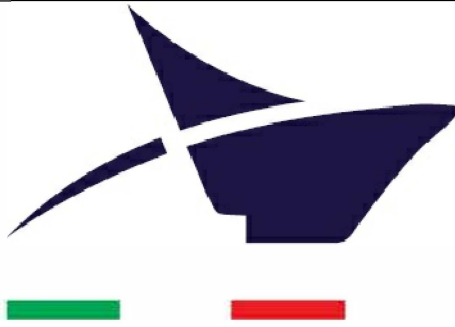


Committente:



Autorità di Sistema Portuale  
del Mar Ligure Orientale  
Porti di La Spezia e  
Marina di Carrara

Progetto:

Studio idraulico del Fosso di Pagliari volto alla revisione  
delle Aree Inondabili e delle Fasce di Inondabilità  
dell'area denominata "Casermette" in località Pagliari.

Livello di Progettazione: **STUDIO IDRAULICO**

Rev. n°	Data	Descrizione	Redatto	Controllato	Approvato
00	23/04/2018	Emissione	RM	II	RM

Titolo:

**RELAZIONE INTEGRATIVA  
SCENARI DI PROGETTO**

Tavola / Elaborato:

**B**

Scala :

Data :

aprile 2018

Riferimenti Normativi:

- Piano di Bacino Ambito 20 approvato con D.C.P. n° 34 del 31.03.2003
- Regolamento Regionale n° 3/2011 e ss.mm.ii.

Il R.U.P.:

*Dott. Ing. Lorenzo MONTANI*

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Tecnici responsabili:



Codice progetto: NS-198-2018

File:

Collocazione:

# Relazione Integrativa

## Scenari di Progetto

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### Allegati

#### **1.N – Scenario 1**

- 1.1 – Profilo idrometrico Q 50
- 1.2 – Profilo idrometrico Q 200
- 1.3 – Profilo idrometrico Q 500
- 1.4 – Sezioni con livelli idrometrici – da 39 a 18
- 1.5 – Sezioni con livelli idrometrici – da 17.5 a 0
- 1.6 – Tabelle riassuntive

#### **2.N – Scenario 2**

- 2.1 – Profilo idrometrico Q 50
- 2.2 – Profilo idrometrico Q 200
- 2.3 – Profilo idrometrico Q 500
- 2.4 – Sezioni con livelli idrometrici – da 39 a 18
- 2.5 – Sezioni con livelli idrometrici – da 17.5 a 0
- 2.6 – Tabelle riassuntive

## Premesse

Il presente documento costituisce integrazione alla Relazione Tecnica (Elaborato A) in quanto delinea gli scenari di progetto conseguenti alle possibili soluzioni progettuali illustrate al paragrafo 9 del documento.

Per ogni scenario sono state definite le più probabili perimetrazioni delle aree inondabili (fenomeno fisico) e conseguentemente sono state definite le relative fasce di inondabilità, ossia le carte tematiche riportanti il regime vincolistico del territorio soggetto a pericolosità idraulica.

## 1 – Scenari Progettuali

### 1.1 Scenario 1

Lo scenario progettuale 1 corrisponde all'esecuzione degli interventi 1 e 2 descritti al punto 9.1 dell'Elaborato A. Si ipotizza pertanto di eliminare la traversa fluviale (Intervento 1) e di adeguare al franco geometrico l'insufficienza spondale destra tra le sezioni 11 e 12 (Intervento 2). L'intervento si configura quale miglioramento idraulico dal momento che il franco cinetico non risulta sempre rispettato ed il soprizzo spondale destro necessario per eguagliare ovunque la quota dei carichi totali implicherebbe il superamento della corrispondente quota spondale sinistra, costituita da un paramento murario oggettivamente non soprelevabile, da cui la scelta proposta.

Con gli stessi parametri fisici delle modellazioni descritte ed analizzate nella relazione tecnica è stato modellato lo stato di progetto, il cui rapporto delle simulazioni idrauliche è contenuto negli allegati alla presente relazione integrativa. Tali documenti illustrano i principali risultati della modellazione idraulica eseguiti nelle ipotesi di portata cinquantennale, duecentennale e cinquecentennale. Con riferimento alle tavole grafiche per lo schema planimetrico del modello (tavv 02 e 03), sono stati quindi riportati:

- il profilo longitudinale (*Allegati 1.1, 1.2 e 1.3*);
- le sezioni trasversali con il livello idrometrico delle portate considerate (*Allegati 1.4 e 1.5*);
- la tabella riassuntiva con i risultati della modellazione (*Allegato 1.6*).

### 1.2 Scenario 2

Lo scenario progettuale 2 corrisponde all'esecuzione degli interventi 3 e 4 descritti al punto 9.1 dell'Elaborato A. Si ipotizza pertanto di eliminare la passerella pedonale 14.5 (Intervento 3) e di eliminare la passerella carrabile 34.5 (Intervento 4) o di sostituirla con nuovo manufatto in condizioni di adeguatezza idraulica. Anche per questo scenario gli interventi si configurano quali miglioramenti idraulici dal momento che il franco cinetico non risulta sempre rispettato ed i soprizzi

spondali necessari per eguagliare ovunque la quota dei carichi totali implicherebbero modifiche spondali talvolta incompatibili con lo stato esistente, in un contesto in cui peraltro ulteriori insufficienze spondali presenti ad esempio a monte della passerella 34.5, dovute alla mancanza del franco cinetico, vanificherebbero gli ingenti sforzi economici che gli adeguamenti idraulici comporterebbero.

Con gli stessi parametri fisici delle modellazioni descritte ed analizzate è stato modellato lo stato di progetto, il cui rapporto delle simulazioni idrauliche è contenuto negli allegati alla presente relazione integrativa. Tali documenti illustrano i principali risultati della modellazione idraulica eseguiti nelle ipotesi di portata cinquantennale, duecentennale e cinquecentennale. Con riferimento alle tavole grafiche per lo schema planimetrico del modello (tavv 02 e 03), sono stati quindi riportati:

- il profilo longitudinale (*Allegati 2.1, 2.2 e 2.3*);
- le sezioni trasversali con il livello idrometrico delle portate considerate (*Allegati 2.4 e 2.5*);
- la tabella riassuntiva con i risultati della modellazione (*Allegato 2.6*).

## 2 – Perimetrazione delle aree inondabili

La determinazione delle aree inondabili, distinta per scenari di intervento, è stata effettuata valutando le criticità idrauliche residue e considerando le potenziali esondazioni per superamento delle quote arginali. La perimetrazione delle aree è stata stimata mediante elaborazioni essenzialmente basate su criteri topografici, con sopralluoghi mirati alla determinazione dei possibili percorsi idrici di superficie a maggiore gradiente idraulico.

Tale procedura, aderente al fenomeno fisico dell'inondazione reale, rappresenta tuttavia l'estremo superiore dei possibili scenari di inondazione, dal momento che il tipo di modello utilizzato prescinde dalla conoscenza dei reali volumi esondati.

La tavola 06 illustra l'esito della procedura sopra utilizzata per lo scenario 1.

La tavola 08 illustra l'esito della procedura sopra utilizzata per lo scenario 2.

## 3 – Fasce di Inondabilità

Sulla base della carta delle aree inondabili, che rappresenta una stima del fenomeno fisico di trasferimento a valle delle portate idriche associato alle aree bagnate da fenomeni di insufficienza idraulica, è stata redatta la carta delle fasce di inondabilità, elaborato grafico che estende il regime vincolistico proprio delle aree inondabili anche a territori che si ritiene prudente perimetrare come tali, in ragione ad esempio del mancato raggiungimento dei franchi idraulici, di condizioni di cautela

per assenza di vie di esodo sicuro oppure per scongiurare l'eventualità che trasformazioni antropiche possano condurre all'estensione delle aree inondabili stesse.

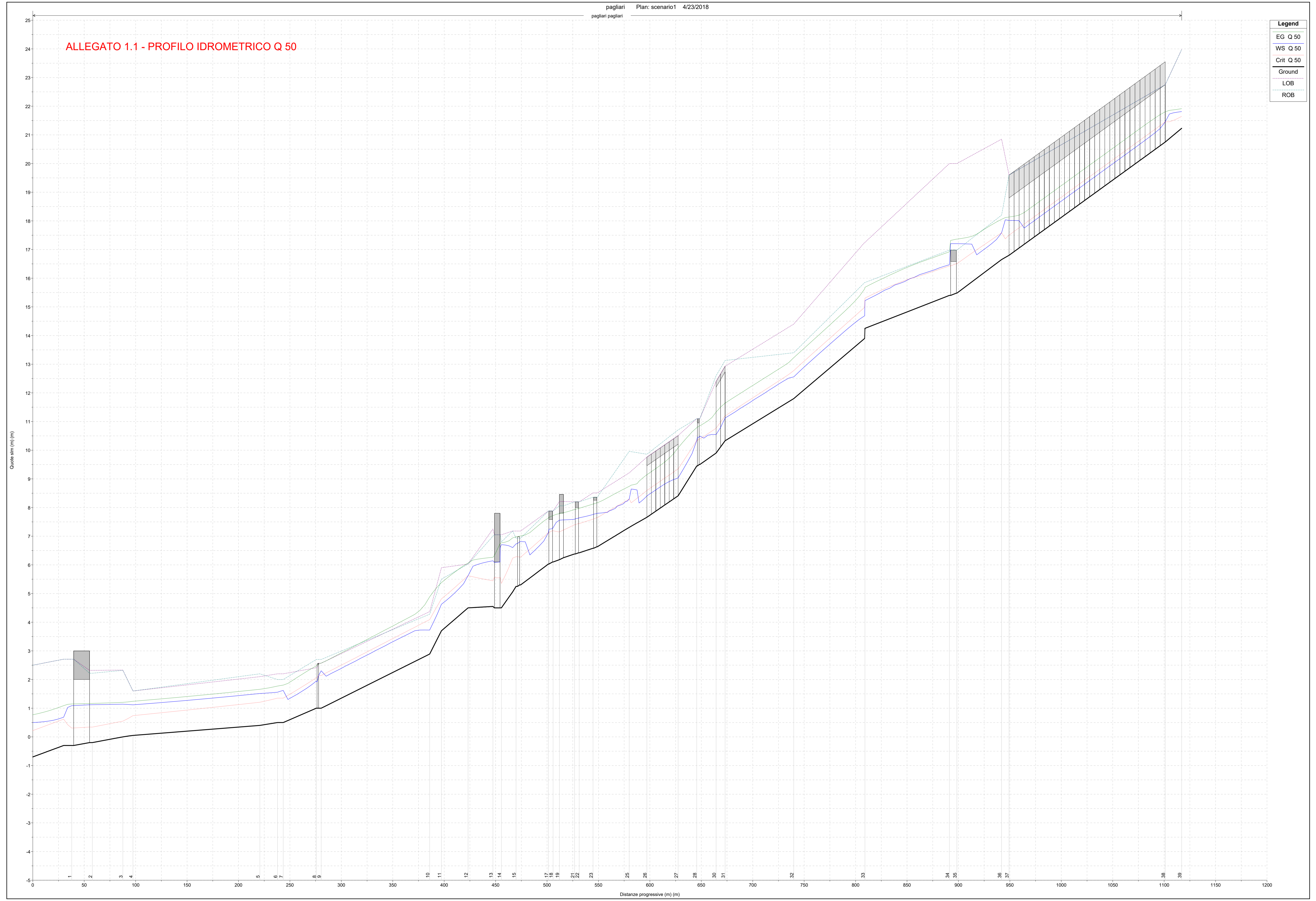
Laddove le insufficienze idrauliche dovute alla mancanza di franco (principalmente cinetico) abbiano consigliato una perimetrazione di aree inondabili a tirante nullo, per assenza di fenomeno fisico di inondazione, è stata proposta l'attribuzione di fascia a minor pericolosità, ai sensi dell'art 15 della normativa di Piano.

La tavola 07 illustra l'esito della procedura sopra utilizzata per lo scenario 1.

La tavola 09 illustra l'esito della procedura sopra utilizzata per lo scenario 2.

ALLEGATO 1.1 - PROFILO IDROMETRICO Q 50

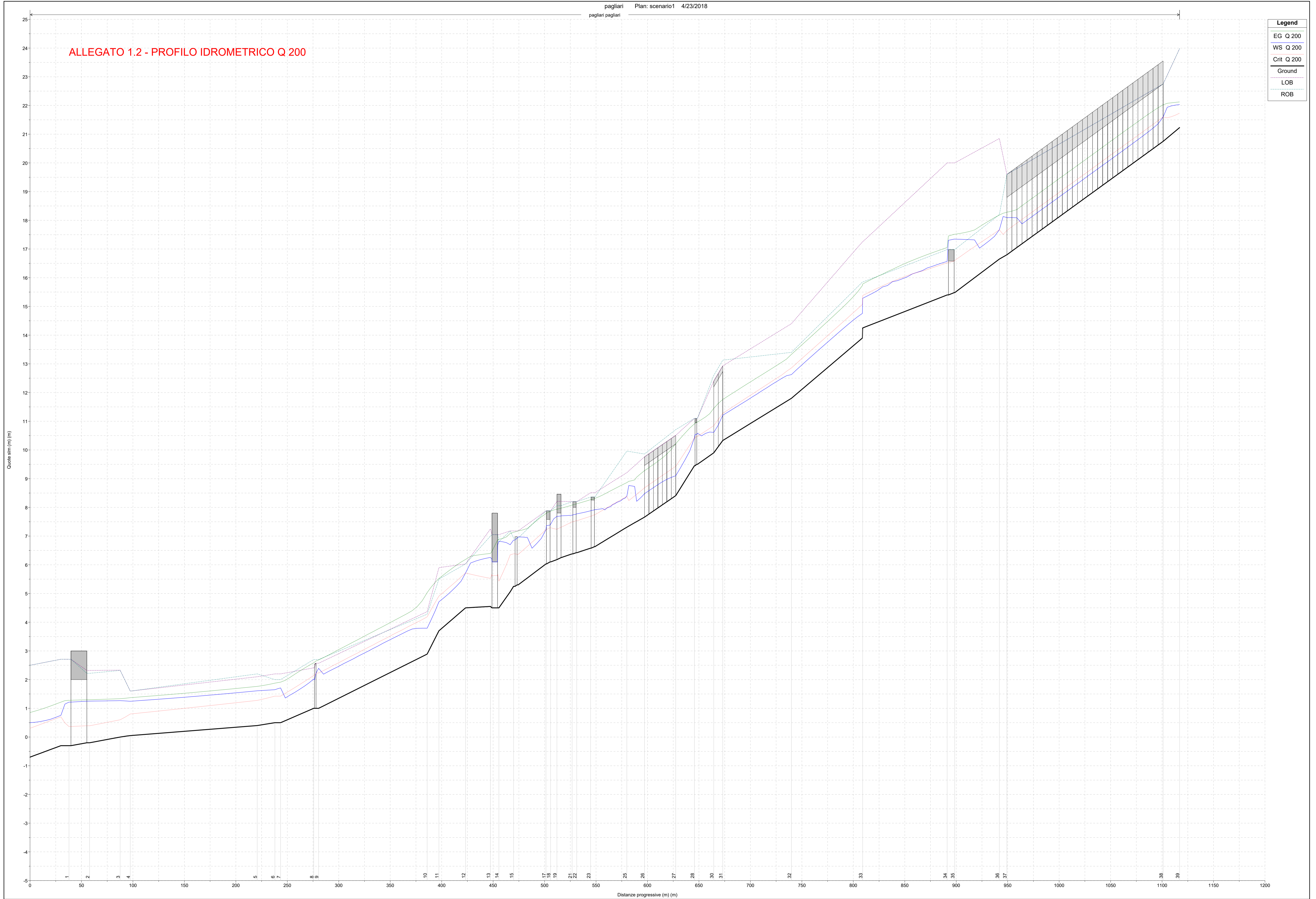
Legend	
EG Q 50	(Blue line)
WS Q 50	(Red line)
Crit Q 50	(Green line)
Ground	(Black line)
LOB	(Purple line)
ROB	(Cyan line)





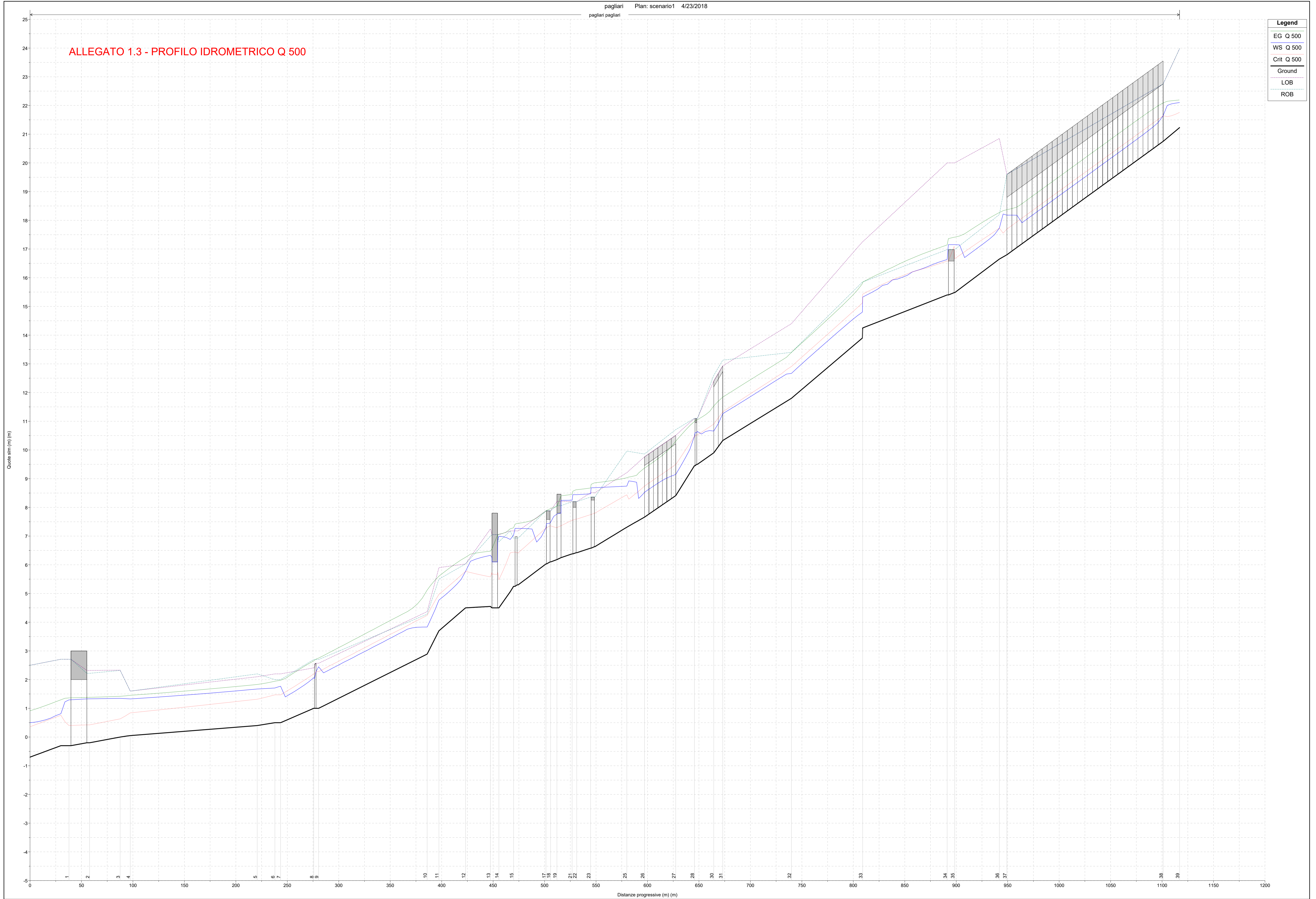
ALLEGATO 1.2 - PROFILO IDROMETRICO Q 200

Legend	
EG Q 200	(Blue line)
WS Q 200	(Red line)
Crit Q 200	(Green line)
Ground	(Black line)
LOB	(Purple line)
ROB	(Cyan line)



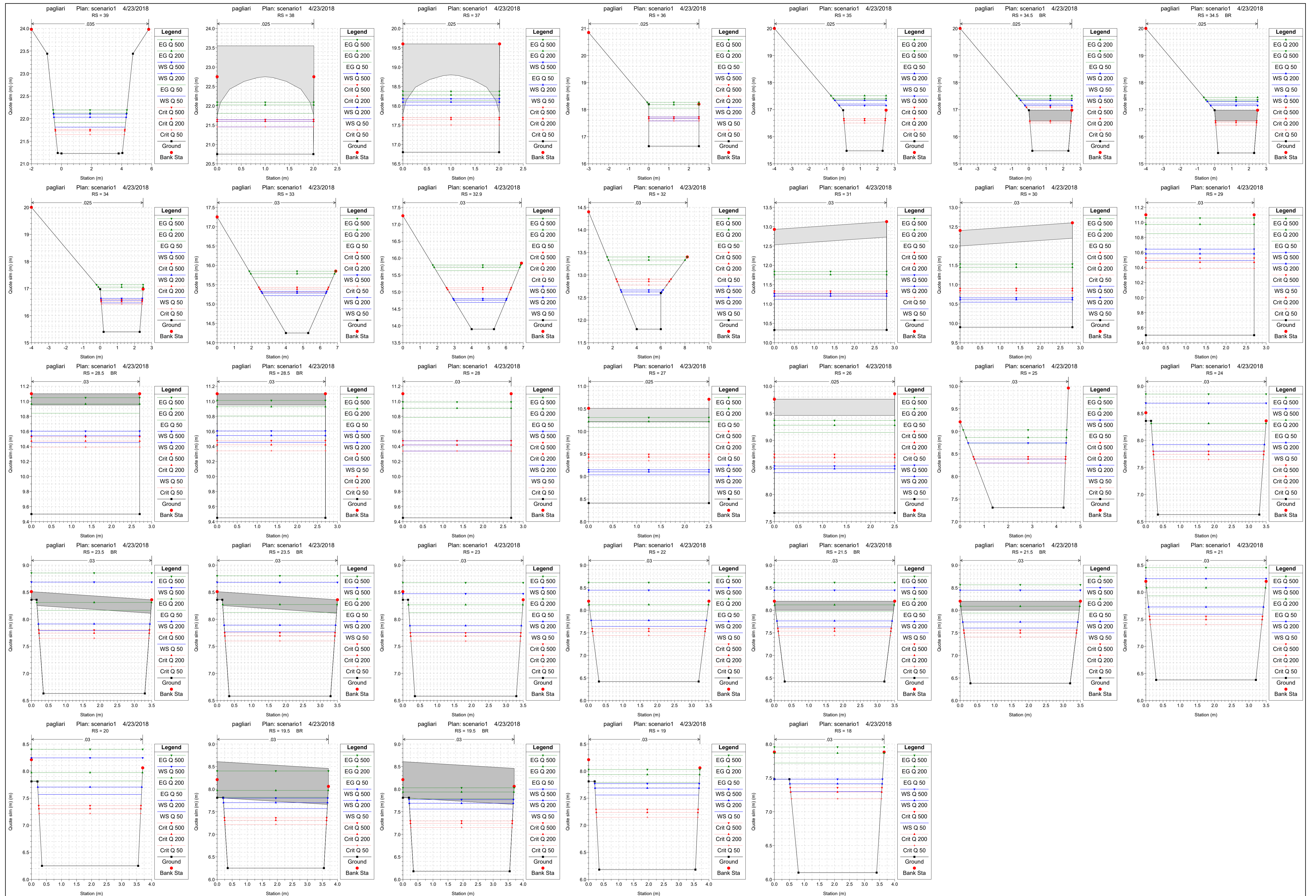
ALLEGATO 1.3 - PROFILO IDROMETRICO Q 500

Legend	
EG Q 500	(Blue line)
WS Q 500	(Red line)
Crit Q 500	(Green line)
Ground	(Black line)
LOB	(Purple line)
ROB	(Cyan line)



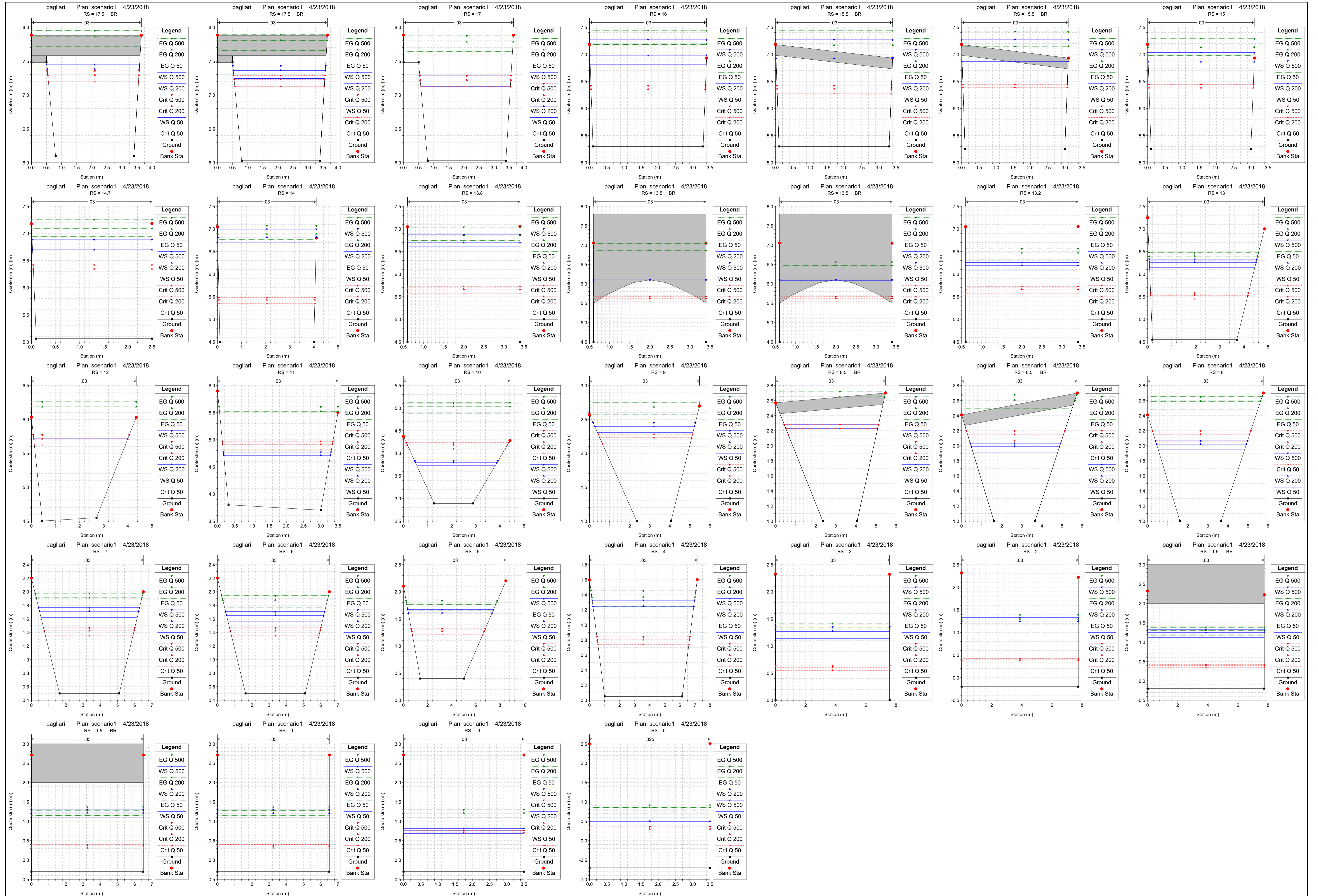


ALLEGATO 1.4 - SEZIONI CON LIVELLI IDROMETRICI - DA SEZ 39 A SEZ 18





ALLEGATO 1.5 - SEZIONI CON LIVELLI IDROMETRICI - DA SEZ 17.5 A SEZ 0



# ALLEGATO 1.6 - TABELLE RIASSUNTIVE

HEC-RAS Plan: scenario1 River: pagliari Reach: pagliari

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
pagliari	39	Q 50	3.70	21.23	21.81	21.65	21.92	0.006664	1.42	2.61	4.66	0.61
pagliari	39	Q 200	4.90	21.23	22.03	21.73	22.12	0.004256	1.34	3.65	4.80	0.49
pagliari	39	Q 500	5.30	21.23	22.10	21.76	22.19	0.003833	1.33	3.98	4.85	0.47
pagliari	38	Q 50	3.70	20.75	21.45	21.45	21.81	0.014009	2.63	1.41	2.00	1.00
pagliari	38	Q 200	4.90	20.75	21.60	21.60	22.02	0.014622	2.88	1.70	2.00	1.00
pagliari	38	Q 500	5.30	20.75	21.64	21.64	22.09	0.014899	2.96	1.79	2.00	1.00
pagliari	37	Q 50	3.70	16.80	18.02	17.50	18.13	0.003256	1.52	2.43	1.91	0.44
pagliari	37	Q 200	4.90	16.80	18.10	17.65	18.28	0.004900	1.90	2.58	1.88	0.53
pagliari	37	Q 500	5.30	16.80	18.18	17.69	18.37	0.004966	1.94	2.73	1.82	0.53
pagliari	36	Q 50	7.10	16.65	17.58	17.58	18.06	0.013292	3.04	2.34	2.50	1.00
pagliari	36	Q 200	8.10	16.65	17.67	17.67	18.18	0.013590	3.17	2.55	2.50	1.00
pagliari	36	Q 500	8.80	16.65	17.73	17.73	18.27	0.013798	3.26	2.70	2.50	1.00
pagliari	35	Q 50	7.10	15.48	17.21	16.50	17.36	0.003050	1.75	4.05	2.80	0.47
pagliari	35	Q 200	8.10	15.48	17.35	16.60	17.51	0.003149	1.82	4.45	2.98	0.48
pagliari	35	Q 500	8.80	15.48	17.15	16.66	17.41	0.005135	2.26	3.90	2.73	0.60
pagliari	34.5		Bridge									
pagliari	34	Q 50	7.10	15.40	16.47	16.43	16.92	0.011877	2.97	2.39	2.37	0.94
pagliari	34	Q 200	8.10	15.40	16.57	16.52	17.05	0.012001	3.08	2.63	2.40	0.94
pagliari	34	Q 500	8.80	15.40	16.63	16.58	17.14	0.012129	3.16	2.79	2.41	0.94
pagliari	33	Q 50	7.10	14.25	15.22	15.31	15.68	0.018234	3.02	2.35	3.56	1.19
pagliari	33	Q 200	8.10	14.25	15.28	15.38	15.78	0.018338	3.13	2.59	3.71	1.20
pagliari	33	Q 500	8.80	14.25	15.33	15.43	15.85	0.018371	3.20	2.75	3.81	1.20
pagliari	32.9	Q 50	7.10	13.90	14.69	14.99	15.63	0.046007	4.30	1.65	2.89	1.81
pagliari	32.9	Q 200	8.10	13.90	14.76	15.07	15.73	0.043683	4.36	1.86	3.03	1.78
pagliari	32.9	Q 500	8.80	13.90	14.80	15.12	15.79	0.042420	4.41	2.00	3.12	1.76
pagliari	32	Q 50	7.10	11.80	12.56	12.78	13.23	0.032216	3.63	1.96	3.17	1.47
pagliari	32	Q 200	8.10	11.80	12.63	12.86	13.33	0.031786	3.72	2.18	3.34	1.47
pagliari	32	Q 500	8.80	11.80	12.67	12.91	13.40	0.032123	3.79	2.32	3.52	1.49
pagliari	31	Q 50	7.10	10.33	11.12	11.20	11.64	0.022924	3.20	2.22	2.80	1.15
pagliari	31	Q 200	8.10	10.33	11.21	11.28	11.76	0.022121	3.29	2.46	2.80	1.12
pagliari	31	Q 500	8.80	10.33	11.26	11.33	11.84	0.022024	3.36	2.62	2.80	1.11
pagliari	30	Q 50	7.10	9.90	10.55	10.77	11.33	0.041008	3.92	1.81	2.80	1.56
pagliari	30	Q 200	8.10	9.90	10.61	10.85	11.45	0.040135	4.05	2.00	2.80	1.53
pagliari	30	Q 500	8.80	9.90	10.66	10.90	11.53	0.039628	4.14	2.13	2.80	1.52
pagliari	29	Q 50	7.10	9.50	10.49	10.39	10.85	0.013334	2.65	2.68	2.70	0.85
pagliari	29	Q 200	8.10	9.50	10.58	10.47	10.97	0.013639	2.77	2.92	2.70	0.85
pagliari	29	Q 500	8.80	9.50	10.64	10.52	11.06	0.013849	2.85	3.09	2.70	0.85
pagliari	28.5		Bridge									
pagliari	28	Q 50	7.10	9.45	10.34	10.34	10.78	0.018141	2.96	2.40	2.70	1.00
pagliari	28	Q 200	8.10	9.45	10.42	10.42	10.91	0.018479	3.09	2.62	2.70	1.00
pagliari	28	Q 500	8.80	9.45	10.47	10.47	10.99	0.018719	3.18	2.77	2.70	1.00
pagliari	27	Q 50	7.10	8.41	9.04	9.35	10.08	0.041305	4.54	1.56	2.50	1.83
pagliari	27	Q 200	8.10	8.41	9.10	9.43	10.22	0.040109	4.68	1.73	2.50	1.79
pagliari	27	Q 500	8.80	8.41	9.15	9.49	10.31	0.039545	4.77	1.85	2.50	1.77
pagliari	26	Q 50	7.10	7.66	8.40	8.60	9.15	0.025150	3.82	1.86	2.50	1.41
pagliari	26	Q 200	8.10	7.66	8.48	8.68	9.28	0.025232	3.97	2.04	2.50	1.40
pagliari	26	Q 500	8.80	7.66	8.53	8.74	9.37	0.025261	4.07	2.16	2.50	1.39
pagliari	25	Q 50	9.70	7.31	8.30	8.30	8.74	0.014151	2.94	3.29	3.73	1.00
pagliari	25	Q 200	11.10	7.31	8.39	8.39	8.86	0.014103	3.06	3.63	3.80	1.00
pagliari	25	Q 500	12.00	7.31	8.74	8.44	9.03	0.006681	2.38	5.03	4.08	0.69
pagliari	24	Q 50	9.70	6.63	7.80	7.65	8.17	0.010873	2.69	3.61	3.22	0.81
pagliari	24	Q 200	11.10	6.63	7.92	7.74	8.31	0.010675	2.77	4.01	3.25	0.80
pagliari	24	Q 500	12.00	6.63	8.69	7.80	8.85	0.003379	1.82	6.59	3.50	0.42
pagliari	23.5		Bridge									
pagliari	23	Q 50	9.70	6.58	7.76	7.60	8.12	0.010707	2.67	3.63	3.21	0.80
pagliari	23	Q 200	11.10	6.58	7.88	7.69	8.27	0.010513	2.75	4.03	3.24	0.79
pagliari	23	Q 500	12.00	6.58	8.47	7.75	8.68	0.004348	2.00	6.00	3.50	0.49
pagliari	22	Q 50	9.70	6.42	7.64	7.44	7.97	0.009359	2.56	3.80	3.31	0.76
pagliari	22	Q 200	11.10	6.42	7.77	7.53	8.12	0.009060	2.62	4.24	3.36	0.74
pagliari	22	Q 500	12.00	6.42	8.44	7.59	8.61	0.003300	1.83	6.55	3.50	0.43
pagliari	21.5		Bridge									
pagliari	21	Q 50	9.70	6.38	7.59	7.40	7.93	0.009631	2.58	3.76	3.30	0.77
pagliari	21	Q 200	11.10	6.38	7.73	7.49	8.08	0.009246	2.64	4.21	3.34	0.75
pagliari	21	Q 500	12.00	6.38	8.25	7.55	8.45	0.004161	2.00	6.00	3.50	0.49



HEC-RAS Plan: scenario1 River: pagliari Reach: pagliari (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
pagliari	20	Q 50	9.70	6.25	7.57	7.22	7.82	0.006515	2.22	4.37	3.44	0.63
pagliari	20	Q 200	11.10	6.25	7.70	7.31	7.97	0.006451	2.29	4.85	3.46	0.62
pagliari	20	Q 500	12.00	6.25	8.24	7.36	8.40	0.003117	1.76	6.81	3.70	0.41
pagliari	19.5		Bridge									
pagliari	19	Q 50	9.70	6.18	7.56	7.15	7.79	0.005768	2.12	4.57	3.44	0.59
pagliari	19	Q 200	11.10	6.18	7.69	7.24	7.94	0.005881	2.21	5.01	3.46	0.59
pagliari	19	Q 500	12.00	6.18	7.77	7.29	8.03	0.005919	2.26	5.30	3.47	0.59
pagliari	18	Q 50	9.70	6.10	7.30	7.19	7.72	0.012734	2.88	3.37	3.03	0.87
pagliari	18	Q 200	11.10	6.10	7.41	7.29	7.87	0.012721	2.98	3.72	3.07	0.86
pagliari	18	Q 500	12.00	6.10	7.48	7.36	7.96	0.014437	3.05	3.93	3.59	0.93
pagliari	17.5		Bridge									
pagliari	17	Q 50	9.70	6.03	7.12	7.12	7.64	0.016855	3.19	3.04	2.97	1.01
pagliari	17	Q 200	11.10	6.03	7.22	7.22	7.78	0.017065	3.32	3.34	3.01	1.01
pagliari	17	Q 500	12.00	6.03	7.28	7.28	7.87	0.017201	3.40	3.53	3.03	1.01
pagliari	16	Q 50	9.70	5.30	6.81	6.27	7.01	0.004616	1.95	4.98	3.37	0.51
pagliari	16	Q 200	11.10	5.30	6.97	6.36	7.18	0.004591	2.01	5.51	3.39	0.50
pagliari	16	Q 500	12.00	5.30	7.27	6.42	7.44	0.003446	1.84	6.52	3.40	0.42
pagliari	15.5		Bridge									
pagliari	15	Q 50	9.70	5.25	6.73	6.28	6.98	0.006315	2.19	4.42	3.07	0.58
pagliari	15	Q 200	11.10	5.25	6.86	6.38	7.13	0.006580	2.30	4.82	3.08	0.59
pagliari	15	Q 500	12.00	5.25	7.03	6.44	7.29	0.005852	2.25	5.35	3.09	0.55
pagliari	14.7	Q 50	9.70	5.06	6.60	6.24	6.94	0.009909	2.58	3.76	2.47	0.67
pagliari	14.7	Q 200	11.10	5.06	6.70	6.35	7.09	0.011080	2.78	4.00	2.48	0.70
pagliari	14.7	Q 500	12.00	5.06	6.88	6.42	7.25	0.009821	2.69	4.45	2.49	0.64
pagliari	14	Q 50	9.70	4.50	6.71	5.35	6.77	0.001013	1.10	8.80	4.08	0.24
pagliari	14	Q 200	11.10	4.50	6.82	5.43	6.89	0.001160	1.20	9.26	4.09	0.25
pagliari	14	Q 500	12.00	4.50	6.99	5.48	7.07	0.001115	1.20	9.98	4.10	0.25
pagliari	13.8	Q 50	9.70	4.50	6.60	5.57	6.74	0.003073	1.65	5.89	2.80	0.36
pagliari	13.8	Q 200	11.10	4.50	6.69	5.67	6.86	0.003620	1.81	6.15	2.80	0.39
pagliari	13.8	Q 500	12.00	4.50	6.87	5.73	7.04	0.003488	1.81	6.64	2.80	0.37
pagliari	13.5		Bridge									
pagliari	13.2	Q 50	9.70	4.50	6.09	5.57	6.33	0.006360	2.18	4.44	2.80	0.55
pagliari	13.2	Q 200	11.10	4.50	6.19	5.67	6.47	0.007040	2.34	4.74	2.80	0.57
pagliari	13.2	Q 500	12.00	4.50	6.26	5.73	6.56	0.007480	2.44	4.92	2.80	0.59
pagliari	13	Q 50	9.70	4.55	6.14	5.45	6.26	0.002436	1.55	6.26	4.37	0.41
pagliari	13	Q 200	11.10	4.55	6.26	5.53	6.40	0.002575	1.64	6.77	4.43	0.42
pagliari	13	Q 500	12.00	4.55	6.33	5.58	6.47	0.002661	1.69	7.09	4.47	0.43
pagliari	12	Q 50	9.70	4.50	5.62	5.62	6.06	0.013639	2.94	3.30	3.78	1.00
pagliari	12	Q 200	11.10	4.50	5.71	5.71	6.19	0.013558	3.04	3.65	3.91	1.00
pagliari	12	Q 500	12.00	4.50	5.77	5.77	6.26	0.013513	3.10	3.87	3.98	1.00
pagliari	11	Q 50	9.70	3.70	4.63	4.81	5.38	0.028677	3.85	2.52	3.06	1.35
pagliari	11	Q 200	11.10	3.70	4.71	4.91	5.52	0.028423	3.99	2.78	3.10	1.34
pagliari	11	Q 500	12.00	3.70	4.77	4.97	5.60	0.027822	4.05	2.96	3.13	1.33
pagliari	10	Q 50	9.70	2.89	3.73	4.09	4.89	0.049798	4.77	2.03	3.25	1.93
pagliari	10	Q 200	11.10	2.89	3.79	4.19	5.03	0.049425	4.93	2.25	3.38	1.93
pagliari	10	Q 500	12.00	2.89	3.83	4.24	5.12	0.049207	5.03	2.39	3.46	1.93
pagliari	9	Q 50	9.70	1.00	2.31	2.14	2.58	0.007184	2.30	4.22	4.76	0.78
pagliari	9	Q 200	11.10	1.00	2.39	2.23	2.68	0.007284	2.39	4.64	4.96	0.79
pagliari	9	Q 500	12.00	1.00	2.45	2.28	2.75	0.007281	2.44	4.92	5.09	0.79
pagliari	8.5		Bridge									
pagliari	8	Q 50	9.70	1.00	1.95	2.06	2.48	0.018467	3.23	3.00	4.30	1.23
pagliari	8	Q 200	11.10	1.00	2.02	2.15	2.59	0.018250	3.34	3.33	4.47	1.23
pagliari	8	Q 500	12.00	1.00	2.07	2.20	2.65	0.018122	3.40	3.53	4.58	1.24
pagliari	7.99		Lat Struct									
pagliari	7.98		Lat Struct									
pagliari	7	Q 50	9.70	0.50	1.62	1.35	1.81	0.004631	1.91	5.07	5.59	0.64
pagliari	7	Q 200	11.10	0.50	1.71	1.42	1.91	0.004611	1.99	5.59	5.76	0.64
pagliari	7	Q 500	12.00	0.50	1.77	1.47	1.98	0.004577	2.03	5.93	5.87	0.64
pagliari	6	Q 50	9.70	0.50	1.56	1.35	1.77	0.005659	2.05	4.73	5.47	0.70
pagliari	6	Q 200	11.10	0.50	1.65	1.42	1.88	0.005540	2.12	5.24	5.64	0.70
pagliari	6	Q 500	12.00	0.50	1.71	1.47	1.94	0.005436	2.15	5.57	5.76	0.70
pagliari	5	Q 50	9.70	0.40	1.51	1.21	1.66	0.003696	1.70	5.72	6.68	0.58
pagliari	5	Q 200	11.10	0.40	1.61	1.28	1.76	0.003555	1.74	6.39	6.95	0.58

HEC-RAS Plan: scenario1 River: pagliari Reach: pagliari (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
pagliari	5	Q 500	12.00	0.40	1.67	1.32	1.83	0.003450	1.76	6.83	7.13	0.57
pagliari	4	Q 50	9.70	0.05	1.12	0.74	1.24	0.002879	1.56	6.24	6.53	0.51
pagliari	4	Q 200	11.10	0.05	1.25	0.80	1.37	0.002596	1.57	7.08	6.69	0.49
pagliari	4	Q 500	12.00	0.05	1.33	0.84	1.45	0.002448	1.57	7.63	6.80	0.47
pagliari	3	Q 50	9.70	0.00	1.14	0.55	1.20	0.001357	1.12	8.63	7.57	0.34
pagliari	3	Q 200	11.10	0.00	1.27	0.60	1.34	0.001288	1.16	9.60	7.57	0.33
pagliari	3	Q 500	12.00	0.00	1.35	0.63	1.42	0.001253	1.18	10.21	7.57	0.32
pagliari	2	Q 50	9.70	-0.20	1.12	0.34	1.17	0.000824	0.95	10.24	7.75	0.26
pagliari	2	Q 200	11.10	-0.20	1.25	0.39	1.30	0.000817	0.99	11.24	7.75	0.26
pagliari	2	Q 500	12.00	-0.20	1.33	0.42	1.38	0.000813	1.01	11.87	7.75	0.26
pagliari	1.5	Bridge										
pagliari	1	Q 50	9.70	-0.30	1.09	0.31	1.15	0.001080	1.08	9.02	6.50	0.29
pagliari	1	Q 200	11.10	-0.30	1.22	0.37	1.28	0.001095	1.13	9.85	6.50	0.29
pagliari	1	Q 500	12.00	-0.30	1.29	0.40	1.36	0.001103	1.16	10.36	6.50	0.29
pagliari	.9	Q 50	9.70	-0.30	0.69	0.62	1.09	0.013155	2.81	3.45	3.50	0.90
pagliari	.9	Q 200	11.10	-0.30	0.76	0.70	1.22	0.014137	3.00	3.70	3.50	0.93
pagliari	.9	Q 500	12.00	-0.30	0.81	0.76	1.30	0.014251	3.08	3.90	3.50	0.93
pagliari	0	Q 50	9.70	-0.70	0.50	0.22	0.77	0.005245	2.31	4.20	3.50	0.67
pagliari	0	Q 200	11.10	-0.70	0.50	0.30	0.86	0.006868	2.64	4.20	3.50	0.77
pagliari	0	Q 500	12.00	-0.70	0.50	0.36	0.92	0.008027	2.86	4.20	3.50	0.83

Plan: scenario1 pagliari pagliari RS: 34.5 Profile: Q 50

E.G. US. (m)	17.36	Element	Inside BR US	Inside BR DS
W.S. US. (m)	17.21	E.G. Elev (m)	17.36	17.32
Q Total (m3/s)	7.10	W.S. Elev (m)	17.21	17.21
Q Bridge (m3/s)	6.21	Crit W.S. (m)	16.51	16.43
Q Weir (m3/s)	0.89	Max Chl Dpth (m)	1.73	1.81
Weir Sta Lft (m)	-0.51	Vel Total (m/s)	0.00	0.00
Weir Sta Rgt (m)	2.50	Flow Area (m2)		
Weir Submerg	0.00	Froude # Chl	0.56	0.52
Weir Max Depth (m)	0.38	Specif Force (m3)	4.62	4.84
Min El Weir Flow (m)	16.98	Hydr Depth (m)		
Min El Prs (m)	16.58	W.P. Total (m)	9.81	9.98
Delta EG (m)	0.44	Conv. Total (m3/s)		
Delta WS (m)	0.74	Top Width (m)	2.80	2.80
BR Open Area (m2)	2.47	Frctn Loss (m)		
BR Open Vel (m/s)	2.51	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)		
Br Sel Method	Press/Weir	Power Total (N/m s)		

Plan: scenario1 pagliari pagliari RS: 34.5 Profile: Q 200

E.G. US. (m)	17.51	Element	Inside BR US	Inside BR DS
W.S. US. (m)	17.35	E.G. Elev (m)	17.51	17.45
Q Total (m3/s)	8.10	W.S. Elev (m)	17.35	17.30
Q Bridge (m3/s)	6.59	Crit W.S. (m)	16.58	16.52
Q Weir (m3/s)	1.51	Max Chl Dpth (m)	1.87	1.90
Weir Sta Lft (m)	-0.71	Vel Total (m/s)	0.00	0.00
Weir Sta Rgt (m)	2.50	Flow Area (m2)		
Weir Submerg	0.00	Froude # Chl	0.55	0.53
Weir Max Depth (m)	0.53	Specif Force (m3)	5.32	5.48
Min El Weir Flow (m)	16.98	Hydr Depth (m)		
Min El Prs (m)	16.58	W.P. Total (m)	10.18	10.24
Delta EG (m)	0.46	Conv. Total (m3/s)		
Delta WS (m)	0.78	Top Width (m)	2.98	2.93
BR Open Area (m2)	2.47	Frctn Loss (m)		
BR Open Vel (m/s)	2.67	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)		
Br Sel Method	Press/Weir	Power Total (N/m s)		

Plan: scenario1 pagliari pagliari RS: 34.5 Profile: Q 500

E.G. US. (m)	17.41	Element	Inside BR US	Inside BR DS
W.S. US. (m)	17.15	E.G. Elev (m)	17.41	17.36
Q Total (m3/s)	8.80	W.S. Elev (m)	17.15	17.15
Q Bridge (m3/s)	7.72	Crit W.S. (m)	17.09	16.58
Q Weir (m3/s)	1.08	Max Chl Dpth (m)	1.67	1.75
Weir Sta Lft (m)	-0.57	Vel Total (m/s)	0.00	0.00
Weir Sta Rgt (m)	2.50	Flow Area (m2)		
Weir Submerg	0.00	Froude # Chl	0.74	0.68
Weir Max Depth (m)	0.43	Specif Force (m3)	5.48	4.97
Min El Weir Flow (m)	16.98	Hydr Depth (m)		
Min El Prs (m)	16.58	W.P. Total (m)	9.67	9.83
Delta EG (m)	0.12	Conv. Total (m3/s)		
Delta WS (m)	0.52	Top Width (m)	2.73	2.73
BR Open Area (m2)	2.47	Frctn Loss (m)		
BR Open Vel (m/s)	3.12	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)		
Br Sel Method	Press/Weir	Power Total (N/m s)		



Plan: scenario1 pagliari pagliari RS: 28.5 Profile: Q 50

E.G. US. (m)	10.85	Element	Inside BR US	Inside BR DS
W.S. US. (m)	10.49	E.G. Elev (m)	10.84	10.80
Q Total (m3/s)	7.10	W.S. Elev (m)	10.45	10.45
Q Bridge (m3/s)	7.10	Crit W.S. (m)	10.39	10.34
Q Weir (m3/s)		Max Chl Dpth (m)	0.95	1.00
Weir Sta Lft (m)		Vel Total (m/s)	2.77	2.62
Weir Sta Rgt (m)		Flow Area (m2)	2.57	2.71
Weir Submerg		Froude # Chl	0.91	0.83
Weir Max Depth (m)		Specif Force (m3)	3.22	3.26
Min El Weir Flow (m)	11.10	Hydr Depth (m)	0.95	1.00
Min El Prs (m)	10.95	W.P. Total (m)	4.60	4.71
Delta EG (m)	0.07	Conv. Total (m3/s)	57.9	62.6
Delta WS (m)	0.15	Top Width (m)	2.70	2.70
BR Open Area (m2)	3.91	Frctn Loss (m)	0.02	0.01
BR Open Vel (m/s)	2.77	C & E Loss (m)	0.01	0.01
Coef of Q		Shear Total (N/m2)	82.11	72.66
Br Sel Method	Energy only	Power Total (N/m s)	227.23	190.18

Plan: scenario1 pagliari pagliari RS: 28.5 Profile: Q 200

E.G. US. (m)	10.97	Element	Inside BR US	Inside BR DS
W.S. US. (m)	10.58	E.G. Elev (m)	10.96	10.93
Q Total (m3/s)	8.10	W.S. Elev (m)	10.54	10.54
Q Bridge (m3/s)	8.10	Crit W.S. (m)	10.47	10.42
Q Weir (m3/s)		Max Chl Dpth (m)	1.04	1.09
Weir Sta Lft (m)		Vel Total (m/s)	2.88	2.74
Weir Sta Rgt (m)		Flow Area (m2)	2.81	2.95
Weir Submerg		Froude # Chl	0.90	0.84
Weir Max Depth (m)		Specif Force (m3)	3.84	3.88
Min El Weir Flow (m)	11.10	Hydr Depth (m)	1.04	1.09
Min El Prs (m)	10.95	W.P. Total (m)	4.78	4.89
Delta EG (m)	0.07	Conv. Total (m3/s)	65.7	70.4
Delta WS (m)	0.16	Top Width (m)	2.70	2.70
BR Open Area (m2)	3.91	Frctn Loss (m)	0.02	0.01
BR Open Vel (m/s)	2.88	C & E Loss (m)	0.01	0.01
Coef of Q		Shear Total (N/m2)	87.54	78.45
Br Sel Method	Energy only	Power Total (N/m s)	252.30	215.05

Plan: scenario1 pagliari pagliari RS: 28.5 Profile: Q 500

E.G. US. (m)	11.06	Element	Inside BR US	Inside BR DS
W.S. US. (m)	10.64	E.G. Elev (m)	11.05	11.01
Q Total (m3/s)	8.80	W.S. Elev (m)	10.60	10.60
Q Bridge (m3/s)	8.80	Crit W.S. (m)	10.53	10.48
Q Weir (m3/s)		Max Chl Dpth (m)	1.10	1.15
Weir Sta Lft (m)		Vel Total (m/s)	2.96	2.82
Weir Sta Rgt (m)		Flow Area (m2)	2.98	3.12
Weir Submerg		Froude # Chl	0.90	0.84
Weir Max Depth (m)		Specif Force (m3)	4.29	4.33
Min El Weir Flow (m)	11.10	Hydr Depth (m)	1.10	1.15
Min El Prs (m)	10.95	W.P. Total (m)	4.90	5.01
Delta EG (m)	0.07	Conv. Total (m3/s)	71.1	75.8
Delta WS (m)	0.17	Top Width (m)	2.70	2.70
BR Open Area (m2)	3.91	Frctn Loss (m)	0.02	0.01
BR Open Vel (m/s)	2.96	C & E Loss (m)	0.01	0.01
Coef of Q		Shear Total (N/m2)	91.18	82.32
Br Sel Method	Energy only	Power Total (N/m s)	269.67	232.32

Plan: scenario1 pagliari pagliari RS: 23.5 Profile: Q 50

E.G. US. (m)	8.17	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.80	E.G. Elev (m)	8.16	8.13
Q Total (m3/s)	9.70	W.S. Elev (m)	7.79	7.77
Q Bridge (m3/s)	9.70	Crit W.S. (m)	7.65	7.60
Q Weir (m3/s)		Max Chl Dpth (m)	1.16	1.19
Weir Sta Lft (m)		Vel Total (m/s)	2.71	2.65
Weir Sta Rgt (m)		Flow Area (m2)	3.58	3.66
Weir Submerg		Froude # Chl	0.82	0.79
Weir Max Depth (m)		Specif Force (m3)	4.72	4.76
Min El Weir Flow (m)	8.36	Hydr Depth (m)	1.11	1.14
Min El Prs (m)	8.25	W.P. Total (m)	5.29	5.34
Delta EG (m)	0.05	Conv. Total (m3/s)	92.0	94.9
Delta WS (m)	0.04	Top Width (m)	3.22	3.22
BR Open Area (m2)	4.86	Frctn Loss (m)	0.03	0.01
BR Open Vel (m/s)	2.71	C & E Loss (m)	0.01	0.00
Coef of Q		Shear Total (N/m2)	73.86	70.20
Br Sel Method	Energy only	Power Total (N/m s)	200.20	185.92

Plan: scenario1 pagliari pagliari RS: 23.5 Profile: Q 200

E.G. US. (m)	8.31	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.92	E.G. Elev (m)	8.31	8.27
Q Total (m3/s)	11.10	W.S. Elev (m)	7.91	7.89
Q Bridge (m3/s)	11.10	Crit W.S. (m)	7.74	7.69
Q Weir (m3/s)		Max Chl Dpth (m)	1.28	1.31
Weir Sta Lft (m)		Vel Total (m/s)	2.79	2.73
Weir Sta Rgt (m)		Flow Area (m2)	3.98	4.06
Weir Submerg		Froude # Chl	0.80	0.78
Weir Max Depth (m)		Specif Force (m3)	5.67	5.71
Min El Weir Flow (m)	8.36	Hydr Depth (m)	1.23	1.25
Min El Prs (m)	8.25	W.P. Total (m)	5.53	5.59
Delta EG (m)	0.05	Conv. Total (m3/s)	106.4	109.5
Delta WS (m)	0.04	Top Width (m)	3.25	3.24
BR Open Area (m2)	4.86	Frctn Loss (m)	0.03	0.00
BR Open Vel (m/s)	2.79	C & E Loss (m)	0.00	0.00
Coef of Q		Shear Total (N/m2)	76.73	73.30
Br Sel Method	Energy only	Power Total (N/m s)	214.14	200.29

Plan: scenario1 pagliari pagliari RS: 23.5 Profile: Q 500

E.G. US. (m)	8.85	Element	Inside BR US	Inside BR DS
W.S. US. (m)	8.69	E.G. Elev (m)	8.85	8.80
Q Total (m3/s)	12.00	W.S. Elev (m)	8.69	8.68
Q Bridge (m3/s)	10.66	Crit W.S. (m)	7.80	7.75
Q Weir (m3/s)	1.34	Max Chl Dpth (m)	2.06	2.10
Weir Sta Lft (m)	0.00	Vel Total (m/s)	0.00	0.00
Weir Sta Rgt (m)	3.50	Flow Area (m2)		
Weir Submerg	0.09	Froude # Chl	0.47	0.45
Weir Max Depth (m)	0.49	Specif Force (m3)	8.81	9.05
Min El Weir Flow (m)	8.36	Hydr Depth (m)		
Min El Prs (m)	8.25	W.P. Total (m)	13.39	13.49
Delta EG (m)	0.18	Conv. Total (m3/s)		
Delta WS (m)	0.21	Top Width (m)	3.50	3.50
BR Open Area (m2)	4.86	Frctn Loss (m)		
BR Open Vel (m/s)	2.19	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)		
Br Sel Method	Press/Weir	Power Total (N/m s)		

Plan: scenario1 pagliari pagliari RS: 21.5 Profile: Q 50

E.G. US. (m)	7.97	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.64	E.G. Elev (m)	7.97	7.94
Q Total (m3/s)	9.70	W.S. Elev (m)	7.63	7.61
Q Bridge (m3/s)	9.70	Crit W.S. (m)	7.44	7.41
Q Weir (m3/s)		Max Chl Dpth (m)	1.21	1.23
Weir Sta Lft (m)		Vel Total (m/s)	2.58	2.55
Weir Sta Rgt (m)		Flow Area (m2)	3.76	3.80
Weir Submerg		Froude # Chl	0.77	0.76
Weir Max Depth (m)		Specif Force (m3)	4.78	4.80
Min El Weir Flow (m)	8.20	Hydr Depth (m)	1.14	1.15
Min El Prs (m)	8.00	W.P. Total (m)	5.36	5.39
Delta EG (m)	0.04	Conv. Total (m3/s)	98.9	100.6
Delta WS (m)	0.05	Top Width (m)	3.31	3.30
BR Open Area (m2)	5.00	Frctn Loss (m)	0.03	0.01
BR Open Vel (m/s)	2.58	C & E Loss (m)	0.00	0.00
Coef of Q		Shear Total (N/m2)	66.16	64.42
Br Sel Method	Energy only	Power Total (N/m s)	170.74	164.26

Plan: scenario1 pagliari pagliari RS: 21.5 Profile: Q 200

E.G. US. (m)	8.12	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.77	E.G. Elev (m)	8.12	8.09
Q Total (m3/s)	11.10	W.S. Elev (m)	7.76	7.74
Q Bridge (m3/s)	11.10	Crit W.S. (m)	7.54	7.50
Q Weir (m3/s)		Max Chl Dpth (m)	1.34	1.36
Weir Sta Lft (m)		Vel Total (m/s)	2.64	2.61
Weir Sta Rgt (m)		Flow Area (m2)	4.20	4.25
Weir Submerg		Froude # Chl	0.75	0.74
Weir Max Depth (m)		Specif Force (m3)	5.74	5.78
Min El Weir Flow (m)	8.20	Hydr Depth (m)	1.25	1.27
Min El Prs (m)	8.00	W.P. Total (m)	5.63	5.66
Delta EG (m)	0.04	Conv. Total (m3/s)	115.3	117.1
Delta WS (m)	0.05	Top Width (m)	3.35	3.35
BR Open Area (m2)	5.00	Frctn Loss (m)	0.03	0.01
BR Open Vel (m/s)	2.64	C & E Loss (m)	0.00	0.00
Coef of Q		Shear Total (N/m2)	67.88	66.19
Br Sel Method	Energy only	Power Total (N/m s)	179.30	172.82

Plan: scenario1 pagliari pagliari RS: 21.5 Profile: Q 500

E.G. US. (m)	8.61	Element	Inside BR US	Inside BR DS
W.S. US. (m)	8.44	E.G. Elev (m)	8.61	8.56
Q Total (m3/s)	12.00	W.S. Elev (m)	8.44	8.44
Q Bridge (m3/s)	10.69	Crit W.S. (m)	7.60	7.56
Q Weir (m3/s)	1.31	Max Chl Dpth (m)	2.02	2.06
Weir Sta Lft (m)	0.00	Vel Total (m/s)	0.00	0.00
Weir Sta Rgt (m)	3.50	Flow Area (m2)		
Weir Submerg	0.12	Froude # Chl	0.46	0.45
Weir Max Depth (m)	0.41	Specif Force (m3)	8.67	8.87
Min El Weir Flow (m)	8.20	Hydr Depth (m)		
Min El Prs (m)	8.00	W.P. Total (m)	13.53	13.61
Delta EG (m)	0.16	Conv. Total (m3/s)		
Delta WS (m)	0.19	Top Width (m)	3.50	3.50
BR Open Area (m2)	5.00	Frctn Loss (m)		
BR Open Vel (m/s)	2.14	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)		
Br Sel Method	Press/Weir	Power Total (N/m s)		

Plan: scenario1 pagliari pagliari RS: 19.5 Profile: Q 50

E.G. US. (m)	7.82	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.57	E.G. Elev (m)	7.82	7.79
Q Total (m3/s)	9.70	W.S. Elev (m)	7.57	7.56
Q Bridge (m3/s)	9.70	Crit W.S. (m)	7.22	7.15
Q Weir (m3/s)		Max Chl Dpth (m)	1.32	1.38
Weir Sta Lft (m)		Vel Total (m/s)	2.22	2.12
Weir Sta Rgt (m)		Flow Area (m2)	4.37	4.57
Weir Submerg		Froude # Chl	0.63	0.59
Weir Max Depth (m)		Specif Force (m3)	5.04	5.21
Min El Weir Flow (m)	8.46	Hydr Depth (m)	1.27	1.33
Min El Prs (m)	7.80	W.P. Total (m)	5.85	5.97
Delta EG (m)	0.03	Conv. Total (m3/s)	120.2	127.7
Delta WS (m)	0.01	Top Width (m)	3.44	3.44
BR Open Area (m2)	4.94	Frctn Loss (m)	0.02	0.00
BR Open Vel (m/s)	2.22	C & E Loss (m)	0.01	0.00
Coef of Q		Shear Total (N/m2)	47.81	43.36
Br Sel Method	Energy only	Power Total (N/m s)	106.03	91.93

Plan: scenario1 pagliari pagliari RS: 19.5 Profile: Q 200

E.G. US. (m)	7.97	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.70	E.G. Elev (m)	7.97	7.94
Q Total (m3/s)	11.10	W.S. Elev (m)	7.70	7.69
Q Bridge (m3/s)	11.10	Crit W.S. (m)	7.31	7.24
Q Weir (m3/s)		Max Chl Dpth (m)	1.45	1.51
Weir Sta Lft (m)		Vel Total (m/s)	2.31	2.22
Weir Sta Rgt (m)		Flow Area (m2)	4.81	5.01
Weir Submerg		Froude # Chl	0.61	0.58
Weir Max Depth (m)		Specif Force (m3)	6.07	6.23
Min El Weir Flow (m)	8.46	Hydr Depth (m)	1.94	1.76
Min El Prs (m)	7.80	W.P. Total (m)	7.05	6.80
Delta EG (m)	0.04	Conv. Total (m3/s)	124.4	136.0
Delta WS (m)	0.02	Top Width (m)	2.48	2.85
BR Open Area (m2)	4.94	Frctn Loss (m)	0.03	0.00
BR Open Vel (m/s)	2.31	C & E Loss (m)	0.01	0.00
Coef of Q		Shear Total (N/m2)	53.34	48.08
Br Sel Method	Energy only	Power Total (N/m s)	123.04	106.62

Plan: scenario1 pagliari pagliari RS: 19.5 Profile: Q 500

E.G. US. (m)	8.40	Element	Inside BR US	Inside BR DS
W.S. US. (m)	8.24	E.G. Elev (m)	8.40	8.03
Q Total (m3/s)	12.00	W.S. Elev (m)	7.80	7.77
Q Bridge (m3/s)	12.00	Crit W.S. (m)	7.36	7.30
Q Weir (m3/s)		Max Chl Dpth (m)	1.55	1.59
Weir Sta Lft (m)		Vel Total (m/s)	2.43	2.33
Weir Sta Rgt (m)		Flow Area (m2)	4.94	5.16
Weir Submerg		Froude # Chl	0.62	0.59
Weir Max Depth (m)		Specif Force (m3)	6.92	6.99
Min El Weir Flow (m)	8.46	Hydr Depth (m)		6.32
Min El Prs (m)	7.80	W.P. Total (m)	9.64	8.93
Delta EG (m)	0.37	Conv. Total (m3/s)	105.3	119.2
Delta WS (m)	0.48	Top Width (m)		0.82
BR Open Area (m2)	4.94	Frctn Loss (m)		
BR Open Vel (m/s)	2.43	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)	65.18	57.38
Br Sel Method	Press Only	Power Total (N/m s)	158.41	133.52

Plan: scenario1 pagliari pagliari RS: 17.5 Profile: Q 50

E.G. US. (m)	7.72	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.30	E.G. Elev (m)	7.71	7.66
Q Total (m3/s)	9.70	W.S. Elev (m)	7.26	7.24
Q Bridge (m3/s)	9.70	Crit W.S. (m)	7.19	7.13
Q Weir (m3/s)		Max Chl Dpth (m)	1.17	1.21
Weir Sta Lft (m)		Vel Total (m/s)	2.96	2.85
Weir Sta Rgt (m)		Flow Area (m2)	3.27	3.40
Weir Submerg		Froude # Chl	0.91	0.86
Weir Max Depth (m)		Specif Force (m3)	4.79	4.83
Min El Weir Flow (m)	7.88	Hydr Depth (m)	1.08	1.13
Min El Prs (m)	7.58	W.P. Total (m)	4.97	5.06
Delta EG (m)	0.08	Conv. Total (m3/s)	82.5	87.1
Delta WS (m)	0.18	Top Width (m)	3.02	3.01
BR Open Area (m2)	4.24	Frctn Loss (m)	0.05	0.01
BR Open Vel (m/s)	2.96	C & E Loss (m)	0.01	0.01
Coef of Q		Shear Total (N/m2)	89.16	81.79
Br Sel Method	Energy only	Power Total (N/m s)	264.35	233.05

Plan: scenario1 pagliari pagliari RS: 17.5 Profile: Q 200

E.G. US. (m)	7.87	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.41	E.G. Elev (m)	7.86	7.80
Q Total (m3/s)	11.10	W.S. Elev (m)	7.38	7.36
Q Bridge (m3/s)	11.10	Crit W.S. (m)	7.29	7.23
Q Weir (m3/s)		Max Chl Dpth (m)	1.28	1.33
Weir Sta Lft (m)		Vel Total (m/s)	3.05	2.95
Weir Sta Rgt (m)		Flow Area (m2)	3.64	3.77
Weir Submerg		Froude # Chl	0.89	0.85
Weir Max Depth (m)		Specif Force (m3)	5.73	5.77
Min El Weir Flow (m)	7.88	Hydr Depth (m)	1.19	1.23
Min El Prs (m)	7.58	W.P. Total (m)	5.21	5.30
Delta EG (m)	0.08	Conv. Total (m3/s)	95.3	99.9
Delta WS (m)	0.19	Top Width (m)	3.06	3.06
BR Open Area (m2)	4.24	Frctn Loss (m)	0.05	0.01
BR Open Vel (m/s)	3.05	C & E Loss (m)	0.01	0.01
Coef of Q		Shear Total (N/m2)	92.76	85.93
Br Sel Method	Energy only	Power Total (N/m s)	283.20	253.24

Plan: scenario1 pagliari pagliari RS: 17.5 Profile: Q 500

E.G. US. (m)	7.96	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.48	E.G. Elev (m)	7.95	7.89
Q Total (m3/s)	12.00	W.S. Elev (m)	7.45	7.43
Q Bridge (m3/s)	12.00	Crit W.S. (m)	7.36	7.29
Q Weir (m3/s)		Max Chl Dpth (m)	1.35	1.40
Weir Sta Lft (m)		Vel Total (m/s)	3.12	3.02
Weir Sta Rgt (m)		Flow Area (m2)	3.84	3.97
Weir Submerg		Froude # Chl	0.89	0.85
Weir Max Depth (m)		Specif Force (m3)	6.34	6.39
Min El Weir Flow (m)	7.88	Hydr Depth (m)	1.25	1.29
Min El Prs (m)	7.58	W.P. Total (m)	5.35	5.44
Delta EG (m)	0.08	Conv. Total (m3/s)	102.7	107.3
Delta WS (m)	0.20	Top Width (m)	3.08	3.08
BR Open Area (m2)	4.24	Frctn Loss (m)	0.05	0.01
BR Open Vel (m/s)	3.12	C & E Loss (m)	0.01	0.01
Coef of Q		Shear Total (N/m2)	96.09	89.54
Br Sel Method	Energy only	Power Total (N/m s)	300.06	270.62

Plan: scenario1 pagliari pagliari RS: 15.5 Profile: Q 50

E.G. US. (m)	7.01	Element	Inside BR US	Inside BR DS
W.S. US. (m)	6.81	E.G. Elev (m)	7.00	6.99
Q Total (m3/s)	9.70	W.S. Elev (m)	6.80	6.75
Q Bridge (m3/s)	9.70	Crit W.S. (m)	6.27	6.29
Q Weir (m3/s)		Max Chl Dpth (m)	1.50	1.50
Weir Sta Lft (m)		Vel Total (m/s)	1.98	2.17
Weir Sta Rgt (m)		Flow Area (m2)	4.90	4.46
Weir Submerg		Froude # Chl	0.51	0.57
Weir Max Depth (m)		Specif Force (m3)	5.63	5.46
Min El Weir Flow (m)	6.93	Hydr Depth (m)	2.06	1.55
Min El Prs (m)	6.98	W.P. Total (m)	7.12	6.07
Delta EG (m)	0.03	Conv. Total (m3/s)	127.4	121.2
Delta WS (m)	0.08	Top Width (m)	2.39	2.88
BR Open Area (m2)	4.80	Frctn Loss (m)	0.01	0.01
BR Open Vel (m/s)	2.17	C & E Loss (m)	0.00	0.00
Coef of Q		Shear Total (N/m2)	39.10	46.21
Br Sel Method	Energy only	Power Total (N/m s)	77.34	100.46

Plan: scenario1 pagliari pagliari RS: 15.5 Profile: Q 200

E.G. US. (m)	7.18	Element	Inside BR US	Inside BR DS
W.S. US. (m)	6.97	E.G. Elev (m)	7.17	7.15
Q Total (m3/s)	11.10	W.S. Elev (m)	6.93	6.86
Q Bridge (m3/s)	11.10	Crit W.S. (m)	6.36	6.38
Q Weir (m3/s)		Max Chl Dpth (m)	1.63	1.61
Weir Sta Lft (m)		Vel Total (m/s)	2.18	2.35
Weir Sta Rgt (m)		Flow Area (m2)	5.10	4.72
Weir Submerg		Froude # Chl	0.54	0.59
Weir Max Depth (m)		Specif Force (m3)	6.77	6.52
Min El Weir Flow (m)	6.93	Hydr Depth (m)	7.32	3.34
Min El Prs (m)	6.98	W.P. Total (m)	8.95	7.67
Delta EG (m)	0.05	Conv. Total (m3/s)	116.7	113.8
Delta WS (m)	0.11	Top Width (m)	0.70	1.41
BR Open Area (m2)	4.80	Frctn Loss (m)	0.02	0.01
BR Open Vel (m/s)	2.35	C & E Loss (m)	0.00	0.00
Coef of Q		Shear Total (N/m2)	50.51	57.46
Br Sel Method	Energy only	Power Total (N/m s)	110.02	135.22

Plan: scenario1 pagliari pagliari RS: 15.5 Profile: Q 500

E.G. US. (m)	7.44	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.27	E.G. Elev (m)	7.44	7.42
Q Total (m3/s)	12.00	W.S. Elev (m)	7.27	7.27
Q Bridge (m3/s)	10.85	Crit W.S. (m)	6.42	6.44
Q Weir (m3/s)	1.15	Max Chl Dpth (m)	1.97	2.02
Weir Sta Lft (m)	0.00	Vel Total (m/s)	0.00	0.00
Weir Sta Rgt (m)	3.40	Flow Area (m2)		
Weir Submerg	0.00	Froude # Chl	0.47	0.49
Weir Max Depth (m)	0.51	Specif Force (m3)	8.65	8.56
Min El Weir Flow (m)	6.93	Hydr Depth (m)		
Min El Prs (m)	6.98	W.P. Total (m)	13.54	12.74
Delta EG (m)	0.15	Conv. Total (m3/s)		
Delta WS (m)	0.24	Top Width (m)	3.40	3.10
BR Open Area (m2)	4.80	Frctn Loss (m)		
BR Open Vel (m/s)	2.26	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)		
Br Sel Method	Press/Weir	Power Total (N/m s)		



Plan: scenario1 pagliari pagliari RS: 13.5 Profile: Q 50

E.G. US. (m)	6.74	Element	Inside BR US	Inside BR DS
W.S. US. (m)	6.60	E.G. Elev (m)	6.74	6.33
Q Total (m3/s)	9.70	W.S. Elev (m)	6.10	6.09
Q Bridge (m3/s)	9.70	Crit W.S. (m)	5.55	5.55
Q Weir (m3/s)		Max Chl Dpth (m)	1.60	1.59
Weir Sta Lft (m)		Vel Total (m/s)	2.53	2.53
Weir Sta Rgt (m)		Flow Area (m2)	3.83	3.83
Weir Submerg		Froude # Chl	0.64	0.64
Weir Max Depth (m)		Specif Force (m3)	5.97	5.92
Min El Weir Flow (m)	7.80	Hydr Depth (m)		26.75
Min El Prs (m)	6.10	W.P. Total (m)	7.88	7.74
Delta EG (m)	0.41	Conv. Total (m3/s)	78.9	79.9
Delta WS (m)	0.52	Top Width (m)		0.14
BR Open Area (m2)	3.83	Frctn Loss (m)		
BR Open Vel (m/s)	2.53	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)	71.98	71.57
Br Sel Method	Press Only	Power Total (N/m s)	182.26	181.27

Plan: scenario1 pagliari pagliari RS: 13.5 Profile: Q 200

E.G. US. (m)	6.86	Element	Inside BR US	Inside BR DS
W.S. US. (m)	6.69	E.G. Elev (m)	6.86	6.47
Q Total (m3/s)	11.10	W.S. Elev (m)	6.10	6.10
Q Bridge (m3/s)	11.10	Crit W.S. (m)	5.62	5.62
Q Weir (m3/s)		Max Chl Dpth (m)	1.60	1.60
Weir Sta Lft (m)		Vel Total (m/s)	2.90	2.90
Weir Sta Rgt (m)		Flow Area (m2)	3.83	3.83
Weir Submerg		Froude # Chl	0.73	0.73
Weir Max Depth (m)		Specif Force (m3)	6.74	6.74
Min El Weir Flow (m)	7.80	Hydr Depth (m)		
Min El Prs (m)	6.10	W.P. Total (m)	7.88	7.88
Delta EG (m)	0.39	Conv. Total (m3/s)	78.9	78.9
Delta WS (m)	0.50	Top Width (m)		
BR Open Area (m2)	3.83	Frctn Loss (m)		
BR Open Vel (m/s)	2.90	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)	94.25	94.25
Br Sel Method	Press Only	Power Total (N/m s)	273.11	273.11

Plan: scenario1 pagliari pagliari RS: 13.5 Profile: Q 500

E.G. US. (m)	7.04	Element	Inside BR US	Inside BR DS
W.S. US. (m)	6.87	E.G. Elev (m)	7.04	6.56
Q Total (m3/s)	12.00	W.S. Elev (m)	6.10	6.10
Q Bridge (m3/s)	12.00	Crit W.S. (m)	5.67	5.67
Q Weir (m3/s)		Max Chl Dpth (m)	1.60	1.60
Weir Sta Lft (m)		Vel Total (m/s)	3.13	3.13
Weir Sta Rgt (m)		Flow Area (m2)	3.83	3.83
Weir Submerg		Froude # Chl	0.79	0.79
Weir Max Depth (m)		Specif Force (m3)	7.29	7.29
Min El Weir Flow (m)	7.80	Hydr Depth (m)		
Min El Prs (m)	6.10	W.P. Total (m)	7.88	7.88
Delta EG (m)	0.48	Conv. Total (m3/s)	78.9	78.9
Delta WS (m)	0.61	Top Width (m)		
BR Open Area (m2)	3.83	Frctn Loss (m)		
BR Open Vel (m/s)	3.13	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)	110.16	110.16
Br Sel Method	Press Only	Power Total (N/m s)	345.07	345.07

Plan: scenario1 pagliari pagliari RS: 8.5 Profile: Q 50

E.G. US. (m)	2.58	Element	Inside BR US	Inside BR DS
W.S. US. (m)	2.31	E.G. Elev (m)	2.54	2.50
Q Total (m3/s)	9.70	W.S. Elev (m)	2.14	1.91
Q Bridge (m3/s)	9.70	Crit W.S. (m)	2.14	2.06
Q Weir (m3/s)		Max Chl Dpth (m)	1.14	0.91
Weir Sta Lft (m)		Vel Total (m/s)	2.79	3.38
Weir Sta Rgt (m)		Flow Area (m2)	3.47	2.87
Weir Submerg		Froude # Chl	1.00	1.31
Weir Max Depth (m)		Specif Force (m3)	4.45	4.50
Min El Weir Flow (m)	2.57	Hydr Depth (m)	0.79	0.68
Min El Prs (m)	2.55	W.P. Total (m)	5.25	4.89
Delta EG (m)	0.10	Conv. Total (m3/s)	87.8	67.0
Delta WS (m)	0.36	Top Width (m)	4.37	4.22
BR Open Area (m2)	5.11	Frctn Loss (m)	0.02	0.02
BR Open Vel (m/s)	3.38	C & E Loss (m)	0.03	0.02
Coef of Q		Shear Total (N/m2)	79.16	120.59
Br Sel Method	Energy only	Power Total (N/m s)	221.24	407.80

Plan: scenario1 pagliari pagliari RS: 8.5 Profile: Q 200

E.G. US. (m)	2.68	Element	Inside BR US	Inside BR DS
W.S. US. (m)	2.39	E.G. Elev (m)	2.65	2.61
Q Total (m3/s)	11.10	W.S. Elev (m)	2.23	1.99
Q Bridge (m3/s)	11.10	Crit W.S. (m)	2.23	2.15
Q Weir (m3/s)		Max Chl Dpth (m)	1.23	0.99
Weir Sta Lft (m)		Vel Total (m/s)	2.88	3.48
Weir Sta Rgt (m)		Flow Area (m2)	3.86	3.19
Weir Submerg		Froude # Chl	1.00	1.31
Weir Max Depth (m)		Specif Force (m3)	5.26	5.32
Min El Weir Flow (m)	2.57	Hydr Depth (m)	0.84	0.72
Min El Prs (m)	2.55	W.P. Total (m)	5.52	5.12
Delta EG (m)	0.10	Conv. Total (m3/s)	101.3	77.4
Delta WS (m)	0.37	Top Width (m)	4.57	4.40
BR Open Area (m2)	5.11	Frctn Loss (m)	0.02	0.02
BR Open Vel (m/s)	3.48	C & E Loss (m)	0.03	0.02
Coef of Q		Shear Total (N/m2)	82.24	125.56
Br Sel Method	Energy only	Power Total (N/m s)	236.49	437.55

Plan: scenario1 pagliari pagliari RS: 8.5 Profile: Q 500

E.G. US. (m)	2.75	Element	Inside BR US	Inside BR DS
W.S. US. (m)	2.45	E.G. Elev (m)	2.72	2.67
Q Total (m3/s)	12.00	W.S. Elev (m)	2.28	2.03
Q Bridge (m3/s)	12.00	Crit W.S. (m)	2.28	2.20
Q Weir (m3/s)		Max Chl Dpth (m)	1.28	1.03
Weir Sta Lft (m)		Vel Total (m/s)	2.93	3.55
Weir Sta Rgt (m)		Flow Area (m2)	4.10	3.38
Weir Submerg		Froude # Chl	1.00	1.31
Weir Max Depth (m)		Specif Force (m3)	5.80	5.86
Min El Weir Flow (m)	2.57	Hydr Depth (m)	0.87	0.75
Min El Prs (m)	2.55	W.P. Total (m)	5.68	5.26
Delta EG (m)	0.10	Conv. Total (m3/s)	110.0	84.1
Delta WS (m)	0.38	Top Width (m)	4.70	4.51
BR Open Area (m2)	5.11	Frctn Loss (m)	0.02	0.02
BR Open Vel (m/s)	3.55	C & E Loss (m)	0.03	0.02
Coef of Q		Shear Total (N/m2)	84.22	128.49
Br Sel Method	Energy only	Power Total (N/m s)	246.39	455.52

Plan: scenario1 pagliari pagliari RS: 1.5 Profile: Q 50

E.G. US. (m)	1.17	Element	Inside BR US	Inside BR DS
W.S. US. (m)	1.12	E.G. Elev (m)	1.16	1.15
Q Total (m3/s)	9.70	W.S. Elev (m)	1.12	1.09
Q Bridge (m3/s)	9.70	Crit W.S. (m)	0.34	0.31
Q Weir (m3/s)		Max Chl Dpth (m)	1.32	1.39
Weir Sta Lft (m)		Vel Total (m/s)	0.95	1.07
Weir Sta Rgt (m)		Flow Area (m2)	10.22	9.04
Weir Submerg		Froude # Chl	0.26	0.29
Weir Max Depth (m)		Specif Force (m3)	7.68	7.34
Min El Weir Flow (m)	3.00	Hydr Depth (m)	1.32	1.39
Min El Prs (m)	2.00	W.P. Total (m)	10.39	9.28
Delta EG (m)	0.02	Conv. Total (m3/s)	337.1	295.9
Delta WS (m)	0.03	Top Width (m)	7.75	6.50
BR Open Area (m2)	14.95	Frctn Loss (m)	0.01	0.00
BR Open Vel (m/s)	1.07	C & E Loss (m)	0.00	0.00
Coef of Q		Shear Total (N/m2)	7.99	10.26
Br Sel Method	Energy only	Power Total (N/m s)	7.58	11.01

Plan: scenario1 pagliari pagliari RS: 1.5 Profile: Q 200

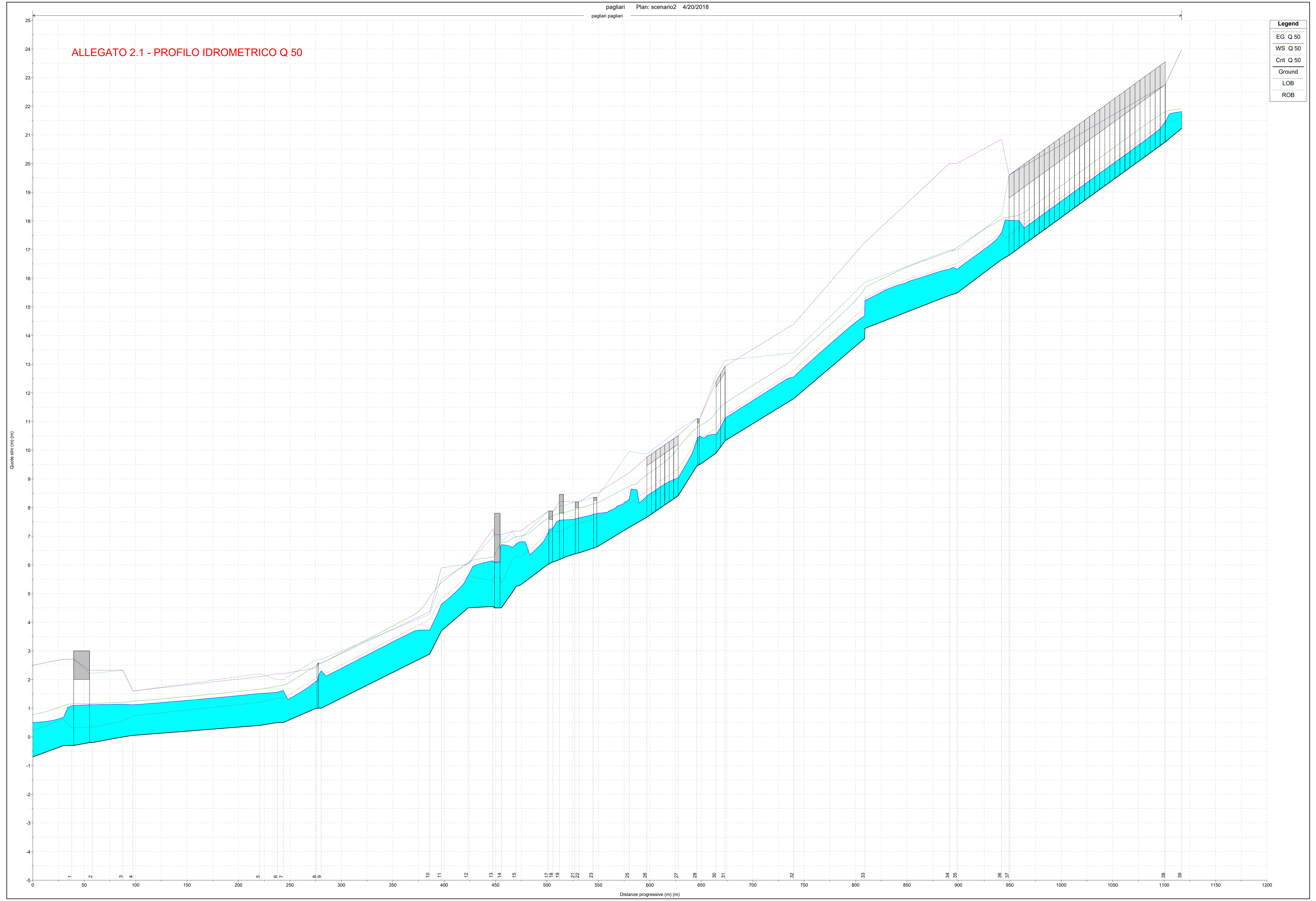
E.G. US. (m)	1.30	Element	Inside BR US	Inside BR DS
W.S. US. (m)	1.25	E.G. Elev (m)	1.30	1.28
Q Total (m3/s)	11.10	W.S. Elev (m)	1.25	1.22
Q Bridge (m3/s)	11.10	Crit W.S. (m)	0.39	0.37
Q Weir (m3/s)		Max Chl Dpth (m)	1.45	1.52
Weir Sta Lft (m)		Vel Total (m/s)	0.99	1.13
Weir Sta Rgt (m)		Flow Area (m2)	11.22	9.86
Weir Submerg		Froude # Chl	0.26	0.29
Weir Max Depth (m)		Specif Force (m3)	9.24	8.75
Min El Weir Flow (m)	3.00	Hydr Depth (m)	1.45	1.52
Min El Prs (m)	2.00	W.P. Total (m)	10.65	9.53
Delta EG (m)	0.02	Conv. Total (m3/s)	387.5	336.2
Delta WS (m)	0.04	Top Width (m)	7.75	6.50
BR Open Area (m2)	14.95	Frctn Loss (m)	0.01	0.00
BR Open Vel (m/s)	1.13	C & E Loss (m)	0.00	0.00
Coef of Q		Shear Total (N/m2)	8.48	11.05
Br Sel Method	Energy only	Power Total (N/m s)	8.39	12.44

Plan: scenario1 pagliari pagliari RS: 1.5 Profile: Q 500

E.G. US. (m)	1.38	Element	Inside BR US	Inside BR DS
W.S. US. (m)	1.33	E.G. Elev (m)	1.38	1.37
Q Total (m3/s)	12.00	W.S. Elev (m)	1.33	1.30
Q Bridge (m3/s)	12.00	Crit W.S. (m)	0.42	0.40
Q Weir (m3/s)		Max Chl Dpth (m)	1.53	1.60
Weir Sta Lft (m)		Vel Total (m/s)	1.01	1.16
Weir Sta Rgt (m)		Flow Area (m2)	11.85	10.38
Weir Submerg		Froude # Chl	0.26	0.29
Weir Max Depth (m)		Specif Force (m3)	10.30	9.70
Min El Weir Flow (m)	3.00	Hydr Depth (m)	1.53	1.60
Min El Prs (m)	2.00	W.P. Total (m)	10.81	9.69
Delta EG (m)	0.02	Conv. Total (m3/s)	420.0	362.1
Delta WS (m)	0.04	Top Width (m)	7.75	6.50
BR Open Area (m2)	14.95	Frctn Loss (m)	0.01	0.00
BR Open Vel (m/s)	1.16	C & E Loss (m)	0.00	0.00
Coef of Q		Shear Total (N/m2)	8.78	11.53
Br Sel Method	Energy only	Power Total (N/m s)	8.89	13.33

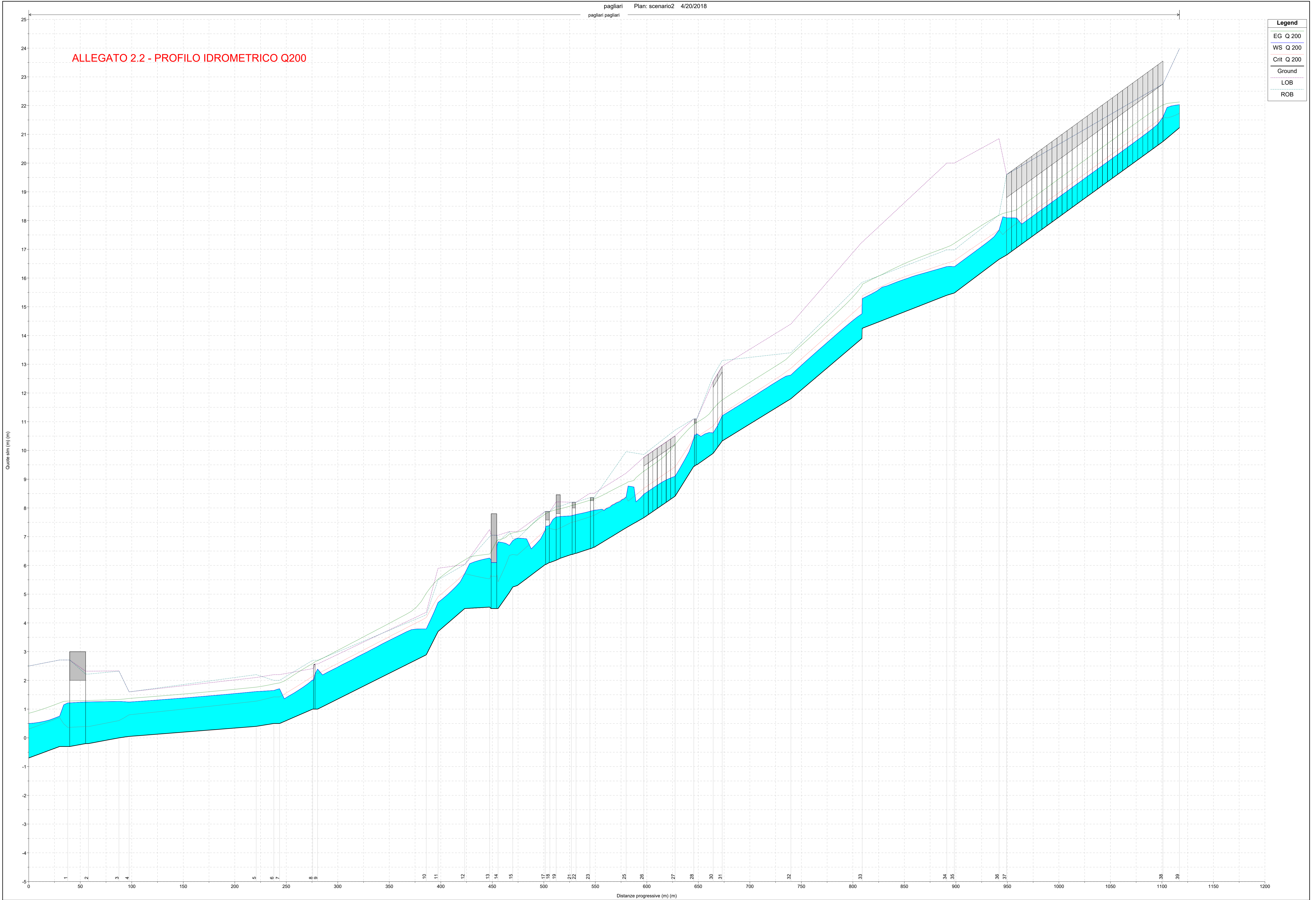
ALLEGATO 2.1 - PROFILO IDROMETRICO Q 50

Legend	
EG Q 50	(Red line)
WS Q 50	(Green line)
Crit Q 50	(Blue line)
Ground	(Grey shaded area)
LOB	(Cyan shaded area)
ROB	(Light blue shaded area)



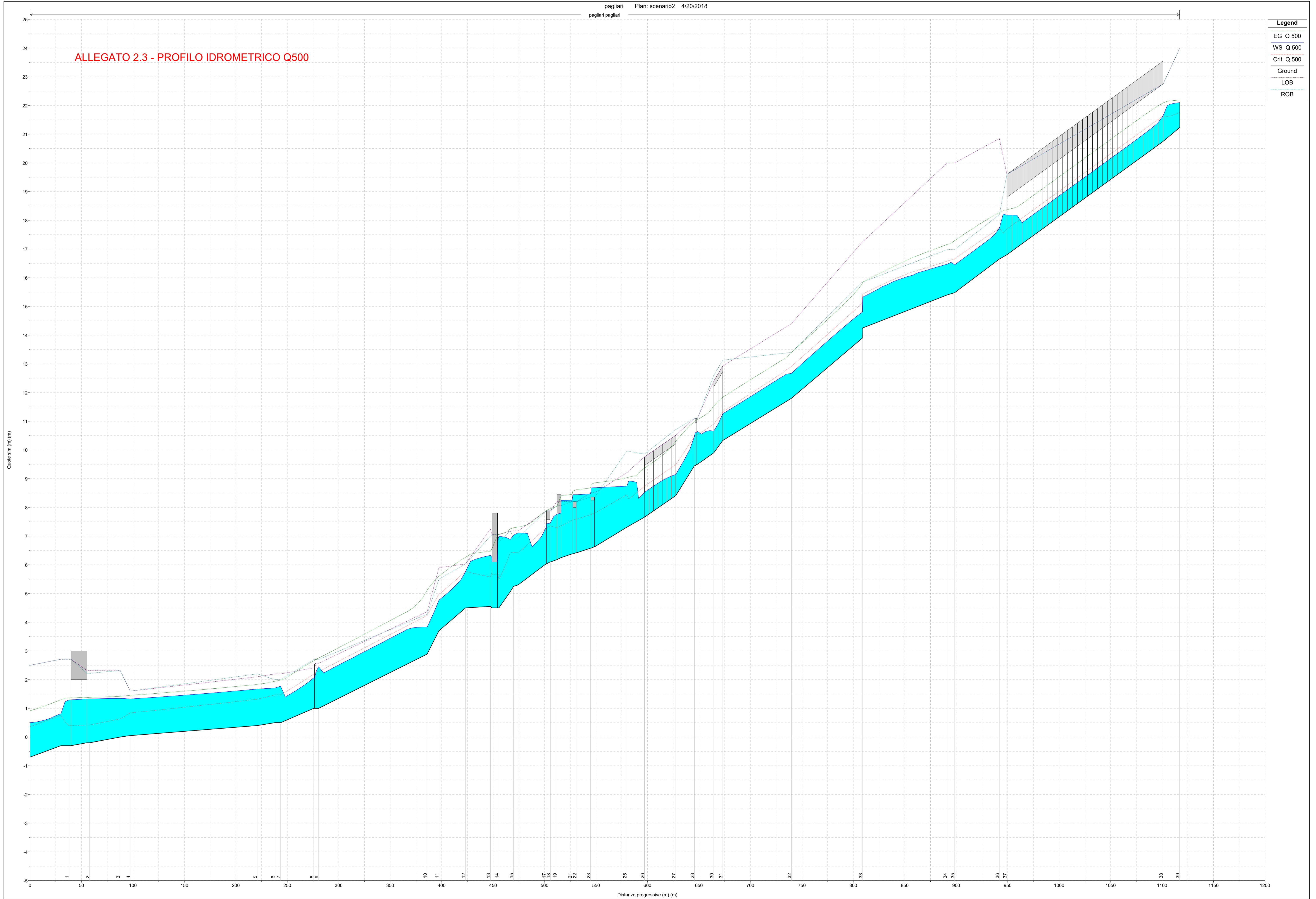
ALLEGATO 2.2 - PROFILO IDROMETRICO Q200

Legend	
EG Q 200	
WS Q 200	
Crit Q 200	
Ground	
LOB	
ROB	



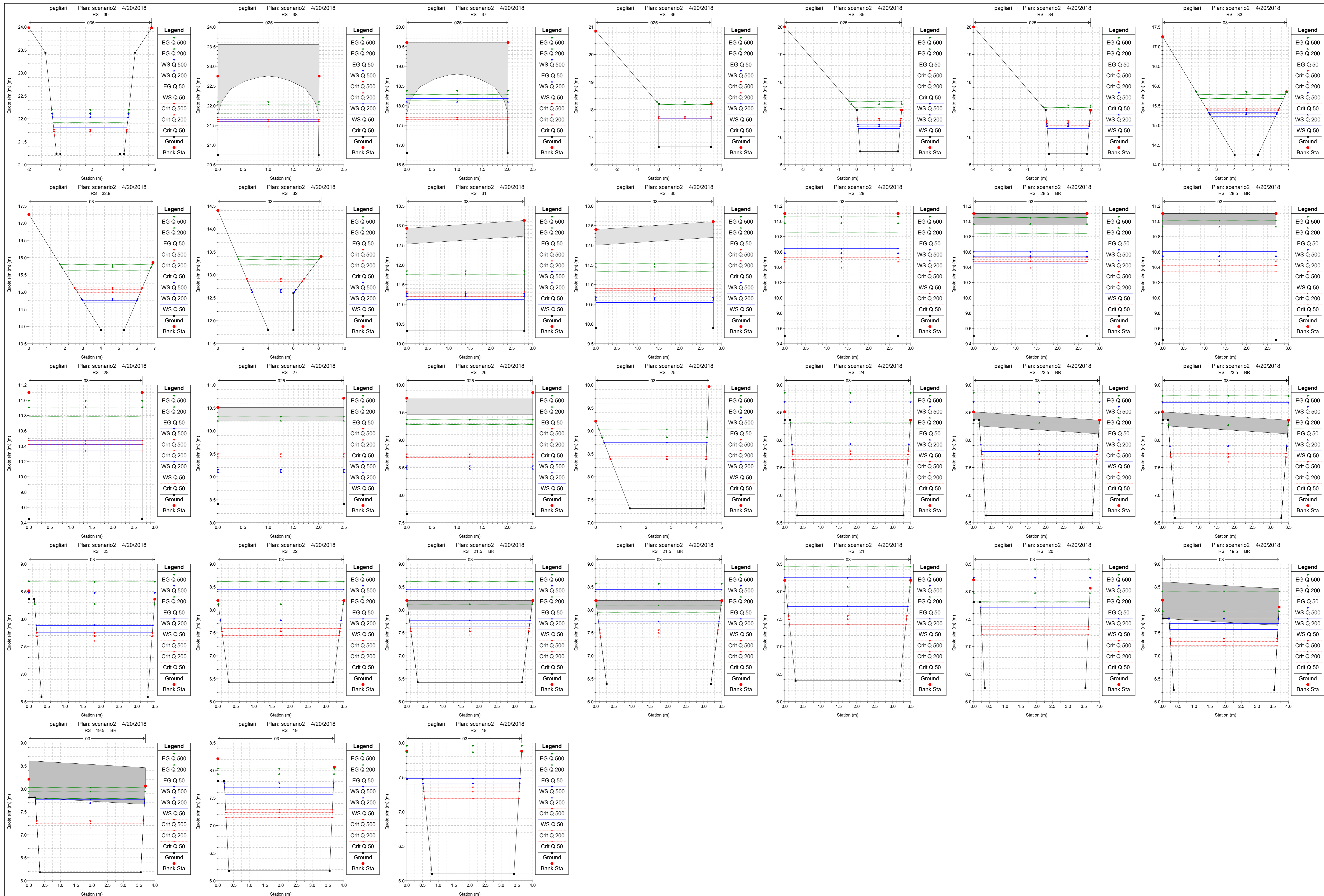
ALLEGATO 2.3 - PROFILO IDROMETRICO Q500

Legend	
EG Q 500	Ground
WS Q 500	LOB
Crit Q 500	ROB



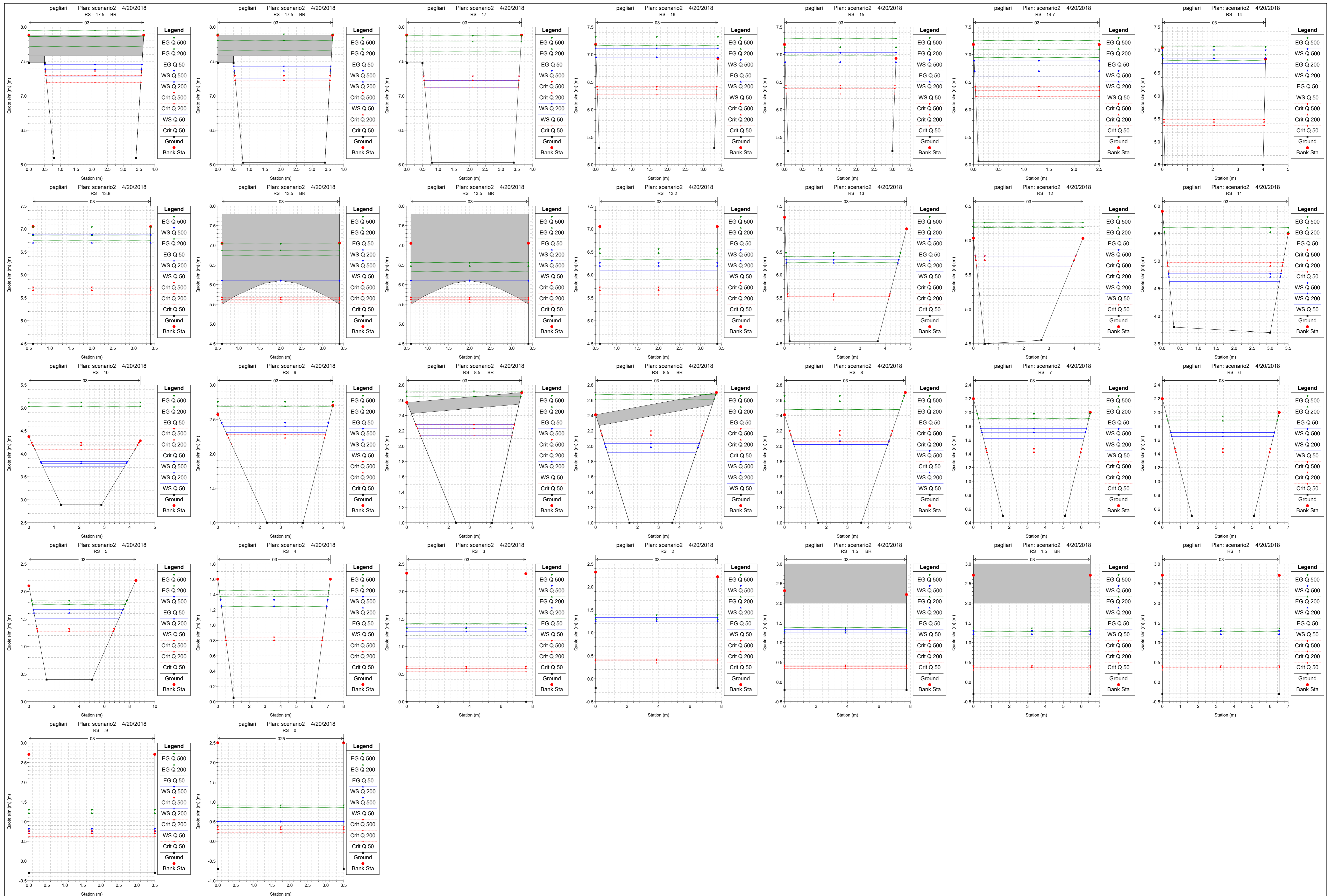


ALLEGATO 2.4 - SEZIONI CON LIVELLI IDROMETRICI - DA SEZ 39 A SEZ 18





ALLEGATO 2.5 - SEZIONI CON LIVELLI IDROMETRICI - DA SEZ 17.5 A SEZ 0



# ALLEGATO 2.6 - TABELLE RIASSUNTIVE

HEC-RAS Plan: scenario2 River: pagliari Reach: pagliari

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
pagliari	39	Q 50	3.70	21.23	21.81	21.65	21.92	0.006653	1.42	2.61	4.66	0.61
pagliari	39	Q 200	4.90	21.23	22.03	21.73	22.12	0.004250	1.34	3.65	4.80	0.49
pagliari	39	Q 500	5.30	21.23	22.10	21.76	22.19	0.003831	1.33	3.99	4.85	0.47
pagliari	38	Q 50	3.70	20.75	21.45	21.45	21.81	0.014036	2.63	1.41	2.00	1.00
pagliari	38	Q 200	4.90	20.75	21.60	21.60	22.02	0.014628	2.88	1.70	2.00	1.00
pagliari	38	Q 500	5.30	20.75	21.64	21.64	22.09	0.014842	2.96	1.79	2.00	1.00
pagliari	37	Q 50	3.70	16.80	18.02	17.50	18.14	0.003253	1.52	2.43	1.91	0.44
pagliari	37	Q 200	4.90	16.80	18.10	17.65	18.28	0.004897	1.90	2.58	1.88	0.53
pagliari	37	Q 500	5.30	16.80	18.18	17.69	18.37	0.004964	1.94	2.73	1.82	0.53
pagliari	36	Q 50	7.10	16.65	17.58	17.58	18.06	0.013282	3.04	2.34	2.50	1.00
pagliari	36	Q 200	8.10	16.65	17.67	17.67	18.18	0.013580	3.17	2.55	2.50	1.00
pagliari	36	Q 500	8.80	16.65	17.73	17.73	18.27	0.013788	3.26	2.70	2.50	1.00
pagliari	35	Q 50	7.10	15.48	16.31	16.51	17.07	0.024314	3.86	1.84	2.32	1.38
pagliari	35	Q 200	8.10	15.48	16.39	16.60	17.21	0.024128	3.99	2.03	2.34	1.37
pagliari	35	Q 500	8.80	15.48	16.45	16.66	17.29	0.023938	4.07	2.16	2.36	1.36
pagliari	34	Q 50	7.10	15.40	16.31	16.43	16.94	0.018619	3.50	2.03	2.33	1.20
pagliari	34	Q 200	8.10	15.40	16.40	16.52	17.07	0.018783	3.64	2.23	2.35	1.19
pagliari	34	Q 500	8.80	15.40	16.47	16.58	17.16	0.018094	3.67	2.40	2.37	1.16
pagliari	33	Q 50	7.10	14.25	15.22	15.31	15.68	0.018038	3.01	2.36	3.57	1.18
pagliari	33	Q 200	8.10	14.25	15.28	15.38	15.78	0.018331	3.13	2.59	3.71	1.20
pagliari	33	Q 500	8.80	14.25	15.32	15.43	15.85	0.018631	3.22	2.74	3.80	1.21
pagliari	32.9	Q 50	7.10	13.90	14.69	14.99	15.63	0.045857	4.29	1.65	2.89	1.81
pagliari	32.9	Q 200	8.10	13.90	14.76	15.07	15.73	0.043646	4.36	1.86	3.03	1.78
pagliari	32.9	Q 500	8.80	13.90	14.80	15.12	15.80	0.042547	4.42	1.99	3.12	1.76
pagliari	32	Q 50	7.10	11.80	12.56	12.78	13.23	0.032216	3.63	1.96	3.17	1.47
pagliari	32	Q 200	8.10	11.80	12.63	12.86	13.33	0.031786	3.72	2.18	3.34	1.47
pagliari	32	Q 500	8.80	11.80	12.67	12.91	13.40	0.032123	3.79	2.32	3.52	1.49
pagliari	31	Q 50	7.10	10.33	11.12	11.20	11.64	0.022924	3.20	2.22	2.80	1.15
pagliari	31	Q 200	8.10	10.33	11.21	11.28	11.76	0.022123	3.29	2.46	2.80	1.12
pagliari	31	Q 500	8.80	10.33	11.26	11.33	11.84	0.022044	3.36	2.62	2.80	1.11
pagliari	30	Q 50	7.10	9.90	10.55	10.77	11.33	0.040993	3.92	1.81	2.80	1.56
pagliari	30	Q 200	8.10	9.90	10.61	10.85	11.45	0.040120	4.05	2.00	2.80	1.53
pagliari	30	Q 500	8.80	9.90	10.66	10.90	11.53	0.039642	4.14	2.13	2.80	1.52
pagliari	29	Q 50	7.10	9.50	10.49	10.39	10.85	0.013327	2.65	2.68	2.70	0.85
pagliari	29	Q 200	8.10	9.50	10.58	10.47	10.97	0.013632	2.77	2.92	2.70	0.85
pagliari	29	Q 500	8.80	9.50	10.64	10.52	11.06	0.013842	2.85	3.09	2.70	0.85
pagliari	28.5		Bridge									
pagliari	28	Q 50	7.10	9.45	10.34	10.34	10.79	0.018127	2.96	2.40	2.70	1.00
pagliari	28	Q 200	8.10	9.45	10.42	10.42	10.91	0.018465	3.09	2.62	2.70	1.00
pagliari	28	Q 500	8.80	9.45	10.47	10.47	10.99	0.018705	3.18	2.77	2.70	1.00
pagliari	27	Q 50	7.10	8.41	9.04	9.35	10.09	0.041288	4.54	1.56	2.50	1.83
pagliari	27	Q 200	8.10	8.41	9.10	9.43	10.22	0.040096	4.67	1.73	2.50	1.79
pagliari	27	Q 500	8.80	8.41	9.15	9.49	10.31	0.039532	4.77	1.85	2.50	1.77
pagliari	26	Q 50	7.10	7.66	8.40	8.60	9.15	0.025153	3.82	1.86	2.50	1.41
pagliari	26	Q 200	8.10	7.66	8.48	8.68	9.28	0.025235	3.97	2.04	2.50	1.40
pagliari	26	Q 500	8.80	7.66	8.53	8.74	9.37	0.025265	4.07	2.16	2.50	1.40
pagliari	25	Q 50	9.70	7.31	8.30	8.30	8.74	0.014140	2.94	3.30	3.73	1.00
pagliari	25	Q 200	11.10	7.31	8.39	8.39	8.86	0.014091	3.06	3.63	3.80	1.00
pagliari	25	Q 500	12.00	7.31	8.74	8.44	9.03	0.006664	2.38	5.04	4.08	0.68
pagliari	24	Q 50	9.70	6.63	7.80	7.65	8.17	0.010858	2.69	3.61	3.22	0.81
pagliari	24	Q 200	11.10	6.63	7.92	7.74	8.31	0.010673	2.77	4.01	3.25	0.80
pagliari	24	Q 500	12.00	6.63	8.69	7.80	8.86	0.003372	1.82	6.60	3.50	0.42
pagliari	23.5		Bridge									
pagliari	23	Q 50	9.70	6.58	7.76	7.60	8.12	0.010689	2.67	3.63	3.21	0.80
pagliari	23	Q 200	11.10	6.58	7.88	7.69	8.27	0.010510	2.75	4.03	3.24	0.79
pagliari	23	Q 500	12.00	6.58	8.47	7.75	8.68	0.004342	2.00	6.00	3.50	0.49
pagliari	22	Q 50	9.70	6.42	7.64	7.44	7.98	0.009333	2.55	3.80	3.31	0.76
pagliari	22	Q 200	11.10	6.42	7.77	7.53	8.12	0.009056	2.62	4.24	3.36	0.74
pagliari	22	Q 500	12.00	6.42	8.44	7.59	8.62	0.003295	1.83	6.55	3.50	0.43
pagliari	21.5		Bridge									
pagliari	21	Q 50	9.70	6.38	7.59	7.40	7.93	0.009598	2.58	3.76	3.30	0.77
pagliari	21	Q 200	11.10	6.38	7.73	7.49	8.08	0.009241	2.64	4.21	3.34	0.75
pagliari	21	Q 500	12.00	6.38	8.25	7.55	8.45	0.004158	2.00	6.00	3.50	0.49
pagliari	20	Q 50	9.70	6.25	7.57	7.22	7.82	0.006493	2.21	4.38	3.44	0.63



HEC-RAS Plan: scenario2 River: pagliari Reach: pagliari (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
pagliari	20	Q 200	11.10	6.25	7.71	7.31	7.97	0.006446	2.29	4.85	3.46	0.62
pagliari	20	Q 500	12.00	6.25	8.24	7.36	8.40	0.003115	1.76	6.82	3.70	0.41
pagliari	19.5		Bridge									
pagliari	19	Q 50	9.70	6.18	7.56	7.15	7.79	0.005748	2.12	4.58	3.44	0.59
pagliari	19	Q 200	11.10	6.18	7.69	7.24	7.94	0.005878	2.21	5.02	3.46	0.59
pagliari	19	Q 500	12.00	6.18	7.77	7.29	8.03	0.005917	2.26	5.30	3.47	0.59
pagliari	18	Q 50	9.70	6.10	7.30	7.19	7.72	0.012532	2.86	3.39	3.03	0.86
pagliari	18	Q 200	11.10	6.10	7.41	7.29	7.87	0.012717	2.98	3.72	3.07	0.86
pagliari	18	Q 500	12.00	6.10	7.48	7.36	7.96	0.014433	3.05	3.93	3.59	0.93
pagliari	17.5		Bridge									
pagliari	17	Q 50	9.70	6.03	7.12	7.12	7.64	0.016842	3.19	3.04	2.97	1.01
pagliari	17	Q 200	11.10	6.03	7.22	7.22	7.78	0.017052	3.32	3.34	3.01	1.01
pagliari	17	Q 500	12.00	6.03	7.28	7.28	7.87	0.017187	3.40	3.53	3.03	1.01
pagliari	16	Q 50	9.70	5.30	6.81	6.27	7.01	0.004626	1.95	4.97	3.37	0.51
pagliari	16	Q 200	11.10	5.30	6.95	6.36	7.16	0.004770	2.04	5.44	3.39	0.51
pagliari	16	Q 500	12.00	5.30	7.11	6.42	7.32	0.004316	2.01	5.98	3.40	0.48
pagliari	15	Q 50	9.70	5.25	6.73	6.28	6.98	0.006306	2.19	4.43	3.07	0.58
pagliari	15	Q 200	11.10	5.25	6.86	6.38	7.13	0.006573	2.30	4.82	3.08	0.59
pagliari	15	Q 500	12.00	5.25	7.03	6.44	7.29	0.005845	2.24	5.35	3.09	0.54
pagliari	14.7	Q 50	9.70	5.06	6.60	6.24	6.94	0.009895	2.58	3.76	2.47	0.67
pagliari	14.7	Q 200	11.10	5.06	6.70	6.35	7.09	0.011068	2.78	4.00	2.48	0.70
pagliari	14.7	Q 500	12.00	5.06	6.88	6.42	7.25	0.009810	2.69	4.46	2.49	0.64
pagliari	14	Q 50	9.70	4.50	6.71	5.35	6.77	0.001012	1.10	8.81	4.08	0.24
pagliari	14	Q 200	11.10	4.50	6.82	5.43	6.89	0.001159	1.20	9.26	4.09	0.25
pagliari	14	Q 500	12.00	4.50	6.99	5.48	7.07	0.001114	1.20	9.98	4.10	0.25
pagliari	13.8	Q 50	9.70	4.50	6.61	5.57	6.74	0.003070	1.65	5.90	2.80	0.36
pagliari	13.8	Q 200	11.10	4.50	6.70	5.67	6.86	0.003617	1.81	6.15	2.80	0.39
pagliari	13.8	Q 500	12.00	4.50	6.87	5.73	7.04	0.003485	1.81	6.64	2.80	0.37
pagliari	13.5		Bridge									
pagliari	13.2	Q 50	9.70	4.50	6.09	5.57	6.33	0.006358	2.18	4.44	2.80	0.55
pagliari	13.2	Q 200	11.10	4.50	6.19	5.67	6.47	0.007037	2.34	4.74	2.80	0.57
pagliari	13.2	Q 500	12.00	4.50	6.26	5.73	6.56	0.007478	2.44	4.92	2.80	0.59
pagliari	13	Q 50	9.70	4.55	6.14	5.45	6.26	0.002435	1.55	6.26	4.37	0.41
pagliari	13	Q 200	11.10	4.55	6.26	5.53	6.40	0.002573	1.64	6.77	4.43	0.42
pagliari	13	Q 500	12.00	4.55	6.33	5.58	6.48	0.002660	1.69	7.09	4.47	0.43
pagliari	12	Q 50	9.70	4.50	5.62	5.62	6.06	0.013628	2.94	3.30	3.78	1.00
pagliari	12	Q 200	11.10	4.50	5.71	5.71	6.19	0.013547	3.04	3.65	3.91	1.00
pagliari	12	Q 500	12.00	4.50	5.77	5.77	6.26	0.013502	3.10	3.87	3.98	1.00
pagliari	11	Q 50	9.70	3.70	4.63	4.81	5.38	0.028666	3.85	2.52	3.06	1.35
pagliari	11	Q 200	11.10	3.70	4.71	4.91	5.52	0.028417	3.99	2.78	3.10	1.34
pagliari	11	Q 500	12.00	3.70	4.77	4.97	5.61	0.027817	4.05	2.97	3.13	1.33
pagliari	10	Q 50	9.70	2.89	3.73	4.09	4.89	0.049780	4.77	2.03	3.25	1.93
pagliari	10	Q 200	11.10	2.89	3.79	4.19	5.03	0.049404	4.93	2.25	3.38	1.93
pagliari	10	Q 500	12.00	2.89	3.83	4.24	5.12	0.049189	5.03	2.39	3.46	1.93
pagliari	9	Q 50	9.70	1.00	2.31	2.14	2.58	0.007176	2.30	4.23	4.76	0.78
pagliari	9	Q 200	11.10	1.00	2.39	2.23	2.68	0.007277	2.39	4.65	4.96	0.79
pagliari	9	Q 500	12.00	1.00	2.45	2.28	2.75	0.007275	2.44	4.92	5.09	0.79
pagliari	8.5		Bridge									
pagliari	8	Q 50	9.70	1.00	1.95	2.06	2.48	0.018458	3.23	3.00	4.30	1.23
pagliari	8	Q 200	11.10	1.00	2.02	2.15	2.59	0.018240	3.34	3.33	4.48	1.23
pagliari	8	Q 500	12.00	1.00	2.07	2.20	2.65	0.018112	3.40	3.53	4.58	1.24
pagliari	7	Q 50	9.70	0.50	1.62	1.35	1.81	0.004630	1.91	5.07	5.59	0.64
pagliari	7	Q 200	11.10	0.50	1.71	1.42	1.91	0.004610	1.99	5.59	5.76	0.64
pagliari	7	Q 500	12.00	0.50	1.77	1.47	1.98	0.004576	2.02	5.93	5.87	0.64
pagliari	6	Q 50	9.70	0.50	1.56	1.35	1.77	0.005659	2.05	4.73	5.47	0.71
pagliari	6	Q 200	11.10	0.50	1.65	1.42	1.88	0.005540	2.12	5.24	5.64	0.70
pagliari	6	Q 500	12.00	0.50	1.71	1.47	1.94	0.005436	2.15	5.57	5.76	0.70
pagliari	5	Q 50	9.70	0.40	1.51	1.21	1.66	0.003695	1.70	5.72	6.68	0.59
pagliari	5	Q 200	11.10	0.40	1.61	1.28	1.76	0.003554	1.74	6.39	6.95	0.58
pagliari	5	Q 500	12.00	0.40	1.67	1.32	1.83	0.003449	1.76	6.83	7.13	0.57
pagliari	4	Q 50	9.70	0.05	1.12	0.74	1.24	0.002877	1.55	6.24	6.53	0.51
pagliari	4	Q 200	11.10	0.05	1.25	0.80	1.37	0.002594	1.57	7.09	6.69	0.49
pagliari	4	Q 500	12.00	0.05	1.33	0.84	1.45	0.002446	1.57	7.63	6.80	0.47

HEC-RAS Plan: scenario2 River: pagliari Reach: pagliari (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
pagliari	3	Q 50	9.70	0.00	1.14	0.55	1.20	0.001356	1.12	8.63	7.57	0.34
pagliari	3	Q 200	11.10	0.00	1.27	0.60	1.34	0.001287	1.16	9.60	7.57	0.33
pagliari	3	Q 500	12.00	0.00	1.35	0.63	1.42	0.001252	1.18	10.21	7.57	0.32
pagliari	2	Q 50	9.70	-0.20	1.12	0.34	1.17	0.000823	0.95	10.24	7.75	0.26
pagliari	2	Q 200	11.10	-0.20	1.25	0.39	1.30	0.000816	0.99	11.24	7.75	0.26
pagliari	2	Q 500	12.00	-0.20	1.33	0.42	1.38	0.000812	1.01	11.87	7.75	0.26
pagliari	1.5		Bridge									
pagliari	1	Q 50	9.70	-0.30	1.09	0.31	1.15	0.001079	1.07	9.02	6.50	0.29
pagliari	1	Q 200	11.10	-0.30	1.22	0.37	1.28	0.001094	1.13	9.85	6.50	0.29
pagliari	1	Q 500	12.00	-0.30	1.30	0.40	1.36	0.001102	1.16	10.37	6.50	0.29
pagliari	.9	Q 50	9.70	-0.30	0.69	0.62	1.09	0.013157	2.81	3.45	3.50	0.90
pagliari	.9	Q 200	11.10	-0.30	0.76	0.71	1.22	0.014128	3.00	3.70	3.50	0.93
pagliari	.9	Q 500	12.00	-0.30	0.81	0.76	1.30	0.014242	3.08	3.90	3.50	0.93
pagliari	0	Q 50	9.70	-0.70	0.50	0.22	0.77	0.005245	2.31	4.20	3.50	0.67
pagliari	0	Q 200	11.10	-0.70	0.50	0.30	0.86	0.006868	2.64	4.20	3.50	0.77
pagliari	0	Q 500	12.00	-0.70	0.50	0.36	0.92	0.008027	2.86	4.20	3.50	0.83

Plan: scenario2 pagliari pagliari RS: 28.5 Profile: Q 50

E.G. US. (m)	10.85	Element	Inside BR US	Inside BR DS
W.S. US. (m)	10.49	E.G. Elev (m)	10.84	10.80
Q Total (m3/s)	7.10	W.S. Elev (m)	10.45	10.45
Q Bridge (m3/s)	7.10	Crit W.S. (m)	10.39	10.34
Q Weir (m3/s)		Max Chl Dpth (m)	0.95	1.00
Weir Sta Lft (m)		Vel Total (m/s)	2.77	2.62
Weir Sta Rgt (m)		Flow Area (m2)	2.57	2.71
Weir Submerg		Froude # Chl	0.91	0.83
Weir Max Depth (m)		Specif Force (m3)	3.22	3.26
Min El Weir Flow (m)	11.10	Hydr Depth (m)	0.95	1.00
Min El Prs (m)	10.95	W.P. Total (m)	4.60	4.71
Delta EG (m)	0.07	Conv. Total (m3/s)	58.0	62.6
Delta WS (m)	0.15	Top Width (m)	2.70	2.70
BR Open Area (m2)	3.91	Frctn Loss (m)	0.02	0.01
BR Open Vel (m/s)	2.77	C & E Loss (m)	0.01	0.01
Coef of Q		Shear Total (N/m2)	82.08	72.63
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 28.5 Profile: Q 200

E.G. US. (m)	10.97	Element	Inside BR US	Inside BR DS
W.S. US. (m)	10.58	E.G. Elev (m)	10.96	10.93
Q Total (m3/s)	8.10	W.S. Elev (m)	10.54	10.54
Q Bridge (m3/s)	8.10	Crit W.S. (m)	10.47	10.42
Q Weir (m3/s)		Max Chl Dpth (m)	1.04	1.09
Weir Sta Lft (m)		Vel Total (m/s)	2.88	2.74
Weir Sta Rgt (m)		Flow Area (m2)	2.81	2.96
Weir Submerg		Froude # Chl	0.90	0.84
Weir Max Depth (m)		Specif Force (m3)	3.84	3.88
Min El Weir Flow (m)	11.10	Hydr Depth (m)	1.04	1.09
Min El Prs (m)	10.95	W.P. Total (m)	4.78	4.89
Delta EG (m)	0.07	Conv. Total (m3/s)	65.7	70.4
Delta WS (m)	0.16	Top Width (m)	2.70	2.70
BR Open Area (m2)	3.91	Frctn Loss (m)	0.02	0.01
BR Open Vel (m/s)	2.88	C & E Loss (m)	0.01	0.01
Coef of Q		Shear Total (N/m2)	87.49	78.41
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 28.5 Profile: Q 500

E.G. US. (m)	11.06	Element	Inside BR US	Inside BR DS
W.S. US. (m)	10.64	E.G. Elev (m)	11.05	11.01
Q Total (m3/s)	8.80	W.S. Elev (m)	10.60	10.61
Q Bridge (m3/s)	8.80	Crit W.S. (m)	10.53	10.48
Q Weir (m3/s)		Max Chl Dpth (m)	1.10	1.16
Weir Sta Lft (m)		Vel Total (m/s)	2.96	2.82
Weir Sta Rgt (m)		Flow Area (m2)	2.98	3.12
Weir Submerg		Froude # Chl	0.90	0.84
Weir Max Depth (m)		Specif Force (m3)	4.29	4.33
Min El Weir Flow (m)	11.10	Hydr Depth (m)	1.10	1.16
Min El Prs (m)	10.95	W.P. Total (m)	4.90	5.01
Delta EG (m)	0.07	Conv. Total (m3/s)	71.1	75.8
Delta WS (m)	0.17	Top Width (m)	2.70	2.70
BR Open Area (m2)	3.91	Frctn Loss (m)	0.02	0.01
BR Open Vel (m/s)	2.96	C & E Loss (m)	0.01	0.01
Coef of Q		Shear Total (N/m2)	91.14	82.28
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 23.5 Profile: Q 50

E.G. US. (m)	8.17	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.80	E.G. Elev (m)	8.17	8.13
Q Total (m3/s)	9.70	W.S. Elev (m)	7.79	7.77
Q Bridge (m3/s)	9.70	Crit W.S. (m)	7.65	7.60
Q Weir (m3/s)		Max Chl Dpth (m)	1.16	1.19
Weir Sta Lft (m)		Vel Total (m/s)	2.71	2.65
Weir Sta Rgt (m)		Flow Area (m2)	3.58	3.66
Weir Submerg		Froude # Chl	0.82	0.79
Weir Max Depth (m)		Specif Force (m3)	4.73	4.76
Min El Weir Flow (m)	8.36	Hydr Depth (m)	1.11	1.14
Min El Prs (m)	8.25	W.P. Total (m)	5.29	5.34
Delta EG (m)	0.05	Conv. Total (m3/s)	92.0	95.0
Delta WS (m)	0.04	Top Width (m)	3.22	3.22
BR Open Area (m2)	4.86	Frctn Loss (m)	0.03	0.01
BR Open Vel (m/s)	2.71	C & E Loss (m)	0.01	0.00
Coef of Q		Shear Total (N/m2)	73.77	70.11
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 23.5 Profile: Q 200

E.G. US. (m)	8.31	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.92	E.G. Elev (m)	8.31	8.27
Q Total (m3/s)	11.10	W.S. Elev (m)	7.91	7.89
Q Bridge (m3/s)	11.10	Crit W.S. (m)	7.74	7.69
Q Weir (m3/s)		Max Chl Dpth (m)	1.28	1.31
Weir Sta Lft (m)		Vel Total (m/s)	2.79	2.73
Weir Sta Rgt (m)		Flow Area (m2)	3.98	4.06
Weir Submerg		Froude # Chl	0.81	0.78
Weir Max Depth (m)		Specif Force (m3)	5.67	5.71
Min El Weir Flow (m)	8.36	Hydr Depth (m)	1.23	1.25
Min El Prs (m)	8.25	W.P. Total (m)	5.53	5.59
Delta EG (m)	0.05	Conv. Total (m3/s)	106.4	109.5
Delta WS (m)	0.04	Top Width (m)	3.25	3.24
BR Open Area (m2)	4.86	Frctn Loss (m)	0.03	0.00
BR Open Vel (m/s)	2.79	C & E Loss (m)	0.00	0.00
Coef of Q		Shear Total (N/m2)	76.72	73.28
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 23.5 Profile: Q 500

E.G. US. (m)	8.86	Element	Inside BR US	Inside BR DS
W.S. US. (m)	8.69	E.G. Elev (m)	8.86	8.80
Q Total (m3/s)	12.00	W.S. Elev (m)	8.69	8.68
Q Bridge (m3/s)	10.66	Crit W.S. (m)	7.80	7.75
Q Weir (m3/s)	1.34	Max Chl Dpth (m)	2.06	2.10
Weir Sta Lft (m)	0.00	Vel Total (m/s)	0.00	0.00
Weir Sta Rgt (m)	3.50	Flow Area (m2)		
Weir Submerg	0.09	Froude # Chl	0.47	0.45
Weir Max Depth (m)	0.50	Specif Force (m3)	8.82	9.05
Min El Weir Flow (m)	8.36	Hydr Depth (m)		
Min El Prs (m)	8.25	W.P. Total (m)	13.40	13.49
Delta EG (m)	0.18	Conv. Total (m3/s)		
Delta WS (m)	0.21	Top Width (m)	3.50	3.50
BR Open Area (m2)	4.86	Frctn Loss (m)		
BR Open Vel (m/s)	2.19	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)		
Br Sel Method	Press/Weir	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 21.5 Profile: Q 50

E.G. US. (m)	7.98	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.64	E.G. Elev (m)	7.97	7.94
Q Total (m3/s)	9.70	W.S. Elev (m)	7.63	7.61
Q Bridge (m3/s)	9.70	Crit W.S. (m)	7.44	7.41
Q Weir (m3/s)		Max Chl Dpth (m)	1.21	1.23
Weir Sta Lft (m)		Vel Total (m/s)	2.58	2.55
Weir Sta Rgt (m)		Flow Area (m2)	3.76	3.81
Weir Submerg		Froude # Chl	0.77	0.76
Weir Max Depth (m)		Specif Force (m3)	4.78	4.81
Min El Weir Flow (m)	8.20	Hydr Depth (m)	1.14	1.15
Min El Prs (m)	8.00	W.P. Total (m)	5.36	5.39
Delta EG (m)	0.04	Conv. Total (m3/s)	99.1	100.7
Delta WS (m)	0.05	Top Width (m)	3.31	3.30
BR Open Area (m2)	5.00	Frctn Loss (m)	0.03	0.01
BR Open Vel (m/s)	2.58	C & E Loss (m)	0.00	0.00
Coef of Q		Shear Total (N/m2)	66.01	64.27
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 21.5 Profile: Q 200

E.G. US. (m)	8.12	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.77	E.G. Elev (m)	8.12	8.09
Q Total (m3/s)	11.10	W.S. Elev (m)	7.76	7.74
Q Bridge (m3/s)	11.10	Crit W.S. (m)	7.54	7.50
Q Weir (m3/s)		Max Chl Dpth (m)	1.34	1.36
Weir Sta Lft (m)		Vel Total (m/s)	2.64	2.61
Weir Sta Rgt (m)		Flow Area (m2)	4.20	4.25
Weir Submerg		Froude # Chl	0.75	0.74
Weir Max Depth (m)		Specif Force (m3)	5.75	5.78
Min El Weir Flow (m)	8.20	Hydr Depth (m)	1.25	1.27
Min El Prs (m)	8.00	W.P. Total (m)	5.63	5.66
Delta EG (m)	0.04	Conv. Total (m3/s)	115.3	117.1
Delta WS (m)	0.05	Top Width (m)	3.35	3.35
BR Open Area (m2)	5.00	Frctn Loss (m)	0.03	0.01
BR Open Vel (m/s)	2.64	C & E Loss (m)	0.00	0.00
Coef of Q		Shear Total (N/m2)	67.85	66.16
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 21.5 Profile: Q 500

E.G. US. (m)	8.62	Element	Inside BR US	Inside BR DS
W.S. US. (m)	8.44	E.G. Elev (m)	8.62	8.57
Q Total (m3/s)	12.00	W.S. Elev (m)	8.44	8.44
Q Bridge (m3/s)	10.68	Crit W.S. (m)	7.60	7.56
Q Weir (m3/s)	1.32	Max Chl Dpth (m)	2.02	2.06
Weir Sta Lft (m)	0.00	Vel Total (m/s)	0.00	0.00
Weir Sta Rgt (m)	3.50	Flow Area (m2)		
Weir Submerg	0.12	Froude # Chl	0.46	0.45
Weir Max Depth (m)	0.42	Specif Force (m3)	8.68	8.87
Min El Weir Flow (m)	8.20	Hydr Depth (m)		
Min El Prs (m)	8.00	W.P. Total (m)	13.53	13.60
Delta EG (m)	0.16	Conv. Total (m3/s)		
Delta WS (m)	0.19	Top Width (m)	3.50	3.50
BR Open Area (m2)	5.00	Frctn Loss (m)		
BR Open Vel (m/s)	2.14	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)		
Br Sel Method	Press/Weir	Power Total (N/m s)	0.00	0.00



Plan: scenario2 pagliari pagliari RS: 19.5 Profile: Q 50

E.G. US. (m)	7.82	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.57	E.G. Elev (m)	7.82	7.79
Q Total (m3/s)	9.70	W.S. Elev (m)	7.57	7.56
Q Bridge (m3/s)	9.70	Crit W.S. (m)	7.22	7.15
Q Weir (m3/s)		Max Chl Dpth (m)	1.32	1.38
Weir Sta Lft (m)		Vel Total (m/s)	2.21	2.12
Weir Sta Rgt (m)		Flow Area (m2)	4.38	4.58
Weir Submerg		Froude # Chl	0.63	0.59
Weir Max Depth (m)		Specif Force (m3)	5.05	5.22
Min El Weir Flow (m)	8.46	Hydr Depth (m)	1.27	1.33
Min El Prs (m)	7.80	W.P. Total (m)	5.85	5.97
Delta EG (m)	0.03	Conv. Total (m3/s)	120.4	127.9
Delta WS (m)	0.01	Top Width (m)	3.44	3.44
BR Open Area (m2)	4.94	Frctn Loss (m)	0.02	0.00
BR Open Vel (m/s)	2.21	C & E Loss (m)	0.01	0.00
Coef of Q		Shear Total (N/m2)	47.68	43.24
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 19.5 Profile: Q 200

E.G. US. (m)	7.97	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.71	E.G. Elev (m)	7.97	7.94
Q Total (m3/s)	11.10	W.S. Elev (m)	7.70	7.69
Q Bridge (m3/s)	11.10	Crit W.S. (m)	7.31	7.24
Q Weir (m3/s)		Max Chl Dpth (m)	1.45	1.51
Weir Sta Lft (m)		Vel Total (m/s)	2.31	2.22
Weir Sta Rgt (m)		Flow Area (m2)	4.81	5.01
Weir Submerg		Froude # Chl	0.61	0.58
Weir Max Depth (m)		Specif Force (m3)	6.07	6.24
Min El Weir Flow (m)	8.46	Hydr Depth (m)	1.94	1.76
Min El Prs (m)	7.80	W.P. Total (m)	7.06	6.81
Delta EG (m)	0.04	Conv. Total (m3/s)	124.3	135.9
Delta WS (m)	0.02	Top Width (m)	2.48	2.84
BR Open Area (m2)	4.94	Frctn Loss (m)	0.03	0.00
BR Open Vel (m/s)	2.31	C & E Loss (m)	0.01	0.00
Coef of Q		Shear Total (N/m2)	53.34	48.08
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 19.5 Profile: Q 500

E.G. US. (m)	8.40	Element	Inside BR US	Inside BR DS
W.S. US. (m)	8.24	E.G. Elev (m)	8.40	8.03
Q Total (m3/s)	12.00	W.S. Elev (m)	7.80	7.77
Q Bridge (m3/s)	12.00	Crit W.S. (m)	7.37	7.30
Q Weir (m3/s)		Max Chl Dpth (m)	1.55	1.59
Weir Sta Lft (m)		Vel Total (m/s)	2.43	2.33
Weir Sta Rgt (m)		Flow Area (m2)	4.94	5.16
Weir Submerg		Froude # Chl	0.62	0.59
Weir Max Depth (m)		Specif Force (m3)	6.93	7.00
Min El Weir Flow (m)	8.46	Hydr Depth (m)		6.37
Min El Prs (m)	7.80	W.P. Total (m)	9.64	8.94
Delta EG (m)	0.37	Conv. Total (m3/s)	105.3	119.2
Delta WS (m)	0.48	Top Width (m)		0.81
BR Open Area (m2)	4.94	Frctn Loss (m)		
BR Open Vel (m/s)	2.43	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)	65.18	57.39
Br Sel Method	Press Only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 17.5 Profile: Q 50

E.G. US. (m)	7.72	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.30	E.G. Elev (m)	7.72	7.66
Q Total (m3/s)	9.70	W.S. Elev (m)	7.28	7.25
Q Bridge (m3/s)	9.70	Crit W.S. (m)	7.19	7.13
Q Weir (m3/s)		Max Chl Dpth (m)	1.18	1.22
Weir Sta Lft (m)		Vel Total (m/s)	2.94	2.82
Weir Sta Rgt (m)		Flow Area (m2)	3.30	3.44
Weir Submerg		Froude # Chl	0.90	0.84
Weir Max Depth (m)		Specif Force (m3)	4.80	4.84
Min El Weir Flow (m)	7.88	Hydr Depth (m)	1.09	1.14
Min El Prs (m)	7.58	W.P. Total (m)	4.99	5.09
Delta EG (m)	0.08	Conv. Total (m3/s)	83.7	88.4
Delta WS (m)	0.18	Top Width (m)	3.02	3.02
BR Open Area (m2)	4.24	Frctn Loss (m)	0.05	0.01
BR Open Vel (m/s)	2.94	C & E Loss (m)	0.01	0.01
Coef of Q		Shear Total (N/m2)	87.23	79.92
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 17.5 Profile: Q 200

E.G. US. (m)	7.87	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.41	E.G. Elev (m)	7.86	7.80
Q Total (m3/s)	11.10	W.S. Elev (m)	7.38	7.36
Q Bridge (m3/s)	11.10	Crit W.S. (m)	7.30	7.23
Q Weir (m3/s)		Max Chl Dpth (m)	1.28	1.33
Weir Sta Lft (m)		Vel Total (m/s)	3.05	2.95
Weir Sta Rgt (m)		Flow Area (m2)	3.64	3.77
Weir Submerg		Froude # Chl	0.89	0.85
Weir Max Depth (m)		Specif Force (m3)	5.73	5.78
Min El Weir Flow (m)	7.88	Hydr Depth (m)	1.19	1.23
Min El Prs (m)	7.58	W.P. Total (m)	5.21	5.30
Delta EG (m)	0.08	Conv. Total (m3/s)	95.3	99.9
Delta WS (m)	0.19	Top Width (m)	3.06	3.06
BR Open Area (m2)	4.24	Frctn Loss (m)	0.05	0.01
BR Open Vel (m/s)	3.05	C & E Loss (m)	0.01	0.01
Coef of Q		Shear Total (N/m2)	92.74	85.90
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 17.5 Profile: Q 500

E.G. US. (m)	7.96	Element	Inside BR US	Inside BR DS
W.S. US. (m)	7.48	E.G. Elev (m)	7.95	7.89
Q Total (m3/s)	12.00	W.S. Elev (m)	7.45	7.43
Q Bridge (m3/s)	12.00	Crit W.S. (m)	7.36	7.29
Q Weir (m3/s)		Max Chl Dpth (m)	1.35	1.40
Weir Sta Lft (m)		Vel Total (m/s)	3.12	3.02
Weir Sta Rgt (m)		Flow Area (m2)	3.84	3.97
Weir Submerg		Froude # Chl	0.89	0.85
Weir Max Depth (m)		Specif Force (m3)	6.35	6.40
Min El Weir Flow (m)	7.88	Hydr Depth (m)	1.25	1.29
Min El Prs (m)	7.58	W.P. Total (m)	5.35	5.44
Delta EG (m)	0.08	Conv. Total (m3/s)	102.8	107.3
Delta WS (m)	0.20	Top Width (m)	3.08	3.08
BR Open Area (m2)	4.24	Frctn Loss (m)	0.05	0.01
BR Open Vel (m/s)	3.12	C & E Loss (m)	0.01	0.01
Coef of Q		Shear Total (N/m2)	96.08	89.52
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 13.5 Profile: Q 50

E.G. US. (m)	6.74	Element	Inside BR US	Inside BR DS
W.S. US. (m)	6.61	E.G. Elev (m)	6.74	6.33
Q Total (m3/s)	9.70	W.S. Elev (m)	6.10	6.09
Q Bridge (m3/s)	9.70	Crit W.S. (m)	5.55	5.55
Q Weir (m3/s)		Max Chl Dpth (m)	1.60	1.59
Weir Sta Lft (m)		Vel Total (m/s)	2.53	2.53
Weir Sta Rgt (m)		Flow Area (m2)	3.83	3.83
Weir Submerg		Froude # Chl	0.64	0.64
Weir Max Depth (m)		Specif Force (m3)	5.97	5.92
Min El Weir Flow (m)	7.80	Hydr Depth (m)		
Min El Prs (m)	6.10	W.P. Total (m)	7.88	7.74
Delta EG (m)	0.41	Conv. Total (m3/s)	78.9	79.9
Delta WS (m)	0.52	Top Width (m)		0.14
BR Open Area (m2)	3.83	Frctn Loss (m)		
BR Open Vel (m/s)	2.53	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)	71.98	71.58
Br Sel Method	Press Only	Power Total (N/m s)	28.73	28.73

Plan: scenario2 pagliari pagliari RS: 13.5 Profile: Q 200

E.G. US. (m)	6.86	Element	Inside BR US	Inside BR DS
W.S. US. (m)	6.70	E.G. Elev (m)	6.86	6.47
Q Total (m3/s)	11.10	W.S. Elev (m)	6.10	6.10
Q Bridge (m3/s)	11.10	Crit W.S. (m)	5.62	5.62
Q Weir (m3/s)		Max Chl Dpth (m)	1.60	1.60
Weir Sta Lft (m)		Vel Total (m/s)	2.90	2.90
Weir Sta Rgt (m)		Flow Area (m2)	3.83	3.83
Weir Submerg		Froude # Chl	0.73	0.73
Weir Max Depth (m)		Specif Force (m3)	6.74	6.74
Min El Weir Flow (m)	7.80	Hydr Depth (m)		
Min El Prs (m)	6.10	W.P. Total (m)	7.88	7.88
Delta EG (m)	0.39	Conv. Total (m3/s)	78.9	78.9
Delta WS (m)	0.50	Top Width (m)		
BR Open Area (m2)	3.83	Frctn Loss (m)		
BR Open Vel (m/s)	2.90	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)	94.25	94.25
Br Sel Method	Press Only	Power Total (N/m s)	28.73	28.73

Plan: scenario2 pagliari pagliari RS: 13.5 Profile: Q 500

E.G. US. (m)	7.04	Element	Inside BR US	Inside BR DS
W.S. US. (m)	6.87	E.G. Elev (m)	7.04	6.56
Q Total (m3/s)	12.00	W.S. Elev (m)	6.10	6.10
Q Bridge (m3/s)	12.00	Crit W.S. (m)	5.67	5.67
Q Weir (m3/s)		Max Chl Dpth (m)	1.60	1.60
Weir Sta Lft (m)		Vel Total (m/s)	3.13	3.13
Weir Sta Rgt (m)		Flow Area (m2)	3.83	3.83
Weir Submerg		Froude # Chl	0.79	0.79
Weir Max Depth (m)		Specif Force (m3)	7.30	7.30
Min El Weir Flow (m)	7.80	Hydr Depth (m)		
Min El Prs (m)	6.10	W.P. Total (m)	7.88	7.88
Delta EG (m)	0.48	Conv. Total (m3/s)	78.9	78.9
Delta WS (m)	0.62	Top Width (m)		
BR Open Area (m2)	3.83	Frctn Loss (m)		
BR Open Vel (m/s)	3.13	C & E Loss (m)		
Coef of Q		Shear Total (N/m2)	110.16	110.16
Br Sel Method	Press Only	Power Total (N/m s)	28.73	28.73

Plan: scenario2 pagliari pagliari RS: 8.5 Profile: Q 50

E.G. US. (m)	2.58	Element	Inside BR US	Inside BR DS
W.S. US. (m)	2.31	E.G. Elev (m)	2.54	2.50
Q Total (m3/s)	9.70	W.S. Elev (m)	2.14	1.91
Q Bridge (m3/s)	9.70	Crit W.S. (m)	2.14	2.06
Q Weir (m3/s)		Max Chl Dpth (m)	1.14	0.91
Weir Sta Lft (m)		Vel Total (m/s)	2.80	3.38
Weir Sta Rgt (m)		Flow Area (m2)	3.47	2.87
Weir Submerg		Froude # Chl	1.00	1.31
Weir Max Depth (m)		Specif Force (m3)	4.46	4.50
Min El Weir Flow (m)	2.57	Hydr Depth (m)	0.79	0.68
Min El Prs (m)	2.55	W.P. Total (m)	5.25	4.89
Delta EG (m)	0.10	Conv. Total (m3/s)	87.8	67.0
Delta WS (m)	0.36	Top Width (m)	4.37	4.22
BR Open Area (m2)	5.11	Frctn Loss (m)	0.02	0.01
BR Open Vel (m/s)	3.38	C & E Loss (m)	0.03	0.06
Coef of Q		Shear Total (N/m2)	79.18	120.53
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 8.5 Profile: Q 200

E.G. US. (m)	2.68	Element	Inside BR US	Inside BR DS
W.S. US. (m)	2.39	E.G. Elev (m)	2.65	2.61
Q Total (m3/s)	11.10	W.S. Elev (m)	2.23	1.99
Q Bridge (m3/s)	11.10	Crit W.S. (m)	2.23	2.15
Q Weir (m3/s)		Max Chl Dpth (m)	1.23	0.99
Weir Sta Lft (m)		Vel Total (m/s)	2.88	3.48
Weir Sta Rgt (m)		Flow Area (m2)	3.86	3.19
Weir Submerg		Froude # Chl	1.00	1.31
Weir Max Depth (m)		Specif Force (m3)	5.27	5.33
Min El Weir Flow (m)	2.57	Hydr Depth (m)	0.84	0.72
Min El Prs (m)	2.55	W.P. Total (m)	5.52	5.12
Delta EG (m)	0.10	Conv. Total (m3/s)	101.3	77.4
Delta WS (m)	0.37	Top Width (m)	4.57	4.40
BR Open Area (m2)	5.11	Frctn Loss (m)	0.02	0.01
BR Open Vel (m/s)	3.48	C & E Loss (m)	0.03	0.06
Coef of Q		Shear Total (N/m2)	82.24	125.49
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 8.5 Profile: Q 500

E.G. US. (m)	2.75	Element	Inside BR US	Inside BR DS
W.S. US. (m)	2.45	E.G. Elev (m)	2.72	2.67
Q Total (m3/s)	12.00	W.S. Elev (m)	2.28	2.03
Q Bridge (m3/s)	12.00	Crit W.S. (m)	2.28	2.20
Q Weir (m3/s)		Max Chl Dpth (m)	1.28	1.03
Weir Sta Lft (m)		Vel Total (m/s)	2.93	3.54
Weir Sta Rgt (m)		Flow Area (m2)	4.10	3.39
Weir Submerg		Froude # Chl	1.00	1.31
Weir Max Depth (m)		Specif Force (m3)	5.80	5.87
Min El Weir Flow (m)	2.57	Hydr Depth (m)	0.87	0.75
Min El Prs (m)	2.55	W.P. Total (m)	5.68	5.26
Delta EG (m)	0.10	Conv. Total (m3/s)	110.0	84.1
Delta WS (m)	0.38	Top Width (m)	4.70	4.51
BR Open Area (m2)	5.11	Frctn Loss (m)	0.02	0.01
BR Open Vel (m/s)	3.54	C & E Loss (m)	0.03	0.06
Coef of Q		Shear Total (N/m2)	84.22	128.41
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 1.5 Profile: Q 50

E.G. US. (m)	1.17	Element	Inside BR US	Inside BR DS
W.S. US. (m)	1.12	E.G. Elev (m)	1.17	1.15
Q Total (m3/s)	9.70	W.S. Elev (m)	1.12	1.09
Q Bridge (m3/s)	9.70	Crit W.S. (m)	0.34	0.31
Q Weir (m3/s)		Max Chl Dpth (m)	1.32	1.39
Weir Sta Lft (m)		Vel Total (m/s)	0.95	1.07
Weir Sta Rgt (m)		Flow Area (m2)	10.22	9.04
Weir Submerg		Froude # Chl	0.26	0.29
Weir Max Depth (m)		Specif Force (m3)	7.68	7.35
Min El Weir Flow (m)	3.00	Hydr Depth (m)	1.32	1.39
Min El Prs (m)	2.00	W.P. Total (m)	10.39	9.28
Delta EG (m)	0.02	Conv. Total (m3/s)	337.2	296.0
Delta WS (m)	0.03	Top Width (m)	7.75	6.50
BR Open Area (m2)	14.95	Frctn Loss (m)	0.01	0.00
BR Open Vel (m/s)	1.07	C & E Loss (m)	0.00	0.00
Coef of Q		Shear Total (N/m2)	7.99	10.25
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 1.5 Profile: Q 200

E.G. US. (m)	1.30	Element	Inside BR US	Inside BR DS
W.S. US. (m)	1.25	E.G. Elev (m)	1.30	1.28
Q Total (m3/s)	11.10	W.S. Elev (m)	1.25	1.22
Q Bridge (m3/s)	11.10	Crit W.S. (m)	0.39	0.37
Q Weir (m3/s)		Max Chl Dpth (m)	1.45	1.52
Weir Sta Lft (m)		Vel Total (m/s)	0.99	1.13
Weir Sta Rgt (m)		Flow Area (m2)	11.23	9.86
Weir Submerg		Froude # Chl	0.26	0.29
Weir Max Depth (m)		Specif Force (m3)	9.25	8.76
Min El Weir Flow (m)	3.00	Hydr Depth (m)	1.45	1.52
Min El Prs (m)	2.00	W.P. Total (m)	10.65	9.54
Delta EG (m)	0.02	Conv. Total (m3/s)	387.6	336.4
Delta WS (m)	0.04	Top Width (m)	7.75	6.50
BR Open Area (m2)	14.95	Frctn Loss (m)	0.01	0.00
BR Open Vel (m/s)	1.13	C & E Loss (m)	0.00	0.00
Coef of Q		Shear Total (N/m2)	8.48	11.05
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00

Plan: scenario2 pagliari pagliari RS: 1.5 Profile: Q 500

E.G. US. (m)	1.38	Element	Inside BR US	Inside BR DS
W.S. US. (m)	1.33	E.G. Elev (m)	1.38	1.37
Q Total (m3/s)	12.00	W.S. Elev (m)	1.33	1.30
Q Bridge (m3/s)	12.00	Crit W.S. (m)	0.43	0.40
Q Weir (m3/s)		Max Chl Dpth (m)	1.53	1.60
Weir Sta Lft (m)		Vel Total (m/s)	1.01	1.16
Weir Sta Rgt (m)		Flow Area (m2)	11.85	10.38
Weir Submerg		Froude # Chl	0.26	0.29
Weir Max Depth (m)		Specif Force (m3)	10.30	9.71
Min El Weir Flow (m)	3.00	Hydr Depth (m)	1.53	1.60
Min El Prs (m)	2.00	W.P. Total (m)	10.81	9.69
Delta EG (m)	0.02	Conv. Total (m3/s)	420.1	362.3
Delta WS (m)	0.04	Top Width (m)	7.75	6.50
BR Open Area (m2)	14.95	Frctn Loss (m)	0.01	0.00
BR Open Vel (m/s)	1.16	C & E Loss (m)	0.00	0.00
Coef of Q		Shear Total (N/m2)	8.77	11.52
Br Sel Method	Energy only	Power Total (N/m s)	0.00	0.00