ADENDA AL ESTUDIO HIDROLÓGICO E HIDRÁULICO DE LOS CAUCES QUE AFECTAN A LOS NUEVOS DESARROLLOS URBANOS DEL MUNICIPIO DE ALMEGÍJAR

T.M. ALMEGÍJAR (GRANADA)

ADENDA AL ESTUDIO HIDROLÓGICO E HIDRÁULICO DE LOS CAUCES QUE AFECTAN A LOS NUEVOS DESARROLLOS URBANOS DEL MUNICIPIO DE ALMEGÍJAR
T.M. ALMEGÍJAR (GRANADA)

ÍNDICE GENERAL

1. DOCUMENTO Nº1: MEMORIA Y APÉNDICE

1.1. ANTECEDENTES

Con fecha de 23 de marzo de 2011 se presentó en la Agencia Andaluza del Agua el "Estudio Hidrológico e Hidráulico de los cauces que afectan a los nuevos desarrollos urbanos del municipio de Almegíjar", documento anejo al Nuevo Plan de Ordenación Urbana (P.G.O.U.) del término municipal de Almegíjar llevado a cabo por el Área de Obras Servicios y Desarrollo, Delegación de Obras y Servicios de la Diputación de Granada.

Posteriormente, en respuesta a dicho estudio se recibió un informe de requerimiento de documentación con referencia 17/11-URB/RCN/chc y fecha de 19 de Abril de 2011, solicitando la definición de las obras de defensa necesarias para la protección de los núcleos afectados frente a avenidas descritas en el estudio anteriormente mencionado.

Con objeto de dar respuesta a dicho informe se redacta la presente Adenda.

1.2. OBJETO DE LA ADENDA

La presente Adenda tiene por objeto planificar y dimensionar las actuaciones de defensa contra inundaciones en los núcleos urbanos de Almegíjar y Notáez.

1.3. ESTUDIO COMPLEMENTARIO

Con objeto de definir las defensas contra inundaciones se han realizado las siguientes simulaciones hidráulicas, siguiendo la metodología y partiendo de los caudales del estudio inicial:

- Nueva simulación de la <u>situación actual</u> incluyendo en ésta las obras de drenaje existentes y los bloques de obstrucción (edificaciones próximas a los cauces).

  Esta simulación ha permitido delimitar con mayor precisión las llanuras de inundación en la situación actual y localizar los factores causantes de la misma.

- Simulación de la <u>situación propuesta</u>, con las medidas correctoras incorporadas al modelo.

  La simulación del modelo con las medidas correctores ha permitido el dimensionamiento de las mismas, constatando su validez.

1.3.1 <u>Simulación hidráulica de la situación actual</u>

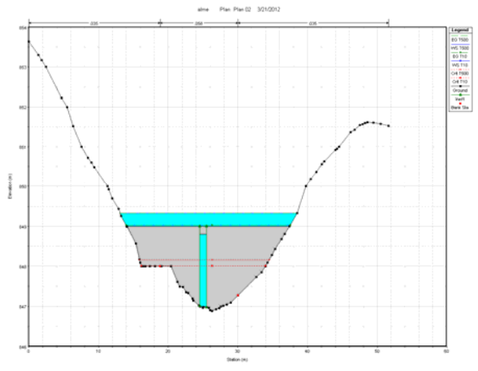
La simulación hidráulica de la situación actual se ha vuelto a realizar incluyendo en ésta las obras de drenaje existentes y los bloques de obstrucción correspondientes a edificaciones.
La ubicación, tanto de las obras de drenaje como de los bloques de obstrucción, se puede identificar en el apartado 2.3 del Documento Nº 2 Planos.

A continuación se analizan los resultados obtenidos para ambos núcleos de población:

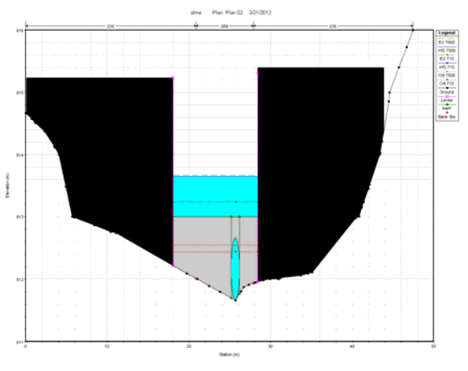
1.3.1.1 Almegíjar

En el caso de Almegíjar se comprueba que tanto la obra de drenaje situada sobre la carretera A-4130 (equivalente a un marco de 1 X 1,8 m) como la situada en la travesía urbana de la carretera A-4128 a la altura de Almegíjar (Ø 1.000 mm) no tienen sección suficiente para evacuar los caudales de 500 años de periodo de retorno, produciendo la última de ellas un ensanchamiento de la llanura de inundación y la sobreelevación de la lamina de agua entre edificaciones aguas arribas, afectando a suelo urbano consolidado.

ODT A-4130



ODT A-4128



Asimismo, es de destacar que la simulación ha requerido introducir unos parámetros de rugosidad muy elevados para el cauce (n=0,058), como consecuencia de la presencia de cultivos en terrazas establecidos en el propio cauce y las múltiples obstrucciones que podemos encontrar:

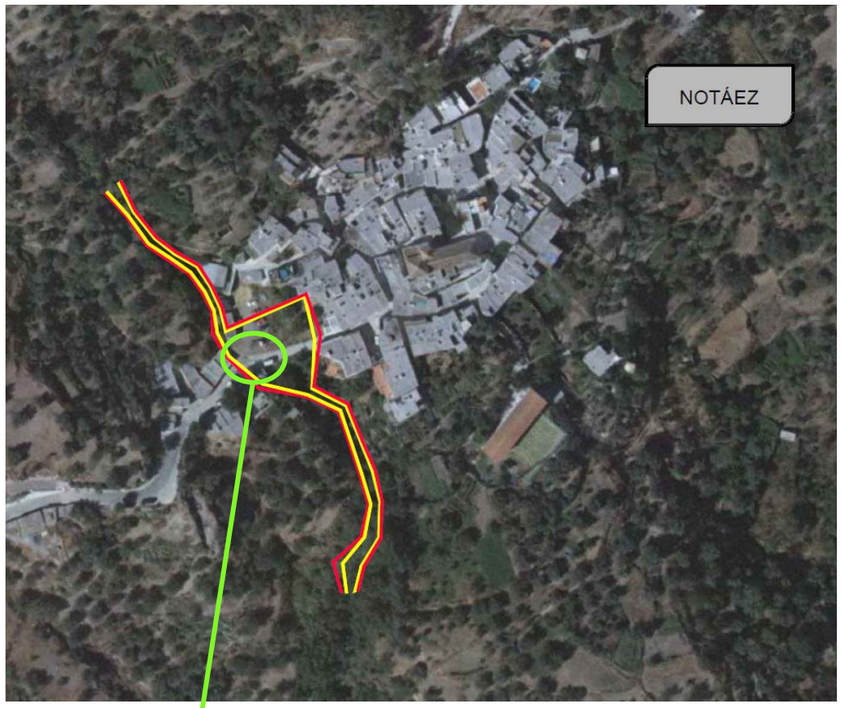
Cultivos en el cauce

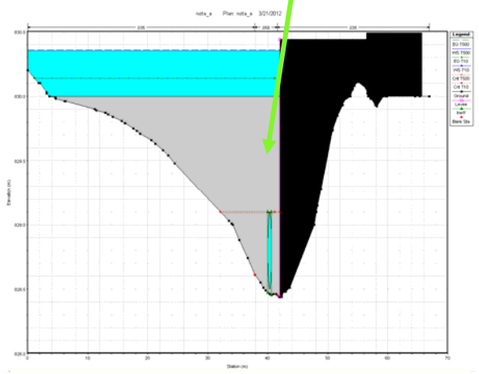
Obstrucciones en el cauce

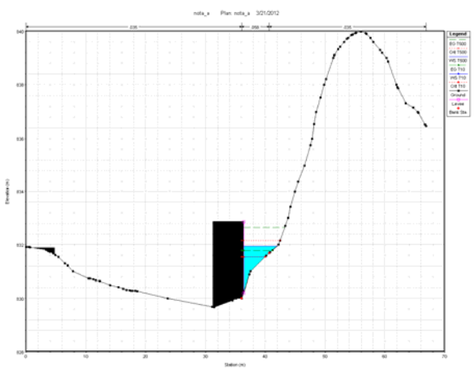
En la obra de drenaje situada sobre la carretera A-4130 (equivalente a un marco de 1 X 1,8 m) no se plantea ninguna medida, puesto que aun siendo sus dimensiones insuficientes para evacuar el caudal de 500 años de periodo de retorno la llanura de inundación no afecta a suelo urbano consolidado.

1.3.1.2 Notáez

En la simulación hidráulica del arroyo de Notáez en el estado actual pone de manifiesto la incapacidad de la obra de drenaje existente (Ø 600 mm) y del tramo semi-encauzado aguas arriba de ésta. La escasa capacidad de la obra de drenaje produce que la llanura de inundación invada la calle Real y el parque situado en sus inmediaciones, mientras que aguas arriba de ésta la escasa sección del tramo semi-encauzado produce una sobreelevación de la lámina de agua.







Por otra parte, también podemos apreciar gran cantidad de vegetación y numerosas obstrucciones en el cauce. Lo cual ha requerido incrementar el valor de rugosidad en el cauce (n=0,058).

1.3.2 Medidas correctoras propuestas

Las medias correctoras propuestas para evitar la expansión de las llanuras de inundación, de 500 años de periodo de retorno, en suelo urbano consolidado son:

1.3.2.1 Almegíjar

- Sustitución de la obra de drenaje situada en la travesía urbana de la carretera A-4128 (Ø 1.000 mm) por un marco 3 x 2,5 m.

- Ampliación de la sección del cauce 20 m aguas arriba del marco. En dicho tramo se igualara la sección a la del marco propuesto (3X2,5 m).

- Erradicación de cultivos del cauce y eliminación de restos de vegetación que contribuyen a su obstrucción. Esta medida se traduce en pasar de un número de Manning en el cauce de 0,058 a 0,04.

1.3.2.2 Notáez

- Sustitución de la obra de drenaje situada en la calle Real (Ø 600 mm) por un marco de 3 x 2 m. Dicho marco se prolongará en 5 m aguas arriba de la actual obra de drenaje con objeto de mejorar las condiciones hidráulicas y de no interrumpir la continuidad de la red viaria urbana.

- Ampliación de la sección del cauce 20 m aguas arriba del marco. En dicho tramo se igualara la sección a la del marco propuesto (3X2 m).

- Eliminación de restos de vegetación que contribuyen a la obstrucción del cauce. Esta medida se traduce en pasar de un número de Manning en el cauce de 0,058 a 0,04.

1.3.3 Simulación hidráulica de la situación propuesta (con medidas correctoras)

1.3.3.1 Almegíjar

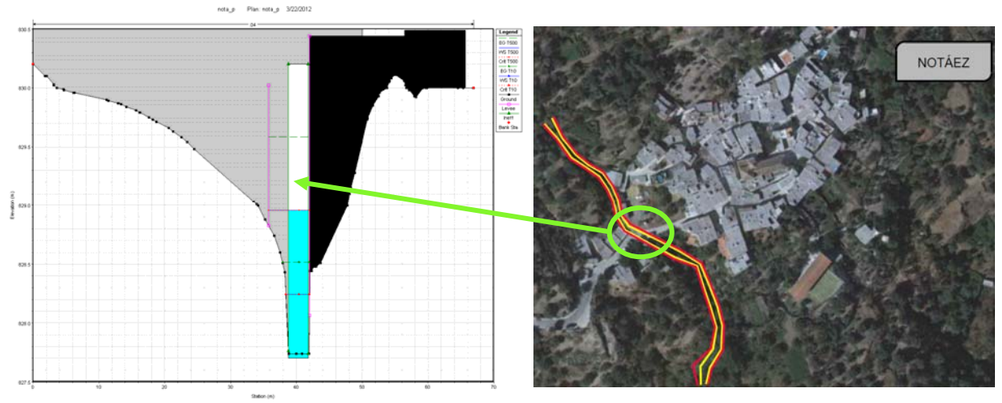
La simulación hidráulica con las medidas planteadas reduce notablemente la extensión de la llanura de inundación, de 500 años de periodo de retorno, evitando que ésta llegue a afectar a suelo urbano consolidado.

Dicho resultado quedan de manifiesto en la sección transversal del marco propuesto, que sustituye al actual tubo de 1.000 mm de diámetro y en la planta de la nueva llanura de inundación.

1.3.3.2 Notáez

Al igual que en el caso del núcleo Urbano de Almegíjar la simulación hidráulica con las medidas planteadas reduce notablemente la extensión de llanura de inundación, de 500 años de periodo de retorno, evitando que ésta llegue a afectar a suelo urbano consolidado.

Los mencionados efectos quedan de manifiesto en los resultados obtenidos en la nueva simulación hidráulica realizada con las medidas correctoras.



1.4. CONCLUSIONES DEL ESTUDIO

Tras este análisis de los efectos de las medidas correctoras propuesta queda de manifiesto que dichas medidas son suficientes para reducir tanto las sobreelevacinones de la lamina de agua como la llanura de inundación, de 500 años de periodo de retorno, hasta fuera de los límites del suelo urbano consolidado de los núcleos urbanos de Almegíjar y Notáez.

NOMBRE ORDOÑEZ PEREIRA RAFAEL - NIF 31727179J

Firmado digitalmente por NOMBRE ORDOÑEZ PEREIRA RAFAEL - NIF 31727179J
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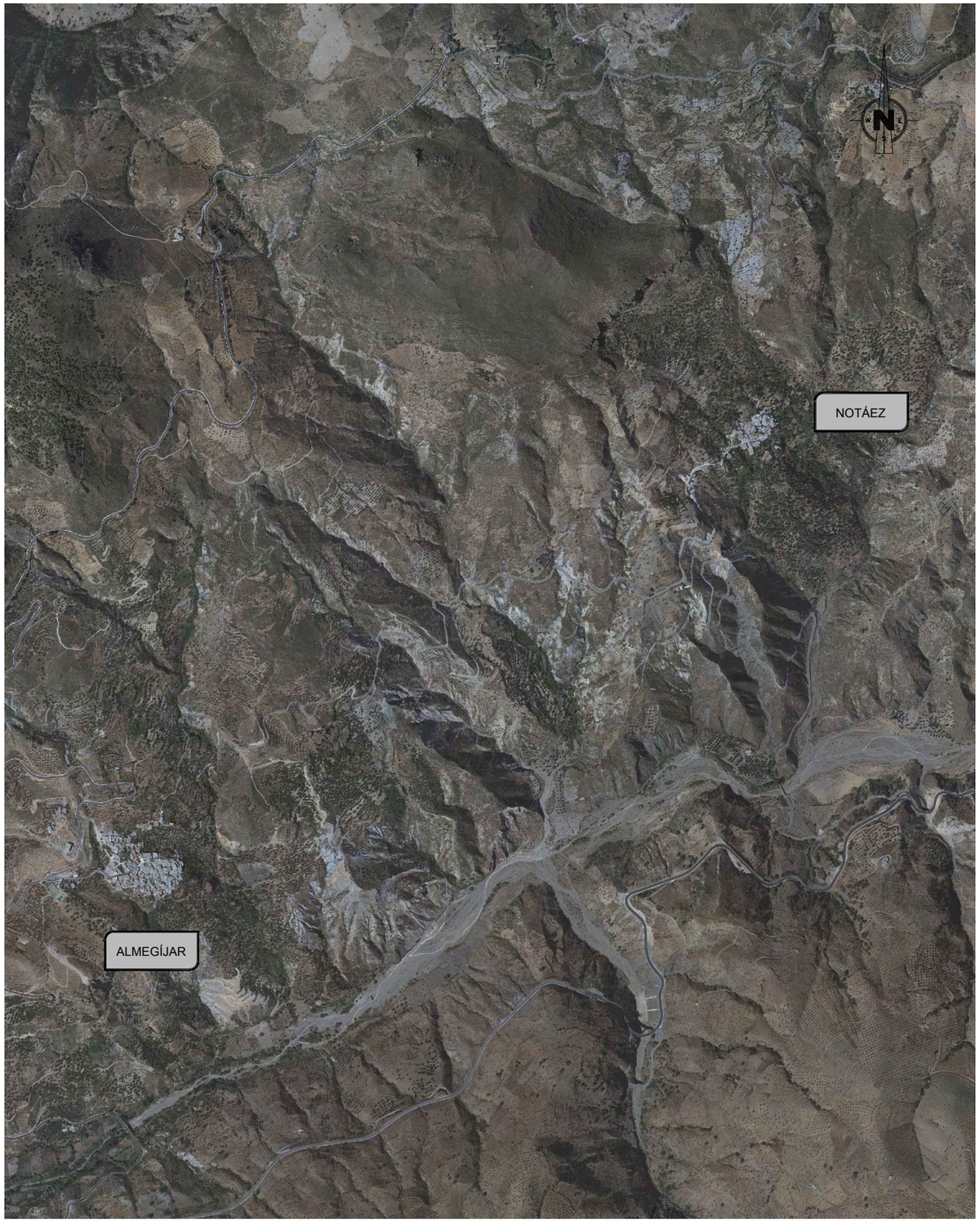
Granada, marzo de 2012

Fdo.: Rafael Ordóñez Pereira

Ingeniero de Montes, Nº colegiado: 4.748

2. DOCUMENTO Nº2: PLANOS



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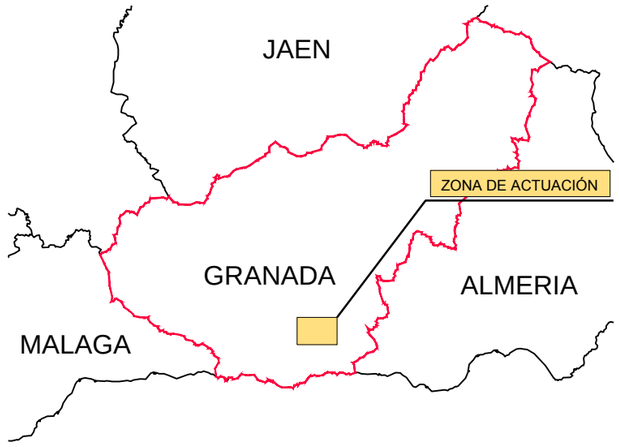
S/E

COMUNIDAD ANDALUZA
S/E



PROVINCIA DE GRANADA
S/E

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DELEGACIÓN DE OBRAS Y SERVICIOS

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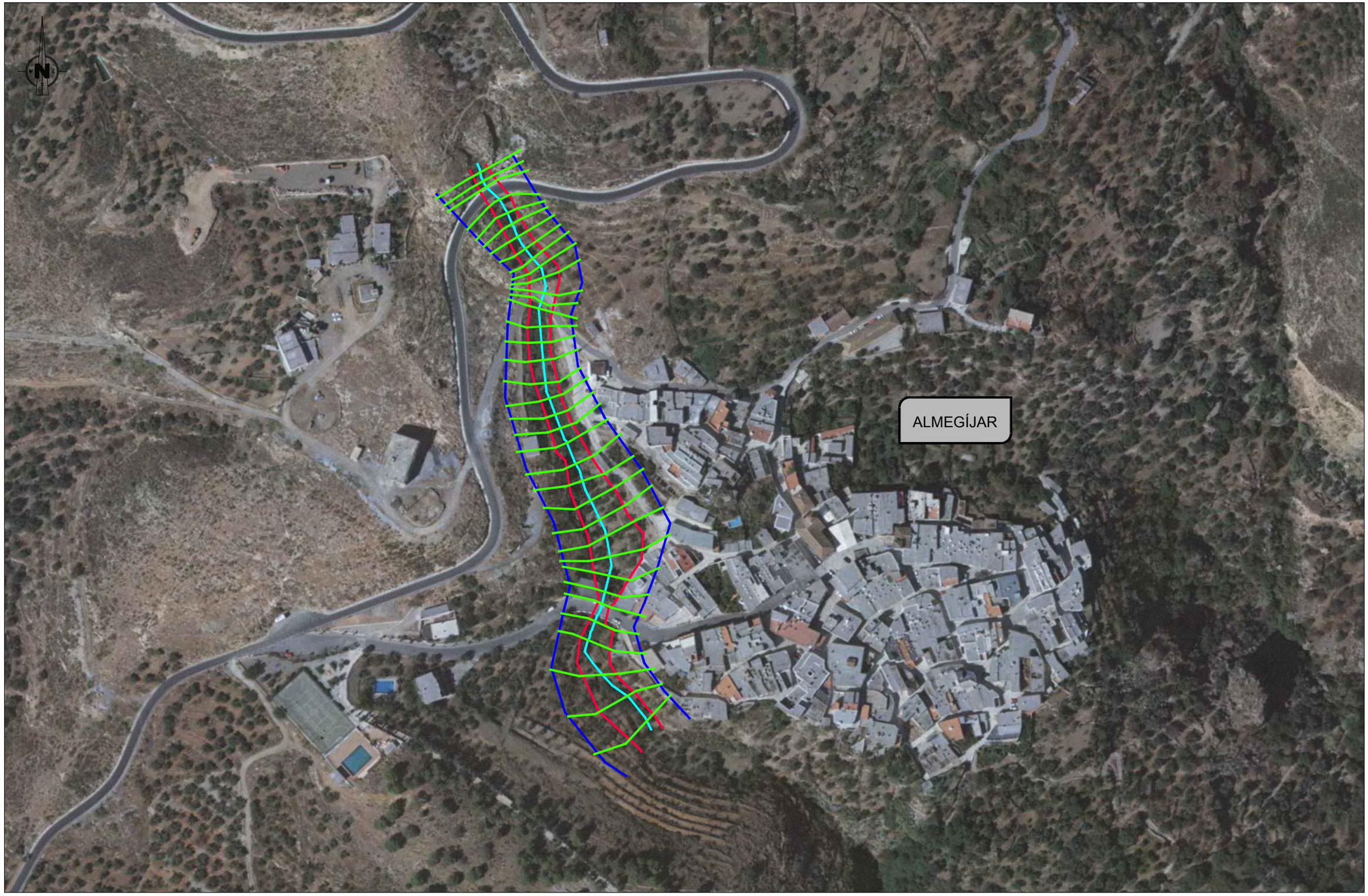

BANKS RIVER FLOWPATHS XSCUTLINES

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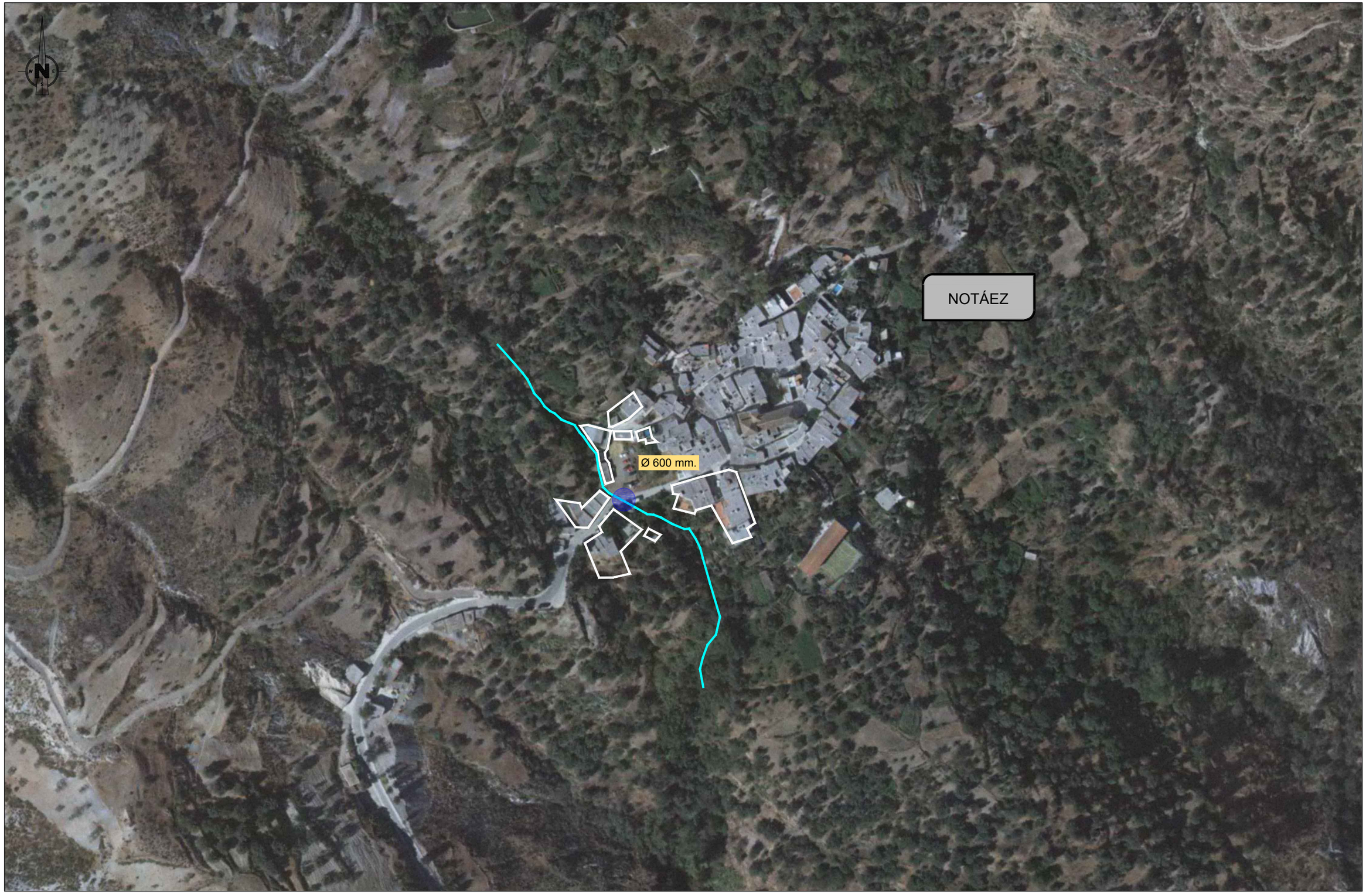

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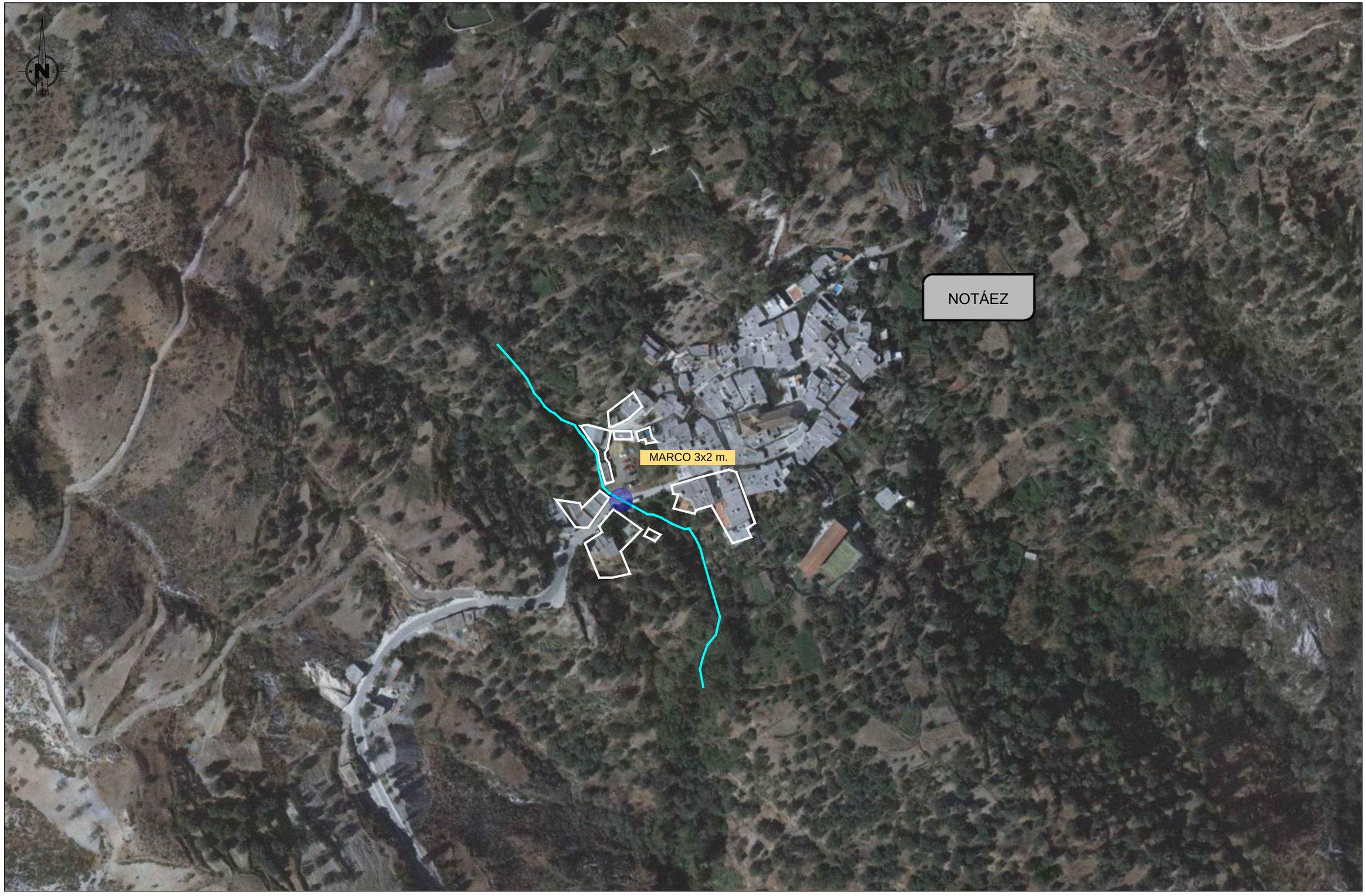

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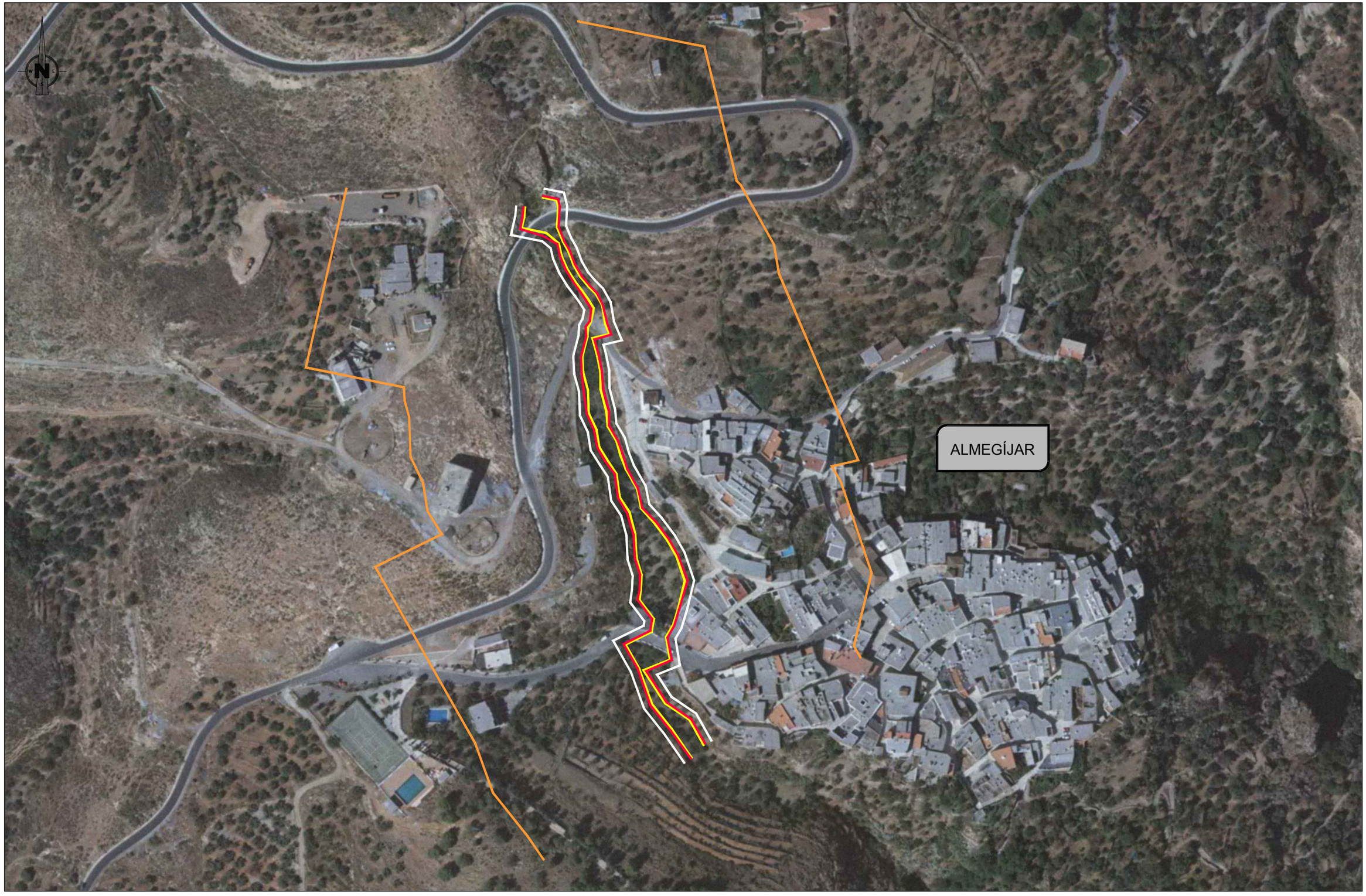

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(TR10 + 100 m) ZONA DE POLICIA

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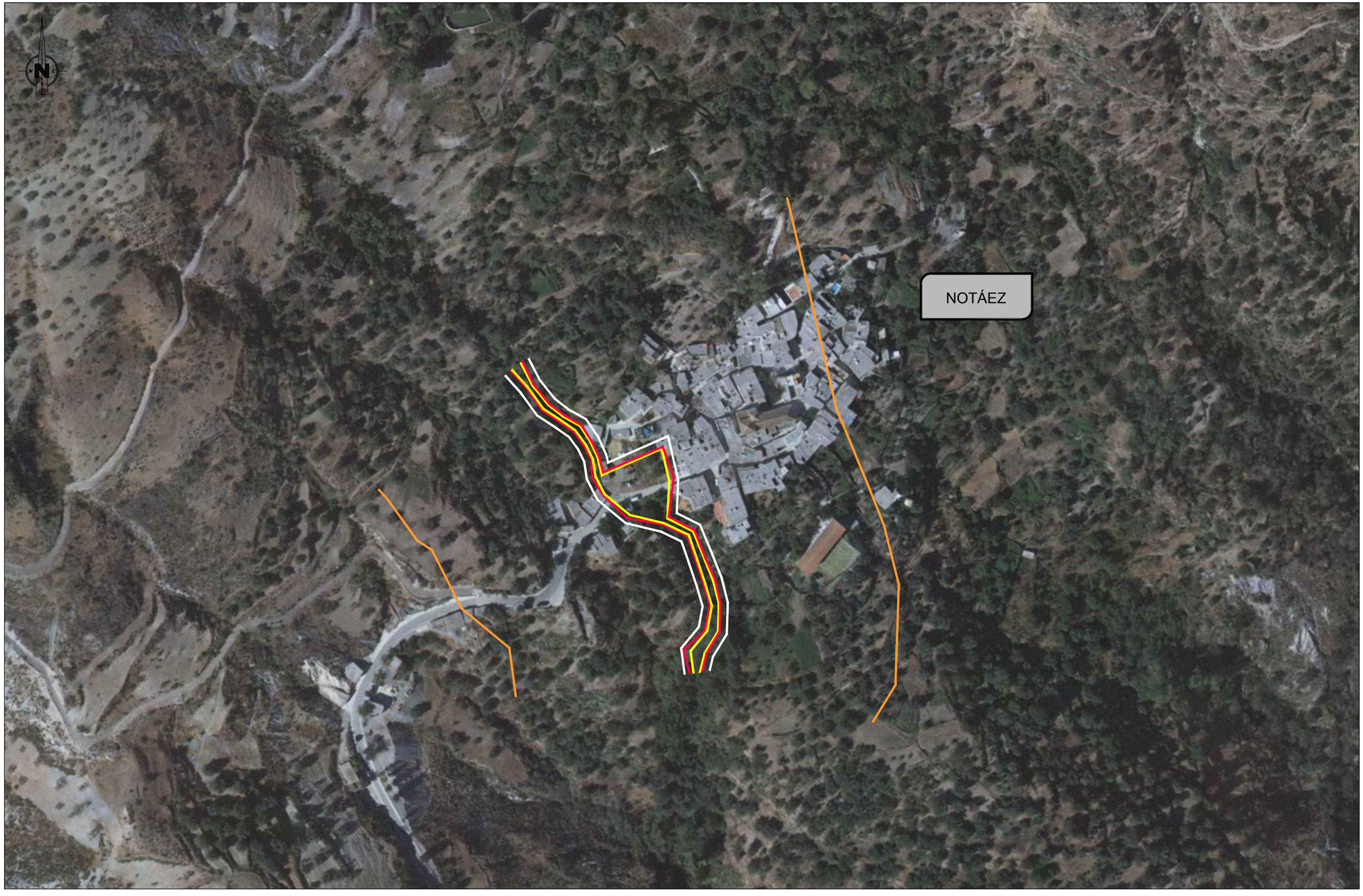

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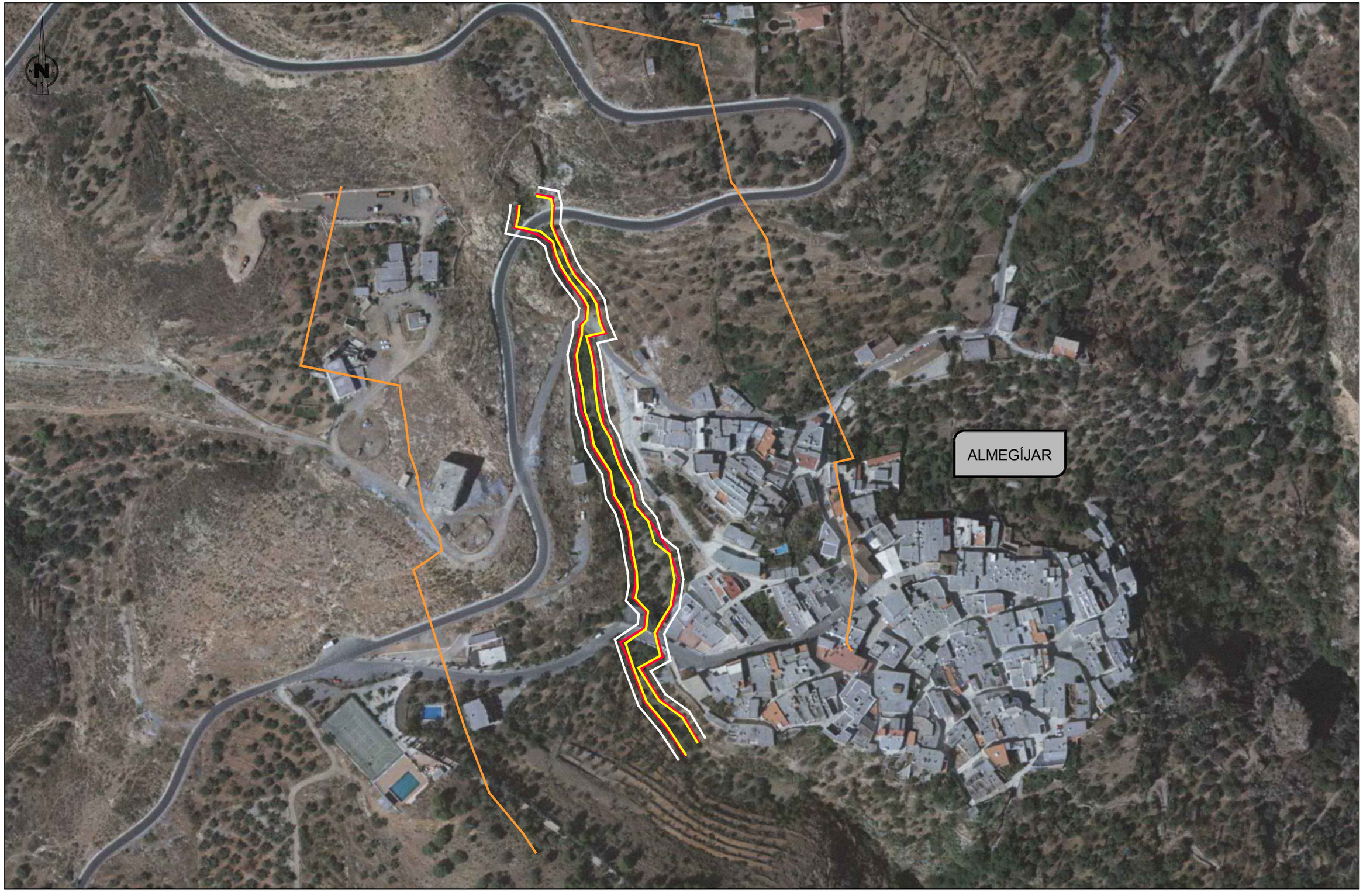

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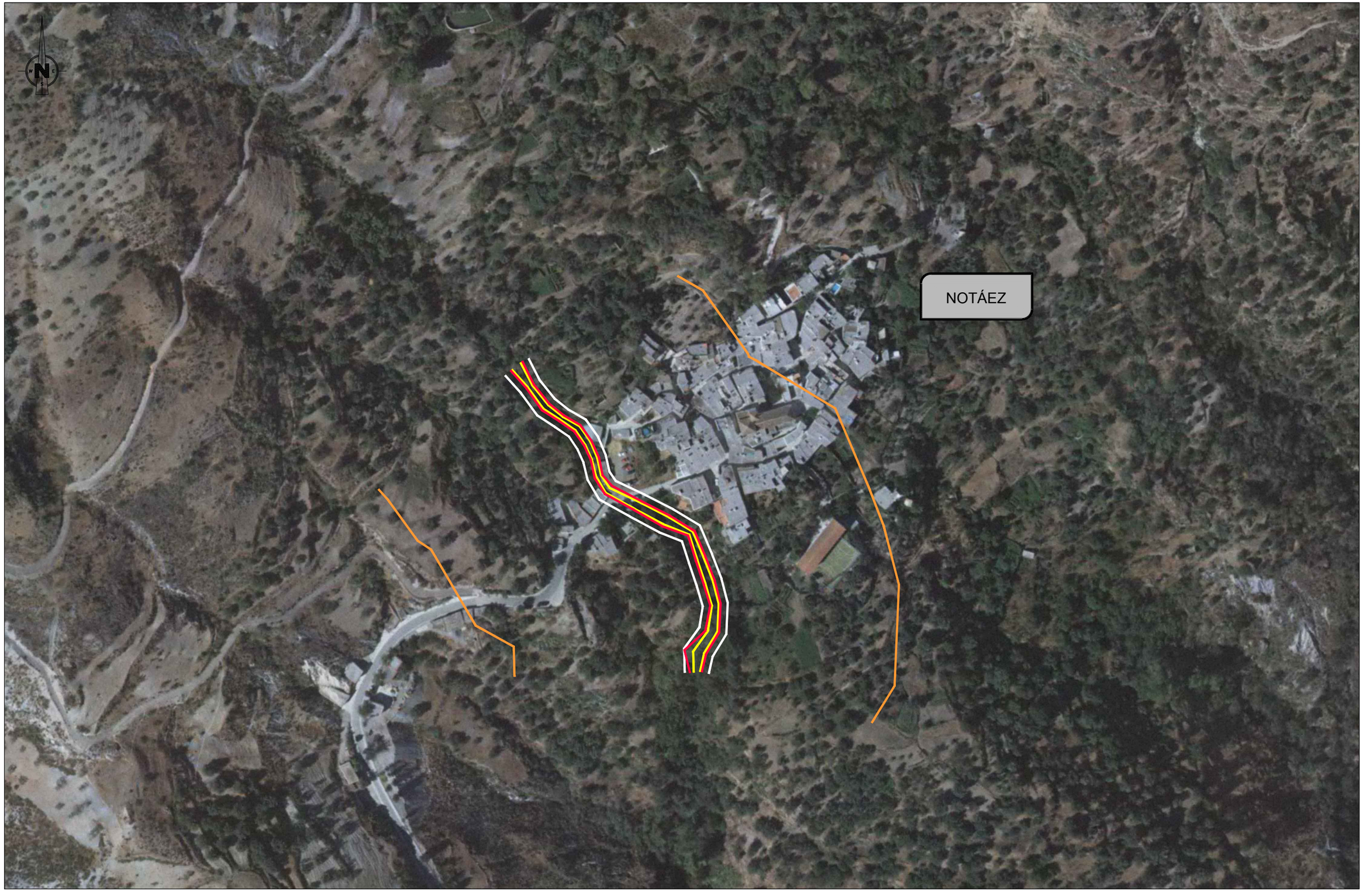
HOJA 1 DE 1



LLANURA DE INUNDACIÓN T=10 AÑOS (DPH)
(TR 10 + 5 m) ZONA DE SERVIDUMBRE
LLANURA DE INUNDACIÓN T=500 AÑOS
(TR10 + 100 m) ZONA DE POLICIA

Diputación de Granada
Red de municipios
ÁREA DE OBRAS SERVICIOS Y DESARROLLO
DELEGACIÓN DE OBRAS Y SERVICIOS

CONSULTOR: DINTRA5

INGENIERO AUTOR DEL PROYECTO
D. Rafael Ordóñez Pereira

TÍTULO:
ADENDA AL ESTUDIO HIDROLÓGICO E HIDRÁULICO DE LOS CAUCES QUE AFECTAN A LOS NUEVOS DESARROLLOS URBANOS DEL MUNICIPIO DE ALMEGÍJAR

SUSTITUYE A:

SUSTITUIDO POR:

FECHA: MARZO 2012

CLAVE DE PROYECTO: PRDIG005

ESCALA:
0 10 20 30 m
E= 1/1000

FORMATO ORIGINAL UNE A-1

DENOMINACIÓN DEL DIBUJO:
ZONAS INUNDABLES
SITUACION PROPUESTA
NOTÁEZ

NOMBRE DEL FICHERO DIGITAL: 2.4.2.2_PRDIG-005.DWG

INDICE DE PLANOS: 2.4.2.2

HOJA 1 DE 1

APENDICE 1

SALIDAS HEC-RAS

SITUACIÓN ACTUAL

ALMEGÍJAR

HEC-RAS Version 4.1.0 Jan 2010
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: alme
Project File : alme.prj
Run Date and Time: 3/21/2012 2:25:16 PM

Project in SI units

Project Description:
ALMEGÍJAR - SITUACIÓN ACTUAL

****

PLAN DATA

Plan Title: Plan 02
Plan File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\ALME\ACTUAL\alme.p02

Geometry Title: alme
Geometry File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\ALME\ACTUAL\alme.g01

Flow Title   : Flow 01
Flow File   : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\ALME\ACTUAL\alme.f01

Plan Summary Information:
Number of: Cross Sections =   36   Multiple Openings =   0
            Culverts   =   2   Inline Structures =   0
            Bridges   =   0   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: Mixed Flow

```
*****************************************************************************

FLOW DATA

Flow Title: Flow 01
Flow File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\ALME\ACTUAL\alme.f01

Flow Data (m3/s)
***************************************************************************
* River           Reach           RS      *            T500            T10 *
* Alme            Alme            346.0286*          10.35          3.442 *
***************************************************************************

Boundary Conditions
*********************************************************************************************************
* River           Reach           Profile          *            Upstream                 Downstream    *
*********************************************************************************************************
* Alme            Alme            T500             *              Critical            Normal S = 0.05 *
*********************************************************************************************************

*****************************************************************************

GEOMETRY DATA

Geometry Title: alme
Geometry File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\ALME\ACTUAL\alme.g01

CROSS SECTION


RIVER: Alme
REACH: Alme               RS: 346.0286

INPUT
Description:
Station Elevation Data    num=      85
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*****************************************************************************
       0     854    .745 853.152    .819     853   1.079 852.643   1.605     852
    2.18 851.498    2.51 851.221   2.719     851   2.895 850.769   3.697     850
   6.192 849.805   8.785 849.622   9.044  849.61   9.286 849.601   9.528 849.594
   9.905 849.588  10.413 849.584  10.593 849.584  10.746 849.587  10.888 849.592
  11.123 849.603  11.406 849.621  12.637  849.72  15.646     850  16.829 850.925
  17.096     851  17.283     851  18.004     851  18.053 850.972  18.724 850.506
  19.107     850  19.478 849.689  20.366     849  20.549 848.162  20.604     848
  20.796  847.89  20.874 847.852  21.035 847.775  21.764 847.414   22.85     847
  22.963 846.973  23.983 846.846  25.642 846.622   25.73 846.613  25.764  846.61
  25.817 846.606  25.829 846.606  25.902 846.614  26.314 846.716  27.419     847
   29.47 847.993  29.484     848   29.54 848.036  30.402 848.601  31.012     849
  31.239 849.255  31.912     850  32.498 850.342  33.906     851  36.673 851.993
  36.692     852  37.749 852.366  38.209   852.5   39.82     853  41.035 853.431
  41.722 853.649  42.303 853.855  42.931     854  42.973 854.007   44.36 854.177
  44.538 854.204  45.116 854.256  45.327 854.283  46.323 854.346  46.547 854.368
  46.994 854.384  47.271 854.399  48.034   854.4  48.792 854.402   50.28 854.316
  50.485 854.305  50.745 854.278  52.879 854.136  53.111  854.11   54.76     854

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
       0    .035  20.874    .058  30.402    .035

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

```
       20.874  30.402            5.933   5.167    5.71             .1       .3
Left Levee      Station=    17.7      Elevation=  850.99

CROSS SECTION


RIVER: Alme
REACH: Alme               RS: 340.8620

INPUT
Description:
Station Elevation Data    num=      78
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*********************************************************************************
       0     855   1.274     854   2.817 853.437   3.922     853   3.984 852.911
   4.068 852.819    4.92  852.07    4.98 852.012   4.986 852.005   5.012     852
   5.935 851.298   6.407  851.19   6.725     851   7.079 850.794   8.481     850
   9.013 849.984  10.014 849.718  11.413 849.408  11.913 849.283  12.585     849
   12.89     849  13.173     849  13.906     849  15.083     849  15.507  849.14
  15.632 849.142  16.374   849.2  17.041 849.162   17.13 849.139  17.845     849
  18.962 848.106  19.094     848   19.22 847.925  20.678     847  21.603 846.549
  22.441  846.19  22.666 846.089  22.754 846.054  22.934     846  23.257     846
  23.473     846   23.59     846  25.199 846.376  25.432 846.371   25.83 846.335
  26.675 846.196  27.748     846  27.754 846.005  28.528 846.757  28.819     847
  29.273 847.239  29.507 847.361  29.816  847.54  30.769     848  31.814 848.567
  32.978     849  34.569 849.774   34.76 849.861  35.156     850  36.751 850.628
  37.973     851  38.881 851.284  40.161 851.674  40.769 851.842  41.232     852
  42.243 852.301  42.741 852.358  43.642 852.542  44.912 852.609  45.727 852.719
  45.911 852.739  47.022 852.764  47.337 852.783  47.482 852.787  49.186 852.795
  49.478 852.793  49.938 852.776  50.972  852.76

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
       0    .035  18.962    .058  29.273    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        18.962  29.273            5.349   3.671   3.923             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    24.5     849       F
    25.5  50.972     849       F

CROSS SECTION


RIVER: Alme
REACH: Alme               RS: 337.1913

INPUT
Description:
Station Elevation Data    num=      79
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*********************************************************************************
       0 853.646   1.371 853.298   1.825 853.175   2.487     853   4.723 852.222
   5.485     852   6.373 851.515   7.562     851   8.478 850.724   8.991 850.599
   9.382  850.48  11.294     850  11.467 849.921  11.959 849.694  12.871 849.435
  13.224 849.259  14.067     849  14.117 848.984  15.344 848.569  15.865 848.171
  16.016 848.095  16.174     848    16.4     848  16.588     848  16.748     848
  17.348     848  18.133     848  18.869     848  19.043     848  20.405     848
  21.291 847.611  21.663 847.495  22.113 847.482  22.583 847.359  22.852 847.334
  23.476 847.193  23.627 847.149  24.407 847.026  24.607     847  24.993 846.962
```

```
  25.032 846.983  25.553 846.976  25.837  846.97  25.996 846.902  26.291 846.884
   26.85 846.925   27.31 846.954  27.574     847  27.899 847.014  28.438 847.051
  28.976   847.1  30.035  847.28  32.693 847.732  33.403 847.853  33.958     848
  34.257 848.097  34.903  848.28  35.361 848.426    36.3 848.681  36.727 848.806
  37.414     849  38.507 849.329  39.793     850  40.452 850.184  41.265 850.361
  42.083 850.562  42.404 850.635  44.033 850.918  44.235 850.955  44.524     851
  46.196 851.373  46.771 851.433  47.529 851.553  47.916 851.571  48.233   851.6
  48.576 851.614  49.451 851.613  50.486 851.578  51.624 851.528

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
       0    .035  18.869    .058  30.035    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        18.869  30.035           14.586  10.243  14.287             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    24.5     849       F
    25.5  51.624     849       F

CULVERT


RIVER: Alme
REACH: Alme               RS: 332.0697

INPUT
Description:
Distance from Upstream XS =       2
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     849     846      40     849     846

Upstream Bridge Cross Section Data
Station Elevation Data    num=      79
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*************************************************************************************
       0 853.646   1.371 853.298   1.825 853.175   2.487     853   4.723 852.222
   5.485     852   6.373 851.515   7.562     851   8.478 850.724   8.991 850.599
   9.382  850.48  11.294     850  11.467 849.921  11.959 849.694  12.871 849.435
  13.224 849.259  14.067     849  14.117 848.984  15.344 848.569  15.865 848.171
  16.016 848.095  16.174     848    16.4     848  16.588     848  16.748     848
  17.348     848  18.133     848  18.869     848  19.043     848  20.405     848
  21.291 847.611  21.663 847.495  22.113 847.482  22.583 847.359  22.852 847.334
  23.476 847.193  23.627 847.149  24.407 847.026  24.607     847  24.993 846.962
  25.032 846.983  25.553 846.976  25.837  846.97  25.996 846.902  26.291 846.884
   26.85 846.925   27.31 846.954  27.574     847  27.899 847.014  28.438 847.051
  28.976   847.1  30.035  847.28  32.693 847.732  33.403 847.853  33.958     848
  34.257 848.097  34.903  848.28  35.361 848.426    36.3 848.681  36.727 848.806
  37.414     849  38.507 849.329  39.793     850  40.452 850.184  41.265 850.361
  42.083 850.562  42.404 850.635  44.033 850.918  44.235 850.955  44.524     851
  46.196 851.373  46.771 851.433  47.529 851.553  47.916 851.571  48.233   851.6
  48.576 851.614  49.451 851.613  50.486 851.578  51.624 851.528

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
```

```
       0    .035  18.869    .058  30.035    .035

Bank Sta: Left   Right    Coeff Contr.   Expan.
        18.869  30.035            .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    24.5     849       F
    25.5  51.624     849       F

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
**********************************************
       0   848.9     839      50   848.9     839

Downstream Bridge Cross Section Data
Station Elevation Data    num=     113
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
**************************************************************************************
       0 849.144   3.222     849   3.495 848.929   3.682 848.877   4.379 848.795
   4.865 848.702   5.336 848.555   5.687  848.43   6.858 848.075   6.925 848.045
    6.95 848.029   7.125     848   7.595  847.59   8.353     847   8.489 846.904
   8.668 846.758   9.166 846.427   9.342 846.254   9.498 846.223   9.663     846
    9.95 845.722  10.338     845  10.657 844.886  10.745 844.858  11.541 844.888
  11.624 844.865  12.233     845  12.743 845.196   12.83 845.196  13.231 845.328
  13.492 845.385  13.876 845.503  14.191 845.567  14.598  845.65  14.851 845.719
   15.81 845.903  15.911 845.929  15.943 845.937  16.317     846  16.828 845.731
  16.956 845.673  17.129 845.587   17.36  845.47  17.533 845.382  17.791 845.255
  18.231 845.039  18.263 845.027   18.31     845  18.596 844.666  18.781 844.492
  18.956 844.302  19.302     844  19.325 843.986  19.332 843.981  19.717 843.741
   19.85  843.21  20.201 842.705   20.72 840.783  20.829 840.499  20.872 840.455
  20.966     840  21.547 839.945  22.089 839.912  22.837  839.91  23.199 839.935
  23.754 839.972  23.838     840    25.1  840.49  25.974 840.879  25.984 840.842
  26.624 840.876   26.98  840.92  27.383     841  27.843 842.333  28.033 842.274
  28.732 841.844  28.845 841.926  29.492 841.958  29.536 841.981  29.738     842
  30.038 842.308  30.057 842.328  30.281 842.433  30.382  842.48  30.615 842.795
   31.01     843  31.201 843.127  31.262  843.15  31.402 843.236  31.767 843.526
  32.149 843.902  32.193 843.964  32.225     844  32.821 844.472  33.687     845
  33.856 845.082  34.037 845.084  36.005 845.606  37.503 845.685  38.183 845.809
  40.422  845.85  40.766 845.891  42.904 845.889  43.064 845.902  43.124 845.904
  43.264 845.905  44.735 845.874  45.414 845.848  45.879  845.85  46.577 845.818
   47.29 845.745  48.064 845.748  48.315 845.726

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
**********************************************
       0    .035   17.36    .058  30.038    .035

Bank Sta: Left   Right    Coeff Contr.   Expan.
         17.36  30.038            .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0      23   848.9       F
      24  48.315   848.9       F

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 Culverts = 1

Culvert Name	Shape	Rise	Span
Culvert #1	Box	1.8	1

FHWA Chart # 8 - flared wingwalls
FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
Solution Criteria = Highest U.S. EG

Culvert	Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
	2	8	.015	.015	0	1	1

Upstream   Elevation = 847
           Centerline Station = 25
Downstream Elevation = 846.6
           Centerline Station = 23.5

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 326.9481

INPUT
Description:
Station Elevation Data num= 113

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	849.144	3.222	849	3.495	848.929	3.682	848.877	4.379	848.795
4.865	848.702	5.336	848.555	5.687	848.43	6.858	848.075	6.925	848.045
6.95	848.029	7.125	848	7.595	847.59	8.353	847	8.489	846.904
8.668	846.758	9.166	846.427	9.342	846.254	9.498	846.223	9.663	846
9.95	845.722	10.338	845	10.657	844.886	10.745	844.858	11.541	844.888
11.624	844.865	12.233	845	12.743	845.196	12.83	845.196	13.231	845.328
13.492	845.385	13.876	845.503	14.191	845.567	14.598	845.65	14.851	845.719
15.81	845.903	15.911	845.929	15.943	845.937	16.317	846	16.828	845.731
16.956	845.673	17.129	845.587	17.36	845.47	17.533	845.382	17.791	845.255
18.231	845.039	18.263	845.027	18.31	845	18.596	844.666	18.781	844.492
18.956	844.302	19.302	844	19.325	843.986	19.332	843.981	19.717	843.741
19.85	843.21	20.201	842.705	20.72	840.783	20.829	840.499	20.872	840.455
20.966	840	21.547	839.945	22.089	839.912	22.837	839.91	23.199	839.935
23.754	839.972	23.838	840	25.1	840.49	25.974	840.879	25.984	840.842
26.624	840.876	26.98	840.92	27.383	841	27.843	842.333	28.033	842.274
28.732	841.844	28.845	841.926	29.492	841.958	29.536	841.981	29.738	842
30.038	842.308	30.057	842.328	30.281	842.433	30.382	842.48	30.615	842.795
31.01	843	31.201	843.127	31.262	843.15	31.402	843.236	31.767	843.526
32.149	843.902	32.193	843.964	32.225	844	32.821	844.472	33.687	845
33.856	845.082	34.037	845.084	36.005	845.606	37.503	845.685	38.183	845.809
40.422	845.85	40.766	845.891	42.904	845.889	43.064	845.902	43.124	845.904
43.264	845.905	44.735	845.874	45.414	845.848	45.879	845.85	46.577	845.818
47.29	845.745	48.064	845.748	48.315	845.726				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	17.36	.058	30.038	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.36	30.038	4.965	8.659	7.587	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	23	848.9	F
24	48.315	848.9	F

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 318.2890

INPUT
Description:
Station Elevation Data num= 64

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	848	1.228	847.422	2.116	847	3.099	846.591	4.719	846
4.824	845.96	4.969	845.906	5.806	845.593	6.438	845.344	7.401	845
8.041	844.706	8.944	844	9.363	843.798	9.553	843.652	10.092	843.31
10.36	843	11.316	842.435	12.105	842	13.155	841.328	13.619	841
15.621	840.003	15.628	840	16.526	839.547	17.056	839.261	17.133	839.219
17.722	839	18.991	838.309	19.694	838	20.112	837.642	20.578	837.442
21.071	837.162	21.79	837.038	21.839	837.024	22.192	837.011	22.495	837
22.579	837	23.285	837.201	24.799	838	25.466	838.373	26.518	839
27.445	839.493	28.43	840	28.717	840.11	29.072	840.254	29.364	840.373
29.418	840.396	31.265	841	31.287	841.005	33.146	841.443	34.053	841.638
34.542	841.74	35.631	841.961	35.85	842	36.297	842.142	36.852	842.28
37.582	842.394	38.89	842.538	40.822	842.795	43.26	842.927	43.45	842.952
45.532	842.996	45.535	842.997	45.54	842.997	46.322	843		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	17.056	.058	29.072	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.056	29.072	4.115	6.649	5.653	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 311.6395

INPUT
Description:
Station Elevation Data num= 63

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	846	.296	845.866	2.088	845.05	2.173	845.012	2.199	845
4.14	844.282	4.556	844.143	4.883	844	6.585	843.486	7.953	843
8.066	842.943	9.86	842	10.043	841.885	10.204	841.79	11.414	841
11.579	840.883	12.624	840.13	12.827	840	14.483	839.123	14.708	839
15.031	838.665	15.715	838	16.453	837.424	16.474	837.408	17.04	837
17.572	836.643	17.839	836.405	18.375	836	18.903	835.652	19.384	835.35
20.154	835	20.433	834.938	21.184	834.805	21.695	834.727	22.008	834.736
22.336	834.68	23.216	834.793	24.365	835	24.711	835.15	25.798	836
25.943	836.085	27.535	837	28.176	837.494	28.834	838	29.279	838.279
30.549	839	30.65	839.091	30.971	839.316	31.682	839.849	31.973	840
33.318	840.271	33.766	840.325	34.981	840.525	36.56	840.65	36.802	840.676
37.598	840.728	39.26	840.93	39.871	841	41.065	841.154	41.69	841.222
41.861	841.239	42.785	841.323	42.802	841.324				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	16.474	.058	28.176	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
16.474 28.176 5.922 7.796 5.673 .1 .3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 303.8436

INPUT
Description:
Station Elevation Data num= 54

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	844.68	1.146	844.293	2.016	844	2.061	843.979	4.307	843
5.889	842.203	6.159	842.066	6.282	842	6.456	841.871	7.773	841
8.828	840.365	9.402	840	10.173	839.809	12.634	839	12.8	838.853
14.165	838	14.226	837.967	15.986	837	16.442	836.858	16.858	836.72
17.316	836.565	18.982	836	19.368	835.731	20.281	835	20.634	834.284
20.792	834	21.582	833.572	22.497	833	23.589	832.773	23.803	832.731
23.883	832.721	23.951	832.723	24.006	832.728	24.563	832.797	26.143	833
26.836	833.477	27.608	834	27.844	834.191	28.512	835	28.983	835.182
29.535	835.387	30.299	835.67	31.334	836	32.422	836.588	33.048	837
33.573	837.228	34.951	837.647	35.631	837.862	36.133	838	38.187	838.662
39.205	838.896	39.385	838.937	39.738	839	42.019	839.354		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	17.316	.058	29.535	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
17.316 29.535 6.316 7.905 7.002 .1 .3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 295.9385

INPUT
Description:
Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	843	.044	842.983	.492	842.782	2.141	842.053	2.246	842
4.231	841.123	4.512	841	4.519	840.99	5.434	840	5.729	839.925
7.154	839.583	9.057	839.121	9.564	839	10.019	838.584	10.73	838
10.992	837.864	12.527	837	13.008	836.781	15.005	836	15.691	835.458
15.919	835.296	16.628	835	17.325	834.83	19.24	834.361	19.734	834
21.336	833.237	21.735	833	22.554	832.311	22.972	832	23.605	831.761
23.938	831.62	24.978	831.821	25.942	832	26.201	832.097	28.097	833
29.002	833.389	30.239	833.861	30.602	834	31.921	834.444	33.019	834.83
33.871	835	35.839	835.668	36.694	836	37.846	836.352	38.8	836.608
39.457	836.787	40.356	837						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	17.325	.058	30.239	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
17.325 30.239 6.041 6.848 8.121 .1 .3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 289.0909

INPUT
Description:
Station Elevation Data num= 53

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	842.518	.998	842.213	1.622	842	2.526	841.599	3.77	841
4.233	840.574	4.671	840	5.671	839.667	8.102	839	9.039	838.475
9.95	838	11.772	837.318	12.513	837	13.123	836.589	14.044	836
15.431	835.038	15.48	835	15.576	834.977	15.642	834.964	15.705	834.949
18.094	834.402	18.971	834.201	19.832	834	20.972	833.457	22.196	833
22.349	832.869	23.016	832	23.299	831.73	24.177	831	24.923	830.876
25.262	830.832	25.391	830.828	25.588	830.836	26.039	830.894	26.859	830.994
26.908	831	29.567	831.632	31.659	832	31.82	832.134	32.028	832.339
32.274	832.536	32.855	833	34.496	833.532	35.013	833.717	35.24	833.784
35.956	834	36.283	834.044	37.327	834.156	37.511	834.18	38.774	834.302
39.43	834.352	40.185	834.459	40.734	834.501				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	18.094	.058	32.274	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
18.094 32.274 7.422 5.888 4.713 .1 .3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 283.2029

INPUT
Description:
Station Elevation Data num= 41

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	840.564	1.618	840	2.522	839.726	4.649	839	6.83	838.395
7.421	838.186	7.916	838	8.541	837.709	9.811	837	10.873	836.407
11.671	836	12.26	835.471	12.825	835	13.51	834.771	14.327	834.541
15.409	834.21	16.301	834	16.439	833.942	18.644	833.022	18.689	833
18.834	832.906	20.333	832	20.509	831.833	21.392	831	21.556	830.943
24.14	830.175	24.331	830.175	24.383	830.179	26.19	830.509	28.494	831
29.442	831.175	31.449	831.502	31.762	831.56	34.13	832	35.656	832.571
38.281	833	38.573	833.073	38.638	833.084	39.198	833.164	41.358	833.536
41.819	833.609								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	16.439	.058	31.762	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
16.439 31.762 9.548 6.58 2.935 .1 .3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 276.6229

INPUT
Description:
Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	838.346	.724	838.178	1.499	838	6.41	837.006	6.431	837
6.451	836.971	7.19	836	7.389	835.698	7.88	835	10.842	834.024
10.893	834.007	10.92	834	10.961	833.986	14.165	833.028	14.26	833
16.173	832.38	17.263	832	17.899	831.525	18.613	831	19.775	830.178
20.033	830	21.758	829.744	22.949	829.516	24.118	829.885	24.512	830
25.016	830.125	25.22	830.169	26.881	830.549	29.304	831	29.632	831.057
29.717	831.075	30.793	831.258	31.443	831.36	31.55	831.377	31.895	831.455
32.416	831.535	32.671	831.59	33.211	831.721	33.765	831.831	34.413	832
34.698	832.055	35.456	832.189	36.257	832.312	36.997	832.429	38.12	832.586
40.901	833	42.12	833.255						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	14.165	.058	31.443	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.165	31.443	17.315	8.993	2.5	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 267.6301

INPUT
Description:
Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	835.674	3.087	835.146	3.933	835	4.341	834.747	5.671	834
7.605	833.276	8.308	833	8.995	832.792	11.859	832	13.906	831.397
14.054	831.357	15.224	831.02	15.294	831	15.457	830.866	16.557	830
16.666	829.892	17.722	829	21.258	828.332	21.909	828.241	22.063	828.232
22.09	828.234	22.094	828.159	22.121	828.235	22.31	828.269	22.457	828.311
23.018	828.474	24.78	829	25.287	829.178	25.914	829.416	30.099	829.886
31.118	830	32.129	830.398	33.018	831	33.7	831.162	34.033	831.297
34.807	831.524	35.228	831.679	35.912	832	40.225	832.746	41.493	833

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	15.224	.058	30.099	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.224	30.099	7.105	4.996	3.195	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 262.6338

INPUT
Description:
Station Elevation Data num= 54

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	834	.744	833.758	2.957	833	4.213	832.69	7.062	832
8.939	831.386	9.571	831.172	10.169	831	11.471	830.119	11.654	830
11.691	829.939	12.13	829	13.513	829	13.664	829	16.819	828.975
17.087	828.98	18.735	828.997	19.21	829	19.507	829	19.554	829
19.937	829	19.955	828.732	20.538	828.613	21.143	828.704	21.247	827.028
21.46	827.369	22.007	829	22.677	829	22.85	829	23.456	829
23.62	829	23.967	829	24.286	829	24.6	829	25.675	829.169
27.384	829.393	27.796	829.424	28.036	829.442	28.758	829.494	30.943	830
31.709	830	32.339	830	32.975	830	33.329	830	33.603	830.225
34.783	830.9	34.885	830.964	34.954	831	36.149	831.585	36.462	831.748
37.001	832	38.258	832.264	38.579	832.343	39.294	832.527		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	13.513	.058	28.036	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
13.513	28.036	8.083	4.082	2.971	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 258.5520

INPUT
Description:
Station Elevation Data num= 62

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	832.73	.276	832.666	1.396	832.42	3.006	832.072	3.349	832
5.308	831.364	6.432	831	6.774	830.864	8.985	830	10.639	829.273
11.038	829	11.479	829	12.17	829	12.377	829	14.685	829
15.712	829	16.238	829	16.941	829	16.963	829	17.092	829
17.599	829	17.924	829	19.216	829	19.465	828.343	19.647	828
20.572	827.455	21.039	827	21.513	826.724	21.77	826.601	22.301	826.256
22.469	826.166	22.505	826.146	22.521	826.082	22.53	826.133	23.308	826.04
23.353	826.026	23.948	826.042	23.971	826.038	23.994	826.041	24.523	826.149
24.727	826.219	24.99	826.34	25.427	826.498	26.272	827	26.819	827.616
27.088	828	27.454	828.42	27.596	828.582	27.919	829	28.803	829.748
29.024	830	30.124	830	30.416	830	32.501	830.282	32.794	830.332
34.498	830.37	35.653	830.731	35.899	830.763	36.442	831	37.898	831.649
38.71	832	40.565	832.604						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	14.685	.058	27.454	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.685	27.454	4.997	10.129	12.281	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 248.4231

INPUT
Description:
Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	832.564	2.045	832.099	2.47	832	3.417	831.577	4.616	831
5.646	830.122	5.826	830	5.87	830	5.911	830	6.479	830
8.02	830	11.994	829.149	12.527	829	12.959	828.728	14.005	828
14.933	828	15.18	828	15.93	828	16.26	828	16.559	828
16.874	827.644	17.468	827	18.03	826.602	18.864	826	19.203	825.939
20.881	825.695	24.142	825.891	26.817	826	27.213	826.923	27.229	827
27.308	827.101	27.977	828	28.311	828.628	28.509	829	28.631	829.086
29.963	830	30.087	830.13	30.828	831	32.019	831.224	34.844	831.473
38.307	831.918	38.663	831.962	38.849	831.973	38.871	831.974	38.948	832
39.04	832.063	40.339	833						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	15.18	.058	27.977	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.18	27.977	5.62	8.75	10.992	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 239.6731

INPUT
Description:
Station Elevation Data num= 43

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	831	.958	831	1.165	831	1.44	831	1.997	831
2.912	830.817	3.662	830.752	4.811	830.639	7.589	830.154	7.858	830.117
8.461	830	8.588	829.901	9.872	829	11.373	828.158	11.685	828
13.381	828	14.093	828	14.609	828	14.894	828	15.227	827.366
15.387	827.039	15.41	827	15.861	826.561	16.428	826	16.679	825.954
18.81	825.565	19.581	825.423	20.192	825.385	23.901	825.754	25.967	826
26.281	826.34	26.627	827	26.913	827.492	27.208	828	28.312	829
28.812	829.422	29.451	830	31.354	830.51	33.538	831	34.689	831.594
35.436	832	39.356	832.625	40.102	832.741				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	14.609	.058	26.913	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.609	26.913	8.088	9.854	10.223	.1	.3

CROSS SECTION

RIVER: Alme

REACH: Alme RS: 229.8189

INPUT
Description:
Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	831	5.205	830.334	6.821	830.136	7.711	830	7.822	829.912
8.699	829	8.82	828.936	10.815	828	11.631	827.614	12.779	827
13.212	827	13.908	827	14.703	827	15.305	827	15.416	827
16.07	826.316	16.536	826	18.252	825.638	20.419	825.117	23.171	825.436
27.412	826	27.551	826.249	27.637	826.423	27.856	826.798	27.974	827
29.262	827.845	29.502	828	29.578	828.074	30.124	828.547	30.646	829
30.871	829.178	31.839	830	32.026	830	32.249	830	32.763	830
33.037	830	34.7	830.228	34.967	830.294	35.534	830.444	36.209	830.603
37.615	831	38.554	831.353	39.993	832	41.022	832.734	41.366	833
42.204	833	42.763	833.109						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	15.305	.058	27.856	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.305	27.856	10.383	12.81	11.867	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 217.0088

INPUT
Description:
Station Elevation Data num= 45

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	830.21	.325	830.146	1.396	830	1.417	830	1.747	830
1.897	830	3.482	829.769	6.54	829.469	7.016	829.419	7.716	829
9.238	828.217	9.646	828	11.206	827.334	11.961	827	13.371	826.08
13.496	826	13.555	826	14.473	826	15.452	826	15.473	826
15.69	826	16.281	825.189	16.427	825	21.168	824.703	21.917	824.579
22.207	824.349	23.692	824.542	28.143	824.945	28.754	825	30.396	825.977
30.444	826	30.464	826.023	31.197	827	33.163	828	33.362	828.183
34.248	829	37.292	829.619	39.252	830	39.816	830.326	41.083	831
44.082	831.956	44.147	831.976	44.217	832	44.255	832.023	45.947	833

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	15.452	.058	28.143	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.452	28.143	6.905	8.902	13.813	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 208.1064

INPUT

Description:
Station Elevation Data   num=   68

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	830.377	1.809	830	4.847	829.603	5.869	829.487	6.632	829.402
8.725	829.184	10.133	829	10.273	829	10.564	829	11.041	828.612
12.019	828	13.723	827.149	14.028	827	15.289	826.367	16.027	826
16.562	826	16.931	826	17.751	826	18.031	826	18.48	826
18.602	826	18.777	825.529	18.986	825	19.793	824.21	20.073	824
20.788	823.722	21.195	823.603	22.126	823.296	22.735	823.159	22.894	823.12
23.472	823.057	23.526	823.047	23.586	823.04	24.704	823.072	24.8	823.064
25.043	823.07	25.089	823.067	25.482	823.089	26.087	823.116	26.165	823.112
26.314	823.11	27.523	823.178	27.638	823.18	27.816	823.189	27.999	823.205
28.181	823.231	28.413	823.275	28.66	823.328	29.231	823.385	29.592	823.479
30.054	823.554	30.203	823.578	31.497	824	32.647	824.467	33.971	825
34.915	825.653	35.398	826	36.418	827	36.419	827	37.917	828
38.301	828.311	39.015	829	41.754	829.467	45.134	830	46.645	830.625
47.523	831	48.997	831.64	49.866	832				

Manning's n Values   num=   3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	18.48	.058	30.054	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.48	30.054	8.46	9.634	7.5	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme   RS: 198.4724

INPUT
Description:
Station Elevation Data   num=   52

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	830.208	1.164	830	5.385	829.007	5.413	829	5.415	829
5.416	829	5.422	828.999	10.104	828.564	13.941	828.028	14.08	828.014
14.135	828	14.163	827.977	14.216	827.919	15.019	827	15.947	826.057
16.001	826	16.016	825.978	16.717	825	17.301	825	17.391	825
18.262	824.823	18.884	824.753	18.948	824.745	19.898	824	19.9	823.999
20.517	823.269	20.792	823	22.231	822.878	25.263	822.616	25.399	822.613
25.948	822.643	30.522	823	30.644	823.056	32.382	823.855	32.724	824
34.735	824.856	35.054	825	35.432	825.201	37.001	826	38.742	826.978
38.779	827	38.811	827.022	40.479	828	40.878	828.33	41.243	828.414
41.579	828.429	44.15	829	44.61	829	46.08	829.313	48.043	830
49.964	830.605	50.996	831						

Manning's n Values   num=   3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	18.884	.058	30.644	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.884	30.644	7.595	8.041	9.305	.1	.3

CROSS SECTION

RIVER: Alme

REACH: Alme RS: 190.4317

INPUT
Description:
Station Elevation Data num= 52

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	829.567	.93	829.36	2.5	829.037	2.564	829.025	2.692	829
3.385	828.911	7.996	828.321	9.97	828.078	10.068	828.068	10.136	828.062
10.201	828.056	10.359	828.042	10.933	828	11.99	827.698	12.349	827.619
15.361	827	15.557	826.381	15.731	826	16.043	825.327	16.195	825
16.39	824.898	17.621	824	19.383	824	19.733	824	19.964	824
20.517	824	20.72	824	21.297	823.159	21.372	823.048	21.406	823
24.782	822.533	26.928	822.281	28.471	822.451	31.894	823	32.596	823.4
32.682	823.452	33.594	824	34.41	824.33	34.793	824.475	36.13	825
39.089	825.886	39.47	826	39.589	826.077	40.823	827	42.062	827.562
43.055	828	44.132	828.199	45.671	828.489	48.416	829	49.571	829.585
50.727	830	52.96	830.548						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	19.733	.058	32.682	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
19.733 32.682 9.457 9.058 9.677 .1 .3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 181.3740

INPUT
Description:
Station Elevation Data num= 56

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	829.675	.848	829.564	5.435	829	5.936	828.88	9.165	828
9.285	827.581	9.552	827	10.997	826.723	14.71	826	14.924	825.315
15.056	825	15.348	824.308	15.56	824	16.245	823.427	16.733	823
17.522	823	18.648	823	19.185	823	19.432	823	20.401	823
20.766	822.459	21.335	822.089	21.523	822	22.393	821.473	23.192	821
23.393	820.989	24.455	820.944	25.151	820.919	25.615	820.904	25.74	820.902
26.558	820.901	26.595	820.903	28.165	820.982	28.468	821	28.875	821.149
28.992	821.187	29.414	821.422	30.024	821.735	30.34	822	31.827	822.768
32.2	823	32.448	823.186	33.428	824	33.569	824.043	36.728	825
37.241	825.162	39.646	826	40.921	826.588	42.032	827	43.698	827.906
43.858	828	45.33	828.234	50.115	829	51.48	829.32	54.362	830
55.633	830.28								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	18.648	.058	33.569	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
18.648 33.569 10.918 12.685 13.372 .1 .3
Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
42.215	50.615	829.1171	6.362	10.312	828.7635

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 168.6892

INPUT
Description:
Station Elevation Data num= 78

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	830	1.977	829	3.753	828.572	4.606	828.386	5.638	828.069
5.717	828.054	5.874	828	7.611	827.518	8.443	827.306	9.578	827
11.158	826.281	11.848	826	11.991	825.874	12.913	825	13.784	825
16.026	824.564	17.387	824.14	17.64	824.126	17.835	824	18.076	823.761
18.958	823	21.024	822	21.194	821.87	22.235	821.077	22.353	821
22.606	820.833	24.129	820	25.68	819.218	25.864	819.187	25.975	819.185
26.685	819.053	26.759	819.053	27.285	819	27.587	818.969	27.609	818.965
28.839	818.947	28.918	818.946	30.355	819	30.666	819.012	30.672	819.012
31.18	819.031	31.283	819.033	33.641	819.054	35.035	819.118	35.32	819.13
35.952	819.185	36.164	819.214	36.324	819.249	36.839	819.36	37.132	819.429
37.544	819.548	38.688	820	38.992	821	39.138	821.18	39.577	821.719
39.748	822	40.001	822.339	40.567	823	41.064	823.613	41.32	824
41.54	824.486	41.703	825	42.317	825.513	42.873	826	43.435	826.283
45.206	827	45.54	827.378	46.023	827.996	46.027	828	46.248	828
46.684	828	46.905	828	47.134	828	55.65	828.832	56.227	828.868
57.114	829	57.306	829	59.684	829.388				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	21.194	.058	36.324	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
21.194	36.324	14.104	10.23	9.802	.1	.3

Blocked Obstructions num= 1

Sta L	Sta R	Elev
18.406	22.093	823.4763

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 158.4595

INPUT
Description:
Station Elevation Data num= 80

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	826.627	.436	826.575	1.93	826.358	2.445	826.296	2.789	826.26
3.043	826.237	3.459	826.213	4.1	826.082	4.24	826.078	4.592	826
7.241	825.524	7.924	825.411	8.853	825.292	9.057	825.257	9.825	825
10.708	824.189	10.895	824	11.761	824	15.824	823.403	16.578	823
19.055	822	19.916	821	20.043	820.796	20.103	820.7	20.544	820
20.729	819.862	21.045	819.635	21.598	819.231	21.927	819	22.7	818.448
23.388	818	23.873	817.684	24.808	817	26.082	816.061	26.164	816
26.257	815.932	27.233	815.201	27.482	815	28.924	814.751	30.661	814.626
31.542	814.617	32.052	814.631	32.152	814.63	33.036	814.637	33.965	814.666
34.468	814.69	34.906	814.702	35.459	814.739	36.061	814.789	36.718	814.851

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  37.444 814.929  37.498 814.932  38.021     815  38.264 815.198  39.015     816
  39.591 816.719  39.809 816.969  39.836     817  40.342 817.705  40.562     818
  40.679  818.16   41.28     819  41.798     820  42.543     821  42.989   821.4
   43.76     822  44.033 822.304   44.59     823  45.529  823.54  46.182     824
  47.151 824.868  47.278     825  47.642 825.355  48.319     826  48.898 826.392
  49.782     827  51.408 827.992  51.423     828  58.621 828.615   60.28 828.758

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
       0    .035  20.103    .058  39.809    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        20.103  39.809            8.862  11.849  11.254             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
************************
  16.259  20.162823.1701

CROSS SECTION


RIVER: Alme
REACH: Alme               RS: 146.6102

INPUT
Description:
Station Elevation Data    num=      80
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*************************************************************************
       0 826.535   3.368     826   7.342 825.157   8.056     825    8.25 824.743
   8.426 824.518   8.888     824   9.048 823.138   9.079     823   10.65     823
  10.779     823  10.876 823.033  11.082     823  14.209     823  14.565 822.567
  15.042     822  15.167 821.932  15.546 821.721   16.65 821.129  16.877     821
  17.451 820.722  17.761 820.599  19.273     820  19.807 819.305  20.012     819
  20.097 818.883  20.295 818.609  20.751     818  21.224 817.356  21.513     817
  22.005 816.389  22.308     816  22.887 815.253  23.069     815  23.591 814.773
  24.428 814.394  25.345     814  25.722 813.922  25.817 813.915  26.613 813.791
  28.747 813.486  29.186 813.481  32.826 813.398  34.306 813.384  34.592 813.333
  37.268 813.505  39.394 813.584  42.015     814  43.099 814.672  43.402 814.844
  43.678     815  44.658 815.871  44.802     816  45.193 816.404  45.767     817
  46.023 817.257  46.763     818  47.636 818.856  47.784     819  48.232 819.451
  48.779     820  49.572 820.918  49.641     821  49.729 821.082  50.755     822
  51.397   822.7  51.688     823  52.588  823.59   53.22     824  54.351 824.609
  55.016     825  55.771 825.659  56.134     826  57.153 826.882   57.29     827
  57.317 827.047  58.135     828  60.634 828.243  61.657 828.311  62.413 828.368

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
       0    .035  20.097    .058  43.402    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        20.097  43.402           10.508  11.695  15.079             .1       .3

CROSS SECTION


RIVER: Alme
REACH: Alme               RS: 134.9155

INPUT
```

Description:
Station Elevation Data   num=   75

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	826	.949	825.792	1.574	825.645	4.262	825	7.016	824.288
7.829	824	8.096	823.441	8.252	823	9.102	822.819	12.721	822
13.452	821.415	14.045	821	15.85	820.254	16.427	820	16.672	819.717
17.254	819	17.82	818.296	18.069	818	18.308	817.724	18.917	817
19.295	816.571	19.734	816	19.943	815.757	20.07	815.609	20.565	815
23.917	814.262	25.192	814	25.341	813.779	26.018	813	28.532	812.387
30.565	812	31.06	811.979	34.587	811.906	35.17	811.905	35.197	811.906
35.807	811.906	38.344	811.909	42.322	812	42.969	812	43.21	812
43.432	812	43.873	812	44.735	812.568	44.843	812.639	45.292	813
46.283	814	47.959	815	48.568	815.346	49.405	816	50.574	816.815
50.81	817	50.939	817.119	51.873	817.81	52.051	817.945	52.131	818
52.198	818.047	53.434	819	53.779	819.267	54.672	820	55.262	820.548
55.71	821	56.538	821.891	56.644	822	56.743	822.089	57.368	822.636
57.739	823	58.321	823.534	58.834	824	59.696	824.562	60.355	825
60.677	825.255	61.406	825.818	61.654	826	62.025	826.227	63.23	827

Manning's n Values   num=   3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	19.943	.058	44.735	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
19.943	44.735	13.433	10.072	10.433	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme   RS: 124.8436

INPUT
Description:
Station Elevation Data   num=   62

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	824.371	.339	824.308	1.898	824	2.26	823.841	4.105	823
4.87	822.637	6.118	822	9.248	821.421	11.443	821	12.03	820.732
13.683	820	14.76	819.096	14.765	819.093	14.879	819	14.941	818.95
16.121	818	17.067	817.242	17.361	817	18.227	816.272	18.499	816.054
18.566	816	19.7	815.054	19.765	815	19.834	814.986	24.56	814
24.807	813.469	25.075	813	25.386	812.336	25.645	812	26.122	812
29.414	811.856	35.798	811.383	35.898	811.38	38.675	811.293	39.289	811.276
43.196	811.3	44.673	811.643	44.885	811.633	45.11	811.642	46.213	812
46.315	812.205	46.485	812.543	46.713	813	47.032	813.553	47.373	814
48.268	814.588	48.888	815	50.127	815.548	51.135	816	52.321	816.507
52.938	816.763	53.5	817	55.043	817.686	55.756	818	57.234	818.65
58.031	819	58.656	819.279	60.315	820	61.69	820.767	62.061	821
62.523	821.244	64.122	822						

Manning's n Values   num=   3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	18.499	.058	46.315	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.499	46.315	17.171	11.452	5.724	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 113.3915

INPUT
Description:
Station Elevation Data num= 72

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	820	1.683	819.835	1.788	819.833	2.464	819.77	3.027	819.726
5.299	819.565	6.248	819.539	6.767	819.505	8.426	819.422	8.879	819.381
9.112	819.351	9.606	819.324	10.063	819.291	11.864	819	12.092	819
13.066	818.71	13.55	818.59	14.783	818.238	15.567	818	15.802	817.891
16.125	817.795	16.964	817.457	17.317	817.37	17.783	817.228	18.536	817
18.684	816.729	19.309	816	19.496	815.658	19.944	815	20.817	814.233
21.101	814	23.25	813.406	23.929	813.222	24.188	813.154	24.74	813
25.213	812.758	26.708	812	28.034	811.22	28.373	811	28.962	811
32.292	810.921	34.179	810.899	34.282	810.899	35.02	810.892	35.688	810.887
36.333	810.885	37.288	810.884	42.28	810.949	43.697	810.985	44.281	811
44.958	811.243	46.447	811.736	47.243	812	47.768	812.509	48.462	813
49.593	813.653	50.226	814	51.493	814.841	51.712	815	52.717	815.473
53.833	816	54.051	816.098	55.987	817	56.301	817.142	58.109	818
58.367	818.122	58.898	818.375	60.229	819	62.027	819.866	62.315	820
62.512	820.088	64.572	821						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	17.783	.058	46.447	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
17.783 46.447 18.913 10.894 3.542 .1 .3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 102.4974

INPUT
Description:
Station Elevation Data num= 69

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	817.852	5.179	817.761	5.305	817.769	5.326	817.77	5.333	817.771
5.348	817.771	5.355	817.771	5.363	817.771	5.378	817.771	5.415	817.77
5.438	817.768	5.471	817.766	5.493	817.765	5.52	817.763	5.557	817.76
5.609	817.755	5.687	817.748	5.823	817.736	6.123	817.709	13.736	817
15.451	816.284	16.121	816	16.64	815.871	16.962	815.798	17.605	815.65
17.853	815.59	18.374	815.46	18.972	815.327	19.137	815.279	20.108	815
20.312	814.646	20.653	814	20.887	813.571	21.157	813	21.359	812.226
21.415	812	21.5	811.93	22.405	811	22.797	811	29.388	810.902
30.09	810.907	30.245	811.016	30.331	811.016	31.362	810.915	32.259	810.923
33.271	810.935	34.499	810.953	36.059	810.981	37.038	811	37.089	811.01
38.774	811.33	39.808	811.526	40.401	811.673	41.725	812	42.32	812.428
42.955	813	44.164	813.699	44.649	814	45.075	814.213	46.285	815
48.041	815.844	48.369	816	50.459	816.979	50.504	817	50.513	817.004
52.63	818	54.692	818.985	54.724	819	56.803	820		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

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*********************************************
       0    .035  19.137    .058  38.774    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        19.137  38.774           15.369   9.291   9.095             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
*********************************************
       0   3.846817.8524   8.075  18.158 817.527

CROSS SECTION


RIVER: Alme
REACH: Alme               RS: 93.20643

INPUT
Description:
Station Elevation Data    num=      52
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*************************************************************************************
       0 816.355    .564 816.317   1.135 816.268   1.383 816.249   2.001 816.184
    2.75 816.086   3.335     816   3.693 815.956   9.168     815   9.229  814.97
  10.551 814.308  11.167     814  12.331 813.135  12.403  813.08  12.489     813
  12.559  812.95  12.612 812.939  12.795 812.909  14.266 812.454  15.016 812.381
  16.934 812.045  17.188     812  17.771 811.923  17.842 811.918   18.32 811.859
  18.891 811.781  19.083 811.777  19.591 811.701  19.794 811.701  23.395 811.271
  24.199 811.277  24.913 811.286  25.058 811.389  25.919 811.302   28.41 811.465
   29.63 811.552  30.997 811.651   35.55     812  35.614     812  36.571 812.586
  37.407     813  38.112 813.528  38.757     814  41.173 814.765  41.933     815
  43.215 815.583  43.962 815.919   44.15     816  45.792 816.748  46.375     817
  48.351 817.916   48.55     818

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
       0    .035  16.934    .058   29.63    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        16.934   29.63           12.131   6.754   6.462             .1       .3
Right Levee     Station=   28.32      Elevation=    816
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
*********************************************
       0  15.471816.3551   28.33   41.56 815.992

CROSS SECTION


RIVER: Alme
REACH: Alme               RS: 86.45223

INPUT
Description:
Station Elevation Data    num=      52
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*************************************************************************************
       0 814.668    .054 814.663    .314 814.634    .698 814.576   1.127 814.511
   2.282 814.376   3.481 814.133   3.568 814.116   4.053     814   4.918 813.479
    5.68     813   5.881  812.99    5.89  812.99   5.945 812.988   8.397 812.862
  10.394 812.753  11.083 812.738  19.726 812.089  20.846 812.011      21     812
  21.007     812  22.442 811.892  23.771 811.797  25.671  811.66   26.35 811.804
```

```
   26.7 811.869  27.321 811.909  27.873 811.935  27.959 811.939  28.143 811.949
  29.12 811.983  29.945     812  30.927     812   30.99     812  31.178 812.024
 33.684 812.061  34.595 812.089  35.114 812.109  40.401 812.976  40.853     813
 41.189 813.151  41.394 813.235  41.968  813.45  42.136 813.515  43.358     814
 43.417 814.026  43.631 814.214  44.451 814.856  44.561     815   45.69 815.403
 46.679 815.728  47.411     816

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
**********************************************
       0    .035  20.846    .058  27.873    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        20.846  27.873           11.185  10.618   11.11             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0   25.17     813       F
   26.17  47.411     813       F
Left Levee      Station=      18      Elevation=  815.24
Right Levee     Station=   28.41      Elevation=  815.31
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
**********************************************
      .1   18.05815.2321   28.42   43.85815.3968

CULVERT


RIVER: Alme
REACH: Alme               RS: 81.1431

INPUT
Description:
Distance from Upstream XS =       1
Deck/Roadway Width        =       8
Weir Coefficient          =     1.4
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
*********************************************
      17     813   811.5      29     813   811.5

Upstream Bridge Cross Section Data
Station Elevation Data    num=      52
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*************************************************************************************
       0 814.668    .054 814.663    .314 814.634    .698 814.576   1.127 814.511
   2.282 814.376   3.481 814.133   3.568 814.116   4.053     814   4.918 813.479
    5.68     813   5.881  812.99    5.89  812.99   5.945 812.988   8.397 812.862
  10.394 812.753  11.083 812.738  19.726 812.089  20.846 812.011      21     812
  21.007     812  22.442 811.892  23.771 811.797  25.671  811.66   26.35 811.804
    26.7 811.869  27.321 811.909  27.873 811.935  27.959 811.939  28.143 811.949
   29.12 811.983  29.945     812  30.927     812   30.99     812  31.178 812.024
  33.684 812.061  34.595 812.089  35.114 812.109  40.401 812.976  40.853     813
  41.189 813.151  41.394 813.235  41.968  813.45  42.136 813.515  43.358     814
  43.417 814.026  43.631 814.214  44.451 814.856  44.561     815   45.69 815.403
  46.679 815.728  47.411     816

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
**********************************************
       0    .035  20.846    .058  27.873    .035
```

```
Bank Sta: Left   Right    Coeff Contr.   Expan.
        20.846  27.873            .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0   25.17     813       F
   26.17  47.411     813       F
Left Levee      Station=      18      Elevation=  815.24
Right Levee     Station=   28.41      Elevation=  815.31
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
*********************************************
      .1   18.05815.2321   28.42   43.85815.3968

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
*********************************************
       0   812.9   809.1      45   812.9   809.1

Downstream Bridge Cross Section Data
Station Elevation Data    num=      72
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*************************************************************************************
       0 812.528   6.405 812.089   6.489 812.085   7.611 812.004   7.613 812.004
   7.625 812.003    7.63 812.003   7.742     812   8.111     812   8.636 811.923
   8.708 811.905   9.584 811.843  10.187 811.651  11.684 811.537   11.74 811.533
  12.239     811  12.976 810.169  13.117     810  13.153     810  13.859 809.837
  14.993 809.633  15.261 809.585   15.65 809.528   16.24 809.508  16.708 809.433
  17.665 809.464   17.72 809.456  18.098 809.404  18.878  809.38  19.726 809.414
   20.93 809.426  21.764 809.443  22.164 809.454  22.787 809.507  23.983 809.452
  24.437 809.457  25.467 809.395  26.024 809.354  26.478 809.322  28.298 809.216
  28.601 809.198  28.993 809.207  29.254 809.214  29.546 809.198  30.004  809.23
  30.065  809.23  30.203 809.216  30.614 809.239  30.766 809.232  30.942 809.231
  31.556 809.279  31.793 809.285  32.041 809.291  32.996 809.409   33.75 809.435
  34.153 809.492  34.586  809.51  35.096 809.546  35.517 809.607   36.03 809.653
  37.408 809.817  38.536 809.965  38.781     810  39.288  810.95  39.309     811
  40.807  811.95  40.837 811.971  40.914     812  41.622 812.079  42.219 812.154
  44.424     813  45.752 813.257

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
       0    .035   17.72    .058  28.993    .035

Bank Sta: Left   Right    Coeff Contr.   Expan.
         17.72  28.993            .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    26.1   812.9       F
    27.1  45.752   812.9       F

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 Culverts =  1
```

Culvert Name Shape Rise Span
Culvert #1 Circular 1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 1 - Square edge entrance with headwall
Solution Criteria = Highest U.S. EG

Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
1	8	.015	.015	0	1	1

Upstream Elevation = 811.66
Centerline Station = 25.67
Downstream Elevation = 811.2
Centerline Station = 26.6

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 75.83388

INPUT
Description:
Station Elevation Data num= 72

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	812.528	6.405	812.089	6.489	812.085	7.611	812.004	7.613	812.004
7.625	812.003	7.63	812.003	7.742	812	8.111	812	8.636	811.923
8.708	811.905	9.584	811.843	10.187	811.651	11.684	811.537	11.74	811.533
12.239	811	12.976	810.169	13.117	810	13.153	810	13.859	809.837
14.993	809.633	15.261	809.585	15.65	809.528	16.24	809.508	16.708	809.433
17.665	809.464	17.72	809.456	18.098	809.404	18.878	809.38	19.726	809.414
20.93	809.426	21.764	809.443	22.164	809.454	22.787	809.507	23.983	809.452
24.437	809.457	25.467	809.395	26.024	809.354	26.478	809.322	28.298	809.216
28.601	809.198	28.993	809.207	29.254	809.214	29.546	809.198	30.004	809.23
30.065	809.23	30.203	809.216	30.614	809.239	30.766	809.232	30.942	809.231
31.556	809.279	31.793	809.285	32.041	809.291	32.996	809.409	33.75	809.435
34.153	809.492	34.586	809.51	35.096	809.546	35.517	809.607	36.03	809.653
37.408	809.817	38.536	809.965	38.781	810	39.288	810.95	39.309	811
40.807	811.95	40.837	811.971	40.914	812	41.622	812.079	42.219	812.154
44.424	813	45.752	813.257						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	17.72	.058	28.993	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.72	28.993	11.32	11.276	9.95	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	26.1	812.9	F
27.1	45.752	812.9	F

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 64.55781

INPUT
Description:
Station Elevation Data num= 64

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

0	811.596	.316	811.555	.687	811.498	2.805	811.188	3.902	811
4.454	810.902	4.525	810.907	5.257	810.87	8.381	810.557	9.077	810.496
10.037	810.381	11.087	810.326	12.002	810.241	12.763	810.159	13.092	810.166
13.862	810.04	14.058	810	15.617	809.566	17.47	809	19.815	808.104
20.127	808	20.305	807.97	21.988	807.69	22.448	807.657	22.723	807.631
23.015	807.588	23.826	807.512	24.179	807.472	25.194	807.32	25.45	807.298
25.886	807.269	26.067	807.253	27.119	807	29.198	806.448	30.453	806
30.589	805.957	30.652	805.936	32.044	805.576	32.45	805.452	32.765	805.379
33.174	805.316	33.403	805.294	33.49	805.299	33.579	805.304	33.763	805.341
34.046	805.438	34.357	805.435	34.53	805.532	34.55	805.541	34.868	805.592
35.385	806	35.537	806.076	36.612	807	37.113	807.368	37.714	807.863
37.881	808	38.668	808.173	42.411	809	44.918	809.566	46.769	810
47.103	810.642	47.287	811	49.816	811.723	51.083	812		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	20.305	.058	37.714	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
20.305	37.714	9.961	22.838	22.144	.1	.3

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
10.842	21.685	810.339	0	.61811	5964

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 41.72029

INPUT
Description:
Station Elevation Data num= 58

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	810.451	.996	810.258	2.245	810	5.269	809.487	7.099	809.202
7.584	809.124	8.339	809	9.932	808.029	9.996	808	11.811	807.745
12.508	807.659	14.166	807.364	14.912	807.266	15.321	807.231	15.485	807.222
16.413	807	16.72	806.869	17.025	806.769	19.359	806	21.382	805
21.602	804.865	21.849	804.694	22.337	804.356	22.999	804	23.433	803.658
24.597	803	25.031	802.964	25.829	802.909	26.7	802.872	27.448	802.867
28.231	802.882	28.847	802.906	29.52	802.938	30.25	802.983	30.472	803
31.072	803.053	33.274	803.899	33.738	804	38.951	804.691	40.317	804.884
41.145	805	42.472	805.527	42.982	805.713	43.864	806	44.575	806.461
45.254	807	45.677	807.649	45.89	808	47.203	808.247	51.283	809
52.608	809.226	55.5	809.603	56.251	809.669	57.144	809.735	57.602	809.785
58.536	809.836	58.91	809.877	59.404	809.897				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	21.849	.058	40.317	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
21.849	40.317	10.436	18.278	27.533	.1	.3

Blocked Obstructions num= 1

Sta L	Sta R	Elev
0	7.019	810.4512

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 23.44198

INPUT
Description:
Station Elevation Data num= 55

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	809.644	.107	809.6	.387	809.528	1.764	809.164	1.909	809.121
2.427	809	3.587	808.625	3.978	808.505	4.638	808.329	5.248	808
8.001	807.367	8.533	807.29	9.067	807.2	10.113	807	10.983	806.013
10.997	806	11.005	805.967	11.236	805	12.097	804.329	12.557	804
13.097	803.339	13.342	803	13.775	802.63	14.808	802	16.576	801.882
19.219	801.705	19.446	801.694	20.389	801.633	20.945	801.612	24.063	801.843
26.045	802	26.667	802.219	28.959	803	29.217	803.23	30.157	804
37.515	804.835	38.684	804.989	38.768	805	40.813	805.544	41.137	805.629
42.435	805.941	42.643	805.991	42.675	806	44.643	806.233	45.768	806.326
50.627	806.825	52.21	806.917	53.132	807	53.214	807	53.59	807
54.248	807.112	55.017	807.378	55.984	807.641	56.354	807.759	56.805	808

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	16.576	.058	38.684	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.576	38.684	8.606	17.731	26.12	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 5.711110

INPUT
Description:
Station Elevation Data num= 57

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	810.2	1.339	810	2.023	809.283	2.35	809	3.025	808.593
3.657	808.212	3.999	808	5.327	807.247	5.652	807	8.395	806.101
8.734	806	8.889	805.865	9.7	805	10.163	804.717	11.6	804
12.223	803.266	12.371	803	12.94	802.355	13.295	802	13.852	801.848
14.593	801.688	15.158	801.568	17.836	801	18.079	800.984	20.218	800.897
20.496	800.891	21.07	800.886	21.48	800.886	21.903	800.888	22.352	800.894
22.827	800.901	23.352	800.912	24.414	800.94	25.142	800.965	26.003	801
26.517	801.163	28.665	802	29.614	802.755	29.98	803	30.463	803.145
33.436	804	33.477	804.009	33.516	804.019	34.312	804.217	37.46	805
42.004	806	42.682	806.099	44.975	806.408	46.209	806.552	49.002	806.812
50.37	807	50.97	807	51.374	807.52	51.646	808	52.045	808.084
55.608	808.836	56.37	809						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	15.158	.058	34.312	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.158	34.312	16.759	5.711	21.046	.1	.3

Blocked Obstructions   num=   1
   Sta L   Sta R   Elev
****
       0   4.211810.2004

****

SUMMARY OF MANNING'S N VALUES

River:Alme

Reach	River Sta.	n1	n2	n3
Alme	346.0286	.035	.058	.035
Alme	340.8620	.035	.058	.035
Alme	337.1913	.035	.058	.035
Alme	332.0697	Culvert		
Alme	326.9481	.035	.058	.035
Alme	318.2890	.035	.058	.035
Alme	311.6395	.035	.058	.035
Alme	303.8436	.035	.058	.035
Alme	295.9385	.035	.058	.035
Alme	289.0909	.035	.058	.035
Alme	283.2029	.035	.058	.035
Alme	276.6229	.035	.058	.035
Alme	267.6301	.035	.058	.035
Alme	262.6338	.035	.058	.035
Alme	258.5520	.035	.058	.035
Alme	248.4231	.035	.058	.035
Alme	239.6731	.035	.058	.035
Alme	229.8189	.035	.058	.035
Alme	217.0088	.035	.058	.035
Alme	208.1064	.035	.058	.035
Alme	198.4724	.035	.058	.035
Alme	190.4317	.035	.058	.035
Alme	181.3740	.035	.058	.035
Alme	168.6892	.035	.058	.035
Alme	158.4595	.035	.058	.035
Alme	146.6102	.035	.058	.035
Alme	134.9155	.035	.058	.035
Alme	124.8436	.035	.058	.035
Alme	113.3915	.035	.058	.035
Alme	102.4974	.035	.058	.035
Alme	93.20643	.035	.058	.035
Alme	86.45223	.035	.058	.035
Alme	81.1431	Culvert		
Alme	75.83388	.035	.058	.035
Alme	64.55781	.035	.058	.035
Alme	41.72029	.035	.058	.035
Alme	23.44198	.035	.058	.035
Alme	5.711110	.035	.058	.035

****

SUMMARY OF REACH LENGTHS

River: Alme

Reach	River Sta.	Left	Channel	Right
Alme	346.0286	5.933	5.167	5.71

```
*Alme            *    340.8620    *    5.349*    3.671*    3.923*
*Alme            *    337.1913    *   14.586*   10.243*   14.287*
*Alme            *    332.0697    *Culvert  *         *         *
*Alme            *    326.9481    *    4.965*    8.659*    7.587*
*Alme            *    318.2890    *    4.115*    6.649*    5.653*
*Alme            *    311.6395    *    5.922*    7.796*    5.673*
*Alme            *    303.8436    *    6.316*    7.905*    7.002*
*Alme            *    295.9385    *    6.041*    6.848*    8.121*
*Alme            *    289.0909    *    7.422*    5.888*    4.713*
*Alme            *    283.2029    *    9.548*     6.58*    2.935*
*Alme            *    276.6229    *   17.315*    8.993*      2.5*
*Alme            *    267.6301    *    7.105*    4.996*    3.195*
*Alme            *    262.6338    *    8.083*    4.082*    2.971*
*Alme            *    258.5520    *    4.997*   10.129*   12.281*
*Alme            *    248.4231    *     5.62*     8.75*   10.992*
*Alme            *    239.6731    *    8.088*    9.854*   10.223*
*Alme            *    229.8189    *   10.383*    12.81*   11.867*
*Alme            *    217.0088    *    6.905*    8.902*   13.813*
*Alme            *    208.1064    *     8.46*    9.634*      7.5*
*Alme            *    198.4724    *    7.595*    8.041*    9.305*
*Alme            *    190.4317    *    9.457*    9.058*    9.677*
*Alme            *    181.3740    *   10.918*   12.685*   13.372*
*Alme            *    168.6892    *   14.104*    10.23*    9.802*
*Alme            *    158.4595    *    8.862*   11.849*   11.254*
*Alme            *    146.6102    *   10.508*   11.695*   15.079*
*Alme            *    134.9155    *   13.433*   10.072*   10.433*
*Alme            *    124.8436    *   17.171*   11.452*    5.724*
*Alme            *    113.3915    *   18.913*   10.894*    3.542*
*Alme            *    102.4974    *   15.369*    9.291*    9.095*
*Alme            *    93.20643    *   12.131*    6.754*    6.462*
*Alme            *    86.45223    *   11.185*   10.618*    11.11*
*Alme            *    81.1431     *Culvert  *         *         *
*Alme            *    75.83388    *    11.32*   11.276*     9.95*
*Alme            *    64.55781    *    9.961*   22.838*   22.144*
*Alme            *    41.72029    *   10.436*   18.278*   27.533*
*Alme            *    23.44198    *    8.606*   17.731*    26.12*
*Alme            *    5.711110    *   16.759*    5.711*   21.046*
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SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Alme

*****************************************************
*     Reach      *   River Sta.   * Contr.  * Expan.  *
*****************************************************
*Alme            *    346.0286*       .1*       .3*
*Alme            *    340.8620*       .1*       .3*
*Alme            *    337.1913*       .1*       .3*
*Alme            *    332.0697*Culvert  *         *
*Alme            *    326.9481*       .1*       .3*
*Alme            *    318.2890*       .1*       .3*
*Alme            *    311.6395*       .1*       .3*
*Alme            *    303.8436*       .1*       .3*
*Alme            *    295.9385*       .1*       .3*
*Alme            *    289.0909*       .1*       .3*
*Alme            *    283.2029*       .1*       .3*
*Alme            *    276.6229*       .1*       .3*
*Alme            *    267.6301*       .1*       .3*
*Alme            *    262.6338*       .1*       .3*
*Alme            *    258.5520*       .1*       .3*
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*Alme            *    248.4231*       .1*       .3*
*Alme            *    239.6731*       .1*       .3*
*Alme            *    229.8189*       .1*       .3*
*Alme            *    217.0088*       .1*       .3*
*Alme            *    208.1064*       .1*       .3*
*Alme            *    198.4724*       .1*       .3*
*Alme            *    190.4317*       .1*       .3*
*Alme            *    181.3740*       .1*       .3*
*Alme            *    168.6892*       .1*       .3*
*Alme            *    158.4595*       .1*       .3*
*Alme            *    146.6102*       .1*       .3*
*Alme            *    134.9155*       .1*       .3*
*Alme            *    124.8436*       .1*       .3*
*Alme            *    113.3915*       .1*       .3*
*Alme            *    102.4974*       .1*       .3*
*Alme            *    93.20643*       .1*       .3*
*Alme            *    86.45223*       .1*       .3*
*Alme            *    81.1431 *Culvert  *         *
*Alme            *    75.83388*       .1*       .3*
*Alme            *    64.55781*       .1*       .3*
*Alme            *    41.72029*       .1*       .3*
*Alme            *    23.44198*       .1*       .3*
*Alme            *    5.711110*       .1*       .3*
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Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Alme	346.0286	T500	10.35	846.61	849.32	847.57	849.34	0.000346	0.50	21.06	11.35	0.11
Alme	346.0286	T10	3.44	846.61	849.03	847.19	849.03	0.000064	0.20	17.84	10.71	0.05
Alme	340.8620	T500	10.35	846.00	849.33	848.55	849.33	0.000095	0.31	35.40	21.91	0.06
Alme	340.8620	T10	3.44	846.00	849.03	847.39	849.03	0.000017	0.12	29.40	18.03	0.02
Alme	337.1913	T500	10.35	846.88	849.33	849.00	849.33	0.000096	0.27	37.70	25.42	0.06
Alme	337.1913	T10	3.44	846.88	849.03	848.05	849.03	0.000020	0.11	30.44	23.55	0.03
Alme	332.0697		Culvert									
Alme	326.9481	T500	10.35	839.91	842.18	842.18	843.29	0.026035	4.67	2.22	9.17	1.00
Alme	326.9481	T10	3.44	839.91	841.03	841.03	841.56	0.033019	3.23	1.07	6.74	1.00
Alme	318.2890	T500	10.35	837.00	837.48	838.12	842.22	1.525115	9.65	1.07	3.32	5.42
Alme	318.2890	T10	3.44	837.00	837.26	837.65	840.39	2.201467	7.84	0.44	2.50	5.98
Alme	311.6395	T500	10.35	834.68	835.25	835.62	836.72	0.383624	5.37	1.93	5.22	2.82
Alme	311.6395	T10	3.44	834.68	835.06	835.23	835.63	0.274992	3.34	1.03	4.50	2.23
Alme	303.8436	T500	10.35	832.72	833.41	833.73	834.45	0.205264	4.52	2.29	4.91	2.11
Alme	303.8436	T10	3.44	832.72	833.14	833.30	833.68	0.227164	3.27	1.05	4.06	2.05
Alme	295.9385	T500	10.35	831.62	832.58	832.78	833.24	0.101120	3.60	2.88	4.98	1.51
Alme	295.9385	T10	3.44	831.62	832.24	832.32	832.56	0.087885	2.48	1.39	3.86	1.32
Alme	289.0909	T500	10.35	830.83	831.55	831.82	832.36	0.162355	3.97	2.60	5.73	1.88
Alme	289.0909	T10	3.44	830.83	831.26	831.40	831.72	0.174801	3.00	1.15	4.13	1.82
Alme	283.2029	T500	10.35	830.17	831.03	831.18	831.53	0.100173	3.15	3.29	7.27	1.50
Alme	283.2029	T10	3.44	830.17	830.76	830.81	830.99	0.077678	2.16	1.60	5.16	1.24

Alme	276.6229	T500	10.35	829.52	830.40	830.55	830.90	0.090654	3.13	3.31	6.80	1.43
Alme	276.6229	T10	3.44	829.52	830.08	830.17	830.38	0.109759	2.44	1.41	4.92	1.45
Alme	267.6301	T500	10.35	828.16	828.97	829.20	829.74	0.187662	3.88	2.67	6.82	1.98
Alme	267.6301	T10	3.44	828.16	829.22	828.85	829.25	0.004549	0.77	4.48	7.92	0.33
Alme	262.6338	T500	10.35	827.03	829.28	829.28	829.49	0.063050	1.92	5.21	14.54	1.01
Alme	262.6338	T10	3.44	827.03	829.09	829.09	829.18	0.070599	1.36	2.52	13.06	0.96
Alme	258.5520	T500	10.35	826.03	826.63	827.11	828.71	0.505131	6.39	1.62	3.95	3.19
Alme	258.5520	T10	3.44	826.03	826.32	826.65	828.21	1.122385	6.09	0.56	2.74	4.28
Alme	248.4231	T500	10.35	825.69	826.34	826.41	826.69	0.070004	2.64	3.92	8.56	1.24
Alme	248.4231	T10	3.44	825.69	826.17	826.12	826.27	0.030322	1.35	2.55	8.27	0.78
Alme	239.6731	T500	10.35	825.39	826.36	826.17	826.48	0.015004	1.55	6.68	10.23	0.61
Alme	239.6731	T10	3.44	825.39	826.03		826.08	0.014038	1.01	3.39	9.59	0.54
Alme	229.8189	T500	10.35	825.12	826.00	826.00	826.23	0.045556	2.13	4.86	10.88	1.02
Alme	229.8189	T10	3.44	825.12	825.68	825.68	825.83	0.052269	1.70	2.02	7.00	1.01
Alme	217.0088	T500	10.35	824.35	825.08	825.16	825.41	0.095075	2.56	4.06	12.51	1.40
Alme	217.0088	T10	3.44	824.35	824.91	824.93	825.05	0.073760	1.65	2.08	9.82	1.14
Alme	208.1064	T500	10.35	823.04	823.53	823.74	824.20	0.192592	3.62	2.86	8.52	2.00
Alme	208.1064	T10	3.44	823.04	823.30	823.44	823.79	0.337184	3.10	1.11	6.43	2.38
Alme	198.4724	T500	10.35	822.61	823.41	823.29	823.55	0.019932	1.69	6.17	11.01	0.70
Alme	198.4724	T10	3.44	822.61	823.12	823.03	823.18	0.019785	1.11	3.11	10.11	0.63
Alme	190.4317	T500	10.35	822.28	823.08	823.08	823.31	0.044361	2.13	4.87	10.69	1.01
Alme	190.4317	T10	3.44	822.28	822.79	822.79	822.93	0.052359	1.65	2.09	7.69	1.01
Alme	181.3740	T500	10.35	820.90	821.33	821.62	822.39	0.304358	4.58	2.26	6.60	2.50
Alme	181.3740	T10	3.44	820.90	821.12	821.28	821.78	0.496156	3.62	0.95	5.78	2.85
Alme	168.6892	T500	10.35	818.95	819.38	819.51	819.81	0.128518	2.90	3.59	11.56	1.63
Alme	168.6892	T10	3.44	818.95	819.24	819.27	819.39	0.089742	1.70	2.02	10.63	1.25
Alme	158.4595	T500	10.35	814.62	814.90	815.20	816.74	1.115002	6.01	1.72	9.05	4.40
Alme	158.4595	T10	3.44	814.62	814.75	814.95	816.54	3.083696	5.93	0.58	6.70	6.42
Alme	146.6102	T500	10.35	813.33	813.84	813.88	814.08	0.072281	2.18	4.75	14.65	1.22
Alme	146.6102	T10	3.44	813.33	813.66	813.67	813.77	0.062501	1.44	2.39	12.36	1.04
Alme	134.9155	T500	10.35	811.90	813.68	812.33	813.68	0.000226	0.34	30.63	20.53	0.09
Alme	134.9155	T10	3.44	811.90	813.24	812.13	813.24	0.000073	0.16	21.84	19.72	0.05
Alme	124.8436	T500	10.35	811.28	813.68		813.68	0.000074	0.23	44.95	22.41	0.05
Alme	124.8436	T10	3.44	811.28	813.24		813.24	0.000018	0.10	35.25	21.91	0.02
Alme	113.3915	T500	10.35	810.88	813.68		813.68	0.000037	0.18	58.66	27.36	0.04
Alme	113.3915	T10	3.44	810.88	813.24		813.24	0.000007	0.07	47.19	25.01	0.02
Alme	102.4974	T500	10.35	810.90	813.68		813.68	0.000037	0.19	54.64	23.29	0.04
Alme	102.4974	T10	3.44	810.90	813.24		813.24	0.000008	0.08	44.66	22.32	0.02
Alme	93.20643	T500	10.35	811.27	813.67	811.94	813.68	0.000235	0.39	26.70	12.85	0.08
Alme	93.20643	T10	3.44	811.27	813.24	811.65	813.24	0.000053	0.16	21.15	12.85	0.04
Alme	86.45223	T500	10.35	811.66	813.66	813.00	813.67	0.000492	0.57	18.02	10.36	0.13
Alme	86.45223	T10	3.44	811.66	813.23	812.76	813.24	0.000132	0.25	13.65	10.36	0.07

Alme	81.1431		Culvert											
Alme	75.83388	T500	10.35	809.20	811.54	811.54	812.64	0.025240	4.66	2.22	28.48	1.00
Alme	75.83388	T10	3.44	809.20	810.38	810.38	810.91	0.032886	3.25	1.06	26.19	1.01
Alme	64.55781	T500	10.35	805.29	805.75	806.36	811.27	2.209103	10.41	0.99	3.68	6.39
Alme	64.55781	T10	3.44	805.29	805.56	805.93	809.37	3.134868	8.65	0.40	2.56	7.00
Alme	41.72029	T500	10.35	802.87	803.42	803.54	803.86	0.093740	2.96	3.50	8.15	1.44
Alme	41.72029	T10	3.44	802.87	803.20	803.23	803.38	0.071020	1.85	1.86	7.23	1.16
Alme	23.44198	T500	10.35	801.61	802.19	802.24	802.47	0.062180	2.31	4.43	12.07	1.17
Alme	23.44198	T10	3.44	801.61	801.99	802.01	802.12	0.066027	1.62	2.16	11.01	1.10
Alme	5.711110	T500	10.35	800.89	801.45	801.45	801.66	0.044889	2.08	4.99	11.50	1.01
Alme	5.711110	T10	3.44	800.89	801.19	801.19	801.31	0.050041	1.48	2.32	9.67	0.97

ERRORS WARNINGS AND NOTES
Errors Warnings and Notes for Plan : Plan 02

River: Alme Reach: Alme RS: 346.0286 Profile: T500
  Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
  Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Alme Reach: Alme RS: 346.0286 Profile: T10
  Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
  Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Alme Reach: Alme RS: 340.8620 Profile: T500
  Warning: Multiple water surfaces were found that could balance the energy equation. The program selected the water surface whose main channel velocity head was the closest to the previously computed cross section.
  Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Alme Reach: Alme RS: 340.8620 Profile: T10
  Warning: Multiple water surfaces were found that could balance the energy equation. The program selected the water surface whose main channel velocity head was the closest to the previously computed cross section.
  Warning: Divided flow computed for this cross-section.
  Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Alme Reach: Alme RS: 337.1913 Profile: T10
  Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.
River: Alme Reach: Alme RS: 332.0697 Profile: T500
  Warning: The flow through the culvert is supercritical. However, since there is flow over the road (weir flow), the program cannot determine if the downstream cross section should be subcritical or supercritical. The program used the downstream subcritical answer, even though it may not be valid.
River: Alme Reach: Alme RS: 332.0697 Profile: T500 Culv: Culvert #1
  Note: The flow in the culvert is entirely supercritical.
River: Alme Reach: Alme RS: 332.0697 Profile: T10
  Warning: The flow through the culvert is supercritical. However, since there is flow over the road (weir flow), the program cannot determine if the downstream cross section should be subcritical or supercritical. The program used the downstream subcritical answer, even though it may not be valid.
River: Alme Reach: Alme RS: 332.0697 Profile: T10 Culv: Culvert #1
  Warning: During the culvert inlet control computations, the program could not balance the culvert/weir flow. The reported inlet energy grade answer may not be valid.
  Note: The flow in the culvert is entirely supercritical.
River: Alme Reach: Alme RS: 326.9481 Profile: T500
  Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
  Warning: Divided flow computed for this cross-section.

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     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 326.9481     Profile: T10
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 318.2890     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 318.2890     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 311.6395     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 311.6395     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 303.8436     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 303.8436     Profile: T10
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 295.9385     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 295.9385     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
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     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 289.0909     Profile: T500
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 289.0909     Profile: T10
     Warning:The conveyance ratio (upstream 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 energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 283.2029     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 283.2029     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 276.6229     Profile: T500
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 276.6229     Profile: T10
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 267.6301     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 267.6301     Profile: T10
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Alme  Reach: Alme     RS: 262.6338     Profile: T500
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
River: Alme  Reach: Alme     RS: 262.6338     Profile: T10
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
River: Alme  Reach: Alme     RS: 258.5520     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 258.5520     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
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River: Alme  Reach: Alme     RS: 248.4231     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 248.4231     Profile: T10
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Alme  Reach: Alme     RS: 239.6731     Profile: T500
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Alme  Reach: Alme     RS: 239.6731     Profile: T10
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
River: Alme  Reach: Alme     RS: 229.8189     Profile: T500
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
River: Alme  Reach: Alme     RS: 229.8189     Profile: T10
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
River: Alme  Reach: Alme     RS: 217.0088     Profile: T500
     Warning:The conveyance ratio (upstream 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 energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 217.0088     Profile: T10
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 208.1064     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 208.1064     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 198.4724     Profile: T500
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Alme  Reach: Alme     RS: 198.4724     Profile: T10
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Alme  Reach: Alme     RS: 190.4317     Profile: T500
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     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
River: Alme  Reach: Alme     RS: 190.4317     Profile: T10
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
River: Alme  Reach: Alme     RS: 181.3740     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 181.3740     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 168.6892     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 168.6892     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 158.4595     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 158.4595     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 146.6102     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 146.6102     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
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            the need for additional cross sections.
River: Alme  Reach: Alme     RS: 134.9155     Profile: T500
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Alme  Reach: Alme     RS: 134.9155     Profile: T10
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Alme  Reach: Alme     RS: 124.8436     Profile: T10
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
River: Alme  Reach: Alme     RS: 102.4974     Profile: T500
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
River: Alme  Reach: Alme     RS: 102.4974     Profile: T10
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
River: Alme  Reach: Alme     RS: 93.20643     Profile: T500
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.
River: Alme  Reach: Alme     RS: 93.20643     Profile: T10
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.
River: Alme  Reach: Alme     RS: 86.45223     Profile: T10
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 81.1431     Profile: T500
     Warning:The flow through the culvert is supercritical.  However, since there is flow over the road (weir flow), the program
             cannot determine if the downstream cross section should be subcritical or supercritical.  The program used the
             downstream subcritical answer, even though it may not be valid.
River: Alme  Reach: Alme     RS: 81.1431     Profile: T500     Culv: Culvert #1
     Warning:During the supercritical analysis, the program could not converge on a supercritical answer in the downstream cross
             section.  The program used the solution with the least error.
     Note:   The flow in the culvert is entirely supercritical.
River: Alme  Reach: Alme     RS: 81.1431     Profile: T10
     Warning:The flow through the culvert is supercritical.  However, since there is flow over the road (weir flow), the program
             cannot determine if the downstream cross section should be subcritical or supercritical.  The program used the
             downstream subcritical answer, even though it may not be valid.
River: Alme  Reach: Alme     RS: 81.1431     Profile: T10     Culv: Culvert #1
     Note:   The flow in the culvert is entirely supercritical.
River: Alme  Reach: Alme     RS: 75.83388     Profile: T500
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 75.83388     Profile: T10
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
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          program defaulted to critical depth.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 64.55781     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 64.55781     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 41.72029     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 41.72029     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 23.44198     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 23.44198     Profile: T10
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 5.711110     Profile: T500
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 5.711110     Profile: T10
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
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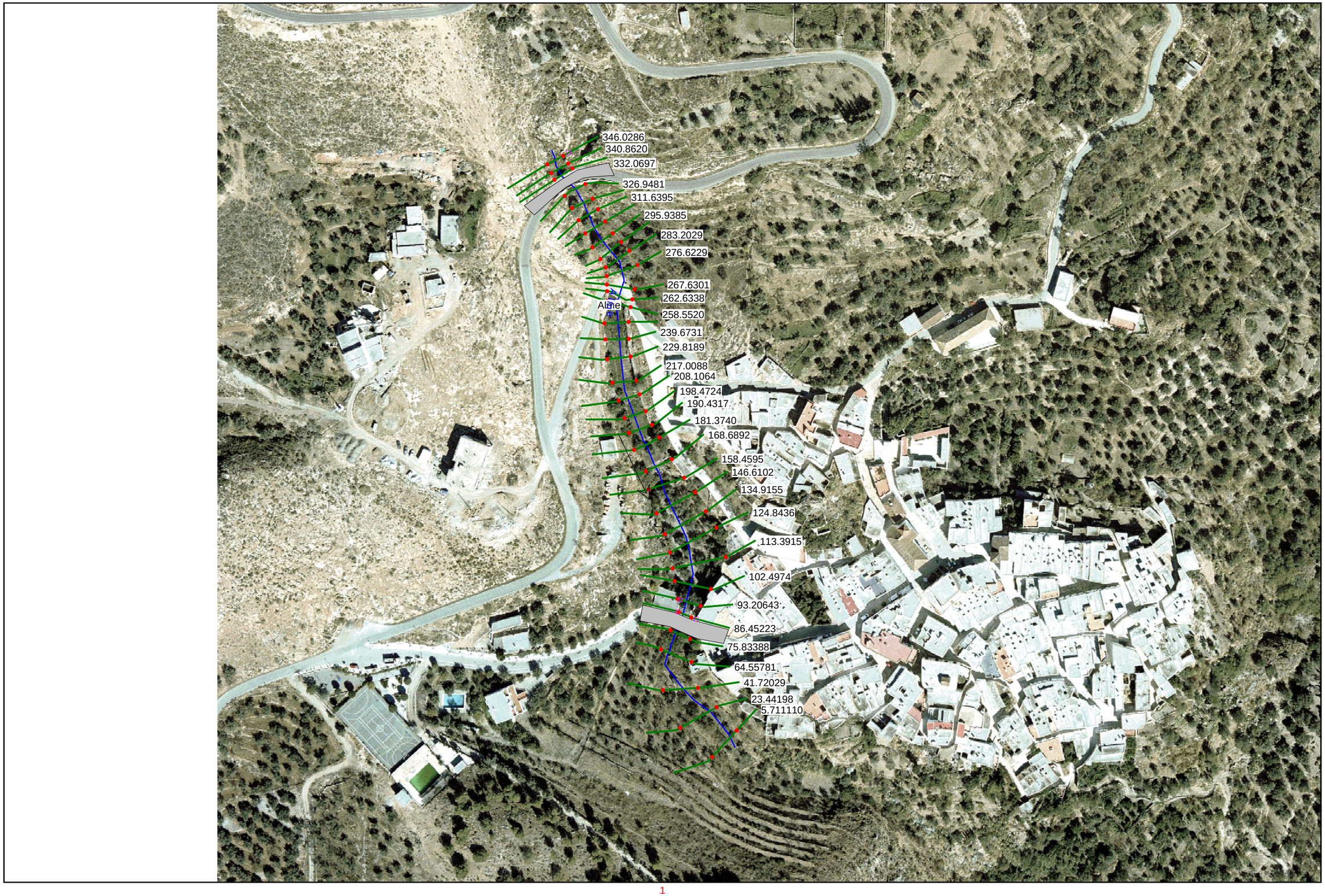
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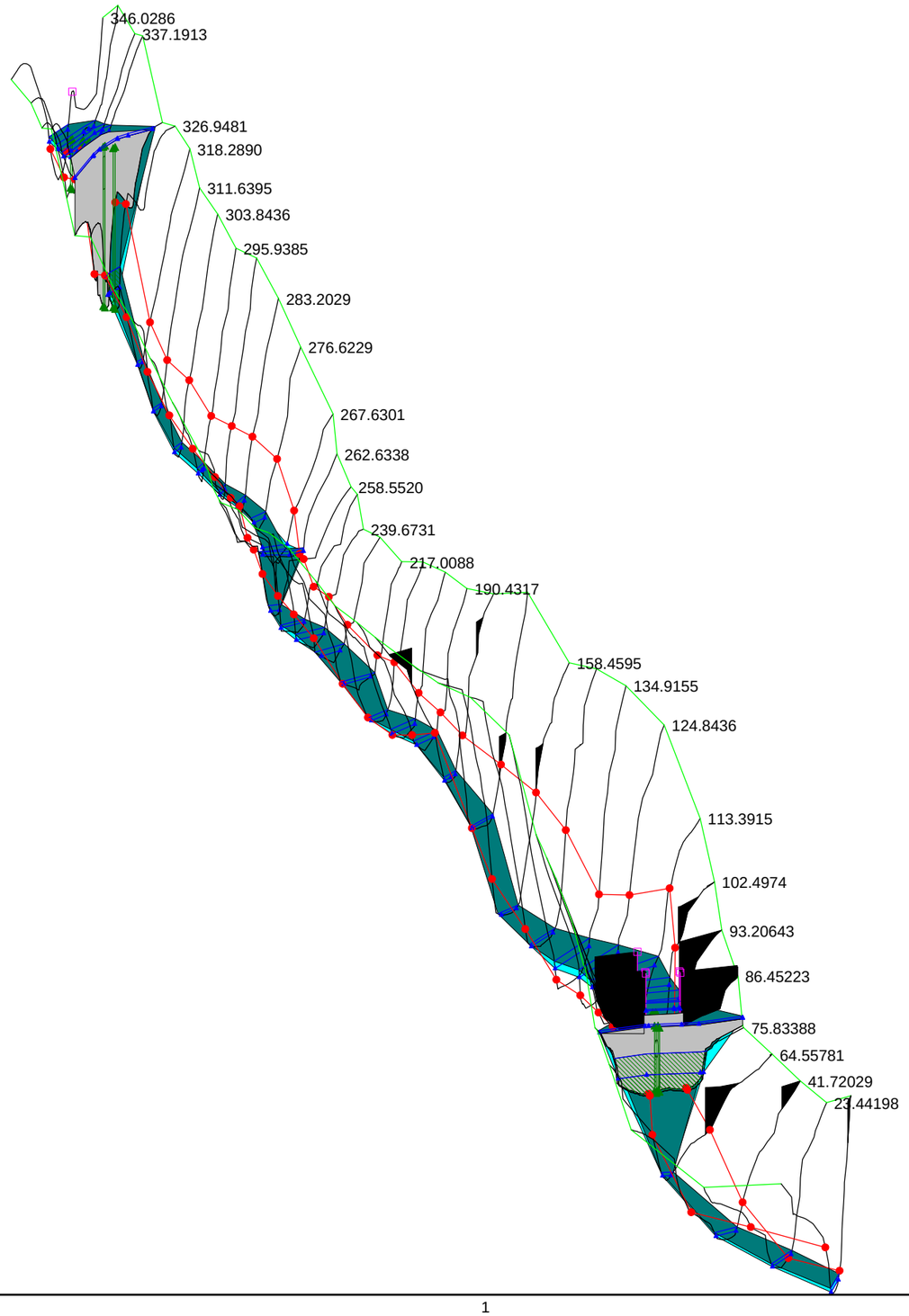
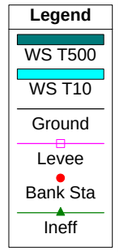
alme Plan: Plan 02

Geom: alme Flow: Flow 01





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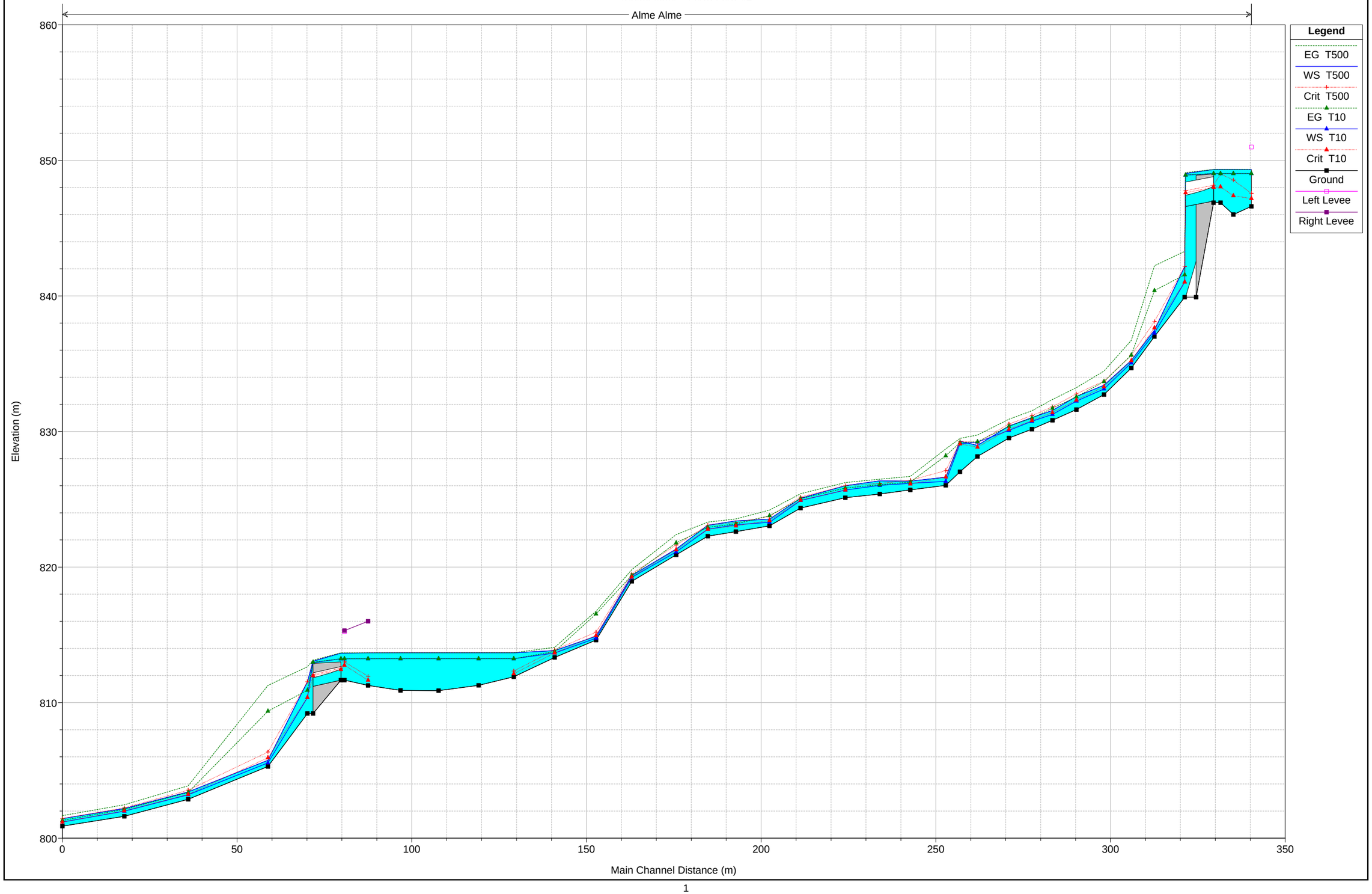
Geom: alme Flow: Flow 01



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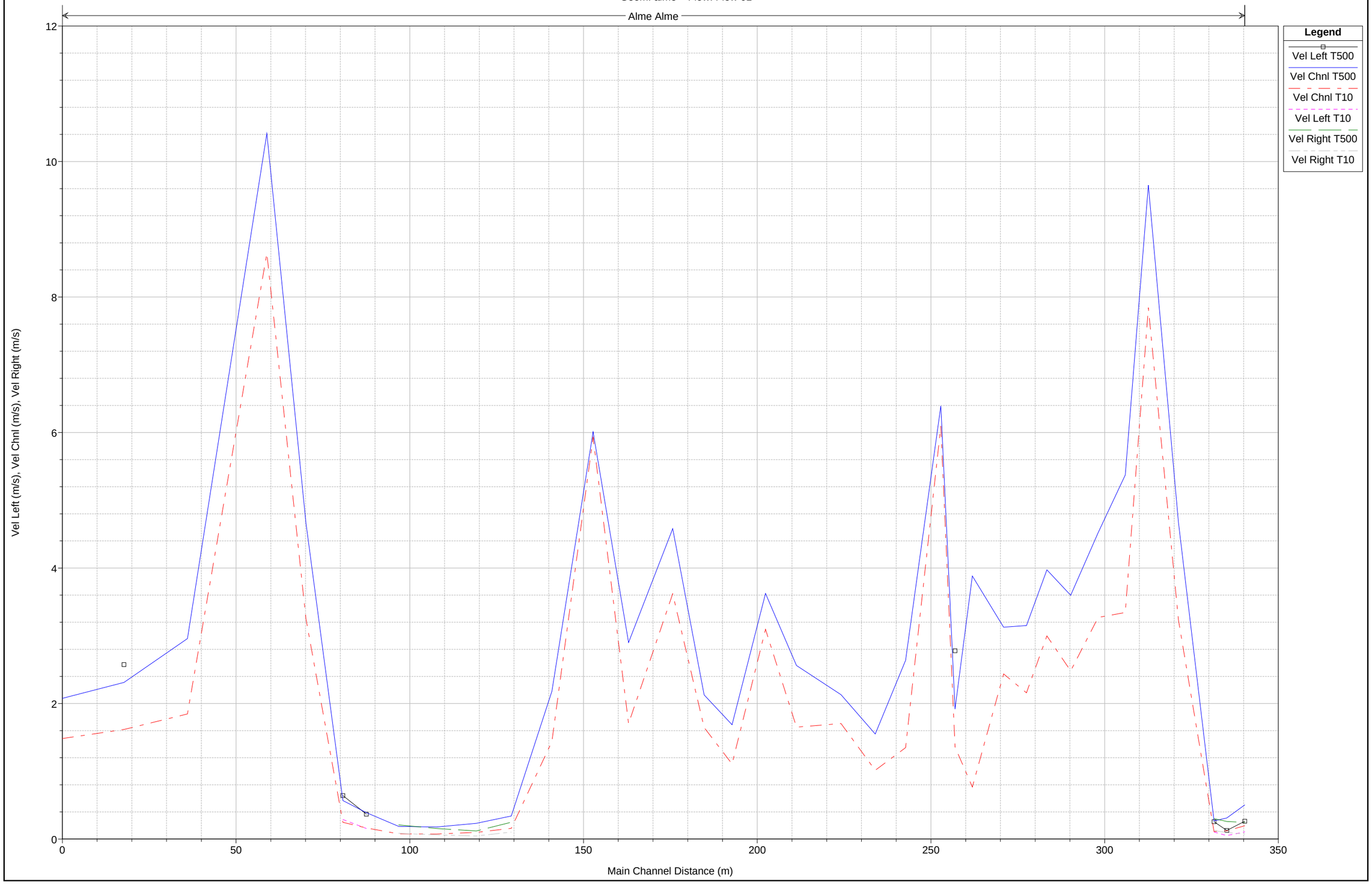
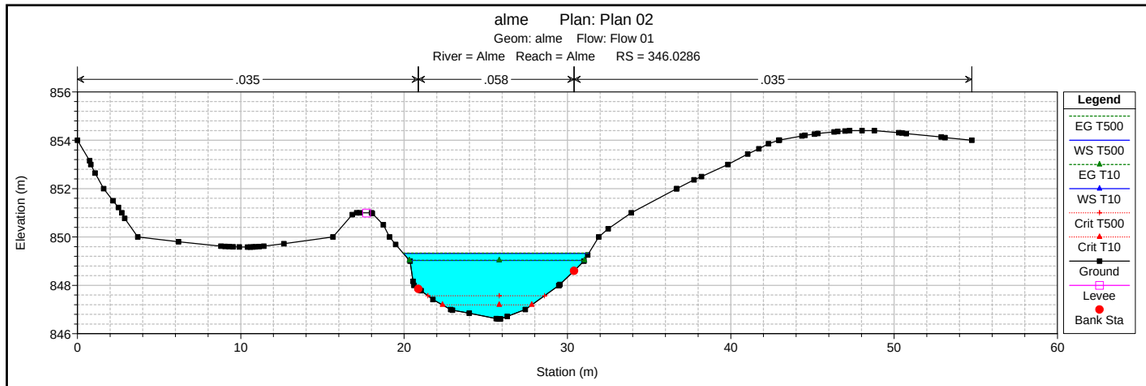
Geom: alme Flow: Flow 01

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Geom: alme Flow: Flow 01
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.058
.035
Elevation (m)
Station (m)
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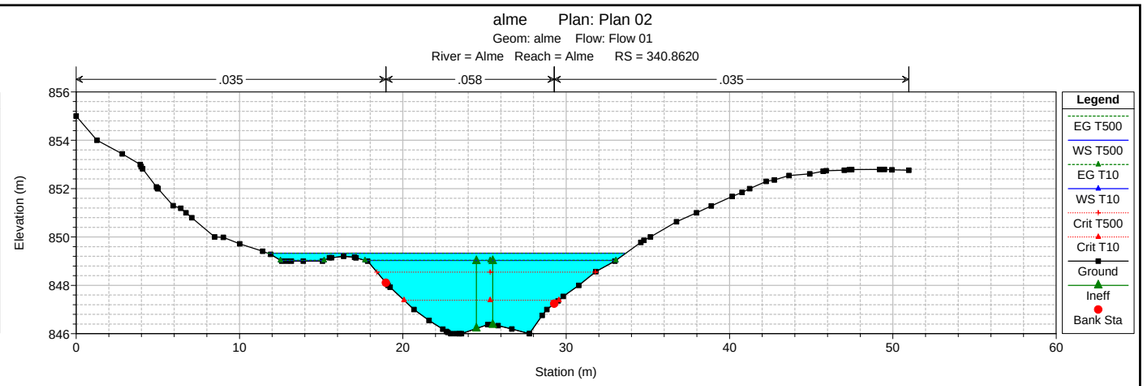
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Levee
Bank Sta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Geom: alme Flow: Flow 01
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.035
.058
.035
Elevation (m)
Station (m)
Legend
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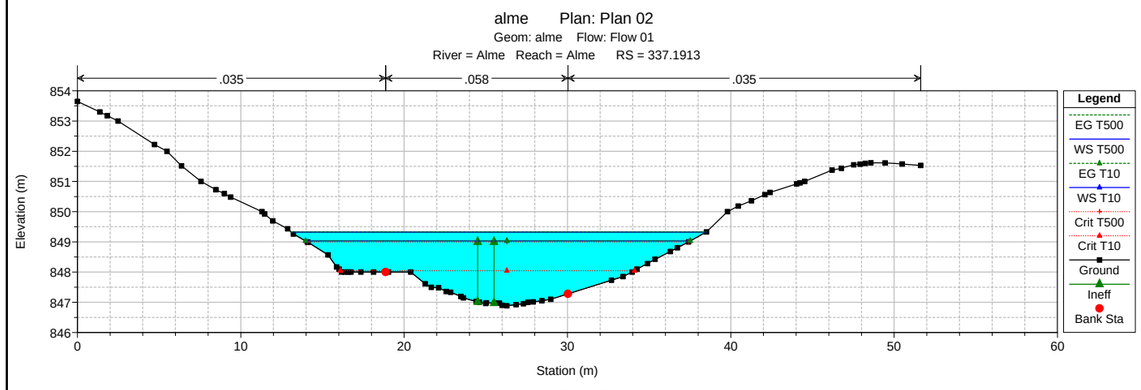
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Ineff
Bank Sta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Geom: alme Flow: Flow 01
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.035
.058
.035
Elevation (m)
Station (m)
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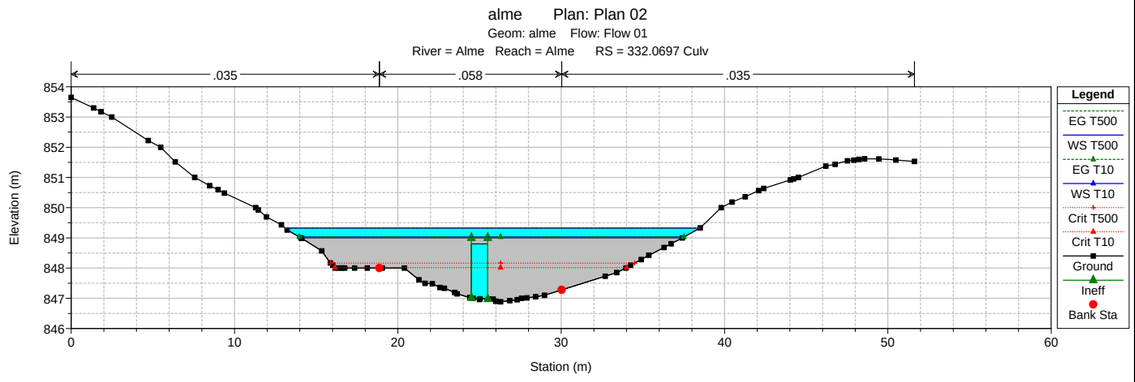
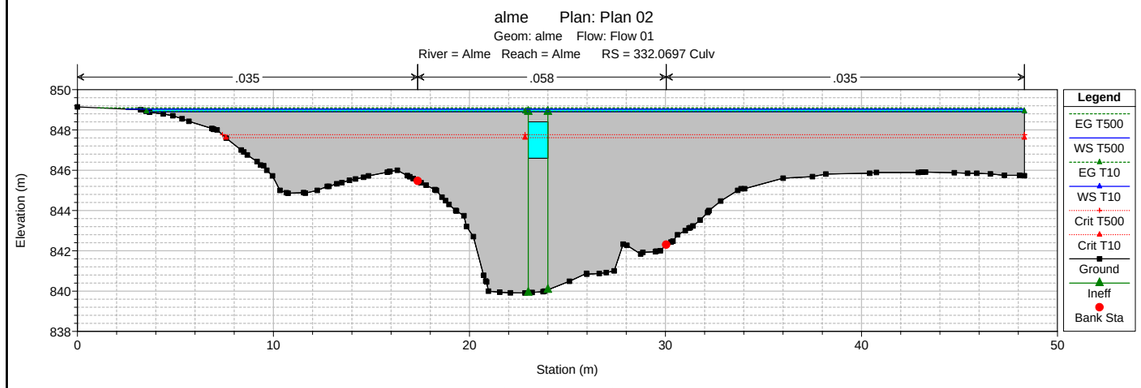
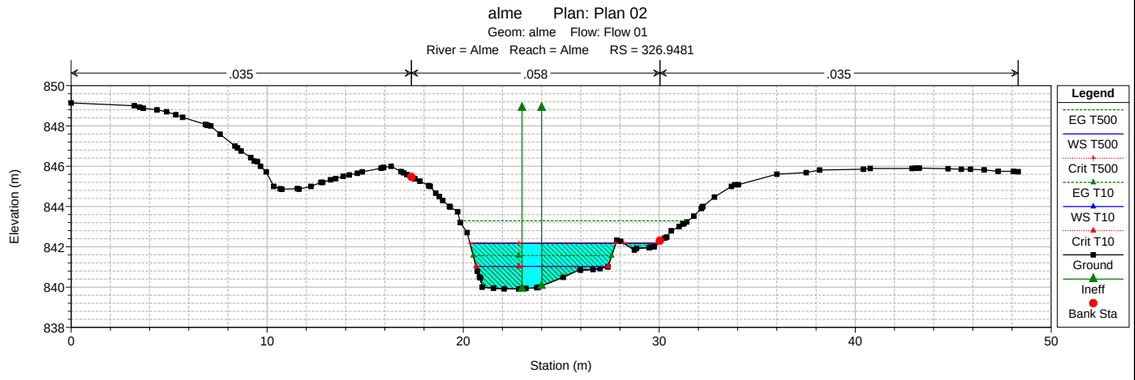
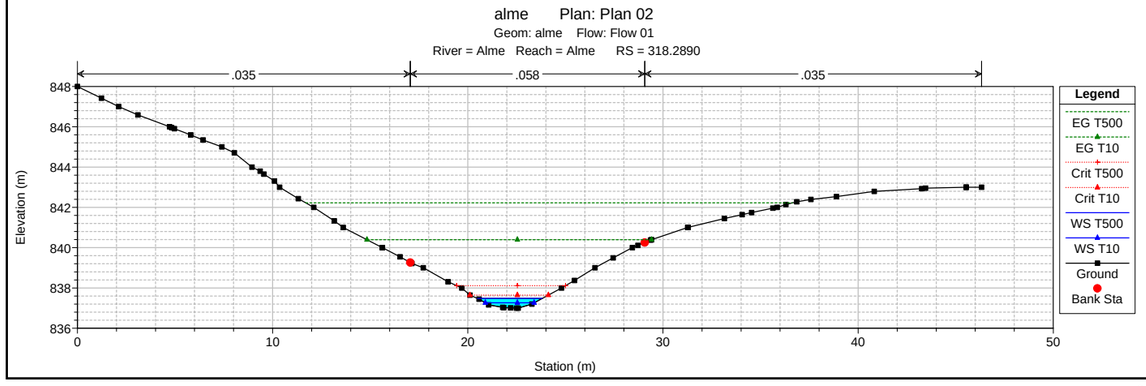
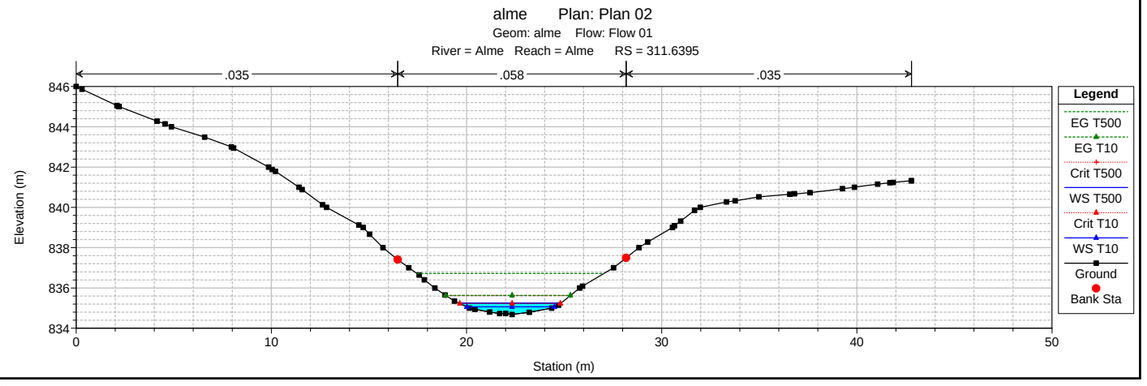
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Ineff
Bank Sta

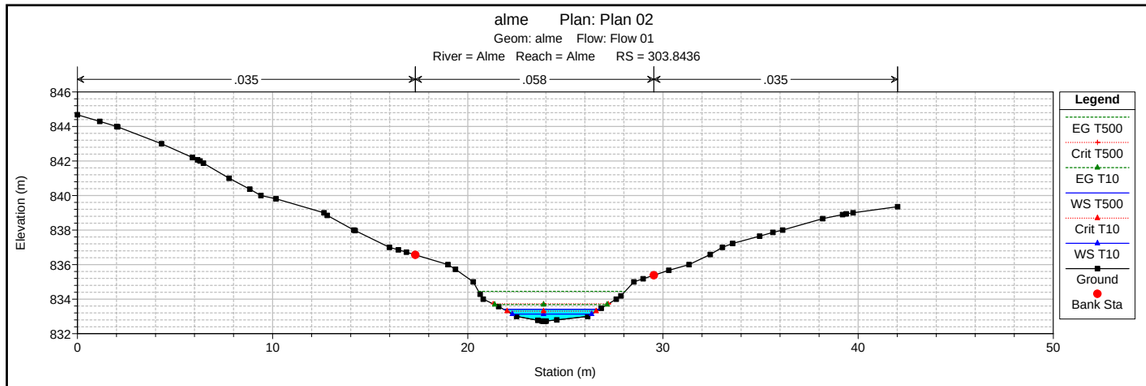

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 332.0697 Culv
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Ineff
Bank Sta

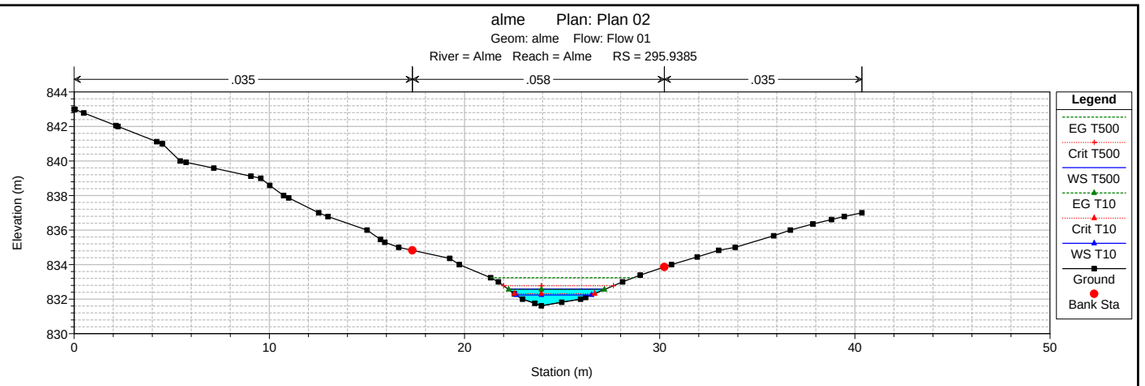

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 332.0697 Culv
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Ineff
Bank Sta

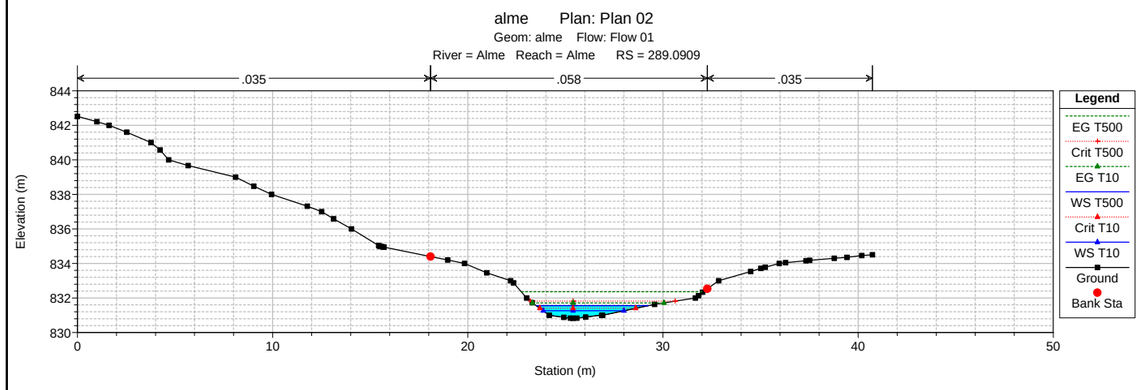

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 326.9481
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
Crit T500
EG T10
WS T10
Crit T10
Ground
Ineff
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 318.2890
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
Crit T10
WS T500
WS T10
Ground
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 311.6395
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
WS T500
Crit T10
WS T10
Ground
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 303.8436
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 295.9385
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
WS T500
EG T10
Crit T10
WS T10
Ground
Bank Sta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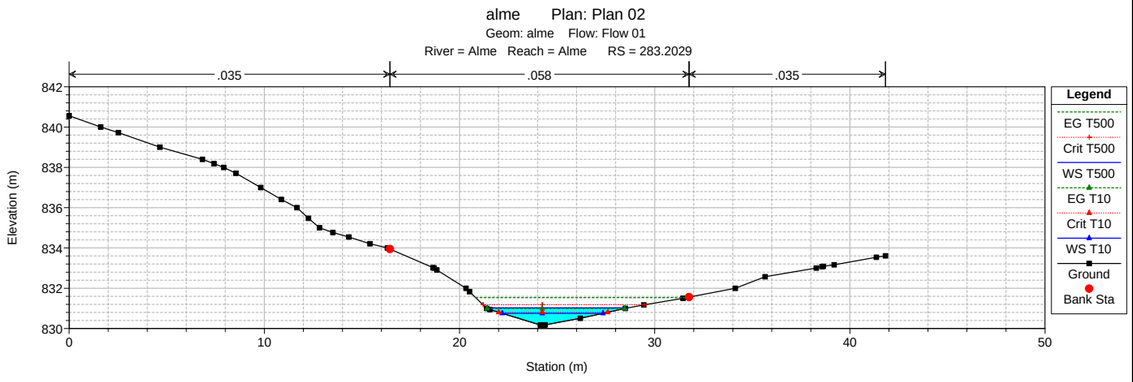
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 289.0909
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Bank Sta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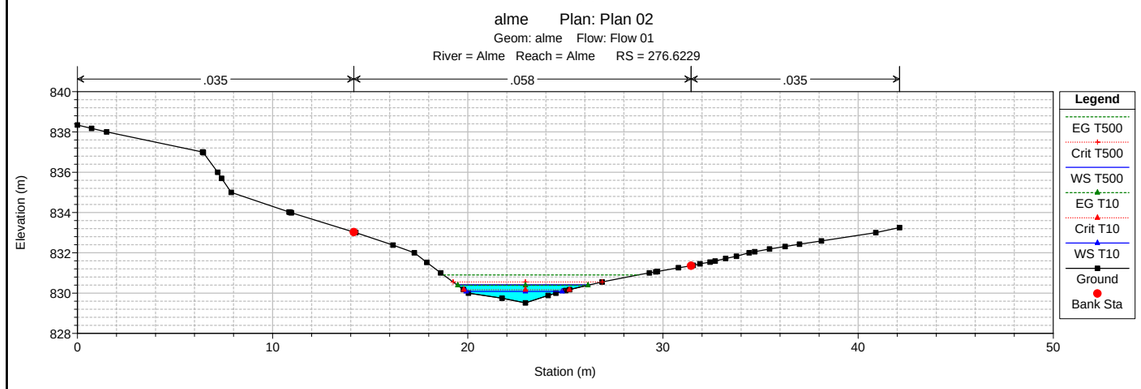
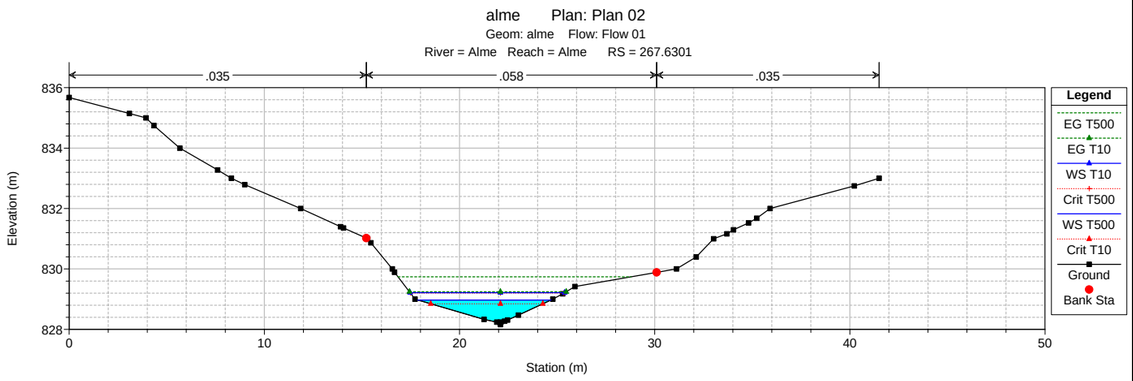
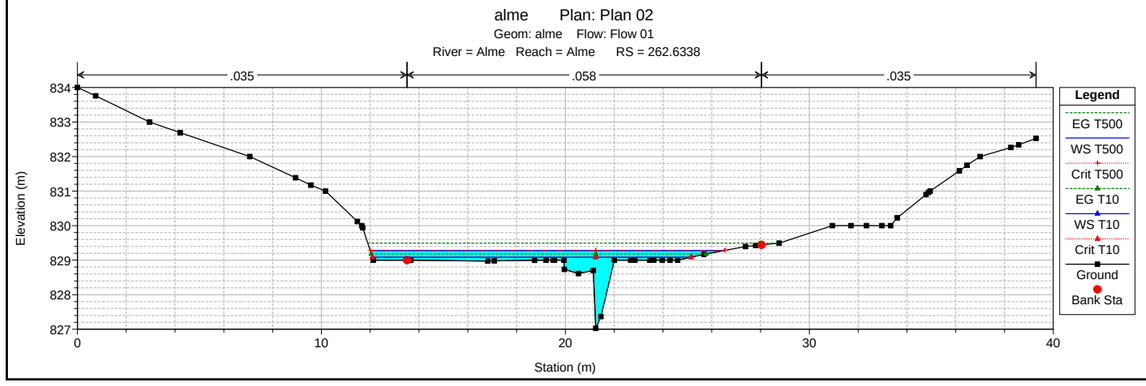
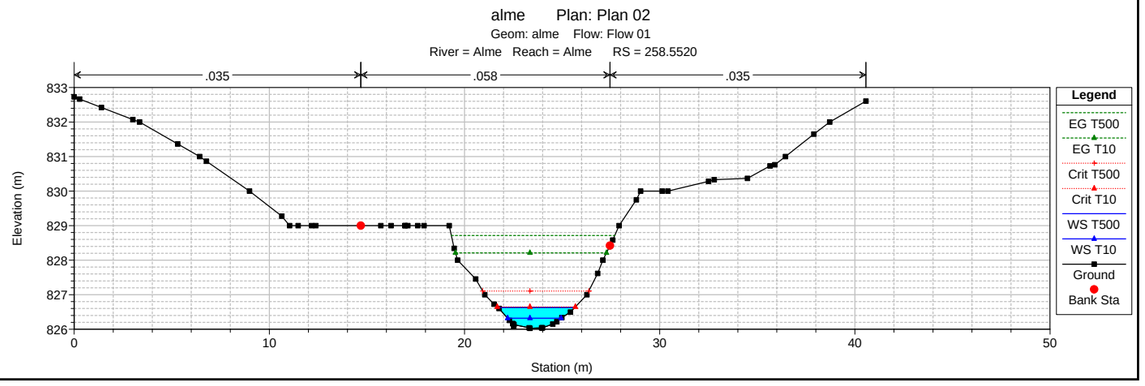
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 283.2029
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
WS T500
EG T10
Crit T10
WS T10
Ground
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 276.6229
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
WS T500
EG T10
Crit T10
WS T10
Ground
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 267.6301
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
WS T10
Crit T500
WS T500
Crit T10
Ground
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 262.6338
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
Crit T500
EG T10
WS T10
Crit T10
Ground
Bank Sta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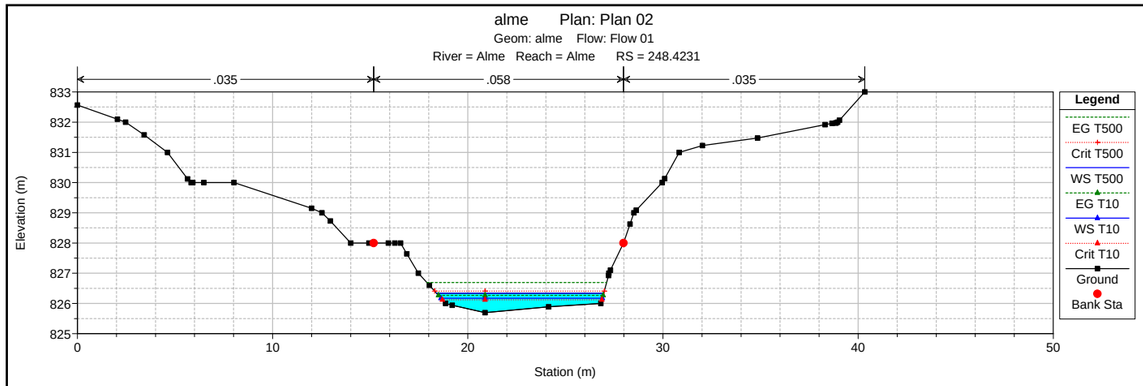
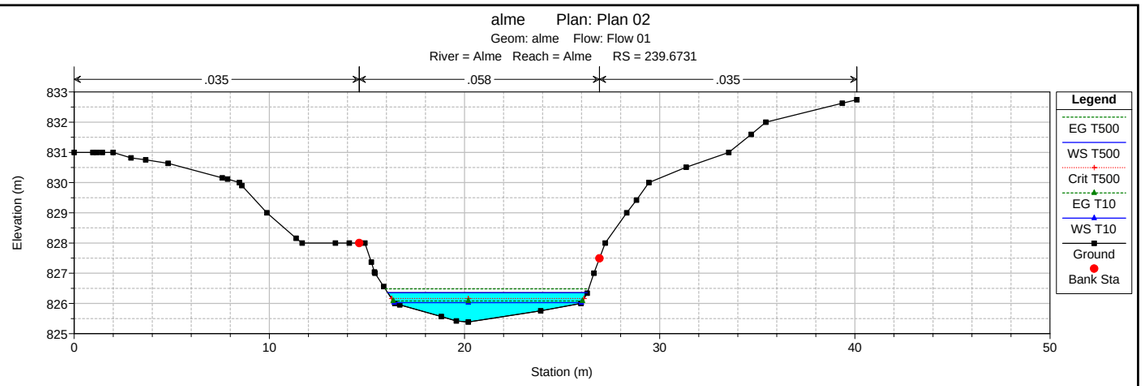
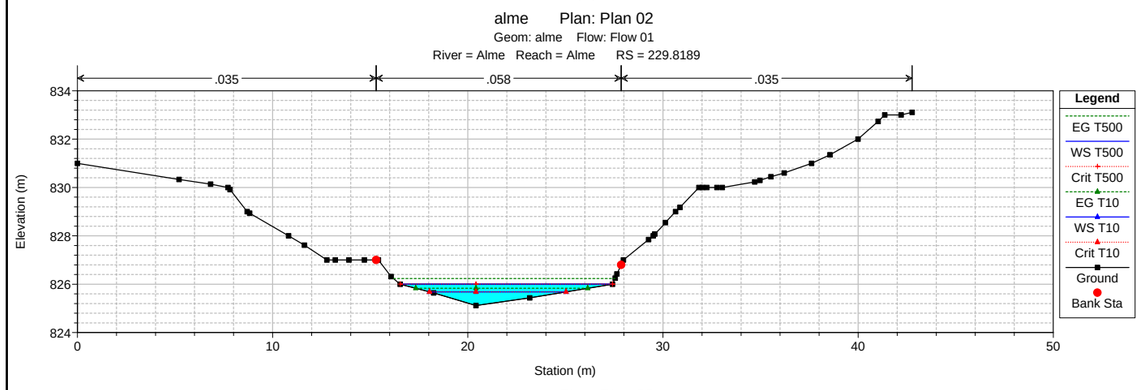
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 258.5520
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
Crit T10
WS T500
WS T10
Ground
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 248.4231
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
WS T500
EG T10
WS T10
Crit T10
Ground
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 239.6731
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
Crit T500
EG T10
WS T10
Crit T10
Ground
Bank Sta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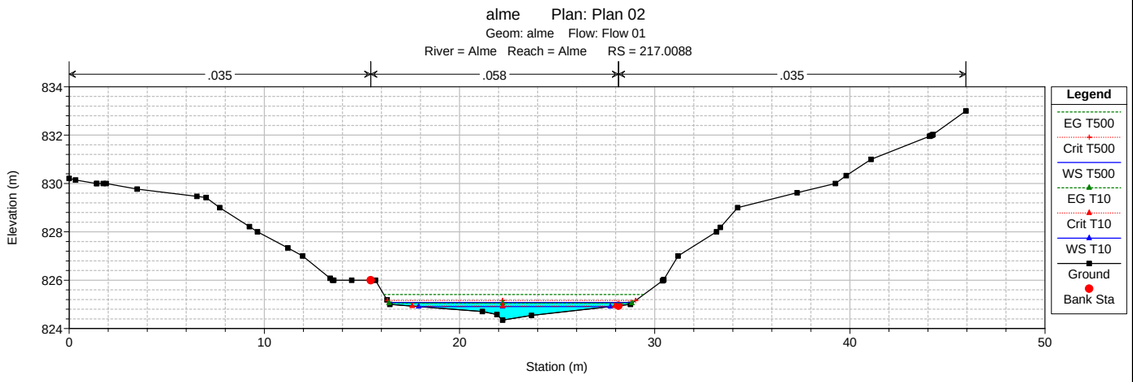
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 229.8189
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
Crit T500
EG T10
WS T10
Crit T10
Ground
Bank Sta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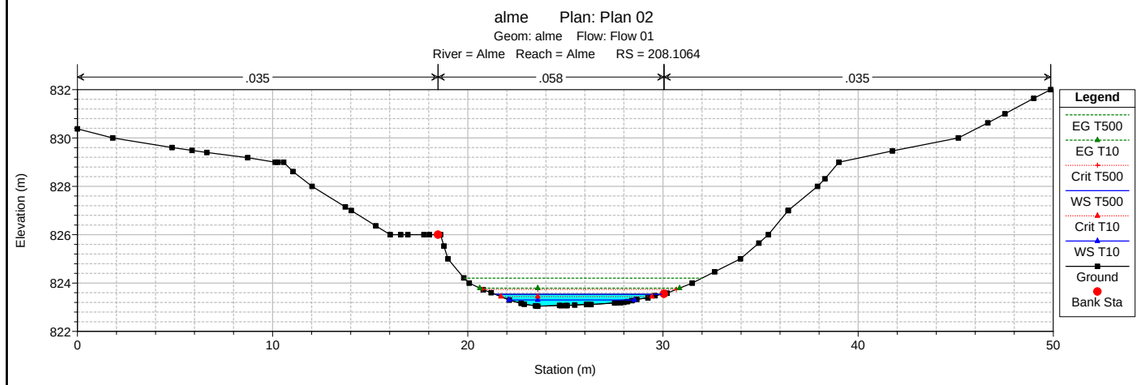
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 217.0088
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
WS T500
EG T10
Crit T10
WS T10
Ground
Bank Sta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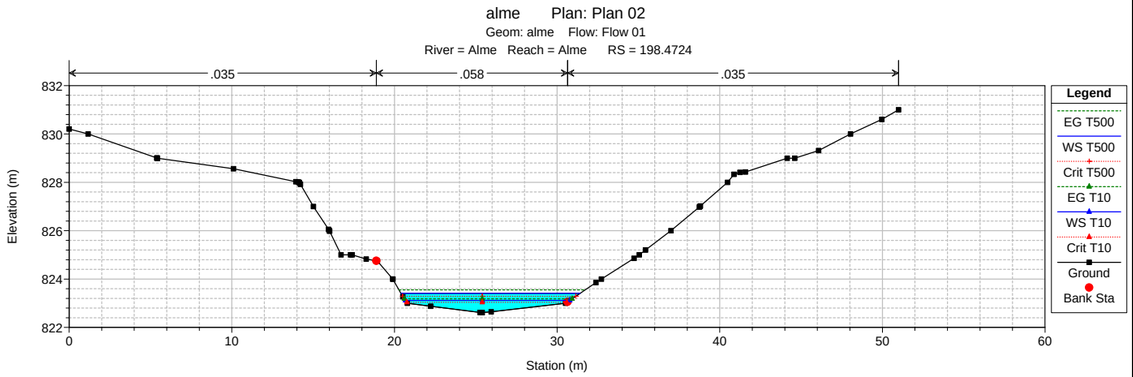
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 208.1064
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
WS T500
Crit T10
WS T10
Ground
Bank Sta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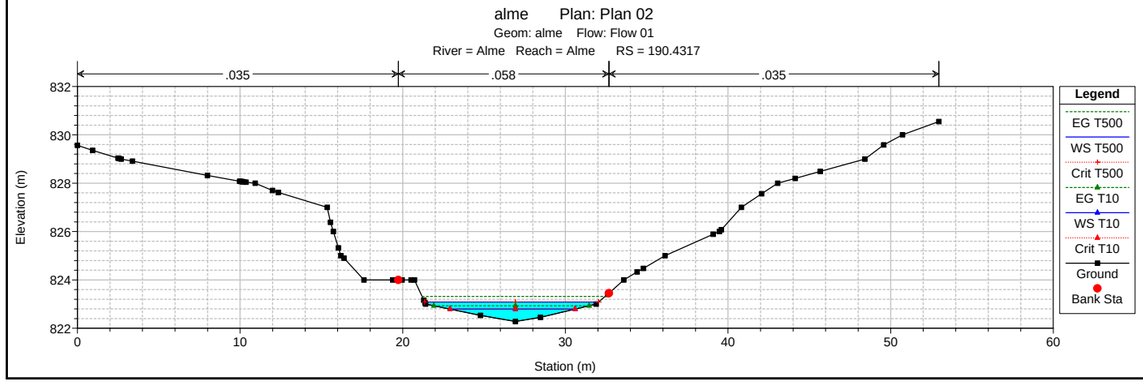
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 198.4724
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
Crit T500
EG T10
WS T10
Crit T10
Ground
Bank Sta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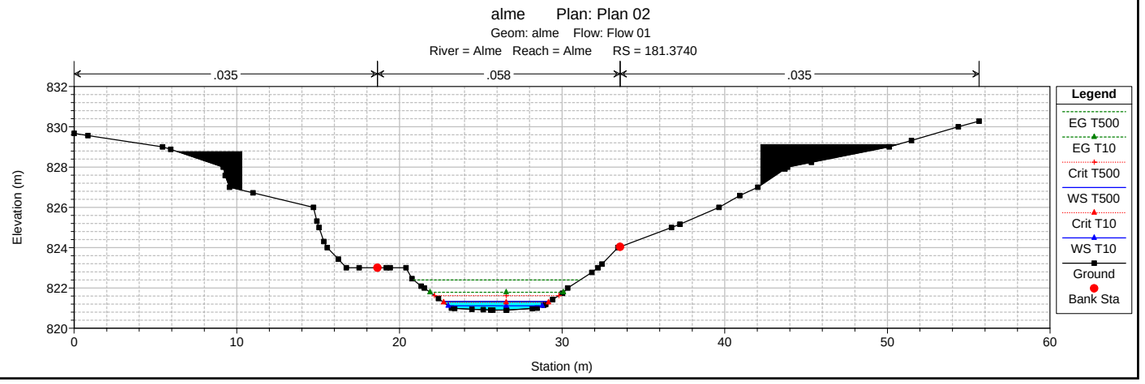
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 190.4317
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
Crit T500
EG T10
WS T10
Crit T10
Ground
Bank Sta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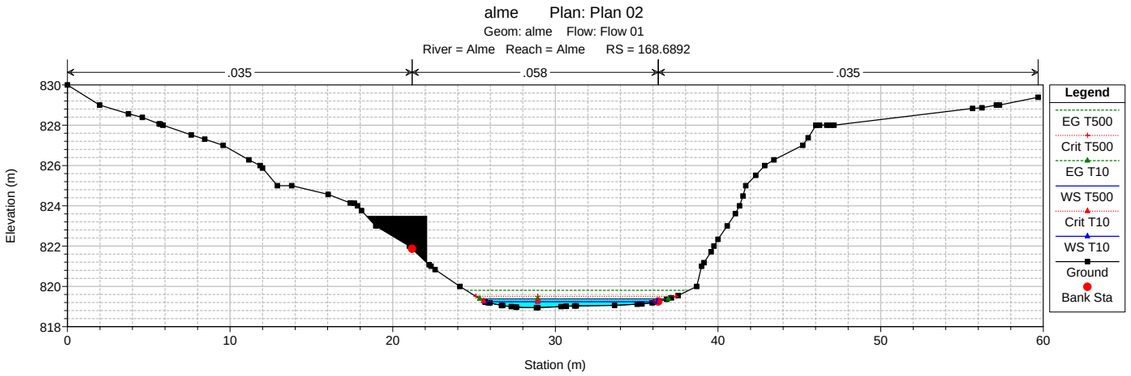
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 181.3740
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
WS T500
Crit T10
WS T10
Ground
Bank Sta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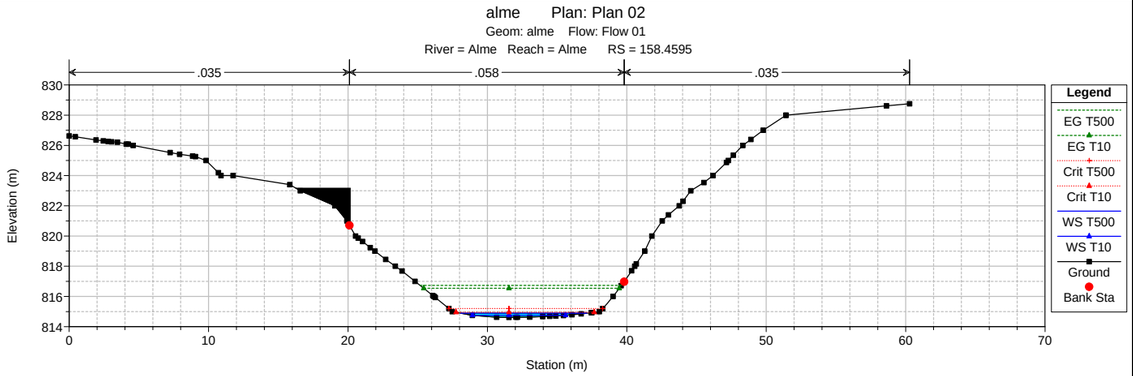
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 168.6892
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Bank Sta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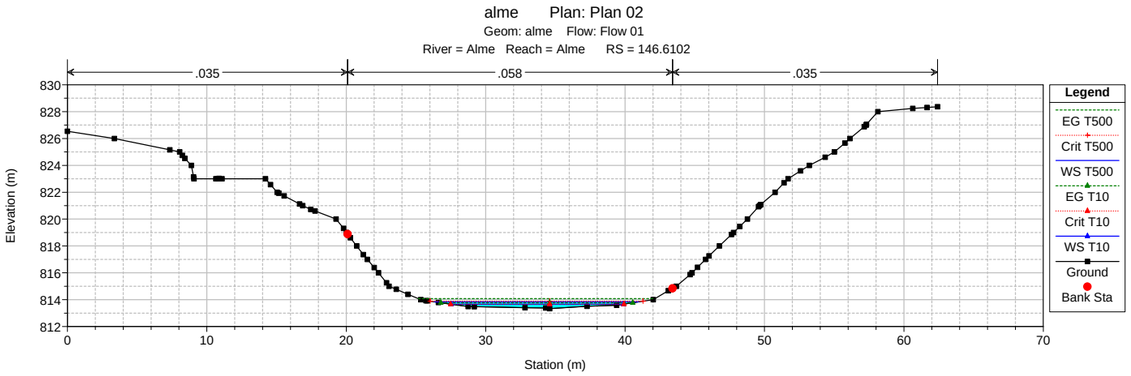
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 158.4595
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
Crit T10
WS T500
WS T10
Ground
Bank Sta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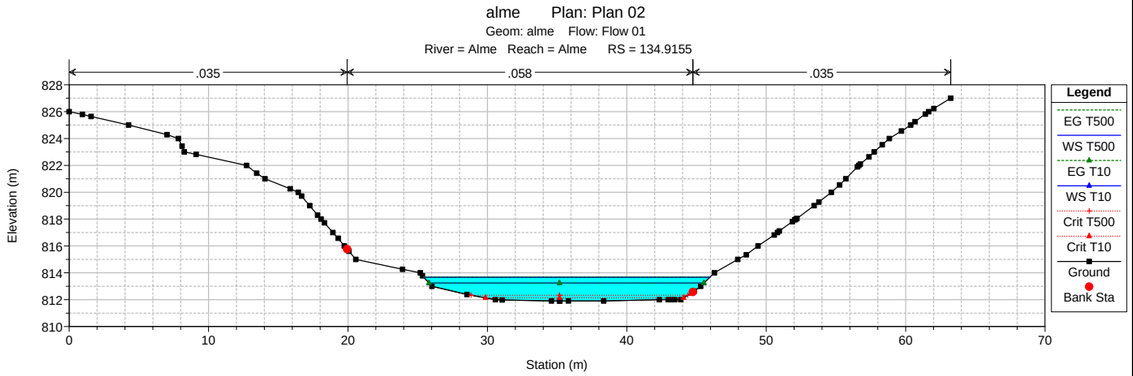
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 146.6102
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
WS T500
EG T10
Crit T10
WS T10
Ground
Bank Sta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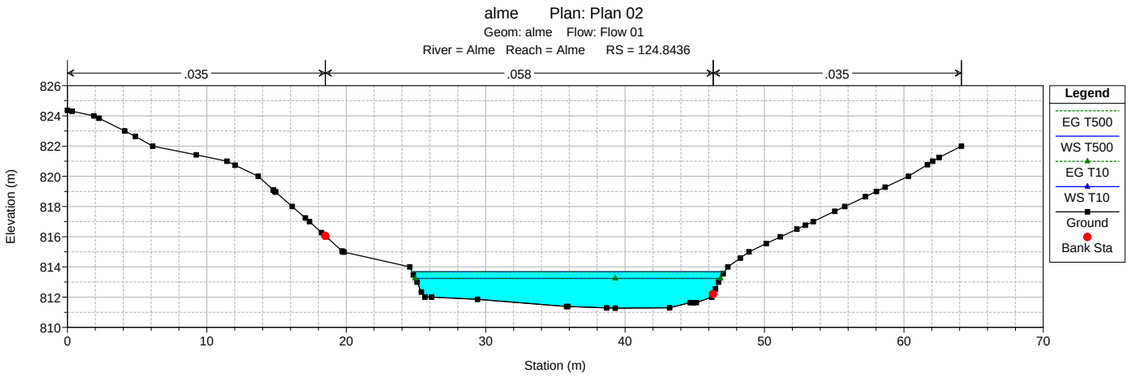
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 134.9155
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Bank Sta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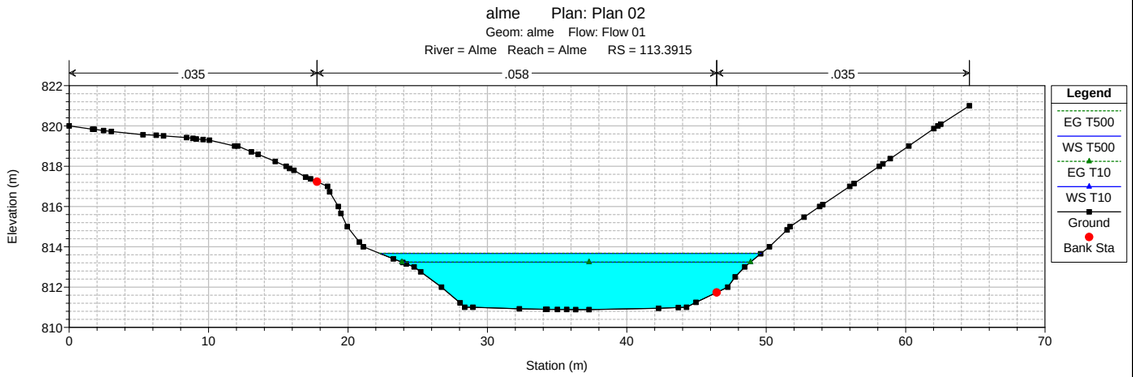
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 124.8436
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Ground
Bank Sta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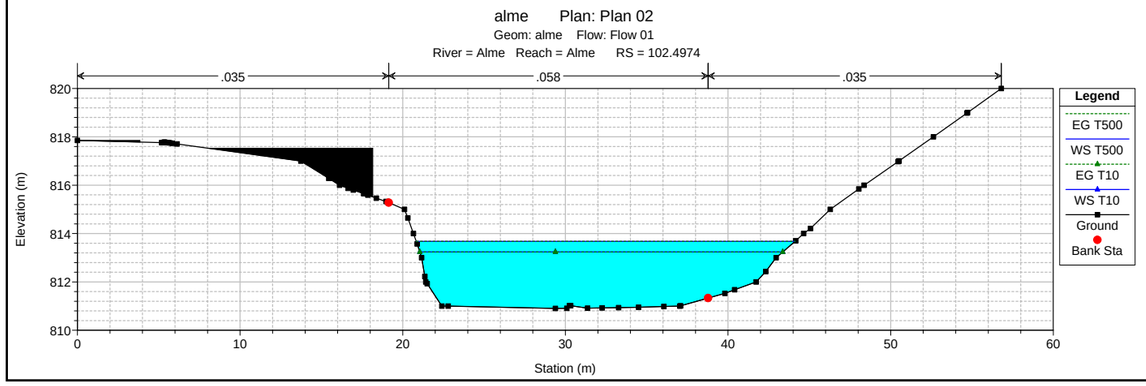
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 113.3915
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Ground
Bank Sta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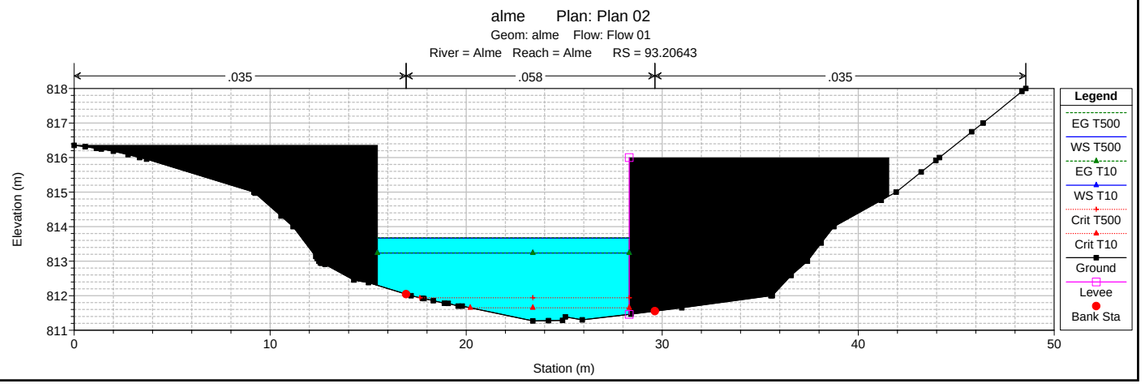
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 102.4974
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Ground
Bank Sta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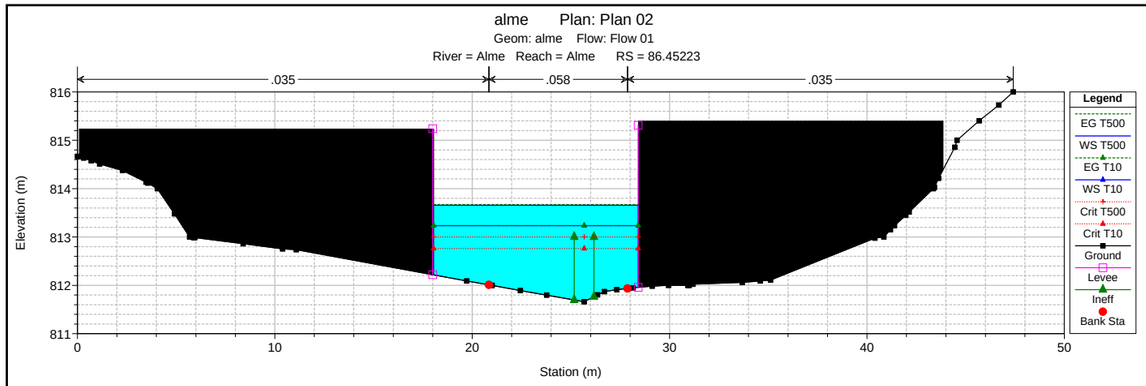
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 93.20643
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Levee
Bank Sta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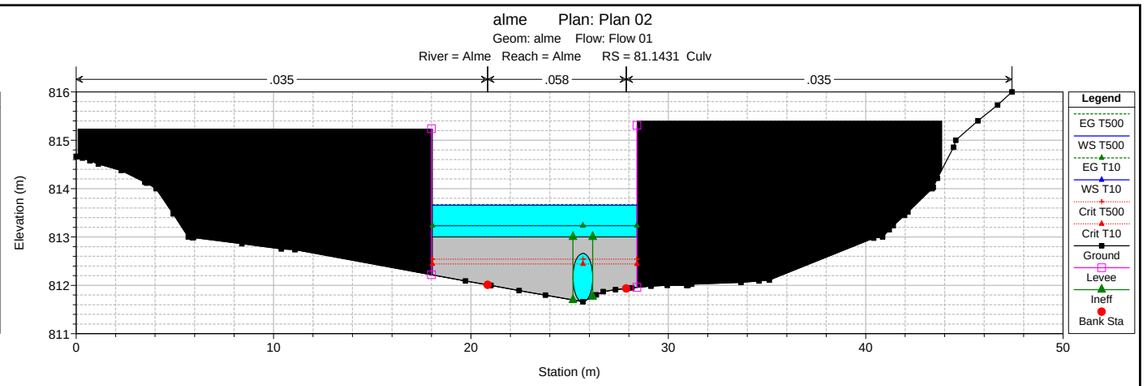
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 86.45223
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Levee
Ineff
Bank Sta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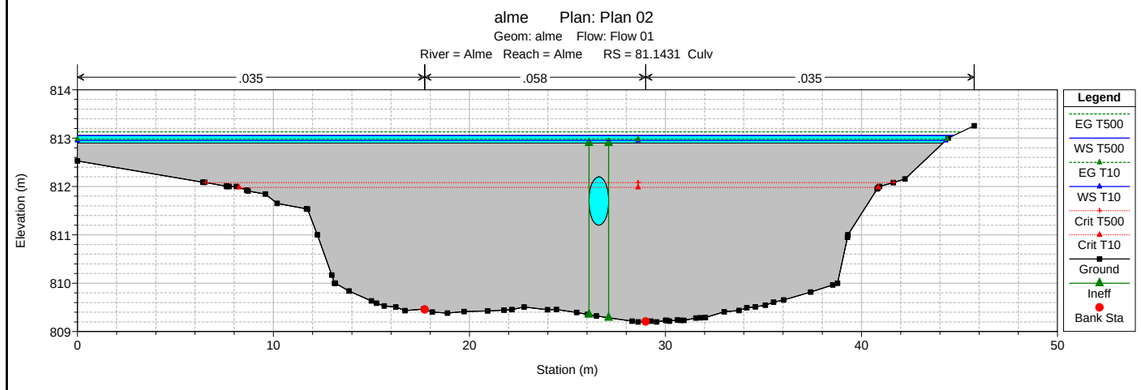
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 81.1431 Culv
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Levee
Ineff
Bank Sta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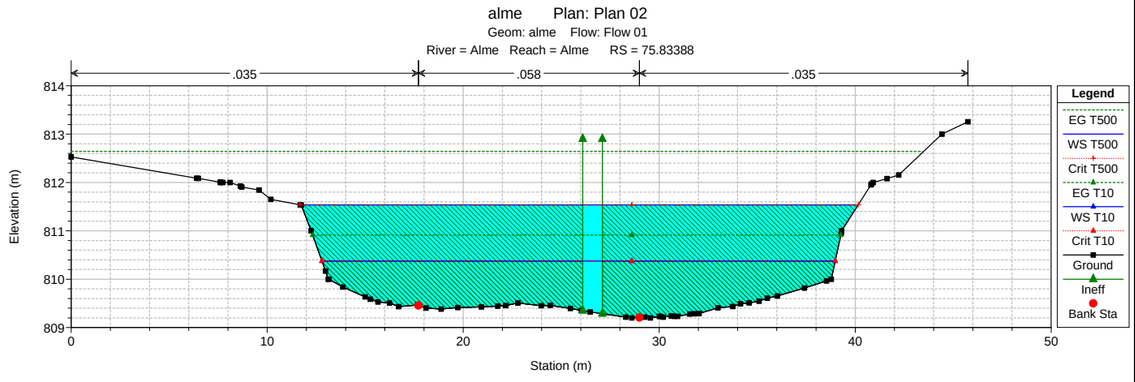
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 81.1431 Culv
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Ineff
Bank Sta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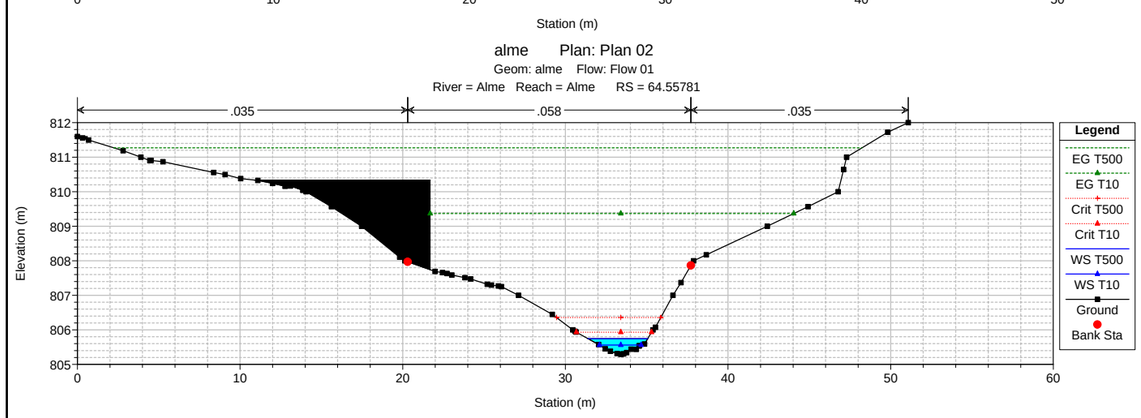
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 75.83388
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
Crit T500
EG T10
WS T10
Crit T10
Ground
Ineff
Bank Sta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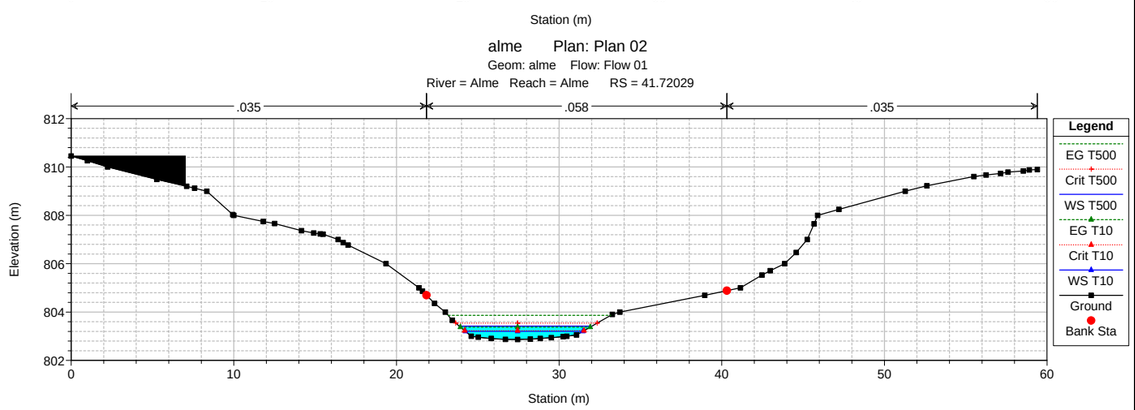
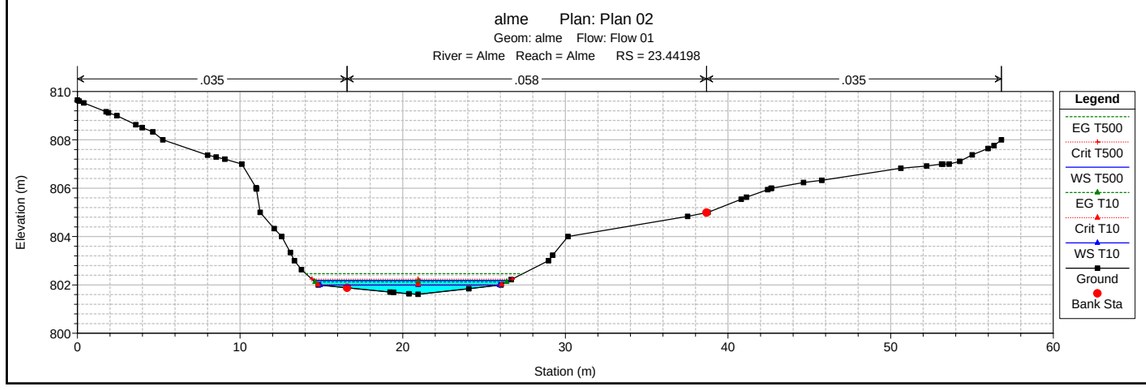
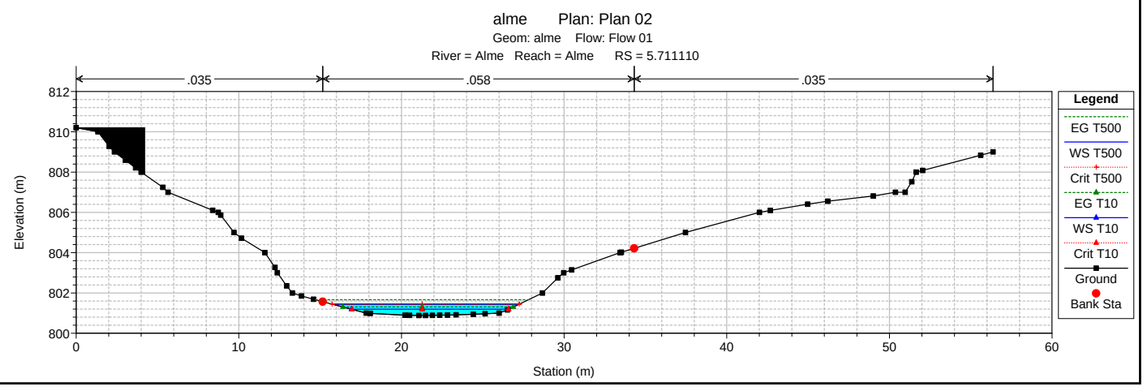
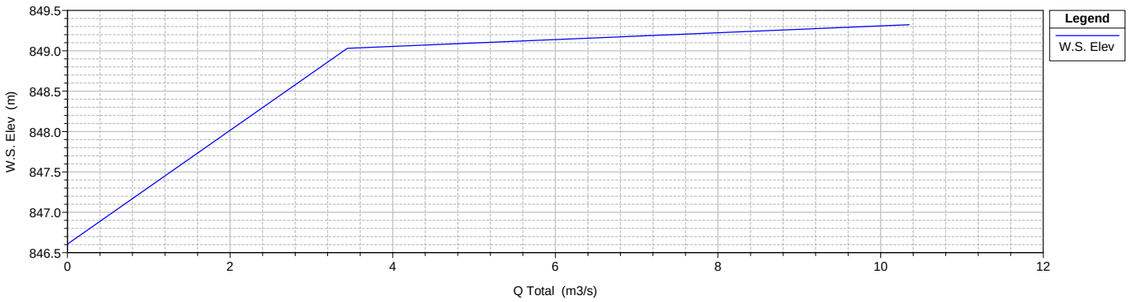
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 64.55781
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
Crit T10
WS T500
WS T10
Ground
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 41.72029
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
WS T500
EG T10
Crit T10
WS T10
Ground
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 23.44198
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
WS T500
EG T10
Crit T10
WS T10
Ground
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 5.711110
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
Crit T500
EG T10
WS T10
Crit T10
Ground
Bank Sta

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 346.0286



alme Plan: Plan 02
Geom: alme Flow: Flow 01
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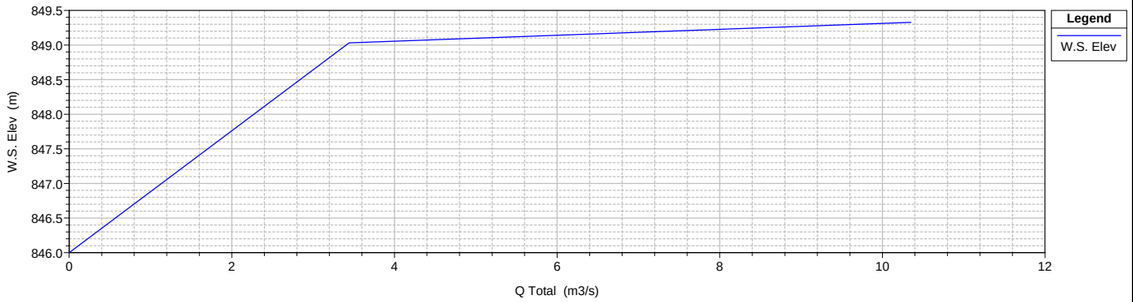
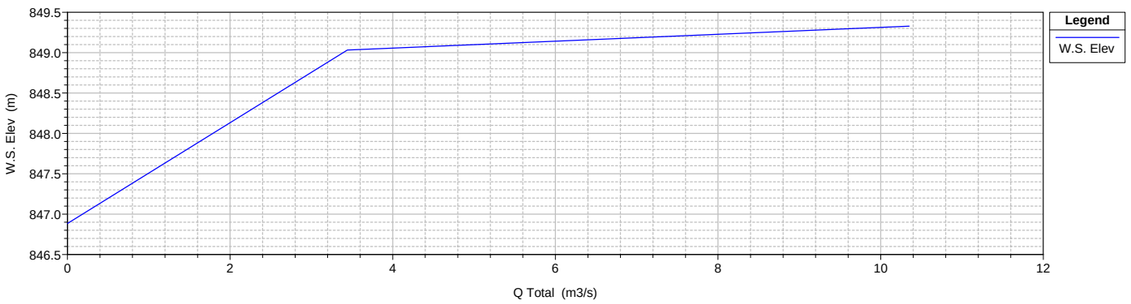


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 337.1913



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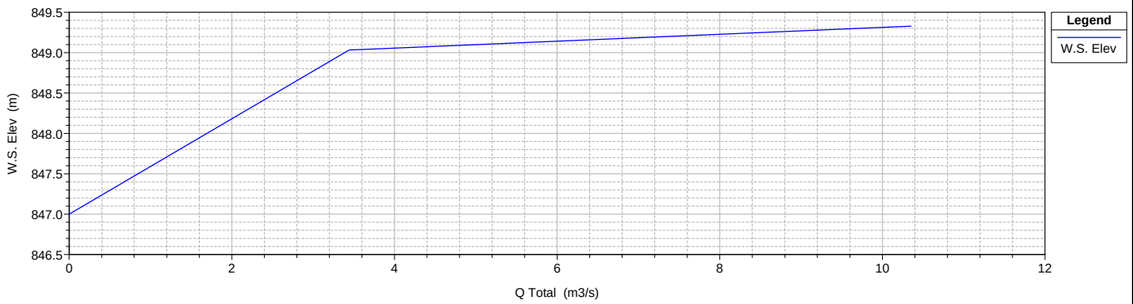
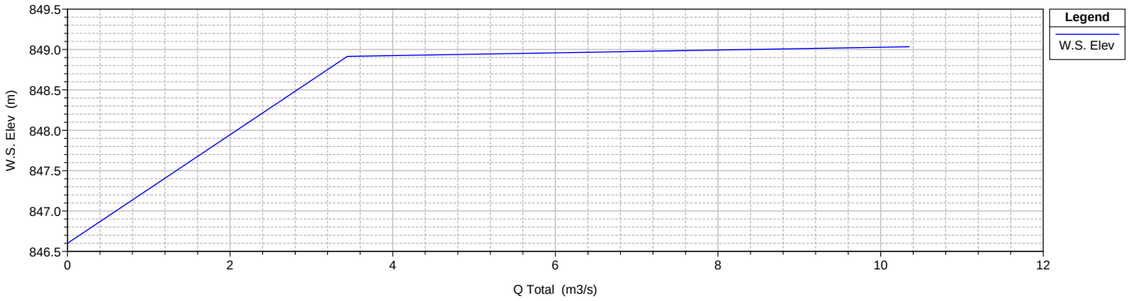
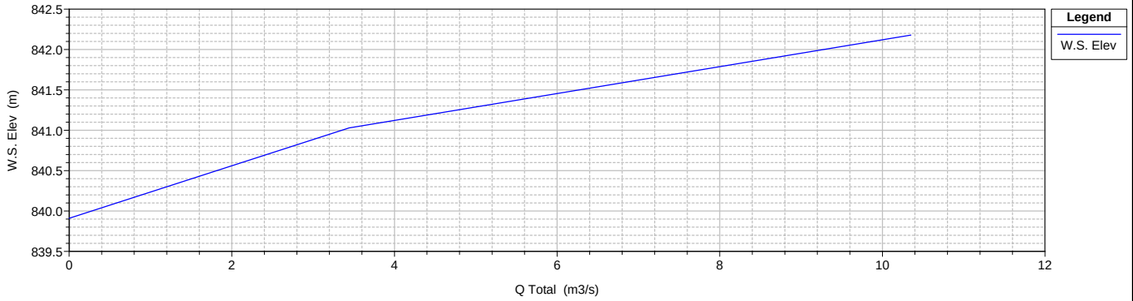
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 332.0697 Culv



alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 332.0697 Culv



alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 326.9481



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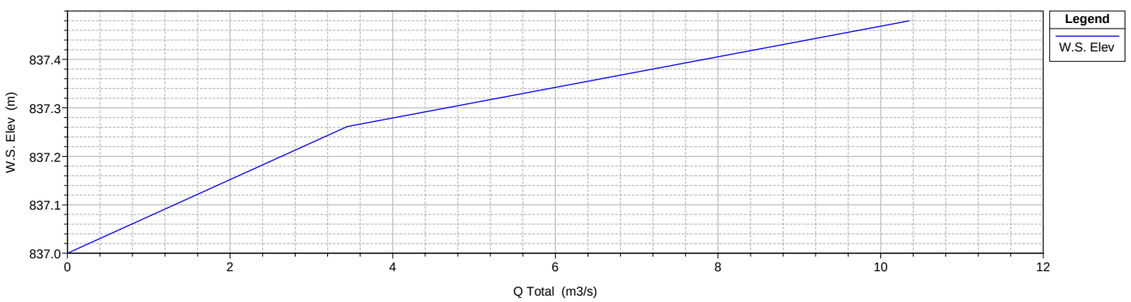
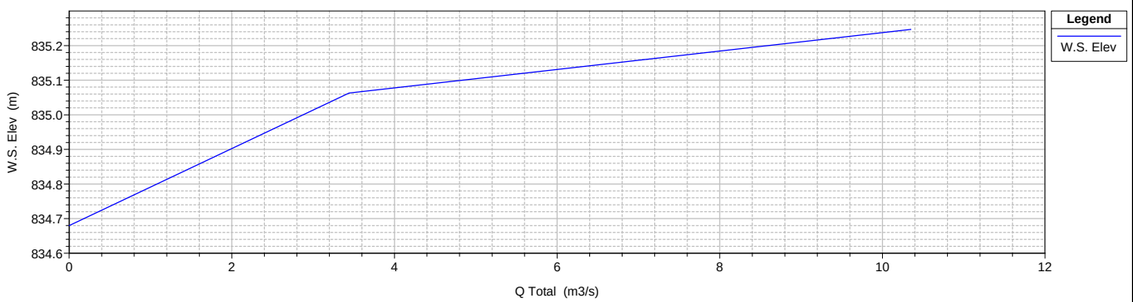
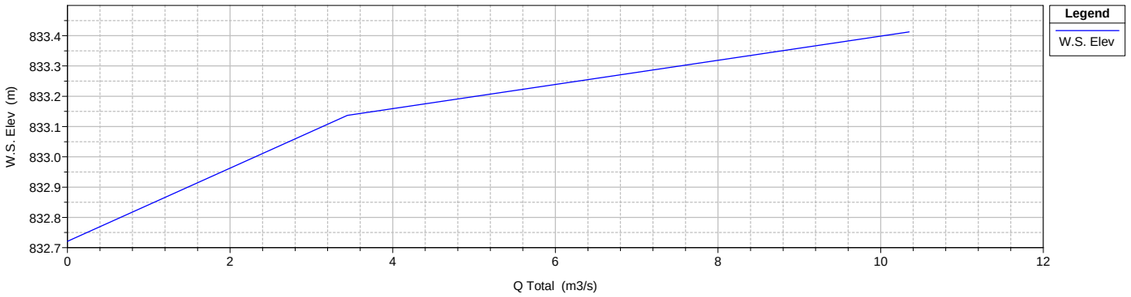
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 318.2890



alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 311.6395



alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 303.8436



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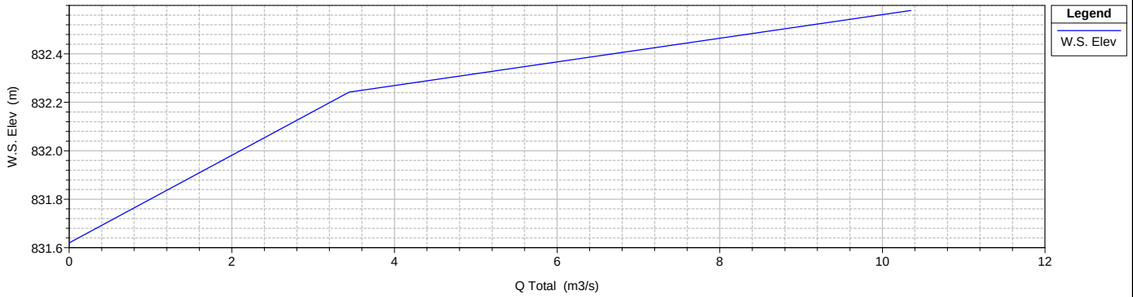
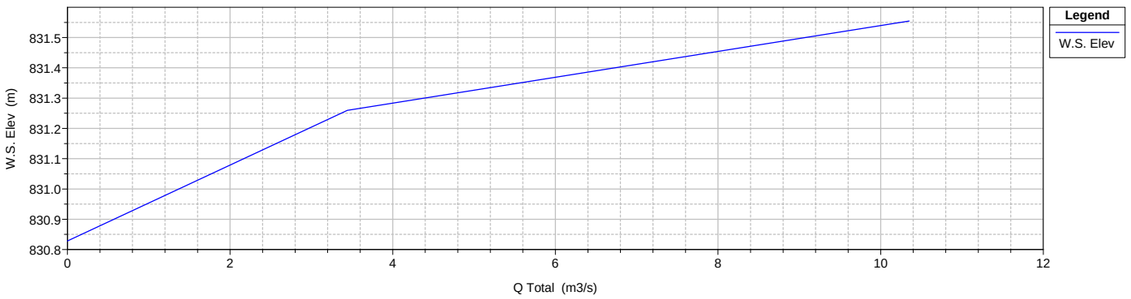
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 295.9385



alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 289.0909



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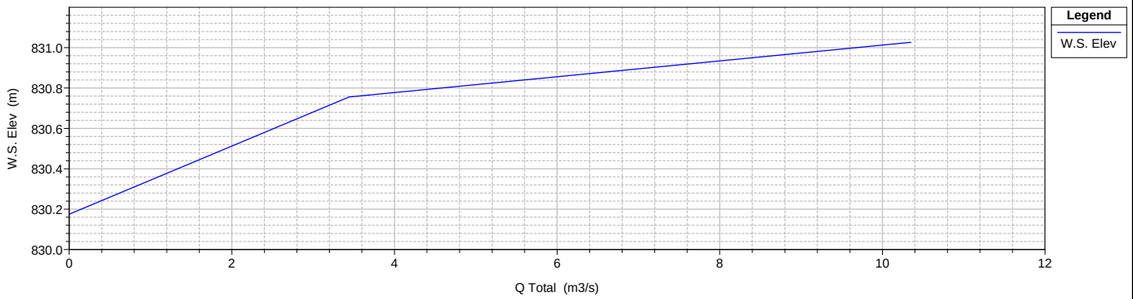
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 283.2029



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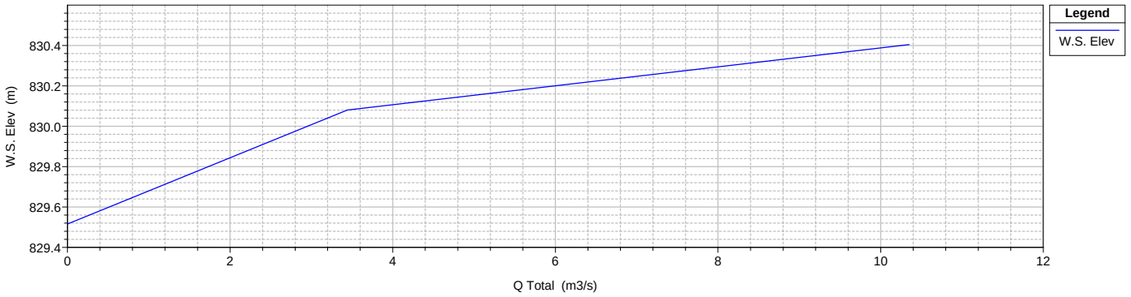
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 276.6229



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Geom: alme Flow: Flow 01
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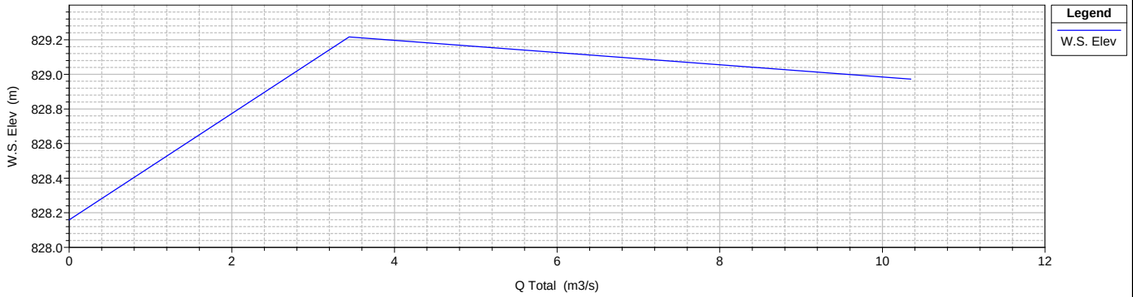

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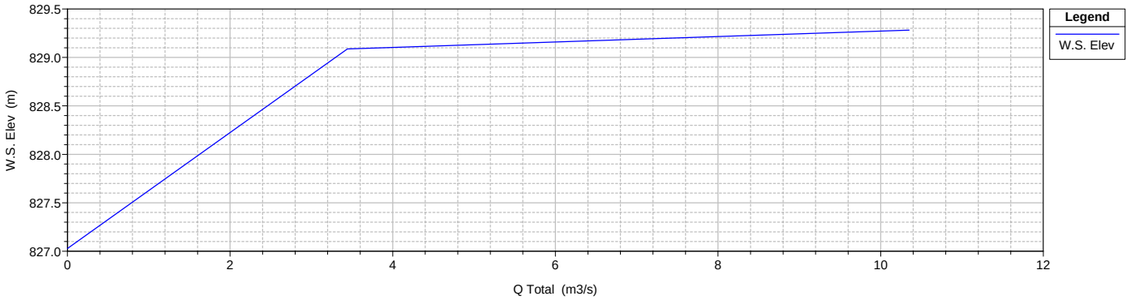
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 262.6338



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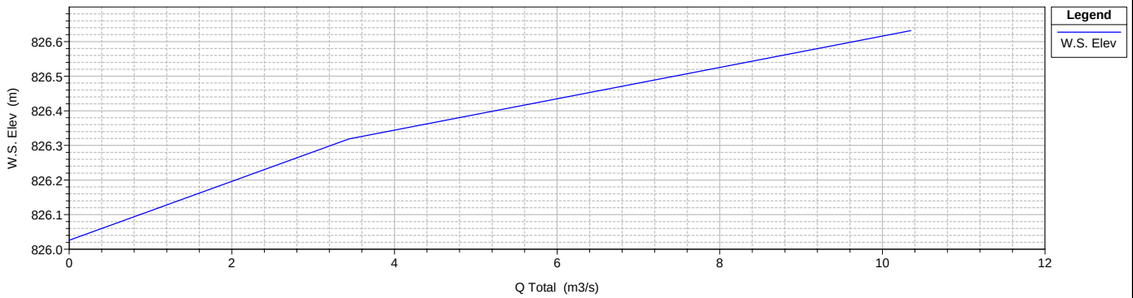
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 258.5520



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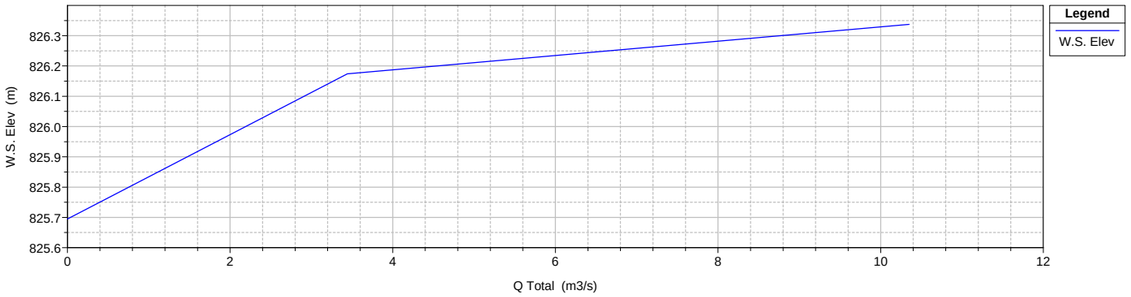
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 248.4231



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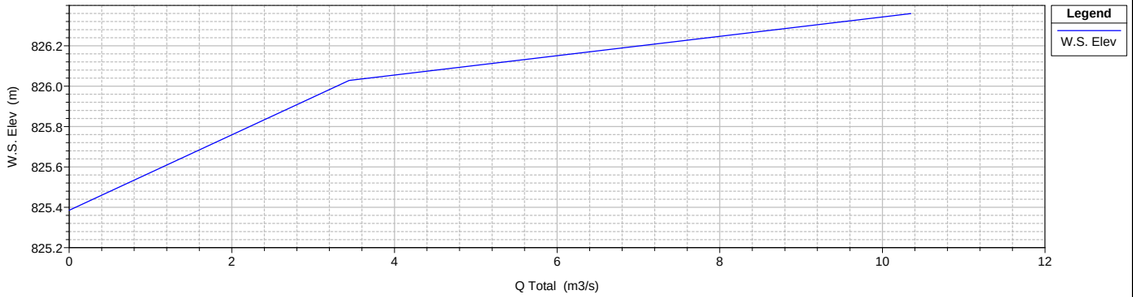
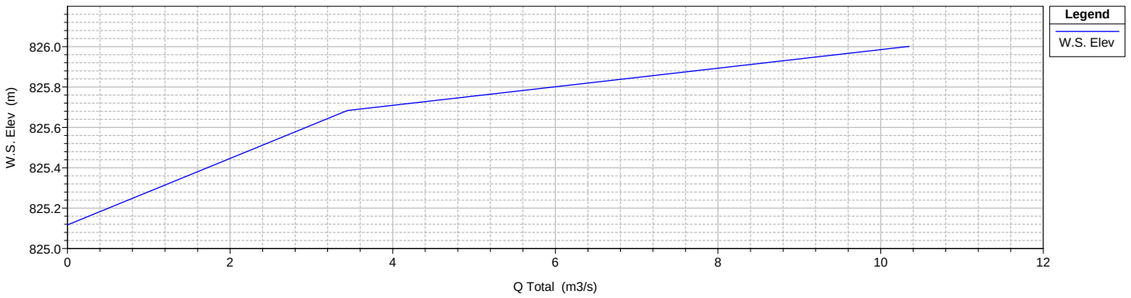
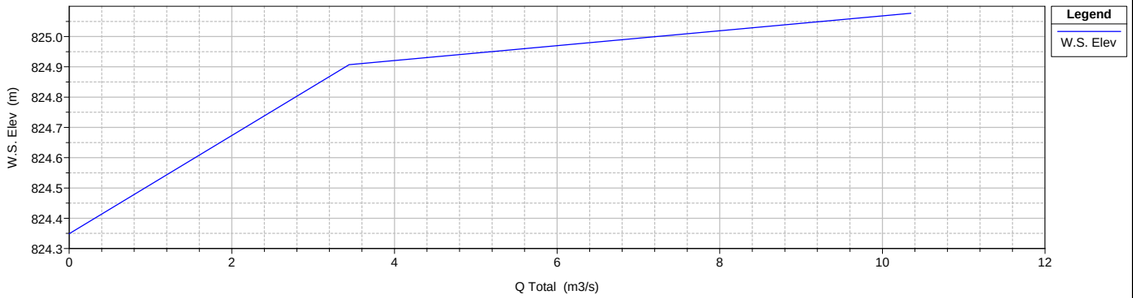
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 239.6731



alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 229.8189



alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 217.0088



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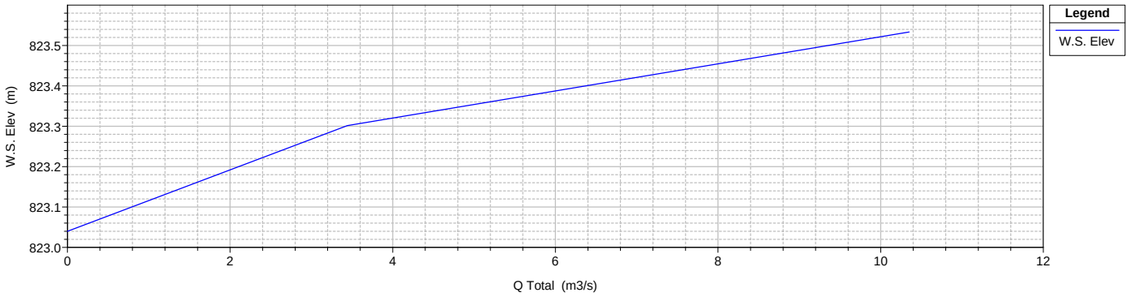
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 208.1064



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Geom: alme Flow: Flow 01
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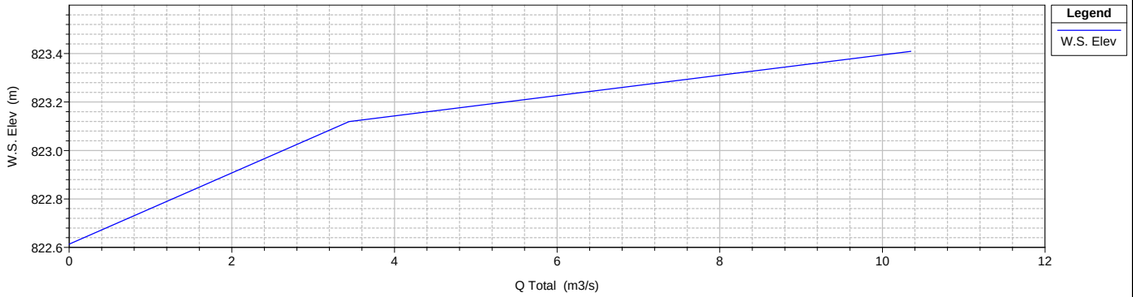

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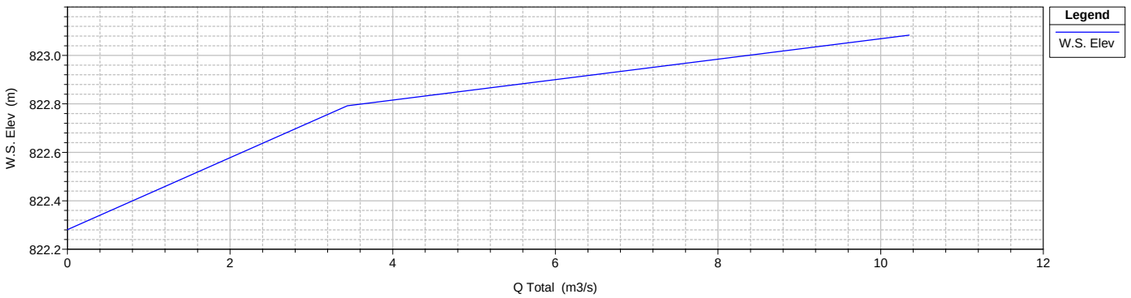
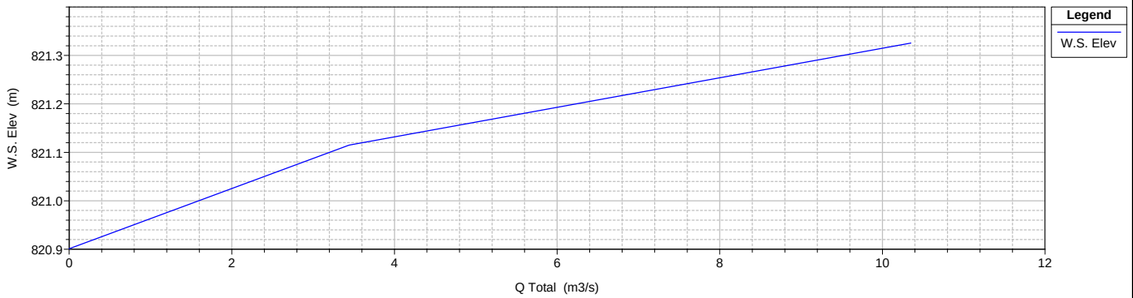
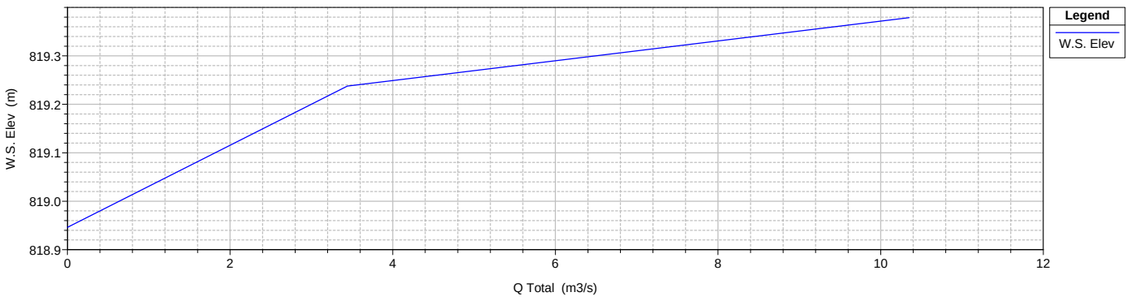
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 190.4317



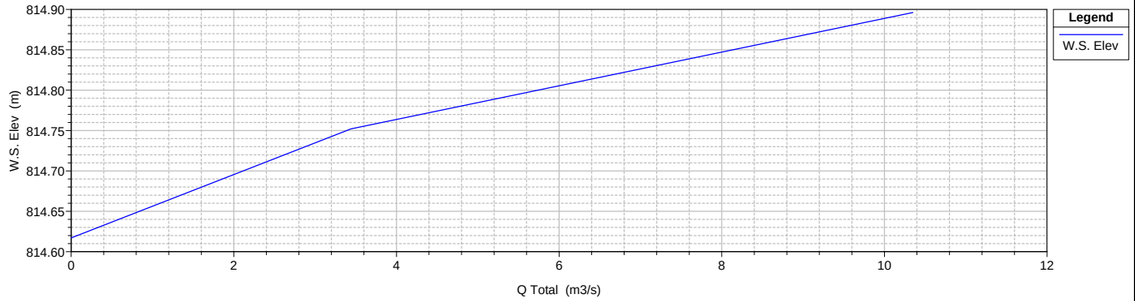
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 181.3740



alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 168.6892



alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 158.4595



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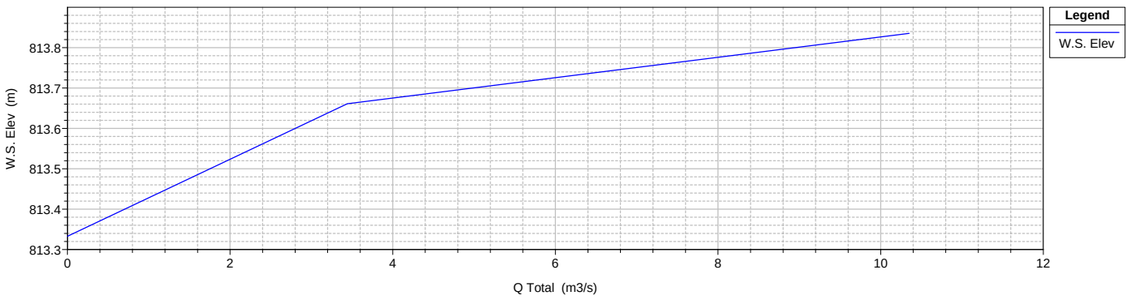
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 146.6102



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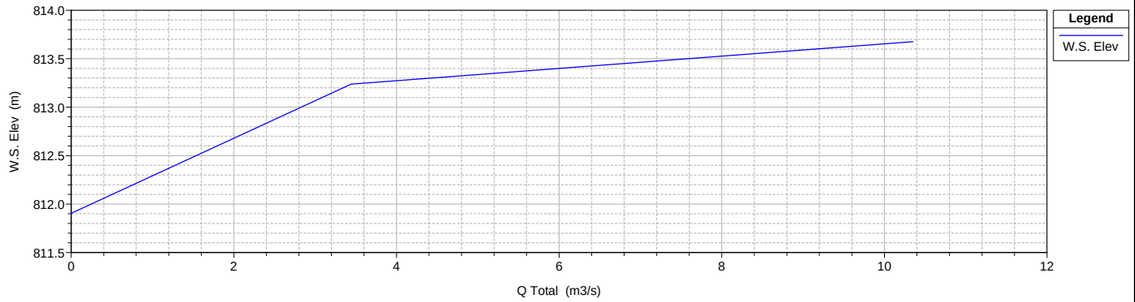

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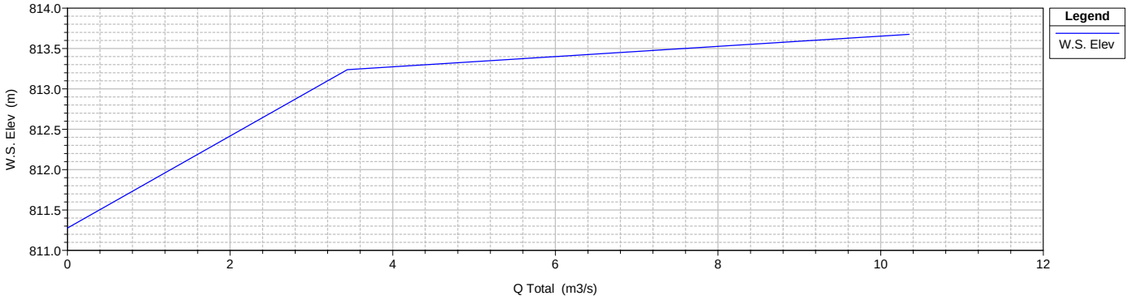
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 124.8436



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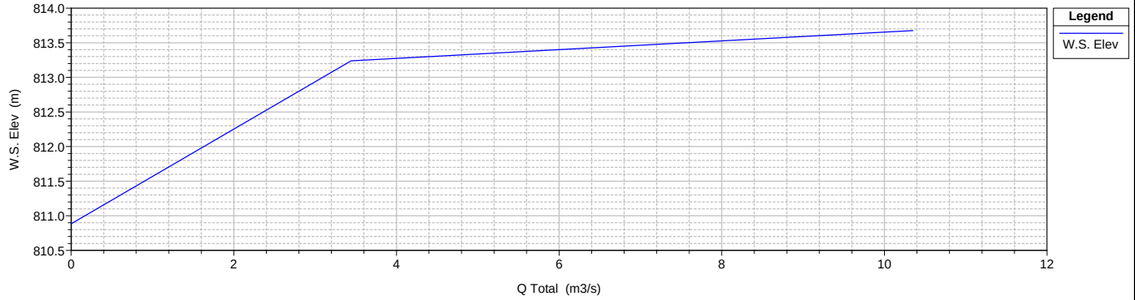

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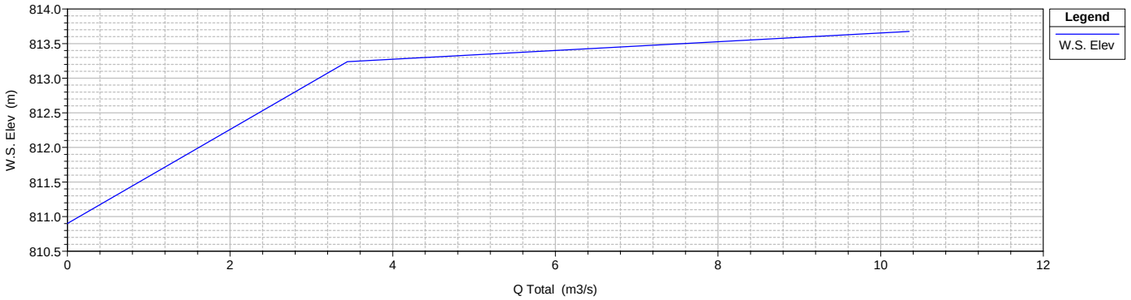

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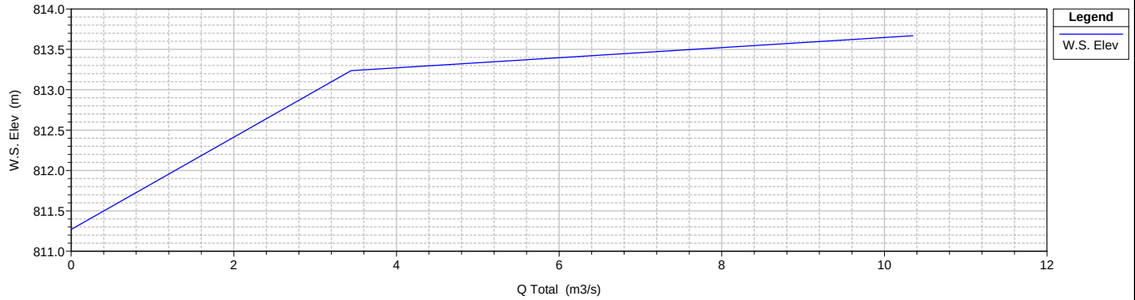
River = Alme Reach = Alme RS = 93.20643



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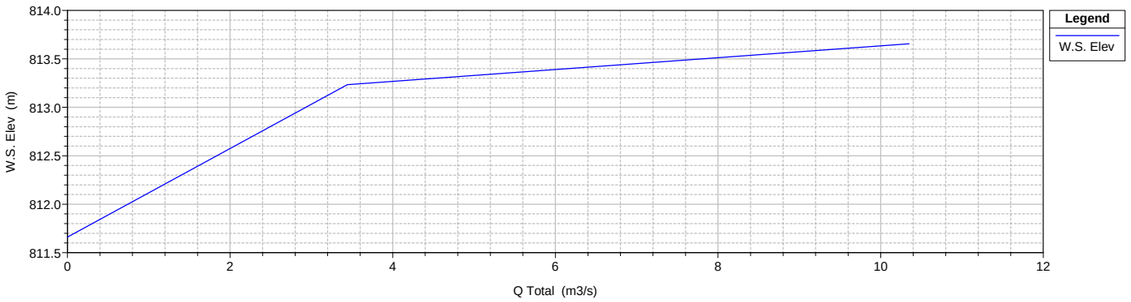

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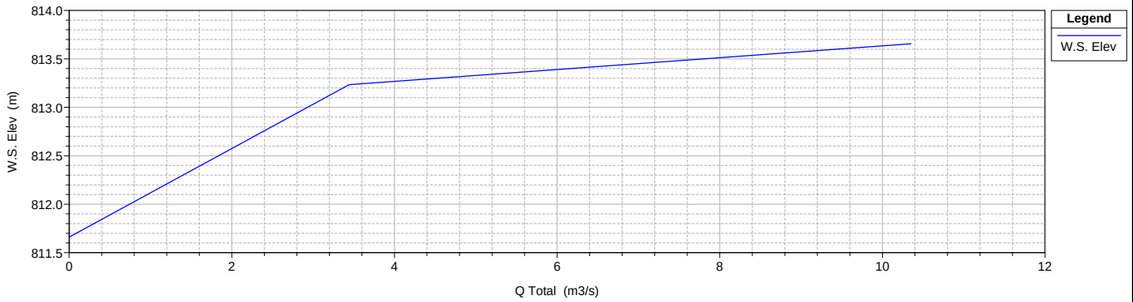
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 81.1431 Culv



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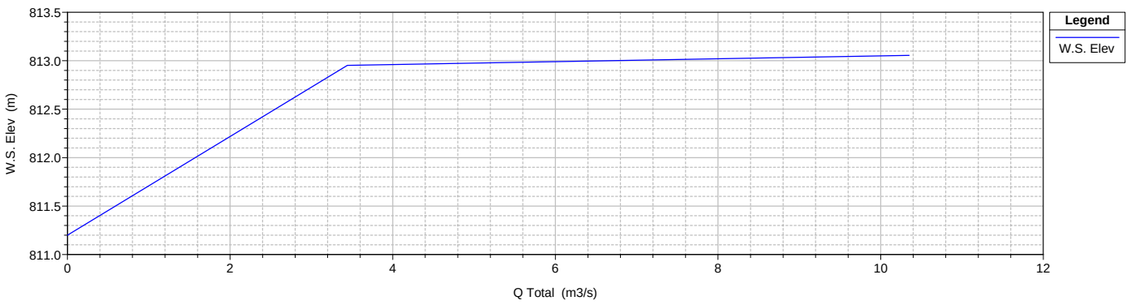
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 81.1431 Culv



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Geom: alme Flow: Flow 01
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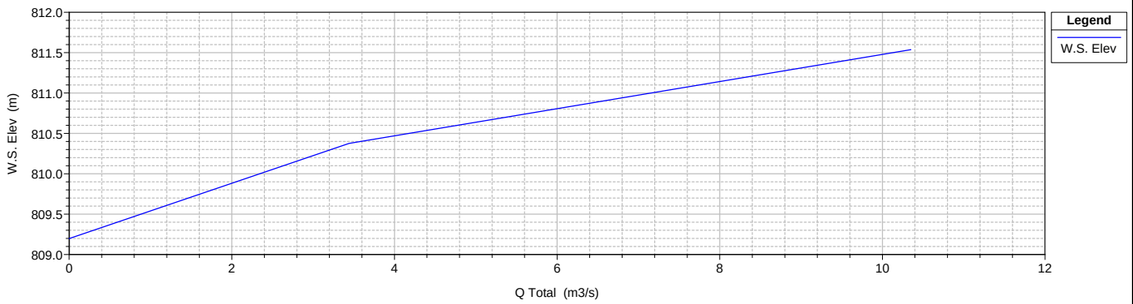

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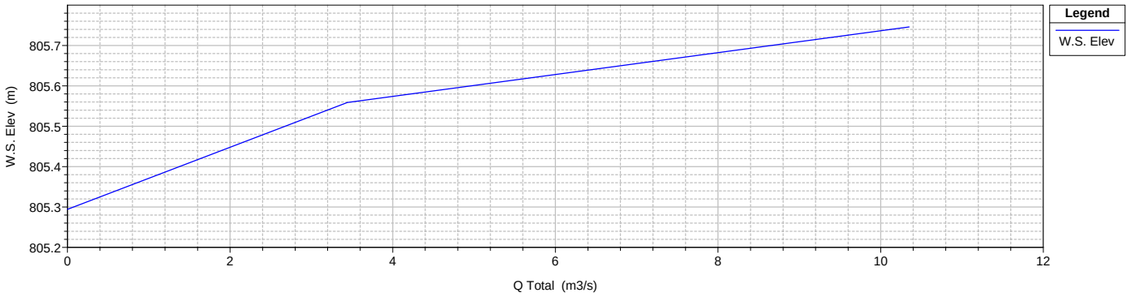

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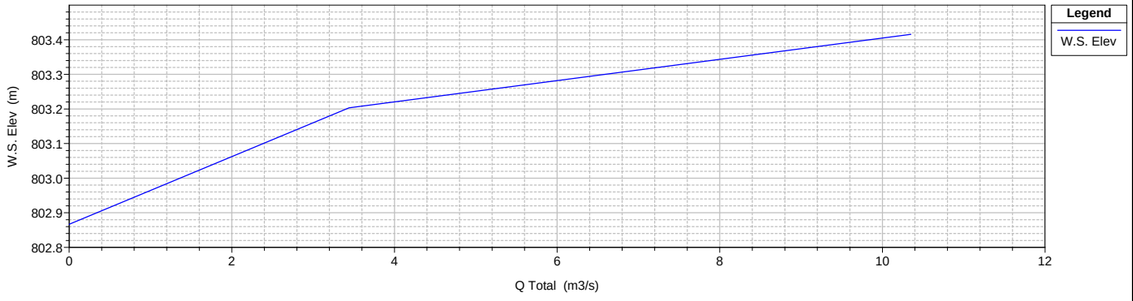
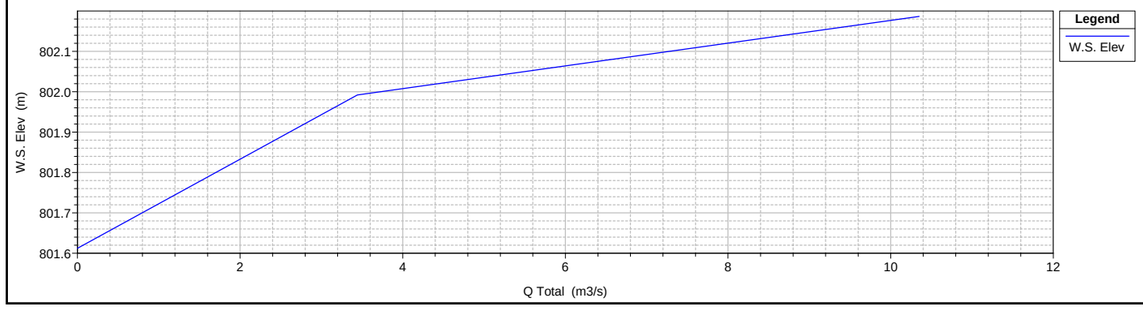
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 41.72029



alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 23.44198



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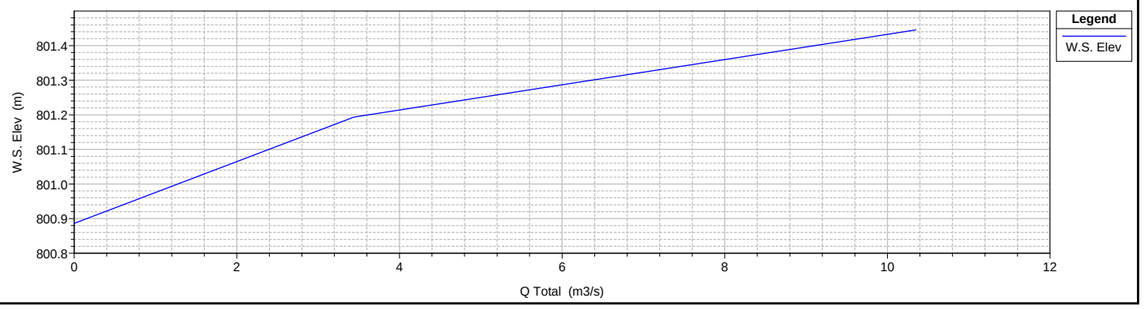
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 5.711110



NOTÁEZ

HEC-RAS Version 4.1.0 Jan 2010
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
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PROJECT DATA
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Project File : nota_a.prj
Run Date and Time: 3/21/2012 2:50:43 PM

Project in SI units

Project Description:
NOTÁEZ - SITUACIÓN ACTUAL

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PLAN DATA

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Geometry Title: nota_a
Geometry File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\NOTA\ACTUAL\nota_a.g01

Flow Title   : nota_a
Flow File   : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\NOTA\ACTUAL\nota_a.f01

Plan Summary Information:
Number of: Cross Sections =   18   Multiple Openings =   0
            Culverts   =   1   Inline Structures =   0
            Bridges   =   0   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: Mixed Flow

****

FLOW DATA

Flow Title: nota_a
Flow File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\NOTA\ACTUAL\nota_a.f01

Flow Data (m3/s)

River	Reach	RS	T500	T10
Nota	Nota	234.5633	13.238	3.771

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Nota	Nota	T500	Critical	Normal S = 0.35

****

GEOMETRY DATA

Geometry Title: nota_a
Geometry File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\NOTA\ACTUAL\nota_a.g01

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 234.5633

INPUT
Description:
Station Elevation Data num= 100

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	855.71	.84	855.69	6.18	855.68	6.39	855.67	7.08	855.62
7.34	855.59	7.61	855.56	8.25	855.47	9.16	855.32	10.3	855.33
10.88	855	12	855	14.93	854.78	15.11	854.77	15.53	854.75
17.78	854.77	18.69	854.72	20.85	854.74	21.41	854.7	22.54	854.71
23.97	854.57	26.18	854.6	27.27	854.59	28.78	854.23	29.17	854.21
29.98	854	30.22	853.98	31.5	853.88	31.99	853.75	33.07	853.59
34.81	853.03	34.89	853	35.36	852.74	36.74	852	36.96	851.88
37.14	851.84	37.49	851.79	38.84	851.44	39.46	851.32	40.82	851.25
41.18	851.27	41.3	851.29	41.63	851.27	41.74	851.29	42.34	851.32
43.36	851.62	43.86	851.74	44.45	852	44.46	852	46	852.86
46.23	853	46.7	853.37	47.19	853.87	47.32	854	47.61	854.21
48.17	854.59	48.88	855	50.04	855.33	50.76	855.36	51.69	855.56
51.99	855.63	52.17	855.68	56.72	856	57.65	856.27	58.76	856.72
59.11	856.84	59.49	857	60.58	857.29	61.31	857.45	62.2	857.64
64.16	858	64.5	858.15	64.67	858.21	65.84	858.55	66.68	858.81
66.82	858.84	67.72	859	68.29	859.07	69.51	859.22	69.95	859.28
71.07	859.36	72.26	859.49	73.16	859.52	73.83	859.56	74.57	859.54
75.45	859.61	76.15	859.55	77.04	859.54	77.43	859.48	77.93	859.41
78.49	859.34	79.07	859.17	79.19	859.13	79.68	859	79.88	858.9
80.06	858.82	80.82	858.39	81.56	858	82.4	857.86	83.03	857.73

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

```
       0    .035   34.81    .058   47.19    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         34.81   47.19             12.36   13.67   12.35             .1       .3

CROSS SECTION


RIVER: Nota
REACH: Nota               RS: 220.8931

INPUT
Description:
Station Elevation Data    num=     110
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
**********************************************************************************
       0  852.43     .32  852.48    1.97  852.68    2.67   852.8    2.84   852.8
    4.18  852.81    4.34  852.81    4.91  852.79    5.33  852.77    6.39  852.69
    6.99  852.68    9.86  852.59   10.61  852.58   11.68  852.55   12.56  852.51
   12.91  852.46   13.56   852.3   13.77  852.28   14.71     852   15.16  851.54
   15.45  851.33   15.92     851   16.62  850.63   17.21  850.49   17.85  850.22
   19.12  850.02   19.23     850    19.9  849.42    20.1  849.25   20.33     849
   21.42  848.64   22.14   848.4   22.33  848.34   22.47  848.29   23.04     848
   24.75  847.95   24.98  847.93   27.69  847.85   27.83  847.84   28.37  847.79
   28.63  847.76   30.05   847.7   30.31   847.7   30.92  847.63   31.54  847.62
    32.4  847.51   33.37  847.47   36.17  847.08   36.28  847.08    36.4  847.07
   36.75     847   37.56  846.15   37.71     846   39.32  845.19   39.65  845.03
   39.71     845   40.34  844.72   41.62     844   43.93     844   44.02     844
   44.07   844.2   44.23     845      45  845.56   45.53     846   45.73  846.12
   47.67     847   47.73  847.06   47.84  847.13   48.47  847.59   49.05     848
   49.42  848.58   49.62     849   50.34  849.84   50.48     850    50.6  850.09
    51.6     851   52.05  851.41   52.89     852   53.53  852.63   53.86     853
   54.24  853.33   54.71  853.66   55.14     854   55.31  854.14   56.19     855
   57.05     855   57.13     855   57.69     855   63.92  855.29   65.57  855.28
   67.29  855.23   68.63  855.18   69.04  855.19   69.86  855.15   70.31  855.13
    70.5  855.14   73.03     855   73.57  854.78   74.66   854.4   75.46   854.1
   75.77     854    76.9  853.43   77.71     853   78.28  852.82   79.09  852.63
   80.23  852.33   81.91     852   81.93  851.99   81.97  851.97   83.09  851.52

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
       0    .035   36.28    .058   48.47    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         36.28   48.47             12.93   14.68    14.9             .1       .3

CROSS SECTION


RIVER: Nota
REACH: Nota               RS: 206.2115

INPUT
Description:
Station Elevation Data    num=     111
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
**********************************************************************************
       0  847.15    1.87  847.35    2.78  847.34    4.15  847.44    4.98   847.5
   10.42  847.61   12.02   847.6   14.15  847.56   15.79   847.5   16.91  847.45
   17.55  847.42   18.78   847.4   21.53  847.25   22.05  847.24   26.27     847
   26.28     847    26.3     847    28.9  846.52   31.28  846.04   31.35  846.03
```

31.48	846	31.59	845.79	31.98	845	32.18	844.17	32.23	844
32.42	843.96	33.96	843.65	35.33	843.43	36.08	843.33	36.71	843.23
37.84	843.08	38.4	843	38.94	842.36	39.21	842	40.63	841.34
41.28	841	41.64	840.65	42.02	840	42.5	839.77	43.7	840
45.22	840	45.33	840.26	45.64	841	46.19	841.87	46.25	842
46.5	842.36	46.91	843	47.36	843.33	48.22	844	48.42	844.6
48.52	845	48.63	845.3	48.92	846	49.39	846.12	49.59	846.17
49.92	846.19	51.04	846.41	51.43	846.42	52.59	846.62	53.15	846.71
54.18	846.76	55.84	846.89	57.14	846.93	57.27	846.94	57.32	846.94
57.41	846.94	59.1	847	59.96	847.59	60.29	848	61.29	848.31
61.75	848.42	62.91	849	63.38	849.18	63.68	849.2	64.22	849.27
64.45	849.27	65.43	849.33	65.69	849.32	66.18	849.33	66.66	849.31
66.85	849.3	67.35	849.26	67.96	849.17	68.09	849.15	68.24	849.12
68.92	849	69.75	848.53	70.24	848.2	70.27	848.18	70.55	848
70.57	847.99	71.27	847.77	71.86	847.52	72.4	847.32	73.25	847
73.91	846.58	74.47	846.4	74.93	846.18	75.81	846	76.15	845.96
78.12	845.78	79.18	845.61	80.66	845.46	80.92	845.46	80.96	845.45
81.19	845.42	81.55	845.38	81.85	845.52	83.39	845.43	83.78	845.51
83.8	845.52								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	37.84	.058	49.39	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
37.84	49.39	13.16	10.7	8.53	.1	.3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 195.5067

INPUT
Description:
Station Elevation Data num= 112

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	845.91	.67	846	1.39	846.24	1.73	846.35	2.3	846.49
2.83	846.57	3.3	846.74	4.1	847	4.18	847	4.43	847
5.17	847	5.64	847	5.94	847	7.47	847	7.86	847
9.72	847	11.55	847.05	11.67	847.05	14.77	847	15.39	847
16.31	846.37	16.99	846.01	17	846.01	17	846	17.55	845.63
18.39	845	18.85	844.93	18.96	844.9	20.07	844.68	20.6	844.52
21.22	844.38	22.18	844	22.25	843.98	22.34	843.96	24.94	843.34
26.37	843.07	26.4	843.06	26.51	843.04	26.7	843	28.3	842.33
28.84	842	30.07	841.58	31.62	841	32.09	840.89	32.85	840.7
33.64	840.48	35.06	840.07	35.31	840	35.49	839.86	36.72	839
36.96	838.83	37.67	838.25	37.89	838.08	37.98	838	39	837.6
40.47	837	40.57	837	40.91	837	40.93	837.02	40.98	837.07
41.81	838	42.04	838.76	42.1	839	42.18	839.23	42.47	840
43.26	840.33	44.83	841	45.36	841.68	45.6	842	46.01	842.9
46.05	843	46.07	843.02	46.73	844	47.22	844.61	47.35	844.76
47.53	845	47.95	845.16	48.1	845.17	48.73	845.36	49.98	845.62
50.41	845.68	50.61	845.7	53.78	845.74	54.05	845.76	54.37	845.8
54.85	845.84	55.2	845.87	55.45	845.89	57.5	846	57.59	846
58.41	846.03	59.91	846.07	60.24	846.09	62.5	846.14	62.87	846.16
63.62	846.19	66.49	846.28	67.01	846.31	68.2	846.34	72.52	846
72.53	845.99	74.46	845	74.99	844.1	75.01	844	75.21	843.96
76.9	843.76	77.2	843.74	77.86	843.75	78.02	843.74	78.57	843.71
79.77	843.67	82.2	843.93						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	35.06	.058	47.22	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
35.06	47.22	8.74	11.25	17.83	.1	.3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 184.2587

INPUT
Description:
Station Elevation Data num= 119

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	843.71	.01	843.71	.23	843.69	.34	843.68	.53	843.66
.97	843.67	1.41	843.67	1.86	843.68	4.03	843.26	4.21	843.27
4.39	843.26	4.57	843.26	4.75	843.26	5.53	843	5.94	842.95
6.09	842.94	6.63	842.89	8.31	842.76	8.99	842.73	9.64	842.71
10.83	842.68	11.92	842.64	12.54	842.62	14.51	842.55	14.79	842.53
15.89	842.42	17.42	842.26	18.06	842.23	19.71	842	19.97	841.9
20.09	841.87	20.31	841.81	20.98	841.62	22.65	841.12	23.12	841
24.18	840.59	24.94	840.29	25.19	840.19	25.83	840	27.44	839.14
27.6	839	27.86	838.73	28.56	838	29.12	837.79	30.1	837.41
30.77	837.15	31.16	837	31.64	836.46	32.02	836	32.65	835.3
32.82	835.1	32.88	835	33.46	834.86	34.44	834.64	35.92	834.34
36.58	834.19	36.74	834.16	37.77	834	37.89	834	38.97	834.57
39.16	834.72	39.44	835	40.16	835.84	40.28	836	40.53	836.71
40.66	837	40.97	837.38	41.27	837.72	41.51	838	42.05	838.34
42.54	838.63	43.21	839	43.82	839.29	45.15	839.92	45.31	840
45.37	840.02	45.52	840.08	46.82	840.58	46.83	840.58	47.52	840.86
47.77	841	48.17	841.24	49.32	842	49.87	842.41	51.64	843
52.19	843.25	52.37	843.29	52.59	843.33	53	843.45	53.82	843.56
54.4	843.68	55.63	843.8	57.42	843.96	58.03	844	58.44	844.09
58.51	844.11	59.27	844.27	59.88	844.37	61.36	844.56	61.81	844.56
62.66	844.49	63.93	844.56	64.88	844.48	65.84	844.49	66.6	844.42
67.08	844.39	67.34	844.35	68.51	844.19	68.79	844.13	69.55	844
69.57	843.99	71.79	843	71.84	842.98	71.87	842.96	72.89	842.49
73.46	842.24	73.9	842	76.04	841.08	76.12	841.05		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	33.46	.058	43.82	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
33.46	43.82	12.93	10.02	8.57	.1	.3

Left Levee Station= 35.29 Elevation= 836.1
Blocked Obstructions num= 1

Sta L	Sta R	Elev
33.98	35.29	836.0971

CROSS SECTION

RIVER: Nota

REACH: Nota RS: 174.2417

INPUT
Description:
Station Elevation Data num= 110

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	837.98	.01	837.98	.04	837.98	2.74	837.98	2.77	837.98
2.87	837.98	2.96	837.97	6.18	837.89	6.41	837.88	6.5	837.88
9.89	837.75	10.07	837.74	10.37	837.72	10.66	837.71	11.43	837.67
13.01	837.48	14.24	837.39	16.29	837.11	16.34	837.1	16.37	837.1
16.57	837.08	17.07	837	18.74	836.66	19.55	836.48	20.34	836.33
20.92	836.18	21.44	836	21.92	835.89	22.42	835.76	23.52	835.48
24.27	835.27	25.31	835	25.66	834.32	26.04	834	26.46	833.6
27.77	833	28.31	832.94	28.36	832.94	28.43	832.93	28.51	832.92
28.61	832.91	33.29	832.45	33.6	832.39	34.02	832.32	35.98	832
36.34	832	38.36	832	39.23	832.66	39.69	833	40.71	833.94
40.79	834	40.92	834.14	41.73	835	42.18	835.65	42.47	835.98
42.48	836	43.96	836.92	44.08	837	44.28	837.15	44.7	837.49
45.31	838	46	838.46	46.77	839	48.35	839.85	48.63	840
48.73	840.05	48.77	840.06	48.85	840.08	49.02	840.11	51.21	840.73
51.3	840.76	53.93	841	54.02	841.03	54.09	841.06	56.22	842
56.35	842.02	56.68	842.05	58.23	842.23	59.03	842.31	60.08	842.4
60.56	842.44	61.47	842.47	61.95	842.53	62.66	842.54	63.03	842.57
63.38	842.58	64.57	842.63	65.18	842.62	65.5	842.6	66.3	842.61
66.98	842.53	67.32	842.51	67.74	842.44	68.05	842.4	69.27	842.15
69.39	842.12	69.92	842	70.26	841.67	70.72	841.14	70.8	841.05
70.85	841	71.4	840.42	71.78	840	72.23	839.85	72.93	839.53
73.55	839.28	73.99	839	74.23	838.88	75.38	838	75.39	837.99

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	34.02	.058	42.47	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
34.02	42.47	13.27	9.8	6.46	.1	.3

Left Levee Station= 35.76 Elevation= 835.09
Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
.97	22.08	837.9822	24.94	35.77	835.0969

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 164.4459

INPUT
Description:
Station Elevation Data num= 92

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	833.57	1.06	833.54	1.44	833.5	2.42	833.4	3.96	833.34
4.59	833.31	5.2	833.25	5.69	833.23	7.47	833.1	7.67	833.08
8.57	833	9.28	832.96	9.31	832.96	9.34	832.95	9.38	832.95
9.41	832.95	9.46	832.94	9.51	832.93	10.97	832.81	11.15	832.76
11.73	832.69	12.69	832.41	13.07	832.33	14.09	832	15.21	831.71
16.38	831.41	17.63	831.29	18.14	831.2	18.94	831.15	19.73	831.1
19.91	831.08	21.71	831	21.72	831	21.78	831	23.11	830.97
23.91	830.92	25.81	830.86	27.53	830.82	29.07	830.8	30.23	830.79

31.15	830.84	31.19	830.84	32.68	830.92	32.79	830.92	33.88	831
34	831.02	34.42	831.07	34.5	831.1	35.46	831.25	36.55	831.69
36.95	831.8	37.34	832	38.12	832.7	38.27	832.84	38.45	833
38.67	833.07	39.8	833.41	40.18	833.51	40.95	833.76	41.79	834
42.64	834.9	42.75	835	42.85	835.08	43.61	835.64	44.02	835.95
44.09	836	44.85	836.86	44.95	837	45.76	837.87	45.88	838
46.83	838.58	47.49	839	47.58	839.06	48.76	840	50.32	840.2
51.07	840.23	53.14	840.42	60.39	840.21	60.69	840.23	60.88	840.23
61.06	840.24	62.22	840	63.8	839.49	65.23	839	66.45	838.69
67.75	838.4	68.17	838.3	68.39	838.26	68.58	838.23	69.51	838
70.21	837.67	70.29	837.6						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	34	.058	38.27	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
34 38.27 8.49 9.82 6.36 .1 .3

Left Levee Station= 34.69 Elevation= 833.4

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
5.83	9.29	833.2188	12.49	14.55	832.4698	30.81	34.71	833.3859

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 154.6206

INPUT
Description:
Station Elevation Data num= 94

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	831.92	.43	831.91	.49	831.91	.51	831.91	.66	831.9
3.35	831.81	3.6	831.78	3.74	831.76	3.95	831.73	4.54	831.68
4.9	831.61	5.43	831.54	6.49	831.31	6.93	831.23	6.95	831.23
6.98	831.22	7.85	831	10.46	830.74	10.7	830.73	11.22	830.71
11.65	830.67	12.29	830.64	14.05	830.49	15.45	830.42	16.24	830.36
16.81	830.32	17.31	830.3	17.56	830.29	17.77	830.29	18.22	830.28
18.6	830.27	23.66	830	31.08	829.69	31.41	829.67	34.52	829.93
35.05	830	35.11	830	36.02	830	36.06	830	37.32	830.89
37.48	831	40.13	831.58	40.66	831.69	40.8	831.72	41.2	831.79
42.22	832	42.45	832.15	43.32	832.7	43.77	833	44.16	833.42
44.92	834	45.47	834.4	46.52	835	47.55	835.76	47.83	836
48.16	836.55	48.45	837	49.21	837.52	49.78	838	50.13	838.2
51.33	839	51.49	839.09	51.58	839.12	52.15	839.33	52.47	839.41
53.16	839.6	53.63	839.71	53.84	839.75	54.38	839.85	54.5	839.87
54.61	839.88	55.05	839.93	55.14	839.94	55.93	839.99	55.94	839.99
56.76	839.92	56.92	839.89	57.55	839.75	58.04	839.6	59.2	839.3
59.52	839.19	60.25	839	60.5	838.87	61.89	838	62.04	837.91
62.18	837.86	63.45	837.33	64.73	837.16	65.46	837	65.53	836.98
65.57	836.96	66.69	836.53	66.73	836.52	66.83	836.48		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	36.02	.058	40.66	.035

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

```
         36.02   40.66             7.87      10    14.7             .1       .3
Left Levee      Station=   36.34      Elevation=  832.86
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
**********************************************
    1.17    4.78831.8816   31.22   36.34832.8659

CROSS SECTION


RIVER: Nota
REACH: Nota               RS: 144.6175

INPUT
Description:
Station Elevation Data    num=      88
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*********************************************************************************
       0   830.2    1.79   830.1    1.92   830.1    1.96   830.1    2.04   830.1
    3.11  830.03    3.15  830.02    3.59     830     4.6  829.99    4.65  829.98
    6.12  829.96    6.26  829.96   11.14   829.9   11.42  829.89   12.89  829.87
   12.95  829.87   13.35  829.86   14.18  829.84   15.64  829.81   16.17  829.79
   16.27  829.79   17.59  829.75   18.17  829.73   18.73  829.71   20.56  829.66
   21.28  829.63   22.53  829.58   23.39  829.54   24.49  829.48    33.5  829.03
   33.94  829.01   34.14     829   35.22  828.88   36.61  828.74   36.65  828.74
   37.82  828.61   38.79  828.55   39.26  828.51   39.65  828.49   40.03  828.47
    40.3  828.46   40.66  828.45   40.95  828.46   41.36  828.46    41.6  828.45
   41.83  828.44   42.03  828.44   42.12  828.44   42.32  828.44   42.65  828.48
   42.99  828.48   43.69  828.51   47.75     829   48.08   829.1   48.29  829.15
    48.9  829.28   50.74  829.73   50.78  829.74   51.63  829.85   52.48  829.93
   52.63  829.96   53.73     830   54.12  830.05   54.15  830.06   54.18  830.06
   54.38  830.08   54.41  830.08   54.97  830.11   55.02  830.11   56.33  830.06
   56.36  830.06   56.39  830.06   56.57  830.02   56.58  830.02   56.69     830
   57.07  829.98   57.08  829.98   57.08  829.99   57.89  829.93   57.93  829.94
   58.18  829.92   59.23     830   59.61     830   59.83     830   64.52     830
   65.29     830   66.88     830   66.94     830

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
***********************************************
       0    .035   37.82    .058    41.6    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         37.82    41.6            20.14   18.33   27.56             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0      40   829.1       F
    40.6   66.94   829.1       F
Right Levee     Station=   41.96      Elevation=  830.44
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
**********************************************
   41.96   56.47830.4395   56.44   65.68830.4904

CULVERT


RIVER: Nota
REACH: Nota               RS: 135.4527

INPUT
Description:
```

Distance from Upstream XS =   2
Deck/Roadway Width   =   15
Weir Coefficient   =   1.4
Upstream Deck/Roadway Coordinates
    num=   2
     Sta Hi Cord Lo Cord   Sta Hi Cord Lo Cord
****
       0   830   826   50   830   826

Upstream Bridge Cross Section Data
Station Elevation Data   num=   88
     Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
****
       0   830.2   1.79   830.1   1.92   830.1   1.96   830.1   2.04   830.1
    3.11 830.03   3.15 830.02   3.59   830   4.6 829.99   4.65 829.98
    6.12 829.96   6.26 829.96   11.14   829.9   11.42 829.89   12.89 829.87
   12.95 829.87   13.35 829.86   14.18 829.84   15.64 829.81   16.17 829.79
   16.27 829.79   17.59 829.75   18.17 829.73   18.73 829.71   20.56 829.66
   21.28 829.63   22.53 829.58   23.39 829.54   24.49 829.48   33.5 829.03
   33.94 829.01   34.14   829   35.22 828.88   36.61 828.74   36.65 828.74
   37.82 828.61   38.79 828.55   39.26 828.51   39.65 828.49   40.03 828.47
    40.3 828.46   40.66 828.45   40.95 828.46   41.36 828.46   41.6 828.45
   41.83 828.44   42.03 828.44   42.12 828.44   42.32 828.44   42.65 828.48
   42.99 828.48   43.69 828.51   47.75   829   48.08   829.1   48.29 829.15
    48.9 829.28   50.74 829.73   50.78 829.74   51.63 829.85   52.48 829.93
   52.63 829.96   53.73   830   54.12 830.05   54.15 830.06   54.18 830.06
   54.38 830.08   54.41 830.08   54.97 830.11   55.02 830.11   56.33 830.06
   56.36 830.06   56.39 830.06   56.57 830.02   56.58 830.02   56.69   830
   57.07 829.98   57.08 829.98   57.08 829.99   57.89 829.93   57.93 829.94
   58.18 829.92   59.23   830   59.61   830   59.83   830   64.52   830
   65.29   830   66.88   830   66.94   830

Manning's n Values   num=   3
     Sta   n Val   Sta   n Val   Sta   n Val
****
       0   .035   37.82   .058   41.6   .035

Bank Sta: Left   Right   Coeff Contr.   Expan.
         37.82   41.6   .1   .3
Ineffective Flow   num=   2
   Sta L   Sta R   Elev Permanent
       0   40   829.1   F
    40.6   66.94   829.1   F
Right Levee   Station=   41.96   Elevation= 830.44
Blocked Obstructions   num=   2
   Sta L   Sta R   Elev   Sta L   Sta R   Elev
****
   41.96   56.47830.4395   56.44   65.68830.4904

Downstream Deck/Roadway Coordinates
    num=   2
     Sta Hi Cord Lo Cord   Sta Hi Cord Lo Cord
****
       0   830   824   50   830   824

Downstream Bridge Cross Section Data
Station Elevation Data   num=   73
     Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
****
       0 829.08   .11 829.08   1.3 829.09   1.89 829.09   3.42 829.09
    3.86 829.08   4.01 829.08   6.54 829.06   6.64 829.06   9.93 829.03
    9.96 829.03   10.96 829.02   12.16   829   13.1   828.5   13.75   828

13.87	827.94	14.15	827.81	15.11	827.37	15.39	827.24	15.89	827
16.14	826.86	16.62	826.58	17.55	826	18.86	825.91	19.25	825.89
21.72	825.74	22.43	825.72	24.21	825.6	24.88	825.57	26.27	825.52
27.56	825.51	28.35	825.63	30.34	826	30.84	826.12	31	826.11
33.5	826.1	35.16	826.01	35.2	826.01	35.44	826	35.97	825.39
36.29	825	37.48	824.92	37.55	824.91	37.58	824.91	37.61	824.91
38.32	825	38.68	825	40.69	825	41.4	825	41.47	825
41.63	825.19	42.32	826	42.53	826.05	43.19	826.2	43.93	826.3
46.3	826.64	47.62	826.85	48.3	826.93	48.52	826.97	48.91	827
48.94	827	49.87	827.06	50.8	827.12	52.25	827.19	53.05	827.22
54.45	827.4	55.18	827.44	57.03	827.52	59.56	828	61.04	828.18
61.28	828.21	64.81	828.62	67.18	828.85				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	37.48	.058	43.93	.035

Bank Sta: Left Right Coeff Contr. Expan.
37.48 43.93 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	40	828.2	F
40.6	67.18	828.2	F

Left Levee Station= 30.84 Elevation= 826.12
Right Levee Station= 48.3 Elevation= 831.22

Blocked Obstructions num= 1

Sta L	Sta R	Elev
48.3	66.95	831.2229

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 Culverts = 1

Culvert Name Shape Rise Span
Culvert #1 Circular .6
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 1 - Square edge entrance with headwall
Solution Criteria = Highest U.S. EG

Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
2	15	.015	.015	0	1	1

Upstream Elevation = 828.5
Centerline Station = 40.3
Downstream Elevation = 827.6
Centerline Station = 40.3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 126.2879

INPUT
Description:
Station Elevation Data num= 73

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	829.08	.11	829.08	1.3	829.09	1.89	829.09	3.42	829.09
3.86	829.08	4.01	829.08	6.54	829.06	6.64	829.06	9.93	829.03
9.96	829.03	10.96	829.02	12.16	829	13.1	828.5	13.75	828
13.87	827.94	14.15	827.81	15.11	827.37	15.39	827.24	15.89	827
16.14	826.86	16.62	826.58	17.55	826	18.86	825.91	19.25	825.89
21.72	825.74	22.43	825.72	24.21	825.6	24.88	825.57	26.27	825.52
27.56	825.51	28.35	825.63	30.34	826	30.84	826.12	31	826.11
33.5	826.1	35.16	826.01	35.2	826.01	35.44	826	35.97	825.39
36.29	825	37.48	824.92	37.55	824.91	37.58	824.91	37.61	824.91
38.32	825	38.68	825	40.69	825	41.4	825	41.47	825
41.63	825.19	42.32	826	42.53	826.05	43.19	826.2	43.93	826.3
46.3	826.64	47.62	826.85	48.3	826.93	48.52	826.97	48.91	827
48.94	827	49.87	827.06	50.8	827.12	52.25	827.19	53.05	827.22
54.45	827.4	55.18	827.44	57.03	827.52	59.56	828	61.04	828.18
61.28	828.21	64.81	828.62	67.18	828.85				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	37.48	.058	43.93	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
37.48	43.93	7.8	18.8	15.03	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	40	828.2	F
40.6	67.18	828.2	F

Left Levee Station= 30.84 Elevation= 826.12
Right Levee Station= 48.3 Elevation= 831.22

Blocked Obstructions num= 1

Sta L	Sta R	Elev
48.3	66.95	831.2229

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 107.4834

INPUT
Description:
Station Elevation Data num= 104

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	827.82	.37	827.65	1.48	827.17	1.77	827	4.19	826.75
5.15	826.62	6.93	826.43	8.62	826.2	9.14	826.14	10	826
10.15	825.98	10.2	825.98	10.92	825.88	11.08	825.85	16.67	825
17.11	824.97	17.28	824.96	17.31	824.96	18.43	824.86	26.86	824.21
28.73	824.02	28.92	824	29.76	823.72	31.38	823	32.38	822.27
32.91	822	33.37	821.31	33.58	821	35	820.03	35.03	820
35.06	819.99	35.07	819.99	38.76	819.47	39.09	819.49	40.35	819.64
41.06	819.78	41.73	819.92	41.8	819.93	42.06	820	42.33	820.5
42.59	821	42.77	821.25	43.35	822	43.54	822.25	44.07	823
44.83	823.8	45.04	824	45.24	824.16	45.69	824.54	46.24	825
47.09	825.2	47.22	825.21	47.38	825.22	47.98	825.33	48.74	825.48
49.18	825.51	49.65	825.53	50.77	825.7	51.09	825.7	51.19	825.7
51.57	825.75	51.99	825.75	52.22	825.77	52.29	825.77	52.45	825.79
52.72	825.81	52.85	825.82	52.97	825.83	53.21	825.84	53.33	825.85
53.44	825.85	55.41	825.83	55.54	825.83	55.81	825.83	55.93	825.83

56.2	825.83	56.49	825.83	56.64	825.83	56.8	825.82	58.91	825.79
59.22	825.79	59.36	825.78	59.76	825.76	60.16	825.74	61.49	825.72
62.51	825.67	64.68	825.63	68.76	825.81	69.01	825.78	69.11	825.77
69.52	825.82	70	825.86	70.36	825.79	70.77	825.84	71.33	825.88
71.6	825.8	72.04	825.82	72.14	825.82	72.15	825.82	72.72	825.81
73.1	825.83	73.64	825.6	74.06	825.51	74.09	825.5		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	28.73	.058	45.69	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
28.73	45.69	20.46	16.7	9.05	.1	.3

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
46.89	51.76	825.7484	71.76	74.09	825.8058	8.19	30.06	826.2598

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 90.78275

INPUT
Description:
Station Elevation Data num= 109

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	825.84	.13	825.83	.36	825.82	2.46	825.72	4.16	825.64
6.09	825.57	7.47	825.5	8.77	825.46	9.37	825.43	11.16	825.37
13.17	825.29	14.87	825.22	16.92	825.12	17.35	825.1	18.34	825.05
19.16	825	19.8	824.96	21.51	824.84	26.43	824.5	28.72	824.34
32.44	824.07	32.83	824.04	32.97	824.03	33.36	824	33.68	823.63
34.13	823	34.23	822.46	34.32	822	34.73	821.55	35.22	821
35.91	820.58	36.47	820.27	37.1	820	37.12	819.96	37.7	819
38.36	818.16	38.49	818	39.62	817.33	40.02	817	41.58	816.24
42.13	816	42.29	815.88	42.68	815.65	42.74	815.61	43.44	815.18
43.84	815	44.13	815	44.15	815	44.66	815	45.26	815.25
45.51	815.37	46.89	816	48.1	816.8	48.49	817	48.81	817.2
49.18	817.45	50.07	818	50.53	818.15	50.85	818.26	52.52	818.8
53.13	819	53.53	819.75	53.65	820	53.89	820.1	54.16	820.22
54.47	820.35	55.53	820.79	55.98	821	56.43	821.48	56.81	822
57.47	822.36	57.79	822.52	58	822.63	58.69	823	59.75	823.34
60.36	823.51	62.17	824	62.49	824.26	62.89	824.48	63.92	825
64.14	825.01	64.16	825.01	64.96	825.04	66.45	825.07	67.17	825.08
68.63	825.09	70.17	825.08	70.97	825.08	71.81	825.06	71.97	825.06
73.35	825.03	73.97	825.01	74.36	825	75.48	824.44	76.18	824
77.25	823.7	77.94	823.47	78.74	823.23	79.35	823	81.1	822.34
81.97	822	82.85	821.87	82.98	821.85	84.17	821.69	84.45	821.66
84.53	821.65	85.03	821.59	85.61	821.56	85.76	821.55		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	32.83	.058	54.16	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
32.83	54.16	24.78	15.37	4.84	.1	.3

Blocked Obstructions num= 1

Sta L	Sta R	Elev

```
**********
    3.94   26.52825.6541

CROSS SECTION


RIVER: Nota
REACH: Nota               RS: 75.41282

INPUT
Description:
Station Elevation Data    num=     115
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
**********************************************************************************
       0   824.8    1.34  824.78    1.45  824.77    1.58  824.77     1.9  824.76
    3.22  824.74    3.39  824.74    4.01  824.72     5.1  824.69    7.51  824.61
    8.54  824.58     9.5  824.54   10.27  824.51   11.57  824.48   11.95  824.46
   15.76  824.37   15.99  824.35   16.26  824.34   17.44  824.31   17.83   824.3
   18.49  824.26   20.16  824.22   22.04  824.16   23.16  824.12   23.26  824.12
   26.78     824    29.2   823.8   29.84  823.71   29.85  823.71   30.08   823.7
    31.6  823.62   32.71  823.38   34.52     823    34.6  822.89   34.68  822.75
   35.14     822   35.28  821.75   35.68     821    37.7  820.01   37.71     820
   38.18     819   39.12  818.23   39.48     818   41.64     817   41.65     817
   42.87     816   44.83   815.1   45.05     815   45.12  814.95   46.39     814
    46.4  813.99    47.2     813   48.61  812.29   49.32     812   49.43     812
   49.57     812   50.51     812   52.32     812   52.64  812.54   53.12     813
   53.41  813.38   53.86     814   54.03  814.38   54.31     815   54.86  815.31
   56.09     816   57.23  816.73   57.68     817   57.74  817.03    58.9  817.76
   59.26     818    59.7  818.58   60.03     819    60.6   819.8   60.69  819.92
   60.75     820   63.33   820.6   64.67     821   65.31  821.38   65.78  821.47
   66.47  821.58   67.44  821.72   67.86  821.82   68.04  821.86   68.15  821.89
   68.23   821.9   69.97     822   70.19  822.03   70.25  822.04   70.33  822.04
   72.09  822.22   72.25  822.22   73.49   822.3   73.81  822.29   74.43  822.31
   74.95  822.31   75.41  822.27   75.89  822.25   76.26  822.25    76.8   822.2
   77.85  822.07   78.03  822.05   78.11  822.05   78.32     822   83.77  821.49
   85.16  821.29    85.7  821.22   86.81  821.07   86.84  821.06   86.95  821.05
   87.36     821   87.45     821   89.89  820.84   90.61  820.82   91.54  820.82

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
**********************************************
       0    .035   32.71    .058   57.74    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         32.71   57.74             23.24   14.16     8.1             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
************************
   19.67    25.6824.2302

CROSS SECTION


RIVER: Nota
REACH: Nota               RS: 61.25671

INPUT
Description:
Station Elevation Data    num=     135
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
**********************************************************************************
       0  823.15     .57  823.16     .66  823.16    3.45  823.22    3.56  823.22
```

3.84	823.21	3.97	823.21	6.55	823.26	7.09	823.25	7.92	823.26
8.21	823.26	9.37	823.27	10.87	823.25	12.23	823.27	17.77	823.13
18.32	823.1	18.55	823.1	19.17	823.09	19.63	823.09	20.32	823.08
22.09	823.07	22.18	823.07	22.2	823.07	27.43	823.03	27.47	823.03
27.51	823.03	28	823	28.17	823	30.07	823	30.19	823
30.98	823	31.11	823	31.33	823	31.73	823	31.86	823
32.31	823	32.35	823	32.41	823	32.91	822.71	32.93	822.69
33.04	822.62	33.53	822	33.64	821.83	34.13	821	34.36	820.86
35.62	820	36.14	819.3	36.33	819	37.06	818.09	37.13	818
37.28	817.86	38.19	817	40.57	816.44	42.28	816	42.7	815.79
43.14	815.57	44.26	815	45	814.06	45.04	814	45.31	813.88
45.85	813.64	46.71	813.28	47.29	813	47.72	812.82	49.64	812
51.08	811.39	52.06	811	53.32	811	55.28	811	55.35	811.1
55.6	811.59	55.81	812	55.93	812.13	56.76	813	57.18	813.51
57.57	814	58.34	814.81	58.57	815	59.65	815.52	60.35	815.85
60.69	816	60.85	816.38	61.14	817	61.77	817.41	62.59	817.79
62.87	817.94	63.09	818	63.88	818.51	64.08	818.62	64.6	819
64.96	819.41	65.1	819.62	65.17	819.68	65.44	820	65.46	820
65.95	820.04	66.86	820.1	66.95	820.11	67.92	820.17	68.1	820.19
68.33	820.21	72.75	820.38	73.42	820.44	73.85	820.47	74.33	820.5
75.86	820.62	76.34	820.64	76.82	820.65	77.12	820.65	77.64	820.69
77.89	820.69	78.6	820.7	79.07	820.71	79.61	820.7	80.05	820.7
81.03	820.68	81.49	820.68	81.97	820.66	82.5	820.64	83.09	820.61
83.79	820.58	84.97	820.52	86.56	820.43	88.96	820.29	92.49	820.08
92.72	820.06	92.77	820.06	92.83	820.06	93.82	820	95.91	819.15
96.18	819	97.9	818.48	98.26	818.34	98.33	818.31	98.49	818.26

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	32.91	.058	59.65	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
32.91	59.65	23.72	12.96	9.56	.1	.3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 48.29413

INPUT
Description:
Station Elevation Data num= 133

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	817.79	.32	817.78	.89	817.77	1.12	817.76	1.31	817.74
1.72	817.71	2.28	817.68	2.55	817.65	3.62	817.59	4.34	817.5
4.9	817.42	5.81	817.27	6.38	817.22	7.42	817	10.39	817
11.55	817	11.95	817	12.86	817	15.66	817.6	15.95	817.6
16.25	817.61	16.38	817.61	16.49	817.59	17.02	817.67	17.33	817.63
17.59	817.66	17.73	817.68	17.78	817.68	18.15	817.72	18.22	817.71
18.31	817.71	18.68	817.73	18.89	817.74	19.83	817.65	20.48	817.66
20.89	817.66	25.43	817.46	25.82	817.46	26.82	817.45	28.63	817.42
29.29	817.42	31.27	817.38	32.2	817.33	38.14	817.05	38.86	817
39.92	816.15	40.05	816	41.57	815.09	41.72	815	41.78	814.91
42.48	814	42.49	813.95	42.83	813	43.45	812.61	44.21	812.13
44.46	812	45.01	811.8	47.32	811	47.96	810.66	49.1	810
51.31	810	52.16	810	52.57	810.46	53.05	811	54.13	811.55
55.12	811.97	55.15	811.99	55.19	812	56.2	812.27	56.57	812.35
57.26	812.51	57.96	812.66	60.25	813	61.1	813.17	61.21	813.21
61.38	813.27	62.39	813.61	63.01	813.78	63.15	813.82	63.56	814

64.16	814.47	64.85	815	65.43	815.23	65.75	815.34	66.62	815.68
66.82	815.73	67.12	815.85	67.51	816	68.16	816.12	68.88	816.24
69.44	816.31	70.31	816.43	70.76	816.47	71.16	816.5	71.61	816.52
73.74	816.96	73.84	816.96	73.94	817	75.12	817.84	75.24	817.93
75.42	818	76.6	818.48	76.96	818.57	77.46	818.63	78.09	818.82
78.73	818.83	79.32	818.79	79.43	818.81	79.98	818.75	80.27	818.77
80.36	818.76	80.59	818.76	81.09	818.7	81.35	818.68	81.68	818.65
82.14	818.6	83.61	818.39	86.23	818	86.24	818	86.25	818
89.87	817.7	91.08	817.59	93.97	817	94.26	816.87	94.39	816.82
94.75	816.68	95.26	816.47	96.5	816	97.44	815.56	98.72	815
99.24	814.73	99.42	814.61	99.61	814.49				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	32.2	.058	61.38	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
32.2	61.38	19.38	15.29	8.32	.1	.3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 33.00703

INPUT
Description:
Station Elevation Data num= 123

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	815.53	.74	815.54	7.22	815.38	9.05	815.29	11.35	815.32
11.45	815.31	13.54	815.11	13.63	815.11	14.77	815	16.52	814.82
17.56	814.73	18.52	814.66	19.26	814.63	20.78	814.58	21.5	814.56
21.77	814.55	22.11	814.54	22.33	814.53	22.63	814.53	23.09	814.51
23.2	814.51	24.47	814.48	25.85	814.43	26.16	814.42	27.51	814.39
27.89	814.39	29.83	814.34	34.1	814.36	34.43	814.37	36.96	814.15
37.78	814.08	38.2	814	39.13	813.56	40.37	813	40.6	812.37
40.72	812	42.86	811.2	43.41	811	43.8	810.45	44.12	810
47.63	809.14	47.93	809.07	48.18	809	51.98	808.01	52.03	808
52.05	808	52.09	808	52.82	808	53.77	808	54.82	808
55.47	808.1	55.89	808.16	58.77	808.62	59.92	808.76	60.05	808.78
60.22	808.8	60.41	808.82	60.56	808.83	62.37	809	64.04	809.33
64.31	809.41	64.35	809.42	66.33	810	66.62	810.08	66.87	810.15
68.75	810.68	69.86	811	69.93	811.03	69.98	811.06	70.2	811.16
71.14	811.59	71.74	811.89	71.95	812	72.18	812.41	72.44	813
72.52	813.02	73.61	813.23	74.09	813.3	74.6	813.38	75.05	813.42
75.77	813.52	76.38	813.56	76.46	813.56	77.24	813.68	77.96	813.64
79.22	813.85	79.38	813.86	80.36	814	82	814.46	82.29	814.52
82.45	814.56	83.46	814.76	83.88	814.84	85.12	815	85.37	815.02
85.42	815.04	86.14	815.05	86.85	815.05	86.88	815.06	87.24	815
87.58	814.96	88.75	814.76	89.14	814.72	89.63	814.59	89.97	814.53
90.31	814.41	91.52	814.03	91.55	814.02	91.6	814	92.27	813.75
93.05	813.38	93.55	813.14	93.84	813	94.84	812.77	95.68	812.54
96.51	812.34	96.89	812.25	97.62	812	97.92	811.84	98.05	811.86
98.11	811.9	99.04	812	100.91	812				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	36.96	.058	64.31	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
36.96 64.31 14.36 13.89 6.66 .1 .3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 19.11380

INPUT
Description:
Station Elevation Data num= 130

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	814.61	.39	814.61	1.27	814.61	3.88	814	5.56	814
12.89	813.66	13.17	813.65	17.56	813.58	19.24	813.5	19.53	813.49
20.33	813.46	22.17	813.42	24.09	813.33	24.26	813.32	24.62	813.31
24.94	813.3	25.01	813.3	26.26	813.24	26.9	813.22	27.16	813.22
27.85	813.18	28.47	813.16	29.59	813.16	30.14	813.14	31.68	813.09
32.5	813	32.58	813	32.76	813	33.72	813	33.74	813
33.82	813	34.05	813	34.12	813	34.41	812.94	34.67	812.87
35.39	812.65	35.51	812.55	36.17	812	36.45	811.9	38.51	811.17
38.62	811.13	38.86	811.05	39.06	811	43.06	810.06	43.3	810
44.46	809.31	45.02	809	45.24	808.92	47.04	808.3	47.9	808
50.6	807.26	52.42	807	55.7	806.12	56.19	806.03	56.45	806
57.05	805.83	57.68	805.74	57.9	805.67	58.01	805.67	58.48	805.65
58.5	805.65	58.76	805.61	59.19	805.63	59.56	805.64	62.34	805.9
62.49	805.91	62.66	805.93	63.95	806	64.03	806	64.36	806
64.37	806.01	66.22	806.07	67.77	806.15	68.33	806.23	70.4	806.52
71.01	806.61	71.71	806.72	72.57	806.87	73.29	807	73.34	807.01
73.96	807.16	74.81	807.36	76.05	807.68	77.27	808	78.34	808.53
78.81	808.68	78.84	808.69	79.03	808.78	79.7	809	81.71	809.5
82.58	809.8	82.76	809.85	83.18	810	84.45	810.28	84.71	810.31
85.44	810.42	86.16	810.48	86.64	810.54	87.07	810.56	87.72	810.62
88.02	810.62	88.26	810.61	88.98	810.62	89.54	810.58	89.89	810.55
90.56	810.49	90.99	810.44	91.38	810.4	91.89	810.33	93.58	810
93.95	809.85	94.01	809.84	95.63	809.9	95.75	810	98.24	810.85
98.52	811	98.75	811.3	99.26	812	99.65	812.54	99.89	812.87
99.99	813	100.69	813.87	100.79	814	100.99	814.19	101.84	815
102.49	815.67	102.7	815.87	102.84	816	103.32	816.22	103.85	816.42

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	36.45	.058	73.96	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
36.45 73.96 8.48 11.03 22.62 .1 .3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 8.082387

INPUT
Description:
Station Elevation Data num= 139

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	814	.04	814	.28	814	.86	814	1.51	814
1.99	814	2.03	814	2.36	814	2.46	814	2.78	814

2.89	814	3.54	813.93	3.69	813.93	4.41	813.85	4.55	813.84
5.2	813.85	7.57	813.65	10.55	813.59	12.77	813.51	18.72	813.25
19.29	813.24	20.83	813.22	23.75	813.11	24.24	813.09	25.57	813.04
25.71	813.03	26.47	813	28.32	812.88	29.9	812.79	31.77	812.6
32.43	812.55	33.96	812.44	34.56	812.4	35.31	812.36	35.71	812.3
37.61	812	37.93	811.66	38.75	811	40.7	810.41	42.23	810
43.39	809.67	45.59	809	46.62	808.57	48.25	808	48.47	807.87
49.23	807.37	49.88	807	52.22	806.36	53.44	806	54.49	805.14
54.69	805	54.88	804.22	54.94	804	55.01	803.94	56.1	803
56.17	802.92	57	802	57.3	801.78	58.23	801	59.89	800.01
59.91	800	59.93	799.98	60.04	799.83	60.68	799	60.72	799
61.51	798.76	61.7	798.73	62.21	798.72	62.83	798.76	63.03	798.78
64.93	798.99	64.94	798.99	64.96	798.99	65.04	799	67.77	799.28
68.25	799.34	69.17	799.46	70.69	799.66	71.2	799.73	72.38	799.89
72.54	799.92	73.21	800	73.73	800.31	74.71	801	75.02	801.03
75.71	801.12	76.27	801.15	77.17	801.24	78.42	801.41	79.12	801.44
79.61	801.5	80.78	801.63	82.06	801.85	82.51	801.91	82.93	802
84.09	802.61	84.46	802.81	84.8	803	86.45	803.76	86.86	804
88.17	804.96	88.21	805	89.12	805.73	89.46	806	89.87	806.23
90.74	806.79	91.06	807	93.05	807.51	94.44	807.77	94.79	807.85
94.94	807.88	95.65	808	95.85	808.35	96.44	809	97.29	809.56
98.06	810	98.84	810.27	100.91	811	101.03	811.07	102.41	812
102.61	812.08	103.1	812.24	104.43	812.69	105.38	813	106.41	813.63
107.21	814	107.4	814.03	107.43	814.03	108.57	814.19	108.84	814.23
110.13	814.4	112.36	814.78	113	814.87	113.61	815	114.56	815.66
115.53	815.99	115.54	815.99	115.56	816	116.98	816.55		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	35.71	.058	84.09	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
35.71	84.09	24.08	8.08	7.68	.1	.3

SUMMARY OF MANNING'S N VALUES

River:Nota

Reach	River Sta.	n1	n2	n3
Nota	234.5633	.035	.058	.035
Nota	220.8931	.035	.058	.035
Nota	206.2115	.035	.058	.035
Nota	195.5067	.035	.058	.035
Nota	184.2587	.035	.058	.035
Nota	174.2417	.035	.058	.035
Nota	164.4459	.035	.058	.035
Nota	154.6206	.035	.058	.035
Nota	144.6175	.035	.058	.035
Nota	135.4527	Culvert		
Nota	126.2879	.035	.058	.035
Nota	107.4834	.035	.058	.035
Nota	90.78275	.035	.058	.035
Nota	75.41282	.035	.058	.035
Nota	61.25671	.035	.058	.035
Nota	48.29413	.035	.058	.035
Nota	33.00703	.035	.058	.035
Nota	19.11380	.035	.058	.035
Nota	8.082387	.035	.058	.035

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SUMMARY OF REACH LENGTHS

River: Nota

Reach	River Sta.	Left	Channel	Right
Nota	234.5633	12.36	13.67	12.35
Nota	220.8931	12.93	14.68	14.9
Nota	206.2115	13.16	10.7	8.53
Nota	195.5067	8.74	11.25	17.83
Nota	184.2587	12.93	10.02	8.57
Nota	174.2417	13.27	9.8	6.46
Nota	164.4459	8.49	9.82	6.36
Nota	154.6206	7.87	10	14.7
Nota	144.6175	20.14	18.33	27.56
Nota	135.4527	Culvert		
Nota	126.2879	7.8	18.8	15.03
Nota	107.4834	20.46	16.7	9.05
Nota	90.78275	24.78	15.37	4.84
Nota	75.41282	23.24	14.16	8.1
Nota	61.25671	23.72	12.96	9.56
Nota	48.29413	19.38	15.29	8.32
Nota	33.00703	14.36	13.89	6.66
Nota	19.11380	8.48	11.03	22.62
Nota	8.082387	24.08	8.08	7.68

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SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Nota

Reach	River Sta.	Contr.	Expan.
Nota	234.5633	.1	.3
Nota	220.8931	.1	.3
Nota	206.2115	.1	.3
Nota	195.5067	.1	.3
Nota	184.2587	.1	.3
Nota	174.2417	.1	.3
Nota	164.4459	.1	.3
Nota	154.6206	.1	.3
Nota	144.6175	.1	.3
Nota	135.4527	Culvert	
Nota	126.2879	.1	.3
Nota	107.4834	.1	.3
Nota	90.78275	.1	.3
Nota	75.41282	.1	.3
Nota	61.25671	.1	.3
Nota	48.29413	.1	.3
Nota	33.00703	.1	.3
Nota	19.11380	.1	.3
Nota	8.082387	.1	.3

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Profile Output Table - Standard Table 1

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Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Nota	234.5633	T500	13.24	851.25	852.18	852.18	852.50	0.041172	2.51	5.27	8.37	1.01
Nota	234.5633	T10	3.77	851.25	851.75	851.75	851.92	0.049907	1.82	2.07	6.23	1.01
Nota	220.8931	T500	13.24	844.00	844.44	845.23	850.27	1.679673	10.70	1.24	3.27	5.55
Nota	220.8931	T10	3.77	844.00	844.15	844.58	849.18	4.902699	9.94	0.38	2.70	8.46
Nota	206.2115	T500	13.24	839.77	840.66	841.09	842.06	0.216193	5.25	2.52	3.87	2.08
Nota	206.2115	T10	3.77	839.77	840.30	840.45	840.81	0.167728	3.17	1.19	3.50	1.74
Nota	195.5067	T500	13.24	837.00	838.07	838.53	839.60	0.242409	5.48	2.42	3.94	2.23
Nota	195.5067	T10	3.77	837.00	837.61	837.88	838.50	0.277151	4.18	0.90	2.50	2.22
Nota	184.2587	T500	13.24	834.00	834.84	835.32	836.57	0.297356	5.84	2.27	3.99	2.47
Nota	184.2587	T10	3.77	834.00	834.50	834.71	835.25	0.294571	3.84	0.98	3.54	2.33
Nota	174.2417	T500	13.24	832.00	832.84	833.24	834.11	0.184845	4.99	2.65	3.71	1.88
Nota	174.2417	T10	3.77	832.00	832.40	832.57	832.96	0.173904	3.32	1.14	3.12	1.76
Nota	164.4459	T500	13.24	831.13	832.86	832.86	833.42	0.059592	3.30	4.01	3.59	0.99
Nota	164.4459	T10	3.77	831.13	832.13	832.09	832.39	0.055011	2.27	1.66	2.77	0.93
Nota	154.6206	T500	13.24	830.20	831.95	832.15	832.64	0.106721	3.73	3.61	5.62	1.33
Nota	154.6206	T10	3.77	830.20	831.54	831.54	831.78	0.068279	2.16	1.75	3.62	0.99
Nota	144.6175	T500	13.24	828.45	830.35	829.33	830.36	0.000231	0.39	36.41	41.96	0.09
Nota	144.6175	T10	3.77	828.45	830.14	829.10	830.14	0.000046	0.16	27.44	40.85	0.04
Nota	135.4527		Culvert									
Nota	126.2879	T500	13.24	824.91	828.20	828.20	828.20	0.000016	0.13	78.31	34.81	0.02
Nota	126.2879	T10	3.77	824.91	826.59	826.59	827.39	0.028082	3.94	0.96	29.39	1.00
Nota	107.4834	T500	13.24	819.47	819.85	820.42	827.44	4.205957	12.21	1.08	5.29	8.61
Nota	107.4834	T10	3.77	819.47	819.68	820.02	825.07	6.639889	10.28	0.37	3.26	9.79
Nota	90.78275	T500	13.24	815.00	815.97	816.35	817.17	0.182665	4.84	2.74	4.66	2.02
Nota	90.78275	T10	3.77	815.00	815.57	815.74	816.11	0.148409	3.24	1.16	3.15	1.70
Nota	75.41282	T500	13.24	812.00	812.65	813.05	813.99	0.233641	5.12	2.59	4.87	2.24
Nota	75.41282	T10	3.77	812.00	812.30	812.50	812.99	0.290876	3.68	1.03	3.90	2.29
Nota	61.25671	T500	13.24	811.00	811.97	812.01	812.40	0.049586	2.92	4.54	6.09	1.08
Nota	61.25671	T10	3.77	811.00	811.48	811.48	811.68	0.050238	2.00	1.88	4.66	1.01
Nota	48.29413	T500	13.24	810.00	810.86	811.06	811.54	0.087401	3.65	3.62	5.35	1.42
Nota	48.29413	T10	3.77	810.00	810.40	810.50	810.75	0.105281	2.64	1.43	4.10	1.43
Nota	33.00703	T500	13.24	808.00	808.55	808.83	809.47	0.231979	4.24	3.12	8.45	2.23
Nota	33.00703	T10	3.77	808.00	808.31	808.43	808.69	0.178978	2.72	1.39	6.03	1.81
Nota	19.11380	T500	13.24	805.61	806.24	806.39	806.74	0.154294	3.15	4.20	13.12	1.78
Nota	19.11380	T10	3.77	805.61	806.00	806.10	806.29	0.163216	2.37	1.59	7.95	1.69
Nota	8.082387	T500	13.24	798.72	799.17	799.66	802.61	1.402679	8.22	1.61	6.16	5.13
Nota	8.082387	T10	3.77	798.72	798.96	799.25	801.55	2.363379	7.13	0.53	3.75	6.06

ERRORS WARNINGS AND NOTES
Errors Warnings and Notes for Plan : nota_a

River: Nota Reach: Nota   RS: 220.8931   Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). 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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
River: Nota Reach: Nota   RS: 220.8931   Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). 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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
River: Nota Reach: Nota   RS: 206.2115   Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). 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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
River: Nota Reach: Nota   RS: 206.2115   Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). 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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
River: Nota Reach: Nota   RS: 195.5067   Profile: T500
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
River: Nota Reach: Nota   RS: 195.5067   Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
River: Nota Reach: Nota   RS: 184.2587   Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
     Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Nota Reach: Nota   RS: 184.2587   Profile: T10
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
     Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Nota Reach: Nota   RS: 174.2417   Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
     Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Nota Reach: Nota   RS: 174.2417   Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
     Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Nota Reach: Nota   RS: 164.4459   Profile: T500
     Warning:The energy equation could not be balanced within the specified number of iterations. The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The
             program defaulted to critical depth.

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     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.
River: Nota  Reach: Nota     RS: 164.4459     Profile: T10
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.
River: Nota  Reach: Nota     RS: 154.6206     Profile: T500
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.
River: Nota  Reach: Nota     RS: 154.6206     Profile: T10
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.
River: Nota  Reach: Nota     RS: 144.6175     Profile: T500
     Warning:The cross section had to be extended vertically during the critical depth calculations.
     Warning:The parabolic search method failed to converge on critical depth.  The program will try the cross section
             slice/secant method to find critical depth.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Nota  Reach: Nota     RS: 144.6175     Profile: T10
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Nota  Reach: Nota     RS: 135.4527     Profile: T500     Culv: Culvert #1
     Note:   Culvert critical depth exceeds the height of the culvert.
     Note:   During the supercritical calculations a hydraulic jump occurred inside of the culvert.
     Note:   The culvert inlet is submerged and the culvert flows full over part or all of its length.  Therefore, the culvert
             inlet equations are not valid and the supercritical result has been discarded.  The outlet answer will be used.
River: Nota  Reach: Nota     RS: 135.4527     Profile: T10     Culv: Culvert #1
     Note:   Culvert critical depth exceeds the height of the culvert.
     Note:   During the supercritical calculations a hydraulic jump occurred inside of the culvert.
     Note:   The culvert inlet is submerged and the culvert flows full over part or all of its length.  Therefore, the culvert
             inlet equations are not valid and the supercritical result has been discarded.  The outlet answer will be used.
River: Nota  Reach: Nota     RS: 126.2879     Profile: T500
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Nota  Reach: Nota     RS: 126.2879     Profile: T10
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
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             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Nota  Reach: Nota     RS: 107.4834     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Nota  Reach: Nota     RS: 107.4834     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Nota  Reach: Nota     RS: 90.78275     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 90.78275     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 75.41282     Profile: T500
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 75.41282     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 61.25671     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 61.25671     Profile: T10
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
River: Nota  Reach: Nota     RS: 48.29413     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 48.29413     Profile: T10
     Warning:The conveyance ratio (upstream 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 energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
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River: Nota  Reach: Nota     RS: 33.00703     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 33.00703     Profile: T10
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 19.11380     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 19.11380     Profile: T10
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 8.082387     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 8.082387     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
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234.5633
220.8931
206.2115
195.5067
184.2587
174.2417
164.4459
154.6206
144.6175
126.2879
90.78275
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61.25671
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Nota
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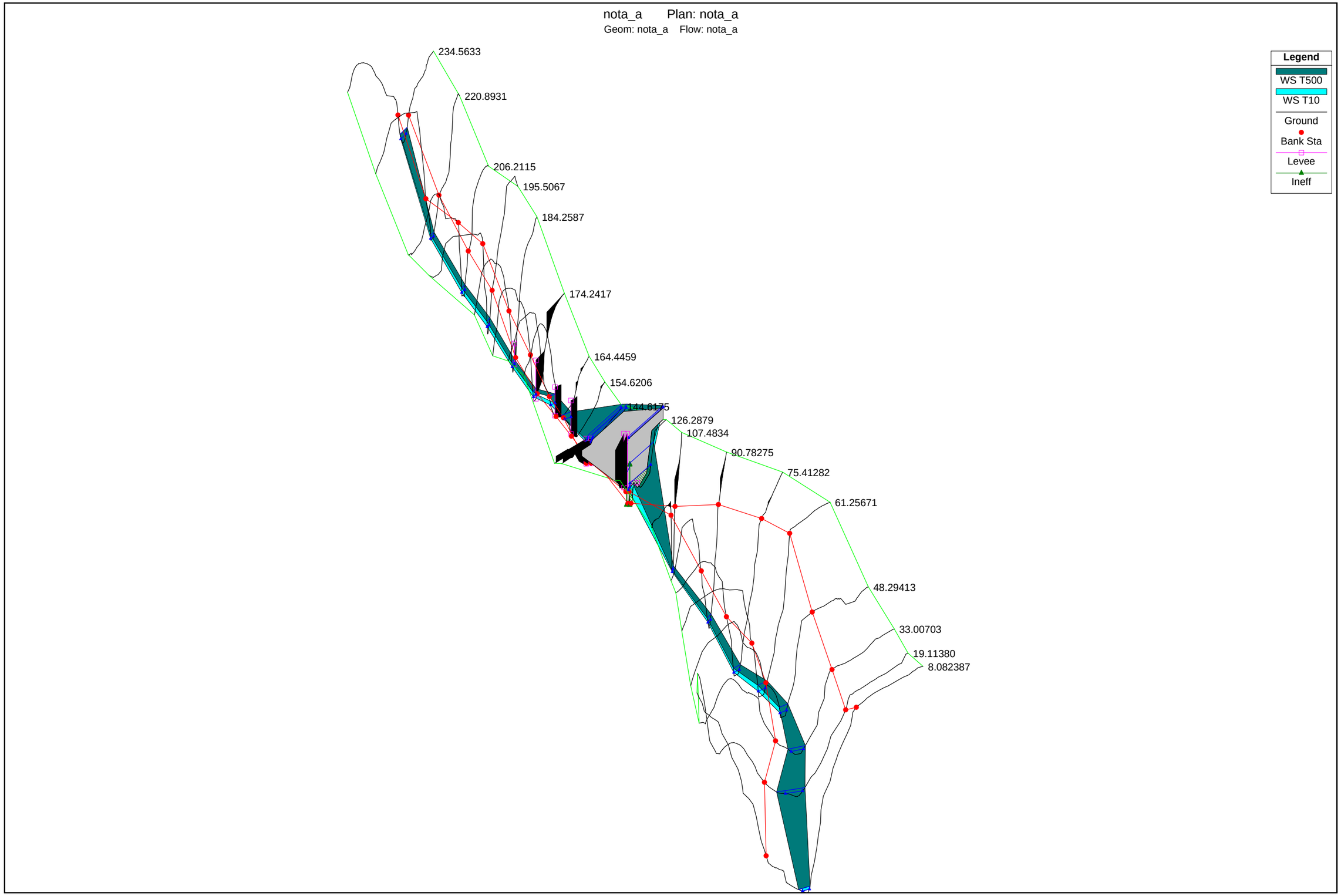
nota_a Plan: nota_a

Geom: nota_a Flow: nota_a



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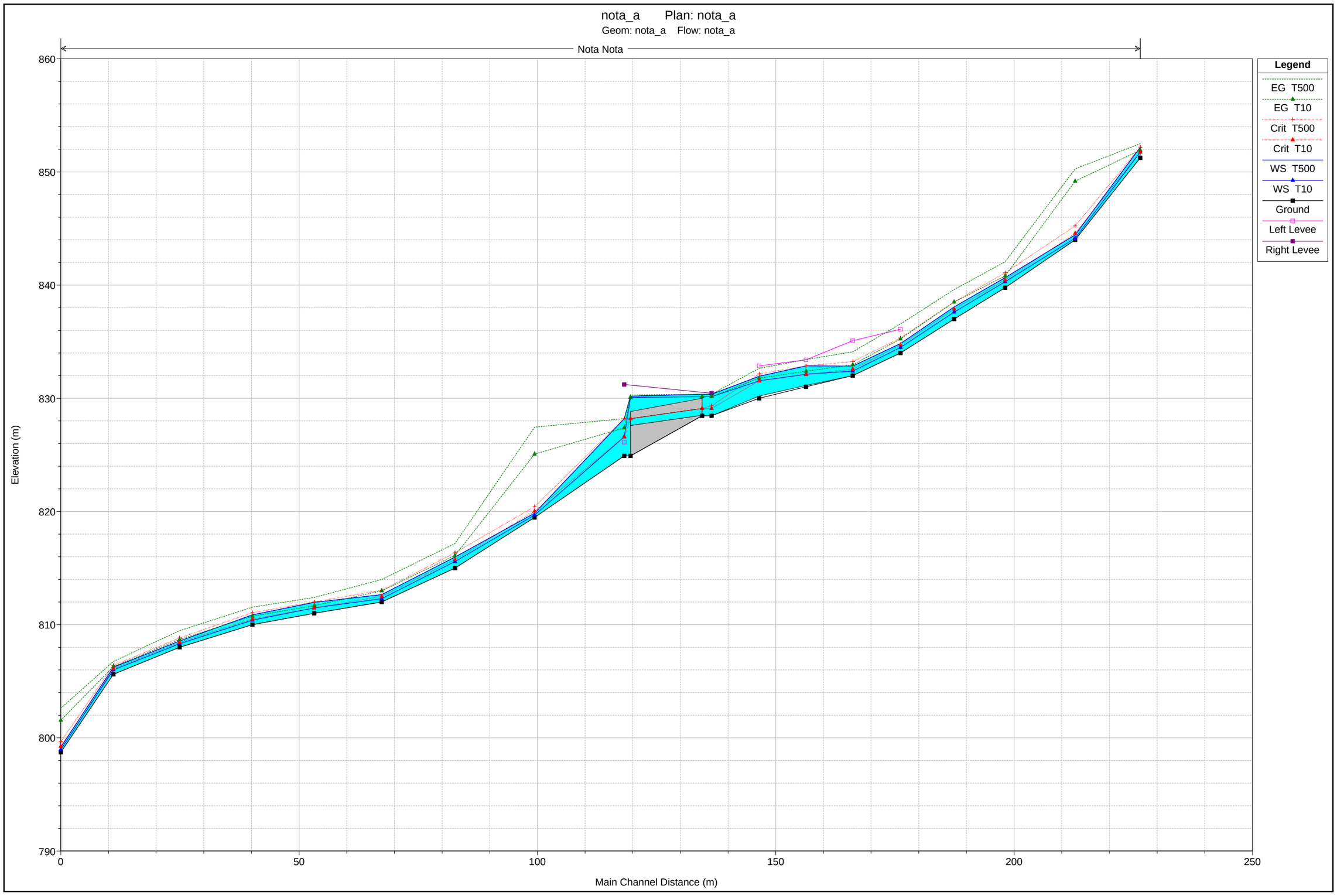

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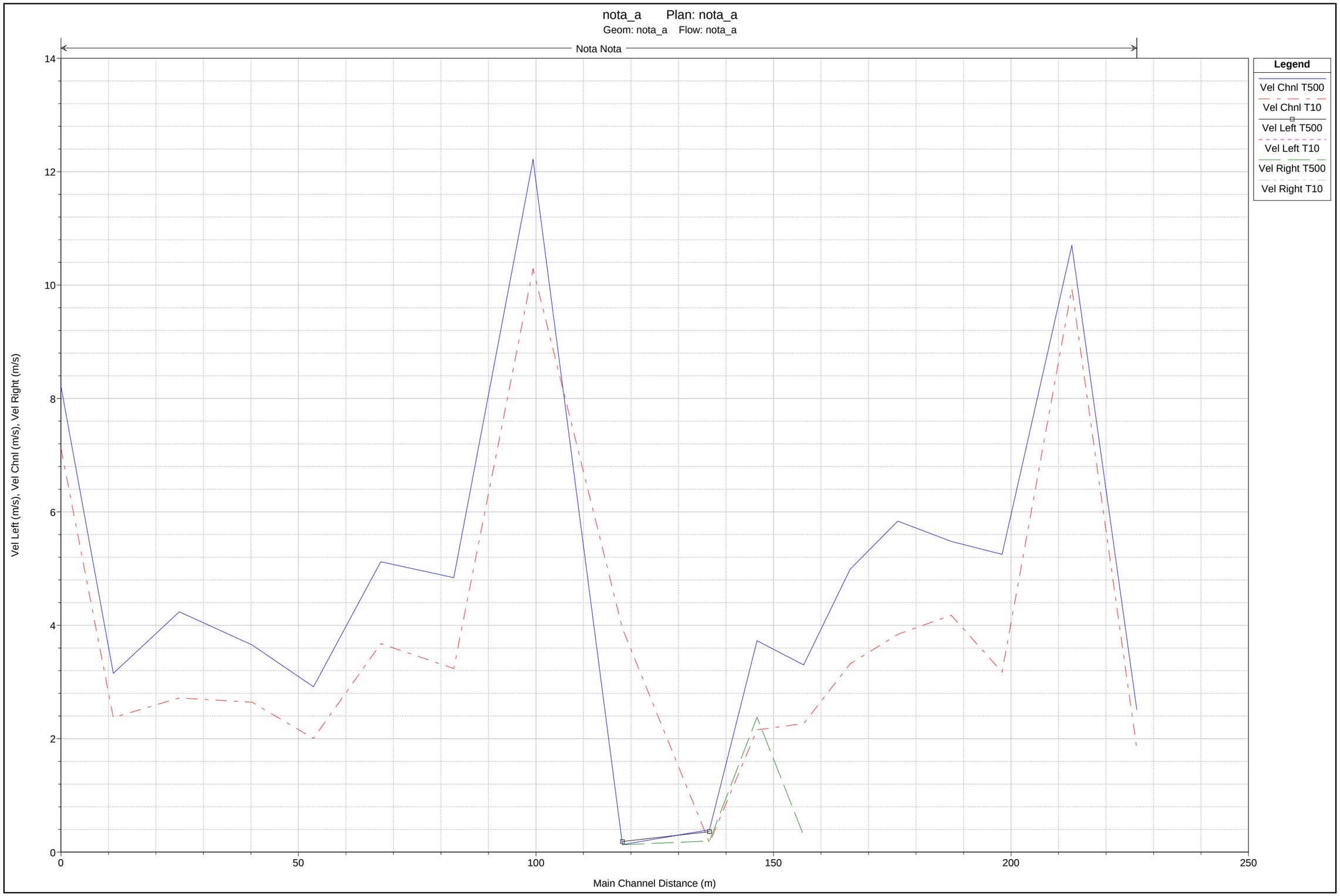

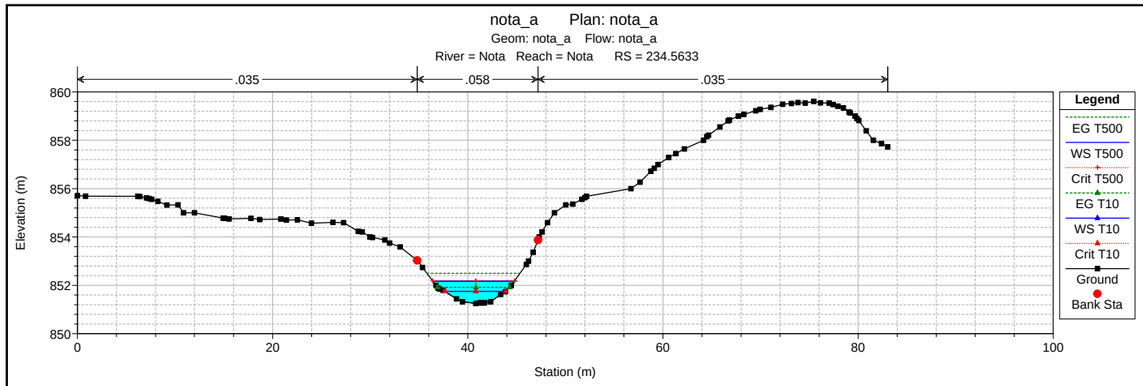
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Station (m)
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EG T10
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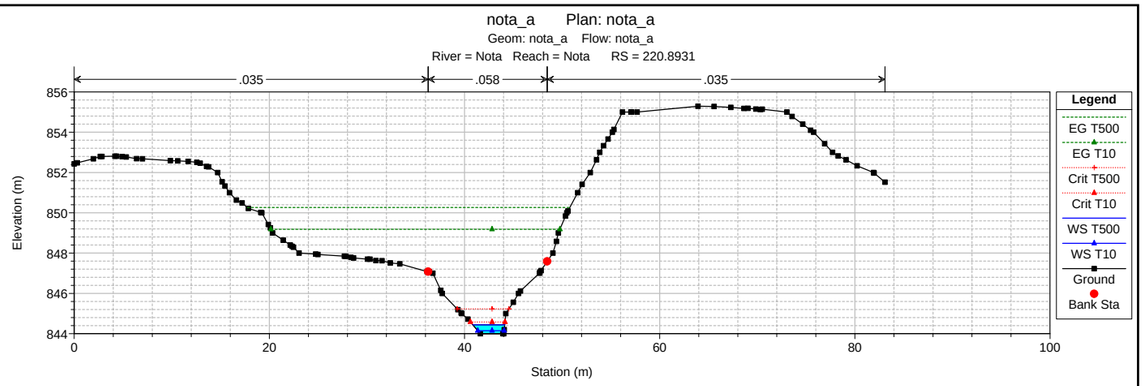
Crit T10
Ground
Bank Sta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Station (m)
Legend
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Crit T500
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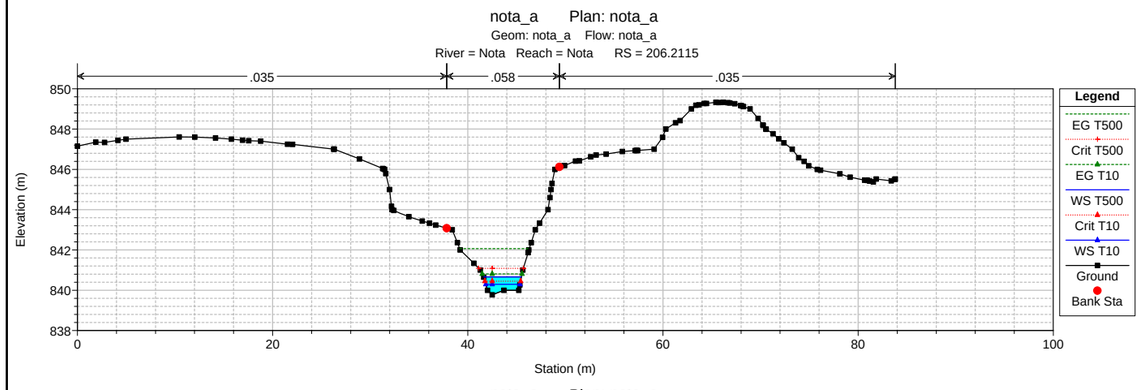
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Station (m)
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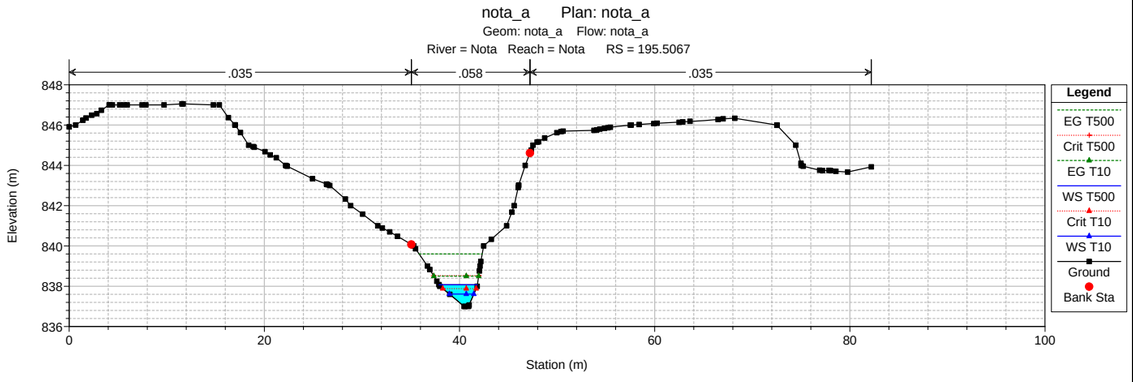
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Station (m)
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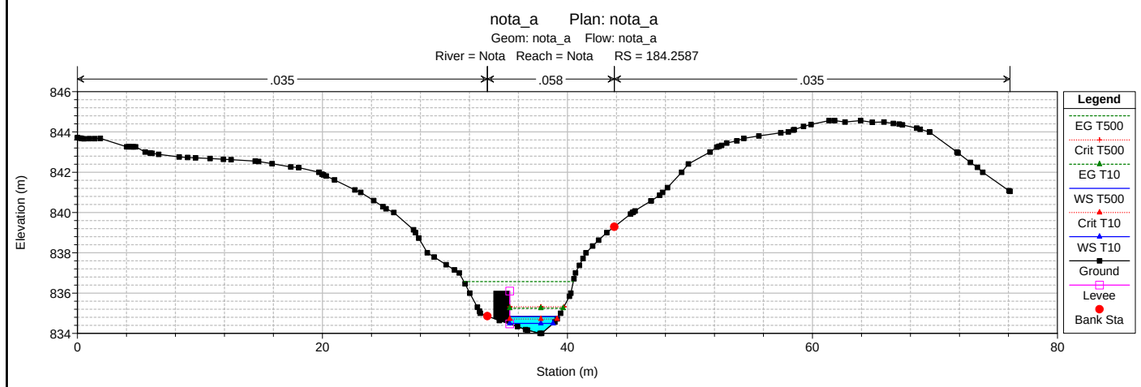
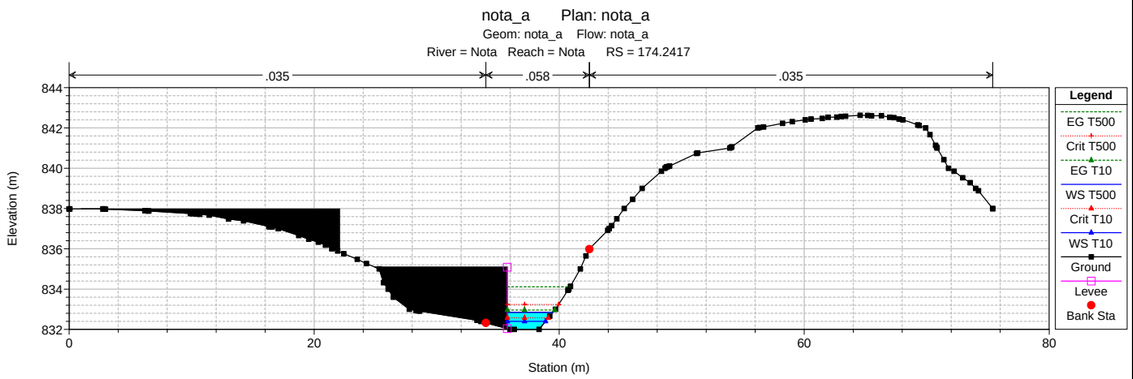
Crit T10
WS T10
Ground
Bank Sta


nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 184.2587
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Levee
Bank Sta


nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
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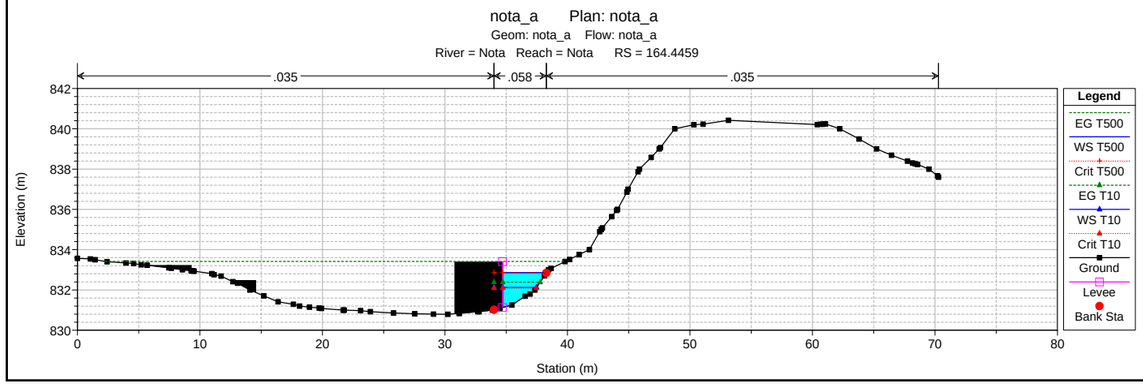
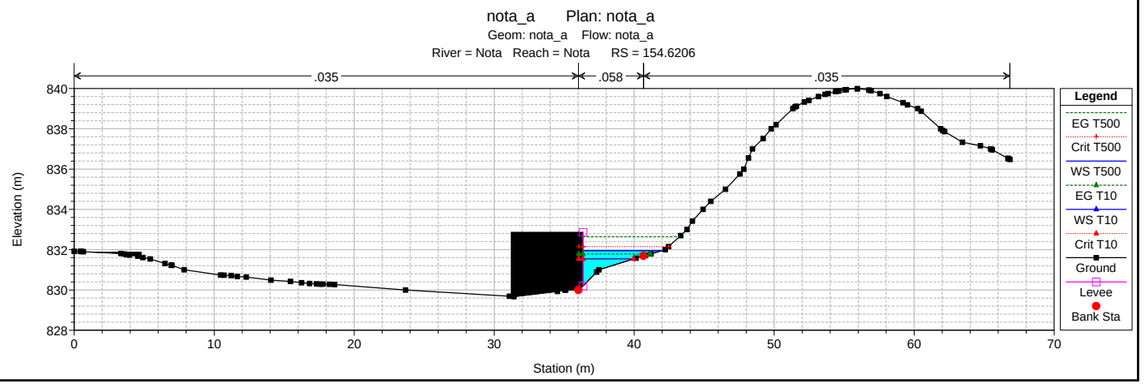
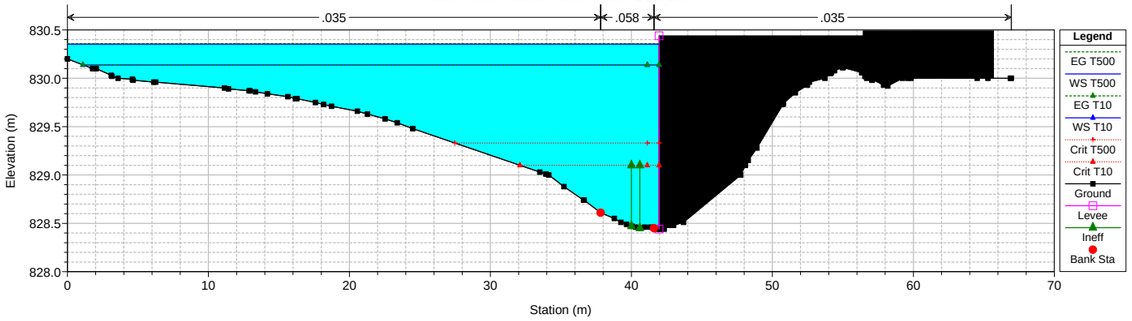
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Levee
Bank Sta

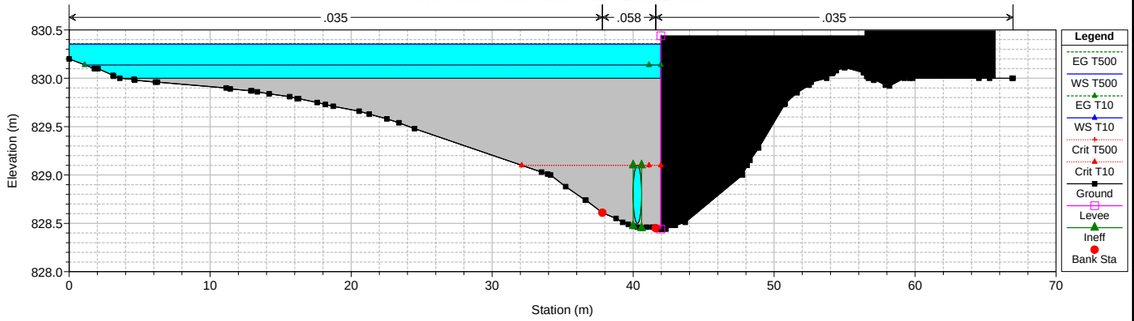

nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 164.4459
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
Crit T500
EG T10
WS T10
Crit T10
Ground
Levee
Bank Sta


nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 154.6206
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
WS T500
EG T10
WS T10
Crit T10
Ground
Levee
Bank Sta

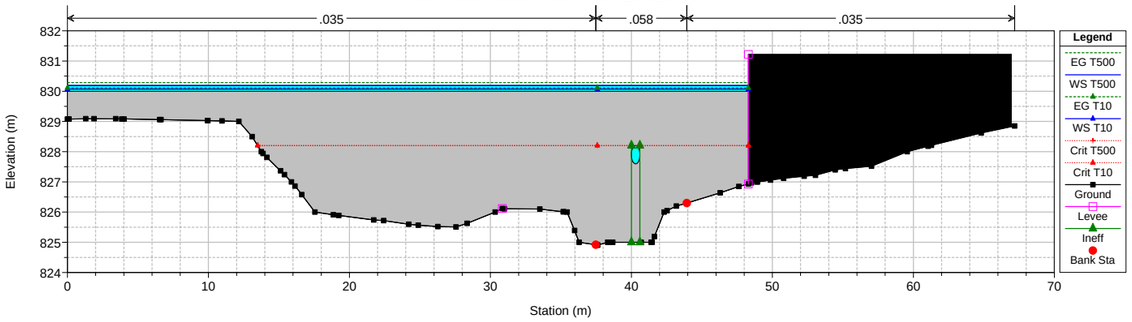
nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 144.6175



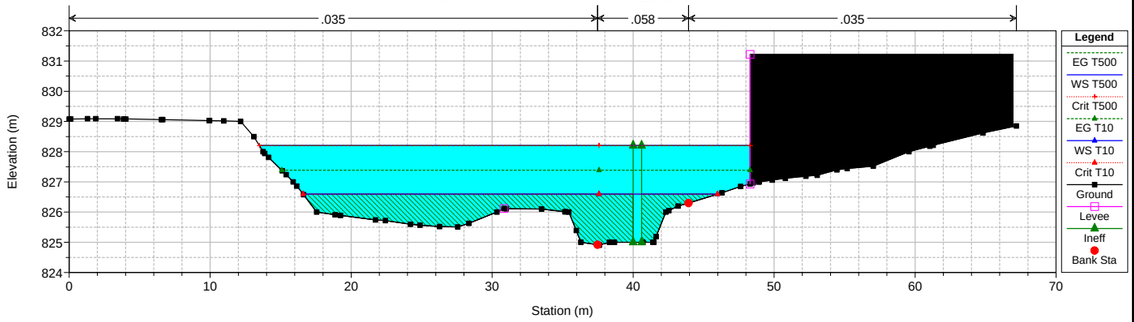
nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 135.4527 Culv



nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 135.4527 Culv

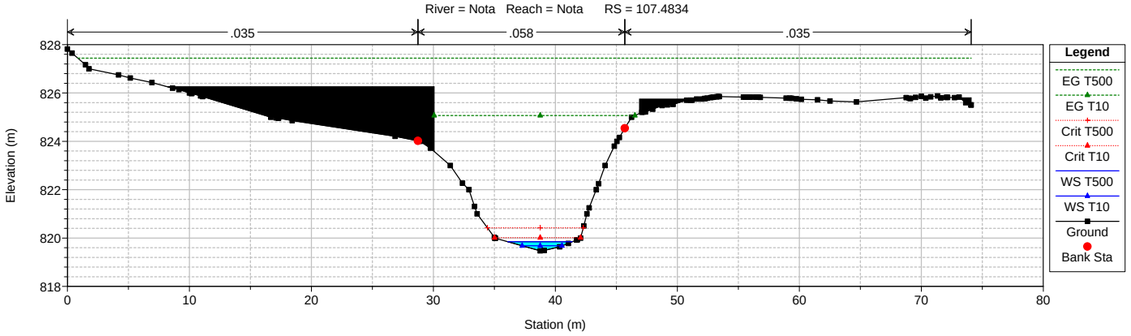


nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 126.2879



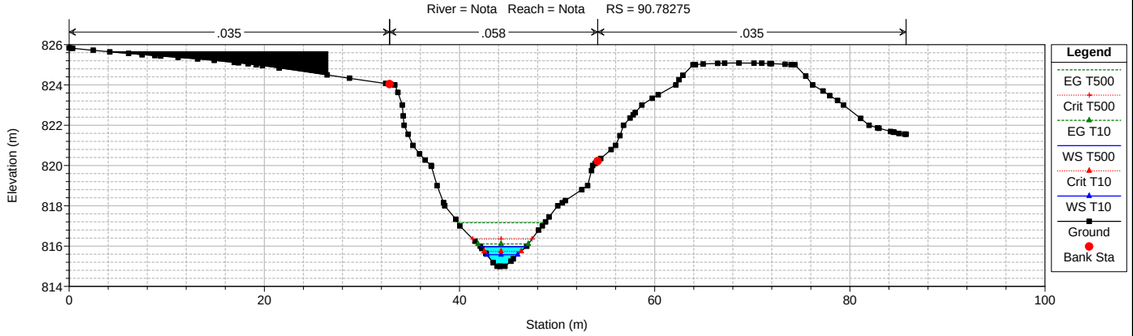
Station (m)

nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 107.4834

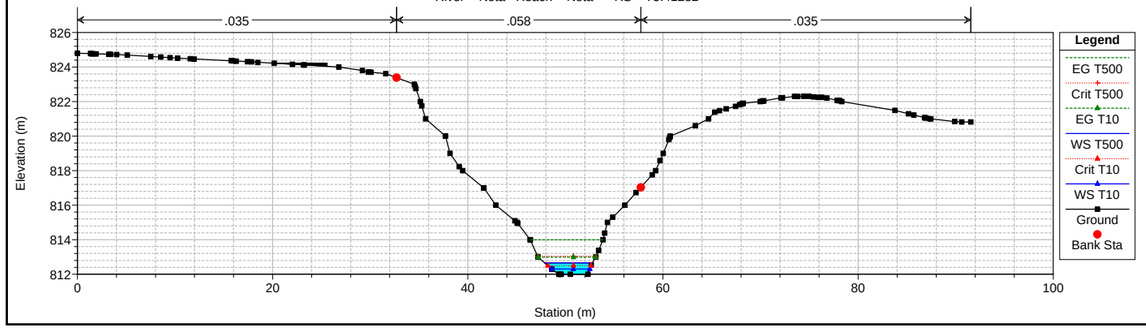


Station (m)

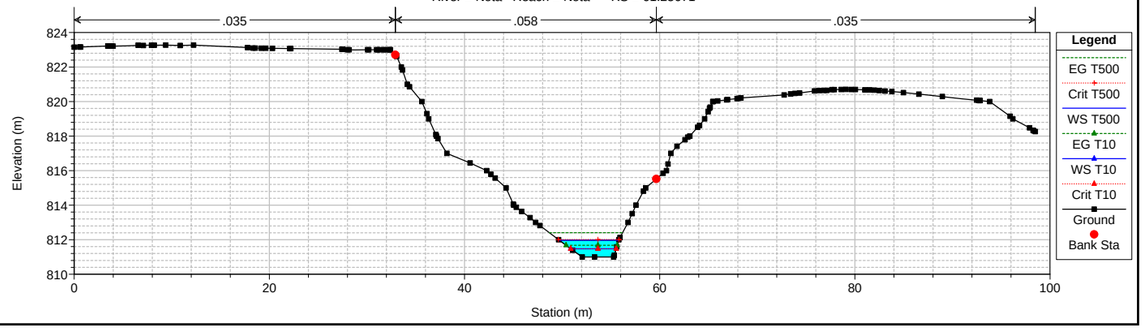
nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 90.78275

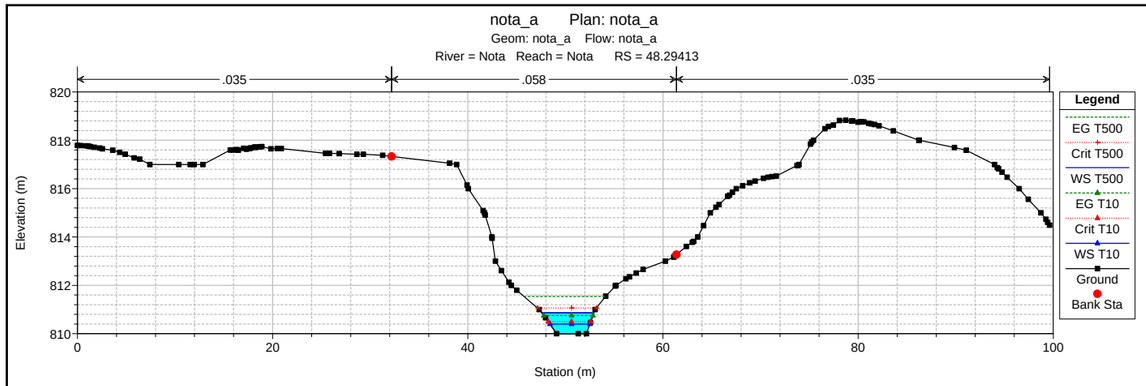


nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 75.41282



nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 61.25671

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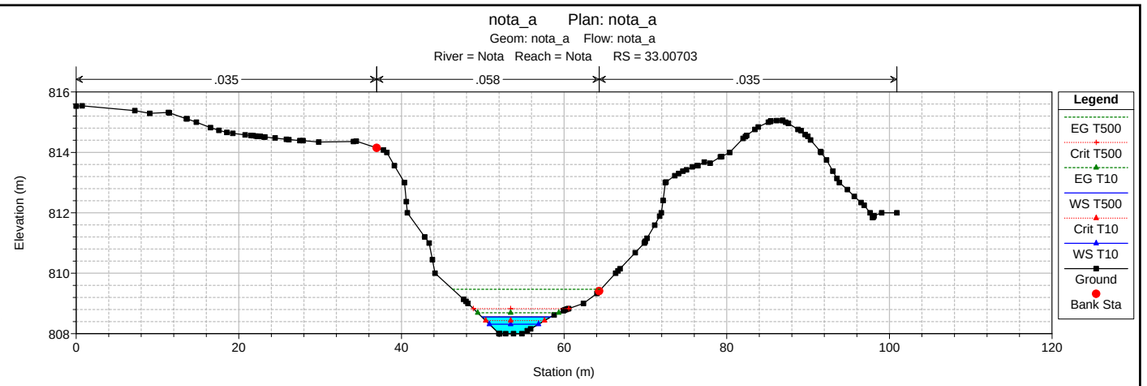
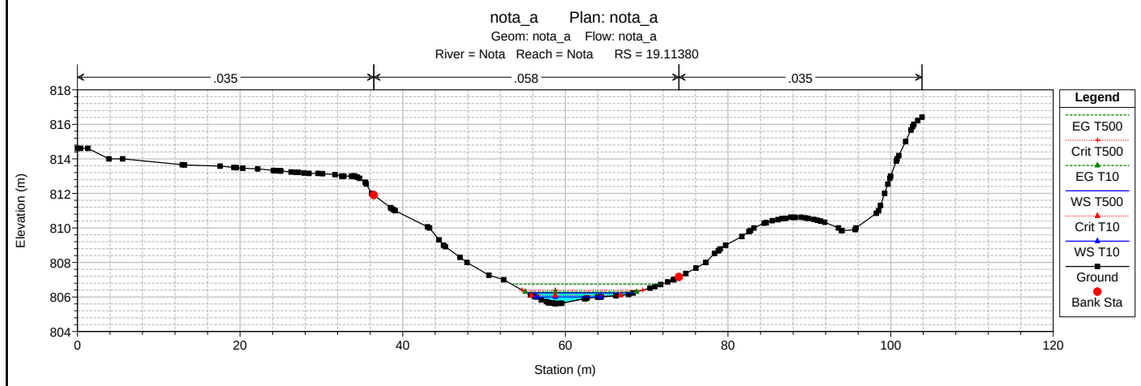
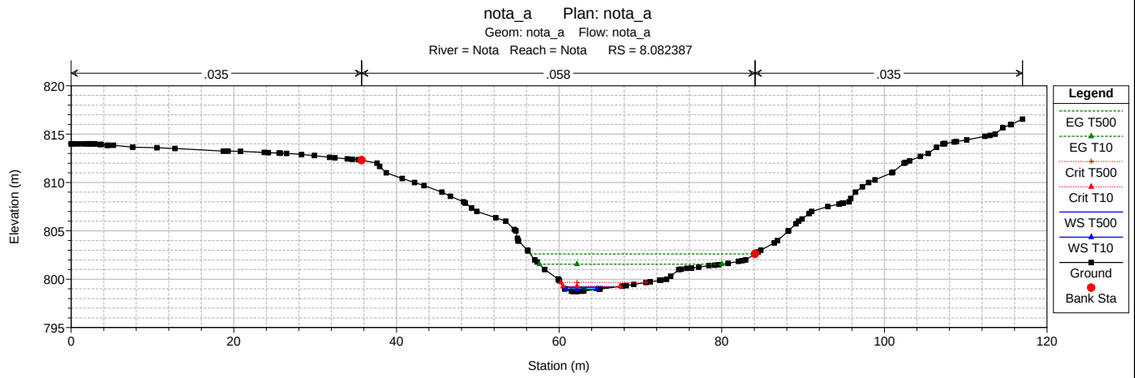
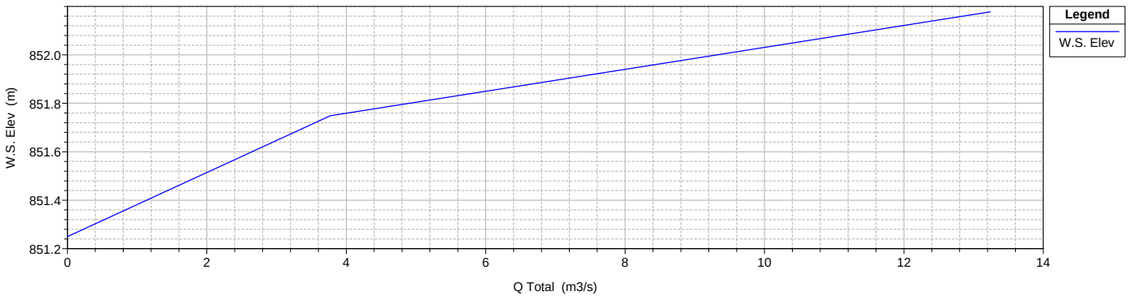
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 48.29413
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
WS T500
EG T10
Crit T10
WS T10
Ground
Bank Sta


nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 33.00703
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Bank Sta


nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 19.11380
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Bank Sta


nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 8.082387
.035
.058
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
Crit T10
WS T500
WS T10
Ground
Bank Sta

nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 234.5633



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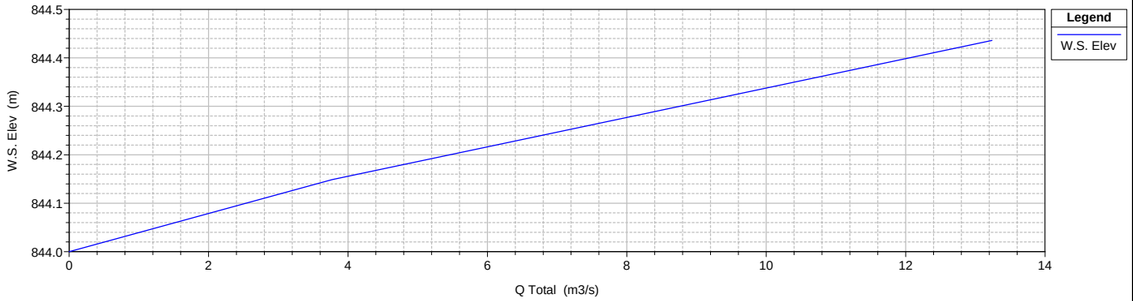
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 220.8931



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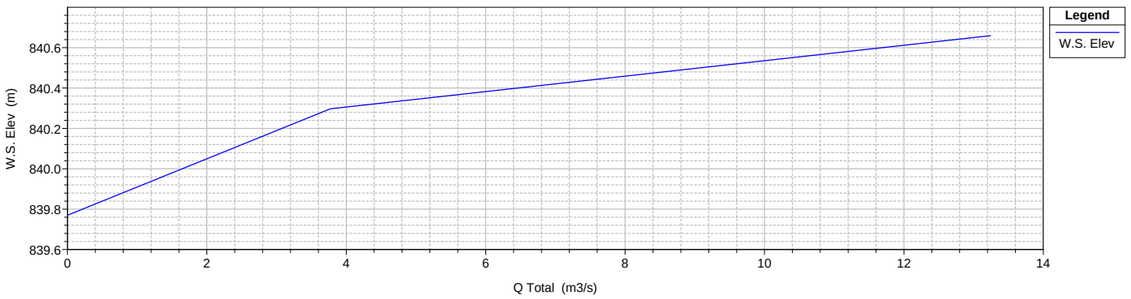
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 206.2115



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Geom: nota_a Flow: nota_a
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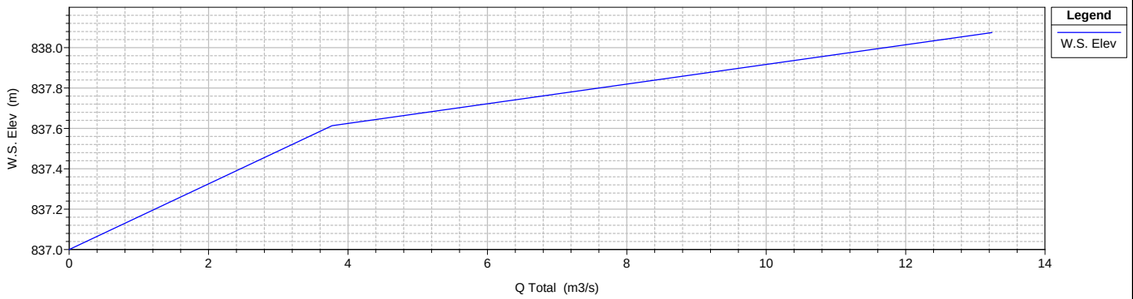

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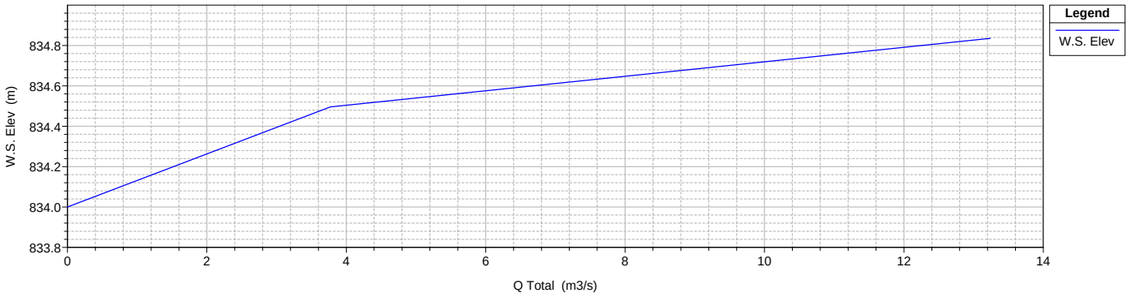
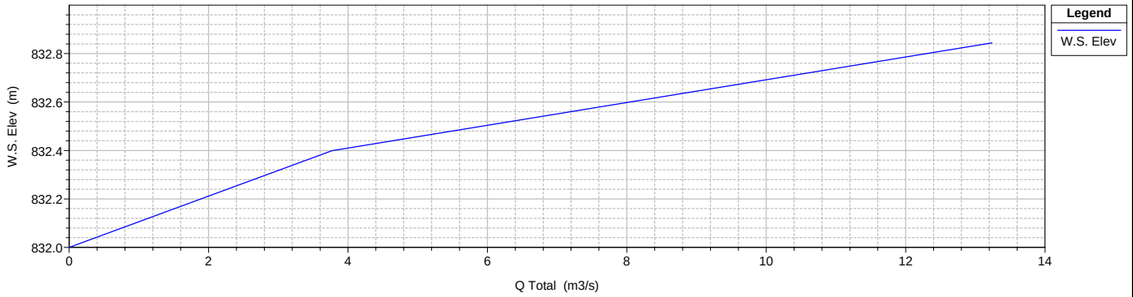
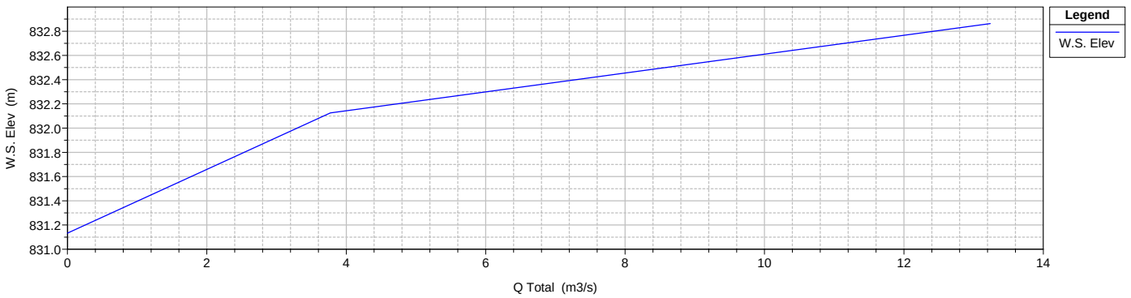
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 184.2587



nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 174.2417



nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 164.4459



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Geom: nota_a Flow: nota_a
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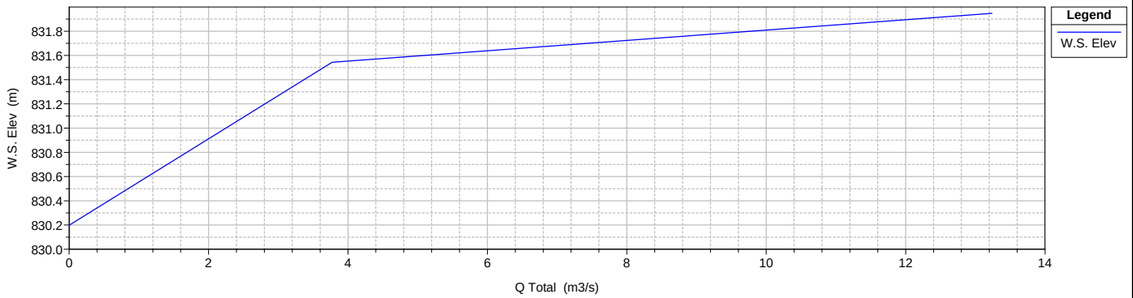

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Geom: nota_a Flow: nota_a
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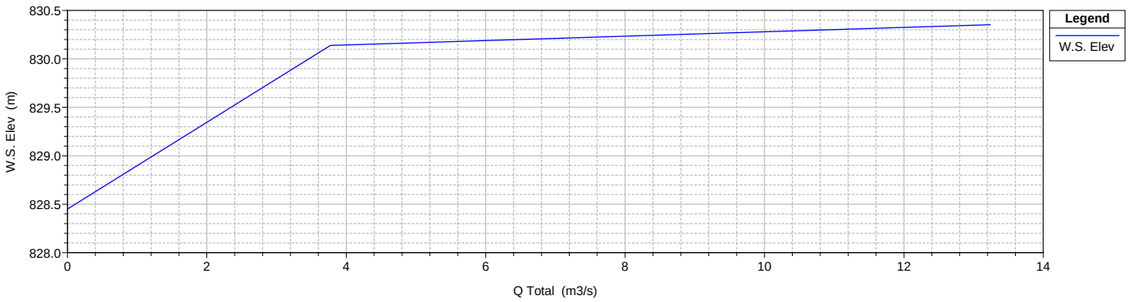

nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
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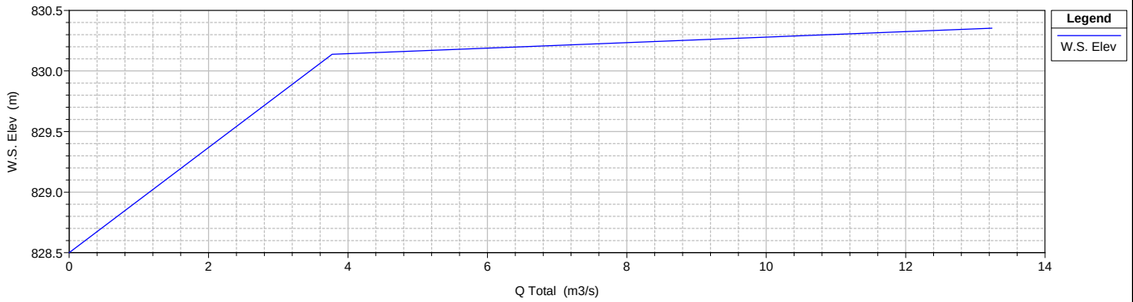
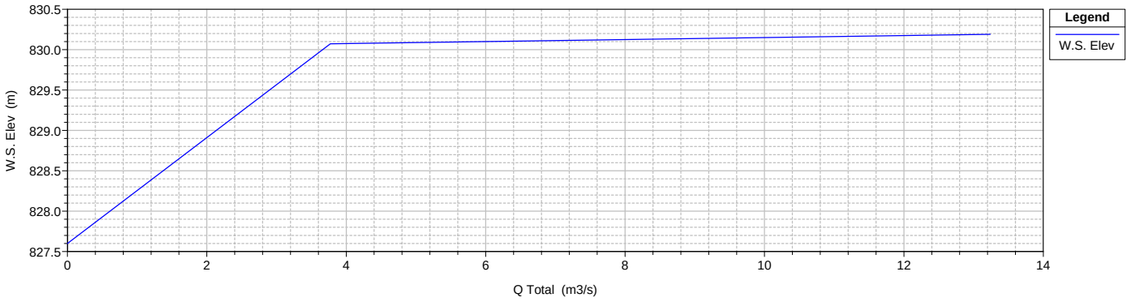


nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 135.4527 Culv



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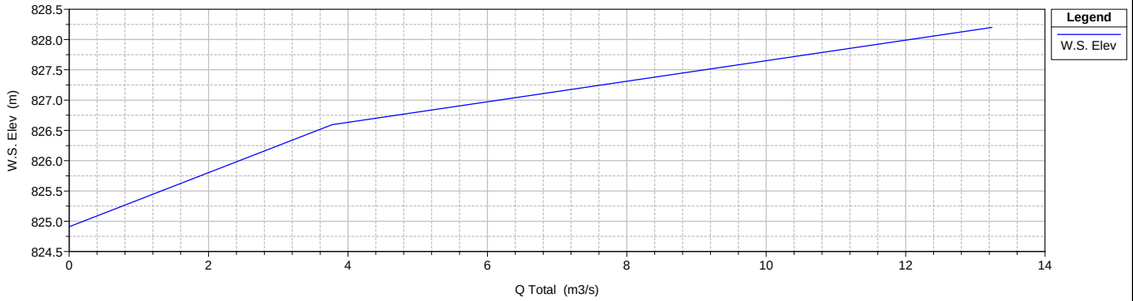
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 126.2879



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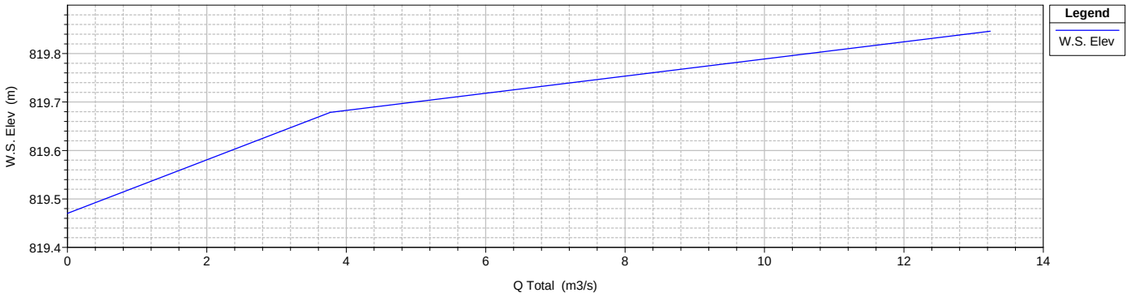
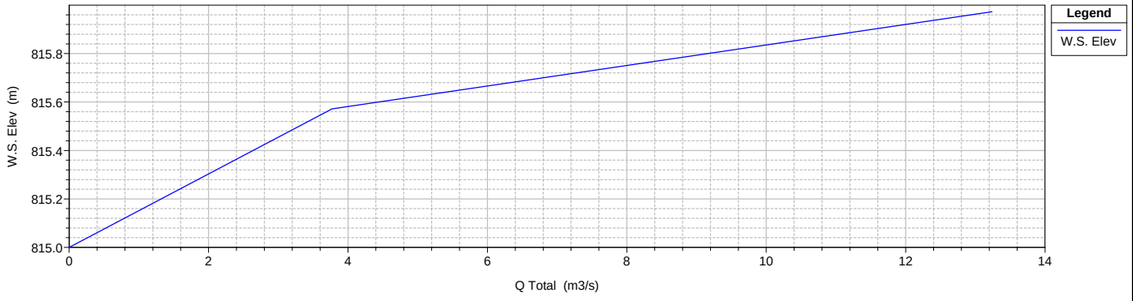
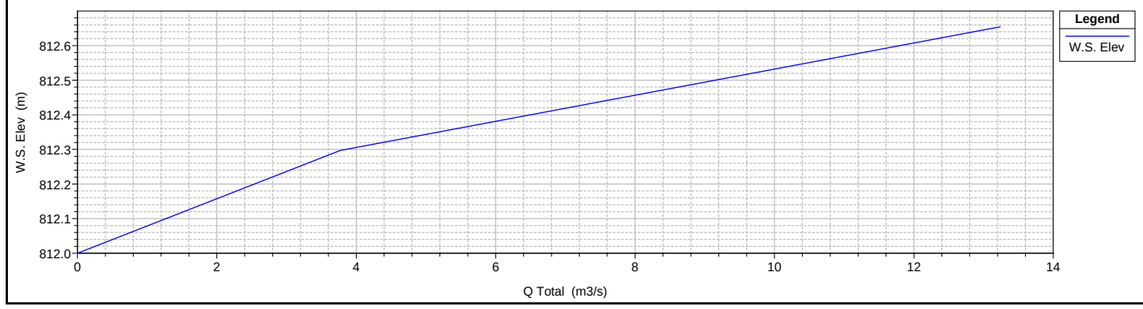
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 107.4834



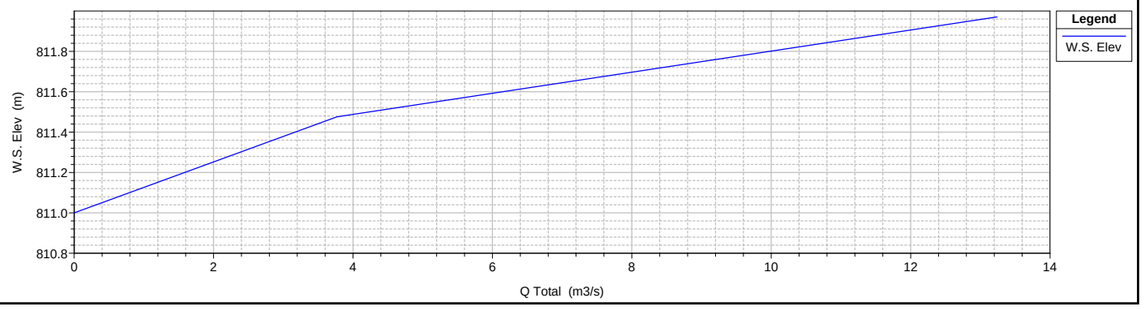
nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 90.78275



nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 75.41282



nota_a Plan: nota_a
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 61.25671



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Geom: nota_a Flow: nota_a
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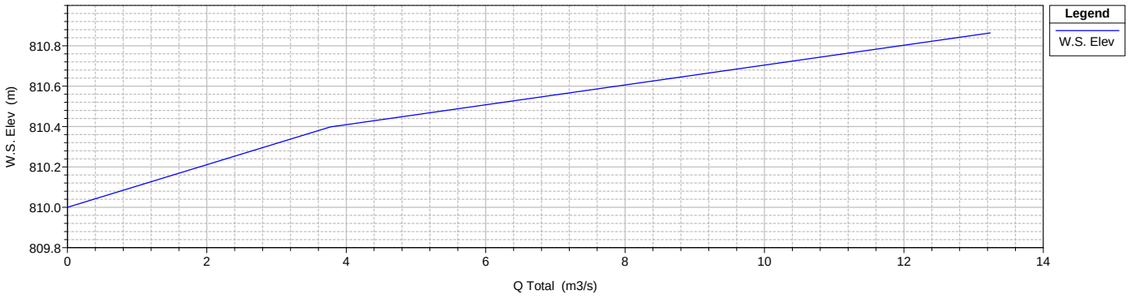

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Geom: nota_a Flow: nota_a
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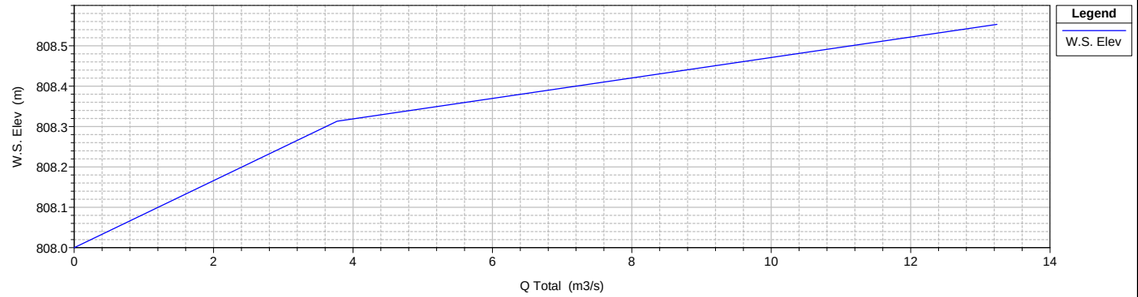

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Geom: nota_a Flow: nota_a
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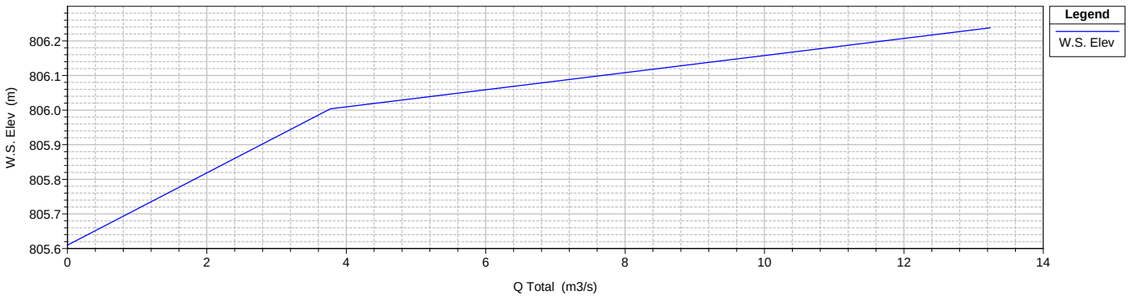

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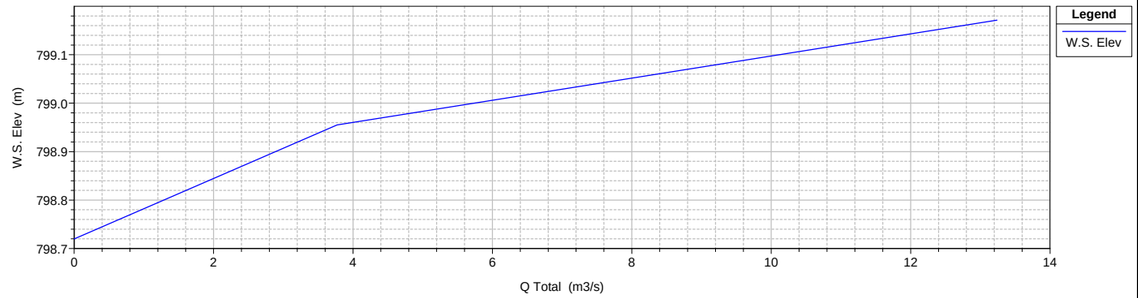
Geom: nota_a Flow: nota_a
River = Nota Reach = Nota RS = 8.082387



SITUACIÓN PROPUESTA

ALMEGÍJAR

HEC-RAS Version 4.1.0 Jan 2010
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
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PROJECT DATA
Project Title: alme
Project File : alme.prj
Run Date and Time: 3/22/2012 10:49:29 AM

Project in SI units

Project Description:
ALMEJÍGAR - SITUACIÓN PROPUESTA

****

PLAN DATA

Plan Title: Plan 02
Plan File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\ALME\PROPUESTA\alme.p02

Geometry Title: alme
Geometry File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\ALME\PROPUESTA\alme.g01

Flow Title   : Flow 01
Flow File   : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\ALME\PROPUESTA\alme.f01

Plan Summary Information:
Number of: Cross Sections =   36   Multiple Openings =   0
            Culverts   =   2   Inline Structures =   0
            Bridges   =   0   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: Mixed Flow

```
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FLOW DATA

Flow Title: Flow 01
Flow File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\ALME\PROPUESTA\alme.f01

Flow Data (m3/s)
***************************************************************************
* River           Reach           RS      *            T500            T10 *
* Alme            Alme            346.0286*          10.35          3.442 *
***************************************************************************

Boundary Conditions
*********************************************************************************************************
* River           Reach           Profile          *            Upstream                 Downstream    *
*********************************************************************************************************
* Alme            Alme            T500             *              Critical            Normal S = 0.05 *
*********************************************************************************************************

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GEOMETRY DATA

Geometry Title: alme
Geometry File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\ALME\PROPUESTA\alme.g01

CROSS SECTION


RIVER: Alme
REACH: Alme              RS: 346.0286

INPUT
Description:
Station Elevation Data    num=      85
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*****************************************************************************
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    2.18 851.498    2.51 851.221   2.719     851   2.895 850.769   3.697     850
   6.192 849.805   8.785 849.622   9.044  849.61   9.286 849.601   9.528 849.594
   9.905 849.588  10.413 849.584  10.593 849.584  10.746 849.587  10.888 849.592
  11.123 849.603  11.406 849.621  12.637  849.72  15.646     850  16.829 850.925
  17.096     851  17.283     851  18.004     851  18.053 850.972  18.724 850.506
  19.107     850  19.478 849.689  20.366     849  20.549 848.162  20.604     848
  20.796  847.89  20.874 847.852  21.035 847.775  21.764 847.414   22.85     847
  22.963 846.973  23.983 846.846  25.642 846.622   25.73 846.613  25.764  846.61
  25.817 846.606  25.829 846.606  25.902 846.614  26.314 846.716  27.419     847
   29.47 847.993  29.484     848   29.54 848.036  30.402 848.601  31.012     849
  31.239 849.255  31.912     850  32.498 850.342  33.906     851  36.673 851.993
  36.692     852  37.749 852.366  38.209   852.5   39.82     853  41.035 853.431
  41.722 853.649  42.303 853.855  42.931     854  42.973 854.007   44.36 854.177
  44.538 854.204  45.116 854.256  45.327 854.283  46.323 854.346  46.547 854.368
  46.994 854.384  47.271 854.399  48.034   854.4  48.792 854.402   50.28 854.316
  50.485 854.305  50.745 854.278  52.879 854.136  53.111  854.11   54.76     854

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
       0    .035  20.874     .04  30.402    .035

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

```
       20.874  30.402            5.933   5.167    5.71             .1       .3
Left Levee      Station=    17.7      Elevation=  850.99

CROSS SECTION


RIVER: Alme
REACH: Alme               RS: 340.8620

INPUT
Description:
Station Elevation Data    num=      78
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*********************************************************************************
       0     855   1.274     854   2.817 853.437   3.922     853   3.984 852.911
   4.068 852.819    4.92  852.07    4.98 852.012   4.986 852.005   5.012     852
   5.935 851.298   6.407  851.19   6.725     851   7.079 850.794   8.481     850
   9.013 849.984  10.014 849.718  11.413 849.408  11.913 849.283  12.585     849
   12.89     849  13.173     849  13.906     849  15.083     849  15.507  849.14
  15.632 849.142  16.374   849.2  17.041 849.162   17.13 849.139  17.845     849
  18.962 848.106  19.094     848   19.22 847.925  20.678     847  21.603 846.549
  22.441  846.19  22.666 846.089  22.754 846.054  22.934     846  23.257     846
  23.473     846   23.59     846  25.199 846.376  25.432 846.371   25.83 846.335
  26.675 846.196  27.748     846  27.754 846.005  28.528 846.757  28.819     847
  29.273 847.239  29.507 847.361  29.816  847.54  30.769     848  31.814 848.567
  32.978     849  34.569 849.774   34.76 849.861  35.156     850  36.751 850.628
  37.973     851  38.881 851.284  40.161 851.674  40.769 851.842  41.232     852
  42.243 852.301  42.741 852.358  43.642 852.542  44.912 852.609  45.727 852.719
  45.911 852.739  47.022 852.764  47.337 852.783  47.482 852.787  49.186 852.795
  49.478 852.793  49.938 852.776  50.972  852.76

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
       0    .035  18.962     .04  29.273    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        18.962  29.273            5.349   3.671   3.923             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    24.5     849       F
    25.5  50.972     849       F

CROSS SECTION


RIVER: Alme
REACH: Alme               RS: 337.1913

INPUT
Description:
Station Elevation Data    num=      79
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*********************************************************************************
       0 853.646   1.371 853.298   1.825 853.175   2.487     853   4.723 852.222
   5.485     852   6.373 851.515   7.562     851   8.478 850.724   8.991 850.599
   9.382  850.48  11.294     850  11.467 849.921  11.959 849.694  12.871 849.435
  13.224 849.259  14.067     849  14.117 848.984  15.344 848.569  15.865 848.171
  16.016 848.095  16.174     848    16.4     848  16.588     848  16.748     848
  17.348     848  18.133     848  18.869     848  19.043     848  20.405     848
  21.291 847.611  21.663 847.495  22.113 847.482  22.583 847.359  22.852 847.334
  23.476 847.193  23.627 847.149  24.407 847.026  24.607     847  24.993 846.962
```

```
  25.032 846.983  25.553 846.976  25.837  846.97  25.996 846.902  26.291 846.884
   26.85 846.925   27.31 846.954  27.574     847  27.899 847.014  28.438 847.051
  28.976   847.1  30.035  847.28  32.693 847.732  33.403 847.853  33.958     848
  34.257 848.097  34.903  848.28  35.361 848.426    36.3 848.681  36.727 848.806
  37.414     849  38.507 849.329  39.793     850  40.452 850.184  41.265 850.361
  42.083 850.562  42.404 850.635  44.033 850.918  44.235 850.955  44.524     851
  46.196 851.373  46.771 851.433  47.529 851.553  47.916 851.571  48.233   851.6
  48.576 851.614  49.451 851.613  50.486 851.578  51.624 851.528

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
       0    .035  18.869     .04  30.035    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        18.869  30.035           14.586  10.243  14.287             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    24.5     849       F
    25.5  51.624     849       F

CULVERT


RIVER: Alme
REACH: Alme               RS: 332.0697

INPUT
Description:
Distance from Upstream XS =       2
Deck/Roadway Width        =       7
Weir Coefficient          =     1.4
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
*********************************************
      10     849     846      40     849     846

Upstream Bridge Cross Section Data
Station Elevation Data    num=      79
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*************************************************************************************
       0 853.646   1.371 853.298   1.825 853.175   2.487     853   4.723 852.222
   5.485     852   6.373 851.515   7.562     851   8.478 850.724   8.991 850.599
   9.382  850.48  11.294     850  11.467 849.921  11.959 849.694  12.871 849.435
  13.224 849.259  14.067     849  14.117 848.984  15.344 848.569  15.865 848.171
  16.016 848.095  16.174     848    16.4     848  16.588     848  16.748     848
  17.348     848  18.133     848  18.869     848  19.043     848  20.405     848
  21.291 847.611  21.663 847.495  22.113 847.482  22.583 847.359  22.852 847.334
  23.476 847.193  23.627 847.149  24.407 847.026  24.607     847  24.993 846.962
  25.032 846.983  25.553 846.976  25.837  846.97  25.996 846.902  26.291 846.884
   26.85 846.925   27.31 846.954  27.574     847  27.899 847.014  28.438 847.051
  28.976   847.1  30.035  847.28  32.693 847.732  33.403 847.853  33.958     848
  34.257 848.097  34.903  848.28  35.361 848.426    36.3 848.681  36.727 848.806
  37.414     849  38.507 849.329  39.793     850  40.452 850.184  41.265 850.361
  42.083 850.562  42.404 850.635  44.033 850.918  44.235 850.955  44.524     851
  46.196 851.373  46.771 851.433  47.529 851.553  47.916 851.571  48.233   851.6
  48.576 851.614  49.451 851.613  50.486 851.578  51.624 851.528

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
```

```
       0    .035  18.869     .04  30.035    .035

Bank Sta: Left   Right    Coeff Contr.   Expan.
        18.869  30.035            .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    24.5     849       F
    25.5  51.624     849       F

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
**********************************************
       0   848.9     839      50   848.9     839

Downstream Bridge Cross Section Data
Station Elevation Data    num=     113
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
**************************************************************************************
       0 849.144   3.222     849   3.495 848.929   3.682 848.877   4.379 848.795
   4.865 848.702   5.336 848.555   5.687  848.43   6.858 848.075   6.925 848.045
    6.95 848.029   7.125     848   7.595  847.59   8.353     847   8.489 846.904
   8.668 846.758   9.166 846.427   9.342 846.254   9.498 846.223   9.663     846
    9.95 845.722  10.338     845  10.657 844.886  10.745 844.858  11.541 844.888
  11.624 844.865  12.233     845  12.743 845.196   12.83 845.196  13.231 845.328
  13.492 845.385  13.876 845.503  14.191 845.567  14.598  845.65  14.851 845.719
   15.81 845.903  15.911 845.929  15.943 845.937  16.317     846  16.828 845.731
  16.956 845.673  17.129 845.587   17.36  845.47  17.533 845.382  17.791 845.255
  18.231 845.039  18.263 845.027   18.31     845  18.596 844.666  18.781 844.492
  18.956 844.302  19.302     844  19.325 843.986  19.332 843.981  19.717 843.741
   19.85  843.21  20.201 842.705   20.72 840.783  20.829 840.499  20.872 840.455
  20.966     840  21.547 839.945  22.089 839.912  22.837  839.91  23.199 839.935
  23.754 839.972  23.838     840    25.1  840.49  25.974 840.879  25.984 840.842
  26.624 840.876   26.98  840.92  27.383     841  27.843 842.333  28.033 842.274
  28.732 841.844  28.845 841.926  29.492 841.958  29.536 841.981  29.738     842
  30.038 842.308  30.057 842.328  30.281 842.433  30.382  842.48  30.615 842.795
   31.01     843  31.201 843.127  31.262  843.15  31.402 843.236  31.767 843.526
  32.149 843.902  32.193 843.964  32.225     844  32.821 844.472  33.687     845
  33.856 845.082  34.037 845.084  36.005 845.606  37.503 845.685  38.183 845.809
  40.422  845.85  40.766 845.891  42.904 845.889  43.064 845.902  43.124 845.904
  43.264 845.905  44.735 845.874  45.414 845.848  45.879  845.85  46.577 845.818
   47.29 845.745  48.064 845.748  48.315 845.726

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
**********************************************
       0    .035   17.36     .04  30.038    .035

Bank Sta: Left   Right    Coeff Contr.   Expan.
         17.36  30.038            .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0      23   848.9       F
      24  48.315   848.9       F

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 Culverts = 1

Culvert Name	Shape	Rise	Span
Culvert #1	Box	1.8	1

FHWA Chart # 8 - flared wingwalls
FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
Solution Criteria = Highest U.S. EG

Culvert	Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
	2	7	.015	.015	0	1	1

Upstream   Elevation = 847
           Centerline Station = 25
Downstream Elevation = 846.6
           Centerline Station = 23.5

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 326.9481

INPUT
Description:
Station Elevation Data num= 113

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	849.144	3.222	849	3.495	848.929	3.682	848.877	4.379	848.795
4.865	848.702	5.336	848.555	5.687	848.43	6.858	848.075	6.925	848.045
6.95	848.029	7.125	848	7.595	847.59	8.353	847	8.489	846.904
8.668	846.758	9.166	846.427	9.342	846.254	9.498	846.223	9.663	846
9.95	845.722	10.338	845	10.657	844.886	10.745	844.858	11.541	844.888
11.624	844.865	12.233	845	12.743	845.196	12.83	845.196	13.231	845.328
13.492	845.385	13.876	845.503	14.191	845.567	14.598	845.65	14.851	845.719
15.81	845.903	15.911	845.929	15.943	845.937	16.317	846	16.828	845.731
16.956	845.673	17.129	845.587	17.36	845.47	17.533	845.382	17.791	845.255
18.231	845.039	18.263	845.027	18.31	845	18.596	844.666	18.781	844.492
18.956	844.302	19.302	844	19.325	843.986	19.332	843.981	19.717	843.741
19.85	843.21	20.201	842.705	20.72	840.783	20.829	840.499	20.872	840.455
20.966	840	21.547	839.945	22.089	839.912	22.837	839.91	23.199	839.935
23.754	839.972	23.838	840	25.1	840.49	25.974	840.879	25.984	840.842
26.624	840.876	26.98	840.92	27.383	841	27.843	842.333	28.033	842.274
28.732	841.844	28.845	841.926	29.492	841.958	29.536	841.981	29.738	842
30.038	842.308	30.057	842.328	30.281	842.433	30.382	842.48	30.615	842.795
31.01	843	31.201	843.127	31.262	843.15	31.402	843.236	31.767	843.526
32.149	843.902	32.193	843.964	32.225	844	32.821	844.472	33.687	845
33.856	845.082	34.037	845.084	36.005	845.606	37.503	845.685	38.183	845.809
40.422	845.85	40.766	845.891	42.904	845.889	43.064	845.902	43.124	845.904
43.264	845.905	44.735	845.874	45.414	845.848	45.879	845.85	46.577	845.818
47.29	845.745	48.064	845.748	48.315	845.726				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	17.36	.04	30.038	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.36	30.038	4.965	8.659	7.587	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	23	848.9	F
24	48.315	848.9	F

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 318.2890

INPUT
Description:
Station Elevation Data num= 64

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	848	1.228	847.422	2.116	847	3.099	846.591	4.719	846
4.824	845.96	4.969	845.906	5.806	845.593	6.438	845.344	7.401	845
8.041	844.706	8.944	844	9.363	843.798	9.553	843.652	10.092	843.31
10.36	843	11.316	842.435	12.105	842	13.155	841.328	13.619	841
15.621	840.003	15.628	840	16.526	839.547	17.056	839.261	17.133	839.219
17.722	839	18.991	838.309	19.694	838	20.112	837.642	20.578	837.442
21.071	837.162	21.79	837.038	21.839	837.024	22.192	837.011	22.495	837
22.579	837	23.285	837.201	24.799	838	25.466	838.373	26.518	839
27.445	839.493	28.43	840	28.717	840.11	29.072	840.254	29.364	840.373
29.418	840.396	31.265	841	31.287	841.005	33.146	841.443	34.053	841.638
34.542	841.74	35.631	841.961	35.85	842	36.297	842.142	36.852	842.28
37.582	842.394	38.89	842.538	40.822	842.795	43.26	842.927	43.45	842.952
45.532	842.996	45.535	842.997	45.54	842.997	46.322	843		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	17.056	.04	29.072	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.056	29.072	4.115	6.649	5.653	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 311.6395

INPUT
Description:
Station Elevation Data num= 63

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	846	.296	845.866	2.088	845.05	2.173	845.012	2.199	845
4.14	844.282	4.556	844.143	4.883	844	6.585	843.486	7.953	843
8.066	842.943	9.86	842	10.043	841.885	10.204	841.79	11.414	841
11.579	840.883	12.624	840.13	12.827	840	14.483	839.123	14.708	839
15.031	838.665	15.715	838	16.453	837.424	16.474	837.408	17.04	837
17.572	836.643	17.839	836.405	18.375	836	18.903	835.652	19.384	835.35
20.154	835	20.433	834.938	21.184	834.805	21.695	834.727	22.008	834.736
22.336	834.68	23.216	834.793	24.365	835	24.711	835.15	25.798	836
25.943	836.085	27.535	837	28.176	837.494	28.834	838	29.279	838.279
30.549	839	30.65	839.091	30.971	839.316	31.682	839.849	31.973	840
33.318	840.271	33.766	840.325	34.981	840.525	36.56	840.65	36.802	840.676
37.598	840.728	39.26	840.93	39.871	841	41.065	841.154	41.69	841.222
41.861	841.239	42.785	841.323	42.802	841.324				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	16.474	.04	28.176	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
16.474 28.176 5.922 7.796 5.673 .1 .3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 303.8436

INPUT
Description:
Station Elevation Data num= 54

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	844.68	1.146	844.293	2.016	844	2.061	843.979	4.307	843
5.889	842.203	6.159	842.066	6.282	842	6.456	841.871	7.773	841
8.828	840.365	9.402	840	10.173	839.809	12.634	839	12.8	838.853
14.165	838	14.226	837.967	15.986	837	16.442	836.858	16.858	836.72
17.316	836.565	18.982	836	19.368	835.731	20.281	835	20.634	834.284
20.792	834	21.582	833.572	22.497	833	23.589	832.773	23.803	832.731
23.883	832.721	23.951	832.723	24.006	832.728	24.563	832.797	26.143	833
26.836	833.477	27.608	834	27.844	834.191	28.512	835	28.983	835.182
29.535	835.387	30.299	835.67	31.334	836	32.422	836.588	33.048	837
33.573	837.228	34.951	837.647	35.631	837.862	36.133	838	38.187	838.662
39.205	838.896	39.385	838.937	39.738	839	42.019	839.354		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	17.316	.04	29.535	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
17.316 29.535 6.316 7.905 7.002 .1 .3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 295.9385

INPUT
Description:
Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	843	.044	842.983	.492	842.782	2.141	842.053	2.246	842
4.231	841.123	4.512	841	4.519	840.99	5.434	840	5.729	839.925
7.154	839.583	9.057	839.121	9.564	839	10.019	838.584	10.73	838
10.992	837.864	12.527	837	13.008	836.781	15.005	836	15.691	835.458
15.919	835.296	16.628	835	17.325	834.83	19.24	834.361	19.734	834
21.336	833.237	21.735	833	22.554	832.311	22.972	832	23.605	831.761
23.938	831.62	24.978	831.821	25.942	832	26.201	832.097	28.097	833
29.002	833.389	30.239	833.861	30.602	834	31.921	834.444	33.019	834.83
33.871	835	35.839	835.668	36.694	836	37.846	836.352	38.8	836.608
39.457	836.787	40.356	837						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	17.325	.04	30.239	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
17.325 30.239 6.041 6.848 8.121 .1 .3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 289.0909

INPUT
Description:
Station Elevation Data num= 53

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	842.518	.998	842.213	1.622	842	2.526	841.599	3.77	841
4.233	840.574	4.671	840	5.671	839.667	8.102	839	9.039	838.475
9.95	838	11.772	837.318	12.513	837	13.123	836.589	14.044	836
15.431	835.038	15.48	835	15.576	834.977	15.642	834.964	15.705	834.949
18.094	834.402	18.971	834.201	19.832	834	20.972	833.457	22.196	833
22.349	832.869	23.016	832	23.299	831.73	24.177	831	24.923	830.876
25.262	830.832	25.391	830.828	25.588	830.836	26.039	830.894	26.859	830.994
26.908	831	29.567	831.632	31.659	832	31.82	832.134	32.028	832.339
32.274	832.536	32.855	833	34.496	833.532	35.013	833.717	35.24	833.784
35.956	834	36.283	834.044	37.327	834.156	37.511	834.18	38.774	834.302
39.43	834.352	40.185	834.459	40.734	834.501				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	18.094	.04	32.274	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
18.094 32.274 7.422 5.888 4.713 .1 .3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 283.2029

INPUT
Description:
Station Elevation Data num= 41

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	840.564	1.618	840	2.522	839.726	4.649	839	6.83	838.395
7.421	838.186	7.916	838	8.541	837.709	9.811	837	10.873	836.407
11.671	836	12.26	835.471	12.825	835	13.51	834.771	14.327	834.541
15.409	834.21	16.301	834	16.439	833.942	18.644	833.022	18.689	833
18.834	832.906	20.333	832	20.509	831.833	21.392	831	21.556	830.943
24.14	830.175	24.331	830.175	24.383	830.179	26.19	830.509	28.494	831
29.442	831.175	31.449	831.502	31.762	831.56	34.13	832	35.656	832.571
38.281	833	38.573	833.073	38.638	833.084	39.198	833.164	41.358	833.536
41.819	833.609								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	16.439	.04	31.762	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
16.439 31.762 9.548 6.58 2.935 .1 .3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 276.6229

INPUT
Description:
Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	838.346	.724	838.178	1.499	838	6.41	837.006	6.431	837
6.451	836.971	7.19	836	7.389	835.698	7.88	835	10.842	834.024
10.893	834.007	10.92	834	10.961	833.986	14.165	833.028	14.26	833
16.173	832.38	17.263	832	17.899	831.525	18.613	831	19.775	830.178
20.033	830	21.758	829.744	22.949	829.516	24.118	829.885	24.512	830
25.016	830.125	25.22	830.169	26.881	830.549	29.304	831	29.632	831.057
29.717	831.075	30.793	831.258	31.443	831.36	31.55	831.377	31.895	831.455
32.416	831.535	32.671	831.59	33.211	831.721	33.765	831.831	34.413	832
34.698	832.055	35.456	832.189	36.257	832.312	36.997	832.429	38.12	832.586
40.901	833	42.12	833.255						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	14.165	.04	31.443	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.165	31.443	17.315	8.993	2.5	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 267.6301

INPUT
Description:
Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	835.674	3.087	835.146	3.933	835	4.341	834.747	5.671	834
7.605	833.276	8.308	833	8.995	832.792	11.859	832	13.906	831.397
14.054	831.357	15.224	831.02	15.294	831	15.457	830.866	16.557	830
16.666	829.892	17.722	829	21.258	828.332	21.909	828.241	22.063	828.232
22.09	828.234	22.094	828.159	22.121	828.235	22.31	828.269	22.457	828.311
23.018	828.474	24.78	829	25.287	829.178	25.914	829.416	30.099	829.886
31.118	830	32.129	830.398	33.018	831	33.7	831.162	34.033	831.297
34.807	831.524	35.228	831.679	35.912	832	40.225	832.746	41.493	833

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	15.224	.04	30.099	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.224	30.099	7.105	4.996	3.195	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 262.6338

INPUT
Description:
Station Elevation Data num= 54

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	834	.744	833.758	2.957	833	4.213	832.69	7.062	832
8.939	831.386	9.571	831.172	10.169	831	11.471	830.119	11.654	830
11.691	829.939	12.13	829	13.513	829	13.664	829	16.819	828.975
17.087	828.98	18.735	828.997	19.21	829	19.507	829	19.554	829
19.937	829	19.955	828.732	20.538	828.613	21.143	828.704	21.247	827.028
21.46	827.369	22.007	829	22.677	829	22.85	829	23.456	829
23.62	829	23.967	829	24.286	829	24.6	829	25.675	829.169
27.384	829.393	27.796	829.424	28.036	829.442	28.758	829.494	30.943	830
31.709	830	32.339	830	32.975	830	33.329	830	33.603	830.225
34.783	830.9	34.885	830.964	34.954	831	36.149	831.585	36.462	831.748
37.001	832	38.258	832.264	38.579	832.343	39.294	832.527		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	13.513	.04	28.036	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
13.513	28.036	8.083	4.082	2.971	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 258.5520

INPUT
Description:
Station Elevation Data num= 62

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	832.73	.276	832.666	1.396	832.42	3.006	832.072	3.349	832
5.308	831.364	6.432	831	6.774	830.864	8.985	830	10.639	829.273
11.038	829	11.479	829	12.17	829	12.377	829	14.685	829
15.712	829	16.238	829	16.941	829	16.963	829	17.092	829
17.599	829	17.924	829	19.216	829	19.465	828.343	19.647	828
20.572	827.455	21.039	827	21.513	826.724	21.77	826.601	22.301	826.256
22.469	826.166	22.505	826.146	22.521	826.082	22.53	826.133	23.308	826.04
23.353	826.026	23.948	826.042	23.971	826.038	23.994	826.041	24.523	826.149
24.727	826.219	24.99	826.34	25.427	826.498	26.272	827	26.819	827.616
27.088	828	27.454	828.42	27.596	828.582	27.919	829	28.803	829.748
29.024	830	30.124	830	30.416	830	32.501	830.282	32.794	830.332
34.498	830.37	35.653	830.731	35.899	830.763	36.442	831	37.898	831.649
38.71	832	40.565	832.604						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	14.685	.04	27.454	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.685	27.454	4.997	10.129	12.281	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 248.4231

INPUT
Description:
Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	832.564	2.045	832.099	2.47	832	3.417	831.577	4.616	831
5.646	830.122	5.826	830	5.87	830	5.911	830	6.479	830
8.02	830	11.994	829.149	12.527	829	12.959	828.728	14.005	828
14.933	828	15.18	828	15.93	828	16.26	828	16.559	828
16.874	827.644	17.468	827	18.03	826.602	18.864	826	19.203	825.939
20.881	825.695	24.142	825.891	26.817	826	27.213	826.923	27.229	827
27.308	827.101	27.977	828	28.311	828.628	28.509	829	28.631	829.086
29.963	830	30.087	830.13	30.828	831	32.019	831.224	34.844	831.473
38.307	831.918	38.663	831.962	38.849	831.973	38.871	831.974	38.948	832
39.04	832.063	40.339	833						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	15.18	.04	27.977	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.18	27.977	5.62	8.75	10.992	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 239.6731

INPUT
Description:
Station Elevation Data num= 43

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	831	.958	831	1.165	831	1.44	831	1.997	831
2.912	830.817	3.662	830.752	4.811	830.639	7.589	830.154	7.858	830.117
8.461	830	8.588	829.901	9.872	829	11.373	828.158	11.685	828
13.381	828	14.093	828	14.609	828	14.894	828	15.227	827.366
15.387	827.039	15.41	827	15.861	826.561	16.428	826	16.679	825.954
18.81	825.565	19.581	825.423	20.192	825.385	23.901	825.754	25.967	826
26.281	826.34	26.627	827	26.913	827.492	27.208	828	28.312	829
28.812	829.422	29.451	830	31.354	830.51	33.538	831	34.689	831.594
35.436	832	39.356	832.625	40.102	832.741				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	14.609	.04	26.913	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
14.609	26.913	8.088	9.854	10.223	.1	.3

CROSS SECTION

RIVER: Alme

REACH: Alme RS: 229.8189

INPUT
Description:
Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	831	5.205	830.334	6.821	830.136	7.711	830	7.822	829.912
8.699	829	8.82	828.936	10.815	828	11.631	827.614	12.779	827
13.212	827	13.908	827	14.703	827	15.305	827	15.416	827
16.07	826.316	16.536	826	18.252	825.638	20.419	825.117	23.171	825.436
27.412	826	27.551	826.249	27.637	826.423	27.856	826.798	27.974	827
29.262	827.845	29.502	828	29.578	828.074	30.124	828.547	30.646	829
30.871	829.178	31.839	830	32.026	830	32.249	830	32.763	830
33.037	830	34.7	830.228	34.967	830.294	35.534	830.444	36.209	830.603
37.615	831	38.554	831.353	39.993	832	41.022	832.734	41.366	833
42.204	833	42.763	833.109						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	15.305	.04	27.856	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.305	27.856	10.383	12.81	11.867	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 217.0088

INPUT
Description:
Station Elevation Data num= 45

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	830.21	.325	830.146	1.396	830	1.417	830	1.747	830
1.897	830	3.482	829.769	6.54	829.469	7.016	829.419	7.716	829
9.238	828.217	9.646	828	11.206	827.334	11.961	827	13.371	826.08
13.496	826	13.555	826	14.473	826	15.452	826	15.473	826
15.69	826	16.281	825.189	16.427	825	21.168	824.703	21.917	824.579
22.207	824.349	23.692	824.542	28.143	824.945	28.754	825	30.396	825.977
30.444	826	30.464	826.023	31.197	827	33.163	828	33.362	828.183
34.248	829	37.292	829.619	39.252	830	39.816	830.326	41.083	831
44.082	831.956	44.147	831.976	44.217	832	44.255	832.023	45.947	833

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	15.452	.04	28.143	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.452	28.143	6.905	8.902	13.813	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 208.1064

INPUT

Description:
Station Elevation Data   num=   68

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	830.377	1.809	830	4.847	829.603	5.869	829.487	6.632	829.402
8.725	829.184	10.133	829	10.273	829	10.564	829	11.041	828.612
12.019	828	13.723	827.149	14.028	827	15.289	826.367	16.027	826
16.562	826	16.931	826	17.751	826	18.031	826	18.48	826
18.602	826	18.777	825.529	18.986	825	19.793	824.21	20.073	824
20.788	823.722	21.195	823.603	22.126	823.296	22.735	823.159	22.894	823.12
23.472	823.057	23.526	823.047	23.586	823.04	24.704	823.072	24.8	823.064
25.043	823.07	25.089	823.067	25.482	823.089	26.087	823.116	26.165	823.112
26.314	823.11	27.523	823.178	27.638	823.18	27.816	823.189	27.999	823.205
28.181	823.231	28.413	823.275	28.66	823.328	29.231	823.385	29.592	823.479
30.054	823.554	30.203	823.578	31.497	824	32.647	824.467	33.971	825
34.915	825.653	35.398	826	36.418	827	36.419	827	37.917	828
38.301	828.311	39.015	829	41.754	829.467	45.134	830	46.645	830.625
47.523	831	48.997	831.64	49.866	832				

Manning's n Values   num=   3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	18.48	.04	30.054	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.48	30.054	8.46	9.634	7.5	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme   RS: 198.4724

INPUT
Description:
Station Elevation Data   num=   52

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	830.208	1.164	830	5.385	829.007	5.413	829	5.415	829
5.416	829	5.422	828.999	10.104	828.564	13.941	828.028	14.08	828.014
14.135	828	14.163	827.977	14.216	827.919	15.019	827	15.947	826.057
16.001	826	16.016	825.978	16.717	825	17.301	825	17.391	825
18.262	824.823	18.884	824.753	18.948	824.745	19.898	824	19.9	823.999
20.517	823.269	20.792	823	22.231	822.878	25.263	822.616	25.399	822.613
25.948	822.643	30.522	823	30.644	823.056	32.382	823.855	32.724	824
34.735	824.856	35.054	825	35.432	825.201	37.001	826	38.742	826.978
38.779	827	38.811	827.022	40.479	828	40.878	828.33	41.243	828.414
41.579	828.429	44.15	829	44.61	829	46.08	829.313	48.043	830
49.964	830.605	50.996	831						

Manning's n Values   num=   3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	18.884	.04	30.644	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.884	30.644	7.595	8.041	9.305	.1	.3

CROSS SECTION

RIVER: Alme

REACH: Alme RS: 190.4317

INPUT
Description:
Station Elevation Data num= 52

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	829.567	.93	829.36	2.5	829.037	2.564	829.025	2.692	829
3.385	828.911	7.996	828.321	9.97	828.078	10.068	828.068	10.136	828.062
10.201	828.056	10.359	828.042	10.933	828	11.99	827.698	12.349	827.619
15.361	827	15.557	826.381	15.731	826	16.043	825.327	16.195	825
16.39	824.898	17.621	824	19.383	824	19.733	824	19.964	824
20.517	824	20.72	824	21.297	823.159	21.372	823.048	21.406	823
24.782	822.533	26.928	822.281	28.471	822.451	31.894	823	32.596	823.4
32.682	823.452	33.594	824	34.41	824.33	34.793	824.475	36.13	825
39.089	825.886	39.47	826	39.589	826.077	40.823	827	42.062	827.562
43.055	828	44.132	828.199	45.671	828.489	48.416	829	49.571	829.585
50.727	830	52.96	830.548						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	19.733	.04	32.682	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
19.733	32.682	9.457	9.058	9.677	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 181.3740

INPUT
Description:
Station Elevation Data num= 56

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	829.675	.848	829.564	5.435	829	5.936	828.88	9.165	828
9.285	827.581	9.552	827	10.997	826.723	14.71	826	14.924	825.315
15.056	825	15.348	824.308	15.56	824	16.245	823.427	16.733	823
17.522	823	18.648	823	19.185	823	19.432	823	20.401	823
20.766	822.459	21.335	822.089	21.523	822	22.393	821.473	23.192	821
23.393	820.989	24.455	820.944	25.151	820.919	25.615	820.904	25.74	820.902
26.558	820.901	26.595	820.903	28.165	820.982	28.468	821	28.875	821.149
28.992	821.187	29.414	821.422	30.024	821.735	30.34	822	31.827	822.768
32.2	823	32.448	823.186	33.428	824	33.569	824.043	36.728	825
37.241	825.162	39.646	826	40.921	826.588	42.032	827	43.698	827.906
43.858	828	45.33	828.234	50.115	829	51.48	829.32	54.362	830
55.633	830.28								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	18.648	.04	33.569	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.648	33.569	10.918	12.685	13.372	.1	.3

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
42.215	50.615	829.1171	6.362	10.312	828.7635

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 168.6892

INPUT
Description:
Station Elevation Data num= 78

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	830	1.977	829	3.753	828.572	4.606	828.386	5.638	828.069
5.717	828.054	5.874	828	7.611	827.518	8.443	827.306	9.578	827
11.158	826.281	11.848	826	11.991	825.874	12.913	825	13.784	825
16.026	824.564	17.387	824.14	17.64	824.126	17.835	824	18.076	823.761
18.958	823	21.024	822	21.194	821.87	22.235	821.077	22.353	821
22.606	820.833	24.129	820	25.68	819.218	25.864	819.187	25.975	819.185
26.685	819.053	26.759	819.053	27.285	819	27.587	818.969	27.609	818.965
28.839	818.947	28.918	818.946	30.355	819	30.666	819.012	30.672	819.012
31.18	819.031	31.283	819.033	33.641	819.054	35.035	819.118	35.32	819.13
35.952	819.185	36.164	819.214	36.324	819.249	36.839	819.36	37.132	819.429
37.544	819.548	38.688	820	38.992	821	39.138	821.18	39.577	821.719
39.748	822	40.001	822.339	40.567	823	41.064	823.613	41.32	824
41.54	824.486	41.703	825	42.317	825.513	42.873	826	43.435	826.283
45.206	827	45.54	827.378	46.023	827.996	46.027	828	46.248	828
46.684	828	46.905	828	47.134	828	55.65	828.832	56.227	828.868
57.114	829	57.306	829	59.684	829.388				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	21.194	.04	36.324	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
21.194	36.324	14.104	10.23	9.802	.1	.3

Blocked Obstructions num= 1

Sta L	Sta R	Elev
18.406	22.093	823.4763

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 158.4595

INPUT
Description:
Station Elevation Data num= 80

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	826.627	.436	826.575	1.93	826.358	2.445	826.296	2.789	826.26
3.043	826.237	3.459	826.213	4.1	826.082	4.24	826.078	4.592	826
7.241	825.524	7.924	825.411	8.853	825.292	9.057	825.257	9.825	825
10.708	824.189	10.895	824	11.761	824	15.824	823.403	16.578	823
19.055	822	19.916	821	20.043	820.796	20.103	820.7	20.544	820
20.729	819.862	21.045	819.635	21.598	819.231	21.927	819	22.7	818.448
23.388	818	23.873	817.684	24.808	817	26.082	816.061	26.164	816
26.257	815.932	27.233	815.201	27.482	815	28.924	814.751	30.661	814.626
31.542	814.617	32.052	814.631	32.152	814.63	33.036	814.637	33.965	814.666
34.468	814.69	34.906	814.702	35.459	814.739	36.061	814.789	36.718	814.851

```
  37.444 814.929  37.498 814.932  38.021     815  38.264 815.198  39.015     816
  39.591 816.719  39.809 816.969  39.836     817  40.342 817.705  40.562     818
  40.679  818.16   41.28     819  41.798     820  42.543     821  42.989   821.4
   43.76     822  44.033 822.304   44.59     823  45.529  823.54  46.182     824
  47.151 824.868  47.278     825  47.642 825.355  48.319     826  48.898 826.392
  49.782     827  51.408 827.992  51.423     828  58.621 828.615   60.28 828.758

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*******************************************
       0    .035  20.103     .04  39.809    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        20.103  39.809            8.862  11.849  11.254             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
************************
  16.259  20.162823.1701

CROSS SECTION


RIVER: Alme
REACH: Alme               RS: 146.6102

INPUT
Description:
Station Elevation Data    num=      80
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*********************************************************************************
       0 826.535   3.368     826   7.342 825.157   8.056     825    8.25 824.743
   8.426 824.518   8.888     824   9.048 823.138   9.079     823   10.65     823
  10.779     823  10.876 823.033  11.082     823  14.209     823  14.565 822.567
  15.042     822  15.167 821.932  15.546 821.721   16.65 821.129  16.877     821
  17.451 820.722  17.761 820.599  19.273     820  19.807 819.305  20.012     819
  20.097 818.883  20.295 818.609  20.751     818  21.224 817.356  21.513     817
  22.005 816.389  22.308     816  22.887 815.253  23.069     815  23.591 814.773
  24.428 814.394  25.345     814  25.722 813.922  25.817 813.915  26.613 813.791
  28.747 813.486  29.186 813.481  32.826 813.398  34.306 813.384  34.592 813.333
  37.268 813.505  39.394 813.584  42.015     814  43.099 814.672  43.402 814.844
  43.678     815  44.658 815.871  44.802     816  45.193 816.404  45.767     817
  46.023 817.257  46.763     818  47.636 818.856  47.784     819  48.232 819.451
  48.779     820  49.572 820.918  49.641     821  49.729 821.082  50.755     822
  51.397   822.7  51.688     823  52.588  823.59   53.22     824  54.351 824.609
  55.016     825  55.771 825.659  56.134     826  57.153 826.882   57.29     827
  57.317 827.047  58.135     828  60.634 828.243  61.657 828.311  62.413 828.368

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*******************************************
       0    .035  20.097     .04  43.402    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        20.097  43.402           10.508  11.695  15.079             .1       .3

CROSS SECTION


RIVER: Alme
REACH: Alme               RS: 134.9155

INPUT
```

Description:
Station Elevation Data   num=   75

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	826	.949	825.792	1.574	825.645	4.262	825	7.016	824.288
7.829	824	8.096	823.441	8.252	823	9.102	822.819	12.721	822
13.452	821.415	14.045	821	15.85	820.254	16.427	820	16.672	819.717
17.254	819	17.82	818.296	18.069	818	18.308	817.724	18.917	817
19.295	816.571	19.734	816	19.943	815.757	20.07	815.609	20.565	815
23.917	814.262	25.192	814	25.341	813.779	26.018	813	28.532	812.387
30.565	812	31.06	811.979	34.587	811.906	35.17	811.905	35.197	811.906
35.807	811.906	38.344	811.909	42.322	812	42.969	812	43.21	812
43.432	812	43.873	812	44.735	812.568	44.843	812.639	45.292	813
46.283	814	47.959	815	48.568	815.346	49.405	816	50.574	816.815
50.81	817	50.939	817.119	51.873	817.81	52.051	817.945	52.131	818
52.198	818.047	53.434	819	53.779	819.267	54.672	820	55.262	820.548
55.71	821	56.538	821.891	56.644	822	56.743	822.089	57.368	822.636
57.739	823	58.321	823.534	58.834	824	59.696	824.562	60.355	825
60.677	825.255	61.406	825.818	61.654	826	62.025	826.227	63.23	827

Manning's n Values   num=   3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	19.943	.04	44.735	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
19.943	44.735	13.433	10.072	10.433	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme   RS: 124.8436

INPUT
Description:
Station Elevation Data   num=   62

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	824.371	.339	824.308	1.898	824	2.26	823.841	4.105	823
4.87	822.637	6.118	822	9.248	821.421	11.443	821	12.03	820.732
13.683	820	14.76	819.096	14.765	819.093	14.879	819	14.941	818.95
16.121	818	17.067	817.242	17.361	817	18.227	816.272	18.499	816.054
18.566	816	19.7	815.054	19.765	815	19.834	814.986	24.56	814
24.807	813.469	25.075	813	25.386	812.336	25.645	812	26.122	812
29.414	811.856	35.798	811.383	35.898	811.38	38.675	811.293	39.289	811.276
43.196	811.3	44.673	811.643	44.885	811.633	45.11	811.642	46.213	812
46.315	812.205	46.485	812.543	46.713	813	47.032	813.553	47.373	814
48.268	814.588	48.888	815	50.127	815.548	51.135	816	52.321	816.507
52.938	816.763	53.5	817	55.043	817.686	55.756	818	57.234	818.65
58.031	819	58.656	819.279	60.315	820	61.69	820.767	62.061	821
62.523	821.244	64.122	822						

Manning's n Values   num=   3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	18.499	.04	46.315	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.499	46.315	17.171	11.452	5.724	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 113.3915

INPUT
Description:
Station Elevation Data num= 72

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	820	1.683	819.835	1.788	819.833	2.464	819.77	3.027	819.726
5.299	819.565	6.248	819.539	6.767	819.505	8.426	819.422	8.879	819.381
9.112	819.351	9.606	819.324	10.063	819.291	11.864	819	12.092	819
13.066	818.71	13.55	818.59	14.783	818.238	15.567	818	15.802	817.891
16.125	817.795	16.964	817.457	17.317	817.37	17.783	817.228	18.536	817
18.684	816.729	19.309	816	19.496	815.658	19.944	815	20.817	814.233
21.101	814	23.25	813.406	23.929	813.222	24.188	813.154	24.74	813
25.213	812.758	26.708	812	28.034	811.22	28.373	811	28.962	811
32.292	810.921	34.179	810.899	34.282	810.899	35.02	810.892	35.688	810.887
36.333	810.885	37.288	810.884	42.28	810.949	43.697	810.985	44.281	811
44.958	811.243	46.447	811.736	47.243	812	47.768	812.509	48.462	813
49.593	813.653	50.226	814	51.493	814.841	51.712	815	52.717	815.473
53.833	816	54.051	816.098	55.987	817	56.301	817.142	58.109	818
58.367	818.122	58.898	818.375	60.229	819	62.027	819.866	62.315	820
62.512	820.088	64.572	821						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	17.783	.04	46.447	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
17.783 46.447 18.913 10.894 3.542 .1 .3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 102.4974

INPUT
Description:
Station Elevation Data num= 69

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	817.852	5.179	817.761	5.305	817.769	5.326	817.77	5.333	817.771
5.348	817.771	5.355	817.771	5.363	817.771	5.378	817.771	5.415	817.77
5.438	817.768	5.471	817.766	5.493	817.765	5.52	817.763	5.557	817.76
5.609	817.755	5.687	817.748	5.823	817.736	6.123	817.709	13.736	817
15.451	816.284	16.121	816	16.64	815.871	16.962	815.798	17.605	815.65
17.853	815.59	18.374	815.46	18.972	815.327	19.137	815.279	20.108	815
20.312	814.646	20.653	814	20.887	813.571	21.157	813	21.359	812.226
21.415	812	21.5	811.93	22.405	811	22.797	811	29.388	810.902
30.09	810.907	30.245	811.016	30.331	811.016	31.362	810.915	32.259	810.923
33.271	810.935	34.499	810.953	36.059	810.981	37.038	811	37.089	811.01
38.774	811.33	39.808	811.526	40.401	811.673	41.725	812	42.32	812.428
42.955	813	44.164	813.699	44.649	814	45.075	814.213	46.285	815
48.041	815.844	48.369	816	50.459	816.979	50.504	817	50.513	817.004
52.63	818	54.692	818.985	54.724	819	56.803	820		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

```
*********************************************
       0    .035  19.137     .04  38.774    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        19.137  38.774           15.369   9.291   9.095             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
*********************************************
       0   3.846817.8524   8.075  18.158 817.527

CROSS SECTION


RIVER: Alme
REACH: Alme               RS: 93.20643

INPUT
Description:
Station Elevation Data    num=      52
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*************************************************************************************
       0 816.355    .564 816.317   1.135 816.268   1.383 816.249   2.001 816.184
    2.75 816.086   3.335     816   3.693 815.956   9.168     815   9.229  814.97
  10.551 814.308  11.167     814  12.331 813.135  12.403  813.08  12.489     813
  12.559  812.95  12.612 812.939  12.795 812.909  14.266 812.454  15.016 812.381
  16.934 812.045  17.188     812  17.771 811.923  17.842 811.918   18.32 811.859
  18.891 811.781  19.083 811.777  19.591 811.701  19.794 811.701  23.395 811.271
  24.199 811.277  24.913 811.286  25.058 811.389  25.919 811.302   28.41 811.465
   29.63 811.552  30.997 811.651   35.55     812  35.614     812  36.571 812.586
  37.407     813  38.112 813.528  38.757     814  41.173 814.765  41.933     815
  43.215 815.583  43.962 815.919   44.15     816  45.792 816.748  46.375     817
  48.351 817.916   48.55     818

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
       0    .035  16.934     .04   29.63    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        16.934   29.63           12.131   6.754   6.462             .1       .3
Right Levee     Station=   28.32      Elevation=    816
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
*********************************************
       0  15.471816.3551   28.33   41.56 815.992

CROSS SECTION


RIVER: Alme
REACH: Alme               RS: 86.45223

INPUT
Description:
Station Elevation Data    num=      52
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*************************************************************************************
       0 814.668    .054 814.663    .314 814.634    .698 814.576   1.127 814.511
   2.282 814.376   3.481 814.133   3.568 814.116   4.053     814   4.918 813.479
    5.68     813   5.881  812.99    5.89  812.99   5.945 812.988   8.397 812.862
  10.394 812.753  11.083 812.738  19.726 812.089  20.846 812.011      21     812
  21.007     812  22.442 811.892   23.73   811.1   25.55   811.1   26.17   811.1
```

```
    26.7 811.869  27.321 811.909  27.873 811.935  27.959 811.939  28.143 811.949
   29.12 811.983  29.945     812  30.927     812   30.99     812  31.178 812.024
  33.684 812.061  34.595 812.089  35.114 812.109  40.401 812.976  40.853     813
  41.189 813.151  41.394 813.235  41.968  813.45  42.136 813.515  43.358     814
  43.417 814.026  43.631 814.214  44.451 814.856  44.561     815   45.69 815.403
  46.679 815.728  47.411     816

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
**********************************************
       0    .035  20.846     .04  27.873    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        20.846  27.873           11.185  10.618   11.11             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    23.5  813.11       F
    26.5  47.411  813.11       F
Left Levee      Station=      18      Elevation=  815.24
Right Levee     Station=   28.41      Elevation=  815.31
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
**********************************************
      .1   18.05815.2321   28.42   43.85815.3968

CULVERT


RIVER: Alme
REACH: Alme               RS: 81.1431

INPUT
Description:
Distance from Upstream XS =       2
Deck/Roadway Width        =       5
Weir Coefficient          =     1.4
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
*********************************************
       0   813.4     810      40   813.4     810

Upstream Bridge Cross Section Data
Station Elevation Data    num=      52
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*************************************************************************************
       0 814.668    .054 814.663    .314 814.634    .698 814.576   1.127 814.511
   2.282 814.376   3.481 814.133   3.568 814.116   4.053     814   4.918 813.479
    5.68     813   5.881  812.99    5.89  812.99   5.945 812.988   8.397 812.862
  10.394 812.753  11.083 812.738  19.726 812.089  20.846 812.011      21     812
  21.007     812  22.442 811.892  23.73   811.1   25.55   811.1   26.17   811.1
    26.7 811.869  27.321 811.909  27.873 811.935  27.959 811.939  28.143 811.949
   29.12 811.983  29.945     812  30.927     812   30.99     812  31.178 812.024
  33.684 812.061  34.595 812.089  35.114 812.109  40.401 812.976  40.853     813
  41.189 813.151  41.394 813.235  41.968  813.45  42.136 813.515  43.358     814
  43.417 814.026  43.631 814.214  44.451 814.856  44.561     815   45.69 815.403
  46.679 815.728  47.411     816

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
**********************************************
       0    .035  20.846     .04  27.873    .035
```

```
Bank Sta: Left   Right    Coeff Contr.   Expan.
        20.846  27.873            .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    23.5  813.11       F
    26.5  47.411  813.11       F
Left Levee      Station=      18      Elevation=  815.24
Right Levee     Station=   28.41      Elevation=  815.31
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
*********************************************
      .1   18.05815.2321   28.42   43.85815.3968

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
*********************************************
       0   813.3     809      50   813.3     809

Downstream Bridge Cross Section Data
Station Elevation Data    num=      72
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*************************************************************************************
       0 812.528   6.405 812.089   6.489 812.085   7.611 812.004   7.613 812.004
   7.625 812.003    7.63 812.003   7.742     812   8.111     812   8.636 811.923
   8.708 811.905   9.584 811.843  10.187 811.651  11.684 811.537   11.74 811.533
  12.239     811  12.976 810.169  13.117     810  13.153     810  13.859 809.837
  14.993 809.633  15.261 809.585   15.65 809.528   16.24 809.508  16.708 809.433
  17.665 809.464   17.72 809.456  18.098 809.404  18.878  809.38  19.726 809.414
   20.93 809.426  21.764 809.443  22.164 809.454  22.787 809.507  23.983 809.452
  24.437 809.457  25.467 809.395  26.024 809.354  26.478 809.322  28.298 809.216
  28.601 809.198  28.993 809.207  29.254 809.214  29.546 809.198  30.004  809.23
  30.065  809.23  30.203 809.216  30.614 809.239  30.766 809.232  30.942 809.231
  31.556 809.279  31.793 809.285  32.041 809.291  32.996 809.409   33.75 809.435
  34.153 809.492  34.586  809.51  35.096 809.546  35.517 809.607   36.03 809.653
  37.408 809.817  38.536 809.965  38.781     810  39.288  810.95  39.309     811
  40.807  811.95  40.837 811.971  40.914     812  41.622 812.079  42.219 812.154
  44.424     813  45.752 813.257

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
       0    .035   17.72     .04  28.993    .035

Bank Sta: Left   Right    Coeff Contr.   Expan.
         17.72  28.993            .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    23.5   812.7       F
    26.5  45.752   812.7       F

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 Culverts =  1
```

Culvert Name Shape Rise Span
Culvert #1 Box 2 3
FHWA Chart # 8 - flared wingwalls
FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
Solution Criteria = Highest U.S. EG

Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
2	5	.015	.015	0	1	1

Upstream Elevation = 811.11
Centerline Station = 25
Downstream Elevation = 810.7
Centerline Station = 25

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 75.83388

INPUT
Description:
Station Elevation Data num= 72

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	812.528	6.405	812.089	6.489	812.085	7.611	812.004	7.613	812.004
7.625	812.003	7.63	812.003	7.742	812	8.111	812	8.636	811.923
8.708	811.905	9.584	811.843	10.187	811.651	11.684	811.537	11.74	811.533
12.239	811	12.976	810.169	13.117	810	13.153	810	13.859	809.837
14.993	809.633	15.261	809.585	15.65	809.528	16.24	809.508	16.708	809.433
17.665	809.464	17.72	809.456	18.098	809.404	18.878	809.38	19.726	809.414
20.93	809.426	21.764	809.443	22.164	809.454	22.787	809.507	23.983	809.452
24.437	809.457	25.467	809.395	26.024	809.354	26.478	809.322	28.298	809.216
28.601	809.198	28.993	809.207	29.254	809.214	29.546	809.198	30.004	809.23
30.065	809.23	30.203	809.216	30.614	809.239	30.766	809.232	30.942	809.231
31.556	809.279	31.793	809.285	32.041	809.291	32.996	809.409	33.75	809.435
34.153	809.492	34.586	809.51	35.096	809.546	35.517	809.607	36.03	809.653
37.408	809.817	38.536	809.965	38.781	810	39.288	810.95	39.309	811
40.807	811.95	40.837	811.971	40.914	812	41.622	812.079	42.219	812.154
44.424	813	45.752	813.257						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	17.72	.04	28.993	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.72	28.993	11.32	11.276	9.95	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	23.5	812.7	F
26.5	45.752	812.7	F

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 64.55781

INPUT
Description:
Station Elevation Data num= 64

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

0	811.596	.316	811.555	.687	811.498	2.805	811.188	3.902	811
4.454	810.902	4.525	810.907	5.257	810.87	8.381	810.557	9.077	810.496
10.037	810.381	11.087	810.326	12.002	810.241	12.763	810.159	13.092	810.166
13.862	810.04	14.058	810	15.617	809.566	17.47	809	19.815	808.104
20.127	808	20.305	807.97	21.988	807.69	22.448	807.657	22.723	807.631
23.015	807.588	23.826	807.512	24.179	807.472	25.194	807.32	25.45	807.298
25.886	807.269	26.067	807.253	27.119	807	29.198	806.448	30.453	806
30.589	805.957	30.652	805.936	32.044	805.576	32.45	805.452	32.765	805.379
33.174	805.316	33.403	805.294	33.49	805.299	33.579	805.304	33.763	805.341
34.046	805.438	34.357	805.435	34.53	805.532	34.55	805.541	34.868	805.592
35.385	806	35.537	806.076	36.612	807	37.113	807.368	37.714	807.863
37.881	808	38.668	808.173	42.411	809	44.918	809.566	46.769	810
47.103	810.642	47.287	811	49.816	811.723	51.083	812		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	20.305	.04	37.714	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
20.305	37.714	9.961	22.838	22.144	.1	.3

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
10.842	21.685	810.339	0	.61811	5.5964

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 41.72029

INPUT
Description:
Station Elevation Data num= 58

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	810.451	.996	810.258	2.245	810	5.269	809.487	7.099	809.202
7.584	809.124	8.339	809	9.932	808.029	9.996	808	11.811	807.745
12.508	807.659	14.166	807.364	14.912	807.266	15.321	807.231	15.485	807.222
16.413	807	16.72	806.869	17.025	806.769	19.359	806	21.382	805
21.602	804.865	21.849	804.694	22.337	804.356	22.999	804	23.433	803.658
24.597	803	25.031	802.964	25.829	802.909	26.7	802.872	27.448	802.867
28.231	802.882	28.847	802.906	29.52	802.938	30.25	802.983	30.472	803
31.072	803.053	33.274	803.899	33.738	804	38.951	804.691	40.317	804.884
41.145	805	42.472	805.527	42.982	805.713	43.864	806	44.575	806.461
45.254	807	45.677	807.649	45.89	808	47.203	808.247	51.283	809
52.608	809.226	55.5	809.603	56.251	809.669	57.144	809.735	57.602	809.785
58.536	809.836	58.91	809.877	59.404	809.897				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	21.849	.04	40.317	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
21.849	40.317	10.436	18.278	27.533	.1	.3

Blocked Obstructions num= 1

Sta L	Sta R	Elev
0	7.019	810.4512

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 23.44198

INPUT
Description:
Station Elevation Data num= 55

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	809.644	.107	809.6	.387	809.528	1.764	809.164	1.909	809.121
2.427	809	3.587	808.625	3.978	808.505	4.638	808.329	5.248	808
8.001	807.367	8.533	807.29	9.067	807.2	10.113	807	10.983	806.013
10.997	806	11.005	805.967	11.236	805	12.097	804.329	12.557	804
13.097	803.339	13.342	803	13.775	802.63	14.808	802	16.576	801.882
19.219	801.705	19.446	801.694	20.389	801.633	20.945	801.612	24.063	801.843
26.045	802	26.667	802.219	28.959	803	29.217	803.23	30.157	804
37.515	804.835	38.684	804.989	38.768	805	40.813	805.544	41.137	805.629
42.435	805.941	42.643	805.991	42.675	806	44.643	806.233	45.768	806.326
50.627	806.825	52.21	806.917	53.132	807	53.214	807	53.59	807
54.248	807.112	55.017	807.378	55.984	807.641	56.354	807.759	56.805	808

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	16.576	.04	38.684	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
16.576	38.684	8.606	17.731	26.12	.1	.3

CROSS SECTION

RIVER: Alme
REACH: Alme RS: 5.711110

INPUT
Description:
Station Elevation Data num= 57

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	810.2	1.339	810	2.023	809.283	2.35	809	3.025	808.593
3.657	808.212	3.999	808	5.327	807.247	5.652	807	8.395	806.101
8.734	806	8.889	805.865	9.7	805	10.163	804.717	11.6	804
12.223	803.266	12.371	803	12.94	802.355	13.295	802	13.852	801.848
14.593	801.688	15.158	801.568	17.836	801	18.079	800.984	20.218	800.897
20.496	800.891	21.07	800.886	21.48	800.886	21.903	800.888	22.352	800.894
22.827	800.901	23.352	800.912	24.414	800.94	25.142	800.965	26.003	801
26.517	801.163	28.665	802	29.614	802.755	29.98	803	30.463	803.145
33.436	804	33.477	804.009	33.516	804.019	34.312	804.217	37.46	805
42.004	806	42.682	806.099	44.975	806.408	46.209	806.552	49.002	806.812
50.37	807	50.97	807	51.374	807.52	51.646	808	52.045	808.084
55.608	808.836	56.37	809						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	15.158	.04	34.312	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
15.158	34.312	16.759	5.711	21.046	.1	.3

Blocked Obstructions   num=   1
   Sta L   Sta R   Elev
****
       0   4.211810.2004

****

SUMMARY OF MANNING'S N VALUES

River:Alme

Reach	River Sta.	n1	n2	n3
Alme	346.0286	.035	.04	.035
Alme	340.8620	.035	.04	.035
Alme	337.1913	.035	.04	.035
Alme	332.0697	Culvert		
Alme	326.9481	.035	.04	.035
Alme	318.2890	.035	.04	.035
Alme	311.6395	.035	.04	.035
Alme	303.8436	.035	.04	.035
Alme	295.9385	.035	.04	.035
Alme	289.0909	.035	.04	.035
Alme	283.2029	.035	.04	.035
Alme	276.6229	.035	.04	.035
Alme	267.6301	.035	.04	.035
Alme	262.6338	.035	.04	.035
Alme	258.5520	.035	.04	.035
Alme	248.4231	.035	.04	.035
Alme	239.6731	.035	.04	.035
Alme	229.8189	.035	.04	.035
Alme	217.0088	.035	.04	.035
Alme	208.1064	.035	.04	.035
Alme	198.4724	.035	.04	.035
Alme	190.4317	.035	.04	.035
Alme	181.3740	.035	.04	.035
Alme	168.6892	.035	.04	.035
Alme	158.4595	.035	.04	.035
Alme	146.6102	.035	.04	.035
Alme	134.9155	.035	.04	.035
Alme	124.8436	.035	.04	.035
Alme	113.3915	.035	.04	.035
Alme	102.4974	.035	.04	.035
Alme	93.20643	.035	.04	.035
Alme	86.45223	.035	.04	.035
Alme	81.1431	Culvert		
Alme	75.83388	.035	.04	.035
Alme	64.55781	.035	.04	.035
Alme	41.72029	.035	.04	.035
Alme	23.44198	.035	.04	.035
Alme	5.711110	.035	.04	.035

****

SUMMARY OF REACH LENGTHS

River: Alme

Reach	River Sta.	Left	Channel	Right
Alme	346.0286	5.933	5.167	5.71

```
*Alme            *    340.8620    *    5.349*    3.671*    3.923*
*Alme            *    337.1913    *   14.586*   10.243*   14.287*
*Alme            *    332.0697    *Culvert  *         *         *
*Alme            *    326.9481    *    4.965*    8.659*    7.587*
*Alme            *    318.2890    *    4.115*    6.649*    5.653*
*Alme            *    311.6395    *    5.922*    7.796*    5.673*
*Alme            *    303.8436    *    6.316*    7.905*    7.002*
*Alme            *    295.9385    *    6.041*    6.848*    8.121*
*Alme            *    289.0909    *    7.422*    5.888*    4.713*
*Alme            *    283.2029    *    9.548*     6.58*    2.935*
*Alme            *    276.6229    *   17.315*    8.993*      2.5*
*Alme            *    267.6301    *    7.105*    4.996*    3.195*
*Alme            *    262.6338    *    8.083*    4.082*    2.971*
*Alme            *    258.5520    *    4.997*   10.129*   12.281*
*Alme            *    248.4231    *     5.62*     8.75*   10.992*
*Alme            *    239.6731    *    8.088*    9.854*   10.223*
*Alme            *    229.8189    *   10.383*    12.81*   11.867*
*Alme            *    217.0088    *    6.905*    8.902*   13.813*
*Alme            *    208.1064    *     8.46*    9.634*      7.5*
*Alme            *    198.4724    *    7.595*    8.041*    9.305*
*Alme            *    190.4317    *    9.457*    9.058*    9.677*
*Alme            *    181.3740    *   10.918*   12.685*   13.372*
*Alme            *    168.6892    *   14.104*    10.23*    9.802*
*Alme            *    158.4595    *    8.862*   11.849*   11.254*
*Alme            *    146.6102    *   10.508*   11.695*   15.079*
*Alme            *    134.9155    *   13.433*   10.072*   10.433*
*Alme            *    124.8436    *   17.171*   11.452*    5.724*
*Alme            *    113.3915    *   18.913*   10.894*    3.542*
*Alme            *    102.4974    *   15.369*    9.291*    9.095*
*Alme            *    93.20643    *   12.131*    6.754*    6.462*
*Alme            *    86.45223    *   11.185*   10.618*    11.11*
*Alme            *    81.1431     *Culvert  *         *         *
*Alme            *    75.83388    *    11.32*   11.276*     9.95*
*Alme            *    64.55781    *    9.961*   22.838*   22.144*
*Alme            *    41.72029    *   10.436*   18.278*   27.533*
*Alme            *    23.44198    *    8.606*   17.731*    26.12*
*Alme            *    5.711110    *   16.759*    5.711*   21.046*
*****************************************************************

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SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Alme

*****************************************************
*     Reach      *   River Sta.   * Contr.  * Expan.  *
*****************************************************
*Alme            *    346.0286*       .1*       .3*
*Alme            *    340.8620*       .1*       .3*
*Alme            *    337.1913*       .1*       .3*
*Alme            *    332.0697*Culvert  *         *
*Alme            *    326.9481*       .1*       .3*
*Alme            *    318.2890*       .1*       .3*
*Alme            *    311.6395*       .1*       .3*
*Alme            *    303.8436*       .1*       .3*
*Alme            *    295.9385*       .1*       .3*
*Alme            *    289.0909*       .1*       .3*
*Alme            *    283.2029*       .1*       .3*
*Alme            *    276.6229*       .1*       .3*
*Alme            *    267.6301*       .1*       .3*
*Alme            *    262.6338*       .1*       .3*
*Alme            *    258.5520*       .1*       .3*
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*Alme            *    248.4231*       .1*       .3*
*Alme            *    239.6731*       .1*       .3*
*Alme            *    229.8189*       .1*       .3*
*Alme            *    217.0088*       .1*       .3*
*Alme            *    208.1064*       .1*       .3*
*Alme            *    198.4724*       .1*       .3*
*Alme            *    190.4317*       .1*       .3*
*Alme            *    181.3740*       .1*       .3*
*Alme            *    168.6892*       .1*       .3*
*Alme            *    158.4595*       .1*       .3*
*Alme            *    146.6102*       .1*       .3*
*Alme            *    134.9155*       .1*       .3*
*Alme            *    124.8436*       .1*       .3*
*Alme            *    113.3915*       .1*       .3*
*Alme            *    102.4974*       .1*       .3*
*Alme            *    93.20643*       .1*       .3*
*Alme            *    86.45223*       .1*       .3*
*Alme            *    81.1431 *Culvert  *         *
*Alme            *    75.83388*       .1*       .3*
*Alme            *    64.55781*       .1*       .3*
*Alme            *    41.72029*       .1*       .3*
*Alme            *    23.44198*       .1*       .3*
*Alme            *    5.711110*       .1*       .3*
*********************************************************
```

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Alme	346.0286	T500	10.35	846.61	849.31	847.57	849.33	0.000170	0.51	20.96	11.33	0.11
Alme	346.0286	T10	3.44	846.61	849.03	847.19	849.03	0.000031	0.20	17.84	10.71	0.05
Alme	340.8620	T500	10.35	846.00	849.32	848.55	849.32	0.000050	0.33	35.22	21.86	0.06
Alme	340.8620	T10	3.44	846.00	849.03	847.39	849.03	0.000008	0.12	29.40	18.03	0.03
Alme	337.1913	T500	10.35	846.88	849.32	849.00	849.32	0.000061	0.31	37.49	25.37	0.07
Alme	337.1913	T10	3.44	846.88	849.03	848.05	849.03	0.000012	0.13	30.44	23.55	0.03
Alme	332.0697		Culvert									
Alme	326.9481	T500	10.35	839.91	842.18	842.18	843.29	0.012383	4.67	2.22	9.17	1.00
Alme	326.9481	T10	3.44	839.91	841.03	841.03	841.56	0.015705	3.23	1.07	6.74	1.00
Alme	318.2890	T500	10.35	837.00	837.47	838.12	842.56	0.798879	9.99	1.04	3.28	5.67
Alme	318.2890	T10	3.44	837.00	837.25	837.65	840.82	1.268645	8.37	0.41	2.46	6.54
Alme	311.6395	T500	10.35	834.68	835.14	835.62	837.89	0.462859	7.34	1.41	4.86	4.35
Alme	311.6395	T10	3.44	834.68	835.00	835.23	836.09	0.348006	4.62	0.74	4.19	3.50
Alme	303.8436	T500	10.35	832.72	833.29	833.73	835.16	0.229617	6.06	1.71	4.53	3.15
Alme	303.8436	T10	3.44	832.72	833.08	833.30	833.93	0.211859	4.08	0.84	3.90	2.80
Alme	295.9385	T500	10.35	831.62	832.41	832.78	833.69	0.122543	5.02	2.06	4.41	2.34
Alme	295.9385	T10	3.44	831.62	832.14	832.32	832.73	0.102531	3.39	1.02	3.51	2.01
Alme	289.0909	T500	10.35	830.83	831.45	831.82	832.76	0.150764	5.07	2.04	5.17	2.57
Alme	289.0909	T10	3.44	830.83	831.21	831.40	831.89	0.145327	3.65	0.94	3.86	2.36
Alme	283.2029	T500	10.35	830.17	830.89	831.18	831.88	0.118852	4.41	2.34	6.22	2.30
Alme	283.2029	T10	3.44	830.17	830.66	830.81	831.14	0.096413	3.08	1.12	4.35	1.94

Alme	276.6229	T500	10.35	829.52	830.28	830.55	831.15	0.093661	4.13	2.50	6.07	2.05
Alme	276.6229	T10	3.44	829.52	830.02	830.17	830.49	0.098502	3.03	1.14	4.60	1.95
Alme	267.6301	T500	10.35	828.16	828.90	829.20	830.05	0.154960	4.77	2.17	6.16	2.56
Alme	267.6301	T10	3.44	828.16	829.19	828.85	829.22	0.002536	0.81	4.24	7.81	0.35
Alme	262.6338	T500	10.35	827.03	829.26	829.28	829.49	0.037536	2.09	4.95	14.39	1.12
Alme	262.6338	T10	3.44	827.03	829.09	829.09	829.18	0.033351	1.36	2.56	13.08	0.95
Alme	258.5520	T500	10.35	826.03	826.61	827.11	828.94	0.280525	6.76	1.53	3.86	3.42
Alme	258.5520	T10	3.44	826.03	826.30	826.65	828.57	0.698695	6.68	0.52	2.67	4.85
Alme	248.4231	T500	10.35	825.69	826.21	826.41	826.90	0.095942	3.68	2.81	8.33	2.02
Alme	248.4231	T10	3.44	825.69	826.05	826.12	826.30	0.071535	2.22	1.55	8.05	1.61
Alme	239.6731	T500	10.35	825.39	826.21	826.17	826.42	0.015569	1.99	5.20	9.95	0.88
Alme	239.6731	T10	3.44	825.39	825.93	825.88	826.03	0.015739	1.37	2.51	8.60	0.81
Alme	229.8189	T500	10.35	825.12	826.00	826.00	826.23	0.021610	2.13	4.86	10.88	1.02
Alme	229.8189	T10	3.44	825.12	825.68	825.68	825.83	0.024775	1.70	2.02	7.00	1.01
Alme	217.0088	T500	10.35	824.35	824.98	825.16	825.63	0.129310	3.57	2.91	11.87	2.27
Alme	217.0088	T10	3.44	824.35	824.81	824.93	825.20	0.127109	2.75	1.25	7.17	2.10
Alme	208.1064	T500	10.35	823.04	823.48	823.74	824.40	0.142819	4.23	2.44	8.06	2.45
Alme	208.1064	T10	3.44	823.04	823.29	823.44	823.83	0.184179	3.24	1.06	6.36	2.53
Alme	198.4724	T500	10.35	822.61	823.20	823.29	823.56	0.041471	2.67	3.89	10.35	1.37
Alme	198.4724	T10	3.44	822.61	823.03	823.03	823.15	0.027586	1.54	2.23	9.83	1.03
Alme	190.4317	T500	10.35	822.28	823.06	823.09	823.32	0.025206	2.25	4.60	10.63	1.09
Alme	190.4317	T10	3.44	822.28	822.78	822.79	822.93	0.027129	1.70	2.03	7.58	1.05
Alme	181.3740	T500	10.35	820.90	821.28	821.62	822.69	0.221523	5.26	1.97	6.44	3.04
Alme	181.3740	T10	3.44	820.90	821.08	821.28	822.18	0.524999	4.66	0.74	5.62	4.10
Alme	168.6892	T500	10.35	818.95	819.29	819.51	820.09	0.165715	3.95	2.62	11.00	2.56
Alme	168.6892	T10	3.44	818.95	819.19	819.27	819.45	0.101297	2.25	1.53	10.15	1.85
Alme	158.4595	T500	10.35	814.62	814.88	815.20	816.98	0.640477	6.41	1.61	8.87	4.80
Alme	158.4595	T10	3.44	814.62	814.75	814.95	816.64	1.591070	6.09	0.56	6.64	6.67
Alme	146.6102	T500	10.35	813.33	813.74	813.88	814.21	0.091468	3.03	3.41	13.41	1.92
Alme	146.6102	T10	3.44	813.33	813.61	813.67	813.80	0.072470	1.92	1.79	11.69	1.57
Alme	134.9155	T500	10.35	811.90	813.24	812.33	813.25	0.000311	0.48	21.92	19.72	0.14
Alme	134.9155	T10	3.44	811.90	812.04	812.13	812.38	0.234446	2.57	1.34	13.61	2.62
Alme	124.8436	T500	10.35	811.28	813.25		813.25	0.000076	0.29	35.42	21.92	0.07
Alme	124.8436	T10	3.44	811.28	812.15	811.57	812.15	0.000277	0.29	12.02	20.76	0.12
Alme	113.3915	T500	10.35	810.88	813.25		813.25	0.000033	0.22	47.40	25.05	0.05
Alme	113.3915	T10	3.44	810.88	812.15		812.15	0.000034	0.15	22.44	20.99	0.05
Alme	102.4974	T500	10.35	810.90	813.25		813.25	0.000035	0.24	44.84	22.34	0.05
Alme	102.4974	T10	3.44	810.90	812.15		812.15	0.000038	0.17	21.39	20.56	0.05
Alme	93.20643	T500	10.35	811.27	813.23	811.94	813.25	0.000241	0.50	21.12	12.85	0.12
Alme	93.20643	T10	3.44	811.27	812.14	811.65	812.15	0.000778	0.49	7.10	11.91	0.20
Alme	86.45223	T500	10.35	811.10	813.22	812.20	813.24	0.000455	0.71	15.66	10.36	0.18
Alme	86.45223	T10	3.44	811.10	812.06	811.65	812.13	0.003109	1.24	2.77	8.20	0.41

Alme	81.1431		Culvert											
Alme	75.83388	T500	10.35	809.20	809.97	810.49	811.94	0.136986	6.23	1.66	25.25	2.67		
Alme	75.83388	T10	3.44	809.20	809.62	809.92	811.12	0.373718	5.42	0.63	20.67	3.76		
Alme	64.55781	T500	10.35	805.29	805.82	806.35	809.13	0.513146	8.06	1.28	4.06	4.57		
Alme	64.55781	T10	3.44	805.29	805.65	805.93	806.99	0.351721	5.12	0.67	3.20	3.56		
Alme	41.72029	T500	10.35	802.87	803.32	803.54	804.06	0.096836	3.82	2.71	7.72	2.06		
Alme	41.72029	T10	3.44	802.87	803.14	803.23	803.44	0.076188	2.40	1.44	6.96	1.68		
Alme	23.44198	T500	10.35	801.61	802.11	802.24	802.56	0.064697	3.02	3.52	11.73	1.68		
Alme	23.44198	T10	3.44	801.61	801.95	802.01	802.16	0.062061	2.05	1.70	9.79	1.50		
Alme	5.711110	T500	10.35	800.89	801.37	801.45	801.69	0.036542	2.49	4.16	10.97	1.29		
Alme	5.711110	T10	3.44	800.89	801.16	801.19	801.31	0.036814	1.71	2.02	9.44	1.18		

ERRORS WARNINGS AND NOTES
Errors Warnings and Notes for Plan : alme

River: Alme Reach: Alme RS: 346.0286 Profile: T500
  Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
  This may indicate the need for additional cross sections.
  Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Alme Reach: Alme RS: 346.0286 Profile: T10
  Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
  This may indicate the need for additional cross sections.
  Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Alme Reach: Alme RS: 340.8620 Profile: T500
  Warning:Multiple water surfaces were found that could balance the energy equation. The program selected the water surface
  whose main channel velocity head was the closest to the previously computed cross section.
  Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Alme Reach: Alme RS: 340.8620 Profile: T10
  Warning:Multiple water surfaces were found that could balance the energy equation. The program selected the water surface
  whose main channel velocity head was the closest to the previously computed cross section.
  Warning:Divided flow computed for this cross-section.
  Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Alme Reach: Alme RS: 337.1913 Profile: T10
  Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was
  used.
River: Alme Reach: Alme RS: 332.0697 Profile: T500
  Warning:The flow through the culvert is supercritical. However, since there is flow over the road (weir flow), the program
  cannot determine if the downstream cross section should be subcritical or supercritical. The program used the
  downstream subcritical answer, even though it may not be valid.
River: Alme Reach: Alme RS: 332.0697 Profile: T500 Culv: Culvert #1
  Note: The flow in the culvert is entirely supercritical.
River: Alme Reach: Alme RS: 332.0697 Profile: T10
  Warning:The flow through the culvert is supercritical. However, since there is flow over the road (weir flow), the program
  cannot determine if the downstream cross section should be subcritical or supercritical. The program used the
  downstream subcritical answer, even though it may not be valid.
River: Alme Reach: Alme RS: 332.0697 Profile: T10 Culv: Culvert #1
  Warning:During the culvert inlet control computations, the program could not balance the culvert/weir flow. The reported
  inlet energy grade answer may not be valid.
  Note: The flow in the culvert is entirely supercritical.
River: Alme Reach: Alme RS: 326.9481 Profile: T500
  Warning:The energy equation could not be balanced within the specified number of iterations. The program used critical depth
  for the water surface and continued on with the calculations.
  Warning:Divided flow computed for this cross-section.

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     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 326.9481     Profile: T10
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 318.2890     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 318.2890     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 311.6395     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 311.6395     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 303.8436     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 303.8436     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 295.9385     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 295.9385     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
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             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 289.0909     Profile: T500
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 289.0909     Profile: T10
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 283.2029     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 283.2029     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 276.6229     Profile: T500
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 276.6229     Profile: T10
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 267.6301     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 267.6301     Profile: T10
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Alme  Reach: Alme     RS: 262.6338     Profile: T500
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program selected the water
             surface that had the least amount of error between computed and assumed values.
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 262.6338     Profile: T10
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
             for the water surface and continued on with the calculations.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
             water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
             program defaulted to critical depth.
     Warning:The parabolic search method failed to converge on critical depth.  The program will try the cross section
             slice/secant method to find critical depth.
River: Alme  Reach: Alme     RS: 258.5520     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 258.5520     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 248.4231     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
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          This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Alme  Reach: Alme     RS: 248.4231     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Alme  Reach: Alme     RS: 239.6731     Profile: T500
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Alme  Reach: Alme     RS: 239.6731     Profile: T10
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Alme  Reach: Alme     RS: 229.8189     Profile: T500
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
          for the water surface and continued on with the calculations.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
          water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
          program defaulted to critical depth.
River: Alme  Reach: Alme     RS: 229.8189     Profile: T10
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program used critical depth
          for the water surface and continued on with the calculations.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
     Warning:During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
          water surface came back below critical depth.  This indicates that there is not a valid subcritical answer.  The
          program defaulted to critical depth.
River: Alme  Reach: Alme     RS: 217.0088     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Alme  Reach: Alme     RS: 217.0088     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Alme  Reach: Alme     RS: 208.1064     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Alme  Reach: Alme     RS: 208.1064     Profile: T10
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Alme  Reach: Alme     RS: 198.4724     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Alme  Reach: Alme     RS: 198.4724     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Alme  Reach: Alme     RS: 190.4317     Profile: T500
     Warning:The energy equation could not be balanced within the specified number of iterations.  The program selected the water
```

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            surface that had the least amount of error between computed and assumed values.
River: Alme  Reach: Alme     RS: 181.3740     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 181.3740     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 168.6892     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 168.6892     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 158.4595     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 158.4595     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 146.6102     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 146.6102     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 134.9155     Profile: T500
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Alme  Reach: Alme     RS: 134.9155     Profile: T10
     Warning:The conveyance ratio (upstream 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 energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 124.8436     Profile: T500
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
River: Alme  Reach: Alme     RS: 124.8436     Profile: T10
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
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     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Alme  Reach: Alme     RS: 102.4974     Profile: T500
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
River: Alme  Reach: Alme     RS: 102.4974     Profile: T10
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
River: Alme  Reach: Alme     RS: 93.20643     Profile: T500
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.
River: Alme  Reach: Alme     RS: 93.20643     Profile: T10
     Warning:The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4.
             This may indicate the need for additional cross sections.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.
River: Alme  Reach: Alme     RS: 86.45223     Profile: T500
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 86.45223     Profile: T10
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 81.1431     Profile: T500
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 81.1431     Profile: T500     Culv: Culvert #1
     Note:   The flow in the culvert is entirely supercritical.
River: Alme  Reach: Alme     RS: 81.1431     Profile: T10
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Alme  Reach: Alme     RS: 81.1431     Profile: T10     Culv: Culvert #1
     Note:   The flow in the culvert is entirely supercritical.
River: Alme  Reach: Alme     RS: 64.55781     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 64.55781     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 41.72029     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 41.72029     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 23.44198     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 23.44198     Profile: T10
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 5.711110     Profile: T500
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Alme  Reach: Alme     RS: 5.711110     Profile: T10
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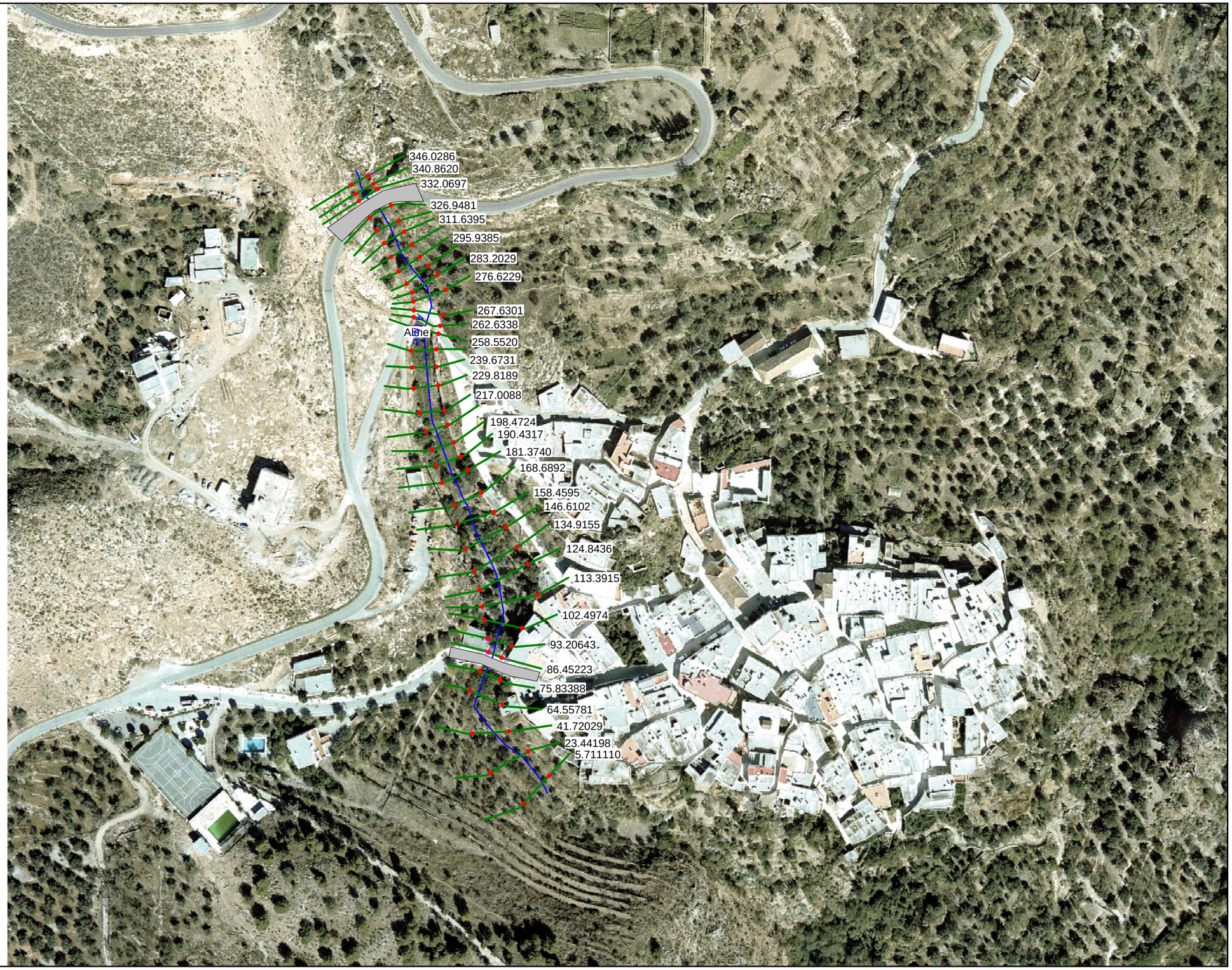
Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.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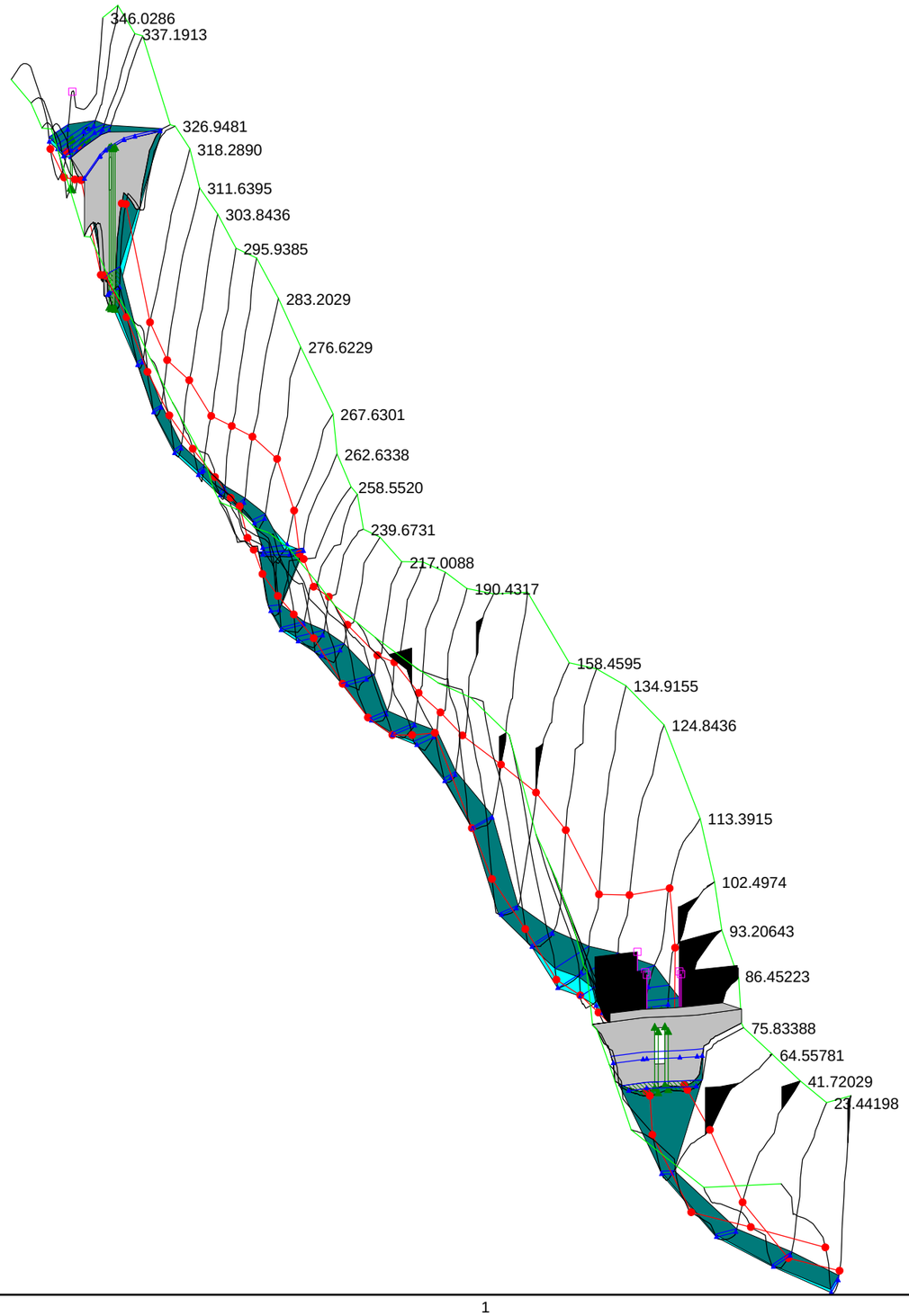
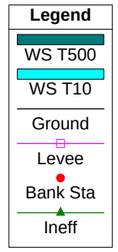
Geom: alme Flow: Flow 01





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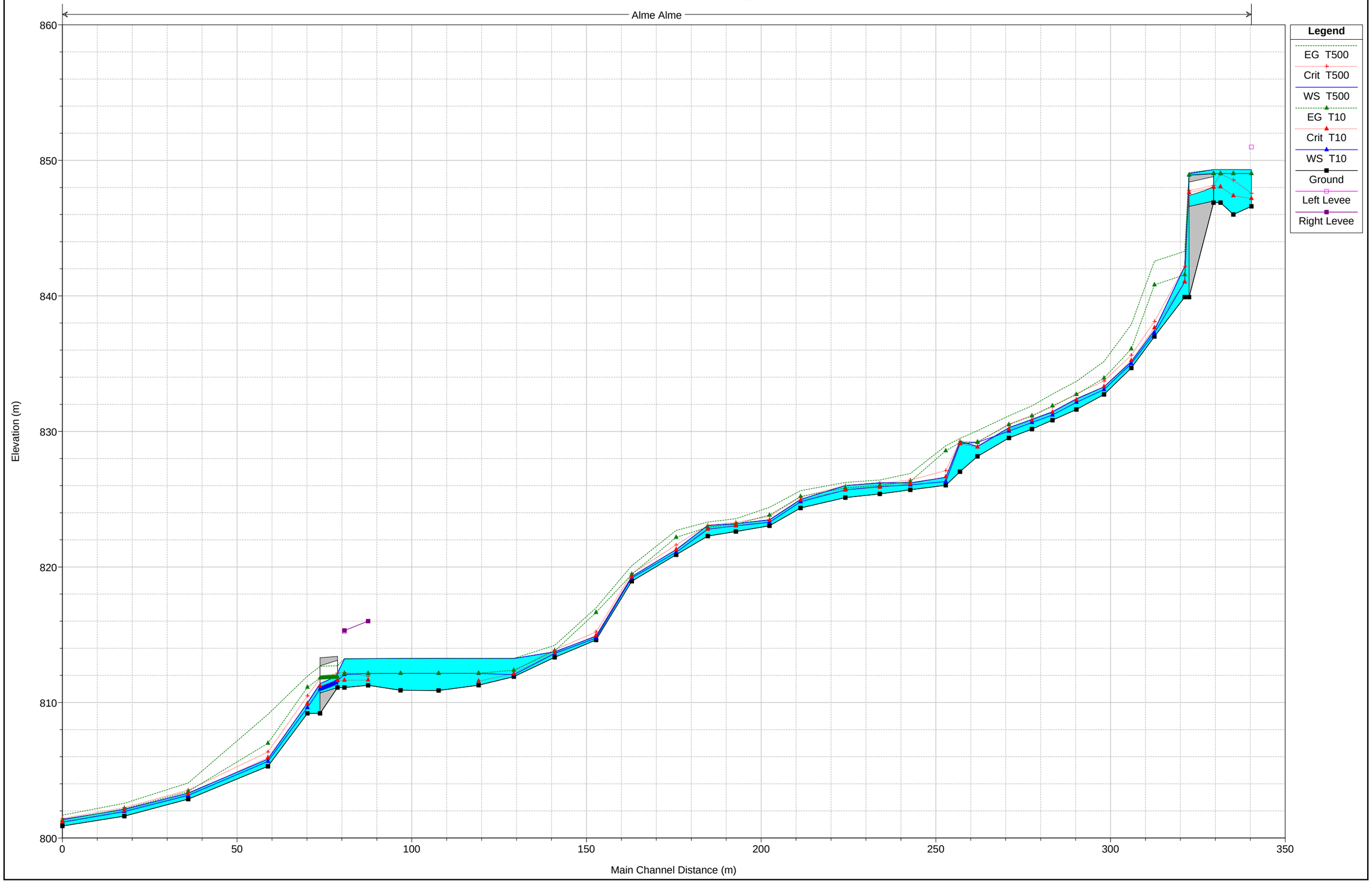
Geom: alme Flow: Flow 01



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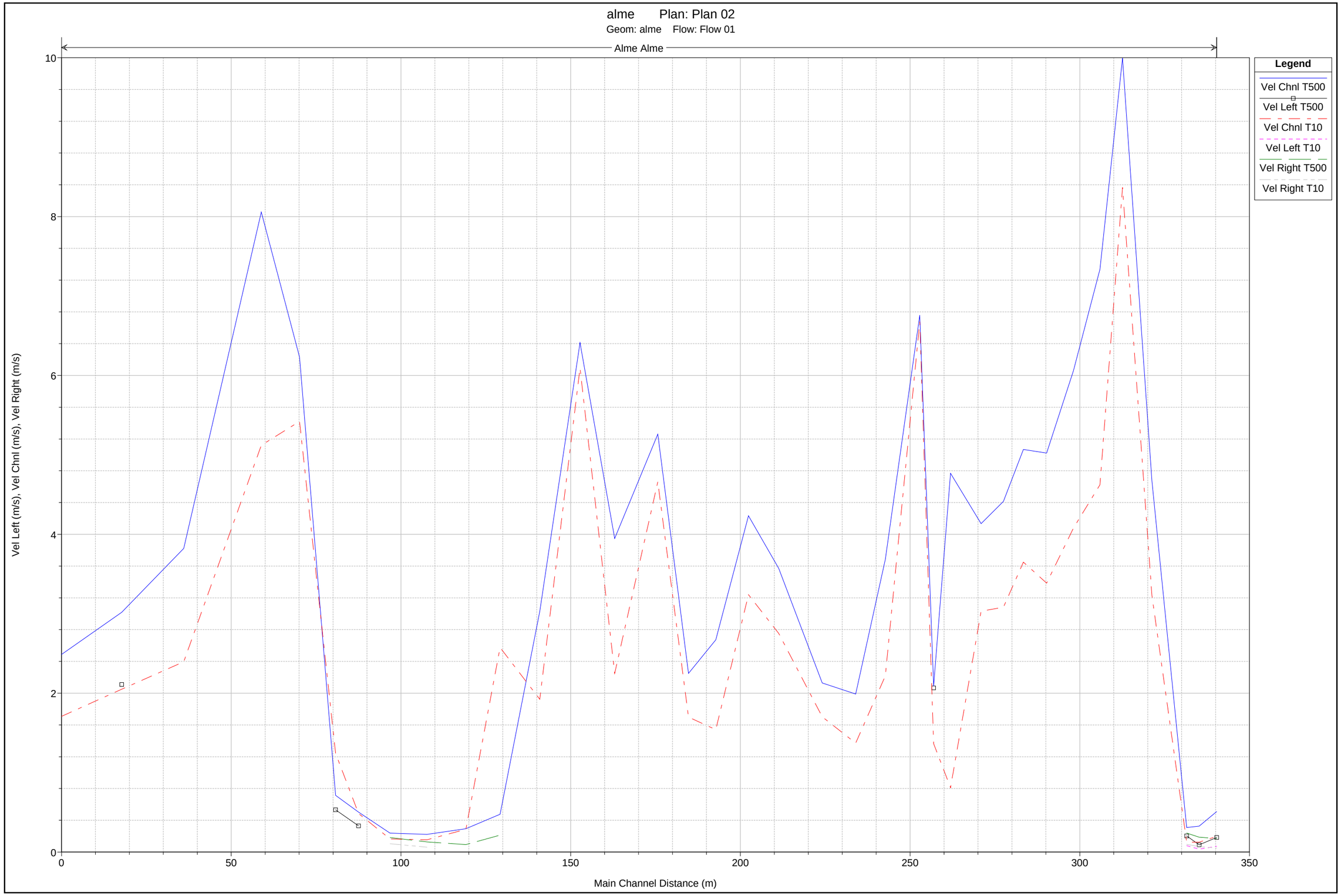
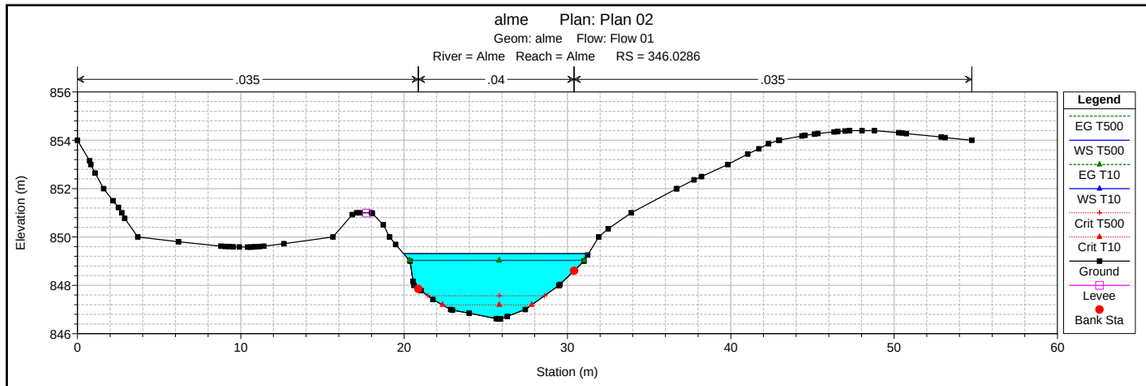
Geom: alme Flow: Flow 01

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Geom: alme Flow: Flow 01
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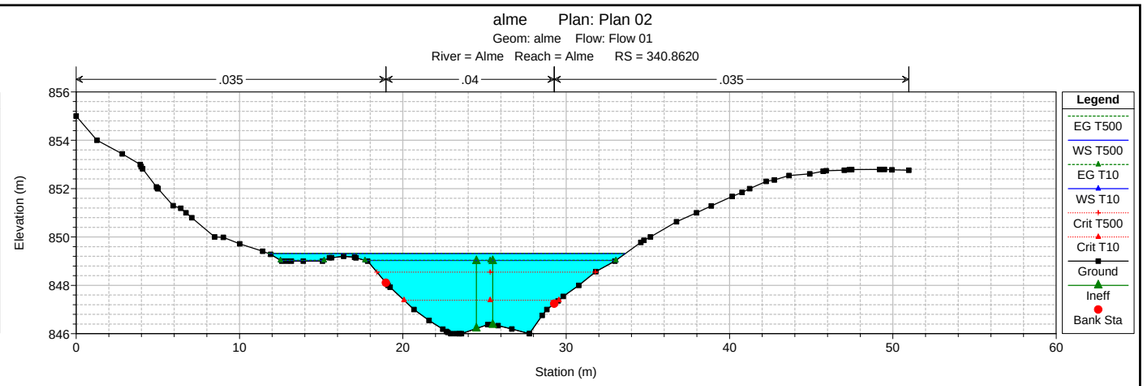
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Levee
Bank Sta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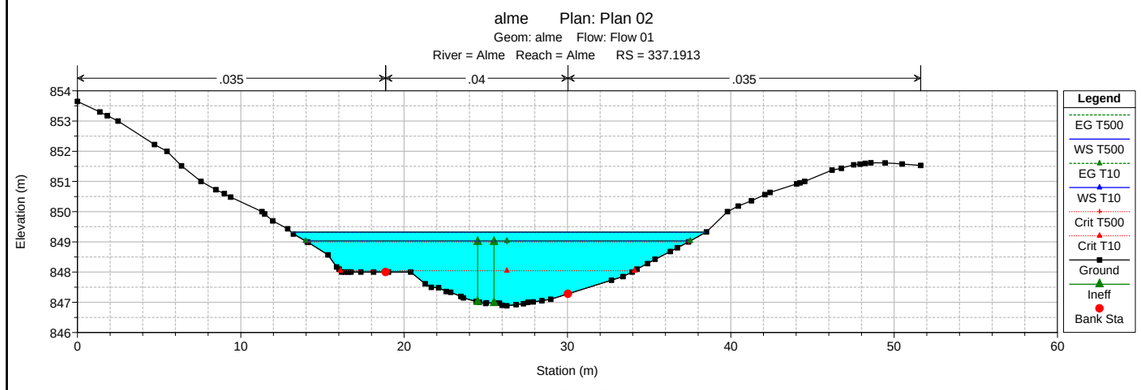
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Ineff
Bank Sta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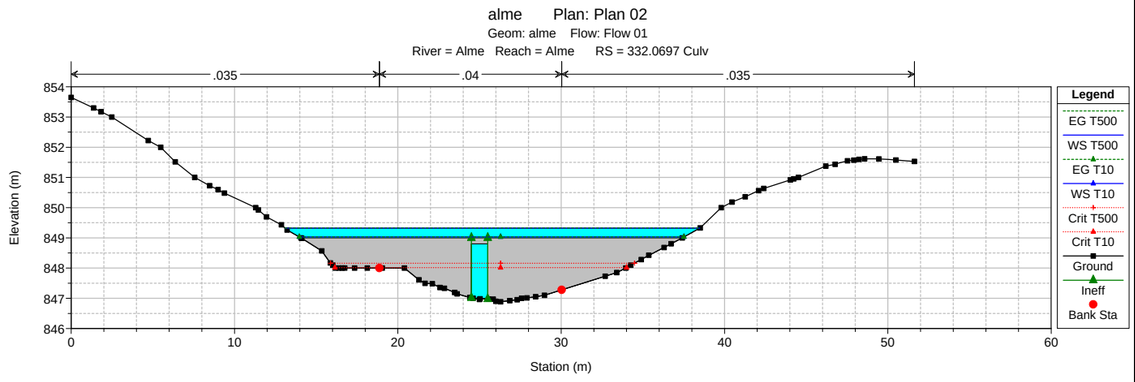
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Ineff
Bank Sta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Geom: alme Flow: Flow 01
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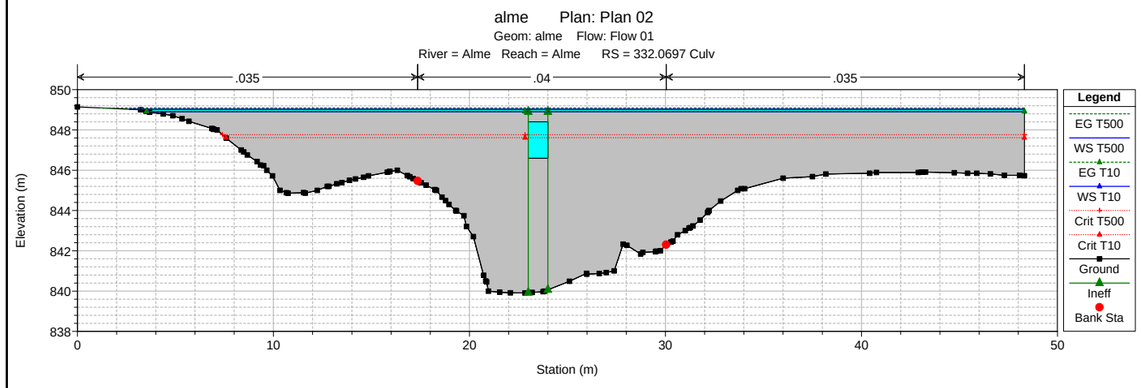
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Ineff
Bank Sta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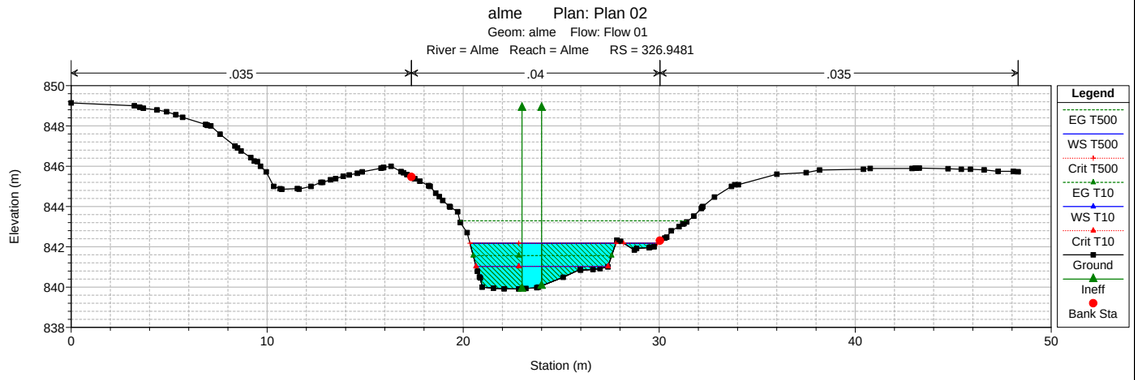
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 332.0697 Culv
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Ineff
Bank Sta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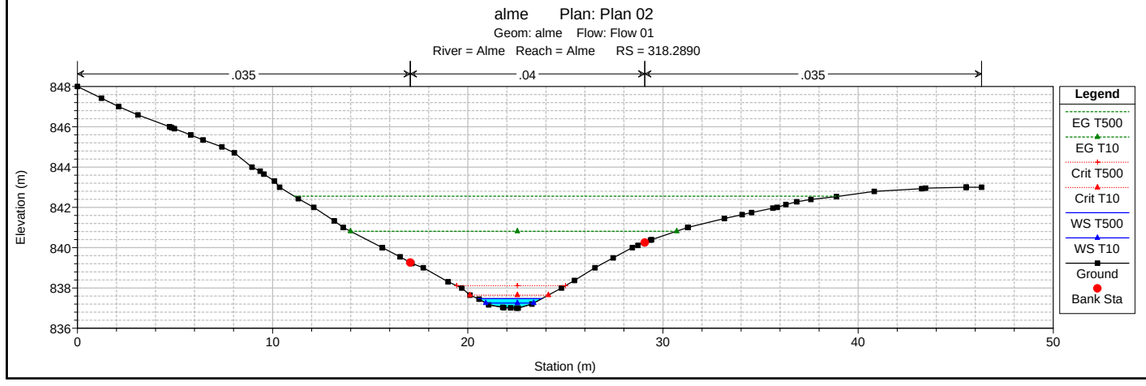
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
Crit T500
EG T10
WS T10
Crit T10
Ground
Ineff
Bank Sta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.035
.04
.035
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Station (m)
Legend
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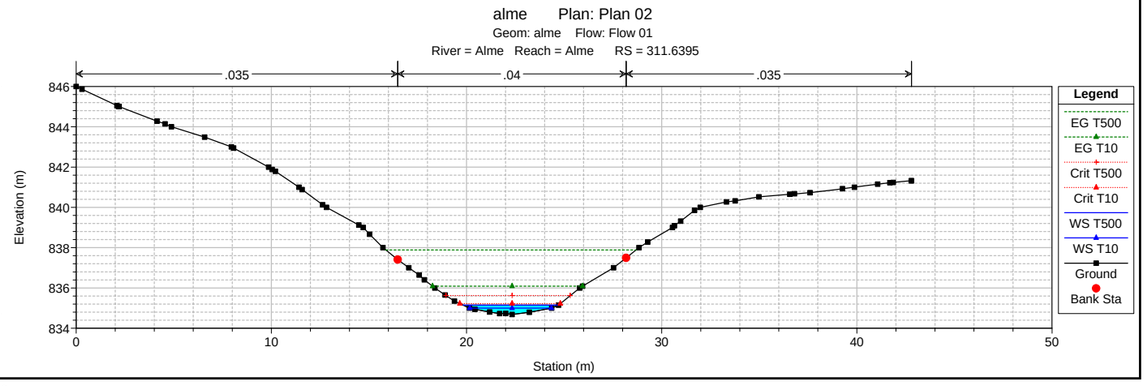
EG T10
Crit T500
Crit T10
WS T500
WS T10
Ground
Bank Sta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.035
.04
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Elevation (m)
Station (m)
Legend
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EG T10
Crit T500
Crit T10
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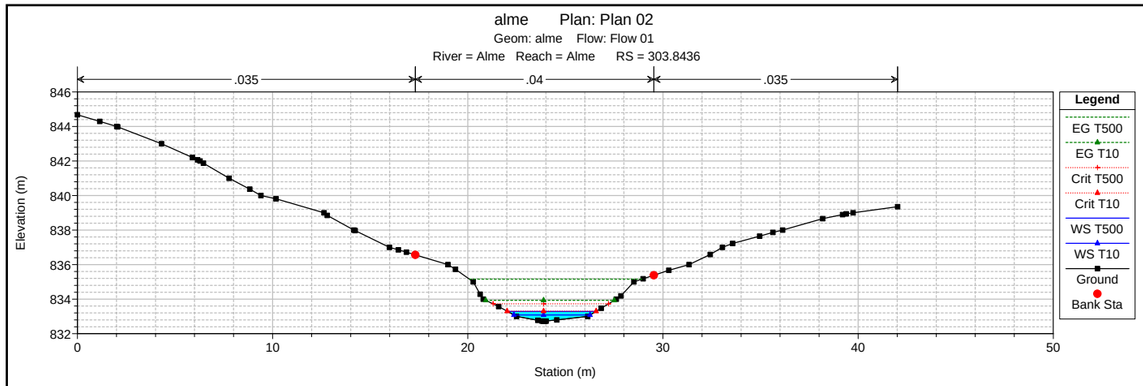
Ground
Bank Sta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Station (m)
Legend
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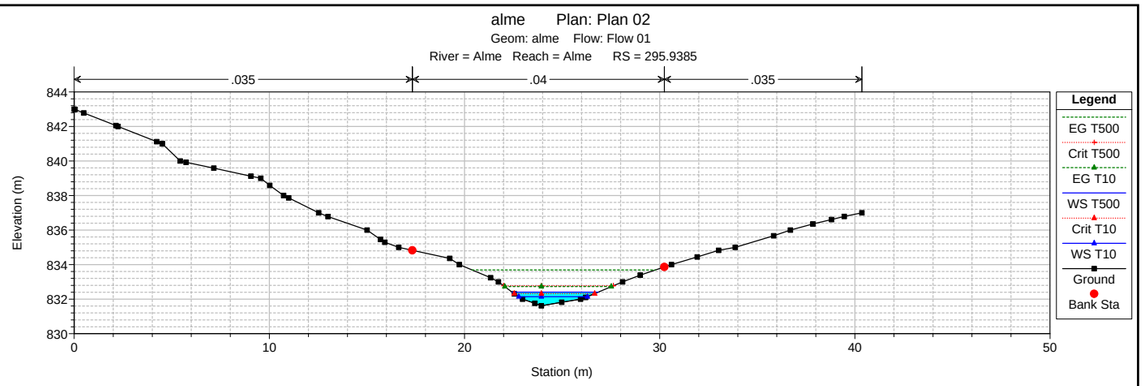
EG T10
Crit T500
Crit T10
WS T500
WS T10
Ground
Bank Sta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Geom: alme Flow: Flow 01
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.035
.04
.035
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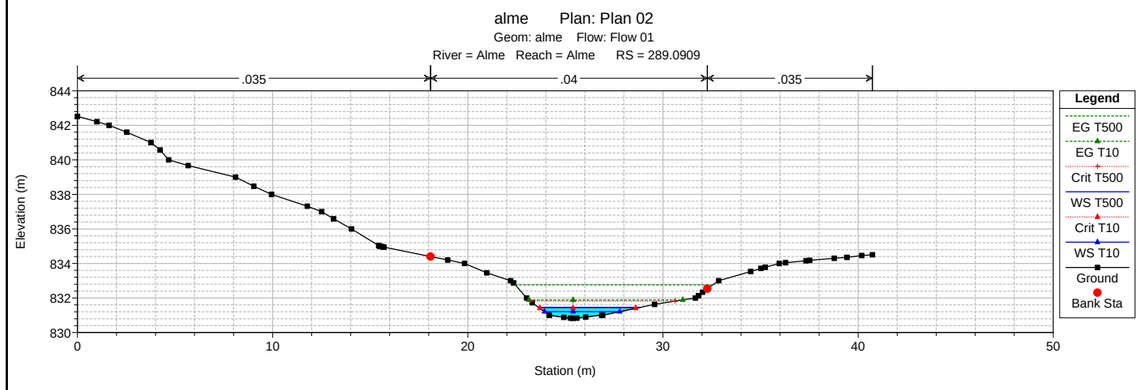
Station (m)
Legend
EG T500
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Bank Sta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Geom: alme Flow: Flow 01
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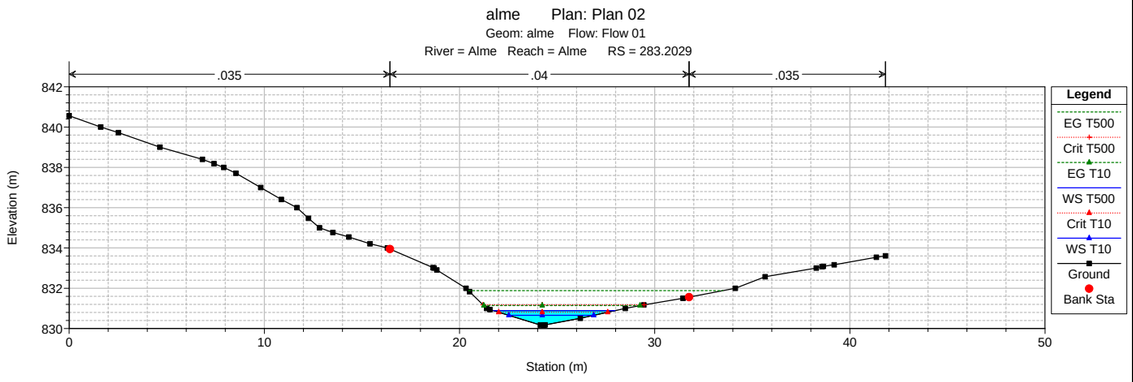
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
WS T500
Crit T10
WS T10
Ground
Bank Sta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Geom: alme Flow: Flow 01
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.035
.04
.035
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Station (m)
Legend
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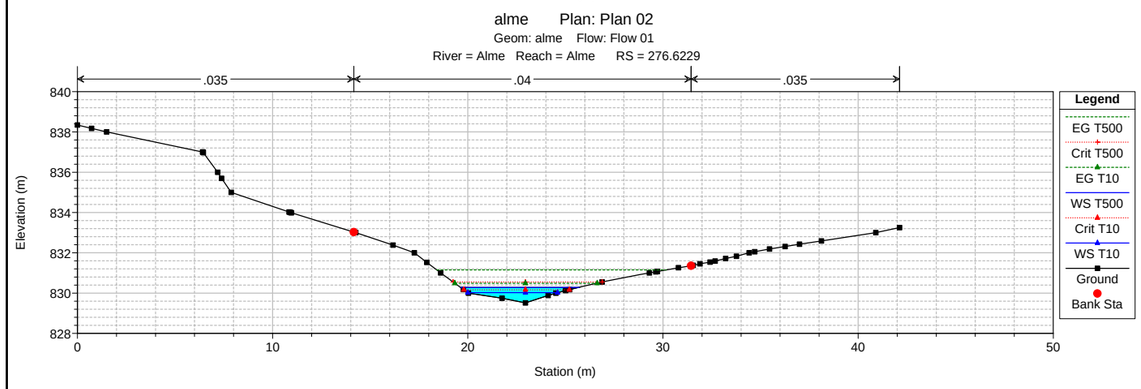
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Bank Sta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Geom: alme Flow: Flow 01
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.04
.035
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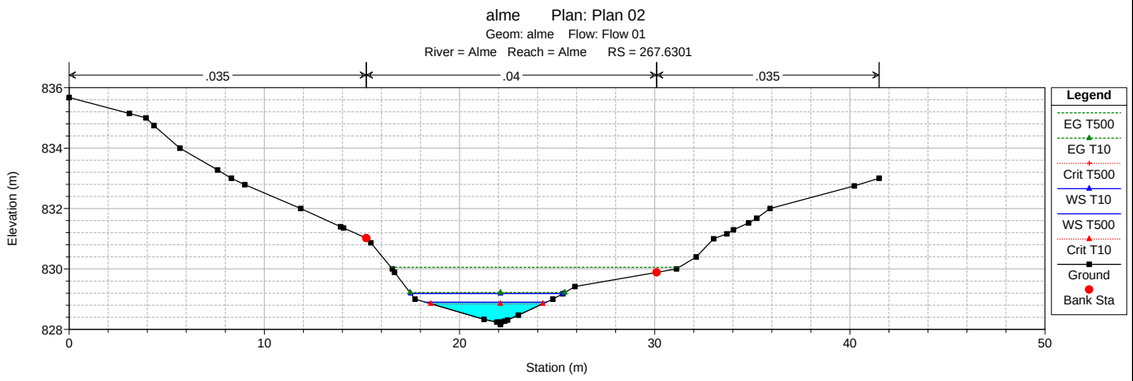
Station (m)
Legend
EG T500
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Bank Sta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Geom: alme Flow: Flow 01
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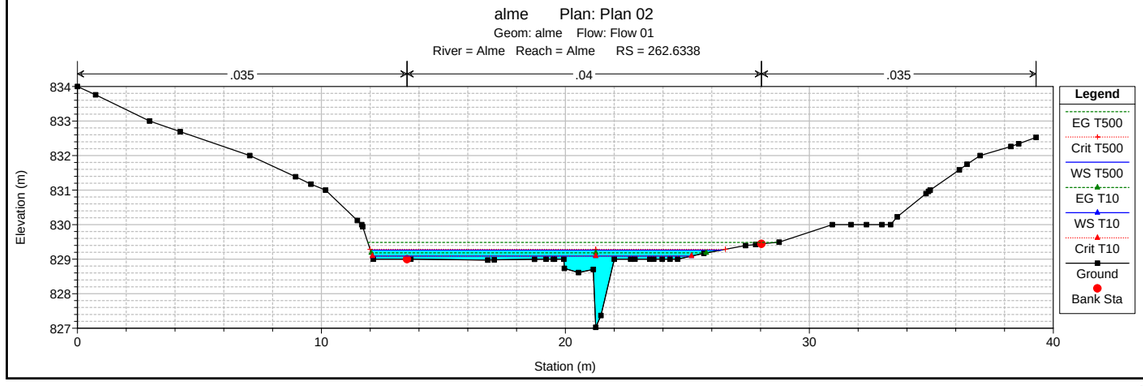
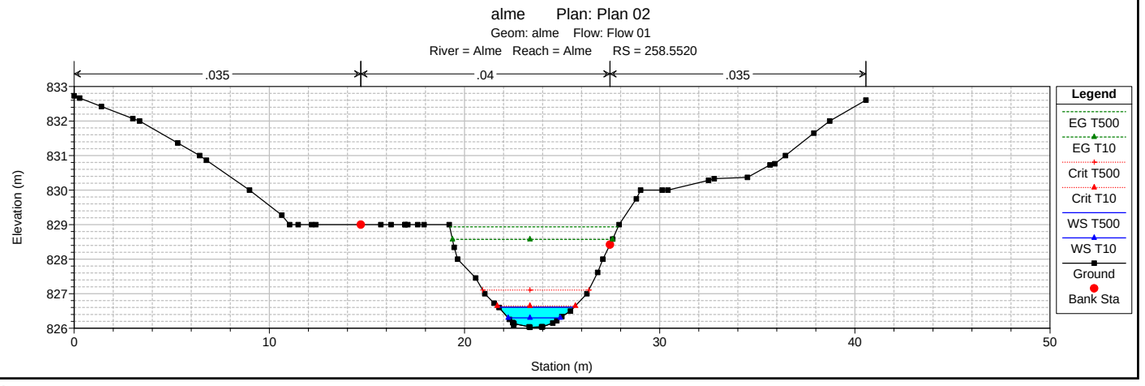
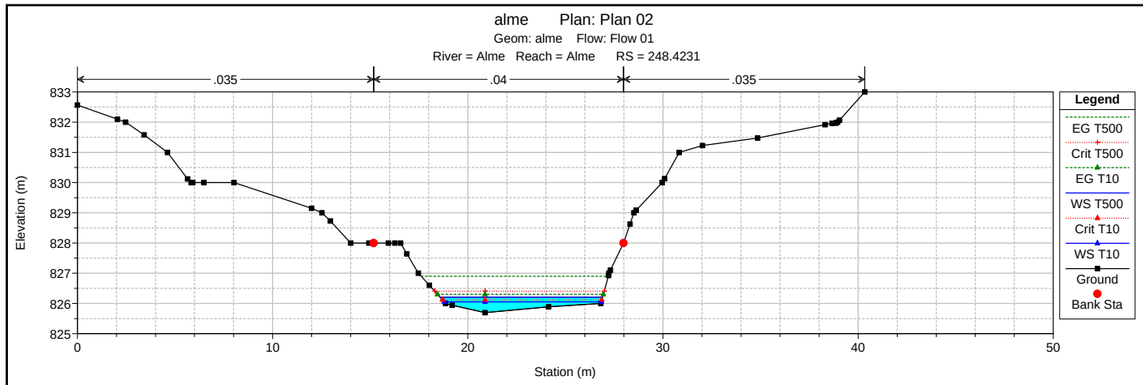
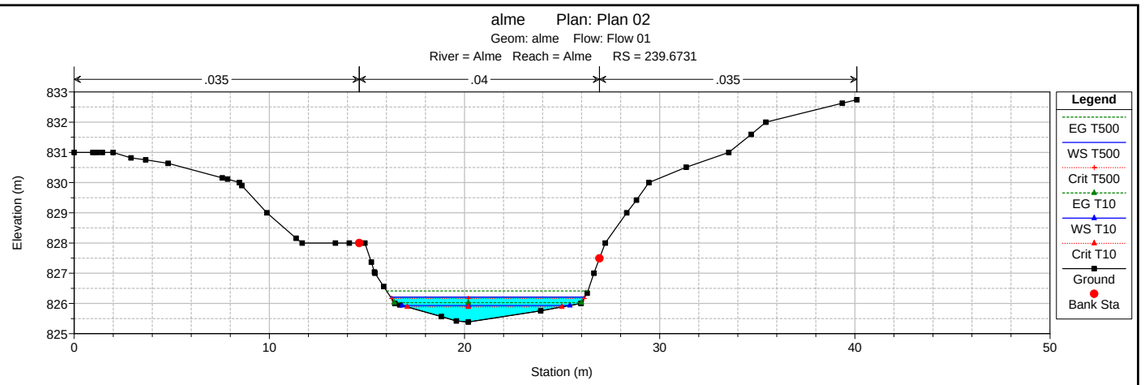
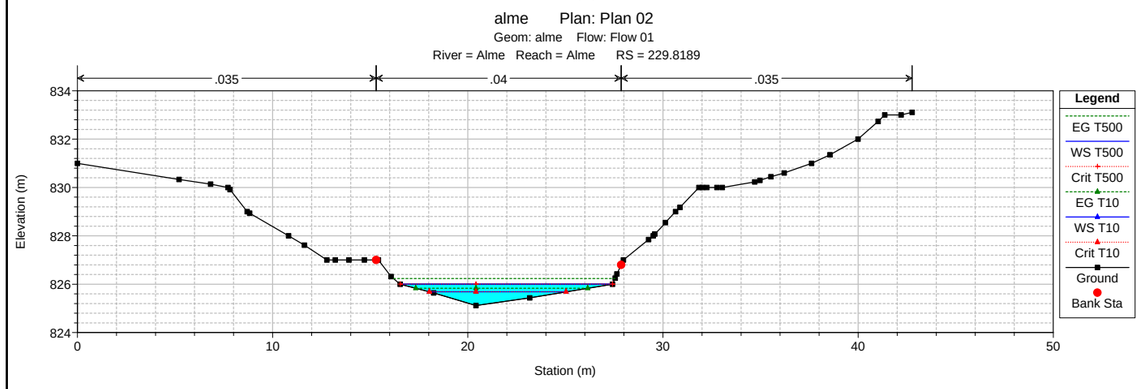
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
WS T10
WS T500
Crit T10
Ground
Bank Sta

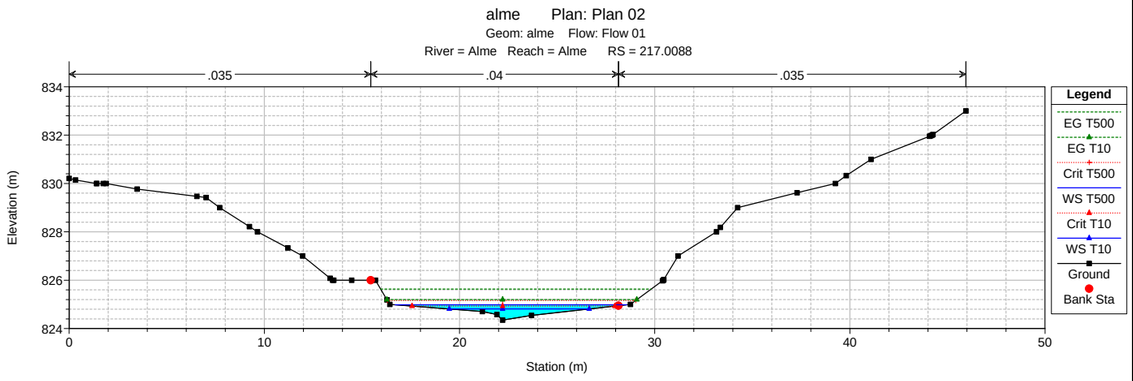

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 262.6338
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
WS T500
EG T10
WS T10
Crit T10
Ground
Bank Sta

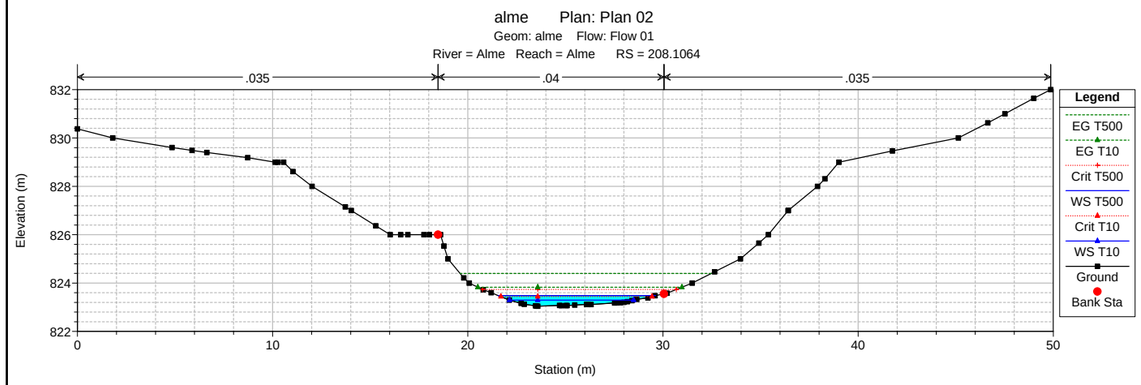

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 258.5520
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
Crit T10
WS T500
WS T10
Ground
Bank Sta

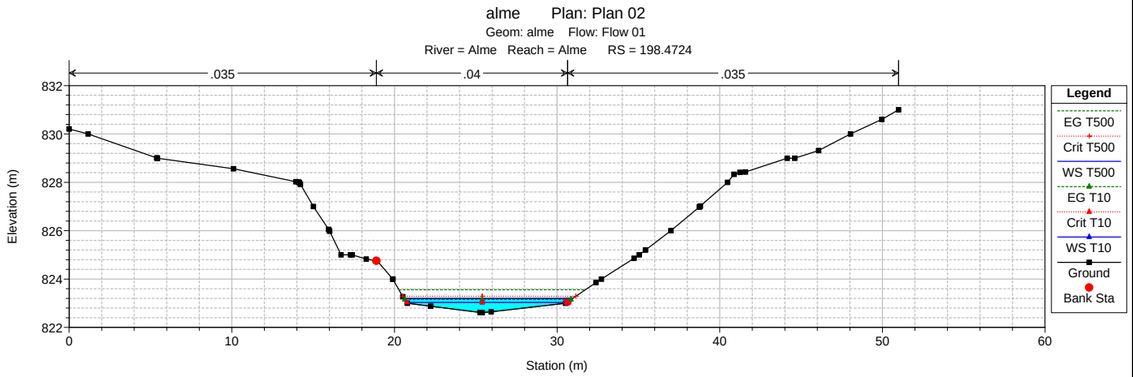

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 248.4231
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Bank Sta

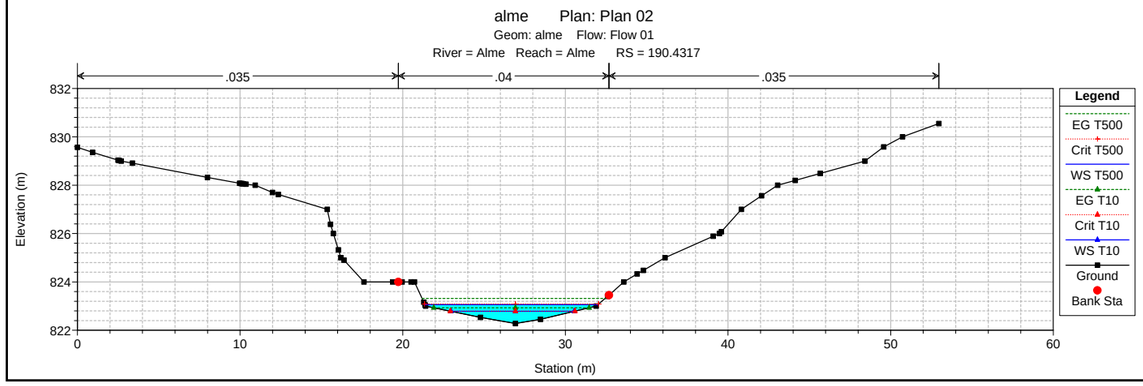

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 239.6731
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
Crit T500
EG T10
WS T10
Crit T10
Ground
Bank Sta

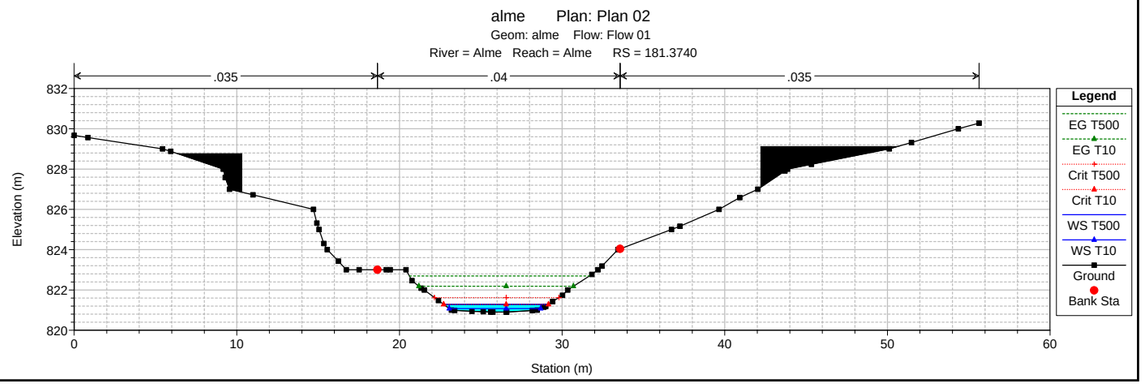

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 229.8189
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
Crit T500
EG T10
WS T10
Crit T10
Ground
Bank Sta

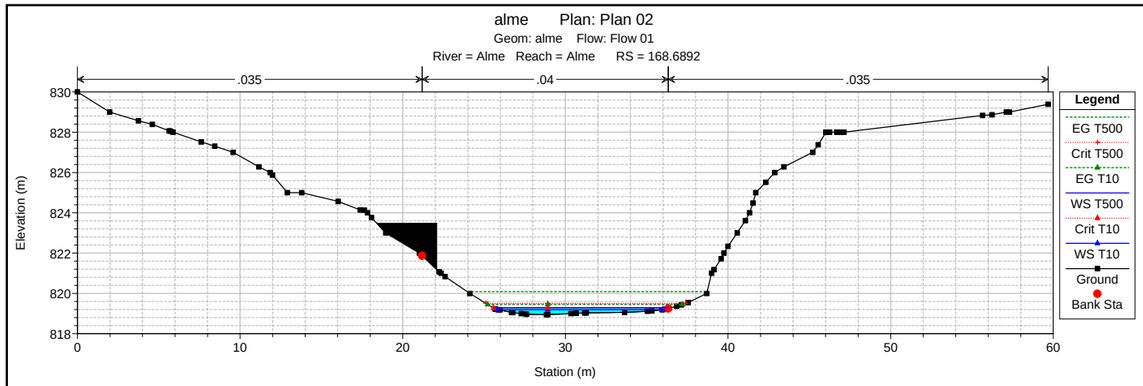

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 217.0088
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
WS T500
Crit T10
WS T10
Ground
Bank Sta

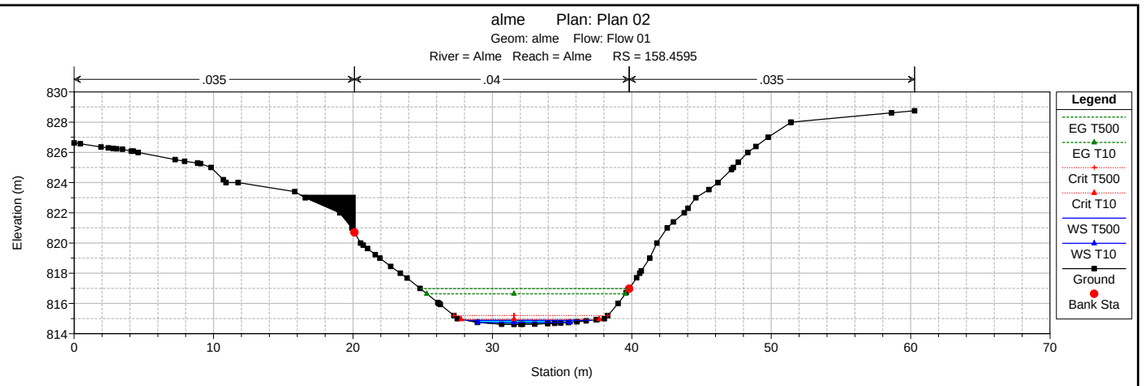

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 208.1064
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
WS T500
Crit T10
WS T10
Ground
Bank Sta

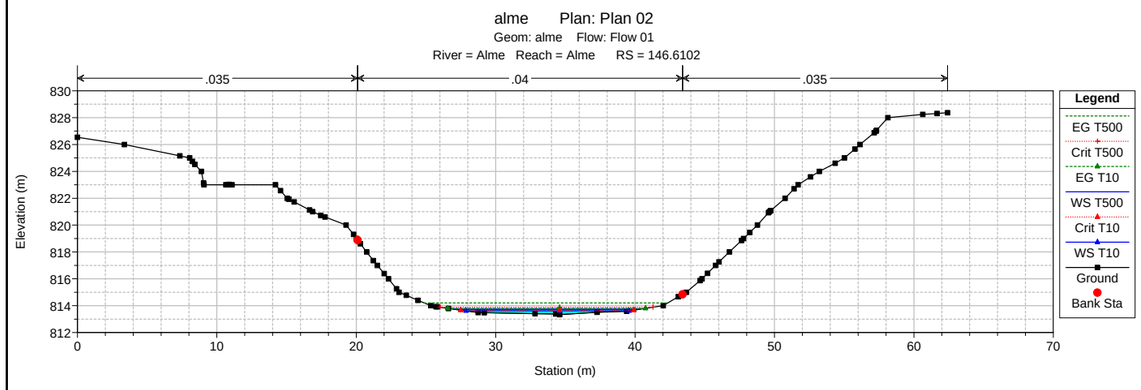

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 198.4724
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
WS T500
EG T10
Crit T10
WS T10
Ground
Bank Sta

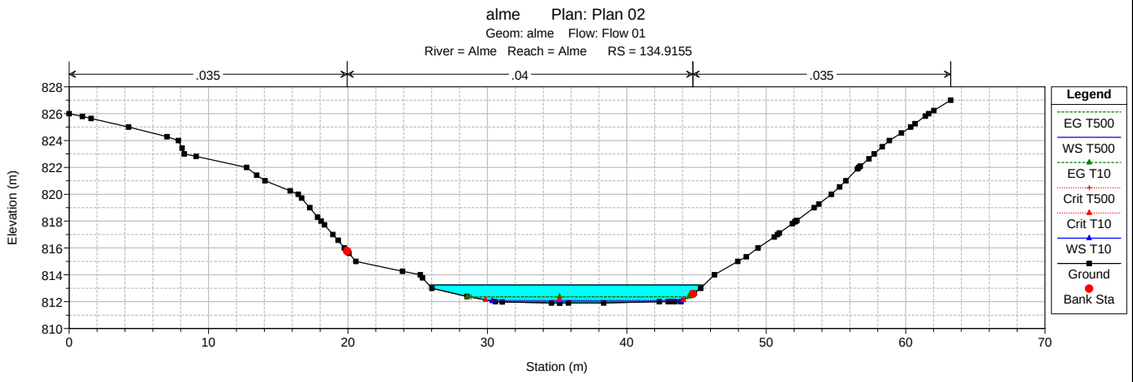

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 190.4317
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
WS T500
EG T10
Crit T10
WS T10
Ground
Bank Sta

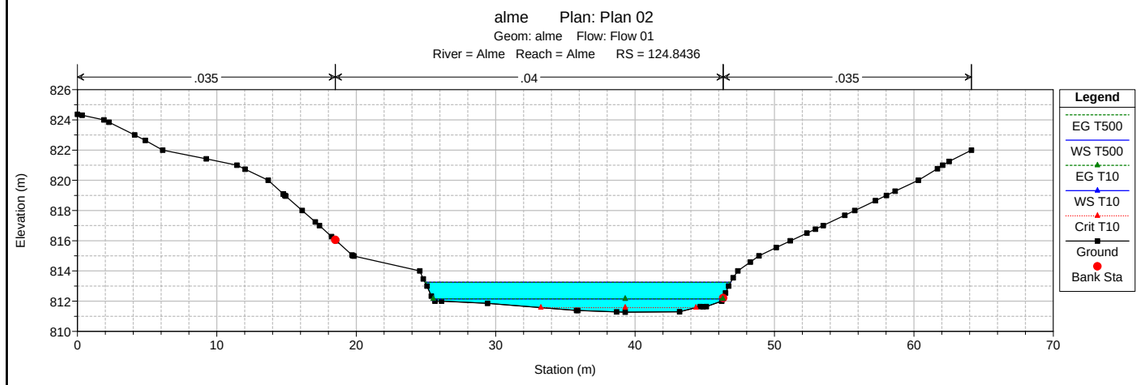

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 181.3740
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
Crit T10
WS T500
WS T10
Ground
Bank Sta

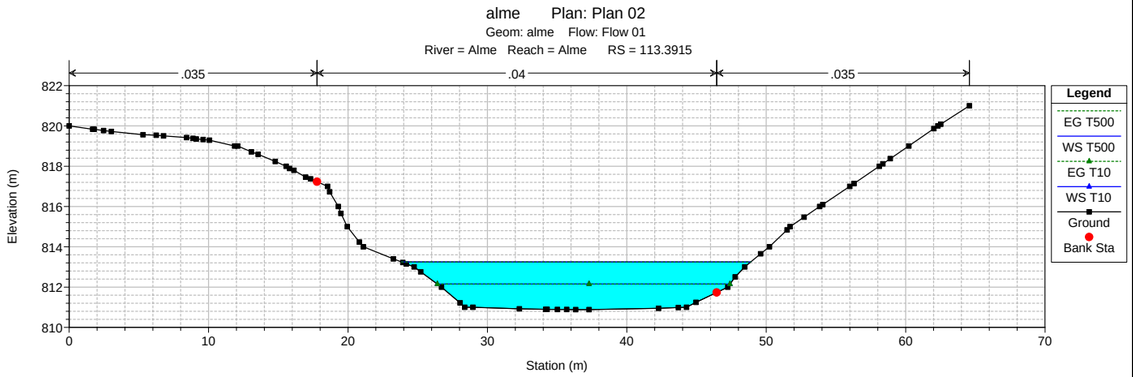

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 168.6892
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Bank Sta

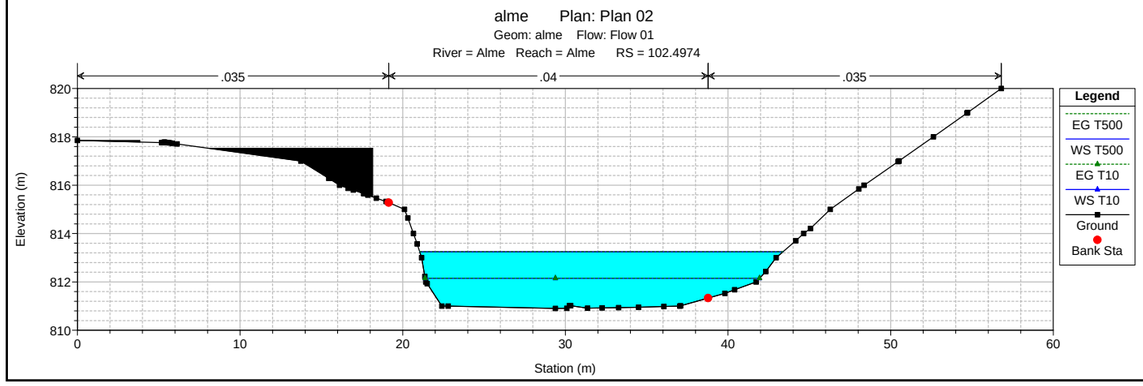

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 158.4595
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
Crit T10
WS T500
WS T10
Ground
Bank Sta

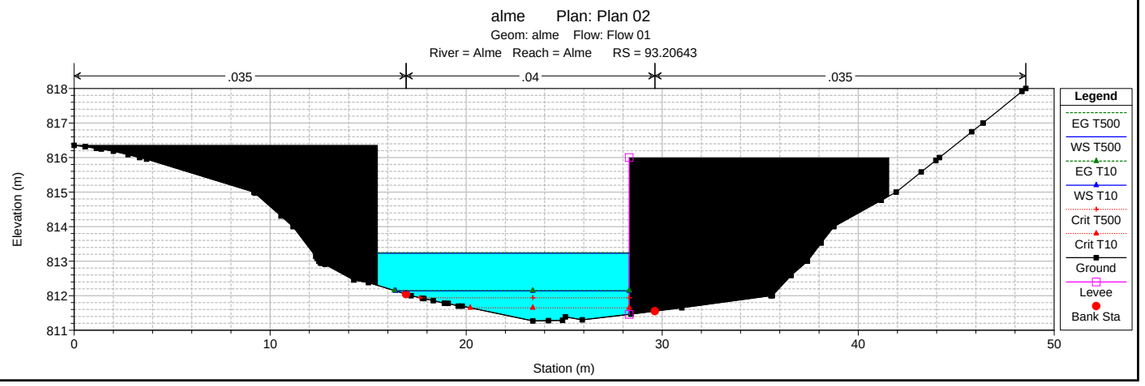

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 146.6102
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Bank Sta

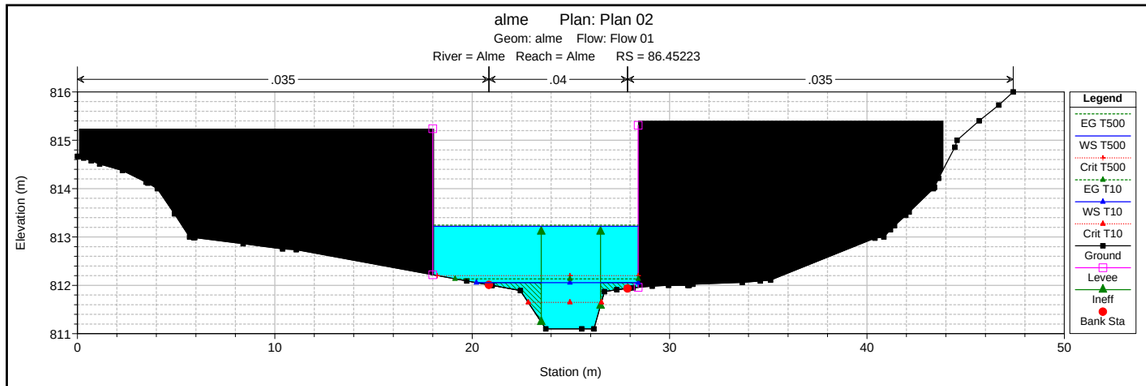

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 134.9155
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
Crit T500
Crit T10
WS T10
Ground
Bank Sta

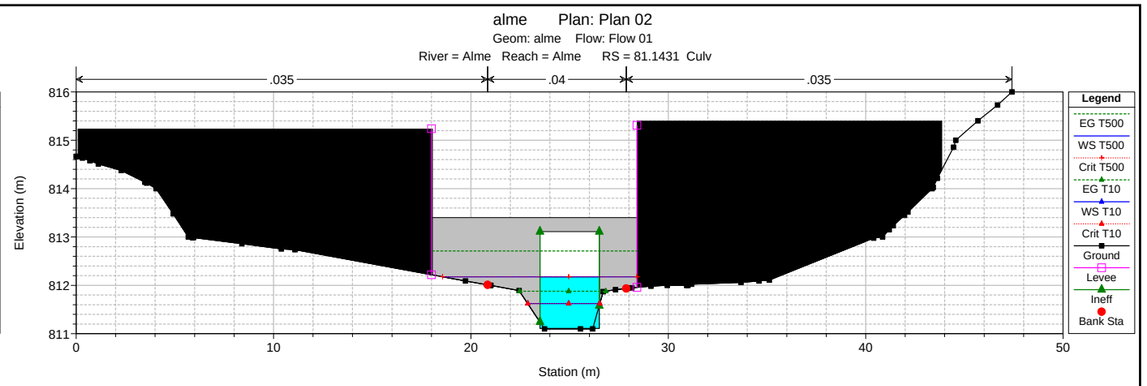

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 124.8436
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Crit T10
Ground
Bank Sta

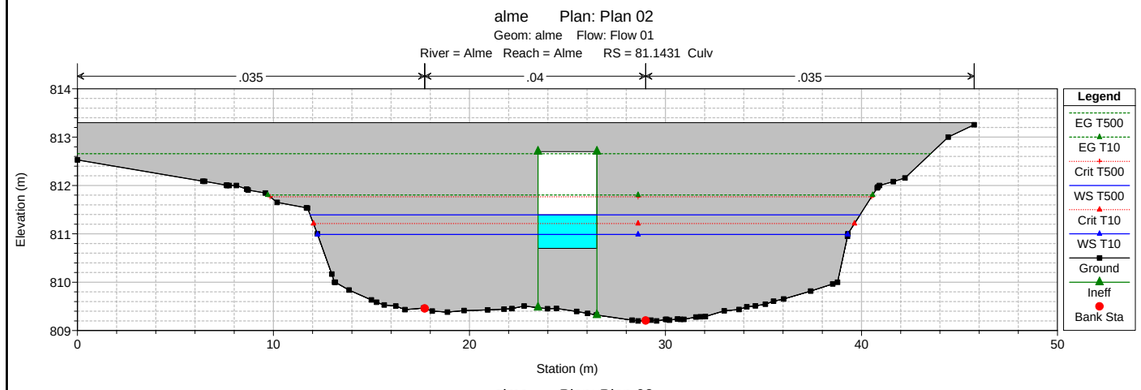

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 113.3915
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Ground
Bank Sta

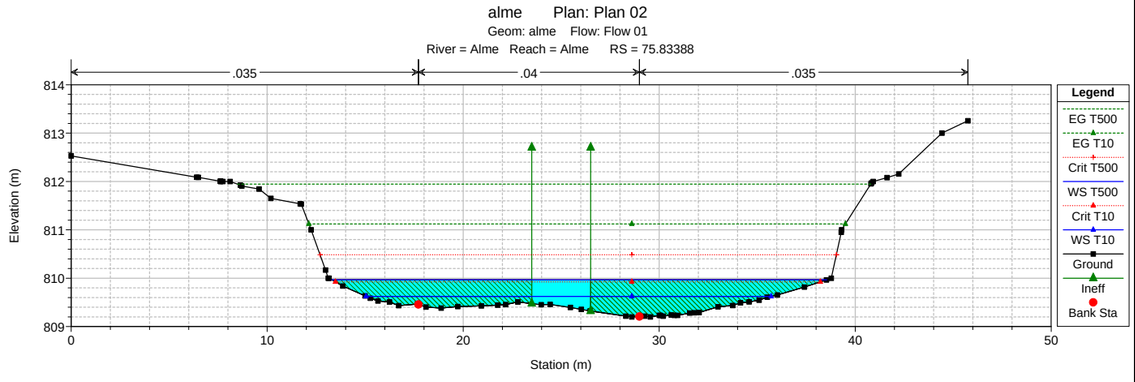

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 102.4974
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Ground
Bank Sta

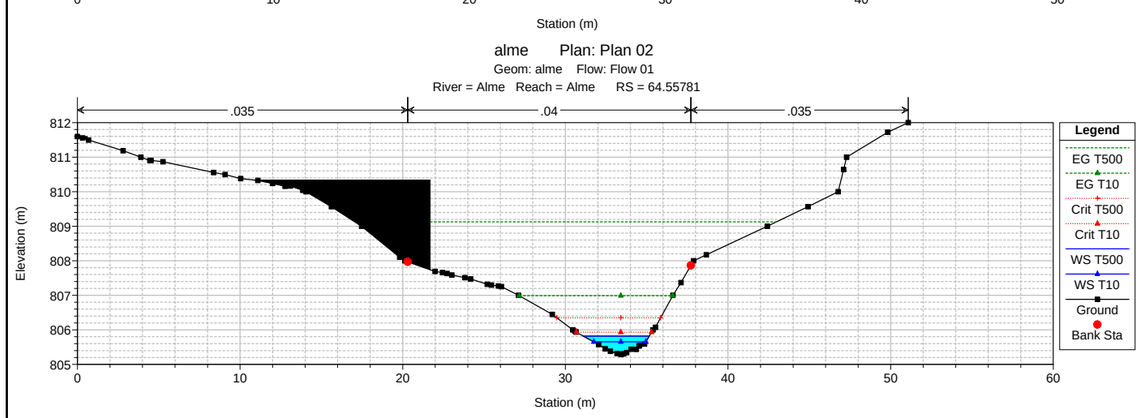

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 93.20643
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
EG T10
WS T10
Crit T500
Crit T10
Ground
Levee
Bank Sta

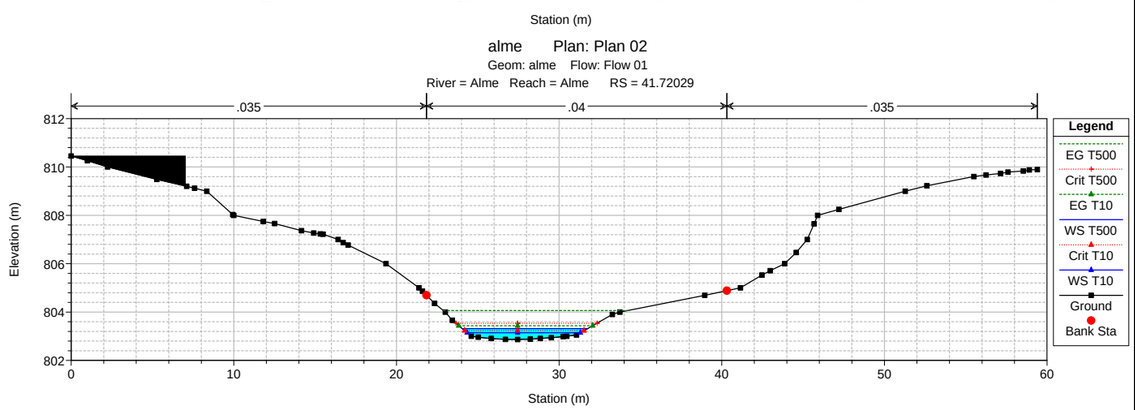

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 86.45223
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
Crit T500
EG T10
WS T10
Crit T10
Ground
Levee
Ineff
Bank Sta

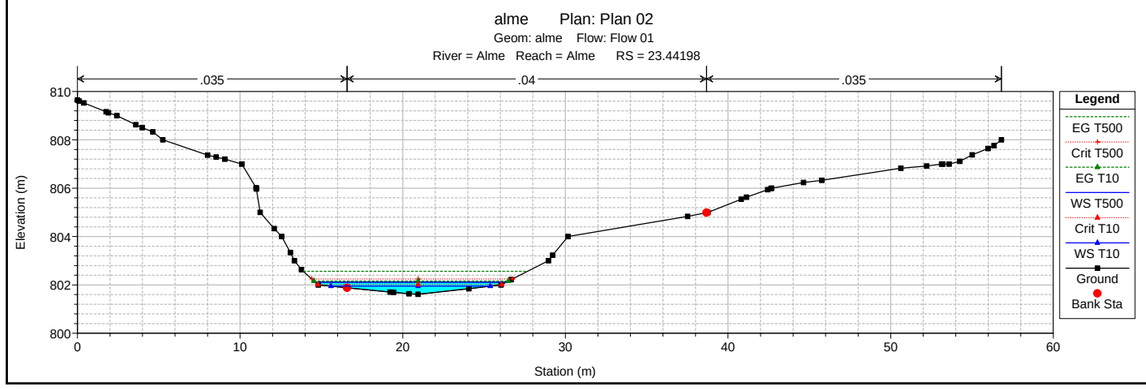

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 81.1431 Culv
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
WS T500
Crit T500
EG T10
WS T10
Crit T10
Ground
Levee
Ineff
Bank Sta

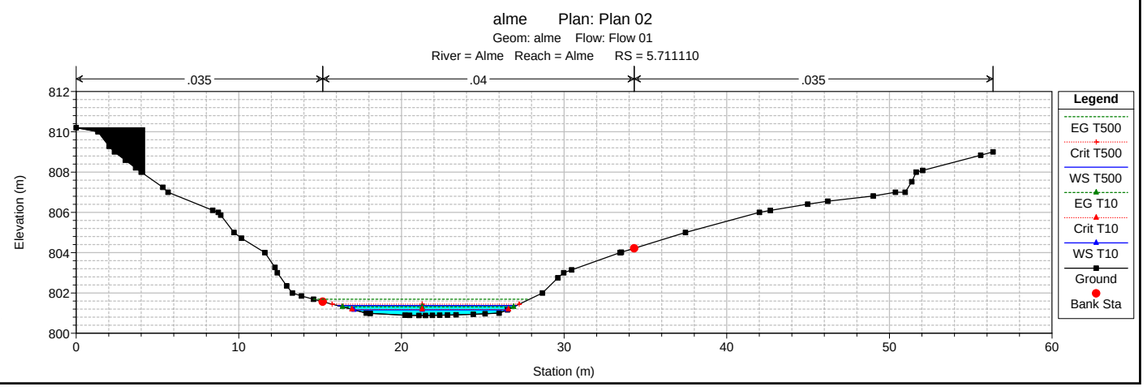

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 81.1431 Culv
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
WS T500
Crit T10
WS T10
Ground
Ineff
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 75.83388
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
WS T500
Crit T10
WS T10
Ground
Ineff
Bank Sta

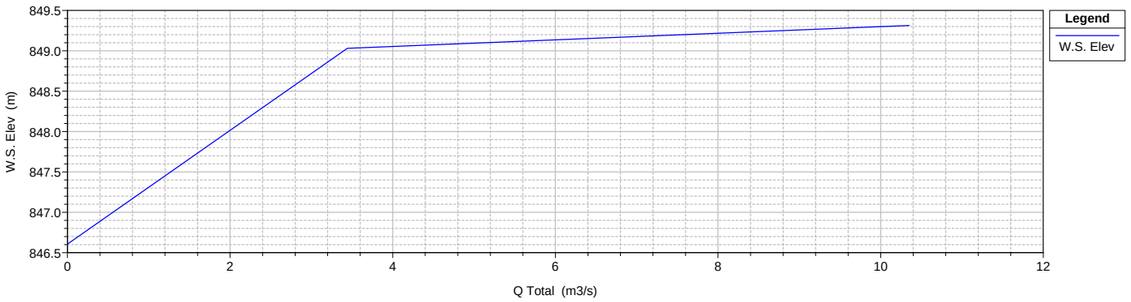

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 64.55781
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
Crit T10
WS T500
WS T10
Ground
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 41.72029
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Bank Sta

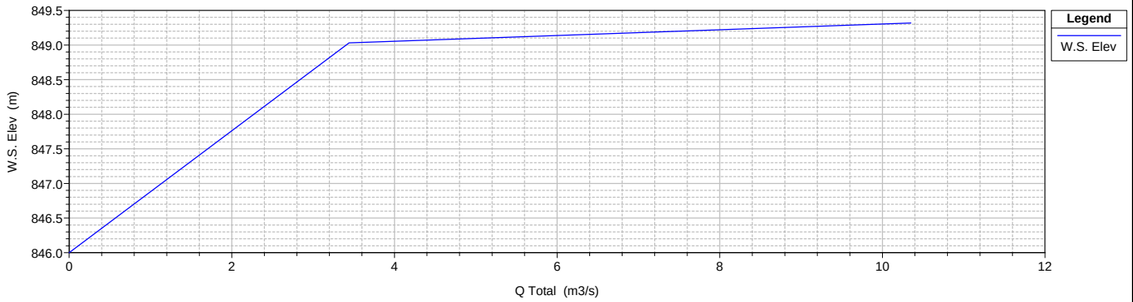

alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 23.44198
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Bank Sta


alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 5.711110
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
Crit T500
WS T500
EG T10
Crit T10
WS T10
Ground
Bank Sta

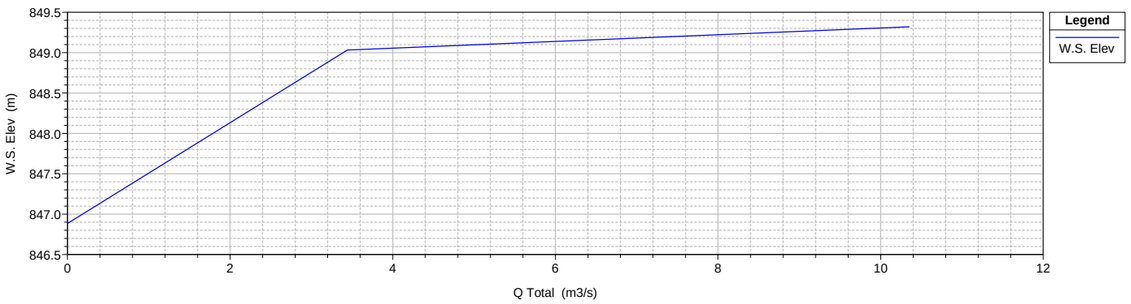
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 346.0286



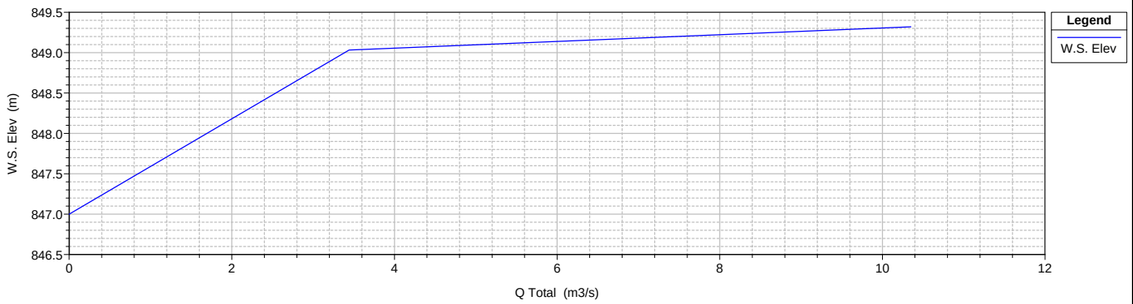
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 340.8620



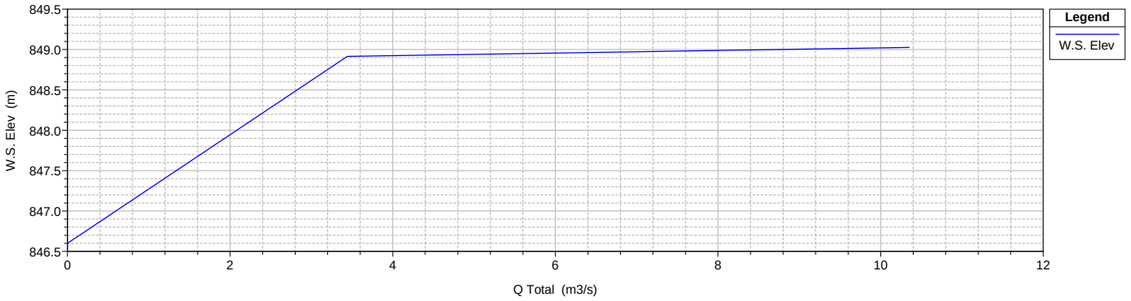
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 337.1913



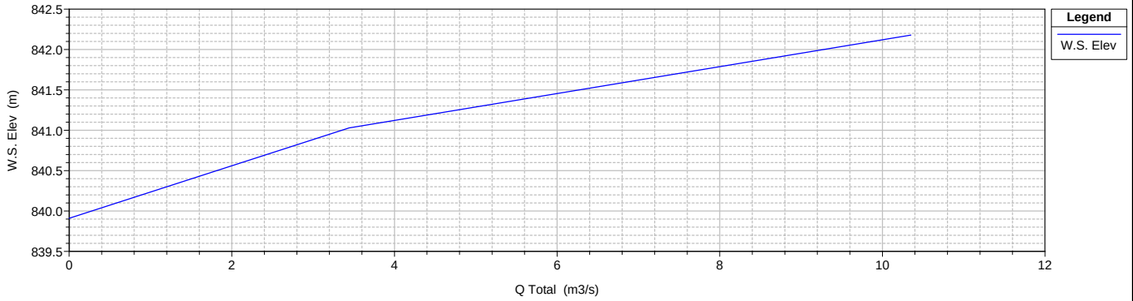
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 332.0697 Culv



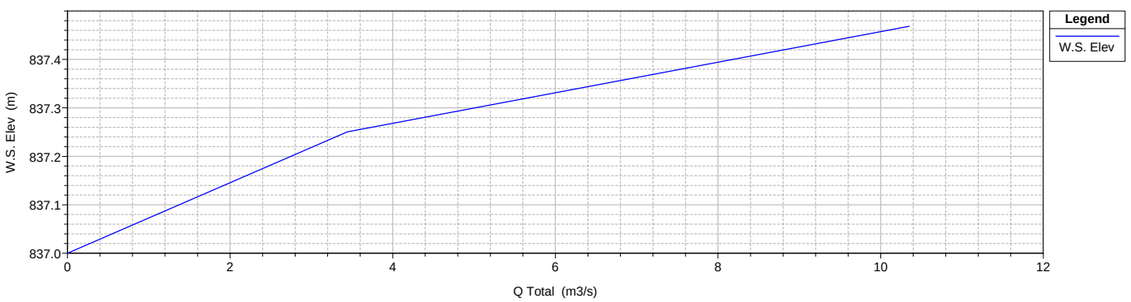
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 332.0697 Culv



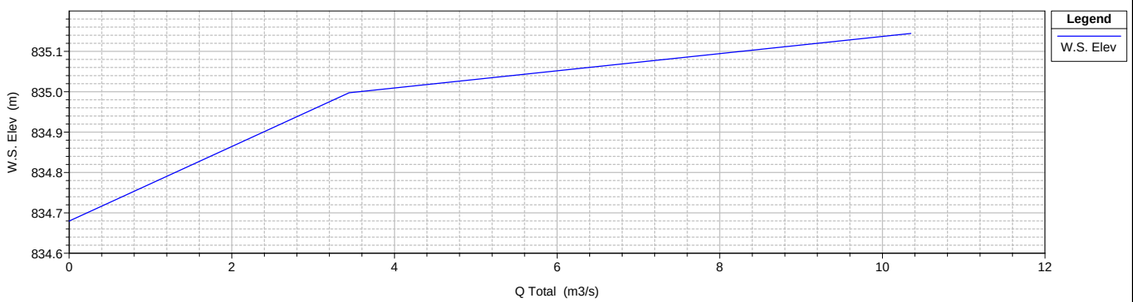
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 326.9481



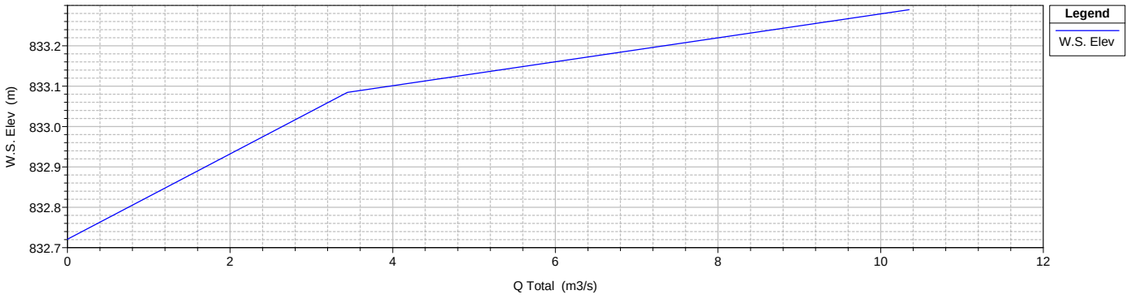
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 318.2890



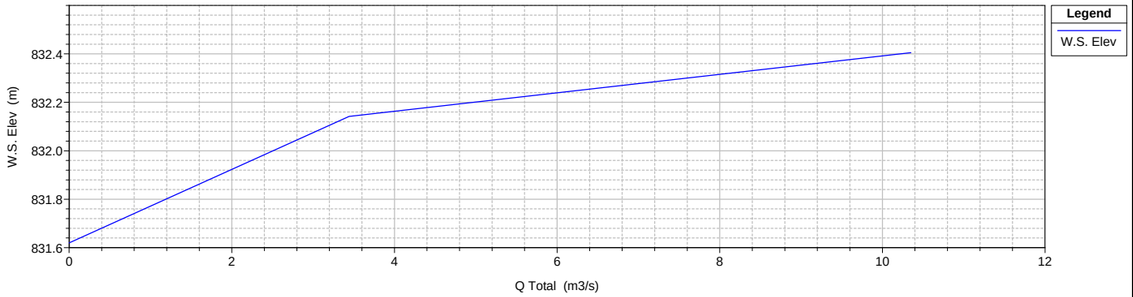
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 311.6395



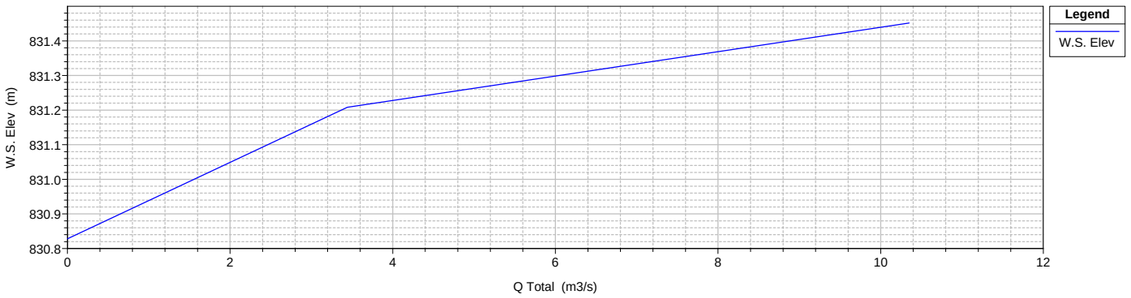
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 303.8436



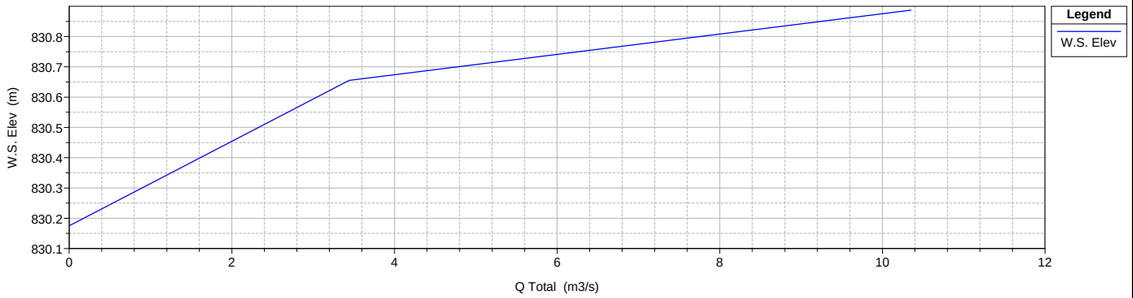
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 295.9385



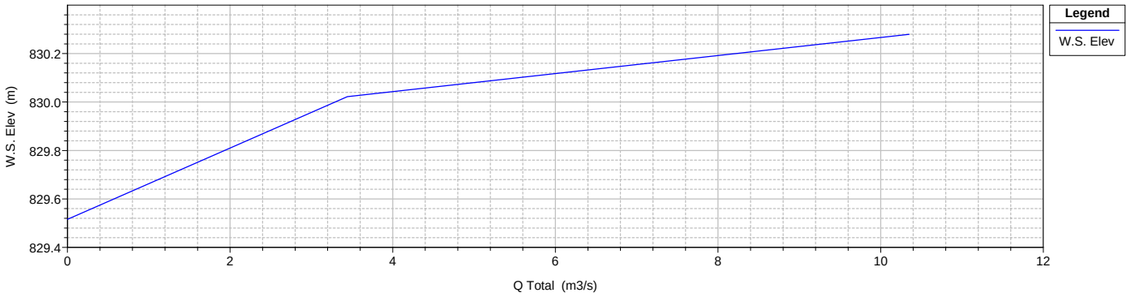
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 289.0909



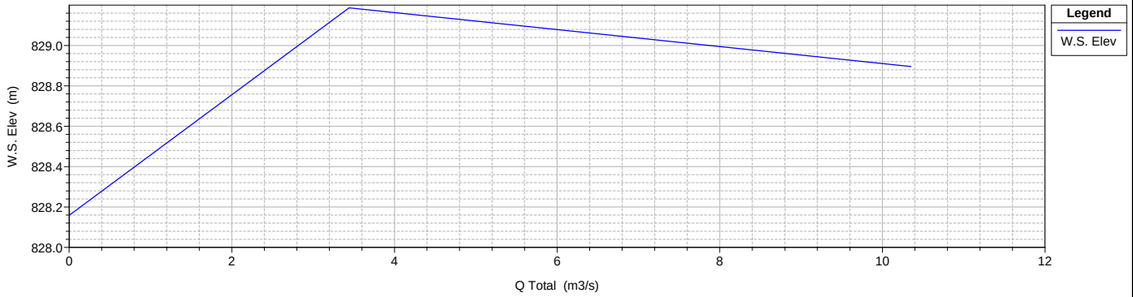
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 283.2029



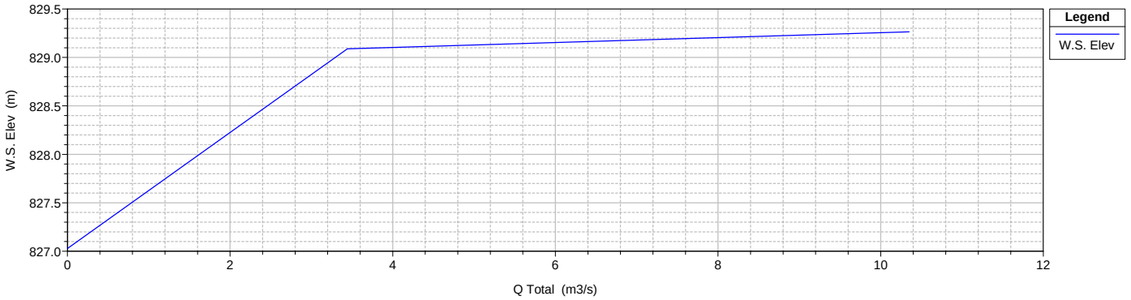
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 276.6229



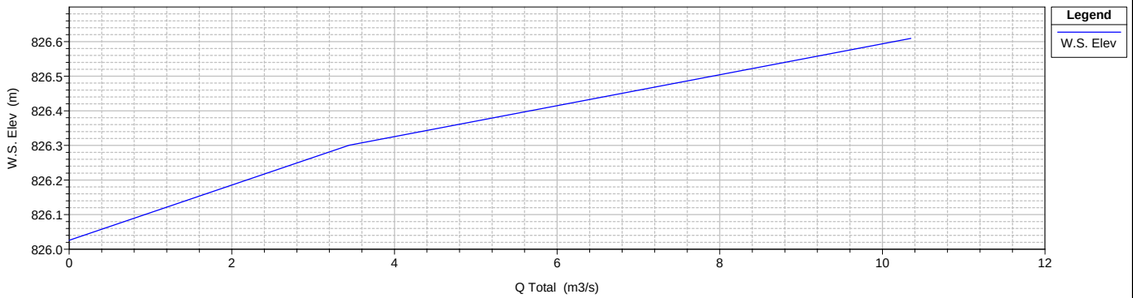
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 267.6301



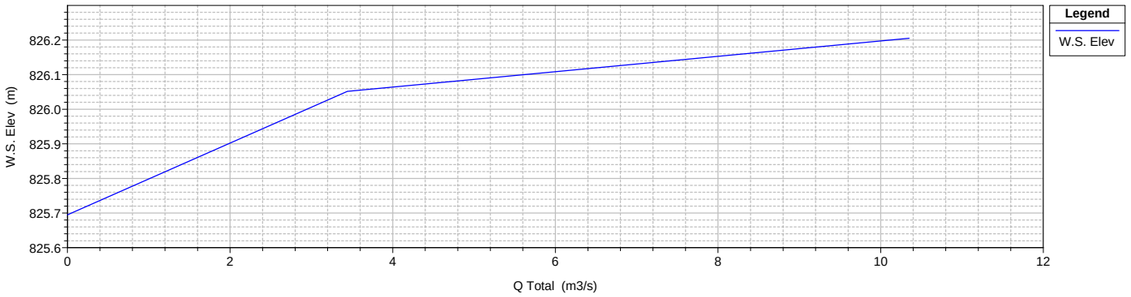
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 262.6338



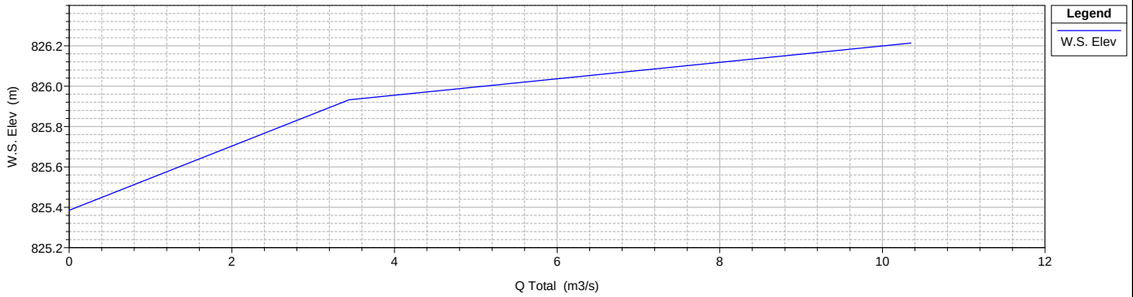
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 258.5520



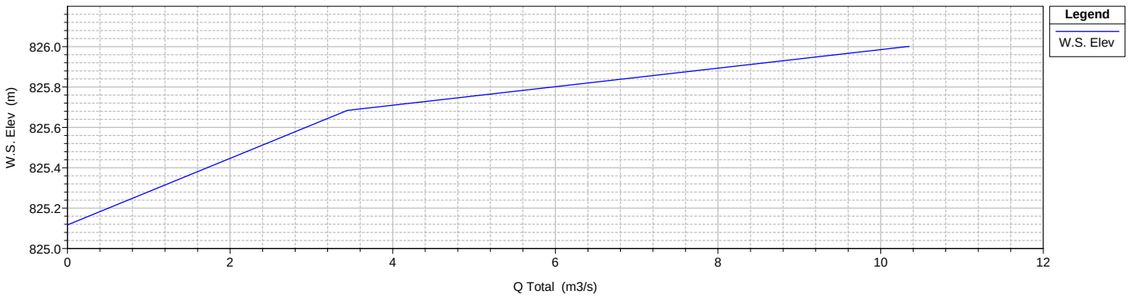
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 248.4231



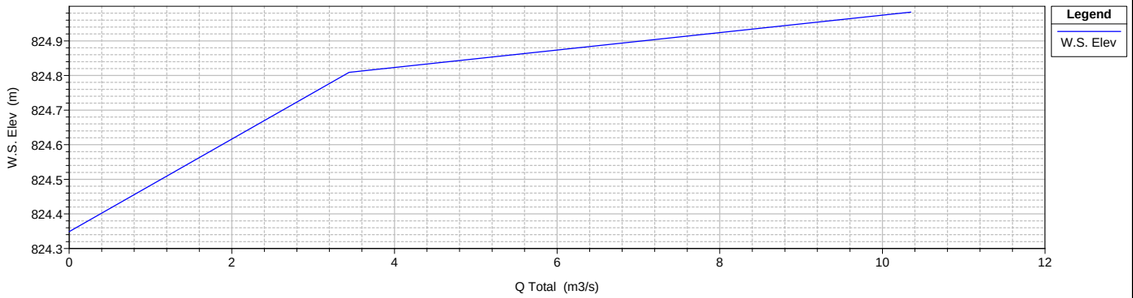
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 239.6731



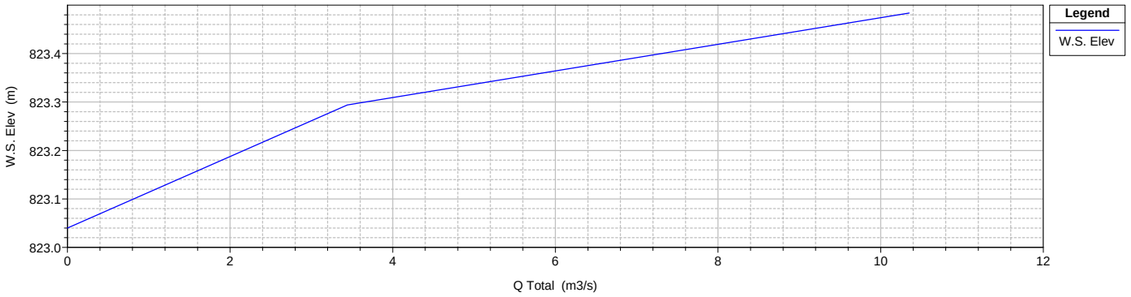
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 229.8189



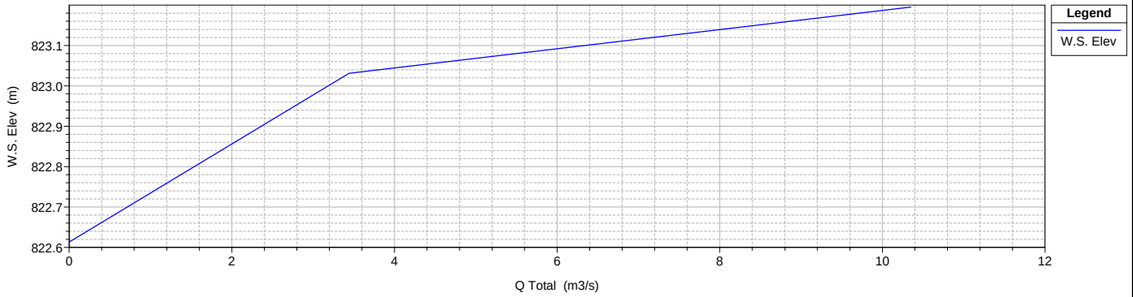
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 217.0088



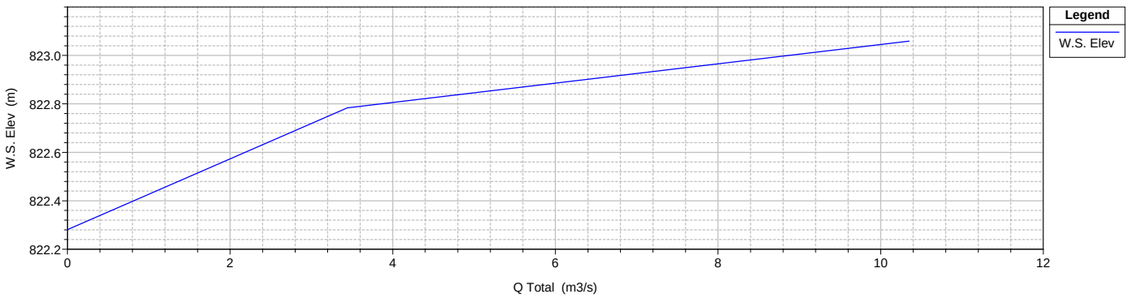
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 208.1064



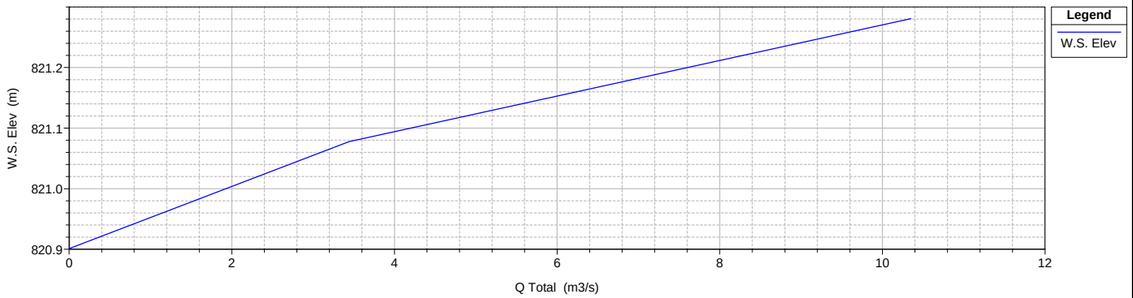
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 198.4724



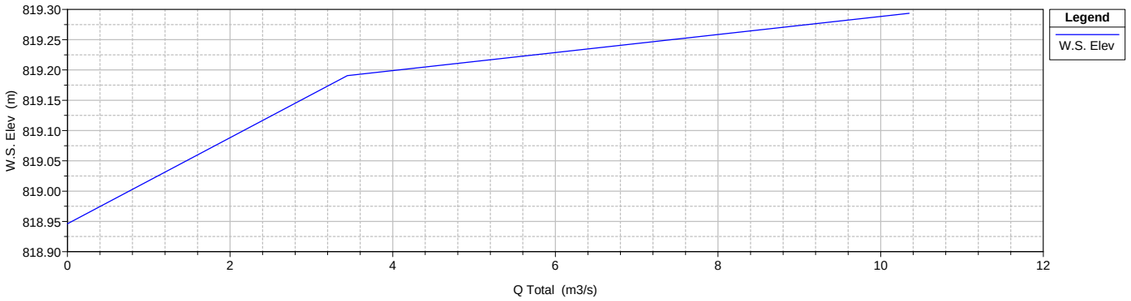
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 190.4317



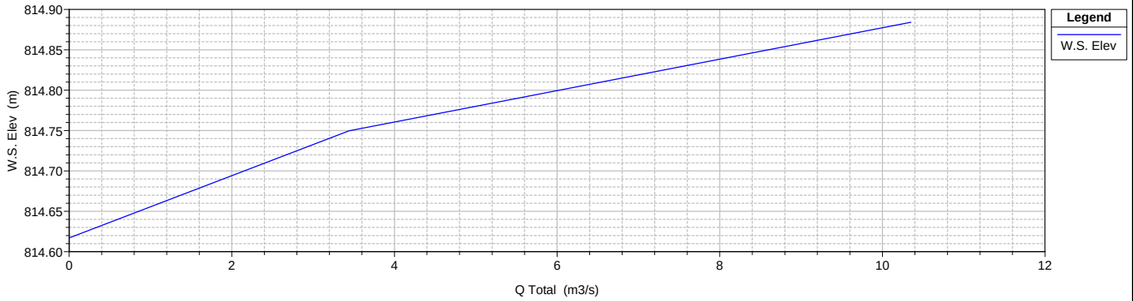
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 181.3740



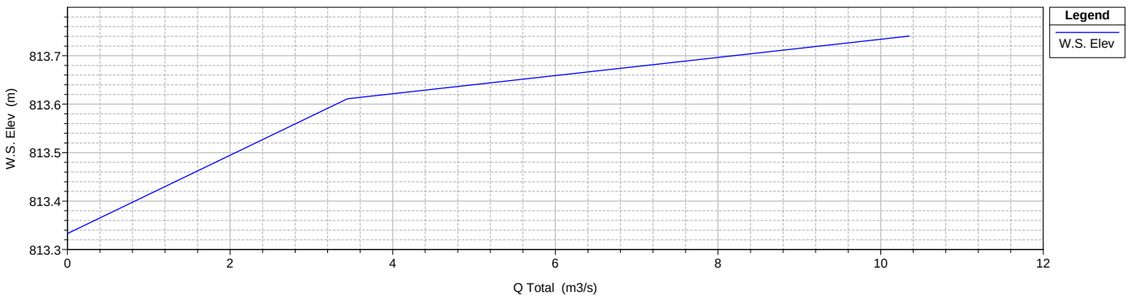
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 168.6892



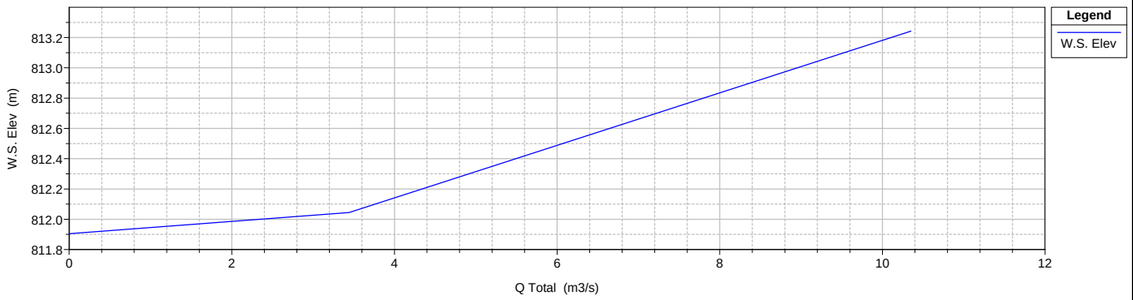
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 158.4595



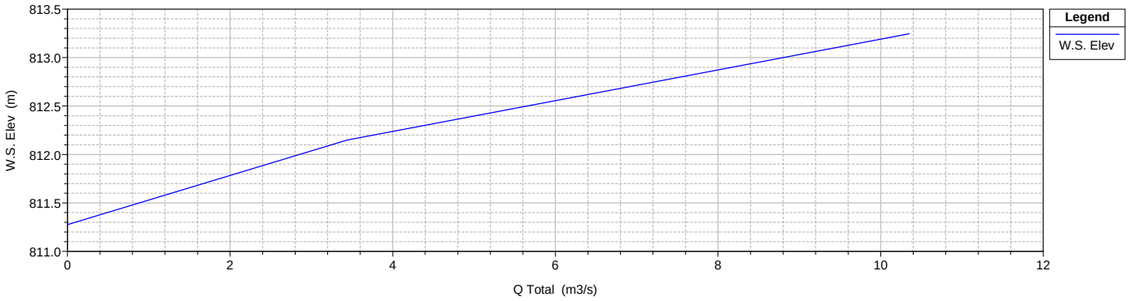
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 146.6102



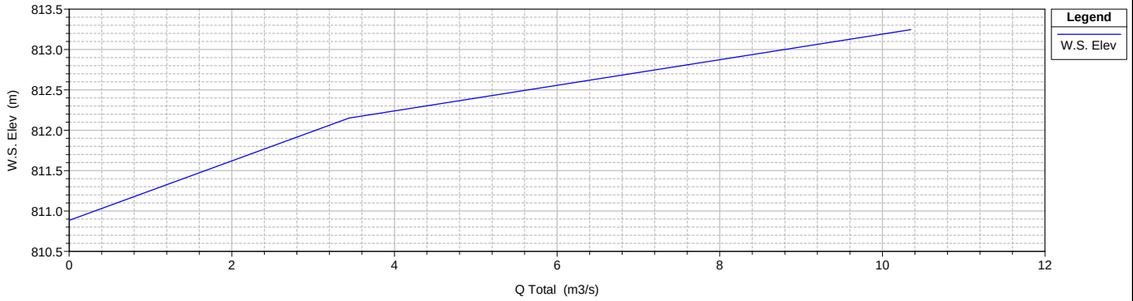
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 134.9155



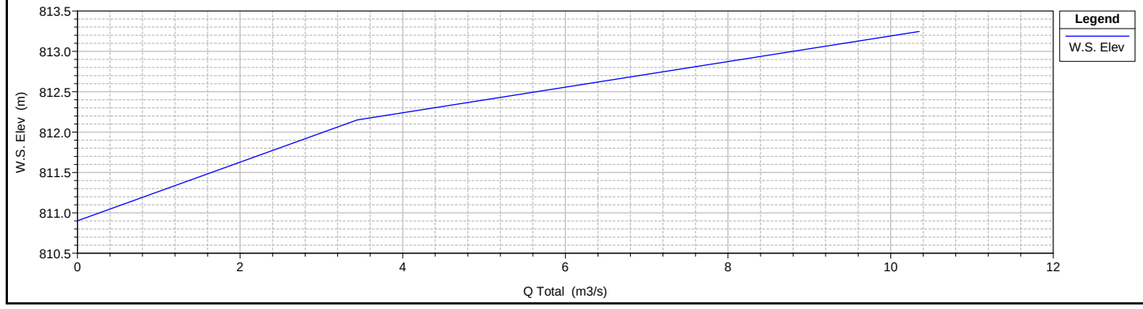
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 124.8436



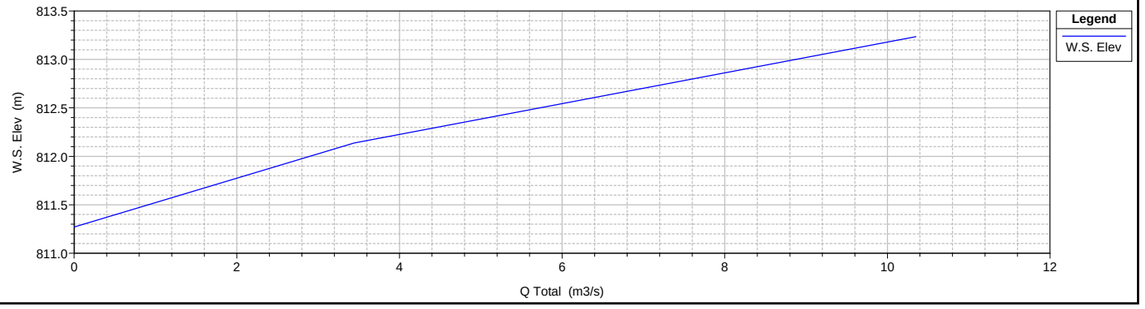
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 113.3915



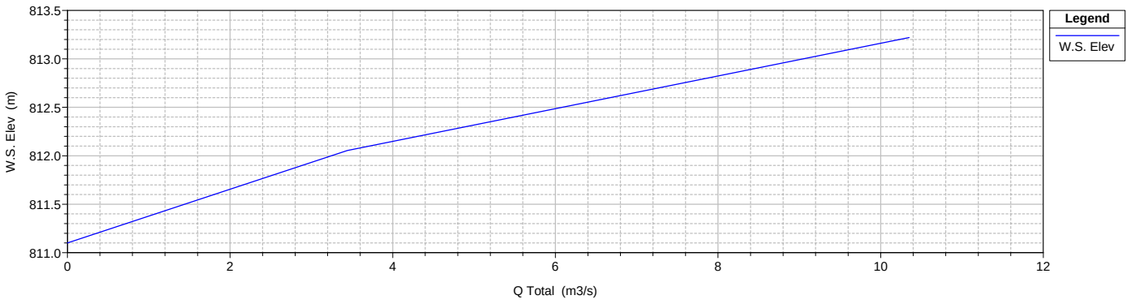
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 102.4974



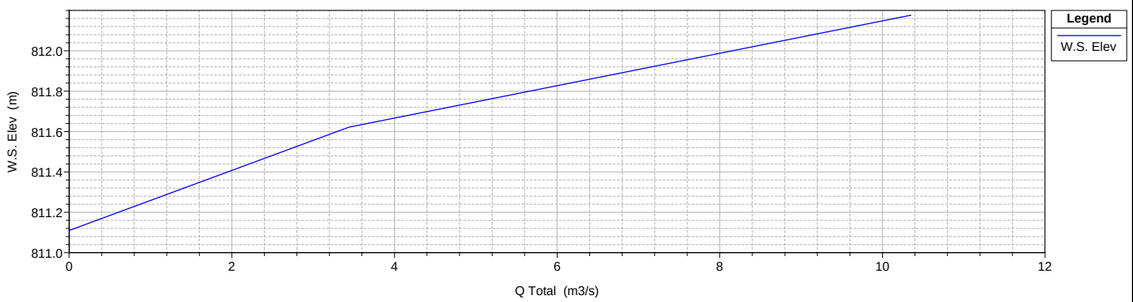
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 93.20643



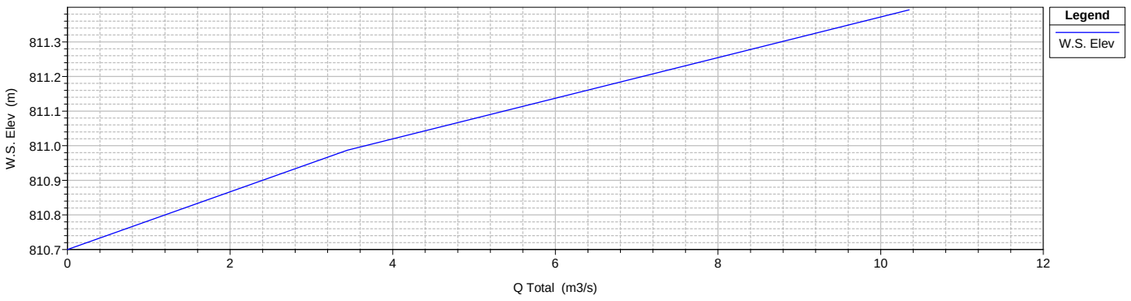
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 86.45223



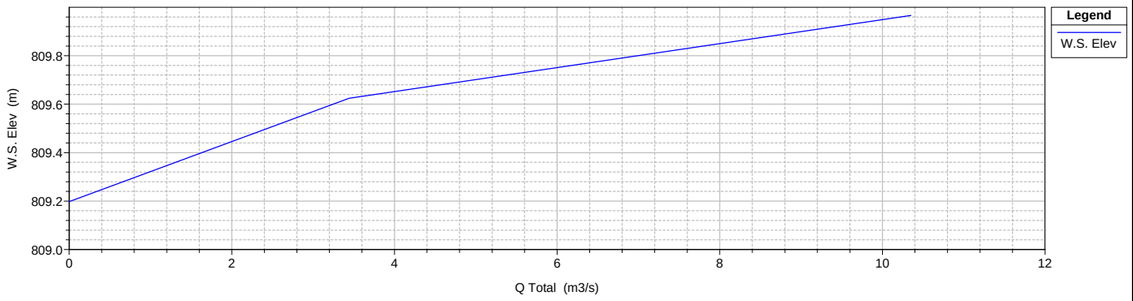
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 81.1431 Culv



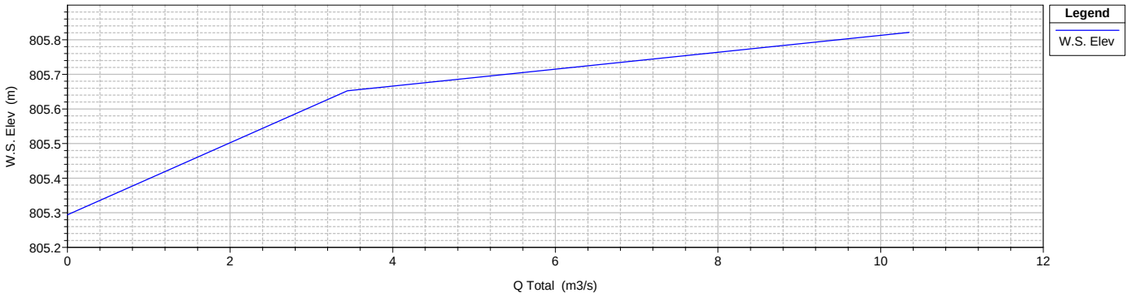
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 81.1431 Culv



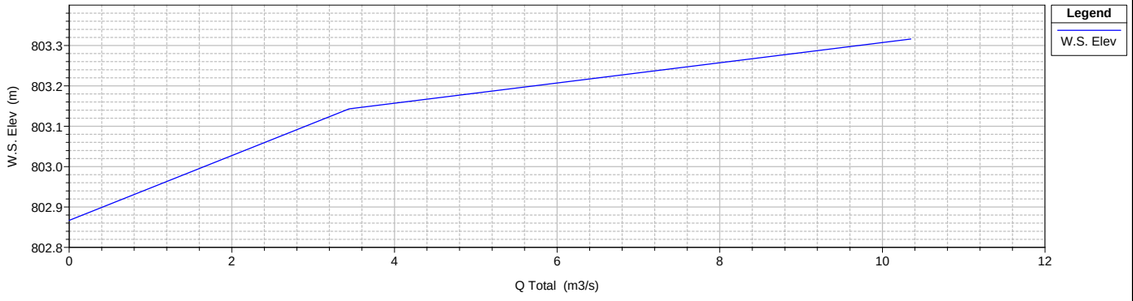
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 75.83388



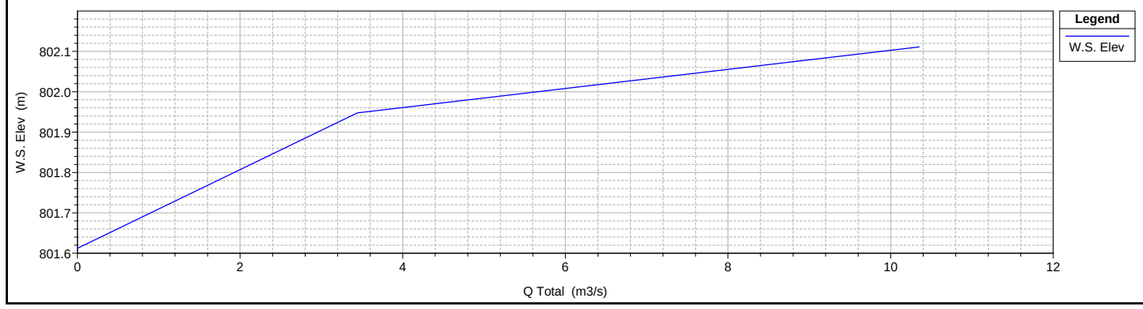
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 64.55781



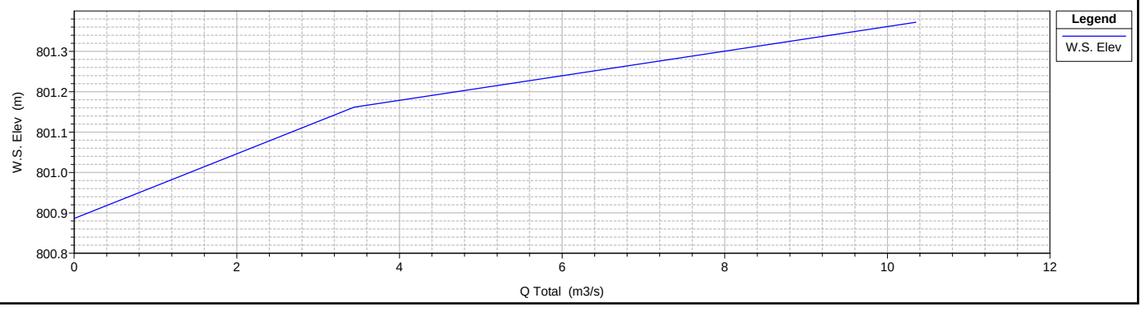
alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 41.72029



alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 23.44198



alme Plan: Plan 02
Geom: alme Flow: Flow 01
River = Alme Reach = Alme RS = 5.711110



NOTÁEZ

HEC-RAS Version 4.1.0 Jan 2010
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
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X     X  XXXXXX    XXXX        X    X   X    X   XXXXX
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****

PROJECT DATA
Project Title: nota_p
Project File : nota_p.prj
Run Date and Time: 3/22/2012 11:00:56 AM

Project in SI units

Project Description:
NOTÁEZ - STUACIÓN PROPUESTA

****

PLAN DATA

Plan Title: nota_p
Plan File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\NOTA\PROPUESTA\nota_p.p02

Geometry Title: nota_p
Geometry File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\NOTA\PROPUESTA\nota_p.g02

Flow Title   : nota_a
Flow File   : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\NOTA\PROPUESTA\nota_p.f01

Plan Summary Information:
Number of: Cross Sections =   18   Multiple Openings =   0
            Culverts   =   1   Inline Structures =   0
            Bridges   =   0   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: Mixed Flow

****

FLOW DATA

Flow Title: nota_a
Flow File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\NOTA\PROPUESTA\nota_p.f01

Flow Data (m3/s)

River	Reach	RS	T500	T10
Nota	Nota	234.5633	13.238	3.771

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Nota	Nota	T500	Critical	Normal S = 0.35

****

GEOMETRY DATA

Geometry Title: nota_p
Geometry File : i:\PROYECTOS\EI_DIPGRA\PR_DIG_005_ALMEGÍJAR\ADENDA_MARZO_2012\HIDRA\RAS\NOTA\PROPUESTA\nota_p.g02

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 234.5633

INPUT
Description:
Station Elevation Data num= 100

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	855.71	.84	855.69	6.18	855.68	6.39	855.67	7.08	855.62
7.34	855.59	7.61	855.56	8.25	855.47	9.16	855.32	10.3	855.33
10.88	855	12	855	14.93	854.78	15.11	854.77	15.53	854.75
17.78	854.77	18.69	854.72	20.85	854.74	21.41	854.7	22.54	854.71
23.97	854.57	26.18	854.6	27.27	854.59	28.78	854.23	29.17	854.21
29.98	854	30.22	853.98	31.5	853.88	31.99	853.75	33.07	853.59
34.81	853.03	34.89	853	35.36	852.74	36.74	852	36.96	851.88
37.14	851.84	37.49	851.79	38.84	851.44	39.46	851.32	40.82	851.25
41.18	851.27	41.3	851.29	41.63	851.27	41.74	851.29	42.34	851.32
43.36	851.62	43.86	851.74	44.45	852	44.46	852	46	852.86
46.23	853	46.7	853.37	47.19	853.87	47.32	854	47.61	854.21
48.17	854.59	48.88	855	50.04	855.33	50.76	855.36	51.69	855.56
51.99	855.63	52.17	855.68	56.72	856	57.65	856.27	58.76	856.72
59.11	856.84	59.49	857	60.58	857.29	61.31	857.45	62.2	857.64
64.16	858	64.5	858.15	64.67	858.21	65.84	858.55	66.68	858.81
66.82	858.84	67.72	859	68.29	859.07	69.51	859.22	69.95	859.28
71.07	859.36	72.26	859.49	73.16	859.52	73.83	859.56	74.57	859.54
75.45	859.61	76.15	859.55	77.04	859.54	77.43	859.48	77.93	859.41
78.49	859.34	79.07	859.17	79.19	859.13	79.68	859	79.88	858.9
80.06	858.82	80.82	858.39	81.56	858	82.4	857.86	83.03	857.73

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

0	.035	34.81	.04	47.19	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
34.81	47.19	12.36	13.67	12.35	.1	.3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 220.8931

INPUT
Description:
Station Elevation Data num= 110

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	852.43	.32	852.48	1.97	852.68	2.67	852.8	2.84	852.8
4.18	852.81	4.34	852.81	4.91	852.79	5.33	852.77	6.39	852.69
6.99	852.68	9.86	852.59	10.61	852.58	11.68	852.55	12.56	852.51
12.91	852.46	13.56	852.3	13.77	852.28	14.71	852	15.16	851.54
15.45	851.33	15.92	851	16.62	850.63	17.21	850.49	17.85	850.22
19.12	850.02	19.23	850	19.9	849.42	20.1	849.25	20.33	849
21.42	848.64	22.14	848.4	22.33	848.34	22.47	848.29	23.04	848
24.75	847.95	24.98	847.93	27.69	847.85	27.83	847.84	28.37	847.79
28.63	847.76	30.05	847.7	30.31	847.7	30.92	847.63	31.54	847.62
32.4	847.51	33.37	847.47	36.17	847.08	36.28	847.08	36.4	847.07
36.75	847	37.56	846.15	37.71	846	39.32	845.19	39.65	845.03
39.71	845	40.34	844.72	41.62	844	43.93	844	44.02	844
44.07	844.2	44.23	845	45	845.56	45.53	846	45.73	846.12
47.67	847	47.73	847.06	47.84	847.13	48.47	847.59	49.05	848
49.42	848.58	49.62	849	50.34	849.84	50.48	850	50.6	850.09
51.6	851	52.05	851.41	52.89	852	53.53	852.63	53.86	853
54.24	853.33	54.71	853.66	55.14	854	55.31	854.14	56.19	855
57.05	855	57.13	855	57.69	855	63.92	855.29	65.57	855.28
67.29	855.23	68.63	855.18	69.04	855.19	69.86	855.15	70.31	855.13
70.5	855.14	73.03	855	73.57	854.78	74.66	854.4	75.46	854.1
75.77	854	76.9	853.43	77.71	853	78.28	852.82	79.09	852.63
80.23	852.33	81.91	852	81.93	851.99	81.97	851.97	83.09	851.52

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	36.28	.04	48.47	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
36.28	48.47	12.93	14.68	14.9	.1	.3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 206.2115

INPUT
Description:
Station Elevation Data num= 111

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	847.15	1.87	847.35	2.78	847.34	4.15	847.44	4.98	847.5
10.42	847.61	12.02	847.6	14.15	847.56	15.79	847.5	16.91	847.45
17.55	847.42	18.78	847.4	21.53	847.25	22.05	847.24	26.27	847
26.28	847	26.3	847	28.9	846.52	31.28	846.04	31.35	846.03

31.48	846	31.59	845.79	31.98	845	32.18	844.17	32.23	844
32.42	843.96	33.96	843.65	35.33	843.43	36.08	843.33	36.71	843.23
37.84	843.08	38.4	843	38.94	842.36	39.21	842	40.63	841.34
41.28	841	41.64	840.65	42.02	840	42.5	839.77	43.7	840
45.22	840	45.33	840.26	45.64	841	46.19	841.87	46.25	842
46.5	842.36	46.91	843	47.36	843.33	48.22	844	48.42	844.6
48.52	845	48.63	845.3	48.92	846	49.39	846.12	49.59	846.17
49.92	846.19	51.04	846.41	51.43	846.42	52.59	846.62	53.15	846.71
54.18	846.76	55.84	846.89	57.14	846.93	57.27	846.94	57.32	846.94
57.41	846.94	59.1	847	59.96	847.59	60.29	848	61.29	848.31
61.75	848.42	62.91	849	63.38	849.18	63.68	849.2	64.22	849.27
64.45	849.27	65.43	849.33	65.69	849.32	66.18	849.33	66.66	849.31
66.85	849.3	67.35	849.26	67.96	849.17	68.09	849.15	68.24	849.12
68.92	849	69.75	848.53	70.24	848.2	70.27	848.18	70.55	848
70.57	847.99	71.27	847.77	71.86	847.52	72.4	847.32	73.25	847
73.91	846.58	74.47	846.4	74.93	846.18	75.81	846	76.15	845.96
78.12	845.78	79.18	845.61	80.66	845.46	80.92	845.46	80.96	845.45
81.19	845.42	81.55	845.38	81.85	845.52	83.39	845.43	83.78	845.51
83.8	845.52								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	37.84	.04	49.39	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
37.84	49.39	13.16	10.7	8.53	.1	.3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 195.5067

INPUT
Description:
Station Elevation Data num= 112

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	845.91	.67	846	1.39	846.24	1.73	846.35	2.3	846.49
2.83	846.57	3.3	846.74	4.1	847	4.18	847	4.43	847
5.17	847	5.64	847	5.94	847	7.47	847	7.86	847
9.72	847	11.55	847.05	11.67	847.05	14.77	847	15.39	847
16.31	846.37	16.99	846.01	17	846.01	17	846	17.55	845.63
18.39	845	18.85	844.93	18.96	844.9	20.07	844.68	20.6	844.52
21.22	844.38	22.18	844	22.25	843.98	22.34	843.96	24.94	843.34
26.37	843.07	26.4	843.06	26.51	843.04	26.7	843	28.3	842.33
28.84	842	30.07	841.58	31.62	841	32.09	840.89	32.85	840.7
33.64	840.48	35.06	840.07	35.31	840	35.49	839.86	36.72	839
36.96	838.83	37.67	838.25	37.89	838.08	37.98	838	39	837.6
40.47	837	40.57	837	40.91	837	40.93	837.02	40.98	837.07
41.81	838	42.04	838.76	42.1	839	42.18	839.23	42.47	840
43.26	840.33	44.83	841	45.36	841.68	45.6	842	46.01	842.9
46.05	843	46.07	843.02	46.73	844	47.22	844.61	47.35	844.76
47.53	845	47.95	845.16	48.1	845.17	48.73	845.36	49.98	845.62
50.41	845.68	50.61	845.7	53.78	845.74	54.05	845.76	54.37	845.8
54.85	845.84	55.2	845.87	55.45	845.89	57.5	846	57.59	846
58.41	846.03	59.91	846.07	60.24	846.09	62.5	846.14	62.87	846.16
63.62	846.19	66.49	846.28	67.01	846.31	68.2	846.34	72.52	846
72.53	845.99	74.46	845	74.99	844.1	75.01	844	75.21	843.96
76.9	843.76	77.2	843.74	77.86	843.75	78.02	843.74	78.57	843.71
79.77	843.67	82.2	843.93						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	35.06	.04	47.22	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
35.06	47.22	8.74	11.25	17.83	.1	.3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 184.2587

INPUT
Description:
Station Elevation Data num= 119

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	843.71	.01	843.71	.23	843.69	.34	843.68	.53	843.66
.97	843.67	1.41	843.67	1.86	843.68	4.03	843.26	4.21	843.27
4.39	843.26	4.57	843.26	4.75	843.26	5.53	843	5.94	842.95
6.09	842.94	6.63	842.89	8.31	842.76	8.99	842.73	9.64	842.71
10.83	842.68	11.92	842.64	12.54	842.62	14.51	842.55	14.79	842.53
15.89	842.42	17.42	842.26	18.06	842.23	19.71	842	19.97	841.9
20.09	841.87	20.31	841.81	20.98	841.62	22.65	841.12	23.12	841
24.18	840.59	24.94	840.29	25.19	840.19	25.83	840	27.44	839.14
27.6	839	27.86	838.73	28.56	838	29.12	837.79	30.1	837.41
30.77	837.15	31.16	837	31.64	836.46	32.02	836	32.65	835.3
32.82	835.1	32.88	835	33.46	834.86	34.44	834.64	35.92	834.34
36.58	834.19	36.74	834.16	37.77	834	37.89	834	38.97	834.57
39.16	834.72	39.44	835	40.16	835.84	40.28	836	40.53	836.71
40.66	837	40.97	837.38	41.27	837.72	41.51	838	42.05	838.34
42.54	838.63	43.21	839	43.82	839.29	45.15	839.92	45.31	840
45.37	840.02	45.52	840.08	46.82	840.58	46.83	840.58	47.52	840.86
47.77	841	48.17	841.24	49.32	842	49.87	842.41	51.64	843
52.19	843.25	52.37	843.29	52.59	843.33	53	843.45	53.82	843.56
54.4	843.68	55.63	843.8	57.42	843.96	58.03	844	58.44	844.09
58.51	844.11	59.27	844.27	59.88	844.37	61.36	844.56	61.81	844.56
62.66	844.49	63.93	844.56	64.88	844.48	65.84	844.49	66.6	844.42
67.08	844.39	67.34	844.35	68.51	844.19	68.79	844.13	69.55	844
69.57	843.99	71.79	843	71.84	842.98	71.87	842.96	72.89	842.49
73.46	842.24	73.9	842	76.04	841.08	76.12	841.05		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	33.46	.04	43.82	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
33.46	43.82	12.93	10.02	8.57	.1	.3

Left Levee Station= 35.29 Elevation= 836.1
Blocked Obstructions num= 1

Sta L	Sta R	Elev
33.98	35.29	836.0971

CROSS SECTION

RIVER: Nota

REACH: Nota RS: 174.2417

INPUT
Description:
Station Elevation Data num= 110

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	837.98	.01	837.98	.04	837.98	2.74	837.98	2.77	837.98
2.87	837.98	2.96	837.97	6.18	837.89	6.41	837.88	6.5	837.88
9.89	837.75	10.07	837.74	10.37	837.72	10.66	837.71	11.43	837.67
13.01	837.48	14.24	837.39	16.29	837.11	16.34	837.1	16.37	837.1
16.57	837.08	17.07	837	18.74	836.66	19.55	836.48	20.34	836.33
20.92	836.18	21.44	836	21.92	835.89	22.42	835.76	23.52	835.48
24.27	835.27	25.31	835	25.66	834.32	26.04	834	26.46	833.6
27.77	833	28.31	832.94	28.36	832.94	28.43	832.93	28.51	832.92
28.61	832.91	33.29	832.45	33.6	832.39	34.02	832.32	36.04	831.95
36.99	831.95	38.96	831.95	39.66	832.67	39.89	832.96	40.71	833.94
40.79	834	40.92	834.14	41.73	835	42.18	835.65	42.47	835.98
42.48	836	43.96	836.92	44.08	837	44.28	837.15	44.7	837.49
45.31	838	46	838.46	46.77	839	48.35	839.85	48.63	840
48.73	840.05	48.77	840.06	48.85	840.08	49.02	840.11	51.21	840.73
51.3	840.76	53.93	841	54.02	841.03	54.09	841.06	56.22	842
56.35	842.02	56.68	842.05	58.23	842.23	59.03	842.31	60.08	842.4
60.56	842.44	61.47	842.47	61.95	842.53	62.66	842.54	63.03	842.57
63.38	842.58	64.57	842.63	65.18	842.62	65.5	842.6	66.3	842.61
66.98	842.53	67.32	842.51	67.74	842.44	68.05	842.4	69.27	842.15
69.39	842.12	69.92	842	70.26	841.67	70.72	841.14	70.8	841.05
70.85	841	71.4	840.42	71.78	840	72.23	839.85	72.93	839.53
73.55	839.28	73.99	839	74.23	838.88	75.38	838	75.39	837.99

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	34.02	.04	42.47	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
34.02	42.47	13.27	9.8	6.46	.1	.3

Left Levee Station= 35.76 Elevation= 835.09
Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
.97	22.08	837.9822	24.94	35.77	835.0969

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 164.4459

INPUT
Description:
Station Elevation Data num= 92

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	833.57	1.06	833.54	1.44	833.5	2.42	833.4	3.96	833.34
4.59	833.31	5.2	833.25	5.69	833.23	7.47	833.1	7.67	833.08
8.57	833	9.28	832.96	9.31	832.96	9.34	832.95	9.38	832.95
9.41	832.95	9.46	832.94	9.51	832.93	10.97	832.81	11.15	832.76
11.73	832.69	12.69	832.41	13.07	832.33	14.09	832	15.21	831.71
16.38	831.41	17.63	831.29	18.14	831.2	18.94	831.15	19.73	831.1
19.91	831.08	21.71	831	21.72	831	21.78	831	23.11	830.97
23.91	830.92	25.81	830.86	27.53	830.82	29.07	830.8	30.23	830.79

31.15	830.84	31.19	830.84	32.68	830.92	32.79	830.92	33.88	831
34	831.02	34.42	831.07	34.82	830.39	36.13	830.39	37.08	830.4
37.97	830.4	38.43	831.97	38.56	832.67	38.76	832.84	38.81	832.98
39.03	833.09	39.8	833.41	40.18	833.51	40.95	833.76	41.79	834
42.64	834.9	42.75	835	42.85	835.08	43.61	835.64	44.02	835.95
44.09	836	44.85	836.86	44.95	837	45.76	837.87	45.88	838
46.83	838.58	47.49	839	47.58	839.06	48.76	840	50.32	840.2
51.07	840.23	53.14	840.42	60.39	840.21	60.69	840.23	60.88	840.23
61.06	840.24	62.22	840	63.8	839.49	65.23	839	66.45	838.69
67.75	838.4	68.17	838.3	68.39	838.26	68.58	838.23	69.51	838
70.21	837.67	70.29	837.6						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	34	.04	70.29	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
34	70.29	8.49	9.82	6.36	.1	.3

Left Levee Station= 34.69 Elevation= 833.4

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
5.83	9.29	833.2188	12.49	14.55	832.4698	30.81	34.71	833.3859

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 154.6206

INPUT
Description:
Station Elevation Data num= 94

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	831.92	.43	831.91	.49	831.91	.51	831.91	.66	831.9
3.35	831.81	3.6	831.78	3.74	831.76	3.95	831.73	4.54	831.68
4.9	831.61	5.43	831.54	6.49	831.31	6.93	831.23	6.95	831.23
6.98	831.22	7.85	831	10.46	830.74	10.7	830.73	11.22	830.71
11.65	830.67	12.29	830.64	14.05	830.49	15.45	830.42	16.24	830.36
16.81	830.32	17.31	830.3	17.56	830.29	17.77	830.29	18.22	830.28
18.6	830.27	23.66	830	31.08	829.69	31.41	829.67	34.52	829.93
35.05	830	35.11	830	36.02	830	36.06	830	36.39	828.6
39.56	828.61	39.95	829.4	40.66	831.69	40.8	831.72	41.2	831.79
42.22	832	42.45	832.15	43.32	832.7	43.77	833	44.16	833.42
44.92	834	45.47	834.4	46.52	835	47.55	835.76	47.83	836
48.16	836.55	48.45	837	49.21	837.52	49.78	838	50.13	838.2
51.33	839	51.49	839.09	51.58	839.12	52.15	839.33	52.47	839.41
53.16	839.6	53.63	839.71	53.84	839.75	54.38	839.85	54.5	839.87
54.61	839.88	55.05	839.93	55.14	839.94	55.93	839.99	55.94	839.99
56.76	839.92	56.92	839.89	57.55	839.75	58.04	839.6	59.2	839.3
59.52	839.19	60.25	839	60.5	838.87	61.89	838	62.04	837.91
62.18	837.86	63.45	837.33	64.73	837.16	65.46	837	65.53	836.98
65.57	836.96	66.69	836.53	66.73	836.52	66.83	836.48		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	36.02	.04	40.66	.035

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

```
         36.02   40.66             7.87      10    14.7             .1       .3
Left Levee      Station=   36.34      Elevation=  832.86
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
*********************************************
    1.17    4.78831.8816   31.22   36.34832.8659

CROSS SECTION


RIVER: Nota
REACH: Nota               RS: 144.6175

INPUT
Description:
Station Elevation Data    num=      84
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*********************************************************************************
       0   830.2    1.79   830.1    1.92   830.1    1.96   830.1    2.04   830.1
    3.11  830.03    3.15  830.02    3.59     830     4.6  829.99    4.65  829.98
    6.12  829.96    6.26  829.96   11.14   829.9   11.42  829.89   12.89  829.87
   12.95  829.87   13.35  829.86   14.18  829.84   15.64  829.81   16.17  829.79
   16.27  829.79   17.59  829.75   18.17  829.73   18.73  829.71   20.56  829.66
   21.28  829.63   22.53  829.58   23.39  829.54   24.49  829.48    33.5  829.03
   33.94  829.01   34.14     829   35.22  828.88   36.61  828.74   36.65  828.74
   37.53   828.6   37.91  828.51   38.21  828.43   38.82  827.74   40.01  827.74
   40.83  827.74    41.9  827.74   42.03  828.44   42.12  828.44   42.32  828.44
   42.65  828.48   42.99  828.48   43.69  828.51   47.75     829   48.08   829.1
   48.29  829.15    48.9  829.28   50.74  829.73   50.78  829.74   51.63  829.85
   52.48  829.93   52.63  829.96   53.73     830   54.12  830.05   54.15  830.06
   54.18  830.06   54.38  830.08   54.41  830.08   54.97  830.11   55.02  830.11
   56.33  830.06   56.36  830.06   56.39  830.06   56.57  830.02   56.58  830.02
   56.69     830   57.07  829.98   57.08  829.98   57.08  829.99   57.89  829.93
   57.93  829.94   58.18  829.92   59.23     830   59.61     830   59.83     830
   64.52     830   65.29     830   66.88     830   66.94     830

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
       0    .035       0     .04   66.94    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
             0   66.94             20.14   18.33   27.56             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    38.8   830.2       F
    41.8   66.94   830.2       F
Left Levee      Station=   35.77      Elevation=  830.02
Right Levee     Station=   41.96      Elevation=  830.44
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
*********************************************
   41.96   56.47830.4395   56.44   65.68830.4904

CULVERT


RIVER: Nota
REACH: Nota               RS: 135.4527

INPUT
Description:
```

Distance from Upstream XS =   .5
Deck/Roadway Width   =   16.5
Weir Coefficient   =   1.4
Upstream Deck/Roadway Coordinates
    num=   2
     Sta Hi Cord Lo Cord   Sta Hi Cord Lo Cord
****
       0   830.5   826   50   830.5   826

Upstream Bridge Cross Section Data
Station Elevation Data   num=   84
     Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
****
       0   830.2   1.79   830.1   1.92   830.1   1.96   830.1   2.04   830.1
    3.11 830.03   3.15 830.02   3.59   830   4.6 829.99   4.65 829.98
    6.12 829.96   6.26 829.96   11.14   829.9   11.42 829.89   12.89 829.87
   12.95 829.87   13.35 829.86   14.18 829.84   15.64 829.81   16.17 829.79
   16.27 829.79   17.59 829.75   18.17 829.73   18.73 829.71   20.56 829.66
   21.28 829.63   22.53 829.58   23.39 829.54   24.49 829.48   33.5 829.03
   33.94 829.01   34.14   829   35.22 828.88   36.61 828.74   36.65 828.74
   37.53   828.6   37.91 828.51   38.21 828.43   38.82 827.74   40.01 827.74
   40.83 827.74   41.9 827.74   42.03 828.44   42.12 828.44   42.32 828.44
   42.65 828.48   42.99 828.48   43.69 828.51   47.75   829   48.08   829.1
   48.29 829.15   48.9 829.28   50.74 829.73   50.78 829.74   51.63 829.85
   52.48 829.93   52.63 829.96   53.73   830   54.12 830.05   54.15 830.06
   54.18 830.06   54.38 830.08   54.41 830.08   54.97 830.11   55.02 830.11
   56.33 830.06   56.36 830.06   56.39 830.06   56.57 830.02   56.58 830.02
   56.69   830   57.07 829.98   57.08 829.98   57.08 829.99   57.89 829.93
   57.93 829.94   58.18 829.92   59.23   830   59.61   830   59.83   830
   64.52   830   65.29   830   66.88   830   66.94   830

Manning's n Values   num=   3
     Sta   n Val   Sta   n Val   Sta   n Val
****
       0   .035   0   .04   66.94   .035

Bank Sta: Left   Right   Coeff Contr.   Expan.
             0   66.94   .1   .3
Ineffective Flow   num=   2
   Sta L   Sta R   Elev Permanent
       0   38.8   830.2   F
    41.8   66.94   830.2   F
Left Levee   Station=   35.77   Elevation= 830.02
Right Levee   Station=   41.96   Elevation= 830.44
Blocked Obstructions   num=   2
   Sta L   Sta R   Elev   Sta L   Sta R   Elev
****
   41.96   56.47830.4395   56.44   65.68830.4904

Downstream Deck/Roadway Coordinates
    num=   2
     Sta Hi Cord Lo Cord   Sta Hi Cord Lo Cord
****
       0   830   824   50   830   824

Downstream Bridge Cross Section Data
Station Elevation Data   num=   73
     Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
****
       0 829.08   .11 829.08   1.3 829.09   1.89 829.09   3.42 829.09
    3.86 829.08   4.01 829.08   6.54 829.06   6.64 829.06   9.93 829.03
    9.96 829.03   10.96 829.02   12.16   829   13.1   828.5   13.75   828

```
   13.87  827.94   14.15  827.81   15.11  827.37   15.39  827.24   15.89     827
   16.14  826.86   16.62  826.58   17.55     826   18.86  825.91   19.25  825.89
   21.72  825.74   22.43  825.72   24.21   825.6   24.88  825.57   26.27  825.52
   27.56  825.51   28.35  825.63   30.34     826   30.84  826.12      31  826.11
    33.5   826.1   35.16  826.01    35.2  826.01   35.44     826   35.97  825.39
   36.29     825   37.48  824.92   37.55  824.91   37.58  824.91   37.61  824.91
   38.32     825   38.68     825   40.69     825    41.4     825   41.47     825
   41.63  825.19   42.32     826   42.53  826.05   43.19   826.2   43.93   826.3
    46.3  826.64   47.62  826.85    48.3  826.93   48.52  826.97   48.91     827
   48.94     827   49.87  827.06    50.8  827.12   52.25  827.19   53.05  827.22
   54.45   827.4   55.18  827.44   57.03  827.52   59.56     828   61.04  828.18
   61.28  828.21   64.81  828.62   67.18  828.85

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
**********************************************
       0    .035   37.48     .04   43.93    .035

Bank Sta: Left   Right    Coeff Contr.   Expan.
         37.48   43.93            .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0    38.8   829.2       F
    41.8   67.18   829.2       F
Left Levee      Station=   30.84      Elevation=  826.12
Right Levee     Station=    48.3      Elevation=  831.22
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
************************
    48.3   66.95831.2229
```

```
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 Culverts =  1

Culvert Name     Shape      Rise    Span
Culvert #1           Box     2.5       3
FHWA Chart # 8 - flared wingwalls
FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef   Exit Loss Coef
                .5    16.5     .015     .015        0                  .7               .7
Upstream   Elevation =  827.7
           Centerline Station =  40.3
Downstream Elevation =  826.7
           Centerline Station =  40.3

CROSS SECTION


RIVER: Nota
REACH: Nota              RS: 126.2879

INPUT
Description:
Station Elevation Data    num=      73
```

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	829.08	.11	829.08	1.3	829.09	1.89	829.09	3.42	829.09
3.86	829.08	4.01	829.08	6.54	829.06	6.64	829.06	9.93	829.03
9.96	829.03	10.96	829.02	12.16	829	13.1	828.5	13.75	828
13.87	827.94	14.15	827.81	15.11	827.37	15.39	827.24	15.89	827
16.14	826.86	16.62	826.58	17.55	826	18.86	825.91	19.25	825.89
21.72	825.74	22.43	825.72	24.21	825.6	24.88	825.57	26.27	825.52
27.56	825.51	28.35	825.63	30.34	826	30.84	826.12	31	826.11
33.5	826.1	35.16	826.01	35.2	826.01	35.44	826	35.97	825.39
36.29	825	37.48	824.92	37.55	824.91	37.58	824.91	37.61	824.91
38.32	825	38.68	825	40.69	825	41.4	825	41.47	825
41.63	825.19	42.32	826	42.53	826.05	43.19	826.2	43.93	826.3
46.3	826.64	47.62	826.85	48.3	826.93	48.52	826.97	48.91	827
48.94	827	49.87	827.06	50.8	827.12	52.25	827.19	53.05	827.22
54.45	827.4	55.18	827.44	57.03	827.52	59.56	828	61.04	828.18
61.28	828.21	64.81	828.62	67.18	828.85				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	37.48	.04	43.93	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
37.48	43.93	7.8	18.8	15.03	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	38.8	829.2	F
41.8	67.18	829.2	F

Left Levee Station= 30.84 Elevation= 826.12
Right Levee Station= 48.3 Elevation= 831.22

Blocked Obstructions num= 1

Sta L	Sta R	Elev
48.3	66.95	831.2229

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 107.4834

INPUT
Description:
Station Elevation Data num= 104

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	827.82	.37	827.65	1.48	827.17	1.77	827	4.19	826.75
5.15	826.62	6.93	826.43	8.62	826.2	9.14	826.14	10	826
10.15	825.98	10.2	825.98	10.92	825.88	11.08	825.85	16.67	825
17.11	824.97	17.28	824.96	17.31	824.96	18.43	824.86	26.86	824.21
28.73	824.02	28.92	824	29.76	823.72	31.38	823	32.38	822.27
32.91	822	33.37	821.31	33.58	821	35	820.03	35.03	820
35.06	819.99	35.07	819.99	38.76	819.47	39.09	819.49	40.35	819.64
41.06	819.78	41.73	819.92	41.8	819.93	42.06	820	42.33	820.5
42.59	821	42.77	821.25	43.35	822	43.54	822.25	44.07	823
44.83	823.8	45.04	824	45.24	824.16	45.69	824.54	46.24	825
47.09	825.2	47.22	825.21	47.38	825.22	47.98	825.33	48.74	825.48
49.18	825.51	49.65	825.53	50.77	825.7	51.09	825.7	51.19	825.7
51.57	825.75	51.99	825.75	52.22	825.77	52.29	825.77	52.45	825.79
52.72	825.81	52.85	825.82	52.97	825.83	53.21	825.84	53.33	825.85
53.44	825.85	55.41	825.83	55.54	825.83	55.81	825.83	55.93	825.83

56.2	825.83	56.49	825.83	56.64	825.83	56.8	825.82	58.91	825.79
59.22	825.79	59.36	825.78	59.76	825.76	60.16	825.74	61.49	825.72
62.51	825.67	64.68	825.63	68.76	825.81	69.01	825.78	69.11	825.77
69.52	825.82	70	825.86	70.36	825.79	70.77	825.84	71.33	825.88
71.6	825.8	72.04	825.82	72.14	825.82	72.15	825.82	72.72	825.81
73.1	825.83	73.64	825.6	74.06	825.51	74.09	825.5		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	28.73	.04	45.69	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
28.73	45.69	20.46	16.7	9.05	.1	.3

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
46.89	51.76	825.7484	71.76	74.09	825.8058	8.19	30.06	826.2598

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 90.78275

INPUT
Description:
Station Elevation Data num= 109

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	825.84	.13	825.83	.36	825.82	2.46	825.72	4.16	825.64
6.09	825.57	7.47	825.5	8.77	825.46	9.37	825.43	11.16	825.37
13.17	825.29	14.87	825.22	16.92	825.12	17.35	825.1	18.34	825.05
19.16	825	19.8	824.96	21.51	824.84	26.43	824.5	28.72	824.34
32.44	824.07	32.83	824.04	32.97	824.03	33.36	824	33.68	823.63
34.13	823	34.23	822.46	34.32	822	34.73	821.55	35.22	821
35.91	820.58	36.47	820.27	37.1	820	37.12	819.96	37.7	819
38.36	818.16	38.49	818	39.62	817.33	40.02	817	41.58	816.24
42.13	816	42.29	815.88	42.68	815.65	42.74	815.61	43.44	815.18
43.84	815	44.13	815	44.15	815	44.66	815	45.26	815.25
45.51	815.37	46.89	816	48.1	816.8	48.49	817	48.81	817.2
49.18	817.45	50.07	818	50.53	818.15	50.85	818.26	52.52	818.8
53.13	819	53.53	819.75	53.65	820	53.89	820.1	54.16	820.22
54.47	820.35	55.53	820.79	55.98	821	56.43	821.48	56.81	822
57.47	822.36	57.79	822.52	58	822.63	58.69	823	59.75	823.34
60.36	823.51	62.17	824	62.49	824.26	62.89	824.48	63.92	825
64.14	825.01	64.16	825.01	64.96	825.04	66.45	825.07	67.17	825.08
68.63	825.09	70.17	825.08	70.97	825.08	71.81	825.06	71.97	825.06
73.35	825.03	73.97	825.01	74.36	825	75.48	824.44	76.18	824
77.25	823.7	77.94	823.47	78.74	823.23	79.35	823	81.1	822.34
81.97	822	82.85	821.87	82.98	821.85	84.17	821.69	84.45	821.66
84.53	821.65	85.03	821.59	85.61	821.56	85.76	821.55		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	32.83	.04	54.16	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
32.83	54.16	24.78	15.37	4.84	.1	.3

Blocked Obstructions num= 1

Sta L	Sta R	Elev

```
**********
    3.94   26.52825.6541

CROSS SECTION


RIVER: Nota
REACH: Nota               RS: 75.41282

INPUT
Description:
Station Elevation Data    num=     115
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
**********************************************************************************
       0   824.8    1.34  824.78    1.45  824.77    1.58  824.77     1.9  824.76
    3.22  824.74    3.39  824.74    4.01  824.72     5.1  824.69    7.51  824.61
    8.54  824.58     9.5  824.54   10.27  824.51   11.57  824.48   11.95  824.46
   15.76  824.37   15.99  824.35   16.26  824.34   17.44  824.31   17.83   824.3
   18.49  824.26   20.16  824.22   22.04  824.16   23.16  824.12   23.26  824.12
   26.78     824    29.2   823.8   29.84  823.71   29.85  823.71   30.08   823.7
    31.6  823.62   32.71  823.38   34.52     823    34.6  822.89   34.68  822.75
   35.14     822   35.28  821.75   35.68     821    37.7  820.01   37.71     820
   38.18     819   39.12  818.23   39.48     818   41.64     817   41.65     817
   42.87     816   44.83   815.1   45.05     815   45.12  814.95   46.39     814
    46.4  813.99    47.2     813   48.61  812.29   49.32     812   49.43     812
   49.57     812   50.51     812   52.32     812   52.64  812.54   53.12     813
   53.41  813.38   53.86     814   54.03  814.38   54.31     815   54.86  815.31
   56.09     816   57.23  816.73   57.68     817   57.74  817.03    58.9  817.76
   59.26     818    59.7  818.58   60.03     819    60.6   819.8   60.69  819.92
   60.75     820   63.33   820.6   64.67     821   65.31  821.38   65.78  821.47
   66.47  821.58   67.44  821.72   67.86  821.82   68.04  821.86   68.15  821.89
   68.23   821.9   69.97     822   70.19  822.03   70.25  822.04   70.33  822.04
   72.09  822.22   72.25  822.22   73.49   822.3   73.81  822.29   74.43  822.31
   74.95  822.31   75.41  822.27   75.89  822.25   76.26  822.25    76.8   822.2
   77.85  822.07   78.03  822.05   78.11  822.05   78.32     822   83.77  821.49
   85.16  821.29    85.7  821.22   86.81  821.07   86.84  821.06   86.95  821.05
   87.36     821   87.45     821   89.89  820.84   90.61  820.82   91.54  820.82

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
**********************************************
       0    .035   32.71     .04   57.74    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         32.71   57.74             23.24   14.16     8.1             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
************************
   19.67    25.6824.2302

CROSS SECTION


RIVER: Nota
REACH: Nota               RS: 61.25671

INPUT
Description:
Station Elevation Data    num=     135
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
**********************************************************************************
       0  823.15     .57  823.16     .66  823.16    3.45  823.22    3.56  823.22
```

3.84	823.21	3.97	823.21	6.55	823.26	7.09	823.25	7.92	823.26
8.21	823.26	9.37	823.27	10.87	823.25	12.23	823.27	17.77	823.13
18.32	823.1	18.55	823.1	19.17	823.09	19.63	823.09	20.32	823.08
22.09	823.07	22.18	823.07	22.2	823.07	27.43	823.03	27.47	823.03
27.51	823.03	28	823	28.17	823	30.07	823	30.19	823
30.98	823	31.11	823	31.33	823	31.73	823	31.86	823
32.31	823	32.35	823	32.41	823	32.91	822.71	32.93	822.69
33.04	822.62	33.53	822	33.64	821.83	34.13	821	34.36	820.86
35.62	820	36.14	819.3	36.33	819	37.06	818.09	37.13	818
37.28	817.86	38.19	817	40.57	816.44	42.28	816	42.7	815.79
43.14	815.57	44.26	815	45	814.06	45.04	814	45.31	813.88
45.85	813.64	46.71	813.28	47.29	813	47.72	812.82	49.64	812
51.08	811.39	52.06	811	53.32	811	55.28	811	55.35	811.1
55.6	811.59	55.81	812	55.93	812.13	56.76	813	57.18	813.51
57.57	814	58.34	814.81	58.57	815	59.65	815.52	60.35	815.85
60.69	816	60.85	816.38	61.14	817	61.77	817.41	62.59	817.79
62.87	817.94	63.09	818	63.88	818.51	64.08	818.62	64.6	819
64.96	819.41	65.1	819.62	65.17	819.68	65.44	820	65.46	820
65.95	820.04	66.86	820.1	66.95	820.11	67.92	820.17	68.1	820.19
68.33	820.21	72.75	820.38	73.42	820.44	73.85	820.47	74.33	820.5
75.86	820.62	76.34	820.64	76.82	820.65	77.12	820.65	77.64	820.69
77.89	820.69	78.6	820.7	79.07	820.71	79.61	820.7	80.05	820.7
81.03	820.68	81.49	820.68	81.97	820.66	82.5	820.64	83.09	820.61
83.79	820.58	84.97	820.52	86.56	820.43	88.96	820.29	92.49	820.08
92.72	820.06	92.77	820.06	92.83	820.06	93.82	820	95.91	819.15
96.18	819	97.9	818.48	98.26	818.34	98.33	818.31	98.49	818.26

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	32.91	.04	59.65	.035

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

Left	Right	Left	Channel	Right	Coeff Contr.	Expan.
32.91	59.65	23.72	12.96	9.56	.1	.3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 48.29413

INPUT
Description:
Station Elevation Data num= 133

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	817.79	.32	817.78	.89	817.77	1.12	817.76	1.31	817.74
1.72	817.71	2.28	817.68	2.55	817.65	3.62	817.59	4.34	817.5
4.9	817.42	5.81	817.27	6.38	817.22	7.42	817	10.39	817
11.55	817	11.95	817	12.86	817	15.66	817.6	15.95	817.6
16.25	817.61	16.38	817.61	16.49	817.59	17.02	817.67	17.33	817.63
17.59	817.66	17.73	817.68	17.78	817.68	18.15	817.72	18.22	817.71
18.31	817.71	18.68	817.73	18.89	817.74	19.83	817.65	20.48	817.66
20.89	817.66	25.43	817.46	25.82	817.46	26.82	817.45	28.63	817.42
29.29	817.42	31.27	817.38	32.2	817.33	38.14	817.05	38.86	817
39.92	816.15	40.05	816	41.57	815.09	41.72	815	41.78	814.91
42.48	814	42.49	813.95	42.83	813	43.45	812.61	44.21	812.13
44.46	812	45.01	811.8	47.32	811	47.96	810.66	49.1	810
51.31	810	52.16	810	52.57	810.46	53.05	811	54.13	811.55
55.12	811.97	55.15	811.99	55.19	812	56.2	812.27	56.57	812.35
57.26	812.51	57.96	812.66	60.25	813	61.1	813.17	61.21	813.21
61.38	813.27	62.39	813.61	63.01	813.78	63.15	813.82	63.56	814

64.16	814.47	64.85	815	65.43	815.23	65.75	815.34	66.62	815.68
66.82	815.73	67.12	815.85	67.51	816	68.16	816.12	68.88	816.24
69.44	816.31	70.31	816.43	70.76	816.47	71.16	816.5	71.61	816.52
73.74	816.96	73.84	816.96	73.94	817	75.12	817.84	75.24	817.93
75.42	818	76.6	818.48	76.96	818.57	77.46	818.63	78.09	818.82
78.73	818.83	79.32	818.79	79.43	818.81	79.98	818.75	80.27	818.77
80.36	818.76	80.59	818.76	81.09	818.7	81.35	818.68	81.68	818.65
82.14	818.6	83.61	818.39	86.23	818	86.24	818	86.25	818
89.87	817.7	91.08	817.59	93.97	817	94.26	816.87	94.39	816.82
94.75	816.68	95.26	816.47	96.5	816	97.44	815.56	98.72	815
99.24	814.73	99.42	814.61	99.61	814.49				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	32.2	.04	61.38	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
32.2	61.38	19.38	15.29	8.32	.1	.3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 33.00703

INPUT
Description:
Station Elevation Data num= 123

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	815.53	.74	815.54	7.22	815.38	9.05	815.29	11.35	815.32
11.45	815.31	13.54	815.11	13.63	815.11	14.77	815	16.52	814.82
17.56	814.73	18.52	814.66	19.26	814.63	20.78	814.58	21.5	814.56
21.77	814.55	22.11	814.54	22.33	814.53	22.63	814.53	23.09	814.51
23.2	814.51	24.47	814.48	25.85	814.43	26.16	814.42	27.51	814.39
27.89	814.39	29.83	814.34	34.1	814.36	34.43	814.37	36.96	814.15
37.78	814.08	38.2	814	39.13	813.56	40.37	813	40.6	812.37
40.72	812	42.86	811.2	43.41	811	43.8	810.45	44.12	810
47.63	809.14	47.93	809.07	48.18	809	51.98	808.01	52.03	808
52.05	808	52.09	808	52.82	808	53.77	808	54.82	808
55.47	808.1	55.89	808.16	58.77	808.62	59.92	808.76	60.05	808.78
60.22	808.8	60.41	808.82	60.56	808.83	62.37	809	64.04	809.33
64.31	809.41	64.35	809.42	66.33	810	66.62	810.08	66.87	810.15
68.75	810.68	69.86	811	69.93	811.03	69.98	811.06	70.2	811.16
71.14	811.59	71.74	811.89	71.95	812	72.18	812.41	72.44	813
72.52	813.02	73.61	813.23	74.09	813.3	74.6	813.38	75.05	813.42
75.77	813.52	76.38	813.56	76.46	813.56	77.24	813.68	77.96	813.64
79.22	813.85	79.38	813.86	80.36	814	82	814.46	82.29	814.52
82.45	814.56	83.46	814.76	83.88	814.84	85.12	815	85.37	815.02
85.42	815.04	86.14	815.05	86.85	815.05	86.88	815.06	87.24	815
87.58	814.96	88.75	814.76	89.14	814.72	89.63	814.59	89.97	814.53
90.31	814.41	91.52	814.03	91.55	814.02	91.6	814	92.27	813.75
93.05	813.38	93.55	813.14	93.84	813	94.84	812.77	95.68	812.54
96.51	812.34	96.89	812.25	97.62	812	97.92	811.84	98.05	811.86
98.11	811.9	99.04	812	100.91	812				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	36.96	.04	64.31	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
36.96 64.31 14.36 13.89 6.66 .1 .3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 19.11380

INPUT
Description:
Station Elevation Data num= 130

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	814.61	.39	814.61	1.27	814.61	3.88	814	5.56	814
12.89	813.66	13.17	813.65	17.56	813.58	19.24	813.5	19.53	813.49
20.33	813.46	22.17	813.42	24.09	813.33	24.26	813.32	24.62	813.31
24.94	813.3	25.01	813.3	26.26	813.24	26.9	813.22	27.16	813.22
27.85	813.18	28.47	813.16	29.59	813.16	30.14	813.14	31.68	813.09
32.5	813	32.58	813	32.76	813	33.72	813	33.74	813
33.82	813	34.05	813	34.12	813	34.41	812.94	34.67	812.87
35.39	812.65	35.51	812.55	36.17	812	36.45	811.9	38.51	811.17
38.62	811.13	38.86	811.05	39.06	811	43.06	810.06	43.3	810
44.46	809.31	45.02	809	45.24	808.92	47.04	808.3	47.9	808
50.6	807.26	52.42	807	55.7	806.12	56.19	806.03	56.45	806
57.05	805.83	57.68	805.74	57.9	805.67	58.01	805.67	58.48	805.65
58.5	805.65	58.76	805.61	59.19	805.63	59.56	805.64	62.34	805.9
62.49	805.91	62.66	805.93	63.95	806	64.03	806	64.36	806
64.37	806.01	66.22	806.07	67.77	806.15	68.33	806.23	70.4	806.52
71.01	806.61	71.71	806.72	72.57	806.87	73.29	807	73.34	807.01
73.96	807.16	74.81	807.36	76.05	807.68	77.27	808	78.34	808.53
78.81	808.68	78.84	808.69	79.03	808.78	79.7	809	81.71	809.5
82.58	809.8	82.76	809.85	83.18	810	84.45	810.28	84.71	810.31
85.44	810.42	86.16	810.48	86.64	810.54	87.07	810.56	87.72	810.62
88.02	810.62	88.26	810.61	88.98	810.62	89.54	810.58	89.89	810.55
90.56	810.49	90.99	810.44	91.38	810.4	91.89	810.33	93.58	810
93.95	809.85	94.01	809.84	95.63	809.9	95.75	810	98.24	810.85
98.52	811	98.75	811.3	99.26	812	99.65	812.54	99.89	812.87
99.99	813	100.69	813.87	100.79	814	100.99	814.19	101.84	815
102.49	815.67	102.7	815.87	102.84	816	103.32	816.22	103.85	816.42

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	36.45	.04	73.96	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
36.45 73.96 8.48 11.03 22.62 .1 .3

CROSS SECTION

RIVER: Nota
REACH: Nota RS: 8.082387

INPUT
Description:
Station Elevation Data num= 139

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	814	.04	814	.28	814	.86	814	1.51	814
1.99	814	2.03	814	2.36	814	2.46	814	2.78	814

2.89	814	3.54	813.93	3.69	813.93	4.41	813.85	4.55	813.84
5.2	813.85	7.57	813.65	10.55	813.59	12.77	813.51	18.72	813.25
19.29	813.24	20.83	813.22	23.75	813.11	24.24	813.09	25.57	813.04
25.71	813.03	26.47	813	28.32	812.88	29.9	812.79	31.77	812.6
32.43	812.55	33.96	812.44	34.56	812.4	35.31	812.36	35.71	812.3
37.61	812	37.93	811.66	38.75	811	40.7	810.41	42.23	810
43.39	809.67	45.59	809	46.62	808.57	48.25	808	48.47	807.87
49.23	807.37	49.88	807	52.22	806.36	53.44	806	54.49	805.14
54.69	805	54.88	804.22	54.94	804	55.01	803.94	56.1	803
56.17	802.92	57	802	57.3	801.78	58.23	801	59.89	800.01
59.91	800	59.93	799.98	60.04	799.83	60.68	799	60.72	799
61.51	798.76	61.7	798.73	62.21	798.72	62.83	798.76	63.03	798.78
64.93	798.99	64.94	798.99	64.96	798.99	65.04	799	67.77	799.28
68.25	799.34	69.17	799.46	70.69	799.66	71.2	799.73	72.38	799.89
72.54	799.92	73.21	800	73.73	800.31	74.71	801	75.02	801.03
75.71	801.12	76.27	801.15	77.17	801.24	78.42	801.41	79.12	801.44
79.61	801.5	80.78	801.63	82.06	801.85	82.51	801.91	82.93	802
84.09	802.61	84.46	802.81	84.8	803	86.45	803.76	86.86	804
88.17	804.96	88.21	805	89.12	805.73	89.46	806	89.87	806.23
90.74	806.79	91.06	807	93.05	807.51	94.44	807.77	94.79	807.85
94.94	807.88	95.65	808	95.85	808.35	96.44	809	97.29	809.56
98.06	810	98.84	810.27	100.91	811	101.03	811.07	102.41	812
102.61	812.08	103.1	812.24	104.43	812.69	105.38	813	106.41	813.63
107.21	814	107.4	814.03	107.43	814.03	108.57	814.19	108.84	814.23
110.13	814.4	112.36	814.78	113	814.87	113.61	815	114.56	815.66
115.53	815.99	115.54	815.99	115.56	816	116.98	816.55		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.035	35.71	.04	84.09	.035

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
35.71	84.09	24.08	8.08	7.68	.1	.3

SUMMARY OF MANNING'S N VALUES

River:Nota

Reach	River Sta.	n1	n2	n3
Nota	234.5633	.035	.04	.035
Nota	220.8931	.035	.04	.035
Nota	206.2115	.035	.04	.035
Nota	195.5067	.035	.04	.035
Nota	184.2587	.035	.04	.035
Nota	174.2417	.035	.04	.035
Nota	164.4459	.035	.04	.035
Nota	154.6206	.035	.04	.035
Nota	144.6175	.035	.04	.035
Nota	135.4527	Culvert		
Nota	126.2879	.035	.04	.035
Nota	107.4834	.035	.04	.035
Nota	90.78275	.035	.04	.035
Nota	75.41282	.035	.04	.035
Nota	61.25671	.035	.04	.035
Nota	48.29413	.035	.04	.035
Nota	33.00703	.035	.04	.035
Nota	19.11380	.035	.04	.035
Nota	8.082387	.035	.04	.035

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SUMMARY OF REACH LENGTHS

River: Nota

Reach	River Sta.	Left	Channel	Right
Nota	234.5633	12.36	13.67	12.35
Nota	220.8931	12.93	14.68	14.9
Nota	206.2115	13.16	10.7	8.53
Nota	195.5067	8.74	11.25	17.83
Nota	184.2587	12.93	10.02	8.57
Nota	174.2417	13.27	9.8	6.46
Nota	164.4459	8.49	9.82	6.36
Nota	154.6206	7.87	10	14.7
Nota	144.6175	20.14	18.33	27.56
Nota	135.4527	Culvert		
Nota	126.2879	7.8	18.8	15.03
Nota	107.4834	20.46	16.7	9.05
Nota	90.78275	24.78	15.37	4.84
Nota	75.41282	23.24	14.16	8.1
Nota	61.25671	23.72	12.96	9.56
Nota	48.29413	19.38	15.29	8.32
Nota	33.00703	14.36	13.89	6.66
Nota	19.11380	8.48	11.03	22.62
Nota	8.082387	24.08	8.08	7.68

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SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Nota

Reach	River Sta.	Contr.	Expan.
Nota	234.5633	.1	.3
Nota	220.8931	.1	.3
Nota	206.2115	.1	.3
Nota	195.5067	.1	.3
Nota	184.2587	.1	.3
Nota	174.2417	.1	.3
Nota	164.4459	.1	.3
Nota	154.6206	.1	.3
Nota	144.6175	.1	.3
Nota	135.4527	Culvert	
Nota	126.2879	.1	.3
Nota	107.4834	.1	.3
Nota	90.78275	.1	.3
Nota	75.41282	.1	.3
Nota	61.25671	.1	.3
Nota	48.29413	.1	.3
Nota	33.00703	.1	.3
Nota	19.11380	.1	.3
Nota	8.082387	.1	.3

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Profile Output Table - Standard Table 1

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Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Nota	234.5633	T500	13.24	851.25	852.18	852.18	852.50	0.019582	2.51	5.27	8.37	1.01
Nota	234.5633	T10	3.77	851.25	851.75	851.75	851.92	0.023737	1.82	2.07	6.23	1.01
Nota	220.8931	T500	13.24	844.00	844.41	845.23	851.05	0.965599	11.41	1.16	3.23	6.07
Nota	220.8931	T10	3.77	844.00	844.14	844.58	850.23	3.148459	10.94	0.34	2.68	9.72
Nota	206.2115	T500	13.24	839.77	840.48	841.09	843.15	0.265710	7.24	1.83	3.68	3.28
Nota	206.2115	T10	3.77	839.77	840.21	840.45	841.14	0.201617	4.28	0.88	3.41	2.69
Nota	195.5067	T500	13.24	837.00	837.93	838.53	840.45	0.230900	7.03	1.88	3.60	3.11
Nota	195.5067	T10	3.77	837.00	837.55	837.88	838.85	0.220268	5.06	0.74	2.28	2.83
Nota	184.2587	T500	13.24	834.00	834.71	835.32	837.53	0.289766	7.43	1.78	3.86	3.49
Nota	184.2587	T10	3.77	834.00	834.42	834.71	835.82	0.335253	5.25	0.72	3.15	3.51
Nota	174.2417	T500	13.24	831.95	832.52	833.09	834.85	0.222396	6.77	1.96	3.74	2.99
Nota	174.2417	T10	3.77	831.95	832.22	832.46	833.13	0.198387	4.24	0.89	3.45	2.66
Nota	164.4459	T500	13.24	830.39	831.05	831.56	832.91	0.153610	6.05	2.19	3.45	2.42
Nota	164.4459	T10	3.77	830.39	830.69	830.91	831.45	0.143027	3.84	0.98	3.35	2.26
Nota	154.6206	T500	13.24	828.60	829.23	829.76	831.27	0.178134	6.34	2.09	3.52	2.63
Nota	154.6206	T10	3.77	828.60	828.88	829.12	829.79	0.196414	4.24	0.89	3.35	2.63
Nota	144.6175	T500	13.24	827.74	829.79	829.00	830.02	0.002870	2.15	6.14	6.19	0.48
Nota	144.6175	T10	3.77	827.74	828.60	828.29	828.71	0.004255	1.47	2.57	4.42	0.51
Nota	135.4527		Culvert									
Nota	126.2879	T500	13.24	824.91	825.60	826.28	828.59	0.212311	7.67	1.73	6.19	3.23
Nota	126.2879	T10	3.77	824.91	825.21	825.57	827.40	0.608362	6.56	0.57	5.53	4.66
Nota	107.4834	T500	13.24	819.47	819.97	820.42	822.68	0.494479	7.29	1.81	6.71	4.48
Nota	107.4834	T10	3.77	819.47	819.83	820.02	820.59	0.216553	3.87	0.98	5.03	2.81
Nota	90.78275	T500	13.24	815.00	815.83	816.35	817.85	0.176690	6.29	2.10	4.14	2.82
Nota	90.78275	T10	3.77	815.00	815.43	815.74	816.73	0.239157	5.07	0.74	2.59	3.02
Nota	75.41282	T500	13.24	812.00	812.53	813.05	814.74	0.229653	6.59	2.01	4.50	3.15
Nota	75.41282	T10	3.77	812.00	812.26	812.50	813.17	0.210482	4.22	0.89	3.80	2.78
Nota	61.25671	T500	13.24	811.00	811.71	812.01	812.67	0.073395	4.36	3.04	5.33	1.84
Nota	61.25671	T10	3.77	811.00	811.38	811.48	811.72	0.049927	2.57	1.47	4.40	1.42
Nota	48.29413	T500	13.24	810.00	810.74	811.06	811.74	0.070913	4.42	3.00	5.02	1.82
Nota	48.29413	T10	3.77	810.00	810.34	810.50	810.86	0.088685	3.20	1.18	3.94	1.87
Nota	33.00703	T500	13.24	808.00	808.47	808.83	809.95	0.212688	5.38	2.46	7.62	3.02
Nota	33.00703	T10	3.77	808.00	808.25	808.43	808.92	0.191988	3.62	1.04	5.42	2.64
Nota	19.11380	T500	13.24	805.61	806.15	806.39	807.07	0.179203	4.24	3.12	12.21	2.68
Nota	19.11380	T10	3.77	805.61	805.94	806.10	806.47	0.157239	3.23	1.17	6.25	2.38
Nota	8.082387	T500	13.24	798.72	799.15	799.66	803.11	0.807161	8.82	1.50	5.97	5.61
Nota	8.082387	T10	3.77	798.72	798.94	799.25	802.21	1.543656	8.02	0.47	3.55	7.03

ERRORS WARNINGS AND NOTES
Errors Warnings and Notes for Plan : nota_p

River: Nota Reach: Nota   RS: 220.8931   Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). 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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
River: Nota Reach: Nota   RS: 220.8931   Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). 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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
River: Nota Reach: Nota   RS: 206.2115   Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). 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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
River: Nota Reach: Nota   RS: 206.2115   Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). 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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
River: Nota Reach: Nota   RS: 195.5067   Profile: T500
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
River: Nota Reach: Nota   RS: 195.5067   Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
River: Nota Reach: Nota   RS: 184.2587   Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
     Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Nota Reach: Nota   RS: 184.2587   Profile: T10
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
     Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Nota Reach: Nota   RS: 174.2417   Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
     Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Nota Reach: Nota   RS: 174.2417   Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
     Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Nota Reach: Nota   RS: 164.4459   Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.
     Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.
River: Nota Reach: Nota   RS: 164.4459   Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
             the need for additional cross sections.

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     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.
River: Nota  Reach: Nota     RS: 154.6206     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.
River: Nota  Reach: Nota     RS: 154.6206     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, energy was used.
River: Nota  Reach: Nota     RS: 144.6175     Profile: T500
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Nota  Reach: Nota     RS: 144.6175     Profile: T10
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
     Note:   Hydraulic jump has occurred between this cross section and the previous upstream section.
River: Nota  Reach: Nota     RS: 135.4527     Profile: T500
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Nota  Reach: Nota     RS: 135.4527     Profile: T500     Culv: Culvert #1
     Note:   The flow in the culvert is entirely supercritical.
River: Nota  Reach: Nota     RS: 135.4527     Profile: T10
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Nota  Reach: Nota     RS: 135.4527     Profile: T10     Culv: Culvert #1
     Note:   The flow in the culvert is entirely supercritical.
River: Nota  Reach: Nota     RS: 107.4834     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 107.4834     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 90.78275     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 90.78275     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 75.41282     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 75.41282     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
             the need for additional cross sections.
River: Nota  Reach: Nota     RS: 61.25671     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
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          This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Nota  Reach: Nota     RS: 61.25671     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Nota  Reach: Nota     RS: 48.29413     Profile: T500
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Nota  Reach: Nota     RS: 48.29413     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Nota  Reach: Nota     RS: 33.00703     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Nota  Reach: Nota     RS: 33.00703     Profile: T10
     Warning:The conveyance ratio (upstream 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 energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Nota  Reach: Nota     RS: 19.11380     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  This may indicate the need for additional cross sections.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Nota  Reach: Nota     RS: 19.11380     Profile: T10
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Nota  Reach: Nota     RS: 8.082387     Profile: T500
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
River: Nota  Reach: Nota     RS: 8.082387     Profile: T10
     Warning:The velocity head has changed by more than 0.5 ft (0.15 m).  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.
     Warning:The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section.  This may indicate
          the need for additional cross sections.
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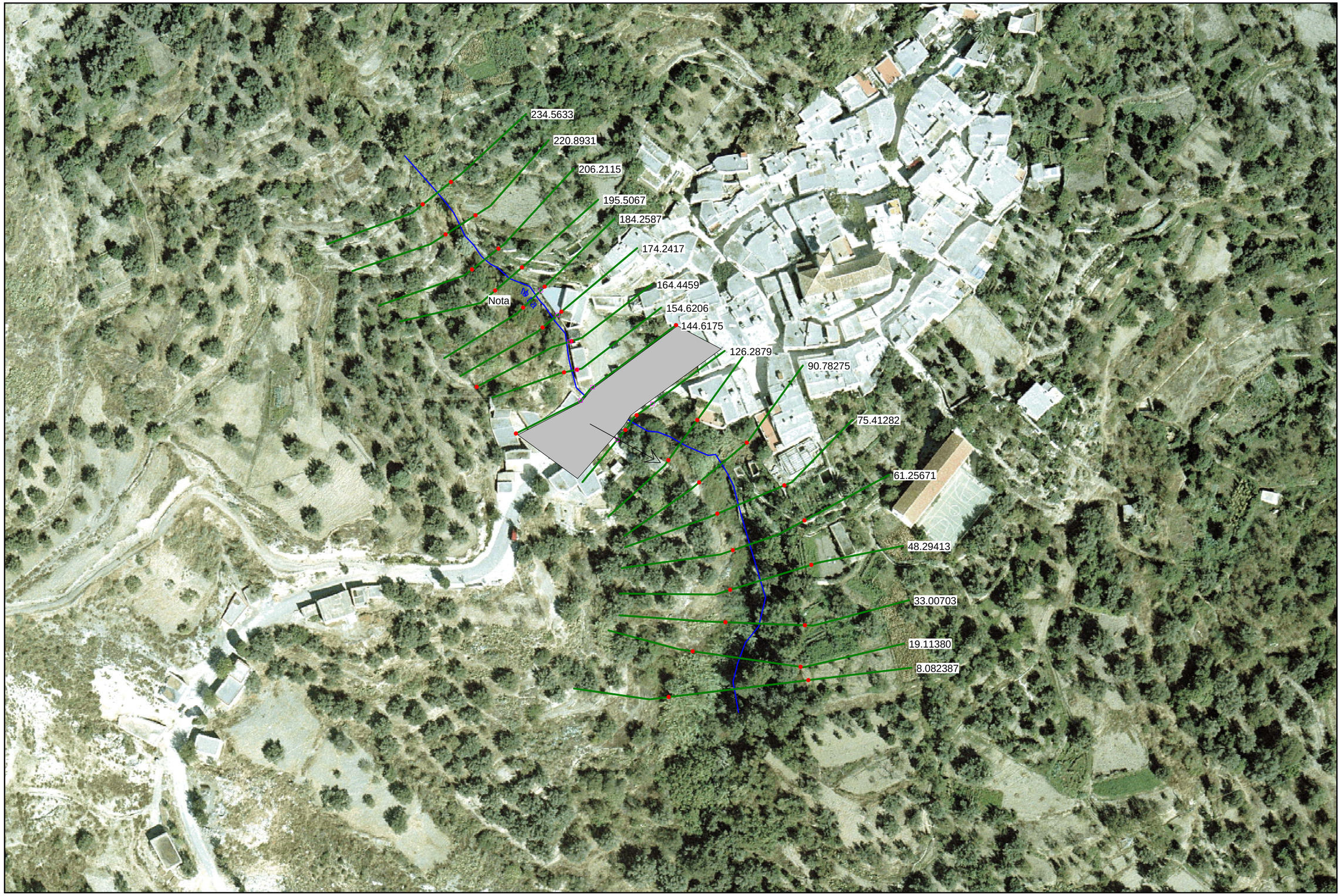
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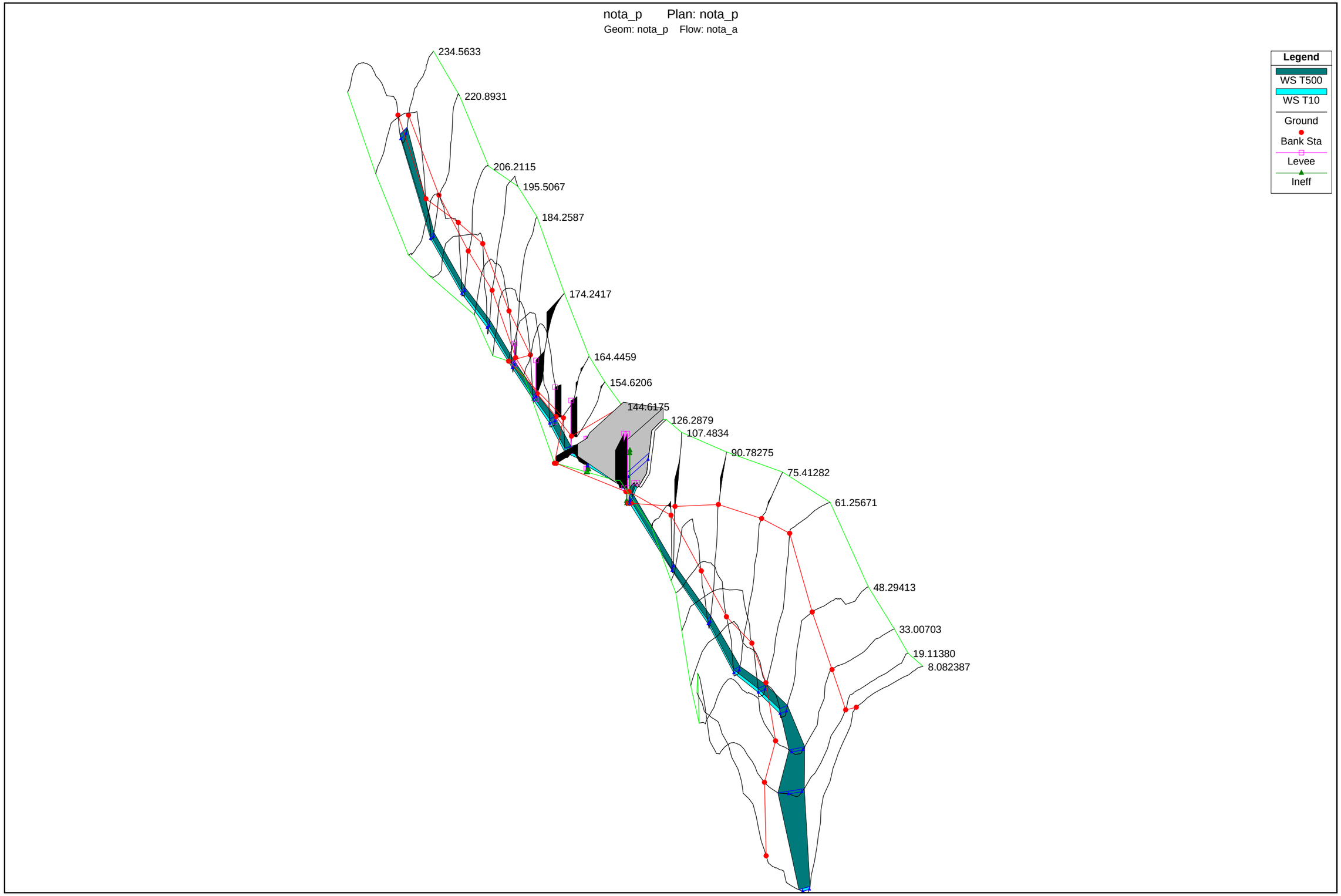
8.082387
Nota

nota_p Plan: nota_p

Geom: nota_p Flow: nota_a



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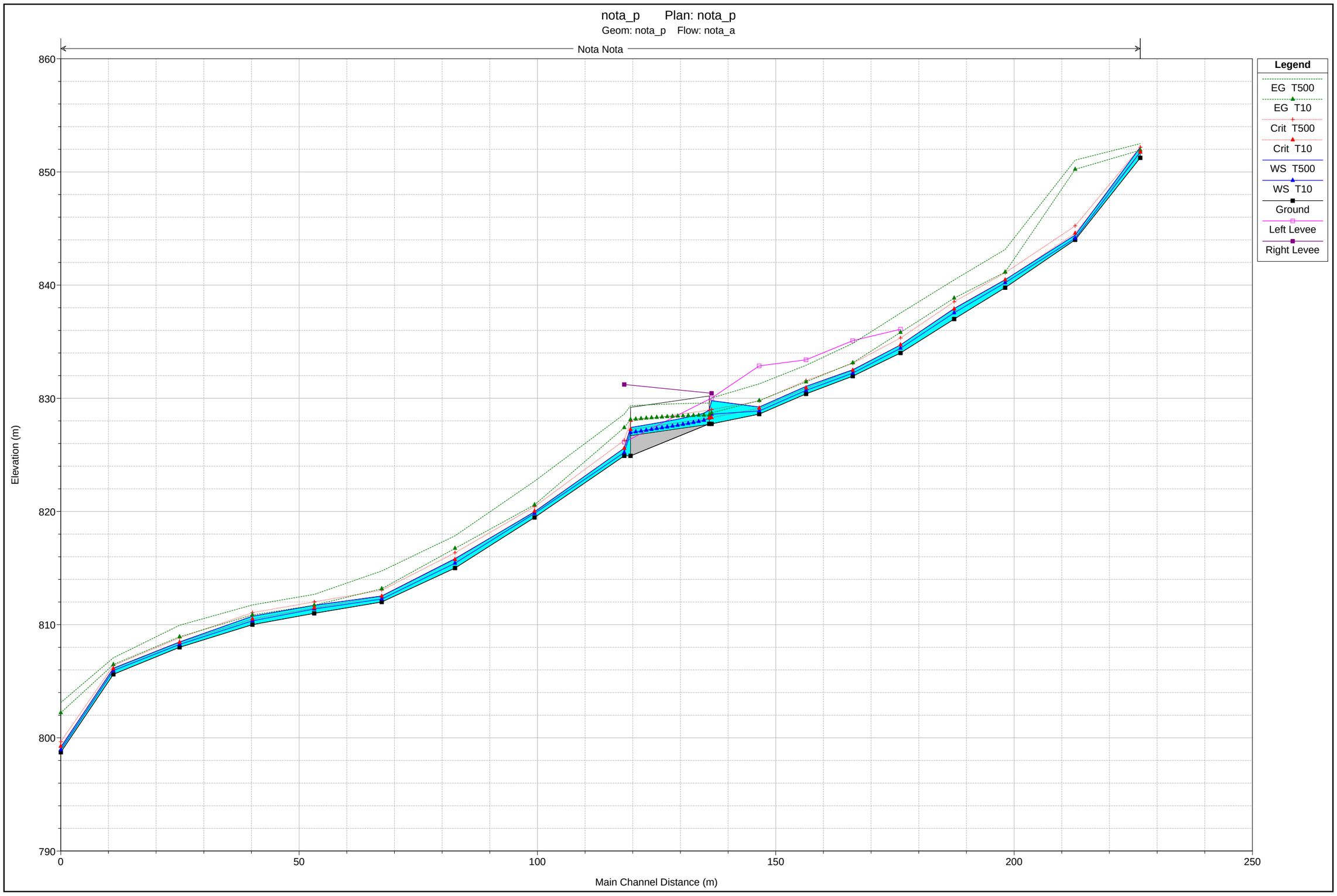
Geom: nota_p Flow: nota_a



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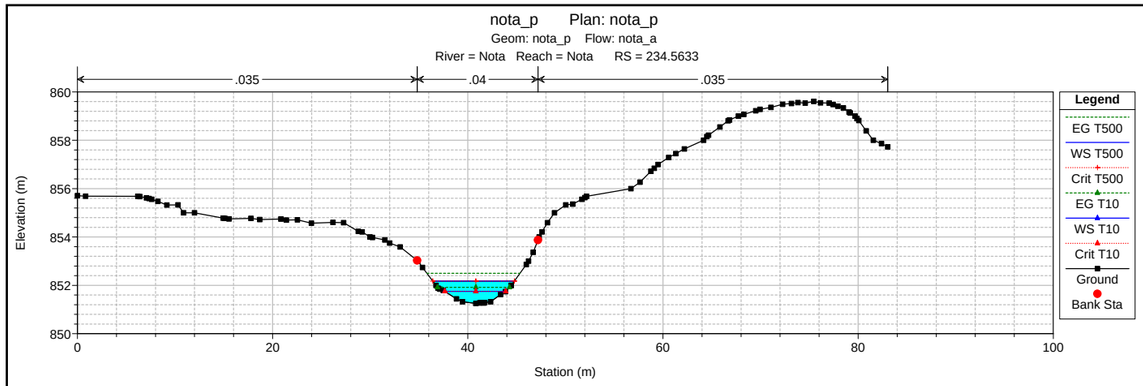
Geom: nota_p Flow: nota_a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.035
.04
.035
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Station (m)
Legend
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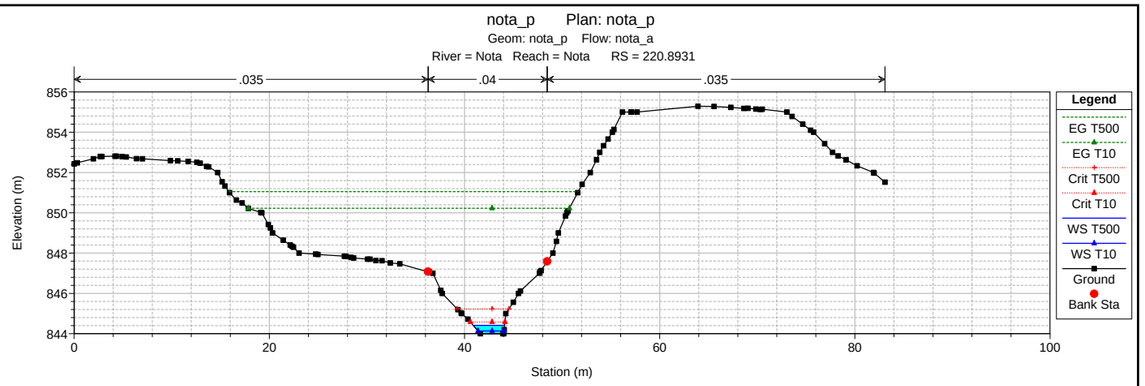
WS T10
Crit T10
Ground
Bank Sta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.04
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Station (m)
Legend
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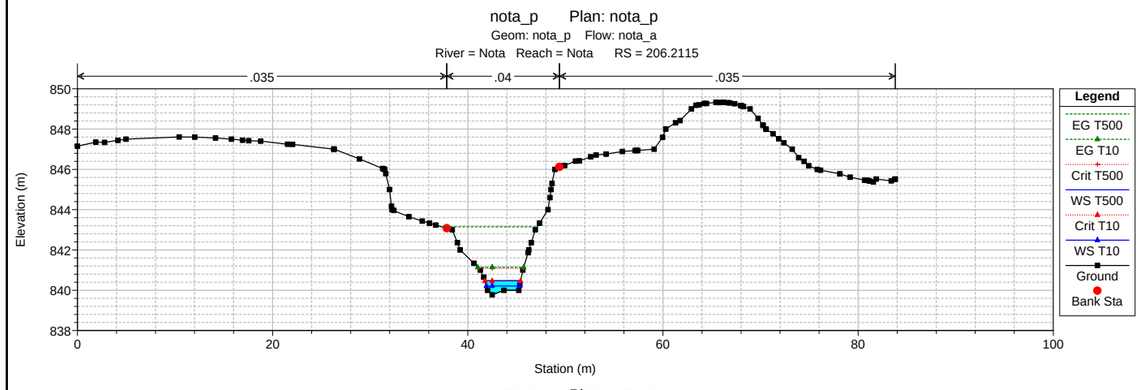
EG T10
Crit T500
Crit T10
WS T500
WS T10
Ground
Bank Sta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.04
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Station (m)
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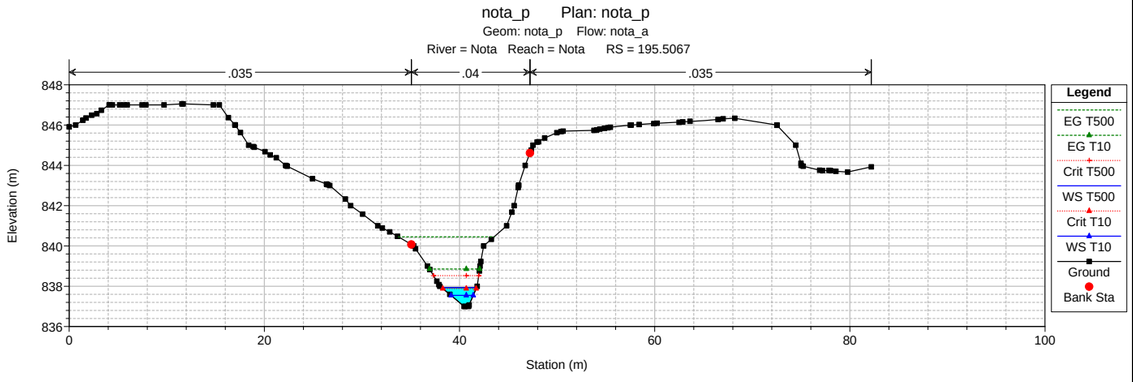
Crit T500
WS T500
Crit T10
WS T10
Ground
Bank Sta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.04
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Station (m)
Legend
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Crit T500
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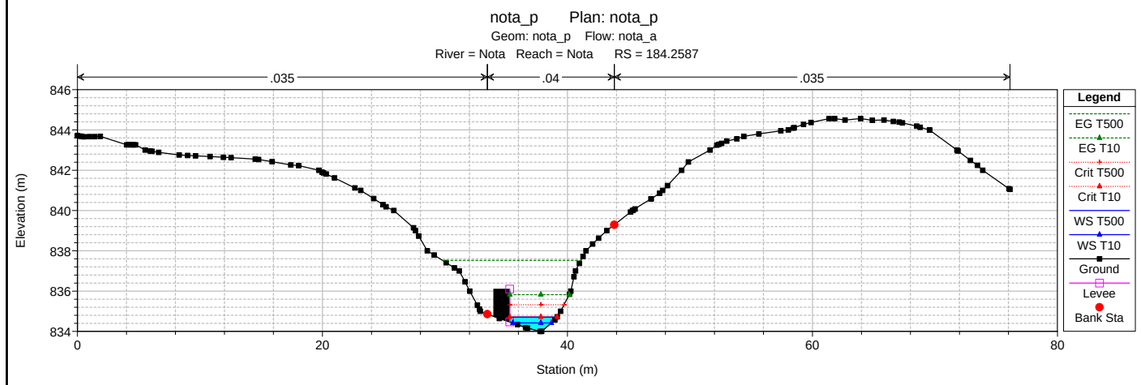
Crit T10
WS T10
Ground
Bank Sta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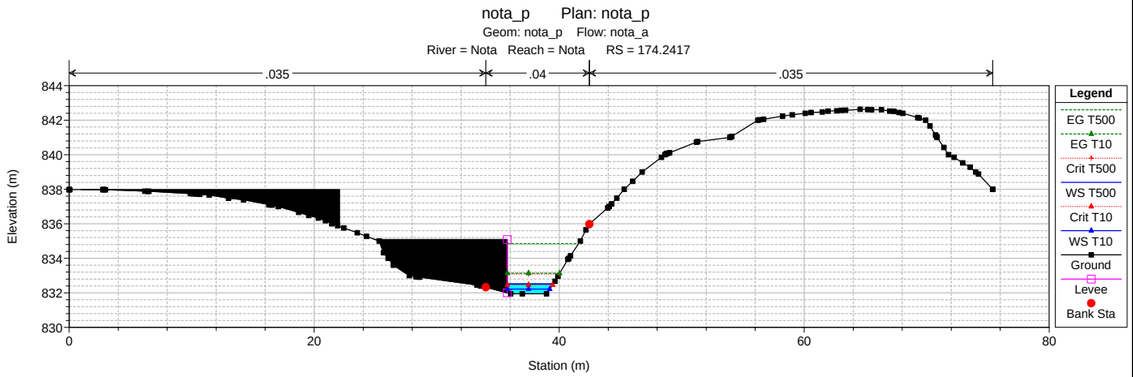
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
Crit T10
WS T500
WS T10
Ground
Levee
Bank Sta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.04
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Station (m)
Legend
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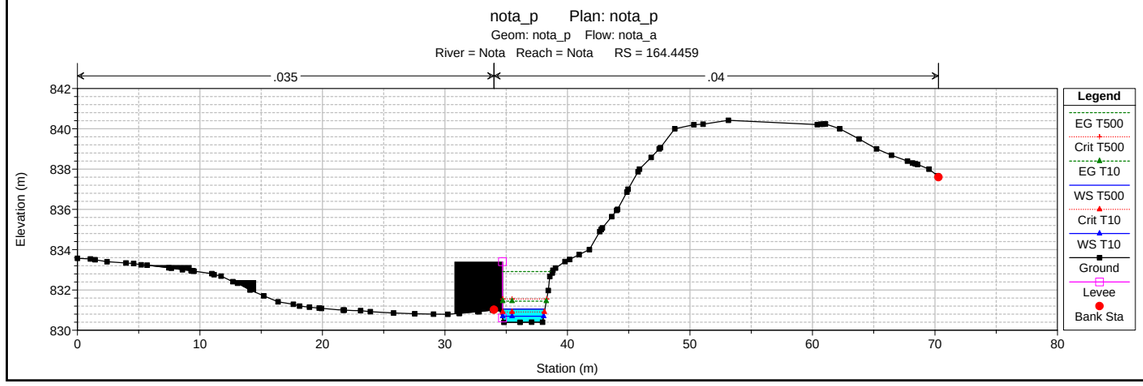
WS T10
Ground
Levee
Bank Sta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.035
.04
Elevation (m)
Station (m)
Legend
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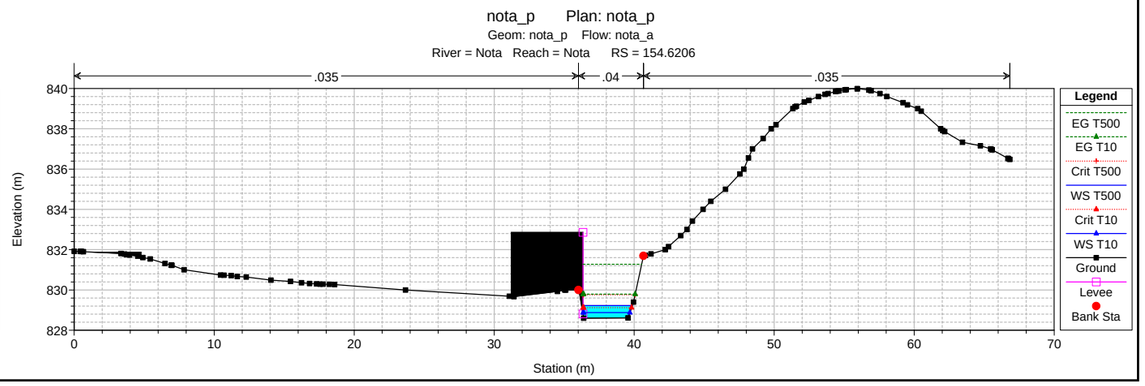
Crit T500
EG T10
WS T500
Crit T10
WS T10
Ground
Levee
Bank Sta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.04
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Station (m)
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Crit T500
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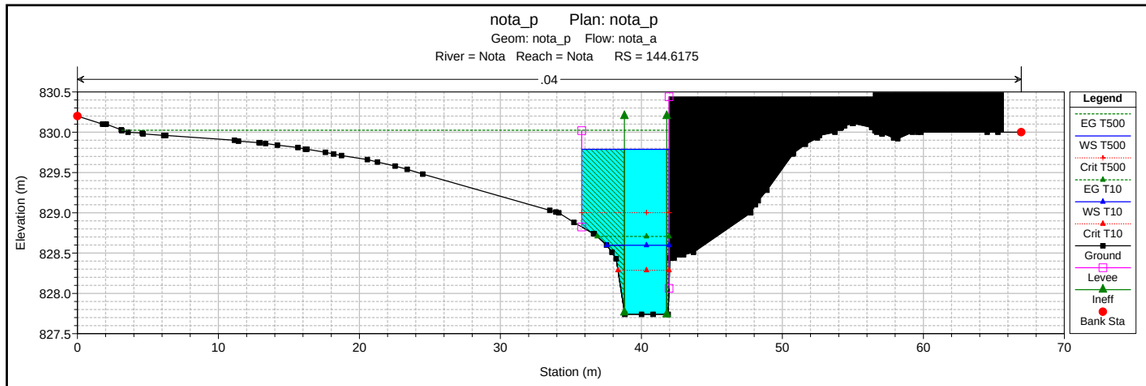
WS T10
Ground
Levee
Bank Sta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Elevation (m)
Station (m)
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Crit T500
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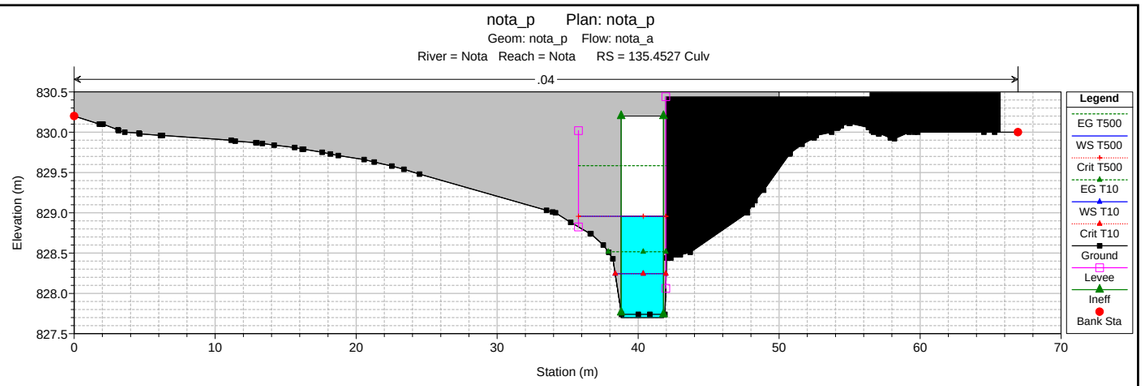
Ground
Levee
Ineff
Bank Sta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Ground
Levee
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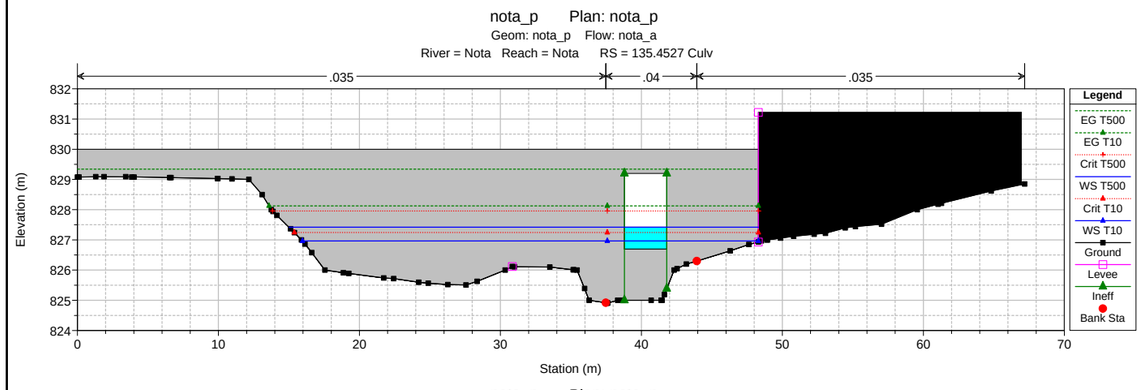
Bank Sta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.035
Elevation (m)
Station (m)
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EG T10
Crit T500
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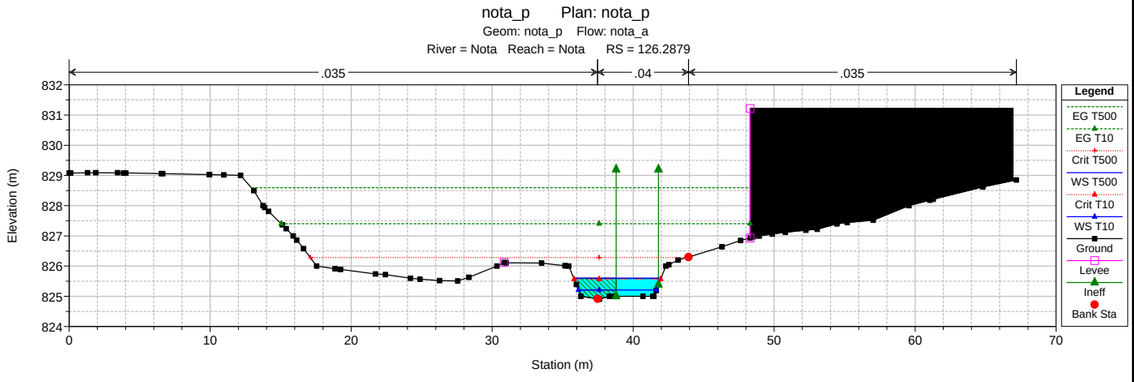
Crit T10
WS T10
Ground
Levee
Ineff
Bank Sta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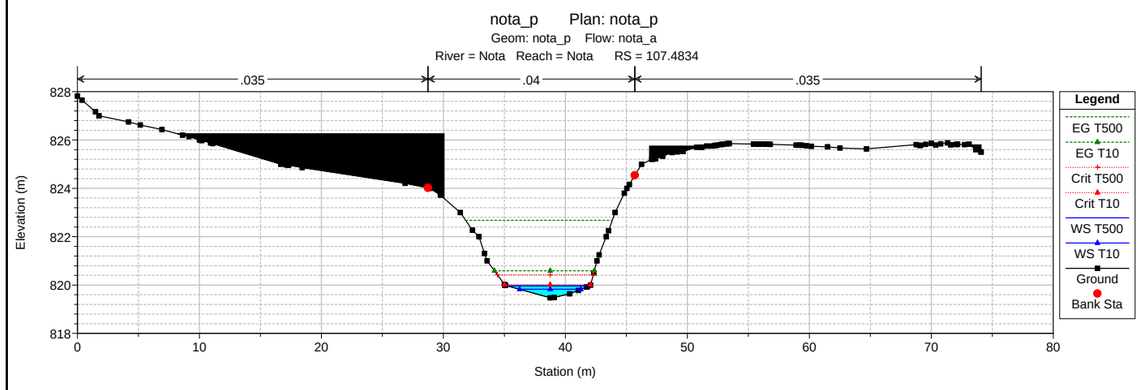
Ground
Levee
Ineff
Bank Sta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.04
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Station (m)
Legend
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EG T10
Crit T500
Crit T10
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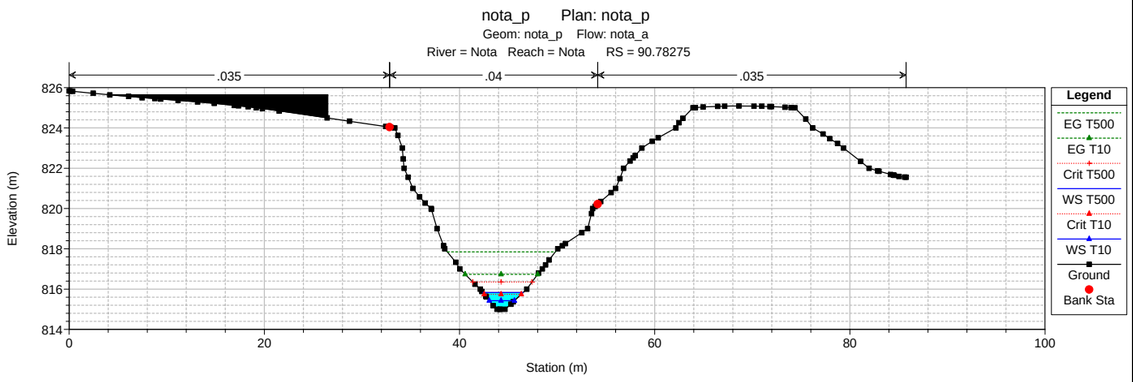
Ground
Bank Sta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Station (m)
Legend
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EG T10
Crit T500
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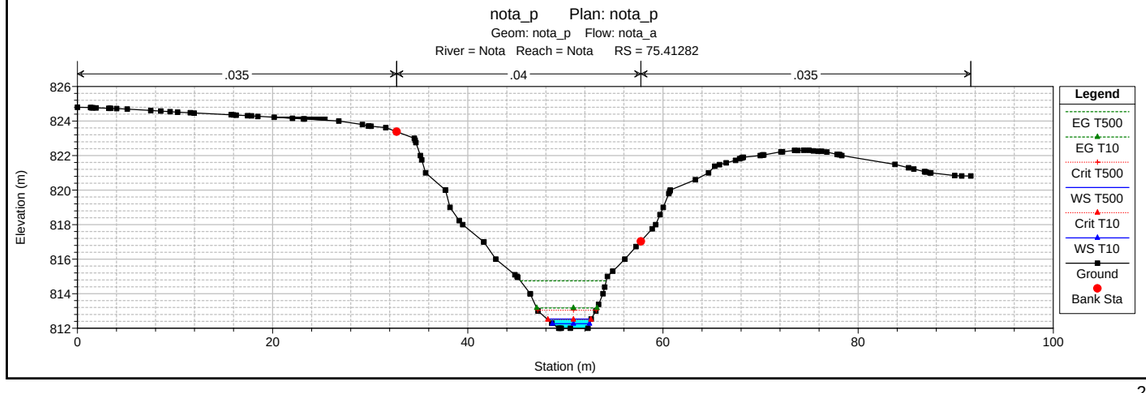
Bank Sta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.04
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Station (m)
Legend
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Crit T500
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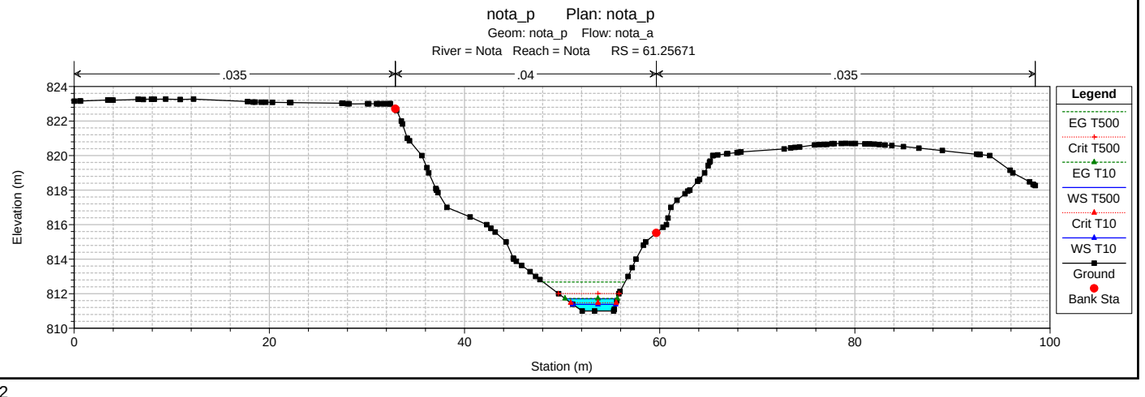
Ground
Bank Sta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.04
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Station (m)
Legend
EG T500
Crit T500
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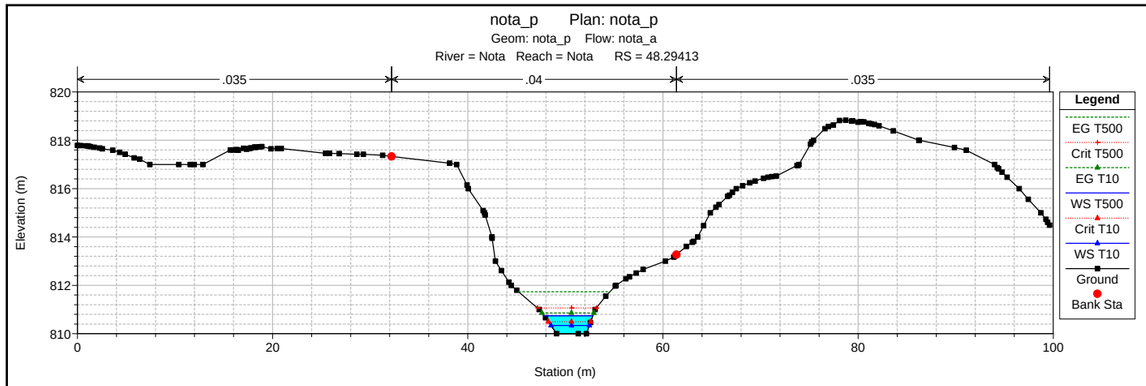
Crit T10
WS T10
Ground
Bank Sta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.04
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Station (m)
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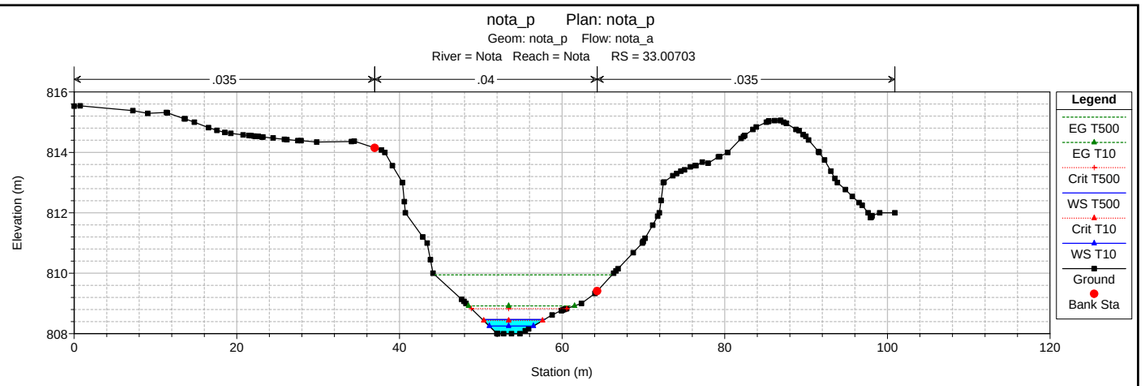
WS T10
Ground
Bank Sta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.04
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Station (m)
Legend
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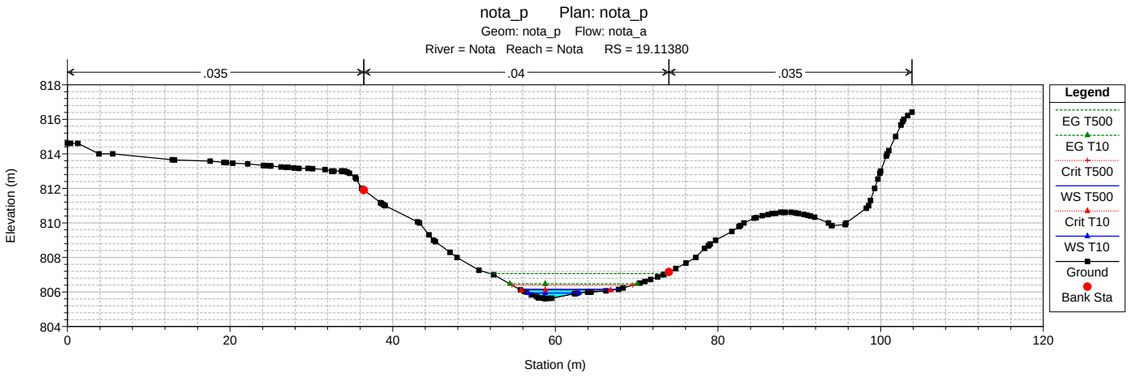
EG T10
Crit T500
WS T500
Crit T10
WS T10
Ground
Bank Sta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Station (m)
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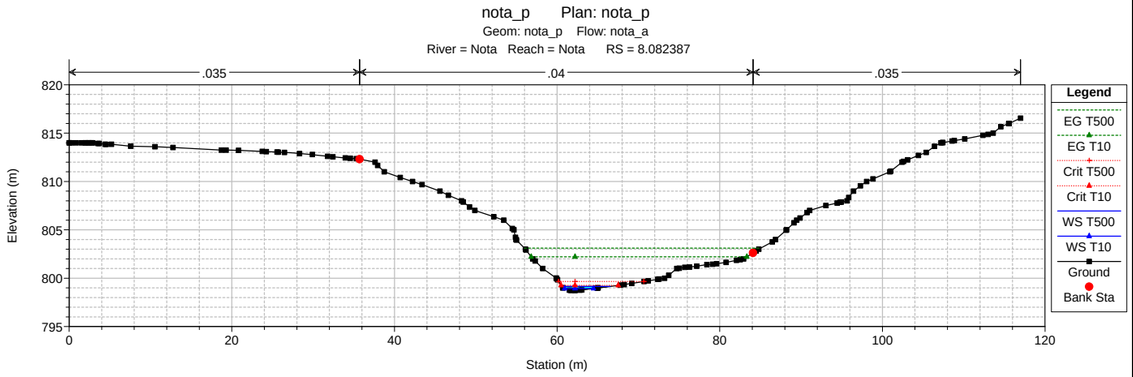
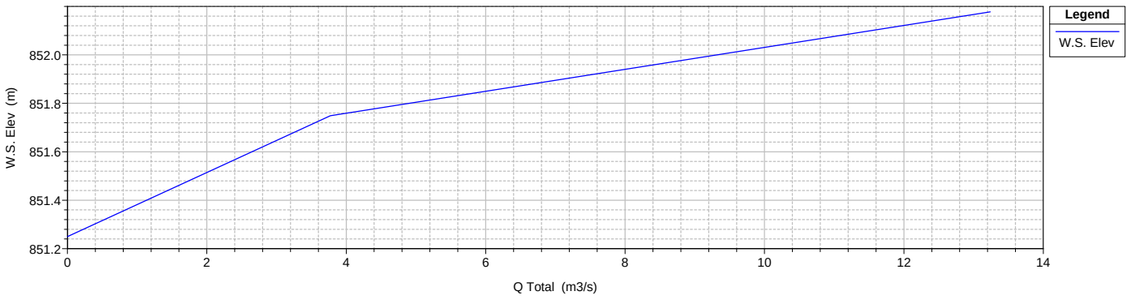
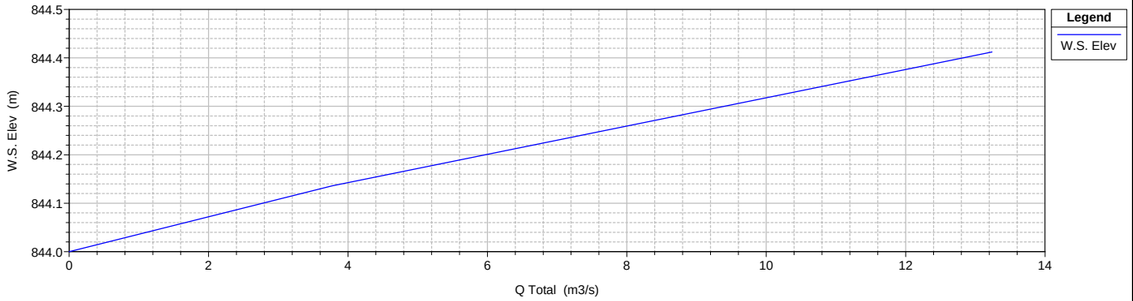
EG T10
Crit T500
WS T500
Crit T10
WS T10
Ground
Bank Sta


nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 8.082387
.035
.04
.035
Elevation (m)
Station (m)
Legend
EG T500
EG T10
Crit T500
Crit T10
WS T500
WS T10
Ground
Bank Sta

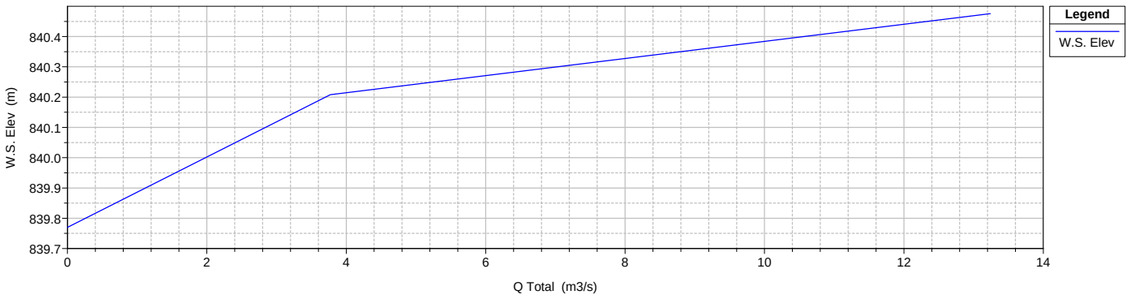
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 234.5633



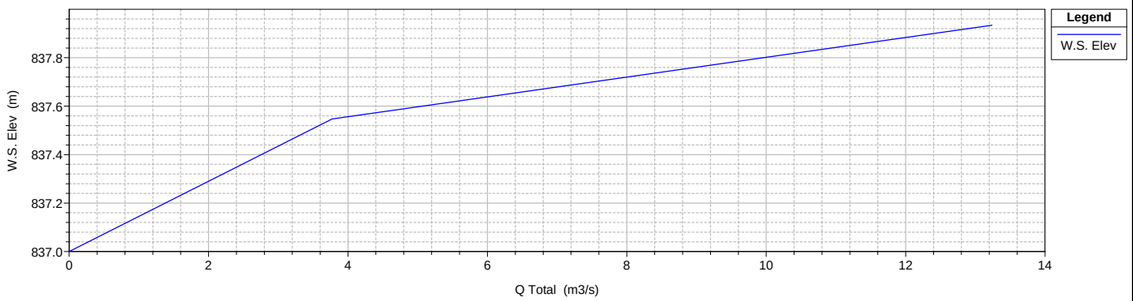
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 220.8931



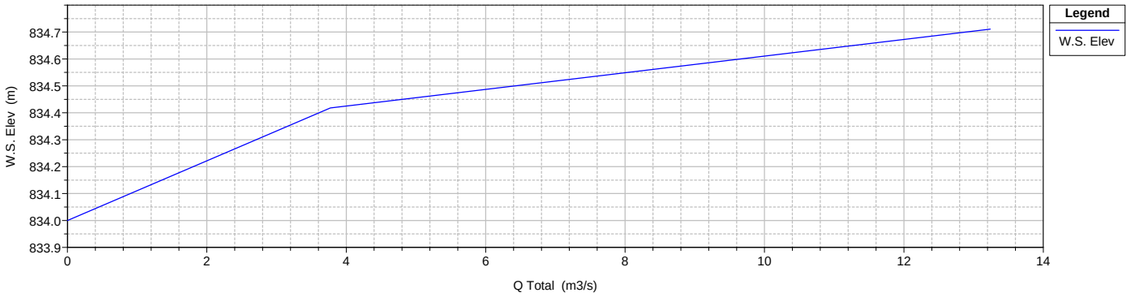
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 206.2115



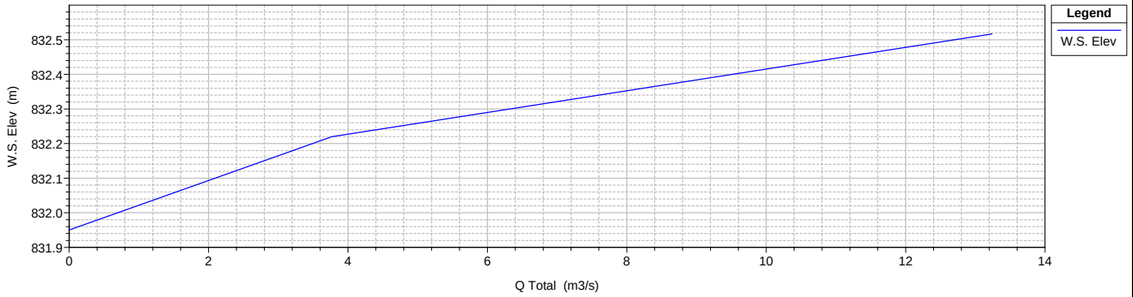
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 195.5067



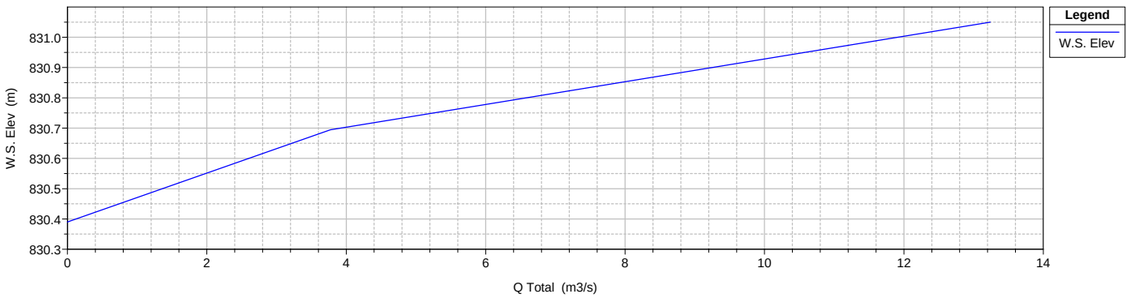
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 184.2587



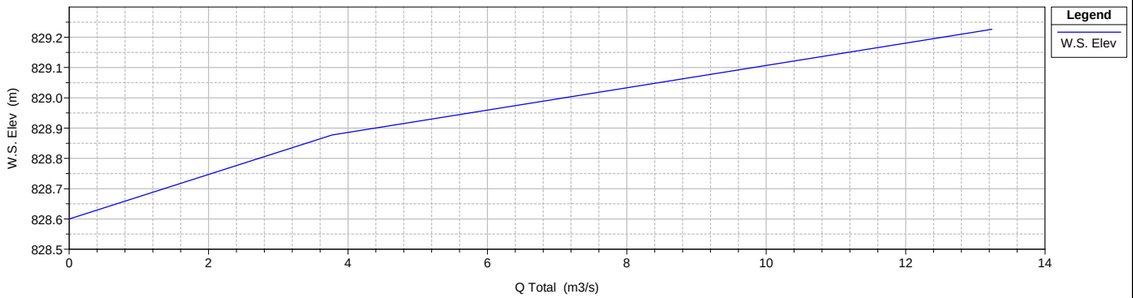
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 174.2417



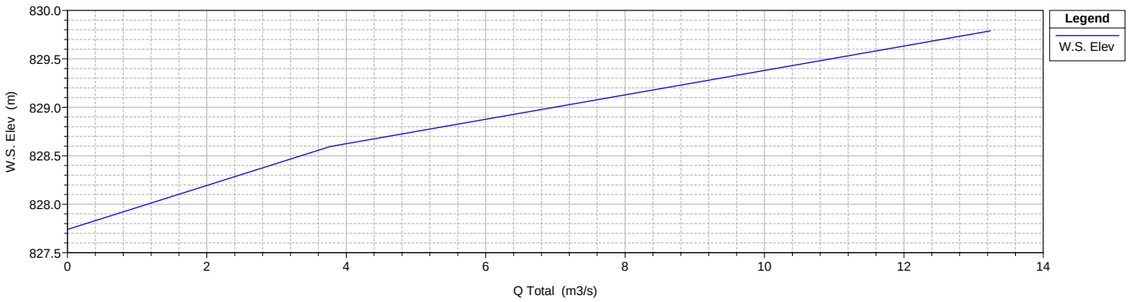
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 164.4459



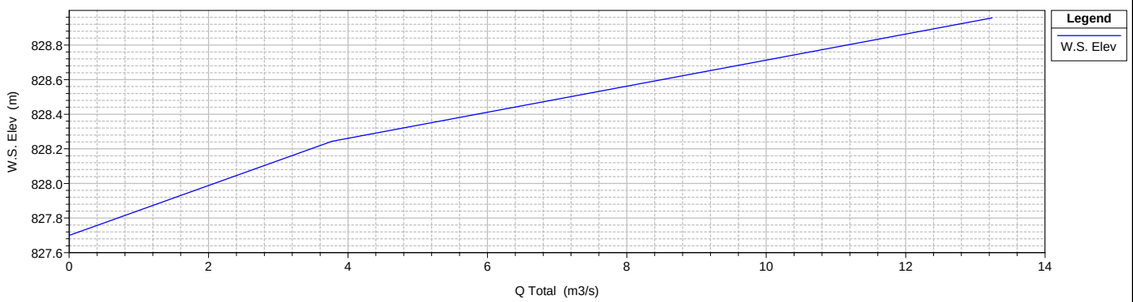
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 154.6206



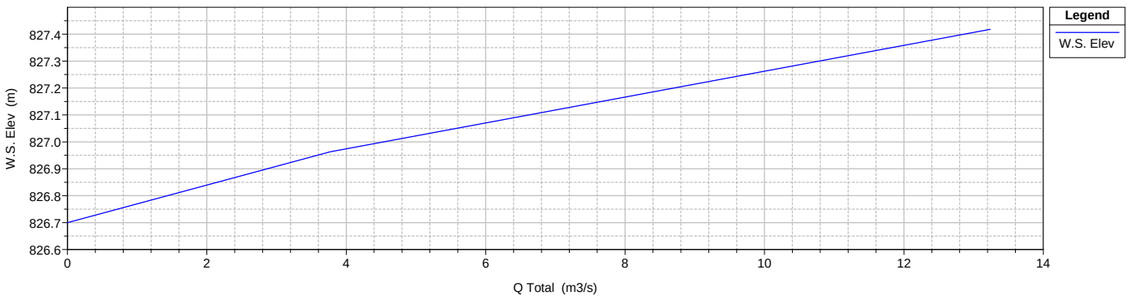
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 144.6175



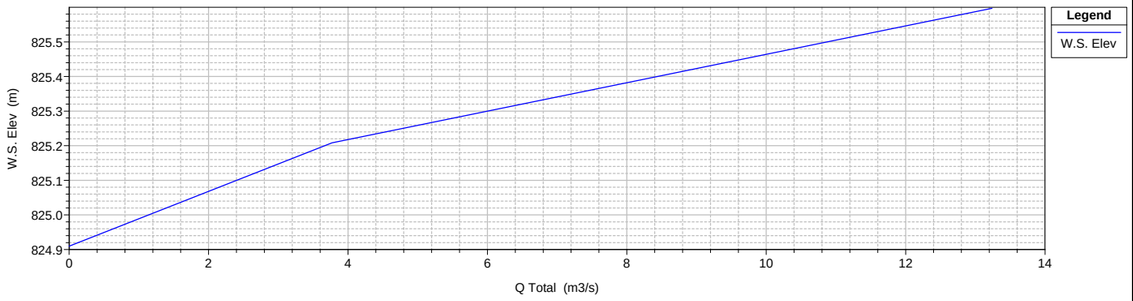
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 135.4527 Culv



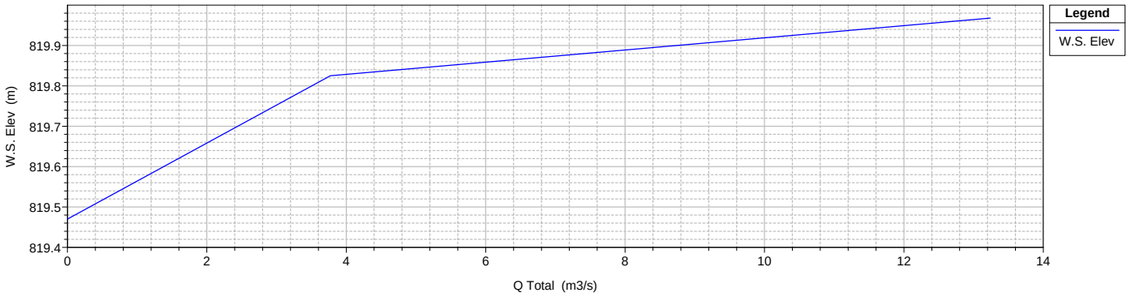
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 135.4527 Culv



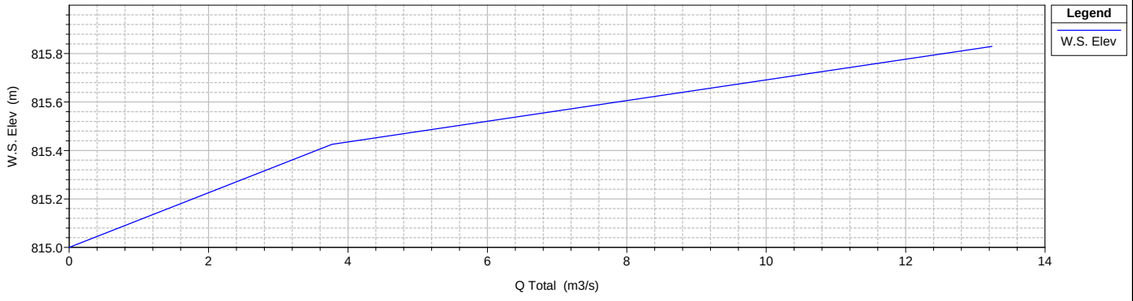
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 126.2879



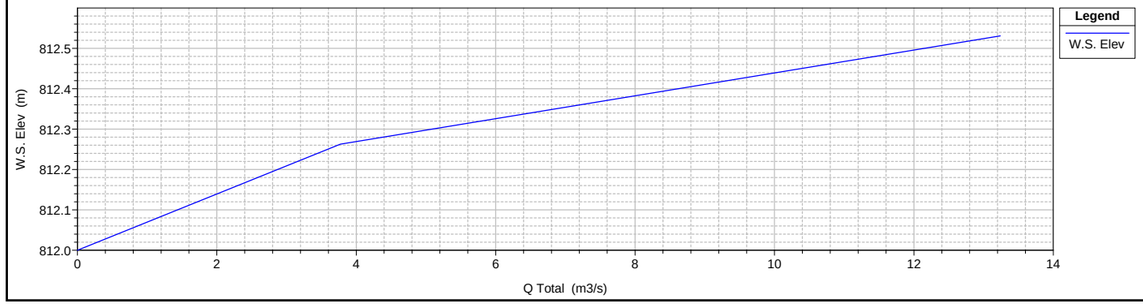
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 107.4834



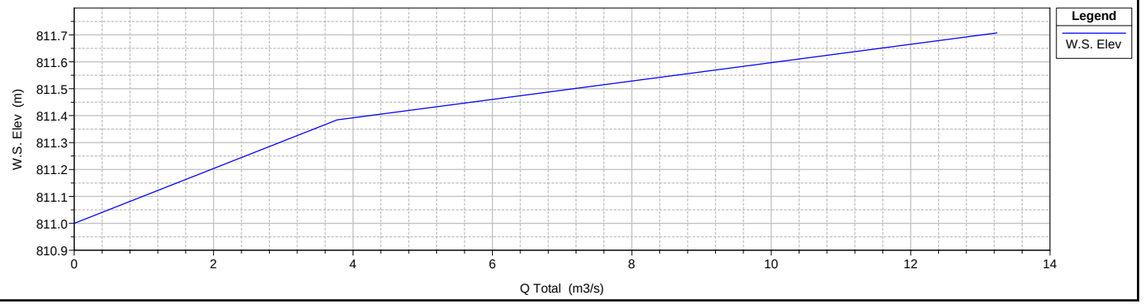
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 90.78275



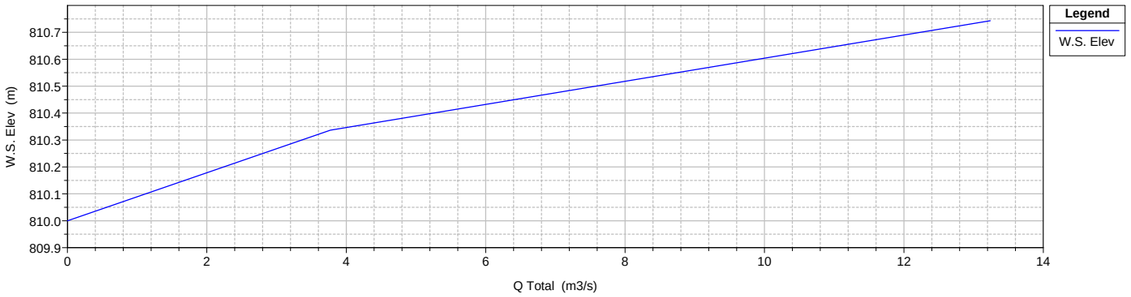
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 75.41282



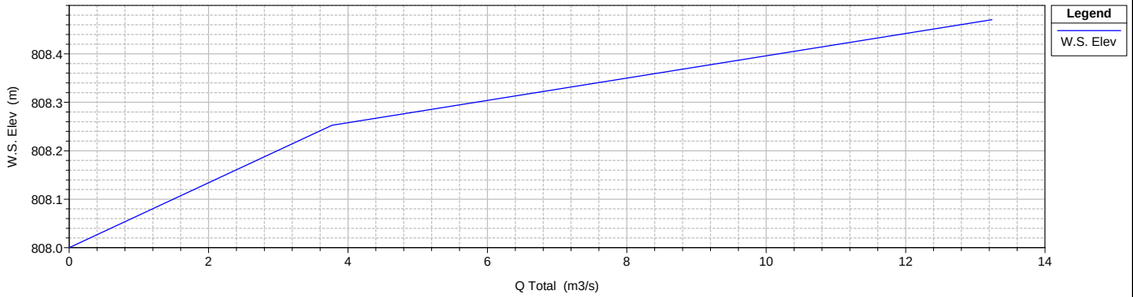
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 61.25671



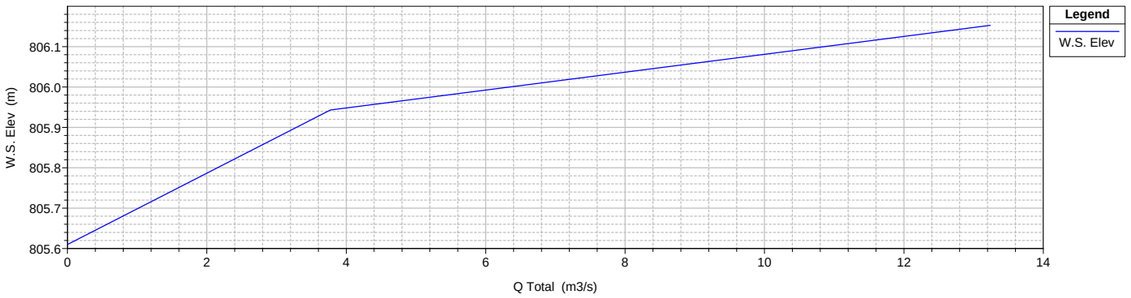
nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 48.29413



nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 33.00703



nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 19.11380



nota_p Plan: nota_p
Geom: nota_p Flow: nota_a
River = Nota Reach = Nota RS = 8.082387