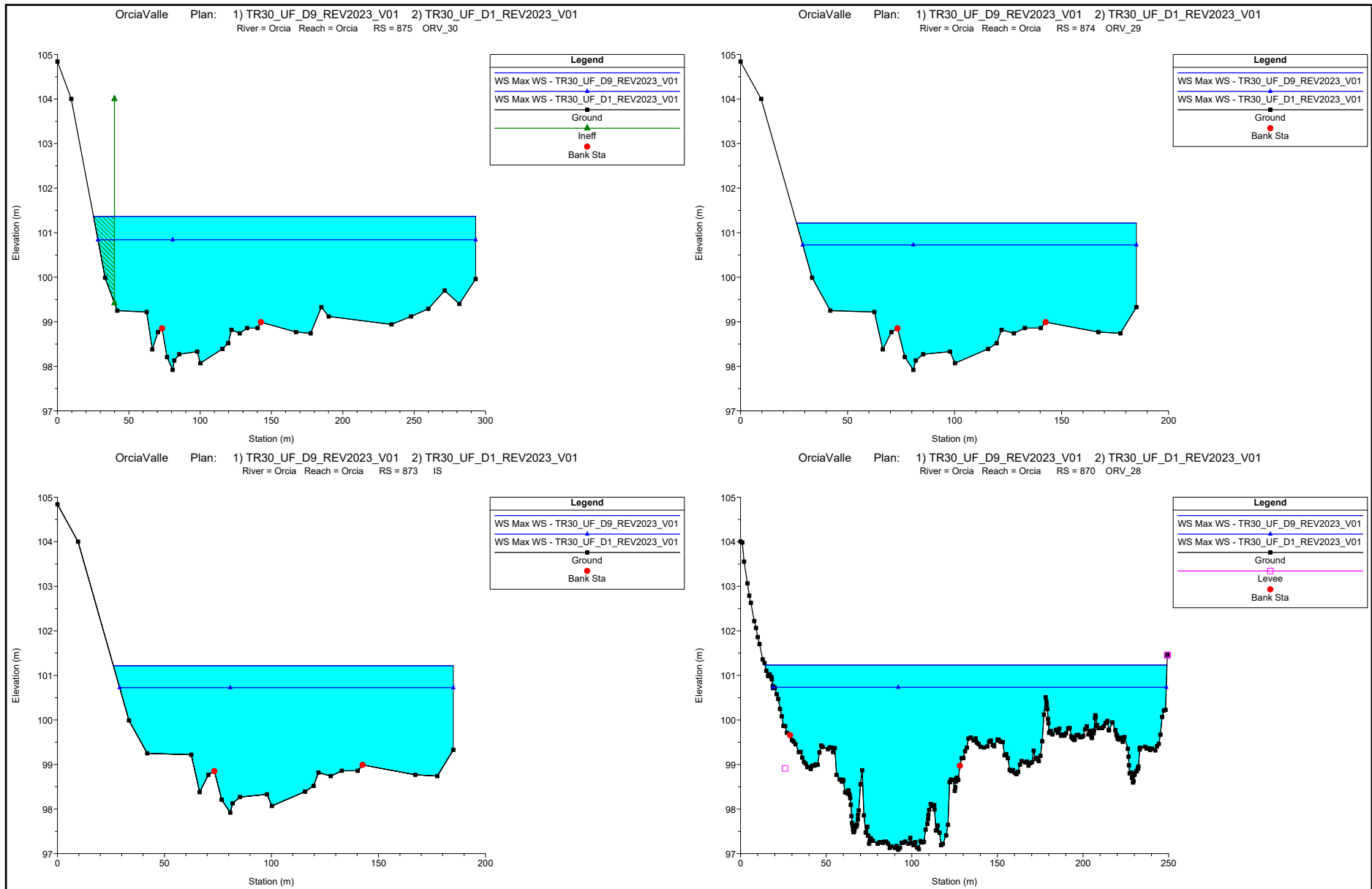


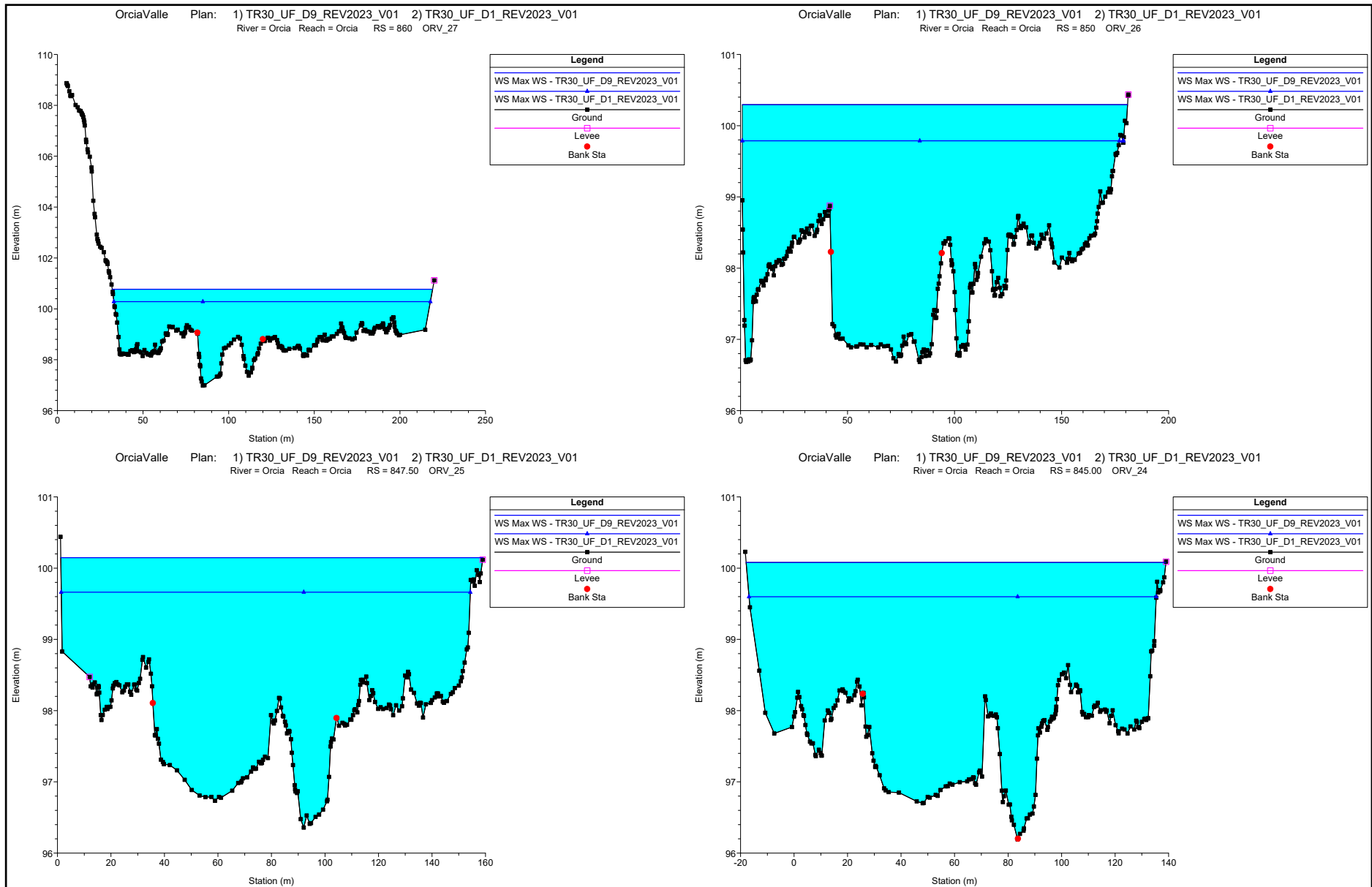


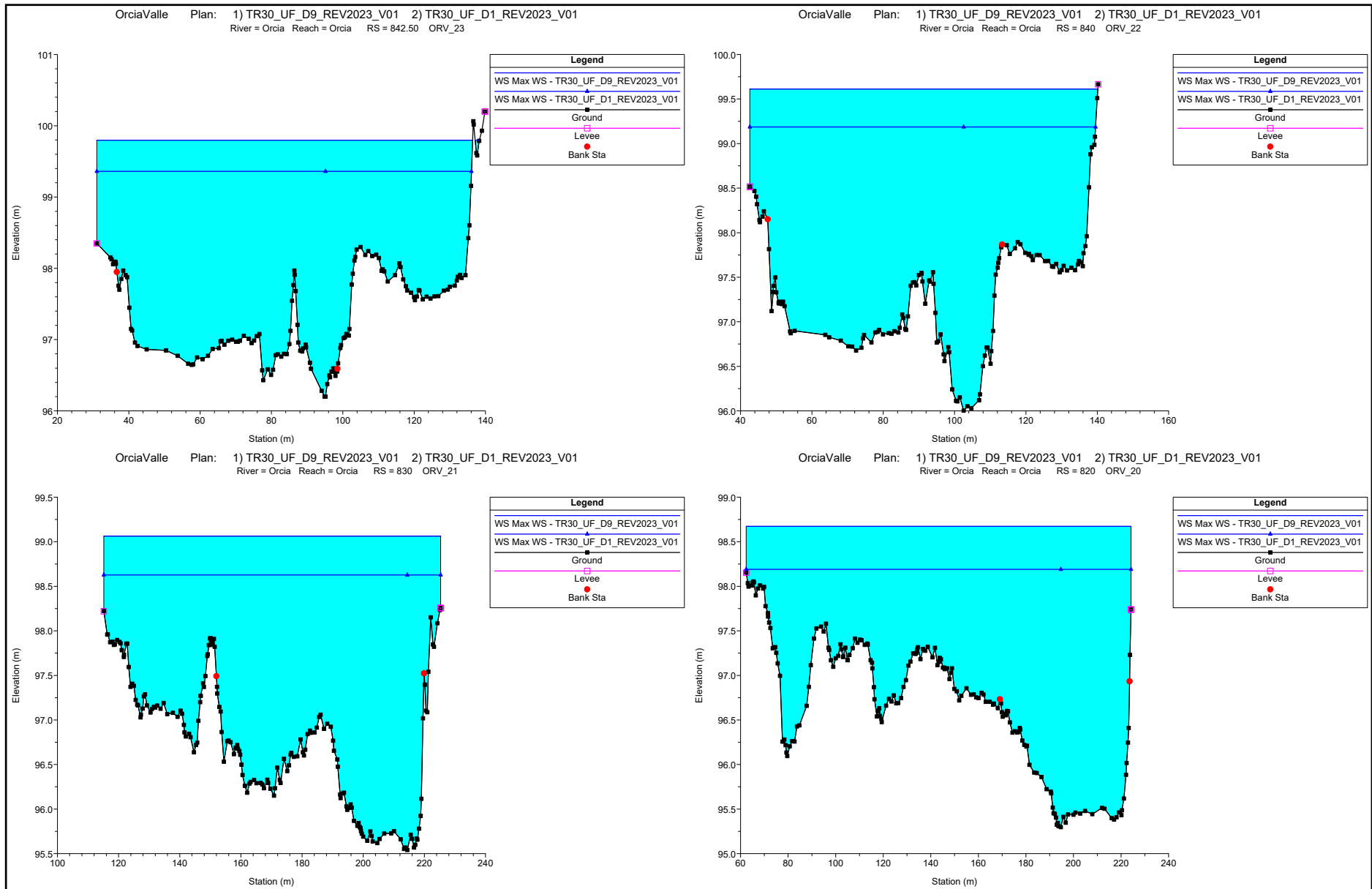


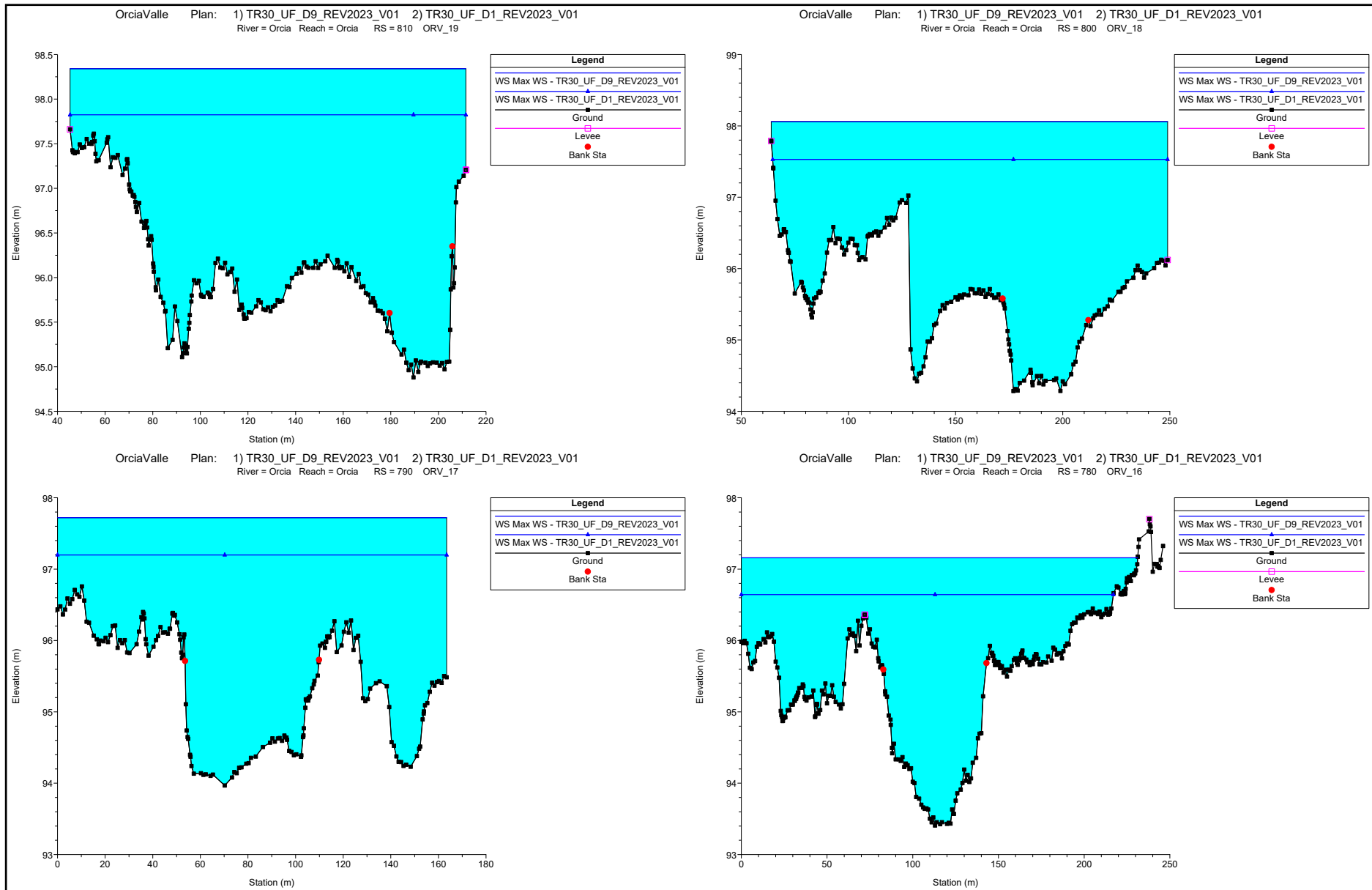




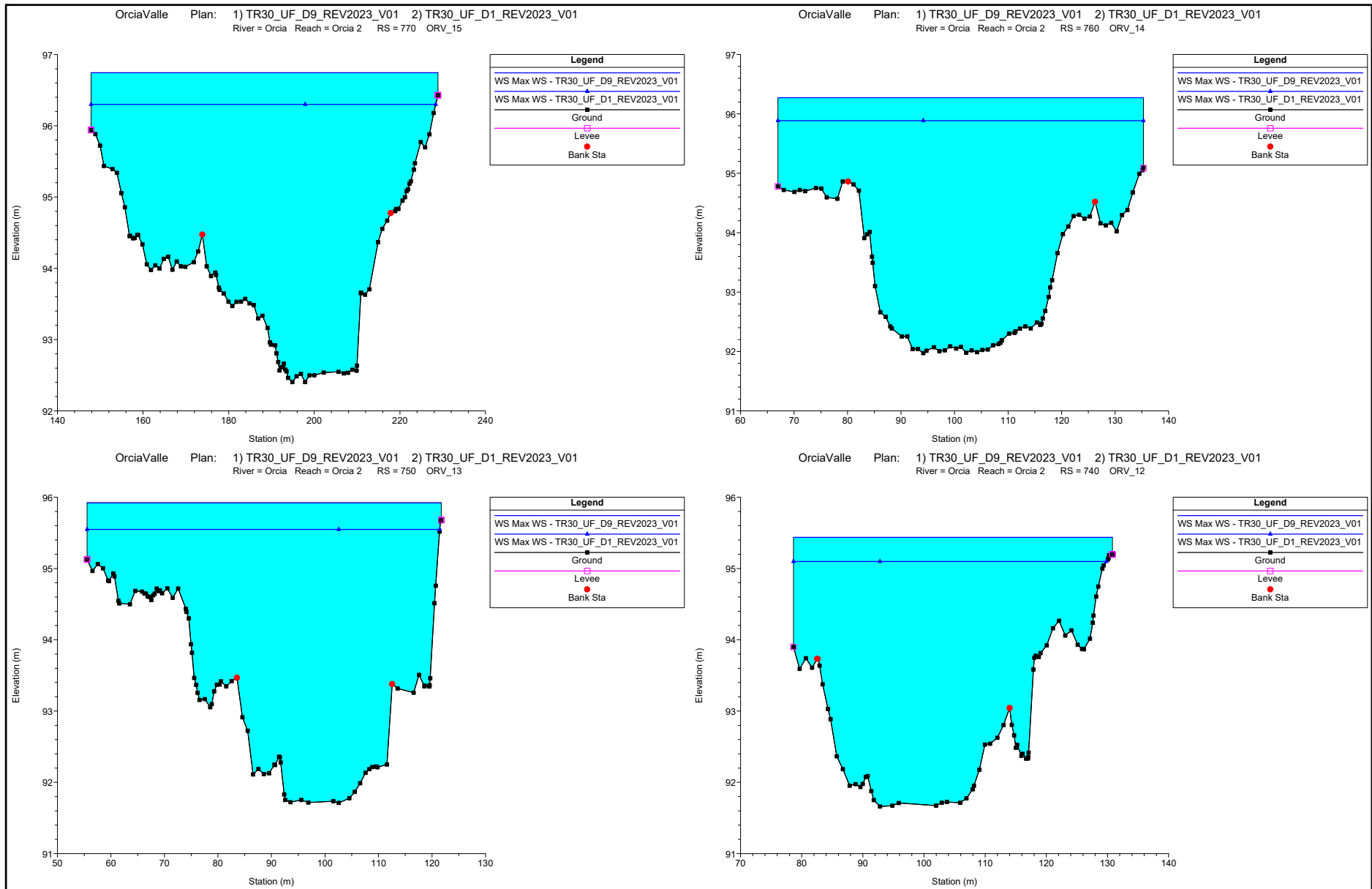


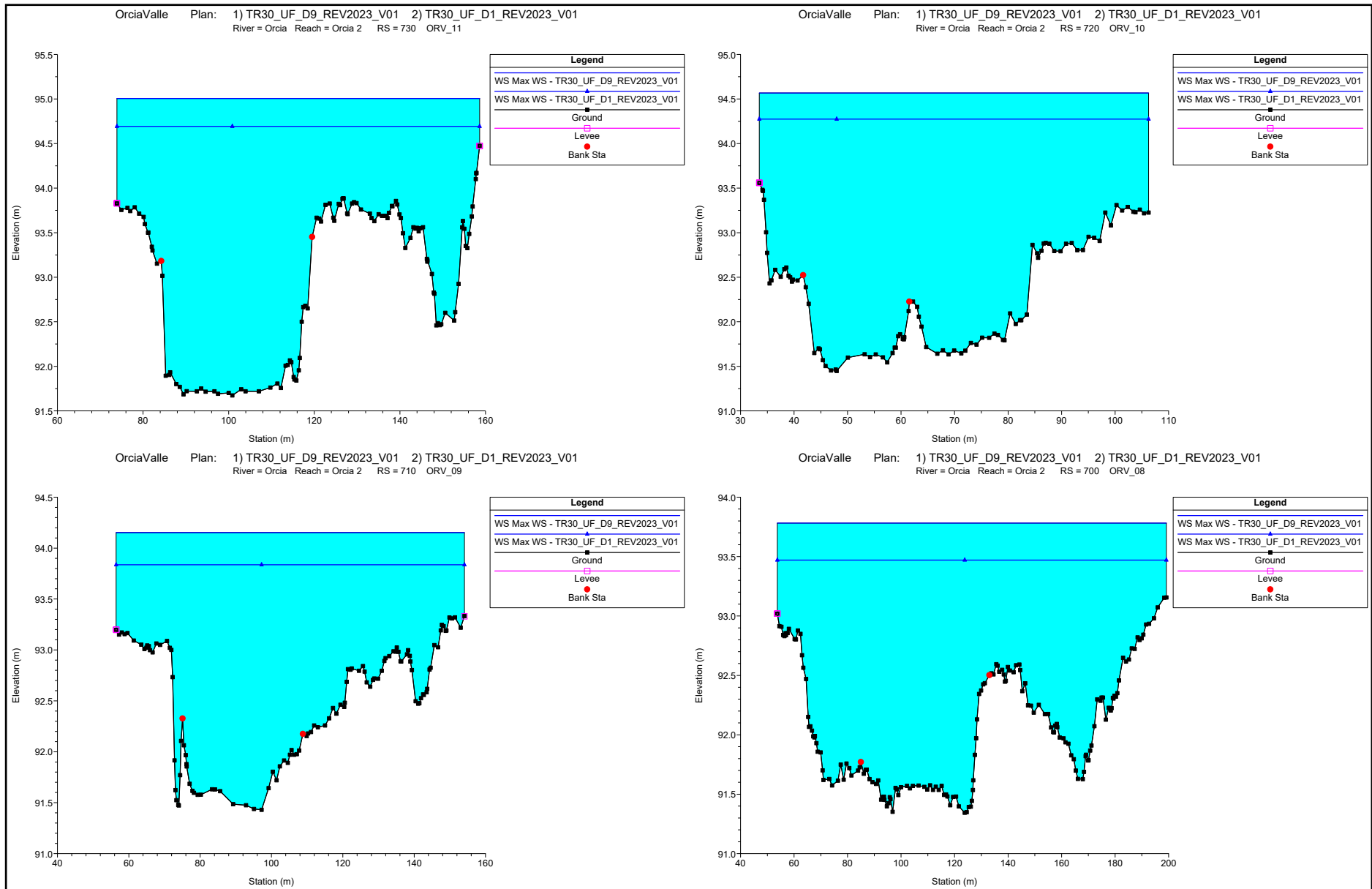


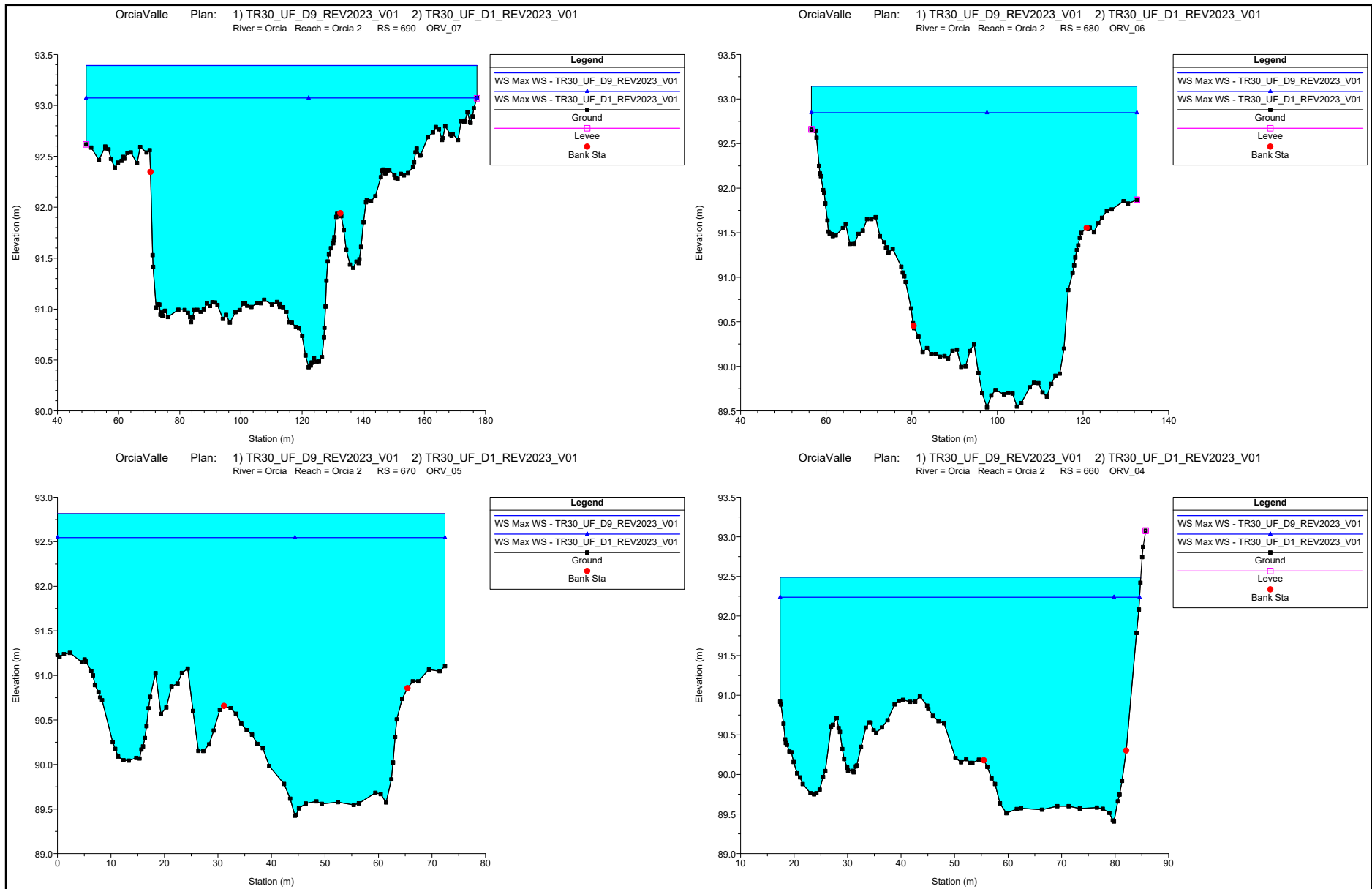




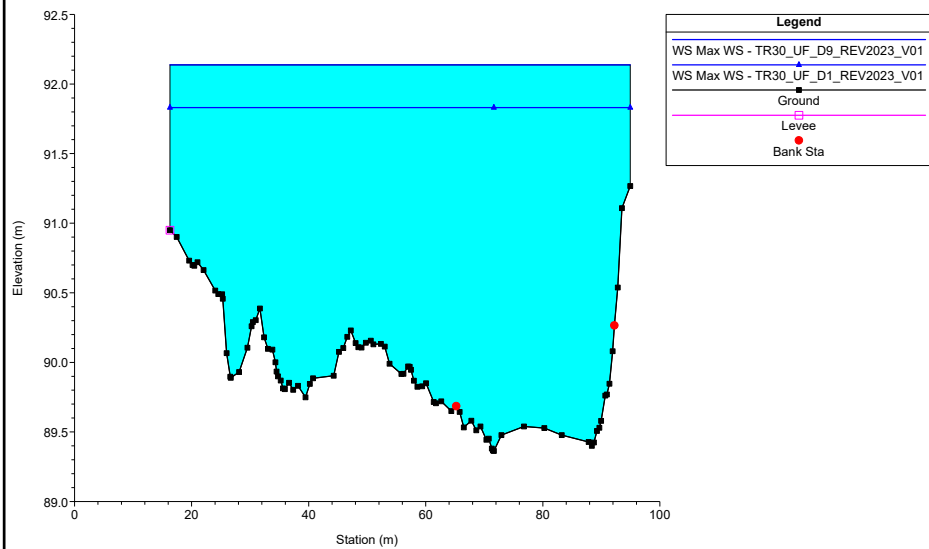




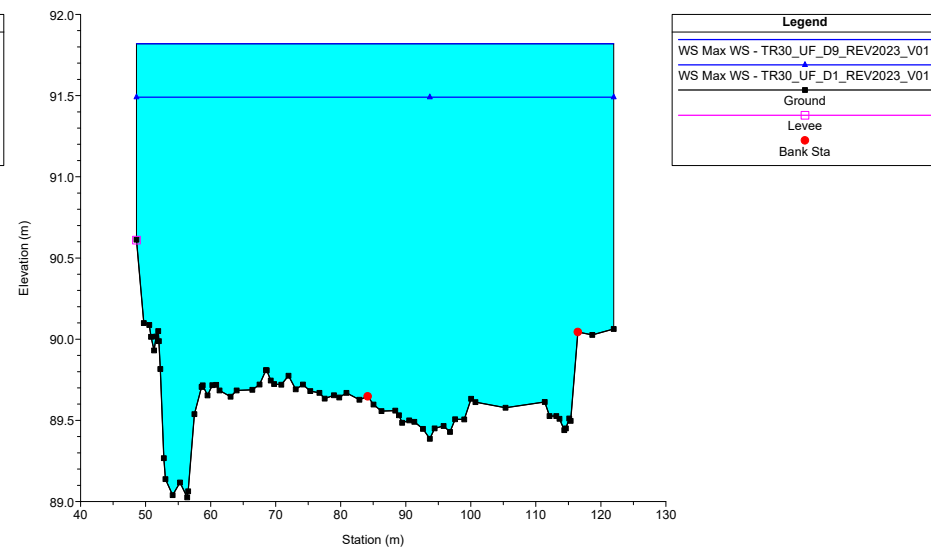




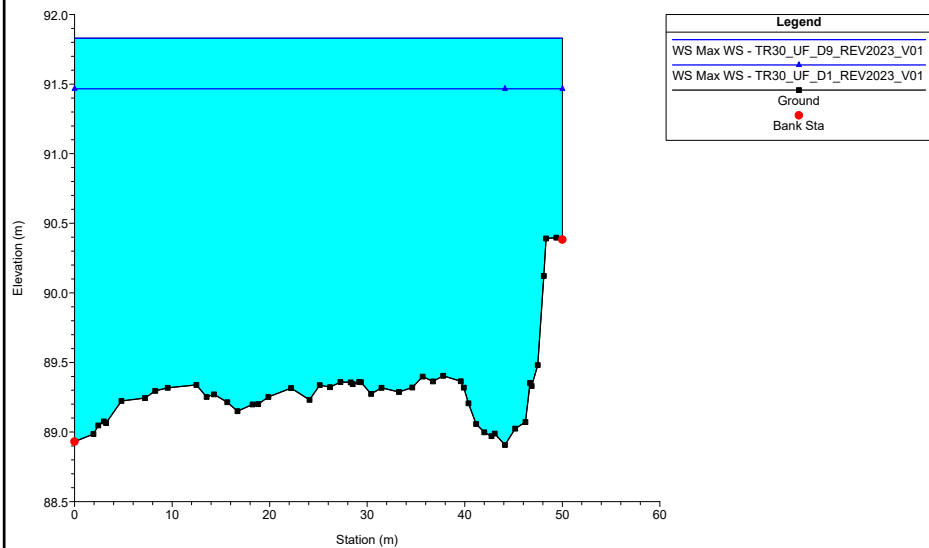
OrciaValle Plan: 1) TR30\_UF\_D9\_REV2023\_V01 2) TR30\_UF\_D1\_REV2023\_V01  
River = Orcia Reach = Orcia 2 RS = 655 ORV\_03



OrciaValle Plan: 1) TR30\_UF\_D9\_REV2023\_V01 2) TR30\_UF\_D1\_REV2023\_V01  
River = Orcia Reach = Orcia 2 RS = 650 ORV\_02



OrciaValle Plan: 1) TR30\_UF\_D9\_REV2023\_V01 2) TR30\_UF\_D1\_REV2023\_V01  
River = Orcia Reach = Orcia 2 RS = 1 ORV\_01



## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA VALLE"**

**Orcia**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    9h, 12h e 15h

***Dati idraulici***

Reach	River Sta	Profile	Plan	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m²)	Top Width (m)	Froude # Chl
Orcia	1000	Max WS	TR200_UF_D9_REV2023_V01	1656.69	102.90	107.52		108.38	0.007211	4.25	1.28	2.38	426.66	142.40	0.73
Orcia	1000	Max WS	Tr200_UF_D1_REV2023_V01	939.93	102.90	106.70		107.21	0.006086	3.26	0.74	1.67	311.99	136.82	0.64
Orcia	998		Lat Struct												
Orcia	990	Max WS	TR200_UF_D9_REV2023_V01	1412.45	102.64	106.93		107.67	0.006739	4.07	1.27	2.34	396.63	135.94	0.70
Orcia	990	Max WS	Tr200_UF_D1_REV2023_V01	841.29	102.64	106.20		106.67	0.005751	3.20	0.92	1.70	298.58	132.58	0.62
Orcia	980	Max WS	TR200_UF_D9_REV2023_V01	1235.94	101.42	106.35		107.16	0.006607	4.07	1.66	1.81	322.16	104.48	0.70
Orcia	980	Max WS	Tr200_UF_D1_REV2023_V01	778.05	101.42	105.66		106.19	0.005688	3.25	1.30	1.25	251.16	102.46	0.63
Orcia	970	Max WS	TR200_UF_D9_REV2023_V01	1182.48	100.83	106.01		106.53	0.004378	3.46	0.82	2.07	391.77	120.34	0.58
Orcia	970	Max WS	Tr200_UF_D1_REV2023_V01	761.70	100.83	105.34		105.69	0.003749	2.81	0.56	1.60	311.39	119.27	0.51
Orcia	960	Max WS	TR200_UF_D9_REV2023_V01	1125.73	100.36	105.83		106.21	0.002585	3.01	1.06	1.72	448.04	120.85	0.45
Orcia	960	Max WS	Tr200_UF_D1_REV2023_V01	749.69	100.36	105.16		105.41	0.002119	2.45	0.77	1.32	366.97	120.30	0.40
Orcia	950	Max WS	TR200_UF_D9_REV2023_V01	1082.52	99.82	105.49		106.00	0.003441	3.55	1.32	1.91	382.01	108.55	0.53
Orcia	950	Max WS	Tr200_UF_D1_REV2023_V01	751.04	99.82	104.83		105.21	0.003035	3.01	1.15	1.52	311.46	105.90	0.49
Orcia	940	Max WS	TR200_UF_D9_REV2023_V01	1108.01	99.84	104.82		105.54	0.005511	4.41	2.18	2.15	345.86	114.13	0.67
Orcia	940	Max WS	Tr200_UF_D1_REV2023_V01	773.92	99.84	104.23		104.79	0.005013	3.82	1.81	1.70	278.35	112.10	0.62
Orcia	938		Lat Struct												
Orcia	930	Max WS	TR200_UF_D9_REV2023_V01	1102.77	99.83	104.34		104.83	0.004522	3.63	1.99	1.95	402.80	138.88	0.59
Orcia	930	Max WS	Tr200_UF_D1_REV2023_V01	759.27	99.83	103.81		104.17	0.003969	3.07	1.61	1.54	328.89	138.88	0.54
Orcia	920	Max WS	TR200_UF_D9_REV2023_V01	1093.79	99.83	103.97		104.33	0.003866	3.40	1.82	1.73	484.24	186.17	0.54
Orcia	920	Max WS	Tr200_UF_D1_REV2023_V01	758.59	99.83	103.45		103.73	0.003619	2.99	1.51	1.40	388.01	183.86	0.51
Orcia	910	Max WS	TR200_UF_D9_REV2023_V01	1080.12	99.21	103.61		103.92	0.003364	3.13	1.56	1.55	519.41	210.30	0.51
Orcia	910	Max WS	Tr200_UF_D1_REV2023_V01	753.64	99.21	103.10		103.36	0.003260	2.81	1.28	1.27	411.20	209.85	0.49
Orcia	900	Max WS	TR200_UF_D9_REV2023_V01	974.80	99.16	103.39		103.59	0.002705	2.84	1.57	1.58	543.12	203.41	0.46
Orcia	900	Max WS	Tr200_UF_D1_REV2023_V01	691.79	99.16	102.84		103.02	0.002793	2.60	1.36	1.37	432.48	202.64	0.46
Orcia	890	Max WS	TR200_UF_D9_REV2023_V01	851.39	98.62	102.83		103.31	0.004281	3.46	1.85	1.57	312.65	109.04	0.57
Orcia	890	Max WS	Tr200_UF_D1_REV2023_V01	618.00	98.62	102.28		102.67	0.004215	3.09	1.57	1.30	253.23	107.17	0.55
Orcia	880	Max WS	TR200_UF_D9_REV2023_V01	985.75	98.59	102.04		102.79	0.011057	4.58	2.59	2.43	292.42	141.67	0.88
Orcia	880	Max WS	Tr200_UF_D1_REV2023_V01	683.77	98.59	101.53		102.19	0.012597	4.26	2.31	2.05	219.79	139.97	0.91
Orcia	879.5		Lat Struct												
Orcia	877	Max WS	TR200_UF_D9_REV2023_V01	1062.62	97.75	101.88	100.49	102.01	0.001176	1.76	1.63	1.53	656.48	270.12	0.30
Orcia	877	Max WS	Tr200_UF_D1_REV2023_V01	721.10	97.75	101.22	100.24	101.33	0.001341	1.64	1.43	1.32	497.37	261.71	0.31
Orcia	876		Bridge												
Orcia	875	Max WS	TR200_UF_D9_REV2023_V01	1062.62	97.92	101.82		101.92	0.000897	1.49	1.46	1.44	729.12	270.49	0.26
Orcia	875	Max WS	Tr200_UF_D1_REV2023_V01	721.10	97.92	101.17		101.25	0.000961	1.34	1.27	1.24	565.10	266.65	0.26
Orcia	874	Max WS	TR200_UF_D9_REV2023_V01	1063.18	97.92	101.64	100.59	101.98	0.003801	2.96	1.70	1.95	444.02	161.31	0.53
Orcia	874	Max WS	Tr200_UF_D1_REV2023_V01	721.18	97.92	101.03	100.18	101.29	0.003764	2.56	1.44	1.66	347.41	157.73	0.51
Orcia	873		Inl Struct												
Orcia	870	Max WS	TR200_UF_D9_REV2023_V01	1063.18	97.09	101.66		101.84	0.001729	2.12	0.72	1.15	634.45	237.91	0.36
Orcia	870	Max WS	Tr200_UF_D1_REV2023_V01	721.18	97.09	101.04		101.19	0.001708	1.86	0.53	0.92	490.11	233.38	0.35
Orcia	860	Max WS	TR200_UF_D9_REV2023_V01	1077.58	96.98	101.17		101.50	0.004864	3.29	2.02	1.95	463.06	189.08	0.59
Orcia	860	Max WS	Tr200_UF_D1_REV2023_V01	725.27	96.98	100.59		100.86	0.005106	2.95	1.76	1.65	353.99	186.21	0.58
Orcia	850	Max WS	TR200_UF_D9_REV2023_V01	1072.25	96.68	100.69		100.99	0.003079	2.92	1.64	1.62	506.09	180.36	0.48
Orcia	850	Max WS	Tr200_UF_D1_REV2023_V01	725.27	96.68	100.11		100.33	0.002902	2.53	1.35	1.31	400.17	179.65	0.46
Orcia	847.50	Max WS	TR200_UF_D9_REV2023_V01	1066.68	96.36	100.53		100.92	0.003883	3.13	1.64	1.74	429.32	157.85	0.54
Orcia	847.50	Max WS	Tr200_UF_D1_REV2023_V01	725.26	96.36	99.97		100.26	0.003624	2.68	1.30	1.42	340.11	157.02	0.50
Orcia	845.00	Max WS	TR200_UF_D9_REV2023_V01	1059.81	96.19	100.47		100.82	0.003804	3.07	1.81	1.86	443.06	157.31	0.53
Orcia	845.00	Max WS	Tr200_UF_D1_REV2023_V01	725.26	96.19	99.90		100.16	0.003604	2.65	1.49	1.54	353.63	155.98	0.50
Orcia	842.50	Max WS	TR200_UF_D9_REV2023_V01	1057.46	96.20	100.16		100.89	0.007136	4.08	1.83	2.30	304.13	108.68	0.72
Orcia	842.50	Max WS	Tr200_UF_D1_REV2023_V01	725.26	96.20	99.63		100.14	0.006273	3.41	1.46	1.92	247.39	105.60	0.66
Orcia	842		Lat Struct												
Orcia	840	Max WS	TR200_UF_D9_REV2023_V01	996.37	96.00	99.98		100.76	0.007869	4.13	1.75	2.39	270.54	97.65	0.75
Orcia	840	Max WS	Tr200_UF_D1_REV2023_V01	693.28	96.00	99.45		100.03	0.007393	3.54	1.39	1.94	218.76	97.30	0.70
Orcia	830	Max WS	TR200_UF_D9_REV2023_V01	871.03	95.54	99.47		99.95	0.004796	3.29	1.85	1.33	304.80	110.18	0.59
Orcia	830	Max WS	Tr200_UF_D1_REV2023_V01	604.13	95.54	98.90		99.27	0.004729	2.86	1.51	1.05	242.03	110.18	0.56
Orcia	829		Lat Struct												
Orcia	820	Max WS	TR200_UF_D9_REV2023_V01	921.40	95.30	99.12		99.46	0.003778	3.05	1.64	0.60	404.87	161.86	0.53
Orcia	820	Max WS	Tr200_UF_D1_REV2023_V01	629.16	95.30	98.48		98.79	0.004296	2.82	1.37	0.59	301.46	161.86	0.55
Orcia	810	Max WS	TR200_UF_D9_REV2023_V01	964.42	94.88	98.80		99.07	0.003524	3.09	1.86	1.22	458.72	166.29	0.51
Orcia	810	Max WS	Tr200_UF_D1_REV2023_V01	647.03	94.88	98.15		98.37	0.003724	2.79	1.58	1.01	350.56	166.29	0.51
Orcia	800	Max WS	TR200_UF_D9_REV2023_V01	999.53	94.29	98.53		98.75	0.002357	2.67	1.50	1.53	540.89	185.02	0.43
Orcia	800	Max WS	Tr200_UF_D1_REV2023_V01	667.72	94.29	97.86		98.04	0.002363	2.36	1.24	1.29	417.27	185.02	0.42
Orcia	790	Max WS	TR200_UF_D9_REV2023_V01	944.43	93.97	98.21		98.46	0.002420	2.62	1.28	1.60	478.94	163.47	0.43
Orcia	790	Max WS	Tr200_UF_D1_REV2023_V01	642.79	93.97	97.52		97.73	0.002528	2.34	1.00	1.37	364.78	163.47	0.43
Orcia	780	Max WS	TR200_UF_D9_REV2023_V01	1050.66	93.41	97.61		97.92	0.003357	2.96	1.52	1.22	516.42	237.85	0.50
Orcia	780	Max WS	Tr200_UF_D1_REV2023_V01	679.89	93.41	96.97		97.24	0.003639	2.69	1.23	0.93	365.51	230.07	0.51
Orcia 2	774		Lat Struct												
Orcia 2	773		Lat Struct												
Orcia 2	770	Max WS	TR200_UF_D9_REV2023_V01	935.99	92.40	97.12		97.93	0.006292	4.32	2.37	1.78	257.37	81.05	0.70
Orcia 2	770	Max WS	Tr200_UF_D1_REV2023_V01	627.32	92.40	96.58		97.11	0.004910	3.46	1.82	1.26	214.14	81.05	0.60
Orcia 2	760	Max WS	TR200_UF_D9_REV2023_V01	814.13	91.97	96.60		97.41	0.006037	4.15	1.81	1.95	220.88	68.32	0.68
Orcia 2	760	Max WS	Tr200_UF_D1_REV2023_V01	572.57	91.97	96.13		96.68	0.004790	3.38	1.37	1.53	188.94	68.32	0.59
Orcia 2	750	Max WS	TR200_UF_D9_REV2023_V01	668.06	91.71	96.23		96.99	0.005712	4.25	1.89	2.12	199.63	66.20	0.66
Orcia 2	750	Max WS	Tr200_UF_D1_REV2023_V01	490.37	91.71	95.79		96.35	0.004827	3.63	1.48	1.77	170.34	66.20	0.60

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Orcia 2	740	Max WS	TR200_UF_D9_REV2023_V01	544.01	91.66	95.74		96.50	0.006141	4.09	1.61	1.86	154.99	52.17	0.68
Orcia 2	740	Max WS	Ti200_UF_D1_REV2023_V01	416.07	91.66	95.31		95.92	0.005653	3.62	1.39	1.53	132.98	52.17	0.64
Orcia 2	730	Max WS	TR200_UF_D9_REV2023_V01	548.48	91.67	95.29		95.76	0.004680	3.37	1.48	1.64	208.79	84.73	0.58
Orcia 2	730	Max WS	Ti200_UF_D1_REV2023_V01	416.86	91.67	94.89		95.28	0.004539	3.06	1.25	1.37	174.60	84.73	0.56
Orcia 2	720	Max WS	TR200_UF_D9_REV2023_V01	495.14	91.45	94.84		95.27	0.005657	3.56	1.86	2.20	189.25	72.76	0.64
Orcia 2	720	Max WS	Ti200_UF_D1_REV2023_V01	373.47	91.45	94.46		94.79	0.005362	3.18	1.63	1.91	161.00	72.76	0.61
Orcia 2	719				Lat Struct										
Orcia 2	718				Lat Struct										
Orcia 2	710	Max WS	TR200_UF_D9_REV2023_V01	447.81	91.43	94.44		94.78	0.004797	3.03	1.43	1.61	199.18	97.64	0.58
Orcia 2	710	Max WS	Ti200_UF_D1_REV2023_V01	328.21	91.43	94.04		94.33	0.004961	2.77	1.21	1.37	160.02	97.64	0.57
Orcia 2	700	Max WS	TR200_UF_D9_REV2023_V01	540.72	91.34	94.06		94.27	0.003738	2.46	1.54	1.43	289.37	145.40	0.50
Orcia 2	700	Max WS	Ti200_UF_D1_REV2023_V01	381.28	91.34	93.67		93.84	0.003697	2.18	1.33	1.20	232.64	145.40	0.48
Orcia 2	690	Max WS	TR200_UF_D9_REV2023_V01	493.54	90.43	93.67		93.93	0.003277	2.43	1.01	1.13	248.84	127.83	0.47
Orcia 2	690	Max WS	Ti200_UF_D1_REV2023_V01	355.55	90.43	93.28		93.49	0.003239	2.17	0.77	0.89	198.38	127.83	0.46
Orcia 2	680	Max WS	TR200_UF_D9_REV2023_V01	429.26	89.54	93.41		93.70	0.002735	2.58	1.30	1.14	200.33	76.03	0.45
Orcia 2	680	Max WS	Ti200_UF_D1_REV2023_V01	321.61	89.54	93.04		93.26	0.002418	2.24	1.07	0.92	171.96	76.03	0.41
Orcia 2	670	Max WS	TR200_UF_D9_REV2023_V01	419.91	89.43	93.11		93.38	0.002848	2.57	1.54	1.24	201.88	72.43	0.46
Orcia 2	670	Max WS	Ti200_UF_D1_REV2023_V01	326.91	89.43	92.71		92.93	0.002801	2.33	1.37	1.10	173.07	72.43	0.44
Orcia 2	669				Lat Struct										
Orcia 2	668				Lat Struct										
Orcia 2	660	Max WS	TR200_UF_D9_REV2023_V01	380.28	89.40	92.86		93.13	0.003026	2.66	1.59	0.93	183.14	67.83	0.47
Orcia 2	660	Max WS	Ti200_UF_D1_REV2023_V01	304.56	89.40	92.38		92.64	0.003561	2.59	1.50	0.89	150.78	67.30	0.50
Orcia 2	655	Max WS	TR200_UF_D9_REV2023_V01	406.42	89.36	92.46		92.71	0.003388	2.64	1.68	0.97	198.69	78.64	0.49
Orcia 2	655	Max WS	Ti200_UF_D1_REV2023_V01	300.32	89.36	92.02		92.22	0.003397	2.37	1.47	0.83	164.15	78.64	0.48
Orcia 2	650	Max WS	TR200_UF_D9_REV2023_V01	377.16	89.39	92.14		92.38	0.003546	2.49	1.75	1.31	183.35	73.39	0.49
Orcia 2	650	Max WS	Ti200_UF_D1_REV2023_V01	275.84	89.39	91.70		91.89	0.003553	2.20	1.55	1.17	151.19	73.39	0.48
Orcia 2	1	Max WS	TR200_UF_D9_REV2023_V01	198.26	88.91	92.19		90.46	0.001002	1.36		0.02	145.36	50.00	0.26
Orcia 2	1	Max WS	Ti200_UF_D1_REV2023_V01	145.79	88.91	91.69		90.22	0.001004	1.21		0.02	120.38	50.00	0.25

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA VALLE"**

**Orcia**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    9h, 12h e 15h

***Dati idraulici***



Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Orcia	1000	Max WS	TR30_UF_D9_REV2023_V01	1124.60	102.90	106.93		107.53	0.006468	3.55	0.91	1.88	343.68	138.32	0.67
Orcia	1000	Max WS	TR30_UF_D1_REV2023_V01	672.50	102.90	106.33		106.70	0.005340	2.76	0.78	1.31	262.17	132.25	0.59
Orcia	998		Lat Struct												
Orcia	990	Max WS	TR30_UF_D9_REV2023_V01	988.86	102.64	106.41		106.95	0.006032	3.45	1.02	1.89	326.43	133.36	0.65
Orcia	990	Max WS	TR30_UF_D1_REV2023_V01	626.13	102.64	105.85		106.21	0.005358	2.81	0.73	1.40	252.07	131.47	0.59
Orcia	980	Max WS	TR30_UF_D9_REV2023_V01	896.77	101.42	105.87		106.46	0.005880	3.47	1.42	1.42	272.22	102.82	0.65
Orcia	980	Max WS	TR30_UF_D1_REV2023_V01	603.74	101.42	105.30		105.73	0.005578	2.93	1.09	0.96	214.52	101.72	0.61
Orcia	970	Max WS	TR30_UF_D9_REV2023_V01	874.14	100.83	105.54		105.94	0.003880	2.98	0.64	1.73	336.18	119.57	0.53
Orcia	970	Max WS	TR30_UF_D1_REV2023_V01	593.76	100.83	104.94		105.24	0.003784	2.57	0.42	1.40	264.81	118.76	0.51
Orcia	960	Max WS	TR30_UF_D9_REV2023_V01	848.80	100.36	105.37		105.65	0.002209	2.59	0.86	1.43	392.62	120.47	0.41
Orcia	960	Max WS	TR30_UF_D1_REV2023_V01	590.52	100.36	104.76		104.98	0.001991	2.21	0.64	1.14	320.04	119.79	0.38
Orcia	950	Max WS	TR30_UF_D9_REV2023_V01	843.24	99.82	105.04		105.45	0.003128	3.16	1.13	1.64	333.62	107.43	0.50
Orcia	950	Max WS	TR30_UF_D1_REV2023_V01	599.49	99.82	104.46		104.77	0.002894	2.74	1.05	1.31	271.62	104.90	0.47
Orcia	940	Max WS	TR30_UF_D9_REV2023_V01	871.71	99.84	104.41		105.02	0.005201	4.01	1.93	1.84	298.72	112.64	0.64
Orcia	940	Max WS	TR30_UF_D1_REV2023_V01	612.08	99.84	103.90		104.37	0.004644	3.46	1.59	1.44	241.89	111.08	0.59
Orcia	938		Lat Struct												
Orcia	930	Max WS	TR30_UF_D9_REV2023_V01	858.42	99.83	103.97		104.37	0.004135	3.24	1.73	1.67	351.96	138.88	0.56
Orcia	930	Max WS	TR30_UF_D1_REV2023_V01	599.55	99.83	103.51		103.81	0.003649	2.77	1.40	1.34	288.13	137.27	0.51
Orcia	920	Max WS	TR30_UF_D9_REV2023_V01	856.36	99.83	103.61		103.91	0.003714	3.13	1.61	1.51	417.32	184.37	0.53
Orcia	920	Max WS	TR30_UF_D1_REV2023_V01	599.36	99.83	103.17		103.41	0.003351	2.72	1.37	1.20	337.27	180.67	0.49
Orcia	910	Max WS	TR30_UF_D9_REV2023_V01	849.31	99.21	103.25		103.53	0.003328	2.92	1.37	1.36	443.26	209.99	0.49
Orcia	910	Max WS	TR30_UF_D1_REV2023_V01	597.01	99.21	102.84		103.06	0.003058	2.58	1.11	1.09	356.93	209.56	0.46
Orcia	900	Max WS	TR30_UF_D9_REV2023_V01	772.06	99.16	103.01		103.19	0.002771	2.68	1.43	1.44	464.99	202.85	0.46
Orcia	900	Max WS	TR30_UF_D1_REV2023_V01	563.98	99.16	102.58		102.73	0.002809	2.47	1.25	1.25	378.21	201.57	0.45
Orcia	890	Max WS	TR30_UF_D9_REV2023_V01	682.04	98.62	102.44		102.85	0.004214	3.19	1.66	1.38	270.63	107.46	0.55
Orcia	890	Max WS	TR30_UF_D1_REV2023_V01	516.86	98.62	102.01		102.36	0.004200	2.91	1.43	1.15	224.29	106.11	0.54
Orcia	880	Max WS	TR30_UF_D9_REV2023_V01	768.99	98.59	101.68		102.37	0.012139	4.36	2.40	2.17	240.68	140.39	0.90
Orcia	880	Max WS	TR30_UF_D1_REV2023_V01	549.67	98.59	101.28	101.29	101.91	0.013394	4.07	2.12	1.81	185.67	139.56	0.92
Orcia	879.5		Lat Struct												
Orcia	877	Max WS	TR30_UF_D9_REV2023_V01	816.68	97.75	101.42	100.29	101.54	0.001272	1.67	1.49	1.38	545.74	264.27	0.30
Orcia	877	Max WS	TR30_UF_D1_REV2023_V01	572.65	97.75	100.88	99.97	100.99	0.001488	1.59	1.33	1.21	417.66	257.50	0.32
Orcia	876		Bridge												
Orcia	875	Max WS	TR30_UF_D9_REV2023_V01	816.68	97.92	101.37		101.46	0.000930	1.38	1.32	1.30	615.24	267.82	0.26
Orcia	875	Max WS	TR30_UF_D1_REV2023_V01	572.65	97.92	100.84		100.91	0.001023	1.27	1.17	1.14	482.31	284.71	0.26
Orcia	874	Max WS	TR30_UF_D9_REV2023_V01	816.88	97.92	101.22	100.31	101.50	0.003743	2.68	1.52	1.75	376.94	158.83	0.51
Orcia	874	Max WS	TR30_UF_D1_REV2023_V01	572.65	97.92	100.72	99.98	100.95	0.003784	2.36	1.30	1.51	299.23	155.91	0.50
Orcia	873		Int Struct												
Orcia	870	Max WS	TR30_UF_D9_REV2023_V01	816.88	97.09	101.23		101.39	0.001702	1.93	0.59	0.99	534.22	234.78	0.35
Orcia	870	Max WS	TR30_UF_D1_REV2023_V01	572.66	97.09	100.73		100.86	0.001701	1.72	0.48	0.79	418.44	229.73	0.34
Orcia	860	Max WS	TR30_UF_D9_REV2023_V01	825.01	96.98	100.77		101.05	0.004957	3.04	1.84	1.74	388.11	187.08	0.58
Orcia	860	Max WS	TR30_UF_D1_REV2023_V01	572.77	96.98	100.29		100.53	0.005436	2.81	1.62	1.50	297.95	184.83	0.59
Orcia	850	Max WS	TR30_UF_D9_REV2023_V01	825.00	96.68	100.30		100.54	0.002925	2.64	1.44	1.40	434.26	180.00	0.46
Orcia	850	Max WS	TR30_UF_D1_REV2023_V01	572.76	96.68	99.79		99.98	0.002841	2.33	1.20	1.17	343.42	176.52	0.44
Orcia	847.50	Max WS	TR30_UF_D9_REV2023_V01	824.99	96.36	100.15		100.47	0.003707	2.82	1.41	1.50	368.62	157.74	0.52
Orcia	847.50	Max WS	TR30_UF_D1_REV2023_V01	572.76	96.36	99.66		99.91	0.003500	2.44	1.11	1.27	293.14	152.91	0.49
Orcia	845.00	Max WS	TR30_UF_D9_REV2023_V01	824.95	96.19	100.08		100.37	0.003679	2.79	1.59	1.64	381.81	156.94	0.51
Orcia	845.00	Max WS	TR30_UF_D1_REV2023_V01	572.76	96.19	99.60		99.82	0.003425	2.40	1.31	1.41	307.28	152.25	0.48
Orcia	842.50	Max WS	TR30_UF_D9_REV2023_V01	824.95	96.20	99.80		100.37	0.006559	3.62	1.58	2.07	264.91	106.49	0.68
Orcia	842.50	Max WS	TR30_UF_D1_REV2023_V01	572.76	96.20	99.36		99.77	0.005723	3.04	1.24	1.66	218.93	105.04	0.62
Orcia	842		Lat Struct												
Orcia	840	Max WS	TR30_UF_D9_REV2023_V01	785.63	96.00	99.61		100.26	0.007631	3.74	1.52	2.09	234.62	97.56	0.72
Orcia	840	Max WS	TR30_UF_D1_REV2023_V01	551.59	96.00	99.19		99.66	0.006894	3.18	1.17	1.69	193.13	96.91	0.67
Orcia	830	Max WS	TR30_UF_D9_REV2023_V01	680.09	95.54	99.06		99.47	0.004792	3.00	1.62	1.15	260.16	110.18	0.57
Orcia	830	Max WS	TR30_UF_D1_REV2023_V01	493.70	95.54	98.63		98.95	0.004731	2.66	1.33	0.90	212.10	110.18	0.55
Orcia	829		Lat Struct												
Orcia	820	Max WS	TR30_UF_D9_REV2023_V01	710.15	95.30	98.67		98.99	0.004108	2.89	1.46	0.59	331.90	161.86	0.54
Orcia	820	Max WS	TR30_UF_D1_REV2023_V01	504.29	95.30	98.19		98.47	0.004556	2.70	1.21	0.56	253.80	161.86	0.55
Orcia	810	Max WS	TR30_UF_D9_REV2023_V01	735.37	94.88	98.34		98.58	0.003663	2.89	1.67	1.08	382.14	166.29	0.51
Orcia	810	Max WS	TR30_UF_D1_REV2023_V01	519.37	94.88	97.82		98.03	0.004073	2.71	1.47	0.90	296.02	166.29	0.53
Orcia	800	Max WS	TR30_UF_D9_REV2023_V01	761.76	94.29	98.06		98.25	0.002368	2.46	1.32	1.37	453.99	185.02	0.42
Orcia	800	Max WS	TR30_UF_D1_REV2023_V01	519.40	94.29	97.53		97.68	0.002322	2.18	1.09	1.15	355.95	184.36	0.41
Orcia	790	Max WS	TR30_UF_D9_REV2023_V01	728.81	93.97	97.72		97.94	0.002518	2.44	1.09	1.45	397.17	163.47	0.43
Orcia	790	Max WS	TR30_UF_D1_REV2023_V01	507.19	93.97	97.20		97.38	0.002497	2.16	0.83	1.23	311.87	163.47	0.42
Orcia	780	Max WS	TR30_UF_D9_REV2023_V01	781.73	93.41	97.16		97.44	0.003531	2.77	1.32	1.03	409.77	231.23	0.50
Orcia	780	Max WS	TR30_UF_D1_REV2023_V01	526.48	93.41	96.64		96.90	0.003823	2.55	1.06	0.80	292.87	217.04	0.51
Orcia 2	774		Lat Struct												
Orcia 2	773		Lat Struct												
Orcia 2	770	Max WS	TR30_UF_D9_REV2023_V01	712.58	92.40	96.74		97.35	0.005320	3.72	1.98	1.41	227.06	81.05	0.63
Orcia 2	770	Max WS	TR30_UF_D1_REV2023_V01	497.77	92.40	96.30		96.72	0.004310	3.06	1.55	1.02	191.25	80.53	0.55
Orcia 2	760	Max WS	TR30_UF_D9_REV2023_V01	641.10	91.97	96.27		96.89	0.005181	3.62	1.50	1.66	198.43	68.32	0.62
Orcia 2	760	Max WS	TR30_UF_D1_REV2023_V01	465.24	91.97	95.89		96.32	0.004178	3.00	1.14	1.31	172.09	68.32	0.54
Orcia 2	750	Max WS	TR30_UF_D9_REV2023_V01	541.92	91.71	95.92		96.54	0.005120	3.82	1.61	1.88	179.05	66.20	0.62
Orcia 2	750	Max WS	TR30_UF_D1_REV2023_V01	405.04	91.71	95.55		96.02	0.004317	3.28	1.25	1.59	154.44	65.92	0.56
Orcia 2	740	Max WS	TR30_UF_D9_REV2023_V01	453.18	91.66	95.44		96.09	0.005846	3.77	1.47	1.63	139.34	52.17	0.66
Orcia 2	740	Max WS	TR30_UF_D1_REV2023_V01	354.18	91.66	95.10		95.62	0.005263	3.34	1.26	1.39	121.82	51.18	0.61

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Orcia 2	730	Max WS	TR30_UF_D9_REV2023_V01	454.69	91.67	95.01		95.42	0.004617	3.16	1.32	1.46	184.41	84.73	0.57
Orcia 2	730	Max WS	TR30_UF_D1_REV2023_V01	353.77	91.67	94.69		95.04	0.004341	2.86	1.11	1.22	157.89	84.73	0.54
Orcia 2	720	Max WS	TR30_UF_D9_REV2023_V01	407.59	91.45	94.57		94.93	0.005465	3.29	1.70	2.00	169.16	72.76	0.62
Orcia 2	720	Max WS	TR30_UF_D1_REV2023_V01	319.43	91.45	94.27		94.57	0.005133	2.97	1.50	1.76	147.80	72.76	0.59
Orcia 2	719		Lat Struct												
Orcia 2	718		Lat Struct												
Orcia 2	710	Max WS	TR30_UF_D9_REV2023_V01	361.53	91.43	94.15		94.46	0.004917	2.85	1.28	1.45	171.32	97.64	0.58
Orcia 2	710	Max WS	TR30_UF_D1_REV2023_V01	277.56	91.43	93.84		94.12	0.005193	2.67	1.09	1.26	140.40	97.64	0.58
Orcia 2	700	Max WS	TR30_UF_D9_REV2023_V01	425.42	91.34	93.78		93.96	0.003707	2.26	1.39	1.27	249.26	145.40	0.49
Orcia 2	700	Max WS	TR30_UF_D1_REV2023_V01	310.08	91.34	93.47		93.62	0.003680	2.03	1.22	1.07	204.01	145.40	0.48
Orcia 2	690	Max WS	TR30_UF_D9_REV2023_V01	393.92	90.43	93.39		93.62	0.003259	2.25	0.85	0.96	213.03	127.83	0.46
Orcia 2	690	Max WS	TR30_UF_D1_REV2023_V01	296.50	90.43	93.07		93.27	0.003295	2.06	0.64	0.76	172.39	127.83	0.46
Orcia 2	680	Max WS	TR30_UF_D9_REV2023_V01	352.45	89.54	93.14		93.39	0.002544	2.35	1.14	0.99	179.84	76.03	0.43
Orcia 2	680	Max WS	TR30_UF_D1_REV2023_V01	273.48	89.54	92.85		93.04	0.002275	2.07	0.95	0.81	157.16	76.03	0.40
Orcia 2	670	Max WS	TR30_UF_D9_REV2023_V01	355.28	89.43	92.81		93.05	0.002912	2.43	1.44	1.15	180.25	72.43	0.45
Orcia 2	670	Max WS	TR30_UF_D1_REV2023_V01	279.76	89.43	92.55		92.73	0.002579	2.15	1.24	1.00	160.86	72.43	0.42
Orcia 2	669		Lat Struct												
Orcia 2	668		Lat Struct												
Orcia 2	660	Max WS	TR30_UF_D9_REV2023_V01	323.07	89.40	92.49		92.75	0.003462	2.62	1.53	0.90	158.02	67.41	0.49
Orcia 2	660	Max WS	TR30_UF_D1_REV2023_V01	266.54	89.40	92.24		92.46	0.003364	2.43	1.39	0.81	140.94	67.41	0.48
Orcia 2	655	Max WS	TR30_UF_D9_REV2023_V01	324.25	89.36	92.14		92.35	0.003326	2.42	1.51	0.86	173.42	78.64	0.48
Orcia 2	655	Max WS	TR30_UF_D1_REV2023_V01	268.78	89.36	91.83		92.03	0.003672	2.34	1.43	0.79	149.33	78.64	0.49
Orcia 2	650	Max WS	TR30_UF_D9_REV2023_V01	300.21	89.39	91.82		92.02	0.003485	2.26	1.59	1.20	160.20	73.39	0.48
Orcia 2	650	Max WS	TR30_UF_D1_REV2023_V01	237.06	89.39	91.49		91.66	0.003702	2.10	1.48	1.11	136.02	73.39	0.48
Orcia 2	1	Max WS	TR30_UF_D9_REV2023_V01	159.32	88.91	91.83	90.28	91.91	0.001001	1.25		0.02	127.18	50.00	0.25
Orcia 2	1	Max WS	TR30_UF_D1_REV2023_V01	123.91	88.91	91.47	90.12	91.53	0.001002	1.14		0.02	109.06	50.00	0.25

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA VALLE"**

**Spagnola**

MODELLAZIONE PER TR=30 e 200 ANNI

DURATA DI PIOGGIA: 9h, 12h e 15h

***Profilo longitudinale***

***Sezioni Trasversali***

***Dati idraulici***

## **ALLEGATI**

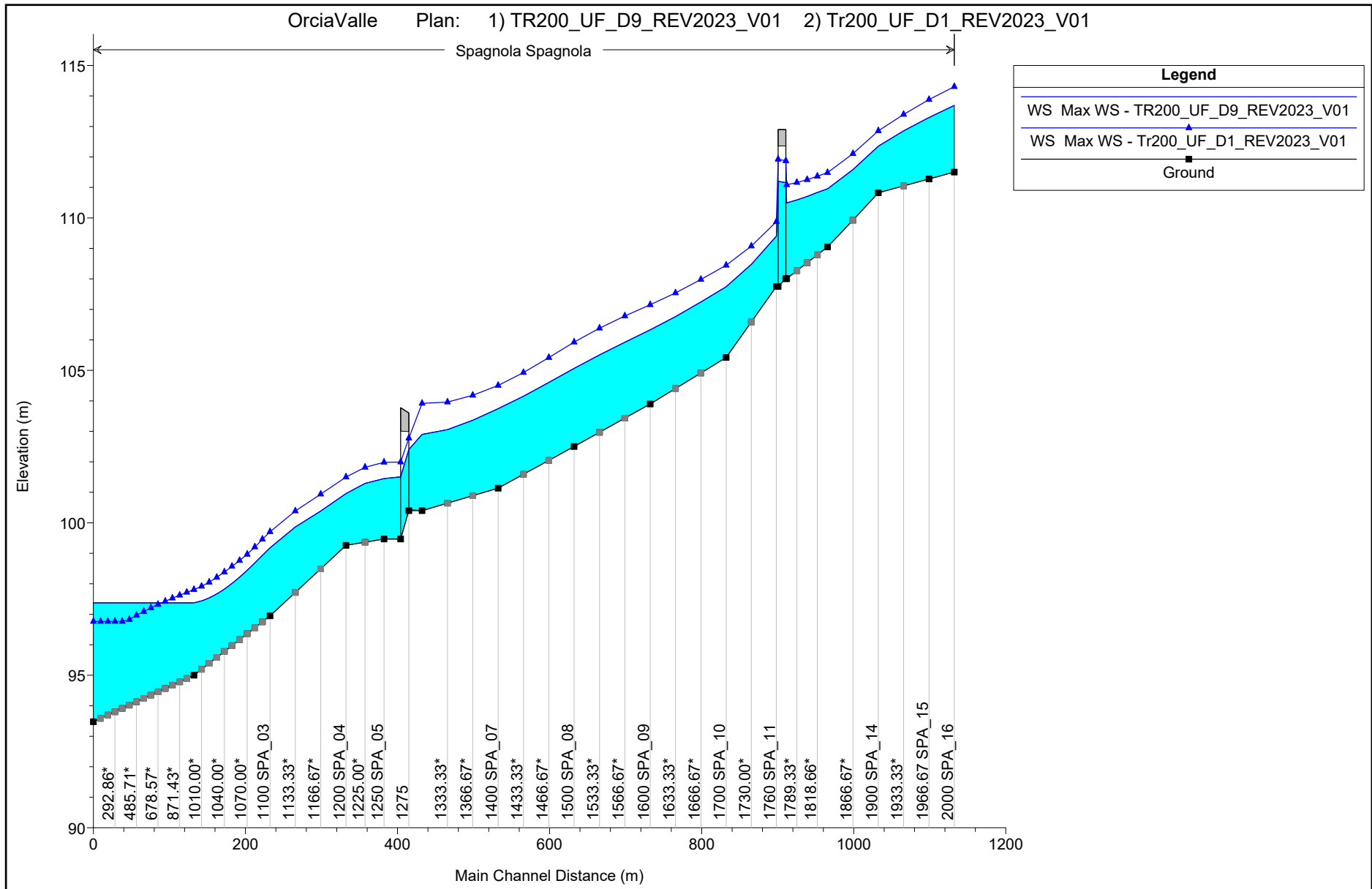
### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA VALLE"**

**Spagnola**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    9h, 12h e 15h

***Profilo longitudinale***



## **ALLEGATI**

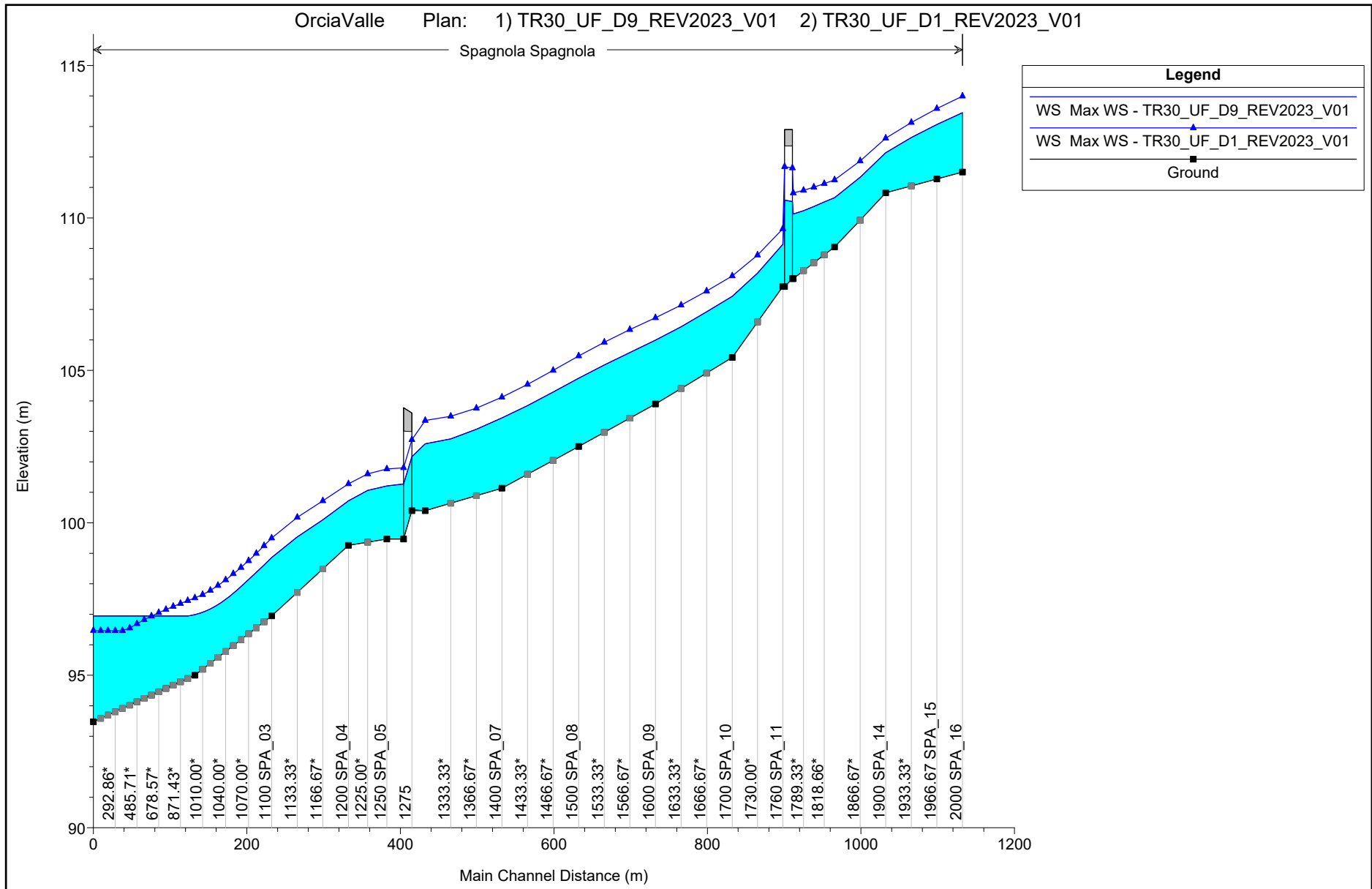
### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA VALLE"**

**Spagnola**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    9h, 12h e 15h

***Profilo longitudinale***



## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA VALLE"**

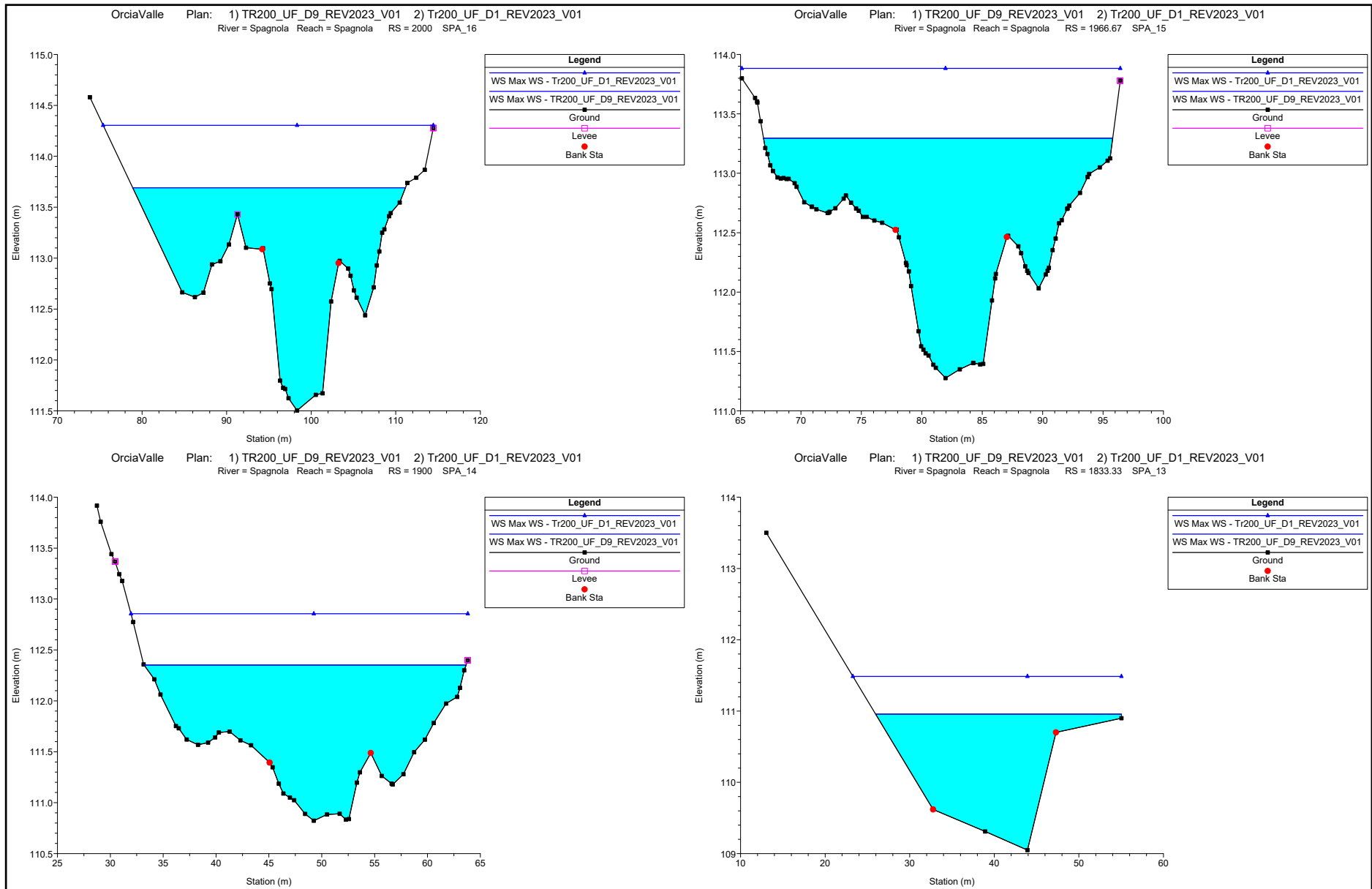
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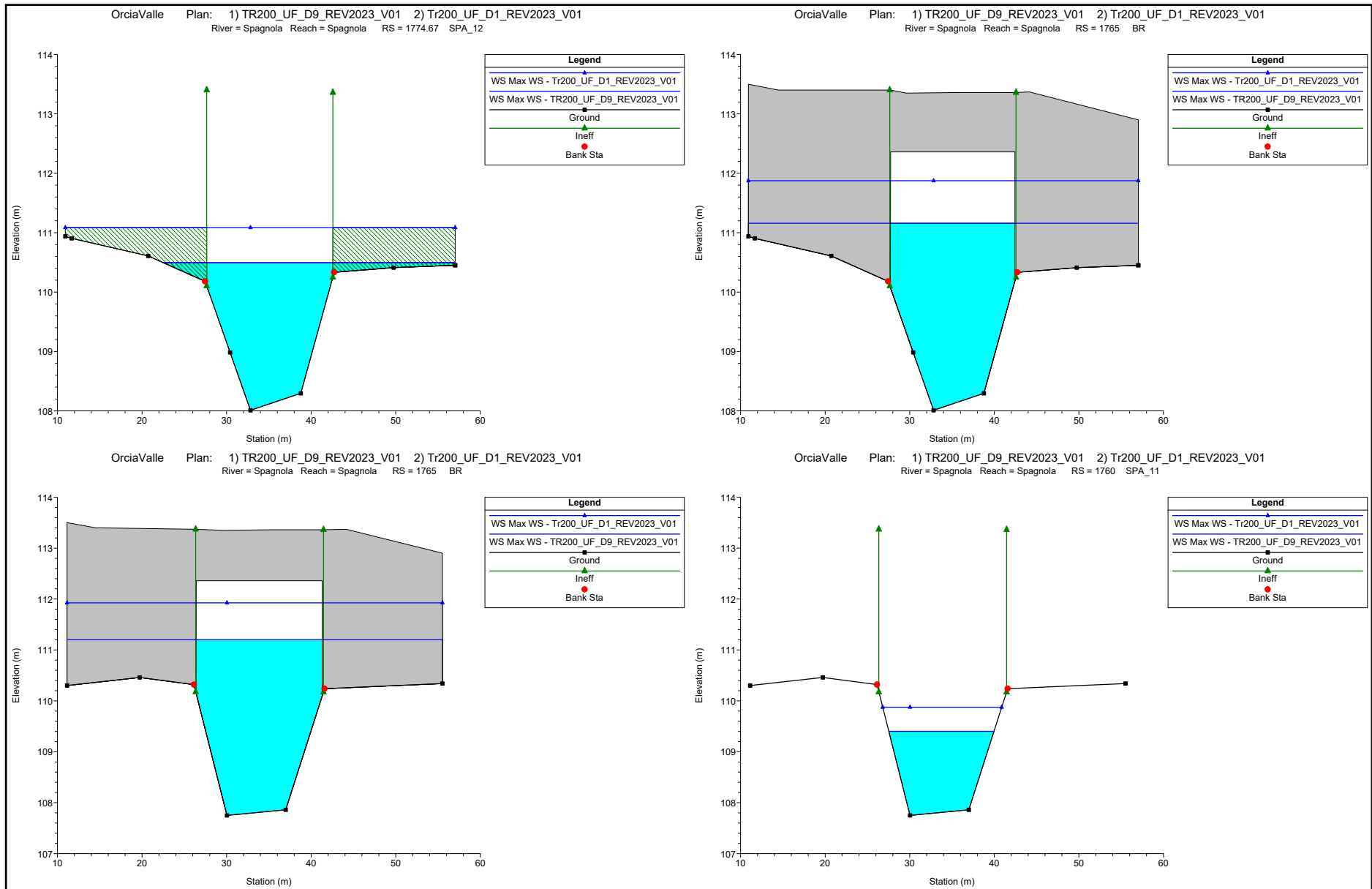
MODELLAZIONE PER      Tr=200 anni

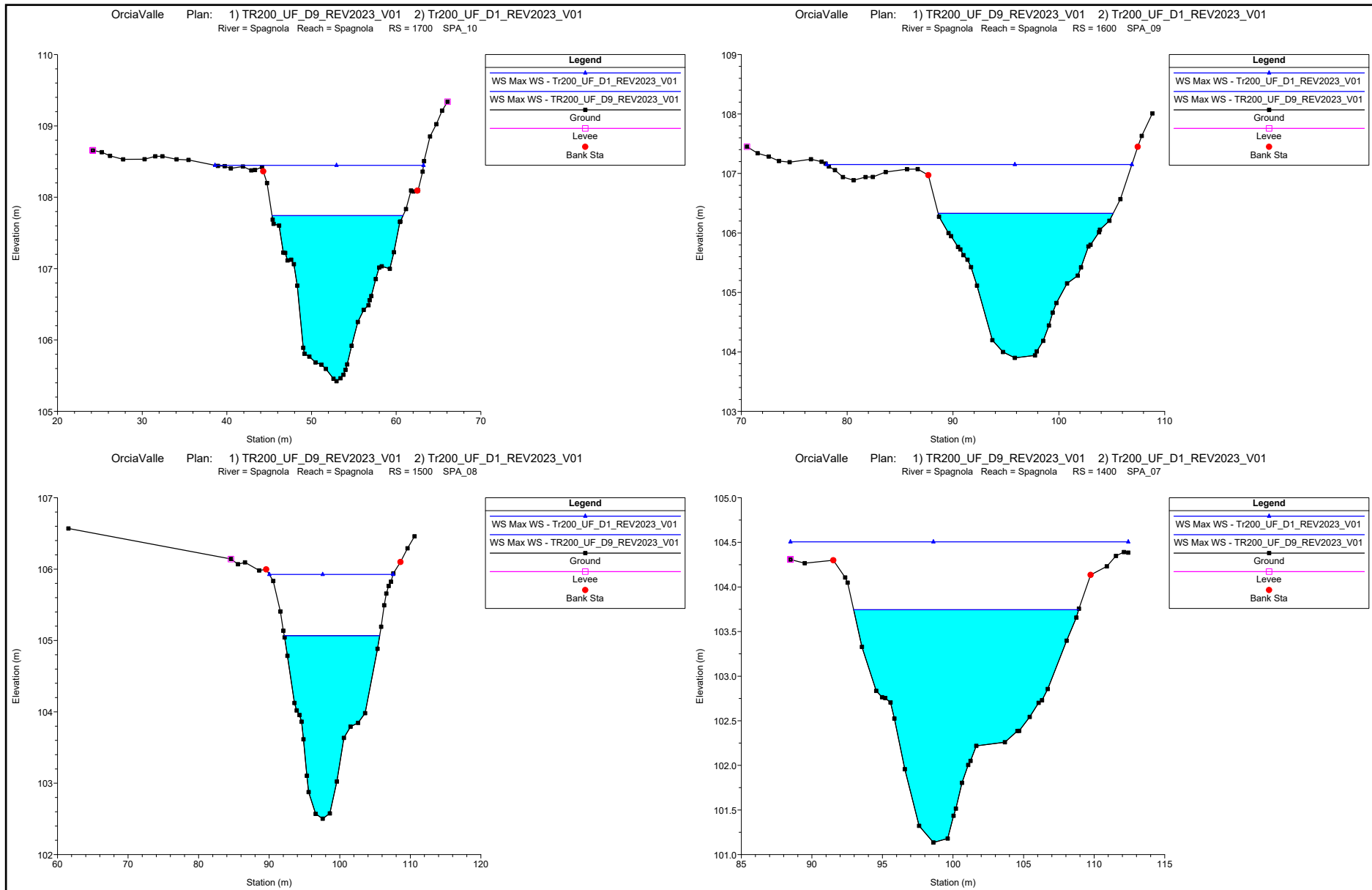
DURATE DI PIOGGIA:    9h, 12h e 15h

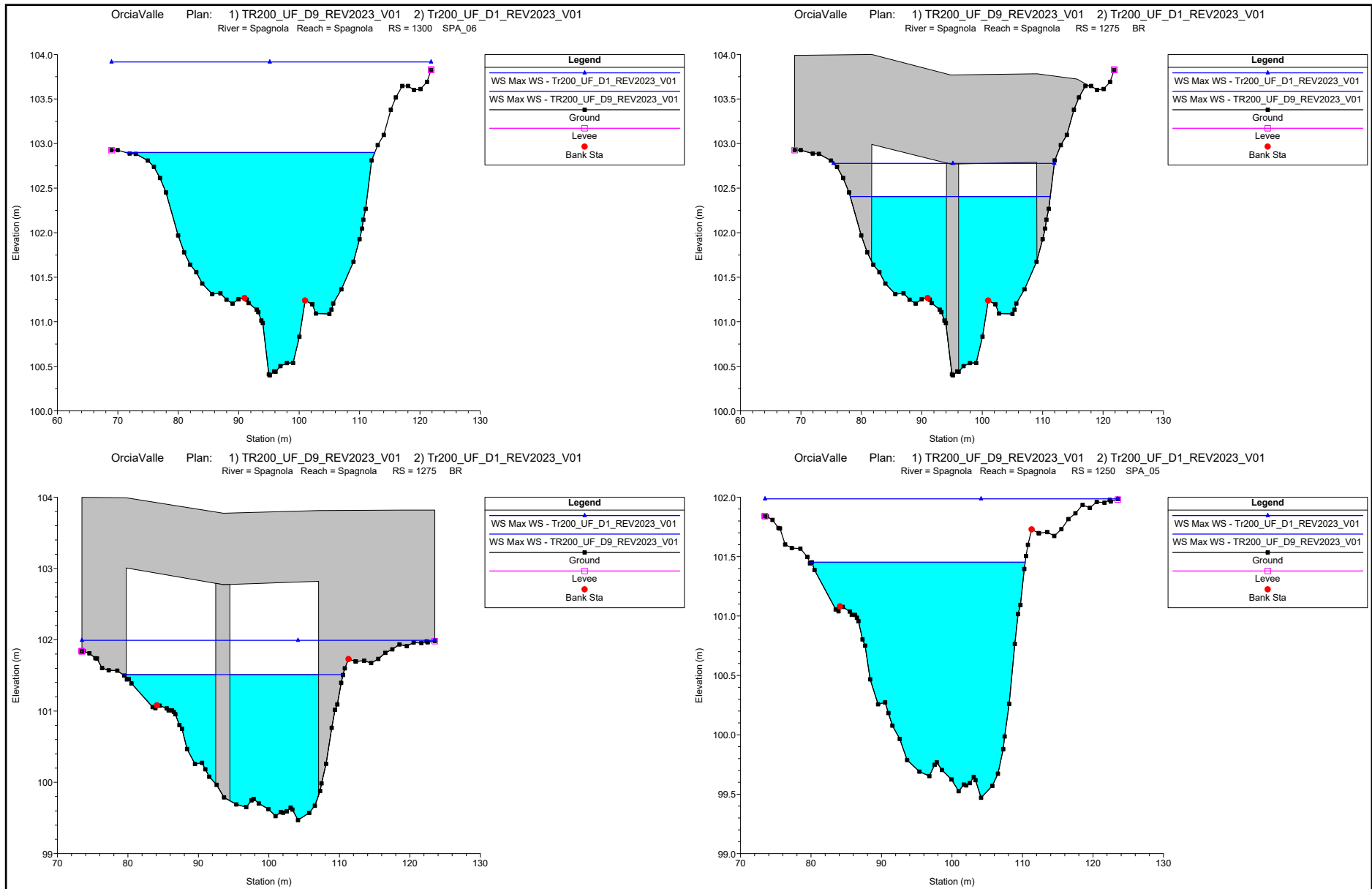
***Sezioni Trasversali (da monte verso valle)***

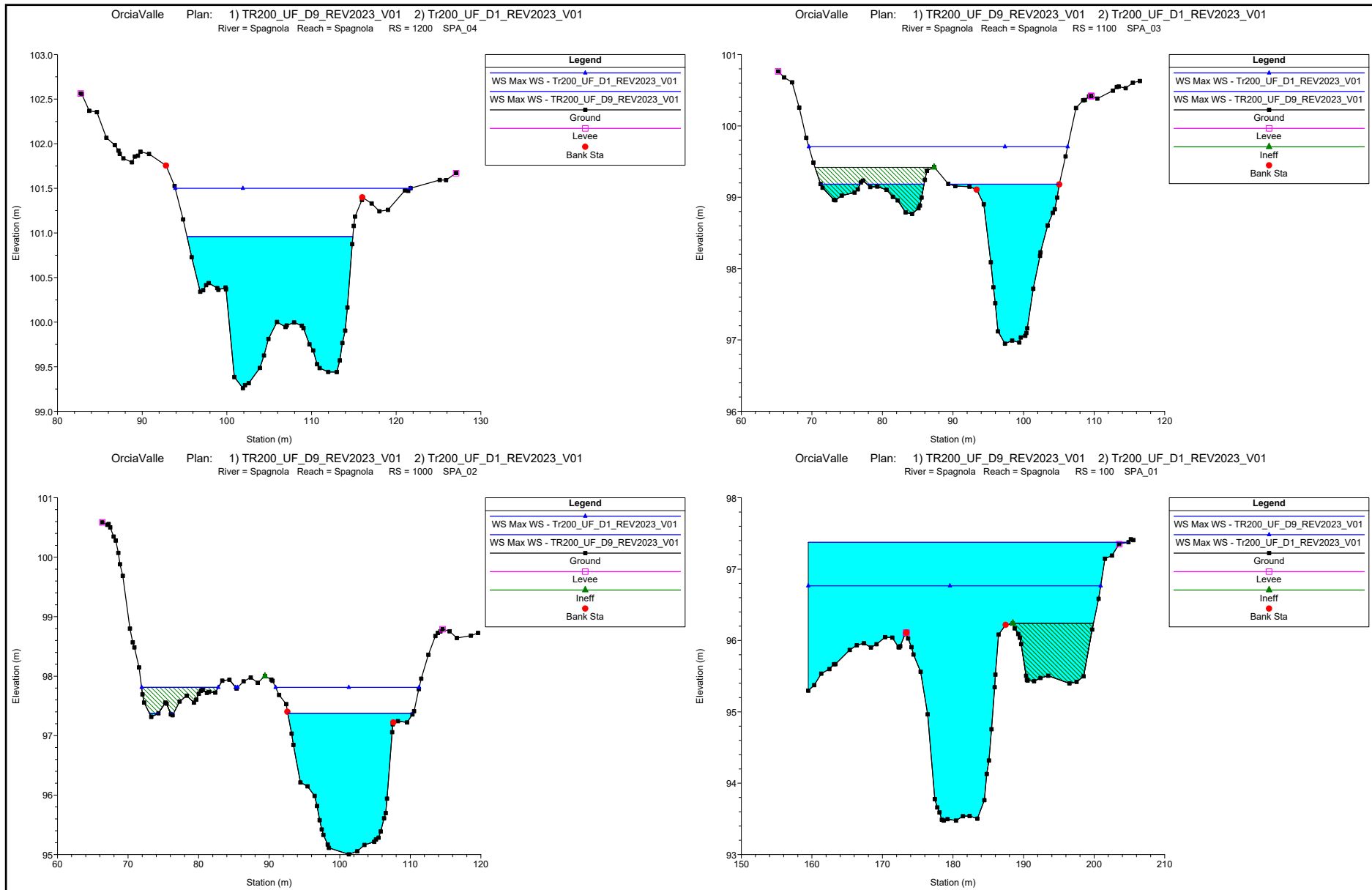












# **ALLEGATI**

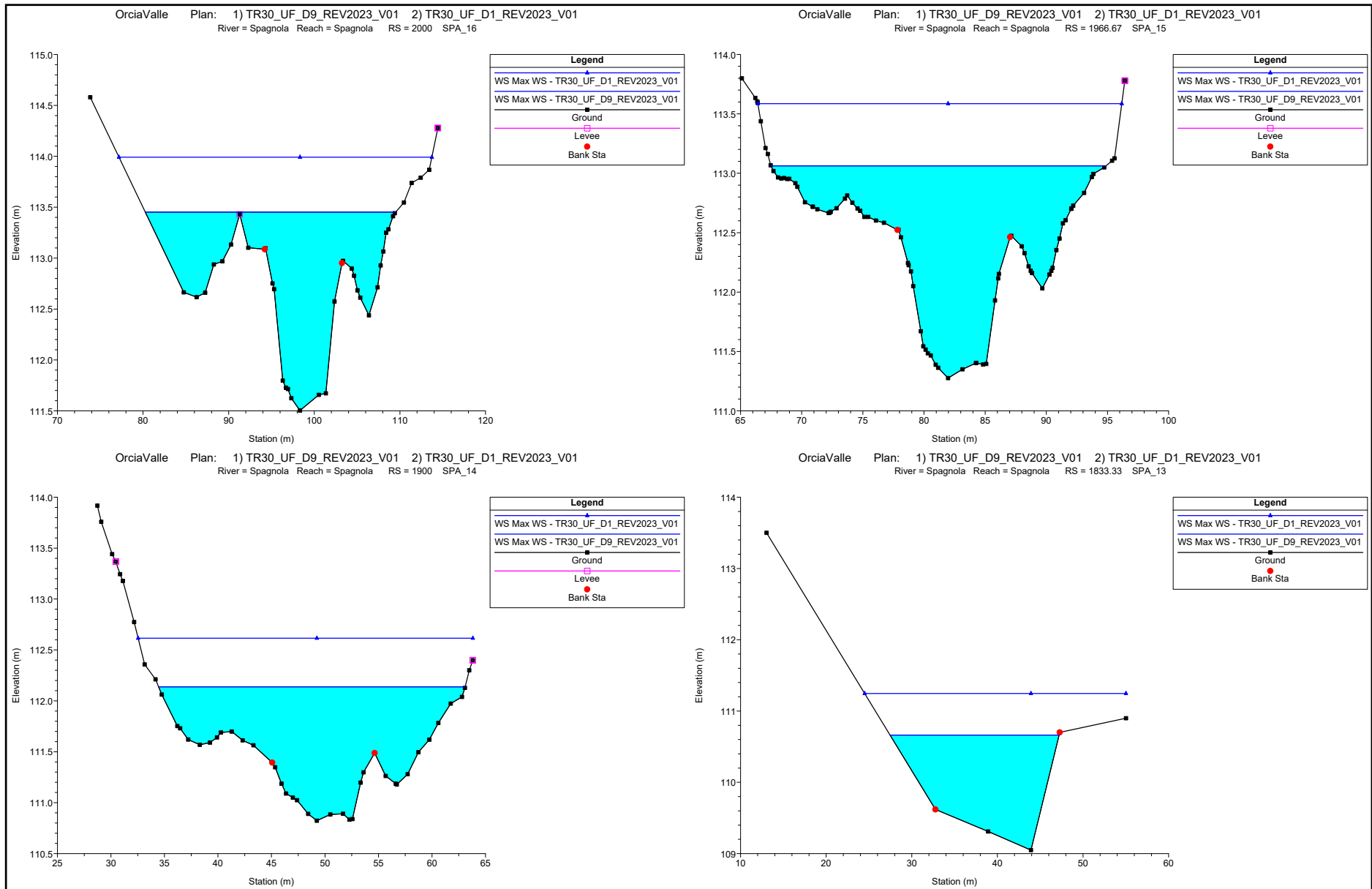
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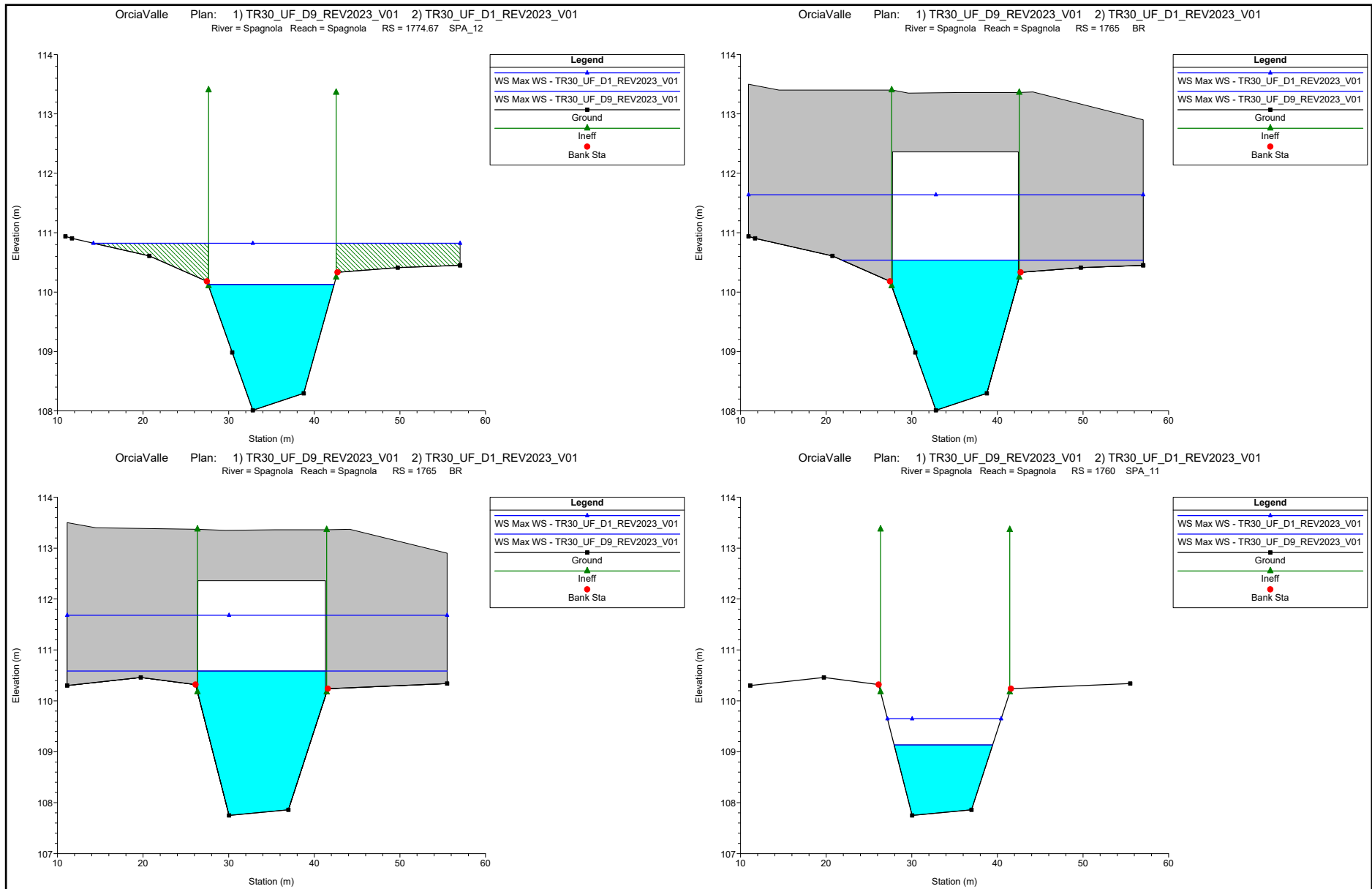
**Spagnola**

MODELLAZIONE PER       $Tr=30$  anni

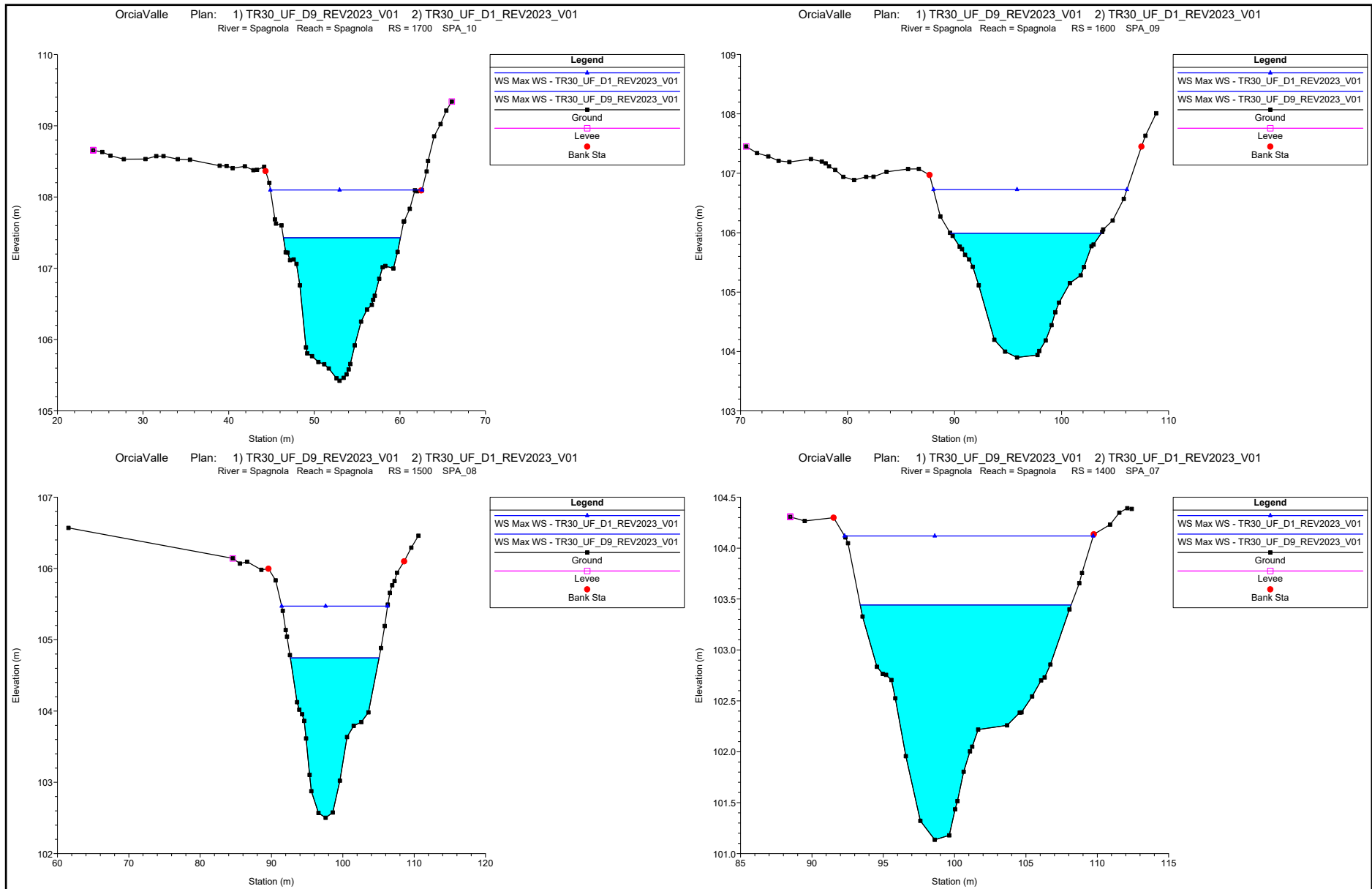
DURATE DI PIOGGIA:    9h, 12h e 15h

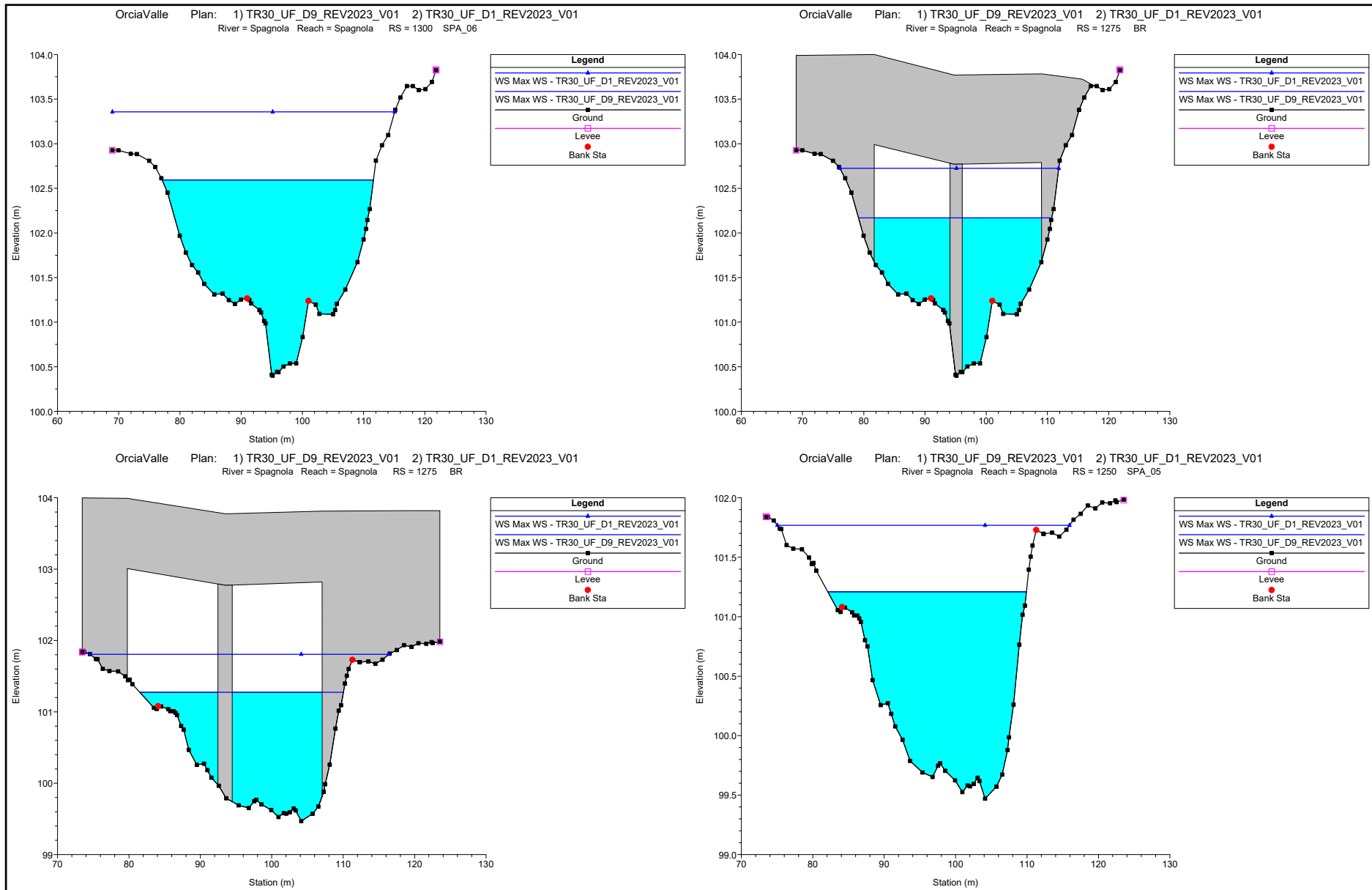
***Sezioni Trasversali (da monte verso valle)***

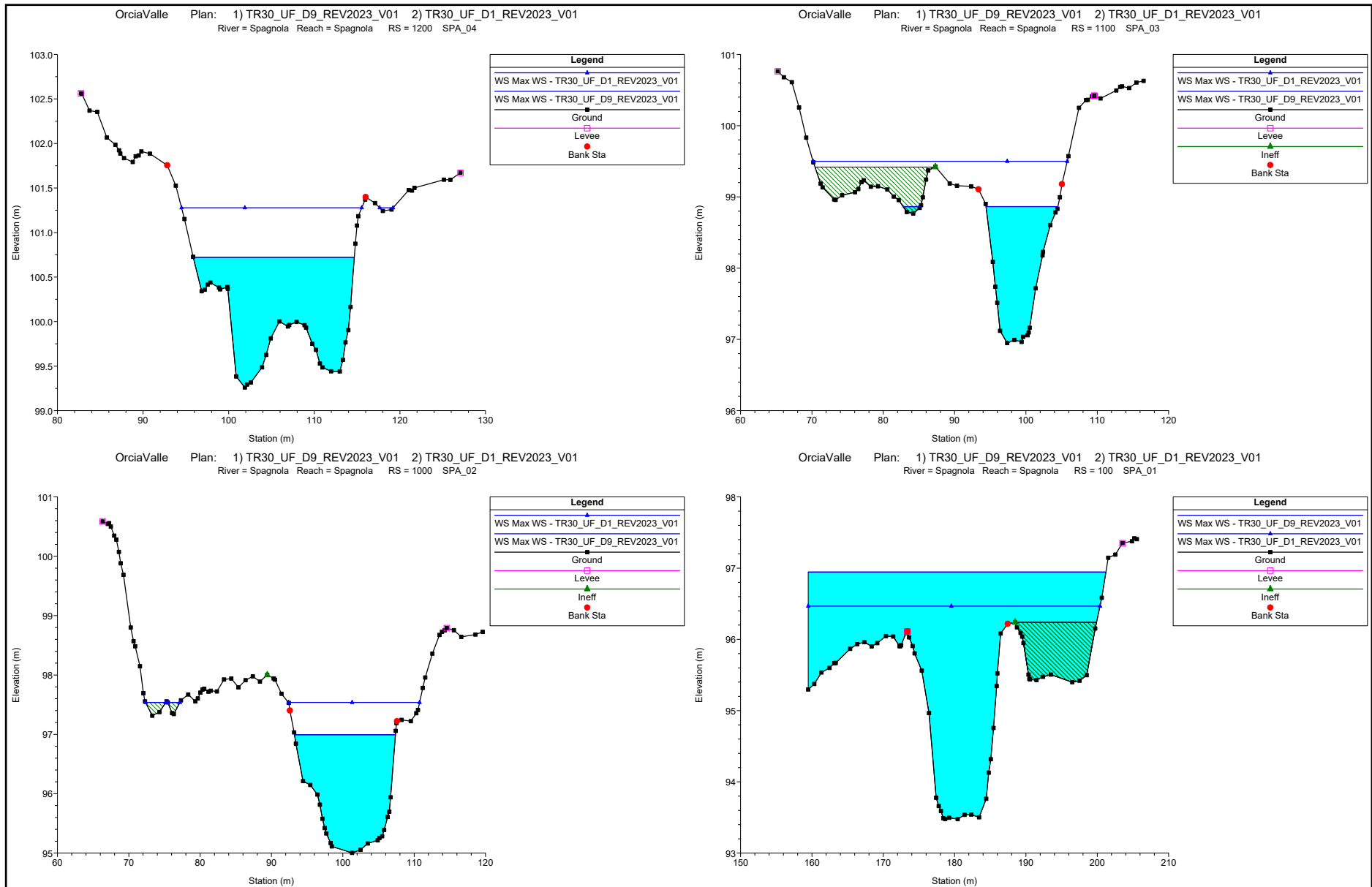












## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA VALLE"**

**Spagnola**

MODELLAZIONE PER      Tr=200 anni

DURATE DI PIOGGIA:    9h, 12h e 15h

***Dati idraulici***

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Spagnola	2000	Max WS	TR200_UF_D9_REV2023_V01	94.12	111.50	113.69	113.94	114.54	0.010922	4.63	1.55	1.59	30.49	32.25	1.14
Spagnola	2000	Max WS	Ti200_UF_D1_REV2023_V01	190.28	111.50	114.30	114.64	115.48	0.011342	5.80	2.22	2.14	52.72	39.03	1.22
Spagnola	1999														
					Lat Struct										
Spagnola	1966.67	Max WS	TR200_UF_D9_REV2023_V01	94.12	111.28	113.30	113.60	114.34	0.012980	5.02	1.49	1.77	26.84	28.90	1.26
Spagnola	1966.67	Max WS	Ti200_UF_D1_REV2023_V01	189.66	111.28	113.88	114.31	115.42	0.013991	6.41	2.33	2.62	44.49	31.32	1.38
Spagnola	1900	Max WS	TR200_UF_D9_REV2023_V01	94.12	110.82	112.35	112.65	113.37	0.017016	5.18	1.91	2.12	26.85	30.47	1.44
Spagnola	1900	Max WS	Ti200_UF_D1_REV2023_V01	180.97	110.82	112.86	113.26	114.29	0.016864	6.40	2.66	2.86	42.60	31.86	1.51
Spagnola	1833.33	Max WS	TR200_UF_D9_REV2023_V01	94.10	109.05	110.96	111.08	111.72	0.008776	4.01	1.41	0.54	27.46	29.06	1.05
Spagnola	1833.33	Max WS	Ti200_UF_D1_REV2023_V01	170.78	109.05	111.49	111.72	112.61	0.009137	5.01	1.80	1.42	43.58	31.76	1.12
Spagnola	1780														
					Lat Struct										
Spagnola	1774.67	Max WS	TR200_UF_D9_REV2023_V01	93.50	108.01	110.49	110.34	111.15	0.005985	3.60			26.01	34.52	0.87
Spagnola	1774.67	Max WS	Ti200_UF_D1_REV2023_V01	143.39	108.01	111.09	110.86	111.95	0.005326	4.12			34.81	46.10	0.86
Spagnola	1765														
					Bridge										
Spagnola	1760	Max WS	TR200_UF_D9_REV2023_V01	93.50	107.75	109.40	110.00	111.27	0.026947	6.05			15.46	12.43	1.73
Spagnola	1760	Max WS	Ti200_UF_D1_REV2023_V01	143.38	107.75	109.87	110.54	112.10	0.024338	6.60			21.72	14.07	1.70
Spagnola	1700	Max WS	TR200_UF_D9_REV2023_V01	94.07	105.42	107.74	108.03	108.87	0.015530	4.69			20.05	15.47	1.32
Spagnola	1700	Max WS	Ti200_UF_D1_REV2023_V01	176.03	105.42	108.45	108.97	109.98	0.014060	5.48	0.25	0.78	32.44	24.63	1.32
Spagnola	1600	Max WS	TR200_UF_D9_REV2023_V01	94.09	103.90	106.33	106.51	107.26	0.012178	4.28			21.97	16.53	1.19
Spagnola	1600	Max WS	Ti200_UF_D1_REV2023_V01	189.17	103.90	107.15	107.54	108.48	0.010830	5.11	0.58		38.25	28.85	1.18
Spagnola	1599														
					Lat Struct										
Spagnola	1500	Max WS	TR200_UF_D9_REV2023_V01	94.14	102.50	105.07	105.33	106.22	0.013941	4.76			19.77	13.53	1.26
Spagnola	1500	Max WS	Ti200_UF_D1_REV2023_V01	190.01	102.50	105.92	106.62	107.64	0.014968	5.81			32.73	17.54	1.36
Spagnola	1400	Max WS	TR200_UF_D9_REV2023_V01	94.13	101.14	103.74	103.88	104.65	0.011283	4.22			22.31	15.94	1.14
Spagnola	1400	Max WS	Ti200_UF_D1_REV2023_V01	187.76	101.14	104.51	104.82	105.91	0.011294	5.26	0.75	0.78	36.82	23.93	1.20
Spagnola	1310														
					Lat Struct										
Spagnola	1300	Max WS	TR200_UF_D9_REV2023_V01	94.13	100.40	102.90	102.36	103.15	0.002548	2.72	0.96	1.21	55.08	41.16	0.60
Spagnola	1300	Max WS	Ti200_UF_D1_REV2023_V01	171.74	100.40	103.92	102.80	104.17	0.001675	2.87	1.19	1.06	103.47	52.89	0.52
Spagnola	1275														
					Bridge										
Spagnola	1250	Max WS	TR200_UF_D9_REV2023_V01	94.13	99.47	101.45		101.79	0.004032	2.58	0.46		37.21	30.59	0.70
Spagnola	1250	Max WS	Ti200_UF_D1_REV2023_V01	171.74	99.47	101.99	101.74	102.52	0.004391	3.29	0.83	0.37	57.83	50.07	0.77
Spagnola	1200	Max WS	TR200_UF_D9_REV2023_V01	94.13	99.26	100.96	101.25	102.00	0.018340	4.51			20.86	19.58	1.40
Spagnola	1200	Max WS	Ti200_UF_D1_REV2023_V01	171.73	99.26	101.50	101.97	102.94	0.016957	5.33		0.75	32.98	27.77	1.41
Spagnola	1100	Max WS	TR200_UF_D9_REV2023_V01	94.13	96.95	99.18	99.88	101.05	0.025684	6.05	0.33	0.04	15.68	29.22	1.67
Spagnola	1100	Max WS	Ti200_UF_D1_REV2023_V01	171.72	96.95	99.71	100.49	102.26	0.024239	7.34	1.50	1.22	30.07	36.69	1.72
Spagnola	1029														
					Lat Struct										
Spagnola	1000	Max WS	TR200_UF_D9_REV2023_V01	5.01	95.00	97.38		97.38	0.000017	0.19		0.02	26.62	19.47	0.05
Spagnola	1000	Max WS	Ti200_UF_D1_REV2023_V01	171.72	95.00	97.81	98.24	99.16	0.009588	5.17	0.80	1.18	34.86	31.50	1.12
Spagnola	100	Max WS	TR200_UF_D9_REV2023_V01	7.50	93.48	97.38		97.38	0.000005	0.14	0.05	0.04	78.94	45.27	0.03
Spagnola	100	Max WS	Ti200_UF_D1_REV2023_V01	4.95	93.48	96.77		96.77	0.000006	0.13	0.04	0.03	53.13	41.44	0.03

## **ALLEGATI**

### **MODELLAZIONE HEC-RAS 5.0.7 "ORCIA VALLE"**

**Spagnola**

MODELLAZIONE PER      Tr=30 anni

DURATE DI PIOGGIA:    9h, 12h e 15h

***Dati idraulici***

HEC-RAS River: Spagnola Reach: Spagnola Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Vel Left (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Cfl
Spagnola	2000	Max WS	TR30_UF_D9_REV2023_V01	66.70	111.50	113.45	113.64	114.17	0.010691	4.13	1.22	1.41	23.08	29.24	1.10
Spagnola	2000	Max WS	TR30_UF_D1_REV2023_V01	136.00	111.50	113.99	114.26	115.00	0.011154	5.22	1.90	1.77	40.92	36.55	1.18
Spagnola	1999		Lat Struct												
Spagnola	1966.67	Max WS	TR30_UF_D9_REV2023_V01	66.70	111.28	113.06	113.34	113.95	0.012783	4.49	1.06	1.47	20.23	27.40	1.22
Spagnola	1966.67	Max WS	TR30_UF_D1_REV2023_V01	135.98	111.28	113.59	113.96	114.84	0.013230	5.66	1.95	2.19	35.35	29.76	1.31
Spagnola	1900	Max WS	TR30_UF_D9_REV2023_V01	66.70	110.82	112.14	112.40	113.01	0.017532	4.68	1.61	1.81	20.55	28.65	1.42
Spagnola	1900	Max WS	TR30_UF_D1_REV2023_V01	134.91	110.82	112.62	112.95	113.82	0.016518	5.76	2.30	2.49	35.02	31.28	1.46
Spagnola	1833.33	Max WS	TR30_UF_D9_REV2023_V01	66.70	109.05	110.66	110.73	111.30	0.009547	3.63	1.25		20.20	19.75	1.05
Spagnola	1833.33	Max WS	TR30_UF_D1_REV2023_V01	132.65	109.05	111.25	111.43	112.20	0.008930	4.55	1.63	1.07	36.11	30.54	1.09
Spagnola	1780		Lat Struct												
Spagnola	1774.67	Max WS	TR30_UF_D9_REV2023_V01	66.69	108.01	110.13	109.99	110.66	0.006520	3.24			20.56	14.74	0.88
Spagnola	1774.67	Max WS	TR30_UF_D1_REV2023_V01	120.33	108.01	110.82	110.63	111.60	0.005584	3.90			30.89	42.84	0.86
Spagnola	1765		Bridge												
Spagnola	1760	Max WS	TR30_UF_D9_REV2023_V01	66.69	107.75	109.14	109.61	110.64	0.026544	5.44			12.26	11.51	1.68
Spagnola	1760	Max WS	TR30_UF_D1_REV2023_V01	120.33	107.75	109.65	110.31	111.78	0.026454	6.47			18.61	13.28	1.74
Spagnola	1700	Max WS	TR30_UF_D9_REV2023_V01	66.69	105.42	107.43	107.67	108.37	0.015484	4.30			15.52	13.66	1.29
Spagnola	1700	Max WS	TR30_UF_D1_REV2023_V01	131.66	105.42	108.10	108.46	109.42	0.015566	5.10	0.06		25.83	17.71	1.34
Spagnola	1600	Max WS	TR30_UF_D9_REV2023_V01	66.69	103.90	105.99	106.15	106.80	0.012236	3.98			16.76	14.10	1.17
Spagnola	1600	Max WS	TR30_UF_D1_REV2023_V01	135.35	103.90	106.73	106.94	107.85	0.011514	4.69			28.87	18.09	1.18
Spagnola	1599		Lat Struct												
Spagnola	1500	Max WS	TR30_UF_D9_REV2023_V01	66.69	102.50	104.74	104.94	105.68	0.013748	4.28			15.58	12.43	1.22
Spagnola	1500	Max WS	TR30_UF_D1_REV2023_V01	135.82	102.50	105.47	105.87	106.92	0.014149	5.32			25.52	14.84	1.30
Spagnola	1400	Max WS	TR30_UF_D9_REV2023_V01	66.69	101.14	103.44	103.53	104.17	0.011105	3.78			17.65	14.78	1.10
Spagnola	1400	Max WS	TR30_UF_D1_REV2023_V01	135.76	101.14	104.12	104.36	105.27	0.011675	4.76			28.55	17.43	1.19
Spagnola	1310		Lat Struct												
Spagnola	1300	Max WS	TR30_UF_D9_REV2023_V01	66.69	100.40	102.59	102.12	102.78	0.002236	2.30	0.93	1.02	43.90	34.52	0.54
Spagnola	1300	Max WS	TR30_UF_D1_REV2023_V01	135.72	100.40	103.36	102.88	103.64	0.002339	2.97	1.13	1.26	75.67	46.13	0.59
Spagnola	1275		Bridge												
Spagnola	1250	Max WS	TR30_UF_D9_REV2023_V01	66.69	99.47	101.21		101.46	0.003766	2.23	0.27		30.13	27.81	0.66
Spagnola	1250	Max WS	TR30_UF_D1_REV2023_V01	135.72	99.47	101.77		102.22	0.004279	2.99	0.64	0.21	48.13	40.91	0.74
Spagnola	1200	Max WS	TR30_UF_D9_REV2023_V01	66.69	99.26	100.72	100.95	101.58	0.019720	4.09			16.30	18.82	1.40
Spagnola	1200	Max WS	TR30_UF_D1_REV2023_V01	135.72	99.26	101.28	101.70	102.54	0.017200	4.97	0.21		27.33	22.60	1.39
Spagnola	1100	Max WS	TR30_UF_D9_REV2023_V01	66.69	96.95	98.86	99.40	100.42	0.024882	5.53			12.06	12.49	1.61
Spagnola	1100	Max WS	TR30_UF_D1_REV2023_V01	135.71	96.95	99.50	100.23	101.88	0.025143	6.90	0.83	0.88	22.53	35.62	1.72
Spagnola	1029		Lat Struct												
Spagnola	1000	Max WS	TR30_UF_D9_REV2023_V01	66.32	95.00	96.99		97.52	0.006237	3.21			20.68	14.15	0.85
Spagnola	1000	Max WS	TR30_UF_D1_REV2023_V01	135.70	95.00	97.54	97.70	98.66	0.009506	4.71	0.25	0.79	29.54	22.94	1.09
Spagnola	100	Max WS	TR30_UF_D9_REV2023_V01	4.77	93.48	96.95		96.95	0.000004	0.11	0.04	0.03	60.57	41.72	0.02
Spagnola	100	Max WS	TR30_UF_D1_REV2023_V01	4.99	93.48	96.47		96.47	0.000010	0.16	0.05	0.02	40.82	40.90	0.03