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CANALE S. NICOLO' – MEDELANA

PROGETTO ESECUTIVO

RIPRISTINO DELLE CONDIZIONI DI STABILITÀ ARGINALE DEL CANALE SAN NICOLÒ - MEDELANA. II STRALCIO

RELAZIONI

RELAZIONE IDRAULICA

Data	Elab.	Rev.
09/11/2021	R-3820-SNMST2-PE-02-02	00

IL PROGETTISTA
(Dott. Ing. Elisa Maniezzo)

STUDIO ITA

IL RESPONSABILE DEL PROCEDIMENTO
(Dott. Ing. Marco Volpin)

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2. NORMATIVA DI RIFERIMENTO

Le Normative di riferimento adottate sono le seguenti:

- D.M. 17 gennaio 2018 “Nuove Norme Tecniche per le Costruzioni”
- Circ. Ministero delle infrastrutture e dei trasporti n.7 del 21 gennaio 2019, “Istruzioni per l’applicazione dell’aggiornamento delle “Norme Tecniche per le Costruzioni” di cui al DM del 17 gennaio 2018”.
- D.P.R. 6 giugno 2001, n. 380; “Testo unico delle disposizioni legislative e regolamentari in materia edilizia”.
- LEGGE REGIONALE N. 19 DEL 30-10-2008 REGIONE EMILIA-ROMAGNA NORME PER LA RIDUZIONE DEL RISCHIO SISMICO
- D.Lgs. 50/2016. Attuazione delle direttive 2014/23/UE, 2014/24/UE e 2014/25/UE sull’aggiudicazione dei contratti di concessione, sugli appalti pubblici e sulle procedure d’appalto degli enti erogatori nei settori dell’acqua, dell’energia, dei trasporti e dei servizi postali, nonche’ per il riordino della disciplina vigente in materia di contratti pubblici relativi a lavori, servizi e forniture. (16G00062) (GU Serie Generale n.91 del 19-4-2016 – Suppl. Ordinario n. 10);
- D.Lgs. 42/2004. Codice dei beni culturali del paesaggio;
- Decreto del Min. delle Infrastrutture 14/01/2008. Approvazione delle nuove norme tecniche per le costruzioni;
- D.Lgs. 81/2008. Testo unico sulla sicurezza;
- D.Lgs. 152/2006. Norme in materia ambientale;
- L.R. Emilia Romagna 9/99 sulla Valutazione di Impatto Ambientale;
- L.R. Emilia Romagna 31/2002. Disciplina generale dell’edilizia;
- D.M. 161/2012. Regolamento recante la disciplina dell'utilizzazione delle terre e rocce da scavo;
- L. 177/2012. Modifiche al decreto legislativo 9 aprile 2008, n. 81, in materia di sicurezza sul lavoro per la bonifica degli ordigni bellici;
- D.P.R. 327 del 8/06/2001 Testo Unico sulle procedure espropriative per pubblica utilità;
- L.R. Emilia Romagna n. 37 del 19/12/2002. Disposizioni regionali sugli espropri.

3. PREMESSA

La presente relazione si inserisce nel **Progetto Esecutivo** denominato "**Ripristino delle condizioni di stabilità arginale del canale San Nicolò – Medelana. II Stralcio**".

Il canale San Nicolò Medelana è una importante opera di difesa idraulica e di derivazione irrigua inserita nel territorio ferrarese nel sistema Po di Volano - Navigabile. E' un cavo pensile, posto pochi chilometri a sud est dal capoluogo estense, a sezione trapezia, lungo circa 14,6 chilometri, per la maggioranza del proprio corso dominante rispetto al territorio attraversato. La realizzazione, che risale agli anni 30 dello scorso secolo, nella propria primaria funzione, rispondeva alla duplice necessità di porre in sicurezza il sistema Burana-Volano, scolmando le portate effluenti nel primo tronco del Po di Volano attraverso un collegamento tra il Po di Primaro in località San Nicolò e il Po di Volano stesso a valle della traversa Valpagliaro in località Medelana, e consentire la derivazione irrigua per il fitto reticolo che il canale è andato ad intersecare.

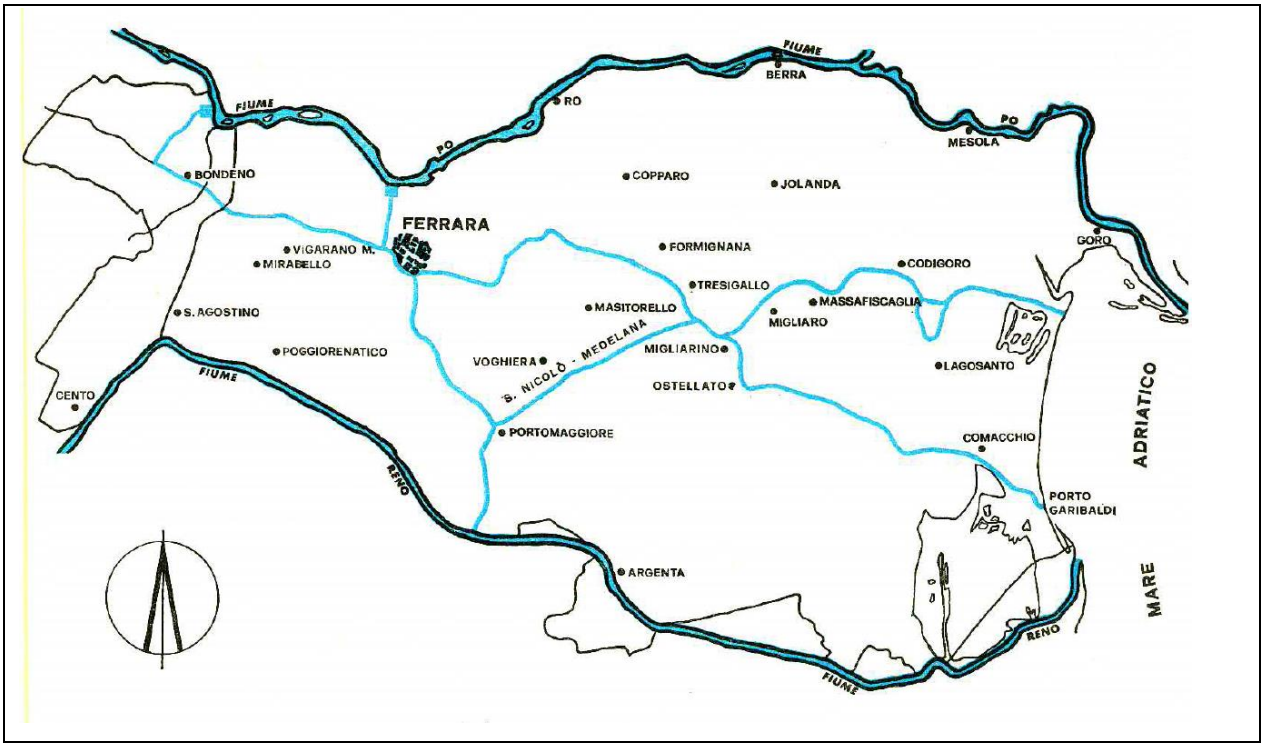


Figura 1. Il canale San Nicolò Medelana nel sistema idraulico principale del Ferrarese.

Purtroppo, come è noto, il canale è rimasto pressoché inutilizzato sin dal 1938, data delle sua ultimazione, a causa di difetti di tenuta lungo buona parte del suo sviluppo imputabile alla elevata permeabilità di arginature e fondo alveo.

Negli anni 80 del secolo scorso, per valorizzare ed utilizzare l'opera, sono stati progettati e realizzati degli interventi di impermeabilizzazione del fondo e delle sponde mediante un rivestimento in calcestruzzo.

Nonostante gli interventi di rivestimento ed impermeabilizzazione delle sponde, ultimati nel 2000, il canale ha presentato anche negli anni successivi e presenta tutt'ora problematiche di tenuta, riscontrate già in fase di collaudo nel 2003.

A seguito delle indagini e della analisi condotte, si sono riscontrate criticità legate alla carente impermeabilizzazione del canale affiancata dalla variabilità litologica dei corpi arginali e dell'immediato sottosuolo con presenza anche importante di limi sabbio e sabbie limose che possono generare importanti fenomeni di instabilità, filtrazione e sifonamento dei corpi arginali.
Il Progetto Esecutivo prevede di realizzare una nuova impermeabilizzazione del Canale mediante la realizzazione di un materasso flessibile in calcestruzzo di spessore 10cm da sovrapporre all'attuale rivestimento.

La presente relazione tratta delle verifiche idrauliche del Canale San Nicolò – Medelana.

4. PROGETTO E STRALCI FUNZIONALI

L'intervento complessivo si svilupperà a partire dall'opera di modulazione di San Nicolò (prog. 0+000) fino alla Sez. 73 (prog. 14+600) in prossimità della Chiusa Medelana per una lunghezza complessiva di **14.600 metri**.

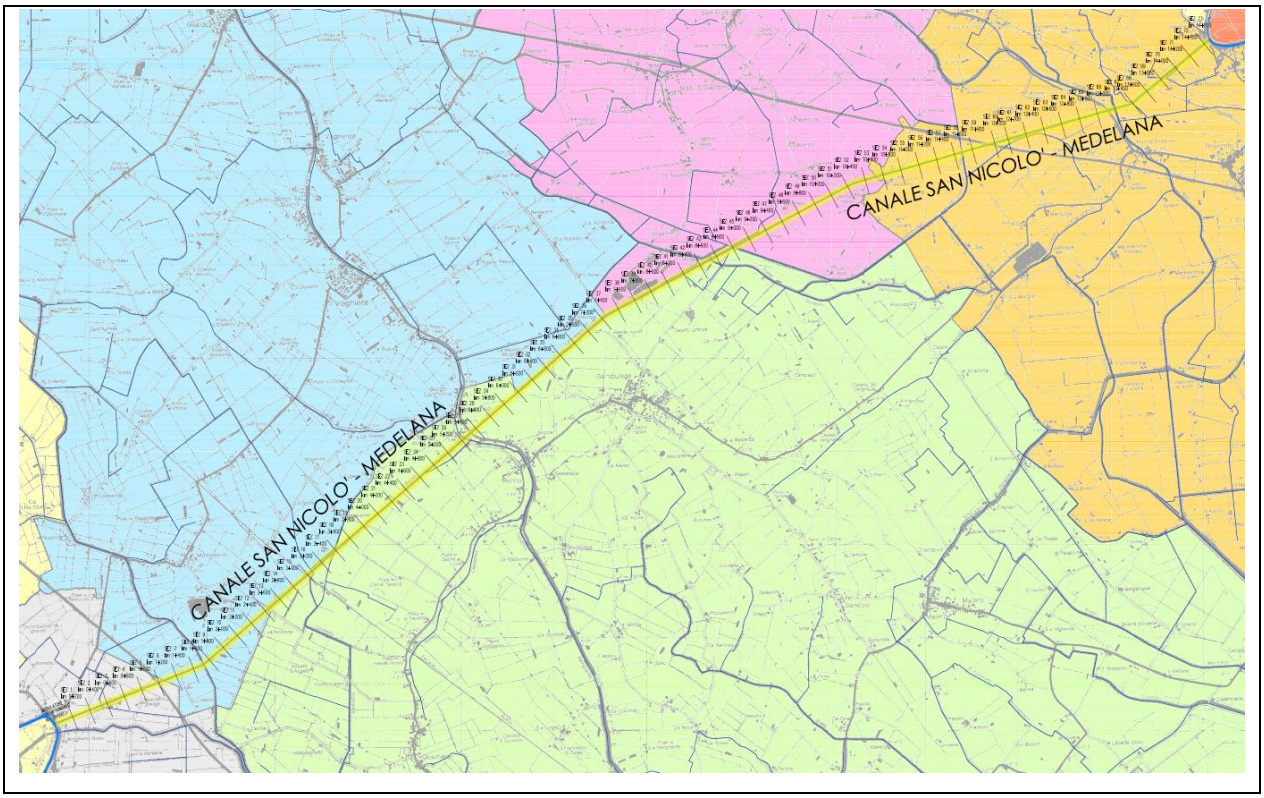


Figura 2. Tracciato del canale San Nicolò Medelana

Le **prestazioni** che si intendo raggiungere con gli interventi di progetto sono le seguenti:

OBIETTIVI INTERVENTO COMPLESSIVO

1) come **opera di derivazione** si potrà contare sull'innalzamento delle quote irrigue:
   - Nel I Tronco (da San Nicolò prog. 0+000 alla Chiusa Rostra prog. 7+156.66) la quota irrigua di progetto sarà pari a **+12,80 m** (+2,80 mslm);
   - Nel II Tronco (dalla Chiusa Rostra prog. 7+156.66 alla chiusa Medelana prog. 14+600) la quota irrigua di progetto sarà pari a **+11,90 m** (+1.90 mslm)
2) In condizioni di emergenza si potrà utilizzare come **scolmatore** con le seguenti condizioni:
   - Portata massima **27 mc/s** e condizione di valle in corrispondenza della chiusa Medelana **+12,50 m** (+2.50 mslm)

Il presente Progetto Esecutivo rappresenta il **Secondo Stralcio Funzionale** e prevede di realizzare l'intervento di progetto dalla Opera di modulazione San Nicolò (prog. 0+000) alla Sez. 25 (prog. 5+000) per una lunghezza complessiva di **5.000 metri**.

OBIETTIVI 2° STRALCIO FUNZIONALE

Al termine della realizzazione degli interventi di progetto previsti per il Secondo Stralcio Funzionale vengono imposte le seguenti limitazioni:

1) Come opera di derivazione
   - Nel I Tronco (da San Nicolò alla Chiusa Rostra) la quota irrigua di progetto sarà pari a **+12,30 m** (+2.30 mslm)
   - Nel II Tronco (dalla Chiusa Rostra a Medelana) la quota irrigua di progetto sarà pari a **+10,90 m** (+0.90 mslm)
2) Non sarà possibile usare l'opera come scolmatore

La messa in opera parziale del rivestimento nel tratto individuato come Secondo Stralcio non consente di raggiungere le prestazioni a scolmatore e di derivazione indicate come "Obiettivi Intervento Complessivo". Per raggiungere tali valori sarà necessario completare l'intero intervento, ovvero tutti i 14.600 metri tra l'opera di modulazione di San Nicolò (prog. 0+000) e la Sez. 73 (prog. 14+600).

5. CANALE S. NICOLO' MEDELANA – STATO DI FATTO

Il canale San Nicolò Medelana è un canale artificiale a sezione trapezia con base minore circa 10metri e sponde con pendenza 2/3, lungo 14.6 chilometri, per la maggioranza del proprio corso dominante rispetto al territorio attraversato.

Il Canale ha una pendenza di 8cm/km da San Nicolò verso Medenala ed è suddiviso in due tronchi separati dall'Opera Chiusa Rostra che si trova circa a metà del tracciato alla progressiva 7+156.66.

Allo stato attuale il canale risulta rivestito sul fondo e sulle sponde con una lastra di calcestruzzo di spessore medio pari a 15cm caratterizzata delle problematiche di permeabilità ed ammaloramento dei giunti ampiamente descritte negli elaborati di progetto.

Le sponde hanno un'altezza di circa 3.70 metri rispetto al fondo canale ed il rivestimento non raggiunge mai la sommità arginale in quanto è stato progettato per avere un franco di 50cm rispetto al livello di massima piena. L'altezza del rivestimento è pari a circa 3.40 metri rispetto al fondo canale.

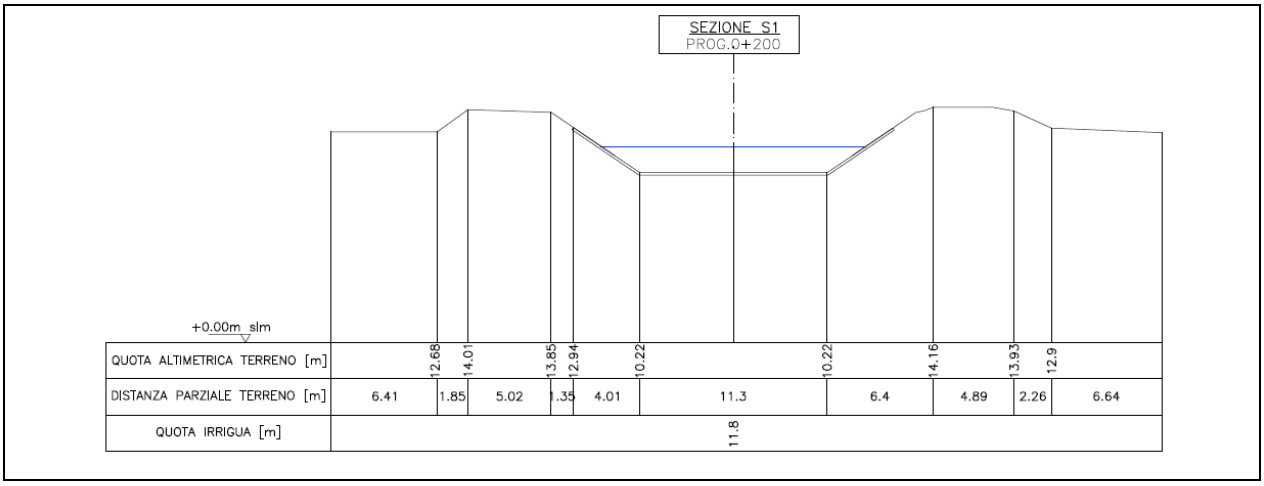


Figura 3: Sezione Stato di Fatto

Il funzionamento come **opera di derivazione** prevede la totale chiusura della paratoie della Chiusa Rostra generando in questo modo due tronchi indipendenti. I livelli irrigui di progetto del 1982 erano i seguenti:

I Tronco da San Nicolò a Chiusa Rostra +12.94m

II Tronco da Chiusa Rostra a Medelana +12.56m

Nel progetto di rivestimento del canale del 1982 l'obiettivo da raggiungere per il funzionamento a scolmatore era la capacità di smaltire una portata di **27 mc/s** con una condizione di valle pari a +**12.50m** corrispondente al livello massimo del Po di Volano alla chiusa Medelana.

La caratteristiche idrauliche della sezione di progetto sono riportate nella figura seguente

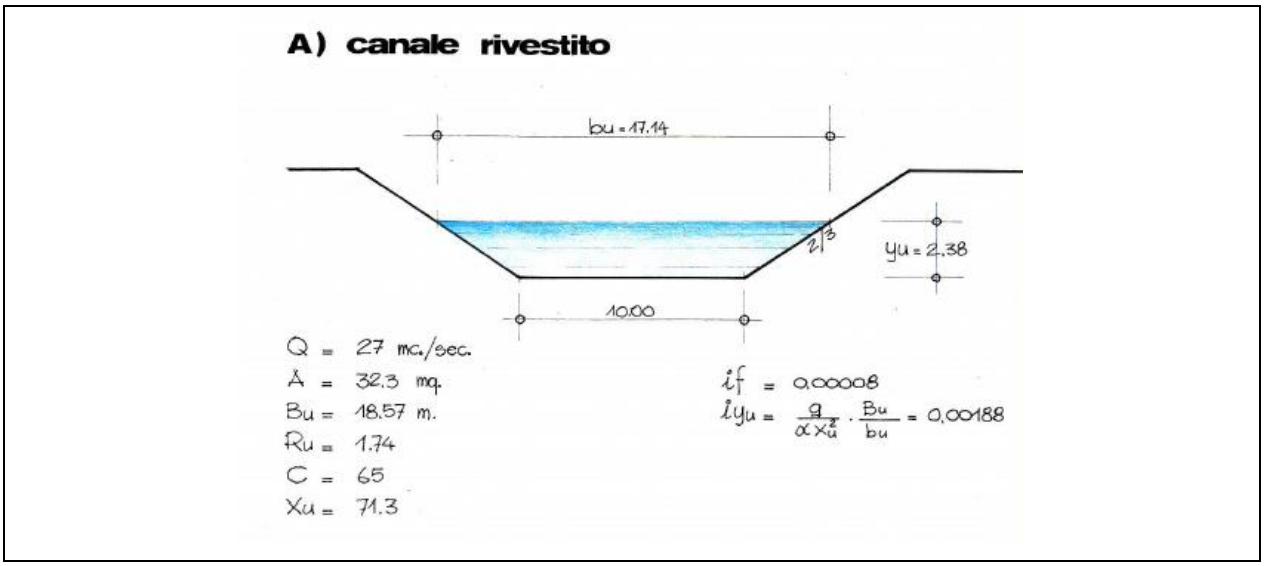
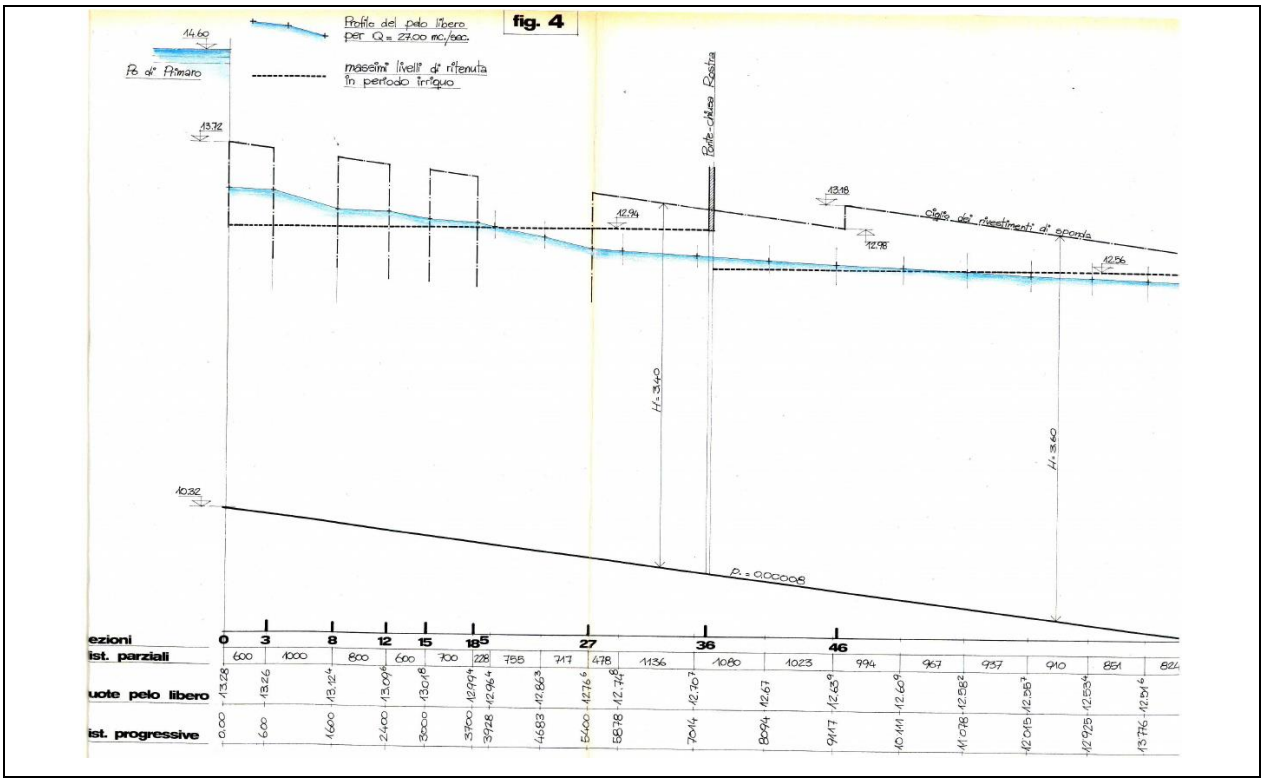


Figura 4: Dati idraulici progetto 1982

I profili idraulici di progetto sono riportati nella figura seguente, da cui si evince che imposta la condizione di valle di +12.50 con una portata di 27 mc/s, il livello di monte in corrispondenza dell'opera di modulazione San Nicolò è pari a **+13.28 m**, il livello a monte della Chiusa Rostra è pari a **+12.70m**.



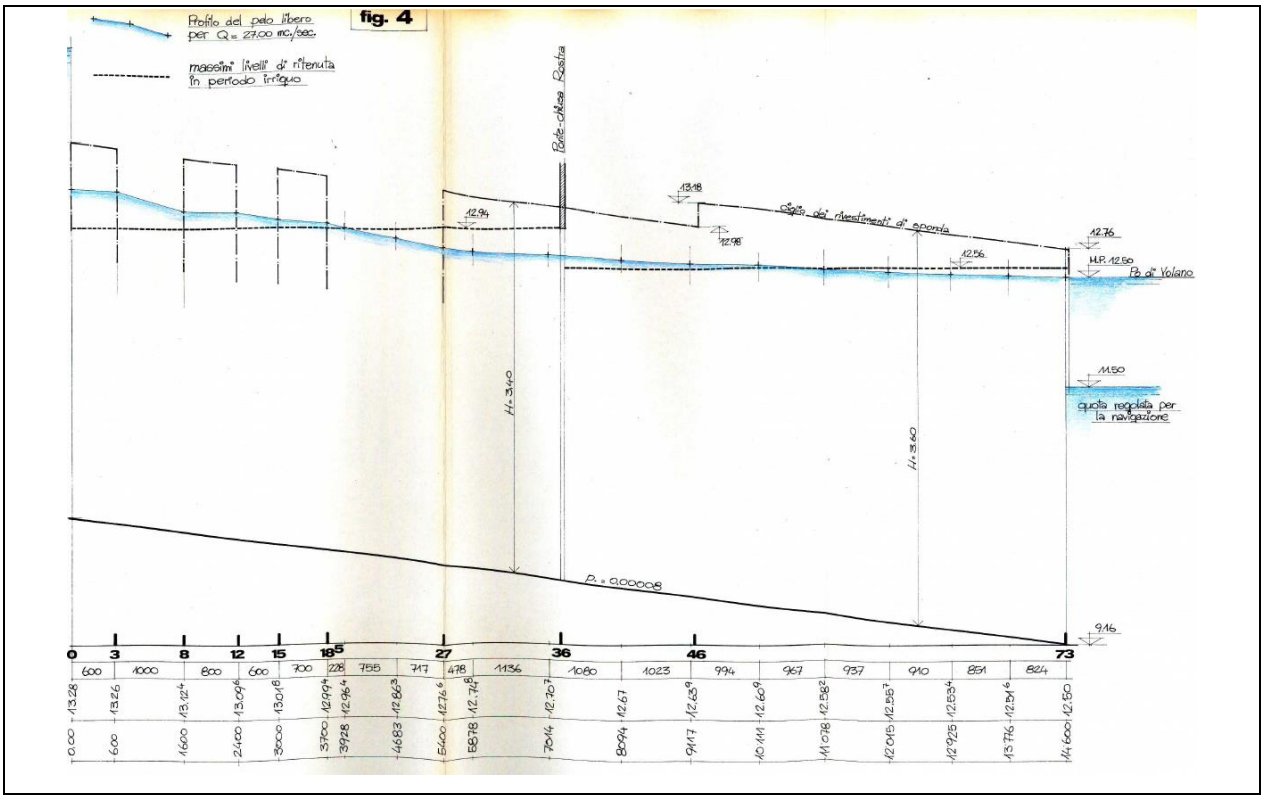


Figura 5: Profilo idraulico progetto 1982

Come è noto nonostante gli interventi di rivestimento ed impermeabilizzazione delle sponde, ultimati nel 2000, il canale ha presentato anche negli anni successivi e presenta tutt'ora problematiche di tenuta, riscontrate già in fase di collaudo nel 2003.

Alla luce delle ulteriori indagini ed analisi condotte nel 2010 il Consiglio di Amministrazione, con delibera n.76 del 15 aprile 2010, impone delle limitazioni funzionali all'opera in attesa di definire le azioni risolutive.

Attualmente il Canale San Nicolò – Medelana viene utilizzato solamente come opera di derivazione con i seguenti livelli irrigui:

I Tronco da San Nicolò a Chiusa Rostra	**+11.80m**
II Tronco da Chiusa Rostra a Medelana	**+10.90m**

6. INTERVENTO DI PROGETTO

L'obiettivo del progetto è quello di ripristinare la corretta impermeabilizzazione dell'alveo per tutta la lunghezza dell'opera al fine poterla utilizzare per lo scopo originario, ovvero sia come opera di **derivazione** che come **scolmatore**, migliorando di fatto anche la gestione della risorsa idrica e riducendo le perdite.

Gli interventi consistono nella realizzazione di un nuovo rivestimento in **calcestruzzo impermeabile** dello spessore di **10cm** da porre in opera sopra il rivestimento esistente portandolo fino alla sommità arginale.

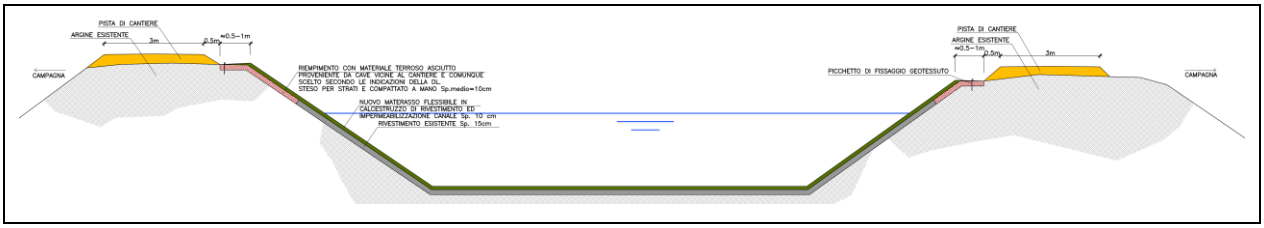


Figura 6: Sezione tipologica del Canale Stato di Progetto

L'intervento complessivo si svilupperà a partire dall'opera di modulazione di San Nicolò (prog. 0+000) fino alla Sez. 73 (prog. 14+600) in prossimità della Chiusa Medelana per una lunghezza complessiva di **14.600 metri**.

Il Primo Stralcio Funzionale prevede di intervenire dalla Sez. 25 (prog. 5+000) alla Sez. 73 (prog. 14+600) per una lunghezza complessiva di **9.600 metri**.

Nel presente studio idraulico si procederà pertanto nel seguente modo:

1. Determinazione del profilo di rigurgito idraulico dello **Stato di Fatto** (sez. con rivestimento attuale) imponendo portate e condizioni al contorno del progetto 1982 per verificare la corrispondenza dei livelli idraulici raggiunti e validare il modello di calcolo da impiegare per lo Stato di Progetto
2. Determinazione del profilo di rigurgito idraulico dello **Stato di Progetto** (sez. con rivestimento di progetto) ⟶ obiettivo: verificare la compatibilità geometrica tra livello idraulico di progetto e sezione rivestita e determinare i livelli idraulici di progetto per le verifiche di stabilità (ved. Relazione di Calcolo)

Per motivi legati alla stabilità arginale del tratto di valle, non sarà possibile utilizzare il canale San Nicolò Medelana come scolmatore nel caso di posa in opera parziale del rivestimento di progetto nel tratto individuato come Secondo Stralcio. Per tale motivo non è stata condotta la verifica idraulica in configurazione di Secondo Stralcio.

7. VERIFICHE IDRAULICHE

7.1 Modellazione del canale

A partire dal rilievo topografico condotto, è stato possibile modellare la struttura del canale in ambiente Hec-Ras.

Hec-Ras è un software che consente di eseguire i calcoli di flusso stazionario mono e bidimensionale, nonché di eseguire calcoli di trasporto di fondo o modellazioni idrologiche di temperatura /qualità dell'acqua.

Ciò premesso, si è proceduto con l'inserimento della geometria dell'opera all'interno della sezione "Geometric data"; tale sezione comprende sia le 73 sezioni trasversali del canale e le 21 opere d'arte interferenti.
Il coefficiente di scabrezza utilizzato per il calcestruzzo esistente e per quello di progetto è il medesimo, pertanto i modelli di calcolo si differenziano tra di loro per la geometria della sezione trasversale, che sarà quella attuale o quella di progetto in base alla simulazione condotta.

Di seguito si riportano alcuni dati di calcolo di esempio e rimandando all'allegato per la trattazione completa.

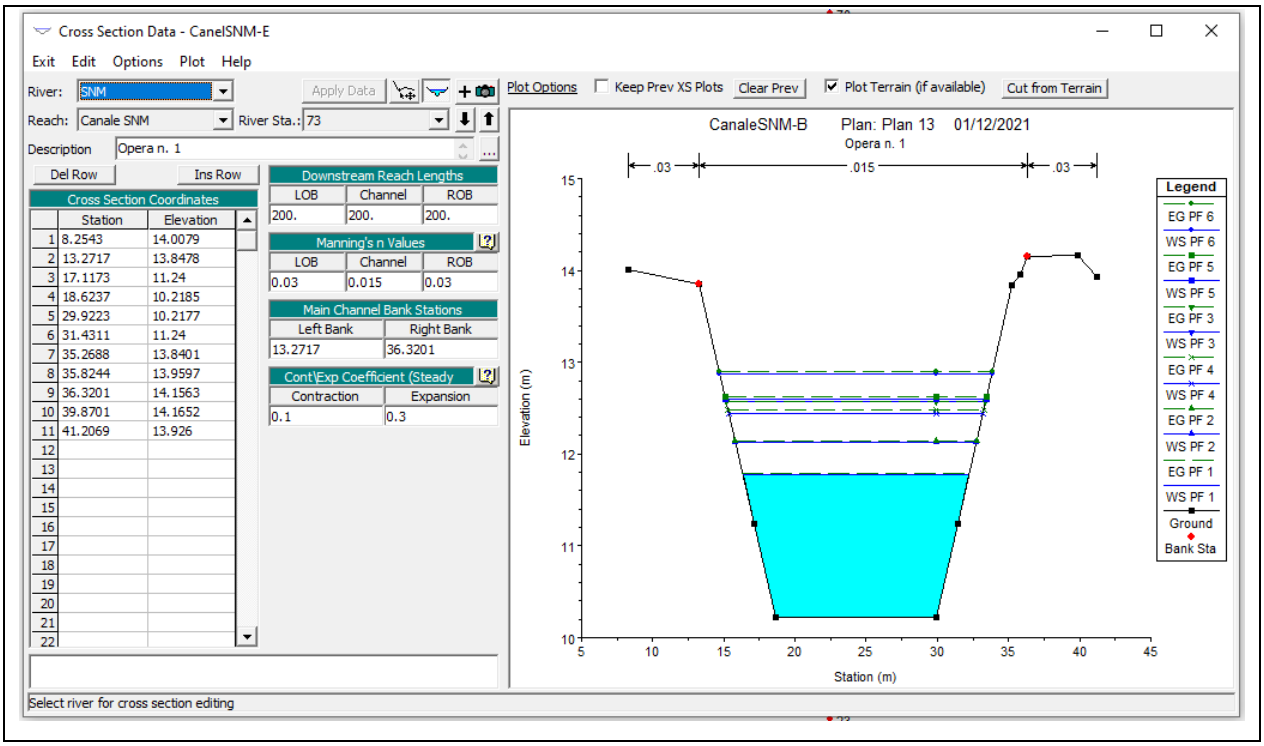


Figura 7: Esempio di sezione trasversale inserita

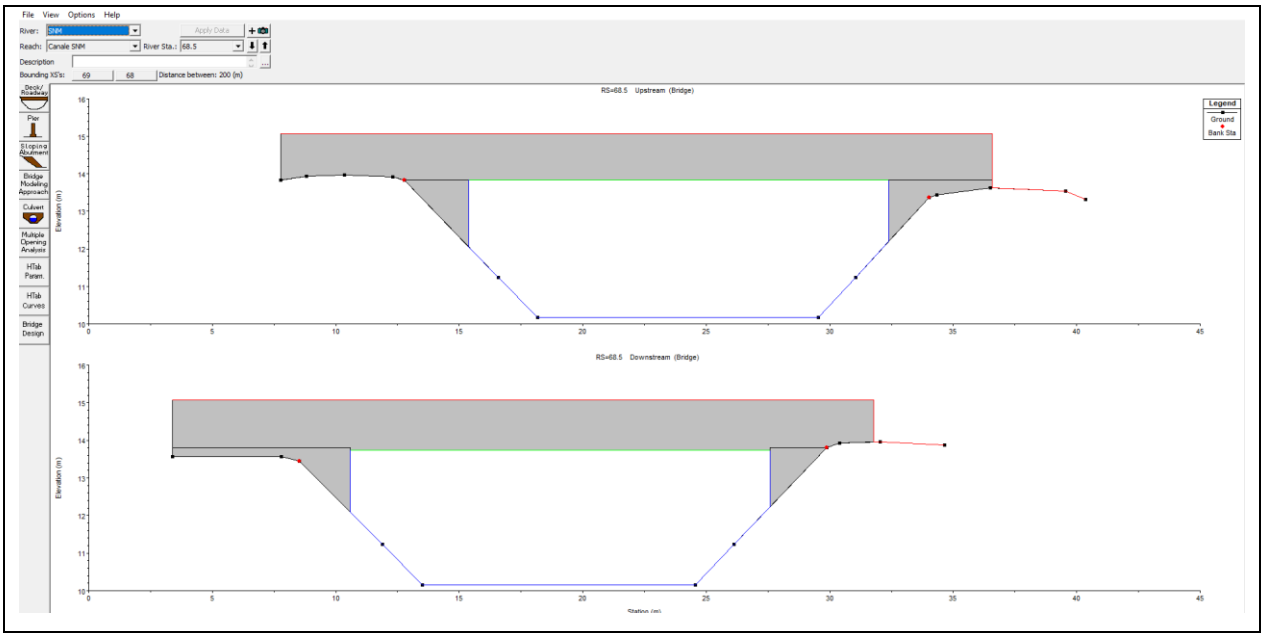


Figura 8: Esempio di Opera interferente inserita

7.2 Stato di fatto

Per prima cosa si è proceduto con la modellazione del canale nelle sue condizioni di stato attuale (rif. rilievo topografico) a cui sono state assegnate le prestazioni richieste nel progetto del 1982, in modo da testare la bontà delle informazioni disponibili e la correttezza della modellazione.

Ipotesi progetto 1982:

Portata di progetto Q=27 mc/s

Livello idrico di Valle (rif. Po di Volano) hv=12.50m

Scabrezza sezioni rivestite (Gauckler-Strikler) C=65

Lo studio del 1982 ha fornito il profilo idraulico riportato in Figura 5.

Di seguito si riportano i risultati ottenuti in Hec – Ras dalla modellazione della sopra citata condizione:

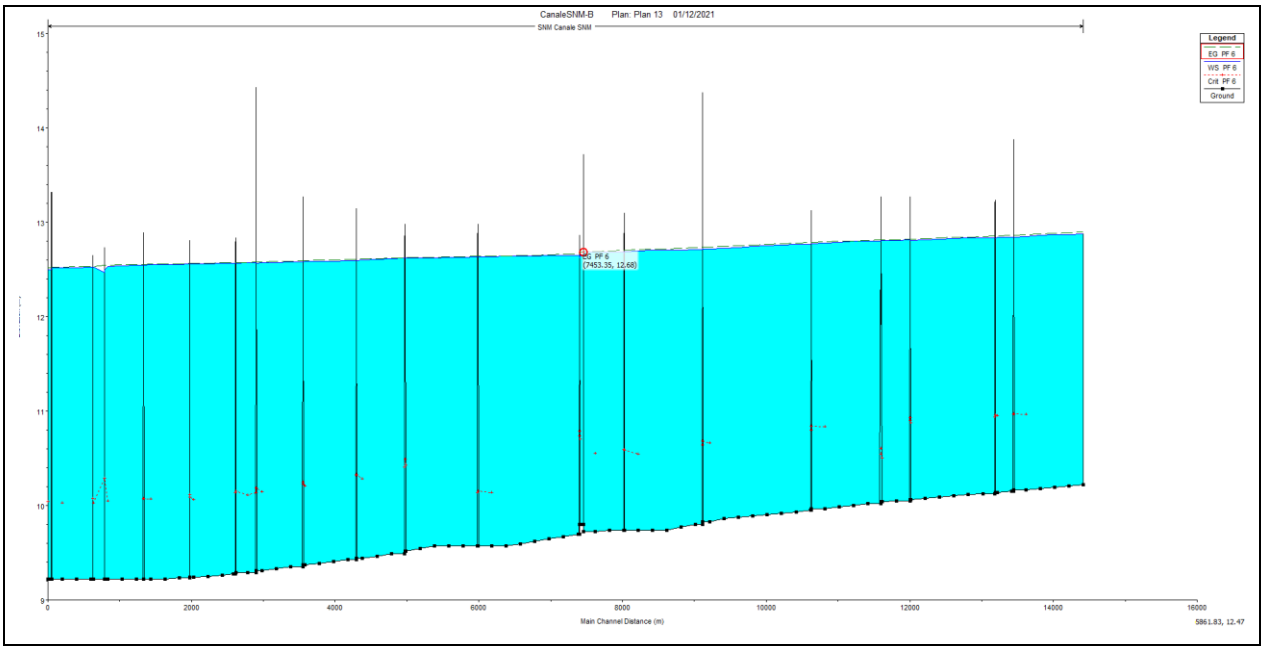


Figura 9: Profilo idraulico Hec-Ras – Stato di Fatto

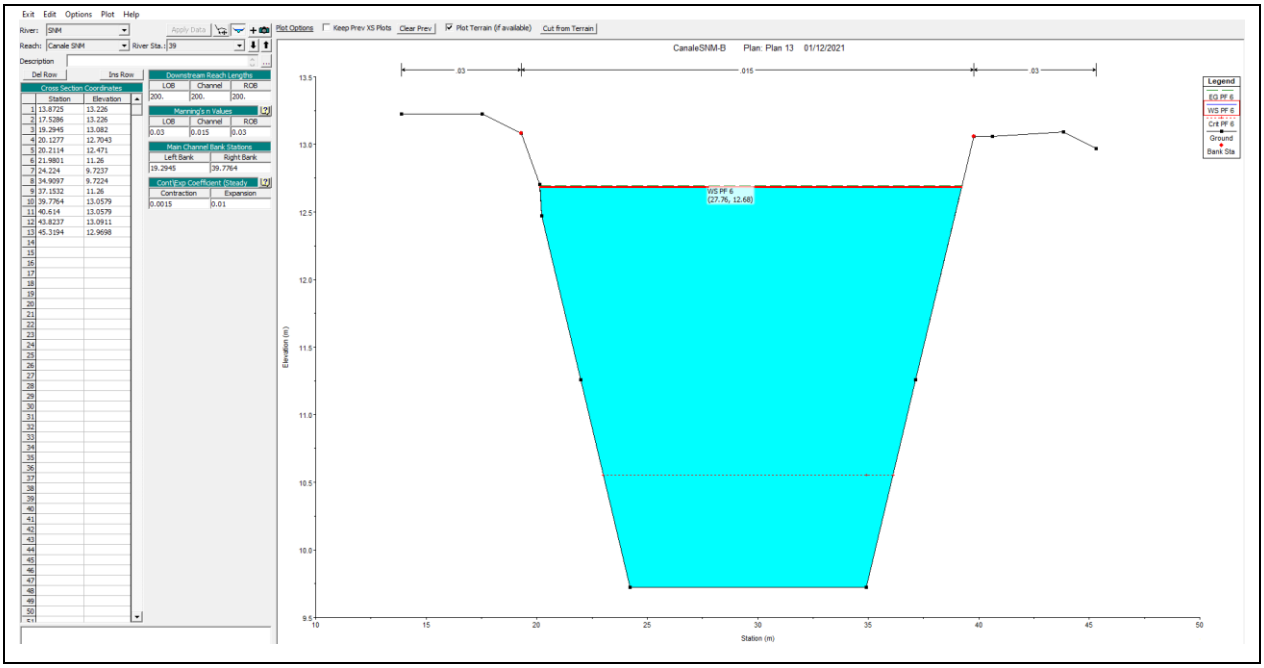


Figura 10: Risultato sezione idraulica a monte della Chiusa Rostra – Stato di Fatto

Prendendo a riferimento il livello idrico ottenuto nella sezione a monte della Chiusa Rostra si ha:

- Progetto 1982 – livello idrico +12.70m
- Progetto 2021 – livello idrico +12.68m

Il modello di calcolo si può ritenere **validato**.

7.3 Stato di progetto

Si è proceduto con la modellazione del canale in condizioni di stato di progetto, ipotizzando dunque la presenza del nuovo rivestimento con materasso flessibile in calcestruzzo per tutte le 73 sezioni.
Sono state analizzate 6 prestazioni idrauliche in crescendo dalla attuale limitazione funzionale fino al raggiungimento degli obiettivi di progetto (Ipotesi 6).
Questo consente di poter validare anche condizioni intermedie rispetto agli obiettivi ultimi del progetto e consentire al Consorzio maggiore flessibilità di utilizzo.

Ipotesi 1
Portata di progetto Q=10 mc/s
Livello idrico di Valle (rif. Po di Volano) hv=11.50m
Scabrezza sezioni rivestite (Gauckler-Strikler) C=65

Ipotesi 2
Portata di progetto Q=10 mc/s
Livello idrico di Valle (rif. Po di Volano) hv=12.00m
Scabrezza sezioni rivestite (Gauckler-Strikler) C=65

Ipotesi 3
Portata di progetto Q=10 mc/s
Livello idrico di Valle (rif. Po di Volano) hv=12.50m
Scabrezza sezioni rivestite (Gauckler-Strikler) C=65

Ipotesi 4
Portata di progetto Q=27 mc/s
Livello idrico di Valle (rif. Po di Volano) hv=11.50m
Scabrezza sezioni rivestite (Gauckler-Strikler) C=65

Ipotesi 5
Portata di progetto Q=27 mc/s
Livello idrico di Valle (rif. Po di Volano) hv=12.00m
Scabrezza sezioni rivestite (Gauckler-Strikler) C=65

Ipotesi 6
Portata di progetto Q=27 mc/s
Livello idrico di Valle (rif. Po di Volano) hv=12.50m
Scabrezza sezioni rivestite (Gauckler-Strikler) C=65

Nel seguito si riportano, a titolo esemplificativo e non esaustivo, alcune immagini relative ai risultati ottenuti. Maggiori indicazioni sono riportate in Allegato A alla presente relazione.

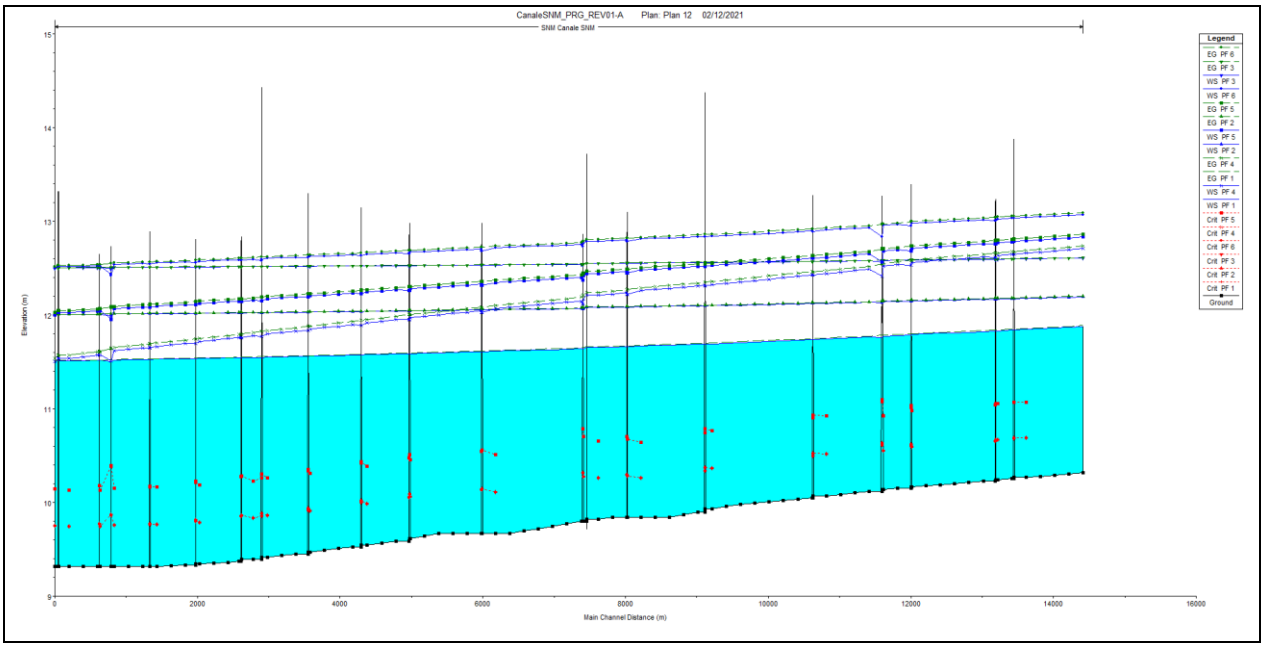


Figura 11: Profili idraulici Stato di Progetto

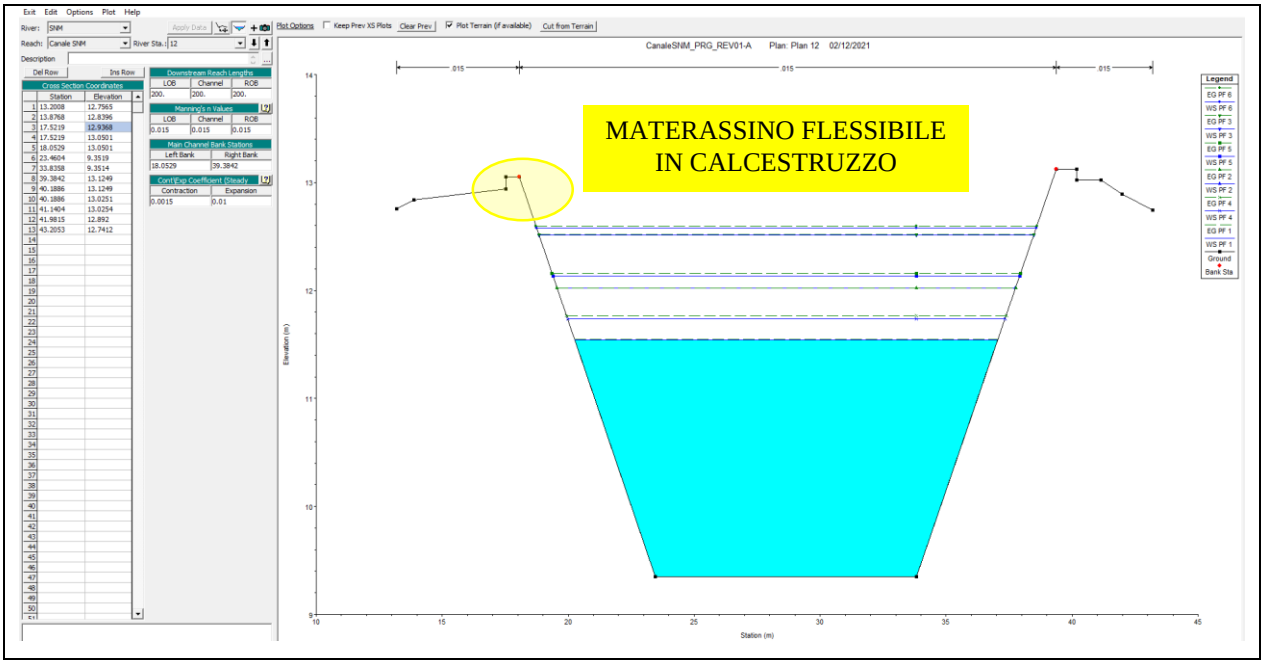


Figura 12: Sezione valle del canale con ipotesi progettuale 6

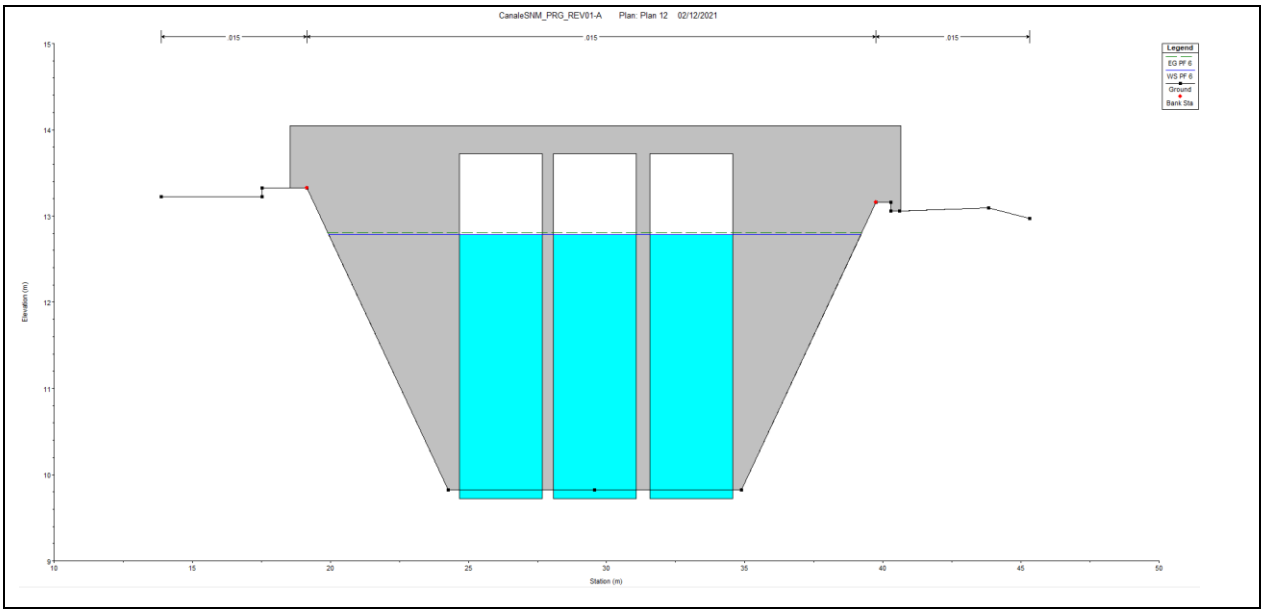


Figura 13: Sezione in corrispondenza della Chiusa Rostra

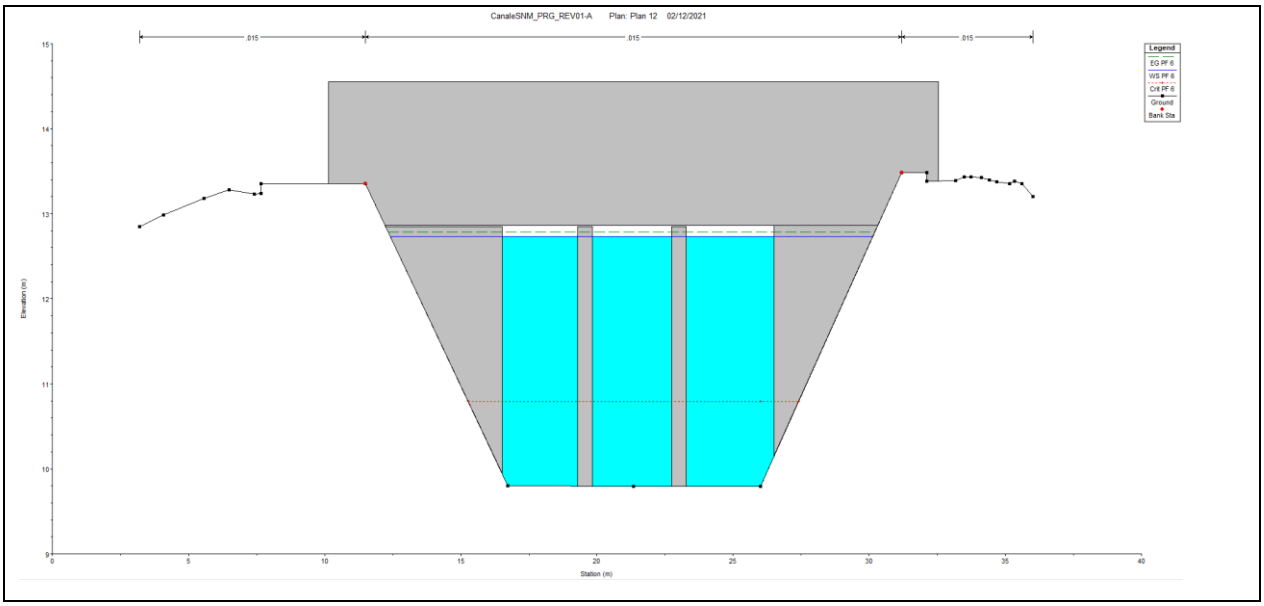


Figura 14: Ponte a valle della Chiusa Rostra

In tutte le ipotesi di progetto i livelli idraulici sono compatibili con la geometria delle sezioni trasversali e con l'altezza del rivestimento —►**dal punto di vista idraulico gli obiettivi di progetto sono stati raggiunti, è consentito l'uso come scolmatore a piena portata fino ad un livello del Po di Volano misurato in corrispondenza della Chiusa Medelana non superiore a +12.50 m (+2.50 m.s.l.m.)**.

Si conferma anche compatibilità dei livelli di progetto per l'uso come opera di derivazione pari a:

I Tronco da San Nicolò a Chiusa Rostra **+12.80m**

II Tronco da Chiusa Rostra a Medelana **+11.90m**

7.4 Limitazioni funzionali Secondo Stralcio

Per motivi legati alla stabilità arginale del tratto di valle, non sarà possibile utilizzare il canale San Nicolò Medelana come scolmatore nel caso di posa in opera parziale del rivestimento di progetto nel tratto individuato come Secondo Stralcio.
Il canale potrà essere utilizzato come irrigatore, l'altezza del rivestimento attuale condiziona la massima capacità di invaso tra la sez. 25 e la sez. 73.

La verifica della compatibilità idraulica dei livelli irrigui deve essere svolta nei confronti del rivestimento esistente sia nel I tronco che nel II tronco, e comporta le seguenti limitazioni d'uso:

I Tronco da San Nicolò a Chiusa Rostra	**+12.30m**
II Tronco da Chiusa Rostra a Medelana	**+10.90m**

HEC-RAS HEC-RAS 6.1.0 September 2021
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X      X   X     X  X    X
X     X  X        X           X   X    X    X   X
XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
X     X  X        X           X  X     X    X        X
X     X  X        X    X      X   X    X    X        X
X     X  XXXXXX    XXXX       X    X   X    X   XXXXX
```

PROJECT DATA
Project Title: CanaleSNM-B
Project File : CanaleSNM-B.prj
Run Date and Time: 01/12/2021 17:47:20

Project in SI units

PLAN DATA

Plan Title: Plan 13
Plan File : C:\Users\Tecnico1\Documents\CanaleSNM-B.p13

Geometry Title: CanelSNM-E
Geometry File : C:\Users\Tecnico1\Documents\CanaleSNM-B.g11

Flow Title   : CanaleSNM-A
Flow File   : C:\Users\Tecnico1\Documents\CanaleSNM-B.f02

Plan Summary Information:

Number of:	Cross Sections	= 75	Multiple Openings	=	0
	Culverts	= 0	Inline Structures	=	2
	Bridges	= 18	Lateral Structures	=	0

Computational Information

Water surface calculation tolerance	= 0.003
Critical depth calculation tolerance	= 0.003
Maximum number of iterations	= 20
Maximum difference tolerance	= 0.1
Flow tolerance factor	= 0.001

Computation Options
Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only

```
    Friction Slope Method:         Average Conveyance
    Computational Flow Regime:     Subcritical Flow



FLOW DATA

Flow Title: CanaleSNM-A
Flow File : C:\Users\Tecnico1\Documents\CanaleSNM-B.f02

Flow Data (m3/s)


  River           Reach           RS                   PF 1            PF 2
      PF 3            PF 4            PF 5            PF 6
  SNM             Canale SNM      73                     10              10
        10              27              27              27



Boundary Conditions


  River           Reach           Profile                        Upstream
        Downstream


  SNM             Canale SNM      PF 1
      Known WS = 11.5
  SNM             Canale SNM      PF 2
        Known WS = 12
  SNM             Canale SNM      PF 3
      Known WS = 12.5
  SNM             Canale SNM      PF 4
      Known WS = 11.5
  SNM             Canale SNM      PF 5
        Known WS = 12
  SNM             Canale SNM      PF 6
      Known WS = 12.5


Inline Structure Gate Openings
River = SNM
Reach = Canale SNM        RS = 38.8
Gate  = Gate #1
  # Open Open Ht  # Open Open Ht  # Open Open Ht  # Open Open Ht  # Open Open Ht
       4       3       4       3       4       3       4       3       4       3
       4       3
River = SNM
Reach = Canale SNM        RS = 1.5
Gate  = Gate #1
  # Open Open Ht  # Open Open Ht  # Open Open Ht  # Open Open Ht  # Open Open Ht
       4       3       4       3       4       3       4       3       4       3
```

4 3

GEOMETRY DATA

Geometry Title: CanelSNM-E
Geometry File : C:\Users\Tecnico1\Documents\CanaleSNM-B.g11

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 73

INPUT
Description: Opera n. 1
Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
8.2543	14.0079	13.2717	13.8478	17.1173	11.24	18.6237	10.2185	29.9223	10.2177
31.4311	11.24	35.2688	13.8401	35.8244	13.9597	36.3201	14.1563	39.8701	14.1652
41.2069	13.926								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
8.2543	.03	13.2717	.015	36.3201	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
13.2717	36.3201	200	200	200	.1 .3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.78	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.77	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		21.10	
E.G. Slope (m/m)	0.000037	Area (m2)		21.10	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.88	Top Width (m)		15.88	
Vel Total (m/s)	0.47	Avg. Vel. (m/s)		0.47	
Max Chl Dpth (m)	1.55	Hydr. Depth (m)		1.33	
Conv. Total (m3/s)	1635.1	Conv. (m3/s)		1635.1	

Length Wtd. (m)	200.00	Wetted Per. (m)			16.83
Min Ch El (m)	10.22	Shear (N/m2)			0.46
Alpha	1.00	Stream Power (N/m s)			0.22
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	88.96	372.11	69.47
C & E Loss (m)	0.00	Cum SA (1000 m2)	96.15	228.40	76.23

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.14	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.			0.015
W.S. Elev (m)	12.13	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			26.97
E.G. Slope (m/m)	0.000018	Area (m2)			26.97
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	16.94	Top Width (m)			16.94
Vel Total (m/s)	0.37	Avg. Vel. (m/s)			0.37
Max Chl Dpth (m)	1.91	Hydr. Depth (m)			1.59
Conv. Total (m3/s)	2344.7	Conv. (m3/s)			2344.7
Length Wtd. (m)	200.00	Wetted Per. (m)			18.11
Min Ch El (m)	10.22	Shear (N/m2)			0.27
Alpha	1.00	Stream Power (N/m s)			0.10
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	135.06	478.85	106.25
C & E Loss (m)	0.00	Cum SA (1000 m2)	111.18	244.49	90.66

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB

Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			34.65
E.G. Slope (m/m)	0.000009	Area (m2)			34.65
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	18.23	Top Width (m)			18.23
Vel Total (m/s)	0.29	Avg. Vel. (m/s)			0.29
Max Chl Dpth (m)	2.35	Hydr. Depth (m)			1.90
Conv. Total (m3/s)	3370.4	Conv. (m3/s)			3370.4
Length Wtd. (m)	200.00	Wetted Per. (m)			19.67
Min Ch El (m)	10.22	Shear (N/m2)			0.15
Alpha	1.00	Stream Power (N/m s)			0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	191.04	601.28	151.56
C & E Loss (m)	0.00	Cum SA (1000 m2)	125.73	259.75	104.03

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.48	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.			0.015
W.S. Elev (m)	12.45	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			32.49
E.G. Slope (m/m)	0.000077	Area (m2)			32.49
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.87	Top Width (m)			17.87
Vel Total (m/s)	0.83	Avg. Vel. (m/s)			0.83
Max Chl Dpth (m)	2.23	Hydr. Depth (m)			1.82
Conv. Total (m3/s)	3071.3	Conv. (m3/s)			3071.3

Length Wtd. (m)	200.00	Wetted Per. (m)			19.24
Min Ch El (m)	10.22	Shear (N/m2)			1.28
Alpha	1.00	Stream Power (N/m s)			1.06
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	125.96	463.18	101.38
C & E Loss (m)	0.00	Cum SA (1000 m2)	108.69	242.34	88.89

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.63	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	12.60	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			35.27
E.G. Slope (m/m)	0.000061	Area (m2)			35.27
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	18.32	Top Width (m)			18.32
Vel Total (m/s)	0.77	Avg. Vel. (m/s)			0.77
Max Chl Dpth (m)	2.38	Hydr. Depth (m)			1.92
Conv. Total (m3/s)	3456.9	Conv. (m3/s)			3456.9
Length Wtd. (m)	200.00	Wetted Per. (m)			19.79
Min Ch El (m)	10.22	Shear (N/m2)			1.07
Alpha	1.00	Stream Power (N/m s)			0.82
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	159.98	537.60	128.00
C & E Loss (m)	0.00	Cum SA (1000 m2)	118.88	252.85	97.60

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.90	Element	Left OB	Channel	Right OB

Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.87	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	1.24	40.42	0.75
E.G. Slope (m/m)	0.000041	Area (m2)	1.24	40.42	0.75
Q Total (m3/s)	27.00	Flow (m3/s)	0.08	26.88	0.04
Top Width (m)	31.81	Top Width (m)	6.67	19.14	6.00
Vel Total (m/s)	0.64	Avg. Vel. (m/s)	0.07	0.67	0.05
Max Chl Dpth (m)	2.66	Hydr. Depth (m)	0.19	2.11	0.12
Conv. Total (m3/s)	4219.3	Conv. (m3/s)	13.2	4200.1	6.0
Length Wtd. (m)	200.00	Wetted Per. (m)	6.92	20.77	6.25
Min Ch El (m)	10.22	Shear (N/m2)	0.07	0.78	0.05
Alpha	1.09	Stream Power (N/m s)	0.00	0.52	0.00
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	208.45	640.23	167.11
C & E Loss (m)	0.00	Cum SA (1000 m2)	130.70	259.60	109.13

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 72

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.0247	14.0242	11.3461	14.0844	13.7461	14.1547	15.0912	14.0932	19.3475	11.21
20.8304	10.2055	31.9516	10.2048	33.8544	11.5484	36.9311	13.7208	37.8542	13.7796
38.3287	13.9015	38.6744	13.9761	42.2032	13.9966	44.4359	13.5221		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.0247	.03	15.0912	.015	38.6744	.03

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr.

Expan.
15.0912 38.6744 200 200 200 .0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.77	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	0.030
W.S. Elev (m)	11.76	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		20.83	0.04
E.G. Slope (m/m)	0.000038	Area (m2)		20.83	0.04
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	0.00
Top Width (m)	16.28	Top Width (m)		15.63	0.65
Vel Total (m/s)	0.48	Avg. Vel. (m/s)		0.48	0.03
Max Chl Dpth (m)	1.56	Hydr. Depth (m)		1.33	0.06
Conv. Total (m3/s)	1616.1	Conv. (m3/s)		1615.9	0.2
Length Wtd. (m)	200.00	Wetted Per. (m)		16.60	0.70
Min Ch El (m)	10.20	Shear (N/m2)		0.47	0.02
Alpha	1.00	Stream Power (N/m s)		0.23	0.00
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	88.96	367.92	69.47
C & E Loss (m)	0.00	Cum SA (1000 m2)	96.15	225.25	76.17

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.13	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	0.030
W.S. Elev (m)	12.12	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		26.68	0.61
E.G. Slope (m/m)	0.000018	Area (m2)		26.68	0.61

Q Total (m3/s)	10.00	Flow (m3/s)			9.97
0.03					
Top Width (m)	19.17	Top Width (m)			16.67
2.50					
Vel Total (m/s)	0.37	Avg. Vel. (m/s)			0.37
0.05					
Max Chl Dpth (m)	1.92	Hydr. Depth (m)			1.60
0.24					
Conv. Total (m3/s)	2330.5	Conv. (m3/s)			2322.9
7.6					
Length Wtd. (m)	200.00	Wetted Per. (m)			17.87
2.69					
Min Ch El (m)	10.20	Shear (N/m2)			0.27
0.04					
Alpha	1.04	Stream Power (N/m s)			0.10
0.00					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	135.06	473.49	
106.19					
C & E Loss (m)	0.00	Cum SA (1000 m2)	111.18	241.13	
90.40					

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.57	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)		Flow Area (m2)	3.00	34.28	
2.57					
E.G. Slope (m/m)	0.000009	Area (m2)	3.00	34.28	
2.57					
Q Total (m3/s)	10.00	Flow (m3/s)	0.14	9.74	
0.12					
Top Width (m)	33.71	Top Width (m)	8.58	17.94	
7.19					
Vel Total (m/s)	0.25	Avg. Vel. (m/s)	0.05	0.28	
0.05					
Max Chl Dpth (m)	2.36	Hydr. Depth (m)	0.35	1.91	
0.36					
Conv. Total (m3/s)	3427.9	Conv. (m3/s)	47.8	3338.7	
41.3					
Length Wtd. (m)	200.00	Wetted Per. (m)	9.04	19.42	
7.64					
Min Ch El (m)	10.20	Shear (N/m2)	0.03	0.15	
0.03					
Alpha	1.25	Stream Power (N/m s)	0.00	0.04	
0.00					

Frctn Loss (m)	0.00	Cum Volume (1000 m3)	190.74	594.38	151.30
C & E Loss (m)	0.00	Cum SA (1000 m2)	124.87	256.13	103.31

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.47	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.43	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	1.86	31.91	1.63
E.G. Slope (m/m)	0.000078	Area (m2)	1.86	31.91	1.63
Q Total (m3/s)	27.00	Flow (m3/s)	0.20	26.61	0.19
Top Width (m)	32.19	Top Width (m)	8.36	17.56	6.27
Vel Total (m/s)	0.76	Avg. Vel. (m/s)	0.11	0.83	0.12
Max Chl Dpth (m)	2.23	Hydr. Depth (m)	0.22	1.82	0.26
Conv. Total (m3/s)	3054.7	Conv. (m3/s)	22.3	3010.9	21.4
Length Wtd. (m)	200.00	Wetted Per. (m)	8.65	18.95	6.57
Min Ch El (m)	10.20	Shear (N/m2)	0.16	1.29	0.19
Alpha	1.18	Stream Power (N/m s)	0.02	1.08	0.02
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	125.77	456.74	101.21
C & E Loss (m)	0.00	Cum SA (1000 m2)	107.85	238.80	88.26

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.62	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.59	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	3.20	34.72	2.74
E.G. Slope (m/m)	0.000060	Area (m2)	3.20	34.72	2.74
Q Total (m3/s)	27.00	Flow (m3/s)	0.41	26.24	0.35
Top Width (m)	33.89	Top Width (m)	8.62	18.01	7.25
Vel Total (m/s)	0.66	Avg. Vel. (m/s)	0.13	0.76	0.13
Max Chl Dpth (m)	2.38	Hydr. Depth (m)	0.37	1.93	0.38
Conv. Total (m3/s)	3499.1	Conv. (m3/s)	53.2	3400.1	45.8
Length Wtd. (m)	200.00	Wetted Per. (m)	9.12	19.50	7.73
Min Ch El (m)	10.20	Shear (N/m2)	0.21	1.04	0.21
Alpha	1.26	Stream Power (N/m s)	0.03	0.79	0.03
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	159.66	530.60	127.73
C & E Loss (m)	0.00	Cum SA (1000 m2)	118.02	249.22	96.87

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.89	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.87	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	5.68	39.87	4.88
E.G. Slope (m/m)	0.000038	Area (m2)	5.68	39.87	4.88
Q Total (m3/s)	27.00	Flow (m3/s)	0.80	25.52	0.67
Top Width (m)	35.93	Top Width (m)	9.09	18.82	8.01

Vel Total (m/s)	0.54	Avg. Vel. (m/s)	0.14	0.64	0.14
Max Chl Dpth (m)	2.66	Hydr. Depth (m)	0.62	2.12	0.61
Conv. Total (m3/s)	4383.2	Conv. (m3/s)	130.4	4143.4	109.5
Length Wtd. (m)	200.00	Wetted Per. (m)	9.94	20.49	8.82
Min Ch El (m)	10.20	Shear (N/m2)	0.21	0.72	0.21
Alpha	1.35	Stream Power (N/m s)	0.03	0.46	0.03
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	207.76	632.20	166.55
C & E Loss (m)	0.00	Cum SA (1000 m2)	129.12	255.81	107.72

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 71

INPUT
Description:
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.0545	13.8827	10.3965	14.0515	10.864	14.0941	12.8476	13.9338	13.2729	13.7382
16.9859	11.23	18.5216	10.1926	29.7052	10.1918	31.1846	11.23	34.7509	13.7327
36.2672	14.059	39.7812	14.059	41.5387	13.8966				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.0545	.03	12.8476	.015	34.7509	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
12.8476	34.7509	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.77	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.76	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)	1.51	21.05	1.66
E.G. Slope (m/m)	0.000035	Area (m2)	1.51	21.05	1.66
Q Total (m3/s)	10.00	Flow (m3/s)	0.12	9.74	0.14
Top Width (m)	27.10	Top Width (m)	5.89	15.73	5.48
Vel Total (m/s)	0.41	Avg. Vel. (m/s)	0.08	0.46	0.09
Max Chl Dpth (m)	1.56	Hydr. Depth (m)	0.26	1.34	0.30
Conv. Total (m3/s)	1681.2	Conv. (m3/s)	19.6	1637.4	24.1
Length Wtd. (m)	200.00	Wetted Per. (m)	6.24	16.70	5.74
Min Ch El (m)	10.19	Shear (N/m2)	0.08	0.44	0.10
Alpha	1.22	Stream Power (N/m s)	0.01	0.20	0.01
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	88.81	363.73	69.30
C & E Loss (m)	0.00	Cum SA (1000 m2)	95.56	222.12	75.55

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.13	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.12	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	3.77	27.00	4.20
E.G. Slope (m/m)	0.000016	Area (m2)	3.77	27.00	4.20
Q Total (m3/s)	10.00	Flow (m3/s)	0.32	9.32	0.36
Top Width (m)	30.78	Top Width (m)	6.44	16.79	7.55
Vel Total (m/s)	0.29	Avg. Vel. (m/s)	0.09	0.35	0.08
Max Chl Dpth (m)	1.93	Hydr. Depth (m)	0.59	1.61	0.56
Conv. Total (m3/s)	2531.2	Conv. (m3/s)	81.3	2359.9	90.1

Length Wtd. (m)	200.00	Wetted Per. (m)	7.26	17.99	8.14
Min Ch El (m)	10.19	Shear (N/m2)	0.08	0.23	0.08
Alpha	1.37	Stream Power (N/m s)	0.01	0.08	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	134.68	468.12	105.70
C & E Loss (m)	0.00	Cum SA (1000 m2)	110.54	237.78	89.40

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	6.76	34.69	7.71
E.G. Slope (m/m)	0.000007	Area (m2)	6.76	34.69	7.71
Q Total (m3/s)	10.00	Flow (m3/s)	0.51	8.91	0.59
Top Width (m)	33.54	Top Width (m)	7.09	18.07	8.37
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.08	0.26	0.08
Max Chl Dpth (m)	2.37	Hydr. Depth (m)	0.95	1.92	0.92
Conv. Total (m3/s)	3806.4	Conv. (m3/s)	193.3	3389.7	223.4
Length Wtd. (m)	200.00	Wetted Per. (m)	8.49	19.55	9.51
Min Ch El (m)	10.19	Shear (N/m2)	0.05	0.12	0.05
Alpha	1.43	Stream Power (N/m s)	0.00	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	189.77	587.48	150.27
C & E Loss (m)	0.00	Cum SA (1000 m2)	123.31	252.53	101.75

Warning: Divided flow computed for this cross-section.

Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.45	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.42	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	5.78	32.20	6.56
E.G. Slope (m/m)	0.000064	Area (m2)	5.78	32.20	6.56
Q Total (m3/s)	27.00	Flow (m3/s)	1.23	24.36	1.41
Top Width (m)	32.67	Top Width (m)	6.89	17.67	8.11
Vel Total (m/s)	0.61	Avg. Vel. (m/s)	0.21	0.76	0.21
Max Chl Dpth (m)	2.23	Hydr. Depth (m)	0.84	1.82	0.81
Conv. Total (m3/s)	3375.9	Conv. (m3/s)	153.9	3045.8	176.2
Length Wtd. (m)	200.00	Wetted Per. (m)	8.11	19.06	9.08
Min Ch El (m)	10.19	Shear (N/m2)	0.45	1.06	0.45
Alpha	1.42	Stream Power (N/m s)	0.10	0.80	0.10
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	125.01	450.33	100.39
C & E Loss (m)	0.00	Cum SA (1000 m2)	106.33	235.28	86.82

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.61	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.58	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	6.90	35.07	7.88

E.G. Slope (m/m)	0.000049	Area (m2)	6.90	35.07	7.88
Q Total (m3/s)	27.00	Flow (m3/s)	1.39	24.00	1.61
Top Width (m)	33.67	Top Width (m)	7.12	18.13	8.41
Vel Total (m/s)	0.54	Avg. Vel. (m/s)	0.20	0.68	0.20
Max Chl Dpth (m)	2.39	Hydr. Depth (m)	0.97	1.93	0.94
Conv. Total (m3/s)	3873.2	Conv. (m3/s)	199.5	3442.8	230.9
Length Wtd. (m)	200.00	Wetted Per. (m)	8.55	19.62	9.58
Min Ch El (m)	10.19	Shear (N/m2)	0.38	0.85	0.39
Alpha	1.44	Stream Power (N/m s)	0.08	0.58	0.08
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	158.65	523.62	126.67
C & E Loss (m)	0.00	Cum SA (1000 m2)	116.45	245.60	95.30

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.88	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.87	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.97	40.28	10.32
E.G. Slope (m/m)	0.000031	Area (m2)	8.97	40.28	10.32
Q Total (m3/s)	27.00	Flow (m3/s)	1.63	23.47	1.91
Top Width (m)	35.43	Top Width (m)	7.54	18.95	8.94
Vel Total (m/s)	0.45	Avg. Vel. (m/s)	0.18	0.58	0.18
Max Chl Dpth (m)	2.67	Hydr. Depth (m)	1.19	2.13	1.16
Conv. Total (m3/s)	4829.7	Conv. (m3/s)	290.9	4197.4	341.3
Length Wtd. (m)	200.00	Wetted Per. (m)	9.34	20.61	10.45

Min Ch El (m)	10.19	Shear (N/m2)	0.29	0.60	0.30
Alpha	1.46	Stream Power (N/m s)	0.05	0.35	0.06
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	206.29	624.18	165.03
C & E Loss (m)	0.00	Cum SA (1000 m2)	127.46	252.03	106.03

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 70

INPUT
Description:
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.0727	13.7347	13.029	13.8531	16.4864	13.7903	17.1381	13.5325	20.6583	11.19
22.1767	10.1796	33.5871	10.1789	35.0379	11.19	38.8129	13.8211	40.3373	14.052
43.5317	14.0614	44.8566	13.854	46.339	13.819				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.0727	.03	16.4864	.015	38.8129	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.4864	38.8129	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.76	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.75	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	1.49	21.54	0.60
E.G. Slope (m/m)	0.000035	Area (m2)	1.49	21.54	0.60
Q Total (m3/s)	10.00	Flow (m3/s)	0.09	9.88	0.03
Top Width (m)	29.96	Top Width (m)	8.84	16.02	5.09

Vel Total (m/s)	0.42	Avg. Vel. (m/s)	0.06	0.46	0.05
Max Chl Dpth (m)	1.57	Hydr. Depth (m)	0.17	1.34	0.12
Conv. Total (m3/s)	1701.7	Conv. (m3/s)	15.1	1682.0	4.7
Length Wtd. (m)	200.00	Wetted Per. (m)	8.98	16.99	5.17
Min Ch El (m)	10.18	Shear (N/m2)	0.06	0.43	0.04
Alpha	1.16	Stream Power (N/m s)	0.00	0.20	0.00
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	88.51	359.47	69.08
C & E Loss (m)	0.00	Cum SA (1000 m2)	94.08	218.94	74.50

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.13	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.12	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	4.88	27.67	3.25
E.G. Slope (m/m)	0.000015	Area (m2)	4.88	27.67	3.25
Q Total (m3/s)	10.00	Flow (m3/s)	0.39	9.39	0.23
Top Width (m)	34.23	Top Width (m)	9.45	17.11	7.67
Vel Total (m/s)	0.28	Avg. Vel. (m/s)	0.08	0.34	0.07
Max Chl Dpth (m)	1.94	Hydr. Depth (m)	0.52	1.62	0.42
Conv. Total (m3/s)	2589.3	Conv. (m3/s)	100.5	2430.0	58.8
Length Wtd. (m)	200.00	Wetted Per. (m)	10.05	18.31	8.15
Min Ch El (m)	10.18	Shear (N/m2)	0.07	0.22	0.06
Alpha	1.39	Stream Power (N/m s)	0.01	0.07	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	133.82	462.65	104.96

C & E Loss (m)	0.00	Cum SA (1000 m2)	108.95	234.39	87.88

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	9.22	35.53	6.82
E.G. Slope (m/m)	0.000006	Area (m2)	9.22	35.53	6.82
Q Total (m3/s)	10.00	Flow (m3/s)	0.68	8.86	0.46
Top Width (m)	37.04	Top Width (m)	10.17	18.41	8.47
Vel Total (m/s)	0.19	Avg. Vel. (m/s)	0.07	0.25	0.07
Max Chl Dpth (m)	2.38	Hydr. Depth (m)	0.91	1.93	0.81
Conv. Total (m3/s)	3939.2	Conv. (m3/s)	267.7	3489.1	182.4
Length Wtd. (m)	200.00	Wetted Per. (m)	11.34	19.88	9.51
Min Ch El (m)	10.18	Shear (N/m2)	0.05	0.11	0.05
Alpha	1.48	Stream Power (N/m s)	0.00	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	188.17	580.46	148.82
C & E Loss (m)	0.00	Cum SA (1000 m2)	121.58	248.88	100.07

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.44	Element	Left OB	Channel	Right OB

Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.41	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	7.72	32.82	5.58
E.G. Slope (m/m)	0.000061	Area (m2)	7.72	32.82	5.58
Q Total (m3/s)	27.00	Flow (m3/s)	1.60	24.35	1.05
Top Width (m)	36.09	Top Width (m)	9.92	17.97	8.20
Vel Total (m/s)	0.59	Avg. Vel. (m/s)	0.21	0.74	0.19
Max Chl Dpth (m)	2.23	Hydr. Depth (m)	0.78	1.83	0.68
Conv. Total (m3/s)	3450.2	Conv. (m3/s)	204.3	3111.2	134.7
Length Wtd. (m)	200.00	Wetted Per. (m)	10.91	19.35	9.05
Min Ch El (m)	10.18	Shear (N/m2)	0.42	1.02	0.37
Alpha	1.46	Stream Power (N/m s)	0.09	0.76	0.07
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	123.66	443.83	99.18
C & E Loss (m)	0.00	Cum SA (1000 m2)	104.64	231.71	85.19

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.58	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	9.36	35.79	6.94
E.G. Slope (m/m)	0.000046	Area (m2)	9.36	35.79	6.94
Q Total (m3/s)	27.00	Flow (m3/s)	1.85	23.88	1.27
Top Width (m)	37.13	Top Width (m)	10.19	18.45	8.49
Vel Total (m/s)	0.52	Avg. Vel. (m/s)	0.20	0.67	0.18

Max Chl Dpth (m)	2.40	Hydr. Depth (m)	0.92	1.94	0.82
Conv. Total (m3/s)	3985.6	Conv. (m3/s)	273.8	3524.8	187.0
Length Wtd. (m)	200.00	Wetted Per. (m)	11.38	19.93	9.55
Min Ch El (m)	10.18	Shear (N/m2)	0.37	0.81	0.33
Alpha	1.48	Stream Power (N/m s)	0.07	0.54	0.06
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	157.02	516.54	125.18
C & E Loss (m)	0.00	Cum SA (1000 m2)	114.71	241.94	93.61

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.87	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.86	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	12.32	41.16	9.43
E.G. Slope (m/m)	0.000029	Area (m2)	12.32	41.16	9.43
Q Total (m3/s)	27.00	Flow (m3/s)	2.23	23.19	1.58
Top Width (m)	38.94	Top Width (m)	10.65	19.29	9.00
Vel Total (m/s)	0.43	Avg. Vel. (m/s)	0.18	0.56	0.17
Max Chl Dpth (m)	2.68	Hydr. Depth (m)	1.16	2.13	1.05
Conv. Total (m3/s)	5012.9	Conv. (m3/s)	413.4	4305.3	294.1
Length Wtd. (m)	200.00	Wetted Per. (m)	12.21	20.94	10.42
Min Ch El (m)	10.18	Shear (N/m2)	0.29	0.56	0.26
Alpha	1.50	Stream Power (N/m s)	0.05	0.32	0.04
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	204.16	616.04	163.06
C & E Loss (m)	0.00	Cum SA (1000 m2)	125.64	248.21	104.24

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 69

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.7781	13.8282	8.8099	13.9313	10.3625	13.9725	12.3006	13.9164	12.7634	13.8271
16.5926	11.24	18.1813	10.1667	29.5347	10.1659	31.0413	11.24	34.0225	13.3653
34.3427	13.4318	36.5016	13.629	39.5623	13.539	40.3634	13.3221		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.7781	.03	12.7634	.015	34.0225	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
12.7634	34.0225	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.75	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.74	Reach Len. (m)	168.76	168.76	168.76
Crit W.S. (m)	10.59	Flow Area (m2)	0.21	21.47	0.33
E.G. Slope (m/m)	0.000035	Area (m2)	0.21	21.47	0.33
Q Total (m3/s)	10.00	Flow (m3/s)	0.01	9.98	0.02
Top Width (m)	23.82	Top Width (m)	4.97	15.90	2.95
Vel Total (m/s)	0.45	Avg. Vel. (m/s)	0.02	0.46	0.05
Max Chl Dpth (m)	1.58	Hydr. Depth (m)	0.04	1.35	0.11
Conv. Total (m3/s)	1683.6	Conv. (m3/s)	0.9	1680.2	2.5
Length Wtd. (m)	168.76	Wetted Per. (m)	5.13	16.88	3.06

Min Ch El (m)	10.17	Shear (N/m2)	0.01	0.44	0.04
Alpha	1.05	Stream Power (N/m s)	0.00	0.20	0.00
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	88.34	355.17	68.98
C & E Loss (m)	0.00	Cum SA (1000 m2)	92.70	215.75	73.69

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.12	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.12	Reach Len. (m)	168.76	168.76	168.76
Crit W.S. (m)	10.59	Flow Area (m2)	2.16	27.62	1.54
E.G. Slope (m/m)	0.000016	Area (m2)	2.16	27.62	1.54
Q Total (m3/s)	10.00	Flow (m3/s)	0.14	9.75	0.11
Top Width (m)	25.95	Top Width (m)	5.47	16.97	3.50
Vel Total (m/s)	0.32	Avg. Vel. (m/s)	0.07	0.35	0.07
Max Chl Dpth (m)	1.95	Hydr. Depth (m)	0.40	1.63	0.44
Conv. Total (m3/s)	2494.2	Conv. (m3/s)	36.0	2431.5	26.7
Length Wtd. (m)	168.76	Wetted Per. (m)	6.13	18.19	4.10
Min Ch El (m)	10.17	Shear (N/m2)	0.06	0.24	0.06
Alpha	1.19	Stream Power (N/m s)	0.00	0.08	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	133.11	457.12	104.48
C & E Loss (m)	0.00	Cum SA (1000 m2)	107.46	230.98	86.76

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.56	Reach Len. (m)	168.76	168.76	168.76
Crit W.S. (m)	10.59	Flow Area (m2)	4.73	35.44	3.24
E.G. Slope (m/m)	0.000007	Area (m2)	4.73	35.44	3.24
Q Total (m3/s)	10.00	Flow (m3/s)	0.32	9.47	0.21
Top Width (m)	28.48	Top Width (m)	6.07	18.26	4.15
Vel Total (m/s)	0.23	Avg. Vel. (m/s)	0.07	0.27	0.06
Max Chl Dpth (m)	2.39	Hydr. Depth (m)	0.78	1.94	0.78
Conv. Total (m3/s)	3684.2	Conv. (m3/s)	117.7	3488.9	77.5
Length Wtd. (m)	168.76	Wetted Per. (m)	7.32	19.75	5.33
Min Ch El (m)	10.17	Shear (N/m2)	0.05	0.13	0.04
Alpha	1.28	Stream Power (N/m s)	0.00	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	186.78	573.36	147.81
C & E Loss (m)	0.00	Cum SA (1000 m2)	119.96	245.21	98.81

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.43	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.39	Reach Len. (m)	168.76	168.76	168.76
Crit W.S. (m)	10.97	Flow Area (m2)	3.74	32.45	2.57
E.G. Slope (m/m)	0.000071	Area (m2)	3.74	32.45	2.57

Q Total (m3/s)	27.00	Flow (m3/s)	0.70	25.83	0.47
Top Width (m)	27.53	Top Width (m)	5.84	17.78	3.91
Vel Total (m/s)	0.70	Avg. Vel. (m/s)	0.19	0.80	0.18
Max Chl Dpth (m)	2.23	Hydr. Depth (m)	0.64	1.83	0.66
Conv. Total (m3/s)	3211.7	Conv. (m3/s)	83.0	3072.7	56.0
Length Wtd. (m)	168.76	Wetted Per. (m)	6.88	19.17	4.87
Min Ch El (m)	10.17	Shear (N/m2)	0.38	1.17	0.37
Alpha	1.25	Stream Power (N/m s)	0.07	0.93	0.07
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	122.51	437.30	98.37
C & E Loss (m)	0.00	Cum SA (1000 m2)	103.07	228.14	83.98

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.56	Reach Len. (m)	168.76	168.76	168.76
Crit W.S. (m)	10.97	Flow Area (m2)	4.73	35.46	3.24
E.G. Slope (m/m)	0.000054	Area (m2)	4.73	35.46	3.24
Q Total (m3/s)	27.00	Flow (m3/s)	0.86	25.57	0.57
Top Width (m)	28.48	Top Width (m)	6.07	18.26	4.15
Vel Total (m/s)	0.62	Avg. Vel. (m/s)	0.18	0.72	0.18
Max Chl Dpth (m)	2.40	Hydr. Depth (m)	0.78	1.94	0.78
Conv. Total (m3/s)	3686.9	Conv. (m3/s)	117.9	3491.3	77.6
Length Wtd. (m)	168.76	Wetted Per. (m)	7.33	19.76	5.33
Min Ch El (m)	10.17	Shear (N/m2)	0.34	0.94	0.32

Alpha	1.28	Stream Power (N/m s)	0.06	0.68	0.06
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	155.61	509.41	124.16
C & E Loss (m)	0.00	Cum SA (1000 m2)	113.09	238.27	92.35

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.87	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.85	Reach Len. (m)	168.76	168.76	168.76
Crit W.S. (m)	10.97	Flow Area (m2)	6.54	40.86	4.51
E.G. Slope (m/m)	0.000035	Area (m2)	6.54	40.86	4.51
Q Total (m3/s)	27.00	Flow (m3/s)	1.11	25.17	0.72
Top Width (m)	30.13	Top Width (m)	6.46	19.09	4.58
Vel Total (m/s)	0.52	Avg. Vel. (m/s)	0.17	0.62	0.16
Max Chl Dpth (m)	2.68	Hydr. Depth (m)	1.01	2.14	0.98
Conv. Total (m3/s)	4587.6	Conv. (m3/s)	189.3	4276.1	122.3
Length Wtd. (m)	168.76	Wetted Per. (m)	8.10	20.77	6.14
Min Ch El (m)	10.17	Shear (N/m2)	0.27	0.67	0.25
Alpha	1.31	Stream Power (N/m s)	0.05	0.41	0.04
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	202.27	607.84	161.66
C & E Loss (m)	0.00	Cum SA (1000 m2)	123.93	244.37	102.88

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 68.5

INPUT
Description:
Distance from Upstream XS = 168.76
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
7.43	15.08	13.83	36.58	15.08	13.83

Upstream Bridge Cross Section Data
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.7781	13.8282	8.8099	13.9313	10.3625	13.9725	12.3006	13.9164	12.7634	13.8271
16.5926	11.24	18.1813	10.1667	29.5347	10.1659	31.0413	11.24	34.0225	13.3653
34.3427	13.4318	36.5016	13.629	39.5623	13.539	40.3634	13.3221		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.7781	.03	12.7634	.015	34.0225	.03

Bank Sta: Left Right Coeff Contr. Expan.
12.7634 34.0225 .0015 .01

Downstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
2.629	15.08	13.74	31.78	15.08	13.74

Downstream Bridge Cross Section Data
Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
3.3828	13.5619	7.7999	13.5619	8.5361	13.4477	11.8881	11.23	13.5149	10.1537
24.5684	10.153	26.1331	11.23	29.8837	13.8115	30.4051	13.9273	32.0475	13.9621
34.6509	13.8786								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
3.3828	.03	8.5361	.015	29.8837	.03

Bank Sta: Left Right Coeff Contr. Expan.
8.5361 29.8837 .0015 .01

Upstream Embankment side slope = 2 horiz. to 1.0 vertical
Downstream Embankment side slope = 2 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =

Weir crest shape = Broad Crested

Number of Abutments = 2

Abutment Data
Upstream num= 2

Sta	Elev	Sta	Elev
7.43	13.83	15.39	13.83

Downstream num= 2

Sta	Elev	Sta	Elev
2.63	13.8	10.59	13.8

Abutment Data
Upstream num= 2

Sta	Elev	Sta	Elev
32.39	13.83	36.58	13.83

Downstream num= 2

Sta	Elev	Sta	Elev
27.59	13.8	31.78	13.8

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data
Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
Energy Only

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT Profile #PF 1

E.G. US. (m)	11.75	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.74	E.G. Elev (m)	11.75
11.75			
Q Total (m3/s)	10.00	W.S. Elev (m)	11.74
11.74			
Q Bridge (m3/s)	9.98	Crit W.S. (m)	10.59
10.58			
Q Weir (m3/s)		Max Chl Dpth (m)	1.57
1.58			
Weir Sta Lft (m)		Vel Total (m/s)	0.46
0.47			
Weir Sta Rgt (m)		Flow Area (m2)	21.87
21.25			
Weir Submerg		Froude # Chl	0.13

0.13			
Weir Max Depth (m)		Specif Force (m3)	16.36
16.28			
Min El Weir Flow (m)	11.70	Hydr Depth (m)	0.92
1.18			
Min El Prs (m)	13.83	W.P. Total (m)	25.02
19.06			
Delta EG (m)	0.01	Conv. Total (m3/s)	1672.0
1656.5			
Delta WS (m)	0.01	Top Width (m)	23.78
18.05			
BR Open Area (m2)	55.00	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.47	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.31
0.40			
BR Sel Method	Energy only	Power Total (N/m s)	0.14
0.19			

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.12	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.12	E.G. Elev (m)	12.12
12.12			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.11
12.11			
Q Bridge (m3/s)	9.75	Crit W.S. (m)	10.59
10.58			
Q Weir (m3/s)		Max Chl Dpth (m)	1.95
1.96			
Weir Sta Lft (m)		Vel Total (m/s)	0.32
0.34			
Weir Sta Rgt (m)		Flow Area (m2)	31.25
29.25			
Weir Submerg		Froude # Chl	0.09
0.09			
Weir Max Depth (m)		Specif Force (m3)	26.23
25.65			
Min El Weir Flow (m)	11.70	Hydr Depth (m)	1.21
1.31			
Min El Prs (m)	13.83	W.P. Total (m)	28.35
23.97			
Delta EG (m)	0.00	Conv. Total (m3/s)	2491.5
2435.9			
Delta WS (m)	0.00	Top Width (m)	25.84
22.26			
BR Open Area (m2)	55.00	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.36	C & E Loss (m)	0.00

```
 0.00
  BR Sluice Coef                         Shear Total (N/m2)           0.17
 0.20
  BR Sel Method          Energy only     Power Total (N/m s)          0.06
 0.07
```

BRIDGE OUTPUT Profile #PF 3

```
  E.G. US. (m)                12.56     Element                Inside BR US
Inside BR DS
  W.S. US. (m)                12.56     E.G. Elev (m)                12.56
12.56
  Q Total (m3/s)              10.00     W.S. Elev (m)                12.56
12.56
  Q Bridge (m3/s)              9.48     Crit W.S. (m)                10.59
10.58
  Q Weir (m3/s)                         Max Chl Dpth (m)              2.39
 2.41
  Weir Sta Lft (m)                      Vel Total (m/s)               0.23
 0.25
  Weir Sta Rgt (m)                      Flow Area (m2)               43.10
39.52
  Weir Submerg                          Froude # Chl                  0.06
 0.06
  Weir Max Depth (m)                    Specif Force (m3)            42.69
40.87
  Min El Weir Flow (m)        11.70     Hydr Depth (m)                1.58
 1.65
  Min El Prs (m)              13.83     W.P. Total (m)               31.74
27.34
  Delta EG (m)                 0.00     Conv. Total (m3/s)         3713.0
3599.5
  Delta WS (m)                 0.00     Top Width (m)                27.22
23.98
  BR Open Area (m2)           55.00     Frctn Loss (m)                0.00
 0.00
  BR Open Vel (m/s)            0.27     C & E Loss (m)                0.00
 0.00
  BR Sluice Coef                        Shear Total (N/m2)            0.10
 0.11
  BR Sel Method          Energy only     Power Total (N/m s)          0.02
 0.03
```

BRIDGE OUTPUT Profile #PF 4

```
  E.G. US. (m)                12.43     Element                Inside BR US
Inside BR DS
  W.S. US. (m)                12.39     E.G. Elev (m)                12.41
```

12.41

Q Total (m3/s)	27.00	W.S. Elev (m)	12.38
12.38			
Q Bridge (m3/s)	25.86	Crit W.S. (m)	10.97
10.97			
Q Weir (m3/s)		Max Chl Dpth (m)	2.22
2.23			
Weir Sta Lft (m)		Vel Total (m/s)	0.70
0.77			
Weir Sta Rgt (m)		Flow Area (m2)	38.31
35.29			
Weir Submerg		Froude # Chl	0.19
0.19			
Weir Max Depth (m)		Specif Force (m3)	37.35
36.11			
Min El Weir Flow (m)	11.70	Hydr Depth (m)	1.43
1.53			
Min El Prs (m)	13.83	W.P. Total (m)	30.42
25.69			
Delta EG (m)	0.01	Conv. Total (m3/s)	3202.5
3106.0			
Delta WS (m)	0.02	Top Width (m)	26.72
23.13			
BR Open Area (m2)	55.00	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.81	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.88
1.02			
BR Sel Method	Energy only	Power Total (N/m s)	0.62
0.78			

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.59	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.56	E.G. Elev (m)	12.58
12.58			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.55
12.55			
Q Bridge (m3/s)	25.59	Crit W.S. (m)	10.97
10.97			
Q Weir (m3/s)		Max Chl Dpth (m)	2.39
2.40			
Weir Sta Lft (m)		Vel Total (m/s)	0.63
0.69			
Weir Sta Rgt (m)		Flow Area (m2)	42.89
39.29			
Weir Submerg		Froude # Chl	0.16
0.17			
Weir Max Depth (m)		Specif Force (m3)	44.03

42.24

Min El Weir Flow (m)	11.70	Hydr Depth (m)	1.58
1.64			
Min El Prs (m)	13.83	W.P. Total (m)	31.68
27.25			
Delta EG (m)	0.01	Conv. Total (m3/s)	3690.8
3572.2			
Delta WS (m)	0.01	Top Width (m)	27.20
23.94			
BR Open Area (m2)	55.00	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.74	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.71
0.81			
BR Sel Method	Energy only	Power Total (N/m s)	0.45
0.56			

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.87	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.85	E.G. Elev (m)	12.86
12.86			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.84
12.84			
Q Bridge (m3/s)	25.18	Crit W.S. (m)	10.97
10.97			
Q Weir (m3/s)		Max Chl Dpth (m)	2.68
2.69			
Weir Sta Lft (m)		Vel Total (m/s)	0.53
0.58			
Weir Sta Rgt (m)		Flow Area (m2)	50.96
46.50			
Weir Submerg		Froude # Chl	0.13
0.14			
Weir Max Depth (m)		Specif Force (m3)	57.45
54.49			
Min El Weir Flow (m)	11.70	Hydr Depth (m)	1.82
1.84			
Min El Prs (m)	13.83	W.P. Total (m)	33.86
29.92			
Delta EG (m)	0.01	Conv. Total (m3/s)	4586.1
4426.9			
Delta WS (m)	0.01	Top Width (m)	28.02
25.32			
BR Open Area (m2)	55.00	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.63	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.51

```
 0.57
  BR Sel Method          Energy only    Power Total (N/m s)          0.27
 0.33



CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 68

INPUT
Description:
Station Elevation Data    num=      11
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  3.3828 13.5619  7.7999 13.5619  8.5361 13.4477 11.8881   11.23 13.5149 10.1537
 24.5684  10.153 26.1331   11.23 29.8837 13.8115 30.4051 13.9273 32.0475 13.9621
 34.6509 13.8786

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  3.3828     .03  8.5361    .015 29.8837     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
        8.5361 29.8837              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.75    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.                           0.015
  0.030
  W.S. Elev (m)            11.73    Reach Len. (m)          200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)                       21.19
   0.05
  E.G. Slope (m/m)      0.000037    Area (m2)                            21.19
   0.05
  Q Total (m3/s)           10.00    Flow (m3/s)                          10.00
   0.00
  Top Width (m)            17.99    Top Width (m)                        15.74
   2.25
  Vel Total (m/s)           0.47    Avg. Vel. (m/s)                       0.47
   0.01
  Max Chl Dpth (m)          1.58    Hydr. Depth (m)                       1.35
   0.02
  Conv. Total (m3/s)      1654.7    Conv. (m3/s)                        1654.6
    0.1
  Length Wtd. (m)         200.00    Wetted Per. (m)                      16.71
   2.29
  Min Ch El (m)             10.15    Shear (N/m2)                          0.45
```

0.01					
Alpha	1.00	Stream Power (N/m s)			0.21
0.00					
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	88.31	350.90	
68.93					
C & E Loss (m)	0.00	Cum SA (1000 m2)	91.85	212.58	
73.12					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.12	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.01	Wt. n-Val.			0.015
0.030					
W.S. Elev (m)	12.11	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)		Flow Area (m2)			27.34
1.90					
E.G. Slope (m/m)	0.000017	Area (m2)			27.34
1.90					
Q Total (m3/s)	10.00	Flow (m3/s)			9.88
0.12					
Top Width (m)	22.30	Top Width (m)			16.86
5.43					
Vel Total (m/s)	0.34	Avg. Vel. (m/s)			0.36
0.06					
Max Chl Dpth (m)	1.96	Hydr. Depth (m)			1.62
0.35					
Conv. Total (m3/s)	2433.3	Conv. (m3/s)			2403.6
29.7					
Length Wtd. (m)	200.00	Wetted Per. (m)			18.06
5.93					
Min Ch El (m)	10.15	Shear (N/m2)			0.25
0.05					
Alpha	1.10	Stream Power (N/m s)			0.09
0.00					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	132.74	451.61	
104.16					
C & E Loss (m)	0.00	Cum SA (1000 m2)	106.52	227.60	
86.01					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.08	35.16	4.52
E.G. Slope (m/m)	0.000008	Area (m2)	0.08	35.16	4.52
Q Total (m3/s)	10.00	Flow (m3/s)	0.00	9.69	0.31
Top Width (m)	25.16	Top Width (m)	0.65	18.18	6.33
Vel Total (m/s)	0.25	Avg. Vel. (m/s)	0.02	0.28	0.07
Max Chl Dpth (m)	2.41	Hydr. Depth (m)	0.12	1.93	0.72
Conv. Total (m3/s)	3563.9	Conv. (m3/s)	0.5	3454.5	108.9
Length Wtd. (m)	200.00	Wetted Per. (m)	0.93	19.66	7.38
Min Ch El (m)	10.15	Shear (N/m2)	0.01	0.14	0.05
Alpha	1.17	Stream Power (N/m s)	0.00	0.04	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	185.96	566.31	147.13
C & E Loss (m)	0.00	Cum SA (1000 m2)	118.90	241.69	97.92

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.41	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.38	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.00	31.91	3.41
E.G. Slope (m/m)	0.000077	Area (m2)	0.00	31.91	3.41
Q Total (m3/s)	27.00	Flow (m3/s)	0.00	26.37	

0.63					
Top Width (m)	23.77	Top Width (m)	0.16	17.64	5.96
Vel Total (m/s)	0.76	Avg. Vel. (m/s)	0.02	0.83	0.18
Max Chl Dpth (m)	2.22	Hydr. Depth (m)	0.03	1.81	0.57
Conv. Total (m3/s)	3076.5	Conv. (m3/s)	0.0	3004.7	71.8
Length Wtd. (m)	200.00	Wetted Per. (m)	0.23	19.01	6.79
Min Ch El (m)	10.15	Shear (N/m2)	0.02	1.27	0.38
Alpha	1.14	Stream Power (N/m s)	0.00	1.05	0.07
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	121.88	430.86	97.83
C & E Loss (m)	0.00	Cum SA (1000 m2)	102.06	224.66	83.14

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.07	34.97	4.46
E.G. Slope (m/m)	0.000058	Area (m2)	0.07	34.97	4.46
Q Total (m3/s)	27.00	Flow (m3/s)	0.00	26.18	0.81
Top Width (m)	25.08	Top Width (m)	0.62	18.15	6.31
Vel Total (m/s)	0.68	Avg. Vel. (m/s)	0.05	0.75	0.18
Max Chl Dpth (m)	2.40	Hydr. Depth (m)	0.11	1.93	0.71
Conv. Total (m3/s)	3534.0	Conv. (m3/s)	0.4	3427.1	106.5
Length Wtd. (m)	200.00	Wetted Per. (m)	0.89	19.62	7.34
Min Ch El (m)	10.15	Shear (N/m2)	0.05	1.02	0.35
Alpha	1.17	Stream Power (N/m s)	0.00	0.76	

0.06					
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	154.80	502.38	123.48
C & E Loss (m)	0.00	Cum SA (1000 m2)	112.03	234.75	91.46

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.86	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.84	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.37	40.42	6.39
E.G. Slope (m/m)	0.000038	Area (m2)	0.37	40.42	6.39
Q Total (m3/s)	27.00	Flow (m3/s)	0.02	25.88	1.10
Top Width (m)	27.34	Top Width (m)	1.42	19.02	6.89
Vel Total (m/s)	0.57	Avg. Vel. (m/s)	0.07	0.64	0.17
Max Chl Dpth (m)	2.69	Hydr. Depth (m)	0.26	2.13	0.93
Conv. Total (m3/s)	4397.9	Conv. (m3/s)	4.0	4214.7	179.2
Length Wtd. (m)	200.00	Wetted Per. (m)	2.04	20.67	8.29
Min Ch El (m)	10.15	Shear (N/m2)	0.07	0.72	0.28
Alpha	1.20	Stream Power (N/m s)	0.00	0.46	0.05
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	201.15	599.77	160.71
C & E Loss (m)	0.00	Cum SA (1000 m2)	122.78	240.76	101.90

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 67

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.0987	13.4793	7.6054	13.6348	11.7226	13.6444	12.1722	13.5978	12.5625	13.4813
12.9207	13.2047	13.3597	12.7817	15.5862	11.25	17.1987	10.1407	28.2523	10.14
29.8593	11.25	32.8331	13.304	33.7181	13.4376	35.7586	13.4683	37.894	13.2374

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.0987	.03	12.5625	.015	32.8331	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
12.5625	32.8331	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.74	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.73	Reach Len. (m)	25.22	25.22	25.22
Crit W.S. (m)	10.57	Flow Area (m2)	1.28	21.22	2.56
E.G. Slope (m/m)	0.000033	Area (m2)	1.28	21.22	2.56
Q Total (m3/s)	10.00	Flow (m3/s)	0.11	9.62	0.27
Top Width (m)	25.44	Top Width (m)	4.14	15.66	5.64
Vel Total (m/s)	0.40	Avg. Vel. (m/s)	0.08	0.45	0.11
Max Chl Dpth (m)	1.59	Hydr. Depth (m)	0.31	1.35	0.45
Conv. Total (m3/s)	1728.3	Conv. (m3/s)	18.4	1662.8	47.1
Length Wtd. (m)	25.22	Wetted Per. (m)	4.53	16.65	6.26
Min Ch El (m)	10.14	Shear (N/m2)	0.09	0.42	0.13
Alpha	1.24	Stream Power (N/m s)	0.01	0.19	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	88.18	346.65	68.66
C & E Loss (m)	0.00	Cum SA (1000 m2)	91.44	209.44	72.33

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.12	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.11	Reach Len. (m)	25.22	25.22	25.22
Crit W.S. (m)	10.57	Flow Area (m2)	2.98	27.41	4.86
E.G. Slope (m/m)	0.000015	Area (m2)	2.98	27.41	4.86
Q Total (m3/s)	10.00	Flow (m3/s)	0.25	9.29	0.47
Top Width (m)	27.94	Top Width (m)	4.78	16.77	6.39
Vel Total (m/s)	0.28	Avg. Vel. (m/s)	0.08	0.34	0.10
Max Chl Dpth (m)	1.97	Hydr. Depth (m)	0.62	1.63	0.76
Conv. Total (m3/s)	2604.6	Conv. (m3/s)	64.8	2418.5	121.3
Length Wtd. (m)	25.22	Wetted Per. (m)	5.66	18.00	7.48
Min Ch El (m)	10.14	Shear (N/m2)	0.08	0.22	0.09
Alpha	1.33	Stream Power (N/m s)	0.01	0.07	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	132.45	446.13	103.49
C & E Loss (m)	0.00	Cum SA (1000 m2)	106.04	224.24	84.82

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.56	Reach Len. (m)	25.22	25.22	

25.22					
Crit W.S. (m)	10.57	Flow Area (m2)	5.29	35.20	7.91
E.G. Slope (m/m)	0.000007	Area (m2)	5.29	35.20	7.91
Q Total (m3/s)	10.00	Flow (m3/s)	0.38	8.99	0.63
Top Width (m)	30.88	Top Width (m)	5.54	18.07	7.27
Vel Total (m/s)	0.21	Avg. Vel. (m/s)	0.07	0.26	0.08
Max Chl Dpth (m)	2.42	Hydr. Depth (m)	0.96	1.95	1.09
Conv. Total (m3/s)	3860.8	Conv. (m3/s)	146.6	3470.7	243.6
Length Wtd. (m)	25.22	Wetted Per. (m)	6.99	19.57	8.92
Min Ch El (m)	10.14	Shear (N/m2)	0.05	0.12	0.06
Alpha	1.39	Stream Power (N/m s)	0.00	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	185.43	559.28	145.88
C & E Loss (m)	0.00	Cum SA (1000 m2)	118.28	238.07	96.56

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.40	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.37	Reach Len. (m)	25.22	25.22	25.22
Crit W.S. (m)	10.95	Flow Area (m2)	4.27	31.83	6.57
E.G. Slope (m/m)	0.000067	Area (m2)	4.27	31.83	6.57
Q Total (m3/s)	27.00	Flow (m3/s)	0.89	24.58	1.53
Top Width (m)	29.64	Top Width (m)	5.22	17.52	6.90
Vel Total (m/s)	0.63	Avg. Vel. (m/s)	0.21	0.77	0.23
Max Chl Dpth (m)	2.23	Hydr. Depth (m)	0.82	1.82	0.95
Conv. Total (m3/s)	3299.6	Conv. (m3/s)	108.5	3003.7	

187.4					
Length Wtd. (m)	25.22	Wetted Per. (m)	6.43	18.91	
8.31					
Min Ch El (m)	10.14	Shear (N/m2)	0.44	1.11	
0.52					
Alpha	1.37	Stream Power (N/m s)	0.09	0.85	
0.12					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	121.45	424.48	
96.83					
C & E Loss (m)	0.00	Cum SA (1000 m2)	101.53	221.15	
81.85					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.56	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.54	Reach Len. (m)	25.22	25.22	
25.22					
Crit W.S. (m)	10.95	Flow Area (m2)	5.21	34.92	
7.80					
E.G. Slope (m/m)	0.000050	Area (m2)	5.21	34.92	
7.80					
Q Total (m3/s)	27.00	Flow (m3/s)	1.01	24.30	
1.69					
Top Width (m)	30.78	Top Width (m)	5.51	18.02	
7.24					
Vel Total (m/s)	0.56	Avg. Vel. (m/s)	0.19	0.70	
0.22					
Max Chl Dpth (m)	2.40	Hydr. Depth (m)	0.94	1.94	
1.08					
Conv. Total (m3/s)	3813.0	Conv. (m3/s)	143.2	3431.0	
238.7					
Length Wtd. (m)	25.22	Wetted Per. (m)	6.94	19.52	
8.87					
Min Ch El (m)	10.14	Shear (N/m2)	0.37	0.88	
0.43					
Alpha	1.39	Stream Power (N/m s)	0.07	0.61	
0.09					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	154.28	495.39	
122.26					
C & E Loss (m)	0.00	Cum SA (1000 m2)	111.42	231.13	
90.10					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.85	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.84	Reach Len. (m)	25.22	25.22	25.22
Crit W.S. (m)	10.95	Flow Area (m2)	6.91	40.39	10.03
E.G. Slope (m/m)	0.000032	Area (m2)	6.91	40.39	10.03
Q Total (m3/s)	27.00	Flow (m3/s)	1.20	23.88	1.92
Top Width (m)	32.70	Top Width (m)	6.02	18.86	7.82
Vel Total (m/s)	0.47	Avg. Vel. (m/s)	0.17	0.59	0.19
Max Chl Dpth (m)	2.70	Hydr. Depth (m)	1.15	2.14	1.28
Conv. Total (m3/s)	4776.6	Conv. (m3/s)	212.3	4225.1	339.2
Length Wtd. (m)	25.22	Wetted Per. (m)	7.82	20.54	9.82
Min Ch El (m)	10.14	Shear (N/m2)	0.28	0.62	0.32
Alpha	1.41	Stream Power (N/m s)	0.05	0.36	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	200.42	591.69	159.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	122.04	236.98	100.42

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 66.5

INPUT
Description:
Distance from Upstream XS = 25.22
Deck/Roadway Width = 5

```
Weir Coefficient          =     1.4
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
  8.8258    13.8   13.01  37.054    13.8   13.01

Upstream Bridge Cross Section Data
Station Elevation Data    num=      15
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  7.0987 13.4793  7.6054 13.6348 11.7226 13.6444 12.1722 13.5978 12.5625 13.4813
 12.9207 13.2047 13.3597 12.7817 15.5862   11.25 17.1987 10.1407 28.2523   10.14
 29.8593   11.25 32.8331  13.304 33.7181 13.4376 35.7586 13.4683  37.894 13.2374

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  7.0987     .03 12.5625    .015 32.8331     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       12.5625 32.8331          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   11.27    13.8    12.9 39.5027    13.8    12.9

Downstream Bridge Cross Section Data
Station Elevation Data    num=      15
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  7.6427 13.1969    8.98 13.5803 11.2654 13.2958 14.1663 13.2958 14.9137 13.2036
 17.9016   11.26 19.6422 10.1278  30.796 10.1271 32.4502   11.26 35.8813   13.61
 36.7414 13.6601 38.2901 13.6947      39 13.6029 40.0439 13.6446  40.557 13.5157

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  7.6427     .03 14.9137    .015 35.8813     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       14.9137 35.8813          .0015      .01

Upstream Embankment side slope              =     1.9 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.9 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
    8.82   13.02   16.85   13.02
Downstream     num=       2
```

```
     Sta    Elev     Sta    Elev
 11.2746   13.02    19.2   13.02

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   28.85   13.02   37.05   13.02
Downstream     num=       2
     Sta    Elev     Sta    Elev
    31.2   12.94    39.5   12.94

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.74    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.73    E.G. Elev (m)              11.74
11.74
  Q Total (m3/s)             10.00    W.S. Elev (m)              11.73
11.73
  Q Bridge (m3/s)             9.58    Crit W.S. (m)              10.57
10.55
  Q Weir (m3/s)                       Max Chl Dpth (m)            1.59
 1.60
  Weir Sta Lft (m)                    Vel Total (m/s)             0.44
 0.38
  Weir Sta Rgt (m)                    Flow Area (m2)             22.66
26.15
  Weir Submerg                        Froude # Chl                0.13
 0.12
  Weir Max Depth (m)                  Specif Force (m3)          16.15
17.94
  Min El Weir Flow (m)       11.23    Hydr Depth (m)              1.04
 1.10
  Min El Prs (m)             13.01    W.P. Total (m)             25.49
28.33
  Delta EG (m)                0.01    Conv. Total (m3/s)        1547.2
1660.1
```

Delta WS (m)	0.01	Top Width (m)	21.77
23.76			
BR Open Area (m2)	33.15	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.51	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.36
0.33			
BR Sel Method	Energy only	Power Total (N/m s)	0.16
0.13			

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.12	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.11	E.G. Elev (m)	12.12
12.12			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.11
12.11			
Q Bridge (m3/s)	9.18	Crit W.S. (m)	10.57
10.55			
Q Weir (m3/s)		Max Chl Dpth (m)	1.97
1.98			
Weir Sta Lft (m)		Vel Total (m/s)	0.32
0.28			
Weir Sta Rgt (m)		Flow Area (m2)	31.26
35.47			
Weir Submerg		Froude # Chl	0.09
0.08			
Weir Max Depth (m)		Specif Force (m3)	26.32
29.58			
Min El Weir Flow (m)	11.23	Hydr Depth (m)	1.35
1.42			
Min El Prs (m)	13.01	W.P. Total (m)	28.61
31.37			
Delta EG (m)	0.00	Conv. Total (m3/s)	2246.6
2410.4			
Delta WS (m)	0.00	Top Width (m)	23.17
25.05			
BR Open Area (m2)	33.15	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.39	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.21
0.19			
BR Sel Method	Energy only	Power Total (N/m s)	0.07
0.05			

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.56	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.56	E.G. Elev (m)	12.56 12.56
Q Total (m3/s)	10.00	W.S. Elev (m)	12.56 12.56
Q Bridge (m3/s)	8.78	Crit W.S. (m)	10.57 10.55
Q Weir (m3/s)		Max Chl Dpth (m)	2.42 2.43
Weir Sta Lft (m)		Vel Total (m/s)	0.24 0.21
Weir Sta Rgt (m)		Flow Area (m2)	42.02 47.04
Weir Submerg		Froude # Chl	0.06 0.06
Weir Max Depth (m)		Specif Force (m3)	42.63 47.95
Min El Weir Flow (m)	11.23	Hydr Depth (m)	1.69 1.77
Min El Prs (m)	13.01	W.P. Total (m)	32.28 34.94
Delta EG (m)	0.00	Conv. Total (m3/s)	3190.7 3416.1
Delta WS (m)	0.00	Top Width (m)	24.81 26.57
BR Open Area (m2)	33.15	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.30	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.13 0.11
BR Sel Method	Energy only	Power Total (N/m s)	0.03 0.02

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.40	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.37	E.G. Elev (m)	12.39 12.39
Q Total (m3/s)	27.00	W.S. Elev (m)	12.36 12.36
Q Bridge (m3/s)	24.16	Crit W.S. (m)	10.96 10.94
Q Weir (m3/s)		Max Chl Dpth (m)	2.22 2.24
Weir Sta Lft (m)		Vel Total (m/s)	0.73 0.64

Weir Sta Rgt (m)		Flow Area (m2)	37.11 41.92
Weir Submerg		Froude # Chl	0.20 0.18
Weir Max Depth (m)		Specif Force (m3)	36.74 41.12
Min El Weir Flow (m)	11.23	Hydr Depth (m)	1.54 1.62
Min El Prs (m)	13.01	W.P. Total (m)	30.64 33.39
Delta EG (m)	0.01	Conv. Total (m3/s)	2752.9 2962.5
Delta WS (m)	0.01	Top Width (m)	24.07 25.91
BR Open Area (m2)	33.15	Frctn Loss (m)	0.00 0.01
BR Open Vel (m/s)	0.91	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	1.14 1.02
BR Sel Method	Energy only	Power Total (N/m s)	0.83 0.66

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.56	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.54	E.G. Elev (m)	12.56 12.56
Q Total (m3/s)	27.00	W.S. Elev (m)	12.53 12.54
Q Bridge (m3/s)	23.76	Crit W.S. (m)	10.96 10.94
Q Weir (m3/s)		Max Chl Dpth (m)	2.39 2.41
Weir Sta Lft (m)		Vel Total (m/s)	0.65 0.58
Weir Sta Rgt (m)		Flow Area (m2)	41.40 46.49
Weir Submerg		Froude # Chl	0.17 0.16
Weir Max Depth (m)		Specif Force (m3)	43.41 48.63
Min El Weir Flow (m)	11.23	Hydr Depth (m)	1.68 1.75
Min El Prs (m)	13.01	W.P. Total (m)	32.08 34.78
Delta EG (m)	0.01	Conv. Total (m3/s)	3135.2 3367.4
Delta WS (m)	0.01	Top Width (m)	24.72 26.51

BR Open Area (m2)	33.15	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.83	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.94
0.84			
BR Sel Method	Energy only	Power Total (N/m s)	0.61
0.49			

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.85	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.84	E.G. Elev (m)	12.85
12.85			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.83
12.83			
Q Bridge (m3/s)	23.14	Crit W.S. (m)	10.96
10.94			
Q Weir (m3/s)		Max Chl Dpth (m)	2.69
2.71			
Weir Sta Lft (m)		Vel Total (m/s)	0.55
0.50			
Weir Sta Rgt (m)		Flow Area (m2)	48.95
54.52			
Weir Submerg		Froude # Chl	0.14
0.13			
Weir Max Depth (m)		Specif Force (m3)	56.59
63.36			
Min El Weir Flow (m)	11.23	Hydr Depth (m)	1.90
1.98			
Min El Prs (m)	13.01	W.P. Total (m)	34.52
37.15			
Delta EG (m)	0.01	Conv. Total (m3/s)	3827.3
4099.5			
Delta WS (m)	0.00	Top Width (m)	25.81
27.51			
BR Open Area (m2)	33.15	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.72	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.69
0.62			
BR Sel Method	Energy only	Power Total (N/m s)	0.38
0.31			

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 66

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.6427	13.1969	8.98	13.5803	11.2654	13.2958	14.1663	13.2958	14.9137	13.2036
17.9016	11.26	19.6422	10.1278	30.796	10.1271	32.4502	11.26	35.8813	13.61
36.7414	13.6601	38.2901	13.6947	39	13.6029	40.0439	13.6446	40.557	13.5157

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.6427	.03	14.9137	.015	35.8813	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.9137	35.8813	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.73	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.72	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	3.87	21.63	3.16
E.G. Slope (m/m)	0.000029	Area (m2)	3.87	21.63	3.16
Q Total (m3/s)	10.00	Flow (m3/s)	0.48	9.18	0.34
Top Width (m)	27.68	Top Width (m)	5.79	15.94	5.95
Vel Total (m/s)	0.35	Avg. Vel. (m/s)	0.12	0.42	0.11
Max Chl Dpth (m)	1.60	Hydr. Depth (m)	0.67	1.36	0.53
Conv. Total (m3/s)	1851.5	Conv. (m3/s)	89.3	1698.9	63.3
Length Wtd. (m)	200.00	Wetted Per. (m)	6.72	16.91	6.78
Min Ch El (m)	10.13	Shear (N/m2)	0.16	0.37	0.13
Alpha	1.37	Stream Power (N/m s)	0.02	0.16	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	87.47	342.60	68.05
C & E Loss (m)	0.00	Cum SA (1000 m2)	90.33	206.66	71.15

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.11	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.11	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	6.19	27.97	5.61
E.G. Slope (m/m)	0.000013	Area (m2)	6.19	27.97	5.61
Q Total (m3/s)	10.00	Flow (m3/s)	0.64	8.84	0.52
Top Width (m)	30.14	Top Width (m)	6.27	17.09	6.78
Vel Total (m/s)	0.25	Avg. Vel. (m/s)	0.10	0.32	0.09
Max Chl Dpth (m)	1.98	Hydr. Depth (m)	0.99	1.64	0.83
Conv. Total (m3/s)	2800.1	Conv. (m3/s)	178.0	2475.5	146.6
Length Wtd. (m)	200.00	Wetted Per. (m)	7.73	18.29	8.07
Min Ch El (m)	10.13	Shear (N/m2)	0.10	0.19	0.09
Alpha	1.41	Stream Power (N/m s)	0.01	0.06	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	131.30	440.99	102.39
C & E Loss (m)	0.00	Cum SA (1000 m2)	104.83	221.35	83.48

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)	9.13	35.95	8.86
E.G. Slope (m/m)	0.000006	Area (m2)	9.13	35.95	8.86
Q Total (m3/s)	10.00	Flow (m3/s)	0.75	8.58	0.68
Top Width (m)	33.01	Top Width (m)	6.84	18.44	7.74
Vel Total (m/s)	0.19	Avg. Vel. (m/s)	0.08	0.24	0.08
Max Chl Dpth (m)	2.43	Hydr. Depth (m)	1.34	1.95	1.15
Conv. Total (m3/s)	4143.4	Conv. (m3/s)	309.8	3553.1	280.5
Length Wtd. (m)	200.00	Wetted Per. (m)	8.89	19.91	9.58
Min Ch El (m)	10.13	Shear (N/m2)	0.06	0.10	0.05
Alpha	1.45	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	183.71	552.81	144.14
C & E Loss (m)	0.00	Cum SA (1000 m2)	116.95	235.04	95.02

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.38	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.36	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	7.80	32.34	7.37
E.G. Slope (m/m)	0.000059	Area (m2)	7.80	32.34	7.37
Q Total (m3/s)	27.00	Flow (m3/s)	1.90	23.44	1.66
Top Width (m)	31.74	Top Width (m)	6.59	17.84	7.31
Vel Total (m/s)	0.57	Avg. Vel. (m/s)	0.24	0.72	0.23
Max Chl Dpth (m)	2.23	Hydr. Depth (m)	1.18	1.81	1.01
Conv. Total (m3/s)	3517.9	Conv. (m3/s)	247.9	3053.6	216.4

Length Wtd. (m)	200.00	Wetted Per. (m)	8.38	19.19	8.91
Min Ch El (m)	10.13	Shear (N/m2)	0.54	0.97	0.48
Alpha	1.43	Stream Power (N/m s)	0.13	0.71	0.11
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	119.98	418.60	95.38
C & E Loss (m)	0.00	Cum SA (1000 m2)	100.25	218.18	80.40

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.98	35.54	8.69
E.G. Slope (m/m)	0.000044	Area (m2)	8.98	35.54	8.69
Q Total (m3/s)	27.00	Flow (m3/s)	2.01	23.18	1.81
Top Width (m)	32.87	Top Width (m)	6.81	18.37	7.69
Vel Total (m/s)	0.51	Avg. Vel. (m/s)	0.22	0.65	0.21
Max Chl Dpth (m)	2.41	Hydr. Depth (m)	1.32	1.93	1.13
Conv. Total (m3/s)	4071.2	Conv. (m3/s)	302.6	3495.6	273.0
Length Wtd. (m)	200.00	Wetted Per. (m)	8.84	19.83	9.51
Min Ch El (m)	10.13	Shear (N/m2)	0.44	0.77	0.39
Alpha	1.44	Stream Power (N/m s)	0.10	0.50	0.08
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	152.58	488.98	120.54
C & E Loss (m)	0.00	Cum SA (1000 m2)	110.09	228.12	88.58

Warning: Divided flow computed for this cross-section.

Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.85	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.83	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	11.07	41.16	11.09
E.G. Slope (m/m)	0.000028	Area (m2)	11.07	41.16	11.09
Q Total (m3/s)	27.00	Flow (m3/s)	2.15	22.83	2.03
Top Width (m)	34.78	Top Width (m)	7.19	19.27	8.33
Vel Total (m/s)	0.43	Avg. Vel. (m/s)	0.19	0.55	0.18
Max Chl Dpth (m)	2.71	Hydr. Depth (m)	1.54	2.14	1.33
Conv. Total (m3/s)	5099.5	Conv. (m3/s)	405.5	4311.0	382.9
Length Wtd. (m)	200.00	Wetted Per. (m)	9.62	20.91	10.51
Min Ch El (m)	10.13	Shear (N/m2)	0.32	0.54	0.29
Alpha	1.46	Stream Power (N/m s)	0.06	0.30	0.05
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	198.32	584.37	156.88
C & E Loss (m)	0.00	Cum SA (1000 m2)	120.64	233.87	98.77

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 65

INPUT
Description:
Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
10.8146	13.877	15.3208	13.8143	15.7842	13.6949	19.0879	11.27	20.6617	10.1149

```
 32.2059 10.1141 33.8146   11.27 36.9676 13.5356  40.179 13.5356 42.5877 13.6221
 43.0624 13.4873

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 10.8146     .03 15.7842    .015 36.9676     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       15.7842 36.9676              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.73    Element                Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)            11.72    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)           5.79      22.12
  10.27
  E.G. Slope (m/m)      0.000020    Area (m2)                5.79      22.12
  10.27
  Q Total (m3/s)           10.00    Flow (m3/s)              0.67       7.84
   1.49
  Top Width (m)            32.08    Top Width (m)            6.90      15.97
   9.20
  Vel Total (m/s)           0.26    Avg. Vel. (m/s)          0.12       0.35
   0.14
  Max Chl Dpth (m)          1.64    Hydr. Depth (m)          0.84       1.38
   1.12
  Conv. Total (m3/s)      2240.9    Conv. (m3/s)           151.2     1756.5
  333.1
  Length Wtd. (m)         200.00    Wetted Per. (m)          8.35      17.02
  10.69
  Min Ch El (m)            10.11    Shear (N/m2)             0.14       0.25
   0.19
  Alpha                     1.49    Stream Power (N/m s)     0.02       0.09
   0.03
  Frctn Loss (m)            0.00    Cum Volume (1000 m3)    86.51     338.22
  66.71
  C & E Loss (m)            0.00    Cum SA (1000 m2)        89.06     203.46
  69.63



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

CROSS SECTION OUTPUT  Profile #PF 2
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E.G. Elev (m)	12.11	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.11	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.55	28.48	13.92
E.G. Slope (m/m)	0.000009	Area (m2)	8.55	28.48	13.92
Q Total (m3/s)	10.00	Flow (m3/s)	0.80	7.64	1.56
Top Width (m)	34.19	Top Width (m)	7.40	17.03	9.75
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.09	0.27	0.11
Max Chl Dpth (m)	2.03	Hydr. Depth (m)	1.15	1.67	1.43
Conv. Total (m3/s)	3335.0	Conv. (m3/s)	268.0	2547.4	519.6
Length Wtd. (m)	200.00	Wetted Per. (m)	9.37	18.33	11.74
Min Ch El (m)	10.11	Shear (N/m2)	0.08	0.14	0.10
Alpha	1.49	Stream Power (N/m s)	0.01	0.04	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	129.82	435.35	100.43
C & E Loss (m)	0.00	Cum SA (1000 m2)	103.46	217.93	81.83

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	12.00	36.41	18.44
E.G. Slope (m/m)	0.000004	Area (m2)	12.00	36.41	18.44
Q Total (m3/s)	10.00	Flow (m3/s)	0.90	7.50	1.60
Top Width (m)	36.64	Top Width (m)	7.99	18.27	10.38

Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.07	0.21	0.09
Max Chl Dpth (m)	2.48	Hydr. Depth (m)	1.50	1.99	1.78
Conv. Total (m3/s)	4849.2	Conv. (m3/s)	436.0	3636.1	777.1
Length Wtd. (m)	200.00	Wetted Per. (m)	10.55	19.86	12.97
Min Ch El (m)	10.11	Shear (N/m2)	0.05	0.08	0.06
Alpha	1.50	Stream Power (N/m s)	0.00	0.02	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	181.59	545.57	141.41
C & E Loss (m)	0.00	Cum SA (1000 m2)	115.47	231.37	93.21

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.37	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.36	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	10.43	32.80	16.39
E.G. Slope (m/m)	0.000042	Area (m2)	10.43	32.80	16.39
Q Total (m3/s)	27.00	Flow (m3/s)	2.33	20.39	4.28
Top Width (m)	35.55	Top Width (m)	7.73	17.72	10.10
Vel Total (m/s)	0.45	Avg. Vel. (m/s)	0.22	0.62	0.26
Max Chl Dpth (m)	2.28	Hydr. Depth (m)	1.35	1.85	1.62
Conv. Total (m3/s)	4141.9	Conv. (m3/s)	356.9	3128.0	657.0
Length Wtd. (m)	200.00	Wetted Per. (m)	10.02	19.18	12.42
Min Ch El (m)	10.11	Shear (N/m2)	0.43	0.71	0.55
Alpha	1.50	Stream Power (N/m s)	0.10	0.44	0.14
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	118.16	412.09	93.00

C & E Loss (m)	0.00	Cum SA (1000 m2)	98.81	214.63	78.66

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	11.82	35.98	18.20
E.G. Slope (m/m)	0.000032	Area (m2)	11.82	35.98	18.20
Q Total (m3/s)	27.00	Flow (m3/s)	2.42	20.26	4.32
Top Width (m)	36.51	Top Width (m)	7.96	18.21	10.35
Vel Total (m/s)	0.41	Avg. Vel. (m/s)	0.20	0.56	0.24
Max Chl Dpth (m)	2.46	Hydr. Depth (m)	1.48	1.98	1.76
Conv. Total (m3/s)	4764.3	Conv. (m3/s)	426.5	3575.2	762.7
Length Wtd. (m)	200.00	Wetted Per. (m)	10.49	19.78	12.91
Min Ch El (m)	10.11	Shear (N/m2)	0.35	0.57	0.44
Alpha	1.50	Stream Power (N/m s)	0.07	0.32	0.11
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	150.50	481.83	117.86
C & E Loss (m)	0.00	Cum SA (1000 m2)	108.62	224.46	86.77

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.84	Element	Left OB	Channel	Right OB

Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015
0.030				
W.S. Elev (m)	12.83	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)	14.26	41.56
21.36				
E.G. Slope (m/m)	0.000021	Area (m2)	14.26	41.56
21.36				
Q Total (m3/s)	27.00	Flow (m3/s)	2.54	20.09
4.37				
Top Width (m)	38.15	Top Width (m)	8.35	19.03
10.77				
Vel Total (m/s)	0.35	Avg. Vel. (m/s)	0.18	0.48
0.20				
Max Chl Dpth (m)	2.75	Hydr. Depth (m)	1.71	2.18
1.98				
Conv. Total (m3/s)	5908.1	Conv. (m3/s)	555.7	4396.0
956.3				
Length Wtd. (m)	200.00	Wetted Per. (m)	11.28	20.80
13.72				
Min Ch El (m)	10.11	Shear (N/m2)	0.26	0.41
0.32				
Alpha	1.50	Stream Power (N/m s)	0.05	0.20
0.07				
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	195.79	576.10
153.63				
C & E Loss (m)	0.00	Cum SA (1000 m2)	119.08	230.04
96.86				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 64

INPUT
Description:
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.2828	13.505	12.8166	13.4499	13.7105	13.5363	15.0801	13.4787	16.0749	13.4499
16.7922	13.2796	16.99	13.1949	17.4759	12.7405	19.518	11.27	21.1401	10.1019
32.6	10.1012	34.2491	11.27	37.187	13.3524	38.2786	13.462	39.9629	13.5003
41.8923	13.5167	42.9871	13.435						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.2828	.03	16.0749	.015	37.187	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.0749	37.187	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.72	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.72	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	9.23	22.18	4.28
E.G. Slope (m/m)	0.000021	Area (m2)	9.23	22.18	4.28
Q Total (m3/s)	10.00	Flow (m3/s)	1.36	8.13	0.51
Top Width (m)	29.03	Top Width (m)	8.06	15.98	4.98
Vel Total (m/s)	0.28	Avg. Vel. (m/s)	0.15	0.37	0.12
Max Chl Dpth (m)	1.72	Hydr. Depth (m)	1.15	1.39	0.86
Conv. Total (m3/s)	2168.1	Conv. (m3/s)	294.5	1763.7	109.9
Length Wtd. (m)	200.00	Wetted Per. (m)	9.87	17.02	6.32
Min Ch El (m)	10.10	Shear (N/m2)	0.20	0.27	0.14
Alpha	1.44	Stream Power (N/m s)	0.03	0.10	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	85.01	333.79	65.25
C & E Loss (m)	0.00	Cum SA (1000 m2)	87.56	200.27	68.22

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.11	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.11	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	12.50	28.59	

	6.35				
E.G. Slope (m/m)	0.000010	Area (m2)	12.50	28.59	
	6.35				
Q Total (m3/s)	10.00	Flow (m3/s)	1.41	8.00	
	0.59				
Top Width (m)	31.53	Top Width (m)	8.76	17.07	
	5.69				
Vel Total (m/s)	0.21	Avg. Vel. (m/s)	0.11	0.28	
	0.09				
Max Chl Dpth (m)	2.11	Hydr. Depth (m)	1.43	1.67	
	1.11				
Conv. Total (m3/s)	3201.8	Conv. (m3/s)	452.2	2560.6	
189.0					
Length Wtd. (m)	200.00	Wetted Per. (m)	11.05	18.35	
	7.52				
Min Ch El (m)	10.10	Shear (N/m2)	0.11	0.15	
	0.08				
Alpha	1.46	Stream Power (N/m s)	0.01	0.04	
	0.01				
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	127.72	429.64	
98.41					
C & E Loss (m)	0.00	Cum SA (1000 m2)	101.84	214.52	
80.28					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
	0.030				
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)		Flow Area (m2)	16.62	36.55	
	9.10				
E.G. Slope (m/m)	0.000005	Area (m2)	16.62	36.55	
	9.10				
Q Total (m3/s)	10.00	Flow (m3/s)	1.45	7.89	
	0.66				
Top Width (m)	34.42	Top Width (m)	9.57	18.33	
	6.52				
Vel Total (m/s)	0.16	Avg. Vel. (m/s)	0.09	0.22	
	0.07				
Max Chl Dpth (m)	2.56	Hydr. Depth (m)	1.74	1.99	
	1.40				
Conv. Total (m3/s)	4635.0	Conv. (m3/s)	672.7	3654.8	
307.4					
Length Wtd. (m)	200.00	Wetted Per. (m)	12.43	19.90	

8.91					
Min Ch El (m)	10.10	Shear (N/m2)	0.06	0.08	0.05
Alpha	1.48	Stream Power (N/m s)	0.01	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	178.73	538.28	138.65
C & E Loss (m)	0.00	Cum SA (1000 m2)	113.71	227.71	91.52

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.36	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.35	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	14.65	32.76	7.77
E.G. Slope (m/m)	0.000047	Area (m2)	14.65	32.76	7.77
Q Total (m3/s)	27.00	Flow (m3/s)	3.88	21.42	1.71
Top Width (m)	33.07	Top Width (m)	9.19	17.74	6.13
Vel Total (m/s)	0.49	Avg. Vel. (m/s)	0.26	0.65	0.22
Max Chl Dpth (m)	2.35	Hydr. Depth (m)	1.59	1.85	1.27
Conv. Total (m3/s)	3933.4	Conv. (m3/s)	564.5	3120.5	248.4
Length Wtd. (m)	200.00	Wetted Per. (m)	11.79	19.18	8.26
Min Ch El (m)	10.10	Shear (N/m2)	0.57	0.79	0.43
Alpha	1.47	Stream Power (N/m s)	0.15	0.52	0.10
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	115.65	405.53	90.59
C & E Loss (m)	0.00	Cum SA (1000 m2)	97.12	211.08	77.04

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the

computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	16.33	35.99	8.90
E.G. Slope (m/m)	0.000036	Area (m2)	16.33	35.99	8.90
Q Total (m3/s)	27.00	Flow (m3/s)	3.91	21.31	1.78
Top Width (m)	34.22	Top Width (m)	9.52	18.24	6.46
Vel Total (m/s)	0.44	Avg. Vel. (m/s)	0.24	0.59	0.20
Max Chl Dpth (m)	2.53	Hydr. Depth (m)	1.72	1.97	1.38
Conv. Total (m3/s)	4528.8	Conv. (m3/s)	656.3	3574.1	298.4
Length Wtd. (m)	200.00	Wetted Per. (m)	12.34	19.80	8.82
Min Ch El (m)	10.10	Shear (N/m2)	0.46	0.63	0.35
Alpha	1.48	Stream Power (N/m s)	0.11	0.38	0.07
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	147.69	474.63	115.15
C & E Loss (m)	0.00	Cum SA (1000 m2)	106.87	220.81	85.09

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.84	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.83	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	19.29	41.64	10.94
E.G. Slope (m/m)	0.000023	Area (m2)	19.29	41.64	

10.94					
Q Total (m3/s)	27.00	Flow (m3/s)	3.96	21.15	1.89
Top Width (m)	36.14	Top Width (m)	10.06	19.06	7.02
Vel Total (m/s)	0.38	Avg. Vel. (m/s)	0.21	0.51	0.17
Max Chl Dpth (m)	2.83	Hydr. Depth (m)	1.92	2.18	1.56
Conv. Total (m3/s)	5625.8	Conv. (m3/s)	825.7	4406.6	393.5
Length Wtd. (m)	200.00	Wetted Per. (m)	13.26	20.82	9.75
Min Ch El (m)	10.10	Shear (N/m2)	0.33	0.45	0.25
Alpha	1.49	Stream Power (N/m s)	0.07	0.23	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	192.43	567.78	150.40
C & E Loss (m)	0.00	Cum SA (1000 m2)	117.24	226.23	95.08

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 63

INPUT
Description:
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.3115	13.7004	10.8696	13.6482	11.7974	13.5961	14.0964	13.6075	15.5745	13.4723
18.619	11.25	20.2095	10.089	31.8568	10.0883	33.4664	11.25	35.5948	12.7862
35.6612	12.913	35.7639	13.0157	36.0418	13.227	36.1324	13.2934	36.386	13.3961
37.047	13.482	41.7604	13.7176						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.3115	.03	15.5745	.015	36.386	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.5745	36.386	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.72	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.71	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	4.07	22.52	2.38
E.G. Slope (m/m)	0.000027	Area (m2)	4.07	22.52	2.38
Q Total (m3/s)	10.00	Flow (m3/s)	0.46	9.30	0.24
Top Width (m)	27.39	Top Width (m)	6.68	16.12	4.59
Vel Total (m/s)	0.35	Avg. Vel. (m/s)	0.11	0.41	0.10
Max Chl Dpth (m)	1.62	Hydr. Depth (m)	0.61	1.40	0.52
Conv. Total (m3/s)	1933.4	Conv. (m3/s)	88.5	1798.4	46.5
Length Wtd. (m)	200.00	Wetted Per. (m)	7.71	17.17	5.29
Min Ch El (m)	10.09	Shear (N/m2)	0.14	0.34	0.12
Alpha	1.34	Stream Power (N/m s)	0.02	0.14	0.01
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	83.67	329.33	64.59
C & E Loss (m)	0.00	Cum SA (1000 m2)	86.09	197.06	67.26

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.11	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.10	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	6.79	29.04	4.29
E.G. Slope (m/m)	0.000012	Area (m2)	6.79	29.04	4.29
Q Total (m3/s)	10.00	Flow (m3/s)	0.65	8.97	0.38
Top Width (m)	29.55	Top Width (m)	7.20	17.20	5.15

Vel Total (m/s)	0.25	Avg. Vel. (m/s)	0.10	0.31	0.09
Max Chl Dpth (m)	2.01	Hydr. Depth (m)	0.94	1.69	0.83
Conv. Total (m3/s)	2915.2	Conv. (m3/s)	190.9	2614.6	109.7
Length Wtd. (m)	200.00	Wetted Per. (m)	8.76	18.50	6.37
Min Ch El (m)	10.09	Shear (N/m2)	0.09	0.18	0.08
Alpha	1.39	Stream Power (N/m s)	0.01	0.06	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	125.79	423.88	97.34
C & E Loss (m)	0.00	Cum SA (1000 m2)	100.25	211.10	79.20

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	10.17	37.09	6.76
E.G. Slope (m/m)	0.000005	Area (m2)	10.17	37.09	6.76
Q Total (m3/s)	10.00	Flow (m3/s)	0.80	8.71	0.49
Top Width (m)	32.04	Top Width (m)	7.80	18.44	5.80
Vel Total (m/s)	0.19	Avg. Vel. (m/s)	0.08	0.23	0.07
Max Chl Dpth (m)	2.47	Hydr. Depth (m)	1.31	2.01	1.17
Conv. Total (m3/s)	4279.9	Conv. (m3/s)	344.1	3727.5	208.2
Length Wtd. (m)	200.00	Wetted Per. (m)	9.96	20.04	7.61
Min Ch El (m)	10.09	Shear (N/m2)	0.05	0.10	0.05
Alpha	1.42	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	176.05	530.91	137.07

C & E Loss (m)	0.00	Cum SA (1000 m2)	111.97	224.04	90.29

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.35	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.33	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.45	33.01	5.49
E.G. Slope (m/m)	0.000057	Area (m2)	8.45	33.01	5.49
Q Total (m3/s)	27.00	Flow (m3/s)	1.99	23.83	1.18
Top Width (m)	30.80	Top Width (m)	7.50	17.82	5.48
Vel Total (m/s)	0.58	Avg. Vel. (m/s)	0.24	0.72	0.21
Max Chl Dpth (m)	2.24	Hydr. Depth (m)	1.13	1.85	1.00
Conv. Total (m3/s)	3569.2	Conv. (m3/s)	263.3	3150.1	155.8
Length Wtd. (m)	200.00	Wetted Per. (m)	9.36	19.28	6.99
Min Ch El (m)	10.09	Shear (N/m2)	0.51	0.96	0.44
Alpha	1.41	Stream Power (N/m s)	0.12	0.69	0.09
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	113.34	398.96	89.26
C & E Loss (m)	0.00	Cum SA (1000 m2)	95.45	207.52	75.88

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB

Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	9.85	36.33	6.52
E.G. Slope (m/m)	0.000042	Area (m2)	9.85	36.33	6.52
Q Total (m3/s)	27.00	Flow (m3/s)	2.14	23.57	1.29
Top Width (m)	31.81	Top Width (m)	7.74	18.33	5.74
Vel Total (m/s)	0.51	Avg. Vel. (m/s)	0.22	0.65	0.20
Max Chl Dpth (m)	2.42	Hydr. Depth (m)	1.27	1.98	1.14
Conv. Total (m3/s)	4144.7	Conv. (m3/s)	328.6	3618.0	198.1
Length Wtd. (m)	200.00	Wetted Per. (m)	9.85	19.90	7.50
Min Ch El (m)	10.09	Shear (N/m2)	0.42	0.76	0.36
Alpha	1.42	Stream Power (N/m s)	0.09	0.49	0.07
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	145.07	467.40	113.60
C & E Loss (m)	0.00	Cum SA (1000 m2)	105.14	217.16	83.87

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.83	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.82	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	12.29	42.08	8.35
E.G. Slope (m/m)	0.000027	Area (m2)	12.29	42.08	8.35
Q Total (m3/s)	27.00	Flow (m3/s)	2.34	23.21	1.45
Top Width (m)	33.48	Top Width (m)	8.15	19.14	6.18
Vel Total (m/s)	0.43	Avg. Vel. (m/s)	0.19	0.55	0.17

Max Chl Dpth (m)	2.73	Hydr. Depth (m)	1.51	2.20	1.35
Conv. Total (m3/s)	5199.0	Conv. (m3/s)	450.4	4469.9	278.6
Length Wtd. (m)	200.00	Wetted Per. (m)	10.66	20.93	8.34
Min Ch El (m)	10.09	Shear (N/m2)	0.30	0.53	0.26
Alpha	1.44	Stream Power (N/m s)	0.06	0.29	0.05
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	189.27	559.41	148.48
C & E Loss (m)	0.00	Cum SA (1000 m2)	115.42	222.41	93.76

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 62

INPUT
Description:
Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.0003	13.7188	11.463	13.7353	14.9447	13.5989	18.0631	11.28	19.6813	10.0766
31.3612	10.0759	33.099	11.28	36.259	13.4695	40.9824	13.7275	41.9461	13.58
42.4235	13.4026								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.0003	.03	14.9447	.015	36.259	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.9447	36.259	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.71	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.70	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	1.78	22.71	1.64

E.G. Slope (m/m)	0.000029	Area (m2)	1.78	22.71	1.64
Q Total (m3/s)	10.00	Flow (m3/s)	0.17	9.70	0.13
Top Width (m)	25.40	Top Width (m)	4.17	16.22	5.02
Vel Total (m/s)	0.38	Avg. Vel. (m/s)	0.09	0.43	0.08
Max Chl Dpth (m)	1.63	Hydr. Depth (m)	0.43	1.40	0.33
Conv. Total (m3/s)	1872.9	Conv. (m3/s)	31.1	1817.1	24.7
Length Wtd. (m)	200.00	Wetted Per. (m)	4.67	17.27	5.38
Min Ch El (m)	10.08	Shear (N/m2)	0.11	0.37	0.08
Alpha	1.21	Stream Power (N/m s)	0.01	0.16	0.01
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	83.09	324.80	64.18
C & E Loss (m)	0.00	Cum SA (1000 m2)	85.00	193.82	66.30

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.10	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.10	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	3.61	29.33	3.73
E.G. Slope (m/m)	0.000013	Area (m2)	3.61	29.33	3.73
Q Total (m3/s)	10.00	Flow (m3/s)	0.30	9.39	0.31
Top Width (m)	28.02	Top Width (m)	5.11	17.32	5.59
Vel Total (m/s)	0.27	Avg. Vel. (m/s)	0.08	0.32	0.08
Max Chl Dpth (m)	2.02	Hydr. Depth (m)	0.71	1.69	0.67
Conv. Total (m3/s)	2818.7	Conv. (m3/s)	85.0	2647.6	86.2
Length Wtd. (m)	200.00	Wetted Per. (m)	6.09	18.62	6.47

Min Ch El (m)	10.08	Shear (N/m2)	0.07	0.19	0.07
Alpha	1.30	Stream Power (N/m s)	0.01	0.06	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	124.75	418.04	96.54
C & E Loss (m)	0.00	Cum SA (1000 m2)	99.02	207.64	78.12

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	6.18	37.47	6.42
E.G. Slope (m/m)	0.000006	Area (m2)	6.18	37.47	6.42
Q Total (m3/s)	10.00	Flow (m3/s)	0.43	9.12	0.46
Top Width (m)	31.03	Top Width (m)	6.20	18.58	6.25
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.07	0.24	0.07
Max Chl Dpth (m)	2.48	Hydr. Depth (m)	1.00	2.02	1.03
Conv. Total (m3/s)	4141.0	Conv. (m3/s)	177.4	3774.6	189.0
Length Wtd. (m)	200.00	Wetted Per. (m)	7.73	20.18	7.72
Min Ch El (m)	10.08	Shear (N/m2)	0.05	0.11	0.05
Alpha	1.36	Stream Power (N/m s)	0.00	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	174.42	523.46	135.75
C & E Loss (m)	0.00	Cum SA (1000 m2)	110.57	220.33	89.08

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.34	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.31	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	4.77	33.11	4.96
E.G. Slope (m/m)	0.000063	Area (m2)	4.77	33.11	4.96
Q Total (m3/s)	27.00	Flow (m3/s)	0.99	24.98	1.03
Top Width (m)	29.45	Top Width (m)	5.63	17.92	5.90
Vel Total (m/s)	0.63	Avg. Vel. (m/s)	0.21	0.75	0.21
Max Chl Dpth (m)	2.24	Hydr. Depth (m)	0.85	1.85	0.84
Conv. Total (m3/s)	3412.9	Conv. (m3/s)	124.5	3157.6	130.8
Length Wtd. (m)	200.00	Wetted Per. (m)	6.87	19.36	7.06
Min Ch El (m)	10.08	Shear (N/m2)	0.43	1.05	0.43
Alpha	1.33	Stream Power (N/m s)	0.09	0.79	0.09
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	112.02	392.34	88.22
C & E Loss (m)	0.00	Cum SA (1000 m2)	94.14	203.95	74.74

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.50	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	5.86	36.53	6.10
E.G. Slope (m/m)	0.000046	Area (m2)	5.86	36.53	6.10

Q Total (m3/s)	27.00	Flow (m3/s)	1.12	24.69	1.19
Top Width (m)	30.69	Top Width (m)	6.08	18.44	6.17
Vel Total (m/s)	0.56	Avg. Vel. (m/s)	0.19	0.68	0.20
Max Chl Dpth (m)	2.43	Hydr. Depth (m)	0.96	1.98	0.99
Conv. Total (m3/s)	3978.9	Conv. (m3/s)	165.3	3637.9	175.7
Length Wtd. (m)	200.00	Wetted Per. (m)	7.54	20.00	7.58
Min Ch El (m)	10.08	Shear (N/m2)	0.35	0.82	0.36
Alpha	1.36	Stream Power (N/m s)	0.07	0.56	0.07
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	143.50	460.12	112.34
C & E Loss (m)	0.00	Cum SA (1000 m2)	103.76	213.48	82.68

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.83	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.81	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	7.87	42.39	8.09
E.G. Slope (m/m)	0.000029	Area (m2)	7.87	42.39	8.09
Q Total (m3/s)	27.00	Flow (m3/s)	1.33	24.26	1.41
Top Width (m)	32.76	Top Width (m)	6.83	19.31	6.62
Vel Total (m/s)	0.46	Avg. Vel. (m/s)	0.17	0.57	0.17
Max Chl Dpth (m)	2.74	Hydr. Depth (m)	1.15	2.20	1.22
Conv. Total (m3/s)	5012.5	Conv. (m3/s)	246.1	4504.4	261.9
Length Wtd. (m)	200.00	Wetted Per. (m)	8.66	21.07	8.44
Min Ch El (m)	10.08	Shear (N/m2)	0.26	0.57	0.27

Alpha	1.39	Stream Power (N/m s)	0.04	0.33	0.05
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	187.26	550.96	146.83
C & E Loss (m)	0.00	Cum SA (1000 m2)	113.92	218.57	92.48

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 61

INPUT
Description:
Station Elevation Data num= 32

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.4523	3.4016	13.4523	4.3286	13.3825	4.674	13.1825	4.674	13.3825
4.9226	13.0294	4.9226	13.1825	5.1667	12.8472	5.1667	13.0294	5.4154	12.6806
5.4154	12.8472	5.6548	12.514	5.6548	12.6806	5.8897	12.337	5.8897	12.514
6.1522	12.1704	6.1522	12.337	6.3962	11.9882	6.3962	12.1704	6.6403	11.8164
6.6403	11.9882	6.889	11.6602	6.889	11.8164	7.1376	11.4832	7.1376	11.6602
7.3863	11.4832	9.4126	10.0642	20.4568	10.0635	22.2535	11.31	25.5968	13.6295
31.8363	13.5626	32.611	13.4153						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.03	4.3286	.015	25.5968	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
4.3286	25.5968	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.71	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	0.030
W.S. Elev (m)	11.70	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.49	Flow Area (m2)		21.92	7.61
E.G. Slope (m/m)	0.000028	Area (m2)		21.92	7.61
Q Total (m3/s)	10.00	Flow (m3/s)		9.09	0.91

Top Width (m)	28.77	Top Width (m)			15.87
12.90					
Vel Total (m/s)	0.34	Avg. Vel. (m/s)			0.41
0.12					
Max Chl Dpth (m)	1.64	Hydr. Depth (m)			1.38
0.59					
Conv. Total (m3/s)	1886.8	Conv. (m3/s)			1715.5
171.3					
Length Wtd. (m)	8.95	Wetted Per. (m)			17.23
13.71					
Min Ch El (m)	10.06	Shear (N/m2)			0.35
0.15					
Alpha	1.38	Stream Power (N/m s)			0.15
0.02					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	82.91		320.34
63.26					
C & E Loss (m)	0.00	Cum SA (1000 m2)	84.58		190.62
64.51					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.10	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	0.030
W.S. Elev (m)	12.10	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.49	Flow Area (m2)		28.47	12.85
E.G. Slope (m/m)	0.000012	Area (m2)		28.47	12.85
Q Total (m3/s)	10.00	Flow (m3/s)		8.63	1.37
Top Width (m)	30.46	Top Width (m)		17.02	13.44
Vel Total (m/s)	0.24	Avg. Vel. (m/s)		0.30	0.11
Max Chl Dpth (m)	2.03	Hydr. Depth (m)		1.67	0.96
Conv. Total (m3/s)	2848.7	Conv. (m3/s)		2458.3	390.4
Length Wtd. (m)	8.95	Wetted Per. (m)		19.31	14.78
Min Ch El (m)	10.06	Shear (N/m2)		0.18	

0.11					
Alpha	1.38	Stream Power (N/m s)			0.05
0.01					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	124.39	412.26	
94.88					
C & E Loss (m)	0.00	Cum SA (1000 m2)	98.50	204.21	
76.22					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.55	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.00	Wt. n-Val.			0.015
0.030					
W.S. Elev (m)	12.55	Reach Len. (m)	8.95	8.95	
8.95					
Crit W.S. (m)	10.49	Flow Area (m2)			36.50
19.10					
E.G. Slope (m/m)	0.000006	Area (m2)			36.50
19.10					
Q Total (m3/s)	10.00	Flow (m3/s)			8.28
1.72					
Top Width (m)	32.38	Top Width (m)			18.33
14.05					
Vel Total (m/s)	0.18	Avg. Vel. (m/s)			0.23
0.09					
Max Chl Dpth (m)	2.49	Hydr. Depth (m)			1.99
1.36					
Conv. Total (m3/s)	4160.0	Conv. (m3/s)			3443.4
716.5					
Length Wtd. (m)	8.95	Wetted Per. (m)			21.68
15.99					
Min Ch El (m)	10.06	Shear (N/m2)			0.10
0.07					
Alpha	1.36	Stream Power (N/m s)			0.02
0.01					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	173.80	516.06	
133.20					
C & E Loss (m)	0.00	Cum SA (1000 m2)	109.95	216.64	
87.05					

Warning: Divided flow computed for this cross-section.

Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.33	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	0.030
W.S. Elev (m)	12.31	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.88	Flow Area (m2)		32.07	15.68
E.G. Slope (m/m)	0.000062	Area (m2)		32.07	15.68
Q Total (m3/s)	27.00	Flow (m3/s)		22.81	4.19
Top Width (m)	31.34	Top Width (m)		17.62	13.72
Vel Total (m/s)	0.57	Avg. Vel. (m/s)		0.71	0.27
Max Chl Dpth (m)	2.24	Hydr. Depth (m)		1.82	1.14
Conv. Total (m3/s)	3422.3	Conv. (m3/s)		2891.8	530.6
Length Wtd. (m)	8.95	Wetted Per. (m)		20.40	15.34
Min Ch El (m)	10.06	Shear (N/m2)		0.96	0.62
Alpha	1.37	Stream Power (N/m s)		0.68	0.17
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	111.55	385.83	86.15
C & E Loss (m)	0.00	Cum SA (1000 m2)	93.58	200.40	72.78

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB

Vel Head (m)	0.02	Wt. n-Val.			0.015 0.030
W.S. Elev (m)	12.50	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.88	Flow Area (m2)			35.48 18.31
E.G. Slope (m/m)	0.000046	Area (m2)			35.48 18.31
Q Total (m3/s)	27.00	Flow (m3/s)			22.45 4.55
Top Width (m)	32.14	Top Width (m)			18.17 13.97
Vel Total (m/s)	0.50	Avg. Vel. (m/s)			0.63 0.25
Max Chl Dpth (m)	2.43	Hydr. Depth (m)			1.95 1.31
Conv. Total (m3/s)	3986.6	Conv. (m3/s)			3314.2 672.4
Length Wtd. (m)	8.95	Wetted Per. (m)			21.39 15.84
Min Ch El (m)	10.06	Shear (N/m2)			0.75 0.52
Alpha	1.36	Stream Power (N/m s)			0.47 0.13
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	142.91	452.92	109.90
C & E Loss (m)	0.00	Cum SA (1000 m2)	103.15	209.82	80.66

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.82	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.			0.015 0.030
W.S. Elev (m)	12.81	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.88	Flow Area (m2)			41.31 22.76
E.G. Slope (m/m)	0.000029	Area (m2)			41.31 22.76
Q Total (m3/s)	27.00	Flow (m3/s)			21.96 5.04
Top Width (m)	33.46	Top Width (m)			19.06

```
  14.40
  Vel Total (m/s)           0.42    Avg. Vel. (m/s)                      0.53
   0.22
  Max Chl Dpth (m)          2.75    Hydr. Depth (m)                      2.17
   1.58
  Conv. Total (m3/s)      5000.1    Conv. (m3/s)                       4066.9
  933.1
  Length Wtd. (m)           8.95    Wetted Per. (m)                     23.02
  16.68
  Min Ch El (m)            10.06    Shear (N/m2)                         0.51
   0.39
  Alpha                     1.35    Stream Power (N/m s)                 0.27
   0.09
  Frctn Loss (m)            0.00    Cum Volume (1000 m3)    186.47     542.59
 143.75
  C & E Loss (m)            0.00    Cum SA (1000 m2)        113.24     214.73
  90.38



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

BRIDGE


RIVER: SNM
REACH: Canale SNM         RS: 60.5

INPUT
Description:
Distance from Upstream XS =    8.95
Deck/Roadway Width        =       5
Weir Coefficient          =     1.4
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
    4.53   13.55   12.82   25.73   13.55   12.82

Upstream Bridge Cross Section Data
Station Elevation Data    num=      32
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 13.4523  3.4016 13.4523  4.3286 13.3825   4.674 13.1825   4.674 13.3825
  4.9226 13.0294  4.9226 13.1825  5.1667 12.8472  5.1667 13.0294  5.4154 12.6806
  5.4154 12.8472  5.6548  12.514  5.6548 12.6806  5.8897  12.337  5.8897  12.514
  6.1522 12.1704  6.1522  12.337  6.3962 11.9882  6.3962 12.1704  6.6403 11.8164
  6.6403 11.9882   6.889 11.6602   6.889 11.8164  7.1376 11.4832  7.1376 11.6602
  7.3863 11.4832  9.4126 10.0642 20.4568 10.0635 22.2535   11.31 25.5968 13.6295
 31.8363 13.5626  32.611 13.4153
```

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Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .03  4.3286    .015 25.5968     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
        4.3286 25.5968          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   17.83   13.55   12.83   39.03   13.55   12.83

Downstream Bridge Cross Section Data
Station Elevation Data    num=      13
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 11.7989 13.5854 14.0193 13.6641 16.5231 13.5224 17.5536 13.4475 20.5733   11.31
 22.3508 10.0518 33.8137 10.0511 35.6533   11.31 38.6794 13.3809 39.1044 13.4416
 40.0226 13.5023 42.1057 13.5024 44.4809 13.3051

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 11.7989     .03 17.5536    .015 38.6794     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       17.5536 38.6794          .0015      .01

Upstream Embankment side slope              =     1.4 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.4 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
    4.54   12.83    8.76   12.83
Downstream     num=       2
     Sta    Elev     Sta    Elev
   17.83   12.83   22.06   12.83

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   20.67   12.83   25.73   12.83
Downstream     num=       2
     Sta    Elev     Sta    Elev
   33.96   12.83   39.03   12.83

Number of Piers =  2
```

```
Pier Data
Pier Station     Upstream=   12.43    Downstream=   25.73
Upstream     num=       2
    Width   Elev    Width   Elev
      .5   10.05      .512.85128
Downstream     num=       2
    Width   Elev    Width   Elev
      .5   10.05      .5   12.83

Pier Data
Pier Station     Upstream=   17.61    Downstream= 30.7739
Upstream     num=       2
    Width   Elev    Width   Elev
      .5   10.06      .5    13.2
Downstream     num=       2
    Width   Elev    Width   Elev
      .5   10.06      .5    13.2

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.71    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.70    E.G. Elev (m)               11.71
11.71
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.70
11.70
  Q Bridge (m3/s)             8.63    Crit W.S. (m)               10.52
10.50
  Q Weir (m3/s)                       Max Chl Dpth (m)             1.63
 1.65
  Weir Sta Lft (m)                    Vel Total (m/s)              0.40
 0.29
  Weir Sta Rgt (m)                    Flow Area (m2)              25.21
34.99
  Weir Submerg                        Froude # Chl                 0.12
 0.09
  Weir Max Depth (m)                  Specif Force (m3)           17.02
```

24.38

Min El Weir Flow (m)	11.09	Hydr Depth (m)	1.06
1.25			
Min El Prs (m)	12.82	W.P. Total (m)	33.99
40.50			
Delta EG (m)	0.01	Conv. Total (m3/s)	1241.6
1604.3			
Delta WS (m)	0.00	Top Width (m)	23.81
27.96			
BR Open Area (m2)	29.90	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.49	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.47
0.33			
BR Sel Method	Energy only	Power Total (N/m s)	0.19
0.09			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.10	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.10	E.G. Elev (m)	12.10
12.10			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.10
12.10			
Q Bridge (m3/s)	7.87	Crit W.S. (m)	10.52
10.50			
Q Weir (m3/s)		Max Chl Dpth (m)	2.03
2.05			
Weir Sta Lft (m)		Vel Total (m/s)	0.29
0.22			
Weir Sta Rgt (m)		Flow Area (m2)	34.84
46.37			
Weir Submerg		Froude # Chl	0.08
0.06			
Weir Max Depth (m)		Specif Force (m3)	28.88
40.43			
Min El Weir Flow (m)	11.09	Hydr Depth (m)	1.43
1.58			
Min El Prs (m)	12.82	W.P. Total (m)	37.46
45.26			
Delta EG (m)	0.00	Conv. Total (m3/s)	1827.0
2301.1			
Delta WS (m)	0.00	Top Width (m)	24.34
29.32			
BR Open Area (m2)	29.90	Frctn Loss (m)	0.00

0.00
 BR Open Vel (m/s) 0.36 C & E Loss (m) 0.00
0.00
 BR Sluice Coef Shear Total (N/m2) 0.27
0.19
 BR Sel Method Energy only Power Total (N/m s) 0.08
0.04

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

 E.G. US. (m) 12.55 Element Inside BR US
Inside BR DS
 W.S. US. (m) 12.55 E.G. Elev (m) 12.55
12.55
 Q Total (m3/s) 10.00 W.S. Elev (m) 12.55
12.55
 Q Bridge (m3/s) 7.23 Crit W.S. (m) 10.52
10.50
 Q Weir (m3/s) Max Chl Dpth (m) 2.49
2.50
 Weir Sta Lft (m) Vel Total (m/s) 0.22
0.17
 Weir Sta Rgt (m) Flow Area (m2) 46.06
60.04
 Weir Submerg Froude # Chl 0.05
0.04
 Weir Max Depth (m) Specif Force (m3) 47.20
64.51
 Min El Weir Flow (m) 11.09 Hydr Depth (m) 1.85
1.94
 Min El Prs (m) 12.82 W.P. Total (m) 41.41
50.69
 Delta EG (m) 0.00 Conv. Total (m3/s) 2586.6
3197.7
 Delta WS (m) 0.00 Top Width (m) 24.96
30.88
 BR Open Area (m2) 29.90 Frctn Loss (m) 0.00
0.00
 BR Open Vel (m/s) 0.27 C & E Loss (m) 0.00
0.00
 BR Sluice Coef Shear Total (N/m2) 0.16
0.11
 BR Sel Method Energy only Power Total (N/m s) 0.04
0.02

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.33	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.31	E.G. Elev (m)	12.33
12.33			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.30
12.31			
Q Bridge (m3/s)	20.42	Crit W.S. (m)	10.93
10.91			
Q Weir (m3/s)		Max Chl Dpth (m)	2.23
2.26			
Weir Sta Lft (m)		Vel Total (m/s)	0.68
0.51			
Weir Sta Rgt (m)		Flow Area (m2)	39.78
52.65			
Weir Submerg		Froude # Chl	0.18
0.14			
Weir Max Depth (m)		Specif Force (m3)	38.12
52.19			
Min El Weir Flow (m)	11.09	Hydr Depth (m)	1.62
1.75			
Min El Prs (m)	12.82	W.P. Total (m)	39.21
47.79			
Delta EG (m)	0.01	Conv. Total (m3/s)	2152.5
2706.0			
Delta WS (m)	0.01	Top Width (m)	24.62
30.05			
BR Open Area (m2)	29.90	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.84	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.57
1.08			
BR Sel Method	Energy only	Power Total (N/m s)	1.06
0.55			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.51	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.50	E.G. Elev (m)	12.51

12.51
  Q Total (m3/s)   27.00   W.S. Elev (m)   12.49
12.50
  Q Bridge (m3/s)   19.73   Crit W.S. (m)   10.93
10.91
  Q Weir (m3/s)   Max Chl Dpth (m)   2.43
 2.45
  Weir Sta Lft (m)   Vel Total (m/s)   0.61
 0.46
  Weir Sta Rgt (m)   Flow Area (m2)   44.53
58.39
  Weir Submerg   Froude # Chl   0.15
 0.12
  Weir Max Depth (m)   Specif Force (m3)   45.98
62.53
  Min El Weir Flow (m)   11.09   Hydr Depth (m)   1.79
 1.90
  Min El Prs (m)   12.82   W.P. Total (m)   40.88
50.05
  Delta EG (m)   0.01   Conv. Total (m3/s)   2479.0
3086.9
  Delta WS (m)   0.00   Top Width (m)   24.88
30.70
  BR Open Area (m2)   29.90   Frctn Loss (m)   0.00
 0.01
  BR Open Vel (m/s)   0.75   C & E Loss (m)   0.00
 0.00
  BR Sluice Coef   Shear Total (N/m2)   1.27
 0.88
  BR Sel Method   Energy only   Power Total (N/m s)   0.77
 0.40

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

  E.G. US. (m)   12.82   Element   Inside BR US
Inside BR DS
  W.S. US. (m)   12.81   E.G. Elev (m)   12.82
12.82
  Q Total (m3/s)   27.00   W.S. Elev (m)   12.81
12.81
  Q Bridge (m3/s)   18.77   Crit W.S. (m)   10.93
10.91
  Q Weir (m3/s)   Max Chl Dpth (m)   2.74
 2.76
  Weir Sta Lft (m)   Vel Total (m/s)   0.51
 0.40
  Weir Sta Rgt (m)   Flow Area (m2)   52.44

68.14
  Weir Submerg   Froude # Chl   0.12
 0.10
  Weir Max Depth (m)   Specif Force (m3)   60.97
82.07
  Min El Weir Flow (m)   11.09   Hydr Depth (m)   2.07
 2.15
  Min El Prs (m)   12.82   W.P. Total (m)   43.61
53.79
  Delta EG (m)   0.01   Conv. Total (m3/s)   3047.1
3753.9
  Delta WS (m)   0.00   Top Width (m)   25.30
31.77
  BR Open Area (m2)   29.90   Frctn Loss (m)   0.00
 0.01
  BR Open Vel (m/s)   0.63   C & E Loss (m)   0.00
 0.00
  BR Sluice Coef   Shear Total (N/m2)   0.93
 0.64
  BR Sel Method   Energy only   Power Total (N/m s)   0.48
 0.25

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM   RS: 60

INPUT
Description:
Station Elevation Data   num=   13
     Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
 11.7989 13.5854 14.0193 13.6641 16.5231 13.5224 17.5536 13.4475 20.5733   11.31
 22.3508 10.0518 33.8137 10.0511 35.6533   11.31 38.6794 13.3809 39.1044 13.4416
 40.0226 13.5023 42.1057 13.5024 44.4809 13.3051

Manning's n Values   num=   3
     Sta   n Val   Sta   n Val   Sta   n Val
 11.7989   .03 17.5536   .015 38.6794   .03

Bank Sta: Left   Right   Lengths: Left Channel   Right   Coeff Contr.
Expan.
       17.5536 38.6794   200   200   200   .0015   .01

CROSS SECTION OUTPUT Profile #PF 1

  E.G. Elev (m)   11.70   Element   Left OB   Channel

Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.70	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.85	22.76	8.13
E.G. Slope (m/m)	0.000018	Area (m2)	8.85	22.76	8.13
Q Total (m3/s)	10.00	Flow (m3/s)	1.16	7.82	1.02
Top Width (m)	33.24	Top Width (m)	8.52	16.19	8.52
Vel Total (m/s)	0.25	Avg. Vel. (m/s)	0.13	0.34	0.13
Max Chl Dpth (m)	1.65	Hydr. Depth (m)	1.04	1.41	0.95
Conv. Total (m3/s)	2336.1	Conv. (m3/s)	271.7	1826.6	237.8
Length Wtd. (m)	200.00	Wetted Per. (m)	10.02	17.23	9.87
Min Ch El (m)	10.05	Shear (N/m2)	0.16	0.24	0.15
Alpha	1.51	Stream Power (N/m s)	0.02	0.08	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	81.24	316.29	61.64
C & E Loss (m)	0.00	Cum SA (1000 m2)	82.98	187.92	62.75

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.10	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.10	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	12.39	29.45	11.66
E.G. Slope (m/m)	0.000008	Area (m2)	12.39	29.45	11.66
Q Total (m3/s)	10.00	Flow (m3/s)	1.26	7.59	1.15
Top Width (m)	35.76	Top Width (m)	9.22	17.34	9.20
Vel Total (m/s)	0.19	Avg. Vel. (m/s)	0.10	0.26	

0.10					
Max Chl Dpth (m)	2.05	Hydr. Depth (m)	1.34	1.70	
1.27					
Conv. Total (m3/s)	3509.9	Conv. (m3/s)	441.7	2665.3	
402.9					
Length Wtd. (m)	200.00	Wetted Per. (m)	11.21	18.62	
11.06					
Min Ch El (m)	10.05	Shear (N/m2)	0.09	0.13	
0.08					
Alpha	1.51	Stream Power (N/m s)	0.01	0.03	
0.01					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	122.05	407.11	
92.53					
C & E Loss (m)	0.00	Cum SA (1000 m2)	96.77	201.40	
74.33					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.55	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)		Flow Area (m2)	16.77	37.64	
16.03					
E.G. Slope (m/m)	0.000004	Area (m2)	16.77	37.64	
16.03					
Q Total (m3/s)	10.00	Flow (m3/s)	1.33	7.43	
1.24					
Top Width (m)	38.62	Top Width (m)	10.01	18.65	
9.97					
Vel Total (m/s)	0.14	Avg. Vel. (m/s)	0.08	0.20	
0.08					
Max Chl Dpth (m)	2.50	Hydr. Depth (m)	1.68	2.02	
1.61					
Conv. Total (m3/s)	5108.3	Conv. (m3/s)	677.0	3797.8	
633.5					
Length Wtd. (m)	200.00	Wetted Per. (m)	12.58	20.22	
12.41					
Min Ch El (m)	10.05	Shear (N/m2)	0.05	0.07	
0.05					
Alpha	1.52	Stream Power (N/m s)	0.00	0.01	
0.00					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	170.64	509.60	
129.96					
C & E Loss (m)	0.00	Cum SA (1000 m2)	108.07	213.71	

85.01

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.32	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.30	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	14.31	33.04	13.57
E.G. Slope (m/m)	0.000042	Area (m2)	14.31	33.04	13.57
Q Total (m3/s)	27.00	Flow (m3/s)	3.49	20.29	3.23
Top Width (m)	37.04	Top Width (m)	9.57	17.93	9.54
Vel Total (m/s)	0.44	Avg. Vel. (m/s)	0.24	0.61	0.24
Max Chl Dpth (m)	2.25	Hydr. Depth (m)	1.50	1.84	1.42
Conv. Total (m3/s)	4190.9	Conv. (m3/s)	541.5	3148.8	500.6
Length Wtd. (m)	200.00	Wetted Per. (m)	11.83	19.34	11.66
Min Ch El (m)	10.05	Shear (N/m2)	0.49	0.70	0.47
Alpha	1.52	Stream Power (N/m s)	0.12	0.43	0.11
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	108.84	380.09	83.41
C & E Loss (m)	0.00	Cum SA (1000 m2)	91.77	197.53	70.82

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.50	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	

0.030					
W.S. Elev (m)	12.49	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	16.17	36.53	15.43
E.G. Slope (m/m)	0.000031	Area (m2)	16.17	36.53	15.43
Q Total (m3/s)	27.00	Flow (m3/s)	3.56	20.12	3.32
Top Width (m)	38.25	Top Width (m)	9.90	18.48	9.87
Vel Total (m/s)	0.40	Avg. Vel. (m/s)	0.22	0.55	0.22
Max Chl Dpth (m)	2.44	Hydr. Depth (m)	1.63	1.98	1.56
Conv. Total (m3/s)	4882.5	Conv. (m3/s)	643.5	3638.2	600.7
Length Wtd. (m)	200.00	Wetted Per. (m)	12.40	20.01	12.23
Min Ch El (m)	10.05	Shear (N/m2)	0.39	0.55	0.38
Alpha	1.52	Stream Power (N/m s)	0.09	0.30	0.08
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	139.86	446.63	106.78
C & E Loss (m)	0.00	Cum SA (1000 m2)	101.28	206.90	78.64

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.82	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.81	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	19.38	42.49	18.62
E.G. Slope (m/m)	0.000019	Area (m2)	19.38	42.49	18.62
Q Total (m3/s)	27.00	Flow (m3/s)	3.65	19.90	3.45
Top Width (m)	40.23	Top Width (m)	10.45	19.38	10.40
Vel Total (m/s)	0.34	Avg. Vel. (m/s)	0.19	0.47	0.19
Max Chl Dpth (m)	2.76	Hydr. Depth (m)	1.85	2.19	

1.79					
Conv. Total (m3/s)	6126.3	Conv. (m3/s)	828.2	4515.8	782.3
Length Wtd. (m)	200.00	Wetted Per. (m)	13.35	21.11	13.17
Min Ch El (m)	10.05	Shear (N/m2)	0.28	0.38	0.27
Alpha	1.52	Stream Power (N/m s)	0.05	0.18	0.05
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	182.81	535.37	139.97
C & E Loss (m)	0.00	Cum SA (1000 m2)	111.27	211.73	88.25

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 59

INPUT
Description:
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13.2994	13.2671	14.676	13.4157	16.0111	13.4157	18.7872	13.1961	21.5207	11.23
23.1764	10.0392	34.8921	10.0381	36.6325	11.23	38.6375	12.6029	38.6933	12.8821
38.9725	13.1533	39.3714	13.3607	39.4831	13.3766	39.7544	13.3766	42.11	13.4408
42.7243	13.4567	44.57	13.3532						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
13.2994	.03	18.7872	.015	39.3714	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.7872	39.3714	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.70	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.70	Reach Len. (m)	16.89	16.89	16.89
Crit W.S. (m)	10.22	Flow Area (m2)	17.59	23.34	12.88

E.G. Slope (m/m)	0.000011	Area (m2)	17.59	23.34	12.88
Q Total (m3/s)	10.00	Flow (m3/s)	2.34	6.19	1.47
Top Width (m)	37.32	Top Width (m)	10.65	16.44	10.23
Vel Total (m/s)	0.19	Avg. Vel. (m/s)	0.13	0.27	0.11
Max Chl Dpth (m)	2.16	Hydr. Depth (m)	1.65	1.42	1.26
Conv. Total (m3/s)	3048.8	Conv. (m3/s)	713.1	1886.5	449.2
Length Wtd. (m)	16.89	Wetted Per. (m)	13.12	17.49	12.03
Min Ch El (m)	10.04	Shear (N/m2)	0.14	0.14	0.11
Alpha	1.43	Stream Power (N/m s)	0.02	0.04	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	78.60	311.68	59.54
C & E Loss (m)	0.00	Cum SA (1000 m2)	81.06	184.66	60.88

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.10	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.10	Reach Len. (m)	16.89	16.89	16.89
Crit W.S. (m)	10.22	Flow Area (m2)	21.99	30.14	17.10
E.G. Slope (m/m)	0.000005	Area (m2)	21.99	30.14	17.10
Q Total (m3/s)	10.00	Flow (m3/s)	2.22	6.24	1.54
Top Width (m)	39.81	Top Width (m)	11.32	17.58	10.90
Vel Total (m/s)	0.14	Avg. Vel. (m/s)	0.10	0.21	0.09
Max Chl Dpth (m)	2.56	Hydr. Depth (m)	1.94	1.71	1.57
Conv. Total (m3/s)	4397.7	Conv. (m3/s)	976.0	2744.9	

676.8					
Length Wtd. (m)	16.89	Wetted Per. (m)	14.31	18.88	13.21
Min Ch El (m)	10.04	Shear (N/m2)	0.08	0.08	0.07
Alpha	1.45	Stream Power (N/m s)	0.01	0.02	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	118.61	401.15	89.66
C & E Loss (m)	0.00	Cum SA (1000 m2)	94.71	197.91	72.32

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.55	Reach Len. (m)	16.89	16.89	16.89
Crit W.S. (m)	10.22	Flow Area (m2)	27.31	38.44	22.24
E.G. Slope (m/m)	0.000003	Area (m2)	27.31	38.44	22.24
Q Total (m3/s)	10.00	Flow (m3/s)	2.13	6.29	1.58
Top Width (m)	42.65	Top Width (m)	12.09	18.88	11.68
Vel Total (m/s)	0.11	Avg. Vel. (m/s)	0.08	0.16	0.07
Max Chl Dpth (m)	3.01	Hydr. Depth (m)	2.26	2.04	1.90
Conv. Total (m3/s)	6203.5	Conv. (m3/s)	1319.6	3901.1	982.8
Length Wtd. (m)	16.89	Wetted Per. (m)	15.65	20.47	14.56
Min Ch El (m)	10.04	Shear (N/m2)	0.04	0.05	0.04
Alpha	1.47	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	166.23	502.00	126.13
C & E Loss (m)	0.00	Cum SA (1000 m2)	105.86	209.95	82.85

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.31	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.30	Reach Len. (m)	16.89	16.89	16.89
Crit W.S. (m)	10.51	Flow Area (m2)	24.32	33.77	19.35
E.G. Slope (m/m)	0.000027	Area (m2)	24.32	33.77	19.35
Q Total (m3/s)	27.00	Flow (m3/s)	5.87	16.91	4.22
Top Width (m)	41.08	Top Width (m)	11.67	18.16	11.25
Vel Total (m/s)	0.35	Avg. Vel. (m/s)	0.24	0.50	0.22
Max Chl Dpth (m)	2.76	Hydr. Depth (m)	2.08	1.86	1.72
Conv. Total (m3/s)	5168.3	Conv. (m3/s)	1123.5	3237.5	807.3
Length Wtd. (m)	16.89	Wetted Per. (m)	14.91	19.59	13.82
Min Ch El (m)	10.04	Shear (N/m2)	0.44	0.46	0.37
Alpha	1.46	Stream Power (N/m s)	0.11	0.23	0.08
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	104.98	373.41	80.11
C & E Loss (m)	0.00	Cum SA (1000 m2)	89.65	193.92	68.74

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.50	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.49	Reach Len. (m)	16.89	16.89	16.89
Crit W.S. (m)	10.51	Flow Area (m2)	26.59	37.31	21.54
E.G. Slope (m/m)	0.000021	Area (m2)	26.59	37.31	21.54
Q Total (m3/s)	27.00	Flow (m3/s)	5.77	16.96	4.26
Top Width (m)	42.27	Top Width (m)	11.99	18.71	11.57
Vel Total (m/s)	0.32	Avg. Vel. (m/s)	0.22	0.45	0.20
Max Chl Dpth (m)	2.95	Hydr. Depth (m)	2.22	1.99	1.86
Conv. Total (m3/s)	5948.7	Conv. (m3/s)	1271.5	3737.5	939.6
Length Wtd. (m)	16.89	Wetted Per. (m)	15.48	20.26	14.39
Min Ch El (m)	10.04	Shear (N/m2)	0.35	0.37	0.30
Alpha	1.46	Stream Power (N/m s)	0.08	0.17	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	135.58	439.25	103.08
C & E Loss (m)	0.00	Cum SA (1000 m2)	99.09	203.18	76.50

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.81	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.81	Reach Len. (m)	16.89	16.89	16.89
Crit W.S. (m)	10.51	Flow Area (m2)	30.45	43.32	25.27
E.G. Slope (m/m)	0.000013	Area (m2)	30.45	43.32	

25.27					
Q Total (m3/s)	27.00	Flow (m3/s)	5.62	17.06	4.31
Top Width (m)	43.98	Top Width (m)	12.52	19.35	12.11
Vel Total (m/s)	0.27	Avg. Vel. (m/s)	0.18	0.39	0.17
Max Chl Dpth (m)	3.27	Hydr. Depth (m)	2.43	2.24	2.09
Conv. Total (m3/s)	7358.9	Conv. (m3/s)	1532.9	4650.2	1175.8
Length Wtd. (m)	16.89	Wetted Per. (m)	16.41	21.20	15.32
Min Ch El (m)	10.04	Shear (N/m2)	0.24	0.27	0.22
Alpha	1.48	Stream Power (N/m s)	0.05	0.11	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	177.83	526.79	135.58
C & E Loss (m)	0.00	Cum SA (1000 m2)	108.97	207.85	86.00

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 58.5

INPUT
Description:
Distance from Upstream XS = 16.89
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
15.45	13.4	11.92	40.45	13.4	11.92

Upstream Bridge Cross Section Data
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13.2994	13.2671	14.676	13.4157	16.0111	13.4157	18.7872	13.1961	21.5207	11.23
23.1764	10.0392	34.8921	10.0381	36.6325	11.23	38.6375	12.6029	38.6933	12.8821
38.9725	13.1533	39.3714	13.3607	39.4831	13.3766	39.7544	13.3766	42.11	13.4408
42.7243	13.4567	44.57	13.3532						

```
Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 13.2994     .03 18.7872    .015 39.3714     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       18.7872 39.3714          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   13.16    13.4   11.92   38.17    13.4   11.92

Downstream Bridge Cross Section Data
Station Elevation Data    num=      10
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 11.8144 13.1041 13.9394 13.0502 16.3053 13.1215 19.2971   11.19 21.1075 10.0212
 32.5214 10.0202 34.2786   11.19 36.9669 12.9797 38.4892 13.0687 40.3888 13.0414

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 11.8144     .03 16.3053    .015 36.9669     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       16.3053 36.9669          .0015      .01

Upstream Embankment side slope              =       5 horiz. to 1.0 vertical
Downstream Embankment side slope            =       5 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   15.46   11.92   24.06   11.92
Downstream     num=       2
     Sta    Elev     Sta    Elev
   13.16   11.92   21.77   11.92

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   34.26   11.92   40.45   11.92
Downstream     num=       2
     Sta    Elev     Sta    Elev
   31.97   11.92   38.16   11.92

Number of Piers =  1
```

```
Pier Data
Pier Station     Upstream=   29.07    Downstream=   26.78
Upstream     num=       2
    Width   Elev    Width   Elev
       1   10.14       1   11.92
Downstream     num=       2
    Width   Elev    Width   Elev
       1   10.14       1   11.92

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.70    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.70    E.G. Elev (m)              11.70
11.70
  Q Total (m3/s)             10.00    W.S. Elev (m)              11.70
11.69
  Q Bridge (m3/s)             4.61    Crit W.S. (m)              10.23
10.24
  Q Weir (m3/s)                       Max Chl Dpth (m)            1.66
 1.67
  Weir Sta Lft (m)                    Vel Total (m/s)             0.22
 0.24
  Weir Sta Rgt (m)                    Flow Area (m2)             45.70
41.41
  Weir Submerg                        Froude # Chl                0.07
 0.08
  Weir Max Depth (m)                  Specif Force (m3)          37.80
33.96
  Min El Weir Flow (m)        9.54    Hydr Depth (m)              1.52
 1.46
  Min El Prs (m)             11.92    W.P. Total (m)             40.97
39.44
  Delta EG (m)                0.00    Conv. Total (m3/s)        2152.9
1939.5
  Delta WS (m)                0.00    Top Width (m)              30.07
28.41
```

BR Open Area (m2)	17.31	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.30	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.24
0.27			
BR Sel Method	Energy only	Power Total (N/m s)	0.05
0.07			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.10	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.10	E.G. Elev (m)	12.10
12.10			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.10
12.10			
Q Bridge (m3/s)	3.48	Crit W.S. (m)	10.23
10.24			
Q Weir (m3/s)		Max Chl Dpth (m)	2.06
2.08			
Weir Sta Lft (m)		Vel Total (m/s)	0.18
0.19			
Weir Sta Rgt (m)		Flow Area (m2)	56.39
51.52			
Weir Submerg		Froude # Chl	0.04
0.04			
Weir Max Depth (m)		Specif Force (m3)	58.34
52.67			
Min El Weir Flow (m)	9.54	Hydr Depth (m)	2.54
2.46			
Min El Prs (m)	11.92	W.P. Total (m)	53.44
52.22			
Delta EG (m)	0.00	Conv. Total (m3/s)	2534.0
2250.3			
Delta WS (m)	0.00	Top Width (m)	22.23
20.90			
BR Open Area (m2)	17.31	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.20	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.16
0.19			
BR Sel Method	Energy only	Power Total (N/m s)	0.03
0.04			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.55	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.55	E.G. Elev (m)	12.55 12.55
Q Total (m3/s)	10.00	W.S. Elev (m)	12.55 12.55
Q Bridge (m3/s)	2.77	Crit W.S. (m)	10.23 10.24
Q Weir (m3/s)		Max Chl Dpth (m)	2.51 2.53
Weir Sta Lft (m)		Vel Total (m/s)	0.15 0.16
Weir Sta Rgt (m)		Flow Area (m2)	66.85 61.47
Weir Submerg		Froude # Chl	0.03 0.03
Weir Max Depth (m)		Specif Force (m3)	86.32 78.33
Min El Weir Flow (m)	9.54	Hydr Depth (m)	2.81 2.69
Min El Prs (m)	11.92	W.P. Total (m)	56.14 55.26
Delta EG (m)	0.00	Conv. Total (m3/s)	3183.6 2823.0
Delta WS (m)	0.00	Top Width (m)	23.77 22.83
BR Open Area (m2)	17.31	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.16	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.12 0.14
BR Sel Method	Energy only	Power Total (N/m s)	0.02 0.02

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.31	Element	Inside BR US Inside BR DS

W.S. US. (m)	12.30	E.G. Elev (m)	12.31
12.31			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.30
12.29			
Q Bridge (m3/s)	8.47	Crit W.S. (m)	10.54
10.60			
Q Weir (m3/s)		Max Chl Dpth (m)	2.26
2.27			
Weir Sta Lft (m)		Vel Total (m/s)	0.44
0.48			
Weir Sta Rgt (m)		Flow Area (m2)	60.94
55.77			
Weir Submerg		Froude # Chl	0.09
0.10			
Weir Max Depth (m)		Specif Force (m3)	71.20
64.51			
Min El Weir Flow (m)	9.54	Hydr Depth (m)	2.66
2.56			
Min El Prs (m)	11.92	W.P. Total (m)	54.64
53.55			
Delta EG (m)	0.01	Conv. Total (m3/s)	2809.7
2488.6			
Delta WS (m)	0.01	Top Width (m)	22.91
21.75			
BR Open Area (m2)	17.31	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.49	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.01
1.20			
BR Sel Method	Energy only	Power Total (N/m s)	0.45
0.58			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.50	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.49	E.G. Elev (m)	12.50
12.50			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.49
12.49			
Q Bridge (m3/s)	7.70	Crit W.S. (m)	10.54
10.60			
Q Weir (m3/s)		Max Chl Dpth (m)	2.45
2.47			
Weir Sta Lft (m)		Vel Total (m/s)	0.41
0.45			

Weir Sta Rgt (m)		Flow Area (m2)	65.39 60.03
Weir Submerg		Froude # Chl	0.08 0.09
Weir Max Depth (m)		Specif Force (m3)	83.23 75.54
Min El Weir Flow (m)	9.54	Hydr Depth (m)	2.78 2.66
Min El Prs (m)	11.92	W.P. Total (m)	55.78 54.84
Delta EG (m)	0.01	Conv. Total (m3/s)	3089.8 2736.9
Delta WS (m)	0.01	Top Width (m)	23.56 22.56
BR Open Area (m2)	17.31	Frctn Loss (m)	0.00 0.01
BR Open Vel (m/s)	0.45	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.88 1.04
BR Sel Method	Energy only	Power Total (N/m s)	0.36 0.47

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.81	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.81	E.G. Elev (m)	12.81 12.81
Q Total (m3/s)	27.00	W.S. Elev (m)	12.80 12.80
Q Bridge (m3/s)	6.64	Crit W.S. (m)	10.54 10.60
Q Weir (m3/s)		Max Chl Dpth (m)	2.77 2.78
Weir Sta Lft (m)		Vel Total (m/s)	0.37 0.40
Weir Sta Rgt (m)		Flow Area (m2)	72.99 67.37
Weir Submerg		Froude # Chl	0.07 0.08
Weir Max Depth (m)		Specif Force (m3)	104.90 95.50
Min El Weir Flow (m)	9.54	Hydr Depth (m)	2.96 2.77
Min El Prs (m)	11.92	W.P. Total (m)	57.65 57.36

```
  Delta EG (m)                0.01    Conv. Total (m3/s)         3587.2
3166.4
  Delta WS (m)                0.01    Top Width (m)               24.62
24.31
  BR Open Area (m2)          17.31    Frctn Loss (m)               0.00
 0.01
  BR Open Vel (m/s)           0.38    C & E Loss (m)               0.00
 0.00
  BR Sluice Coef                      Shear Total (N/m2)           0.70
 0.84
  BR Sel Method         Energy only   Power Total (N/m s)          0.26
 0.34



Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 58

INPUT
Description:
Station Elevation Data    num=      10
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 11.8144 13.1041 13.9394 13.0502 16.3053 13.1215 19.2971   11.19 21.1075 10.0212
 32.5214 10.0202 34.2786   11.19 36.9669 12.9797 38.4892 13.0687 40.3888 13.0414

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 11.8144     .03 16.3053    .015 36.9669     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       16.3053 36.9669              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)           11.70    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.00    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)           11.69    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                    Flow Area (m2)          14.76      23.35
  11.20
  E.G. Slope (m/m)      0.000013    Area (m2)              14.76      23.35
  11.20
  Q Total (m3/s)          10.00    Flow (m3/s)             2.01       6.69
```

1.30					
Top Width (m)	35.71	Top Width (m)	9.21	16.51	9.99
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.14	0.29	0.12
Max Chl Dpth (m)	2.51	Hydr. Depth (m)	1.60	1.41	1.12
Conv. Total (m3/s)	2817.0	Conv. (m3/s)	566.7	1885.2	365.1
Length Wtd. (m)	200.00	Wetted Per. (m)	11.94	17.51	11.59
Min Ch El (m)	10.02	Shear (N/m2)	0.15	0.16	0.12
Alpha	1.47	Stream Power (N/m s)	0.02	0.05	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	75.59	307.83	57.26
C & E Loss (m)	0.00	Cum SA (1000 m2)	79.19	182.11	58.87

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.10	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.09	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	18.61	30.22	15.41
E.G. Slope (m/m)	0.000006	Area (m2)	18.61	30.22	15.41
Q Total (m3/s)	10.00	Flow (m3/s)	1.90	6.70	1.40
Top Width (m)	38.64	Top Width (m)	9.95	17.74	10.94
Vel Total (m/s)	0.16	Avg. Vel. (m/s)	0.10	0.22	0.09
Max Chl Dpth (m)	2.91	Hydr. Depth (m)	1.87	1.70	1.41
Conv. Total (m3/s)	4102.2	Conv. (m3/s)	780.4	2747.6	574.2
Length Wtd. (m)	200.00	Wetted Per. (m)	13.18	18.98	13.03
Min Ch El (m)	10.02	Shear (N/m2)	0.08	0.09	0.07
Alpha	1.49	Stream Power (N/m s)	0.01	0.02	

0.01					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	114.82	396.42	86.54
C & E Loss (m)	0.00	Cum SA (1000 m2)	92.69	196.18	70.13

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	23.34	38.63	20.65
E.G. Slope (m/m)	0.000003	Area (m2)	23.34	38.63	20.65
Q Total (m3/s)	10.00	Flow (m3/s)	1.82	6.70	1.48
Top Width (m)	41.96	Top Width (m)	10.79	19.13	12.03
Vel Total (m/s)	0.12	Avg. Vel. (m/s)	0.08	0.17	0.07
Max Chl Dpth (m)	3.37	Hydr. Depth (m)	2.16	2.02	1.72
Conv. Total (m3/s)	5839.4	Conv. (m3/s)	1063.7	3911.3	864.5
Length Wtd. (m)	200.00	Wetted Per. (m)	14.60	20.64	14.67
Min Ch El (m)	10.02	Shear (N/m2)	0.05	0.05	0.04
Alpha	1.50	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	161.48	496.44	121.97
C & E Loss (m)	0.00	Cum SA (1000 m2)	103.67	208.09	80.45

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.30	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.29	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	20.56	33.70	17.56
E.G. Slope (m/m)	0.000032	Area (m2)	20.56	33.70	17.56
Q Total (m3/s)	27.00	Flow (m3/s)	5.03	18.09	3.88
Top Width (m)	40.04	Top Width (m)	10.31	18.33	11.40
Vel Total (m/s)	0.38	Avg. Vel. (m/s)	0.24	0.54	0.22
Max Chl Dpth (m)	3.10	Hydr. Depth (m)	1.99	1.84	1.54
Conv. Total (m3/s)	4799.6	Conv. (m3/s)	894.7	3215.1	689.9
Length Wtd. (m)	200.00	Wetted Per. (m)	13.78	19.68	13.72
Min Ch El (m)	10.02	Shear (N/m2)	0.46	0.53	0.40
Alpha	1.49	Stream Power (N/m s)	0.11	0.29	0.09
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	100.78	368.33	76.56
C & E Loss (m)	0.00	Cum SA (1000 m2)	87.56	192.14	66.46

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.49	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.48	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	22.60	37.32	19.82
E.G. Slope (m/m)	0.000024	Area (m2)	22.60	37.32	19.82
Q Total (m3/s)	27.00	Flow (m3/s)	4.95	18.09	3.97
Top Width (m)	41.46	Top Width (m)	10.67	18.92	

11.87					
Vel Total (m/s)	0.34	Avg. Vel. (m/s)	0.22	0.48	0.20
Max Chl Dpth (m)	3.30	Hydr. Depth (m)	2.12	1.97	1.67
Conv. Total (m3/s)	5558.6	Conv. (m3/s)	1018.2	3723.3	817.1
Length Wtd. (m)	200.00	Wetted Per. (m)	14.38	20.39	14.42
Min Ch El (m)	10.02	Shear (N/m2)	0.36	0.42	0.32
Alpha	1.50	Stream Power (N/m s)	0.08	0.21	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	130.98	433.82	99.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	96.93	201.34	74.13

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.81	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.80	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	26.09	43.50	23.73
E.G. Slope (m/m)	0.000015	Area (m2)	26.09	43.50	23.73
Q Total (m3/s)	27.00	Flow (m3/s)	4.84	18.12	4.04
Top Width (m)	44.16	Top Width (m)	11.25	19.89	13.02
Vel Total (m/s)	0.29	Avg. Vel. (m/s)	0.19	0.42	0.17
Max Chl Dpth (m)	3.62	Hydr. Depth (m)	2.32	2.19	1.82
Conv. Total (m3/s)	6900.1	Conv. (m3/s)	1237.4	4631.4	1031.3
Length Wtd. (m)	200.00	Wetted Per. (m)	15.37	21.55	15.94
Min Ch El (m)	10.02	Shear (N/m2)	0.25	0.30	0.22
Alpha	1.52	Stream Power (N/m s)	0.05	0.13	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	172.52	520.76	

```
 130.80
  C & E Loss (m)            0.00    Cum SA (1000 m2)        106.70     205.92
  83.41



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 57

INPUT
Description:
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 14.7165 13.2463 15.6433 13.3607 18.1535 13.2922 19.4215  13.113 22.3527   11.21
 24.2115 10.0033 35.5801 10.0022 37.3881   11.21 39.3788 12.5397 39.4906 12.8379
 39.6557 12.9976 40.2256 13.1946 40.3907 13.3065 40.6783 13.3384 41.0511 13.3597
 45.2997 13.1819

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 14.7165     .03 19.4215    .015 40.2256     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       19.4215 40.2256              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.69    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.00    Wt. n-Val.               0.030      0.015
  0.030
  W.S. Elev (m)            11.69    Reach Len. (m)          200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)           18.38      23.52
  11.83
  E.G. Slope (m/m)      0.000011    Area (m2)                18.38      23.52
  11.83
  Q Total (m3/s)           10.00    Flow (m3/s)               2.40       6.25
   1.35
  Top Width (m)            36.91    Top Width (m)            11.47      16.50
   8.95
  Vel Total (m/s)           0.19    Avg. Vel. (m/s)           0.13       0.27
   0.11
  Max Chl Dpth (m)          2.57    Hydr. Depth (m)           1.60       1.43
   1.32
```

Conv. Total (m3/s)	3054.3	Conv. (m3/s)	733.4	1908.8	412.1
Length Wtd. (m)	200.00	Wetted Per. (m)	14.04	17.51	11.07
Min Ch El (m)	10.00	Shear (N/m2)	0.14	0.14	0.11
Alpha	1.44	Stream Power (N/m s)	0.02	0.04	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	72.27	303.14	54.96
C & E Loss (m)	0.00	Cum SA (1000 m2)	77.12	178.80	56.98

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.09	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.09	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	23.17	30.40	15.57
E.G. Slope (m/m)	0.000005	Area (m2)	23.17	30.40	15.57
Q Total (m3/s)	10.00	Flow (m3/s)	2.31	6.31	1.38
Top Width (m)	39.68	Top Width (m)	12.31	17.72	9.65
Vel Total (m/s)	0.14	Avg. Vel. (m/s)	0.10	0.21	0.09
Max Chl Dpth (m)	2.98	Hydr. Depth (m)	1.88	1.72	1.61
Conv. Total (m3/s)	4398.9	Conv. (m3/s)	1015.2	2775.6	608.1
Length Wtd. (m)	200.00	Wetted Per. (m)	15.37	18.97	12.28
Min Ch El (m)	10.00	Shear (N/m2)	0.08	0.08	0.06
Alpha	1.46	Stream Power (N/m s)	0.01	0.02	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	110.65	390.35	83.45
C & E Loss (m)	0.00	Cum SA (1000 m2)	90.47	192.64	

68.07

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	29.00	38.81	20.16
E.G. Slope (m/m)	0.000003	Area (m2)	29.00	38.81	20.16
Q Total (m3/s)	10.00	Flow (m3/s)	2.24	6.36	1.40
Top Width (m)	42.80	Top Width (m)	13.26	19.09	10.44
Vel Total (m/s)	0.11	Avg. Vel. (m/s)	0.08	0.16	0.07
Max Chl Dpth (m)	3.43	Hydr. Depth (m)	2.19	2.03	1.93
Conv. Total (m3/s)	6201.6	Conv. (m3/s)	1386.8	3943.4	871.3
Length Wtd. (m)	200.00	Wetted Per. (m)	16.88	20.62	13.65
Min Ch El (m)	10.00	Shear (N/m2)	0.04	0.05	0.04
Alpha	1.48	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	156.25	488.70	117.89
C & E Loss (m)	0.00	Cum SA (1000 m2)	101.27	204.27	78.20

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.29	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.28	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	25.53	33.81	17.42
E.G. Slope (m/m)	0.000028	Area (m2)	25.53	33.81	17.42
Q Total (m3/s)	27.00	Flow (m3/s)	6.14	17.10	3.76
Top Width (m)	40.97	Top Width (m)	12.70	18.29	9.98
Vel Total (m/s)	0.35	Avg. Vel. (m/s)	0.24	0.51	0.22
Max Chl Dpth (m)	3.16	Hydr. Depth (m)	2.01	1.85	1.75
Conv. Total (m3/s)	5109.0	Conv. (m3/s)	1162.3	3234.9	711.8
Length Wtd. (m)	200.00	Wetted Per. (m)	16.00	19.66	12.84
Min Ch El (m)	10.00	Shear (N/m2)	0.44	0.47	0.37
Alpha	1.47	Stream Power (N/m s)	0.11	0.24	0.08
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	96.17	361.58	73.06
C & E Loss (m)	0.00	Cum SA (1000 m2)	85.26	188.48	64.32

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.49	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.48	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	28.06	37.45	19.41

E.G. Slope (m/m)	0.000021	Area (m2)	28.06	37.45	19.41
Q Total (m3/s)	27.00	Flow (m3/s)	6.06	17.15	3.79
Top Width (m)	42.32	Top Width (m)	13.11	18.89	10.32
Vel Total (m/s)	0.32	Avg. Vel. (m/s)	0.22	0.46	0.20
Max Chl Dpth (m)	3.36	Hydr. Depth (m)	2.14	1.98	1.88
Conv. Total (m3/s)	5898.4	Conv. (m3/s)	1324.9	3746.5	827.1
Length Wtd. (m)	200.00	Wetted Per. (m)	16.65	20.37	13.43
Min Ch El (m)	10.00	Shear (N/m2)	0.35	0.38	0.30
Alpha	1.47	Stream Power (N/m s)	0.07	0.17	0.06
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	125.91	426.34	95.15
C & E Loss (m)	0.00	Cum SA (1000 m2)	94.56	197.56	71.91

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.80	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.80	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	32.35	43.60	22.80
E.G. Slope (m/m)	0.000014	Area (m2)	32.35	43.60	22.80
Q Total (m3/s)	27.00	Flow (m3/s)	5.94	17.25	3.81
Top Width (m)	44.22	Top Width (m)	13.78	19.57	10.88
Vel Total (m/s)	0.27	Avg. Vel. (m/s)	0.18	0.40	0.17
Max Chl Dpth (m)	3.68	Hydr. Depth (m)	2.35	2.23	2.10
Conv. Total (m3/s)	7323.9	Conv. (m3/s)	1612.1	4679.3	

```
 1032.5
  Length Wtd. (m)         200.00    Wetted Per. (m)          17.70      21.34
  14.39
  Min Ch El (m)            10.00    Shear (N/m2)              0.24       0.27
   0.21
  Alpha                     1.49    Stream Power (N/m s)      0.04       0.11
   0.04
  Frctn Loss (m)            0.00    Cum Volume (1000 m3)    166.68     512.05
 126.15
  C & E Loss (m)            0.00    Cum SA (1000 m2)        104.19     201.97
  81.03



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 56

INPUT
Description:
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  9.6055 13.1333 12.4057 13.2208 14.6271 13.1886 15.4727 12.9464 15.8829 12.4812
 17.9708    11.2 19.9505  9.9852 30.0353  9.9843 31.9894    11.2 34.0241 12.4657
 34.3369 12.7784 34.7974 13.1866 35.3012 13.3517 36.9548 13.3436 38.9095 13.2915
 40.9734 13.1528

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  9.6055     .03 14.6271    .015 34.7974     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       14.6271 34.7974              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.69    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.               0.030      0.015
  0.030
  W.S. Elev (m)            11.68    Reach Len. (m)          200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)            5.68      21.78
```

2.84					
E.G. Slope (m/m)	0.000026	Area (m2)	5.68	21.78	
2.84					
Q Total (m3/s)	10.00	Flow (m3/s)	0.75	8.94	
0.31					
Top Width (m)	27.24	Top Width (m)	7.01	15.58	
4.65					
Vel Total (m/s)	0.33	Avg. Vel. (m/s)	0.13	0.41	
0.11					
Max Chl Dpth (m)	1.70	Hydr. Depth (m)	0.81	1.40	
0.61					
Conv. Total (m3/s)	1951.0	Conv. (m3/s)	146.5	1744.7	
59.8					
Length Wtd. (m)	200.00	Wetted Per. (m)	8.34	16.54	
5.66					
Min Ch El (m)	9.98	Shear (N/m2)	0.18	0.34	
0.13					
Alpha	1.40	Stream Power (N/m s)	0.02	0.14	
0.01					
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	69.87	298.61	
53.49					
C & E Loss (m)	0.00	Cum SA (1000 m2)	75.27	175.60	
55.62					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.09	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.09	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)		Flow Area (m2)	8.68	28.39	
4.89					
E.G. Slope (m/m)	0.000011	Area (m2)	8.68	28.39	
4.89					
Q Total (m3/s)	10.00	Flow (m3/s)	0.92	8.65	
0.44					
Top Width (m)	30.08	Top Width (m)	7.74	16.90	
5.45					
Vel Total (m/s)	0.24	Avg. Vel. (m/s)	0.11	0.30	
0.09					
Max Chl Dpth (m)	2.10	Hydr. Depth (m)	1.12	1.68	
0.90					
Conv. Total (m3/s)	2955.7	Conv. (m3/s)	270.8	2555.8	
129.0					
Length Wtd. (m)	200.00	Wetted Per. (m)	9.58	18.09	

6.96					
Min Ch El (m)	9.98	Shear (N/m2)	0.10	0.18	
0.08					
Alpha	1.44	Stream Power (N/m s)	0.01	0.05	
0.01					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	107.46	384.47	
81.40					
C & E Loss (m)	0.00	Cum SA (1000 m2)	88.46	189.18	
66.56					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.55	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)		Flow Area (m2)	12.41	36.48	
7.60					
E.G. Slope (m/m)	0.000005	Area (m2)	12.41	36.48	
7.60					
Q Total (m3/s)	10.00	Flow (m3/s)	1.03	8.42	
0.54					
Top Width (m)	33.18	Top Width (m)	8.56	18.28	
6.34					
Vel Total (m/s)	0.18	Avg. Vel. (m/s)	0.08	0.23	
0.07					
Max Chl Dpth (m)	2.56	Hydr. Depth (m)	1.45	2.00	
1.20					
Conv. Total (m3/s)	4344.9	Conv. (m3/s)	449.2	3659.3	
236.3					
Length Wtd. (m)	200.00	Wetted Per. (m)	10.98	19.76	
8.42					
Min Ch El (m)	9.98	Shear (N/m2)	0.06	0.10	
0.05					
Alpha	1.46	Stream Power (N/m s)	0.00	0.02	
0.00					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	152.11	481.17	
115.11					
C & E Loss (m)	0.00	Cum SA (1000 m2)	99.08	200.53	
76.52					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the

computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.28	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.26	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	10.02	31.31	5.85
E.G. Slope (m/m)	0.000062	Area (m2)	10.02	31.31	5.85
Q Total (m3/s)	27.00	Flow (m3/s)	2.61	23.09	1.30
Top Width (m)	31.27	Top Width (m)	8.04	17.45	5.78
Vel Total (m/s)	0.57	Avg. Vel. (m/s)	0.26	0.74	0.22
Max Chl Dpth (m)	2.28	Hydr. Depth (m)	1.25	1.79	1.01
Conv. Total (m3/s)	3437.0	Conv. (m3/s)	332.3	2939.5	165.1
Length Wtd. (m)	200.00	Wetted Per. (m)	10.10	18.74	7.50
Min Ch El (m)	9.98	Shear (N/m2)	0.60	1.01	0.47
Alpha	1.45	Stream Power (N/m s)	0.16	0.75	0.10
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	92.62	355.07	70.73
C & E Loss (m)	0.00	Cum SA (1000 m2)	83.18	184.90	62.75

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.48	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.46	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	11.68	34.90	7.05
E.G. Slope (m/m)	0.000044	Area (m2)	11.68	34.90	

7.05					
Q Total (m3/s)	27.00	Flow (m3/s)	2.75	22.83	1.42
Top Width (m)	32.68	Top Width (m)	8.40	18.10	6.17
Vel Total (m/s)	0.50	Avg. Vel. (m/s)	0.24	0.65	0.20
Max Chl Dpth (m)	2.48	Hydr. Depth (m)	1.39	1.93	1.14
Conv. Total (m3/s)	4054.7	Conv. (m3/s)	412.4	3428.6	213.6
Length Wtd. (m)	200.00	Wetted Per. (m)	10.71	19.51	8.15
Min Ch El (m)	9.98	Shear (N/m2)	0.47	0.78	0.38
Alpha	1.46	Stream Power (N/m s)	0.11	0.51	0.08
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	121.94	419.11	92.50
C & E Loss (m)	0.00	Cum SA (1000 m2)	92.40	193.86	70.26

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.80	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.79	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	14.51	40.89	9.16
E.G. Slope (m/m)	0.000027	Area (m2)	14.51	40.89	9.16
Q Total (m3/s)	27.00	Flow (m3/s)	2.90	22.51	1.59
Top Width (m)	34.53	Top Width (m)	8.99	18.73	6.81
Vel Total (m/s)	0.42	Avg. Vel. (m/s)	0.20	0.55	0.17
Max Chl Dpth (m)	2.80	Hydr. Depth (m)	1.61	2.18	1.35
Conv. Total (m3/s)	5194.7	Conv. (m3/s)	558.0	4331.6	305.0
Length Wtd. (m)	200.00	Wetted Per. (m)	11.70	20.42	9.19
Min Ch El (m)	9.98	Shear (N/m2)	0.33	0.53	

```
   0.26
  Alpha                    1.48    Stream Power (N/m s)      0.07       0.29
   0.05
  Frctn Loss (m)           0.01    Cum Volume (1000 m3)    161.99     503.60
 122.95
  C & E Loss (m)           0.00    Cum SA (1000 m2)        101.92     198.14
  79.26



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 55

INPUT
Description:
Station Elevation Data    num=      15
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  7.9963 13.1214  12.647 13.2688  15.976   11.23 18.0378  9.9673 28.1466  9.9664
 30.1048   11.23 32.1784 12.5682 32.6211 13.0001 32.8813 13.1804 33.5202 13.3951
 34.5413   13.42 34.9539 13.3463 37.2608 13.3798 38.2128 13.2597 39.3712 13.2318

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  7.9963     .03  12.647    .015 32.8813     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
        12.647 32.8813              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.68    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.               0.030      0.015
  0.030
  W.S. Elev (m)            11.68    Reach Len. (m)          187.00     187.00
 187.00
  Crit W.S. (m)            10.42    Flow Area (m2)            4.47      21.94
   2.82
  E.G. Slope (m/m)      0.000027    Area (m2)                 4.47      21.94
   2.82
  Q Total (m3/s)           10.00    Flow (m3/s)               0.59       9.13
   0.27
  Top Width (m)            26.91    Top Width (m)             5.29      15.55
   6.07
  Vel Total (m/s)           0.34    Avg. Vel. (m/s)           0.13       0.42
```

0.10					
Max Chl Dpth (m)	1.71	Hydr. Depth (m)	0.84	1.41	0.46
Conv. Total (m3/s)	1933.5	Conv. (m3/s)	115.0	1765.7	52.8
Length Wtd. (m)	187.00	Wetted Per. (m)	6.60	16.54	6.69
Min Ch El (m)	9.97	Shear (N/m2)	0.18	0.35	0.11
Alpha	1.36	Stream Power (N/m s)	0.02	0.14	0.01
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	68.85	294.24	52.93
C & E Loss (m)	0.00	Cum SA (1000 m2)	74.04	172.48	54.55

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.09	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.09	Reach Len. (m)	187.00	187.00	187.00
Crit W.S. (m)	10.42	Flow Area (m2)	6.80	28.58	5.52
E.G. Slope (m/m)	0.000012	Area (m2)	6.80	28.58	5.52
Q Total (m3/s)	10.00	Flow (m3/s)	0.70	8.82	0.48
Top Width (m)	30.00	Top Width (m)	6.06	16.85	7.08
Vel Total (m/s)	0.24	Avg. Vel. (m/s)	0.10	0.31	0.09
Max Chl Dpth (m)	2.12	Hydr. Depth (m)	1.12	1.70	0.78
Conv. Total (m3/s)	2932.4	Conv. (m3/s)	205.4	2585.7	141.3
Length Wtd. (m)	187.00	Wetted Per. (m)	7.88	18.08	8.19
Min Ch El (m)	9.97	Shear (N/m2)	0.10	0.18	0.08
Alpha	1.42	Stream Power (N/m s)	0.01	0.06	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	105.91	378.78	80.36
C & E Loss (m)	0.00	Cum SA (1000 m2)	87.08	185.80	

65.31

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.55	Reach Len. (m)	187.00	187.00	187.00
Crit W.S. (m)	10.42	Flow Area (m2)	9.78	36.67	9.04
E.G. Slope (m/m)	0.000005	Area (m2)	9.78	36.67	9.04
Q Total (m3/s)	10.00	Flow (m3/s)	0.78	8.56	0.66
Top Width (m)	33.46	Top Width (m)	6.92	18.32	8.22
Vel Total (m/s)	0.18	Avg. Vel. (m/s)	0.08	0.23	0.07
Max Chl Dpth (m)	2.58	Hydr. Depth (m)	1.41	2.00	1.10
Conv. Total (m3/s)	4306.5	Conv. (m3/s)	336.9	3685.7	283.8
Length Wtd. (m)	187.00	Wetted Per. (m)	9.31	19.81	9.88
Min Ch El (m)	9.97	Shear (N/m2)	0.06	0.10	0.05
Alpha	1.46	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	149.89	473.86	113.45
C & E Loss (m)	0.00	Cum SA (1000 m2)	97.54	196.87	75.06

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.27	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	

0.030					
W.S. Elev (m)	12.25	Reach Len. (m)	187.00	187.00	187.00
Crit W.S. (m)	10.84	Flow Area (m2)	7.78	31.29	6.67
E.G. Slope (m/m)	0.000064	Area (m2)	7.78	31.29	6.67
Q Total (m3/s)	27.00	Flow (m3/s)	1.98	23.54	1.48
Top Width (m)	31.19	Top Width (m)	6.36	17.36	7.47
Vel Total (m/s)	0.59	Avg. Vel. (m/s)	0.25	0.75	0.22
Max Chl Dpth (m)	2.28	Hydr. Depth (m)	1.22	1.80	0.89
Conv. Total (m3/s)	3375.9	Conv. (m3/s)	247.1	2943.6	185.3
Length Wtd. (m)	187.00	Wetted Per. (m)	8.37	18.67	8.77
Min Ch El (m)	9.97	Shear (N/m2)	0.58	1.05	0.48
Alpha	1.44	Stream Power (N/m s)	0.15	0.79	0.11
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	90.84	348.81	69.48
C & E Loss (m)	0.00	Cum SA (1000 m2)	81.74	181.42	61.42

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.47	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.45	Reach Len. (m)	187.00	187.00	187.00
Crit W.S. (m)	10.84	Flow Area (m2)	9.13	34.93	8.26
E.G. Slope (m/m)	0.000046	Area (m2)	9.13	34.93	8.26
Q Total (m3/s)	27.00	Flow (m3/s)	2.07	23.24	1.69
Top Width (m)	32.74	Top Width (m)	6.74	18.01	7.98
Vel Total (m/s)	0.52	Avg. Vel. (m/s)	0.23	0.67	0.20
Max Chl Dpth (m)	2.48	Hydr. Depth (m)	1.35	1.94	

1.04					
Conv. Total (m3/s)	3998.9	Conv. (m3/s)	306.9	3441.5	
250.4					
Length Wtd. (m)	187.00	Wetted Per. (m)	9.01	19.45	
9.53					
Min Ch El (m)	9.97	Shear (N/m2)	0.45	0.80	
0.39					
Alpha	1.45	Stream Power (N/m s)	0.10	0.53	
0.08					
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	119.86	412.12	
90.97					
C & E Loss (m)	0.00	Cum SA (1000 m2)	90.89	190.25	
68.85					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.79	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.78	Reach Len. (m)	187.00	187.00	
187.00					
Crit W.S. (m)	10.84	Flow Area (m2)	11.45	41.03	
11.02					
E.G. Slope (m/m)	0.000028	Area (m2)	11.45	41.03	
11.02					
Q Total (m3/s)	27.00	Flow (m3/s)	2.20	22.83	
1.97					
Top Width (m)	35.10	Top Width (m)	7.36	18.95	
8.79					
Vel Total (m/s)	0.43	Avg. Vel. (m/s)	0.19	0.56	
0.18					
Max Chl Dpth (m)	2.81	Hydr. Depth (m)	1.56	2.16	
1.25					
Conv. Total (m3/s)	5120.6	Conv. (m3/s)	416.6	4329.9	
374.1					
Length Wtd. (m)	187.00	Wetted Per. (m)	10.04	20.60	
10.73					
Min Ch El (m)	9.97	Shear (N/m2)	0.31	0.54	
0.28					
Alpha	1.48	Stream Power (N/m s)	0.06	0.30	
0.05					
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	159.40	495.41	
120.93					
C & E Loss (m)	0.00	Cum SA (1000 m2)	100.28	194.37	
77.70					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM   RS: 54.5

INPUT
Description:
Distance from Upstream XS =   187
Deck/Roadway Width   =   5
Weir Coefficient   =   1.4
Upstream Deck/Roadway Coordinates
    num=   2
     Sta Hi Cord Lo Cord   Sta Hi Cord Lo Cord
   11.74   15.11   12.69   34.31   15.11   12.69

Upstream Bridge Cross Section Data
Station Elevation Data   num=   15
     Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
  7.9963 13.1214 12.647 13.2688 15.976   11.23 18.0378 9.9673 28.1466 9.9664
 30.1048   11.23 32.1784 12.5682 32.6211 13.0001 32.8813 13.1804 33.5202 13.3951
 34.5413   13.42 34.9539 13.3463 37.2608 13.3798 38.2128 13.2597 39.3712 13.2318

Manning's n Values   num=   3
     Sta   n Val   Sta   n Val   Sta   n Val
  7.9963   .03 12.647   .015 32.8813   .03

Bank Sta: Left   Right   Coeff Contr.   Expan.
        12.647 32.8813   .0015   .01

Downstream Deck/Roadway Coordinates
    num=   2
     Sta Hi Cord Lo Cord   Sta Hi Cord Lo Cord
    4.09   15.11   12.69   26.66   15.11   12.69

Downstream Bridge Cross Section Data
Station Elevation Data   num=   12
     Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
  9.0915 13.2824 11.9724 13.3607 14.3477 13.3032 17.3882   11.24 19.2902 9.9494
 29.5384 9.9484 31.5735   11.24 35.1775 13.5273 36.2881 13.5793 38.5127 13.5276
 42.7252 13.5276 47.5335 13.2757

Manning's n Values   num=   3
     Sta   n Val   Sta   n Val   Sta   n Val
  9.0915   .03 14.3477   .015 35.1775   .03

```
Bank Sta: Left   Right    Coeff Contr.   Expan.
       14.3477 35.1775          .0015      .01

Upstream Embankment side slope              =    1.87 horiz. to 1.0 vertical
Downstream Embankment side slope            =    1.87 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.68    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.68    E.G. Elev (m)               11.68
11.68
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.67
11.67
  Q Bridge (m3/s)             9.14    Crit W.S. (m)               10.42
10.40
  Q Weir (m3/s)                       Max Chl Dpth (m)             1.71
 1.72
  Weir Sta Lft (m)                    Vel Total (m/s)              0.34
 0.38
  Weir Sta Rgt (m)                    Flow Area (m2)              29.09
26.38
  Weir Submerg                        Froude # Chl                 0.11
 0.10
  Weir Max Depth (m)                  Specif Force (m3)           20.53
19.93
  Min El Weir Flow (m)       10.48    Hydr Depth (m)               1.08
 1.26
  Min El Prs (m)             12.69    W.P. Total (m)              29.77
28.75
  Delta EG (m)                0.01    Conv. Total (m3/s)         1922.4
```

1672.5

Delta WS (m)	0.01	Top Width (m)	26.88
20.93			
BR Open Area (m2)	29.33	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.57	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.26
0.32			
BR Sel Method	Energy only	Power Total (N/m s)	0.09
0.12			

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.09	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.09	E.G. Elev (m)	12.09
12.09			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.08
12.08			
Q Bridge (m3/s)	8.82	Crit W.S. (m)	10.42
10.40			
Q Weir (m3/s)		Max Chl Dpth (m)	2.12
2.14			
Weir Sta Lft (m)		Vel Total (m/s)	0.24
0.28			
Weir Sta Rgt (m)		Flow Area (m2)	40.83
35.45			
Weir Submerg		Froude # Chl	0.08
0.07			
Weir Max Depth (m)		Specif Force (m3)	34.81
32.56			
Min El Weir Flow (m)	10.48	Hydr Depth (m)	1.36
1.54			
Min El Prs (m)	12.69	W.P. Total (m)	34.12
33.31			
Delta EG (m)	0.00	Conv. Total (m3/s)	2926.4
2445.0			
Delta WS (m)	0.00	Top Width (m)	29.98
23.07			
BR Open Area (m2)	29.33	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.42	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.14
0.17			
BR Sel Method	Energy only	Power Total (N/m s)	0.03
0.05			

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.55	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.55	E.G. Elev (m)	12.55
12.55			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.55
12.55			
Q Bridge (m3/s)	8.56	Crit W.S. (m)	10.42
10.40			
Q Weir (m3/s)		Max Chl Dpth (m)	2.58
2.60			
Weir Sta Lft (m)		Vel Total (m/s)	0.18
0.21			
Weir Sta Rgt (m)		Flow Area (m2)	55.45
46.67			
Weir Submerg		Froude # Chl	0.05
0.05			
Weir Max Depth (m)		Specif Force (m3)	56.87
51.38			
Min El Weir Flow (m)	10.48	Hydr Depth (m)	1.66
1.83			
Min El Prs (m)	12.69	W.P. Total (m)	38.99
38.46			
Delta EG (m)	0.00	Conv. Total (m3/s)	4303.1
3468.4			
Delta WS (m)	0.00	Top Width (m)	33.45
25.55			
BR Open Area (m2)	29.33	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.31	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.08
0.10			
BR Sel Method	Energy only	Power Total (N/m s)	0.01
0.02			

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.27	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.25	E.G. Elev (m)	12.26
12.26			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.23
12.23			
Q Bridge (m3/s)	23.56	Crit W.S. (m)	10.84
10.80			
Q Weir (m3/s)		Max Chl Dpth (m)	2.27
2.28			
Weir Sta Lft (m)		Vel Total (m/s)	0.60

0.70			
Weir Sta Rgt (m)		Flow Area (m2)	45.36
38.83			
Weir Submerg		Froude # Chl	0.18
0.16			
Weir Max Depth (m)		Specif Force (m3)	42.82
39.69			
Min El Weir Flow (m)	10.48	Hydr Depth (m)	1.46
1.63			
Min El Prs (m)	12.69	W.P. Total (m)	35.69
34.92			
Delta EG (m)	0.01	Conv. Total (m3/s)	3339.7
2746.1			
Delta WS (m)	0.02	Top Width (m)	31.10
23.84			
BR Open Area (m2)	29.33	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	1.03	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.81
1.05			
BR Sel Method	Energy only	Power Total (N/m s)	0.48
0.73			

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.47	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.45	E.G. Elev (m)	12.46
12.46			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.44
12.44			
Q Bridge (m3/s)	23.25	Crit W.S. (m)	10.84
10.80			
Q Weir (m3/s)		Max Chl Dpth (m)	2.48
2.49			
Weir Sta Lft (m)		Vel Total (m/s)	0.52
0.61			
Weir Sta Rgt (m)		Flow Area (m2)	52.04
43.96			
Weir Submerg		Froude # Chl	0.15
0.14			
Weir Max Depth (m)		Specif Force (m3)	52.78
48.15			
Min El Weir Flow (m)	10.48	Hydr Depth (m)	1.59
1.76			
Min El Prs (m)	12.69	W.P. Total (m)	37.90
37.26			
Delta EG (m)	0.01	Conv. Total (m3/s)	3971.0
3215.3			
Delta WS (m)	0.01	Top Width (m)	32.67

24.97

BR Open Area (m2)	29.33	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.91	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.62
0.82			
BR Sel Method	Energy only	Power Total (N/m s)	0.32
0.50			

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.79	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.78	E.G. Elev (m)	12.79
12.79			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.77
12.77			
Q Bridge (m3/s)	20.80	Crit W.S. (m)	10.84
10.80			
Q Weir (m3/s)		Max Chl Dpth (m)	2.81
2.82			
Weir Sta Lft (m)		Vel Total (m/s)	0.44
0.53			
Weir Sta Rgt (m)		Flow Area (m2)	61.71
51.32			
Weir Submerg		Froude # Chl	0.09
0.11			
Weir Max Depth (m)		Specif Force (m3)	71.48
63.77			
Min El Weir Flow (m)	10.48	Hydr Depth (m)	3.83
4.50			
Min El Prs (m)	12.69	W.P. Total (m)	59.74
55.50			
Delta EG (m)	0.01	Conv. Total (m3/s)	3422.1
3113.4			
Delta WS (m)	0.01	Top Width (m)	16.13
11.41			
BR Open Area (m2)	29.33	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.71	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.63
0.68			
BR Sel Method	Energy only	Power Total (N/m s)	0.28
0.36			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than

1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 54

INPUT
Description:
Station Elevation Data num= 12

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.0915	13.2824	11.9724	13.3607	14.3477	13.3032	17.3882	11.24	19.2902	9.9494
29.5384	9.9484	31.5735	11.24	35.1775	13.5273	36.2881	13.5793	38.5127	13.5276
42.7252	13.5276	47.5335	13.2757						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.0915	.03	14.3477	.015	35.1775	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.3477	35.1775	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.68	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	
W.S. Elev (m)	11.67	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	4.22	22.16	
E.G. Slope (m/m)	0.000028	Area (m2)	4.22	22.16	
Q Total (m3/s)	10.00	Flow (m3/s)	0.52	9.48	
Top Width (m)	20.93	Top Width (m)	5.43	15.50	
Vel Total (m/s)	0.38	Avg. Vel. (m/s)	0.12	0.43	
Max Chl Dpth (m)	1.72	Hydr. Depth (m)	0.78	1.43	
Conv. Total (m3/s)	1895.4	Conv. (m3/s)	98.6	1796.8	
Length Wtd. (m)	200.00	Wetted Per. (m)	7.17	16.53	
Min Ch El (m)	9.95	Shear (N/m2)	0.16	0.37	
Alpha	1.21	Stream Power (N/m s)	0.02	0.16	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	67.96	289.85	

52.39				
C & E Loss (m)	0.00	Cum SA (1000 m2)	72.98	169.38
53.40				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.09	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015
W.S. Elev (m)	12.08	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)	6.63	28.83
E.G. Slope (m/m)	0.000013	Area (m2)	6.63	28.83
Q Total (m3/s)	10.00	Flow (m3/s)	0.66	9.34
Top Width (m)	23.07	Top Width (m)	6.31	16.76
Vel Total (m/s)	0.28	Avg. Vel. (m/s)	0.10	0.32
Max Chl Dpth (m)	2.14	Hydr. Depth (m)	1.05	1.72
Conv. Total (m3/s)	2813.2	Conv. (m3/s)	186.0	2627.1
Length Wtd. (m)	200.00	Wetted Per. (m)	8.57	18.03
Min Ch El (m)	9.95	Shear (N/m2)	0.10	0.20
Alpha	1.24	Stream Power (N/m s)	0.01	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	104.56	373.06
79.31				
C & E Loss (m)	0.00	Cum SA (1000 m2)	85.87	182.43
63.97				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.55	Element	Left OB	Channel

Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	9.78	36.88	
E.G. Slope (m/m)	0.000006	Area (m2)	9.78	36.88	
Q Total (m3/s)	10.00	Flow (m3/s)	0.78	9.22	
Top Width (m)	25.54	Top Width (m)	7.38	18.16	
Vel Total (m/s)	0.21	Avg. Vel. (m/s)	0.08	0.25	
Max Chl Dpth (m)	2.60	Hydr. Depth (m)	1.33	2.03	
Conv. Total (m3/s)	4050.0	Conv. (m3/s)	317.3	3732.8	
Length Wtd. (m)	200.00	Wetted Per. (m)	10.20	19.72	
Min Ch El (m)	9.95	Shear (N/m2)	0.06	0.11	
Alpha	1.26	Stream Power (N/m s)	0.00	0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	147.93	466.52	111.74
C & E Loss (m)	0.00	Cum SA (1000 m2)	96.15	193.21	73.51

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.26	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	
W.S. Elev (m)	12.23	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	7.55	31.26	
E.G. Slope (m/m)	0.000072	Area (m2)	7.55	31.26	
Q Total (m3/s)	27.00	Flow (m3/s)	1.90	25.10	
Top Width (m)	23.84	Top Width (m)	6.64	17.19	
Vel Total (m/s)	0.70	Avg. Vel. (m/s)	0.25	0.80	

Max Chl Dpth (m)	2.28	Hydr. Depth (m)	1.14	1.82
Conv. Total (m3/s)	3173.1	Conv. (m3/s)	222.8	2950.3
Length Wtd. (m)	200.00	Wetted Per. (m)	9.08	18.56
Min Ch El (m)	9.95	Shear (N/m2)	0.59	1.20
Alpha	1.25	Stream Power (N/m s)	0.15	0.96
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	89.29	342.57
68.23				
C & E Loss (m)	0.00	Cum SA (1000 m2)	80.47	177.96
60.01				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.46	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015
W.S. Elev (m)	12.44	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)	9.00	34.94
E.G. Slope (m/m)	0.000052	Area (m2)	9.00	34.94
Q Total (m3/s)	27.00	Flow (m3/s)	2.04	24.96
Top Width (m)	24.97	Top Width (m)	7.13	17.84
Vel Total (m/s)	0.61	Avg. Vel. (m/s)	0.23	0.71
Max Chl Dpth (m)	2.49	Hydr. Depth (m)	1.26	1.96
Conv. Total (m3/s)	3740.9	Conv. (m3/s)	283.2	3457.6
Length Wtd. (m)	200.00	Wetted Per. (m)	9.82	19.32
Min Ch El (m)	9.95	Shear (N/m2)	0.47	0.92
Alpha	1.26	Stream Power (N/m s)	0.11	0.66
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	118.04	405.15
89.41				
C & E Loss (m)	0.00	Cum SA (1000 m2)	89.54	186.65

67.34

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.79	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	
W.S. Elev (m)	12.77	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	11.49	41.02	
E.G. Slope (m/m)	0.000033	Area (m2)	11.49	41.02	
Q Total (m3/s)	27.00	Flow (m3/s)	2.25	24.75	
Top Width (m)	26.75	Top Width (m)	7.90	18.85	
Vel Total (m/s)	0.51	Avg. Vel. (m/s)	0.20	0.60	
Max Chl Dpth (m)	2.82	Hydr. Depth (m)	1.45	2.18	
Conv. Total (m3/s)	4732.8	Conv. (m3/s)	394.8	4338.0	
Length Wtd. (m)	200.00	Wetted Per. (m)	10.99	20.53	
Min Ch El (m)	9.95	Shear (N/m2)	0.33	0.64	
Alpha	1.27	Stream Power (N/m s)	0.07	0.38	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	157.11	487.38	118.85
C & E Loss (m)	0.00	Cum SA (1000 m2)	98.83	192.48	76.03

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 53

INPUT
Description: Opera 6
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.6281	13.1091	10.0881	13.2515	12.7076	13.2156	15.7868	11.25	17.8491	9.9335
27.85	9.9329	29.9899	11.25	31.9359	12.4478	32.1683	12.6801	32.3	12.9667
32.5401	13.0983	33.0204	13.2145	33.3148	13.2532	33.8493	13.2532	34.1979	13.2377
38.346	13.0321								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.6281	.03	12.7076	.015	32.5401	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
12.7076	32.5401	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.67	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.66	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	3.58	22.10	1.02
E.G. Slope (m/m)	0.000028	Area (m2)	3.58	22.10	1.02
Q Total (m3/s)	10.00	Flow (m3/s)	0.44	9.48	0.08
Top Width (m)	22.20	Top Width (m)	4.75	15.53	1.92
Vel Total (m/s)	0.37	Avg. Vel. (m/s)	0.12	0.43	0.08
Max Chl Dpth (m)	1.73	Hydr. Depth (m)	0.75	1.42	0.53
Conv. Total (m3/s)	1888.2	Conv. (m3/s)	83.3	1789.1	15.7
Length Wtd. (m)	200.00	Wetted Per. (m)	6.11	16.52	3.26
Min Ch El (m)	9.93	Shear (N/m2)	0.16	0.37	0.09
Alpha	1.25	Stream Power (N/m s)	0.02	0.16	0.01
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	67.18	285.43	52.29
C & E Loss (m)	0.00	Cum SA (1000 m2)	71.97	166.27	53.21

Warning: Divided flow computed for this cross-section.

Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.09	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.08	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	5.67	28.84	1.98
E.G. Slope (m/m)	0.000013	Area (m2)	5.67	28.84	1.98
Q Total (m3/s)	10.00	Flow (m3/s)	0.56	9.30	0.13
Top Width (m)	24.93	Top Width (m)	5.41	16.86	2.67
Vel Total (m/s)	0.27	Avg. Vel. (m/s)	0.10	0.32	0.07
Max Chl Dpth (m)	2.15	Hydr. Depth (m)	1.05	1.71	0.74
Conv. Total (m3/s)	2821.8	Conv. (m3/s)	159.4	2624.5	37.9
Length Wtd. (m)	200.00	Wetted Per. (m)	7.31	18.09	4.53
Min Ch El (m)	9.93	Shear (N/m2)	0.10	0.20	0.05
Alpha	1.30	Stream Power (N/m s)	0.01	0.06	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	103.33	367.30	79.12
C & E Loss (m)	0.00	Cum SA (1000 m2)	84.70	179.07	63.70

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.40	36.98	3.41

E.G. Slope (m/m)	0.000006	Area (m2)	8.40	36.98	3.41
Q Total (m3/s)	10.00	Flow (m3/s)	0.66	9.15	0.19
Top Width (m)	28.19	Top Width (m)	6.41	18.27	3.51
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.08	0.25	0.06
Max Chl Dpth (m)	2.61	Hydr. Depth (m)	1.31	2.02	0.97
Conv. Total (m3/s)	4089.1	Conv. (m3/s)	269.9	3741.0	78.3
Length Wtd. (m)	200.00	Wetted Per. (m)	8.88	19.79	5.95
Min Ch El (m)	9.93	Shear (N/m2)	0.06	0.11	0.03
Alpha	1.34	Stream Power (N/m s)	0.00	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	146.11	459.14	111.40
C & E Loss (m)	0.00	Cum SA (1000 m2)	94.77	189.57	73.16

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.24	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.21	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	6.40	31.08	2.34
E.G. Slope (m/m)	0.000073	Area (m2)	6.40	31.08	2.34
Q Total (m3/s)	27.00	Flow (m3/s)	1.60	24.99	0.41
Top Width (m)	25.87	Top Width (m)	5.69	17.27	2.91
Vel Total (m/s)	0.68	Avg. Vel. (m/s)	0.25	0.80	0.17
Max Chl Dpth (m)	2.28	Hydr. Depth (m)	1.12	1.80	0.81
Conv. Total (m3/s)	3155.0	Conv. (m3/s)	187.5	2920.0	47.5
Length Wtd. (m)	200.00	Wetted Per. (m)	7.76	18.59	4.94

Min Ch El (m)	9.93	Shear (N/m2)	0.59	1.20	0.34
Alpha	1.31	Stream Power (N/m s)	0.15	0.97	0.06
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	87.90	336.34	67.99
C & E Loss (m)	0.00	Cum SA (1000 m2)	79.24	174.51	59.72

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.45	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.43	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	7.67	34.87	3.01
E.G. Slope (m/m)	0.000052	Area (m2)	7.67	34.87	3.01
Q Total (m3/s)	27.00	Flow (m3/s)	1.72	24.80	0.48
Top Width (m)	27.41	Top Width (m)	6.15	17.96	3.30
Vel Total (m/s)	0.59	Avg. Vel. (m/s)	0.22	0.71	0.16
Max Chl Dpth (m)	2.49	Hydr. Depth (m)	1.25	1.94	0.91
Conv. Total (m3/s)	3742.3	Conv. (m3/s)	238.9	3437.0	66.4
Length Wtd. (m)	200.00	Wetted Per. (m)	8.49	19.39	5.60
Min Ch El (m)	9.93	Shear (N/m2)	0.46	0.92	0.27
Alpha	1.33	Stream Power (N/m s)	0.10	0.65	0.04
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	116.37	398.17	89.11
C & E Loss (m)	0.00	Cum SA (1000 m2)	88.21	183.07	67.01

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.78	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.76	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	9.85	41.04	4.22
E.G. Slope (m/m)	0.000032	Area (m2)	9.85	41.04	4.22
Q Total (m3/s)	27.00	Flow (m3/s)	1.88	24.53	0.59
Top Width (m)	29.57	Top Width (m)	6.88	18.79	3.91
Vel Total (m/s)	0.49	Avg. Vel. (m/s)	0.19	0.60	0.14
Max Chl Dpth (m)	2.83	Hydr. Depth (m)	1.43	2.18	1.08
Conv. Total (m3/s)	4787.2	Conv. (m3/s)	333.8	4349.3	104.1
Length Wtd. (m)	200.00	Wetted Per. (m)	9.62	20.48	6.62
Min Ch El (m)	9.93	Shear (N/m2)	0.32	0.63	0.20
Alpha	1.36	Stream Power (N/m s)	0.06	0.37	0.03
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	154.98	479.17	118.43
C & E Loss (m)	0.00	Cum SA (1000 m2)	97.35	188.71	75.64

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 52

INPUT
Description:
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.0545	13.1916	12.4092	13.203	12.9813	13.1687	15.1668	13.1916	18.2766	11.28
20.4889	9.9201	30.4647	9.9194	32.5192	11.28	34.6743	12.7072	34.7901	12.9222
34.939	13.1427	35.0713	13.2419	35.3911	13.2915	35.5841	13.3411	35.8709	13.3522

```
  40.697 13.1284  41.322 12.9997

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 12.0545     .03 15.1668    .015  34.939     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       15.1668  34.939             200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)           11.67    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.01    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)           11.66    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                    Flow Area (m2)           2.95      22.11
   4.14
  E.G. Slope (m/m)      0.000026    Area (m2)               2.95      22.11
   4.14
  Q Total (m3/s)          10.00    Flow (m3/s)             0.28       9.23
   0.50
  Top Width (m)           28.23    Top Width (m)           6.80      15.43
   6.00
  Vel Total (m/s)          0.34    Avg. Vel. (m/s)         0.09       0.42
   0.12
  Max Chl Dpth (m)         1.74    Hydr. Depth (m)         0.43       1.43
   0.69
  Conv. Total (m3/s)      1945.9    Conv. (m3/s)            53.5     1795.4
   97.0
  Length Wtd. (m)         200.00    Wetted Per. (m)         7.34      16.45
   7.00
  Min Ch El (m)            9.92    Shear (N/m2)            0.10       0.35
   0.15
  Alpha                    1.38    Stream Power (N/m s)    0.01       0.15
   0.02
  Frctn Loss (m)           0.01    Cum Volume (1000 m3)    66.53     281.01
  51.78
  C & E Loss (m)           0.00    Cum SA (1000 m2)        70.81     163.18
  52.41



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)           12.08    Element                Left OB    Channel
```

Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.08	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	5.96	28.86	6.85
E.G. Slope (m/m)	0.000011	Area (m2)	5.96	28.86	6.85
Q Total (m3/s)	10.00	Flow (m3/s)	0.52	8.82	0.66
Top Width (m)	31.28	Top Width (m)	7.56	16.75	6.97
Vel Total (m/s)	0.24	Avg. Vel. (m/s)	0.09	0.31	0.10
Max Chl Dpth (m)	2.16	Hydr. Depth (m)	0.79	1.72	0.98
Conv. Total (m3/s)	2988.2	Conv. (m3/s)	155.2	2634.7	198.3
Length Wtd. (m)	200.00	Wetted Per. (m)	8.62	18.01	8.48
Min Ch El (m)	9.92	Shear (N/m2)	0.08	0.18	0.09
Alpha	1.45	Stream Power (N/m s)	0.01	0.05	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	102.17	361.52	78.23
C & E Loss (m)	0.00	Cum SA (1000 m2)	83.40	175.71	62.74

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	9.71	36.97	10.34
E.G. Slope (m/m)	0.000005	Area (m2)	9.71	36.97	10.34
Q Total (m3/s)	10.00	Flow (m3/s)	0.71	8.50	0.79
Top Width (m)	34.94	Top Width (m)	8.69	18.21	8.05
Vel Total (m/s)	0.18	Avg. Vel. (m/s)	0.07	0.23	

0.08					
Max Chl Dpth (m)	2.62	Hydr. Depth (m)	1.12	2.03	
1.28					
Conv. Total (m3/s)	4405.0	Conv. (m3/s)	310.9	3744.6	
349.5					
Length Wtd. (m)	200.00	Wetted Per. (m)	10.31	19.74	
10.12					
Min Ch El (m)	9.92	Shear (N/m2)	0.05	0.09	
0.05					
Alpha	1.49	Stream Power (N/m s)	0.00	0.02	
0.00					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	144.30	451.74	
110.02					
C & E Loss (m)	0.00	Cum SA (1000 m2)	93.26	185.92	
72.00					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.23	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.20	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)		Flow Area (m2)	6.91	30.96	
7.73					
E.G. Slope (m/m)	0.000065	Area (m2)	6.91	30.96	
7.73					
Q Total (m3/s)	27.00	Flow (m3/s)	1.56	23.54	
1.90					
Top Width (m)	32.19	Top Width (m)	7.79	17.14	
7.26					
Vel Total (m/s)	0.59	Avg. Vel. (m/s)	0.23	0.76	
0.25					
Max Chl Dpth (m)	2.28	Hydr. Depth (m)	0.89	1.81	
1.07					
Conv. Total (m3/s)	3339.0	Conv. (m3/s)	192.8	2911.7	
234.5					
Length Wtd. (m)	200.00	Wetted Per. (m)	9.01	18.47	
8.92					
Min Ch El (m)	9.92	Shear (N/m2)	0.49	1.07	
0.56					
Alpha	1.46	Stream Power (N/m s)	0.11	0.82	
0.14					
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	86.57	330.13	
66.98					
C & E Loss (m)	0.00	Cum SA (1000 m2)	77.89	171.07	

58.70

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.44	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.42	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.67	34.77	9.37
E.G. Slope (m/m)	0.000045	Area (m2)	8.67	34.77	9.37
Q Total (m3/s)	27.00	Flow (m3/s)	1.79	23.15	2.06
Top Width (m)	33.95	Top Width (m)	8.37	17.82	7.76
Vel Total (m/s)	0.51	Avg. Vel. (m/s)	0.21	0.67	0.22
Max Chl Dpth (m)	2.50	Hydr. Depth (m)	1.04	1.95	1.21
Conv. Total (m3/s)	4005.8	Conv. (m3/s)	265.6	3434.5	305.7
Length Wtd. (m)	200.00	Wetted Per. (m)	9.85	19.28	9.69
Min Ch El (m)	9.92	Shear (N/m2)	0.39	0.80	0.43
Alpha	1.48	Stream Power (N/m s)	0.08	0.53	0.09
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	114.74	391.21	87.87
C & E Loss (m)	0.00	Cum SA (1000 m2)	86.76	179.49	65.90

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.77	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	

0.030				
W.S. Elev (m)	12.76	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)	11.66	40.99
12.14				
E.G. Slope (m/m)	0.000027	Area (m2)	11.66	40.99
12.14				
Q Total (m3/s)	27.00	Flow (m3/s)	2.09	22.64
2.27				
Top Width (m)	36.64	Top Width (m)	9.26	18.83
8.55				
Vel Total (m/s)	0.42	Avg. Vel. (m/s)	0.18	0.55
0.19				
Max Chl Dpth (m)	2.84	Hydr. Depth (m)	1.26	2.18
1.42				
Conv. Total (m3/s)	5171.0	Conv. (m3/s)	400.4	4335.4
435.1				
Length Wtd. (m)	200.00	Wetted Per. (m)	11.14	20.51
10.88				
Min Ch El (m)	9.92	Shear (N/m2)	0.28	0.53
0.30				
Alpha	1.50	Stream Power (N/m s)	0.05	0.30
0.06				
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	152.83	470.97
116.79				
C & E Loss (m)	0.00	Cum SA (1000 m2)	95.74	184.95
74.40				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 51

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.6938	13.1175	9.8664	13.4467	11.6666	13.4469	13.2629	13.3739	14.0142	13.0904
14.8792	12.3778	16.5732	11.32	18.8368	9.9066	28.7972	9.906	30.9879	11.32
32.9398	12.5799	33.1868	12.8974	33.4338	13.1443	34.0073	13.2943	34.4219	13.3296
36.4717	13.3035	37.4686	13.2946	37.9539	13.2064	39.5419	13.2417		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.6938	.03	13.2629	.015	34.0073	.03

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr.

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Expan.
       13.2629 34.0073              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)           11.66    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.01    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)           11.65    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                    Flow Area (m2)           1.26      22.21
   1.80
  E.G. Slope (m/m)      0.000029    Area (m2)               1.26      22.21
   1.80
  Q Total (m3/s)          10.00    Flow (m3/s)             0.09       9.72
   0.19
  Top Width (m)           23.74    Top Width (m)           4.81      15.46
   3.46
  Vel Total (m/s)          0.40    Avg. Vel. (m/s)         0.07       0.44
   0.11
  Max Chl Dpth (m)         1.75    Hydr. Depth (m)         0.26       1.44
   0.52
  Conv. Total (m3/s)     1858.2    Conv. (m3/s)            16.3     1806.3
   35.5
  Length Wtd. (m)         200.00    Wetted Per. (m)         5.15      16.48
   3.94
  Min Ch El (m)            9.91    Shear (N/m2)            0.07       0.38
   0.13
  Alpha                    1.19    Stream Power (N/m s)    0.00       0.17
   0.01
  Frctn Loss (m)           0.01    Cum Volume (1000 m3)   66.11     276.57
  51.18
  C & E Loss (m)           0.00    Cum SA (1000 m2)       69.65     160.09
  51.47



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)           12.08    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.01    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)           12.08    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                    Flow Area (m2)           3.47      29.03
   3.96
```

E.G. Slope (m/m)	0.000013	Area (m2)	3.47	29.03	3.96
Q Total (m3/s)	10.00	Flow (m3/s)	0.27	9.40	0.33
Top Width (m)	28.05	Top Width (m)	5.64	16.80	5.61
Vel Total (m/s)	0.27	Avg. Vel. (m/s)	0.08	0.32	0.08
Max Chl Dpth (m)	2.17	Hydr. Depth (m)	0.61	1.73	0.71
Conv. Total (m3/s)	2825.9	Conv. (m3/s)	75.9	2656.2	93.7
Length Wtd. (m)	200.00	Wetted Per. (m)	6.51	18.06	6.62
Min Ch El (m)	9.91	Shear (N/m2)	0.07	0.20	0.07
Alpha	1.31	Stream Power (N/m s)	0.01	0.06	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	101.22	355.74	77.15
C & E Loss (m)	0.00	Cum SA (1000 m2)	82.08	172.36	61.48

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	6.31	37.19	6.82
E.G. Slope (m/m)	0.000006	Area (m2)	6.31	37.19	6.82
Q Total (m3/s)	10.00	Flow (m3/s)	0.43	9.09	0.48
Top Width (m)	31.43	Top Width (m)	6.56	18.20	6.67
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.07	0.24	0.07
Max Chl Dpth (m)	2.64	Hydr. Depth (m)	0.96	2.04	1.02
Conv. Total (m3/s)	4160.3	Conv. (m3/s)	179.3	3780.8	200.2
Length Wtd. (m)	200.00	Wetted Per. (m)	8.00	19.74	8.25

Min Ch El (m)	9.91	Shear (N/m2)	0.04	0.11	0.05
Alpha	1.38	Stream Power (N/m s)	0.00	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	142.70	444.33	108.31
C & E Loss (m)	0.00	Cum SA (1000 m2)	91.74	182.28	70.53

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.22	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.18	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	4.08	30.85	4.57
E.G. Slope (m/m)	0.000075	Area (m2)	4.08	30.85	4.57
Q Total (m3/s)	27.00	Flow (m3/s)	0.84	25.16	1.00
Top Width (m)	28.84	Top Width (m)	5.85	17.13	5.85
Vel Total (m/s)	0.68	Avg. Vel. (m/s)	0.21	0.82	0.22
Max Chl Dpth (m)	2.28	Hydr. Depth (m)	0.70	1.80	0.78
Conv. Total (m3/s)	3107.7	Conv. (m3/s)	96.3	2896.5	114.9
Length Wtd. (m)	200.00	Wetted Per. (m)	6.85	18.46	6.99
Min Ch El (m)	9.91	Shear (N/m2)	0.44	1.24	0.48
Alpha	1.33	Stream Power (N/m s)	0.09	1.01	0.11
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	85.47	323.95	65.75
C & E Loss (m)	0.00	Cum SA (1000 m2)	76.52	167.64	57.39

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.43	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.41	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	5.44	34.77	5.94
E.G. Slope (m/m)	0.000052	Area (m2)	5.44	34.77	5.94
Q Total (m3/s)	27.00	Flow (m3/s)	1.05	24.76	1.19
Top Width (m)	30.49	Top Width (m)	6.30	17.83	6.37
Vel Total (m/s)	0.58	Avg. Vel. (m/s)	0.19	0.71	0.20
Max Chl Dpth (m)	2.50	Hydr. Depth (m)	0.86	1.95	0.93
Conv. Total (m3/s)	3745.2	Conv. (m3/s)	145.6	3433.9	165.6
Length Wtd. (m)	200.00	Wetted Per. (m)	7.57	19.29	7.78
Min Ch El (m)	9.91	Shear (N/m2)	0.37	0.92	0.39
Alpha	1.37	Stream Power (N/m s)	0.07	0.65	0.08
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	113.33	384.25	86.34
C & E Loss (m)	0.00	Cum SA (1000 m2)	85.29	175.93	64.49

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.77	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.75	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	7.73	41.05	8.27
E.G. Slope (m/m)	0.000031	Area (m2)	7.73	41.05	8.27

Q Total (m3/s)	27.00	Flow (m3/s)	1.32	24.23	1.45
Top Width (m)	32.77	Top Width (m)	6.97	18.65	7.15
Vel Total (m/s)	0.47	Avg. Vel. (m/s)	0.17	0.59	0.18
Max Chl Dpth (m)	2.85	Hydr. Depth (m)	1.11	2.20	1.16
Conv. Total (m3/s)	4867.3	Conv. (m3/s)	238.3	4368.1	260.9
Length Wtd. (m)	200.00	Wetted Per. (m)	8.68	20.36	8.98
Min Ch El (m)	9.91	Shear (N/m2)	0.27	0.61	0.28
Alpha	1.41	Stream Power (N/m s)	0.05	0.36	0.05
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	150.89	462.76	114.75
C & E Loss (m)	0.00	Cum SA (1000 m2)	94.12	181.20	72.83

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 50

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
6.0099	13.0715	7.5778	13.3439	9.0108	13.4642	11.551	13.4642	12.1661	13.3769
13.2234	13.0006	13.3436	12.7363	15.5492	11.32	17.7711	9.8932	27.7325	9.8925
29.8824	11.32	32.9634	13.3656	34.3334	13.3775	37.5717	13.317	37.9978	13.2728

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
6.0099	.03	12.1661	.015	32.9634	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
12.1661	32.9634	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.66	Element	Left OB	Channel	Right OB

Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.65	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.31	22.18	0.93
E.G. Slope (m/m)	0.000030	Area (m2)	0.31	22.18	0.93
Q Total (m3/s)	10.00	Flow (m3/s)	0.02	9.91	0.07
Top Width (m)	19.91	Top Width (m)	1.20	15.33	3.37
Vel Total (m/s)	0.43	Avg. Vel. (m/s)	0.06	0.45	0.07
Max Chl Dpth (m)	1.75	Hydr. Depth (m)	0.26	1.45	0.28
Conv. Total (m3/s)	1826.6	Conv. (m3/s)	3.6	1810.4	12.7
Length Wtd. (m)	200.00	Wetted Per. (m)	1.52	16.38	3.56
Min Ch El (m)	9.89	Shear (N/m2)	0.06	0.40	0.08
Alpha	1.09	Stream Power (N/m s)	0.00	0.18	0.01
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	65.95	272.13	50.91
C & E Loss (m)	0.00	Cum SA (1000 m2)	69.05	157.01	50.79

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.08	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.07	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	1.86	29.00	2.69
E.G. Slope (m/m)	0.000013	Area (m2)	1.86	29.00	2.69
Q Total (m3/s)	10.00	Flow (m3/s)	0.12	9.70	0.18
Top Width (m)	26.90	Top Width (m)	4.22	16.64	6.04
Vel Total (m/s)	0.30	Avg. Vel. (m/s)	0.06	0.33	0.07
Max Chl Dpth (m)	2.18	Hydr. Depth (m)	0.44	1.74	0.45

Conv. Total (m3/s)	2744.8	Conv. (m3/s)	31.6	2663.3
50.0				
Length Wtd. (m)	200.00	Wetted Per. (m)	5.10	17.94
6.46				
Min Ch El (m)	9.89	Shear (N/m2)	0.05	0.21
0.05				
Alpha	1.22	Stream Power (N/m s)	0.00	0.07
0.00				
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	100.69	349.93
76.49				
C & E Loss (m)	0.00	Cum SA (1000 m2)	81.10	169.01
60.31				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015
0.030				
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)	3.95	37.11
5.79				
E.G. Slope (m/m)	0.000006	Area (m2)	3.95	37.11
5.79				
Q Total (m3/s)	10.00	Flow (m3/s)	0.24	9.38
0.38				
Top Width (m)	30.12	Top Width (m)	4.88	18.07
7.17				
Vel Total (m/s)	0.21	Avg. Vel. (m/s)	0.06	0.25
0.07				
Max Chl Dpth (m)	2.65	Hydr. Depth (m)	0.81	2.05
0.81				
Conv. Total (m3/s)	4028.9	Conv. (m3/s)	95.6	3779.7
153.7				
Length Wtd. (m)	200.00	Wetted Per. (m)	6.40	19.65
8.17				
Min Ch El (m)	9.89	Shear (N/m2)	0.04	0.11
0.04				
Alpha	1.32	Stream Power (N/m s)	0.00	0.03
0.00				
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	141.67	436.90
107.05				
C & E Loss (m)	0.00	Cum SA (1000 m2)	90.59	178.65
69.15				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.20	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.16	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	2.24	30.52	3.26
E.G. Slope (m/m)	0.000083	Area (m2)	2.24	30.52	3.26
Q Total (m3/s)	27.00	Flow (m3/s)	0.38	26.02	0.60
Top Width (m)	27.60	Top Width (m)	4.31	16.92	6.38
Vel Total (m/s)	0.75	Avg. Vel. (m/s)	0.17	0.85	0.18
Max Chl Dpth (m)	2.27	Hydr. Depth (m)	0.52	1.80	0.51
Conv. Total (m3/s)	2972.4	Conv. (m3/s)	42.1	2864.5	65.8
Length Wtd. (m)	200.00	Wetted Per. (m)	5.32	18.27	6.91
Min Ch El (m)	9.89	Shear (N/m2)	0.34	1.35	0.38
Alpha	1.25	Stream Power (N/m s)	0.06	1.15	0.07
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	84.84	317.82	64.97
C & E Loss (m)	0.00	Cum SA (1000 m2)	75.51	164.24	56.16

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.42	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.39	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)	3.26	34.50	4.77
E.G. Slope (m/m)	0.000056	Area (m2)	3.26	34.50	4.77
Q Total (m3/s)	27.00	Flow (m3/s)	0.55	25.58	0.87
Top Width (m)	29.01	Top Width (m)	4.57	17.62	6.81
Vel Total (m/s)	0.63	Avg. Vel. (m/s)	0.17	0.74	0.18
Max Chl Dpth (m)	2.50	Hydr. Depth (m)	0.71	1.96	0.70
Conv. Total (m3/s)	3599.0	Conv. (m3/s)	73.2	3409.5	116.3
Length Wtd. (m)	200.00	Wetted Per. (m)	5.91	19.11	7.64
Min Ch El (m)	9.89	Shear (N/m2)	0.30	1.00	0.34
Alpha	1.30	Stream Power (N/m s)	0.05	0.74	0.06
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	112.45	377.32	85.27
C & E Loss (m)	0.00	Cum SA (1000 m2)	84.21	172.38	63.17

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.76	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.74	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	4.99	40.84	7.30
E.G. Slope (m/m)	0.000033	Area (m2)	4.99	40.84	7.30
Q Total (m3/s)	27.00	Flow (m3/s)	0.76	25.01	1.23
Top Width (m)	31.71	Top Width (m)	5.31	18.69	7.71
Vel Total (m/s)	0.51	Avg. Vel. (m/s)	0.15	0.61	0.17
Max Chl Dpth (m)	2.85	Hydr. Depth (m)	0.94	2.19	0.95
Conv. Total (m3/s)	4671.3	Conv. (m3/s)	131.7	4327.1	212.6

Length Wtd. (m)	200.00	Wetted Per. (m)	7.08	20.39	8.95
Min Ch El (m)	9.89	Shear (N/m2)	0.23	0.66	0.27
Alpha	1.35	Stream Power (N/m s)	0.04	0.40	0.04
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	149.62	454.57	113.19
C & E Loss (m)	0.00	Cum SA (1000 m2)	92.89	177.47	71.34

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 49

INPUT
Description:
Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
6.1878	13.2676	8.6556	13.3672	9.1701	13.4707	9.5248	13.4592	10.0511	13.3563
11.8064	13.3687	12.8394	13.0587	13.0688	12.9352	13.1374	12.6835	15.1875	11.3
17.292	9.8798	27.4036	9.8791	29.6333	11.3	31.599	12.5527	31.6714	12.6974
31.7898	12.9276	31.9872	13.0263	32.2372	13.1578	32.4806	13.1512	32.9017	13.0986
33.8772	13.1913	34.3772	13.1716	34.8838	13.2439	35.2325	13.2373	38.7572	13.1241
39.7208	12.9916								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
6.1878	.03	11.8064	.015	32.2372	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
11.8064	32.2372	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.65	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.64	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		22.54	
E.G. Slope (m/m)	0.000029	Area (m2)		22.54	

Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	15.49	Top Width (m)	15.49
Vel Total (m/s)	0.44	Avg. Vel. (m/s)	0.44
Max Chl Dpth (m)	1.76	Hydr. Depth (m)	1.46
Conv. Total (m3/s)	1847.7	Conv. (m3/s)	1847.7
Length Wtd. (m)	200.00	Wetted Per. (m)	16.54
Min Ch El (m)	9.88	Shear (N/m2)	0.39
Alpha	1.00	Stream Power (N/m s)	0.17
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	65.92 267.66 50.82
C & E Loss (m)	0.00	Cum SA (1000 m2)	68.93 153.93 50.45

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.08	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	
W.S. Elev (m)	12.07	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.02	29.47	
E.G. Slope (m/m)	0.000014	Area (m2)	0.02	29.47	
Q Total (m3/s)	10.00	Flow (m3/s)	0.00	10.00	
Top Width (m)	17.72	Top Width (m)	0.93	16.80	
Vel Total (m/s)	0.34	Avg. Vel. (m/s)	0.01	0.34	
Max Chl Dpth (m)	2.19	Hydr. Depth (m)	0.03	1.75	
Conv. Total (m3/s)	2719.4	Conv. (m3/s)	0.1	2719.3	
Length Wtd. (m)	200.00	Wetted Per. (m)	0.94	18.10	
Min Ch El (m)	9.88	Shear (N/m2)	0.00	0.22	
Alpha	1.00	Stream Power (N/m s)	0.00	0.07	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	100.50	344.08	

76.22					
C & E Loss (m)	0.00	Cum SA (1000 m2)	80.58	165.67	
59.71					

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	1.70	37.67	0.33
E.G. Slope (m/m)	0.000007	Area (m2)	1.70	37.67	0.33
Q Total (m3/s)	10.00	Flow (m3/s)	0.07	9.92	0.01
Top Width (m)	25.11	Top Width (m)	4.57	18.22	2.32
Vel Total (m/s)	0.25	Avg. Vel. (m/s)	0.04	0.26	0.02
Max Chl Dpth (m)	2.66	Hydr. Depth (m)	0.37	2.07	0.14
Conv. Total (m3/s)	3885.5	Conv. (m3/s)	27.8	3854.9	2.8
Length Wtd. (m)	200.00	Wetted Per. (m)	4.99	19.81	2.50
Min Ch El (m)	9.88	Shear (N/m2)	0.02	0.12	0.01
Alpha	1.08	Stream Power (N/m s)	0.00	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	141.11	429.42	106.44
C & E Loss (m)	0.00	Cum SA (1000 m2)	89.65	175.02	68.20

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.18	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.	0.030	0.015	

W.S. Elev (m)	12.14	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.14	30.71	
E.G. Slope (m/m)	0.000088	Area (m2)	0.14	30.71	
Q Total (m3/s)	27.00	Flow (m3/s)	0.01	26.99	
Top Width (m)	19.25	Top Width (m)	2.23	17.02	
Vel Total (m/s)	0.88	Avg. Vel. (m/s)	0.05	0.88	
Max Chl Dpth (m)	2.26	Hydr. Depth (m)	0.06	1.80	
Conv. Total (m3/s)	2884.2	Conv. (m3/s)	0.7	2883.4	
Length Wtd. (m)	200.00	Wetted Per. (m)	2.26	18.37	
Min Ch El (m)	9.88	Shear (N/m2)	0.05	1.44	
Alpha	1.01	Stream Power (N/m s)	0.00	1.26	
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	84.60	311.69	64.64
C & E Loss (m)	0.00	Cum SA (1000 m2)	74.86	160.84	55.53

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.41	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.38	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	1.00	34.80	0.00
E.G. Slope (m/m)	0.000061	Area (m2)	1.00	34.80	0.00
Q Total (m3/s)	27.00	Flow (m3/s)	0.10	26.90	0.00
Top Width (m)	23.71	Top Width (m)	4.22	17.74	1.75
Vel Total (m/s)	0.75	Avg. Vel. (m/s)	0.10	0.77	0.00
Max Chl Dpth (m)	2.50	Hydr. Depth (m)	0.24	1.96	0.00
Conv. Total (m3/s)	3457.7	Conv. (m3/s)	12.4	3445.3	

0.0					
Length Wtd. (m)	200.00	Wetted Per. (m)	4.44	19.23	1.75
Min Ch El (m)	9.88	Shear (N/m2)	0.13	1.08	0.00
Alpha	1.05	Stream Power (N/m s)	0.01	0.84	0.00
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	112.03	370.39	84.79
C & E Loss (m)	0.00	Cum SA (1000 m2)	83.33	168.85	62.31

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.75	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.73	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	2.64	41.26	0.83
E.G. Slope (m/m)	0.000036	Area (m2)	2.64	41.26	0.83
Q Total (m3/s)	27.00	Flow (m3/s)	0.32	26.61	0.07
Top Width (m)	26.40	Top Width (m)	5.00	18.57	2.83
Vel Total (m/s)	0.60	Avg. Vel. (m/s)	0.12	0.64	0.08
Max Chl Dpth (m)	2.85	Hydr. Depth (m)	0.53	2.22	0.29
Conv. Total (m3/s)	4470.5	Conv. (m3/s)	52.8	4406.5	11.2
Length Wtd. (m)	200.00	Wetted Per. (m)	5.66	20.35	3.24
Min Ch El (m)	9.88	Shear (N/m2)	0.17	0.73	0.09
Alpha	1.13	Stream Power (N/m s)	0.02	0.47	0.01
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	148.85	446.36	112.38
C & E Loss (m)	0.00	Cum SA (1000 m2)	91.86	173.75	70.28

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 48

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.3427	2.0574	13.3427	3.4663	13.4407	5.1547	13.2312	7.9102	11.37
10.1433	9.8617	20.0692	9.8602	22.5232	11.37	25.9427	13.4739	27.2184	13.5782
29.4802	13.5669	31.1161	13.6122	31.7125	13.511	32.579	13.286	34.9421	13.3647
38.5292	13.3765								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.03	5.1547	.015	25.9427	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
5.1547	25.9427	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.65	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.63	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		22.50	
E.G. Slope (m/m)	0.000029	Area (m2)		22.50	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.44	Top Width (m)		15.44	
Vel Total (m/s)	0.44	Avg. Vel. (m/s)		0.44	
Max Chl Dpth (m)	1.77	Hydr. Depth (m)		1.46	
Conv. Total (m3/s)	1845.4	Conv. (m3/s)		1845.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		16.48	
Min Ch El (m)	9.86	Shear (N/m2)		0.39	

Alpha	1.00	Stream Power (N/m s)			0.17
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	65.92	263.16	50.82
C & E Loss (m)	0.00	Cum SA (1000 m2)	68.93	150.83	50.45

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.07	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.			0.015
W.S. Elev (m)	12.07	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			29.46
E.G. Slope (m/m)	0.000014	Area (m2)			29.46
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	16.78	Top Width (m)			16.78
Vel Total (m/s)	0.34	Avg. Vel. (m/s)			0.34
Max Chl Dpth (m)	2.21	Hydr. Depth (m)			1.76
Conv. Total (m3/s)	2720.1	Conv. (m3/s)			2720.1
Length Wtd. (m)	200.00	Wetted Per. (m)			18.08
Min Ch El (m)	9.86	Shear (N/m2)			0.22
Alpha	1.00	Stream Power (N/m s)			0.07
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	100.50	338.19	76.22
C & E Loss (m)	0.00	Cum SA (1000 m2)	80.49	162.31	59.71

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)			37.68
E.G. Slope (m/m)	0.000007	Area (m2)			37.68
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	18.24	Top Width (m)			18.24
Vel Total (m/s)	0.27	Avg. Vel. (m/s)			0.27
Max Chl Dpth (m)	2.68	Hydr. Depth (m)			2.07
Conv. Total (m3/s)	3856.5	Conv. (m3/s)			3856.5
Length Wtd. (m)	200.00	Wetted Per. (m)			19.81
Min Ch El (m)	9.86	Shear (N/m2)			0.13
Alpha	1.00	Stream Power (N/m s)			0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	140.94	421.88	106.40
C & E Loss (m)	0.00	Cum SA (1000 m2)	89.19	171.37	67.96

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.16	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.			0.015
W.S. Elev (m)	12.12	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			30.43
E.G. Slope (m/m)	0.000090	Area (m2)			30.43
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	16.96	Top Width (m)			16.96
Vel Total (m/s)	0.89	Avg. Vel. (m/s)			0.89
Max Chl Dpth (m)	2.26	Hydr. Depth (m)			1.79
Conv. Total (m3/s)	2847.9	Conv. (m3/s)			2847.9
Length Wtd. (m)	200.00	Wetted Per. (m)			18.29
Min Ch El (m)	9.86	Shear (N/m2)			1.47

Alpha	1.00	Stream Power (N/m s)			1.30
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	84.58	305.58	64.64
C & E Loss (m)	0.00	Cum SA (1000 m2)	74.63	157.44	55.53

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.40	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.37	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		34.60	
E.G. Slope (m/m)	0.000062	Area (m2)		34.60	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.71	Top Width (m)		17.71	
Vel Total (m/s)	0.78	Avg. Vel. (m/s)		0.78	
Max Chl Dpth (m)	2.51	Hydr. Depth (m)		1.95	
Conv. Total (m3/s)	3418.7	Conv. (m3/s)		3418.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.18	
Min Ch El (m)	9.86	Shear (N/m2)		1.10	
Alpha	1.00	Stream Power (N/m s)			0.86
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	111.93	363.45	84.79
C & E Loss (m)	0.00	Cum SA (1000 m2)	82.90	165.30	62.14

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.75	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.72	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)			41.16
E.G. Slope (m/m)	0.000038	Area (m2)			41.16
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	18.82	Top Width (m)			18.82
Vel Total (m/s)	0.66	Avg. Vel. (m/s)			0.66
Max Chl Dpth (m)	2.86	Hydr. Depth (m)			2.19
Conv. Total (m3/s)	4366.5	Conv. (m3/s)			4366.5
Length Wtd. (m)	200.00	Wetted Per. (m)			20.51
Min Ch El (m)	9.86	Shear (N/m2)			0.75
Alpha	1.00	Stream Power (N/m s)			0.49
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	148.59	438.12	112.30
C & E Loss (m)	0.00	Cum SA (1000 m2)	91.36	170.01	70.00

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 47

INPUT
Description:
Station Elevation Data num= 20

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.3642	13.8709	12.1018	13.9021	13.0504	13.9896	14.758	13.9458	16.1445	13.9896
17.3981	14.1288	18.4555	12.8165	20.4422	11.36	22.527	9.8315	33.2262	9.8299
35.6156	11.36	37.8984	12.8219	38.1182	13.1295	39.418	13.7196	40.0235	13.8271
40.9529	13.8648	43.5961	13.8852	44.0076	13.9417	45.3039	14.0292	49.4045	14.1706

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.3642	.03	17.3981	.015	40.0235	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.3981	40.0235	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.64	Element	Left OB	Channel	

Right OB					
Vel Head (m)	0.01	Wt. n-Val.			0.015
W.S. Elev (m)	11.63	Reach Len. (m)	97.50	97.50	97.50
Crit W.S. (m)	10.27	Flow Area (m2)			24.00
E.G. Slope (m/m)	0.000025	Area (m2)			24.00
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	15.97	Top Width (m)			15.97
Vel Total (m/s)	0.42	Avg. Vel. (m/s)			0.42
Max Chl Dpth (m)	1.80	Hydr. Depth (m)			1.50
Conv. Total (m3/s)	2007.1	Conv. (m3/s)			2007.1
Length Wtd. (m)	97.50	Wetted Per. (m)			17.08
Min Ch El (m)	9.83	Shear (N/m2)			0.34
Alpha	1.00	Stream Power (N/m s)			0.14
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	65.92	258.51	50.82
C & E Loss (m)	0.00	Cum SA (1000 m2)	68.93	147.69	50.45

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.07	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	
W.S. Elev (m)	12.07	Reach Len. (m)	97.50	97.50	97.50
Crit W.S. (m)	10.27	Flow Area (m2)	0.26	31.22	
E.G. Slope (m/m)	0.000012	Area (m2)	0.26	31.22	
Q Total (m3/s)	10.00	Flow (m3/s)	0.01	9.99	
Top Width (m)	19.55	Top Width (m)	2.31	17.24	
Vel Total (m/s)	0.32	Avg. Vel. (m/s)	0.02	0.32	
Max Chl Dpth (m)	2.24	Hydr. Depth (m)	0.11	1.81	
Conv. Total (m3/s)	2939.0	Conv. (m3/s)	1.9	2937.1	

Length Wtd. (m)	97.50	Wetted Per. (m)	2.54	18.62
Min Ch El (m)	9.83	Shear (N/m2)	0.01	0.19
Alpha	1.01	Stream Power (N/m s)	0.00	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	100.47	332.12
76.22				
C & E Loss (m)	0.00	Cum SA (1000 m2)	80.26	158.91
59.71				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015
W.S. Elev (m)	12.54	Reach Len. (m)	97.50	97.50
97.50				
Crit W.S. (m)	10.27	Flow Area (m2)	1.87	39.66
E.G. Slope (m/m)	0.000006	Area (m2)	1.87	39.66
Q Total (m3/s)	10.00	Flow (m3/s)	0.08	9.92
Top Width (m)	22.79	Top Width (m)	4.18	18.61
Vel Total (m/s)	0.24	Avg. Vel. (m/s)	0.04	0.25
Max Chl Dpth (m)	2.71	Hydr. Depth (m)	0.45	2.13
Conv. Total (m3/s)	4164.9	Conv. (m3/s)	32.5	4132.4
Length Wtd. (m)	97.50	Wetted Per. (m)	4.95	20.29
Min Ch El (m)	9.83	Shear (N/m2)	0.02	0.11
Alpha	1.07	Stream Power (N/m s)	0.00	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	140.75	414.15
106.40				
C & E Loss (m)	0.00	Cum SA (1000 m2)	88.77	167.69
67.96				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.15	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.	0.030	0.015	
W.S. Elev (m)	12.11	Reach Len. (m)	97.50	97.50	97.50
Crit W.S. (m)	10.66	Flow Area (m2)	0.38	32.02	
E.G. Slope (m/m)	0.000078	Area (m2)	0.38	32.02	
Q Total (m3/s)	27.00	Flow (m3/s)	0.03	26.97	
Top Width (m)	20.16	Top Width (m)	2.78	17.37	
Vel Total (m/s)	0.83	Avg. Vel. (m/s)	0.07	0.84	
Max Chl Dpth (m)	2.28	Hydr. Depth (m)	0.14	1.84	
Conv. Total (m3/s)	3048.8	Conv. (m3/s)	3.1	3045.7	
Length Wtd. (m)	97.50	Wetted Per. (m)	3.07	18.79	
Min Ch El (m)	9.83	Shear (N/m2)	0.09	1.31	
Alpha	1.02	Stream Power (N/m s)	0.01	1.10	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	84.55	299.34	64.64
C & E Loss (m)	0.00	Cum SA (1000 m2)	74.35	154.01	55.53

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.39	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	
W.S. Elev (m)	12.36	Reach Len. (m)	97.50	97.50	97.50
Crit W.S. (m)	10.66	Flow Area (m2)	1.17	36.37	

E.G. Slope (m/m)	0.000054	Area (m2)	1.17	36.37
Q Total (m3/s)	27.00	Flow (m3/s)	0.12	26.88
Top Width (m)	21.71	Top Width (m)	3.61	18.09
Vel Total (m/s)	0.72	Avg. Vel. (m/s)	0.10	0.74
Max Chl Dpth (m)	2.53	Hydr. Depth (m)	0.32	2.01
Conv. Total (m3/s)	3671.1	Conv. (m3/s)	16.7	3654.5
Length Wtd. (m)	97.50	Wetted Per. (m)	4.18	19.66
Min Ch El (m)	9.83	Shear (N/m2)	0.15	0.98
Alpha	1.05	Stream Power (N/m s)	0.02	0.73
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	111.81	356.36
84.79				
C & E Loss (m)	0.00	Cum SA (1000 m2)	82.54	161.72
62.14				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.74	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015
W.S. Elev (m)	12.72	Reach Len. (m)	97.50	97.50
97.50				
Crit W.S. (m)	10.66	Flow Area (m2)	2.69	43.13
E.G. Slope (m/m)	0.000033	Area (m2)	2.69	43.13
Q Total (m3/s)	27.00	Flow (m3/s)	0.31	26.69
Top Width (m)	23.97	Top Width (m)	4.82	19.15
Vel Total (m/s)	0.59	Avg. Vel. (m/s)	0.11	0.62
Max Chl Dpth (m)	2.89	Hydr. Depth (m)	0.56	2.25
Conv. Total (m3/s)	4707.9	Conv. (m3/s)	53.7	4654.2
Length Wtd. (m)	97.50	Wetted Per. (m)	5.80	20.94

Min Ch El (m)	9.83	Shear (N/m2)	0.15	0.66
Alpha	1.09	Stream Power (N/m s)	0.02	0.41
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	148.32	429.69
112.30				
C & E Loss (m)	0.00	Cum SA (1000 m2)	90.87	166.21
70.00				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 46.5

INPUT
Description:
Distance from Upstream XS = 97.5
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
14.8	15.46	14.37	41.81	15.46	14.37

Upstream Bridge Cross Section Data
Station Elevation Data num= 20

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.3642	13.8709	12.1018	13.9021	13.0504	13.9896	14.758	13.9458	16.1445	13.9896
17.3981	14.1288	18.4555	12.8165	20.4422	11.36	22.527	9.8315	33.2262	9.8299
35.6156	11.36	37.8984	12.8219	38.1182	13.1295	39.418	13.7196	40.0235	13.8271
40.9529	13.8648	43.5961	13.8852	44.0076	13.9417	45.3039	14.0292	49.4045	14.1706

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.3642	.03	17.3981	.015	40.0235	.03

Bank Sta: Left Right Coeff Contr. Expan.
17.3981 40.0235 .0015 .01

Downstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
4.73	15.47	14.37	31.73	15.47	14.37

Downstream Bridge Cross Section Data
Station Elevation Data num= 16

```
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 14.1921  2.8482 14.1921  6.1804 13.9129  7.6835 13.4636  8.0757 13.3633
  8.1578 13.2448  8.2399 12.9438 10.3904   11.29 12.3261  9.8013 23.4249  9.7996
 25.5181   11.29  28.568 13.4616 29.0195 13.5883 31.0744  13.803 32.0986 13.8591
 36.9403  14.136

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .03  6.1804    .015 29.0195     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
        6.1804 29.0195          .0015      .01

Upstream Embankment side slope              =     1.6 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.6 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Piers =  2

Pier Data
Pier Station     Upstream=   22.36    Downstream=   12.29
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.91      .4   14.37
Downstream     num=       2
    Width   Elev    Width   Elev
      .4   10.14      .4   14.37

Pier Data
Pier Station     Upstream=   33.97    Downstream=    23.9
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.94      .4   14.37
Downstream     num=       2
    Width   Elev    Width   Elev
      .4   10.14      .4   14.37

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
```

inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT Profile #PF 1

E.G. US. (m)	11.64	Element	Inside BR US Inside BR DS
W.S. US. (m)	11.63	E.G. Elev (m)	11.64 11.64
Q Total (m3/s)	10.00	W.S. Elev (m)	11.63 11.63
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.27 10.24
Q Weir (m3/s)		Max Chl Dpth (m)	1.80 1.83
Weir Sta Lft (m)		Vel Total (m/s)	0.44 0.43
Weir Sta Rgt (m)		Flow Area (m2)	22.74 23.48
Weir Submerg		Froude # Chl	0.11 0.11
Weir Max Depth (m)		Specif Force (m3)	19.62 20.63
Min El Weir Flow (m)	13.84	Hydr Depth (m)	1.50 1.54
Min El Prs (m)	14.37	W.P. Total (m)	22.07 22.74
Delta EG (m)	0.01	Conv. Total (m3/s)	1546.4 1599.4
Delta WS (m)	0.01	Top Width (m)	15.15 15.24
BR Open Area (m2)	76.50	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.44	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.42 0.40
BR Sel Method	Energy only	Power Total (N/m s)	0.19 0.17

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.07	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.07	E.G. Elev (m)	12.07 12.07
Q Total (m3/s)	10.00	W.S. Elev (m)	12.06 12.06
Q Bridge (m3/s)	9.99	Crit W.S. (m)	10.27 10.24

Q Weir (m3/s)		Max Chl Dpth (m)	2.23 2.26
Weir Sta Lft (m)		Vel Total (m/s)	0.33 0.33
Weir Sta Rgt (m)		Flow Area (m2)	29.89 30.40
Weir Submerg		Froude # Chl	0.08 0.08
Weir Max Depth (m)		Specif Force (m3)	30.96 32.27
Min El Weir Flow (m)	13.84	Hydr Depth (m)	1.60 1.85
Min El Prs (m)	14.37	W.P. Total (m)	27.89 25.96
Delta EG (m)	0.00	Conv. Total (m3/s)	2193.9 2251.3
Delta WS (m)	0.00	Top Width (m)	18.72 16.42
BR Open Area (m2)	76.50	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.34	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.22 0.23
BR Sel Method	Energy only	Power Total (N/m s)	0.07 0.07

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.54	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.54	E.G. Elev (m)	12.54 12.54
Q Total (m3/s)	10.00	W.S. Elev (m)	12.54 12.54
Q Bridge (m3/s)	9.89	Crit W.S. (m)	10.27 10.24
Q Weir (m3/s)		Max Chl Dpth (m)	2.71 2.74
Weir Sta Lft (m)		Vel Total (m/s)	0.25 0.26
Weir Sta Rgt (m)		Flow Area (m2)	39.57 38.44
Weir Submerg		Froude # Chl	0.06 0.06
Weir Max Depth (m)		Specif Force (m3)	47.20 48.40
Min El Weir Flow (m)	13.84	Hydr Depth (m)	1.80 2.17
Min El Prs (m)	14.37	W.P. Total (m)	33.87 29.43

Delta EG (m)	0.00	Conv. Total (m3/s)	3033.1 3061.8
Delta WS (m)	0.00	Top Width (m)	21.98 17.70
BR Open Area (m2)	76.50	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.26	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.12 0.14
BR Sel Method	Energy only	Power Total (N/m s)	0.03 0.04

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.15	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.11	E.G. Elev (m)	12.14 12.14
Q Total (m3/s)	27.00	W.S. Elev (m)	12.10 12.10
Q Bridge (m3/s)	26.97	Crit W.S. (m)	10.68 10.64
Q Weir (m3/s)		Max Chl Dpth (m)	2.27 2.30
Weir Sta Lft (m)		Vel Total (m/s)	0.88 0.87
Weir Sta Rgt (m)		Flow Area (m2)	30.53 30.97
Weir Submerg		Froude # Chl	0.21 0.20
Weir Max Depth (m)		Specif Force (m3)	34.08 35.40
Min El Weir Flow (m)	13.84	Hydr Depth (m)	1.59 1.88
Min El Prs (m)	14.37	W.P. Total (m)	28.52 26.21
Delta EG (m)	0.02	Conv. Total (m3/s)	2248.6 2307.0
Delta WS (m)	0.02	Top Width (m)	19.17 16.51
BR Open Area (m2)	76.50	Frctn Loss (m)	0.00 0.01
BR Open Vel (m/s)	0.89	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	1.51 1.59
BR Sel Method	Energy only	Power Total (N/m s)	1.34 1.38

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.39	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.36	E.G. Elev (m)	12.38
12.38			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.35
12.35			
Q Bridge (m3/s)	26.84	Crit W.S. (m)	10.68
10.64			
Q Weir (m3/s)		Max Chl Dpth (m)	2.52
2.55			
Weir Sta Lft (m)		Vel Total (m/s)	0.76
0.77			
Weir Sta Rgt (m)		Flow Area (m2)	35.55
35.16			
Weir Submerg		Froude # Chl	0.18
0.17			
Weir Max Depth (m)		Specif Force (m3)	42.01
43.34			
Min El Weir Flow (m)	13.84	Hydr Depth (m)	1.71
2.05			
Min El Prs (m)	14.37	W.P. Total (m)	31.64
28.05			
Delta EG (m)	0.01	Conv. Total (m3/s)	2680.1
2725.5			
Delta WS (m)	0.01	Top Width (m)	20.84
17.19			
BR Open Area (m2)	76.50	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.78	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.12
1.21			
BR Sel Method	Energy only	Power Total (N/m s)	0.85
0.93			

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.74	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.72	E.G. Elev (m)	12.74
12.73			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.71
12.71			
Q Bridge (m3/s)	26.58	Crit W.S. (m)	10.68
10.64			
Q Weir (m3/s)		Max Chl Dpth (m)	2.88
2.91			

Weir Sta Lft (m)		Vel Total (m/s)	0.62 0.65
Weir Sta Rgt (m)		Flow Area (m2)	43.61 41.64
Weir Submerg		Froude # Chl	0.14 0.14
Weir Max Depth (m)		Specif Force (m3)	56.14 57.06
Min El Weir Flow (m)	13.84	Hydr Depth (m)	1.89 2.29
Min El Prs (m)	14.37	W.P. Total (m)	36.04 30.74
Delta EG (m)	0.01	Conv. Total (m3/s)	3391.6 3397.8
Delta WS (m)	0.01	Top Width (m)	23.13 18.18
BR Open Area (m2)	76.50	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.65	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.75 0.84
BR Sel Method	Energy only	Power Total (N/m s)	0.47 0.54

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 46

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	14.1921	2.8482	14.1921	6.1804	13.9129	7.6835	13.4636	8.0757	13.3633
8.1578	13.2448	8.2399	12.9438	10.3904	11.29	12.3261	9.8013	23.4249	9.7996
25.5181	11.29	28.568	13.4616	29.0195	13.5883	31.0744	13.803	32.0986	13.8591
36.9403	14.136								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.03	6.1804	.015	29.0195	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
6.1804	29.0195	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.63	Element	Left OB Channel

Right OB					
Vel Head (m)	0.01	Wt. n-Val.			0.015
W.S. Elev (m)	11.63	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			24.76
E.G. Slope (m/m)	0.000023	Area (m2)			24.76
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	16.03	Top Width (m)			16.03
Vel Total (m/s)	0.40	Avg. Vel. (m/s)			0.40
Max Chl Dpth (m)	1.83	Hydr. Depth (m)			1.54
Conv. Total (m3/s)	2100.8	Conv. (m3/s)			2100.8
Length Wtd. (m)	200.00	Wetted Per. (m)			17.24
Min Ch El (m)	9.80	Shear (N/m2)			0.32
Alpha	1.00	Stream Power (N/m s)			0.13
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	65.92	253.76	50.82
C & E Loss (m)	0.00	Cum SA (1000 m2)	68.93	144.58	50.45

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.07	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.06	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			32.03
E.G. Slope (m/m)	0.000011	Area (m2)			32.03
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	17.22	Top Width (m)			17.22
Vel Total (m/s)	0.31	Avg. Vel. (m/s)			0.31
Max Chl Dpth (m)	2.26	Hydr. Depth (m)			1.86
Conv. Total (m3/s)	3056.4	Conv. (m3/s)			3056.4

Length Wtd. (m)	200.00	Wetted Per. (m)			18.71
Min Ch El (m)	9.80	Shear (N/m2)			0.18
Alpha	1.00	Stream Power (N/m s)			0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	100.45	325.96	76.22
C & E Loss (m)	0.00	Cum SA (1000 m2)	80.03	155.54	59.71

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			40.46
E.G. Slope (m/m)	0.000005	Area (m2)			40.46
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	18.49	Top Width (m)			18.49
Vel Total (m/s)	0.25	Avg. Vel. (m/s)			0.25
Max Chl Dpth (m)	2.74	Hydr. Depth (m)			2.19
Conv. Total (m3/s)	4272.1	Conv. (m3/s)			4272.1
Length Wtd. (m)	200.00	Wetted Per. (m)			20.30
Min Ch El (m)	9.80	Shear (N/m2)			0.11
Alpha	1.00	Stream Power (N/m s)			0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	140.56	406.34	106.40
C & E Loss (m)	0.00	Cum SA (1000 m2)	88.35	164.06	67.96

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.13	Element	Left OB	Channel

Right OB					
Vel Head (m)	0.04	Wt. n-Val.			0.015
W.S. Elev (m)	12.09	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			32.54
E.G. Slope (m/m)	0.000075	Area (m2)			32.54
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.30	Top Width (m)			17.30
Vel Total (m/s)	0.83	Avg. Vel. (m/s)			0.83
Max Chl Dpth (m)	2.29	Hydr. Depth (m)			1.88
Conv. Total (m3/s)	3126.6	Conv. (m3/s)			3126.6
Length Wtd. (m)	200.00	Wetted Per. (m)			18.81
Min Ch El (m)	9.80	Shear (N/m2)			1.27
Alpha	1.00	Stream Power (N/m s)			1.05
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	84.51	293.05	64.64
C & E Loss (m)	0.00	Cum SA (1000 m2)	74.08	150.63	55.53

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.37	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	12.34	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			36.97
E.G. Slope (m/m)	0.000052	Area (m2)			36.97
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.98	Top Width (m)			17.98
Vel Total (m/s)	0.73	Avg. Vel. (m/s)			0.73
Max Chl Dpth (m)	2.54	Hydr. Depth (m)			2.06
Conv. Total (m3/s)	3755.8	Conv. (m3/s)			3755.8

Length Wtd. (m)	200.00	Wetted Per. (m)			19.65
Min Ch El (m)	9.80	Shear (N/m2)			0.95
Alpha	1.00	Stream Power (N/m s)			0.70
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	111.70	349.21	84.79
C & E Loss (m)	0.00	Cum SA (1000 m2)	82.18	158.20	62.14

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.73	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.			0.015
W.S. Elev (m)	12.71	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			43.77
E.G. Slope (m/m)	0.000032	Area (m2)			43.77
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	18.97	Top Width (m)			18.97
Vel Total (m/s)	0.62	Avg. Vel. (m/s)			0.62
Max Chl Dpth (m)	2.91	Hydr. Depth (m)			2.31
Conv. Total (m3/s)	4776.9	Conv. (m3/s)			4776.9
Length Wtd. (m)	200.00	Wetted Per. (m)			20.89
Min Ch El (m)	9.80	Shear (N/m2)			0.66
Alpha	1.00	Stream Power (N/m s)			0.40
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	148.05	421.22	112.30
C & E Loss (m)	0.00	Cum SA (1000 m2)	90.39	162.48	70.00

CROSS SECTION

RIVER: SNM

REACH: Canale SNM RS: 45

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.1084	3.0077	13.2882	3.9165	13.9261	4.9996	13.7818	5.4882	13.7097
5.9688	13.6937	7.1783	13.7017	8.7305	13.6993	9.1846	13.7441	9.3752	13.8114
9.8294	13.6656	10.6307	13.2594	13.1715	11.35	15.2724	9.7711	26.3748	9.7694
28.5906	11.35	30.5977	12.7817	30.6038	12.9457	30.6949	13.0792	30.9925	13.1885
31.284	13.2917	31.5209	13.3342	32.7983	13.5355	34.5535	13.6023	37.8426	13.5784
38.2678	13.7302	38.6686	13.6027	38.863	13.5238				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.03	9.3752	.015	32.7983	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
9.3752	32.7983	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.63	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.62	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		25.23	
E.G. Slope (m/m)	0.000021	Area (m2)		25.23	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.16	Top Width (m)		16.16	
Vel Total (m/s)	0.40	Avg. Vel. (m/s)		0.40	
Max Chl Dpth (m)	1.85	Hydr. Depth (m)		1.56	
Conv. Total (m3/s)	2157.1	Conv. (m3/s)		2157.1	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.37	
Min Ch El (m)	9.77	Shear (N/m2)		0.31	
Alpha	1.00	Stream Power (N/m s)		0.12	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	65.92	248.76	50.82
C & E Loss (m)	0.00	Cum SA (1000 m2)	68.93	141.36	50.45

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.07	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.06	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		32.60	
E.G. Slope (m/m)	0.000010	Area (m2)		32.60	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.36	Top Width (m)		17.36	
Vel Total (m/s)	0.31	Avg. Vel. (m/s)		0.31	
Max Chl Dpth (m)	2.29	Hydr. Depth (m)		1.88	
Conv. Total (m3/s)	3130.7	Conv. (m3/s)		3130.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.86	
Min Ch El (m)	9.77	Shear (N/m2)		0.17	
Alpha	1.00	Stream Power (N/m s)		0.05	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	100.45	319.50	76.22
C & E Loss (m)	0.00	Cum SA (1000 m2)	80.03	152.09	59.71

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		41.12	
E.G. Slope (m/m)	0.000005	Area (m2)		41.12	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	

Top Width (m)	18.65	Top Width (m)			18.65
Vel Total (m/s)	0.24	Avg. Vel. (m/s)			0.24
Max Chl Dpth (m)	2.76	Hydr. Depth (m)			2.20
Conv. Total (m3/s)	4365.0	Conv. (m3/s)			4365.0
Length Wtd. (m)	200.00	Wetted Per. (m)			20.46
Min Ch El (m)	9.77	Shear (N/m2)			0.10
Alpha	1.00	Stream Power (N/m s)			0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	140.56	398.18	106.40
C & E Loss (m)	0.00	Cum SA (1000 m2)	88.35	160.35	67.96

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.11	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	12.08	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			32.91
E.G. Slope (m/m)	0.000072	Area (m2)			32.91
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.41	Top Width (m)			17.41
Vel Total (m/s)	0.82	Avg. Vel. (m/s)			0.82
Max Chl Dpth (m)	2.31	Hydr. Depth (m)			1.89
Conv. Total (m3/s)	3172.7	Conv. (m3/s)			3172.7
Length Wtd. (m)	200.00	Wetted Per. (m)			18.92
Min Ch El (m)	9.77	Shear (N/m2)			1.24
Alpha	1.00	Stream Power (N/m s)			1.01
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	84.51	286.51	64.64
C & E Loss (m)	0.00	Cum SA (1000 m2)	74.08	147.16	55.53

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.36	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.33	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		37.44	
E.G. Slope (m/m)	0.000050	Area (m2)		37.44	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.11	Top Width (m)		18.11	
Vel Total (m/s)	0.72	Avg. Vel. (m/s)		0.72	
Max Chl Dpth (m)	2.56	Hydr. Depth (m)		2.07	
Conv. Total (m3/s)	3819.4	Conv. (m3/s)		3819.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.78	
Min Ch El (m)	9.77	Shear (N/m2)		0.93	
Alpha	1.00	Stream Power (N/m s)		0.67	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	111.70	341.77	84.79
C & E Loss (m)	0.00	Cum SA (1000 m2)	82.18	154.59	62.14

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.72	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	0.030
W.S. Elev (m)	12.71	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		44.36	0.02
E.G. Slope (m/m)	0.000031	Area (m2)		44.36	0.02
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	0.00

```
  Top Width (m)            19.95    Top Width (m)                        19.12
   0.83
  Vel Total (m/s)           0.61    Avg. Vel. (m/s)                       0.61
   0.02
  Max Chl Dpth (m)          2.94    Hydr. Depth (m)                       2.32
   0.03
  Conv. Total (m3/s)      4862.1    Conv. (m3/s)                        4862.0
    0.1
  Length Wtd. (m)         200.00    Wetted Per. (m)                      21.04
   0.84
  Min Ch El (m)             9.77    Shear (N/m2)                          0.64
   0.01
  Alpha                     1.00    Stream Power (N/m s)                  0.39
   0.00
  Frctn Loss (m)            0.01    Cum Volume (1000 m3)    148.05     412.41
 112.30
  C & E Loss (m)            0.00    Cum SA (1000 m2)         90.39     158.67
  69.92



Warning: Divided flow computed for this cross-section.

CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 44

INPUT
Description:
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 12.9744 13.2472 15.6986 13.4013 16.0718 13.4444 18.4335 13.3885 19.3076  13.258
 22.0053    11.3 24.1535  9.7408 35.1956    9.74 37.3805    11.3 39.1282 12.5479
 39.4308  12.906 39.9063 13.2394 40.4251 13.3381  42.053 13.4806 43.5413 13.4806
 45.7601 13.3015

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 12.9744     .03 19.3076    .015 39.9063     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       19.3076 39.9063              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.62    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.               0.030      0.015

  W.S. Elev (m)            11.62    Reach Len. (m)          200.00     200.00
```

200.00					
Crit W.S. (m)		Flow Area (m2)	1.39	25.62	
E.G. Slope (m/m)	0.000020	Area (m2)	1.39	25.62	
Q Total (m3/s)	10.00	Flow (m3/s)	0.08	9.92	
Top Width (m)	22.57	Top Width (m)	6.32	16.26	
Vel Total (m/s)	0.37	Avg. Vel. (m/s)	0.05	0.39	
Max Chl Dpth (m)	1.88	Hydr. Depth (m)	0.22	1.58	
Conv. Total (m3/s)	2221.6	Conv. (m3/s)	16.7	2204.9	
Length Wtd. (m)	200.00	Wetted Per. (m)	6.41	17.47	
Min Ch El (m)	9.74	Shear (N/m2)	0.04	0.29	
Alpha	1.09	Stream Power (N/m s)	0.00	0.11	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	65.78	243.68	
50.82					
C & E Loss (m)	0.00	Cum SA (1000 m2)	68.30	138.11	
50.45					

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.06	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.06	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)		Flow Area (m2)	5.26	33.08	
0.63					
E.G. Slope (m/m)	0.000009	Area (m2)	5.26	33.08	
0.63					
Q Total (m3/s)	10.00	Flow (m3/s)	0.32	9.66	
0.02					
Top Width (m)	30.96	Top Width (m)	10.84	17.49	
2.63					
Vel Total (m/s)	0.26	Avg. Vel. (m/s)	0.06	0.29	
0.04					
Max Chl Dpth (m)	2.32	Hydr. Depth (m)	0.49	1.89	
0.24					
Conv. Total (m3/s)	3307.9	Conv. (m3/s)	105.9	3194.3	
7.7					
Length Wtd. (m)	200.00	Wetted Per. (m)	11.20	18.98	

2.77					
Min Ch El (m)	9.74	Shear (N/m2)	0.04	0.16	0.02
Alpha	1.25	Stream Power (N/m s)	0.00	0.05	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	99.92	312.93	76.16
C & E Loss (m)	0.00	Cum SA (1000 m2)	78.94	148.60	59.45

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	10.60	41.68	2.66
E.G. Slope (m/m)	0.000004	Area (m2)	10.60	41.68	2.66
Q Total (m3/s)	10.00	Flow (m3/s)	0.65	9.25	0.10
Top Width (m)	36.63	Top Width (m)	11.69	18.80	6.14
Vel Total (m/s)	0.18	Avg. Vel. (m/s)	0.06	0.22	0.04
Max Chl Dpth (m)	2.79	Hydr. Depth (m)	0.91	2.22	0.43
Conv. Total (m3/s)	4807.2	Conv. (m3/s)	313.9	4444.7	48.7
Length Wtd. (m)	200.00	Wetted Per. (m)	12.65	20.60	6.52
Min Ch El (m)	9.74	Shear (N/m2)	0.04	0.09	0.02
Alpha	1.38	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	139.51	389.90	106.14
C & E Loss (m)	0.00	Cum SA (1000 m2)	87.18	156.60	67.35

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the

computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.10	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.07	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	5.36	33.24	0.65
E.G. Slope (m/m)	0.000066	Area (m2)	5.36	33.24	0.65
Q Total (m3/s)	27.00	Flow (m3/s)	0.88	26.05	0.07
Top Width (m)	31.04	Top Width (m)	10.85	17.51	2.68
Vel Total (m/s)	0.69	Avg. Vel. (m/s)	0.16	0.78	0.10
Max Chl Dpth (m)	2.33	Hydr. Depth (m)	0.49	1.90	0.24
Conv. Total (m3/s)	3333.3	Conv. (m3/s)	109.0	3216.1	8.1
Length Wtd. (m)	200.00	Wetted Per. (m)	11.23	19.01	2.82
Min Ch El (m)	9.74	Shear (N/m2)	0.31	1.12	0.15
Alpha	1.25	Stream Power (N/m s)	0.05	0.88	0.02
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	83.97	279.89	64.58
C & E Loss (m)	0.00	Cum SA (1000 m2)	73.00	143.66	55.26

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.35	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.33	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.25	37.90	1.55
E.G. Slope (m/m)	0.000043	Area (m2)	8.25	37.90	

1.55					
Q Total (m3/s)	27.00	Flow (m3/s)	1.40	25.43	0.17
Top Width (m)	33.88	Top Width (m)	11.32	18.24	4.32
Vel Total (m/s)	0.57	Avg. Vel. (m/s)	0.17	0.67	0.11
Max Chl Dpth (m)	2.59	Hydr. Depth (m)	0.73	2.08	0.36
Conv. Total (m3/s)	4120.9	Conv. (m3/s)	213.8	3881.8	25.2
Length Wtd. (m)	200.00	Wetted Per. (m)	12.02	19.91	4.55
Min Ch El (m)	9.74	Shear (N/m2)	0.29	0.80	0.14
Alpha	1.33	Stream Power (N/m s)	0.05	0.54	0.02
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	110.87	334.24	84.64
C & E Loss (m)	0.00	Cum SA (1000 m2)	81.05	150.96	61.70

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.72	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.70	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	12.62	44.94	3.74
E.G. Slope (m/m)	0.000025	Area (m2)	12.62	44.94	3.74
Q Total (m3/s)	27.00	Flow (m3/s)	2.03	24.57	0.40
Top Width (m)	37.74	Top Width (m)	12.00	19.19	6.55
Vel Total (m/s)	0.44	Avg. Vel. (m/s)	0.16	0.55	0.11
Max Chl Dpth (m)	2.97	Hydr. Depth (m)	1.05	2.34	0.57
Conv. Total (m3/s)	5445.1	Conv. (m3/s)	409.1	4954.9	81.2
Length Wtd. (m)	200.00	Wetted Per. (m)	13.17	21.13	7.13
Min Ch El (m)	9.74	Shear (N/m2)	0.23	0.51	

0.13					
Alpha	1.41	Stream Power (N/m s)	0.04	0.28	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	146.79	403.48	111.92
C & E Loss (m)	0.00	Cum SA (1000 m2)	89.19	154.84	69.18

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 43

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
10.4423	13.3874	12.8126	13.452	15.09	13.3654	15.9422	13.187	16.3608	12.9305
16.6062	12.6663	18.502	11.33	20.7576	9.74	31.8809	9.74	34.0874	11.33
36.7984	13.2836	37.6016	13.3775	38.5521	13.4351	40.3481	13.4665	41.0998	13.3883
41.9291	13.3727								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
10.4423	.03	15.9422	.015	36.7984	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.9422	36.7984	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.62	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	
W.S. Elev (m)	11.61	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	2.23	25.77	
E.G. Slope (m/m)	0.000020	Area (m2)	2.23	25.77	
Q Total (m3/s)	10.00	Flow (m3/s)	0.16	9.84	
Top Width (m)	22.42	Top Width (m)	6.04	16.38	

Vel Total (m/s)	0.36	Avg. Vel. (m/s)	0.07	0.38
Max Chl Dpth (m)	1.87	Hydr. Depth (m)	0.37	1.57
Conv. Total (m3/s)	2253.2	Conv. (m3/s)	36.6	2216.6
Length Wtd. (m)	200.00	Wetted Per. (m)	6.47	17.58
Min Ch El (m)	9.74	Shear (N/m2)	0.07	0.28
Alpha	1.12	Stream Power (N/m s)	0.00	0.11
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	65.42	238.54 50.82
C & E Loss (m)	0.00	Cum SA (1000 m2)	67.06	134.85 50.45

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.06	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.06	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	5.83	33.33	1.29
E.G. Slope (m/m)	0.000009	Area (m2)	5.83	33.33	1.29
Q Total (m3/s)	10.00	Flow (m3/s)	0.41	9.53	0.06
Top Width (m)	30.29	Top Width (m)	8.71	17.63	3.96
Vel Total (m/s)	0.25	Avg. Vel. (m/s)	0.07	0.29	0.04
Max Chl Dpth (m)	2.32	Hydr. Depth (m)	0.67	1.89	0.33
Conv. Total (m3/s)	3377.5	Conv. (m3/s)	139.5	3218.8	19.1
Length Wtd. (m)	200.00	Wetted Per. (m)	9.59	19.11	4.40
Min Ch El (m)	9.74	Shear (N/m2)	0.05	0.15	0.03
Alpha	1.28	Stream Power (N/m s)	0.00	0.04	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	98.81	306.29	75.96
C & E Loss (m)	0.00	Cum SA (1000 m2)	76.99	145.09	58.79

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	10.11	42.01	3.46
E.G. Slope (m/m)	0.000004	Area (m2)	10.11	42.01	3.46
Q Total (m3/s)	10.00	Flow (m3/s)	0.66	9.18	0.16
Top Width (m)	33.46	Top Width (m)	9.33	18.96	5.17
Vel Total (m/s)	0.18	Avg. Vel. (m/s)	0.07	0.22	0.05
Max Chl Dpth (m)	2.79	Hydr. Depth (m)	1.08	2.22	0.67
Conv. Total (m3/s)	4882.6	Conv. (m3/s)	321.7	4482.5	78.4
Length Wtd. (m)	200.00	Wetted Per. (m)	10.85	20.75	6.18
Min Ch El (m)	9.74	Shear (N/m2)	0.04	0.08	0.02
Alpha	1.36	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	137.43	381.53	105.53
C & E Loss (m)	0.00	Cum SA (1000 m2)	85.08	152.82	66.22

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.09	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030

W.S. Elev (m)	12.06	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	5.82	33.31	1.29
E.G. Slope (m/m)	0.000064	Area (m2)	5.82	33.31	1.29
Q Total (m3/s)	27.00	Flow (m3/s)	1.11	25.73	0.15
Top Width (m)	30.29	Top Width (m)	8.71	17.63	3.95
Vel Total (m/s)	0.67	Avg. Vel. (m/s)	0.19	0.77	0.12
Max Chl Dpth (m)	2.32	Hydr. Depth (m)	0.67	1.89	0.33
Conv. Total (m3/s)	3373.9	Conv. (m3/s)	139.1	3215.8	19.0
Length Wtd. (m)	200.00	Wetted Per. (m)	9.59	19.11	4.39
Min Ch El (m)	9.74	Shear (N/m2)	0.38	1.09	0.18
Alpha	1.28	Stream Power (N/m s)	0.07	0.85	0.02
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	82.86	273.24	64.39
C & E Loss (m)	0.00	Cum SA (1000 m2)	71.04	140.15	54.60

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.34	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.32	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.17	38.07	2.43
E.G. Slope (m/m)	0.000042	Area (m2)	8.17	38.07	2.43
Q Total (m3/s)	27.00	Flow (m3/s)	1.51	25.18	0.31
Top Width (m)	32.05	Top Width (m)	9.05	18.37	4.63
Vel Total (m/s)	0.55	Avg. Vel. (m/s)	0.18	0.66	0.13
Max Chl Dpth (m)	2.58	Hydr. Depth (m)	0.90	2.07	0.52

Conv. Total (m3/s)	4177.2	Conv. (m3/s)	233.7	3896.0 47.5
Length Wtd. (m)	200.00	Wetted Per. (m)	10.29	20.02 5.39
Min Ch El (m)	9.74	Shear (N/m2)	0.33	0.78 0.18
Alpha	1.33	Stream Power (N/m s)	0.06	0.52 0.02
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	109.23	326.64 84.24
C & E Loss (m)	0.00	Cum SA (1000 m2)	79.01	147.30 60.81

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.71	Element	Left OB	Channel Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015 0.030
W.S. Elev (m)	12.70	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)	11.69	45.23 4.36
E.G. Slope (m/m)	0.000024	Area (m2)	11.69	45.23 4.36
Q Total (m3/s)	27.00	Flow (m3/s)	1.96	24.50 0.53
Top Width (m)	34.56	Top Width (m)	9.55	19.41 5.60
Vel Total (m/s)	0.44	Avg. Vel. (m/s)	0.17	0.54 0.12
Max Chl Dpth (m)	2.96	Hydr. Depth (m)	1.23	2.33 0.78
Conv. Total (m3/s)	5485.9	Conv. (m3/s)	399.0	4978.8 108.1
Length Wtd. (m)	200.00	Wetted Per. (m)	11.29	21.31 6.80
Min Ch El (m)	9.74	Shear (N/m2)	0.25	0.50 0.15
Alpha	1.38	Stream Power (N/m s)	0.04	0.27 0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	144.36	394.46 111.11
C & E Loss (m)	0.00	Cum SA (1000 m2)	87.04	150.98 67.97

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 42

INPUT
Description:
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
10.7843	13.0995	11.7388	13.2992	13.4938	13.3586	15.9208	13.2561	16.3042	13.2021
16.5527	13.0834	16.8119	12.7648	17.0387	12.5597	18.7962	11.33	21.0686	9.74
32.4513	9.74	34.4973	11.33	36.8904	13.1898	37.6268	13.3203	38.9925	13.3937
40.3942	13.3832	42.1619	13.2274						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
10.7843	.03	16.5527	.015	36.8904	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.5527	36.8904	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.62	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.61	Reach Len. (m)	190.00	190.00	190.00
Crit W.S. (m)	10.16	Flow Area (m2)	6.31	26.05	0.58
E.G. Slope (m/m)	0.000017	Area (m2)	6.31	26.05	0.58
Q Total (m3/s)	10.00	Flow (m3/s)	0.68	9.30	0.02
Top Width (m)	28.55	Top Width (m)	8.13	16.46	3.96
Vel Total (m/s)	0.30	Avg. Vel. (m/s)	0.11	0.36	0.04
Max Chl Dpth (m)	1.87	Hydr. Depth (m)	0.78	1.58	0.15
Conv. Total (m3/s)	2418.4	Conv. (m3/s)	165.2	2248.0	5.1
Length Wtd. (m)	190.00	Wetted Per. (m)	9.06	17.70	4.27
Min Ch El (m)	9.74	Shear (N/m2)	0.12	0.25	

0.02					
Alpha	1.29	Stream Power (N/m s)	0.01	0.09	
0.00					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	64.57	233.36	
50.76					
C & E Loss (m)	0.00	Cum SA (1000 m2)	65.65	131.57	
50.05					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.06	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.06	Reach Len. (m)	190.00	190.00	190.00
Crit W.S. (m)	10.16	Flow Area (m2)	10.11	33.67	2.88
E.G. Slope (m/m)	0.000008	Area (m2)	10.11	33.67	2.88
Q Total (m3/s)	10.00	Flow (m3/s)	0.91	8.94	0.15
Top Width (m)	32.39	Top Width (m)	8.92	17.68	5.79
Vel Total (m/s)	0.21	Avg. Vel. (m/s)	0.09	0.27	0.05
Max Chl Dpth (m)	2.32	Hydr. Depth (m)	1.13	1.90	0.50
Conv. Total (m3/s)	3649.6	Conv. (m3/s)	330.4	3264.1	55.2
Length Wtd. (m)	190.00	Wetted Per. (m)	10.42	19.20	6.61
Min Ch El (m)	9.74	Shear (N/m2)	0.07	0.13	0.03
Alpha	1.39	Stream Power (N/m s)	0.01	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	97.22	299.59	75.55
C & E Loss (m)	0.00	Cum SA (1000 m2)	75.23	141.56	57.81

Warning: Divided flow computed for this cross-section.

Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.53	Reach Len. (m)	190.00	190.00	190.00
Crit W.S. (m)	10.16	Flow Area (m2)	14.55	42.38	5.93
E.G. Slope (m/m)	0.000004	Area (m2)	14.55	42.38	5.93
Q Total (m3/s)	10.00	Flow (m3/s)	1.06	8.64	0.30
Top Width (m)	35.79	Top Width (m)	9.77	18.97	7.05
Vel Total (m/s)	0.16	Avg. Vel. (m/s)	0.07	0.20	0.05
Max Chl Dpth (m)	2.79	Hydr. Depth (m)	1.49	2.23	0.84
Conv. Total (m3/s)	5251.4	Conv. (m3/s)	555.8	4539.3	156.3
Length Wtd. (m)	190.00	Wetted Per. (m)	11.87	20.80	8.44
Min Ch El (m)	9.74	Shear (N/m2)	0.04	0.07	0.02
Alpha	1.45	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	134.97	373.09	104.59
C & E Loss (m)	0.00	Cum SA (1000 m2)	83.17	149.03	65.00

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.07	Element	Left OB	Channel	Right OB

Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.05	Reach Len. (m)	190.00	190.00	190.00
Crit W.S. (m)	10.55	Flow Area (m2)	10.05	33.54	2.84
E.G. Slope (m/m)	0.000055	Area (m2)	10.05	33.54	2.84
Q Total (m3/s)	27.00	Flow (m3/s)	2.44	24.16	0.40
Top Width (m)	32.34	Top Width (m)	8.91	17.66	5.77
Vel Total (m/s)	0.58	Avg. Vel. (m/s)	0.24	0.72	0.14
Max Chl Dpth (m)	2.31	Hydr. Depth (m)	1.13	1.90	0.49
Conv. Total (m3/s)	3627.7	Conv. (m3/s)	327.4	3246.4	54.0
Length Wtd. (m)	190.00	Wetted Per. (m)	10.40	19.18	6.58
Min Ch El (m)	9.74	Shear (N/m2)	0.52	0.95	0.23
Alpha	1.39	Stream Power (N/m s)	0.13	0.68	0.03
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	81.27	266.56	63.97
C & E Loss (m)	0.00	Cum SA (1000 m2)	69.28	136.62	53.62

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.33	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.32	Reach Len. (m)	190.00	190.00	190.00
Crit W.S. (m)	10.55	Flow Area (m2)	12.50	38.36	4.48
E.G. Slope (m/m)	0.000036	Area (m2)	12.50	38.36	4.48
Q Total (m3/s)	27.00	Flow (m3/s)	2.69	23.68	0.63
Top Width (m)	34.25	Top Width (m)	9.39	18.38	

6.48					
Vel Total (m/s)	0.49	Avg. Vel. (m/s)	0.22	0.62	
0.14					
Max Chl Dpth (m)	2.58	Hydr. Depth (m)	1.33	2.09	
0.69					
Conv. Total (m3/s)	4490.5	Conv. (m3/s)	447.7	3938.1	
104.8					
Length Wtd. (m)	190.00	Wetted Per. (m)	11.21	20.08	
7.61					
Min Ch El (m)	9.74	Shear (N/m2)	0.40	0.68	
0.21					
Alpha	1.42	Stream Power (N/m s)	0.09	0.42	
0.03					
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	107.16	319.00	
83.55					
C & E Loss (m)	0.00	Cum SA (1000 m2)	77.17	143.62	
59.70					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.71	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.70	Reach Len. (m)	190.00	190.00	190.00
Crit W.S. (m)	10.55	Flow Area (m2)	16.20	45.55	7.14
E.G. Slope (m/m)	0.000021	Area (m2)	16.20	45.55	7.14
Q Total (m3/s)	27.00	Flow (m3/s)	2.96	23.11	0.93
Top Width (m)	36.96	Top Width (m)	10.07	19.37	7.52
Vel Total (m/s)	0.39	Avg. Vel. (m/s)	0.18	0.51	0.13
Max Chl Dpth (m)	2.96	Hydr. Depth (m)	1.61	2.35	0.95
Conv. Total (m3/s)	5884.4	Conv. (m3/s)	646.0	5036.1	202.3
Length Wtd. (m)	190.00	Wetted Per. (m)	12.37	21.33	9.10
Min Ch El (m)	9.74	Shear (N/m2)	0.27	0.44	0.16

```
  Alpha                     1.46    Stream Power (N/m s)      0.05       0.22
   0.02
  Frctn Loss (m)            0.01    Cum Volume (1000 m3)    141.57     385.39
 109.96
  C & E Loss (m)            0.00    Cum SA (1000 m2)         85.08     147.10
  66.65



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

BRIDGE


RIVER: SNM
REACH: Canale SNM         RS: 41.5

INPUT
Description:
Distance from Upstream XS =     190
Deck/Roadway Width        =       5
Weir Coefficient          =     1.4
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   15.49   13.47   12.66   37.46   13.47   12.66

Upstream Bridge Cross Section Data
Station Elevation Data    num=      17
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 10.7843 13.0995 11.7388 13.2992 13.4938 13.3586 15.9208 13.2561 16.3042 13.2021
 16.5527 13.0834 16.8119 12.7648 17.0387 12.5597 18.7962   11.33 21.0686    9.74
 32.4513    9.74 34.4973   11.33 36.8904 13.1898 37.6268 13.3203 38.9925 13.3937
 40.3942 13.3832 42.1619 13.2274

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 10.7843     .03 16.5527    .015 36.8904     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       16.5527 36.8904          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   15.95   13.47   12.67   37.93   13.47   12.67

Downstream Bridge Cross Section Data
Station Elevation Data    num=      10
```

```
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 12.8365 11.1437 13.1503  16.313 13.3525 17.4441 12.6453 21.7215    9.74
   32.57    9.74 36.7523 12.6445  37.655 13.2714 40.2341 13.2177 53.6107 12.6105

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .03  16.313    .015  37.655     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
        16.313  37.655          .0015      .01

Upstream Embankment side slope              =     1.5 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.5 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   15.49   12.66   20.62   12.66
Downstream     num=       2
     Sta    Elev     Sta    Elev
   15.95   12.66   21.09   12.66

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   33.01   12.66   37.46   12.66
Downstream     num=       2
     Sta    Elev     Sta    Elev
   33.48   12.66   37.93   12.66

Number of Piers =  2

Pier Data
Pier Station     Upstream=   24.06    Downstream=   24.53
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.84      .4   12.66
Downstream     num=       2
    Width   Elev    Width   Elev
      .4    9.84      .4   12.66

Pier Data
Pier Station     Upstream=   29.56    Downstream=   30.03
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.74      .4   12.66
Downstream     num=       2
```

```
    Width   Elev    Width   Elev
      .4    9.74      .4   12.66

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.62    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.61    E.G. Elev (m)               11.61
11.61
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.60
11.60
  Q Bridge (m3/s)             8.92    Crit W.S. (m)               10.18
10.20
  Q Weir (m3/s)                       Max Chl Dpth (m)             1.86
 1.86
  Weir Sta Lft (m)                    Vel Total (m/s)              0.35
 0.47
  Weir Sta Rgt (m)                    Flow Area (m2)              28.23
21.15
  Weir Submerg                        Froude # Chl                 0.10
 0.11
  Weir Max Depth (m)                  Specif Force (m3)           23.19
19.84
  Min El Weir Flow (m)       12.61    Hydr Depth (m)               1.20
 1.82
  Min El Prs (m)             12.66    W.P. Total (m)              35.48
22.02
  Delta EG (m)                0.01    Conv. Total (m3/s)         1558.8
1371.9
  Delta WS (m)                0.01    Top Width (m)               23.57
11.59
  BR Open Area (m2)          33.62    Frctn Loss (m)               0.00
 0.00
  BR Open Vel (m/s)           0.42    C & E Loss (m)               0.00
 0.00
  BR Sluice Coef                      Shear Total (N/m2)           0.32
 0.50
```

BR Sel Method	Energy only	Power Total (N/m s)	0.11 0.24

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.06	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.06	E.G. Elev (m)	12.06 12.06
Q Total (m3/s)	10.00	W.S. Elev (m)	12.05 12.05
Q Bridge (m3/s)	8.28	Crit W.S. (m)	10.18 10.20
Q Weir (m3/s)		Max Chl Dpth (m)	2.31 2.31
Weir Sta Lft (m)		Vel Total (m/s)	0.25 0.38
Weir Sta Rgt (m)		Flow Area (m2)	39.57 26.36
Weir Submerg		Froude # Chl	0.07 0.08
Weir Max Depth (m)		Specif Force (m3)	38.28 30.44
Min El Weir Flow (m)	12.61	Hydr Depth (m)	1.51 2.27
Min El Prs (m)	12.66	W.P. Total (m)	41.98 24.72
Delta EG (m)	0.00	Conv. Total (m3/s)	2236.6 1834.2
Delta WS (m)	0.00	Top Width (m)	26.29 11.59
BR Open Area (m2)	33.62	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.31	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.18 0.31
BR Sel Method	Energy only	Power Total (N/m s)	0.05 0.12

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.53	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.53	E.G. Elev (m)	12.53 12.53
Q Total (m3/s)	10.00	W.S. Elev (m)	12.53 12.53
Q Bridge (m3/s)	7.69	Crit W.S. (m)	10.18 10.20
Q Weir (m3/s)		Max Chl Dpth (m)	2.79 2.79
Weir Sta Lft (m)		Vel Total (m/s)	0.19 0.31
Weir Sta Rgt (m)		Flow Area (m2)	52.61 31.89
Weir Submerg		Froude # Chl	0.05 0.06
Weir Max Depth (m)		Specif Force (m3)	60.14 44.27
Min El Weir Flow (m)	12.61	Hydr Depth (m)	1.85 2.75
Min El Prs (m)	12.66	W.P. Total (m)	48.13 27.59
Delta EG (m)	0.00	Conv. Total (m3/s)	3070.9 2342.0
Delta WS (m)	0.00	Top Width (m)	28.41 11.59
BR Open Area (m2)	33.62	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.24	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.11 0.21
BR Sel Method	Energy only	Power Total (N/m s)	0.02 0.06

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.07	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.05	E.G. Elev (m)	12.06 12.06
Q Total (m3/s)	27.00	W.S. Elev (m)	12.03 12.00
Q Bridge (m3/s)	22.47	Crit W.S. (m)	10.59 10.60

Q Weir (m3/s)		Max Chl Dpth (m)	2.29 2.26
Weir Sta Lft (m)		Vel Total (m/s)	0.70 1.05
Weir Sta Rgt (m)		Flow Area (m2)	38.82 25.78
Weir Submerg		Froude # Chl	0.18 0.22
Weir Max Depth (m)		Specif Force (m3)	39.01 31.63
Min El Weir Flow (m)	12.61	Hydr Depth (m)	1.48 2.22
Min El Prs (m)	12.66	W.P. Total (m)	41.62 24.42
Delta EG (m)	0.02	Conv. Total (m3/s)	2190.2 1781.8
Delta WS (m)	0.03	Top Width (m)	26.16 11.59
BR Open Area (m2)	33.62	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.87	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	1.39 2.38
BR Sel Method	Energy only	Power Total (N/m s)	0.97 2.49

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.33	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.32	E.G. Elev (m)	12.32 12.32
Q Total (m3/s)	27.00	W.S. Elev (m)	12.30 12.28
Q Bridge (m3/s)	21.50	Crit W.S. (m)	10.59 10.60
Q Weir (m3/s)		Max Chl Dpth (m)	2.56 2.54
Weir Sta Lft (m)		Vel Total (m/s)	0.58 0.93
Weir Sta Rgt (m)		Flow Area (m2)	46.21 29.01
Weir Submerg		Froude # Chl	0.15 0.19
Weir Max Depth (m)		Specif Force (m3)	50.38 38.93

Min El Weir Flow (m)	12.61	Hydr Depth (m)	1.69 2.50
Min El Prs (m)	12.66	W.P. Total (m)	45.17 26.09
Delta EG (m)	0.01	Conv. Total (m3/s)	2655.2 2075.2
Delta WS (m)	0.02	Top Width (m)	27.39 11.59
BR Open Area (m2)	33.62	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.74	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	1.04 1.85
BR Sel Method	Energy only	Power Total (N/m s)	0.61 1.72

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.71	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.70	E.G. Elev (m)	12.70 12.70
Q Total (m3/s)	27.00	W.S. Elev (m)	12.69 12.67
Q Bridge (m3/s)	18.99	Crit W.S. (m)	10.59 10.60
Q Weir (m3/s)		Max Chl Dpth (m)	2.95 2.93
Weir Sta Lft (m)		Vel Total (m/s)	0.48 0.80
Weir Sta Rgt (m)		Flow Area (m2)	56.82 33.63
Weir Submerg		Froude # Chl	0.10 0.19
Weir Max Depth (m)		Specif Force (m3)	69.98 50.76
Min El Weir Flow (m)	12.61	Hydr Depth (m)	3.24 1.63
Min El Prs (m)	12.66	W.P. Total (m)	61.61 37.51
Delta EG (m)	0.01	Conv. Total (m3/s)	2833.2 2131.4
Delta WS (m)	0.02	Top Width (m)	17.55 20.66
BR Open Area (m2)	33.62	Frctn Loss (m)	0.00 0.00

```
  BR Open Vel (m/s)            0.57    C & E Loss (m)               0.00
 0.00
  BR Sluice Coef                       Shear Total (N/m2)           0.82
 1.41
  BR Sel Method         Energy only    Power Total (N/m s)          0.39
 1.13



Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 41

INPUT
Description: Opera 8
Station Elevation Data    num=      10
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 12.8365 11.1437 13.1503  16.313 13.3525 17.4441 12.6453 21.7215    9.74
   32.57    9.74 36.7523 12.6445  37.655 13.2714 40.2341 13.2177 53.6107 12.6105

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .03  16.313    .015  37.655     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
        16.313  37.655              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.61    Element                Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.                          0.015

  W.S. Elev (m)            11.60    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)                      25.28

  E.G. Slope (m/m)      0.000021    Area (m2)                           25.28

  Q Total (m3/s)           10.00    Flow (m3/s)                         10.00

  Top Width (m)            16.28    Top Width (m)                       16.28

  Vel Total (m/s)           0.40    Avg. Vel. (m/s)                      0.40

  Max Chl Dpth (m)          1.86    Hydr. Depth (m)                      1.55
```

Conv. Total (m3/s)	2159.4	Conv. (m3/s)			2159.4
Length Wtd. (m)	200.00	Wetted Per. (m)			17.43
Min Ch El (m)	9.74	Shear (N/m2)			0.30
Alpha	1.00	Stream Power (N/m s)			0.12
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	63.36	228.63	50.65
C & E Loss (m)	0.00	Cum SA (1000 m2)	64.08	128.77	49.30

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.06	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.05	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			32.89
E.G. Slope (m/m)	0.000010	Area (m2)			32.89
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	17.59	Top Width (m)			17.59
Vel Total (m/s)	0.30	Avg. Vel. (m/s)			0.30
Max Chl Dpth (m)	2.31	Hydr. Depth (m)			1.87
Conv. Total (m3/s)	3158.8	Conv. (m3/s)			3158.8
Length Wtd. (m)	200.00	Wetted Per. (m)			19.02
Min Ch El (m)	9.74	Shear (N/m2)			0.17
Alpha	1.00	Stream Power (N/m s)			0.05
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	95.28	293.58	74.99
C & E Loss (m)	0.00	Cum SA (1000 m2)	73.51	138.65	56.70

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		41.60	
E.G. Slope (m/m)	0.000005	Area (m2)		41.60	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.97	Top Width (m)		18.97	
Vel Total (m/s)	0.24	Avg. Vel. (m/s)		0.24	
Max Chl Dpth (m)	2.79	Hydr. Depth (m)		2.19	
Conv. Total (m3/s)	4416.6	Conv. (m3/s)		4416.6	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.71	
Min Ch El (m)	9.74	Shear (N/m2)		0.10	
Alpha	1.00	Stream Power (N/m s)		0.02	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	132.17	365.67	103.45
C & E Loss (m)	0.00	Cum SA (1000 m2)	81.29	145.99	63.64

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.06	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.		0.015	
W.S. Elev (m)	12.02	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		32.31	
E.G. Slope (m/m)	0.000077	Area (m2)		32.31	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.49	Top Width (m)		17.49	
Vel Total (m/s)	0.84	Avg. Vel. (m/s)		0.84	
Max Chl Dpth (m)	2.28	Hydr. Depth (m)		1.85	

Conv. Total (m3/s)	3079.2	Conv. (m3/s)			3079.2
Length Wtd. (m)	200.00	Wetted Per. (m)			18.90
Min Ch El (m)	9.74	Shear (N/m2)			1.29
Alpha	1.00	Stream Power (N/m s)			1.08
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	79.36	260.60	63.44
C & E Loss (m)	0.00	Cum SA (1000 m2)	67.57	133.71	52.52

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.32	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	12.30	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			37.24
E.G. Slope (m/m)	0.000051	Area (m2)			37.24
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	18.29	Top Width (m)			18.29
Vel Total (m/s)	0.72	Avg. Vel. (m/s)			0.72
Max Chl Dpth (m)	2.56	Hydr. Depth (m)			2.04
Conv. Total (m3/s)	3773.2	Conv. (m3/s)			3773.2
Length Wtd. (m)	200.00	Wetted Per. (m)			19.88
Min Ch El (m)	9.74	Shear (N/m2)			0.94
Alpha	1.00	Stream Power (N/m s)			0.68
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	104.77	312.24	82.70
C & E Loss (m)	0.00	Cum SA (1000 m2)	75.36	140.64	58.45

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.70	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	0.030
W.S. Elev (m)	12.68	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		44.53	0.06
E.G. Slope (m/m)	0.000031	Area (m2)		44.53	0.06
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	0.00
Top Width (m)	21.00	Top Width (m)		19.42	1.58
Vel Total (m/s)	0.61	Avg. Vel. (m/s)		0.61	0.02
Max Chl Dpth (m)	2.94	Hydr. Depth (m)		2.29	0.04
Conv. Total (m3/s)	4861.5	Conv. (m3/s)		4861.3	0.2
Length Wtd. (m)	200.00	Wetted Per. (m)		21.25	1.66
Min Ch El (m)	9.74	Shear (N/m2)		0.63	0.01
Alpha	1.00	Stream Power (N/m s)		0.38	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	138.46	377.50	108.59
C & E Loss (m)	0.00	Cum SA (1000 m2)	83.14	145.11	65.20

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 40

INPUT
Description:
Station Elevation Data num= 22

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.5101	13.2149	16.1458	13.3732	17.3336	13.362	17.9661	13.1373	18.2126	13.1597
18.3807	13.0925	18.4815	12.9132	18.6609	12.6556	20.6672	11.3	22.9761	9.74
33.2873	9.74	35.7359	11.3	37.7209	12.5646	37.9237	12.9422	38.2035	13.0191
38.6721	13.117	40.9546	13.2576	41.9618	13.1806	42.3907	13.2439	43.1531	13.2159
44.2162	13.2019	44.6922	12.9387						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.5101	.03	17.9661	.015	38.6721	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.9661	38.6721	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.61	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.60	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	6.55	24.49	5.12
E.G. Slope (m/m)	0.000018	Area (m2)	6.55	24.49	5.12
Q Total (m3/s)	10.00	Flow (m3/s)	0.68	8.78	0.54
Top Width (m)	32.31	Top Width (m)	9.48	15.99	6.84
Vel Total (m/s)	0.28	Avg. Vel. (m/s)	0.10	0.36	0.11
Max Chl Dpth (m)	1.86	Hydr. Depth (m)	0.69	1.53	0.75
Conv. Total (m3/s)	2362.6	Conv. (m3/s)	160.5	2074.3	127.8
Length Wtd. (m)	200.00	Wetted Per. (m)	10.38	17.10	7.89
Min Ch El (m)	9.74	Shear (N/m2)	0.11	0.25	0.11
Alpha	1.49	Stream Power (N/m s)	0.01	0.09	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	62.70	223.65	50.14
C & E Loss (m)	0.00	Cum SA (1000 m2)	63.13	125.55	48.62

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.06	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	

0.030					
W.S. Elev (m)	12.05	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	11.01	32.02	8.36
E.G. Slope (m/m)	0.000007	Area (m2)	11.01	32.02	8.36
Q Total (m3/s)	10.00	Flow (m3/s)	0.96	8.33	0.72
Top Width (m)	35.23	Top Width (m)	10.32	17.37	7.54
Vel Total (m/s)	0.19	Avg. Vel. (m/s)	0.09	0.26	0.09
Max Chl Dpth (m)	2.31	Hydr. Depth (m)	1.07	1.84	1.11
Conv. Total (m3/s)	3662.1	Conv. (m3/s)	350.8	3049.3	262.0
Length Wtd. (m)	200.00	Wetted Per. (m)	11.79	18.75	9.18
Min Ch El (m)	9.74	Shear (N/m2)	0.07	0.12	0.07
Alpha	1.52	Stream Power (N/m s)	0.01	0.03	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	94.17	287.09	74.16
C & E Loss (m)	0.00	Cum SA (1000 m2)	72.48	135.15	55.95

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	16.15	40.65	12.14
E.G. Slope (m/m)	0.000004	Area (m2)	16.15	40.65	12.14
Q Total (m3/s)	10.00	Flow (m3/s)	1.15	8.02	0.83
Top Width (m)	38.32	Top Width (m)	11.22	18.82	8.28
Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.07	0.20	0.07
Max Chl Dpth (m)	2.79	Hydr. Depth (m)	1.44	2.16	

1.47					
Conv. Total (m3/s)	5336.7	Conv. (m3/s)	613.4	4278.7	444.5
Length Wtd. (m)	200.00	Wetted Per. (m)	13.28	20.49	10.54
Min Ch El (m)	9.74	Shear (N/m2)	0.04	0.07	0.04
Alpha	1.53	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	130.55	357.45	102.23
C & E Loss (m)	0.00	Cum SA (1000 m2)	80.17	142.21	62.81

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.04	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.02	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	10.67	31.44	8.11
E.G. Slope (m/m)	0.000058	Area (m2)	10.67	31.44	8.11
Q Total (m3/s)	27.00	Flow (m3/s)	2.54	22.56	1.90
Top Width (m)	35.02	Top Width (m)	10.26	17.27	7.49
Vel Total (m/s)	0.54	Avg. Vel. (m/s)	0.24	0.72	0.23
Max Chl Dpth (m)	2.28	Hydr. Depth (m)	1.04	1.82	1.08
Conv. Total (m3/s)	3556.8	Conv. (m3/s)	334.7	2971.3	250.8
Length Wtd. (m)	200.00	Wetted Per. (m)	11.69	18.63	9.08
Min Ch El (m)	9.74	Shear (N/m2)	0.52	0.95	0.50
Alpha	1.52	Stream Power (N/m s)	0.12	0.68	0.12
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	78.29	254.22	62.63
C & E Loss (m)	0.00	Cum SA (1000 m2)	66.54	130.24	51.77

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.31	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.30	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	13.60	36.36	10.26
E.G. Slope (m/m)	0.000036	Area (m2)	13.60	36.36	10.26
Q Total (m3/s)	27.00	Flow (m3/s)	2.88	22.01	2.11
Top Width (m)	36.82	Top Width (m)	10.79	18.11	7.92
Vel Total (m/s)	0.45	Avg. Vel. (m/s)	0.21	0.61	0.21
Max Chl Dpth (m)	2.56	Hydr. Depth (m)	1.26	2.01	1.29
Conv. Total (m3/s)	4483.4	Conv. (m3/s)	478.0	3654.8	350.6
Length Wtd. (m)	200.00	Wetted Per. (m)	12.56	19.64	9.87
Min Ch El (m)	9.74	Shear (N/m2)	0.39	0.66	0.37
Alpha	1.53	Stream Power (N/m s)	0.08	0.40	0.08
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	103.41	304.88	81.67
C & E Loss (m)	0.00	Cum SA (1000 m2)	74.29	137.00	57.66

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.70	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.69	Reach Len. (m)	200.00	200.00	

200.00					
Crit W.S. (m)		Flow Area (m2)	17.92	43.60	13.44
E.G. Slope (m/m)	0.000021	Area (m2)	17.92	43.60	13.44
Q Total (m3/s)	27.00	Flow (m3/s)	3.22	21.45	2.32
Top Width (m)	39.18	Top Width (m)	11.51	19.15	8.52
Vel Total (m/s)	0.36	Avg. Vel. (m/s)	0.18	0.49	0.17
Max Chl Dpth (m)	2.95	Hydr. Depth (m)	1.56	2.28	1.58
Conv. Total (m3/s)	5963.0	Conv. (m3/s)	711.9	4738.3	512.8
Length Wtd. (m)	200.00	Wetted Per. (m)	13.77	20.95	10.98
Min Ch El (m)	9.74	Shear (N/m2)	0.26	0.42	0.25
Alpha	1.53	Stream Power (N/m s)	0.05	0.21	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	136.67	368.69	107.24
C & E Loss (m)	0.00	Cum SA (1000 m2)	81.99	141.26	64.19

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 39

INPUT
Description:
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13.8725	13.226	17.5286	13.226	19.2945	13.082	20.1277	12.7043	20.2114	12.471
21.9801	11.26	24.224	9.7237	34.9097	9.7224	37.1532	11.26	39.7764	13.0579
40.614	13.0579	43.8237	13.0911	45.3194	12.9698				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
13.8725	.03	19.2945	.015	39.7764	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
19.2945	39.7764	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.60	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	10.16	Flow Area (m2)	9.18	25.20	6.64
E.G. Slope (m/m)	0.000015	Area (m2)	9.18	25.20	6.64
Q Total (m3/s)	10.00	Flow (m3/s)	1.01	8.30	0.70
Top Width (m)	34.89	Top Width (m)	10.62	16.17	8.10
Vel Total (m/s)	0.24	Avg. Vel. (m/s)	0.11	0.33	0.10
Max Chl Dpth (m)	1.88	Hydr. Depth (m)	0.86	1.56	0.82
Conv. Total (m3/s)	2598.6	Conv. (m3/s)	261.4	2156.4	180.7
Length Wtd. (m)	200.00	Wetted Per. (m)	11.64	17.33	8.99
Min Ch El (m)	9.72	Shear (N/m2)	0.11	0.21	0.11
Alpha	1.55	Stream Power (N/m s)	0.01	0.07	0.01
Frctn Loss (m)		Cum Volume (1000 m3)	61.13	218.68	48.96
C & E Loss (m)		Cum SA (1000 m2)	61.12	122.33	47.12

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.05	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.05	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	10.16	Flow Area (m2)	14.19	32.81	10.47
E.G. Slope (m/m)	0.000006	Area (m2)	14.19	32.81	10.47
Q Total (m3/s)	10.00	Flow (m3/s)	1.25	7.88	0.88
Top Width (m)	37.84	Top Width (m)	11.53	17.49	8.82
Vel Total (m/s)	0.17	Avg. Vel. (m/s)	0.09	0.24	

0.08					
Max Chl Dpth (m)	2.33	Hydr. Depth (m)	1.23	1.88	
1.19					
Conv. Total (m3/s)	4008.6	Conv. (m3/s)	499.1	3156.8	
352.7					
Length Wtd. (m)	200.00	Wetted Per. (m)	13.10	18.93	
10.30					
Min Ch El (m)	9.72	Shear (N/m2)	0.07	0.11	
0.06					
Alpha	1.55	Stream Power (N/m s)	0.01	0.03	
0.01					
Frctn Loss (m)		Cum Volume (1000 m3)	91.65	280.61	
72.27					
C & E Loss (m)		Cum SA (1000 m2)	70.29	131.67	
54.31					

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)	10.16	Flow Area (m2)	19.93	41.50	
14.86					
E.G. Slope (m/m)	0.000003	Area (m2)	19.93	41.50	
14.86					
Q Total (m3/s)	10.00	Flow (m3/s)	1.40	7.60	
1.00					
Top Width (m)	40.88	Top Width (m)	12.48	18.82	
9.59					
Vel Total (m/s)	0.13	Avg. Vel. (m/s)	0.07	0.18	
0.07					
Max Chl Dpth (m)	2.81	Hydr. Depth (m)	1.60	2.21	
1.55					
Conv. Total (m3/s)	5813.2	Conv. (m3/s)	815.6	4415.7	
581.9					
Length Wtd. (m)	200.00	Wetted Per. (m)	14.65	20.58	
11.67					
Min Ch El (m)	9.72	Shear (N/m2)	0.04	0.06	
0.04					
Alpha	1.55	Stream Power (N/m s)	0.00	0.01	
0.00					
Frctn Loss (m)		Cum Volume (1000 m3)	126.94	349.23	
99.53					
C & E Loss (m)		Cum SA (1000 m2)	77.80	138.45	
61.03					

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.03	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.01	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	10.55	Flow Area (m2)	13.75	32.13	10.12
E.G. Slope (m/m)	0.000049	Area (m2)	13.75	32.13	10.12
Q Total (m3/s)	27.00	Flow (m3/s)	3.32	21.34	2.34
Top Width (m)	37.58	Top Width (m)	11.45	17.37	8.76
Vel Total (m/s)	0.48	Avg. Vel. (m/s)	0.24	0.66	0.23
Max Chl Dpth (m)	2.29	Hydr. Depth (m)	1.20	1.85	1.16
Conv. Total (m3/s)	3875.6	Conv. (m3/s)	476.2	3063.3	336.1
Length Wtd. (m)	200.00	Wetted Per. (m)	12.97	18.79	10.18
Min Ch El (m)	9.72	Shear (N/m2)	0.50	0.81	0.47
Alpha	1.55	Stream Power (N/m s)	0.12	0.54	0.11
Frctn Loss (m)		Cum Volume (1000 m3)	75.85	247.86	60.81
C & E Loss (m)		Cum SA (1000 m2)	64.37	126.77	50.15

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.31	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.29	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	10.55	Flow Area (m2)	17.04	37.13	12.65
E.G. Slope (m/m)	0.000031	Area (m2)	17.04	37.13	12.65
Q Total (m3/s)	27.00	Flow (m3/s)	3.60	20.84	2.56
Top Width (m)	39.41	Top Width (m)	12.01	18.19	9.21
Vel Total (m/s)	0.40	Avg. Vel. (m/s)	0.21	0.56	

	0.20				
Max Chl Dpth (m)	2.57	Hydr. Depth (m)	1.42	2.04	1.37
Conv. Total (m3/s)	4879.8	Conv. (m3/s)	651.2	3765.8	462.8
Length Wtd. (m)	200.00	Wetted Per. (m)	13.88	19.79	10.99
Min Ch El (m)	9.72	Shear (N/m2)	0.37	0.56	0.35
Alpha	1.55	Stream Power (N/m s)	0.08	0.32	0.07
Frctn Loss (m)		Cum Volume (1000 m3)	100.35	297.53	79.38
C & E Loss (m)		Cum SA (1000 m2)	72.01	133.37	55.95

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.69	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.68	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	10.55	Flow Area (m2)	21.87	44.41	16.36
E.G. Slope (m/m)	0.000017	Area (m2)	21.87	44.41	16.36
Q Total (m3/s)	27.00	Flow (m3/s)	3.89	20.35	2.77
Top Width (m)	41.79	Top Width (m)	12.79	19.10	9.91
Vel Total (m/s)	0.33	Avg. Vel. (m/s)	0.18	0.46	0.17
Max Chl Dpth (m)	2.96	Hydr. Depth (m)	1.71	2.33	1.65
Conv. Total (m3/s)	6470.4	Conv. (m3/s)	931.3	4875.6	663.5
Length Wtd. (m)	200.00	Wetted Per. (m)	15.14	21.01	12.19
Min Ch El (m)	9.72	Shear (N/m2)	0.25	0.36	0.23
Alpha	1.55	Stream Power (N/m s)	0.04	0.17	0.04
Frctn Loss (m)		Cum Volume (1000 m3)	132.69	359.89	104.26
C & E Loss (m)		Cum SA (1000 m2)	79.56	137.43	62.35

INLINE STRUCTURE

RIVER: SNM
REACH: Canale SNM RS: 38.8

INPUT
Description:
Distance from Upstream XS = 156.65
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Weir Embankment Coordinates num = 2

Sta	Elev	Sta	Elev
18.53	14.05	40.65	14.05

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins =
Weir crest shape = Broad Crested

INLINE STRUCTURE GATE Gate #1
Height = 4
Width = 3
Invert = 9.72
Gate Type = Sluice Slice Coefficient = .6
Weir Coefficient = 1.67
Weir crest shape = Broad Crested
Number of Gate Openings = 3

Sta	Sta	Sta
26.16	29.58	33.07

INLINE STRUCTURE OUTPUT Profile #PF 1 Gate Group: Gate #1

E.G. Elev (m)	11.60	Weir Sta Lft (m)	0.00
W.S. Elev (m)	11.60	Weir Sta Rgt (m)	55.86
Q Total (m3/s)	10.00	Min El Weir Flow (m)	10.09
Q Weir (m3/s)	5.39	Wr Top Wdth (m)	18.74
Q Gates (m3/s)	4.61	Weir Max Depth (m)	1.51
Q Culv (m3/s)		Weir Avg Depth (m)	0.85
Q Inline RC (m3/s)		Weir Flow Area (m2)	15.91
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	1.402
Q Breach (m3/s)		Weir Submerg	1.00
Breach Avg Velocity (m/s)		Q Gate Group (m3/s)	4.61
Breach Flow Area (m2)		Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	5.64
Breach Bottom El (m)		Gate Submerg	0.99
Breach SSL (m)		Gate Invert (m)	9.72
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 2 Gate Group: Gate #1

E.G. Elev (m)	12.05	Weir Sta Lft (m)	0.00
W.S. Elev (m)	12.05	Weir Sta Rgt (m)	55.86
Q Total (m3/s)	10.00	Min El Weir Flow (m)	10.09
Q Weir (m3/s)	5.73	Wr Top Wdth (m)	20.36
Q Gates (m3/s)	4.27	Weir Max Depth (m)	1.96
Q Culv (m3/s)		Weir Avg Depth (m)	1.21
Q Inline RC (m3/s)		Weir Flow Area (m2)	24.71
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	1.402
Q Breach (m3/s)		Weir Submerg	1.00
Breach Avg Velocity (m/s)		Q Gate Group (m3/s)	4.27
Breach Flow Area (m2)		Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	7.00
Breach Bottom El (m)		Gate Submerg	1.00
Breach SSL (m)		Gate Invert (m)	9.72
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 3 Gate Group: Gate #1

E.G. Elev (m)	12.53	Weir Sta Lft (m)	0.00
W.S. Elev (m)	12.53	Weir Sta Rgt (m)	55.86
Q Total (m3/s)	10.00	Min El Weir Flow (m)	10.09
Q Weir (m3/s)	6.05	Wr Top Wdth (m)	22.07
Q Gates (m3/s)	3.95	Weir Max Depth (m)	2.44
Q Culv (m3/s)		Weir Avg Depth (m)	1.58
Q Inline RC (m3/s)		Weir Flow Area (m2)	34.82
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	1.402
Q Breach (m3/s)		Weir Submerg	1.00
Breach Avg Velocity (m/s)		Q Gate Group (m3/s)	3.95
Breach Flow Area (m2)		Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	8.43
Breach Bottom El (m)		Gate Submerg	1.00
Breach SSL (m)		Gate Invert (m)	9.72
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 4 Gate Group: Gate #1

E.G. Elev (m)	12.03	Weir Sta Lft (m)	0.00
W.S. Elev (m)	12.01	Weir Sta Rgt (m)	55.86
Q Total (m3/s)	27.00	Min El Weir Flow (m)	10.09
Q Weir (m3/s)	13.69	Wr Top Wdth (m)	20.28
Q Gates (m3/s)	13.31	Weir Max Depth (m)	1.94
Q Culv (m3/s)		Weir Avg Depth (m)	1.20
Q Inline RC (m3/s)		Weir Flow Area (m2)	24.24
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	1.402
Q Breach (m3/s)		Weir Submerg	0.99
Breach Avg Velocity (m/s)		Q Gate Group (m3/s)	13.31
Breach Flow Area (m2)		Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	6.88

Breach Bottom El (m)		Gate Submerg	0.97
Breach SSL (m)		Gate Invert (m)	9.72
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 5 Gate Group: Gate #1

E.G. Elev (m)	12.31	Weir Sta Lft (m)	0.00
W.S. Elev (m)	12.29	Weir Sta Rgt (m)	55.86
Q Total (m3/s)	27.00	Min El Weir Flow (m)	10.09
Q Weir (m3/s)	15.77	Wr Top Wdth (m)	21.27
Q Gates (m3/s)	11.23	Weir Max Depth (m)	2.22
Q Culv (m3/s)		Weir Avg Depth (m)	1.41
Q Inline RC (m3/s)		Weir Flow Area (m2)	29.96
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	1.402
Q Breach (m3/s)		Weir Submerg	0.99
Breach Avg Velocity (m/s)		Q Gate Group (m3/s)	11.23
Breach Flow Area (m2)		Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	7.72
Breach Bottom El (m)		Gate Submerg	0.98
Breach SSL (m)		Gate Invert (m)	9.72
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 6 Gate Group: Gate #1

E.G. Elev (m)	12.69	Weir Sta Lft (m)	0.00
W.S. Elev (m)	12.68	Weir Sta Rgt (m)	55.86
Q Total (m3/s)	27.00	Min El Weir Flow (m)	10.09
Q Weir (m3/s)	16.16	Wr Top Wdth (m)	22.73
Q Gates (m3/s)	10.84	Weir Max Depth (m)	2.60
Q Culv (m3/s)		Weir Avg Depth (m)	1.69
Q Inline RC (m3/s)		Weir Flow Area (m2)	38.42
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	1.402
Q Breach (m3/s)		Weir Submerg	0.99
Breach Avg Velocity (m/s)		Q Gate Group (m3/s)	10.84
Breach Flow Area (m2)		Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	8.89
Breach Bottom El (m)		Gate Submerg	0.99
Breach SSL (m)		Gate Invert (m)	9.72
Breach SSR (m)		Gate Weir Coef	3.020

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 38.7

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
3.1998	12.8459	4.0819	12.9823	5.5591	13.1833	6.4958	13.2833	7.4143	13.2287
7.66	13.2377	7.66	13.356	11.4946	13.356	16.7243	9.7981	21.3334	9.7975
26.0125	9.7972	31.1787	13.4831	32.1048	13.4831	32.1048	13.384	33.1614	13.3875
33.4901	13.4313	33.7267	13.4357	34.1211	13.4269	34.4104	13.3963	34.6821	13.3744
35.1441	13.3521	35.3282	13.3828	35.6043	13.3521	36.0162	13.2032		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
3.1998	.03	11.4946	.015	31.1787	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
11.4946	31.1787	35	35	35	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.59	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.27	Flow Area (m2)		21.28	
E.G. Slope (m/m)	0.000033	Area (m2)		21.28	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	14.44	Top Width (m)		14.44	
Vel Total (m/s)	0.47	Avg. Vel. (m/s)		0.47	
Max Chl Dpth (m)	1.79	Hydr. Depth (m)		1.47	
Conv. Total (m3/s)	1748.0	Conv. (m3/s)		1748.0	
Length Wtd. (m)	8.95	Wetted Per. (m)		15.57	
Min Ch El (m)	9.80	Shear (N/m2)		0.44	
Alpha	1.00	Stream Power (N/m s)		0.21	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	61.13	211.69	48.96
C & E Loss (m)	0.00	Cum SA (1000 m2)	60.06	119.27	46.31

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.05	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.04	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.27	Flow Area (m2)		28.11	
E.G. Slope (m/m)	0.000015	Area (m2)		28.11	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.74	Top Width (m)		15.74	
Vel Total (m/s)	0.36	Avg. Vel. (m/s)		0.36	
Max Chl Dpth (m)	2.25	Hydr. Depth (m)		1.79	
Conv. Total (m3/s)	2605.4	Conv. (m3/s)		2605.4	
Length Wtd. (m)	8.95	Wetted Per. (m)		17.15	
Min Ch El (m)	9.80	Shear (N/m2)		0.24	
Alpha	1.00	Stream Power (N/m s)		0.08	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	91.65	270.88	72.27
C & E Loss (m)	0.00	Cum SA (1000 m2)	69.14	128.35	53.43

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.53	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.27	Flow Area (m2)		36.02	
E.G. Slope (m/m)	0.000007	Area (m2)		36.02	

Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	17.12	Top Width (m)	17.12
Vel Total (m/s)	0.28	Avg. Vel. (m/s)	0.28
Max Chl Dpth (m)	2.73	Hydr. Depth (m)	2.10
Conv. Total (m3/s)	3700.1	Conv. (m3/s)	3700.1
Length Wtd. (m)	8.95	Wetted Per. (m)	18.83
Min Ch El (m)	9.80	Shear (N/m2)	0.14
Alpha	1.00	Stream Power (N/m s)	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	126.94 336.40 99.53
C & E Loss (m)	0.00	Cum SA (1000 m2)	76.55 134.86 60.07

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.02	Element	Left OB Channel Right OB
Vel Head (m)	0.05	Wt. n-Val.	0.015
W.S. Elev (m)	11.97	Reach Len. (m)	8.95 8.95 8.95
Crit W.S. (m)	10.70	Flow Area (m2)	26.98
E.G. Slope (m/m)	0.000121	Area (m2)	26.98
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	15.53	Top Width (m)	15.53
Vel Total (m/s)	1.00	Avg. Vel. (m/s)	1.00
Max Chl Dpth (m)	2.17	Hydr. Depth (m)	1.74
Conv. Total (m3/s)	2456.8	Conv. (m3/s)	2456.8
Length Wtd. (m)	8.95	Wetted Per. (m)	16.90
Min Ch El (m)	9.80	Shear (N/m2)	1.89

Alpha	1.00	Stream Power (N/m s)			1.89
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	75.85	238.35	60.81
C & E Loss (m)	0.01	Cum SA (1000 m2)	63.23	123.48	49.27

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.30	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.		0.015	
W.S. Elev (m)	12.26	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.70	Flow Area (m2)		31.64	
E.G. Slope (m/m)	0.000077	Area (m2)		31.64	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	16.37	Top Width (m)		16.37	
Vel Total (m/s)	0.85	Avg. Vel. (m/s)		0.85	
Max Chl Dpth (m)	2.47	Hydr. Depth (m)		1.93	
Conv. Total (m3/s)	3080.9	Conv. (m3/s)		3080.9	
Length Wtd. (m)	8.95	Wetted Per. (m)		17.92	
Min Ch El (m)	9.80	Shear (N/m2)		1.33	
Alpha	1.00	Stream Power (N/m s)		1.13	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	100.35	286.23	79.38
C & E Loss (m)	0.00	Cum SA (1000 m2)	70.81	129.91	55.03

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.68	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.66	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.70	Flow Area (m2)		38.32	
E.G. Slope (m/m)	0.000045	Area (m2)		38.32	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.50	Top Width (m)		17.50	
Vel Total (m/s)	0.70	Avg. Vel. (m/s)		0.70	
Max Chl Dpth (m)	2.86	Hydr. Depth (m)		2.19	
Conv. Total (m3/s)	4036.4	Conv. (m3/s)		4036.4	
Length Wtd. (m)	8.95	Wetted Per. (m)		19.30	
Min Ch El (m)	9.80	Shear (N/m2)		0.87	
Alpha	1.00	Stream Power (N/m s)		0.61	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	132.69	346.00	104.26
C & E Loss (m)	0.00	Cum SA (1000 m2)	78.28	133.77	61.35

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 38.4

INPUT
Description:
Distance from Upstream XS = 8.95
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
10.14	14.55	12.86	32.55	14.55	12.86

```
Upstream Bridge Cross Section Data
Station Elevation Data    num=      24
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  3.1998 12.8459  4.0819 12.9823  5.5591 13.1833  6.4958 13.2833  7.4143 13.2287
    7.66 13.2377    7.66  13.356 11.4946  13.356 16.7243  9.7981 21.3334  9.7975
 26.0125  9.7972 31.1787 13.4831 32.1048 13.4831 32.1048  13.384 33.1614 13.3875
 33.4901 13.4313 33.7267 13.4357 34.1211 13.4269 34.4104 13.3963 34.6821 13.3744
 35.1441 13.3521 35.3282 13.3828 35.6043 13.3521 36.0162 13.2032

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  3.1998     .03 11.4946    .015 31.1787     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       11.4946 31.1787             .1       .3

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   10.14   14.55   12.86   32.55   14.55   12.86

Downstream Bridge Cross Section Data
Station Elevation Data    num=      37
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  3.1998 12.8459  4.0819 12.9823  5.5591 13.1833  6.4958 13.2833  7.4143 13.2287
    8.16  13.256  8.6238 13.3106  8.9512 13.2015  9.0785 13.1105  9.1876 12.9378
  9.3513 12.8378  10.073 12.5195 12.9467 12.3377  12.974 12.2286 15.1327   10.76
 16.6935  9.6981 26.0441  9.6969 27.5341   10.76 30.1383  12.618 30.2917 12.9904
 30.4538 13.0999 30.6335 13.1438 30.7518 13.1657 30.8686 13.2824 31.3025 13.3393
 31.6048 13.3831 31.8459 13.3831 33.1614 13.3875 33.4901 13.4313 33.7267 13.4357
 34.1211 13.4269 34.4104 13.3963 34.6821 13.3744 35.1441 13.3521 35.3282 13.3828
 35.6043 13.3521 36.0162 13.2032

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  3.1998     .03  8.9512    .015 30.8686     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
        8.9512 30.8686          .0015      .01

Upstream Embankment side slope              =     1.8 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.8 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
```

```
   10.14   12.85   16.51   12.85
Downstream     num=       2
     Sta    Elev     Sta    Elev
   10.14   12.85   16.51   12.85

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   26.51   12.86   32.54   12.86
Downstream     num=       2
     Sta    Elev     Sta    Elev
   26.51   12.86   32.54   12.86

Number of Piers =  2

Pier Data
Pier Station     Upstream=   19.56    Downstream=   19.56
Upstream     num=       2
    Width   Elev    Width   Elev
     .55    9.69     .55   12.85
Downstream     num=       2
    Width   Elev    Width   Elev
     .55    9.69     .55   12.85

Pier Data
Pier Station     Upstream=   23.01    Downstream=   23.01
Upstream     num=       2
    Width   Elev    Width   Elev
     .55    9.69     .55   12.85
Downstream     num=       2
    Width   Elev    Width   Elev
     .55    9.69     .55   12.85

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.60    Element               Inside BR US
Inside BR DS
```

W.S. US. (m)	11.59	E.G. Elev (m)	11.60
11.60			
Q Total (m3/s)	10.00	W.S. Elev (m)	11.58
11.59			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.31
10.21			
Q Weir (m3/s)		Max Chl Dpth (m)	1.78
1.89			
Weir Sta Lft (m)		Vel Total (m/s)	0.63
0.40			
Weir Sta Rgt (m)		Flow Area (m2)	15.77
24.99			
Weir Submerg		Froude # Chl	0.15
0.11			
Weir Max Depth (m)		Specif Force (m3)	14.63
20.36			
Min El Weir Flow (m)	12.85	Hydr Depth (m)	1.77
1.38			
Min El Prs (m)	12.86	W.P. Total (m)	19.26
32.18			
Delta EG (m)	0.01	Conv. Total (m3/s)	920.0
1218.0			
Delta WS (m)	0.00	Top Width (m)	8.90
18.12			
BR Open Area (m2)	27.21	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.63	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.95
0.51			
BR Sel Method	Energy only	Power Total (N/m s)	0.60
0.21			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.05	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.04	E.G. Elev (m)	12.05
12.05			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.04
12.04			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.31
10.21			
Q Weir (m3/s)		Max Chl Dpth (m)	2.24
2.34			
Weir Sta Lft (m)		Vel Total (m/s)	0.50
0.30			

Weir Sta Rgt (m)		Flow Area (m2)	19.82 33.52
Weir Submerg		Froude # Chl	0.11 0.08
Weir Max Depth (m)		Specif Force (m3)	22.60 33.51
Min El Weir Flow (m)	12.85	Hydr Depth (m)	2.23 1.72
Min El Prs (m)	12.86	W.P. Total (m)	21.99 37.46
Delta EG (m)	0.00	Conv. Total (m3/s)	1233.3 1717.8
Delta WS (m)	0.00	Top Width (m)	8.90 19.49
BR Open Area (m2)	27.21	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.50	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.58 0.30
BR Sel Method	Energy only	Power Total (N/m s)	0.29 0.09

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.53	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.53	E.G. Elev (m)	12.53 12.53
Q Total (m3/s)	10.00	W.S. Elev (m)	12.52 12.52
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.31 10.21
Q Weir (m3/s)		Max Chl Dpth (m)	2.72 2.83
Weir Sta Lft (m)		Vel Total (m/s)	0.41 0.23
Weir Sta Rgt (m)		Flow Area (m2)	24.13 43.27
Weir Submerg		Froude # Chl	0.08 0.05
Weir Max Depth (m)		Specif Force (m3)	33.14 51.92
Min El Weir Flow (m)	12.85	Hydr Depth (m)	2.71 2.06
Min El Prs (m)	12.86	W.P. Total (m)	24.89 43.16

Delta EG (m)	0.00	Conv. Total (m3/s)	1575.3 2310.4
Delta WS (m)	0.00	Top Width (m)	8.90 21.02
BR Open Area (m2)	27.21	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.41	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.38 0.18
BR Sel Method	Energy only	Power Total (N/m s)	0.16 0.04

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.02	Element	Inside BR US Inside BR DS
W.S. US. (m)	11.97	E.G. Elev (m)	12.02 12.00
Q Total (m3/s)	27.00	W.S. Elev (m)	11.91 11.95
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.79 10.74
Q Weir (m3/s)		Max Chl Dpth (m)	2.11 2.25
Weir Sta Lft (m)		Vel Total (m/s)	1.45 0.85
Weir Sta Rgt (m)		Flow Area (m2)	18.68 31.73
Weir Submerg		Froude # Chl	0.32 0.22
Weir Max Depth (m)		Specif Force (m3)	23.60 32.70
Min El Weir Flow (m)	12.85	Hydr Depth (m)	2.10 1.65
Min El Prs (m)	12.86	W.P. Total (m)	21.22 36.38
Delta EG (m)	0.03	Conv. Total (m3/s)	1144.2 1610.7
Delta WS (m)	0.02	Top Width (m)	8.90 19.21
BR Open Area (m2)	27.21	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	1.45	C & E Loss (m)	0.02

0.00			
BR Sluice Coef		Shear Total (N/m2)	4.81
2.40			
BR Sel Method	Energy only	Power Total (N/m s)	6.95
2.04			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.30	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.26	E.G. Elev (m)	12.30
12.28			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.21
12.25			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.79
10.74			
Q Weir (m3/s)		Max Chl Dpth (m)	2.42
2.55			
Weir Sta Lft (m)		Vel Total (m/s)	1.26
0.72			
Weir Sta Rgt (m)		Flow Area (m2)	21.40
37.58			
Weir Submerg		Froude # Chl	0.26
0.18			
Weir Max Depth (m)		Specif Force (m3)	29.22
42.61			
Min El Weir Flow (m)	12.85	Hydr Depth (m)	2.40
1.87			
Min El Prs (m)	12.86	W.P. Total (m)	23.06
39.84			
Delta EG (m)	0.03	Conv. Total (m3/s)	1357.7
1963.2			
Delta WS (m)	0.01	Top Width (m)	8.90
20.11			
BR Open Area (m2)	27.21	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	1.26	C & E Loss (m)	0.01
0.00			
BR Sluice Coef		Shear Total (N/m2)	3.60
1.75			
BR Sel Method	Energy only	Power Total (N/m s)	4.54
1.26			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than

1.4. This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.68	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.66	E.G. Elev (m)	12.68 12.67
Q Total (m3/s)	27.00	W.S. Elev (m)	12.62 12.65
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.79 10.74
Q Weir (m3/s)		Max Chl Dpth (m)	2.82 2.95
Weir Sta Lft (m)		Vel Total (m/s)	1.08 0.59
Weir Sta Rgt (m)		Flow Area (m2)	25.02 45.88
Weir Submerg		Froude # Chl	0.21 0.14
Weir Max Depth (m)		Specif Force (m3)	38.15 58.85
Min El Weir Flow (m)	12.85	Hydr Depth (m)	2.81 2.12
Min El Prs (m)	12.86	W.P. Total (m)	25.49 45.00
Delta EG (m)	0.02	Conv. Total (m3/s)	1647.1 2456.5
Delta WS (m)	0.01	Top Width (m)	8.90 21.67
BR Open Area (m2)	27.21	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	1.08	C & E Loss (m)	0.01 0.00
BR Sluice Coef		Shear Total (N/m2)	2.59 1.21
BR Sel Method	Energy only	Power Total (N/m s)	2.79 0.71

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 38

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
3.1998	12.8459	4.0819	12.9823	5.5591	13.1833	6.4958	13.2833	7.4143	13.2287
8.16	13.256	8.6238	13.3106	8.9512	13.2015	9.0785	13.1105	9.1876	12.9378
9.3513	12.8378	10.073	12.5195	12.9467	12.3377	12.974	12.2286	15.1327	10.76
16.6935	9.6981	26.0441	9.6969	27.5341	10.76	30.1383	12.618	30.2917	12.9904
30.4538	13.0999	30.6335	13.1438	30.7518	13.1657	30.8686	13.2824	31.3025	13.3393
31.6048	13.3831	31.8459	13.3831	33.1614	13.3875	33.4901	13.4313	33.7267	13.4357
34.1211	13.4269	34.4104	13.3963	34.6821	13.3744	35.1441	13.3521	35.3282	13.3828
35.6043	13.3521	36.0162	13.2032						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
3.1998	.03	8.9512	.015	30.8686	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
8.9512	30.8686	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.59	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.98	22.82	7.29
E.G. Slope (m/m)	0.000022	Area (m2)	0.98	22.82	7.29
Q Total (m3/s)	10.00	Flow (m3/s)	0.07	8.95	0.98
Top Width (m)	24.00	Top Width (m)	1.59	14.78	7.63
Vel Total (m/s)	0.32	Avg. Vel. (m/s)	0.07	0.39	0.13
Max Chl Dpth (m)	1.89	Hydr. Depth (m)	0.62	1.54	0.96
Conv. Total (m3/s)	2156.3	Conv. (m3/s)	14.7	1930.6	211.0
Length Wtd. (m)	200.00	Wetted Per. (m)	3.24	15.97	9.02
Min Ch El (m)	9.70	Shear (N/m2)	0.06	0.30	0.17
Alpha	1.35	Stream Power (N/m s)	0.00	0.12	0.02

Frctn Loss (m)	0.00	Cum Volume (1000 m3)	61.11	211.03	48.79
C & E Loss (m)	0.00	Cum SA (1000 m2)	60.03	118.87	46.13

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.05	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.04	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	1.83	29.82	10.93
E.G. Slope (m/m)	0.000010	Area (m2)	1.83	29.82	10.93
Q Total (m3/s)	10.00	Flow (m3/s)	0.10	8.73	1.16
Top Width (m)	26.67	Top Width (m)	2.17	16.08	8.42
Vel Total (m/s)	0.23	Avg. Vel. (m/s)	0.06	0.29	0.11
Max Chl Dpth (m)	2.35	Hydr. Depth (m)	0.84	1.85	1.30
Conv. Total (m3/s)	3241.2	Conv. (m3/s)	33.8	2830.2	377.2
Length Wtd. (m)	200.00	Wetted Per. (m)	4.44	17.56	10.38
Min Ch El (m)	9.70	Shear (N/m2)	0.04	0.16	0.10
Alpha	1.38	Stream Power (N/m s)	0.00	0.05	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	91.61	270.03	72.02
C & E Loss (m)	0.00	Cum SA (1000 m2)	69.09	127.93	53.23

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	3.02	38.12	15.19
E.G. Slope (m/m)	0.000005	Area (m2)	3.02	38.12	15.19
Q Total (m3/s)	10.00	Flow (m3/s)	0.15	8.48	1.37
Top Width (m)	31.99	Top Width (m)	2.79	19.95	9.26
Vel Total (m/s)	0.18	Avg. Vel. (m/s)	0.05	0.22	0.09
Max Chl Dpth (m)	2.83	Hydr. Depth (m)	1.08	1.91	1.64
Conv. Total (m3/s)	4362.4	Conv. (m3/s)	66.0	3698.0	598.4
Length Wtd. (m)	200.00	Wetted Per. (m)	5.70	21.72	11.83
Min Ch El (m)	9.70	Shear (N/m2)	0.03	0.09	0.07
Alpha	1.37	Stream Power (N/m s)	0.00	0.02	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	126.87	335.34	99.17
C & E Loss (m)	0.00	Cum SA (1000 m2)	76.49	134.39	59.85

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.99	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.96	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	1.65	28.44	10.21
E.G. Slope (m/m)	0.000080	Area (m2)	1.65	28.44	10.21
Q Total (m3/s)	27.00	Flow (m3/s)	0.26	23.67	3.06
Top Width (m)	26.16	Top Width (m)	2.06	15.84	8.27

Vel Total (m/s)	0.67	Avg. Vel. (m/s)	0.16	0.83	0.30
Max Chl Dpth (m)	2.26	Hydr. Depth (m)	0.80	1.80	1.23
Conv. Total (m3/s)	3017.9	Conv. (m3/s)	29.4	2646.1	342.4
Length Wtd. (m)	200.00	Wetted Per. (m)	4.21	17.25	10.12
Min Ch El (m)	9.70	Shear (N/m2)	0.31	1.29	0.79
Alpha	1.38	Stream Power (N/m s)	0.05	1.08	0.24
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	75.81	237.54	60.57
C & E Loss (m)	0.00	Cum SA (1000 m2)	63.18	123.07	49.07

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.27	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.25	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	2.31	33.25	12.73
E.G. Slope (m/m)	0.000050	Area (m2)	2.31	33.25	12.73
Q Total (m3/s)	27.00	Flow (m3/s)	0.33	23.37	3.31
Top Width (m)	27.88	Top Width (m)	2.44	16.66	8.79
Vel Total (m/s)	0.56	Avg. Vel. (m/s)	0.14	0.70	0.26
Max Chl Dpth (m)	2.56	Hydr. Depth (m)	0.95	2.00	1.45
Conv. Total (m3/s)	3818.3	Conv. (m3/s)	46.2	3304.4	467.7
Length Wtd. (m)	200.00	Wetted Per. (m)	4.99	18.27	11.01
Min Ch El (m)	9.70	Shear (N/m2)	0.23	0.89	0.57
Alpha	1.39	Stream Power (N/m s)	0.03	0.63	0.15
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	100.29	285.30	79.08

C & E Loss (m)	0.00	Cum SA (1000 m2)	70.75	129.49	54.82

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.66	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.65	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	3.38	40.66	16.37
E.G. Slope (m/m)	0.000032	Area (m2)	3.38	40.66	16.37
Q Total (m3/s)	27.00	Flow (m3/s)	0.43	22.83	3.74
Top Width (m)	32.80	Top Width (m)	2.95	20.37	9.48
Vel Total (m/s)	0.45	Avg. Vel. (m/s)	0.13	0.56	0.23
Max Chl Dpth (m)	2.95	Hydr. Depth (m)	1.15	2.00	1.73
Conv. Total (m3/s)	4794.0	Conv. (m3/s)	76.7	4053.7	663.6
Length Wtd. (m)	200.00	Wetted Per. (m)	6.03	22.23	12.20
Min Ch El (m)	9.70	Shear (N/m2)	0.17	0.57	0.42
Alpha	1.37	Stream Power (N/m s)	0.02	0.32	0.10
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	132.61	344.88	103.88
C & E Loss (m)	0.00	Cum SA (1000 m2)	78.21	133.30	61.13

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 37

INPUT
Description:
Station Elevation Data num= 20

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.9031	13.2109	9.2779	13.3264	10.2351	13.3985	11.5121	13.3264	12.7435	13.3937
13.3403	13.3264	13.7684	13.1148	14.0405	12.8142	16.957	10.74	18.4576	9.6727
29.0134	9.6714	30.5626	10.74	33.4561	12.7359	33.8313	13.2933	34.3002	13.3454
35.162	13.3561	35.8967	13.304	37.0132	13.3405	38.3946	13.3354	39.1084	13.3667

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.9031	.03	13.3403	.015	33.8313	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
13.3403	33.8313	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.59	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	4.25	25.46	7.92
E.G. Slope (m/m)	0.000015	Area (m2)	4.25	25.46	7.92
Q Total (m3/s)	10.00	Flow (m3/s)	0.43	8.61	0.96
Top Width (m)	27.91	Top Width (m)	4.85	16.03	7.03
Vel Total (m/s)	0.27	Avg. Vel. (m/s)	0.10	0.34	0.12
Max Chl Dpth (m)	1.92	Hydr. Depth (m)	0.88	1.59	1.13
Conv. Total (m3/s)	2557.0	Conv. (m3/s)	109.5	2201.3	246.2
Length Wtd. (m)	200.00	Wetted Per. (m)	6.25	17.23	8.79
Min Ch El (m)	9.67	Shear (N/m2)	0.10	0.22	0.14
Alpha	1.42	Stream Power (N/m s)	0.01	0.07	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	60.59	206.20	47.27
C & E Loss (m)	0.00	Cum SA (1000 m2)	59.38	115.79	44.66

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.04	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.04	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	6.64	33.03	11.26
E.G. Slope (m/m)	0.000007	Area (m2)	6.64	33.03	11.26
Q Total (m3/s)	10.00	Flow (m3/s)	0.53	8.41	1.06
Top Width (m)	30.68	Top Width (m)	5.70	17.32	7.66
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.08	0.25	0.09
Max Chl Dpth (m)	2.37	Hydr. Depth (m)	1.17	1.91	1.47
Conv. Total (m3/s)	3811.7	Conv. (m3/s)	201.3	3204.8	405.5
Length Wtd. (m)	200.00	Wetted Per. (m)	7.67	18.82	10.02
Min Ch El (m)	9.67	Shear (N/m2)	0.06	0.12	0.08
Alpha	1.45	Stream Power (N/m s)	0.00	0.03	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	90.76	263.74	69.80
C & E Loss (m)	0.00	Cum SA (1000 m2)	68.30	124.59	51.62

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	9.61	41.72	

15.18					
E.G. Slope (m/m)	0.000003	Area (m2)	9.61	41.72	
15.18					
Q Total (m3/s)	10.00	Flow (m3/s)	0.61	8.27	
1.12					
Top Width (m)	34.01	Top Width (m)	6.61	18.70	
8.70					
Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.06	0.20	
0.07					
Max Chl Dpth (m)	2.85	Hydr. Depth (m)	1.45	2.23	
1.75					
Conv. Total (m3/s)	5401.0	Conv. (m3/s)	330.5	4466.6	
603.9					
Length Wtd. (m)	200.00	Wetted Per. (m)	9.18	20.50	
11.65					
Min Ch El (m)	9.67	Shear (N/m2)	0.04	0.07	
0.04					
Alpha	1.48	Stream Power (N/m s)	0.00	0.01	
0.00					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	125.61	327.36	
96.14					
C & E Loss (m)	0.00	Cum SA (1000 m2)	75.55	130.53	
58.05					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.97	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	11.95	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)		Flow Area (m2)	6.13	31.47	
10.57					
E.G. Slope (m/m)	0.000058	Area (m2)	6.13	31.47	
10.57					
Q Total (m3/s)	27.00	Flow (m3/s)	1.38	22.79	
2.83					
Top Width (m)	30.13	Top Width (m)	5.53	17.06	
7.53					
Vel Total (m/s)	0.56	Avg. Vel. (m/s)	0.22	0.72	
0.27					
Max Chl Dpth (m)	2.28	Hydr. Depth (m)	1.11	1.84	
1.40					
Conv. Total (m3/s)	3541.3	Conv. (m3/s)	180.7	2989.6	
371.0					
Length Wtd. (m)	200.00	Wetted Per. (m)	7.38	18.50	

9.77					
Min Ch El (m)	9.67	Shear (N/m2)	0.47	0.97	0.62
Alpha	1.44	Stream Power (N/m s)	0.11	0.70	0.16
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	75.03	231.54	58.49
C & E Loss (m)	0.00	Cum SA (1000 m2)	62.42	119.78	47.49

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.27	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.25	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	7.87	36.69	12.88
E.G. Slope (m/m)	0.000037	Area (m2)	7.87	36.69	12.88
Q Total (m3/s)	27.00	Flow (m3/s)	1.53	22.53	2.94
Top Width (m)	32.07	Top Width (m)	6.09	17.92	8.06
Vel Total (m/s)	0.47	Avg. Vel. (m/s)	0.19	0.61	0.23
Max Chl Dpth (m)	2.58	Hydr. Depth (m)	1.29	2.05	1.60
Conv. Total (m3/s)	4461.2	Conv. (m3/s)	252.7	3722.1	486.4
Length Wtd. (m)	200.00	Wetted Per. (m)	8.32	19.54	10.68
Min Ch El (m)	9.67	Shear (N/m2)	0.34	0.67	0.43
Alpha	1.46	Stream Power (N/m s)	0.07	0.41	0.10
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	99.28	278.30	76.52
C & E Loss (m)	0.00	Cum SA (1000 m2)	69.90	126.03	53.14

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the

computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.66	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.65	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	10.45	44.06	16.28
E.G. Slope (m/m)	0.000021	Area (m2)	10.45	44.06	16.28
Q Total (m3/s)	27.00	Flow (m3/s)	1.70	22.25	3.05
Top Width (m)	34.88	Top Width (m)	6.84	19.05	8.99
Vel Total (m/s)	0.38	Avg. Vel. (m/s)	0.16	0.50	0.19
Max Chl Dpth (m)	2.98	Hydr. Depth (m)	1.53	2.31	1.81
Conv. Total (m3/s)	5854.7	Conv. (m3/s)	369.2	4823.7	661.7
Length Wtd. (m)	200.00	Wetted Per. (m)	9.57	20.93	12.09
Min Ch El (m)	9.67	Shear (N/m2)	0.23	0.44	0.28
Alpha	1.48	Stream Power (N/m s)	0.04	0.22	0.05
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	131.23	336.41	100.61
C & E Loss (m)	0.00	Cum SA (1000 m2)	77.23	129.35	59.28

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 36

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18.9939	13.0055	20.3392	13.1866	21.3196	13.2193	22.2182	13.2357	23.9665	13.1376
24.2362	13.105	27.5781	10.72	29.0813	9.6472	39.7613	9.6458	41.2852	10.72

```
 44.8763 13.2513 49.0977  13.285 49.5105 13.3429 50.1509 13.3197 50.5907 13.1809
 51.2158 13.0036

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 18.9939     .03 24.2362    .015 44.8763     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       24.2362 44.8763              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.59    Element                Left OB    Channel
Right OB
  Vel Head (m)              0.00    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)            11.59    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)           9.31      26.00
   6.30
  E.G. Slope (m/m)      0.000014    Area (m2)                9.31      26.00
   6.30
  Q Total (m3/s)           10.00    Flow (m3/s)              0.96       8.36
   0.68
  Top Width (m)            33.92    Top Width (m)           11.77      16.15
   6.00
  Vel Total (m/s)           0.24    Avg. Vel. (m/s)          0.10       0.32
   0.11
  Max Chl Dpth (m)          1.94    Hydr. Depth (m)          0.79       1.61
   1.05
  Conv. Total (m3/s)      2711.9    Conv. (m3/s)           259.1     2267.7
  185.0
  Length Wtd. (m)         200.00    Wetted Per. (m)         12.20      17.38
   7.62
  Min Ch El (m)             9.65    Shear (N/m2)             0.10       0.20
   0.11
  Alpha                     1.53    Stream Power (N/m s)     0.01       0.06
   0.01
  Frctn Loss (m)            0.00    Cum Volume (1000 m3)    59.23     201.05
  45.85
  C & E Loss (m)            0.00    Cum SA (1000 m2)        57.72     112.57
  43.36



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

CROSS SECTION OUTPUT  Profile #PF 2
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E.G. Elev (m)	12.04	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.04	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	15.07	33.66	9.19
E.G. Slope (m/m)	0.000006	Area (m2)	15.07	33.66	9.19
Q Total (m3/s)	10.00	Flow (m3/s)	1.27	7.97	0.76
Top Width (m)	37.65	Top Width (m)	13.54	17.43	6.68
Vel Total (m/s)	0.17	Avg. Vel. (m/s)	0.08	0.24	0.08
Max Chl Dpth (m)	2.40	Hydr. Depth (m)	1.11	1.93	1.38
Conv. Total (m3/s)	4126.3	Conv. (m3/s)	523.1	3290.1	313.1
Length Wtd. (m)	200.00	Wetted Per. (m)	14.19	18.96	8.89
Min Ch El (m)	9.65	Shear (N/m2)	0.06	0.10	0.06
Alpha	1.55	Stream Power (N/m s)	0.01	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	88.59	257.07	67.75
C & E Loss (m)	0.00	Cum SA (1000 m2)	66.38	121.11	50.19

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	22.09	42.40	12.59
E.G. Slope (m/m)	0.000003	Area (m2)	22.09	42.40	12.59
Q Total (m3/s)	10.00	Flow (m3/s)	1.50	7.69	0.81
Top Width (m)	41.97	Top Width (m)	15.77	18.79	7.40

Vel Total (m/s)	0.13	Avg. Vel. (m/s)	0.07	0.18	0.06
Max Chl Dpth (m)	2.88	Hydr. Depth (m)	1.40	2.26	1.70
Conv. Total (m3/s)	5940.7	Conv. (m3/s)	889.3	4570.0	481.4
Length Wtd. (m)	200.00	Wetted Per. (m)	16.64	20.63	10.24
Min Ch El (m)	9.65	Shear (N/m2)	0.04	0.06	0.03
Alpha	1.57	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	122.44	318.95	93.36
C & E Loss (m)	0.00	Cum SA (1000 m2)	73.31	126.78	56.44

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.96	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.94	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	13.77	31.97	8.55
E.G. Slope (m/m)	0.000051	Area (m2)	13.77	31.97	8.55
Q Total (m3/s)	27.00	Flow (m3/s)	3.27	21.72	2.01
Top Width (m)	36.85	Top Width (m)	13.15	17.16	6.53
Vel Total (m/s)	0.50	Avg. Vel. (m/s)	0.24	0.68	0.24
Max Chl Dpth (m)	2.30	Hydr. Depth (m)	1.05	1.86	1.31
Conv. Total (m3/s)	3799.1	Conv. (m3/s)	459.4	3056.4	283.2
Length Wtd. (m)	200.00	Wetted Per. (m)	13.76	18.62	8.62
Min Ch El (m)	9.65	Shear (N/m2)	0.50	0.85	0.49
Alpha	1.55	Stream Power (N/m s)	0.12	0.58	0.12
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	73.04	225.20	56.58

C & E Loss (m)	0.00	Cum SA (1000 m2)	60.55	116.36	46.09

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.26	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.25	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	17.92	37.28	10.59
E.G. Slope (m/m)	0.000031	Area (m2)	17.92	37.28	10.59
Q Total (m3/s)	27.00	Flow (m3/s)	3.72	21.16	2.11
Top Width (m)	39.34	Top Width (m)	14.34	18.01	6.98
Vel Total (m/s)	0.41	Avg. Vel. (m/s)	0.21	0.57	0.20
Max Chl Dpth (m)	2.60	Hydr. Depth (m)	1.25	2.07	1.52
Conv. Total (m3/s)	4857.3	Conv. (m3/s)	670.0	3807.1	380.3
Length Wtd. (m)	200.00	Wetted Per. (m)	15.09	19.67	9.47
Min Ch El (m)	9.65	Shear (N/m2)	0.36	0.57	0.34
Alpha	1.55	Stream Power (N/m s)	0.07	0.33	0.07
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	96.70	270.91	74.17
C & E Loss (m)	0.00	Cum SA (1000 m2)	67.85	122.44	51.63

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.65	Element	Left OB	Channel	Right OB

Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.65	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	24.19	44.72	13.50
E.G. Slope (m/m)	0.000018	Area (m2)	24.19	44.72	13.50
Q Total (m3/s)	27.00	Flow (m3/s)	3.96	20.80	2.24
Top Width (m)	45.01	Top Width (m)	18.29	19.14	7.58
Vel Total (m/s)	0.33	Avg. Vel. (m/s)	0.16	0.47	0.17
Max Chl Dpth (m)	3.00	Hydr. Depth (m)	1.32	2.34	1.78
Conv. Total (m3/s)	6395.3	Conv. (m3/s)	938.6	4927.1	529.5
Length Wtd. (m)	200.00	Wetted Per. (m)	19.26	21.05	10.58
Min Ch El (m)	9.65	Shear (N/m2)	0.22	0.37	0.22
Alpha	1.61	Stream Power (N/m s)	0.04	0.17	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	127.77	327.53	97.63
C & E Loss (m)	0.00	Cum SA (1000 m2)	74.72	125.54	57.63

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 35

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.1151	13.123	13.6448	13.3162	15.2228	13.4289	17.4064	13.3391	18.0602	13.2151
18.3082	13.1024	21.5487	10.72	23.0426	9.6217	33.6565	9.6203	35.2041	10.72
37.9419	12.6653	38.1244	12.9922	38.3563	13.1633	38.9313	13.2971	40.1953	13.2967
42.5758	13.2267	44.9594	13.0167	45.4566	12.9466				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.1151	.03	18.0602	.015	38.3563	.03

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
18.0602 38.3563 200 200 200 .0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.58	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	7.26	26.13	5.00
E.G. Slope (m/m)	0.000015	Area (m2)	7.26	26.13	5.00
Q Total (m3/s)	10.00	Flow (m3/s)	0.72	8.82	0.46
Top Width (m)	32.42	Top Width (m)	9.39	16.04	6.99
Vel Total (m/s)	0.26	Avg. Vel. (m/s)	0.10	0.34	0.09
Max Chl Dpth (m)	1.96	Hydr. Depth (m)	0.77	1.63	0.71
Conv. Total (m3/s)	2598.4	Conv. (m3/s)	187.0	2292.4	119.1
Length Wtd. (m)	200.00	Wetted Per. (m)	10.67	17.31	8.27
Min Ch El (m)	9.62	Shear (N/m2)	0.10	0.22	0.09
Alpha	1.50	Stream Power (N/m s)	0.01	0.07	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	57.57	195.84	44.72
C & E Loss (m)	0.00	Cum SA (1000 m2)	55.60	109.36	42.06

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.04	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.04	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	11.68	33.76	

8.36					
E.G. Slope (m/m)	0.000006	Area (m2)	11.68	33.76	
8.36					
Q Total (m3/s)	10.00	Flow (m3/s)	0.97	8.38	
0.64					
Top Width (m)	34.95	Top Width (m)	9.93	17.31	
7.71					
Vel Total (m/s)	0.19	Avg. Vel. (m/s)	0.08	0.25	
0.08					
Max Chl Dpth (m)	2.42	Hydr. Depth (m)	1.18	1.95	
1.09					
Conv. Total (m3/s)	3957.5	Conv. (m3/s)	385.7	3317.2	
254.6					
Length Wtd. (m)	200.00	Wetted Per. (m)	11.84	18.87	
9.58					
Min Ch El (m)	9.62	Shear (N/m2)	0.06	0.11	
0.05					
Alpha	1.53	Stream Power (N/m s)	0.01	0.03	
0.00					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	85.92	250.33	
66.00					
C & E Loss (m)	0.00	Cum SA (1000 m2)	64.03	117.64	
48.75					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)		Flow Area (m2)	16.62	42.45	
12.27					
E.G. Slope (m/m)	0.000003	Area (m2)	16.62	42.45	
12.27					
Q Total (m3/s)	10.00	Flow (m3/s)	1.14	8.08	
0.78					
Top Width (m)	37.62	Top Width (m)	10.51	18.65	
8.46					
Vel Total (m/s)	0.14	Avg. Vel. (m/s)	0.07	0.19	
0.06					
Max Chl Dpth (m)	2.90	Hydr. Depth (m)	1.58	2.28	
1.45					
Conv. Total (m3/s)	5685.9	Conv. (m3/s)	650.0	4594.9	
441.0					
Length Wtd. (m)	200.00	Wetted Per. (m)	13.07	20.52	

10.96					
Min Ch El (m)	9.62	Shear (N/m2)	0.04	0.06	0.03
Alpha	1.53	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	118.57	310.46	90.87
C & E Loss (m)	0.00	Cum SA (1000 m2)	70.68	123.03	54.86

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.95	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.93	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	10.60	31.88	7.53
E.G. Slope (m/m)	0.000056	Area (m2)	10.60	31.88	7.53
Q Total (m3/s)	27.00	Flow (m3/s)	2.49	22.87	1.63
Top Width (m)	34.34	Top Width (m)	9.80	17.00	7.54
Vel Total (m/s)	0.54	Avg. Vel. (m/s)	0.24	0.72	0.22
Max Chl Dpth (m)	2.31	Hydr. Depth (m)	1.08	1.88	1.00
Conv. Total (m3/s)	3607.1	Conv. (m3/s)	333.3	3055.4	218.4
Length Wtd. (m)	200.00	Wetted Per. (m)	11.56	18.50	9.27
Min Ch El (m)	9.62	Shear (N/m2)	0.50	0.95	0.45
Alpha	1.52	Stream Power (N/m s)	0.12	0.68	0.10
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	70.60	218.81	54.97
C & E Loss (m)	0.00	Cum SA (1000 m2)	58.26	112.94	44.68

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the

computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.25	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.24	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	13.66	37.23	9.92
E.G. Slope (m/m)	0.000034	Area (m2)	13.66	37.23	9.92
Q Total (m3/s)	27.00	Flow (m3/s)	2.84	22.26	1.90
Top Width (m)	36.04	Top Width (m)	10.17	17.85	8.02
Vel Total (m/s)	0.44	Avg. Vel. (m/s)	0.21	0.60	0.19
Max Chl Dpth (m)	2.62	Hydr. Depth (m)	1.34	2.09	1.24
Conv. Total (m3/s)	4627.2	Conv. (m3/s)	487.3	3814.5	325.5
Length Wtd. (m)	200.00	Wetted Per. (m)	12.34	19.55	10.15
Min Ch El (m)	9.62	Shear (N/m2)	0.37	0.64	0.33
Alpha	1.53	Stream Power (N/m s)	0.08	0.38	0.06
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	93.54	263.46	72.12
C & E Loss (m)	0.00	Cum SA (1000 m2)	65.40	118.85	50.13

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.65	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.64	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	17.87	44.68	13.28
E.G. Slope (m/m)	0.000019	Area (m2)	17.87	44.68	

13.28					
Q Total (m3/s)	27.00	Flow (m3/s)	3.17	21.67	2.16
Top Width (m)	38.27	Top Width (m)	10.65	18.97	8.65
Vel Total (m/s)	0.36	Avg. Vel. (m/s)	0.18	0.48	0.16
Max Chl Dpth (m)	3.02	Hydr. Depth (m)	1.68	2.35	1.54
Conv. Total (m3/s)	6154.2	Conv. (m3/s)	722.5	4938.6	493.2
Length Wtd. (m)	200.00	Wetted Per. (m)	13.38	20.93	11.30
Min Ch El (m)	9.62	Shear (N/m2)	0.25	0.40	0.22
Alpha	1.53	Stream Power (N/m s)	0.04	0.20	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	123.56	318.59	94.95
C & E Loss (m)	0.00	Cum SA (1000 m2)	71.82	121.72	56.00

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 34

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13.8322	13.202	16.1163	13.4847	17.683	13.3961	19.6246	13.2774	23.0892	10.73
24.6312	9.5962	35.3412	9.5948	36.8758	10.73	39.2928	12.5178	39.5374	12.7735
39.7719	13.0516	39.9984	13.1867	40.4289	13.2708	41.5074	13.3217	42.1993	13.3115
43.7292	13.2914	44.706	13.2202	45.3978	13.1999	46.5679	13.0168		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
13.8322	.03	19.6246	.015	39.9984	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
19.6246	39.9984	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.58	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	12.39	26.59	4.60
E.G. Slope (m/m)	0.000012	Area (m2)	12.39	26.59	4.60
Q Total (m3/s)	10.00	Flow (m3/s)	1.32	8.24	0.44
Top Width (m)	32.16	Top Width (m)	11.74	16.09	4.34
Vel Total (m/s)	0.23	Avg. Vel. (m/s)	0.11	0.31	0.10
Max Chl Dpth (m)	2.51	Hydr. Depth (m)	1.06	1.65	1.06
Conv. Total (m3/s)	2856.5	Conv. (m3/s)	377.3	2352.8	126.5
Length Wtd. (m)	200.00	Wetted Per. (m)	14.20	17.40	6.14
Min Ch El (m)	9.59	Shear (N/m2)	0.10	0.18	0.09
Alpha	1.54	Stream Power (N/m s)	0.01	0.06	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	55.61	190.57	43.76
C & E Loss (m)	0.00	Cum SA (1000 m2)	53.49	106.14	40.93

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.04	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.04	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	17.91	34.26	6.74
E.G. Slope (m/m)	0.000006	Area (m2)	17.91	34.26	6.74
Q Total (m3/s)	10.00	Flow (m3/s)	1.55	7.96	0.50
Top Width (m)	34.66	Top Width (m)	12.33	17.34	5.00

Vel Total (m/s)	0.17	Avg. Vel. (m/s)	0.09	0.23	0.07
Max Chl Dpth (m)	2.97	Hydr. Depth (m)	1.45	1.98	1.35
Conv. Total (m3/s)	4261.9	Conv. (m3/s)	660.1	3390.7	211.0
Length Wtd. (m)	200.00	Wetted Per. (m)	15.41	18.94	7.41
Min Ch El (m)	9.59	Shear (N/m2)	0.06	0.10	0.05
Alpha	1.54	Stream Power (N/m s)	0.01	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	82.96	243.53	64.49
C & E Loss (m)	0.00	Cum SA (1000 m2)	61.80	114.17	47.48

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	24.03	42.97	9.33
E.G. Slope (m/m)	0.000003	Area (m2)	24.03	42.97	9.33
Q Total (m3/s)	10.00	Flow (m3/s)	1.70	7.77	0.54
Top Width (m)	37.30	Top Width (m)	12.95	18.65	5.70
Vel Total (m/s)	0.13	Avg. Vel. (m/s)	0.07	0.18	0.06
Max Chl Dpth (m)	3.45	Hydr. Depth (m)	1.85	2.30	1.64
Conv. Total (m3/s)	6026.6	Conv. (m3/s)	1021.6	4680.3	324.7
Length Wtd. (m)	200.00	Wetted Per. (m)	16.68	20.57	8.74
Min Ch El (m)	9.59	Shear (N/m2)	0.04	0.06	0.03
Alpha	1.54	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	114.50	301.92	88.71

C & E Loss (m)	0.00	Cum SA (1000 m2)	68.33	119.30	53.44

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.94	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.92	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	16.49	32.27	6.17
E.G. Slope (m/m)	0.000048	Area (m2)	16.49	32.27	6.17
Q Total (m3/s)	27.00	Flow (m3/s)	4.05	21.64	1.30
Top Width (m)	34.03	Top Width (m)	12.18	17.02	4.83
Vel Total (m/s)	0.49	Avg. Vel. (m/s)	0.25	0.67	0.21
Max Chl Dpth (m)	2.85	Hydr. Depth (m)	1.35	1.90	1.28
Conv. Total (m3/s)	3882.9	Conv. (m3/s)	583.1	3112.1	187.6
Length Wtd. (m)	200.00	Wetted Per. (m)	15.10	18.55	7.09
Min Ch El (m)	9.59	Shear (N/m2)	0.52	0.82	0.41
Alpha	1.54	Stream Power (N/m s)	0.13	0.55	0.09
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	67.90	212.40	53.60
C & E Loss (m)	0.00	Cum SA (1000 m2)	56.06	109.54	43.44

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.25	Element	Left OB	Channel	Right OB

Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.23	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	20.33	37.67	7.74
E.G. Slope (m/m)	0.000030	Area (m2)	20.33	37.67	7.74
Q Total (m3/s)	27.00	Flow (m3/s)	4.36	21.25	1.39
Top Width (m)	35.72	Top Width (m)	12.58	17.86	5.28
Vel Total (m/s)	0.41	Avg. Vel. (m/s)	0.21	0.56	0.18
Max Chl Dpth (m)	3.16	Hydr. Depth (m)	1.62	2.11	1.47
Conv. Total (m3/s)	4934.4	Conv. (m3/s)	797.6	3883.4	253.5
Length Wtd. (m)	200.00	Wetted Per. (m)	15.92	19.60	7.94
Min Ch El (m)	9.59	Shear (N/m2)	0.37	0.56	0.29
Alpha	1.54	Stream Power (N/m s)	0.08	0.32	0.05
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	90.14	255.97	70.36
C & E Loss (m)	0.00	Cum SA (1000 m2)	63.13	115.28	48.80

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.65	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.64	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	25.54	45.15	10.00
E.G. Slope (m/m)	0.000017	Area (m2)	25.54	45.15	10.00
Q Total (m3/s)	27.00	Flow (m3/s)	4.64	20.88	1.48
Top Width (m)	37.89	Top Width (m)	13.10	18.92	5.87
Vel Total (m/s)	0.33	Avg. Vel. (m/s)	0.18	0.46	0.15

Max Chl Dpth (m)	3.57	Hydr. Depth (m)	1.95	2.39	1.70
Conv. Total (m3/s)	6498.4	Conv. (m3/s)	1117.4	5025.1	356.0
Length Wtd. (m)	200.00	Wetted Per. (m)	16.99	20.93	9.06
Min Ch El (m)	9.59	Shear (N/m2)	0.25	0.37	0.19
Alpha	1.54	Stream Power (N/m s)	0.05	0.17	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	119.22	309.61	92.63
C & E Loss (m)	0.00	Cum SA (1000 m2)	69.45	117.94	54.55

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 33

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
14.0787	12.8764	14.6403	13.0685	15.0542	13.0833	17.1619	13.2321	18.6251	13.2173
19.8959	13.1401	23.423	10.73	25.1196	9.5707	35.6574	9.57	37.2774	10.7446
39.9214	12.6616	40.148	12.9673	40.6121	13.1383	40.8425	13.1941	41.698	13.2688
44.0041	13.2521	45.4253	13.1628	46.8659	12.973				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
14.0787	.03	19.8959	.015	40.6121	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
19.8959	40.6121	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.58	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	15.51	26.91	

12.73					
E.G. Slope (m/m)	0.000009	Area (m2)	15.51	26.91	
12.73					
Q Total (m3/s)	10.00	Flow (m3/s)	1.61	6.98	
1.41					
Top Width (m)	36.41	Top Width (m)	12.32	16.25	
7.84					
Vel Total (m/s)	0.18	Avg. Vel. (m/s)	0.10	0.26	
0.11					
Max Chl Dpth (m)	2.51	Hydr. Depth (m)	1.26	1.66	
1.62					
Conv. Total (m3/s)	3420.8	Conv. (m3/s)	550.2	2388.0	
482.6					
Length Wtd. (m)	200.00	Wetted Per. (m)	14.13	17.52	
10.50					
Min Ch El (m)	9.57	Shear (N/m2)	0.09	0.13	
0.10					
Alpha	1.53	Stream Power (N/m s)	0.01	0.03	
0.01					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	52.82	185.22	
42.03					
C & E Loss (m)	0.00	Cum SA (1000 m2)	51.09	102.91	
39.71					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.04	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.04	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)		Flow Area (m2)	21.31	34.67	
16.48					
E.G. Slope (m/m)	0.000004	Area (m2)	21.31	34.67	
16.48					
Q Total (m3/s)	10.00	Flow (m3/s)	1.76	6.86	
1.37					
Top Width (m)	38.99	Top Width (m)	12.95	17.55	
8.49					
Vel Total (m/s)	0.14	Avg. Vel. (m/s)	0.08	0.20	
0.08					
Max Chl Dpth (m)	2.97	Hydr. Depth (m)	1.65	1.97	
1.94					
Conv. Total (m3/s)	5008.6	Conv. (m3/s)	883.6	3437.0	
687.9					
Length Wtd. (m)	200.00	Wetted Per. (m)	15.36	19.12	

11.76					
Min Ch El (m)	9.57	Shear (N/m2)	0.05	0.07	0.05
Alpha	1.53	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	79.03	236.64	62.17
C & E Loss (m)	0.00	Cum SA (1000 m2)	59.28	110.68	46.13

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	27.74	43.50	20.76
E.G. Slope (m/m)	0.000002	Area (m2)	27.74	43.50	20.76
Q Total (m3/s)	10.00	Flow (m3/s)	1.86	6.79	1.35
Top Width (m)	41.72	Top Width (m)	13.60	18.93	9.19
Vel Total (m/s)	0.11	Avg. Vel. (m/s)	0.07	0.16	0.06
Max Chl Dpth (m)	3.45	Hydr. Depth (m)	2.04	2.30	2.26
Conv. Total (m3/s)	6981.6	Conv. (m3/s)	1298.6	4742.0	941.0
Length Wtd. (m)	200.00	Wetted Per. (m)	16.66	20.80	13.09
Min Ch El (m)	9.57	Shear (N/m2)	0.03	0.04	0.03
Alpha	1.52	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	109.33	293.27	85.70
C & E Loss (m)	0.00	Cum SA (1000 m2)	65.68	115.55	51.95

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the

computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.93	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.92	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	19.81	32.63	15.50
E.G. Slope (m/m)	0.000035	Area (m2)	19.81	32.63	15.50
Q Total (m3/s)	27.00	Flow (m3/s)	4.68	18.59	3.73
Top Width (m)	38.34	Top Width (m)	12.79	17.22	8.33
Vel Total (m/s)	0.40	Avg. Vel. (m/s)	0.24	0.57	0.24
Max Chl Dpth (m)	2.85	Hydr. Depth (m)	1.55	1.89	1.86
Conv. Total (m3/s)	4577.3	Conv. (m3/s)	792.8	3152.1	632.4
Length Wtd. (m)	200.00	Wetted Per. (m)	15.05	18.71	11.44
Min Ch El (m)	9.57	Shear (N/m2)	0.45	0.60	0.46
Alpha	1.53	Stream Power (N/m s)	0.11	0.34	0.11
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	64.27	205.91	51.43
C & E Loss (m)	0.00	Cum SA (1000 m2)	53.56	106.11	42.13

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.24	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.23	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	23.84	38.12	18.15
E.G. Slope (m/m)	0.000022	Area (m2)	23.84	38.12	

18.15					
Q Total (m3/s)	27.00	Flow (m3/s)	4.88	18.44	3.68
Top Width (m)	40.08	Top Width (m)	13.21	18.10	8.77
Vel Total (m/s)	0.34	Avg. Vel. (m/s)	0.20	0.48	0.20
Max Chl Dpth (m)	3.16	Hydr. Depth (m)	1.81	2.11	2.07
Conv. Total (m3/s)	5760.0	Conv. (m3/s)	1041.8	3933.6	784.5
Length Wtd. (m)	200.00	Wetted Per. (m)	15.88	19.79	12.29
Min Ch El (m)	9.57	Shear (N/m2)	0.32	0.42	0.32
Alpha	1.52	Stream Power (N/m s)	0.07	0.20	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	85.72	248.39	67.77
C & E Loss (m)	0.00	Cum SA (1000 m2)	60.55	111.68	47.40

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.64	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.64	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	29.32	45.71	21.83
E.G. Slope (m/m)	0.000013	Area (m2)	29.32	45.71	21.83
Q Total (m3/s)	27.00	Flow (m3/s)	5.07	18.31	3.63
Top Width (m)	42.37	Top Width (m)	13.76	19.26	9.35
Vel Total (m/s)	0.28	Avg. Vel. (m/s)	0.17	0.40	0.17
Max Chl Dpth (m)	3.57	Hydr. Depth (m)	2.13	2.37	2.33
Conv. Total (m3/s)	7500.1	Conv. (m3/s)	1407.2	5085.6	1007.4
Length Wtd. (m)	200.00	Wetted Per. (m)	16.97	21.20	13.41
Min Ch El (m)	9.57	Shear (N/m2)	0.22	0.27	

0.21					
Alpha	1.52	Stream Power (N/m s)	0.04	0.11	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	113.73	300.53	89.44
C & E Loss (m)	0.00	Cum SA (1000 m2)	66.76	114.12	53.03

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 32

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13.8712	12.9796	15.9743	13.1659	17.9142	13.1527	18.9185	13.0296	22.1264	10.75
23.7869	9.57	34.321	9.57	35.9897	10.75	38.4495	12.4895	39.1162	13.1512
39.5671	13.2868	40.4953	13.3757	41.3198	13.371	42.483	13.3711	42.7821	13.3662
43.4195	13.2633	44.2811	13.2701	45.1598	13.0694				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
13.8712	.03	18.9185	.015	39.1162	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.9185	39.1162	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.58	Reach Len. (m)	191.00	191.00	191.00
Crit W.S. (m)	9.88	Flow Area (m2)	19.21	26.85	15.45
E.G. Slope (m/m)	0.000007	Area (m2)	19.21	26.85	15.45
Q Total (m3/s)	10.00	Flow (m3/s)	2.09	6.28	1.63
Top Width (m)	36.77	Top Width (m)	11.44	16.20	9.13

Vel Total (m/s)	0.16	Avg. Vel. (m/s)	0.11	0.23	0.11
Max Chl Dpth (m)	2.46	Hydr. Depth (m)	1.68	1.66	1.69
Conv. Total (m3/s)	3795.3	Conv. (m3/s)	794.4	2382.8	618.1
Length Wtd. (m)	191.00	Wetted Per. (m)	13.90	17.48	11.75
Min Ch El (m)	9.57	Shear (N/m2)	0.09	0.10	0.09
Alpha	1.46	Stream Power (N/m s)	0.01	0.02	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	49.35	179.84	39.21
C & E Loss (m)	0.00	Cum SA (1000 m2)	48.71	99.66	38.02

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.04	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.04	Reach Len. (m)	191.00	191.00	191.00
Crit W.S. (m)	9.88	Flow Area (m2)	24.59	34.59	19.80
E.G. Slope (m/m)	0.000003	Area (m2)	24.59	34.59	19.80
Q Total (m3/s)	10.00	Flow (m3/s)	2.09	6.31	1.60
Top Width (m)	39.31	Top Width (m)	11.97	17.50	9.83
Vel Total (m/s)	0.13	Avg. Vel. (m/s)	0.08	0.18	0.08
Max Chl Dpth (m)	2.92	Hydr. Depth (m)	2.05	1.98	2.01
Conv. Total (m3/s)	5438.1	Conv. (m3/s)	1136.1	3430.1	871.9
Length Wtd. (m)	191.00	Wetted Per. (m)	15.07	19.07	13.05
Min Ch El (m)	9.57	Shear (N/m2)	0.05	0.06	0.05
Alpha	1.47	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	74.44	229.71	58.54

C & E Loss (m)	0.00	Cum SA (1000 m2)	56.78	107.18	44.30

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	191.00	191.00	191.00
Crit W.S. (m)	9.88	Flow Area (m2)	30.55	43.39	24.74
E.G. Slope (m/m)	0.000002	Area (m2)	30.55	43.39	24.74
Q Total (m3/s)	10.00	Flow (m3/s)	2.06	6.35	1.59
Top Width (m)	42.22	Top Width (m)	12.79	18.85	10.58
Vel Total (m/s)	0.10	Avg. Vel. (m/s)	0.07	0.15	0.06
Max Chl Dpth (m)	3.41	Hydr. Depth (m)	2.39	2.30	2.34
Conv. Total (m3/s)	7450.2	Conv. (m3/s)	1534.6	4733.3	1182.3
Length Wtd. (m)	191.00	Wetted Per. (m)	16.51	20.73	14.42
Min Ch El (m)	9.57	Shear (N/m2)	0.03	0.04	0.03
Alpha	1.48	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	103.50	284.59	81.15
C & E Loss (m)	0.00	Cum SA (1000 m2)	63.04	111.77	49.98

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.93	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.92	Reach Len. (m)	191.00	191.00	191.00
Crit W.S. (m)	10.14	Flow Area (m2)	23.15	32.50	18.63
E.G. Slope (m/m)	0.000029	Area (m2)	23.15	32.50	18.63
Q Total (m3/s)	27.00	Flow (m3/s)	5.65	17.01	4.34
Top Width (m)	38.64	Top Width (m)	11.83	17.16	9.65
Vel Total (m/s)	0.36	Avg. Vel. (m/s)	0.24	0.52	0.23
Max Chl Dpth (m)	2.80	Hydr. Depth (m)	1.96	1.89	1.93
Conv. Total (m3/s)	4980.8	Conv. (m3/s)	1041.9	3137.5	801.4
Length Wtd. (m)	191.00	Wetted Per. (m)	14.76	18.65	12.71
Min Ch El (m)	9.57	Shear (N/m2)	0.45	0.50	0.42
Alpha	1.47	Stream Power (N/m s)	0.11	0.26	0.10
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	59.97	199.39	48.02
C & E Loss (m)	0.00	Cum SA (1000 m2)	51.10	102.68	40.33

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.24	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.23	Reach Len. (m)	191.00	191.00	191.00
Crit W.S. (m)	10.14	Flow Area (m2)	26.90	37.99	21.71
E.G. Slope (m/m)	0.000019	Area (m2)	26.90	37.99	21.71
Q Total (m3/s)	27.00	Flow (m3/s)	5.63	17.07	4.31
Top Width (m)	40.36	Top Width (m)	12.20	18.04	

10.13					
Vel Total (m/s)	0.31	Avg. Vel. (m/s)	0.21	0.45	
0.20					
Max Chl Dpth (m)	3.11	Hydr. Depth (m)	2.21	2.11	
2.14					
Conv. Total (m3/s)	6200.9	Conv. (m3/s)	1292.1	3919.7	
989.2					
Length Wtd. (m)	191.00	Wetted Per. (m)	15.55	19.73	
13.59					
Min Ch El (m)	9.57	Shear (N/m2)	0.32	0.36	
0.30					
Alpha	1.47	Stream Power (N/m s)	0.07	0.16	
0.06					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	80.65	240.78	
63.78					
C & E Loss (m)	0.00	Cum SA (1000 m2)	58.01	108.07	
45.51					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.64	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.64	Reach Len. (m)	191.00	191.00	
191.00					
Crit W.S. (m)	10.14	Flow Area (m2)	32.03	45.57	
25.97					
E.G. Slope (m/m)	0.000011	Area (m2)	32.03	45.57	
25.97					
Q Total (m3/s)	27.00	Flow (m3/s)	5.53	17.19	
4.27					
Top Width (m)	42.95	Top Width (m)	13.06	19.13	
10.75					
Vel Total (m/s)	0.26	Avg. Vel. (m/s)	0.17	0.38	
0.16					
Max Chl Dpth (m)	3.52	Hydr. Depth (m)	2.45	2.38	
2.41					
Conv. Total (m3/s)	7973.0	Conv. (m3/s)	1633.9	5076.8	
1262.3					
Length Wtd. (m)	191.00	Wetted Per. (m)	16.92	21.09	
14.74					
Min Ch El (m)	9.57	Shear (N/m2)	0.21	0.24	
0.20					
Alpha	1.49	Stream Power (N/m s)	0.04	0.09	
0.03					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	107.60	291.40	

```
  84.66
  C & E Loss (m)            0.00    Cum SA (1000 m2)         64.08     110.28
  51.02



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

BRIDGE


RIVER: SNM
REACH: Canale SNM         RS: 31.5

INPUT
Description: \
Distance from Upstream XS =     191
Deck/Roadway Width        =       5
Weir Coefficient          =     1.4
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   17.81    14.1   12.38   40.36    14.1   12.38

Upstream Bridge Cross Section Data
Station Elevation Data    num=      18
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 13.8712 12.9796 15.9743 13.1659 17.9142 13.1527 18.9185 13.0296 22.1264   10.75
 23.7869    9.57  34.321    9.57 35.9897   10.75 38.4495 12.4895 39.1162 13.1512
 39.5671 13.2868 40.4953 13.3757 41.3198  13.371  42.483 13.3711 42.7821 13.3662
 43.4195 13.2633 44.2811 13.2701 45.1598 13.0694

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 13.8712     .03 18.9185    .015 39.1162     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       18.9185 39.1162          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   19.08   14.22   12.49   41.63   14.22   12.49

Downstream Bridge Cross Section Data
Station Elevation Data    num=      23
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 14.8649 12.7945 15.1611 12.8833 15.6202 12.8537 16.1565  12.799 16.7153 12.8933
 17.0056 12.9078 17.8257 12.9006 18.4426 12.8643 18.7909 12.9513  19.132 13.0021
```

```
 19.3279 13.0021 19.6908 12.9659 23.2958   10.75 25.0196    9.57 35.6829    9.57
 37.5033   10.75 40.9564 12.9883 41.8237 12.9883 42.9488 12.8667 43.3665 12.9109
 43.8283 12.8912   46.61 12.8407 47.2974 12.7907

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 14.8649     .03 19.6908    .015 40.9564     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       19.6908 40.9564          .0015      .01

Upstream Embankment side slope              =     1.8 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.8 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   17.81   12.38   22.78   12.38
Downstream     num=       2
     Sta    Elev     Sta    Elev
   19.08   12.49   24.06   12.49

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   35.38   12.38   40.36   12.38
Downstream     num=       2
     Sta    Elev     Sta    Elev
   36.65   12.49   41.64   12.49

Number of Piers =  2

Pier Data
Pier Station     Upstream=   26.38    Downstream=   27.65
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.57      .5   12.37
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.57      .5   12.49

Pier Data
Pier Station     Upstream=   31.73    Downstream=      33
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.57      .5   12.38
Downstream     num=       2
```

```
    Width   Elev    Width   Elev
      .5    9.57      .5   12.49

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.58    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.58    E.G. Elev (m)               11.58
11.58
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.58
11.58
  Q Bridge (m3/s)             5.15    Crit W.S. (m)                9.89
 9.85
  Q Weir (m3/s)                       Max Chl Dpth (m)             2.01
 2.01
  Weir Sta Lft (m)                    Vel Total (m/s)              0.17
 0.17
  Weir Sta Rgt (m)                    Flow Area (m2)              57.15
57.77
  Weir Submerg                        Froude # Chl                 0.05
 0.05
  Weir Max Depth (m)                  Specif Force (m3)           54.40
53.14
  Min El Weir Flow (m)        9.51    Hydr Depth (m)               1.78
 1.62
  Min El Prs (m)             12.38    W.P. Total (m)              48.28
50.81
  Delta EG (m)                0.00    Conv. Total (m3/s)         2906.9
2904.6
  Delta WS (m)                0.00    Top Width (m)               32.16
35.71
  BR Open Area (m2)          31.84    Frctn Loss (m)               0.00
 0.00
  BR Open Vel (m/s)           0.23    C & E Loss (m)               0.00
 0.00
  BR Sluice Coef                      Shear Total (N/m2)           0.14
 0.13
```

BR Sel Method	Energy only	Power Total (N/m s)	0.02
0.02			

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.04	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.04	E.G. Elev (m)	12.04
12.04			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.04
12.04			
Q Bridge (m3/s)	4.96	Crit W.S. (m)	9.89
9.85			
Q Weir (m3/s)		Max Chl Dpth (m)	2.47
2.47			
Weir Sta Lft (m)		Vel Total (m/s)	0.14
0.13			
Weir Sta Rgt (m)		Flow Area (m2)	72.24
74.85			
Weir Submerg		Froude # Chl	0.04
0.04			
Weir Max Depth (m)		Specif Force (m3)	84.11
83.58			
Min El Weir Flow (m)	9.51	Hydr Depth (m)	2.16
1.94			
Min El Prs (m)	12.38	W.P. Total (m)	53.51
57.43			
Delta EG (m)	0.00	Conv. Total (m3/s)	3982.4
4052.4			
Delta WS (m)	0.00	Top Width (m)	33.41
38.49			
BR Open Area (m2)	31.84	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.18	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.08
0.08			
BR Sel Method	Energy only	Power Total (N/m s)	0.01
0.01			

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.52	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.52	E.G. Elev (m)	12.52
12.52			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.52
12.52			

Q Bridge (m3/s)	4.02	Crit W.S. (m)	9.89 9.85
Q Weir (m3/s)		Max Chl Dpth (m)	2.95 2.95
Weir Sta Lft (m)		Vel Total (m/s)	0.11 0.11
Weir Sta Rgt (m)		Flow Area (m2)	87.13 93.84
Weir Submerg		Froude # Chl	0.02 0.02
Weir Max Depth (m)		Specif Force (m3)	122.94 124.44
Min El Weir Flow (m)	9.51	Hydr Depth (m)	3.73 3.15
Min El Prs (m)	12.38	W.P. Total (m)	70.97 75.79
Delta EG (m)	0.00	Conv. Total (m3/s)	4538.5 4886.7
Delta WS (m)	0.00	Top Width (m)	23.37 29.83
BR Open Area (m2)	31.84	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.13	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.06 0.05
BR Sel Method	Energy only	Power Total (N/m s)	0.01 0.01

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.93	Element	Inside BR US Inside BR DS
W.S. US. (m)	11.92	E.G. Elev (m)	11.92 11.92
Q Total (m3/s)	27.00	W.S. Elev (m)	11.91 11.91
Q Bridge (m3/s)	13.53	Crit W.S. (m)	10.15 10.14
Q Weir (m3/s)		Max Chl Dpth (m)	2.34 2.34
Weir Sta Lft (m)		Vel Total (m/s)	0.40 0.39
Weir Sta Rgt (m)		Flow Area (m2)	68.02 70.02
Weir Submerg		Froude # Chl	0.11 0.11

Weir Max Depth (m)		Specif Force (m3)	76.22 75.38
Min El Weir Flow (m)	9.51	Hydr Depth (m)	2.06 1.86
Min El Prs (m)	12.38	W.P. Total (m)	52.07 55.61
Delta EG (m)	0.01	Conv. Total (m3/s)	3675.7 3720.9
Delta WS (m)	0.01	Top Width (m)	33.06 37.72
BR Open Area (m2)	31.84	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.51	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.69 0.65
BR Sel Method	Energy only	Power Total (N/m s)	0.27 0.25

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.24	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.23	E.G. Elev (m)	12.23 12.23
Q Total (m3/s)	27.00	W.S. Elev (m)	12.22 12.23
Q Bridge (m3/s)	13.20	Crit W.S. (m)	10.15 10.14
Q Weir (m3/s)		Max Chl Dpth (m)	2.65 2.65
Weir Sta Lft (m)		Vel Total (m/s)	0.34 0.33
Weir Sta Rgt (m)		Flow Area (m2)	78.55 82.18
Weir Submerg		Froude # Chl	0.09 0.08
Weir Max Depth (m)		Specif Force (m3)	99.09 99.13
Min El Weir Flow (m)	9.51	Hydr Depth (m)	2.32 2.07
Min El Prs (m)	12.38	W.P. Total (m)	55.65 60.13
Delta EG (m)	0.01	Conv. Total (m3/s)	4449.9 4564.7
Delta WS (m)	0.00	Top Width (m)	33.91 39.62
BR Open Area (m2)	31.84	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.44	C & E Loss (m)	0.00 0.00

BR Sluice Coef		Shear Total (N/m2)	0.51 0.47
BR Sel Method	Energy only	Power Total (N/m s)	0.18 0.15

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.64	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.64	E.G. Elev (m)	12.64 12.64
Q Total (m3/s)	27.00	W.S. Elev (m)	12.63 12.63
Q Bridge (m3/s)	10.44	Crit W.S. (m)	10.15 10.14
Q Weir (m3/s)		Max Chl Dpth (m)	3.06 3.06
Weir Sta Lft (m)		Vel Total (m/s)	0.30 0.28
Weir Sta Rgt (m)		Flow Area (m2)	89.77 97.26
Weir Submerg		Froude # Chl	0.06 0.05
Weir Max Depth (m)		Specif Force (m3)	133.56 135.84
Min El Weir Flow (m)	9.51	Hydr Depth (m)	3.77 2.98
Min El Prs (m)	12.38	W.P. Total (m)	71.69 78.90
Delta EG (m)	0.00	Conv. Total (m3/s)	4713.7 5061.5
Delta WS (m)	0.00	Top Width (m)	23.81 32.63
BR Open Area (m2)	31.84	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.33	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.40 0.34
BR Sel Method	Energy only	Power Total (N/m s)	0.12 0.10

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 31

INPUT
Description: Opera 11
Opera 11
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
14.8649	12.7945	15.1611	12.8833	15.6202	12.8537	16.1565	12.799	16.7153	12.8933
17.0056	12.9078	17.8257	12.9006	18.4426	12.8643	18.7909	12.9513	19.132	13.0021
19.3279	13.0021	19.6908	12.9659	23.2958	10.75	25.0196	9.57	35.6829	9.57
37.5033	10.75	40.9564	12.9883	41.8237	12.9883	42.9488	12.8667	43.3665	12.9109
43.8283	12.8912	46.61	12.8407	47.2974	12.7907				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
14.8649	.03	19.6908	.015	40.9564	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
19.6908	40.9564	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.58	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	6.93	27.50	28.20
E.G. Slope (m/m)	0.000007	Area (m2)	6.93	27.50	28.20
Q Total (m3/s)	10.00	Flow (m3/s)	0.53	6.35	3.13
Top Width (m)	40.94	Top Width (m)	6.85	16.83	17.27
Vel Total (m/s)	0.16	Avg. Vel. (m/s)	0.08	0.23	0.11
Max Chl Dpth (m)	2.07	Hydr. Depth (m)	1.01	1.63	1.63
Conv. Total (m3/s)	3829.7	Conv. (m3/s)	202.2	2430.5	1196.9
Length Wtd. (m)	200.00	Wetted Per. (m)	8.45	18.02	19.62
Min Ch El (m)	9.57	Shear (N/m2)	0.05	0.10	0.10
Alpha	1.49	Stream Power (N/m s)	0.00	0.02	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	45.59	174.91	36.04
C & E Loss (m)	0.00	Cum SA (1000 m2)	46.45	96.89	

36.14

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.04	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.04	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	10.35	35.59	36.52
E.G. Slope (m/m)	0.000003	Area (m2)	10.35	35.59	36.52
Q Total (m3/s)	10.00	Flow (m3/s)	0.63	6.29	3.08
Top Width (m)	45.18	Top Width (m)	8.01	18.29	18.89
Vel Total (m/s)	0.12	Avg. Vel. (m/s)	0.06	0.18	0.08
Max Chl Dpth (m)	2.53	Hydr. Depth (m)	1.29	1.95	1.93
Conv. Total (m3/s)	5581.7	Conv. (m3/s)	349.1	3513.6	1719.1
Length Wtd. (m)	200.00	Wetted Per. (m)	10.16	19.75	21.77
Min Ch El (m)	9.57	Shear (N/m2)	0.03	0.06	0.05
Alpha	1.50	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	69.62	223.48	54.47
C & E Loss (m)	0.00	Cum SA (1000 m2)	54.41	104.28	42.27

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	

0.030					
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	14.53	44.82	46.09
E.G. Slope (m/m)	0.000002	Area (m2)	14.53	44.82	46.09
Q Total (m3/s)	10.00	Flow (m3/s)	0.71	6.25	3.04
Top Width (m)	49.65	Top Width (m)	9.24	19.82	20.59
Vel Total (m/s)	0.09	Avg. Vel. (m/s)	0.05	0.14	0.07
Max Chl Dpth (m)	3.01	Hydr. Depth (m)	1.57	2.26	2.24
Conv. Total (m3/s)	7789.5	Conv. (m3/s)	551.0	4866.7	2371.9
Length Wtd. (m)	200.00	Wetted Per. (m)	11.97	21.56	24.02
Min Ch El (m)	9.57	Shear (N/m2)	0.02	0.03	0.03
Alpha	1.52	Stream Power (N/m s)	0.00	0.00	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	97.49	277.08	76.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	60.50	109.93	47.80

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.92	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.91	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	9.35	33.29	34.15
E.G. Slope (m/m)	0.000028	Area (m2)	9.35	33.29	34.15
Q Total (m3/s)	27.00	Flow (m3/s)	1.62	17.03	8.35
Top Width (m)	44.01	Top Width (m)	7.69	17.88	18.44
Vel Total (m/s)	0.35	Avg. Vel. (m/s)	0.17	0.51	0.24
Max Chl Dpth (m)	2.40	Hydr. Depth (m)	1.22	1.86	

1.85					
Conv. Total (m3/s)	5064.4	Conv. (m3/s)	304.2	3194.8	1565.3
Length Wtd. (m)	200.00	Wetted Per. (m)	9.69	19.27	21.18
Min Ch El (m)	9.57	Shear (N/m2)	0.27	0.48	0.45
Alpha	1.50	Stream Power (N/m s)	0.05	0.25	0.11
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	55.44	193.52	44.20
C & E Loss (m)	0.00	Cum SA (1000 m2)	48.76	99.81	38.34

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.23	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.22	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	11.89	39.07	40.12
E.G. Slope (m/m)	0.000018	Area (m2)	11.89	39.07	40.12
Q Total (m3/s)	27.00	Flow (m3/s)	1.78	16.94	8.28
Top Width (m)	46.91	Top Width (m)	8.49	18.88	19.54
Vel Total (m/s)	0.30	Avg. Vel. (m/s)	0.15	0.43	0.21
Max Chl Dpth (m)	2.72	Hydr. Depth (m)	1.40	2.07	2.05
Conv. Total (m3/s)	6390.6	Conv. (m3/s)	421.2	4010.7	1958.8
Length Wtd. (m)	200.00	Wetted Per. (m)	10.86	20.45	22.64
Min Ch El (m)	9.57	Shear (N/m2)	0.19	0.33	0.31
Alpha	1.51	Stream Power (N/m s)	0.03	0.15	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	75.37	233.99	59.32
C & E Loss (m)	0.00	Cum SA (1000 m2)	55.59	105.12	43.42

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.64	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.63	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	15.61	47.06	48.41
E.G. Slope (m/m)	0.000011	Area (m2)	15.61	47.06	48.41
Q Total (m3/s)	27.00	Flow (m3/s)	1.82	16.93	8.25
Top Width (m)	52.71	Top Width (m)	11.55	20.18	20.98
Vel Total (m/s)	0.24	Avg. Vel. (m/s)	0.12	0.36	0.17
Max Chl Dpth (m)	3.12	Hydr. Depth (m)	1.35	2.33	2.31
Conv. Total (m3/s)	8310.3	Conv. (m3/s)	561.1	5211.1	2538.2
Length Wtd. (m)	200.00	Wetted Per. (m)	14.46	21.98	24.54
Min Ch El (m)	9.57	Shear (N/m2)	0.11	0.22	0.20
Alpha	1.54	Stream Power (N/m s)	0.01	0.08	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	101.30	283.68	79.33
C & E Loss (m)	0.00	Cum SA (1000 m2)	61.48	108.41	48.80

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 30

INPUT
Description:

Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
14.9274	12.9364	15.626	13.0546	16.436	13.0676	16.8572	13.1842	17.57	13.1518
17.9199	13.0935	18.5614	13.1583	19.401	13.1065	23.0744	10.75	24.9139	9.57
34.8147	9.57	36.4719	10.75	39.9672	13.2387	40.2435	13.2794	41.2758	13.3037
41.8493	13.3027	42.0485	13.3465	42.6658	13.3306	42.9127	13.3027	43.1198	13.2788
43.4743	13.255	44.0726	13.2191	44.3913	13.1873	44.5546	13.1515		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
14.9274	.03	19.401	.015	39.9672	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
19.401	39.9672	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	13.61	25.79	11.67
E.G. Slope (m/m)	0.000010	Area (m2)	13.61	25.79	11.67
Q Total (m3/s)	10.00	Flow (m3/s)	1.46	7.19	1.35
Top Width (m)	35.28	Top Width (m)	11.76	15.84	7.68
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.11	0.28	0.12
Max Chl Dpth (m)	2.17	Hydr. Depth (m)	1.16	1.63	1.52
Conv. Total (m3/s)	3149.2	Conv. (m3/s)	458.7	2264.3	426.2
Length Wtd. (m)	200.00	Wetted Per. (m)	13.38	17.07	10.18
Min Ch El (m)	9.57	Shear (N/m2)	0.10	0.15	0.11
Alpha	1.55	Stream Power (N/m s)	0.01	0.04	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	43.53	169.58	32.05
C & E Loss (m)	0.00	Cum SA (1000 m2)	44.59	93.63	33.64

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the

computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.04	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.04	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	19.22	33.42	15.41
E.G. Slope (m/m)	0.000005	Area (m2)	19.22	33.42	15.41
Q Total (m3/s)	10.00	Flow (m3/s)	1.64	7.03	1.33
Top Width (m)	38.28	Top Width (m)	12.56	17.21	8.50
Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.09	0.21	0.09
Max Chl Dpth (m)	2.63	Hydr. Depth (m)	1.53	1.94	1.81
Conv. Total (m3/s)	4664.9	Conv. (m3/s)	764.0	3279.5	621.4
Length Wtd. (m)	200.00	Wetted Per. (m)	14.77	18.72	11.58
Min Ch El (m)	9.57	Shear (N/m2)	0.06	0.08	0.06
Alpha	1.54	Stream Power (N/m s)	0.00	0.02	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	66.66	216.58	49.27
C & E Loss (m)	0.00	Cum SA (1000 m2)	52.36	100.73	39.53

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	25.52	42.12	19.74
E.G. Slope (m/m)	0.000002	Area (m2)	25.52	42.12	

19.74					
Q Total (m3/s)	10.00	Flow (m3/s)	1.75	6.93	1.32
Top Width (m)	41.42	Top Width (m)	13.41	18.65	9.36
Vel Total (m/s)	0.11	Avg. Vel. (m/s)	0.07	0.16	0.07
Max Chl Dpth (m)	3.12	Hydr. Depth (m)	1.90	2.26	2.11
Conv. Total (m3/s)	6562.9	Conv. (m3/s)	1150.8	4545.0	867.1
Length Wtd. (m)	200.00	Wetted Per. (m)	16.23	20.45	13.05
Min Ch El (m)	9.57	Shear (N/m2)	0.04	0.05	0.03
Alpha	1.54	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	93.49	268.39	69.48
C & E Loss (m)	0.00	Cum SA (1000 m2)	58.24	106.08	44.80

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.91	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.90	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	17.51	31.08	14.25
E.G. Slope (m/m)	0.000042	Area (m2)	17.51	31.08	14.25
Q Total (m3/s)	27.00	Flow (m3/s)	4.30	19.09	3.61
Top Width (m)	37.38	Top Width (m)	12.32	16.80	8.26
Vel Total (m/s)	0.43	Avg. Vel. (m/s)	0.25	0.61	0.25
Max Chl Dpth (m)	2.50	Hydr. Depth (m)	1.42	1.85	1.73
Conv. Total (m3/s)	4183.0	Conv. (m3/s)	666.3	2957.4	559.3
Length Wtd. (m)	200.00	Wetted Per. (m)	14.35	18.23	11.16
Min Ch El (m)	9.57	Shear (N/m2)	0.50	0.70	

0.52					
Alpha	1.54	Stream Power (N/m s)	0.12	0.43	
0.13					
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	52.75	187.08	
39.36					
C & E Loss (m)	0.00	Cum SA (1000 m2)	46.76	96.34	
35.68					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.23	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.22	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)		Flow Area (m2)	21.53	36.59	
16.98					
E.G. Slope (m/m)	0.000026	Area (m2)	21.53	36.59	
16.98					
Q Total (m3/s)	27.00	Flow (m3/s)	4.56	18.86	
3.58					
Top Width (m)	39.45	Top Width (m)	12.88	17.74	
8.82					
Vel Total (m/s)	0.36	Avg. Vel. (m/s)	0.21	0.52	
0.21					
Max Chl Dpth (m)	2.81	Hydr. Depth (m)	1.67	2.06	
1.92					
Conv. Total (m3/s)	5336.5	Conv. (m3/s)	900.6	3727.7	
708.1					
Length Wtd. (m)	200.00	Wetted Per. (m)	15.31	19.37	
12.13					
Min Ch El (m)	9.57	Shear (N/m2)	0.35	0.47	
0.35					
Alpha	1.54	Stream Power (N/m s)	0.07	0.24	
0.07					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	72.03	226.42	
53.61					
C & E Loss (m)	0.00	Cum SA (1000 m2)	53.46	101.46	
40.59					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.64	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.63	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	26.99	44.15	20.76
E.G. Slope (m/m)	0.000015	Area (m2)	26.99	44.15	20.76
Q Total (m3/s)	27.00	Flow (m3/s)	4.77	18.66	3.57
Top Width (m)	42.23	Top Width (m)	13.71	18.97	9.55
Vel Total (m/s)	0.29	Avg. Vel. (m/s)	0.18	0.42	0.17
Max Chl Dpth (m)	3.23	Hydr. Depth (m)	1.97	2.33	2.17
Conv. Total (m3/s)	7023.8	Conv. (m3/s)	1240.9	4855.2	927.7
Length Wtd. (m)	200.00	Wetted Per. (m)	16.66	20.84	13.38
Min Ch El (m)	9.57	Shear (N/m2)	0.23	0.31	0.22
Alpha	1.54	Stream Power (N/m s)	0.04	0.13	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	97.04	274.56	72.41
C & E Loss (m)	0.00	Cum SA (1000 m2)	58.95	104.50	45.75

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 29

INPUT
Description:
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
15.7202	12.7828	16.4739	12.8357	17.5054	12.915	18.1667	12.9295	18.7304	12.8712
19.3136	12.8842	19.657	12.9101	20.0911	12.8324	20.2855	12.7741	23.5224	10.6
25.0559	9.57	35.8164	9.57	37.3801	10.6	40.7458	12.8169	41.7997	12.8169
42.714	12.8115	43.1452	12.8115						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
15.7202	.03	20.2855	.015	40.7458	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
20.2855	40.7458	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	22.94	27.59	13.31
E.G. Slope (m/m)	0.000007	Area (m2)	22.94	27.59	13.31
Q Total (m3/s)	10.00	Flow (m3/s)	2.54	6.30	1.16
Top Width (m)	41.44	Top Width (m)	13.04	16.79	11.61
Vel Total (m/s)	0.16	Avg. Vel. (m/s)	0.11	0.23	0.09
Max Chl Dpth (m)	3.17	Hydr. Depth (m)	1.76	1.64	1.15
Conv. Total (m3/s)	3884.1	Conv. (m3/s)	987.2	2446.2	450.7
Length Wtd. (m)	200.00	Wetted Per. (m)	15.63	18.00	12.99
Min Ch El (m)	9.57	Shear (N/m2)	0.10	0.10	0.07
Alpha	1.50	Stream Power (N/m s)	0.01	0.02	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	39.88	164.24	29.55
C & E Loss (m)	0.00	Cum SA (1000 m2)	42.11	90.36	31.71

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.04	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.04	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	29.15	35.67	18.88
E.G. Slope (m/m)	0.000003	Area (m2)	29.15	35.67	18.88
Q Total (m3/s)	10.00	Flow (m3/s)	2.45	6.23	1.32
Top Width (m)	44.55	Top Width (m)	13.85	18.18	12.53
Vel Total (m/s)	0.12	Avg. Vel. (m/s)	0.08	0.17	0.07
Max Chl Dpth (m)	3.63	Hydr. Depth (m)	2.11	1.96	1.51
Conv. Total (m3/s)	5679.8	Conv. (m3/s)	1391.1	3537.4	751.3
Length Wtd. (m)	200.00	Wetted Per. (m)	17.02	19.67	14.48
Min Ch El (m)	9.57	Shear (N/m2)	0.05	0.06	0.04
Alpha	1.50	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	61.83	209.67	45.85
C & E Loss (m)	0.00	Cum SA (1000 m2)	49.72	97.19	37.43

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	36.07	44.85	25.19
E.G. Slope (m/m)	0.000002	Area (m2)	36.07	44.85	25.19

Q Total (m3/s)	10.00	Flow (m3/s)	2.38	6.19	1.44
Top Width (m)	47.80	Top Width (m)	14.69	19.63	13.48
Vel Total (m/s)	0.09	Avg. Vel. (m/s)	0.07	0.14	0.06
Max Chl Dpth (m)	4.12	Hydr. Depth (m)	2.46	2.28	1.87
Conv. Total (m3/s)	7906.8	Conv. (m3/s)	1878.4	4893.4	1135.0
Length Wtd. (m)	200.00	Wetted Per. (m)	18.48	21.42	16.04
Min Ch El (m)	9.57	Shear (N/m2)	0.03	0.03	0.02
Alpha	1.50	Stream Power (N/m s)	0.00	0.00	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	87.33	259.69	64.99
C & E Loss (m)	0.00	Cum SA (1000 m2)	55.43	102.25	42.52

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.91	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.90	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	27.24	33.17	17.16
E.G. Slope (m/m)	0.000028	Area (m2)	27.24	33.17	17.16
Q Total (m3/s)	27.00	Flow (m3/s)	6.68	16.86	3.46
Top Width (m)	43.61	Top Width (m)	13.60	17.76	12.25
Vel Total (m/s)	0.35	Avg. Vel. (m/s)	0.25	0.51	0.20
Max Chl Dpth (m)	3.49	Hydr. Depth (m)	2.00	1.87	1.40
Conv. Total (m3/s)	5105.6	Conv. (m3/s)	1263.2	3188.3	654.0
Length Wtd. (m)	200.00	Wetted Per. (m)	16.60	19.16	

14.03					
Min Ch El (m)	9.57	Shear (N/m2)	0.45	0.47	0.34
Alpha	1.50	Stream Power (N/m s)	0.11	0.24	0.07
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	48.28	180.66	36.22
C & E Loss (m)	0.00	Cum SA (1000 m2)	44.17	92.89	33.62

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.22	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.22	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	31.68	39.00	21.18
E.G. Slope (m/m)	0.000017	Area (m2)	31.68	39.00	21.18
Q Total (m3/s)	27.00	Flow (m3/s)	6.53	16.77	3.70
Top Width (m)	45.76	Top Width (m)	14.16	18.72	12.88
Vel Total (m/s)	0.29	Avg. Vel. (m/s)	0.21	0.43	0.17
Max Chl Dpth (m)	3.81	Hydr. Depth (m)	2.24	2.08	1.64
Conv. Total (m3/s)	6467.4	Conv. (m3/s)	1564.9	4016.6	885.9
Length Wtd. (m)	200.00	Wetted Per. (m)	17.56	20.32	15.06
Min Ch El (m)	9.57	Shear (N/m2)	0.31	0.33	0.24
Alpha	1.50	Stream Power (N/m s)	0.06	0.14	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	66.71	218.86	49.80
C & E Loss (m)	0.00	Cum SA (1000 m2)	50.75	97.81	38.41

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.63	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.63	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	37.67	46.98	26.71
E.G. Slope (m/m)	0.000010	Area (m2)	37.67	46.98	26.71
Q Total (m3/s)	27.00	Flow (m3/s)	6.39	16.83	3.78
Top Width (m)	50.06	Top Width (m)	15.08	19.96	15.02
Vel Total (m/s)	0.24	Avg. Vel. (m/s)	0.17	0.36	0.14
Max Chl Dpth (m)	4.23	Hydr. Depth (m)	2.50	2.35	1.78
Conv. Total (m3/s)	8379.0	Conv. (m3/s)	1982.6	5224.4	1172.1
Length Wtd. (m)	200.00	Wetted Per. (m)	18.99	21.81	17.69
Min Ch El (m)	9.57	Shear (N/m2)	0.20	0.22	0.15
Alpha	1.53	Stream Power (N/m s)	0.03	0.08	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	90.58	265.45	67.66
C & E Loss (m)	0.00	Cum SA (1000 m2)	56.07	100.61	43.29

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 28

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2.9442	12.9894	4.0425	13.2292	6.0901	13.2846	8.2297	13.2585	8.6181	13.2538
12.3183	10.71	13.9765	9.57	24.4653	9.5693	26.0853	10.71	29.7164	13.2669
30.9792	13.3213	32.496	13.3432	33.9747	13.1918	34.8893	13.0403	35.4757	12.9156

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
2.9442	.03	8.6181	.015	29.7164	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
8.6181	29.7164	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.000	0.015	0.030
W.S. Elev (m)	11.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.00	26.71	10.39
E.G. Slope (m/m)	0.000014	Area (m2)	0.00	26.71	10.39
Q Total (m3/s)	10.00	Flow (m3/s)	0.00	8.76	1.24
Top Width (m)	25.47	Top Width (m)	0.02	16.24	9.22
Vel Total (m/s)	0.27	Avg. Vel. (m/s)	0.00	0.33	0.12
Max Chl Dpth (m)	2.00	Hydr. Depth (m)	0.00	1.65	1.13
Conv. Total (m3/s)	2696.4	Conv. (m3/s)	0.0	2361.8	334.6
Length Wtd. (m)	200.00	Wetted Per. (m)	0.03	17.49	10.95
Min Ch El (m)	9.57	Shear (N/m2)		0.21	0.13
Alpha	1.32	Stream Power (N/m s)		0.07	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	37.58	158.81	27.18
C & E Loss (m)	0.00	Cum SA (1000 m2)	40.80	87.06	29.63

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.04	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.03	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.23	34.56	14.89
E.G. Slope (m/m)	0.000006	Area (m2)	0.23	34.56	14.89
Q Total (m3/s)	10.00	Flow (m3/s)	0.01	8.59	1.40
Top Width (m)	28.71	Top Width (m)	0.97	17.57	10.17
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.02	0.25	0.09
Max Chl Dpth (m)	2.46	Hydr. Depth (m)	0.24	1.97	1.46
Conv. Total (m3/s)	3981.1	Conv. (m3/s)	2.1	3420.0	559.0
Length Wtd. (m)	200.00	Wetted Per. (m)	1.56	19.12	12.47
Min Ch El (m)	9.57	Shear (N/m2)	0.01	0.11	0.07
Alpha	1.34	Stream Power (N/m s)	0.00	0.03	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	58.89	202.64	42.47
C & E Loss (m)	0.00	Cum SA (1000 m2)	48.23	93.62	35.16

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)	0.95	43.45	20.08
E.G. Slope (m/m)	0.000003	Area (m2)	0.95	43.45	20.08
Q Total (m3/s)	10.00	Flow (m3/s)	0.03	8.46	1.52
Top Width (m)	32.11	Top Width (m)	1.98	18.97	11.16
Vel Total (m/s)	0.16	Avg. Vel. (m/s)	0.03	0.19	0.08
Max Chl Dpth (m)	2.95	Hydr. Depth (m)	0.48	2.29	1.80
Conv. Total (m3/s)	5593.5	Conv. (m3/s)	14.2	4730.5	848.8
Length Wtd. (m)	200.00	Wetted Per. (m)	3.16	20.82	14.06
Min Ch El (m)	9.57	Shear (N/m2)	0.01	0.07	0.04
Alpha	1.37	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	83.63	250.86	60.46
C & E Loss (m)	0.00	Cum SA (1000 m2)	53.76	98.39	40.05

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.90	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.87	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.10	31.80	13.30
E.G. Slope (m/m)	0.000059	Area (m2)	0.10	31.80	13.30
Q Total (m3/s)	27.00	Flow (m3/s)	0.01	23.33	3.66
Top Width (m)	27.60	Top Width (m)	0.65	17.11	9.84
Vel Total (m/s)	0.60	Avg. Vel. (m/s)	0.05	0.73	0.28
Max Chl Dpth (m)	2.30	Hydr. Depth (m)	0.16	1.86	1.35
Conv. Total (m3/s)	3512.2	Conv. (m3/s)	0.7	3035.4	476.1

Length Wtd. (m)	200.00	Wetted Per. (m)	1.03	18.56	11.94
Min Ch El (m)	9.57	Shear (N/m2)	0.06	0.99	0.65
Alpha	1.33	Stream Power (N/m s)	0.00	0.73	0.18
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	45.54	174.16	33.17
C & E Loss (m)	0.00	Cum SA (1000 m2)	42.74	89.40	31.42

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.22	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.20	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.42	37.56	16.63
E.G. Slope (m/m)	0.000036	Area (m2)	0.42	37.56	16.63
Q Total (m3/s)	27.00	Flow (m3/s)	0.03	23.06	3.91
Top Width (m)	29.88	Top Width (m)	1.32	18.05	10.51
Vel Total (m/s)	0.49	Avg. Vel. (m/s)	0.07	0.61	0.24
Max Chl Dpth (m)	2.63	Hydr. Depth (m)	0.32	2.08	1.58
Conv. Total (m3/s)	4506.6	Conv. (m3/s)	4.8	3849.1	652.7
Length Wtd. (m)	200.00	Wetted Per. (m)	2.11	19.70	13.02
Min Ch El (m)	9.57	Shear (N/m2)	0.07	0.67	0.45
Alpha	1.35	Stream Power (N/m s)	0.00	0.41	0.11
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	63.50	211.21	46.02
C & E Loss (m)	0.00	Cum SA (1000 m2)	49.20	94.13	36.07

Warning: Divided flow computed for this cross-section.

Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.63	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.62	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	1.16	45.36	21.20
E.G. Slope (m/m)	0.000021	Area (m2)	1.16	45.36	21.20
Q Total (m3/s)	27.00	Flow (m3/s)	0.08	22.77	4.15
Top Width (m)	32.80	Top Width (m)	2.18	19.26	11.36
Vel Total (m/s)	0.40	Avg. Vel. (m/s)	0.07	0.50	0.20
Max Chl Dpth (m)	3.05	Hydr. Depth (m)	0.53	2.36	1.87
Conv. Total (m3/s)	5959.3	Conv. (m3/s)	18.4	5025.5	915.4
Length Wtd. (m)	200.00	Wetted Per. (m)	3.48	21.17	14.39
Min Ch El (m)	9.57	Shear (N/m2)	0.07	0.43	0.30
Alpha	1.37	Stream Power (N/m s)	0.00	0.22	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	86.69	256.21	62.87
C & E Loss (m)	0.00	Cum SA (1000 m2)	54.35	96.68	40.65

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 27

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.0516	13.0334	12.4277	13.1172	14.0822	13.1809	16.4138	13.2328	17.2092	13.0176

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 17.3791 12.8028 20.4475   10.72 22.1809  9.5434 32.7727  9.5419 34.1184   10.72
 34.9258 11.4269 35.1785 11.4638 37.3788 13.0227  37.915 13.1706   38.25 13.2145
 40.4441 13.2392 41.8086 12.9928 42.6112 12.8201

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 12.0516     .03 17.2092    .015 37.3788     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       17.2092 37.3788              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.57    Element                Left OB    Channel
Right OB
  Vel Head (m)              0.00    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)            11.57    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)          10.59      26.84
   9.92
  E.G. Slope (m/m)      0.000011    Area (m2)               10.59      26.84
   9.92
  Q Total (m3/s)           10.00    Flow (m3/s)              1.14       7.76
   1.10
  Top Width (m)            32.67    Top Width (m)            8.92      16.13
   7.63
  Vel Total (m/s)           0.21    Avg. Vel. (m/s)          0.11       0.29
   0.11
  Max Chl Dpth (m)          2.03    Hydr. Depth (m)          1.19       1.66
   1.30
  Conv. Total (m3/s)      3068.6    Conv. (m3/s)           350.8     2380.5
  337.4
  Length Wtd. (m)         200.00    Wetted Per. (m)         10.70      17.49
   9.63
  Min Ch El (m)             9.54    Shear (N/m2)             0.10       0.16
   0.11
  Alpha                     1.51    Stream Power (N/m s)     0.01       0.05
   0.01
  Frctn Loss (m)            0.00    Cum Volume (1000 m3)    36.52     153.46
  25.15
  C & E Loss (m)            0.00    Cum SA (1000 m2)        39.91      83.83
  27.95



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

CROSS SECTION OUTPUT  Profile #PF 2
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E.G. Elev (m)	12.03	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.03	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	14.97	34.66	13.69
E.G. Slope (m/m)	0.000005	Area (m2)	14.97	34.66	13.69
Q Total (m3/s)	10.00	Flow (m3/s)	1.26	7.58	1.16
Top Width (m)	35.94	Top Width (m)	9.91	17.47	8.55
Vel Total (m/s)	0.16	Avg. Vel. (m/s)	0.08	0.22	0.08
Max Chl Dpth (m)	2.49	Hydr. Depth (m)	1.51	1.98	1.60
Conv. Total (m3/s)	4527.6	Conv. (m3/s)	570.3	3433.8	523.5
Length Wtd. (m)	200.00	Wetted Per. (m)	12.26	19.13	11.14
Min Ch El (m)	9.54	Shear (N/m2)	0.06	0.09	0.06
Alpha	1.53	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	57.37	195.72	39.61
C & E Loss (m)	0.00	Cum SA (1000 m2)	47.14	90.12	33.29

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	20.05	43.50	18.09
E.G. Slope (m/m)	0.000002	Area (m2)	20.05	43.50	18.09
Q Total (m3/s)	10.00	Flow (m3/s)	1.34	7.46	1.20
Top Width (m)	39.42	Top Width (m)	10.95	18.87	

9.60					
Vel Total (m/s)	0.12	Avg. Vel. (m/s)	0.07	0.17	
0.07					
Max Chl Dpth (m)	2.98	Hydr. Depth (m)	1.83	2.30	
1.88					
Conv. Total (m3/s)	6350.3	Conv. (m3/s)	853.5	4736.6	
760.2					
Length Wtd. (m)	200.00	Wetted Per. (m)	13.90	20.83	
12.78					
Min Ch El (m)	9.54	Shear (N/m2)	0.04	0.05	
0.03					
Alpha	1.54	Stream Power (N/m s)	0.00	0.01	
0.00					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	81.53	242.17	
56.65					
C & E Loss (m)	0.00	Cum SA (1000 m2)	52.47	94.61	
37.98					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.89	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	11.87	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)		Flow Area (m2)	13.39	31.85	
12.32					
E.G. Slope (m/m)	0.000046	Area (m2)	13.39	31.85	
12.32					
Q Total (m3/s)	27.00	Flow (m3/s)	3.31	20.62	
3.07					
Top Width (m)	34.80	Top Width (m)	9.57	17.00	
8.23					
Vel Total (m/s)	0.47	Avg. Vel. (m/s)	0.25	0.65	
0.25					
Max Chl Dpth (m)	2.33	Hydr. Depth (m)	1.40	1.87	
1.50					
Conv. Total (m3/s)	3986.5	Conv. (m3/s)	488.0	3044.6	
453.9					
Length Wtd. (m)	200.00	Wetted Per. (m)	11.72	18.56	
10.61					
Min Ch El (m)	9.54	Shear (N/m2)	0.51	0.77	
0.52					
Alpha	1.52	Stream Power (N/m s)	0.13	0.50	
0.13					
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	44.19	167.79	

30.61					
C & E Loss (m)	0.00	Cum SA (1000 m2)	41.72	85.99	
29.61					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.21	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.20	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	16.66	37.61	15.14
E.G. Slope (m/m)	0.000028	Area (m2)	16.66	37.61	15.14
Q Total (m3/s)	27.00	Flow (m3/s)	3.49	20.35	3.17
Top Width (m)	37.11	Top Width (m)	10.27	17.95	8.89
Vel Total (m/s)	0.39	Avg. Vel. (m/s)	0.21	0.54	0.21
Max Chl Dpth (m)	2.66	Hydr. Depth (m)	1.62	2.10	1.70
Conv. Total (m3/s)	5119.1	Conv. (m3/s)	661.2	3857.5	600.4
Length Wtd. (m)	200.00	Wetted Per. (m)	12.82	19.71	11.68
Min Ch El (m)	9.54	Shear (N/m2)	0.35	0.52	0.35
Alpha	1.53	Stream Power (N/m s)	0.07	0.28	0.07
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	61.79	203.69	42.84
C & E Loss (m)	0.00	Cum SA (1000 m2)	48.04	90.53	34.14

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.63	Element	Left OB	Channel

Right OB

Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.62	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	21.15	45.39	19.06
E.G. Slope (m/m)	0.000016	Area (m2)	21.15	45.39	19.06
Q Total (m3/s)	27.00	Flow (m3/s)	3.67	20.09	3.24
Top Width (m)	40.22	Top Width (m)	11.17	19.16	9.90
Vel Total (m/s)	0.32	Avg. Vel. (m/s)	0.17	0.44	0.17
Max Chl Dpth (m)	3.08	Hydr. Depth (m)	1.89	2.37	1.93
Conv. Total (m3/s)	6759.3	Conv. (m3/s)	918.3	5029.1	811.9
Length Wtd. (m)	200.00	Wetted Per. (m)	14.23	21.18	13.19
Min Ch El (m)	9.54	Shear (N/m2)	0.23	0.34	0.23
Alpha	1.54	Stream Power (N/m s)	0.04	0.15	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	84.46	247.14	58.84
C & E Loss (m)	0.00	Cum SA (1000 m2)	53.01	92.84	38.53

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 26

INPUT
Description: Opera 12
Station Elevation Data num= 20

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
23.9058	13.0337	25.6605	12.9775	26.7529	13.0049	28.7054	13.051	29.1788	13.224
29.4246	13.2877	29.725	13.2968	30.0072	13.1967	30.5898	13.0237	30.6808	12.8963
30.8474	12.506	33.5107	10.73	35.3311	9.5161	45.7955	9.5146	47.6735	10.73
51.7161	13.3461	52.7332	13.0895	53.9651	13.104	54.5489	13.0225	56.0928	12.9849

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
23.9058	.03	30.0072	.015	51.7161	.03

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
30.0072 51.7161 200 200 200 .0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.57	Reach Len. (m)	6.00	6.00	6.00
Crit W.S. (m)	9.96	Flow Area (m2)	26.66	27.88	4.78
E.G. Slope (m/m)	0.000008	Area (m2)	26.66	27.88	4.78
Q Total (m3/s)	10.00	Flow (m3/s)	2.71	6.97	0.32
Top Width (m)	45.28	Top Width (m)	21.71	16.71	6.86
Vel Total (m/s)	0.17	Avg. Vel. (m/s)	0.10	0.25	0.07
Max Chl Dpth (m)	2.05	Hydr. Depth (m)	1.23	1.67	0.70
Conv. Total (m3/s)	3578.0	Conv. (m3/s)	969.9	2493.6	114.5
Length Wtd. (m)	6.00	Wetted Per. (m)	23.38	17.94	7.85
Min Ch El (m)	9.51	Shear (N/m2)	0.09	0.12	0.05
Alpha	1.64	Stream Power (N/m s)	0.01	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	32.80	147.99	23.68
C & E Loss (m)	0.00	Cum SA (1000 m2)	36.85	80.54	26.50

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.03	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.03	Reach Len. (m)	6.00	6.00	6.00

Crit W.S. (m)	9.96	Flow Area (m2)	36.93	35.99	8.14
E.G. Slope (m/m)	0.000003	Area (m2)	36.93	35.99	8.14
Q Total (m3/s)	10.00	Flow (m3/s)	2.95	6.59	0.46
Top Width (m)	48.12	Top Width (m)	22.41	18.13	7.58
Vel Total (m/s)	0.12	Avg. Vel. (m/s)	0.08	0.18	0.06
Max Chl Dpth (m)	2.52	Hydr. Depth (m)	1.65	1.99	1.07
Conv. Total (m3/s)	5455.4	Conv. (m3/s)	1610.5	3594.1	250.9
Length Wtd. (m)	6.00	Wetted Per. (m)	24.69	19.64	9.17
Min Ch El (m)	9.51	Shear (N/m2)	0.05	0.06	0.03
Alpha	1.58	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	52.18	188.66	37.43
C & E Loss (m)	0.00	Cum SA (1000 m2)	43.91	86.56	31.67

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	6.00	6.00	6.00
Crit W.S. (m)	9.96	Flow Area (m2)	48.02	45.18	12.02
E.G. Slope (m/m)	0.000002	Area (m2)	48.02	45.18	12.02
Q Total (m3/s)	10.00	Flow (m3/s)	3.08	6.36	0.56
Top Width (m)	51.06	Top Width (m)	23.14	19.60	8.33
Vel Total (m/s)	0.10	Avg. Vel. (m/s)	0.06	0.14	0.05
Max Chl Dpth (m)	3.00	Hydr. Depth (m)	2.08	2.31	

1.44					
Conv. Total (m3/s)	7799.6	Conv. (m3/s)	2406.1	4956.7	436.8
Length Wtd. (m)	6.00	Wetted Per. (m)	26.05	21.40	10.55
Min Ch El (m)	9.51	Shear (N/m2)	0.03	0.03	0.02
Alpha	1.55	Stream Power (N/m s)	0.00	0.00	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	74.72	233.30	53.64
C & E Loss (m)	0.00	Cum SA (1000 m2)	49.06	90.76	36.18

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.88	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.87	Reach Len. (m)	6.00	6.00	6.00
Crit W.S. (m)	10.43	Flow Area (m2)	33.28	33.06	6.92
E.G. Slope (m/m)	0.000032	Area (m2)	33.28	33.06	6.92
Q Total (m3/s)	27.00	Flow (m3/s)	7.79	18.09	1.12
Top Width (m)	47.12	Top Width (m)	22.16	17.63	7.33
Vel Total (m/s)	0.37	Avg. Vel. (m/s)	0.23	0.55	0.16
Max Chl Dpth (m)	2.35	Hydr. Depth (m)	1.50	1.88	0.94
Conv. Total (m3/s)	4752.6	Conv. (m3/s)	1370.6	3184.0	198.0
Length Wtd. (m)	6.00	Wetted Per. (m)	24.23	19.04	8.70
Min Ch El (m)	9.51	Shear (N/m2)	0.43	0.55	0.25
Alpha	1.60	Stream Power (N/m s)	0.10	0.30	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	39.53	161.30	28.69

C & E Loss (m)	0.00	Cum SA (1000 m2)	38.55	82.53	28.05

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.21	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.20	Reach Len. (m)	6.00	6.00	6.00
Crit W.S. (m)	10.43	Flow Area (m2)	40.70	39.06	9.43
E.G. Slope (m/m)	0.000019	Area (m2)	40.70	39.06	9.43
Q Total (m3/s)	27.00	Flow (m3/s)	8.12	17.53	1.35
Top Width (m)	49.13	Top Width (m)	22.66	18.64	7.84
Vel Total (m/s)	0.30	Avg. Vel. (m/s)	0.20	0.45	0.14
Max Chl Dpth (m)	2.69	Hydr. Depth (m)	1.80	2.10	1.20
Conv. Total (m3/s)	6215.7	Conv. (m3/s)	1869.5	4036.4	309.8
Length Wtd. (m)	6.00	Wetted Per. (m)	25.15	20.24	9.65
Min Ch El (m)	9.51	Shear (N/m2)	0.30	0.36	0.18
Alpha	1.57	Stream Power (N/m s)	0.06	0.16	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	56.05	196.02	40.38
C & E Loss (m)	0.00	Cum SA (1000 m2)	44.75	86.87	32.46

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.62	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.62	Reach Len. (m)	6.00	6.00	6.00
Crit W.S. (m)	10.43	Flow Area (m2)	50.34	47.15	12.86
E.G. Slope (m/m)	0.000010	Area (m2)	50.34	47.15	12.86
Q Total (m3/s)	27.00	Flow (m3/s)	8.37	17.08	1.56
Top Width (m)	51.57	Top Width (m)	23.28	19.79	8.49
Vel Total (m/s)	0.24	Avg. Vel. (m/s)	0.17	0.36	0.12
Max Chl Dpth (m)	3.10	Hydr. Depth (m)	2.16	2.38	1.52
Conv. Total (m3/s)	8338.9	Conv. (m3/s)	2584.5	5274.1	480.3
Length Wtd. (m)	6.00	Wetted Per. (m)	26.33	21.69	10.84
Min Ch El (m)	9.51	Shear (N/m2)	0.20	0.22	0.12
Alpha	1.54	Stream Power (N/m s)	0.03	0.08	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	77.31	237.88	55.65
C & E Loss (m)	0.00	Cum SA (1000 m2)	49.57	88.95	36.69

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM   RS: 25.5

INPUT
Description: \
Distance from Upstream XS =   6
Deck/Roadway Width   =   5

```
Weir Coefficient          =     1.4
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   30.11   14.21   12.54   51.42   14.21   12.54

Upstream Bridge Cross Section Data
Station Elevation Data    num=      20
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 23.9058 13.0337 25.6605 12.9775 26.7529 13.0049 28.7054  13.051 29.1788  13.224
 29.4246 13.2877  29.725 13.2968 30.0072 13.1967 30.5898 13.0237 30.6808 12.8963
 30.8474  12.506 33.5107   10.73 35.3311  9.5161 45.7955  9.5146 47.6735   10.73
 51.7161 13.3461 52.7332 13.0895 53.9651  13.104 54.5489 13.0225 56.0928 12.9849

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 23.9058     .03 30.0072    .015 51.7161     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       30.0072 51.7161          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   16.66    14.2   12.54   37.96    14.2   12.54

Downstream Bridge Cross Section Data
Station Elevation Data    num=      19
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 12.3523 13.0208 12.8532 13.0362 13.3346 13.1194 13.6215 13.1379 14.3158 13.1472
 14.9004 13.0918 15.2706 13.0825 16.2555  13.176 16.4097 13.1669 19.9865   10.74
 21.8306  9.4888 32.5248  9.4873 34.2863   10.74 37.6208 13.1114 38.1565 13.1392
 39.7496 13.1348 40.3073 13.1409 41.6661 12.8934 42.4878 12.7292

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 12.3523     .03 16.4097    .015 37.6208     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       16.4097 37.6208          .0015      .01

Upstream Embankment side slope              =     1.8 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.8 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
```

```
   30.11   12.54   34.78   12.54
Downstream     num=       2
     Sta    Elev     Sta    Elev
   16.66   12.54   21.33   12.54

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   47.29   12.54   51.42   12.54
Downstream     num=       2
     Sta    Elev     Sta    Elev
   33.83   12.54   37.96   12.54

Number of Piers =  2

Pier Data
Pier Station     Upstream=   38.13    Downstream=   24.68
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.52      .5   12.54
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.52      .5   12.54

Pier Data
Pier Station     Upstream=   43.94    Downstream=   30.48
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.52      .5   12.54
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.52      .5   12.54

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.57    Element               Inside BR US
Inside BR DS
```

W.S. US. (m)	11.57	E.G. Elev (m)	11.57
11.57			
Q Total (m3/s)	10.00	W.S. Elev (m)	11.57
11.57			
Q Bridge (m3/s)	5.83	Crit W.S. (m)	9.99
9.95			
Q Weir (m3/s)		Max Chl Dpth (m)	2.05
2.08			
Weir Sta Lft (m)		Vel Total (m/s)	0.18
0.22			
Weir Sta Rgt (m)		Flow Area (m2)	54.23
45.90			
Weir Submerg		Froude # Chl	0.06
0.07			
Weir Max Depth (m)		Specif Force (m3)	41.62
39.24			
Min El Weir Flow (m)	10.28	Hydr Depth (m)	1.35
1.50			
Min El Prs (m)	12.54	W.P. Total (m)	54.11
45.85			
Delta EG (m)	0.00	Conv. Total (m3/s)	2599.7
2307.3			
Delta WS (m)	0.00	Top Width (m)	40.08
30.67			
BR Open Area (m2)	33.99	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.26	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.15
0.18			
BR Sel Method	Energy only	Power Total (N/m s)	0.03
0.04			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.03	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.03	E.G. Elev (m)	12.03
12.03			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.03
12.03			
Q Bridge (m3/s)	5.17	Crit W.S. (m)	9.99
9.95			
Q Weir (m3/s)		Max Chl Dpth (m)	2.52
2.55			
Weir Sta Lft (m)		Vel Total (m/s)	0.14
0.16			

Weir Sta Rgt (m)		Flow Area (m2)	73.23 60.71
Weir Submerg		Froude # Chl	0.04 0.04
Weir Max Depth (m)		Specif Force (m3)	71.23 63.99
Min El Weir Flow (m)	10.28	Hydr Depth (m)	1.76 1.85
Min El Prs (m)	12.54	W.P. Total (m)	59.54 51.96
Delta EG (m)	0.00	Conv. Total (m3/s)	3857.1 3265.7
Delta WS (m)	0.00	Top Width (m)	41.50 32.86
BR Open Area (m2)	33.99	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.18	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.08 0.11
BR Sel Method	Energy only	Power Total (N/m s)	0.01 0.02

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.52	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.52	E.G. Elev (m)	12.52 12.52
Q Total (m3/s)	10.00	W.S. Elev (m)	12.52 12.52
Q Bridge (m3/s)	4.69	Crit W.S. (m)	9.99 9.95
Q Weir (m3/s)		Max Chl Dpth (m)	3.00 3.03
Weir Sta Lft (m)		Vel Total (m/s)	0.11 0.13
Weir Sta Rgt (m)		Flow Area (m2)	93.79 77.27
Weir Submerg		Froude # Chl	0.03 0.03
Weir Max Depth (m)		Specif Force (m3)	111.81 97.50
Min El Weir Flow (m)	10.28	Hydr Depth (m)	2.18 2.20
Min El Prs (m)	12.54	W.P. Total (m)	65.20 58.35

Delta EG (m)	0.00	Conv. Total (m3/s)	5356.3 4400.6
Delta WS (m)	0.00	Top Width (m)	42.98 35.15
BR Open Area (m2)	33.99	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.14	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.05 0.07
BR Sel Method	Energy only	Power Total (N/m s)	0.01 0.01

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.88	Element	Inside BR US Inside BR DS
W.S. US. (m)	11.87	E.G. Elev (m)	11.88 11.88
Q Total (m3/s)	27.00	W.S. Elev (m)	11.87 11.86
Q Bridge (m3/s)	14.52	Crit W.S. (m)	10.49 10.40
Q Weir (m3/s)		Max Chl Dpth (m)	2.35 2.38
Weir Sta Lft (m)		Vel Total (m/s)	0.41 0.49
Weir Sta Rgt (m)		Flow Area (m2)	66.46 55.23
Weir Submerg		Froude # Chl	0.12 0.14
Weir Max Depth (m)		Specif Force (m3)	60.84 55.49
Min El Weir Flow (m)	10.28	Hydr Depth (m)	1.62 1.72
Min El Prs (m)	12.54	W.P. Total (m)	57.62 49.75
Delta EG (m)	0.01	Conv. Total (m3/s)	3393.3 2903.8
Delta WS (m)	0.02	Top Width (m)	41.00 32.07
BR Open Area (m2)	33.99	Frctn Loss (m)	0.00 0.01
BR Open Vel (m/s)	0.55	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.72 0.94

BR Sel Method	Energy only	Power Total (N/m s)	0.29 0.46

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.21	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.20	E.G. Elev (m)	12.21 12.21
Q Total (m3/s)	27.00	W.S. Elev (m)	12.20 12.20
Q Bridge (m3/s)	13.48	Crit W.S. (m)	10.49 10.40
Q Weir (m3/s)		Max Chl Dpth (m)	2.69 2.71
Weir Sta Lft (m)		Vel Total (m/s)	0.34 0.41
Weir Sta Rgt (m)		Flow Area (m2)	80.21 66.16
Weir Submerg		Froude # Chl	0.09 0.11
Weir Max Depth (m)		Specif Force (m3)	84.89 75.42
Min El Weir Flow (m)	10.28	Hydr Depth (m)	1.91 1.97
Min El Prs (m)	12.54	W.P. Total (m)	61.48 54.11
Delta EG (m)	0.01	Conv. Total (m3/s)	4351.4 3632.2
Delta WS (m)	0.01	Top Width (m)	42.00 33.63
BR Open Area (m2)	33.99	Frctn Loss (m)	0.00 0.01
BR Open Vel (m/s)	0.45	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.49 0.66
BR Sel Method	Energy only	Power Total (N/m s)	0.17 0.27

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.62	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.62	E.G. Elev (m)	12.62
12.62			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.62
12.62			
Q Bridge (m3/s)	10.74	Crit W.S. (m)	10.49
10.40			
Q Weir (m3/s)		Max Chl Dpth (m)	3.11
3.13			
Weir Sta Lft (m)		Vel Total (m/s)	0.28
0.34			
Weir Sta Rgt (m)		Flow Area (m2)	97.20
79.86			
Weir Submerg		Froude # Chl	0.05
0.06			
Weir Max Depth (m)		Specif Force (m3)	122.07
106.06			
Min El Weir Flow (m)	10.28	Hydr Depth (m)	3.06
3.31			
Min El Prs (m)	12.54	W.P. Total (m)	77.40
70.68			
Delta EG (m)	0.00	Conv. Total (m3/s)	5091.2
4048.4			
Delta WS (m)	0.01	Top Width (m)	31.77
24.11			
BR Open Area (m2)	33.99	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.32	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.35
0.49			
BR Sel Method	Energy only	Power Total (N/m s)	0.10
0.17			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 25

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.3523	13.0208	12.8532	13.0362	13.3346	13.1194	13.6215	13.1379	14.3158	13.1472

```
 14.9004 13.0918 15.2706 13.0825 16.2555  13.176 16.4097 13.1669 19.9865   10.74
 21.8306  9.4888 32.5248  9.4873 34.2863   10.74 37.6208 13.1114 38.1565 13.1392
 39.7496 13.1348 40.3073 13.1409 41.6661 12.8934 42.4878 12.7292

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 12.3523     .03 16.4097    .015 37.6208     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       16.4097 37.6208              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.57    Element                Left OB    Channel
Right OB
  Vel Head (m)              0.00    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)            11.56    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)          11.30      28.40
  11.35
  E.G. Slope (m/m)      0.000009    Area (m2)               11.30      28.40
  11.35
  Q Total (m3/s)           10.00    Flow (m3/s)              1.15       7.73
   1.12
  Top Width (m)            35.83    Top Width (m)            9.22      16.67
   9.94
  Vel Total (m/s)           0.20    Avg. Vel. (m/s)          0.10       0.27
   0.10
  Max Chl Dpth (m)          2.08    Hydr. Depth (m)          1.22       1.70
   1.14
  Conv. Total (m3/s)      3322.6    Conv. (m3/s)            380.7     2569.3
  372.7
  Length Wtd. (m)         200.00    Wetted Per. (m)         11.11      17.97
  11.62
  Min Ch El (m)             9.49    Shear (N/m2)             0.09       0.14
   0.09
  Alpha                     1.55    Stream Power (N/m s)     0.01       0.04
   0.01
  Frctn Loss (m)            0.00    Cum Volume (1000 m3)    30.41     142.84
  21.46
  C & E Loss (m)            0.00    Cum SA (1000 m2)        34.90      77.74
  24.54



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

CROSS SECTION OUTPUT  Profile #PF 2
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E.G. Elev (m)	12.03	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.03	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	15.84	36.51	16.28
E.G. Slope (m/m)	0.000004	Area (m2)	15.84	36.51	16.28
Q Total (m3/s)	10.00	Flow (m3/s)	1.25	7.50	1.26
Top Width (m)	39.38	Top Width (m)	10.23	18.02	11.13
Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.08	0.21	0.08
Max Chl Dpth (m)	2.54	Hydr. Depth (m)	1.55	2.03	1.46
Conv. Total (m3/s)	4914.7	Conv. (m3/s)	612.4	3683.8	618.6
Length Wtd. (m)	200.00	Wetted Per. (m)	12.69	19.61	13.37
Min Ch El (m)	9.49	Shear (N/m2)	0.05	0.08	0.05
Alpha	1.56	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	48.83	182.17	34.24
C & E Loss (m)	0.00	Cum SA (1000 m2)	41.76	83.62	29.48

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	21.08	45.64	22.01
E.G. Slope (m/m)	0.000002	Area (m2)	21.08	45.64	22.01
Q Total (m3/s)	10.00	Flow (m3/s)	1.32	7.32	1.36
Top Width (m)	43.07	Top Width (m)	11.27	19.42	

12.37					
Vel Total (m/s)	0.11	Avg. Vel. (m/s)	0.06	0.16	0.06
Max Chl Dpth (m)	3.03	Hydr. Depth (m)	1.87	2.35	1.78
Conv. Total (m3/s)	6901.1	Conv. (m3/s)	909.1	5053.2	938.9
Length Wtd. (m)	200.00	Wetted Per. (m)	14.33	21.32	15.20
Min Ch El (m)	9.49	Shear (N/m2)	0.03	0.04	0.03
Alpha	1.57	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	70.27	225.35	49.32
C & E Loss (m)	0.00	Cum SA (1000 m2)	46.70	87.69	33.74

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.87	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.85	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	14.06	33.35	14.34
E.G. Slope (m/m)	0.000040	Area (m2)	14.06	33.35	14.34
Q Total (m3/s)	27.00	Flow (m3/s)	3.27	20.45	3.27
Top Width (m)	38.03	Top Width (m)	9.85	17.51	10.68
Vel Total (m/s)	0.44	Avg. Vel. (m/s)	0.23	0.61	0.23
Max Chl Dpth (m)	2.37	Hydr. Depth (m)	1.43	1.91	1.34
Conv. Total (m3/s)	4272.9	Conv. (m3/s)	518.1	3236.8	518.0
Length Wtd. (m)	200.00	Wetted Per. (m)	12.09	18.99	12.71
Min Ch El (m)	9.49	Shear (N/m2)	0.46	0.69	0.44
Alpha	1.56	Stream Power (N/m s)	0.11	0.42	0.10
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	36.54	155.33	

25.87					
C & E Loss (m)	0.00	Cum SA (1000 m2)	36.47	79.64	
25.94					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.20	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.19	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	17.49	39.41	18.08
E.G. Slope (m/m)	0.000024	Area (m2)	17.49	39.41	18.08
Q Total (m3/s)	27.00	Flow (m3/s)	3.43	20.07	3.50
Top Width (m)	40.58	Top Width (m)	10.57	18.48	11.53
Vel Total (m/s)	0.36	Avg. Vel. (m/s)	0.20	0.51	0.19
Max Chl Dpth (m)	2.70	Hydr. Depth (m)	1.66	2.13	1.57
Conv. Total (m3/s)	5524.3	Conv. (m3/s)	702.7	4106.1	715.6
Length Wtd. (m)	200.00	Wetted Per. (m)	13.22	20.17	13.97
Min Ch El (m)	9.49	Shear (N/m2)	0.31	0.46	0.30
Alpha	1.56	Stream Power (N/m s)	0.06	0.23	0.06
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	52.35	189.06	36.83
C & E Loss (m)	0.00	Cum SA (1000 m2)	42.53	83.89	30.19

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.62	Element	Left OB	Channel

Right OB

Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.61	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	22.15	47.48	23.19
E.G. Slope (m/m)	0.000014	Area (m2)	22.15	47.48	23.19
Q Total (m3/s)	27.00	Flow (m3/s)	3.59	19.69	3.72
Top Width (m)	43.79	Top Width (m)	11.48	19.69	12.62
Vel Total (m/s)	0.29	Avg. Vel. (m/s)	0.16	0.41	0.16
Max Chl Dpth (m)	3.13	Hydr. Depth (m)	1.93	2.41	1.84
Conv. Total (m3/s)	7324.9	Conv. (m3/s)	973.2	5343.1	1008.6
Length Wtd. (m)	200.00	Wetted Per. (m)	14.64	21.65	15.55
Min Ch El (m)	9.49	Shear (N/m2)	0.20	0.29	0.20
Alpha	1.57	Stream Power (N/m s)	0.03	0.12	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	72.64	229.73	51.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	47.17	87.03	34.20

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 24

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
8.3044	13.2031	9.4739	13.3402	10.1978	13.381	11.5641	13.33	12.237	13.3096
12.4817	13.3198	12.9711	13.2587	13.1343	13.2281	16.7842	10.75	18.6782	9.4641
29.047	9.4631	30.9084	10.75	34.4377	13.1899	35.0532	13.2515	36.3916	13.2682
36.8458	13.3265	37.35	13.2266	38.4835	13.1557	39.1585	13.0058		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
8.3044	.03	13.1343	.015	34.4377	.03

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
13.1343 34.4377 200 200 200 .0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.56	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	2.93	28.14	4.36
E.G. Slope (m/m)	0.000014	Area (m2)	2.93	28.14	4.36
Q Total (m3/s)	10.00	Flow (m3/s)	0.22	9.37	0.41
Top Width (m)	26.94	Top Width (m)	5.40	16.49	5.05
Vel Total (m/s)	0.28	Avg. Vel. (m/s)	0.08	0.33	0.09
Max Chl Dpth (m)	2.10	Hydr. Depth (m)	0.54	1.71	0.86
Conv. Total (m3/s)	2719.6	Conv. (m3/s)	59.9	2547.6	112.1
Length Wtd. (m)	200.00	Wetted Per. (m)	6.10	17.79	6.44
Min Ch El (m)	9.46	Shear (N/m2)	0.06	0.21	0.09
Alpha	1.31	Stream Power (N/m s)	0.00	0.07	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	28.99	137.19	19.89
C & E Loss (m)	0.00	Cum SA (1000 m2)	33.43	74.42	23.04

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.03	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.03	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)	5.66	36.21	6.90
E.G. Slope (m/m)	0.000006	Area (m2)	5.66	36.21	6.90
Q Total (m3/s)	10.00	Flow (m3/s)	0.39	9.08	0.53
Top Width (m)	29.88	Top Width (m)	6.23	17.86	5.79
Vel Total (m/s)	0.21	Avg. Vel. (m/s)	0.07	0.25	0.08
Max Chl Dpth (m)	2.57	Hydr. Depth (m)	0.91	2.03	1.19
Conv. Total (m3/s)	4021.8	Conv. (m3/s)	156.2	3653.1	212.6
Length Wtd. (m)	200.00	Wetted Per. (m)	7.53	19.45	7.78
Min Ch El (m)	9.46	Shear (N/m2)	0.05	0.11	0.05
Alpha	1.37	Stream Power (N/m s)	0.00	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	46.68	174.90	31.92
C & E Loss (m)	0.00	Cum SA (1000 m2)	40.12	80.03	27.79

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.92	45.28	9.92
E.G. Slope (m/m)	0.000003	Area (m2)	8.92	45.28	9.92
Q Total (m3/s)	10.00	Flow (m3/s)	0.52	8.86	0.62
Top Width (m)	32.93	Top Width (m)	7.09	19.28	6.55
Vel Total (m/s)	0.16	Avg. Vel. (m/s)	0.06	0.20	0.06
Max Chl Dpth (m)	3.05	Hydr. Depth (m)	1.26	2.35	1.51
Conv. Total (m3/s)	5653.4	Conv. (m3/s)	295.3	5009.9	348.2

Length Wtd. (m)	200.00	Wetted Per. (m)	9.01	21.18	9.17
Min Ch El (m)	9.46	Shear (N/m2)	0.03	0.07	0.03
Alpha	1.41	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	67.27	216.26	46.13
C & E Loss (m)	0.00	Cum SA (1000 m2)	44.87	83.82	31.85

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.86	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.83	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	4.47	32.74	5.79
E.G. Slope (m/m)	0.000062	Area (m2)	4.47	32.74	5.79
Q Total (m3/s)	27.00	Flow (m3/s)	0.87	24.82	1.31
Top Width (m)	28.64	Top Width (m)	5.88	17.28	5.48
Vel Total (m/s)	0.63	Avg. Vel. (m/s)	0.20	0.76	0.23
Max Chl Dpth (m)	2.37	Hydr. Depth (m)	0.76	1.89	1.06
Conv. Total (m3/s)	3442.7	Conv. (m3/s)	111.1	3164.8	166.8
Length Wtd. (m)	200.00	Wetted Per. (m)	6.93	18.75	7.22
Min Ch El (m)	9.46	Shear (N/m2)	0.39	1.05	0.48
Alpha	1.35	Stream Power (N/m s)	0.08	0.80	0.11
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	34.69	148.72	23.86
C & E Loss (m)	0.00	Cum SA (1000 m2)	34.90	76.16	24.33

Warning: Divided flow computed for this cross-section.

Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.19	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.18	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	6.60	38.87	7.77
E.G. Slope (m/m)	0.000036	Area (m2)	6.60	38.87	7.77
Q Total (m3/s)	27.00	Flow (m3/s)	1.17	24.33	1.51
Top Width (m)	30.80	Top Width (m)	6.49	18.29	6.02
Vel Total (m/s)	0.51	Avg. Vel. (m/s)	0.18	0.63	0.19
Max Chl Dpth (m)	2.71	Hydr. Depth (m)	1.02	2.13	1.29
Conv. Total (m3/s)	4483.7	Conv. (m3/s)	194.0	4039.6	250.1
Length Wtd. (m)	200.00	Wetted Per. (m)	7.97	19.97	8.20
Min Ch El (m)	9.46	Shear (N/m2)	0.29	0.69	0.34
Alpha	1.39	Stream Power (N/m s)	0.05	0.43	0.07
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	49.94	181.24	34.25
C & E Loss (m)	0.00	Cum SA (1000 m2)	40.83	80.22	28.43

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.62	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.60	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	9.54	46.97	10.49

E.G. Slope (m/m)	0.000020	Area (m2)	9.54	46.97	10.49
Q Total (m3/s)	27.00	Flow (m3/s)	1.47	23.84	1.70
Top Width (m)	33.47	Top Width (m)	7.25	19.54	6.68
Vel Total (m/s)	0.40	Avg. Vel. (m/s)	0.15	0.51	0.16
Max Chl Dpth (m)	3.14	Hydr. Depth (m)	1.32	2.40	1.57
Conv. Total (m3/s)	5975.3	Conv. (m3/s)	324.3	5275.1	375.9
Length Wtd. (m)	200.00	Wetted Per. (m)	9.27	21.48	9.42
Min Ch El (m)	9.46	Shear (N/m2)	0.21	0.44	0.22
Alpha	1.42	Stream Power (N/m s)	0.03	0.22	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	69.47	220.29	47.73
C & E Loss (m)	0.00	Cum SA (1000 m2)	45.30	83.10	32.27

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 23

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.6894	13.1462	14.2256	13.2925	15.8557	13.2441	17.2944	13.2198	20.9181	10.72
22.7658	9.4454	33.262	9.4444	35.0562	10.72	38.491	13.1621	38.8657	13.227
39.8827	13.2531	40.842	13.2481	41.5414	13.278	42.1678	13.1931	42.9321	13.1881
43.6865	13.1581								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.6894	.03	17.2944	.015	38.491	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.2944	38.491	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.56	Reach Len. (m)	84.00	84.00	84.00
Crit W.S. (m)	9.89	Flow Area (m2)	1.80	28.52	1.79
E.G. Slope (m/m)	0.000014	Area (m2)	1.80	28.52	1.79
Q Total (m3/s)	10.00	Flow (m3/s)	0.07	9.82	0.11
Top Width (m)	30.79	Top Width (m)	9.41	16.53	4.85
Vel Total (m/s)	0.31	Avg. Vel. (m/s)	0.04	0.34	0.06
Max Chl Dpth (m)	2.11	Hydr. Depth (m)	0.19	1.73	0.37
Conv. Total (m3/s)	2646.7	Conv. (m3/s)	19.6	2598.1	29.0
Length Wtd. (m)	84.00	Wetted Per. (m)	9.60	17.86	5.31
Min Ch El (m)	9.44	Shear (N/m2)	0.03	0.22	0.05
Alpha	1.20	Stream Power (N/m s)	0.00	0.08	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	28.51	131.52	19.28
C & E Loss (m)	0.00	Cum SA (1000 m2)	31.95	71.12	22.05

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.03	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.03	Reach Len. (m)	84.00	84.00	84.00
Crit W.S. (m)	9.89	Flow Area (m2)	6.47	36.63	4.29
E.G. Slope (m/m)	0.000006	Area (m2)	6.47	36.63	4.29

Q Total (m3/s)	10.00	Flow (m3/s)	0.38	9.36	0.26
Top Width (m)	33.99	Top Width (m)	10.39	17.87	5.73
Vel Total (m/s)	0.21	Avg. Vel. (m/s)	0.06	0.26	0.06
Max Chl Dpth (m)	2.58	Hydr. Depth (m)	0.62	2.05	0.75
Conv. Total (m3/s)	3973.0	Conv. (m3/s)	149.9	3717.9	105.2
Length Wtd. (m)	84.00	Wetted Per. (m)	11.15	19.50	6.79
Min Ch El (m)	9.44	Shear (N/m2)	0.04	0.12	0.04
Alpha	1.38	Stream Power (N/m s)	0.00	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	45.46	167.62	30.80
C & E Loss (m)	0.00	Cum SA (1000 m2)	38.46	76.46	26.63

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	84.00	84.00	84.00
Crit W.S. (m)	9.89	Flow Area (m2)	11.79	45.72	7.32
E.G. Slope (m/m)	0.000003	Area (m2)	11.79	45.72	7.32
Q Total (m3/s)	10.00	Flow (m3/s)	0.66	8.95	0.39
Top Width (m)	37.31	Top Width (m)	11.39	19.27	6.65
Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.06	0.20	0.05
Max Chl Dpth (m)	3.07	Hydr. Depth (m)	1.04	2.37	1.10
Conv. Total (m3/s)	5683.1	Conv. (m3/s)	373.0	5086.1	223.9
Length Wtd. (m)	84.00	Wetted Per. (m)	12.76	21.21	

	8.32				
Min Ch El (m)	9.44	Shear (N/m2)	0.03	0.07	0.03
Alpha	1.45	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	65.20	207.16	44.40
C & E Loss (m)	0.00	Cum SA (1000 m2)	43.02	79.96	30.53

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.85	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.82	Reach Len. (m)	84.00	84.00	84.00
Crit W.S. (m)	10.29	Flow Area (m2)	4.31	32.91	3.12
E.G. Slope (m/m)	0.000065	Area (m2)	4.31	32.91	3.12
Q Total (m3/s)	27.00	Flow (m3/s)	0.64	25.82	0.54
Top Width (m)	32.55	Top Width (m)	9.95	17.27	5.33
Vel Total (m/s)	0.67	Avg. Vel. (m/s)	0.15	0.78	0.17
Max Chl Dpth (m)	2.37	Hydr. Depth (m)	0.43	1.91	0.58
Conv. Total (m3/s)	3337.2	Conv. (m3/s)	79.7	3191.3	66.2
Length Wtd. (m)	84.00	Wetted Per. (m)	10.45	18.76	6.12
Min Ch El (m)	9.44	Shear (N/m2)	0.26	1.13	0.33
Alpha	1.32	Stream Power (N/m s)	0.04	0.88	0.06
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	33.81	142.15	22.97
C & E Loss (m)	0.00	Cum SA (1000 m2)	33.31	72.71	23.25

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.19	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.17	Reach Len. (m)	84.00	84.00	84.00
Crit W.S. (m)	10.29	Flow Area (m2)	7.94	39.17	5.11
E.G. Slope (m/m)	0.000037	Area (m2)	7.94	39.17	5.11
Q Total (m3/s)	27.00	Flow (m3/s)	1.25	24.92	0.82
Top Width (m)	34.94	Top Width (m)	10.67	18.27	6.00
Vel Total (m/s)	0.52	Avg. Vel. (m/s)	0.16	0.64	0.16
Max Chl Dpth (m)	2.72	Hydr. Depth (m)	0.74	2.14	0.85
Conv. Total (m3/s)	4429.5	Conv. (m3/s)	205.6	4088.7	135.2
Length Wtd. (m)	84.00	Wetted Per. (m)	11.61	19.99	7.23
Min Ch El (m)	9.44	Shear (N/m2)	0.25	0.71	0.26
Alpha	1.41	Stream Power (N/m s)	0.04	0.45	0.04
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	48.49	173.43	32.96
C & E Loss (m)	0.00	Cum SA (1000 m2)	39.11	76.56	27.23

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.61	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.60	Reach Len. (m)	84.00	84.00	84.00
Crit W.S. (m)	10.29	Flow Area (m2)	12.76	47.34	7.88
E.G. Slope (m/m)	0.000020	Area (m2)	12.76	47.34	7.88
Q Total (m3/s)	27.00	Flow (m3/s)	1.88	24.00	1.12
Top Width (m)	37.88	Top Width (m)	11.57	19.51	6.81
Vel Total (m/s)	0.40	Avg. Vel. (m/s)	0.15	0.51	0.14
Max Chl Dpth (m)	3.16	Hydr. Depth (m)	1.10	2.43	1.16
Conv. Total (m3/s)	6009.5	Conv. (m3/s)	419.1	5342.2	248.2
Length Wtd. (m)	84.00	Wetted Per. (m)	13.04	21.50	8.58
Min Ch El (m)	9.44	Shear (N/m2)	0.19	0.44	0.18
Alpha	1.46	Stream Power (N/m s)	0.03	0.22	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	67.24	210.85	45.89
C & E Loss (m)	0.00	Cum SA (1000 m2)	43.42	79.20	30.92

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 22.5

INPUT
Description: \
Distance from Upstream XS = 84
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2
Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord

```
   16.76   14.76   12.79   39.28   14.76   12.79

Upstream Bridge Cross Section Data
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 12.6894 13.1462 14.2256 13.2925 15.8557 13.2441 17.2944 13.2198 20.9181   10.72
 22.7658  9.4454  33.262  9.4444 35.0562   10.72  38.491 13.1621 38.8657  13.227
 39.8827 13.2531  40.842 13.2481 41.5414  13.278 42.1678 13.1931 42.9321 13.1881
 43.6865 13.1581

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 12.6894     .03 17.2944    .015  38.491     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       17.2944  38.491          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   13.62   14.76   12.79   36.14   14.76   12.79

Downstream Bridge Cross Section Data
Station Elevation Data    num=      23
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  9.5526 13.0992  10.164 13.1996 11.4306  13.284 12.6971 13.3051 13.5595 13.3508
 14.2637 13.2767 14.5818 13.0575  14.728 12.8469 17.7796   10.72 19.6353  9.4267
 30.0344  9.4257 31.9259   10.72 34.7103 12.6253 34.8931 12.9183 35.0537 13.0789
 35.3962 13.2269 35.9373 13.3917 36.3875  13.477 37.0513 13.5065 40.4105 13.4501
 40.8499 13.4653 41.4408 13.3441  41.956  13.132

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  9.5526     .03  14.728    .015 34.8931     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
        14.728 34.8931          .0015      .01

Upstream Embankment side slope              =     1.8 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.8 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   16.76   12.79   21.73   12.79
Downstream     num=       2
     Sta    Elev     Sta    Elev
```

```
   13.62   12.79   18.59   12.79

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   34.22   12.79   39.28   12.79
Downstream     num=       2
     Sta    Elev     Sta    Elev
   31.09   12.79   36.15   12.79

Number of Piers =  2

Pier Data
Pier Station     Upstream=   25.25    Downstream=   22.11
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.55      .5   12.79
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.55      .5   12.79

Pier Data
Pier Station     Upstream=    30.7    Downstream=   27.56
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.53      .5   12.79
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.53      .5   12.79

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.56    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.56    E.G. Elev (m)               11.56
11.56
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.55
```

11.55			
Q Bridge (m3/s)	9.71	Crit W.S. (m)	9.92
9.90			
Q Weir (m3/s)		Max Chl Dpth (m)	2.11
2.13			
Weir Sta Lft (m)		Vel Total (m/s)	0.37
0.38			
Weir Sta Rgt (m)		Flow Area (m2)	27.04
26.59			
Weir Submerg		Froude # Chl	0.09
0.09			
Weir Max Depth (m)		Specif Force (m3)	25.18
25.57			
Min El Weir Flow (m)	11.10	Hydr Depth (m)	1.05
1.25			
Min El Prs (m)	12.79	W.P. Total (m)	38.06
33.87			
Delta EG (m)	0.00	Conv. Total (m3/s)	1629.7
1646.6			
Delta WS (m)	0.00	Top Width (m)	25.73
21.32			
BR Open Area (m2)	37.74	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.41	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.26
0.28			
BR Sel Method	Energy only	Power Total (N/m s)	0.10
0.11			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.03	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.03	E.G. Elev (m)	12.03
12.03			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.03
12.03			
Q Bridge (m3/s)	8.91	Crit W.S. (m)	9.92
9.90			
Q Weir (m3/s)		Max Chl Dpth (m)	2.58
2.60			
Weir Sta Lft (m)		Vel Total (m/s)	0.25
0.27			
Weir Sta Rgt (m)		Flow Area (m2)	39.67
37.12			
Weir Submerg		Froude # Chl	0.06

0.06			
Weir Max Depth (m)		Specif Force (m3)	40.83
40.51			
Min El Weir Flow (m)	11.10	Hydr Depth (m)	1.44
1.60			
Min El Prs (m)	12.79	W.P. Total (m)	43.94
39.71			
Delta EG (m)	0.00	Conv. Total (m3/s)	2326.8
2282.4			
Delta WS (m)	0.00	Top Width (m)	27.60
23.14			
BR Open Area (m2)	37.74	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.31	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.16
0.18			
BR Sel Method	Energy only	Power Total (N/m s)	0.04
0.05			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.52	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.52	E.G. Elev (m)	12.52
12.52			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.52
12.52			
Q Bridge (m3/s)	8.13	Crit W.S. (m)	9.92
9.90			
Q Weir (m3/s)		Max Chl Dpth (m)	3.07
3.09			
Weir Sta Lft (m)		Vel Total (m/s)	0.19
0.20			
Weir Sta Rgt (m)		Flow Area (m2)	53.68
48.93			
Weir Submerg		Froude # Chl	0.04
0.05			
Weir Max Depth (m)		Specif Force (m3)	63.60
61.50			
Min El Weir Flow (m)	11.10	Hydr Depth (m)	1.82
1.95			
Min El Prs (m)	12.79	W.P. Total (m)	50.03
45.76			
Delta EG (m)	0.00	Conv. Total (m3/s)	3191.7
3043.5			
Delta WS (m)	0.00	Top Width (m)	29.53

25.03

BR Open Area (m2)	37.74	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.24	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.10
0.11			
BR Sel Method	Energy only	Power Total (N/m s)	0.02
0.02			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.85	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.82	E.G. Elev (m)	11.84
11.84			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.79
11.79			
Q Bridge (m3/s)	25.13	Crit W.S. (m)	10.33
10.32			
Q Weir (m3/s)		Max Chl Dpth (m)	2.35
2.37			
Weir Sta Lft (m)		Vel Total (m/s)	0.81
0.85			
Weir Sta Rgt (m)		Flow Area (m2)	33.38
31.82			
Weir Submerg		Froude # Chl	0.20
0.20			
Weir Max Depth (m)		Specif Force (m3)	34.58
34.71			
Min El Weir Flow (m)	11.10	Hydr Depth (m)	1.25
1.43			
Min El Prs (m)	12.79	W.P. Total (m)	41.06
36.83			
Delta EG (m)	0.02	Conv. Total (m3/s)	1966.6
1955.1			
Delta WS (m)	0.02	Top Width (m)	26.69
22.24			
BR Open Area (m2)	37.74	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.96	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.50
1.62			
BR Sel Method	Energy only	Power Total (N/m s)	1.22
1.37			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.19	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.17	E.G. Elev (m)	12.18
12.18			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.16
12.15			
Q Bridge (m3/s)	23.47	Crit W.S. (m)	10.33
10.32			
Q Weir (m3/s)		Max Chl Dpth (m)	2.71
2.73			
Weir Sta Lft (m)		Vel Total (m/s)	0.62
0.67			
Weir Sta Rgt (m)		Flow Area (m2)	43.29
40.09			
Weir Submerg		Froude # Chl	0.15
0.16			
Weir Max Depth (m)		Specif Force (m3)	47.87
47.16			
Min El Weir Flow (m)	11.10	Hydr Depth (m)	1.54
1.70			
Min El Prs (m)	12.79	W.P. Total (m)	45.55
41.27			
Delta EG (m)	0.01	Conv. Total (m3/s)	2542.6
2470.1			
Delta WS (m)	0.01	Top Width (m)	28.11
23.63			
BR Open Area (m2)	37.74	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.77	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.05
1.14			
BR Sel Method	Energy only	Power Total (N/m s)	0.66
0.77			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.61	Element	Inside BR US

Inside BR DS

W.S. US. (m)	12.60	E.G. Elev (m)	12.61
12.61			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.59
12.59			
Q Bridge (m3/s)	21.66	Crit W.S. (m)	10.33
10.32			
Q Weir (m3/s)		Max Chl Dpth (m)	3.15
3.17			
Weir Sta Lft (m)		Vel Total (m/s)	0.48
0.53			
Weir Sta Rgt (m)		Flow Area (m2)	55.99
50.83			
Weir Submerg		Froude # Chl	0.11
0.12			
Weir Max Depth (m)		Specif Force (m3)	69.15
66.65			
Min El Weir Flow (m)	11.10	Hydr Depth (m)	1.88
2.01			
Min El Prs (m)	12.79	W.P. Total (m)	51.00
46.69			
Delta EG (m)	0.01	Conv. Total (m3/s)	3341.2
3169.0			
Delta WS (m)	0.01	Top Width (m)	29.84
25.32			
BR Open Area (m2)	37.74	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.61	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.70
0.77			
BR Sel Method	Energy only	Power Total (N/m s)	0.34
0.41			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 22

INPUT
Description:
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.5526	13.0992	10.164	13.1996	11.4306	13.284	12.6971	13.3051	13.5595	13.3508
14.2637	13.2767	14.5818	13.0575	14.728	12.8469	17.7796	10.72	19.6353	9.4267
30.0344	9.4257	31.9259	10.72	34.7103	12.6253	34.8931	12.9183	35.0537	13.0789
35.3962	13.2269	35.9373	13.3917	36.3875	13.477	37.0513	13.5065	40.4105	13.4501

```
 40.8499 13.4653 41.4408 13.3441  41.956  13.132

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  9.5526     .03  14.728    .015 34.8931     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
        14.728 34.8931              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.56    Element                Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)            11.55    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)           2.75      28.64
   0.16
  E.G. Slope (m/m)      0.000014    Area (m2)                2.75      28.64
   0.16
  Q Total (m3/s)           10.00    Flow (m3/s)              0.18       9.82
   0.00
  Top Width (m)            26.38    Top Width (m)            6.60      16.55
   3.22
  Vel Total (m/s)           0.32    Avg. Vel. (m/s)          0.07       0.34
   0.02
  Max Chl Dpth (m)          2.13    Hydr. Depth (m)          0.42       1.73
   0.05
  Conv. Total (m3/s)      2663.1    Conv. (m3/s)             47.9     2614.6
    0.7
  Length Wtd. (m)          200.00    Wetted Per. (m)          7.31      17.88
   3.30
  Min Ch El (m)             9.43    Shear (N/m2)             0.05       0.22
   0.01
  Alpha                     1.15    Stream Power (N/m s)     0.00       0.08
   0.00
  Frctn Loss (m)            0.00    Cum Volume (1000 m3)    28.05     126.31
  19.10
  C & E Loss (m)            0.00    Cum SA (1000 m2)        30.39      68.33
  21.26



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)            12.03    Element                Left OB    Channel
```

Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.03	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	6.10	36.81	1.90
E.G. Slope (m/m)	0.000006	Area (m2)	6.10	36.81	1.90
Q Total (m3/s)	10.00	Flow (m3/s)	0.40	9.51	0.09
Top Width (m)	29.57	Top Width (m)	7.50	17.93	4.14
Vel Total (m/s)	0.22	Avg. Vel. (m/s)	0.07	0.26	0.05
Max Chl Dpth (m)	2.60	Hydr. Depth (m)	0.81	2.05	0.46
Conv. Total (m3/s)	3935.7	Conv. (m3/s)	158.9	3742.6	34.1
Length Wtd. (m)	200.00	Wetted Per. (m)	8.81	19.55	4.81
Min Ch El (m)	9.43	Shear (N/m2)	0.04	0.12	0.03
Alpha	1.28	Stream Power (N/m s)	0.00	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	44.21	161.06	30.22
C & E Loss (m)	0.00	Cum SA (1000 m2)	36.71	73.54	25.67

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	10.00	45.95	4.16
E.G. Slope (m/m)	0.000003	Area (m2)	10.00	45.95	4.16
Q Total (m3/s)	10.00	Flow (m3/s)	0.59	9.22	0.19
Top Width (m)	32.88	Top Width (m)	8.44	19.35	5.09
Vel Total (m/s)	0.17	Avg. Vel. (m/s)	0.06	0.20	

	0.05				
Max Chl Dpth (m)	3.09	Hydr. Depth (m)	1.19	2.38	0.82
Conv. Total (m3/s)	5548.9	Conv. (m3/s)	325.8	5118.5	104.6
Length Wtd. (m)	200.00	Wetted Per. (m)	10.35	21.27	6.37
Min Ch El (m)	9.43	Shear (N/m2)	0.03	0.07	0.02
Alpha	1.35	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	63.05	199.13	43.30
C & E Loss (m)	0.00	Cum SA (1000 m2)	41.08	76.90	29.38

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.82	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.79	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	4.40	32.72	0.99
E.G. Slope (m/m)	0.000068	Area (m2)	4.40	32.72	0.99
Q Total (m3/s)	27.00	Flow (m3/s)	0.81	26.09	0.11
Top Width (m)	28.00	Top Width (m)	7.06	17.25	3.69
Vel Total (m/s)	0.71	Avg. Vel. (m/s)	0.18	0.80	0.11
Max Chl Dpth (m)	2.37	Hydr. Depth (m)	0.62	1.90	0.27
Conv. Total (m3/s)	3275.4	Conv. (m3/s)	97.9	3164.6	12.9
Length Wtd. (m)	200.00	Wetted Per. (m)	8.07	18.73	4.07
Min Ch El (m)	9.43	Shear (N/m2)	0.36	1.16	0.16
Alpha	1.23	Stream Power (N/m s)	0.07	0.93	0.02
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	32.95	136.25	22.59
C & E Loss (m)	0.00	Cum SA (1000 m2)	31.65	69.85	

22.37

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.17	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.15	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	7.08	39.14	2.45
E.G. Slope (m/m)	0.000039	Area (m2)	7.08	39.14	2.45
Q Total (m3/s)	27.00	Flow (m3/s)	1.23	25.46	0.31
Top Width (m)	30.44	Top Width (m)	7.75	18.30	4.39
Vel Total (m/s)	0.55	Avg. Vel. (m/s)	0.17	0.65	0.13
Max Chl Dpth (m)	2.73	Hydr. Depth (m)	0.91	2.14	0.56
Conv. Total (m3/s)	4329.9	Conv. (m3/s)	197.8	4082.7	49.3
Length Wtd. (m)	200.00	Wetted Per. (m)	9.21	20.00	5.22
Min Ch El (m)	9.43	Shear (N/m2)	0.29	0.75	0.18
Alpha	1.30	Stream Power (N/m s)	0.05	0.49	0.02
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	47.00	166.49	32.25
C & E Loss (m)	0.00	Cum SA (1000 m2)	37.31	73.60	26.21

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.61	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	

```
  0.030
  W.S. Elev (m)            12.59    Reach Len. (m)          200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)           10.66      47.44
   4.56
  E.G. Slope (m/m)       0.000021    Area (m2)               10.66      47.44
   4.56
  Q Total (m3/s)           27.00    Flow (m3/s)              1.65      24.80
   0.55
  Top Width (m)            33.39    Top Width (m)            8.59      19.57
   5.24
  Vel Total (m/s)           0.43    Avg. Vel. (m/s)          0.15       0.52
   0.12
  Max Chl Dpth (m)          3.17    Hydr. Depth (m)          1.24       2.42
   0.87
  Conv. Total (m3/s)      5828.7    Conv. (m3/s)           356.5     5353.5
  118.7
  Length Wtd. (m)         200.00    Wetted Per. (m)         10.60      21.54
   6.61
  Min Ch El (m)             9.43    Shear (N/m2)             0.21       0.46
   0.15
  Alpha                     1.36    Stream Power (N/m s)     0.03       0.24
   0.02
  Frctn Loss (m)            0.00    Cum Volume (1000 m3)    64.93     202.59
  44.69
  C & E Loss (m)            0.00    Cum SA (1000 m2)        41.44      76.11
  29.74
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Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 21

INPUT
Description:
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  8.8047 13.1806 10.3863 13.2696 13.0655 13.2456 13.4596 13.1979 13.6758 13.1244
 17.2019   10.71 19.1035  9.4079 29.1088   9.407 31.0268   10.71 34.1183 12.8102
 34.5605 13.2073 34.9277 13.4021 35.4374  13.522  37.509 13.5224 39.1205 13.4325
 39.7474 13.3884

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  8.8047     .03 13.6758    .015 34.5605     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
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Expan.
       13.6758 34.5605              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)           11.55    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.01    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)           11.55    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                    Flow Area (m2)           2.05      28.15
   4.38
  E.G. Slope (m/m)      0.000014    Area (m2)               2.05      28.15
   4.38
  Q Total (m3/s)          10.00    Flow (m3/s)             0.12       9.52
   0.36
  Top Width (m)           28.89    Top Width (m)           5.59      16.29
   7.01
  Vel Total (m/s)          0.29    Avg. Vel. (m/s)         0.06       0.34
   0.08
  Max Chl Dpth (m)         2.14    Hydr. Depth (m)         0.37       1.73
   0.63
  Conv. Total (m3/s)     2695.3    Conv. (m3/s)            31.4     2566.2
   97.7
  Length Wtd. (m)         200.00    Wetted Per. (m)         6.58      17.61
   8.01
  Min Ch El (m)            9.41    Shear (N/m2)            0.04       0.22
   0.07
  Alpha                    1.31    Stream Power (N/m s)    0.00       0.07
   0.01
  Frctn Loss (m)           0.00    Cum Volume (1000 m3)   27.57     120.63
  18.65
  C & E Loss (m)           0.00    Cum SA (1000 m2)       29.17      65.04
  20.24



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)           12.03    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.00    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)           12.02    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                    Flow Area (m2)           4.93      36.22
   7.90
```

E.G. Slope (m/m)	0.000006	Area (m2)	4.93	36.22	7.90
Q Total (m3/s)	10.00	Flow (m3/s)	0.29	9.13	0.58
Top Width (m)	32.02	Top Width (m)	6.53	17.68	7.81
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.06	0.25	0.07
Max Chl Dpth (m)	2.62	Hydr. Depth (m)	0.75	2.05	1.01
Conv. Total (m3/s)	4027.3	Conv. (m3/s)	118.0	3675.0	234.3
Length Wtd. (m)	200.00	Wetted Per. (m)	8.10	19.29	9.42
Min Ch El (m)	9.41	Shear (N/m2)	0.04	0.11	0.05
Alpha	1.40	Stream Power (N/m s)	0.00	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	43.11	153.75	29.24
C & E Loss (m)	0.00	Cum SA (1000 m2)	35.30	69.98	24.47

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.37	45.25	11.94
E.G. Slope (m/m)	0.000003	Area (m2)	8.37	45.25	11.94
Q Total (m3/s)	10.00	Flow (m3/s)	0.44	8.81	0.74
Top Width (m)	35.25	Top Width (m)	7.50	19.12	8.64
Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.05	0.19	0.06
Max Chl Dpth (m)	3.11	Hydr. Depth (m)	1.12	2.37	1.38
Conv. Total (m3/s)	5704.1	Conv. (m3/s)	253.4	5027.2	423.5
Length Wtd. (m)	200.00	Wetted Per. (m)	9.67	21.04	10.87

Min Ch El (m)	9.41	Shear (N/m2)	0.03	0.06	0.03
Alpha	1.45	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	61.21	190.01	41.69
C & E Loss (m)	0.00	Cum SA (1000 m2)	39.48	73.06	28.01

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.81	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.78	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	3.40	32.01	6.05
E.G. Slope (m/m)	0.000067	Area (m2)	3.40	32.01	6.05
Q Total (m3/s)	27.00	Flow (m3/s)	0.55	25.15	1.29
Top Width (m)	30.41	Top Width (m)	6.05	16.97	7.40
Vel Total (m/s)	0.65	Avg. Vel. (m/s)	0.16	0.79	0.21
Max Chl Dpth (m)	2.37	Hydr. Depth (m)	0.56	1.89	0.82
Conv. Total (m3/s)	3309.9	Conv. (m3/s)	68.0	3083.4	158.5
Length Wtd. (m)	200.00	Wetted Per. (m)	7.32	18.43	8.70
Min Ch El (m)	9.41	Shear (N/m2)	0.30	1.13	0.45
Alpha	1.36	Stream Power (N/m s)	0.05	0.89	0.10
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	32.17	129.78	21.89
C & E Loss (m)	0.00	Cum SA (1000 m2)	30.34	66.43	21.26

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.17	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.15	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	5.75	38.43	8.88
E.G. Slope (m/m)	0.000037	Area (m2)	5.75	38.43	8.88
Q Total (m3/s)	27.00	Flow (m3/s)	0.90	24.40	1.69
Top Width (m)	32.83	Top Width (m)	6.77	18.04	8.02
Vel Total (m/s)	0.51	Avg. Vel. (m/s)	0.16	0.63	0.19
Max Chl Dpth (m)	2.74	Hydr. Depth (m)	0.85	2.13	1.11
Conv. Total (m3/s)	4420.9	Conv. (m3/s)	147.8	3995.5	277.5
Length Wtd. (m)	200.00	Wetted Per. (m)	8.50	19.73	9.79
Min Ch El (m)	9.41	Shear (N/m2)	0.25	0.71	0.33
Alpha	1.42	Stream Power (N/m s)	0.04	0.45	0.06
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	45.72	158.73	31.11
C & E Loss (m)	0.00	Cum SA (1000 m2)	35.86	69.96	24.97

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.59	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.93	46.68	12.58
E.G. Slope (m/m)	0.000020	Area (m2)	8.93	46.68	12.58

Q Total (m3/s)	27.00	Flow (m3/s)	1.25	23.69	2.06
Top Width (m)	35.74	Top Width (m)	7.64	19.34	8.76
Vel Total (m/s)	0.40	Avg. Vel. (m/s)	0.14	0.51	0.16
Max Chl Dpth (m)	3.18	Hydr. Depth (m)	1.17	2.41	1.44
Conv. Total (m3/s)	5984.5	Conv. (m3/s)	277.8	5250.4	456.2
Length Wtd. (m)	200.00	Wetted Per. (m)	9.91	21.30	11.09
Min Ch El (m)	9.41	Shear (N/m2)	0.18	0.44	0.23
Alpha	1.46	Stream Power (N/m s)	0.03	0.22	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	62.97	193.18	42.98
C & E Loss (m)	0.00	Cum SA (1000 m2)	39.82	72.22	28.34

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 20

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.0188	13.152	13.3653	13.2126	16.3339	13.2397	17.0789	12.931	17.0857	12.817
20.1062	10.71	21.9997	9.3892	32.6236	9.3882	34.4874	10.71	37.417	12.7877
37.6952	13.06	37.8807	13.1469	38.2648	13.2168	38.9777	13.2863	41.0556	13.2806
42.7944	13.1821								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.0188	.03	17.0857	.015	37.417	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.0857	37.417	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.55	Element	Left OB	Channel	

Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.55	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	6.15	29.56	2.44
E.G. Slope (m/m)	0.000012	Area (m2)	6.15	29.56	2.44
Q Total (m3/s)	10.00	Flow (m3/s)	0.52	9.34	0.14
Top Width (m)	31.64	Top Width (m)	8.81	16.76	6.06
Vel Total (m/s)	0.26	Avg. Vel. (m/s)	0.08	0.32	0.06
Max Chl Dpth (m)	2.16	Hydr. Depth (m)	0.70	1.76	0.40
Conv. Total (m3/s)	2924.4	Conv. (m3/s)	152.1	2730.1	42.3
Length Wtd. (m)	200.00	Wetted Per. (m)	9.62	18.13	6.52
Min Ch El (m)	9.39	Shear (N/m2)	0.07	0.19	0.04
Alpha	1.36	Stream Power (N/m s)	0.01	0.06	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	26.75	114.86	17.97
C & E Loss (m)	0.00	Cum SA (1000 m2)	27.73	61.74	18.93

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.03	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.02	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	10.57	37.87	5.56
E.G. Slope (m/m)	0.000005	Area (m2)	10.57	37.87	5.56
Q Total (m3/s)	10.00	Flow (m3/s)	0.78	8.89	0.33
Top Width (m)	34.91	Top Width (m)	9.77	18.12	7.03
Vel Total (m/s)	0.19	Avg. Vel. (m/s)	0.07	0.23	

0.06					
Max Chl Dpth (m)	2.64	Hydr. Depth (m)	1.08	2.09	
0.79					
Conv. Total (m3/s)	4375.8	Conv. (m3/s)	340.0	3891.5	
144.4					
Length Wtd. (m)	200.00	Wetted Per. (m)	11.16	19.78	
8.08					
Min Ch El (m)	9.39	Shear (N/m2)	0.05	0.10	
0.04					
Alpha	1.45	Stream Power (N/m s)	0.00	0.02	
0.00					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	41.56	146.35	
27.89					
C & E Loss (m)	0.00	Cum SA (1000 m2)	33.67	66.40	
22.99					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)		Flow Area (m2)	15.61	47.11	
9.26					
E.G. Slope (m/m)	0.000003	Area (m2)	15.61	47.11	
9.26					
Q Total (m3/s)	10.00	Flow (m3/s)	0.96	8.56	
0.48					
Top Width (m)	38.29	Top Width (m)	10.75	19.51	
8.03					
Vel Total (m/s)	0.14	Avg. Vel. (m/s)	0.06	0.18	
0.05					
Max Chl Dpth (m)	3.13	Hydr. Depth (m)	1.45	2.41	
1.15					
Conv. Total (m3/s)	6194.0	Conv. (m3/s)	595.6	5299.1	
299.3					
Length Wtd. (m)	200.00	Wetted Per. (m)	12.75	21.49	
9.69					
Min Ch El (m)	9.39	Shear (N/m2)	0.03	0.06	
0.02					
Alpha	1.49	Stream Power (N/m s)	0.00	0.01	
0.00					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	58.81	180.78	
39.57					
C & E Loss (m)	0.00	Cum SA (1000 m2)	37.66	69.19	

26.34

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.80	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.77	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.19	33.41	3.86
E.G. Slope (m/m)	0.000057	Area (m2)	8.19	33.41	3.86
Q Total (m3/s)	27.00	Flow (m3/s)	1.76	24.60	0.64
Top Width (m)	33.19	Top Width (m)	9.27	17.40	6.52
Vel Total (m/s)	0.59	Avg. Vel. (m/s)	0.22	0.74	0.17
Max Chl Dpth (m)	2.38	Hydr. Depth (m)	0.88	1.92	0.59
Conv. Total (m3/s)	3573.4	Conv. (m3/s)	233.5	3255.5	84.4
Length Wtd. (m)	200.00	Wetted Per. (m)	10.35	18.91	7.26
Min Ch El (m)	9.39	Shear (N/m2)	0.44	0.99	0.30
Alpha	1.41	Stream Power (N/m s)	0.10	0.73	0.05
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	31.01	123.23	20.89
C & E Loss (m)	0.00	Cum SA (1000 m2)	28.81	62.99	19.87

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.16	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	

0.030					
W.S. Elev (m)	12.14	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	11.76	40.06	6.42
E.G. Slope (m/m)	0.000032	Area (m2)	11.76	40.06	6.42
Q Total (m3/s)	27.00	Flow (m3/s)	2.24	23.76	1.00
Top Width (m)	35.74	Top Width (m)	10.01	18.46	7.28
Vel Total (m/s)	0.46	Avg. Vel. (m/s)	0.19	0.59	0.16
Max Chl Dpth (m)	2.76	Hydr. Depth (m)	1.18	2.17	0.88
Conv. Total (m3/s)	4790.6	Conv. (m3/s)	396.8	4216.0	177.7
Length Wtd. (m)	200.00	Wetted Per. (m)	11.55	20.20	8.48
Min Ch El (m)	9.39	Shear (N/m2)	0.32	0.62	0.24
Alpha	1.46	Stream Power (N/m s)	0.06	0.37	0.04
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	43.97	150.88	29.58
C & E Loss (m)	0.00	Cum SA (1000 m2)	34.18	66.31	23.44

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.59	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	16.40	48.53	9.85
E.G. Slope (m/m)	0.000017	Area (m2)	16.40	48.53	9.85
Q Total (m3/s)	27.00	Flow (m3/s)	2.66	22.99	1.36
Top Width (m)	38.79	Top Width (m)	10.89	19.72	8.18
Vel Total (m/s)	0.36	Avg. Vel. (m/s)	0.16	0.47	0.14
Max Chl Dpth (m)	3.20	Hydr. Depth (m)	1.51	2.46	

1.20					
Conv. Total (m3/s)	6490.2	Conv. (m3/s)	638.5	5525.4	326.4
Length Wtd. (m)	200.00	Wetted Per. (m)	12.99	21.74	9.93
Min Ch El (m)	9.39	Shear (N/m2)	0.21	0.38	0.17
Alpha	1.49	Stream Power (N/m s)	0.03	0.18	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	60.44	183.65	40.74
C & E Loss (m)	0.00	Cum SA (1000 m2)	37.97	68.32	26.64

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 19

INPUT
Description: Opera 14
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.8283	13.3719	10.5685	13.3517	11.3253	13.2982	11.9598	13.3135	13.7869	13.3288
14.2456	13.2447	14.5514	13.1071	14.6431	12.9696	17.8132	10.76	19.8067	9.3705
30.3945	9.3695	32.3115	10.76	35.2127	12.8643	35.4984	13.1212	36.0721	13.3527
36.9246	13.4737	40.8149	13.5846						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.8283	.03	14.6431	.015	36.0721	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.6431	36.0721	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.54	Reach Len. (m)	25.00	25.00	25.00
Crit W.S. (m)	9.81	Flow Area (m2)	4.77	29.68	2.83

E.G. Slope (m/m)	0.000012	Area (m2)	4.77	29.68	2.83
Q Total (m3/s)	10.00	Flow (m3/s)	0.41	9.40	0.18
Top Width (m)	28.76	Top Width (m)	6.00	16.71	6.05
Vel Total (m/s)	0.27	Avg. Vel. (m/s)	0.09	0.32	0.06
Max Chl Dpth (m)	2.18	Hydr. Depth (m)	0.80	1.78	0.47
Conv. Total (m3/s)	2926.4	Conv. (m3/s)	121.2	2752.2	53.0
Length Wtd. (m)	25.00	Wetted Per. (m)	7.17	18.10	6.69
Min Ch El (m)	9.37	Shear (N/m2)	0.08	0.19	0.05
Alpha	1.32	Stream Power (N/m s)	0.01	0.06	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	25.65	108.94	17.44
C & E Loss (m)	0.00	Cum SA (1000 m2)	26.25	58.39	17.72

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.03	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.02	Reach Len. (m)	25.00	25.00	25.00
Crit W.S. (m)	9.81	Flow Area (m2)	7.87	37.98	5.95
E.G. Slope (m/m)	0.000005	Area (m2)	7.87	37.98	5.95
Q Total (m3/s)	10.00	Flow (m3/s)	0.57	9.07	0.37
Top Width (m)	32.10	Top Width (m)	7.00	18.05	7.05
Vel Total (m/s)	0.19	Avg. Vel. (m/s)	0.07	0.24	0.06
Max Chl Dpth (m)	2.65	Hydr. Depth (m)	1.13	2.10	0.84
Conv. Total (m3/s)	4320.2	Conv. (m3/s)	244.6	3916.3	

159.3					
Length Wtd. (m)	25.00	Wetted Per. (m)	8.76	19.74	8.28
Min Ch El (m)	9.37	Shear (N/m2)	0.05	0.10	0.04
Alpha	1.40	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	39.72	138.76	26.74
C & E Loss (m)	0.00	Cum SA (1000 m2)	32.00	62.78	21.58

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	25.00	25.00	25.00
Crit W.S. (m)	9.81	Flow Area (m2)	11.57	47.19	9.67
E.G. Slope (m/m)	0.000003	Area (m2)	11.57	47.19	9.67
Q Total (m3/s)	10.00	Flow (m3/s)	0.68	8.79	0.52
Top Width (m)	35.54	Top Width (m)	8.03	19.43	8.07
Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.06	0.19	0.05
Max Chl Dpth (m)	3.14	Hydr. Depth (m)	1.44	2.43	1.20
Conv. Total (m3/s)	6055.6	Conv. (m3/s)	414.3	5324.0	317.2
Length Wtd. (m)	25.00	Wetted Per. (m)	10.39	21.44	9.90
Min Ch El (m)	9.37	Shear (N/m2)	0.03	0.06	0.03
Alpha	1.45	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	56.09	171.35	37.68
C & E Loss (m)	0.00	Cum SA (1000 m2)	35.78	65.30	24.73

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.79	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.76	Reach Len. (m)	25.00	25.00	25.00
Crit W.S. (m)	10.21	Flow Area (m2)	6.11	33.34	4.18
E.G. Slope (m/m)	0.000059	Area (m2)	6.11	33.34	4.18
Q Total (m3/s)	27.00	Flow (m3/s)	1.32	24.95	0.73
Top Width (m)	30.26	Top Width (m)	6.45	17.31	6.50
Vel Total (m/s)	0.62	Avg. Vel. (m/s)	0.22	0.75	0.17
Max Chl Dpth (m)	2.39	Hydr. Depth (m)	0.95	1.93	0.64
Conv. Total (m3/s)	3519.2	Conv. (m3/s)	171.9	3252.3	95.0
Length Wtd. (m)	25.00	Wetted Per. (m)	7.88	18.84	7.41
Min Ch El (m)	9.37	Shear (N/m2)	0.45	1.02	0.33
Alpha	1.36	Stream Power (N/m s)	0.10	0.76	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	29.58	116.56	20.09
C & E Loss (m)	0.00	Cum SA (1000 m2)	27.24	59.52	18.57

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.15	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.14	Reach Len. (m)	25.00	25.00	25.00
Crit W.S. (m)	10.21	Flow Area (m2)	8.68	40.05	6.77
E.G. Slope (m/m)	0.000033	Area (m2)	8.68	40.05	6.77
Q Total (m3/s)	27.00	Flow (m3/s)	1.61	24.29	1.10
Top Width (m)	32.89	Top Width (m)	7.24	18.37	7.29
Vel Total (m/s)	0.49	Avg. Vel. (m/s)	0.19	0.61	0.16
Max Chl Dpth (m)	2.77	Hydr. Depth (m)	1.20	2.18	0.93
Conv. Total (m3/s)	4694.7	Conv. (m3/s)	279.9	4223.2	191.6
Length Wtd. (m)	25.00	Wetted Per. (m)	9.13	20.14	8.65
Min Ch El (m)	9.37	Shear (N/m2)	0.31	0.65	0.25
Alpha	1.41	Stream Power (N/m s)	0.06	0.39	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	41.93	142.87	28.26
C & E Loss (m)	0.00	Cum SA (1000 m2)	32.46	62.63	21.99

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.58	Reach Len. (m)	25.00	25.00	25.00
Crit W.S. (m)	10.21	Flow Area (m2)	12.13	48.54	10.23
E.G. Slope (m/m)	0.000018	Area (m2)	12.13	48.54	

10.23					
Q Total (m3/s)	27.00	Flow (m3/s)	1.89	23.65	1.47
Top Width (m)	36.02	Top Width (m)	8.17	19.63	8.22
Vel Total (m/s)	0.38	Avg. Vel. (m/s)	0.16	0.49	0.14
Max Chl Dpth (m)	3.21	Hydr. Depth (m)	1.48	2.47	1.25
Conv. Total (m3/s)	6323.0	Conv. (m3/s)	441.7	5538.1	343.2
Length Wtd. (m)	25.00	Wetted Per. (m)	10.62	21.68	10.13
Min Ch El (m)	9.37	Shear (N/m2)	0.20	0.40	0.18
Alpha	1.45	Stream Power (N/m s)	0.03	0.20	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	57.58	173.95	38.73
C & E Loss (m)	0.00	Cum SA (1000 m2)	36.06	64.38	25.00

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 18.5

INPUT
Description: \
Distance from Upstream XS = 25
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
14.13	14.46	12.56	36.05	14.46	12.56

Upstream Bridge Cross Section Data
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.8283	13.3719	10.5685	13.3517	11.3253	13.2982	11.9598	13.3135	13.7869	13.3288
14.2456	13.2447	14.5514	13.1071	14.6431	12.9696	17.8132	10.76	19.8067	9.3705
30.3945	9.3695	32.3115	10.76	35.2127	12.8643	35.4984	13.1212	36.0721	13.3527
36.9246	13.4737	40.8149	13.5846						

```
Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  9.8283     .03 14.6431    .015 36.0721     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       14.6431 36.0721          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   17.43   14.46   12.56   39.39   14.46   12.56

Downstream Bridge Cross Section Data
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 13.0717 13.1055 14.7704  13.295 15.4462 13.3401 17.2484 13.2418 17.7419 13.1434
 17.9877 13.0083 18.1515 12.8404 21.1358   10.72  23.062  9.3514 33.6036  9.3504
 35.5848   10.72 38.8908 13.0054 40.5159 13.0433  41.716 12.9756 42.2573  12.908
 43.3658 12.8491

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 13.0717     .03 17.7419    .015 38.8908     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       17.7419 38.8908          .0015      .01

Upstream Embankment side slope              =     1.8 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.8 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   14.13   12.56   18.45   12.56
Downstream     num=       2
     Sta    Elev     Sta    Elev
   17.43   12.56   21.75   12.56

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   31.45   12.56   36.02   12.56
Downstream     num=       2
     Sta    Elev     Sta    Elev
   34.75   12.56   39.35   12.56
```

Number of Piers = 2

Pier Data
Pier Station   Upstream=   22.35   Downstream=   25.65
Upstream   num=   2
    Width   Elev   Width   Elev
      .4   9.37   .4   12.56
Downstream   num=   2
    Width   Elev   Width   Elev
      .4   9.37   .4   12.56

Pier Data
Pier Station   Upstream=   27.65   Downstream=   30.95
Upstream   num=   2
    Width   Elev   Width   Elev
      .4   9.37   .4   12.56
Downstream   num=   2
    Width   Elev   Width   Elev
      .4   9.37   .4   12.56

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT Profile #PF 1

E.G. US. (m)	11.55	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.54	E.G. Elev (m)	11.55
11.55			
Q Total (m3/s)	10.00	W.S. Elev (m)	11.54
11.54			
Q Bridge (m3/s)	9.10	Crit W.S. (m)	9.83
9.82			
Q Weir (m3/s)		Max Chl Dpth (m)	2.17
2.19			
Weir Sta Lft (m)		Vel Total (m/s)	0.30
0.29			
Weir Sta Rgt (m)		Flow Area (m2)	33.05
34.87			
Weir Submerg		Froude # Chl	0.08

0.08			
Weir Max Depth (m)		Specif Force (m3)	30.06
31.59			
Min El Weir Flow (m)	10.59	Hydr Depth (m)	1.36
1.40			
Min El Prs (m)	12.56	W.P. Total (m)	37.93
39.12			
Delta EG (m)	0.00	Conv. Total (m3/s)	1936.6
2010.3			
Delta WS (m)	0.00	Top Width (m)	24.24
24.83			
BR Open Area (m2)	37.87	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.36	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.23
0.22			
BR Sel Method	Energy only	Power Total (N/m s)	0.07
0.06			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.03	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.02	E.G. Elev (m)	12.02
12.02			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.02
12.02			
Q Bridge (m3/s)	8.51	Crit W.S. (m)	9.83
9.82			
Q Weir (m3/s)		Max Chl Dpth (m)	2.65
2.67			
Weir Sta Lft (m)		Vel Total (m/s)	0.22
0.21			
Weir Sta Rgt (m)		Flow Area (m2)	45.12
47.22			
Weir Submerg		Froude # Chl	0.05
0.05			
Weir Max Depth (m)		Specif Force (m3)	48.63
51.08			
Min El Weir Flow (m)	10.59	Hydr Depth (m)	1.72
1.76			
Min El Prs (m)	12.56	W.P. Total (m)	43.97
45.17			
Delta EG (m)	0.00	Conv. Total (m3/s)	2709.8
2819.6			
Delta WS (m)	0.00	Top Width (m)	26.24

26.83
  BR Open Area (m2)   37.87   Frctn Loss (m)   0.00
 0.00
  BR Open Vel (m/s)   0.27   C & E Loss (m)   0.00
 0.00
  BR Sluice Coef   Shear Total (N/m2)   0.14
 0.13
  BR Sel Method   Energy only   Power Total (N/m s)   0.03
 0.03

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

  E.G. US. (m)   12.52   Element   Inside BR US
Inside BR DS
  W.S. US. (m)   12.51   E.G. Elev (m)   12.52
12.52
  Q Total (m3/s)   10.00   W.S. Elev (m)   12.51
12.51
  Q Bridge (m3/s)   7.98   Crit W.S. (m)   9.83
 9.82
  Q Weir (m3/s)   Max Chl Dpth (m)   3.14
 3.16
  Weir Sta Lft (m)   Vel Total (m/s)   0.17
 0.16
  Weir Sta Rgt (m)   Flow Area (m2)   58.54
60.92
  Weir Submerg   Froude # Chl   0.04
 0.04
  Weir Max Depth (m)   Specif Force (m3)   74.03
77.59
  Min El Weir Flow (m)   10.59   Hydr Depth (m)   2.07
 2.11
  Min El Prs (m)   12.56   W.P. Total (m)   50.19
51.39
  Delta EG (m)   0.00   Conv. Total (m3/s)   3614.1
3763.7
  Delta WS (m)   0.00   Top Width (m)   28.30
28.89
  BR Open Area (m2)   37.87   Frctn Loss (m)   0.00
 0.00
  BR Open Vel (m/s)   0.21   C & E Loss (m)   0.00
 0.00
  BR Sluice Coef   Shear Total (N/m2)   0.09
 0.08
  BR Sel Method   Energy only   Power Total (N/m s)   0.01
 0.01

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.79	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.76	E.G. Elev (m)	11.78
11.78			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.75
11.75			
Q Bridge (m3/s)	23.86	Crit W.S. (m)	10.25
10.23			
Q Weir (m3/s)		Max Chl Dpth (m)	2.38
2.40			
Weir Sta Lft (m)		Vel Total (m/s)	0.71
0.67			
Weir Sta Rgt (m)		Flow Area (m2)	38.18
40.17			
Weir Submerg		Froude # Chl	0.18
0.17			
Weir Max Depth (m)		Specif Force (m3)	39.29
41.20			
Min El Weir Flow (m)	10.59	Hydr Depth (m)	1.52
1.56			
Min El Prs (m)	12.56	W.P. Total (m)	40.55
41.78			
Delta EG (m)	0.02	Conv. Total (m3/s)	2259.4
2351.9			
Delta WS (m)	0.02	Top Width (m)	25.11
25.71			
BR Open Area (m2)	37.87	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.85	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.32
1.24			
BR Sel Method	Energy only	Power Total (N/m s)	0.93
0.84			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.15	Element	Inside BR US

Inside BR DS

W.S. US. (m)	12.14	E.G. Elev (m)	12.15
12.15			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.13
12.13			
Q Bridge (m3/s)	22.64	Crit W.S. (m)	10.25
10.23			
Q Weir (m3/s)		Max Chl Dpth (m)	2.76
2.78			
Weir Sta Lft (m)		Vel Total (m/s)	0.56
0.54			
Weir Sta Rgt (m)		Flow Area (m2)	48.01
50.21			
Weir Submerg		Froude # Chl	0.14
0.13			
Weir Max Depth (m)		Specif Force (m3)	55.19
57.87			
Min El Weir Flow (m)	10.59	Hydr Depth (m)	1.80
1.84			
Min El Prs (m)	12.56	W.P. Total (m)	45.35
46.56			
Delta EG (m)	0.01	Conv. Total (m3/s)	2901.2
3021.9			
Delta WS (m)	0.01	Top Width (m)	26.70
27.29			
BR Open Area (m2)	37.87	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.69	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.90
0.84			
BR Sel Method	Energy only	Power Total (N/m s)	0.51
0.45			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.59	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.58	E.G. Elev (m)	12.59
12.59			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.58
12.58			
Q Bridge (m3/s)	20.23	Crit W.S. (m)	10.25
10.23			
Q Weir (m3/s)		Max Chl Dpth (m)	3.21
3.23			
Weir Sta Lft (m)		Vel Total (m/s)	0.45

```
 0.43
  Weir Sta Rgt (m)                    Flow Area (m2)              60.19
62.62
  Weir Submerg                        Froude # Chl                 0.09
 0.08
  Weir Max Depth (m)                  Specif Force (m3)           79.14
82.84
  Min El Weir Flow (m)        10.59   Hydr Depth (m)               3.67
 3.69
  Min El Prs (m)              12.56   W.P. Total (m)              63.11
64.31
  Delta EG (m)                 0.01   Conv. Total (m3/s)         3125.8
3278.6
  Delta WS (m)                 0.01   Top Width (m)               16.38
16.97
  BR Open Area (m2)           37.87   Frctn Loss (m)               0.00
 0.01
  BR Open Vel (m/s)            0.53   C & E Loss (m)               0.00
 0.00
  BR Sluice Coef                      Shear Total (N/m2)           0.70
 0.65
  BR Sel Method         Energy only   Power Total (N/m s)          0.31
 0.28



Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 18

INPUT
Description:
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 13.0717 13.1055 14.7704  13.295 15.4462 13.3401 17.2484 13.2418 17.7419 13.1434
 17.9877 13.0083 18.1515 12.8404 21.1358   10.72  23.062  9.3514 33.6036  9.3504
 35.5848   10.72 38.8908 13.0054 40.5159 13.0433  41.716 12.9756 42.2573  12.908
 43.3658 12.8491

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 13.0717     .03 17.7419    .015 38.8908     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       17.7419 38.8908              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1
```

E.G. Elev (m)	11.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	7.47	29.95	1.69
E.G. Slope (m/m)	0.000011	Area (m2)	7.47	29.95	1.69
Q Total (m3/s)	10.00	Flow (m3/s)	0.65	9.25	0.10
Top Width (m)	29.42	Top Width (m)	9.91	16.79	2.71
Vel Total (m/s)	0.26	Avg. Vel. (m/s)	0.09	0.31	0.06
Max Chl Dpth (m)	2.19	Hydr. Depth (m)	0.75	1.78	0.62
Conv. Total (m3/s)	3011.6	Conv. (m3/s)	195.8	2785.2	30.6
Length Wtd. (m)	200.00	Wetted Per. (m)	10.70	18.18	4.23
Min Ch El (m)	9.35	Shear (N/m2)	0.08	0.18	0.04
Alpha	1.36	Stream Power (N/m s)	0.01	0.06	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	24.23	103.39	17.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	24.37	55.51	17.09

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.02	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	12.45	38.32	3.24
E.G. Slope (m/m)	0.000005	Area (m2)	12.45	38.32	3.24
Q Total (m3/s)	10.00	Flow (m3/s)	0.94	8.90	0.16

Top Width (m)	32.79	Top Width (m)	10.88	18.16	3.75
Vel Total (m/s)	0.19	Avg. Vel. (m/s)	0.08	0.23	0.05
Max Chl Dpth (m)	2.67	Hydr. Depth (m)	1.14	2.11	0.86
Conv. Total (m3/s)	4453.4	Conv. (m3/s)	419.1	3961.6	72.7
Length Wtd. (m)	200.00	Wetted Per. (m)	12.26	19.85	5.85
Min Ch El (m)	9.35	Shear (N/m2)	0.05	0.10	0.03
Alpha	1.41	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	37.35	131.80	26.02
C & E Loss (m)	0.00	Cum SA (1000 m2)	29.93	59.76	20.74

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	18.05	47.61	5.34
E.G. Slope (m/m)	0.000003	Area (m2)	18.05	47.61	5.34
Q Total (m3/s)	10.00	Flow (m3/s)	1.15	8.62	0.23
Top Width (m)	36.25	Top Width (m)	11.88	19.57	4.81
Vel Total (m/s)	0.14	Avg. Vel. (m/s)	0.06	0.18	0.04
Max Chl Dpth (m)	3.16	Hydr. Depth (m)	1.52	2.43	1.11
Conv. Total (m3/s)	6241.2	Conv. (m3/s)	717.4	5382.0	141.8
Length Wtd. (m)	200.00	Wetted Per. (m)	13.86	21.56	7.52
Min Ch El (m)	9.35	Shear (N/m2)	0.03	0.06	0.02
Alpha	1.45	Stream Power (N/m s)	0.00	0.01	0.00

Frctn Loss (m)	0.00	Cum Volume (1000 m3)	52.66	162.87	36.49
C & E Loss (m)	0.00	Cum SA (1000 m2)	33.51	62.14	23.68

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.77	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.74	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	9.52	33.41	2.28
E.G. Slope (m/m)	0.000057	Area (m2)	9.52	33.41	2.28
Q Total (m3/s)	27.00	Flow (m3/s)	2.12	24.53	0.34
Top Width (m)	30.84	Top Width (m)	10.32	17.37	3.15
Vel Total (m/s)	0.60	Avg. Vel. (m/s)	0.22	0.73	0.15
Max Chl Dpth (m)	2.39	Hydr. Depth (m)	0.92	1.92	0.73
Conv. Total (m3/s)	3585.5	Conv. (m3/s)	281.8	3258.0	45.7
Length Wtd. (m)	200.00	Wetted Per. (m)	11.36	18.88	4.92
Min Ch El (m)	9.35	Shear (N/m2)	0.47	0.98	0.26
Alpha	1.39	Stream Power (N/m s)	0.10	0.72	0.04
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	27.76	110.41	19.58
C & E Loss (m)	0.00	Cum SA (1000 m2)	25.28	56.57	17.84

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.14	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.13	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	13.62	40.27	3.65
E.G. Slope (m/m)	0.000031	Area (m2)	13.62	40.27	3.65
Q Total (m3/s)	27.00	Flow (m3/s)	2.68	23.84	0.48
Top Width (m)	33.54	Top Width (m)	11.10	18.47	3.98
Vel Total (m/s)	0.47	Avg. Vel. (m/s)	0.20	0.59	0.13
Max Chl Dpth (m)	2.78	Hydr. Depth (m)	1.23	2.18	0.92
Conv. Total (m3/s)	4813.4	Conv. (m3/s)	477.9	4250.3	85.2
Length Wtd. (m)	200.00	Wetted Per. (m)	12.61	20.22	6.21
Min Ch El (m)	9.35	Shear (N/m2)	0.33	0.61	0.18
Alpha	1.42	Stream Power (N/m s)	0.07	0.36	0.02
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	39.33	135.58	27.45
C & E Loss (m)	0.00	Cum SA (1000 m2)	30.34	59.58	21.10

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.58	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	18.81	48.87	5.65
E.G. Slope (m/m)	0.000017	Area (m2)	18.81	48.87	5.65
Q Total (m3/s)	27.00	Flow (m3/s)	3.16	23.20	0.64
Top Width (m)	36.70	Top Width (m)	12.00	19.75	4.95

Vel Total (m/s)	0.37	Avg. Vel. (m/s)	0.17	0.47	0.11
Max Chl Dpth (m)	3.23	Hydr. Depth (m)	1.57	2.47	1.14
Conv. Total (m3/s)	6496.0	Conv. (m3/s)	761.0	5582.1	152.9
Length Wtd. (m)	200.00	Wetted Per. (m)	14.07	21.79	7.74
Min Ch El (m)	9.35	Shear (N/m2)	0.23	0.38	0.12
Alpha	1.46	Stream Power (N/m s)	0.04	0.18	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	54.00	165.29	37.47
C & E Loss (m)	0.00	Cum SA (1000 m2)	33.76	62.46	23.92

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 17

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
10.424	13.1058	10.8222	13.1483	12.2475	13.1602	14.8022	13.1071	18.3344	10.74
20.435	9.3323	31.21	9.3313	33.0588	10.74	36.0312	13.0049	36.3224	13.1067
37.3802	13.22	38.6894	13.2498	40.2636	13.0694	41.1409	12.9015		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
10.424	.03	14.8022	.015	36.3224	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.8022	36.3224	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.54	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)	4.92	30.62	1.94
E.G. Slope (m/m)	0.000011	Area (m2)	4.92	30.62	1.94
Q Total (m3/s)	10.00	Flow (m3/s)	0.40	9.48	0.12
Top Width (m)	26.55	Top Width (m)	6.87	16.97	2.72
Vel Total (m/s)	0.27	Avg. Vel. (m/s)	0.08	0.31	0.06
Max Chl Dpth (m)	2.21	Hydr. Depth (m)	0.72	1.80	0.72
Conv. Total (m3/s)	3025.9	Conv. (m3/s)	119.8	2869.0	37.0
Length Wtd. (m)	200.00	Wetted Per. (m)	7.89	18.38	4.50
Min Ch El (m)	9.33	Shear (N/m2)	0.07	0.18	0.05
Alpha	1.28	Stream Power (N/m s)	0.01	0.06	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	22.99	97.33	16.71
C & E Loss (m)	0.00	Cum SA (1000 m2)	22.69	52.13	16.55

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.02	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.48	39.10	3.47
E.G. Slope (m/m)	0.000005	Area (m2)	8.48	39.10	3.47
Q Total (m3/s)	10.00	Flow (m3/s)	0.59	9.23	0.18
Top Width (m)	29.90	Top Width (m)	7.96	18.31	3.63
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.07	0.24	0.05
Max Chl Dpth (m)	2.69	Hydr. Depth (m)	1.07	2.13	0.96
Conv. Total (m3/s)	4410.8	Conv. (m3/s)	261.2	4069.6	80.0

Length Wtd. (m)	200.00	Wetted Per. (m)	9.56	20.04	6.01
Min Ch El (m)	9.33	Shear (N/m2)	0.04	0.10	0.03
Alpha	1.35	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	35.26	124.06	25.35
C & E Loss (m)	0.00	Cum SA (1000 m2)	28.04	56.11	20.01

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	12.68	48.46	5.48
E.G. Slope (m/m)	0.000003	Area (m2)	12.68	48.46	5.48
Q Total (m3/s)	10.00	Flow (m3/s)	0.75	9.01	0.24
Top Width (m)	33.34	Top Width (m)	9.08	19.70	4.56
Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.06	0.19	0.04
Max Chl Dpth (m)	3.18	Hydr. Depth (m)	1.40	2.46	1.20
Conv. Total (m3/s)	6118.8	Conv. (m3/s)	457.3	5513.9	147.6
Length Wtd. (m)	200.00	Wetted Per. (m)	11.27	21.74	7.56
Min Ch El (m)	9.33	Shear (N/m2)	0.03	0.06	0.02
Alpha	1.40	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	49.59	153.26	35.40
C & E Loss (m)	0.00	Cum SA (1000 m2)	31.42	58.21	22.74

Warning: Divided flow computed for this cross-section.

Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.76	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.73	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	6.28	33.93	2.50
E.G. Slope (m/m)	0.000058	Area (m2)	6.28	33.93	2.50
Q Total (m3/s)	27.00	Flow (m3/s)	1.30	25.31	0.39
Top Width (m)	27.89	Top Width (m)	7.31	17.51	3.08
Vel Total (m/s)	0.63	Avg. Vel. (m/s)	0.21	0.75	0.16
Max Chl Dpth (m)	2.40	Hydr. Depth (m)	0.86	1.94	0.81
Conv. Total (m3/s)	3546.5	Conv. (m3/s)	170.5	3324.4	51.7
Length Wtd. (m)	200.00	Wetted Per. (m)	8.55	19.04	5.10
Min Ch El (m)	9.33	Shear (N/m2)	0.42	1.01	0.28
Alpha	1.31	Stream Power (N/m s)	0.09	0.76	0.04
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	26.18	103.68	19.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	23.52	53.09	17.22

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.14	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.12	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	9.29	40.94	3.84

E.G. Slope (m/m)	0.000033	Area (m2)	9.29	40.94	3.84
Q Total (m3/s)	27.00	Flow (m3/s)	1.69	24.78	0.52
Top Width (m)	30.60	Top Width (m)	8.19	18.59	3.82
Vel Total (m/s)	0.50	Avg. Vel. (m/s)	0.18	0.61	0.14
Max Chl Dpth (m)	2.79	Hydr. Depth (m)	1.13	2.20	1.01
Conv. Total (m3/s)	4733.3	Conv. (m3/s)	296.7	4344.9	91.7
Length Wtd. (m)	200.00	Wetted Per. (m)	9.91	20.38	6.33
Min Ch El (m)	9.33	Shear (N/m2)	0.30	0.64	0.19
Alpha	1.36	Stream Power (N/m s)	0.05	0.39	0.03
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	37.04	127.46	26.70
C & E Loss (m)	0.00	Cum SA (1000 m2)	28.41	55.88	20.32

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	13.23	49.65	5.76
E.G. Slope (m/m)	0.000018	Area (m2)	13.23	49.65	5.76
Q Total (m3/s)	27.00	Flow (m3/s)	2.06	24.27	0.67
Top Width (m)	33.76	Top Width (m)	9.21	19.86	4.68
Vel Total (m/s)	0.39	Avg. Vel. (m/s)	0.16	0.49	0.12
Max Chl Dpth (m)	3.24	Hydr. Depth (m)	1.44	2.50	1.23
Conv. Total (m3/s)	6346.8	Conv. (m3/s)	484.7	5704.5	157.6
Length Wtd. (m)	200.00	Wetted Per. (m)	11.48	21.94	7.75

Min Ch El (m)	9.33	Shear (N/m2)	0.20	0.40	0.13
Alpha	1.40	Stream Power (N/m s)	0.03	0.20	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	50.80	155.44	36.33
C & E Loss (m)	0.00	Cum SA (1000 m2)	31.64	58.50	22.96

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 16

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.6972	12.9527	13.7064	13.0545	14.3855	12.9942	15.6906	13.0229	19.0989	10.75
21.2533	9.3132	31.6294	9.3122	33.663	10.75	36.7468	12.9303	36.9631	13.0384
37.3674	13.1183	37.6778	13.1418	39.7958	13.142	40.1767	13.0198	41.1336	12.9883
41.539	12.904								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.6972	.03	15.6906	.015	36.9631	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.6906	36.9631	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
W.S. Elev (m)	11.54	Reach Len. (m)	79.00	79.00	79.00
Crit W.S. (m)	9.76	Flow Area (m2)	11.34	30.31	
E.G. Slope (m/m)	0.000010	Area (m2)	11.34	30.31	
Q Total (m3/s)	10.00	Flow (m3/s)	1.24	8.76	
Top Width (m)	25.44	Top Width (m)	8.58	16.86	

Vel Total (m/s)	0.24	Avg. Vel. (m/s)	0.11	0.29
Max Chl Dpth (m)	2.23	Hydr. Depth (m)	1.32	1.80
Conv. Total (m3/s)	3236.3	Conv. (m3/s)	401.3	2835.0
Length Wtd. (m)	79.00	Wetted Per. (m)	10.36	18.24
Min Ch El (m)	9.31	Shear (N/m2)	0.10	0.16
Alpha	1.29	Stream Power (N/m s)	0.01	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	21.37	91.24 16.51
C & E Loss (m)	0.00	Cum SA (1000 m2)	21.15	48.75 16.28

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015
W.S. Elev (m)	12.02	Reach Len. (m)	79.00	79.00 79.00
Crit W.S. (m)	9.76	Flow Area (m2)	15.72	38.76
E.G. Slope (m/m)	0.000005	Area (m2)	15.72	38.76
Q Total (m3/s)	10.00	Flow (m3/s)	1.35	8.65
Top Width (m)	27.90	Top Width (m)	9.64	18.26
Vel Total (m/s)	0.18	Avg. Vel. (m/s)	0.09	0.22
Max Chl Dpth (m)	2.71	Hydr. Depth (m)	1.63	2.12
Conv. Total (m3/s)	4650.7	Conv. (m3/s)	626.9	4023.8
Length Wtd. (m)	79.00	Wetted Per. (m)	12.00	19.94
Min Ch El (m)	9.31	Shear (N/m2)	0.06	0.09

Alpha	1.31	Stream Power (N/m s)	0.01	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	32.84	116.27
25.00				
C & E Loss (m)	0.00	Cum SA (1000 m2)	26.28	52.45
19.64				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015
0.030				
W.S. Elev (m)	12.51	Reach Len. (m)	79.00	79.00
79.00				
Crit W.S. (m)	9.76	Flow Area (m2)	20.74	48.12
0.01				
E.G. Slope (m/m)	0.000002	Area (m2)	20.74	48.12
0.01				
Q Total (m3/s)	10.00	Flow (m3/s)	1.43	8.57
0.00				
Top Width (m)	30.68	Top Width (m)	10.73	19.70
0.26				
Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.07	0.18
0.01				
Max Chl Dpth (m)	3.20	Hydr. Depth (m)	1.93	2.44
0.05				
Conv. Total (m3/s)	6368.8	Conv. (m3/s)	911.6	5457.1
0.0				
Length Wtd. (m)	79.00	Wetted Per. (m)	13.69	21.69
0.38				
Min Ch El (m)	9.31	Shear (N/m2)	0.04	0.05
0.00				
Alpha	1.32	Stream Power (N/m s)	0.00	0.01
0.00				
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	46.25	143.60
34.85				
C & E Loss (m)	0.00	Cum SA (1000 m2)	29.44	54.27
22.26				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the

computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.75	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	79.00
W.S. Elev (m)	11.72	Reach Len. (m)	79.00	79.00	79.00
Crit W.S. (m)	10.15	Flow Area (m2)	12.97	33.51	18.85
E.G. Slope (m/m)	0.000052	Area (m2)	12.97	33.51	16.91
Q Total (m3/s)	27.00	Flow (m3/s)	3.47	23.53	
Top Width (m)	26.39	Top Width (m)	8.99	17.40	
Vel Total (m/s)	0.58	Avg. Vel. (m/s)	0.27	0.70	
Max Chl Dpth (m)	2.41	Hydr. Depth (m)	1.44	1.93	
Conv. Total (m3/s)	3754.4	Conv. (m3/s)	482.8	3271.6	
Length Wtd. (m)	79.00	Wetted Per. (m)	11.00	18.90	
Min Ch El (m)	9.31	Shear (N/m2)	0.60	0.90	
Alpha	1.30	Stream Power (N/m s)	0.16	0.63	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	24.26	96.93	
C & E Loss (m)	0.00	Cum SA (1000 m2)	21.89	49.59	

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.13	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	

W.S. Elev (m)	12.12	Reach Len. (m)	79.00	79.00	79.00
Crit W.S. (m)	10.15	Flow Area (m2)	16.66	40.54	
E.G. Slope (m/m)	0.000030	Area (m2)	16.66	40.54	
Q Total (m3/s)	27.00	Flow (m3/s)	3.69	23.31	
Top Width (m)	28.40	Top Width (m)	9.85	18.54	
Vel Total (m/s)	0.47	Avg. Vel. (m/s)	0.22	0.58	
Max Chl Dpth (m)	2.80	Hydr. Depth (m)	1.69	2.19	
Conv. Total (m3/s)	4966.0	Conv. (m3/s)	678.4	4287.6	
Length Wtd. (m)	79.00	Wetted Per. (m)	12.34	20.28	
Min Ch El (m)	9.31	Shear (N/m2)	0.39	0.58	
Alpha	1.31	Stream Power (N/m s)	0.09	0.33	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	34.45	119.31	26.31
C & E Loss (m)	0.00	Cum SA (1000 m2)	26.61	52.16	19.94

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.57	Reach Len. (m)	79.00	79.00	79.00
Crit W.S. (m)	10.15	Flow Area (m2)	21.36	49.26	0.03
E.G. Slope (m/m)	0.000017	Area (m2)	21.36	49.26	0.03
Q Total (m3/s)	27.00	Flow (m3/s)	3.89	23.11	0.00
Top Width (m)	31.13	Top Width (m)	10.85	19.87	0.40

Vel Total (m/s)	0.38	Avg. Vel. (m/s)	0.18	0.47
0.02				
Max Chl Dpth (m)	3.26	Hydr. Depth (m)	1.97	2.48
0.08				
Conv. Total (m3/s)	6589.1	Conv. (m3/s)	948.8	5640.2
0.2				
Length Wtd. (m)	79.00	Wetted Per. (m)	13.89	21.89
0.59				
Min Ch El (m)	9.31	Shear (N/m2)	0.25	0.37
0.01				
Alpha	1.32	Stream Power (N/m s)	0.05	0.17
0.00				
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	47.34	145.54
35.75				
C & E Loss (m)	0.00	Cum SA (1000 m2)	29.64	54.53
22.45				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 15.5

INPUT
Description: \
Distance from Upstream XS = 79
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
15.96	16.08	14.43	36.79	16.08	14.43

Upstream Bridge Cross Section Data
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.6972	12.9527	13.7064	13.0545	14.3855	12.9942	15.6906	13.0229	19.0989	10.75
21.2533	9.3132	31.6294	9.3122	33.663	10.75	36.7468	12.9303	36.9631	13.0384
37.3674	13.1183	37.6778	13.1418	39.7958	13.142	40.1767	13.0198	41.1336	12.9883
41.539	12.904								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.6972	.03	15.6906	.015	36.9631	.03

```
Bank Sta: Left   Right    Coeff Contr.   Expan.
       15.6906 36.9631          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   17.13   13.76   12.11   37.96   13.76   12.11

Downstream Bridge Cross Section Data
Station Elevation Data    num=      12
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 12.0258 13.1777 16.6834 13.1664  20.134   10.73 22.1676  9.2941 32.8568  9.2931
 34.9671   10.73 37.6295 12.5427 37.9423 12.8364 38.3974 13.0184 38.8258 13.0612
 40.6913  13.008 42.7161 12.8334

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 12.0258     .03 16.6834    .015 38.3974     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       16.6834 38.3974          .0015      .01

Upstream Embankment side slope              =     1.8 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.8 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   15.97   14.43   20.33   14.43
Downstream     num=       2
     Sta    Elev     Sta    Elev
   17.14   12.11   21.49   12.11

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   32.83   14.43   36.79   14.43
Downstream     num=       2
     Sta    Elev     Sta    Elev
   33.99   12.11   37.96   12.11

Number of Piers =  2

Pier Data
Pier Station     Upstream=   23.93    Downstream=   25.09
Upstream     num=       2
    Width   Elev    Width   Elev
```

```
      .4    9.41      .4   14.43
Downstream     num=       2
    Width   Elev    Width   Elev
      .4    9.39      .4   12.11

Pier Data
Pier Station     Upstream=   29.22    Downstream=   30.39
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.41      .4   14.43
Downstream     num=       2
    Width   Elev    Width   Elev
      .4    9.39      .4   12.11

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.54    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.54    E.G. Elev (m)               11.54
11.54
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.54
11.54
  Q Bridge (m3/s)             8.13    Crit W.S. (m)                9.78
 9.77
  Q Weir (m3/s)                       Max Chl Dpth (m)             2.22
 2.25
  Weir Sta Lft (m)                    Vel Total (m/s)              0.27
 0.20
  Weir Sta Rgt (m)                    Flow Area (m2)              36.55
50.29
  Weir Submerg                        Froude # Chl                 0.07
 0.06
  Weir Max Depth (m)                  Specif Force (m3)           36.45
47.48
  Min El Weir Flow (m)         9.71   Hydr Depth (m)               1.80
 1.66
  Min El Prs (m)             14.43    W.P. Total (m)              34.39
```

46.79

Delta EG (m)	0.00	Conv. Total (m3/s)	2137.5
2655.0			
Delta WS (m)	0.00	Top Width (m)	20.27
30.29			
BR Open Area (m2)	32.35	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.32	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.23
0.15			
BR Sel Method	Energy only	Power Total (N/m s)	0.06
0.03			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.02	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.02	E.G. Elev (m)	12.02
12.02			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.02
12.02			
Q Bridge (m3/s)	7.82	Crit W.S. (m)	9.78
9.77			
Q Weir (m3/s)		Max Chl Dpth (m)	2.71
2.73			
Weir Sta Lft (m)		Vel Total (m/s)	0.21
0.15			
Weir Sta Rgt (m)		Flow Area (m2)	46.57
65.28			
Weir Submerg		Froude # Chl	0.05
0.04			
Weir Max Depth (m)		Specif Force (m3)	56.38
75.19			
Min El Weir Flow (m)	9.71	Hydr Depth (m)	2.18
2.04			
Min El Prs (m)	14.43	W.P. Total (m)	38.93
52.62			
Delta EG (m)	0.00	Conv. Total (m3/s)	2879.8
3672.7			
Delta WS (m)	0.00	Top Width (m)	21.34
32.03			
BR Open Area (m2)	32.35	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.25	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.14

```
 0.09
  BR Sel Method         Energy only    Power Total (N/m s)          0.03
 0.01
```

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

```
  E.G. US. (m)               12.51    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               12.51    E.G. Elev (m)               12.51
12.51
  Q Total (m3/s)             10.00    W.S. Elev (m)               12.51
12.51
  Q Bridge (m3/s)             7.54    Crit W.S. (m)                9.78
 9.77
  Q Weir (m3/s)                       Max Chl Dpth (m)             3.20
 3.22
  Weir Sta Lft (m)                    Vel Total (m/s)              0.17
 0.13
  Weir Sta Rgt (m)                    Flow Area (m2)              57.38
76.80
  Weir Submerg                        Froude # Chl                 0.04
 0.02
  Weir Max Depth (m)                  Specif Force (m3)           81.96
110.37
  Min El Weir Flow (m)        9.71    Hydr Depth (m)               2.53
 3.47
  Min El Prs (m)             14.43    W.P. Total (m)              43.95
67.88
  Delta EG (m)                0.00    Conv. Total (m3/s)         3708.8
3891.2
  Delta WS (m)                0.00    Top Width (m)               22.68
22.10
  BR Open Area (m2)          32.35    Frctn Loss (m)               0.00
 0.00
  BR Open Vel (m/s)           0.23    C & E Loss (m)               0.00
 0.00
  BR Sluice Coef                      Shear Total (N/m2)           0.09
 0.07
  BR Sel Method         Energy only    Power Total (N/m s)          0.02
 0.01
```

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.75	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.72	E.G. Elev (m)	11.74
11.74			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.71
11.73			
Q Bridge (m3/s)	21.63	Crit W.S. (m)	10.18
10.14			
Q Weir (m3/s)		Max Chl Dpth (m)	2.40
2.43			
Weir Sta Lft (m)		Vel Total (m/s)	0.67
0.48			
Weir Sta Rgt (m)		Flow Area (m2)	40.17
56.02			
Weir Submerg		Froude # Chl	0.17
0.13			
Weir Max Depth (m)		Specif Force (m3)	44.92
58.64			
Min El Weir Flow (m)	9.71	Hydr Depth (m)	1.94
1.81			
Min El Prs (m)	14.43	W.P. Total (m)	36.06
49.05			
Delta EG (m)	0.01	Conv. Total (m3/s)	2402.6
3036.3			
Delta WS (m)	0.00	Top Width (m)	20.66
30.97			
BR Open Area (m2)	32.35	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.79	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.38
0.89			
BR Sel Method	Energy only	Power Total (N/m s)	0.93
0.43			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.13	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.12	E.G. Elev (m)	12.13
12.13			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.11
12.12			
Q Bridge (m3/s)	20.98	Crit W.S. (m)	10.18

10.14			
Q Weir (m3/s)		Max Chl Dpth (m)	2.80
2.83			
Weir Sta Lft (m)		Vel Total (m/s)	0.56
0.39			
Weir Sta Rgt (m)		Flow Area (m2)	48.51
68.36			
Weir Submerg		Froude # Chl	0.13
0.08			
Weir Max Depth (m)		Specif Force (m3)	62.08
82.74			
Min El Weir Flow (m)	9.71	Hydr Depth (m)	2.25
3.31			
Min El Prs (m)	14.43	W.P. Total (m)	39.78
65.47			
Delta EG (m)	0.01	Conv. Total (m3/s)	3026.6
3387.3			
Delta WS (m)	0.00	Top Width (m)	21.54
20.68			
BR Open Area (m2)	32.35	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.66	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.95
0.65			
BR Sel Method	Energy only	Power Total (N/m s)	0.53
0.26			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.58	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.57	E.G. Elev (m)	12.58
12.58			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.57
12.57			
Q Bridge (m3/s)	20.29	Crit W.S. (m)	10.18
10.14			
Q Weir (m3/s)		Max Chl Dpth (m)	3.25
3.28			
Weir Sta Lft (m)		Vel Total (m/s)	0.46
0.35			
Weir Sta Rgt (m)		Flow Area (m2)	58.61
78.11			
Weir Submerg		Froude # Chl	0.10
0.06			
Weir Max Depth (m)		Specif Force (m3)	86.23

115.76
  Min El Weir Flow (m)   9.71   Hydr Depth (m)   2.56
 3.50
  Min El Prs (m)   14.43   W.P. Total (m)   44.66
68.24
  Delta EG (m)   0.00   Conv. Total (m3/s)   3803.3
3972.3
  Delta WS (m)   0.00   Top Width (m)   22.94
22.31
  BR Open Area (m2)   32.35   Frctn Loss (m)   0.00
 0.00
  BR Open Vel (m/s)   0.63   C & E Loss (m)   0.00
 0.00
  BR Sluice Coef   Shear Total (N/m2)   0.65
 0.52
  BR Sel Method   Energy only   Power Total (N/m s)   0.30
 0.18

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM   RS: 15

INPUT
Description:
Station Elevation Data   num=   12
     Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
 12.0258 13.1777 16.6834 13.1664 20.134   10.73 22.1676 9.2941 32.8568 9.2931
 34.9671   10.73 37.6295 12.5427 37.9423 12.8364 38.3974 13.0184 38.8258 13.0612
 40.6913 13.008 42.7161 12.8334

Manning's n Values   num=   3
     Sta   n Val   Sta   n Val   Sta   n Val
 12.0258   .03 16.6834   .015 38.3974   .03

Bank Sta: Left   Right   Lengths: Left Channel   Right   Coeff Contr.   Expan.
       16.6834 38.3974   200   200   200   .0015   .01

CROSS SECTION OUTPUT Profile #PF 1

  E.G. Elev (m)   11.54   Element   Left OB   Channel   Right OB
  Vel Head (m)   0.00   Wt. n-Val.   0.030   0.015   0.030
  W.S. Elev (m)   11.54   Reach Len. (m)   164.00   164.00

164.00					
Crit W.S. (m)	9.75	Flow Area (m2)	14.47	31.25	10.14
E.G. Slope (m/m)	0.000007	Area (m2)	14.47	31.25	10.14
Q Total (m3/s)	10.00	Flow (m3/s)	1.45	7.70	0.85
Top Width (m)	35.75	Top Width (m)	9.38	17.16	9.21
Vel Total (m/s)	0.18	Avg. Vel. (m/s)	0.10	0.25	0.08
Max Chl Dpth (m)	2.24	Hydr. Depth (m)	1.54	1.82	1.10
Conv. Total (m3/s)	3827.6	Conv. (m3/s)	554.5	2947.8	325.2
Length Wtd. (m)	164.00	Wetted Per. (m)	11.73	18.57	10.74
Min Ch El (m)	9.29	Shear (N/m2)	0.08	0.11	0.06
Alpha	1.52	Stream Power (N/m s)	0.01	0.03	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	18.73	85.62	15.31
C & E Loss (m)	0.00	Cum SA (1000 m2)	19.34	45.89	15.18

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.02	Reach Len. (m)	164.00	164.00	164.00
Crit W.S. (m)	9.75	Flow Area (m2)	19.17	39.85	14.81
E.G. Slope (m/m)	0.000003	Area (m2)	19.17	39.85	14.81
Q Total (m3/s)	10.00	Flow (m3/s)	1.48	7.51	1.01
Top Width (m)	38.88	Top Width (m)	10.15	18.55	10.17
Vel Total (m/s)	0.14	Avg. Vel. (m/s)	0.08	0.19	0.07
Max Chl Dpth (m)	2.73	Hydr. Depth (m)	1.89	2.15	1.46
Conv. Total (m3/s)	5551.7	Conv. (m3/s)	822.4	4170.6	

558.7					
Length Wtd. (m)	164.00	Wetted Per. (m)	13.13	20.26	12.30
Min Ch El (m)	9.29	Shear (N/m2)	0.05	0.06	0.04
Alpha	1.53	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	29.29	109.24	23.24
C & E Loss (m)	0.00	Cum SA (1000 m2)	24.29	49.46	18.44

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	164.00	164.00	164.00
Crit W.S. (m)	9.75	Flow Area (m2)	24.37	49.35	20.06
E.G. Slope (m/m)	0.000002	Area (m2)	24.37	49.35	20.06
Q Total (m3/s)	10.00	Flow (m3/s)	1.50	7.38	1.12
Top Width (m)	42.07	Top Width (m)	10.95	19.97	11.15
Vel Total (m/s)	0.11	Avg. Vel. (m/s)	0.06	0.15	0.06
Max Chl Dpth (m)	3.22	Hydr. Depth (m)	2.23	2.47	1.80
Conv. Total (m3/s)	7640.3	Conv. (m3/s)	1145.6	5639.8	854.9
Length Wtd. (m)	164.00	Wetted Per. (m)	14.56	21.99	13.89
Min Ch El (m)	9.29	Shear (N/m2)	0.03	0.04	0.02
Alpha	1.53	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	41.67	135.34	32.48
C & E Loss (m)	0.00	Cum SA (1000 m2)	27.26	51.85	20.91

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.73	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.72	Reach Len. (m)	164.00	164.00	164.00
Crit W.S. (m)	10.11	Flow Area (m2)	16.20	34.43	11.85
E.G. Slope (m/m)	0.000037	Area (m2)	16.20	34.43	11.85
Q Total (m3/s)	27.00	Flow (m3/s)	3.95	20.57	2.47
Top Width (m)	36.94	Top Width (m)	9.67	17.69	9.58
Vel Total (m/s)	0.43	Avg. Vel. (m/s)	0.24	0.60	0.21
Max Chl Dpth (m)	2.43	Hydr. Depth (m)	1.68	1.95	1.24
Conv. Total (m3/s)	4444.7	Conv. (m3/s)	650.5	3387.0	407.2
Length Wtd. (m)	164.00	Wetted Per. (m)	12.26	19.21	11.33
Min Ch El (m)	9.29	Shear (N/m2)	0.48	0.65	0.38
Alpha	1.53	Stream Power (N/m s)	0.12	0.39	0.08
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	21.28	90.78	17.44
C & E Loss (m)	0.00	Cum SA (1000 m2)	20.01	46.68	15.78

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.12	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.11	Reach Len. (m)	164.00	164.00	164.00
Crit W.S. (m)	10.11	Flow Area (m2)	20.13	41.61	

15.78					
E.G. Slope (m/m)	0.000021	Area (m2)	20.13	41.61	
15.78					
Q Total (m3/s)	27.00	Flow (m3/s)	4.01	20.21	
2.78					
Top Width (m)	39.49	Top Width (m)	10.31	18.82	
10.36					
Vel Total (m/s)	0.35	Avg. Vel. (m/s)	0.20	0.49	
0.18					
Max Chl Dpth (m)	2.82	Hydr. Depth (m)	1.95	2.21	
1.52					
Conv. Total (m3/s)	5926.5	Conv. (m3/s)	880.5	4435.0	
610.9					
Length Wtd. (m)	164.00	Wetted Per. (m)	13.40	20.59	
12.60					
Min Ch El (m)	9.29	Shear (N/m2)	0.31	0.41	
0.25					
Alpha	1.53	Stream Power (N/m s)	0.06	0.20	
0.04					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	30.70	112.00	
24.44					
C & E Loss (m)	0.00	Cum SA (1000 m2)	24.59	49.85	
18.71					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.58	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.57	Reach Len. (m)	164.00	164.00	
164.00					
Crit W.S. (m)	10.11	Flow Area (m2)	25.00	50.49	
20.70					
E.G. Slope (m/m)	0.000012	Area (m2)	25.00	50.49	
20.70					
Q Total (m3/s)	27.00	Flow (m3/s)	4.05	19.90	
3.05					
Top Width (m)	42.43	Top Width (m)	11.04	20.13	
11.26					
Vel Total (m/s)	0.28	Avg. Vel. (m/s)	0.16	0.39	
0.15					
Max Chl Dpth (m)	3.28	Hydr. Depth (m)	2.26	2.51	
1.84					
Conv. Total (m3/s)	7904.4	Conv. (m3/s)	1186.2	5825.4	
892.8					
Length Wtd. (m)	164.00	Wetted Per. (m)	14.72	22.18	

```
  14.07
  Min Ch El (m)             9.29    Shear (N/m2)              0.19       0.26
   0.17
  Alpha                     1.53    Stream Power (N/m s)      0.03       0.10
   0.02
  Frctn Loss (m)            0.00    Cum Volume (1000 m3)     42.63     137.15
  33.29
  C & E Loss (m)            0.00    Cum SA (1000 m2)         27.44      52.08
  21.09



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

BRIDGE


RIVER: SNM
REACH: Canale SNM         RS: 14.5

INPUT
Description:
Distance from Upstream XS =     164
Deck/Roadway Width        =       4
Weir Coefficient          =     1.4
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   13.87   14.05    12.7   41.95   14.05    12.7

Upstream Bridge Cross Section Data
Station Elevation Data    num=      12
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 12.0258 13.1777 16.6834 13.1664  20.134   10.73 22.1676  9.2941 32.8568  9.2931
 34.9671   10.73 37.6295 12.5427 37.9423 12.8364 38.3974 13.0184 38.8258 13.0612
 40.6913  13.008 42.7161 12.8334

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 12.0258     .03 16.6834    .015 38.3974     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       16.6834 38.3974          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   13.87   14.05    12.7   41.95   14.05    12.7

Downstream Bridge Cross Section Data
Station Elevation Data    num=      12
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
```

```
 11.5336  12.964 13.5937 13.1716 14.7938 13.1271 16.7829  13.016 20.1964   10.74
 22.3936   9.275 32.7281   9.274  34.927   10.74  38.349 13.0214 40.5546 12.9834
 41.2584 12.8304 42.3447 12.7616

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 11.5336     .03 16.7829    .015  38.349     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       16.7829  38.349          .0015      .01

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Piers =  2

Pier Data
Pier Station     Upstream=   24.48    Downstream=   24.48
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.39      .5    12.7
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.39      .5    12.7

Pier Data
Pier Station     Upstream=   31.68    Downstream=   31.68
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.39      .5    12.7
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.39      .5    12.7

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line
```

BRIDGE OUTPUT Profile #PF 1

E.G. US. (m)	11.54	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.54	E.G. Elev (m)	11.54
11.54			
Q Total (m3/s)	10.00	W.S. Elev (m)	11.54
11.54			
Q Bridge (m3/s)	7.00	Crit W.S. (m)	9.78
9.75			
Q Weir (m3/s)		Max Chl Dpth (m)	2.24
2.26			
Weir Sta Lft (m)		Vel Total (m/s)	0.19
0.22			
Weir Sta Rgt (m)		Flow Area (m2)	53.57
45.67			
Weir Submerg		Froude # Chl	0.06
0.06			
Weir Max Depth (m)		Specif Force (m3)	48.93
42.45			
Min El Weir Flow (m)	9.71	Hydr Depth (m)	1.54
1.53			
Min El Prs (m)	12.70	W.P. Total (m)	49.00
43.34			
Delta EG (m)	0.00	Conv. Total (m3/s)	2928.3
2615.2			
Delta WS (m)	0.00	Top Width (m)	34.75
29.83			
BR Open Area (m2)	49.58	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.24	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.13
0.15			
BR Sel Method	Energy only	Power Total (N/m s)	0.02
0.03			

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.02	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.02	E.G. Elev (m)	12.02
12.02			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.02
12.02			
Q Bridge (m3/s)	6.73	Crit W.S. (m)	9.78
9.75			
Q Weir (m3/s)		Max Chl Dpth (m)	2.73
2.74			

Weir Sta Lft (m)		Vel Total (m/s)	0.14 0.16
Weir Sta Rgt (m)		Flow Area (m2)	71.08 60.83
Weir Submerg		Froude # Chl	0.04 0.04
Weir Max Depth (m)		Specif Force (m3)	78.87 68.03
Min El Weir Flow (m)	9.71	Hydr Depth (m)	1.88 1.84
Min El Prs (m)	12.70	W.P. Total (m)	55.57 49.95
Delta EG (m)	0.00	Conv. Total (m3/s)	4222.0 3752.1
Delta WS (m)	0.00	Top Width (m)	37.87 33.00
BR Open Area (m2)	49.58	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.18	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.07 0.08
BR Sel Method	Energy only	Power Total (N/m s)	0.01 0.01

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.51	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.51	E.G. Elev (m)	12.51 12.51
Q Total (m3/s)	10.00	W.S. Elev (m)	12.51 12.51
Q Bridge (m3/s)	6.54	Crit W.S. (m)	9.78 9.75
Q Weir (m3/s)		Max Chl Dpth (m)	3.22 3.24
Weir Sta Lft (m)		Vel Total (m/s)	0.11 0.13
Weir Sta Rgt (m)		Flow Area (m2)	90.56 77.92
Weir Submerg		Froude # Chl	0.03 0.03
Weir Max Depth (m)		Specif Force (m3)	118.66 102.18
Min El Weir Flow (m)	9.71	Hydr Depth (m)	2.20 2.15
Min El Prs (m)	12.70	W.P. Total (m)	62.30 56.72
Delta EG (m)	0.00	Conv. Total (m3/s)	5779.1 5127.5

Delta WS (m)	0.00	Top Width (m)	41.07
36.24			
BR Open Area (m2)	49.58	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.14	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.04
0.05			
BR Sel Method	Energy only	Power Total (N/m s)	0.00
0.01			

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.73	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.72	E.G. Elev (m)	11.73
11.73			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.71
11.71			
Q Bridge (m3/s)	18.60	Crit W.S. (m)	10.15
10.14			
Q Weir (m3/s)		Max Chl Dpth (m)	2.42
2.43			
Weir Sta Lft (m)		Vel Total (m/s)	0.45
0.53			
Weir Sta Rgt (m)		Flow Area (m2)	59.82
50.93			
Weir Submerg		Froude # Chl	0.13
0.15			
Weir Max Depth (m)		Specif Force (m3)	60.12
52.15			
Min El Weir Flow (m)	9.71	Hydr Depth (m)	1.67
1.64			
Min El Prs (m)	12.70	W.P. Total (m)	51.41
45.71			
Delta EG (m)	0.01	Conv. Total (m3/s)	3377.3
2999.5			
Delta WS (m)	0.01	Top Width (m)	35.89
30.96			
BR Open Area (m2)	49.58	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.59	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.73
0.89			
BR Sel Method	Energy only	Power Total (N/m s)	0.33
0.47			

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.12	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.11	E.G. Elev (m)	12.12 12.12
Q Total (m3/s)	27.00	W.S. Elev (m)	12.11 12.11
Q Bridge (m3/s)	18.06	Crit W.S. (m)	10.15 10.14
Q Weir (m3/s)		Max Chl Dpth (m)	2.82 2.83
Weir Sta Lft (m)		Vel Total (m/s)	0.36 0.42
Weir Sta Rgt (m)		Flow Area (m2)	74.57 63.79
Weir Submerg		Froude # Chl	0.10 0.11
Weir Max Depth (m)		Specif Force (m3)	86.47 74.66
Min El Weir Flow (m)	9.71	Hydr Depth (m)	1.94 1.90
Min El Prs (m)	12.70	W.P. Total (m)	56.82 51.17
Delta EG (m)	0.01	Conv. Total (m3/s)	4493.1 3983.9
Delta WS (m)	0.01	Top Width (m)	38.47 33.58
BR Open Area (m2)	49.58	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.47	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.46 0.56
BR Sel Method	Energy only	Power Total (N/m s)	0.17 0.24

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.58	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.57	E.G. Elev (m)	12.57 12.57
Q Total (m3/s)	27.00	W.S. Elev (m)	12.57 12.57
Q Bridge (m3/s)	17.61	Crit W.S. (m)	10.15 10.14
Q Weir (m3/s)		Max Chl Dpth (m)	3.27 3.29
Weir Sta Lft (m)		Vel Total (m/s)	0.29 0.34

Weir Sta Rgt (m)		Flow Area (m2)	92.85 79.88
Weir Submerg		Froude # Chl	0.08 0.09
Weir Max Depth (m)		Specif Force (m3)	124.50 107.30
Min El Weir Flow (m)	9.71	Hydr Depth (m)	2.24 2.18
Min El Prs (m)	12.70	W.P. Total (m)	63.05 57.45
Delta EG (m)	0.00	Conv. Total (m3/s)	5969.8 5290.9
Delta WS (m)	0.00	Top Width (m)	41.42 36.59
BR Open Area (m2)	49.58	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.37	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.30 0.36
BR Sel Method	Energy only	Power Total (N/m s)	0.09 0.12

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 14

INPUT
Description:
Station Elevation Data num= 12

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.5336	12.964	13.5937	13.1716	14.7938	13.1271	16.7829	13.016	20.1964	10.74
22.3936	9.275	32.7281	9.274	34.927	10.74	38.349	13.0214	40.5546	12.9834
41.2584	12.8304	42.3447	12.7616						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.5336	.03	16.7829	.015	38.349	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.7829	38.349	150	150	150	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030

W.S. Elev (m)	11.54	Reach Len. (m)	150.00	150.00	150.00
Crit W.S. (m)		Flow Area (m2)	13.46	31.02	3.44
E.G. Slope (m/m)	0.000008	Area (m2)	13.46	31.02	3.44
Q Total (m3/s)	10.00	Flow (m3/s)	1.45	8.32	0.23
Top Width (m)	30.83	Top Width (m)	9.36	17.12	4.35
Vel Total (m/s)	0.21	Avg. Vel. (m/s)	0.11	0.27	0.07
Max Chl Dpth (m)	2.26	Hydr. Depth (m)	1.44	1.81	0.79
Conv. Total (m3/s)	3511.3	Conv. (m3/s)	508.0	2921.1	82.3
Length Wtd. (m)	150.00	Wetted Per. (m)	11.17	18.48	5.64
Min Ch El (m)	9.27	Shear (N/m2)	0.10	0.13	0.05
Alpha	1.41	Stream Power (N/m s)	0.01	0.04	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	15.87	79.61	13.51
C & E Loss (m)	0.00	Cum SA (1000 m2)	17.46	42.56	13.51

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.02	Reach Len. (m)	150.00	150.00	150.00
Crit W.S. (m)		Flow Area (m2)	18.16	39.64	5.77
E.G. Slope (m/m)	0.000004	Area (m2)	18.16	39.64	5.77
Q Total (m3/s)	10.00	Flow (m3/s)	1.53	8.15	0.33
Top Width (m)	33.99	Top Width (m)	10.10	18.56	5.33
Vel Total (m/s)	0.16	Avg. Vel. (m/s)	0.08	0.21	0.06
Max Chl Dpth (m)	2.74	Hydr. Depth (m)	1.80	2.14	1.08

Conv. Total (m3/s)	5078.6	Conv. (m3/s)	774.8	4138.0
165.7				
Length Wtd. (m)	150.00	Wetted Per. (m)	12.53	20.22
7.22				
Min Ch El (m)	9.27	Shear (N/m2)	0.06	0.07
0.03				
Alpha	1.44	Stream Power (N/m s)	0.00	0.02
0.00				
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	25.49	101.56
20.59				
C & E Loss (m)	0.00	Cum SA (1000 m2)	22.27	45.85
16.57				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015
0.030				
W.S. Elev (m)	12.51	Reach Len. (m)	150.00	150.00
150.00				
Crit W.S. (m)		Flow Area (m2)	23.33	49.17
8.66				
E.G. Slope (m/m)	0.000002	Area (m2)	23.33	49.17
8.66				
Q Total (m3/s)	10.00	Flow (m3/s)	1.57	8.02
0.41				
Top Width (m)	37.23	Top Width (m)	10.85	20.05
6.34				
Vel Total (m/s)	0.12	Avg. Vel. (m/s)	0.07	0.16
0.05				
Max Chl Dpth (m)	3.24	Hydr. Depth (m)	2.15	2.45
1.36				
Conv. Total (m3/s)	6983.8	Conv. (m3/s)	1096.8	5602.5
284.6				
Length Wtd. (m)	150.00	Wetted Per. (m)	13.92	22.01
8.84				
Min Ch El (m)	9.27	Shear (N/m2)	0.03	0.04
0.02				
Alpha	1.46	Stream Power (N/m s)	0.00	0.01
0.00				
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	36.83	125.81
28.85				
C & E Loss (m)	0.00	Cum SA (1000 m2)	25.08	47.95
18.85				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.72	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.71	Reach Len. (m)	150.00	150.00	150.00
Crit W.S. (m)		Flow Area (m2)	15.08	33.99	4.21
E.G. Slope (m/m)	0.000045	Area (m2)	15.08	33.99	4.21
Q Total (m3/s)	27.00	Flow (m3/s)	4.00	22.28	0.73
Top Width (m)	31.95	Top Width (m)	9.62	17.63	4.70
Vel Total (m/s)	0.51	Avg. Vel. (m/s)	0.27	0.66	0.17
Max Chl Dpth (m)	2.43	Hydr. Depth (m)	1.57	1.93	0.90
Conv. Total (m3/s)	4033.3	Conv. (m3/s)	597.0	3327.9	108.3
Length Wtd. (m)	150.00	Wetted Per. (m)	11.65	19.10	6.20
Min Ch El (m)	9.27	Shear (N/m2)	0.57	0.78	0.30
Alpha	1.42	Stream Power (N/m s)	0.15	0.51	0.05
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	18.08	84.17	15.34
C & E Loss (m)	0.00	Cum SA (1000 m2)	18.08	43.25	14.03

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.12	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.11	Reach Len. (m)	150.00	150.00	150.00

Crit W.S. (m)		Flow Area (m2)	19.04	41.27	6.25
E.G. Slope (m/m)	0.000025	Area (m2)	19.04	41.27	6.25
Q Total (m3/s)	27.00	Flow (m3/s)	4.15	21.93	0.92
Top Width (m)	34.57	Top Width (m)	10.23	18.83	5.51
Vel Total (m/s)	0.41	Avg. Vel. (m/s)	0.22	0.53	0.15
Max Chl Dpth (m)	2.83	Hydr. Depth (m)	1.86	2.19	1.13
Conv. Total (m3/s)	5393.7	Conv. (m3/s)	828.3	4381.2	184.2
Length Wtd. (m)	150.00	Wetted Per. (m)	12.78	20.54	7.51
Min Ch El (m)	9.27	Shear (N/m2)	0.37	0.49	0.20
Alpha	1.44	Stream Power (N/m s)	0.08	0.26	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	26.72	103.98	21.61
C & E Loss (m)	0.00	Cum SA (1000 m2)	22.53	46.18	16.81

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.56	Reach Len. (m)	150.00	150.00	150.00
Crit W.S. (m)		Flow Area (m2)	23.90	50.23	8.99
E.G. Slope (m/m)	0.000014	Area (m2)	23.90	50.23	8.99
Q Total (m3/s)	27.00	Flow (m3/s)	4.25	21.63	1.12
Top Width (m)	37.58	Top Width (m)	10.93	20.20	6.45
Vel Total (m/s)	0.32	Avg. Vel. (m/s)	0.18	0.43	0.12
Max Chl Dpth (m)	3.29	Hydr. Depth (m)	2.19	2.49	1.39
Conv. Total (m3/s)	7206.1	Conv. (m3/s)	1134.1	5772.5	299.4

Length Wtd. (m)	150.00	Wetted Per. (m)	14.07	22.20	9.01
Min Ch El (m)	9.27	Shear (N/m2)	0.23	0.31	0.14
Alpha	1.46	Stream Power (N/m s)	0.04	0.13	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	37.67	127.39	29.55
C & E Loss (m)	0.00	Cum SA (1000 m2)	25.24	48.16	19.00

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 13

INPUT
Description:
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.8181	12.946	14.2061	13.0492	15.427	13.1039	16.4317	13.0835	17.3771	12.9927
20.567	10.76	22.7077	9.2616	33.2284	9.2611	35.4422	10.76	38.2432	12.6564
38.5355	13.0201	39.2975	13.04	42.8082	12.8908				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.8181	.03	17.3771	.015	38.5355	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.3771	38.5355	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	14.36	31.42	10.77
E.G. Slope (m/m)	0.000007	Area (m2)	14.36	31.42	10.77
Q Total (m3/s)	10.00	Flow (m3/s)	1.38	7.71	0.91

Top Width (m)	37.05	Top Width (m)	10.55	17.13	9.37
Vel Total (m/s)	0.18	Avg. Vel. (m/s)	0.10	0.25	0.08
Max Chl Dpth (m)	2.27	Hydr. Depth (m)	1.36	1.83	1.15
Conv. Total (m3/s)	3860.5	Conv. (m3/s)	533.0	2978.0	349.5
Length Wtd. (m)	200.00	Wetted Per. (m)	12.22	18.54	11.21
Min Ch El (m)	9.26	Shear (N/m2)	0.08	0.11	0.06
Alpha	1.55	Stream Power (N/m s)	0.01	0.03	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	13.79	74.92	12.45
C & E Loss (m)	0.00	Cum SA (1000 m2)	15.97	39.99	12.48

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.02	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	19.64	40.03	15.49
E.G. Slope (m/m)	0.000003	Area (m2)	19.64	40.03	15.49
Q Total (m3/s)	10.00	Flow (m3/s)	1.48	7.47	1.05
Top Width (m)	40.03	Top Width (m)	11.33	18.53	10.17
Vel Total (m/s)	0.13	Avg. Vel. (m/s)	0.08	0.19	0.07
Max Chl Dpth (m)	2.76	Hydr. Depth (m)	1.73	2.16	1.52
Conv. Total (m3/s)	5632.6	Conv. (m3/s)	836.0	4205.1	591.5
Length Wtd. (m)	200.00	Wetted Per. (m)	13.61	20.24	12.63
Min Ch El (m)	9.26	Shear (N/m2)	0.04	0.06	0.04
Alpha	1.54	Stream Power (N/m s)	0.00	0.01	0.00

Frctn Loss (m)	0.00	Cum Volume (1000 m3)	22.65	95.58	19.00
C & E Loss (m)	0.00	Cum SA (1000 m2)	20.66	43.07	15.41

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	25.43	49.54	20.72
E.G. Slope (m/m)	0.000002	Area (m2)	25.43	49.54	20.72
Q Total (m3/s)	10.00	Flow (m3/s)	1.55	7.30	1.15
Top Width (m)	43.07	Top Width (m)	12.12	19.96	10.99
Vel Total (m/s)	0.10	Avg. Vel. (m/s)	0.06	0.15	0.06
Max Chl Dpth (m)	3.25	Hydr. Depth (m)	2.10	2.48	1.89
Conv. Total (m3/s)	7773.1	Conv. (m3/s)	1203.2	5676.7	893.1
Length Wtd. (m)	200.00	Wetted Per. (m)	15.04	21.99	14.08
Min Ch El (m)	9.26	Shear (N/m2)	0.03	0.04	0.02
Alpha	1.54	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	33.17	118.40	26.65
C & E Loss (m)	0.00	Cum SA (1000 m2)	23.35	44.95	17.55

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.72	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.70	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	16.17	34.36	12.38
E.G. Slope (m/m)	0.000037	Area (m2)	16.17	34.36	12.38
Q Total (m3/s)	27.00	Flow (m3/s)	3.84	20.56	2.60
Top Width (m)	38.09	Top Width (m)	10.82	17.62	9.65
Vel Total (m/s)	0.43	Avg. Vel. (m/s)	0.24	0.60	0.21
Max Chl Dpth (m)	2.44	Hydr. Depth (m)	1.49	1.95	1.28
Conv. Total (m3/s)	4445.5	Conv. (m3/s)	632.8	3384.5	428.3
Length Wtd. (m)	200.00	Wetted Per. (m)	12.71	19.14	11.71
Min Ch El (m)	9.26	Shear (N/m2)	0.46	0.65	0.38
Alpha	1.55	Stream Power (N/m s)	0.11	0.39	0.08
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	15.74	79.04	14.09
C & E Loss (m)	0.00	Cum SA (1000 m2)	16.55	40.61	12.95

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.11	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.10	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	20.63	41.66	16.38
E.G. Slope (m/m)	0.000020	Area (m2)	20.63	41.66	16.38
Q Total (m3/s)	27.00	Flow (m3/s)	4.04	20.07	2.89
Top Width (m)	40.56	Top Width (m)	11.47	18.78	10.31

Vel Total (m/s)	0.34	Avg. Vel. (m/s)	0.20	0.48	0.18
Max Chl Dpth (m)	2.84	Hydr. Depth (m)	1.80	2.22	1.59
Conv. Total (m3/s)	5985.7	Conv. (m3/s)	896.6	4448.3	640.7
Length Wtd. (m)	200.00	Wetted Per. (m)	13.86	20.55	12.89
Min Ch El (m)	9.26	Shear (N/m2)	0.30	0.40	0.25
Alpha	1.54	Stream Power (N/m s)	0.06	0.19	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	23.74	97.76	19.92
C & E Loss (m)	0.00	Cum SA (1000 m2)	20.90	43.36	15.62

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	26.08	50.60	21.30
E.G. Slope (m/m)	0.000011	Area (m2)	26.08	50.60	21.30
Q Total (m3/s)	27.00	Flow (m3/s)	4.19	19.68	3.13
Top Width (m)	43.40	Top Width (m)	12.21	20.12	11.08
Vel Total (m/s)	0.28	Avg. Vel. (m/s)	0.16	0.39	0.15
Max Chl Dpth (m)	3.30	Hydr. Depth (m)	2.14	2.52	1.92
Conv. Total (m3/s)	8021.8	Conv. (m3/s)	1245.9	5847.3	928.6
Length Wtd. (m)	200.00	Wetted Per. (m)	15.19	22.17	14.24
Min Ch El (m)	9.26	Shear (N/m2)	0.19	0.25	0.17
Alpha	1.54	Stream Power (N/m s)	0.03	0.10	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	33.92	119.83	27.28

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  C & E Loss (m)            0.00    Cum SA (1000 m2)         23.50      45.13
  17.68



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 12

INPUT
Description:
Station Elevation Data    num=      14
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 13.2008 12.7565 13.8768 12.8396 18.0219 12.9501 21.2243   10.76 23.4295  9.2519
 33.8665  9.2514 36.0813   10.76 38.8206 12.6153 38.9301 12.7005 39.1748 12.9588
 39.6886 13.0249 41.1404 13.0254 41.9815  12.892 43.2053 12.7412

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 13.2008     .03 18.0219    .015 39.1748     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       18.0219 39.1748              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.54    Element                Left OB    Channel
Right OB
  Vel Head (m)              0.00    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)            11.53    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)          14.38      31.44
   7.01
  E.G. Slope (m/m)      0.000007    Area (m2)               14.38      31.44
   7.01
  Q Total (m3/s)           10.00    Flow (m3/s)              1.40       8.04
   0.57
  Top Width (m)            34.73    Top Width (m)           11.21      17.13
   6.39
  Vel Total (m/s)           0.19    Avg. Vel. (m/s)          0.10       0.26
   0.08
  Max Chl Dpth (m)          2.28    Hydr. Depth (m)          1.28       1.84
   1.10
  Conv. Total (m3/s)      3708.2    Conv. (m3/s)            517.4     2980.6
  210.2
```

Length Wtd. (m)	200.00	Wetted Per. (m)	12.81	18.54	8.23
Min Ch El (m)	9.25	Shear (N/m2)	0.08	0.12	0.06
Alpha	1.51	Stream Power (N/m s)	0.01	0.03	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	10.91	68.64	10.67
C & E Loss (m)	0.00	Cum SA (1000 m2)	13.79	36.56	10.90

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.02	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	19.99	40.07	10.28
E.G. Slope (m/m)	0.000003	Area (m2)	19.99	40.07	10.28
Q Total (m3/s)	10.00	Flow (m3/s)	1.55	7.79	0.66
Top Width (m)	37.67	Top Width (m)	12.00	18.55	7.12
Vel Total (m/s)	0.14	Avg. Vel. (m/s)	0.08	0.19	0.06
Max Chl Dpth (m)	2.77	Hydr. Depth (m)	1.67	2.16	1.44
Conv. Total (m3/s)	5404.8	Conv. (m3/s)	836.2	4209.5	359.1
Length Wtd. (m)	200.00	Wetted Per. (m)	14.22	20.26	9.59
Min Ch El (m)	9.25	Shear (N/m2)	0.05	0.07	0.04
Alpha	1.52	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	18.69	87.57	16.42
C & E Loss (m)	0.00	Cum SA (1000 m2)	18.33	39.36	13.68

Warning: Divided flow computed for this cross-section.

Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	26.12	49.60	13.99
E.G. Slope (m/m)	0.000002	Area (m2)	26.12	49.60	13.99
Q Total (m3/s)	10.00	Flow (m3/s)	1.64	7.62	0.74
Top Width (m)	40.68	Top Width (m)	12.80	20.00	7.87
Vel Total (m/s)	0.11	Avg. Vel. (m/s)	0.06	0.15	0.05
Max Chl Dpth (m)	3.26	Hydr. Depth (m)	2.04	2.48	1.78
Conv. Total (m3/s)	7455.5	Conv. (m3/s)	1224.7	5682.8	548.0
Length Wtd. (m)	200.00	Wetted Per. (m)	15.66	22.01	10.98
Min Ch El (m)	9.25	Shear (N/m2)	0.03	0.04	0.02
Alpha	1.52	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	28.02	108.49	23.18
C & E Loss (m)	0.00	Cum SA (1000 m2)	20.86	40.95	15.66

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.71	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.69	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	16.21	34.24	8.06

E.G. Slope (m/m)	0.000041	Area (m2)	16.21	34.24	8.06
Q Total (m3/s)	27.00	Flow (m3/s)	3.93	21.44	1.63
Top Width (m)	35.71	Top Width (m)	11.47	17.60	6.63
Vel Total (m/s)	0.46	Avg. Vel. (m/s)	0.24	0.63	0.20
Max Chl Dpth (m)	2.44	Hydr. Depth (m)	1.41	1.95	1.22
Conv. Total (m3/s)	4239.8	Conv. (m3/s)	616.8	3367.1	255.9
Length Wtd. (m)	200.00	Wetted Per. (m)	13.28	19.11	8.68
Min Ch El (m)	9.25	Shear (N/m2)	0.49	0.71	0.37
Alpha	1.51	Stream Power (N/m s)	0.12	0.45	0.07
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	12.50	72.18	12.05
C & E Loss (m)	0.00	Cum SA (1000 m2)	14.32	37.08	11.33

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.11	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.10	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	20.99	41.61	10.88
E.G. Slope (m/m)	0.000022	Area (m2)	20.99	41.61	10.88
Q Total (m3/s)	27.00	Flow (m3/s)	4.23	20.94	1.83
Top Width (m)	38.17	Top Width (m)	12.13	18.79	7.25
Vel Total (m/s)	0.37	Avg. Vel. (m/s)	0.20	0.50	0.17
Max Chl Dpth (m)	2.85	Hydr. Depth (m)	1.73	2.21	1.50
Conv. Total (m3/s)	5724.4	Conv. (m3/s)	896.7	4439.7	388.0
Length Wtd. (m)	200.00	Wetted Per. (m)	14.46	20.55	9.82

Min Ch El (m)	9.25	Shear (N/m2)	0.32	0.44	0.24
Alpha	1.52	Stream Power (N/m s)	0.06	0.22	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	19.58	89.43	17.19
C & E Loss (m)	0.00	Cum SA (1000 m2)	18.54	39.61	13.86

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	26.76	50.61	14.39
E.G. Slope (m/m)	0.000012	Area (m2)	26.76	50.61	14.39
Q Total (m3/s)	27.00	Flow (m3/s)	4.46	20.54	2.00
Top Width (m)	40.99	Top Width (m)	12.88	20.15	7.96
Vel Total (m/s)	0.29	Avg. Vel. (m/s)	0.17	0.41	0.14
Max Chl Dpth (m)	3.31	Hydr. Depth (m)	2.08	2.51	1.81
Conv. Total (m3/s)	7681.6	Conv. (m3/s)	1267.6	5844.9	569.1
Length Wtd. (m)	200.00	Wetted Per. (m)	15.80	22.19	11.13
Min Ch El (m)	9.25	Shear (N/m2)	0.21	0.28	0.16
Alpha	1.52	Stream Power (N/m s)	0.03	0.11	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	28.64	109.71	23.71
C & E Loss (m)	0.00	Cum SA (1000 m2)	20.99	41.10	15.78

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 11

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.2173	12.8045	13.0207	13.0146	14.5873	13.0467	15.7657	13.027	16.7161	12.8898
19.8613	10.75	22.0777	9.2422	32.4872	9.2417	34.7363	10.75	37.9927	12.9338
38.8896	12.9666	40.0712	12.9666	41.2382	12.9146	41.778	12.8146		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.2173	.03	16.7161	.015	37.9927	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.7161	37.9927	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.53	Reach Len. (m)	54.70	54.70	54.70
Crit W.S. (m)	9.67	Flow Area (m2)	10.86	31.59	10.97
E.G. Slope (m/m)	0.000007	Area (m2)	10.86	31.59	10.97
Q Total (m3/s)	10.00	Flow (m3/s)	0.98	7.99	1.03
Top Width (m)	33.76	Top Width (m)	8.94	17.19	7.63
Vel Total (m/s)	0.19	Avg. Vel. (m/s)	0.09	0.25	0.09
Max Chl Dpth (m)	2.48	Hydr. Depth (m)	1.21	1.84	1.44
Conv. Total (m3/s)	3754.0	Conv. (m3/s)	369.0	2999.5	385.6
Length Wtd. (m)	54.70	Wetted Per. (m)	10.56	18.59	10.13
Min Ch El (m)	9.24	Shear (N/m2)	0.07	0.12	0.08
Alpha	1.51	Stream Power (N/m s)	0.01	0.03	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	8.39	62.33	8.87

C & E Loss (m)	0.00	Cum SA (1000 m2)	11.78	33.13	9.50

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.02	Reach Len. (m)	54.70	54.70	54.70
Crit W.S. (m)	9.67	Flow Area (m2)	15.41	40.27	14.90
E.G. Slope (m/m)	0.000003	Area (m2)	15.41	40.27	14.90
Q Total (m3/s)	10.00	Flow (m3/s)	1.12	7.81	1.08
Top Width (m)	37.01	Top Width (m)	9.81	18.62	8.58
Vel Total (m/s)	0.14	Avg. Vel. (m/s)	0.07	0.19	0.07
Max Chl Dpth (m)	2.96	Hydr. Depth (m)	1.57	2.16	1.74
Conv. Total (m3/s)	5424.9	Conv. (m3/s)	605.4	4235.6	583.9
Length Wtd. (m)	54.70	Wetted Per. (m)	12.03	20.32	11.69
Min Ch El (m)	9.24	Shear (N/m2)	0.04	0.07	0.04
Alpha	1.52	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	15.15	79.54	13.90
C & E Loss (m)	0.00	Cum SA (1000 m2)	16.15	35.64	12.11

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	54.70	54.70	54.70
Crit W.S. (m)	9.67	Flow Area (m2)	20.48	49.85	19.38
E.G. Slope (m/m)	0.000002	Area (m2)	20.48	49.85	19.38
Q Total (m3/s)	10.00	Flow (m3/s)	1.21	7.68	1.12
Top Width (m)	40.33	Top Width (m)	10.69	20.09	9.55
Vel Total (m/s)	0.11	Avg. Vel. (m/s)	0.06	0.15	0.06
Max Chl Dpth (m)	3.46	Hydr. Depth (m)	1.92	2.48	2.03
Conv. Total (m3/s)	7447.8	Conv. (m3/s)	899.2	5716.8	831.7
Length Wtd. (m)	54.70	Wetted Per. (m)	13.54	22.09	13.27
Min Ch El (m)	9.24	Shear (N/m2)	0.03	0.04	0.03
Alpha	1.53	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	23.36	98.55	19.84
C & E Loss (m)	0.00	Cum SA (1000 m2)	18.51	36.94	13.92

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.70	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.69	Reach Len. (m)	54.70	54.70	54.70
Crit W.S. (m)	10.06	Flow Area (m2)	12.27	34.29	

12.18					
E.G. Slope (m/m)	0.000040	Area (m2)	12.27	34.29	
12.18					
Q Total (m3/s)	27.00	Flow (m3/s)	2.79	21.39	
2.82					
Top Width (m)	34.80	Top Width (m)	9.22	17.65	
7.93					
Vel Total (m/s)	0.46	Avg. Vel. (m/s)	0.23	0.62	
0.23					
Max Chl Dpth (m)	2.63	Hydr. Depth (m)	1.33	1.94	
1.53					
Conv. Total (m3/s)	4254.7	Conv. (m3/s)	438.9	3371.4	
444.3					
Length Wtd. (m)	54.70	Wetted Per. (m)	11.03	19.14	
10.63					
Min Ch El (m)	9.24	Shear (N/m2)	0.44	0.71	
0.45					
Alpha	1.51	Stream Power (N/m s)	0.10	0.44	
0.10					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	9.66	65.33	
10.03					
C & E Loss (m)	0.00	Cum SA (1000 m2)	12.25	33.56	
9.87					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.11	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.09	Reach Len. (m)	54.70	54.70	54.70
Crit W.S. (m)	10.06	Flow Area (m2)	16.18	41.74	15.58
E.G. Slope (m/m)	0.000022	Area (m2)	16.18	41.74	15.58
Q Total (m3/s)	27.00	Flow (m3/s)	3.06	21.02	2.92
Top Width (m)	37.54	Top Width (m)	9.95	18.86	8.73
Vel Total (m/s)	0.37	Avg. Vel. (m/s)	0.19	0.50	0.19
Max Chl Dpth (m)	3.04	Hydr. Depth (m)	1.63	2.21	1.78

Conv. Total (m3/s)	5724.9	Conv. (m3/s)	648.6	4456.1	620.2
Length Wtd. (m)	54.70	Wetted Per. (m)	12.27	20.60	11.94
Min Ch El (m)	9.24	Shear (N/m2)	0.29	0.44	0.28
Alpha	1.52	Stream Power (N/m s)	0.05	0.22	0.05
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	15.86	81.10	14.54
C & E Loss (m)	0.00	Cum SA (1000 m2)	16.33	35.84	12.26

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.56	Reach Len. (m)	54.70	54.70	54.70
Crit W.S. (m)	10.06	Flow Area (m2)	20.99	50.81	19.84
E.G. Slope (m/m)	0.000012	Area (m2)	20.99	50.81	19.84
Q Total (m3/s)	27.00	Flow (m3/s)	3.28	20.70	3.02
Top Width (m)	40.65	Top Width (m)	10.78	20.23	9.64
Vel Total (m/s)	0.29	Avg. Vel. (m/s)	0.16	0.41	0.15
Max Chl Dpth (m)	3.50	Hydr. Depth (m)	1.95	2.51	2.06
Conv. Total (m3/s)	7661.4	Conv. (m3/s)	930.5	5872.6	858.3
Length Wtd. (m)	54.70	Wetted Per. (m)	13.69	22.26	13.42
Min Ch El (m)	9.24	Shear (N/m2)	0.19	0.28	0.18
Alpha	1.53	Stream Power (N/m s)	0.03	0.11	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	23.87	99.57	20.29
C & E Loss (m)	0.00	Cum SA (1000 m2)	18.63	37.07	

14.02

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 10.5

INPUT
Description:
Distance from Upstream XS = 54.7
Deck/Roadway Width = 4
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
16.48	14.12	12.38	38.03	14.12	12.38

Upstream Bridge Cross Section Data
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.2173	12.8045	13.0207	13.0146	14.5873	13.0467	15.7657	13.027	16.7161	12.8898
19.8613	10.75	22.0777	9.2422	32.4872	9.2417	34.7363	10.75	37.9927	12.9338
38.8896	12.9666	40.0712	12.9666	41.2382	12.9146	41.778	12.8146		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.2173	.03	16.7161	.015	37.9927	.03

Bank Sta: Left Right Coeff Contr. Expan.
16.7161 37.9927 .0015 .01

Downstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
16.4	14.2	12.38	37.95	14.2	12.38

Downstream Bridge Cross Section Data
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.2406	12.7458	12.3129	12.9484	14.5562	13.0021	16.6558	12.9485	19.7782	10.77
21.9821	9.2324	32.4186	9.2319	34.6596	10.77	37.5561	12.7579	37.6287	12.989
38.0647	13.1409	39.9559	13.1998	42.3096	13.1153				

Manning's n Values num= 3

```
     Sta   n Val     Sta   n Val     Sta   n Val
 11.2406     .03 16.6558    .015 37.6287     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       16.6558 37.6287          .0015      .01

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   16.48   12.38   21.15   12.38
Downstream     num=       2
     Sta    Elev     Sta    Elev
    16.4   12.38   21.07   12.38

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   33.65   12.38   38.03   12.38
Downstream     num=       2
     Sta    Elev     Sta    Elev
   33.57   12.38   37.95   12.38

Number of Piers =  2

Pier Data
Pier Station     Upstream=    24.8    Downstream=   24.72
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.34      .4   12.38
Downstream     num=       2
    Width   Elev    Width   Elev
      .4    9.34      .4   12.38

Pier Data
Pier Station     Upstream=      30    Downstream=   29.92
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.34      .4   12.38
Downstream     num=       2
    Width   Elev    Width   Elev
      .4    9.34      .4   12.38

Number of Bridge Coefficient Sets =  1
```

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT Profile #PF 1

E.G. US. (m)	11.53	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.53	E.G. Elev (m)	11.53
11.53			
Q Total (m3/s)	10.00	W.S. Elev (m)	11.53
11.53			
Q Bridge (m3/s)	7.06	Crit W.S. (m)	9.69
9.70			
Q Weir (m3/s)		Max Chl Dpth (m)	2.29
2.30			
Weir Sta Lft (m)		Vel Total (m/s)	0.21
0.22			
Weir Sta Rgt (m)		Flow Area (m2)	47.85
44.99			
Weir Submerg		Froude # Chl	0.06
0.06			
Weir Max Depth (m)		Specif Force (m3)	46.62
40.93			
Min El Weir Flow (m)	10.08	Hydr Depth (m)	1.69
1.50			
Min El Prs (m)	12.38	W.P. Total (m)	45.14
45.58			
Delta EG (m)	0.00	Conv. Total (m3/s)	2563.4
2409.2			
Delta WS (m)	0.00	Top Width (m)	28.27
29.98			
BR Open Area (m2)	35.97	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.27	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.16
0.17			
BR Sel Method	Energy only	Power Total (N/m s)	0.03
0.04			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.02	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.02	E.G. Elev (m)	12.02
12.02			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.02
12.02			
Q Bridge (m3/s)	6.62	Crit W.S. (m)	9.69
9.70			
Q Weir (m3/s)		Max Chl Dpth (m)	2.77
2.78			
Weir Sta Lft (m)		Vel Total (m/s)	0.16
0.17			
Weir Sta Rgt (m)		Flow Area (m2)	62.00
60.07			
Weir Submerg		Froude # Chl	0.04
0.04			
Weir Max Depth (m)		Specif Force (m3)	73.16
66.32			
Min El Weir Flow (m)	10.08	Hydr Depth (m)	2.06
1.87			
Min El Prs (m)	12.38	W.P. Total (m)	51.08
51.84			
Delta EG (m)	0.00	Conv. Total (m3/s)	3520.9
3387.1			
Delta WS (m)	0.00	Top Width (m)	30.09
32.14			
BR Open Area (m2)	35.97	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.21	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.10
0.10			
BR Sel Method	Energy only	Power Total (N/m s)	0.02
0.02			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.51	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.51	E.G. Elev (m)	12.51

12.51

Q Total (m3/s)	10.00	W.S. Elev (m)	12.51
12.51			
Q Bridge (m3/s)	5.58	Crit W.S. (m)	9.69
9.70			
Q Weir (m3/s)		Max Chl Dpth (m)	3.27
3.28			
Weir Sta Lft (m)		Vel Total (m/s)	0.13
0.13			
Weir Sta Rgt (m)		Flow Area (m2)	75.82
75.00			
Weir Submerg		Froude # Chl	0.02
0.02			
Weir Max Depth (m)		Specif Force (m3)	107.47
99.94			
Min El Weir Flow (m)	10.08	Hydr Depth (m)	3.75
3.31			
Min El Prs (m)	12.38	W.P. Total (m)	68.06
69.13			
Delta EG (m)	0.00	Conv. Total (m3/s)	3919.5
3828.0			
Delta WS (m)	0.00	Top Width (m)	20.24
22.65			
BR Open Area (m2)	35.97	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.16	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.07
0.07			
BR Sel Method	Energy only	Power Total (N/m s)	0.01
0.01			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.70	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.69	E.G. Elev (m)	11.70
11.70			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.68
11.68			
Q Bridge (m3/s)	18.67	Crit W.S. (m)	10.09
10.12			
Q Weir (m3/s)		Max Chl Dpth (m)	2.44
2.45			
Weir Sta Lft (m)		Vel Total (m/s)	0.52
0.55			
Weir Sta Rgt (m)		Flow Area (m2)	52.16

49.49			
Weir Submerg		Froude # Chl	0.14
0.15			
Weir Max Depth (m)		Specif Force (m3)	55.49
49.37			
Min El Weir Flow (m)	10.08	Hydr Depth (m)	1.81
1.62			
Min El Prs (m)	12.38	W.P. Total (m)	46.99
47.49			
Delta EG (m)	0.01	Conv. Total (m3/s)	2849.4
2694.0			
Delta WS (m)	0.01	Top Width (m)	28.84
30.64			
BR Open Area (m2)	35.97	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.67	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.98
1.03			
BR Sel Method	Energy only	Power Total (N/m s)	0.51
0.56			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.11	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.09	E.G. Elev (m)	12.10
12.10			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.09
12.09			
Q Bridge (m3/s)	17.72	Crit W.S. (m)	10.09
10.12			
Q Weir (m3/s)		Max Chl Dpth (m)	2.85
2.86			
Weir Sta Lft (m)		Vel Total (m/s)	0.42
0.43			
Weir Sta Rgt (m)		Flow Area (m2)	64.31
62.50			
Weir Submerg		Froude # Chl	0.10
0.11			
Weir Max Depth (m)		Specif Force (m3)	79.06
72.06			
Min El Weir Flow (m)	10.08	Hydr Depth (m)	2.12
1.92			
Min El Prs (m)	12.38	W.P. Total (m)	52.02
52.81			
Delta EG (m)	0.01	Conv. Total (m3/s)	3681.5

3550.6

Delta WS (m)	0.01	Top Width (m)	30.37
32.48			
BR Open Area (m2)	35.97	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.54	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.65
0.67			
BR Sel Method	Energy only	Power Total (N/m s)	0.27
0.29			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.57	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.56	E.G. Elev (m)	12.56
12.56			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.56
12.56			
Q Bridge (m3/s)	14.86	Crit W.S. (m)	10.09
10.12			
Q Weir (m3/s)		Max Chl Dpth (m)	3.32
3.33			
Weir Sta Lft (m)		Vel Total (m/s)	0.35
0.35			
Weir Sta Rgt (m)		Flow Area (m2)	76.78
76.06			
Weir Submerg		Froude # Chl	0.06
0.07			
Weir Max Depth (m)		Specif Force (m3)	111.90
104.32			
Min El Weir Flow (m)	10.08	Hydr Depth (m)	3.76
3.33			
Min El Prs (m)	12.38	W.P. Total (m)	68.35
69.45			
Delta EG (m)	0.00	Conv. Total (m3/s)	3976.1
3889.4			
Delta WS (m)	0.00	Top Width (m)	20.42
22.86			
BR Open Area (m2)	35.97	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.41	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.51
0.52			
BR Sel Method	Energy only	Power Total (N/m s)	0.18

0.18

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 10

INPUT
Description:
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.2406	12.7458	12.3129	12.9484	14.5562	13.0021	16.6558	12.9485	19.7782	10.77
21.9821	9.2324	32.4186	9.2319	34.6596	10.77	37.5561	12.7579	37.6287	12.989
38.0647	13.1409	39.9559	13.1998	42.3096	13.1153				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.2406	.03	16.6558	.015	37.6287	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.6558	37.6287	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	7.09	31.59	11.74
E.G. Slope (m/m)	0.000008	Area (m2)	7.09	31.59	11.74
Q Total (m3/s)	10.00	Flow (m3/s)	0.55	8.36	1.09
Top Width (m)	35.35	Top Width (m)	8.27	17.07	10.00
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.08	0.26	0.09
Max Chl Dpth (m)	2.30	Hydr. Depth (m)	0.86	1.85	1.17
Conv. Total (m3/s)	3597.1	Conv. (m3/s)	196.1	3008.4	392.6
Length Wtd. (m)	200.00	Wetted Per. (m)	9.38	18.51	

11.68					
Min Ch El (m)	9.23	Shear (N/m2)	0.06	0.13	0.08
Alpha	1.52	Stream Power (N/m s)	0.00	0.03	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	6.76	56.58	6.56
C & E Loss (m)	0.00	Cum SA (1000 m2)	10.09	30.26	7.63

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.01	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	11.40	40.23	16.84
E.G. Slope (m/m)	0.000004	Area (m2)	11.40	40.23	16.84
Q Total (m3/s)	10.00	Flow (m3/s)	0.73	8.03	1.24
Top Width (m)	38.92	Top Width (m)	9.46	18.48	10.98
Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.06	0.20	0.07
Max Chl Dpth (m)	2.78	Hydr. Depth (m)	1.21	2.18	1.53
Conv. Total (m3/s)	5287.4	Conv. (m3/s)	385.5	4243.7	658.2
Length Wtd. (m)	200.00	Wetted Per. (m)	11.15	20.22	13.26
Min Ch El (m)	9.23	Shear (N/m2)	0.04	0.07	0.04
Alpha	1.54	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	12.64	72.35	10.64
C & E Loss (m)	0.00	Cum SA (1000 m2)	14.23	32.63	10.05

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the

computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	16.38	49.74	22.53
E.G. Slope (m/m)	0.000002	Area (m2)	16.38	49.74	22.53
Q Total (m3/s)	10.00	Flow (m3/s)	0.87	7.78	1.35
Top Width (m)	42.56	Top Width (m)	10.67	19.91	11.98
Vel Total (m/s)	0.11	Avg. Vel. (m/s)	0.05	0.16	0.06
Max Chl Dpth (m)	3.28	Hydr. Depth (m)	1.54	2.50	1.88
Conv. Total (m3/s)	7347.9	Conv. (m3/s)	638.5	5719.1	990.3
Length Wtd. (m)	200.00	Wetted Per. (m)	12.95	21.96	14.87
Min Ch El (m)	9.23	Shear (N/m2)	0.02	0.04	0.03
Alpha	1.55	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	19.85	89.99	15.51
C & E Loss (m)	0.00	Cum SA (1000 m2)	16.38	34.99	11.66

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.69	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.67	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.29	34.06	13.19
E.G. Slope (m/m)	0.000044	Area (m2)	8.29	34.06	

13.19					
Q Total (m3/s)	27.00	Flow (m3/s)	1.63	22.28	3.09
Top Width (m)	36.40	Top Width (m)	8.62	17.49	10.29
Vel Total (m/s)	0.49	Avg. Vel. (m/s)	0.20	0.65	0.23
Max Chl Dpth (m)	2.44	Hydr. Depth (m)	0.96	1.95	1.28
Conv. Total (m3/s)	4059.2	Conv. (m3/s)	245.7	3349.2	464.3
Length Wtd. (m)	200.00	Wetted Per. (m)	9.90	19.01	12.15
Min Ch El (m)	9.23	Shear (N/m2)	0.36	0.78	0.47
Alpha	1.53	Stream Power (N/m s)	0.07	0.51	0.11
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	7.77	59.14	7.44
C & E Loss (m)	0.00	Cum SA (1000 m2)	10.49	30.65	7.94

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.10	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.09	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	12.08	41.57	17.64
E.G. Slope (m/m)	0.000024	Area (m2)	12.08	41.57	17.64
Q Total (m3/s)	27.00	Flow (m3/s)	2.03	21.56	3.41
Top Width (m)	39.45	Top Width (m)	9.63	18.69	11.13
Vel Total (m/s)	0.38	Avg. Vel. (m/s)	0.17	0.52	0.19
Max Chl Dpth (m)	2.86	Hydr. Depth (m)	1.25	2.22	1.58
Conv. Total (m3/s)	5565.6	Conv. (m3/s)	418.5	4444.4	702.6
Length Wtd. (m)	200.00	Wetted Per. (m)	11.41	20.47	13.50
Min Ch El (m)	9.23	Shear (N/m2)	0.24	0.47	

0.30					
Alpha	1.55	Stream Power (N/m s)	0.04	0.24	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	13.21	73.68	11.13
C & E Loss (m)	0.00	Cum SA (1000 m2)	14.39	32.81	10.17

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	16.85	50.61	23.05
E.G. Slope (m/m)	0.000013	Area (m2)	16.85	50.61	23.05
Q Total (m3/s)	27.00	Flow (m3/s)	2.38	20.97	3.66
Top Width (m)	42.88	Top Width (m)	10.77	20.04	12.07
Vel Total (m/s)	0.30	Avg. Vel. (m/s)	0.14	0.41	0.16
Max Chl Dpth (m)	3.32	Hydr. Depth (m)	1.56	2.53	1.91
Conv. Total (m3/s)	7547.2	Conv. (m3/s)	663.9	5860.6	1022.7
Length Wtd. (m)	200.00	Wetted Per. (m)	13.11	22.11	15.01
Min Ch El (m)	9.23	Shear (N/m2)	0.16	0.29	0.19
Alpha	1.56	Stream Power (N/m s)	0.02	0.12	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	20.26	90.93	15.86
C & E Loss (m)	0.00	Cum SA (1000 m2)	16.47	35.10	11.74

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 9

INPUT
Description:
Station Elevation Data num= 12

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.4314	13.018	13.3335	13.1326	15.2253	13.0712	16.4615	12.9551	19.4535	10.75
21.5258	9.2227	32.0723	9.2222	34.3142	10.75	37.6519	13.0247	39.4008	13.1217
40.5583	13.0678	42.1715	13.0078						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.4314	.03	16.4615	.015	37.6519	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.4615	37.6519	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	7.61	31.81	10.96
E.G. Slope (m/m)	0.000008	Area (m2)	7.61	31.81	10.96
Q Total (m3/s)	10.00	Flow (m3/s)	0.60	8.40	1.00
Top Width (m)	34.69	Top Width (m)	8.29	17.06	9.34
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.08	0.26	0.09
Max Chl Dpth (m)	2.31	Hydr. Depth (m)	0.92	1.87	1.17
Conv. Total (m3/s)	3621.2	Conv. (m3/s)	218.6	3041.2	361.4
Length Wtd. (m)	200.00	Wetted Per. (m)	9.51	18.52	11.13
Min Ch El (m)	9.22	Shear (N/m2)	0.06	0.13	0.07
Alpha	1.52	Stream Power (N/m s)	0.00	0.03	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	5.29	50.23	4.29
C & E Loss (m)	0.00	Cum SA (1000 m2)	8.43	26.85	

5.70

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.01	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	11.90	40.45	15.72
E.G. Slope (m/m)	0.000004	Area (m2)	11.90	40.45	15.72
Q Total (m3/s)	10.00	Flow (m3/s)	0.78	8.07	1.14
Top Width (m)	37.96	Top Width (m)	9.32	18.43	10.21
Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.07	0.20	0.07
Max Chl Dpth (m)	2.79	Hydr. Depth (m)	1.28	2.19	1.54
Conv. Total (m3/s)	5303.5	Conv. (m3/s)	414.4	4282.6	606.5
Length Wtd. (m)	200.00	Wetted Per. (m)	11.13	20.21	12.62
Min Ch El (m)	9.22	Shear (N/m2)	0.04	0.07	0.04
Alpha	1.53	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	10.31	64.29	7.39
C & E Loss (m)	0.00	Cum SA (1000 m2)	12.36	28.94	7.93

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	

0.030					
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	16.77	49.93	20.99
E.G. Slope (m/m)	0.000002	Area (m2)	16.77	49.93	20.99
Q Total (m3/s)	10.00	Flow (m3/s)	0.91	7.85	1.24
Top Width (m)	41.29	Top Width (m)	10.36	19.83	11.09
Vel Total (m/s)	0.11	Avg. Vel. (m/s)	0.05	0.16	0.06
Max Chl Dpth (m)	3.29	Hydr. Depth (m)	1.62	2.52	1.89
Conv. Total (m3/s)	7342.6	Conv. (m3/s)	670.0	5761.2	911.4
Length Wtd. (m)	200.00	Wetted Per. (m)	12.78	21.92	14.12
Min Ch El (m)	9.22	Shear (N/m2)	0.02	0.04	0.03
Alpha	1.54	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	16.53	80.03	11.16
C & E Loss (m)	0.00	Cum SA (1000 m2)	14.28	31.01	9.35

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.68	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.66	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.75	34.14	12.23
E.G. Slope (m/m)	0.000044	Area (m2)	8.75	34.14	12.23
Q Total (m3/s)	27.00	Flow (m3/s)	1.78	22.40	2.82
Top Width (m)	35.60	Top Width (m)	8.58	17.44	9.58
Vel Total (m/s)	0.49	Avg. Vel. (m/s)	0.20	0.66	0.23
Max Chl Dpth (m)	2.44	Hydr. Depth (m)	1.02	1.96	

1.28					
Conv. Total (m3/s)	4056.2	Conv. (m3/s)	267.4	3364.8	423.9
Length Wtd. (m)	200.00	Wetted Per. (m)	9.96	18.99	11.54
Min Ch El (m)	9.22	Shear (N/m2)	0.38	0.78	0.46
Alpha	1.52	Stream Power (N/m s)	0.08	0.51	0.11
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	6.06	52.32	4.90
C & E Loss (m)	0.00	Cum SA (1000 m2)	8.77	27.16	5.96

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.09	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.08	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	12.53	41.71	16.41
E.G. Slope (m/m)	0.000024	Area (m2)	12.53	41.71	16.41
Q Total (m3/s)	27.00	Flow (m3/s)	2.16	21.70	3.13
Top Width (m)	38.42	Top Width (m)	9.46	18.62	10.33
Vel Total (m/s)	0.38	Avg. Vel. (m/s)	0.17	0.52	0.19
Max Chl Dpth (m)	2.86	Hydr. Depth (m)	1.32	2.24	1.59
Conv. Total (m3/s)	5563.1	Conv. (m3/s)	446.1	4472.1	645.0
Length Wtd. (m)	200.00	Wetted Per. (m)	11.36	20.44	12.82
Min Ch El (m)	9.22	Shear (N/m2)	0.25	0.47	0.30
Alpha	1.54	Stream Power (N/m s)	0.04	0.25	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	10.75	65.36	7.73
C & E Loss (m)	0.00	Cum SA (1000 m2)	12.48	29.08	8.03

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	17.20	50.75	21.46
E.G. Slope (m/m)	0.000013	Area (m2)	17.20	50.75	21.46
Q Total (m3/s)	27.00	Flow (m3/s)	2.49	21.14	3.37
Top Width (m)	41.56	Top Width (m)	10.45	19.95	11.17
Vel Total (m/s)	0.30	Avg. Vel. (m/s)	0.14	0.42	0.16
Max Chl Dpth (m)	3.33	Hydr. Depth (m)	1.65	2.54	1.92
Conv. Total (m3/s)	7528.8	Conv. (m3/s)	694.0	5895.3	939.5
Length Wtd. (m)	200.00	Wetted Per. (m)	12.92	22.07	14.25
Min Ch El (m)	9.22	Shear (N/m2)	0.17	0.29	0.19
Alpha	1.54	Stream Power (N/m s)	0.02	0.12	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	16.85	80.79	11.41
C & E Loss (m)	0.00	Cum SA (1000 m2)	14.35	31.10	9.42

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 8

INPUT
Description:

Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.8418	13.0138	13.8341	13.1333	14.6952	13.1055	15.8898	13.0847	16.8296	12.8871
19.9343	10.75	22.157	9.22	32.6209	9.22	34.8362	10.75	38.0872	12.9954
39.4886	13.0422	40.5613	13.0218	41.2261	12.9264	42.0612	12.8908		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.8418	.03	16.8296	.015	38.0872	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.8296	38.0872	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.53	Reach Len. (m)	96.30	96.30	96.30
Crit W.S. (m)	9.66	Flow Area (m2)	9.00	31.84	8.76
E.G. Slope (m/m)	0.000008	Area (m2)	9.00	31.84	8.76
Q Total (m3/s)	10.00	Flow (m3/s)	0.76	8.50	0.74
Top Width (m)	34.04	Top Width (m)	9.08	17.15	7.81
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.08	0.27	0.08
Max Chl Dpth (m)	2.31	Hydr. Depth (m)	0.99	1.86	1.12
Conv. Total (m3/s)	3576.5	Conv. (m3/s)	271.9	3038.8	265.8
Length Wtd. (m)	96.30	Wetted Per. (m)	10.43	18.59	10.08
Min Ch El (m)	9.22	Shear (N/m2)	0.07	0.13	0.07
Alpha	1.51	Stream Power (N/m s)	0.01	0.04	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	3.63	43.87	2.32
C & E Loss (m)	0.00	Cum SA (1000 m2)	6.69	23.43	3.98

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.01	Reach Len. (m)	96.30	96.30	96.30
Crit W.S. (m)	9.66	Flow Area (m2)	13.65	40.55	12.81
E.G. Slope (m/m)	0.000004	Area (m2)	13.65	40.55	12.81
Q Total (m3/s)	10.00	Flow (m3/s)	0.95	8.18	0.87
Top Width (m)	37.37	Top Width (m)	9.98	18.57	8.82
Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.07	0.20	0.07
Max Chl Dpth (m)	2.79	Hydr. Depth (m)	1.37	2.18	1.45
Conv. Total (m3/s)	5237.9	Conv. (m3/s)	497.0	4286.6	454.2
Length Wtd. (m)	96.30	Wetted Per. (m)	11.95	20.31	11.69
Min Ch El (m)	9.22	Shear (N/m2)	0.04	0.07	0.04
Alpha	1.54	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	7.76	56.19	4.53
C & E Loss (m)	0.00	Cum SA (1000 m2)	10.43	25.24	6.02

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	96.30	96.30	96.30
Crit W.S. (m)	9.66	Flow Area (m2)	18.83	50.11	17.44
E.G. Slope (m/m)	0.000002	Area (m2)	18.83	50.11	17.44
Q Total (m3/s)	10.00	Flow (m3/s)	1.08	7.96	

0.96					
Top Width (m)	40.76	Top Width (m)	10.90	20.00	9.85
Vel Total (m/s)	0.12	Avg. Vel. (m/s)	0.06	0.16	0.06
Max Chl Dpth (m)	3.29	Hydr. Depth (m)	1.73	2.50	1.77
Conv. Total (m3/s)	7253.6	Conv. (m3/s)	783.6	5774.1	696.0
Length Wtd. (m)	96.30	Wetted Per. (m)	13.49	22.05	13.32
Min Ch El (m)	9.22	Shear (N/m2)	0.03	0.04	0.02
Alpha	1.55	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	12.97	70.02	7.32
C & E Loss (m)	0.00	Cum SA (1000 m2)	12.15	27.03	7.26

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.67	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.65	Reach Len. (m)	96.30	96.30	96.30
Crit W.S. (m)	10.07	Flow Area (m2)	10.17	34.04	9.77
E.G. Slope (m/m)	0.000046	Area (m2)	10.17	34.04	9.77
Q Total (m3/s)	27.00	Flow (m3/s)	2.21	22.69	2.11
Top Width (m)	34.91	Top Width (m)	9.31	17.52	8.08
Vel Total (m/s)	0.50	Avg. Vel. (m/s)	0.22	0.67	0.22
Max Chl Dpth (m)	2.43	Hydr. Depth (m)	1.09	1.94	1.21
Conv. Total (m3/s)	3978.4	Conv. (m3/s)	325.0	3343.2	310.2
Length Wtd. (m)	96.30	Wetted Per. (m)	10.83	19.03	10.50
Min Ch El (m)	9.22	Shear (N/m2)	0.42	0.81	0.42
Alpha	1.52	Stream Power (N/m s)	0.09	0.54	

0.09					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	4.17	45.50	
2.70					
C & E Loss (m)	0.00	Cum SA (1000 m2)	6.98	23.66	
4.19					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.09	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.08	Reach Len. (m)	96.30	96.30	96.30
Crit W.S. (m)	10.07	Flow Area (m2)	14.28	41.73	13.38
E.G. Slope (m/m)	0.000024	Area (m2)	14.28	41.73	13.38
Q Total (m3/s)	27.00	Flow (m3/s)	2.61	22.01	2.38
Top Width (m)	37.81	Top Width (m)	10.10	18.75	8.95
Vel Total (m/s)	0.39	Avg. Vel. (m/s)	0.18	0.53	0.18
Max Chl Dpth (m)	2.86	Hydr. Depth (m)	1.41	2.23	1.49
Conv. Total (m3/s)	5477.2	Conv. (m3/s)	530.5	4464.4	482.3
Length Wtd. (m)	96.30	Wetted Per. (m)	12.15	20.53	11.89
Min Ch El (m)	9.22	Shear (N/m2)	0.28	0.48	0.27
Alpha	1.54	Stream Power (N/m s)	0.05	0.26	0.05
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	8.07	57.01	4.75
C & E Loss (m)	0.00	Cum SA (1000 m2)	10.52	25.34	6.10

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.55	Reach Len. (m)	96.30	96.30	96.30
Crit W.S. (m)	10.07	Flow Area (m2)	19.25	50.90	17.83
E.G. Slope (m/m)	0.000013	Area (m2)	19.25	50.90	17.83
Q Total (m3/s)	27.00	Flow (m3/s)	2.94	21.45	2.61
Top Width (m)	41.03	Top Width (m)	10.98	20.12	9.93
Vel Total (m/s)	0.31	Avg. Vel. (m/s)	0.15	0.42	0.15
Max Chl Dpth (m)	3.33	Hydr. Depth (m)	1.75	2.53	1.80
Conv. Total (m3/s)	7426.9	Conv. (m3/s)	808.6	5901.0	717.2
Length Wtd. (m)	96.30	Wetted Per. (m)	13.62	22.19	13.45
Min Ch El (m)	9.22	Shear (N/m2)	0.18	0.30	0.17
Alpha	1.55	Stream Power (N/m s)	0.03	0.13	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	13.21	70.62	7.48
C & E Loss (m)	0.00	Cum SA (1000 m2)	12.21	27.09	7.31

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 7.5

INPUT
Description: \
Distance from Upstream XS = 96.3
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
14.79	14.96	12.89	39.44	14.96	12.89

Upstream Bridge Cross Section Data
Station Elevation Data   num=   14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.8418	13.0138	13.8341	13.1333	14.6952	13.1055	15.8898	13.0847	16.8296	12.8871
19.9343	10.75	22.157	9.22	32.6209	9.22	34.8362	10.75	38.0872	12.9954
39.4886	13.0422	40.5613	13.0218	41.2261	12.9264	42.0612	12.8908		

Manning's n Values   num=   3

Sta	n Val	Sta	n Val	Sta	n Val
11.8418	.03	16.8296	.015	38.0872	.03

Bank Sta: Left   Right   Coeff Contr.   Expan.
16.8296 38.0872   .0015   .01

Downstream Deck/Roadway Coordinates
num=   2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
12.37	14.96	12.88	36.84	14.96	12.88

Downstream Bridge Cross Section Data
Station Elevation Data   num=   14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.7498	12.7358	11.6644	12.9223	12.4735	12.8869	14.0914	12.8729	17.3986	10.71
19.6768	9.22	29.9128	9.22	32.1735	10.71	35.4543	12.8723	37.037	12.889
37.6584	12.9258	38.1783	12.9391	38.569	12.8322	40.1499	12.758		

Manning's n Values   num=   3

Sta	n Val	Sta	n Val	Sta	n Val
9.7498	.03	14.0914	.015	35.4543	.03

Bank Sta: Left   Right   Coeff Contr.   Expan.
14.0914 35.4543   .0015   .01

Upstream Embankment side slope   =   1.8 horiz. to 1.0 vertical
Downstream Embankment side slope   =   1.8 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =   .98
Elevation at which weir flow begins   =
Energy head used in spillway design   =
Spillway height used in design   =
Weir crest shape   = Broad Crested

Number of Abutments = 2

Abutment Data
Upstream   num=   2

Sta	Elev	Sta	Elev
14.97	12.89	20.39	12.89

Downstream   num=   2

Sta	Elev	Sta	Elev
12.37	12.89	17.79	12.89

Abutment Data
Upstream   num=   2

Sta	Elev	Sta	Elev

```
   34.17   12.89   39.44   12.89
Downstream     num=       2
     Sta    Elev     Sta    Elev
   31.57   12.89   36.84   12.89

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.53    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.53    E.G. Elev (m)              11.53
11.53
  Q Total (m3/s)             10.00    W.S. Elev (m)              11.52
11.52
  Q Bridge (m3/s)             8.45    Crit W.S. (m)               9.66
 9.67
  Q Weir (m3/s)                       Max Chl Dpth (m)            2.30
 2.30
  Weir Sta Lft (m)                    Vel Total (m/s)             0.21
 0.27
  Weir Sta Rgt (m)                    Flow Area (m2)             47.60
37.64
  Weir Submerg                        Froude # Chl                0.06
 0.07
  Weir Max Depth (m)                  Specif Force (m3)          44.28
35.71
  Min El Weir Flow (m)       10.55    Hydr Depth (m)              1.55
 1.43
  Min El Prs (m)             12.89    W.P. Total (m)             37.32
31.38
  Delta EG (m)                0.00    Conv. Total (m3/s)        3455.4
3072.5
  Delta WS (m)                0.00    Top Width (m)              30.67
26.34
  BR Open Area (m2)          48.37    Frctn Loss (m)              0.00
 0.00
  BR Open Vel (m/s)           0.28    C & E Loss (m)              0.00
 0.00
```

BR Sluice Coef		Shear Total (N/m2)	0.10 0.12
BR Sel Method	Energy only	Power Total (N/m s)	0.02 0.03

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.02	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.01	E.G. Elev (m)	12.01 12.01
Q Total (m3/s)	10.00	W.S. Elev (m)	12.01 12.01
Q Bridge (m3/s)	8.06	Crit W.S. (m)	9.66 9.67
Q Weir (m3/s)		Max Chl Dpth (m)	2.79 2.79
Weir Sta Lft (m)		Vel Total (m/s)	0.16 0.20
Weir Sta Rgt (m)		Flow Area (m2)	63.03 51.05
Weir Submerg		Froude # Chl	0.04 0.05
Weir Max Depth (m)		Specif Force (m3)	71.18 57.26
Min El Weir Flow (m)	10.55	Hydr Depth (m)	1.93 1.79
Min El Prs (m)	12.89	W.P. Total (m)	41.42 35.76
Delta EG (m)	0.00	Conv. Total (m3/s)	4894.1 4345.5
Delta WS (m)	0.00	Top Width (m)	32.58 28.55
BR Open Area (m2)	48.37	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.22	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.06 0.07
BR Sel Method	Energy only	Power Total (N/m s)	0.01 0.01

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.51	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.51	E.G. Elev (m)	12.51 12.51

Q Total (m3/s)	10.00	W.S. Elev (m)	12.51
12.51			
Q Bridge (m3/s)	7.74	Crit W.S. (m)	9.66
9.67			
Q Weir (m3/s)		Max Chl Dpth (m)	3.29
3.29			
Weir Sta Lft (m)		Vel Total (m/s)	0.13
0.15			
Weir Sta Rgt (m)		Flow Area (m2)	79.68
65.78			
Weir Submerg		Froude # Chl	0.03
0.04			
Weir Max Depth (m)		Specif Force (m3)	106.49
86.17			
Min El Weir Flow (m)	10.55	Hydr Depth (m)	2.31
2.14			
Min El Prs (m)	12.89	W.P. Total (m)	45.59
40.20			
Delta EG (m)	0.00	Conv. Total (m3/s)	6539.3
5813.2			
Delta WS (m)	0.00	Top Width (m)	34.53
30.80			
BR Open Area (m2)	48.37	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.18	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.04
0.05			
BR Sel Method	Energy only	Power Total (N/m s)	0.01
0.01			

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.67	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.65	E.G. Elev (m)	11.67
11.67			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.65
11.64			
Q Bridge (m3/s)	22.52	Crit W.S. (m)	10.07
10.07			
Q Weir (m3/s)		Max Chl Dpth (m)	2.43
2.42			
Weir Sta Lft (m)		Vel Total (m/s)	0.53
0.66			
Weir Sta Rgt (m)		Flow Area (m2)	51.32
40.64			
Weir Submerg		Froude # Chl	0.15
0.17			
Weir Max Depth (m)		Specif Force (m3)	51.73
41.93			

Min El Weir Flow (m)	10.55	Hydr Depth (m)	1.65 1.51
Min El Prs (m)	12.89	W.P. Total (m)	38.33 32.39
Delta EG (m)	0.01	Conv. Total (m3/s)	3793.5 3350.5
Delta WS (m)	0.02	Top Width (m)	31.14 26.85
BR Open Area (m2)	48.37	Frctn Loss (m)	0.00 0.01
BR Open Vel (m/s)	0.72	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.67 0.80
BR Sel Method	Energy only	Power Total (N/m s)	0.35 0.53

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.09	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.08	E.G. Elev (m)	12.09 12.09
Q Total (m3/s)	27.00	W.S. Elev (m)	12.07 12.07
Q Bridge (m3/s)	21.64	Crit W.S. (m)	10.07 10.07
Q Weir (m3/s)		Max Chl Dpth (m)	2.85 2.85
Weir Sta Lft (m)		Vel Total (m/s)	0.42 0.51
Weir Sta Rgt (m)		Flow Area (m2)	64.97 52.61
Weir Submerg		Froude # Chl	0.11 0.13
Weir Max Depth (m)		Specif Force (m3)	76.16 61.52
Min El Weir Flow (m)	10.55	Hydr Depth (m)	1.98 1.83
Min El Prs (m)	12.89	W.P. Total (m)	41.92 36.24
Delta EG (m)	0.01	Conv. Total (m3/s)	5081.6 4498.2
Delta WS (m)	0.01	Top Width (m)	32.82 28.80
BR Open Area (m2)	48.37	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.58	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.43 0.51

BR Sel Method	Energy only	Power Total (N/m s)	0.18 0.26

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.56	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.55	E.G. Elev (m)	12.55 12.55
Q Total (m3/s)	27.00	W.S. Elev (m)	12.55 12.54
Q Bridge (m3/s)	20.84	Crit W.S. (m)	10.07 10.07
Q Weir (m3/s)		Max Chl Dpth (m)	3.33 3.32
Weir Sta Lft (m)		Vel Total (m/s)	0.33 0.40
Weir Sta Rgt (m)		Flow Area (m2)	80.94 66.81
Weir Submerg		Froude # Chl	0.08 0.10
Weir Max Depth (m)		Specif Force (m3)	110.37 89.52
Min El Weir Flow (m)	10.55	Hydr Depth (m)	2.33 2.16
Min El Prs (m)	12.89	W.P. Total (m)	45.90 40.50
Delta EG (m)	0.00	Conv. Total (m3/s)	6666.9 5917.5
Delta WS (m)	0.01	Top Width (m)	34.67 30.95
BR Open Area (m2)	48.37	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.48	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.28 0.34
BR Sel Method	Energy only	Power Total (N/m s)	0.09 0.14

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 7

INPUT
Description:
Station Elevation Data num= 14

```
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  9.7498 12.7358 11.6644 12.9223 12.4735 12.8869 14.0914 12.8729 17.3986   10.71
 19.6768    9.22 29.9128    9.22 32.1735   10.71 35.4543 12.8723  37.037  12.889
 37.6584 12.9258 38.1783 12.9391  38.569 12.8322 40.1499  12.758

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  9.7498     .03 14.0914    .015 35.4543     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       14.0914 35.4543              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)           11.53    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.00    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)           11.52    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                    Flow Area (m2)           4.27      31.65
   3.69
  E.G. Slope (m/m)      0.000010    Area (m2)               4.27      31.65
   3.69
  Q Total (m3/s)          10.00    Flow (m3/s)             0.29       9.44
   0.26
  Top Width (m)           29.81    Top Width (m)           7.02      17.25
   5.53
  Vel Total (m/s)          0.25    Avg. Vel. (m/s)         0.07       0.30
   0.07
  Max Chl Dpth (m)         2.30    Hydr. Depth (m)         0.61       1.83
   0.67
  Conv. Total (m3/s)     3181.4    Conv. (m3/s)            93.8     3004.3
   83.3
  Length Wtd. (m)         200.00    Wetted Per. (m)         8.00      18.63
   6.63
  Min Ch El (m)            9.22    Shear (N/m2)            0.05       0.16
   0.05
  Alpha                    1.32    Stream Power (N/m s)    0.00       0.05
   0.00
  Frctn Loss (m)           0.00    Cum Volume (1000 m3)    2.30      37.72
   1.08
  C & E Loss (m)           0.00    Cum SA (1000 m2)        5.08      20.34
   2.65



Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

CROSS SECTION OUTPUT  Profile #PF 2
```

E.G. Elev (m)	12.01	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.01	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	7.98	40.45	6.67
E.G. Slope (m/m)	0.000005	Area (m2)	7.98	40.45	6.67
Q Total (m3/s)	10.00	Flow (m3/s)	0.50	9.09	0.41
Top Width (m)	33.51	Top Width (m)	8.12	18.74	6.65
Vel Total (m/s)	0.18	Avg. Vel. (m/s)	0.06	0.22	0.06
Max Chl Dpth (m)	2.79	Hydr. Depth (m)	0.98	2.16	1.00
Conv. Total (m3/s)	4680.2	Conv. (m3/s)	233.6	4255.0	191.7
Length Wtd. (m)	200.00	Wetted Per. (m)	9.69	20.41	8.33
Min Ch El (m)	9.22	Shear (N/m2)	0.04	0.09	0.04
Alpha	1.40	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	5.60	48.50	2.59
C & E Loss (m)	0.00	Cum SA (1000 m2)	8.62	22.01	4.48

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	12.29	50.13	10.25
E.G. Slope (m/m)	0.000002	Area (m2)	12.29	50.13	10.25
Q Total (m3/s)	10.00	Flow (m3/s)	0.66	8.81	0.53

Top Width (m)	37.27	Top Width (m)	9.24	20.25
7.78				
Vel Total (m/s)	0.14	Avg. Vel. (m/s)	0.05	0.18
0.05				
Max Chl Dpth (m)	3.29	Hydr. Depth (m)	1.33	2.48
1.32				
Conv. Total (m3/s)	6525.5	Conv. (m3/s)	430.3	5749.2
346.0				
Length Wtd. (m)	200.00	Wetted Per. (m)	11.41	22.22
10.07				
Min Ch El (m)	9.22	Shear (N/m2)	0.02	0.05
0.02				
Alpha	1.45	Stream Power (N/m s)	0.00	0.01
0.00				
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	9.87	60.69
4.56				
C & E Loss (m)	0.00	Cum SA (1000 m2)	10.14	23.66
5.50				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.66	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.63	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	5.07	33.58	4.32
E.G. Slope (m/m)	0.000060	Area (m2)	5.07	33.58	4.32
Q Total (m3/s)	27.00	Flow (m3/s)	0.93	25.26	0.81
Top Width (m)	30.65	Top Width (m)	7.27	17.59	5.79
Vel Total (m/s)	0.63	Avg. Vel. (m/s)	0.18	0.75	0.19
Max Chl Dpth (m)	2.41	Hydr. Depth (m)	0.70	1.91	0.75
Conv. Total (m3/s)	3494.2	Conv. (m3/s)	120.7	3269.3	104.2
Length Wtd. (m)	200.00	Wetted Per. (m)	8.38	19.03	7.01
Min Ch El (m)	9.22	Shear (N/m2)	0.35	1.03	0.36
Alpha	1.35	Stream Power (N/m s)	0.07	0.78	0.07

Frctn Loss (m)	0.01	Cum Volume (1000 m3)	2.66	38.99	1.30
C & E Loss (m)	0.00	Cum SA (1000 m2)	5.32	20.54	2.81

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.08	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.07	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	8.42	41.48	7.04
E.G. Slope (m/m)	0.000031	Area (m2)	8.42	41.48	7.04
Q Total (m3/s)	27.00	Flow (m3/s)	1.40	24.45	1.15
Top Width (m)	33.93	Top Width (m)	8.25	18.91	6.77
Vel Total (m/s)	0.47	Avg. Vel. (m/s)	0.17	0.59	0.16
Max Chl Dpth (m)	2.85	Hydr. Depth (m)	1.02	2.19	1.04
Conv. Total (m3/s)	4867.0	Conv. (m3/s)	252.5	4408.1	206.4
Length Wtd. (m)	200.00	Wetted Per. (m)	9.88	20.61	8.52
Min Ch El (m)	9.22	Shear (N/m2)	0.26	0.61	0.25
Alpha	1.41	Stream Power (N/m s)	0.04	0.36	0.04
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	5.81	49.14	2.72
C & E Loss (m)	0.00	Cum SA (1000 m2)	8.69	22.09	4.53

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	12.60	50.82	10.52
E.G. Slope (m/m)	0.000016	Area (m2)	12.60	50.82	10.52
Q Total (m3/s)	27.00	Flow (m3/s)	1.81	23.74	1.45
Top Width (m)	37.53	Top Width (m)	9.32	20.36	7.86
Vel Total (m/s)	0.37	Avg. Vel. (m/s)	0.14	0.47	0.14
Max Chl Dpth (m)	3.32	Hydr. Depth (m)	1.35	2.50	1.34
Conv. Total (m3/s)	6664.5	Conv. (m3/s)	445.9	5860.3	358.3
Length Wtd. (m)	200.00	Wetted Per. (m)	11.53	22.34	10.18
Min Ch El (m)	9.22	Shear (N/m2)	0.18	0.37	0.17
Alpha	1.46	Stream Power (N/m s)	0.03	0.17	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	10.03	61.18	4.65
C & E Loss (m)	0.00	Cum SA (1000 m2)	10.18	23.71	5.53

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 6

INPUT
Description:
Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
8.7833	12.6581	11.0506	12.9745	13.7912	12.8842	16.9002	10.71	19.0308	9.22
29.8144	9.22	31.9367	10.71	34.8917	12.7846	36.1799	12.7846	37.5157	12.7906
39.6586	12.6524								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
8.7833	.03	13.7912	.015	34.8917	.03

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Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       13.7912 34.8917              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)           11.53    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.00    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)           11.52    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                    Flow Area (m2)           3.62      32.37
   2.14
  E.G. Slope (m/m)      0.000010    Area (m2)               3.62      32.37
   2.14
  Q Total (m3/s)          10.00    Flow (m3/s)             0.24       9.63
   0.12
  Top Width (m)           28.04    Top Width (m)           6.13      17.35
   4.56
  Vel Total (m/s)          0.26    Avg. Vel. (m/s)         0.07       0.30
   0.06
  Max Chl Dpth (m)         2.30    Hydr. Depth (m)         0.59       1.87
   0.47
  Conv. Total (m3/s)      3217.9    Conv. (m3/s)            78.8     3099.2
   39.8
  Length Wtd. (m)         200.00    Wetted Per. (m)         6.87      18.80
   5.16
  Min Ch El (m)            9.22    Shear (N/m2)            0.05       0.16
   0.04
  Alpha                    1.24    Stream Power (N/m s)    0.00       0.05
   0.00
  Frctn Loss (m)           0.00    Cum Volume (1000 m3)    1.51      31.32
   0.50
  C & E Loss (m)           0.00    Cum SA (1000 m2)        3.77      16.88
   1.64


Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the
computed water surface.

CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)           12.01    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.00    Wt. n-Val.              0.030      0.015
  0.030
  W.S. Elev (m)           12.01    Reach Len. (m)         200.00     200.00
 200.00
```

Crit W.S. (m)		Flow Area (m2)	6.83	41.21	4.66
E.G. Slope (m/m)	0.000005	Area (m2)	6.83	41.21	4.66
Q Total (m3/s)	10.00	Flow (m3/s)	0.42	9.32	0.25
Top Width (m)	31.41	Top Width (m)	6.98	18.75	5.69
Vel Total (m/s)	0.19	Avg. Vel. (m/s)	0.06	0.23	0.05
Max Chl Dpth (m)	2.79	Hydr. Depth (m)	0.98	2.20	0.82
Conv. Total (m3/s)	4694.2	Conv. (m3/s)	199.5	4375.1	119.7
Length Wtd. (m)	200.00	Wetted Per. (m)	8.34	20.51	6.88
Min Ch El (m)	9.22	Shear (N/m2)	0.04	0.09	0.03
Alpha	1.33	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	4.12	40.33	1.46
C & E Loss (m)	0.00	Cum SA (1000 m2)	7.11	18.26	3.24

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	10.71	50.88	7.77
E.G. Slope (m/m)	0.000002	Area (m2)	10.71	50.88	7.77
Q Total (m3/s)	10.00	Flow (m3/s)	0.56	9.07	0.37
Top Width (m)	35.44	Top Width (m)	8.44	20.17	6.83
Vel Total (m/s)	0.14	Avg. Vel. (m/s)	0.05	0.18	0.05
Max Chl Dpth (m)	3.29	Hydr. Depth (m)	1.27	2.52	1.14
Conv. Total (m3/s)	6495.4	Conv. (m3/s)	364.3	5889.5	241.5

Length Wtd. (m)	200.00	Wetted Per. (m)	10.39	22.24
8.62				
Min Ch El (m)	9.22	Shear (N/m2)	0.02	0.05
0.02				
Alpha	1.40	Stream Power (N/m s)	0.00	0.01
0.00				
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	7.57	50.59
2.75				
C & E Loss (m)	0.00	Cum SA (1000 m2)	8.37	19.61
4.04				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.65	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.62	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	4.25	34.12	2.61
E.G. Slope (m/m)	0.000060	Area (m2)	4.25	34.12	2.61
Q Total (m3/s)	27.00	Flow (m3/s)	0.77	25.82	0.41
Top Width (m)	28.73	Top Width (m)	6.30	17.64	4.79
Vel Total (m/s)	0.66	Avg. Vel. (m/s)	0.18	0.76	0.16
Max Chl Dpth (m)	2.40	Hydr. Depth (m)	0.67	1.93	0.55
Conv. Total (m3/s)	3495.5	Conv. (m3/s)	99.8	3342.8	53.0
Length Wtd. (m)	200.00	Wetted Per. (m)	7.17	19.15	5.51
Min Ch El (m)	9.22	Shear (N/m2)	0.35	1.04	0.28
Alpha	1.26	Stream Power (N/m s)	0.06	0.79	0.04
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	1.73	32.22	0.61
C & E Loss (m)	0.00	Cum SA (1000 m2)	3.97	17.01	1.75

Warning: Divided flow computed for this cross-section.

Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.08	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.06	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	7.18	42.13	4.94
E.G. Slope (m/m)	0.000031	Area (m2)	7.18	42.13	4.94
Q Total (m3/s)	27.00	Flow (m3/s)	1.18	25.09	0.72
Top Width (m)	31.81	Top Width (m)	7.13	18.89	5.80
Vel Total (m/s)	0.50	Avg. Vel. (m/s)	0.16	0.60	0.15
Max Chl Dpth (m)	2.84	Hydr. Depth (m)	1.01	2.23	0.85
Conv. Total (m3/s)	4856.2	Conv. (m3/s)	212.9	4513.6	129.8
Length Wtd. (m)	200.00	Wetted Per. (m)	8.55	20.68	7.05
Min Ch El (m)	9.22	Shear (N/m2)	0.25	0.62	0.21
Alpha	1.34	Stream Power (N/m s)	0.04	0.37	0.03
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	4.25	40.77	1.52
C & E Loss (m)	0.00	Cum SA (1000 m2)	7.15	18.32	3.27

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	10.97	51.51	7.98

E.G. Slope (m/m)	0.000017	Area (m2)	10.97	51.51	7.98
Q Total (m3/s)	27.00	Flow (m3/s)	1.54	24.44	1.02
Top Width (m)	35.67	Top Width (m)	8.51	20.26	6.90
Vel Total (m/s)	0.38	Avg. Vel. (m/s)	0.14	0.47	0.13
Max Chl Dpth (m)	3.32	Hydr. Depth (m)	1.29	2.54	1.16
Conv. Total (m3/s)	6617.8	Conv. (m3/s)	376.6	5990.7	250.5
Length Wtd. (m)	200.00	Wetted Per. (m)	10.50	22.35	8.73
Min Ch El (m)	9.22	Shear (N/m2)	0.17	0.38	0.15
Alpha	1.40	Stream Power (N/m s)	0.02	0.18	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	7.67	50.94	2.80
C & E Loss (m)	0.00	Cum SA (1000 m2)	8.40	19.65	4.06

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 5

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.9983	12.7591	10.1522	13.0405	12.5764	13.0218	13.2685	12.732	13.3527	12.573
16.1491	10.7	18.3588	9.22	29.0388	9.22	31.2022	10.7	34.0056	12.6179
34.0918	12.8593	34.4253	12.9628	36.5793	13.0174	37.5384	12.8876	38.2379	12.8443
38.6366	12.734								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.9983	.03	12.5764	.015	34.4253	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
12.5764	34.4253	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.52	Reach Len. (m)	41.35	41.35	41.35
Crit W.S. (m)	9.66	Flow Area (m2)	1.47	32.35	1.22
E.G. Slope (m/m)	0.000010	Area (m2)	1.47	32.35	1.22
Q Total (m3/s)	10.00	Flow (m3/s)	0.07	9.88	0.06
Top Width (m)	26.22	Top Width (m)	4.88	17.47	3.87
Vel Total (m/s)	0.29	Avg. Vel. (m/s)	0.05	0.31	0.05
Max Chl Dpth (m)	2.30	Hydr. Depth (m)	0.30	1.85	0.32
Conv. Total (m3/s)	3126.9	Conv. (m3/s)	20.8	3088.6	17.5
Length Wtd. (m)	41.35	Wetted Per. (m)	5.27	18.88	4.31
Min Ch El (m)	9.22	Shear (N/m2)	0.03	0.17	0.03
Alpha	1.13	Stream Power (N/m s)	0.00	0.05	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	1.01	24.85	0.16
C & E Loss (m)	0.00	Cum SA (1000 m2)	2.67	13.40	0.80

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.01	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.01	Reach Len. (m)	41.35	41.35	41.35
Crit W.S. (m)	9.66	Flow Area (m2)	4.28	41.29	3.34
E.G. Slope (m/m)	0.000005	Area (m2)	4.28	41.29	3.34

Q Total (m3/s)	10.00	Flow (m3/s)	0.22	9.61	0.17
Top Width (m)	30.24	Top Width (m)	6.54	18.92	4.78
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.05	0.23	0.05
Max Chl Dpth (m)	2.79	Hydr. Depth (m)	0.65	2.18	0.70
Conv. Total (m3/s)	4547.0	Conv. (m3/s)	98.3	4371.8	76.9
Length Wtd. (m)	41.35	Wetted Per. (m)	7.50	20.63	5.84
Min Ch El (m)	9.22	Shear (N/m2)	0.03	0.09	0.03
Alpha	1.25	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	3.01	32.08	0.66
C & E Loss (m)	0.00	Cum SA (1000 m2)	5.76	14.49	2.20

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	41.35	41.35	41.35
Crit W.S. (m)	9.66	Flow Area (m2)	7.78	51.07	5.95
E.G. Slope (m/m)	0.000003	Area (m2)	7.78	51.07	5.95
Q Total (m3/s)	10.00	Flow (m3/s)	0.37	9.36	0.27
Top Width (m)	33.60	Top Width (m)	7.51	20.39	5.70
Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.05	0.18	0.05
Max Chl Dpth (m)	3.29	Hydr. Depth (m)	1.04	2.50	1.04
Conv. Total (m3/s)	6302.5	Conv. (m3/s)	233.9	5896.9	171.7
Length Wtd. (m)	41.35	Wetted Per. (m)	9.08	22.41	

	7.38				
Min Ch El (m)	9.22	Shear (N/m2)	0.02	0.06	0.02
Alpha	1.32	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	5.72	40.40	1.38
C & E Loss (m)	0.00	Cum SA (1000 m2)	6.77	15.56	2.78

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.64	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.61	Reach Len. (m)	41.35	41.35	41.35
Crit W.S. (m)	10.05	Flow Area (m2)	1.91	33.89	1.56
E.G. Slope (m/m)	0.000065	Area (m2)	1.91	33.89	1.56
Q Total (m3/s)	27.00	Flow (m3/s)	0.25	26.55	0.20
Top Width (m)	26.94	Top Width (m)	5.18	17.73	4.03
Vel Total (m/s)	0.72	Avg. Vel. (m/s)	0.13	0.78	0.13
Max Chl Dpth (m)	2.39	Hydr. Depth (m)	0.37	1.91	0.39
Conv. Total (m3/s)	3356.9	Conv. (m3/s)	30.7	3300.8	25.5
Length Wtd. (m)	41.35	Wetted Per. (m)	5.67	19.19	4.58
Min Ch El (m)	9.22	Shear (N/m2)	0.21	1.12	0.22
Alpha	1.16	Stream Power (N/m s)	0.03	0.88	0.03
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	1.11	25.42	0.19
C & E Loss (m)	0.00	Cum SA (1000 m2)	2.82	13.48	0.87

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.07	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.05	Reach Len. (m)	41.35	41.35	41.35
Crit W.S. (m)	10.05	Flow Area (m2)	4.56	42.09	3.54
E.G. Slope (m/m)	0.000033	Area (m2)	4.56	42.09	3.54
Q Total (m3/s)	27.00	Flow (m3/s)	0.62	25.90	0.48
Top Width (m)	30.53	Top Width (m)	6.63	19.05	4.85
Vel Total (m/s)	0.54	Avg. Vel. (m/s)	0.14	0.62	0.14
Max Chl Dpth (m)	2.83	Hydr. Depth (m)	0.69	2.21	0.73
Conv. Total (m3/s)	4682.3	Conv. (m3/s)	107.8	4491.0	83.5
Length Wtd. (m)	41.35	Wetted Per. (m)	7.63	20.78	5.97
Min Ch El (m)	9.22	Shear (N/m2)	0.19	0.66	0.19
Alpha	1.26	Stream Power (N/m s)	0.03	0.41	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	3.07	32.35	0.67
C & E Loss (m)	0.00	Cum SA (1000 m2)	5.78	14.52	2.21

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.53	Reach Len. (m)	41.35	41.35	41.35
Crit W.S. (m)	10.05	Flow Area (m2)	7.98	51.63	6.10
E.G. Slope (m/m)	0.000018	Area (m2)	7.98	51.63	6.10
Q Total (m3/s)	27.00	Flow (m3/s)	1.02	25.23	0.75
Top Width (m)	33.78	Top Width (m)	7.56	20.47	5.75
Vel Total (m/s)	0.41	Avg. Vel. (m/s)	0.13	0.49	0.12
Max Chl Dpth (m)	3.31	Hydr. Depth (m)	1.06	2.52	1.06
Conv. Total (m3/s)	6406.7	Conv. (m3/s)	242.7	5986.2	177.9
Length Wtd. (m)	41.35	Wetted Per. (m)	9.17	22.51	7.46
Min Ch El (m)	9.22	Shear (N/m2)	0.15	0.40	0.14
Alpha	1.33	Stream Power (N/m s)	0.02	0.20	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	5.78	40.63	1.40
C & E Loss (m)	0.00	Cum SA (1000 m2)	6.79	15.57	2.79

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 4.5

INPUT
Description:
Distance from Upstream XS = 41.35
Deck/Roadway Width = 4
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2
Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord

```
   12.62    12.8   11.45   34.31    12.8   11.45

Upstream Bridge Cross Section Data
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  7.9983 12.7591 10.1522 13.0405 12.5764 13.0218 13.2685  12.732 13.3527  12.573
 16.1491    10.7 18.3588    9.22 29.0388    9.22 31.2022    10.7 34.0056 12.6179
 34.0918 12.8593 34.4253 12.9628 36.5793 13.0174 37.5384 12.8876 38.2379 12.8443
 38.6366  12.734

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  7.9983     .03 12.5764    .015 34.4253     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       12.5764 34.4253          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   16.03    12.8   11.45   37.73    12.8   11.45

Downstream Bridge Cross Section Data
Station Elevation Data    num=      20
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  8.1118 12.9705 13.2088  13.068 13.3301 13.0209 13.4177 12.7716 16.2721 10.9791
 19.2774 10.8159 19.4008   10.72 21.3316    9.22  32.612    9.22 34.7824   10.72
 37.4062 12.5333 37.4234  12.642 37.5836 12.8078 37.9498  12.968 38.1786 13.0652
 38.7679 13.1282 39.4888 13.0881 40.9332 13.1703 42.5608 13.0422 43.5536  12.919

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  8.1118     .03 13.3301    .015 38.1786     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       13.3301 38.1786             .1       .3

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   12.63   11.45   19.59   11.45
Downstream     num=       2
     Sta    Elev     Sta    Elev
   16.03   11.45   23.01   11.45
```

```
Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   27.74   11.45   34.31   11.45
Downstream     num=       2
     Sta    Elev     Sta    Elev
   31.16   11.45   37.73   11.45

Number of Piers =  1

Pier Data
Pier Station     Upstream=   23.67    Downstream=   27.09
Upstream     num=       2
    Width   Elev    Width   Elev
     .35    9.32     .35   11.45
Downstream     num=       2
    Width   Elev    Width   Elev
     .35    9.32     .35   11.45

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.52    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.52    E.G. Elev (m)              11.52
11.52
  Q Total (m3/s)             10.00    W.S. Elev (m)              11.51
11.51
  Q Bridge (m3/s)             9.62    Crit W.S. (m)               9.77
 9.77
  Q Weir (m3/s)                       Max Chl Dpth (m)            2.29
 2.29
  Weir Sta Lft (m)                    Vel Total (m/s)             0.50
 0.56
  Weir Sta Rgt (m)                    Flow Area (m2)             19.98
17.73
  Weir Submerg                        Froude # Chl                0.11
```

0.12			
Weir Max Depth (m)		Specif Force (m3)	21.36
20.99			
Min El Weir Flow (m)	11.13	Hydr Depth (m)	2.30
12.20			
Min El Prs (m)	11.45	W.P. Total (m)	34.02
27.12			
Delta EG (m)	0.01	Conv. Total (m3/s)	958.7
908.1			
Delta WS (m)	0.00	Top Width (m)	8.69
1.45			
BR Open Area (m2)	17.40	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.55	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.63
0.78			
BR Sel Method	Energy only	Power Total (N/m s)	0.31
0.44			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.01	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.01	E.G. Elev (m)	12.01
12.01			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.00
12.00			
Q Bridge (m3/s)	8.43	Crit W.S. (m)	9.77
9.77			
Q Weir (m3/s)		Max Chl Dpth (m)	2.78
2.78			
Weir Sta Lft (m)		Vel Total (m/s)	0.40
0.48			
Weir Sta Rgt (m)		Flow Area (m2)	24.93
20.73			
Weir Submerg		Froude # Chl	0.09
0.10			
Weir Max Depth (m)		Specif Force (m3)	32.31
30.25			
Min El Weir Flow (m)	11.13	Hydr Depth (m)	2.21
2.39			
Min El Prs (m)	11.45	W.P. Total (m)	37.80
36.09			
Delta EG (m)	0.00	Conv. Total (m3/s)	1094.5
956.0			
Delta WS (m)	0.00	Top Width (m)	11.29

8.66			
BR Open Area (m2)	17.40	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.48	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.54
0.62			
BR Sel Method	Energy only	Power Total (N/m s)	0.22
0.30			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.51	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.51	E.G. Elev (m)	12.51
12.51			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.50
12.50			
Q Bridge (m3/s)	6.96	Crit W.S. (m)	9.77
9.77			
Q Weir (m3/s)		Max Chl Dpth (m)	3.28
3.28			
Weir Sta Lft (m)		Vel Total (m/s)	0.32
0.39			
Weir Sta Rgt (m)		Flow Area (m2)	31.06
25.81			
Weir Submerg		Froude # Chl	0.06
0.08			
Weir Max Depth (m)		Specif Force (m3)	46.18
41.76			
Min El Weir Flow (m)	11.13	Hydr Depth (m)	2.35
2.23			
Min El Prs (m)	11.45	W.P. Total (m)	40.95
40.89			
Delta EG (m)	0.00	Conv. Total (m3/s)	1325.3
1116.7			
Delta WS (m)	0.00	Top Width (m)	13.19
11.59			
BR Open Area (m2)	17.40	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.40	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.42
0.50			
BR Sel Method	Energy only	Power Total (N/m s)	0.14
0.19			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.64	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.61	E.G. Elev (m)	11.63
11.63			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.52
11.51			
Q Bridge (m3/s)	25.91	Crit W.S. (m)	10.29
10.29			
Q Weir (m3/s)		Max Chl Dpth (m)	2.30
2.29			
Weir Sta Lft (m)		Vel Total (m/s)	1.34
1.52			
Weir Sta Rgt (m)		Flow Area (m2)	20.11
17.73			
Weir Submerg		Froude # Chl	0.31
0.32			
Weir Max Depth (m)		Specif Force (m3)	25.07
24.65			
Min El Weir Flow (m)	11.13	Hydr Depth (m)	2.29
12.17			
Min El Prs (m)	11.45	W.P. Total (m)	34.12
27.12			
Delta EG (m)	0.04	Conv. Total (m3/s)	961.3
908.1			
Delta WS (m)	0.03	Top Width (m)	8.76
1.46			
BR Open Area (m2)	17.40	Frctn Loss (m)	0.00
0.03			
BR Open Vel (m/s)	1.49	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	4.56
5.67			
BR Sel Method	Energy only	Power Total (N/m s)	6.12
8.63			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.07	Element	Inside BR US

Inside BR DS

W.S. US. (m)	12.05	E.G. Elev (m)	12.07
12.06			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.99
11.96			
Q Bridge (m3/s)	22.85	Crit W.S. (m)	10.29
10.29			
Q Weir (m3/s)		Max Chl Dpth (m)	2.77
2.74			
Weir Sta Lft (m)		Vel Total (m/s)	1.09
1.32			
Weir Sta Rgt (m)		Flow Area (m2)	24.79
20.41			
Weir Submerg		Froude # Chl	0.24
0.27			
Weir Max Depth (m)		Specif Force (m3)	34.86
32.83			
Min El Weir Flow (m)	11.13	Hydr Depth (m)	2.20
2.42			
Min El Prs (m)	11.45	W.P. Total (m)	37.73
35.73			
Delta EG (m)	0.02	Conv. Total (m3/s)	1090.0
948.2			
Delta WS (m)	0.02	Top Width (m)	11.24
8.44			
BR Open Area (m2)	17.40	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	1.31	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	3.95
4.54			
BR Sel Method	Energy only	Power Total (N/m s)	4.31
6.01			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.55	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.53	E.G. Elev (m)	12.54
12.54			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.50
12.47			
Q Bridge (m3/s)	18.84	Crit W.S. (m)	10.29
10.29			
Q Weir (m3/s)		Max Chl Dpth (m)	3.28
3.25			
Weir Sta Lft (m)		Vel Total (m/s)	0.87

```
 1.06
  Weir Sta Rgt (m)                    Flow Area (m2)              30.98
25.50
  Weir Submerg                        Froude # Chl                 0.17
 0.21
  Weir Max Depth (m)                  Specif Force (m3)           48.23
43.79
  Min El Weir Flow (m)        11.13   Hydr Depth (m)               2.35
 2.23
  Min El Prs (m)              11.45   W.P. Total (m)              40.91
40.63
  Delta EG (m)                 0.01   Conv. Total (m3/s)         1322.1
1105.3
  Delta WS (m)                 0.01   Top Width (m)               13.17
11.43
  BR Open Area (m2)           17.40   Frctn Loss (m)               0.00
 0.01
  BR Open Vel (m/s)            1.08   C & E Loss (m)               0.00
 0.00
  BR Sluice Coef                      Shear Total (N/m2)           3.10
 3.67
  BR Sel Method         Energy only   Power Total (N/m s)          2.70
 3.89



Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 4.4

INPUT
Description:
Station Elevation Data    num=      20
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  8.1118 12.9705 13.2088  13.068 13.3301 13.0209 13.4177 12.7716 16.2721 10.9791
 19.2774 10.8159 19.4008   10.72 21.3316    9.22  32.612    9.22 34.7824   10.72
 37.4062 12.5333 37.4234  12.642 37.5836 12.8078 37.9498  12.968 38.1786 13.0652
 38.7679 13.1282 39.4888 13.0881 40.9332 13.1703 42.5608 13.0422 43.5536  12.919

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  8.1118     .03 13.3301    .015 38.1786     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       13.3301 38.1786               30      30      30             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
```

E.G. Elev (m)	11.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	0.030
W.S. Elev (m)	11.51	Reach Len. (m)	5.00	5.00	5.00
Crit W.S. (m)	9.64	Flow Area (m2)		34.83	0.23
E.G. Slope (m/m)	0.000010	Area (m2)		34.83	0.23
Q Total (m3/s)	10.00	Flow (m3/s)		9.99	0.01
Top Width (m)	21.38	Top Width (m)		20.51	0.87
Vel Total (m/s)	0.29	Avg. Vel. (m/s)		0.29	0.03
Max Chl Dpth (m)	2.29	Hydr. Depth (m)		1.70	0.26
Conv. Total (m3/s)	3163.1	Conv. (m3/s)		3161.0	2.1
Length Wtd. (m)	5.00	Wetted Per. (m)		21.93	1.54
Min Ch El (m)	9.22	Shear (N/m2)		0.16	0.01
Alpha	1.01	Stream Power (N/m s)		0.04	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.94	19.71	0.08
C & E Loss (m)	0.00	Cum SA (1000 m2)	2.46	11.40	0.50

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.01	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.01	Reach Len. (m)	5.00	5.00	5.00
Crit W.S. (m)	9.64	Flow Area (m2)	1.95	45.32	0.86
E.G. Slope (m/m)	0.000005	Area (m2)	1.95	45.32	0.86
Q Total (m3/s)	10.00	Flow (m3/s)	0.06	9.91	0.03

Top Width (m)	29.33	Top Width (m)	5.63	22.01	1.69
Vel Total (m/s)	0.21	Avg. Vel. (m/s)	0.03	0.22	0.03
Max Chl Dpth (m)	2.79	Hydr. Depth (m)	0.35	2.06	0.51
Conv. Total (m3/s)	4694.1	Conv. (m3/s)	30.1	4651.4	12.5
Length Wtd. (m)	5.00	Wetted Per. (m)	6.14	23.73	2.99
Min Ch El (m)	9.22	Shear (N/m2)	0.01	0.09	0.01
Alpha	1.10	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	2.53	25.90	0.38
C & E Loss (m)	0.00	Cum SA (1000 m2)	4.59	12.29	1.73

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	5.00	5.00	5.00
Crit W.S. (m)	9.64	Flow Area (m2)	5.07	56.67	1.91
E.G. Slope (m/m)	0.000002	Area (m2)	5.07	56.67	1.91
Q Total (m3/s)	10.00	Flow (m3/s)	0.19	9.76	0.06
Top Width (m)	32.96	Top Width (m)	6.91	23.53	2.52
Vel Total (m/s)	0.16	Avg. Vel. (m/s)	0.04	0.17	0.03
Max Chl Dpth (m)	3.29	Hydr. Depth (m)	0.73	2.41	0.76
Conv. Total (m3/s)	6588.6	Conv. (m3/s)	124.6	6427.7	36.3
Length Wtd. (m)	5.00	Wetted Per. (m)	8.02	25.54	4.46
Min Ch El (m)	9.22	Shear (N/m2)	0.01	0.05	

0.01					
Alpha	1.17	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	4.60	33.07	0.83
C & E Loss (m)	0.00	Cum SA (1000 m2)	5.37	13.14	2.14

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.57	Reach Len. (m)	5.00	5.00	5.00
Crit W.S. (m)	10.03	Flow Area (m2)	0.00	36.03	0.28
E.G. Slope (m/m)	0.000066	Area (m2)	0.00	36.03	0.28
Q Total (m3/s)	27.00	Flow (m3/s)	0.00	26.98	0.02
Top Width (m)	22.21	Top Width (m)	0.56	20.69	0.97
Vel Total (m/s)	0.74	Avg. Vel. (m/s)	0.01	0.75	0.08
Max Chl Dpth (m)	2.35	Hydr. Depth (m)	0.01	1.74	0.29
Conv. Total (m3/s)	3326.3	Conv. (m3/s)	0.0	3323.5	2.8
Length Wtd. (m)	5.00	Wetted Per. (m)	0.57	22.14	1.71
Min Ch El (m)	9.22	Shear (N/m2)	0.01	1.05	0.11
Alpha	1.01	Stream Power (N/m s)	0.00	0.79	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	1.04	20.15	0.09
C & E Loss (m)	0.00	Cum SA (1000 m2)	2.56	11.46	0.55

Warning: Divided flow computed for this cross-section.

Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.05	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.03	Reach Len. (m)	5.00	5.00	5.00
Crit W.S. (m)	10.03	Flow Area (m2)	2.09	45.87	0.90
E.G. Slope (m/m)	0.000032	Area (m2)	2.09	45.87	0.90
Q Total (m3/s)	27.00	Flow (m3/s)	0.19	26.74	0.08
Top Width (m)	29.51	Top Width (m)	5.69	22.08	1.73
Vel Total (m/s)	0.55	Avg. Vel. (m/s)	0.09	0.58	0.08
Max Chl Dpth (m)	2.81	Hydr. Depth (m)	0.37	2.08	0.52
Conv. Total (m3/s)	4779.9	Conv. (m3/s)	33.5	4733.1	13.3
Length Wtd. (m)	5.00	Wetted Per. (m)	6.23	23.82	3.07
Min Ch El (m)	9.22	Shear (N/m2)	0.10	0.60	0.09
Alpha	1.10	Stream Power (N/m s)	0.01	0.35	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	2.59	26.12	0.39
C & E Loss (m)	0.00	Cum SA (1000 m2)	4.62	12.32	1.74

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	5.00	5.00	

5.00					
Crit W.S. (m)	10.03	Flow Area (m2)	5.19	57.08	
1.96					
E.G. Slope (m/m)	0.000016	Area (m2)	5.19	57.08	
1.96					
Q Total (m3/s)	27.00	Flow (m3/s)	0.52	26.33	
0.15					
Top Width (m)	33.09	Top Width (m)	6.96	23.58	
2.55					
Vel Total (m/s)	0.42	Avg. Vel. (m/s)	0.10	0.46	
0.08					
Max Chl Dpth (m)	3.30	Hydr. Depth (m)	0.75	2.42	
0.77					
Conv. Total (m3/s)	6660.2	Conv. (m3/s)	128.9	6494.0	
37.4					
Length Wtd. (m)	5.00	Wetted Per. (m)	8.08	25.60	
4.51					
Min Ch El (m)	9.22	Shear (N/m2)	0.10	0.36	
0.07					
Alpha	1.18	Stream Power (N/m s)	0.01	0.17	
0.01					
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	4.65	33.26	
0.84					
C & E Loss (m)	0.00	Cum SA (1000 m2)	5.39	13.16	
2.15					

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 4.3

INPUT
Description:
Distance from Upstream XS = 5
Deck/Roadway Width = 4
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
15.36	13.5	12.65	38.91	13.5	12.65

Upstream Bridge Cross Section Data
Station Elevation Data num= 20

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

```
  8.1118 12.9705 13.2088  13.068 13.3301 13.0209 13.4177 12.7716 16.2721 10.9791
 19.2774 10.8159 19.4008   10.72 21.3316    9.22  32.612    9.22 34.7824   10.72
 37.4062 12.5333 37.4234  12.642 37.5836 12.8078 37.9498  12.968 38.1786 13.0652
 38.7679 13.1282 39.4888 13.0881 40.9332 13.1703 42.5608 13.0422 43.5536  12.919

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  8.1118     .03 13.3301    .015 38.1786     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       13.3301 38.1786             .1       .3

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   15.36    13.5   12.65   38.91    13.5   12.65

Downstream Bridge Cross Section Data
Station Elevation Data    num=      20
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  8.1118 12.9705 13.2088  13.068 13.3301 13.0209 13.4177 12.7716 16.2721 10.9791
 19.2774 10.8159 19.4008   10.72 21.3316    9.22  32.612    9.22 34.7824   10.72
 37.4062 12.5333 37.4234  12.642 37.5836 12.8078 37.9498  12.968 38.1786 13.0652
 38.7679 13.1282 39.4888 13.0881 40.9332 13.1703 42.5608 13.0422 43.5536  12.919

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  8.1118     .03 13.3301    .015 38.1786     .03

Bank Sta: Left   Right    Coeff Contr.   Expan.
       13.3301 38.1786          .0015      .01

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Piers =  2

Pier Data
Pier Station     Upstream=   23.11    Downstream=   23.11
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.22      .5   12.65
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.22      .5   12.65

Pier Data
Pier Station     Upstream=   31.11    Downstream=   31.11
Upstream     num=       2
```

```
    Width   Elev    Width   Elev
      .5    9.22      .5   12.65
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.22      .5   12.65

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.52    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.51    E.G. Elev (m)               11.52
11.52
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.51
11.51
  Q Bridge (m3/s)             9.99    Crit W.S. (m)                9.67
 9.67
  Q Weir (m3/s)                       Max Chl Dpth (m)             2.29
 2.29
  Weir Sta Lft (m)                    Vel Total (m/s)              0.31
 0.31
  Weir Sta Rgt (m)                    Flow Area (m2)              32.75
32.75
  Weir Submerg                        Froude # Chl                 0.08
 0.08
  Weir Max Depth (m)                  Specif Force (m3)           33.41
33.41
  Min El Weir Flow (m)       10.99    Hydr Depth (m)               1.61
 1.61
  Min El Prs (m)             12.65    W.P. Total (m)              31.64
31.64
  Delta EG (m)                0.00    Conv. Total (m3/s)         2285.2
2285.1
  Delta WS (m)                0.00    Top Width (m)               20.38
20.38
  BR Open Area (m2)          55.70    Frctn Loss (m)               0.00
 0.00
  BR Open Vel (m/s)           0.31    C & E Loss (m)               0.00
```

0.00			
BR Sluice Coef		Shear Total (N/m2)	0.19
0.19			
BR Sel Method	Energy only	Power Total (N/m s)	0.06
0.06			

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.01	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.01	E.G. Elev (m)	12.01
12.01			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.01
12.01			
Q Bridge (m3/s)	9.87	Crit W.S. (m)	9.67
9.67			
Q Weir (m3/s)		Max Chl Dpth (m)	2.79
2.79			
Weir Sta Lft (m)		Vel Total (m/s)	0.22
0.22			
Weir Sta Rgt (m)		Flow Area (m2)	45.33
45.33			
Weir Submerg		Froude # Chl	0.05
0.05			
Weir Max Depth (m)		Specif Force (m3)	52.45
52.44			
Min El Weir Flow (m)	10.99	Hydr Depth (m)	1.60
1.60			
Min El Prs (m)	12.65	W.P. Total (m)	43.46
43.46			
Delta EG (m)	0.00	Conv. Total (m3/s)	3312.9
3312.8			
Delta WS (m)	0.00	Top Width (m)	28.33
28.33			
BR Open Area (m2)	55.70	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.23	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.09
0.09			
BR Sel Method	Energy only	Power Total (N/m s)	0.02
0.02			

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.51	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.51	E.G. Elev (m)	12.51

12.51
  Q Total (m3/s)   10.00   W.S. Elev (m)   12.51
12.51
  Q Bridge (m3/s)   9.62   Crit W.S. (m)   9.67
 9.67
  Q Weir (m3/s)   Max Chl Dpth (m)   3.29
 3.29
  Weir Sta Lft (m)   Vel Total (m/s)   0.17
 0.17
  Weir Sta Rgt (m)   Flow Area (m2)   60.37
60.37
  Weir Submerg   Froude # Chl   0.04
 0.04
  Weir Max Depth (m)   Specif Force (m3)   78.68
78.68
  Min El Weir Flow (m)   10.99   Hydr Depth (m)   1.89
 1.89
  Min El Prs (m)   12.65   W.P. Total (m)   51.11
51.11
  Delta EG (m)   0.00   Conv. Total (m3/s)   4576.0
4575.9
  Delta WS (m)   0.00   Top Width (m)   31.96
31.96
  BR Open Area (m2)   55.70   Frctn Loss (m)   0.00
 0.00
  BR Open Vel (m/s)   0.18   C & E Loss (m)   0.00
 0.00
  BR Sluice Coef   Shear Total (N/m2)   0.06
 0.06
  BR Sel Method   Energy only   Power Total (N/m s)   0.01
 0.01

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

  E.G. US. (m)   11.60   Element   Inside BR US
Inside BR DS
  W.S. US. (m)   11.57   E.G. Elev (m)   11.60
11.60
  Q Total (m3/s)   27.00   W.S. Elev (m)   11.57
11.57
  Q Bridge (m3/s)   26.97   Crit W.S. (m)   10.07
10.07
  Q Weir (m3/s)   Max Chl Dpth (m)   2.35
 2.35
  Weir Sta Lft (m)   Vel Total (m/s)   0.80
 0.80
  Weir Sta Rgt (m)   Flow Area (m2)   33.86

33.85

Weir Submerg		Froude # Chl	0.20
0.20			
Weir Max Depth (m)		Specif Force (m3)	37.11
37.09			
Min El Weir Flow (m)	10.99	Hydr Depth (m)	1.61
1.61			
Min El Prs (m)	12.65	W.P. Total (m)	32.63
32.61			
Delta EG (m)	0.00	Conv. Total (m3/s)	2388.4
2387.4			
Delta WS (m)	0.00	Top Width (m)	21.02
21.00			
BR Open Area (m2)	55.70	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.80	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.30
1.30			
BR Sel Method	Energy only	Power Total (N/m s)	1.04
1.04			

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.05	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.03	E.G. Elev (m)	12.05
12.05			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.03
12.03			
Q Bridge (m3/s)	26.61	Crit W.S. (m)	10.07
10.07			
Q Weir (m3/s)		Max Chl Dpth (m)	2.81
2.81			
Weir Sta Lft (m)		Vel Total (m/s)	0.59
0.59			
Weir Sta Rgt (m)		Flow Area (m2)	45.97
45.96			
Weir Submerg		Froude # Chl	0.14
0.14			
Weir Max Depth (m)		Specif Force (m3)	54.93
54.91			
Min El Weir Flow (m)	10.99	Hydr Depth (m)	1.61
1.61			
Min El Prs (m)	12.65	W.P. Total (m)	43.80
43.80			
Delta EG (m)	0.00	Conv. Total (m3/s)	3365.2
3364.5			
Delta WS (m)	0.00	Top Width (m)	28.49
28.49			
BR Open Area (m2)	55.70	Frctn Loss (m)	0.00

0.00
 BR Open Vel (m/s) 0.62 C & E Loss (m) 0.00
0.00
 BR Sluice Coef Shear Total (N/m2) 0.66
0.66
 BR Sel Method Energy only Power Total (N/m s) 0.39
0.39

BRIDGE OUTPUT Profile #PF 6

 E.G. US. (m) 12.53 Element Inside BR US
Inside BR DS
 W.S. US. (m) 12.52 E.G. Elev (m) 12.53
12.53
 Q Total (m3/s) 27.00 W.S. Elev (m) 12.52
12.52
 Q Bridge (m3/s) 25.94 Crit W.S. (m) 10.07
10.07
 Q Weir (m3/s) Max Chl Dpth (m) 3.30
3.30
 Weir Sta Lft (m) Vel Total (m/s) 0.44
0.44
 Weir Sta Rgt (m) Flow Area (m2) 60.89
60.88
 Weir Submerg Froude # Chl 0.10
0.10
 Weir Max Depth (m) Specif Force (m3) 80.78
80.77
 Min El Weir Flow (m) 10.99 Hydr Depth (m) 1.90
1.90
 Min El Prs (m) 12.65 W.P. Total (m) 51.36
51.36
 Delta EG (m) 0.00 Conv. Total (m3/s) 4620.7
4620.3
 Delta WS (m) 0.00 Top Width (m) 32.08
32.08
 BR Open Area (m2) 55.70 Frctn Loss (m) 0.00
0.00
 BR Open Vel (m/s) 0.49 C & E Loss (m) 0.00
0.00
 BR Sluice Coef Shear Total (N/m2) 0.40
0.40
 BR Sel Method Energy only Power Total (N/m s) 0.18
0.18

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 4

INPUT
Description:
Station Elevation Data num= 20

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
8.1118	12.9705	13.2088	13.068	13.3301	13.0209	13.4177	12.7716	16.2721	10.9791
19.2774	10.8159	19.4008	10.72	21.3316	9.22	32.612	9.22	34.7824	10.72
37.4062	12.5333	37.4234	12.642	37.5836	12.8078	37.9498	12.968	38.1786	13.0652
38.7679	13.1282	39.4888	13.0881	40.9332	13.1703	42.5608	13.0422	43.5536	12.919

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
8.1118	.03	13.3301	.015	38.1786	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
13.3301	38.1786	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	0.030
W.S. Elev (m)	11.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		34.82	0.23
E.G. Slope (m/m)	0.000010	Area (m2)		34.82	0.23
Q Total (m3/s)	10.00	Flow (m3/s)		9.99	0.01
Top Width (m)	21.38	Top Width (m)		20.51	0.87
Vel Total (m/s)	0.29	Avg. Vel. (m/s)		0.29	0.03
Max Chl Dpth (m)	2.29	Hydr. Depth (m)		1.70	0.26
Conv. Total (m3/s)	3161.3	Conv. (m3/s)		3159.1	2.1
Length Wtd. (m)	200.00	Wetted Per. (m)		21.93	1.54
Min Ch El (m)	9.22	Shear (N/m2)		0.16	0.01
Alpha	1.01	Stream Power (N/m s)		0.04	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.94	18.70	0.07

C & E Loss (m)	0.00	Cum SA (1000 m2)	2.46	10.80	0.47

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.01	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.01	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	1.94	45.31	0.86
E.G. Slope (m/m)	0.000005	Area (m2)	1.94	45.31	0.86
Q Total (m3/s)	10.00	Flow (m3/s)	0.06	9.91	0.03
Top Width (m)	29.33	Top Width (m)	5.63	22.01	1.69
Vel Total (m/s)	0.21	Avg. Vel. (m/s)	0.03	0.22	0.03
Max Chl Dpth (m)	2.79	Hydr. Depth (m)	0.35	2.06	0.51
Conv. Total (m3/s)	4693.0	Conv. (m3/s)	30.1	4650.4	12.5
Length Wtd. (m)	200.00	Wetted Per. (m)	6.14	23.73	2.99
Min Ch El (m)	9.22	Shear (N/m2)	0.01	0.09	0.01
Alpha	1.10	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	2.47	24.59	0.36
C & E Loss (m)	0.00	Cum SA (1000 m2)	4.42	11.65	1.68

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB

Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	5.07	56.67	1.91
E.G. Slope (m/m)	0.000002	Area (m2)	5.07	56.67	1.91
Q Total (m3/s)	10.00	Flow (m3/s)	0.19	9.76	0.06
Top Width (m)	32.96	Top Width (m)	6.91	23.52	2.52
Vel Total (m/s)	0.16	Avg. Vel. (m/s)	0.04	0.17	0.03
Max Chl Dpth (m)	3.29	Hydr. Depth (m)	0.73	2.41	0.76
Conv. Total (m3/s)	6588.0	Conv. (m3/s)	124.6	6427.1	36.3
Length Wtd. (m)	200.00	Wetted Per. (m)	8.02	25.54	4.46
Min Ch El (m)	9.22	Shear (N/m2)	0.01	0.05	0.01
Alpha	1.17	Stream Power (N/m s)	0.00	0.01	0.00
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	4.44	31.42	0.77
C & E Loss (m)	0.00	Cum SA (1000 m2)	5.16	12.46	2.07

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.00	35.94	0.28
E.G. Slope (m/m)	0.000066	Area (m2)	0.00	35.94	0.28
Q Total (m3/s)	27.00	Flow (m3/s)	0.00	26.98	0.02
Top Width (m)	22.04	Top Width (m)	0.40	20.67	0.96
Vel Total (m/s)	0.75	Avg. Vel. (m/s)	0.01	0.75	0.08

Max Chl Dpth (m)	2.35	Hydr. Depth (m)	0.01	1.74	0.29
Conv. Total (m3/s)	3313.0	Conv. (m3/s)	0.0	3310.2	2.8
Length Wtd. (m)	200.00	Wetted Per. (m)	0.42	22.13	1.70
Min Ch El (m)	9.22	Shear (N/m2)	0.00	1.06	0.11
Alpha	1.01	Stream Power (N/m s)	0.00	0.79	0.01
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	1.04	19.11	0.08
C & E Loss (m)	0.00	Cum SA (1000 m2)	2.54	10.86	0.52

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.05	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.03	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	2.07	45.82	0.90
E.G. Slope (m/m)	0.000032	Area (m2)	2.07	45.82	0.90
Q Total (m3/s)	27.00	Flow (m3/s)	0.19	26.74	0.08
Top Width (m)	29.50	Top Width (m)	5.69	22.08	1.73
Vel Total (m/s)	0.55	Avg. Vel. (m/s)	0.09	0.58	0.08
Max Chl Dpth (m)	2.81	Hydr. Depth (m)	0.36	2.08	0.52
Conv. Total (m3/s)	4771.9	Conv. (m3/s)	33.2	4725.5	13.3
Length Wtd. (m)	200.00	Wetted Per. (m)	6.22	23.81	3.06
Min Ch El (m)	9.22	Shear (N/m2)	0.10	0.60	0.09
Alpha	1.10	Stream Power (N/m s)	0.01	0.35	0.01
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	2.53	24.79	0.37
C & E Loss (m)	0.00	Cum SA (1000 m2)	4.45	11.67	1.68

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	5.18	57.05	1.95
E.G. Slope (m/m)	0.000016	Area (m2)	5.18	57.05	1.95
Q Total (m3/s)	27.00	Flow (m3/s)	0.52	26.33	0.15
Top Width (m)	33.08	Top Width (m)	6.96	23.57	2.55
Vel Total (m/s)	0.42	Avg. Vel. (m/s)	0.10	0.46	0.08
Max Chl Dpth (m)	3.30	Hydr. Depth (m)	0.75	2.42	0.77
Conv. Total (m3/s)	6655.5	Conv. (m3/s)	128.6	6489.6	37.3
Length Wtd. (m)	200.00	Wetted Per. (m)	8.08	25.60	4.51
Min Ch El (m)	9.22	Shear (N/m2)	0.10	0.36	0.07
Alpha	1.17	Stream Power (N/m s)	0.01	0.17	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	4.50	31.61	0.78
C & E Loss (m)	0.00	Cum SA (1000 m2)	5.18	12.47	2.07

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 3

INPUT

Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
14.2626	13.0101	15.989	13.1109	18.5082	13.1205	19.0323	13.0363	19.5845	12.8117
19.7342	12.6246	19.7997	12.503	22.3322	10.75	24.5425	9.22	35.6171	9.22
37.7517	10.75	39.9723	12.3417	40.2158	12.7655	40.5742	12.8879	41.0161	13.0142
41.945	13.0223	42.7315	12.9791	43.895	12.9357	45.7495	12.7625		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
14.2626	.03	18.5082	.015	41.0161	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.5082	41.0161	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
W.S. Elev (m)	11.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	4.58	32.82	
E.G. Slope (m/m)	0.000010	Area (m2)	4.58	32.82	
Q Total (m3/s)	10.00	Flow (m3/s)	0.26	9.74	
Top Width (m)	28.30	Top Width (m)	10.72	17.58	
Vel Total (m/s)	0.27	Avg. Vel. (m/s)	0.06	0.30	
Max Chl Dpth (m)	2.29	Hydr. Depth (m)	0.43	1.87	
Conv. Total (m3/s)	3231.1	Conv. (m3/s)	84.2	3146.9	
Length Wtd. (m)	200.00	Wetted Per. (m)	11.18	19.03	
Min Ch El (m)	9.22	Shear (N/m2)	0.04	0.16	
Alpha	1.20	Stream Power (N/m s)	0.00	0.05	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.48	11.94	0.05
C & E Loss (m)	0.00	Cum SA (1000 m2)	1.39	6.99	0.38

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the

computed water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.01	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
W.S. Elev (m)	12.01	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	10.18	41.87	
E.G. Slope (m/m)	0.000004	Area (m2)	10.18	41.87	
Q Total (m3/s)	10.00	Flow (m3/s)	0.61	9.39	
Top Width (m)	30.88	Top Width (m)	11.89	18.99	
Vel Total (m/s)	0.19	Avg. Vel. (m/s)	0.06	0.22	
Max Chl Dpth (m)	2.79	Hydr. Depth (m)	0.86	2.21	
Conv. Total (m3/s)	4746.6	Conv. (m3/s)	289.0	4457.6	
Length Wtd. (m)	200.00	Wetted Per. (m)	12.95	20.75	
Min Ch El (m)	9.22	Shear (N/m2)	0.03	0.09	
Alpha	1.29	Stream Power (N/m s)	0.00	0.02	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	1.25	15.87	0.27
C & E Loss (m)	0.00	Cum SA (1000 m2)	2.67	7.55	1.51

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	16.41	51.70	
E.G. Slope (m/m)	0.000002	Area (m2)	16.41	51.70	

Q Total (m3/s)	10.00	Flow (m3/s)	0.89	9.11
Top Width (m)	33.34	Top Width (m)	13.07	20.27
Vel Total (m/s)	0.15	Avg. Vel. (m/s)	0.05	0.18
Max Chl Dpth (m)	3.29	Hydr. Depth (m)	1.26	2.55
Conv. Total (m3/s)	6608.0	Conv. (m3/s)	588.0	6020.0
Length Wtd. (m)	200.00	Wetted Per. (m)	14.72	22.39
Min Ch El (m)	9.22	Shear (N/m2)	0.03	0.05
Alpha	1.32	Stream Power (N/m s)	0.00	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	2.29	20.58
0.58				
C & E Loss (m)	0.00	Cum SA (1000 m2)	3.16	8.08
1.81				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.58	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015
W.S. Elev (m)	11.55	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)	5.03	33.56
E.G. Slope (m/m)	0.000065	Area (m2)	5.03	33.56
Q Total (m3/s)	27.00	Flow (m3/s)	0.79	26.21
Top Width (m)	28.52	Top Width (m)	10.82	17.70
Vel Total (m/s)	0.70	Avg. Vel. (m/s)	0.16	0.78
Max Chl Dpth (m)	2.33	Hydr. Depth (m)	0.46	1.90
Conv. Total (m3/s)	3346.7	Conv. (m3/s)	97.6	3249.1
Length Wtd. (m)	200.00	Wetted Per. (m)	11.33	19.18
Min Ch El (m)	9.22	Shear (N/m2)	0.28	1.12

Alpha	1.21	Stream Power (N/m s)	0.04	0.87
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.53	12.16
0.05				
C & E Loss (m)	0.00	Cum SA (1000 m2)	1.42	7.02
0.43				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.04	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015
W.S. Elev (m)	12.02	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)	10.38	42.20
E.G. Slope (m/m)	0.000032	Area (m2)	10.38	42.20
Q Total (m3/s)	27.00	Flow (m3/s)	1.67	25.33
Top Width (m)	30.97	Top Width (m)	11.93	19.03
Vel Total (m/s)	0.51	Avg. Vel. (m/s)	0.16	0.60
Max Chl Dpth (m)	2.80	Hydr. Depth (m)	0.87	2.22
Conv. Total (m3/s)	4804.8	Conv. (m3/s)	297.8	4507.0
Length Wtd. (m)	200.00	Wetted Per. (m)	13.01	20.81
Min Ch El (m)	9.22	Shear (N/m2)	0.25	0.63
Alpha	1.29	Stream Power (N/m s)	0.04	0.38
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	1.28	15.99
0.28				
C & E Loss (m)	0.00	Cum SA (1000 m2)	2.68	7.56
1.51				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	200.00
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	16.59	51.97	
E.G. Slope (m/m)	0.000016	Area (m2)	16.59	51.97	
Q Total (m3/s)	27.00	Flow (m3/s)	2.42	24.58	
Top Width (m)	33.38	Top Width (m)	13.10	20.28	
Vel Total (m/s)	0.39	Avg. Vel. (m/s)	0.15	0.47	
Max Chl Dpth (m)	3.30	Hydr. Depth (m)	1.27	2.56	
Conv. Total (m3/s)	6664.9	Conv. (m3/s)	597.3	6067.7	
Length Wtd. (m)	200.00	Wetted Per. (m)	14.77	22.42	
Min Ch El (m)	9.22	Shear (N/m2)	0.18	0.37	
Alpha	1.33	Stream Power (N/m s)	0.03	0.18	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	2.32	20.70	0.59
C & E Loss (m)	0.00	Cum SA (1000 m2)	3.17	8.08	1.82

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 2

INPUT
Description:
Station Elevation Data num= 21

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.1446	13.0105	13.0049	12.9897	13.8015	12.9792	14.3256	12.8849	14.5143	12.7906
14.7029	12.6753	14.8707	12.5076	17.3255	10.73	19.4108	9.22	30.62	9.22
32.7503	10.73	35.1082	12.4014	35.311	12.7371	35.7355	12.9462	36.198	13.0728
36.4325	13.1235	36.9267	13.1425	37.3196	13.1679	37.9532	13.1995	40.4342	13.107

41.0828 12.8528

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.1446	.03	14.3256	.015	35.7355	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.3256	35.7355	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	11.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	9.64	Flow Area (m2)	0.27	32.97	0.48
E.G. Slope (m/m)	0.000010	Area (m2)	0.27	32.97	0.48
Q Total (m3/s)	10.00	Flow (m3/s)	0.01	9.97	0.02
Top Width (m)	21.08	Top Width (m)	1.57	17.60	1.91
Vel Total (m/s)	0.30	Avg. Vel. (m/s)	0.03	0.30	0.04
Max Chl Dpth (m)	2.29	Hydr. Depth (m)	0.17	1.87	0.25
Conv. Total (m3/s)	3173.9	Conv. (m3/s)	2.6	3165.7	5.6
Length Wtd. (m)	200.00	Wetted Per. (m)	1.77	19.07	2.29
Min Ch El (m)	9.22	Shear (N/m2)	0.01	0.17	0.02
Alpha	1.04	Stream Power (N/m s)	0.00	0.05	0.00
Frctn Loss (m)		Cum Volume (1000 m3)		5.36	
C & E Loss (m)		Cum SA (1000 m2)	0.16	3.48	0.19

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.01	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.00	Reach Len. (m)	200.00	200.00	

200.00					
Crit W.S. (m)	9.64	Flow Area (m2)	2.37	42.04	2.70
E.G. Slope (m/m)	0.000005	Area (m2)	2.37	42.04	2.70
Q Total (m3/s)	10.00	Flow (m3/s)	0.08	9.81	0.11
Top Width (m)	31.95	Top Width (m)	7.42	18.98	5.55
Vel Total (m/s)	0.21	Avg. Vel. (m/s)	0.03	0.23	0.04
Max Chl Dpth (m)	2.78	Hydr. Depth (m)	0.32	2.21	0.49
Conv. Total (m3/s)	4568.7	Conv. (m3/s)	34.8	4483.9	50.0
Length Wtd. (m)	200.00	Wetted Per. (m)	8.09	20.77	6.52
Min Ch El (m)	9.22	Shear (N/m2)	0.01	0.10	0.02
Alpha	1.19	Stream Power (N/m s)	0.00	0.02	0.00
Frctn Loss (m)		Cum Volume (1000 m3)		7.48	
C & E Loss (m)		Cum SA (1000 m2)	0.74	3.75	0.95

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.50	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	9.64	Flow Area (m2)	6.54	51.87	5.79
E.G. Slope (m/m)	0.000002	Area (m2)	6.54	51.87	5.79
Q Total (m3/s)	10.00	Flow (m3/s)	0.25	9.51	0.24
Top Width (m)	36.38	Top Width (m)	9.27	20.30	6.81
Vel Total (m/s)	0.16	Avg. Vel. (m/s)	0.04	0.18	0.04
Max Chl Dpth (m)	3.28	Hydr. Depth (m)	0.71	2.56	0.85
Conv. Total (m3/s)	6356.9	Conv. (m3/s)	158.8	6047.3	150.8
Length Wtd. (m)	200.00	Wetted Per. (m)	10.51	22.43	8.38
Min Ch El (m)	9.22	Shear (N/m2)	0.02	0.06	

0.02					
Alpha	1.32	Stream Power (N/m s)	0.00	0.01	
0.00					
Frctn Loss (m)		Cum Volume (1000 m3)		10.23	
C & E Loss (m)		Cum SA (1000 m2)	0.93	4.02	
1.13					

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.57	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.03	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	11.54	Reach Len. (m)	200.00	200.00	
200.00					
Crit W.S. (m)	10.03	Flow Area (m2)	0.31	33.46	
0.54					
E.G. Slope (m/m)	0.000069	Area (m2)	0.31	33.46	
0.54					
Q Total (m3/s)	27.00	Flow (m3/s)	0.03	26.92	
0.05					
Top Width (m)	21.51	Top Width (m)	1.70	17.68	
2.14					
Vel Total (m/s)	0.79	Avg. Vel. (m/s)	0.08	0.80	
0.10					
Max Chl Dpth (m)	2.32	Hydr. Depth (m)	0.19	1.89	
0.25					
Conv. Total (m3/s)	3243.7	Conv. (m3/s)	3.1	3234.1	
6.5					
Length Wtd. (m)	200.00	Wetted Per. (m)	1.92	19.17	
2.54					
Min Ch El (m)	9.22	Shear (N/m2)	0.11	1.19	
0.14					
Alpha	1.04	Stream Power (N/m s)	0.01	0.95	
0.01					
Frctn Loss (m)		Cum Volume (1000 m3)		5.46	
C & E Loss (m)		Cum SA (1000 m2)	0.17	3.48	
0.21					

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.03	Element	Left OB	Channel	
Right OB					
Vel Head (m)	0.02	Wt. n-Val.	0.030	0.015	
0.030					
W.S. Elev (m)	12.01	Reach Len. (m)	200.00	200.00	

200.00					
Crit W.S. (m)	10.03	Flow Area (m2)	2.44	42.22	2.75
E.G. Slope (m/m)	0.000034	Area (m2)	2.44	42.22	2.75
Q Total (m3/s)	27.00	Flow (m3/s)	0.21	26.48	0.30
Top Width (m)	32.03	Top Width (m)	7.45	19.01	5.57
Vel Total (m/s)	0.57	Avg. Vel. (m/s)	0.09	0.63	0.11
Max Chl Dpth (m)	2.79	Hydr. Depth (m)	0.33	2.22	0.49
Conv. Total (m3/s)	4598.8	Conv. (m3/s)	36.4	4511.0	51.4
Length Wtd. (m)	200.00	Wetted Per. (m)	8.14	20.80	6.56
Min Ch El (m)	9.22	Shear (N/m2)	0.10	0.69	0.14
Alpha	1.19	Stream Power (N/m s)	0.01	0.43	0.02
Frctn Loss (m)		Cum Volume (1000 m3)		7.55	
C & E Loss (m)		Cum SA (1000 m2)	0.75	3.75	0.95

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.	0.030	0.015	0.030
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	10.03	Flow Area (m2)	6.63	52.06	5.85
E.G. Slope (m/m)	0.000018	Area (m2)	6.63	52.06	5.85
Q Total (m3/s)	27.00	Flow (m3/s)	0.68	25.67	0.65
Top Width (m)	36.45	Top Width (m)	9.30	20.31	6.84
Vel Total (m/s)	0.42	Avg. Vel. (m/s)	0.10	0.49	0.11
Max Chl Dpth (m)	3.29	Hydr. Depth (m)	0.71	2.56	0.86
Conv. Total (m3/s)	6394.9	Conv. (m3/s)	161.9	6079.8	153.2
Length Wtd. (m)	200.00	Wetted Per. (m)	10.56	22.46	8.42
Min Ch El (m)	9.22	Shear (N/m2)	0.11	0.41	

0.12					
Alpha	1.32	Stream Power (N/m s)	0.01	0.20	
0.01					
Frctn Loss (m)		Cum Volume (1000 m3)		10.30	
C & E Loss (m)		Cum SA (1000 m2)	0.93	4.02	
1.14					

INLINE STRUCTURE

RIVER: SNM
REACH: Canale SNM RS: 1.5

INPUT
Description:
Distance from Upstream XS = 150
Deck/Roadway Width = 4
Weir Coefficient = 1.4
Weir Embankment Coordinates num = 2

Sta	Elev	Sta	Elev
13.47	13.76	36.48	13.76

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins =
Weir crest shape = Broad Crested

INLINE STRUCTURE GATE Gate #1
Height = 4
Width = 3
Invert = 9.32
Gate Type = Sluice Slice Coefficient = .6
Weir Coefficient = 1.67
Weir crest shape = Broad Crested
Number of Gate Openings = 3

Sta	Sta	Sta
21.58	25.04	28.38

INLINE STRUCTURE OUTPUT Profile #PF 1 Gate Group: Gate #1

E.G. Elev (m)	11.51	Weir Sta Lft (m)	4.00
W.S. Elev (m)	11.51	Weir Sta Rgt (m)	46.41
Q Total (m3/s)	10.00	Min El Weir Flow (m)	10.95
Q Weir (m3/s)	0.30	Wr Top Wdth (m)	3.53
Q Gates (m3/s)	9.70	Weir Max Depth (m)	0.57
Q Culv (m3/s)		Weir Avg Depth (m)	0.22
Q Inline RC (m3/s)		Weir Flow Area (m2)	0.77
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	1.402
Q Breach (m3/s)		Weir Submerg	0.95

Breach Avg Velocity (m/s)		Q Gate Group (m3/s)	9.70
Breach Flow Area (m2)		Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	6.57
Breach Bottom El (m)		Gate Submerg	0.99
Breach SSL (m)		Gate Invert (m)	9.32
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 2 Gate Group: Gate #1

E.G. Elev (m)	12.01	Weir Sta Lft (m)	0.00
W.S. Elev (m)	12.00	Weir Sta Rgt (m)	48.78
Q Total (m3/s)	10.00	Min El Weir Flow (m)	10.95
Q Weir (m3/s)	2.18	Wr Top Wdth (m)	12.98
Q Gates (m3/s)	7.82	Weir Max Depth (m)	1.06
Q Culv (m3/s)		Weir Avg Depth (m)	0.39
Q Inline RC (m3/s)		Weir Flow Area (m2)	5.10
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	1.402
Q Breach (m3/s)		Weir Submerg	0.99
Breach Avg Velocity (m/s)		Q Gate Group (m3/s)	7.82
Breach Flow Area (m2)		Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	8.05
Breach Bottom El (m)		Gate Submerg	1.00
Breach SSL (m)		Gate Invert (m)	9.32
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 3 Gate Group: Gate #1

E.G. Elev (m)	12.51	Weir Sta Lft (m)	0.00
W.S. Elev (m)	12.50	Weir Sta Rgt (m)	48.78
Q Total (m3/s)	10.00	Min El Weir Flow (m)	10.95
Q Weir (m3/s)	3.92	Wr Top Wdth (m)	16.09
Q Gates (m3/s)	6.08	Weir Max Depth (m)	1.56
Q Culv (m3/s)		Weir Avg Depth (m)	0.77
Q Inline RC (m3/s)		Weir Flow Area (m2)	12.35
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	1.402
Q Breach (m3/s)		Weir Submerg	0.99
Breach Avg Velocity (m/s)		Q Gate Group (m3/s)	6.08
Breach Flow Area (m2)		Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	9.55
Breach Bottom El (m)		Gate Submerg	1.00
Breach SSL (m)		Gate Invert (m)	9.32
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 4 Gate Group: Gate #1

E.G. Elev (m)	11.57	Weir Sta Lft (m)	3.95
W.S. Elev (m)	11.54	Weir Sta Rgt (m)	48.78
Q Total (m3/s)	27.00	Min El Weir Flow (m)	10.95

Q Weir (m3/s)	0.72	Wr Top Wdth (m)	4.53
Q Gates (m3/s)	26.28	Weir Max Depth (m)	0.62
Q Culv (m3/s)		Weir Avg Depth (m)	0.22
Q Inline RC (m3/s)		Weir Flow Area (m2)	0.99
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	1.402
Q Breach (m3/s)		Weir Submerg	0.75
Breach Avg Velocity (m/s)		Q Gate Group (m3/s)	26.28
Breach Flow Area (m2)		Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	6.65
Breach Bottom El (m)		Gate Submerg	0.97
Breach SSL (m)		Gate Invert (m)	9.32
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 5 Gate Group: Gate #1

E.G. Elev (m)	12.03	Weir Sta Lft (m)	0.00
W.S. Elev (m)	12.01	Weir Sta Rgt (m)	48.78
Q Total (m3/s)	27.00	Min El Weir Flow (m)	10.95
Q Weir (m3/s)	4.26	Wr Top Wdth (m)	13.15
Q Gates (m3/s)	22.74	Weir Max Depth (m)	1.09
Q Culv (m3/s)		Weir Avg Depth (m)	0.41
Q Inline RC (m3/s)		Weir Flow Area (m2)	5.45
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	1.402
Q Breach (m3/s)		Weir Submerg	0.94
Breach Avg Velocity (m/s)		Q Gate Group (m3/s)	22.74
Breach Flow Area (m2)		Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	8.08
Breach Bottom El (m)		Gate Submerg	0.99
Breach SSL (m)		Gate Invert (m)	9.32
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 6 Gate Group: Gate #1

E.G. Elev (m)	12.53	Weir Sta Lft (m)	0.00
W.S. Elev (m)	12.51	Weir Sta Rgt (m)	48.78
Q Total (m3/s)	27.00	Min El Weir Flow (m)	10.95
Q Weir (m3/s)	7.50	Wr Top Wdth (m)	16.22
Q Gates (m3/s)	19.50	Weir Max Depth (m)	1.58
Q Culv (m3/s)		Weir Avg Depth (m)	0.78
Q Inline RC (m3/s)		Weir Flow Area (m2)	12.67
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	1.402
Q Breach (m3/s)		Weir Submerg	0.98
Breach Avg Velocity (m/s)		Q Gate Group (m3/s)	19.50
Breach Flow Area (m2)		Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	9.58
Breach Bottom El (m)		Gate Submerg	0.99
Breach SSL (m)		Gate Invert (m)	9.32
Breach SSR (m)		Gate Weir Coef	3.020

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 1

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
5.0479	13.4225	6.8108	13.4731	8.6701	13.4376	9.7166	13.3168	12.2572	11.45
15.292	9.22	26.2355	9.22	29.2918	11.45	30.9441	12.6555	31.0605	12.919
32.1534	13.4656	32.5824	13.5575	34.1977	13.57	36.4529	13.521		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
5.0479	.03	9.7166	.015	32.1534	.03

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
9.7166	32.1534	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	11.50	Reach Len. (m)			
Crit W.S. (m)	9.65	Flow Area (m2)		32.05	
E.G. Slope (m/m)	0.000011	Area (m2)		32.05	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.17	Top Width (m)		17.17	
Vel Total (m/s)	0.31	Avg. Vel. (m/s)		0.31	
Max Chl Dpth (m)	2.28	Hydr. Depth (m)		1.87	
Conv. Total (m3/s)	3064.7	Conv. (m3/s)		3064.7	
Length Wtd. (m)		Wetted Per. (m)		18.66	
Min Ch El (m)	9.22	Shear (N/m2)		0.18	
Alpha	1.00	Stream Power (N/m s)		0.06	
Frctn Loss (m)		Cum Volume (1000 m3)			

C & E Loss (m)		Cum SA (1000 m2)		

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.00	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.		0.015
0.030				
W.S. Elev (m)	12.00	Reach Len. (m)		
Crit W.S. (m)	9.65	Flow Area (m2)		40.98
0.62				
E.G. Slope (m/m)	0.000005	Area (m2)		40.98
0.62				
Q Total (m3/s)	10.00	Flow (m3/s)		9.99
0.01				
Top Width (m)	22.50	Top Width (m)		18.54
3.97				
Vel Total (m/s)	0.24	Avg. Vel. (m/s)		0.24
0.02				
Max Chl Dpth (m)	2.78	Hydr. Depth (m)		2.21
0.16				
Conv. Total (m3/s)	4361.3	Conv. (m3/s)		4355.6
5.7				
Length Wtd. (m)		Wetted Per. (m)		20.35
4.31				
Min Ch El (m)	9.22	Shear (N/m2)		0.10
0.01				
Alpha	1.03	Stream Power (N/m s)		0.03
0.00				
Frctn Loss (m)		Cum Volume (1000 m3)		
C & E Loss (m)		Cum SA (1000 m2)		

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.50	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.		0.015
0.030				
W.S. Elev (m)	12.50	Reach Len. (m)		
Crit W.S. (m)	9.65	Flow Area (m2)		50.59
2.74				

E.G. Slope (m/m)	0.000003	Area (m2)	50.59
2.74			
Q Total (m3/s)	10.00	Flow (m3/s)	9.90
0.10			
Top Width (m)	24.42	Top Width (m)	19.90
4.52			
Vel Total (m/s)	0.19	Avg. Vel. (m/s)	0.20
0.04			
Max Chl Dpth (m)	3.28	Hydr. Depth (m)	2.54
0.61			
Conv. Total (m3/s)	5923.4	Conv. (m3/s)	5866.5
56.9			
Length Wtd. (m)		Wetted Per. (m)	22.05
5.56			
Min Ch El (m)	9.22	Shear (N/m2)	0.06
0.01			
Alpha	1.08	Stream Power (N/m s)	0.01
0.00			
Frctn Loss (m)		Cum Volume (1000 m3)	
C & E Loss (m)		Cum SA (1000 m2)	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.		0.015	
W.S. Elev (m)	11.50	Reach Len. (m)			
Crit W.S. (m)	10.04	Flow Area (m2)		32.05	
E.G. Slope (m/m)	0.000078	Area (m2)		32.05	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.17	Top Width (m)		17.17	
Vel Total (m/s)	0.84	Avg. Vel. (m/s)		0.84	
Max Chl Dpth (m)	2.28	Hydr. Depth (m)		1.87	
Conv. Total (m3/s)	3064.7	Conv. (m3/s)		3064.7	
Length Wtd. (m)		Wetted Per. (m)		18.66	
Min Ch El (m)	9.22	Shear (N/m2)		1.31	

Alpha	1.00	Stream Power (N/m s)	1.10
Frctn Loss (m)		Cum Volume (1000 m3)	
C & E Loss (m)		Cum SA (1000 m2)	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	0.030
W.S. Elev (m)	12.00	Reach Len. (m)			
Crit W.S. (m)	10.04	Flow Area (m2)		40.98	0.62
E.G. Slope (m/m)	0.000038	Area (m2)		40.98	0.62
Q Total (m3/s)	27.00	Flow (m3/s)		26.96	0.04
Top Width (m)	22.50	Top Width (m)		18.54	3.97
Vel Total (m/s)	0.65	Avg. Vel. (m/s)		0.66	0.06
Max Chl Dpth (m)	2.78	Hydr. Depth (m)		2.21	0.16
Conv. Total (m3/s)	4361.3	Conv. (m3/s)		4355.6	5.7
Length Wtd. (m)		Wetted Per. (m)		20.35	4.31
Min Ch El (m)	9.22	Shear (N/m2)		0.76	0.05
Alpha	1.03	Stream Power (N/m s)		0.50	0.00
Frctn Loss (m)		Cum Volume (1000 m3)			
C & E Loss (m)		Cum SA (1000 m2)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	0.030

W.S. Elev (m)	12.50	Reach Len. (m)			
Crit W.S. (m)	10.04	Flow Area (m2)	50.59	2.74	
E.G. Slope (m/m)	0.000021	Area (m2)	50.59	2.74	
Q Total (m3/s)	27.00	Flow (m3/s)	26.74	0.26	
Top Width (m)	24.42	Top Width (m)	19.90	4.52	
Vel Total (m/s)	0.51	Avg. Vel. (m/s)	0.53	0.09	
Max Chl Dpth (m)	3.28	Hydr. Depth (m)	2.54	0.61	
Conv. Total (m3/s)	5923.4	Conv. (m3/s)	5866.5	56.9	
Length Wtd. (m)		Wetted Per. (m)	22.05	5.56	
Min Ch El (m)	9.22	Shear (N/m2)	0.47	0.10	
Alpha	1.08	Stream Power (N/m s)	0.25	0.01	
Frctn Loss (m)		Cum Volume (1000 m3)			
C & E Loss (m)		Cum SA (1000 m2)			

Warning: Divided flow computed for this cross-section.

SUMMARY OF MANNING'S N VALUES

River:SNM

Reach	River Sta.	n1	n2	n3
Canale SNM	73	.03	.015	.03
Canale SNM	72	.03	.015	.03
Canale SNM	71	.03	.015	.03
Canale SNM	70	.03	.015	.03
Canale SNM	69	.03	.015	.03
Canale SNM	68.5	Bridge		
Canale SNM	68	.03	.015	.03
Canale SNM	67	.03	.015	.03
Canale SNM	66.5	Bridge		
Canale SNM	66	.03	.015	.03
Canale SNM	65	.03	.015	.03
Canale SNM	64	.03	.015	.03
Canale SNM	63	.03	.015	.03
Canale SNM	62	.03	.015	.03
Canale SNM	61	.03	.015	.03

Canale SNM	60.5	Bridge			
Canale SNM	60		.03	.015	.03
Canale SNM	59		.03	.015	.03
Canale SNM	58.5	Bridge			
Canale SNM	58		.03	.015	.03
Canale SNM	57		.03	.015	.03
Canale SNM	56		.03	.015	.03
Canale SNM	55		.03	.015	.03
Canale SNM	54.5	Bridge			
Canale SNM	54		.03	.015	.03
Canale SNM	53		.03	.015	.03
Canale SNM	52		.03	.015	.03
Canale SNM	51		.03	.015	.03
Canale SNM	50		.03	.015	.03
Canale SNM	49		.03	.015	.03
Canale SNM	48		.03	.015	.03
Canale SNM	47		.03	.015	.03
Canale SNM	46.5	Bridge			
Canale SNM	46		.03	.015	.03
Canale SNM	45		.03	.015	.03
Canale SNM	44		.03	.015	.03
Canale SNM	43		.03	.015	.03
Canale SNM	42		.03	.015	.03
Canale SNM	41.5	Bridge			
Canale SNM	41		.03	.015	.03
Canale SNM	40		.03	.015	.03
Canale SNM	39		.03	.015	.03
Canale SNM	38.8	Inl Struct			
Canale SNM	38.7		.03	.015	.03
Canale SNM	38.4	Bridge			
Canale SNM	38		.03	.015	.03
Canale SNM	37		.03	.015	.03
Canale SNM	36		.03	.015	.03
Canale SNM	35		.03	.015	.03
Canale SNM	34		.03	.015	.03
Canale SNM	33		.03	.015	.03
Canale SNM	32		.03	.015	.03
Canale SNM	31.5	Bridge			
Canale SNM	31		.03	.015	.03
Canale SNM	30		.03	.015	.03
Canale SNM	29		.03	.015	.03
Canale SNM	28		.03	.015	.03
Canale SNM	27		.03	.015	.03
Canale SNM	26		.03	.015	.03
Canale SNM	25.5	Bridge			
Canale SNM	25		.03	.015	.03
Canale SNM	24		.03	.015	.03
Canale SNM	23		.03	.015	.03
Canale SNM	22.5	Bridge			
Canale SNM	22		.03	.015	.03
Canale SNM	21		.03	.015	.03
Canale SNM	20		.03	.015	.03
Canale SNM	19		.03	.015	.03
Canale SNM	18.5	Bridge			

Canale SNM	18	.03	.015	.03
Canale SNM	17	.03	.015	.03
Canale SNM	16	.03	.015	.03
Canale SNM	15.5	Bridge		
Canale SNM	15	.03	.015	.03
Canale SNM	14.5	Bridge		
Canale SNM	14	.03	.015	.03
Canale SNM	13	.03	.015	.03
Canale SNM	12	.03	.015	.03
Canale SNM	11	.03	.015	.03
Canale SNM	10.5	Bridge		
Canale SNM	10	.03	.015	.03
Canale SNM	9	.03	.015	.03
Canale SNM	8	.03	.015	.03
Canale SNM	7.5	Bridge		
Canale SNM	7	.03	.015	.03
Canale SNM	6	.03	.015	.03
Canale SNM	5	.03	.015	.03
Canale SNM	4.5	Bridge		
Canale SNM	4.4	.03	.015	.03
Canale SNM	4.3	Bridge		
Canale SNM	4	.03	.015	.03
Canale SNM	3	.03	.015	.03
Canale SNM	2	.03	.015	.03
Canale SNM	1.5	Inl Struct		
Canale SNM	1	.03	.015	.03

SUMMARY OF REACH LENGTHS

River: SNM

Reach	River Sta.	Left	Channel	Right
Canale SNM	73	200	200	200
Canale SNM	72	200	200	200
Canale SNM	71	200	200	200
Canale SNM	70	200	200	200
Canale SNM	69	200	200	200
Canale SNM	68.5	Bridge		
Canale SNM	68	200	200	200
Canale SNM	67	200	200	200
Canale SNM	66.5	Bridge		
Canale SNM	66	200	200	200
Canale SNM	65	200	200	200
Canale SNM	64	200	200	200
Canale SNM	63	200	200	200
Canale SNM	62	200	200	200
Canale SNM	61	200	200	200
Canale SNM	60.5	Bridge		
Canale SNM	60	200	200	200
Canale SNM	59	200	200	200

Canale SNM	58.5	Bridge			
Canale SNM	58		200	200	200
Canale SNM	57		200	200	200
Canale SNM	56		200	200	200
Canale SNM	55		200	200	200
Canale SNM	54.5	Bridge			
Canale SNM	54		200	200	200
Canale SNM	53		200	200	200
Canale SNM	52		200	200	200
Canale SNM	51		200	200	200
Canale SNM	50		200	200	200
Canale SNM	49		200	200	200
Canale SNM	48		200	200	200
Canale SNM	47		200	200	200
Canale SNM	46.5	Bridge			
Canale SNM	46		200	200	200
Canale SNM	45		200	200	200
Canale SNM	44		200	200	200
Canale SNM	43		200	200	200
Canale SNM	42		200	200	200
Canale SNM	41.5	Bridge			
Canale SNM	41		200	200	200
Canale SNM	40		200	200	200
Canale SNM	39		200	200	200
Canale SNM	38.8	Inl Struct			
Canale SNM	38.7		35	35	35
Canale SNM	38.4	Bridge			
Canale SNM	38		200	200	200
Canale SNM	37		200	200	200
Canale SNM	36		200	200	200
Canale SNM	35		200	200	200
Canale SNM	34		200	200	200
Canale SNM	33		200	200	200
Canale SNM	32		200	200	200
Canale SNM	31.5	Bridge			
Canale SNM	31		200	200	200
Canale SNM	30		200	200	200
Canale SNM	29		200	200	200
Canale SNM	28		200	200	200
Canale SNM	27		200	200	200
Canale SNM	26		200	200	200
Canale SNM	25.5	Bridge			
Canale SNM	25		200	200	200
Canale SNM	24		200	200	200
Canale SNM	23		200	200	200
Canale SNM	22.5	Bridge			
Canale SNM	22		200	200	200
Canale SNM	21		200	200	200
Canale SNM	20		200	200	200
Canale SNM	19		200	200	200
Canale SNM	18.5	Bridge			
Canale SNM	18		200	200	200
Canale SNM	17		200	200	200
Canale SNM	16		200	200	200

Canale SNM	15.5	Bridge			
Canale SNM	15		200	200	200
Canale SNM	14.5	Bridge			
Canale SNM	14		150	150	150
Canale SNM	13		200	200	200
Canale SNM	12		200	200	200
Canale SNM	11		200	200	200
Canale SNM	10.5	Bridge			
Canale SNM	10		200	200	200
Canale SNM	9		200	200	200
Canale SNM	8		200	200	200
Canale SNM	7.5	Bridge			
Canale SNM	7		200	200	200
Canale SNM	6		200	200	200
Canale SNM	5		200	200	200
Canale SNM	4.5	Bridge			
Canale SNM	4.4		30	30	30
Canale SNM	4.3	Bridge			
Canale SNM	4		200	200	200
Canale SNM	3		200	200	200
Canale SNM	2		200	200	200
Canale SNM	1.5	Inl Struct			
Canale SNM	1		200	200	200

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: SNM

Reach	River Sta.	Contr.	Expan.
Canale SNM	73	.1	.3
Canale SNM	72	.0015	.01
Canale SNM	71	.0015	.01
Canale SNM	70	.0015	.01
Canale SNM	69	.0015	.01
Canale SNM	68.5	Bridge	
Canale SNM	68	.0015	.01
Canale SNM	67	.0015	.01
Canale SNM	66.5	Bridge	
Canale SNM	66	.0015	.01
Canale SNM	65	.0015	.01
Canale SNM	64	.0015	.01
Canale SNM	63	.0015	.01
Canale SNM	62	.0015	.01
Canale SNM	61	.0015	.01
Canale SNM	60.5	Bridge	
Canale SNM	60	.0015	.01
Canale SNM	59	.0015	.01
Canale SNM	58.5	Bridge	
Canale SNM	58	.0015	.01
Canale SNM	57	.0015	.01

Canale SNM	56	.0015	.01
Canale SNM	55	.0015	.01
Canale SNM	54.5	Bridge	
Canale SNM	54	.0015	.01
Canale SNM	53	.0015	.01
Canale SNM	52	.0015	.01
Canale SNM	51	.0015	.01
Canale SNM	50	.0015	.01
Canale SNM	49	.0015	.01
Canale SNM	48	.0015	.01
Canale SNM	47	.0015	.01
Canale SNM	46.5	Bridge	
Canale SNM	46	.0015	.01
Canale SNM	45	.0015	.01
Canale SNM	44	.0015	.01
Canale SNM	43	.0015	.01
Canale SNM	42	.0015	.01
Canale SNM	41.5	Bridge	
Canale SNM	41	.0015	.01
Canale SNM	40	.0015	.01
Canale SNM	39	.0015	.01
Canale SNM	38.8	Inl Struct	
Canale SNM	38.7	.1	.3
Canale SNM	38.4	Bridge	
Canale SNM	38	.0015	.01
Canale SNM	37	.0015	.01
Canale SNM	36	.0015	.01
Canale SNM	35	.0015	.01
Canale SNM	34	.0015	.01
Canale SNM	33	.0015	.01
Canale SNM	32	.0015	.01
Canale SNM	31.5	Bridge	
Canale SNM	31	.0015	.01
Canale SNM	30	.0015	.01
Canale SNM	29	.0015	.01
Canale SNM	28	.0015	.01
Canale SNM	27	.0015	.01
Canale SNM	26	.0015	.01
Canale SNM	25.5	Bridge	
Canale SNM	25	.0015	.01
Canale SNM	24	.0015	.01
Canale SNM	23	.0015	.01
Canale SNM	22.5	Bridge	
Canale SNM	22	.0015	.01
Canale SNM	21	.0015	.01
Canale SNM	20	.0015	.01
Canale SNM	19	.0015	.01
Canale SNM	18.5	Bridge	
Canale SNM	18	.0015	.01
Canale SNM	17	.0015	.01
Canale SNM	16	.0015	.01
Canale SNM	15.5	Bridge	
Canale SNM	15	.0015	.01
Canale SNM	14.5	Bridge	

Canale SNM	14	.0015	.01
Canale SNM	13	.0015	.01
Canale SNM	12	.0015	.01
Canale SNM	11	.0015	.01
Canale SNM	10.5	Bridge	
Canale SNM	10	.0015	.01
Canale SNM	9	.0015	.01
Canale SNM	8	.0015	.01
Canale SNM	7.5	Bridge	
Canale SNM	7	.0015	.01
Canale SNM	6	.0015	.01
Canale SNM	5	.0015	.01
Canale SNM	4.5	Bridge	
Canale SNM	4.4	.1	.3
Canale SNM	4.3	Bridge	
Canale SNM	4	.0015	.01
Canale SNM	3	.0015	.01
Canale SNM	2	.0015	.01
Canale SNM	1.5	Inl Struct	
Canale SNM	1	.0015	.01

HEC-RAS HEC-RAS 6.1.0 September 2021
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X      X   X     X  X    X
X     X  X        X           X   X    X    X   X
XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
X     X  X        X           X  X     X    X        X
X     X  X        X    X      X   X    X    X        X
X     X  XXXXXX    XXXX       X    X   X    X   XXXXX
```

PROJECT DATA
Project Title: CanaleSNM_PRG_REV01-A
Project File : CanaleSNM_PRG_REV01.prj
Run Date and Time: 22/12/2021 12:53:52

Project in SI units

PLAN DATA

Plan Title: Plan 12
Plan File : C:\Users\Tecnico1\Documents\CanaleSNM_PRG_REV01.p12

Geometry Title: CanalSNM_SP_REV01
Geometry File : C:\Users\Tecnico1\Documents\CanaleSNM_PRG_REV01.g09

Flow Title : CanaleSNM-A
Flow File : C:\Users\Tecnico1\Documents\CanaleSNM_PRG_REV01.f02

Plan Summary Information:

Number of:	Cross Sections	= 75	Multiple Openings	=	0
	Culverts	= 0	Inline Structures	=	2
	Bridges	= 18	Lateral Structures	=	0

Computational Information

Water surface calculation tolerance	= 0.003
Critical depth calculation tolerance	= 0.003
Maximum number of iterations	= 20
Maximum difference tolerance	= 0.1
Flow tolerance factor	= 0.001

Computation Options
Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only

```
    Friction Slope Method:         Average Conveyance
    Computational Flow Regime:     Subcritical Flow



FLOW DATA

Flow Title: CanaleSNM-A
Flow File : C:\Users\Tecnico1\Documents\CanaleSNM_PRG_REV01.f02

Flow Data (m3/s)


  River           Reach           RS                   PF 1            PF 2
      PF 3            PF 4            PF 5            PF 6
  SNM             Canale SNM      73                     10              10
        10              27              27              27



Boundary Conditions


  River           Reach           Profile                        Upstream
        Downstream


  SNM             Canale SNM      PF 1
      Known WS = 11.5
  SNM             Canale SNM      PF 2
        Known WS = 12
  SNM             Canale SNM      PF 3
      Known WS = 12.5
  SNM             Canale SNM      PF 4
      Known WS = 11.5
  SNM             Canale SNM      PF 5
        Known WS = 12
  SNM             Canale SNM      PF 6
      Known WS = 12.5


Inline Structure Gate Openings
River = SNM
Reach = Canale SNM        RS = 38.8
Gate  = Gate #1
  # Open Open Ht  # Open Open Ht  # Open Open Ht  # Open Open Ht  # Open Open Ht
       4       3       4       3       4       3       4       3       4       3
       4       3
River = SNM
Reach = Canale SNM        RS = 1.5
Gate  = Gate #1
  # Open Open Ht  # Open Open Ht  # Open Open Ht  # Open Open Ht  # Open Open Ht
       4       3       4       3       4       3       4       3       4       3
```

4 3

GEOMETRY DATA

Geometry Title: CanalSNM_SP_REV01
Geometry File : C:\Users\Tecnico1\Documents\CanaleSNM_PRG_REV01.g09

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 73

INPUT
Description: Opera n. 1
Station Elevation Data num= 12

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
8.2543	14.0079	12.7658	13.864	12.769	13.9639	13.2977	13.947	18.6544	10.3177
24.273	10.3181	29.8916	10.3177	35.7047	14.2563	36.8201	14.1575	36.8201	14.2563
39.8701	14.1652	41.2069	13.926						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
8.2543	.015	13.2977	.015	35.7047	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
13.2977	35.7047	200	200	200	.1 .3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.89	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.87	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		21.07	
E.G. Slope (m/m)	0.000037	Area (m2)		21.07	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.83	Top Width (m)		15.83	
Vel Total (m/s)	0.47	Avg. Vel. (m/s)		0.47	
Max Chl Dpth (m)	1.56	Hydr. Depth (m)		1.33	
Conv. Total (m3/s)	1634.7	Conv. (m3/s)		1634.7	

Length Wtd. (m)	200.00	Wetted Per. (m)	16.79
Min Ch El (m)	10.32	Shear (N/m2)	0.46
Alpha	1.00	Stream Power (N/m s)	0.22
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	355.56
C & E Loss (m)	0.00	Cum SA (1000 m2)	225.60

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.20	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.19	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		26.27	
E.G. Slope (m/m)	0.000020	Area (m2)		26.27	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.77	Top Width (m)		16.77	
Vel Total (m/s)	0.38	Avg. Vel. (m/s)		0.38	
Max Chl Dpth (m)	1.88	Hydr. Depth (m)		1.57	
Conv. Total (m3/s)	2259.4	Conv. (m3/s)		2259.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.93	
Min Ch El (m)	10.32	Shear (N/m2)		0.28	
Alpha	1.00	Stream Power (N/m s)		0.11	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		453.85	
C & E Loss (m)	0.00	Cum SA (1000 m2)		240.91	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.61	Element	Left OB	Channel	Right OB

Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.61	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			33.47
E.G. Slope (m/m)	0.000010	Area (m2)			33.47
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	18.00	Top Width (m)			18.00
Vel Total (m/s)	0.30	Avg. Vel. (m/s)			0.30
Max Chl Dpth (m)	2.29	Hydr. Depth (m)			1.86
Conv. Total (m3/s)	3209.4	Conv. (m3/s)			3209.4
Length Wtd. (m)	200.00	Wetted Per. (m)			19.40
Min Ch El (m)	10.32	Shear (N/m2)			0.16
Alpha	1.00	Stream Power (N/m s)			0.05
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00		569.08
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00		255.65

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.74	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	12.71	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			35.30
E.G. Slope (m/m)	0.000061	Area (m2)			35.30
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	18.29	Top Width (m)			18.29
Vel Total (m/s)	0.76	Avg. Vel. (m/s)			0.76
Max Chl Dpth (m)	2.39	Hydr. Depth (m)			1.93
Conv. Total (m3/s)	3464.9	Conv. (m3/s)			3464.9

Length Wtd. (m)	200.00	Wetted Per. (m)	19.76
Min Ch El (m)	10.32	Shear (N/m2)	1.06
Alpha	1.00	Stream Power (N/m s)	0.81
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	470.00
C & E Loss (m)	0.00	Cum SA (1000 m2)	243.66

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.86	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.83	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		37.61	
E.G. Slope (m/m)	0.000051	Area (m2)		37.61	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.66	Top Width (m)		18.66	
Vel Total (m/s)	0.72	Avg. Vel. (m/s)		0.72	
Max Chl Dpth (m)	2.52	Hydr. Depth (m)		2.02	
Conv. Total (m3/s)	3793.8	Conv. (m3/s)		3793.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.21	
Min Ch El (m)	10.32	Shear (N/m2)		0.92	
Alpha	1.00	Stream Power (N/m s)		0.66	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		535.74	
C & E Loss (m)	0.00	Cum SA (1000 m2)		253.12	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	13.09	Element	Left OB	Channel	Right OB

Vel Head (m)	0.02	Wt. n-Val.			0.015
W.S. Elev (m)	13.07	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			42.08
E.G. Slope (m/m)	0.000037	Area (m2)			42.08
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	19.36	Top Width (m)			19.36
Vel Total (m/s)	0.64	Avg. Vel. (m/s)			0.64
Max Chl Dpth (m)	2.75	Hydr. Depth (m)			2.17
Conv. Total (m3/s)	4451.7	Conv. (m3/s)			4451.7
Length Wtd. (m)	200.00	Wetted Per. (m)			21.05
Min Ch El (m)	10.32	Shear (N/m2)			0.72
Alpha	1.00	Stream Power (N/m s)			0.46
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	625.48	0.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	256.49	1.01

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 72

INPUT
Description:
Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.3461	14.0844	13.7461	14.1547	13.7461	14.2547	15.0311	14.2547	20.8611	10.3055
26.3614	10.3052	31.9199	10.3048	37.2608	14.0761	38.6744	14.0761	38.6744	13.9761
42.2032	13.9966								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.3461	.015	15.0311	.015	37.2608	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.0311	37.2608	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.88	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.87	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		20.80	
E.G. Slope (m/m)	0.000038	Area (m2)		20.80	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.58	Top Width (m)		15.58	
Vel Total (m/s)	0.48	Avg. Vel. (m/s)		0.48	
Max Chl Dpth (m)	1.56	Hydr. Depth (m)		1.34	
Conv. Total (m3/s)	1614.5	Conv. (m3/s)		1614.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		16.55	
Min Ch El (m)	10.30	Shear (N/m2)		0.47	
Alpha	1.00	Stream Power (N/m s)		0.23	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		351.37	
C & E Loss (m)	0.00	Cum SA (1000 m2)		222.46	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.20	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.19	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		25.97	
E.G. Slope (m/m)	0.000020	Area (m2)		25.97	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.51	Top Width (m)		16.51	
Vel Total (m/s)	0.39	Avg. Vel. (m/s)		0.39	

Max Chl Dpth (m)	1.88	Hydr. Depth (m)	1.57
Conv. Total (m3/s)	2236.8	Conv. (m3/s)	2236.8
Length Wtd. (m)	200.00	Wetted Per. (m)	17.68
Min Ch El (m)	10.30	Shear (N/m2)	0.29
Alpha	1.00	Stream Power (N/m s)	0.11
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	448.63
C & E Loss (m)	0.00	Cum SA (1000 m2)	237.58

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.61	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.61	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		33.09	
E.G. Slope (m/m)	0.000010	Area (m2)		33.09	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.71	Top Width (m)		17.71	
Vel Total (m/s)	0.30	Avg. Vel. (m/s)		0.30	
Max Chl Dpth (m)	2.30	Hydr. Depth (m)		1.87	
Conv. Total (m3/s)	3177.2	Conv. (m3/s)		3177.2	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.15	
Min Ch El (m)	10.30	Shear (N/m2)		0.17	
Alpha	1.00	Stream Power (N/m s)		0.05	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	562.43	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	252.08	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.73	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.70	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		34.69	
E.G. Slope (m/m)	0.000063	Area (m2)		34.69	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.97	Top Width (m)		17.97	
Vel Total (m/s)	0.78	Avg. Vel. (m/s)		0.78	
Max Chl Dpth (m)	2.39	Hydr. Depth (m)		1.93	
Conv. Total (m3/s)	3399.8	Conv. (m3/s)		3399.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.46	
Min Ch El (m)	10.30	Shear (N/m2)		1.10	
Alpha	1.00	Stream Power (N/m s)		0.86	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		463.00	
C & E Loss (m)	0.00	Cum SA (1000 m2)		240.03	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.85	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.82	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		37.00	
E.G. Slope (m/m)	0.000052	Area (m2)		37.00	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.34	Top Width (m)		18.34	
Vel Total (m/s)	0.73	Avg. Vel. (m/s)		0.73	

Max Chl Dpth (m)	2.52	Hydr. Depth (m)	2.02
Conv. Total (m3/s)	3728.1	Conv. (m3/s)	3728.1
Length Wtd. (m)	200.00	Wetted Per. (m)	19.91
Min Ch El (m)	10.30	Shear (N/m2)	0.96
Alpha	1.00	Stream Power (N/m s)	0.70
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	528.28
C & E Loss (m)	0.00	Cum SA (1000 m2)	249.42

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	13.08	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	13.06	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		41.45	
E.G. Slope (m/m)	0.000038	Area (m2)		41.45	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.03	Top Width (m)		19.03	
Vel Total (m/s)	0.65	Avg. Vel. (m/s)		0.65	
Max Chl Dpth (m)	2.76	Hydr. Depth (m)		2.18	
Conv. Total (m3/s)	4382.5	Conv. (m3/s)		4382.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.75	
Min Ch El (m)	10.30	Shear (N/m2)		0.74	
Alpha	1.00	Stream Power (N/m s)		0.48	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	617.13	0.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	252.65	1.01

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 71

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.0545	13.8827	10.3965	14.0515	10.864	14.0941	11.805	14.0181	11.805	14.1941
12.7766	14.1941	18.5522	10.2926	24.0852	10.2922	29.6736	10.2918	35.1844	14.159
36.2672	14.159	36.2672	14.059	39.7812	14.059	41.5387	13.8966		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.0545	.015	12.7766	.015	35.1844	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
12.7766	35.1844	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.87	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.86	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		21.00	
E.G. Slope (m/m)	0.000037	Area (m2)		21.00	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.67	Top Width (m)		15.67	
Vel Total (m/s)	0.48	Avg. Vel. (m/s)		0.48	
Max Chl Dpth (m)	1.57	Hydr. Depth (m)		1.34	
Conv. Total (m3/s)	1634.2	Conv. (m3/s)		1634.2	
Length Wtd. (m)	200.00	Wetted Per. (m)		16.65	
Min Ch El (m)	10.29	Shear (N/m2)		0.46	
Alpha	1.00	Stream Power (N/m s)		0.22	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		347.19	
C & E Loss (m)	0.00	Cum SA (1000 m2)		219.33	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.19	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.19	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		26.26	
E.G. Slope (m/m)	0.000019	Area (m2)		26.26	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.62	Top Width (m)		16.62	
Vel Total (m/s)	0.38	Avg. Vel. (m/s)		0.38	
Max Chl Dpth (m)	1.89	Hydr. Depth (m)		1.58	
Conv. Total (m3/s)	2269.3	Conv. (m3/s)		2269.3	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.80	
Min Ch El (m)	10.29	Shear (N/m2)		0.28	
Alpha	1.00	Stream Power (N/m s)		0.11	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		443.40	
C & E Loss (m)	0.00	Cum SA (1000 m2)		234.26	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.61	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.60	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		33.47	
E.G. Slope (m/m)	0.000010	Area (m2)		33.47	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	

Top Width (m)	17.84	Top Width (m)			17.84
Vel Total (m/s)	0.30	Avg. Vel. (m/s)			0.30
Max Chl Dpth (m)	2.31	Hydr. Depth (m)			1.88
Conv. Total (m3/s)	3223.5	Conv. (m3/s)			3223.5
Length Wtd. (m)	200.00	Wetted Per. (m)			19.27
Min Ch El (m)	10.29	Shear (N/m2)			0.16
Alpha	1.00	Stream Power (N/m s)			0.05
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00		555.77
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00		248.52

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.71	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	12.68	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			34.89
E.G. Slope (m/m)	0.000062	Area (m2)			34.89
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	18.07	Top Width (m)			18.07
Vel Total (m/s)	0.77	Avg. Vel. (m/s)			0.77
Max Chl Dpth (m)	2.39	Hydr. Depth (m)			1.93
Conv. Total (m3/s)	3422.0	Conv. (m3/s)			3422.0
Length Wtd. (m)	200.00	Wetted Per. (m)			19.55
Min Ch El (m)	10.29	Shear (N/m2)			1.09
Alpha	1.00	Stream Power (N/m s)			0.84
Frctn Loss (m)	0.01	Cum Volume (1000 m3)			456.04
C & E Loss (m)	0.00	Cum SA (1000 m2)			236.43

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.84	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.81	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		37.25	
E.G. Slope (m/m)	0.000052	Area (m2)		37.25	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.44	Top Width (m)		18.44	
Vel Total (m/s)	0.72	Avg. Vel. (m/s)		0.72	
Max Chl Dpth (m)	2.52	Hydr. Depth (m)		2.02	
Conv. Total (m3/s)	3757.9	Conv. (m3/s)		3757.9	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.01	
Min Ch El (m)	10.29	Shear (N/m2)		0.94	
Alpha	1.00	Stream Power (N/m s)		0.68	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		520.86	
C & E Loss (m)	0.00	Cum SA (1000 m2)		245.74	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	13.07	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	13.05	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		41.78	
E.G. Slope (m/m)	0.000037	Area (m2)		41.78	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	

Top Width (m)	19.14	Top Width (m)	19.14		
Vel Total (m/s)	0.65	Avg. Vel. (m/s)	0.65		
Max Chl Dpth (m)	2.76	Hydr. Depth (m)	2.18		
Conv. Total (m3/s)	4425.3	Conv. (m3/s)	4425.3		
Length Wtd. (m)	200.00	Wetted Per. (m)	20.86		
Min Ch El (m)	10.29	Shear (N/m2)	0.73		
Alpha	1.00	Stream Power (N/m s)	0.47		
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	608.80	0.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	248.84	1.01

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 70

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.0727	13.7347	13.029	13.8531	16.2507	13.7946	16.2507	13.8903	16.7809	13.8903
22.2069	10.2796	27.8481	10.2792	33.5557	10.2789	39.1127	14.152	40.3373	14.152
40.3373	14.052	43.5317	14.0614	44.8566	13.854	46.339	13.819		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.0727	.015	16.7809	.015	39.1127	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.7809	39.1127	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.86	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.85	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		21.49	

E.G. Slope (m/m)	0.000035	Area (m2)	21.49
Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	15.97	Top Width (m)	15.97
Vel Total (m/s)	0.47	Avg. Vel. (m/s)	0.47
Max Chl Dpth (m)	1.57	Hydr. Depth (m)	1.35
Conv. Total (m3/s)	1679.5	Conv. (m3/s)	1679.5
Length Wtd. (m)	200.00	Wetted Per. (m)	16.94
Min Ch El (m)	10.28	Shear (N/m2)	0.44
Alpha	1.00	Stream Power (N/m s)	0.21
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	342.94
C & E Loss (m)	0.00	Cum SA (1000 m2)	216.17

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.19	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.18	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		26.91	
E.G. Slope (m/m)	0.000018	Area (m2)		26.91	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.94	Top Width (m)		16.94	
Vel Total (m/s)	0.37	Avg. Vel. (m/s)		0.37	
Max Chl Dpth (m)	1.90	Hydr. Depth (m)		1.59	
Conv. Total (m3/s)	2336.6	Conv. (m3/s)		2336.6	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.11	
Min Ch El (m)	10.28	Shear (N/m2)		0.27	
Alpha	1.00	Stream Power (N/m s)		0.10	

Frctn Loss (m)	0.00	Cum Volume (1000 m3)	438.08
C & E Loss (m)	0.00	Cum SA (1000 m2)	230.91

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.61	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.60	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		34.29	
E.G. Slope (m/m)	0.000009	Area (m2)		34.29	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.17	Top Width (m)		18.17	
Vel Total (m/s)	0.29	Avg. Vel. (m/s)		0.29	
Max Chl Dpth (m)	2.32	Hydr. Depth (m)		1.89	
Conv. Total (m3/s)	3318.2	Conv. (m3/s)		3318.2	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.60	
Min Ch El (m)	10.28	Shear (N/m2)		0.16	
Alpha	1.00	Stream Power (N/m s)		0.05	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	549.00	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	244.92	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.70	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.67	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.56	

E.G. Slope (m/m)	0.000060	Area (m2)	35.56
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	18.38	Top Width (m)	18.38
Vel Total (m/s)	0.76	Avg. Vel. (m/s)	0.76
Max Chl Dpth (m)	2.39	Hydr. Depth (m)	1.94
Conv. Total (m3/s)	3497.0	Conv. (m3/s)	3497.0
Length Wtd. (m)	200.00	Wetted Per. (m)	19.85
Min Ch El (m)	10.28	Shear (N/m2)	1.05
Alpha	1.00	Stream Power (N/m s)	0.80
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	448.99
C & E Loss (m)	0.00	Cum SA (1000 m2)	232.79

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.83	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.80	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		38.00	
E.G. Slope (m/m)	0.000049	Area (m2)		38.00	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.76	Top Width (m)		18.76	
Vel Total (m/s)	0.71	Avg. Vel. (m/s)		0.71	
Max Chl Dpth (m)	2.52	Hydr. Depth (m)		2.03	
Conv. Total (m3/s)	3845.4	Conv. (m3/s)		3845.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.32	
Min Ch El (m)	10.28	Shear (N/m2)		0.90	
Alpha	1.00	Stream Power (N/m s)		0.64	

Frctn Loss (m)	0.01	Cum Volume (1000 m3)	513.33
C & E Loss (m)	0.00	Cum SA (1000 m2)	242.02

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	13.07	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	13.05	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		42.66	
E.G. Slope (m/m)	0.000035	Area (m2)		42.66	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.48	Top Width (m)		19.48	
Vel Total (m/s)	0.63	Avg. Vel. (m/s)		0.63	
Max Chl Dpth (m)	2.77	Hydr. Depth (m)		2.19	
Conv. Total (m3/s)	4534.7	Conv. (m3/s)		4534.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.18	
Min Ch El (m)	10.28	Shear (N/m2)		0.70	
Alpha	1.00	Stream Power (N/m s)		0.44	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	600.36	0.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	244.97	1.01

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 69

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.7781	13.8282	8.8099	13.9313	10.3625	13.9725	11.8006	13.9309	11.8006	14.0164

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 12.6628 14.0164 18.2119 10.2667  23.817 10.2663 29.5027 10.2659 34.0852 13.5318
 34.8427 13.5318 34.8427 13.4775 36.5016  13.629 39.5623  13.539

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  7.7781    .015 12.6628    .015 34.0852    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       12.6628 34.0852              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.86    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.                           0.015

  W.S. Elev (m)            11.85    Reach Len. (m)          168.76     168.76
 168.76
  Crit W.S. (m)            10.69    Flow Area (m2)                       21.43

  E.G. Slope (m/m)      0.000036    Area (m2)                            21.43

  Q Total (m3/s)           10.00    Flow (m3/s)                          10.00

  Top Width (m)            15.84    Top Width (m)                        15.84

  Vel Total (m/s)           0.47    Avg. Vel. (m/s)                       0.47

  Max Chl Dpth (m)          1.58    Hydr. Depth (m)                       1.35

  Conv. Total (m3/s)      1677.7    Conv. (m3/s)                        1677.7

  Length Wtd. (m)         168.76    Wetted Per. (m)                      16.83

  Min Ch El (m)            10.27    Shear (N/m2)                          0.44

  Alpha                     1.00    Stream Power (N/m s)                  0.21

  Frctn Loss (m)            0.01    Cum Volume (1000 m3)                338.65

  C & E Loss (m)            0.00    Cum SA (1000 m2)                    212.99



CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)            12.19    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.                           0.015
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W.S. Elev (m)	12.18	Reach Len. (m)	168.76	168.76	168.76
Crit W.S. (m)	10.69	Flow Area (m2)			26.86
E.G. Slope (m/m)	0.000018	Area (m2)			26.86
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	16.80	Top Width (m)			16.80
Vel Total (m/s)	0.37	Avg. Vel. (m/s)			0.37
Max Chl Dpth (m)	1.91	Hydr. Depth (m)			1.60
Conv. Total (m3/s)	2338.2	Conv. (m3/s)			2338.2
Length Wtd. (m)	168.76	Wetted Per. (m)			18.00
Min Ch El (m)	10.27	Shear (N/m2)			0.27
Alpha	1.00	Stream Power (N/m s)			0.10
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			432.71
C & E Loss (m)	0.00	Cum SA (1000 m2)			227.53

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.60	Reach Len. (m)	168.76	168.76	168.76
Crit W.S. (m)	10.69	Flow Area (m2)			34.20
E.G. Slope (m/m)	0.000009	Area (m2)			34.20
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	18.02	Top Width (m)			18.02
Vel Total (m/s)	0.29	Avg. Vel. (m/s)			0.29
Max Chl Dpth (m)	2.33	Hydr. Depth (m)			1.90
Conv. Total (m3/s)	3318.8	Conv. (m3/s)			3318.8
Length Wtd. (m)	168.76	Wetted Per. (m)			19.48

Min Ch El (m)	10.27	Shear (N/m2)		0.16
Alpha	1.00	Stream Power (N/m s)		0.05
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	542.15
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	241.30

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.69	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.66	Reach Len. (m)	168.76	168.76
168.76				
Crit W.S. (m)	11.07	Flow Area (m2)		35.27
E.G. Slope (m/m)	0.000061	Area (m2)		35.27
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.19	Top Width (m)		18.19
Vel Total (m/s)	0.77	Avg. Vel. (m/s)		0.77
Max Chl Dpth (m)	2.39	Hydr. Depth (m)		1.94
Conv. Total (m3/s)	3469.1	Conv. (m3/s)		3469.1
Length Wtd. (m)	168.76	Wetted Per. (m)		19.69
Min Ch El (m)	10.27	Shear (N/m2)		1.06
Alpha	1.00	Stream Power (N/m s)		0.81
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		441.91
C & E Loss (m)	0.00	Cum SA (1000 m2)		229.13

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.82	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015

W.S. Elev (m)	12.79	Reach Len. (m)	168.76	168.76	168.76
Crit W.S. (m)	11.07	Flow Area (m2)			37.73
E.G. Slope (m/m)	0.000050	Area (m2)			37.73
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	18.57	Top Width (m)			18.57
Vel Total (m/s)	0.72	Avg. Vel. (m/s)			0.72
Max Chl Dpth (m)	2.53	Hydr. Depth (m)			2.03
Conv. Total (m3/s)	3819.8	Conv. (m3/s)			3819.8
Length Wtd. (m)	168.76	Wetted Per. (m)			20.16
Min Ch El (m)	10.27	Shear (N/m2)			0.92
Alpha	1.00	Stream Power (N/m s)			0.66
Frctn Loss (m)	0.01	Cum Volume (1000 m3)			505.76
C & E Loss (m)	0.00	Cum SA (1000 m2)			238.28

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	13.06	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.			0.015
W.S. Elev (m)	13.04	Reach Len. (m)	168.76	168.76	168.76
Crit W.S. (m)	11.07	Flow Area (m2)			42.39
E.G. Slope (m/m)	0.000036	Area (m2)			42.39
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	19.28	Top Width (m)			19.28
Vel Total (m/s)	0.64	Avg. Vel. (m/s)			0.64
Max Chl Dpth (m)	2.77	Hydr. Depth (m)			2.20
Conv. Total (m3/s)	4511.2	Conv. (m3/s)			4511.2
Length Wtd. (m)	168.76	Wetted Per. (m)			21.02

Min Ch El (m)	10.27	Shear (N/m2)			0.71
Alpha	1.00	Stream Power (N/m s)			0.45
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	591.85	0.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	241.10	1.01

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 68.5

INPUT
Description:
Distance from Upstream XS = 168.76
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
7.43	15.08	13.83	36.58	15.08	13.83

Upstream Bridge Cross Section Data
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.7781	13.8282	8.8099	13.9313	10.3625	13.9725	11.8006	13.9309	11.8006	14.0164
12.6628	14.0164	18.2119	10.2667	23.817	10.2663	29.5027	10.2659	34.0852	13.5318
34.8427	13.5318	34.8427	13.4775	36.5016	13.629	39.5623	13.539		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.7781	.015	12.6628	.015	34.0852	.015

Bank Sta: Left	Right	Coeff Contr.	Expan.
12.6628	34.0852	.0015	.01

Downstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
2.629	15.08	13.74	31.78	15.08	13.74

Downstream Bridge Cross Section Data
Station Elevation Data num= 12

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
3.3828	13.5619	7.2999	13.6619	7.2999	13.5619	8.3937	13.6619	13.5751	10.2537
19.0106	10.2533	24.5373	10.253	30.0209	14.0273	30.9051	13.9379	30.9051	14.0273
32.0475	13.9621	34.6509	13.8786						

Manning's n Values num= 3

```
     Sta   n Val     Sta   n Val     Sta   n Val
  3.3828    .015  8.3937    .015 30.0209    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
        8.3937 30.0209          .0015      .01

Upstream Embankment side slope              =       2 horiz. to 1.0 vertical
Downstream Embankment side slope            =       2 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
    7.43   13.83   15.39   13.83
Downstream     num=       2
     Sta    Elev     Sta    Elev
    2.63    13.8   10.59    13.8

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   32.39   13.83   36.58   13.83
Downstream     num=       2
     Sta    Elev     Sta    Elev
   27.59    13.8   31.78    13.8

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.86    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.85    E.G. Elev (m)              11.85
```

11.85

Q Total (m3/s)	10.00	W.S. Elev (m)	11.84
11.84			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.69
10.68			
Q Weir (m3/s)		Max Chl Dpth (m)	1.57
1.59			
Weir Sta Lft (m)		Vel Total (m/s)	0.47
0.47			
Weir Sta Rgt (m)		Flow Area (m2)	21.33
21.12			
Weir Submerg		Froude # Chl	0.13
0.13			
Weir Max Depth (m)		Specif Force (m3)	16.32
16.24			
Min El Weir Flow (m)	13.88	Hydr Depth (m)	1.35
1.35			
Min El Prs (m)	13.83	W.P. Total (m)	16.81
16.64			
Delta EG (m)	0.01	Conv. Total (m3/s)	1666.5
1650.4			
Delta WS (m)	0.01	Top Width (m)	15.83
15.68			
BR Open Area (m2)	53.14	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.47	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.45
0.46			
BR Sel Method	Energy only	Power Total (N/m s)	0.21
0.22			

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.19	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.18	E.G. Elev (m)	12.18
12.18			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.18
12.18			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.69
10.68			
Q Weir (m3/s)		Max Chl Dpth (m)	1.91
1.92			
Weir Sta Lft (m)		Vel Total (m/s)	0.37
0.38			
Weir Sta Rgt (m)		Flow Area (m2)	26.81
26.56			
Weir Submerg		Froude # Chl	0.09
0.10			
Weir Max Depth (m)		Specif Force (m3)	24.30

24.14

Min El Weir Flow (m)	13.88	Hydr Depth (m)	1.60
1.59			
Min El Prs (m)	13.83	W.P. Total (m)	17.99
17.85			
Delta EG (m)	0.00	Conv. Total (m3/s)	2331.7
2307.4			
Delta WS (m)	0.00	Top Width (m)	16.79
16.68			
BR Open Area (m2)	53.14	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.38	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.27
0.27			
BR Sel Method	Energy only	Power Total (N/m s)	0.10
0.10			

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.60	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.60	E.G. Elev (m)	12.60
12.60			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.60
12.60			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.69
10.68			
Q Weir (m3/s)		Max Chl Dpth (m)	2.33
2.35			
Weir Sta Lft (m)		Vel Total (m/s)	0.29
0.30			
Weir Sta Rgt (m)		Flow Area (m2)	33.99
33.73			
Weir Submerg		Froude # Chl	0.07
0.07			
Weir Max Depth (m)		Specif Force (m3)	37.08
36.83			
Min El Weir Flow (m)	13.88	Hydr Depth (m)	2.00
1.98			
Min El Prs (m)	13.83	W.P. Total (m)	18.94
18.87			
Delta EG (m)	0.00	Conv. Total (m3/s)	3346.1
3312.7			
Delta WS (m)	0.00	Top Width (m)	17.00
17.00			
BR Open Area (m2)	53.14	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.30	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.16

0.16
BR Sel Method Energy only Power Total (N/m s) 0.05
0.05

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m) 12.69 Element Inside BR US
Inside BR DS
W.S. US. (m) 12.66 E.G. Elev (m) 12.68
12.68
Q Total (m3/s) 27.00 W.S. Elev (m) 12.65
12.65
Q Bridge (m3/s) 27.00 Crit W.S. (m) 11.07
11.07
Q Weir (m3/s) Max Chl Dpth (m) 2.38
2.39
Weir Sta Lft (m) Vel Total (m/s) 0.78
0.78
Weir Sta Rgt (m) Flow Area (m2) 34.84
34.57
Weir Submerg Froude # Chl 0.17
0.17
Weir Max Depth (m) Specif Force (m3) 40.63
40.35
Min El Weir Flow (m) 13.88 Hydr Depth (m) 2.05
2.03
Min El Prs (m) 13.83 W.P. Total (m) 19.04
18.96
Delta EG (m) 0.01 Conv. Total (m3/s) 3473.8
3438.4
Delta WS (m) 0.01 Top Width (m) 17.00
17.00
BR Open Area (m2) 53.14 Frctn Loss (m) 0.00
0.00
BR Open Vel (m/s) 0.78 C & E Loss (m) 0.00
0.00
BR Sluice Coef Shear Total (N/m2) 1.08
1.10
BR Sel Method Energy only Power Total (N/m s) 0.84
0.86

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m) 12.82 Element Inside BR US
Inside BR DS
W.S. US. (m) 12.79 E.G. Elev (m) 12.81
12.81
Q Total (m3/s) 27.00 W.S. Elev (m) 12.78

12.78			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	11.07
11.07			
Q Weir (m3/s)		Max Chl Dpth (m)	2.52
2.53			
Weir Sta Lft (m)		Vel Total (m/s)	0.73
0.73			
Weir Sta Rgt (m)		Flow Area (m2)	37.13
36.86			
Weir Submerg		Froude # Chl	0.16
0.16			
Weir Max Depth (m)		Specif Force (m3)	45.36
45.04			
Min El Weir Flow (m)	13.88	Hydr Depth (m)	2.18
2.17			
Min El Prs (m)	13.83	W.P. Total (m)	19.31
19.24			
Delta EG (m)	0.01	Conv. Total (m3/s)	3827.6
3791.9			
Delta WS (m)	0.01	Top Width (m)	17.00
17.00			
BR Open Area (m2)	53.14	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.73	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.94
0.95			
BR Sel Method	Energy only	Power Total (N/m s)	0.68
0.70			

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	13.06	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	13.04	E.G. Elev (m)	13.05
13.05			
Q Total (m3/s)	27.00	W.S. Elev (m)	13.03
13.03			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	11.07
11.07			
Q Weir (m3/s)		Max Chl Dpth (m)	2.77
2.78			
Weir Sta Lft (m)		Vel Total (m/s)	0.65
0.66			
Weir Sta Rgt (m)		Flow Area (m2)	41.36
41.10			
Weir Submerg		Froude # Chl	0.13
0.13			
Weir Max Depth (m)		Specif Force (m3)	54.91
54.54			
Min El Weir Flow (m)	13.88	Hydr Depth (m)	2.43

```
 2.42
  Min El Prs (m)              13.83    W.P. Total (m)              19.81
19.73
  Delta EG (m)                 0.01    Conv. Total (m3/s)         4504.1
4467.8
  Delta WS (m)                 0.01    Top Width (m)               17.00
17.00
  BR Open Area (m2)           53.14    Frctn Loss (m)               0.00
 0.00
  BR Open Vel (m/s)            0.66    C & E Loss (m)               0.00
 0.00
  BR Sluice Coef                       Shear Total (N/m2)           0.74
 0.75
  BR Sel Method         Energy only    Power Total (N/m s)          0.48
 0.49



CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 68

INPUT
Description:
Station Elevation Data    num=      12
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  3.3828 13.5619  7.2999 13.6619  7.2999 13.5619  8.3937 13.6619 13.5751 10.2537
 19.0106 10.2533 24.5373  10.253 30.0209 14.0273 30.9051 13.9379 30.9051 14.0273
 32.0475 13.9621 34.6509 13.8786

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  3.3828    .015  8.3937    .015 30.0209    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
        8.3937 30.0209              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.85    Element                Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.                          0.015

  W.S. Elev (m)            11.84    Reach Len. (m)          200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)                      21.11

  E.G. Slope (m/m)      0.000037    Area (m2)                           21.11

  Q Total (m3/s)           10.00    Flow (m3/s)                         10.00
```

Top Width (m)	15.67	Top Width (m)	15.67
Vel Total (m/s)	0.47	Avg. Vel. (m/s)	0.47
Max Chl Dpth (m)	1.59	Hydr. Depth (m)	1.35
Conv. Total (m3/s)	1648.6	Conv. (m3/s)	1648.6
Length Wtd. (m)	200.00	Wetted Per. (m)	16.64
Min Ch El (m)	10.25	Shear (N/m2)	0.46
Alpha	1.00	Stream Power (N/m s)	0.22
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	334.38
C & E Loss (m)	0.00	Cum SA (1000 m2)	209.82

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.18	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.17	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		26.55	
E.G. Slope (m/m)	0.000019	Area (m2)		26.55	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.67	Top Width (m)		16.67	
Vel Total (m/s)	0.38	Avg. Vel. (m/s)		0.38	
Max Chl Dpth (m)	1.92	Hydr. Depth (m)		1.59	
Conv. Total (m3/s)	2306.4	Conv. (m3/s)		2306.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.85	
Min Ch El (m)	10.25	Shear (N/m2)		0.27	
Alpha	1.00	Stream Power (N/m s)		0.10	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		427.35	
C & E Loss (m)	0.00	Cum SA (1000 m2)		224.18	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.60	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		33.88	
E.G. Slope (m/m)	0.000009	Area (m2)		33.88	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.93	Top Width (m)		17.93	
Vel Total (m/s)	0.30	Avg. Vel. (m/s)		0.30	
Max Chl Dpth (m)	2.35	Hydr. Depth (m)		1.89	
Conv. Total (m3/s)	3279.8	Conv. (m3/s)		3279.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.37	
Min Ch El (m)	10.25	Shear (N/m2)		0.16	
Alpha	1.00	Stream Power (N/m s)		0.05	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	535.34	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	237.81	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.68	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.65	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		34.75	
E.G. Slope (m/m)	0.000063	Area (m2)		34.75	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	

Top Width (m)	18.08	Top Width (m)	18.08
Vel Total (m/s)	0.78	Avg. Vel. (m/s)	0.78
Max Chl Dpth (m)	2.39	Hydr. Depth (m)	1.92
Conv. Total (m3/s)	3400.1	Conv. (m3/s)	3400.1
Length Wtd. (m)	200.00	Wetted Per. (m)	19.54
Min Ch El (m)	10.25	Shear (N/m2)	1.10
Alpha	1.00	Stream Power (N/m s)	0.85
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	434.91
C & E Loss (m)	0.00	Cum SA (1000 m2)	225.62

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.81	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.78	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		37.23	
E.G. Slope (m/m)	0.000052	Area (m2)		37.23	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.48	Top Width (m)		18.48	
Vel Total (m/s)	0.73	Avg. Vel. (m/s)		0.73	
Max Chl Dpth (m)	2.53	Hydr. Depth (m)		2.01	
Conv. Total (m3/s)	3752.2	Conv. (m3/s)		3752.2	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.02	
Min Ch El (m)	10.25	Shear (N/m2)		0.94	
Alpha	1.00	Stream Power (N/m s)		0.68	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		498.29	
C & E Loss (m)	0.00	Cum SA (1000 m2)		234.73	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	13.05	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	13.03	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		41.93	
E.G. Slope (m/m)	0.000037	Area (m2)		41.93	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.22	Top Width (m)		19.22	
Vel Total (m/s)	0.64	Avg. Vel. (m/s)		0.64	
Max Chl Dpth (m)	2.78	Hydr. Depth (m)		2.18	
Conv. Total (m3/s)	4444.1	Conv. (m3/s)		4444.1	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.92	
Min Ch El (m)	10.25	Shear (N/m2)		0.73	
Alpha	1.00	Stream Power (N/m s)		0.47	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	583.49	0.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	237.48	1.01

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 67

INPUT
Description:
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.0987	13.4793	7.6054	13.6348	11.2226	13.6432	11.2226	13.7444	12.1366	13.7444
17.2298	10.2407	22.7228	10.2404	28.2211	10.24	32.9954	13.5376	34.2181	13.5376
34.2181	13.4452	35.7586	13.4683	37.894	13.2374				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.0987	.015	12.1366	.015	32.9954	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
12.1366	32.9954	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.84	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.83	Reach Len. (m)	25.22	25.22	25.22
Crit W.S. (m)	10.67	Flow Area (m2)		21.15	
E.G. Slope (m/m)	0.000036	Area (m2)		21.15	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.61	Top Width (m)		15.61	
Vel Total (m/s)	0.47	Avg. Vel. (m/s)		0.47	
Max Chl Dpth (m)	1.59	Hydr. Depth (m)		1.36	
Conv. Total (m3/s)	1657.3	Conv. (m3/s)		1657.3	
Length Wtd. (m)	25.22	Wetted Per. (m)		16.60	
Min Ch El (m)	10.24	Shear (N/m2)		0.45	
Alpha	1.00	Stream Power (N/m s)		0.22	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		330.15	
C & E Loss (m)	0.00	Cum SA (1000 m2)		206.69	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.18	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.17	Reach Len. (m)	25.22	25.22	25.22
Crit W.S. (m)	10.67	Flow Area (m2)		26.62	

E.G. Slope (m/m)	0.000019	Area (m2)	26.62
Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	16.59	Top Width (m)	16.59
Vel Total (m/s)	0.38	Avg. Vel. (m/s)	0.38
Max Chl Dpth (m)	1.93	Hydr. Depth (m)	1.60
Conv. Total (m3/s)	2322.0	Conv. (m3/s)	2322.0
Length Wtd. (m)	25.22	Wetted Per. (m)	17.79
Min Ch El (m)	10.24	Shear (N/m2)	0.27
Alpha	1.00	Stream Power (N/m s)	0.10
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	422.03
C & E Loss (m)	0.00	Cum SA (1000 m2)	220.85

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.60	Reach Len. (m)	25.22	25.22	25.22
Crit W.S. (m)	10.67	Flow Area (m2)		33.95	
E.G. Slope (m/m)	0.000009	Area (m2)		33.95	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.83	Top Width (m)		17.83	
Vel Total (m/s)	0.29	Avg. Vel. (m/s)		0.29	
Max Chl Dpth (m)	2.36	Hydr. Depth (m)		1.90	
Conv. Total (m3/s)	3299.0	Conv. (m3/s)		3299.0	
Length Wtd. (m)	25.22	Wetted Per. (m)		19.29	
Min Ch El (m)	10.24	Shear (N/m2)		0.16	
Alpha	1.00	Stream Power (N/m s)		0.05	

Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	528.55
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	234.23

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.66	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.63	Reach Len. (m)	25.22	25.22
25.22				
Crit W.S. (m)	11.06	Flow Area (m2)		34.61
E.G. Slope (m/m)	0.000063	Area (m2)		34.61
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	17.93	Top Width (m)		17.93
Vel Total (m/s)	0.78	Avg. Vel. (m/s)		0.78
Max Chl Dpth (m)	2.39	Hydr. Depth (m)		1.93
Conv. Total (m3/s)	3391.1	Conv. (m3/s)		3391.1
Length Wtd. (m)	25.22	Wetted Per. (m)		19.42
Min Ch El (m)	10.24	Shear (N/m2)		1.11
Alpha	1.00	Stream Power (N/m s)		0.86
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		427.97
C & E Loss (m)	0.00	Cum SA (1000 m2)		222.01

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.80	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.77	Reach Len. (m)	25.22	25.22
25.22				
Crit W.S. (m)	11.06	Flow Area (m2)		37.11

E.G. Slope (m/m)	0.000052	Area (m2)	37.11
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	18.34	Top Width (m)	18.34
Vel Total (m/s)	0.73	Avg. Vel. (m/s)	0.73
Max Chl Dpth (m)	2.53	Hydr. Depth (m)	2.02
Conv. Total (m3/s)	3747.5	Conv. (m3/s)	3747.5
Length Wtd. (m)	25.22	Wetted Per. (m)	19.91
Min Ch El (m)	10.24	Shear (N/m2)	0.95
Alpha	1.00	Stream Power (N/m s)	0.69
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	490.85
C & E Loss (m)	0.00	Cum SA (1000 m2)	231.05

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	13.05	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	13.02	Reach Len. (m)	25.22	25.22	25.22
Crit W.S. (m)	11.06	Flow Area (m2)		41.84	
E.G. Slope (m/m)	0.000037	Area (m2)		41.84	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.07	Top Width (m)		19.07	
Vel Total (m/s)	0.65	Avg. Vel. (m/s)		0.65	
Max Chl Dpth (m)	2.78	Hydr. Depth (m)		2.19	
Conv. Total (m3/s)	4444.4	Conv. (m3/s)		4444.4	
Length Wtd. (m)	25.22	Wetted Per. (m)		20.80	
Min Ch El (m)	10.24	Shear (N/m2)		0.73	
Alpha	1.00	Stream Power (N/m s)		0.47	

```
  Frctn Loss (m)            0.00    Cum Volume (1000 m3)      0.04     575.12
   0.10
  C & E Loss (m)            0.00    Cum SA (1000 m2)          0.63     233.65
   1.01



BRIDGE


RIVER: SNM
REACH: Canale SNM         RS: 66.5

INPUT
Description:
Distance from Upstream XS =   25.22
Deck/Roadway Width        =       5
Weir Coefficient          =     1.4
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
  8.8258    13.8   13.01  37.054    13.8   13.01

Upstream Bridge Cross Section Data
Station Elevation Data    num=      13
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  7.0987 13.4793  7.6054 13.6348 11.2226 13.6432 11.2226 13.7444 12.1366 13.7444
 17.2298 10.2407 22.7228 10.2404 28.2211   10.24 32.9954 13.5376 34.2181 13.5376
 34.2181 13.4452 35.7586 13.4683  37.894 13.2374

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  7.0987    .015 12.1366    .015 32.9954    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       12.1366 32.9954          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   11.27    13.8    12.9 39.5027    13.8    12.9

Downstream Bridge Cross Section Data
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  7.6427 13.1969    8.98 13.5803 11.2654 13.2958 13.6663 13.2958 13.6663 13.3958
 14.8016 13.3958 19.6719 10.2278 25.1759 10.2274  30.794 10.2271 35.9229 13.7601
 37.2414 13.7601 37.2414 13.6713 38.2901 13.6947      39 13.6029 40.0439 13.6446
  40.557 13.5157

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  7.6427    .015 14.8016    .015 35.9229    .015
```

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Bank Sta: Left   Right    Coeff Contr.   Expan.
       14.8016 35.9229          .0015      .01

Upstream Embankment side slope              =     1.9 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.9 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
    8.82   13.02   16.85   13.02
Downstream     num=       2
     Sta    Elev     Sta    Elev
 11.2746   13.02    19.2   13.02

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   28.85   13.02   37.05   13.02
Downstream     num=       2
     Sta    Elev     Sta    Elev
    31.2   12.94    39.5   12.94

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.84    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.83    E.G. Elev (m)               11.84
11.84
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.83
```

11.83			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.67
10.65			
Q Weir (m3/s)		Max Chl Dpth (m)	1.59
1.60			
Weir Sta Lft (m)		Vel Total (m/s)	0.53
0.52			
Weir Sta Rgt (m)		Flow Area (m2)	18.85
19.06			
Weir Submerg		Froude # Chl	0.14
0.13			
Weir Max Depth (m)		Specif Force (m3)	15.37
15.69			
Min El Weir Flow (m)	13.24	Hydr Depth (m)	1.57
1.59			
Min El Prs (m)	13.01	W.P. Total (m)	14.69
14.79			
Delta EG (m)	0.01	Conv. Total (m3/s)	1483.8
1505.4			
Delta WS (m)	0.01	Top Width (m)	12.00
12.00			
BR Open Area (m2)	31.94	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.53	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.57
0.56			
BR Sel Method	Energy only	Power Total (N/m s)	0.30
0.29			

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.18	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.17	E.G. Elev (m)	12.18
12.18			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.17
12.17			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.67
10.65			
Q Weir (m3/s)		Max Chl Dpth (m)	1.93
1.94			
Weir Sta Lft (m)		Vel Total (m/s)	0.44
0.43			
Weir Sta Rgt (m)		Flow Area (m2)	22.94
23.16			
Weir Submerg		Froude # Chl	0.10
0.10			
Weir Max Depth (m)		Specif Force (m3)	22.40
22.80			
Min El Weir Flow (m)	13.24	Hydr Depth (m)	1.91

1.93			
Min El Prs (m)	13.01	W.P. Total (m)	15.38
15.47			
Delta EG (m)	0.00	Conv. Total (m3/s)	1997.2
2019.9			
Delta WS (m)	0.00	Top Width (m)	12.00
12.00			
BR Open Area (m2)	31.94	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.44	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.37
0.36			
BR Sel Method	Energy only	Power Total (N/m s)	0.16
0.16			

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.60	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.60	E.G. Elev (m)	12.60
12.60			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.59
12.59			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.67
10.65			
Q Weir (m3/s)		Max Chl Dpth (m)	2.35
2.37			
Weir Sta Lft (m)		Vel Total (m/s)	0.36
0.35			
Weir Sta Rgt (m)		Flow Area (m2)	28.06
28.27			
Weir Submerg		Froude # Chl	0.07
0.07			
Weir Max Depth (m)		Specif Force (m3)	33.19
33.68			
Min El Weir Flow (m)	13.24	Hydr Depth (m)	2.34
2.36			
Min El Prs (m)	13.01	W.P. Total (m)	16.23
16.33			
Delta EG (m)	0.00	Conv. Total (m3/s)	2694.8
2718.3			
Delta WS (m)	0.00	Top Width (m)	12.00
12.00			
BR Open Area (m2)	31.94	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.36	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.23
0.23			
BR Sel Method	Energy only	Power Total (N/m s)	0.08

0.08

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.66	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.63	E.G. Elev (m)	12.66
12.66			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.62
12.62			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	11.06
11.04			
Q Weir (m3/s)		Max Chl Dpth (m)	2.38
2.39			
Weir Sta Lft (m)		Vel Total (m/s)	0.95
0.95			
Weir Sta Rgt (m)		Flow Area (m2)	28.32
28.54			
Weir Submerg		Froude # Chl	0.20
0.20			
Weir Max Depth (m)		Specif Force (m3)	36.07
36.55			
Min El Weir Flow (m)	13.24	Hydr Depth (m)	2.36
2.38			
Min El Prs (m)	13.01	W.P. Total (m)	16.27
16.37			
Delta EG (m)	0.02	Conv. Total (m3/s)	2732.0
2755.9			
Delta WS (m)	0.01	Top Width (m)	12.00
12.00			
BR Open Area (m2)	31.94	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.95	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.67
1.64			
BR Sel Method	Energy only	Power Total (N/m s)	1.59
1.55			

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.80	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.77	E.G. Elev (m)	12.80
12.80			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.76
12.76			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	11.06

11.04			
Q Weir (m3/s)		Max Chl Dpth (m)	2.52
2.53			
Weir Sta Lft (m)		Vel Total (m/s)	0.90
0.89			
Weir Sta Rgt (m)		Flow Area (m2)	29.99
30.21			
Weir Submerg		Froude # Chl	0.18
0.18			
Weir Max Depth (m)		Specif Force (m3)	39.99
40.50			
Min El Weir Flow (m)	13.24	Hydr Depth (m)	2.50
2.52			
Min El Prs (m)	13.01	W.P. Total (m)	16.55
16.65			
Delta EG (m)	0.01	Conv. Total (m3/s)	2972.3
2996.3			
Delta WS (m)	0.01	Top Width (m)	12.00
12.00			
BR Open Area (m2)	31.94	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.90	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.47
1.44			
BR Sel Method	Energy only	Power Total (N/m s)	1.32
1.29			

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	13.05	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	13.02	E.G. Elev (m)	13.04
13.04			
Q Total (m3/s)	27.00	W.S. Elev (m)	13.01
13.01			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	11.06
11.04			
Q Weir (m3/s)		Max Chl Dpth (m)	2.77
2.78			
Weir Sta Lft (m)		Vel Total (m/s)	0.82
0.85			
Weir Sta Rgt (m)		Flow Area (m2)	33.05
31.94			
Weir Submerg		Froude # Chl	0.16
0.16			
Weir Max Depth (m)		Specif Force (m3)	47.78
48.28			
Min El Weir Flow (m)	13.24	Hydr Depth (m)	2.75
Min El Prs (m)	13.01	W.P. Total (m)	17.06

28.94
  Delta EG (m)   0.01   Conv. Total (m3/s)   3424.0
2274.6
  Delta WS (m)   0.01   Top Width (m)   12.00

  BR Open Area (m2)   31.94   Frctn Loss (m)   0.00
 0.01
  BR Open Vel (m/s)   0.85   C & E Loss (m)   0.00
 0.00
  BR Sluice Coef   Shear Total (N/m2)   1.18
 1.53
  BR Sel Method   Energy only   Power Total (N/m s)   0.97
 1.29

Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM   RS: 66

INPUT
Description:
Station Elevation Data   num=   16
     Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
  7.6427 13.1969   8.98 13.5803 11.2654 13.2958 13.6663 13.2958 13.6663 13.3958
 14.8016 13.3958 19.6719 10.2278 25.1759 10.2274 30.794 10.2271 35.9229 13.7601
 37.2414 13.7601 37.2414 13.6713 38.2901 13.6947   39 13.6029 40.0439 13.6446
  40.557 13.5157

Manning's n Values   num=   3
     Sta   n Val   Sta   n Val   Sta   n Val
  7.6427   .015 14.8016   .015 35.9229   .015

Bank Sta: Left   Right   Lengths: Left Channel   Right   Coeff Contr.
Expan.
       14.8016 35.9229   200   200   200   .0015   .01

CROSS SECTION OUTPUT Profile #PF 1

  E.G. Elev (m)   11.83   Element   Left OB   Channel
Right OB
  Vel Head (m)   0.01   Wt. n-Val.   0.015

  W.S. Elev (m)   11.82   Reach Len. (m)   200.00   200.00

200.00

Crit W.S. (m)		Flow Area (m2)	21.56
E.G. Slope (m/m)	0.000035	Area (m2)	21.56
Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	15.89	Top Width (m)	15.89
Vel Total (m/s)	0.46	Avg. Vel. (m/s)	0.46
Max Chl Dpth (m)	1.60	Hydr. Depth (m)	1.36
Conv. Total (m3/s)	1692.7	Conv. (m3/s)	1692.7
Length Wtd. (m)	200.00	Wetted Per. (m)	16.86
Min Ch El (m)	10.23	Shear (N/m2)	0.44
Alpha	1.00	Stream Power (N/m s)	0.20
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	326.11
C & E Loss (m)	0.00	Cum SA (1000 m2)	203.92

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.17	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.01	Wt. n-Val.		0.015
W.S. Elev (m)	12.17	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		27.19
E.G. Slope (m/m)	0.000018	Area (m2)		27.19
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	16.92	Top Width (m)		16.92
Vel Total (m/s)	0.37	Avg. Vel. (m/s)		0.37
Max Chl Dpth (m)	1.94	Hydr. Depth (m)		1.61
Conv. Total (m3/s)	2378.3	Conv. (m3/s)		2378.3
Length Wtd. (m)	200.00	Wetted Per. (m)		18.10
Min Ch El (m)	10.23	Shear (N/m2)		0.26

Alpha	1.00	Stream Power (N/m s)	0.10
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	417.02
C & E Loss (m)	0.00	Cum SA (1000 m2)	217.98

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.59	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		34.70	
E.G. Slope (m/m)	0.000009	Area (m2)		34.70	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.20	Top Width (m)		18.20	
Vel Total (m/s)	0.29	Avg. Vel. (m/s)		0.29	
Max Chl Dpth (m)	2.37	Hydr. Depth (m)		1.91	
Conv. Total (m3/s)	3381.7	Conv. (m3/s)		3381.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.64	
Min Ch El (m)	10.23	Shear (N/m2)		0.15	
Alpha	1.00	Stream Power (N/m s)		0.04	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	522.28	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	231.23	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.65	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.62	Reach Len. (m)	200.00	200.00	

200.00

Crit W.S. (m)		Flow Area (m2)	35.14
E.G. Slope (m/m)	0.000061	Area (m2)	35.14
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	18.27	Top Width (m)	18.27
Vel Total (m/s)	0.77	Avg. Vel. (m/s)	0.77
Max Chl Dpth (m)	2.39	Hydr. Depth (m)	1.92
Conv. Total (m3/s)	3443.6	Conv. (m3/s)	3443.6
Length Wtd. (m)	200.00	Wetted Per. (m)	19.72
Min Ch El (m)	10.23	Shear (N/m2)	1.07
Alpha	1.00	Stream Power (N/m s)	0.83
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	421.63
C & E Loss (m)	0.00	Cum SA (1000 m2)	219.01

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.79	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.76	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		37.74
E.G. Slope (m/m)	0.000050	Area (m2)		37.74
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.69	Top Width (m)		18.69
Vel Total (m/s)	0.72	Avg. Vel. (m/s)		0.72
Max Chl Dpth (m)	2.53	Hydr. Depth (m)		2.02
Conv. Total (m3/s)	3813.5	Conv. (m3/s)		3813.5
Length Wtd. (m)	200.00	Wetted Per. (m)		20.23
Min Ch El (m)	10.23	Shear (N/m2)		0.92

Alpha	1.00	Stream Power (N/m s)	0.66
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	484.09
C & E Loss (m)	0.00	Cum SA (1000 m2)	228.00

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	13.03	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	13.01	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		42.56	
E.G. Slope (m/m)	0.000036	Area (m2)		42.56	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.45	Top Width (m)		19.45	
Vel Total (m/s)	0.63	Avg. Vel. (m/s)		0.63	
Max Chl Dpth (m)	2.79	Hydr. Depth (m)		2.19	
Conv. Total (m3/s)	4524.8	Conv. (m3/s)		4524.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.14	
Min Ch El (m)	10.23	Shear (N/m2)		0.70	
Alpha	1.00	Stream Power (N/m s)		0.45	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	567.68	0.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	231.57	1.01

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 65

INPUT
Description:

Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.1795	13.4739	10.8146	13.877	14.8208	13.8212	14.8208	13.9143	15.6543	13.9143
20.6945	10.2149	26.4513	10.2145	32.1737	10.2141	36.9354	13.6356	37.4676	13.6356
37.4676	13.5356	40.179	13.5356	42.5877	13.6221	43.0624	13.4873		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.1795	.015	15.6543	.015	36.9354	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.6543	36.9354	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.83	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.82	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		21.93	
E.G. Slope (m/m)	0.000033	Area (m2)		21.93	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.89	Top Width (m)		15.89	
Vel Total (m/s)	0.46	Avg. Vel. (m/s)		0.46	
Max Chl Dpth (m)	1.60	Hydr. Depth (m)		1.38	
Conv. Total (m3/s)	1736.9	Conv. (m3/s)		1736.9	
Length Wtd. (m)	200.00	Wetted Per. (m)		16.93	
Min Ch El (m)	10.21	Shear (N/m2)		0.42	
Alpha	1.00	Stream Power (N/m s)		0.19	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		321.76	
C & E Loss (m)	0.00	Cum SA (1000 m2)		200.74	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.17	Element	Left OB	Channel

Right OB					
Vel Head (m)	0.01	Wt. n-Val.			0.015
W.S. Elev (m)	12.16	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			27.61
E.G. Slope (m/m)	0.000017	Area (m2)			27.61
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	16.85	Top Width (m)			16.85
Vel Total (m/s)	0.36	Avg. Vel. (m/s)			0.36
Max Chl Dpth (m)	1.95	Hydr. Depth (m)			1.64
Conv. Total (m3/s)	2437.5	Conv. (m3/s)			2437.5
Length Wtd. (m)	200.00	Wetted Per. (m)			18.11
Min Ch El (m)	10.21	Shear (N/m2)			0.25
Alpha	1.00	Stream Power (N/m s)			0.09
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			411.54
C & E Loss (m)	0.00	Cum SA (1000 m2)			214.60

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.59	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			35.09
E.G. Slope (m/m)	0.000008	Area (m2)			35.09
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	18.03	Top Width (m)			18.03
Vel Total (m/s)	0.28	Avg. Vel. (m/s)			0.28
Max Chl Dpth (m)	2.38	Hydr. Depth (m)			1.95
Conv. Total (m3/s)	3452.5	Conv. (m3/s)			3452.5

Length Wtd. (m)	200.00	Wetted Per. (m)		19.57
Min Ch El (m)	10.21	Shear (N/m2)		0.15
Alpha	1.00	Stream Power (N/m s)		0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	515.30
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	227.61

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.64	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.61	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		35.35
E.G. Slope (m/m)	0.000060	Area (m2)		35.35
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.07	Top Width (m)		18.07
Vel Total (m/s)	0.76	Avg. Vel. (m/s)		0.76
Max Chl Dpth (m)	2.39	Hydr. Depth (m)		1.96
Conv. Total (m3/s)	3488.6	Conv. (m3/s)		3488.6
Length Wtd. (m)	200.00	Wetted Per. (m)		19.62
Min Ch El (m)	10.21	Shear (N/m2)		1.06
Alpha	1.00	Stream Power (N/m s)		0.81
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		414.58
C & E Loss (m)	0.00	Cum SA (1000 m2)		215.37

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.78	Element	Left OB	Channel

Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.75	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		37.96
E.G. Slope (m/m)	0.000049	Area (m2)		37.96
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.46	Top Width (m)		18.46
Vel Total (m/s)	0.71	Avg. Vel. (m/s)		0.71
Max Chl Dpth (m)	2.54	Hydr. Depth (m)		2.06
Conv. Total (m3/s)	3864.6	Conv. (m3/s)		3864.6
Length Wtd. (m)	200.00	Wetted Per. (m)		20.11
Min Ch El (m)	10.21	Shear (N/m2)		0.90
Alpha	1.00	Stream Power (N/m s)		0.64
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		476.52
C & E Loss (m)	0.00	Cum SA (1000 m2)		224.29

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	13.03	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.02	Wt. n-Val.		0.015
W.S. Elev (m)	13.01	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		42.76
E.G. Slope (m/m)	0.000035	Area (m2)		42.76
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	19.17	Top Width (m)		19.17
Vel Total (m/s)	0.63	Avg. Vel. (m/s)		0.63
Max Chl Dpth (m)	2.79	Hydr. Depth (m)		2.23
Conv. Total (m3/s)	4583.4	Conv. (m3/s)		4583.4

Length Wtd. (m)	200.00	Wetted Per. (m)			20.98
Min Ch El (m)	10.21	Shear (N/m2)			0.69
Alpha	1.00	Stream Power (N/m s)			0.44
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	559.15	0.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	227.71	1.01

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 64

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.2828	13.505	12.8166	13.4499	13.7105	13.5363	15.0801	13.4787	15.5749	13.5499
15.5749	13.4643	16.5231	13.5499	21.1724	10.2019	26.8835	10.2015	32.5682	10.2012
37.3097	13.562	38.7786	13.4733	38.7786	13.562	39.9629	13.5003	41.8923	13.5167
42.9871	13.435								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.2828	.015	16.5231	.015	37.3097	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.5231	37.3097	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.82	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.81	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		21.95	
E.G. Slope (m/m)	0.000033	Area (m2)		21.95	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.90	Top Width (m)		15.90	

Vel Total (m/s)	0.46	Avg. Vel. (m/s)	0.46
Max Chl Dpth (m)	1.61	Hydr. Depth (m)	1.38
Conv. Total (m3/s)	1740.4	Conv. (m3/s)	1740.4
Length Wtd. (m)	200.00	Wetted Per. (m)	16.93
Min Ch El (m)	10.20	Shear (N/m2)	0.42
Alpha	1.00	Stream Power (N/m s)	0.19
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	317.37
C & E Loss (m)	0.00	Cum SA (1000 m2)	197.56

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.17	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.16	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		27.69	
E.G. Slope (m/m)	0.000017	Area (m2)		27.69	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.88	Top Width (m)		16.88	
Vel Total (m/s)	0.36	Avg. Vel. (m/s)		0.36	
Max Chl Dpth (m)	1.96	Hydr. Depth (m)		1.64	
Conv. Total (m3/s)	2448.1	Conv. (m3/s)		2448.1	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.13	
Min Ch El (m)	10.20	Shear (N/m2)		0.25	
Alpha	1.00	Stream Power (N/m s)		0.09	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		406.01	
C & E Loss (m)	0.00	Cum SA (1000 m2)		211.23	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.59	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.23	
E.G. Slope (m/m)	0.000008	Area (m2)		35.23	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.09	Top Width (m)		18.09	
Vel Total (m/s)	0.28	Avg. Vel. (m/s)		0.28	
Max Chl Dpth (m)	2.39	Hydr. Depth (m)		1.95	
Conv. Total (m3/s)	3469.4	Conv. (m3/s)		3469.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.62	
Min Ch El (m)	10.20	Shear (N/m2)		0.15	
Alpha	1.00	Stream Power (N/m s)		0.04	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	508.27	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	224.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.62	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.59	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.29	
E.G. Slope (m/m)	0.000060	Area (m2)		35.29	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.10	Top Width (m)		18.10	

Vel Total (m/s)	0.77	Avg. Vel. (m/s)	0.77
Max Chl Dpth (m)	2.39	Hydr. Depth (m)	1.95
Conv. Total (m3/s)	3478.6	Conv. (m3/s)	3478.6
Length Wtd. (m)	200.00	Wetted Per. (m)	19.63
Min Ch El (m)	10.20	Shear (N/m2)	1.06
Alpha	1.00	Stream Power (N/m s)	0.81
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	407.52
C & E Loss (m)	0.00	Cum SA (1000 m2)	211.76

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.77	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.74	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		37.95	
E.G. Slope (m/m)	0.000049	Area (m2)		37.95	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.50	Top Width (m)		18.50	
Vel Total (m/s)	0.71	Avg. Vel. (m/s)		0.71	
Max Chl Dpth (m)	2.54	Hydr. Depth (m)		2.05	
Conv. Total (m3/s)	3860.5	Conv. (m3/s)		3860.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.13	
Min Ch El (m)	10.20	Shear (N/m2)		0.90	
Alpha	1.00	Stream Power (N/m s)		0.64	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		468.93	
C & E Loss (m)	0.00	Cum SA (1000 m2)		220.59	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	13.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	13.00	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		42.82	
E.G. Slope (m/m)	0.000035	Area (m2)		42.82	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.23	Top Width (m)		19.23	
Vel Total (m/s)	0.63	Avg. Vel. (m/s)		0.63	
Max Chl Dpth (m)	2.80	Hydr. Depth (m)		2.23	
Conv. Total (m3/s)	4588.1	Conv. (m3/s)		4588.1	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.02	
Min Ch El (m)	10.20	Shear (N/m2)		0.69	
Alpha	1.00	Stream Power (N/m s)		0.44	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	550.59	0.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	223.87	1.01

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 63

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.3115	13.7004	10.8696	13.6482	11.7974	13.5961	13.5964	13.6051	13.5964	13.7075
15.4219	13.7075	20.2421	10.189	26.0331	10.1886	31.8245	10.1883	36.5265	13.582
37.547	13.582	37.547	13.507	41.7604	13.7176	42.8838	13.2828		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.3115	.015	15.4219	.015	36.5265	.015

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

15.4219	36.5265	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.81	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.80	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		22.31	
E.G. Slope (m/m)	0.000032	Area (m2)		22.31	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.03	Top Width (m)		16.03	
Vel Total (m/s)	0.45	Avg. Vel. (m/s)		0.45	
Max Chl Dpth (m)	1.62	Hydr. Depth (m)		1.39	
Conv. Total (m3/s)	1776.6	Conv. (m3/s)		1776.6	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.08	
Min Ch El (m)	10.19	Shear (N/m2)		0.41	
Alpha	1.00	Stream Power (N/m s)		0.18	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		312.94	
C & E Loss (m)	0.00	Cum SA (1000 m2)		194.37	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.16	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.16	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		28.14	
E.G. Slope (m/m)	0.000016	Area (m2)		28.14	

Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	17.01	Top Width (m)	17.01
Vel Total (m/s)	0.36	Avg. Vel. (m/s)	0.36
Max Chl Dpth (m)	1.97	Hydr. Depth (m)	1.65
Conv. Total (m3/s)	2500.9	Conv. (m3/s)	2500.9
Length Wtd. (m)	200.00	Wetted Per. (m)	18.29
Min Ch El (m)	10.19	Shear (N/m2)	0.24
Alpha	1.00	Stream Power (N/m s)	0.09
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	400.42
C & E Loss (m)	0.00	Cum SA (1000 m2)	207.84

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.59	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.76	
E.G. Slope (m/m)	0.000008	Area (m2)		35.76	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.20	Top Width (m)		18.20	
Vel Total (m/s)	0.28	Avg. Vel. (m/s)		0.28	
Max Chl Dpth (m)	2.40	Hydr. Depth (m)		1.96	
Conv. Total (m3/s)	3539.8	Conv. (m3/s)		3539.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.76	
Min Ch El (m)	10.19	Shear (N/m2)		0.14	
Alpha	1.00	Stream Power (N/m s)		0.04	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	501.17	

C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	220.37

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.61	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.58	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		35.64
E.G. Slope (m/m)	0.000059	Area (m2)		35.64
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.18	Top Width (m)		18.18
Vel Total (m/s)	0.76	Avg. Vel. (m/s)		0.76
Max Chl Dpth (m)	2.40	Hydr. Depth (m)		1.96
Conv. Total (m3/s)	3523.5	Conv. (m3/s)		3523.5
Length Wtd. (m)	200.00	Wetted Per. (m)		19.74
Min Ch El (m)	10.19	Shear (N/m2)		1.04
Alpha	1.00	Stream Power (N/m s)		0.79
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		400.43
C & E Loss (m)	0.00	Cum SA (1000 m2)		208.13

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.76	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.73	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		38.35
E.G. Slope (m/m)	0.000048	Area (m2)		38.35

Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	18.59	Top Width (m)	18.59
Vel Total (m/s)	0.70	Avg. Vel. (m/s)	0.70
Max Chl Dpth (m)	2.54	Hydr. Depth (m)	2.06
Conv. Total (m3/s)	3915.1	Conv. (m3/s)	3915.1
Length Wtd. (m)	200.00	Wetted Per. (m)	20.24
Min Ch El (m)	10.19	Shear (N/m2)	0.88
Alpha	1.00	Stream Power (N/m s)	0.62
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	461.30
C & E Loss (m)	0.00	Cum SA (1000 m2)	216.88

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	13.01	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.99	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		43.30	
E.G. Slope (m/m)	0.000034	Area (m2)		43.30	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.31	Top Width (m)		19.31	
Vel Total (m/s)	0.62	Avg. Vel. (m/s)		0.62	
Max Chl Dpth (m)	2.80	Hydr. Depth (m)		2.24	
Conv. Total (m3/s)	4657.5	Conv. (m3/s)		4657.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.13	
Min Ch El (m)	10.19	Shear (N/m2)		0.68	
Alpha	1.00	Stream Power (N/m s)		0.42	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	541.98	0.10

C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	220.02	1.01

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 62

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.0003	13.7188	11.463	13.7353	14.4447	13.6185	14.4447	13.6989	14.9779	13.6989
19.7144	10.1766	25.581	10.1762	31.3299	10.1759	36.226	13.5695	36.759	13.5695
36.759	13.4968	40.9824	13.7275	41.9461	13.58	42.4235	13.4026		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.0003	.015	14.9779	.015	36.226	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.9779	36.226	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.81	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.80	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		22.50	
E.G. Slope (m/m)	0.000031	Area (m2)		22.50	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.14	Top Width (m)		16.14	
Vel Total (m/s)	0.44	Avg. Vel. (m/s)		0.44	
Max Chl Dpth (m)	1.62	Hydr. Depth (m)		1.39	
Conv. Total (m3/s)	1795.8	Conv. (m3/s)		1795.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.18	
Min Ch El (m)	10.18	Shear (N/m2)		0.40	

Alpha	1.00	Stream Power (N/m s)	0.18
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	308.46
C & E Loss (m)	0.00	Cum SA (1000 m2)	191.15

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.16	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.15	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		28.43	
E.G. Slope (m/m)	0.000016	Area (m2)		28.43	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.13	Top Width (m)		17.13	
Vel Total (m/s)	0.35	Avg. Vel. (m/s)		0.35	
Max Chl Dpth (m)	1.98	Hydr. Depth (m)		1.66	
Conv. Total (m3/s)	2532.6	Conv. (m3/s)		2532.6	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.40	
Min Ch El (m)	10.18	Shear (N/m2)		0.24	
Alpha	1.00	Stream Power (N/m s)		0.08	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		394.77	
C & E Loss (m)	0.00	Cum SA (1000 m2)		204.42	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.59	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)			36.12
E.G. Slope (m/m)	0.000008	Area (m2)			36.12
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	18.34	Top Width (m)			18.34
Vel Total (m/s)	0.28	Avg. Vel. (m/s)			0.28
Max Chl Dpth (m)	2.41	Hydr. Depth (m)			1.97
Conv. Total (m3/s)	3584.9	Conv. (m3/s)			3584.9
Length Wtd. (m)	200.00	Wetted Per. (m)			19.89
Min Ch El (m)	10.18	Shear (N/m2)			0.14
Alpha	1.00	Stream Power (N/m s)			0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00		493.99
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00		216.71

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	12.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			35.83
E.G. Slope (m/m)	0.000058	Area (m2)			35.83
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	18.29	Top Width (m)			18.29
Vel Total (m/s)	0.75	Avg. Vel. (m/s)			0.75
Max Chl Dpth (m)	2.40	Hydr. Depth (m)			1.96
Conv. Total (m3/s)	3542.6	Conv. (m3/s)			3542.6
Length Wtd. (m)	200.00	Wetted Per. (m)			19.84
Min Ch El (m)	10.18	Shear (N/m2)			1.03

Alpha	1.00	Stream Power (N/m s)	0.78
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	393.28
C & E Loss (m)	0.00	Cum SA (1000 m2)	204.48

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.75	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.72	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		38.60	
E.G. Slope (m/m)	0.000047	Area (m2)		38.60	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.71	Top Width (m)		18.71	
Vel Total (m/s)	0.70	Avg. Vel. (m/s)		0.70	
Max Chl Dpth (m)	2.55	Hydr. Depth (m)		2.06	
Conv. Total (m3/s)	3942.7	Conv. (m3/s)		3942.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.35	
Min Ch El (m)	10.18	Shear (N/m2)		0.87	
Alpha	1.00	Stream Power (N/m s)		0.61	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		453.60	
C & E Loss (m)	0.00	Cum SA (1000 m2)		213.15	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	13.01	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.99	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)	43.63
E.G. Slope (m/m)	0.000033	Area (m2)	43.63
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	19.45	Top Width (m)	19.45
Vel Total (m/s)	0.62	Avg. Vel. (m/s)	0.62
Max Chl Dpth (m)	2.81	Hydr. Depth (m)	2.24
Conv. Total (m3/s)	4698.6	Conv. (m3/s)	4698.6
Length Wtd. (m)	200.00	Wetted Per. (m)	21.26
Min Ch El (m)	10.18	Shear (N/m2)	0.66
Alpha	1.00	Stream Power (N/m s)	0.41
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04 533.29 0.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63 216.14 1.01

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 61

INPUT
Description:
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.4523	3.4016	13.4523	4.174	13.3942	4.174	13.4825	4.7055	13.4825
9.4441	10.1642	14.8199	10.1639	20.4254	10.1635	25.5655	13.7295	26.0968	13.7295
26.0968	13.6241	31.8363	13.5626	32.611	13.4153				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.015	4.7055	.015	25.5655	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
4.7055	25.5655	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.80	Element	Left OB Channel Right OB

Vel Head (m)	0.01	Wt. n-Val.			0.015
W.S. Elev (m)	11.79	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.59	Flow Area (m2)			21.66
E.G. Slope (m/m)	0.000034	Area (m2)			21.66
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	15.65	Top Width (m)			15.65
Vel Total (m/s)	0.46	Avg. Vel. (m/s)			0.46
Max Chl Dpth (m)	1.63	Hydr. Depth (m)			1.38
Conv. Total (m3/s)	1719.4	Conv. (m3/s)			1719.4
Length Wtd. (m)	8.95	Wetted Per. (m)			16.67
Min Ch El (m)	10.16	Shear (N/m2)			0.43
Alpha	1.00	Stream Power (N/m s)			0.20
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			304.05
C & E Loss (m)	0.00	Cum SA (1000 m2)			187.97

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.16	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.			0.015
W.S. Elev (m)	12.15	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.59	Flow Area (m2)			27.48
E.G. Slope (m/m)	0.000017	Area (m2)			27.48
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	16.68	Top Width (m)			16.68
Vel Total (m/s)	0.36	Avg. Vel. (m/s)			0.36

Max Chl Dpth (m)	1.99	Hydr. Depth (m)	1.65
Conv. Total (m3/s)	2435.0	Conv. (m3/s)	2435.0
Length Wtd. (m)	8.95	Wetted Per. (m)	17.93
Min Ch El (m)	10.16	Shear (N/m2)	0.25
Alpha	1.00	Stream Power (N/m s)	0.09
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	389.18
C & E Loss (m)	0.00	Cum SA (1000 m2)	201.04

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.59	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.59	Flow Area (m2)		35.02	
E.G. Slope (m/m)	0.000008	Area (m2)		35.02	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.93	Top Width (m)		17.93	
Vel Total (m/s)	0.29	Avg. Vel. (m/s)		0.29	
Max Chl Dpth (m)	2.42	Hydr. Depth (m)		1.95	
Conv. Total (m3/s)	3455.1	Conv. (m3/s)		3455.1	
Length Wtd. (m)	8.95	Wetted Per. (m)		19.45	
Min Ch El (m)	10.16	Shear (N/m2)		0.15	
Alpha	1.00	Stream Power (N/m s)		0.04	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	486.87	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	213.09	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.56	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.98	Flow Area (m2)		34.51	
E.G. Slope (m/m)	0.000064	Area (m2)		34.51	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.85	Top Width (m)		17.85	
Vel Total (m/s)	0.78	Avg. Vel. (m/s)		0.78	
Max Chl Dpth (m)	2.39	Hydr. Depth (m)		1.93	
Conv. Total (m3/s)	3382.6	Conv. (m3/s)		3382.6	
Length Wtd. (m)	8.95	Wetted Per. (m)		19.35	
Min Ch El (m)	10.16	Shear (N/m2)		1.11	
Alpha	1.00	Stream Power (N/m s)		0.87	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		386.25	
C & E Loss (m)	0.00	Cum SA (1000 m2)		200.87	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.74	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	

W.S. Elev (m)	12.71	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.98	Flow Area (m2)			37.26
E.G. Slope (m/m)	0.000051	Area (m2)			37.26
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	18.29	Top Width (m)			18.29
Vel Total (m/s)	0.72	Avg. Vel. (m/s)			0.72
Max Chl Dpth (m)	2.55	Hydr. Depth (m)			2.04
Conv. Total (m3/s)	3775.4	Conv. (m3/s)			3775.4
Length Wtd. (m)	8.95	Wetted Per. (m)			19.89
Min Ch El (m)	10.16	Shear (N/m2)			0.94
Alpha	1.00	Stream Power (N/m s)			0.68
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			446.02
C & E Loss (m)	0.00	Cum SA (1000 m2)			209.45

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	13.00	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.			0.015
W.S. Elev (m)	12.98	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.98	Flow Area (m2)			42.25
E.G. Slope (m/m)	0.000036	Area (m2)			42.25
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	19.05	Top Width (m)			19.05
Vel Total (m/s)	0.64	Avg. Vel. (m/s)			0.64
Max Chl Dpth (m)	2.81	Hydr. Depth (m)			2.22

Conv. Total (m3/s)	4515.2	Conv. (m3/s)			4515.2
Length Wtd. (m)	8.95	Wetted Per. (m)			20.82
Min Ch El (m)	10.16	Shear (N/m2)			0.71
Alpha	1.00	Stream Power (N/m s)			0.45
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.04	524.70	0.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	212.29	1.01

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 60.5

INPUT
Description:
Distance from Upstream XS = 8.95
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
4.53	13.55	12.82	25.73	13.55	12.82

Upstream Bridge Cross Section Data
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.4523	3.4016	13.4523	4.174	13.3942	4.174	13.4825	4.7055	13.4825
9.4441	10.1642	14.8199	10.1639	20.4254	10.1635	25.5655	13.7295	26.0968	13.7295
26.0968	13.6241	31.8363	13.5626	32.611	13.4153				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.015	4.7055	.015	25.5655	.015

Bank Sta: Left	Right	Coeff Contr.	Expan.
4.7055	25.5655	.0015	.01

Downstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
17.83	13.55	12.83	39.03	13.55	12.83

```
Downstream Bridge Cross Section Data
Station Elevation Data    num=      15
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 11.7989 13.5854 14.0193 13.6641 16.5231 13.5224 17.0536 13.5475 17.0536 13.4838
 17.5854 13.5475 22.3826 10.1518 28.1133 10.1515 33.7828 10.1511  38.743 13.5416
 39.6044 13.4746 39.6044 13.5416 40.0226 13.5023 42.1057 13.5024 44.4809 13.3051

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 11.7989    .015 17.5854    .015  38.743    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       17.5854  38.743          .0015      .01

Upstream Embankment side slope              =     1.4 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.4 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
    4.54   12.83    8.76   12.83
Downstream     num=       2
     Sta    Elev     Sta    Elev
   17.83   12.83   22.06   12.83

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   20.67   12.83   25.73   12.83
Downstream     num=       2
     Sta    Elev     Sta    Elev
   33.96   12.83   39.03   12.83

Number of Piers =  2

Pier Data
Pier Station     Upstream=   12.43    Downstream=   25.73
Upstream     num=       2
    Width   Elev    Width   Elev
      .5   10.05      .512.85128
Downstream     num=       2
    Width   Elev    Width   Elev
      .5   10.05       .5   12.83

Pier Data
Pier Station     Upstream=   17.61    Downstream= 30.7739
Upstream     num=       2
```

```
    Width   Elev    Width   Elev
      .5   10.06      .5    13.2
Downstream     num=       2
    Width   Elev    Width   Elev
      .5   10.06      .5    13.2

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.80    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.79    E.G. Elev (m)               11.80
11.80
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.78
11.78
  Q Bridge (m3/s)            10.00    Crit W.S. (m)               10.62
10.60
  Q Weir (m3/s)                       Max Chl Dpth (m)             1.62
 1.63
  Weir Sta Lft (m)                    Vel Total (m/s)              0.57
 0.56
  Weir Sta Rgt (m)                    Flow Area (m2)              17.50
17.75
  Weir Submerg                        Froude # Chl                 0.14
 0.14
  Weir Max Depth (m)                  Specif Force (m3)           14.64
15.03
  Min El Weir Flow (m)       13.40    Hydr Depth (m)               1.60
 1.63
  Min El Prs (m)             12.82    W.P. Total (m)              20.19
20.46
  Delta EG (m)                0.01    Conv. Total (m3/s)         1060.2
1076.7
  Delta WS (m)                0.01    Top Width (m)               10.91
10.90
  BR Open Area (m2)          28.79    Frctn Loss (m)               0.00
 0.01
  BR Open Vel (m/s)           0.57    C & E Loss (m)               0.00
```

0.00			
BR Sluice Coef		Shear Total (N/m2)	0.76
0.73			
BR Sel Method	Energy only	Power Total (N/m s)	0.43
0.41			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.16	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.15	E.G. Elev (m)	12.16
12.16			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.15
12.15			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.62
10.60			
Q Weir (m3/s)		Max Chl Dpth (m)	1.98
1.99			
Weir Sta Lft (m)		Vel Total (m/s)	0.47
0.46			
Weir Sta Rgt (m)		Flow Area (m2)	21.44
21.69			
Weir Submerg		Froude # Chl	0.11
0.10			
Weir Max Depth (m)		Specif Force (m3)	21.57
22.06			
Min El Weir Flow (m)	13.40	Hydr Depth (m)	1.97
1.99			
Min El Prs (m)	12.82	W.P. Total (m)	22.36
22.63			
Delta EG (m)	0.01	Conv. Total (m3/s)	1389.9
1406.1			
Delta WS (m)	0.00	Top Width (m)	10.91
10.90			
BR Open Area (m2)	28.79	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.47	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.49
0.48			
BR Sel Method	Energy only	Power Total (N/m s)	0.23
0.22			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than

1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.59	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.59	E.G. Elev (m)	12.59 12.59
Q Total (m3/s)	10.00	W.S. Elev (m)	12.58 12.58
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.62 10.60
Q Weir (m3/s)		Max Chl Dpth (m)	2.42 2.43
Weir Sta Lft (m)		Vel Total (m/s)	0.38 0.38
Weir Sta Rgt (m)		Flow Area (m2)	26.21 26.46
Weir Submerg		Froude # Chl	0.08 0.08
Weir Max Depth (m)		Specif Force (m3)	31.89 32.50
Min El Weir Flow (m)	13.40	Hydr Depth (m)	2.40 2.43
Min El Prs (m)	12.82	W.P. Total (m)	24.98 25.25
Delta EG (m)	0.00	Conv. Total (m3/s)	1804.0 1819.6
Delta WS (m)	0.00	Top Width (m)	10.91 10.90
BR Open Area (m2)	28.79	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.38	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.32 0.31
BR Sel Method	Energy only	Power Total (N/m s)	0.12 0.12

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.59	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.56	E.G. Elev (m)	12.59 12.59
Q Total (m3/s)	27.00	W.S. Elev (m)	12.53

12.53			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	11.04
11.01			
Q Weir (m3/s)		Max Chl Dpth (m)	2.37
2.38			
Weir Sta Lft (m)		Vel Total (m/s)	1.05
1.04			
Weir Sta Rgt (m)		Flow Area (m2)	25.64
25.89			
Weir Submerg		Froude # Chl	0.22
0.22			
Weir Max Depth (m)		Specif Force (m3)	33.06
33.63			
Min El Weir Flow (m)	13.40	Hydr Depth (m)	2.35
2.38			
Min El Prs (m)	12.82	W.P. Total (m)	24.67
24.94			
Delta EG (m)	0.02	Conv. Total (m3/s)	1754.3
1769.9			
Delta WS (m)	0.02	Top Width (m)	10.91
10.90			
BR Open Area (m2)	28.79	Frctn Loss (m)	0.00
0.02			
BR Open Vel (m/s)	1.05	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	2.41
2.37			
BR Sel Method	Energy only	Power Total (N/m s)	2.54
2.47			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.74	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.71	E.G. Elev (m)	12.74
12.73			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.69
12.69			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	11.04
11.01			
Q Weir (m3/s)		Max Chl Dpth (m)	2.52
2.54			
Weir Sta Lft (m)		Vel Total (m/s)	0.99
0.98			
Weir Sta Rgt (m)		Flow Area (m2)	27.33
27.58			
Weir Submerg		Froude # Chl	0.20

0.20			
Weir Max Depth (m)		Specif Force (m3)	36.99
37.59			
Min El Weir Flow (m)	13.40	Hydr Depth (m)	2.51
2.53			
Min El Prs (m)	12.82	W.P. Total (m)	25.60
25.87			
Delta EG (m)	0.02	Conv. Total (m3/s)	1903.8
1919.0			
Delta WS (m)	0.02	Top Width (m)	10.91
10.90			
BR Open Area (m2)	28.79	Frctn Loss (m)	0.00
0.02			
BR Open Vel (m/s)	0.99	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	2.11
2.07			
BR Sel Method	Energy only	Power Total (N/m s)	2.08
2.03			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	13.00	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.98	E.G. Elev (m)	13.00
13.00			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.95
12.95			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	11.04
11.01			
Q Weir (m3/s)		Max Chl Dpth (m)	2.79
2.80			
Weir Sta Lft (m)		Vel Total (m/s)	0.94
0.93			
Weir Sta Rgt (m)		Flow Area (m2)	28.79
29.15			
Weir Submerg		Froude # Chl	0.18
0.18			
Weir Max Depth (m)		Specif Force (m3)	44.43
45.10			
Min El Weir Flow (m)	13.40	Hydr Depth (m)	
Min El Prs (m)	12.82	W.P. Total (m)	37.31
37.63			
Delta EG (m)	0.02	Conv. Total (m3/s)	1615.0
1639.0			
Delta WS (m)	0.01	Top Width (m)	

BR Open Area (m2)	28.79	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.94	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	2.12
2.06			
BR Sel Method	Energy only	Power Total (N/m s)	1.98
1.91			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 60

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.7989	13.5854	14.0193	13.6641	16.5231	13.5224	17.0536	13.5475	17.0536	13.4838
17.5854	13.5475	22.3826	10.1518	28.1133	10.1515	33.7828	10.1511	38.743	13.5416
39.6044	13.4746	39.6044	13.5416	40.0226	13.5023	42.1057	13.5024	44.4809	13.3051

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.7989	.015	17.5854	.015	38.743	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.5854	38.743	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.79	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.78	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		22.40	
E.G. Slope (m/m)	0.000031	Area (m2)		22.40	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.09	Top Width (m)		16.09	

Vel Total (m/s)	0.45	Avg. Vel. (m/s)	0.45
Max Chl Dpth (m)	1.63	Hydr. Depth (m)	1.39
Conv. Total (m3/s)	1787.2	Conv. (m3/s)	1787.2
Length Wtd. (m)	200.00	Wetted Per. (m)	17.11
Min Ch El (m)	10.15	Shear (N/m2)	0.40
Alpha	1.00	Stream Power (N/m s)	0.18
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	300.05
C & E Loss (m)	0.00	Cum SA (1000 m2)	185.29

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.15	Element	Left OB	Channel Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015
W.S. Elev (m)	12.15	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		28.45
E.G. Slope (m/m)	0.000016	Area (m2)		28.45
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	17.13	Top Width (m)		17.13
Vel Total (m/s)	0.35	Avg. Vel. (m/s)		0.35
Max Chl Dpth (m)	1.99	Hydr. Depth (m)		1.66
Conv. Total (m3/s)	2537.8	Conv. (m3/s)		2537.8
Length Wtd. (m)	200.00	Wetted Per. (m)		18.39
Min Ch El (m)	10.15	Shear (N/m2)		0.24
Alpha	1.00	Stream Power (N/m s)		0.08
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		384.18
C & E Loss (m)	0.00	Cum SA (1000 m2)		198.26

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.58	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		36.24	
E.G. Slope (m/m)	0.000008	Area (m2)		36.24	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.40	Top Width (m)		18.40	
Vel Total (m/s)	0.28	Avg. Vel. (m/s)		0.28	
Max Chl Dpth (m)	2.43	Hydr. Depth (m)		1.97	
Conv. Total (m3/s)	3600.0	Conv. (m3/s)		3600.0	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.92	
Min Ch El (m)	10.15	Shear (N/m2)		0.14	
Alpha	1.00	Stream Power (N/m s)		0.04	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	480.63	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	210.18	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.38	
E.G. Slope (m/m)	0.000060	Area (m2)		35.38	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.26	Top Width (m)		18.26	

Vel Total (m/s)	0.76	Avg. Vel. (m/s)	0.76
Max Chl Dpth (m)	2.39	Hydr. Depth (m)	1.94
Conv. Total (m3/s)	3478.1	Conv. (m3/s)	3478.1
Length Wtd. (m)	200.00	Wetted Per. (m)	19.76
Min Ch El (m)	10.15	Shear (N/m2)	1.06
Alpha	1.00	Stream Power (N/m s)	0.81
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	380.15
C & E Loss (m)	0.00	Cum SA (1000 m2)	197.97

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.72	Element	Left OB	Channel Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.69	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		38.27
E.G. Slope (m/m)	0.000048	Area (m2)		38.27
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.71	Top Width (m)		18.71
Vel Total (m/s)	0.71	Avg. Vel. (m/s)		0.71
Max Chl Dpth (m)	2.54	Hydr. Depth (m)		2.05
Conv. Total (m3/s)	3892.7	Conv. (m3/s)		3892.7
Length Wtd. (m)	200.00	Wetted Per. (m)		20.30
Min Ch El (m)	10.15	Shear (N/m2)		0.89
Alpha	1.00	Stream Power (N/m s)		0.63
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		439.46
C & E Loss (m)	0.00	Cum SA (1000 m2)		206.51

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.98	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.96	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		43.41	
E.G. Slope (m/m)	0.000034	Area (m2)		43.41	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.48	Top Width (m)		19.48	
Vel Total (m/s)	0.62	Avg. Vel. (m/s)		0.62	
Max Chl Dpth (m)	2.81	Hydr. Depth (m)		2.23	
Conv. Total (m3/s)	4659.8	Conv. (m3/s)		4659.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.25	
Min Ch El (m)	10.15	Shear (N/m2)		0.67	
Alpha	1.00	Stream Power (N/m s)		0.42	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	517.49	0.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	210.40	1.01

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 59

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13.2994	13.2671	14.676	13.4157	16.0111	13.4157	16.8992	13.4059	16.8992	13.3455
18.6668	13.4059	23.2086	10.1392	29.0767	10.1387	34.8611	10.1381	39.7363	13.4766
40.2672	13.3906	40.2672	13.4766	42.11	13.4408	42.7243	13.4567	44.57	13.3532

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

```
 13.2994    .015 18.6668    .015 39.7363    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       18.6668 39.7363             200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)           11.79    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.01    Wt. n-Val.                         0.015

  W.S. Elev (m)           11.78    Reach Len. (m)          16.89      16.89
  16.89
  Crit W.S. (m)           10.55    Flow Area (m2)                     22.89

  E.G. Slope (m/m)      0.000030   Area (m2)                          22.89

  Q Total (m3/s)          10.00    Flow (m3/s)                        10.00

  Top Width (m)           16.32    Top Width (m)                      16.32

  Vel Total (m/s)          0.44    Avg. Vel. (m/s)                     0.44

  Max Chl Dpth (m)         1.64    Hydr. Depth (m)                     1.40

  Conv. Total (m3/s)      1836.0   Conv. (m3/s)                     1836.0

  Length Wtd. (m)         16.89    Wetted Per. (m)                    17.35

  Min Ch El (m)           10.14    Shear (N/m2)                        0.38

  Alpha                    1.00    Stream Power (N/m s)                0.17

  Frctn Loss (m)           0.00    Cum Volume (1000 m3)              295.52

  C & E Loss (m)           0.00    Cum SA (1000 m2)                  182.05



Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)           12.15    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.01    Wt. n-Val.                         0.015

  W.S. Elev (m)           12.14    Reach Len. (m)          16.89      16.89
```

16.89			
Crit W.S. (m)	10.55	Flow Area (m2)	29.08
E.G. Slope (m/m)	0.000015	Area (m2)	29.08
Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	17.37	Top Width (m)	17.37
Vel Total (m/s)	0.34	Avg. Vel. (m/s)	0.34
Max Chl Dpth (m)	2.00	Hydr. Depth (m)	1.67
Conv. Total (m3/s)	2608.6	Conv. (m3/s)	2608.6
Length Wtd. (m)	16.89	Wetted Per. (m)	18.63
Min Ch El (m)	10.14	Shear (N/m2)	0.22
Alpha	1.00	Stream Power (N/m s)	0.08
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	378.43
C & E Loss (m)	0.00	Cum SA (1000 m2)	194.81

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.58	Reach Len. (m)	16.89	16.89	16.89
Crit W.S. (m)	10.55	Flow Area (m2)		36.99	
E.G. Slope (m/m)	0.000007	Area (m2)		36.99	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.62	Top Width (m)		18.62	
Vel Total (m/s)	0.27	Avg. Vel. (m/s)		0.27	
Max Chl Dpth (m)	2.44	Hydr. Depth (m)		1.99	
Conv. Total (m3/s)	3695.5	Conv. (m3/s)		3695.5	

Length Wtd. (m)	16.89	Wetted Per. (m)		20.16
Min Ch El (m)	10.14	Shear (N/m2)		0.13
Alpha	1.00	Stream Power (N/m s)		0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	473.31
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	206.48

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.55	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.53	Reach Len. (m)	16.89	16.89
16.89				
Crit W.S. (m)	10.93	Flow Area (m2)		35.94
E.G. Slope (m/m)	0.000058	Area (m2)		35.94
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.46	Top Width (m)		18.46
Vel Total (m/s)	0.75	Avg. Vel. (m/s)		0.75
Max Chl Dpth (m)	2.39	Hydr. Depth (m)		1.95
Conv. Total (m3/s)	3546.1	Conv. (m3/s)		3546.1
Length Wtd. (m)	16.89	Wetted Per. (m)		19.97
Min Ch El (m)	10.14	Shear (N/m2)		1.02
Alpha	1.00	Stream Power (N/m s)		0.77
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		373.02
C & E Loss (m)	0.00	Cum SA (1000 m2)		194.30

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.71	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.68	Reach Len. (m)	16.89	16.89	16.89
Crit W.S. (m)	10.93	Flow Area (m2)		38.91	
E.G. Slope (m/m)	0.000046	Area (m2)		38.91	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.91	Top Width (m)		18.91	
Vel Total (m/s)	0.69	Avg. Vel. (m/s)		0.69	
Max Chl Dpth (m)	2.55	Hydr. Depth (m)		2.06	
Conv. Total (m3/s)	3973.7	Conv. (m3/s)		3973.7	
Length Wtd. (m)	16.89	Wetted Per. (m)		20.52	
Min Ch El (m)	10.14	Shear (N/m2)		0.86	
Alpha	1.00	Stream Power (N/m s)		0.60	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		431.75	
C & E Loss (m)	0.00	Cum SA (1000 m2)		202.75	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.98	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.96	Reach Len. (m)	16.89	16.89	16.89
Crit W.S. (m)	10.93	Flow Area (m2)		44.16	

E.G. Slope (m/m)	0.000032	Area (m2)			44.16
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	19.69	Top Width (m)			19.69
Vel Total (m/s)	0.61	Avg. Vel. (m/s)			0.61
Max Chl Dpth (m)	2.82	Hydr. Depth (m)			2.24
Conv. Total (m3/s)	4761.3	Conv. (m3/s)			4761.3
Length Wtd. (m)	16.89	Wetted Per. (m)			21.47
Min Ch El (m)	10.14	Shear (N/m2)			0.65
Alpha	1.00	Stream Power (N/m s)			0.40
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.04	508.73	0.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	206.48	1.01

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 58.5

INPUT
Description:
Distance from Upstream XS = 16.89
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
15.45	13.4	11.92	40.45	13.4	11.92

Upstream Bridge Cross Section Data
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13.2994	13.2671	14.676	13.4157	16.0111	13.4157	16.8992	13.4059	16.8992	13.3455
18.6668	13.4059	23.2086	10.1392	29.0767	10.1387	34.8611	10.1381	39.7363	13.4766
40.2672	13.3906	40.2672	13.4766	42.11	13.4408	42.7243	13.4567	44.57	13.3532

Manning's n Values num= 3

```
     Sta   n Val     Sta   n Val     Sta   n Val
 13.2994    .015 18.6668    .015 39.7363    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       18.6668 39.7363          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   13.16    13.4   11.92   38.17    13.4   11.92

Downstream Bridge Cross Section Data
Station Elevation Data    num=      15
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 11.8144 13.1041 13.9394 13.0502 15.8053 13.1064 15.8053 13.2215 16.3347 13.2215
  21.137 10.1212 26.8145 10.1207 32.4912 10.1202 36.9367 13.0797 37.4669 13.0797
 37.4669 13.0089 38.4892 13.0687 40.3888 13.0414 41.4145 12.8136 42.0615 12.7541

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 11.8144    .015 16.3347    .015 36.9367    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       16.3347 36.9367          .0015      .01

Upstream Embankment side slope              =       5 horiz. to 1.0 vertical
Downstream Embankment side slope            =       5 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   15.46   11.92   24.06   11.92
Downstream     num=       2
     Sta    Elev     Sta    Elev
   13.16   11.92   21.77   11.92

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   34.26   11.92   40.45   11.92
Downstream     num=       2
     Sta    Elev     Sta    Elev
   31.97   11.92   38.16   11.92

Number of Piers =  1

Pier Data
```

```
Pier Station     Upstream=   29.07    Downstream=   26.78
Upstream     num=       2
    Width   Elev    Width   Elev
       1   10.14       1   11.92
Downstream     num=       2
    Width   Elev    Width   Elev
       1   10.14       1   11.92

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.79    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.78    E.G. Elev (m)               11.78
11.78
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.76
11.76
  Q Bridge (m3/s)            10.00    Crit W.S. (m)               10.63
10.62
  Q Weir (m3/s)                       Max Chl Dpth (m)             1.62
 1.64
  Weir Sta Lft (m)                    Vel Total (m/s)              0.67
 0.66
  Weir Sta Rgt (m)                    Flow Area (m2)              14.93
15.10
  Weir Submerg                        Froude # Chl                 0.17
 0.17
  Weir Max Depth (m)                  Specif Force (m3)           12.79
13.06
  Min El Weir Flow (m)       13.27    Hydr Depth (m)               1.62
 1.64
  Min El Prs (m)             11.92    W.P. Total (m)              15.69
15.76
  Delta EG (m)                0.01    Conv. Total (m3/s)          962.7
977.7
  Delta WS (m)                0.01    Top Width (m)                9.20
 9.20
  BR Open Area (m2)          16.39    Frctn Loss (m)               0.00
```

0.01
 BR Open Vel (m/s) 0.67 C & E Loss (m) 0.00
0.00
 BR Sluice Coef Shear Total (N/m2) 1.01
0.98
 BR Sel Method Energy only Power Total (N/m s) 0.67
0.65

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

 E.G. US. (m) 12.15 Element Inside BR US
Inside BR DS
 W.S. US. (m) 12.14 E.G. Elev (m) 12.15
12.15
 Q Total (m3/s) 10.00 W.S. Elev (m) 12.13
12.13
 Q Bridge (m3/s) 10.00 Crit W.S. (m) 10.63
10.62
 Q Weir (m3/s) Max Chl Dpth (m) 1.99
2.01
 Weir Sta Lft (m) Vel Total (m/s) 0.61
0.60
 Weir Sta Rgt (m) Flow Area (m2) 16.39
16.55
 Weir Submerg Froude # Chl 0.14
0.14
 Weir Max Depth (m) Specif Force (m3) 18.64
18.97
 Min El Weir Flow (m) 13.27 Hydr Depth (m)

 Min El Prs (m) 11.92 W.P. Total (m) 25.52
25.60
 Delta EG (m) 0.01 Conv. Total (m3/s) 813.0
825.4
 Delta WS (m) 0.01 Top Width (m)

 BR Open Area (m2) 16.39 Frctn Loss (m) 0.00
0.01
 BR Open Vel (m/s) 0.61 C & E Loss (m) 0.00
0.00
 BR Sluice Coef Shear Total (N/m2) 0.95
0.93
 BR Sel Method Energy only Power Total (N/m s) 0.58
0.56

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.59	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.58	E.G. Elev (m)	12.59 12.59
Q Total (m3/s)	10.00	W.S. Elev (m)	12.57 12.57
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.63 10.62
Q Weir (m3/s)		Max Chl Dpth (m)	2.43 2.45
Weir Sta Lft (m)		Vel Total (m/s)	0.61 0.60
Weir Sta Rgt (m)		Flow Area (m2)	16.39 16.55
Weir Submerg		Froude # Chl	0.13 0.12
Weir Max Depth (m)		Specif Force (m3)	25.81 26.21
Min El Weir Flow (m)	13.27	Hydr Depth (m)	
Min El Prs (m)	11.92	W.P. Total (m)	25.52 25.60
Delta EG (m)	0.00	Conv. Total (m3/s)	813.0 825.4
Delta WS (m)	0.00	Top Width (m)	
BR Open Area (m2)	16.39	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.61	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.95 0.93
BR Sel Method	Energy only	Power Total (N/m s)	0.58 0.56

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.55	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.53	E.G. Elev (m)	12.55

12.55
  Q Total (m3/s)   27.00   W.S. Elev (m)   12.41
12.41
  Q Bridge (m3/s)   27.00   Crit W.S. (m)   11.10
11.08
  Q Weir (m3/s)   Max Chl Dpth (m)   2.28
 2.29
  Weir Sta Lft (m)   Vel Total (m/s)   1.65
 1.63
  Weir Sta Rgt (m)   Flow Area (m2)   16.39
16.55
  Weir Submerg   Froude # Chl   0.35
 0.34
  Weir Max Depth (m)   Specif Force (m3)   27.22
27.51
  Min El Weir Flow (m)   13.27   Hydr Depth (m)

  Min El Prs (m)   11.92   W.P. Total (m)   25.52
25.60
  Delta EG (m)   0.04   Conv. Total (m3/s)   813.0
825.4
  Delta WS (m)   0.04   Top Width (m)

  BR Open Area (m2)   16.39   Frctn Loss (m)   0.01
 0.03
  BR Open Vel (m/s)   1.65   C & E Loss (m)   0.00
 0.00
  BR Sluice Coef   Shear Total (N/m2)   6.94
 6.79
  BR Sel Method   Energy only   Power Total (N/m s)   11.44
11.07

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

  E.G. US. (m)   12.71   Element   Inside BR US
Inside BR DS
  W.S. US. (m)   12.68   E.G. Elev (m)   12.71
12.70
  Q Total (m3/s)   27.00   W.S. Elev (m)   12.57
12.57
  Q Bridge (m3/s)   27.00   Crit W.S. (m)   11.10
11.08
  Q Weir (m3/s)   Max Chl Dpth (m)   2.43
 2.45
  Weir Sta Lft (m)   Vel Total (m/s)   1.65
 1.63
  Weir Sta Rgt (m)   Flow Area (m2)   16.39

16.55
  Weir Submerg   Froude # Chl   0.34
 0.33
  Weir Max Depth (m)   Specif Force (m3)   29.76
30.07
  Min El Weir Flow (m)   13.27   Hydr Depth (m)

  Min El Prs (m)   11.92   W.P. Total (m)   25.52
25.60
  Delta EG (m)   0.03   Conv. Total (m3/s)   813.0
825.4
  Delta WS (m)   0.03   Top Width (m)

  BR Open Area (m2)   16.39   Frctn Loss (m)   0.01
 0.02
  BR Open Vel (m/s)   1.65   C & E Loss (m)   0.00
 0.00
  BR Sluice Coef   Shear Total (N/m2)   6.94
 6.79
  BR Sel Method   Energy only   Power Total (N/m s)   11.44
11.07

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

  E.G. US. (m)   12.98   Element   Inside BR US
Inside BR DS
  W.S. US. (m)   12.96   E.G. Elev (m)   12.97
12.97
  Q Total (m3/s)   27.00   W.S. Elev (m)   12.84
12.83
  Q Bridge (m3/s)   27.00   Crit W.S. (m)   11.10
11.08
  Q Weir (m3/s)   Max Chl Dpth (m)   2.70
 2.71
  Weir Sta Lft (m)   Vel Total (m/s)   1.65
 1.63
  Weir Sta Rgt (m)   Flow Area (m2)   16.39
16.59
  Weir Submerg   Froude # Chl   0.32
 0.32
  Weir Max Depth (m)   Specif Force (m3)   34.13
34.50
  Min El Weir Flow (m)   13.27   Hydr Depth (m)
22.58
  Min El Prs (m)   11.92   W.P. Total (m)   25.52
26.42
  Delta EG (m)   0.03   Conv. Total (m3/s)   813.0

825.6
  Delta WS (m)   0.03   Top Width (m)
 0.73
  BR Open Area (m2)   16.39   Frctn Loss (m)   0.01
 0.02
  BR Open Vel (m/s)   1.65   C & E Loss (m)   0.00
 0.00
  BR Sluice Coef   Shear Total (N/m2)   6.94
 6.59
  BR Sel Method   Energy only   Power Total (N/m s)   11.44
10.72

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM   RS: 58

INPUT
Description:
Station Elevation Data   num=   15
     Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
 11.8144 13.1041 13.9394 13.0502 15.8053 13.1064 15.8053 13.2215 16.3347 13.2215
  21.137 10.1212 26.8145 10.1207 32.4912 10.1202 36.9367 13.0797 37.4669 13.0797
 37.4669 13.0089 38.4892 13.0687 40.3888 13.0414 41.4145 12.8136 42.0615 12.7541

Manning's n Values   num=   3
     Sta   n Val   Sta   n Val   Sta   n Val
 11.8144   .015 16.3347   .015 36.9367   .015

Bank Sta: Left   Right   Lengths: Left Channel   Right   Coeff Contr.
Expan.
       16.3347 36.9367   200   200   200   .0015   .01

CROSS SECTION OUTPUT Profile #PF 1

  E.G. Elev (m)   11.77   Element   Left OB   Channel
Right OB
  Vel Head (m)   0.01   Wt. n-Val.   0.015

  W.S. Elev (m)   11.76   Reach Len. (m)   200.00   200.00
 200.00
  Crit W.S. (m)   Flow Area (m2)   22.79

  E.G. Slope (m/m)   0.000030   Area (m2)   22.79

  Q Total (m3/s)   10.00   Flow (m3/s)   10.00

Top Width (m)	16.37	Top Width (m)	16.37
Vel Total (m/s)	0.44	Avg. Vel. (m/s)	0.44
Max Chl Dpth (m)	1.64	Hydr. Depth (m)	1.39
Conv. Total (m3/s)	1822.2	Conv. (m3/s)	1822.2
Length Wtd. (m)	200.00	Wetted Per. (m)	17.35
Min Ch El (m)	10.12	Shear (N/m2)	0.39
Alpha	1.00	Stream Power (N/m s)	0.17
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	291.75
C & E Loss (m)	0.00	Cum SA (1000 m2)	179.51

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.14	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.14	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		29.07	
E.G. Slope (m/m)	0.000015	Area (m2)		29.07	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.50	Top Width (m)		17.50	
Vel Total (m/s)	0.34	Avg. Vel. (m/s)		0.34	
Max Chl Dpth (m)	2.02	Hydr. Depth (m)		1.66	
Conv. Total (m3/s)	2599.7	Conv. (m3/s)		2599.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.70	
Min Ch El (m)	10.12	Shear (N/m2)		0.23	
Alpha	1.00	Stream Power (N/m s)		0.08	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		373.90	
C & E Loss (m)	0.00	Cum SA (1000 m2)		193.10	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.58	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		37.11	
E.G. Slope (m/m)	0.000007	Area (m2)		37.11	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.85	Top Width (m)		18.85	
Vel Total (m/s)	0.27	Avg. Vel. (m/s)		0.27	
Max Chl Dpth (m)	2.46	Hydr. Depth (m)		1.97	
Conv. Total (m3/s)	3696.2	Conv. (m3/s)		3696.2	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.32	
Min Ch El (m)	10.12	Shear (N/m2)		0.13	
Alpha	1.00	Stream Power (N/m s)		0.04	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	468.00	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	204.64	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.49	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.42	
E.G. Slope (m/m)	0.000061	Area (m2)		35.42	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	

Top Width (m)	18.58	Top Width (m)	18.58
Vel Total (m/s)	0.76	Avg. Vel. (m/s)	0.76
Max Chl Dpth (m)	2.37	Hydr. Depth (m)	1.91
Conv. Total (m3/s)	3457.9	Conv. (m3/s)	3457.9
Length Wtd. (m)	200.00	Wetted Per. (m)	19.99
Min Ch El (m)	10.12	Shear (N/m2)	1.06
Alpha	1.00	Stream Power (N/m s)	0.81
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	367.86
C & E Loss (m)	0.00	Cum SA (1000 m2)	192.49

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.68	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.65	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		38.52	
E.G. Slope (m/m)	0.000048	Area (m2)		38.52	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.08	Top Width (m)		19.08	
Vel Total (m/s)	0.70	Avg. Vel. (m/s)		0.70	
Max Chl Dpth (m)	2.53	Hydr. Depth (m)		2.02	
Conv. Total (m3/s)	3898.4	Conv. (m3/s)		3898.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.59	
Min Ch El (m)	10.12	Shear (N/m2)		0.88	
Alpha	1.00	Stream Power (N/m s)		0.62	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		426.29	
C & E Loss (m)	0.00	Cum SA (1000 m2)		200.89	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.95	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	0.015
W.S. Elev (m)	12.93	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		43.96	0.13
E.G. Slope (m/m)	0.000033	Area (m2)		43.96	0.13
Q Total (m3/s)	27.00	Flow (m3/s)		26.99	0.01
Top Width (m)	21.11	Top Width (m)		19.93	1.18
Vel Total (m/s)	0.61	Avg. Vel. (m/s)		0.61	0.08
Max Chl Dpth (m)	2.81	Hydr. Depth (m)		2.21	0.11
Conv. Total (m3/s)	4707.1	Conv. (m3/s)		4705.4	1.7
Length Wtd. (m)	200.00	Wetted Per. (m)		21.61	1.37
Min Ch El (m)	10.12	Shear (N/m2)		0.66	0.03
Alpha	1.00	Stream Power (N/m s)		0.40	0.00
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	502.75	0.09
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	204.54	0.84

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 57

INPUT
Description:
Station Elevation Data num= 12

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

```
 14.7165 13.2463 15.6433 13.3607 17.6535 13.3922 17.6535 13.3059  19.175 13.3922
 24.2412 10.1033 29.8704 10.1027 35.5497 10.1022  40.576 13.4597 41.5511 13.3388
 41.5511 13.4597 45.2997 13.1819

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 14.7165    .015  19.175    .015  40.576    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
        19.175  40.576              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.77    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.                           0.015

  W.S. Elev (m)            11.76    Reach Len. (m)          200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)                       22.89

  E.G. Slope (m/m)      0.000030    Area (m2)                            22.89

  Q Total (m3/s)           10.00    Flow (m3/s)                          10.00

  Top Width (m)            16.34    Top Width (m)                        16.34

  Vel Total (m/s)           0.44    Avg. Vel. (m/s)                       0.44

  Max Chl Dpth (m)          1.66    Hydr. Depth (m)                       1.40

  Conv. Total (m3/s)      1837.6    Conv. (m3/s)                        1837.6

  Length Wtd. (m)          200.00    Wetted Per. (m)                      17.33

  Min Ch El (m)            10.10    Shear (N/m2)                          0.38

  Alpha                     1.00    Stream Power (N/m s)                  0.17

  Frctn Loss (m)            0.01    Cum Volume (1000 m3)                287.18

  C & E Loss (m)            0.00    Cum SA (1000 m2)                    176.24



CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)            12.14    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.                           0.015
```

W.S. Elev (m)	12.13	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			29.21
E.G. Slope (m/m)	0.000015	Area (m2)			29.21
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	17.47	Top Width (m)			17.47
Vel Total (m/s)	0.34	Avg. Vel. (m/s)			0.34
Max Chl Dpth (m)	2.03	Hydr. Depth (m)			1.67
Conv. Total (m3/s)	2622.5	Conv. (m3/s)			2622.5
Length Wtd. (m)	200.00	Wetted Per. (m)			18.69
Min Ch El (m)	10.10	Shear (N/m2)			0.22
Alpha	1.00	Stream Power (N/m s)			0.08
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			368.07
C & E Loss (m)	0.00	Cum SA (1000 m2)			189.60

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.58	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			37.27
E.G. Slope (m/m)	0.000007	Area (m2)			37.27
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	18.82	Top Width (m)			18.82
Vel Total (m/s)	0.27	Avg. Vel. (m/s)			0.27
Max Chl Dpth (m)	2.47	Hydr. Depth (m)			1.98
Conv. Total (m3/s)	3724.1	Conv. (m3/s)			3724.1
Length Wtd. (m)	200.00	Wetted Per. (m)			20.30

Min Ch El (m)	10.10	Shear (N/m2)		0.13
Alpha	1.00	Stream Power (N/m s)		0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	460.56
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	200.87

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.51	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.48	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		35.38
E.G. Slope (m/m)	0.000061	Area (m2)		35.38
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.51	Top Width (m)		18.51
Vel Total (m/s)	0.76	Avg. Vel. (m/s)		0.76
Max Chl Dpth (m)	2.37	Hydr. Depth (m)		1.91
Conv. Total (m3/s)	3457.2	Conv. (m3/s)		3457.2
Length Wtd. (m)	200.00	Wetted Per. (m)		19.94
Min Ch El (m)	10.10	Shear (N/m2)		1.06
Alpha	1.00	Stream Power (N/m s)		0.81
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		360.78
C & E Loss (m)	0.00	Cum SA (1000 m2)		188.78

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.67	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015

W.S. Elev (m)	12.64	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			38.52
E.G. Slope (m/m)	0.000048	Area (m2)			38.52
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	19.02	Top Width (m)			19.02
Vel Total (m/s)	0.70	Avg. Vel. (m/s)			0.70
Max Chl Dpth (m)	2.54	Hydr. Depth (m)			2.02
Conv. Total (m3/s)	3904.0	Conv. (m3/s)			3904.0
Length Wtd. (m)	200.00	Wetted Per. (m)			20.54
Min Ch El (m)	10.10	Shear (N/m2)			0.88
Alpha	1.00	Stream Power (N/m s)			0.62
Frctn Loss (m)	0.01	Cum Volume (1000 m3)			418.59
C & E Loss (m)	0.00	Cum SA (1000 m2)			197.08

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.94	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.			0.015
W.S. Elev (m)	12.92	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			44.00
E.G. Slope (m/m)	0.000033	Area (m2)			44.00
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	19.88	Top Width (m)			19.88
Vel Total (m/s)	0.61	Avg. Vel. (m/s)			0.61
Max Chl Dpth (m)	2.82	Hydr. Depth (m)			2.21
Conv. Total (m3/s)	4718.8	Conv. (m3/s)			4718.8
Length Wtd. (m)	200.00	Wetted Per. (m)			21.57

Min Ch El (m)	10.10	Shear (N/m2)			0.65
Alpha	1.00	Stream Power (N/m s)			0.40
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	493.95	0.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	200.56	0.72

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 56

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.6055	13.1333	12.4057	13.2208	14.1271	13.1959	14.1271	13.2886	14.7582	13.2886
19.9787	10.0852	24.9801	10.0848	30.0069	10.0845	35.4197	13.4517	35.8012	13.4517
35.8012	13.3492	36.9548	13.3436	38.9095	13.2915	40.9734	13.1528		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.6055	.015	14.7582	.015	35.4197	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.7582	35.4197	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.76	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.			0.015
W.S. Elev (m)	11.75	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			21.20
E.G. Slope (m/m)	0.000035	Area (m2)			21.20
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	15.42	Top Width (m)			15.42
Vel Total (m/s)	0.47	Avg. Vel. (m/s)			0.47
Max Chl Dpth (m)	1.67	Hydr. Depth (m)			1.37

Conv. Total (m3/s)	1679.0	Conv. (m3/s)	1679.0
Length Wtd. (m)	200.00	Wetted Per. (m)	16.37
Min Ch El (m)	10.08	Shear (N/m2)	0.45
Alpha	1.00	Stream Power (N/m s)	0.21
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	282.77
C & E Loss (m)	0.00	Cum SA (1000 m2)	173.06

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.14	Element	Left OB	Channel Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015
W.S. Elev (m)	12.13	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		27.25
E.G. Slope (m/m)	0.000017	Area (m2)		27.25
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	16.64	Top Width (m)		16.64
Vel Total (m/s)	0.37	Avg. Vel. (m/s)		0.37
Max Chl Dpth (m)	2.04	Hydr. Depth (m)		1.64
Conv. Total (m3/s)	2412.9	Conv. (m3/s)		2412.9
Length Wtd. (m)	200.00	Wetted Per. (m)		17.80
Min Ch El (m)	10.08	Shear (N/m2)		0.26
Alpha	1.00	Stream Power (N/m s)		0.09
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		362.43
C & E Loss (m)	0.00	Cum SA (1000 m2)		186.19

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		34.99	
E.G. Slope (m/m)	0.000008	Area (m2)		34.99	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.09	Top Width (m)		18.09	
Vel Total (m/s)	0.29	Avg. Vel. (m/s)		0.29	
Max Chl Dpth (m)	2.49	Hydr. Depth (m)		1.93	
Conv. Total (m3/s)	3445.0	Conv. (m3/s)		3445.0	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.50	
Min Ch El (m)	10.08	Shear (N/m2)		0.15	
Alpha	1.00	Stream Power (N/m s)		0.04	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	453.34	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	197.18	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.49	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.46	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		32.90	
E.G. Slope (m/m)	0.000073	Area (m2)		32.90	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.71	Top Width (m)		17.71	
Vel Total (m/s)	0.82	Avg. Vel. (m/s)		0.82	
Max Chl Dpth (m)	2.37	Hydr. Depth (m)		1.86	

Conv. Total (m3/s)	3156.8	Conv. (m3/s)	3156.8
Length Wtd. (m)	200.00	Wetted Per. (m)	19.06
Min Ch El (m)	10.08	Shear (N/m2)	1.24
Alpha	1.00	Stream Power (N/m s)	1.02
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	353.96
C & E Loss (m)	0.00	Cum SA (1000 m2)	185.16

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.66	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.63	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.98	
E.G. Slope (m/m)	0.000057	Area (m2)		35.98	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.26	Top Width (m)		18.26	
Vel Total (m/s)	0.75	Avg. Vel. (m/s)		0.75	
Max Chl Dpth (m)	2.54	Hydr. Depth (m)		1.97	
Conv. Total (m3/s)	3582.5	Conv. (m3/s)		3582.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.71	
Min Ch El (m)	10.08	Shear (N/m2)		1.02	
Alpha	1.00	Stream Power (N/m s)		0.76	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		411.14	
C & E Loss (m)	0.00	Cum SA (1000 m2)		193.35	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.94	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.91	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		41.34	
E.G. Slope (m/m)	0.000038	Area (m2)		41.34	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.19	Top Width (m)		19.19	
Vel Total (m/s)	0.65	Avg. Vel. (m/s)		0.65	
Max Chl Dpth (m)	2.83	Hydr. Depth (m)		2.15	
Conv. Total (m3/s)	4357.6	Conv. (m3/s)		4357.6	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.80	
Min Ch El (m)	10.08	Shear (N/m2)		0.75	
Alpha	1.00	Stream Power (N/m s)		0.49	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	485.41	0.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	196.65	0.72

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 55

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.9963	13.1214	12.147	13.2529	12.147	13.3688	12.6751	13.3688	18.066	10.0673
23.0404	10.0668	28.1174	10.0665	33.4304	13.4951	34.0202	13.4951	34.0202	13.4073
34.5413	13.42	34.9539	13.3463	37.2608	13.3798	38.2128	13.2597	39.3712	13.2318

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.9963	.015	12.6751	.015	33.4304	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.

```
      12.6751 33.4304              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)           11.76    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.01    Wt. n-Val.                         0.015

  W.S. Elev (m)           11.74    Reach Len. (m)         187.00     187.00
 187.00
  Crit W.S. (m)           10.52    Flow Area (m2)                     21.33

  E.G. Slope (m/m)      0.000035   Area (m2)                          21.33

  Q Total (m3/s)          10.00    Flow (m3/s)                        10.00

  Top Width (m)           15.39    Top Width (m)                      15.39

  Vel Total (m/s)          0.47    Avg. Vel. (m/s)                     0.47

  Max Chl Dpth (m)         1.68    Hydr. Depth (m)                     1.39

  Conv. Total (m3/s)      1697.5   Conv. (m3/s)                       1697.5

  Length Wtd. (m)         187.00   Wetted Per. (m)                    16.36

  Min Ch El (m)           10.07    Shear (N/m2)                        0.44

  Alpha                    1.00    Stream Power (N/m s)                0.21

  Frctn Loss (m)           0.01    Cum Volume (1000 m3)               278.52

  C & E Loss (m)           0.00    Cum SA (1000 m2)                   169.98



CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)           12.13    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.01    Wt. n-Val.                         0.015

  W.S. Elev (m)           12.13    Reach Len. (m)         187.00     187.00
 187.00
  Crit W.S. (m)           10.52    Flow Area (m2)                     27.43

  E.G. Slope (m/m)      0.000017   Area (m2)                          27.43

  Q Total (m3/s)          10.00    Flow (m3/s)                        10.00

  Top Width (m)           16.60    Top Width (m)                      16.60
```

Vel Total (m/s)	0.36	Avg. Vel. (m/s)	0.36
Max Chl Dpth (m)	2.06	Hydr. Depth (m)	1.65
Conv. Total (m3/s)	2440.4	Conv. (m3/s)	2440.4
Length Wtd. (m)	187.00	Wetted Per. (m)	17.79
Min Ch El (m)	10.07	Shear (N/m2)	0.25
Alpha	1.00	Stream Power (N/m s)	0.09
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	356.96
C & E Loss (m)	0.00	Cum SA (1000 m2)	182.87

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.58	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.57	Reach Len. (m)	187.00	187.00
187.00				
Crit W.S. (m)	10.52	Flow Area (m2)		35.18
E.G. Slope (m/m)	0.000008	Area (m2)		35.18
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	18.03	Top Width (m)		18.03
Vel Total (m/s)	0.28	Avg. Vel. (m/s)		0.28
Max Chl Dpth (m)	2.51	Hydr. Depth (m)		1.95
Conv. Total (m3/s)	3478.7	Conv. (m3/s)		3478.7
Length Wtd. (m)	187.00	Wetted Per. (m)		19.47
Min Ch El (m)	10.07	Shear (N/m2)		0.15
Alpha	1.00	Stream Power (N/m s)		0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	446.32
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	193.57

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.48	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.44	Reach Len. (m)	187.00	187.00	187.00
Crit W.S. (m)	10.92	Flow Area (m2)		32.86	
E.G. Slope (m/m)	0.000073	Area (m2)		32.86	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.61	Top Width (m)		17.61	
Vel Total (m/s)	0.82	Avg. Vel. (m/s)		0.82	
Max Chl Dpth (m)	2.38	Hydr. Depth (m)		1.87	
Conv. Total (m3/s)	3158.3	Conv. (m3/s)		3158.3	
Length Wtd. (m)	187.00	Wetted Per. (m)		18.98	
Min Ch El (m)	10.07	Shear (N/m2)		1.24	
Alpha	1.00	Stream Power (N/m s)		1.02	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		347.38	
C & E Loss (m)	0.00	Cum SA (1000 m2)		181.63	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.65	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.62	Reach Len. (m)	187.00	187.00	187.00
Crit W.S. (m)	10.92	Flow Area (m2)		35.98	
E.G. Slope (m/m)	0.000057	Area (m2)		35.98	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.17	Top Width (m)		18.17	

Vel Total (m/s)	0.75	Avg. Vel. (m/s)	0.75
Max Chl Dpth (m)	2.55	Hydr. Depth (m)	1.98
Conv. Total (m3/s)	3591.3	Conv. (m3/s)	3591.3
Length Wtd. (m)	187.00	Wetted Per. (m)	19.64
Min Ch El (m)	10.07	Shear (N/m2)	1.02
Alpha	1.00	Stream Power (N/m s)	0.76
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	403.95
C & E Loss (m)	0.00	Cum SA (1000 m2)	189.71

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.93	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.91	Reach Len. (m)	187.00	187.00	187.00
Crit W.S. (m)	10.92	Flow Area (m2)		41.39	
E.G. Slope (m/m)	0.000038	Area (m2)		41.39	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.09	Top Width (m)		19.09	
Vel Total (m/s)	0.65	Avg. Vel. (m/s)		0.65	
Max Chl Dpth (m)	2.84	Hydr. Depth (m)		2.17	
Conv. Total (m3/s)	4375.0	Conv. (m3/s)		4375.0	
Length Wtd. (m)	187.00	Wetted Per. (m)		20.73	
Min Ch El (m)	10.07	Shear (N/m2)		0.75	
Alpha	1.00	Stream Power (N/m s)		0.49	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	477.14	0.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	192.82	0.72

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 54.5

INPUT
Description:
Distance from Upstream XS = 187
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
11.74	15.11	12.69	34.31	15.11	12.69

Upstream Bridge Cross Section Data
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.9963	13.1214	12.147	13.2529	12.147	13.3688	12.6751	13.3688	18.066	10.0673
23.0404	10.0668	28.1174	10.0665	33.4304	13.4951	34.0202	13.4951	34.0202	13.4073
34.5413	13.42	34.9539	13.3463	37.2608	13.3798	38.2128	13.2597	39.3712	13.2318

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.9963	.015	12.6751	.015	33.4304	.015

Bank Sta: Left	Right	Coeff Contr.	Expan.
12.6751	33.4304	.0015	.01

Downstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
4.09	15.11	12.69	26.66	15.11	12.69

Downstream Bridge Cross Section Data
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.2824	2.8808	13.3607	4.7562	13.3153	4.7562	13.4032	5.2869	13.4032
10.2294	10.0494	15.3893	10.0489	20.4178	10.0484	26.0979	13.6533	27.1413	13.6533
27.1413	13.5767	27.1965	13.5793	29.4211	13.5276	33.6337	13.5276	38.442	13.2757

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.015	5.2869	.015	26.0979	.015

Bank Sta: Left	Right	Coeff Contr.	Expan.
5.2869	26.0979	.0015	.01

```
Upstream Embankment side slope              =    1.87 horiz. to 1.0 vertical
Downstream Embankment side slope            =    1.87 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.76    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.74    E.G. Elev (m)               11.75
11.75
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.74
11.74
  Q Bridge (m3/s)            10.00    Crit W.S. (m)               10.52
10.50
  Q Weir (m3/s)                       Max Chl Dpth (m)             1.67
 1.69
  Weir Sta Lft (m)                    Vel Total (m/s)              0.47
 0.46
  Weir Sta Rgt (m)                    Flow Area (m2)              21.23
21.55
  Weir Submerg                        Froude # Chl                 0.13
 0.13
  Weir Max Depth (m)                  Specif Force (m3)           16.97
17.44
  Min El Weir Flow (m)       13.28    Hydr Depth (m)               1.38
 1.41
  Min El Prs (m)             12.69    W.P. Total (m)              16.33
16.35
  Delta EG (m)                0.01    Conv. Total (m3/s)         1685.7
1727.4
  Delta WS (m)                0.01    Top Width (m)               15.37
15.34
```

BR Open Area (m2)	37.31	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.47	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.45
0.43			
BR Sel Method	Energy only	Power Total (N/m s)	0.21
0.20			

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.13	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.13	E.G. Elev (m)	12.13
12.13			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.12
12.12			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.52
10.50			
Q Weir (m3/s)		Max Chl Dpth (m)	2.06
2.07			
Weir Sta Lft (m)		Vel Total (m/s)	0.37
0.36			
Weir Sta Rgt (m)		Flow Area (m2)	27.37
27.67			
Weir Submerg		Froude # Chl	0.09
0.09			
Weir Max Depth (m)		Specif Force (m3)	26.20
26.79			
Min El Weir Flow (m)	13.28	Hydr Depth (m)	1.65
1.68			
Min El Prs (m)	12.69	W.P. Total (m)	17.78
17.75			
Delta EG (m)	0.00	Conv. Total (m3/s)	2433.7
2480.8			
Delta WS (m)	0.00	Top Width (m)	16.59
16.51			
BR Open Area (m2)	37.31	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.37	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.25
0.25			
BR Sel Method	Energy only	Power Total (N/m s)	0.09
0.09			

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.58	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.57	E.G. Elev (m)	12.58 12.58
Q Total (m3/s)	10.00	W.S. Elev (m)	12.57 12.57
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.52 10.50
Q Weir (m3/s)		Max Chl Dpth (m)	2.50 2.52
Weir Sta Lft (m)		Vel Total (m/s)	0.28 0.28
Weir Sta Rgt (m)		Flow Area (m2)	35.15 35.40
Weir Submerg		Froude # Chl	0.07 0.06
Weir Max Depth (m)		Specif Force (m3)	40.13 40.85
Min El Weir Flow (m)	13.28	Hydr Depth (m)	1.95 1.98
Min El Prs (m)	12.69	W.P. Total (m)	19.46 19.39
Delta EG (m)	0.00	Conv. Total (m3/s)	3474.7 3525.2
Delta WS (m)	0.00	Top Width (m)	18.02 17.88
BR Open Area (m2)	37.31	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.28	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.15 0.14
BR Sel Method	Energy only	Power Total (N/m s)	0.04 0.04

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.48	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.44	E.G. Elev (m)	12.46 12.46
Q Total (m3/s)	27.00	W.S. Elev (m)	12.43 12.43
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.93 10.91
Q Weir (m3/s)		Max Chl Dpth (m)	2.36 2.38
Weir Sta Lft (m)		Vel Total (m/s)	0.83 0.82
Weir Sta Rgt (m)		Flow Area (m2)	32.61 32.88

Weir Submerg		Froude # Chl	0.19 0.19
Weir Max Depth (m)		Specif Force (m3)	37.29 37.96
Min El Weir Flow (m)	13.28	Hydr Depth (m)	1.86 1.88
Min El Prs (m)	12.69	W.P. Total (m)	18.93 18.87
Delta EG (m)	0.01	Conv. Total (m3/s)	3123.9 3174.1
Delta WS (m)	0.01	Top Width (m)	17.57 17.44
BR Open Area (m2)	37.31	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.83	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	1.26 1.24
BR Sel Method	Energy only	Power Total (N/m s)	1.04 1.02

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.65	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.62	E.G. Elev (m)	12.63 12.63
Q Total (m3/s)	27.00	W.S. Elev (m)	12.61 12.61
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.93 10.91
Q Weir (m3/s)		Max Chl Dpth (m)	2.54 2.56
Weir Sta Lft (m)		Vel Total (m/s)	0.75 0.75
Weir Sta Rgt (m)		Flow Area (m2)	35.78 36.02
Weir Submerg		Froude # Chl	0.17 0.17
Weir Max Depth (m)		Specif Force (m3)	43.16 43.88
Min El Weir Flow (m)	13.28	Hydr Depth (m)	1.97 2.00
Min El Prs (m)	12.69	W.P. Total (m)	19.60 19.52
Delta EG (m)	0.01	Conv. Total (m3/s)	3563.3 3614.0
Delta WS (m)	0.01	Top Width (m)	18.13 17.99
BR Open Area (m2)	37.31	Frctn Loss (m)	0.00 0.00

BR Open Vel (m/s)	0.75	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.03
1.01			
BR Sel Method	Energy only	Power Total (N/m s)	0.78
0.76			

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.93	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.91	E.G. Elev (m)	12.92
12.92			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.89
12.89			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.93
10.91			
Q Weir (m3/s)		Max Chl Dpth (m)	2.82
2.84			
Weir Sta Lft (m)		Vel Total (m/s)	0.72
0.72			
Weir Sta Rgt (m)		Flow Area (m2)	37.31
37.55			
Weir Submerg		Froude # Chl	0.14
0.14			
Weir Max Depth (m)		Specif Force (m3)	53.63
54.40			
Min El Weir Flow (m)	13.28	Hydr Depth (m)	
Min El Prs (m)	12.69	W.P. Total (m)	38.31
38.06			
Delta EG (m)	0.01	Conv. Total (m3/s)	2444.3
2480.3			
Delta WS (m)	0.01	Top Width (m)	
BR Open Area (m2)	37.31	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.72	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.17
1.15			
BR Sel Method	Energy only	Power Total (N/m s)	0.84
0.82			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 54

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.2824	2.8808	13.3607	4.7562	13.3153	4.7562	13.4032	5.2869	13.4032
10.2294	10.0494	15.3893	10.0489	20.4178	10.0484	26.0979	13.6533	27.1413	13.6533
27.1413	13.5767	27.1965	13.5793	29.4211	13.5276	33.6337	13.5276	38.442	13.2757

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.015	5.2869	.015	26.0979	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
5.2869	26.0979	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.75	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.74	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		21.55	
E.G. Slope (m/m)	0.000034	Area (m2)		21.55	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.34	Top Width (m)		15.34	
Vel Total (m/s)	0.46	Avg. Vel. (m/s)		0.46	
Max Chl Dpth (m)	1.69	Hydr. Depth (m)		1.40	
Conv. Total (m3/s)	1726.9	Conv. (m3/s)		1726.9	
Length Wtd. (m)	200.00	Wetted Per. (m)		16.35	
Min Ch El (m)	10.05	Shear (N/m2)		0.43	
Alpha	1.00	Stream Power (N/m s)		0.20	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		274.26	
C & E Loss (m)	0.00	Cum SA (1000 m2)		166.91	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.13	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.12	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		27.67	
E.G. Slope (m/m)	0.000016	Area (m2)		27.67	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.51	Top Width (m)		16.51	
Vel Total (m/s)	0.36	Avg. Vel. (m/s)		0.36	
Max Chl Dpth (m)	2.07	Hydr. Depth (m)		1.68	
Conv. Total (m3/s)	2480.5	Conv. (m3/s)		2480.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.75	
Min Ch El (m)	10.05	Shear (N/m2)		0.25	
Alpha	1.00	Stream Power (N/m s)		0.09	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		351.48	
C & E Loss (m)	0.00	Cum SA (1000 m2)		179.55	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.40	
E.G. Slope (m/m)	0.000008	Area (m2)		35.40	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	

Top Width (m)	17.88	Top Width (m)			17.88
Vel Total (m/s)	0.28	Avg. Vel. (m/s)			0.28
Max Chl Dpth (m)	2.52	Hydr. Depth (m)			1.98
Conv. Total (m3/s)	3525.0	Conv. (m3/s)			3525.0
Length Wtd. (m)	200.00	Wetted Per. (m)			19.39
Min Ch El (m)	10.05	Shear (N/m2)			0.14
Alpha	1.00	Stream Power (N/m s)			0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00		439.28
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00		189.97

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.46	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	12.43	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			32.87
E.G. Slope (m/m)	0.000072	Area (m2)			32.87
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.44	Top Width (m)			17.44
Vel Total (m/s)	0.82	Avg. Vel. (m/s)			0.82
Max Chl Dpth (m)	2.38	Hydr. Depth (m)			1.88
Conv. Total (m3/s)	3172.6	Conv. (m3/s)			3172.6
Length Wtd. (m)	200.00	Wetted Per. (m)			18.87
Min Ch El (m)	10.05	Shear (N/m2)			1.24
Alpha	1.00	Stream Power (N/m s)			1.02
Frctn Loss (m)	0.01	Cum Volume (1000 m3)			340.83
C & E Loss (m)	0.00	Cum SA (1000 m2)			178.11

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.63	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.61	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		36.02	
E.G. Slope (m/m)	0.000056	Area (m2)		36.02	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.99	Top Width (m)		17.99	
Vel Total (m/s)	0.75	Avg. Vel. (m/s)		0.75	
Max Chl Dpth (m)	2.56	Hydr. Depth (m)		2.00	
Conv. Total (m3/s)	3612.9	Conv. (m3/s)		3612.9	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.51	
Min Ch El (m)	10.05	Shear (N/m2)		1.01	
Alpha	1.00	Stream Power (N/m s)		0.76	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		396.77	
C & E Loss (m)	0.00	Cum SA (1000 m2)		186.08	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.92	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.89	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		41.34	
E.G. Slope (m/m)	0.000038	Area (m2)		41.34	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	

Top Width (m)	18.87	Top Width (m)	18.87		
Vel Total (m/s)	0.65	Avg. Vel. (m/s)	0.65		
Max Chl Dpth (m)	2.85	Hydr. Depth (m)	2.19		
Conv. Total (m3/s)	4389.0	Conv. (m3/s)	4389.0		
Length Wtd. (m)	200.00	Wetted Per. (m)	20.57		
Min Ch El (m)	10.05	Shear (N/m2)	0.75		
Alpha	1.00	Stream Power (N/m s)	0.49		
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	469.28	0.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	190.96	0.72

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 53

INPUT
Description: Opera 6
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.1091	2.4601	13.2515	4.5795	13.3156	4.5795	13.2225	5.1087	13.3156
10.2503	10.0335	15.2603	10.0332	20.1936	10.0329	25.588	13.3532	26.1867	13.2532
26.1867	13.3532	26.2212	13.2532	26.5698	13.2377	30.7179	13.0321		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.015	5.1087	.015	25.588	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
5.1087	25.588	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.74	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.73	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		21.47	

E.G. Slope (m/m)	0.000034	Area (m2)	21.47
Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	15.36	Top Width (m)	15.36
Vel Total (m/s)	0.47	Avg. Vel. (m/s)	0.47
Max Chl Dpth (m)	1.70	Hydr. Depth (m)	1.40
Conv. Total (m3/s)	1717.6	Conv. (m3/s)	1717.6
Length Wtd. (m)	200.00	Wetted Per. (m)	16.34
Min Ch El (m)	10.03	Shear (N/m2)	0.44
Alpha	1.00	Stream Power (N/m s)	0.20
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	269.96
C & E Loss (m)	0.00	Cum SA (1000 m2)	163.84

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.13	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.12	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		27.68	
E.G. Slope (m/m)	0.000016	Area (m2)		27.68	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.60	Top Width (m)		16.60	
Vel Total (m/s)	0.36	Avg. Vel. (m/s)		0.36	
Max Chl Dpth (m)	2.09	Hydr. Depth (m)		1.67	
Conv. Total (m3/s)	2476.5	Conv. (m3/s)		2476.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.80	
Min Ch El (m)	10.03	Shear (N/m2)		0.25	
Alpha	1.00	Stream Power (N/m s)		0.09	

Frctn Loss (m)	0.00	Cum Volume (1000 m3)	345.94
C & E Loss (m)	0.00	Cum SA (1000 m2)	176.24

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.48	
E.G. Slope (m/m)	0.000008	Area (m2)		35.48	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.04	Top Width (m)		18.04	
Vel Total (m/s)	0.28	Avg. Vel. (m/s)		0.28	
Max Chl Dpth (m)	2.54	Hydr. Depth (m)		1.97	
Conv. Total (m3/s)	3526.4	Conv. (m3/s)		3526.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.50	
Min Ch El (m)	10.03	Shear (N/m2)		0.14	
Alpha	1.00	Stream Power (N/m s)		0.04	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	432.20	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	186.38	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.45	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.41	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		32.70	

E.G. Slope (m/m)	0.000074	Area (m2)	32.70
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	17.54	Top Width (m)	17.54
Vel Total (m/s)	0.83	Avg. Vel. (m/s)	0.83
Max Chl Dpth (m)	2.38	Hydr. Depth (m)	1.86
Conv. Total (m3/s)	3140.9	Conv. (m3/s)	3140.9
Length Wtd. (m)	200.00	Wetted Per. (m)	18.91
Min Ch El (m)	10.03	Shear (N/m2)	1.25
Alpha	1.00	Stream Power (N/m s)	1.03
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	334.27
C & E Loss (m)	0.00	Cum SA (1000 m2)	174.61

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.62	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.59	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.93	
E.G. Slope (m/m)	0.000057	Area (m2)		35.93	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.12	Top Width (m)		18.12	
Vel Total (m/s)	0.75	Avg. Vel. (m/s)		0.75	
Max Chl Dpth (m)	2.56	Hydr. Depth (m)		1.98	
Conv. Total (m3/s)	3589.4	Conv. (m3/s)		3589.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.59	
Min Ch El (m)	10.03	Shear (N/m2)		1.02	
Alpha	1.00	Stream Power (N/m s)		0.76	

Frctn Loss (m)	0.01	Cum Volume (1000 m3)	389.57
C & E Loss (m)	0.00	Cum SA (1000 m2)	182.47

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.91	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.89	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		41.37	
E.G. Slope (m/m)	0.000038	Area (m2)		41.37	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.05	Top Width (m)		19.05	
Vel Total (m/s)	0.65	Avg. Vel. (m/s)		0.65	
Max Chl Dpth (m)	2.85	Hydr. Depth (m)		2.17	
Conv. Total (m3/s)	4376.9	Conv. (m3/s)		4376.9	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.69	
Min Ch El (m)	10.03	Shear (N/m2)		0.75	
Alpha	1.00	Stream Power (N/m s)		0.49	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	461.01	0.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.63	187.17	0.72

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 52

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.4302	12.8249	12.0545	13.1916	12.4092	13.203	12.9813	13.1687	14.6668	13.1864

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 14.6668 13.2916 15.1951 13.2916 20.5172 10.0201 25.3979 10.0198 30.4346 10.0194
 35.6015 13.4411 36.0841 13.4411 36.0841 13.3423  40.697 13.1284

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  9.4302    .015 15.1951    .015 35.6015    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       15.1951 35.6015              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.73    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.                           0.015

  W.S. Elev (m)            11.72    Reach Len. (m)          200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)                       21.45

  E.G. Slope (m/m)       0.000034    Area (m2)                            21.45

  Q Total (m3/s)           10.00    Flow (m3/s)                          10.00

  Top Width (m)            15.26    Top Width (m)                        15.26

  Vel Total (m/s)           0.47    Avg. Vel. (m/s)                       0.47

  Max Chl Dpth (m)          1.70    Hydr. Depth (m)                       1.41

  Conv. Total (m3/s)      1720.3    Conv. (m3/s)                        1720.3

  Length Wtd. (m)         200.00    Wetted Per. (m)                      16.26

  Min Ch El (m)            10.02    Shear (N/m2)                          0.44

  Alpha                     1.00    Stream Power (N/m s)                  0.20

  Frctn Loss (m)            0.01    Cum Volume (1000 m3)                265.67

  C & E Loss (m)            0.00    Cum SA (1000 m2)                    160.78



CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)            12.12    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.                           0.015
```

W.S. Elev (m)	12.12	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			27.67
E.G. Slope (m/m)	0.000016	Area (m2)			27.67
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	16.49	Top Width (m)			16.49
Vel Total (m/s)	0.36	Avg. Vel. (m/s)			0.36
Max Chl Dpth (m)	2.10	Hydr. Depth (m)			1.68
Conv. Total (m3/s)	2483.5	Conv. (m3/s)			2483.5
Length Wtd. (m)	200.00	Wetted Per. (m)			17.71
Min Ch El (m)	10.02	Shear (N/m2)			0.25
Alpha	1.00	Stream Power (N/m s)			0.09
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			340.41
C & E Loss (m)	0.00	Cum SA (1000 m2)			172.93

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			35.45
E.G. Slope (m/m)	0.000008	Area (m2)			35.45
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	17.91	Top Width (m)			17.91
Vel Total (m/s)	0.28	Avg. Vel. (m/s)			0.28
Max Chl Dpth (m)	2.55	Hydr. Depth (m)			1.98
Conv. Total (m3/s)	3533.3	Conv. (m3/s)			3533.3
Length Wtd. (m)	200.00	Wetted Per. (m)			19.40

Min Ch El (m)	10.02	Shear (N/m2)		0.14
Alpha	1.00	Stream Power (N/m s)		0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	425.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	182.78

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.43	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.04	Wt. n-Val.		0.015
W.S. Elev (m)	12.40	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		32.45
E.G. Slope (m/m)	0.000075	Area (m2)		32.45
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	17.38	Top Width (m)		17.38
Vel Total (m/s)	0.83	Avg. Vel. (m/s)		0.83
Max Chl Dpth (m)	2.38	Hydr. Depth (m)		1.87
Conv. Total (m3/s)	3116.5	Conv. (m3/s)		3116.5
Length Wtd. (m)	200.00	Wetted Per. (m)		18.76
Min Ch El (m)	10.02	Shear (N/m2)		1.27
Alpha	1.00	Stream Power (N/m s)		1.06
Frctn Loss (m)	0.02	Cum Volume (1000 m3)		327.76
C & E Loss (m)	0.00	Cum SA (1000 m2)		171.12

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.61	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015

W.S. Elev (m)	12.58	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			35.72
E.G. Slope (m/m)	0.000057	Area (m2)			35.72
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.96	Top Width (m)			17.96
Vel Total (m/s)	0.76	Avg. Vel. (m/s)			0.76
Max Chl Dpth (m)	2.56	Hydr. Depth (m)			1.99
Conv. Total (m3/s)	3570.3	Conv. (m3/s)			3570.3
Length Wtd. (m)	200.00	Wetted Per. (m)			19.45
Min Ch El (m)	10.02	Shear (N/m2)			1.03
Alpha	1.00	Stream Power (N/m s)			0.78
Frctn Loss (m)	0.01	Cum Volume (1000 m3)			382.41
C & E Loss (m)	0.00	Cum SA (1000 m2)			178.86

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.90	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.015	0.015	
W.S. Elev (m)	12.88	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.01	41.18	
E.G. Slope (m/m)	0.000038	Area (m2)	0.01	41.18	
Q Total (m3/s)	27.00	Flow (m3/s)	0.00	27.00	
Top Width (m)	19.27	Top Width (m)	0.39	18.89	
Vel Total (m/s)	0.66	Avg. Vel. (m/s)	0.03	0.66	
Max Chl Dpth (m)	2.86	Hydr. Depth (m)	0.03	2.18	
Conv. Total (m3/s)	4362.4	Conv. (m3/s)	0.1	4362.3	
Length Wtd. (m)	200.00	Wetted Per. (m)	0.45	20.56	

Min Ch El (m)	10.02	Shear (N/m2)	0.01	0.75
Alpha	1.00	Stream Power (N/m s)	0.00	0.49
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	452.76
0.07				
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.59	183.38
0.72				

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 51

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.6938	13.1175	9.8664	13.4467	11.6666	13.4469	12.7629	13.3968	12.7629	13.4739
13.3125	13.4739	18.8654	10.0066	23.7806	10.0063	28.7677	10.006	34.0718	13.4296
34.9219	13.4296	34.9219	13.3232	36.4717	13.3035	37.4686	13.2946	37.9539	13.2064
39.5419	13.2417								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.6938	.015	13.3125	.015	34.0718	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
13.3125	34.0718	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.73	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.72	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		21.55	
E.G. Slope (m/m)	0.000033	Area (m2)		21.55	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.29	Top Width (m)		15.29	

Vel Total (m/s)	0.46	Avg. Vel. (m/s)	0.46
Max Chl Dpth (m)	1.71	Hydr. Depth (m)	1.41
Conv. Total (m3/s)	1731.4	Conv. (m3/s)	1731.4
Length Wtd. (m)	200.00	Wetted Per. (m)	16.29
Min Ch El (m)	10.01	Shear (N/m2)	0.43
Alpha	1.00	Stream Power (N/m s)	0.20
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	261.37
C & E Loss (m)	0.00	Cum SA (1000 m2)	157.72

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.12	Element	Left OB	Channel Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015
W.S. Elev (m)	12.11	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		27.84
E.G. Slope (m/m)	0.000016	Area (m2)		27.84
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	16.54	Top Width (m)		16.54
Vel Total (m/s)	0.36	Avg. Vel. (m/s)		0.36
Max Chl Dpth (m)	2.11	Hydr. Depth (m)		1.68
Conv. Total (m3/s)	2504.4	Conv. (m3/s)		2504.4
Length Wtd. (m)	200.00	Wetted Per. (m)		17.76
Min Ch El (m)	10.01	Shear (N/m2)		0.25
Alpha	1.00	Stream Power (N/m s)		0.09
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		334.86
C & E Loss (m)	0.00	Cum SA (1000 m2)		169.63

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.67	
E.G. Slope (m/m)	0.000008	Area (m2)		35.67	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.97	Top Width (m)		17.97	
Vel Total (m/s)	0.28	Avg. Vel. (m/s)		0.28	
Max Chl Dpth (m)	2.56	Hydr. Depth (m)		1.99	
Conv. Total (m3/s)	3562.8	Conv. (m3/s)		3562.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.46	
Min Ch El (m)	10.01	Shear (N/m2)		0.14	
Alpha	1.00	Stream Power (N/m s)		0.04	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	417.99	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	179.19	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.42	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.		0.015	
W.S. Elev (m)	12.38	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		32.42	
E.G. Slope (m/m)	0.000075	Area (m2)		32.42	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.39	Top Width (m)		17.39	

Vel Total (m/s)	0.83	Avg. Vel. (m/s)	0.83
Max Chl Dpth (m)	2.38	Hydr. Depth (m)	1.86
Conv. Total (m3/s)	3111.8	Conv. (m3/s)	3111.8
Length Wtd. (m)	200.00	Wetted Per. (m)	18.77
Min Ch El (m)	10.01	Shear (N/m2)	1.28
Alpha	1.00	Stream Power (N/m s)	1.06
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	321.27
C & E Loss (m)	0.00	Cum SA (1000 m2)	167.64

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.60	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.57	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		35.76
E.G. Slope (m/m)	0.000057	Area (m2)		35.76
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	17.98	Top Width (m)		17.98
Vel Total (m/s)	0.76	Avg. Vel. (m/s)		0.76
Max Chl Dpth (m)	2.57	Hydr. Depth (m)		1.99
Conv. Total (m3/s)	3574.9	Conv. (m3/s)		3574.9
Length Wtd. (m)	200.00	Wetted Per. (m)		19.47
Min Ch El (m)	10.01	Shear (N/m2)		1.03
Alpha	1.00	Stream Power (N/m s)		0.78
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		375.26
C & E Loss (m)	0.00	Cum SA (1000 m2)		175.27

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.89	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.87	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		41.30	
E.G. Slope (m/m)	0.000038	Area (m2)		41.30	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.93	Top Width (m)		18.93	
Vel Total (m/s)	0.65	Avg. Vel. (m/s)		0.65	
Max Chl Dpth (m)	2.87	Hydr. Depth (m)		2.18	
Conv. Total (m3/s)	4379.0	Conv. (m3/s)		4379.0	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.59	
Min Ch El (m)	10.01	Shear (N/m2)		0.75	
Alpha	1.00	Stream Power (N/m s)		0.49	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	444.51	0.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55	179.60	0.72

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 50

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
6.0099	13.0715	7.5778	13.3439	9.0108	13.4642	11.051	13.5642	11.051	13.4642
12.2394	13.5642	17.8005	9.9932	22.7518	9.9929	27.7023	9.9925	32.9332	13.4656
33.4634	13.37	33.4634	13.4656	34.3334	13.3775	37.5717	13.317	37.9978	13.2728

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

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  6.0099    .015 12.2394    .015 32.9332    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       12.2394 32.9332              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.72    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.                           0.015

  W.S. Elev (m)            11.71    Reach Len. (m)          200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)                       21.52

  E.G. Slope (m/m)       0.000033    Area (m2)                            21.52

  Q Total (m3/s)           10.00    Flow (m3/s)                          10.00

  Top Width (m)            15.16    Top Width (m)                        15.16

  Vel Total (m/s)           0.46    Avg. Vel. (m/s)                       0.46

  Max Chl Dpth (m)          1.72    Hydr. Depth (m)                       1.42

  Conv. Total (m3/s)      1734.9    Conv. (m3/s)                        1734.9

  Length Wtd. (m)         200.00    Wetted Per. (m)                      16.18

  Min Ch El (m)             9.99    Shear (N/m2)                          0.43

  Alpha                     1.00    Stream Power (N/m s)                  0.20

  Frctn Loss (m)            0.01    Cum Volume (1000 m3)                257.06

  C & E Loss (m)            0.00    Cum SA (1000 m2)                    154.67


CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)            12.12    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.                           0.015

  W.S. Elev (m)            12.11    Reach Len. (m)          200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)                       27.81

  E.G. Slope (m/m)       0.000016    Area (m2)                            27.81
```

Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	16.38	Top Width (m)	16.38
Vel Total (m/s)	0.36	Avg. Vel. (m/s)	0.36
Max Chl Dpth (m)	2.12	Hydr. Depth (m)	1.70
Conv. Total (m3/s)	2511.4	Conv. (m3/s)	2511.4
Length Wtd. (m)	200.00	Wetted Per. (m)	17.64
Min Ch El (m)	9.99	Shear (N/m2)	0.25
Alpha	1.00	Stream Power (N/m s)	0.09
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	329.29
C & E Loss (m)	0.00	Cum SA (1000 m2)	166.33

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.60	
E.G. Slope (m/m)	0.000008	Area (m2)		35.60	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.78	Top Width (m)		17.78	
Vel Total (m/s)	0.28	Avg. Vel. (m/s)		0.28	
Max Chl Dpth (m)	2.57	Hydr. Depth (m)		2.00	
Conv. Total (m3/s)	3567.7	Conv. (m3/s)		3567.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.31	
Min Ch El (m)	9.99	Shear (N/m2)		0.14	
Alpha	1.00	Stream Power (N/m s)		0.04	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	410.86	

C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	175.62

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.40	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.04	Wt. n-Val.		0.015
W.S. Elev (m)	12.37	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		32.13
E.G. Slope (m/m)	0.000077	Area (m2)		32.13
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	17.17	Top Width (m)		17.17
Vel Total (m/s)	0.84	Avg. Vel. (m/s)		0.84
Max Chl Dpth (m)	2.37	Hydr. Depth (m)		1.87
Conv. Total (m3/s)	3085.9	Conv. (m3/s)		3085.9
Length Wtd. (m)	200.00	Wetted Per. (m)		18.59
Min Ch El (m)	9.99	Shear (N/m2)		1.30
Alpha	1.00	Stream Power (N/m s)		1.09
Frctn Loss (m)	0.02	Cum Volume (1000 m3)		314.82
C & E Loss (m)	0.00	Cum SA (1000 m2)		164.19

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.59	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		35.50
E.G. Slope (m/m)	0.000058	Area (m2)		35.50

Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	17.76	Top Width (m)	17.76
Vel Total (m/s)	0.76	Avg. Vel. (m/s)	0.76
Max Chl Dpth (m)	2.57	Hydr. Depth (m)	2.00
Conv. Total (m3/s)	3553.6	Conv. (m3/s)	3553.6
Length Wtd. (m)	200.00	Wetted Per. (m)	19.29
Min Ch El (m)	9.99	Shear (N/m2)	1.04
Alpha	1.00	Stream Power (N/m s)	0.79
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	368.14
C & E Loss (m)	0.00	Cum SA (1000 m2)	171.70

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.89	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.86	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		41.05	
E.G. Slope (m/m)	0.000038	Area (m2)		41.05	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.70	Top Width (m)		18.70	
Vel Total (m/s)	0.66	Avg. Vel. (m/s)		0.66	
Max Chl Dpth (m)	2.87	Hydr. Depth (m)		2.20	
Conv. Total (m3/s)	4360.5	Conv. (m3/s)		4360.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.40	
Min Ch El (m)	9.99	Shear (N/m2)		0.76	
Alpha	1.00	Stream Power (N/m s)		0.50	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	436.27	

```
   0.07
  C & E Loss (m)            0.00    Cum SA (1000 m2)          0.55     175.83
   0.72



CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 49

INPUT
Description:
Station Elevation Data    num=      19
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  6.1878 13.2676  8.6556 13.3672  9.1701 13.4707  9.5248 13.4592 10.0511 13.3563
 11.3064 13.3651 11.3064 13.4687 12.1527 13.4687 17.3226  9.9798 22.3478  9.9794
 27.3745  9.9791 32.5194 13.2578 33.0485 13.2578 33.0485 13.1126 33.8772 13.1913
 34.3772 13.1716 34.8838 13.2439 35.2325 13.2373 38.7572 13.1241

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  6.1878    .015 12.1527    .015 32.5194    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       12.1527 32.5194             200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.71    Element                Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.                          0.015

  W.S. Elev (m)            11.70    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)                      21.87

  E.G. Slope (m/m)      0.000032    Area (m2)                           21.87

  Q Total (m3/s)           10.00    Flow (m3/s)                         10.00

  Top Width (m)            15.31    Top Width (m)                       15.31

  Vel Total (m/s)           0.46    Avg. Vel. (m/s)                      0.46

  Max Chl Dpth (m)          1.72    Hydr. Depth (m)                      1.43

  Conv. Total (m3/s)      1770.6    Conv. (m3/s)                       1770.6

  Length Wtd. (m)          200.00    Wetted Per. (m)                     16.34
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Min Ch El (m)	9.98	Shear (N/m2)	0.42
Alpha	1.00	Stream Power (N/m s)	0.19
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	252.72
C & E Loss (m)	0.00	Cum SA (1000 m2)	151.63

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.11	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.11	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		28.28	
E.G. Slope (m/m)	0.000015	Area (m2)		28.28	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.54	Top Width (m)		16.54	
Vel Total (m/s)	0.35	Avg. Vel. (m/s)		0.35	
Max Chl Dpth (m)	2.13	Hydr. Depth (m)		1.71	
Conv. Total (m3/s)	2565.3	Conv. (m3/s)		2565.3	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.81	
Min Ch El (m)	9.98	Shear (N/m2)		0.24	
Alpha	1.00	Stream Power (N/m s)		0.08	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		323.68	
C & E Loss (m)	0.00	Cum SA (1000 m2)		163.04	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	

W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			36.16
E.G. Slope (m/m)	0.000008	Area (m2)			36.16
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	17.93	Top Width (m)			17.93
Vel Total (m/s)	0.28	Avg. Vel. (m/s)			0.28
Max Chl Dpth (m)	2.58	Hydr. Depth (m)			2.02
Conv. Total (m3/s)	3640.6	Conv. (m3/s)			3640.6
Length Wtd. (m)	200.00	Wetted Per. (m)			19.48
Min Ch El (m)	9.98	Shear (N/m2)			0.14
Alpha	1.00	Stream Power (N/m s)			0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00		403.69
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00		172.05

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.39	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.			0.015
W.S. Elev (m)	12.35	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			32.44
E.G. Slope (m/m)	0.000075	Area (m2)			32.44
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.29	Top Width (m)			17.29
Vel Total (m/s)	0.83	Avg. Vel. (m/s)			0.83
Max Chl Dpth (m)	2.37	Hydr. Depth (m)			1.88
Conv. Total (m3/s)	3120.8	Conv. (m3/s)			3120.8
Length Wtd. (m)	200.00	Wetted Per. (m)			18.71

Min Ch El (m)	9.98	Shear (N/m2)	1.27
Alpha	1.00	Stream Power (N/m s)	1.06
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	308.36
C & E Loss (m)	0.00	Cum SA (1000 m2)	160.74

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.58	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.89	
E.G. Slope (m/m)	0.000056	Area (m2)		35.89	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.89	Top Width (m)		17.89	
Vel Total (m/s)	0.75	Avg. Vel. (m/s)		0.75	
Max Chl Dpth (m)	2.57	Hydr. Depth (m)		2.01	
Conv. Total (m3/s)	3602.4	Conv. (m3/s)		3602.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.42	
Min Ch El (m)	9.98	Shear (N/m2)		1.02	
Alpha	1.00	Stream Power (N/m s)		0.77	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		361.00	
C & E Loss (m)	0.00	Cum SA (1000 m2)		168.13	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.88	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	

W.S. Elev (m)	12.86	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			41.54
E.G. Slope (m/m)	0.000037	Area (m2)			41.54
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	18.83	Top Width (m)			18.83
Vel Total (m/s)	0.65	Avg. Vel. (m/s)			0.65
Max Chl Dpth (m)	2.88	Hydr. Depth (m)			2.21
Conv. Total (m3/s)	4428.4	Conv. (m3/s)			4428.4
Length Wtd. (m)	200.00	Wetted Per. (m)			20.55
Min Ch El (m)	9.98	Shear (N/m2)			0.74
Alpha	1.00	Stream Power (N/m s)			0.48
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	428.01	0.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55	172.08	0.72

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 48

INPUT
Description:
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.3427	2.0574	13.3427	3.4663	13.4407	3.4663	13.5407	4.8751	13.5407
10.1739	9.9617	15.2167	9.9609	20.0416	9.9606	26.0839	13.6782	27.7184	13.6782
27.7184	13.5757	29.4802	13.5669	31.1161	13.6122	31.7125	13.511	32.579	13.286
34.9421	13.3647	38.5292	13.3765						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.015	4.8751	.015	26.0839	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
4.8751	26.0839	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.71	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.70	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		21.82	
E.G. Slope (m/m)	0.000032	Area (m2)		21.82	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.26	Top Width (m)		15.26	
Vel Total (m/s)	0.46	Avg. Vel. (m/s)		0.46	
Max Chl Dpth (m)	1.74	Hydr. Depth (m)		1.43	
Conv. Total (m3/s)	1767.7	Conv. (m3/s)		1767.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		16.28	
Min Ch El (m)	9.96	Shear (N/m2)		0.42	
Alpha	1.00	Stream Power (N/m s)		0.19	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		248.35	
C & E Loss (m)	0.00	Cum SA (1000 m2)		148.57	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.11	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.10	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		28.26	
E.G. Slope (m/m)	0.000015	Area (m2)		28.26	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.52	Top Width (m)		16.52	
Vel Total (m/s)	0.35	Avg. Vel. (m/s)		0.35	
Max Chl Dpth (m)	2.14	Hydr. Depth (m)		1.71	

Conv. Total (m3/s)	2565.9	Conv. (m3/s)	2565.9
Length Wtd. (m)	200.00	Wetted Per. (m)	17.78
Min Ch El (m)	9.96	Shear (N/m2)	0.24
Alpha	1.00	Stream Power (N/m s)	0.08
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	318.03
C & E Loss (m)	0.00	Cum SA (1000 m2)	159.74

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.57	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		36.17
E.G. Slope (m/m)	0.000008	Area (m2)		36.17
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	17.94	Top Width (m)		17.94
Vel Total (m/s)	0.28	Avg. Vel. (m/s)		0.28
Max Chl Dpth (m)	2.60	Hydr. Depth (m)		2.02
Conv. Total (m3/s)	3642.5	Conv. (m3/s)		3642.5
Length Wtd. (m)	200.00	Wetted Per. (m)		19.48
Min Ch El (m)	9.96	Shear (N/m2)		0.14
Alpha	1.00	Stream Power (N/m s)		0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	396.46
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	168.46

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.37	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.		0.015	
W.S. Elev (m)	12.34	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		32.20	
E.G. Slope (m/m)	0.000076	Area (m2)		32.20	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.24	Top Width (m)		17.24	
Vel Total (m/s)	0.84	Avg. Vel. (m/s)		0.84	
Max Chl Dpth (m)	2.38	Hydr. Depth (m)		1.87	
Conv. Total (m3/s)	3090.1	Conv. (m3/s)		3090.1	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.64	
Min Ch El (m)	9.96	Shear (N/m2)		1.29	
Alpha	1.00	Stream Power (N/m s)		1.08	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		301.90	
C & E Loss (m)	0.00	Cum SA (1000 m2)		157.29	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.72	
E.G. Slope (m/m)	0.000057	Area (m2)		35.72	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.87	Top Width (m)		17.87	
Vel Total (m/s)	0.76	Avg. Vel. (m/s)		0.76	
Max Chl Dpth (m)	2.58	Hydr. Depth (m)		2.00	

Conv. Total (m3/s)	3578.7	Conv. (m3/s)	3578.7
Length Wtd. (m)	200.00	Wetted Per. (m)	19.38
Min Ch El (m)	9.96	Shear (N/m2)	1.03
Alpha	1.00	Stream Power (N/m s)	0.78
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	353.84
C & E Loss (m)	0.00	Cum SA (1000 m2)	164.55

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.87	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.85	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		41.45	
E.G. Slope (m/m)	0.000037	Area (m2)		41.45	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.84	Top Width (m)		18.84	
Vel Total (m/s)	0.65	Avg. Vel. (m/s)		0.65	
Max Chl Dpth (m)	2.89	Hydr. Depth (m)		2.20	
Conv. Total (m3/s)	4412.3	Conv. (m3/s)		4412.3	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.54	
Min Ch El (m)	9.96	Shear (N/m2)		0.74	
Alpha	1.00	Stream Power (N/m s)		0.48	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	419.71	0.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55	168.31	0.72

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 47

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.3642	13.8709	12.1018	13.9021	13.0504	13.9896	14.758	13.9458	15.6445	13.9738
15.6445	14.0896	16.8882	14.0896	22.5598	9.9315	28.0289	9.9307	33.197	9.9299
39.4389	13.9271	40.5235	13.9271	40.5235	13.8474	40.9529	13.8648	43.5961	13.8852
44.0076	13.9417	45.3039	14.0292	49.4045	14.1706				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.3642	.015	16.8882	.015	39.4389	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.8882	39.4389	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.70	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.69	Reach Len. (m)	97.50	97.50	97.50
Crit W.S. (m)	10.37	Flow Area (m2)		23.29	
E.G. Slope (m/m)	0.000027	Area (m2)		23.29	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.79	Top Width (m)		15.79	
Vel Total (m/s)	0.43	Avg. Vel. (m/s)		0.43	
Max Chl Dpth (m)	1.76	Hydr. Depth (m)		1.47	
Conv. Total (m3/s)	1923.7	Conv. (m3/s)		1923.7	
Length Wtd. (m)	97.50	Wetted Per. (m)		16.89	
Min Ch El (m)	9.93	Shear (N/m2)		0.37	
Alpha	1.00	Stream Power (N/m s)		0.16	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		243.84	
C & E Loss (m)	0.00	Cum SA (1000 m2)		145.46	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.11	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.10	Reach Len. (m)	97.50	97.50	97.50
Crit W.S. (m)	10.37	Flow Area (m2)		29.98	
E.G. Slope (m/m)	0.000013	Area (m2)		29.98	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.99	Top Width (m)		16.99	
Vel Total (m/s)	0.33	Avg. Vel. (m/s)		0.33	
Max Chl Dpth (m)	2.17	Hydr. Depth (m)		1.76	
Conv. Total (m3/s)	2773.6	Conv. (m3/s)		2773.6	
Length Wtd. (m)	97.50	Wetted Per. (m)		18.33	
Min Ch El (m)	9.93	Shear (N/m2)		0.21	
Alpha	1.00	Stream Power (N/m s)		0.07	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		312.21	
C & E Loss (m)	0.00	Cum SA (1000 m2)		156.39	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.56	Reach Len. (m)	97.50	97.50	97.50
Crit W.S. (m)	10.37	Flow Area (m2)		38.10	
E.G. Slope (m/m)	0.000007	Area (m2)		38.10	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	

Top Width (m)	18.33	Top Width (m)	18.33
Vel Total (m/s)	0.26	Avg. Vel. (m/s)	0.26
Max Chl Dpth (m)	2.63	Hydr. Depth (m)	2.08
Conv. Total (m3/s)	3907.3	Conv. (m3/s)	3907.3
Length Wtd. (m)	97.50	Wetted Per. (m)	19.96
Min Ch El (m)	9.93	Shear (N/m2)	0.12
Alpha	1.00	Stream Power (N/m s)	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00 389.03
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00 164.83

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.36	Element	Left OB Channel Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.015
W.S. Elev (m)	12.33	Reach Len. (m)	97.50 97.50 97.50
Crit W.S. (m)	10.76	Flow Area (m2)	33.86
E.G. Slope (m/m)	0.000067	Area (m2)	33.86
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	17.64	Top Width (m)	17.64
Vel Total (m/s)	0.80	Avg. Vel. (m/s)	0.80
Max Chl Dpth (m)	2.40	Hydr. Depth (m)	1.92
Conv. Total (m3/s)	3303.7	Conv. (m3/s)	3303.7
Length Wtd. (m)	97.50	Wetted Per. (m)	19.13
Min Ch El (m)	9.93	Shear (N/m2)	1.16
Alpha	1.00	Stream Power (N/m s)	0.92
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	295.29
C & E Loss (m)	0.00	Cum SA (1000 m2)	153.80

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.53	Reach Len. (m)	97.50	97.50	97.50
Crit W.S. (m)	10.76	Flow Area (m2)		37.51	
E.G. Slope (m/m)	0.000050	Area (m2)		37.51	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.24	Top Width (m)		18.24	
Vel Total (m/s)	0.72	Avg. Vel. (m/s)		0.72	
Max Chl Dpth (m)	2.60	Hydr. Depth (m)		2.06	
Conv. Total (m3/s)	3822.2	Conv. (m3/s)		3822.2	
Length Wtd. (m)	97.50	Wetted Per. (m)		19.85	
Min Ch El (m)	9.93	Shear (N/m2)		0.92	
Alpha	1.00	Stream Power (N/m s)		0.67	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		346.51	
C & E Loss (m)	0.00	Cum SA (1000 m2)		160.94	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.86	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.84	Reach Len. (m)	97.50	97.50	97.50
Crit W.S. (m)	10.76	Flow Area (m2)		43.40	
E.G. Slope (m/m)	0.000033	Area (m2)		43.40	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	

Top Width (m)	19.16	Top Width (m)	19.16		
Vel Total (m/s)	0.62	Avg. Vel. (m/s)	0.62		
Max Chl Dpth (m)	2.91	Hydr. Depth (m)	2.27		
Conv. Total (m3/s)	4699.3	Conv. (m3/s)	4699.3		
Length Wtd. (m)	97.50	Wetted Per. (m)	20.97		
Min Ch El (m)	9.93	Shear (N/m2)	0.67		
Alpha	1.00	Stream Power (N/m s)	0.42		
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.04	411.23	0.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55	164.52	0.72

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 46.5

INPUT
Description:
Distance from Upstream XS = 97.5
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
14.8	15.46	14.37	41.81	15.46	14.37

Upstream Bridge Cross Section Data
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.3642	13.8709	12.1018	13.9021	13.0504	13.9896	14.758	13.9458	15.6445	13.9738
15.6445	14.0896	16.8882	14.0896	22.5598	9.9315	28.0289	9.9307	33.197	9.9299
39.4389	13.9271	40.5235	13.9271	40.5235	13.8474	40.9529	13.8648	43.5961	13.8852
44.0076	13.9417	45.3039	14.0292	49.4045	14.1706				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.3642	.015	16.8882	.015	39.4389	.015

Bank Sta: Left	Right	Coeff Contr.	Expan.
16.8882	39.4389	.0015	.01

Downstream Deck/Roadway Coordinates
num= 2

```
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
    4.73   15.47   14.37   31.73   15.47   14.37

Downstream Bridge Cross Section Data
Station Elevation Data    num=      14
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 14.1921  2.8482 14.1921  5.6804 13.9548  5.6804 14.0129  7.0139 14.0129
 12.3601  9.9013 17.9542  9.9005  23.393  9.8996  28.714 13.6883 29.5195 13.6883
 29.5195 13.6405 31.0744  13.803 32.0986 13.8591 36.9403  14.136

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015  7.0139    .015  28.714    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
        7.0139  28.714          .0015      .01

Upstream Embankment side slope              =     1.6 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.6 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Piers =  2

Pier Data
Pier Station     Upstream=   22.36    Downstream=   12.29
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.91      .4   14.37
Downstream     num=       2
    Width   Elev    Width   Elev
      .4   10.14      .4   14.37

Pier Data
Pier Station     Upstream=   33.97    Downstream=    23.9
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.94      .4   14.37
Downstream     num=       2
    Width   Elev    Width   Elev
      .4   10.14      .4   14.37

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only
```

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT Profile #PF 1

E.G. US. (m)	11.70	Element	Inside BR US	Inside BR DS	
W.S. US. (m)	11.69	E.G. Elev (m)	11.70	11.70	
Q Total (m3/s)	10.00	W.S. Elev (m)	11.69	11.69	
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.37	10.34	
Q Weir (m3/s)		Max Chl Dpth (m)	1.76	1.79	
Weir Sta Lft (m)		Vel Total (m/s)	0.45	0.44	
Weir Sta Rgt (m)		Flow Area (m2)	22.07	22.80	
Weir Submerg		Froude # Chl	0.12	0.11	
Weir Max Depth (m)		Specif Force (m3)	18.70	19.67	
Min El Weir Flow (m)	13.87	Hydr Depth (m)	1.47	1.51	
Min El Prs (m)	14.37	W.P. Total (m)	21.65	22.31	
Delta EG (m)	0.01	Conv. Total (m3/s)	1490.3	1542.0	
Delta WS (m)	0.01	Top Width (m)	14.98	15.07	
BR Open Area (m2)	74.38	Frctn Loss (m)	0.00	0.00	
BR Open Vel (m/s)	0.45	C & E Loss (m)	0.00	0.00	
BR Sluice Coef		Shear Total (N/m2)	0.45	0.42	
BR Sel Method	Energy only	Power Total (N/m s)	0.20	0.18	

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.11	Element	Inside BR US	Inside BR DS	
W.S. US. (m)	12.10	E.G. Elev (m)	12.10	12.10	

Q Total (m3/s)	10.00	W.S. Elev (m)	12.10
12.10			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.37
10.34			
Q Weir (m3/s)		Max Chl Dpth (m)	2.17
2.20			
Weir Sta Lft (m)		Vel Total (m/s)	0.35
0.34			
Weir Sta Rgt (m)		Flow Area (m2)	28.46
29.20			
Weir Submerg		Froude # Chl	0.08
0.08			
Weir Max Depth (m)		Specif Force (m3)	28.95
30.22			
Min El Weir Flow (m)	13.87	Hydr Depth (m)	1.76
1.81			
Min El Prs (m)	14.37	W.P. Total (m)	24.74
25.33			
Delta EG (m)	0.00	Conv. Total (m3/s)	2082.8
2140.6			
Delta WS (m)	0.00	Top Width (m)	16.18
16.18			
BR Open Area (m2)	74.38	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.35	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.26
0.25			
BR Sel Method	Energy only	Power Total (N/m s)	0.09
0.08			

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.56	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.56	E.G. Elev (m)	12.56
12.56			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.56
12.56			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.37
10.34			
Q Weir (m3/s)		Max Chl Dpth (m)	2.63
2.66			
Weir Sta Lft (m)		Vel Total (m/s)	0.28
0.27			
Weir Sta Rgt (m)		Flow Area (m2)	36.23
36.95			
Weir Submerg		Froude # Chl	0.06
0.06			
Weir Max Depth (m)		Specif Force (m3)	43.75
45.36			

Min El Weir Flow (m)	13.87	Hydr Depth (m)	2.07 2.12
Min El Prs (m)	14.37	W.P. Total (m)	28.22 28.72
Delta EG (m)	0.00	Conv. Total (m3/s)	2852.7 2913.0
Delta WS (m)	0.00	Top Width (m)	17.53 17.43
BR Open Area (m2)	74.38	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.28	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.15 0.15
BR Sel Method	Energy only	Power Total (N/m s)	0.04 0.04

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.36	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.33	E.G. Elev (m)	12.35 12.35
Q Total (m3/s)	27.00	W.S. Elev (m)	12.31 12.31
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.78 10.74
Q Weir (m3/s)		Max Chl Dpth (m)	2.38 2.41
Weir Sta Lft (m)		Vel Total (m/s)	0.84 0.82
Weir Sta Rgt (m)		Flow Area (m2)	31.99 32.75
Weir Submerg		Froude # Chl	0.20 0.19
Weir Max Depth (m)		Specif Force (m3)	37.38 38.80
Min El Weir Flow (m)	13.87	Hydr Depth (m)	1.90 1.95
Min El Prs (m)	14.37	W.P. Total (m)	26.36 26.92
Delta EG (m)	0.02	Conv. Total (m3/s)	2426.9 2488.0
Delta WS (m)	0.02	Top Width (m)	16.81 16.76
BR Open Area (m2)	74.38	Frctn Loss (m)	0.00 0.01
BR Open Vel (m/s)	0.84	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	1.47 1.41

BR Sel Method	Energy only	Power Total (N/m s)	1.24 1.16

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.56	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.53	E.G. Elev (m)	12.55 12.55
Q Total (m3/s)	27.00	W.S. Elev (m)	12.52 12.52
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.78 10.74
Q Weir (m3/s)		Max Chl Dpth (m)	2.59 2.62
Weir Sta Lft (m)		Vel Total (m/s)	0.76 0.74
Weir Sta Rgt (m)		Flow Area (m2)	35.52 36.26
Weir Submerg		Froude # Chl	0.17 0.16
Weir Max Depth (m)		Specif Force (m3)	44.11 45.68
Min El Weir Flow (m)	13.87	Hydr Depth (m)	2.04 2.09
Min El Prs (m)	14.37	W.P. Total (m)	27.92 28.43
Delta EG (m)	0.01	Conv. Total (m3/s)	2780.8 2842.2
Delta WS (m)	0.01	Top Width (m)	17.41 17.32
BR Open Area (m2)	74.38	Frctn Loss (m)	0.00 0.01
BR Open Vel (m/s)	0.76	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	1.18 1.13
BR Sel Method	Energy only	Power Total (N/m s)	0.89 0.84

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.86	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.84	E.G. Elev (m)	12.86 12.86
Q Total (m3/s)	27.00	W.S. Elev (m)	12.84 12.84

Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.78 10.74
Q Weir (m3/s)		Max Chl Dpth (m)	2.91 2.94
Weir Sta Lft (m)		Vel Total (m/s)	0.66 0.64
Weir Sta Rgt (m)		Flow Area (m2)	41.21 41.89
Weir Submerg		Froude # Chl	0.14 0.14
Weir Max Depth (m)		Specif Force (m3)	56.02 57.81
Min El Weir Flow (m)	13.87	Hydr Depth (m)	2.25 2.30
Min El Prs (m)	14.37	W.P. Total (m)	30.31 30.77
Delta EG (m)	0.01	Conv. Total (m3/s)	3370.8 3430.7
Delta WS (m)	0.01	Top Width (m)	18.34 18.18
BR Open Area (m2)	74.38	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.66	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.86 0.83
BR Sel Method	Energy only	Power Total (N/m s)	0.56 0.53

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 46

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	14.1921	2.8482	14.1921	5.6804	13.9548	5.6804	14.0129	7.0139	14.0129
12.3601	9.9013	17.9542	9.9005	23.393	9.8996	28.714	13.6883	29.5195	13.6883
29.5195	13.6405	31.0744	13.803	32.0986	13.8591	36.9403	14.136		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.015	7.0139	.015	28.714	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
7.0139	28.714	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.70	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.69	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		24.02	
E.G. Slope (m/m)	0.000025	Area (m2)		24.02	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.86	Top Width (m)		15.86	
Vel Total (m/s)	0.42	Avg. Vel. (m/s)		0.42	
Max Chl Dpth (m)	1.79	Hydr. Depth (m)		1.51	
Conv. Total (m3/s)	2013.5	Conv. (m3/s)		2013.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.04	
Min Ch El (m)	9.90	Shear (N/m2)		0.34	
Alpha	1.00	Stream Power (N/m s)		0.14	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		239.24	
C & E Loss (m)	0.00	Cum SA (1000 m2)		142.38	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.10	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.10	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		30.77	
E.G. Slope (m/m)	0.000012	Area (m2)		30.77	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.98	Top Width (m)		16.98	
Vel Total (m/s)	0.32	Avg. Vel. (m/s)		0.32	

Max Chl Dpth (m)	2.20	Hydr. Depth (m)	1.81
Conv. Total (m3/s)	2888.0	Conv. (m3/s)	2888.0
Length Wtd. (m)	200.00	Wetted Per. (m)	18.43
Min Ch El (m)	9.90	Shear (N/m2)	0.20
Alpha	1.00	Stream Power (N/m s)	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	306.29
C & E Loss (m)	0.00	Cum SA (1000 m2)	153.07

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		38.89	
E.G. Slope (m/m)	0.000006	Area (m2)		38.89	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.22	Top Width (m)		18.22	
Vel Total (m/s)	0.26	Avg. Vel. (m/s)		0.26	
Max Chl Dpth (m)	2.66	Hydr. Depth (m)		2.13	
Conv. Total (m3/s)	4042.4	Conv. (m3/s)		4042.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.98	
Min Ch El (m)	9.90	Shear (N/m2)		0.12	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	381.53	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	161.26	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.34	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.31	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		34.42	
E.G. Slope (m/m)	0.000063	Area (m2)		34.42	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.55	Top Width (m)		17.55	
Vel Total (m/s)	0.78	Avg. Vel. (m/s)		0.78	
Max Chl Dpth (m)	2.41	Hydr. Depth (m)		1.96	
Conv. Total (m3/s)	3393.3	Conv. (m3/s)		3393.3	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.14	
Min Ch El (m)	9.90	Shear (N/m2)		1.12	
Alpha	1.00	Stream Power (N/m s)		0.88	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		288.64	
C & E Loss (m)	0.00	Cum SA (1000 m2)		150.36	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		38.11	
E.G. Slope (m/m)	0.000047	Area (m2)		38.11	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.11	Top Width (m)		18.11	
Vel Total (m/s)	0.71	Avg. Vel. (m/s)		0.71	

Max Chl Dpth (m)	2.62	Hydr. Depth (m)	2.10
Conv. Total (m3/s)	3927.3	Conv. (m3/s)	3927.3
Length Wtd. (m)	200.00	Wetted Per. (m)	19.83
Min Ch El (m)	9.90	Shear (N/m2)	0.89
Alpha	1.00	Stream Power (N/m s)	0.63
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	339.15
C & E Loss (m)	0.00	Cum SA (1000 m2)	157.39

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.85	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.84	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		44.03	
E.G. Slope (m/m)	0.000031	Area (m2)		44.03	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.97	Top Width (m)		18.97	
Vel Total (m/s)	0.61	Avg. Vel. (m/s)		0.61	
Max Chl Dpth (m)	2.94	Hydr. Depth (m)		2.32	
Conv. Total (m3/s)	4822.4	Conv. (m3/s)		4822.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.91	
Min Ch El (m)	9.90	Shear (N/m2)		0.65	
Alpha	1.00	Stream Power (N/m s)		0.40	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	402.71	0.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55	160.78	0.72

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 45

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.1084	3.0077	13.2882	3.9165	13.9261	4.9996	13.7818	5.4882	13.7097
5.9688	13.6937	7.1783	13.7017	8.2305	13.7001	8.2305	13.7993	10.0789	13.7993
15.3058	9.8711	20.8811	9.8702	26.3434	9.8699	31.6224	13.6355	33.2983	13.6355
33.2983	13.5546	34.5535	13.6023	37.8426	13.5784	38.2678	13.7302	38.6686	13.6027
38.863	13.5238	41.4526	12.677	42.1492	12.677	42.5192	12.9272	43.1613	13.1122
43.7491	13.2319	44.3694	13.3081						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.015	10.0789	.015	31.6224	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
10.0789	31.6224	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.69	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.68	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		24.48	
E.G. Slope (m/m)	0.000023	Area (m2)		24.48	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.99	Top Width (m)		15.99	
Vel Total (m/s)	0.41	Avg. Vel. (m/s)		0.41	
Max Chl Dpth (m)	1.81	Hydr. Depth (m)		1.53	
Conv. Total (m3/s)	2067.6	Conv. (m3/s)		2067.6	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.17	
Min Ch El (m)	9.87	Shear (N/m2)		0.33	
Alpha	1.00	Stream Power (N/m s)		0.13	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		234.39	

C & E Loss (m)	0.00	Cum SA (1000 m2)		139.20

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.10	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.01	Wt. n-Val.		0.015
W.S. Elev (m)	12.10	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		31.33
E.G. Slope (m/m)	0.000011	Area (m2)		31.33
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	17.12	Top Width (m)		17.12
Vel Total (m/s)	0.32	Avg. Vel. (m/s)		0.32
Max Chl Dpth (m)	2.23	Hydr. Depth (m)		1.83
Conv. Total (m3/s)	2959.2	Conv. (m3/s)		2959.2
Length Wtd. (m)	200.00	Wetted Per. (m)		18.57
Min Ch El (m)	9.87	Shear (N/m2)		0.19
Alpha	1.00	Stream Power (N/m s)		0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		300.08
C & E Loss (m)	0.00	Cum SA (1000 m2)		149.66

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		39.53
E.G. Slope (m/m)	0.000006	Area (m2)		39.53

Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	18.38	Top Width (m)			18.38
Vel Total (m/s)	0.25	Avg. Vel. (m/s)			0.25
Max Chl Dpth (m)	2.69	Hydr. Depth (m)			2.15
Conv. Total (m3/s)	4131.8	Conv. (m3/s)			4131.8
Length Wtd. (m)	200.00	Wetted Per. (m)			20.14
Min Ch El (m)	9.87	Shear (N/m2)			0.11
Alpha	1.00	Stream Power (N/m s)			0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00		373.68
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00		157.60

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.33	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	12.30	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			34.83
E.G. Slope (m/m)	0.000061	Area (m2)			34.83
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.67	Top Width (m)			17.67
Vel Total (m/s)	0.78	Avg. Vel. (m/s)			0.78
Max Chl Dpth (m)	2.43	Hydr. Depth (m)			1.97
Conv. Total (m3/s)	3447.2	Conv. (m3/s)			3447.2
Length Wtd. (m)	200.00	Wetted Per. (m)			19.26
Min Ch El (m)	9.87	Shear (N/m2)			1.09
Alpha	1.00	Stream Power (N/m s)			0.84
Frctn Loss (m)	0.01	Cum Volume (1000 m3)			281.72

C & E Loss (m)	0.00	Cum SA (1000 m2)		146.84

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.53	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.02	Wt. n-Val.		0.015
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		38.61
E.G. Slope (m/m)	0.000046	Area (m2)		38.61
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.24	Top Width (m)		18.24
Vel Total (m/s)	0.70	Avg. Vel. (m/s)		0.70
Max Chl Dpth (m)	2.64	Hydr. Depth (m)		2.12
Conv. Total (m3/s)	3994.8	Conv. (m3/s)		3994.8
Length Wtd. (m)	200.00	Wetted Per. (m)		19.97
Min Ch El (m)	9.87	Shear (N/m2)		0.87
Alpha	1.00	Stream Power (N/m s)		0.61
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		331.48
C & E Loss (m)	0.00	Cum SA (1000 m2)		153.76

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.85	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.02	Wt. n-Val.		0.015
0.015				
W.S. Elev (m)	12.83	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		44.63
0.16				
E.G. Slope (m/m)	0.000030	Area (m2)		44.63

0.16					
Q Total (m3/s)	27.00	Flow (m3/s)			26.99
0.01					
Top Width (m)	20.51	Top Width (m)			19.12
1.39					
Vel Total (m/s)	0.60	Avg. Vel. (m/s)			0.60
0.08					
Max Chl Dpth (m)	2.96	Hydr. Depth (m)			2.33
0.11					
Conv. Total (m3/s)	4910.8	Conv. (m3/s)			4908.4
2.4					
Length Wtd. (m)	200.00	Wetted Per. (m)			21.06
1.46					
Min Ch El (m)	9.87	Shear (N/m2)			0.63
0.03					
Alpha	1.01	Stream Power (N/m s)			0.38
0.00					
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04		393.84
0.06					
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55		156.98
0.58					

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 44

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.9744	13.2472	15.6986	13.4013	16.0718	13.4444	17.9335	13.4885	17.9335	13.4004
19.1601	13.4885	24.186	9.8408	29.6745	9.8404	35.1636	9.84	40.203	13.4381
40.9251	13.3819	40.9251	13.4381	42.053	13.4806	43.5413	13.4806	45.7601	13.3015

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.9744	.015	19.1601	.015	40.203	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
19.1601	40.203	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.69	Element		Left OB	Channel
Right OB					
Vel Head (m)	0.01	Wt. n-Val.			0.015

W.S. Elev (m)	11.68	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			24.86
E.G. Slope (m/m)	0.000022	Area (m2)			24.86
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	16.08	Top Width (m)			16.08
Vel Total (m/s)	0.40	Avg. Vel. (m/s)			0.40
Max Chl Dpth (m)	1.84	Hydr. Depth (m)			1.55
Conv. Total (m3/s)	2113.7	Conv. (m3/s)			2113.7
Length Wtd. (m)	200.00	Wetted Per. (m)			17.27
Min Ch El (m)	9.84	Shear (N/m2)			0.32
Alpha	1.00	Stream Power (N/m s)			0.13
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			229.45
C & E Loss (m)	0.00	Cum SA (1000 m2)			135.99

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.10	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.			0.015
W.S. Elev (m)	12.09	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			31.79
E.G. Slope (m/m)	0.000011	Area (m2)			31.79
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	17.24	Top Width (m)			17.24
Vel Total (m/s)	0.31	Avg. Vel. (m/s)			0.31
Max Chl Dpth (m)	2.25	Hydr. Depth (m)			1.84
Conv. Total (m3/s)	3019.6	Conv. (m3/s)			3019.6
Length Wtd. (m)	200.00	Wetted Per. (m)			18.69

Min Ch El (m)	9.84	Shear (N/m2)	0.18
Alpha	1.00	Stream Power (N/m s)	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	293.77
C & E Loss (m)	0.00	Cum SA (1000 m2)	146.23

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		40.07	
E.G. Slope (m/m)	0.000006	Area (m2)		40.07	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.53	Top Width (m)		18.53	
Vel Total (m/s)	0.25	Avg. Vel. (m/s)		0.25	
Max Chl Dpth (m)	2.72	Hydr. Depth (m)		2.16	
Conv. Total (m3/s)	4207.4	Conv. (m3/s)		4207.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.28	
Min Ch El (m)	9.84	Shear (N/m2)		0.11	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	365.72	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	153.91	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.32	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	

W.S. Elev (m)	12.29	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		35.15	
E.G. Slope (m/m)	0.000060	Area (m2)		35.15	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.77	Top Width (m)		17.77	
Vel Total (m/s)	0.77	Avg. Vel. (m/s)		0.77	
Max Chl Dpth (m)	2.45	Hydr. Depth (m)		1.98	
Conv. Total (m3/s)	3488.8	Conv. (m3/s)		3488.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.35	
Min Ch El (m)	9.84	Shear (N/m2)		1.07	
Alpha	1.00	Stream Power (N/m s)		0.82	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		274.72	
C & E Loss (m)	0.00	Cum SA (1000 m2)		143.30	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.50	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		39.01	
E.G. Slope (m/m)	0.000044	Area (m2)		39.01	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.36	Top Width (m)		18.36	
Vel Total (m/s)	0.69	Avg. Vel. (m/s)		0.69	
Max Chl Dpth (m)	2.66	Hydr. Depth (m)		2.12	
Conv. Total (m3/s)	4048.7	Conv. (m3/s)		4048.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.08	

Min Ch El (m)	9.84	Shear (N/m2)	0.85
Alpha	1.00	Stream Power (N/m s)	0.59
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	323.72
C & E Loss (m)	0.00	Cum SA (1000 m2)	150.10

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.84	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.82	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		45.12	
E.G. Slope (m/m)	0.000029	Area (m2)		45.12	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.27	Top Width (m)		19.27	
Vel Total (m/s)	0.60	Avg. Vel. (m/s)		0.60	
Max Chl Dpth (m)	2.98	Hydr. Depth (m)		2.34	
Conv. Total (m3/s)	4978.7	Conv. (m3/s)		4978.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.19	
Min Ch El (m)	9.84	Shear (N/m2)		0.61	
Alpha	1.00	Stream Power (N/m s)		0.37	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	384.87	0.04
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55	153.14	0.44

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 43

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
10.4423	13.3874	12.8126	13.452	14.59	13.3844	14.59	13.4654	15.6462	13.4654
20.7893	9.84	26.2947	9.84	31.8487	9.84	36.8963	13.4775	37.6016	13.4775
37.6016	13.3775	38.5521	13.4351	40.3481	13.4665	41.0998	13.3883	41.9291	13.3727

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
10.4423	.015	15.6462	.015	36.8963	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.6462	36.8963	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.68	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.67	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		25.00	
E.G. Slope (m/m)	0.000022	Area (m2)		25.00	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.21	Top Width (m)		16.21	
Vel Total (m/s)	0.40	Avg. Vel. (m/s)		0.40	
Max Chl Dpth (m)	1.83	Hydr. Depth (m)		1.54	
Conv. Total (m3/s)	2123.8	Conv. (m3/s)		2123.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.38	
Min Ch El (m)	9.84	Shear (N/m2)		0.31	
Alpha	1.00	Stream Power (N/m s)		0.13	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		224.46	
C & E Loss (m)	0.00	Cum SA (1000 m2)		132.76	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.10	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.09	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		32.02	
E.G. Slope (m/m)	0.000011	Area (m2)		32.02	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.38	Top Width (m)		17.38	
Vel Total (m/s)	0.31	Avg. Vel. (m/s)		0.31	
Max Chl Dpth (m)	2.25	Hydr. Depth (m)		1.84	
Conv. Total (m3/s)	3041.8	Conv. (m3/s)		3041.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.82	
Min Ch El (m)	9.84	Shear (N/m2)		0.18	
Alpha	1.00	Stream Power (N/m s)		0.06	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		287.39	
C & E Loss (m)	0.00	Cum SA (1000 m2)		142.76	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		40.39	
E.G. Slope (m/m)	0.000006	Area (m2)		40.39	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.68	Top Width (m)		18.68	
Vel Total (m/s)	0.25	Avg. Vel. (m/s)		0.25	
Max Chl Dpth (m)	2.72	Hydr. Depth (m)		2.16	

Conv. Total (m3/s)	4242.8	Conv. (m3/s)		4242.8
Length Wtd. (m)	200.00	Wetted Per. (m)		20.42
Min Ch El (m)	9.84	Shear (N/m2)		0.11
Alpha	1.00	Stream Power (N/m s)		0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	357.68
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	150.19

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.30	Element	Left OB	Channel Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.27	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		35.23
E.G. Slope (m/m)	0.000060	Area (m2)		35.23
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	17.89	Top Width (m)		17.89
Vel Total (m/s)	0.77	Avg. Vel. (m/s)		0.77
Max Chl Dpth (m)	2.43	Hydr. Depth (m)		1.97
Conv. Total (m3/s)	3490.3	Conv. (m3/s)		3490.3
Length Wtd. (m)	200.00	Wetted Per. (m)		19.45
Min Ch El (m)	9.84	Shear (N/m2)		1.06
Alpha	1.00	Stream Power (N/m s)		0.81
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		267.68
C & E Loss (m)	0.00	Cum SA (1000 m2)		139.73

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.49	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		39.17	
E.G. Slope (m/m)	0.000044	Area (m2)		39.17	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.50	Top Width (m)		18.50	
Vel Total (m/s)	0.69	Avg. Vel. (m/s)		0.69	
Max Chl Dpth (m)	2.65	Hydr. Depth (m)		2.12	
Conv. Total (m3/s)	4061.8	Conv. (m3/s)		4061.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.19	
Min Ch El (m)	9.84	Shear (N/m2)		0.84	
Alpha	1.00	Stream Power (N/m s)		0.58	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		315.90	
C & E Loss (m)	0.00	Cum SA (1000 m2)		146.41	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.84	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.82	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		45.39	
E.G. Slope (m/m)	0.000029	Area (m2)		45.39	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.42	Top Width (m)		19.42	
Vel Total (m/s)	0.59	Avg. Vel. (m/s)		0.59	
Max Chl Dpth (m)	2.98	Hydr. Depth (m)		2.34	

Conv. Total (m3/s)	5007.3	Conv. (m3/s)			5007.3
Length Wtd. (m)	200.00	Wetted Per. (m)			21.32
Min Ch El (m)	9.84	Shear (N/m2)			0.61
Alpha	1.00	Stream Power (N/m s)			0.36
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	375.82	0.04
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55	149.27	0.44

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 42

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
10.7843	13.0995	11.7388	13.2992	13.4938	13.3586	15.4208	13.2772	15.4208	13.3561
16.0748	13.3561	21.1001	9.84	26.6467	9.84	32.417	9.84	37.024	13.4203
38.1268	13.4203	38.1268	13.3472	38.9925	13.3937	40.3942	13.3832	42.1619	13.2274

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
10.7843	.015	16.0748	.015	37.024	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.0748	37.024	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.68	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.67	Reach Len. (m)	190.00	190.00	190.00
Crit W.S. (m)	10.26	Flow Area (m2)		25.25	
E.G. Slope (m/m)	0.000022	Area (m2)		25.25	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.29	Top Width (m)		16.29	

Vel Total (m/s)	0.40	Avg. Vel. (m/s)	0.40
Max Chl Dpth (m)	1.83	Hydr. Depth (m)	1.55
Conv. Total (m3/s)	2150.4	Conv. (m3/s)	2150.4
Length Wtd. (m)	190.00	Wetted Per. (m)	17.49
Min Ch El (m)	9.84	Shear (N/m2)	0.31
Alpha	1.00	Stream Power (N/m s)	0.12
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	219.44
C & E Loss (m)	0.00	Cum SA (1000 m2)	129.51

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.09	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.09	Reach Len. (m)	190.00	190.00	190.00
Crit W.S. (m)	10.26	Flow Area (m2)		32.33	
E.G. Slope (m/m)	0.000011	Area (m2)		32.33	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.43	Top Width (m)		17.43	
Vel Total (m/s)	0.31	Avg. Vel. (m/s)		0.31	
Max Chl Dpth (m)	2.25	Hydr. Depth (m)		1.86	
Conv. Total (m3/s)	3082.3	Conv. (m3/s)		3082.3	
Length Wtd. (m)	190.00	Wetted Per. (m)		18.91	
Min Ch El (m)	9.84	Shear (N/m2)		0.18	
Alpha	1.00	Stream Power (N/m s)		0.05	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		280.95	

C & E Loss (m)	0.00	Cum SA (1000 m2)			139.28

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.55	Reach Len. (m)	190.00	190.00	190.00
Crit W.S. (m)	10.26	Flow Area (m2)		40.74	
E.G. Slope (m/m)	0.000005	Area (m2)		40.74	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.69	Top Width (m)		18.69	
Vel Total (m/s)	0.25	Avg. Vel. (m/s)		0.25	
Max Chl Dpth (m)	2.72	Hydr. Depth (m)		2.18	
Conv. Total (m3/s)	4295.6	Conv. (m3/s)		4295.6	
Length Wtd. (m)	190.00	Wetted Per. (m)		20.48	
Min Ch El (m)	9.84	Shear (N/m2)		0.11	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	349.56	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	146.45	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.29	Element	Left OB	Channel

Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.26	Reach Len. (m)	190.00	190.00
190.00				
Crit W.S. (m)	10.64	Flow Area (m2)		35.38
E.G. Slope (m/m)	0.000059	Area (m2)		35.38
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	17.90	Top Width (m)		17.90
Vel Total (m/s)	0.76	Avg. Vel. (m/s)		0.76
Max Chl Dpth (m)	2.42	Hydr. Depth (m)		1.98
Conv. Total (m3/s)	3510.0	Conv. (m3/s)		3510.0
Length Wtd. (m)	190.00	Wetted Per. (m)		19.49
Min Ch El (m)	9.84	Shear (N/m2)		1.05
Alpha	1.00	Stream Power (N/m s)		0.80
Frctn Loss (m)	0.02	Cum Volume (1000 m3)		260.62
C & E Loss (m)	0.00	Cum SA (1000 m2)		136.15

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.51	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.02	Wt. n-Val.		0.015
W.S. Elev (m)	12.48	Reach Len. (m)	190.00	190.00
190.00				
Crit W.S. (m)	10.64	Flow Area (m2)		39.38
E.G. Slope (m/m)	0.000044	Area (m2)		39.38
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.49	Top Width (m)		18.49
Vel Total (m/s)	0.69	Avg. Vel. (m/s)		0.69

Max Chl Dpth (m)	2.64	Hydr. Depth (m)	2.13
Conv. Total (m3/s)	4092.7	Conv. (m3/s)	4092.7
Length Wtd. (m)	190.00	Wetted Per. (m)	20.23
Min Ch El (m)	9.84	Shear (N/m2)	0.83
Alpha	1.00	Stream Power (N/m s)	0.57
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	308.04
C & E Loss (m)	0.00	Cum SA (1000 m2)	142.71

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.83	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.81	Reach Len. (m)	190.00	190.00	190.00
Crit W.S. (m)	10.64	Flow Area (m2)		45.65	
E.G. Slope (m/m)	0.000029	Area (m2)		45.65	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.39	Top Width (m)		19.39	
Vel Total (m/s)	0.59	Avg. Vel. (m/s)		0.59	
Max Chl Dpth (m)	2.97	Hydr. Depth (m)		2.35	
Conv. Total (m3/s)	5051.1	Conv. (m3/s)		5051.1	
Length Wtd. (m)	190.00	Wetted Per. (m)		21.35	
Min Ch El (m)	9.84	Shear (N/m2)		0.60	
Alpha	1.00	Stream Power (N/m s)		0.35	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	366.71	0.04
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55	145.39	

0.44

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 41.5

INPUT
Description:
Distance from Upstream XS = 190
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
15.49	13.47	12.66	37.46	13.47	12.66

Upstream Bridge Cross Section Data
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
10.7843	13.0995	11.7388	13.2992	13.4938	13.3586	15.4208	13.2772	15.4208	13.3561
16.0748	13.3561	21.1001	9.84	26.6467	9.84	32.417	9.84	37.024	13.4203
38.1268	13.4203	38.1268	13.3472	38.9925	13.3937	40.3942	13.3832	42.1619	13.2274

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
10.7843	.015	16.0748	.015	37.024	.015

Bank Sta: Left	Right	Coeff Contr.	Expan.
16.0748	37.024	.0015	.01

Downstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
15.95	13.47	12.67	37.93	13.47	12.67

Downstream Bridge Cross Section Data
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	12.8365	11.1437	13.1503	15.9781	13.3394	15.9781	13.4015	16.5089	13.4015
21.7523	9.84	27.1458	9.84	32.5387	9.84	38.0283	13.6524	38.5596	13.6524
38.5596	13.2526	40.2341	13.2177	53.6107	12.6105				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.015	16.5089	.015	38.0283	.015

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Bank Sta: Left   Right    Coeff Contr.   Expan.
       16.5089 38.0283          .0015      .01

Upstream Embankment side slope              =     1.5 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.5 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   15.49   12.66   20.62   12.66
Downstream     num=       2
     Sta    Elev     Sta    Elev
   15.95   12.66   21.09   12.66

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   33.01   12.66   37.46   12.66
Downstream     num=       2
     Sta    Elev     Sta    Elev
   33.48   12.66   37.93   12.66

Number of Piers =  2

Pier Data
Pier Station     Upstream=   24.06    Downstream=   24.53
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.84      .4   12.66
Downstream     num=       2
    Width   Elev    Width   Elev
      .4    9.84      .4   12.66

Pier Data
Pier Station     Upstream=   29.56    Downstream=   30.03
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.74      .4   12.66
Downstream     num=       2
    Width   Elev    Width   Elev
      .4    9.74      .4   12.66

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer
```

High Flow Method
Energy Only

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT Profile #PF 1

E.G. US. (m)	11.68	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.67	E.G. Elev (m)	11.67
11.67			
Q Total (m3/s)	10.00	W.S. Elev (m)	11.66
11.66			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.28
10.30			
Q Weir (m3/s)		Max Chl Dpth (m)	1.82
1.82			
Weir Sta Lft (m)		Vel Total (m/s)	0.48
0.48			
Weir Sta Rgt (m)		Flow Area (m2)	20.87
20.63			
Weir Submerg		Froude # Chl	0.11
0.12			
Weir Max Depth (m)		Specif Force (m3)	19.31
18.93			
Min El Weir Flow (m)	13.10	Hydr Depth (m)	1.80
1.78			
Min El Prs (m)	12.66	W.P. Total (m)	21.98
21.74			
Delta EG (m)	0.01	Conv. Total (m3/s)	1344.6
1327.6			
Delta WS (m)	0.01	Top Width (m)	11.59
11.59			
BR Open Area (m2)	32.42	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.48	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.52
0.53			
BR Sel Method	Energy only	Power Total (N/m s)	0.25
0.26			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.09	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.09	E.G. Elev (m)	12.09 12.09
Q Total (m3/s)	10.00	W.S. Elev (m)	12.08 12.08
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.28 10.30
Q Weir (m3/s)		Max Chl Dpth (m)	2.24 2.24
Weir Sta Lft (m)		Vel Total (m/s)	0.39 0.39
Weir Sta Rgt (m)		Flow Area (m2)	25.79 25.54
Weir Submerg		Froude # Chl	0.08 0.08
Weir Max Depth (m)		Specif Force (m3)	29.11 28.63
Min El Weir Flow (m)	13.10	Hydr Depth (m)	2.22 2.20
Min El Prs (m)	12.66	W.P. Total (m)	24.52 24.29
Delta EG (m)	0.00	Conv. Total (m3/s)	1777.9 1761.1
Delta WS (m)	0.00	Top Width (m)	11.59 11.59
BR Open Area (m2)	32.42	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.39	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.33 0.33
BR Sel Method	Energy only	Power Total (N/m s)	0.13 0.13

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.56	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.55	E.G. Elev (m)	12.56 12.56
Q Total (m3/s)	10.00	W.S. Elev (m)	12.55 12.55

Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.28 10.30
Q Weir (m3/s)		Max Chl Dpth (m)	2.71 2.71
Weir Sta Lft (m)		Vel Total (m/s)	0.32 0.32
Weir Sta Rgt (m)		Flow Area (m2)	31.21 30.96
Weir Submerg		Froude # Chl	0.06 0.06
Weir Max Depth (m)		Specif Force (m3)	42.36 41.77
Min El Weir Flow (m)	13.10	Hydr Depth (m)	2.69 2.67
Min El Prs (m)	12.66	W.P. Total (m)	27.32 27.10
Delta EG (m)	0.00	Conv. Total (m3/s)	2273.0 2256.3
Delta WS (m)	0.00	Top Width (m)	11.59 11.59
BR Open Area (m2)	32.42	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.32	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.22 0.22
BR Sel Method	Energy only	Power Total (N/m s)	0.07 0.07

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.29	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.26	E.G. Elev (m)	12.27 12.27
Q Total (m3/s)	27.00	W.S. Elev (m)	12.22 12.22
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.68 10.70
Q Weir (m3/s)		Max Chl Dpth (m)	2.38 2.38
Weir Sta Lft (m)		Vel Total (m/s)	0.99 0.99
Weir Sta Rgt (m)		Flow Area (m2)	27.41 27.15
Weir Submerg		Froude # Chl	0.20 0.21

Weir Max Depth (m)		Specif Force (m3)	35.15 34.61
Min El Weir Flow (m)	13.10	Hydr Depth (m)	2.36 2.34
Min El Prs (m)	12.66	W.P. Total (m)	25.36 25.12
Delta EG (m)	0.02	Conv. Total (m3/s)	1924.6 1906.1
Delta WS (m)	0.02	Top Width (m)	11.59 11.59
BR Open Area (m2)	32.42	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.99	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	2.09 2.13
BR Sel Method	Energy only	Power Total (N/m s)	2.05 2.11

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.51	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.48	E.G. Elev (m)	12.49 12.49
Q Total (m3/s)	27.00	W.S. Elev (m)	12.45 12.45
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.68 10.70
Q Weir (m3/s)		Max Chl Dpth (m)	2.61 2.61
Weir Sta Lft (m)		Vel Total (m/s)	0.90 0.91
Weir Sta Rgt (m)		Flow Area (m2)	30.04 29.78
Weir Submerg		Froude # Chl	0.18 0.18
Weir Max Depth (m)		Specif Force (m3)	41.43 40.85
Min El Weir Flow (m)	13.10	Hydr Depth (m)	2.59 2.57
Min El Prs (m)	12.66	W.P. Total (m)	26.72 26.48
Delta EG (m)	0.02	Conv. Total (m3/s)	2165.4 2147.3
Delta WS (m)	0.02	Top Width (m)	11.59 11.59

BR Open Area (m2)	32.42	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.91	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.71
1.74			
BR Sel Method	Energy only	Power Total (N/m s)	1.54
1.58			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.83	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.81	E.G. Elev (m)	12.82
12.82			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.78
12.78			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.68
10.70			
Q Weir (m3/s)		Max Chl Dpth (m)	2.94
2.94			
Weir Sta Lft (m)		Vel Total (m/s)	0.83
0.82			
Weir Sta Rgt (m)		Flow Area (m2)	32.47
32.75			
Weir Submerg		Froude # Chl	0.15
0.15			
Weir Max Depth (m)		Specif Force (m3)	51.82
51.18			
Min El Weir Flow (m)	13.10	Hydr Depth (m)	
8.62			
Min El Prs (m)	12.66	W.P. Total (m)	39.57
58.20			
Delta EG (m)	0.01	Conv. Total (m3/s)	1897.1
1538.0			
Delta WS (m)	0.01	Top Width (m)	
3.80			
BR Open Area (m2)	32.42	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.83	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.63
1.70			
BR Sel Method	Energy only	Power Total (N/m s)	1.36
1.40			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 41

INPUT
Description: Opera 8
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	12.8365	11.1437	13.1503	15.9781	13.3394	15.9781	13.4015	16.5089	13.4015
21.7523	9.84	27.1458	9.84	32.5387	9.84	38.0283	13.6524	38.5596	13.6524
38.5596	13.2526	40.2341	13.2177	53.6107	12.6105				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.015	16.5089	.015	38.0283	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.5089	38.0283	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.67	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.66	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		24.49	
E.G. Slope (m/m)	0.000023	Area (m2)		24.49	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.09	Top Width (m)		16.09	
Vel Total (m/s)	0.41	Avg. Vel. (m/s)		0.41	
Max Chl Dpth (m)	1.82	Hydr. Depth (m)		1.52	
Conv. Total (m3/s)	2064.7	Conv. (m3/s)		2064.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.22	
Min Ch El (m)	9.84	Shear (N/m2)		0.33	

Alpha	1.00	Stream Power (N/m s)	0.13
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	214.84
C & E Loss (m)	0.00	Cum SA (1000 m2)	126.73

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.09	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.09	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		31.57	
E.G. Slope (m/m)	0.000011	Area (m2)		31.57	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.33	Top Width (m)		17.33	
Vel Total (m/s)	0.32	Avg. Vel. (m/s)		0.32	
Max Chl Dpth (m)	2.25	Hydr. Depth (m)		1.82	
Conv. Total (m3/s)	2981.9	Conv. (m3/s)		2981.9	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.72	
Min Ch El (m)	9.84	Shear (N/m2)		0.19	
Alpha	1.00	Stream Power (N/m s)		0.06	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		275.16	
C & E Loss (m)	0.00	Cum SA (1000 m2)		136.40	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)			39.98
E.G. Slope (m/m)	0.000006	Area (m2)			39.98
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	18.69	Top Width (m)			18.69
Vel Total (m/s)	0.25	Avg. Vel. (m/s)			0.25
Max Chl Dpth (m)	2.71	Hydr. Depth (m)			2.14
Conv. Total (m3/s)	4178.1	Conv. (m3/s)			4178.1
Length Wtd. (m)	200.00	Wetted Per. (m)			20.37
Min Ch El (m)	9.84	Shear (N/m2)			0.11
Alpha	1.00	Stream Power (N/m s)			0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00		342.40
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00		143.44

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.27	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	12.24	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			34.27
E.G. Slope (m/m)	0.000065	Area (m2)			34.27
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.77	Top Width (m)			17.77
Vel Total (m/s)	0.79	Avg. Vel. (m/s)			0.79
Max Chl Dpth (m)	2.40	Hydr. Depth (m)			1.93
Conv. Total (m3/s)	3354.4	Conv. (m3/s)			3354.4
Length Wtd. (m)	200.00	Wetted Per. (m)			19.26
Min Ch El (m)	9.84	Shear (N/m2)			1.13

Alpha	1.00	Stream Power (N/m s)	0.89
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	254.37
C & E Loss (m)	0.00	Cum SA (1000 m2)	133.22

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.49	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.47	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		38.35	
E.G. Slope (m/m)	0.000047	Area (m2)		38.35	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.43	Top Width (m)		18.43	
Vel Total (m/s)	0.70	Avg. Vel. (m/s)		0.70	
Max Chl Dpth (m)	2.63	Hydr. Depth (m)		2.08	
Conv. Total (m3/s)	3938.4	Conv. (m3/s)		3938.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.06	
Min Ch El (m)	9.84	Shear (N/m2)		0.88	
Alpha	1.00	Stream Power (N/m s)		0.62	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		301.13	
C & E Loss (m)	0.00	Cum SA (1000 m2)		139.72	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.82	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	0.015
W.S. Elev (m)	12.80	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)				44.67
0.39						
E.G. Slope (m/m)	0.000030	Area (m2)				44.67
0.39						
Q Total (m3/s)	27.00	Flow (m3/s)				26.97
0.03						
Top Width (m)	23.55	Top Width (m)				19.40
4.15						
Vel Total (m/s)	0.60	Avg. Vel. (m/s)				0.60
0.07						
Max Chl Dpth (m)	2.96	Hydr. Depth (m)				2.30
0.09						
Conv. Total (m3/s)	4893.0	Conv. (m3/s)				4887.8
5.2						
Length Wtd. (m)	200.00	Wetted Per. (m)				21.24
4.34						
Min Ch El (m)	9.84	Shear (N/m2)				0.63
0.03						
Alpha	1.01	Stream Power (N/m s)				0.38
0.00						
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		0.04		358.94
0.04						
C & E Loss (m)	0.00	Cum SA (1000 m2)		0.55		143.50
0.42						

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 40

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.5101	13.2149	16.1458	13.3732	16.8336	13.3667	16.8336	13.462	17.646	13.462
23.0067	9.84	28.2015	9.84	33.2582	9.84	38.5587	13.217	39.1721	13.217
39.1721	13.1478	40.9546	13.2576	41.9618	13.1806	42.3907	13.2439	43.1531	13.2159
44.2162	13.2019								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.5101	.015	17.646	.015	38.5587	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.646	38.5587	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.67	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.66	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		23.66	
E.G. Slope (m/m)	0.000026	Area (m2)		23.66	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.79	Top Width (m)		15.79	
Vel Total (m/s)	0.42	Avg. Vel. (m/s)		0.42	
Max Chl Dpth (m)	1.82	Hydr. Depth (m)		1.50	
Conv. Total (m3/s)	1975.5	Conv. (m3/s)		1975.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		16.88	
Min Ch El (m)	9.84	Shear (N/m2)		0.35	
Alpha	1.00	Stream Power (N/m s)		0.15	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		210.03	
C & E Loss (m)	0.00	Cum SA (1000 m2)		123.55	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.09	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.08	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		30.67	
E.G. Slope (m/m)	0.000012	Area (m2)		30.67	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.09	Top Width (m)		17.09	
Vel Total (m/s)	0.33	Avg. Vel. (m/s)		0.33	

Max Chl Dpth (m)	2.24	Hydr. Depth (m)	1.79
Conv. Total (m3/s)	2871.1	Conv. (m3/s)	2871.1
Length Wtd. (m)	200.00	Wetted Per. (m)	18.43
Min Ch El (m)	9.84	Shear (N/m2)	0.20
Alpha	1.00	Stream Power (N/m s)	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	268.93
C & E Loss (m)	0.00	Cum SA (1000 m2)	132.96

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		39.01	
E.G. Slope (m/m)	0.000006	Area (m2)		39.01	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.52	Top Width (m)		18.52	
Vel Total (m/s)	0.26	Avg. Vel. (m/s)		0.26	
Max Chl Dpth (m)	2.71	Hydr. Depth (m)		2.11	
Conv. Total (m3/s)	4040.9	Conv. (m3/s)		4040.9	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.14	
Min Ch El (m)	9.84	Shear (N/m2)		0.12	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	334.50	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	139.72	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.26	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.22	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		33.11	
E.G. Slope (m/m)	0.000071	Area (m2)		33.11	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.52	Top Width (m)		17.52	
Vel Total (m/s)	0.82	Avg. Vel. (m/s)		0.82	
Max Chl Dpth (m)	2.38	Hydr. Depth (m)		1.89	
Conv. Total (m3/s)	3201.8	Conv. (m3/s)		3201.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.95	
Min Ch El (m)	9.84	Shear (N/m2)		1.22	
Alpha	1.00	Stream Power (N/m s)		0.99	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		247.63	
C & E Loss (m)	0.00	Cum SA (1000 m2)		129.69	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.48	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.45	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		37.21	
E.G. Slope (m/m)	0.000051	Area (m2)		37.21	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.22	Top Width (m)		18.22	
Vel Total (m/s)	0.73	Avg. Vel. (m/s)		0.73	

Max Chl Dpth (m)	2.61	Hydr. Depth (m)	2.04
Conv. Total (m3/s)	3780.5	Conv. (m3/s)	3780.5
Length Wtd. (m)	200.00	Wetted Per. (m)	19.78
Min Ch El (m)	9.84	Shear (N/m2)	0.94
Alpha	1.00	Stream Power (N/m s)	0.68
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	293.57
C & E Loss (m)	0.00	Cum SA (1000 m2)	136.05

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.81	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.79	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		43.54	
E.G. Slope (m/m)	0.000033	Area (m2)		43.54	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.25	Top Width (m)		19.25	
Vel Total (m/s)	0.62	Avg. Vel. (m/s)		0.62	
Max Chl Dpth (m)	2.95	Hydr. Depth (m)		2.26	
Conv. Total (m3/s)	4717.9	Conv. (m3/s)		4717.9	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.02	
Min Ch El (m)	9.84	Shear (N/m2)		0.67	
Alpha	1.00	Stream Power (N/m s)		0.41	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	350.12	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55	139.63	

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 39

INPUT
Description:
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13.8725	13.226	17.5286	13.226	17.5286	13.326	19.1395	13.326	24.2549	9.8237
29.5667	9.823	34.8792	9.8227	39.7455	13.1579	40.2764	13.1579	40.2764	13.0579
40.614	13.0579	43.8237	13.0911	45.3194	12.9698				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
13.8725	.015	19.1395	.015	39.7455	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
19.1395	39.7455	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.66	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.65	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	10.26	Flow Area (m2)		24.32	
E.G. Slope (m/m)	0.000024	Area (m2)		24.32	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.96	Top Width (m)		15.96	
Vel Total (m/s)	0.41	Avg. Vel. (m/s)		0.41	
Max Chl Dpth (m)	1.83	Hydr. Depth (m)		1.52	
Conv. Total (m3/s)	2050.2	Conv. (m3/s)		2050.2	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.10	
Min Ch El (m)	9.82	Shear (N/m2)		0.33	
Alpha	1.00	Stream Power (N/m s)		0.14	
Frctn Loss (m)		Cum Volume (1000 m3)		205.23	
C & E Loss (m)		Cum SA (1000 m2)		120.37	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.09	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.08	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	10.26	Flow Area (m2)		31.43	
E.G. Slope (m/m)	0.000011	Area (m2)		31.43	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.22	Top Width (m)		17.22	
Vel Total (m/s)	0.32	Avg. Vel. (m/s)		0.32	
Max Chl Dpth (m)	2.26	Hydr. Depth (m)		1.83	
Conv. Total (m3/s)	2971.2	Conv. (m3/s)		2971.2	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.61	
Min Ch El (m)	9.82	Shear (N/m2)		0.19	
Alpha	1.00	Stream Power (N/m s)		0.06	
Frctn Loss (m)		Cum Volume (1000 m3)		262.72	
C & E Loss (m)		Cum SA (1000 m2)		129.52	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	10.26	Flow Area (m2)		39.83	
E.G. Slope (m/m)	0.000006	Area (m2)		39.83	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	

Top Width (m)	18.59	Top Width (m)	18.59
Vel Total (m/s)	0.25	Avg. Vel. (m/s)	0.25
Max Chl Dpth (m)	2.73	Hydr. Depth (m)	2.14
Conv. Total (m3/s)	4165.5	Conv. (m3/s)	4165.5
Length Wtd. (m)	200.00	Wetted Per. (m)	20.28
Min Ch El (m)	9.82	Shear (N/m2)	0.11
Alpha	1.00	Stream Power (N/m s)	0.03
Frctn Loss (m)		Cum Volume (1000 m3)	0.00 326.61
C & E Loss (m)		Cum SA (1000 m2)	0.00 136.01

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.24	Element	Left OB Channel Right OB
Vel Head (m)	0.03	Wt. n-Val.	0.015
W.S. Elev (m)	12.21	Reach Len. (m)	200.00 200.00 200.00
Crit W.S. (m)	10.66	Flow Area (m2)	33.70
E.G. Slope (m/m)	0.000068	Area (m2)	33.70
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	17.60	Top Width (m)	17.60
Vel Total (m/s)	0.80	Avg. Vel. (m/s)	0.80
Max Chl Dpth (m)	2.39	Hydr. Depth (m)	1.91
Conv. Total (m3/s)	3282.6	Conv. (m3/s)	3282.6
Length Wtd. (m)	200.00	Wetted Per. (m)	19.08
Min Ch El (m)	9.82	Shear (N/m2)	1.17
Alpha	1.00	Stream Power (N/m s)	0.94
Frctn Loss (m)		Cum Volume (1000 m3)	240.95
C & E Loss (m)		Cum SA (1000 m2)	126.18

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.47	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.44	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	10.66	Flow Area (m2)		37.89	
E.G. Slope (m/m)	0.000048	Area (m2)		37.89	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.28	Top Width (m)		18.28	
Vel Total (m/s)	0.71	Avg. Vel. (m/s)		0.71	
Max Chl Dpth (m)	2.62	Hydr. Depth (m)		2.07	
Conv. Total (m3/s)	3879.5	Conv. (m3/s)		3879.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.90	
Min Ch El (m)	9.82	Shear (N/m2)		0.90	
Alpha	1.00	Stream Power (N/m s)		0.64	
Frctn Loss (m)		Cum Volume (1000 m3)		286.06	
C & E Loss (m)		Cum SA (1000 m2)		132.40	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.80	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.79	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	10.66	Flow Area (m2)		44.29	
E.G. Slope (m/m)	0.000031	Area (m2)		44.29	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	

Top Width (m)	19.27	Top Width (m)			19.27
Vel Total (m/s)	0.61	Avg. Vel. (m/s)			0.61
Max Chl Dpth (m)	2.96	Hydr. Depth (m)			2.30
Conv. Total (m3/s)	4839.2	Conv. (m3/s)			4839.2
Length Wtd. (m)	200.00	Wetted Per. (m)			21.11
Min Ch El (m)	9.82	Shear (N/m2)			0.64
Alpha	1.00	Stream Power (N/m s)			0.39
Frctn Loss (m)		Cum Volume (1000 m3)	0.04		341.33
C & E Loss (m)		Cum SA (1000 m2)	0.55		135.78

INLINE STRUCTURE

RIVER: SNM
REACH: Canale SNM RS: 38.8

INPUT
Description:
Distance from Upstream XS = 156.65
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Weir Embankment Coordinates num = 2

Sta	Elev	Sta	Elev
18.53	14.05	40.65	14.05

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins =
Weir crest shape = Broad Crested

INLINE STRUCTURE GATE Gate #1
Height = 4
Width = 3
Invert = 9.72
Gate Type = Sluice Slice Coefficient = .6
Weir Coefficient = 1.67
Weir crest shape = Broad Crested
Number of Gate Openings = 3

Sta	Sta	Sta
26.16	29.58	33.07

INLINE STRUCTURE OUTPUT Profile #PF 1 Gate Group: Gate #1

E.G. Elev (m)	11.66	Weir Sta Lft (m)	
W.S. Elev (m)	11.65	Weir Sta Rgt (m)	
Q Total (m3/s)	10.00	Min El Weir Flow (m)	12.97
Q Weir (m3/s)		Wr Top Wdth (m)	
Q Gates (m3/s)	10.00	Weir Max Depth (m)	
Q Culv (m3/s)		Weir Avg Depth (m)	
Q Inline RC (m3/s)		Weir Flow Area (m2)	
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	
Q Breach (m3/s)	0.00	Weir Submerg	
Breach Avg Velocity (m/s)	0.00	Q Gate Group (m3/s)	10.00
Breach Flow Area (m2)	0.00	Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	5.80
Breach Bottom El (m)		Gate Submerg	0.99
Breach SSL (m)		Gate Invert (m)	9.72
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 2 Gate Group: Gate #1

E.G. Elev (m)	12.09	Weir Sta Lft (m)	
W.S. Elev (m)	12.08	Weir Sta Rgt (m)	
Q Total (m3/s)	10.00	Min El Weir Flow (m)	12.97
Q Weir (m3/s)		Wr Top Wdth (m)	
Q Gates (m3/s)	10.00	Weir Max Depth (m)	
Q Culv (m3/s)		Weir Avg Depth (m)	
Q Inline RC (m3/s)		Weir Flow Area (m2)	
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	
Q Breach (m3/s)	0.00	Weir Submerg	
Breach Avg Velocity (m/s)	0.00	Q Gate Group (m3/s)	10.00
Breach Flow Area (m2)	0.00	Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	7.08
Breach Bottom El (m)		Gate Submerg	0.99
Breach SSL (m)		Gate Invert (m)	9.72
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 3 Gate Group: Gate #1

E.G. Elev (m)	12.55	Weir Sta Lft (m)	
W.S. Elev (m)	12.55	Weir Sta Rgt (m)	
Q Total (m3/s)	10.00	Min El Weir Flow (m)	12.97
Q Weir (m3/s)		Wr Top Wdth (m)	
Q Gates (m3/s)	10.00	Weir Max Depth (m)	
Q Culv (m3/s)		Weir Avg Depth (m)	
Q Inline RC (m3/s)		Weir Flow Area (m2)	
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	
Q Breach (m3/s)	0.00	Weir Submerg	
Breach Avg Velocity (m/s)	0.00	Q Gate Group (m3/s)	10.00
Breach Flow Area (m2)	0.00	Gate Open Ht (m)	4.00

Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	8.49
Breach Bottom El (m)		Gate Submerg	1.00
Breach SSL (m)		Gate Invert (m)	9.72
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 4 Gate Group: Gate #1

E.G. Elev (m)	12.24	Weir Sta Lft (m)	
W.S. Elev (m)	12.21	Weir Sta Rgt (m)	
Q Total (m3/s)	27.00	Min El Weir Flow (m)	12.97
Q Weir (m3/s)		Wr Top Wdth (m)	
Q Gates (m3/s)	27.00	Weir Max Depth (m)	
Q Culv (m3/s)		Weir Avg Depth (m)	
Q Inline RC (m3/s)		Weir Flow Area (m2)	
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	
Q Breach (m3/s)	0.00	Weir Submerg	
Breach Avg Velocity (m/s)	0.00	Q Gate Group (m3/s)	27.00
Breach Flow Area (m2)	0.00	Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	7.47
Breach Bottom El (m)		Gate Submerg	0.97
Breach SSL (m)		Gate Invert (m)	9.72
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 5 Gate Group: Gate #1

E.G. Elev (m)	12.47	Weir Sta Lft (m)	
W.S. Elev (m)	12.44	Weir Sta Rgt (m)	
Q Total (m3/s)	27.00	Min El Weir Flow (m)	12.97
Q Weir (m3/s)		Wr Top Wdth (m)	
Q Gates (m3/s)	27.00	Weir Max Depth (m)	
Q Culv (m3/s)		Weir Avg Depth (m)	
Q Inline RC (m3/s)		Weir Flow Area (m2)	
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	
Q Breach (m3/s)	0.00	Weir Submerg	
Breach Avg Velocity (m/s)	0.00	Q Gate Group (m3/s)	27.00
Breach Flow Area (m2)	0.00	Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	8.17
Breach Bottom El (m)		Gate Submerg	0.98
Breach SSL (m)		Gate Invert (m)	9.72
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 6 Gate Group: Gate #1

E.G. Elev (m)	12.80	Weir Sta Lft (m)	
W.S. Elev (m)	12.79	Weir Sta Rgt (m)	
Q Total (m3/s)	27.00	Min El Weir Flow (m)	12.97
Q Weir (m3/s)		Wr Top Wdth (m)	
Q Gates (m3/s)	27.00	Weir Max Depth (m)	

Q Culv (m3/s)		Weir Avg Depth (m)	
Q Inline RC (m3/s)		Weir Flow Area (m2)	
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	
Q Breach (m3/s)	0.00	Weir Submerg	
Breach Avg Velocity (m/s)	0.00	Q Gate Group (m3/s)	27.00
Breach Flow Area (m2)	0.00	Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	9.20
Breach Bottom El (m)		Gate Submerg	0.99
Breach SSL (m)		Gate Invert (m)	9.72
Breach SSR (m)		Gate Weir Coef	3.020

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 38.7

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
3.1998	12.8459	4.0819	12.9823	5.5591	13.1833	6.4958	13.2833	7.4143	13.2287
7.66	13.2377	7.66	13.356	11.4946	13.356	16.7243	9.7981	21.3334	9.7975
26.0125	9.7972	31.1787	13.4831	32.1048	13.4831	32.1048	13.384	33.1614	13.3875
33.4901	13.4313	33.7267	13.4357	34.1211	13.4269	34.4104	13.3963	34.6821	13.3744
35.1441	13.3521	35.3282	13.3828	35.6043	13.3521	36.0162	13.2032		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
3.1998	.015	11.4946	.015	31.1787	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
11.4946	31.1787	35	35	35	.1 .3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.65	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.64	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.27	Flow Area (m2)		22.04	
E.G. Slope (m/m)	0.000030	Area (m2)		22.04	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	14.59	Top Width (m)		14.59	

Vel Total (m/s)	0.45	Avg. Vel. (m/s)	0.45
Max Chl Dpth (m)	1.85	Hydr. Depth (m)	1.51
Conv. Total (m3/s)	1838.8	Conv. (m3/s)	1838.8
Length Wtd. (m)	8.95	Wetted Per. (m)	15.75
Min Ch El (m)	9.80	Shear (N/m2)	0.41
Alpha	1.00	Stream Power (N/m s)	0.18
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	201.12
C & E Loss (m)	0.00	Cum SA (1000 m2)	117.32

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.08	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.07	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.27	Flow Area (m2)		28.56	
E.G. Slope (m/m)	0.000014	Area (m2)		28.56	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.82	Top Width (m)		15.82	
Vel Total (m/s)	0.35	Avg. Vel. (m/s)		0.35	
Max Chl Dpth (m)	2.28	Hydr. Depth (m)		1.81	
Conv. Total (m3/s)	2664.2	Conv. (m3/s)		2664.2	
Length Wtd. (m)	8.95	Wetted Per. (m)		17.25	
Min Ch El (m)	9.80	Shear (N/m2)		0.23	
Alpha	1.00	Stream Power (N/m s)		0.08	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		257.53	

C & E Loss (m)	0.00	Cum SA (1000 m2)			126.22

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.54	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.27	Flow Area (m2)		36.31	
E.G. Slope (m/m)	0.000007	Area (m2)		36.31	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.17	Top Width (m)		17.17	
Vel Total (m/s)	0.28	Avg. Vel. (m/s)		0.28	
Max Chl Dpth (m)	2.75	Hydr. Depth (m)		2.11	
Conv. Total (m3/s)	3742.4	Conv. (m3/s)		3742.4	
Length Wtd. (m)	8.95	Wetted Per. (m)		18.89	
Min Ch El (m)	9.80	Shear (N/m2)		0.13	
Alpha	1.00	Stream Power (N/m s)		0.04	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	320.18	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	132.43	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.22	Element	Left OB	Channel	Right OB

Vel Head (m)	0.04	Wt. n-Val.			0.015
W.S. Elev (m)	12.17	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.70	Flow Area (m2)			30.19
E.G. Slope (m/m)	0.000088	Area (m2)			30.19
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	16.11	Top Width (m)			16.11
Vel Total (m/s)	0.89	Avg. Vel. (m/s)			0.89
Max Chl Dpth (m)	2.38	Hydr. Depth (m)			1.87
Conv. Total (m3/s)	2883.7	Conv. (m3/s)			2883.7
Length Wtd. (m)	8.95	Wetted Per. (m)			17.61
Min Ch El (m)	9.80	Shear (N/m2)			1.47
Alpha	1.00	Stream Power (N/m s)			1.32
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			235.42
C & E Loss (m)	0.00	Cum SA (1000 m2)			122.81

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.45	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	12.42	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.70	Flow Area (m2)			34.22
E.G. Slope (m/m)	0.000062	Area (m2)			34.22
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	16.82	Top Width (m)			16.82
Vel Total (m/s)	0.79	Avg. Vel. (m/s)			0.79

Max Chl Dpth (m)	2.62	Hydr. Depth (m)	2.04
Conv. Total (m3/s)	3442.7	Conv. (m3/s)	3442.7
Length Wtd. (m)	8.95	Wetted Per. (m)	18.46
Min Ch El (m)	9.80	Shear (N/m2)	1.12
Alpha	1.00	Stream Power (N/m s)	0.88
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	279.92
C & E Loss (m)	0.00	Cum SA (1000 m2)	128.90

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.79	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.77	Reach Len. (m)	8.95	8.95	8.95
Crit W.S. (m)	10.70	Flow Area (m2)		40.23	
E.G. Slope (m/m)	0.000039	Area (m2)		40.23	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.81	Top Width (m)		17.81	
Vel Total (m/s)	0.67	Avg. Vel. (m/s)		0.67	
Max Chl Dpth (m)	2.97	Hydr. Depth (m)		2.26	
Conv. Total (m3/s)	4319.7	Conv. (m3/s)		4319.7	
Length Wtd. (m)	8.95	Wetted Per. (m)		19.68	
Min Ch El (m)	9.80	Shear (N/m2)		0.78	
Alpha	1.00	Stream Power (N/m s)		0.53	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.04	334.26	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55	132.07	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 38.4

INPUT
Description:
Distance from Upstream XS = 8.95
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
10.14	14.55	12.86	32.55	14.55	12.86

Upstream Bridge Cross Section Data
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
3.1998	12.8459	4.0819	12.9823	5.5591	13.1833	6.4958	13.2833	7.4143	13.2287
7.66	13.2377	7.66	13.356	11.4946	13.356	16.7243	9.7981	21.3334	9.7975
26.0125	9.7972	31.1787	13.4831	32.1048	13.4831	32.1048	13.384	33.1614	13.3875
33.4901	13.4313	33.7267	13.4357	34.1211	13.4269	34.4104	13.3963	34.6821	13.3744
35.1441	13.3521	35.3282	13.3828	35.6043	13.3521	36.0162	13.2032		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
3.1998	.015	11.4946	.015	31.1787	.015

Bank Sta: Left	Right	Coeff Contr.	Expan.
11.4946	31.1787	.1	.3

Downstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
10.14	14.55	12.86	32.55	14.55	12.86

Downstream Bridge Cross Section Data
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
3.1998	12.8459	4.0819	12.9823	5.5591	13.1833	6.4958	13.2833	7.4143	13.2287
7.66	13.2377	7.66	13.356	11.4946	13.356	16.7243	9.7981	21.3334	9.7975
26.0125	9.7972	31.1787	13.4831	32.1048	13.4831	32.1048	13.384	33.1614	13.3875
33.4901	13.4313	33.7267	13.4357	34.1211	13.4269	34.4104	13.3963	34.6821	13.3744
35.1441	13.3521	35.3282	13.3828	35.6043	13.3521	36.0162	13.2032		

Manning's n Values num= 3

```
     Sta   n Val     Sta   n Val     Sta   n Val
  3.1998    .015 11.4946    .015 31.1787    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       11.4946 31.1787          .0015      .01

Upstream Embankment side slope              =     1.8 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.8 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   10.14   12.85   16.51   12.85
Downstream     num=       2
     Sta    Elev     Sta    Elev
   10.14   12.85   16.51   12.85

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   26.51   12.86   32.54   12.86
Downstream     num=       2
     Sta    Elev     Sta    Elev
   26.51   12.86   32.54   12.86

Number of Piers =  2

Pier Data
Pier Station     Upstream=   19.56    Downstream=   19.56
Upstream     num=       2
    Width   Elev    Width   Elev
     .55    9.69     .55   12.85
Downstream     num=       2
    Width   Elev    Width   Elev
     .55    9.69     .55   12.85

Pier Data
Pier Station     Upstream=   23.01    Downstream=   23.01
Upstream     num=       2
    Width   Elev    Width   Elev
     .55    9.69     .55   12.85
Downstream     num=       2
    Width   Elev    Width   Elev
     .55    9.69     .55   12.85

Number of Bridge Coefficient Sets =  1
```

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT Profile #PF 1

E.G. US. (m)	11.65	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.64	E.G. Elev (m)	11.65
11.65			
Q Total (m3/s)	10.00	W.S. Elev (m)	11.63
11.63			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.31
10.31			
Q Weir (m3/s)		Max Chl Dpth (m)	1.84
1.84			
Weir Sta Lft (m)		Vel Total (m/s)	0.62
0.62			
Weir Sta Rgt (m)		Flow Area (m2)	16.24
16.23			
Weir Submerg		Froude # Chl	0.15
0.15			
Weir Max Depth (m)		Specif Force (m3)	15.45
15.44			
Min El Weir Flow (m)	12.85	Hydr Depth (m)	1.82
1.82			
Min El Prs (m)	12.86	W.P. Total (m)	19.58
19.57			
Delta EG (m)	0.01	Conv. Total (m3/s)	955.8
955.4			
Delta WS (m)	0.01	Top Width (m)	8.90
8.90			
BR Open Area (m2)	27.21	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.62	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.89
0.89			
BR Sel Method	Energy only	Power Total (N/m s)	0.55
0.55			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.08	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.07	E.G. Elev (m)	12.08 12.08
Q Total (m3/s)	10.00	W.S. Elev (m)	12.06 12.06
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.31 10.31
Q Weir (m3/s)		Max Chl Dpth (m)	2.27 2.27
Weir Sta Lft (m)		Vel Total (m/s)	0.50 0.50
Weir Sta Rgt (m)		Flow Area (m2)	20.08 20.07
Weir Submerg		Froude # Chl	0.11 0.11
Weir Max Depth (m)		Specif Force (m3)	23.16 23.16
Min El Weir Flow (m)	12.85	Hydr Depth (m)	2.26 2.26
Min El Prs (m)	12.86	W.P. Total (m)	22.16 22.16
Delta EG (m)	0.00	Conv. Total (m3/s)	1253.1 1252.9
Delta WS (m)	0.00	Top Width (m)	8.90 8.90
BR Open Area (m2)	27.21	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.50	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.57 0.57
BR Sel Method	Energy only	Power Total (N/m s)	0.28 0.28

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.55	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.54	E.G. Elev (m)	12.55

12.55
  Q Total (m3/s)   10.00   W.S. Elev (m)   12.54
12.54
  Q Bridge (m3/s)   10.00   Crit W.S. (m)   10.31
10.31
  Q Weir (m3/s)   Max Chl Dpth (m)   2.74
 2.74
  Weir Sta Lft (m)   Vel Total (m/s)   0.41
 0.41
  Weir Sta Rgt (m)   Flow Area (m2)   24.28
24.28
  Weir Submerg   Froude # Chl   0.08
 0.08
  Weir Max Depth (m)   Specif Force (m3)   33.55
33.54
  Min El Weir Flow (m)   12.85   Hydr Depth (m)   2.73
 2.73
  Min El Prs (m)   12.86   W.P. Total (m)   25.00
24.99
  Delta EG (m)   0.00   Conv. Total (m3/s)   1587.6
1587.4
  Delta WS (m)   0.00   Top Width (m)   8.90
 8.90
  BR Open Area (m2)   27.21   Frctn Loss (m)   0.00
 0.00
  BR Open Vel (m/s)   0.41   C & E Loss (m)   0.00
 0.00
  BR Sluice Coef   Shear Total (N/m2)   0.38
 0.38
  BR Sel Method   Energy only   Power Total (N/m s)   0.16
 0.16

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

  E.G. US. (m)   12.22   Element   Inside BR US
Inside BR DS
  W.S. US. (m)   12.17   E.G. Elev (m)   12.21
12.21
  Q Total (m3/s)   27.00   W.S. Elev (m)   12.12
12.12
  Q Bridge (m3/s)   27.00   Crit W.S. (m)   10.79
10.79
  Q Weir (m3/s)   Max Chl Dpth (m)   2.32
 2.32
  Weir Sta Lft (m)   Vel Total (m/s)   1.31
 1.31
  Weir Sta Rgt (m)   Flow Area (m2)   20.58

20.56

Weir Submerg		Froude # Chl	0.28
0.28			
Weir Max Depth (m)		Specif Force (m3)	27.42
27.37			
Min El Weir Flow (m)	12.85	Hydr Depth (m)	2.31
2.31			
Min El Prs (m)	12.86	W.P. Total (m)	22.50
22.49			
Delta EG (m)	0.03	Conv. Total (m3/s)	1292.8
1291.2			
Delta WS (m)	0.03	Top Width (m)	8.90
8.90			
BR Open Area (m2)	27.21	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	1.31	C & E Loss (m)	0.00
0.01			
BR Sluice Coef		Shear Total (N/m2)	3.91
3.92			
BR Sel Method	Energy only	Power Total (N/m s)	5.13
5.15			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.45	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.42	E.G. Elev (m)	12.45
12.44			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.38
12.37			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.79
10.79			
Q Weir (m3/s)		Max Chl Dpth (m)	2.58
2.58			
Weir Sta Lft (m)		Vel Total (m/s)	1.18
1.18			
Weir Sta Rgt (m)		Flow Area (m2)	22.84
22.82			
Weir Submerg		Froude # Chl	0.24
0.24			
Weir Max Depth (m)		Specif Force (m3)	32.56
32.52			
Min El Weir Flow (m)	12.85	Hydr Depth (m)	2.57
2.56			
Min El Prs (m)	12.86	W.P. Total (m)	24.02
24.01			
Delta EG (m)	0.02	Conv. Total (m3/s)	1471.8

1470.6

Delta WS (m)	0.02	Top Width (m)	8.90
8.90			
BR Open Area (m2)	27.21	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	1.18	C & E Loss (m)	0.00
0.01			
BR Sluice Coef		Shear Total (N/m2)	3.14
3.14			
BR Sel Method	Energy only	Power Total (N/m s)	3.71
3.72			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.79	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.77	E.G. Elev (m)	12.79
12.78			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.73
12.73			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.79
10.79			
Q Weir (m3/s)		Max Chl Dpth (m)	2.93
2.93			
Weir Sta Lft (m)		Vel Total (m/s)	1.04
1.04			
Weir Sta Rgt (m)		Flow Area (m2)	26.00
25.99			
Weir Submerg		Froude # Chl	0.19
0.19			
Weir Max Depth (m)		Specif Force (m3)	40.84
40.81			
Min El Weir Flow (m)	12.85	Hydr Depth (m)	2.92
2.92			
Min El Prs (m)	12.86	W.P. Total (m)	26.15
26.15			
Delta EG (m)	0.02	Conv. Total (m3/s)	1726.3
1725.4			
Delta WS (m)	0.02	Top Width (m)	8.90
8.90			
BR Open Area (m2)	27.21	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	1.04	C & E Loss (m)	0.00
0.01			
BR Sluice Coef		Shear Total (N/m2)	2.38
2.39			
BR Sel Method	Energy only	Power Total (N/m s)	2.48

2.48

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 38

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
3.1998	12.8459	4.0819	12.9823	5.5591	13.1833	6.4958	13.2833	7.4143	13.2287
7.66	13.2377	7.66	13.356	11.4946	13.356	16.7243	9.7981	21.3334	9.7975
26.0125	9.7972	31.1787	13.4831	32.1048	13.4831	32.1048	13.384	33.1614	13.3875
33.4901	13.4313	33.7267	13.4357	34.1211	13.4269	34.4104	13.3963	34.6821	13.3744
35.1441	13.3521	35.3282	13.3828	35.6043	13.3521	36.0162	13.2032		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
3.1998	.015	11.4946	.015	31.1787	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
11.4946	31.1787	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.65	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.64	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		21.96	
E.G. Slope (m/m)	0.000030	Area (m2)		21.96	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	14.57	Top Width (m)		14.57	
Vel Total (m/s)	0.46	Avg. Vel. (m/s)		0.46	
Max Chl Dpth (m)	1.84	Hydr. Depth (m)		1.51	
Conv. Total (m3/s)	1828.8	Conv. (m3/s)		1828.8	

Length Wtd. (m)	200.00	Wetted Per. (m)	15.73
Min Ch El (m)	9.80	Shear (N/m2)	0.41
Alpha	1.00	Stream Power (N/m s)	0.19
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	200.46
C & E Loss (m)	0.00	Cum SA (1000 m2)	116.92

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.07	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.07	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		28.50	
E.G. Slope (m/m)	0.000014	Area (m2)		28.50	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.81	Top Width (m)		15.81	
Vel Total (m/s)	0.35	Avg. Vel. (m/s)		0.35	
Max Chl Dpth (m)	2.27	Hydr. Depth (m)		1.80	
Conv. Total (m3/s)	2656.5	Conv. (m3/s)		2656.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.24	
Min Ch El (m)	9.80	Shear (N/m2)		0.23	
Alpha	1.00	Stream Power (N/m s)		0.08	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		256.71	
C & E Loss (m)	0.00	Cum SA (1000 m2)		125.81	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel

Right OB				
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		36.27
E.G. Slope (m/m)	0.000007	Area (m2)		36.27
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	17.16	Top Width (m)		17.16
Vel Total (m/s)	0.28	Avg. Vel. (m/s)		0.28
Max Chl Dpth (m)	2.74	Hydr. Depth (m)		2.11
Conv. Total (m3/s)	3736.1	Conv. (m3/s)		3736.1
Length Wtd. (m)	200.00	Wetted Per. (m)		18.89
Min Ch El (m)	9.80	Shear (N/m2)		0.13
Alpha	1.00	Stream Power (N/m s)		0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	319.15
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	132.00

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.19	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.04	Wt. n-Val.		0.015
W.S. Elev (m)	12.15	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		29.76
E.G. Slope (m/m)	0.000091	Area (m2)		29.76
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	16.04	Top Width (m)		16.04
Vel Total (m/s)	0.91	Avg. Vel. (m/s)		0.91
Max Chl Dpth (m)	2.35	Hydr. Depth (m)		1.86
Conv. Total (m3/s)	2825.3	Conv. (m3/s)		2825.3

Length Wtd. (m)	200.00	Wetted Per. (m)	17.51
Min Ch El (m)	9.80	Shear (N/m2)	1.52
Alpha	1.00	Stream Power (N/m s)	1.38
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	234.56
C & E Loss (m)	0.00	Cum SA (1000 m2)	122.39

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.43	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.40	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		33.86	
E.G. Slope (m/m)	0.000063	Area (m2)		33.86	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	16.75	Top Width (m)		16.75	
Vel Total (m/s)	0.80	Avg. Vel. (m/s)		0.80	
Max Chl Dpth (m)	2.60	Hydr. Depth (m)		2.02	
Conv. Total (m3/s)	3391.4	Conv. (m3/s)		3391.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.39	
Min Ch El (m)	9.80	Shear (N/m2)		1.14	
Alpha	1.00	Stream Power (N/m s)		0.91	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		278.95	
C & E Loss (m)	0.00	Cum SA (1000 m2)		128.47	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.77	Element	Left OB	Channel

Right OB

Vel Head (m)	0.02	Wt. n-Val.			0.015
W.S. Elev (m)	12.75	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			39.93
E.G. Slope (m/m)	0.000040	Area (m2)			39.93
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.76	Top Width (m)			17.76
Vel Total (m/s)	0.68	Avg. Vel. (m/s)			0.68
Max Chl Dpth (m)	2.95	Hydr. Depth (m)			2.25
Conv. Total (m3/s)	4275.2	Conv. (m3/s)			4275.2
Length Wtd. (m)	200.00	Wetted Per. (m)			19.62
Min Ch El (m)	9.80	Shear (N/m2)			0.80
Alpha	1.00	Stream Power (N/m s)			0.54
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04		333.14
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55		131.62

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 37

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.9031	13.2109	9.2779	13.3264	10.2351	13.3985	11.5121	13.3264	12.2435	13.3664
12.2435	13.4937	13.2576	13.4937	18.4896	9.7727	28.9823	9.7714	34.3162	13.4507
35.2311	13.4507	35.2311	13.3512	35.8967	13.304	37.0132	13.3405	38.3946	13.3354
39.1084	13.3667								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.9031	.015	13.2576	.015	34.3162	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
13.2576	34.3162	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.64	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.64	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		24.50	
E.G. Slope (m/m)	0.000023	Area (m2)		24.50	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.81	Top Width (m)		15.81	
Vel Total (m/s)	0.41	Avg. Vel. (m/s)		0.41	
Max Chl Dpth (m)	1.86	Hydr. Depth (m)		1.55	
Conv. Total (m3/s)	2085.5	Conv. (m3/s)		2085.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		16.99	
Min Ch El (m)	9.77	Shear (N/m2)		0.33	
Alpha	1.00	Stream Power (N/m s)		0.13	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		195.81	
C & E Loss (m)	0.00	Cum SA (1000 m2)		113.88	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.07	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.07	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		31.60	
E.G. Slope (m/m)	0.000011	Area (m2)		31.60	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.05	Top Width (m)		17.05	

Vel Total (m/s)	0.32	Avg. Vel. (m/s)	0.32
Max Chl Dpth (m)	2.30	Hydr. Depth (m)	1.85
Conv. Total (m3/s)	3011.6	Conv. (m3/s)	3011.6
Length Wtd. (m)	200.00	Wetted Per. (m)	18.49
Min Ch El (m)	9.77	Shear (N/m2)	0.18
Alpha	1.00	Stream Power (N/m s)	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	250.69
C & E Loss (m)	0.00	Cum SA (1000 m2)	122.52

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		39.97	
E.G. Slope (m/m)	0.000006	Area (m2)		39.97	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.40	Top Width (m)		18.40	
Vel Total (m/s)	0.25	Avg. Vel. (m/s)		0.25	
Max Chl Dpth (m)	2.77	Hydr. Depth (m)		2.17	
Conv. Total (m3/s)	4208.6	Conv. (m3/s)		4208.6	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.14	
Min Ch El (m)	9.77	Shear (N/m2)		0.11	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	311.53	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	128.44	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.17	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.14	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		32.84	
E.G. Slope (m/m)	0.000072	Area (m2)		32.84	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.25	Top Width (m)		17.25	
Vel Total (m/s)	0.82	Avg. Vel. (m/s)		0.82	
Max Chl Dpth (m)	2.37	Hydr. Depth (m)		1.90	
Conv. Total (m3/s)	3181.3	Conv. (m3/s)		3181.3	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.75	
Min Ch El (m)	9.77	Shear (N/m2)		1.24	
Alpha	1.00	Stream Power (N/m s)		1.02	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		228.30	
C & E Loss (m)	0.00	Cum SA (1000 m2)		119.06	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.42	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.39	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		37.30	
E.G. Slope (m/m)	0.000050	Area (m2)		37.30	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.98	Top Width (m)		17.98	

Vel Total (m/s)	0.72	Avg. Vel. (m/s)	0.72
Max Chl Dpth (m)	2.62	Hydr. Depth (m)	2.07
Conv. Total (m3/s)	3814.7	Conv. (m3/s)	3814.7
Length Wtd. (m)	200.00	Wetted Per. (m)	19.63
Min Ch El (m)	9.77	Shear (N/m2)	0.93
Alpha	1.00	Stream Power (N/m s)	0.68
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	271.83
C & E Loss (m)	0.00	Cum SA (1000 m2)	124.99

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.77	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.75	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		43.84	
E.G. Slope (m/m)	0.000032	Area (m2)		43.84	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.99	Top Width (m)		18.99	
Vel Total (m/s)	0.62	Avg. Vel. (m/s)		0.62	
Max Chl Dpth (m)	2.98	Hydr. Depth (m)		2.31	
Conv. Total (m3/s)	4795.1	Conv. (m3/s)		4795.1	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.86	
Min Ch El (m)	9.77	Shear (N/m2)		0.65	
Alpha	1.00	Stream Power (N/m s)		0.40	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	324.76	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55	127.95	

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 36

INPUT
Description:
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
18.9939	13.0055	20.3392	13.1866	21.3196	13.2193	22.2182	13.2357	23.7362	13.1506
23.7362	13.205	24.2683	13.205	29.1133	9.7472	39.7296	9.7458	44.8446	13.3513
45.3763	13.3513	45.3763	13.2553	49.0977	13.285	49.5105	13.3429	50.1509	13.3197
50.5907	13.1809	51.2158	13.0036						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
18.9939	.015	24.2683	.015	44.8446	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
24.2683	44.8446	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.64	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.63	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		25.01	
E.G. Slope (m/m)	0.000022	Area (m2)		25.01	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.93	Top Width (m)		15.93	
Vel Total (m/s)	0.40	Avg. Vel. (m/s)		0.40	
Max Chl Dpth (m)	1.89	Hydr. Depth (m)		1.57	
Conv. Total (m3/s)	2146.2	Conv. (m3/s)		2146.2	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.13	
Min Ch El (m)	9.75	Shear (N/m2)		0.31	
Alpha	1.00	Stream Power (N/m s)		0.12	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		190.86	

C & E Loss (m)	0.00	Cum SA (1000 m2)		110.71

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.07	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.07	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		32.20
E.G. Slope (m/m)	0.000010	Area (m2)		32.20
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	17.16	Top Width (m)		17.16
Vel Total (m/s)	0.31	Avg. Vel. (m/s)		0.31
Max Chl Dpth (m)	2.32	Hydr. Depth (m)		1.88
Conv. Total (m3/s)	3091.1	Conv. (m3/s)		3091.1
Length Wtd. (m)	200.00	Wetted Per. (m)		18.63
Min Ch El (m)	9.75	Shear (N/m2)		0.18
Alpha	1.00	Stream Power (N/m s)		0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		244.31
C & E Loss (m)	0.00	Cum SA (1000 m2)		119.10

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		40.63
E.G. Slope (m/m)	0.000005	Area (m2)		40.63

Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	18.49	Top Width (m)			18.49
Vel Total (m/s)	0.25	Avg. Vel. (m/s)			0.25
Max Chl Dpth (m)	2.79	Hydr. Depth (m)			2.20
Conv. Total (m3/s)	4306.7	Conv. (m3/s)			4306.7
Length Wtd. (m)	200.00	Wetted Per. (m)			20.27
Min Ch El (m)	9.75	Shear (N/m2)			0.11
Alpha	1.00	Stream Power (N/m s)			0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00		303.47
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00		124.75

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.16	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	12.13	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			33.24
E.G. Slope (m/m)	0.000070	Area (m2)			33.24
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.33	Top Width (m)			17.33
Vel Total (m/s)	0.81	Avg. Vel. (m/s)			0.81
Max Chl Dpth (m)	2.38	Hydr. Depth (m)			1.92
Conv. Total (m3/s)	3235.7	Conv. (m3/s)			3235.7
Length Wtd. (m)	200.00	Wetted Per. (m)			18.84
Min Ch El (m)	9.75	Shear (N/m2)			1.20
Alpha	1.00	Stream Power (N/m s)			0.98
Frctn Loss (m)	0.01	Cum Volume (1000 m3)			221.69

C & E Loss (m)	0.00	Cum SA (1000 m2)		115.60

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.41	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.38	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		37.80
E.G. Slope (m/m)	0.000048	Area (m2)		37.80
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.05	Top Width (m)		18.05
Vel Total (m/s)	0.71	Avg. Vel. (m/s)		0.71
Max Chl Dpth (m)	2.64	Hydr. Depth (m)		2.09
Conv. Total (m3/s)	3886.2	Conv. (m3/s)		3886.2
Length Wtd. (m)	200.00	Wetted Per. (m)		19.73
Min Ch El (m)	9.75	Shear (N/m2)		0.91
Alpha	1.00	Stream Power (N/m s)		0.65
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		264.32
C & E Loss (m)	0.00	Cum SA (1000 m2)		121.39

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.76	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.02	Wt. n-Val.		0.015
W.S. Elev (m)	12.74	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		44.43
E.G. Slope (m/m)	0.000031	Area (m2)		44.43

Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	19.06	Top Width (m)			19.06
Vel Total (m/s)	0.61	Avg. Vel. (m/s)			0.61
Max Chl Dpth (m)	3.00	Hydr. Depth (m)			2.33
Conv. Total (m3/s)	4886.3	Conv. (m3/s)			4886.3
Length Wtd. (m)	200.00	Wetted Per. (m)			20.97
Min Ch El (m)	9.75	Shear (N/m2)			0.63
Alpha	1.00	Stream Power (N/m s)			0.39
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04		315.93
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55		124.14

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 35

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
10.8752	12.8333	12.1151	13.123	13.6448	13.3162	15.2228	13.4289	16.9064	13.3596
16.9064	13.4391	18.0191	13.4391	23.0754	9.7217	33.6246	9.7203	38.7991	13.3971
39.4313	13.3971	39.4313	13.297	40.1953	13.2967	42.5758	13.2267	44.9594	13.0167
45.4566	12.9466								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
10.8752	.015	18.0191	.015	38.7991	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.0191	38.7991	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.63	Element		Left OB	Channel Right OB
Vel Head (m)	0.01	Wt. n-Val.			0.015

W.S. Elev (m)	11.63	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			25.13
E.G. Slope (m/m)	0.000021	Area (m2)			25.13
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	15.82	Top Width (m)			15.82
Vel Total (m/s)	0.40	Avg. Vel. (m/s)			0.40
Max Chl Dpth (m)	1.91	Hydr. Depth (m)			1.59
Conv. Total (m3/s)	2169.1	Conv. (m3/s)			2169.1
Length Wtd. (m)	200.00	Wetted Per. (m)			17.06
Min Ch El (m)	9.72	Shear (N/m2)			0.31
Alpha	1.00	Stream Power (N/m s)			0.12
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			185.85
C & E Loss (m)	0.00	Cum SA (1000 m2)			107.53

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.07	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.06	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			32.30
E.G. Slope (m/m)	0.000010	Area (m2)			32.30
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	17.03	Top Width (m)			17.03
Vel Total (m/s)	0.31	Avg. Vel. (m/s)			0.31
Max Chl Dpth (m)	2.34	Hydr. Depth (m)			1.90
Conv. Total (m3/s)	3116.9	Conv. (m3/s)			3116.9
Length Wtd. (m)	200.00	Wetted Per. (m)			18.55

Min Ch El (m)	9.72	Shear (N/m2)	0.18
Alpha	1.00	Stream Power (N/m s)	0.05
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	237.86
C & E Loss (m)	0.00	Cum SA (1000 m2)	115.68

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		40.69	
E.G. Slope (m/m)	0.000005	Area (m2)		40.69	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.34	Top Width (m)		18.34	
Vel Total (m/s)	0.25	Avg. Vel. (m/s)		0.25	
Max Chl Dpth (m)	2.82	Hydr. Depth (m)		2.22	
Conv. Total (m3/s)	4331.0	Conv. (m3/s)		4331.0	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.17	
Min Ch El (m)	9.72	Shear (N/m2)		0.11	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	295.34	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	121.07	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.15	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	

W.S. Elev (m)	12.11	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			33.13
E.G. Slope (m/m)	0.000070	Area (m2)			33.13
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.17	Top Width (m)			17.17
Vel Total (m/s)	0.82	Avg. Vel. (m/s)			0.82
Max Chl Dpth (m)	2.39	Hydr. Depth (m)			1.93
Conv. Total (m3/s)	3232.0	Conv. (m3/s)			3232.0
Length Wtd. (m)	200.00	Wetted Per. (m)			18.71
Min Ch El (m)	9.72	Shear (N/m2)			1.21
Alpha	1.00	Stream Power (N/m s)			0.99
Frctn Loss (m)	0.01	Cum Volume (1000 m3)			215.06
C & E Loss (m)	0.00	Cum SA (1000 m2)			112.15

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.40	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	12.37	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			37.72
E.G. Slope (m/m)	0.000048	Area (m2)			37.72
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.89	Top Width (m)			17.89
Vel Total (m/s)	0.72	Avg. Vel. (m/s)			0.72
Max Chl Dpth (m)	2.65	Hydr. Depth (m)			2.11
Conv. Total (m3/s)	3889.3	Conv. (m3/s)			3889.3
Length Wtd. (m)	200.00	Wetted Per. (m)			19.61

Min Ch El (m)	9.72	Shear (N/m2)	0.91
Alpha	1.00	Stream Power (N/m s)	0.65
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	256.77
C & E Loss (m)	0.00	Cum SA (1000 m2)	117.80

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.75	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.73	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		44.36	
E.G. Slope (m/m)	0.000030	Area (m2)		44.36	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.89	Top Width (m)		18.89	
Vel Total (m/s)	0.61	Avg. Vel. (m/s)		0.61	
Max Chl Dpth (m)	3.01	Hydr. Depth (m)		2.35	
Conv. Total (m3/s)	4893.1	Conv. (m3/s)		4893.1	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.84	
Min Ch El (m)	9.72	Shear (N/m2)		0.64	
Alpha	1.00	Stream Power (N/m s)		0.39	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	307.05	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55	120.35	

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 34

INPUT

Description:
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13.8322	13.202	16.1163	13.4847	17.683	13.3961	19.1246	13.308	19.1246	13.3774
19.6574	13.3774	24.664	9.6962	35.3082	9.6948	40.2778	13.3708	40.9289	13.3708
40.9289	13.2944	41.5074	13.3217	42.1993	13.3115	43.7292	13.2914	44.706	13.2202
45.3978	13.1999	46.5679	13.0168						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
13.8322	.015	19.6574	.015	40.2778	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
19.6574	40.2778	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.63	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.62	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		25.55	
E.G. Slope (m/m)	0.000020	Area (m2)		25.55	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.87	Top Width (m)		15.87	
Vel Total (m/s)	0.39	Avg. Vel. (m/s)		0.39	
Max Chl Dpth (m)	1.93	Hydr. Depth (m)		1.61	
Conv. Total (m3/s)	2223.1	Conv. (m3/s)		2223.1	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.14	
Min Ch El (m)	9.69	Shear (N/m2)		0.30	
Alpha	1.00	Stream Power (N/m s)		0.12	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		180.78	
C & E Loss (m)	0.00	Cum SA (1000 m2)		104.36	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.07	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.06	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		32.77	
E.G. Slope (m/m)	0.000010	Area (m2)		32.77	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.06	Top Width (m)		17.06	
Vel Total (m/s)	0.31	Avg. Vel. (m/s)		0.31	
Max Chl Dpth (m)	2.37	Hydr. Depth (m)		1.92	
Conv. Total (m3/s)	3185.3	Conv. (m3/s)		3185.3	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.62	
Min Ch El (m)	9.69	Shear (N/m2)		0.17	
Alpha	1.00	Stream Power (N/m s)		0.05	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		231.36	
C & E Loss (m)	0.00	Cum SA (1000 m2)		112.27	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		41.18	
E.G. Slope (m/m)	0.000005	Area (m2)		41.18	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.35	Top Width (m)		18.35	
Vel Total (m/s)	0.24	Avg. Vel. (m/s)		0.24	
Max Chl Dpth (m)	2.84	Hydr. Depth (m)		2.24	

Conv. Total (m3/s)	4411.9	Conv. (m3/s)		4411.9
Length Wtd. (m)	200.00	Wetted Per. (m)		20.22
Min Ch El (m)	9.69	Shear (N/m2)		0.10
Alpha	1.00	Stream Power (N/m s)		0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	287.15
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	117.40

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.13	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.10	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		33.41
E.G. Slope (m/m)	0.000068	Area (m2)		33.41
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	17.16	Top Width (m)		17.16
Vel Total (m/s)	0.81	Avg. Vel. (m/s)		0.81
Max Chl Dpth (m)	2.40	Hydr. Depth (m)		1.95
Conv. Total (m3/s)	3274.0	Conv. (m3/s)		3274.0
Length Wtd. (m)	200.00	Wetted Per. (m)		18.74
Min Ch El (m)	9.69	Shear (N/m2)		1.19
Alpha	1.00	Stream Power (N/m s)		0.96
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		208.40
C & E Loss (m)	0.00	Cum SA (1000 m2)		108.72

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.39	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.36	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		38.07	
E.G. Slope (m/m)	0.000047	Area (m2)		38.07	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.88	Top Width (m)		17.88	
Vel Total (m/s)	0.71	Avg. Vel. (m/s)		0.71	
Max Chl Dpth (m)	2.67	Hydr. Depth (m)		2.13	
Conv. Total (m3/s)	3945.5	Conv. (m3/s)		3945.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.64	
Min Ch El (m)	9.69	Shear (N/m2)		0.89	
Alpha	1.00	Stream Power (N/m s)		0.63	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		249.19	
C & E Loss (m)	0.00	Cum SA (1000 m2)		114.22	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.75	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.73	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		44.76	
E.G. Slope (m/m)	0.000030	Area (m2)		44.76	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.87	Top Width (m)		18.87	
Vel Total (m/s)	0.60	Avg. Vel. (m/s)		0.60	
Max Chl Dpth (m)	3.03	Hydr. Depth (m)		2.37	

Conv. Total (m3/s)	4964.1	Conv. (m3/s)			4964.1
Length Wtd. (m)	200.00	Wetted Per. (m)			20.87
Min Ch El (m)	9.69	Shear (N/m2)			0.62
Alpha	1.00	Stream Power (N/m s)			0.38
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04		298.14
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55		116.57

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 33

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
14.6403	13.0685	15.0542	13.0833	17.1619	13.2321	18.6251	13.2173	19.3959	13.1705
19.3959	13.2401	19.9268	13.2401	25.1505	9.6707	35.625	9.67	40.6234	13.2941
41.3425	13.2941	41.3425	13.2378	41.698	13.2688	44.0041	13.2521	45.4253	13.1628
46.8659	12.973								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
14.6403	.015	19.9268	.015	40.6234	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
19.9268	40.6234	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.63	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.62	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		25.81	
E.G. Slope (m/m)	0.000020	Area (m2)		25.81	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	

Top Width (m)	16.01	Top Width (m)	16.01
Vel Total (m/s)	0.39	Avg. Vel. (m/s)	0.39
Max Chl Dpth (m)	1.95	Hydr. Depth (m)	1.61
Conv. Total (m3/s)	2250.7	Conv. (m3/s)	2250.7
Length Wtd. (m)	200.00	Wetted Per. (m)	17.25
Min Ch El (m)	9.67	Shear (N/m2)	0.29
Alpha	1.00	Stream Power (N/m s)	0.11
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	175.64
C & E Loss (m)	0.00	Cum SA (1000 m2)	101.17

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.06	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.06	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		33.14	
E.G. Slope (m/m)	0.000010	Area (m2)		33.14	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.27	Top Width (m)		17.27	
Vel Total (m/s)	0.30	Avg. Vel. (m/s)		0.30	
Max Chl Dpth (m)	2.39	Hydr. Depth (m)		1.92	
Conv. Total (m3/s)	3225.9	Conv. (m3/s)		3225.9	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.78	
Min Ch El (m)	9.67	Shear (N/m2)		0.17	
Alpha	1.00	Stream Power (N/m s)		0.05	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		224.77	
C & E Loss (m)	0.00	Cum SA (1000 m2)		108.84	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		41.68	
E.G. Slope (m/m)	0.000005	Area (m2)		41.68	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.62	Top Width (m)		18.62	
Vel Total (m/s)	0.24	Avg. Vel. (m/s)		0.24	
Max Chl Dpth (m)	2.87	Hydr. Depth (m)		2.24	
Conv. Total (m3/s)	4468.7	Conv. (m3/s)		4468.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.43	
Min Ch El (m)	9.67	Shear (N/m2)		0.10	
Alpha	1.00	Stream Power (N/m s)		0.02	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	278.86	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	113.70	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.12	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.09	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		33.58	
E.G. Slope (m/m)	0.000067	Area (m2)		33.58	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	

Top Width (m)	17.34	Top Width (m)	17.34
Vel Total (m/s)	0.80	Avg. Vel. (m/s)	0.80
Max Chl Dpth (m)	2.42	Hydr. Depth (m)	1.94
Conv. Total (m3/s)	3288.0	Conv. (m3/s)	3288.0
Length Wtd. (m)	200.00	Wetted Per. (m)	18.87
Min Ch El (m)	9.67	Shear (N/m2)	1.18
Alpha	1.00	Stream Power (N/m s)	0.95
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	201.71
C & E Loss (m)	0.00	Cum SA (1000 m2)	105.27

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.38	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.36	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		38.37	
E.G. Slope (m/m)	0.000046	Area (m2)		38.37	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.11	Top Width (m)		18.11	
Vel Total (m/s)	0.70	Avg. Vel. (m/s)		0.70	
Max Chl Dpth (m)	2.69	Hydr. Depth (m)		2.12	
Conv. Total (m3/s)	3975.5	Conv. (m3/s)		3975.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.81	
Min Ch El (m)	9.67	Shear (N/m2)		0.88	
Alpha	1.00	Stream Power (N/m s)		0.62	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		241.55	
C & E Loss (m)	0.00	Cum SA (1000 m2)		110.62	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.74	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.72	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		45.23	
E.G. Slope (m/m)	0.000029	Area (m2)		45.23	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.15	Top Width (m)		19.15	
Vel Total (m/s)	0.60	Avg. Vel. (m/s)		0.60	
Max Chl Dpth (m)	3.05	Hydr. Depth (m)		2.36	
Conv. Total (m3/s)	5014.4	Conv. (m3/s)		5014.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.09	
Min Ch El (m)	9.67	Shear (N/m2)		0.61	
Alpha	1.00	Stream Power (N/m s)		0.36	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	289.14	
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55	112.77	

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 32

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13.8712	12.9796	15.9743	13.1659	17.9142	13.1527	17.9164	13.1524	17.9164	13.1911
18.8638	13.1911	23.8188	9.67	34.2892	9.67	39.5453	13.3868	40.0671	13.3868
40.0671	13.3347	40.4953	13.3757	41.3198	13.371	42.483	13.3711	42.7821	13.3662
43.4195	13.2633	44.2811	13.2701	45.1598	13.0694				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
13.8712	.015	18.8638	.015	39.5453	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.8638	39.5453	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.62	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.61	Reach Len. (m)	191.00	191.00	191.00
Crit W.S. (m)	10.11	Flow Area (m2)		25.70	
E.G. Slope (m/m)	0.000020	Area (m2)		25.70	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.96	Top Width (m)		15.96	
Vel Total (m/s)	0.39	Avg. Vel. (m/s)		0.39	
Max Chl Dpth (m)	1.94	Hydr. Depth (m)		1.61	
Conv. Total (m3/s)	2239.5	Conv. (m3/s)		2239.5	
Length Wtd. (m)	191.00	Wetted Per. (m)		17.20	
Min Ch El (m)	9.67	Shear (N/m2)		0.29	
Alpha	1.00	Stream Power (N/m s)		0.11	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		170.49	
C & E Loss (m)	0.00	Cum SA (1000 m2)		97.98	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.06	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	

W.S. Elev (m)	12.06	Reach Len. (m)	191.00	191.00	191.00
Crit W.S. (m)	10.11	Flow Area (m2)			33.04
E.G. Slope (m/m)	0.000010	Area (m2)			33.04
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	17.21	Top Width (m)			17.21
Vel Total (m/s)	0.30	Avg. Vel. (m/s)			0.30
Max Chl Dpth (m)	2.39	Hydr. Depth (m)			1.92
Conv. Total (m3/s)	3215.8	Conv. (m3/s)			3215.8
Length Wtd. (m)	191.00	Wetted Per. (m)			18.73
Min Ch El (m)	9.67	Shear (N/m2)			0.17
Alpha	1.00	Stream Power (N/m s)			0.05
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			218.15
C & E Loss (m)	0.00	Cum SA (1000 m2)			105.39

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.53	Reach Len. (m)	191.00	191.00	191.00
Crit W.S. (m)	10.11	Flow Area (m2)			41.57
E.G. Slope (m/m)	0.000005	Area (m2)			41.57
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	18.55	Top Width (m)			18.55
Vel Total (m/s)	0.24	Avg. Vel. (m/s)			0.24
Max Chl Dpth (m)	2.86	Hydr. Depth (m)			2.24

Conv. Total (m3/s)	4457.0	Conv. (m3/s)			4457.0
Length Wtd. (m)	191.00	Wetted Per. (m)			20.38
Min Ch El (m)	9.67	Shear (N/m2)			0.10
Alpha	1.00	Stream Power (N/m s)			0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		0.00	270.54
C & E Loss (m)	0.00	Cum SA (1000 m2)		0.00	109.99

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.10	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	12.07	Reach Len. (m)	191.00	191.00	191.00
Crit W.S. (m)	10.51	Flow Area (m2)			33.27
E.G. Slope (m/m)	0.000069	Area (m2)			33.27
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.24	Top Width (m)			17.24
Vel Total (m/s)	0.81	Avg. Vel. (m/s)			0.81
Max Chl Dpth (m)	2.40	Hydr. Depth (m)			1.93
Conv. Total (m3/s)	3247.8	Conv. (m3/s)			3247.8
Length Wtd. (m)	191.00	Wetted Per. (m)			18.77
Min Ch El (m)	9.67	Shear (N/m2)			1.20
Alpha	1.00	Stream Power (N/m s)			0.97
Frctn Loss (m)	0.02	Cum Volume (1000 m3)			195.02
C & E Loss (m)	0.00	Cum SA (1000 m2)			101.81

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.37	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.35	Reach Len. (m)	191.00	191.00	191.00
Crit W.S. (m)	10.51	Flow Area (m2)		38.12	
E.G. Slope (m/m)	0.000047	Area (m2)		38.12	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.02	Top Width (m)		18.02	
Vel Total (m/s)	0.71	Avg. Vel. (m/s)		0.71	
Max Chl Dpth (m)	2.68	Hydr. Depth (m)		2.12	
Conv. Total (m3/s)	3942.5	Conv. (m3/s)		3942.5	
Length Wtd. (m)	191.00	Wetted Per. (m)		19.72	
Min Ch El (m)	9.67	Shear (N/m2)		0.89	
Alpha	1.00	Stream Power (N/m s)		0.63	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		233.90	
C & E Loss (m)	0.00	Cum SA (1000 m2)		107.01	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.74	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.72	Reach Len. (m)	191.00	191.00	

191.00

Crit W.S. (m)	10.51	Flow Area (m2)			45.01
E.G. Slope (m/m)	0.000029	Area (m2)			45.01
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	19.07	Top Width (m)			19.07
Vel Total (m/s)	0.60	Avg. Vel. (m/s)			0.60
Max Chl Dpth (m)	3.05	Hydr. Depth (m)			2.36
Conv. Total (m3/s)	4986.0	Conv. (m3/s)			4986.0
Length Wtd. (m)	191.00	Wetted Per. (m)			21.01
Min Ch El (m)	9.67	Shear (N/m2)			0.62
Alpha	1.00	Stream Power (N/m s)			0.37
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04		280.12
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.55		108.95

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 31.5

INPUT
Description: \
Distance from Upstream XS = 191
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
17.81	14.1	12.38	40.36	14.1	12.38

Upstream Bridge Cross Section Data
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13.8712	12.9796	15.9743	13.1659	17.9142	13.1527	17.9164	13.1524	17.9164	13.1911
18.8638	13.1911	23.8188	9.67	34.2892	9.67	39.5453	13.3868	40.0671	13.3868
40.0671	13.3347	40.4953	13.3757	41.3198	13.371	42.483	13.3711	42.7821	13.3662

```
 43.4195 13.2633 44.2811 13.2701 45.1598 13.0694

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 13.8712    .015 18.8638    .015 39.5453    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       18.8638 39.5453          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   19.08   14.22   12.49   41.63   14.22   12.49

Downstream Bridge Cross Section Data
Station Elevation Data    num=      28
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  9.4991 12.6252 13.2865 12.6464 13.9614 12.6612 14.3909 12.5279 14.8649 12.7945
 15.1611 12.8833 15.6202 12.8537 16.1565  12.799 16.7153 12.8933 17.0056 12.9078
 17.8257 12.9006 18.4426 12.8643 18.7909 12.9513  19.132 13.0021 19.1908 13.0021
 19.1908 13.0659   19.72 13.0659 25.0488    9.67 35.6533    9.67 40.9268 13.0883
 41.4564 13.0883 41.4564 12.9883 41.8237 12.9883 42.9488 12.8667 43.3665 12.9109
 43.8283 12.8912   46.61 12.8407 47.2974 12.7907

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  9.4991    .015   19.72    .015 40.9268    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
         19.72 40.9268          .0015      .01

Upstream Embankment side slope              =     1.8 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.8 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   17.81   12.38   22.78   12.38
Downstream     num=       2
     Sta    Elev     Sta    Elev
   19.08   12.49   24.06   12.49

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   35.38   12.38   40.36   12.38
Downstream     num=       2
```

```
     Sta    Elev     Sta    Elev
   36.65   12.49   41.64   12.49

Number of Piers =  2

Pier Data
Pier Station     Upstream=   26.38    Downstream=   27.65
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.57      .5   12.37
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.57      .5   12.49

Pier Data
Pier Station     Upstream=   31.73    Downstream=      33
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.57      .5   12.38
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.57      .5   12.49

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.62    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.61    E.G. Elev (m)              11.62
11.62
  Q Total (m3/s)             10.00    W.S. Elev (m)              11.61
11.61
  Q Bridge (m3/s)            10.00    Crit W.S. (m)              10.14
10.14
  Q Weir (m3/s)                       Max Chl Dpth (m)            1.94
 1.94
  Weir Sta Lft (m)                    Vel Total (m/s)             0.46
 0.46
```

Weir Sta Rgt (m)		Flow Area (m2)	21.65 21.80
Weir Submerg		Froude # Chl	0.11 0.11
Weir Max Depth (m)		Specif Force (m3)	20.86 21.09
Min El Weir Flow (m)	12.98	Hydr Depth (m)	1.87 1.88
Min El Prs (m)	12.38	W.P. Total (m)	22.19 22.30
Delta EG (m)	0.01	Conv. Total (m3/s)	1420.3 1431.8
Delta WS (m)	0.01	Top Width (m)	11.60 11.59
BR Open Area (m2)	30.64	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.46	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.47 0.47
BR Sel Method	Energy only	Power Total (N/m s)	0.22 0.21

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.06	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.06	E.G. Elev (m)	12.06 12.06
Q Total (m3/s)	10.00	W.S. Elev (m)	12.05 12.05
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.14 10.14
Q Weir (m3/s)		Max Chl Dpth (m)	2.38 2.38
Weir Sta Lft (m)		Vel Total (m/s)	0.37 0.37
Weir Sta Rgt (m)		Flow Area (m2)	26.83 26.98
Weir Submerg		Froude # Chl	0.08 0.08
Weir Max Depth (m)		Specif Force (m3)	31.58 31.89
Min El Weir Flow (m)	12.98	Hydr Depth (m)	2.31 2.33
Min El Prs (m)	12.38	W.P. Total (m)	24.86 24.98

Delta EG (m)	0.00	Conv. Total (m3/s)	1881.6 1892.8
Delta WS (m)	0.00	Top Width (m)	11.60 11.59
BR Open Area (m2)	30.64	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.37	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.30 0.30
BR Sel Method	Energy only	Power Total (N/m s)	0.11 0.11

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.54	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.53	E.G. Elev (m)	12.54 12.54
Q Total (m3/s)	10.00	W.S. Elev (m)	12.53 12.53
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.14 10.14
Q Weir (m3/s)		Max Chl Dpth (m)	2.86 2.86
Weir Sta Lft (m)		Vel Total (m/s)	0.33 0.31
Weir Sta Rgt (m)		Flow Area (m2)	30.64 32.05
Weir Submerg		Froude # Chl	0.06 0.06
Weir Max Depth (m)		Specif Force (m3)	45.55 46.04
Min El Weir Flow (m)	12.98	Hydr Depth (m)	
Min El Prs (m)	12.38	W.P. Total (m)	39.41 39.20
Delta EG (m)	0.00	Conv. Total (m3/s)	1726.8 1868.4
Delta WS (m)	0.00	Top Width (m)	
BR Open Area (m2)	30.64	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.33	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.26 0.23

BR Sel Method	Energy only	Power Total (N/m s)	0.08 0.07

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.10	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.07	E.G. Elev (m)	12.08 12.08
Q Total (m3/s)	27.00	W.S. Elev (m)	12.03 12.03
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.56 10.55
Q Weir (m3/s)		Max Chl Dpth (m)	2.36 2.36
Weir Sta Lft (m)		Vel Total (m/s)	1.02 1.01
Weir Sta Rgt (m)		Flow Area (m2)	26.58 26.72
Weir Submerg		Froude # Chl	0.21 0.21
Weir Max Depth (m)		Specif Force (m3)	33.42 33.70
Min El Weir Flow (m)	12.98	Hydr Depth (m)	2.29 2.31
Min El Prs (m)	12.38	W.P. Total (m)	24.73 24.85
Delta EG (m)	0.02	Conv. Total (m3/s)	1858.7 1869.5
Delta WS (m)	0.02	Top Width (m)	11.60 11.59
BR Open Area (m2)	30.64	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	1.02	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	2.22 2.20
BR Sel Method	Energy only	Power Total (N/m s)	2.26 2.22

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.37	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.35	E.G. Elev (m)	12.36
12.36			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.31
12.31			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.56
10.55			
Q Weir (m3/s)		Max Chl Dpth (m)	2.64
2.64			
Weir Sta Lft (m)		Vel Total (m/s)	0.90
0.90			
Weir Sta Rgt (m)		Flow Area (m2)	29.88
30.02			
Weir Submerg		Froude # Chl	0.18
0.18			
Weir Max Depth (m)		Specif Force (m3)	41.13
41.46			
Min El Weir Flow (m)	12.98	Hydr Depth (m)	2.58
2.59			
Min El Prs (m)	12.38	W.P. Total (m)	26.44
26.56			
Delta EG (m)	0.02	Conv. Total (m3/s)	2160.7
2171.3			
Delta WS (m)	0.01	Top Width (m)	11.60
11.59			
BR Open Area (m2)	30.64	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.90	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.73
1.71			
BR Sel Method	Energy only	Power Total (N/m s)	1.56
1.54			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.74	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.72	E.G. Elev (m)	12.72
12.72			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.68
12.69			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.56
10.55			

Q Weir (m3/s)		Max Chl Dpth (m)	3.01 3.02
Weir Sta Lft (m)		Vel Total (m/s)	0.88 0.84
Weir Sta Rgt (m)		Flow Area (m2)	30.64 32.33
Weir Submerg		Froude # Chl	0.16 0.15
Weir Max Depth (m)		Specif Force (m3)	52.35 53.04
Min El Weir Flow (m)	12.98	Hydr Depth (m)	6.25
Min El Prs (m)	12.38	W.P. Total (m)	39.41 44.50
Delta EG (m)	0.01	Conv. Total (m3/s)	1726.8 1870.9
Delta WS (m)	0.01	Top Width (m)	5.17
BR Open Area (m2)	30.64	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.88	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	1.86 1.48
BR Sel Method	Energy only	Power Total (N/m s)	1.64 1.24

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 31

INPUT
Description: Opera 11
Opera 11
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.4991	12.6252	13.2865	12.6464	13.9614	12.6612	14.3909	12.5279	14.8649	12.7945
15.1611	12.8833	15.6202	12.8537	16.1565	12.799	16.7153	12.8933	17.0056	12.9078
17.8257	12.9006	18.4426	12.8643	18.7909	12.9513	19.132	13.0021	19.1908	13.0021
19.1908	13.0659	19.72	13.0659	25.0488	9.67	35.6533	9.67	40.9268	13.0883
41.4564	13.0883	41.4564	12.9883	41.8237	12.9883	42.9488	12.8667	43.3665	12.9109
43.8283	12.8912	46.61	12.8407	47.2974	12.7907				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.4991	.015	19.72	.015	40.9268	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
19.72	40.9268	200	200	200 .0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.62	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.61	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		26.42	
E.G. Slope (m/m)	0.000019	Area (m2)		26.42	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.64	Top Width (m)		16.64	
Vel Total (m/s)	0.38	Avg. Vel. (m/s)		0.38	
Max Chl Dpth (m)	1.94	Hydr. Depth (m)		1.59	
Conv. Total (m3/s)	2293.0	Conv. (m3/s)		2293.0	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.78	
Min Ch El (m)	9.67	Shear (N/m2)		0.28	
Alpha	1.00	Stream Power (N/m s)		0.10	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		165.77	
C & E Loss (m)	0.00	Cum SA (1000 m2)		95.23	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.06	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.05	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		34.14	
E.G. Slope (m/m)	0.000009	Area (m2)		34.14	

Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	18.03	Top Width (m)	18.03
Vel Total (m/s)	0.29	Avg. Vel. (m/s)	0.29
Max Chl Dpth (m)	2.38	Hydr. Depth (m)	1.89
Conv. Total (m3/s)	3313.8	Conv. (m3/s)	3313.8
Length Wtd. (m)	200.00	Wetted Per. (m)	19.43
Min Ch El (m)	9.67	Shear (N/m2)	0.16
Alpha	1.00	Stream Power (N/m s)	0.05
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	212.17
C & E Loss (m)	0.00	Cum SA (1000 m2)	102.52

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.	0.000	0.015	
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.00	43.10	
E.G. Slope (m/m)	0.000005	Area (m2)	0.00	43.10	
Q Total (m3/s)	10.00	Flow (m3/s)	0.00	10.00	
Top Width (m)	19.53	Top Width (m)	0.02	19.51	
Vel Total (m/s)	0.23	Avg. Vel. (m/s)	0.00	0.23	
Max Chl Dpth (m)	2.86	Hydr. Depth (m)	0.00	2.21	
Conv. Total (m3/s)	4612.7	Conv. (m3/s)	0.0	4612.7	
Length Wtd. (m)	200.00	Wetted Per. (m)	0.02	21.19	
Min Ch El (m)	9.67	Shear (N/m2)		0.09	
Alpha	1.00	Stream Power (N/m s)		0.02	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	0.00	263.34	

C & E Loss (m)	0.00	Cum SA (1000 m2)	0.00	108.17

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.08	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.05	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		34.04
E.G. Slope (m/m)	0.000067	Area (m2)		34.04
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.01	Top Width (m)		18.01
Vel Total (m/s)	0.79	Avg. Vel. (m/s)		0.79
Max Chl Dpth (m)	2.38	Hydr. Depth (m)		1.89
Conv. Total (m3/s)	3300.4	Conv. (m3/s)		3300.4
Length Wtd. (m)	200.00	Wetted Per. (m)		19.41
Min Ch El (m)	9.67	Shear (N/m2)		1.15
Alpha	1.00	Stream Power (N/m s)		0.91
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		189.05
C & E Loss (m)	0.00	Cum SA (1000 m2)		98.94

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.36	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.02	Wt. n-Val.		0.015
W.S. Elev (m)	12.33	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		39.24

E.G. Slope (m/m)	0.000045	Area (m2)	39.24
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	18.89	Top Width (m)	18.89
Vel Total (m/s)	0.69	Avg. Vel. (m/s)	0.69
Max Chl Dpth (m)	2.66	Hydr. Depth (m)	2.08
Conv. Total (m3/s)	4039.2	Conv. (m3/s)	4039.2
Length Wtd. (m)	200.00	Wetted Per. (m)	20.45
Min Ch El (m)	9.67	Shear (N/m2)	0.84
Alpha	1.00	Stream Power (N/m s)	0.58
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	227.12
C & E Loss (m)	0.00	Cum SA (1000 m2)	104.06

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.72	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.	0.015	0.015	200.00
W.S. Elev (m)	12.70	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)	0.37	46.51	
E.G. Slope (m/m)	0.000028	Area (m2)	0.37	46.51	
Q Total (m3/s)	27.00	Flow (m3/s)	0.02	26.98	
Top Width (m)	25.25	Top Width (m)	5.21	20.05	
Vel Total (m/s)	0.58	Avg. Vel. (m/s)	0.06	0.58	
Max Chl Dpth (m)	3.03	Hydr. Depth (m)	0.07	2.32	
Conv. Total (m3/s)	5137.5	Conv. (m3/s)	4.2	5133.4	
Length Wtd. (m)	200.00	Wetted Per. (m)	5.35	21.83	
Min Ch El (m)	9.67	Shear (N/m2)	0.02	0.58	
Alpha	1.01	Stream Power (N/m s)	0.00	0.33	

Frctn Loss (m)	0.01	Cum Volume (1000 m3)	0.04	272.58
C & E Loss (m)	0.00	Cum SA (1000 m2)	0.52	107.09

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 30

INPUT
Description:
Station Elevation Data num= 25

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
14.9274	12.9364	15.626	13.0546	16.436	13.0676	16.8572	13.1842	17.57	13.1518
17.9199	13.0935	18.5614	13.1583	18.901	13.1373	18.901	13.2065	19.4303	13.2065
24.9432	9.67	34.7827	9.67	39.9923	13.3794	40.7435	13.3794	40.7435	13.2912
41.2758	13.3037	41.8493	13.3027	42.0485	13.3465	42.6658	13.3306	42.9127	13.3027
43.1198	13.2788	43.4743	13.255	44.0726	13.2191	44.3913	13.1873	44.5546	13.1515

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
14.9274	.015	19.4303	.015	39.9923	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
19.4303	39.9923	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.61	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.60	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		24.57	
E.G. Slope (m/m)	0.000022	Area (m2)		24.57	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.57	Top Width (m)		15.57	
Vel Total (m/s)	0.41	Avg. Vel. (m/s)		0.41	

Max Chl Dpth (m)	1.93	Hydr. Depth (m)	1.58
Conv. Total (m3/s)	2114.2	Conv. (m3/s)	2114.2
Length Wtd. (m)	200.00	Wetted Per. (m)	16.76
Min Ch El (m)	9.67	Shear (N/m2)	0.32
Alpha	1.00	Stream Power (N/m s)	0.13
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	160.67
C & E Loss (m)	0.00	Cum SA (1000 m2)	92.01

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.06	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.05	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		31.84	
E.G. Slope (m/m)	0.000011	Area (m2)		31.84	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.90	Top Width (m)		16.90	
Vel Total (m/s)	0.31	Avg. Vel. (m/s)		0.31	
Max Chl Dpth (m)	2.38	Hydr. Depth (m)		1.88	
Conv. Total (m3/s)	3064.8	Conv. (m3/s)		3064.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.36	
Min Ch El (m)	9.67	Shear (N/m2)		0.18	
Alpha	1.00	Stream Power (N/m s)		0.06	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		205.58	
C & E Loss (m)	0.00	Cum SA (1000 m2)		99.03	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		40.28	
E.G. Slope (m/m)	0.000005	Area (m2)		40.28	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.32	Top Width (m)		18.32	
Vel Total (m/s)	0.25	Avg. Vel. (m/s)		0.25	
Max Chl Dpth (m)	2.86	Hydr. Depth (m)		2.20	
Conv. Total (m3/s)	4272.1	Conv. (m3/s)		4272.1	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.07	
Min Ch El (m)	9.67	Shear (N/m2)		0.11	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		255.00	
C & E Loss (m)	0.00	Cum SA (1000 m2)		104.39	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.07	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.		0.015	
W.S. Elev (m)	12.03	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		31.46	
E.G. Slope (m/m)	0.000080	Area (m2)		31.46	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	16.83	Top Width (m)		16.83	
Vel Total (m/s)	0.86	Avg. Vel. (m/s)		0.86	

Max Chl Dpth (m)	2.36	Hydr. Depth (m)	1.87
Conv. Total (m3/s)	3012.2	Conv. (m3/s)	3012.2
Length Wtd. (m)	200.00	Wetted Per. (m)	18.28
Min Ch El (m)	9.67	Shear (N/m2)	1.36
Alpha	1.00	Stream Power (N/m s)	1.16
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	182.50
C & E Loss (m)	0.00	Cum SA (1000 m2)	95.46

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.35	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.32	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		36.43	
E.G. Slope (m/m)	0.000053	Area (m2)		36.43	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.68	Top Width (m)		17.68	
Vel Total (m/s)	0.74	Avg. Vel. (m/s)		0.74	
Max Chl Dpth (m)	2.65	Hydr. Depth (m)		2.06	
Conv. Total (m3/s)	3709.2	Conv. (m3/s)		3709.2	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.31	
Min Ch El (m)	9.67	Shear (N/m2)		0.98	
Alpha	1.00	Stream Power (N/m s)		0.73	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		219.55	
C & E Loss (m)	0.00	Cum SA (1000 m2)		100.40	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.72	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.70	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		43.34	
E.G. Slope (m/m)	0.000033	Area (m2)		43.34	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.81	Top Width (m)		18.81	
Vel Total (m/s)	0.62	Avg. Vel. (m/s)		0.62	
Max Chl Dpth (m)	3.03	Hydr. Depth (m)		2.30	
Conv. Total (m3/s)	4734.5	Conv. (m3/s)		4734.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.66	
Min Ch El (m)	9.67	Shear (N/m2)		0.67	
Alpha	1.00	Stream Power (N/m s)		0.42	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		263.60	
C & E Loss (m)	0.00	Cum SA (1000 m2)		103.20	

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 29

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
15.7202	12.7828	16.4739	12.8357	17.5054	12.915	18.1667	12.9295	18.7304	12.8712
19.157	12.8807	19.157	13.0101	20.1134	13.0101	25.0863	9.67	35.7864	9.67
40.7158	12.9169	41.2458	12.9169	41.2458	12.8169	41.7997	12.8169	42.714	12.8115
43.1452	12.8115								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
15.7202	.015	20.1134	.015	40.7158	.015

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

20.1134	40.7158	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.61	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.60	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		26.27	
E.G. Slope (m/m)	0.000019	Area (m2)		26.27	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.51	Top Width (m)		16.51	
Vel Total (m/s)	0.38	Avg. Vel. (m/s)		0.38	
Max Chl Dpth (m)	1.93	Hydr. Depth (m)		1.59	
Conv. Total (m3/s)	2280.3	Conv. (m3/s)		2280.3	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.67	
Min Ch El (m)	9.67	Shear (N/m2)		0.28	
Alpha	1.00	Stream Power (N/m s)		0.11	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		155.58	
C & E Loss (m)	0.00	Cum SA (1000 m2)		88.80	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.06	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.05	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		33.99	
E.G. Slope (m/m)	0.000009	Area (m2)		33.99	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	

Top Width (m)	17.86	Top Width (m)	17.86
Vel Total (m/s)	0.29	Avg. Vel. (m/s)	0.29
Max Chl Dpth (m)	2.38	Hydr. Depth (m)	1.90
Conv. Total (m3/s)	3305.5	Conv. (m3/s)	3305.5
Length Wtd. (m)	200.00	Wetted Per. (m)	19.30
Min Ch El (m)	9.67	Shear (N/m2)	0.16
Alpha	1.00	Stream Power (N/m s)	0.05
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	198.99
C & E Loss (m)	0.00	Cum SA (1000 m2)	95.56

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		42.91	
E.G. Slope (m/m)	0.000005	Area (m2)		42.91	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	19.30	Top Width (m)		19.30	
Vel Total (m/s)	0.23	Avg. Vel. (m/s)		0.23	
Max Chl Dpth (m)	2.86	Hydr. Depth (m)		2.22	
Conv. Total (m3/s)	4601.4	Conv. (m3/s)		4601.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.03	
Min Ch El (m)	9.67	Shear (N/m2)		0.09	
Alpha	1.00	Stream Power (N/m s)		0.02	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		246.68	
C & E Loss (m)	0.00	Cum SA (1000 m2)		100.63	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.05	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.02	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		33.42	
E.G. Slope (m/m)	0.000070	Area (m2)		33.42	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.76	Top Width (m)		17.76	
Vel Total (m/s)	0.81	Avg. Vel. (m/s)		0.81	
Max Chl Dpth (m)	2.35	Hydr. Depth (m)		1.88	
Conv. Total (m3/s)	3225.9	Conv. (m3/s)		3225.9	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.18	
Min Ch El (m)	9.67	Shear (N/m2)		1.20	
Alpha	1.00	Stream Power (N/m s)		0.97	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		176.01	
C & E Loss (m)	0.00	Cum SA (1000 m2)		92.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.34	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.31	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		38.74	
E.G. Slope (m/m)	0.000046	Area (m2)		38.74	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	

Top Width (m)	18.64	Top Width (m)	18.64
Vel Total (m/s)	0.70	Avg. Vel. (m/s)	0.70
Max Chl Dpth (m)	2.64	Hydr. Depth (m)	2.08
Conv. Total (m3/s)	3982.0	Conv. (m3/s)	3982.0
Length Wtd. (m)	200.00	Wetted Per. (m)	20.24
Min Ch El (m)	9.67	Shear (N/m2)	0.86
Alpha	1.00	Stream Power (N/m s)	0.60
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	212.04
C & E Loss (m)	0.00	Cum SA (1000 m2)	96.77

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.71	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.69	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		46.07	
E.G. Slope (m/m)	0.000028	Area (m2)		46.07	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.79	Top Width (m)		19.79	
Vel Total (m/s)	0.59	Avg. Vel. (m/s)		0.59	
Max Chl Dpth (m)	3.02	Hydr. Depth (m)		2.33	
Conv. Total (m3/s)	5086.4	Conv. (m3/s)		5086.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.61	
Min Ch El (m)	9.67	Shear (N/m2)		0.59	
Alpha	1.00	Stream Power (N/m s)		0.35	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		254.66	
C & E Loss (m)	0.00	Cum SA (1000 m2)		99.34	

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 28

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2.9442	12.9894	4.0425	13.2292	6.0901	13.2846	8.1181	13.2599	8.1181	13.3538
8.6491	13.3538	14.0076	9.67	24.4336	9.6693	29.6847	13.3669	30.2164	13.3669
30.2164	13.2884	30.9792	13.3213	32.496	13.3432	33.9747	13.1918	34.8893	13.0403
35.4757	12.9156								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
2.9442	.015	8.6491	.015	29.6847	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
8.6491	29.6847	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.60	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		25.42	
E.G. Slope (m/m)	0.000021	Area (m2)		25.42	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.96	Top Width (m)		15.96	
Vel Total (m/s)	0.39	Avg. Vel. (m/s)		0.39	
Max Chl Dpth (m)	1.93	Hydr. Depth (m)		1.59	
Conv. Total (m3/s)	2201.7	Conv. (m3/s)		2201.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.17	
Min Ch El (m)	9.67	Shear (N/m2)		0.30	

Alpha	1.00	Stream Power (N/m s)	0.12
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	150.42
C & E Loss (m)	0.00	Cum SA (1000 m2)	85.55

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.05	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.05	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		32.94	
E.G. Slope (m/m)	0.000010	Area (m2)		32.94	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.26	Top Width (m)		17.26	
Vel Total (m/s)	0.30	Avg. Vel. (m/s)		0.30	
Max Chl Dpth (m)	2.38	Hydr. Depth (m)		1.91	
Conv. Total (m3/s)	3195.9	Conv. (m3/s)		3195.9	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.76	
Min Ch El (m)	9.67	Shear (N/m2)		0.17	
Alpha	1.00	Stream Power (N/m s)		0.05	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		192.30	
C & E Loss (m)	0.00	Cum SA (1000 m2)		92.04	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)	41.57
E.G. Slope (m/m)	0.000005	Area (m2)	41.57
Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	18.65	Top Width (m)	18.65
Vel Total (m/s)	0.24	Avg. Vel. (m/s)	0.24
Max Chl Dpth (m)	2.86	Hydr. Depth (m)	2.23
Conv. Total (m3/s)	4448.2	Conv. (m3/s)	4448.2
Length Wtd. (m)	200.00	Wetted Per. (m)	20.44
Min Ch El (m)	9.67	Shear (N/m2)	0.10
Alpha	1.00	Stream Power (N/m s)	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	238.23
C & E Loss (m)	0.00	Cum SA (1000 m2)	96.83

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.04	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.04	Wt. n-Val.		0.015
W.S. Elev (m)	12.00	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		32.12
E.G. Slope (m/m)	0.000077	Area (m2)		32.12
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	17.13	Top Width (m)		17.13
Vel Total (m/s)	0.84	Avg. Vel. (m/s)		0.84
Max Chl Dpth (m)	2.33	Hydr. Depth (m)		1.88
Conv. Total (m3/s)	3083.3	Conv. (m3/s)		3083.3
Length Wtd. (m)	200.00	Wetted Per. (m)		18.59
Min Ch El (m)	9.67	Shear (N/m2)		1.30

Alpha	1.00	Stream Power (N/m s)	1.09
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	169.46
C & E Loss (m)	0.00	Cum SA (1000 m2)	88.51

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.33	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.30	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		37.36	
E.G. Slope (m/m)	0.000050	Area (m2)		37.36	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.99	Top Width (m)		17.99	
Vel Total (m/s)	0.72	Avg. Vel. (m/s)		0.72	
Max Chl Dpth (m)	2.63	Hydr. Depth (m)		2.08	
Conv. Total (m3/s)	3824.1	Conv. (m3/s)		3824.1	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.64	
Min Ch El (m)	9.67	Shear (N/m2)		0.93	
Alpha	1.00	Stream Power (N/m s)		0.67	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		204.43	
C & E Loss (m)	0.00	Cum SA (1000 m2)		93.11	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.70	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.69	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)	44.51
E.G. Slope (m/m)	0.000030	Area (m2)	44.51
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	19.09	Top Width (m)	19.09
Vel Total (m/s)	0.61	Avg. Vel. (m/s)	0.61
Max Chl Dpth (m)	3.02	Hydr. Depth (m)	2.33
Conv. Total (m3/s)	4898.0	Conv. (m3/s)	4898.0
Length Wtd. (m)	200.00	Wetted Per. (m)	20.99
Min Ch El (m)	9.67	Shear (N/m2)	0.63
Alpha	1.00	Stream Power (N/m s)	0.38
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	245.60
C & E Loss (m)	0.00	Cum SA (1000 m2)	95.45

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 27

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.0516	13.0334	12.4277	13.1172	14.0822	13.1809	15.9138	13.2217	15.9138	13.3328
16.7764	13.3328	22.2117	9.6434	32.7351	9.6419	34.8821	11.5215	35.1403	11.5593
37.5557	13.2706	38.415	13.2706	38.415	13.2164	40.4441	13.2392	41.8086	12.9928
42.6112	12.8201								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.0516	.015	16.7764	.015	37.5557	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.7764	37.5557	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.60	Element	Left OB	Channel	

Right OB				
Vel Head (m)	0.01	Wt. n-Val.		0.015
W.S. Elev (m)	11.59	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		25.50
E.G. Slope (m/m)	0.000020	Area (m2)		25.50
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	15.85	Top Width (m)		15.85
Vel Total (m/s)	0.39	Avg. Vel. (m/s)		0.39
Max Chl Dpth (m)	1.95	Hydr. Depth (m)		1.61
Conv. Total (m3/s)	2213.3	Conv. (m3/s)		2213.3
Length Wtd. (m)	200.00	Wetted Per. (m)		17.17
Min Ch El (m)	9.64	Shear (N/m2)		0.30
Alpha	1.00	Stream Power (N/m s)		0.12
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		145.32
C & E Loss (m)	0.00	Cum SA (1000 m2)		82.37

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.05	Element	Left OB	Channel Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.05	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		33.00
E.G. Slope (m/m)	0.000010	Area (m2)		33.00
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	17.16	Top Width (m)		17.16
Vel Total (m/s)	0.30	Avg. Vel. (m/s)		0.30
Max Chl Dpth (m)	2.40	Hydr. Depth (m)		1.92
Conv. Total (m3/s)	3205.1	Conv. (m3/s)		3205.1

Length Wtd. (m)	200.00	Wetted Per. (m)	18.76
Min Ch El (m)	9.64	Shear (N/m2)	0.17
Alpha	1.00	Stream Power (N/m s)	0.05
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	185.71
C & E Loss (m)	0.00	Cum SA (1000 m2)	88.60

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		41.59	
E.G. Slope (m/m)	0.000005	Area (m2)		41.59	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.55	Top Width (m)		18.55	
Vel Total (m/s)	0.24	Avg. Vel. (m/s)		0.24	
Max Chl Dpth (m)	2.89	Hydr. Depth (m)		2.24	
Conv. Total (m3/s)	4451.3	Conv. (m3/s)		4451.3	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.45	
Min Ch El (m)	9.64	Shear (N/m2)		0.10	
Alpha	1.00	Stream Power (N/m s)		0.02	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		229.92	
C & E Loss (m)	0.00	Cum SA (1000 m2)		93.12	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.02	Element	Left OB	Channel

Right OB				
Vel Head (m)	0.04	Wt. n-Val.		0.015
W.S. Elev (m)	11.99	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		31.95
E.G. Slope (m/m)	0.000078	Area (m2)		31.95
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	16.98	Top Width (m)		16.98
Vel Total (m/s)	0.85	Avg. Vel. (m/s)		0.85
Max Chl Dpth (m)	2.34	Hydr. Depth (m)		1.88
Conv. Total (m3/s)	3060.9	Conv. (m3/s)		3060.9
Length Wtd. (m)	200.00	Wetted Per. (m)		18.54
Min Ch El (m)	9.64	Shear (N/m2)		1.31
Alpha	1.00	Stream Power (N/m s)		1.11
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		163.05
C & E Loss (m)	0.00	Cum SA (1000 m2)		85.10

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.32	Element	Left OB	Channel Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.29	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		37.24
E.G. Slope (m/m)	0.000050	Area (m2)		37.24
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	17.86	Top Width (m)		17.86
Vel Total (m/s)	0.72	Avg. Vel. (m/s)		0.72
Max Chl Dpth (m)	2.65	Hydr. Depth (m)		2.09
Conv. Total (m3/s)	3807.6	Conv. (m3/s)		3807.6

Length Wtd. (m)	200.00	Wetted Per. (m)	19.61
Min Ch El (m)	9.64	Shear (N/m2)	0.94
Alpha	1.00	Stream Power (N/m s)	0.68
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	196.97
C & E Loss (m)	0.00	Cum SA (1000 m2)	89.52

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.70	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.68	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		44.42	
E.G. Slope (m/m)	0.000031	Area (m2)		44.42	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.98	Top Width (m)		18.98	
Vel Total (m/s)	0.61	Avg. Vel. (m/s)		0.61	
Max Chl Dpth (m)	3.04	Hydr. Depth (m)		2.34	
Conv. Total (m3/s)	4883.0	Conv. (m3/s)		4883.0	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.98	
Min Ch El (m)	9.64	Shear (N/m2)		0.63	
Alpha	1.00	Stream Power (N/m s)		0.39	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		236.71	
C & E Loss (m)	0.00	Cum SA (1000 m2)		91.65	

CROSS SECTION

RIVER: SNM

REACH: Canale SNM RS: 26

INPUT
Description: Opera 12
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
23.9058	13.0337	25.6605	12.9775	26.7529	13.0049	28.2054	13.0392	28.2054	13.0859
28.2054	13.151	30.0603	13.151	35.3614	9.6161	45.766	9.6146	51.6906	13.4451
52.2201	13.4451	52.2201	13.219	52.7332	13.0895	53.9651	13.104	54.5489	13.0225
56.0928	12.9849								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
23.9058	.015	30.0603	.015	51.6906	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
30.0603	51.6906	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.60	Element	Left OB	Channel
Vel Head (m)	0.01	Wt. n-Val.		0.015
W.S. Elev (m)	11.59	Reach Len. (m)	6.00	6.00
Crit W.S. (m)	10.06	Flow Area (m2)		26.47
E.G. Slope (m/m)	0.000019	Area (m2)		26.47
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	16.42	Top Width (m)		16.42
Vel Total (m/s)	0.38	Avg. Vel. (m/s)		0.38
Max Chl Dpth (m)	1.97	Hydr. Depth (m)		1.61
Conv. Total (m3/s)	2316.5	Conv. (m3/s)		2316.5
Length Wtd. (m)	6.00	Wetted Per. (m)		17.60
Min Ch El (m)	9.61	Shear (N/m2)		0.27
Alpha	1.00	Stream Power (N/m s)		0.10
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		140.13
C & E Loss (m)	0.00	Cum SA (1000 m2)		79.15

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.05	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.05	Reach Len. (m)	6.00	6.00	6.00
Crit W.S. (m)	10.06	Flow Area (m2)		34.27	
E.G. Slope (m/m)	0.000009	Area (m2)		34.27	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.81	Top Width (m)		17.81	
Vel Total (m/s)	0.29	Avg. Vel. (m/s)		0.29	
Max Chl Dpth (m)	2.43	Hydr. Depth (m)		1.92	
Conv. Total (m3/s)	3355.2	Conv. (m3/s)		3355.2	
Length Wtd. (m)	6.00	Wetted Per. (m)		19.26	
Min Ch El (m)	9.61	Shear (N/m2)		0.16	
Alpha	1.00	Stream Power (N/m s)		0.05	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		178.98	
C & E Loss (m)	0.00	Cum SA (1000 m2)		85.11	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.53	Reach Len. (m)	6.00	6.00	6.00

Crit W.S. (m)	10.06	Flow Area (m2)	43.22
E.G. Slope (m/m)	0.000005	Area (m2)	43.22
Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	19.28	Top Width (m)	19.28
Vel Total (m/s)	0.23	Avg. Vel. (m/s)	0.23
Max Chl Dpth (m)	2.91	Hydr. Depth (m)	2.24
Conv. Total (m3/s)	4658.9	Conv. (m3/s)	4658.9
Length Wtd. (m)	6.00	Wetted Per. (m)	21.02
Min Ch El (m)	9.61	Shear (N/m2)	0.09
Alpha	1.00	Stream Power (N/m s)	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	221.44
C & E Loss (m)	0.00	Cum SA (1000 m2)	89.33

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	12.01	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	11.97	Reach Len. (m)	6.00	6.00	6.00
Crit W.S. (m)	10.46	Flow Area (m2)		32.99	
E.G. Slope (m/m)	0.000072	Area (m2)		32.99	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.59	Top Width (m)		17.59	
Vel Total (m/s)	0.82	Avg. Vel. (m/s)		0.82	
Max Chl Dpth (m)	2.36	Hydr. Depth (m)		1.88	
Conv. Total (m3/s)	3177.4	Conv. (m3/s)		3177.4	

Length Wtd. (m)	6.00	Wetted Per. (m)	18.99
Min Ch El (m)	9.61	Shear (N/m2)	1.23
Alpha	1.00	Stream Power (N/m s)	1.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	156.56
C & E Loss (m)	0.00	Cum SA (1000 m2)	81.64

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.31	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.28	Reach Len. (m)	6.00	6.00	6.00
Crit W.S. (m)	10.46	Flow Area (m2)		38.57	
E.G. Slope (m/m)	0.000046	Area (m2)		38.57	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.53	Top Width (m)		18.53	
Vel Total (m/s)	0.70	Avg. Vel. (m/s)		0.70	
Max Chl Dpth (m)	2.67	Hydr. Depth (m)		2.08	
Conv. Total (m3/s)	3967.1	Conv. (m3/s)		3967.1	
Length Wtd. (m)	6.00	Wetted Per. (m)		20.12	
Min Ch El (m)	9.61	Shear (N/m2)		0.87	
Alpha	1.00	Stream Power (N/m s)		0.61	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		189.38	
C & E Loss (m)	0.00	Cum SA (1000 m2)		85.88	

Warning: The conveyance ratio (upstream conveyance divided by downstream

conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.69	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.67	Reach Len. (m)	6.00	6.00	6.00
Crit W.S. (m)	10.46	Flow Area (m2)		46.08	
E.G. Slope (m/m)	0.000028	Area (m2)		46.08	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.72	Top Width (m)		19.72	
Vel Total (m/s)	0.59	Avg. Vel. (m/s)		0.59	
Max Chl Dpth (m)	3.06	Hydr. Depth (m)		2.34	
Conv. Total (m3/s)	5098.5	Conv. (m3/s)		5098.5	
Length Wtd. (m)	6.00	Wetted Per. (m)		21.55	
Min Ch El (m)	9.61	Shear (N/m2)		0.59	
Alpha	1.00	Stream Power (N/m s)		0.34	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		227.66	
C & E Loss (m)	0.00	Cum SA (1000 m2)		87.78	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 25.5

INPUT
Description: \
Distance from Upstream XS = 6
Deck/Roadway Width = 5
Weir Coefficient = 1.4

```
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   30.11   14.21   12.54   51.42   14.21   12.54

Upstream Bridge Cross Section Data
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 23.9058 13.0337 25.6605 12.9775 26.7529 13.0049 28.2054 13.0392 28.2054 13.0859
 28.2054  13.151 30.0603  13.151 35.3614  9.6161  45.766  9.6146 51.6906 13.4451
 52.2201 13.4451 52.2201  13.219 52.7332 13.0895 53.9651  13.104 54.5489 13.0225
 56.0928 12.9849

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 23.9058    .015 30.0603    .015 51.6906    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       30.0603 51.6906          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   16.66    14.2   12.54   37.96    14.2   12.54

Downstream Bridge Cross Section Data
Station Elevation Data    num=      20
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 12.3523 13.0208 12.8532 13.0362 13.3346 13.1194 13.6215 13.1379 14.3158 13.1472
 14.9004 13.0918 15.2706 13.0825 15.9097 13.1432 15.9097 13.2669 16.4404 13.2669
 21.8613  9.5888 32.4929  9.5873 37.5889 13.2114 38.1208 13.2114 38.1208 13.1373
 38.1565 13.1392 39.7496 13.1348 40.3073 13.1409 41.6661 12.8934 42.4878 12.7292

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 12.3523    .015 16.4404    .015 37.5889    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       16.4404 37.5889          .0015      .01

Upstream Embankment side slope              =     1.8 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.8 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   30.11   12.54   34.78   12.54
```

```
Downstream     num=       2
     Sta    Elev     Sta    Elev
   16.66   12.54   21.33   12.54

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   47.29   12.54   51.42   12.54
Downstream     num=       2
     Sta    Elev     Sta    Elev
   33.83   12.54   37.96   12.54

Number of Piers =  2

Pier Data
Pier Station     Upstream=   38.13    Downstream=   24.68
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.52      .5   12.54
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.52      .5   12.54

Pier Data
Pier Station     Upstream=   43.94    Downstream=   30.48
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.52      .5   12.54
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.52      .5   12.54

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.60    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.59    E.G. Elev (m)              11.60
```

11.60
  Q Total (m3/s)   10.00   W.S. Elev (m)   11.59
11.59
  Q Bridge (m3/s)   10.00   Crit W.S. (m)   10.09
10.06
  Q Weir (m3/s)   Max Chl Dpth (m)   1.97
 2.00
  Weir Sta Lft (m)   Vel Total (m/s)   0.46
 0.45
  Weir Sta Rgt (m)   Flow Area (m2)   21.81
22.24
  Weir Submerg   Froude # Chl   0.11
 0.10
  Weir Max Depth (m)   Specif Force (m3)   21.36
22.16
  Min El Weir Flow (m)   12.98   Hydr Depth (m)   1.90
 1.93
  Min El Prs (m)   12.54   W.P. Total (m)   22.37
22.59
  Delta EG (m)   0.01   Conv. Total (m3/s)   1430.1
1467.6
  Delta WS (m)   0.01   Top Width (m)   11.51
11.50
  BR Open Area (m2)   32.80   Frctn Loss (m)   0.00
 0.01
  BR Open Vel (m/s)   0.46   C & E Loss (m)   0.00
 0.00
  BR Sluice Coef   Shear Total (N/m2)   0.47
 0.45
  BR Sel Method   Energy only   Power Total (N/m s)   0.21
 0.20

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

  E.G. US. (m)   12.05   Element   Inside BR US
Inside BR DS
  W.S. US. (m)   12.05   E.G. Elev (m)   12.05
12.05
  Q Total (m3/s)   10.00   W.S. Elev (m)   12.04
12.04
  Q Bridge (m3/s)   10.00   Crit W.S. (m)   10.09
10.06
  Q Weir (m3/s)   Max Chl Dpth (m)   2.43
 2.46
  Weir Sta Lft (m)   Vel Total (m/s)   0.37
 0.36
  Weir Sta Rgt (m)   Flow Area (m2)   27.07

```
27.50
  Weir Submerg                          Froude # Chl                 0.08
 0.08
  Weir Max Depth (m)                    Specif Force (m3)           32.44
33.43
  Min El Weir Flow (m)        12.98     Hydr Depth (m)               2.35
 2.39
  Min El Prs (m)              12.54     W.P. Total (m)              25.11
25.33
  Delta EG (m)                 0.00     Conv. Total (m3/s)         1897.8
1936.2
  Delta WS (m)                 0.00     Top Width (m)               11.51
11.50
  BR Open Area (m2)           32.80     Frctn Loss (m)               0.00
 0.00
  BR Open Vel (m/s)            0.37     C & E Loss (m)               0.00
 0.00
  BR Sluice Coef                        Shear Total (N/m2)           0.29
 0.28
  BR Sel Method         Energy only     Power Total (N/m s)          0.11
 0.10


Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

BRIDGE OUTPUT  Profile #PF 3


  E.G. US. (m)                12.53     Element               Inside BR US
Inside BR DS
  W.S. US. (m)                12.53     E.G. Elev (m)               12.53
12.53
  Q Total (m3/s)              10.00     W.S. Elev (m)               12.53
12.53
  Q Bridge (m3/s)             10.00     Crit W.S. (m)               10.09
10.06
  Q Weir (m3/s)                         Max Chl Dpth (m)             2.91
 2.94
  Weir Sta Lft (m)                      Vel Total (m/s)              0.31
 0.30
  Weir Sta Rgt (m)                      Flow Area (m2)              32.63
33.05
  Weir Submerg                          Froude # Chl                 0.06
 0.06
  Weir Max Depth (m)                    Specif Force (m3)           46.80
47.99
  Min El Weir Flow (m)        12.98     Hydr Depth (m)               2.84
 2.87
  Min El Prs (m)              12.54     W.P. Total (m)              28.01
28.23
  Delta EG (m)                 0.00     Conv. Total (m3/s)         2408.9
```

2447.7

Delta WS (m)	0.00	Top Width (m)	11.51
11.50			
BR Open Area (m2)	32.80	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.31	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.20
0.19			
BR Sel Method	Energy only	Power Total (N/m s)	0.06
0.06			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	12.01	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.97	E.G. Elev (m)	12.01
12.00			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.95
11.95			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.51
10.48			
Q Weir (m3/s)		Max Chl Dpth (m)	2.34
2.36			
Weir Sta Lft (m)		Vel Total (m/s)	1.04
1.02			
Weir Sta Rgt (m)		Flow Area (m2)	26.02
26.45			
Weir Submerg		Froude # Chl	0.22
0.21			
Weir Max Depth (m)		Specif Force (m3)	32.50
33.42			
Min El Weir Flow (m)	12.98	Hydr Depth (m)	2.26
2.30			
Min El Prs (m)	12.54	W.P. Total (m)	24.56
24.79			
Delta EG (m)	0.02	Conv. Total (m3/s)	1802.9
1841.7			
Delta WS (m)	0.02	Top Width (m)	11.51
11.50			
BR Open Area (m2)	32.80	Frctn Loss (m)	0.00
0.02			
BR Open Vel (m/s)	1.04	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	2.33
2.25			
BR Sel Method	Energy only	Power Total (N/m s)	2.42

2.30

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.31	Element	Inside BR US	Inside BR DS
W.S. US. (m)	12.28	E.G. Elev (m)	12.31	12.31
Q Total (m3/s)	27.00	W.S. Elev (m)	12.26	12.26
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.51	10.48
Q Weir (m3/s)		Max Chl Dpth (m)	2.65	2.68
Weir Sta Lft (m)		Vel Total (m/s)	0.91	0.90
Weir Sta Rgt (m)		Flow Area (m2)	29.62	30.04
Weir Submerg		Froude # Chl	0.18	0.18
Weir Max Depth (m)		Specif Force (m3)	40.84	41.91
Min El Weir Flow (m)	12.98	Hydr Depth (m)	2.57	2.61
Min El Prs (m)	12.54	W.P. Total (m)	26.43	26.66
Delta EG (m)	0.02	Conv. Total (m3/s)	2130.0	2169.0
Delta WS (m)	0.02	Top Width (m)	11.51	11.50
BR Open Area (m2)	32.80	Frctn Loss (m)	0.00	0.01
BR Open Vel (m/s)	0.91	C & E Loss (m)	0.00	0.00
BR Sluice Coef		Shear Total (N/m2)	1.77	1.71
BR Sel Method	Energy only	Power Total (N/m s)	1.61	1.54

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.69	Element	Inside BR US	Inside BR DS
W.S. US. (m)	12.67	E.G. Elev (m)	12.69	12.69
Q Total (m3/s)	27.00	W.S. Elev (m)	12.66	12.66
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.51	10.48
Q Weir (m3/s)		Max Chl Dpth (m)	3.04	3.07
Weir Sta Lft (m)		Vel Total (m/s)	0.82	0.81
Weir Sta Rgt (m)		Flow Area (m2)	32.80	33.22
Weir Submerg		Froude # Chl	0.15	0.15
Weir Max Depth (m)		Specif Force (m3)	53.06	54.28
Min El Weir Flow (m)	12.98	Hydr Depth (m)		
Min El Prs (m)	12.54	W.P. Total (m)	39.60	39.82
Delta EG (m)	0.01	Conv. Total (m3/s)	1928.5	1962.7
Delta WS (m)	0.01	Top Width (m)		
BR Open Area (m2)	32.80	Frctn Loss (m)	0.00	0.01
BR Open Vel (m/s)	0.82	C & E Loss (m)	0.00	0.00
BR Sluice Coef		Shear Total (N/m2)	1.59	1.55
BR Sel Method	Energy only	Power Total (N/m s)	1.31	1.26

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 25

INPUT
Description:
Station Elevation Data num= 20

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.3523	13.0208	12.8532	13.0362	13.3346	13.1194	13.6215	13.1379	14.3158	13.1472
14.9004	13.0918	15.2706	13.0825	15.9097	13.1432	15.9097	13.2669	16.4404	13.2669

```
 21.8613  9.5888 32.4929  9.5873 37.5889 13.2114 38.1208 13.2114 38.1208 13.1373
 38.1565 13.1392 39.7496 13.1348 40.3073 13.1409 41.6661 12.8934 42.4878 12.7292

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 12.3523    .015 16.4404    .015 37.5889    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       16.4404 37.5889              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.59    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.                           0.015

  W.S. Elev (m)            11.58    Reach Len. (m)          200.00     200.00
 200.00
  Crit W.S. (m)                     Flow Area (m2)                       26.95

  E.G. Slope (m/m)       0.000018    Area (m2)                           26.95

  Q Total (m3/s)           10.00    Flow (m3/s)                          10.00

  Top Width (m)            16.38    Top Width (m)                        16.38

  Vel Total (m/s)           0.37    Avg. Vel. (m/s)                       0.37

  Max Chl Dpth (m)          2.00    Hydr. Depth (m)                       1.65

  Conv. Total (m3/s)      2384.8    Conv. (m3/s)                        2384.8

  Length Wtd. (m)          200.00    Wetted Per. (m)                     17.63

  Min Ch El (m)             9.59    Shear (N/m2)                          0.26

  Alpha                     1.00    Stream Power (N/m s)                  0.10

  Frctn Loss (m)            0.00    Cum Volume (1000 m3)                135.22

  C & E Loss (m)            0.00    Cum SA (1000 m2)                     76.37



CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)            12.05    Element                 Left OB    Channel
Right OB
  Vel Head (m)              0.00    Wt. n-Val.                           0.015
```

W.S. Elev (m)	12.04	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			34.77
E.G. Slope (m/m)	0.000008	Area (m2)			34.77
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	17.70	Top Width (m)			17.70
Vel Total (m/s)	0.29	Avg. Vel. (m/s)			0.29
Max Chl Dpth (m)	2.46	Hydr. Depth (m)			1.96
Conv. Total (m3/s)	3439.0	Conv. (m3/s)			3439.0
Length Wtd. (m)	200.00	Wetted Per. (m)			19.24
Min Ch El (m)	9.59	Shear (N/m2)			0.15
Alpha	1.00	Stream Power (N/m s)			0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			172.78
C & E Loss (m)	0.00	Cum SA (1000 m2)			82.20

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			43.66
E.G. Slope (m/m)	0.000004	Area (m2)			43.66
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	19.09	Top Width (m)			19.09
Vel Total (m/s)	0.23	Avg. Vel. (m/s)			0.23
Max Chl Dpth (m)	2.94	Hydr. Depth (m)			2.29
Conv. Total (m3/s)	4752.3	Conv. (m3/s)			4752.3
Length Wtd. (m)	200.00	Wetted Per. (m)			20.93

Min Ch El (m)	9.59	Shear (N/m2)	0.09
Alpha	1.00	Stream Power (N/m s)	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	213.79
C & E Loss (m)	0.00	Cum SA (1000 m2)	86.29

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.98	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	11.95	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		33.13	
E.G. Slope (m/m)	0.000071	Area (m2)		33.13	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.43	Top Width (m)		17.43	
Vel Total (m/s)	0.81	Avg. Vel. (m/s)		0.81	
Max Chl Dpth (m)	2.36	Hydr. Depth (m)		1.90	
Conv. Total (m3/s)	3210.0	Conv. (m3/s)		3210.0	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.91	
Min Ch El (m)	9.59	Shear (N/m2)		1.22	
Alpha	1.00	Stream Power (N/m s)		0.99	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		150.62	
C & E Loss (m)	0.00	Cum SA (1000 m2)		78.76	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.29	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	

W.S. Elev (m)	12.27	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			38.80
E.G. Slope (m/m)	0.000045	Area (m2)			38.80
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	18.34	Top Width (m)			18.34
Vel Total (m/s)	0.70	Avg. Vel. (m/s)			0.70
Max Chl Dpth (m)	2.68	Hydr. Depth (m)			2.11
Conv. Total (m3/s)	4020.0	Conv. (m3/s)			4020.0
Length Wtd. (m)	200.00	Wetted Per. (m)			20.02
Min Ch El (m)	9.59	Shear (N/m2)			0.86
Alpha	1.00	Stream Power (N/m s)			0.60
Frctn Loss (m)	0.01	Cum Volume (1000 m3)			182.53
C & E Loss (m)	0.00	Cum SA (1000 m2)			82.92

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.68	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.			0.015
W.S. Elev (m)	12.66	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			46.29
E.G. Slope (m/m)	0.000027	Area (m2)			46.29
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	19.48	Top Width (m)			19.48
Vel Total (m/s)	0.58	Avg. Vel. (m/s)			0.58
Max Chl Dpth (m)	3.07	Hydr. Depth (m)			2.38
Conv. Total (m3/s)	5160.1	Conv. (m3/s)			5160.1
Length Wtd. (m)	200.00	Wetted Per. (m)			21.41

Min Ch El (m)	9.59	Shear (N/m2)	0.58
Alpha	1.00	Stream Power (N/m s)	0.34
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	219.74
C & E Loss (m)	0.00	Cum SA (1000 m2)	85.88

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 24

INPUT
Description:
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
8.3044	13.2031	9.4739	13.3402	10.1978	13.381	11.5641	13.33	11.9817	13.3174
11.9817	13.4198	13.0299	13.4198	18.7089	9.5641	29.0158	9.5631	34.4955	13.3515
35.5532	13.3515	35.5532	13.2577	36.3916	13.2682	36.8458	13.3265	37.35	13.2266
38.4835	13.1557	39.1585	13.0058						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
8.3044	.015	13.0299	.015	34.4955	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
13.0299	34.4955	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.58	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		26.72	
E.G. Slope (m/m)	0.000018	Area (m2)		26.72	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.19	Top Width (m)		16.19	
Vel Total (m/s)	0.37	Avg. Vel. (m/s)		0.37	
Max Chl Dpth (m)	2.02	Hydr. Depth (m)		1.65	

Conv. Total (m3/s)	2367.0	Conv. (m3/s)	2367.0
Length Wtd. (m)	200.00	Wetted Per. (m)	17.44
Min Ch El (m)	9.56	Shear (N/m2)	0.27
Alpha	1.00	Stream Power (N/m s)	0.10
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	129.86
C & E Loss (m)	0.00	Cum SA (1000 m2)	73.11

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.04	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.04	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		34.49
E.G. Slope (m/m)	0.000009	Area (m2)		34.49
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	17.54	Top Width (m)		17.54
Vel Total (m/s)	0.29	Avg. Vel. (m/s)		0.29
Max Chl Dpth (m)	2.48	Hydr. Depth (m)		1.97
Conv. Total (m3/s)	3412.2	Conv. (m3/s)		3412.2
Length Wtd. (m)	200.00	Wetted Per. (m)		19.07
Min Ch El (m)	9.56	Shear (N/m2)		0.15
Alpha	1.00	Stream Power (N/m s)		0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		165.85
C & E Loss (m)	0.00	Cum SA (1000 m2)		78.68

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		43.32	
E.G. Slope (m/m)	0.000005	Area (m2)		43.32	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.95	Top Width (m)		18.95	
Vel Total (m/s)	0.23	Avg. Vel. (m/s)		0.23	
Max Chl Dpth (m)	2.96	Hydr. Depth (m)		2.29	
Conv. Total (m3/s)	4712.7	Conv. (m3/s)		4712.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.79	
Min Ch El (m)	9.56	Shear (N/m2)		0.09	
Alpha	1.00	Stream Power (N/m s)		0.02	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		205.10	
C & E Loss (m)	0.00	Cum SA (1000 m2)		82.49	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.97	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	11.93	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		32.63	
E.G. Slope (m/m)	0.000073	Area (m2)		32.63	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.23	Top Width (m)		17.23	
Vel Total (m/s)	0.83	Avg. Vel. (m/s)		0.83	
Max Chl Dpth (m)	2.37	Hydr. Depth (m)		1.89	

Conv. Total (m3/s)	3153.1	Conv. (m3/s)	3153.1
Length Wtd. (m)	200.00	Wetted Per. (m)	18.69
Min Ch El (m)	9.56	Shear (N/m2)	1.26
Alpha	1.00	Stream Power (N/m s)	1.04
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	144.04
C & E Loss (m)	0.00	Cum SA (1000 m2)	75.30

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.28	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	12.26	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		38.33
E.G. Slope (m/m)	0.000046	Area (m2)		38.33
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.17	Top Width (m)		18.17
Vel Total (m/s)	0.70	Avg. Vel. (m/s)		0.70
Max Chl Dpth (m)	2.69	Hydr. Depth (m)		2.11
Conv. Total (m3/s)	3965.0	Conv. (m3/s)		3965.0
Length Wtd. (m)	200.00	Wetted Per. (m)		19.83
Min Ch El (m)	9.56	Shear (N/m2)		0.88
Alpha	1.00	Stream Power (N/m s)		0.62
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		174.81
C & E Loss (m)	0.00	Cum SA (1000 m2)		79.27

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.67	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.66	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		45.84	
E.G. Slope (m/m)	0.000028	Area (m2)		45.84	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.34	Top Width (m)		19.34	
Vel Total (m/s)	0.59	Avg. Vel. (m/s)		0.59	
Max Chl Dpth (m)	3.09	Hydr. Depth (m)		2.37	
Conv. Total (m3/s)	5101.3	Conv. (m3/s)		5101.3	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.25	
Min Ch El (m)	9.56	Shear (N/m2)		0.59	
Alpha	1.00	Stream Power (N/m s)		0.35	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		210.53	
C & E Loss (m)	0.00	Cum SA (1000 m2)		81.99	

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 23

INPUT
Description:
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.6894	13.1462	14.2256	13.2925	15.8557	13.2441	16.7944	13.2282	16.7944	13.3198
17.3255	13.3198	22.797	9.5454	33.2301	9.5444	38.4591	13.2621	38.991	13.2621
38.991	13.2303	39.8827	13.2531	40.842	13.2481	41.5414	13.278	42.1678	13.1931
42.9321	13.1881	43.6865	13.1581						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.6894	.015	17.3255	.015	38.4591	.015

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr.

Expan.
17.3255 38.4591 200 200 200 .0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.58	Element	Left OB	Channel Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015
W.S. Elev (m)	11.58	Reach Len. (m)	84.00	84.00 84.00
Crit W.S. (m)	9.99	Flow Area (m2)		27.09
E.G. Slope (m/m)	0.000017	Area (m2)		27.09
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	16.24	Top Width (m)		16.24
Vel Total (m/s)	0.37	Avg. Vel. (m/s)		0.37
Max Chl Dpth (m)	2.03	Hydr. Depth (m)		1.67
Conv. Total (m3/s)	2415.6	Conv. (m3/s)		2415.6
Length Wtd. (m)	84.00	Wetted Per. (m)		17.52
Min Ch El (m)	9.54	Shear (N/m2)		0.26
Alpha	1.00	Stream Power (N/m s)		0.10
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		124.47
C & E Loss (m)	0.00	Cum SA (1000 m2)		69.87

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.04	Element	Left OB	Channel Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.04	Reach Len. (m)	84.00	84.00 84.00
Crit W.S. (m)	9.99	Flow Area (m2)		34.90

E.G. Slope (m/m)	0.000008	Area (m2)	34.90
Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	17.56	Top Width (m)	17.56
Vel Total (m/s)	0.29	Avg. Vel. (m/s)	0.29
Max Chl Dpth (m)	2.49	Hydr. Depth (m)	1.99
Conv. Total (m3/s)	3474.4	Conv. (m3/s)	3474.4
Length Wtd. (m)	84.00	Wetted Per. (m)	19.13
Min Ch El (m)	9.54	Shear (N/m2)	0.15
Alpha	1.00	Stream Power (N/m s)	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	158.91
C & E Loss (m)	0.00	Cum SA (1000 m2)	75.17

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.52	Reach Len. (m)	84.00	84.00	84.00
Crit W.S. (m)	9.99	Flow Area (m2)		43.76	
E.G. Slope (m/m)	0.000004	Area (m2)		43.76	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.94	Top Width (m)		18.94	
Vel Total (m/s)	0.23	Avg. Vel. (m/s)		0.23	
Max Chl Dpth (m)	2.98	Hydr. Depth (m)		2.31	
Conv. Total (m3/s)	4786.3	Conv. (m3/s)		4786.3	
Length Wtd. (m)	84.00	Wetted Per. (m)		20.82	

Min Ch El (m)	9.54	Shear (N/m2)	0.09
Alpha	1.00	Stream Power (N/m s)	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	196.39
C & E Loss (m)	0.00	Cum SA (1000 m2)	78.70

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.95	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	11.92	Reach Len. (m)	84.00	84.00	84.00
Crit W.S. (m)	10.39	Flow Area (m2)		32.83	
E.G. Slope (m/m)	0.000072	Area (m2)		32.83	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.22	Top Width (m)		17.22	
Vel Total (m/s)	0.82	Avg. Vel. (m/s)		0.82	
Max Chl Dpth (m)	2.37	Hydr. Depth (m)		1.91	
Conv. Total (m3/s)	3182.9	Conv. (m3/s)		3182.9	
Length Wtd. (m)	84.00	Wetted Per. (m)		18.71	
Min Ch El (m)	9.54	Shear (N/m2)		1.24	
Alpha	1.00	Stream Power (N/m s)		1.02	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		137.50	
C & E Loss (m)	0.00	Cum SA (1000 m2)		71.85	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.27	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.25	Reach Len. (m)	84.00	84.00	84.00
Crit W.S. (m)	10.39	Flow Area (m2)		38.62	
E.G. Slope (m/m)	0.000045	Area (m2)		38.62	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.15	Top Width (m)		18.15	
Vel Total (m/s)	0.70	Avg. Vel. (m/s)		0.70	
Max Chl Dpth (m)	2.70	Hydr. Depth (m)		2.13	
Conv. Total (m3/s)	4012.2	Conv. (m3/s)		4012.2	
Length Wtd. (m)	84.00	Wetted Per. (m)		19.86	
Min Ch El (m)	9.54	Shear (N/m2)		0.86	
Alpha	1.00	Stream Power (N/m s)		0.60	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		167.12	
C & E Loss (m)	0.00	Cum SA (1000 m2)		75.63	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.67	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.65	Reach Len. (m)	84.00	84.00	84.00
Crit W.S. (m)	10.39	Flow Area (m2)		46.18	
E.G. Slope (m/m)	0.000027	Area (m2)		46.18	

Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	19.30	Top Width (m)	19.30
Vel Total (m/s)	0.58	Avg. Vel. (m/s)	0.58
Max Chl Dpth (m)	3.11	Hydr. Depth (m)	2.39
Conv. Total (m3/s)	5163.6	Conv. (m3/s)	5163.6
Length Wtd. (m)	84.00	Wetted Per. (m)	21.26
Min Ch El (m)	9.54	Shear (N/m2)	0.58
Alpha	1.00	Stream Power (N/m s)	0.34
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	201.33
C & E Loss (m)	0.00	Cum SA (1000 m2)	78.13

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 22.5

INPUT
Description: \
Distance from Upstream XS = 84
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
16.76	14.76	12.79	39.28	14.76	12.79

Upstream Bridge Cross Section Data
Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.6894	13.1462	14.2256	13.2925	15.8557	13.2441	16.7944	13.2282	16.7944	13.3198
17.3255	13.3198	22.797	9.5454	33.2301	9.5444	38.4591	13.2621	38.991	13.2621
38.991	13.2303	39.8827	13.2531	40.842	13.2481	41.5414	13.278	42.1678	13.1931
42.9321	13.1881	43.6865	13.1581						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.6894	.015	17.3255	.015	38.4591	.015

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Bank Sta: Left   Right    Coeff Contr.   Expan.
       17.3255 38.4591          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   13.62   14.76   12.79   36.14   14.76   12.79

Downstream Bridge Cross Section Data
Station Elevation Data    num=      17
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  9.5526 13.0992  10.164 13.1996 11.4306  13.284 12.6971 13.3051 13.0595 13.3243
 13.0595 13.4508 14.0363 13.4508 19.6667  9.5267 30.0035  9.5257 35.9241  13.577
 36.8875  13.577 36.8875 13.4992 37.0513 13.5065 40.4105 13.4501 40.8499 13.4653
 41.4408 13.3441  41.956  13.132

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  9.5526    .015 14.0363    .015 35.9241    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       14.0363 35.9241          .0015      .01

Upstream Embankment side slope              =     1.8 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.8 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   16.76   12.79   21.73   12.79
Downstream     num=       2
     Sta    Elev     Sta    Elev
   13.62   12.79   18.59   12.79

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   34.22   12.79   39.28   12.79
Downstream     num=       2
     Sta    Elev     Sta    Elev
   31.09   12.79   36.15   12.79

Number of Piers =  2

Pier Data
Pier Station     Upstream=   25.25    Downstream=   22.11
```

```
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.55      .5   12.79
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.55      .5   12.79

Pier Data
Pier Station     Upstream=    30.7    Downstream=   27.56
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.53      .5   12.79
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.53      .5   12.79

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.58    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.58    E.G. Elev (m)              11.58
11.58
  Q Total (m3/s)             10.00    W.S. Elev (m)              11.57
11.57
  Q Bridge (m3/s)            10.00    Crit W.S. (m)              10.02
10.00
  Q Weir (m3/s)                       Max Chl Dpth (m)            2.03
 2.05
  Weir Sta Lft (m)                    Vel Total (m/s)             0.44
 0.44
  Weir Sta Rgt (m)                    Flow Area (m2)             22.54
22.71
  Weir Submerg                        Froude # Chl                0.10
 0.10
  Weir Max Depth (m)                  Specif Force (m3)          22.72
23.05
  Min El Weir Flow (m)       13.15    Hydr Depth (m)              1.96
```

1.97			
Min El Prs (m)	12.79	W.P. Total (m)	22.66
22.74			
Delta EG (m)	0.01	Conv. Total (m3/s)	1497.6
1512.8			
Delta WS (m)	0.01	Top Width (m)	11.49
11.50			
BR Open Area (m2)	36.55	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.44	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.43
0.43			
BR Sel Method	Energy only	Power Total (N/m s)	0.19
0.19			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.04	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.04	E.G. Elev (m)	12.04
12.04			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.04
12.04			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	10.02
10.00			
Q Weir (m3/s)		Max Chl Dpth (m)	2.49
2.51			
Weir Sta Lft (m)		Vel Total (m/s)	0.36
0.36			
Weir Sta Rgt (m)		Flow Area (m2)	27.87
28.05			
Weir Submerg		Froude # Chl	0.07
0.07			
Weir Max Depth (m)		Specif Force (m3)	34.33
34.74			
Min El Weir Flow (m)	13.15	Hydr Depth (m)	2.43
2.44			
Min El Prs (m)	12.79	W.P. Total (m)	25.45
25.53			
Delta EG (m)	0.00	Conv. Total (m3/s)	1974.7
1991.0			
Delta WS (m)	0.00	Top Width (m)	11.49
11.50			
BR Open Area (m2)	36.55	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.36	C & E Loss (m)	0.00

```
 0.00
  BR Sluice Coef                        Shear Total (N/m2)           0.28
 0.27
  BR Sel Method         Energy only     Power Total (N/m s)          0.10
 0.10
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Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

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  E.G. US. (m)               12.53    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               12.52    E.G. Elev (m)                12.53
12.53
  Q Total (m3/s)             10.00    W.S. Elev (m)                12.52
12.52
  Q Bridge (m3/s)            10.00    Crit W.S. (m)                10.02
10.00
  Q Weir (m3/s)                       Max Chl Dpth (m)              2.98
 3.00
  Weir Sta Lft (m)                    Vel Total (m/s)               0.30
 0.30
  Weir Sta Rgt (m)                    Flow Area (m2)               33.46
33.64
  Weir Submerg                        Froude # Chl                  0.06
 0.06
  Weir Max Depth (m)                  Specif Force (m3)            49.18
49.68
  Min El Weir Flow (m)       13.15    Hydr Depth (m)                2.91
 2.93
  Min El Prs (m)             12.79    W.P. Total (m)               28.36
28.44
  Delta EG (m)                0.00    Conv. Total (m3/s)         2490.6
2508.0
  Delta WS (m)                0.00    Top Width (m)                11.49
11.50
  BR Open Area (m2)          36.55    Frctn Loss (m)                0.00
 0.00
  BR Open Vel (m/s)           0.30    C & E Loss (m)                0.00
 0.00
  BR Sluice Coef                      Shear Total (N/m2)            0.19
 0.18
  BR Sel Method         Energy only   Power Total (N/m s)           0.06
 0.05
```

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than

1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.95	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.92	E.G. Elev (m)	11.94
11.94			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.89
11.89			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.43
10.42			
Q Weir (m3/s)		Max Chl Dpth (m)	2.35
2.36			
Weir Sta Lft (m)		Vel Total (m/s)	1.03
1.02			
Weir Sta Rgt (m)		Flow Area (m2)	26.20
26.37			
Weir Submerg		Froude # Chl	0.22
0.22			
Weir Max Depth (m)		Specif Force (m3)	32.87
33.23			
Min El Weir Flow (m)	13.15	Hydr Depth (m)	2.28
2.29			
Min El Prs (m)	12.79	W.P. Total (m)	24.57
24.65			
Delta EG (m)	0.02	Conv. Total (m3/s)	1823.3
1838.9			
Delta WS (m)	0.02	Top Width (m)	11.49
11.50			
BR Open Area (m2)	36.55	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	1.03	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	2.29
2.26			
BR Sel Method	Energy only	Power Total (N/m s)	2.36
2.32			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.27	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.25	E.G. Elev (m)	12.27
12.26			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.22

12.22
  Q Bridge (m3/s) 27.00 Crit W.S. (m) 10.43
10.42
  Q Weir (m3/s) Max Chl Dpth (m) 2.68
 2.70
  Weir Sta Lft (m) Vel Total (m/s) 0.90
 0.89
  Weir Sta Rgt (m) Flow Area (m2) 30.05
30.22
  Weir Submerg Froude # Chl 0.18
 0.18
  Weir Max Depth (m) Specif Force (m3) 41.92
42.34
  Min El Weir Flow (m) 13.15 Hydr Depth (m) 2.62
 2.63
  Min El Prs (m) 12.79 W.P. Total (m) 26.58
26.66
  Delta EG (m) 0.02 Conv. Total (m3/s) 2173.8
2190.3
  Delta WS (m) 0.02 Top Width (m) 11.49
11.50
  BR Open Area (m2) 36.55 Frctn Loss (m) 0.00
 0.01
  BR Open Vel (m/s) 0.90 C & E Loss (m) 0.00
 0.00
  BR Sluice Coef Shear Total (N/m2) 1.71
 1.69
  BR Sel Method Energy only Power Total (N/m s) 1.54
 1.51

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

  E.G. US. (m) 12.67 Element Inside BR US
Inside BR DS
  W.S. US. (m) 12.65 E.G. Elev (m) 12.66
12.66
  Q Total (m3/s) 27.00 W.S. Elev (m) 12.63
12.63
  Q Bridge (m3/s) 27.00 Crit W.S. (m) 10.43
10.42
  Q Weir (m3/s) Max Chl Dpth (m) 3.09
 3.11
  Weir Sta Lft (m) Vel Total (m/s) 0.78
 0.77
  Weir Sta Rgt (m) Flow Area (m2) 34.75
34.92
  Weir Submerg Froude # Chl 0.14

```
 0.14
  Weir Max Depth (m)                    Specif Force (m3)           54.83
55.33
  Min El Weir Flow (m)        13.15     Hydr Depth (m)               3.02
 3.04
  Min El Prs (m)              12.79     W.P. Total (m)              29.04
29.11
  Delta EG (m)                 0.01     Conv. Total (m3/s)         2611.1
2628.6
  Delta WS (m)                 0.01     Top Width (m)              11.49
11.50
  BR Open Area (m2)           36.55     Frctn Loss (m)               0.00
 0.01
  BR Open Vel (m/s)            0.78     C & E Loss (m)               0.00
 0.00
  BR Sluice Coef                        Shear Total (N/m2)           1.25
 1.24
  BR Sel Method         Energy only     Power Total (N/m s)          0.98
 0.96



Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 22

INPUT
Description:
Station Elevation Data    num=      17
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  9.5526 13.0992  10.164 13.1996 11.4306  13.284 12.6971 13.3051 13.0595 13.3243
 13.0595 13.4508 14.0363 13.4508 19.6667  9.5267 30.0035  9.5257 35.9241  13.577
 36.8875  13.577 36.8875 13.4992 37.0513 13.5065 40.4105 13.4501 40.8499 13.4653
 41.4408 13.3441  41.956  13.132

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  9.5526    .015 14.0363    .015 35.9241    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       14.0363 35.9241              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.58    Element                Left OB    Channel
Right OB
```

Vel Head (m)	0.01	Wt. n-Val.			0.015
W.S. Elev (m)	11.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			27.20
E.G. Slope (m/m)	0.000017	Area (m2)			27.20
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	16.26	Top Width (m)			16.26
Vel Total (m/s)	0.37	Avg. Vel. (m/s)			0.37
Max Chl Dpth (m)	2.05	Hydr. Depth (m)			1.67
Conv. Total (m3/s)	2429.7	Conv. (m3/s)			2429.7
Length Wtd. (m)	200.00	Wetted Per. (m)			17.54
Min Ch El (m)	9.53	Shear (N/m2)			0.26
Alpha	1.00	Stream Power (N/m s)			0.09
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			119.51
C & E Loss (m)	0.00	Cum SA (1000 m2)			67.11

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.04	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.04	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			35.07
E.G. Slope (m/m)	0.000008	Area (m2)			35.07
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	17.61	Top Width (m)			17.61
Vel Total (m/s)	0.29	Avg. Vel. (m/s)			0.29
Max Chl Dpth (m)	2.51	Hydr. Depth (m)			1.99
Conv. Total (m3/s)	3496.9	Conv. (m3/s)			3496.9

Length Wtd. (m)	200.00	Wetted Per. (m)	19.17
Min Ch El (m)	9.53	Shear (N/m2)	0.15
Alpha	1.00	Stream Power (N/m s)	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	152.63
C & E Loss (m)	0.00	Cum SA (1000 m2)	72.27

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		43.98	
E.G. Slope (m/m)	0.000004	Area (m2)		43.98	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	19.02	Top Width (m)		19.02	
Vel Total (m/s)	0.23	Avg. Vel. (m/s)		0.23	
Max Chl Dpth (m)	3.00	Hydr. Depth (m)		2.31	
Conv. Total (m3/s)	4816.4	Conv. (m3/s)		4816.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.88	
Min Ch El (m)	9.53	Shear (N/m2)		0.09	
Alpha	1.00	Stream Power (N/m s)		0.02	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		188.67	
C & E Loss (m)	0.00	Cum SA (1000 m2)		75.67	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.93	Element	Left OB	Channel	Right OB

Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	11.89	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			32.61
E.G. Slope (m/m)	0.000073	Area (m2)			32.61
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.20	Top Width (m)			17.20
Vel Total (m/s)	0.83	Avg. Vel. (m/s)			0.83
Max Chl Dpth (m)	2.37	Hydr. Depth (m)			1.90
Conv. Total (m3/s)	3152.6	Conv. (m3/s)			3152.6
Length Wtd. (m)	200.00	Wetted Per. (m)			18.67
Min Ch El (m)	9.53	Shear (N/m2)			1.26
Alpha	1.00	Stream Power (N/m s)			1.04
Frctn Loss (m)	0.02	Cum Volume (1000 m3)			131.61
C & E Loss (m)	0.00	Cum SA (1000 m2)			69.00

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.26	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.			0.015
W.S. Elev (m)	12.23	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			38.56
E.G. Slope (m/m)	0.000046	Area (m2)			38.56
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	18.17	Top Width (m)			18.17
Vel Total (m/s)	0.70	Avg. Vel. (m/s)			0.70
Max Chl Dpth (m)	2.71	Hydr. Depth (m)			2.12
Conv. Total (m3/s)	4001.1	Conv. (m3/s)			4001.1

Length Wtd. (m)	200.00	Wetted Per. (m)	19.86
Min Ch El (m)	9.53	Shear (N/m2)	0.87
Alpha	1.00	Stream Power (N/m s)	0.61
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	160.27
C & E Loss (m)	0.00	Cum SA (1000 m2)	72.68

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.66	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.64	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		46.25	
E.G. Slope (m/m)	0.000027	Area (m2)		46.25	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.36	Top Width (m)		19.36	
Vel Total (m/s)	0.58	Avg. Vel. (m/s)		0.58	
Max Chl Dpth (m)	3.12	Hydr. Depth (m)		2.39	
Conv. Total (m3/s)	5169.6	Conv. (m3/s)		5169.6	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.30	
Min Ch El (m)	9.53	Shear (N/m2)		0.58	
Alpha	1.00	Stream Power (N/m s)		0.34	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		193.25	
C & E Loss (m)	0.00	Cum SA (1000 m2)		75.07	

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 21

INPUT
Description:
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
8.8047	13.1806	10.3863	13.2696	12.5655	13.2501	12.5655	13.3456	13.5297	13.3456
19.1345	9.5079	29.078	9.507	35.1353	13.622	35.9374	13.622	35.9374	13.5221
37.509	13.5224	39.1205	13.4325	39.7474	13.3884				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
8.8047	.015	13.5297	.015	35.1353	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
13.5297	35.1353	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		26.71	
E.G. Slope (m/m)	0.000018	Area (m2)		26.71	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	15.99	Top Width (m)		15.99	
Vel Total (m/s)	0.37	Avg. Vel. (m/s)		0.37	
Max Chl Dpth (m)	2.06	Hydr. Depth (m)		1.67	
Conv. Total (m3/s)	2382.7	Conv. (m3/s)		2382.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		17.26	
Min Ch El (m)	9.51	Shear (N/m2)		0.27	
Alpha	1.00	Stream Power (N/m s)		0.10	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		114.12	
C & E Loss (m)	0.00	Cum SA (1000 m2)		63.88	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.04	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.03	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		34.49	
E.G. Slope (m/m)	0.000008	Area (m2)		34.49	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.35	Top Width (m)		17.35	
Vel Total (m/s)	0.29	Avg. Vel. (m/s)		0.29	
Max Chl Dpth (m)	2.53	Hydr. Depth (m)		1.99	
Conv. Total (m3/s)	3431.9	Conv. (m3/s)		3431.9	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.91	
Min Ch El (m)	9.51	Shear (N/m2)		0.15	
Alpha	1.00	Stream Power (N/m s)		0.04	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		145.68	
C & E Loss (m)	0.00	Cum SA (1000 m2)		68.78	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		43.29	
E.G. Slope (m/m)	0.000004	Area (m2)		43.29	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.78	Top Width (m)		18.78	
Vel Total (m/s)	0.23	Avg. Vel. (m/s)		0.23	

Max Chl Dpth (m)	3.01	Hydr. Depth (m)	2.30
Conv. Total (m3/s)	4728.8	Conv. (m3/s)	4728.8
Length Wtd. (m)	200.00	Wetted Per. (m)	20.64
Min Ch El (m)	9.51	Shear (N/m2)	0.09
Alpha	1.00	Stream Power (N/m s)	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	179.94
C & E Loss (m)	0.00	Cum SA (1000 m2)	71.89

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.91	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.		0.015	
W.S. Elev (m)	11.88	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		31.81	
E.G. Slope (m/m)	0.000078	Area (m2)		31.81	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	16.89	Top Width (m)		16.89	
Vel Total (m/s)	0.85	Avg. Vel. (m/s)		0.85	
Max Chl Dpth (m)	2.37	Hydr. Depth (m)		1.88	
Conv. Total (m3/s)	3059.4	Conv. (m3/s)		3059.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.36	
Min Ch El (m)	9.51	Shear (N/m2)		1.32	
Alpha	1.00	Stream Power (N/m s)		1.12	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		125.17	
C & E Loss (m)	0.00	Cum SA (1000 m2)		65.59	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.25	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	12.22	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		37.78	
E.G. Slope (m/m)	0.000048	Area (m2)		37.78	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.90	Top Width (m)		17.90	
Vel Total (m/s)	0.71	Avg. Vel. (m/s)		0.71	
Max Chl Dpth (m)	2.71	Hydr. Depth (m)		2.11	
Conv. Total (m3/s)	3903.8	Conv. (m3/s)		3903.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.58	
Min Ch El (m)	9.51	Shear (N/m2)		0.91	
Alpha	1.00	Stream Power (N/m s)		0.65	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		152.63	
C & E Loss (m)	0.00	Cum SA (1000 m2)		69.08	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.65	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.63	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		45.44	
E.G. Slope (m/m)	0.000028	Area (m2)		45.44	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.11	Top Width (m)		19.11	
Vel Total (m/s)	0.59	Avg. Vel. (m/s)		0.59	

Max Chl Dpth (m)	3.13	Hydr. Depth (m)	2.38
Conv. Total (m3/s)	5060.1	Conv. (m3/s)	5060.1
Length Wtd. (m)	200.00	Wetted Per. (m)	21.04
Min Ch El (m)	9.51	Shear (N/m2)	0.60
Alpha	1.00	Stream Power (N/m s)	0.36
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	184.08
C & E Loss (m)	0.00	Cum SA (1000 m2)	71.22

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 20

INPUT
Description:
Station Elevation Data num= 12

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.0188	13.152	13.3653	13.2126	15.8339	13.2351	15.8339	13.3397	16.511	13.3397
22.0312	9.4892	32.5918	9.4882	38.0883	13.3863	39.4777	13.3863	39.4777	13.2849
41.0556	13.2806	42.7944	13.1821						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.0188	.015	16.511	.015	38.0883	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.511	38.0883	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.57	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		28.06	
E.G. Slope (m/m)	0.000016	Area (m2)		28.06	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	

Top Width (m)	16.47	Top Width (m)	16.47
Vel Total (m/s)	0.36	Avg. Vel. (m/s)	0.36
Max Chl Dpth (m)	2.08	Hydr. Depth (m)	1.70
Conv. Total (m3/s)	2535.5	Conv. (m3/s)	2535.5
Length Wtd. (m)	200.00	Wetted Per. (m)	17.78
Min Ch El (m)	9.49	Shear (N/m2)	0.24
Alpha	1.00	Stream Power (N/m s)	0.09
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	108.64
C & E Loss (m)	0.00	Cum SA (1000 m2)	60.64

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.04	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.03	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		36.08	
E.G. Slope (m/m)	0.000008	Area (m2)		36.08	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.80	Top Width (m)		17.80	
Vel Total (m/s)	0.28	Avg. Vel. (m/s)		0.28	
Max Chl Dpth (m)	2.55	Hydr. Depth (m)		2.03	
Conv. Total (m3/s)	3636.2	Conv. (m3/s)		3636.2	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.41	
Min Ch El (m)	9.49	Shear (N/m2)		0.14	
Alpha	1.00	Stream Power (N/m s)		0.04	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		138.62	
C & E Loss (m)	0.00	Cum SA (1000 m2)		65.26	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		45.10	
E.G. Slope (m/m)	0.000004	Area (m2)		45.10	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	19.18	Top Width (m)		19.18	
Vel Total (m/s)	0.22	Avg. Vel. (m/s)		0.22	
Max Chl Dpth (m)	3.03	Hydr. Depth (m)		2.35	
Conv. Total (m3/s)	4987.9	Conv. (m3/s)		4987.9	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.10	
Min Ch El (m)	9.49	Shear (N/m2)		0.08	
Alpha	1.00	Stream Power (N/m s)		0.02	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		171.10	
C & E Loss (m)	0.00	Cum SA (1000 m2)		68.09	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.90	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	11.87	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		33.14	
E.G. Slope (m/m)	0.000070	Area (m2)		33.14	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	

Top Width (m)	17.32	Top Width (m)	17.32
Vel Total (m/s)	0.81	Avg. Vel. (m/s)	0.81
Max Chl Dpth (m)	2.38	Hydr. Depth (m)	1.91
Conv. Total (m3/s)	3221.1	Conv. (m3/s)	3221.1
Length Wtd. (m)	200.00	Wetted Per. (m)	18.83
Min Ch El (m)	9.49	Shear (N/m2)	1.21
Alpha	1.00	Stream Power (N/m s)	0.99
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	118.68
C & E Loss (m)	0.00	Cum SA (1000 m2)	62.17

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.24	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.21	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		39.34	
E.G. Slope (m/m)	0.000043	Area (m2)		39.34	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.31	Top Width (m)		18.31	
Vel Total (m/s)	0.69	Avg. Vel. (m/s)		0.69	
Max Chl Dpth (m)	2.73	Hydr. Depth (m)		2.15	
Conv. Total (m3/s)	4112.3	Conv. (m3/s)		4112.3	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.04	
Min Ch El (m)	9.49	Shear (N/m2)		0.83	
Alpha	1.00	Stream Power (N/m s)		0.57	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		144.92	
C & E Loss (m)	0.00	Cum SA (1000 m2)		65.46	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.65	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.63	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		47.22	
E.G. Slope (m/m)	0.000026	Area (m2)		47.22	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.50	Top Width (m)		19.50	
Vel Total (m/s)	0.57	Avg. Vel. (m/s)		0.57	
Max Chl Dpth (m)	3.14	Hydr. Depth (m)		2.42	
Conv. Total (m3/s)	5321.1	Conv. (m3/s)		5321.1	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.48	
Min Ch El (m)	9.49	Shear (N/m2)		0.55	
Alpha	1.00	Stream Power (N/m s)		0.32	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		174.81	
C & E Loss (m)	0.00	Cum SA (1000 m2)		67.36	

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 19

INPUT
Description: Opera 14
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.8283	13.3719	10.5685	13.3517	11.3253	13.2982	11.9598	13.3135	13.2869	13.3246
13.2869	13.4288	14.1591	13.4288	19.8381	9.4705	30.362	9.4695	36.0204	13.5737
37.4246	13.5737	37.4246	13.488	40.8149	13.5846				

Manning's n Values num= 3

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     Sta   n Val     Sta   n Val     Sta   n Val
  9.8283    .015 14.1591    .015 36.0204    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       14.1591 36.0204             200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)            11.57    Element                Left OB    Channel
Right OB
  Vel Head (m)              0.01    Wt. n-Val.                          0.015

  W.S. Elev (m)            11.56    Reach Len. (m)          25.00      25.00
  25.00
  Crit W.S. (m)             9.91    Flow Area (m2)                      28.17

  E.G. Slope (m/m)      0.000015    Area (m2)                           28.17

  Q Total (m3/s)           10.00    Flow (m3/s)                         10.00

  Top Width (m)            16.41    Top Width (m)                       16.41

  Vel Total (m/s)           0.35    Avg. Vel. (m/s)                      0.35

  Max Chl Dpth (m)          2.09    Hydr. Depth (m)                      1.72

  Conv. Total (m3/s)      2556.2    Conv. (m3/s)                       2556.2

  Length Wtd. (m)          25.00    Wetted Per. (m)                     17.75

  Min Ch El (m)             9.47    Shear (N/m2)                         0.24

  Alpha                     1.00    Stream Power (N/m s)                 0.08

  Frctn Loss (m)            0.00    Cum Volume (1000 m3)               103.01

  C & E Loss (m)            0.00    Cum SA (1000 m2)                    57.35



Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)            12.04    Element                Left OB    Channel
Right OB
  Vel Head (m)              0.00    Wt. n-Val.                          0.015
```

W.S. Elev (m)	12.03	Reach Len. (m)	25.00	25.00	25.00
Crit W.S. (m)	9.91	Flow Area (m2)			36.19
E.G. Slope (m/m)	0.000007	Area (m2)			36.19
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	17.73	Top Width (m)			17.73
Vel Total (m/s)	0.28	Avg. Vel. (m/s)			0.28
Max Chl Dpth (m)	2.56	Hydr. Depth (m)			2.04
Conv. Total (m3/s)	3660.3	Conv. (m3/s)			3660.3
Length Wtd. (m)	25.00	Wetted Per. (m)			19.37
Min Ch El (m)	9.47	Shear (N/m2)			0.14
Alpha	1.00	Stream Power (N/m s)			0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			131.39
C & E Loss (m)	0.00	Cum SA (1000 m2)			61.71

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.52	Reach Len. (m)	25.00	25.00	25.00
Crit W.S. (m)	9.91	Flow Area (m2)			45.19
E.G. Slope (m/m)	0.000004	Area (m2)			45.19
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	19.11	Top Width (m)			19.11
Vel Total (m/s)	0.22	Avg. Vel. (m/s)			0.22
Max Chl Dpth (m)	3.05	Hydr. Depth (m)			2.37

Conv. Total (m3/s)	5012.7	Conv. (m3/s)	5012.7
Length Wtd. (m)	25.00	Wetted Per. (m)	21.05
Min Ch El (m)	9.47	Shear (N/m2)	0.08
Alpha	1.00	Stream Power (N/m s)	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	162.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	64.26

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.89	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	11.85	Reach Len. (m)	25.00	25.00	25.00
Crit W.S. (m)	10.31	Flow Area (m2)		33.04	
E.G. Slope (m/m)	0.000071	Area (m2)		33.04	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.22	Top Width (m)		17.22	
Vel Total (m/s)	0.82	Avg. Vel. (m/s)		0.82	
Max Chl Dpth (m)	2.38	Hydr. Depth (m)		1.92	
Conv. Total (m3/s)	3214.5	Conv. (m3/s)		3214.5	
Length Wtd. (m)	25.00	Wetted Per. (m)		18.75	
Min Ch El (m)	9.47	Shear (N/m2)		1.22	
Alpha	1.00	Stream Power (N/m s)		1.00	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		112.06	
C & E Loss (m)	0.00	Cum SA (1000 m2)		58.71	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.23	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.21	Reach Len. (m)	25.00	25.00	25.00
Crit W.S. (m)	10.31	Flow Area (m2)		39.31	
E.G. Slope (m/m)	0.000043	Area (m2)		39.31	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.22	Top Width (m)		18.22	
Vel Total (m/s)	0.69	Avg. Vel. (m/s)		0.69	
Max Chl Dpth (m)	2.74	Hydr. Depth (m)		2.16	
Conv. Total (m3/s)	4116.7	Conv. (m3/s)		4116.7	
Length Wtd. (m)	25.00	Wetted Per. (m)		19.97	
Min Ch El (m)	9.47	Shear (N/m2)		0.83	
Alpha	1.00	Stream Power (N/m s)		0.57	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		137.05	
C & E Loss (m)	0.00	Cum SA (1000 m2)		61.80	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.64	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.63	Reach Len. (m)	25.00	25.00	25.00

Crit W.S. (m)	10.31	Flow Area (m2)	47.22
E.G. Slope (m/m)	0.000026	Area (m2)	47.22
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	19.40	Top Width (m)	19.40
Vel Total (m/s)	0.57	Avg. Vel. (m/s)	0.57
Max Chl Dpth (m)	3.16	Hydr. Depth (m)	2.43
Conv. Total (m3/s)	5332.0	Conv. (m3/s)	5332.0
Length Wtd. (m)	25.00	Wetted Per. (m)	21.42
Min Ch El (m)	9.47	Shear (N/m2)	0.55
Alpha	1.00	Stream Power (N/m s)	0.32
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	165.37
C & E Loss (m)	0.00	Cum SA (1000 m2)	63.47

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 18.5

INPUT
Description: \
Distance from Upstream XS = 25
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
14.13	14.46	12.56	36.05	14.46	12.56

Upstream Bridge Cross Section Data
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.8283	13.3719	10.5685	13.3517	11.3253	13.2982	11.9598	13.3135	13.2869	13.3246
13.2869	13.4288	14.1591	13.4288	19.8381	9.4705	30.362	9.4695	36.0204	13.5737
37.4246	13.5737	37.4246	13.488	40.8149	13.5846				

```
Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  9.8283    .015 14.1591    .015 36.0204    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       14.1591 36.0204          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   17.43   14.46   12.56   39.39   14.46   12.56

Downstream Bridge Cross Section Data
Station Elevation Data    num=      15
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 13.0717 13.1055 14.7704  13.295 15.4462 13.3401 16.7484  13.269 16.7484 13.3418
 17.6185 13.3418 23.0939  9.4514 33.5724  9.4504 38.8596 13.1054 39.3908 13.1054
 39.3908  13.017 40.5159 13.0433  41.716 12.9756 42.2573  12.908 43.3658 12.8491

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 13.0717    .015 17.6185    .015 38.8596    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       17.6185 38.8596          .0015      .01

Upstream Embankment side slope              =     1.8 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.8 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   14.13   12.56   18.45   12.56
Downstream     num=       2
     Sta    Elev     Sta    Elev
   17.43   12.56   21.75   12.56

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   31.45   12.56   36.02   12.56
Downstream     num=       2
     Sta    Elev     Sta    Elev
   34.75   12.56   39.35   12.56

Number of Piers =  2
```

```
Pier Data
Pier Station     Upstream=   22.35    Downstream=   25.65
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.37      .4   12.56
Downstream     num=       2
    Width   Elev    Width   Elev
      .4    9.37      .4   12.56

Pier Data
Pier Station     Upstream=   27.65    Downstream=   30.95
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.37      .4   12.56
Downstream     num=       2
    Width   Elev    Width   Elev
      .4    9.37      .4   12.56

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.57    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.56    E.G. Elev (m)               11.57
11.57
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.56
11.56
  Q Bridge (m3/s)            10.00    Crit W.S. (m)                9.94
 9.92
  Q Weir (m3/s)                       Max Chl Dpth (m)             2.09
 2.11
  Weir Sta Lft (m)                    Vel Total (m/s)              0.41
 0.41
  Weir Sta Rgt (m)                    Flow Area (m2)              24.39
24.60
  Weir Submerg                        Froude # Chl                 0.09
 0.09
  Weir Max Depth (m)                  Specif Force (m3)           25.08
```

25.50
  Min El Weir Flow (m) 13.30 Hydr Depth (m) 2.00
 2.02
  Min El Prs (m) 12.56 W.P. Total (m) 23.54
23.64
  Delta EG (m) 0.00 Conv. Total (m3/s) 1664.9
1684.4
  Delta WS (m) 0.00 Top Width (m) 12.20
12.20
  BR Open Area (m2) 36.60 Frctn Loss (m) 0.00
 0.00
  BR Open Vel (m/s) 0.41 C & E Loss (m) 0.00
 0.00
  BR Sluice Coef Shear Total (N/m2) 0.37
 0.36
  BR Sel Method Energy only Power Total (N/m s) 0.15
 0.15

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

  E.G. US. (m) 12.04 Element Inside BR US
Inside BR DS
  W.S. US. (m) 12.03 E.G. Elev (m) 12.04
12.04
  Q Total (m3/s) 10.00 W.S. Elev (m) 12.03
12.03
  Q Bridge (m3/s) 10.00 Crit W.S. (m) 9.94
 9.92
  Q Weir (m3/s) Max Chl Dpth (m) 2.56
 2.58
  Weir Sta Lft (m) Vel Total (m/s) 0.33
 0.33
  Weir Sta Rgt (m) Flow Area (m2) 30.13
30.34
  Weir Submerg Froude # Chl 0.07
 0.07
  Weir Max Depth (m) Specif Force (m3) 37.82
38.34
  Min El Weir Flow (m) 13.30 Hydr Depth (m) 2.47
 2.49
  Min El Prs (m) 12.56 W.P. Total (m) 26.36
26.46
  Delta EG (m) 0.00 Conv. Total (m3/s) 2195.5
2215.7
  Delta WS (m) 0.00 Top Width (m) 12.20
12.20
  BR Open Area (m2) 36.60 Frctn Loss (m) 0.00

0.00			
BR Open Vel (m/s)	0.33	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.23
0.23			
BR Sel Method	Energy only	Power Total (N/m s)	0.08
0.08			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.52	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.52	E.G. Elev (m)	12.52
12.52			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.52
12.52			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.94
9.92			
Q Weir (m3/s)		Max Chl Dpth (m)	3.05
3.07			
Weir Sta Lft (m)		Vel Total (m/s)	0.28
0.28			
Weir Sta Rgt (m)		Flow Area (m2)	36.09
36.31			
Weir Submerg		Froude # Chl	0.05
0.05			
Weir Max Depth (m)		Specif Force (m3)	53.95
54.58			
Min El Weir Flow (m)	13.30	Hydr Depth (m)	2.96
2.98			
Min El Prs (m)	12.56	W.P. Total (m)	29.30
29.40			
Delta EG (m)	0.00	Conv. Total (m3/s)	2765.4
2786.2			
Delta WS (m)	0.00	Top Width (m)	12.20
12.20			
BR Open Area (m2)	36.60	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.28	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.16
0.16			
BR Sel Method	Energy only	Power Total (N/m s)	0.04
0.04			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.89	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.85	E.G. Elev (m)	11.88
11.88			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.83
11.83			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.35
10.33			
Q Weir (m3/s)		Max Chl Dpth (m)	2.37
2.38			
Weir Sta Lft (m)		Vel Total (m/s)	0.97
0.97			
Weir Sta Rgt (m)		Flow Area (m2)	27.75
27.96			
Weir Submerg		Froude # Chl	0.21
0.20			
Weir Max Depth (m)		Specif Force (m3)	34.52
34.98			
Min El Weir Flow (m)	13.30	Hydr Depth (m)	2.27
2.29			
Min El Prs (m)	12.56	W.P. Total (m)	25.19
25.29			
Delta EG (m)	0.02	Conv. Total (m3/s)	1973.1
1992.8			
Delta WS (m)	0.02	Top Width (m)	12.20
12.20			
BR Open Area (m2)	36.60	Frctn Loss (m)	0.00
0.02			
BR Open Vel (m/s)	0.97	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	2.02
1.99			
BR Sel Method	Energy only	Power Total (N/m s)	1.97
1.92			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.23	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.21	E.G. Elev (m)	12.23

12.23
  Q Total (m3/s)   27.00   W.S. Elev (m)   12.19
12.19
  Q Bridge (m3/s)   27.00   Crit W.S. (m)   10.35
10.33
  Q Weir (m3/s)   Max Chl Dpth (m)   2.72
 2.74
  Weir Sta Lft (m)   Vel Total (m/s)   0.84
 0.84
  Weir Sta Rgt (m)   Flow Area (m2)   32.10
32.31
  Weir Submerg   Froude # Chl   0.17
 0.16
  Weir Max Depth (m)   Specif Force (m3)   44.83
45.37
  Min El Weir Flow (m)   13.30   Hydr Depth (m)   2.63
 2.65
  Min El Prs (m)   12.56   W.P. Total (m)   27.33
27.43
  Delta EG (m)   0.01   Conv. Total (m3/s)   2382.4
2402.6
  Delta WS (m)   0.01   Top Width (m)   12.20
12.20
  BR Open Area (m2)   36.60   Frctn Loss (m)   0.00
 0.01
  BR Open Vel (m/s)   0.84   C & E Loss (m)   0.00
 0.00
  BR Sluice Coef   Shear Total (N/m2)   1.48
 1.46
  BR Sel Method   Energy only   Power Total (N/m s)   1.24
 1.22

Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

  E.G. US. (m)   12.64   Element   Inside BR US
Inside BR DS
  W.S. US. (m)   12.63   E.G. Elev (m)   12.64
12.64
  Q Total (m3/s)   27.00   W.S. Elev (m)   12.61
12.61
  Q Bridge (m3/s)   27.00   Crit W.S. (m)   10.35
10.33
  Q Weir (m3/s)   Max Chl Dpth (m)   3.14
 3.16
  Weir Sta Lft (m)   Vel Total (m/s)   0.74
 0.73
  Weir Sta Rgt (m)   Flow Area (m2)   36.60

36.81
  Weir Submerg   Froude # Chl   0.13
 0.13
  Weir Max Depth (m)   Specif Force (m3)   59.15
59.78
  Min El Weir Flow (m)   13.30   Hydr Depth (m)

  Min El Prs (m)   12.56   W.P. Total (m)   41.74
41.84
  Delta EG (m)   0.01   Conv. Total (m3/s)   2234.9
2252.9
  Delta WS (m)   0.01   Top Width (m)

  BR Open Area (m2)   36.60   Frctn Loss (m)   0.00
 0.01
  BR Open Vel (m/s)   0.74   C & E Loss (m)   0.00
 0.00
  BR Sluice Coef   Shear Total (N/m2)   1.25
 1.24
  BR Sel Method   Energy only   Power Total (N/m s)   0.93
 0.91

Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM   RS: 18

INPUT
Description:
Station Elevation Data   num=   15
     Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
 13.0717 13.1055 14.7704 13.295 15.4462 13.3401 16.7484 13.269 16.7484 13.3418
 17.6185 13.3418 23.0939 9.4514 33.5724 9.4504 38.8596 13.1054 39.3908 13.1054
 39.3908 13.017 40.5159 13.0433 41.716 12.9756 42.2573 12.908 43.3658 12.8491

Manning's n Values   num=   3
     Sta   n Val   Sta   n Val   Sta   n Val
 13.0717   .015 17.6185   .015 38.8596   .015

Bank Sta: Left   Right   Lengths: Left Channel   Right   Coeff Contr.
Expan.
       17.6185 38.8596   200   200   200   .0015   .01

CROSS SECTION OUTPUT Profile #PF 1

  E.G. Elev (m)   11.56   Element   Left OB   Channel

Right OB				
Vel Head (m)	0.01	Wt. n-Val.		0.015
W.S. Elev (m)	11.56	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		28.41
E.G. Slope (m/m)	0.000015	Area (m2)		28.41
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	16.49	Top Width (m)		16.49
Vel Total (m/s)	0.35	Avg. Vel. (m/s)		0.35
Max Chl Dpth (m)	2.11	Hydr. Depth (m)		1.72
Conv. Total (m3/s)	2584.7	Conv. (m3/s)		2584.7
Length Wtd. (m)	200.00	Wetted Per. (m)		17.82
Min Ch El (m)	9.45	Shear (N/m2)		0.23
Alpha	1.00	Stream Power (N/m s)		0.08
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		97.73
C & E Loss (m)	0.00	Cum SA (1000 m2)		54.49

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.03	Element	Left OB	Channel Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.03	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		36.51
E.G. Slope (m/m)	0.000007	Area (m2)		36.51
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	17.84	Top Width (m)		17.84
Vel Total (m/s)	0.27	Avg. Vel. (m/s)		0.27
Max Chl Dpth (m)	2.58	Hydr. Depth (m)		2.05
Conv. Total (m3/s)	3701.3	Conv. (m3/s)		3701.3

Length Wtd. (m)	200.00	Wetted Per. (m)	19.46
Min Ch El (m)	9.45	Shear (N/m2)	0.13
Alpha	1.00	Stream Power (N/m s)	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	124.73
C & E Loss (m)	0.00	Cum SA (1000 m2)	58.72

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		45.58	
E.G. Slope (m/m)	0.000004	Area (m2)		45.58	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	19.23	Top Width (m)		19.23	
Vel Total (m/s)	0.22	Avg. Vel. (m/s)		0.22	
Max Chl Dpth (m)	3.07	Hydr. Depth (m)		2.37	
Conv. Total (m3/s)	5066.5	Conv. (m3/s)		5066.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.17	
Min Ch El (m)	9.45	Shear (N/m2)		0.08	
Alpha	1.00	Stream Power (N/m s)		0.02	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		153.92	
C & E Loss (m)	0.00	Cum SA (1000 m2)		61.14	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.86	Element	Left OB	Channel

Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	11.83	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		32.99
E.G. Slope (m/m)	0.000071	Area (m2)		32.99
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	17.27	Top Width (m)		17.27
Vel Total (m/s)	0.82	Avg. Vel. (m/s)		0.82
Max Chl Dpth (m)	2.38	Hydr. Depth (m)		1.91
Conv. Total (m3/s)	3204.1	Conv. (m3/s)		3204.1
Length Wtd. (m)	200.00	Wetted Per. (m)		18.77
Min Ch El (m)	9.45	Shear (N/m2)		1.22
Alpha	1.00	Stream Power (N/m s)		1.00
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		105.98
C & E Loss (m)	0.00	Cum SA (1000 m2)		55.78

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.22	Element	Left OB	Channel Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015
W.S. Elev (m)	12.19	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		39.43
E.G. Slope (m/m)	0.000043	Area (m2)		39.43
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.30	Top Width (m)		18.30
Vel Total (m/s)	0.68	Avg. Vel. (m/s)		0.68
Max Chl Dpth (m)	2.74	Hydr. Depth (m)		2.15
Conv. Total (m3/s)	4129.1	Conv. (m3/s)		4129.1

Length Wtd. (m)	200.00	Wetted Per. (m)	20.03
Min Ch El (m)	9.45	Shear (N/m2)	0.83
Alpha	1.00	Stream Power (N/m s)	0.57
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	129.90
C & E Loss (m)	0.00	Cum SA (1000 m2)	58.77

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.63	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.62	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		47.44	
E.G. Slope (m/m)	0.000025	Area (m2)		47.44	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.51	Top Width (m)		19.51	
Vel Total (m/s)	0.57	Avg. Vel. (m/s)		0.57	
Max Chl Dpth (m)	3.16	Hydr. Depth (m)		2.43	
Conv. Total (m3/s)	5359.8	Conv. (m3/s)		5359.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.51	
Min Ch El (m)	9.45	Shear (N/m2)		0.55	
Alpha	1.00	Stream Power (N/m s)		0.31	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		156.98	
C & E Loss (m)	0.00	Cum SA (1000 m2)		61.57	

CROSS SECTION

RIVER: SNM

REACH: Canale SNM RS: 17

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
10.424	13.1058	10.8222	13.1483	12.2475	13.1602	14.3022	13.1175	14.3022	13.2071
14.8326	13.2071	20.4654	9.4323	31.1763	9.4313	36.131	13.2067	36.8224	13.2067
36.8224	13.1602	37.3802	13.22	38.6894	13.2498	40.2636	13.0694	41.1409	12.9015

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
10.424	.015	14.8326	.015	36.131	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.8326	36.131	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.56	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		29.06	
E.G. Slope (m/m)	0.000014	Area (m2)		29.06	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.67	Top Width (m)		16.67	
Vel Total (m/s)	0.34	Avg. Vel. (m/s)		0.34	
Max Chl Dpth (m)	2.12	Hydr. Depth (m)		1.74	
Conv. Total (m3/s)	2663.8	Conv. (m3/s)		2663.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.03	
Min Ch El (m)	9.43	Shear (N/m2)		0.22	
Alpha	1.00	Stream Power (N/m s)		0.08	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		91.98	
C & E Loss (m)	0.00	Cum SA (1000 m2)		51.18	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.03	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.03	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		37.26	
E.G. Slope (m/m)	0.000007	Area (m2)		37.26	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.99	Top Width (m)		17.99	
Vel Total (m/s)	0.27	Avg. Vel. (m/s)		0.27	
Max Chl Dpth (m)	2.60	Hydr. Depth (m)		2.07	
Conv. Total (m3/s)	3804.4	Conv. (m3/s)		3804.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.66	
Min Ch El (m)	9.43	Shear (N/m2)		0.13	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		117.35	
C & E Loss (m)	0.00	Cum SA (1000 m2)		55.14	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		46.42	
E.G. Slope (m/m)	0.000004	Area (m2)		46.42	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	19.37	Top Width (m)		19.37	
Vel Total (m/s)	0.22	Avg. Vel. (m/s)		0.22	

Max Chl Dpth (m)	3.09	Hydr. Depth (m)	2.40
Conv. Total (m3/s)	5193.4	Conv. (m3/s)	5193.4
Length Wtd. (m)	200.00	Wetted Per. (m)	21.35
Min Ch El (m)	9.43	Shear (N/m2)	0.08
Alpha	1.00	Stream Power (N/m s)	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	144.72
C & E Loss (m)	0.00	Cum SA (1000 m2)	57.28

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.85	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	11.82	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		33.51
E.G. Slope (m/m)	0.000068	Area (m2)		33.51
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	17.40	Top Width (m)		17.40
Vel Total (m/s)	0.81	Avg. Vel. (m/s)		0.81
Max Chl Dpth (m)	2.38	Hydr. Depth (m)		1.93
Conv. Total (m3/s)	3269.8	Conv. (m3/s)		3269.8
Length Wtd. (m)	200.00	Wetted Per. (m)		18.93
Min Ch El (m)	9.43	Shear (N/m2)		1.18
Alpha	1.00	Stream Power (N/m s)		0.95
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		99.33
C & E Loss (m)	0.00	Cum SA (1000 m2)		52.31

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.21	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.18	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		40.09	
E.G. Slope (m/m)	0.000041	Area (m2)		40.09	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.43	Top Width (m)		18.43	
Vel Total (m/s)	0.67	Avg. Vel. (m/s)		0.67	
Max Chl Dpth (m)	2.75	Hydr. Depth (m)		2.18	
Conv. Total (m3/s)	4222.0	Conv. (m3/s)		4222.0	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.19	
Min Ch El (m)	9.43	Shear (N/m2)		0.80	
Alpha	1.00	Stream Power (N/m s)		0.54	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		121.95	
C & E Loss (m)	0.00	Cum SA (1000 m2)		55.10	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.63	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.61	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		48.22	
E.G. Slope (m/m)	0.000024	Area (m2)		48.22	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.63	Top Width (m)		19.63	
Vel Total (m/s)	0.56	Avg. Vel. (m/s)		0.56	

Max Chl Dpth (m)	3.18	Hydr. Depth (m)	2.46
Conv. Total (m3/s)	5479.1	Conv. (m3/s)	5479.1
Length Wtd. (m)	200.00	Wetted Per. (m)	21.67
Min Ch El (m)	9.43	Shear (N/m2)	0.53
Alpha	1.00	Stream Power (N/m s)	0.30
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	147.41
C & E Loss (m)	0.00	Cum SA (1000 m2)	57.65

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 16

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.6972	12.9527	13.7064	13.0545	14.3855	12.9942	15.1906	13.1229	15.1906	13.0119
15.7209	13.1229	21.2836	9.4132	31.5976	9.4122	36.868	13.1384	37.4631	13.1255
37.4631	13.1384	37.6778	13.1418	39.7958	13.142	40.1767	13.0198	41.1336	12.9883
41.539	12.904								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.6972	.015	15.7209	.015	36.868	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.7209	36.868	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.55	Reach Len. (m)	79.00	79.00	79.00
Crit W.S. (m)	9.86	Flow Area (m2)		28.73	
E.G. Slope (m/m)	0.000014	Area (m2)		28.73	

Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	16.55	Top Width (m)	16.55
Vel Total (m/s)	0.35	Avg. Vel. (m/s)	0.35
Max Chl Dpth (m)	2.14	Hydr. Depth (m)	1.74
Conv. Total (m3/s)	2628.7	Conv. (m3/s)	2628.7
Length Wtd. (m)	79.00	Wetted Per. (m)	17.88
Min Ch El (m)	9.41	Shear (N/m2)	0.23
Alpha	1.00	Stream Power (N/m s)	0.08
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	86.20
C & E Loss (m)	0.00	Cum SA (1000 m2)	47.86

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.03	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.03	Reach Len. (m)	79.00	79.00	79.00
Crit W.S. (m)	9.86	Flow Area (m2)		36.92	
E.G. Slope (m/m)	0.000007	Area (m2)		36.92	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.93	Top Width (m)		17.93	
Vel Total (m/s)	0.27	Avg. Vel. (m/s)		0.27	
Max Chl Dpth (m)	2.61	Hydr. Depth (m)		2.06	
Conv. Total (m3/s)	3759.4	Conv. (m3/s)		3759.4	
Length Wtd. (m)	79.00	Wetted Per. (m)		19.55	
Min Ch El (m)	9.41	Shear (N/m2)		0.13	

Alpha	1.00	Stream Power (N/m s)	0.04
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	109.94
C & E Loss (m)	0.00	Cum SA (1000 m2)	51.55

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.52	Reach Len. (m)	79.00	79.00	79.00
Crit W.S. (m)	9.86	Flow Area (m2)		46.07	
E.G. Slope (m/m)	0.000004	Area (m2)		46.07	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	19.36	Top Width (m)		19.36	
Vel Total (m/s)	0.22	Avg. Vel. (m/s)		0.22	
Max Chl Dpth (m)	3.11	Hydr. Depth (m)		2.38	
Conv. Total (m3/s)	5138.2	Conv. (m3/s)		5138.2	
Length Wtd. (m)	79.00	Wetted Per. (m)		21.29	
Min Ch El (m)	9.41	Shear (N/m2)		0.08	
Alpha	1.00	Stream Power (N/m s)		0.02	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		135.47	
C & E Loss (m)	0.00	Cum SA (1000 m2)		53.41	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.84	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	11.80	Reach Len. (m)	79.00	79.00	79.00
Crit W.S. (m)	10.26	Flow Area (m2)		32.95	
E.G. Slope (m/m)	0.000071	Area (m2)		32.95	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.27	Top Width (m)		17.27	
Vel Total (m/s)	0.82	Avg. Vel. (m/s)		0.82	
Max Chl Dpth (m)	2.39	Hydr. Depth (m)		1.91	
Conv. Total (m3/s)	3197.8	Conv. (m3/s)		3197.8	
Length Wtd. (m)	79.00	Wetted Per. (m)		18.76	
Min Ch El (m)	9.41	Shear (N/m2)		1.23	
Alpha	1.00	Stream Power (N/m s)		1.01	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		92.68	
C & E Loss (m)	0.00	Cum SA (1000 m2)		48.84	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.20	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.17	Reach Len. (m)	79.00	79.00	79.00
Crit W.S. (m)	10.26	Flow Area (m2)		39.60	
E.G. Slope (m/m)	0.000042	Area (m2)		39.60	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	

Top Width (m)	18.36	Top Width (m)	18.36
Vel Total (m/s)	0.68	Avg. Vel. (m/s)	0.68
Max Chl Dpth (m)	2.76	Hydr. Depth (m)	2.16
Conv. Total (m3/s)	4152.7	Conv. (m3/s)	4152.7
Length Wtd. (m)	79.00	Wetted Per. (m)	20.08
Min Ch El (m)	9.41	Shear (N/m2)	0.82
Alpha	1.00	Stream Power (N/m s)	0.56
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	113.98
C & E Loss (m)	0.00	Cum SA (1000 m2)	51.42

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.62	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.61	Reach Len. (m)	79.00	79.00	79.00
Crit W.S. (m)	10.26	Flow Area (m2)		47.78	
E.G. Slope (m/m)	0.000025	Area (m2)		47.78	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.62	Top Width (m)		19.62	
Vel Total (m/s)	0.57	Avg. Vel. (m/s)		0.57	
Max Chl Dpth (m)	3.19	Hydr. Depth (m)		2.44	
Conv. Total (m3/s)	5408.1	Conv. (m3/s)		5408.1	
Length Wtd. (m)	79.00	Wetted Per. (m)		21.60	
Min Ch El (m)	9.41	Shear (N/m2)		0.54	
Alpha	1.00	Stream Power (N/m s)		0.31	

Frctn Loss (m)	0.00	Cum Volume (1000 m3)	137.81
C & E Loss (m)	0.00	Cum SA (1000 m2)	53.73

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 15.5

INPUT
Description: \
Distance from Upstream XS = 79
Deck/Roadway Width = 5
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
15.96	16.08	14.43	36.79	16.08	14.43

Upstream Bridge Cross Section Data
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.6972	12.9527	13.7064	13.0545	14.3855	12.9942	15.1906	13.1229	15.1906	13.0119
15.7209	13.1229	21.2836	9.4132	31.5976	9.4122	36.868	13.1384	37.4631	13.1255
37.4631	13.1384	37.6778	13.1418	39.7958	13.142	40.1767	13.0198	41.1336	12.9883
41.539	12.904								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.6972	.015	15.7209	.015	36.868	.015

Bank Sta: Left	Right	Coeff Contr.	Expan.
15.7209	36.868	.0015	.01

Downstream Deck/Roadway Coordinates
num= 2

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
17.13	13.76	12.11	37.96	13.76	12.11

Downstream Bridge Cross Section Data
Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.0258	13.1777	16.1834	13.1676	16.1834	13.2664	16.7151	13.2664	22.1994	9.3941
32.826	9.3931	38.3601	13.1612	39.3258	13.1612	39.3258	13.0469	40.6913	13.008
42.7161	12.8334								

```
Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 12.0258    .015 16.7151    .015 38.3601    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       16.7151 38.3601          .0015      .01

Upstream Embankment side slope              =     1.8 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.8 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   15.97   14.43   20.33   14.43
Downstream     num=       2
     Sta    Elev     Sta    Elev
   17.14   12.11   21.49   12.11

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   32.83   14.43   36.79   14.43
Downstream     num=       2
     Sta    Elev     Sta    Elev
   33.99   12.11   37.96   12.11

Number of Piers =  2

Pier Data
Pier Station     Upstream=   23.93    Downstream=   25.09
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.41      .4   14.43
Downstream     num=       2
    Width   Elev    Width   Elev
      .4    9.39      .4   12.11

Pier Data
Pier Station     Upstream=   29.22    Downstream=   30.39
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.41      .4   14.43
Downstream     num=       2
    Width   Elev    Width   Elev
      .4    9.39      .4   12.11

Number of Bridge Coefficient Sets =  1
```

Low Flow Methods and Data
Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
Energy Only

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT Profile #PF 1

E.G. US. (m)	11.56	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.55	E.G. Elev (m)	11.56
11.56			
Q Total (m3/s)	10.00	W.S. Elev (m)	11.55
11.55			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.88
9.85			
Q Weir (m3/s)		Max Chl Dpth (m)	2.14
2.15			
Weir Sta Lft (m)		Vel Total (m/s)	0.41
0.41			
Weir Sta Rgt (m)		Flow Area (m2)	24.14
24.57			
Weir Submerg		Froude # Chl	0.09
0.09			
Weir Max Depth (m)		Specif Force (m3)	25.52
26.34			
Min El Weir Flow (m)	12.91	Hydr Depth (m)	2.06
2.10			
Min El Prs (m)	14.43	W.P. Total (m)	23.47
23.74			
Delta EG (m)	0.00	Conv. Total (m3/s)	1639.8
1675.8			
Delta WS (m)	0.00	Top Width (m)	11.70
11.70			
BR Open Area (m2)	31.14	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.41	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.38
0.36			
BR Sel Method	Energy only	Power Total (N/m s)	0.16
0.15			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.03	Element	Inside BR US	Inside BR DS
W.S. US. (m)	12.03	E.G. Elev (m)	12.03	12.03
Q Total (m3/s)	10.00	W.S. Elev (m)	12.02	12.02
Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.88	9.85
Q Weir (m3/s)		Max Chl Dpth (m)	2.61	2.63
Weir Sta Lft (m)		Vel Total (m/s)	0.34	0.33
Weir Sta Rgt (m)		Flow Area (m2)	29.71	30.13
Weir Submerg		Froude # Chl	0.07	0.07
Weir Max Depth (m)		Specif Force (m3)	38.25	39.28
Min El Weir Flow (m)	12.91	Hydr Depth (m)	2.54	2.58
Min El Prs (m)	14.43	W.P. Total (m)	26.33	26.59
Delta EG (m)	0.00	Conv. Total (m3/s)	2146.8	2183.7
Delta WS (m)	0.00	Top Width (m)	11.70	11.70
BR Open Area (m2)	31.14	Frctn Loss (m)	0.00	0.00
BR Open Vel (m/s)	0.34	C & E Loss (m)	0.00	0.00
BR Sluice Coef		Shear Total (N/m2)	0.24	0.23
BR Sel Method	Energy only	Power Total (N/m s)	0.08	0.08

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.52	Element	Inside BR US Inside BR DS

W.S. US. (m)	12.52	E.G. Elev (m)	12.52
12.52			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.52
12.51			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.88
9.85			
Q Weir (m3/s)		Max Chl Dpth (m)	3.10
3.12			
Weir Sta Lft (m)		Vel Total (m/s)	0.28
0.32			
Weir Sta Rgt (m)		Flow Area (m2)	35.46
31.14			
Weir Submerg		Froude # Chl	0.05
0.06			
Weir Max Depth (m)		Specif Force (m3)	54.22
54.49			
Min El Weir Flow (m)	12.91	Hydr Depth (m)	3.03
Min El Prs (m)	14.43	W.P. Total (m)	29.28
38.81			
Delta EG (m)	0.00	Conv. Total (m3/s)	2686.2
1793.0			
Delta WS (m)	0.00	Top Width (m)	11.70
BR Open Area (m2)	31.14	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.32	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.16
0.24			
BR Sel Method	Energy only	Power Total (N/m s)	0.05
0.08			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.84	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.80	E.G. Elev (m)	11.83
11.83			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.77
11.78			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.30
10.26			
Q Weir (m3/s)		Max Chl Dpth (m)	2.36

2.38			
Weir Sta Lft (m)		Vel Total (m/s)	1.01
0.99			
Weir Sta Rgt (m)		Flow Area (m2)	26.80
27.23			
Weir Submerg		Froude # Chl	0.21
0.21			
Weir Max Depth (m)		Specif Force (m3)	33.65
34.55			
Min El Weir Flow (m)	12.91	Hydr Depth (m)	2.29
2.33			
Min El Prs (m)	14.43	W.P. Total (m)	24.84
25.10			
Delta EG (m)	0.02	Conv. Total (m3/s)	1879.4
1916.4			
Delta WS (m)	0.02	Top Width (m)	11.70
11.70			
BR Open Area (m2)	31.14	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	1.01	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	2.18
2.11			
BR Sel Method	Energy only	Power Total (N/m s)	2.20
2.09			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.20	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.17	E.G. Elev (m)	12.19
12.19			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.15
12.15			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.30
10.26			
Q Weir (m3/s)		Max Chl Dpth (m)	2.74
2.76			
Weir Sta Lft (m)		Vel Total (m/s)	0.86
0.87			
Weir Sta Rgt (m)		Flow Area (m2)	31.24
31.14			
Weir Submerg		Froude # Chl	0.17
0.17			
Weir Max Depth (m)		Specif Force (m3)	44.29
45.33			
Min El Weir Flow (m)	12.91	Hydr Depth (m)	2.67

Min El Prs (m)	14.43	W.P. Total (m)	27.12 38.81
Delta EG (m)	0.02	Conv. Total (m3/s)	2289.3 1793.0
Delta WS (m)	0.01	Top Width (m)	11.70
BR Open Area (m2)	31.14	Frctn Loss (m)	0.00 0.01
BR Open Vel (m/s)	0.87	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	1.57 1.78
BR Sel Method	Energy only	Power Total (N/m s)	1.36 1.55

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.62	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.61	E.G. Elev (m)	12.62 12.62
Q Total (m3/s)	27.00	W.S. Elev (m)	12.59 12.58
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.30 10.26
Q Weir (m3/s)		Max Chl Dpth (m)	3.18 3.19
Weir Sta Lft (m)		Vel Total (m/s)	0.74 0.87
Weir Sta Rgt (m)		Flow Area (m2)	36.34 31.14
Weir Submerg		Froude # Chl	0.13 0.16
Weir Max Depth (m)		Specif Force (m3)	58.66 58.58
Min El Weir Flow (m)	12.91	Hydr Depth (m)	3.11
Min El Prs (m)	14.43	W.P. Total (m)	29.73 38.81
Delta EG (m)	0.01	Conv. Total (m3/s)	2769.4 1793.0
Delta WS (m)	0.01	Top Width (m)	11.70
BR Open Area (m2)	31.14	Frctn Loss (m)	0.00 0.01
BR Open Vel (m/s)	0.87	C & E Loss (m)	0.00

```
 0.00
  BR Sluice Coef                        Shear Total (N/m2)           1.14
 1.78
  BR Sel Method         Energy only     Power Total (N/m s)          0.85
 1.55



Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.
Warning: The conveyance ratio (upstream conveyance divided by downstream
conveyance) is less than 0.7 or greater than
         1.4.  This may indicate the need for additional cross sections.

CROSS SECTION


RIVER: SNM
REACH: Canale SNM         RS: 15

INPUT
Description:
Station Elevation Data    num=      11
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 12.0258 13.1777 16.1834 13.1676 16.1834 13.2664 16.7151 13.2664 22.1994  9.3941
  32.826  9.3931 38.3601 13.1612 39.3258 13.1612 39.3258 13.0469 40.6913  13.008
 42.7161 12.8334

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 12.0258    .015 16.7151    .015 38.3601    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       16.7151 38.3601              200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)           11.55    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.01    Wt. n-Val.                         0.015

  W.S. Elev (m)           11.55    Reach Len. (m)         164.00     164.00
 164.00
  Crit W.S. (m)            9.83    Flow Area (m2)                     29.59

  E.G. Slope (m/m)      0.000013    Area (m2)                          29.59

  Q Total (m3/s)          10.00    Flow (m3/s)                        10.00

  Top Width (m)           16.84    Top Width (m)                      16.84
```

Vel Total (m/s)	0.34	Avg. Vel. (m/s)	0.34
Max Chl Dpth (m)	2.16	Hydr. Depth (m)	1.76
Conv. Total (m3/s)	2728.5	Conv. (m3/s)	2728.5
Length Wtd. (m)	164.00	Wetted Per. (m)	18.19
Min Ch El (m)	9.39	Shear (N/m2)	0.21
Alpha	1.00	Stream Power (N/m s)	0.07
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	80.85
C & E Loss (m)	0.00	Cum SA (1000 m2)	45.03

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.03	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.02	Reach Len. (m)	164.00	164.00	164.00
Crit W.S. (m)	9.83	Flow Area (m2)		37.94	
E.G. Slope (m/m)	0.000007	Area (m2)		37.94	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.22	Top Width (m)		18.22	
Vel Total (m/s)	0.26	Avg. Vel. (m/s)		0.26	
Max Chl Dpth (m)	2.63	Hydr. Depth (m)		2.08	
Conv. Total (m3/s)	3894.3	Conv. (m3/s)		3894.3	
Length Wtd. (m)	164.00	Wetted Per. (m)		19.86	
Min Ch El (m)	9.39	Shear (N/m2)		0.12	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		103.21	

C & E Loss (m)	0.00	Cum SA (1000 m2)	48.58

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.52	Reach Len. (m)	164.00	164.00	164.00
Crit W.S. (m)	9.83	Flow Area (m2)		47.24	
E.G. Slope (m/m)	0.000004	Area (m2)		47.24	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	19.63	Top Width (m)		19.63	
Vel Total (m/s)	0.21	Avg. Vel. (m/s)		0.21	
Max Chl Dpth (m)	3.12	Hydr. Depth (m)		2.41	
Conv. Total (m3/s)	5308.9	Conv. (m3/s)		5308.9	
Length Wtd. (m)	164.00	Wetted Per. (m)		21.59	
Min Ch El (m)	9.39	Shear (N/m2)		0.08	
Alpha	1.00	Stream Power (N/m s)		0.02	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		127.54	
C & E Loss (m)	0.00	Cum SA (1000 m2)		51.01	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.81	Element	Left OB	Channel	Right OB

Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	11.78	Reach Len. (m)	164.00	164.00	164.00
Crit W.S. (m)	10.23	Flow Area (m2)			33.57
E.G. Slope (m/m)	0.000068	Area (m2)			33.57
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.51	Top Width (m)			17.51
Vel Total (m/s)	0.80	Avg. Vel. (m/s)			0.80
Max Chl Dpth (m)	2.39	Hydr. Depth (m)			1.92
Conv. Total (m3/s)	3270.4	Conv. (m3/s)			3270.4
Length Wtd. (m)	164.00	Wetted Per. (m)			19.00
Min Ch El (m)	9.39	Shear (N/m2)			1.18
Alpha	1.00	Stream Power (N/m s)			0.95
Frctn Loss (m)	0.02	Cum Volume (1000 m3)			86.66
C & E Loss (m)	0.00	Cum SA (1000 m2)			45.95

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.18	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.			0.015
W.S. Elev (m)	12.16	Reach Len. (m)	164.00	164.00	164.00
Crit W.S. (m)	10.23	Flow Area (m2)			40.43
E.G. Slope (m/m)	0.000040	Area (m2)			40.43
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	18.61	Top Width (m)			18.61
Vel Total (m/s)	0.67	Avg. Vel. (m/s)			0.67

Max Chl Dpth (m)	2.77	Hydr. Depth (m)	2.17
Conv. Total (m3/s)	4262.1	Conv. (m3/s)	4262.1
Length Wtd. (m)	164.00	Wetted Per. (m)	20.34
Min Ch El (m)	9.39	Shear (N/m2)	0.78
Alpha	1.00	Stream Power (N/m s)	0.52
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	106.88
C & E Loss (m)	0.00	Cum SA (1000 m2)	49.12

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.61	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.60	Reach Len. (m)	164.00	164.00	164.00
Crit W.S. (m)	10.23	Flow Area (m2)		48.81	
E.G. Slope (m/m)	0.000024	Area (m2)		48.81	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.86	Top Width (m)		19.86	
Vel Total (m/s)	0.55	Avg. Vel. (m/s)		0.55	
Max Chl Dpth (m)	3.20	Hydr. Depth (m)		2.46	
Conv. Total (m3/s)	5558.0	Conv. (m3/s)		5558.0	
Length Wtd. (m)	164.00	Wetted Per. (m)		21.87	
Min Ch El (m)	9.39	Shear (N/m2)		0.52	
Alpha	1.00	Stream Power (N/m s)		0.29	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		129.68	
C & E Loss (m)	0.00	Cum SA (1000 m2)		51.31	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 14.5

INPUT
Description:
Distance from Upstream XS = 164
Deck/Roadway Width = 4
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
13.87	14.05	12.7	41.95	14.05	12.7

Upstream Bridge Cross Section Data
Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.0258	13.1777	16.1834	13.1676	16.1834	13.2664	16.7151	13.2664	22.1994	9.3941
32.826	9.3931	38.3601	13.1612	39.3258	13.1612	39.3258	13.0469	40.6913	13.008
42.7161	12.8334								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.0258	.015	16.7151	.015	38.3601	.015

Bank Sta: Left Right Coeff Contr. Expan.
16.7151 38.3601 .0015 .01

Downstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
13.87	14.05	12.7	41.95	14.05	12.7

Downstream Bridge Cross Section Data
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.5336	12.964	13.5937	13.1716	14.7938	13.1271	16.2829	13.044	16.2829	13.116
16.8132	13.116	22.4238	9.375	32.6979	9.374	38.3187	13.1214	38.849	13.1214
38.849	13.0128	40.5546	12.9834	41.2584	12.8304	42.3447	12.7616		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.5336	.015	16.8132	.015	38.3187	.015

Bank Sta: Left Right Coeff Contr. Expan.

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       16.8132 38.3187          .0015      .01

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Piers =  2

Pier Data
Pier Station     Upstream=   24.48    Downstream=   24.48
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.39      .5    12.7
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.39      .5    12.7

Pier Data
Pier Station     Upstream=   31.68    Downstream=   31.68
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.39      .5    12.7
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.39      .5    12.7

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.55    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.55    E.G. Elev (m)               11.55
11.55
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.54
```

11.54			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.86
9.85			
Q Weir (m3/s)		Max Chl Dpth (m)	2.15
2.17			
Weir Sta Lft (m)		Vel Total (m/s)	0.37
0.37			
Weir Sta Rgt (m)		Flow Area (m2)	27.37
27.18			
Weir Submerg		Froude # Chl	0.09
0.09			
Weir Max Depth (m)		Specif Force (m3)	27.41
27.30			
Min El Weir Flow (m)	12.84	Hydr Depth (m)	1.73
1.72			
Min El Prs (m)	12.70	W.P. Total (m)	25.78
25.77			
Delta EG (m)	0.00	Conv. Total (m3/s)	1899.3
1877.0			
Delta WS (m)	0.00	Top Width (m)	15.83
15.78			
BR Open Area (m2)	47.43	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.37	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.29
0.29			
BR Sel Method	Energy only	Power Total (N/m s)	0.11
0.11			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.03	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.02	E.G. Elev (m)	12.03
12.03			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.02
12.02			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.86
9.85			
Q Weir (m3/s)		Max Chl Dpth (m)	2.63
2.65			
Weir Sta Lft (m)		Vel Total (m/s)	0.28
0.29			
Weir Sta Rgt (m)		Flow Area (m2)	35.28
35.07			
Weir Submerg		Froude # Chl	0.06

0.06			
Weir Max Depth (m)		Specif Force (m3)	42.29
42.08			
Min El Weir Flow (m)	12.84	Hydr Depth (m)	2.05
2.04			
Min El Prs (m)	12.70	W.P. Total (m)	29.37
29.41			
Delta EG (m)	0.00	Conv. Total (m3/s)	2657.2
2629.3			
Delta WS (m)	0.00	Top Width (m)	17.21
17.22			
BR Open Area (m2)	47.43	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.29	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.17
0.17			
BR Sel Method	Energy only	Power Total (N/m s)	0.05
0.05			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.52	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.52	E.G. Elev (m)	12.52
12.52			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.51
12.51			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.86
9.85			
Q Weir (m3/s)		Max Chl Dpth (m)	3.12
3.14			
Weir Sta Lft (m)		Vel Total (m/s)	0.23
0.23			
Weir Sta Rgt (m)		Flow Area (m2)	44.10
43.91			
Weir Submerg		Froude # Chl	0.05
0.05			
Weir Max Depth (m)		Specif Force (m3)	61.74
61.44			
Min El Weir Flow (m)	12.84	Hydr Depth (m)	2.37
2.35			
Min El Prs (m)	12.70	W.P. Total (m)	33.07
33.16			
Delta EG (m)	0.00	Conv. Total (m3/s)	3561.9
3530.8			
Delta WS (m)	0.00	Top Width (m)	18.63

18.69

BR Open Area (m2)	47.43	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.23	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.10
0.10			
BR Sel Method	Energy only	Power Total (N/m s)	0.02
0.02			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.81	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.78	E.G. Elev (m)	11.80
11.80			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.76
11.76			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.28
10.28			
Q Weir (m3/s)		Max Chl Dpth (m)	2.36
2.38			
Weir Sta Lft (m)		Vel Total (m/s)	0.88
0.88			
Weir Sta Rgt (m)		Flow Area (m2)	30.82
30.60			
Weir Submerg		Froude # Chl	0.20
0.21			
Weir Max Depth (m)		Specif Force (m3)	35.67
35.50			
Min El Weir Flow (m)	12.84	Hydr Depth (m)	1.87
1.86			
Min El Prs (m)	12.70	W.P. Total (m)	27.38
27.39			
Delta EG (m)	0.02	Conv. Total (m3/s)	2223.3
2196.6			
Delta WS (m)	0.02	Top Width (m)	16.45
16.42			
BR Open Area (m2)	47.43	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.88	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.63
1.66			
BR Sel Method	Energy only	Power Total (N/m s)	1.43
1.46			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.18	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.16	E.G. Elev (m)	12.17
12.17			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.15
12.15			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.28
10.28			
Q Weir (m3/s)		Max Chl Dpth (m)	2.75
2.77			
Weir Sta Lft (m)		Vel Total (m/s)	0.72
0.73			
Weir Sta Rgt (m)		Flow Area (m2)	37.44
37.22			
Weir Submerg		Froude # Chl	0.16
0.16			
Weir Max Depth (m)		Specif Force (m3)	48.50
48.26			
Min El Weir Flow (m)	12.84	Hydr Depth (m)	2.13
2.12			
Min El Prs (m)	12.70	W.P. Total (m)	30.30
30.35			
Delta EG (m)	0.01	Conv. Total (m3/s)	2873.4
2843.4			
Delta WS (m)	0.01	Top Width (m)	17.57
17.59			
BR Open Area (m2)	47.43	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.73	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.07
1.08			
BR Sel Method	Energy only	Power Total (N/m s)	0.77
0.79			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.61	Element	Inside BR US

Inside BR DS

W.S. US. (m)	12.60	E.G. Elev (m)	12.61
12.61			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.59
12.59			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.28
10.28			
Q Weir (m3/s)		Max Chl Dpth (m)	3.19
3.21			
Weir Sta Lft (m)		Vel Total (m/s)	0.59
0.60			
Weir Sta Rgt (m)		Flow Area (m2)	45.46
45.27			
Weir Submerg		Froude # Chl	0.12
0.12			
Weir Max Depth (m)		Specif Force (m3)	66.40
66.07			
Min El Weir Flow (m)	12.84	Hydr Depth (m)	2.41
2.39			
Min El Prs (m)	12.70	W.P. Total (m)	33.61
33.71			
Delta EG (m)	0.01	Conv. Total (m3/s)	3706.3
3674.3			
Delta WS (m)	0.01	Top Width (m)	18.84
18.91			
BR Open Area (m2)	47.43	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.60	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.70
0.71			
BR Sel Method	Energy only	Power Total (N/m s)	0.42
0.42			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 14

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.5336	12.964	13.5937	13.1716	14.7938	13.1271	16.2829	13.044	16.2829	13.116
16.8132	13.116	22.4238	9.375	32.6979	9.374	38.3187	13.1214	38.849	13.1214
38.849	13.0128	40.5546	12.9834	41.2584	12.8304	42.3447	12.7616		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.5336	.015	16.8132	.015	38.3187	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.8132	38.3187	150	150	150	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.54	Reach Len. (m)	150.00	150.00	150.00
Crit W.S. (m)		Flow Area (m2)		29.35	
E.G. Slope (m/m)	0.000014	Area (m2)		29.35	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.78	Top Width (m)		16.78	
Vel Total (m/s)	0.34	Avg. Vel. (m/s)		0.34	
Max Chl Dpth (m)	2.17	Hydr. Depth (m)		1.75	
Conv. Total (m3/s)	2701.2	Conv. (m3/s)		2701.2	
Length Wtd. (m)	150.00	Wetted Per. (m)		18.10	
Min Ch El (m)	9.37	Shear (N/m2)		0.22	
Alpha	1.00	Stream Power (N/m s)		0.07	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		75.17	
C & E Loss (m)	0.00	Cum SA (1000 m2)		41.76	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.03	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.02	Reach Len. (m)	150.00	150.00	150.00
Crit W.S. (m)		Flow Area (m2)		37.72	

E.G. Slope (m/m)	0.000007	Area (m2)	37.72
Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	18.22	Top Width (m)	18.22
Vel Total (m/s)	0.27	Avg. Vel. (m/s)	0.27
Max Chl Dpth (m)	2.65	Hydr. Depth (m)	2.07
Conv. Total (m3/s)	3862.4	Conv. (m3/s)	3862.4
Length Wtd. (m)	150.00	Wetted Per. (m)	19.82
Min Ch El (m)	9.37	Shear (N/m2)	0.13
Alpha	1.00	Stream Power (N/m s)	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	95.90
C & E Loss (m)	0.00	Cum SA (1000 m2)	45.04

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.51	Reach Len. (m)	150.00	150.00	150.00
Crit W.S. (m)		Flow Area (m2)		47.06	
E.G. Slope (m/m)	0.000004	Area (m2)		47.06	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	19.69	Top Width (m)		19.69	
Vel Total (m/s)	0.21	Avg. Vel. (m/s)		0.21	
Max Chl Dpth (m)	3.14	Hydr. Depth (m)		2.39	
Conv. Total (m3/s)	5272.7	Conv. (m3/s)		5272.7	
Length Wtd. (m)	150.00	Wetted Per. (m)		21.60	
Min Ch El (m)	9.37	Shear (N/m2)		0.08	
Alpha	1.00	Stream Power (N/m s)		0.02	

Frctn Loss (m)	0.00	Cum Volume (1000 m3)	118.41
C & E Loss (m)	0.00	Cum SA (1000 m2)	47.19

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.79	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	11.76	Reach Len. (m)	150.00	150.00	150.00
Crit W.S. (m)		Flow Area (m2)		33.02	
E.G. Slope (m/m)	0.000071	Area (m2)		33.02	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.43	Top Width (m)		17.43	
Vel Total (m/s)	0.82	Avg. Vel. (m/s)		0.82	
Max Chl Dpth (m)	2.38	Hydr. Depth (m)		1.89	
Conv. Total (m3/s)	3197.1	Conv. (m3/s)		3197.1	
Length Wtd. (m)	150.00	Wetted Per. (m)		18.87	
Min Ch El (m)	9.37	Shear (N/m2)		1.22	
Alpha	1.00	Stream Power (N/m s)		1.00	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		80.24	
C & E Loss (m)	0.00	Cum SA (1000 m2)		42.55	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.17	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.15	Reach Len. (m)	150.00	150.00	150.00
Crit W.S. (m)		Flow Area (m2)		40.03	

E.G. Slope (m/m)	0.000041	Area (m2)	40.03
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	18.59	Top Width (m)	18.59
Vel Total (m/s)	0.67	Avg. Vel. (m/s)	0.67
Max Chl Dpth (m)	2.77	Hydr. Depth (m)	2.15
Conv. Total (m3/s)	4199.8	Conv. (m3/s)	4199.8
Length Wtd. (m)	150.00	Wetted Per. (m)	20.27
Min Ch El (m)	9.37	Shear (N/m2)	0.80
Alpha	1.00	Stream Power (N/m s)	0.54
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	99.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	45.51

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.59	Reach Len. (m)	150.00	150.00	150.00
Crit W.S. (m)		Flow Area (m2)		48.51	
E.G. Slope (m/m)	0.000024	Area (m2)		48.51	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.91	Top Width (m)		19.91	
Vel Total (m/s)	0.56	Avg. Vel. (m/s)		0.56	
Max Chl Dpth (m)	3.21	Hydr. Depth (m)		2.44	
Conv. Total (m3/s)	5501.8	Conv. (m3/s)		5501.8	
Length Wtd. (m)	150.00	Wetted Per. (m)		21.86	
Min Ch El (m)	9.37	Shear (N/m2)		0.52	
Alpha	1.00	Stream Power (N/m s)		0.29	

Frctn Loss (m)	0.00	Cum Volume (1000 m3)	120.27
C & E Loss (m)	0.00	Cum SA (1000 m2)	47.44

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 13

INPUT
Description:
Station Elevation Data num= 12

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12.8181	12.946	14.2061	13.0492	15.427	13.1039	15.9317	13.0936	15.9317	13.1835
17.2789	13.1835	22.7393	9.3616	33.1978	9.3611	38.7497	13.1201	39.5355	13.1201
39.5355	13.0299	42.8082	12.8908						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
12.8181	.015	17.2789	.015	38.7497	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.2789	38.7497	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		29.72	
E.G. Slope (m/m)	0.000013	Area (m2)		29.72	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.80	Top Width (m)		16.80	
Vel Total (m/s)	0.34	Avg. Vel. (m/s)		0.34	
Max Chl Dpth (m)	2.18	Hydr. Depth (m)		1.77	
Conv. Total (m3/s)	2752.5	Conv. (m3/s)		2752.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.15	

Min Ch El (m)	9.36	Shear (N/m2)	0.21
Alpha	1.00	Stream Power (N/m s)	0.07
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	70.74
C & E Loss (m)	0.00	Cum SA (1000 m2)	39.24

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.03	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.02	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		38.11	
E.G. Slope (m/m)	0.000006	Area (m2)		38.11	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.19	Top Width (m)		18.19	
Vel Total (m/s)	0.26	Avg. Vel. (m/s)		0.26	
Max Chl Dpth (m)	2.66	Hydr. Depth (m)		2.10	
Conv. Total (m3/s)	3925.0	Conv. (m3/s)		3925.0	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.84	
Min Ch El (m)	9.36	Shear (N/m2)		0.12	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		90.21	
C & E Loss (m)	0.00	Cum SA (1000 m2)		42.31	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	

W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			47.42
E.G. Slope (m/m)	0.000004	Area (m2)			47.42
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	19.62	Top Width (m)			19.62
Vel Total (m/s)	0.21	Avg. Vel. (m/s)			0.21
Max Chl Dpth (m)	3.15	Hydr. Depth (m)			2.42
Conv. Total (m3/s)	5343.5	Conv. (m3/s)			5343.5
Length Wtd. (m)	200.00	Wetted Per. (m)			21.58
Min Ch El (m)	9.36	Shear (N/m2)			0.08
Alpha	1.00	Stream Power (N/m s)			0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			111.33
C & E Loss (m)	0.00	Cum SA (1000 m2)			44.24

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.78	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.			0.015
W.S. Elev (m)	11.75	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			33.25
E.G. Slope (m/m)	0.000070	Area (m2)			33.25
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.40	Top Width (m)			17.40
Vel Total (m/s)	0.81	Avg. Vel. (m/s)			0.81
Max Chl Dpth (m)	2.39	Hydr. Depth (m)			1.91
Conv. Total (m3/s)	3232.4	Conv. (m3/s)			3232.4
Length Wtd. (m)	200.00	Wetted Per. (m)			18.88

Min Ch El (m)	9.36	Shear (N/m2)	1.20
Alpha	1.00	Stream Power (N/m s)	0.98
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	75.27
C & E Loss (m)	0.00	Cum SA (1000 m2)	39.94

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.16	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.14	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		40.31	
E.G. Slope (m/m)	0.000040	Area (m2)		40.31	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.54	Top Width (m)		18.54	
Vel Total (m/s)	0.67	Avg. Vel. (m/s)		0.67	
Max Chl Dpth (m)	2.78	Hydr. Depth (m)		2.17	
Conv. Total (m3/s)	4250.8	Conv. (m3/s)		4250.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.27	
Min Ch El (m)	9.36	Shear (N/m2)		0.79	
Alpha	1.00	Stream Power (N/m s)		0.53	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		93.08	
C & E Loss (m)	0.00	Cum SA (1000 m2)		42.72	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.60	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	

W.S. Elev (m)	12.58	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		48.81
E.G. Slope (m/m)	0.000024	Area (m2)		48.81
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	19.83	Top Width (m)		19.83
Vel Total (m/s)	0.55	Avg. Vel. (m/s)		0.55
Max Chl Dpth (m)	3.22	Hydr. Depth (m)		2.46
Conv. Total (m3/s)	5564.1	Conv. (m3/s)		5564.1
Length Wtd. (m)	200.00	Wetted Per. (m)		21.83
Min Ch El (m)	9.36	Shear (N/m2)		0.52
Alpha	1.00	Stream Power (N/m s)		0.29
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		112.97
C & E Loss (m)	0.00	Cum SA (1000 m2)		44.46

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 12

INPUT
Description:
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13.2008	12.7565	13.8768	12.8396	17.5219	12.9368	17.5219	13.0501	18.0529	13.0501
23.4604	9.3519	33.8358	9.3514	39.3842	13.1249	40.1886	13.1249	40.1886	13.0251
41.1404	13.0254	41.9815	12.892	43.2053	12.7412				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
13.2008	.015	18.0529	.015	39.3842	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.0529	39.3842	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.55	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.54	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		29.72	
E.G. Slope (m/m)	0.000013	Area (m2)		29.72	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.79	Top Width (m)		16.79	
Vel Total (m/s)	0.34	Avg. Vel. (m/s)		0.34	
Max Chl Dpth (m)	2.19	Hydr. Depth (m)		1.77	
Conv. Total (m3/s)	2753.7	Conv. (m3/s)		2753.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.14	
Min Ch El (m)	9.35	Shear (N/m2)		0.21	
Alpha	1.00	Stream Power (N/m s)		0.07	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		64.79	
C & E Loss (m)	0.00	Cum SA (1000 m2)		35.88	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.02	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		38.13	
E.G. Slope (m/m)	0.000006	Area (m2)		38.13	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.20	Top Width (m)		18.20	
Vel Total (m/s)	0.26	Avg. Vel. (m/s)		0.26	
Max Chl Dpth (m)	2.67	Hydr. Depth (m)		2.10	

Conv. Total (m3/s)	3929.0	Conv. (m3/s)	3929.0
Length Wtd. (m)	200.00	Wetted Per. (m)	19.85
Min Ch El (m)	9.35	Shear (N/m2)	0.12
Alpha	1.00	Stream Power (N/m s)	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	82.59
C & E Loss (m)	0.00	Cum SA (1000 m2)	38.67

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		47.47
E.G. Slope (m/m)	0.000003	Area (m2)		47.47
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	19.65	Top Width (m)		19.65
Vel Total (m/s)	0.21	Avg. Vel. (m/s)		0.21
Max Chl Dpth (m)	3.16	Hydr. Depth (m)		2.42
Conv. Total (m3/s)	5349.6	Conv. (m3/s)		5349.6
Length Wtd. (m)	200.00	Wetted Per. (m)		21.60
Min Ch El (m)	9.35	Shear (N/m2)		0.08
Alpha	1.00	Stream Power (N/m s)		0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		101.84
C & E Loss (m)	0.00	Cum SA (1000 m2)		40.31

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.77	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	11.73	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		33.04	
E.G. Slope (m/m)	0.000071	Area (m2)		33.04	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.36	Top Width (m)		17.36	
Vel Total (m/s)	0.82	Avg. Vel. (m/s)		0.82	
Max Chl Dpth (m)	2.38	Hydr. Depth (m)		1.90	
Conv. Total (m3/s)	3204.7	Conv. (m3/s)		3204.7	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.83	
Min Ch El (m)	9.35	Shear (N/m2)		1.22	
Alpha	1.00	Stream Power (N/m s)		1.00	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		68.64	
C & E Loss (m)	0.00	Cum SA (1000 m2)		36.47	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.16	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.13	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		40.21	
E.G. Slope (m/m)	0.000041	Area (m2)		40.21	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.53	Top Width (m)		18.53	
Vel Total (m/s)	0.67	Avg. Vel. (m/s)		0.67	
Max Chl Dpth (m)	2.78	Hydr. Depth (m)		2.17	

Conv. Total (m3/s)	4235.6	Conv. (m3/s)	4235.6
Length Wtd. (m)	200.00	Wetted Per. (m)	20.25
Min Ch El (m)	9.35	Shear (N/m2)	0.79
Alpha	1.00	Stream Power (N/m s)	0.53
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	85.03
C & E Loss (m)	0.00	Cum SA (1000 m2)	39.01

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.60	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.02	Wt. n-Val.		0.015
W.S. Elev (m)	12.58	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		48.78
E.G. Slope (m/m)	0.000024	Area (m2)		48.78
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	19.84	Top Width (m)		19.84
Vel Total (m/s)	0.55	Avg. Vel. (m/s)		0.55
Max Chl Dpth (m)	3.23	Hydr. Depth (m)		2.46
Conv. Total (m3/s)	5557.5	Conv. (m3/s)		5557.5
Length Wtd. (m)	200.00	Wetted Per. (m)		21.84
Min Ch El (m)	9.35	Shear (N/m2)		0.52
Alpha	1.00	Stream Power (N/m s)		0.29
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		103.21
C & E Loss (m)	0.00	Cum SA (1000 m2)		40.49

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 11

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.2173	12.8045	13.0207	13.0146	14.5873	13.0467	15.2657	13.0353	15.2657	13.127
16.5453	13.127	22.1085	9.3422	32.4568	9.3417	37.9623	13.0338	38.4927	13.0338
38.4927	12.9521	38.8896	12.9666	40.0712	12.9666	41.2382	12.9146	41.778	12.8146

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.2173	.015	16.5453	.015	37.9623	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.5453	37.9623	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.54	Reach Len. (m)	54.70	54.70	54.70
Crit W.S. (m)	9.79	Flow Area (m2)		29.85	
E.G. Slope (m/m)	0.000013	Area (m2)		29.85	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.85	Top Width (m)		16.85	
Vel Total (m/s)	0.34	Avg. Vel. (m/s)		0.34	
Max Chl Dpth (m)	2.20	Hydr. Depth (m)		1.77	
Conv. Total (m3/s)	2768.4	Conv. (m3/s)		2768.4	
Length Wtd. (m)	54.70	Wetted Per. (m)		18.19	
Min Ch El (m)	9.34	Shear (N/m2)		0.21	
Alpha	1.00	Stream Power (N/m s)		0.07	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		58.83	
C & E Loss (m)	0.00	Cum SA (1000 m2)		32.52	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.02	Reach Len. (m)	54.70	54.70	54.70
Crit W.S. (m)	9.79	Flow Area (m2)		38.32	
E.G. Slope (m/m)	0.000006	Area (m2)		38.32	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.28	Top Width (m)		18.28	
Vel Total (m/s)	0.26	Avg. Vel. (m/s)		0.26	
Max Chl Dpth (m)	2.68	Hydr. Depth (m)		2.10	
Conv. Total (m3/s)	3951.6	Conv. (m3/s)		3951.6	
Length Wtd. (m)	54.70	Wetted Per. (m)		19.91	
Min Ch El (m)	9.34	Shear (N/m2)		0.12	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		74.94	
C & E Loss (m)	0.00	Cum SA (1000 m2)		35.02	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.51	Reach Len. (m)	54.70	54.70	

54.70			
Crit W.S. (m)	9.79	Flow Area (m2)	47.70
E.G. Slope (m/m)	0.000003	Area (m2)	47.70
Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	19.74	Top Width (m)	19.74
Vel Total (m/s)	0.21	Avg. Vel. (m/s)	0.21
Max Chl Dpth (m)	3.17	Hydr. Depth (m)	2.42
Conv. Total (m3/s)	5380.3	Conv. (m3/s)	5380.3
Length Wtd. (m)	54.70	Wetted Per. (m)	21.68
Min Ch El (m)	9.34	Shear (N/m2)	0.07
Alpha	1.00	Stream Power (N/m s)	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	92.32
C & E Loss (m)	0.00	Cum SA (1000 m2)	36.37

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.75	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	11.72	Reach Len. (m)	54.70	54.70	54.70
Crit W.S. (m)	10.19	Flow Area (m2)		32.98	
E.G. Slope (m/m)	0.000072	Area (m2)		32.98	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.39	Top Width (m)		17.39	
Vel Total (m/s)	0.82	Avg. Vel. (m/s)		0.82	
Max Chl Dpth (m)	2.38	Hydr. Depth (m)		1.90	
Conv. Total (m3/s)	3192.4	Conv. (m3/s)		3192.4	

Length Wtd. (m)	54.70	Wetted Per. (m)	18.84
Min Ch El (m)	9.34	Shear (N/m2)	1.23
Alpha	1.00	Stream Power (N/m s)	1.01
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	62.04
C & E Loss (m)	0.00	Cum SA (1000 m2)	32.99

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.15	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.13	Reach Len. (m)	54.70	54.70	54.70
Crit W.S. (m)	10.19	Flow Area (m2)		40.28	
E.G. Slope (m/m)	0.000041	Area (m2)		40.28	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.59	Top Width (m)		18.59	
Vel Total (m/s)	0.67	Avg. Vel. (m/s)		0.67	
Max Chl Dpth (m)	2.78	Hydr. Depth (m)		2.17	
Conv. Total (m3/s)	4240.6	Conv. (m3/s)		4240.6	
Length Wtd. (m)	54.70	Wetted Per. (m)		20.29	
Min Ch El (m)	9.34	Shear (N/m2)		0.79	
Alpha	1.00	Stream Power (N/m s)		0.53	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		76.98	
C & E Loss (m)	0.00	Cum SA (1000 m2)		35.30	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.59	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.58	Reach Len. (m)	54.70	54.70	54.70
Crit W.S. (m)	10.19	Flow Area (m2)		48.94	
E.G. Slope (m/m)	0.000023	Area (m2)		48.94	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.92	Top Width (m)		19.92	
Vel Total (m/s)	0.55	Avg. Vel. (m/s)		0.55	
Max Chl Dpth (m)	3.23	Hydr. Depth (m)		2.46	
Conv. Total (m3/s)	5576.7	Conv. (m3/s)		5576.7	
Length Wtd. (m)	54.70	Wetted Per. (m)		21.90	
Min Ch El (m)	9.34	Shear (N/m2)		0.51	
Alpha	1.00	Stream Power (N/m s)		0.28	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		93.44	
C & E Loss (m)	0.00	Cum SA (1000 m2)		36.52	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 10.5

INPUT
Description:
Distance from Upstream XS = 54.7
Deck/Roadway Width = 4

```
Weir Coefficient          =     1.4
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   16.48   14.12   12.38   38.03   14.12   12.38

Upstream Bridge Cross Section Data
Station Elevation Data    num=      15
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 11.2173 12.8045 13.0207 13.0146 14.5873 13.0467 15.2657 13.0353 15.2657  13.127
 16.5453  13.127 22.1085  9.3422 32.4568  9.3417 37.9623 13.0338 38.4927 13.0338
 38.4927 12.9521 38.8896 12.9666 40.0712 12.9666 41.2382 12.9146  41.778 12.8146

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 11.2173    .015 16.5453    .015 37.9623    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       16.5453 37.9623          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
    16.4    14.2   12.38   37.95    14.2   12.38

Downstream Bridge Cross Section Data
Station Elevation Data    num=      13
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 11.2406 12.7458 12.3129 12.9484 14.5562 13.0021 16.1558 12.9612 16.1558 13.0485
 16.6872 13.0485 22.0135  9.3324 32.3876  9.3319 38.0831 13.2409 38.5647 13.2409
 38.5647 13.1565 39.9559 13.1998 42.3096 13.1153

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 11.2406    .015 16.6872    .015 38.0831    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       16.6872 38.0831          .0015      .01

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   16.48   12.38   21.15   12.38
Downstream     num=       2
```

```
     Sta    Elev     Sta    Elev
    16.4   12.38   21.07   12.38

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   33.65   12.38   38.03   12.38
Downstream     num=       2
     Sta    Elev     Sta    Elev
   33.57   12.38   37.95   12.38

Number of Piers =  2

Pier Data
Pier Station     Upstream=    24.8    Downstream=   24.72
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.34      .4   12.38
Downstream     num=       2
    Width   Elev    Width   Elev
      .4    9.34      .4   12.38

Pier Data
Pier Station     Upstream=      30    Downstream=   29.92
Upstream     num=       2
    Width   Elev    Width   Elev
      .4    9.34      .4   12.38
Downstream     num=       2
    Width   Elev    Width   Elev
      .4    9.34      .4   12.38

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.54    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.54    E.G. Elev (m)              11.54
11.54
```

Q Total (m3/s)	10.00	W.S. Elev (m)	11.53 11.53
Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.81 9.80
Q Weir (m3/s)		Max Chl Dpth (m)	2.19 2.20
Weir Sta Lft (m)		Vel Total (m/s)	0.40 0.40
Weir Sta Rgt (m)		Flow Area (m2)	24.85 24.97
Weir Submerg		Froude # Chl	0.09 0.09
Weir Max Depth (m)		Specif Force (m3)	26.97 27.22
Min El Weir Flow (m)	12.81	Hydr Depth (m)	2.12 2.13
Min El Prs (m)	12.38	W.P. Total (m)	23.84 23.90
Delta EG (m)	0.00	Conv. Total (m3/s)	1703.2 1713.7
Delta WS (m)	0.00	Top Width (m)	11.70 11.70
BR Open Area (m2)	34.76	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.40	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.35 0.35
BR Sel Method	Energy only	Power Total (N/m s)	0.14 0.14

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.02	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.02	E.G. Elev (m)	12.02 12.02
Q Total (m3/s)	10.00	W.S. Elev (m)	12.02 12.02
Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.81 9.80
Q Weir (m3/s)		Max Chl Dpth (m)	2.67 2.68
Weir Sta Lft (m)		Vel Total (m/s)	0.33 0.33
Weir Sta Rgt (m)		Flow Area (m2)	30.50 30.62

Weir Submerg		Froude # Chl	0.06 0.06
Weir Max Depth (m)		Specif Force (m3)	40.27 40.57
Min El Weir Flow (m)	12.81	Hydr Depth (m)	2.61 2.62
Min El Prs (m)	12.38	W.P. Total (m)	26.74 26.80
Delta EG (m)	0.00	Conv. Total (m3/s)	2220.2 2231.1
Delta WS (m)	0.00	Top Width (m)	11.70 11.70
BR Open Area (m2)	34.76	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.33	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.23 0.23
BR Sel Method	Energy only	Power Total (N/m s)	0.07 0.07

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.52	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.51	E.G. Elev (m)	12.51 12.51
Q Total (m3/s)	10.00	W.S. Elev (m)	12.51 12.51
Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.81 9.80
Q Weir (m3/s)		Max Chl Dpth (m)	3.17 3.18
Weir Sta Lft (m)		Vel Total (m/s)	0.29 0.29
Weir Sta Rgt (m)		Flow Area (m2)	34.76 34.87
Weir Submerg		Froude # Chl	0.05 0.05
Weir Max Depth (m)		Specif Force (m3)	56.63 56.99
Min El Weir Flow (m)	12.81	Hydr Depth (m)	
Min El Prs (m)	12.38	W.P. Total (m)	40.62 40.68
Delta EG (m)	0.00	Conv. Total (m3/s)	2088.3 2098.0

Delta WS (m)	0.00	Top Width (m)	
BR Open Area (m2)	34.76	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.29	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.19 0.19
BR Sel Method	Energy only	Power Total (N/m s)	0.06 0.05

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.75	Element	Inside BR US Inside BR DS
W.S. US. (m)	11.72	E.G. Elev (m)	11.75 11.75
Q Total (m3/s)	27.00	W.S. Elev (m)	11.70 11.70
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.22 10.21
Q Weir (m3/s)		Max Chl Dpth (m)	2.35 2.36
Weir Sta Lft (m)		Vel Total (m/s)	1.01 1.01
Weir Sta Rgt (m)		Flow Area (m2)	26.75 26.86
Weir Submerg		Froude # Chl	0.21 0.21
Weir Max Depth (m)		Specif Force (m3)	33.52 33.77
Min El Weir Flow (m)	12.81	Hydr Depth (m)	2.29 2.30
Min El Prs (m)	12.38	W.P. Total (m)	24.81 24.87
Delta EG (m)	0.02	Conv. Total (m3/s)	1874.8 1885.1
Delta WS (m)	0.02	Top Width (m)	11.70 11.70
BR Open Area (m2)	34.76	Frctn Loss (m)	0.00 0.02
BR Open Vel (m/s)	1.01	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	2.19 2.17
BR Sel Method	Energy only	Power Total (N/m s)	2.21 2.18

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.15	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.13	E.G. Elev (m)	12.14 12.14
Q Total (m3/s)	27.00	W.S. Elev (m)	12.11 12.11
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.22 10.21
Q Weir (m3/s)		Max Chl Dpth (m)	2.77 2.78
Weir Sta Lft (m)		Vel Total (m/s)	0.86 0.85
Weir Sta Rgt (m)		Flow Area (m2)	31.57 31.68
Weir Submerg		Froude # Chl	0.17 0.17
Weir Max Depth (m)		Specif Force (m3)	45.11 45.41
Min El Weir Flow (m)	12.81	Hydr Depth (m)	2.70 2.71
Min El Prs (m)	12.38	W.P. Total (m)	27.29 27.34
Delta EG (m)	0.01	Conv. Total (m3/s)	2319.2 2330.0
Delta WS (m)	0.01	Top Width (m)	11.70 11.70
BR Open Area (m2)	34.76	Frctn Loss (m)	0.00 0.01
BR Open Vel (m/s)	0.86	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	1.54 1.53
BR Sel Method	Energy only	Power Total (N/m s)	1.32 1.30

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.59	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.58	E.G. Elev (m)	12.59 12.59
Q Total (m3/s)	27.00	W.S. Elev (m)	12.56 12.56
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.22 10.21
Q Weir (m3/s)		Max Chl Dpth (m)	3.22 3.23
Weir Sta Lft (m)		Vel Total (m/s)	0.78 0.77
Weir Sta Rgt (m)		Flow Area (m2)	34.76 34.87
Weir Submerg		Froude # Chl	0.14 0.14
Weir Max Depth (m)		Specif Force (m3)	60.10 60.44
Min El Weir Flow (m)	12.81	Hydr Depth (m)	
Min El Prs (m)	12.38	W.P. Total (m)	40.62 40.68
Delta EG (m)	0.01	Conv. Total (m3/s)	2088.3 2098.0
Delta WS (m)	0.01	Top Width (m)	
BR Open Area (m2)	34.76	Frctn Loss (m)	0.00 0.01
BR Open Vel (m/s)	0.78	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	1.40 1.39
BR Sel Method	Energy only	Power Total (N/m s)	1.09 1.08

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 10

INPUT
Description:
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.2406	12.7458	12.3129	12.9484	14.5562	13.0021	16.1558	12.9612	16.1558	13.0485
16.6872	13.0485	22.0135	9.3324	32.3876	9.3319	38.0831	13.2409	38.5647	13.2409
38.5647	13.1565	39.9559	13.1998	42.3096	13.1153				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.2406	.015	16.6872	.015	38.0831	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.6872	38.0831	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		29.83	
E.G. Slope (m/m)	0.000013	Area (m2)		29.83	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.74	Top Width (m)		16.74	
Vel Total (m/s)	0.34	Avg. Vel. (m/s)		0.34	
Max Chl Dpth (m)	2.20	Hydr. Depth (m)		1.78	
Conv. Total (m3/s)	2774.2	Conv. (m3/s)		2774.2	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.11	
Min Ch El (m)	9.33	Shear (N/m2)		0.21	
Alpha	1.00	Stream Power (N/m s)		0.07	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		53.37	
C & E Loss (m)	0.00	Cum SA (1000 m2)		29.68	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.02	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)	38.27
E.G. Slope (m/m)	0.000006	Area (m2)	38.27
Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	18.13	Top Width (m)	18.13
Vel Total (m/s)	0.26	Avg. Vel. (m/s)	0.26
Max Chl Dpth (m)	2.69	Hydr. Depth (m)	2.11
Conv. Total (m3/s)	3957.6	Conv. (m3/s)	3957.6
Length Wtd. (m)	200.00	Wetted Per. (m)	19.81
Min Ch El (m)	9.33	Shear (N/m2)	0.12
Alpha	1.00	Stream Power (N/m s)	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	68.07
C & E Loss (m)	0.00	Cum SA (1000 m2)	32.05

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		47.59
E.G. Slope (m/m)	0.000003	Area (m2)		47.59
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	19.56	Top Width (m)		19.56
Vel Total (m/s)	0.21	Avg. Vel. (m/s)		0.21
Max Chl Dpth (m)	3.18	Hydr. Depth (m)		2.43
Conv. Total (m3/s)	5381.1	Conv. (m3/s)		5381.1
Length Wtd. (m)	200.00	Wetted Per. (m)		21.55
Min Ch El (m)	9.33	Shear (N/m2)		0.07

Alpha	1.00	Stream Power (N/m s)	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	84.10
C & E Loss (m)	0.00	Cum SA (1000 m2)	34.45

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.73	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	11.70	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		32.59	
E.G. Slope (m/m)	0.000074	Area (m2)		32.59	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.20	Top Width (m)		17.20	
Vel Total (m/s)	0.83	Avg. Vel. (m/s)		0.83	
Max Chl Dpth (m)	2.36	Hydr. Depth (m)		1.89	
Conv. Total (m3/s)	3148.5	Conv. (m3/s)		3148.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.68	
Min Ch El (m)	9.33	Shear (N/m2)		1.26	
Alpha	1.00	Stream Power (N/m s)		1.04	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		56.10	
C & E Loss (m)	0.00	Cum SA (1000 m2)		30.11	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.13	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.11	Reach Len. (m)	200.00	200.00	200.00

Crit W.S. (m)		Flow Area (m2)	39.99
E.G. Slope (m/m)	0.000041	Area (m2)	39.99
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	18.41	Top Width (m)	18.41
Vel Total (m/s)	0.68	Avg. Vel. (m/s)	0.68
Max Chl Dpth (m)	2.78	Hydr. Depth (m)	2.17
Conv. Total (m3/s)	4212.0	Conv. (m3/s)	4212.0
Length Wtd. (m)	200.00	Wetted Per. (m)	20.14
Min Ch El (m)	9.33	Shear (N/m2)	0.80
Alpha	1.00	Stream Power (N/m s)	0.54
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	69.82
C & E Loss (m)	0.00	Cum SA (1000 m2)	32.30

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.58	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.02	Wt. n-Val.		0.015
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		48.64
E.G. Slope (m/m)	0.000024	Area (m2)		48.64
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	19.72	Top Width (m)		19.72
Vel Total (m/s)	0.56	Avg. Vel. (m/s)		0.56
Max Chl Dpth (m)	3.23	Hydr. Depth (m)		2.47
Conv. Total (m3/s)	5547.3	Conv. (m3/s)		5547.3
Length Wtd. (m)	200.00	Wetted Per. (m)		21.74
Min Ch El (m)	9.33	Shear (N/m2)		0.52

Alpha	1.00	Stream Power (N/m s)	0.29
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	85.11
C & E Loss (m)	0.00	Cum SA (1000 m2)	34.58

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 9

INPUT
Description:
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.4314	13.018	13.3335	13.1326	14.7253	13.0874	14.7253	13.1712	16.3368	13.1712
21.5587	9.3227	32.0415	9.3222	37.6211	13.1247	38.1519	13.1247	38.1519	13.0524
39.4008	13.1217	40.5583	13.0678	42.1715	13.0078				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.4314	.015	16.3368	.015	37.6211	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.3368	37.6211	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		30.03	
E.G. Slope (m/m)	0.000013	Area (m2)		30.03	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.72	Top Width (m)		16.72	
Vel Total (m/s)	0.33	Avg. Vel. (m/s)		0.33	
Max Chl Dpth (m)	2.21	Hydr. Depth (m)		1.80	
Conv. Total (m3/s)	2803.3	Conv. (m3/s)		2803.3	

Length Wtd. (m)	200.00	Wetted Per. (m)	18.13
Min Ch El (m)	9.32	Shear (N/m2)	0.21
Alpha	1.00	Stream Power (N/m s)	0.07
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	47.38
C & E Loss (m)	0.00	Cum SA (1000 m2)	26.34

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.02	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		38.48	
E.G. Slope (m/m)	0.000006	Area (m2)		38.48	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.09	Top Width (m)		18.09	
Vel Total (m/s)	0.26	Avg. Vel. (m/s)		0.26	
Max Chl Dpth (m)	2.69	Hydr. Depth (m)		2.13	
Conv. Total (m3/s)	3993.8	Conv. (m3/s)		3993.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.81	
Min Ch El (m)	9.32	Shear (N/m2)		0.12	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		60.39	
C & E Loss (m)	0.00	Cum SA (1000 m2)		28.43	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB

Vel Head (m)	0.00	Wt. n-Val.			0.015
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			47.78
E.G. Slope (m/m)	0.000003	Area (m2)			47.78
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	19.49	Top Width (m)			19.49
Vel Total (m/s)	0.21	Avg. Vel. (m/s)			0.21
Max Chl Dpth (m)	3.19	Hydr. Depth (m)			2.45
Conv. Total (m3/s)	5421.2	Conv. (m3/s)			5421.2
Length Wtd. (m)	200.00	Wetted Per. (m)			21.52
Min Ch El (m)	9.32	Shear (N/m2)			0.07
Alpha	1.00	Stream Power (N/m s)			0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			74.56
C & E Loss (m)	0.00	Cum SA (1000 m2)			30.54

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.72	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.			0.015
W.S. Elev (m)	11.68	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			32.57
E.G. Slope (m/m)	0.000073	Area (m2)			32.57
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.14	Top Width (m)			17.14
Vel Total (m/s)	0.83	Avg. Vel. (m/s)			0.83
Max Chl Dpth (m)	2.36	Hydr. Depth (m)			1.90
Conv. Total (m3/s)	3149.9	Conv. (m3/s)			3149.9

Length Wtd. (m)	200.00	Wetted Per. (m)	18.65
Min Ch El (m)	9.32	Shear (N/m2)	1.26
Alpha	1.00	Stream Power (N/m s)	1.04
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	49.58
C & E Loss (m)	0.00	Cum SA (1000 m2)	26.67

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.13	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.10	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		40.07	
E.G. Slope (m/m)	0.000041	Area (m2)		40.07	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.34	Top Width (m)		18.34	
Vel Total (m/s)	0.67	Avg. Vel. (m/s)		0.67	
Max Chl Dpth (m)	2.78	Hydr. Depth (m)		2.19	
Conv. Total (m3/s)	4229.8	Conv. (m3/s)		4229.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.11	
Min Ch El (m)	9.32	Shear (N/m2)		0.80	
Alpha	1.00	Stream Power (N/m s)		0.54	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		61.82	
C & E Loss (m)	0.00	Cum SA (1000 m2)		28.62	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.58	Element	Left OB	Channel	Right OB

Vel Head (m)	0.02	Wt. n-Val.			0.015
W.S. Elev (m)	12.56	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			48.74
E.G. Slope (m/m)	0.000023	Area (m2)			48.74
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	19.63	Top Width (m)			19.63
Vel Total (m/s)	0.55	Avg. Vel. (m/s)			0.55
Max Chl Dpth (m)	3.24	Hydr. Depth (m)			2.48
Conv. Total (m3/s)	5574.9	Conv. (m3/s)			5574.9
Length Wtd. (m)	200.00	Wetted Per. (m)			21.69
Min Ch El (m)	9.32	Shear (N/m2)			0.52
Alpha	1.00	Stream Power (N/m s)			0.29
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			75.38
C & E Loss (m)	0.00	Cum SA (1000 m2)			30.65

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 8

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.8418	13.0138	13.8341	13.1333	14.6952	13.1055	15.3898	13.0934	15.3898	13.1847
16.5736	13.1847	22.1881	9.32	32.5897	9.32	38.0561	13.0954	38.5872	13.0954
38.5872	13.0121	39.4886	13.0422	40.5613	13.0218	41.2261	12.9264	42.0612	12.8908

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.8418	.015	16.5736	.015	38.0561	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.5736	38.0561	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.53	Reach Len. (m)	96.30	96.30	96.30
Crit W.S. (m)	9.76	Flow Area (m2)		30.04	
E.G. Slope (m/m)	0.000013	Area (m2)		30.04	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.81	Top Width (m)		16.81	
Vel Total (m/s)	0.33	Avg. Vel. (m/s)		0.33	
Max Chl Dpth (m)	2.21	Hydr. Depth (m)		1.79	
Conv. Total (m3/s)	2798.7	Conv. (m3/s)		2798.7	
Length Wtd. (m)	96.30	Wetted Per. (m)		18.18	
Min Ch El (m)	9.32	Shear (N/m2)		0.21	
Alpha	1.00	Stream Power (N/m s)		0.07	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		41.37	
C & E Loss (m)	0.00	Cum SA (1000 m2)		22.99	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.01	Reach Len. (m)	96.30	96.30	96.30
Crit W.S. (m)	9.76	Flow Area (m2)		38.56	
E.G. Slope (m/m)	0.000006	Area (m2)		38.56	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.22	Top Width (m)		18.22	
Vel Total (m/s)	0.26	Avg. Vel. (m/s)		0.26	

Max Chl Dpth (m)	2.69	Hydr. Depth (m)	2.12
Conv. Total (m3/s)	3996.0	Conv. (m3/s)	3996.0
Length Wtd. (m)	96.30	Wetted Per. (m)	19.90
Min Ch El (m)	9.32	Shear (N/m2)	0.12
Alpha	1.00	Stream Power (N/m s)	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	52.69
C & E Loss (m)	0.00	Cum SA (1000 m2)	24.80

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.51	Reach Len. (m)	96.30	96.30	96.30
Crit W.S. (m)	9.76	Flow Area (m2)		47.95	
E.G. Slope (m/m)	0.000003	Area (m2)		47.95	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	19.66	Top Width (m)		19.66	
Vel Total (m/s)	0.21	Avg. Vel. (m/s)		0.21	
Max Chl Dpth (m)	3.19	Hydr. Depth (m)		2.44	
Conv. Total (m3/s)	5432.2	Conv. (m3/s)		5432.2	
Length Wtd. (m)	96.30	Wetted Per. (m)		21.64	
Min Ch El (m)	9.32	Shear (N/m2)		0.07	
Alpha	1.00	Stream Power (N/m s)		0.02	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		64.99	
C & E Loss (m)	0.00	Cum SA (1000 m2)		26.63	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.70	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.		0.015	
W.S. Elev (m)	11.67	Reach Len. (m)	96.30	96.30	96.30
Crit W.S. (m)	10.16	Flow Area (m2)		32.38	
E.G. Slope (m/m)	0.000075	Area (m2)		32.38	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.20	Top Width (m)		17.20	
Vel Total (m/s)	0.83	Avg. Vel. (m/s)		0.83	
Max Chl Dpth (m)	2.35	Hydr. Depth (m)		1.88	
Conv. Total (m3/s)	3115.8	Conv. (m3/s)		3115.8	
Length Wtd. (m)	96.30	Wetted Per. (m)		18.67	
Min Ch El (m)	9.32	Shear (N/m2)		1.28	
Alpha	1.00	Stream Power (N/m s)		1.07	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		43.09	
C & E Loss (m)	0.00	Cum SA (1000 m2)		23.24	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.12	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.09	Reach Len. (m)	96.30	96.30	96.30
Crit W.S. (m)	10.16	Flow Area (m2)		40.03	
E.G. Slope (m/m)	0.000041	Area (m2)		40.03	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.45	Top Width (m)		18.45	
Vel Total (m/s)	0.67	Avg. Vel. (m/s)		0.67	

Max Chl Dpth (m)	2.78	Hydr. Depth (m)	2.17
Conv. Total (m3/s)	4213.8	Conv. (m3/s)	4213.8
Length Wtd. (m)	96.30	Wetted Per. (m)	20.18
Min Ch El (m)	9.32	Shear (N/m2)	0.80
Alpha	1.00	Stream Power (N/m s)	0.54
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	53.81
C & E Loss (m)	0.00	Cum SA (1000 m2)	24.95

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.56	Reach Len. (m)	96.30	96.30	96.30
Crit W.S. (m)	10.16	Flow Area (m2)		48.84	
E.G. Slope (m/m)	0.000023	Area (m2)		48.84	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.79	Top Width (m)		19.79	
Vel Total (m/s)	0.55	Avg. Vel. (m/s)		0.55	
Max Chl Dpth (m)	3.24	Hydr. Depth (m)		2.47	
Conv. Total (m3/s)	5574.2	Conv. (m3/s)		5574.2	
Length Wtd. (m)	96.30	Wetted Per. (m)		21.80	
Min Ch El (m)	9.32	Shear (N/m2)		0.52	
Alpha	1.00	Stream Power (N/m s)		0.28	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		65.62	
C & E Loss (m)	0.00	Cum SA (1000 m2)		26.70	

BRIDGE

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RIVER: SNM
REACH: Canale SNM         RS: 7.5

INPUT
Description: \
Distance from Upstream XS =    96.3
Deck/Roadway Width        =       5
Weir Coefficient          =     1.4
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   14.79   14.96   12.89   39.44   14.96   12.89

Upstream Bridge Cross Section Data
Station Elevation Data    num=      15
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
 11.8418 13.0138 13.8341 13.1333 14.6952 13.1055 15.3898 13.0934 15.3898 13.1847
 16.5736 13.1847 22.1881    9.32 32.5897    9.32 38.0561 13.0954 38.5872 13.0954
 38.5872 13.0121 39.4886 13.0422 40.5613 13.0218 41.2261 12.9264 42.0612 12.8908

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
 11.8418    .015 16.5736    .015 38.0561    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       16.5736 38.0561          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   12.37   14.96   12.88   36.84   14.96   12.88

Downstream Bridge Cross Section Data
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  9.7498 12.7358 11.6644 12.9223 12.4735 12.8869 13.5914 12.8773 13.5914 12.9729
 14.1212 12.9729 19.7066    9.32 29.8828    9.32 35.4243 12.9723 35.9543 12.9723
 35.9543 12.8776  37.037  12.889 37.6584 12.9258 38.1783 12.9391  38.569 12.8322
 40.1499  12.758

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  9.7498    .015 14.1212    .015 35.4243    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       14.1212 35.4243          .0015      .01

Upstream Embankment side slope              =     1.8 horiz. to 1.0 vertical
Downstream Embankment side slope            =     1.8 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
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Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   14.97   12.89   20.39   12.89
Downstream     num=       2
     Sta    Elev     Sta    Elev
   12.37   12.89   17.79   12.89

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   34.17   12.89   39.44   12.89
Downstream     num=       2
     Sta    Elev     Sta    Elev
   31.57   12.89   36.84   12.89

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.53    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.53    E.G. Elev (m)               11.53
11.53
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.53
11.53
  Q Bridge (m3/s)            10.00    Crit W.S. (m)                9.77
 9.77
  Q Weir (m3/s)                       Max Chl Dpth (m)             2.21
 2.21
  Weir Sta Lft (m)                    Vel Total (m/s)              0.35
 0.35
  Weir Sta Rgt (m)                    Flow Area (m2)              28.43
28.26
```

Weir Submerg		Froude # Chl	0.08
0.08			
Weir Max Depth (m)		Specif Force (m3)	30.31
30.02			
Min El Weir Flow (m)	12.89	Hydr Depth (m)	2.06
2.05			
Min El Prs (m)	12.89	W.P. Total (m)	16.59
16.53			
Delta EG (m)	0.00	Conv. Total (m3/s)	2713.7
2693.3			
Delta WS (m)	0.00	Top Width (m)	13.78
13.78			
BR Open Area (m2)	46.92	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.35	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.23
0.23			
BR Sel Method	Energy only	Power Total (N/m s)	0.08
0.08			

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.02	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.01	E.G. Elev (m)	12.02
12.02			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.01
12.01			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.77
9.77			
Q Weir (m3/s)		Max Chl Dpth (m)	2.69
2.69			
Weir Sta Lft (m)		Vel Total (m/s)	0.28
0.29			
Weir Sta Rgt (m)		Flow Area (m2)	35.14
34.97			
Weir Submerg		Froude # Chl	0.06
0.06			
Weir Max Depth (m)		Specif Force (m3)	45.72
45.36			
Min El Weir Flow (m)	12.89	Hydr Depth (m)	2.55
2.54			
Min El Prs (m)	12.89	W.P. Total (m)	17.56
17.51			
Delta EG (m)	0.00	Conv. Total (m3/s)	3719.6
3698.2			
Delta WS (m)	0.00	Top Width (m)	13.78
13.78			
BR Open Area (m2)	46.92	Frctn Loss (m)	0.00
0.00			

BR Open Vel (m/s)	0.29	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.14
0.14			
BR Sel Method	Energy only	Power Total (N/m s)	0.04
0.04			

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.51	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.51	E.G. Elev (m)	12.51
12.51			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.51
12.51			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.77
9.77			
Q Weir (m3/s)		Max Chl Dpth (m)	3.19
3.19			
Weir Sta Lft (m)		Vel Total (m/s)	0.24
0.24			
Weir Sta Rgt (m)		Flow Area (m2)	41.97
41.81			
Weir Submerg		Froude # Chl	0.04
0.04			
Weir Max Depth (m)		Specif Force (m3)	64.80
64.35			
Min El Weir Flow (m)	12.89	Hydr Depth (m)	3.05
3.03			
Min El Prs (m)	12.89	W.P. Total (m)	18.55
18.50			
Delta EG (m)	0.00	Conv. Total (m3/s)	4822.1
4800.0			
Delta WS (m)	0.00	Top Width (m)	13.78
13.78			
BR Open Area (m2)	46.92	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.24	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.10
0.10			
BR Sel Method	Energy only	Power Total (N/m s)	0.02
0.02			

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.70	Element	Inside BR US
Inside BR DS			

W.S. US. (m)	11.67	E.G. Elev (m)	11.69
11.69			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.65
11.65			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.17
10.18			
Q Weir (m3/s)		Max Chl Dpth (m)	2.33
2.33			
Weir Sta Lft (m)		Vel Total (m/s)	0.90
0.90			
Weir Sta Rgt (m)		Flow Area (m2)	30.17
29.99			
Weir Submerg		Froude # Chl	0.19
0.19			
Weir Max Depth (m)		Specif Force (m3)	36.12
35.80			
Min El Weir Flow (m)	12.89	Hydr Depth (m)	2.19
2.18			
Min El Prs (m)	12.89	W.P. Total (m)	16.84
16.78			
Delta EG (m)	0.02	Conv. Total (m3/s)	2966.4
2944.1			
Delta WS (m)	0.02	Top Width (m)	13.78
13.78			
BR Open Area (m2)	46.92	Frctn Loss (m)	0.00
0.01			
BR Open Vel (m/s)	0.90	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	1.46
1.47			
BR Sel Method	Energy only	Power Total (N/m s)	1.30
1.33			

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.12	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.09	E.G. Elev (m)	12.11
12.11			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.09
12.08			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.17
10.18			
Q Weir (m3/s)		Max Chl Dpth (m)	2.77
2.76			
Weir Sta Lft (m)		Vel Total (m/s)	0.75
0.75			
Weir Sta Rgt (m)		Flow Area (m2)	36.13
35.96			
Weir Submerg		Froude # Chl	0.15
0.15			

Weir Max Depth (m)		Specif Force (m3)	50.06 49.68
Min El Weir Flow (m)	12.89	Hydr Depth (m)	2.62 2.61
Min El Prs (m)	12.89	W.P. Total (m)	17.71 17.65
Delta EG (m)	0.01	Conv. Total (m3/s)	3875.4 3852.9
Delta WS (m)	0.01	Top Width (m)	13.78 13.78
BR Open Area (m2)	46.92	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.75	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.97 0.98
BR Sel Method	Energy only	Power Total (N/m s)	0.73 0.74

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.57	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.56	E.G. Elev (m)	12.57 12.57
Q Total (m3/s)	27.00	W.S. Elev (m)	12.55 12.55
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.17 10.18
Q Weir (m3/s)		Max Chl Dpth (m)	3.23 3.23
Weir Sta Lft (m)		Vel Total (m/s)	0.64 0.64
Weir Sta Rgt (m)		Flow Area (m2)	42.51 42.34
Weir Submerg		Froude # Chl	0.12 0.12
Weir Max Depth (m)		Specif Force (m3)	67.94 67.48
Min El Weir Flow (m)	12.89	Hydr Depth (m)	3.08 3.07
Min El Prs (m)	12.89	W.P. Total (m)	18.63 18.58
Delta EG (m)	0.01	Conv. Total (m3/s)	4911.0 4888.3
Delta WS (m)	0.01	Top Width (m)	13.78 13.78
BR Open Area (m2)	46.92	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.64	C & E Loss (m)	0.00 0.00

BR Sluice Coef		Shear Total (N/m2)	0.68
0.68			
BR Sel Method	Energy only	Power Total (N/m s)	0.43
0.43			

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 7

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9.7498	12.7358	11.6644	12.9223	12.4735	12.8869	13.5914	12.8773	13.5914	12.9729
14.1212	12.9729	19.7066	9.32	29.8828	9.32	35.4243	12.9723	35.9543	12.9723
35.9543	12.8776	37.037	12.889	37.6584	12.9258	38.1783	12.9391	38.569	12.8322
40.1499	12.758								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
9.7498	.015	14.1212	.015	35.4243	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.1212	35.4243	200	200	200	.0015 .01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		29.85	
E.G. Slope (m/m)	0.000013	Area (m2)		29.85	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.89	Top Width (m)		16.89	
Vel Total (m/s)	0.34	Avg. Vel. (m/s)		0.34	
Max Chl Dpth (m)	2.21	Hydr. Depth (m)		1.77	
Conv. Total (m3/s)	2766.3	Conv. (m3/s)		2766.3	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.21	

Min Ch El (m)	9.32	Shear (N/m2)	0.21
Alpha	1.00	Stream Power (N/m s)	0.07
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	35.55
C & E Loss (m)	0.00	Cum SA (1000 m2)	19.93

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.01	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		38.46	
E.G. Slope (m/m)	0.000006	Area (m2)		38.46	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.38	Top Width (m)		18.38	
Vel Total (m/s)	0.26	Avg. Vel. (m/s)		0.26	
Max Chl Dpth (m)	2.69	Hydr. Depth (m)		2.09	
Conv. Total (m3/s)	3965.4	Conv. (m3/s)		3965.4	
Length Wtd. (m)	200.00	Wetted Per. (m)		19.99	
Min Ch El (m)	9.32	Shear (N/m2)		0.12	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		45.34	
C & E Loss (m)	0.00	Cum SA (1000 m2)		21.60	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	

W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			47.95
E.G. Slope (m/m)	0.000003	Area (m2)			47.95
Q Total (m3/s)	10.00	Flow (m3/s)			10.00
Top Width (m)	19.89	Top Width (m)			19.89
Vel Total (m/s)	0.21	Avg. Vel. (m/s)			0.21
Max Chl Dpth (m)	3.19	Hydr. Depth (m)			2.41
Conv. Total (m3/s)	5407.3	Conv. (m3/s)			5407.3
Length Wtd. (m)	200.00	Wetted Per. (m)			21.80
Min Ch El (m)	9.32	Shear (N/m2)			0.07
Alpha	1.00	Stream Power (N/m s)			0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)			56.02
C & E Loss (m)	0.00	Cum SA (1000 m2)			23.29

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.68	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.			0.015
W.S. Elev (m)	11.65	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)			31.95
E.G. Slope (m/m)	0.000078	Area (m2)			31.95
Q Total (m3/s)	27.00	Flow (m3/s)			27.00
Top Width (m)	17.27	Top Width (m)			17.27
Vel Total (m/s)	0.84	Avg. Vel. (m/s)			0.84
Max Chl Dpth (m)	2.33	Hydr. Depth (m)			1.85
Conv. Total (m3/s)	3048.8	Conv. (m3/s)			3048.8
Length Wtd. (m)	200.00	Wetted Per. (m)			18.66

Min Ch El (m)	9.32	Shear (N/m2)	1.32
Alpha	1.00	Stream Power (N/m s)	1.11
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	36.87
C & E Loss (m)	0.00	Cum SA (1000 m2)	20.15

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.11	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.09	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		39.79	
E.G. Slope (m/m)	0.000042	Area (m2)		39.79	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.60	Top Width (m)		18.60	
Vel Total (m/s)	0.68	Avg. Vel. (m/s)		0.68	
Max Chl Dpth (m)	2.77	Hydr. Depth (m)		2.14	
Conv. Total (m3/s)	4161.6	Conv. (m3/s)		4161.6	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.25	
Min Ch El (m)	9.32	Shear (N/m2)		0.81	
Alpha	1.00	Stream Power (N/m s)		0.55	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		46.22	
C & E Loss (m)	0.00	Cum SA (1000 m2)		21.73	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.57	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	

W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		48.76
E.G. Slope (m/m)	0.000024	Area (m2)		48.76
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	20.02	Top Width (m)		20.02
Vel Total (m/s)	0.55	Avg. Vel. (m/s)		0.55
Max Chl Dpth (m)	3.23	Hydr. Depth (m)		2.44
Conv. Total (m3/s)	5535.1	Conv. (m3/s)		5535.1
Length Wtd. (m)	200.00	Wetted Per. (m)		21.95
Min Ch El (m)	9.32	Shear (N/m2)		0.52
Alpha	1.00	Stream Power (N/m s)		0.29
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		56.51
C & E Loss (m)	0.00	Cum SA (1000 m2)		23.35

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 6

INPUT
Description:
Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
8.7833	12.6581	11.0506	12.9745	13.2912	12.9007	13.2912	12.9842	13.8227	12.9842
19.0623	9.32	29.7828	9.32	34.8601	12.8846	35.3917	12.8846	35.3917	12.7846
36.1799	12.7846	37.5157	12.7906	39.6586	12.6524				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
8.7833	.015	13.8227	.015	34.8601	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
13.8227	34.8601	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.53	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.01	Wt. n-Val.		0.015
W.S. Elev (m)	11.52	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		30.54
E.G. Slope (m/m)	0.000012	Area (m2)		30.54
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	17.01	Top Width (m)		17.01
Vel Total (m/s)	0.33	Avg. Vel. (m/s)		0.33
Max Chl Dpth (m)	2.20	Hydr. Depth (m)		1.80
Conv. Total (m3/s)	2855.1	Conv. (m3/s)		2855.1
Length Wtd. (m)	200.00	Wetted Per. (m)		18.40
Min Ch El (m)	9.32	Shear (N/m2)		0.20
Alpha	1.00	Stream Power (N/m s)		0.07
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		29.51
C & E Loss (m)	0.00	Cum SA (1000 m2)		16.54

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.02	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.01	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		39.21
E.G. Slope (m/m)	0.000006	Area (m2)		39.21
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	18.40	Top Width (m)		18.40
Vel Total (m/s)	0.26	Avg. Vel. (m/s)		0.26
Max Chl Dpth (m)	2.69	Hydr. Depth (m)		2.13

Conv. Total (m3/s)	4079.8	Conv. (m3/s)	4079.8
Length Wtd. (m)	200.00	Wetted Per. (m)	20.10
Min Ch El (m)	9.32	Shear (N/m2)	0.11
Alpha	1.00	Stream Power (N/m s)	0.03
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	37.58
C & E Loss (m)	0.00	Cum SA (1000 m2)	17.92

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00 200.00
Crit W.S. (m)		Flow Area (m2)		48.70
E.G. Slope (m/m)	0.000003	Area (m2)		48.70
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	19.82	Top Width (m)		19.82
Vel Total (m/s)	0.21	Avg. Vel. (m/s)		0.21
Max Chl Dpth (m)	3.19	Hydr. Depth (m)		2.46
Conv. Total (m3/s)	5542.6	Conv. (m3/s)		5542.6
Length Wtd. (m)	200.00	Wetted Per. (m)		21.83
Min Ch El (m)	9.32	Shear (N/m2)		0.07
Alpha	1.00	Stream Power (N/m s)		0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		46.36
C & E Loss (m)	0.00	Cum SA (1000 m2)		19.32

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.67	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.		0.015	
W.S. Elev (m)	11.63	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		32.45	
E.G. Slope (m/m)	0.000075	Area (m2)		32.45	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.33	Top Width (m)		17.33	
Vel Total (m/s)	0.83	Avg. Vel. (m/s)		0.83	
Max Chl Dpth (m)	2.31	Hydr. Depth (m)		1.87	
Conv. Total (m3/s)	3114.8	Conv. (m3/s)		3114.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.79	
Min Ch El (m)	9.32	Shear (N/m2)		1.27	
Alpha	1.00	Stream Power (N/m s)		1.06	
Frctn Loss (m)	0.02	Cum Volume (1000 m3)		30.43	
C & E Loss (m)	0.00	Cum SA (1000 m2)		16.69	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.10	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.08	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		40.43	
E.G. Slope (m/m)	0.000040	Area (m2)		40.43	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.59	Top Width (m)		18.59	
Vel Total (m/s)	0.67	Avg. Vel. (m/s)		0.67	
Max Chl Dpth (m)	2.76	Hydr. Depth (m)		2.17	

Conv. Total (m3/s)	4261.2	Conv. (m3/s)	4261.2
Length Wtd. (m)	200.00	Wetted Per. (m)	20.33
Min Ch El (m)	9.32	Shear (N/m2)	0.78
Alpha	1.00	Stream Power (N/m s)	0.52
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	38.20
C & E Loss (m)	0.00	Cum SA (1000 m2)	18.01

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.55	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		49.43	
E.G. Slope (m/m)	0.000023	Area (m2)		49.43	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.93	Top Width (m)		19.93	
Vel Total (m/s)	0.55	Avg. Vel. (m/s)		0.55	
Max Chl Dpth (m)	3.23	Hydr. Depth (m)		2.48	
Conv. Total (m3/s)	5660.0	Conv. (m3/s)		5660.0	
Length Wtd. (m)	200.00	Wetted Per. (m)		21.96	
Min Ch El (m)	9.32	Shear (N/m2)		0.50	
Alpha	1.00	Stream Power (N/m s)		0.27	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		46.69	
C & E Loss (m)	0.00	Cum SA (1000 m2)		19.36	

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 5

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
7.9983	12.7591	10.1522	13.0405	12.0764	13.0257	12.0764	13.1218	12.713	13.1218
18.3892	9.32	29.0079	9.32	34.4788	13.0628	34.9253	13.0628	34.9253	12.9754
36.5793	13.0174	37.5384	12.8876	38.2379	12.8443	38.6366	12.734		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
7.9983	.015	12.713	.015	34.4788	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
12.713	34.4788	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.53	Element	Left OB	Channel
Vel Head (m)	0.01	Wt. n-Val.		0.015
W.S. Elev (m)	11.52	Reach Len. (m)	41.35	41.35
Crit W.S. (m)	9.76	Flow Area (m2)		30.52
E.G. Slope (m/m)	0.000012	Area (m2)		30.52
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	17.12	Top Width (m)		17.12
Vel Total (m/s)	0.33	Avg. Vel. (m/s)		0.33
Max Chl Dpth (m)	2.20	Hydr. Depth (m)		1.78
Conv. Total (m3/s)	2844.0	Conv. (m3/s)		2844.0
Length Wtd. (m)	41.35	Wetted Per. (m)		18.47
Min Ch El (m)	9.32	Shear (N/m2)		0.20
Alpha	1.00	Stream Power (N/m s)		0.07
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		23.40
C & E Loss (m)	0.00	Cum SA (1000 m2)		13.13

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.01	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.01	Reach Len. (m)	41.35	41.35	41.35
Crit W.S. (m)	9.76	Flow Area (m2)		39.27	
E.G. Slope (m/m)	0.000006	Area (m2)		39.27	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.57	Top Width (m)		18.57	
Vel Total (m/s)	0.25	Avg. Vel. (m/s)		0.25	
Max Chl Dpth (m)	2.69	Hydr. Depth (m)		2.11	
Conv. Total (m3/s)	4075.7	Conv. (m3/s)		4075.7	
Length Wtd. (m)	41.35	Wetted Per. (m)		20.22	
Min Ch El (m)	9.32	Shear (N/m2)		0.11	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		29.73	
C & E Loss (m)	0.00	Cum SA (1000 m2)		14.22	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.51	Reach Len. (m)	41.35	41.35	

41.35			
Crit W.S. (m)	9.76	Flow Area (m2)	48.87
E.G. Slope (m/m)	0.000003	Area (m2)	48.87
Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	20.04	Top Width (m)	20.04
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.20
Max Chl Dpth (m)	3.19	Hydr. Depth (m)	2.44
Conv. Total (m3/s)	5548.3	Conv. (m3/s)	5548.3
Length Wtd. (m)	41.35	Wetted Per. (m)	21.99
Min Ch El (m)	9.32	Shear (N/m2)	0.07
Alpha	1.00	Stream Power (N/m s)	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	36.60
C & E Loss (m)	0.00	Cum SA (1000 m2)	15.33

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.65	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.		0.015	
W.S. Elev (m)	11.62	Reach Len. (m)	41.35	41.35	41.35
Crit W.S. (m)	10.15	Flow Area (m2)		32.21	
E.G. Slope (m/m)	0.000077	Area (m2)		32.21	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	17.41	Top Width (m)		17.41	
Vel Total (m/s)	0.84	Avg. Vel. (m/s)		0.84	
Max Chl Dpth (m)	2.30	Hydr. Depth (m)		1.85	
Conv. Total (m3/s)	3072.5	Conv. (m3/s)		3072.5	

Length Wtd. (m)	41.35	Wetted Per. (m)	18.82
Min Ch El (m)	9.32	Shear (N/m2)	1.30
Alpha	1.00	Stream Power (N/m s)	1.09
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	23.96
C & E Loss (m)	0.00	Cum SA (1000 m2)	13.21

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.09	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.07	Reach Len. (m)	41.35	41.35	41.35
Crit W.S. (m)	10.15	Flow Area (m2)		40.37	
E.G. Slope (m/m)	0.000041	Area (m2)		40.37	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.74	Top Width (m)		18.74	
Vel Total (m/s)	0.67	Avg. Vel. (m/s)		0.67	
Max Chl Dpth (m)	2.75	Hydr. Depth (m)		2.15	
Conv. Total (m3/s)	4238.6	Conv. (m3/s)		4238.6	
Length Wtd. (m)	41.35	Wetted Per. (m)		20.43	
Min Ch El (m)	9.32	Shear (N/m2)		0.79	
Alpha	1.00	Stream Power (N/m s)		0.53	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		30.12	
C & E Loss (m)	0.00	Cum SA (1000 m2)		14.27	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.56	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.54	Reach Len. (m)	41.35	41.35	41.35
Crit W.S. (m)	10.15	Flow Area (m2)		49.54	
E.G. Slope (m/m)	0.000023	Area (m2)		49.54	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	20.14	Top Width (m)		20.14	
Vel Total (m/s)	0.55	Avg. Vel. (m/s)		0.55	
Max Chl Dpth (m)	3.22	Hydr. Depth (m)		2.46	
Conv. Total (m3/s)	5654.0	Conv. (m3/s)		5654.0	
Length Wtd. (m)	41.35	Wetted Per. (m)		22.11	
Min Ch El (m)	9.32	Shear (N/m2)		0.50	
Alpha	1.00	Stream Power (N/m s)		0.27	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		36.80	
C & E Loss (m)	0.00	Cum SA (1000 m2)		15.35	

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 4.5

INPUT
Description:
Distance from Upstream XS = 41.35
Deck/Roadway Width = 4

```
Weir Coefficient          =     1.4
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   12.62    12.8   11.45   34.31    12.8   11.45

Upstream Bridge Cross Section Data
Station Elevation Data    num=      14
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  7.9983 12.7591 10.1522 13.0405 12.0764 13.0257 12.0764 13.1218  12.713 13.1218
 18.3892    9.32 29.0079    9.32 34.4788 13.0628 34.9253 13.0628 34.9253 12.9754
 36.5793 13.0174 37.5384 12.8876 38.2379 12.8443 38.6366  12.734

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  7.9983    .015  12.713    .015 34.4788    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
        12.713 34.4788          .0015      .01

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   16.03    12.8   11.45   37.73    12.8   11.45

Downstream Bridge Cross Section Data
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  8.1118 12.9705 12.7088 13.0584 12.7088  13.168 12.9746  13.168 16.3034 11.0775
 19.3141  10.914 21.3659    9.32 27.0916    9.32 32.5808    9.32 38.2358 13.2282
 39.2679 13.2282 39.2679 13.1004 39.4888 13.0881 40.9332 13.1703 42.5608 13.0422
 43.5536  12.919

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  8.1118    .015 12.9746    .015 38.2358    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       12.9746 38.2358             .1       .3

Upstream Embankment side slope             =       0 horiz. to 1.0 vertical
Downstream Embankment side slope           =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins        =
Energy head used in spillway design        =
Spillway height used in design             =
Weir crest shape                           = Broad Crested

Number of Abutments =  2

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   12.63   11.45   19.59   11.45
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```
Downstream     num=       2
     Sta    Elev     Sta    Elev
   16.03   11.45   23.01   11.45

Abutment Data
Upstream     num=       2
     Sta    Elev     Sta    Elev
   27.74   11.45   34.31   11.45
Downstream     num=       2
     Sta    Elev     Sta    Elev
   31.16   11.45   37.73   11.45

Number of Piers =  1

Pier Data
Pier Station     Upstream=   23.67    Downstream=   27.09
Upstream     num=       2
    Width   Elev    Width   Elev
     .35    9.32     .35   11.45
Downstream     num=       2
    Width   Elev    Width   Elev
     .35    9.32     .35   11.45

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.53    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.52    E.G. Elev (m)              11.52
11.52
  Q Total (m3/s)             10.00    W.S. Elev (m)              11.51
11.51
  Q Bridge (m3/s)            10.00    Crit W.S. (m)               9.87
 9.87
  Q Weir (m3/s)                       Max Chl Dpth (m)            2.19
 2.19
  Weir Sta Lft (m)                    Vel Total (m/s)             0.60
 0.60
```

Weir Sta Rgt (m)		Flow Area (m2)	16.62 16.67
Weir Submerg		Froude # Chl	0.13 0.13
Weir Max Depth (m)		Specif Force (m3)	19.24 19.24
Min El Weir Flow (m)	12.74	Hydr Depth (m)	
Min El Prs (m)	11.45	W.P. Total (m)	24.12 24.86
Delta EG (m)	0.01	Conv. Total (m3/s)	864.0 851.3
Delta WS (m)	0.01	Top Width (m)	0.41
BR Open Area (m2)	16.62	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.60	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.90 0.91
BR Sel Method	Energy only	Power Total (N/m s)	0.54 0.54

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 2

E.G. US. (m)	12.01	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.01	E.G. Elev (m)	12.01 12.01
Q Total (m3/s)	10.00	W.S. Elev (m)	11.99 12.00
Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.87 9.87
Q Weir (m3/s)		Max Chl Dpth (m)	2.68 2.68
Weir Sta Lft (m)		Vel Total (m/s)	0.60 0.59
Weir Sta Rgt (m)		Flow Area (m2)	16.62 17.06
Weir Submerg		Froude # Chl	0.12 0.11
Weir Max Depth (m)		Specif Force (m3)	27.36 27.47
Min El Weir Flow (m)	12.74	Hydr Depth (m)	14.36
Min El Prs (m)	11.45	W.P. Total (m)	24.12 26.27

Delta EG (m)	0.00	Conv. Total (m3/s)	864.0
852.9			
Delta WS (m)	0.00	Top Width (m)	
1.19			
BR Open Area (m2)	16.62	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.60	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.90
0.88			
BR Sel Method	Energy only	Power Total (N/m s)	0.54
0.51			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.51	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.51	E.G. Elev (m)	12.51
12.51			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.49
12.49			
Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.87
9.87			
Q Weir (m3/s)		Max Chl Dpth (m)	3.17
3.17			
Weir Sta Lft (m)		Vel Total (m/s)	0.60
0.56			
Weir Sta Rgt (m)		Flow Area (m2)	16.62
17.85			
Weir Submerg		Froude # Chl	0.11
0.10			
Weir Max Depth (m)		Specif Force (m3)	35.61
36.12			
Min El Weir Flow (m)	12.74	Hydr Depth (m)	
9.01			
Min El Prs (m)	11.45	W.P. Total (m)	24.12
27.70			
Delta EG (m)	0.00	Conv. Total (m3/s)	864.0
887.6			
Delta WS (m)	0.00	Top Width (m)	
1.98			
BR Open Area (m2)	16.62	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.60	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.90
0.80			

BR Sel Method	Energy only	Power Total (N/m s)	0.54 0.45

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.65	Element	Inside BR US Inside BR DS
W.S. US. (m)	11.62	E.G. Elev (m)	11.65 11.64
Q Total (m3/s)	27.00	W.S. Elev (m)	11.51 11.51
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.39 10.39
Q Weir (m3/s)		Max Chl Dpth (m)	2.19 2.19
Weir Sta Lft (m)		Vel Total (m/s)	1.62 1.62
Weir Sta Rgt (m)		Flow Area (m2)	16.62 16.67
Weir Submerg		Froude # Chl	0.35 0.35
Weir Max Depth (m)		Specif Force (m3)	23.19 23.13
Min El Weir Flow (m)	12.74	Hydr Depth (m)	
Min El Prs (m)	11.45	W.P. Total (m)	24.12 24.87
Delta EG (m)	0.04	Conv. Total (m3/s)	864.0 851.2
Delta WS (m)	0.04	Top Width (m)	0.41
BR Open Area (m2)	16.62	Frctn Loss (m)	0.00 0.03
BR Open Vel (m/s)	1.62	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	6.60 6.61
BR Sel Method	Energy only	Power Total (N/m s)	10.72 10.71

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.09	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.07	E.G. Elev (m)	12.09
12.08			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.95
11.96			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.39
10.39			
Q Weir (m3/s)		Max Chl Dpth (m)	2.63
2.64			
Weir Sta Lft (m)		Vel Total (m/s)	1.62
1.59			
Weir Sta Rgt (m)		Flow Area (m2)	16.62
17.01			
Weir Submerg		Froude # Chl	0.32
0.31			
Weir Max Depth (m)		Specif Force (m3)	30.53
30.56			
Min El Weir Flow (m)	12.74	Hydr Depth (m)	
15.13			
Min El Prs (m)	11.45	W.P. Total (m)	24.12
26.16			
Delta EG (m)	0.03	Conv. Total (m3/s)	864.0
851.5			
Delta WS (m)	0.02	Top Width (m)	
1.12			
BR Open Area (m2)	16.62	Frctn Loss (m)	0.00
0.02			
BR Open Vel (m/s)	1.62	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	6.60
6.41			
BR Sel Method	Energy only	Power Total (N/m s)	10.72
10.18			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.56	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.54	E.G. Elev (m)	12.55
12.55			
Q Total (m3/s)	27.00	W.S. Elev (m)	12.42
12.43			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.39
10.39			

Q Weir (m3/s)		Max Chl Dpth (m)	3.10 3.11
Weir Sta Lft (m)		Vel Total (m/s)	1.62 1.52
Weir Sta Rgt (m)		Flow Area (m2)	16.62 17.73
Weir Submerg		Froude # Chl	0.29 0.28
Weir Max Depth (m)		Specif Force (m3)	38.27 38.63
Min El Weir Flow (m)	12.74	Hydr Depth (m)	9.42
Min El Prs (m)	11.45	W.P. Total (m)	24.12 27.53
Delta EG (m)	0.02	Conv. Total (m3/s)	864.0 881.4
Delta WS (m)	0.01	Top Width (m)	1.88
BR Open Area (m2)	16.62	Frctn Loss (m)	0.00 0.01
BR Open Vel (m/s)	1.62	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	6.60 5.93
BR Sel Method	Energy only	Power Total (N/m s)	10.72 9.03

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 4.4

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
8.1118	12.9705	12.7088	13.0584	12.7088	13.168	12.9746	13.168	16.3034	11.0775
19.3141	10.914	21.3659	9.32	27.0916	9.32	32.5808	9.32	38.2358	13.2282
39.2679	13.2282	39.2679	13.1004	39.4888	13.0881	40.9332	13.1703	42.5608	13.0422
43.5536	12.919								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
8.1118	.015	12.9746	.015	38.2358	.015

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

```
      12.9746 38.2358               30      30      30             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)           11.52    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.00    Wt. n-Val.                         0.015

  W.S. Elev (m)           11.51    Reach Len. (m)           5.00       5.00
   5.00
  Crit W.S. (m)            9.74    Flow Area (m2)                     32.68

  E.G. Slope (m/m)      0.000012    Area (m2)                          32.68

  Q Total (m3/s)          10.00    Flow (m3/s)                        10.00

  Top Width (m)           20.15    Top Width (m)                      20.15

  Vel Total (m/s)          0.31    Avg. Vel. (m/s)                     0.31

  Max Chl Dpth (m)         2.19    Hydr. Depth (m)                     1.62

  Conv. Total (m3/s)      2879.9    Conv. (m3/s)                      2879.9

  Length Wtd. (m)          5.00    Wetted Per. (m)                    21.51

  Min Ch El (m)            9.32    Shear (N/m2)                        0.18

  Alpha                    1.00    Stream Power (N/m s)                0.05

  Frctn Loss (m)           0.00    Cum Volume (1000 m3)               18.55

  C & E Loss (m)           0.00    Cum SA (1000 m2)                   11.18


CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)           12.01    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.00    Wt. n-Val.                         0.015

  W.S. Elev (m)           12.01    Reach Len. (m)           5.00       5.00
   5.00
  Crit W.S. (m)            9.74    Flow Area (m2)                     42.98

  E.G. Slope (m/m)      0.000005    Area (m2)                          42.98

  Q Total (m3/s)          10.00    Flow (m3/s)                        10.00

  Top Width (m)           21.65    Top Width (m)                      21.65
```

Vel Total (m/s)	0.23	Avg. Vel. (m/s)	0.23
Max Chl Dpth (m)	2.69	Hydr. Depth (m)	1.99
Conv. Total (m3/s)	4309.9	Conv. (m3/s)	4309.9
Length Wtd. (m)	5.00	Wetted Per. (m)	23.30
Min Ch El (m)	9.32	Shear (N/m2)	0.10
Alpha	1.00	Stream Power (N/m s)	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	23.86
C & E Loss (m)	0.00	Cum SA (1000 m2)	12.07

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.51	Reach Len. (m)	5.00	5.00	5.00
Crit W.S. (m)	9.74	Flow Area (m2)		54.15	
E.G. Slope (m/m)	0.000003	Area (m2)		54.15	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	23.16	Top Width (m)		23.16	
Vel Total (m/s)	0.18	Avg. Vel. (m/s)		0.18	
Max Chl Dpth (m)	3.19	Hydr. Depth (m)		2.34	
Conv. Total (m3/s)	6025.1	Conv. (m3/s)		6025.1	
Length Wtd. (m)	5.00	Wetted Per. (m)		25.12	
Min Ch El (m)	9.32	Shear (N/m2)		0.06	
Alpha	1.00	Stream Power (N/m s)		0.01	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		29.61	

C & E Loss (m)	0.00	Cum SA (1000 m2)	12.97

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.61	Element	Left OB	Channel	Right OB
Vel Head (m)	0.03	Wt. n-Val.		0.015	
W.S. Elev (m)	11.58	Reach Len. (m)	5.00	5.00	5.00
Crit W.S. (m)	10.13	Flow Area (m2)		33.99	
E.G. Slope (m/m)	0.000078	Area (m2)		33.99	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	20.35	Top Width (m)		20.35	
Vel Total (m/s)	0.79	Avg. Vel. (m/s)		0.79	
Max Chl Dpth (m)	2.26	Hydr. Depth (m)		1.67	
Conv. Total (m3/s)	3052.3	Conv. (m3/s)		3052.3	
Length Wtd. (m)	5.00	Wetted Per. (m)		21.75	
Min Ch El (m)	9.32	Shear (N/m2)		1.20	
Alpha	1.00	Stream Power (N/m s)		0.95	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		18.97	
C & E Loss (m)	0.00	Cum SA (1000 m2)		11.25	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.07	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.05	Reach Len. (m)	5.00	5.00	

5.00			
Crit W.S. (m)	10.13	Flow Area (m2)	43.84
E.G. Slope (m/m)	0.000037	Area (m2)	43.84
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	21.77	Top Width (m)	21.77
Vel Total (m/s)	0.62	Avg. Vel. (m/s)	0.62
Max Chl Dpth (m)	2.73	Hydr. Depth (m)	2.01
Conv. Total (m3/s)	4436.3	Conv. (m3/s)	4436.3
Length Wtd. (m)	5.00	Wetted Per. (m)	23.45
Min Ch El (m)	9.32	Shear (N/m2)	0.68
Alpha	1.00	Stream Power (N/m s)	0.42
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	24.17
C & E Loss (m)	0.00	Cum SA (1000 m2)	12.11

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.53	Reach Len. (m)	5.00	5.00	5.00
Crit W.S. (m)	10.13	Flow Area (m2)		54.63	
E.G. Slope (m/m)	0.000020	Area (m2)		54.63	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	23.22	Top Width (m)		23.22	
Vel Total (m/s)	0.49	Avg. Vel. (m/s)		0.49	
Max Chl Dpth (m)	3.21	Hydr. Depth (m)		2.35	
Conv. Total (m3/s)	6100.9	Conv. (m3/s)		6100.9	

Length Wtd. (m)	5.00	Wetted Per. (m)	25.19
Min Ch El (m)	9.32	Shear (N/m2)	0.42
Alpha	1.00	Stream Power (N/m s)	0.21
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	29.76
C & E Loss (m)	0.00	Cum SA (1000 m2)	12.99

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE

RIVER: SNM
REACH: Canale SNM RS: 4.3

INPUT
Description:
Distance from Upstream XS = 5
Deck/Roadway Width = 4
Weir Coefficient = 1.4
Upstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
15.36	13.5	12.65	38.91	13.5	12.65

Upstream Bridge Cross Section Data
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
8.1118	12.9705	12.7088	13.0584	12.7088	13.168	12.9746	13.168	16.3034	11.0775
19.3141	10.914	21.3659	9.32	27.0916	9.32	32.5808	9.32	38.2358	13.2282
39.2679	13.2282	39.2679	13.1004	39.4888	13.0881	40.9332	13.1703	42.5608	13.0422
43.5536	12.919								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
8.1118	.015	12.9746	.015	38.2358	.015

Bank Sta: Left	Right	Coeff Contr.	Expan.
12.9746	38.2358	.1	.3

Downstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
15.36	13.5	12.65	38.91	13.5	12.65

```
Downstream Bridge Cross Section Data
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
  8.1118 12.9705 12.7088 13.0584 12.7088  13.168 12.9746  13.168 16.3034 11.0775
 19.3141  10.914 21.3659    9.32 27.0916    9.32 32.5808    9.32 38.2358 13.2282
 39.2679 13.2282 39.2679 13.1004 39.4888 13.0881 40.9332 13.1703 42.5608 13.0422
 43.5536  12.919

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
  8.1118    .015 12.9746    .015 38.2358    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
       12.9746 38.2358          .0015      .01

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Piers =  2

Pier Data
Pier Station     Upstream=   23.11    Downstream=   23.11
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.22      .5   12.65
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.22      .5   12.65

Pier Data
Pier Station     Upstream=   31.11    Downstream=   31.11
Upstream     num=       2
    Width   Elev    Width   Elev
      .5    9.22      .5   12.65
Downstream     num=       2
    Width   Elev    Width   Elev
      .5    9.22      .5   12.65

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
```

```
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT  Profile #PF 1


  E.G. US. (m)               11.52    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               11.51    E.G. Elev (m)               11.52
11.52
  Q Total (m3/s)             10.00    W.S. Elev (m)               11.51
11.51
  Q Bridge (m3/s)            10.00    Crit W.S. (m)                9.77
 9.77
  Q Weir (m3/s)                       Max Chl Dpth (m)             2.19
 2.19
  Weir Sta Lft (m)                    Vel Total (m/s)              0.33
 0.33
  Weir Sta Rgt (m)                    Flow Area (m2)              30.47
30.47
  Weir Submerg                        Froude # Chl                 0.08
 0.08
  Weir Max Depth (m)                  Specif Force (m3)           30.12
30.12
  Min El Weir Flow (m)       11.67    Hydr Depth (m)               1.59
 1.59
  Min El Prs (m)             12.65    W.P. Total (m)              29.28
29.28
  Delta EG (m)                0.00    Conv. Total (m3/s)         2086.2
2086.0
  Delta WS (m)                0.00    Top Width (m)               19.15
19.15
  BR Open Area (m2)          53.42    Frctn Loss (m)               0.00
 0.00
  BR Open Vel (m/s)           0.33    C & E Loss (m)               0.00
 0.00
  BR Sluice Coef                      Shear Total (N/m2)           0.23
 0.23
  BR Sel Method         Energy only   Power Total (N/m s)          0.08
 0.08



BRIDGE OUTPUT  Profile #PF 2


  E.G. US. (m)               12.01    Element               Inside BR US
Inside BR DS
  W.S. US. (m)               12.01    E.G. Elev (m)               12.01
12.01
  Q Total (m3/s)             10.00    W.S. Elev (m)               12.01
12.01
```

Q Bridge (m3/s)	10.00	Crit W.S. (m)	9.77
9.77			
Q Weir (m3/s)		Max Chl Dpth (m)	2.69
2.69			
Weir Sta Lft (m)		Vel Total (m/s)	0.25
0.25			
Weir Sta Rgt (m)		Flow Area (m2)	40.29
40.29			
Weir Submerg		Froude # Chl	0.06
0.06			
Weir Max Depth (m)		Specif Force (m3)	47.46
47.46			
Min El Weir Flow (m)	11.67	Hydr Depth (m)	1.95
1.95			
Min El Prs (m)	12.65	W.P. Total (m)	33.39
33.39			
Delta EG (m)	0.00	Conv. Total (m3/s)	3044.1
3044.0			
Delta WS (m)	0.00	Top Width (m)	20.65
20.65			
BR Open Area (m2)	53.42	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.25	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.13
0.13			
BR Sel Method	Energy only	Power Total (N/m s)	0.03
0.03			

BRIDGE OUTPUT Profile #PF 3

E.G. US. (m)	12.51	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	12.51	E.G. Elev (m)	12.51
12.51			
Q Total (m3/s)	10.00	W.S. Elev (m)	12.51
12.51			
Q Bridge (m3/s)	9.97	Crit W.S. (m)	9.77
9.77			
Q Weir (m3/s)		Max Chl Dpth (m)	3.19
3.19			
Weir Sta Lft (m)		Vel Total (m/s)	0.20
0.20			
Weir Sta Rgt (m)		Flow Area (m2)	50.96
50.96			
Weir Submerg		Froude # Chl	0.04
0.04			
Weir Max Depth (m)		Specif Force (m3)	70.13
70.13			
Min El Weir Flow (m)	11.67	Hydr Depth (m)	2.30
2.30			

Min El Prs (m)	12.65	W.P. Total (m)	37.70
37.70			
Delta EG (m)	0.00	Conv. Total (m3/s)	4153.8
4153.8			
Delta WS (m)	0.00	Top Width (m)	22.16
22.16			
BR Open Area (m2)	53.42	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.20	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.08
0.08			
BR Sel Method	Energy only	Power Total (N/m s)	0.02
0.02			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

BRIDGE OUTPUT Profile #PF 4

E.G. US. (m)	11.61	Element	Inside BR US
Inside BR DS			
W.S. US. (m)	11.58	E.G. Elev (m)	11.61
11.61			
Q Total (m3/s)	27.00	W.S. Elev (m)	11.57
11.57			
Q Bridge (m3/s)	27.00	Crit W.S. (m)	10.18
10.18			
Q Weir (m3/s)		Max Chl Dpth (m)	2.25
2.25			
Weir Sta Lft (m)		Vel Total (m/s)	0.85
0.85			
Weir Sta Rgt (m)		Flow Area (m2)	31.62
31.60			
Weir Submerg		Froude # Chl	0.21
0.21			
Weir Max Depth (m)		Specif Force (m3)	33.98
33.96			
Min El Weir Flow (m)	11.67	Hydr Depth (m)	1.64
1.64			
Min El Prs (m)	12.65	W.P. Total (m)	29.74
29.73			
Delta EG (m)	0.01	Conv. Total (m3/s)	2195.6
2194.5			
Delta WS (m)	0.01	Top Width (m)	19.33
19.33			
BR Open Area (m2)	53.42	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.85	C & E Loss (m)	0.00
0.00			

BR Sluice Coef		Shear Total (N/m2)	1.58 1.58
BR Sel Method	Energy only	Power Total (N/m s)	1.35 1.35

BRIDGE OUTPUT Profile #PF 5

E.G. US. (m)	12.07	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.05	E.G. Elev (m)	12.07 12.07
Q Total (m3/s)	27.00	W.S. Elev (m)	12.04 12.04
Q Bridge (m3/s)	26.99	Crit W.S. (m)	10.18 10.18
Q Weir (m3/s)		Max Chl Dpth (m)	2.72 2.72
Weir Sta Lft (m)		Vel Total (m/s)	0.66 0.66
Weir Sta Rgt (m)		Flow Area (m2)	41.05 41.04
Weir Submerg		Froude # Chl	0.15 0.15
Weir Max Depth (m)		Specif Force (m3)	50.51 50.50
Min El Weir Flow (m)	11.67	Hydr Depth (m)	1.98 1.98
Min El Prs (m)	12.65	W.P. Total (m)	33.71 33.71
Delta EG (m)	0.00	Conv. Total (m3/s)	3120.9 3120.3
Delta WS (m)	0.00	Top Width (m)	20.76 20.76
BR Open Area (m2)	53.42	Frctn Loss (m)	0.00 0.00
BR Open Vel (m/s)	0.66	C & E Loss (m)	0.00 0.00
BR Sluice Coef		Shear Total (N/m2)	0.89 0.89
BR Sel Method	Energy only	Power Total (N/m s)	0.59 0.59

BRIDGE OUTPUT Profile #PF 6

E.G. US. (m)	12.54	Element	Inside BR US Inside BR DS
W.S. US. (m)	12.53	E.G. Elev (m)	12.54 12.54

Q Total (m3/s)	27.00	W.S. Elev (m)	12.52
12.52			
Q Bridge (m3/s)	26.91	Crit W.S. (m)	10.18
10.18			
Q Weir (m3/s)		Max Chl Dpth (m)	3.20
3.20			
Weir Sta Lft (m)		Vel Total (m/s)	0.53
0.53			
Weir Sta Rgt (m)		Flow Area (m2)	51.38
51.37			
Weir Submerg		Froude # Chl	0.11
0.11			
Weir Max Depth (m)		Specif Force (m3)	72.33
72.32			
Min El Weir Flow (m)	11.67	Hydr Depth (m)	2.31
2.31			
Min El Prs (m)	12.65	W.P. Total (m)	37.86
37.86			
Delta EG (m)	0.00	Conv. Total (m3/s)	4198.4
4198.0			
Delta WS (m)	0.00	Top Width (m)	22.22
22.22			
BR Open Area (m2)	53.42	Frctn Loss (m)	0.00
0.00			
BR Open Vel (m/s)	0.53	C & E Loss (m)	0.00
0.00			
BR Sluice Coef		Shear Total (N/m2)	0.55
0.55			
BR Sel Method	Energy only	Power Total (N/m s)	0.29
0.29			

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 4

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
8.1118	12.9705	12.7088	13.0584	12.7088	13.168	12.9746	13.168	16.3034	11.0775
19.3141	10.914	21.3659	9.32	27.0916	9.32	32.5808	9.32	38.2358	13.2282
39.2679	13.2282	39.2679	13.1004	39.4888	13.0881	40.9332	13.1703	42.5608	13.0422
43.5536	12.919								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

```
  8.1118    .015 12.9746    .015 38.2358    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.
Expan.
       12.9746 38.2358             200     200     200          .0015      .01

CROSS SECTION OUTPUT  Profile #PF 1


  E.G. Elev (m)           11.52    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.00    Wt. n-Val.                         0.015

  W.S. Elev (m)           11.51    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                    Flow Area (m2)                     32.67

  E.G. Slope (m/m)      0.000012    Area (m2)                          32.67

  Q Total (m3/s)          10.00    Flow (m3/s)                        10.00

  Top Width (m)           20.15    Top Width (m)                      20.15

  Vel Total (m/s)          0.31    Avg. Vel. (m/s)                     0.31

  Max Chl Dpth (m)         2.19    Hydr. Depth (m)                     1.62

  Conv. Total (m3/s)      2877.8    Conv. (m3/s)                      2877.8

  Length Wtd. (m)         200.00    Wetted Per. (m)                    21.51

  Min Ch El (m)            9.32    Shear (N/m2)                        0.18

  Alpha                    1.00    Stream Power (N/m s)                0.06

  Frctn Loss (m)           0.00    Cum Volume (1000 m3)               17.60

  C & E Loss (m)           0.00    Cum SA (1000 m2)                   10.60



CROSS SECTION OUTPUT  Profile #PF 2


  E.G. Elev (m)           12.01    Element                Left OB    Channel
Right OB
  Vel Head (m)             0.00    Wt. n-Val.                         0.015

  W.S. Elev (m)           12.01    Reach Len. (m)         200.00     200.00
 200.00
  Crit W.S. (m)                    Flow Area (m2)                     42.98

  E.G. Slope (m/m)      0.000005    Area (m2)                          42.98
```

Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	21.65	Top Width (m)	21.65
Vel Total (m/s)	0.23	Avg. Vel. (m/s)	0.23
Max Chl Dpth (m)	2.69	Hydr. Depth (m)	1.99
Conv. Total (m3/s)	4308.7	Conv. (m3/s)	4308.7
Length Wtd. (m)	200.00	Wetted Per. (m)	23.30
Min Ch El (m)	9.32	Shear (N/m2)	0.10
Alpha	1.00	Stream Power (N/m s)	0.02
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	22.62
C & E Loss (m)	0.00	Cum SA (1000 m2)	11.44

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		54.15	
E.G. Slope (m/m)	0.000003	Area (m2)		54.15	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	23.16	Top Width (m)		23.16	
Vel Total (m/s)	0.18	Avg. Vel. (m/s)		0.18	
Max Chl Dpth (m)	3.19	Hydr. Depth (m)		2.34	
Conv. Total (m3/s)	6024.3	Conv. (m3/s)		6024.3	
Length Wtd. (m)	200.00	Wetted Per. (m)		25.12	
Min Ch El (m)	9.32	Shear (N/m2)		0.06	
Alpha	1.00	Stream Power (N/m s)		0.01	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		28.04	

C & E Loss (m)	0.00	Cum SA (1000 m2)		12.29

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.61	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.03	Wt. n-Val.		0.015
W.S. Elev (m)	11.57	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		33.88
E.G. Slope (m/m)	0.000079	Area (m2)		33.88
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	20.33	Top Width (m)		20.33
Vel Total (m/s)	0.80	Avg. Vel. (m/s)		0.80
Max Chl Dpth (m)	2.25	Hydr. Depth (m)		1.67
Conv. Total (m3/s)	3037.2	Conv. (m3/s)		3037.2
Length Wtd. (m)	200.00	Wetted Per. (m)		21.73
Min Ch El (m)	9.32	Shear (N/m2)		1.21
Alpha	1.00	Stream Power (N/m s)		0.96
Frctn Loss (m)	0.02	Cum Volume (1000 m3)		17.99
C & E Loss (m)	0.00	Cum SA (1000 m2)		10.65

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.06	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.02	Wt. n-Val.		0.015
W.S. Elev (m)	12.04	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		43.78
E.G. Slope (m/m)	0.000037	Area (m2)		43.78

Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	21.76	Top Width (m)	21.76
Vel Total (m/s)	0.62	Avg. Vel. (m/s)	0.62
Max Chl Dpth (m)	2.72	Hydr. Depth (m)	2.01
Conv. Total (m3/s)	4427.4	Conv. (m3/s)	4427.4
Length Wtd. (m)	200.00	Wetted Per. (m)	23.44
Min Ch El (m)	9.32	Shear (N/m2)	0.68
Alpha	1.00	Stream Power (N/m s)	0.42
Frctn Loss (m)	0.01	Cum Volume (1000 m3)	22.90
C & E Loss (m)	0.00	Cum SA (1000 m2)	11.48

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.53	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		54.59	
E.G. Slope (m/m)	0.000020	Area (m2)		54.59	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	23.22	Top Width (m)		23.22	
Vel Total (m/s)	0.49	Avg. Vel. (m/s)		0.49	
Max Chl Dpth (m)	3.21	Hydr. Depth (m)		2.35	
Conv. Total (m3/s)	6095.1	Conv. (m3/s)		6095.1	
Length Wtd. (m)	200.00	Wetted Per. (m)		25.19	
Min Ch El (m)	9.32	Shear (N/m2)		0.42	
Alpha	1.00	Stream Power (N/m s)		0.21	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		28.18	

C & E Loss (m)	0.00	Cum SA (1000 m2)	12.31

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 3

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
14.2626	13.0101	15.989	13.1109	18.0082	13.1186	18.0082	13.2205	18.9389	13.2205
24.5738	9.32	35.585	9.32	40.8783	13.1142	41.5161	13.1142	41.5161	13.0186
41.945	13.0223	42.7315	12.9791	43.895	12.9357	45.7495	12.7625		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
14.2626	.015	18.9389	.015	40.8783	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.9389	40.8783	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		30.94	
E.G. Slope (m/m)	0.000012	Area (m2)		30.94	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	17.23	Top Width (m)		17.23	
Vel Total (m/s)	0.32	Avg. Vel. (m/s)		0.32	
Max Chl Dpth (m)	2.19	Hydr. Depth (m)		1.80	
Conv. Total (m3/s)	2894.3	Conv. (m3/s)		2894.3	
Length Wtd. (m)	200.00	Wetted Per. (m)		18.62	
Min Ch El (m)	9.32	Shear (N/m2)		0.19	

Alpha	1.00	Stream Power (N/m s)	0.06
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	11.24
C & E Loss (m)	0.00	Cum SA (1000 m2)	6.86

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.01	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.01	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		39.82	
E.G. Slope (m/m)	0.000006	Area (m2)		39.82	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	18.64	Top Width (m)		18.64	
Vel Total (m/s)	0.25	Avg. Vel. (m/s)		0.25	
Max Chl Dpth (m)	2.69	Hydr. Depth (m)		2.14	
Conv. Total (m3/s)	4153.8	Conv. (m3/s)		4153.8	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.34	
Min Ch El (m)	9.32	Shear (N/m2)		0.11	
Alpha	1.00	Stream Power (N/m s)		0.03	
Frctn Loss (m)	0.00	Cum Volume (1000 m3)		14.34	
C & E Loss (m)	0.00	Cum SA (1000 m2)		7.41	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	

200.00

Crit W.S. (m)		Flow Area (m2)	49.48
E.G. Slope (m/m)	0.000003	Area (m2)	49.48
Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	20.06	Top Width (m)	20.06
Vel Total (m/s)	0.20	Avg. Vel. (m/s)	0.20
Max Chl Dpth (m)	3.19	Hydr. Depth (m)	2.47
Conv. Total (m3/s)	5649.3	Conv. (m3/s)	5649.3
Length Wtd. (m)	200.00	Wetted Per. (m)	22.07
Min Ch El (m)	9.32	Shear (N/m2)	0.07
Alpha	1.00	Stream Power (N/m s)	0.01
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	17.68
C & E Loss (m)	0.00	Cum SA (1000 m2)	7.97

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.59	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.04	Wt. n-Val.		0.015
W.S. Elev (m)	11.55	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)		Flow Area (m2)		31.67
E.G. Slope (m/m)	0.000081	Area (m2)		31.67
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	17.35	Top Width (m)		17.35
Vel Total (m/s)	0.85	Avg. Vel. (m/s)		0.85
Max Chl Dpth (m)	2.23	Hydr. Depth (m)		1.83
Conv. Total (m3/s)	2992.9	Conv. (m3/s)		2992.9
Length Wtd. (m)	200.00	Wetted Per. (m)		18.77
Min Ch El (m)	9.32	Shear (N/m2)		1.35

Alpha	1.00	Stream Power (N/m s)	1.15
Frctn Loss (m)	0.02	Cum Volume (1000 m3)	11.43
C & E Loss (m)	0.00	Cum SA (1000 m2)	6.89

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.06	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.03	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)		Flow Area (m2)		40.33	
E.G. Slope (m/m)	0.000041	Area (m2)		40.33	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	18.72	Top Width (m)		18.72	
Vel Total (m/s)	0.67	Avg. Vel. (m/s)		0.67	
Max Chl Dpth (m)	2.71	Hydr. Depth (m)		2.15	
Conv. Total (m3/s)	4230.5	Conv. (m3/s)		4230.5	
Length Wtd. (m)	200.00	Wetted Per. (m)		20.44	
Min Ch El (m)	9.32	Shear (N/m2)		0.79	
Alpha	1.00	Stream Power (N/m s)		0.53	
Frctn Loss (m)	0.01	Cum Volume (1000 m3)		14.49	
C & E Loss (m)	0.00	Cum SA (1000 m2)		7.43	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.52	Reach Len. (m)	200.00	200.00	

200.00

Crit W.S. (m)		Flow Area (m2)	49.74
E.G. Slope (m/m)	0.000023	Area (m2)	49.74
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	20.09	Top Width (m)	20.09
Vel Total (m/s)	0.54	Avg. Vel. (m/s)	0.54
Max Chl Dpth (m)	3.20	Hydr. Depth (m)	2.48
Conv. Total (m3/s)	5692.1	Conv. (m3/s)	5692.1
Length Wtd. (m)	200.00	Wetted Per. (m)	22.12
Min Ch El (m)	9.32	Shear (N/m2)	0.50
Alpha	1.00	Stream Power (N/m s)	0.27
Frctn Loss (m)	0.00	Cum Volume (1000 m3)	17.75
C & E Loss (m)	0.00	Cum SA (1000 m2)	7.98

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 2

INPUT
Description:
Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11.1446	13.0105	13.0049	12.9897	13.3015	12.9858	13.3015	13.0792	14.2518	13.0792
19.4432	9.32	30.5881	9.32	36.0951	13.2235	36.9325	13.2235	36.9325	13.1429
37.3196	13.1679								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
11.1446	.015	14.2518	.015	36.0951	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.2518	36.0951	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.51	Element	Left OB Channel

Right OB				
Vel Head (m)	0.01	Wt. n-Val.		0.015
W.S. Elev (m)	11.51	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)	9.75	Flow Area (m2)		31.08
E.G. Slope (m/m)	0.000012	Area (m2)		31.08
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	17.26	Top Width (m)		17.26
Vel Total (m/s)	0.32	Avg. Vel. (m/s)		0.32
Max Chl Dpth (m)	2.19	Hydr. Depth (m)		1.80
Conv. Total (m3/s)	2911.6	Conv. (m3/s)		2911.6
Length Wtd. (m)	200.00	Wetted Per. (m)		18.66
Min Ch El (m)	9.32	Shear (N/m2)		0.19
Alpha	1.00	Stream Power (N/m s)		0.06
Frctn Loss (m)		Cum Volume (1000 m3)		5.04
C & E Loss (m)		Cum SA (1000 m2)		3.41

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.01	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.00	Wt. n-Val.		0.015
W.S. Elev (m)	12.00	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)	9.75	Flow Area (m2)		39.98
E.G. Slope (m/m)	0.000006	Area (m2)		39.98
Q Total (m3/s)	10.00	Flow (m3/s)		10.00
Top Width (m)	18.64	Top Width (m)		18.64
Vel Total (m/s)	0.25	Avg. Vel. (m/s)		0.25
Max Chl Dpth (m)	2.68	Hydr. Depth (m)		2.14
Conv. Total (m3/s)	4179.2	Conv. (m3/s)		4179.2

Length Wtd. (m)	200.00	Wetted Per. (m)	20.36
Min Ch El (m)	9.32	Shear (N/m2)	0.11
Alpha	1.00	Stream Power (N/m s)	0.03
Frctn Loss (m)		Cum Volume (1000 m3)	6.36
C & E Loss (m)		Cum SA (1000 m2)	3.68

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.50	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	9.75	Flow Area (m2)		49.65	
E.G. Slope (m/m)	0.000003	Area (m2)		49.65	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	20.04	Top Width (m)		20.04	
Vel Total (m/s)	0.20	Avg. Vel. (m/s)		0.20	
Max Chl Dpth (m)	3.18	Hydr. Depth (m)		2.48	
Conv. Total (m3/s)	5680.6	Conv. (m3/s)		5680.6	
Length Wtd. (m)	200.00	Wetted Per. (m)		22.08	
Min Ch El (m)	9.32	Shear (N/m2)		0.07	
Alpha	1.00	Stream Power (N/m s)		0.01	
Frctn Loss (m)		Cum Volume (1000 m3)		7.76	
C & E Loss (m)		Cum SA (1000 m2)		3.96	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.57	Element	Left OB	Channel

Right OB				
Vel Head (m)	0.04	Wt. n-Val.		0.015
W.S. Elev (m)	11.54	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)	10.13	Flow Area (m2)		31.56
E.G. Slope (m/m)	0.000082	Area (m2)		31.56
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	17.33	Top Width (m)		17.33
Vel Total (m/s)	0.86	Avg. Vel. (m/s)		0.86
Max Chl Dpth (m)	2.22	Hydr. Depth (m)		1.82
Conv. Total (m3/s)	2976.8	Conv. (m3/s)		2976.8
Length Wtd. (m)	200.00	Wetted Per. (m)		18.76
Min Ch El (m)	9.32	Shear (N/m2)		1.36
Alpha	1.00	Stream Power (N/m s)		1.16
Frctn Loss (m)		Cum Volume (1000 m3)		5.11
C & E Loss (m)		Cum SA (1000 m2)		3.42

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.05	Element	Left OB	Channel
Right OB				
Vel Head (m)	0.02	Wt. n-Val.		0.015
W.S. Elev (m)	12.03	Reach Len. (m)	200.00	200.00
200.00				
Crit W.S. (m)	10.13	Flow Area (m2)		40.37
E.G. Slope (m/m)	0.000041	Area (m2)		40.37
Q Total (m3/s)	27.00	Flow (m3/s)		27.00
Top Width (m)	18.70	Top Width (m)		18.70
Vel Total (m/s)	0.67	Avg. Vel. (m/s)		0.67
Max Chl Dpth (m)	2.71	Hydr. Depth (m)		2.16
Conv. Total (m3/s)	4236.6	Conv. (m3/s)		4236.6

Length Wtd. (m)	200.00	Wetted Per. (m)	20.44
Min Ch El (m)	9.32	Shear (N/m2)	0.79
Alpha	1.00	Stream Power (N/m s)	0.53
Frctn Loss (m)		Cum Volume (1000 m3)	6.42
C & E Loss (m)		Cum SA (1000 m2)	3.69

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.53	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	12.51	Reach Len. (m)	200.00	200.00	200.00
Crit W.S. (m)	10.13	Flow Area (m2)		49.84	
E.G. Slope (m/m)	0.000022	Area (m2)		49.84	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	20.06	Top Width (m)		20.06	
Vel Total (m/s)	0.54	Avg. Vel. (m/s)		0.54	
Max Chl Dpth (m)	3.19	Hydr. Depth (m)		2.48	
Conv. Total (m3/s)	5711.0	Conv. (m3/s)		5711.0	
Length Wtd. (m)	200.00	Wetted Per. (m)		22.11	
Min Ch El (m)	9.32	Shear (N/m2)		0.49	
Alpha	1.00	Stream Power (N/m s)		0.27	
Frctn Loss (m)		Cum Volume (1000 m3)		7.79	
C & E Loss (m)		Cum SA (1000 m2)		3.96	

INLINE STRUCTURE

RIVER: SNM

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REACH: Canale SNM         RS: 1.5

INPUT
Description:
Distance from Upstream XS =     150
Deck/Roadway Width        =       4
Weir Coefficient          =     1.4
 Weir Embankment Coordinates    num =        2
     Sta    Elev     Sta    Elev
   13.47   13.76   36.48   13.76

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Weir crest shape                            = Broad Crested

INLINE STRUCTURE GATE    Gate #1
      Height            =       4
      Width             =       3
      Invert            =    9.32
      Gate Type         = Sluice      Slice Coefficient =      .6
      Weir Coefficient  =    1.67
      Weir crest shape  = Broad Crested
Number of Gate Openings =       3
     Sta     Sta     Sta
   21.58   25.04   28.38


INLINE STRUCTURE OUTPUT  Profile #PF 1  Gate Group:  Gate #1

  E.G. Elev (m)                11.51    Weir Sta Lft (m)
  W.S. Elev (m)                11.51    Weir Sta Rgt (m)
  Q Total (m3/s)               10.00    Min El Weir Flow (m)          12.99
  Q Weir (m3/s)                         Wr Top Wdth (m)
  Q Gates (m3/s)               10.00    Weir Max Depth (m)
  Q Culv (m3/s)                         Weir Avg Depth (m)
  Q Inline RC (m3/s)                    Weir Flow Area (m2)
  Q Outlet TS (m3/s)                    Weir Coef (m^1/2)
  Q Breach (m3/s)               0.00    Weir Submerg
  Breach Avg Velocity (m/s)     0.00    Q Gate Group (m3/s)           10.00
  Breach Flow Area (m2)         0.00    Gate Open Ht (m)               4.00
  Breach WD (m)                         Gate #Open                        3
  Breach Top El (m)                     Gate Area (m2)                 6.57
  Breach Bottom El (m)                  Gate Submerg                   0.99
  Breach SSL (m)                        Gate Invert (m)                9.32
  Breach SSR (m)                        Gate Weir Coef                3.020


INLINE STRUCTURE OUTPUT  Profile #PF 2  Gate Group:  Gate #1

  E.G. Elev (m)                12.01    Weir Sta Lft (m)
  W.S. Elev (m)                12.00    Weir Sta Rgt (m)
  Q Total (m3/s)               10.00    Min El Weir Flow (m)          12.99
```

Q Weir (m3/s)		Wr Top Wdth (m)	
Q Gates (m3/s)	10.00	Weir Max Depth (m)	
Q Culv (m3/s)		Weir Avg Depth (m)	
Q Inline RC (m3/s)		Weir Flow Area (m2)	
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	
Q Breach (m3/s)	0.00	Weir Submerg	
Breach Avg Velocity (m/s)	0.00	Q Gate Group (m3/s)	10.00
Breach Flow Area (m2)	0.00	Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	8.05
Breach Bottom El (m)		Gate Submerg	1.00
Breach SSL (m)		Gate Invert (m)	9.32
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 3 Gate Group: Gate #1

E.G. Elev (m)	12.51	Weir Sta Lft (m)	
W.S. Elev (m)	12.50	Weir Sta Rgt (m)	
Q Total (m3/s)	10.00	Min El Weir Flow (m)	12.99
Q Weir (m3/s)		Wr Top Wdth (m)	
Q Gates (m3/s)	10.00	Weir Max Depth (m)	
Q Culv (m3/s)		Weir Avg Depth (m)	
Q Inline RC (m3/s)		Weir Flow Area (m2)	
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	
Q Breach (m3/s)	0.00	Weir Submerg	
Breach Avg Velocity (m/s)	0.00	Q Gate Group (m3/s)	10.00
Breach Flow Area (m2)	0.00	Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	9.55
Breach Bottom El (m)		Gate Submerg	1.00
Breach SSL (m)		Gate Invert (m)	9.32
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 4 Gate Group: Gate #1

E.G. Elev (m)	11.57	Weir Sta Lft (m)	
W.S. Elev (m)	11.54	Weir Sta Rgt (m)	
Q Total (m3/s)	27.00	Min El Weir Flow (m)	12.99
Q Weir (m3/s)		Wr Top Wdth (m)	
Q Gates (m3/s)	27.00	Weir Max Depth (m)	
Q Culv (m3/s)		Weir Avg Depth (m)	
Q Inline RC (m3/s)		Weir Flow Area (m2)	
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	
Q Breach (m3/s)	0.00	Weir Submerg	
Breach Avg Velocity (m/s)	0.00	Q Gate Group (m3/s)	27.00
Breach Flow Area (m2)	0.00	Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	6.65
Breach Bottom El (m)		Gate Submerg	0.97
Breach SSL (m)		Gate Invert (m)	9.32
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 5 Gate Group: Gate #1

E.G. Elev (m)	12.05	Weir Sta Lft (m)	
W.S. Elev (m)	12.03	Weir Sta Rgt (m)	
Q Total (m3/s)	27.00	Min El Weir Flow (m)	12.99
Q Weir (m3/s)		Wr Top Wdth (m)	
Q Gates (m3/s)	27.00	Weir Max Depth (m)	
Q Culv (m3/s)		Weir Avg Depth (m)	
Q Inline RC (m3/s)		Weir Flow Area (m2)	
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	
Q Breach (m3/s)	0.00	Weir Submerg	
Breach Avg Velocity (m/s)	0.00	Q Gate Group (m3/s)	27.00
Breach Flow Area (m2)	0.00	Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	8.12
Breach Bottom El (m)		Gate Submerg	0.98
Breach SSL (m)		Gate Invert (m)	9.32
Breach SSR (m)		Gate Weir Coef	3.020

INLINE STRUCTURE OUTPUT Profile #PF 6 Gate Group: Gate #1

E.G. Elev (m)	12.53	Weir Sta Lft (m)	
W.S. Elev (m)	12.51	Weir Sta Rgt (m)	
Q Total (m3/s)	27.00	Min El Weir Flow (m)	12.99
Q Weir (m3/s)		Wr Top Wdth (m)	
Q Gates (m3/s)	27.00	Weir Max Depth (m)	
Q Culv (m3/s)		Weir Avg Depth (m)	
Q Inline RC (m3/s)		Weir Flow Area (m2)	
Q Outlet TS (m3/s)		Weir Coef (m^1/2)	
Q Breach (m3/s)	0.00	Weir Submerg	
Breach Avg Velocity (m/s)	0.00	Q Gate Group (m3/s)	27.00
Breach Flow Area (m2)	0.00	Gate Open Ht (m)	4.00
Breach WD (m)		Gate #Open	3
Breach Top El (m)		Gate Area (m2)	9.58
Breach Bottom El (m)		Gate Submerg	0.99
Breach SSL (m)		Gate Invert (m)	9.32
Breach SSR (m)		Gate Weir Coef	3.020

CROSS SECTION

RIVER: SNM
REACH: Canale SNM RS: 1

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	12.5779	3.4796	12.5779	5.0479	13.4225	6.8108	13.4731	8.1701	13.4472
8.1701	13.5376	9.5849	13.5376	15.3248	9.32	26.2029	9.32	32.1476	13.6575
33.0824	13.6575	33.0824	13.5614	34.1977	13.57	36.4529	13.521		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.015	9.5849	.015	32.1476	.015

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
9.5849	32.1476	200	200	200	.0015	.01

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (m)	11.51	Element	Left OB	Channel	Right OB
Vel Head (m)	0.01	Wt. n-Val.		0.015	
W.S. Elev (m)	11.50	Reach Len. (m)			
Crit W.S. (m)	9.75	Flow Area (m2)		30.21	
E.G. Slope (m/m)	0.000013	Area (m2)		30.21	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	16.83	Top Width (m)		16.83	
Vel Total (m/s)	0.33	Avg. Vel. (m/s)		0.33	
Max Chl Dpth (m)	2.18	Hydr. Depth (m)		1.79	
Conv. Total (m3/s)	2817.2	Conv. (m3/s)		2817.2	
Length Wtd. (m)		Wetted Per. (m)		18.26	
Min Ch El (m)	9.32	Shear (N/m2)		0.20	
Alpha	1.00	Stream Power (N/m s)		0.07	
Frctn Loss (m)		Cum Volume (1000 m3)			
C & E Loss (m)		Cum SA (1000 m2)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (m)	12.00	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.00	Reach Len. (m)			

Crit W.S. (m)	9.75	Flow Area (m2)	38.96
E.G. Slope (m/m)	0.000006	Area (m2)	38.96
Q Total (m3/s)	10.00	Flow (m3/s)	10.00
Top Width (m)	18.20	Top Width (m)	18.20
Vel Total (m/s)	0.26	Avg. Vel. (m/s)	0.26
Max Chl Dpth (m)	2.68	Hydr. Depth (m)	2.14
Conv. Total (m3/s)	4058.6	Conv. (m3/s)	4058.6
Length Wtd. (m)		Wetted Per. (m)	19.95
Min Ch El (m)	9.32	Shear (N/m2)	0.12
Alpha	1.00	Stream Power (N/m s)	0.03
Frctn Loss (m)		Cum Volume (1000 m3)	
C & E Loss (m)		Cum SA (1000 m2)	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (m)	12.50	Element	Left OB	Channel	Right OB
Vel Head (m)	0.00	Wt. n-Val.		0.015	
W.S. Elev (m)	12.50	Reach Len. (m)			
Crit W.S. (m)	9.75	Flow Area (m2)		48.40	
E.G. Slope (m/m)	0.000003	Area (m2)		48.40	
Q Total (m3/s)	10.00	Flow (m3/s)		10.00	
Top Width (m)	19.56	Top Width (m)		19.56	
Vel Total (m/s)	0.21	Avg. Vel. (m/s)		0.21	
Max Chl Dpth (m)	3.18	Hydr. Depth (m)		2.47	
Conv. Total (m3/s)	5518.3	Conv. (m3/s)		5518.3	
Length Wtd. (m)		Wetted Per. (m)		21.64	
Min Ch El (m)	9.32	Shear (N/m2)		0.07	

Alpha	1.00	Stream Power (N/m s)	0.01
Frctn Loss (m)		Cum Volume (1000 m3)	
C & E Loss (m)		Cum SA (1000 m2)	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (m)	11.54	Element	Left OB	Channel	Right OB
Vel Head (m)	0.04	Wt. n-Val.		0.015	
W.S. Elev (m)	11.50	Reach Len. (m)			
Crit W.S. (m)	10.14	Flow Area (m2)		30.21	
E.G. Slope (m/m)	0.000092	Area (m2)		30.21	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	16.83	Top Width (m)		16.83	
Vel Total (m/s)	0.89	Avg. Vel. (m/s)		0.89	
Max Chl Dpth (m)	2.18	Hydr. Depth (m)		1.79	
Conv. Total (m3/s)	2817.2	Conv. (m3/s)		2817.2	
Length Wtd. (m)		Wetted Per. (m)		18.26	
Min Ch El (m)	9.32	Shear (N/m2)		1.49	
Alpha	1.00	Stream Power (N/m s)		1.33	
Frctn Loss (m)		Cum Volume (1000 m3)			
C & E Loss (m)		Cum SA (1000 m2)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (m)	12.02	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.00	Reach Len. (m)			

Crit W.S. (m)	10.14	Flow Area (m2)	38.96
E.G. Slope (m/m)	0.000044	Area (m2)	38.96
Q Total (m3/s)	27.00	Flow (m3/s)	27.00
Top Width (m)	18.20	Top Width (m)	18.20
Vel Total (m/s)	0.69	Avg. Vel. (m/s)	0.69
Max Chl Dpth (m)	2.68	Hydr. Depth (m)	2.14
Conv. Total (m3/s)	4058.6	Conv. (m3/s)	4058.6
Length Wtd. (m)		Wetted Per. (m)	19.95
Min Ch El (m)	9.32	Shear (N/m2)	0.85
Alpha	1.00	Stream Power (N/m s)	0.59
Frctn Loss (m)		Cum Volume (1000 m3)	
C & E Loss (m)		Cum SA (1000 m2)	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (m)	12.52	Element	Left OB	Channel	Right OB
Vel Head (m)	0.02	Wt. n-Val.		0.015	
W.S. Elev (m)	12.50	Reach Len. (m)			
Crit W.S. (m)	10.14	Flow Area (m2)		48.40	
E.G. Slope (m/m)	0.000024	Area (m2)		48.40	
Q Total (m3/s)	27.00	Flow (m3/s)		27.00	
Top Width (m)	19.56	Top Width (m)		19.56	
Vel Total (m/s)	0.56	Avg. Vel. (m/s)		0.56	
Max Chl Dpth (m)	3.18	Hydr. Depth (m)		2.47	
Conv. Total (m3/s)	5518.3	Conv. (m3/s)		5518.3	
Length Wtd. (m)		Wetted Per. (m)		21.64	
Min Ch El (m)	9.32	Shear (N/m2)		0.53	

Alpha	1.00	Stream Power (N/m s)	0.29
Frctn Loss (m)		Cum Volume (1000 m3)	
C & E Loss (m)		Cum SA (1000 m2)	

SUMMARY OF MANNING'S N VALUES

River:SNM

Reach	River Sta.	n1	n2	n3
Canale SNM	73	.015	.015	.015
Canale SNM	72	.015	.015	.015
Canale SNM	71	.015	.015	.015
Canale SNM	70	.015	.015	.015
Canale SNM	69	.015	.015	.015
Canale SNM	68.5	Bridge		
Canale SNM	68	.015	.015	.015
Canale SNM	67	.015	.015	.015
Canale SNM	66.5	Bridge		
Canale SNM	66	.015	.015	.015
Canale SNM	65	.015	.015	.015
Canale SNM	64	.015	.015	.015
Canale SNM	63	.015	.015	.015
Canale SNM	62	.015	.015	.015
Canale SNM	61	.015	.015	.015
Canale SNM	60.5	Bridge		
Canale SNM	60	.015	.015	.015
Canale SNM	59	.015	.015	.015
Canale SNM	58.5	Bridge		
Canale SNM	58	.015	.015	.015
Canale SNM	57	.015	.015	.015
Canale SNM	56	.015	.015	.015
Canale SNM	55	.015	.015	.015
Canale SNM	54.5	Bridge		
Canale SNM	54	.015	.015	.015
Canale SNM	53	.015	.015	.015
Canale SNM	52	.015	.015	.015
Canale SNM	51	.015	.015	.015
Canale SNM	50	.015	.015	.015
Canale SNM	49	.015	.015	.015
Canale SNM	48	.015	.015	.015
Canale SNM	47	.015	.015	.015
Canale SNM	46.5	Bridge		
Canale SNM	46	.015	.015	.015
Canale SNM	45	.015	.015	.015
Canale SNM	44	.015	.015	.015
Canale SNM	43	.015	.015	.015

Canale SNM	42	.015	.015	.015
Canale SNM	41.5	Bridge		
Canale SNM	41	.015	.015	.015
Canale SNM	40	.015	.015	.015
Canale SNM	39	.015	.015	.015
Canale SNM	38.8	Inl Struct		
Canale SNM	38.7	.015	.015	.015
Canale SNM	38.4	Bridge		
Canale SNM	38	.015	.015	.015
Canale SNM	37	.015	.015	.015
Canale SNM	36	.015	.015	.015
Canale SNM	35	.015	.015	.015
Canale SNM	34	.015	.015	.015
Canale SNM	33	.015	.015	.015
Canale SNM	32	.015	.015	.015
Canale SNM	31.5	Bridge		
Canale SNM	31	.015	.015	.015
Canale SNM	30	.015	.015	.015
Canale SNM	29	.015	.015	.015
Canale SNM	28	.015	.015	.015
Canale SNM	27	.015	.015	.015
Canale SNM	26	.015	.015	.015
Canale SNM	25.5	Bridge		
Canale SNM	25	.015	.015	.015
Canale SNM	24	.015	.015	.015
Canale SNM	23	.015	.015	.015
Canale SNM	22.5	Bridge		
Canale SNM	22	.015	.015	.015
Canale SNM	21	.015	.015	.015
Canale SNM	20	.015	.015	.015
Canale SNM	19	.015	.015	.015
Canale SNM	18.5	Bridge		
Canale SNM	18	.015	.015	.015
Canale SNM	17	.015	.015	.015
Canale SNM	16	.015	.015	.015
Canale SNM	15.5	Bridge		
Canale SNM	15	.015	.015	.015
Canale SNM	14.5	Bridge		
Canale SNM	14	.015	.015	.015
Canale SNM	13	.015	.015	.015
Canale SNM	12	.015	.015	.015
Canale SNM	11	.015	.015	.015
Canale SNM	10.5	Bridge		
Canale SNM	10	.015	.015	.015
Canale SNM	9	.015	.015	.015
Canale SNM	8	.015	.015	.015
Canale SNM	7.5	Bridge		
Canale SNM	7	.015	.015	.015
Canale SNM	6	.015	.015	.015
Canale SNM	5	.015	.015	.015
Canale SNM	4.5	Bridge		
Canale SNM	4.4	.015	.015	.015
Canale SNM	4.3	Bridge		
Canale SNM	4	.015	.015	.015

Canale SNM	3	.015	.015	.015
Canale SNM	2	.015	.015	.015
Canale SNM	1.5	Inl Struct		
Canale SNM	1	.015	.015	.015

SUMMARY OF REACH LENGTHS

River: SNM

Reach	River Sta.	Left	Channel	Right
Canale SNM	73	200	200	200
Canale SNM	72	200	200	200
Canale SNM	71	200	200	200
Canale SNM	70	200	200	200
Canale SNM	69	200	200	200
Canale SNM	68.5	Bridge		
Canale SNM	68	200	200	200
Canale SNM	67	200	200	200
Canale SNM	66.5	Bridge		
Canale SNM	66	200	200	200
Canale SNM	65	200	200	200
Canale SNM	64	200	200	200
Canale SNM	63	200	200	200
Canale SNM	62	200	200	200
Canale SNM	61	200	200	200
Canale SNM	60.5	Bridge		
Canale SNM	60	200	200	200
Canale SNM	59	200	200	200
Canale SNM	58.5	Bridge		
Canale SNM	58	200	200	200
Canale SNM	57	200	200	200
Canale SNM	56	200	200	200
Canale SNM	55	200	200	200
Canale SNM	54.5	Bridge		
Canale SNM	54	200	200	200
Canale SNM	53	200	200	200
Canale SNM	52	200	200	200
Canale SNM	51	200	200	200
Canale SNM	50	200	200	200
Canale SNM	49	200	200	200
Canale SNM	48	200	200	200
Canale SNM	47	200	200	200
Canale SNM	46.5	Bridge		
Canale SNM	46	200	200	200
Canale SNM	45	200	200	200
Canale SNM	44	200	200	200
Canale SNM	43	200	200	200
Canale SNM	42	200	200	200
Canale SNM	41.5	Bridge		
Canale SNM	41	200	200	200

Canale SNM	40	200	200	200
Canale SNM	39	200	200	200
Canale SNM	38.8	Inl Struct		
Canale SNM	38.7	35	35	35
Canale SNM	38.4	Bridge		
Canale SNM	38	200	200	200
Canale SNM	37	200	200	200
Canale SNM	36	200	200	200
Canale SNM	35	200	200	200
Canale SNM	34	200	200	200
Canale SNM	33	200	200	200
Canale SNM	32	200	200	200
Canale SNM	31.5	Bridge		
Canale SNM	31	200	200	200
Canale SNM	30	200	200	200
Canale SNM	29	200	200	200
Canale SNM	28	200	200	200
Canale SNM	27	200	200	200
Canale SNM	26	200	200	200
Canale SNM	25.5	Bridge		
Canale SNM	25	200	200	200
Canale SNM	24	200	200	200
Canale SNM	23	200	200	200
Canale SNM	22.5	Bridge		
Canale SNM	22	200	200	200
Canale SNM	21	200	200	200
Canale SNM	20	200	200	200
Canale SNM	19	200	200	200
Canale SNM	18.5	Bridge		
Canale SNM	18	200	200	200
Canale SNM	17	200	200	200
Canale SNM	16	200	200	200
Canale SNM	15.5	Bridge		
Canale SNM	15	200	200	200
Canale SNM	14.5	Bridge		
Canale SNM	14	150	150	150
Canale SNM	13	200	200	200
Canale SNM	12	200	200	200
Canale SNM	11	200	200	200
Canale SNM	10.5	Bridge		
Canale SNM	10	200	200	200
Canale SNM	9	200	200	200
Canale SNM	8	200	200	200
Canale SNM	7.5	Bridge		
Canale SNM	7	200	200	200
Canale SNM	6	200	200	200
Canale SNM	5	200	200	200
Canale SNM	4.5	Bridge		
Canale SNM	4.4	30	30	30
Canale SNM	4.3	Bridge		
Canale SNM	4	200	200	200
Canale SNM	3	200	200	200
Canale SNM	2	200	200	200
Canale SNM	1.5	Inl Struct		

Canale SNM	1	200	200	200

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: SNM

Reach	River Sta.	Contr.	Expan.
Canale SNM	73	.1	.3
Canale SNM	72	.0015	.01
Canale SNM	71	.0015	.01
Canale SNM	70	.0015	.01
Canale SNM	69	.0015	.01
Canale SNM	68.5	Bridge	
Canale SNM	68	.0015	.01
Canale SNM	67	.0015	.01
Canale SNM	66.5	Bridge	
Canale SNM	66	.0015	.01
Canale SNM	65	.0015	.01
Canale SNM	64	.0015	.01
Canale SNM	63	.0015	.01
Canale SNM	62	.0015	.01
Canale SNM	61	.0015	.01
Canale SNM	60.5	Bridge	
Canale SNM	60	.0015	.01
Canale SNM	59	.0015	.01
Canale SNM	58.5	Bridge	
Canale SNM	58	.0015	.01
Canale SNM	57	.0015	.01
Canale SNM	56	.0015	.01
Canale SNM	55	.0015	.01
Canale SNM	54.5	Bridge	
Canale SNM	54	.0015	.01
Canale SNM	53	.0015	.01
Canale SNM	52	.0015	.01
Canale SNM	51	.0015	.01
Canale SNM	50	.0015	.01
Canale SNM	49	.0015	.01
Canale SNM	48	.0015	.01
Canale SNM	47	.0015	.01
Canale SNM	46.5	Bridge	
Canale SNM	46	.0015	.01
Canale SNM	45	.0015	.01
Canale SNM	44	.0015	.01
Canale SNM	43	.0015	.01
Canale SNM	42	.0015	.01
Canale SNM	41.5	Bridge	
Canale SNM	41	.0015	.01
Canale SNM	40	.0015	.01
Canale SNM	39	.0015	.01
Canale SNM	38.8	Inl Struct	

Canale SNM	38.7		.1	.3
Canale SNM	38.4	Bridge		
Canale SNM	38		.0015	.01
Canale SNM	37		.0015	.01
Canale SNM	36		.0015	.01
Canale SNM	35		.0015	.01
Canale SNM	34		.0015	.01
Canale SNM	33		.0015	.01
Canale SNM	32		.0015	.01
Canale SNM	31.5	Bridge		
Canale SNM	31		.0015	.01
Canale SNM	30		.0015	.01
Canale SNM	29		.0015	.01
Canale SNM	28		.0015	.01
Canale SNM	27		.0015	.01
Canale SNM	26		.0015	.01
Canale SNM	25.5	Bridge		
Canale SNM	25		.0015	.01
Canale SNM	24		.0015	.01
Canale SNM	23		.0015	.01
Canale SNM	22.5	Bridge		
Canale SNM	22		.0015	.01
Canale SNM	21		.0015	.01
Canale SNM	20		.0015	.01
Canale SNM	19		.0015	.01
Canale SNM	18.5	Bridge		
Canale SNM	18		.0015	.01
Canale SNM	17		.0015	.01
Canale SNM	16		.0015	.01
Canale SNM	15.5	Bridge		
Canale SNM	15		.0015	.01
Canale SNM	14.5	Bridge		
Canale SNM	14		.0015	.01
Canale SNM	13		.0015	.01
Canale SNM	12		.0015	.01
Canale SNM	11		.0015	.01
Canale SNM	10.5	Bridge		
Canale SNM	10		.0015	.01
Canale SNM	9		.0015	.01
Canale SNM	8		.0015	.01
Canale SNM	7.5	Bridge		
Canale SNM	7		.0015	.01
Canale SNM	6		.0015	.01
Canale SNM	5		.0015	.01
Canale SNM	4.5	Bridge		
Canale SNM	4.4		.1	.3
Canale SNM	4.3	Bridge		
Canale SNM	4		.0015	.01
Canale SNM	3		.0015	.01
Canale SNM	2		.0015	.01
Canale SNM	1.5	Inl Struct		
Canale SNM	1		.0015	.01