regione **Piemonte**

provincia **Cuneo**

comune **Magliano Alfieri**

VALUTAZIONE DELL'ESONDABILITA' DEL RIO MOISA

RELAZIONE IDROLOGICO-IDRAULICA

committente **Amministrazione Comunale di Magliano Alfieri**

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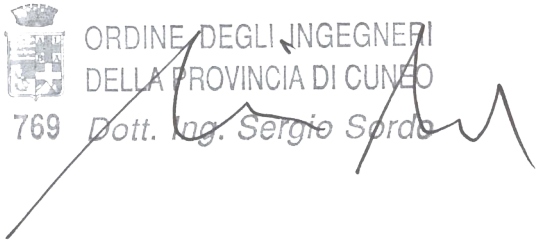


INDICE

1 PREMESSA

Il presente lavoro viene redatto dallo scrivente su incarico dell'Amministrazione Comunale di Magliano Alfieri e riporta le valutazioni idrologiche ed idrauliche a supporto della delimitazione delle fasce di esondazione del rio Moisa per le portate con tempi di ritorno pari a 50, 100, 200 e 500 anni.

Oltre allo scenario attuale viene esaminata una situazione di progetto che prevede la realizzazione di interventi di sistemazione idraulica del rio nella zona a valle del ponte della strada statale Alba-Asti (SS231). In particolare è prevista la ricalibratura della sezione dell'alveo (a partire da 20 m a valle del primo ponte dell'area industriale fino a circa 110 m a valle del secondo ponte dell'area industriale) con la realizzazione di muri verticali in calcestruzzo a formare una sezione rettangolare larga 7 m; i gabbioni presenti in sponda destra nella prima parte dell'area industriale verranno mantenuti. Inoltre, nella zona immediatamente a valle, si prevede la realizzazione di una sezione trapezia ben regolarizzata con base larga 7 m e scarpate con pendenza 1:1, per un tratto avente una lunghezza di circa 285 m; la ricalibratura di tale porzione di rio comporta anche l'eliminazione dell'interferenza di un ponticello di accesso ai fondi agricoli tramite il suo rifacimento con luce adeguata.

Gli scenari idraulici relativi alle portate di piena, con riferimento alla situazione attuale, sono riportati nelle seguenti tavole:

Tav. 1 Delimitazione della fascia di esondazione con riferimento alla portata di piena con T_R=50 anni (Situazione attuale);

Tav. 2 Delimitazione della fascia di esondazione con riferimento alla portata di piena con T_R=100 anni (Situazione di attuale);

Tav. 3 Delimitazione della fascia di esondazione con riferimento alla portata di piena con T_R=200 anni (Situazione attuale);

Tav. 4 Delimitazione della fascia di esondazione con riferimento alla portata di piena con T_R=500 anni (Situazione attuale).

Oltre alla delimitazione della fascia di esondazione, per la portata avente tempo di ritorno pari a 200 anni, sono state individuate quelle aree che vengono inondate con tiranti idrici contenuti, inferiori a 30-40 cm:

Tav. 5 Delimitazione della fascia di esondazione con riferimento alla portata di piena con T_R=200 anni con individuazione delle aree con tiranti idrici inferiori ai 30-40cm.

Gli scenari idraulici relativi alle portate di piena, con riferimento alla situazione di progetto, sono riportati nelle seguenti tavole:

Tav. 6 Delimitazione della fascia di esondazione con riferimento alla portata di piena con T_R=50 anni (Situazione di progetto);

Tav. 7 Delimitazione della fascia di esondazione con riferimento alla portata di piena con T_R=100 anni (Situazione di progetto);

Tav. 8 Delimitazione della fascia di esondazione con riferimento alla portata di piena con T_R=200 anni (Situazione di progetto);

Tav. 9 Delimitazione della fascia di esondazione con riferimento alla portata di piena con T_R=500 anni (Situazione di progetto).

2 CARATTERISTICHE IDROLOGICHE DEL RIO MOISA

Le caratteristiche idrologiche del bacino del Rio Moisa che vengono adottate nei calcoli delle portate massime al colmo Q_{cmax} con gli assegnati tempi di ritorno sono riferite alle sezioni di chiusura considerate.

Tali caratteristiche sono desunte dalla Carta Tecnica Regionale della Regione Piemonte.

Il tratto in esame del rio Moisa presenta una lunghezza limitata (circa 2.5 km); non sono inoltre presenti tributari in grado di modificare in modo sostanziale in regime idrologico del corso d'acqua. La determinazione delle portate con assegnato tempo di ritorno può quindi essere effettuata con riferimento ad una singola sezione di chiusura.

Corso d'acqua	Quota sezione chiusura m s.l.m.	Superficie bacino km^2	Pendenza media nel tratto in esame %
Rio Moisa a Valle di Magliano	155	4.69	1.1

Tab. 2.1 Caratteristiche idrologiche del Rio Moisa a Valle di Magliano

3 CALCOLO DELLE PORTATE CON ASSEGNATO TEMPO DI RITORNO

La valutazione delle portate dai dati pluviometrici prende origine dalla stima dell'altezza di precipitazione che può verificarsi sulla superficie scolante per una definita durata.

3.1 VALUTAZIONE DELL'ALTEZZA DI PIOGGIA CON IL METODO TCEV DELLA REGIONE PIEMONTE

La legge di distribuzione di probabilità del valore atteso a doppia componente, nota come TCEV (Two Component Extreme Value), rappresenta la distribuzione del massimo valore in un dato intervallo di tempo di una variabile casuale distribuita secondo una miscela di due esponenziali, quando il numero di occorrenze di una stessa variabile, in detto intervallo, segue la legge di Poisson.

La stima dei parametri della distribuzione TCEV può essere effettuata utilizzando sia una serie di valori che eccedono un prefissato livello di soglia, sia una serie di valori massimi in un prefissato intervallo di tempo generalmente assunto, in Idrologia, pari ad un anno.

Detta stima può anche essere effettuata utilizzando tecniche di regionalizzazione dei parametri.

Tali tecniche sono tra l'altro necessarie quando si vuole interpretare il comportamento statistico di una variabile idrologica, della quale non si dispone di osservazioni nella località di interesse.

Per il caso in oggetto si fa riferimento allo studio relativo alla "*Regionalizzazione delle piogge*" redatto con modello TCEV a cura dell'Assessorato Regionale Tutela del Suolo – Settore OO.PP. Difesa Assetto Idrogeologico della Regione Piemonte.

Tale modello studia in modo statistico le massime altezze di precipitazione con assegnato tempo di ritorno e durata pari a 1-24 ore e 1-5 giorni sul territorio piemontese.

La procedura permette di determinare il tempo di ritorno associato ad una data altezza di pioggia che si è verificata su un'area caratterizzata dalla propria altitudine media e dal fatto di essere contenuta in una particolare zona pluviometricamente omogenea.

La medesima procedura può essere anche applicata nell'ordine inverso per determinare un'altezza di precipitazione di assegnato tempo di ritorno.

La valutazione avviene attraverso due passaggi matematici.

Il primo consiste nel definire il parametro E, corrispondente alla media delle altezze massime di precipitazione registrate in un dato intervallo di tempo. La funzione che definisce tale parametro varia da zona a zona, per cui sono state definite per la regione Piemonte 6 aree pluviometricamente omogenee, a cui corrispondono le seguenti funzioni caratteristiche:

- ZONA OMOGENEA 1: $E1 = 30{,}86 \cdot t^{(0{,}412+0{,}00024 \cdot Z)/1{,}38}$
- ZONA OMOGENEA 2: $E2 = 25{,}37 \cdot t^{(0{,}469+0{,}00023 \cdot Z)/1{,}38}$
- ZONA OMOGENEA 3: $E3 = 22{,}62 \cdot t^{(0{,}3377+0{,}000178 \cdot Z)/1{,}38}$
- ZONA OMOGENEA 4: $E4 = 36{,}58 \cdot t^{(0{,}504+0{,}000186 \cdot Z)/1{,}38}$
- ZONA OMOGENEA 5: $E5 = 18{,}37 \cdot t^{(0{,}827-0.000075 \cdot Z)/1{,}38}$
- ZONA OMOGENEA 6: $E6 = 16{,}07 \cdot t^{(0{,}69-0{,}00007 \cdot Z)/1{,}38}$

dove t corrisponde alla durata della pioggia considerata (ore) e Z all'altitudine (m s.l.m.).

Dal rapporto tra l'altezza di pioggia misurata XT e il valore E si ricava X^1 = XT/E.

Introducendo quest'ultimo parametro nelle seguenti funzioni, che descrivono le 3 curve di crescita caratteristiche di altrettante aree in cui è

stata suddivisa la regione Piemonte, si ottiene la probabilità di non superamento SZ:

- ZONA PLUVIOMETRICA 1: $SZ1 = e^{(-15,81 \cdot 19,452^{-X^1} - 1,885 \cdot 7,179^{-X^1})}$
- ZONA PLUVIOMETRICA 2: $SZ2 = e^{(-20,38 \cdot 25,078^{-X^1} - 2,231 \cdot 8,498^{-X^1})}$
- ZONA PLUVIOMETRICA 3: $SZ3 = e^{(-43,35 \cdot 53,35^{-X^1} - 3,684 \cdot 14,21^{-X^1})}$

Dal parametro SZ si ricava infine il tempo di ritorno di un determinato evento TR dalla seguente relazione:

$$TR = \frac{1}{1 - SZ}$$

Applicando a ritroso le stesse funzioni si può ricavare l'altezza di precipitazione di assegnato tempo di ritorno da utilizzare poi nel calcolo delle portate tramite il metodo razionale.
Introducendo nel modello di regionalizzazione TCEV il valore del tempo di pioggia e quello del relativo tempo di ritorno, si ottiene l'altezza di pioggia cercata.
L'area in esame si colloca nella zona omogenea n.2.

3.2 DETERMINAZIONE DEL TEMPO DI CORRIVAZIONE

Le durate di pioggia critiche per il bacino ed i relativi sottobacini da considerare nei calcoli idrologici sono quelle corrispondenti ai loro tempi di corrivazione, ovvero il tempo necessario perché tutta la superficie sottesa dalle prefissate sezioni contribuiscano al deflusso.
Per la determinazione del tempo di corrivazione è stata utilizzata la formula di Pezzoli adatta a valutare il comportamento di piccoli bacini come quello in esame:

$$Tc = 0.055 \frac{L}{\sqrt{i_m}}$$

La simbologia adottata ha i seguenti significati:
T_c = tempo di corrivazione in ore

L = lunghezza asta principale in Km

i_m = pendenza media asta principale

Applicando la formula precedente si ottiene un tempo di corrivazione pari a 0.59 ore.

Nell'ambito del progetto del canale scolmatore (già realizzato) e dei progetti di adeguamento sia dell'attraversamento della strada statale Alba-Asti che di quelli privati posti più a valle (anch'essi già realizzati), sono stati previsti degli interventi di ingegneria naturalistica sui versanti e sul reticolato minore in modo da aumentare il tempo di corrivazione del bacino, raddoppiandolo. Nella presente analisi si considera pertanto un tempo di corrivazione pari a 1.2 ore.

3.3 DETERMINAZIONE DEL COEFFICIENTE MEDIO DI DEFLUSSO

La valutazione del coefficiente medio di deflusso viene effettuata sul bacino del Rio Moisa a valle di Magliano alfieri mediante l'analisi morfologica del territorio, della coltre vegetale e dell'antropizzazione.
Il coefficiente medio di deflusso che viene assunto per i calcoli è:
$\phi = 0.5$

3.4 DETERMINAZIONE DELLE PORTATE MASSIME

Nota l'intensità di precipitazione, per una assegnata superficie scolante S caratterizzata da un coefficiente di deflusso ϕ, la portata defluente è data dall'espressione:

$$Q = \phi S j$$

con:

Q = portata meteorica defluente

ϕ = coefficiente di deflusso (assunto pari a 0.5)

S = superficie esposta alla pioggia (pari a 4.69 km^2)

j = intensità pluviometrica

Applicando il modello TCEV, considerando un tempo di corrivazione del bacino pari a 1.2 ore a cui competono le condizioni idrologiche critiche per il bacino stesso, si calcolano le altezze di pioggia corrispondenti al caso in esame e conseguentemente si determinano i valori di intensità pluviometrica da inserire nella formula precedente.

Corso d'acqua	Tempo di ritorno [anni]	h di pioggia [mm]
Rio Moisa	50	66
	100	74
	200	81
	500	92

Tab. 3.4.1 Altezza di pioggia pioggia in funzione dei tempi di ritorno per un tempo di corrivazione tc = 1.2 h

Si determinano quindi le portate pluviometriche defluenti nel rio considerando il tempo di pioggia pari al tempo di corrivazione del bacino in esame e supponendo ragionevolmente che l'intensità sia costante durante tale breve periodo. Si ottengono le seguenti portate:

Corso d'acqua	Tempo di ritorno [anni]	Q [m^3/s]
Rio Moisa	50	36
	100	40
	200	44
	500	49

Tab. 4.4.2 Valori della portata in funzione dei tempi di ritorno per tempo di corrivazione tc = 1.2 ore.

4 DESCRIZIONE DEI RILIEVI TOPOGRAFICI UTIZZATI

Per valutare i livelli raggiunti dall'acqua nel rio, è condizione essenziale disporre di rilievi topografici dettagliati e sufficientemente estesi.
Anche le batimetrie devono essere, per quanto possibile, accurate.

5 VALUTAZIONE DEI LIVELLI DI PIENA IN CONDIZIONI DI MOTO PERMANENTE ASSOCIATI AI VALORI DI Q_{CMAX} CON I TEMPI DI RITORNO ASSEGNATI

La valutazione dei livelli di piena del Rio Moisa e dello scolmatore esistente viene effettuata tramite un modello idraulico-numerico di moto permanente in quanto questo tipo di moto rappresenta una buona approssimazione del moto che si manifesta negli alvei naturali dei corsi d'acqua. Con tale modello è stato simulato il comportamento idraulico del rio nel tratto compreso tra Borgata Moisa e località Sant'Antonio (sezioni 1014-1000.8), dello scolmatore (sezioni 109-105) e del rio nella sua parte terminale (sezioni 105-1). Tale metodologia permette un rappresentazione dei livelli di piena più raffinata di quanto non lo permetta la schematizzazione del moto uniforme nelle singole sezioni dell'alveo, in quanto con esso è possibile calcolare i livelli tenendo in conto anche le altre sezioni di verifica e le singolarità idrauliche che ci possono essere nel tratto considerato.

Oltre alla situazione attuale è stato analizzato anche uno scenario di progetto che prevede la realizzazione degli interventi di sistemazione idraulica del rio nella zona a valle del ponte della SS231.

Venendo a descrivere la metodologia utilizzata si osserva che il problema del tracciamento del profilo di superficie libera di un corso d'acqua naturale in moto permanente con una data portata Q si risolve con procedimenti di calcolo numerico.

L'operazione richiede preliminarmente un rilievo dettagliato dell'alveo per suddividere il corso d'acqua in tronchi di lunghezza Δs, tali da poter confondere i valori medi della sezione e della velocità in ciascun tronco con i valori ad un estremo. Anche la natura dell'alveo deve conservarsi, entro certi limiti, in ciascun tronco.

Eseguita la suddivisione, è necessario il rilievo dettagliato delle caratteristiche geometriche di tutte le sezioni di separazione dei vari tratti.

Siano (i) e (i+1) due sezioni consecutive, distanti Δx in asse, nella prima delle quali siano note tutte le grandezze idrauliche.

La variazione di carico idraulico ΔH tra le due sezioni si può calcolare mediante la seguente relazione alle differenze finite:

$$\Delta H = -[j]_i \cdot \Delta x$$

Si può ottenere così il carico H_{i+1} della sezione i+1 e conseguentemente il carico piezometrico h_{i+1}, che rappresenta la quota del pelo libero rispetto ad un piano di riferimento orizzontale, risolvendo l'equazione:

$$H_{i+1} = h_{i+1} + \frac{Q^2}{2g \cdot \Omega_{i+1}^2}$$

E' possibile in questo modo ricavare il carico piezometrico della corrente nelle sezioni di rilievo e da questo calcolare le caratteristiche idrauliche che il rio ha nel tratto in esame.

Questa trattazione teorica relativa ad alvei omogenei è stata generalizzata considerando anche il deflusso golenale che si manifesta per portate al colmo dell'entità di quelle in oggetto.

Per il calcolo dei livelli e delle principali caratteristiche del moto è stato utilizzato il software HEC-RAS del U.S. Army Corps of Engineers nella versione 4.1.

Venendo nel dettaglio del modello idraulico si è compiuta la modellazione del moto permanente dello scolmatore e del rio lungo un tratto di asta per una lunghezza complessiva di circa 2500 m.

Sono state considerate complessivamente circa 50 sezioni trasversali, come indicato nella planimetria in Allegato.

Le scabrezze adottate hanno un significato globale all'interno della schematizzazione in alveo principale e in aree golenali e sono state dedotte dall'analisi del terreno e dalla Direttiva "*Criteri per la valutazione della compatibilità idraulica delle infrastrutture pubbliche e di interesse pubblico all'interno delle fasce A e B*" dell'Autorità di bacino del Fiume Po e cioè:

per l'alveo principale in terra non oggetto di ricalibratura:

C = 30 $m/s^{1/3}$ secondo Gauckler Strickler

n = 1/C = 0.0333 secondo Manning

per l'alveo principale in terra oggetto di ricalibratura:

C = 35 $m/s^{1/3}$ secondo Gauckler Strickler

n = 1/C = 0.0286 secondo Manning

per l'alveo principale in calcestruzzo:

C = 71 $m/s^{1/3}$ secondo Gauckler Strickler

n = 1/C = 0.014 secondo Manning

per le aree golenali:

C = 10 $m/s^{1/3}$ secondo Gauckler Strickler

n = 1/C = 0.1 secondo Manning

L'elaborazione è stata compiuta in regime misto di corrente idraulica in considerazione delle caratteristiche morfologiche del tratto; il rio Moisa infatti, nelle condizioni di piena, alterna tratti in regime veloce a tratti in regime lento.

A proposito delle condizioni al contorno del modello, e cioè del livello dell'acqua nella sezione di partenza, si è imposto che tale livello fosse pari a quello di moto uniforme.

Si precisa comunque che l'ipotesi sul livello di partenza calcolato con le condizioni di moto uniforme, sebbene importante per le caratteristiche del

moto nel tratto in studio, non influenza in modo significativo il livello dell'acqua nel tratto in studio.

I valori numerici delle varie grandezze specificate in legenda relativi alle portate di verifica sono riportati nelle seguenti tabelle.

Anche i livelli del pelo libero per le portate considerate sono riportati nelle sezioni schematiche e nel profilo longitudinale allegati nelle pagine seguenti.

Le simulazioni sono state effettuate, con riferimento ad ogni tempo di ritorno considerato, considerando la situazione attuale.

LEGENDA

River sta. = sezione di calcolo
Q total = portata in m^3/s
Min Ch El = quota del fondo alveo in m
W.S. Elev. = livello del pelo libero dell'acqua in m
Crit W.S. = livello di moto critico dell'acqua in m
E.G. Elev = livello energetico globale in m
E.G. Slope = pendenza motrice
Vel Chnl = velocità nell'alveo in m/s
Flow Area = area liquida in m^2
Top Width = larghezza sezione liquida in sommità in m
Froude # Chl = numero di Froude della corrente in alveo

SIMULAZIONE 1

(Situazione attuale)

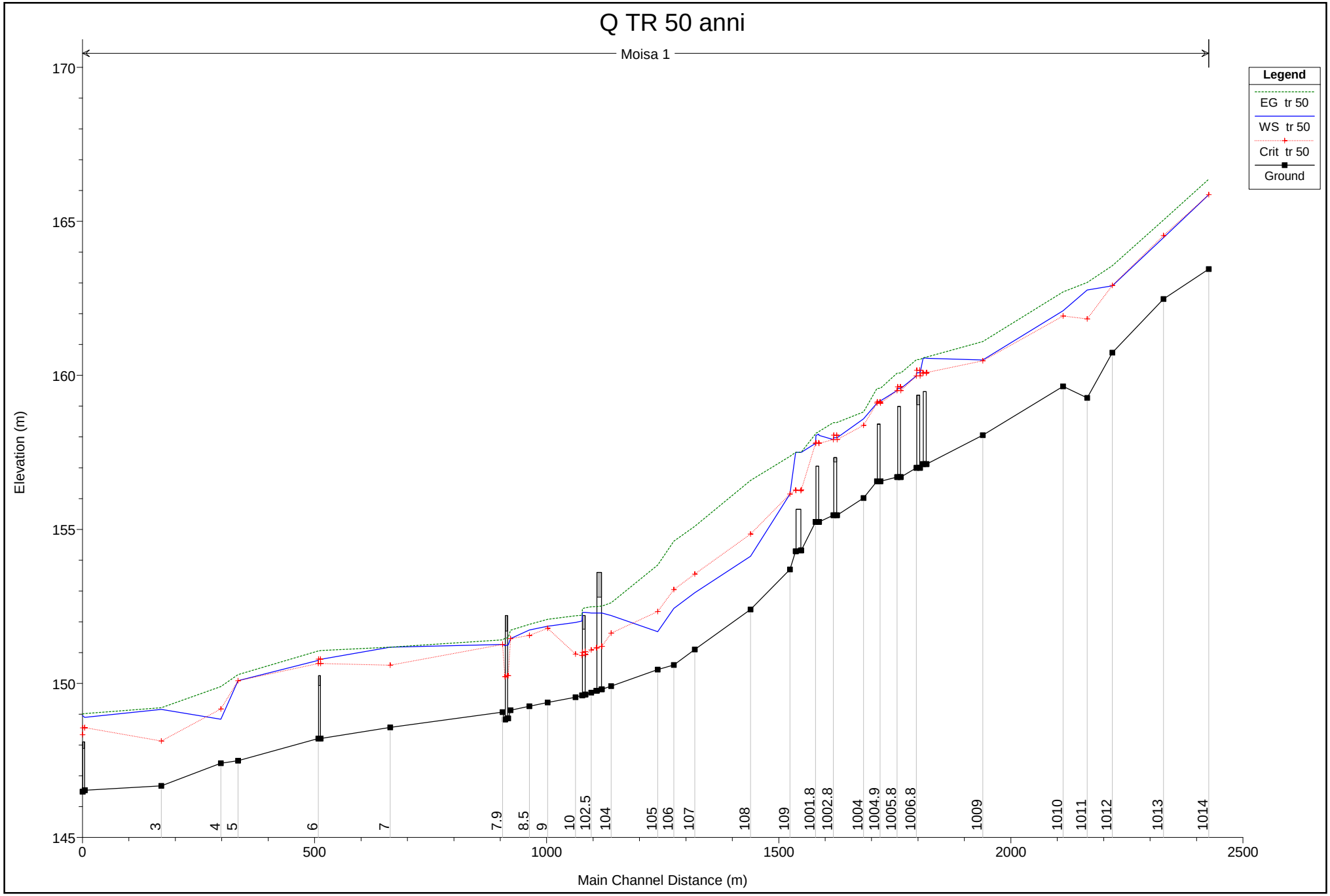
	portata al colmo Q_c m^3/s	tempo di ritorno anni
Rio Moisa a Valle di Magliano	36	50

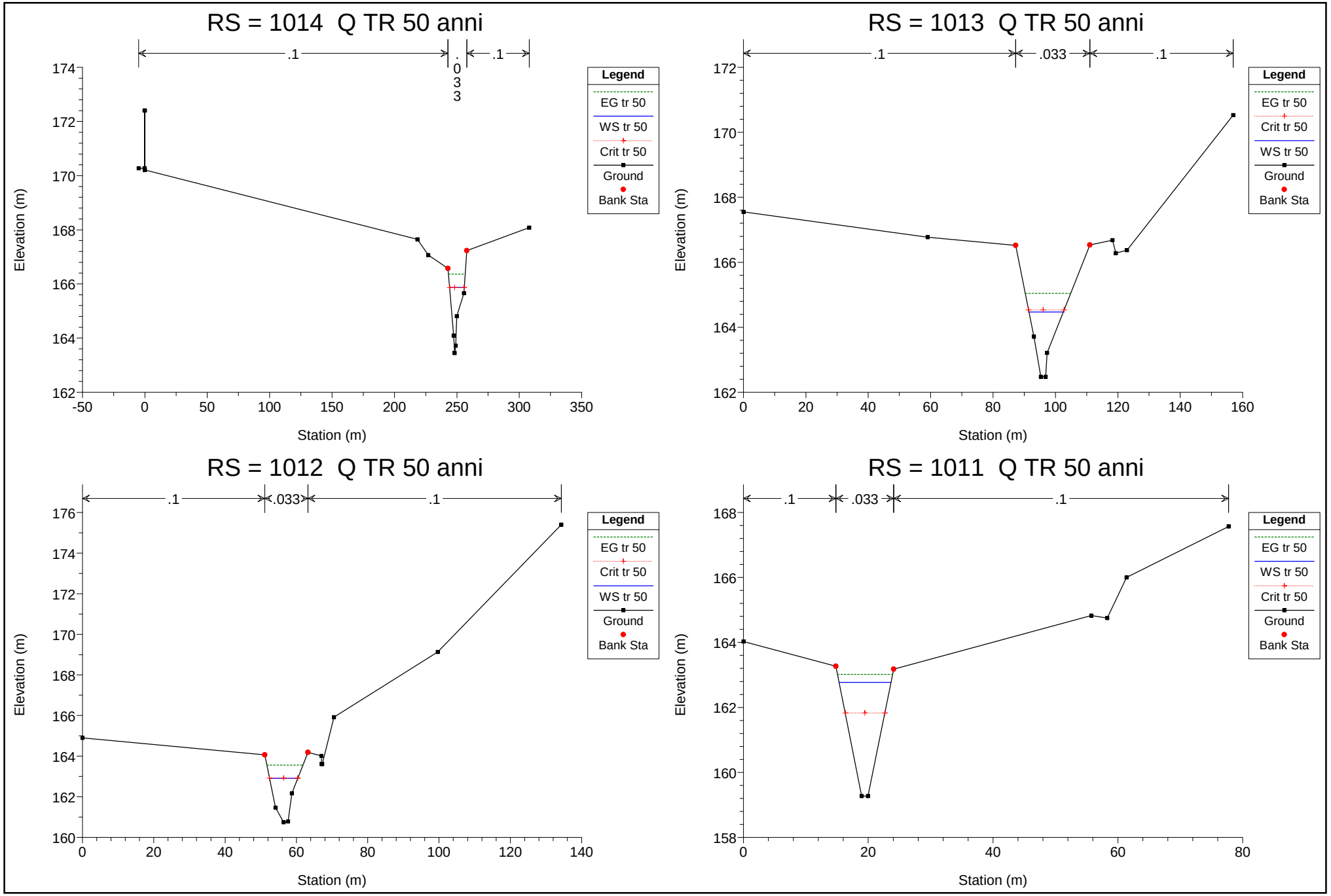
HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 50

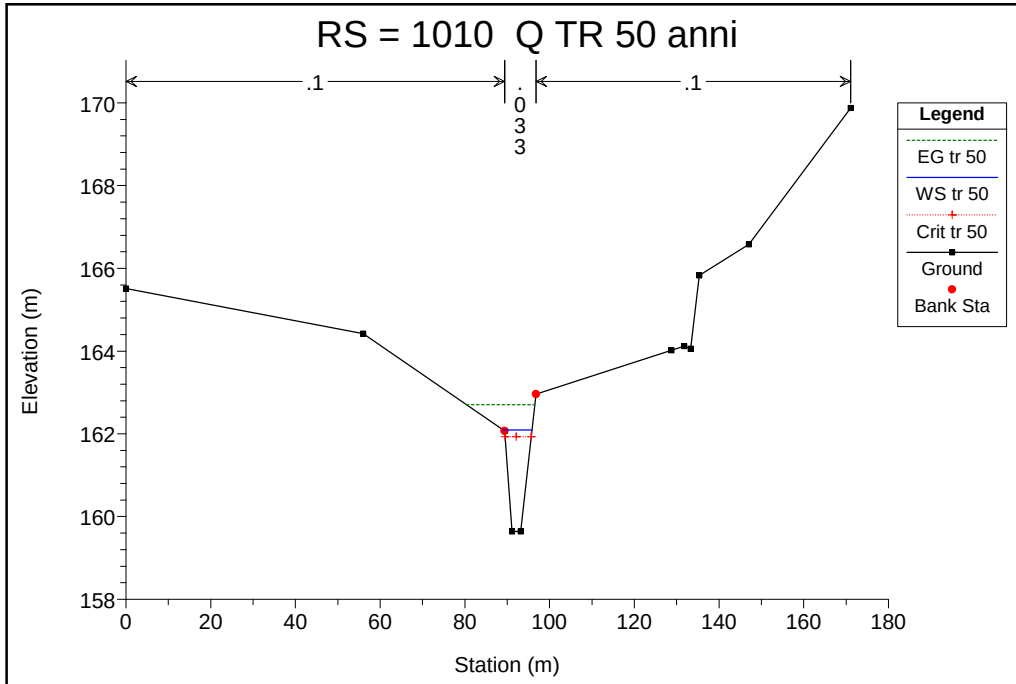
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1014	tr 50	36.00	163.45	165.87	165.87	166.37	0.012747	3.13	11.49	11.71	1.01
1	1013	tr 50	36.00	162.48	164.47	164.54	165.04	0.014349	3.36	10.72	11.00	1.09
1	1012	tr 50	36.00	160.74	162.91	162.92	163.56	0.012615	3.57	10.09	7.90	1.01
1	1011	tr 50	36.00	159.27	162.77	161.83	163.02	0.003206	2.21	16.27	8.30	0.50
1	1010	tr 50	36.00	159.64	162.10	161.93	162.71	0.010213	3.46	10.40	6.82	0.87
1	1009	tr 50	36.00	158.06	160.50	160.47	161.10	0.008467	3.52	13.97	19.55	0.83
1	1008	tr 50	36.00	157.12	160.55	160.09	160.60	0.001359	1.35	77.19	85.47	0.24
1	1007.9		Bridge									
1	1007.8	tr 50	36.00	157.12	160.52	160.09	160.57	0.001494	1.40	74.34	85.47	0.25
1	1007	tr 50	36.00	157.00	160.08	159.98	160.51	0.007874	3.16	20.10	23.86	0.60
1	1006.9		Bridge									
1	1006.8	tr 50	36.00	157.00	159.98	159.98	160.50	0.009588	3.41	17.78	23.86	0.66
1	1006	tr 50	36.00	156.70	159.57	159.51	160.08	0.010264	3.35	16.75	19.63	0.64
1	1005.9		Bridge									
1	1005.8	tr 50	36.00	156.70	159.51	159.51	160.07	0.011515	3.51	15.47	19.32	0.68
1	1005	tr 50	36.00	156.56	159.18	159.10	159.58	0.008458	3.15	20.87	23.90	0.64
1	1004.9		Bridge									
1	1004.8	tr 50	36.00	156.56	159.10	159.10	159.57	0.010026	3.36	19.06	23.89	0.69
1	1004	tr 50	36.00	156.02	158.59	158.38	158.81	0.004089	2.57	35.61	48.72	0.60
1	1003	tr 50	36.00	155.46	157.97	157.91	158.47	0.008141	3.31	18.16	27.51	0.69
1	1002.9		Bridge									
1	1002.8	tr 50	36.00	155.46	157.91	157.91	158.47	0.009265	3.47	16.52	25.53	0.73
1	1002	tr 50	36.00	155.24	158.05	157.80	158.18	0.002877	2.04	47.23	62.91	0.40
1	1001.9		Bridge									
1	1001.8	tr 50	36.00	155.24	157.80	157.80	158.10	0.006182	2.79	31.19	62.91	0.57
1	1001	tr 50	36.00	154.32	157.50	156.28	157.50	0.000173	0.61	169.40	105.11	0.11
1	1000.9		Bridge									
1	1000.8	tr 50	36.00	154.29	157.49	156.27	157.50	0.000173	0.61	169.11	105.11	0.11
1	109	tr 50	36.00	153.70	156.15	156.15	157.37	0.005187	4.90	7.34	3.00	1.00
1	108	tr 50	36.00	152.40	154.12	154.85	156.59	0.012737	6.96	5.17	3.00	1.69
1	107	tr 50	36.00	151.10	152.94	153.55	155.10	0.010676	6.50	5.53	3.00	1.53
1	106	tr 50	36.00	150.60	152.44	153.05	154.61	0.010829	6.54	5.50	3.00	1.54
1	105	tr 50	36.00	150.45	151.68	152.33	153.84	0.065142	6.52	5.52	6.23	2.21
1	104	tr 50	36.00	149.91	152.21	151.63	152.62	0.001089	2.84	13.04	12.97	0.64
1	103.2	tr 50	36.00	149.81	152.29	151.20	152.51	0.000505	2.08	17.34	10.00	0.42
1	103.1		Bridge									
1	103	tr 50	36.00	149.76	152.28	151.15	152.50	0.000479	2.04	17.67	10.00	0.41
1	102.5	tr 50	36.00	149.70	152.29	151.09	152.49	0.000447	1.98	19.91	19.50	0.39
1	102	tr 50	36.00	149.64	152.30	150.94	152.46	0.000319	1.73	20.78	7.80	0.34
1	101.9		Bridge									

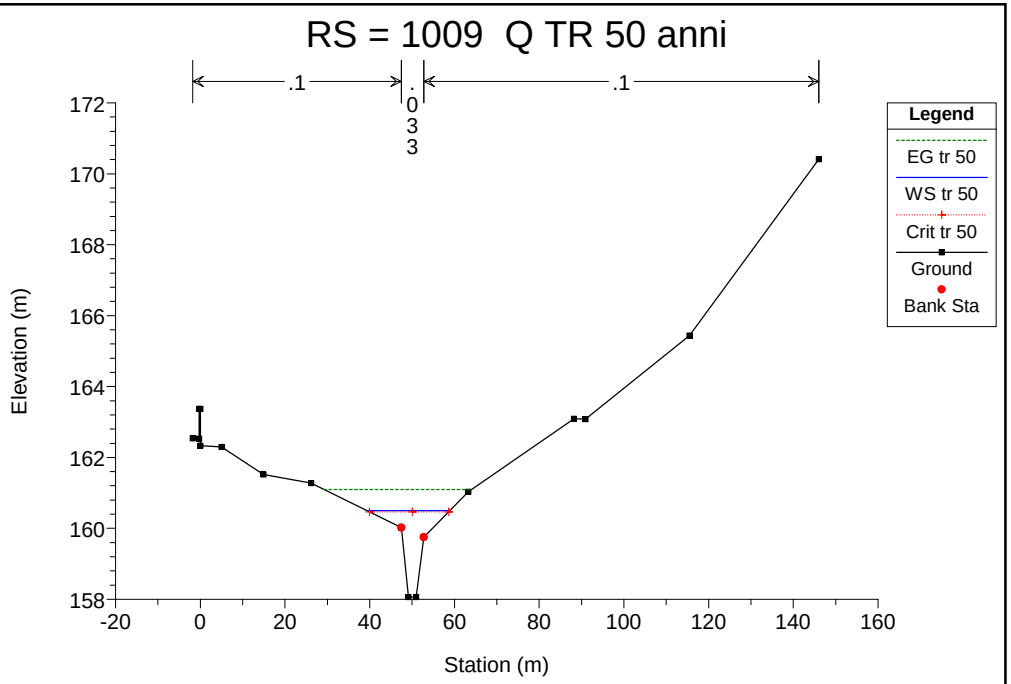
HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 50 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	101.8	tr 50	36.00	149.61	152.03	150.90	152.21	0.000590	1.91	18.84	7.80	0.39
1	10	tr 50	36.00	149.55	151.98	150.95	152.19	0.000962	2.06	24.11	62.03	0.43
1	9	tr 50	36.00	149.38	151.86	151.78	152.08	0.004901	2.55	36.94	59.85	0.60
1	8.5	tr 50	36.00	149.26	151.73	151.55	151.92	0.003150	2.20	38.64	59.85	0.50
1	8.3	tr 50	36.00	149.13	151.45	151.45	151.73	0.006517	2.75	32.82	64.23	0.72
1	8.2	tr 50	36.00	148.86	151.25	150.25	151.48	0.002892	2.14	17.66	12.55	0.44
1	8.1		Bridge									
1	8	tr 50	36.00	148.83	151.23	150.22	151.46	0.002889	2.14	17.58	12.44	0.44
1	7.9	tr 50	36.00	149.07	151.27	151.27	151.41	0.005822	2.35	56.12	166.27	0.65
1	7	tr 50	36.00	148.57	151.17	150.59	151.18	0.000207	0.54	261.61	373.50	0.14
1	6.2	tr 50	36.00	148.21	150.78	150.65	151.06	0.004823	2.73	28.46	34.85	0.62
1	6.1		Bridge									
1	6	tr 50	36.00	148.21	150.75	150.65	151.05	0.005203	2.80	27.46	34.85	0.65
1	5	tr 50	36.00	147.49	150.09	150.09	150.28	0.003566	2.26	50.30	230.94	0.55
1	4	tr 50	36.00	147.41	148.83	149.17	149.90	0.031082	4.57	7.88	8.94	1.55
1	3	tr 50	36.00	146.67	149.15	148.13	149.21	0.000643	1.05	41.79	37.27	0.26
1	2	tr 50	36.00	146.53	148.90	148.56	149.02	0.002269	1.95	45.81	50.00	0.45
1	1.5		Bridge									
1	1	tr 50	36.00	146.48	148.95	148.33	149.01	0.001301	1.56	63.33	50.00	0.34


Q TR 50 anni
Moisa 1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Elevation (m)
Main Channel Distance (m)
170
165
160
155
150
145
0
500
1000
1500
2000
2500
3
4
5
6
7
7.9
8.5
9
10
102.5
104
105
106
107
108
109
1001.8
1002.8
1004
1004.9
1005.8
1006.8
1009
1010
1011
1012
1013
1014


RS = 1014 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1013 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1012 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1011 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1010 Q TR 50 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta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.1
.033
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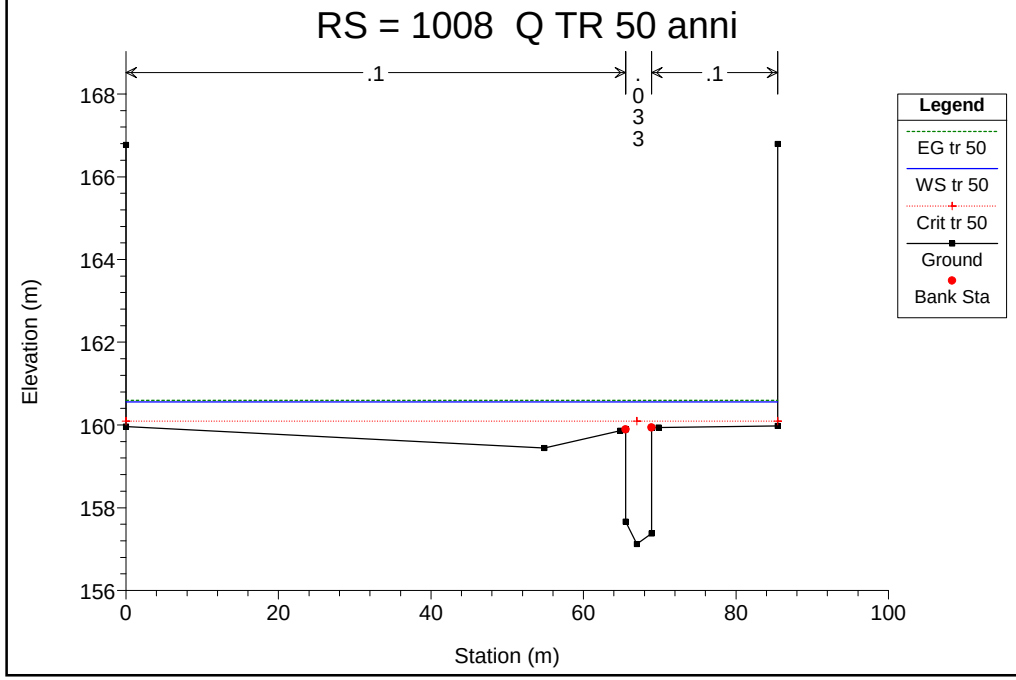
Elevation (m)
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta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.1
.033
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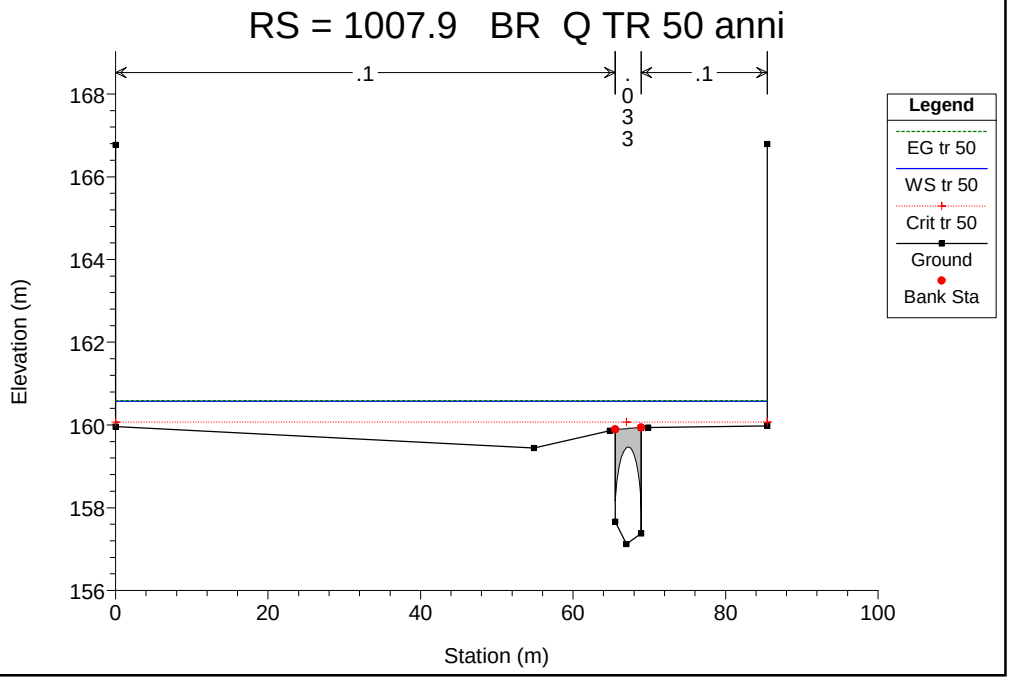
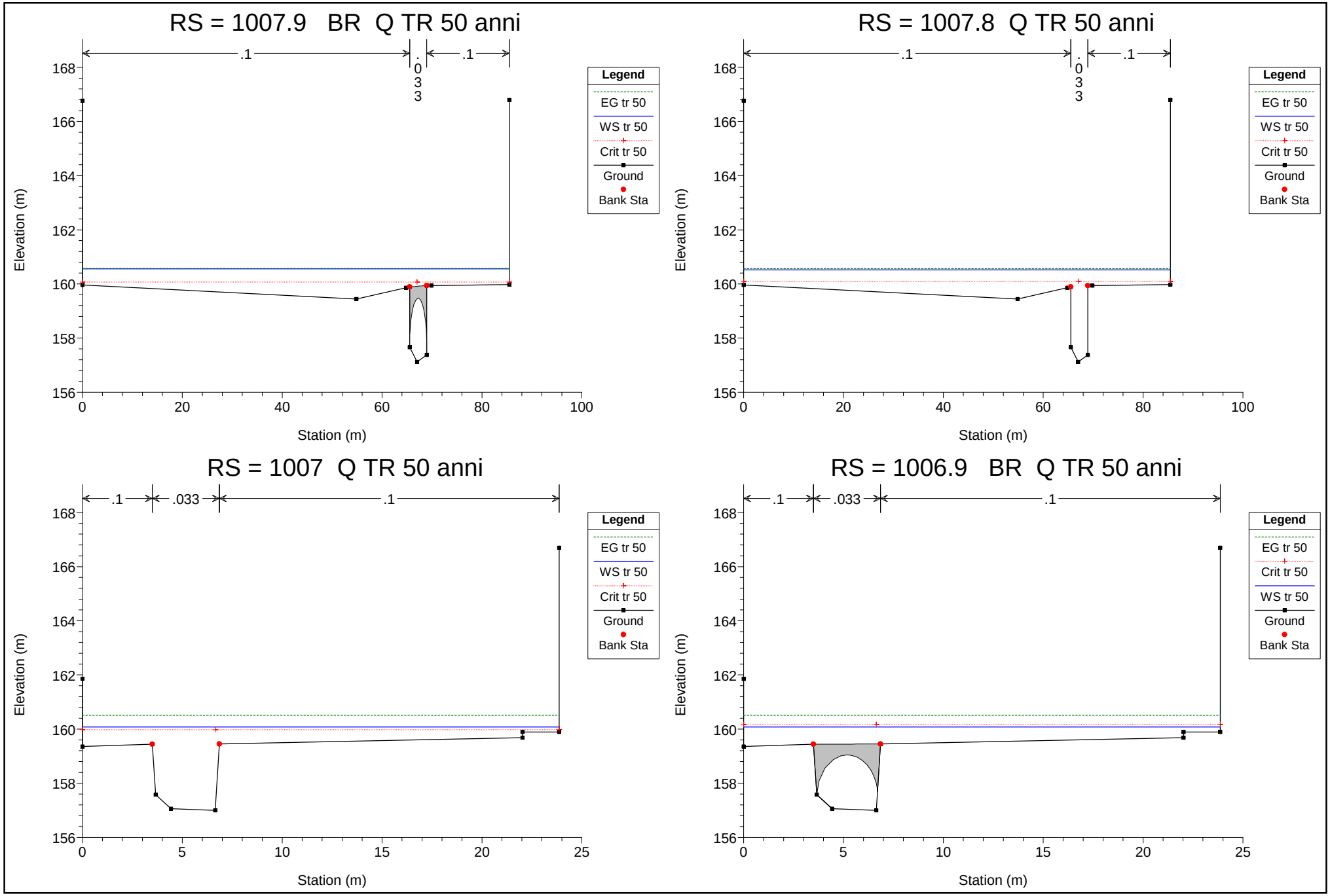
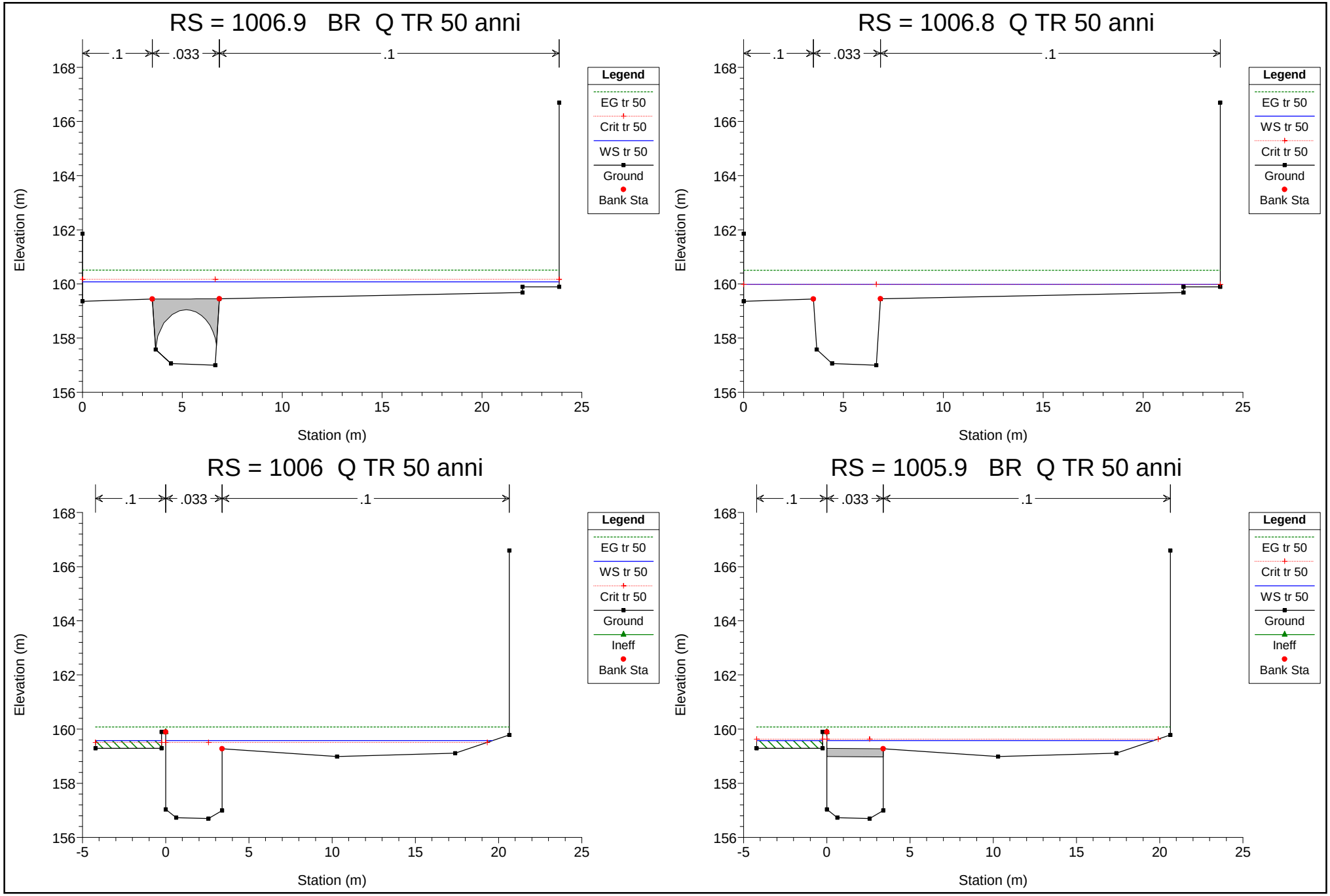
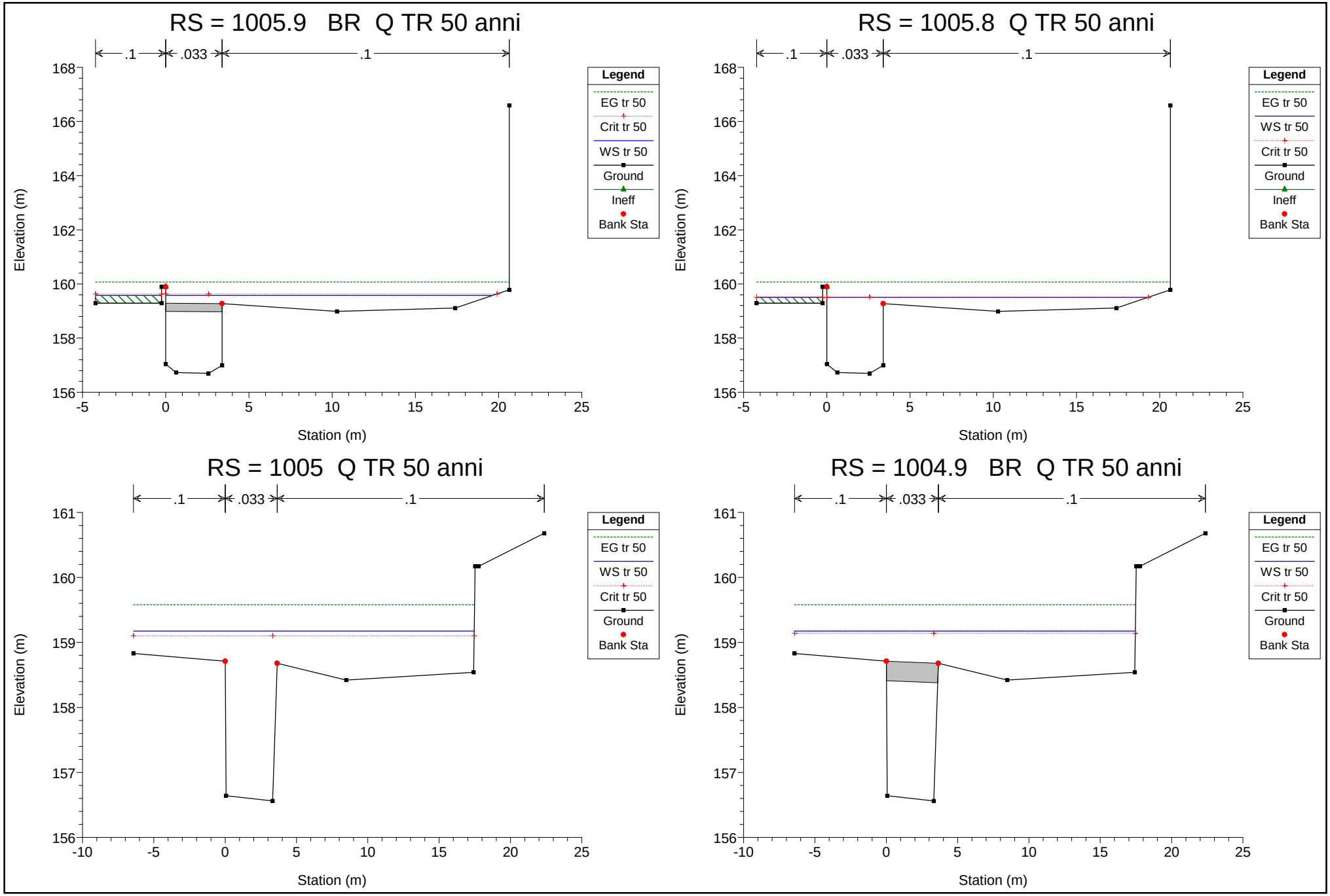
Elevation (m)
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta


RS = 1007.9 BR Q TR 50 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta


RS = 1007.9 BR Q TR 50 anni
RS = 1007.8 Q TR 50 anni
RS = 1007 Q TR 50 anni
RS = 1006.9 BR Q TR 50 anni
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
.1
.033


RS = 1006.9 BR Q TR 50 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
RS = 1006.8 Q TR 50 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
RS = 1006 Q TR 50 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta
RS = 1005.9 BR Q TR 50 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Ineff
Bank Sta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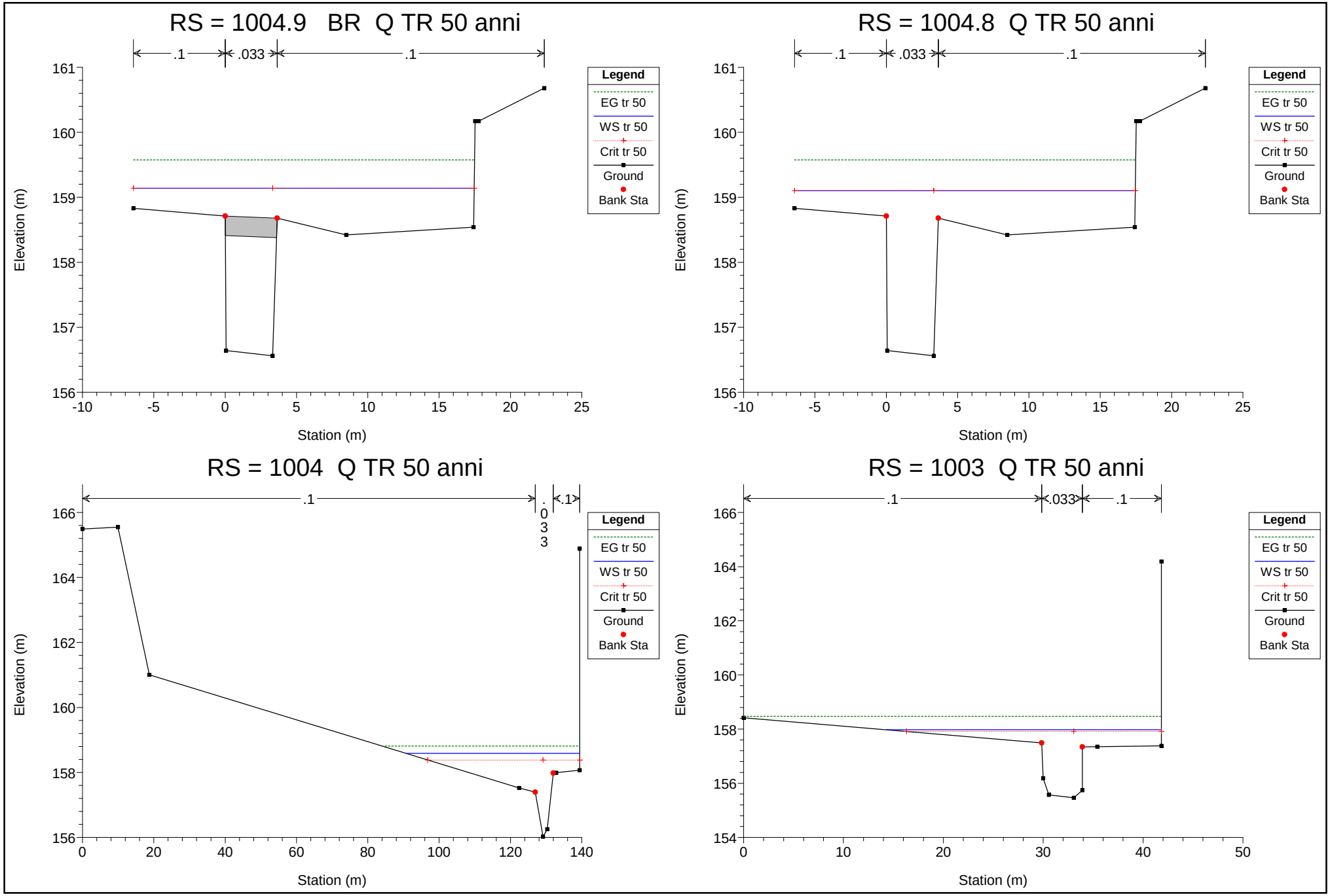
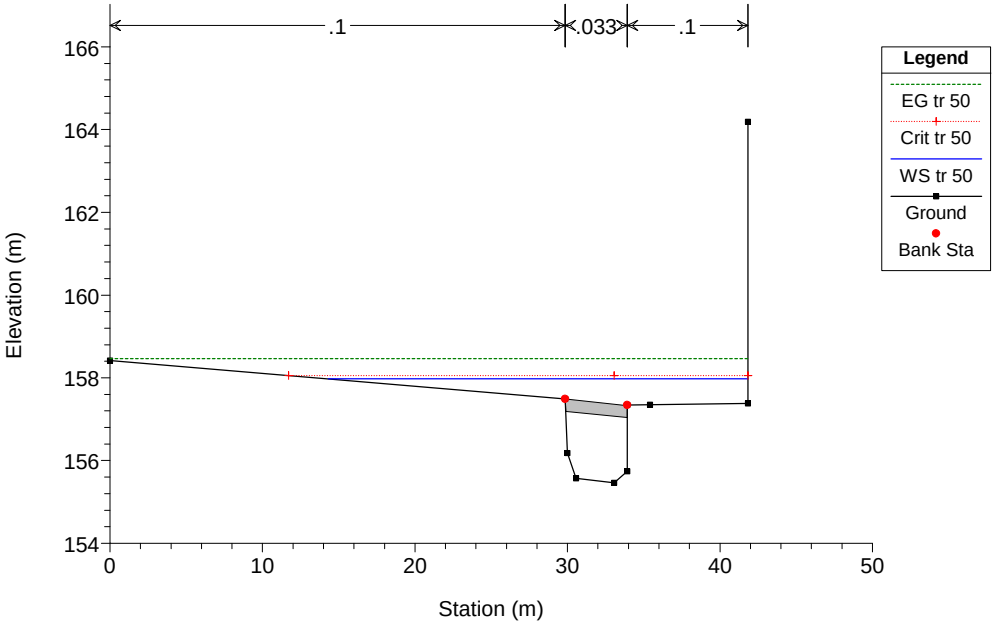
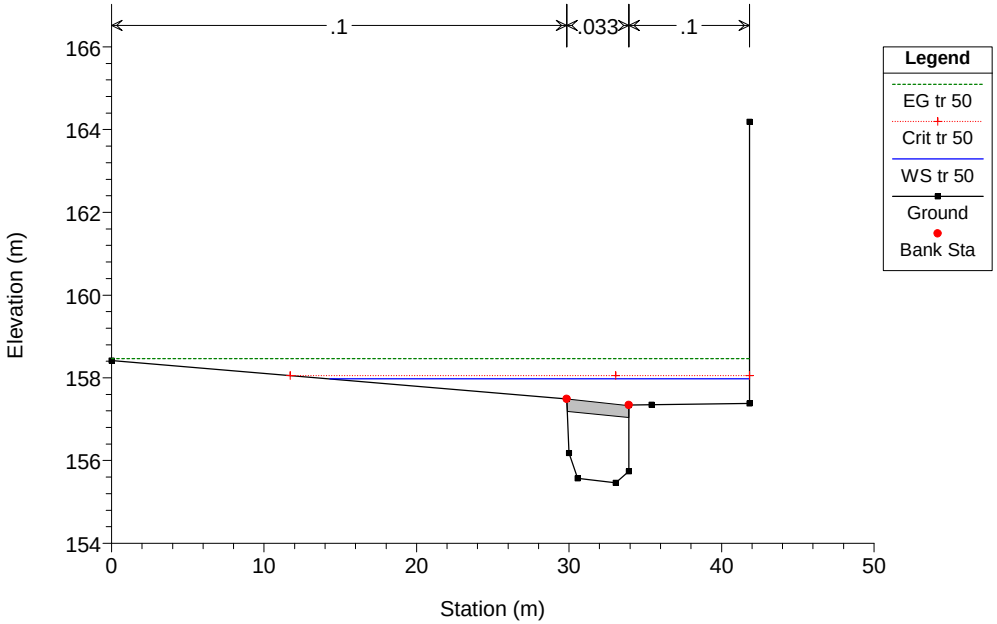
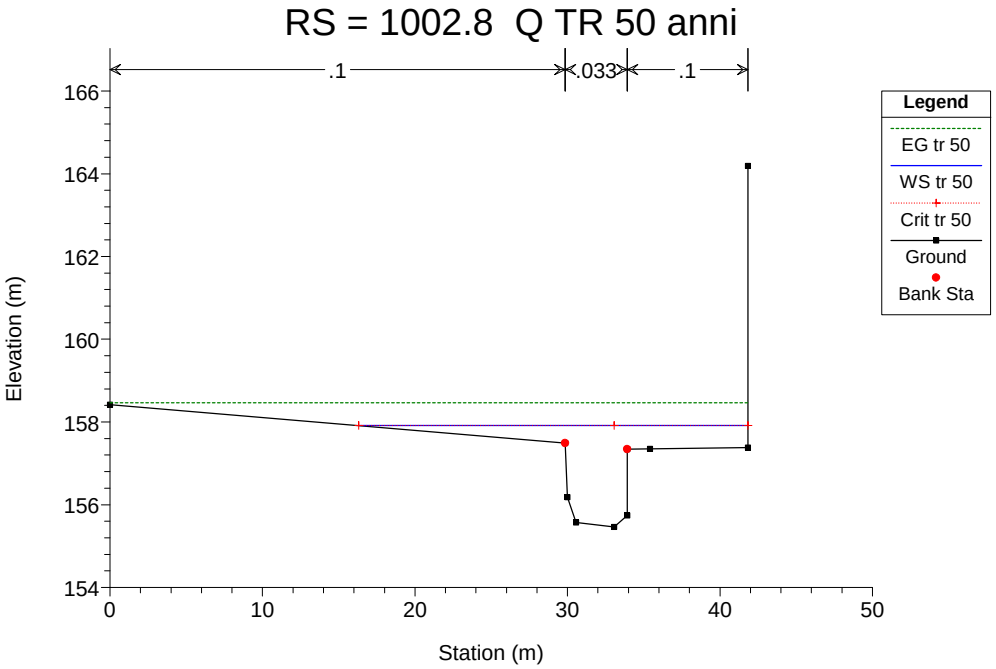
RS = 1005.8 Q TR 50 anni
RS = 1005 Q TR 50 anni
RS = 1004.9 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)


RS = 1004.9 BR Q TR 50 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
RS = 1004.8 Q TR 50 anni
RS = 1004 Q TR 50 anni
RS = 1003 Q TR 50 anni


RS = 1002.9 BR Q TR 50 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta


RS = 1002.9 BR Q TR 50 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta


RS = 1002.8 Q TR 50 anni
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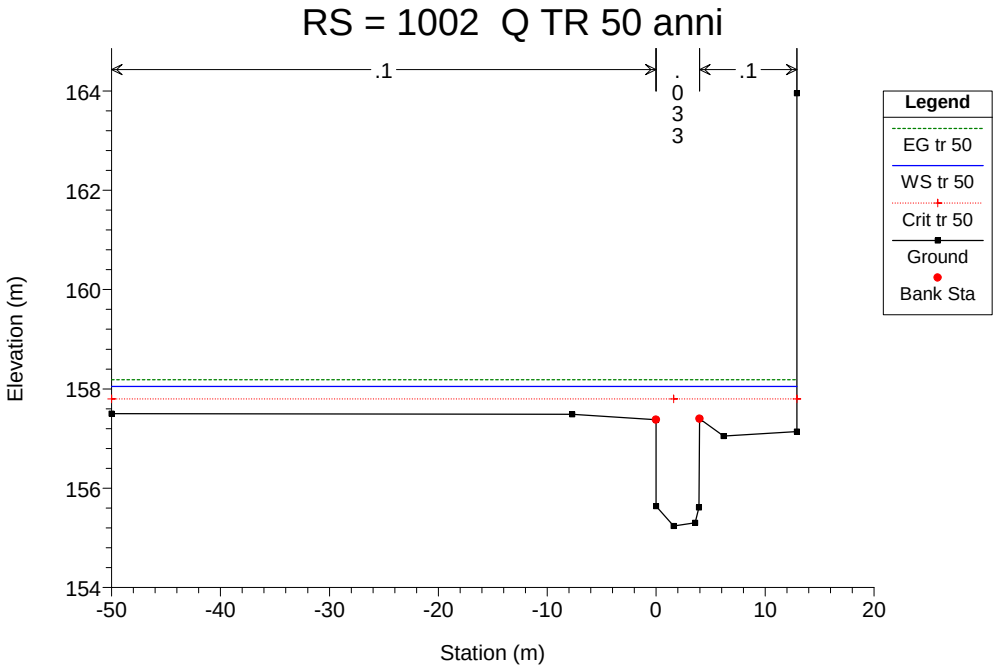
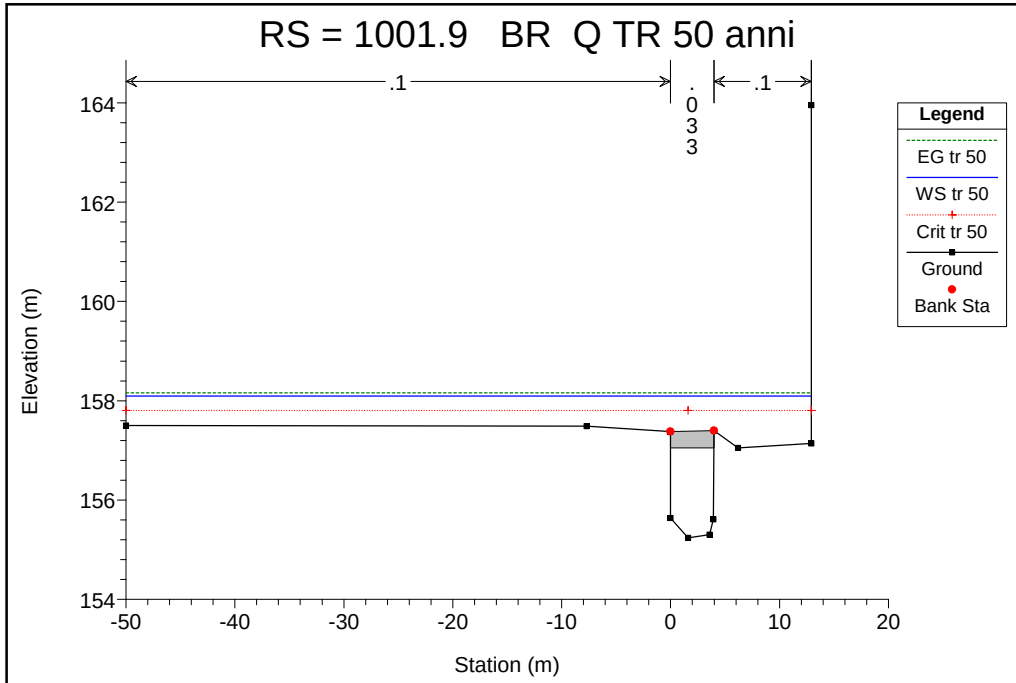
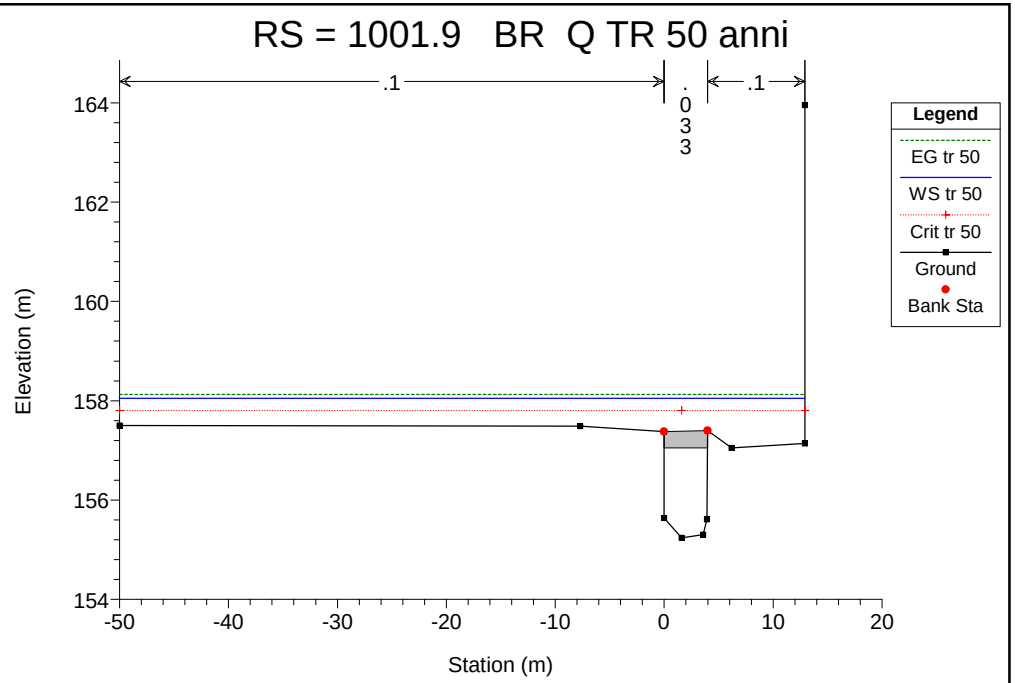
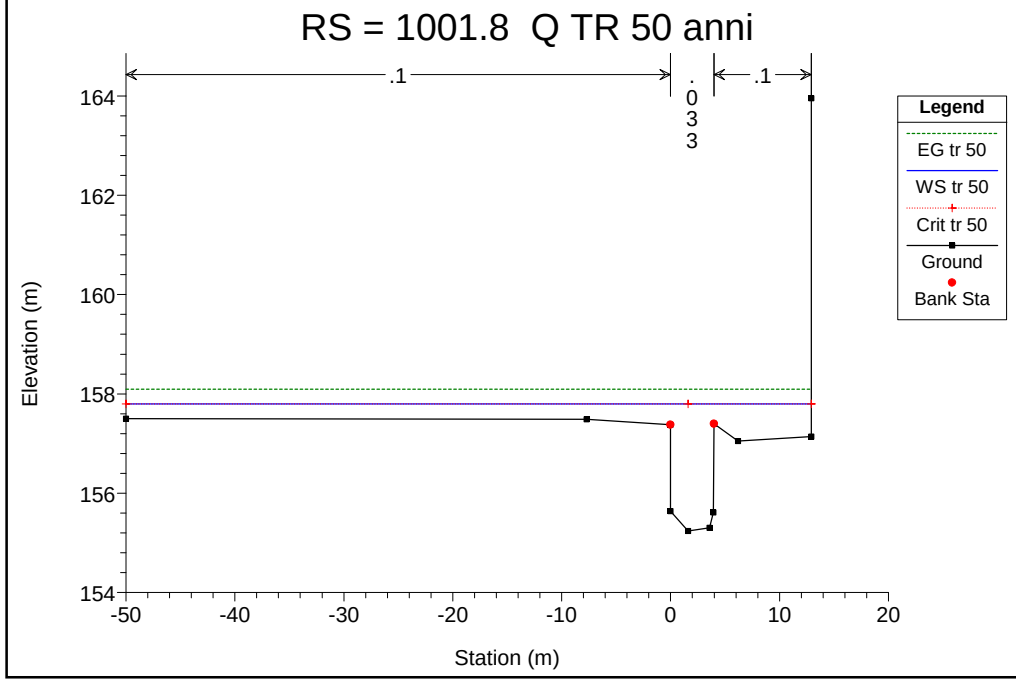
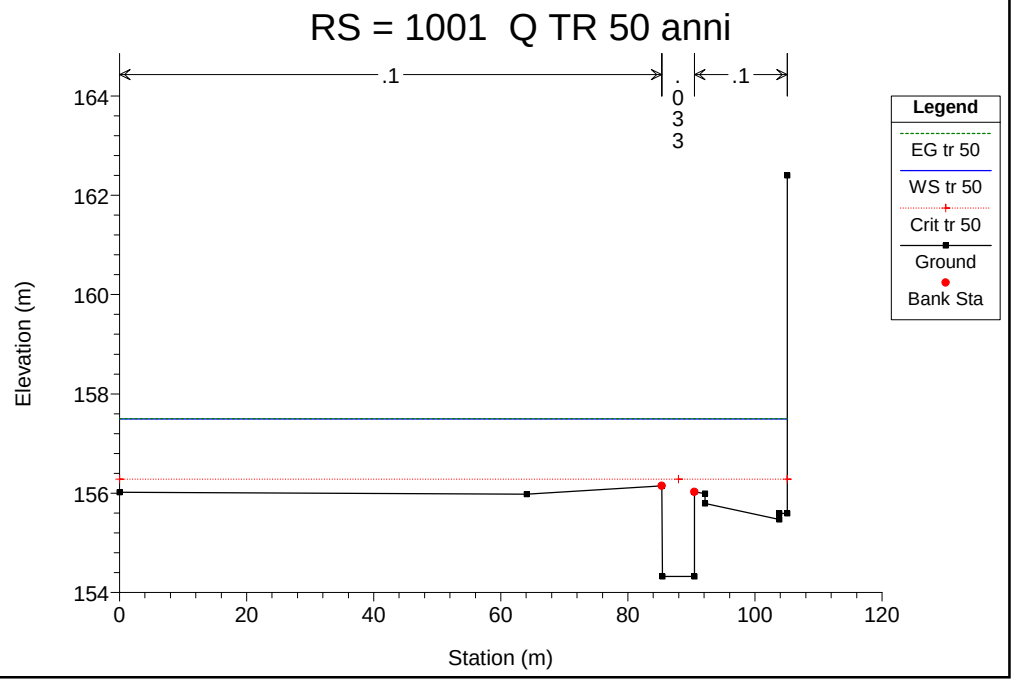
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta

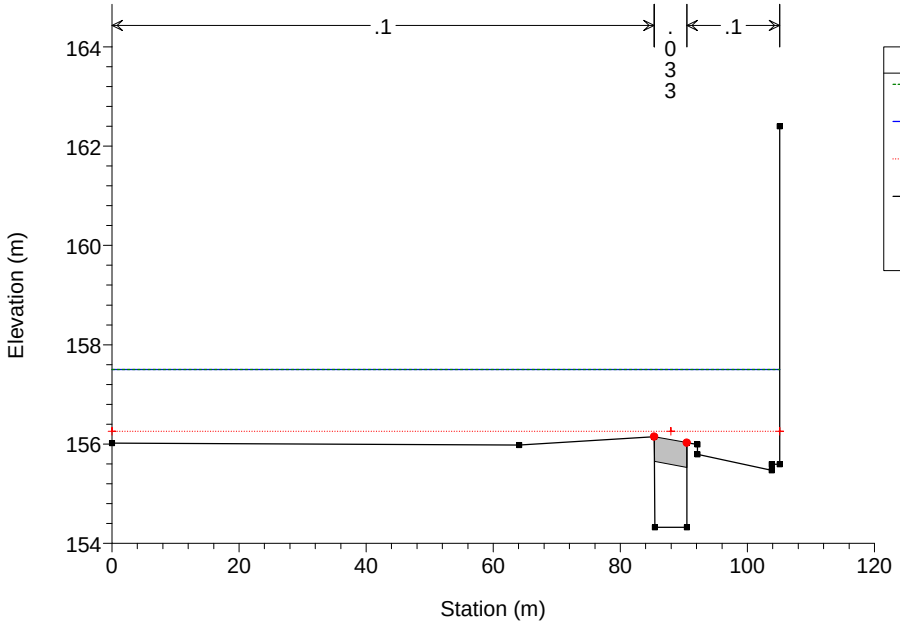

RS = 1002 Q TR 50 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta

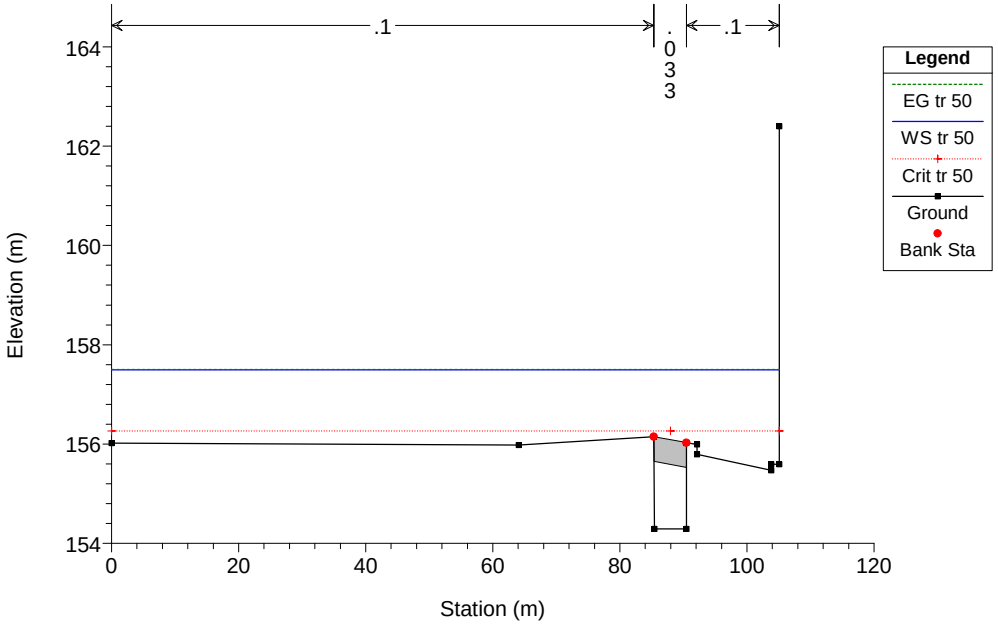

RS = 1001.9 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
-50
-40
-30
-20
-10
0
10
20

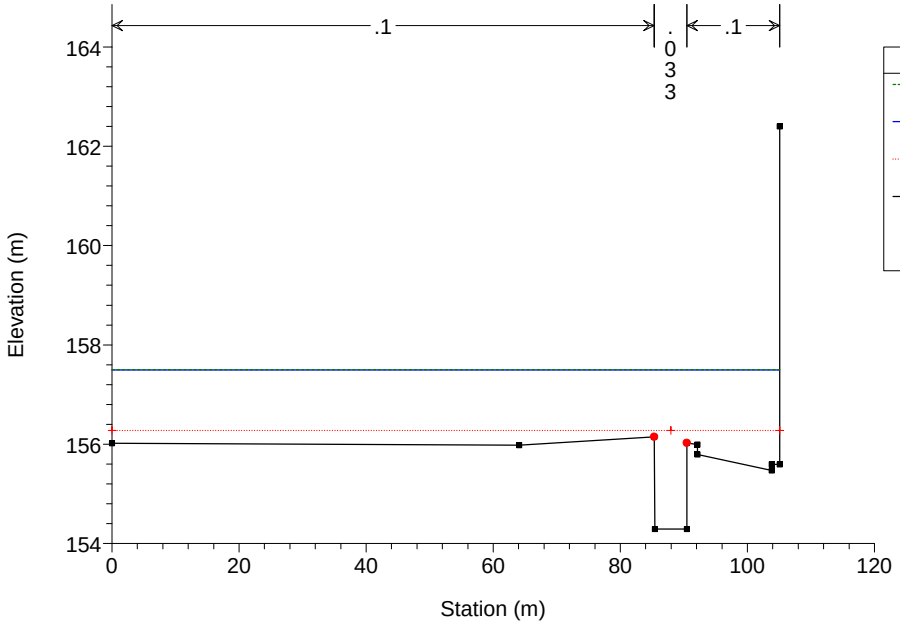

RS = 1001.9 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
-50
-40
-30
-20
-10
0
10
20

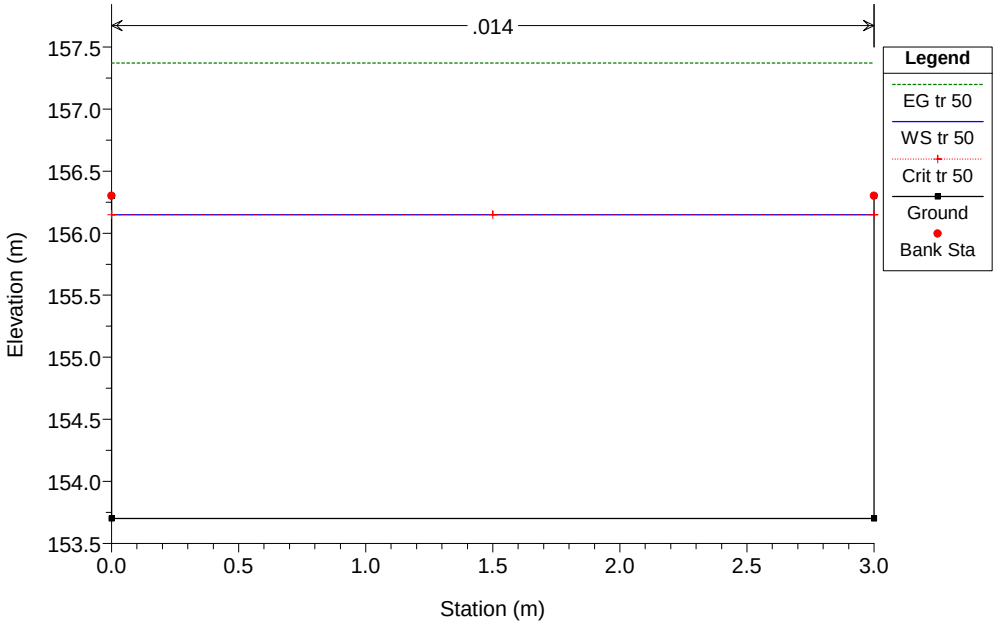

RS = 1001.8 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
-50
-40
-30
-20
-10
0
10
20


RS = 1001 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
0
20
40
60
80
100
120


RS = 1000.9 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
0
20
40
60
80
100
120


RS = 1000.9 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
0
20
40
60
80
100
120


RS = 1000.8 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
0
20
40
60
80
100
120


RS = 109 Q TR 50 anni
.014
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
157.5
157.0
156.5
156.0
155.5
155.0
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154.0
153.5
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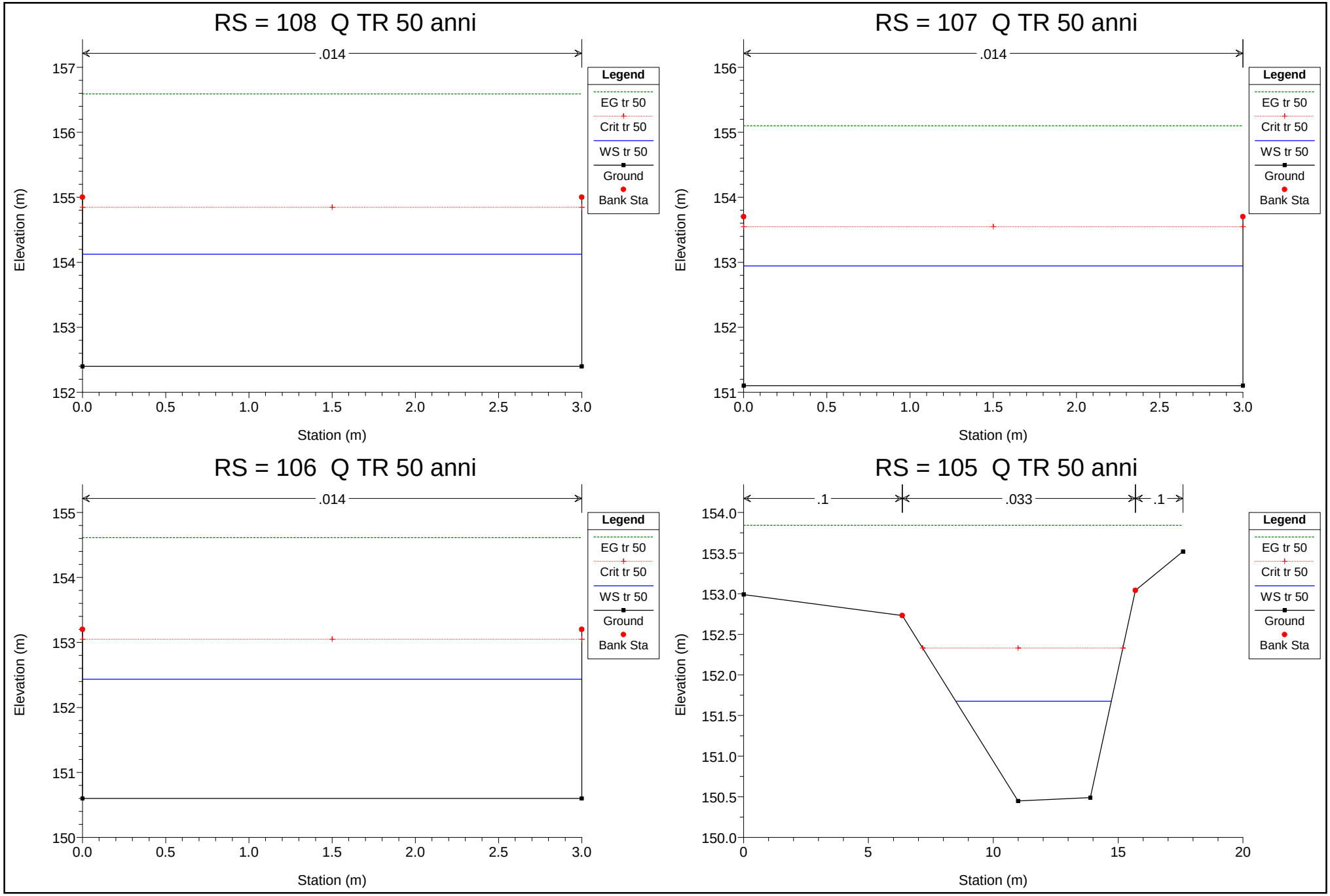
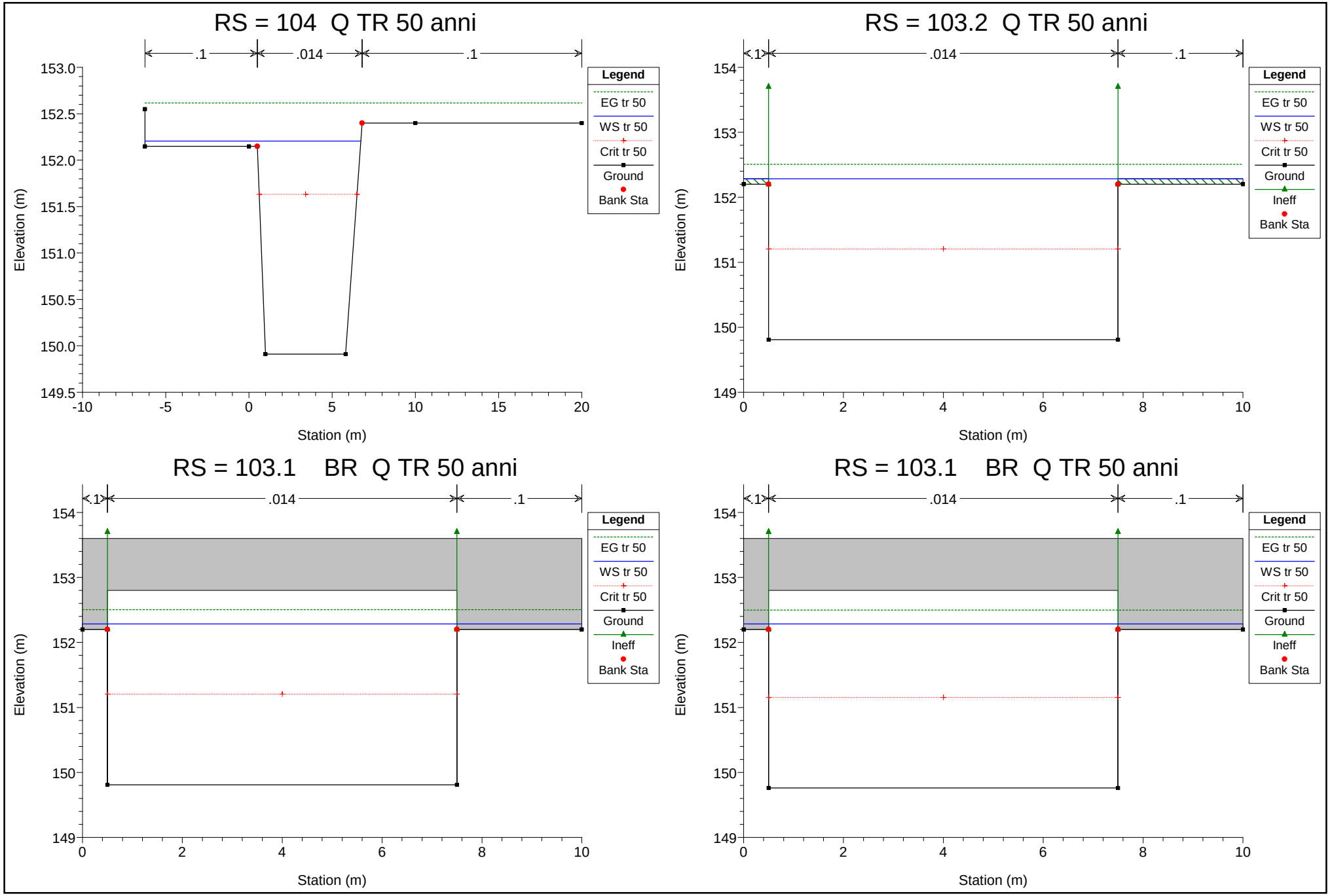
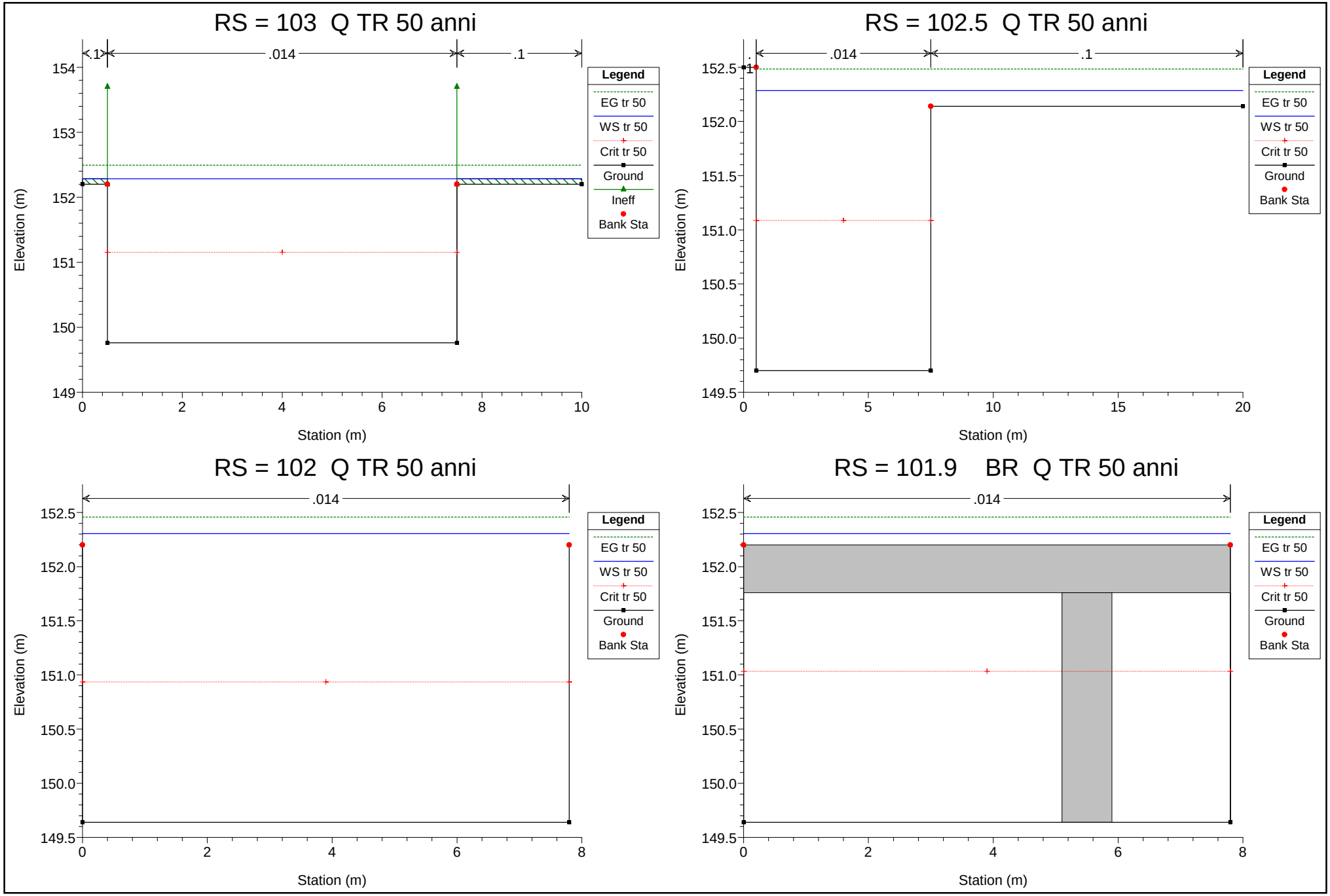
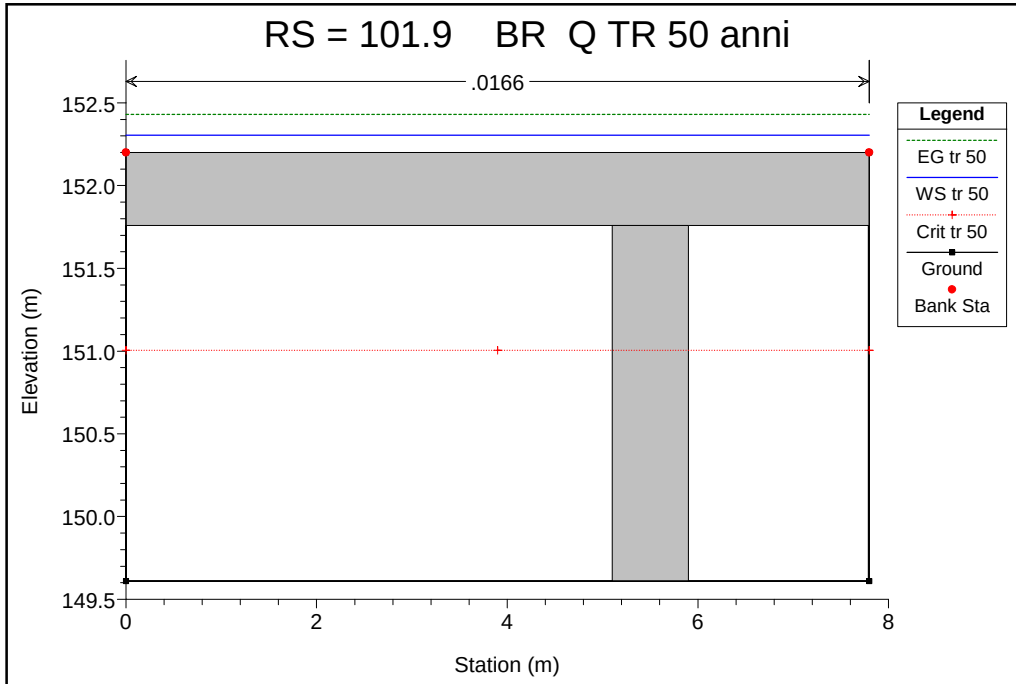
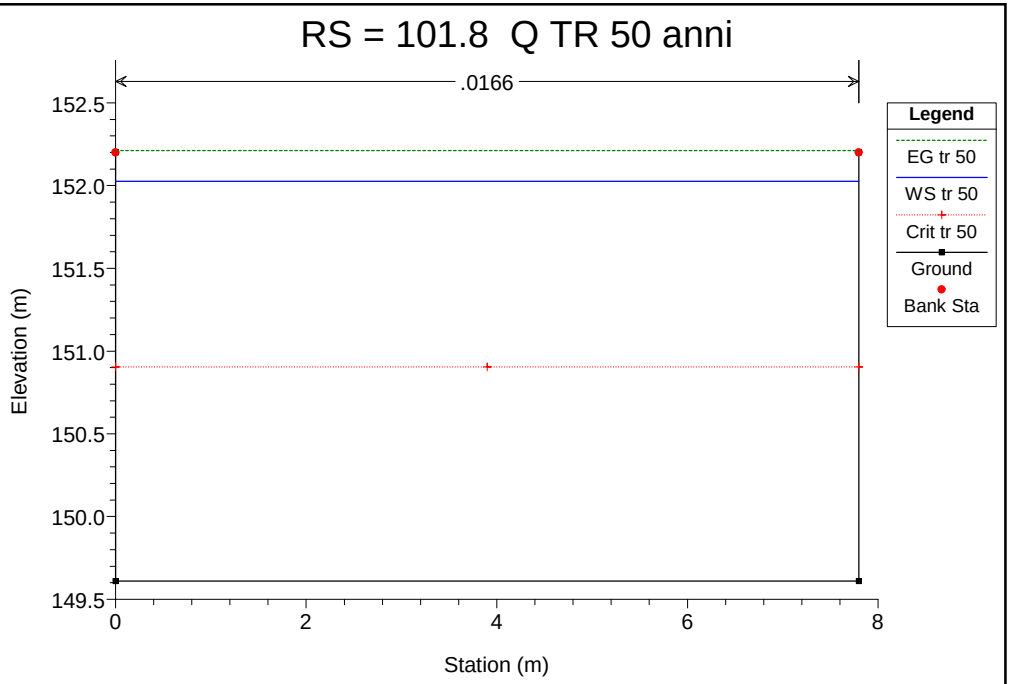
0.5
1.0
1.5
2.0
2.5
3.0

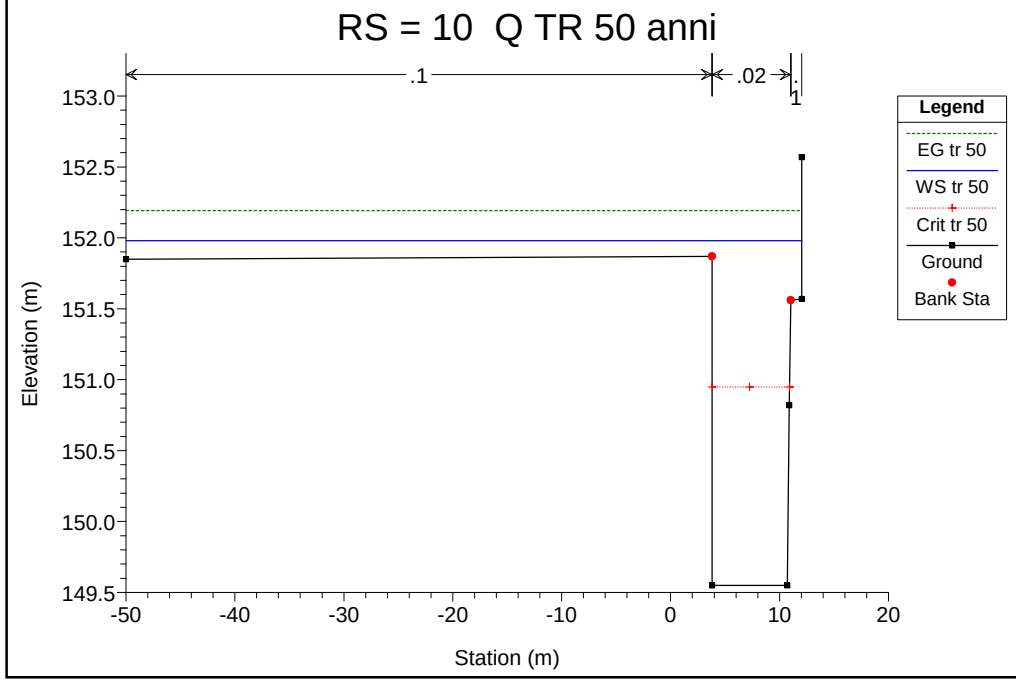

RS = 108 Q TR 50 anni
.014
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 107 Q TR 50 anni
.014
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 106 Q TR 50 anni
.014
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 105 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
Station (m)

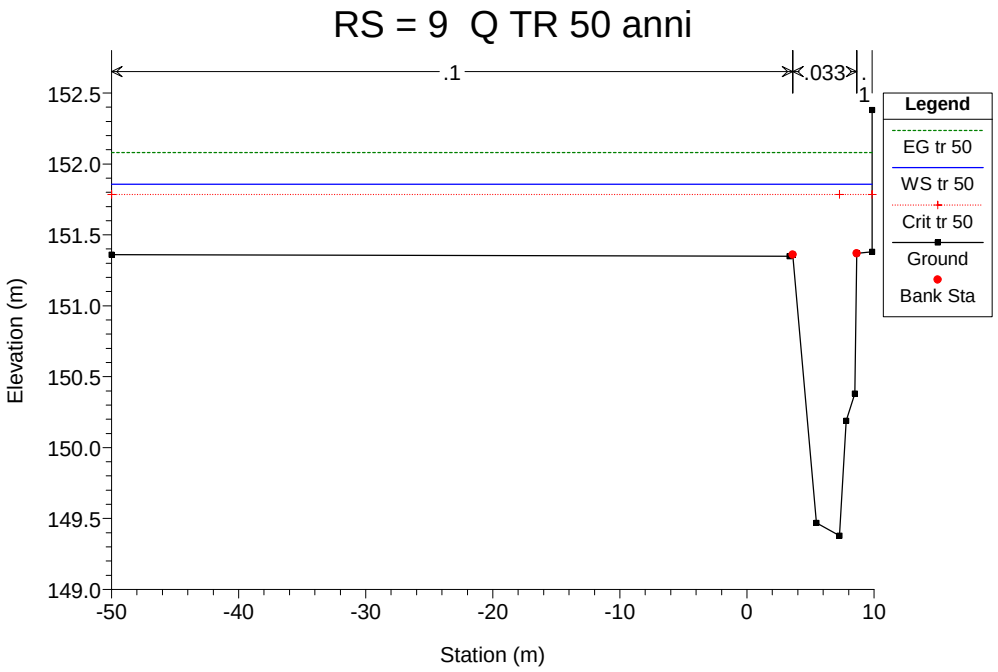

RS = 104 Q TR 50 anni
.1
.014
.1
153.0
152.5
152.0
151.5
151.0
150.5
150.0
149.5
Elevation (m)
-10
-5
0
5
10
15
20
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
RS = 103.2 Q TR 50 anni
.1
.014
.1
154
153
152
151
150
149
Elevation (m)
0
2
4
6
8
10
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta
RS = 103.1 BR Q TR 50 anni
.1
.014
.1
154
153
152
151
150
149
Elevation (m)
0
2
4
6
8
10
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta
RS = 103.1 BR Q TR 50 anni
.1
.014
.1
154
153
152
151
150
149
Elevation (m)
0
2
4
6
8
10
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta

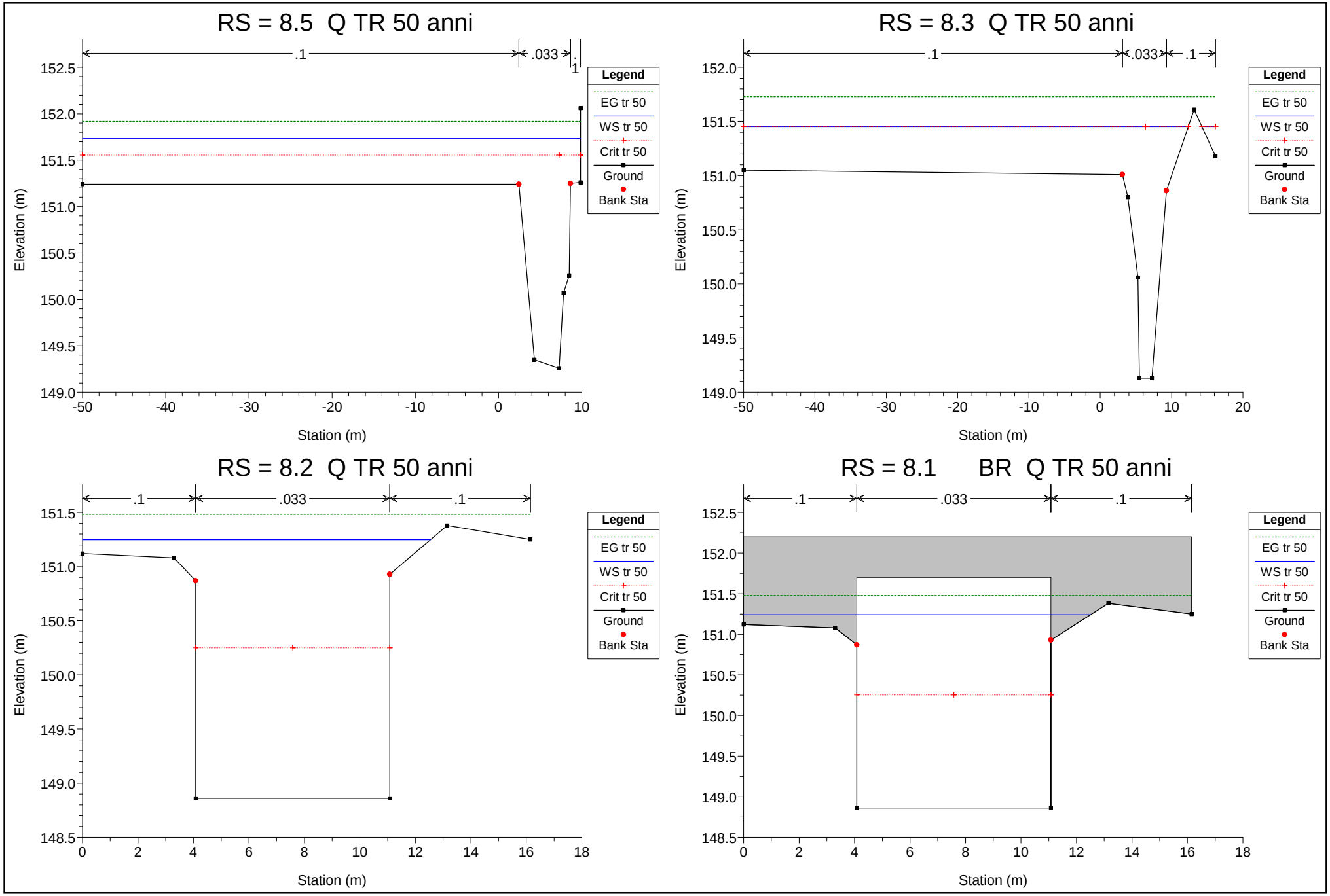

RS = 103 Q TR 50 anni
.1
.014
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 102.5 Q TR 50 anni
.1
.014
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 102 Q TR 50 anni
.014
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 101.9 BR Q TR 50 anni
.014
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)

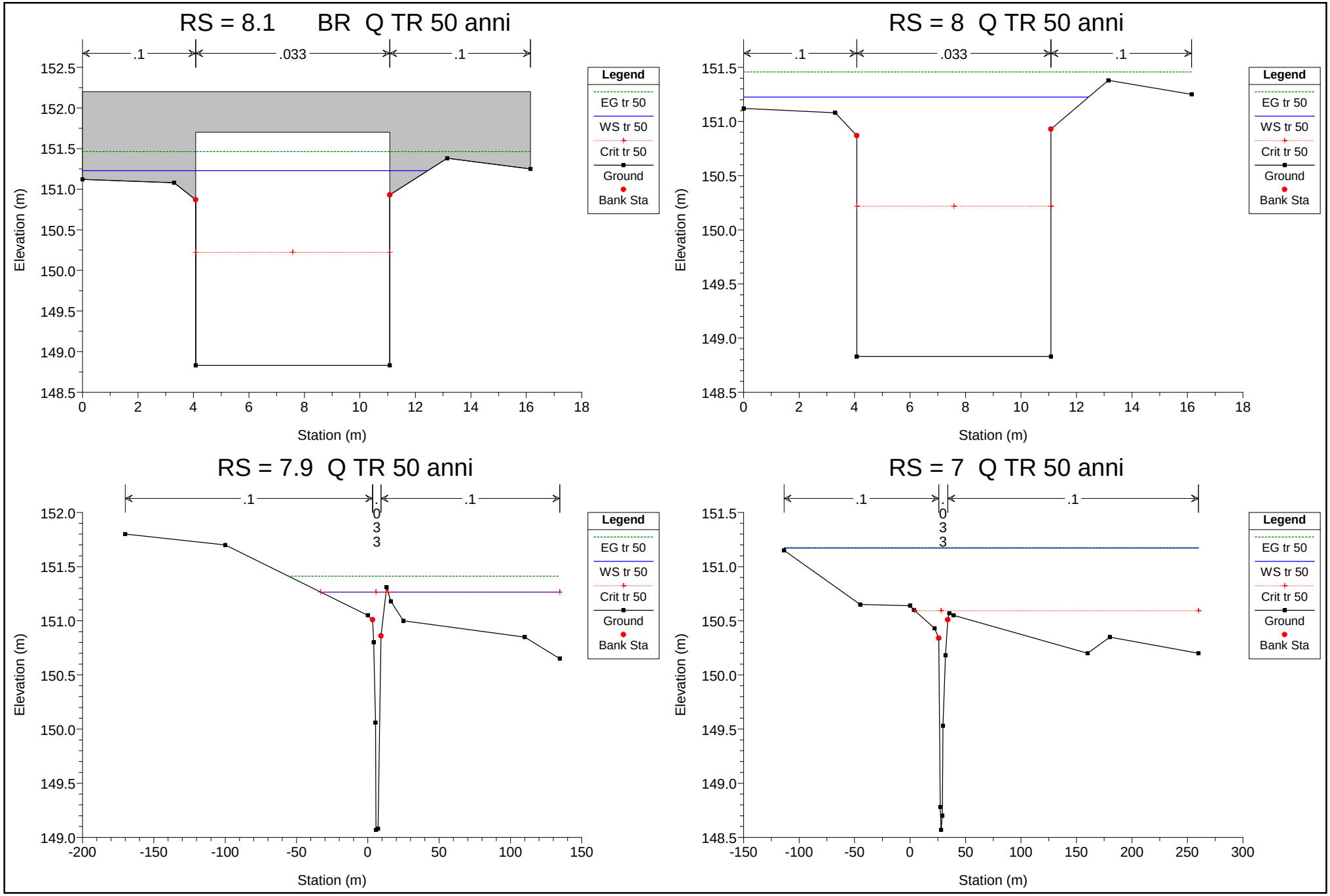

RS = 101.9 BR Q TR 50 anni
.0166
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)

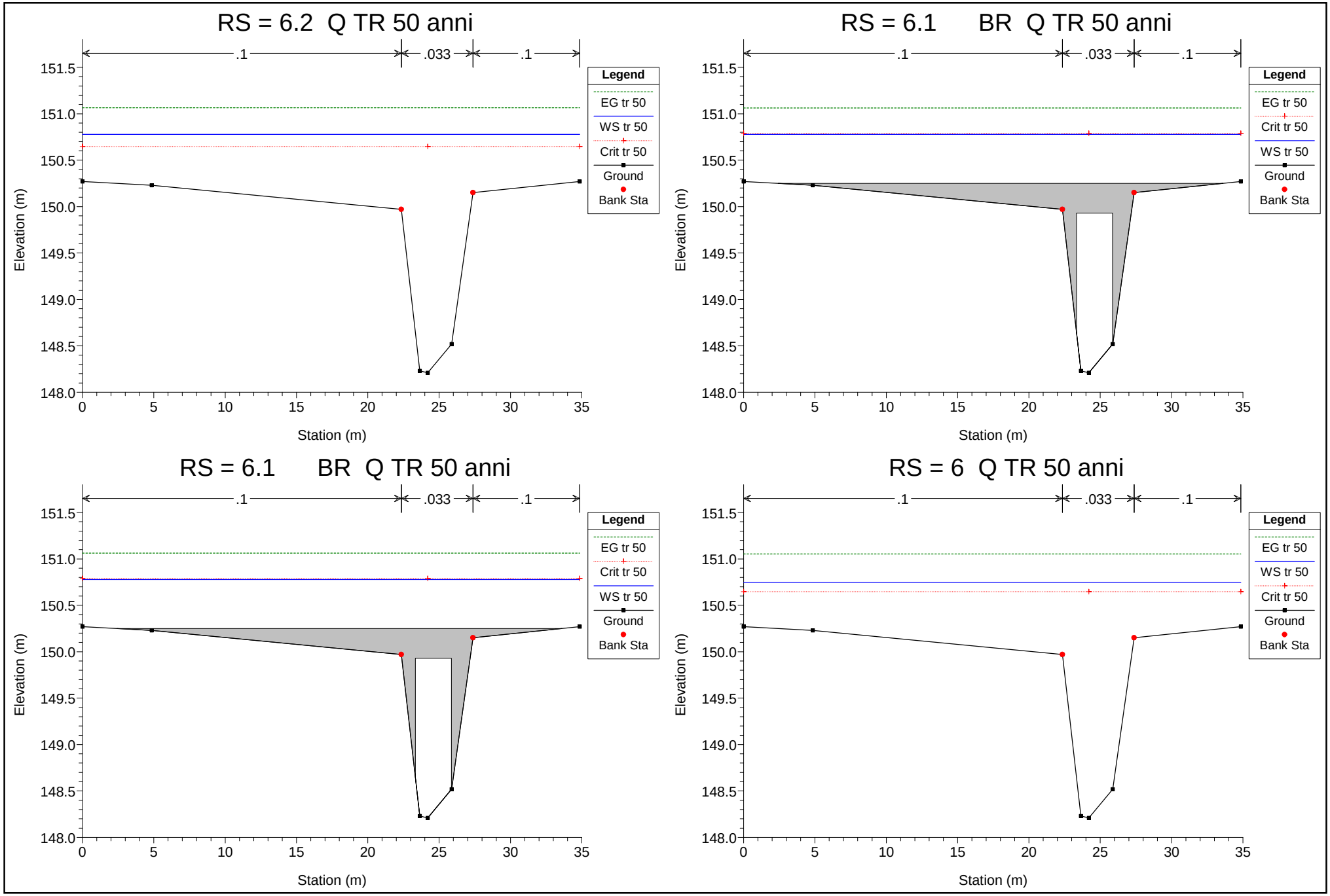

RS = 101.8 Q TR 50 anni
.0166
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)

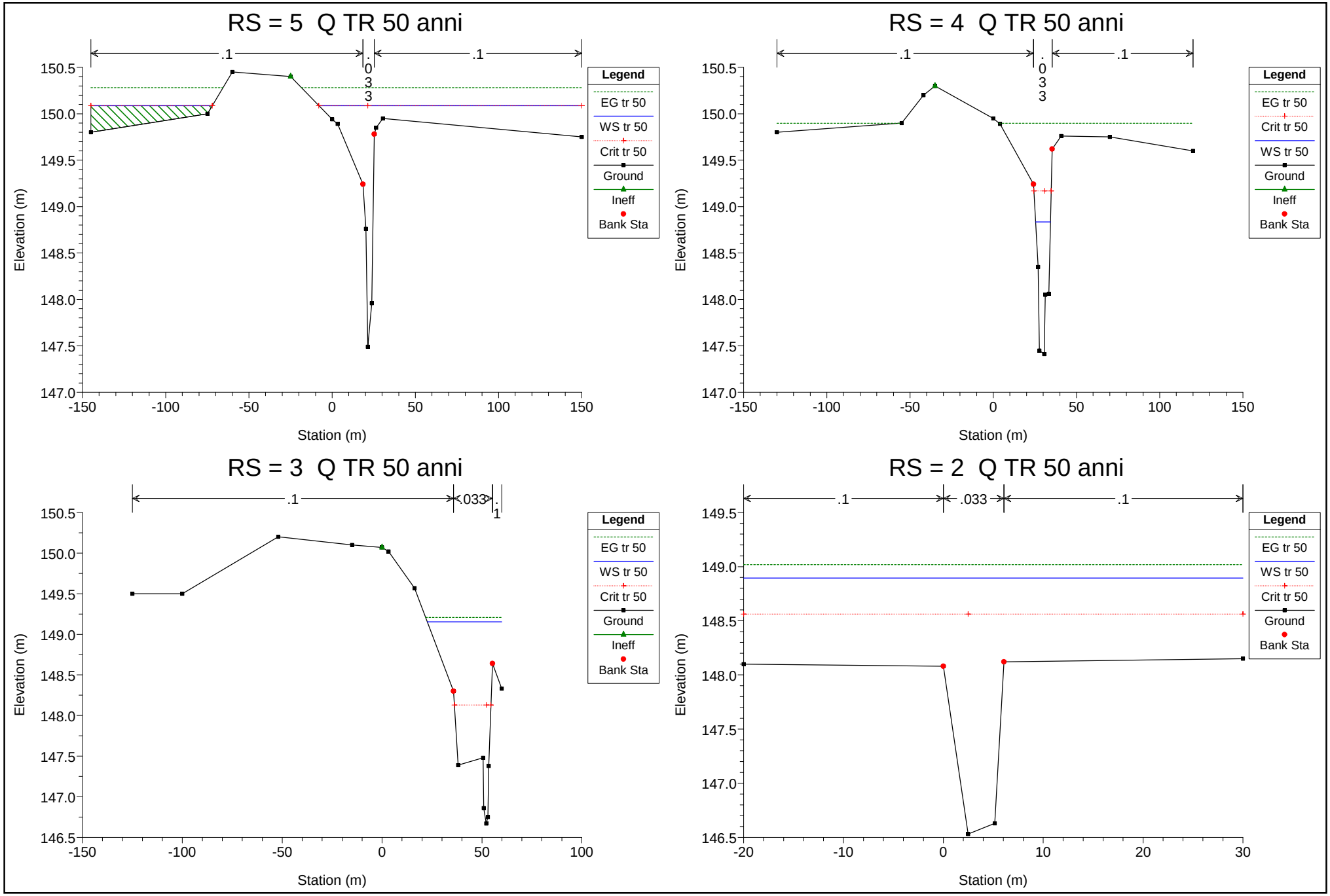

RS = 10 Q TR 50 anni
.1
.02
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)

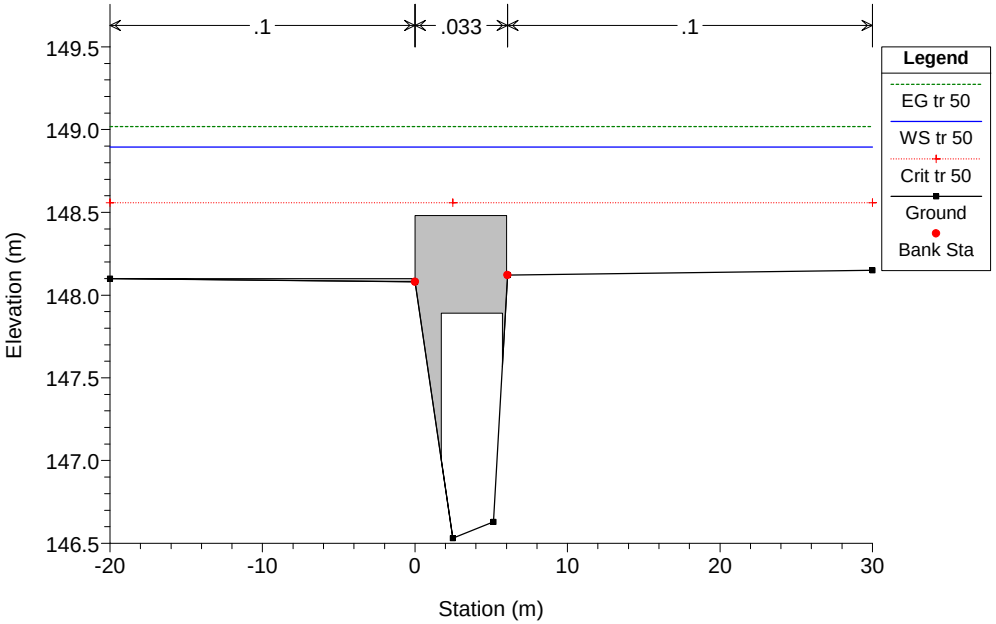

RS = 9 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)

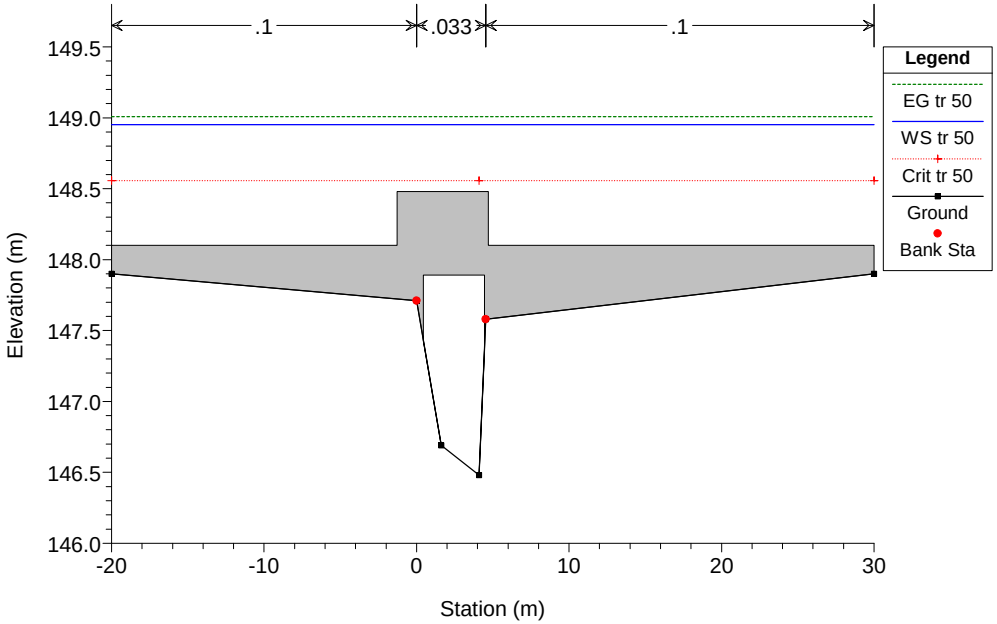

RS = 8.5 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 8.3 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 8.2 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 8.1 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)

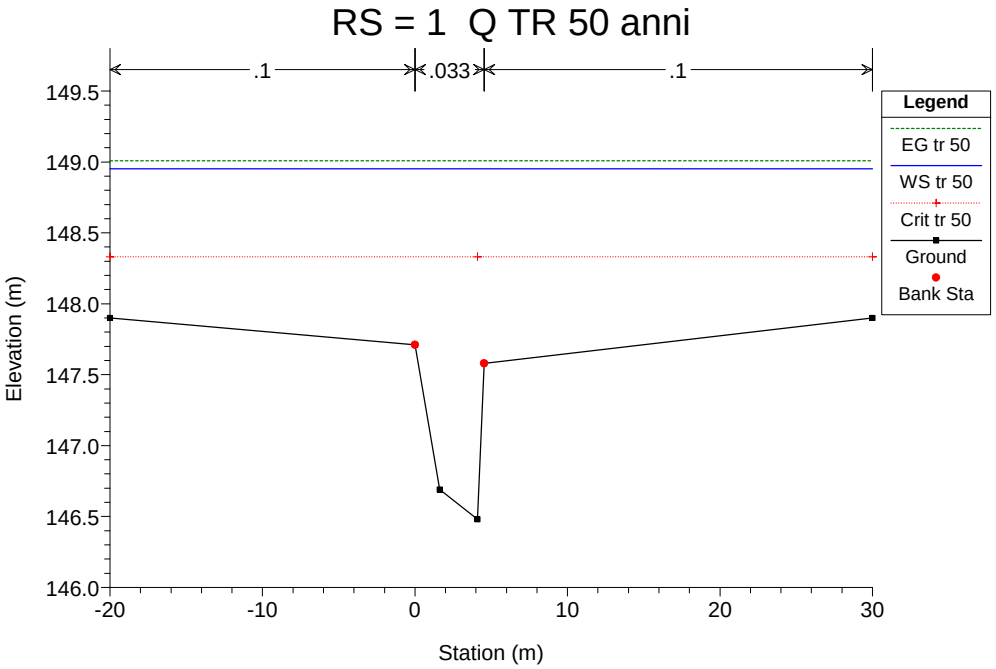

RS = 8.1 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 8 Q TR 50 anni
RS = 7.9 Q TR 50 anni
RS = 7 Q TR 50 anni


RS = 6.2 Q TR 50 anni
RS = 6.1 BR Q TR 50 anni
RS = 6.1 BR Q TR 50 anni
RS = 6 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
0
5
10
15
20
25
30
35


RS = 5 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 4 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 3 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 2 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1.5 BR Q TR 50 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta


RS = 1.5 BR Q TR 50 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta


RS = 1 Q TR 50 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta

SIMULAZIONE 2

(Situazione attuale)

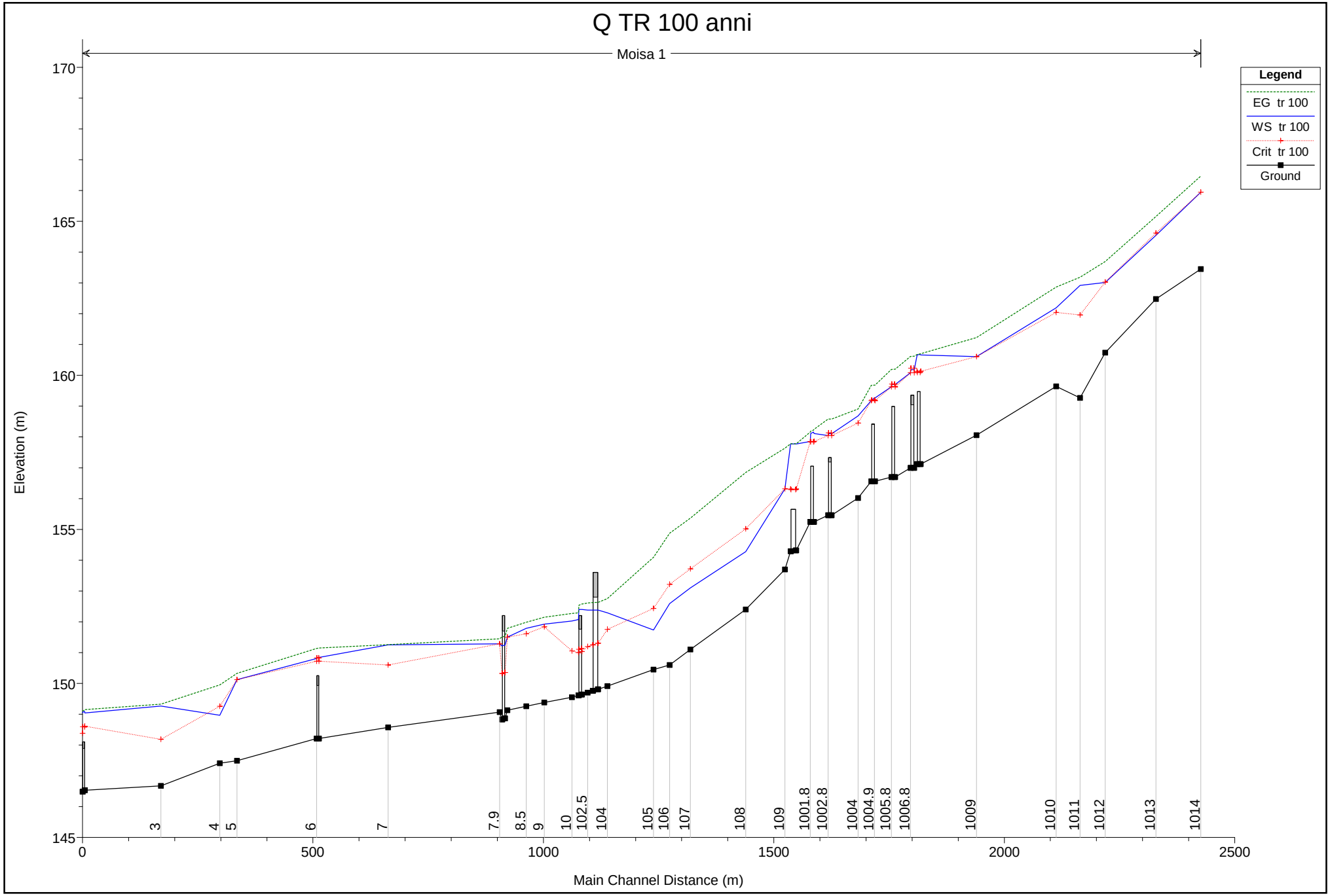
	portata al colmo Q_c m^3/s	tempo di ritorno anni
Rio Moisa a Valle di Magliano	40	100

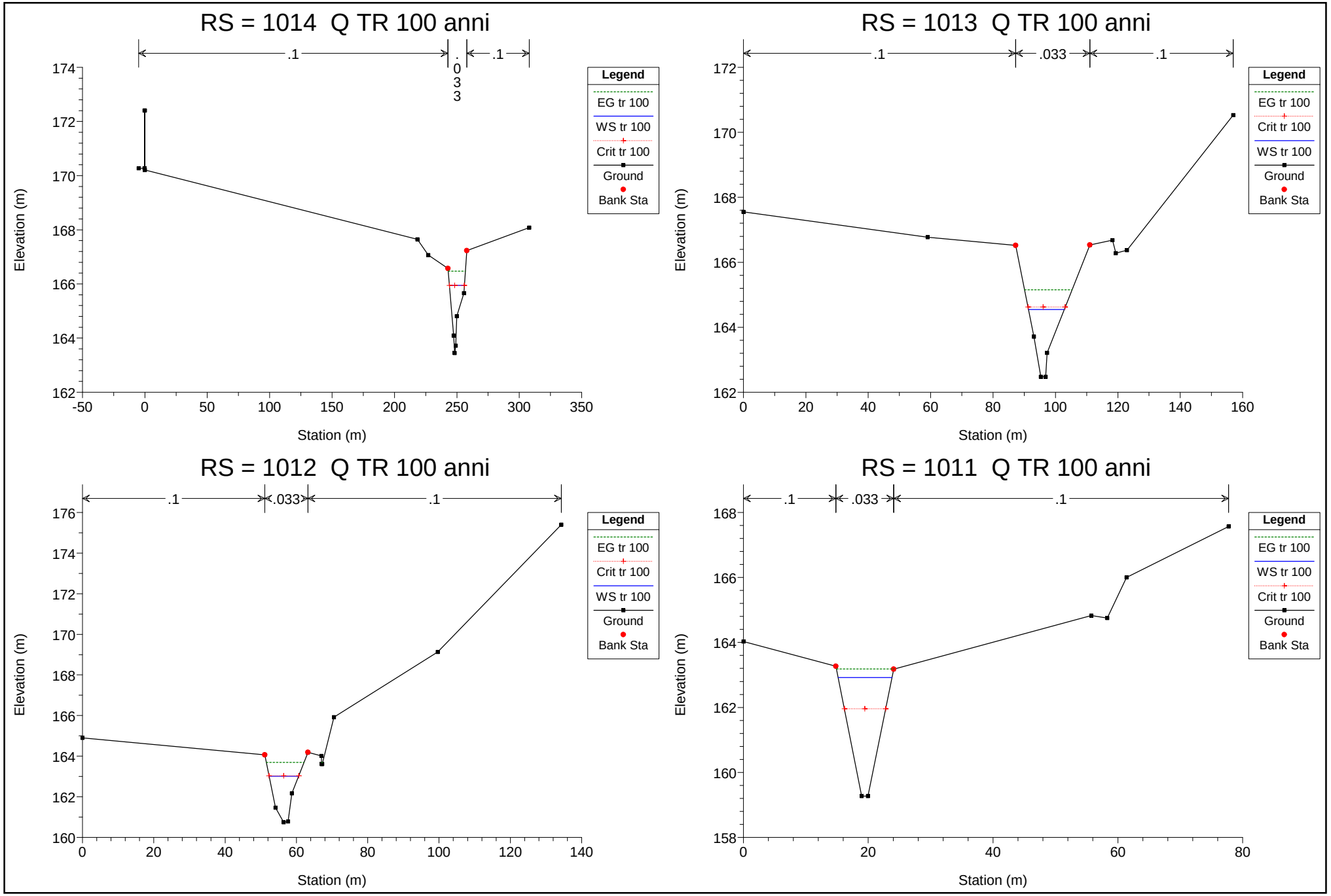
HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 100

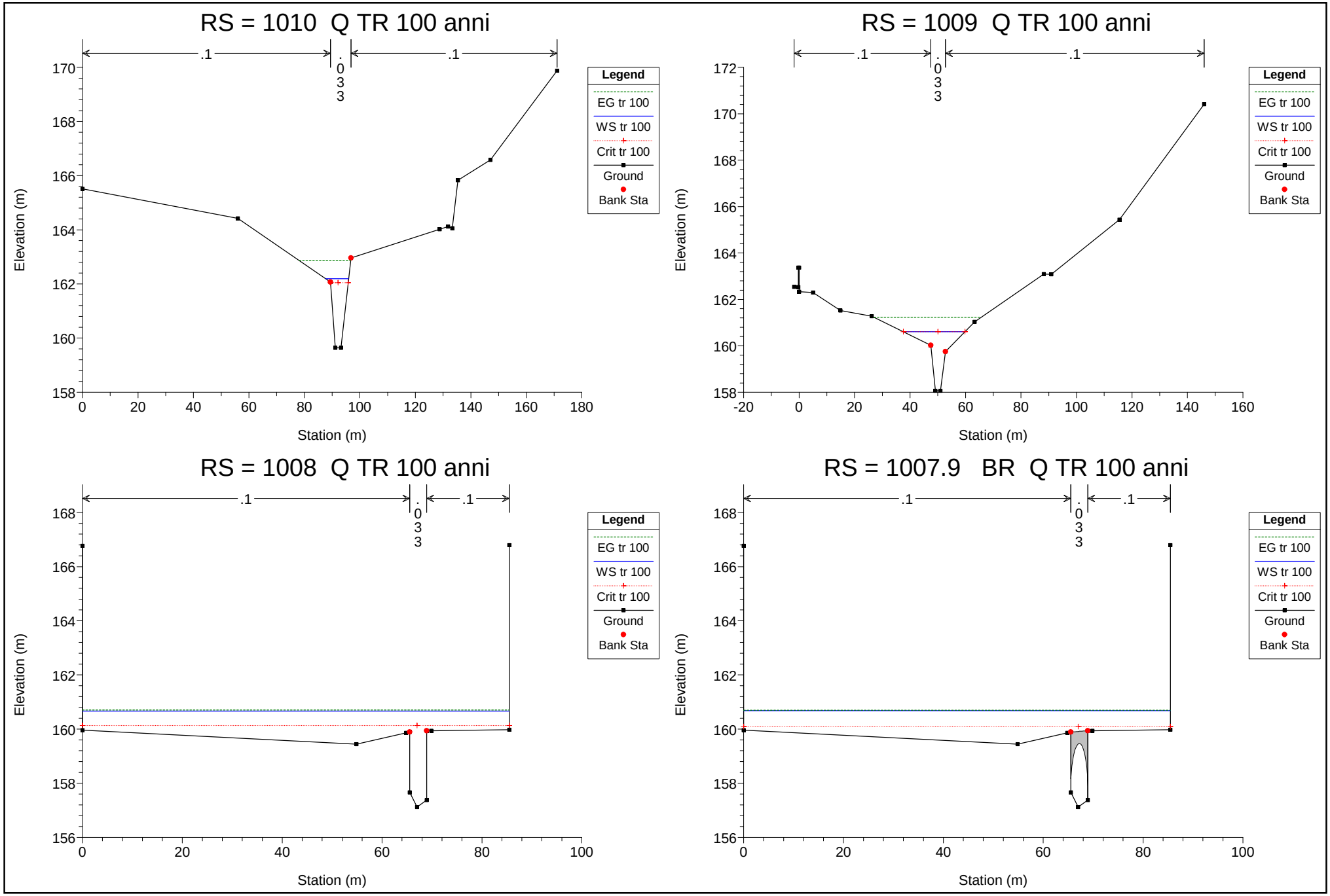
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1014	tr 100	40.00	163.45	165.95	165.95	166.47	0.012512	3.22	12.42	11.98	1.01
1	1013	tr 100	40.00	162.48	164.54	164.62	165.15	0.014529	3.46	11.56	11.46	1.10
1	1012	tr 100	40.00	160.74	163.02	163.03	163.70	0.012543	3.65	10.96	8.27	1.01
1	1011	tr 100	40.00	159.27	162.92	161.96	163.18	0.003242	2.28	17.54	8.62	0.51
1	1010	tr 100	40.00	159.64	162.19	162.04	162.86	0.010636	3.63	11.11	8.26	0.89
1	1009	tr 100	40.00	158.06	160.61	160.61	161.23	0.008303	3.62	16.23	22.27	0.83
1	1008	tr 100	40.00	157.12	160.66	160.13	160.70	0.001245	1.32	86.62	85.47	0.23
1	1007.9		Bridge									
1	1007.8	tr 100	40.00	157.12	160.64	160.13	160.68	0.001340	1.36	84.24	85.47	0.24
1	1007	tr 100	40.00	157.00	160.18	160.08	160.62	0.007945	3.25	22.53	23.86	0.61
1	1006.9		Bridge									
1	1006.8	tr 100	40.00	157.00	160.08	160.08	160.61	0.009681	3.51	20.14	23.86	0.67
1	1006	tr 100	40.00	156.70	159.70	159.63	160.20	0.010060	3.38	19.40	20.28	0.63
1	1005.9		Bridge									
1	1005.8	tr 100	40.00	156.70	159.63	159.63	160.19	0.011516	3.57	17.83	19.90	0.68
1	1005	tr 100	40.00	156.56	159.27	159.18	159.68	0.008560	3.25	23.06	23.90	0.65
1	1004.9		Bridge									
1	1004.8	tr 100	40.00	156.56	159.18	159.18	159.67	0.010361	3.49	20.95	23.90	0.71
1	1004	tr 100	40.00	156.02	158.69	158.45	158.91	0.003873	2.59	40.64	51.71	0.59
1	1003	tr 100	40.00	155.46	158.11	158.04	158.58	0.007592	3.32	22.14	31.82	0.67
1	1002.9		Bridge									
1	1002.8	tr 100	40.00	155.46	158.04	158.04	158.58	0.008718	3.50	20.10	29.69	0.72
1	1002	tr 100	40.00	155.24	158.11	157.85	158.25	0.003016	2.11	50.96	62.91	0.41
1	1001.9		Bridge									
1	1001.8	tr 100	40.00	155.24	157.85	157.85	158.16	0.006410	2.89	34.70	62.91	0.59
1	1001	tr 100	40.00	154.32	157.77	156.31	157.78	0.000133	0.56	198.41	105.11	0.10
1	1000.9		Bridge									
1	1000.8	tr 100	40.00	154.29	157.77	156.31	157.78	0.000133	0.56	198.23	105.11	0.10
1	109	tr 100	40.00	153.70	156.32	156.32	157.64	0.005413	5.09	7.86	3.00	1.00
1	108	tr 100	40.00	152.40	154.28	155.02	156.84	0.012574	7.10	5.64	3.00	1.65
1	107	tr 100	40.00	151.10	153.10	153.72	155.36	0.010701	6.67	6.00	3.00	1.50
1	106	tr 100	40.00	150.60	152.59	153.22	154.88	0.010840	6.70	5.97	3.00	1.52
1	105	tr 100	40.00	150.45	151.73	152.44	154.10	0.067833	6.81	5.87	6.38	2.27
1	104	tr 100	40.00	149.91	152.29	151.75	152.76	0.001185	3.03	14.13	13.01	0.67
1	103.2	tr 100	40.00	149.81	152.38	151.31	152.63	0.000551	2.22	17.99	10.00	0.44
1	103.1		Bridge									
1	103	tr 100	40.00	149.76	152.38	151.25	152.62	0.000524	2.18	18.33	10.00	0.43
1	102.5	tr 100	40.00	149.70	152.38	151.19	152.61	0.000491	2.12	21.77	19.50	0.41
1	102	tr 100	40.00	149.64	152.40	151.03	152.58	0.000356	1.86	21.54	7.80	0.36
1	101.9		Bridge									

HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 100 (Continued)

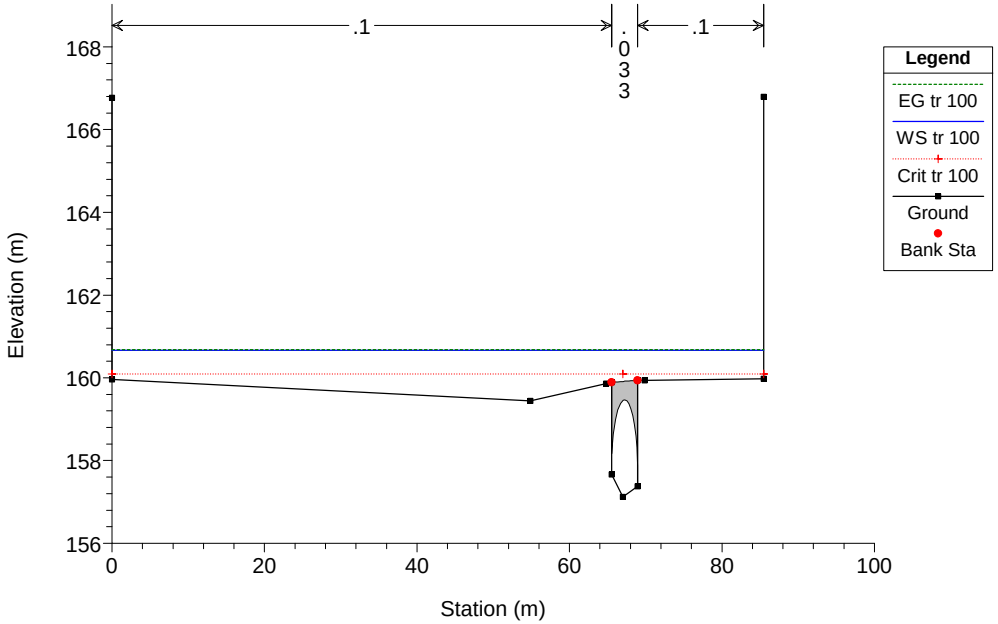
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	101.8	tr 100	40.00	149.61	152.07	151.00	152.29	0.000691	2.08	19.20	7.80	0.42
1	10	tr 100	40.00	149.55	152.03	151.05	152.27	0.001092	2.22	27.04	62.03	0.46
1	9	tr 100	40.00	149.38	151.92	151.83	152.15	0.004859	2.60	40.90	59.85	0.60
1	8.5	tr 100	40.00	149.26	151.79	151.61	151.98	0.003333	2.30	41.79	59.85	0.52
1	8.3	tr 100	40.00	149.13	151.50	151.50	151.79	0.006648	2.84	36.05	64.83	0.73
1	8.2	tr 100	40.00	148.86	151.25	150.35	151.54	0.003579	2.38	17.64	12.54	0.49
1	8.1		Bridge									
1	8	tr 100	40.00	148.83	151.22	150.32	151.51	0.003610	2.39	17.48	12.40	0.49
1	7.9	tr 100	40.00	149.07	151.28	151.28	151.45	0.006541	2.51	58.76	169.20	0.69
1	7	tr 100	40.00	148.57	151.25	150.60	151.25	0.000187	0.53	291.12	373.50	0.13
1	6.2	tr 100	40.00	148.21	150.84	150.72	151.15	0.005026	2.85	30.77	34.85	0.64
1	6.1		Bridge									
1	6	tr 100	40.00	148.21	150.81	150.72	151.14	0.005479	2.94	29.58	34.85	0.67
1	5	tr 100	40.00	147.49	150.12	150.12	150.32	0.003725	2.35	56.13	234.15	0.57
1	4	tr 100	40.00	147.41	148.96	149.26	149.95	0.026028	4.41	9.07	9.51	1.44
1	3	tr 100	40.00	146.67	149.27	148.19	149.32	0.000629	1.08	46.14	39.02	0.26
1	2	tr 100	40.00	146.53	149.04	148.61	149.15	0.001940	1.89	53.03	50.00	0.42
1	1.5		Bridge									
1	1	tr 100	40.00	146.48	149.05	148.38	149.11	0.001302	1.61	68.10	50.00	0.35


Q TR 100 anni
Moisa 1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Elevation (m)
Main Channel Distance (m)
170
165
160
155
150
145
0
500
1000
1500
2000
2500
3
4
5
6
7
7.9
8.5
9
10
102.5
104
105
106
107
108
109
1001.8
1002.8
1004
1004.9
1005.8
1006.8
1009
1010
1011
1012
1013
1014


RS = 1014 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1013 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1012 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1011 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1010 Q TR 100 anni
RS = 1009 Q TR 100 anni
RS = 1008 Q TR 100 anni
RS = 1007.9 BR Q TR 100 anni
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
.1
.033

RS = 1007.9 BR Q TR 100 anni



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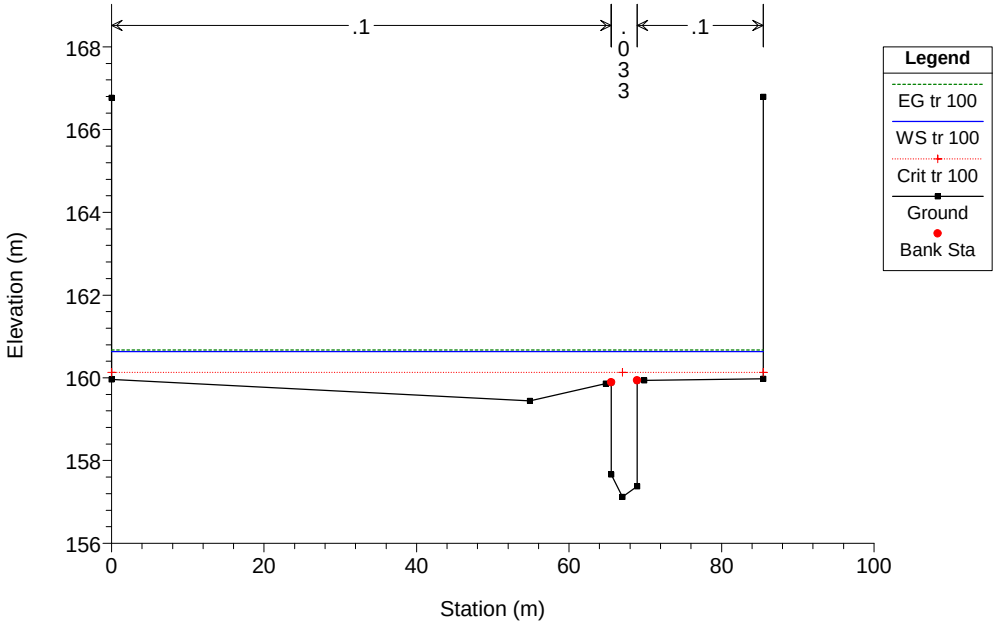
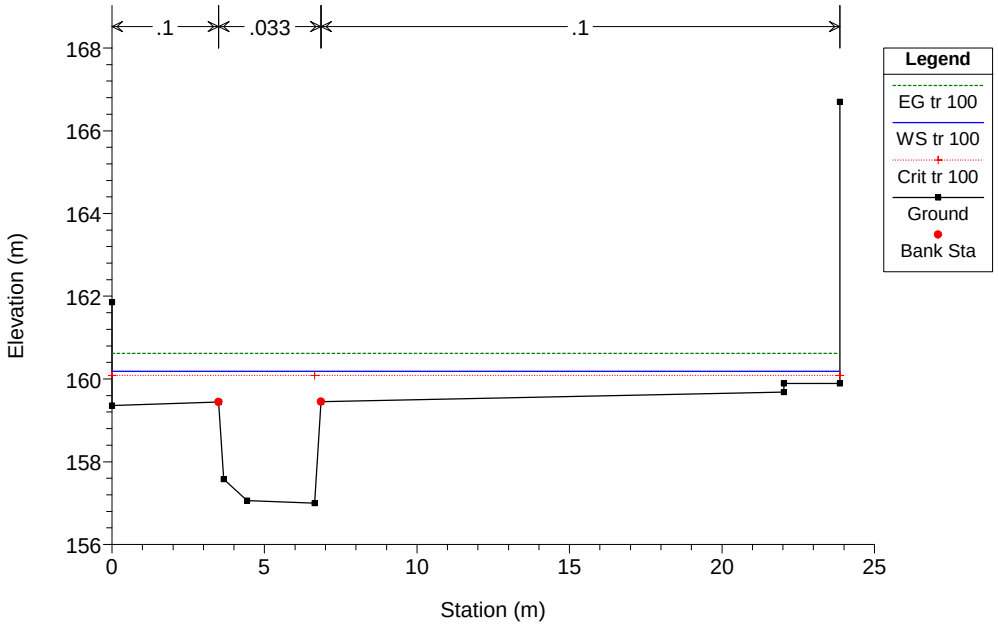
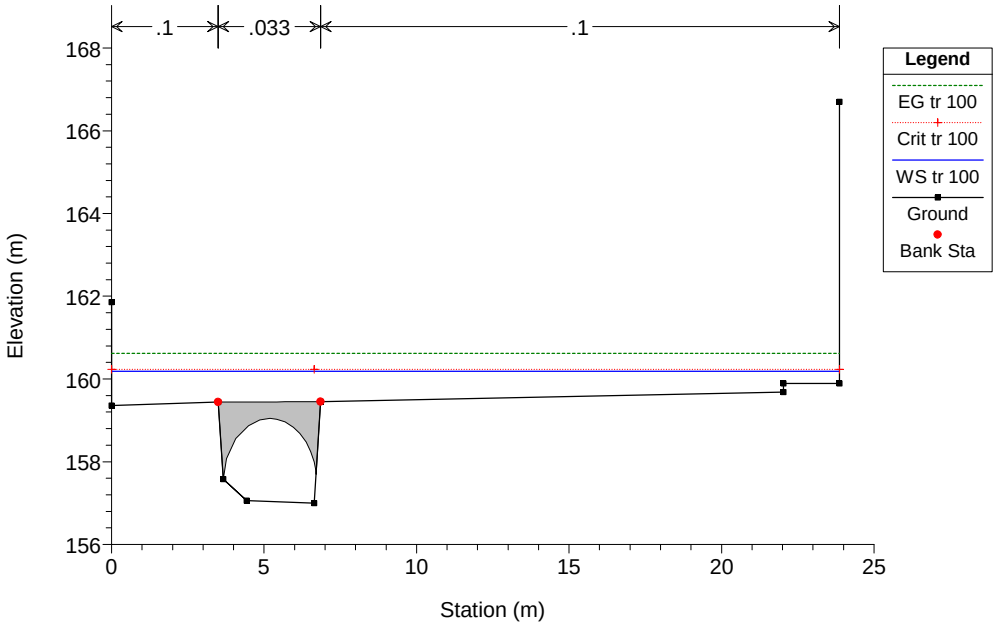


RS = 1007 Q TR 100 anni



RS = 1006.9 BR Q TR 100 anni



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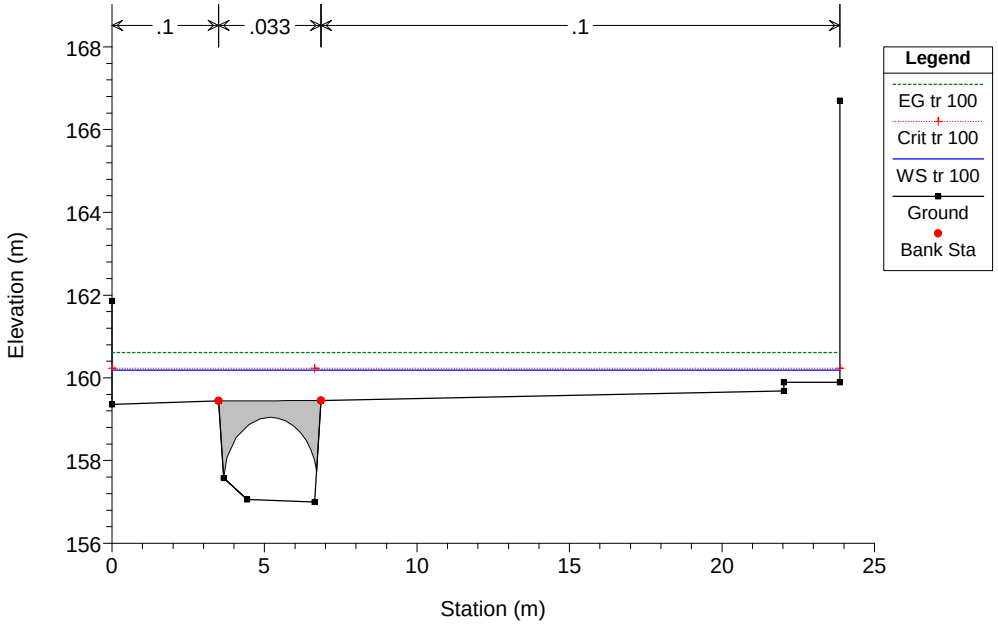
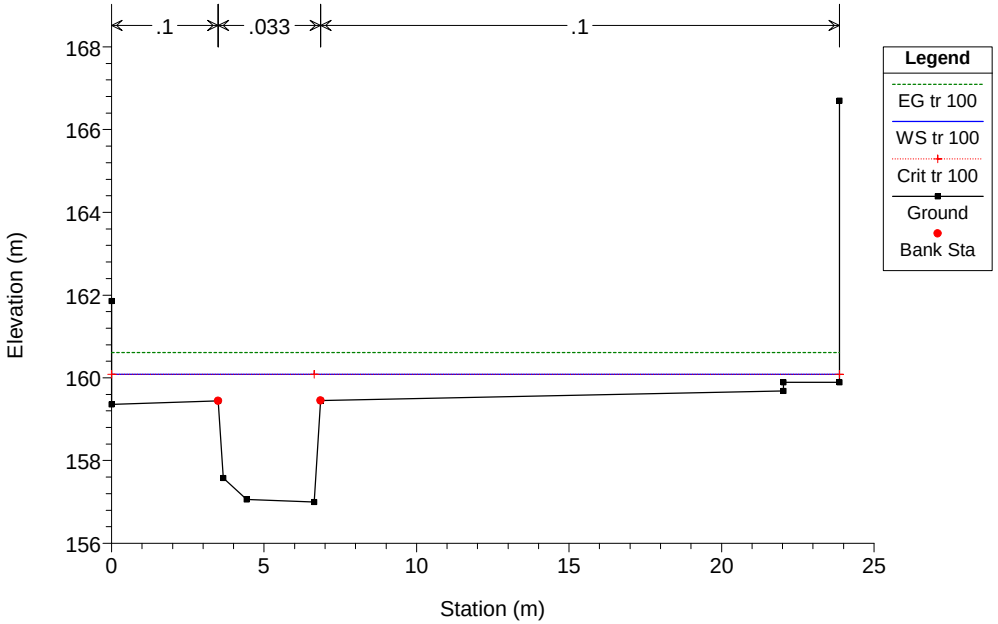
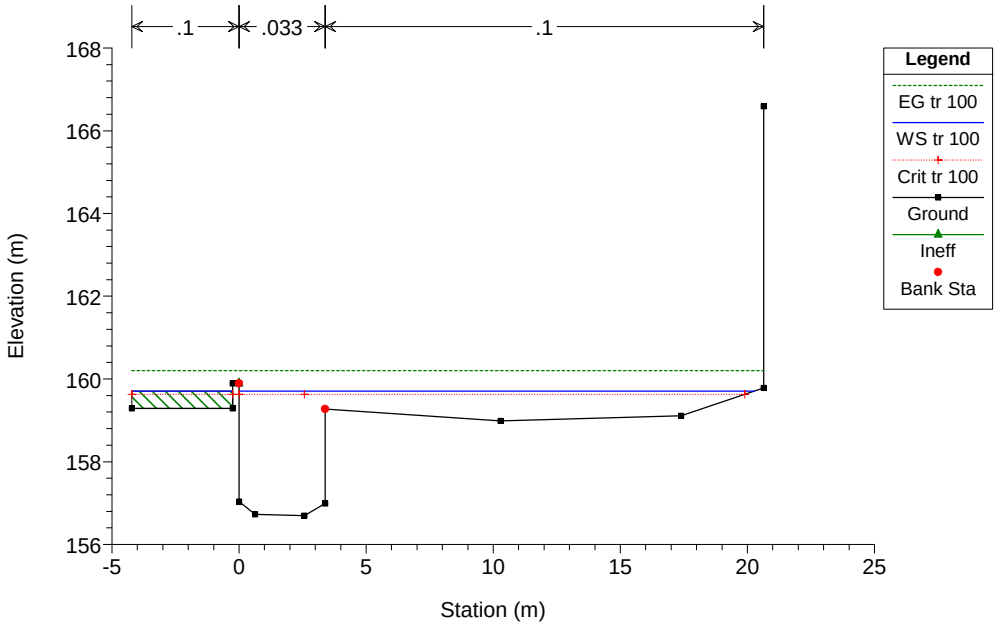


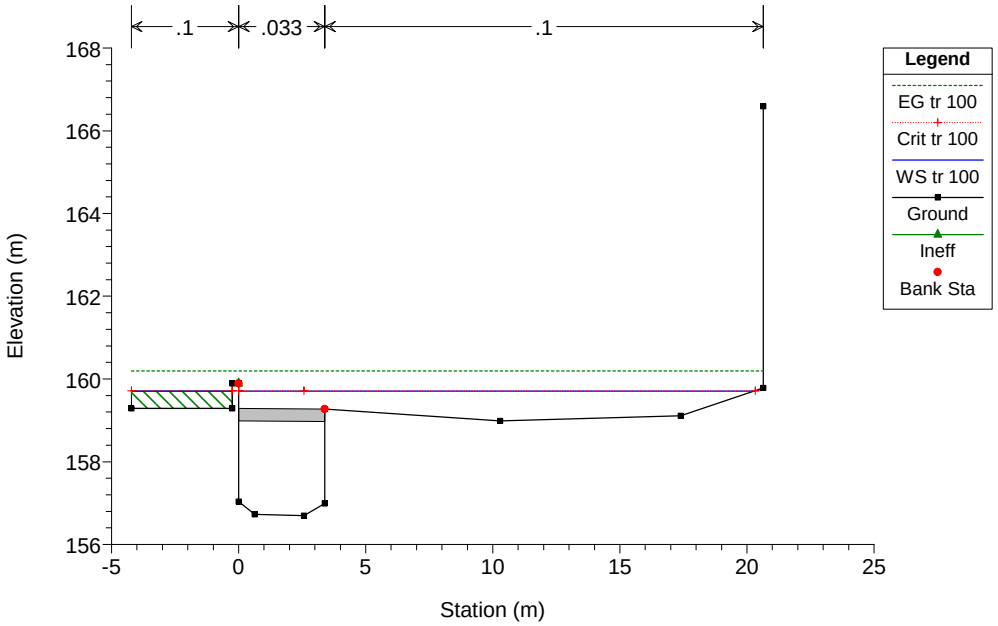
RS = 1006.8 Q TR 100 anni



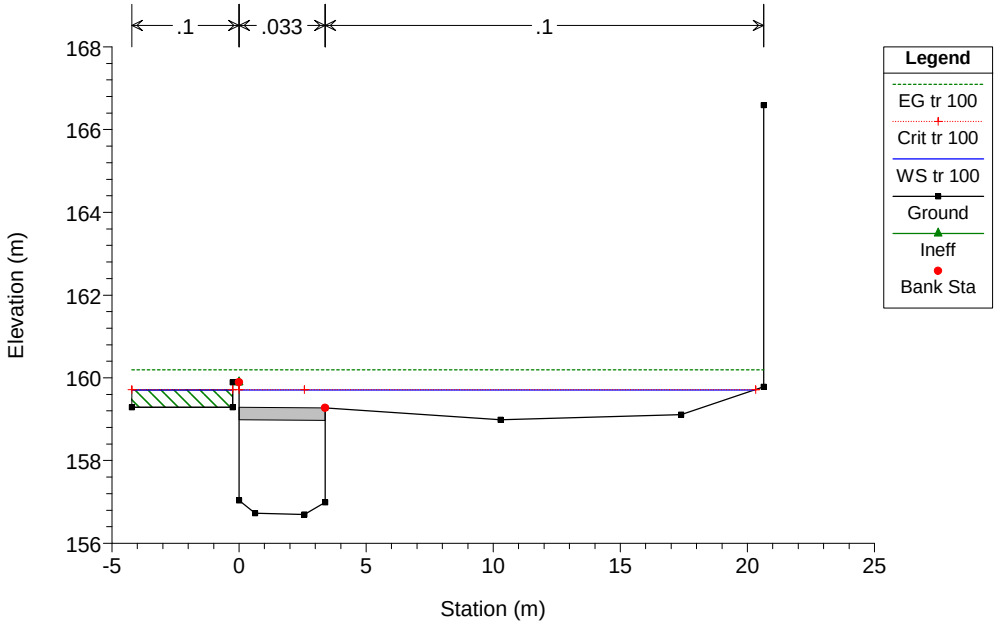
RS = 1006 Q TR 100 anni



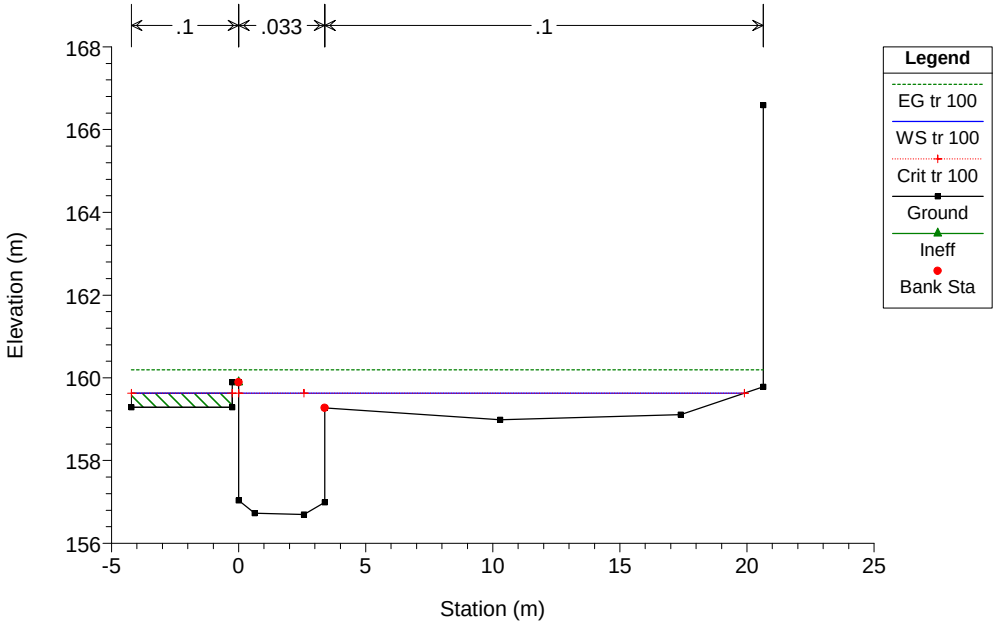
RS = 1005.9 BR Q TR 100 anni



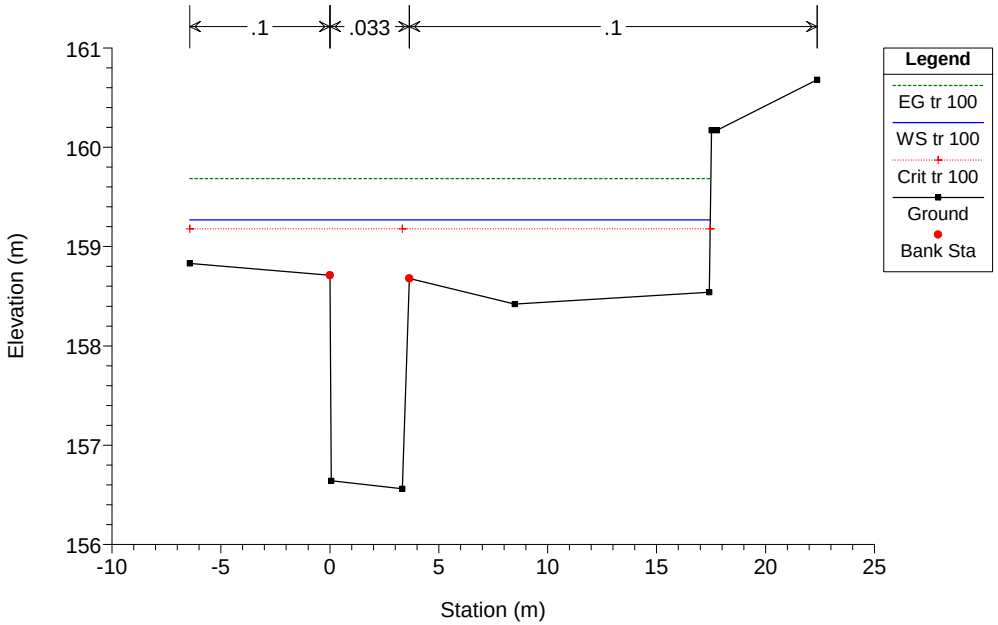
RS = 1005.9 BR Q TR 100 anni



RS = 1005.8 Q TR 100 anni



RS = 1005 Q TR 100 anni



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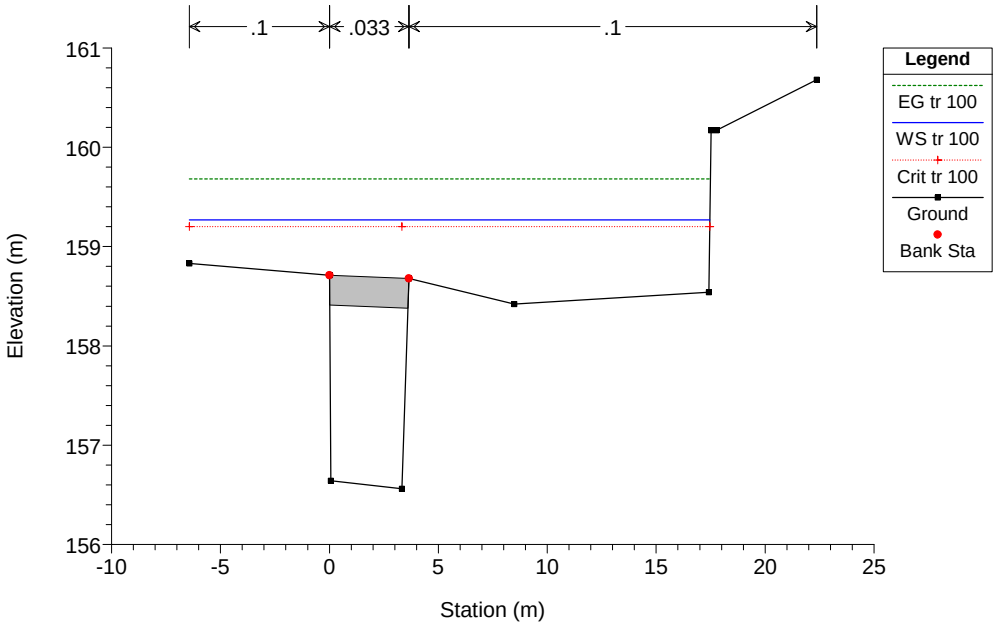
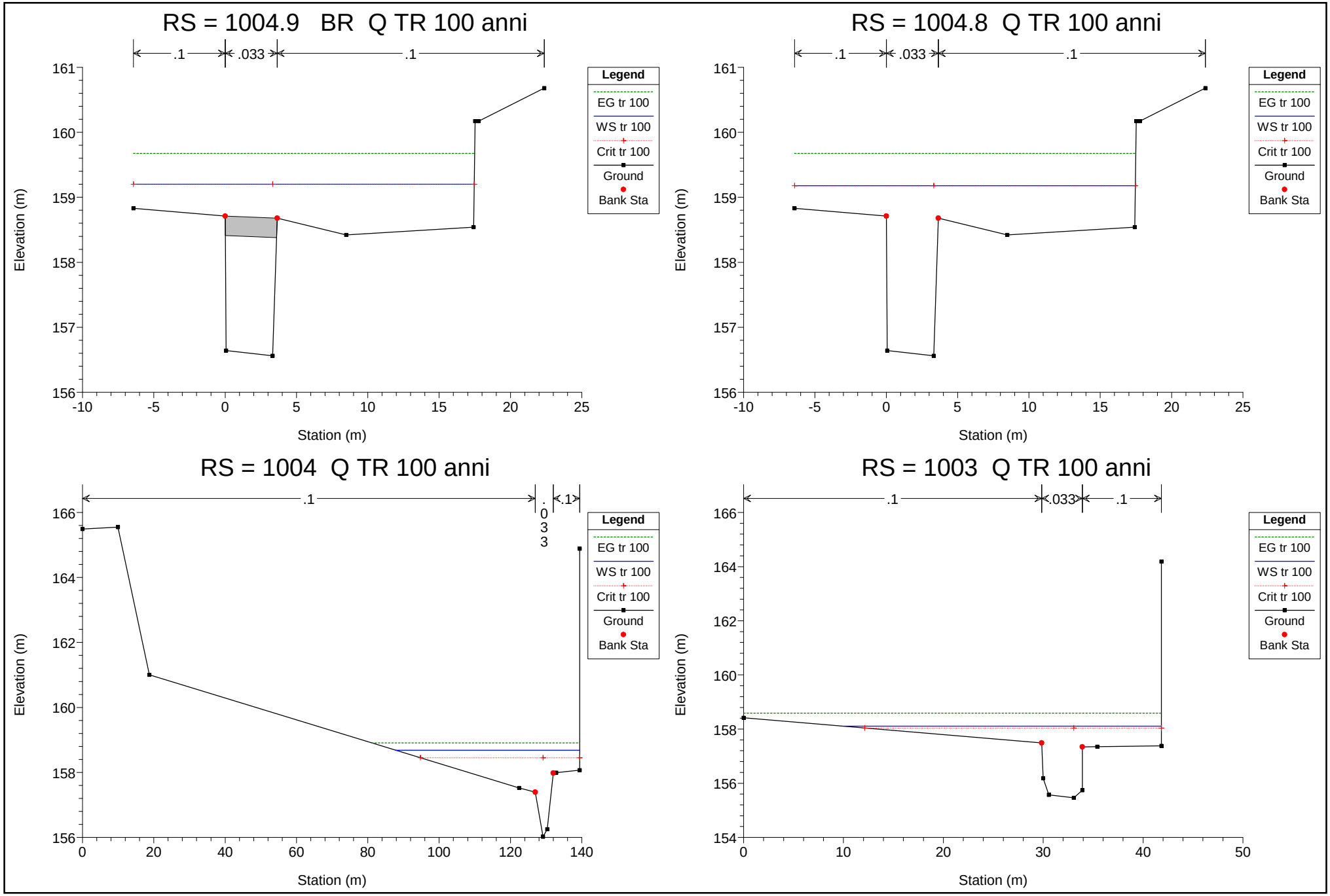
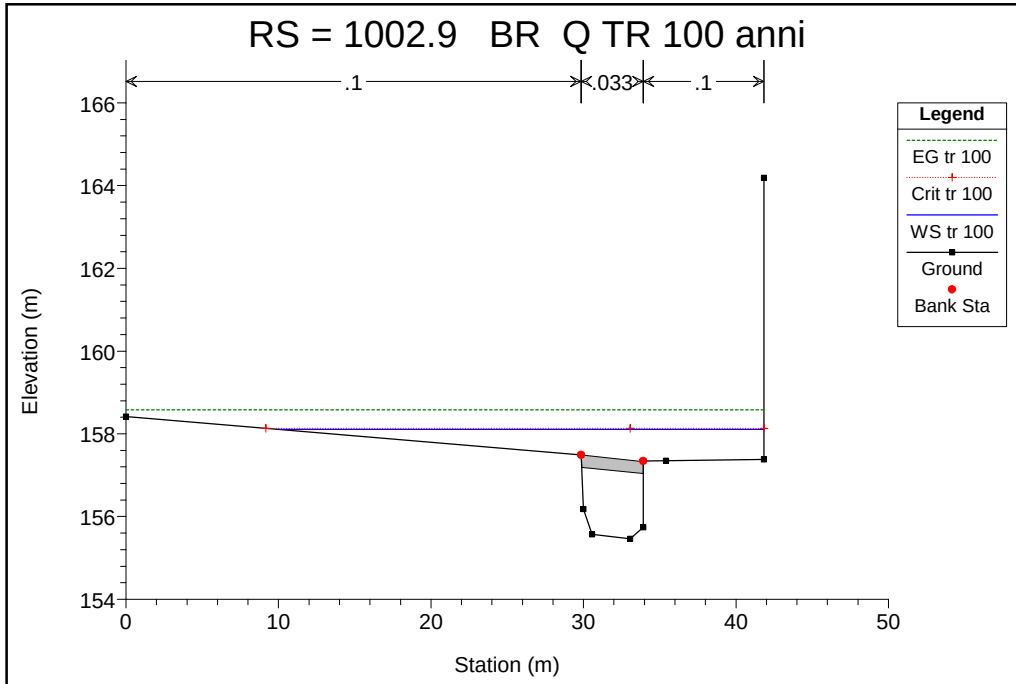
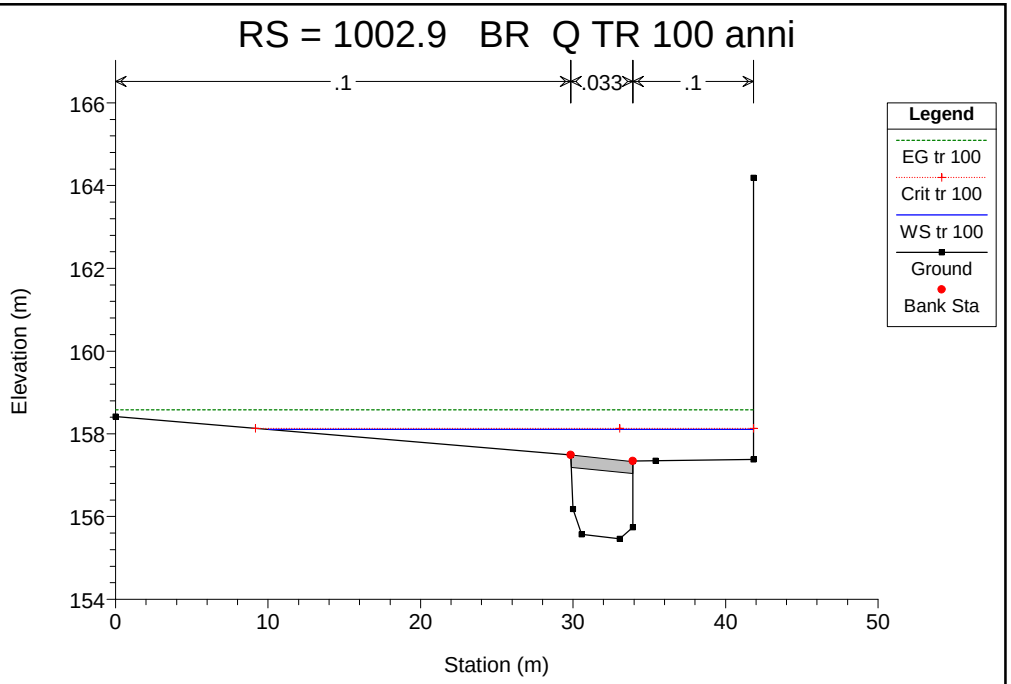
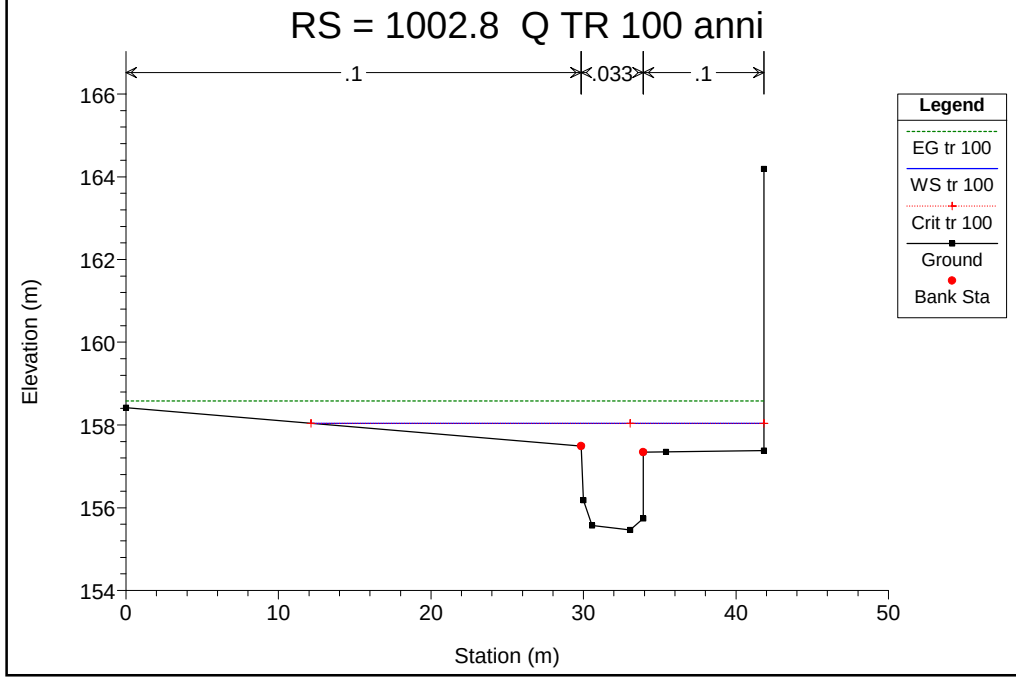
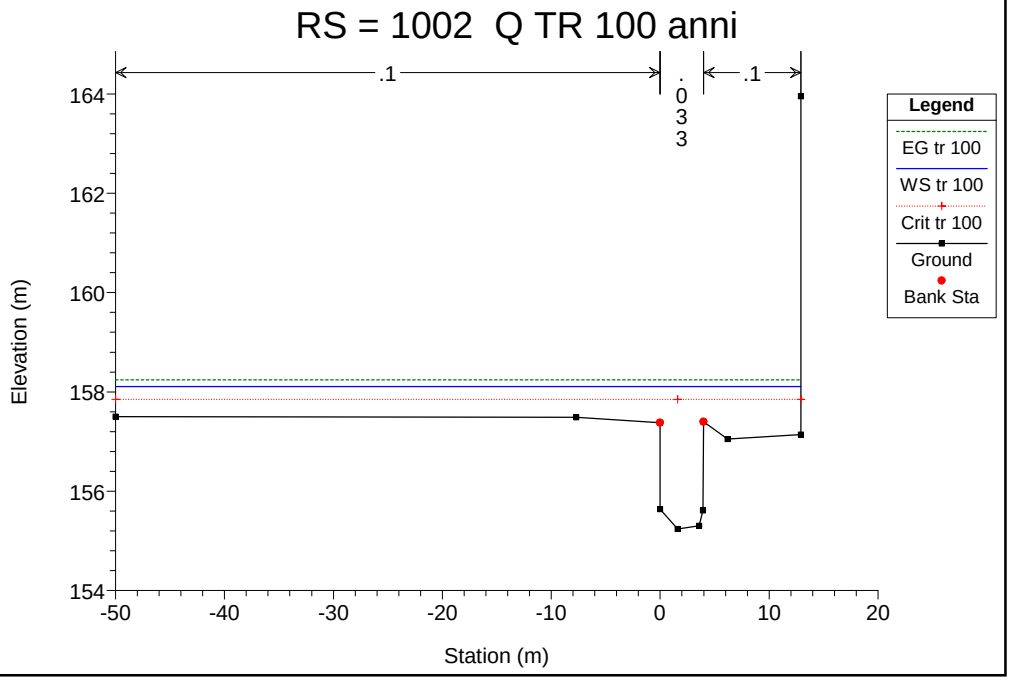


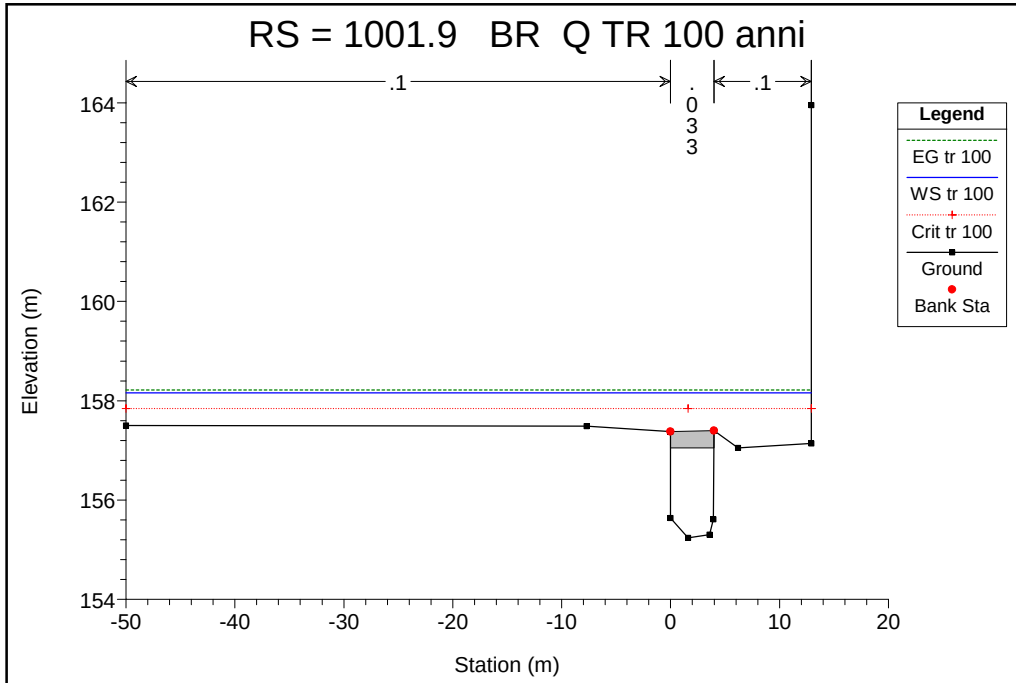

RS = 1004.9 BR Q TR 100 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
RS = 1004.8 Q TR 100 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
RS = 1004 Q TR 100 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
RS = 1003 Q TR 100 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta

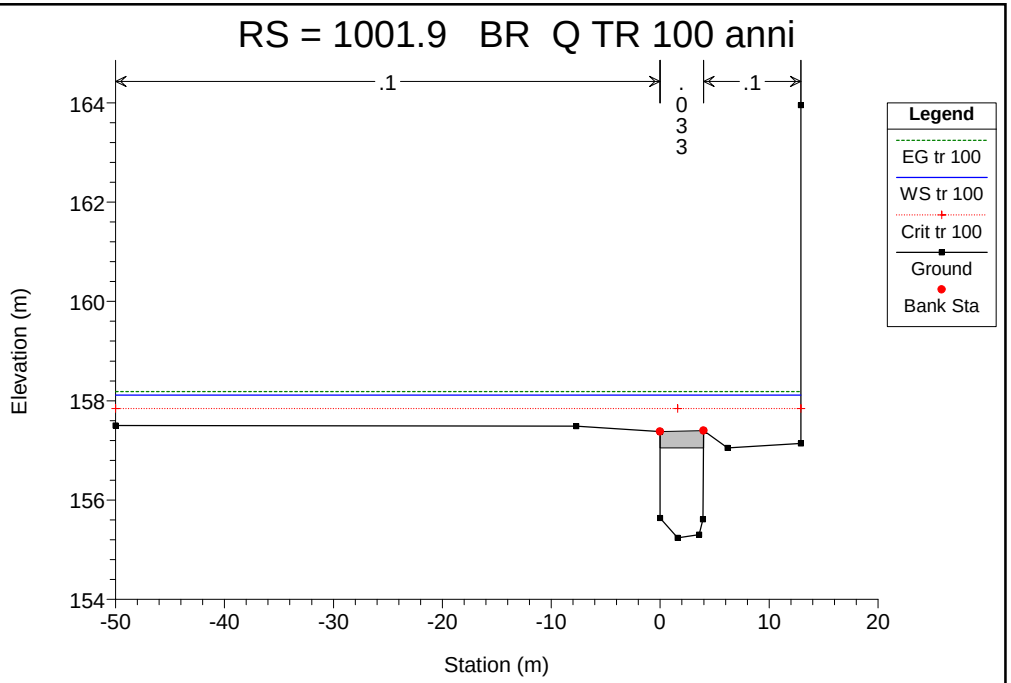

RS = 1002.9 BR Q TR 100 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta

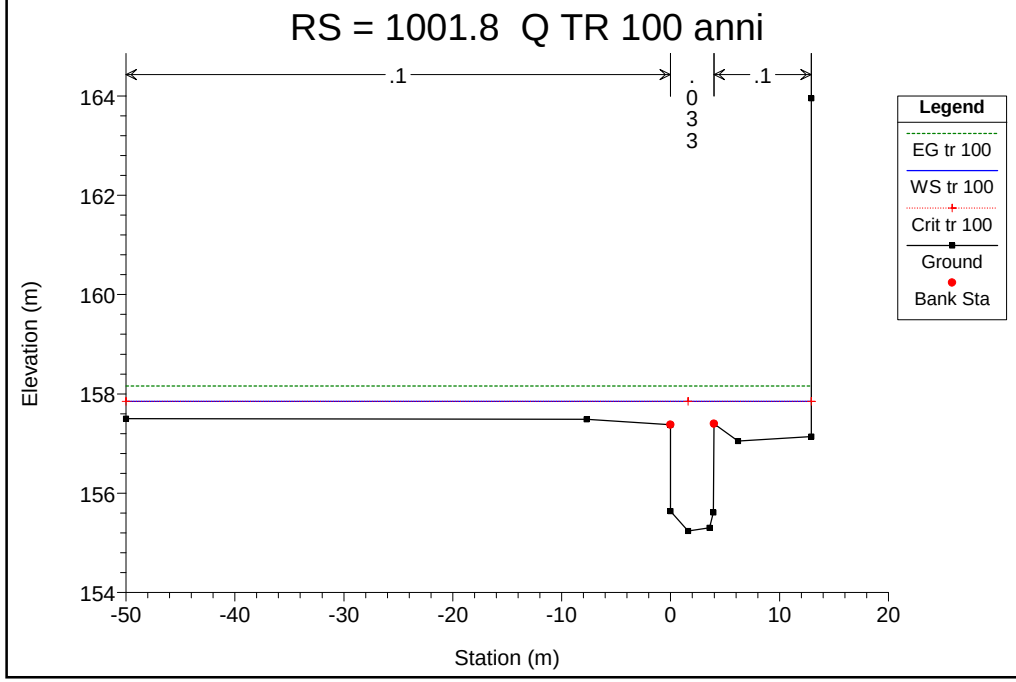

RS = 1002.9 BR Q TR 100 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta

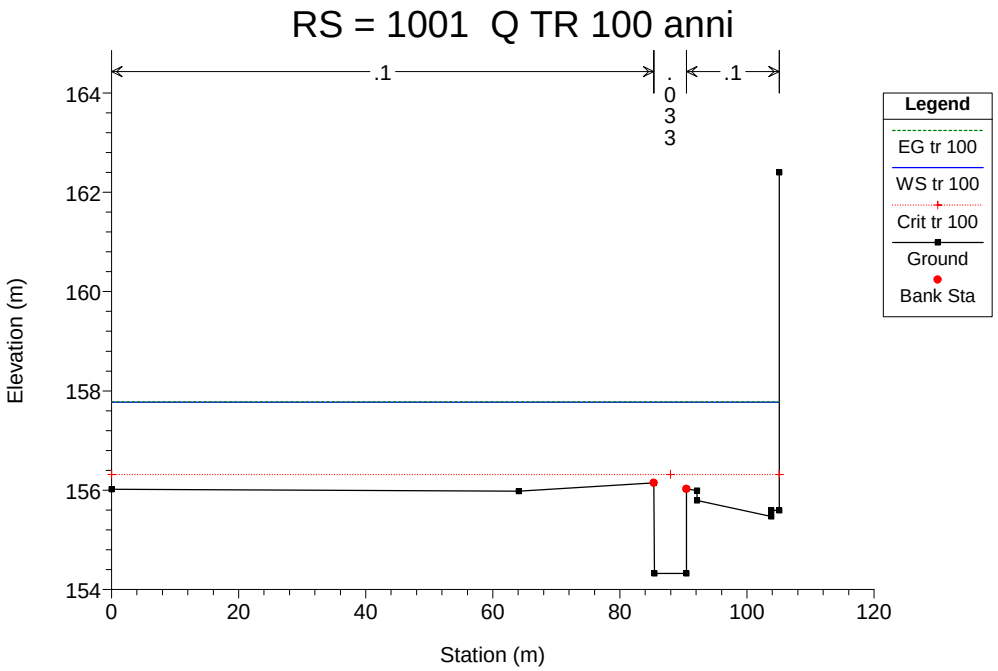

RS = 1002.8 Q TR 100 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta

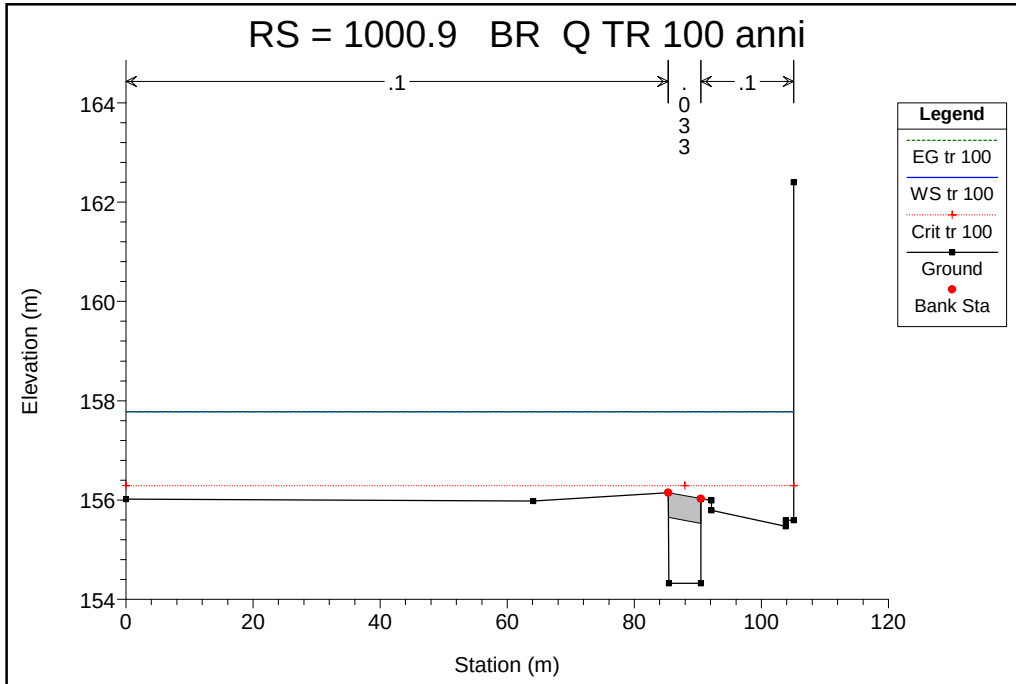

RS = 1002 Q TR 100 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta

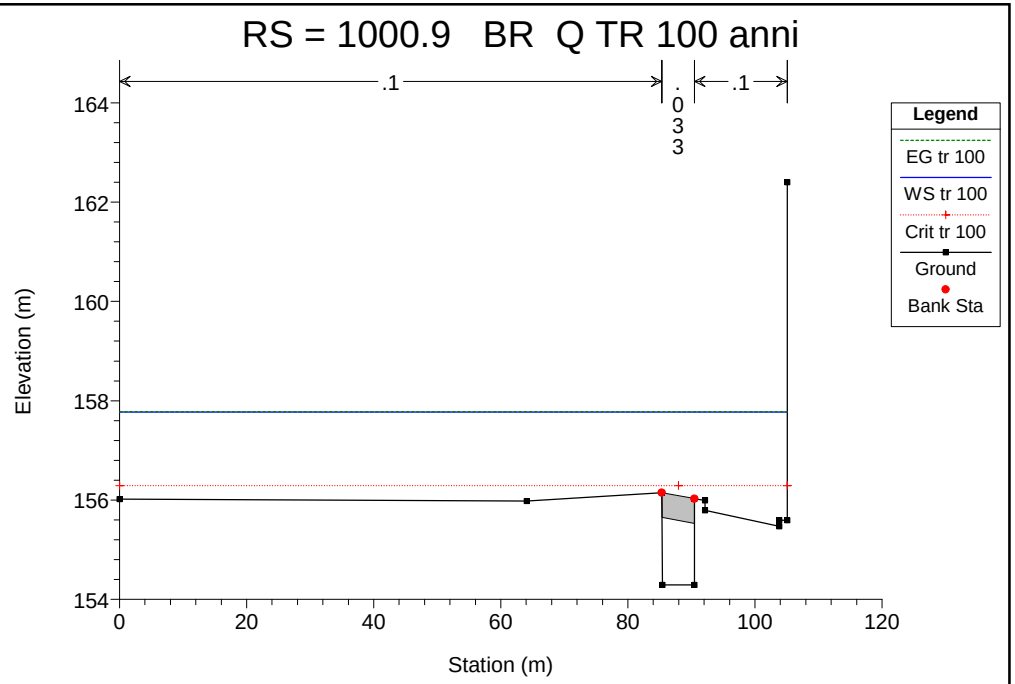

RS = 1001.9 BR Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)

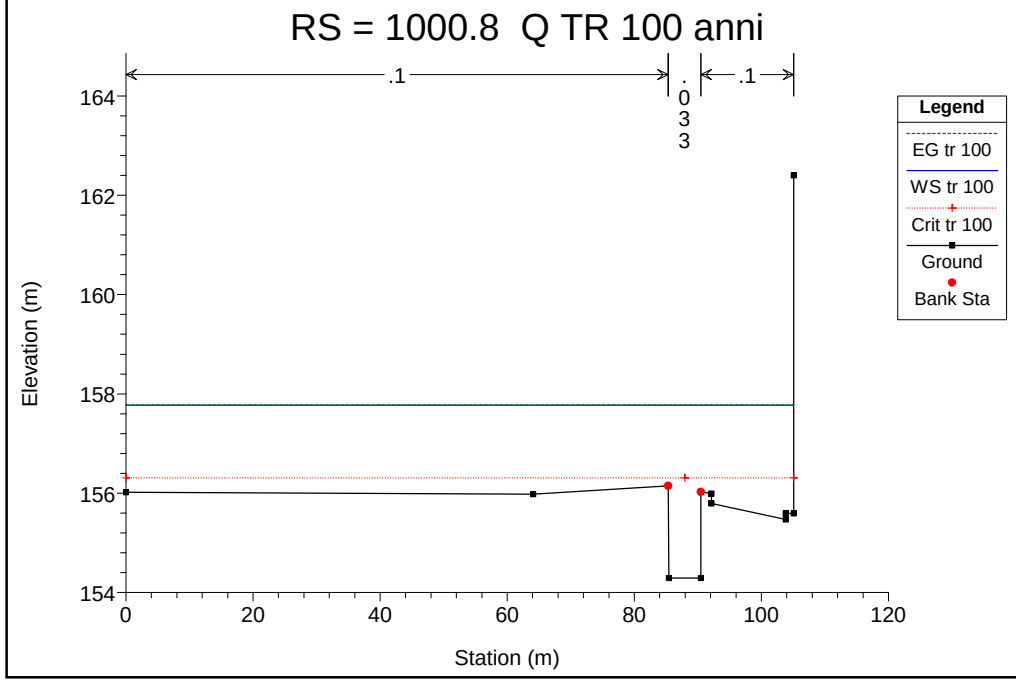

RS = 1001.9 BR Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)

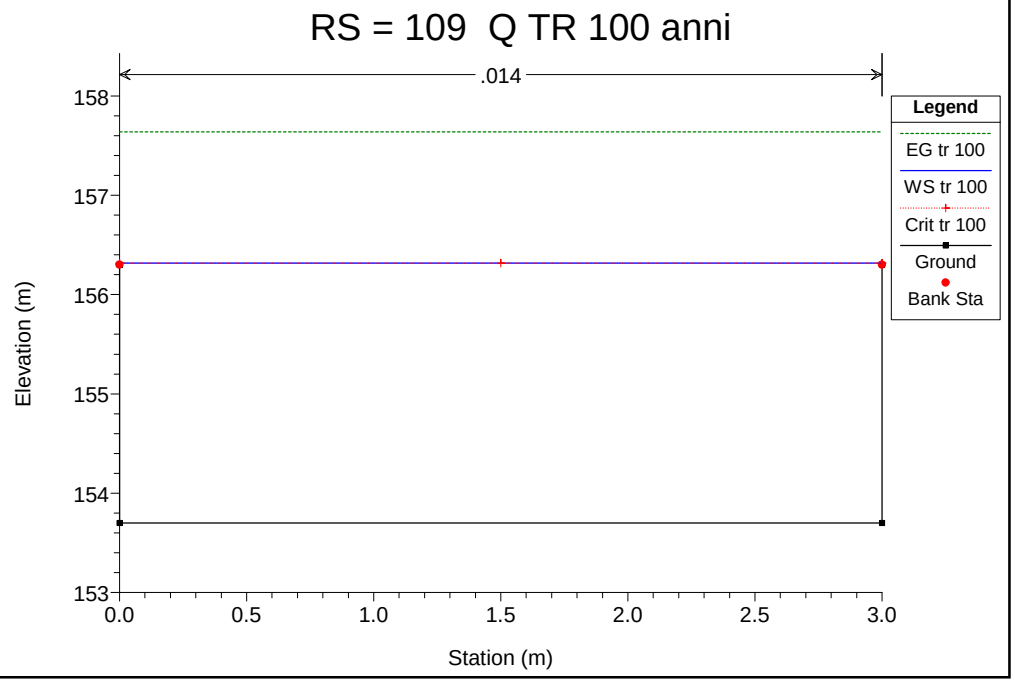

RS = 1001.8 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)

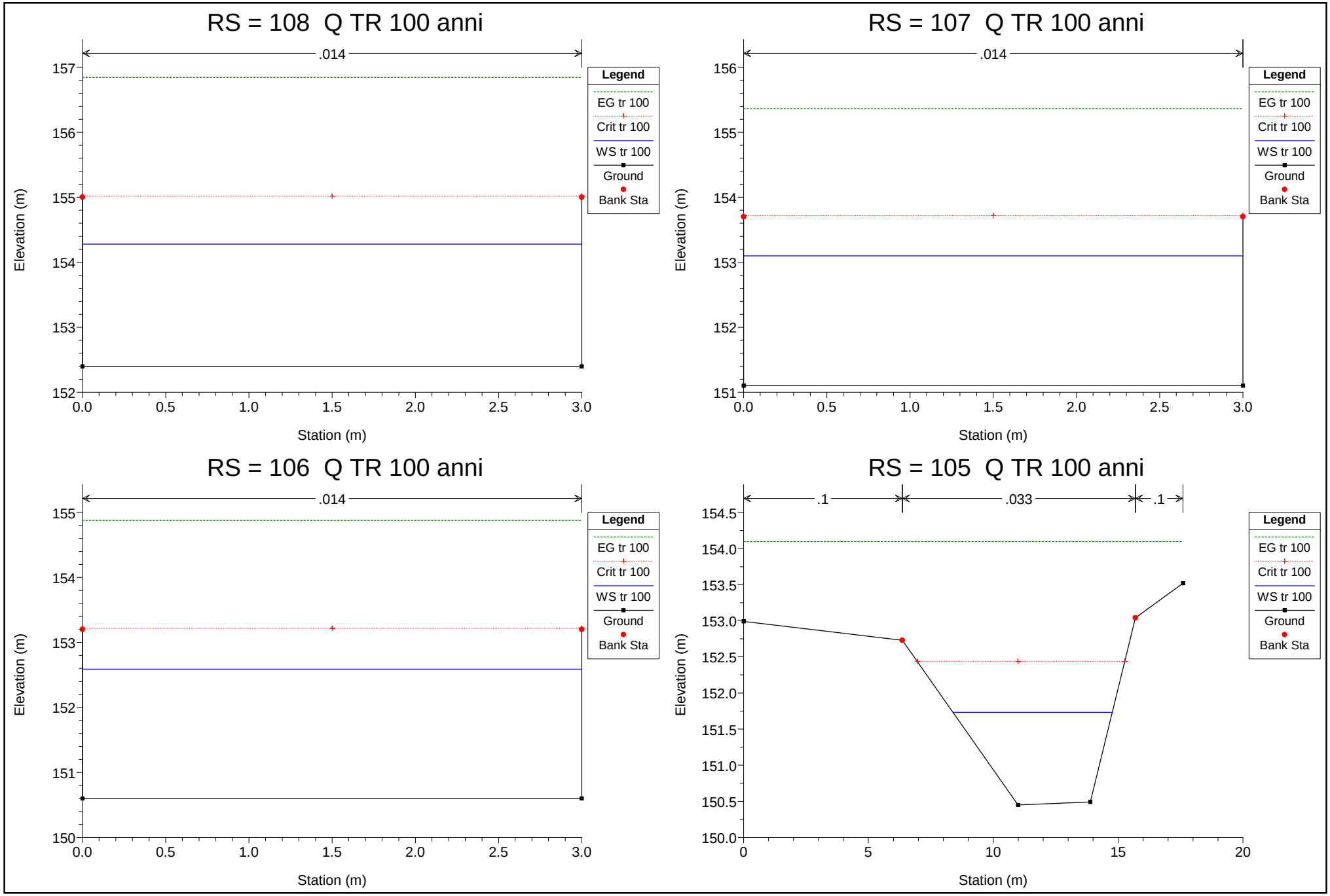

RS = 1001 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1000.9 BR Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
154
156
158
160
162
164
0
20
40
60
80
100
120

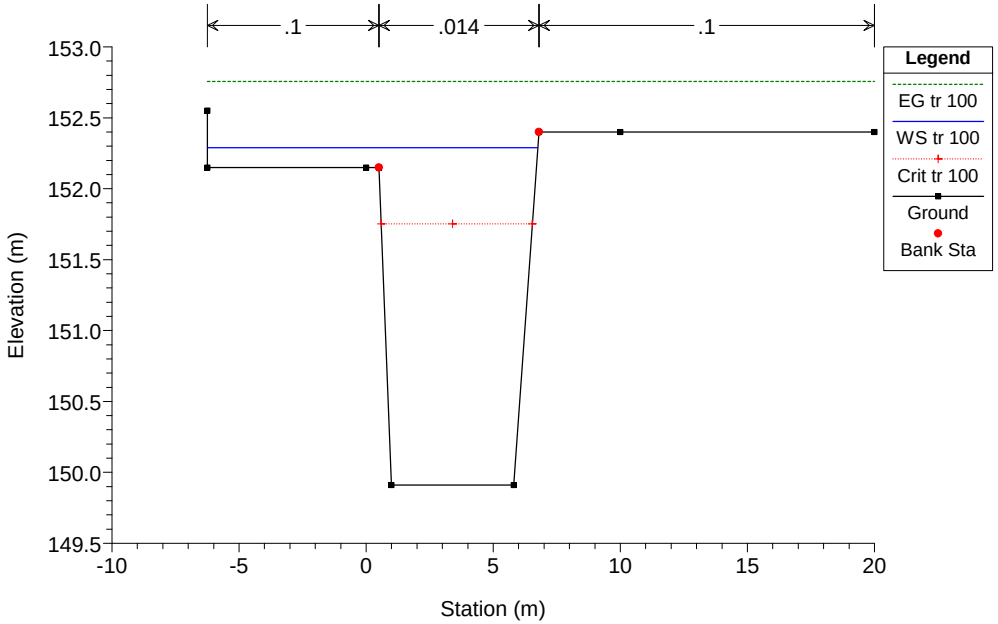

RS = 1000.9 BR Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
154
156
158
160
162
164
0
20
40
60
80
100
120


RS = 1000.8 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
154
156
158
160
162
164
0
20
40
60
80
100
120

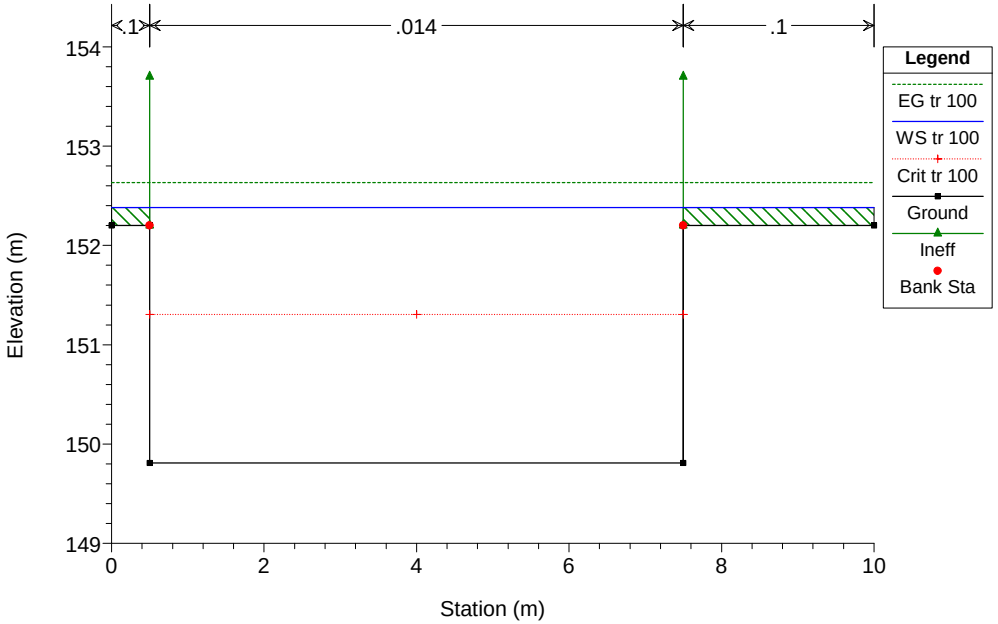

RS = 109 Q TR 100 anni
.014
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
153
154
155
156
157
158
0.0
0.5
1.0
1.5
2.0
2.5
3.0


RS = 108 Q TR 100 anni
.014
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 107 Q TR 100 anni
.014
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 106 Q TR 100 anni
.014
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 105 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
Station (m)

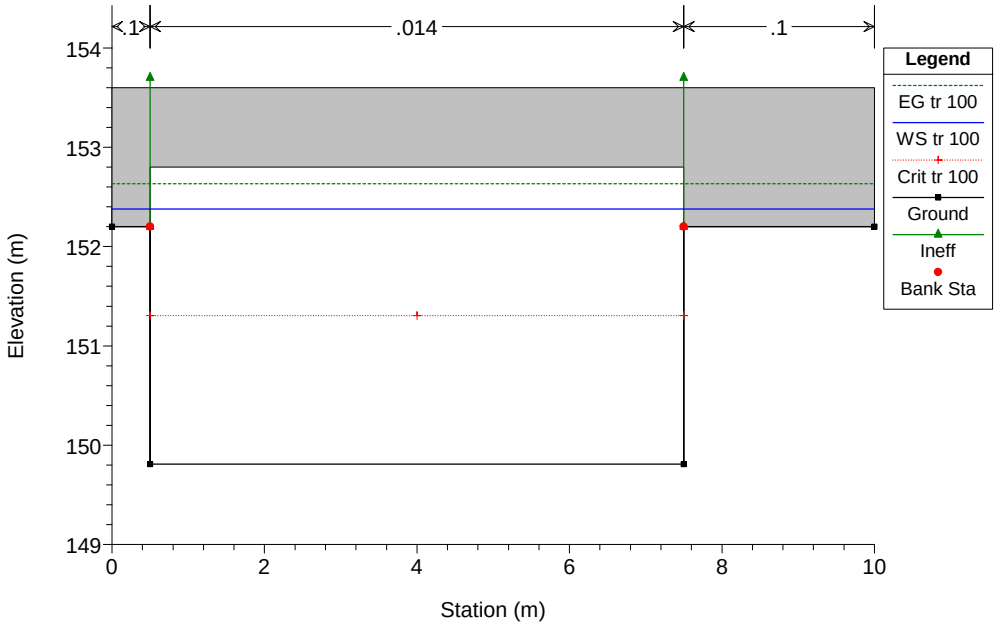
RS = 104 Q TR 100 anni



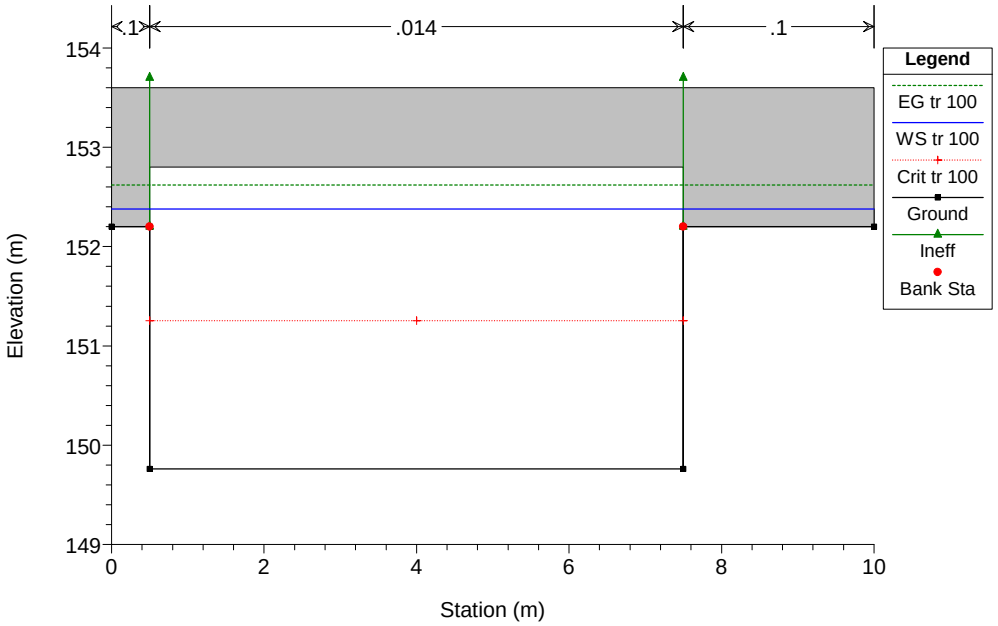
RS = 103.2 Q TR 100 anni

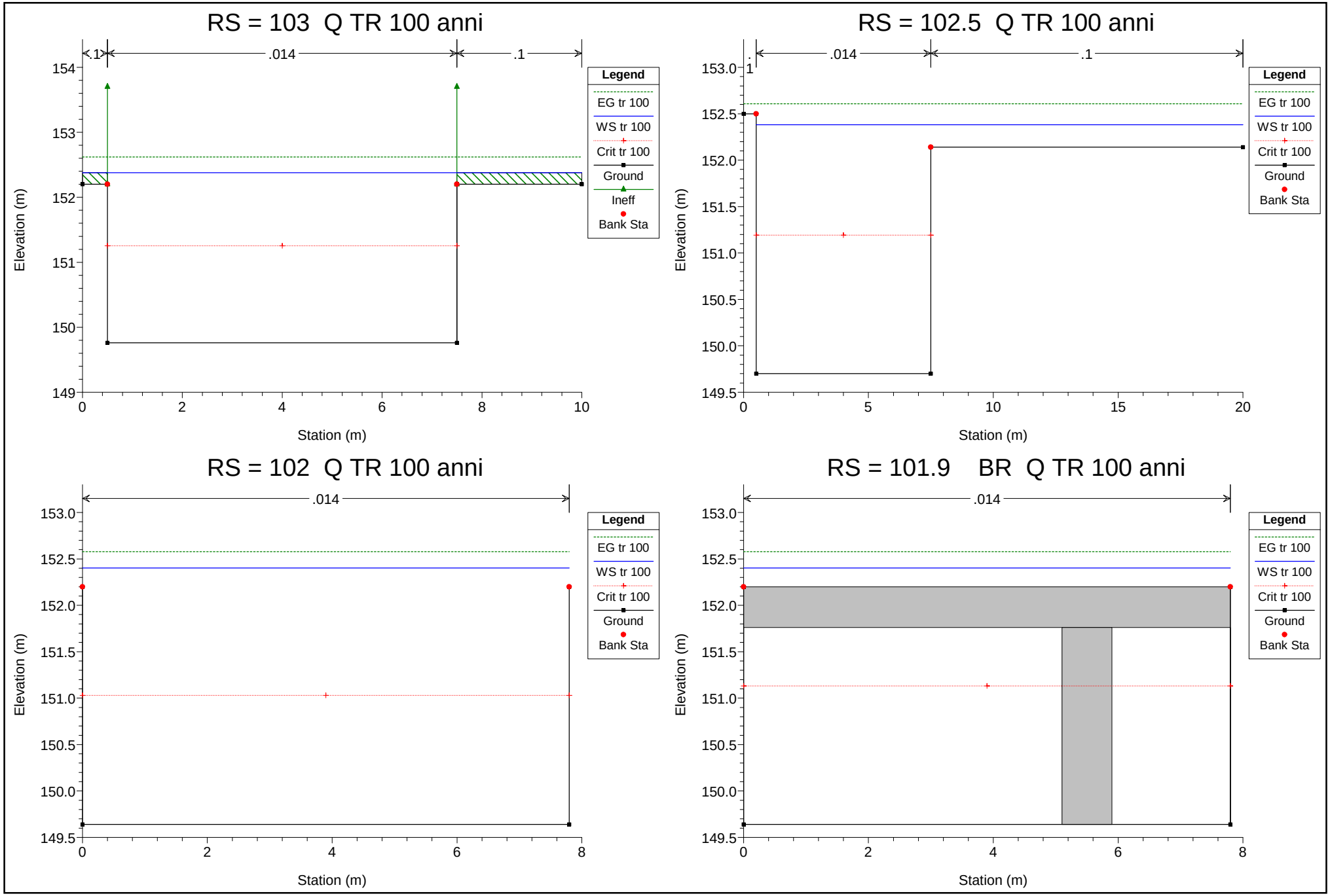


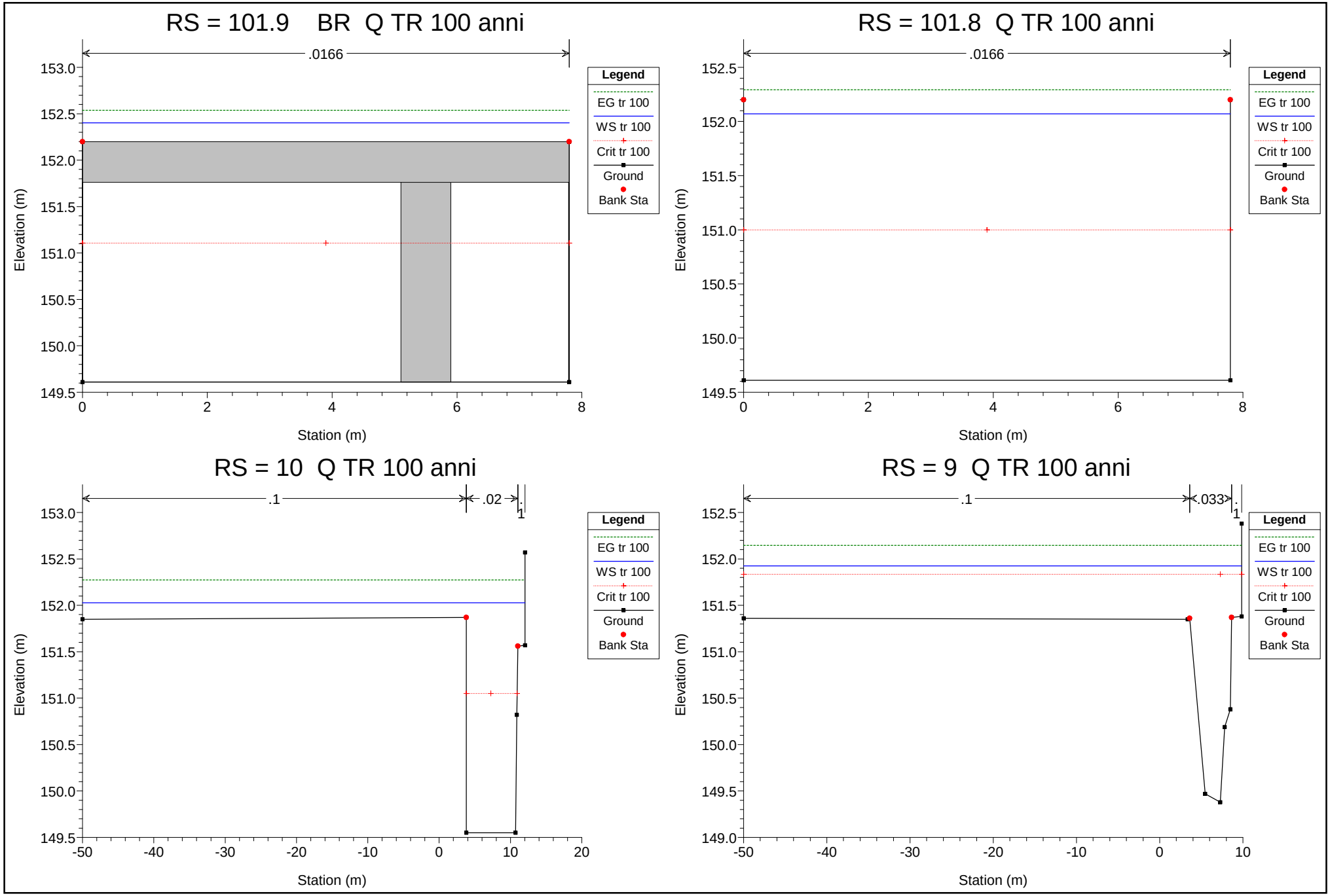
RS = 103.1 BR Q TR 100 anni



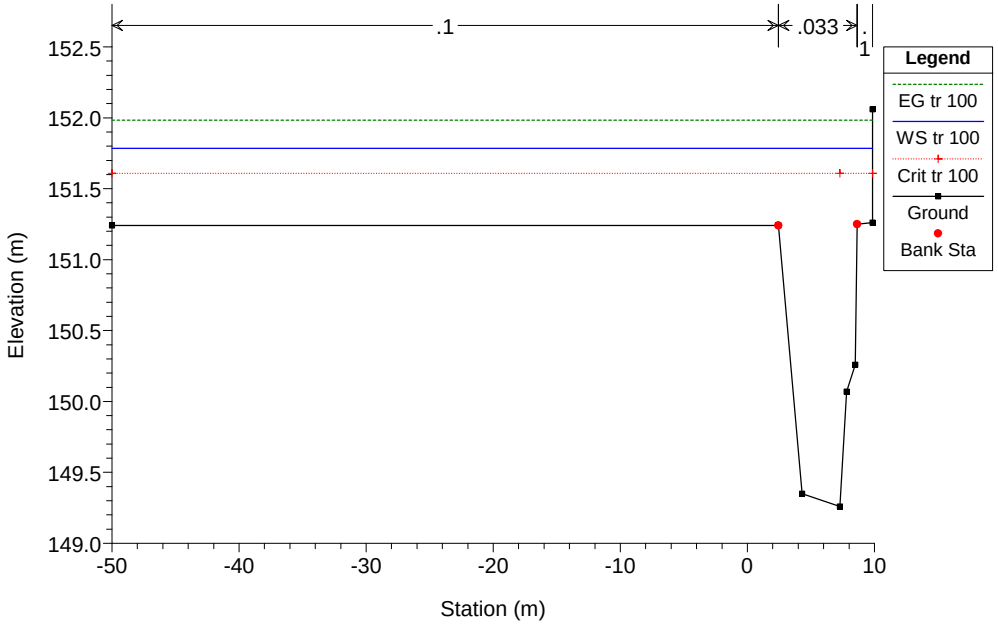
RS = 103.1 BR Q TR 100 anni



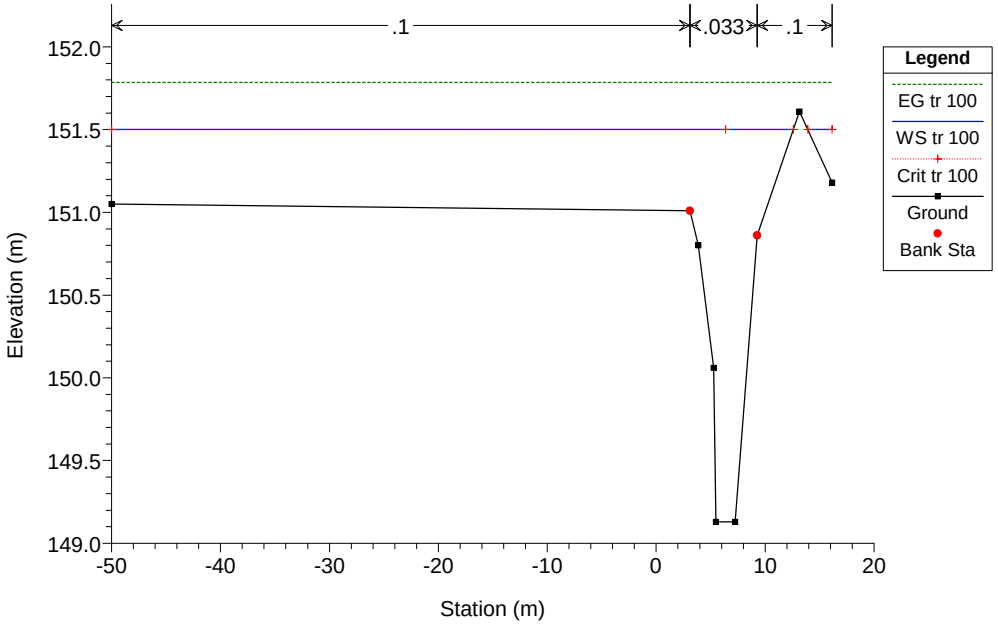

RS = 103 Q TR 100 anni
.1
.014
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 102.5 Q TR 100 anni
.1
.014
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 102 Q TR 100 anni
.014
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 101.9 BR Q TR 100 anni
.014
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 101.9 BR Q TR 100 anni
.0166
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 101.8 Q TR 100 anni
.0166
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 10 Q TR 100 anni
.1
.02
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 9 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)

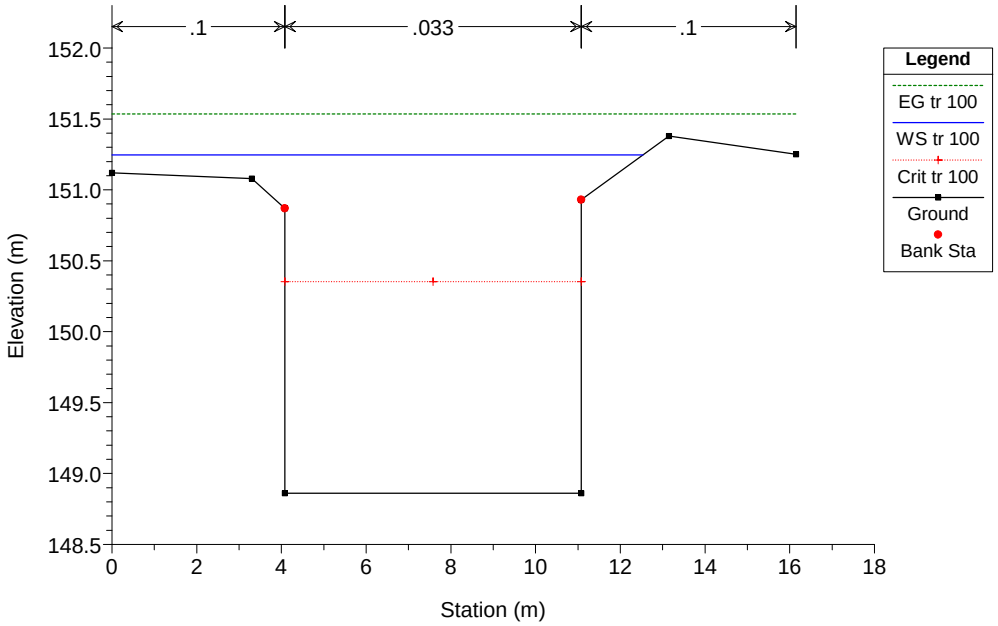
RS = 8.5 Q TR 100 anni



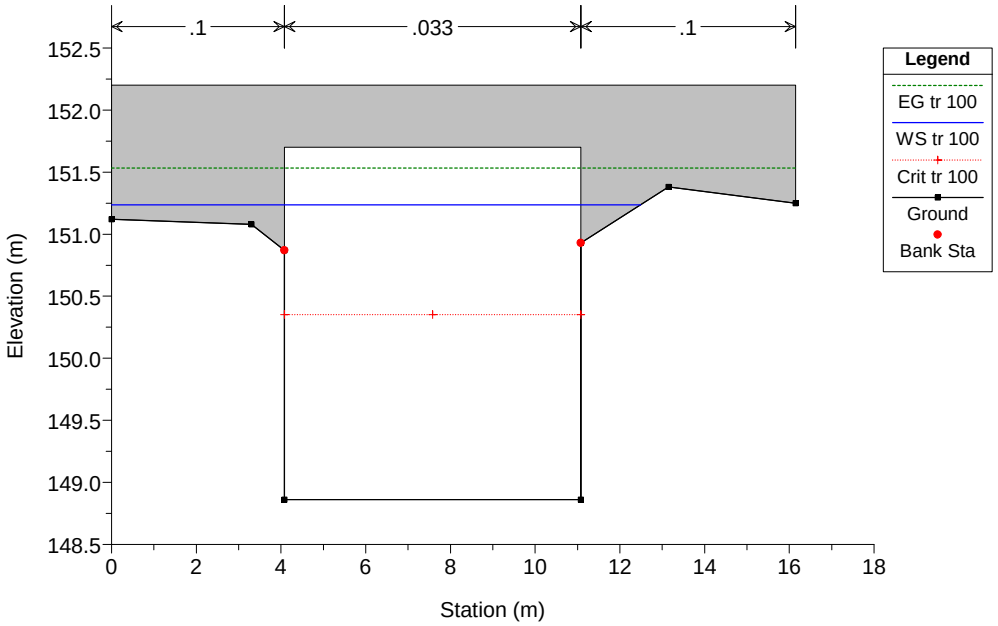
RS = 8.3 Q TR 100 anni

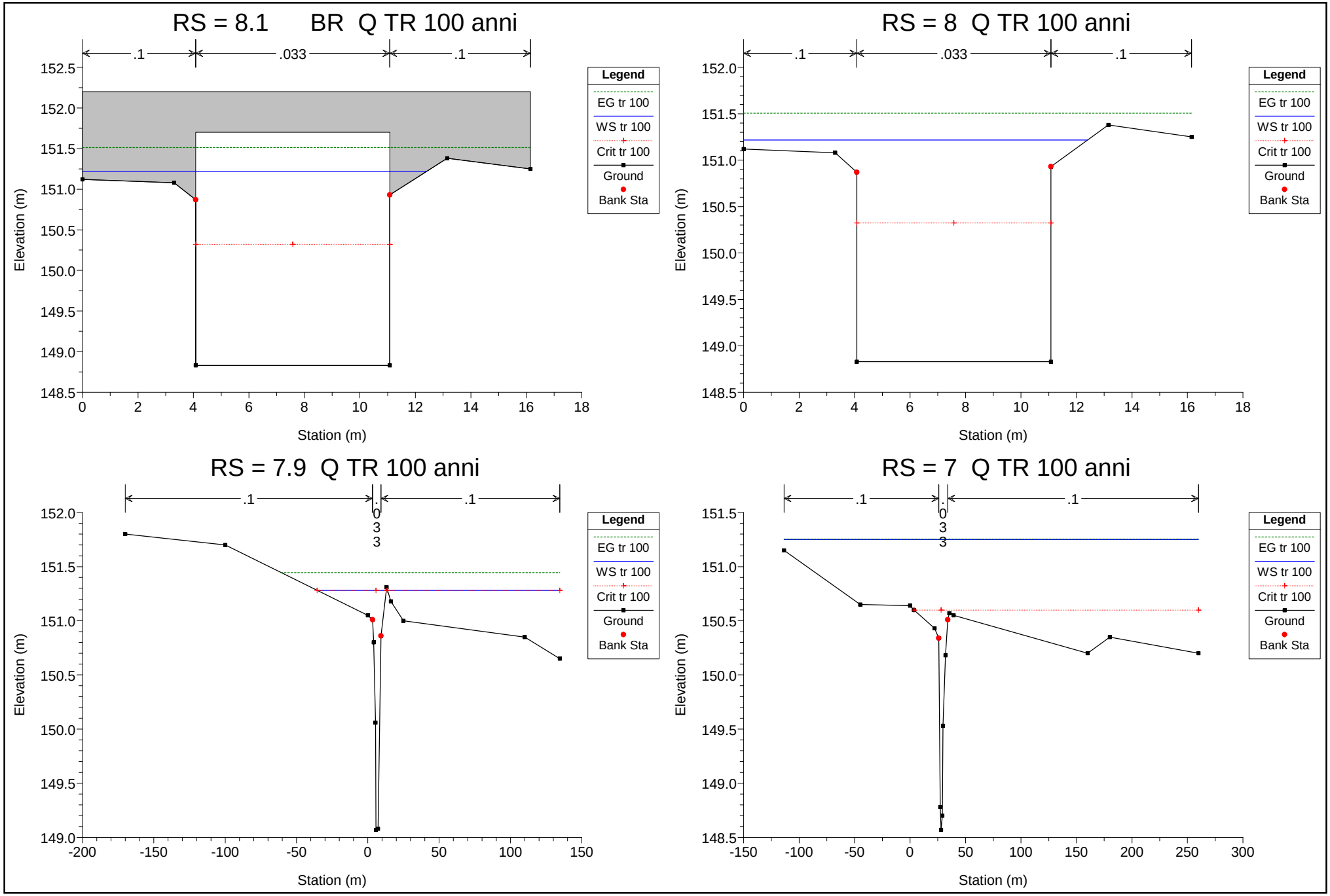


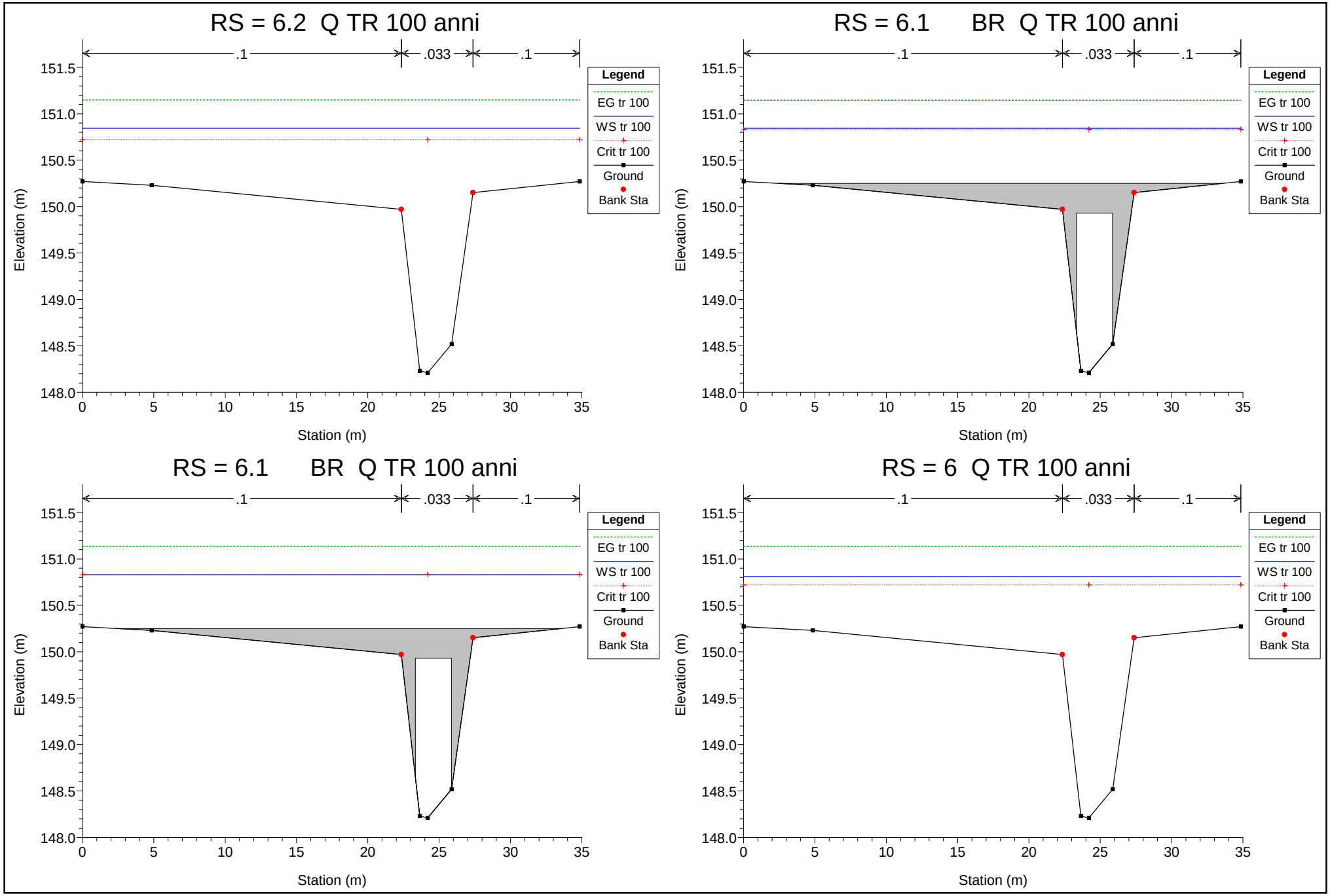
RS = 8.2 Q TR 100 anni

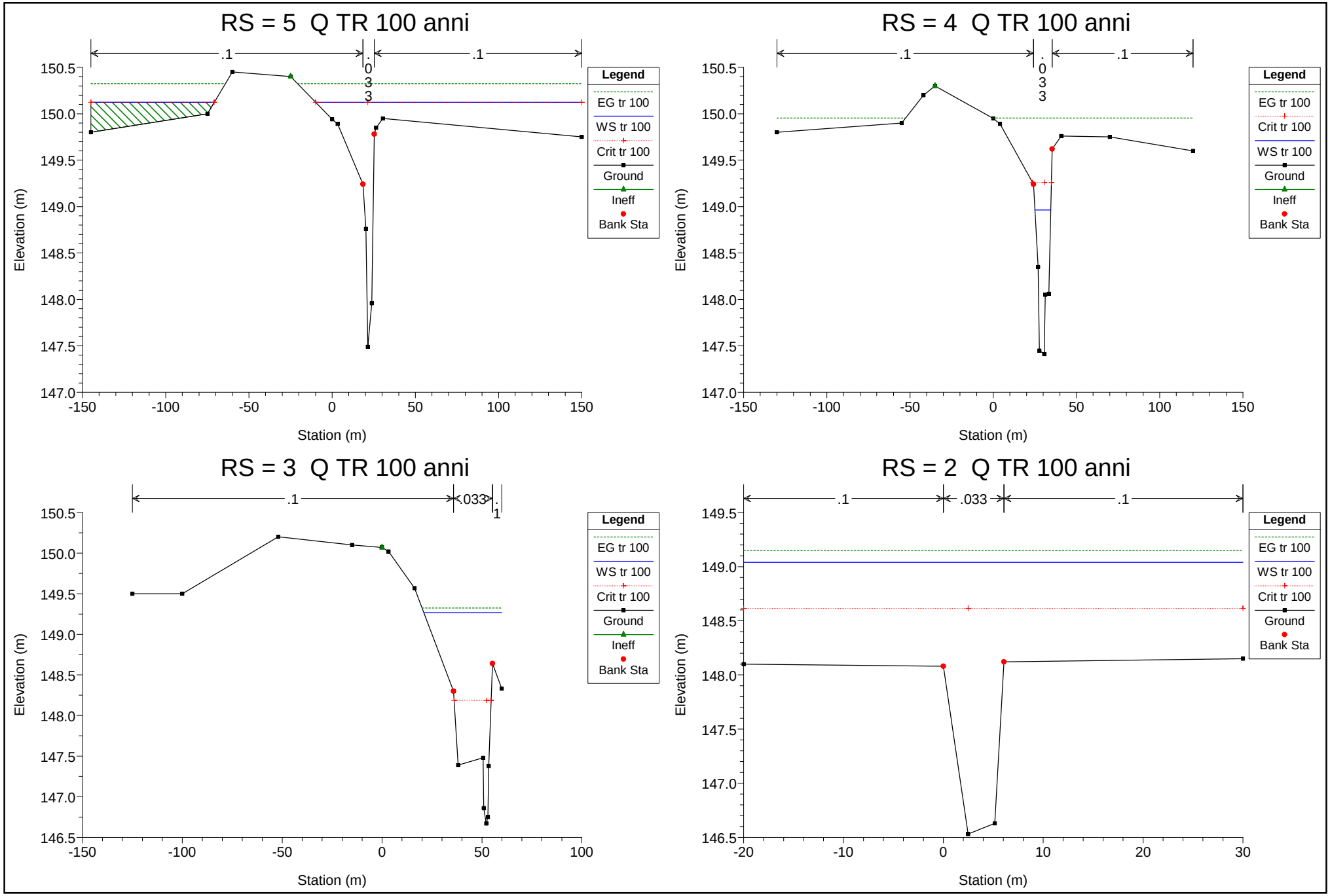


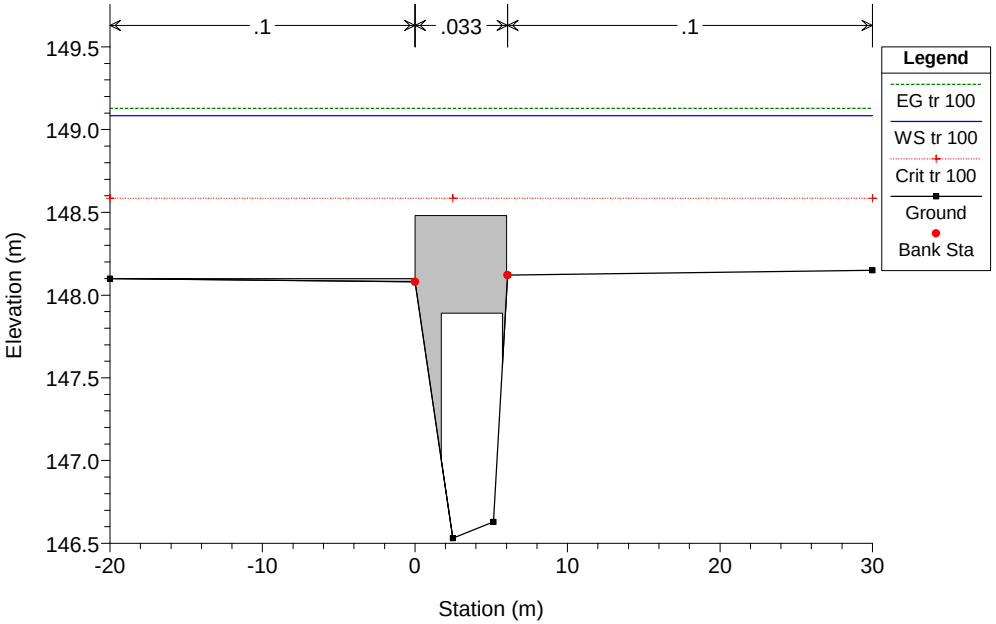
RS = 8.1 BR Q TR 100 anni

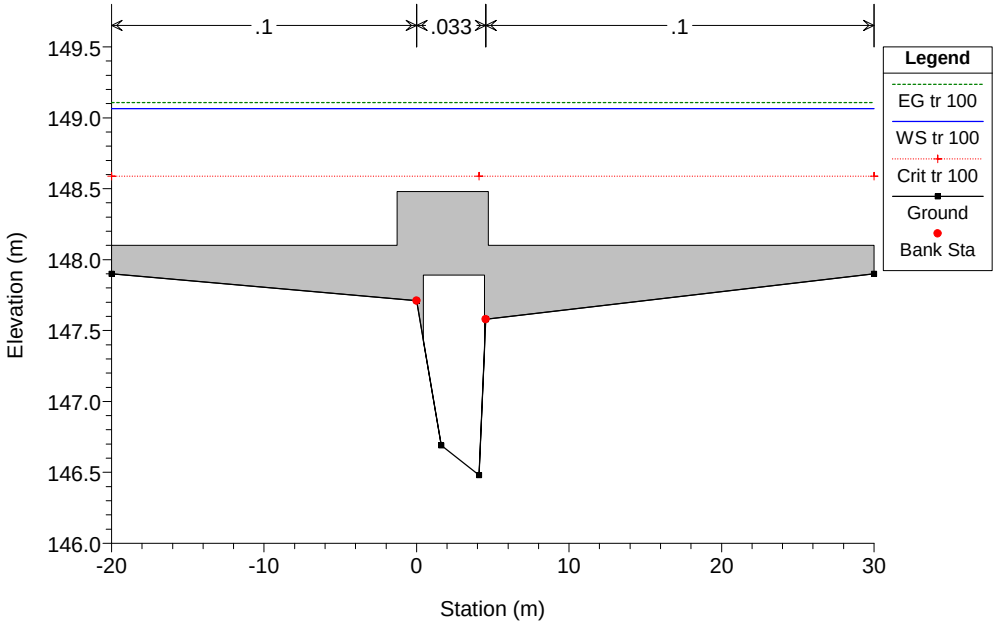


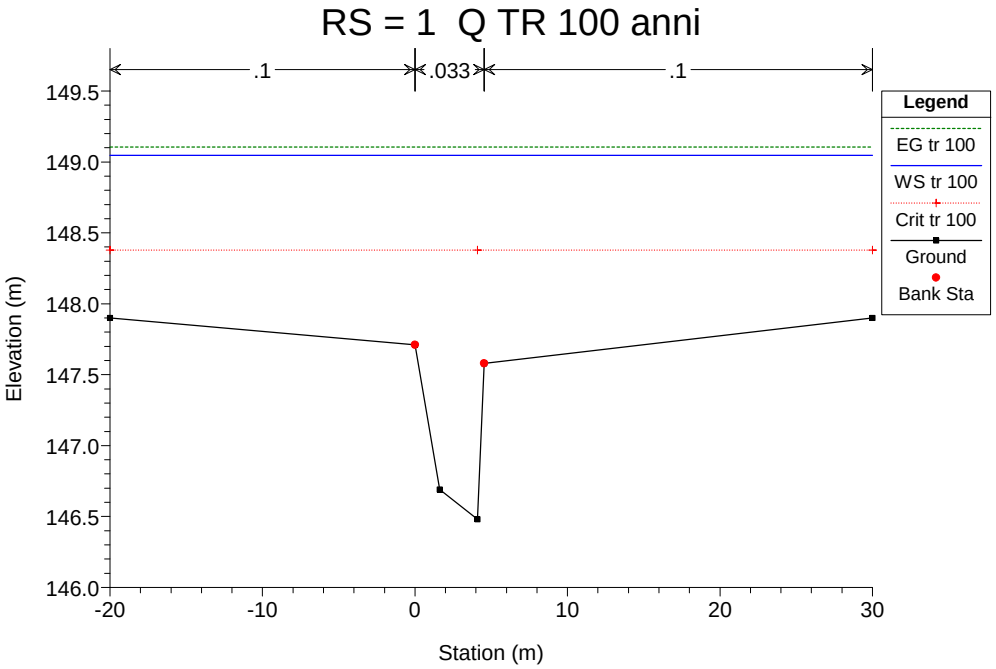

RS = 8.1 BR Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 8 Q TR 100 anni
RS = 7.9 Q TR 100 anni
RS = 7 Q TR 100 anni


RS = 6.2 Q TR 100 anni
RS = 6.1 BR Q TR 100 anni
RS = 6.1 BR Q TR 100 anni
RS = 6 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
0
5
10
15
20
25
30
35


RS = 5 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 4 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 3 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 2 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1.5 BR Q TR 100 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta


RS = 1.5 BR Q TR 100 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta


RS = 1 Q TR 100 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta

SIMULAZIONE 3

(Situazione attuale)

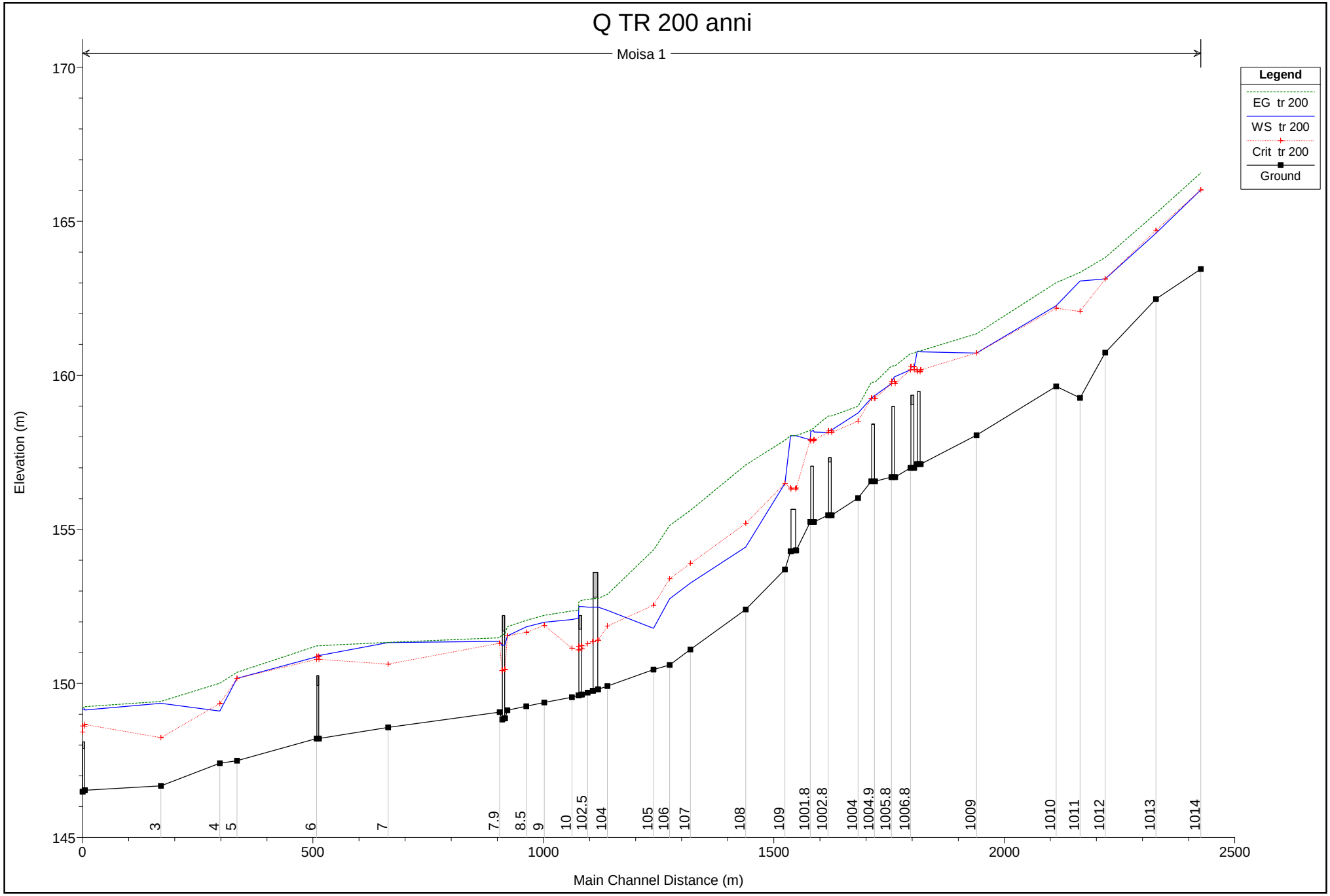
	portata al colmo Q_c m^3/s	tempo di ritorno anni
Rio Moisa a Valle di Magliano	44	200

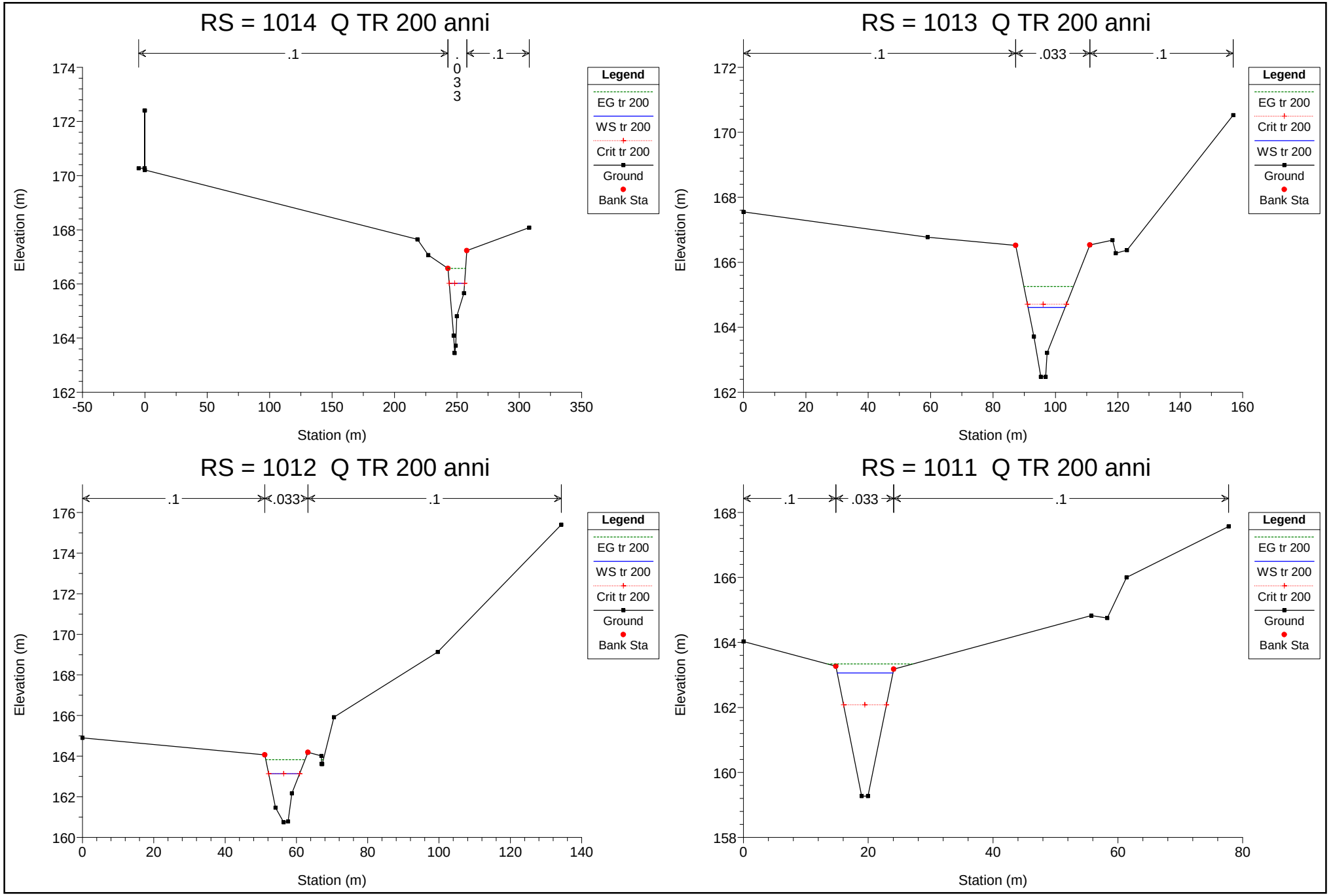
HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 200

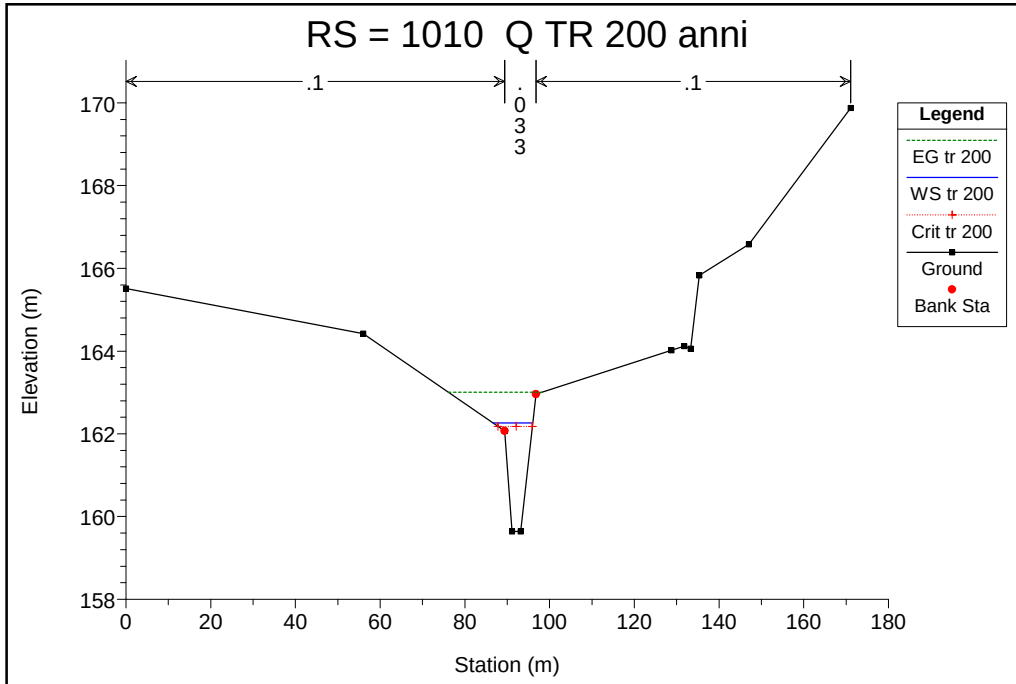
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1014	tr 200	44.00	163.45	166.02	166.02	166.58	0.012316	3.30	13.33	12.22	1.01
1	1013	tr 200	44.00	162.48	164.61	164.71	165.26	0.014705	3.56	12.37	11.89	1.11
1	1012	tr 200	44.00	160.74	163.13	163.13	163.83	0.012122	3.69	11.94	8.66	1.00
1	1011	tr 200	44.00	159.27	163.06	162.08	163.34	0.003259	2.34	18.81	8.92	0.51
1	1010	tr 200	44.00	159.64	162.26	162.18	163.01	0.011345	3.83	11.74	9.35	0.93
1	1009	tr 200	44.00	158.06	160.72	160.72	161.35	0.007894	3.67	18.98	25.18	0.82
1	1008	tr 200	44.00	157.12	160.77	160.18	160.80	0.001162	1.30	95.42	85.47	0.22
1	1007.9		Bridge									
1	1007.8	tr 200	44.00	157.12	160.74	160.17	160.78	0.001234	1.33	93.33	85.47	0.23
1	1007	tr 200	44.00	157.00	160.28	160.18	160.72	0.008046	3.34	24.76	23.86	0.61
1	1006.9		Bridge									
1	1006.8	tr 200	44.00	157.00	160.18	160.18	160.71	0.009717	3.59	22.40	23.86	0.67
1	1006	tr 200	44.00	156.70	159.96	159.73	160.31	0.007310	3.00	27.35	24.86	0.54
1	1005.9		Bridge									
1	1005.8	tr 200	44.00	156.70	159.73	159.73	160.30	0.011594	3.64	19.98	20.41	0.68
1	1005	tr 200	44.00	156.56	159.35	159.26	159.78	0.008684	3.35	25.09	23.91	0.66
1	1004.9		Bridge									
1	1004.8	tr 200	44.00	156.56	159.26	159.26	159.77	0.010587	3.61	22.82	23.90	0.72
1	1004	tr 200	44.00	156.02	158.78	158.51	158.99	0.003729	2.62	45.43	54.40	0.58
1	1003	tr 200	44.00	155.46	158.23	158.15	158.69	0.007172	3.33	26.15	35.64	0.66
1	1002.9		Bridge									
1	1002.8	tr 200	44.00	155.46	158.15	158.15	158.68	0.008440	3.54	23.46	33.12	0.71
1	1002	tr 200	44.00	155.24	158.16	157.91	158.30	0.003166	2.19	54.30	62.91	0.42
1	1001.9		Bridge									
1	1001.8	tr 200	44.00	155.24	157.91	157.91	158.21	0.006479	2.95	38.39	62.91	0.59
1	1001	tr 200	44.00	154.32	158.04	156.35	158.04	0.000107	0.53	226.34	105.11	0.09
1	1000.9		Bridge									
1	1000.8	tr 200	44.00	154.29	158.04	156.35	158.04	0.000107	0.53	226.23	105.11	0.09
1	109	tr 200	44.00	153.70	156.50	156.50	157.90	0.005565	5.24	8.39	3.00	1.00
1	108	tr 200	44.00	152.40	154.43	155.20	157.09	0.012469	7.23	6.09	3.00	1.62
1	107	tr 200	44.00	151.10	153.25	153.90	155.62	0.010712	6.81	6.46	3.00	1.48
1	106	tr 200	44.00	150.60	152.74	153.40	155.13	0.010844	6.84	6.43	3.00	1.49
1	105	tr 200	44.00	150.45	151.79	152.54	154.33	0.069942	7.07	6.22	6.53	2.31
1	104	tr 200	44.00	149.91	152.37	151.86	152.89	0.001267	3.19	15.23	13.04	0.69
1	103.2	tr 200	44.00	149.81	152.47	151.40	152.76	0.000592	2.36	18.65	10.00	0.46
1	103.1		Bridge									
1	103	tr 200	44.00	149.76	152.47	151.35	152.75	0.000564	2.32	18.98	10.00	0.45
1	102.5	tr 200	44.00	149.70	152.48	151.29	152.73	0.000530	2.24	23.62	19.50	0.43
1	102	tr 200	44.00	149.64	152.50	151.12	152.70	0.000392	1.97	22.29	7.80	0.37
1	101.9		Bridge									

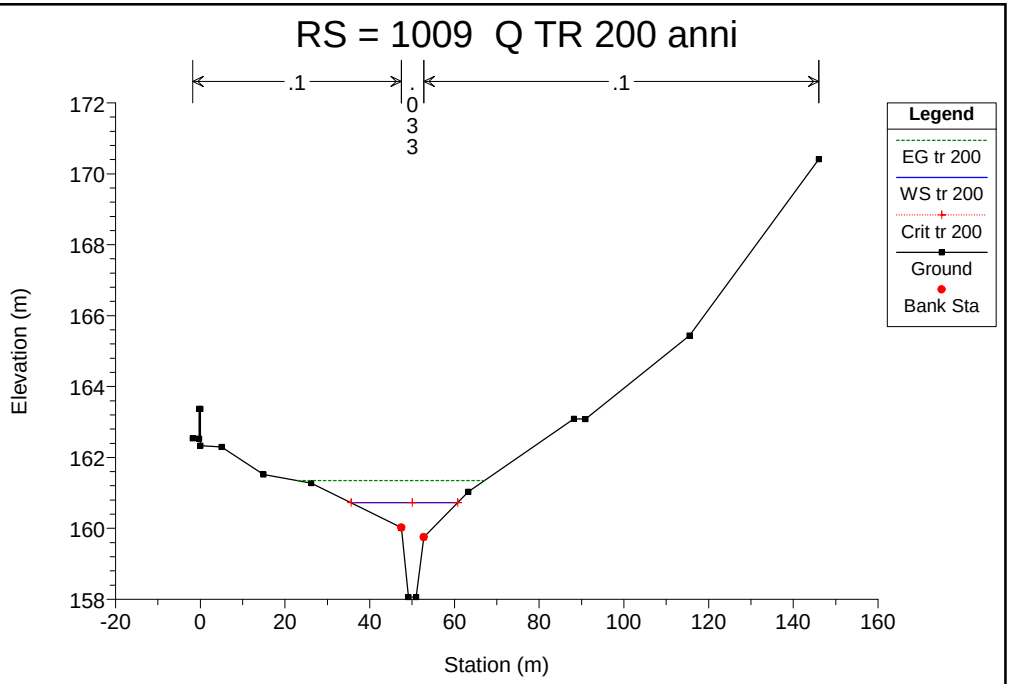
HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 200 (Continued)

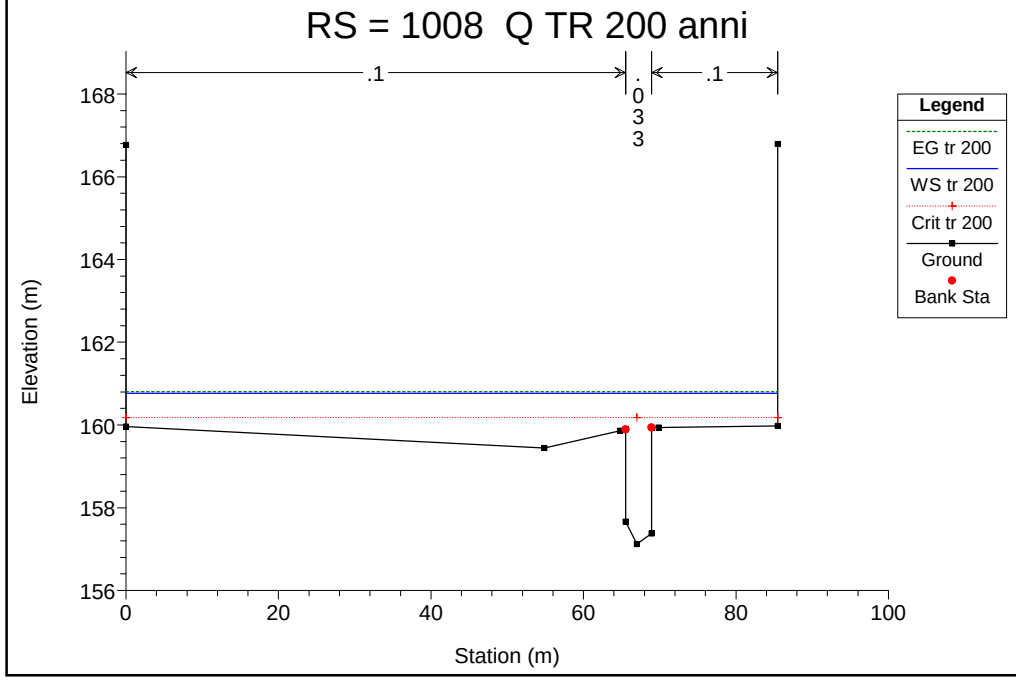
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	101.8	tr 200	44.00	149.61	152.11	151.09	152.37	0.000798	2.25	19.52	7.80	0.45
1	10	tr 200	44.00	149.55	152.08	151.14	152.35	0.001210	2.37	30.05	62.03	0.48
1	9	tr 200	44.00	149.38	151.99	151.89	152.21	0.004821	2.64	44.66	59.85	0.60
1	8.5	tr 200	44.00	149.26	151.84	151.66	152.04	0.003483	2.39	44.88	59.85	0.53
1	8.3	tr 200	44.00	149.13	151.54	151.54	151.84	0.006866	2.94	38.85	65.36	0.74
1	8.2	tr 200	44.00	148.86	151.27	150.45	151.61	0.004212	2.60	17.88	13.00	0.54
1	8.1		Bridge									
1	8	tr 200	44.00	148.83	151.23	150.42	151.57	0.004307	2.61	17.60	12.45	0.54
1	7.9	tr 200	44.00	149.07	151.36	151.31	151.48	0.004927	2.27	73.33	182.83	0.61
1	7	tr 200	44.00	148.57	151.33	150.62	151.33	0.000172	0.52	319.13	373.50	0.13
1	6.2	tr 200	44.00	148.21	150.90	150.78	151.22	0.005276	2.97	32.77	34.85	0.66
1	6.1		Bridge									
1	6	tr 200	44.00	148.21	150.86	150.78	151.21	0.005778	3.07	31.48	34.85	0.69
1	5	tr 200	44.00	147.49	150.16	150.16	150.36	0.003852	2.42	61.75	237.22	0.58
1	4	tr 200	44.00	147.41	149.10	149.34	150.01	0.021448	4.22	10.44	10.13	1.33
1	3	tr 200	44.00	146.67	149.36	148.24	149.42	0.000642	1.13	49.66	40.39	0.26
1	2	tr 200	44.00	146.53	149.13	148.67	149.24	0.001886	1.92	57.68	50.00	0.42
1	1.5		Bridge									
1	1	tr 200	44.00	146.48	149.14	148.42	149.20	0.001301	1.66	72.72	50.00	0.35

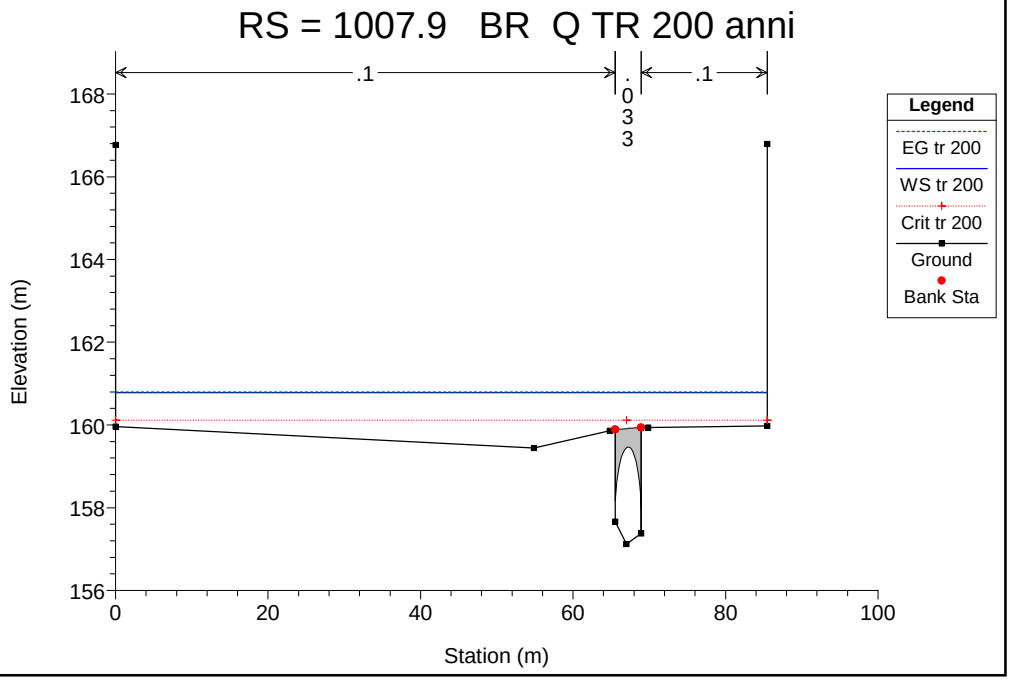

Q TR 200 anni
Moisa 1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Elevation (m)
Main Channel Distance (m)
170
165
160
155
150
145
0
500
1000
1500
2000
2500
3
4
5
6
7
7.9
8.5
9
10
102.5
104
105
106
107
108
109
1001.8
1002.8
1004
1004.9
1005.8
1006.8
1009
1010
1011
1012
1013
1014

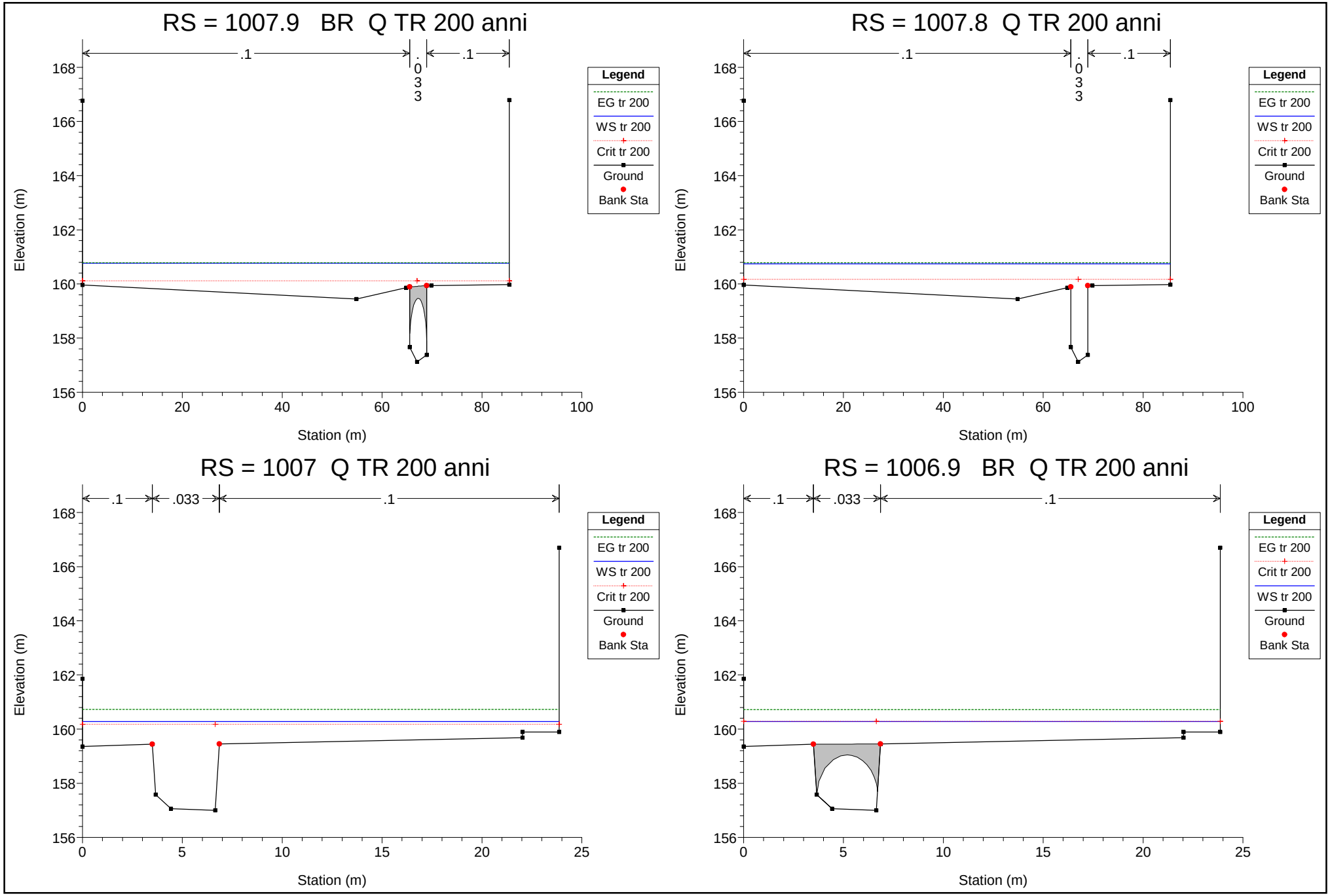

RS = 1014 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1013 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
Crit tr 200
WS tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1012 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1011 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)

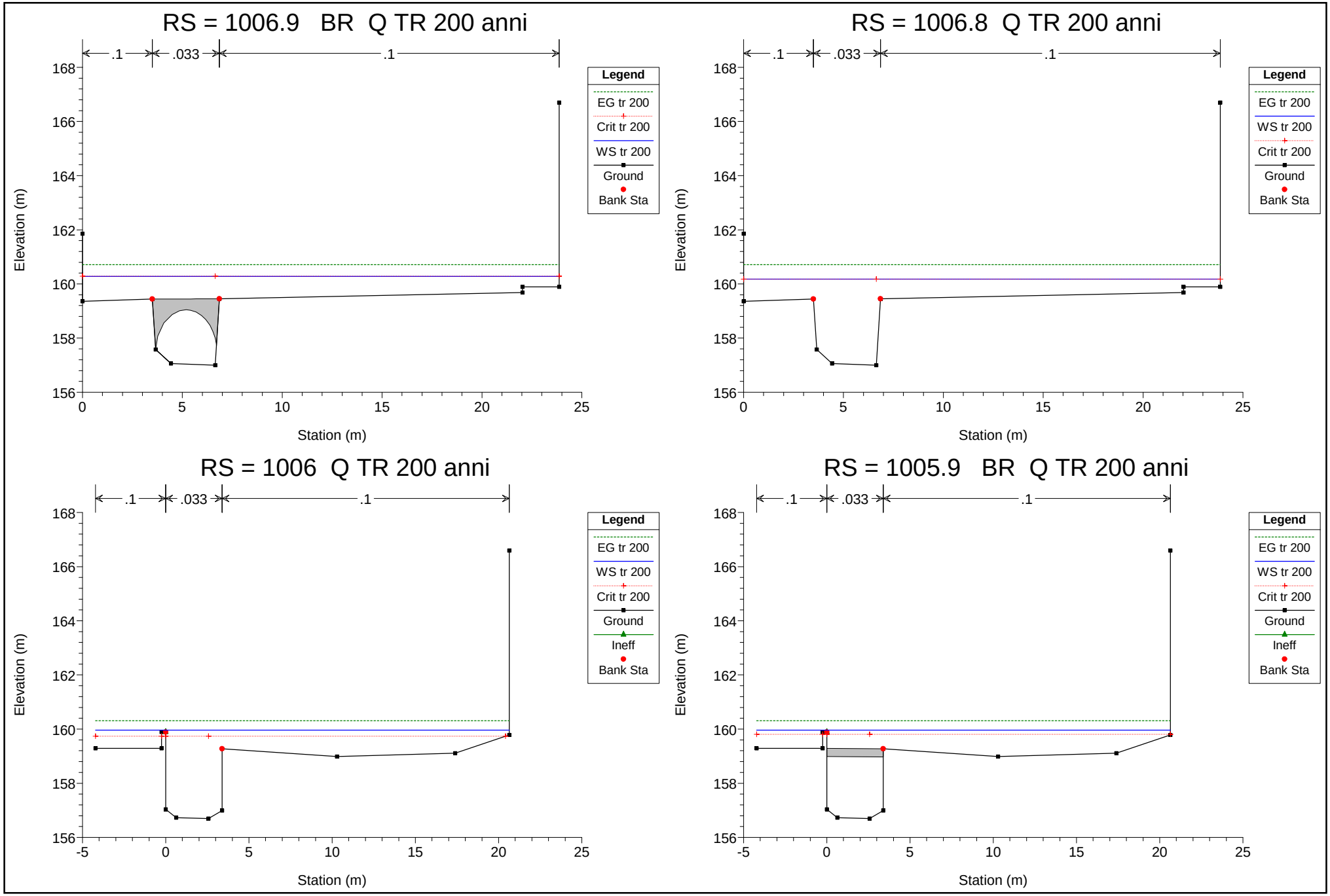

RS = 1010 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1009 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)

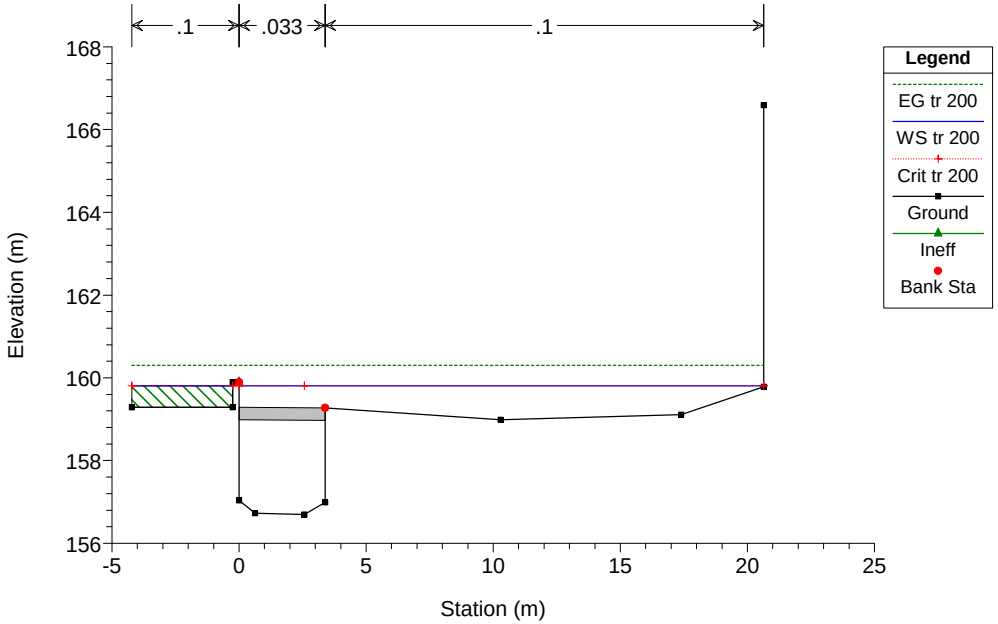

RS = 1008 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1007.9 BR Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)

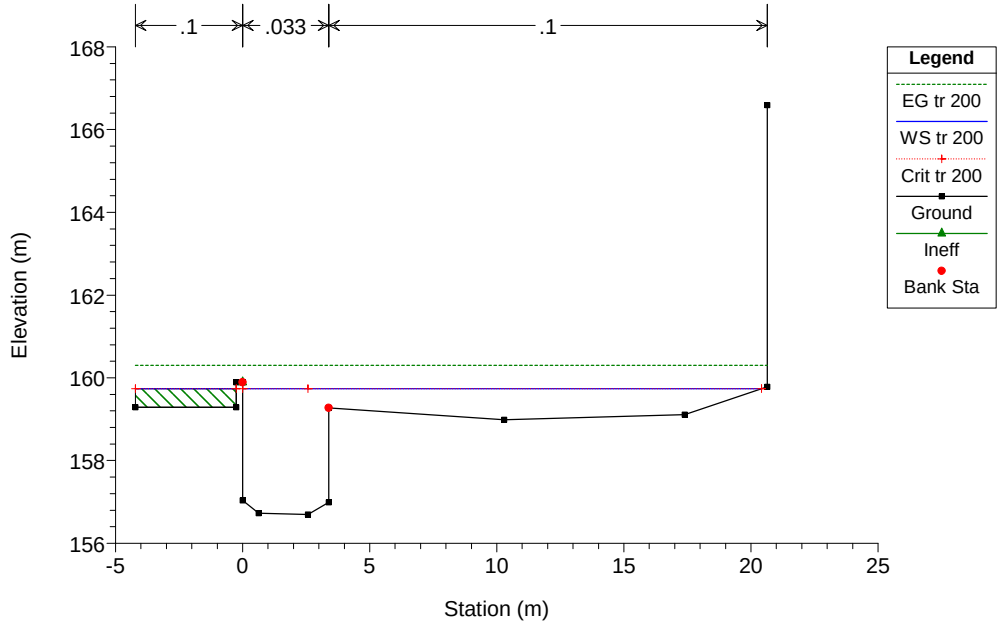

RS = 1007.9 BR Q TR 200 anni
RS = 1007.8 Q TR 200 anni
RS = 1007 Q TR 200 anni
RS = 1006.9 BR Q TR 200 anni
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
.1
.033


RS = 1006.9 BR Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
Crit tr 200
WS tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1006.8 Q TR 200 anni
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1006 Q TR 200 anni
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 1005.9 BR Q TR 200 anni
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)

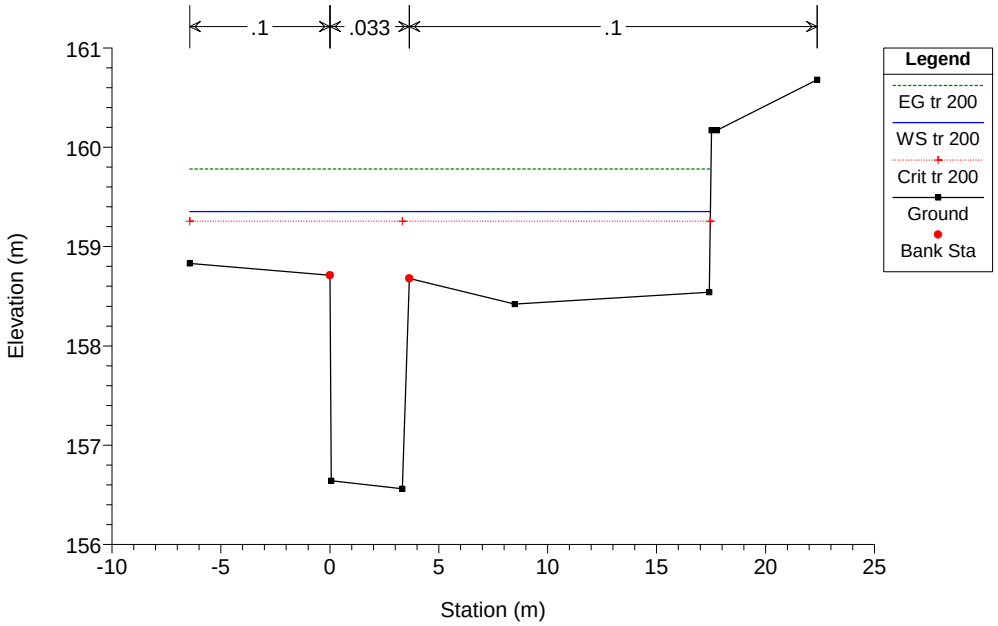
RS = 1005.9 BR Q TR 200 anni



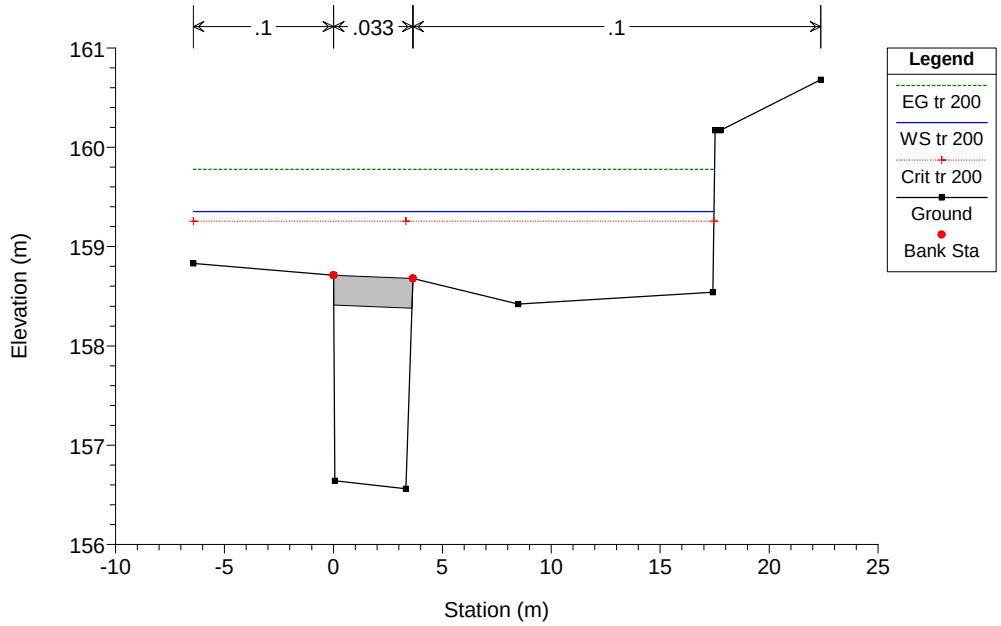
RS = 1005.8 Q TR 200 anni

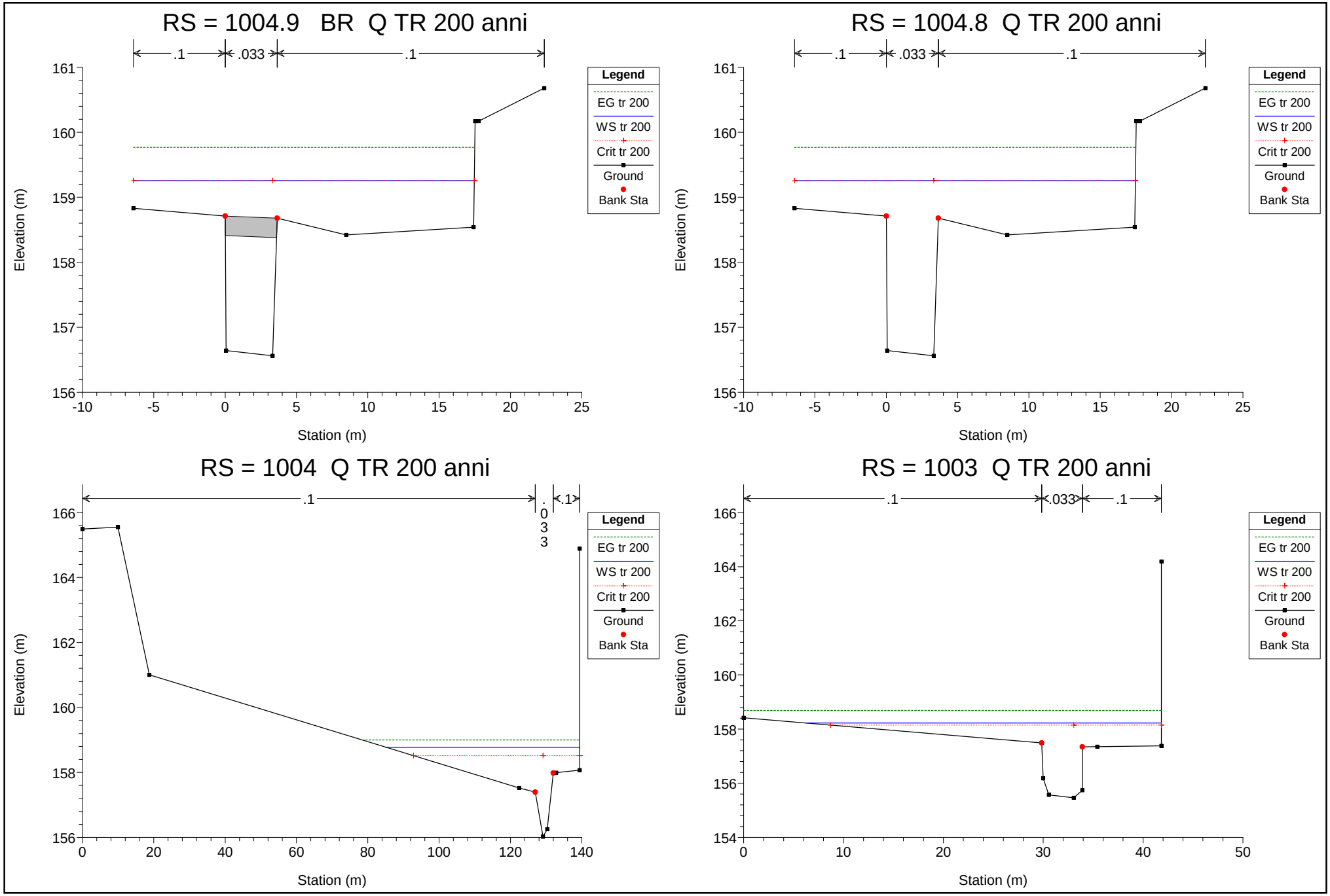


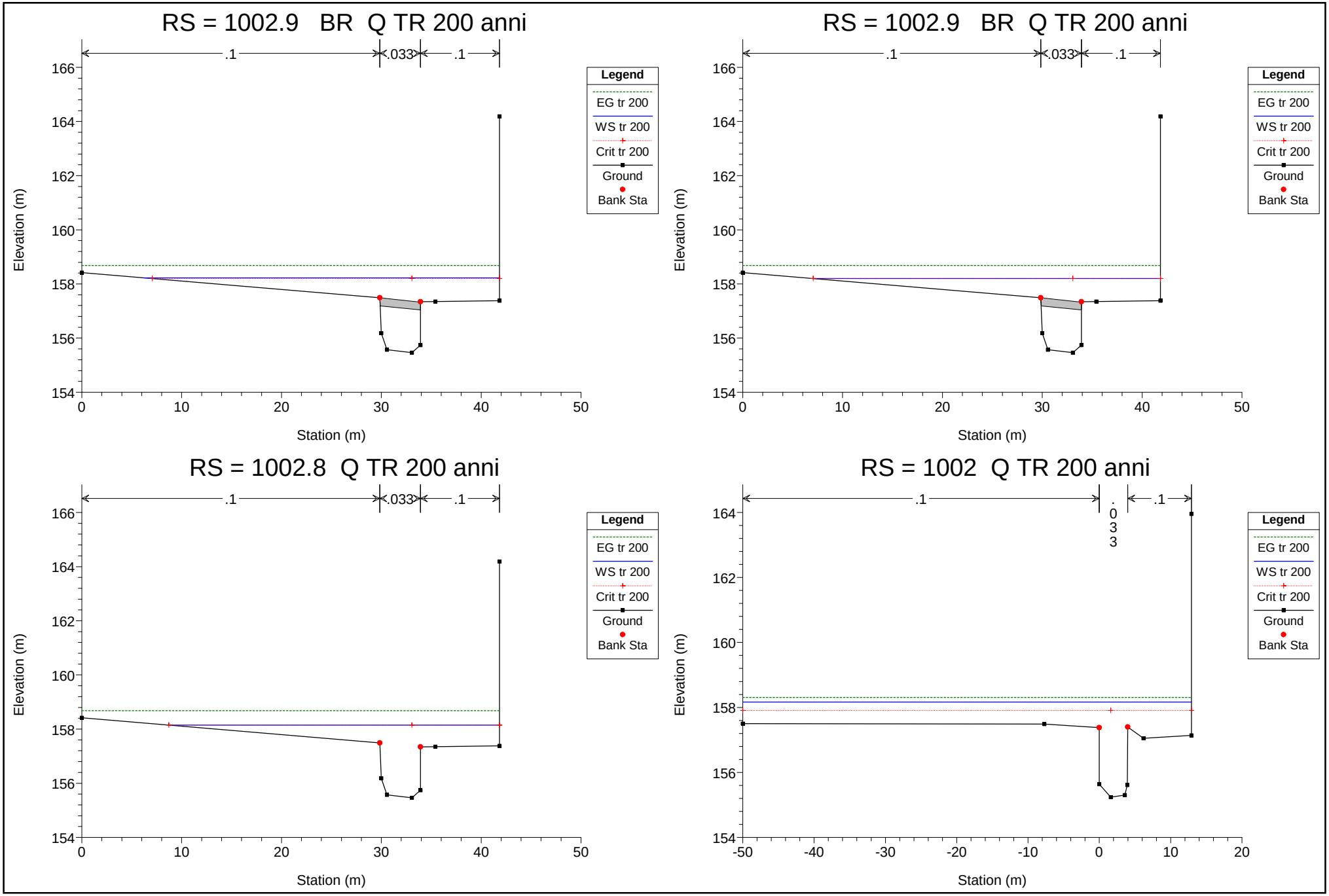
RS = 1005 Q TR 200 anni

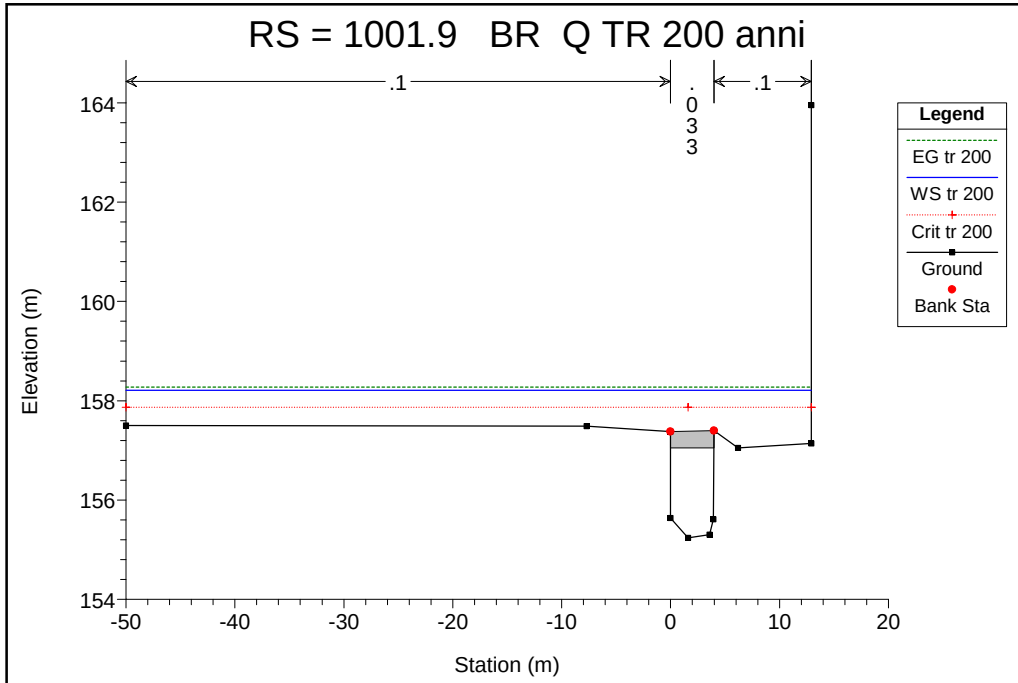


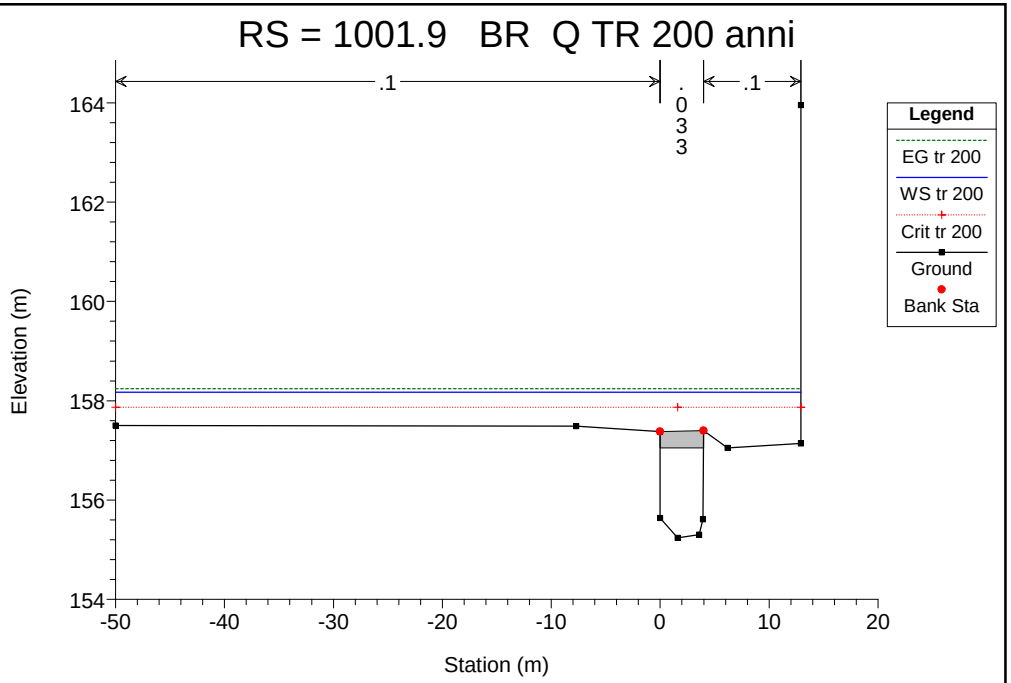
RS = 1004.9 BR Q TR 200 anni

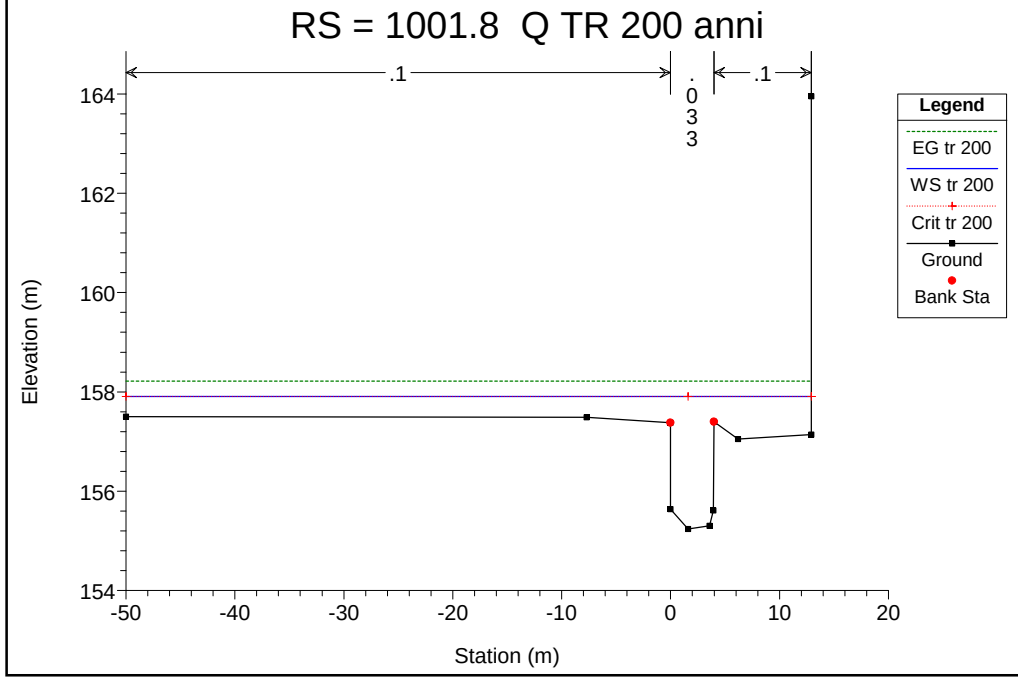


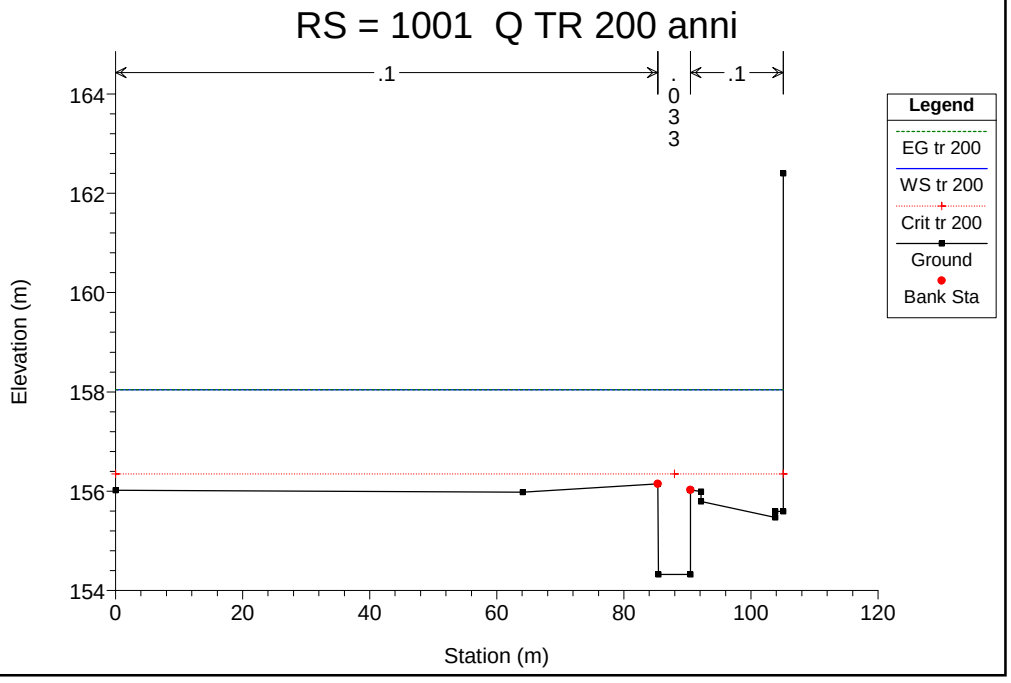

RS = 1004.9 BR Q TR 200 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
RS = 1004.8 Q TR 200 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
RS = 1004 Q TR 200 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
RS = 1003 Q TR 200 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta

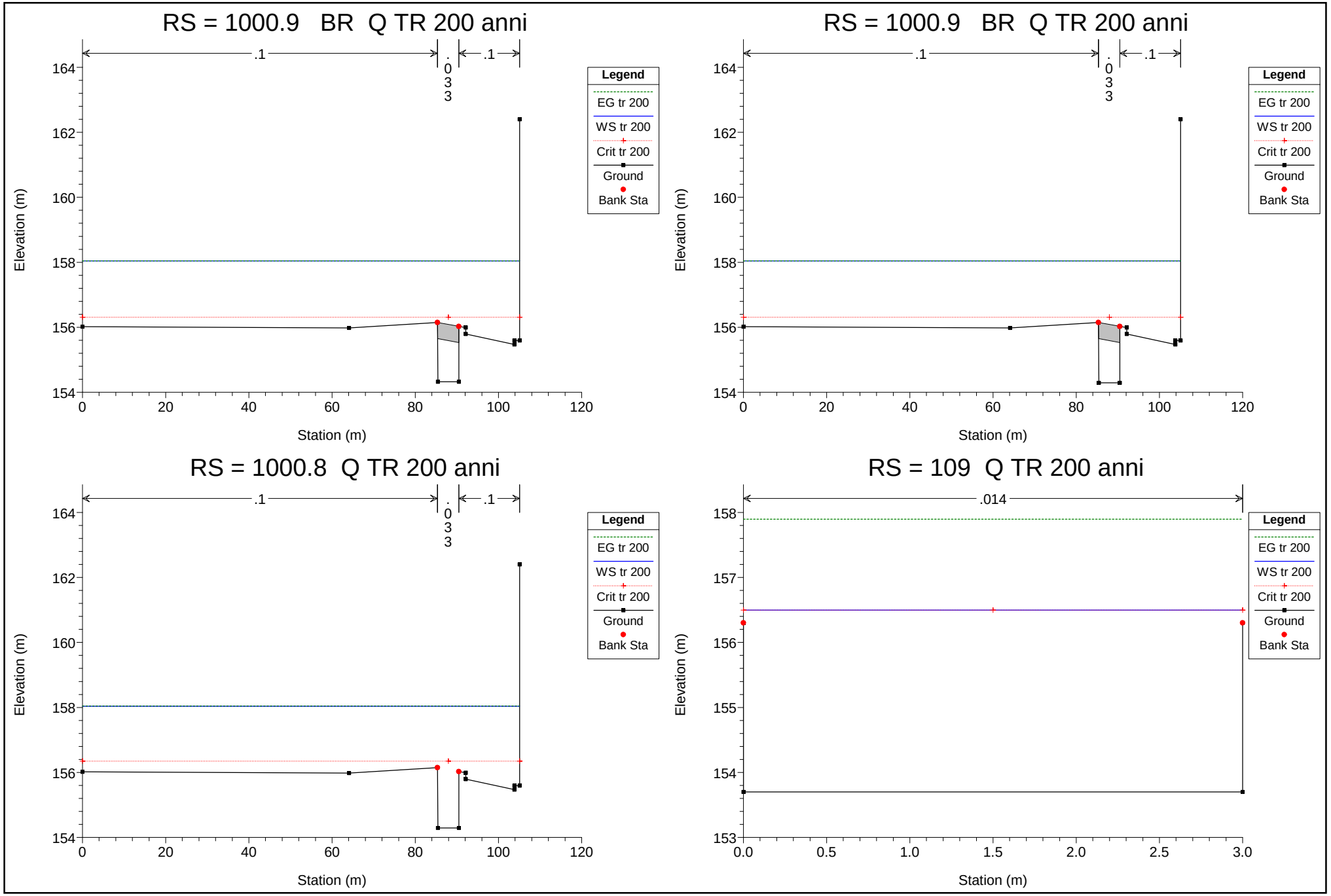

RS = 1002.9 BR Q TR 200 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
RS = 1002.9 BR Q TR 200 anni
RS = 1002.8 Q TR 200 anni
RS = 1002 Q TR 200 anni
.033

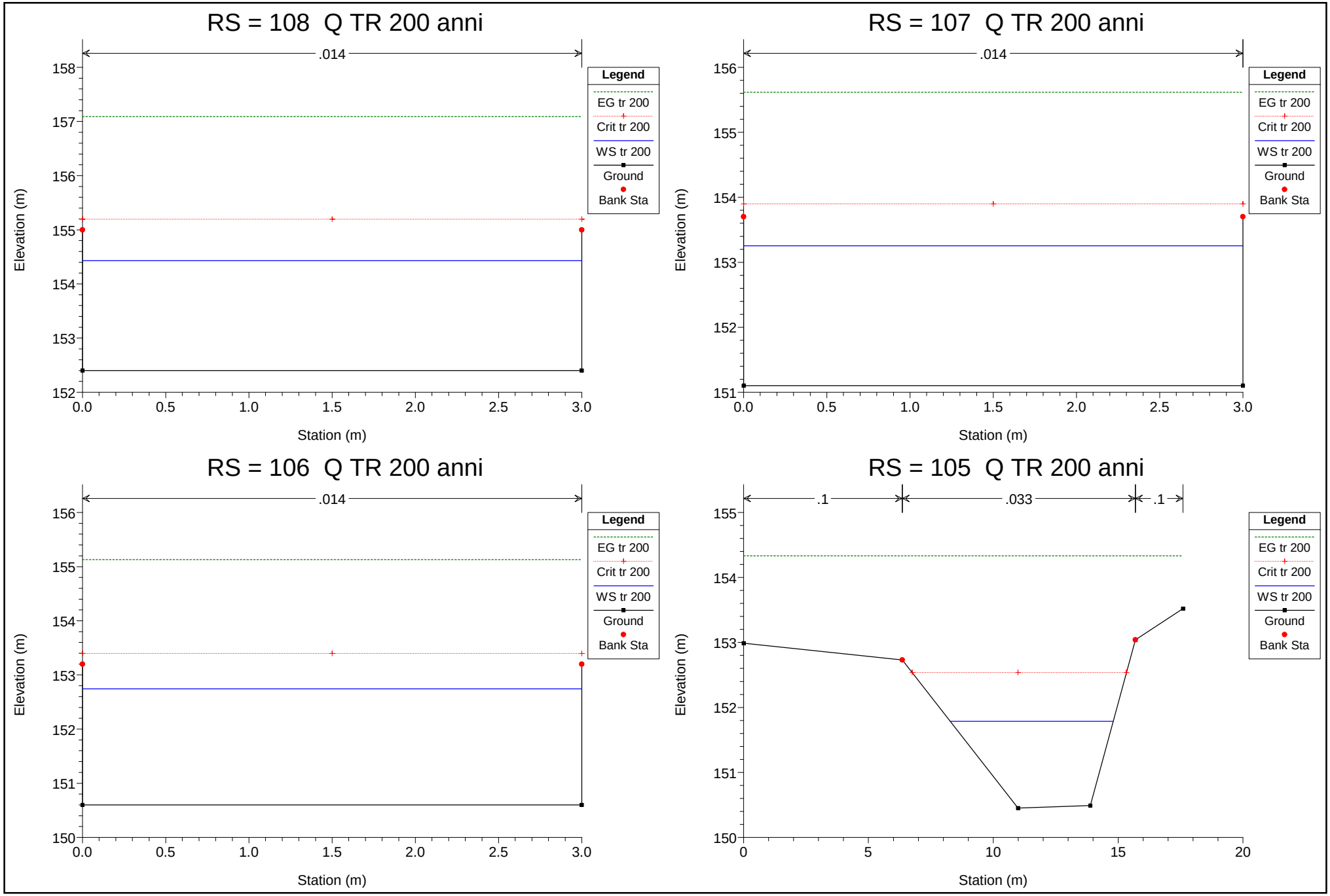

RS = 1001.9 BR Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
-50
-40
-30
-20
-10
0
10
20


RS = 1001.9 BR Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
-50
-40
-30
-20
-10
0
10
20

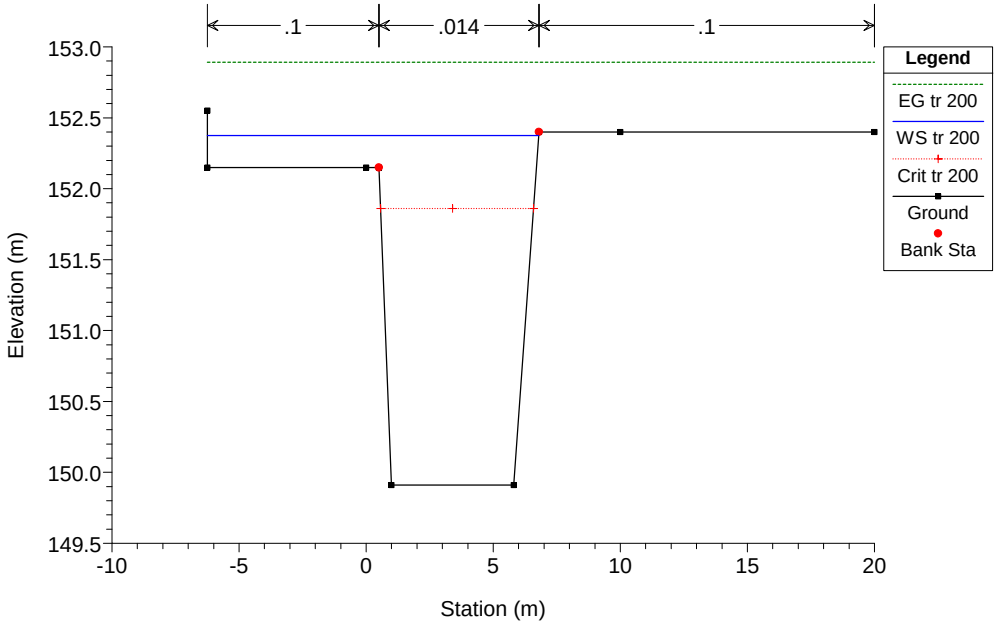

RS = 1001.8 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
-50
-40
-30
-20
-10
0
10
20


RS = 1001 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
0
20
40
60
80
100
120

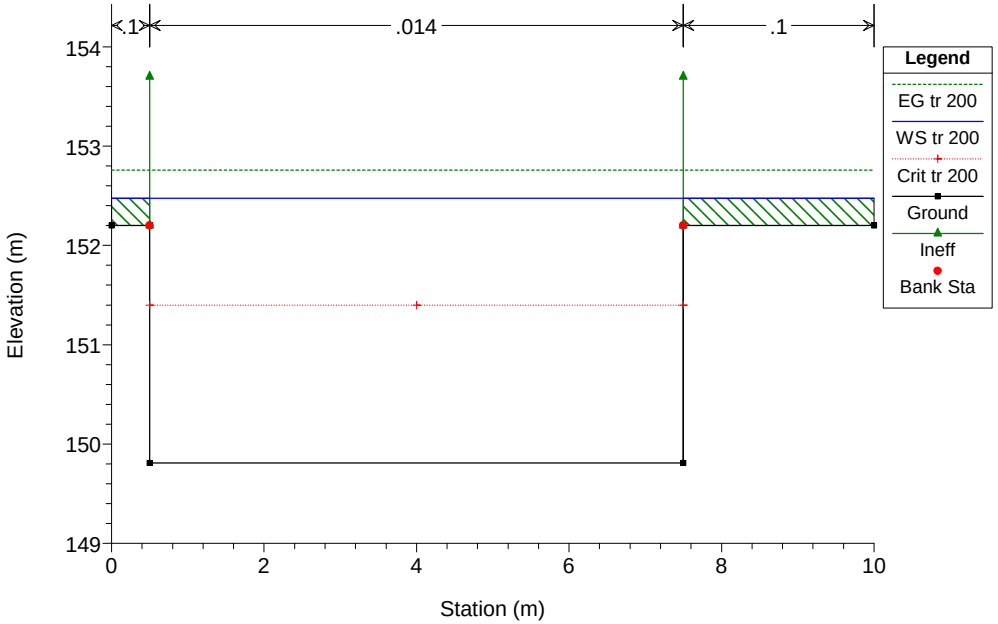

RS = 1000.9 BR Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1000.9 BR Q TR 200 anni
RS = 1000.8 Q TR 200 anni
RS = 109 Q TR 200 anni
.014


RS = 108 Q TR 200 anni
.014
Legend
EG tr 200
Crit tr 200
WS tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 107 Q TR 200 anni
.014
Legend
EG tr 200
Crit tr 200
WS tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 106 Q TR 200 anni
.014
Legend
EG tr 200
Crit tr 200
WS tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 105 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
Crit tr 200
WS tr 200
Ground
Bank Sta
Elevation (m)
Station (m)

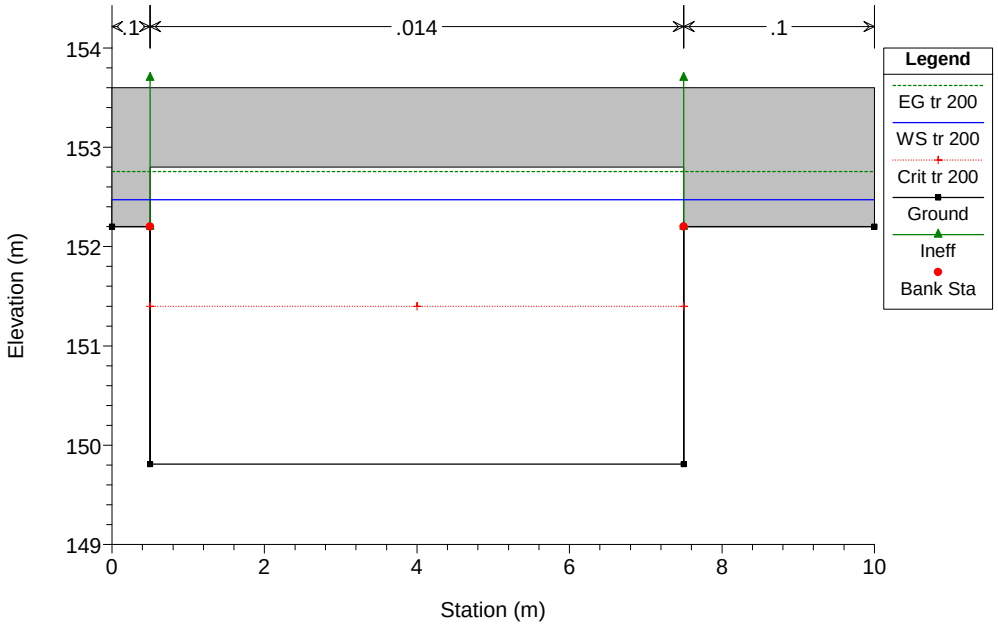
RS = 104 Q TR 200 anni



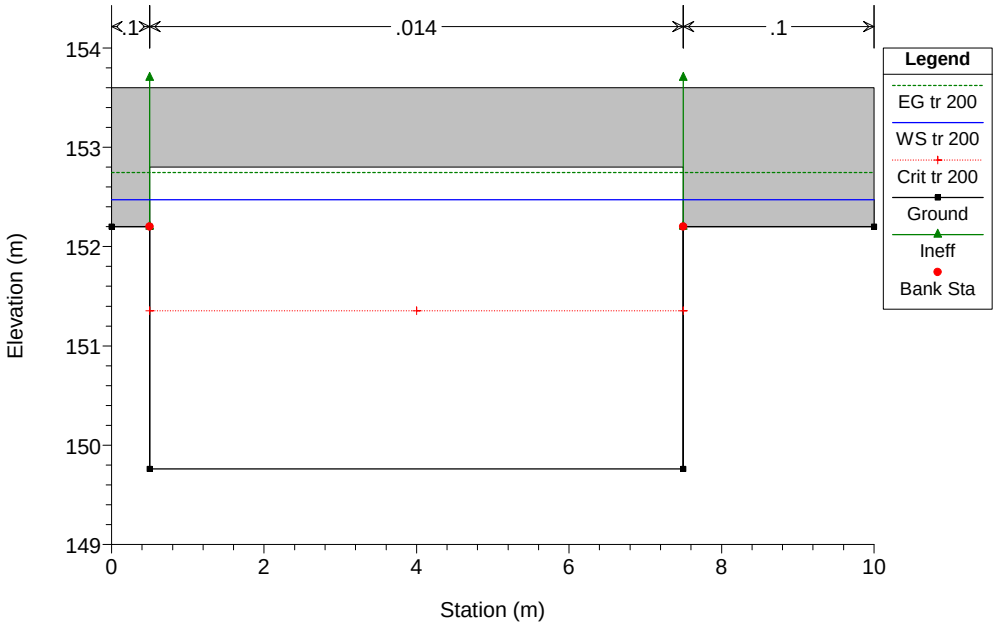
RS = 103.2 Q TR 200 anni

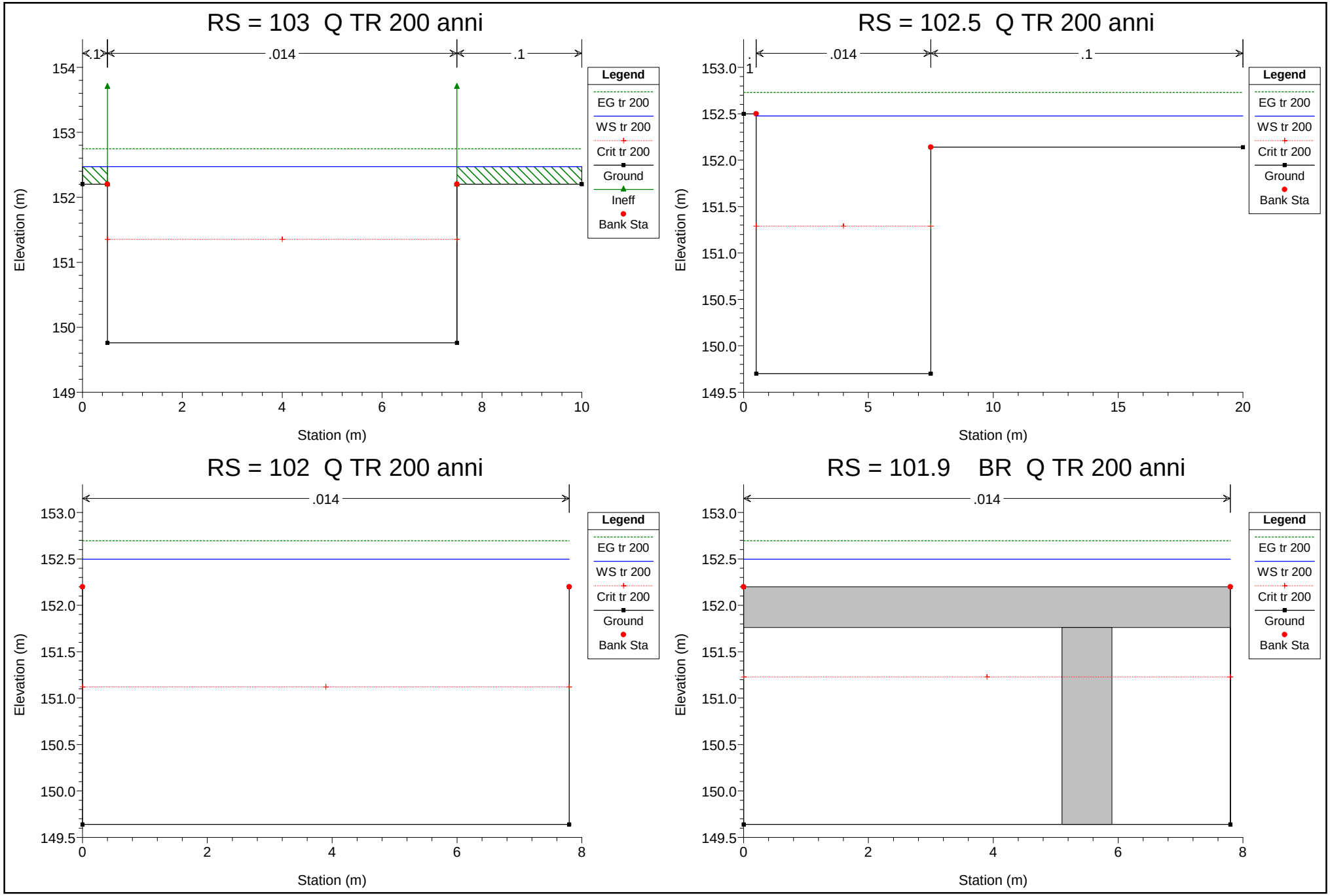


RS = 103.1 BR Q TR 200 anni

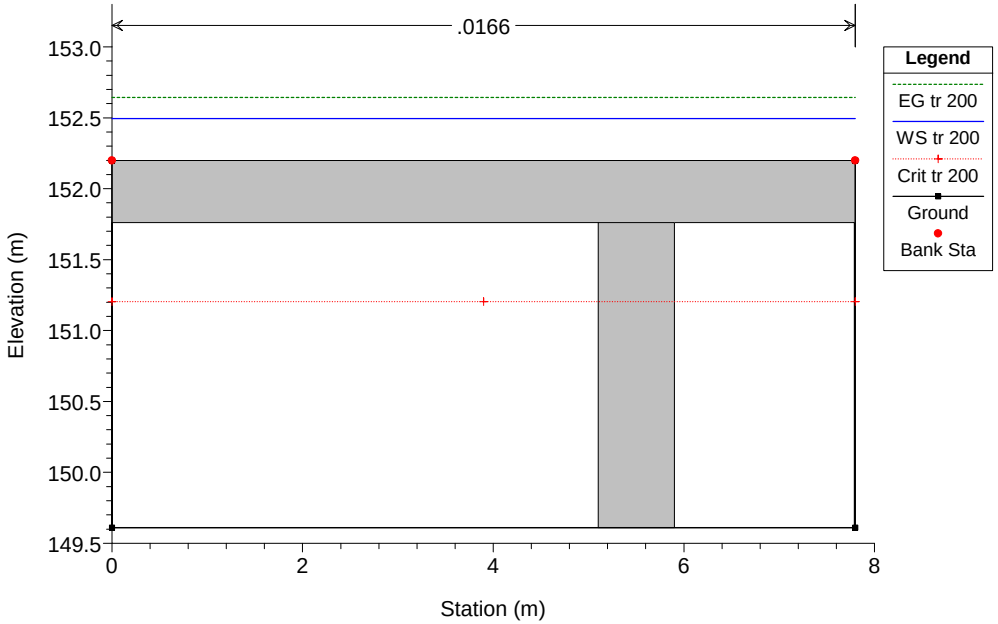


RS = 103.1 BR Q TR 200 anni

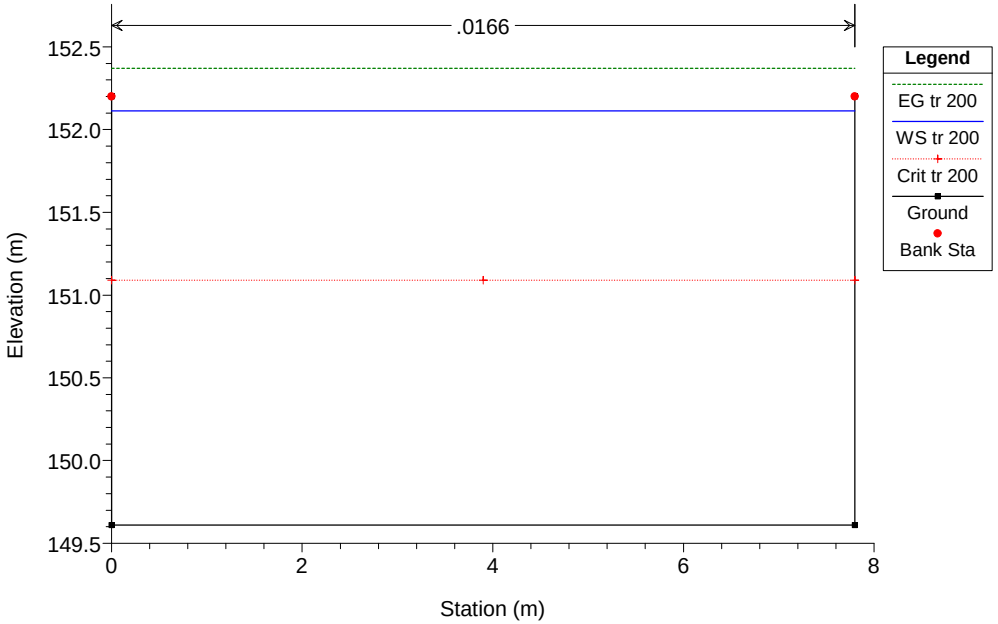



RS = 103 Q TR 200 anni
.1
.014
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 102.5 Q TR 200 anni
.1
.014
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 102 Q TR 200 anni
.014
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 101.9 BR Q TR 200 anni
.014
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)

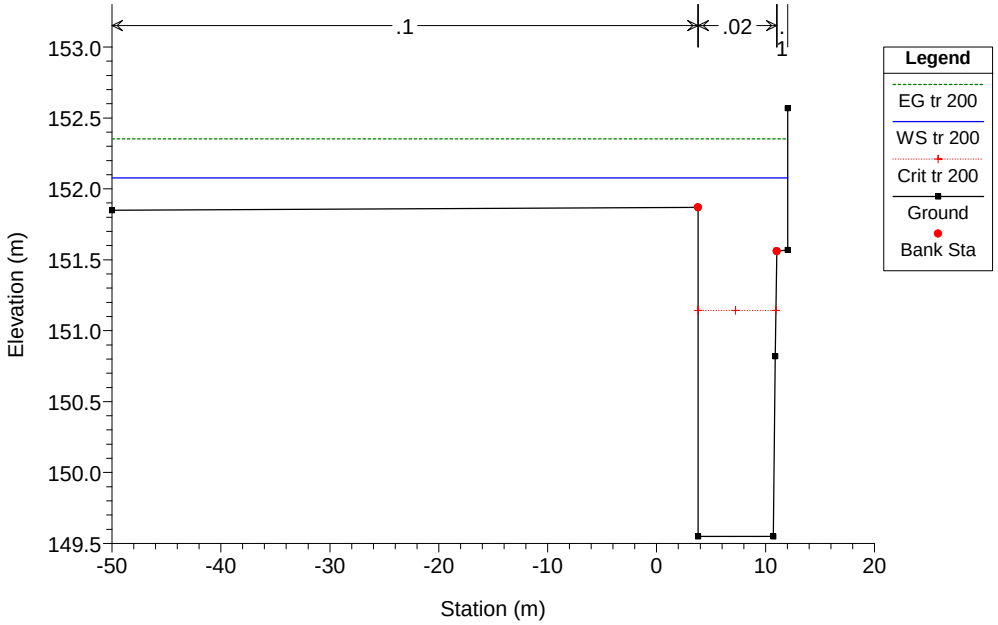
RS = 101.9 BR Q TR 200 anni



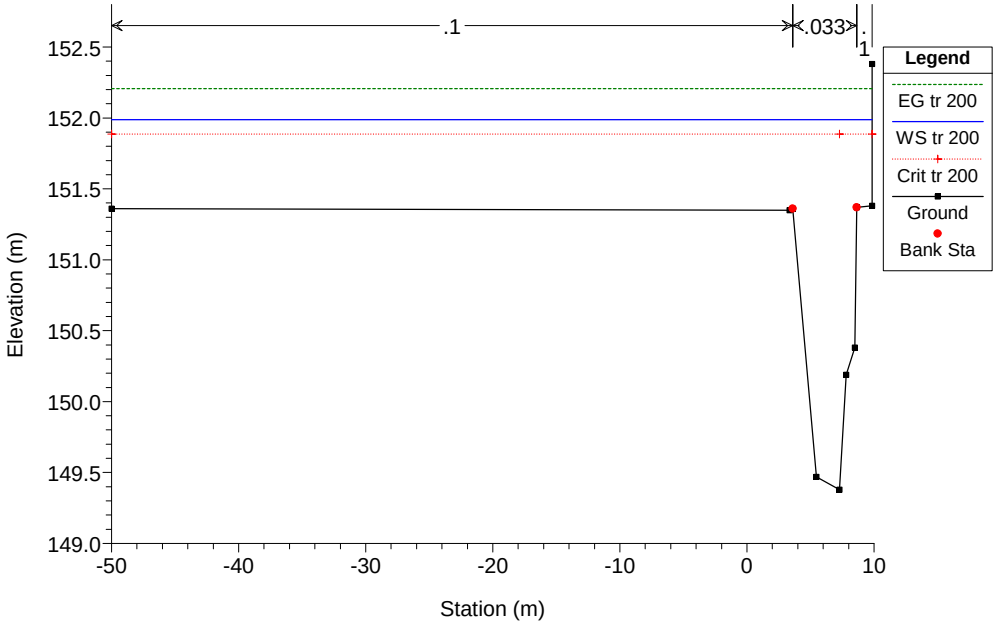
RS = 101.8 Q TR 200 anni

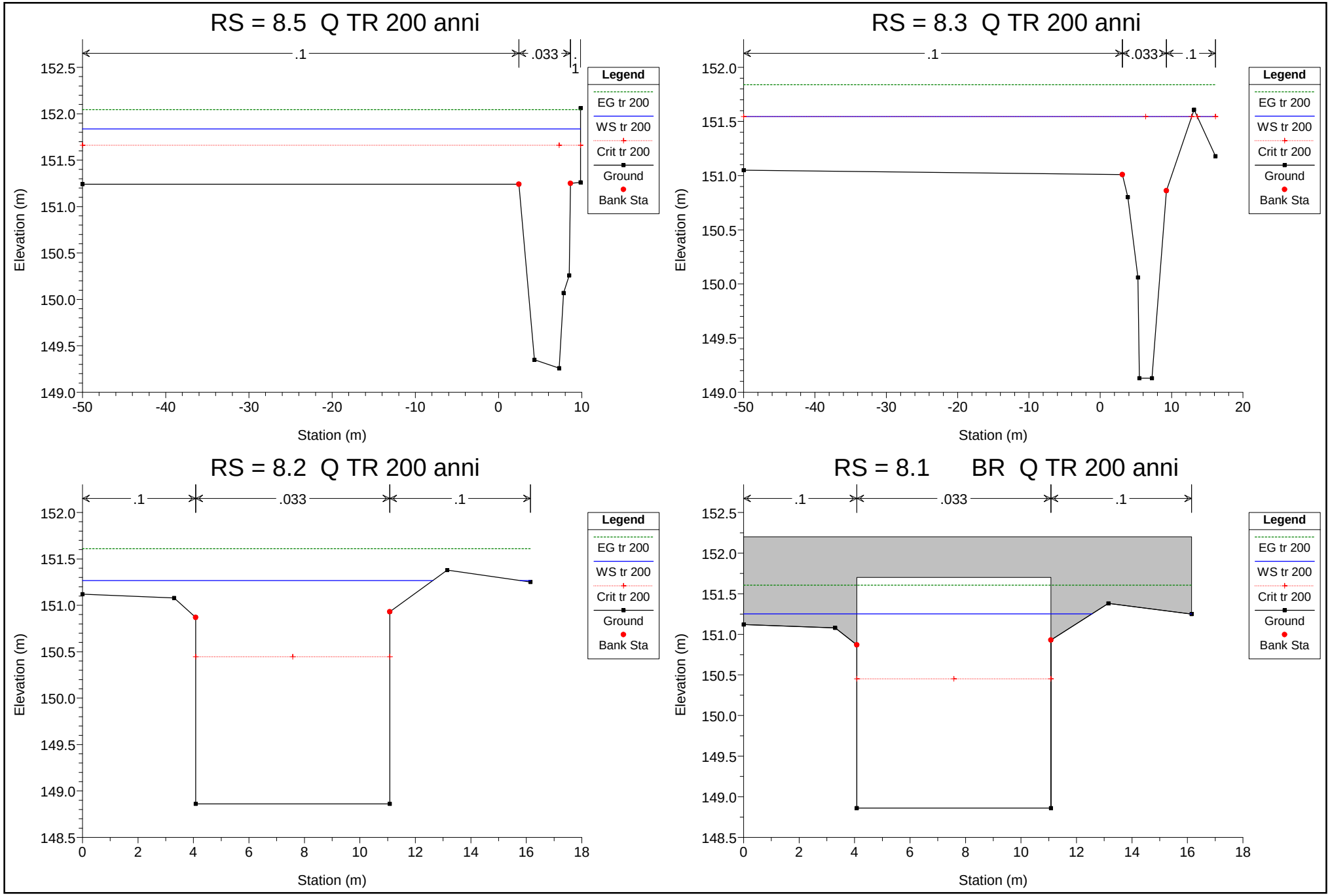


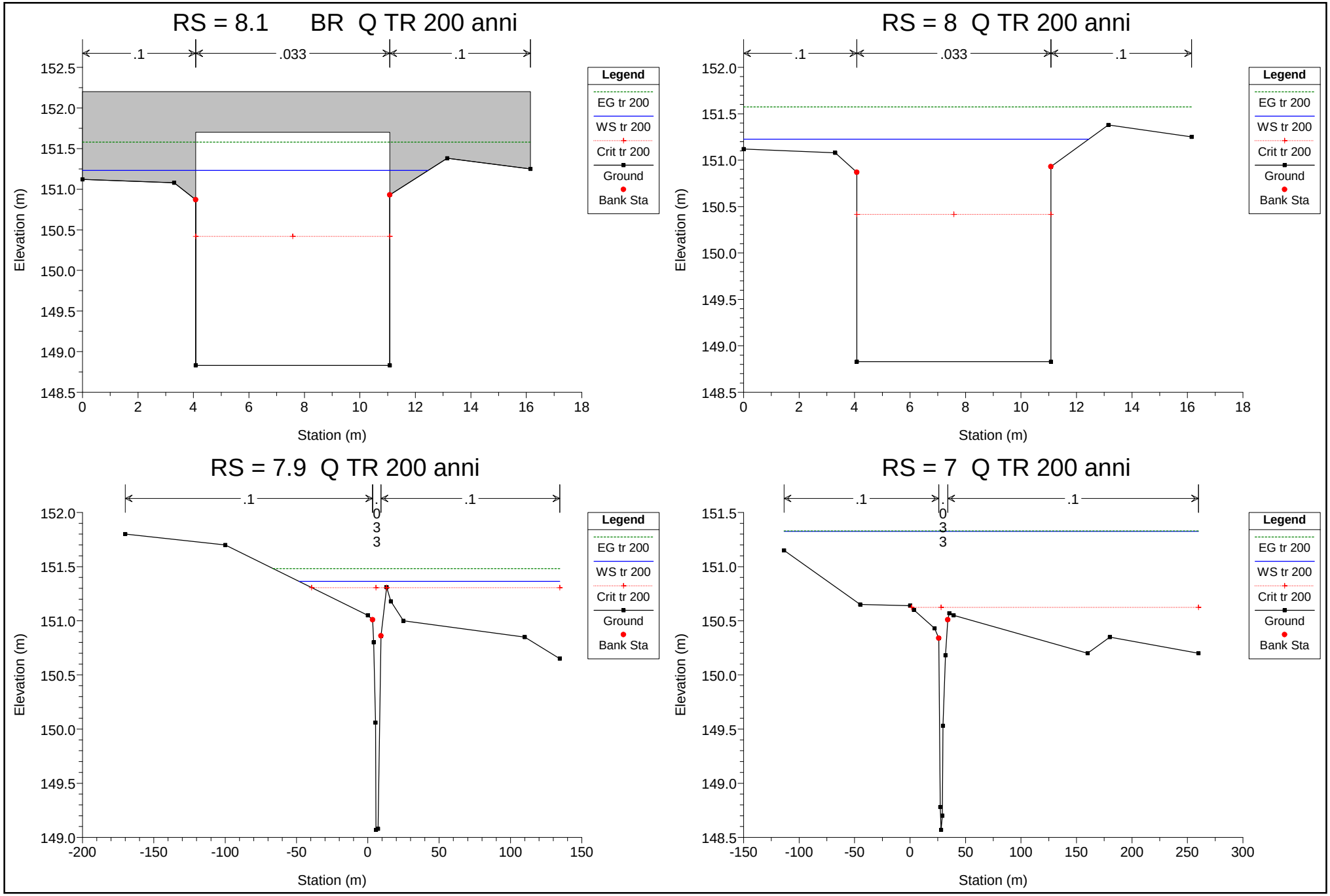
RS = 10 Q TR 200 anni

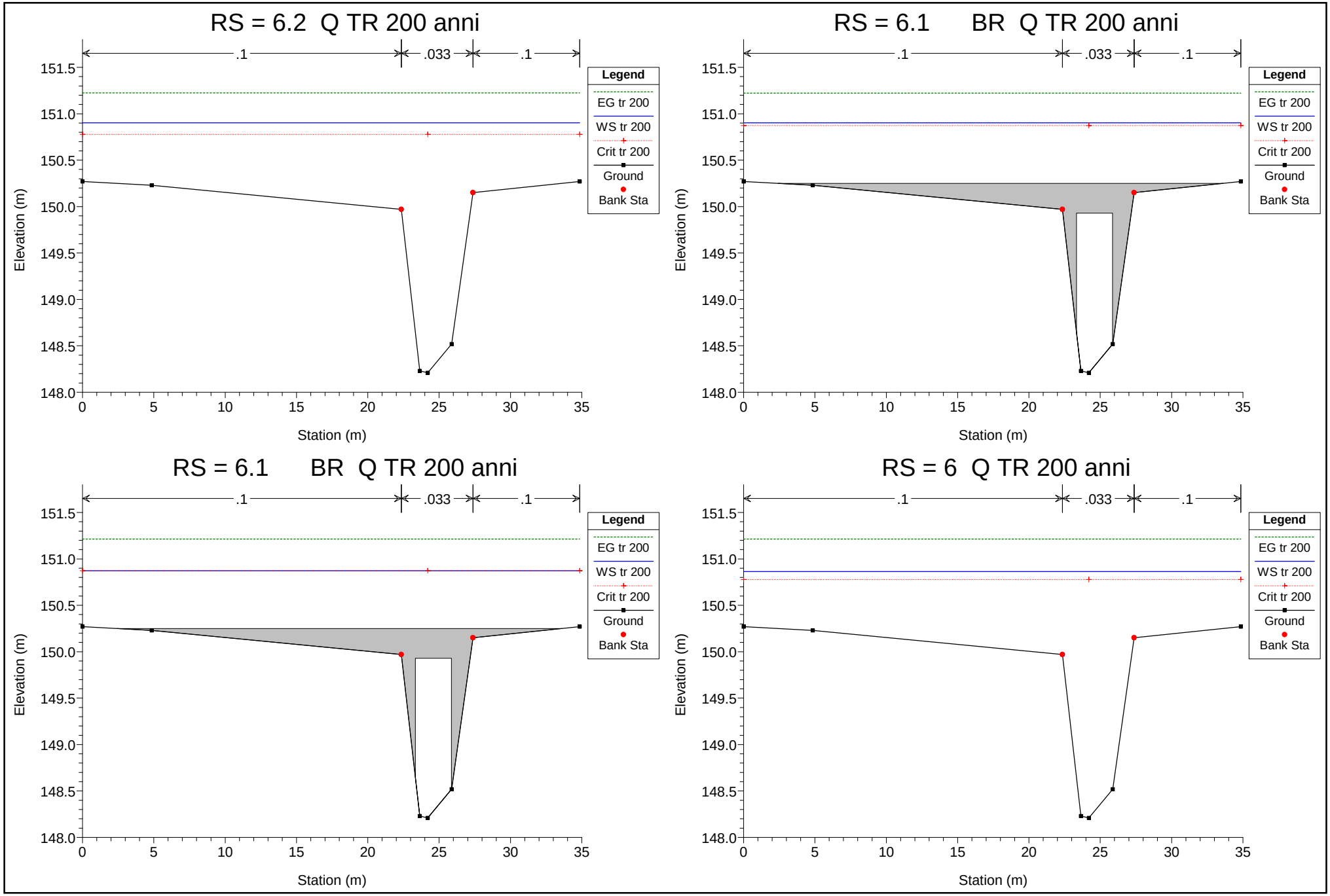


RS = 9 Q TR 200 anni

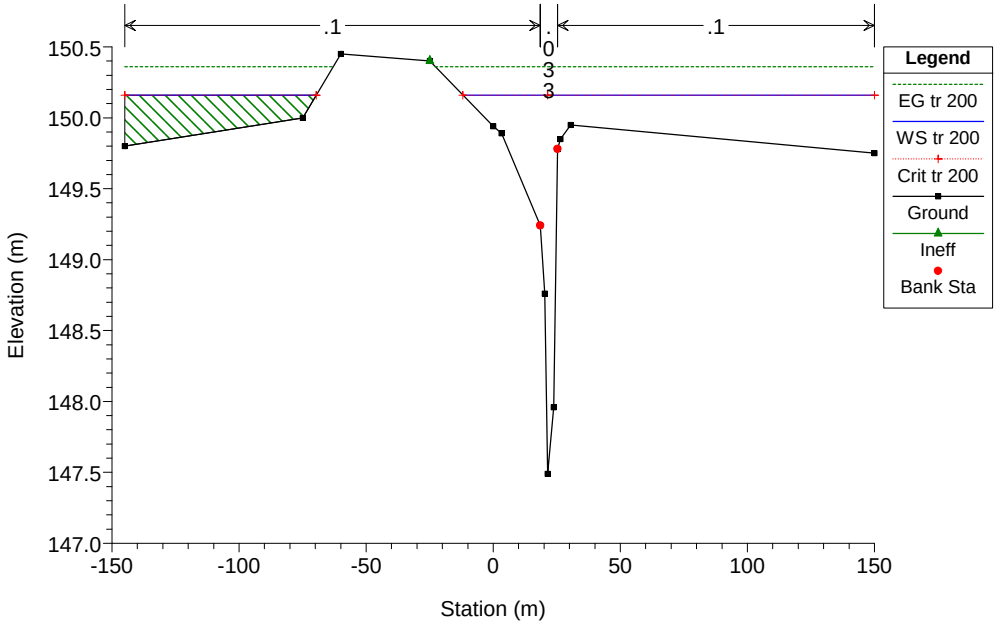



RS = 8.5 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 8.3 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 8.2 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 8.1 BR Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 8.1 BR Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 8 Q TR 200 anni
RS = 7.9 Q TR 200 anni
RS = 7 Q TR 200 anni


RS = 6.2 Q TR 200 anni
RS = 6.1 BR Q TR 200 anni
RS = 6.1 BR Q TR 200 anni
RS = 6 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
0
5
10
15
20
25
30
35

RS = 5 Q TR 200 anni



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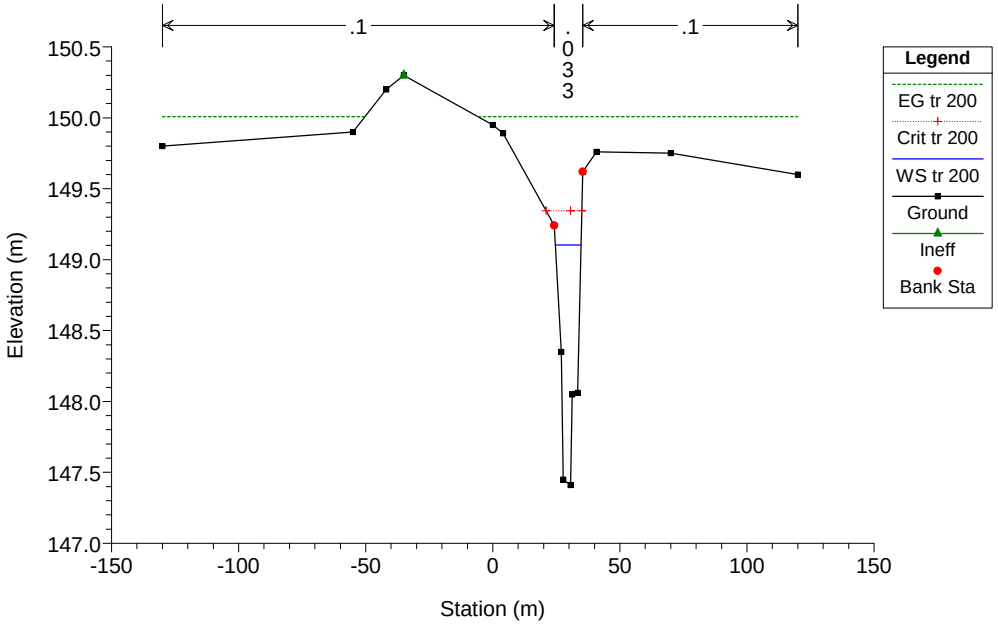
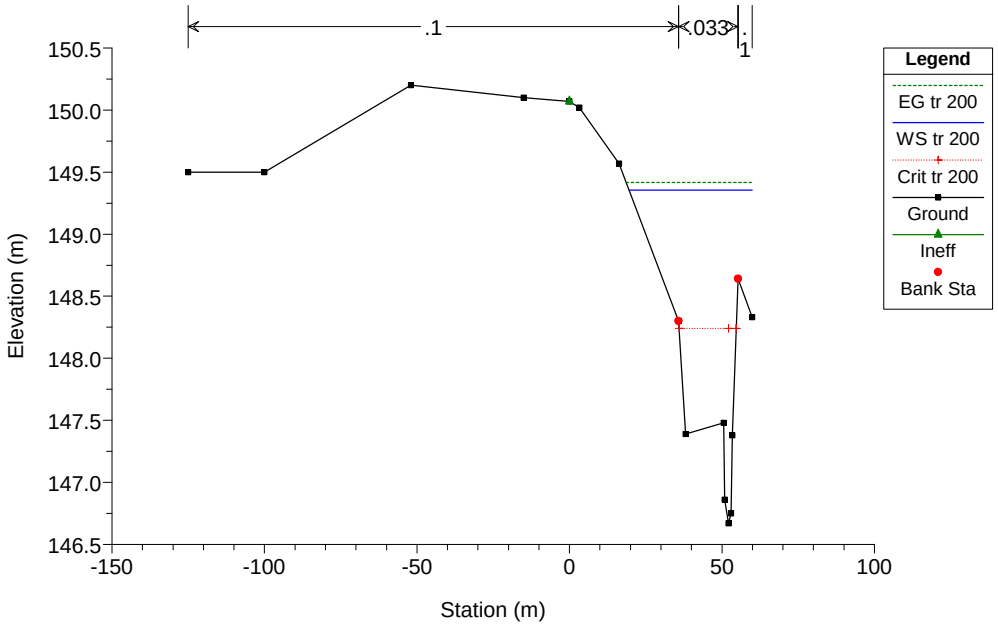


RS = 3 Q TR 200 anni



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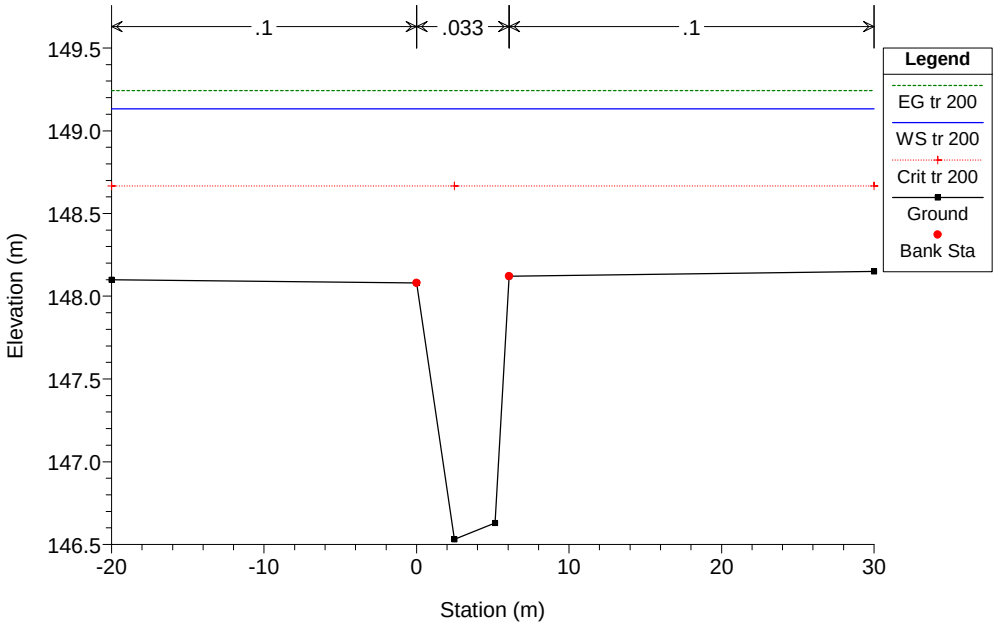
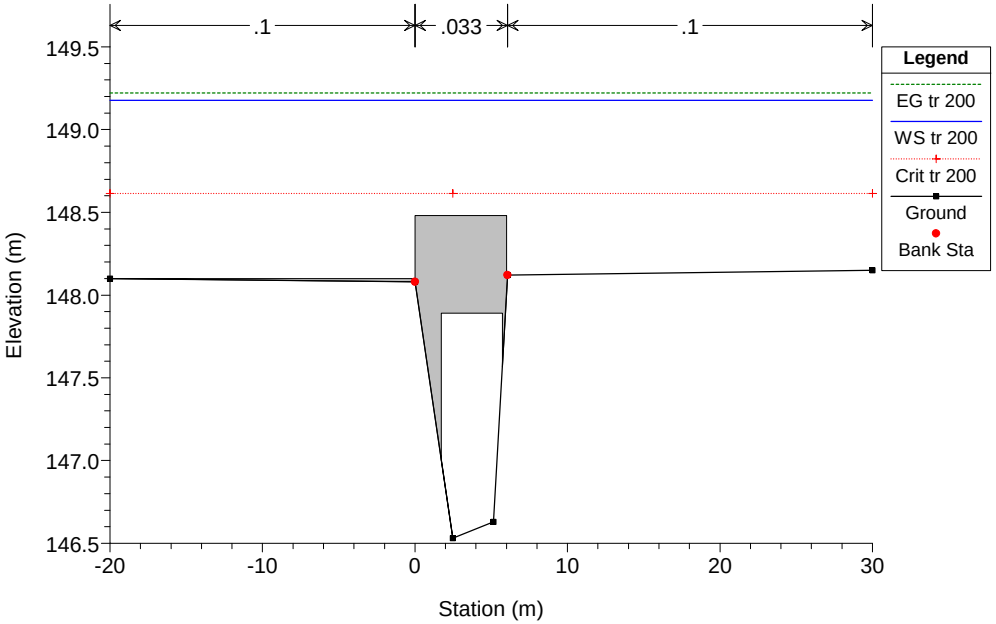
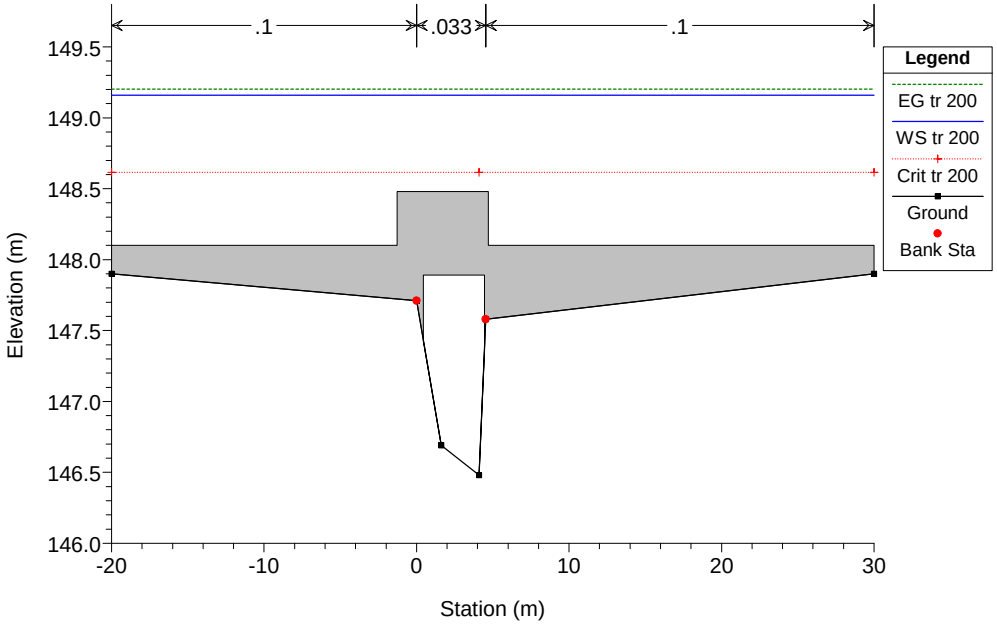
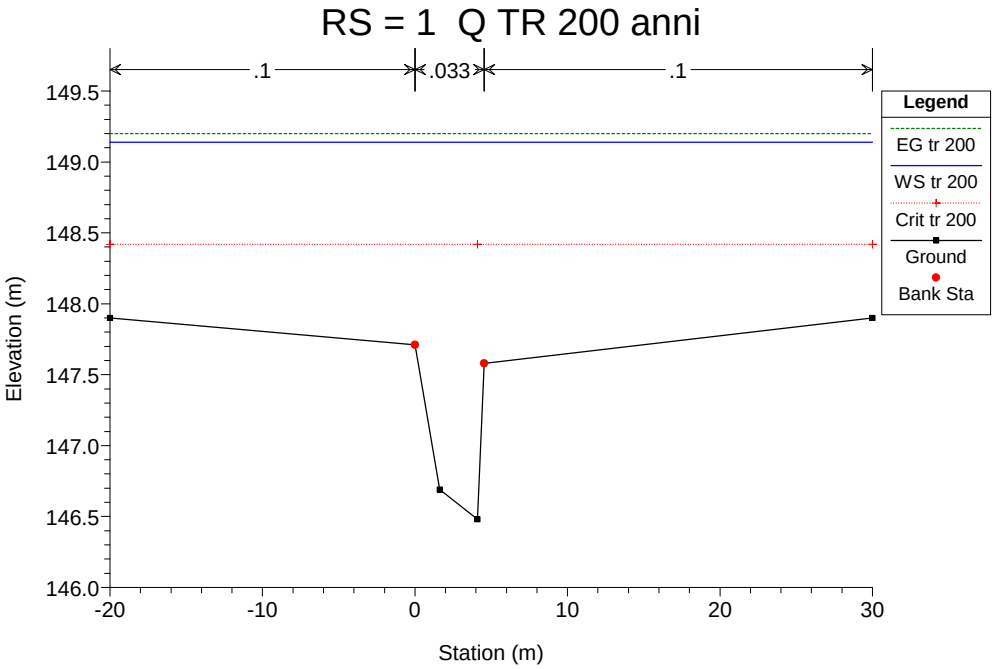



RS = 1.5 BR Q TR 200 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta


RS = 1.5 BR Q TR 200 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta


RS = 1 Q TR 200 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta

SIMULAZIONE 4

(Situazione attuale)

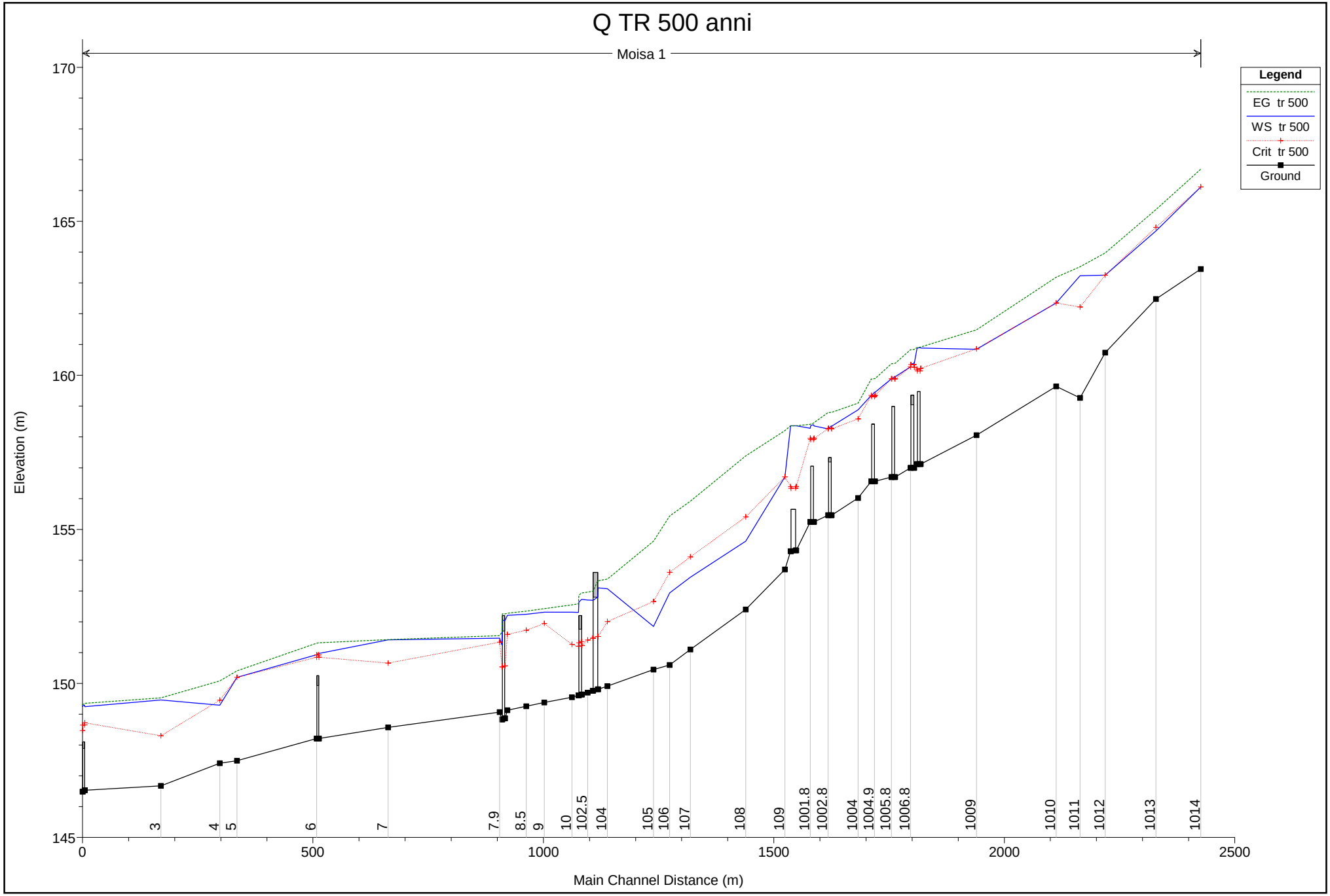
	portata al colmo Q_c m^3/s	tempo di ritorno anni
Rio Moisa a Valle di Magliano	49	500

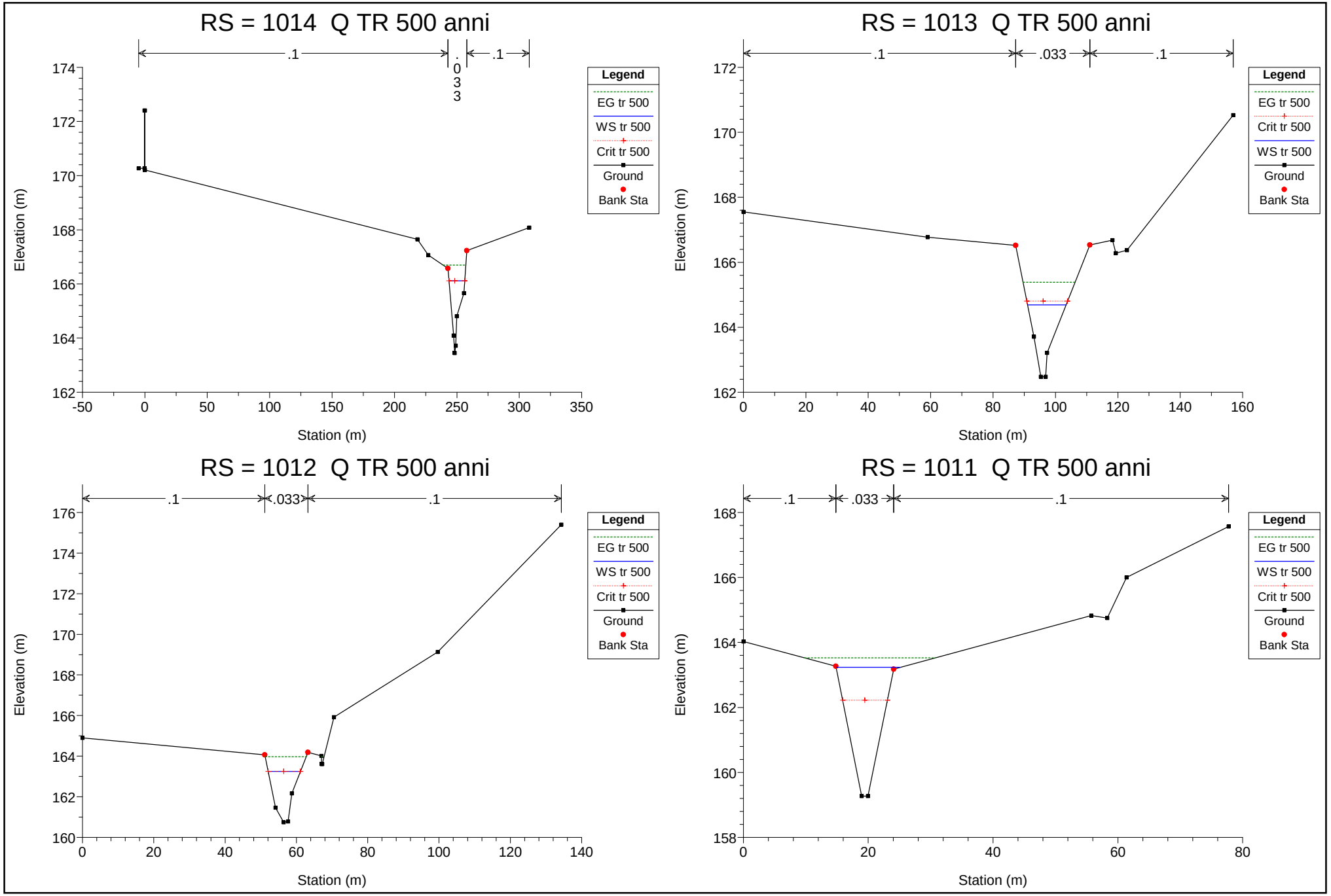
HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 500

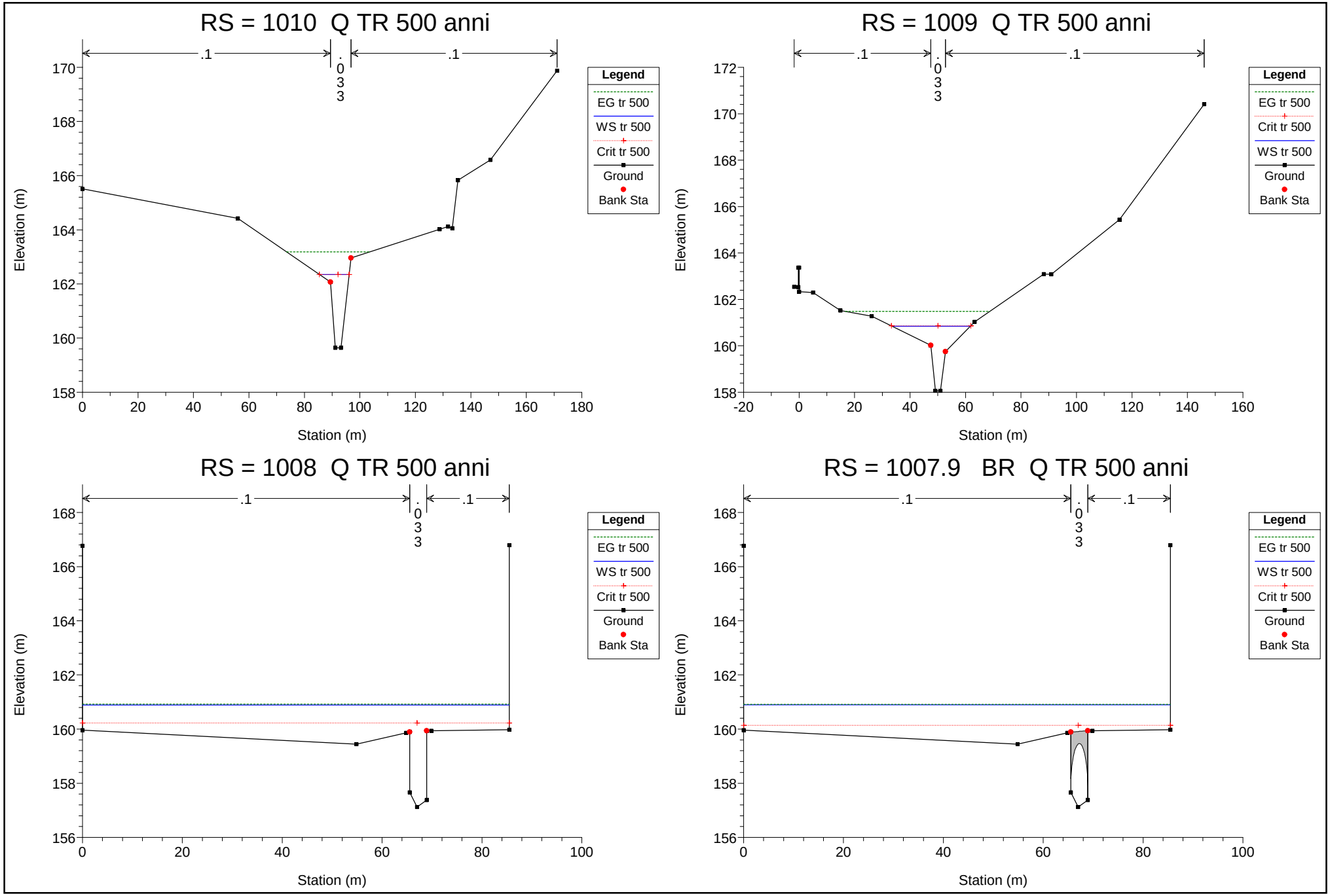
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1014	tr 500	49.00	163.45	166.12	166.12	166.70	0.011827	3.37	14.55	12.55	1.00
1	1013	tr 500	49.00	162.48	164.69	164.80	165.38	0.015206	3.70	13.25	12.35	1.14
1	1012	tr 500	49.00	160.74	163.25	163.25	163.98	0.011987	3.76	13.01	9.08	1.00
1	1011	tr 500	49.00	159.27	163.23	162.22	163.53	0.003248	2.41	20.39	10.25	0.52
1	1010	tr 500	49.00	159.64	162.35	162.35	163.18	0.012097	4.05	12.62	10.70	0.96
1	1009	tr 500	49.00	158.06	160.84	160.86	161.48	0.007668	3.76	22.20	28.21	0.81
1	1008	tr 500	49.00	157.12	160.89	160.23	160.92	0.001087	1.29	105.70	85.47	0.22
1	1007.9		Bridge									
1	1007.8	tr 500	49.00	157.12	160.87	160.20	160.90	0.001142	1.31	103.87	85.47	0.22
1	1007	tr 500	49.00	157.00	160.38	160.26	160.84	0.008218	3.46	27.27	23.86	0.62
1	1006.9		Bridge									
1	1006.8	tr 500	49.00	157.00	160.27	160.27	160.83	0.010033	3.73	24.69	23.86	0.68
1	1006	tr 500	49.00	156.70	159.95	159.89	160.39	0.009203	3.36	27.15	24.86	0.60
1	1005.9		Bridge									
1	1005.8	tr 500	49.00	156.70	159.89	159.89	160.38	0.010370	3.52	25.59	24.86	0.64
1	1005	tr 500	49.00	156.56	159.45	159.35	159.89	0.008892	3.47	27.39	23.92	0.67
1	1004.9		Bridge									
1	1004.8	tr 500	49.00	156.56	159.35	159.35	159.88	0.010827	3.73	25.03	23.91	0.73
1	1004	tr 500	49.00	156.02	158.88	158.59	159.10	0.003593	2.65	51.25	57.50	0.58
1	1003	tr 500	49.00	155.46	158.35	158.27	158.80	0.006875	3.37	30.88	39.66	0.65
1	1002.9		Bridge									
1	1002.8	tr 500	49.00	155.46	158.27	158.27	158.79	0.008226	3.60	27.53	36.85	0.71
1	1002	tr 500	49.00	155.24	158.36	157.96	158.46	0.002410	2.00	66.66	62.91	0.37
1	1001.9		Bridge									
1	1001.8	tr 500	49.00	155.24	158.28	157.96	158.41	0.002894	2.16	61.86	62.91	0.40
1	1001	tr 500	49.00	154.32	158.36	156.39	158.37	0.000087	0.51	260.19	105.11	0.08
1	1000.9		Bridge									
1	1000.8	tr 500	49.00	154.29	158.36	156.39	158.36	0.000087	0.51	260.13	105.11	0.08
1	109	tr 500	49.00	153.70	156.71	156.71	158.21	0.005781	5.43	9.02	3.00	1.00
1	108	tr 500	49.00	152.40	154.61	155.41	157.39	0.012388	7.38	6.64	3.00	1.58
1	107	tr 500	49.00	151.10	153.44	154.11	155.92	0.010707	6.97	7.04	3.00	1.45
1	106	tr 500	49.00	150.60	152.93	153.61	155.43	0.010838	7.00	7.00	3.00	1.46
1	105	tr 500	49.00	150.45	151.85	152.66	154.61	0.072230	7.36	6.65	6.71	2.36
1	104	tr 500	49.00	149.91	153.07	152.00	153.38	0.000561	2.55	33.15	26.25	0.48
1	103.2	tr 500	49.00	149.81	153.10	151.52	153.33	0.000362	2.13	23.04	10.00	0.37
1	103.1		Bridge									
1	103	tr 500	49.00	149.76	152.70	151.47	152.99	0.000535	2.38	20.57	10.00	0.44
1	102.5	tr 500	49.00	149.70	152.71	151.40	152.97	0.000493	2.28	28.27	20.00	0.42
1	102	tr 500	49.00	149.64	152.73	151.23	152.94	0.000393	2.04	24.08	7.80	0.37
1	101.9		Bridge									

HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 500 (Continued)

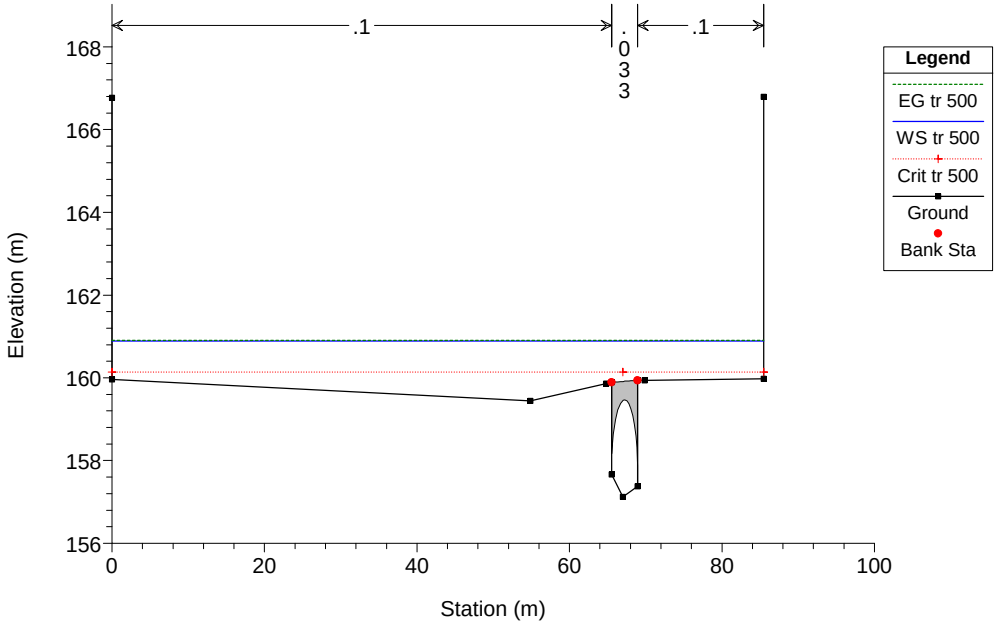
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	101.8	tr 500	49.00	149.61	152.31	151.20	152.58	0.000804	2.33	21.03	7.80	0.45
1	10	tr 500	49.00	149.55	152.31	151.27	152.55	0.000976	2.26	44.74	62.03	0.44
1	9	tr 500	49.00	149.38	152.31	151.94	152.42	0.002461	2.09	63.94	59.85	0.44
1	8.5	tr 500	49.00	149.26	152.24	151.72	152.34	0.001579	1.82	69.27	59.85	0.37
1	8.3	tr 500	49.00	149.13	152.21	151.59	152.28	0.001283	1.60	82.90	66.15	0.34
1	8.2	tr 500	49.00	148.86	152.05	150.57	152.25	0.001838	2.07	30.31	16.15	0.37
1	8.1		Bridge									
1	8	tr 500	49.00	148.83	151.25	150.54	151.67	0.005165	2.88	17.89	12.56	0.59
1	7.9	tr 500	49.00	149.07	151.47	151.34	151.55	0.003574	2.02	92.67	198.44	0.52
1	7	tr 500	49.00	148.57	151.42	150.66	151.42	0.000158	0.52	352.89	373.50	0.12
1	6.2	tr 500	49.00	148.21	150.97	150.85	151.32	0.005542	3.11	35.21	34.85	0.68
1	6.1		Bridge									
1	6	tr 500	49.00	148.21	150.93	150.85	151.30	0.006126	3.23	33.73	34.85	0.71
1	5	tr 500	49.00	147.49	150.20	150.20	150.41	0.004022	2.51	68.11	240.64	0.59
1	4	tr 500	49.00	147.41	149.29	149.46	150.08	0.016151	3.94	12.49	12.45	1.17
1	3	tr 500	49.00	146.67	149.46	148.30	149.53	0.000654	1.18	54.03	42.02	0.27
1	2	tr 500	49.00	146.53	149.24	148.72	149.36	0.001831	1.96	63.24	50.00	0.42
1	1.5		Bridge									
1	1	tr 500	49.00	146.48	149.25	148.47	149.31	0.001301	1.71	78.25	50.00	0.35


Q TR 500 anni
Moisa 1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Elevation (m)
Main Channel Distance (m)
170
165
160
155
150
145
0
500
1000
1500
2000
2500
3
4
5
6
7
7.9
8.5
9
10
102.5
104
105
106
107
108
109
1001.8
1002.8
1004
1004.9
1005.8
1006.8
1009
1010
1011
1012
1013
1014


RS = 1014 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1013 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
Crit tr 500
WS tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1012 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1011 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1010 Q TR 500 anni
RS = 1009 Q TR 500 anni
RS = 1008 Q TR 500 anni
RS = 1007.9 BR Q TR 500 anni
.1
.033
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)

RS = 1007.9 BR Q TR 500 anni



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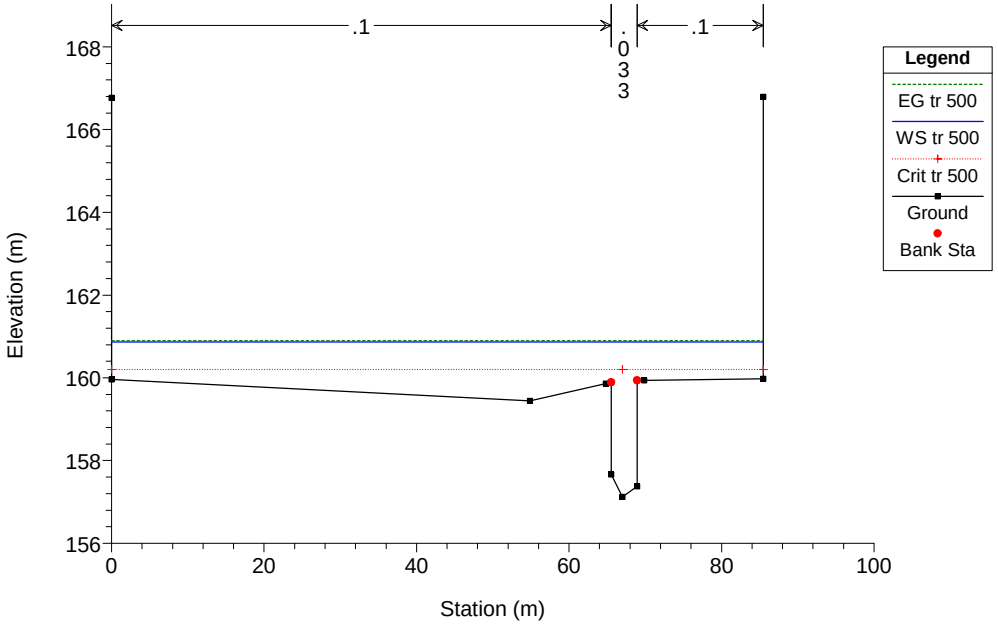
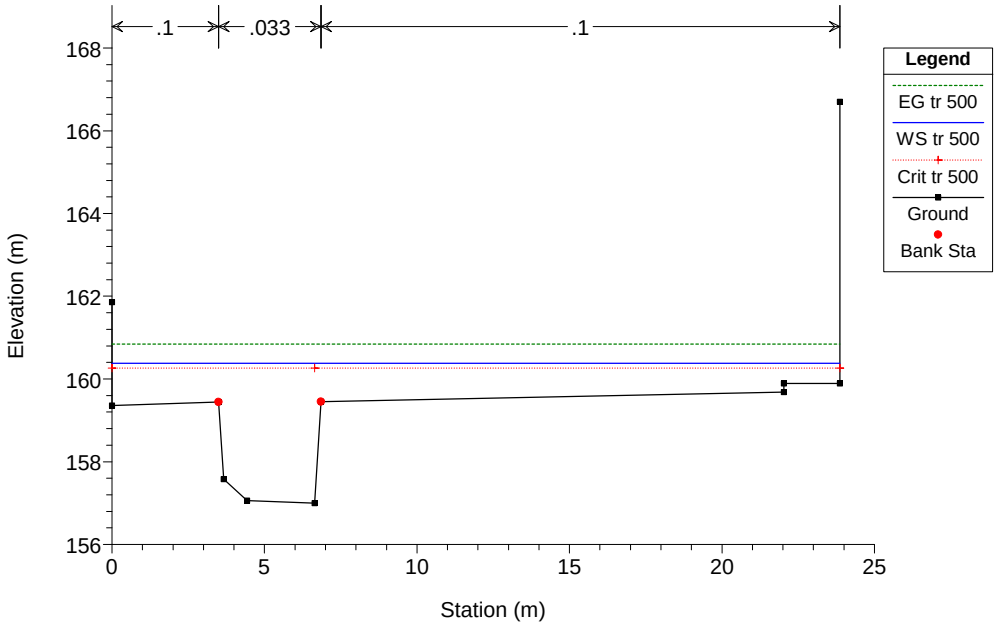


RS = 1007 Q TR 500 anni



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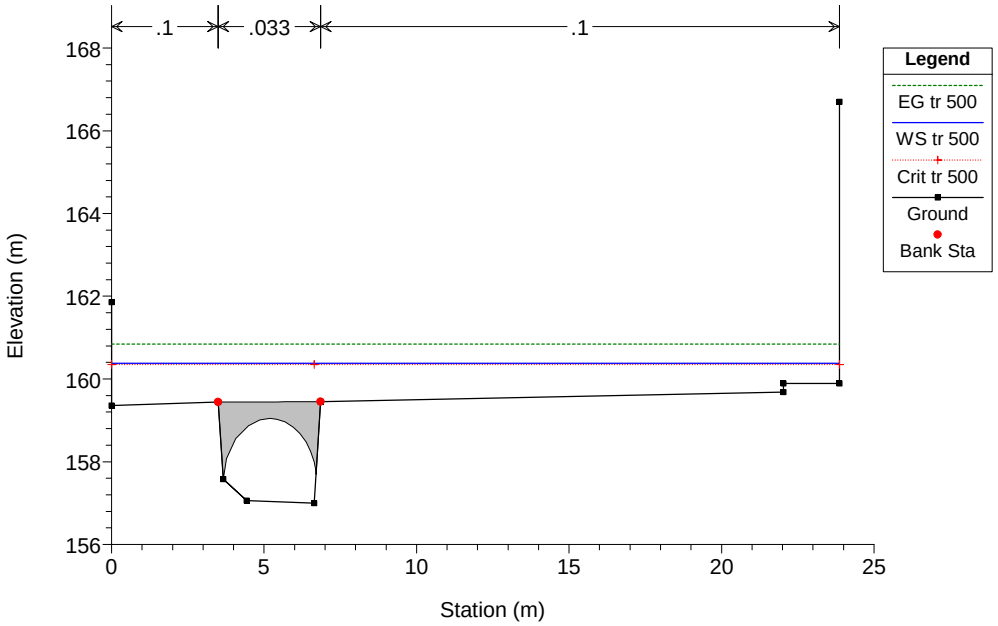
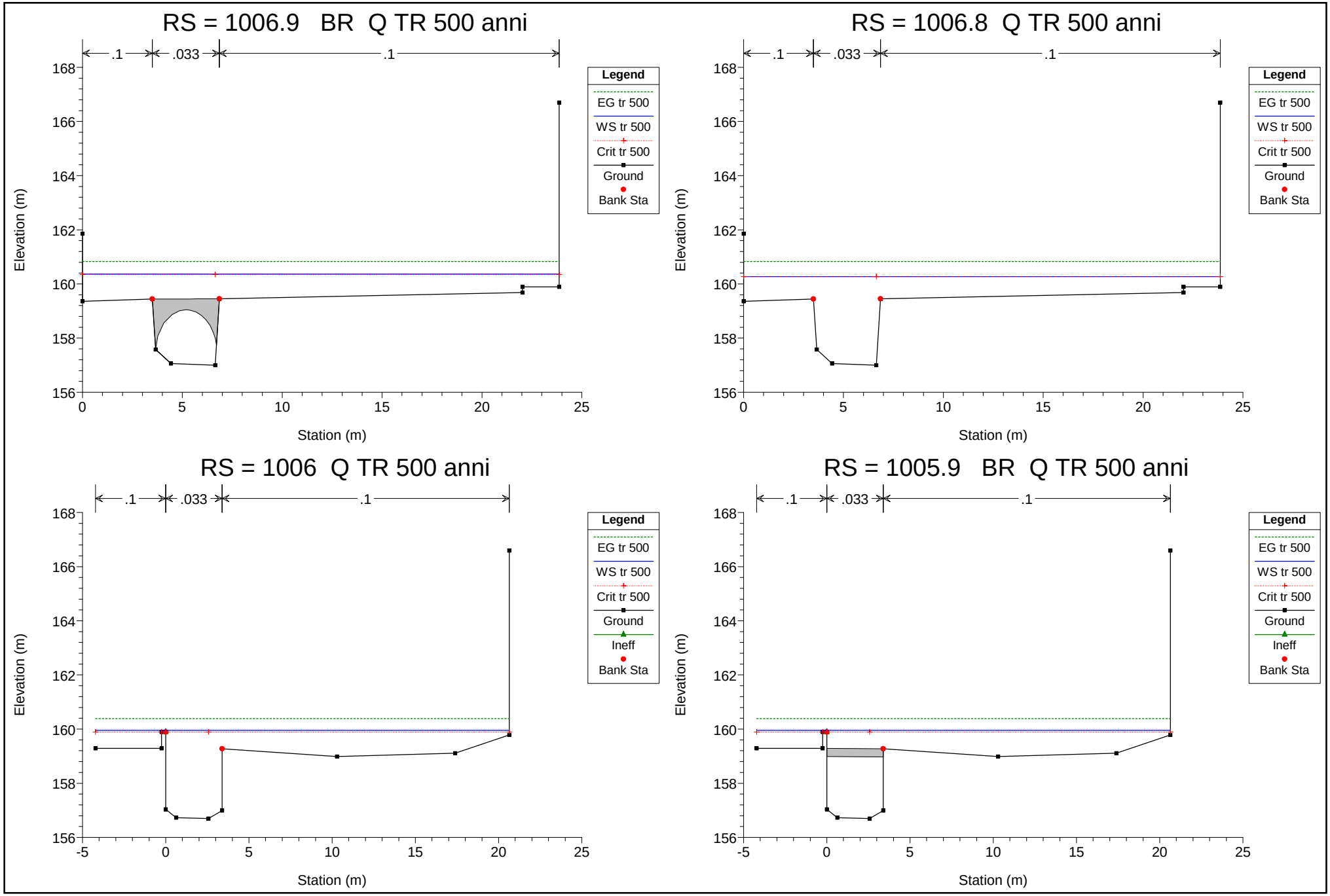
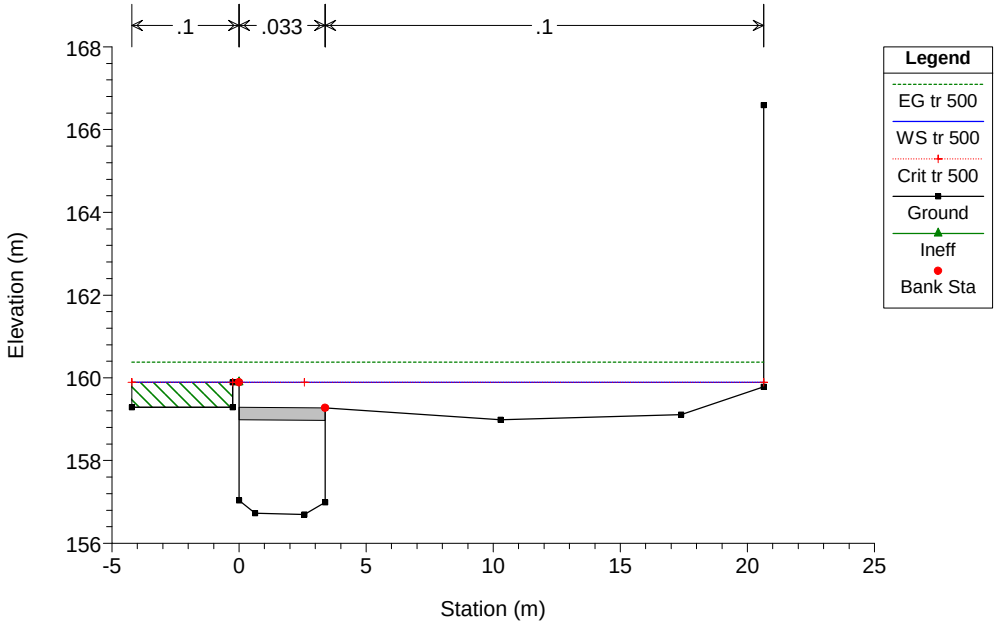
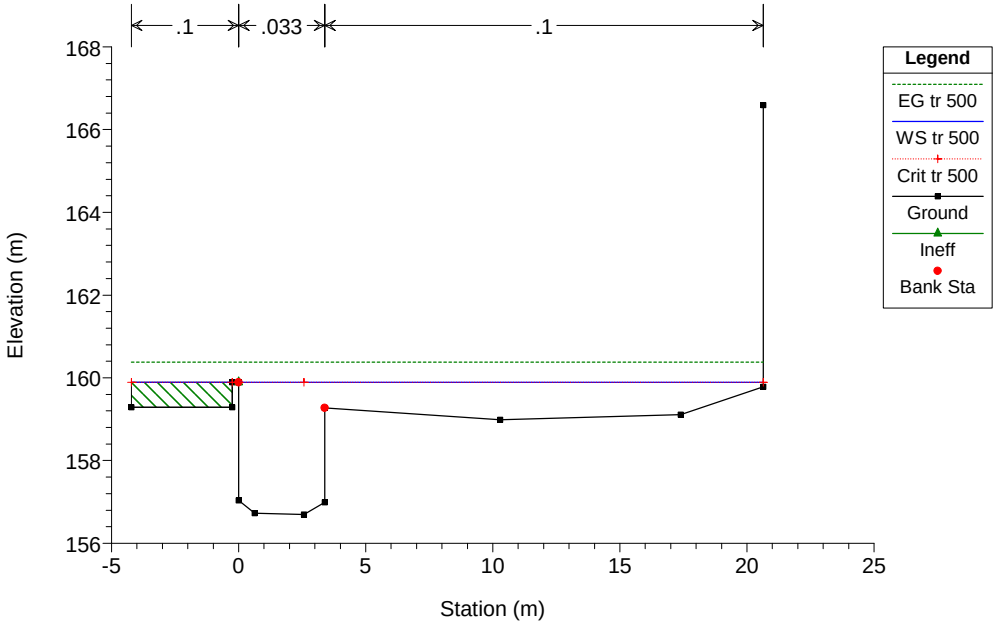



RS = 1006.9 BR Q TR 500 anni
RS = 1006.8 Q TR 500 anni
RS = 1006 Q TR 500 anni
RS = 1005.9 BR Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
156
158
160
162
164
166
168
-5
0
5
10
15
20
25

RS = 1005.9 BR Q TR 500 anni



RS = 1005.8 Q TR 500 anni



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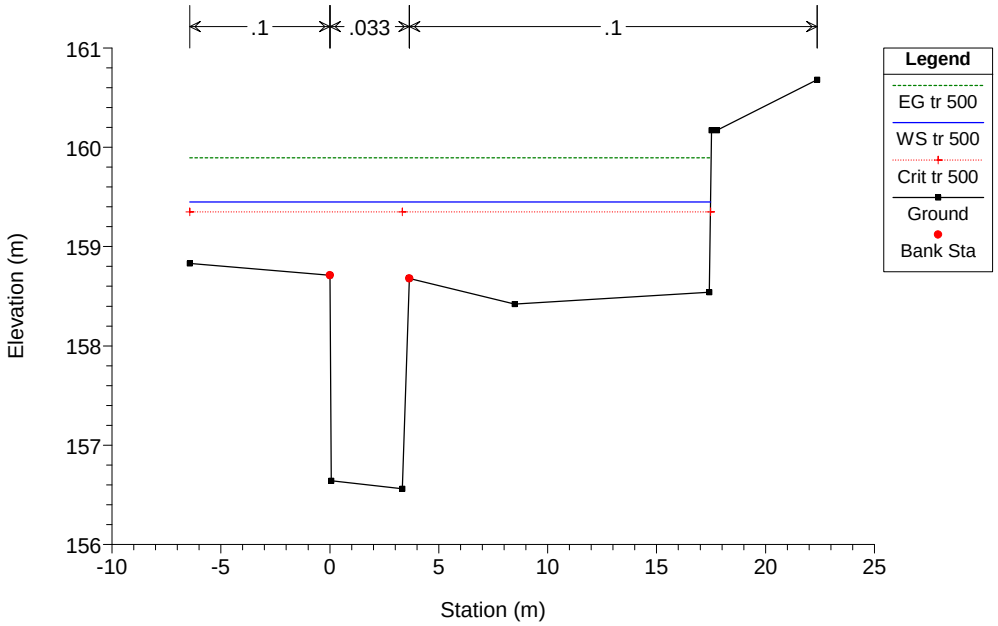
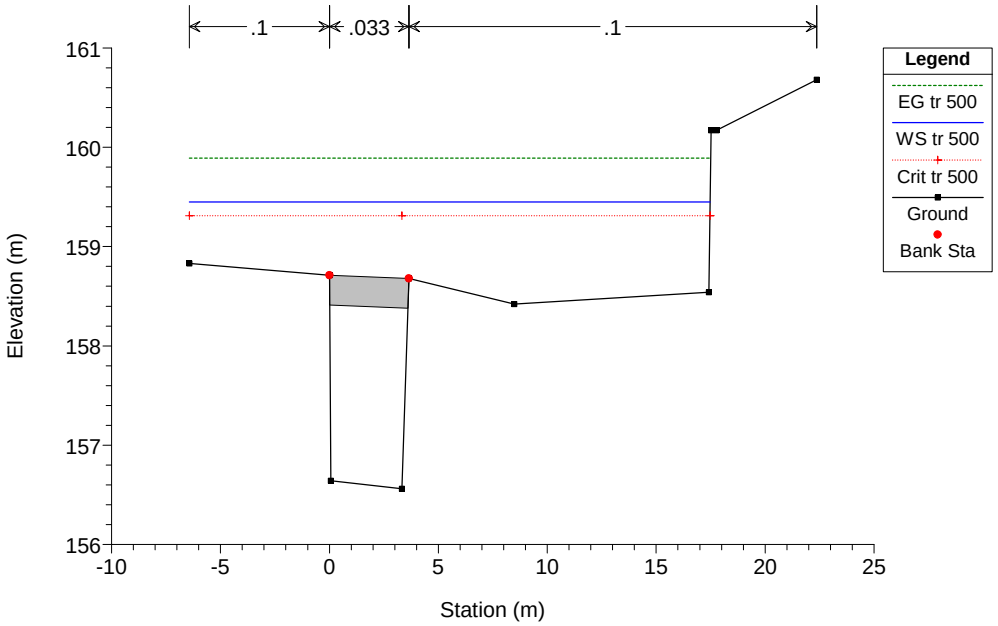
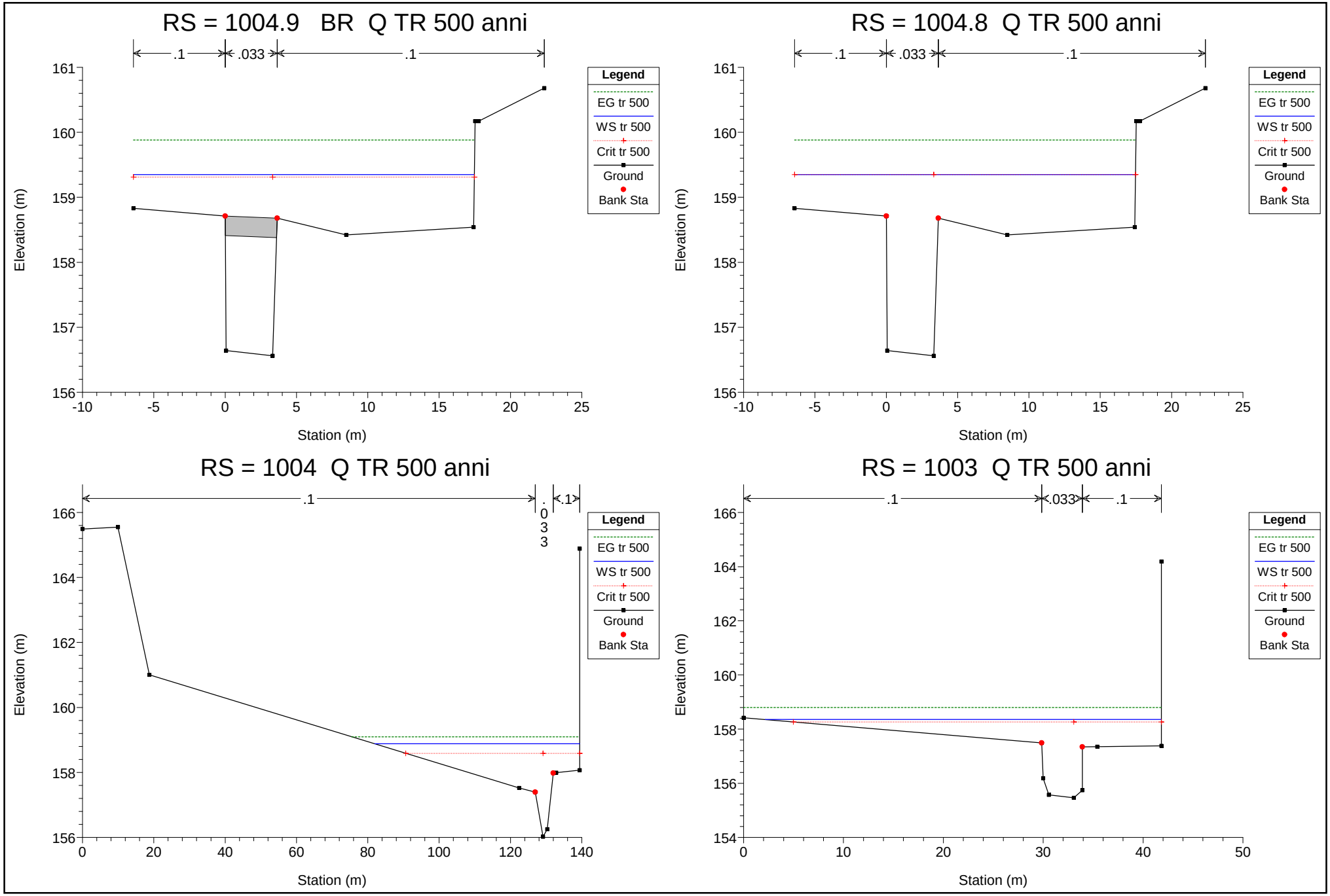
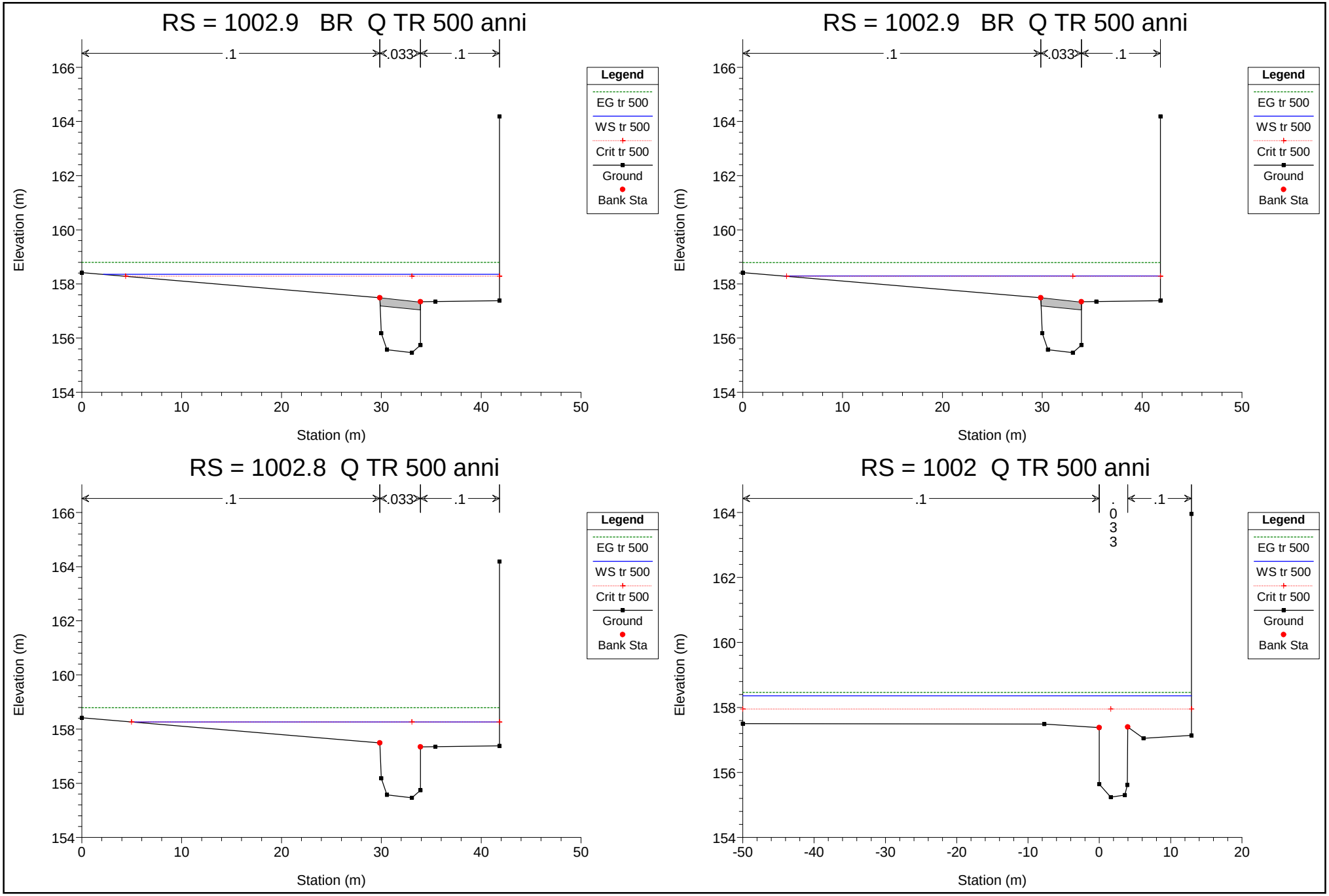
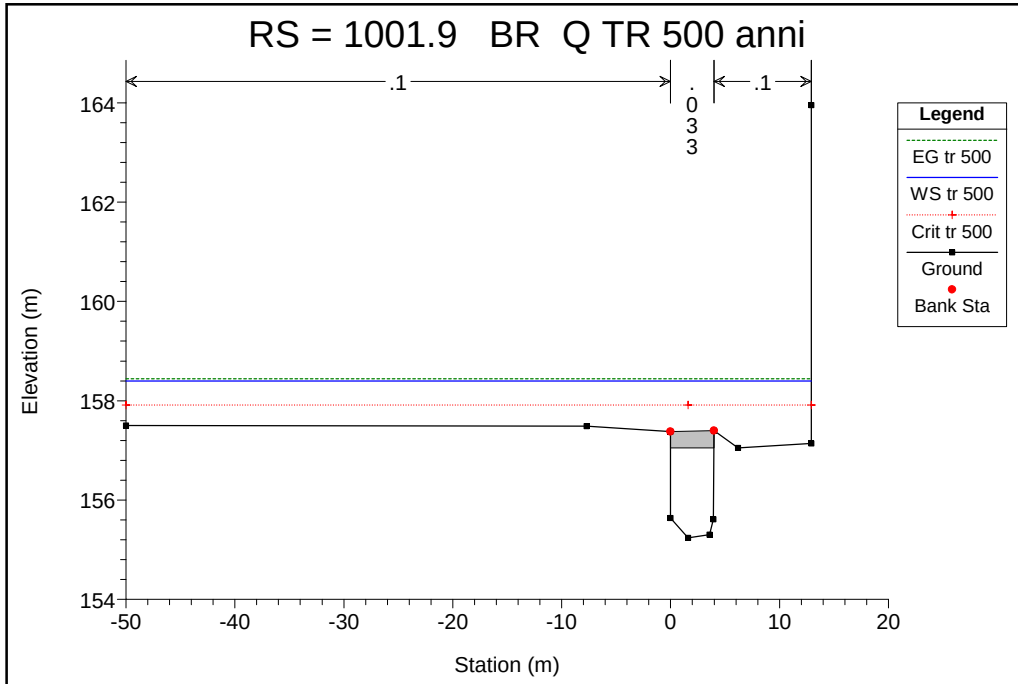


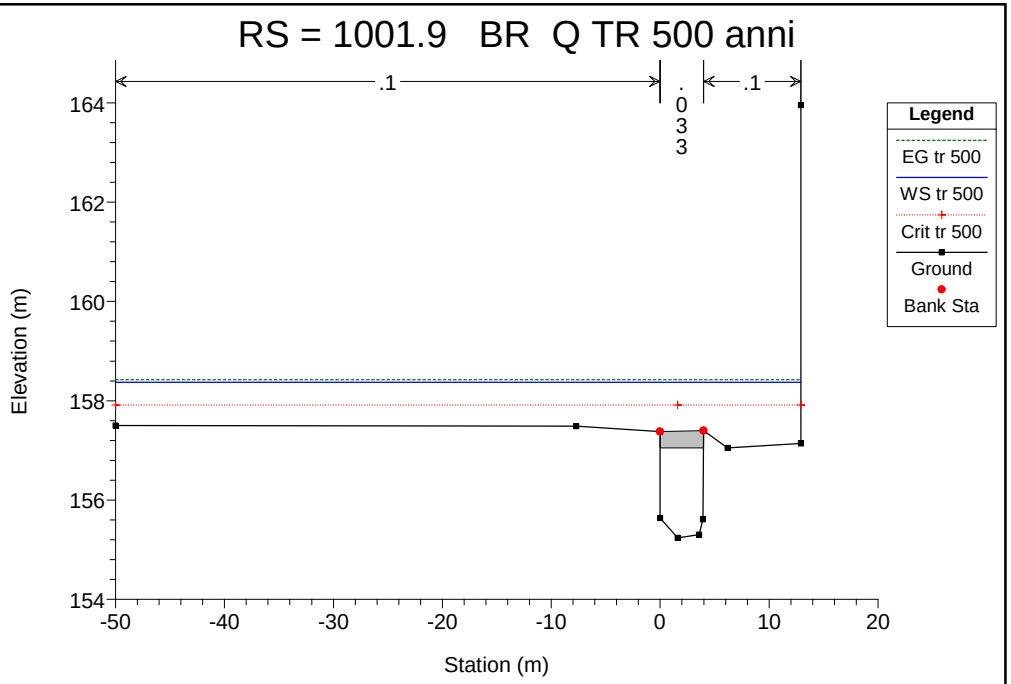
RS = 1004.9 BR Q TR 500 anni

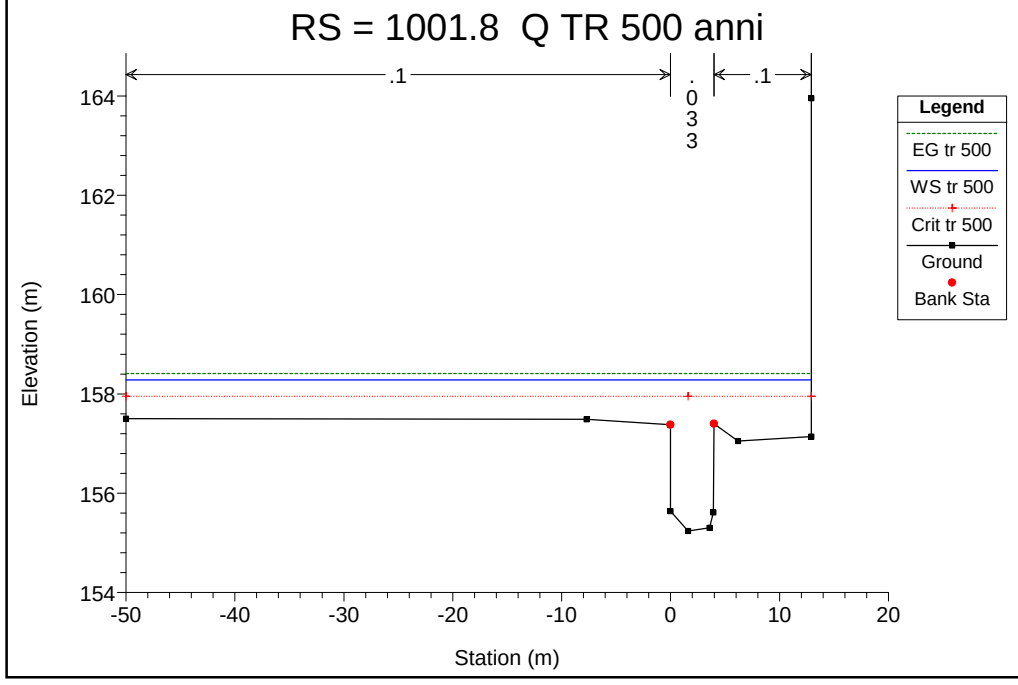


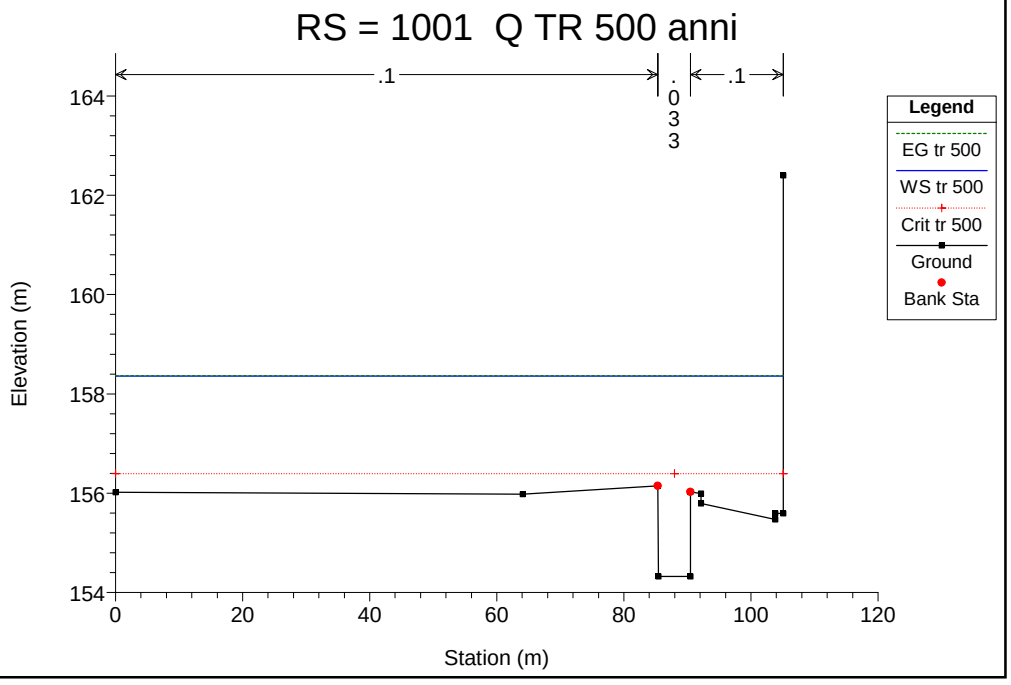

RS = 1004.9 BR Q TR 500 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
RS = 1004.8 Q TR 500 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
RS = 1004 Q TR 500 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
RS = 1003 Q TR 500 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta

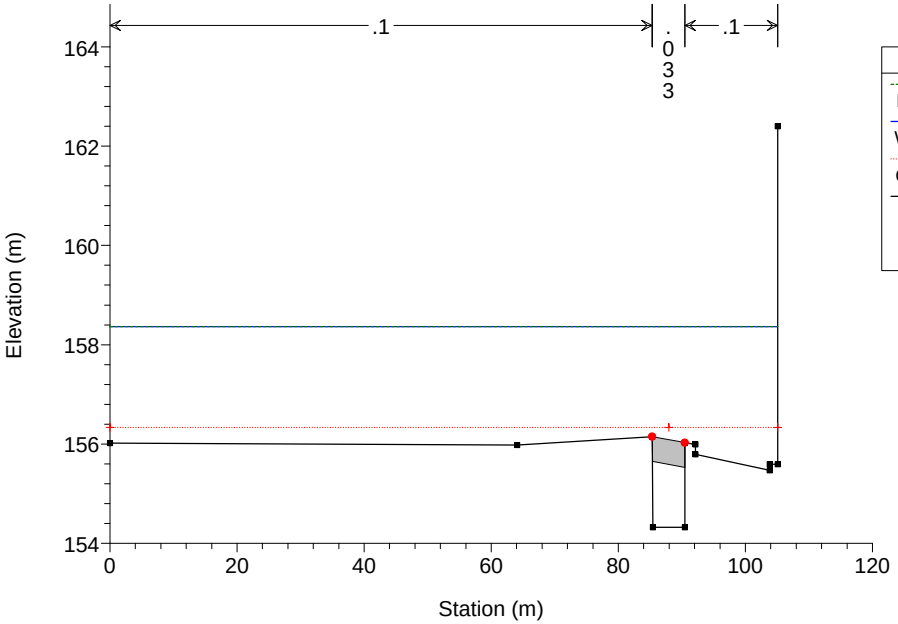

RS = 1002.9 BR Q TR 500 anni
.1
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
RS = 1002.9 BR Q TR 500 anni
RS = 1002.8 Q TR 500 anni
RS = 1002 Q TR 500 anni

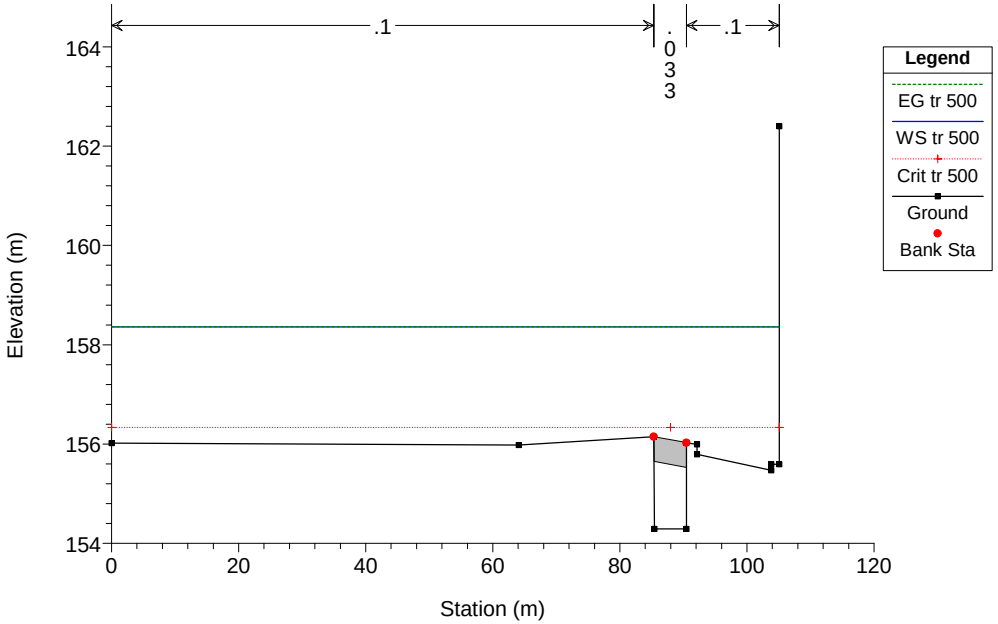

RS = 1001.9 BR Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)

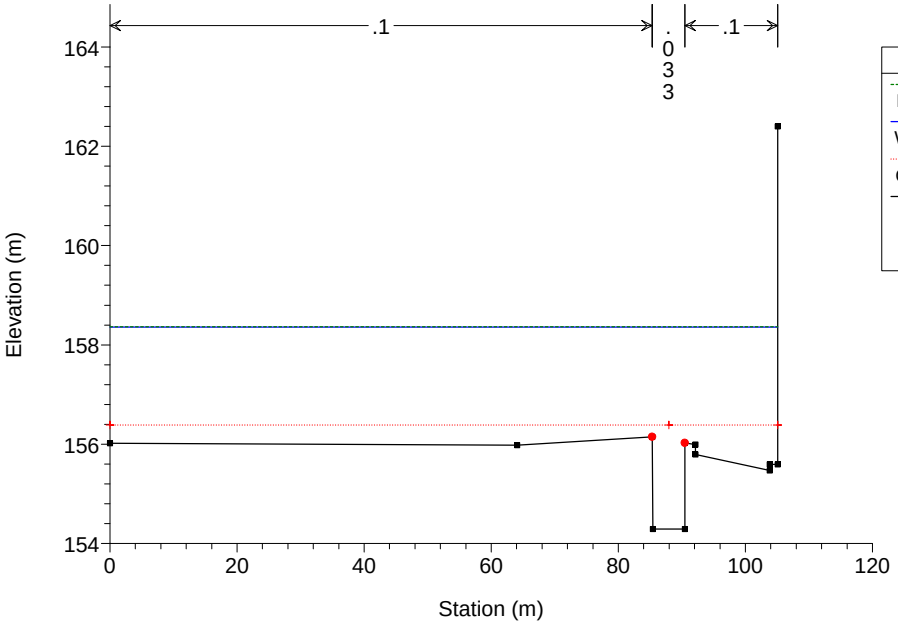

RS = 1001.9 BR Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)

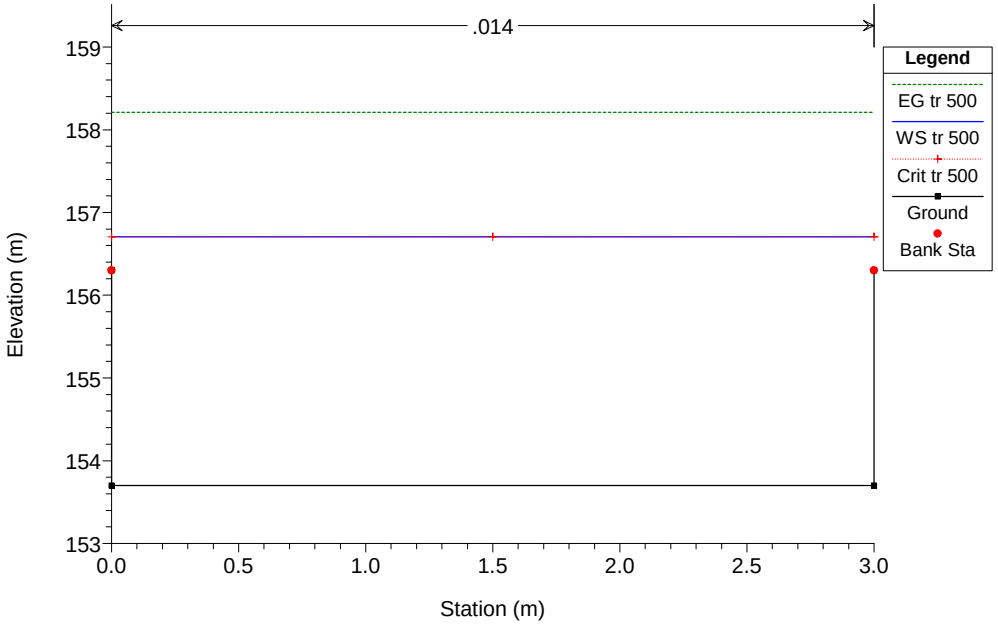

RS = 1001.8 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1001 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)

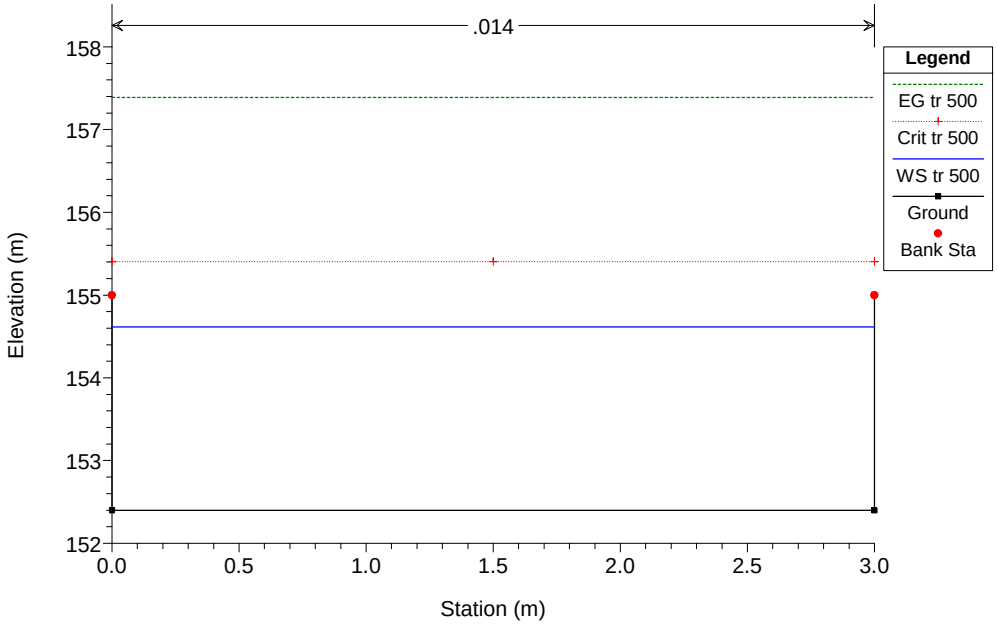

RS = 1000.9 BR Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
0
20
40
60
80
100
120


RS = 1000.9 BR Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
0
20
40
60
80
100
120

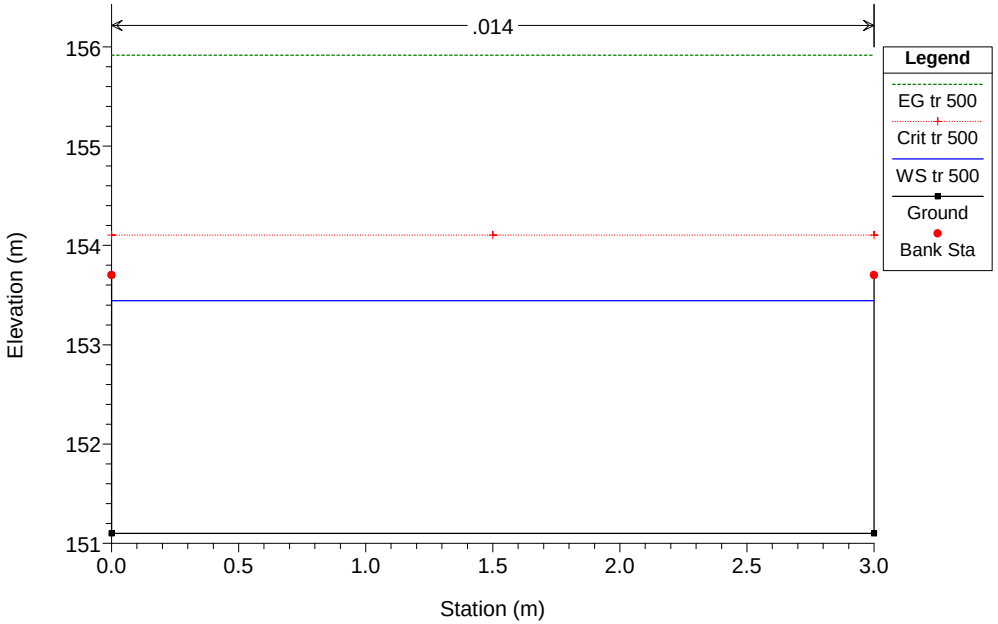

RS = 1000.8 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
0
20
40
60
80
100
120


RS = 109 Q TR 500 anni
.014
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
159
158
157
156
155
154
153
0.0
0.5
1.0
1.5
2.0
2.5
3.0

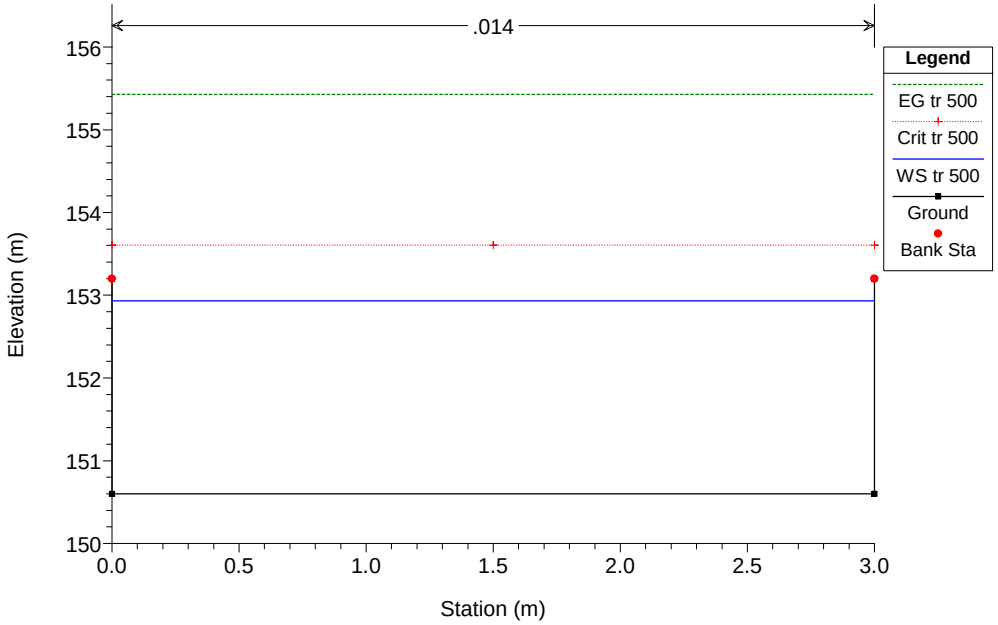
RS = 108 Q TR 500 anni



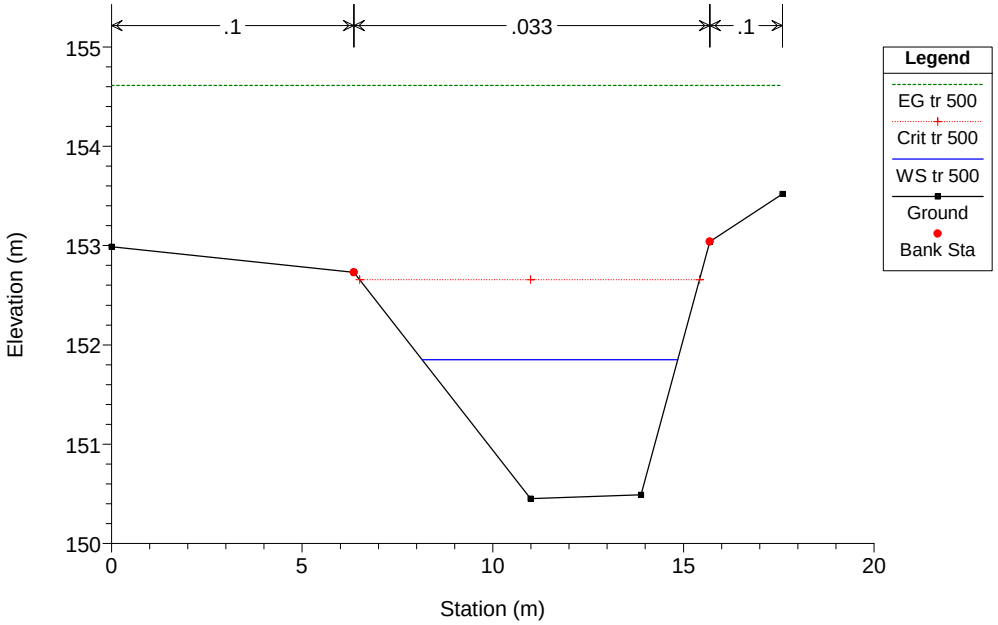
RS = 107 Q TR 500 anni



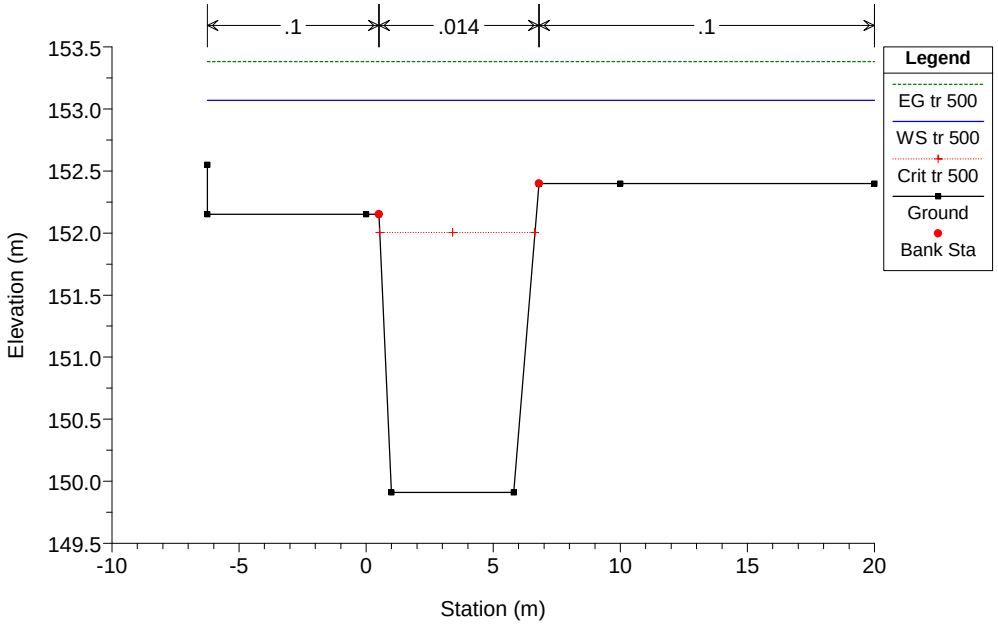
RS = 106 Q TR 500 anni



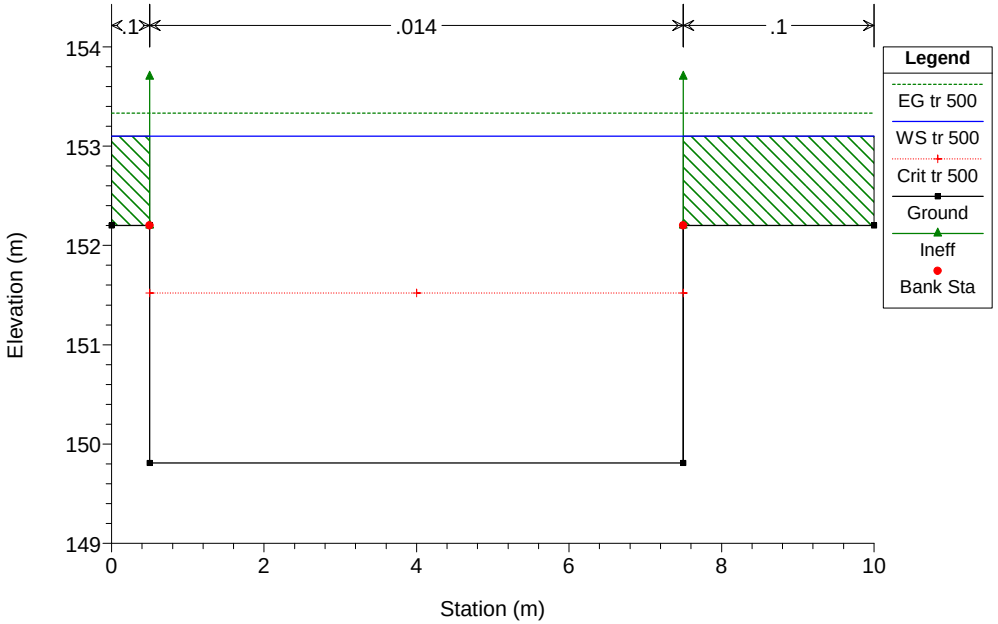
RS = 105 Q TR 500 anni



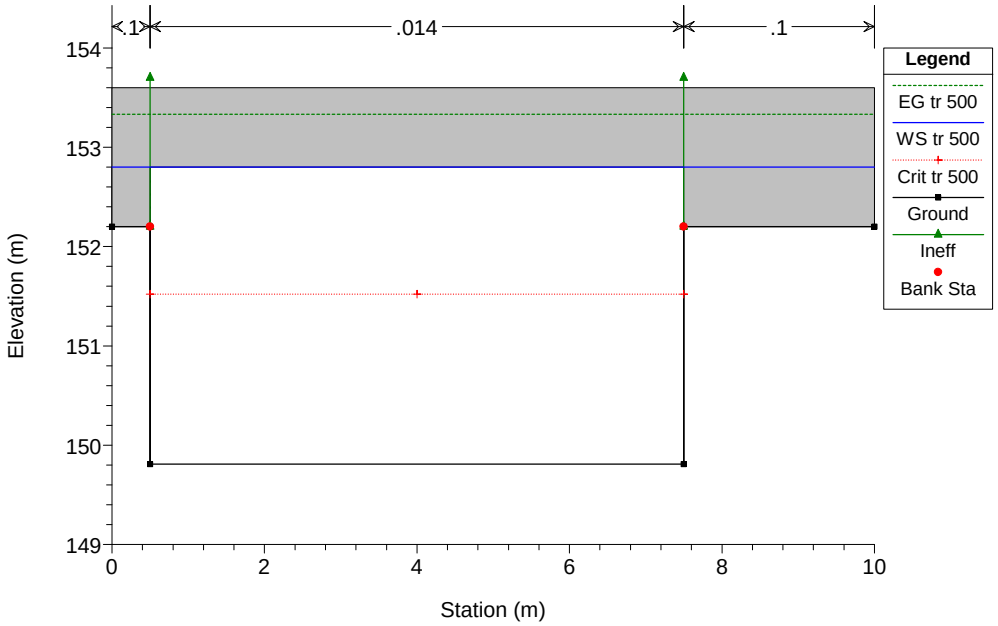
RS = 104 Q TR 500 anni



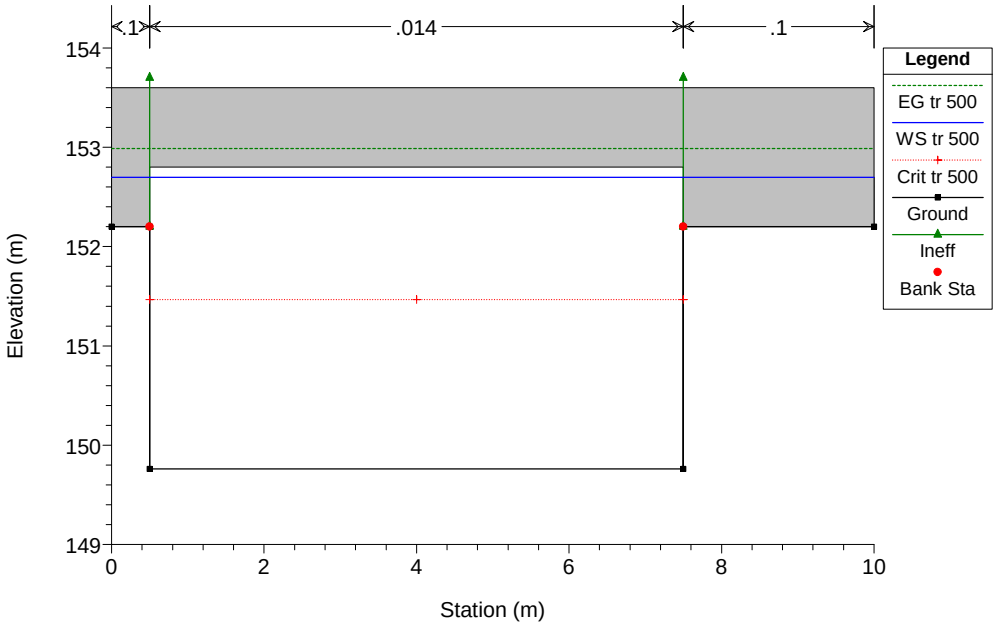
RS = 103.2 Q TR 500 anni

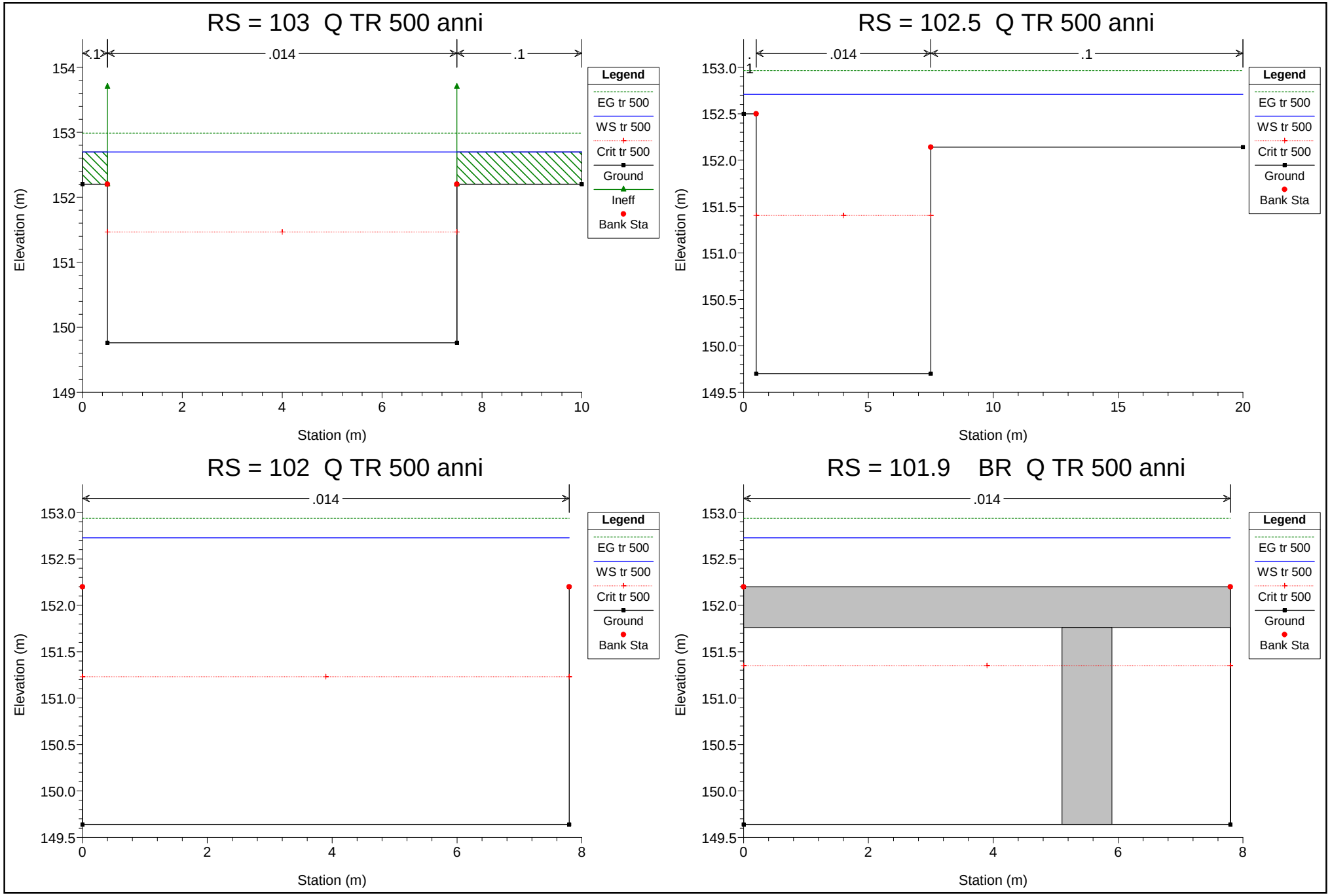


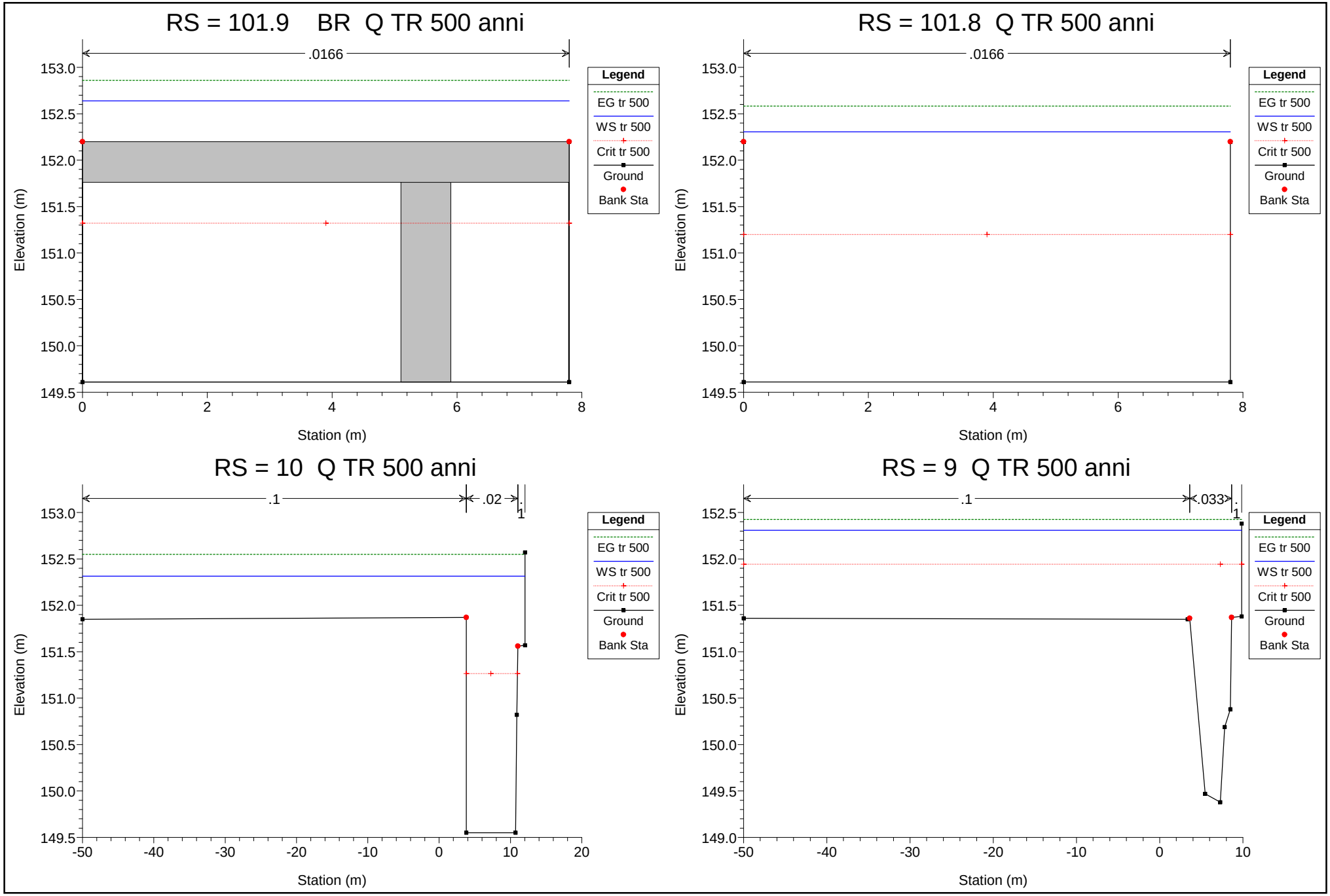
RS = 103.1 BR Q TR 500 anni



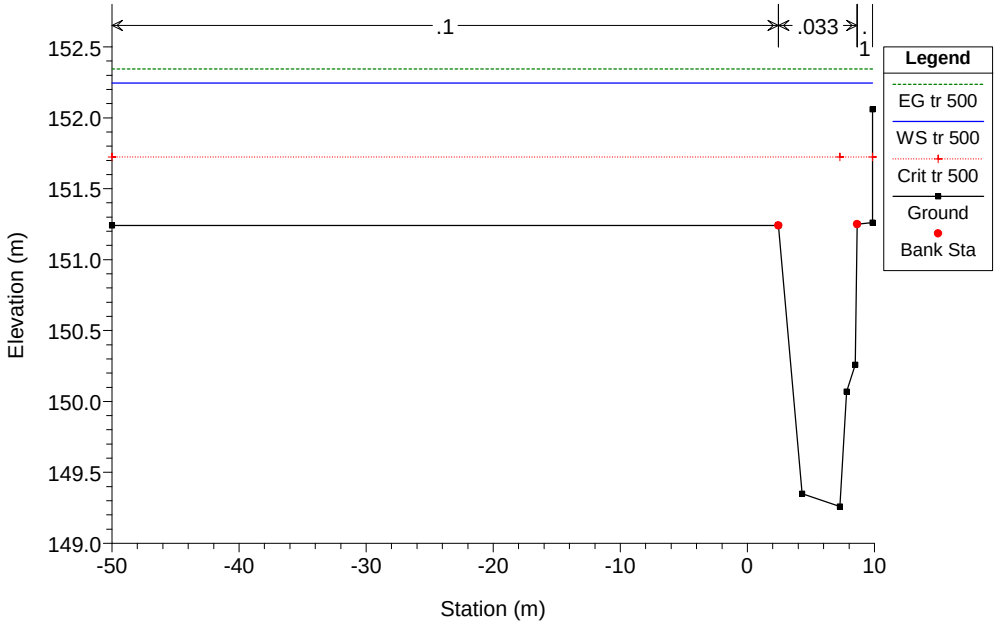
RS = 103.1 BR Q TR 500 anni



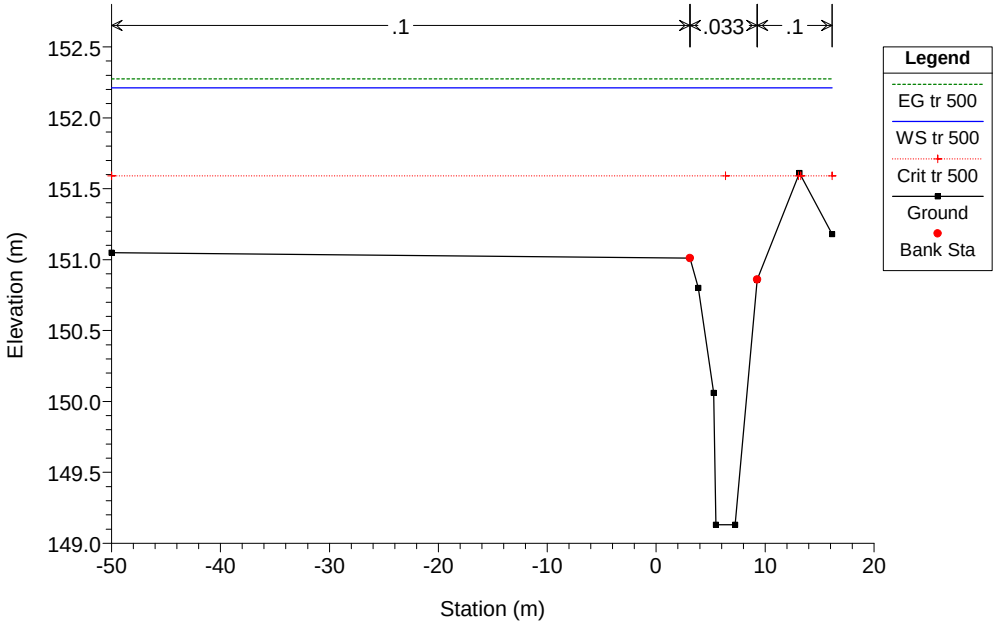

RS = 103 Q TR 500 anni
.1
.014
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 102.5 Q TR 500 anni
.1
.014
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 102 Q TR 500 anni
.014
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 101.9 BR Q TR 500 anni
.014
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 101.9 BR Q TR 500 anni
.0166
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 101.8 Q TR 500 anni
.0166
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 10 Q TR 500 anni
.1
.02
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 9 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)

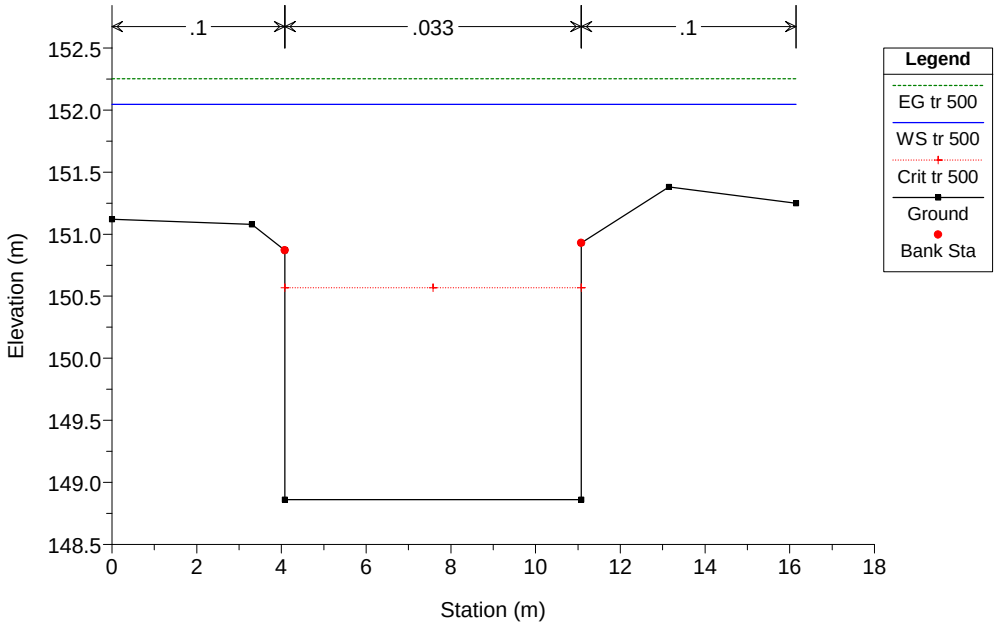
RS = 8.5 Q TR 500 anni



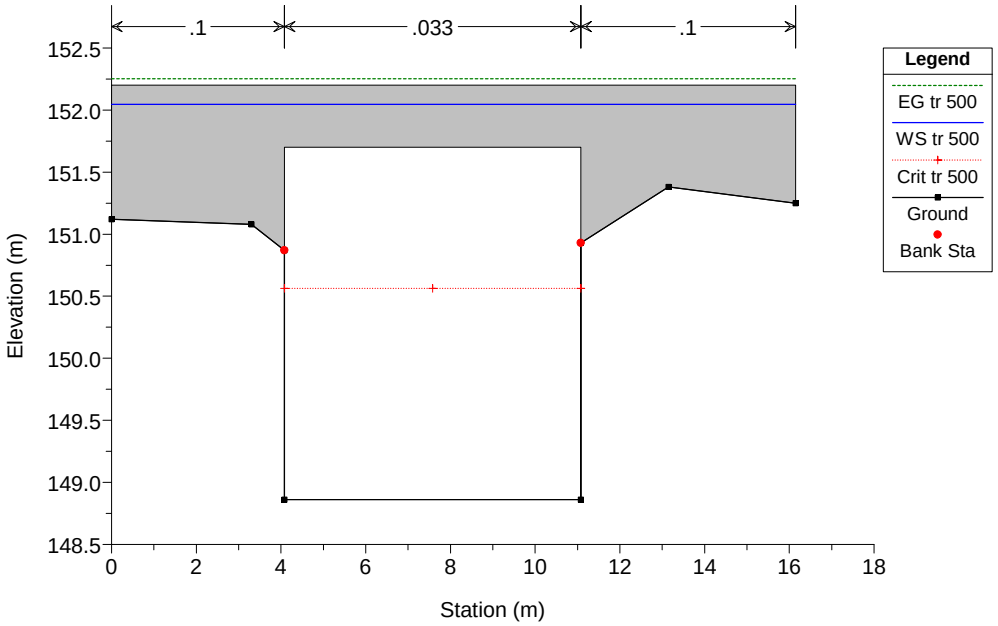
RS = 8.3 Q TR 500 anni

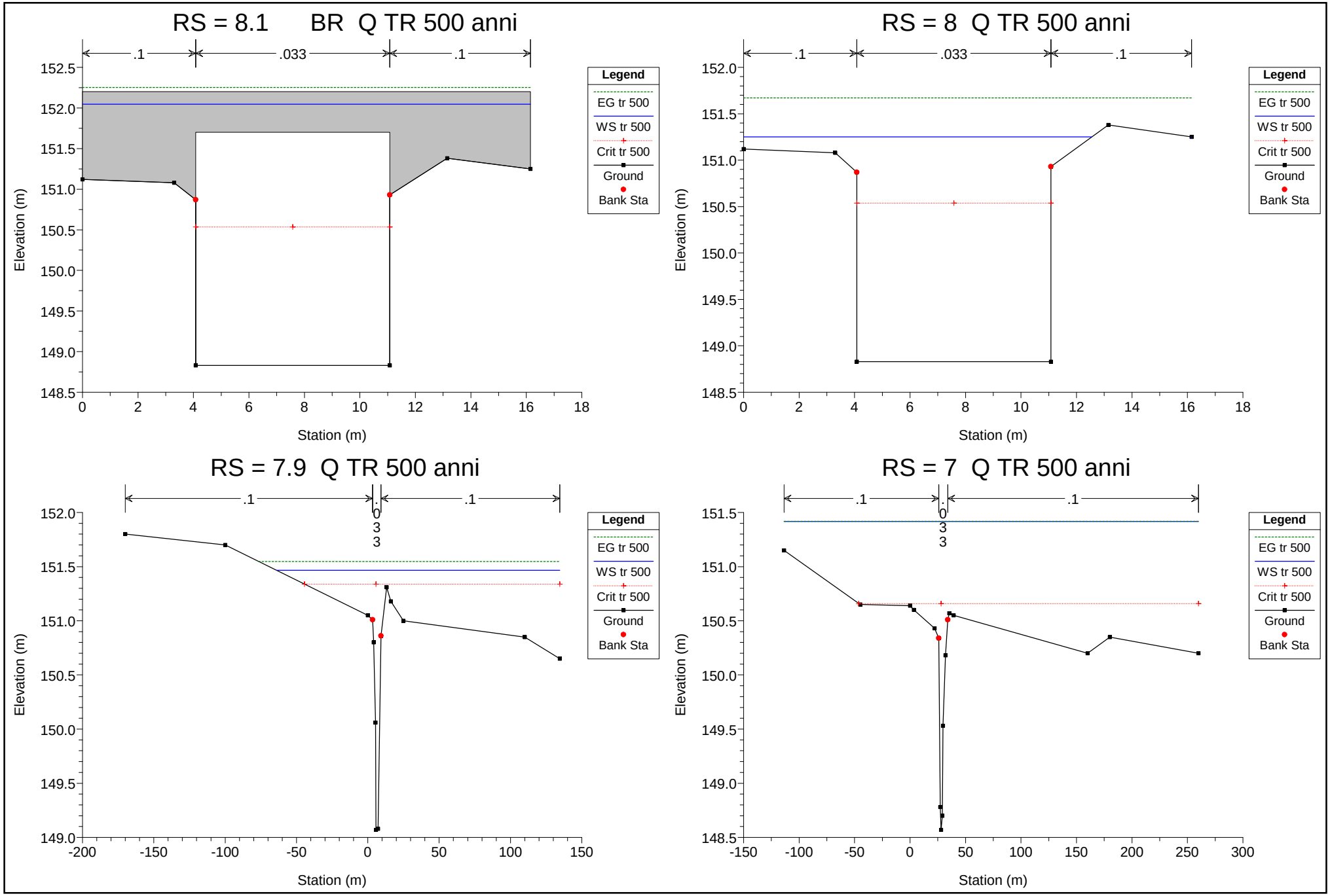


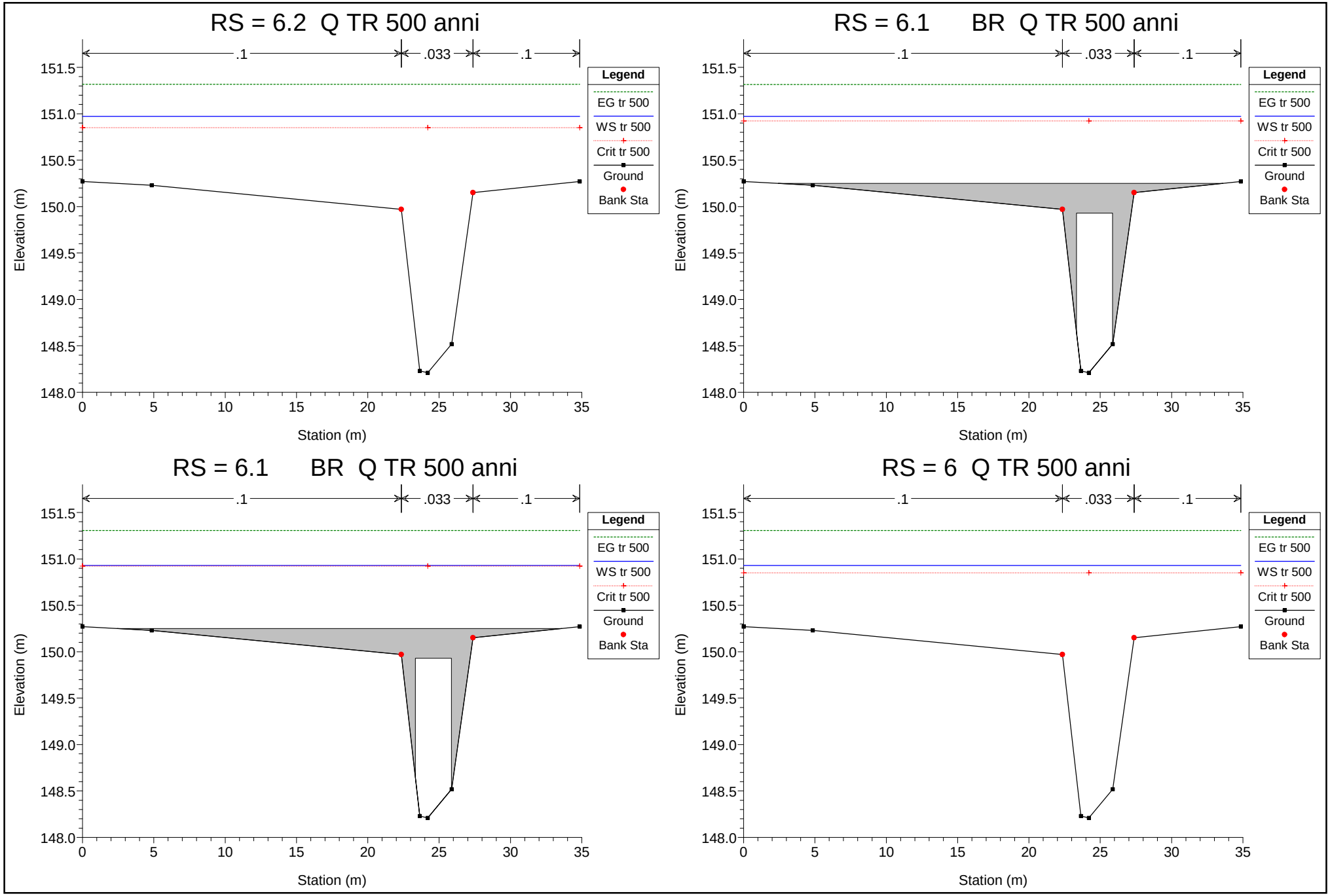
RS = 8.2 Q TR 500 anni

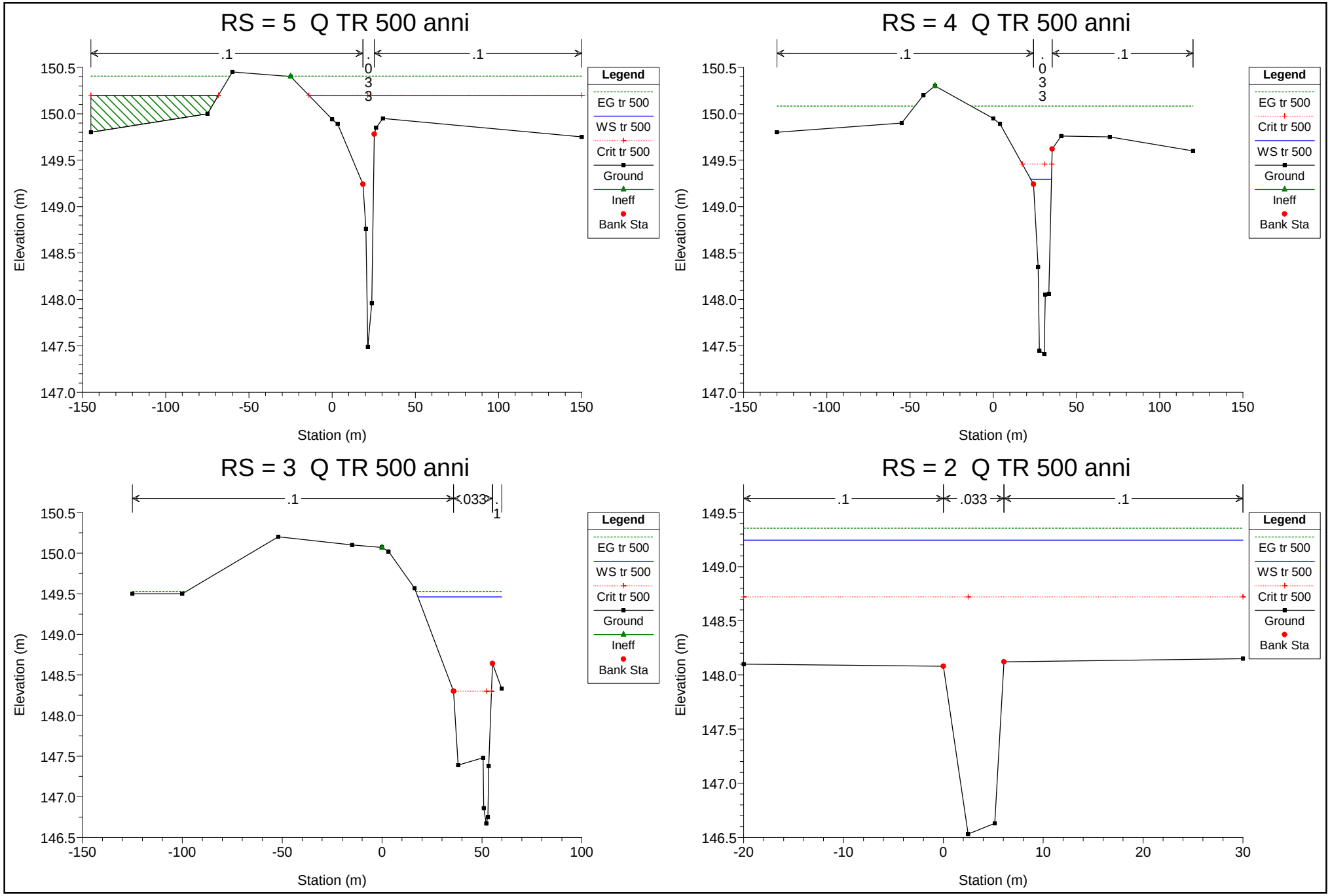


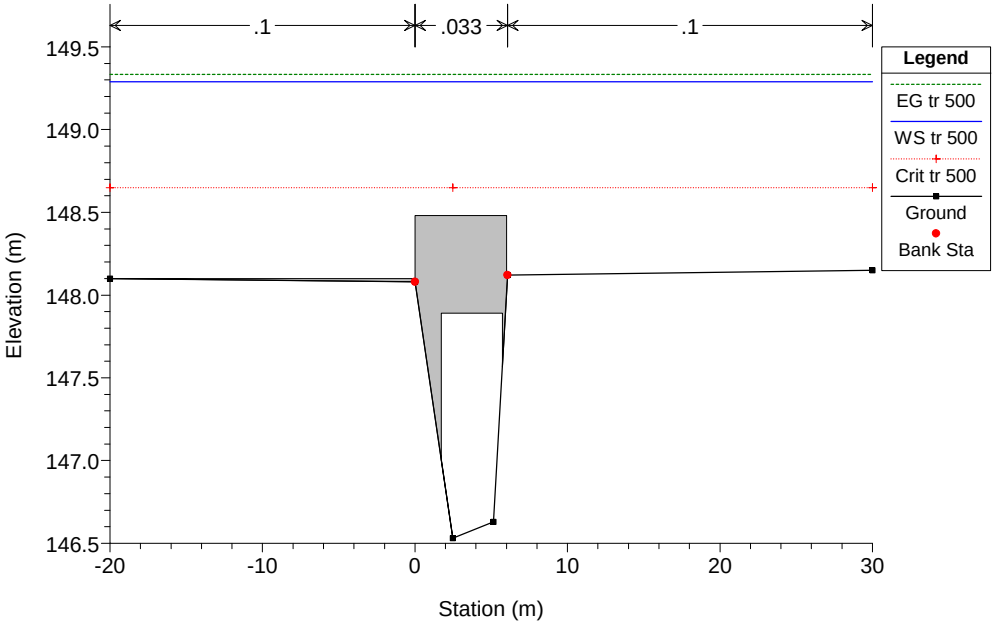
RS = 8.1 BR Q TR 500 anni

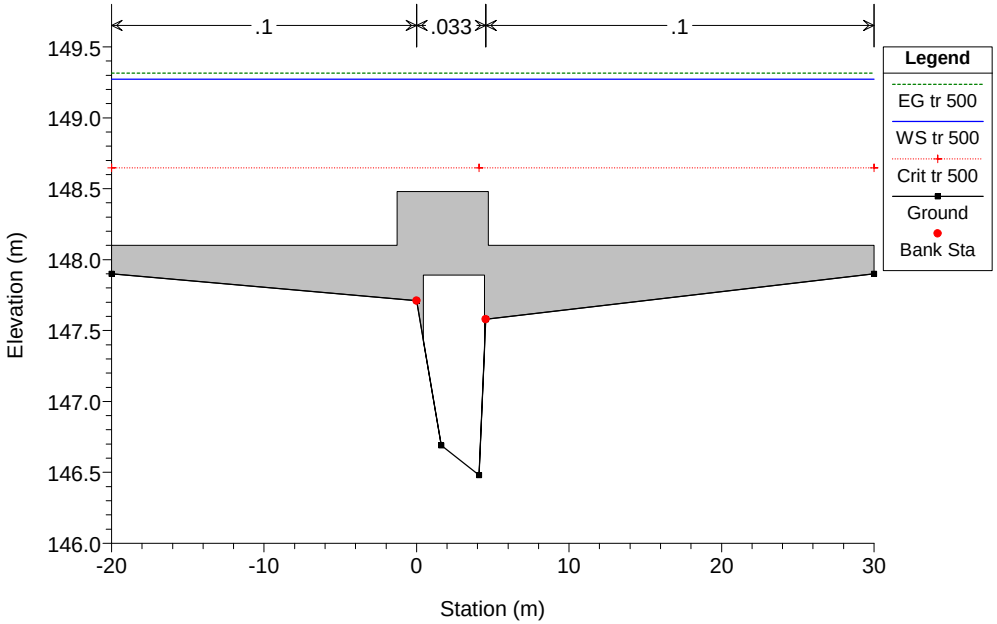


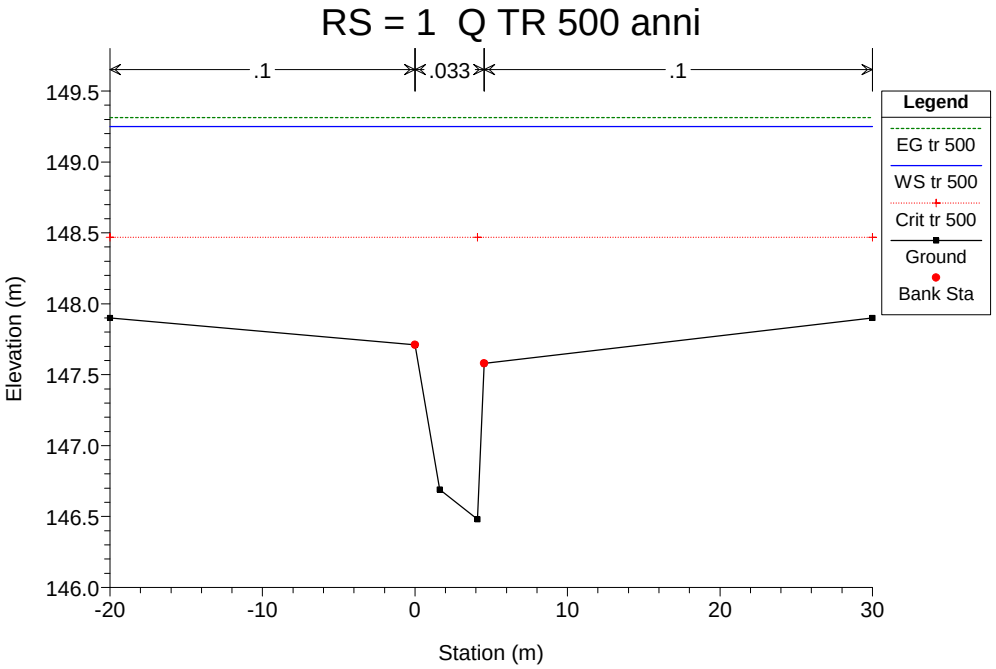

RS = 8.1 BR Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 8 Q TR 500 anni
RS = 7.9 Q TR 500 anni
RS = 7 Q TR 500 anni


RS = 6.2 Q TR 500 anni
RS = 6.1 BR Q TR 500 anni
RS = 6.1 BR Q TR 500 anni
RS = 6 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
0
5
10
15
20
25
30
35


RS = 5 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 4 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
Crit tr 500
WS tr 500
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 3 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 2 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1.5 BR Q TR 500 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta


RS = 1.5 BR Q TR 500 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta


RS = 1 Q TR 500 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta

SIMULAZIONE 5

(Situazione di progetto)

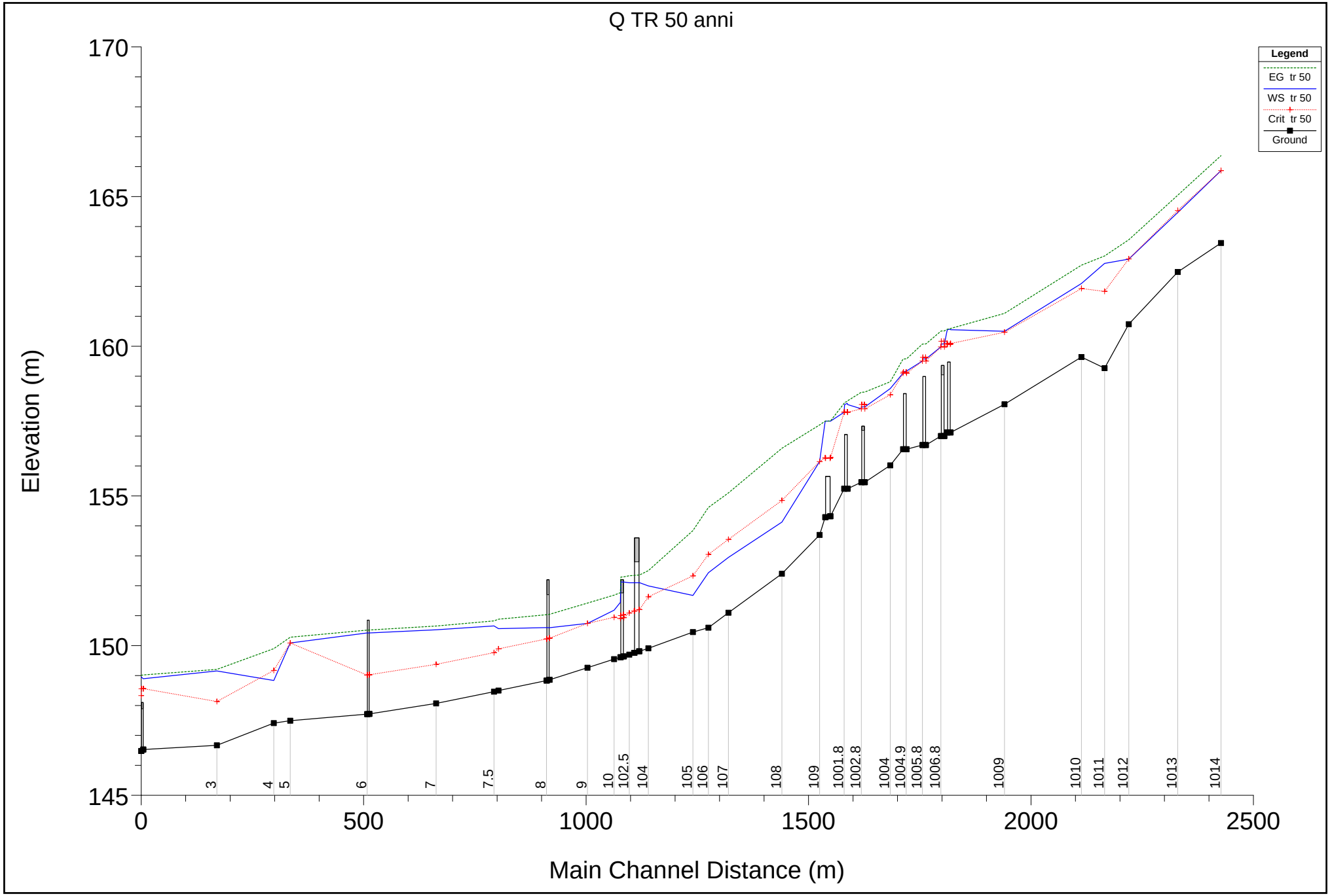
	portata al colmo Q_c m^3/s	tempo di ritorno anni
Rio Moisa a Valle di Magliano	36	50

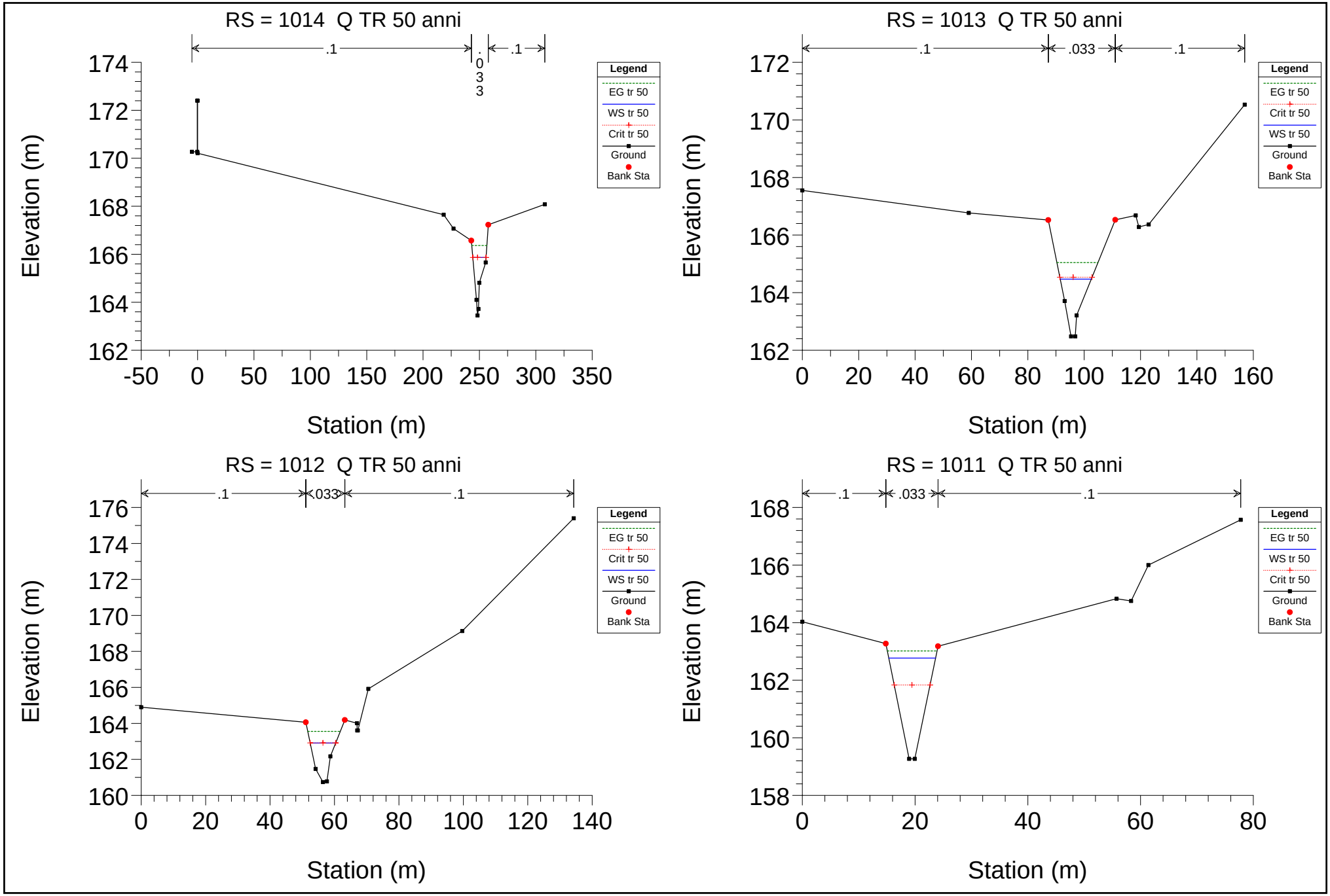
HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 50

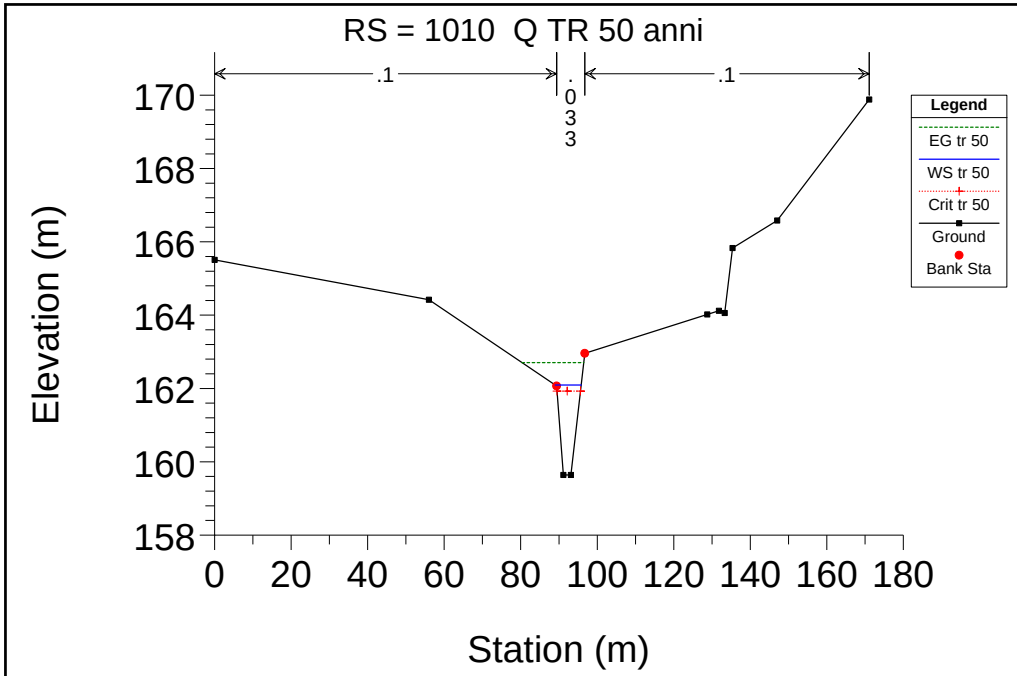
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1014	tr 50	36.00	163.45	165.87	165.87	166.37	0.012747	3.13	11.49	11.71	1.01
1	1013	tr 50	36.00	162.48	164.47	164.54	165.04	0.014349	3.36	10.72	11.00	1.09
1	1012	tr 50	36.00	160.74	162.91	162.92	163.56	0.012615	3.57	10.09	7.90	1.01
1	1011	tr 50	36.00	159.27	162.77	161.83	163.02	0.003206	2.21	16.27	8.30	0.50
1	1010	tr 50	36.00	159.64	162.10	161.93	162.71	0.010211	3.46	10.40	6.82	0.87
1	1009	tr 50	36.00	158.06	160.50	160.47	161.10	0.008470	3.52	13.97	19.54	0.83
1	1008	tr 50	36.00	157.12	160.55	160.09	160.60	0.001361	1.35	77.16	85.47	0.24
1	1007.9		Bridge									
1	1007.8	tr 50	36.00	157.12	160.52	160.10	160.57	0.001496	1.40	74.31	85.47	0.25
1	1007	tr 50	36.00	157.00	160.08	159.98	160.51	0.007936	3.17	20.00	23.86	0.60
1	1006.9		Bridge									
1	1006.8	tr 50	36.00	157.00	159.98	159.98	160.50	0.009686	3.42	17.66	23.86	0.66
1	1006	tr 50	36.00	156.70	159.58	159.51	160.08	0.010197	3.34	16.82	23.62	0.64
1	1005.9		Bridge									
1	1005.8	tr 50	36.00	156.70	159.51	159.51	160.07	0.011515	3.51	15.47	23.29	0.68
1	1005	tr 50	36.00	156.56	159.18	159.10	159.58	0.008458	3.15	20.87	23.90	0.64
1	1004.9		Bridge									
1	1004.8	tr 50	36.00	156.56	159.10	159.10	159.57	0.010026	3.36	19.06	23.89	0.69
1	1004	tr 50	36.00	156.02	158.59	158.38	158.81	0.004089	2.57	35.61	48.72	0.60
1	1003	tr 50	36.00	155.46	157.97	157.91	158.47	0.008141	3.31	18.16	27.51	0.69
1	1002.9		Bridge									
1	1002.8	tr 50	36.00	155.46	157.91	157.91	158.47	0.009265	3.47	16.52	25.53	0.73
1	1002	tr 50	36.00	155.24	158.05	157.80	158.18	0.002877	2.04	47.23	62.91	0.40
1	1001.9		Bridge									
1	1001.8	tr 50	36.00	155.24	157.80	157.80	158.10	0.006182	2.79	31.19	62.91	0.57
1	1001	tr 50	36.00	154.32	157.50	156.28	157.50	0.000173	0.61	169.40	105.11	0.11
1	1000.9		Bridge									
1	1000.8	tr 50	36.00	154.29	157.49	156.27	157.50	0.000173	0.61	169.11	105.11	0.11
1	109	tr 50	36.00	153.70	156.15	156.15	157.37	0.005187	4.90	7.34	3.00	1.00
1	108	tr 50	36.00	152.40	154.12	154.85	156.59	0.012737	6.96	5.17	3.00	1.69
1	107	tr 50	36.00	151.10	152.94	153.55	155.10	0.010676	6.50	5.53	3.00	1.53
1	106	tr 50	36.00	150.60	152.44	153.05	154.61	0.010829	6.54	5.50	3.00	1.54
1	105	tr 50	36.00	150.45	151.68	152.33	153.84	0.065142	6.52	5.52	6.23	2.21
1	104	tr 50	36.00	149.91	151.99	151.63	152.51	0.001485	3.17	11.35	6.10	0.74
1	103.2	tr 50	36.00	149.81	152.10	151.20	152.36	0.000639	2.24	16.04	7.00	0.47
1	103.1		Bridge									
1	103	tr 50	36.00	149.76	152.10	151.15	152.35	0.000604	2.20	16.38	7.00	0.46
1	102.5	tr 50	36.00	149.70	152.10	151.09	152.33	0.000563	2.14	16.79	7.00	0.44
1	102	tr 50	36.00	149.64	152.12	150.94	152.30	0.000389	1.86	19.36	7.80	0.38

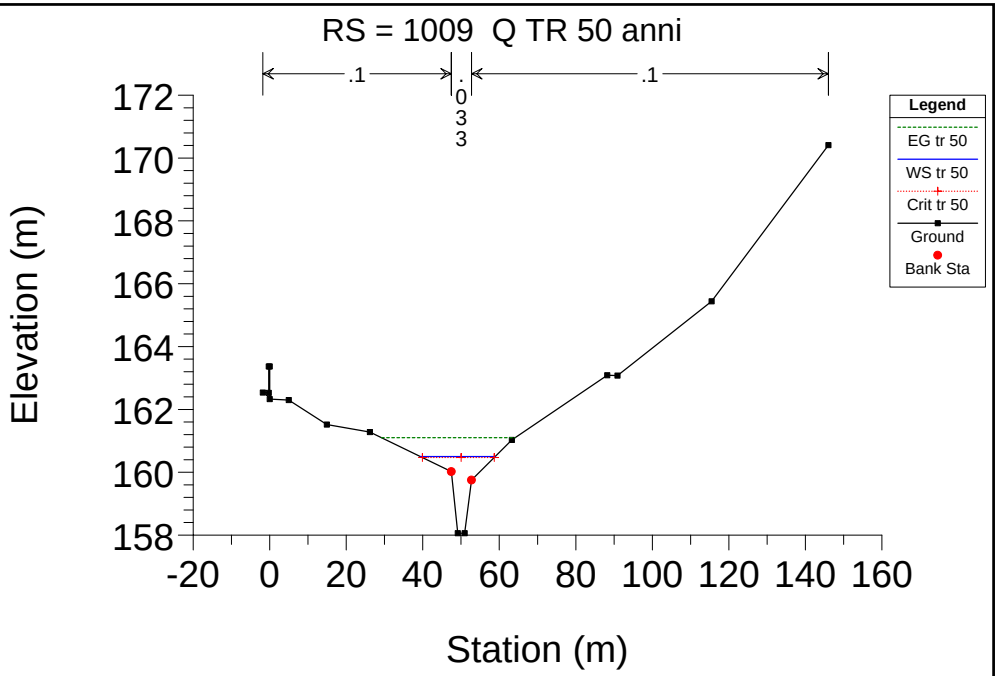
HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 50 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	101.9		Bridge									
1	101.8	tr 50	36.00	149.61	151.44	150.90	151.77	0.001298	2.52	14.31	7.80	0.59
1	10	tr 50	36.00	149.55	151.18	150.94	151.69	0.003364	3.14	11.47	7.16	0.79
1	9	tr 50	36.00	149.26	150.74	150.74	151.42	0.005206	3.65	9.87	7.34	1.00
1	8.2	tr 50	36.00	148.86	150.60	150.25	151.04	0.001403	2.96	12.18	7.00	0.72
1	8.1		Bridge									
1	8	tr 50	36.00	148.83	150.60	150.22	151.03	0.001332	2.90	12.40	7.00	0.70
1	7.8	tr 50	36.00	148.50	150.57	149.89	150.88	0.000856	2.49	14.47	7.00	0.55
1	7.5	tr 50	36.00	148.46	150.66	149.77	150.83	0.001525	1.81	19.86	11.07	0.43
1	7	tr 50	36.00	148.07	150.53	149.37	150.65	0.001013	1.56	23.02	11.72	0.36
1	6.2	tr 50	36.00	147.72	150.42	149.03	150.52	0.000692	1.39	25.89	34.85	0.30
1	6.1		Bridge									
1	6	tr 50	36.00	147.71	150.42	149.01	150.52	0.000668	1.37	30.40	34.85	0.29
1	5	tr 50	36.00	147.49	150.09	150.09	150.28	0.003566	2.26	50.30	230.94	0.55
1	4	tr 50	36.00	147.41	148.83	149.17	149.90	0.031030	4.57	7.88	8.94	1.55
1	3	tr 50	36.00	146.67	149.15	148.13	149.21	0.000643	1.05	41.79	37.27	0.26
1	2	tr 50	36.00	146.53	148.90	148.56	149.02	0.002269	1.95	45.81	50.00	0.45
1	1.5		Bridge									
1	1	tr 50	36.00	146.48	148.95	148.33	149.01	0.001301	1.56	63.33	50.00	0.34


Q TR 50 anni
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Elevation (m)
170
165
160
155
150
145
0
500
1000
1500
2000
2500
Main Channel Distance (m)
3
4
5
6
7
7.5
8
9
10
102.5
104
105
106
107
108
109
1001.8
1002.8
1004
1004.9
1005.8
1006.8
1009
1010
1011
1012
1013
1014


RS = 1014 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1013 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1012 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1011 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1010 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
170
168
166
164
162
160
158
0
20
40
60
80
100
120
140
160
180
Station (m)


RS = 1009 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
172
170
168
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164
162
160
158
-20
0
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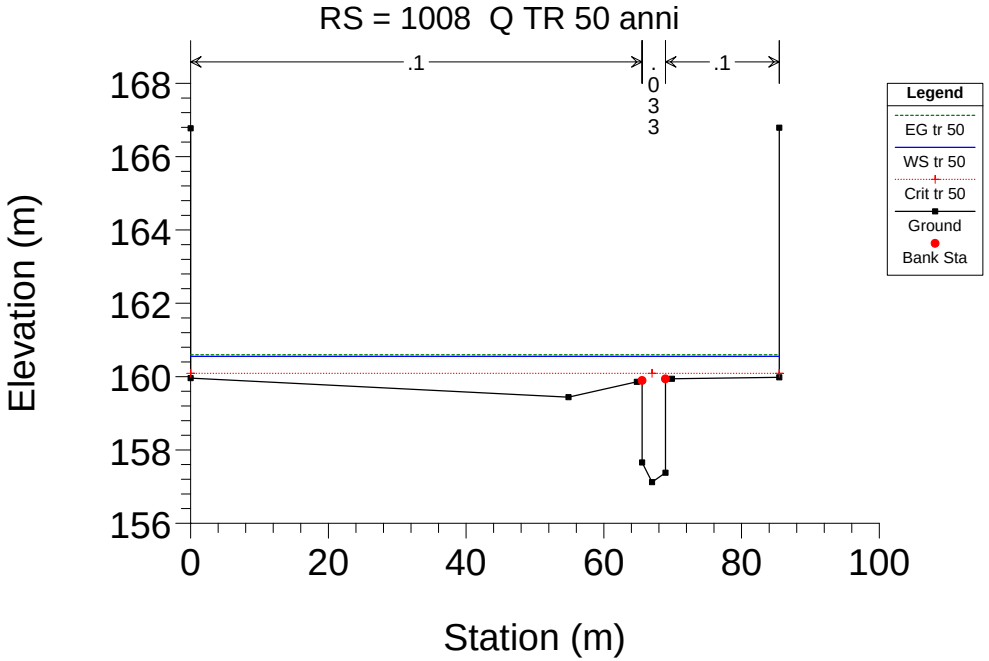
40
60
80
100
120
140
160
Station (m)


RS = 1008 Q TR 50 anni
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Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
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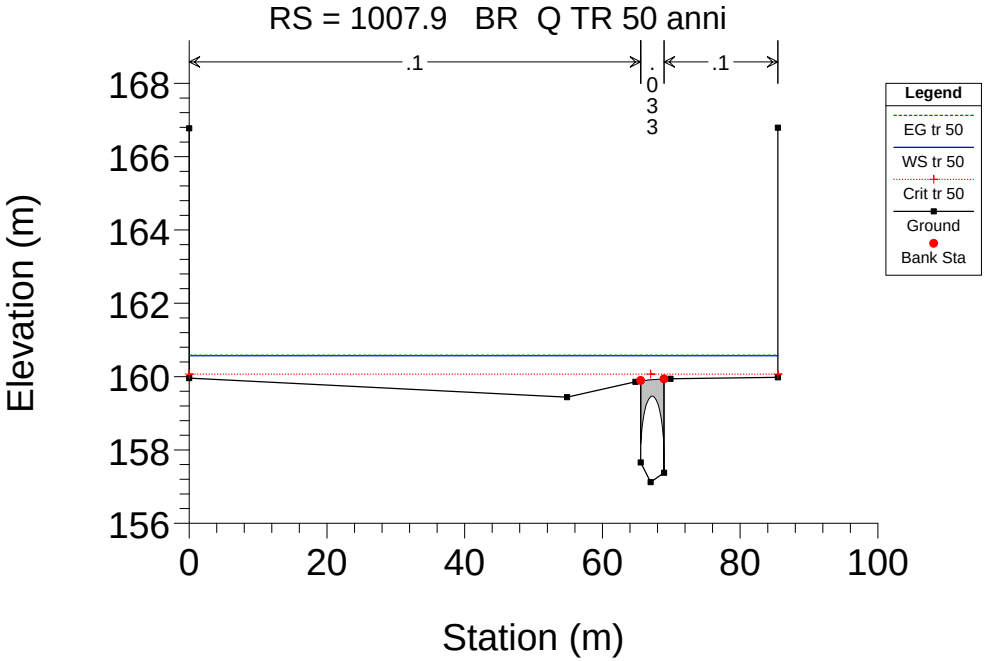
166
164
162
160
158
156
0
20
40
60
80
100
Station (m)


RS = 1007.9 BR Q TR 50 anni
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.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
168
166
164
162
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158
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0
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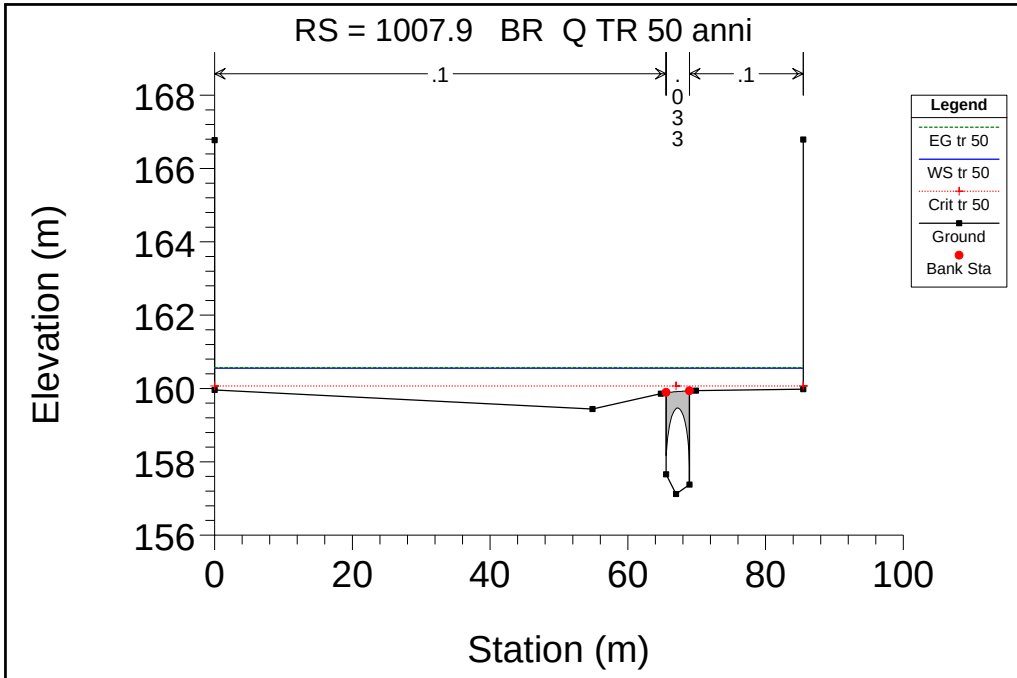
60
80
100
Station (m)


RS = 1007.9 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
168
166
164
162
160
158
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0
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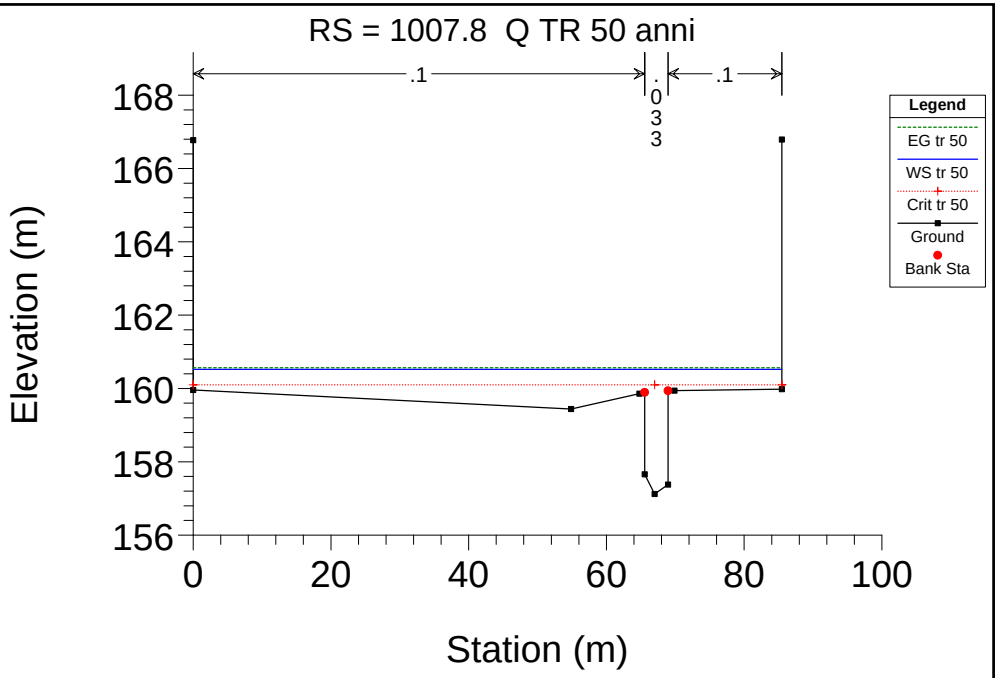
40
60
80
100
Station (m)


RS = 1007.8 Q TR 50 anni
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Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
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0
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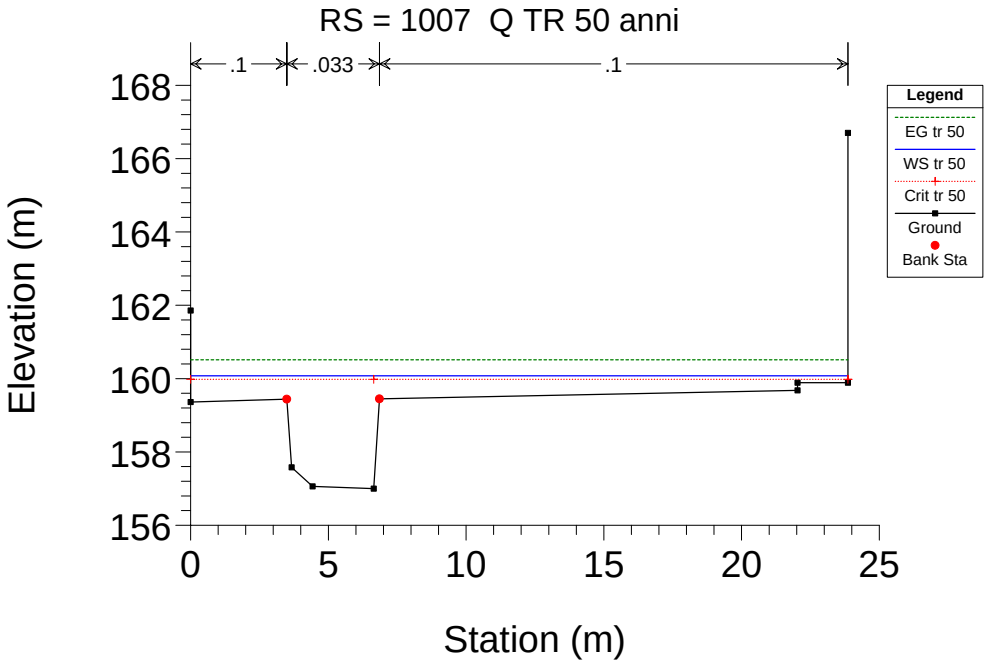
40
60
80
100
Station (m)


RS = 1007 Q TR 50 anni
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.033
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Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
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166
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162
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158
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0
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20
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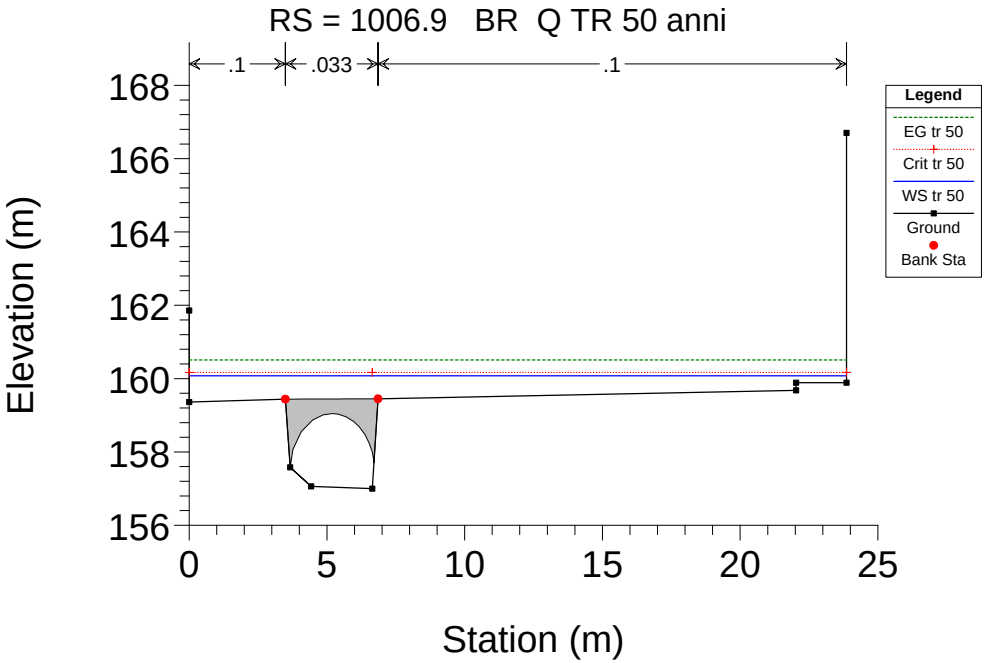
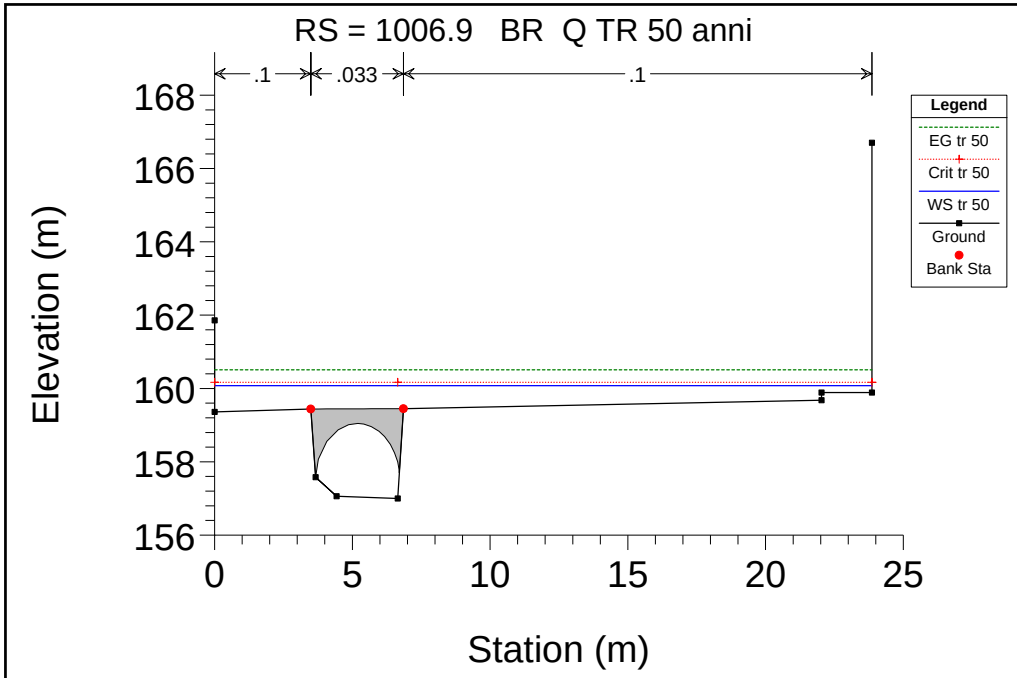
Station (m)


RS = 1006.9 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
168
166
164
162
160
158
156
0
5
10
15
20
25
Station (m)


RS = 1006.9 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
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0
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20
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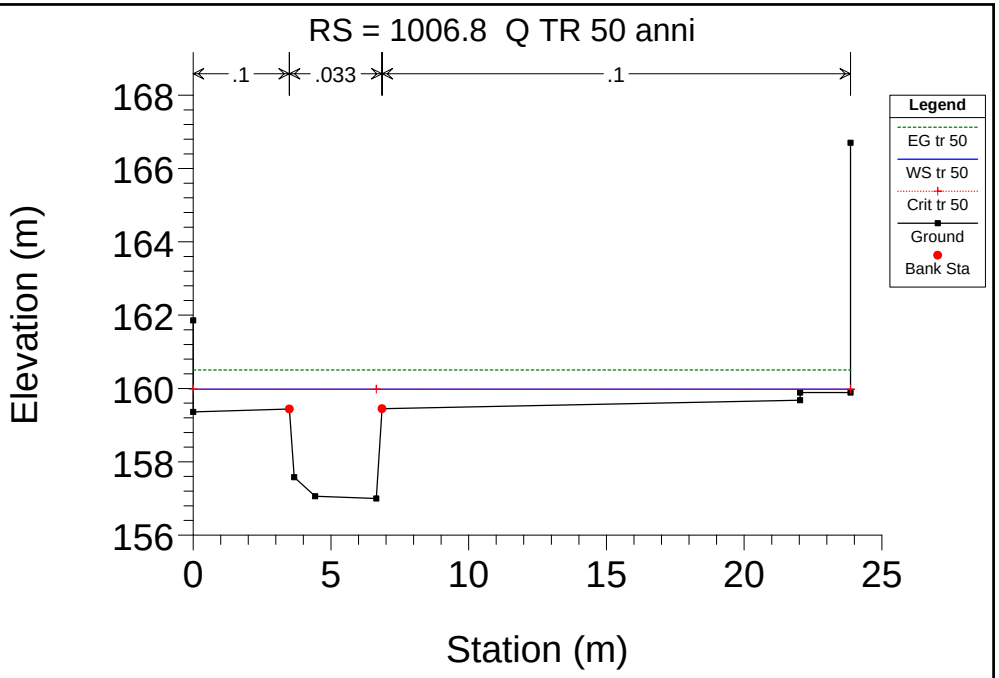
Station (m)


RS = 1006.8 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
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166
164
162
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158
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0
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10
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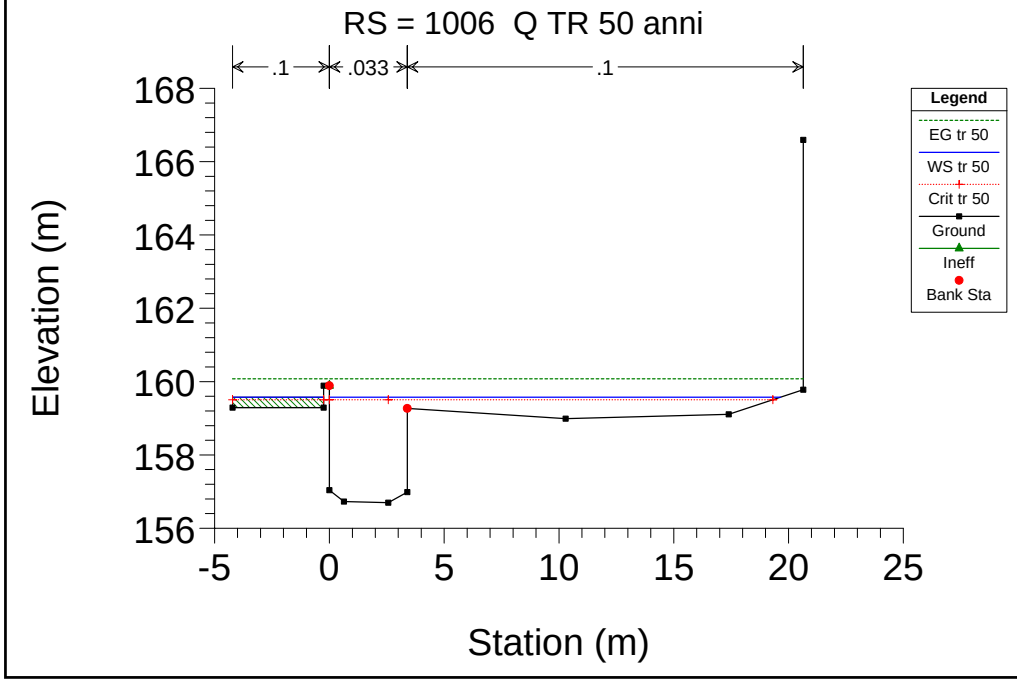
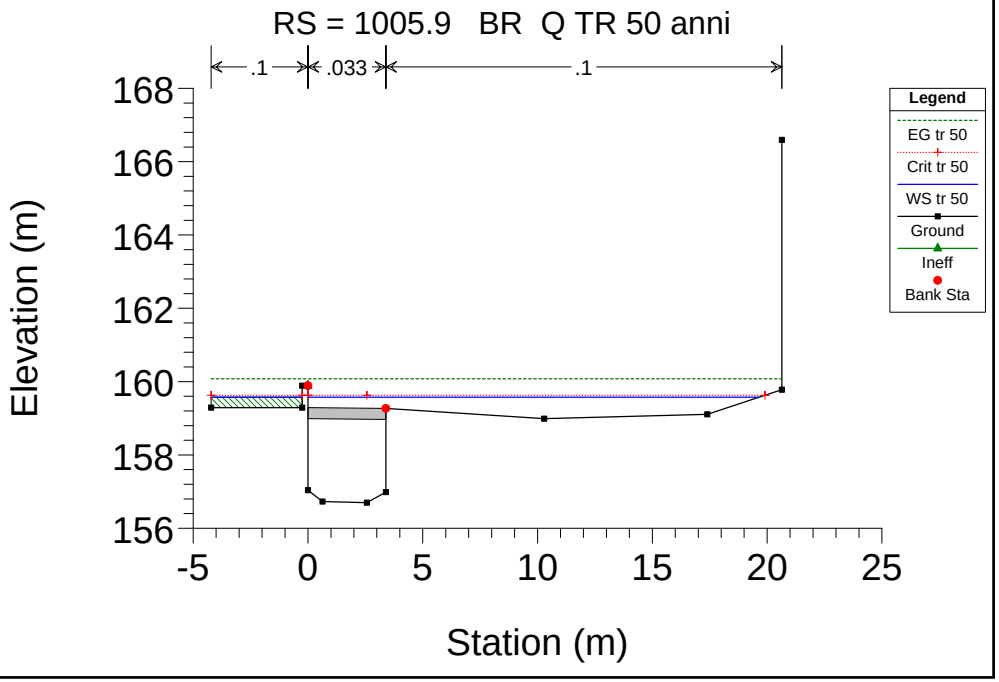
20
25
Station (m)


RS = 1006 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta
Elevation (m)
168
166
164
162
160
158
156
-5
0
5
10
15
20
25
Station (m)


RS = 1005.9 BR Q TR 50 anni
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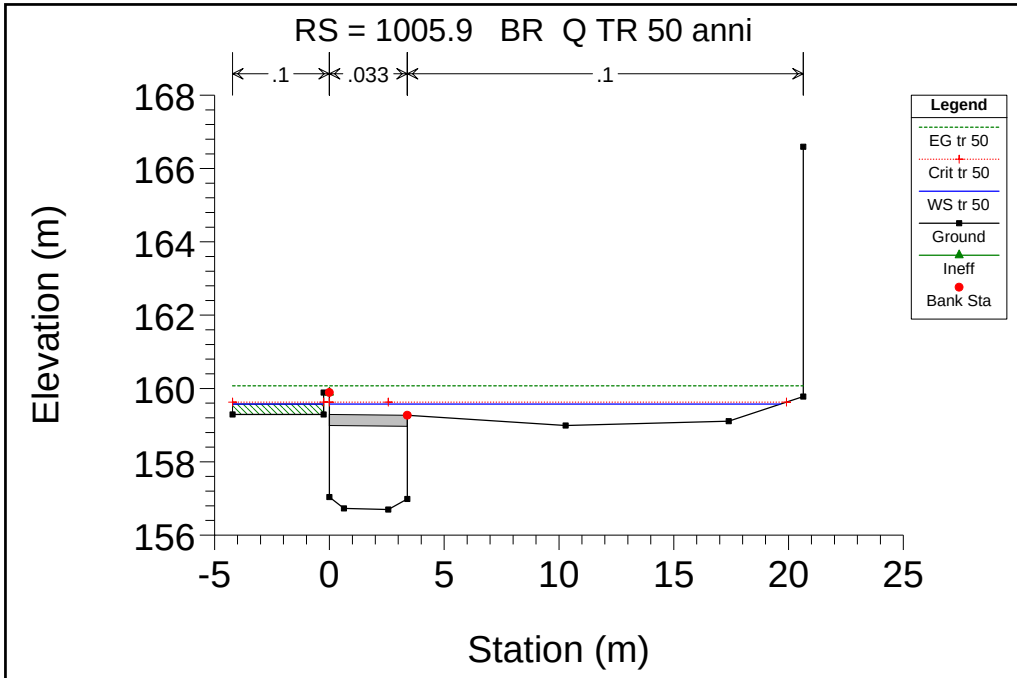
.033
.1
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Ineff
Bank Sta
Elevation (m)
168
166
164
162
160
158
156
-5
0
5
10
15
20
25
Station (m)


RS = 1005.9 BR Q TR 50 anni
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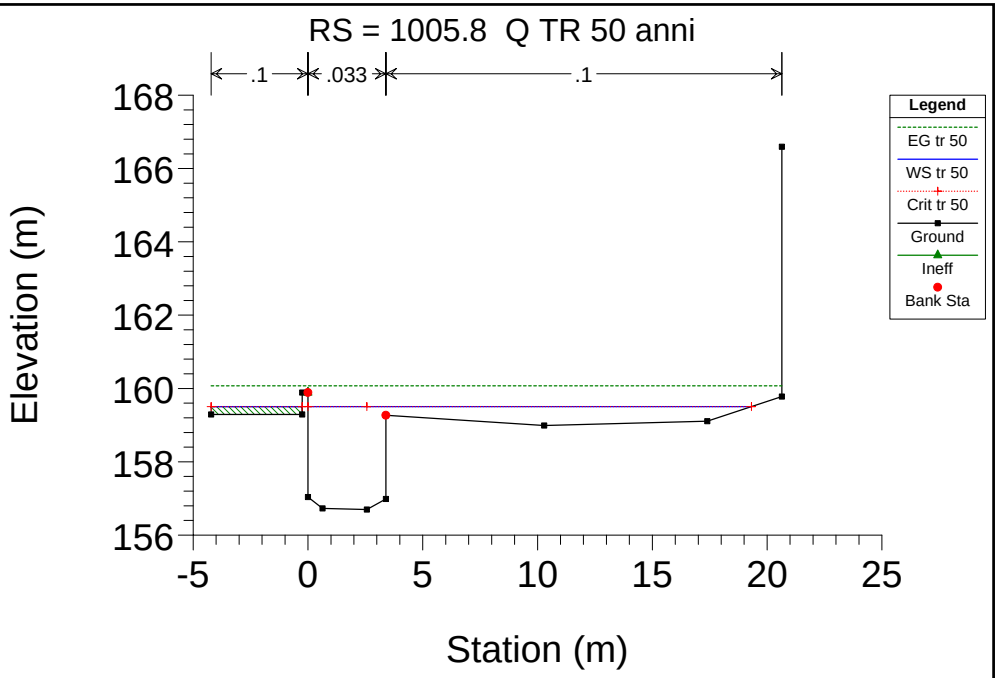
.1
Elevation (m)
Station (m)
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Ineff
Bank Sta


RS = 1005.8 Q TR 50 anni
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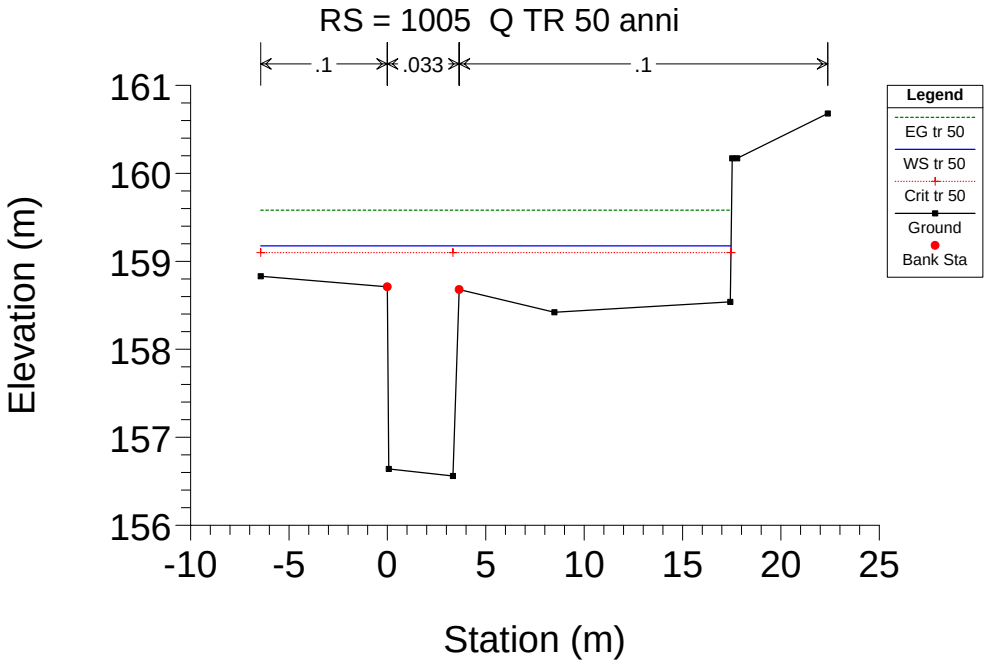
Elevation (m)
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta


RS = 1005 Q TR 50 anni
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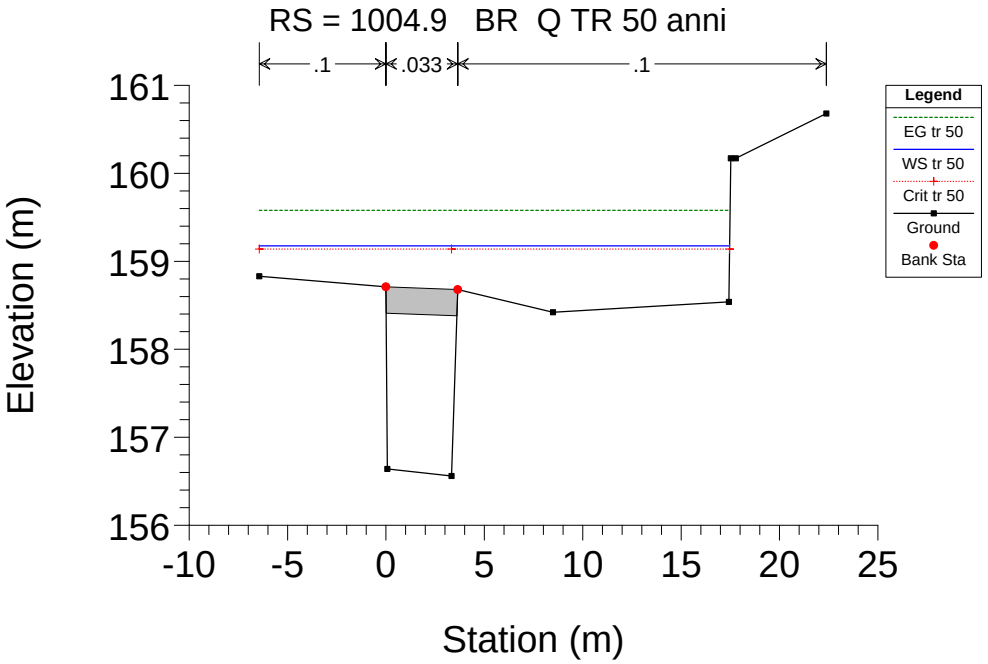
.033
.1
Elevation (m)
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta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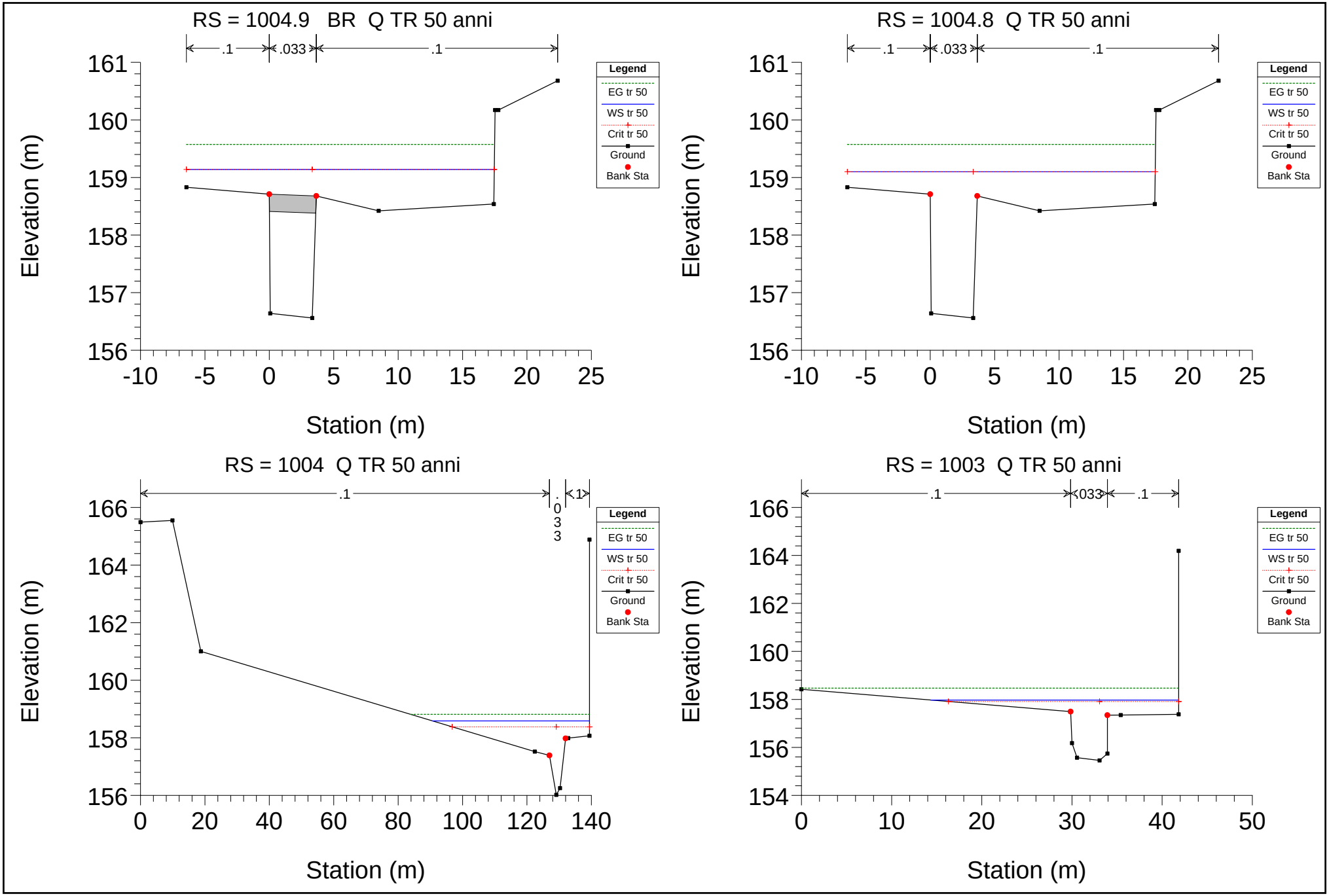
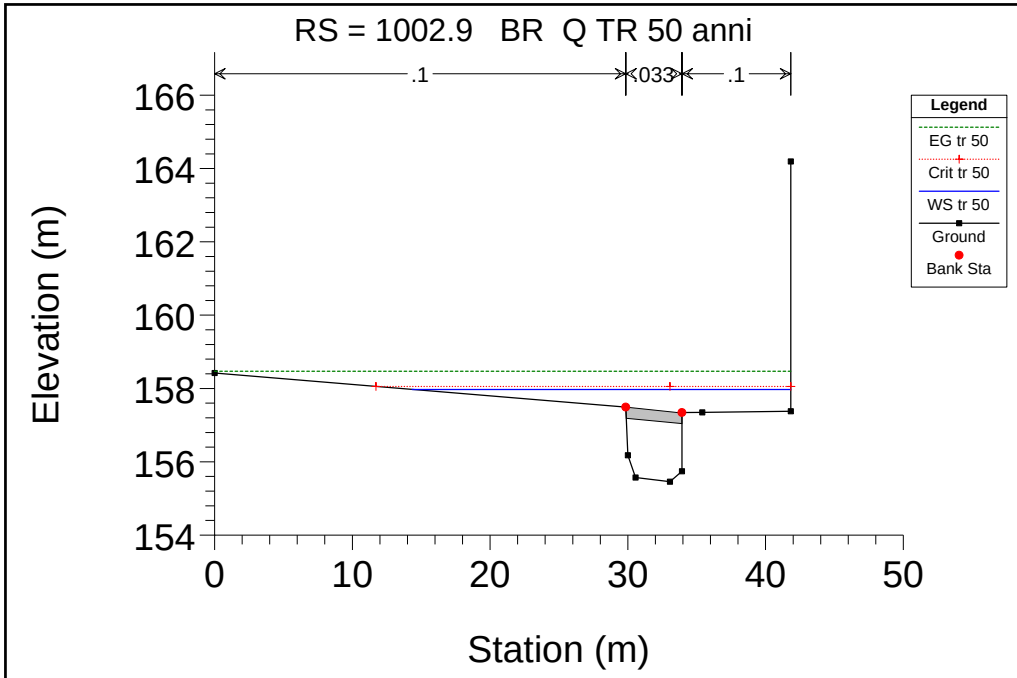
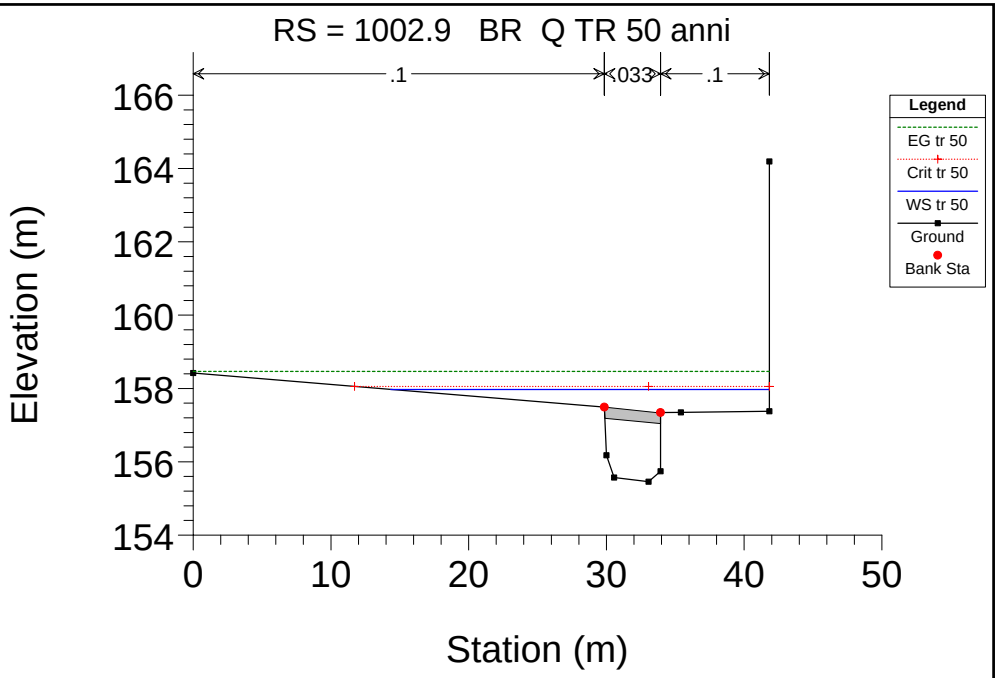
Elevation (m)
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta


RS = 1004.9 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1004.8 Q TR 50 anni
RS = 1004 Q TR 50 anni
RS = 1003 Q TR 50 anni


RS = 1002.9 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
166
164
162
160
158
156
154
0
10
20
30
40
50
Station (m)


RS = 1002.9 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
166
164
162
160
158
156
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0
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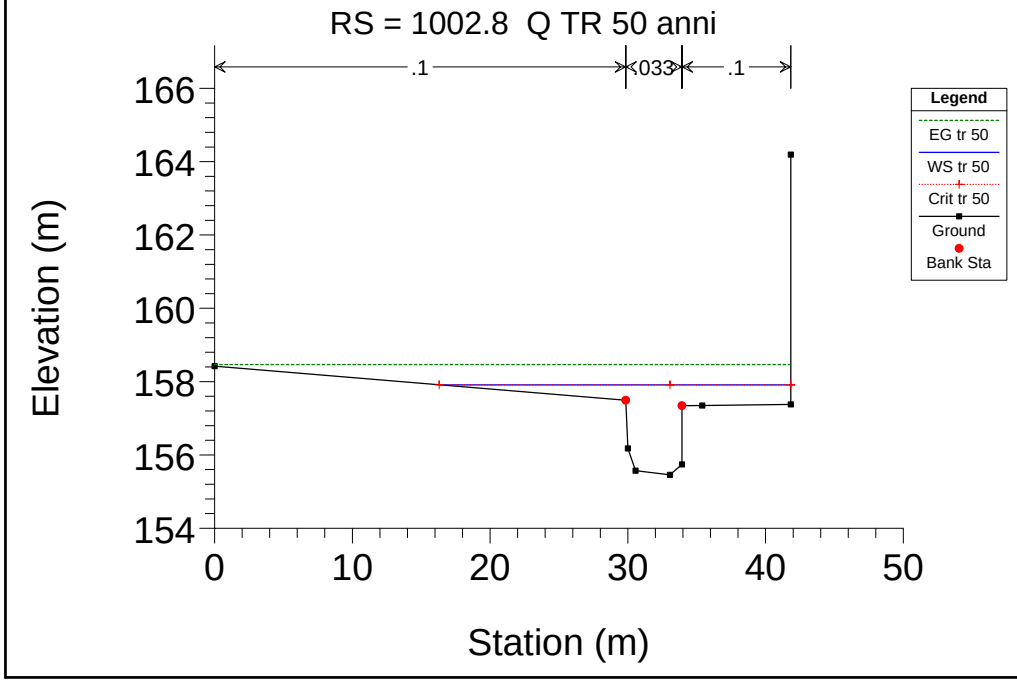
20
30
40
50
Station (m)


RS = 1002.8 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
166
164
162
160
158
156
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0
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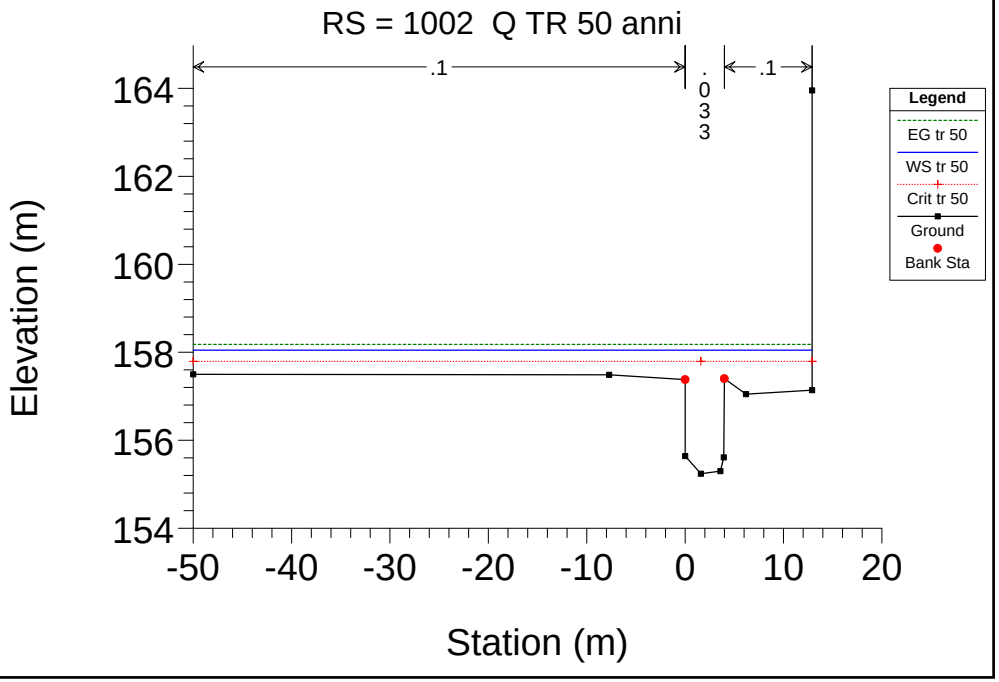
20
30
40
50
Station (m)


RS = 1002 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
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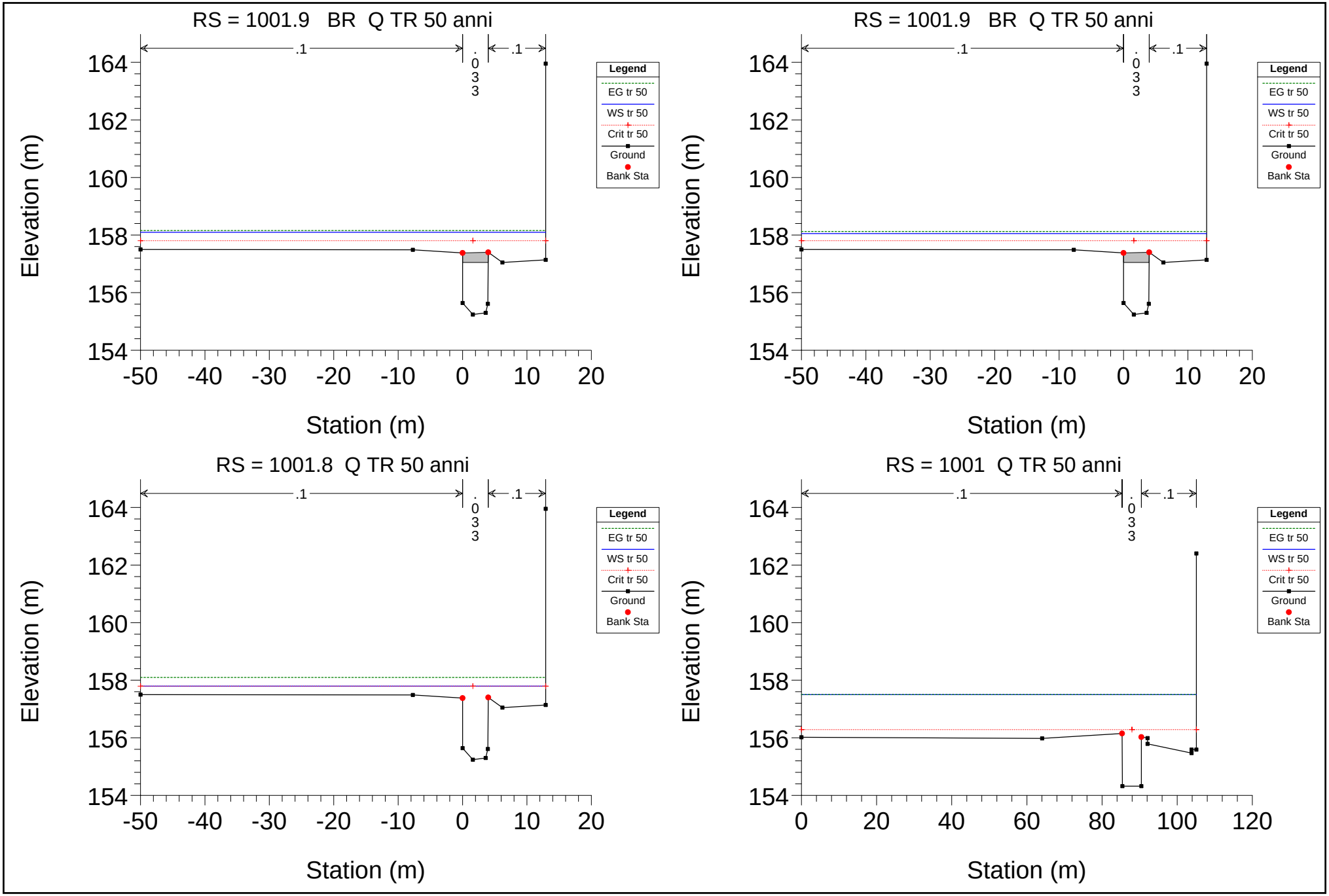
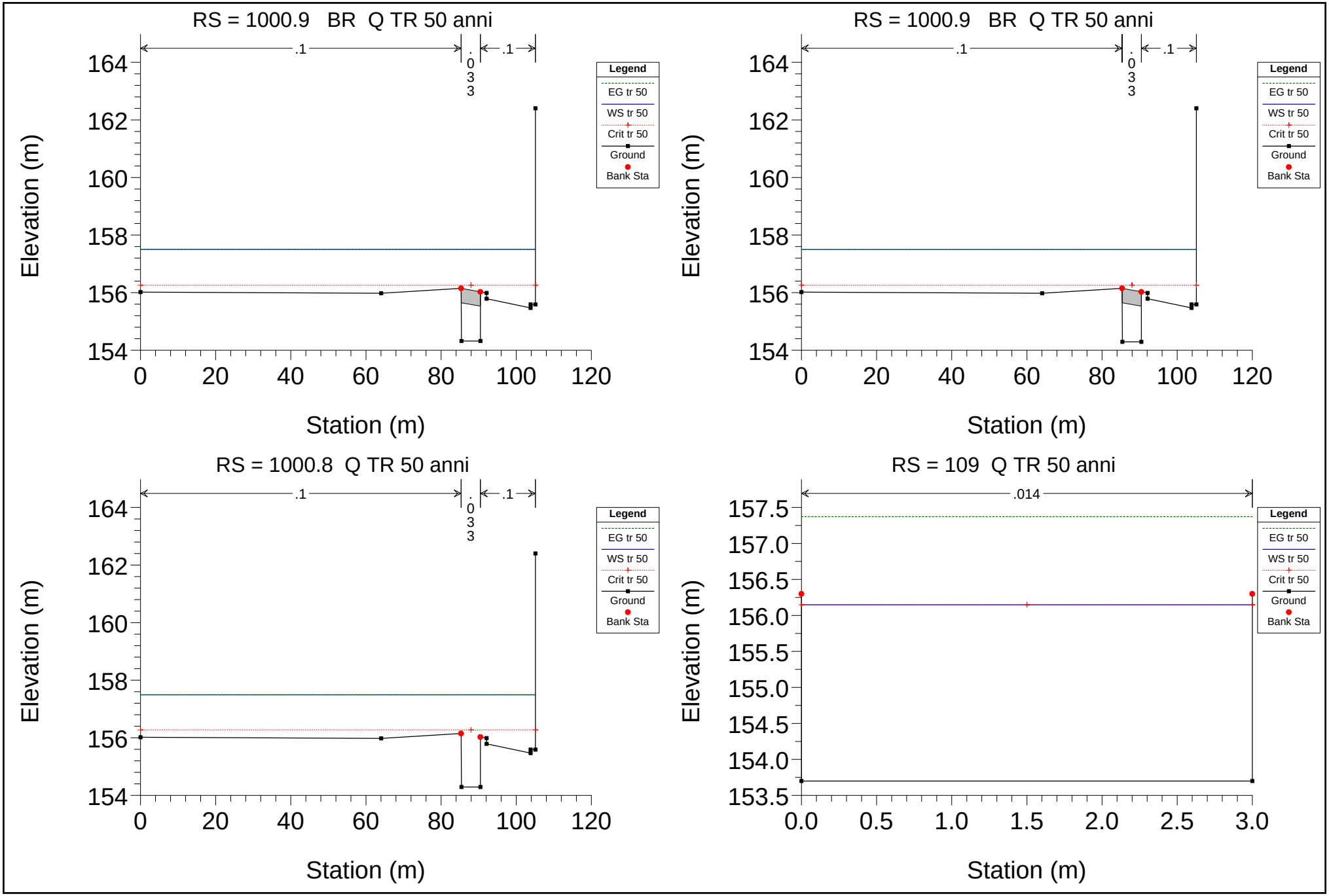
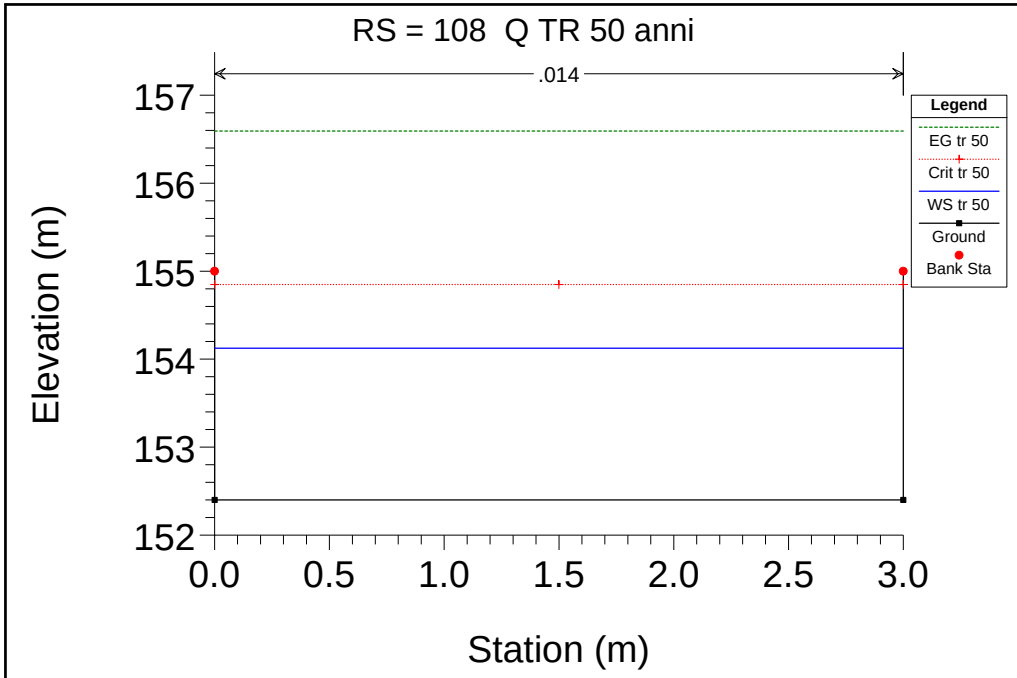
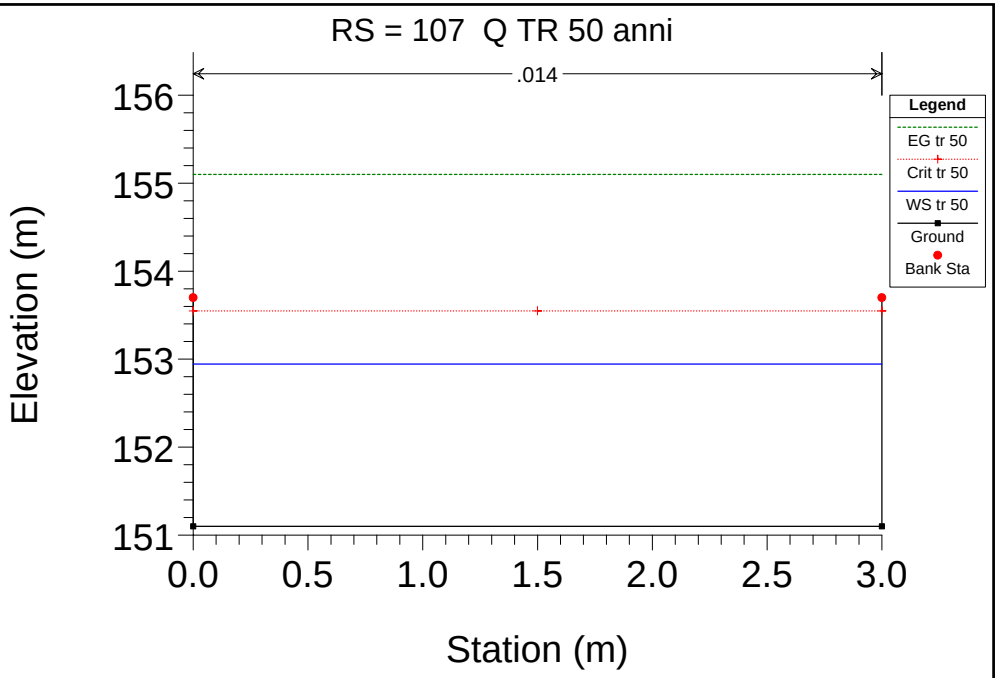
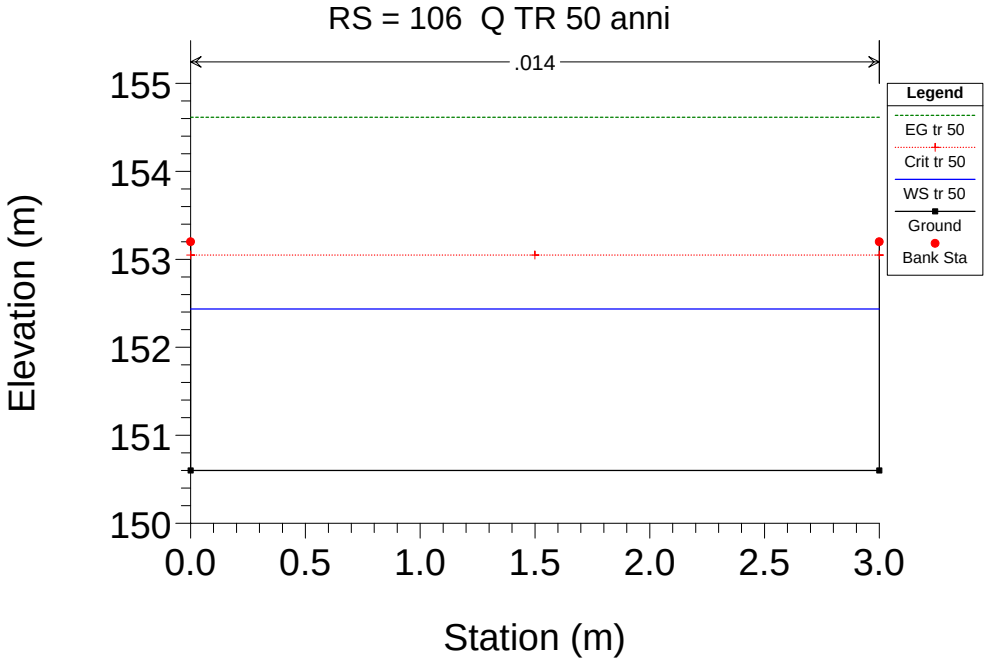
162
160
158
156
154
-50
-40
-30
-20
-10
0
10
20
Station (m)

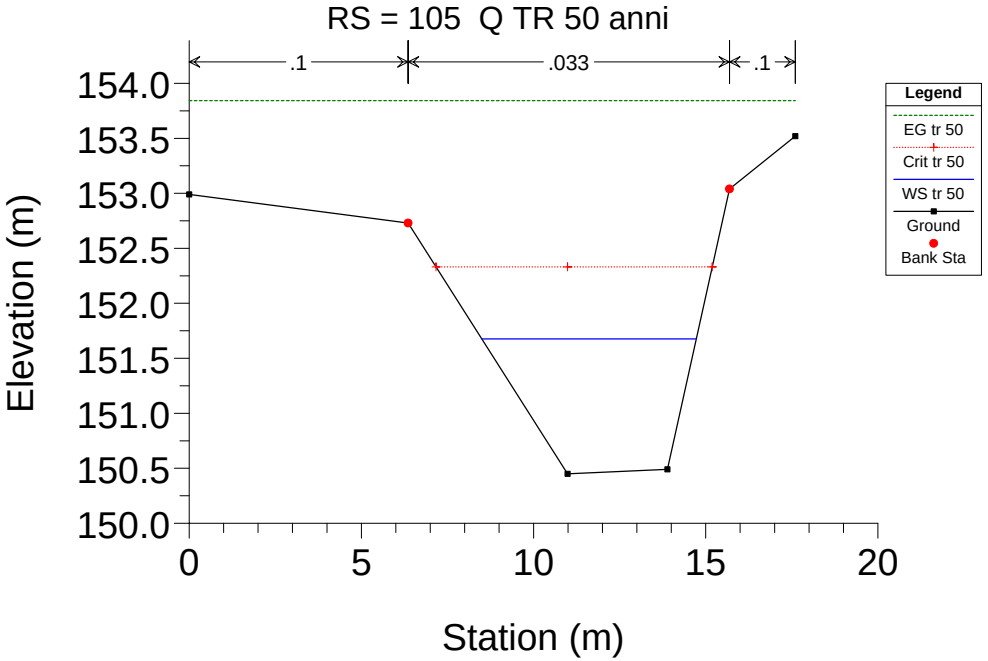

RS = 1001.9 BR Q TR 50 anni
Elevation (m)
Station (m)
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
RS = 1001.9 BR Q TR 50 anni
Elevation (m)
Station (m)
RS = 1001.8 Q TR 50 anni
Elevation (m)
Station (m)
RS = 1001 Q TR 50 anni
Elevation (m)
Station (m)


RS = 1000.9 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1000.9 BR Q TR 50 anni
RS = 1000.8 Q TR 50 anni
RS = 109 Q TR 50 anni
.014


RS = 108 Q TR 50 anni
.014
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
157
156
155
154
153
152
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Station (m)


RS = 107 Q TR 50 anni
.014
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
156
155
154
153
152
151
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Station (m)


RS = 106 Q TR 50 anni
.014
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
155
154
153
152
151
150
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Station (m)


RS = 105 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Bank Sta
Elevation (m)
154.0
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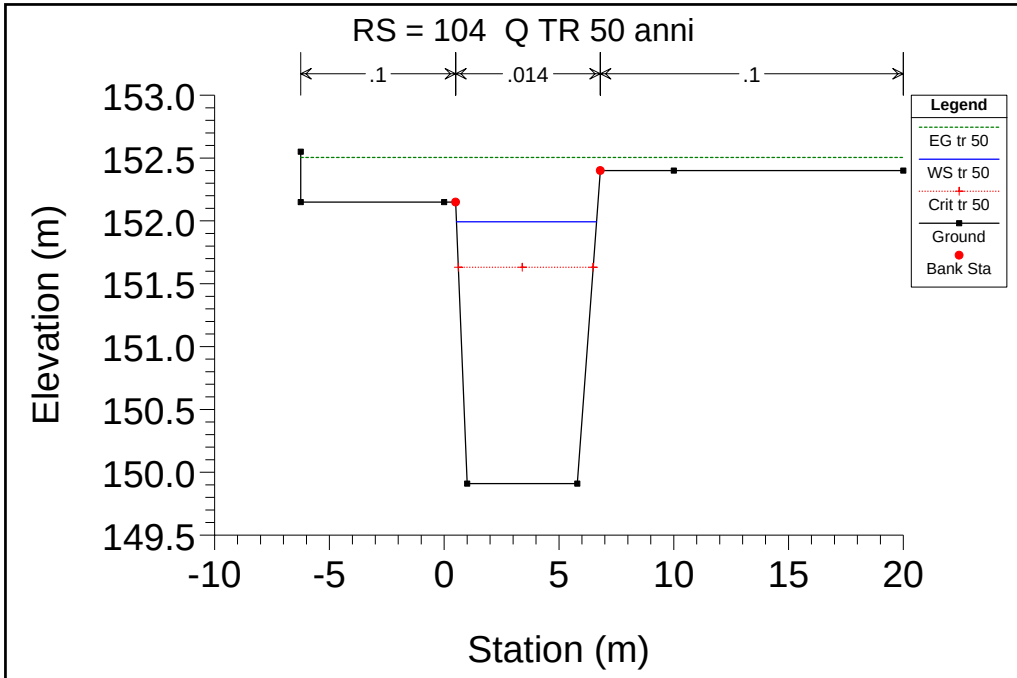
152.0
151.5
151.0
150.5
150.0
0
5
10
15
20
Station (m)


RS = 104 Q TR 50 anni
.1
.014
.1
153.0
152.5
152.0
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150.5
150.0
149.5
Elevation (m)
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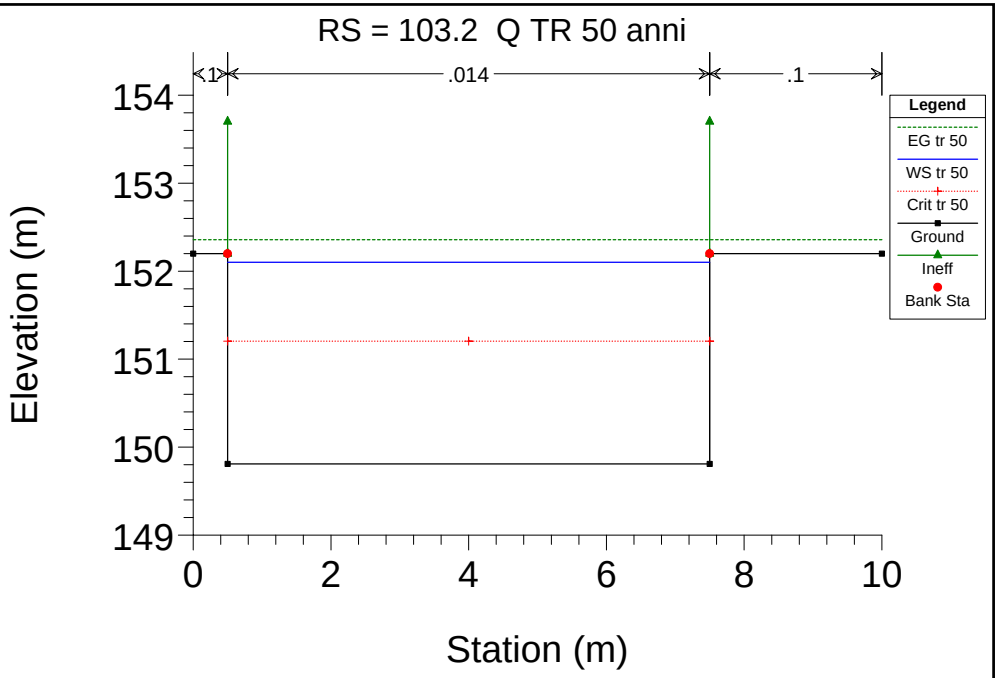
10
15
20
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta


RS = 103.2 Q TR 50 anni
.1
.014
.1
154
153
152
151
150
149
Elevation (m)
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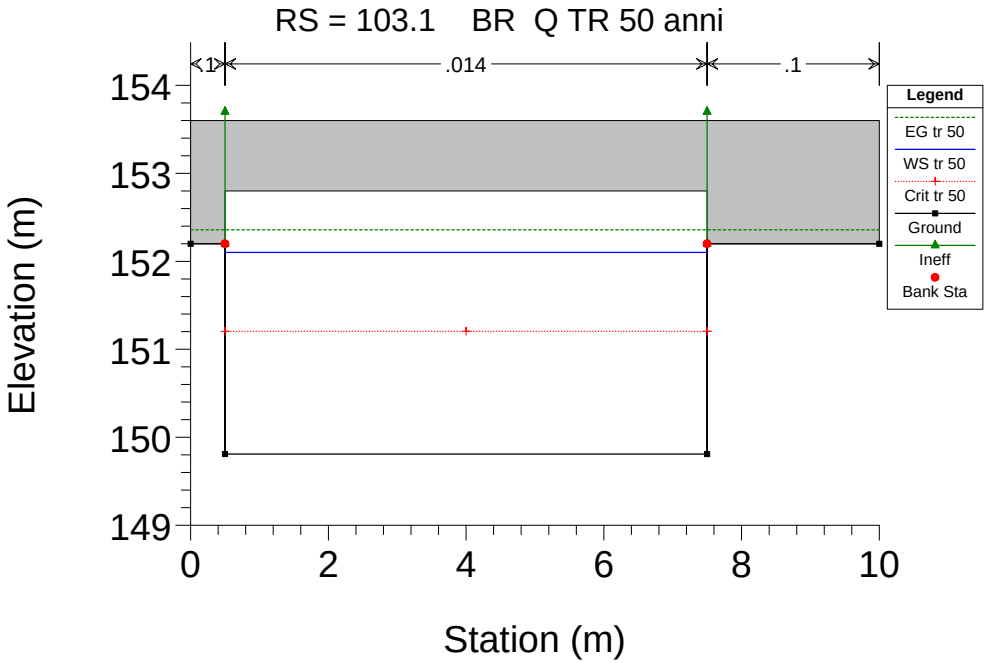
4
6
8
10
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta


RS = 103.1 BR Q TR 50 anni
.1
.014
.1
154
153
152
151
150
149
Elevation (m)
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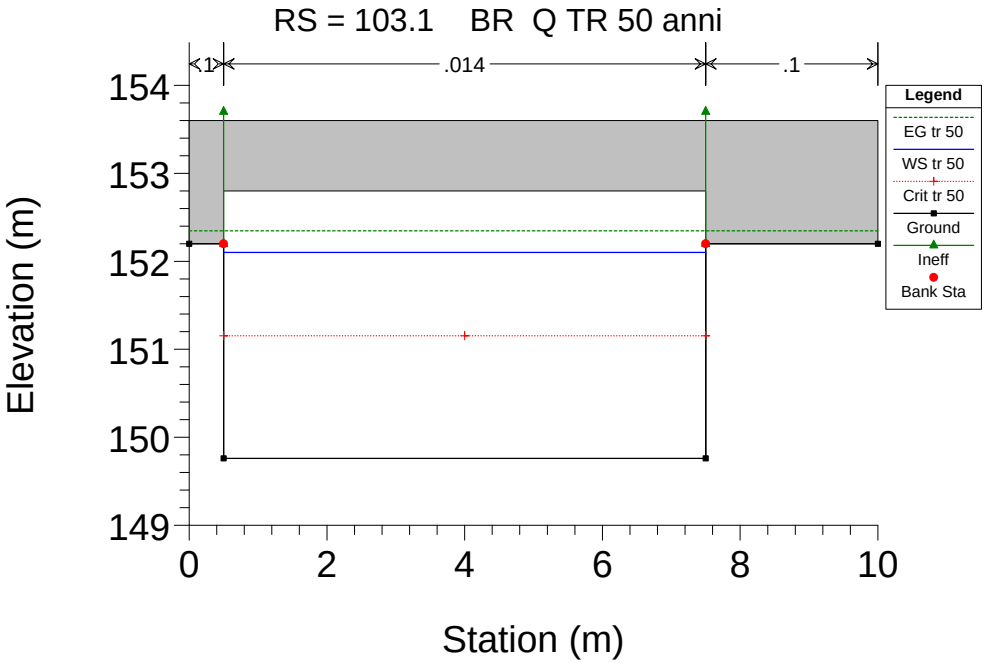
6
8
10
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta


RS = 103.1 BR Q TR 50 anni
.1
.014
.1
154
153
152
151
150
149
Elevation (m)
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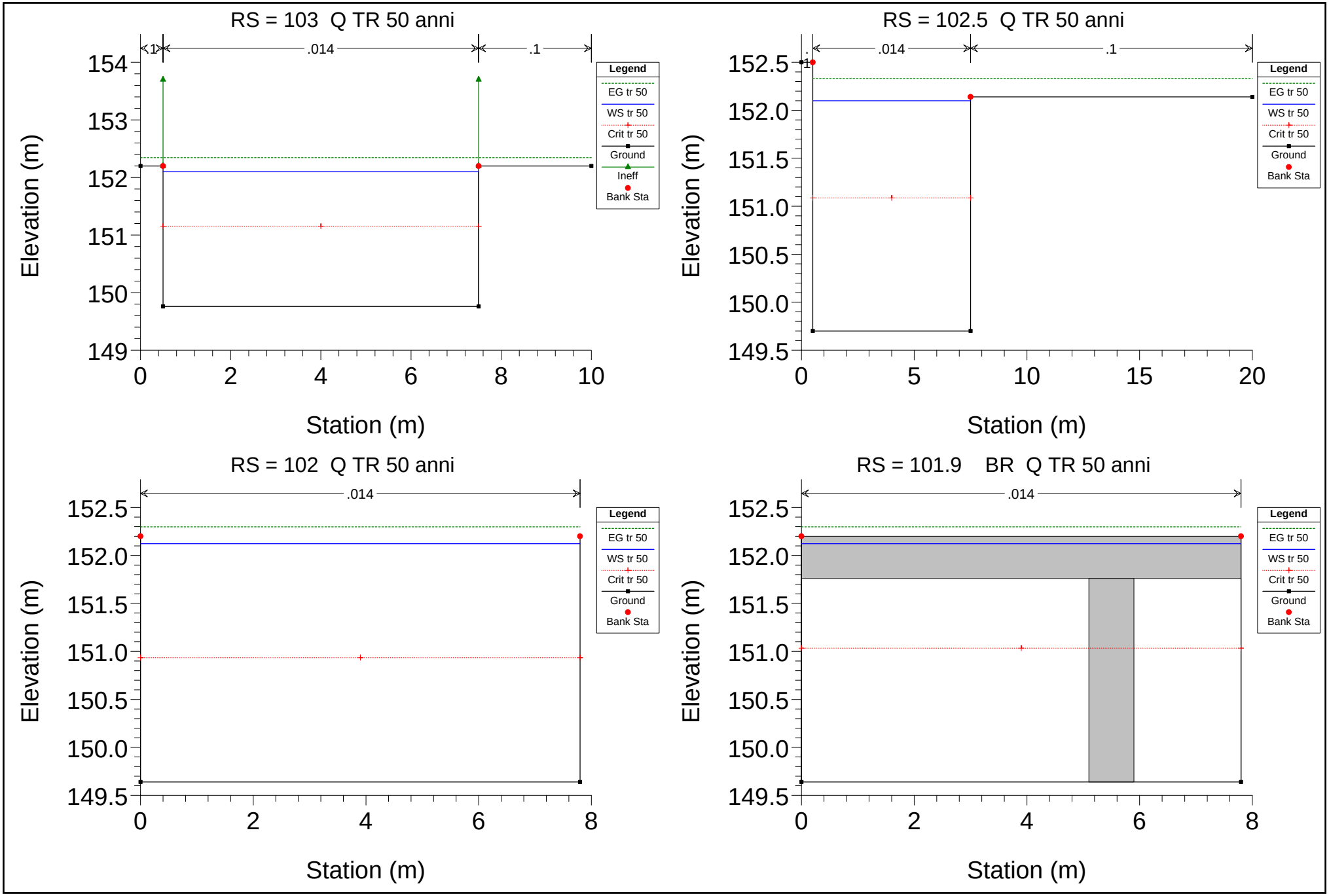
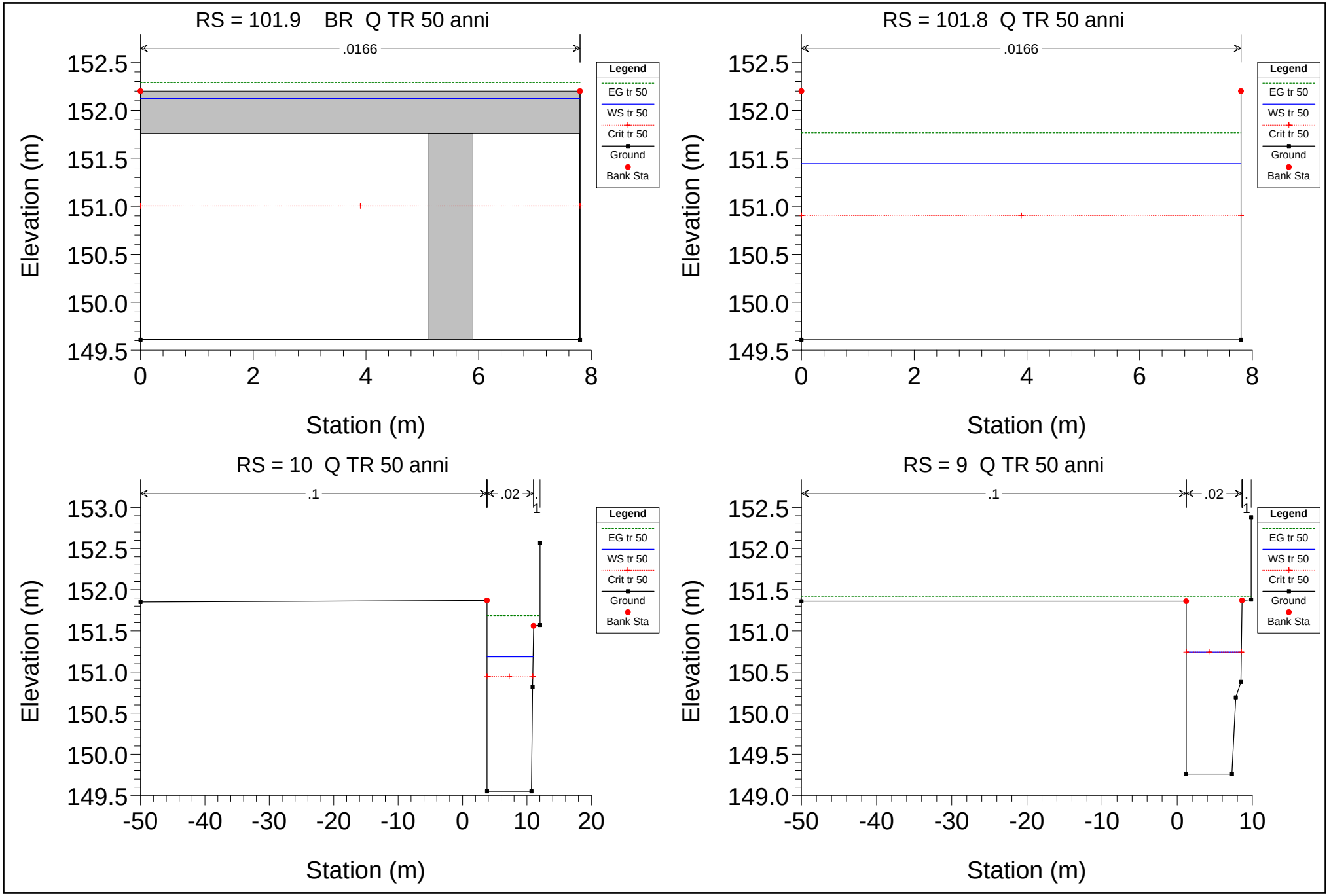
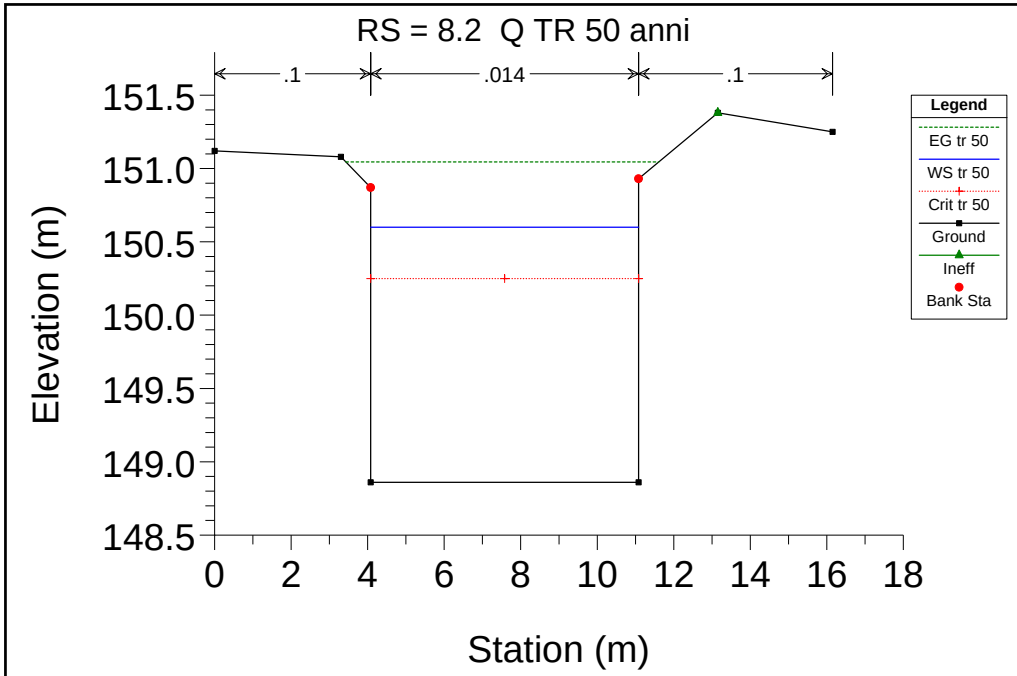
6
8
10
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta


RS = 103 Q TR 50 anni
.1
.014
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 102.5 Q TR 50 anni
.1
.014
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 102 Q TR 50 anni
.014
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 101.9 BR Q TR 50 anni
.014
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 101.9 BR Q TR 50 anni
.0166
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 101.8 Q TR 50 anni
.0166
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 10 Q TR 50 anni
.1
.02
1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 9 Q TR 50 anni
.1
.02
1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 8.2 Q TR 50 anni
.1
.014
.1
Elevation (m)
151.5
151.0
150.5
150.0
149.5
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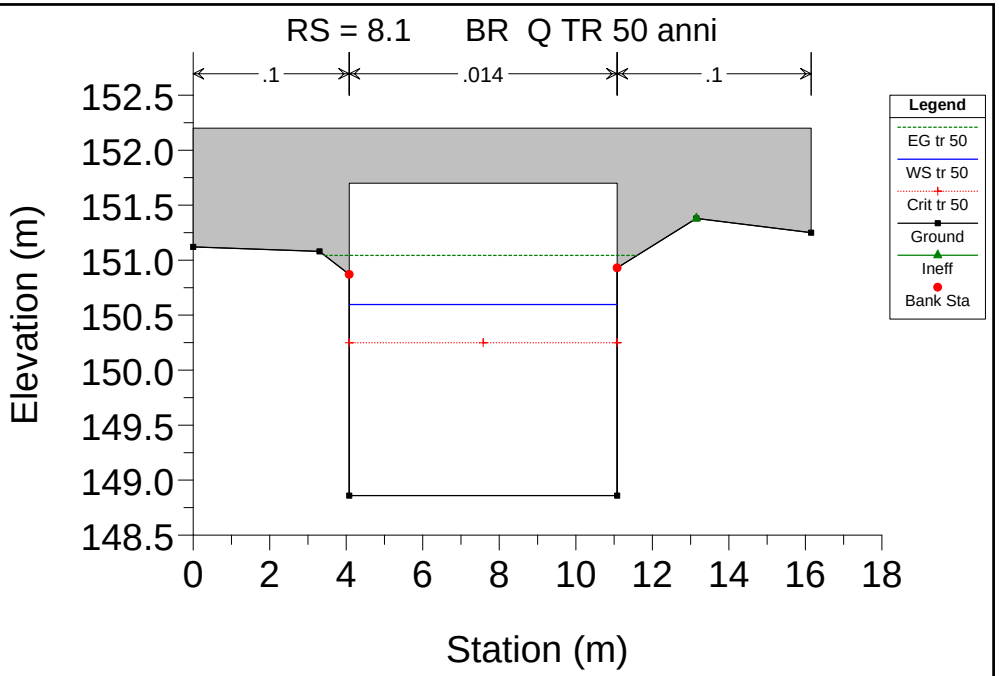
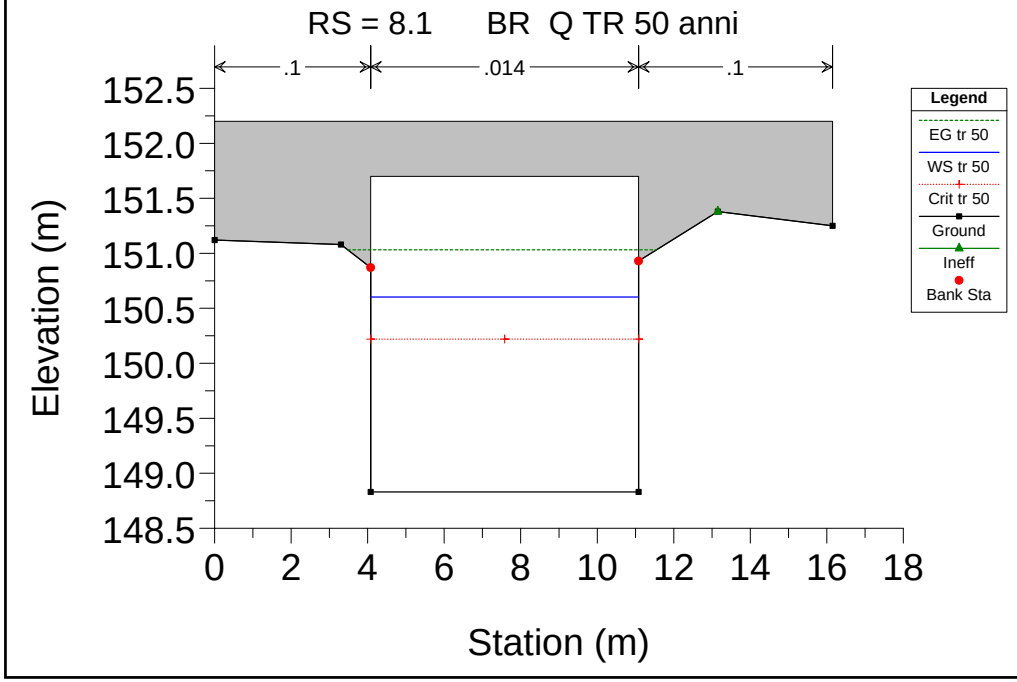
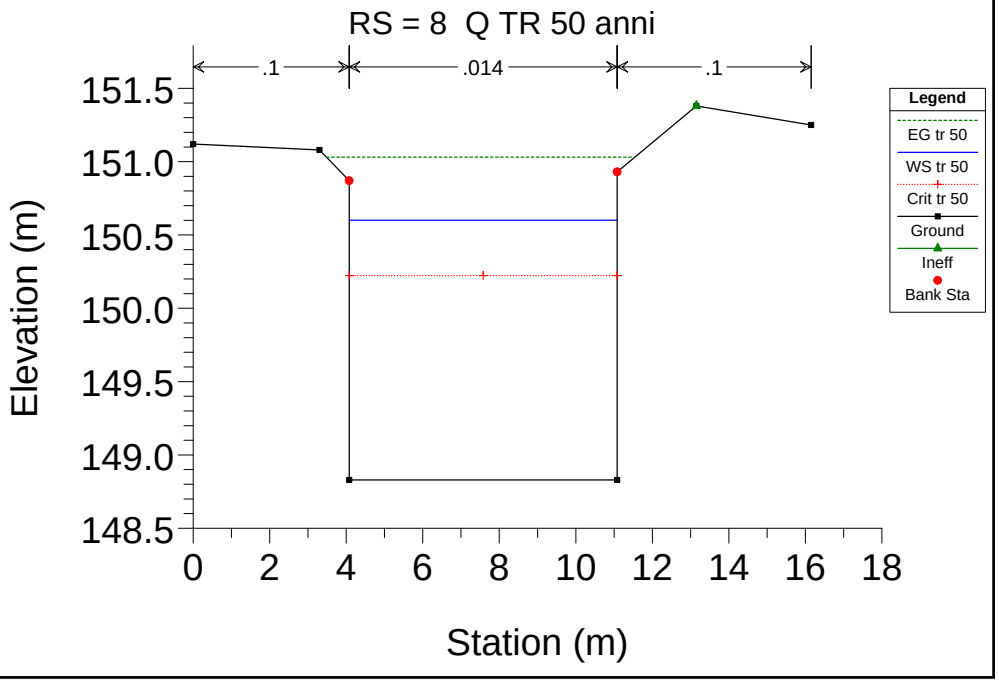
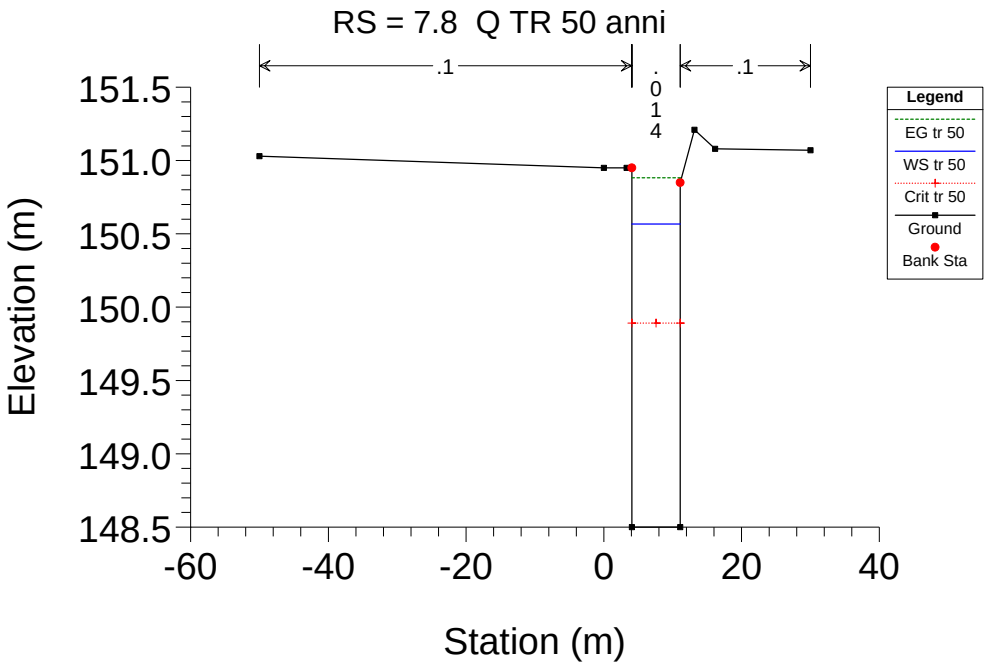
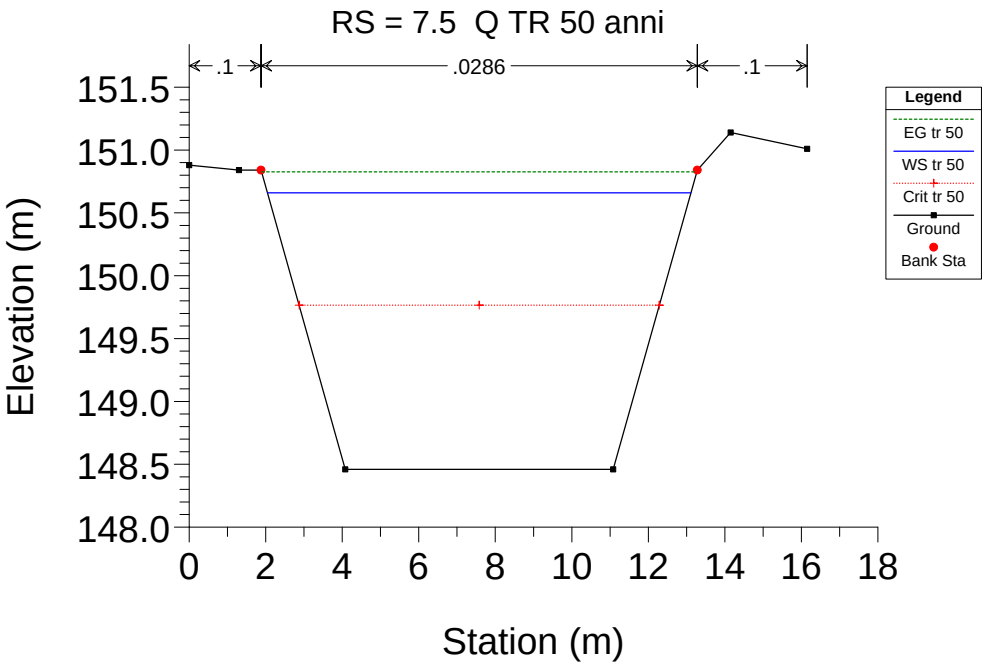
148.5
0
2
4
6
8
10
12
14
16
18
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta

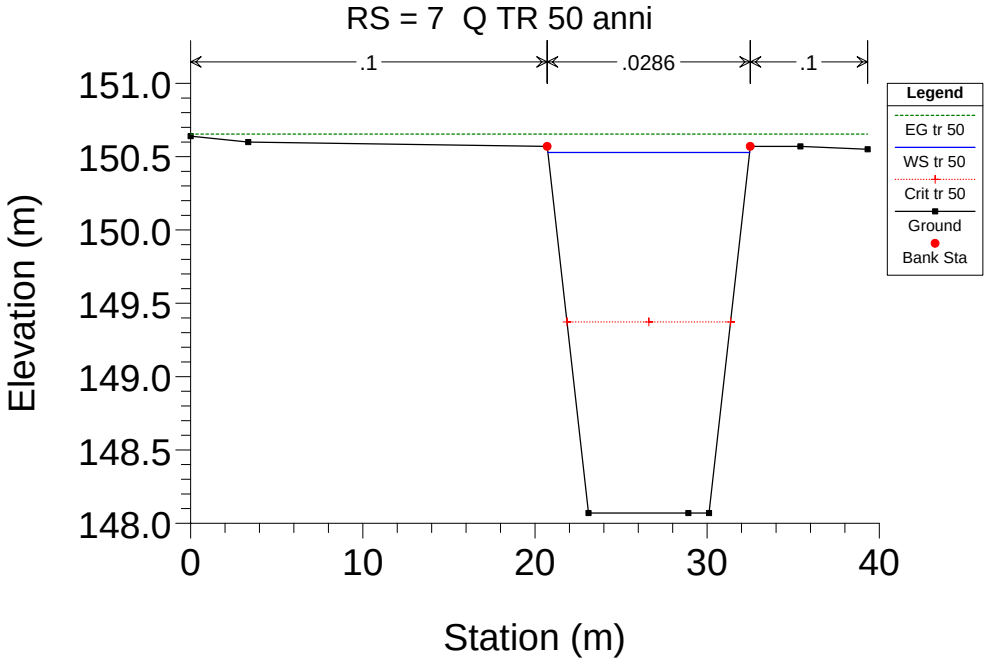

RS = 8.1 BR Q TR 50 anni
.1
.014
.1
Elevation (m)
152.5
152.0
151.5
151.0
150.5
150.0
149.5
149.0
148.5
0
2
4
6
8
10
12
14
16
18
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta

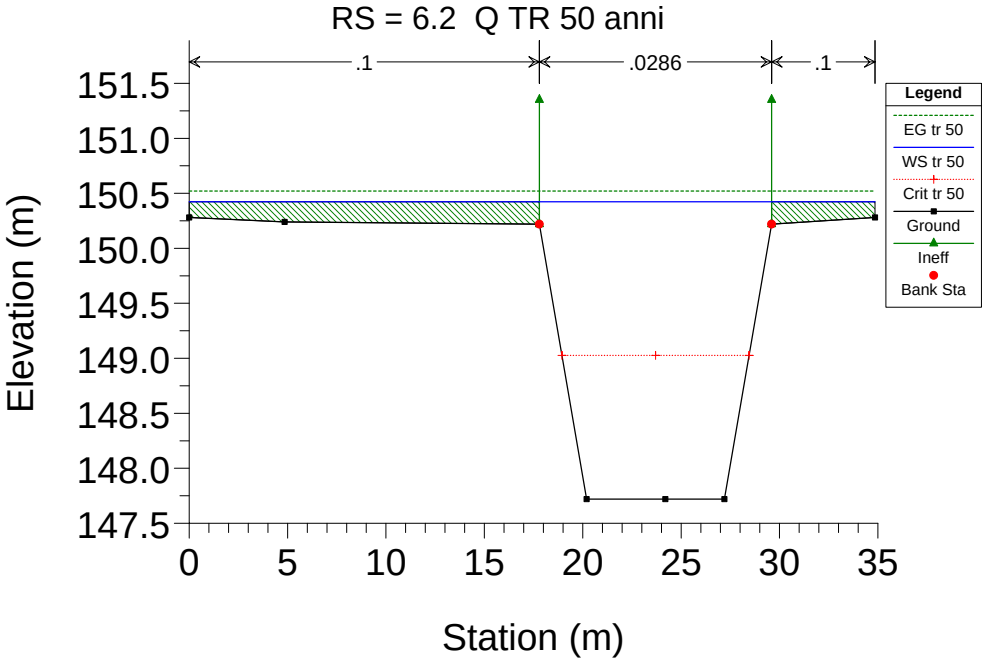

RS = 8.1 BR Q TR 50 anni
.1
.014
.1
Elevation (m)
152.5
152.0
151.5
151.0
150.5
150.0
149.5
149.0
148.5
0
2
4
6
8
10
12
14
16
18
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta

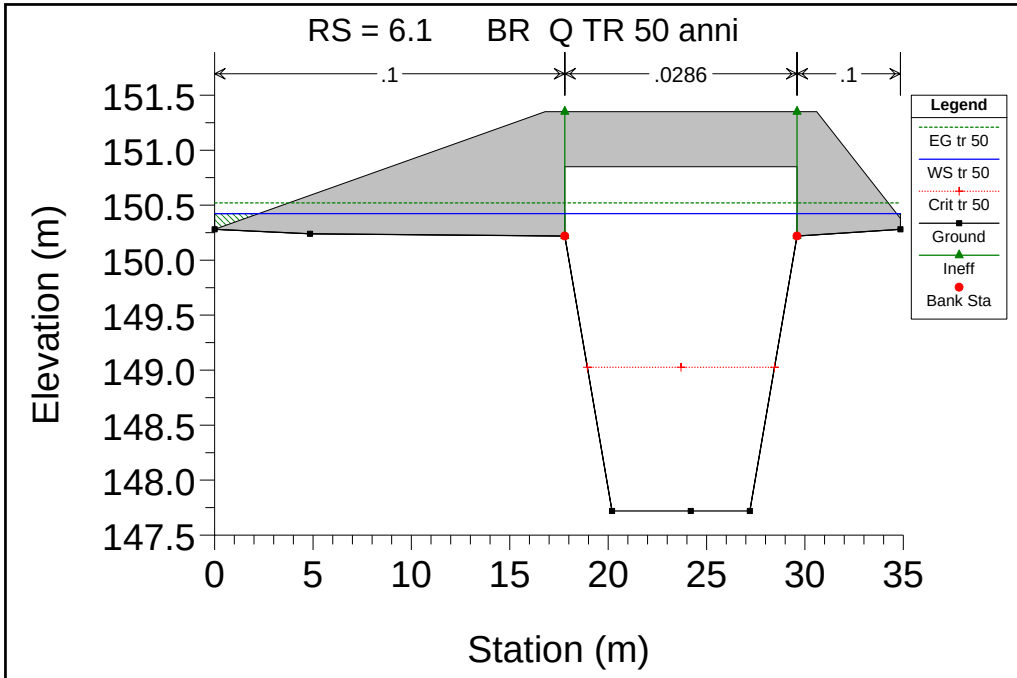

RS = 8 Q TR 50 anni
.1
.014
.1
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
0
2
4
6
8
10
12
14
16
18
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta

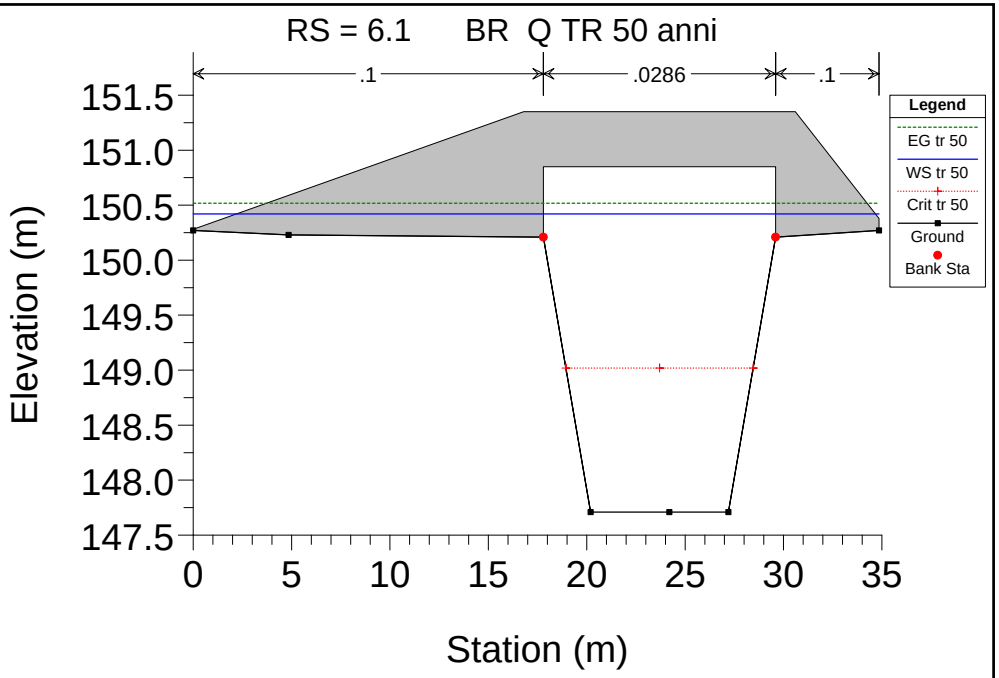

RS = 7.8 Q TR 50 anni
.1
.014
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
-60
-40
-20
0
20
40
Station (m)

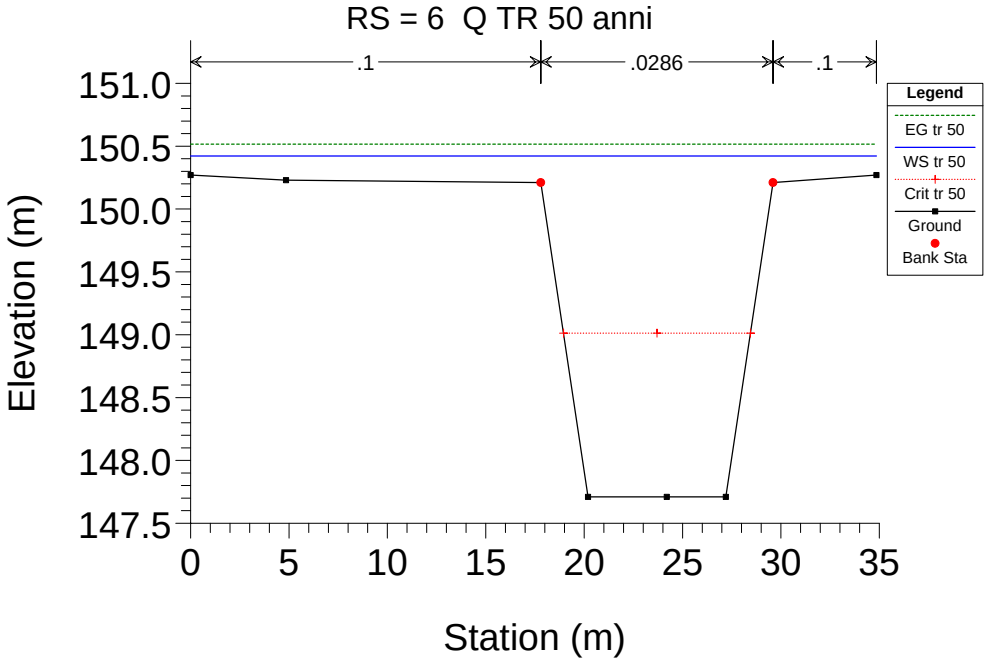

RS = 7.5 Q TR 50 anni
.1
.0286
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
0
2
4
6
8
10
12
14
16
18
Station (m)

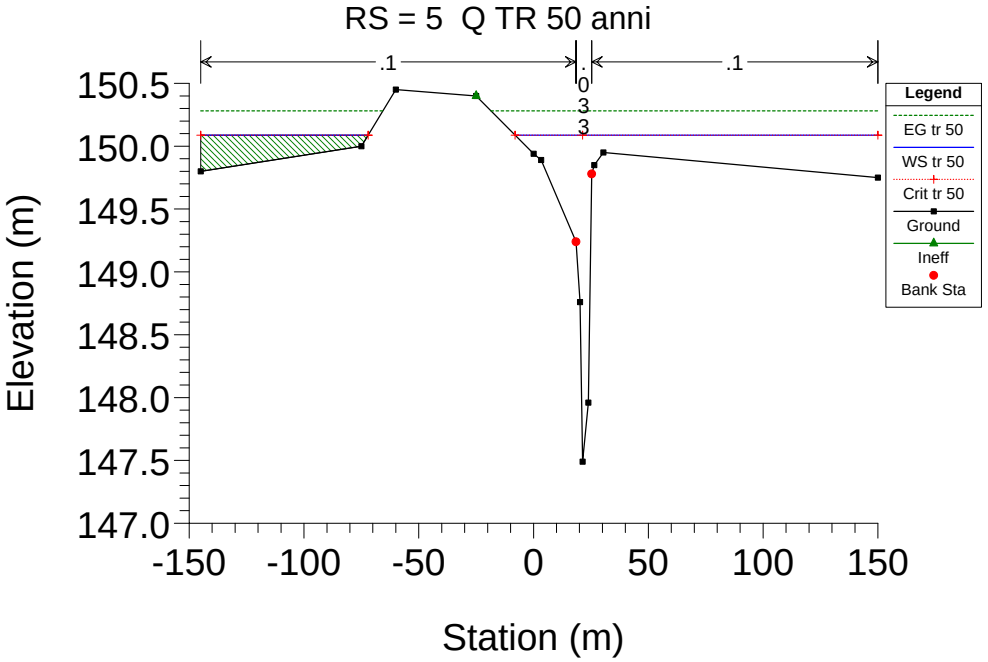

RS = 7 Q TR 50 anni
.1
.0286
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
151.0
150.5
150.0
149.5
149.0
148.5
148.0
0
10
20
30
40
Station (m)

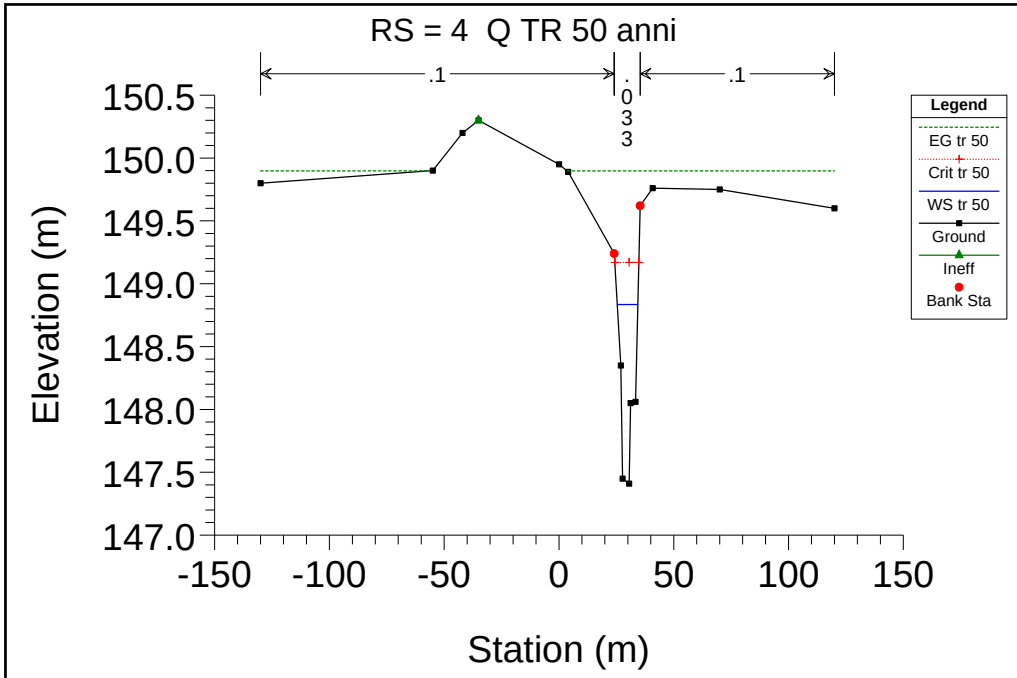

RS = 6.2 Q TR 50 anni
.1
.0286
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)

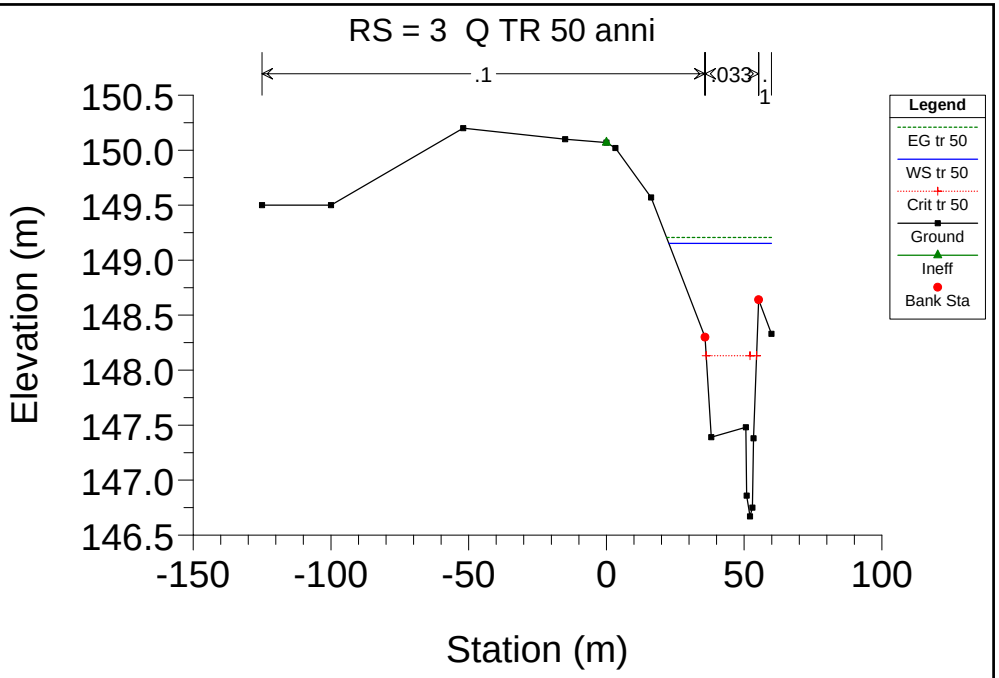

RS = 6.1 BR Q TR 50 anni
.1
.0286
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)

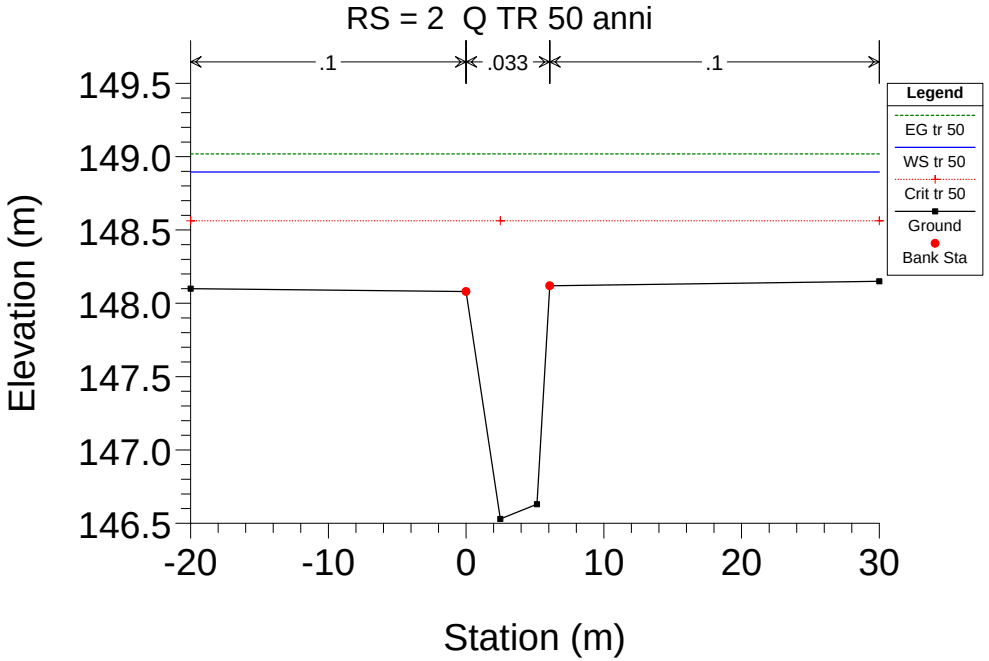

RS = 6.1 BR Q TR 50 anni
.1
.0286
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)

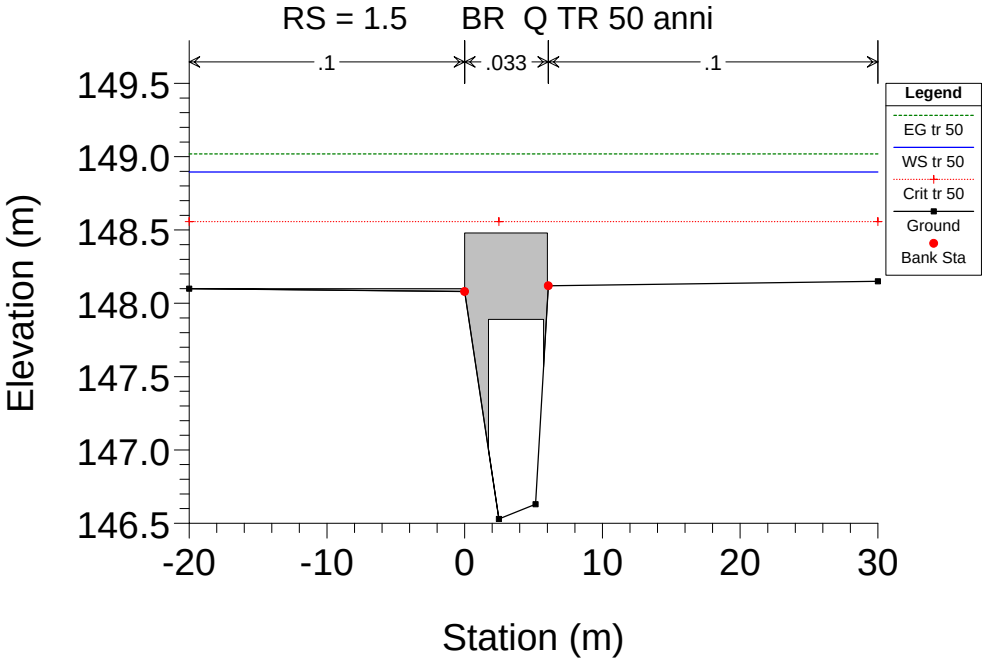

RS = 6 Q TR 50 anni
.1
.0286
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)

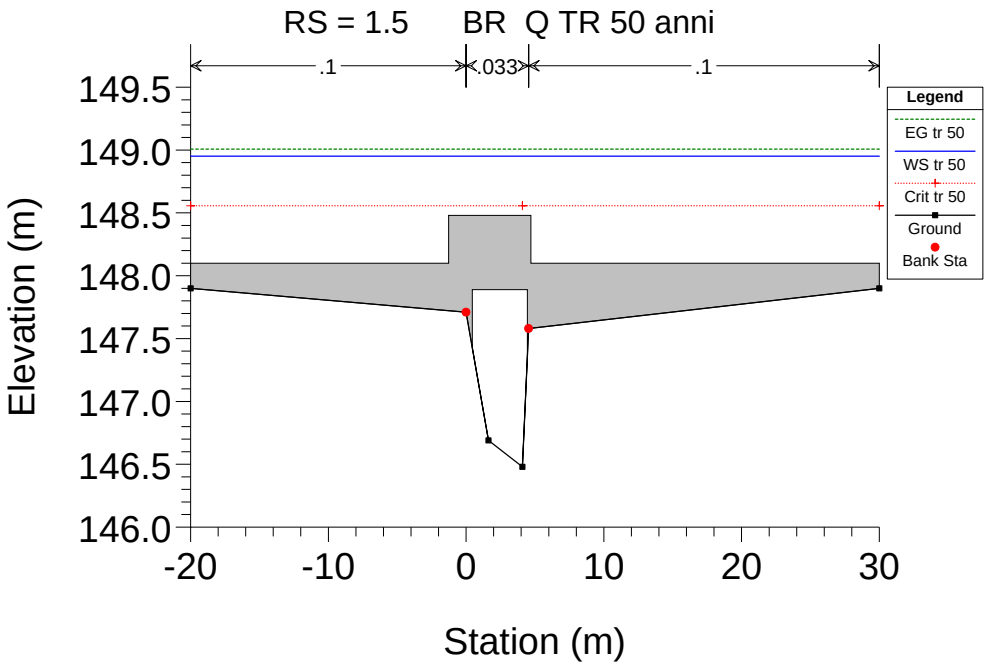

RS = 5 Q TR 50 anni
.1
.0
3
3
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta
Elevation (m)
150.5
150.0
149.5
149.0
148.5
148.0
147.5
147.0
-150
-100
-50
0
50
100
150
Station (m)

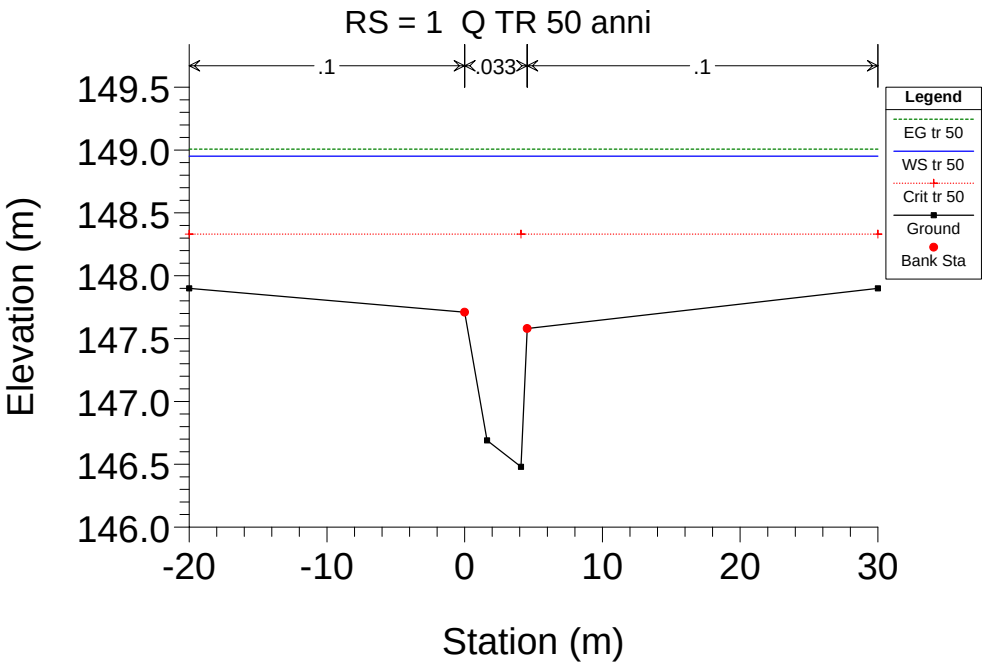

RS = 4 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
Crit tr 50
WS tr 50
Ground
Ineff
Bank Sta
Elevation (m)
150.5
150.0
149.5
149.0
148.5
148.0
147.5
147.0
-150
-100
-50
0
50
100
150
Station (m)


RS = 3 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Ineff
Bank Sta
Elevation (m)
150.5
150.0
149.5
149.0
148.5
148.0
147.5
147.0
146.5
-150
-100
-50
0
50
100
Station (m)


RS = 2 Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
149.5
149.0
148.5
148.0
147.5
147.0
146.5
-20
-10
0
10
20
30
Station (m)


RS = 1.5 BR Q TR 50 anni
.1
.033
.1
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta
Elevation (m)
149.5
149.0
148.5
148.0
147.5
147.0
146.5
-20
-10
0
10
20
30
Station (m)


RS = 1.5 BR Q TR 50 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta


RS = 1 Q TR 50 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 50
WS tr 50
Crit tr 50
Ground
Bank Sta

SIMULAZIONE 6

(Situazione di progetto)

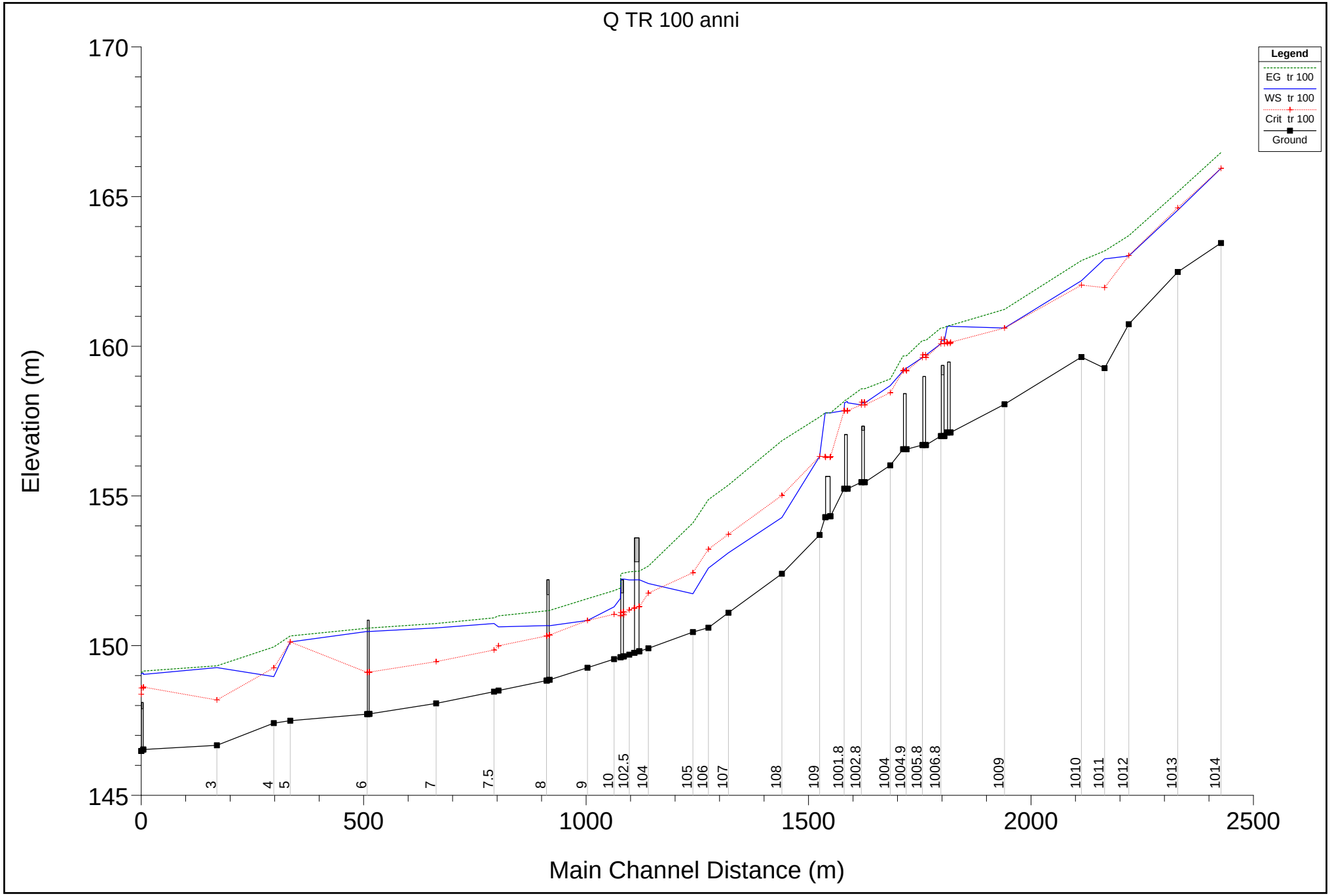
	portata al colmo Q_c m^3/s	tempo di ritorno anni
Rio Moisa a Valle di Magliano	40	100

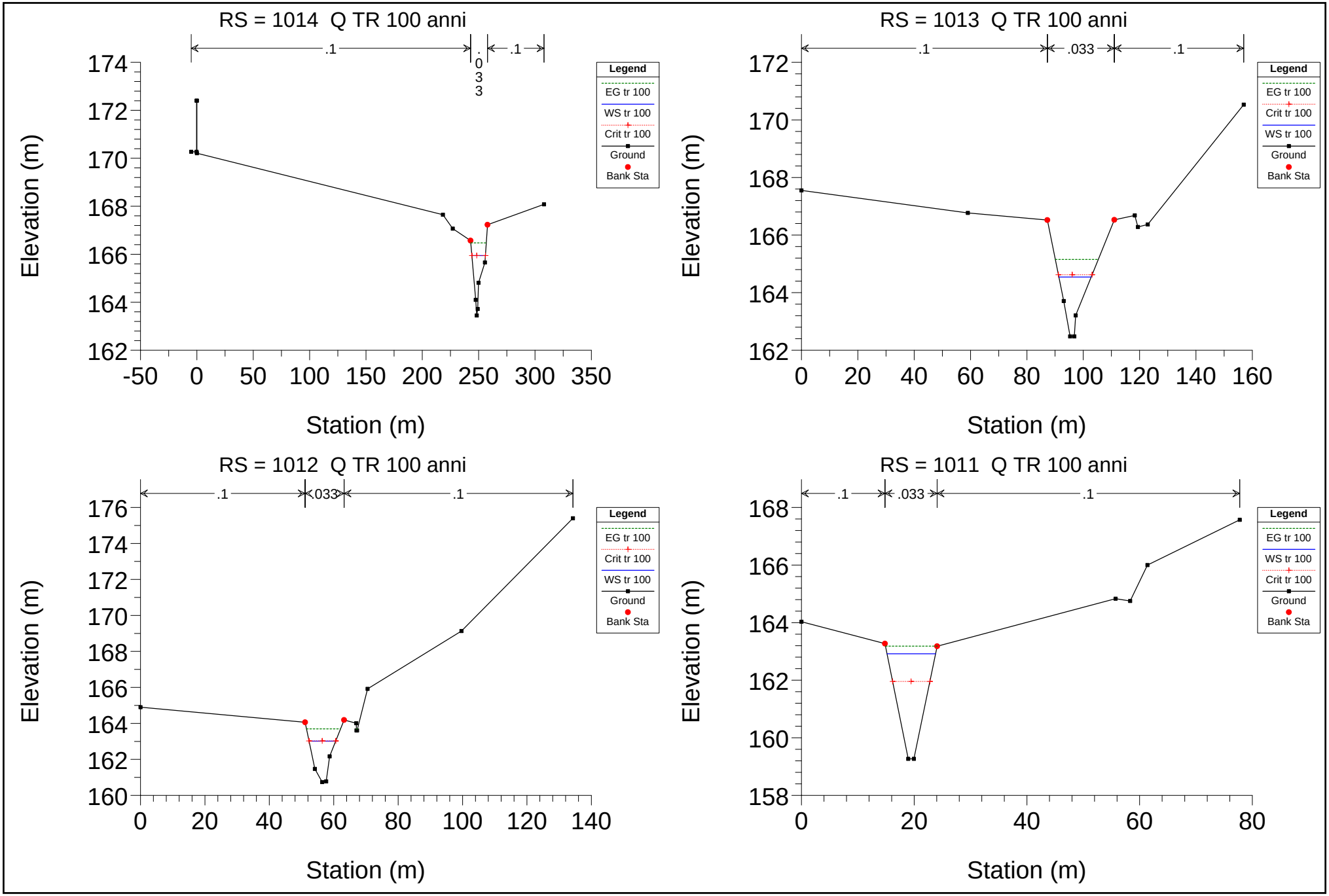
HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 100

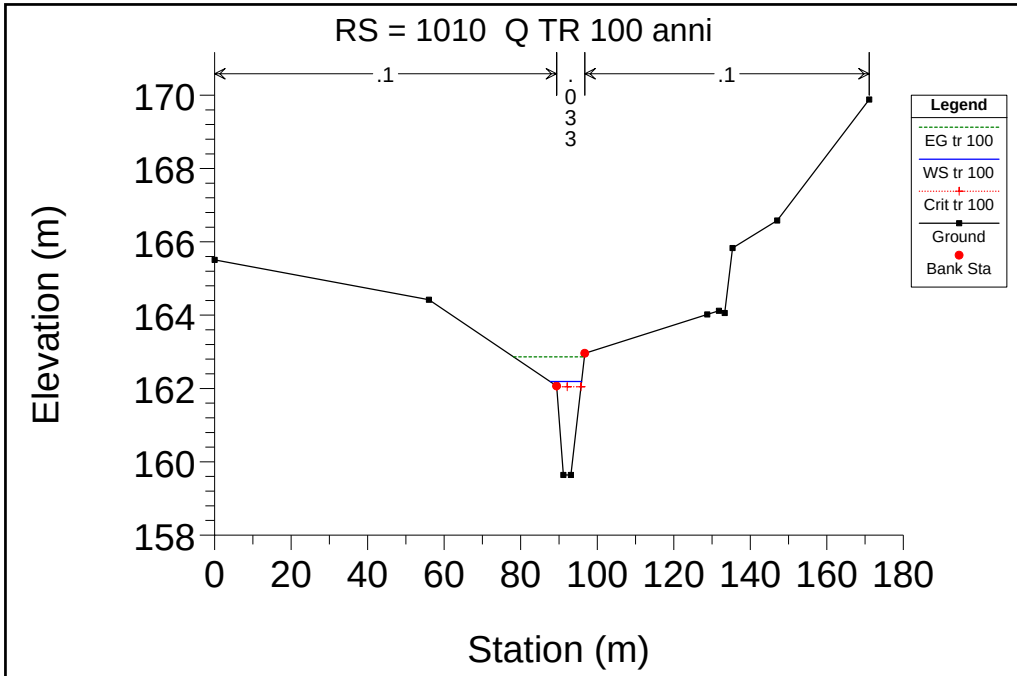
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1014	tr 100	40.00	163.45	165.95	165.95	166.47	0.012512	3.22	12.42	11.98	1.01
1	1013	tr 100	40.00	162.48	164.54	164.62	165.15	0.014529	3.46	11.56	11.46	1.10
1	1012	tr 100	40.00	160.74	163.02	163.03	163.70	0.012543	3.65	10.96	8.27	1.01
1	1011	tr 100	40.00	159.27	162.92	161.96	163.18	0.003242	2.28	17.54	8.62	0.51
1	1010	tr 100	40.00	159.64	162.19	162.04	162.86	0.010636	3.63	11.11	8.26	0.89
1	1009	tr 100	40.00	158.06	160.61	160.61	161.23	0.008303	3.62	16.23	22.27	0.83
1	1008	tr 100	40.00	157.12	160.66	160.13	160.70	0.001245	1.32	86.63	85.47	0.23
1	1007.9		Bridge									
1	1007.8	tr 100	40.00	157.12	160.64	160.13	160.68	0.001339	1.36	84.25	85.47	0.24
1	1007	tr 100	40.00	157.00	160.18	160.08	160.62	0.007925	3.25	22.57	23.86	0.61
1	1006.9		Bridge									
1	1006.8	tr 100	40.00	157.00	160.08	160.08	160.61	0.009680	3.51	20.15	23.86	0.67
1	1006	tr 100	40.00	156.70	159.71	159.63	160.20	0.010047	3.38	19.41	24.25	0.63
1	1005.9		Bridge									
1	1005.8	tr 100	40.00	156.70	159.63	159.63	160.19	0.011516	3.57	17.83	23.87	0.68
1	1005	tr 100	40.00	156.56	159.27	159.18	159.68	0.008560	3.25	23.06	23.90	0.65
1	1004.9		Bridge									
1	1004.8	tr 100	40.00	156.56	159.18	159.18	159.67	0.010361	3.49	20.95	23.90	0.71
1	1004	tr 100	40.00	156.02	158.69	158.45	158.91	0.003873	2.59	40.64	51.71	0.59
1	1003	tr 100	40.00	155.46	158.11	158.04	158.58	0.007592	3.32	22.14	31.82	0.67
1	1002.9		Bridge									
1	1002.8	tr 100	40.00	155.46	158.04	158.04	158.58	0.008718	3.50	20.10	29.69	0.72
1	1002	tr 100	40.00	155.24	158.11	157.85	158.25	0.003016	2.11	50.96	62.91	0.41
1	1001.9		Bridge									
1	1001.8	tr 100	40.00	155.24	157.85	157.85	158.16	0.006410	2.89	34.70	62.91	0.59
1	1001	tr 100	40.00	154.32	157.77	156.31	157.78	0.000133	0.56	198.41	105.11	0.10
1	1000.9		Bridge									
1	1000.8	tr 100	40.00	154.29	157.77	156.31	157.78	0.000133	0.56	198.23	105.11	0.10
1	109	tr 100	40.00	153.70	156.32	156.32	157.64	0.005413	5.09	7.86	3.00	1.00
1	108	tr 100	40.00	152.40	154.28	155.02	156.84	0.012574	7.10	5.64	3.00	1.65
1	107	tr 100	40.00	151.10	153.10	153.72	155.36	0.010701	6.67	6.00	3.00	1.50
1	106	tr 100	40.00	150.60	152.59	153.22	154.88	0.010840	6.70	5.97	3.00	1.52
1	105	tr 100	40.00	150.45	151.73	152.44	154.10	0.067833	6.81	5.87	6.38	2.27
1	104	tr 100	40.00	149.91	152.08	151.75	152.66	0.001624	3.37	11.86	6.15	0.78
1	103.2	tr 100	40.00	149.81	152.20	151.31	152.49	0.000703	2.39	16.72	7.00	0.49
1	103.1		Bridge									
1	103	tr 100	40.00	149.76	152.20	151.25	152.48	0.000666	2.35	17.05	7.00	0.48
1	102.5	tr 100	40.00	149.70	152.20	151.19	152.46	0.000618	2.29	18.16	19.50	0.46
1	102	tr 100	40.00	149.64	152.22	151.03	152.42	0.000430	1.99	20.14	7.80	0.39

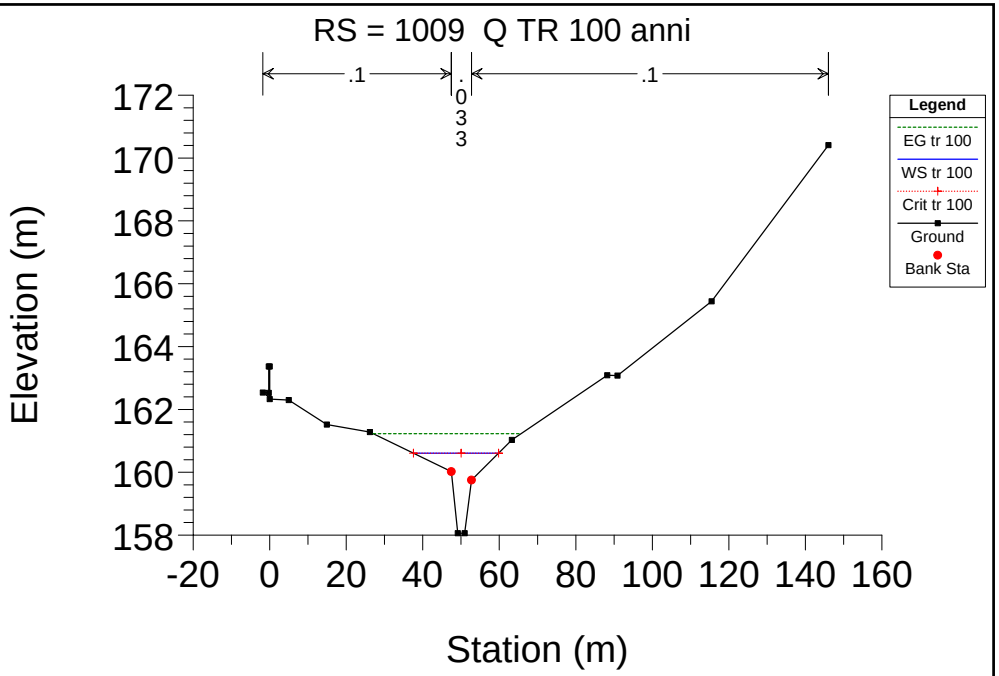
HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 100 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	101.9		Bridge									
1	101.8	tr 100	40.00	149.61	151.58	151.00	151.92	0.001312	2.61	15.34	7.80	0.59
1	10	tr 100	40.00	149.55	151.29	151.05	151.84	0.003428	3.26	12.26	7.18	0.80
1	9	tr 100	40.00	149.26	150.84	150.84	151.57	0.005215	3.78	10.59	7.35	1.00
1	8.2	tr 100	40.00	148.86	150.67	150.35	151.18	0.001555	3.16	12.64	7.00	0.75
1	8.1		Bridge									
1	8	tr 100	40.00	148.83	150.67	150.32	151.16	0.001478	3.11	12.86	7.00	0.73
1	7.8	tr 100	40.00	148.50	150.63	149.99	150.99	0.000975	2.69	14.88	7.00	0.59
1	7.5	tr 100	40.00	148.46	150.74	149.85	150.93	0.001665	1.93	20.75	11.21	0.45
1	7	tr 100	40.00	148.07	150.59	149.47	150.74	0.001135	1.68	24.12	31.83	0.38
1	6.2	tr 100	40.00	147.72	150.47	149.12	150.59	0.000795	1.51	26.46	34.85	0.32
1	6.1		Bridge									
1	6	tr 100	40.00	147.71	150.47	149.11	150.58	0.000760	1.48	32.11	34.85	0.32
1	5	tr 100	40.00	147.49	150.12	150.12	150.32	0.003725	2.35	56.13	234.15	0.57
1	4	tr 100	40.00	147.41	148.96	149.26	149.95	0.026028	4.41	9.07	9.51	1.44
1	3	tr 100	40.00	146.67	149.27	148.19	149.32	0.000629	1.08	46.14	39.02	0.26
1	2	tr 100	40.00	146.53	149.04	148.61	149.15	0.001940	1.89	53.03	50.00	0.42
1	1.5		Bridge									
1	1	tr 100	40.00	146.48	149.05	148.38	149.11	0.001302	1.61	68.10	50.00	0.35


Q TR 100 anni
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Elevation (m)
170
165
160
155
150
145
0
500
1000
1500
2000
2500
Main Channel Distance (m)
3
4
5
6
7
7.5
8
9
10
102.5
104
105
106
107
108
109
1001.8
1002.8
1004
1004.9
1005.8
1006.8
1009
1010
1011
1012
1013
1014


RS = 1014 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1013 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1012 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1011 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1010 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
170
168
166
164
162
160
158
0
20
40
60
80
100
120
140
160
180
Station (m)


RS = 1009 Q TR 100 anni
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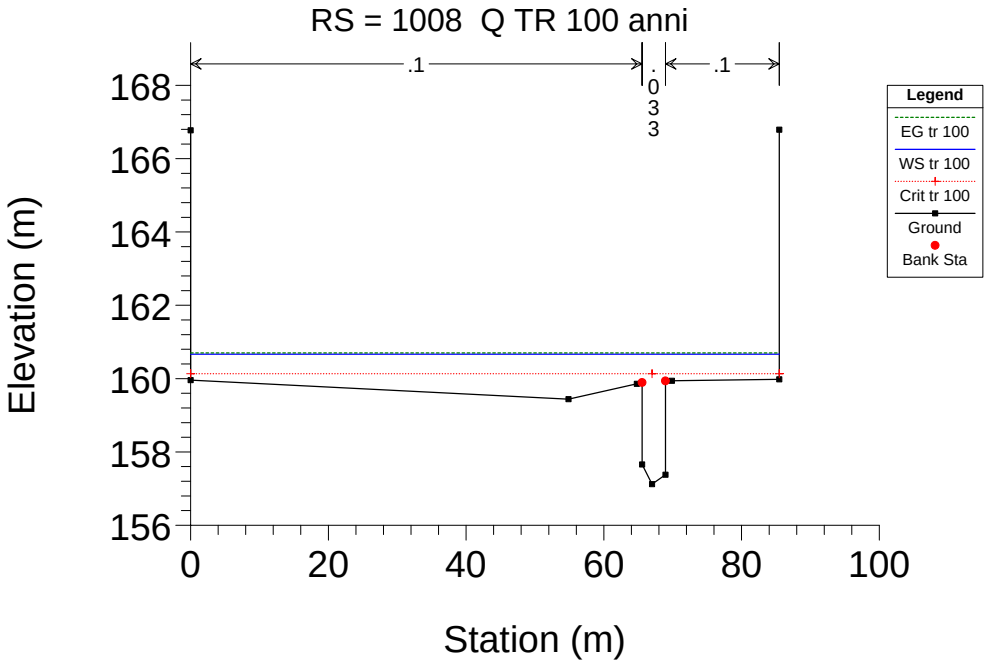
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
172
170
168
166
164
162
160
158
-20
0
20
40
60
80
100
120
140
160
Station (m)


RS = 1008 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
168
166
164
162
160
158
156
0
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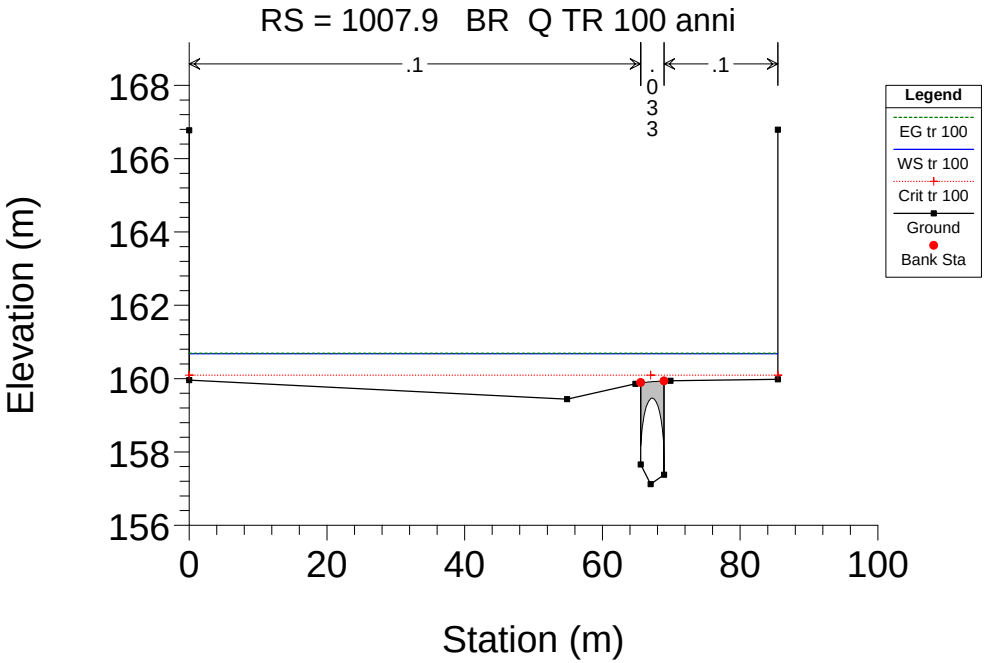
40
60
80
100
Station (m)


RS = 1007.9 BR Q TR 100 anni
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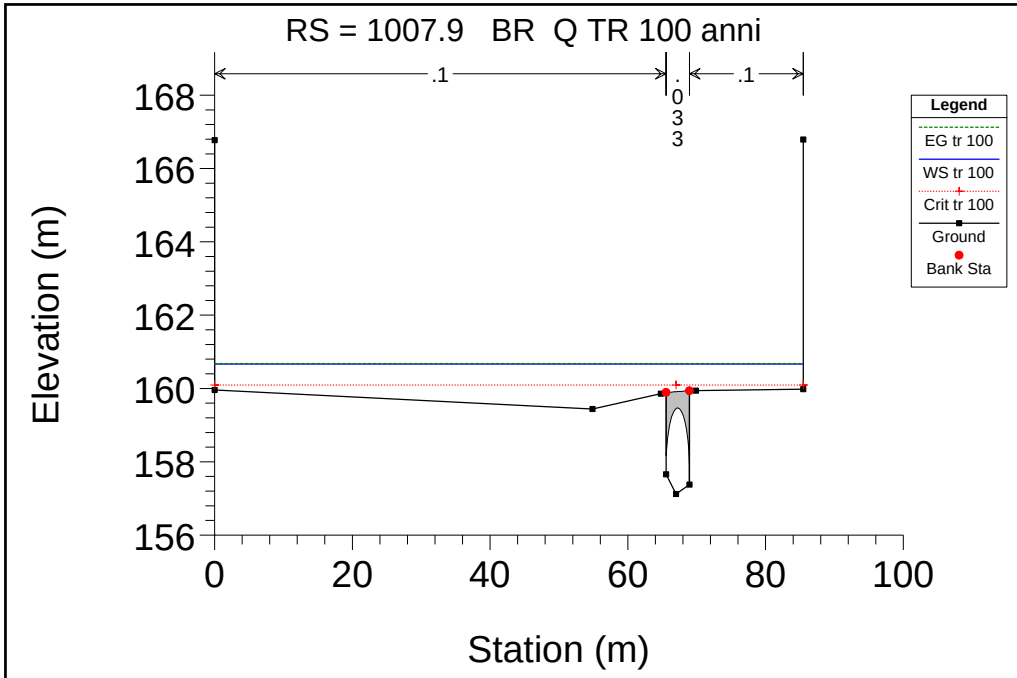
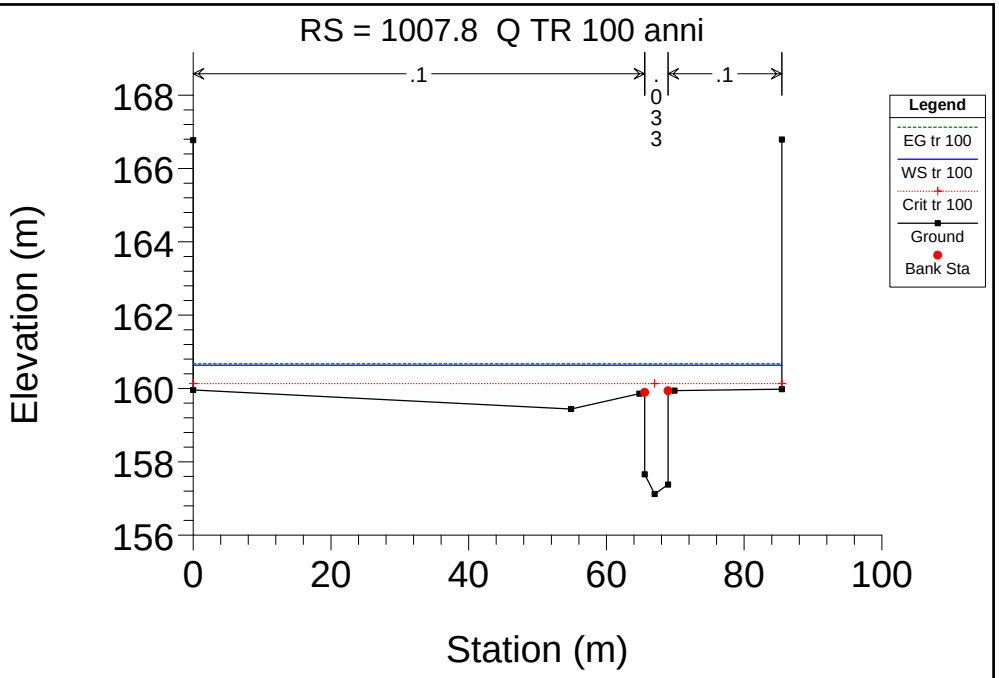
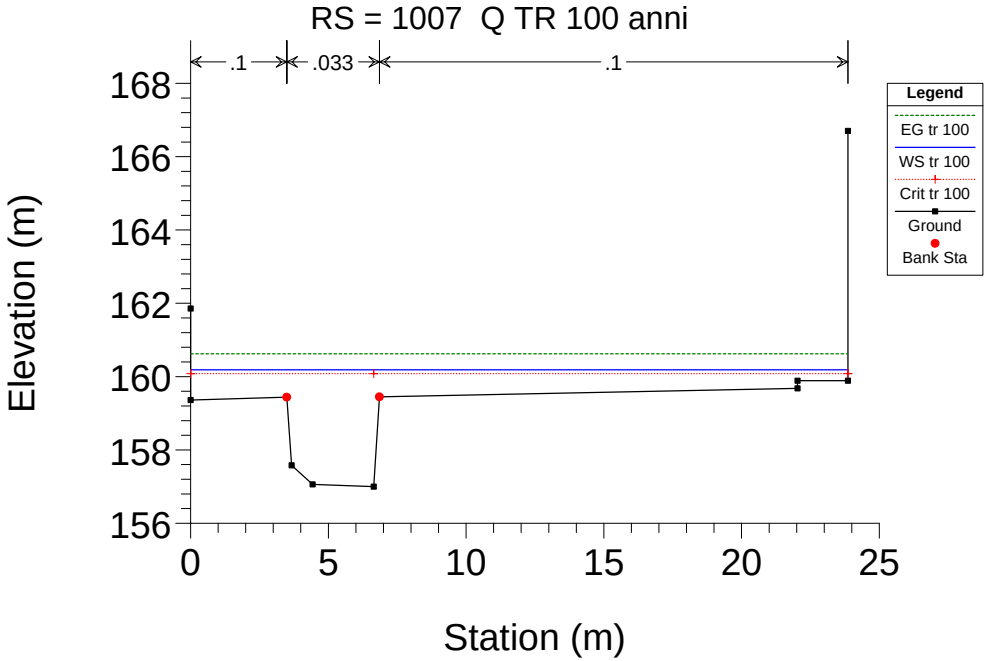
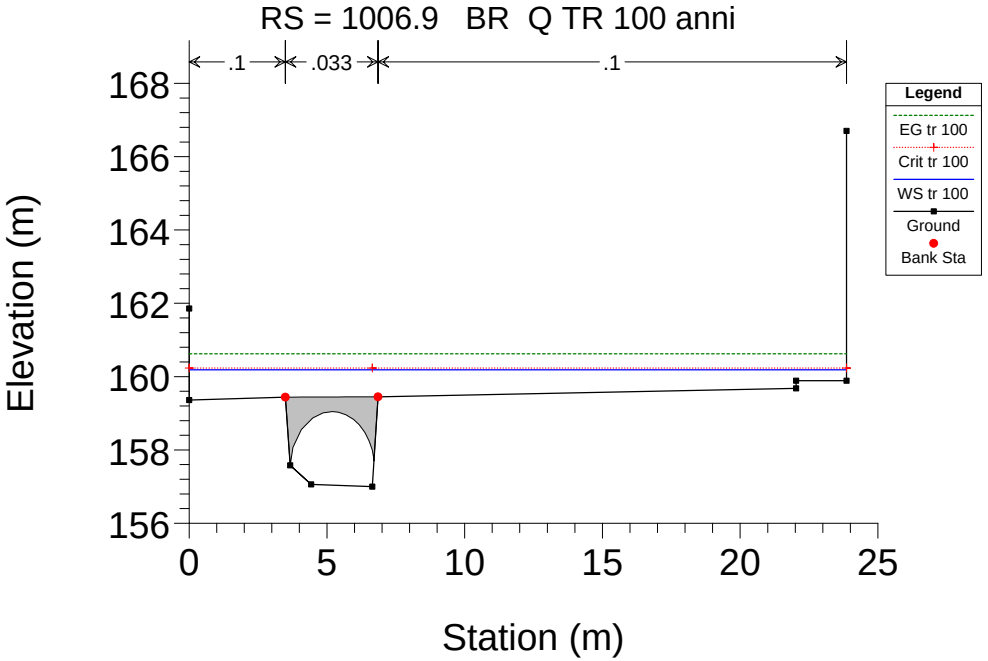
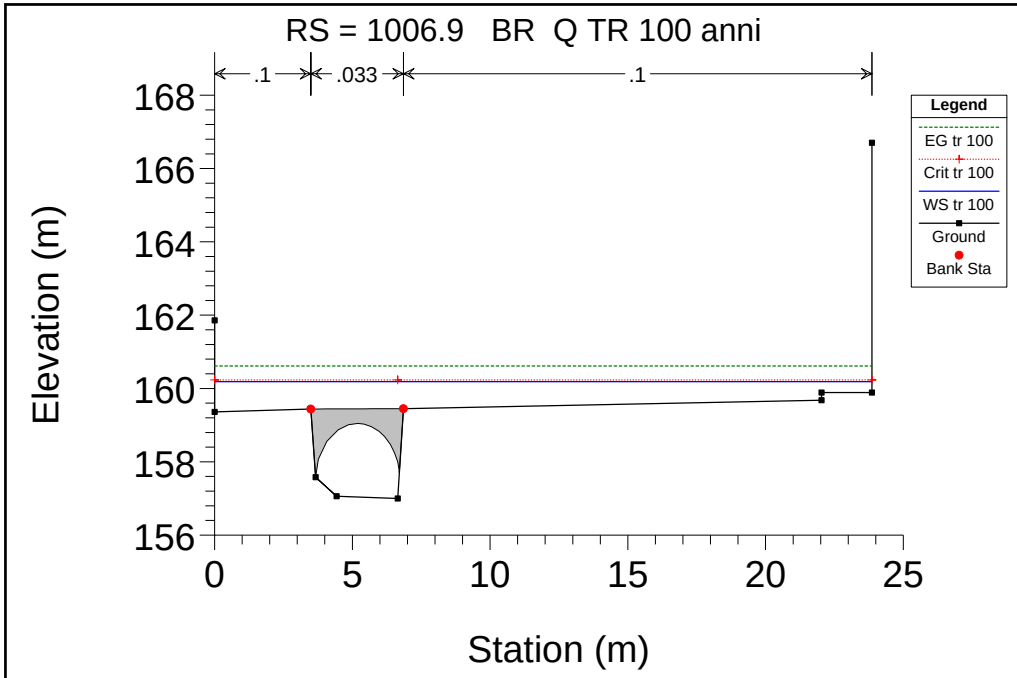
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
168
166
164
162
160
158
156
0
20
40
60
80
100
Station (m)

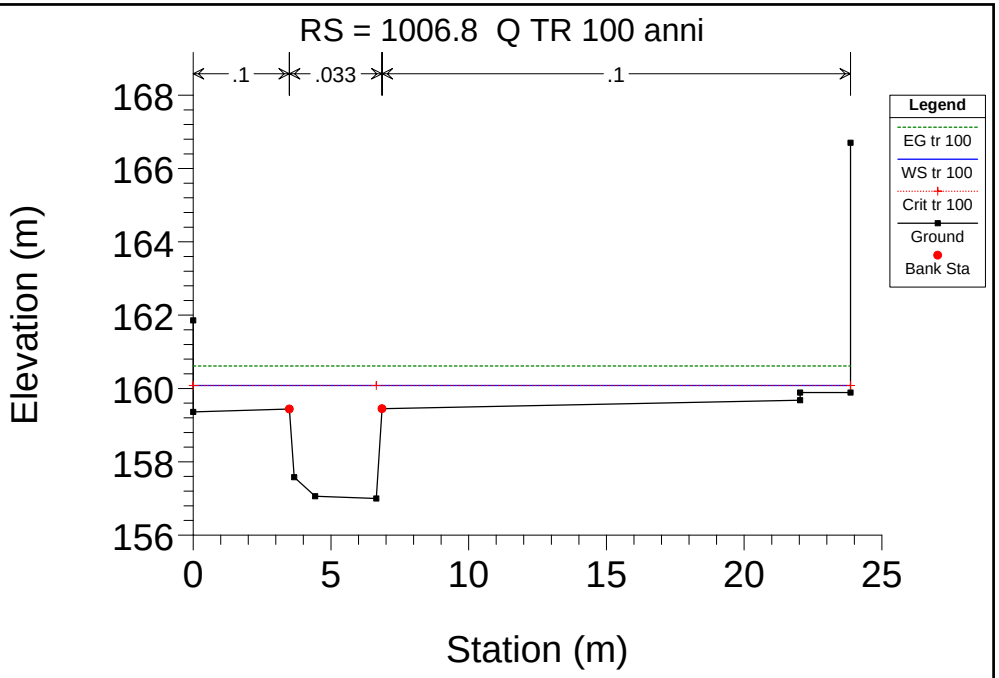

RS = 1007.9 BR Q TR 100 anni
Elevation (m)
Station (m)
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta


RS = 1007.8 Q TR 100 anni
Elevation (m)
Station (m)
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta


RS = 1007 Q TR 100 anni
Elevation (m)
Station (m)
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta


RS = 1006.9 BR Q TR 100 anni
Elevation (m)
Station (m)
.1
.033
.1
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta


RS = 1006.9 BR Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
168
166
164
162
160
158
156
0
5
10
15
20
25
Station (m)


RS = 1006.8 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
168
166
164
162
160
158
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0
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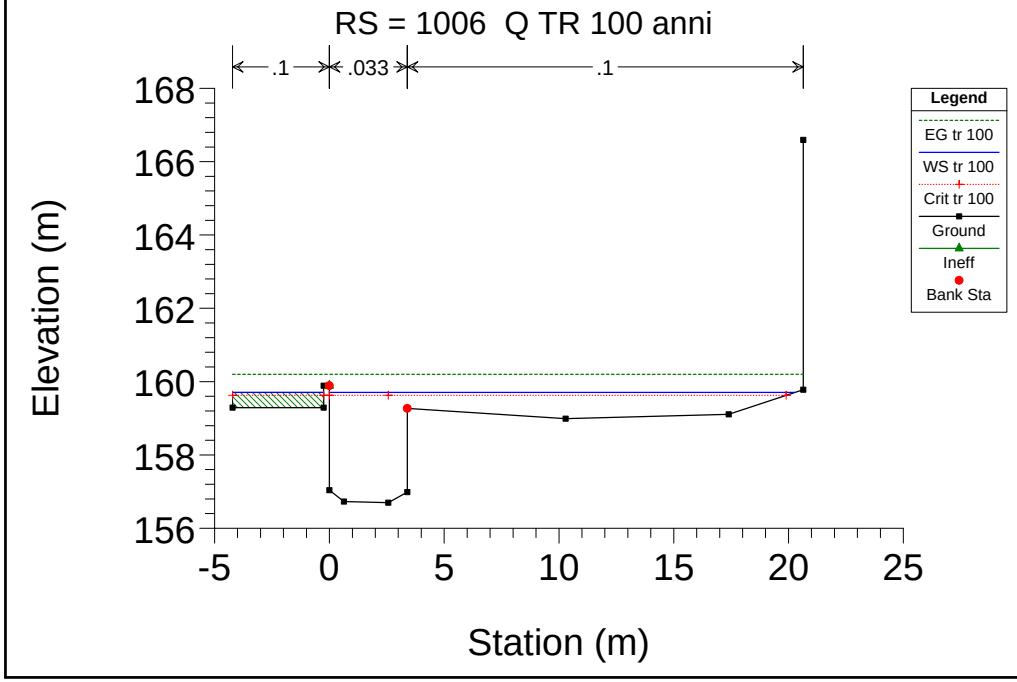
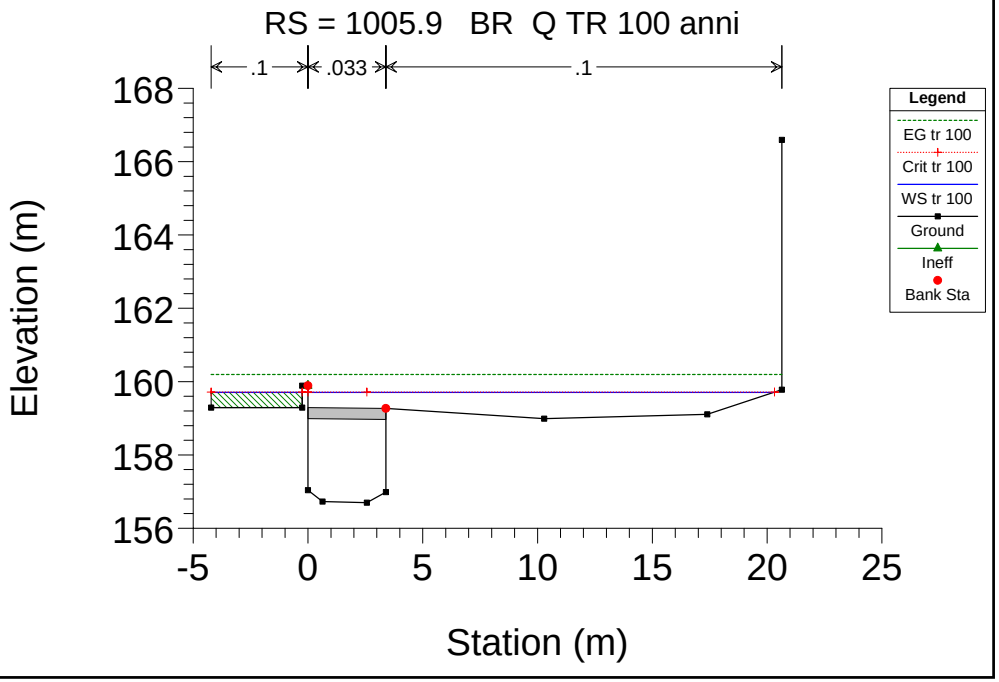
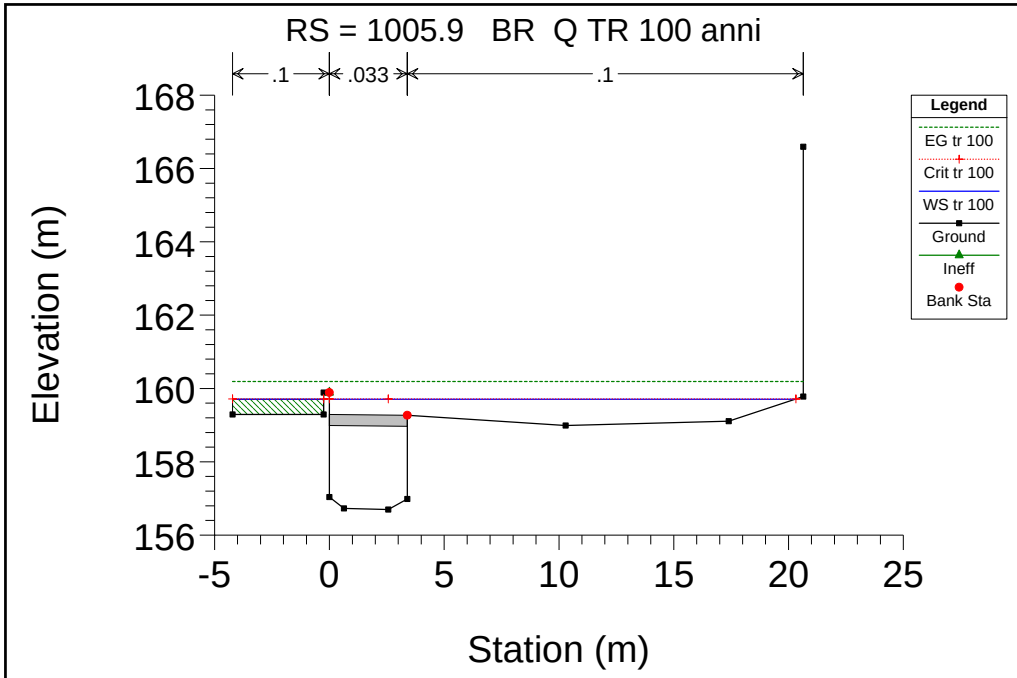
10
15
20
25
Station (m)


RS = 1006 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Ineff
Bank Sta
Elevation (m)
168
166
164
162
160
158
156
-5
0
5
10
15
20
25
Station (m)


RS = 1005.9 BR Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Ineff
Bank Sta
Elevation (m)
168
166
164
162
160
158
156
-5
0
5
10
15
20
25
Station (m)


RS = 1005.9 BR Q TR 100 anni
.1
.033
.1
Elevation (m)
168
166
164
162
160
158
156
-5
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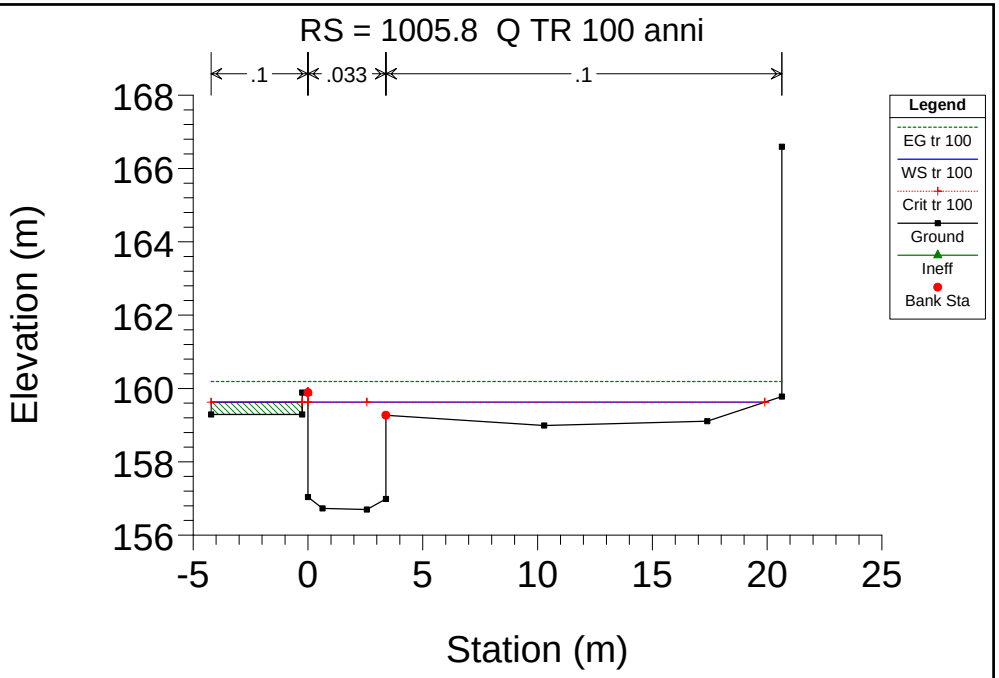
15
20
25
Station (m)
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Ineff
Bank Sta


RS = 1005.8 Q TR 100 anni
.1
.033
.1
Elevation (m)
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166
164
162
160
158
156
-5
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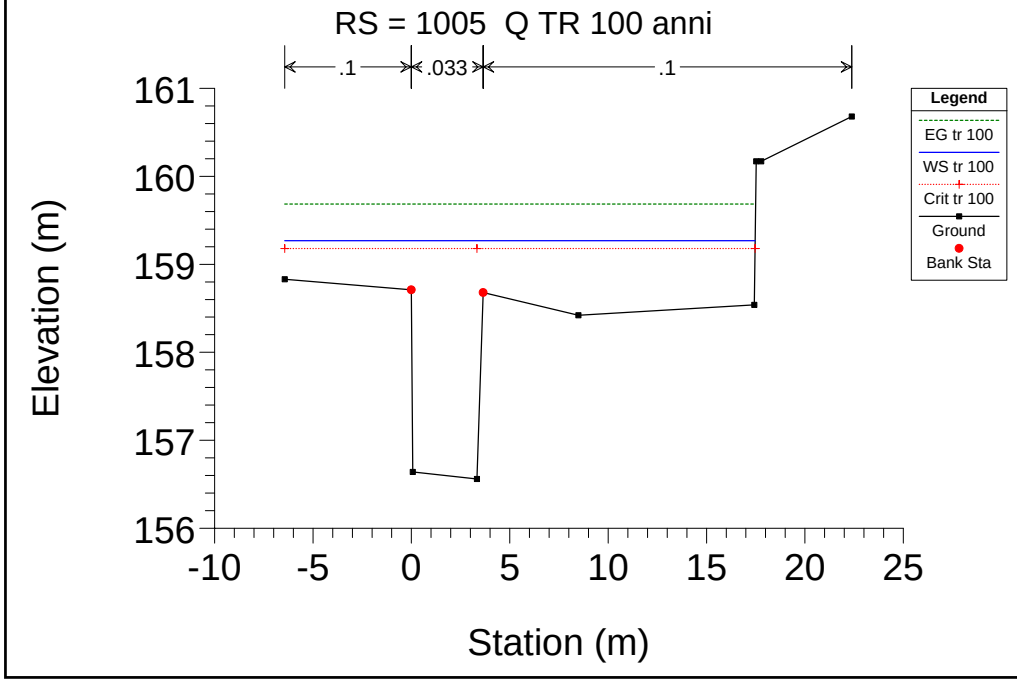
15
20
25
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Ineff
Bank Sta


RS = 1005 Q TR 100 anni
.1
.033
.1
Elevation (m)
161
160
159
158
157
156
-10
-5
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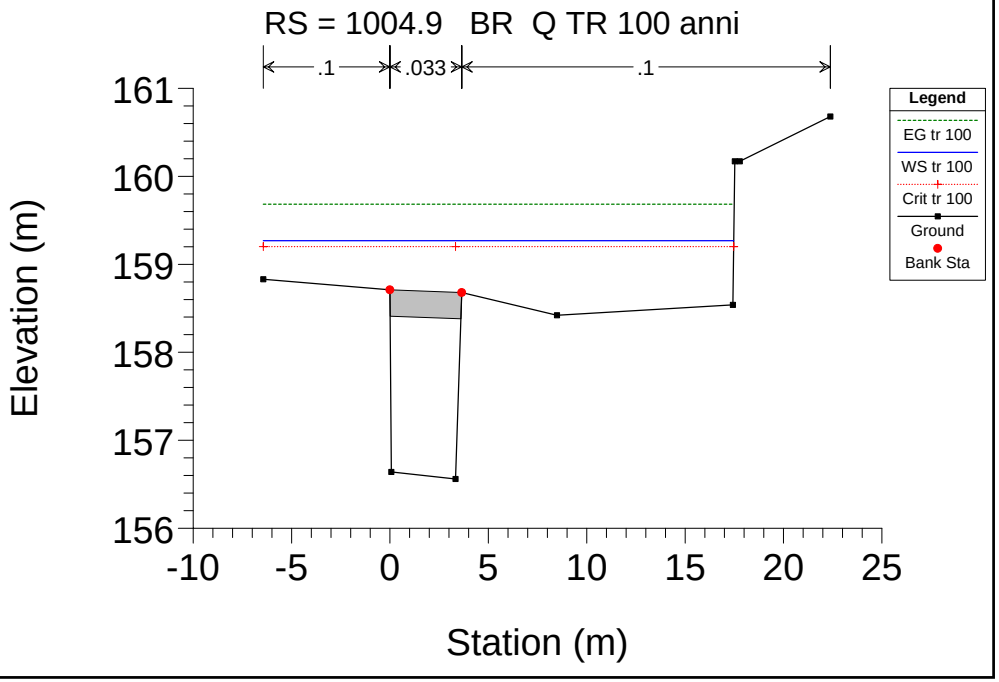
5
10
15
20
25
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta


RS = 1004.9 BR Q TR 100 anni
.1
.033
.1
Elevation (m)
161
160
159
158
157
156
-10
-5
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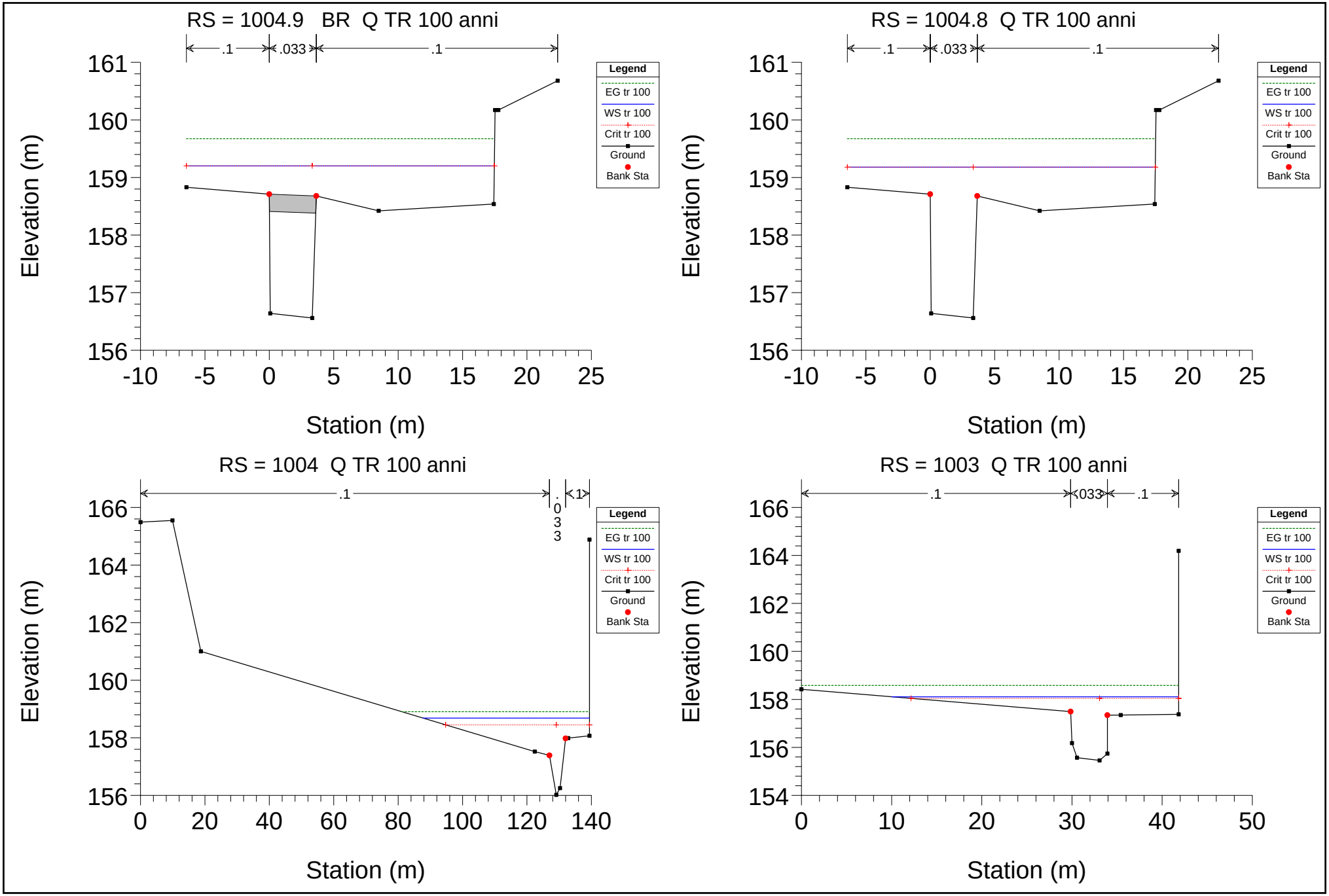
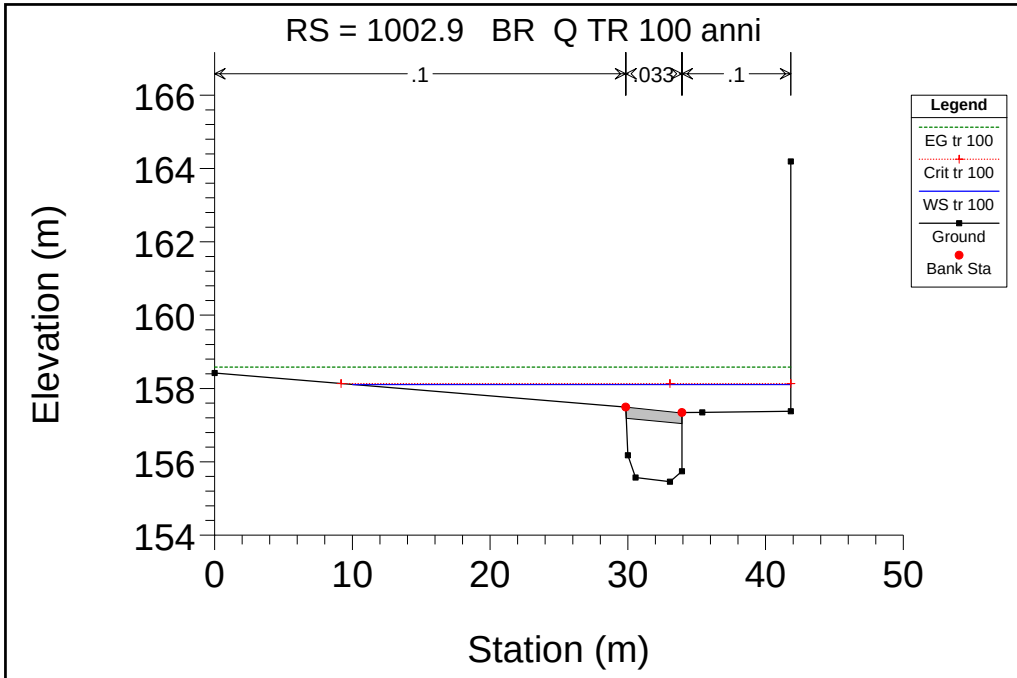
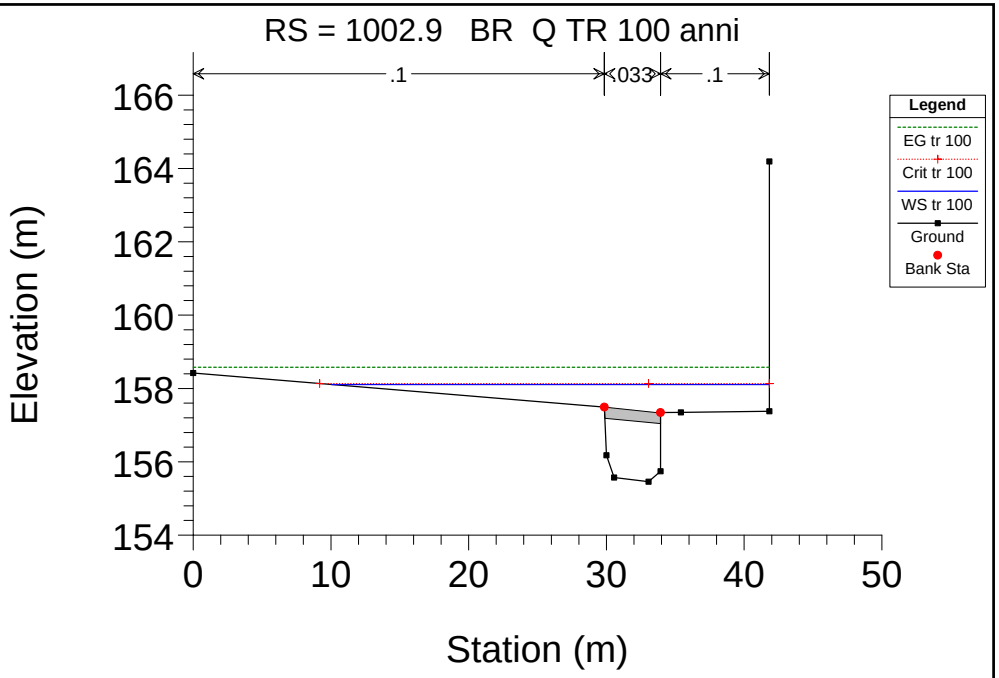
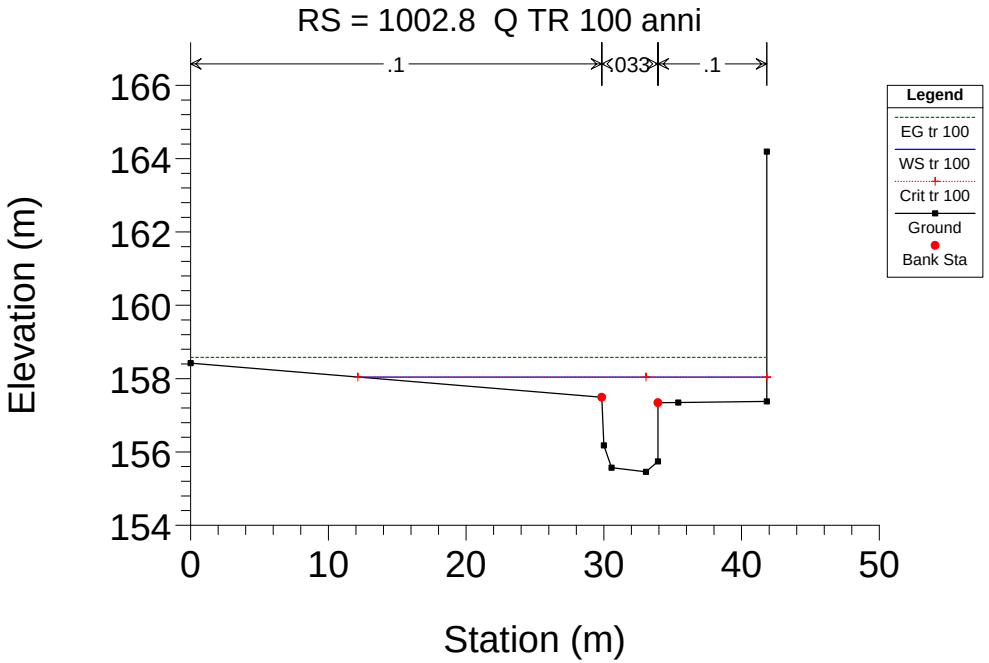
5
10
15
20
25
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta


RS = 1004.9 BR Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1004.8 Q TR 100 anni
RS = 1004 Q TR 100 anni
RS = 1003 Q TR 100 anni


RS = 1002.9 BR Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
166
164
162
160
158
156
154
0
10
20
30
40
50
Station (m)


RS = 1002.9 BR Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
166
164
162
160
158
156
154
0
10
20
30
40
50
Station (m)


RS = 1002.8 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
166
164
162
160
158
156
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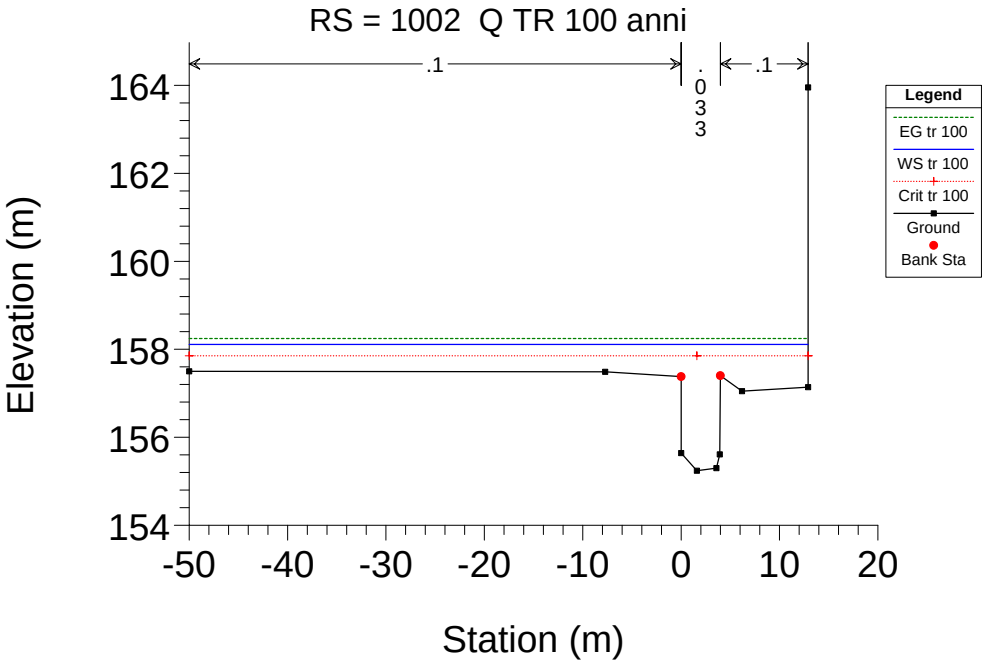
0
10
20
30
40
50
Station (m)


RS = 1002 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
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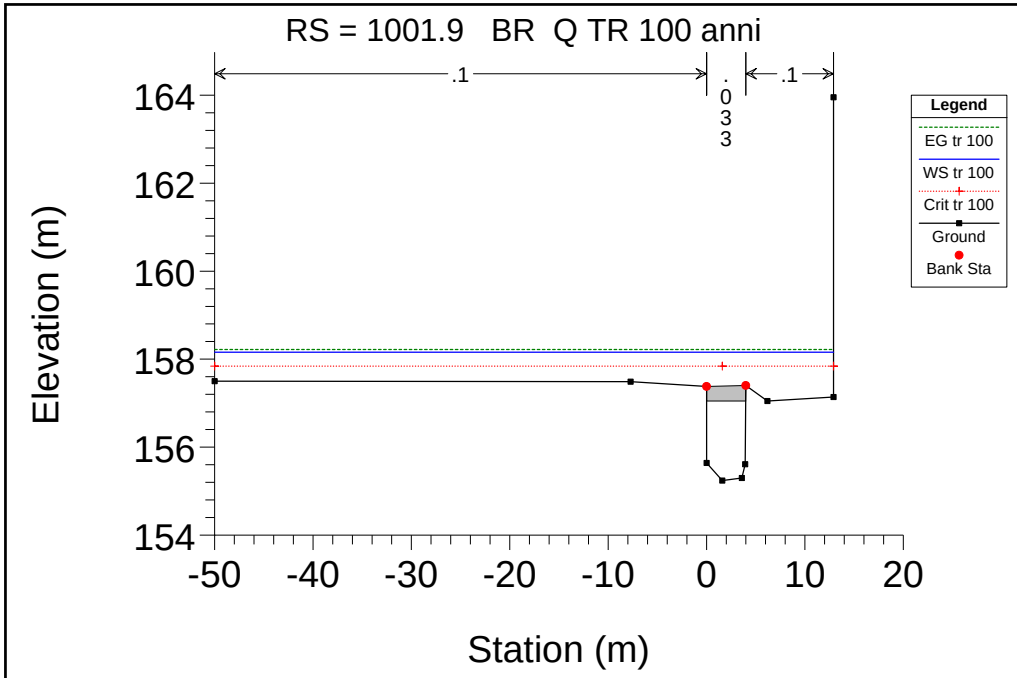
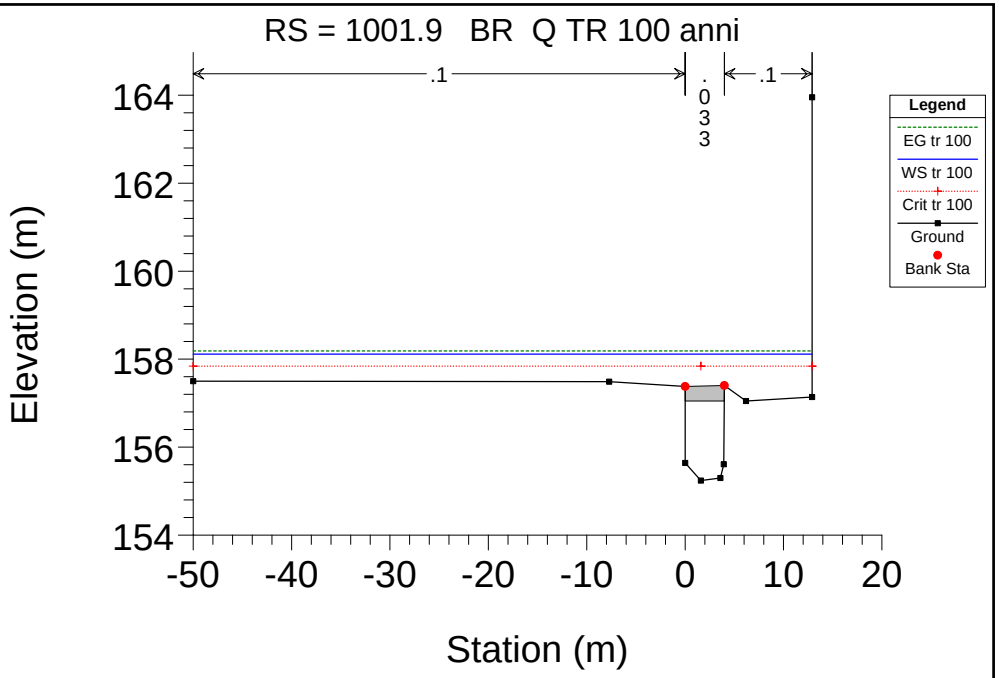
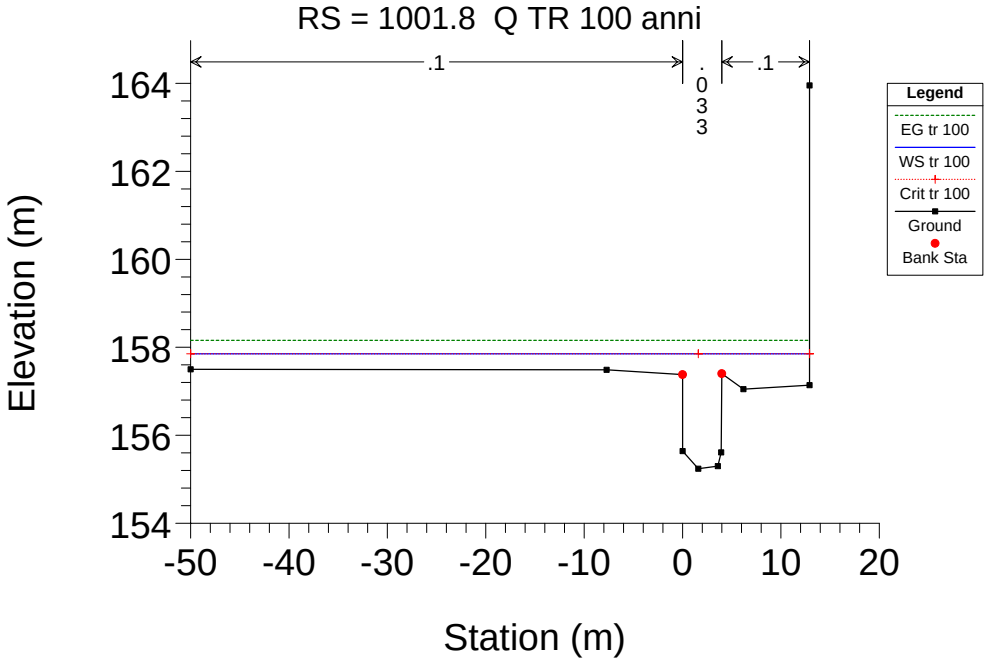
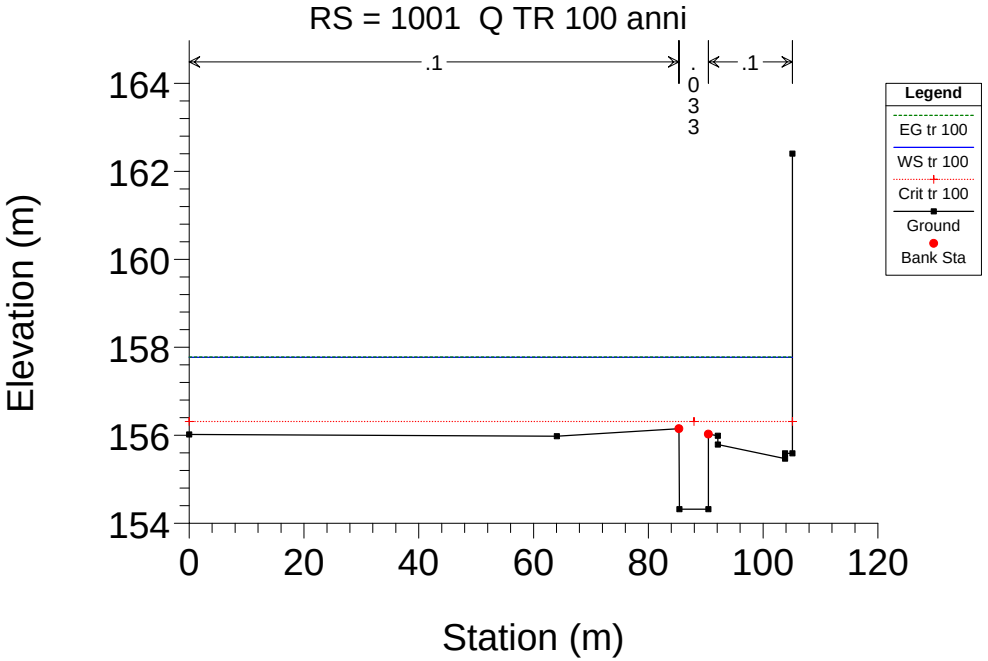
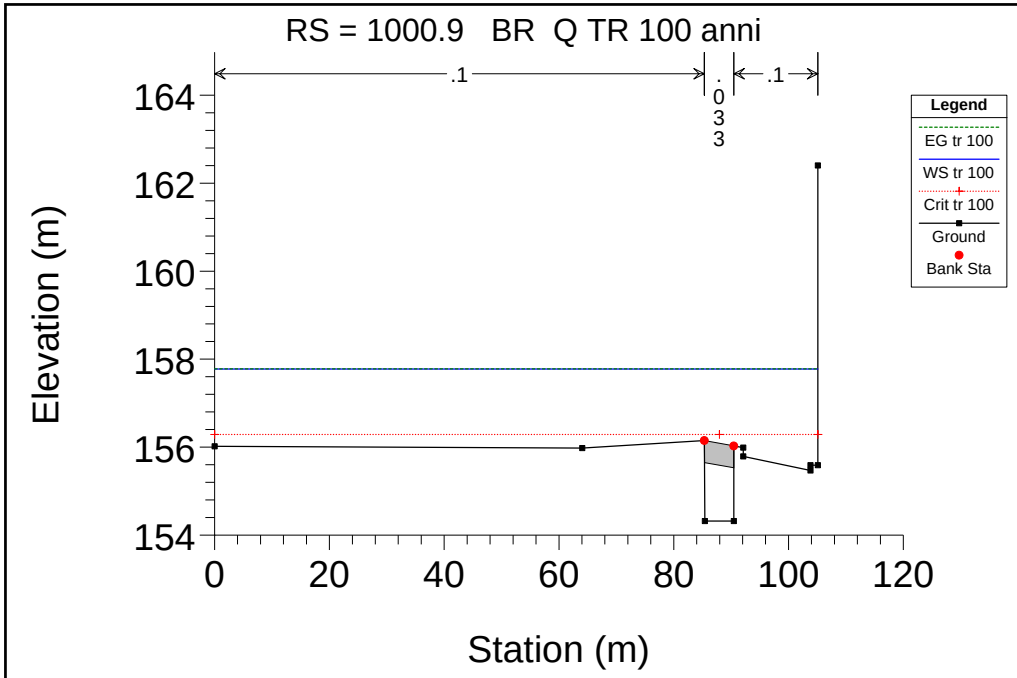
162
160
158
156
154
-50
-40
-30
-20
-10
0
10
20
Station (m)

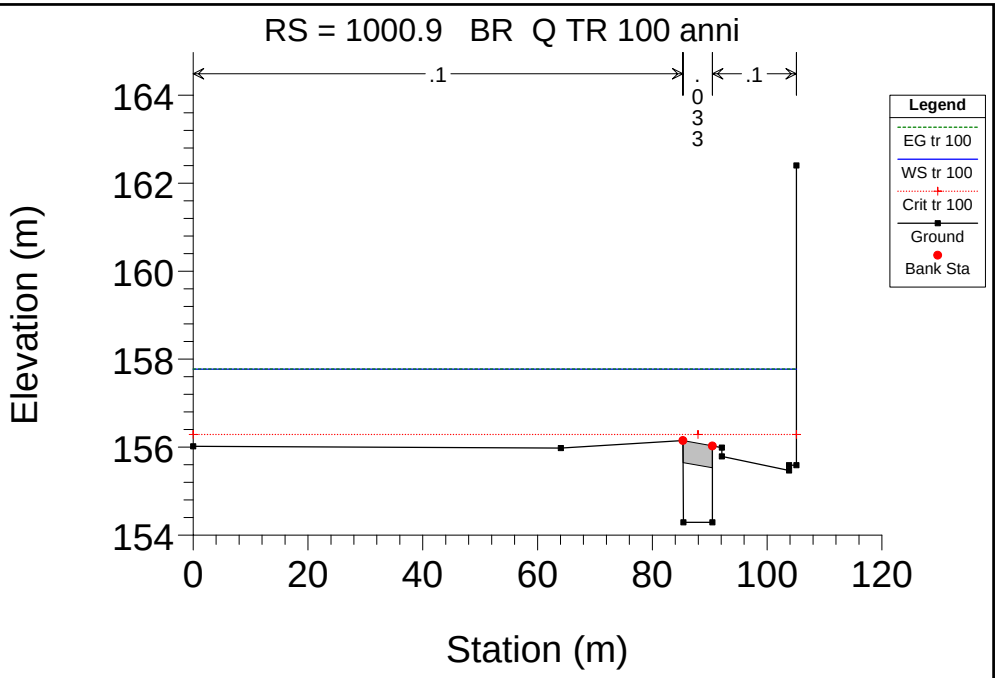

RS = 1001.9 BR Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
164
162
160
158
156
154
-50
-40
-30
-20
-10
0
10
20
Station (m)


RS = 1001.9 BR Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
164
162
160
158
156
154
-50
-40
-30
-20
-10
0
10
20
Station (m)


RS = 1001.8 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
164
162
160
158
156
154
-50
-40
-30
-20
-10
0
10
20
Station (m)


RS = 1001 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
164
162
160
158
156
154
0
20
40
60
80
100
120
Station (m)


RS = 1000.9 BR Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
0
20
40
60
80
100
120


RS = 1000.9 BR Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
164
162
160
158
156
154
0
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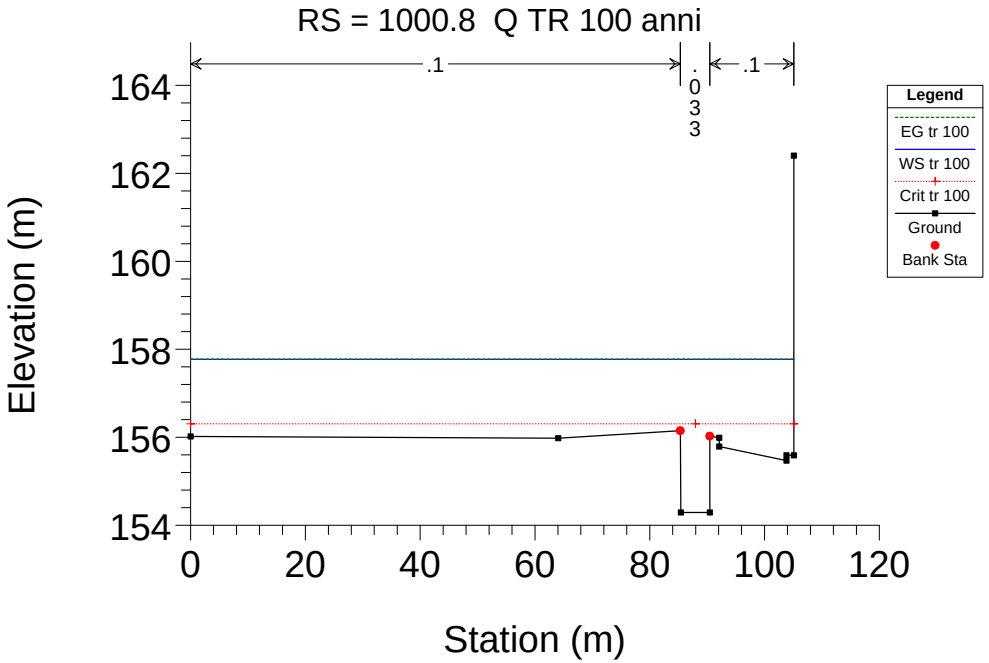
40
60
80
100
120


RS = 1000.8 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
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160
158
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154
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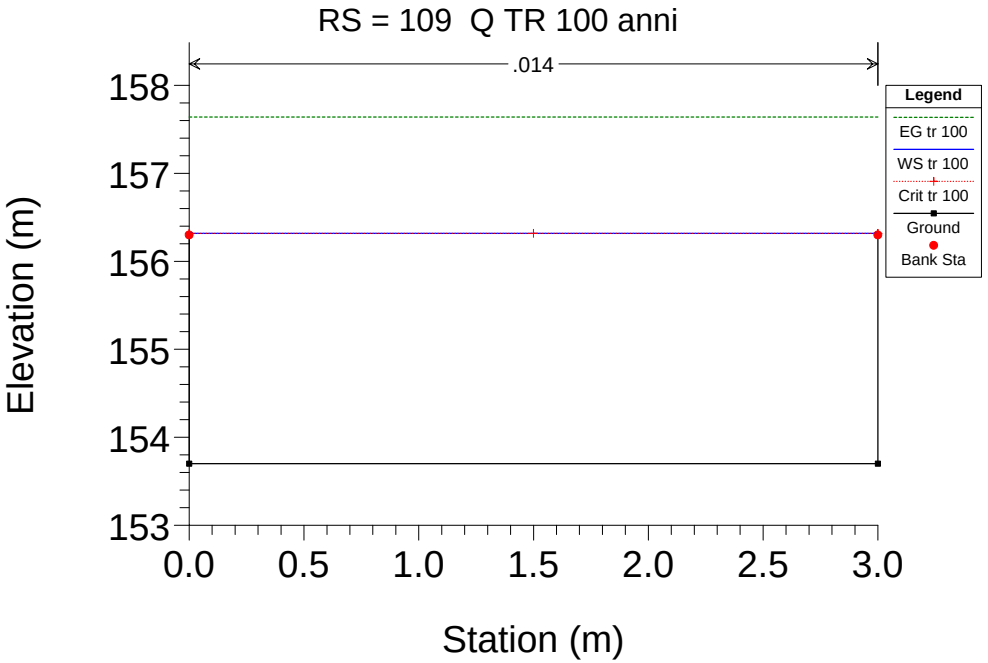
60
80
100
120


RS = 109 Q TR 100 anni
.014
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
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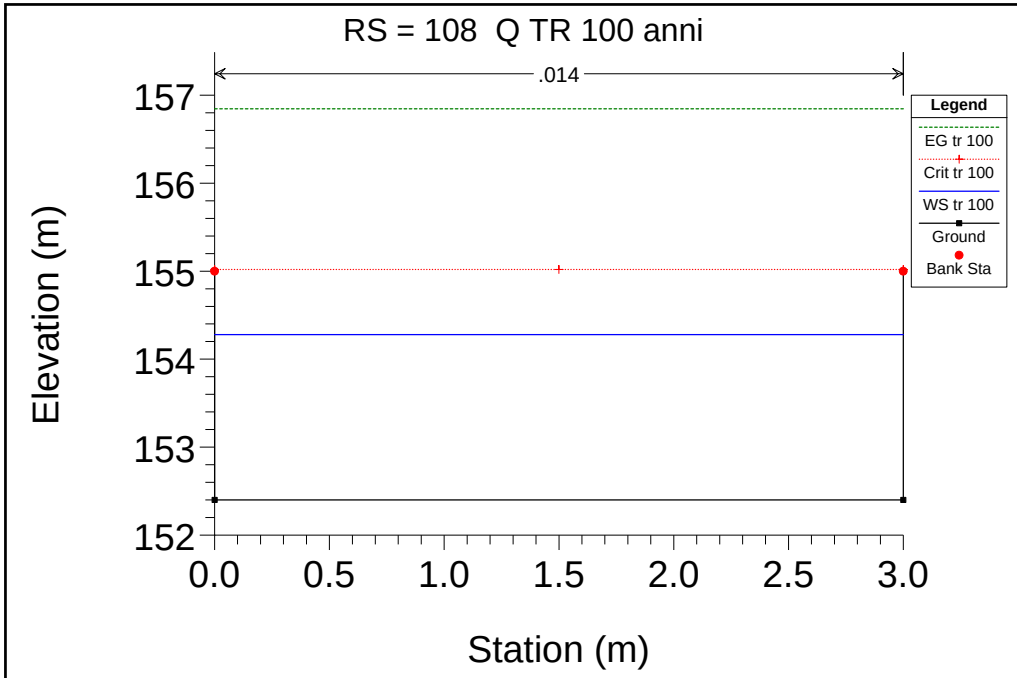
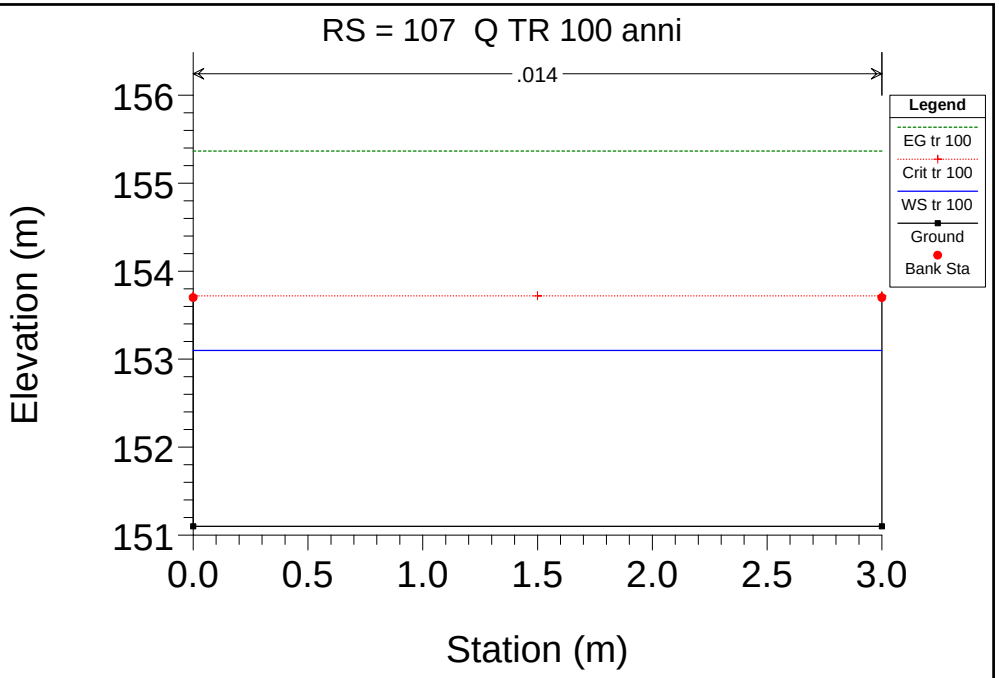
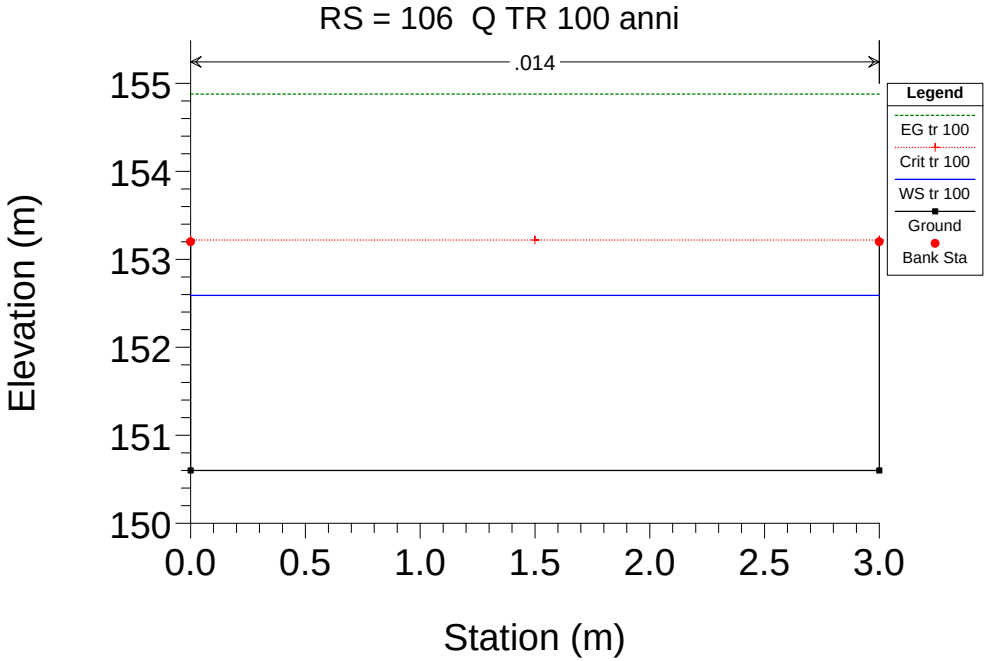
157
156
155
154
153
0.0
0.5
1.0
1.5
2.0
2.5
3.0


RS = 108 Q TR 100 anni
.014
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
157
156
155
154
153
152
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Station (m)


RS = 107 Q TR 100 anni
.014
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
156
155
154
153
152
151
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Station (m)


RS = 106 Q TR 100 anni
.014
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
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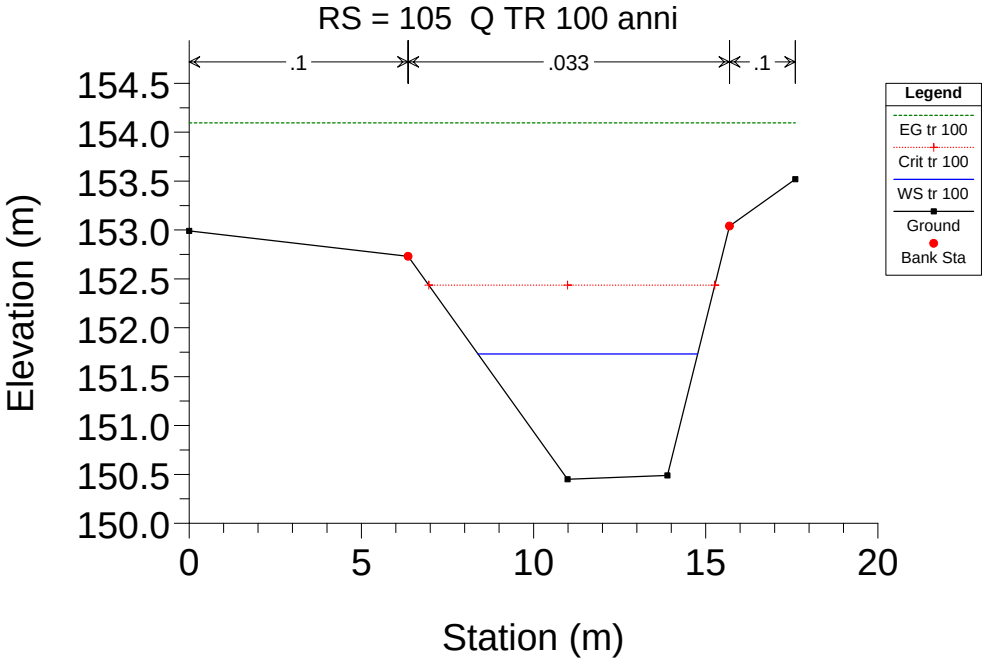
154
153
152
151
150
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Station (m)


RS = 105 Q TR 100 anni
.1
.033
.1
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Bank Sta
Elevation (m)
154.5
154.0
153.5
153.0
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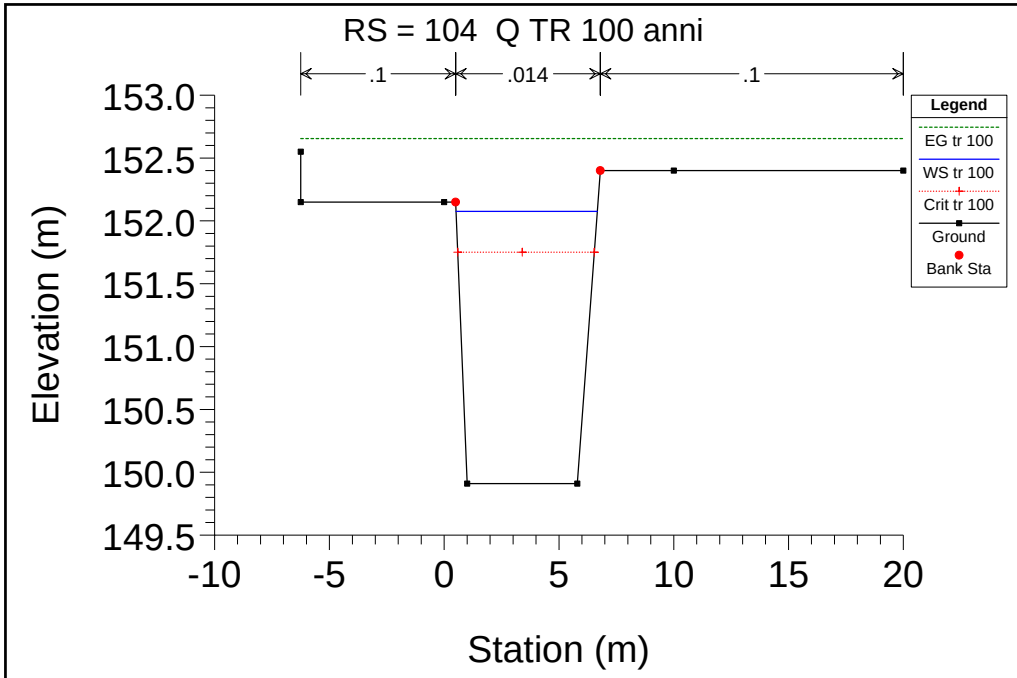
152.0
151.5
151.0
150.5
150.0
0
5
10
15
20
Station (m)


RS = 104 Q TR 100 anni
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.014
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
153.0
152.5
152.0
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151.0
150.5
150.0
149.5
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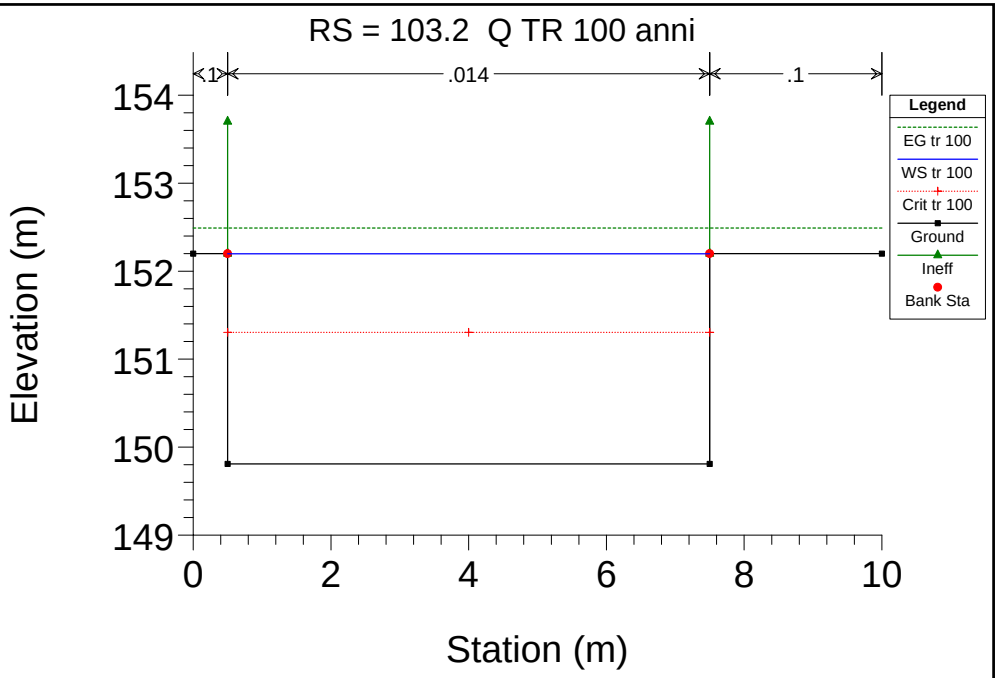
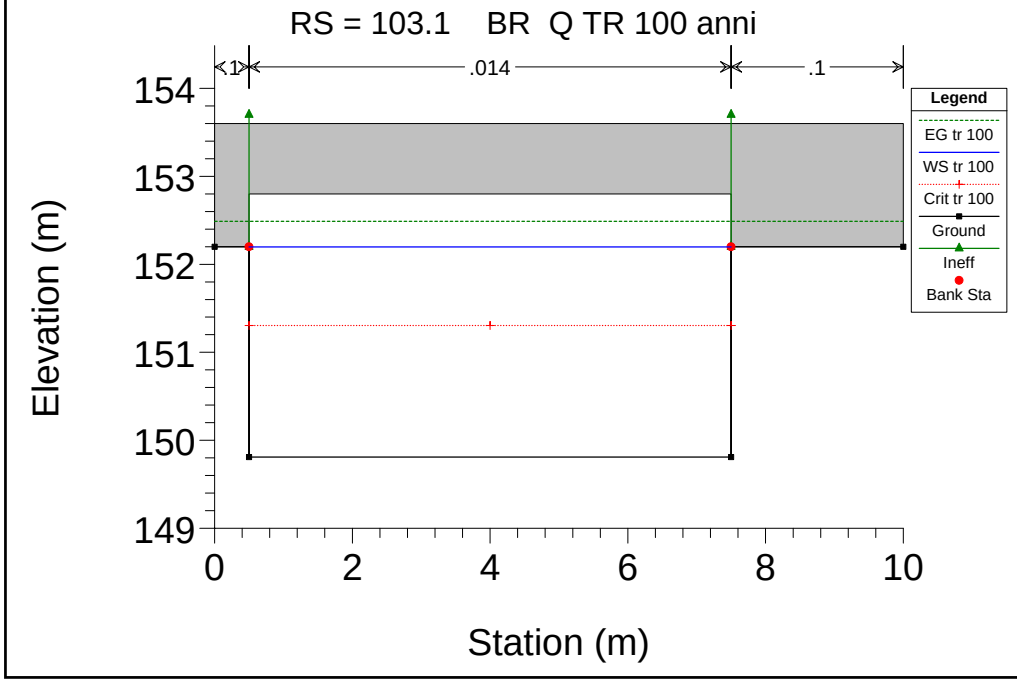
-5
0
5
10
15
20
Station (m)


RS = 103.2 Q TR 100 anni
.1
.014
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Ineff
Bank Sta
Elevation (m)
154
153
152
151
150
149
0
2
4
6
8
10
Station (m)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.1
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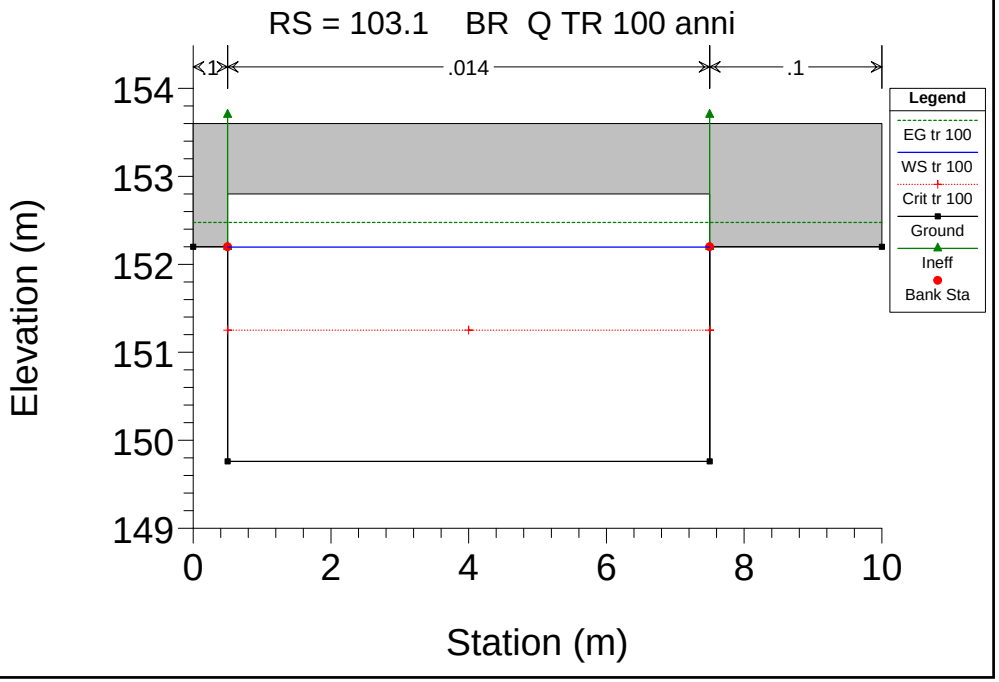
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Ineff
Bank Sta
Elevation (m)
154
153
152
151
150
149
0
2
4
6
8
10
Station (m)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.1
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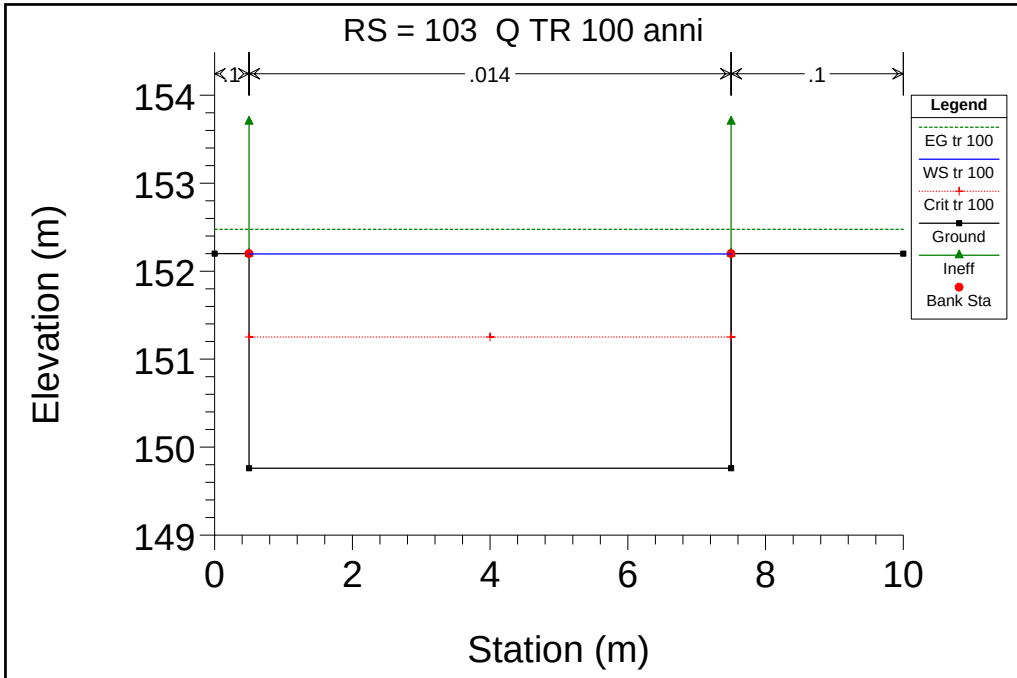
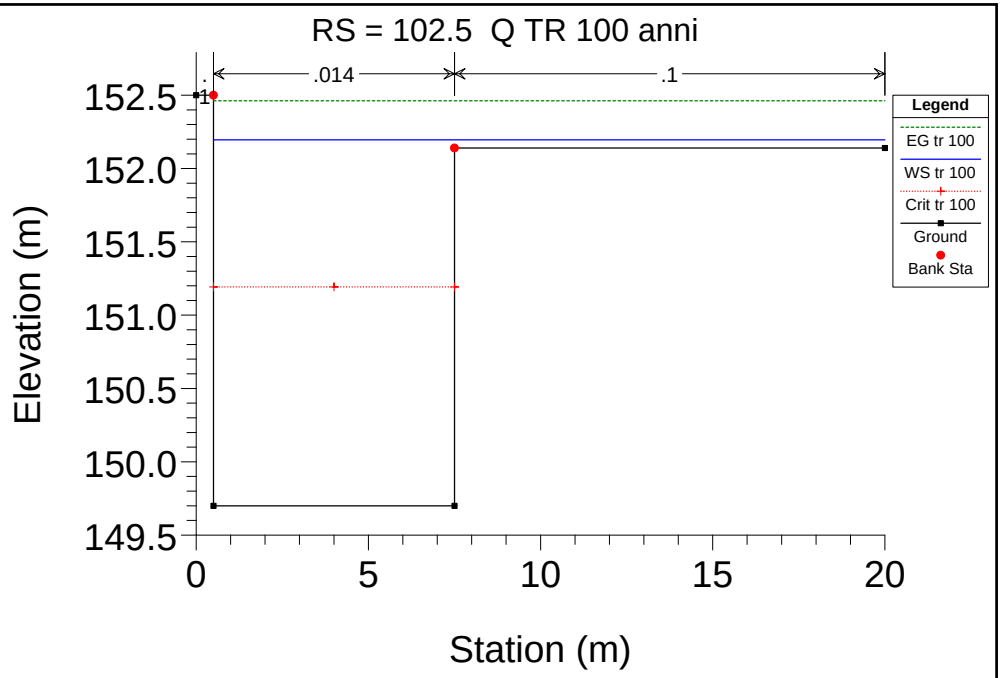
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Ineff
Bank Sta
Elevation (m)
154
153
152
151
150
149
0
2
4
6
8
10
Station (m)


RS = 103 Q TR 100 anni
.1
.014
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
154
153
152
151
150
149
0
2
4
6
8
10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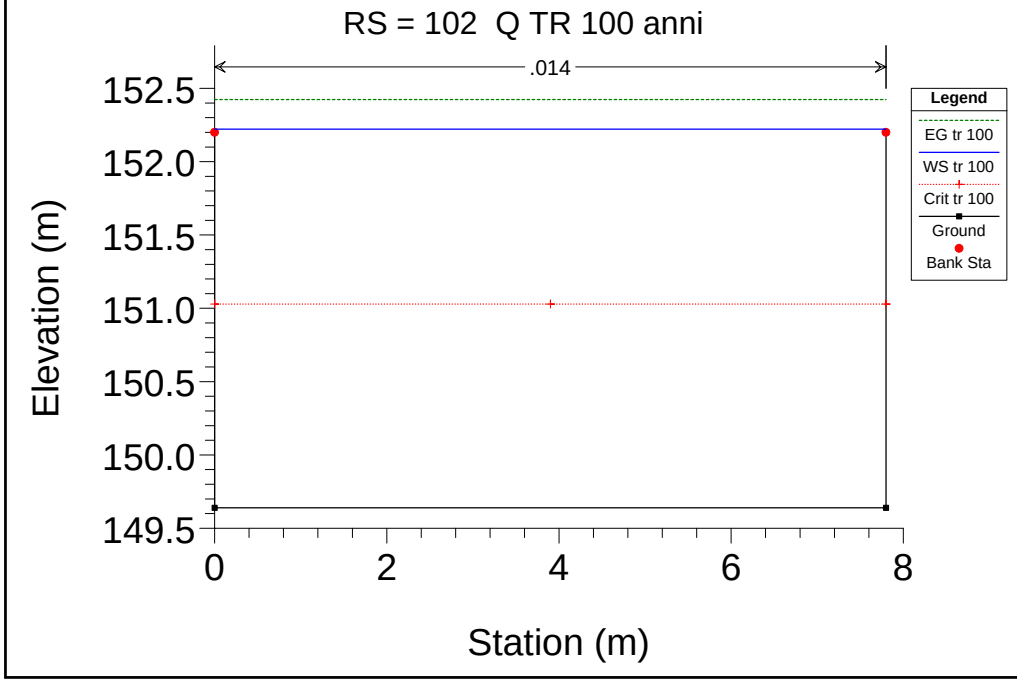
.
.014
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
152.5
152.0
151.5
151.0
150.5
150.0
149.5
0
5
10
15
20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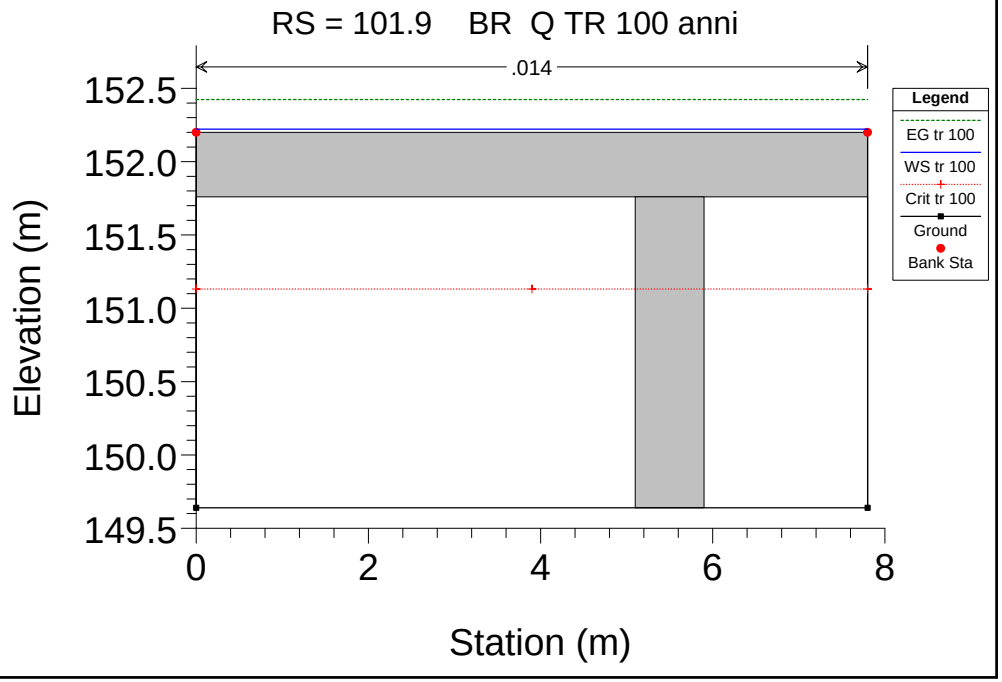
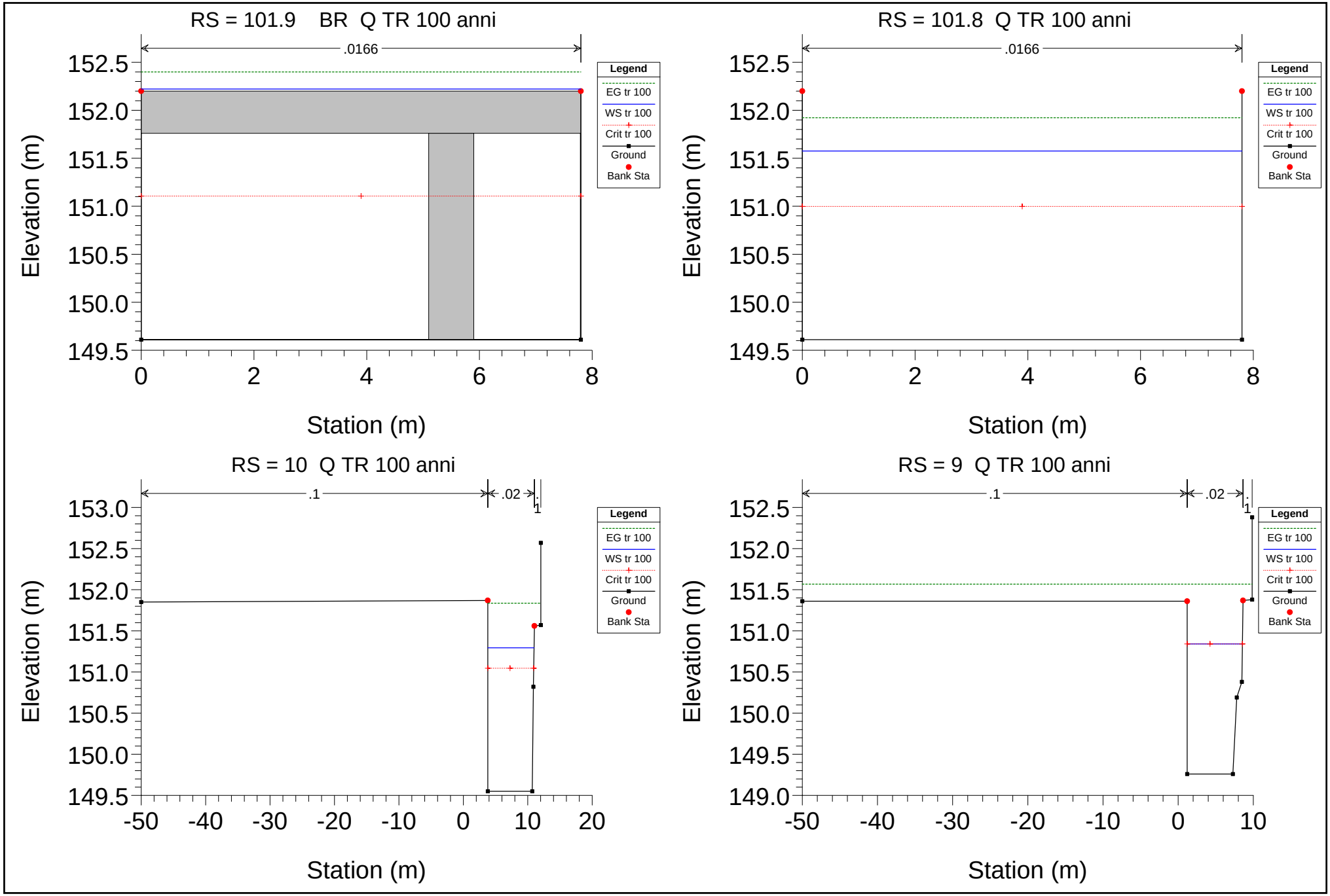
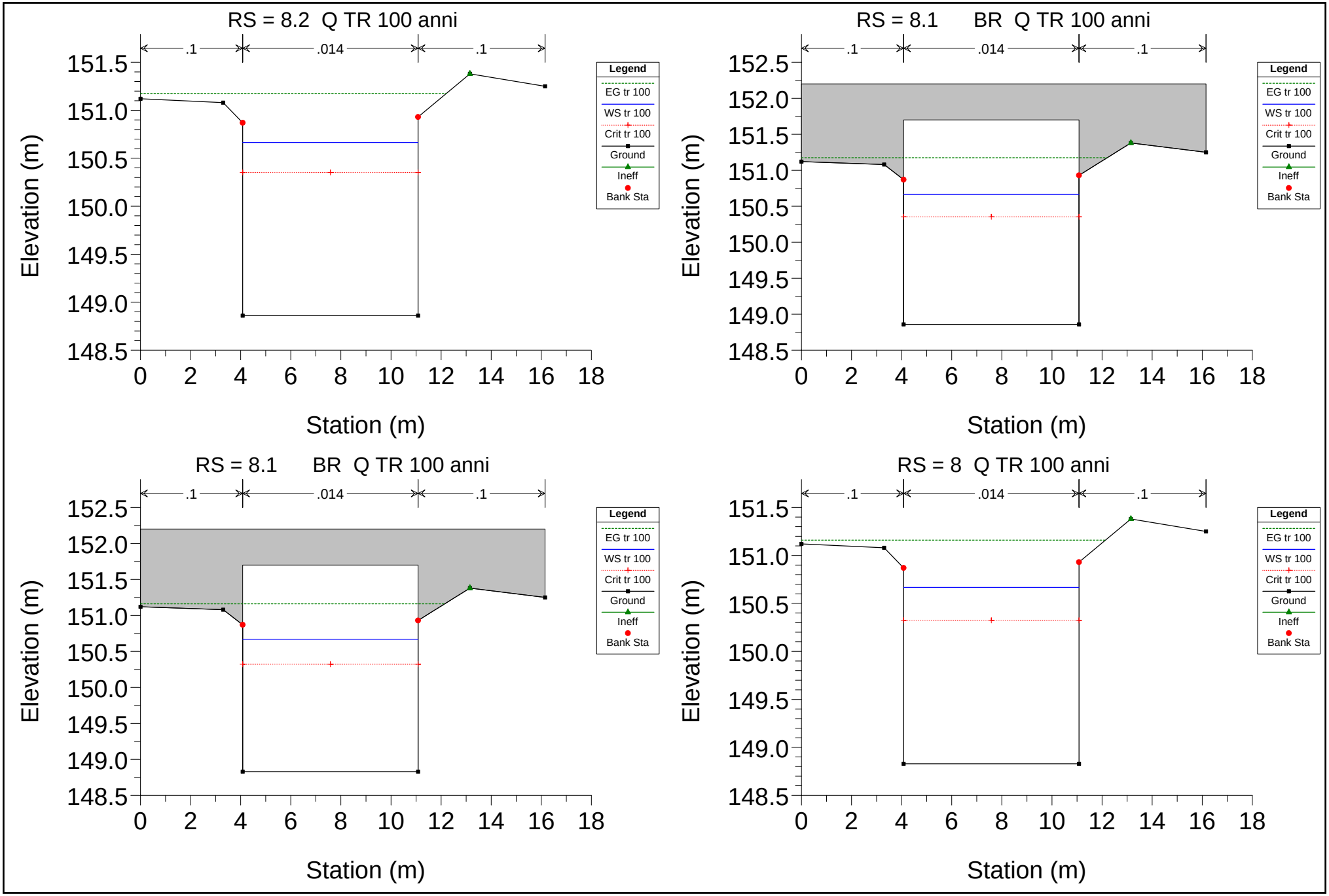
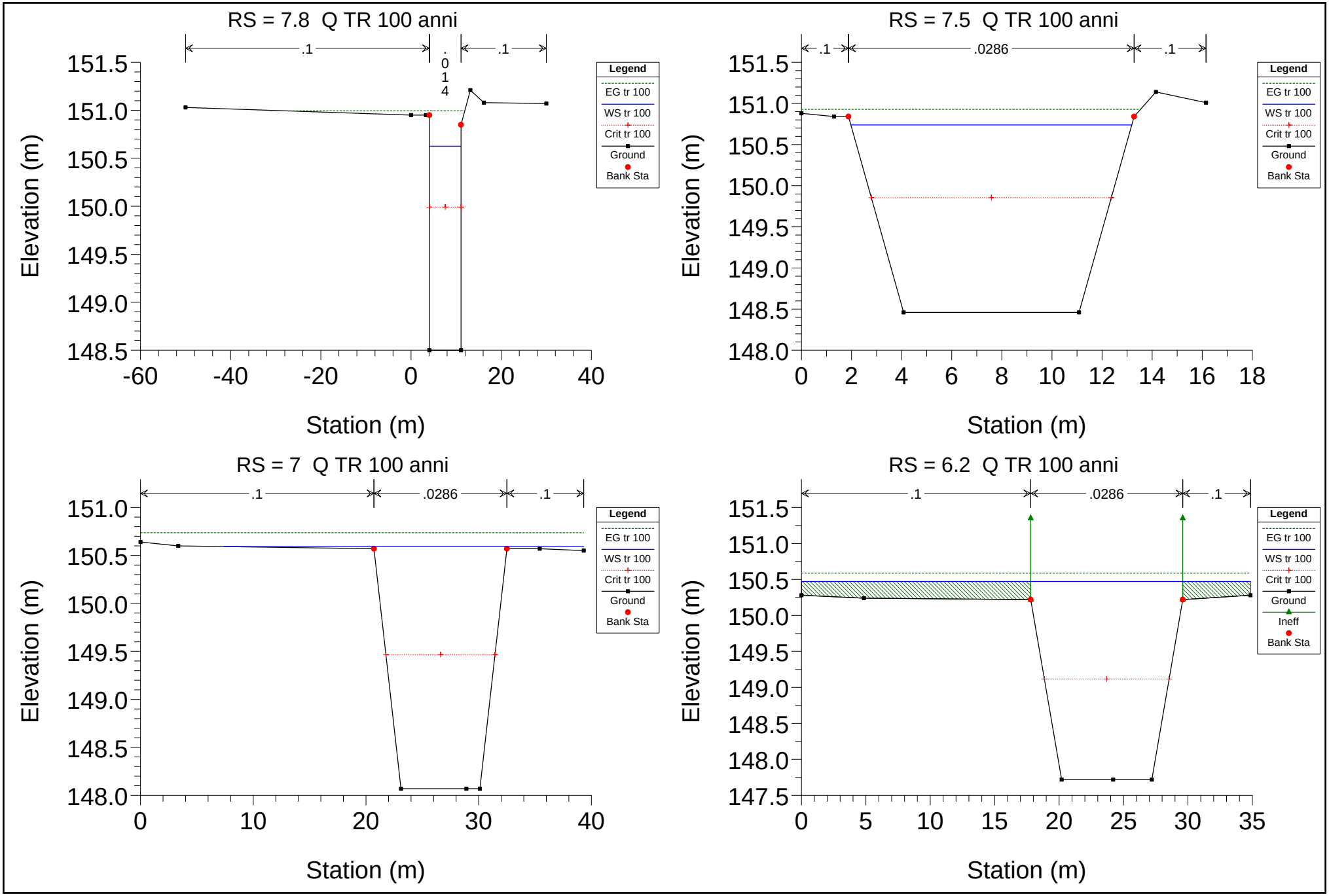
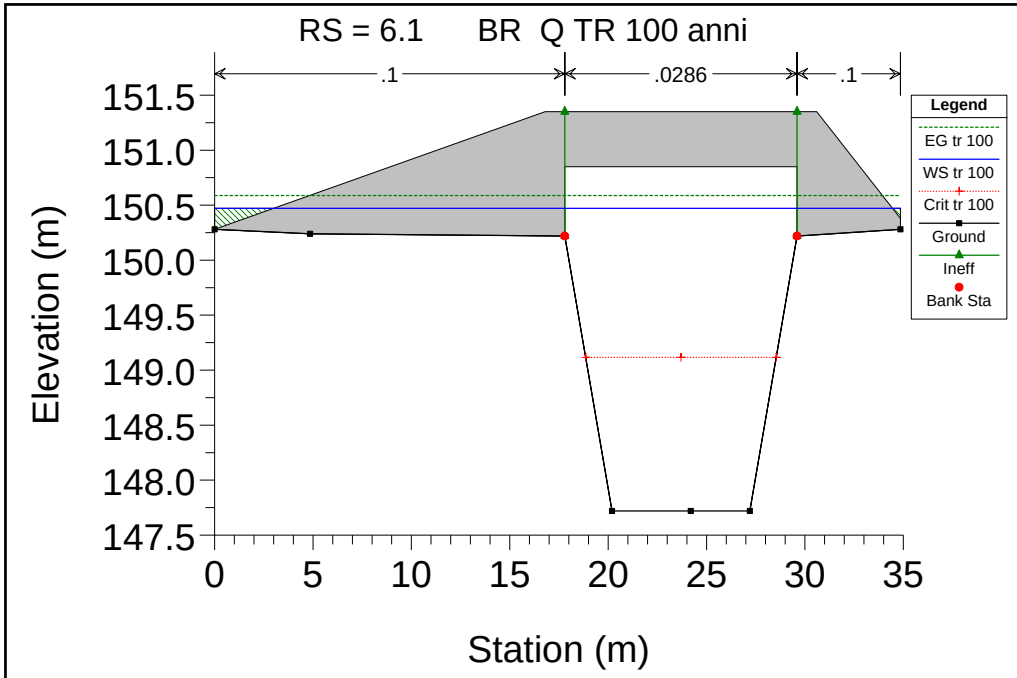
.014
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
152.5
152.0
151.5
151.0
150.5
150.0
149.5
0
2
4
6
8

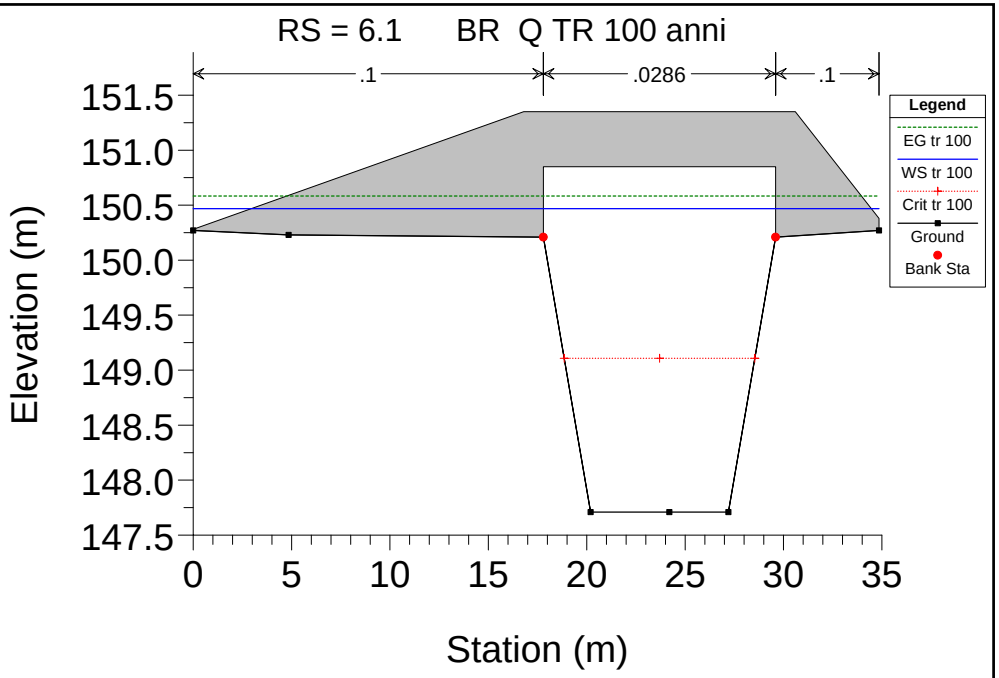

RS = 101.9 BR Q TR 100 anni
.014
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
152.5
152.0
151.5
151.0
150.5
150.0
149.5
0
2
4
6
8

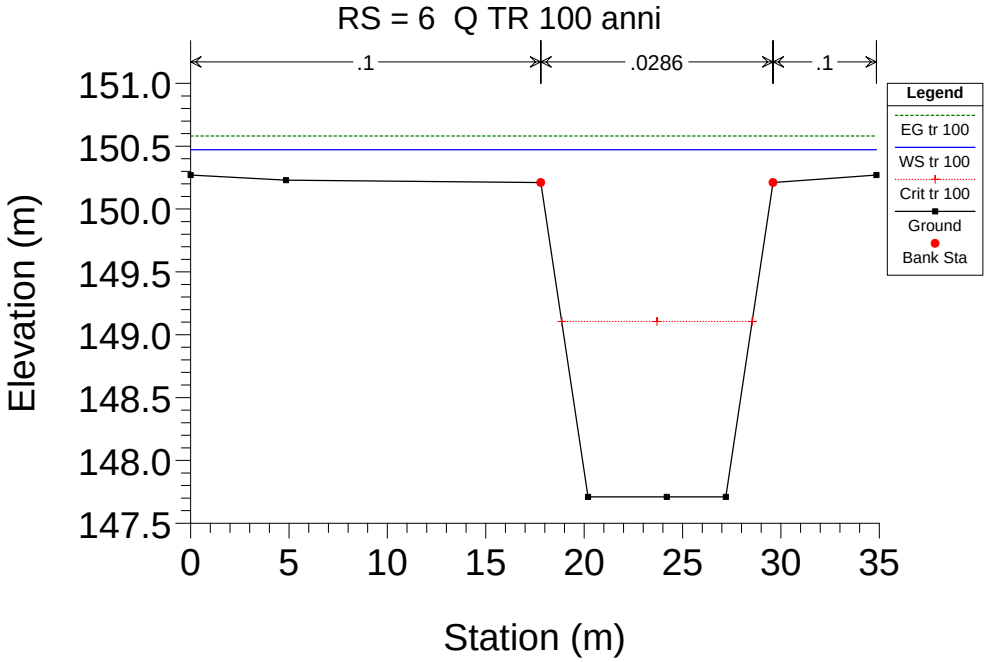

RS = 101.9 BR Q TR 100 anni
.0166
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 101.8 Q TR 100 anni
.0166
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 10 Q TR 100 anni
.1
.02
1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 9 Q TR 100 anni
.1
.02
1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)

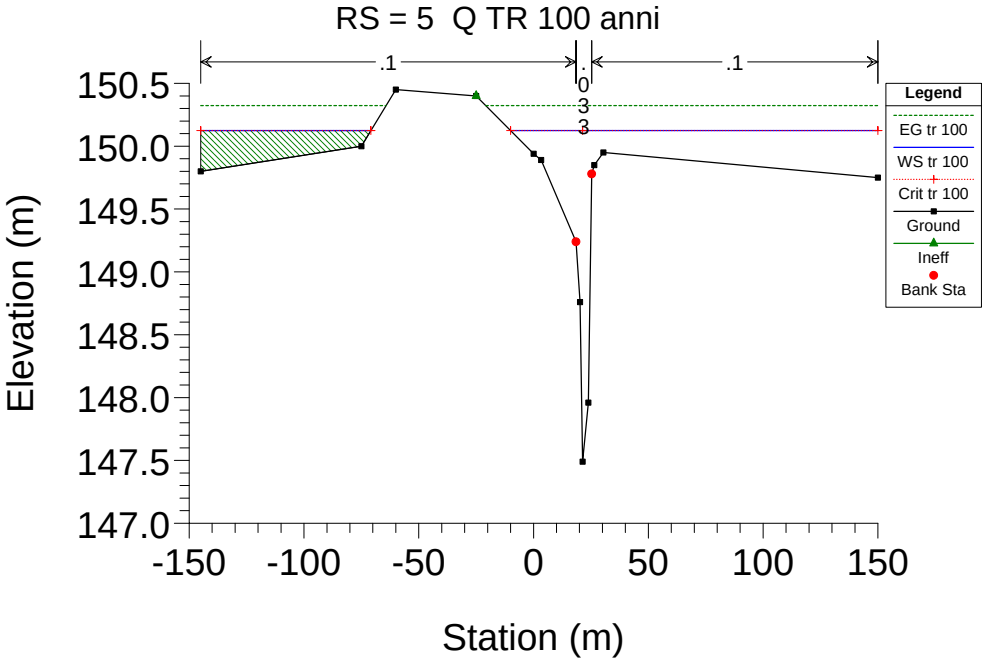

RS = 8.2 Q TR 100 anni
RS = 8.1 BR Q TR 100 anni
RS = 8.1 BR Q TR 100 anni
RS = 8 Q TR 100 anni
.1
.014
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
148.5
149.0
149.5
150.0
150.5
151.0
151.5
152.0
152.5
0
2
4
6
8
10
12
14
16
18

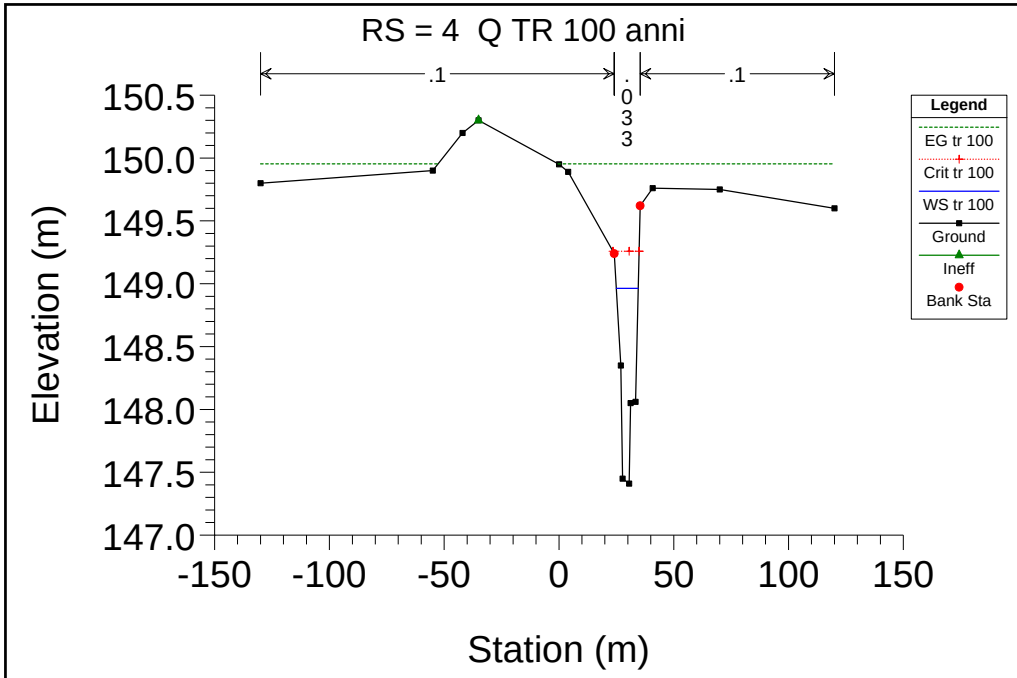

RS = 7.8 Q TR 100 anni
.1
.014
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 7.5 Q TR 100 anni
.1
.0286
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 7 Q TR 100 anni
.1
.0286
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 6.2 Q TR 100 anni
.1
.0286
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)

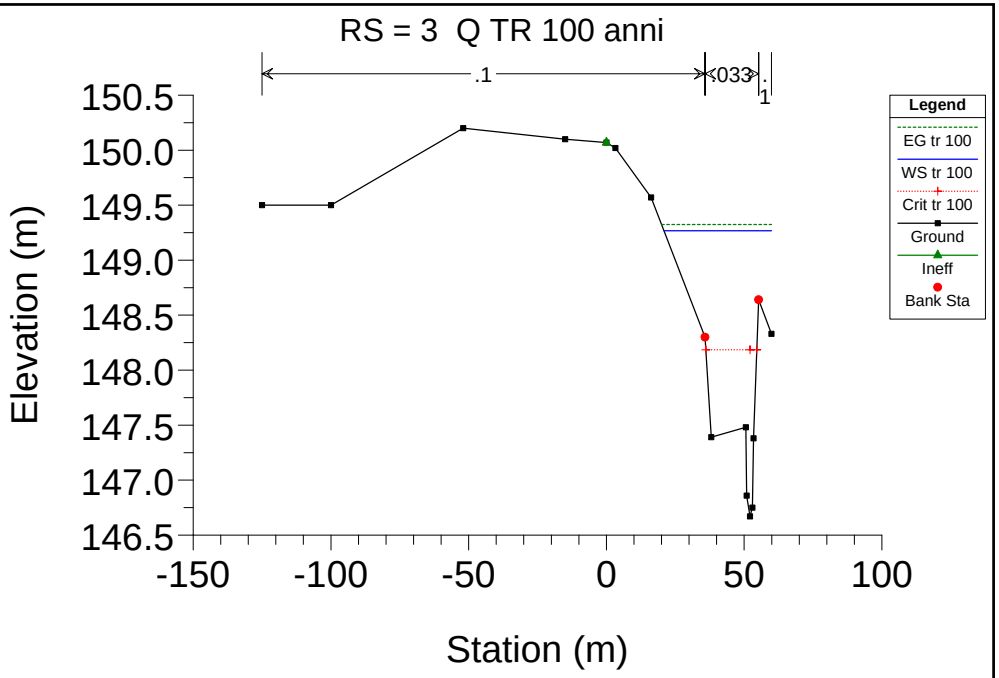

RS = 6.1 BR Q TR 100 anni
.1
.0286
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Ineff
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)

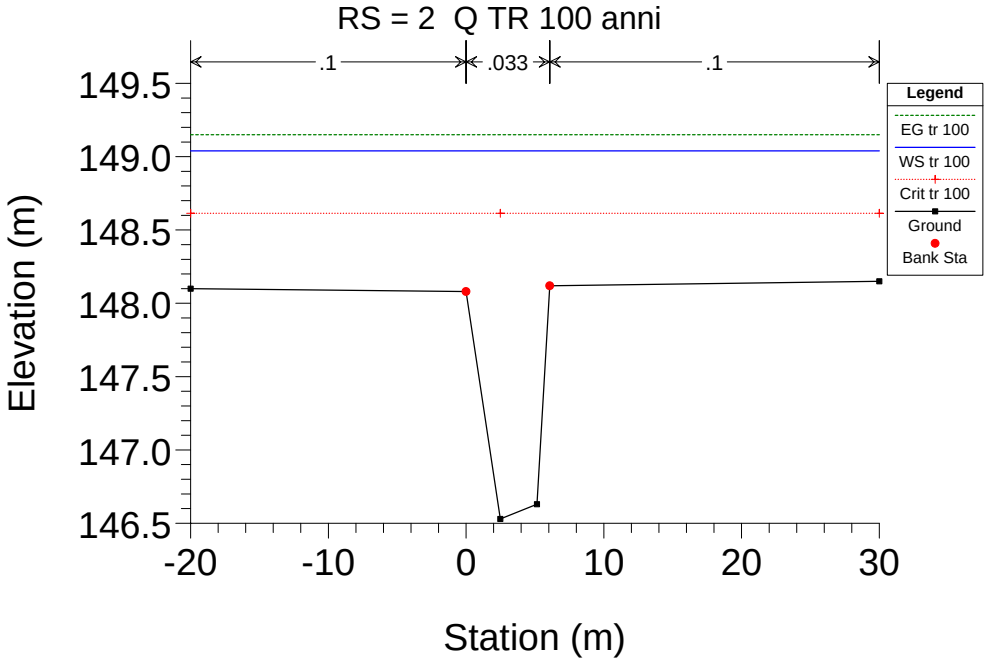

RS = 6.1 BR Q TR 100 anni
.1
.0286
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)

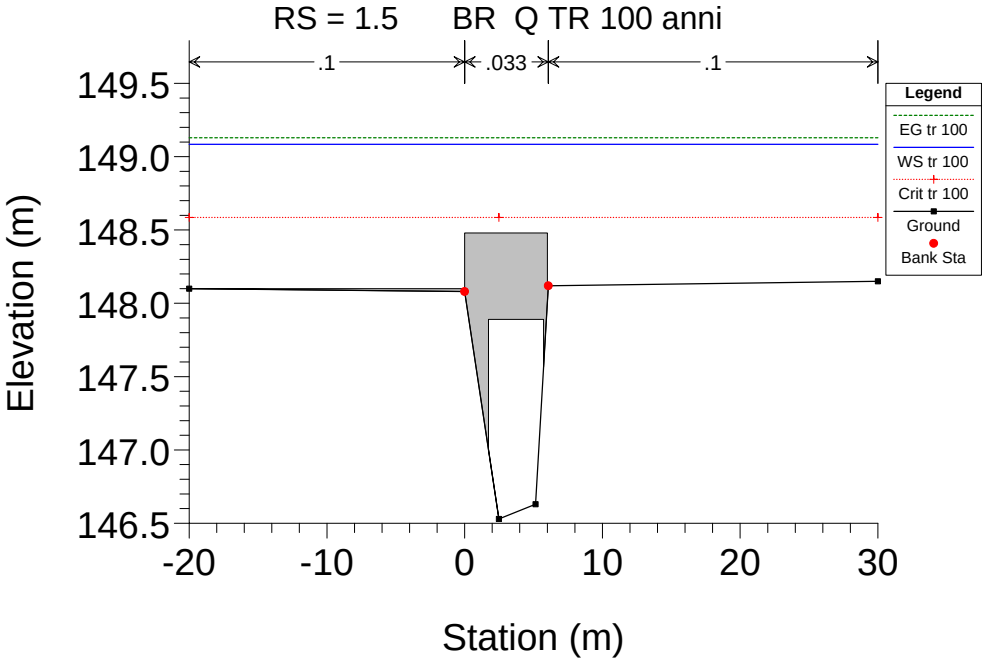

RS = 6 Q TR 100 anni
.1
.0286
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta
Elevation (m)
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)

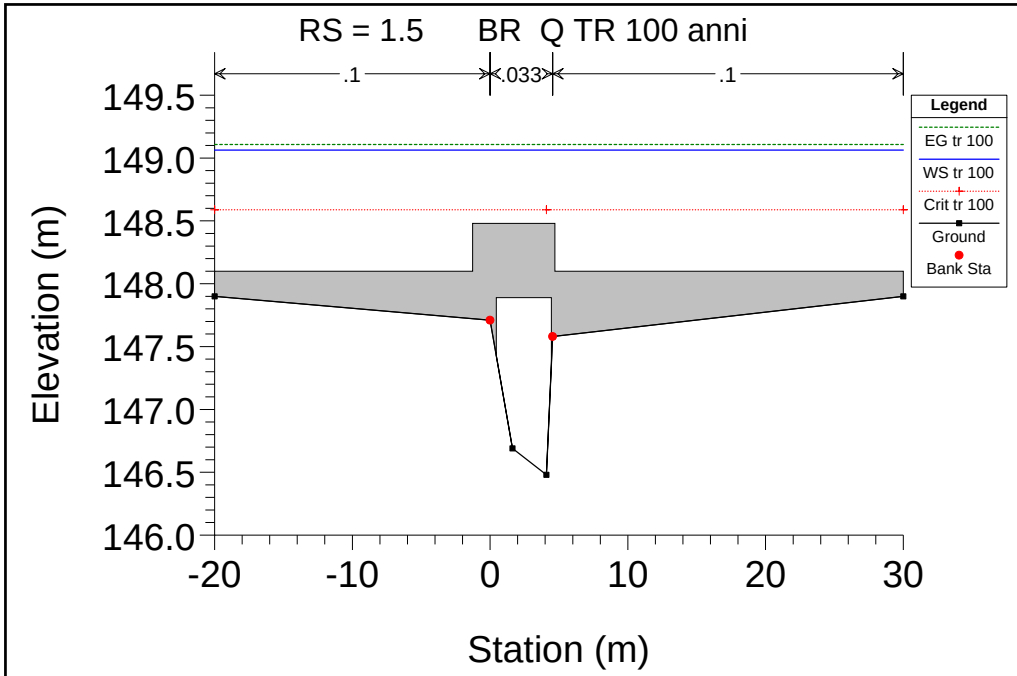

RS = 5 Q TR 100 anni
.1
.1
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Ineff
Bank Sta
Elevation (m)
150.5
150.0
149.5
149.0
148.5
148.0
147.5
147.0
-150
-100
-50
0
50
100
150
Station (m)

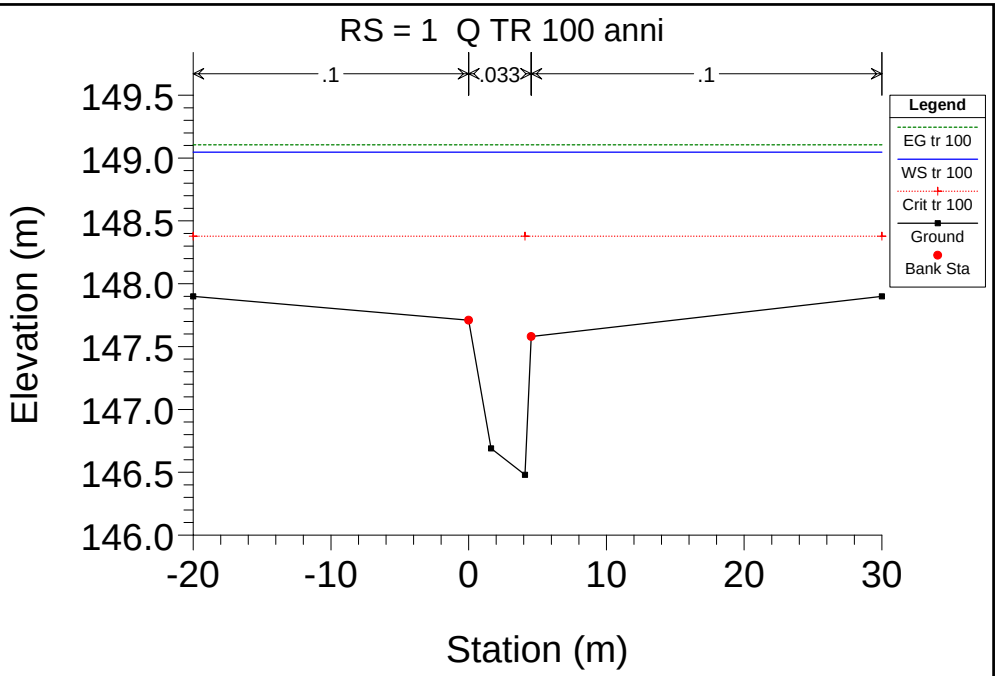

RS = 4 Q TR 100 anni
.1
.033
.1
150.5
150.0
149.5
149.0
148.5
148.0
147.5
147.0
Elevation (m)
-150
-100
-50
0
50
100
150
Station (m)
Legend
EG tr 100
Crit tr 100
WS tr 100
Ground
Ineff
Bank Sta


RS = 3 Q TR 100 anni
.1
.033
.1
150.5
150.0
149.5
149.0
148.5
148.0
147.5
147.0
146.5
Elevation (m)
-150
-100
-50
0
50
100
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Ineff
Bank Sta


RS = 2 Q TR 100 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta


RS = 1.5 BR Q TR 100 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta


RS = 1.5 BR Q TR 100 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta


RS = 1 Q TR 100 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 100
WS tr 100
Crit tr 100
Ground
Bank Sta

SIMULAZIONE 7

(Situazione di progetto)

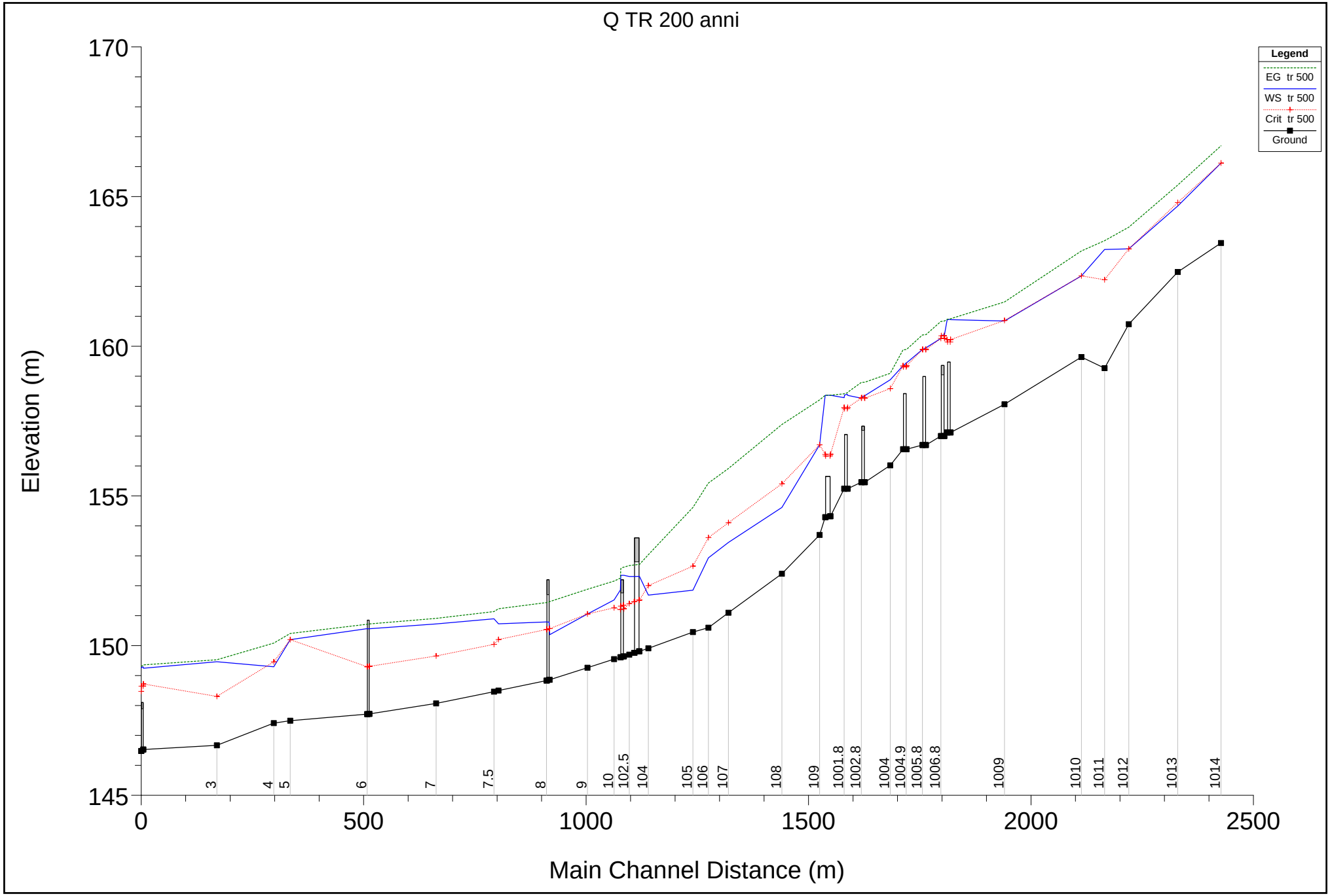
	portata al colmo Q_c m^3/s	tempo di ritorno anni
Rio Moisa a Valle di Magliano	44	200

HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 200

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1014	tr 200	44.00	163.45	166.02	166.02	166.58	0.012316	3.30	13.33	12.22	1.01
1	1013	tr 200	44.00	162.48	164.61	164.71	165.26	0.014705	3.56	12.37	11.89	1.11
1	1012	tr 200	44.00	160.74	163.13	163.13	163.83	0.012122	3.69	11.94	8.66	1.00
1	1011	tr 200	44.00	159.27	163.06	162.08	163.34	0.003259	2.34	18.81	8.92	0.51
1	1010	tr 200	44.00	159.64	162.26	162.18	163.01	0.011345	3.83	11.74	9.35	0.93
1	1009	tr 200	44.00	158.06	160.72	160.72	161.35	0.007894	3.67	18.98	25.18	0.82
1	1008	tr 200	44.00	157.12	160.77	160.18	160.80	0.001162	1.30	95.42	85.47	0.22
1	1007.9		Bridge									
1	1007.8	tr 200	44.00	157.12	160.74	160.17	160.78	0.001234	1.33	93.33	85.47	0.23
1	1007	tr 200	44.00	157.00	160.28	160.18	160.72	0.008046	3.34	24.76	23.86	0.61
1	1006.9		Bridge									
1	1006.8	tr 200	44.00	157.00	160.18	160.18	160.71	0.009718	3.59	22.40	23.86	0.67
1	1006	tr 200	44.00	156.70	159.96	159.73	160.31	0.007308	3.00	27.35	24.86	0.54
1	1005.9		Bridge									
1	1005.8	tr 200	44.00	156.70	159.73	159.73	160.30	0.011594	3.64	19.98	24.39	0.68
1	1005	tr 200	44.00	156.56	159.35	159.26	159.78	0.008684	3.35	25.09	23.91	0.66
1	1004.9		Bridge									
1	1004.8	tr 200	44.00	156.56	159.26	159.26	159.77	0.010587	3.61	22.82	23.90	0.72
1	1004	tr 200	44.00	156.02	158.78	158.51	158.99	0.003729	2.62	45.43	54.40	0.58
1	1003	tr 200	44.00	155.46	158.23	158.15	158.69	0.007172	3.33	26.15	35.64	0.66
1	1002.9		Bridge									
1	1002.8	tr 200	44.00	155.46	158.15	158.15	158.68	0.008440	3.54	23.46	33.12	0.71
1	1002	tr 200	44.00	155.24	158.16	157.91	158.30	0.003166	2.19	54.30	62.91	0.42
1	1001.9		Bridge									
1	1001.8	tr 200	44.00	155.24	157.91	157.91	158.21	0.006479	2.95	38.39	62.91	0.59
1	1001	tr 200	44.00	154.32	158.04	156.35	158.04	0.000107	0.53	226.34	105.11	0.09
1	1000.9		Bridge									
1	1000.8	tr 200	44.00	154.29	158.04	156.35	158.04	0.000107	0.53	226.23	105.11	0.09
1	109	tr 200	44.00	153.70	156.50	156.50	157.90	0.005565	5.24	8.39	3.00	1.00
1	108	tr 200	44.00	152.40	154.43	155.20	157.09	0.012469	7.23	6.09	3.00	1.62
1	107	tr 200	44.00	151.10	153.25	153.90	155.62	0.010712	6.81	6.46	3.00	1.48
1	106	tr 200	44.00	150.60	152.74	153.40	155.13	0.010844	6.84	6.43	3.00	1.49
1	105	tr 200	44.00	150.45	151.79	152.54	154.33	0.069942	7.07	6.22	6.53	2.31
1	104	tr 200	44.00	149.91	151.59	151.86	152.83	0.004353	4.93	8.92	5.85	1.28
1	103.2	tr 200	44.00	149.81	152.30	151.40	152.62	0.000742	2.53	17.42	10.00	0.51
1	103.1		Bridge									
1	103	tr 200	44.00	149.76	152.30	151.35	152.61	0.000705	2.48	17.75	10.00	0.50
1	102.5	tr 200	44.00	149.70	152.30	151.29	152.59	0.000658	2.41	20.15	19.50	0.48
1	102	tr 200	44.00	149.64	152.33	151.12	152.55	0.000465	2.10	20.95	7.80	0.41

HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 200 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	101.9		Bridge									
1	101.8	tr 200	44.00	149.61	151.70	151.09	152.07	0.001326	2.70	16.32	7.80	0.59
1	10	tr 200	44.00	149.55	151.40	151.14	151.98	0.003486	3.38	13.02	7.21	0.80
1	9	tr 200	44.00	149.26	150.94	150.94	151.71	0.005235	3.90	11.29	7.37	1.01
1	8.2	tr 200	44.00	148.86	150.72	150.45	151.30	0.001717	3.37	13.05	7.00	0.79
1	8.1		Bridge									
1	8	tr 200	44.00	148.83	150.73	150.42	151.29	0.001635	3.32	13.27	7.00	0.77
1	7.8	tr 200	44.00	148.50	150.68	150.09	151.10	0.001104	2.89	15.24	7.00	0.62
1	7.5	tr 200	44.00	148.46	150.81	149.94	151.02	0.001806	2.04	21.57	11.35	0.47
1	7	tr 200	44.00	148.07	150.65	149.55	150.82	0.001242	1.79	26.34	39.32	0.40
1	6.2	tr 200	44.00	147.72	150.51	149.20	150.65	0.000903	1.63	26.97	34.85	0.34
1	6.1		Bridge									
1	6	tr 200	44.00	147.71	150.52	149.19	150.64	0.000855	1.59	33.65	34.85	0.34
1	5	tr 200	44.00	147.49	150.16	150.16	150.36	0.003852	2.42	61.75	237.22	0.58
1	4	tr 200	44.00	147.41	149.10	149.34	150.01	0.021448	4.22	10.44	10.13	1.33
1	3	tr 200	44.00	146.67	149.36	148.24	149.42	0.000642	1.13	49.66	40.39	0.26
1	2	tr 200	44.00	146.53	149.13	148.67	149.24	0.001886	1.92	57.68	50.00	0.42
1	1.5		Bridge									
1	1	tr 200	44.00	146.48	149.14	148.42	149.20	0.001301	1.66	72.72	50.00	0.35


Q TR 200 anni
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Elevation (m)
170
165
160
155
150
145
0
500
1000
1500
2000
2500
Main Channel Distance (m)
3
4
5
6
7
7.5
8
9
10
102.5
104
105
106
107
108
109
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1002.8
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1004.9
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1009
1010
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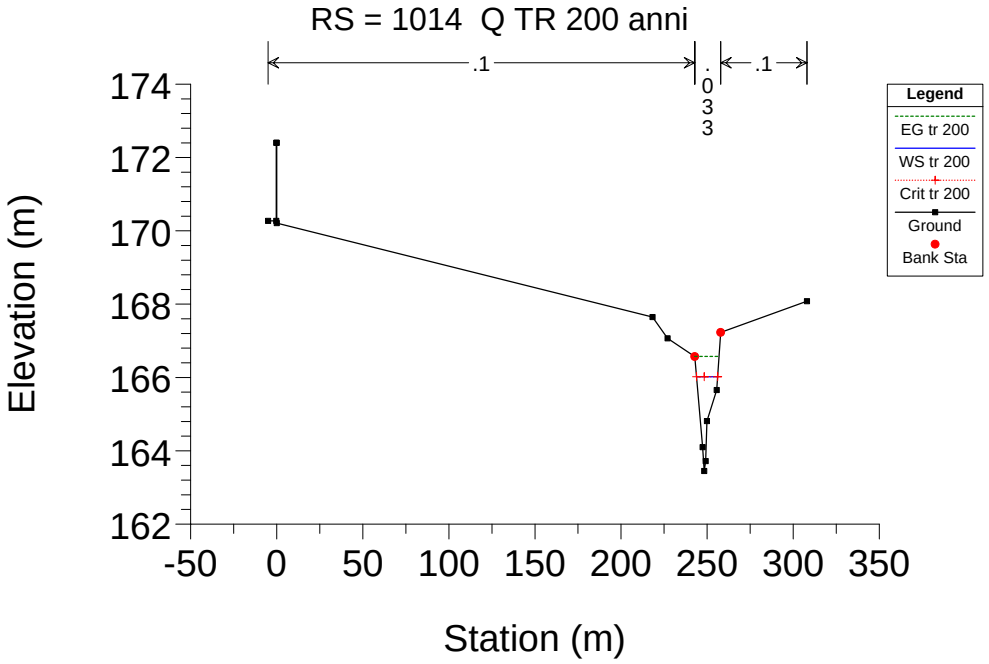
1012
1013
1014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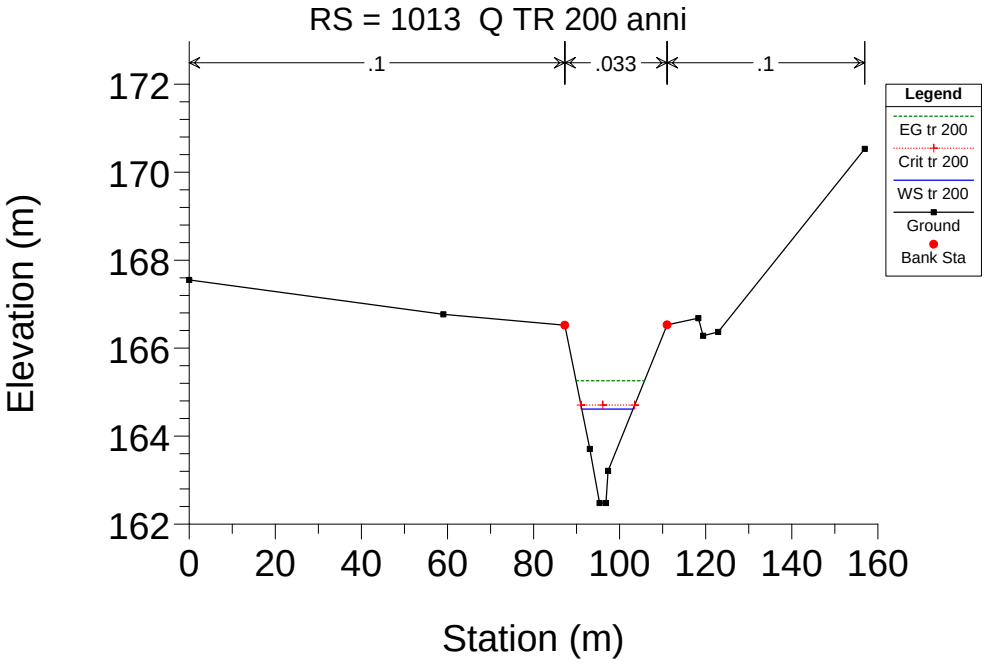
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)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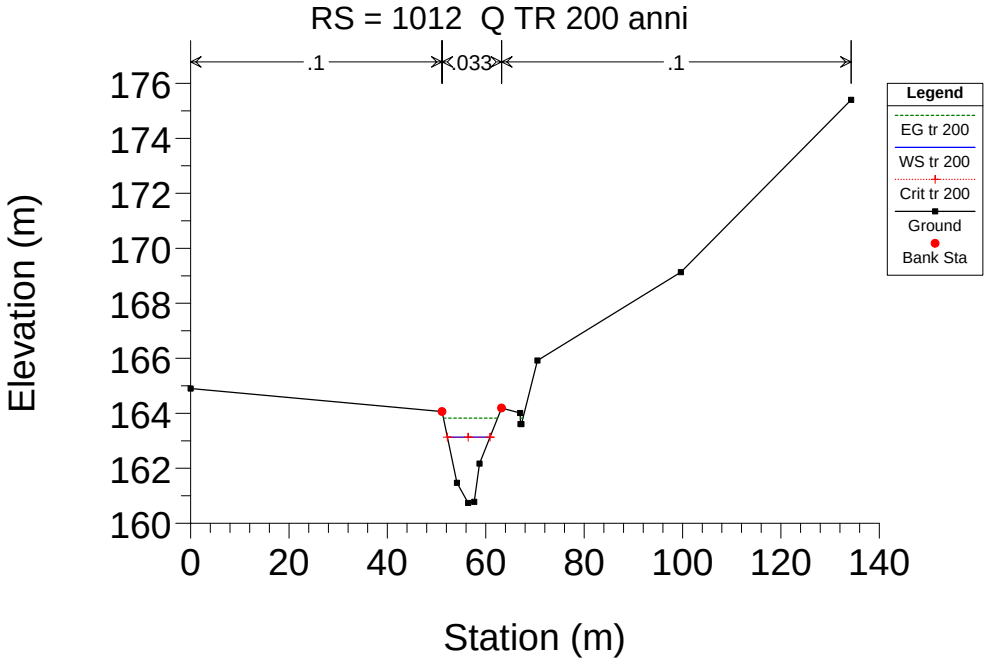
EG tr 200
Crit tr 200
WS tr 200
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1012 Q TR 200 anni
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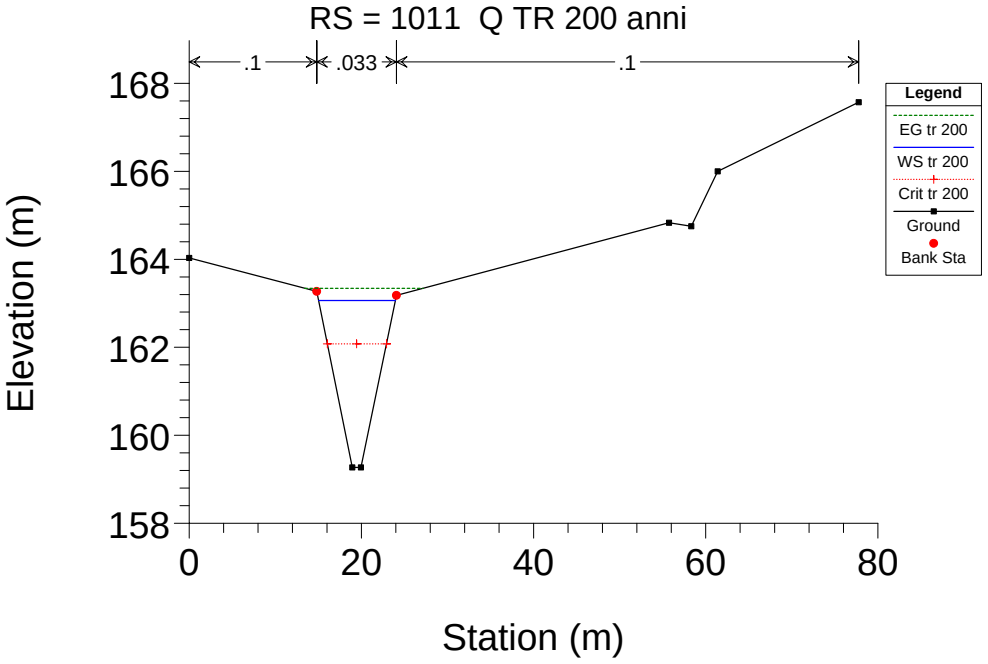
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)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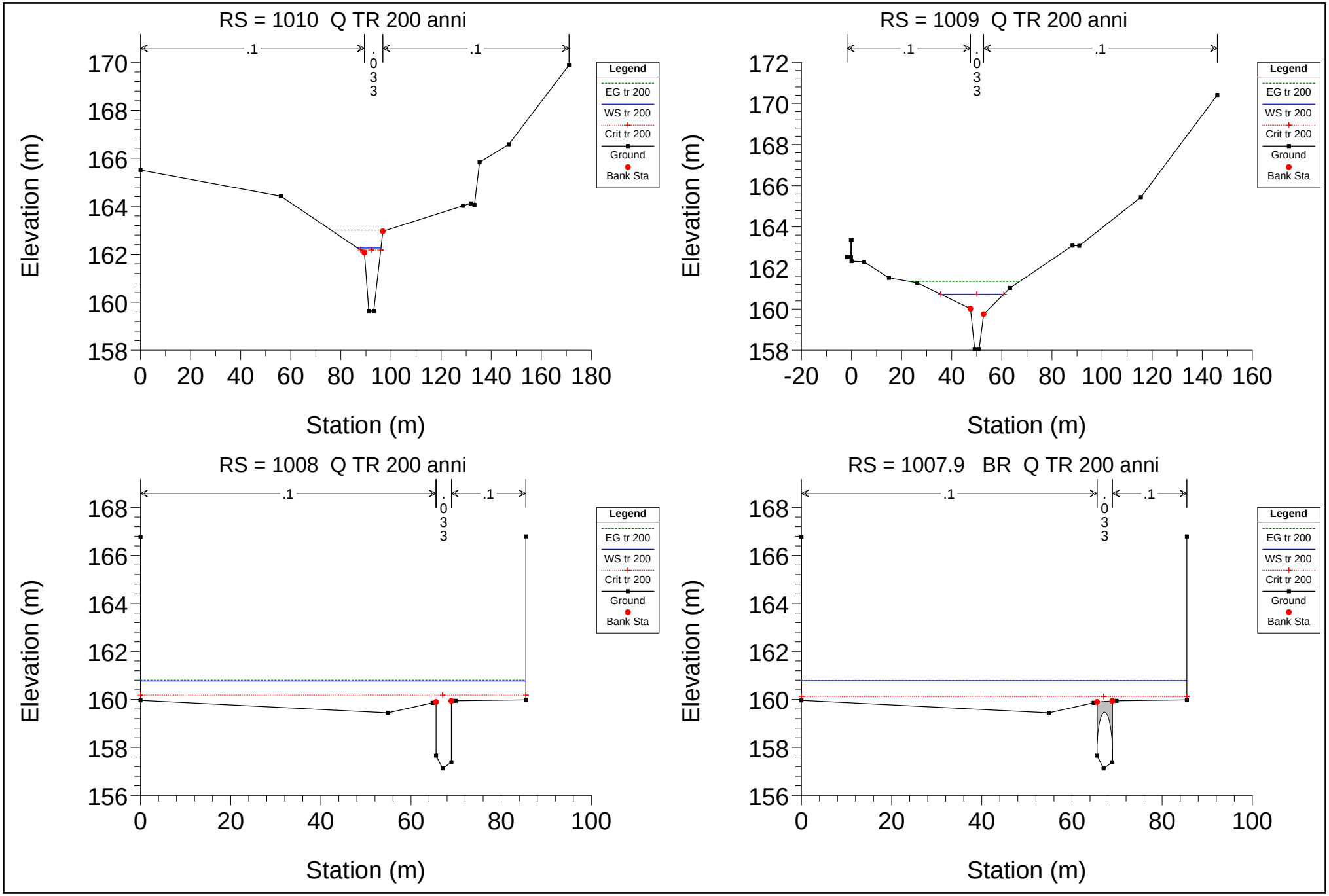
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)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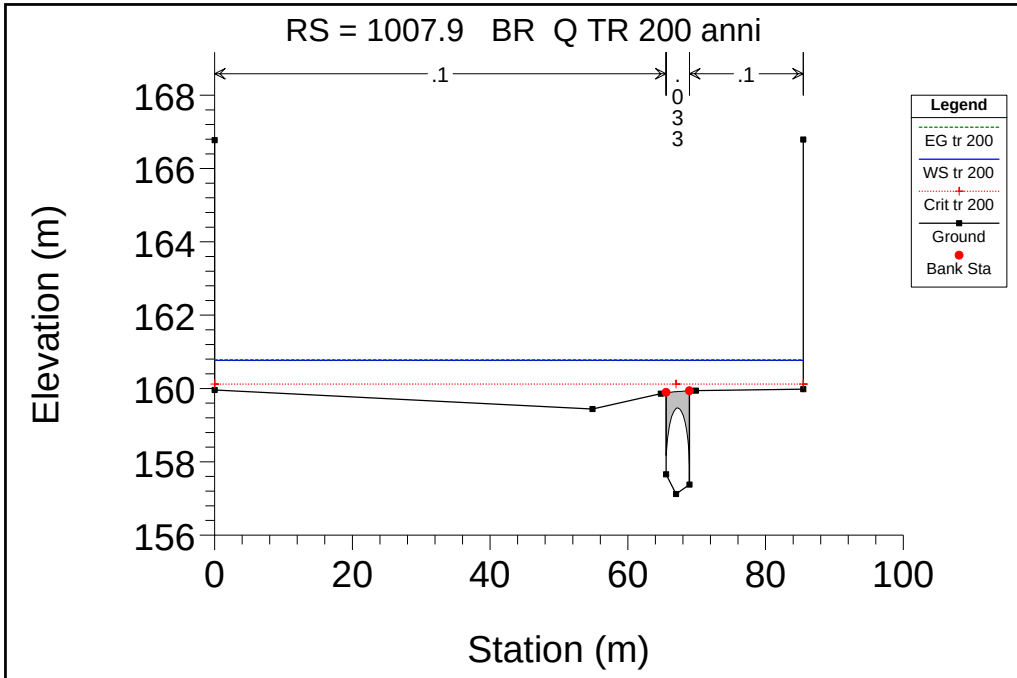
RS = 1009 Q TR 200 anni
RS = 1008 Q TR 200 anni
RS = 1007.9 BR Q TR 200 anni
Elevation (m)
Station (m)
.1
.033
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta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Elevation (m)
Station (m)
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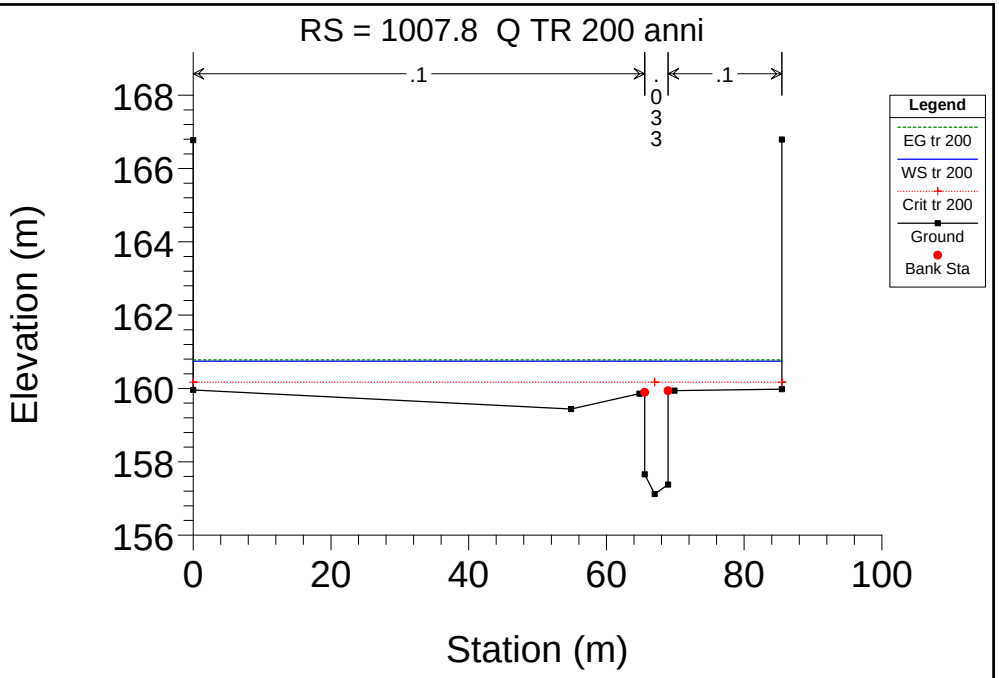
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta


RS = 1007.8 Q TR 200 anni
Elevation (m)
Station (m)
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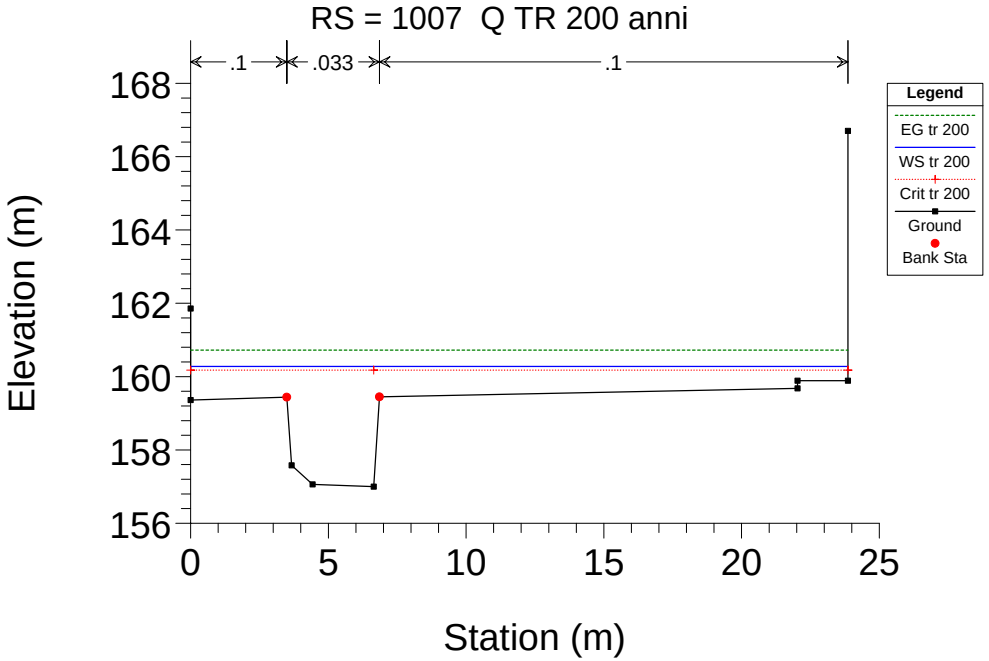
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta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Elevation (m)
Station (m)
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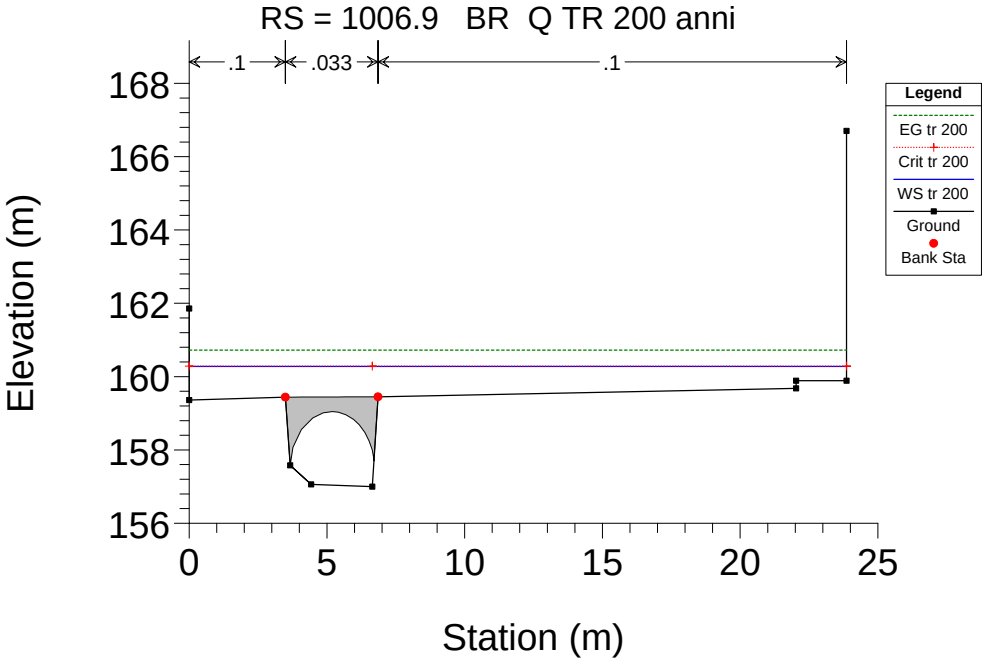
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta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Elevation (m)
Station (m)
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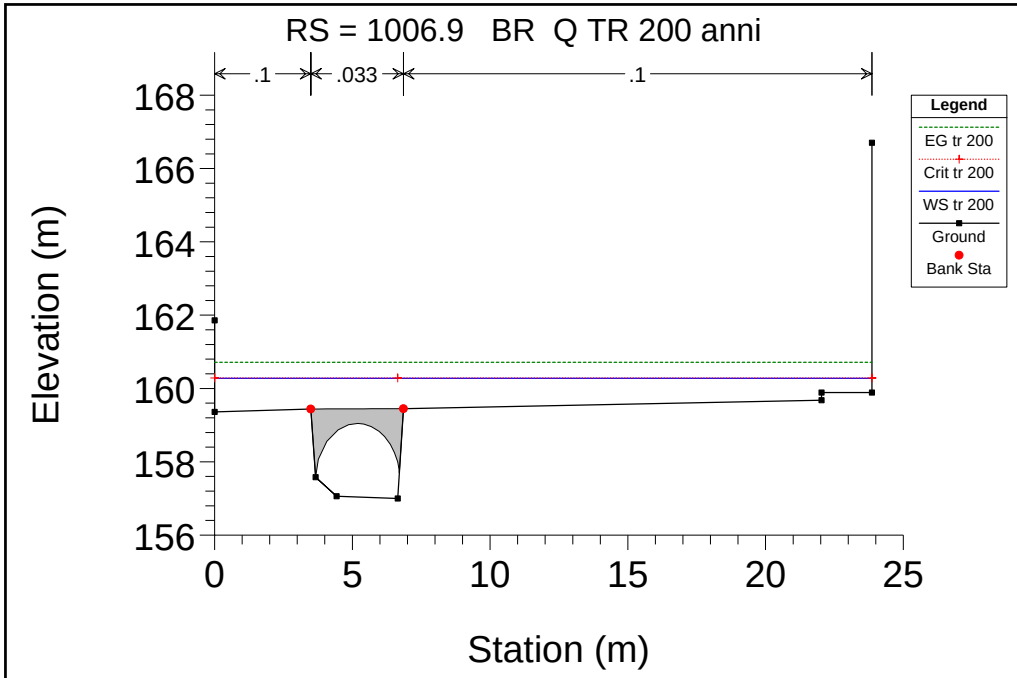
Legend
EG tr 200
Crit tr 200
WS tr 200
Ground
Bank Sta


RS = 1006.9 BR Q TR 200 anni
.1
.033
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Legend
EG tr 200
Crit tr 200
WS tr 200
Ground
Bank Sta
Elevation (m)
168
166
164
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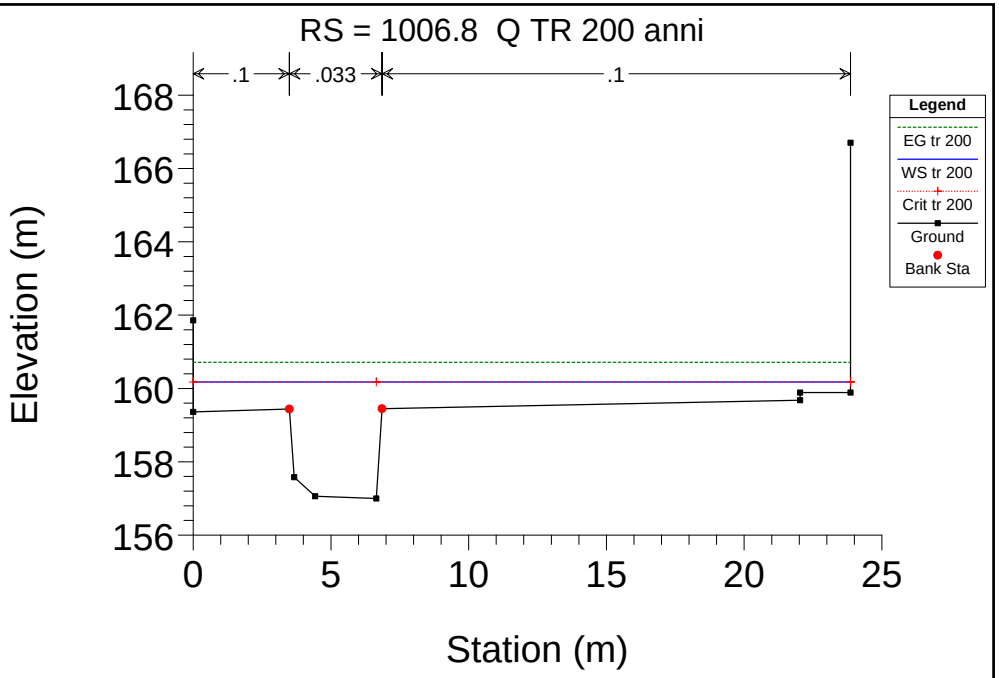
0
5
10
15
20
25
Station (m)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.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
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166
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162
160
158
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0
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10
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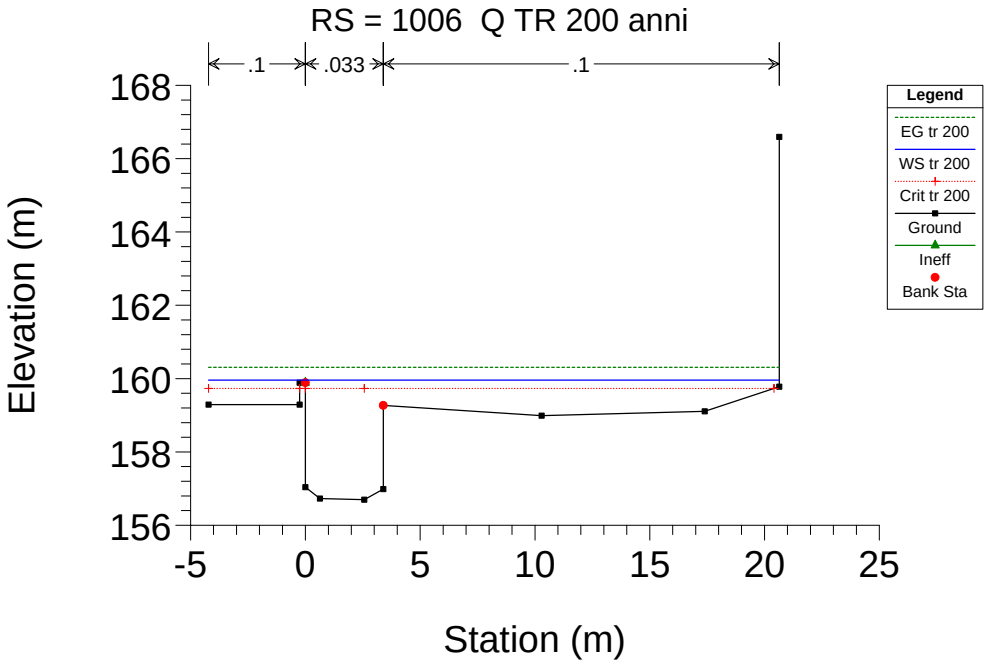
20
25
Station (m)


RS = 1006 Q TR 200 anni
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.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta
Elevation (m)
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166
164
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160
158
156
-5
0
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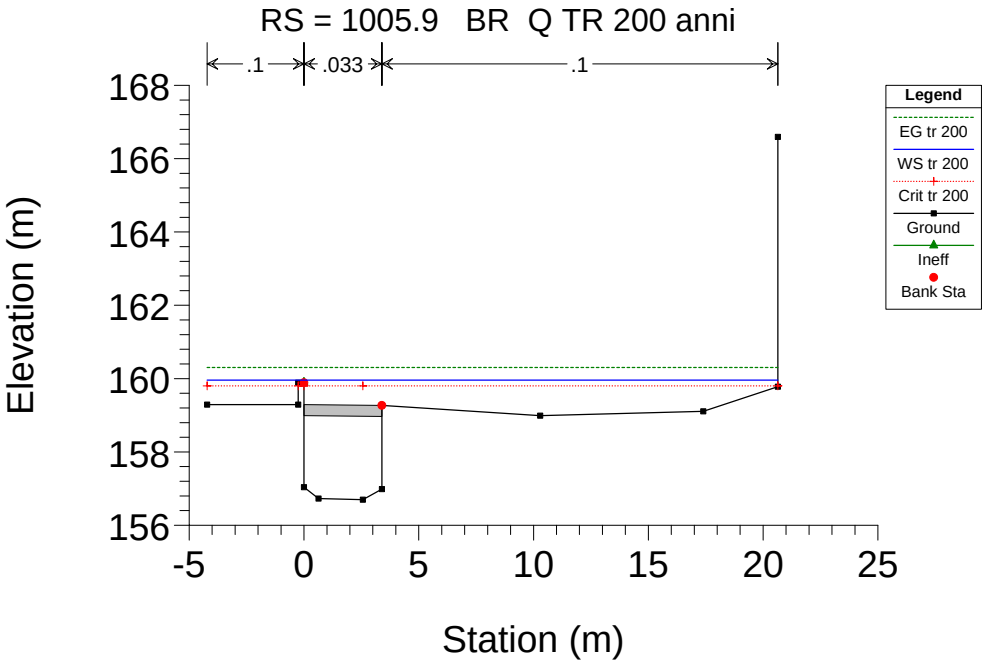
10
15
20
25
Station (m)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.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta
Elevation (m)
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162
160
158
156
-5
0
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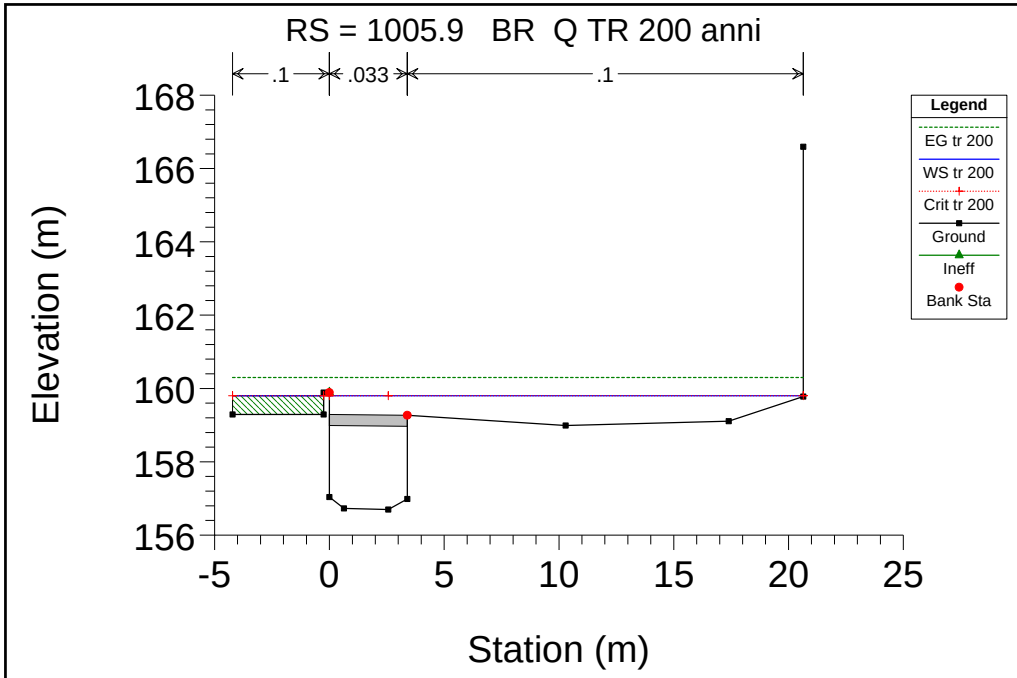
10
15
20
25
Station (m)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.1
Elevation (m)
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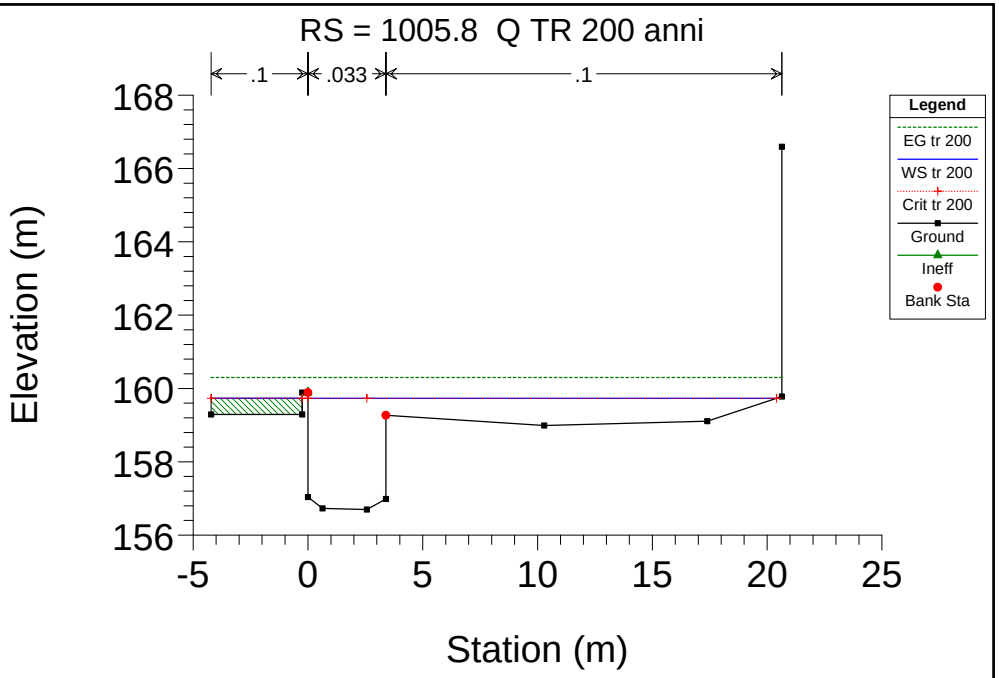
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta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Elevation (m)
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160
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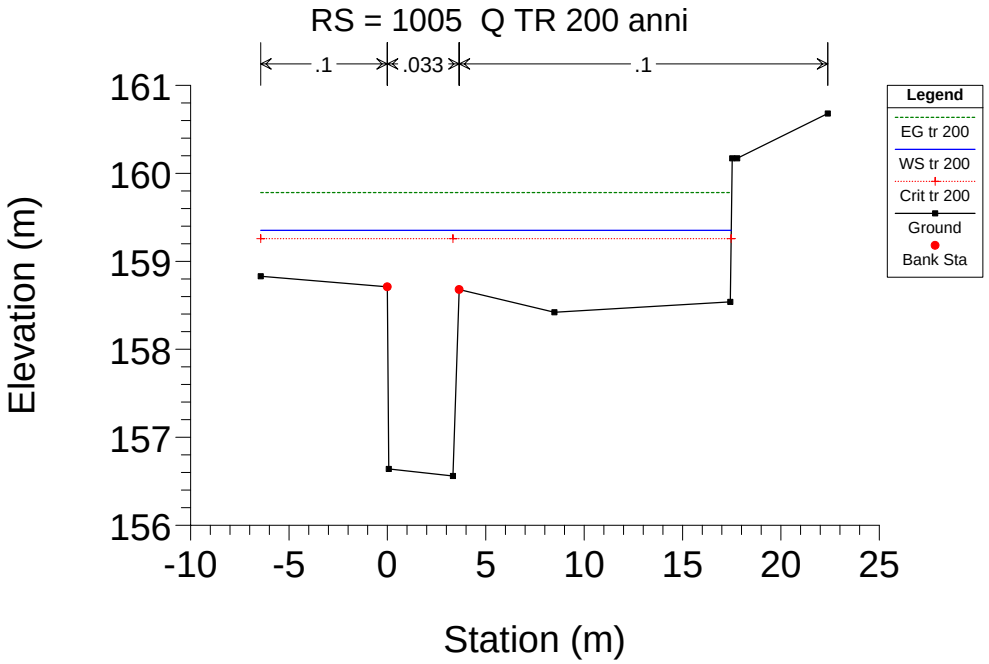
25
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta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Elevation (m)
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160
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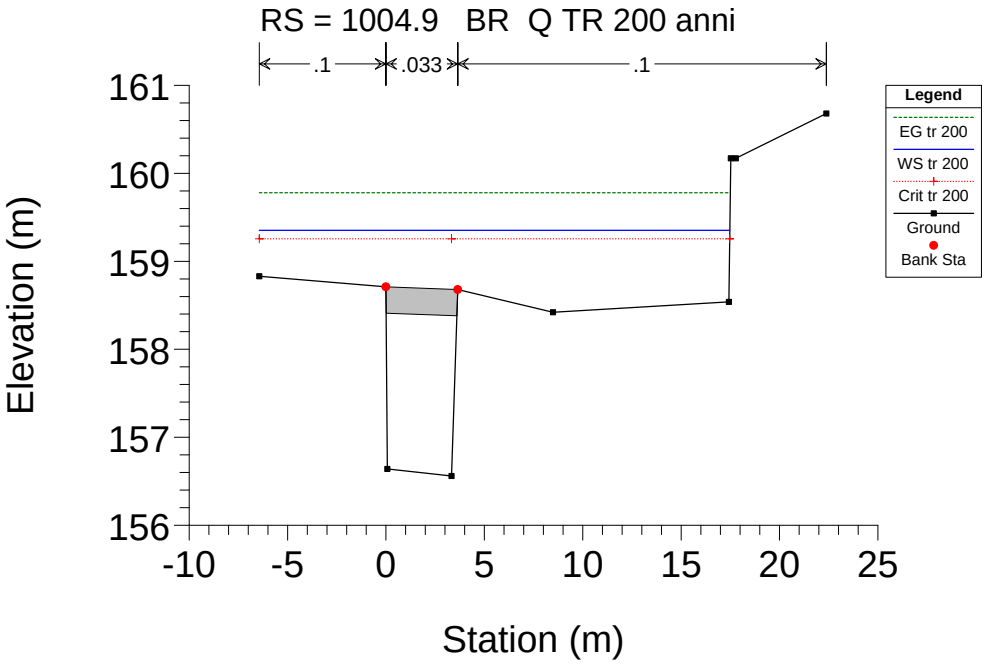
20
25
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta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Elevation (m)
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157
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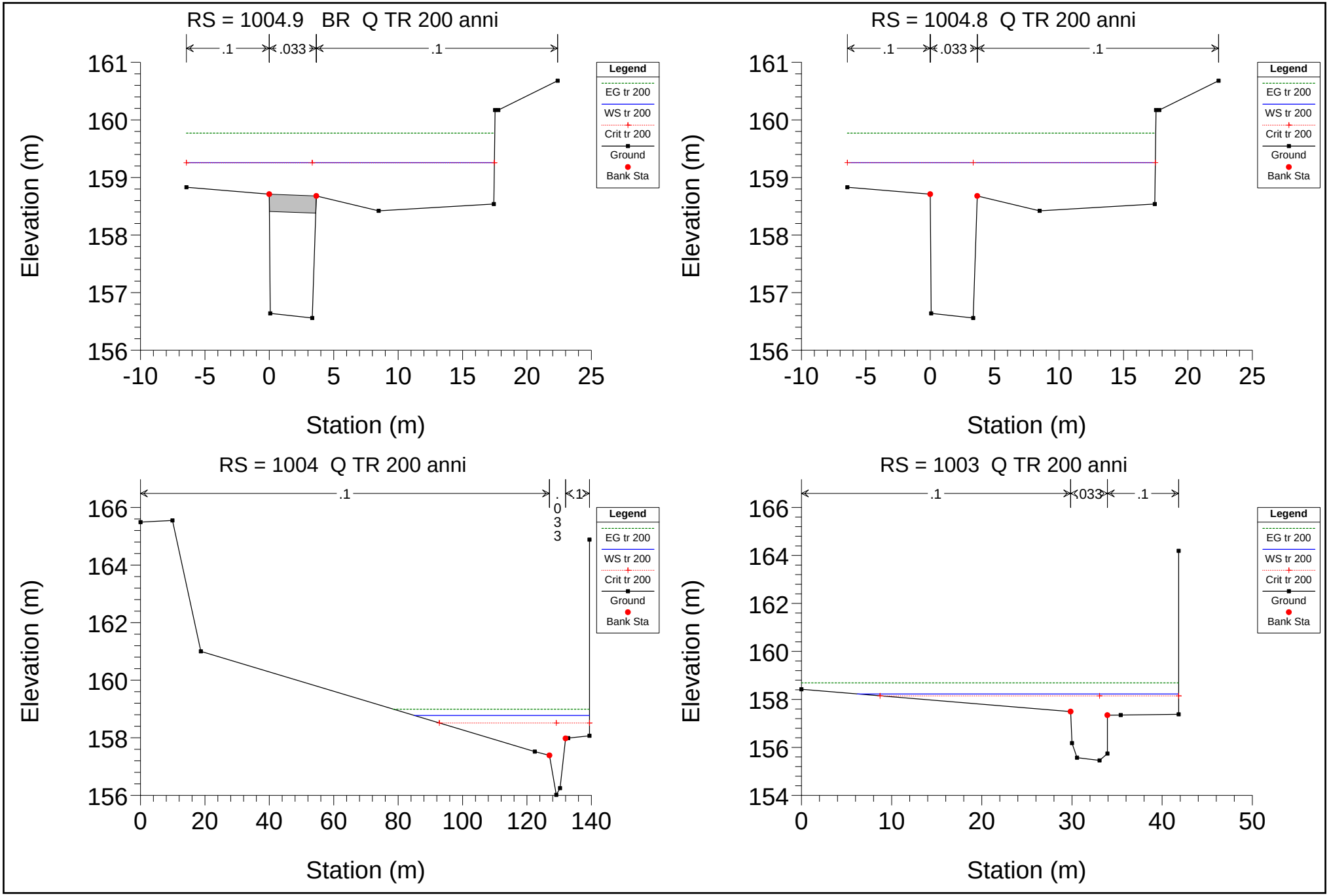
20
25
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta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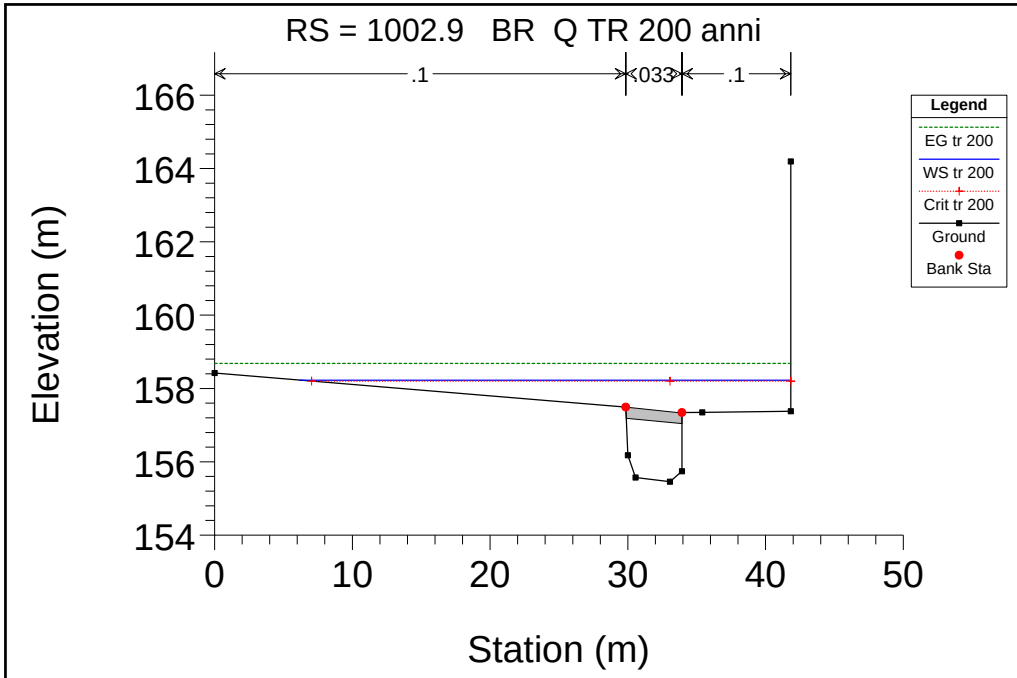
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1004.8 Q TR 200 anni
RS = 1004 Q TR 200 anni
RS = 1003 Q TR 200 anni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Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
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160
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156
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0
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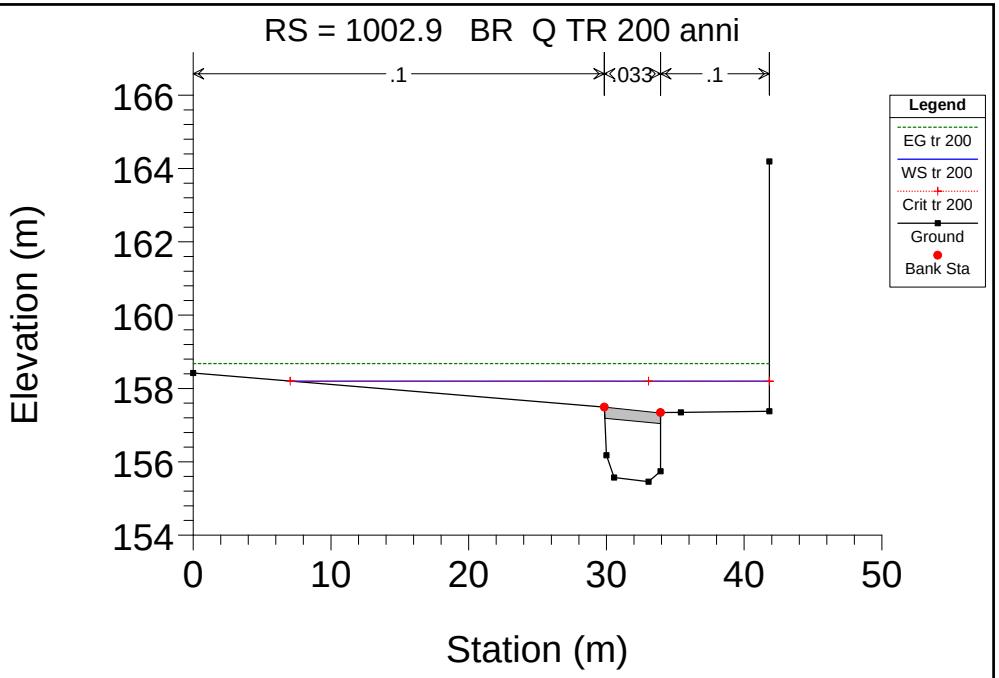
20
30
40
50
Station (m)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Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
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160
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0
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30
40
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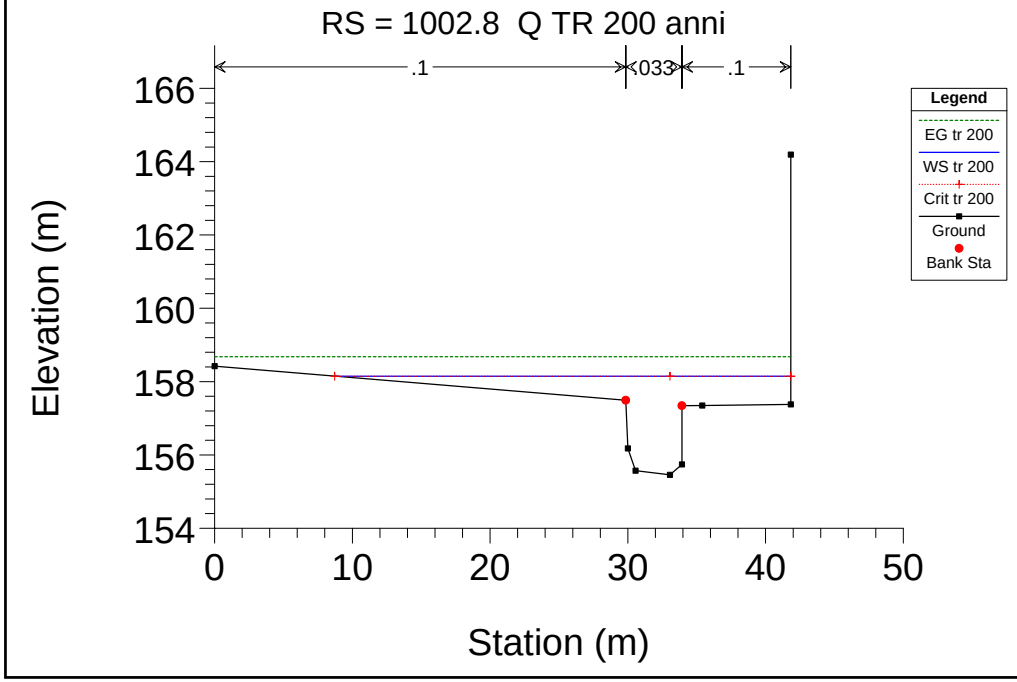
Station (m)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Legend
EG tr 200
WS tr 200
Crit tr 200
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Bank Sta
Elevation (m)
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0
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40
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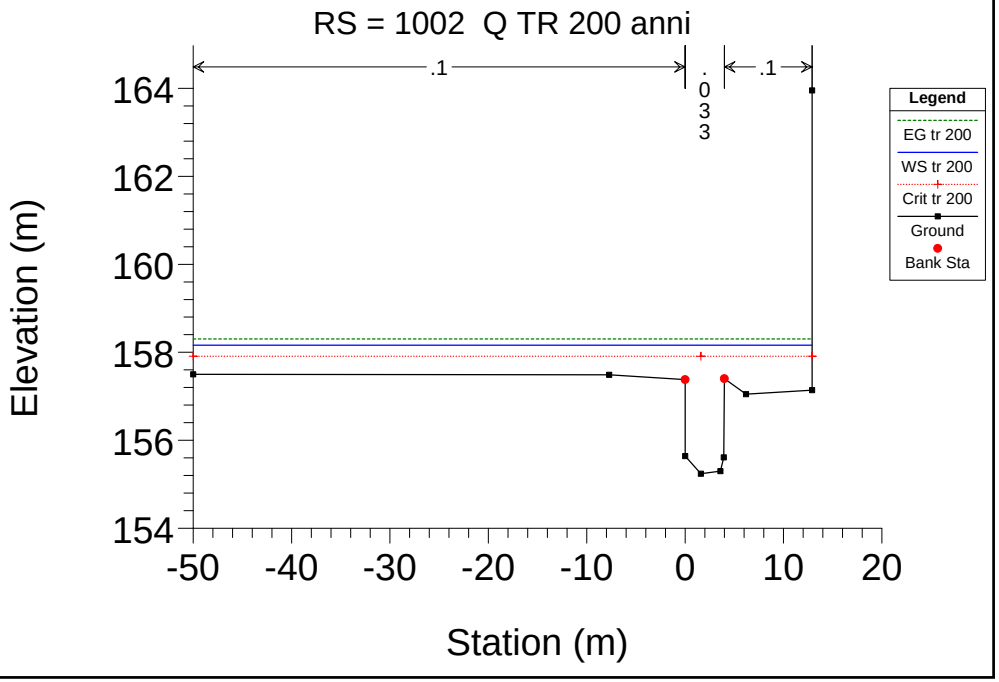
Station (m)


RS = 1002 Q TR 200 anni
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Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
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158
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154
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-40
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-10
0
10
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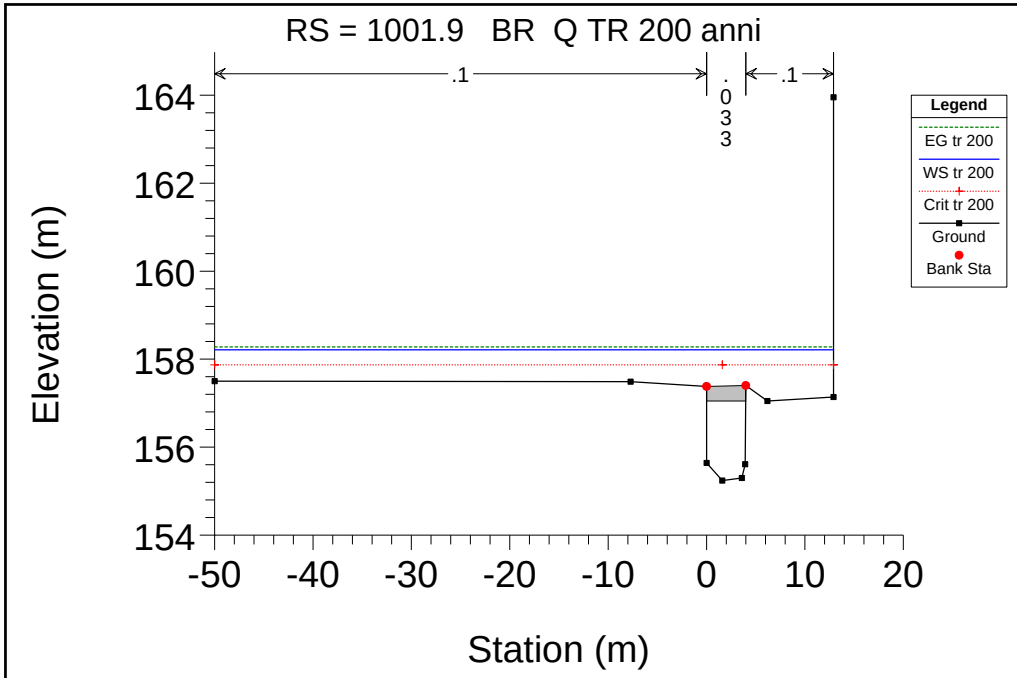
Station (m)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Legend
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WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
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-40
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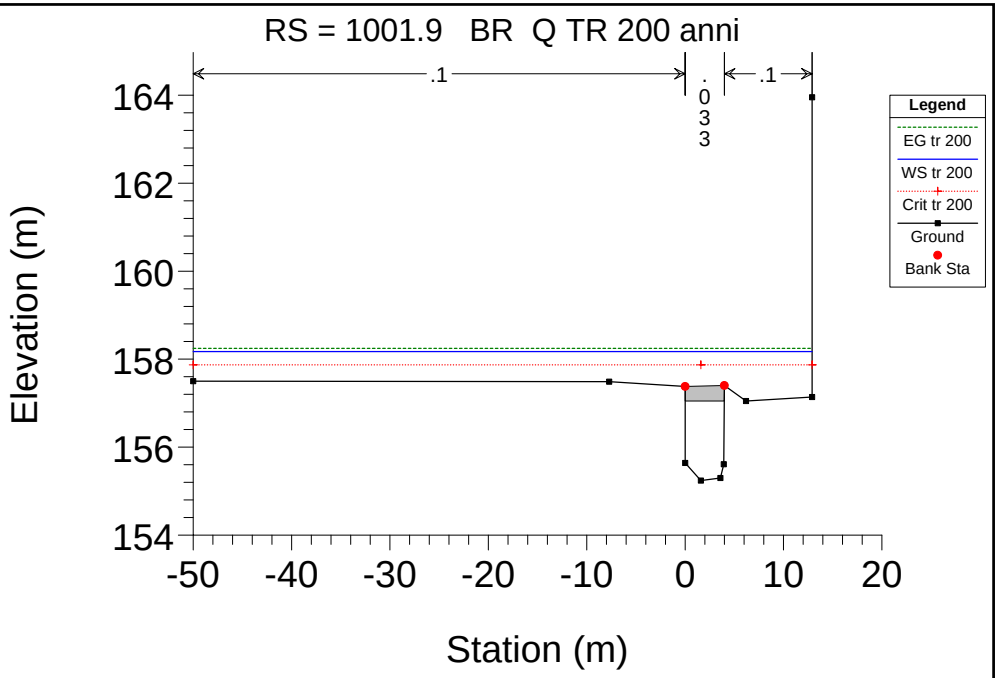
Station (m)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Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
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158
156
154
-50
-40
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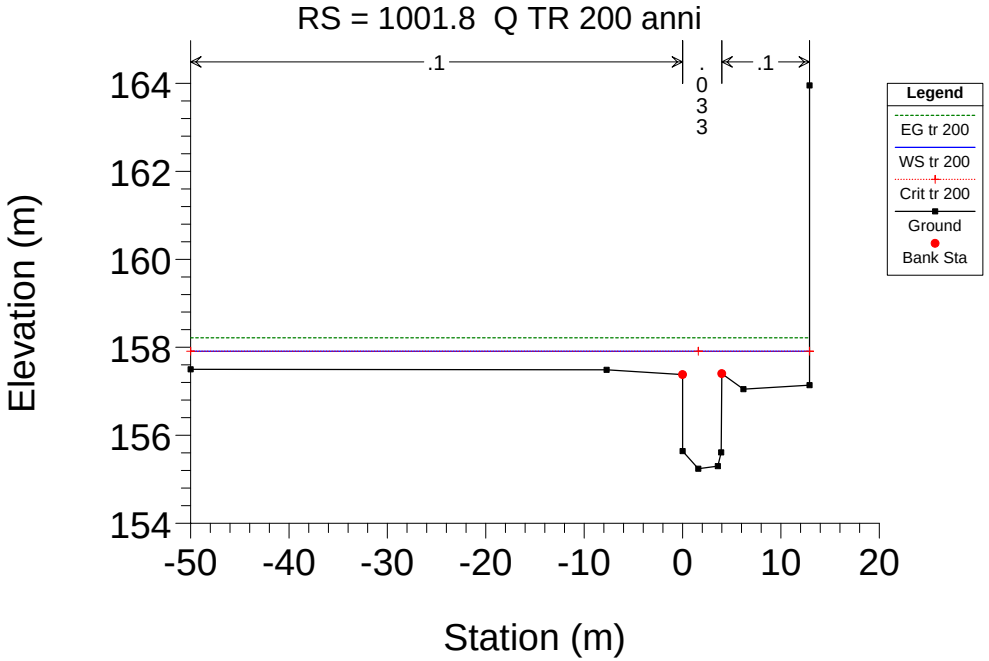
-20
-10
0
10
20
Station (m)


RS = 1001.8 Q TR 200 anni
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.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
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158
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154
-50
-40
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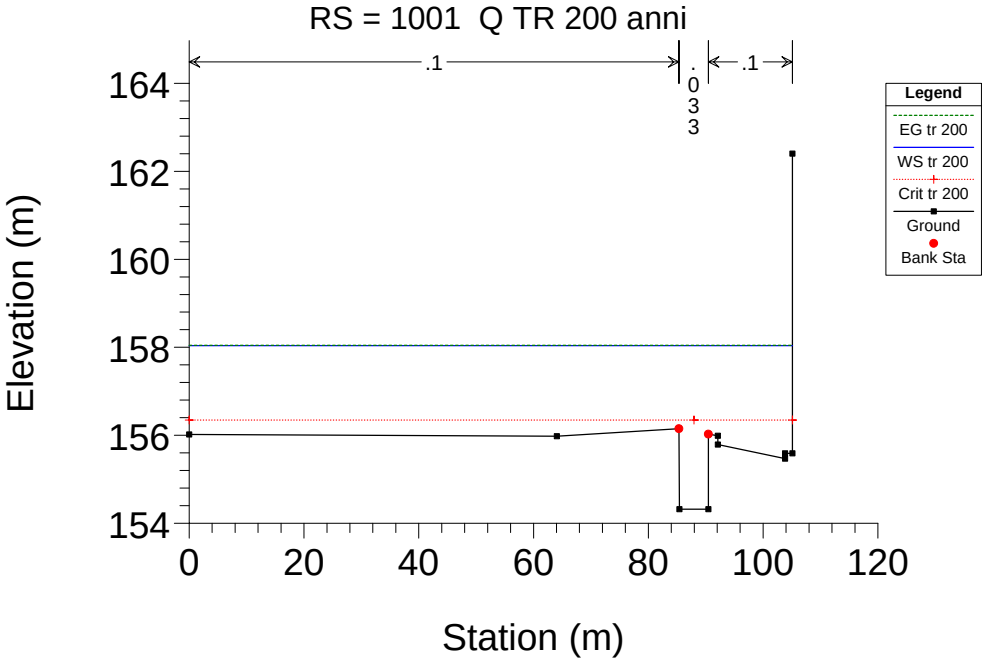
-20
-10
0
10
20
Station (m)


RS = 1001 Q TR 200 anni
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.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
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158
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154
0
20
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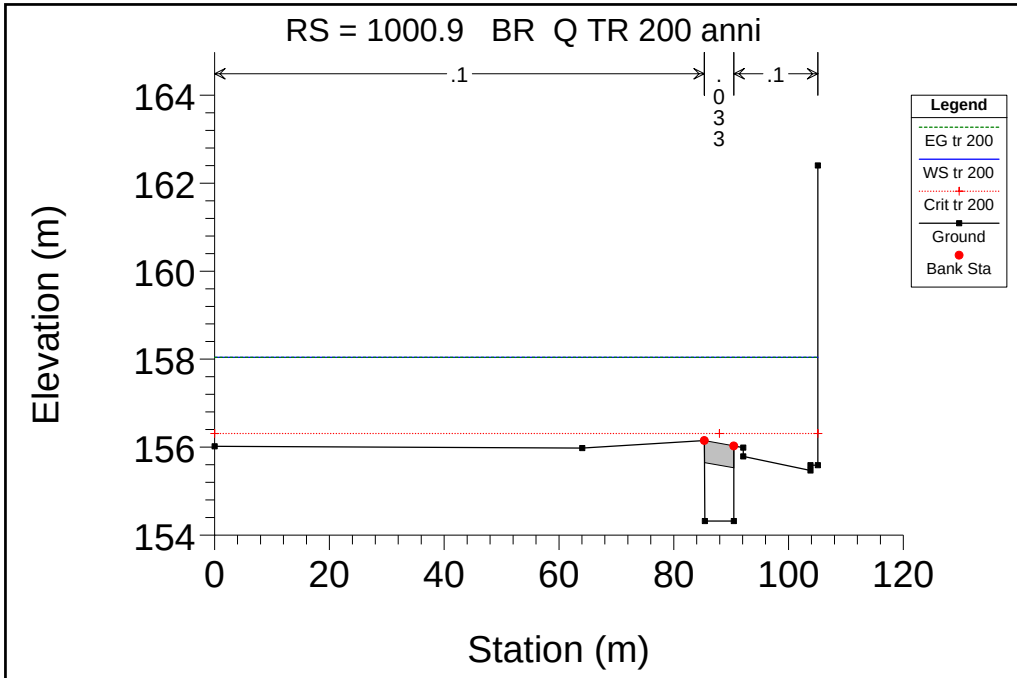
60
80
100
120
Station (m)


RS = 1000.9 BR Q TR 200 anni
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.033
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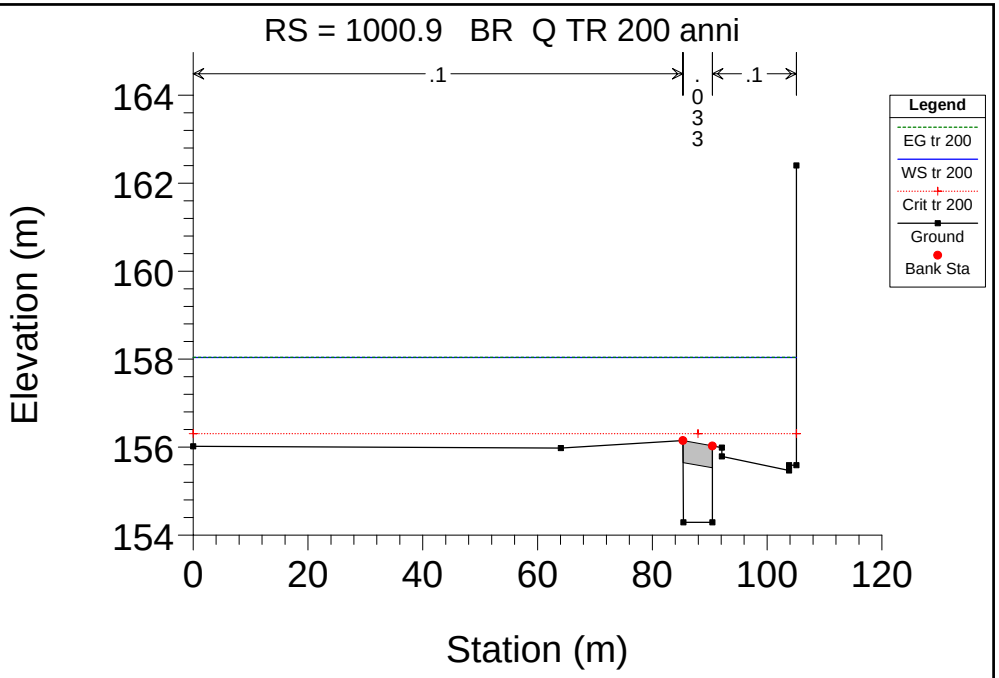
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
164
162
160
158
156
154
0
20
40
60
80
100
120
Station (m)


RS = 1000.9 BR Q TR 200 anni
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.033
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Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
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160
158
156
154
0
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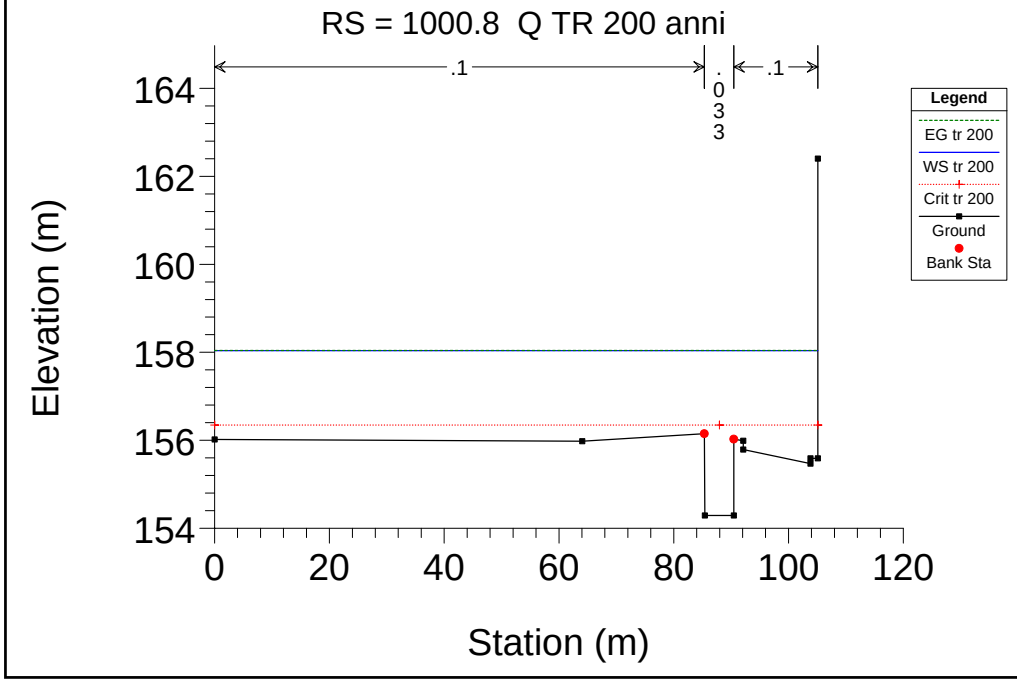
60
80
100
120
Station (m)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WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
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60
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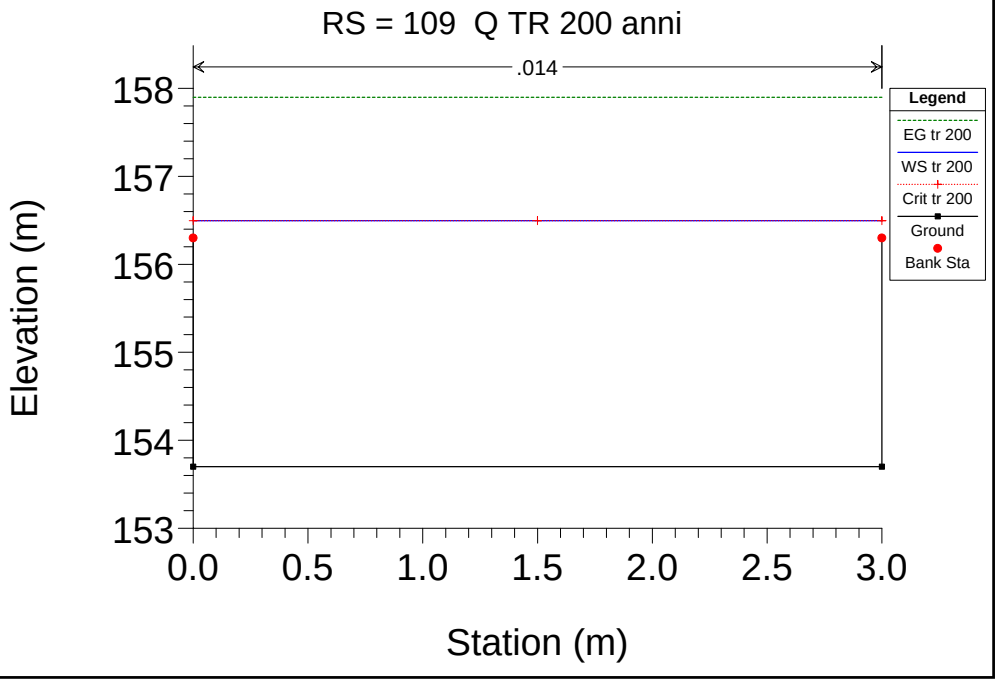
100
120
Station (m)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Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
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155
154
153
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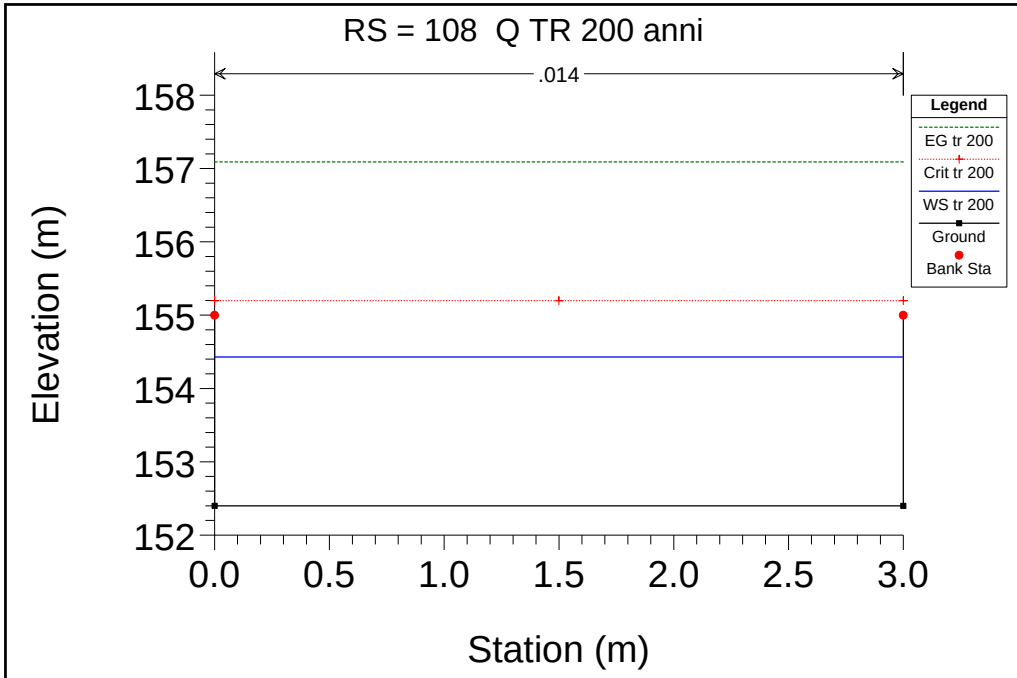
0.5
1.0
1.5
2.0
2.5
3.0
Station (m)


RS = 108 Q TR 200 anni
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Legend
EG tr 200
Crit tr 200
WS tr 200
Ground
Bank Sta
Elevation (m)
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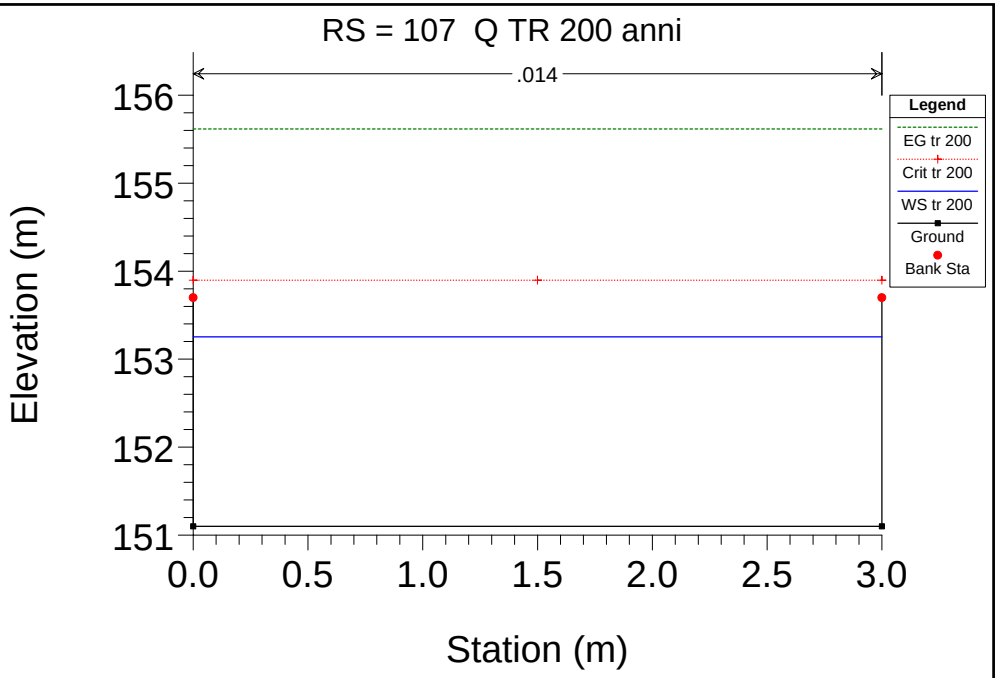
153
152
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Station (m)


RS = 107 Q TR 200 anni
.014
Legend
EG tr 200
Crit tr 200
WS tr 200
Ground
Bank Sta
Elevation (m)
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155
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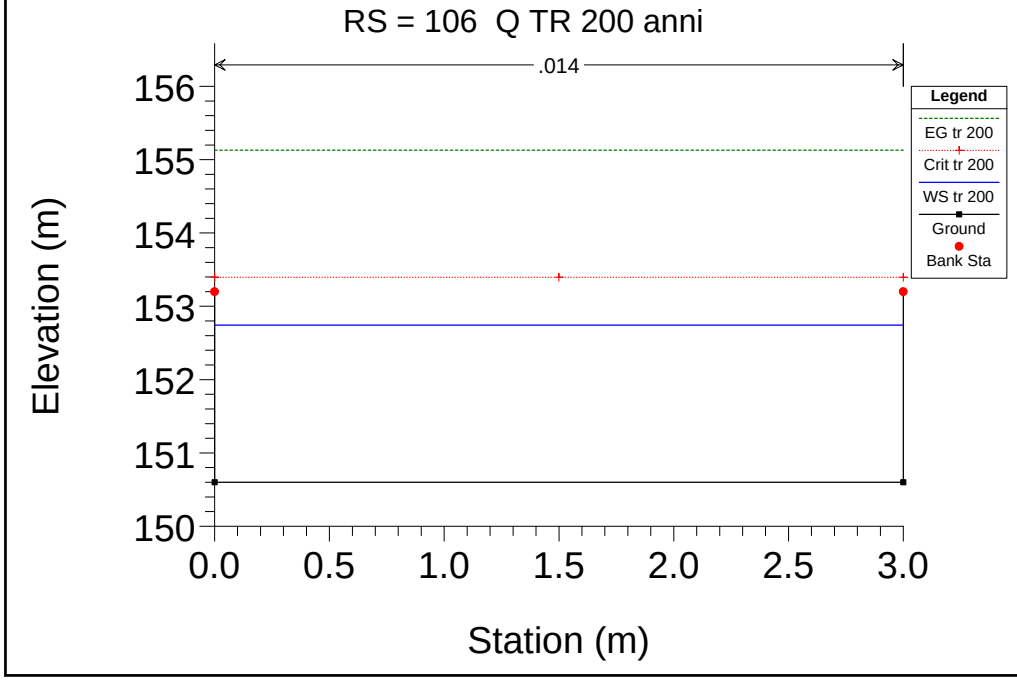
152
151
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Station (m)


RS = 106 Q TR 200 anni
.014
Legend
EG tr 200
Crit tr 200
WS tr 200
Ground
Bank Sta
Elevation (m)
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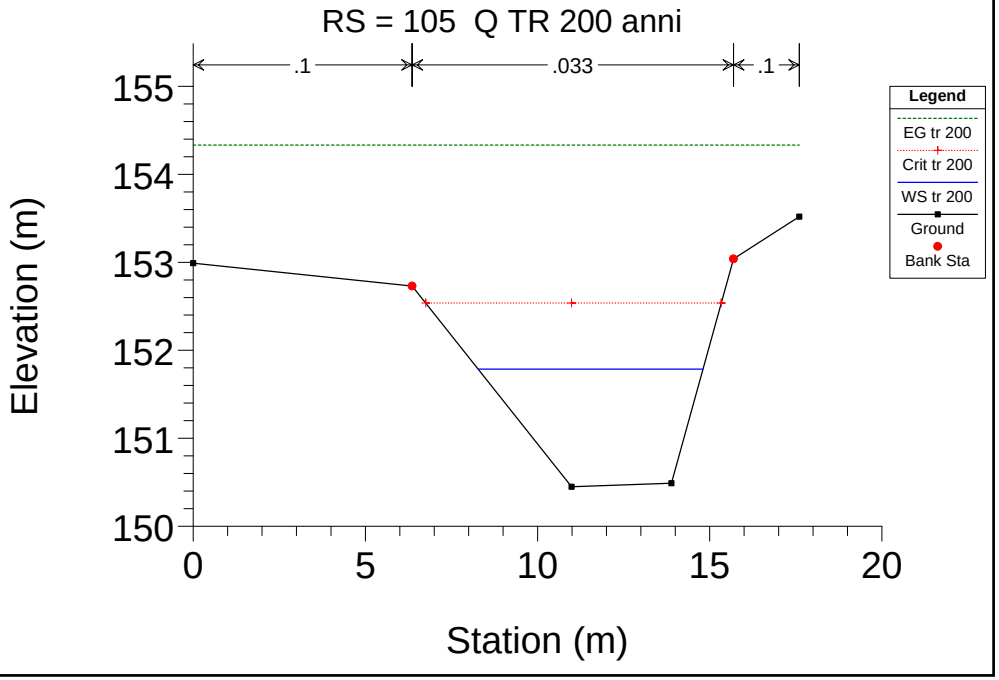
154
153
152
151
150
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Station (m)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.033
.1
Legend
EG tr 200
Crit tr 200
WS tr 200
Ground
Bank Sta
Elevation (m)
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154
153
152
151
150
0
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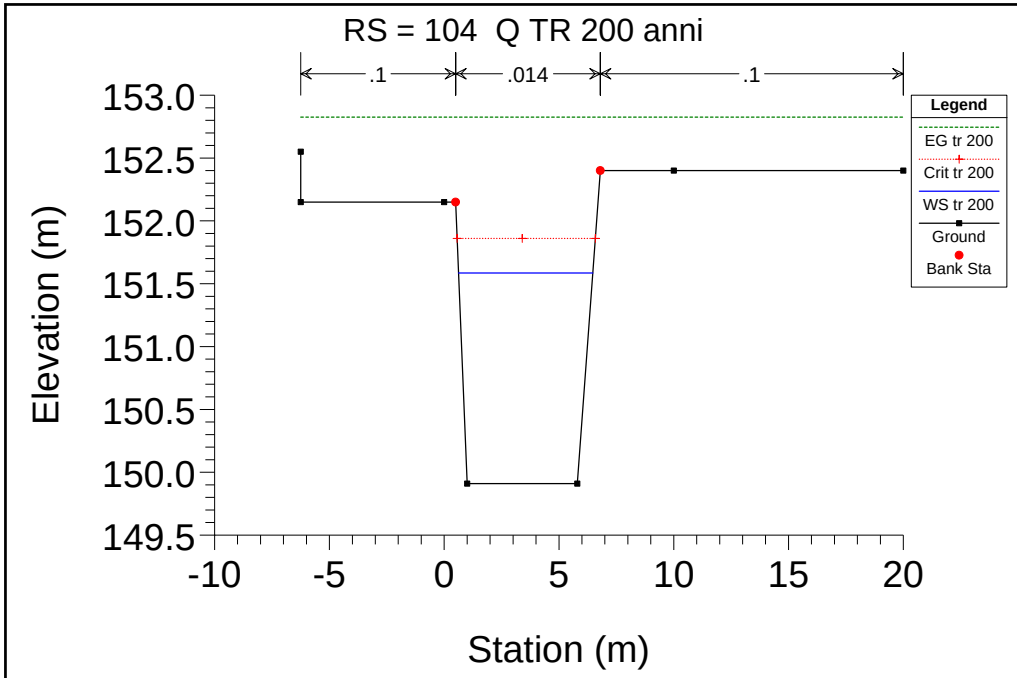
10
15
20
Station (m)


RS = 104 Q TR 200 anni
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.014
.1
Legend
EG tr 200
Crit tr 200
WS tr 200
Ground
Bank Sta
Elevation (m)
153.0
152.5
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-5
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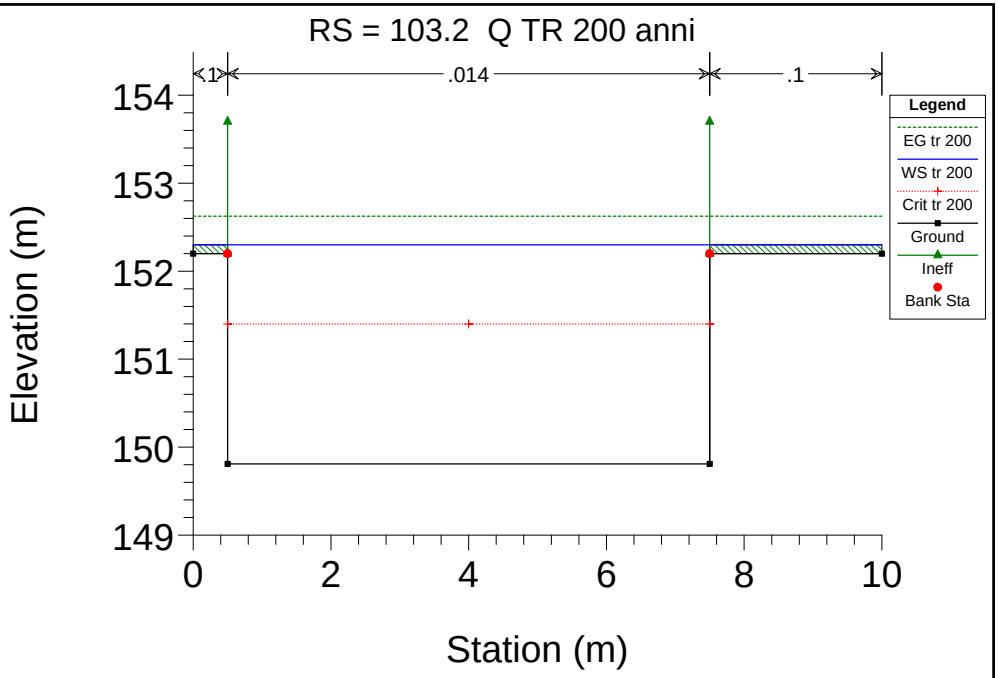
10
15
20
Station (m)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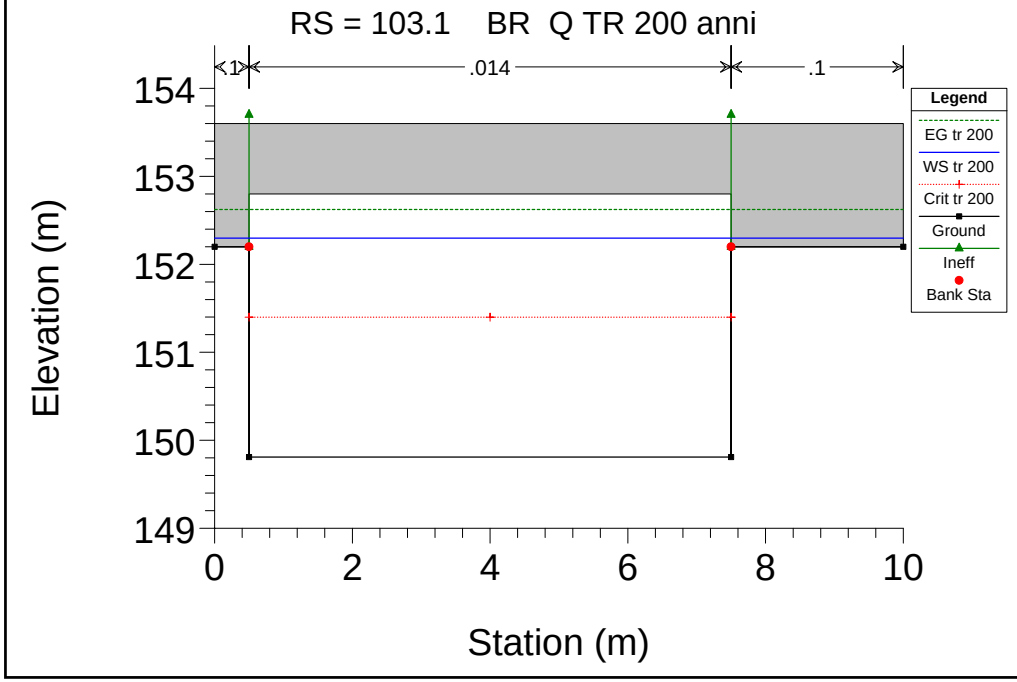
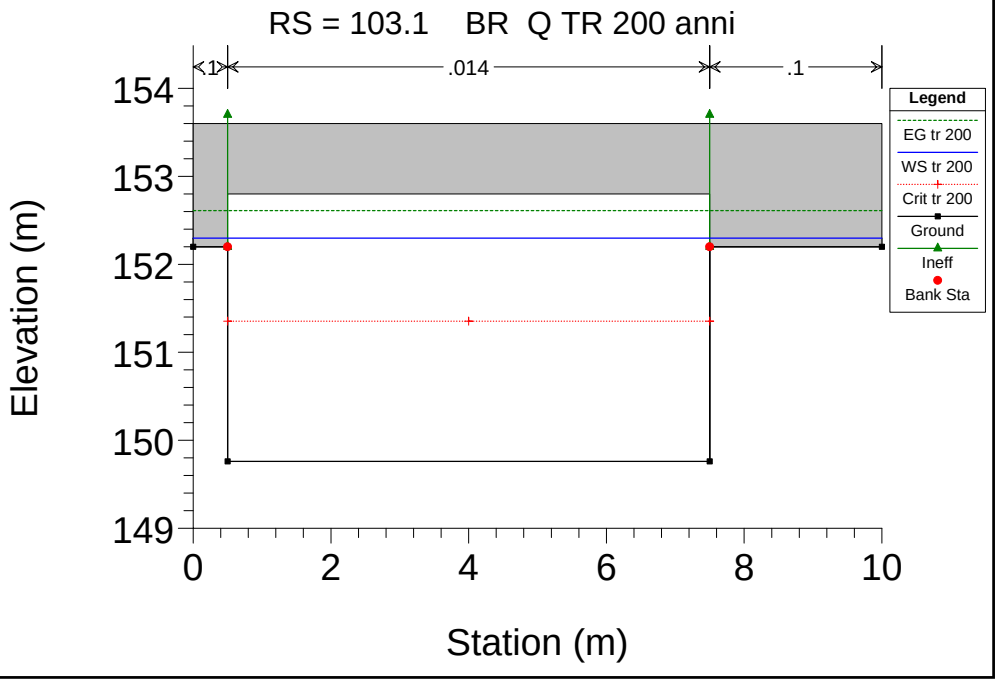
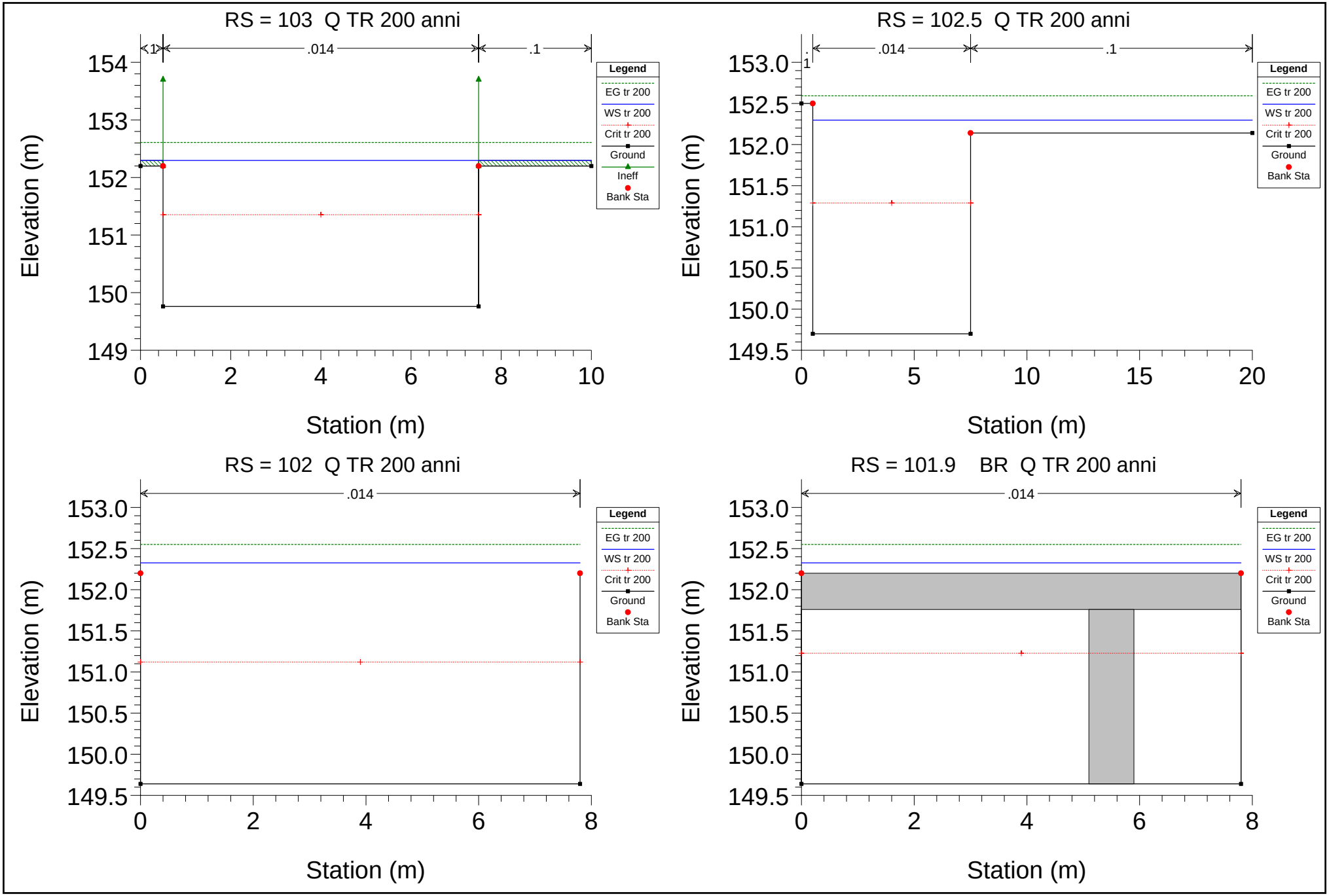
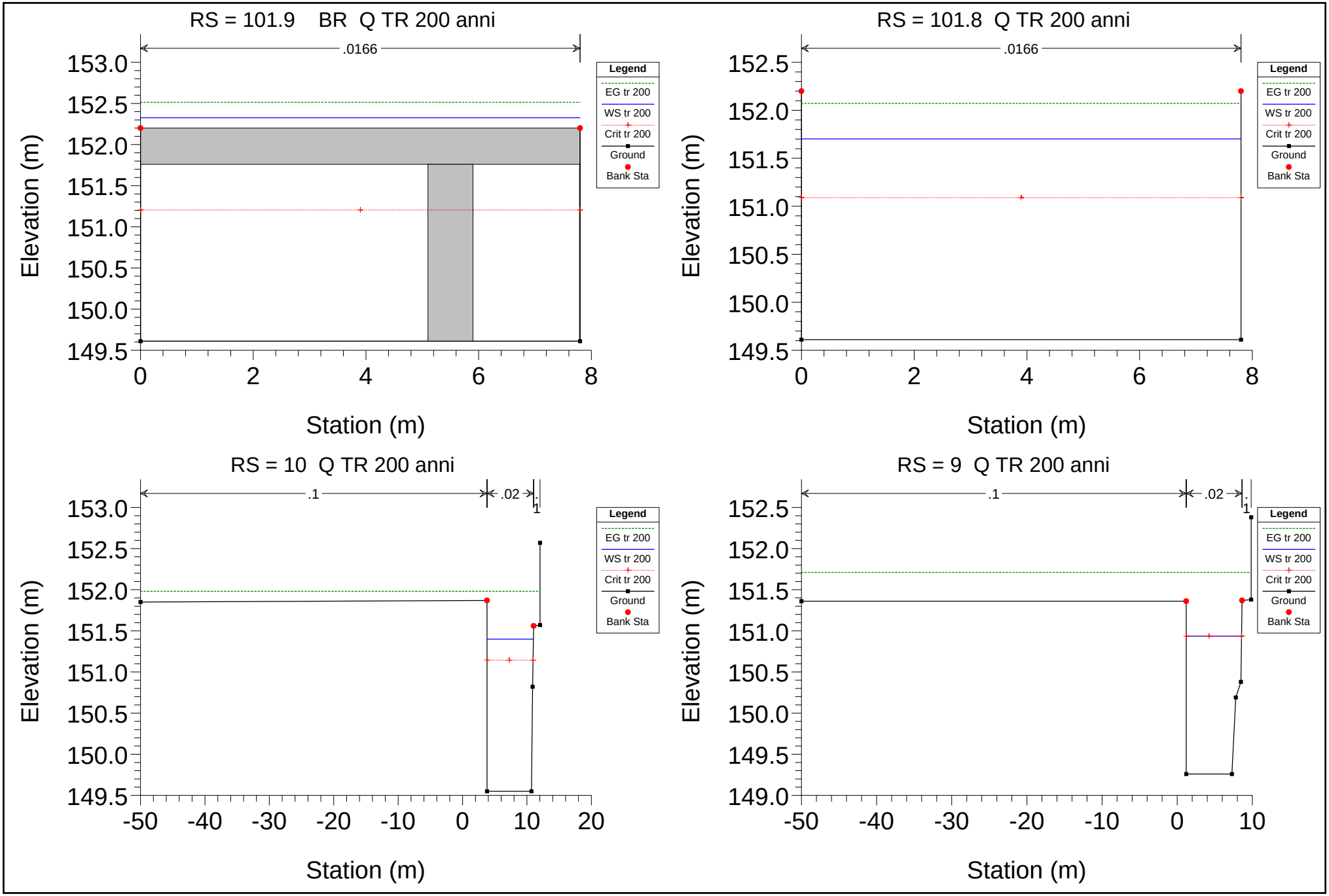
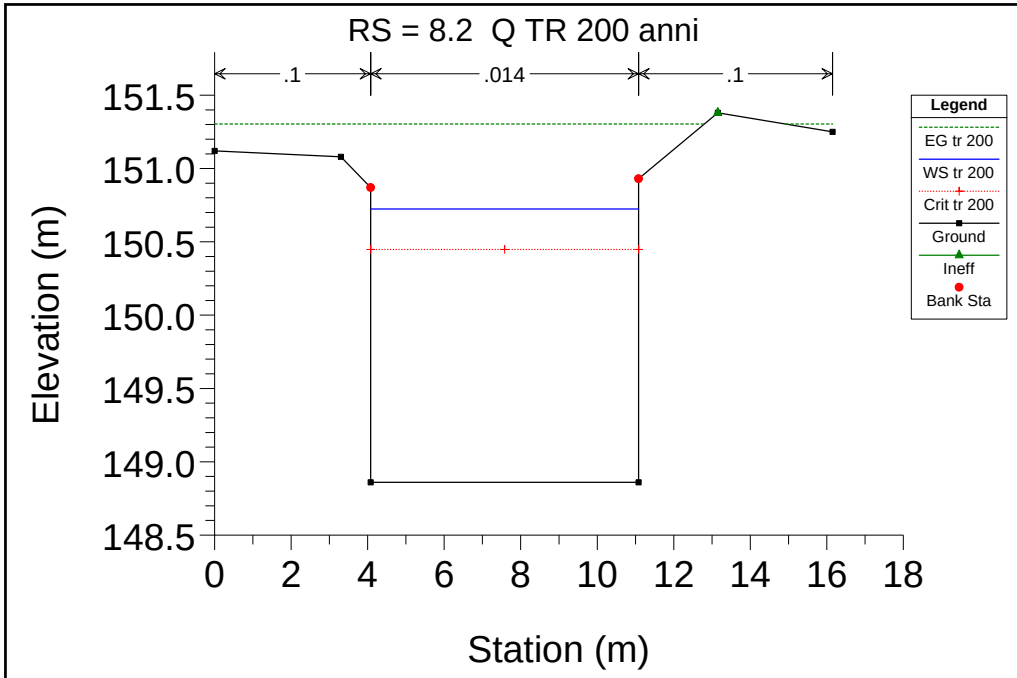
.014
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta
Elevation (m)
154
153
152
151
150
149
0
2
4
6
8
10
Station (m)

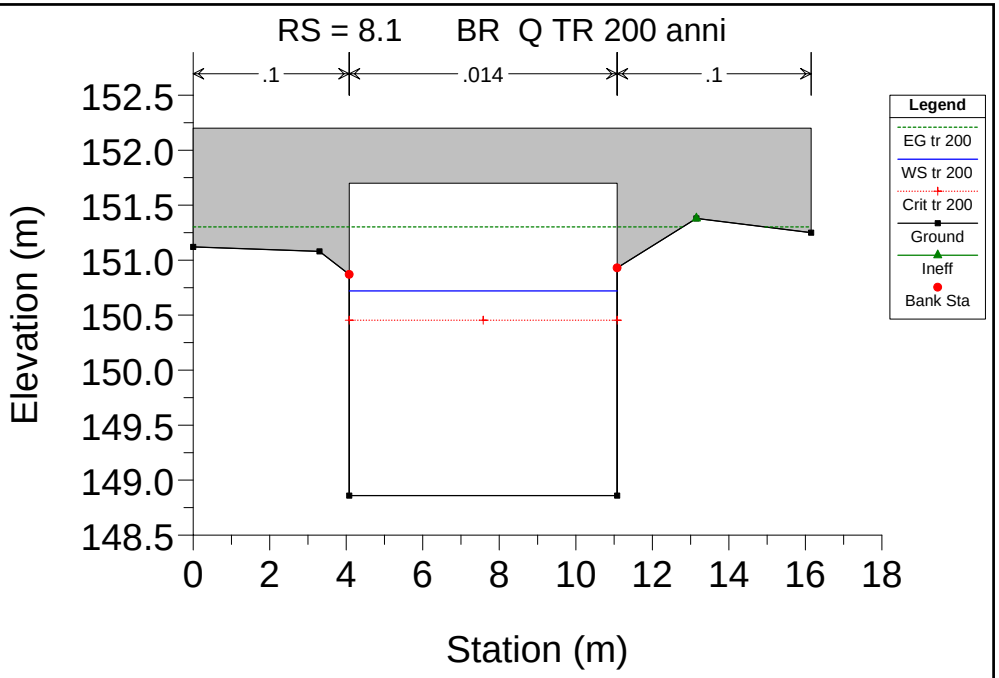

RS = 103.1 BR Q TR 200 anni
.1
.014
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta
Elevation (m)
154
153
152
151
150
149
0
2
4
6
8
10
Station (m)

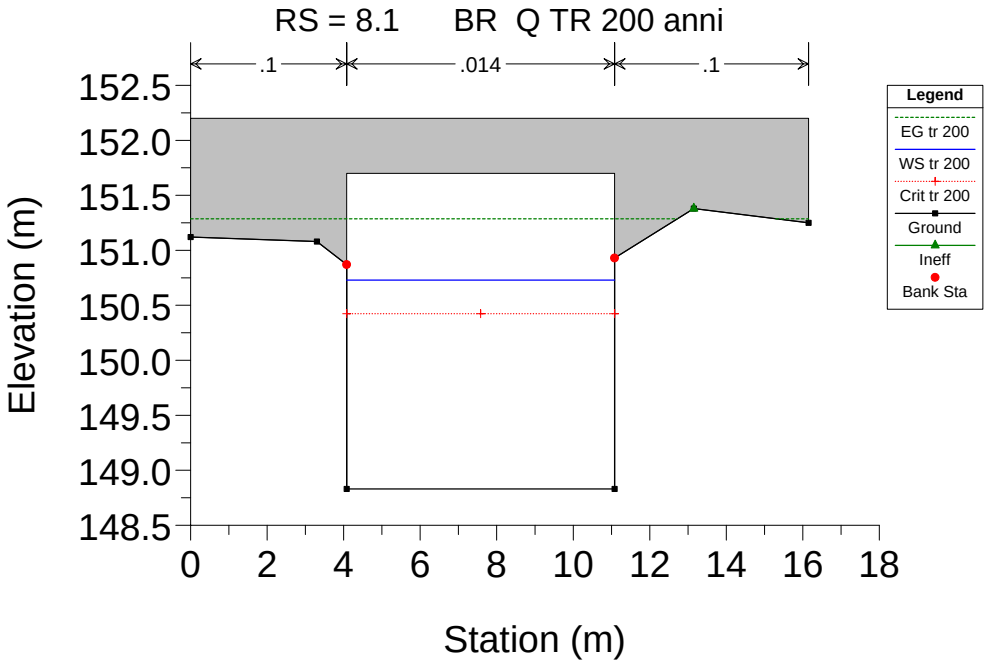

RS = 103.1 BR Q TR 200 anni
.1
.014
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta
Elevation (m)
154
153
152
151
150
149
0
2
4
6
8
10
Station (m)

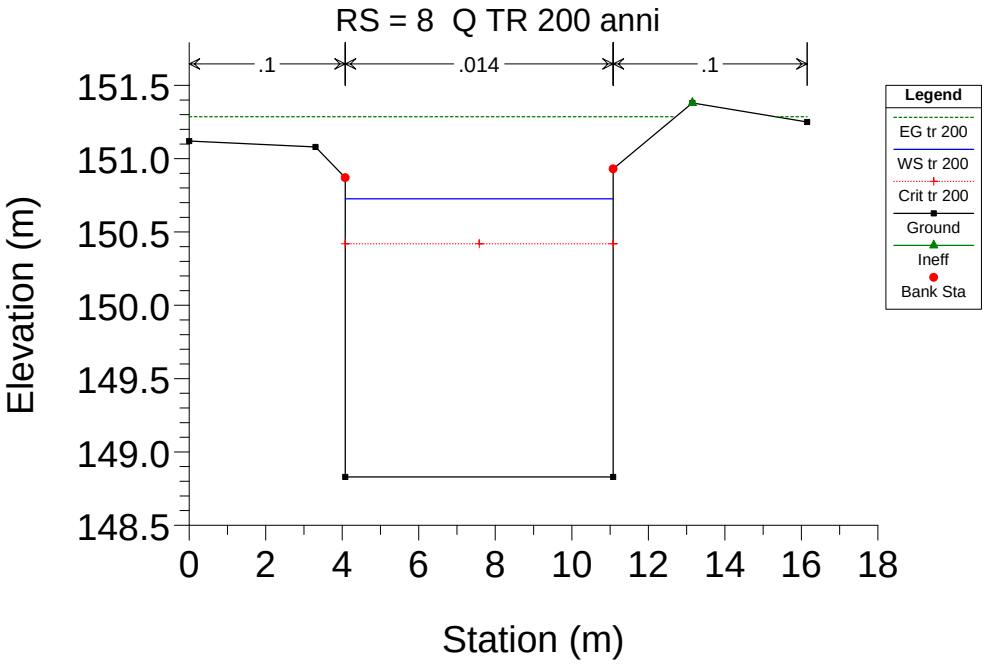

RS = 103 Q TR 200 anni
.1
.014
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 102.5 Q TR 200 anni
.1
.014
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 102 Q TR 200 anni
.014
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 101.9 BR Q TR 200 anni
.014
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)

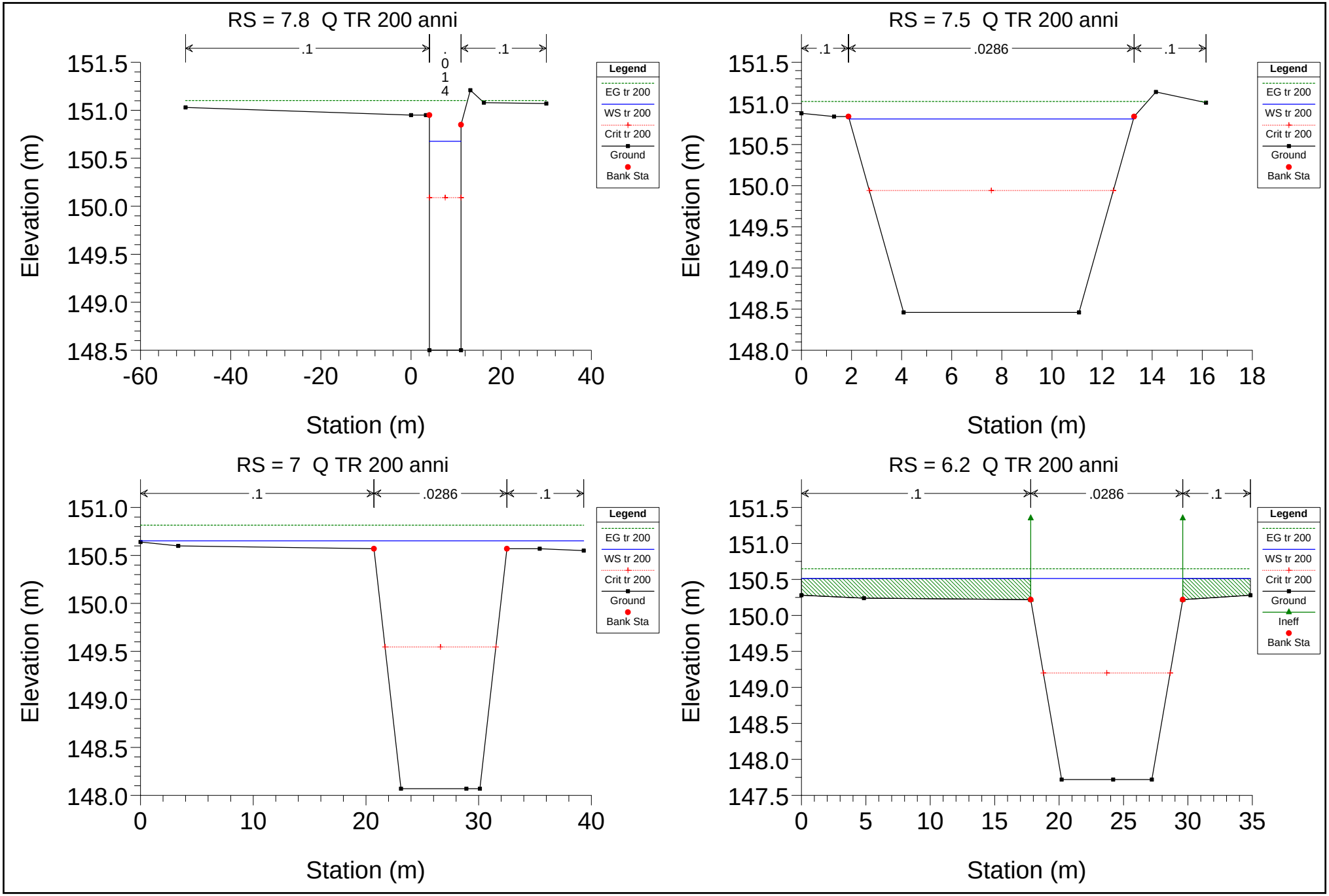

RS = 101.9 BR Q TR 200 anni
.0166
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 101.8 Q TR 200 anni
.0166
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 10 Q TR 200 anni
.1
.02
1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 9 Q TR 200 anni
.1
.02
1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)

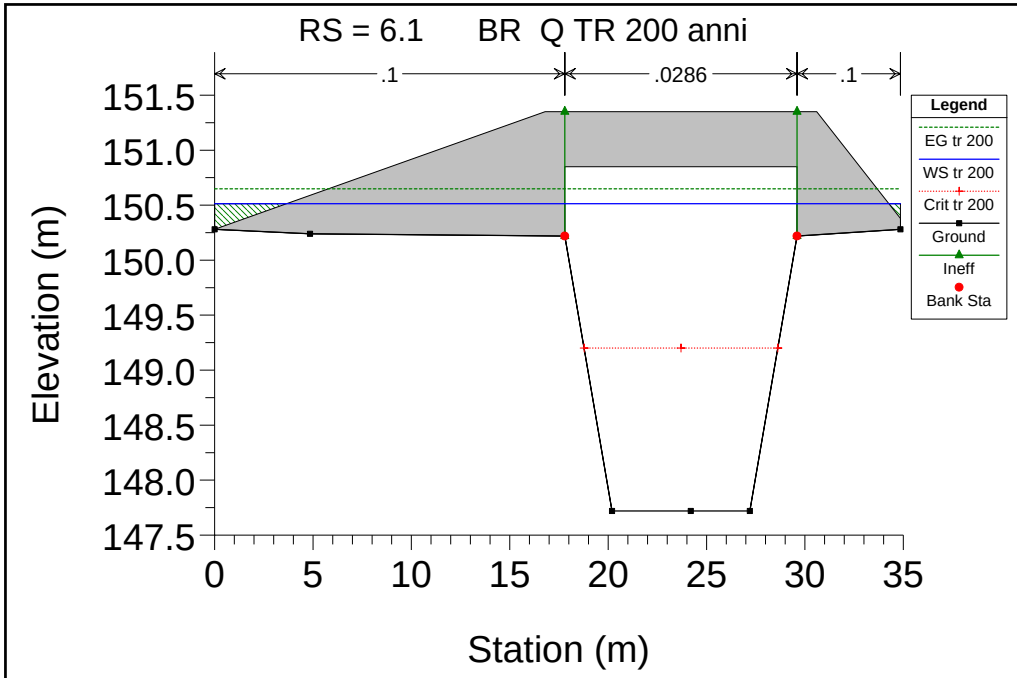

RS = 8.2 Q TR 200 anni
.1
.014
.1
Elevation (m)
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta

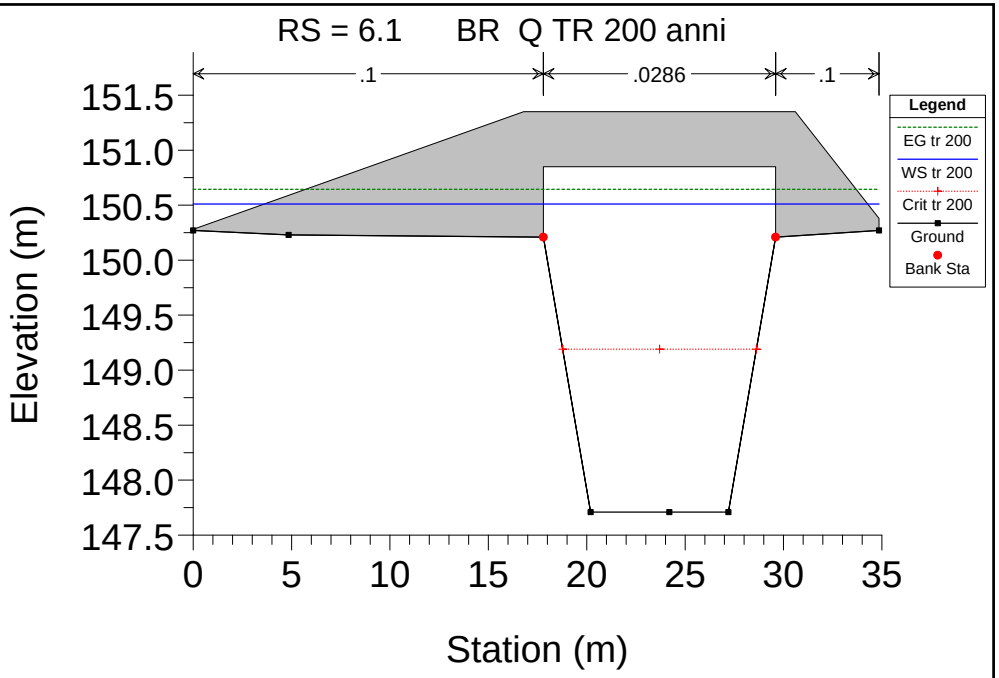

RS = 8.1 BR Q TR 200 anni
.1
.014
.1
Elevation (m)
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta

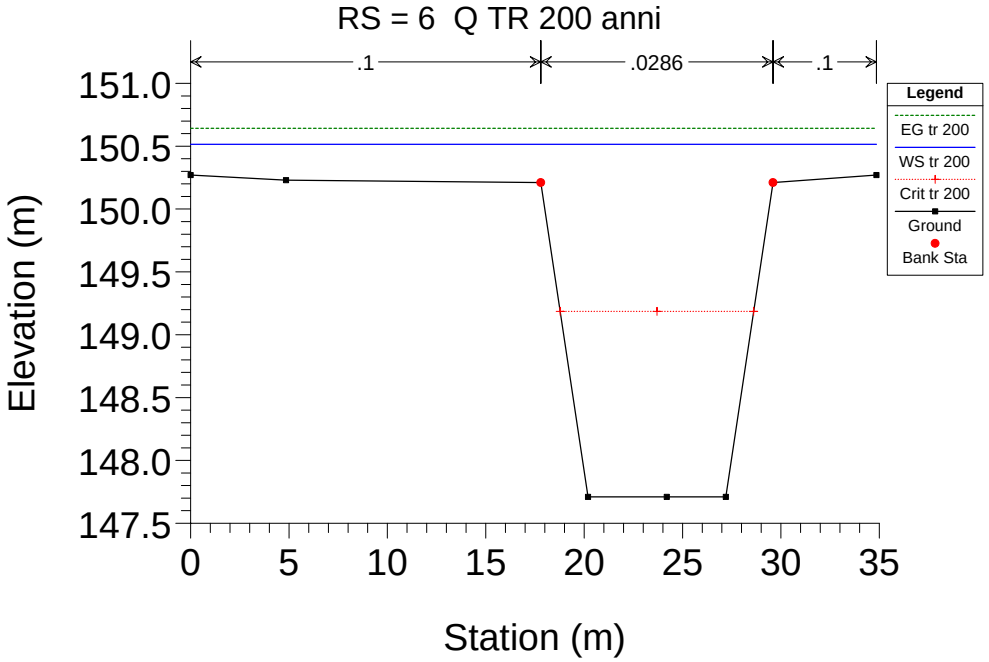

RS = 8.1 BR Q TR 200 anni
.1
.014
.1
Elevation (m)
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta

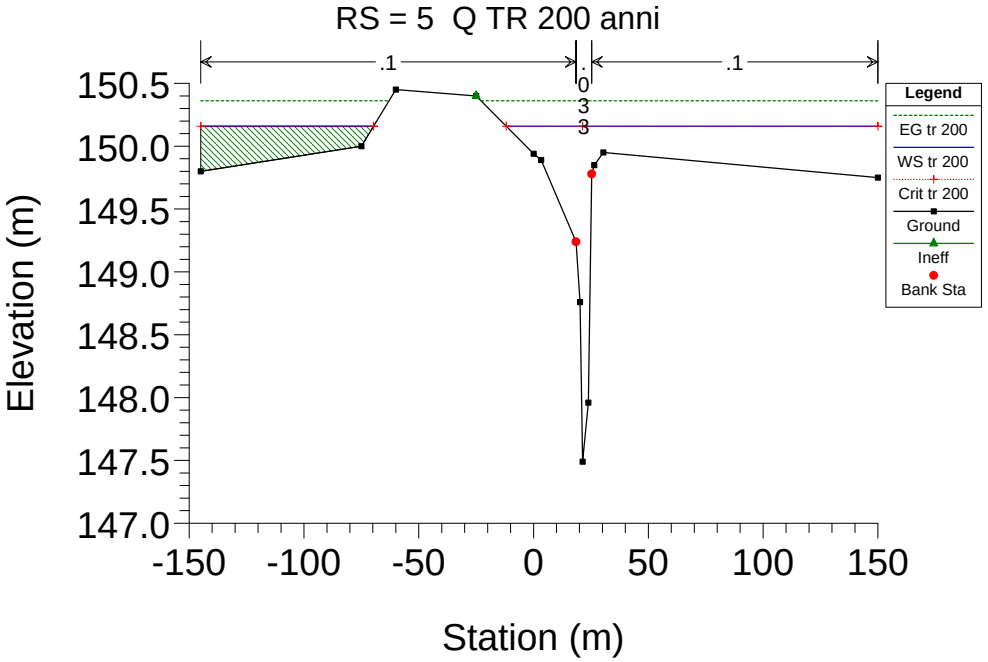

RS = 8 Q TR 200 anni
.1
.014
.1
Elevation (m)
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta

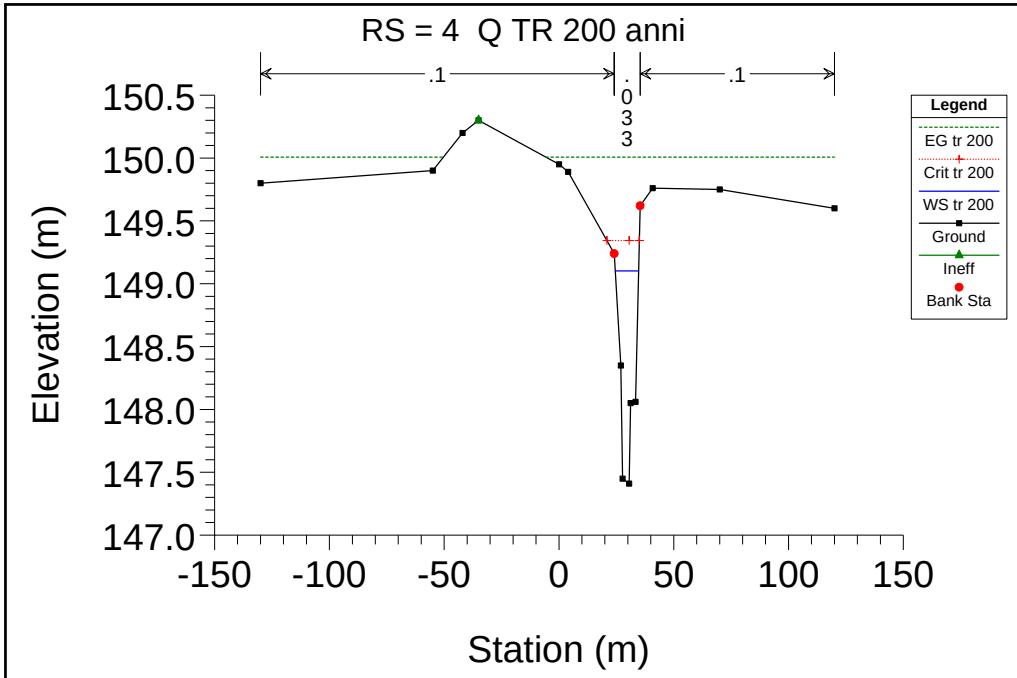

RS = 7.8 Q TR 200 anni
.1
.014
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
-60
-40
-20
0
20
40
Station (m)
RS = 7.5 Q TR 200 anni
.1
.0286
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
0
2
4
6
8
10
12
14
16
18
Station (m)
RS = 7 Q TR 200 anni
.1
.0286
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
151.0
150.5
150.0
149.5
149.0
148.5
148.0
0
10
20
30
40
Station (m)
RS = 6.2 Q TR 200 anni
.1
.0286
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)

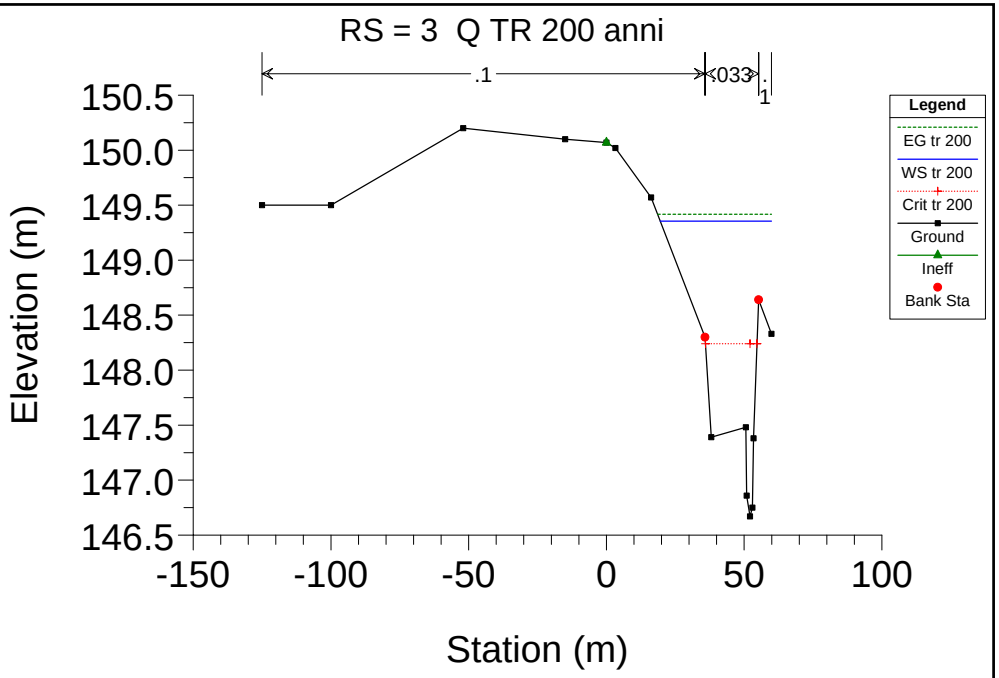

RS = 6.1 BR Q TR 200 anni
.1
.0286
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)

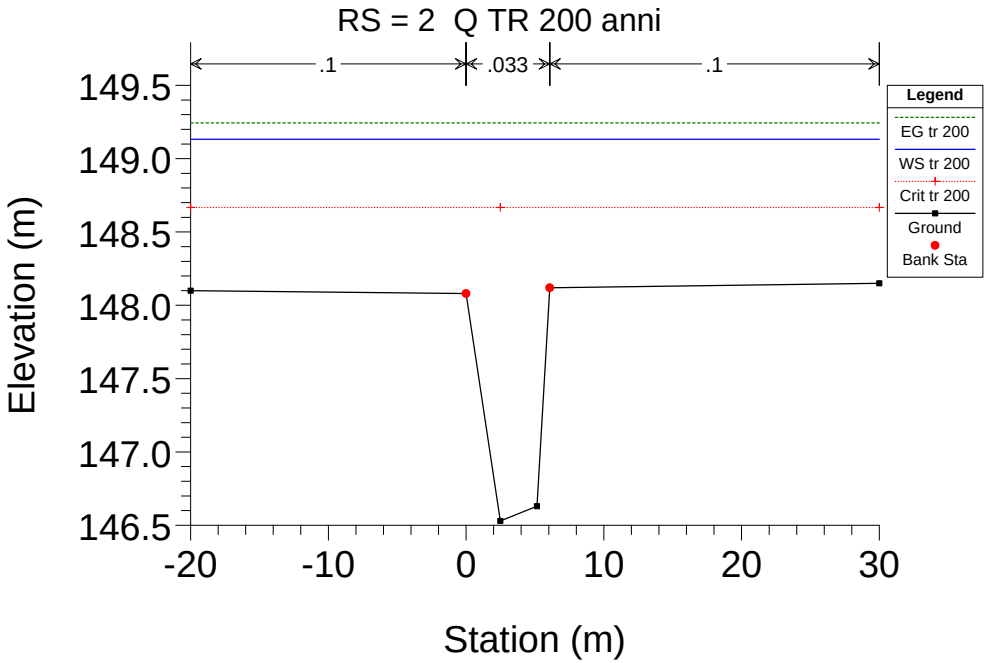

RS = 6.1 BR Q TR 200 anni
.1
.0286
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)

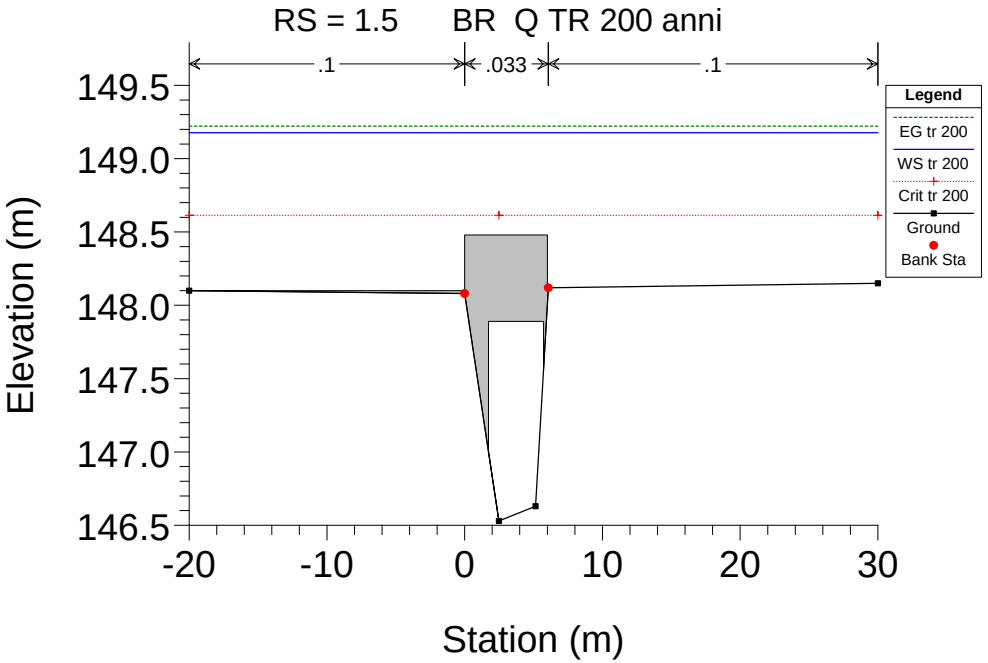

RS = 6 Q TR 200 anni
.1
.0286
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)

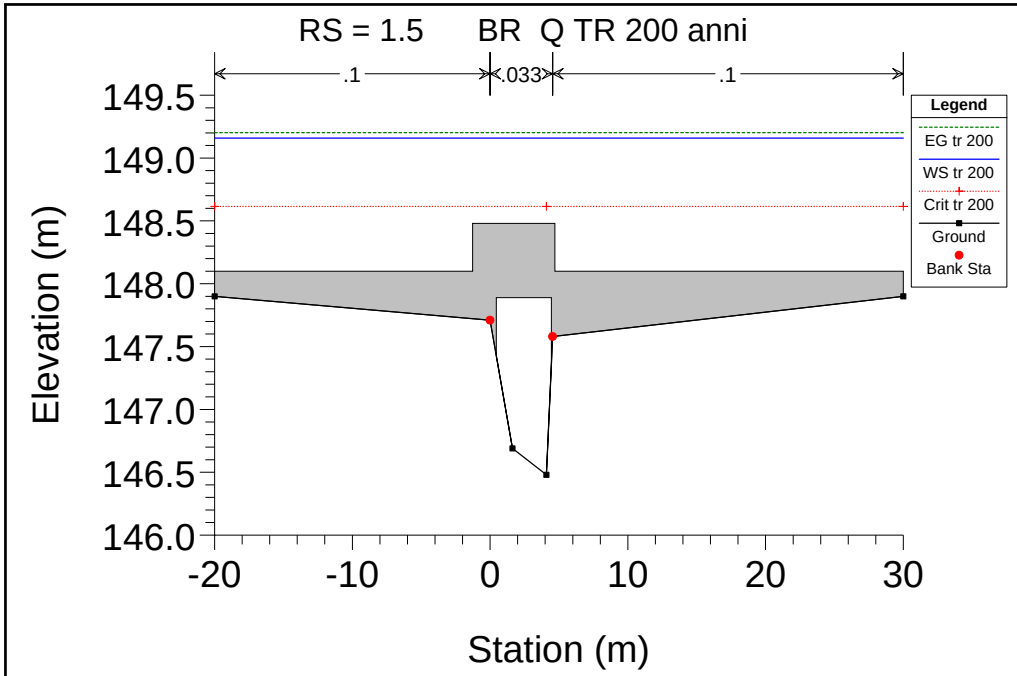

RS = 5 Q TR 200 anni
.1
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta
Elevation (m)
150.5
150.0
149.5
149.0
148.5
148.0
147.5
147.0
-150
-100
-50
0
50
100
150
Station (m)

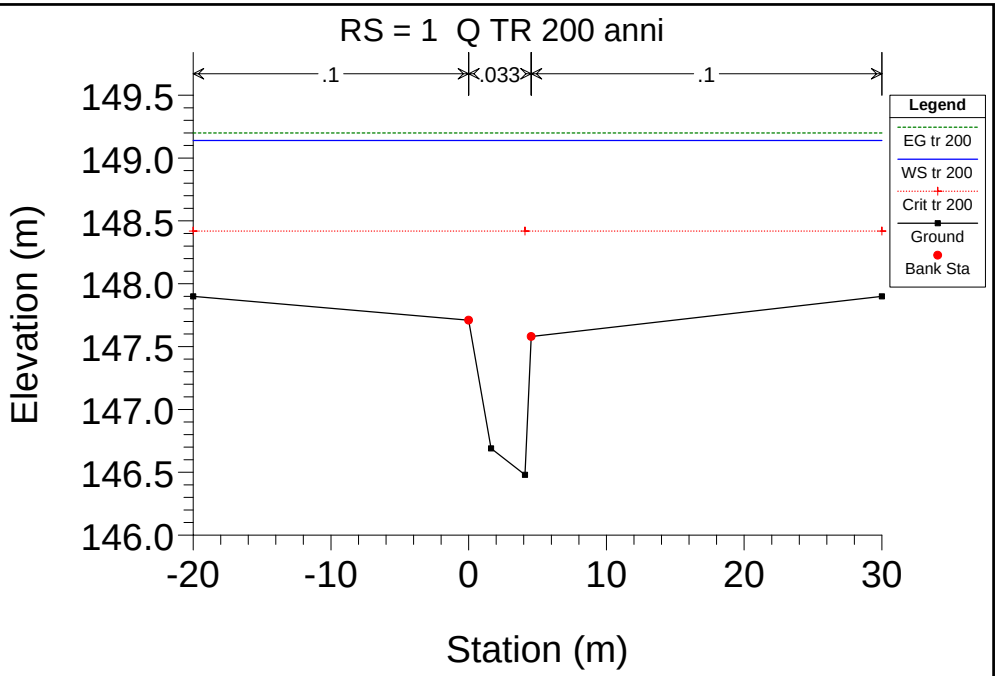

RS = 4 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
Crit tr 200
WS tr 200
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)


RS = 3 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)


RS = 2 Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1.5 BR Q TR 200 anni
.1
.033
.1
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1.5 BR Q TR 200 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta


RS = 1 Q TR 200 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 200
WS tr 200
Crit tr 200
Ground
Bank Sta

SIMULAZIONE 8

(Situazione di progetto)

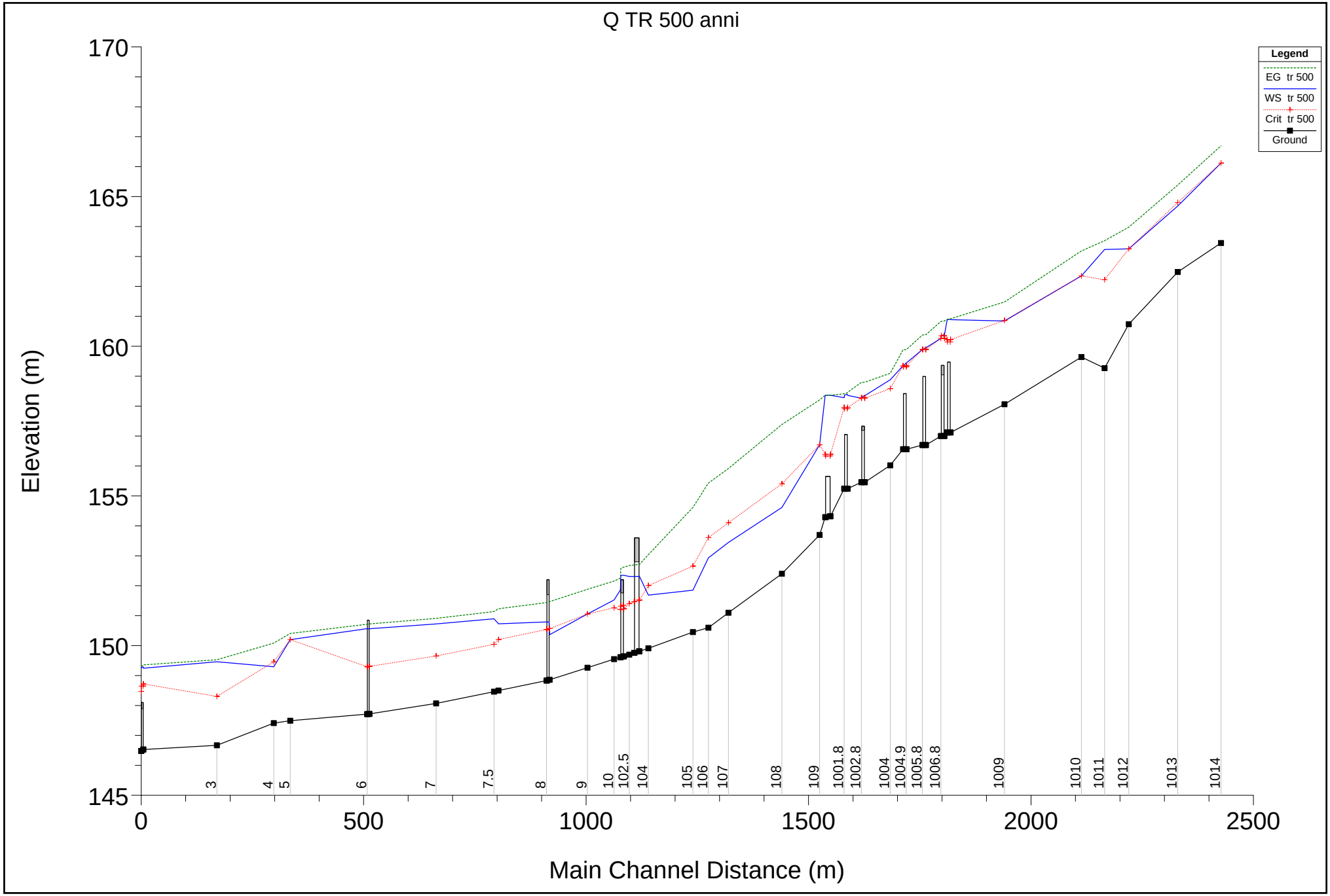
	portata al colmo Q_c m^3/s	tempo di ritorno anni
Rio Moisa a Valle di Magliano	49	500

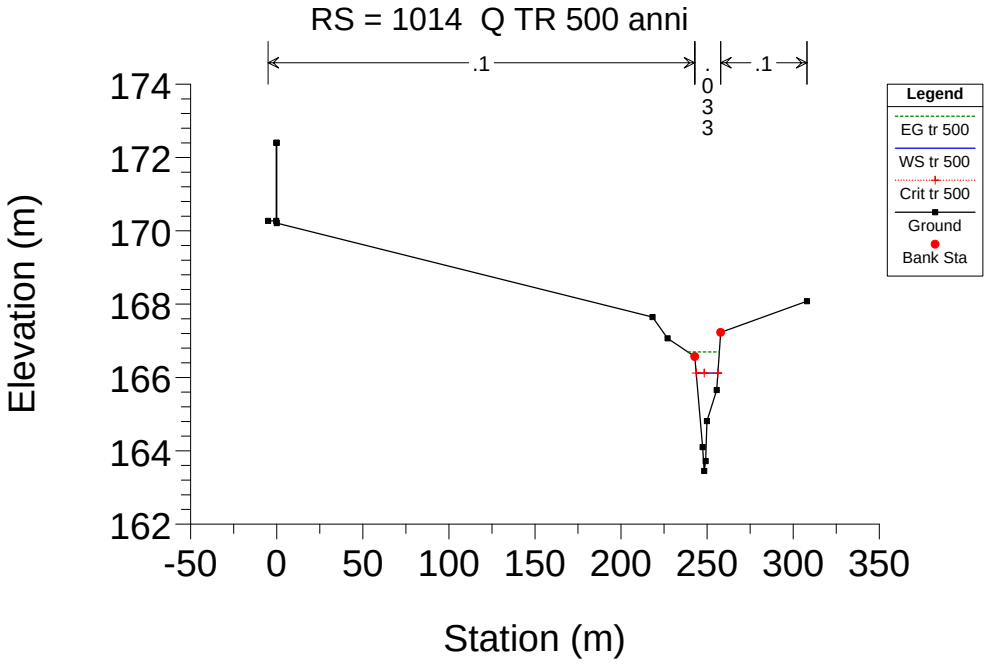
HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 500

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	1014	tr 500	49.00	163.45	166.12	166.12	166.70	0.011827	3.37	14.55	12.55	1.00
1	1013	tr 500	49.00	162.48	164.69	164.80	165.38	0.015206	3.70	13.25	12.35	1.14
1	1012	tr 500	49.00	160.74	163.25	163.25	163.98	0.011987	3.76	13.01	9.08	1.00
1	1011	tr 500	49.00	159.27	163.23	162.22	163.53	0.003248	2.41	20.39	10.25	0.52
1	1010	tr 500	49.00	159.64	162.35	162.35	163.18	0.012097	4.05	12.62	10.70	0.96
1	1009	tr 500	49.00	158.06	160.84	160.86	161.48	0.007668	3.76	22.20	28.21	0.81
1	1008	tr 500	49.00	157.12	160.89	160.23	160.92	0.001087	1.29	105.70	85.47	0.22
1	1007.9		Bridge									
1	1007.8	tr 500	49.00	157.12	160.87	160.22	160.90	0.001142	1.31	103.86	85.47	0.22
1	1007	tr 500	49.00	157.00	160.38	160.26	160.84	0.008223	3.46	27.26	23.86	0.62
1	1006.9		Bridge									
1	1006.8	tr 500	49.00	157.00	160.26	160.26	160.83	0.010213	3.76	24.46	23.86	0.69
1	1006	tr 500	49.00	156.70	159.95	159.89	160.39	0.009203	3.36	27.15	24.86	0.60
1	1005.9		Bridge									
1	1005.8	tr 500	49.00	156.70	159.89	159.89	160.38	0.010370	3.52	25.59	24.86	0.64
1	1005	tr 500	49.00	156.56	159.45	159.35	159.89	0.008892	3.47	27.39	23.92	0.67
1	1004.9		Bridge									
1	1004.8	tr 500	49.00	156.56	159.35	159.35	159.88	0.010827	3.73	25.03	23.91	0.73
1	1004	tr 500	49.00	156.02	158.88	158.59	159.10	0.003593	2.65	51.25	57.50	0.58
1	1003	tr 500	49.00	155.46	158.35	158.27	158.80	0.006875	3.37	30.88	39.66	0.65
1	1002.9		Bridge									
1	1002.8	tr 500	49.00	155.46	158.27	158.27	158.79	0.008226	3.60	27.53	36.85	0.71
1	1002	tr 500	49.00	155.24	158.36	157.96	158.46	0.002410	2.00	66.66	62.91	0.37
1	1001.9		Bridge									
1	1001.8	tr 500	49.00	155.24	158.28	157.96	158.41	0.002894	2.16	61.86	62.91	0.40
1	1001	tr 500	49.00	154.32	158.36	156.39	158.37	0.000087	0.51	260.19	105.11	0.08
1	1000.9		Bridge									
1	1000.8	tr 500	49.00	154.29	158.36	156.39	158.36	0.000087	0.51	260.13	105.11	0.08
1	109	tr 500	49.00	153.70	156.71	156.71	158.21	0.005781	5.43	9.02	3.00	1.00
1	108	tr 500	49.00	152.40	154.61	155.41	157.39	0.012388	7.38	6.64	3.00	1.58
1	107	tr 500	49.00	151.10	153.44	154.11	155.92	0.010707	6.97	7.04	3.00	1.45
1	106	tr 500	49.00	150.60	152.93	153.61	155.43	0.010838	7.00	7.00	3.00	1.46
1	105	tr 500	49.00	150.45	151.85	152.66	154.61	0.072230	7.36	6.65	6.71	2.36
1	104	tr 500	49.00	149.91	151.69	152.00	153.04	0.004501	5.15	9.51	5.91	1.30
1	103.2	tr 500	49.00	149.81	152.31	151.52	152.71	0.000904	2.80	17.52	10.00	0.56
1	103.1		Bridge									
1	103	tr 500	49.00	149.76	152.31	151.47	152.69	0.000860	2.75	17.84	10.00	0.55
1	102.5	tr 500	49.00	149.70	152.31	151.40	152.67	0.000803	2.67	20.40	19.50	0.53
1	102	tr 500	49.00	149.64	152.35	151.23	152.62	0.000565	2.32	21.11	7.80	0.45

HEC-RAS Plan: scatolare River: Moisa Reach: 1 Profile: tr 500 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	101.8	tr 500	49.00	149.61	152.31	151.20	152.58	0.000804	2.33	21.03	7.80	0.45
1	10	tr 500	49.00	149.55	152.31	151.27	152.55	0.000976	2.26	44.74	62.03	0.44
1	9	tr 500	49.00	149.38	152.31	151.94	152.42	0.002461	2.09	63.94	59.85	0.44
1	8.5	tr 500	49.00	149.26	152.24	151.72	152.34	0.001579	1.82	69.27	59.85	0.37
1	8.3	tr 500	49.00	149.13	152.21	151.59	152.28	0.001283	1.60	82.90	66.15	0.34
1	8.2	tr 500	49.00	148.86	152.05	150.57	152.25	0.001838	2.07	30.31	16.15	0.37
1	8.1		Bridge									
1	8	tr 500	49.00	148.83	151.25	150.54	151.67	0.005165	2.88	17.89	12.56	0.59
1	7.9	tr 500	49.00	149.07	151.47	151.34	151.55	0.003574	2.02	92.67	198.44	0.52
1	7	tr 500	49.00	148.57	151.42	150.66	151.42	0.000158	0.52	352.89	373.50	0.12
1	6.2	tr 500	49.00	148.21	150.97	150.85	151.32	0.005542	3.11	35.21	34.85	0.68
1	6.1		Bridge									
1	6	tr 500	49.00	148.21	150.93	150.85	151.30	0.006126	3.23	33.73	34.85	0.71
1	5	tr 500	49.00	147.49	150.20	150.20	150.41	0.004022	2.51	68.11	240.64	0.59
1	4	tr 500	49.00	147.41	149.29	149.46	150.08	0.016151	3.94	12.49	12.45	1.17
1	3	tr 500	49.00	146.67	149.46	148.30	149.53	0.000654	1.18	54.03	42.02	0.27
1	2	tr 500	49.00	146.53	149.24	148.72	149.36	0.001831	1.96	63.24	50.00	0.42
1	1.5		Bridge									
1	1	tr 500	49.00	146.48	149.25	148.47	149.31	0.001301	1.71	78.25	50.00	0.35


Q TR 500 anni
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Elevation (m)
170
165
160
155
150
145
0
500
1000
1500
2000
2500
Main Channel Distance (m)
3
4
5
6
7
7.5
8
9
10
102.5
104
105
106
107
108
109
1001.8
1002.8
1004
1004.9
1005.8
1006.8
1009
1010
1011
1012
1013
1014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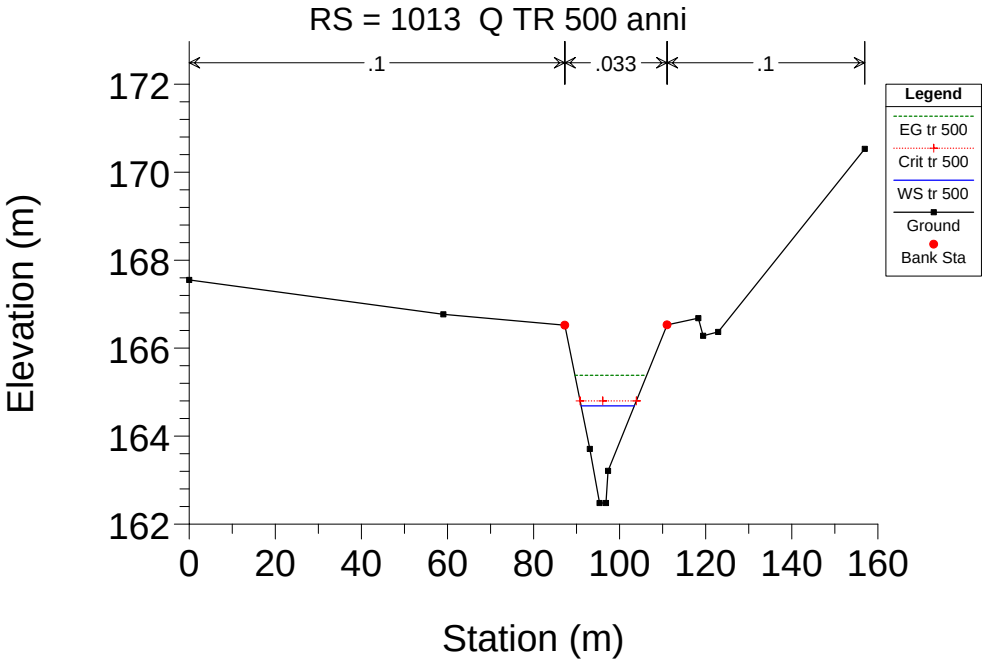
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1013 Q TR 500 anni
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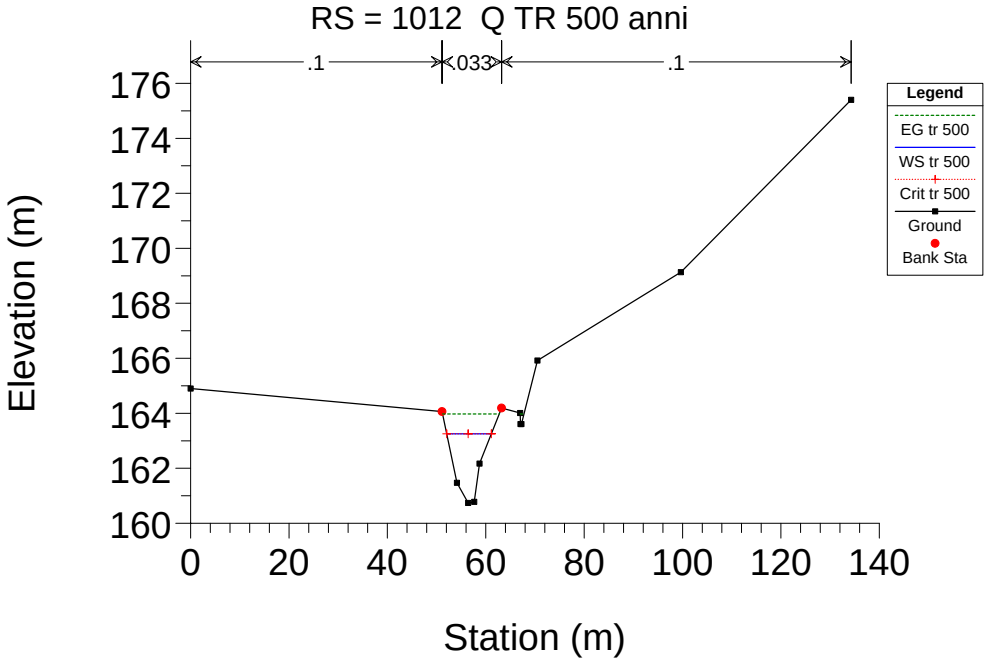
EG tr 500
Crit tr 500
WS tr 500
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1012 Q TR 500 anni
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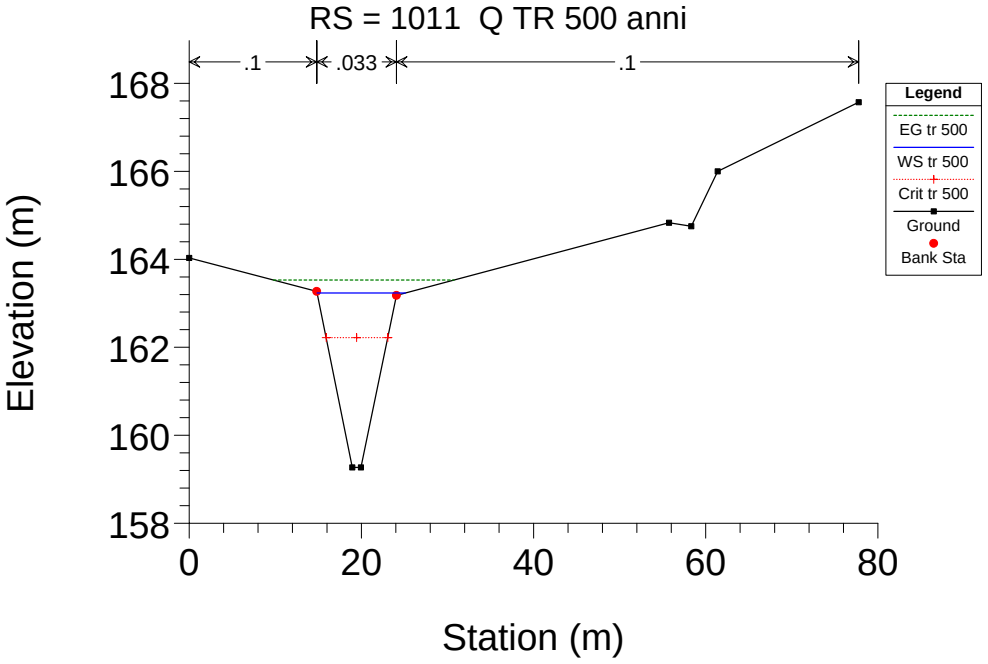
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1011 Q TR 500 anni
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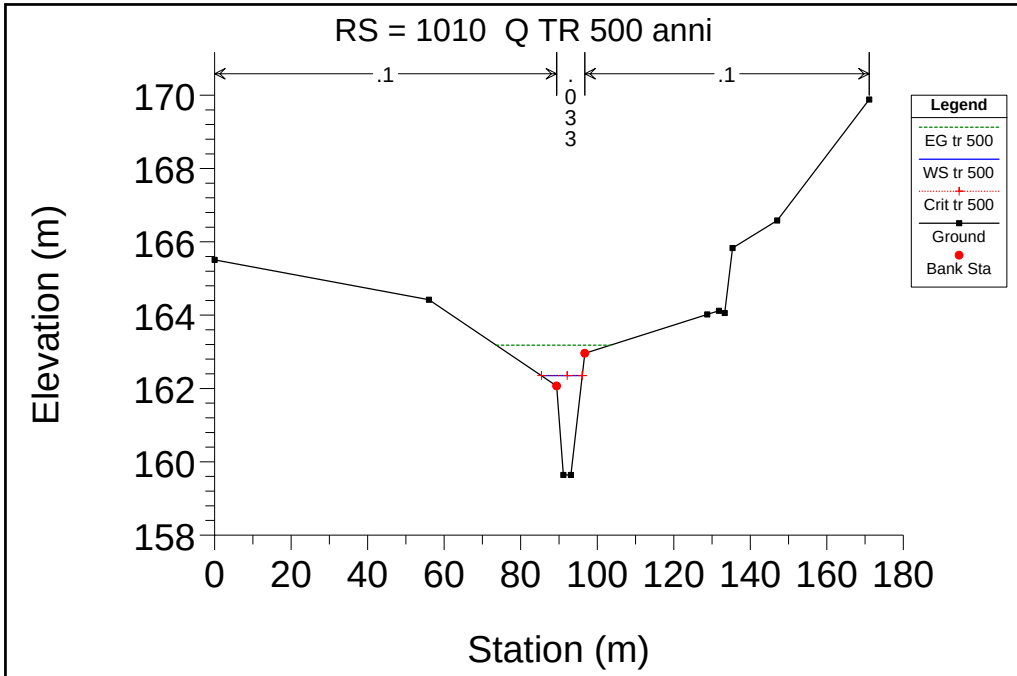
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)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Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
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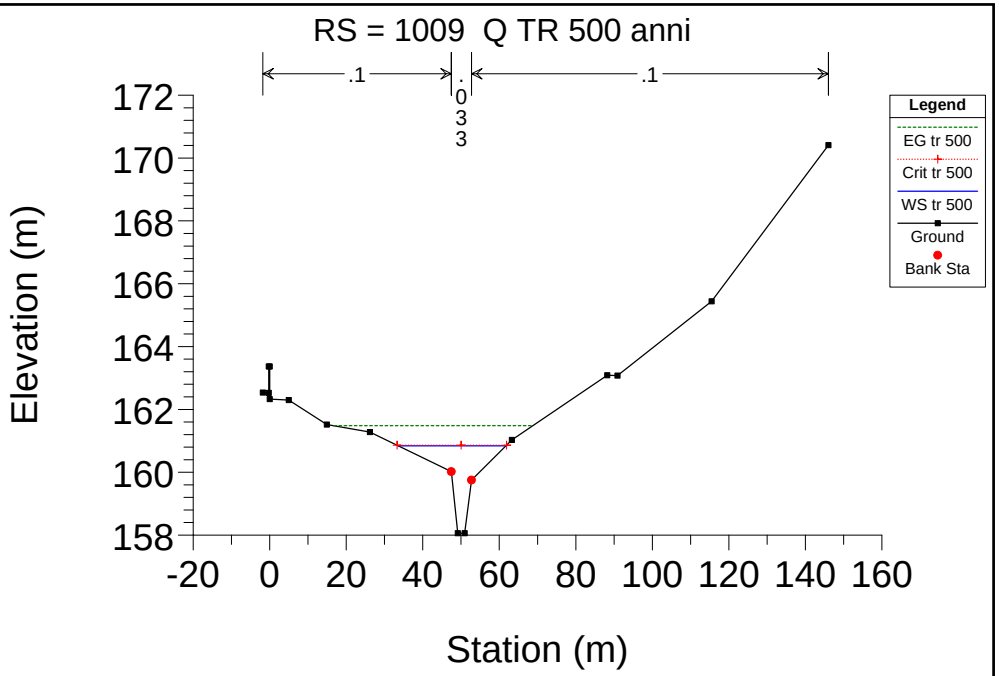
168
166
164
162
160
158
0
20
40
60
80
100
120
140
160
180
Station (m)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Legend
EG tr 500
Crit tr 500
WS tr 500
Ground
Bank Sta
Elevation (m)
172
170
168
166
164
162
160
158
-20
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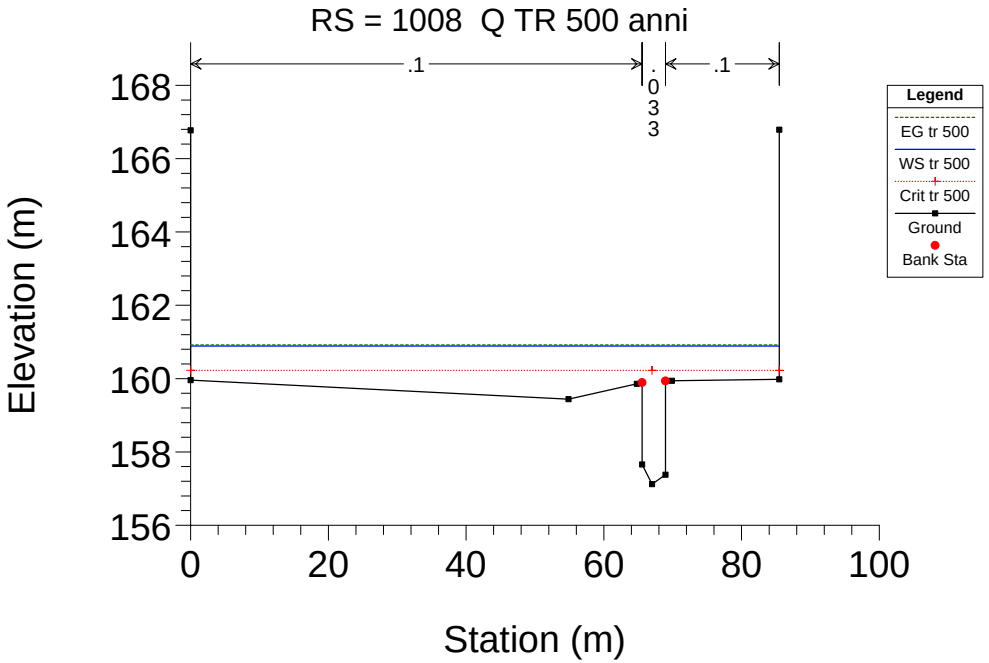
60
80
100
120
140
160
Station (m)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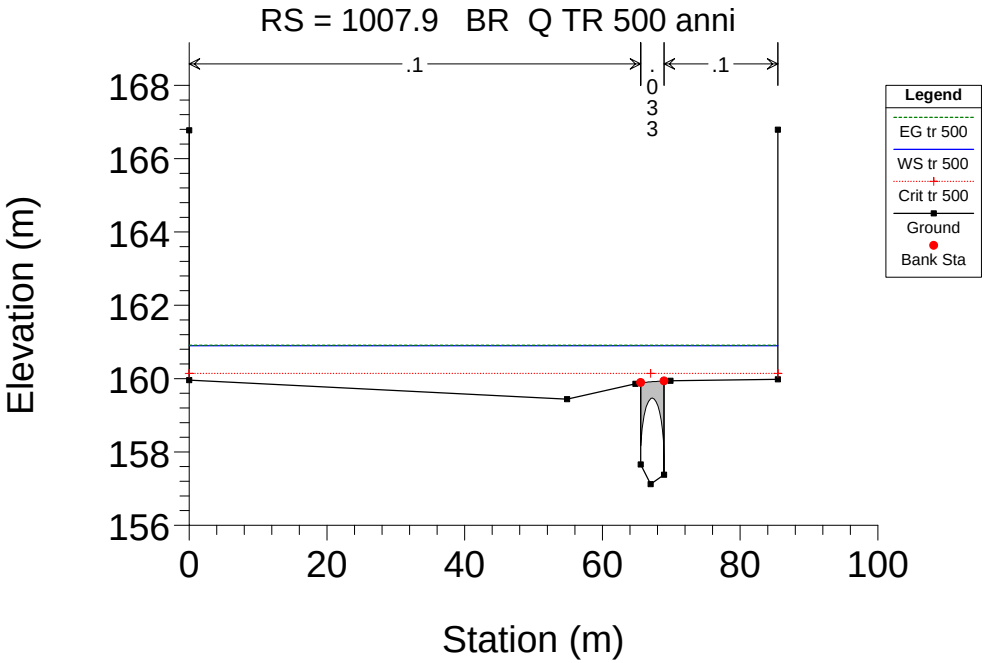
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
168
166
164
162
160
158
156
0
20
40
60
80
100
Station (m)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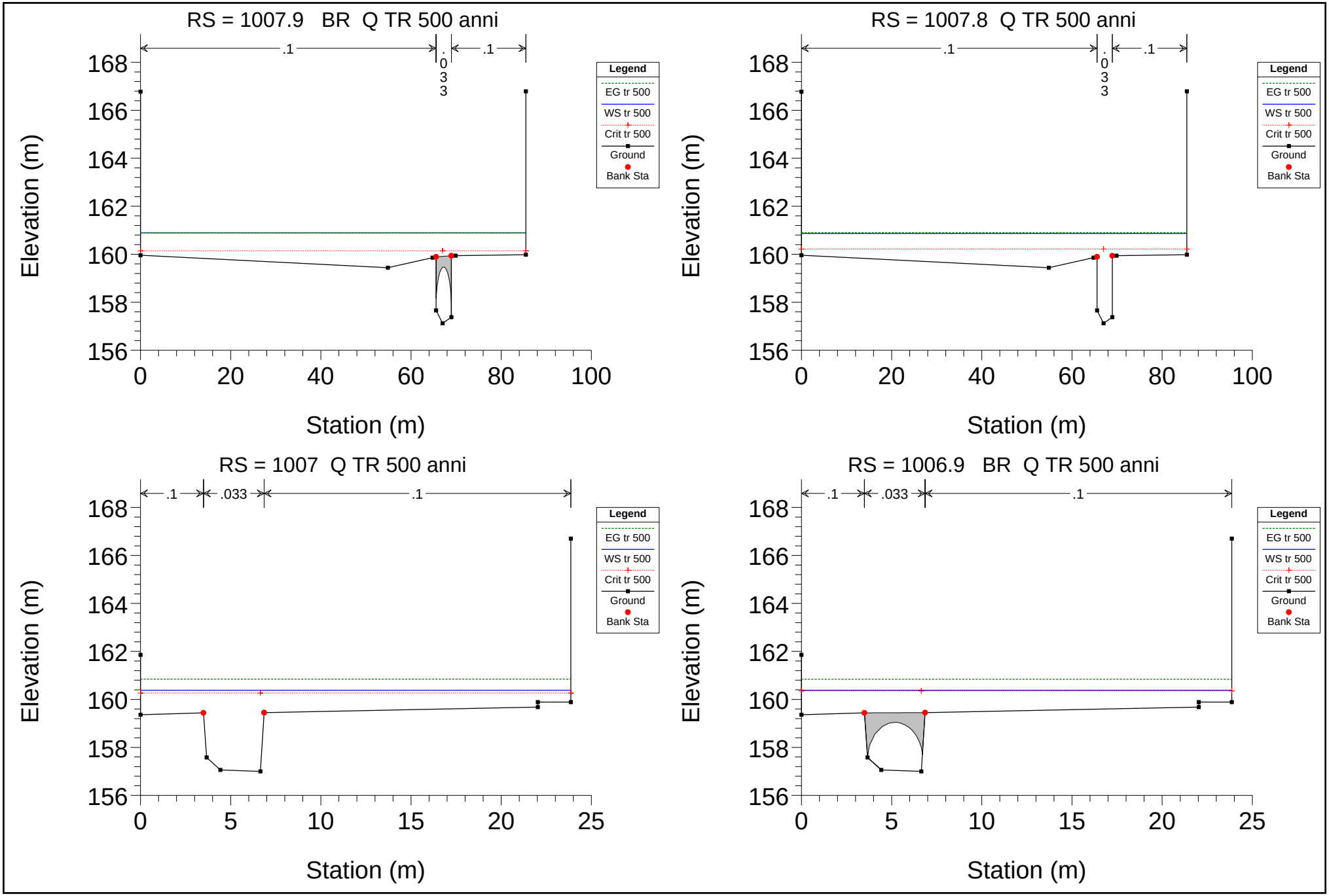
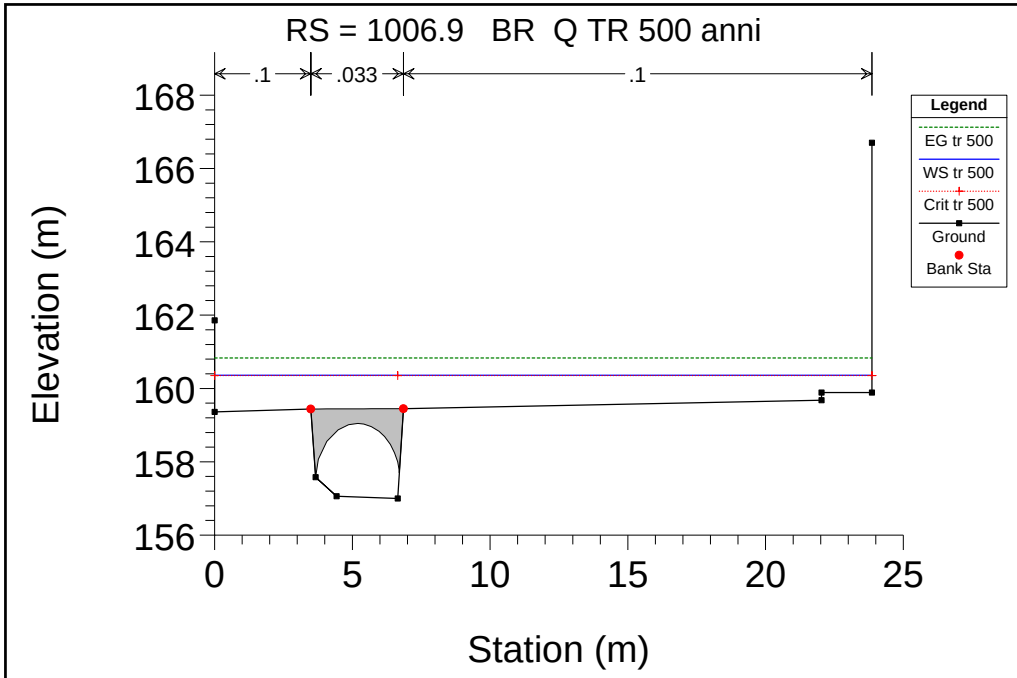
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
168
166
164
162
160
158
156
0
20
40
60
80
100
Station (m)


RS = 1007.9 BR Q TR 500 anni
RS = 1007.8 Q TR 500 anni
RS = 1007 Q TR 500 anni
RS = 1006.9 BR Q TR 500 anni
Elevation (m)
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
.1
.033
.1


RS = 1006.9 BR Q TR 500 anni
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.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
168
166
164
162
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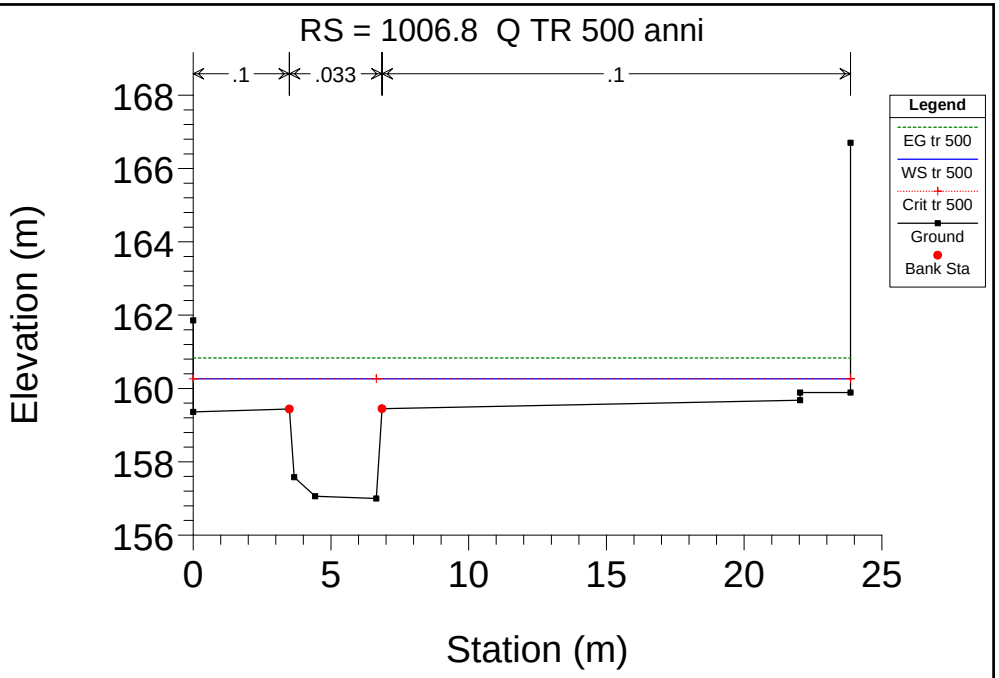
158
156
0
5
10
15
20
25
Station (m)


RS = 1006.8 Q TR 500 anni
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.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
168
166
164
162
160
158
156
0
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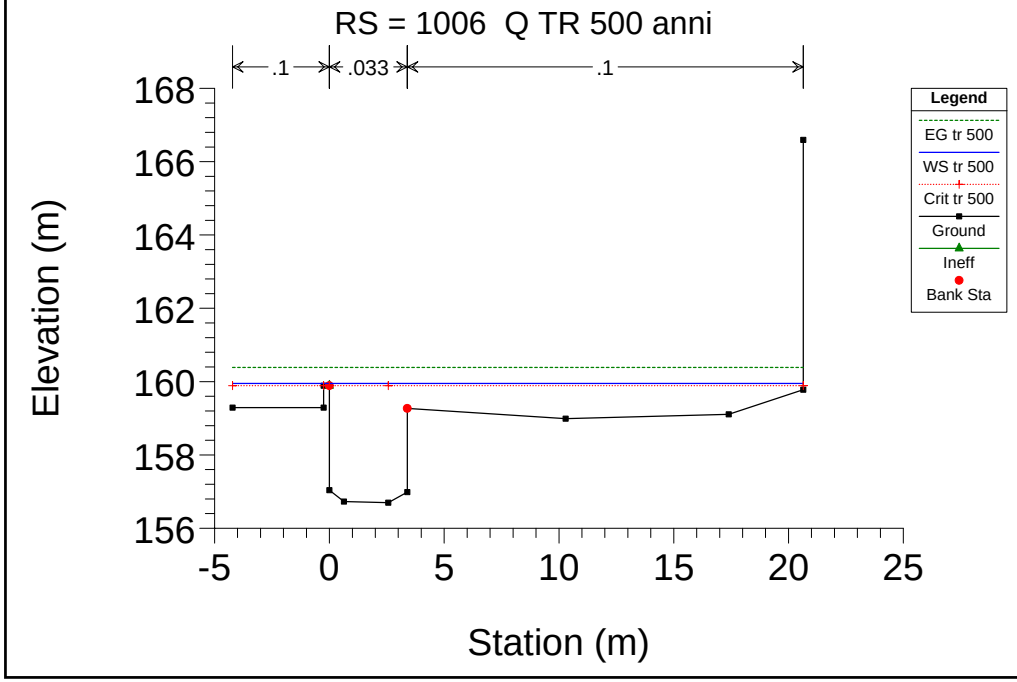
10
15
20
25
Station (m)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Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta
Elevation (m)
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166
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162
160
158
156
-5
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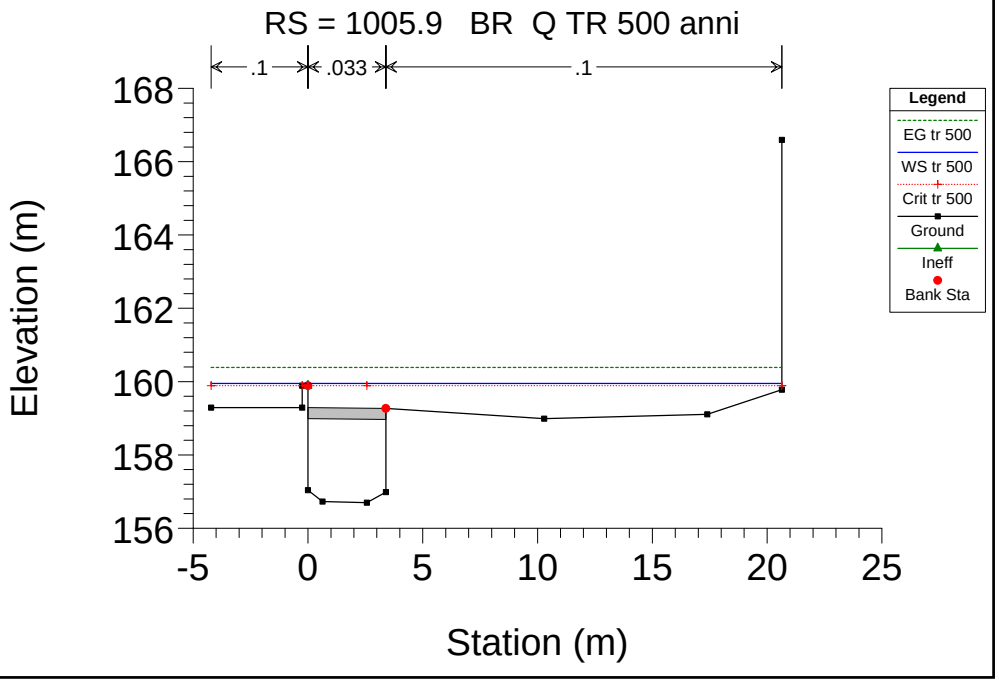
5
10
15
20
25
Station (m)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.033
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Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta
Elevation (m)
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156
-5
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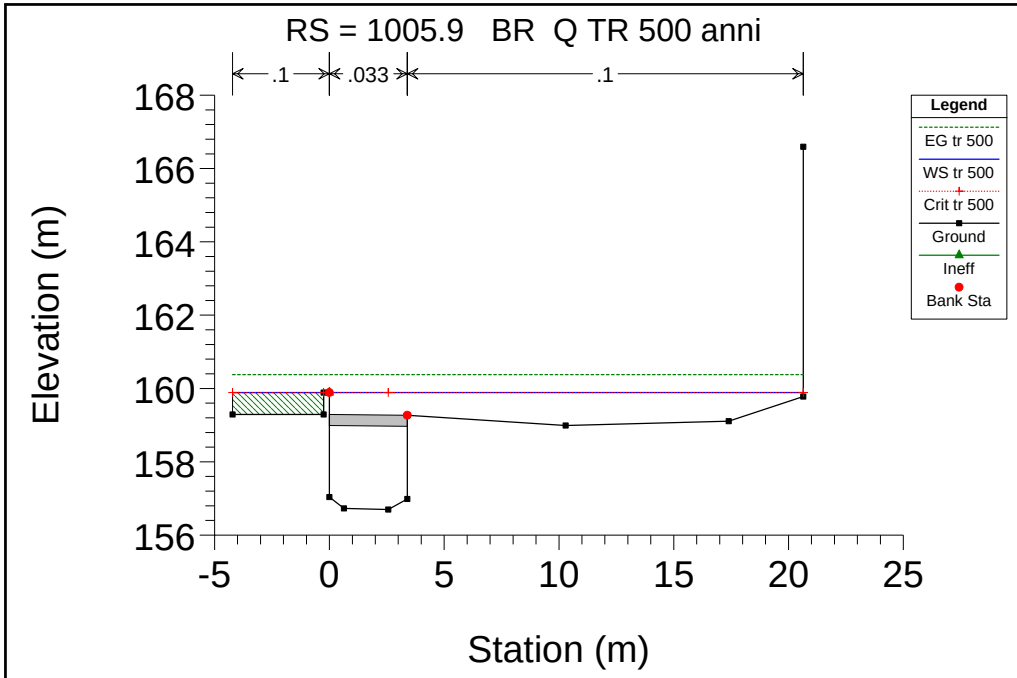
20
25
Station (m)


RS = 1005.9 BR Q TR 500 anni
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.033
.1
Elevation (m)
168
166
164
162
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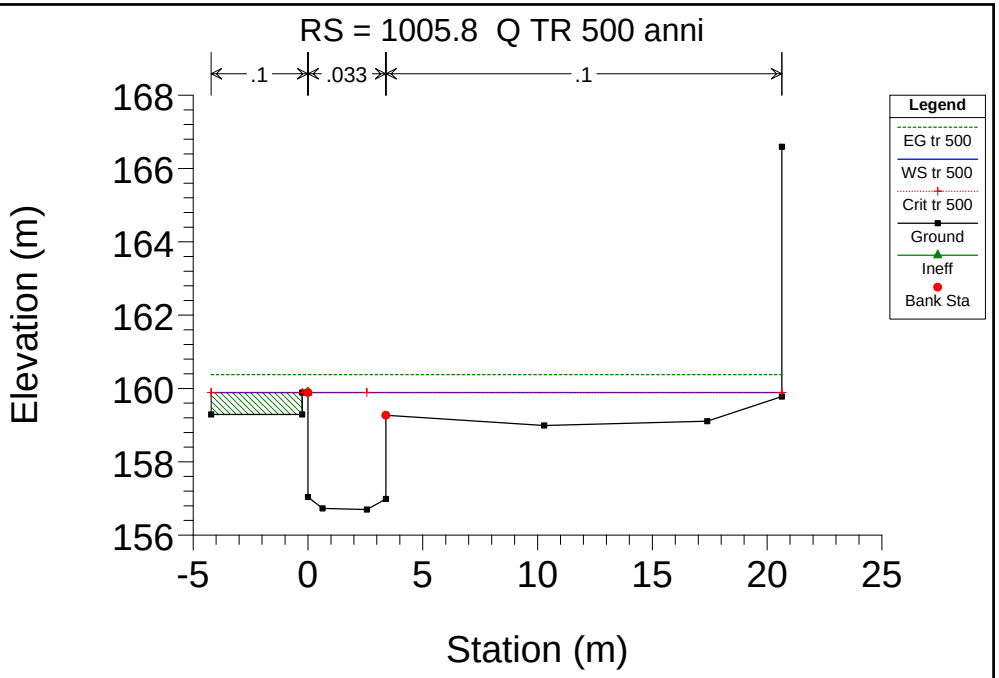
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta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.033
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Elevation (m)
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160
158
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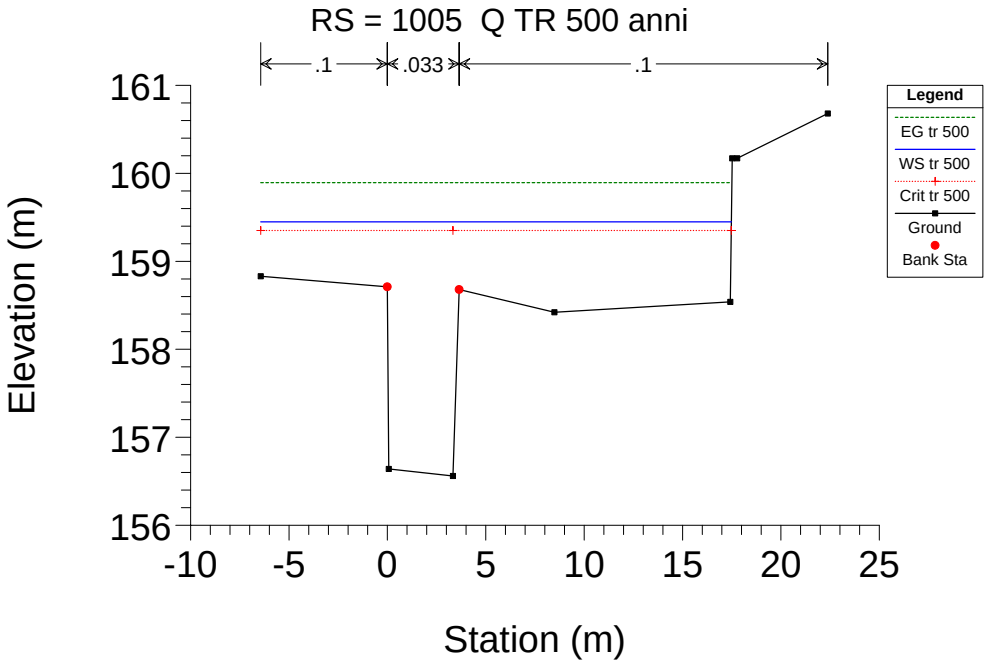
20
25
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta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Elevation (m)
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160
159
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157
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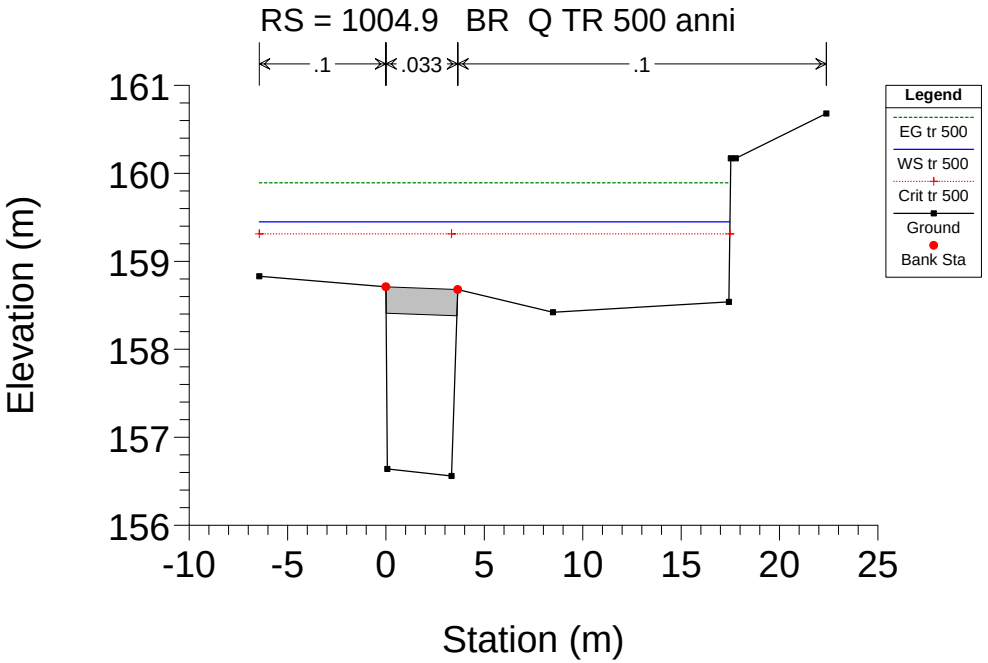
20
25
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta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Elevation (m)
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160
159
158
157
156
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-5
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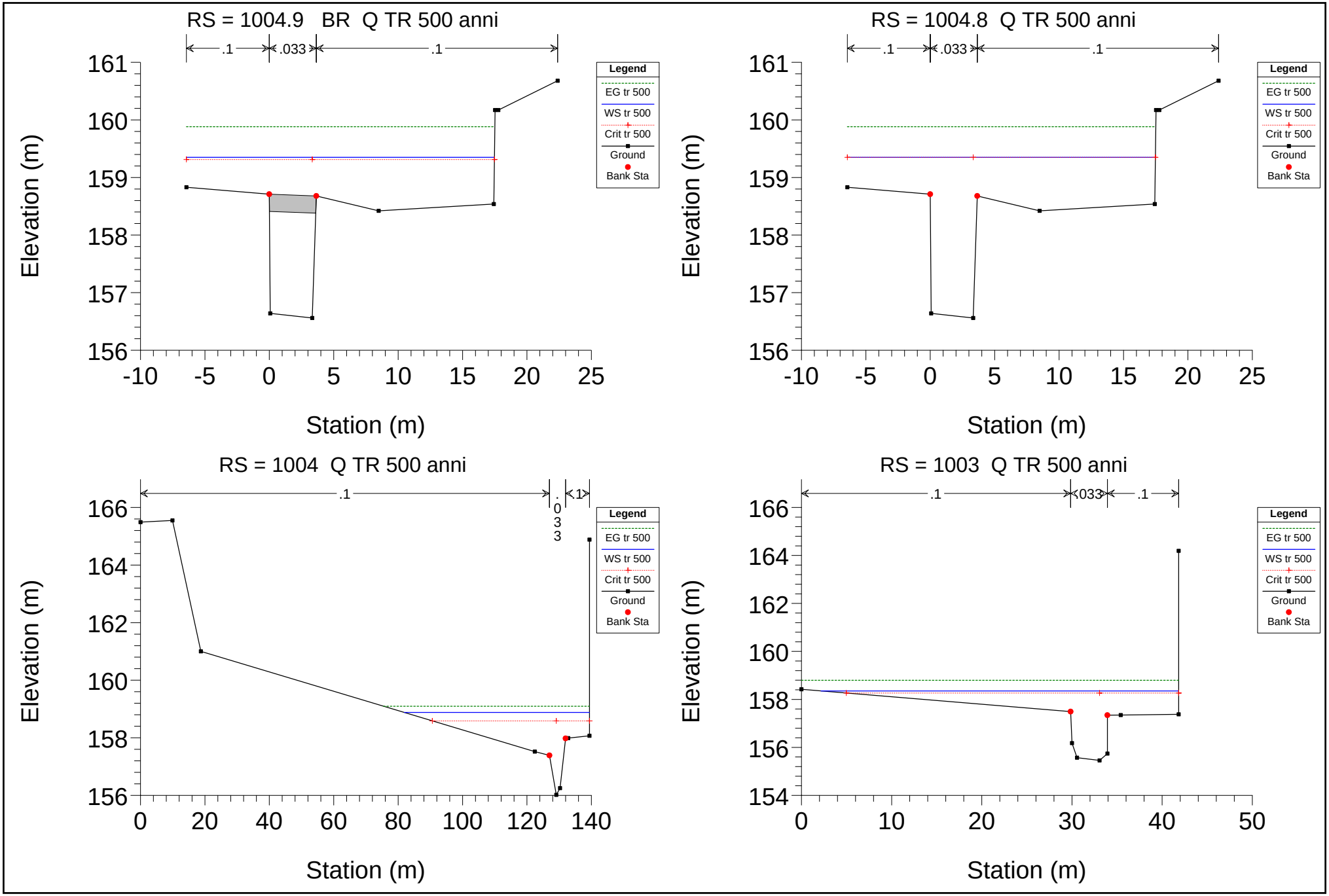
10
15
20
25
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta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Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
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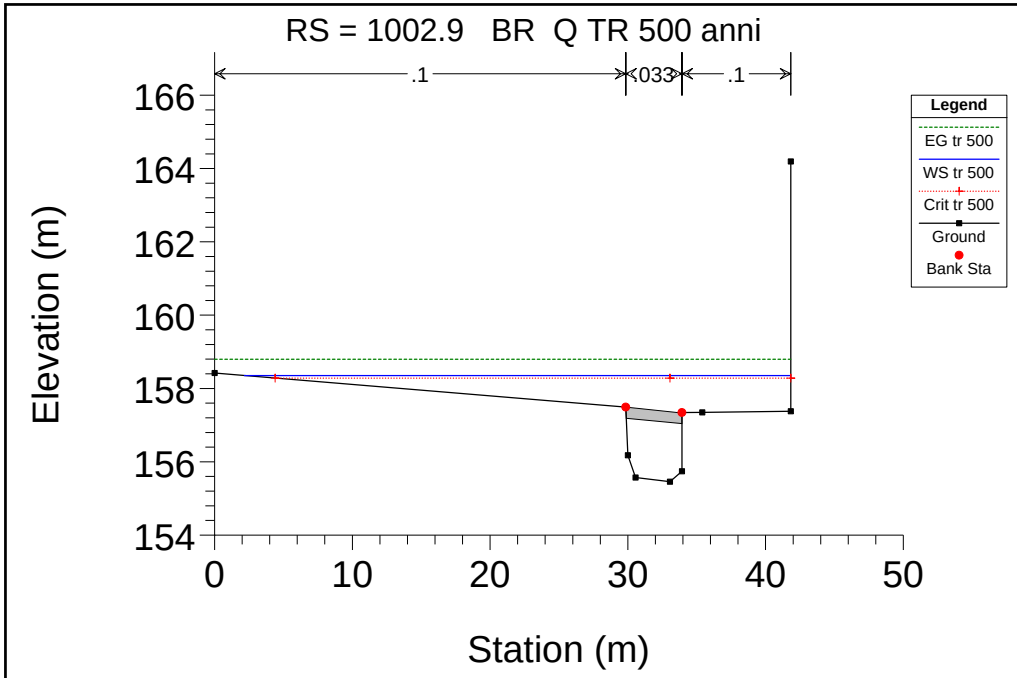
RS = 1004 Q TR 500 anni
RS = 1003 Q TR 500 anni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.1
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.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
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164
162
160
158
156
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0
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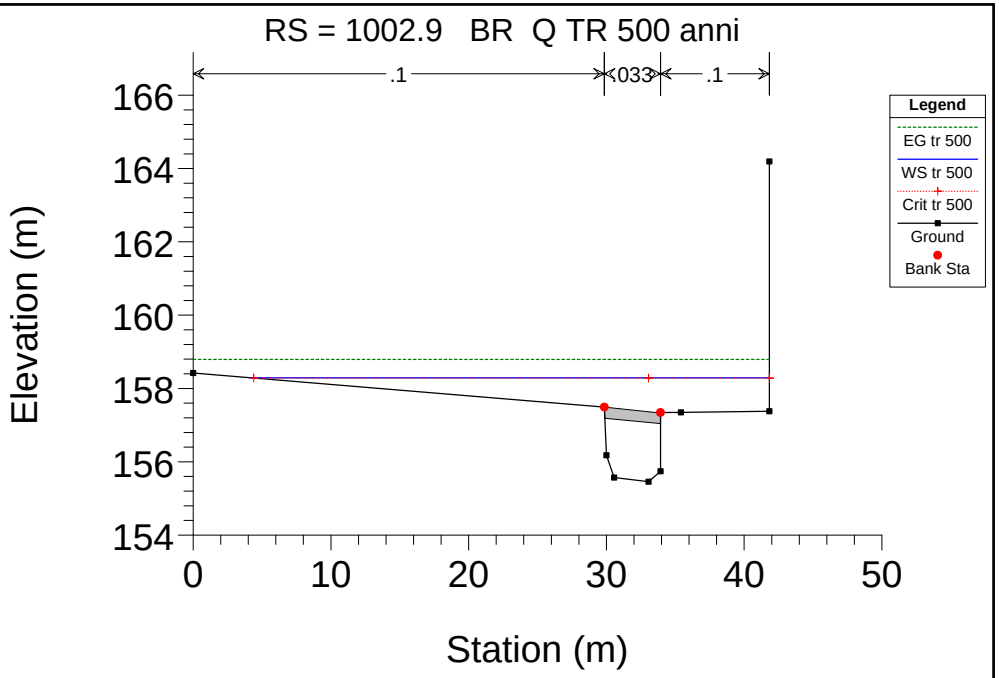
20
30
40
50
Station (m)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Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
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160
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0
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20
30
40
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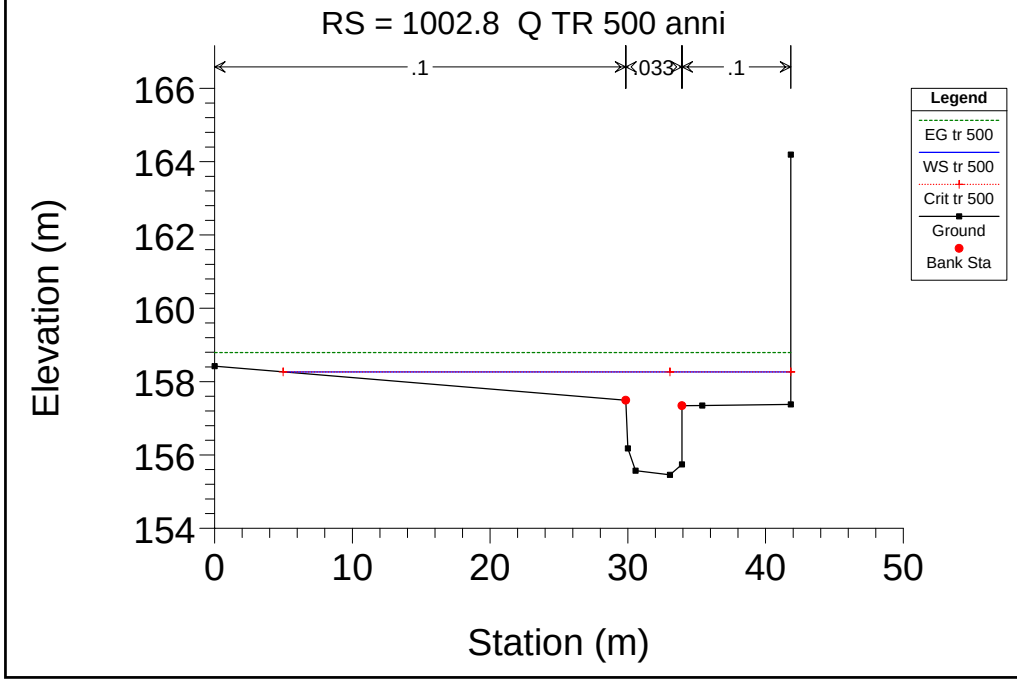
Station (m)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Legend
EG tr 500
WS tr 500
Crit tr 500
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Bank Sta
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40
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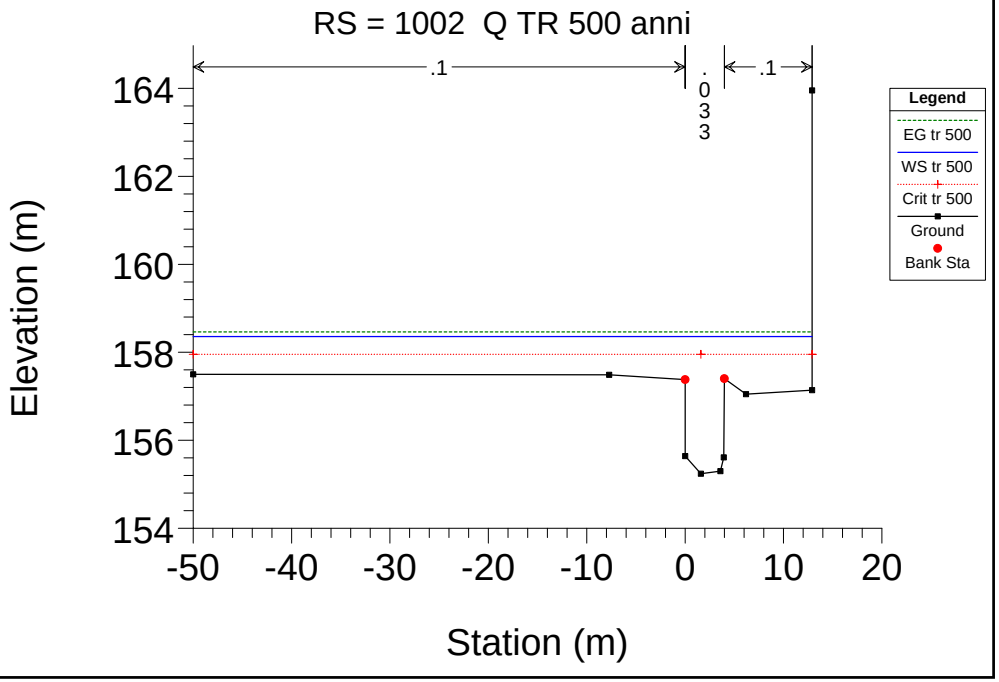
Station (m)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WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
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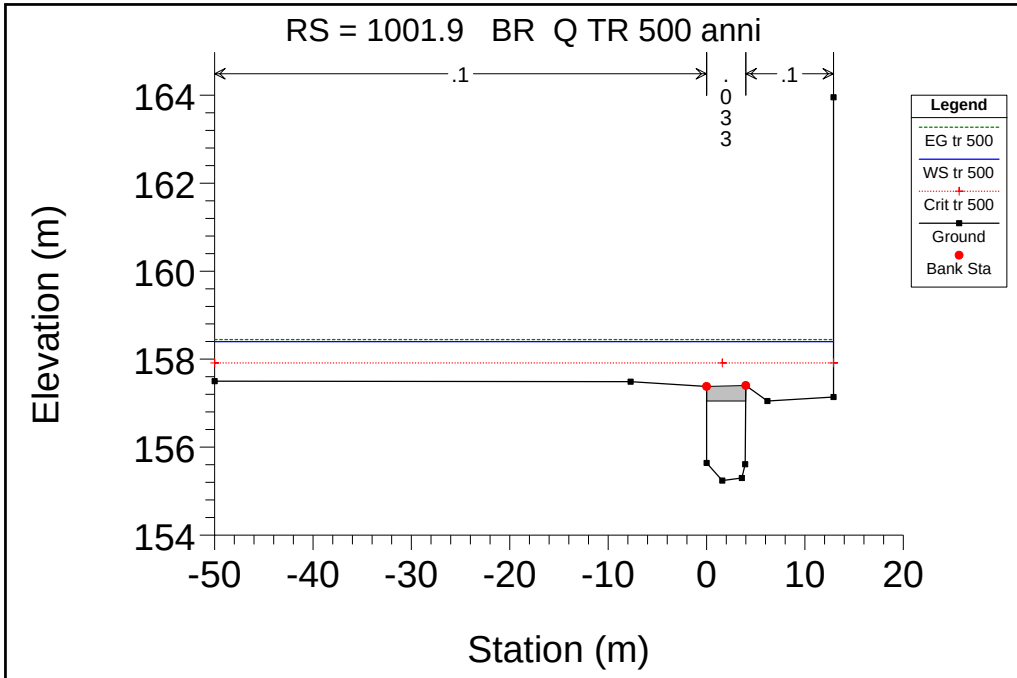
-20
-10
0
10
20
Station (m)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WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
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-10
0
10
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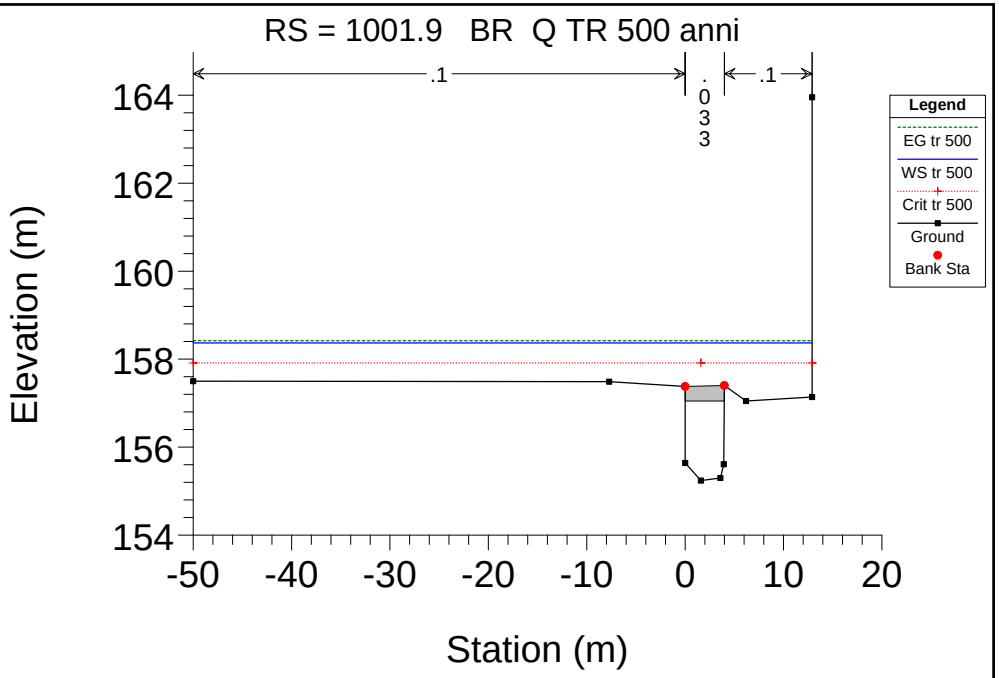
Station (m)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Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
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154
-50
-40
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0
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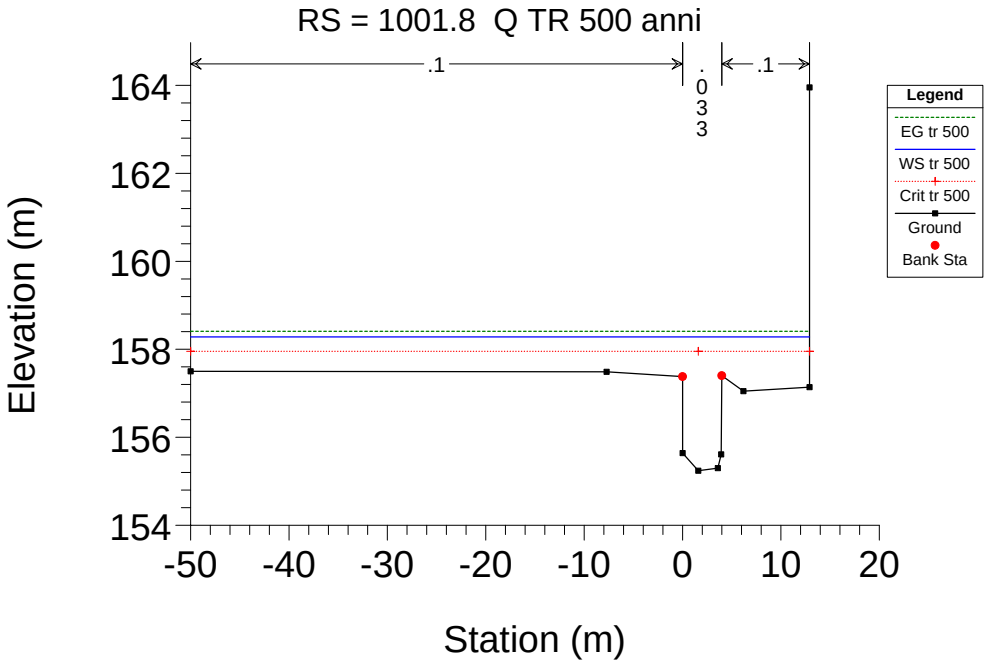
Station (m)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.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
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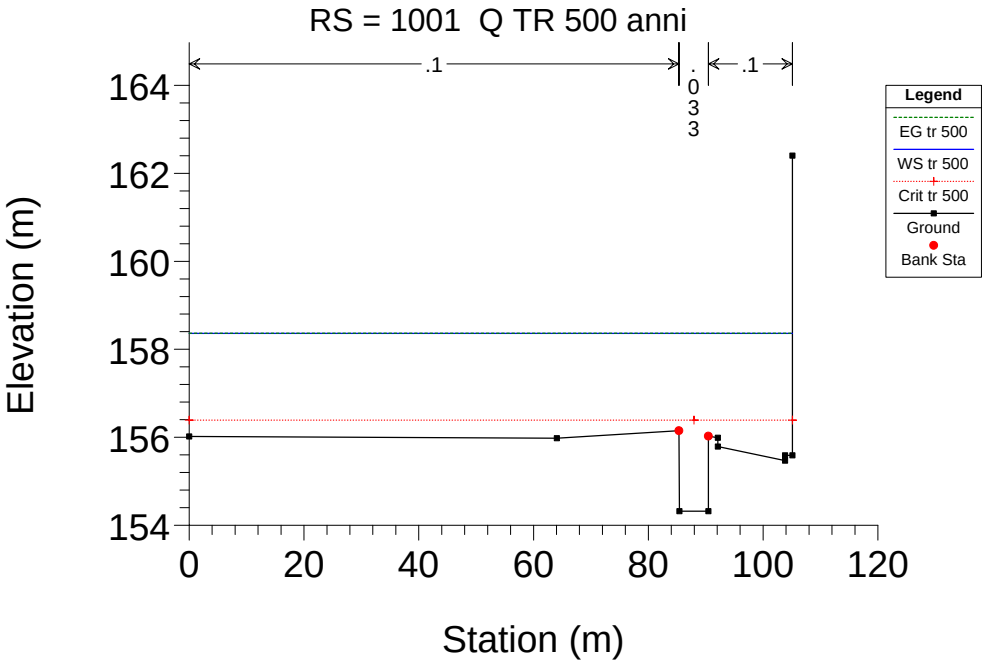
154
-50
-40
-30
-20
-10
0
10
20
Station (m)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Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
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0
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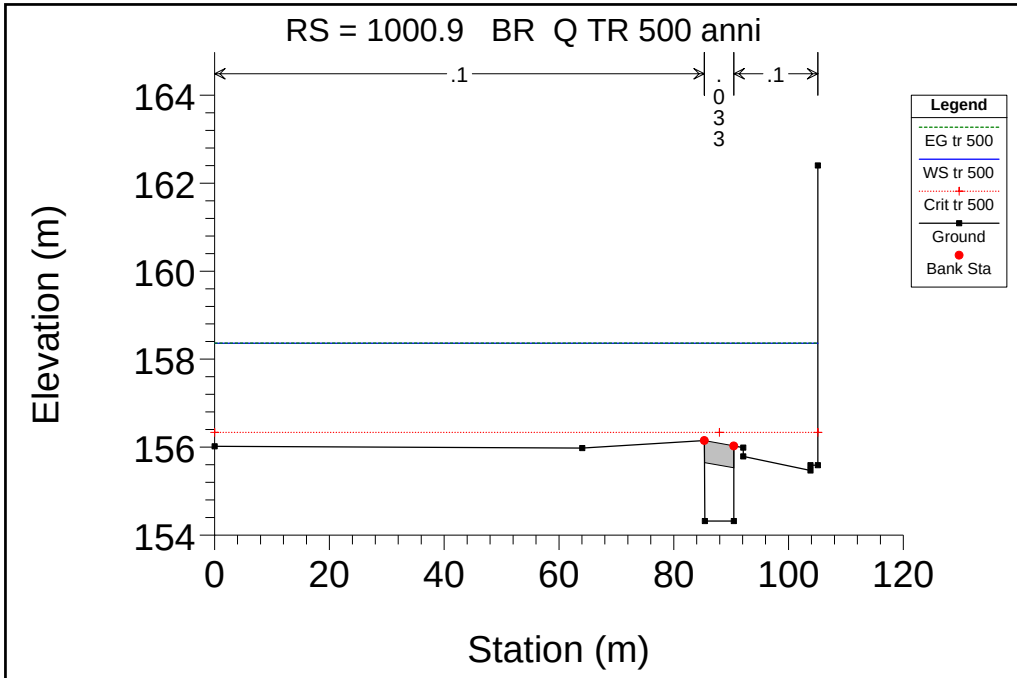
100
120
Station (m)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.033
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Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
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160
158
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154
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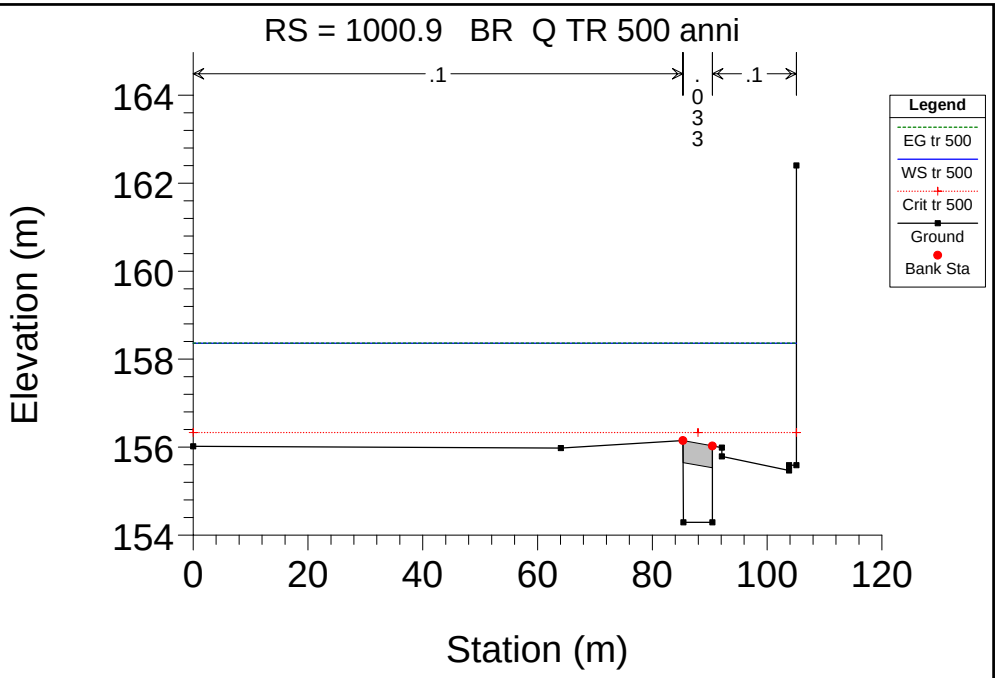
60
80
100
120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Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
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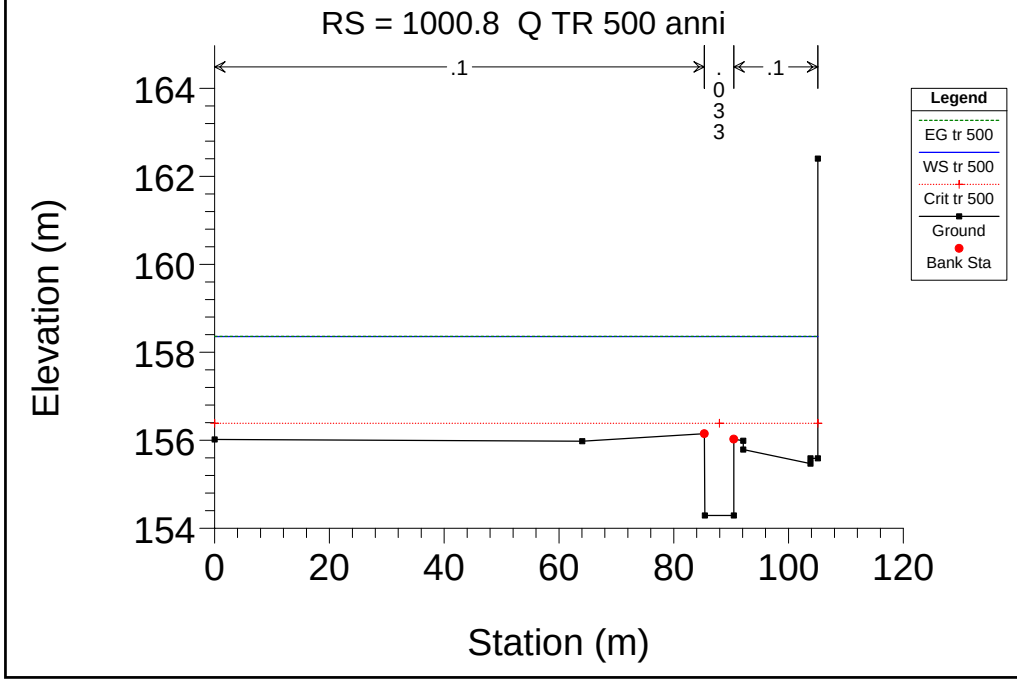
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.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
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156
154
0
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100
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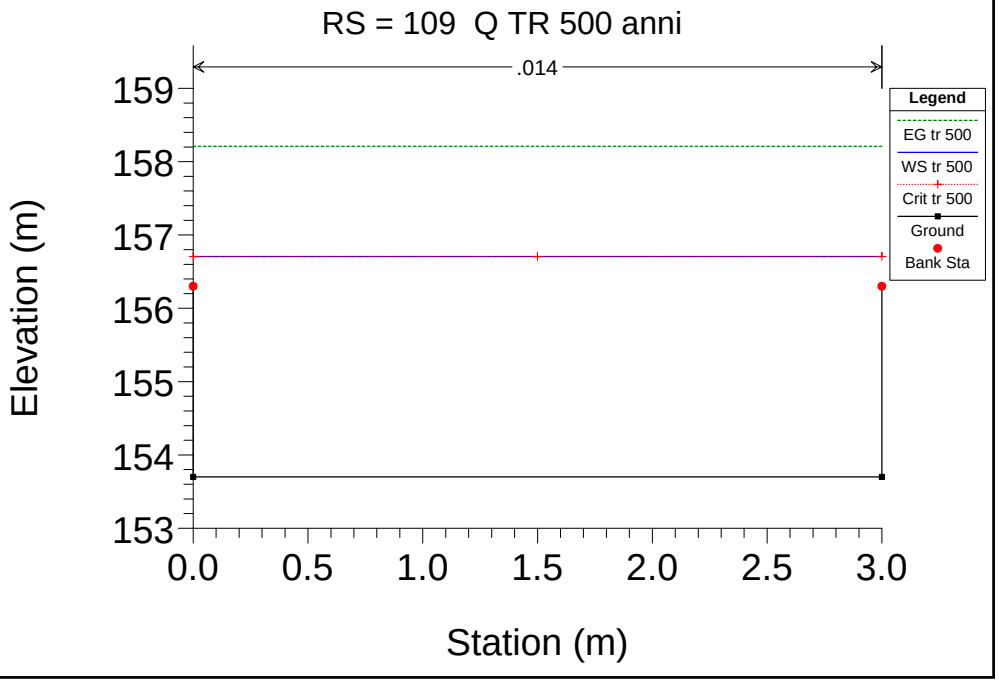
RS = 109 Q TR 500 anni
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Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
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156
155
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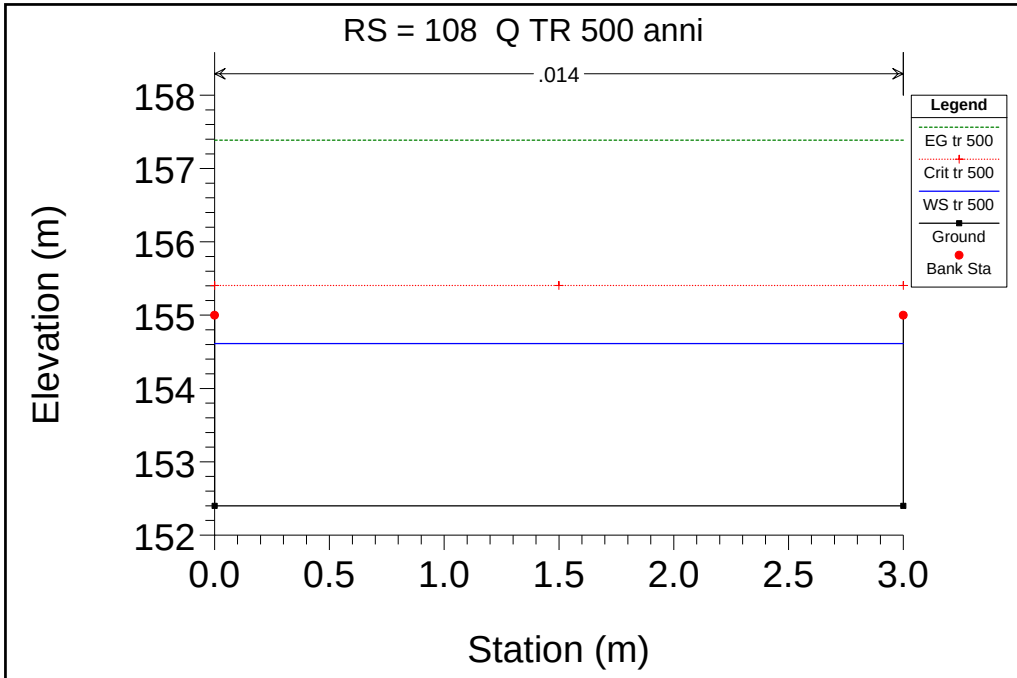
1.0
1.5
2.0
2.5
3.0


RS = 108 Q TR 500 anni
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Legend
EG tr 500
Crit tr 500
WS tr 500
Ground
Bank Sta
Elevation (m)
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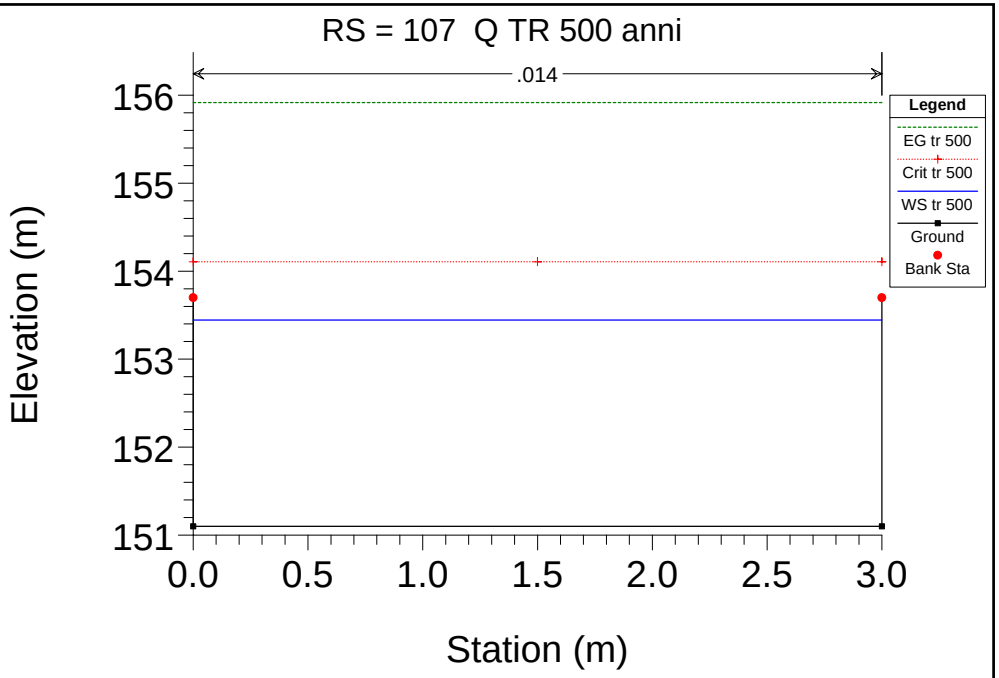
152
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Station (m)


RS = 107 Q TR 500 anni
.014
Legend
EG tr 500
Crit tr 500
WS tr 500
Ground
Bank Sta
Elevation (m)
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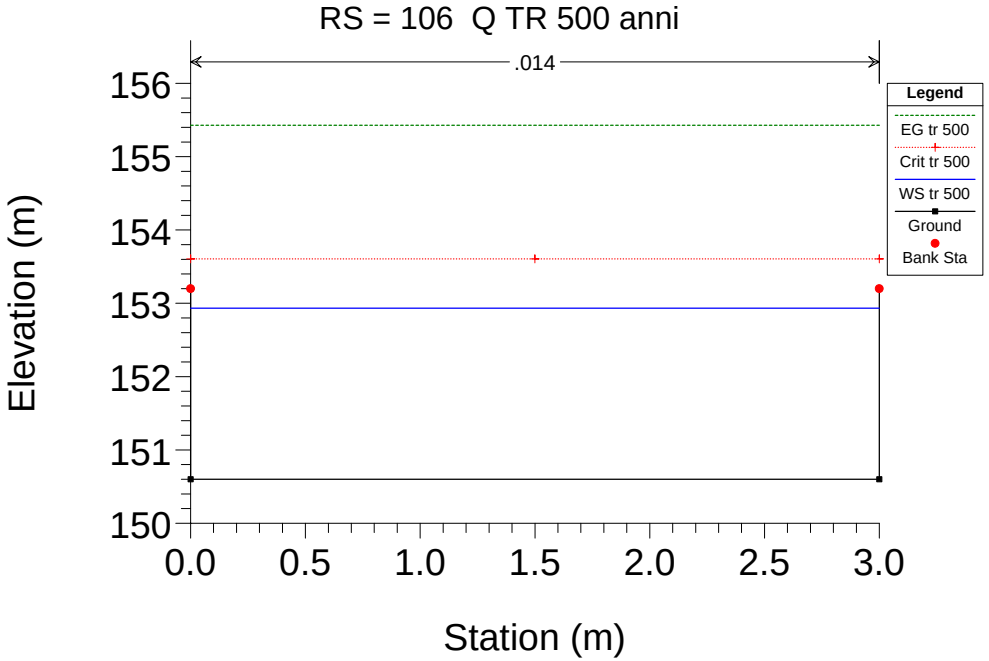
1.0
1.5
2.0
2.5
3.0
Station (m)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Legend
EG tr 500
Crit tr 500
WS tr 500
Ground
Bank Sta
Elevation (m)
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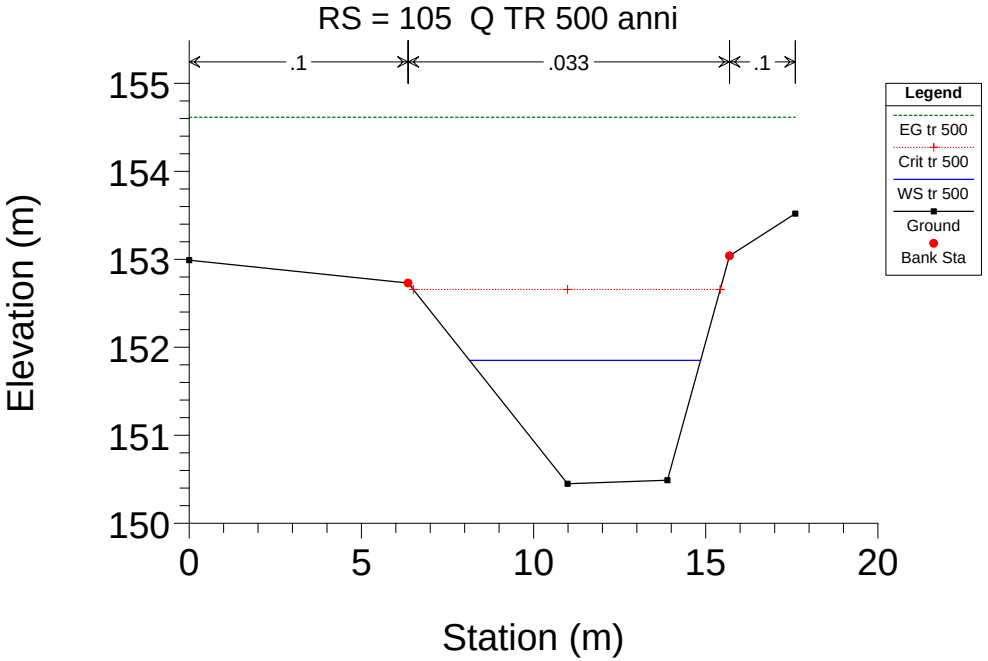
1.0
1.5
2.0
2.5
3.0
Station (m)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Legend
EG tr 500
Crit tr 500
WS tr 500
Ground
Bank Sta
Elevation (m)
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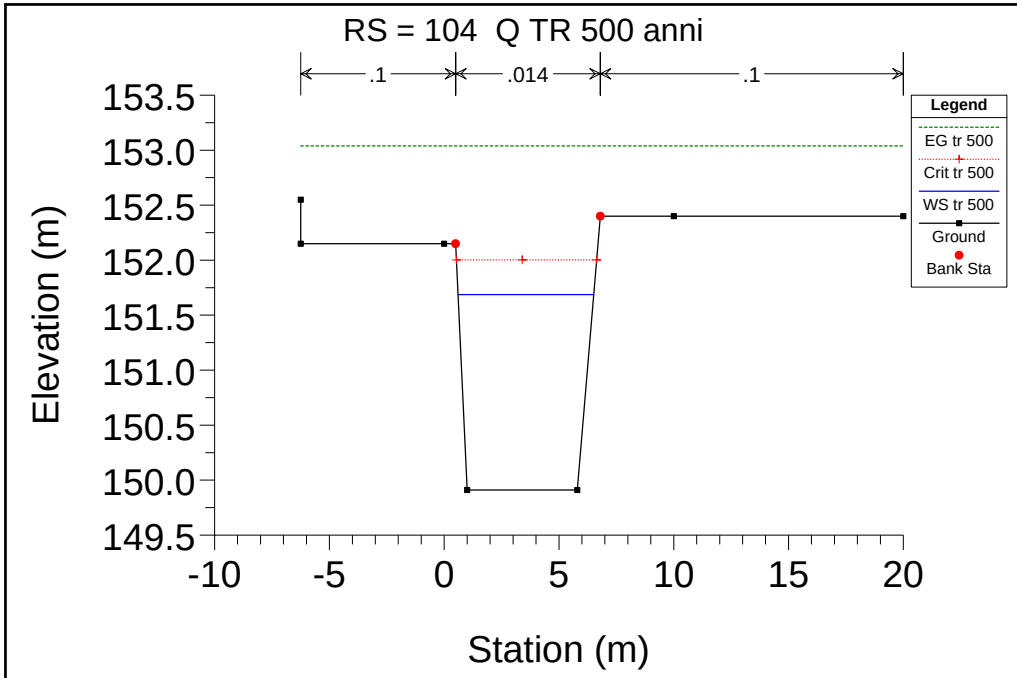
20
Station (m)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.1
.014
.1
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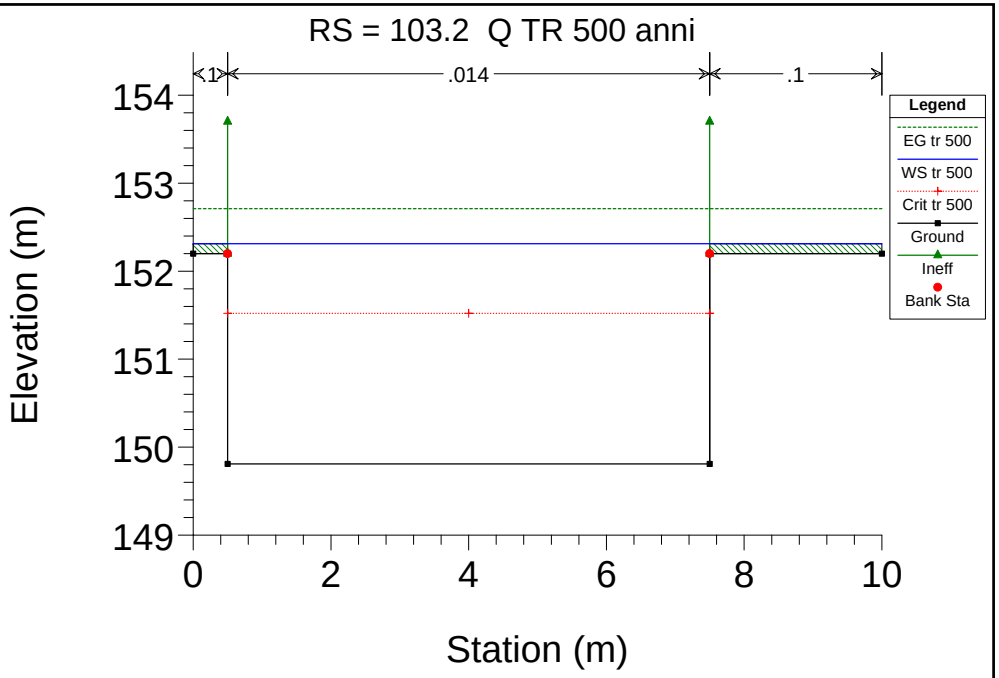
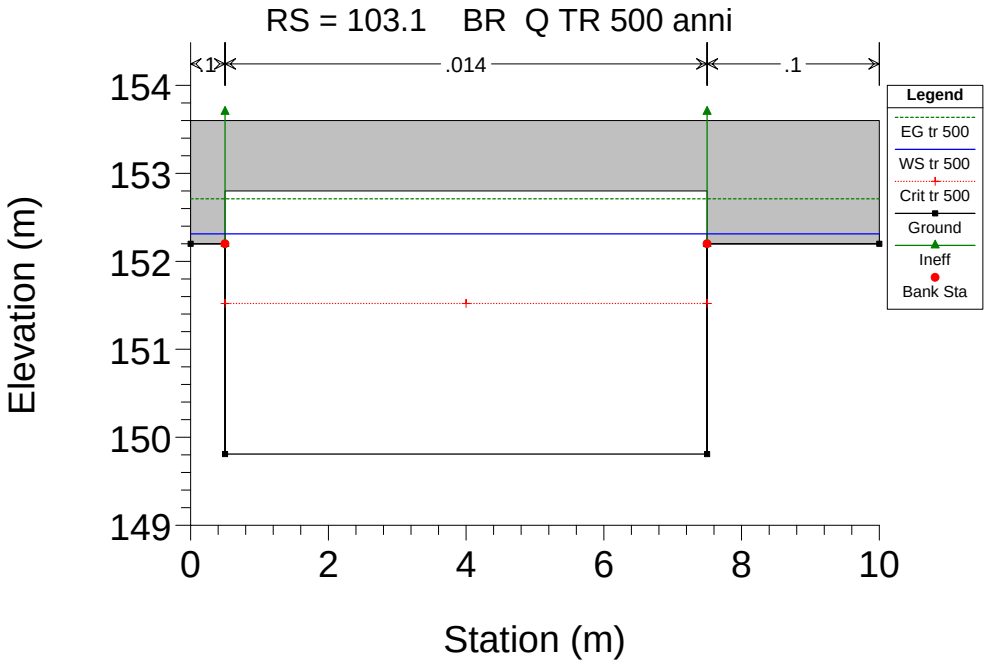
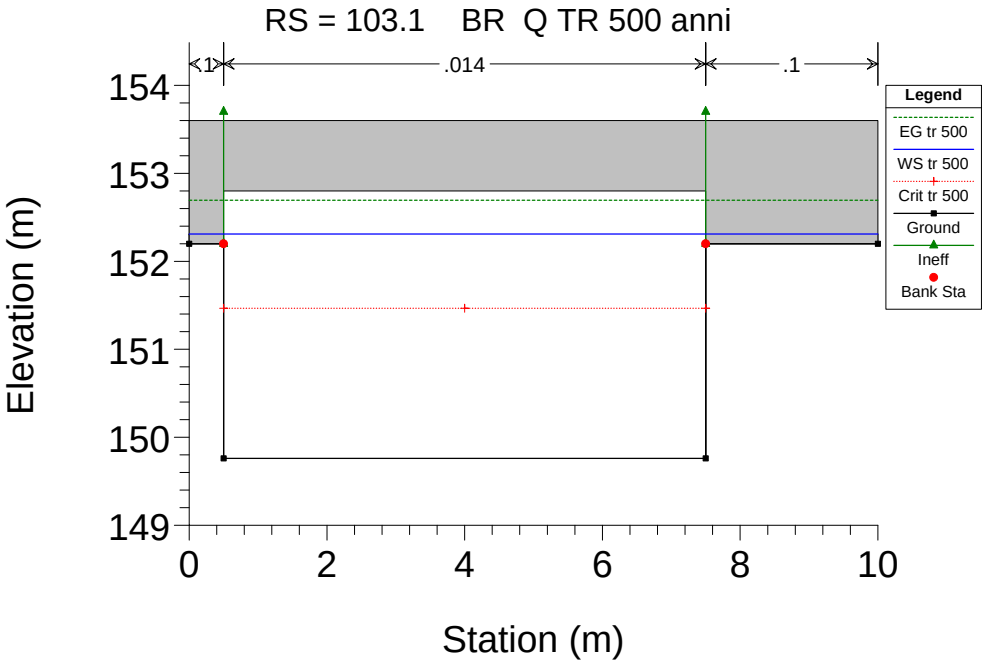
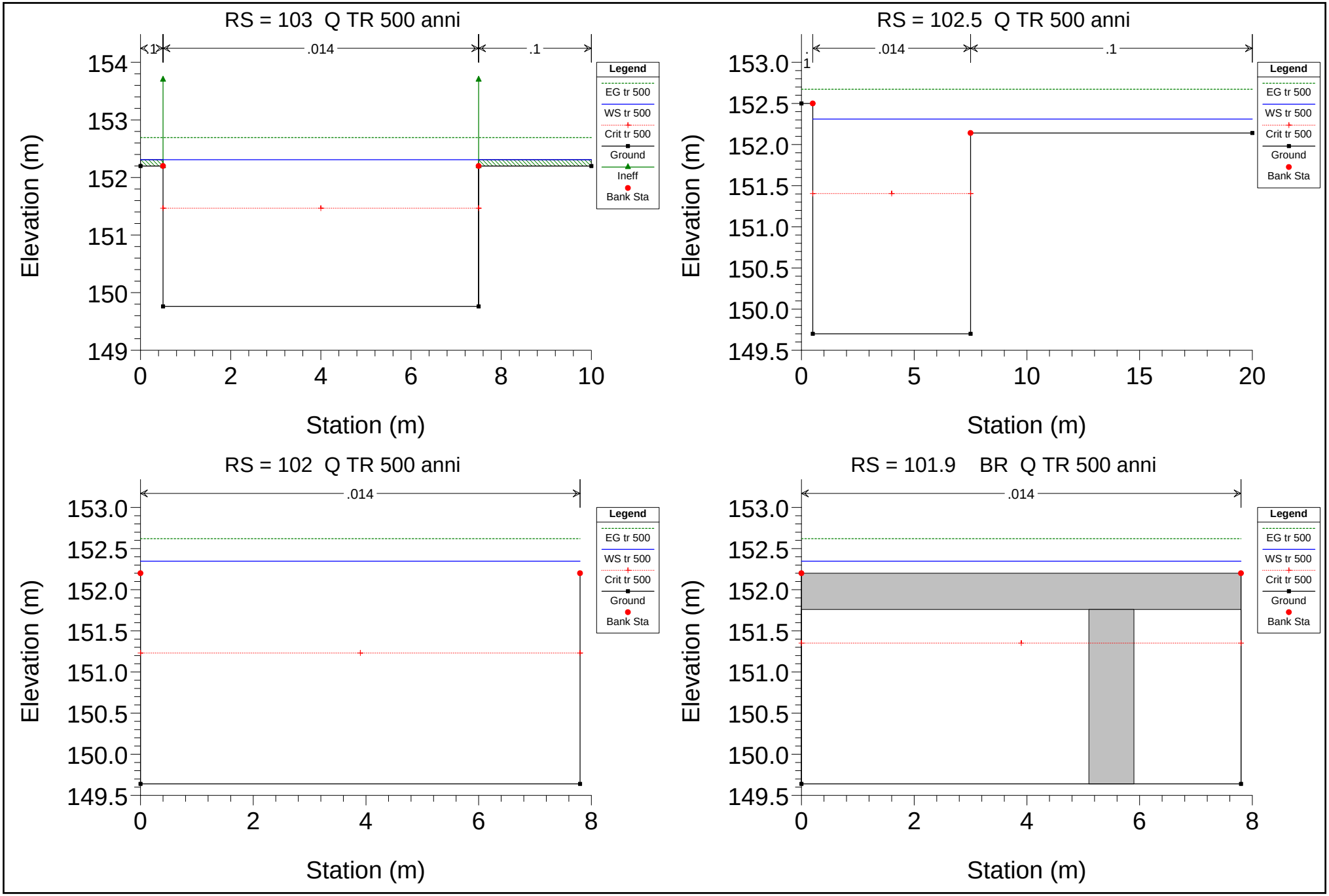
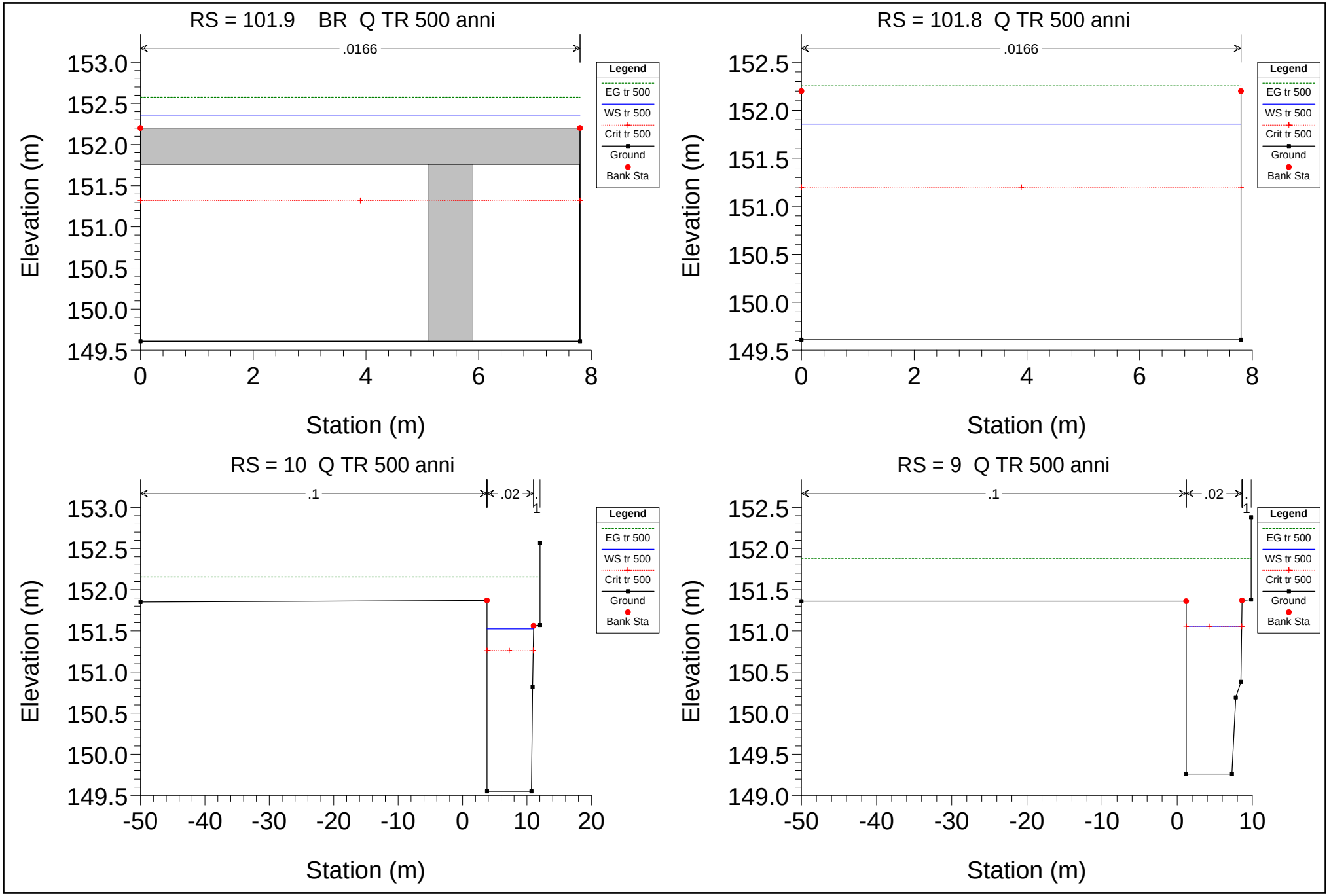
150.0
149.5
Elevation (m)
-10
-5
0
5
10
15
20
Station (m)
Legend
EG tr 500
Crit tr 500
WS tr 500
Ground
Bank Sta

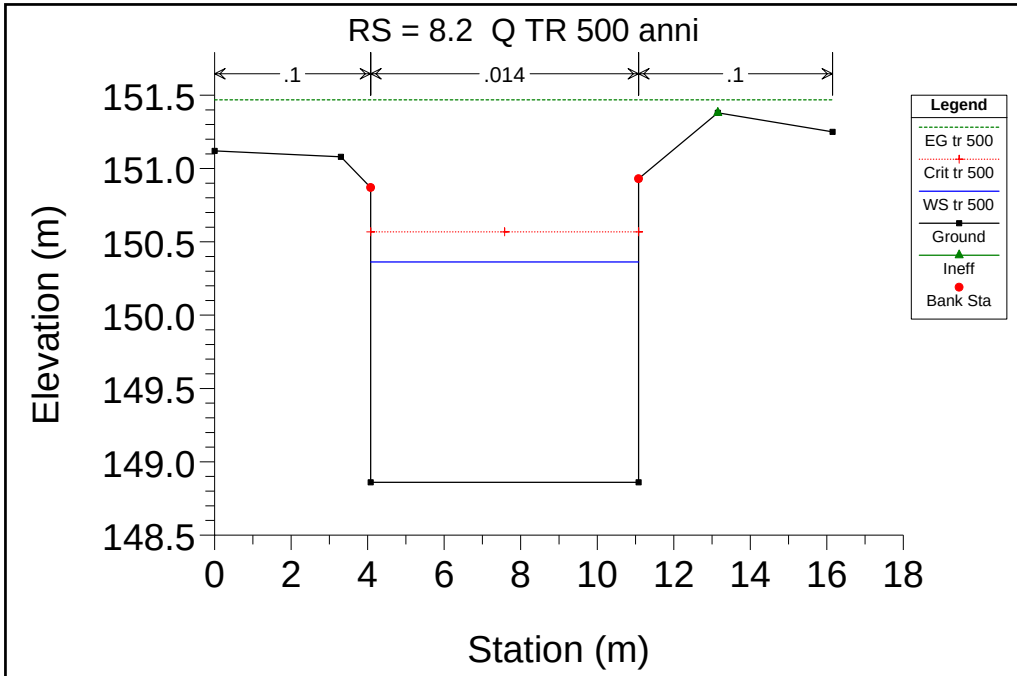

RS = 103.2 Q TR 500 anni
.1
.014
.1
154
153
152
151
150
149
Elevation (m)
0
2
4
6
8
10
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta

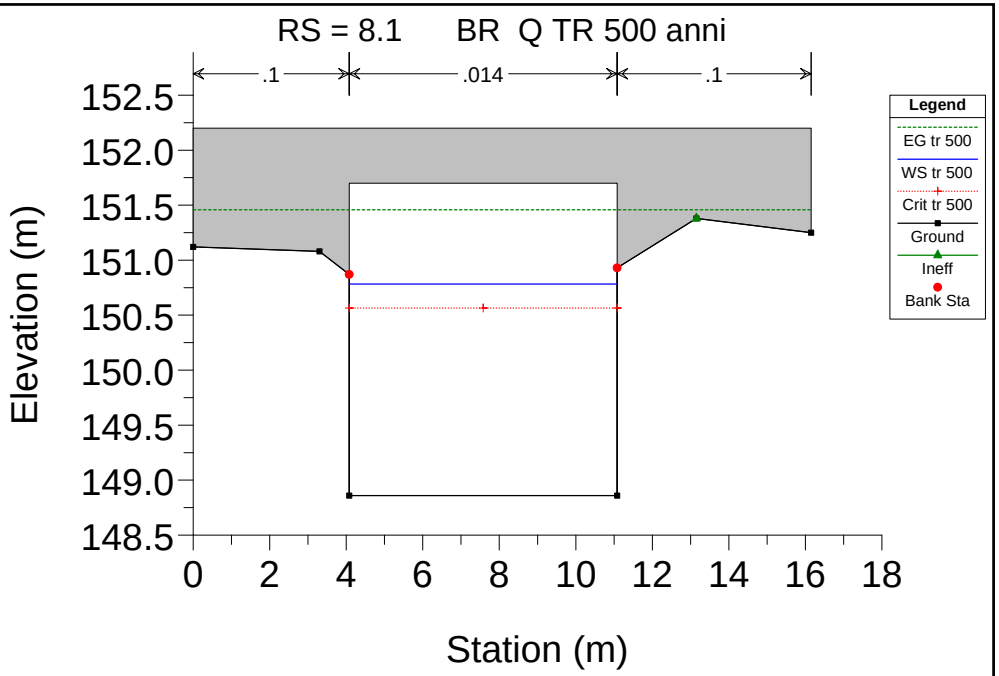

RS = 103.1 BR Q TR 500 anni
.1
.014
.1
154
153
152
151
150
149
Elevation (m)
0
2
4
6
8
10
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta

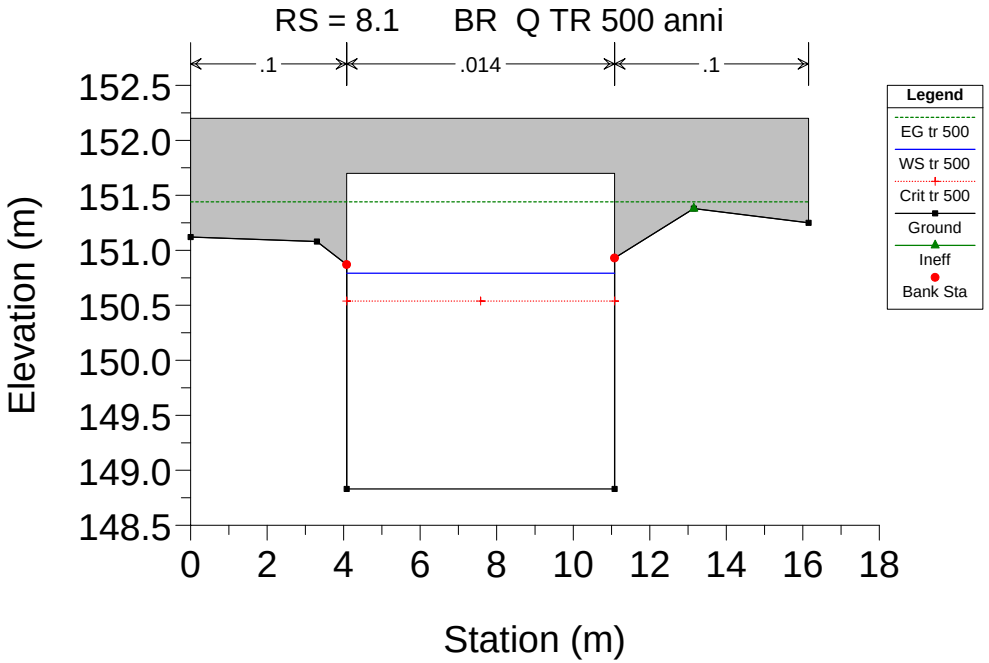

RS = 103.1 BR Q TR 500 anni
.1
.014
.1
154
153
152
151
150
149
Elevation (m)
0
2
4
6
8
10
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta

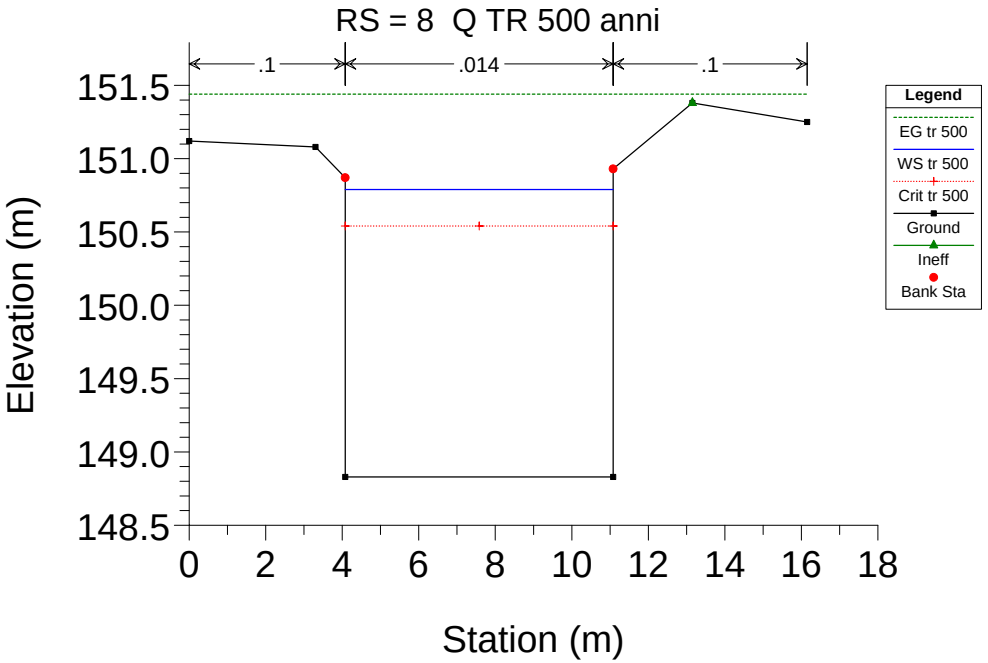

RS = 103 Q TR 500 anni
.1
.014
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 102.5 Q TR 500 anni
.1
.014
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 102 Q TR 500 anni
.014
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 101.9 BR Q TR 500 anni
.014
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)

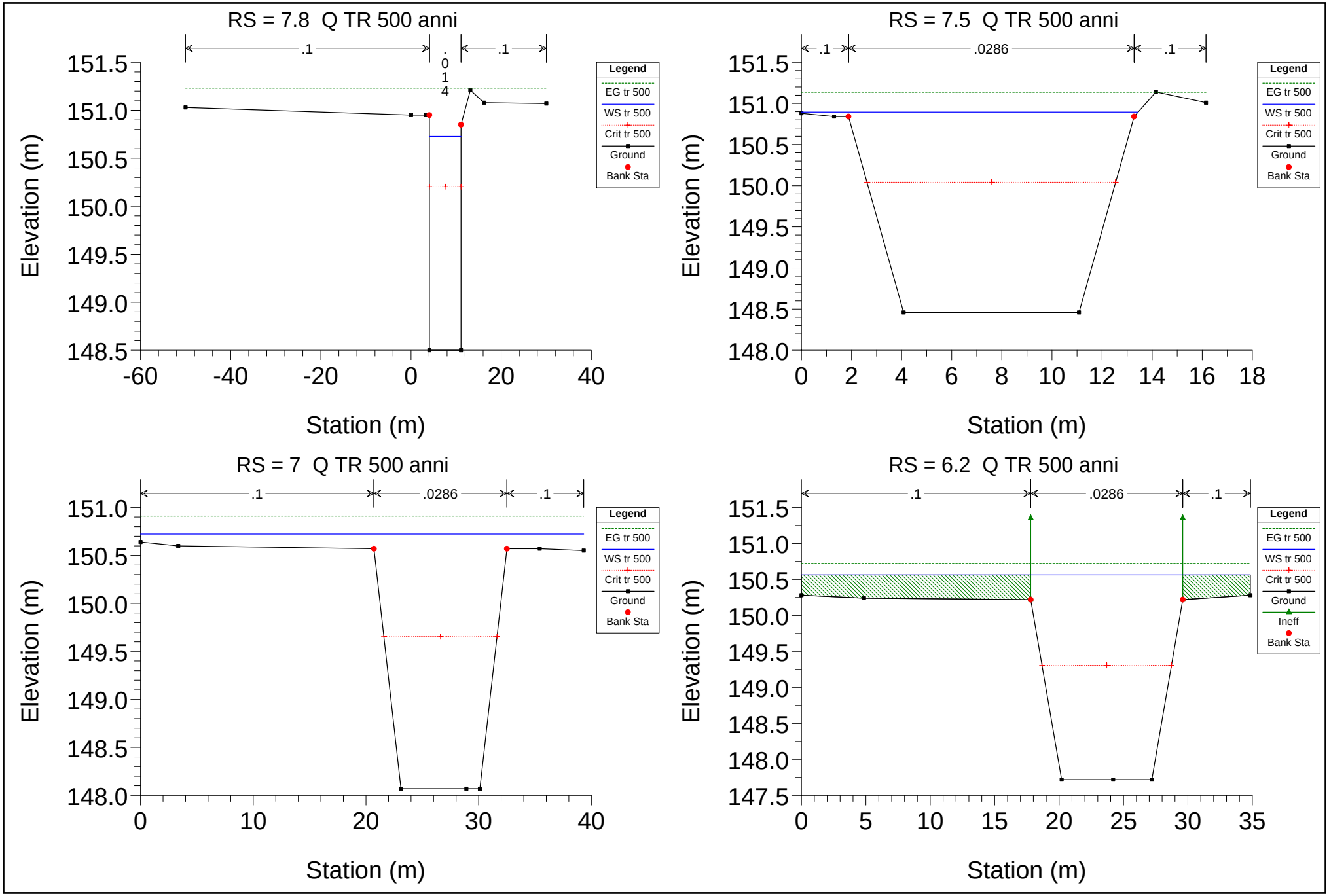

RS = 101.9 BR Q TR 500 anni
.0166
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 101.8 Q TR 500 anni
.0166
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 10 Q TR 500 anni
.1
.02
1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 9 Q TR 500 anni
.1
.02
1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)

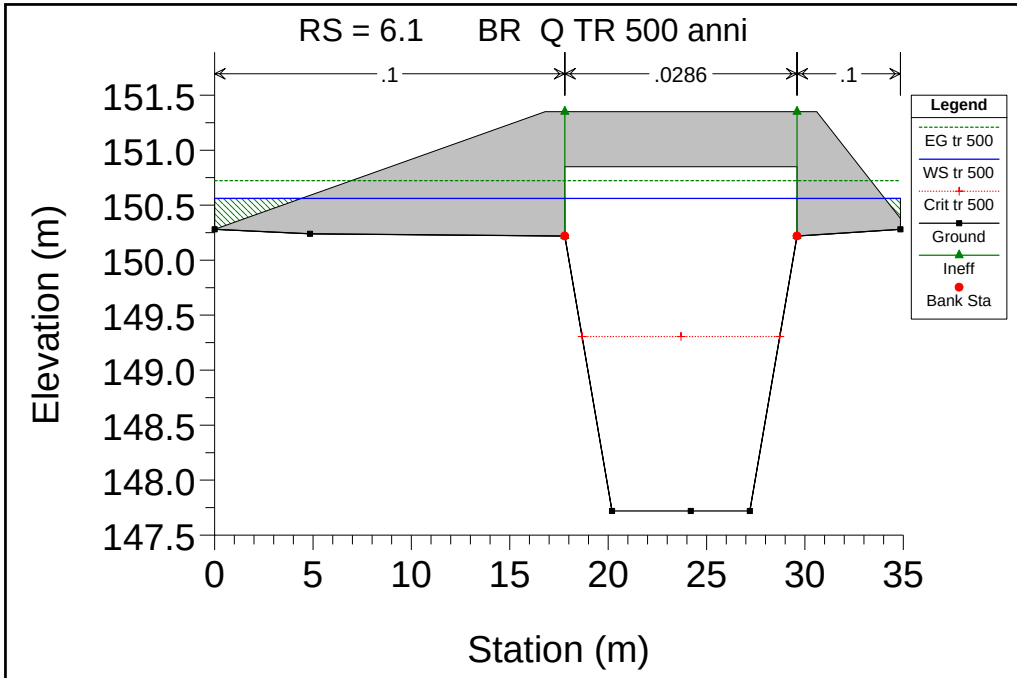

RS = 8.2 Q TR 500 anni
.1
.014
.1
Elevation (m)
Station (m)
Legend
EG tr 500
Crit tr 500
WS tr 500
Ground
Ineff
Bank Sta

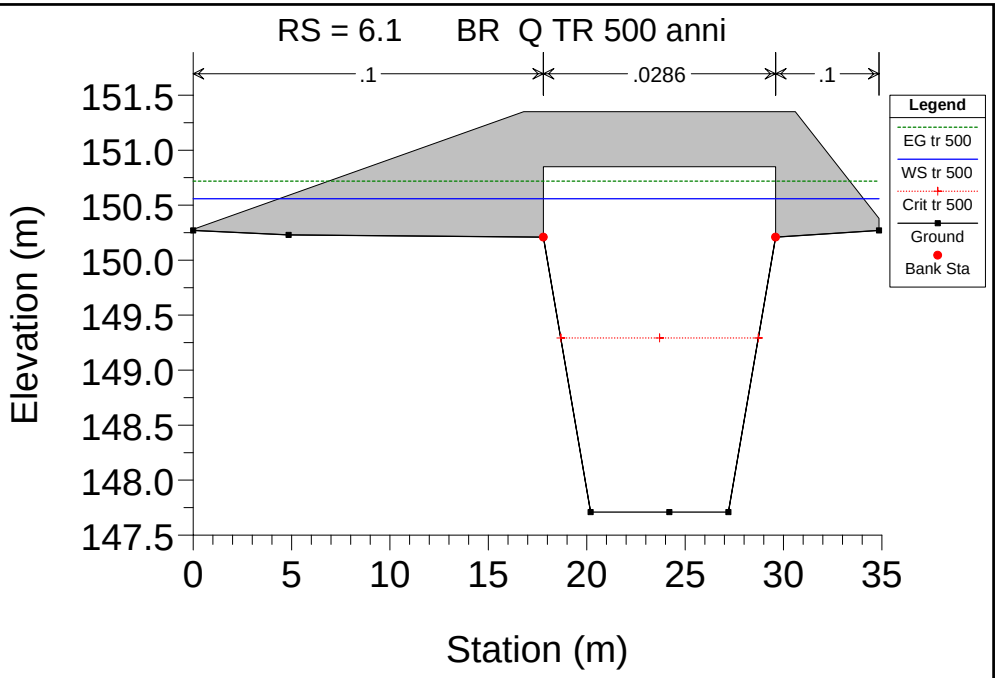

RS = 8.1 BR Q TR 500 anni
.1
.014
.1
Elevation (m)
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta

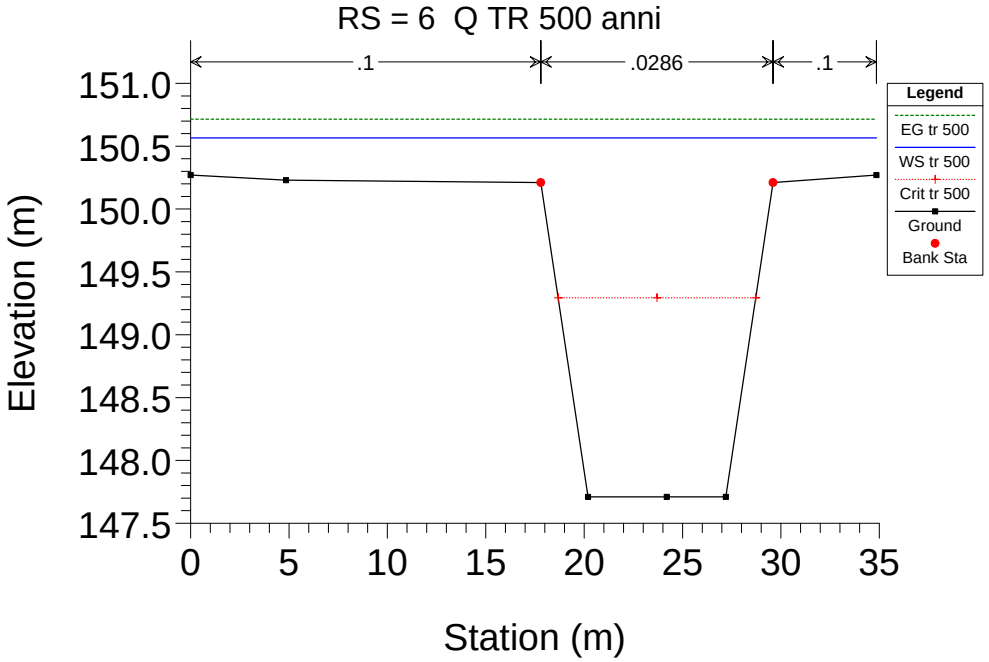

RS = 8.1 BR Q TR 500 anni
.1
.014
.1
Elevation (m)
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta

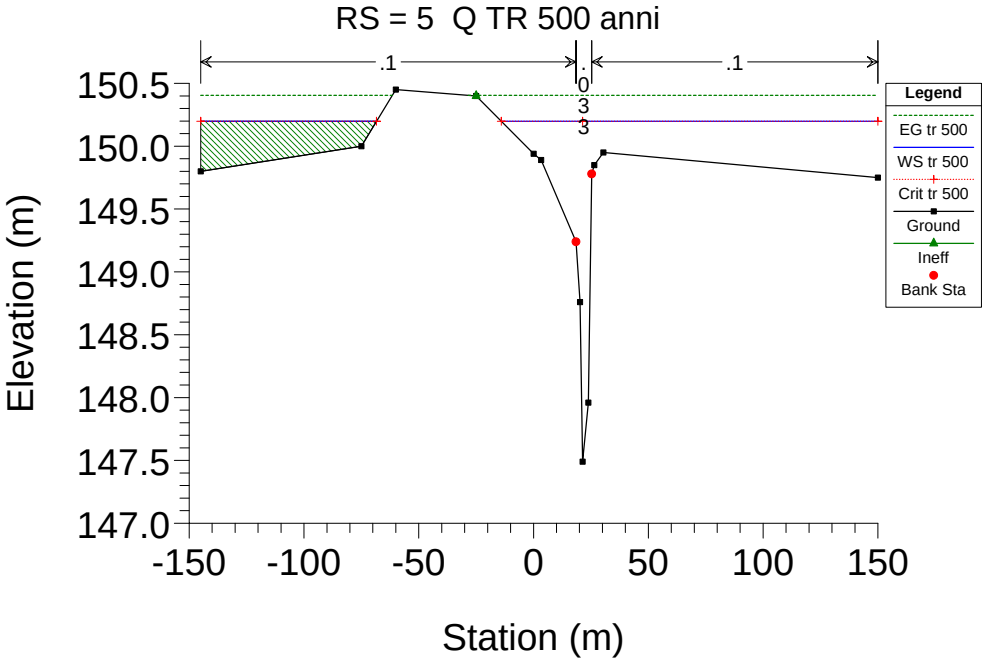

RS = 8 Q TR 500 anni
.1
.014
.1
Elevation (m)
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta

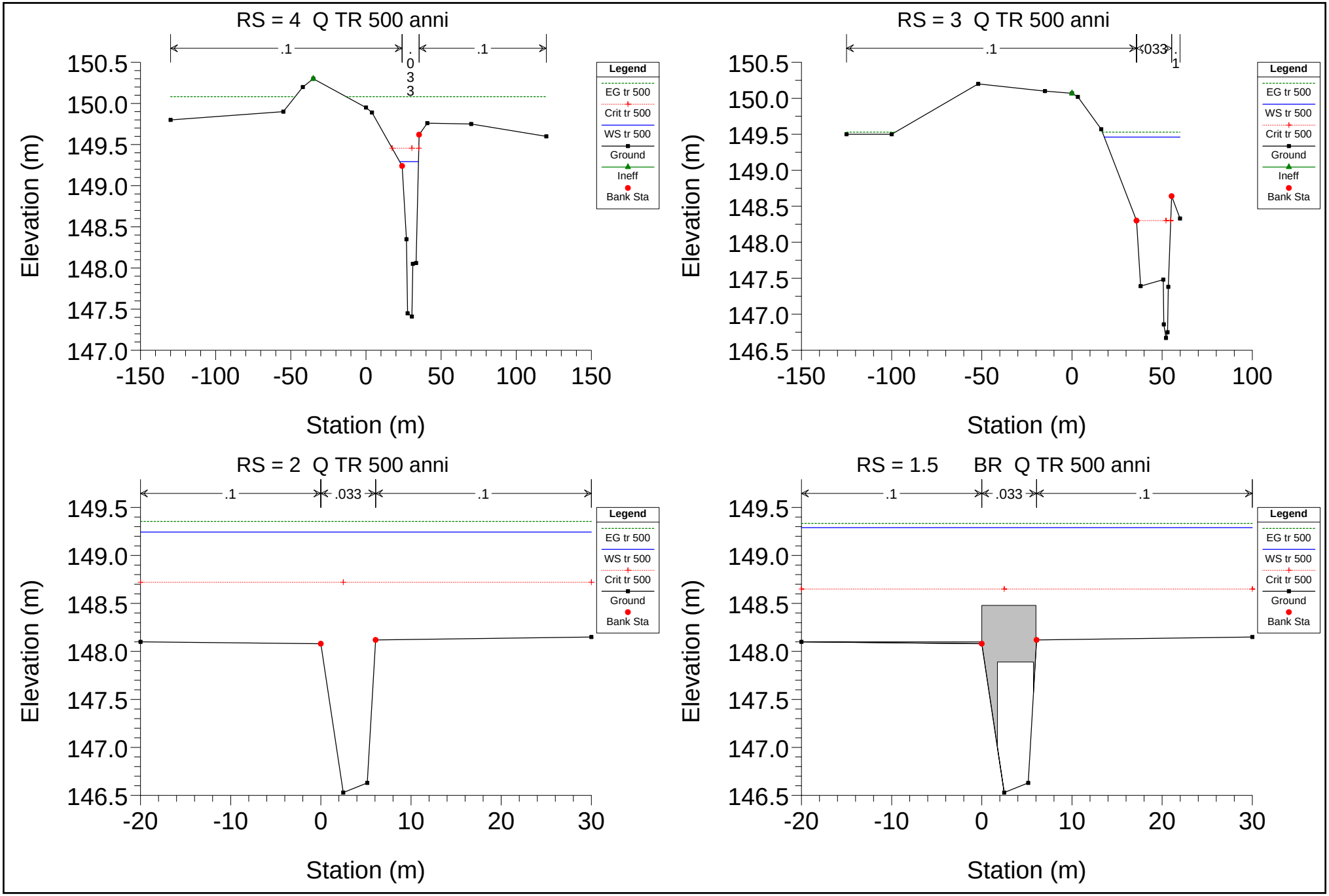

RS = 7.8 Q TR 500 anni
.1
.014
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
-60
-40
-20
0
20
40
Station (m)
RS = 7.5 Q TR 500 anni
.1
.0286
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
0
2
4
6
8
10
12
14
16
18
Station (m)
RS = 7 Q TR 500 anni
.1
.0286
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
151.0
150.5
150.0
149.5
149.0
148.5
148.0
0
10
20
30
40
Station (m)
RS = 6.2 Q TR 500 anni
.1
.0286
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)

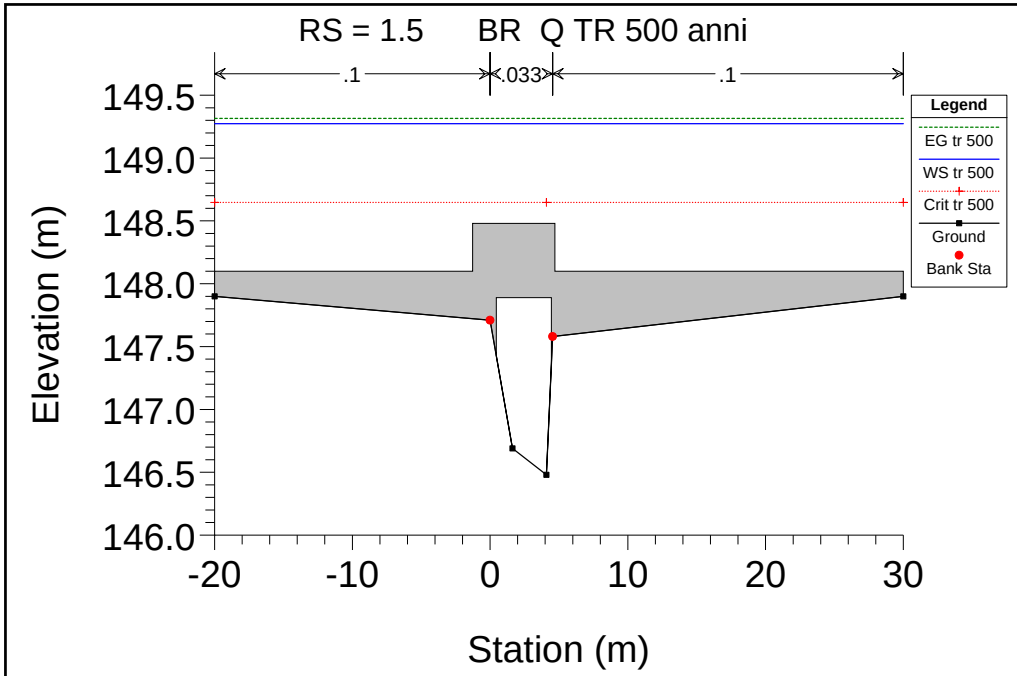

RS = 6.1 BR Q TR 500 anni
.1
.0286
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)

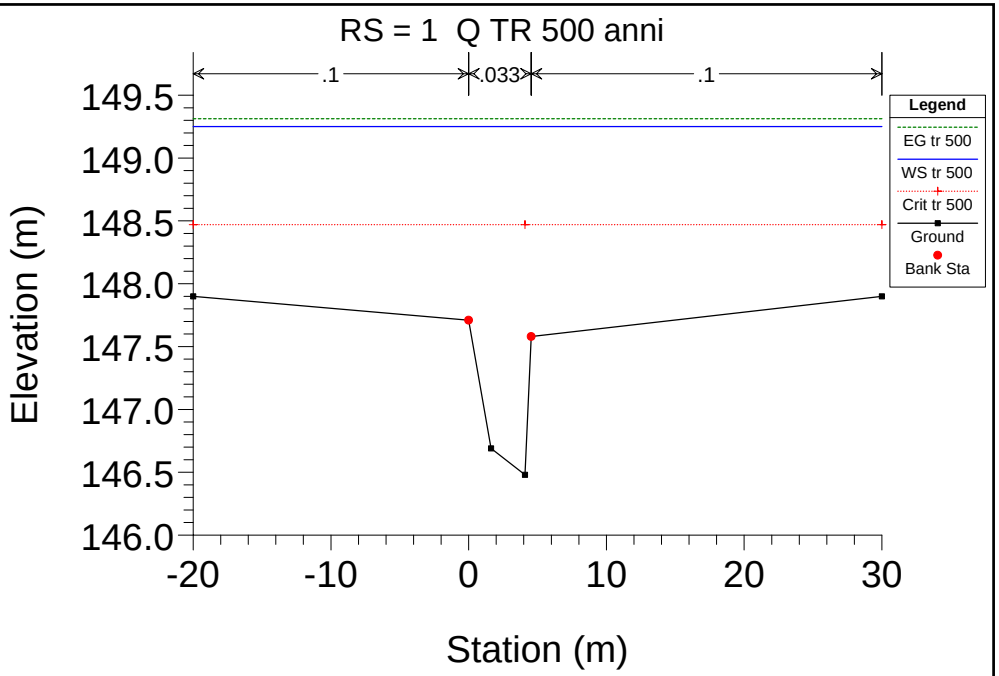

RS = 6.1 BR Q TR 500 anni
.1
.0286
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
151.5
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)


RS = 6 Q TR 500 anni
.1
.0286
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
151.0
150.5
150.0
149.5
149.0
148.5
148.0
147.5
0
5
10
15
20
25
30
35
Station (m)


RS = 5 Q TR 500 anni
.1
.0333
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta
Elevation (m)
150.5
150.0
149.5
149.0
148.5
148.0
147.5
147.0
-150
-100
-50
0
50
100
150
Station (m)


RS = 4 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
Crit tr 500
WS tr 500
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 3 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
RS = 2 Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)
RS = 1.5 BR Q TR 500 anni
.1
.033
.1
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta
Elevation (m)
Station (m)


RS = 1.5 BR Q TR 500 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta


RS = 1 Q TR 500 anni
.1
.033
.1
149.5
149.0
148.5
148.0
147.5
147.0
146.5
146.0
Elevation (m)
-20
-10
0
10
20
30
Station (m)
Legend
EG tr 500
WS tr 500
Crit tr 500
Ground
Bank Sta