

**STUDIO DI COMPATIBILITÀ IDRAULICA FINALIZZATO ALL'AMPLIAMENTO  
DEL PORTO IN LOCALITÀ "MARANA" - GOLFO DI MARINELLA  
(COMUNE DI GOLFO ARANCI)**

**LOTTO FUNZIONALE 1**



**ALL. B - STUDIO IDRAULICO ALLEGATO 1 - RISULTATI DI HEC RAS NELLA  
SITUAZIONE ATTUALE**

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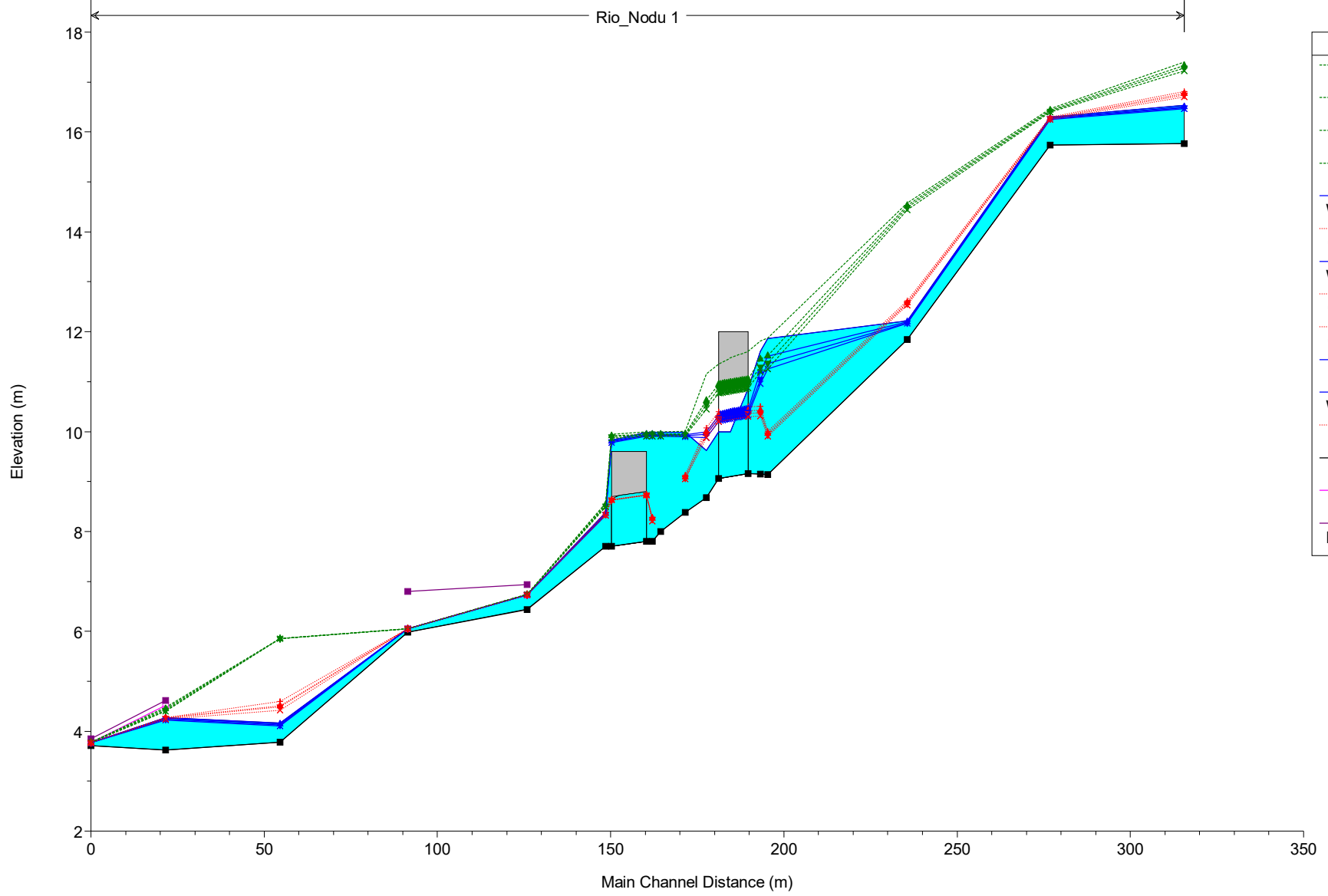
Cagliari, 28 gennaio 2020

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**INDICE - RISULTATI DI HEC RAS NELLA SITUAZIONE ATTUALE**

|                          |         |
|--------------------------|---------|
| Rio Nodu Mannu - profilo | pag. 1  |
| Rio Nodu Mannu - sezioni | pag. 2  |
| Canale - profilo         | pag. 12 |
| Canale - sezioni         | pag. 13 |
| Rio Su Laccu - profilo   | pag. 19 |
| Rio Su Laccu - sezioni   | pag. 20 |
| Tabulati dei risultati   | pag. 24 |

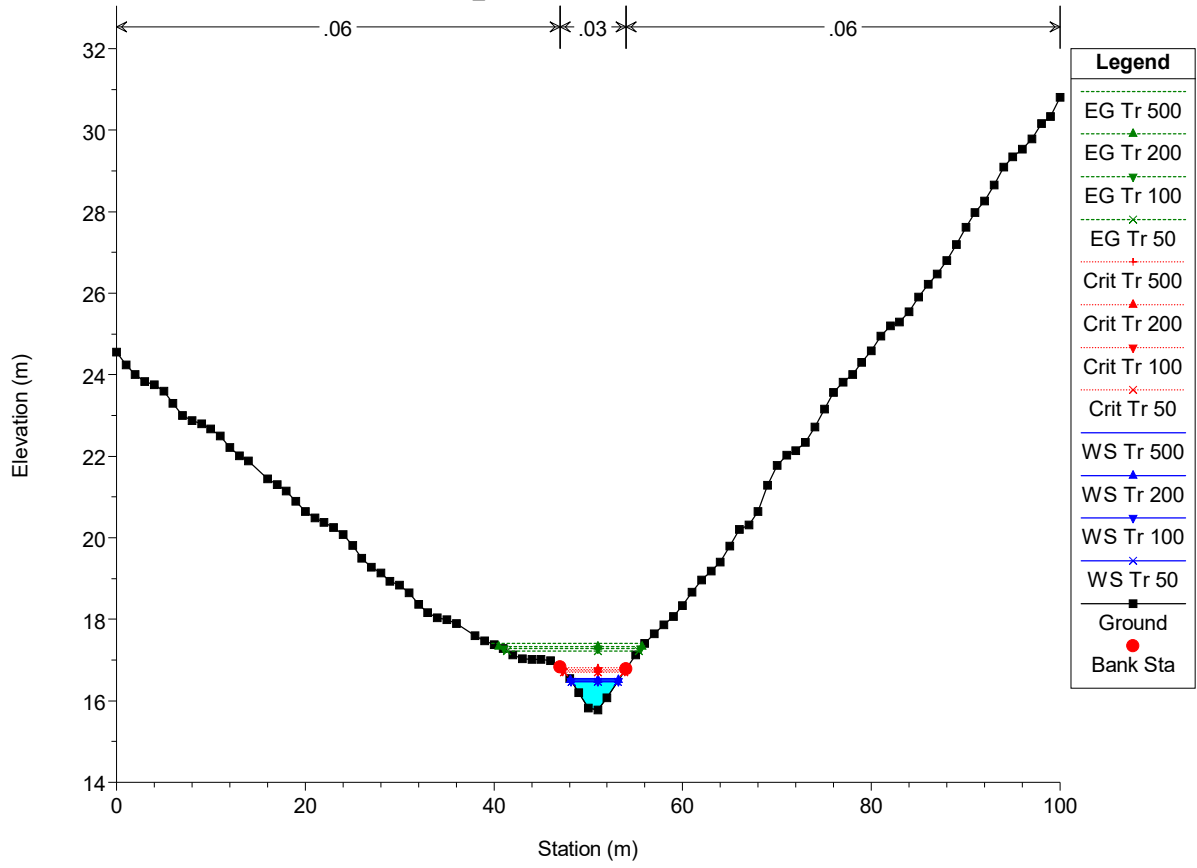
Marana Plan: attuale 28/01/2020



| Legend      |   |
|-------------|---|
| EG Tr 500   | ▲ |
| EG Tr 200   | ▲ |
| EG Tr 100   | ▲ |
| EG Tr 50    | ▲ |
| WS Tr 500   | ▲ |
| Crit Tr 200 | ▲ |
| WS Tr 100   | ▲ |
| Crit Tr 500 | ▲ |
| Crit Tr 100 | ▲ |
| WS Tr 50    | ▲ |
| WS Tr 200   | ▲ |
| Crit Tr 50  | ▲ |
| Ground      | ■ |
| Left Levee  | ■ |
| Right Levee | ■ |

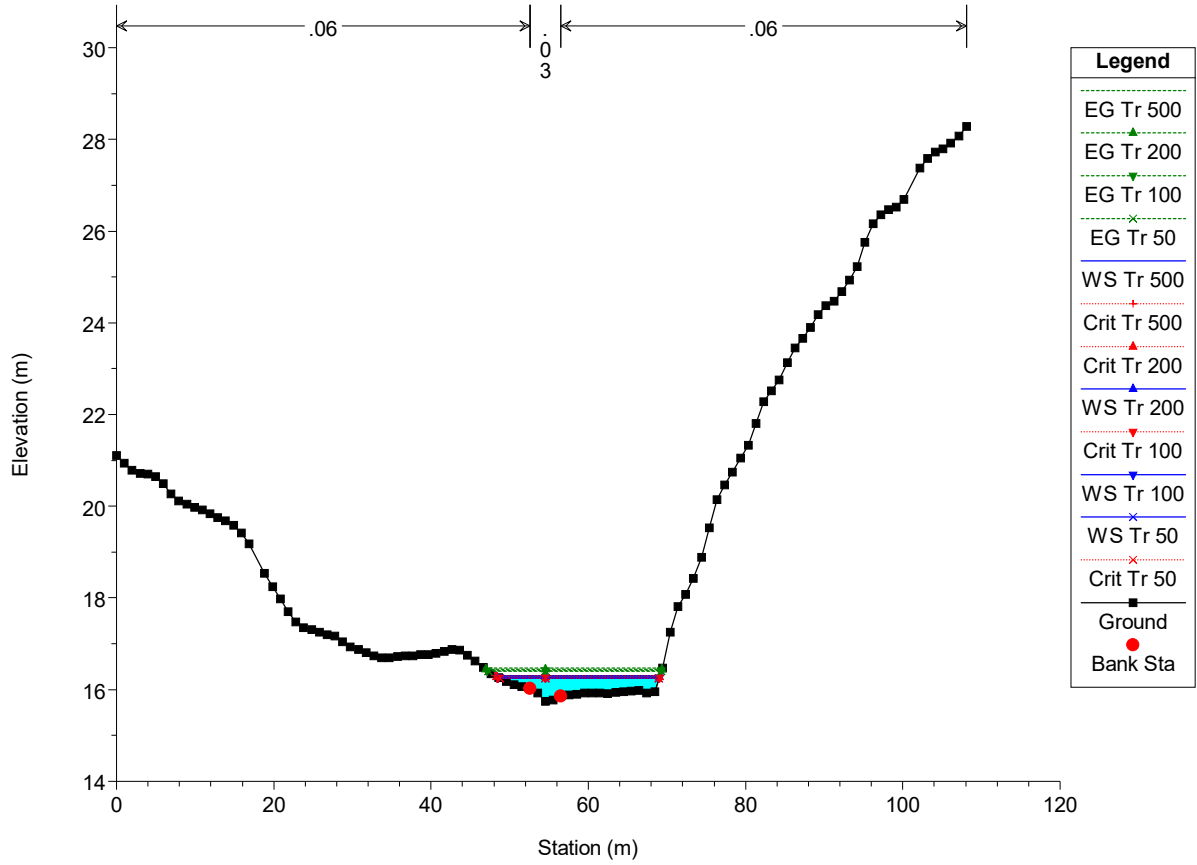
Marana Plan: attuale 28/01/2020

River = Rio\_Nodu Reach = 1 RS = 318.9953



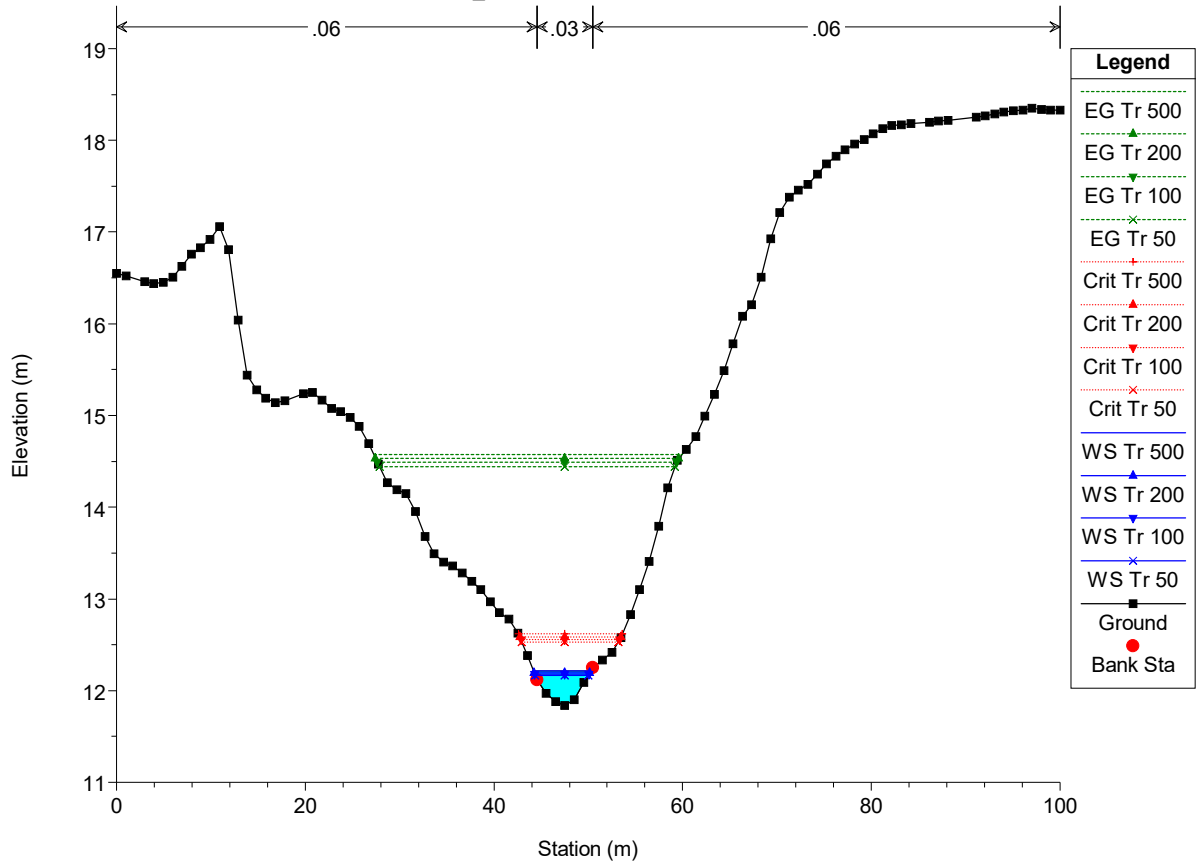
Marana Plan: attuale 28/01/2020

River = Rio\_Nodu Reach = 1 RS = 280.3003



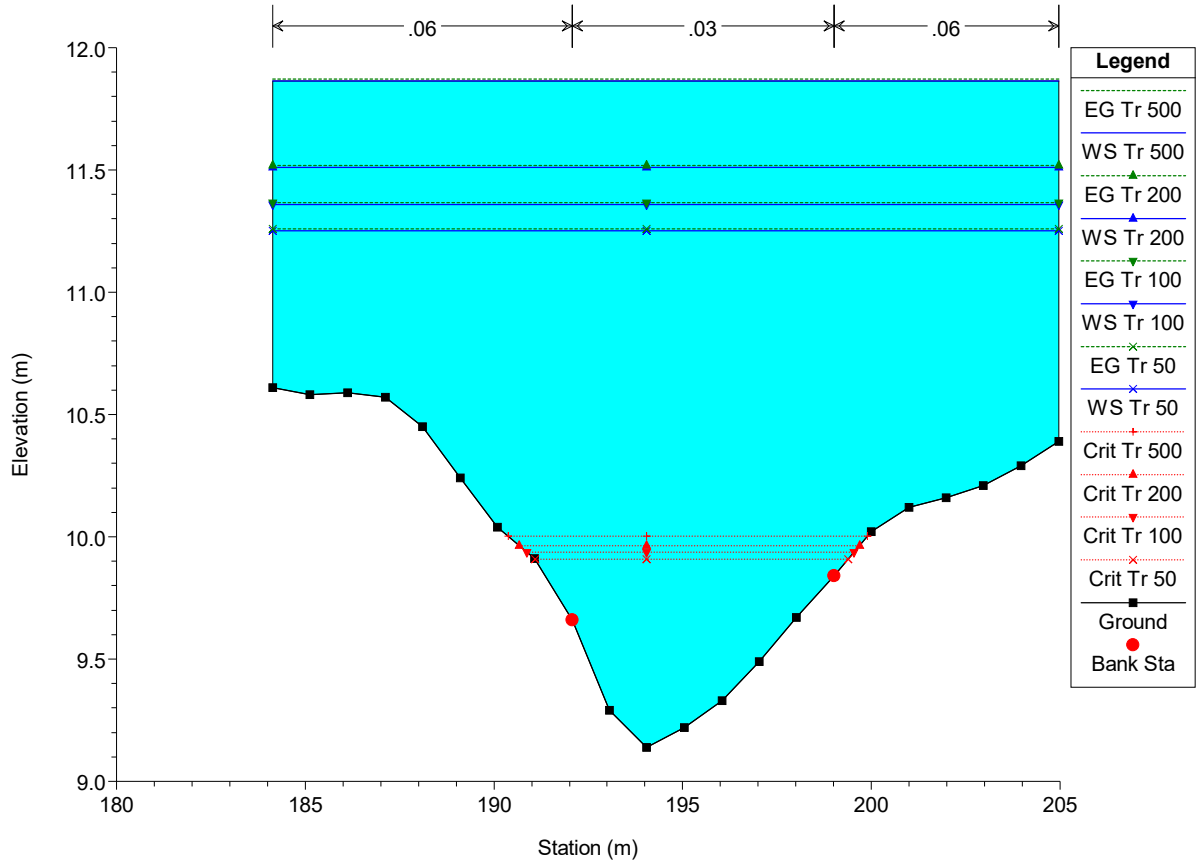
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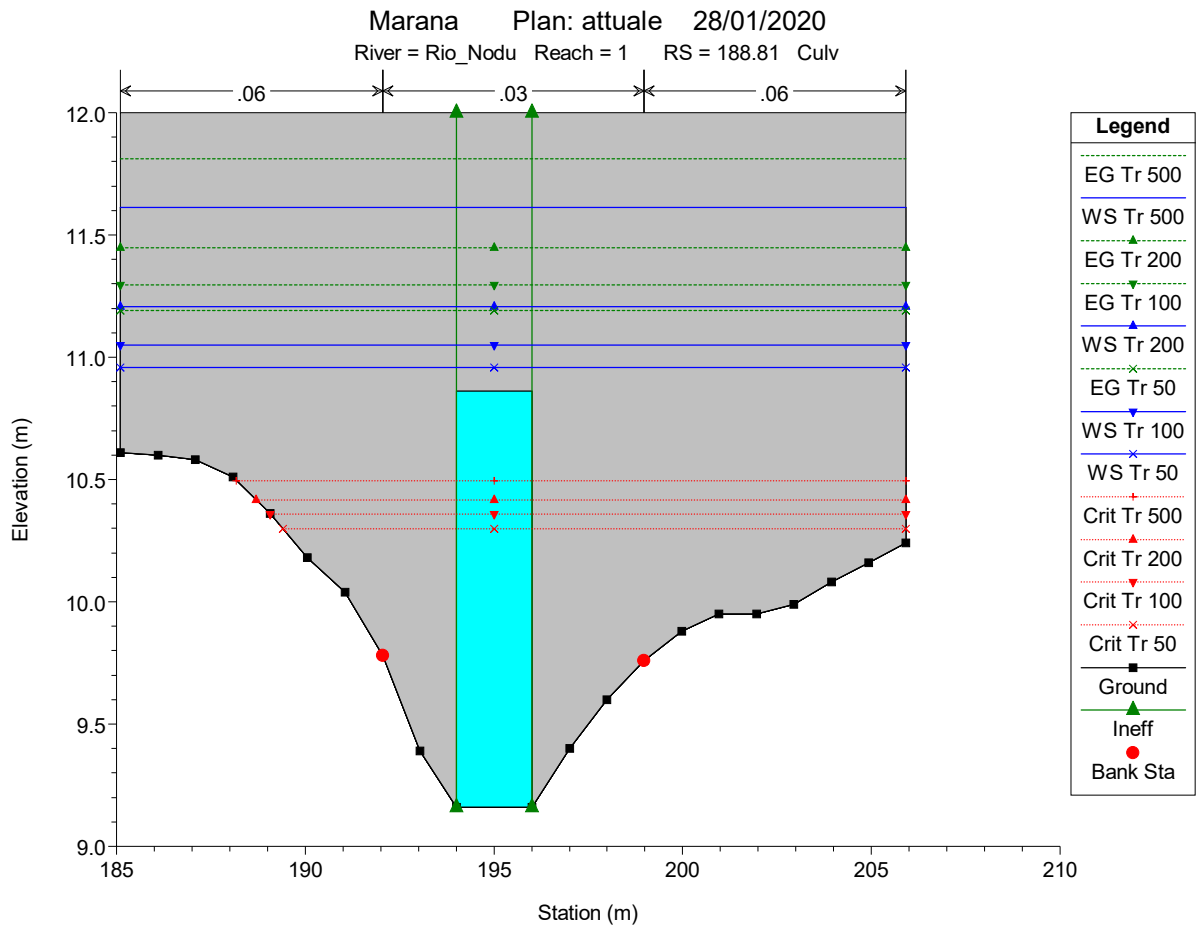
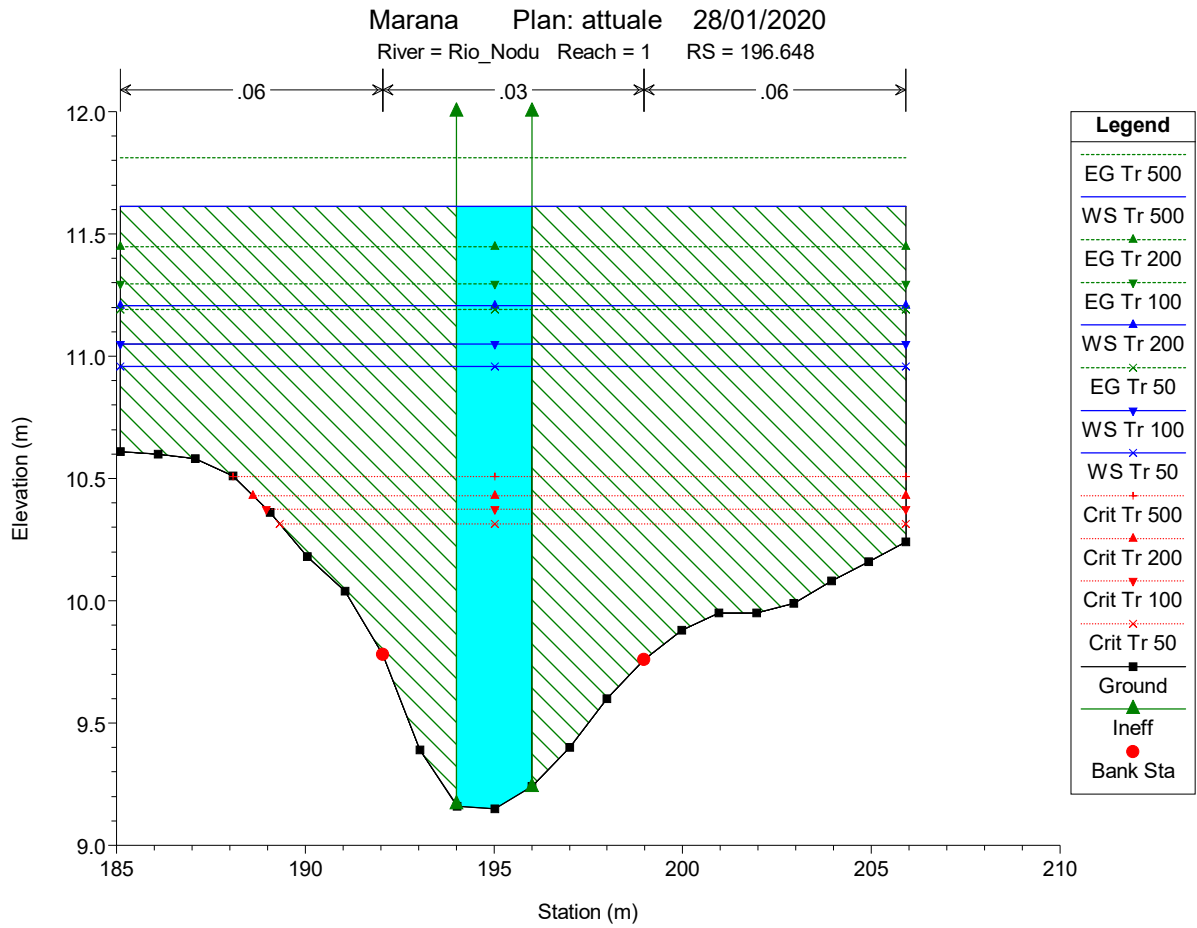
River = Rio\_Nodu Reach = 1 RS = 238.9877



Marana Plan: attuale 28/01/2020

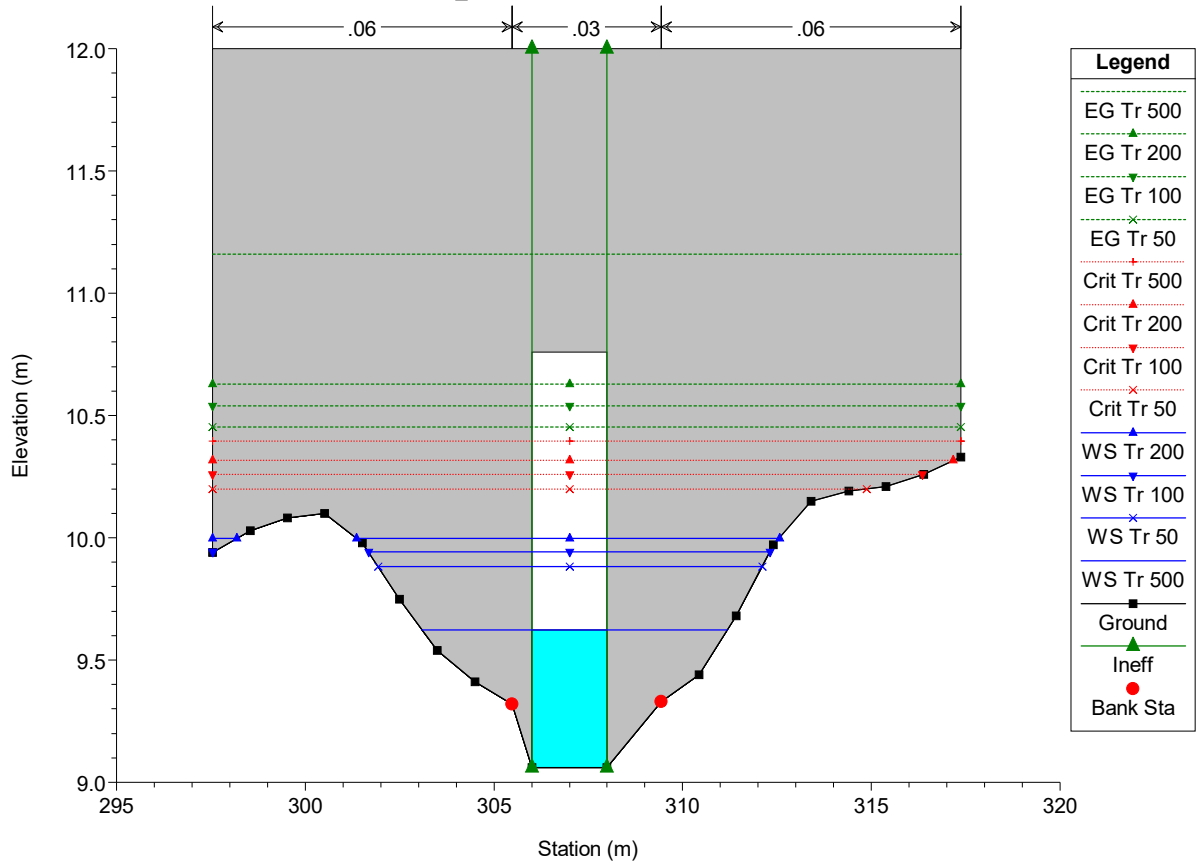
River = Rio\_Nodu Reach = 1 RS = 198.6957





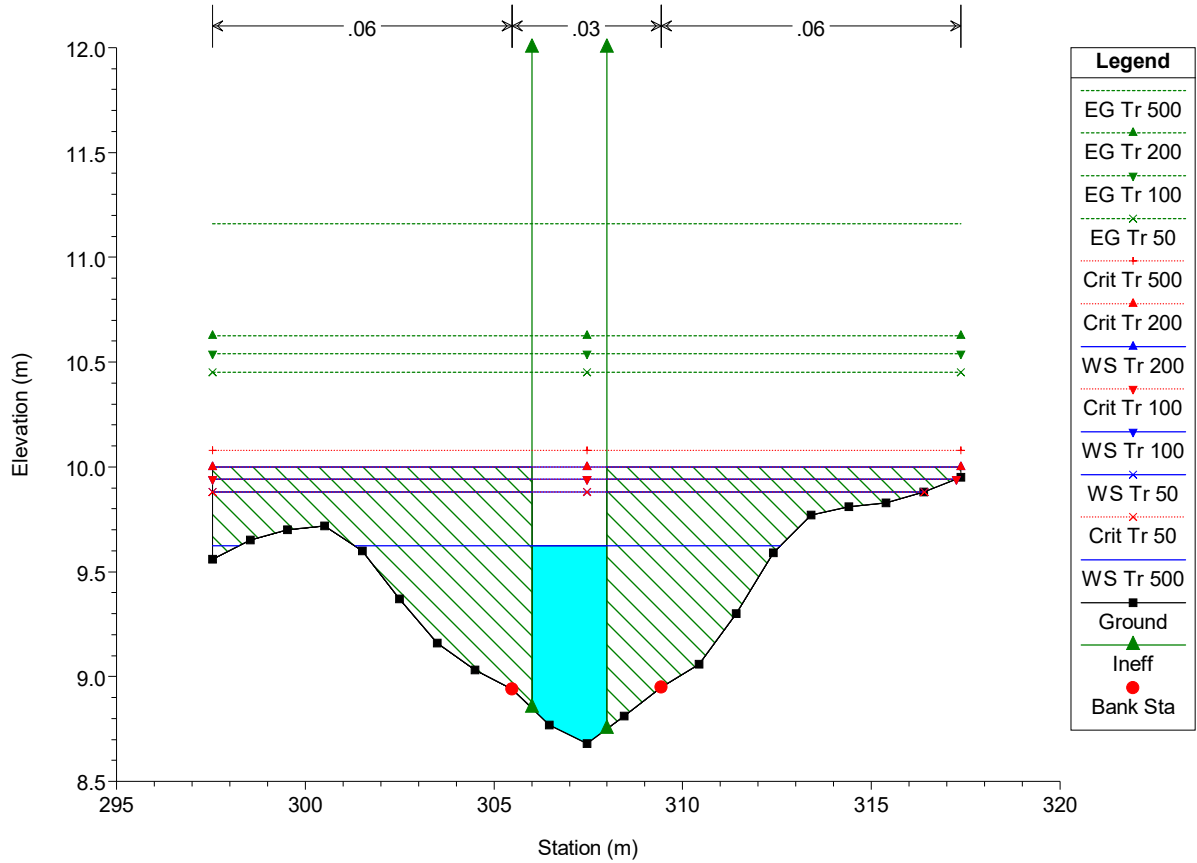
Marana Plan: attuale 28/01/2020

River = Rio\_Nodu Reach = 1 RS = 188.81 Culv



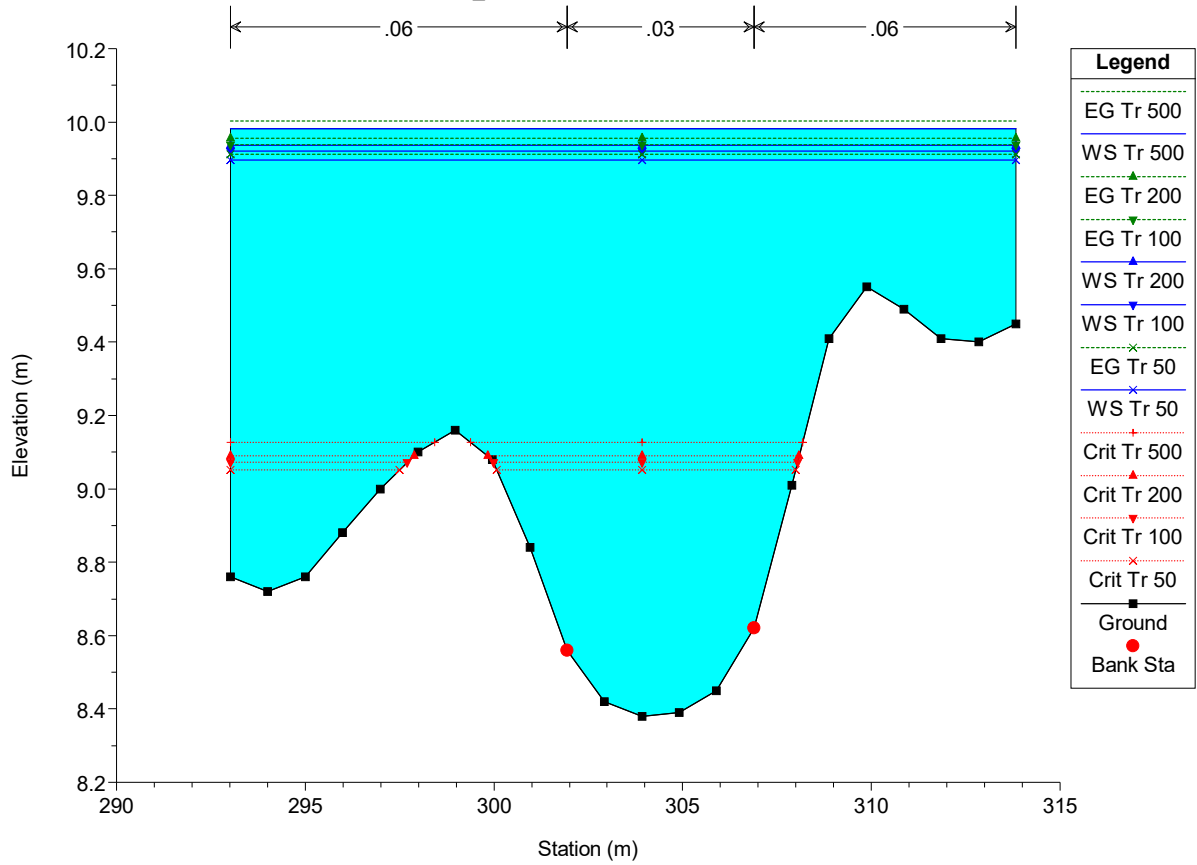
Marana Plan: attuale 28/01/2020

River = Rio\_Nodu Reach = 1 RS = 180.9735



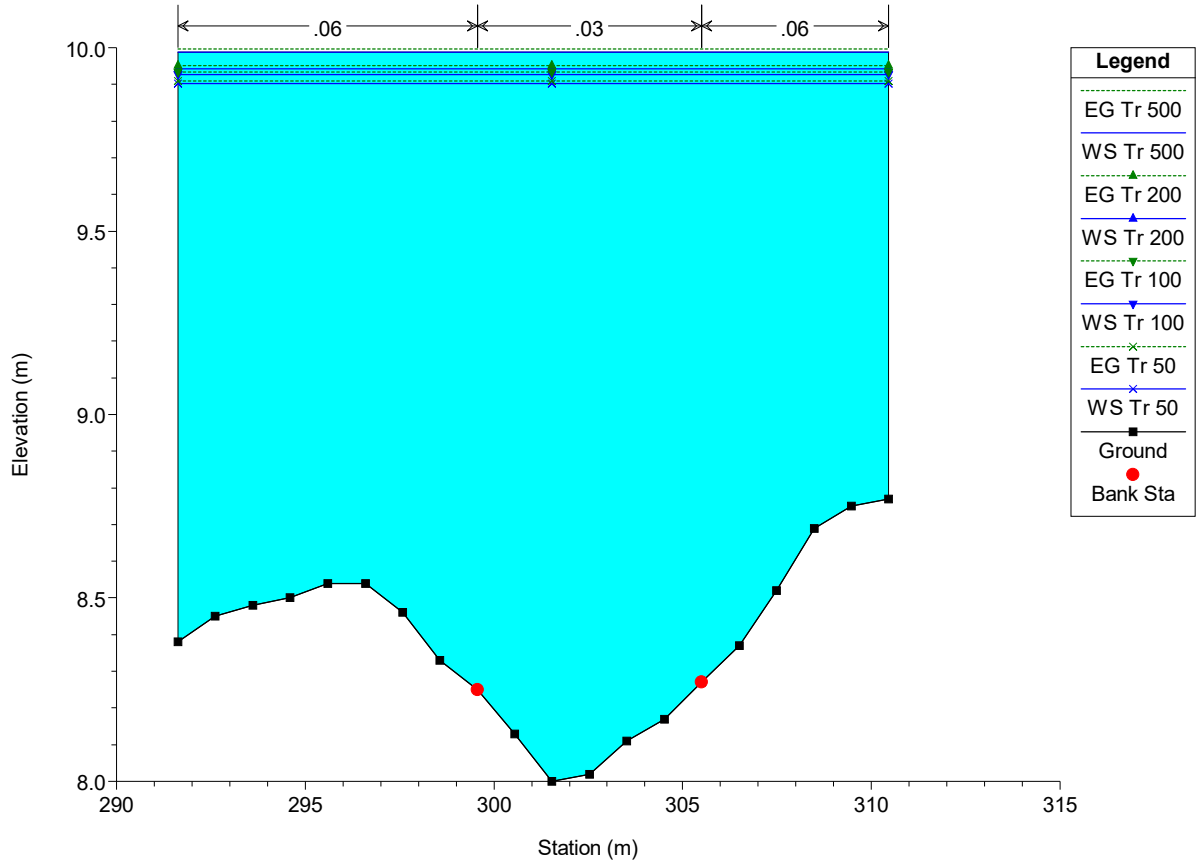
Marana Plan: attuale 28/01/2020

River = Rio\_Nodu Reach = 1 RS = 174.9162



Marana Plan: attuale 28/01/2020

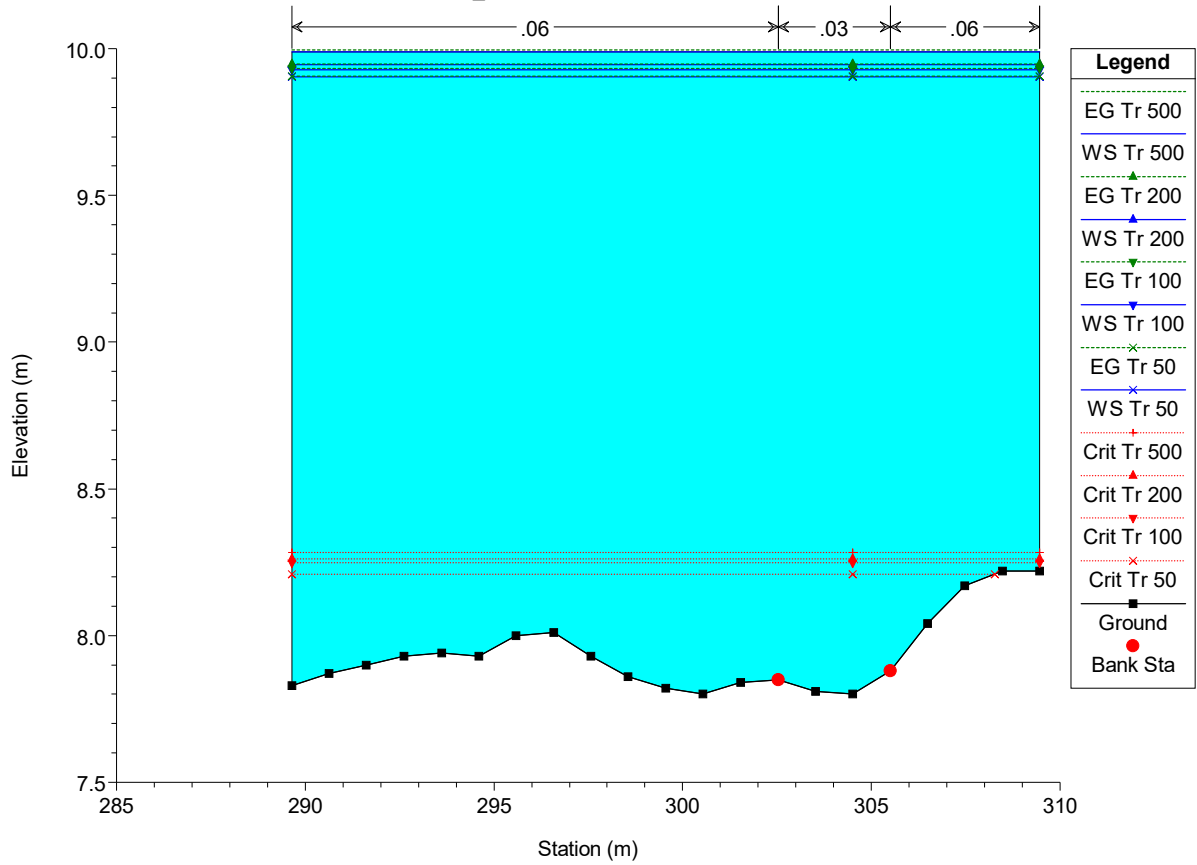
River = Rio\_Nodu Reach = 1 RS = 167.7895





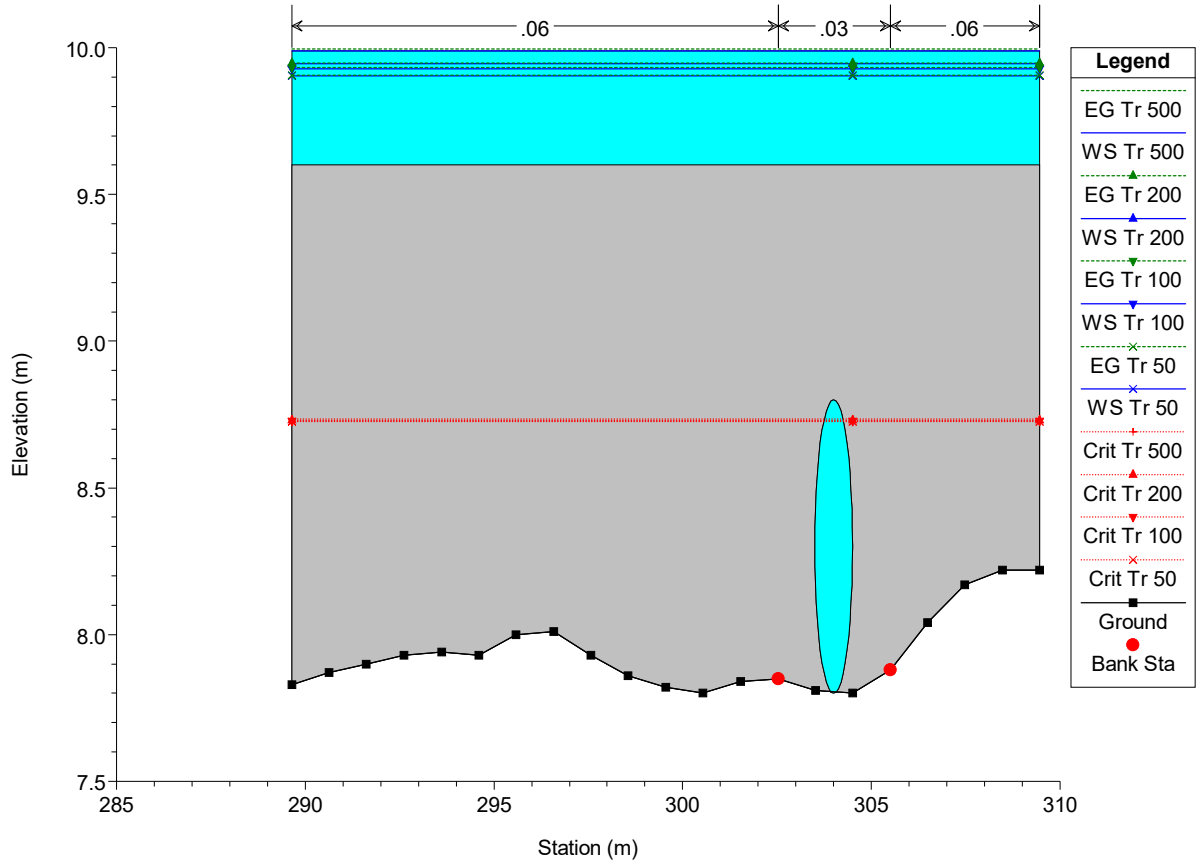
Marana Plan: attuale 28/01/2020

River = Rio\_Nodu Reach = 1 RS = 165.3781

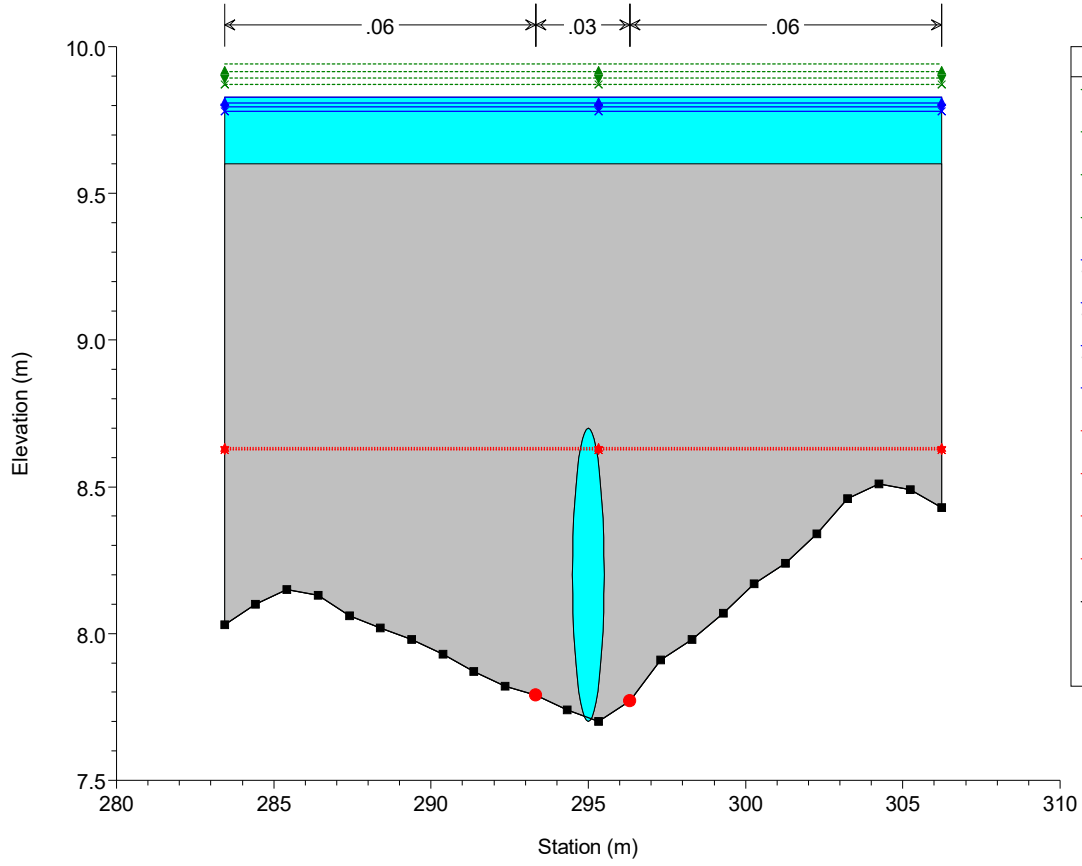


Marana Plan: attuale 28/01/2020

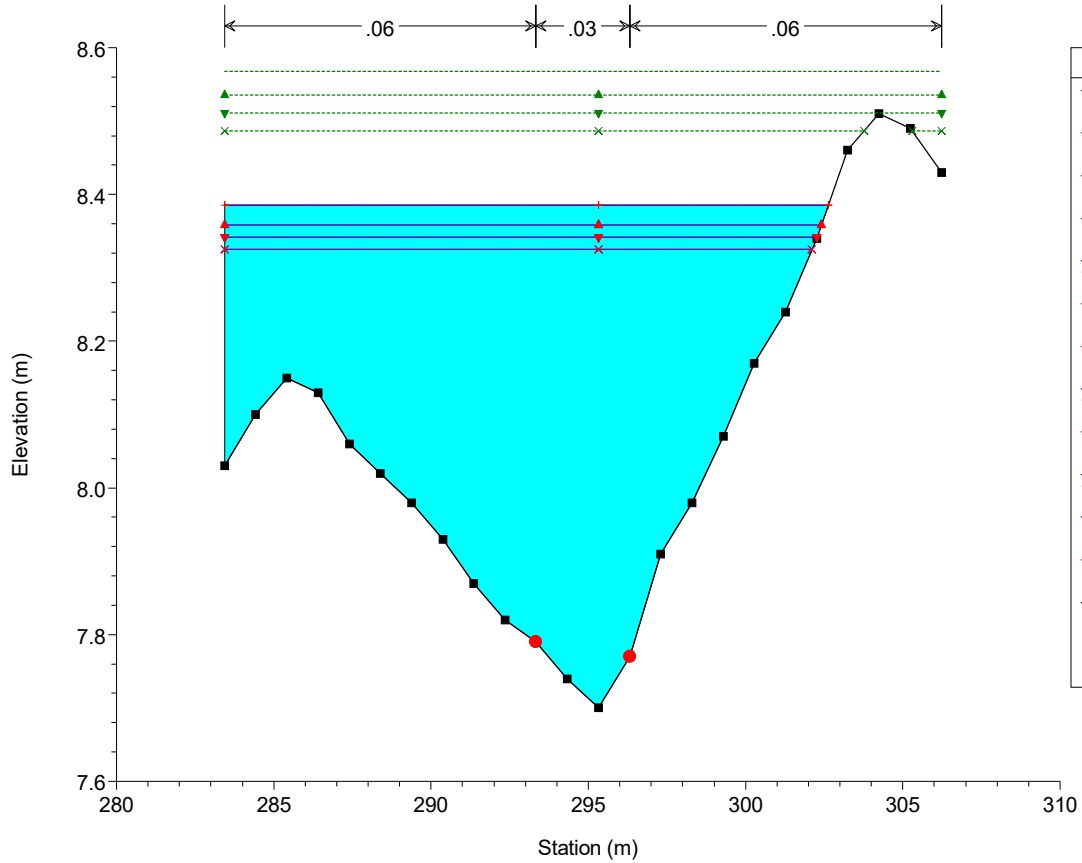
River = Rio\_Nodu Reach = 1 RS = 158.71 Culv



Marana Plan: attuale 28/01/2020  
 River = Rio\_Nodu Reach = 1 RS = 158.71 Culv

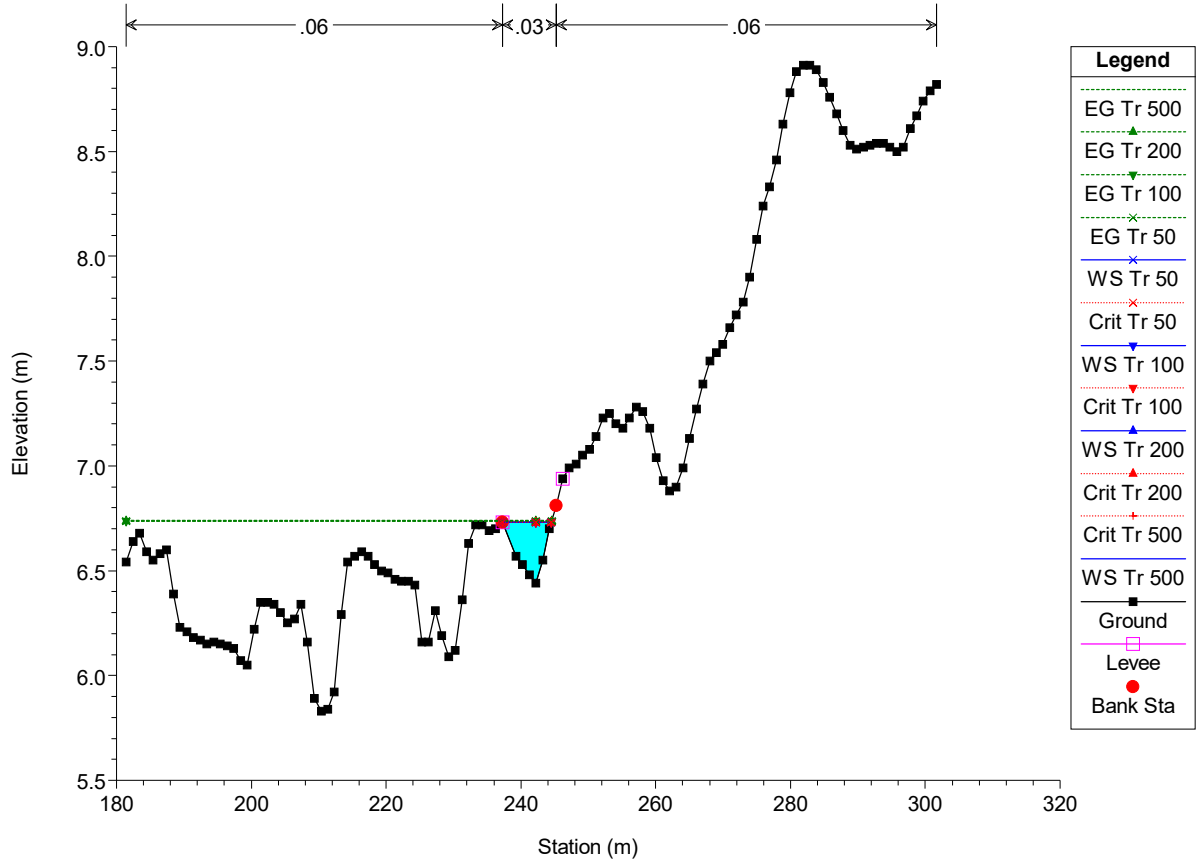


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 River = Rio\_Nodu Reach = 1 RS = 152.0393



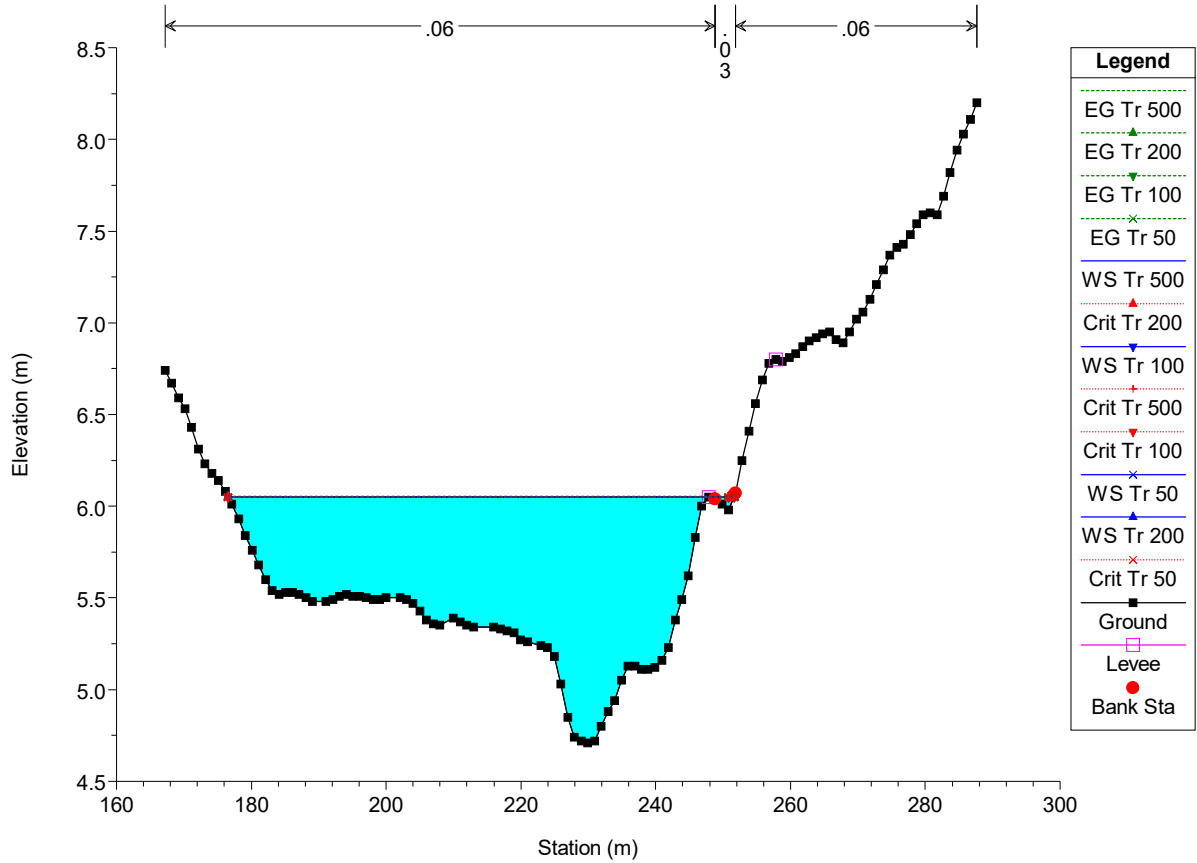
Marana Plan: attuale 28/01/2020

River = Rio\_Nodu Reach = 1 RS = 129.2761



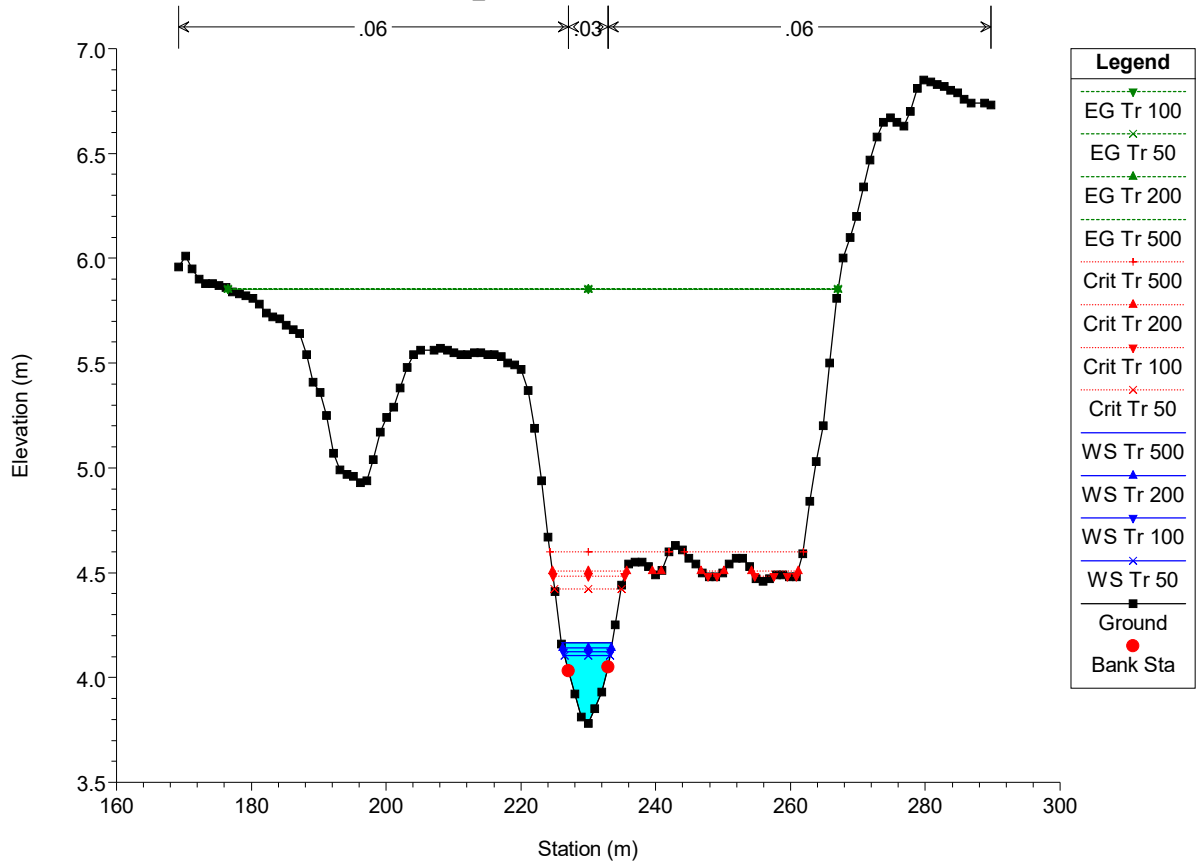
Marana Plan: attuale 28/01/2020

River = Rio\_Nodu Reach = 1 RS = 94.8213



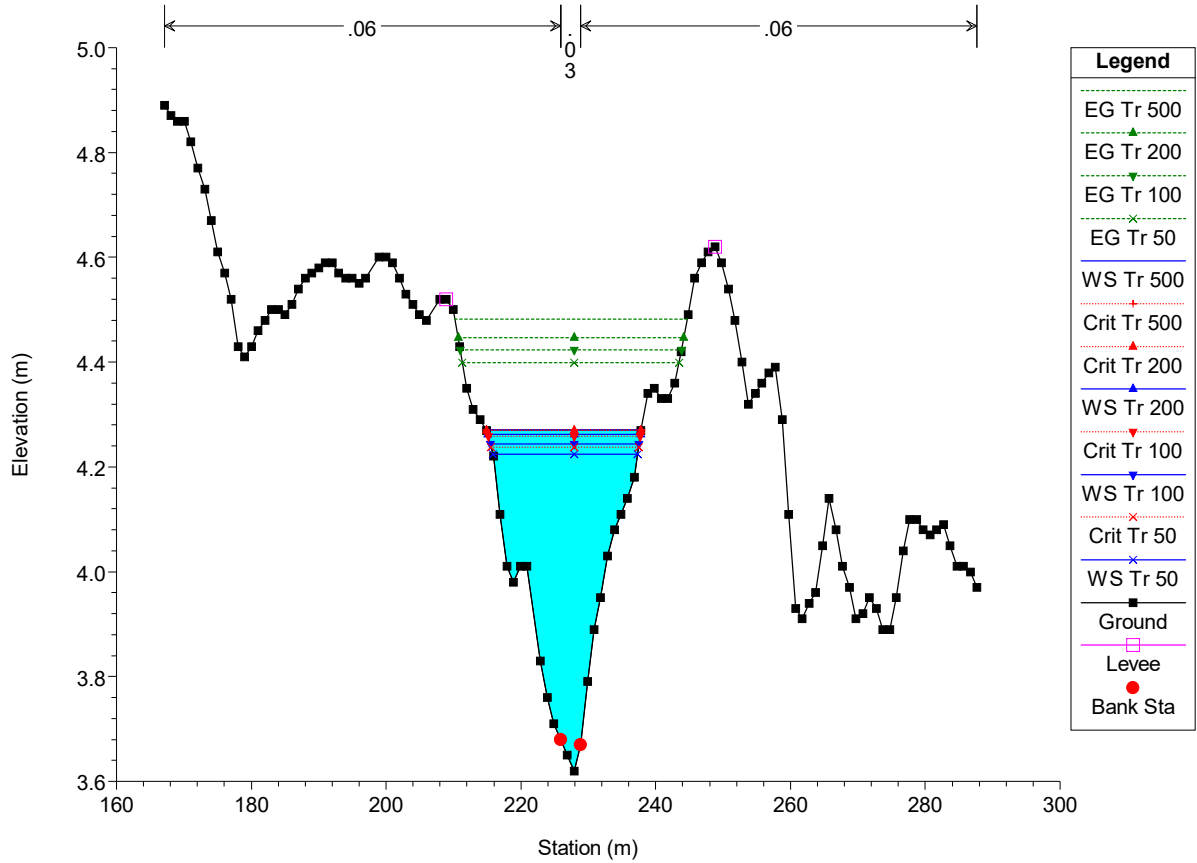
Marana Plan: attuale 28/01/2020

River = Rio\_Nodu Reach = 1 RS = 57.99626



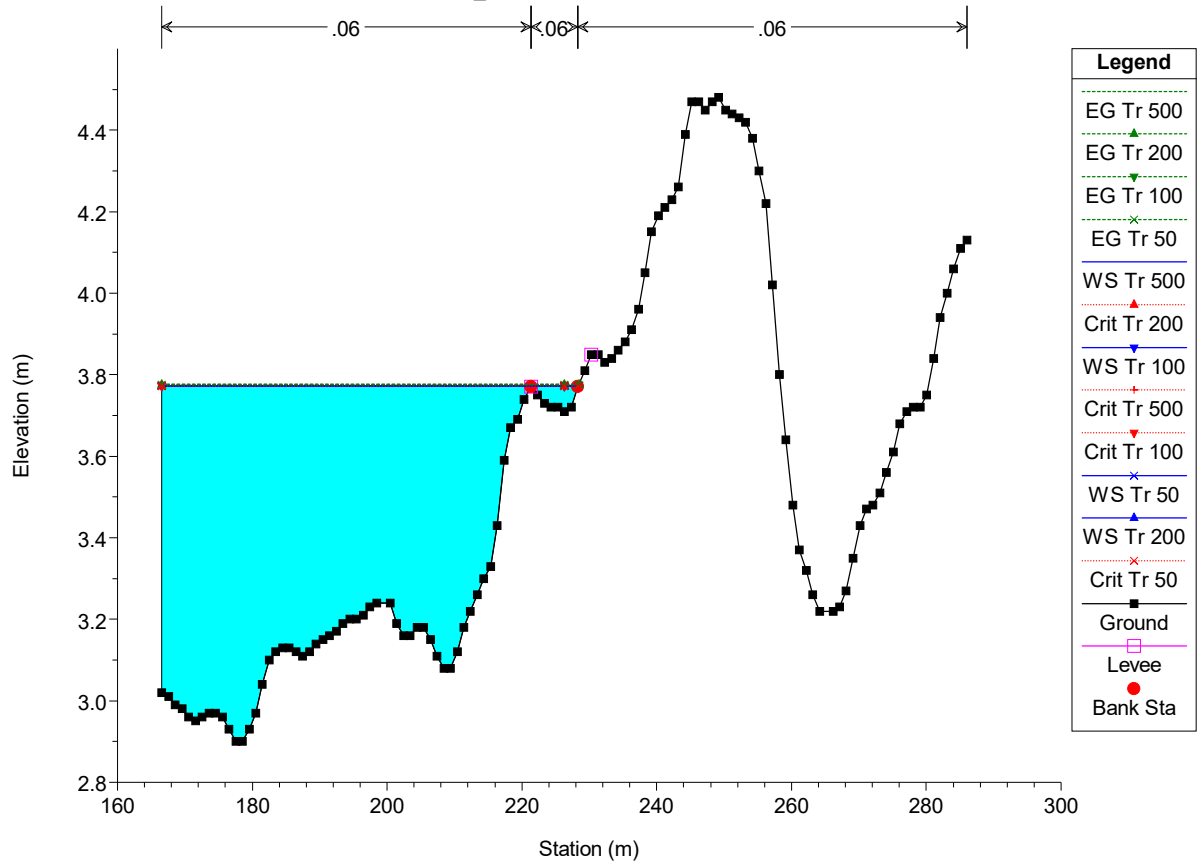
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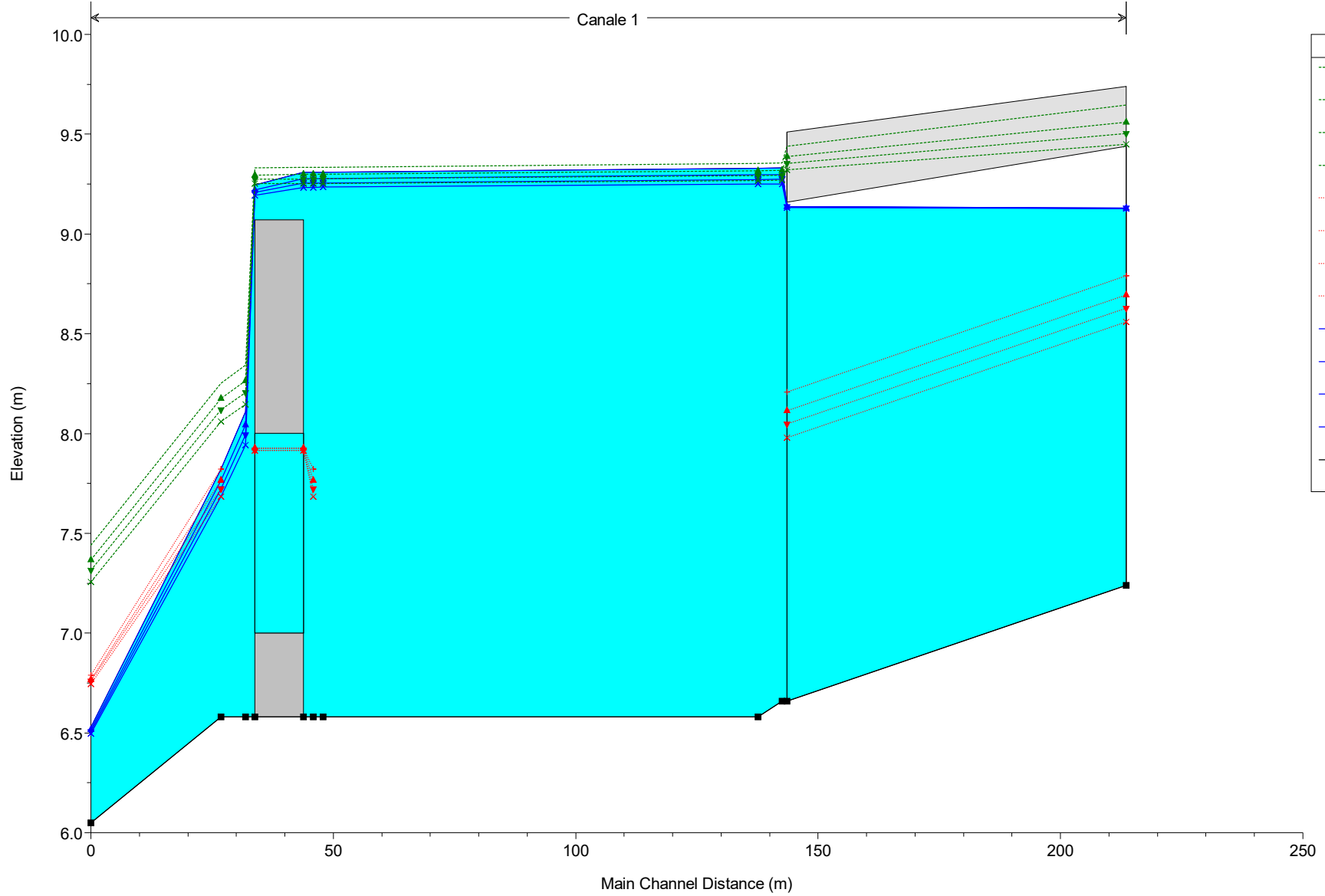
River = Rio\_Nodu Reach = 1 RS = 24.94146



Marana Plan: attuale 28/01/2020

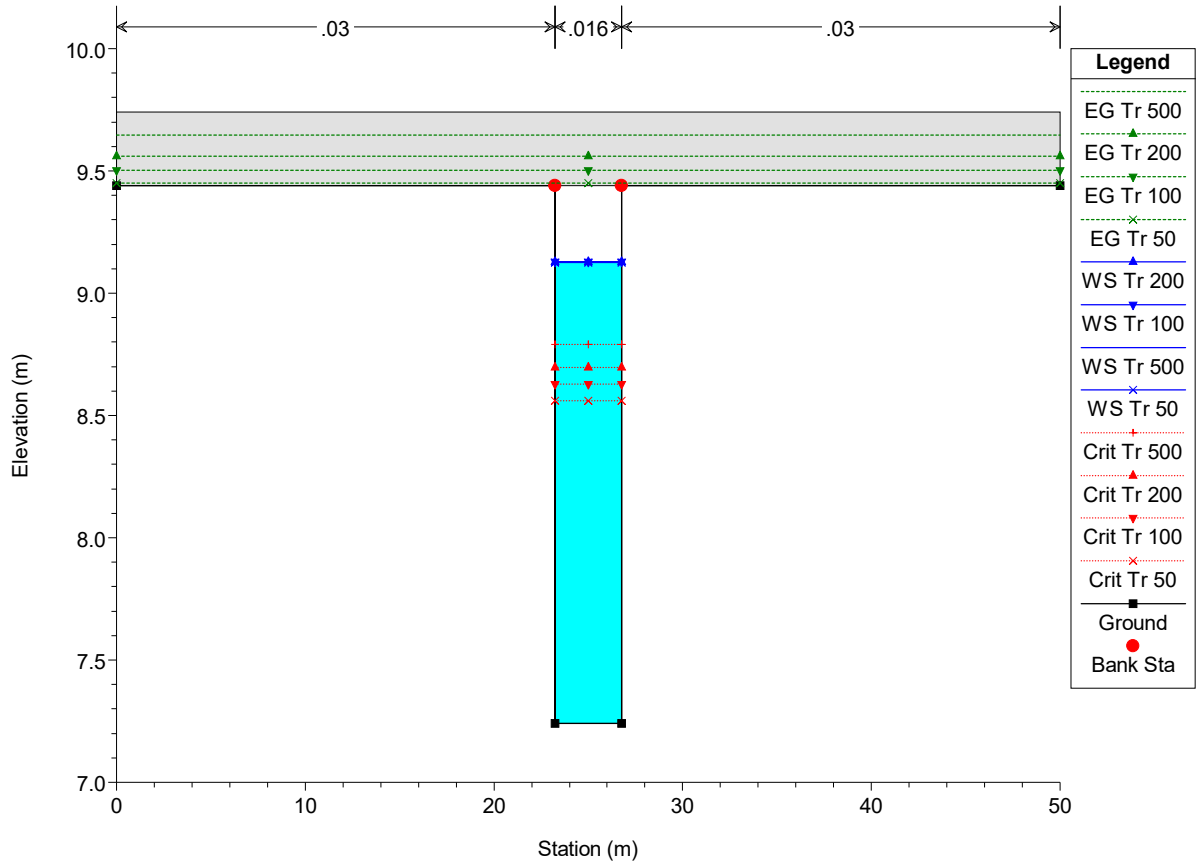
River = Rio\_Nodu Reach = 1 RS = 3.407436





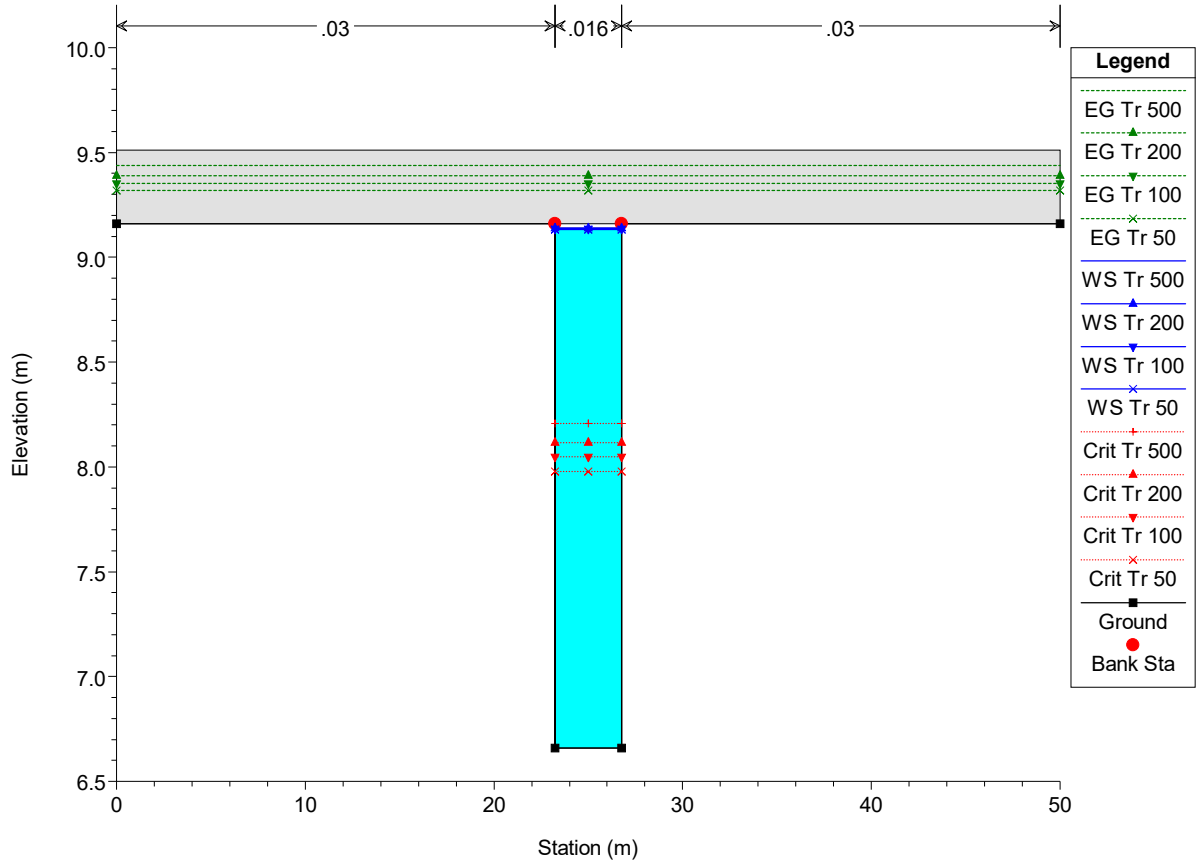
Marana Plan: attuale 28/01/2020

River = Canale Reach = 1 RS = 213.57



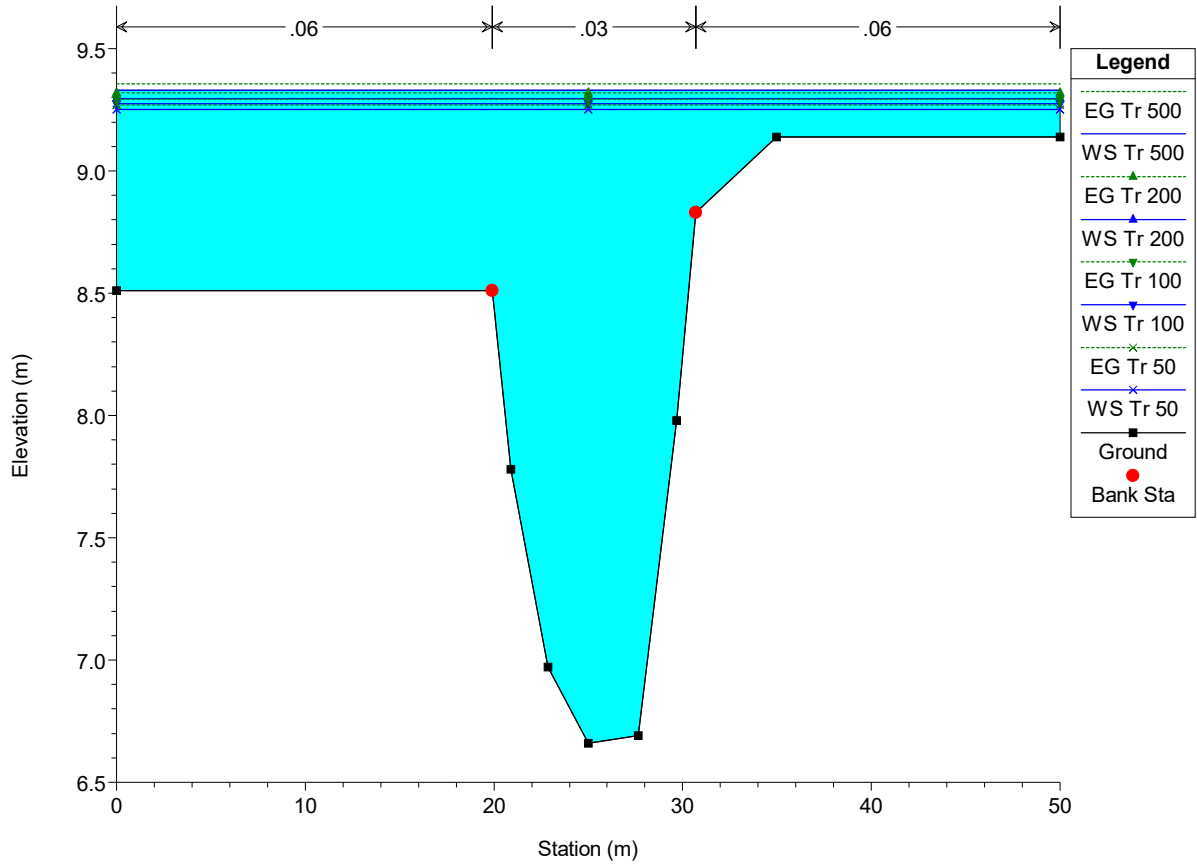
Marana Plan: attuale 28/01/2020

River = Canale Reach = 1 RS = 143.57



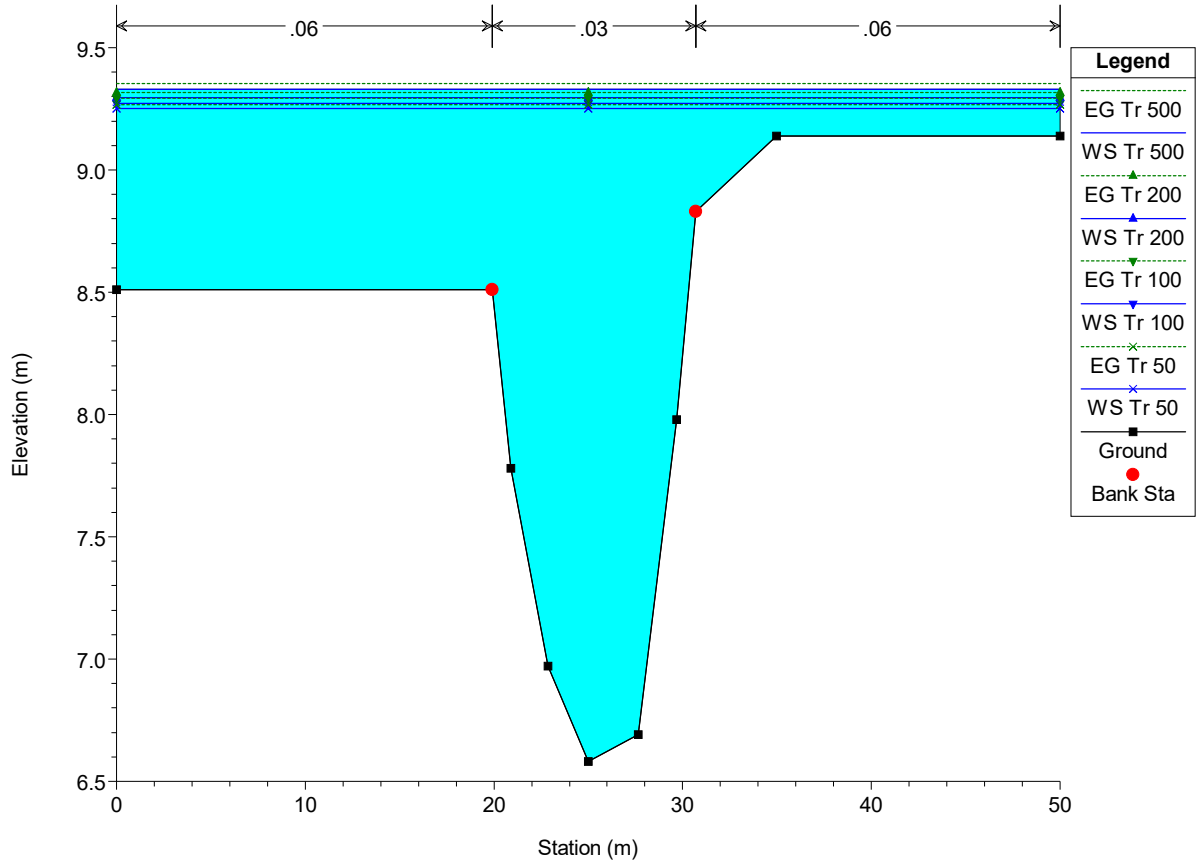
Marana Plan: attuale 28/01/2020

River = Canale Reach = 1 RS = 142.57



Marana Plan: attuale 28/01/2020

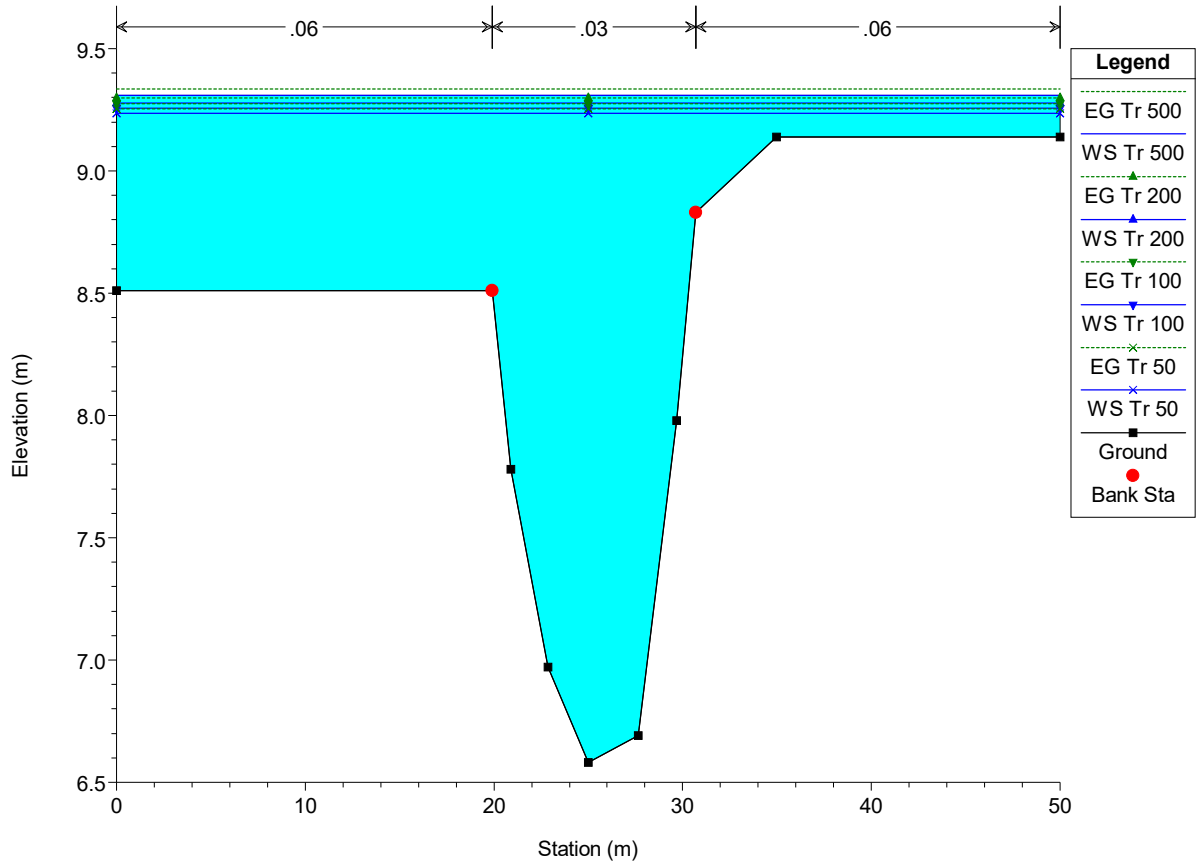
River = Canale Reach = 1 RS = 137.57





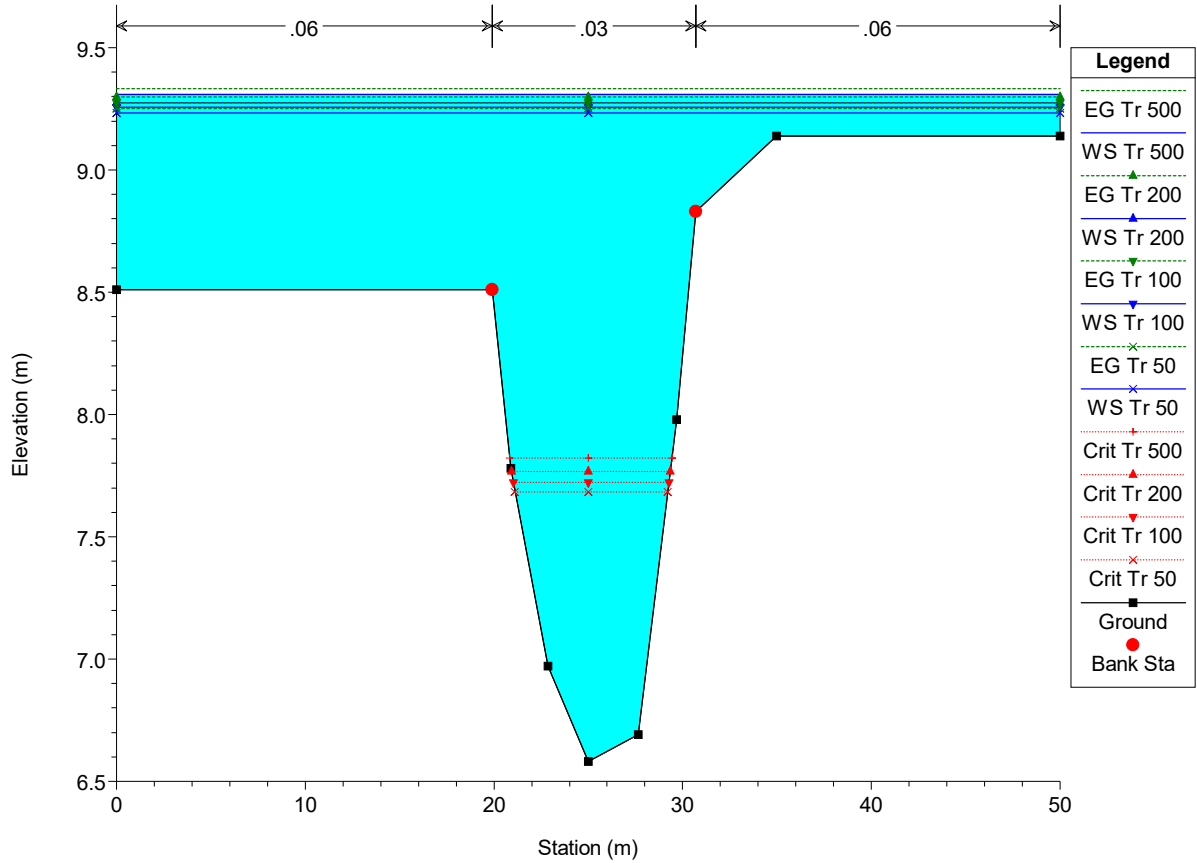
Marana Plan: attuale 28/01/2020

River = Canale Reach = 1 RS = 47.85723



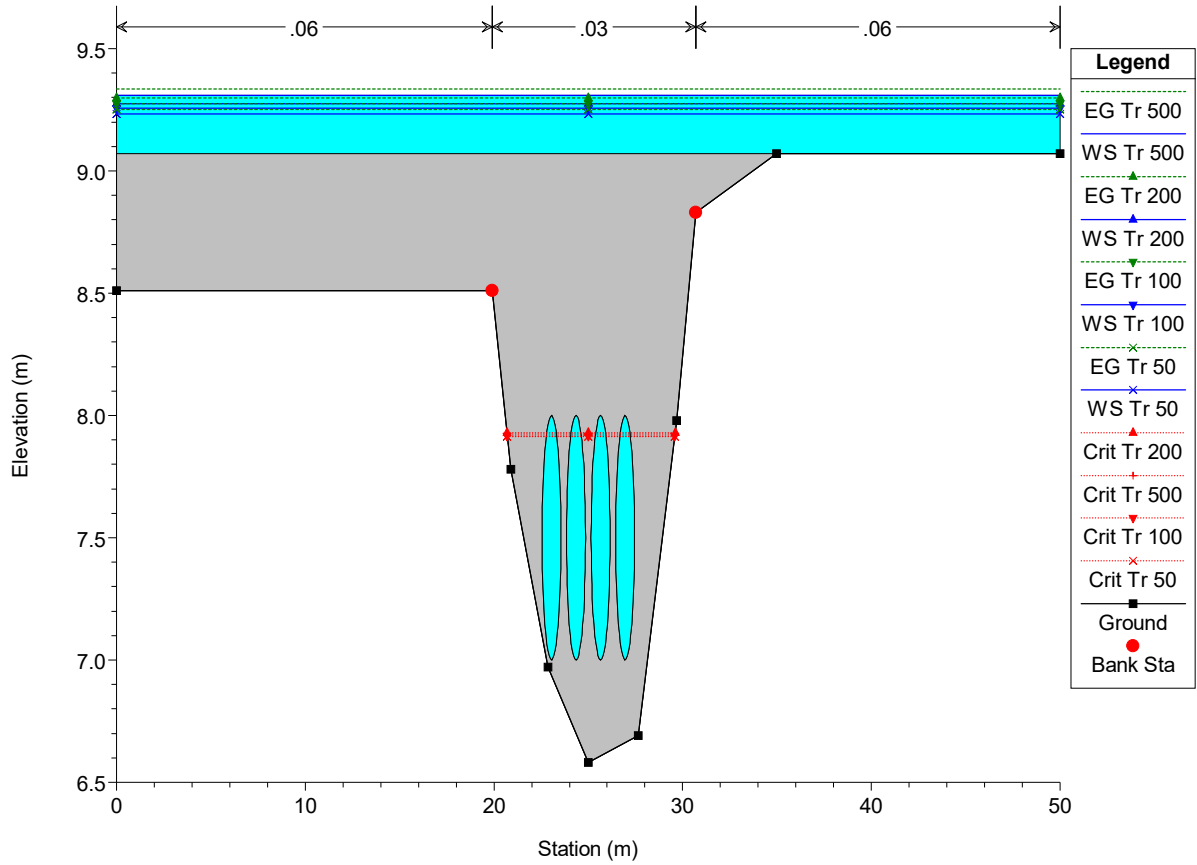
Marana Plan: attuale 28/01/2020

River = Canale Reach = 1 RS = 45.86



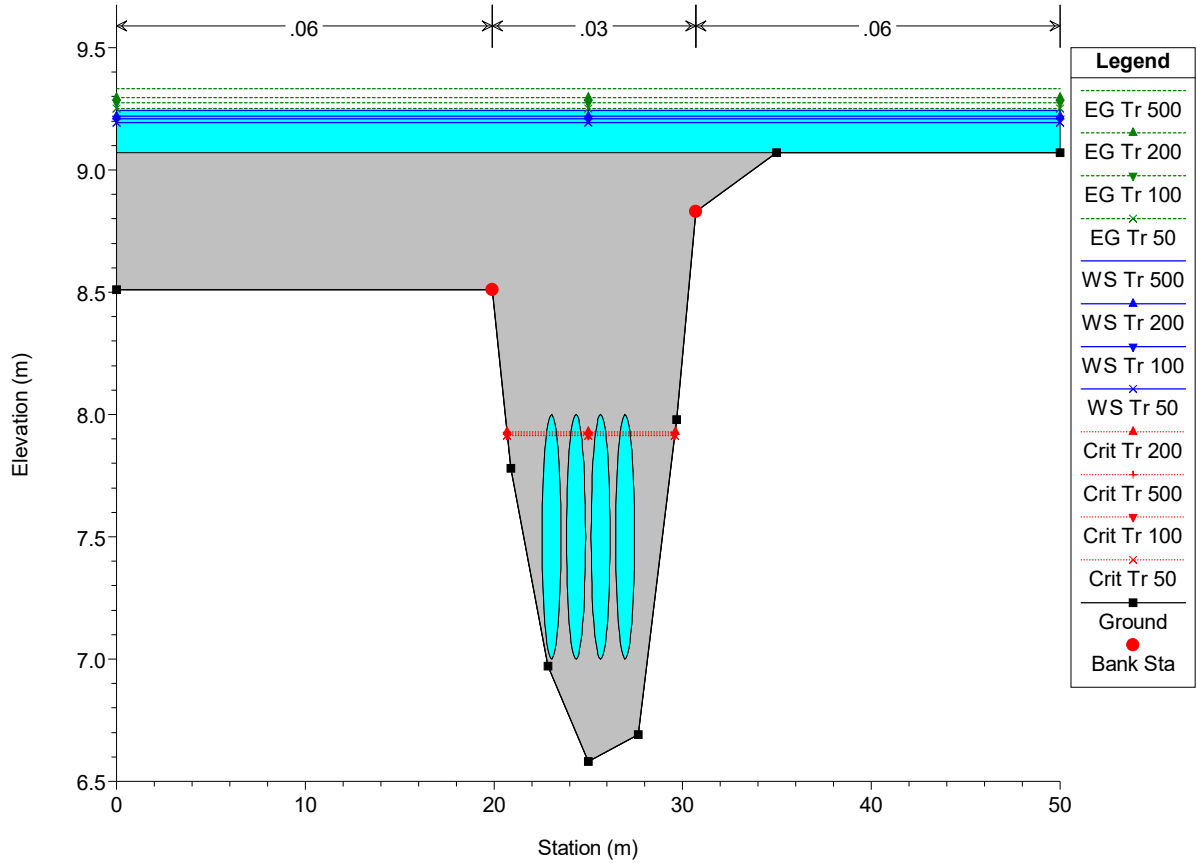
Marana Plan: attuale 28/01/2020

River = Canale Reach = 1 RS = 38.86 Culv



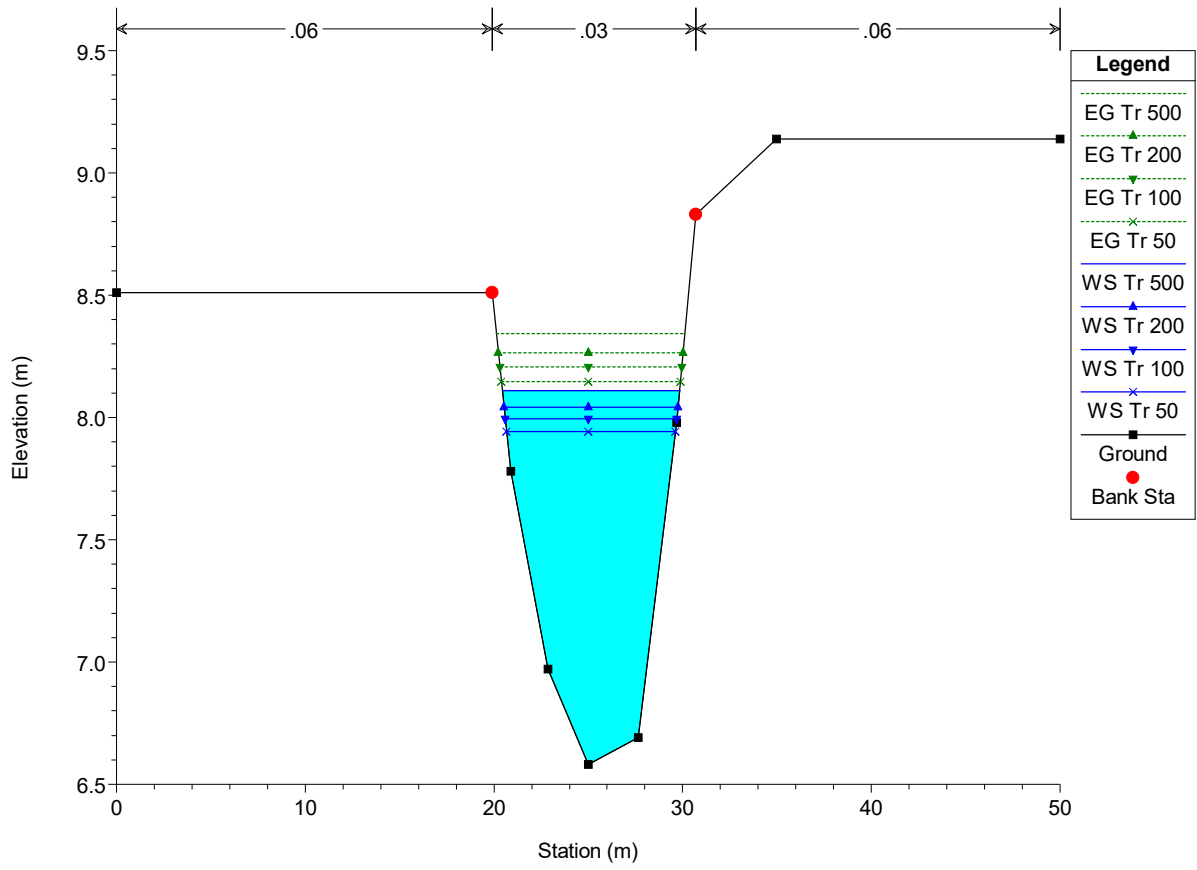
Marana Plan: attuale 28/01/2020

River = Canale Reach = 1 RS = 38.86 Culv



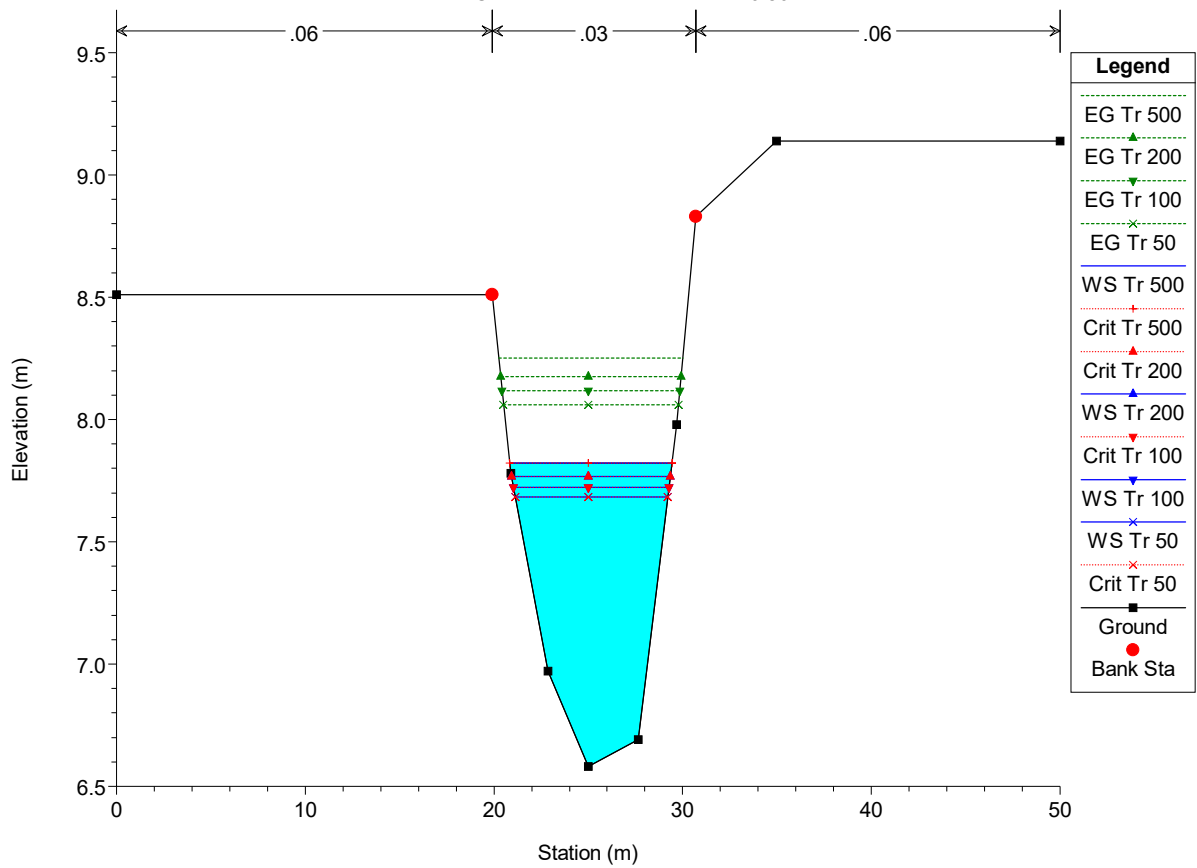
Marana Plan: attuale 28/01/2020

River = Canale Reach = 1 RS = 31.86



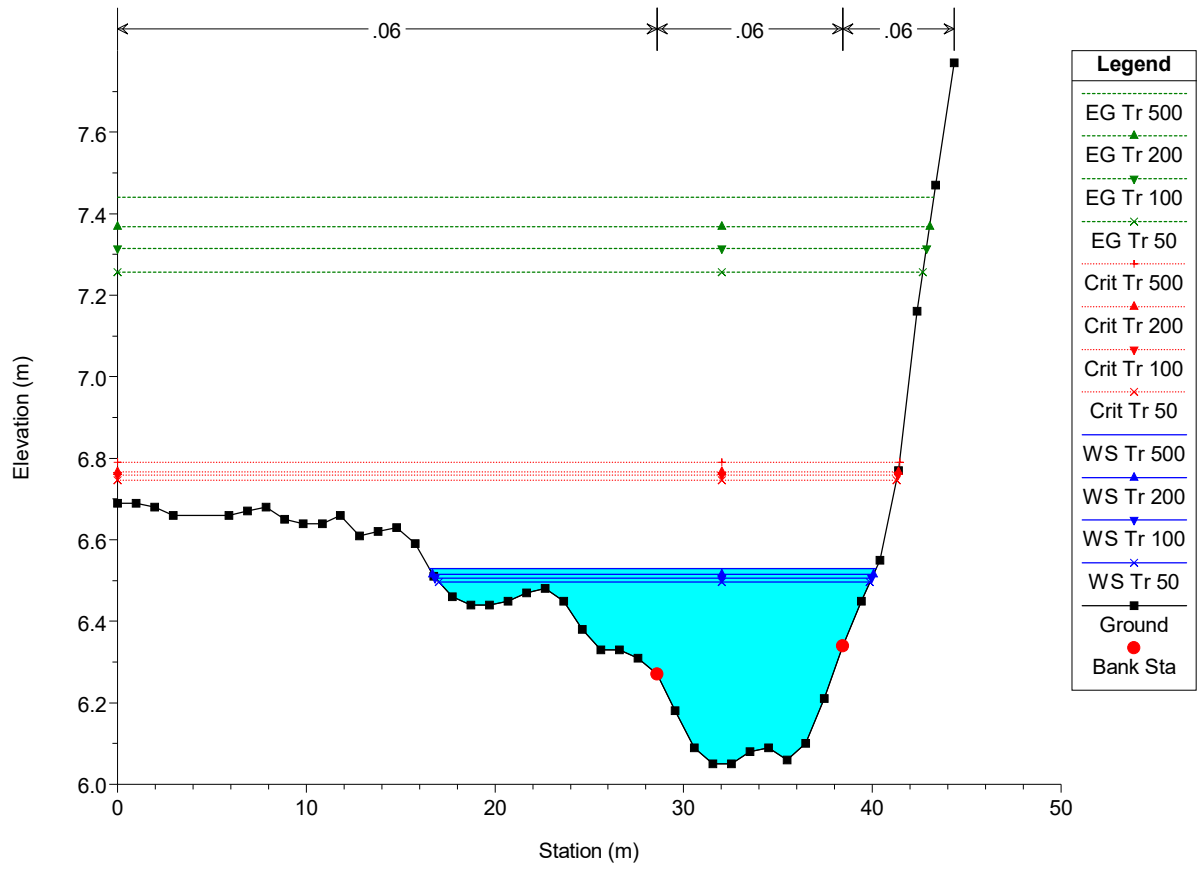
Marana Plan: attuale 28/01/2020

River = Canale Reach = 1 RS = 26.86

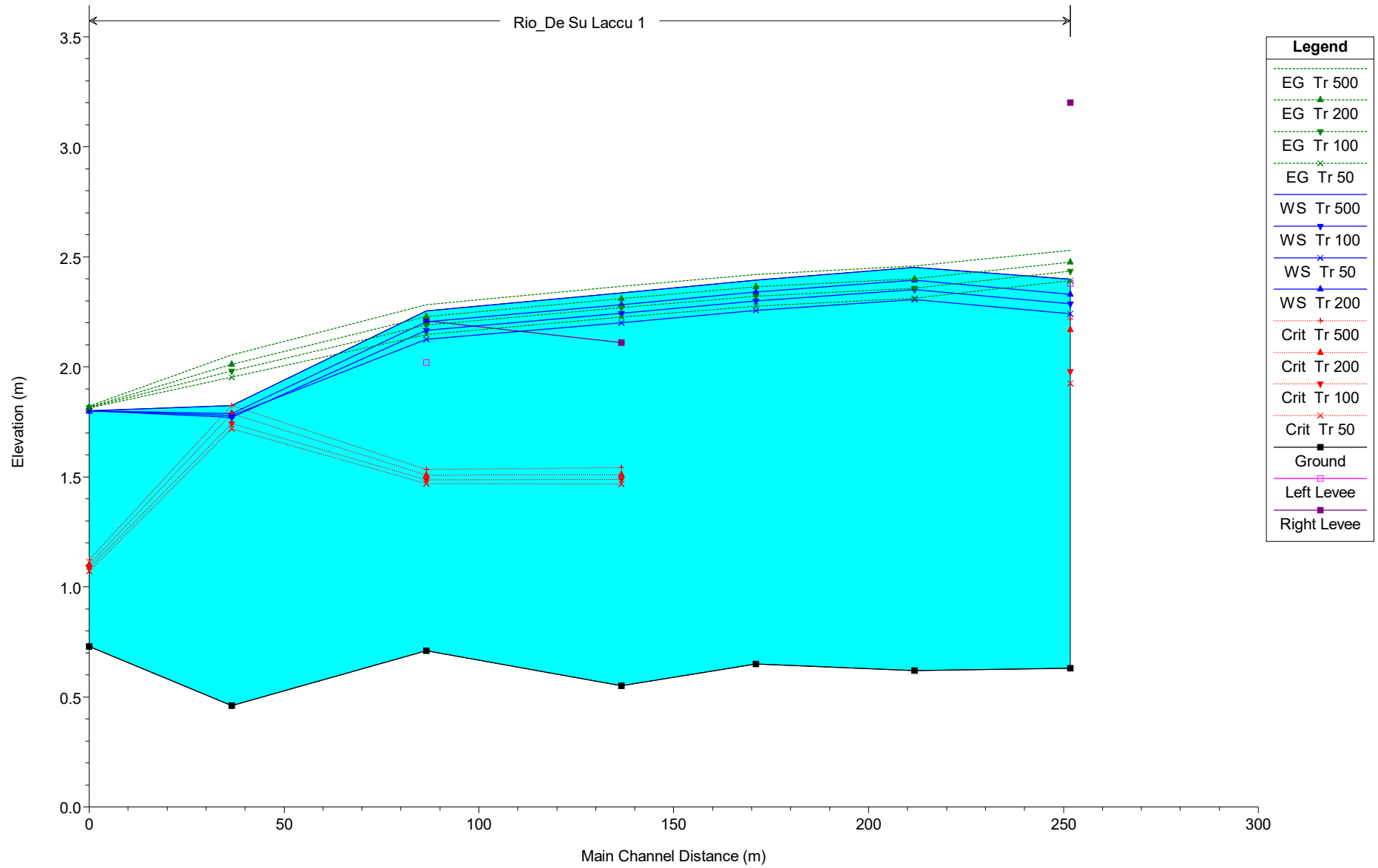


Marana Plan: attuale 28/01/2020

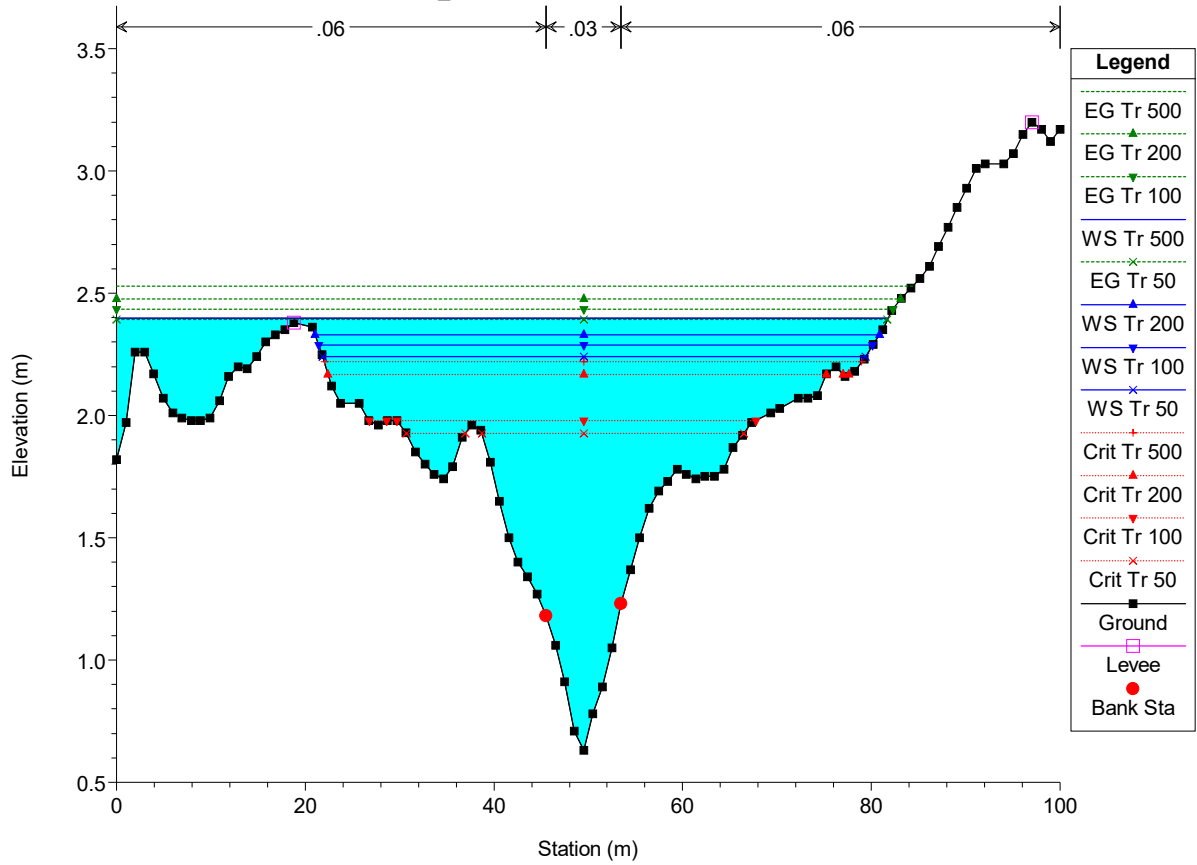
River = Canale Reach = 1 RS = 0



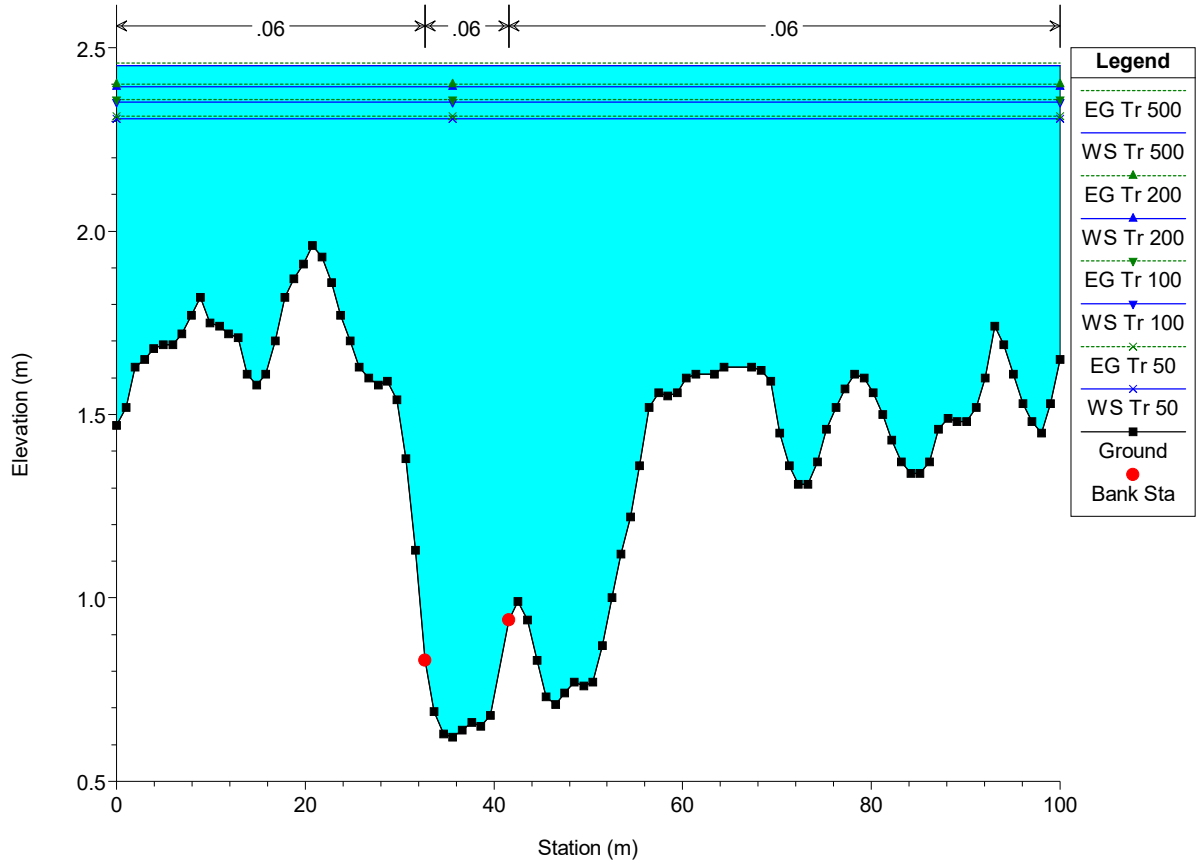
Rio\_De Su Laccu 1



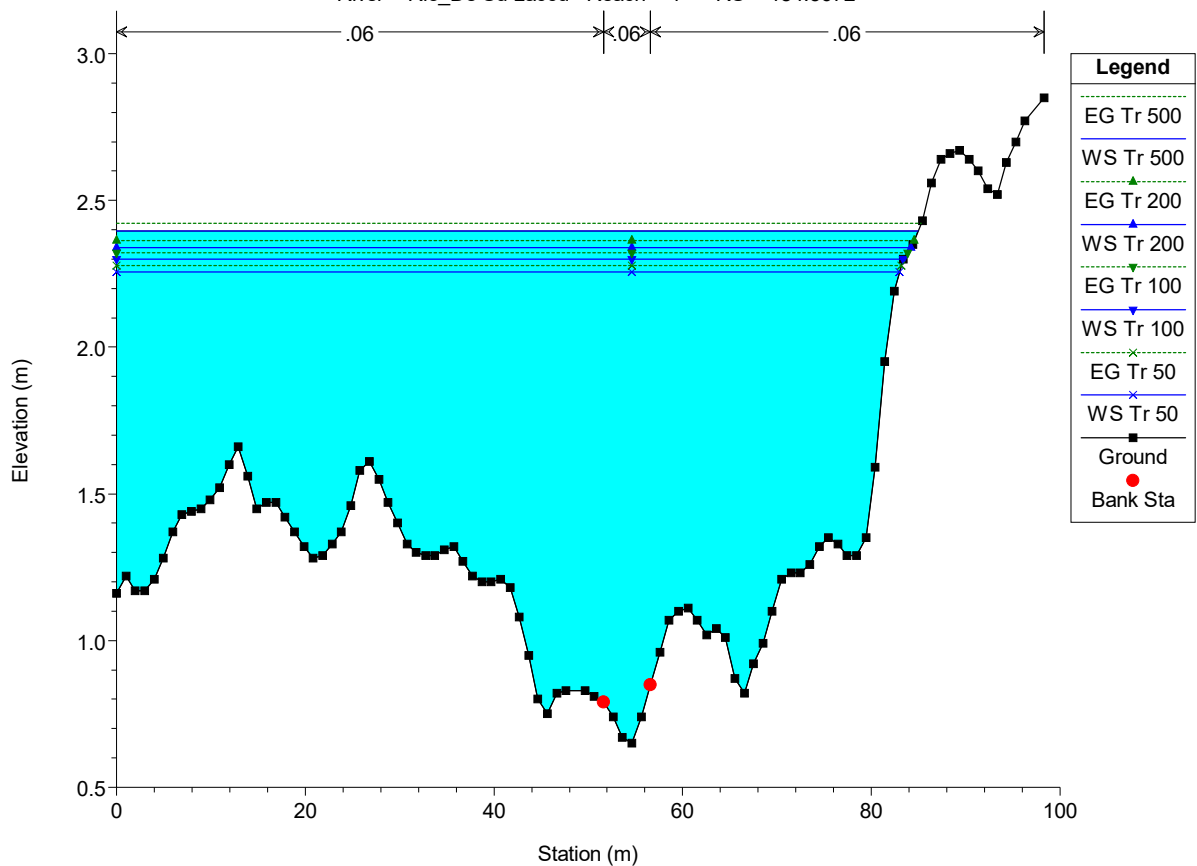
Marana Plan: attuale 29/01/2020  
 River = Rio\_De Su Laccu Reach = 1 RS = 265.1963



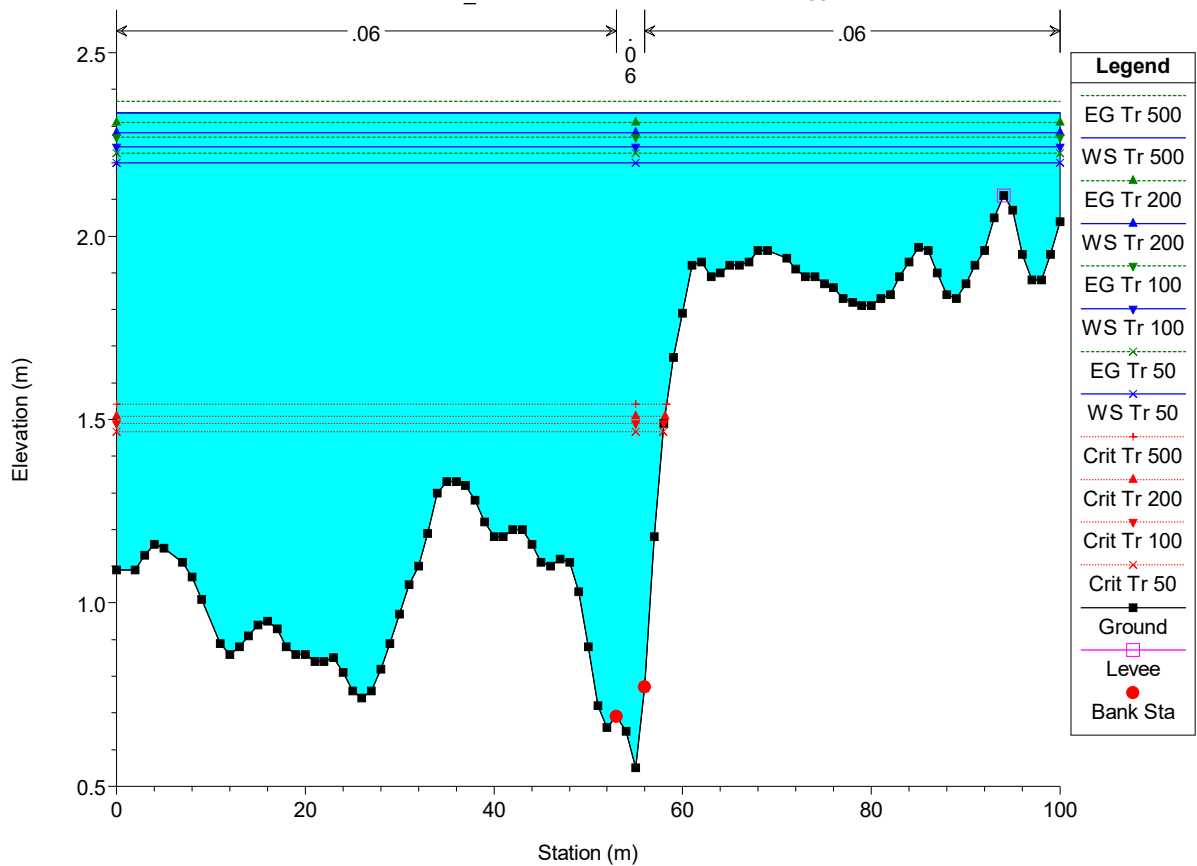
Marana Plan: attuale 29/01/2020  
 River = Rio\_De Su Laccu Reach = 1 RS = 225.1963



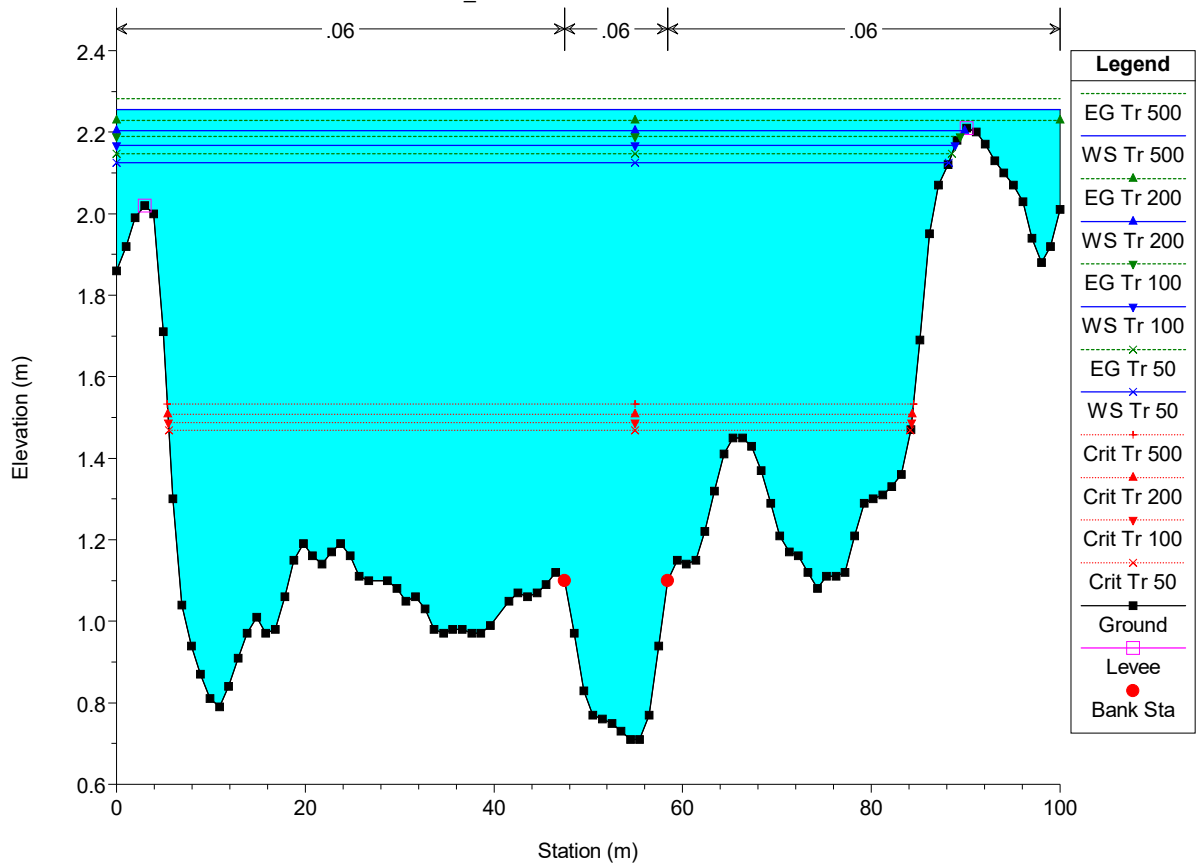
Marana Plan: attuale 29/01/2020  
 River = Rio\_De Su Laccu Reach = 1 RS = 184.5672



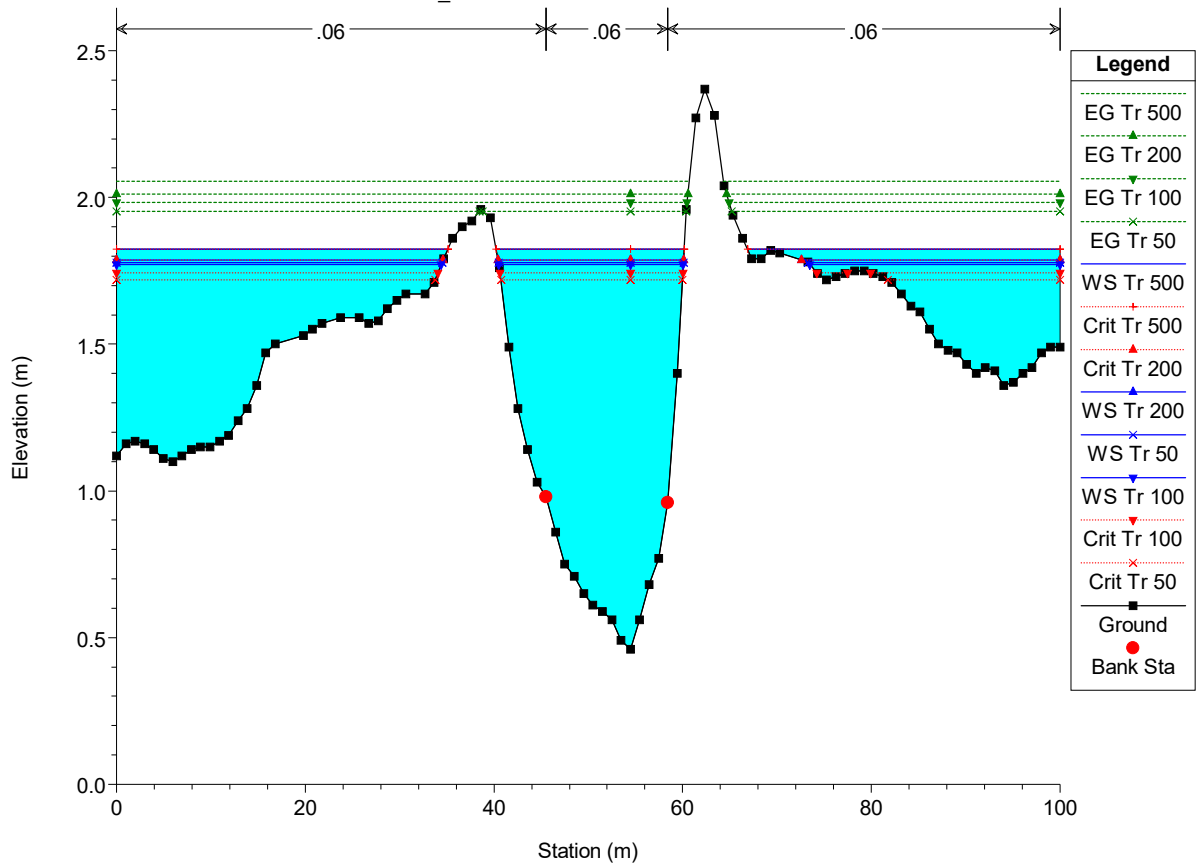
Marana Plan: attuale 29/01/2020  
 River = Rio\_De Su Laccu Reach = 1 RS = 150



Marana Plan: attuale 29/01/2020  
 River = Rio\_De Su Laccu Reach = 1 RS = 100

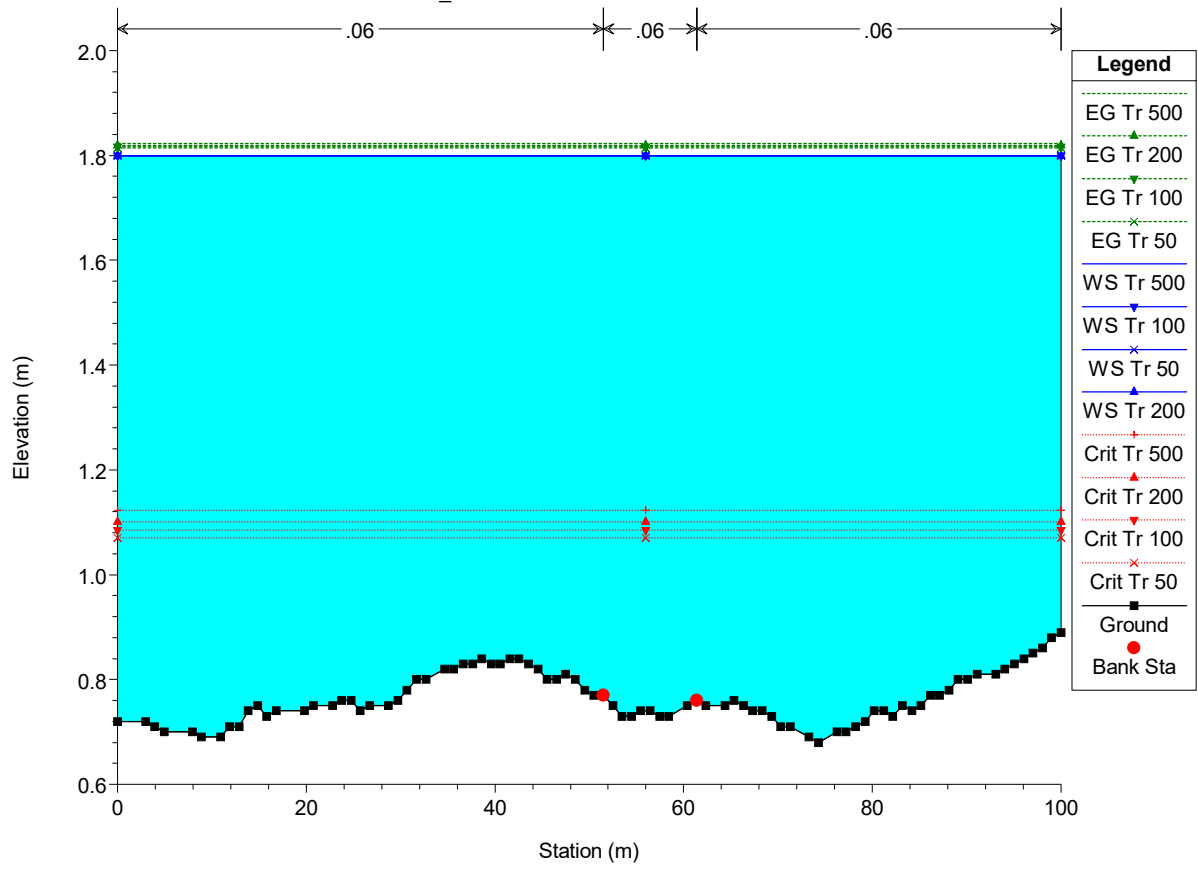


Marana Plan: attuale 29/01/2020  
 River = Rio\_De Su Laccu Reach = 1 RS = 49.99997





Marana Plan: attuale 29/01/2020  
 River = Rio\_De Su Laccu Reach = 1 RS = 13.47104



HEC-RAS Plan: attuale

| River           | Reach | River Sta | Profile | Q Total<br>(m3/s) | Min Ch El<br>(m) | W.S. Elev<br>(m) | Crit W.S.<br>(m) | E.G. Elev<br>(m) | E.G. Slope<br>(m/m) | Vel Chnl<br>(m/s) | Flow Area<br>(m2) | Top Width<br>(m) | Froude # Chl |
|-----------------|-------|-----------|---------|-------------------|------------------|------------------|------------------|------------------|---------------------|-------------------|-------------------|------------------|--------------|
| Rio_Nodu        | 1     | 318.9953  | Tr 500  | 9.67              | 15.77            | 16.54            | 16.81            | 17.40            | 0.047997            | 4.12              | 2.35              | 5.30             | 1.97         |
| Rio_Nodu        | 1     | 318.9953  | Tr 200  | 8.82              | 15.77            | 16.51            | 16.77            | 17.33            | 0.048016            | 4.02              | 2.19              | 5.13             | 1.96         |
| Rio_Nodu        | 1     | 318.9953  | Tr 100  | 8.22              | 15.77            | 16.49            | 16.74            | 17.28            | 0.048014            | 3.95              | 2.08              | 5.00             | 1.95         |
| Rio_Nodu        | 1     | 318.9953  | Tr 50   | 7.62              | 15.77            | 16.46            | 16.71            | 17.23            | 0.048011            | 3.87              | 1.97              | 4.86             | 1.95         |
| Rio_Nodu        | 1     | 280.3003  | Tr 500  | 9.67              | 15.74            | 16.30            | 16.30            | 16.47            | 0.015573            | 2.45              | 7.07              | 20.95            | 1.16         |
| Rio_Nodu        | 1     | 280.3003  | Tr 200  | 8.82              | 15.74            | 16.28            | 16.28            | 16.44            | 0.015468            | 2.37              | 6.65              | 20.89            | 1.15         |
| Rio_Nodu        | 1     | 280.3003  | Tr 100  | 8.22              | 15.74            | 16.26            | 16.26            | 16.42            | 0.015593            | 2.32              | 6.32              | 20.48            | 1.15         |
| Rio_Nodu        | 1     | 280.3003  | Tr 50   | 7.62              | 15.74            | 16.25            | 16.25            | 16.40            | 0.015705            | 2.27              | 5.98              | 20.25            | 1.14         |
| Rio_Nodu        | 1     | 238.9877  | Tr 500  | 9.67              | 11.84            | 12.22            | 12.62            | 14.58            | 0.272120            | 6.81              | 1.43              | 6.10             | 4.38         |
| Rio_Nodu        | 1     | 238.9877  | Tr 200  | 8.82              | 11.84            | 12.19            | 12.59            | 14.53            | 0.292988            | 6.78              | 1.31              | 5.89             | 4.49         |
| Rio_Nodu        | 1     | 238.9877  | Tr 100  | 8.22              | 11.84            | 12.18            | 12.56            | 14.49            | 0.307939            | 6.73              | 1.23              | 5.74             | 4.57         |
| Rio_Nodu        | 1     | 238.9877  | Tr 50   | 7.62              | 11.84            | 12.17            | 12.53            | 14.44            | 0.324903            | 6.68              | 1.14              | 5.60             | 4.65         |
| Rio_Nodu        | 1     | 198.6957  | Tr 500  | 9.67              | 9.14             | 11.87            | 10.00            | 11.87            | 0.000043            | 0.39              | 39.50             | 20.82            | 0.08         |
| Rio_Nodu        | 1     | 198.6957  | Tr 200  | 8.82              | 9.14             | 11.51            | 9.96             | 11.52            | 0.000065            | 0.43              | 32.11             | 20.82            | 0.10         |
| Rio_Nodu        | 1     | 198.6957  | Tr 100  | 8.22              | 9.14             | 11.36            | 9.94             | 11.37            | 0.000075            | 0.44              | 28.97             | 20.82            | 0.10         |
| Rio_Nodu        | 1     | 198.6957  | Tr 50   | 7.62              | 9.14             | 11.25            | 9.91             | 11.26            | 0.000081            | 0.44              | 26.70             | 20.82            | 0.10         |
| Rio_Nodu        | 1     | 196.648   | Tr 500  | 9.67              | 9.15             | 11.61            | 10.51            | 11.81            | 0.001084            | 1.98              | 4.87              | 20.81            | 0.41         |
| Rio_Nodu        | 1     | 196.648   | Tr 200  | 8.82              | 9.15             | 11.21            | 10.43            | 11.45            | 0.001650            | 2.17              | 4.07              | 20.81            | 0.49         |
| Rio_Nodu        | 1     | 196.648   | Tr 100  | 8.22              | 9.15             | 11.05            | 10.37            | 11.30            | 0.001872            | 2.19              | 3.75              | 20.81            | 0.51         |
| Rio_Nodu        | 1     | 196.648   | Tr 50   | 7.62              | 9.15             | 10.96            | 10.31            | 11.19            | 0.001908            | 2.14              | 3.57              | 20.81            | 0.51         |
| Rio_Nodu        | 1     | 188.81    |         | Culvert           |                  |                  |                  |                  |                     |                   |                   |                  |              |
| Rio_Nodu        | 1     | 180.9735  | Tr 500  | 9.67              | 8.68             | 9.62             | 10.08            | 11.16            | 0.032489            | 5.49              | 1.76              | 11.97            | 1.87         |
| Rio_Nodu        | 1     | 180.9735  | Tr 200  | 8.82              | 8.68             | 10.00            | 10.00            | 10.63            | 0.008283            | 3.51              | 2.51              | 19.82            | 1.00         |
| Rio_Nodu        | 1     | 180.9735  | Tr 100  | 8.22              | 8.68             | 9.94             | 9.94             | 10.54            | 0.008385            | 3.43              | 2.40              | 19.70            | 1.00         |
| Rio_Nodu        | 1     | 180.9735  | Tr 50   | 7.62              | 8.68             | 9.88             | 9.88             | 10.45            | 0.008546            | 3.34              | 2.28              | 18.85            | 1.00         |
| Rio_Nodu        | 1     | 174.9162  | Tr 500  | 9.67              | 8.38             | 9.98             | 9.13             | 10.00            | 0.000319            | 0.79              | 21.67             | 20.81            | 0.20         |
| Rio_Nodu        | 1     | 174.9162  | Tr 200  | 8.82              | 8.38             | 9.94             | 9.09             | 9.96             | 0.000300            | 0.75              | 20.73             | 20.81            | 0.20         |
| Rio_Nodu        | 1     | 174.9162  | Tr 100  | 8.22              | 8.38             | 9.92             | 9.07             | 9.94             | 0.000272            | 0.71              | 20.41             | 20.81            | 0.19         |
| Rio_Nodu        | 1     | 174.9162  | Tr 50   | 7.62              | 8.38             | 9.90             | 9.05             | 9.91             | 0.000250            | 0.67              | 19.92             | 20.81            | 0.18         |
| Rio_Nodu        | 1     | 167.7895  | Tr 500  | 9.67              | 8.00             | 9.99             |                  | 10.00            | 0.000108            | 0.53              | 30.34             | 18.83            | 0.12         |
| Rio_Nodu        | 1     | 167.7895  | Tr 200  | 8.82              | 8.00             | 9.94             |                  | 9.95             | 0.000098            | 0.49              | 29.49             | 18.83            | 0.12         |
| Rio_Nodu        | 1     | 167.7895  | Tr 100  | 8.22              | 8.00             | 9.93             |                  | 9.93             | 0.000088            | 0.46              | 29.19             | 18.83            | 0.11         |
| Rio_Nodu        | 1     | 167.7895  | Tr 50   | 7.62              | 8.00             | 9.90             |                  | 9.91             | 0.000080            | 0.44              | 28.73             | 18.83            | 0.10         |
| Rio_Nodu        | 1     | 165.3781  | Tr 500  | 9.67              | 7.80             | 9.99             | 8.28             | 9.99             | 0.000069            | 0.46              | 40.81             | 19.82            | 0.10         |
| Rio_Nodu        | 1     | 165.3781  | Tr 200  | 8.82              | 7.80             | 9.94             | 8.26             | 9.95             | 0.000061            | 0.43              | 39.90             | 19.82            | 0.09         |
| Rio_Nodu        | 1     | 165.3781  | Tr 100  | 8.22              | 7.80             | 9.93             | 8.25             | 9.93             | 0.000055            | 0.40              | 39.58             | 19.82            | 0.09         |
| Rio_Nodu        | 1     | 165.3781  | Tr 50   | 7.62              | 7.80             | 9.90             | 8.21             | 9.91             | 0.000049            | 0.38              | 39.10             | 19.82            | 0.08         |
| Rio_Nodu        | 1     | 158.71    |         | Culvert           |                  |                  |                  |                  |                     |                   |                   |                  |              |
| Rio_Nodu        | 1     | 152.0393  | Tr 500  | 9.67              | 7.70             | 8.39             | 8.39             | 8.57             | 0.010359            | 2.53              | 7.65              | 19.20            | 1.01         |
| Rio_Nodu        | 1     | 152.0393  | Tr 200  | 8.82              | 7.70             | 8.36             | 8.36             | 8.54             | 0.010475            | 2.47              | 7.12              | 18.98            | 1.00         |
| Rio_Nodu        | 1     | 152.0393  | Tr 100  | 8.22              | 7.70             | 8.34             | 8.34             | 8.51             | 0.010287            | 2.41              | 6.81              | 18.84            | 0.99         |
| Rio_Nodu        | 1     | 152.0393  | Tr 50   | 7.62              | 7.70             | 8.32             | 8.32             | 8.49             | 0.010047            | 2.33              | 6.50              | 18.88            | 0.97         |
| Rio_Nodu        | 1     | 129.2761  | Tr 500  | 9.67              | 6.44             | 6.73             | 6.73             | 6.74             | 0.002261            | 0.47              | 22.90             | 63.05            | 0.37         |
| Rio_Nodu        | 1     | 129.2761  | Tr 200  | 8.82              | 6.44             | 6.73             | 6.73             | 6.74             | 0.001881            | 0.43              | 22.90             | 63.05            | 0.34         |
| Rio_Nodu        | 1     | 129.2761  | Tr 100  | 8.22              | 6.44             | 6.73             | 6.73             | 6.74             | 0.001634            | 0.40              | 22.90             | 63.05            | 0.32         |
| Rio_Nodu        | 1     | 129.2761  | Tr 50   | 7.62              | 6.44             | 6.73             | 6.73             | 6.74             | 0.001404            | 0.37              | 22.90             | 63.05            | 0.29         |
| Rio_Nodu        | 1     | 94.8213   | Tr 500  | 9.67              | 5.98             | 6.05             | 6.05             | 6.05             | 0.000236            | 0.06              | 49.08             | 75.05            | 0.10         |
| Rio_Nodu        | 1     | 94.8213   | Tr 200  | 8.82              | 5.98             | 6.05             | 6.05             | 6.05             | 0.000196            | 0.05              | 49.08             | 75.05            | 0.09         |
| Rio_Nodu        | 1     | 94.8213   | Tr 100  | 8.22              | 5.98             | 6.05             | 6.05             | 6.05             | 0.000171            | 0.05              | 49.08             | 75.05            | 0.08         |
| Rio_Nodu        | 1     | 94.8213   | Tr 50   | 7.62              | 5.98             | 6.05             | 6.05             | 6.05             | 0.000147            | 0.05              | 49.08             | 75.05            | 0.07         |
| Rio_Nodu        | 1     | 57.99626  | Tr 500  | 9.67              | 3.78             | 4.16             | 4.60             | 5.85             | 0.168073            | 5.78              | 1.76              | 7.56             | 3.51         |
| Rio_Nodu        | 1     | 57.99626  | Tr 200  | 8.82              | 3.78             | 4.14             | 4.51             | 5.85             | 0.192861            | 5.82              | 1.57              | 7.27             | 3.70         |
| Rio_Nodu        | 1     | 57.99626  | Tr 100  | 8.22              | 3.78             | 4.12             | 4.48             | 5.85             | 0.214301            | 5.84              | 1.45              | 7.04             | 3.86         |
| Rio_Nodu        | 1     | 57.99626  | Tr 50   | 7.62              | 3.78             | 4.10             | 4.42             | 5.85             | 0.239705            | 5.87              | 1.32              | 6.82             | 4.03         |
| Rio_Nodu        | 1     | 24.94146  | Tr 500  | 9.67              | 3.62             | 4.27             | 4.27             | 4.48             | 0.012386            | 2.70              | 7.59              | 23.00            | 1.09         |
| Rio_Nodu        | 1     | 24.94146  | Tr 200  | 8.82              | 3.62             | 4.26             | 4.27             | 4.45             | 0.011011            | 2.52              | 7.38              | 22.67            | 1.03         |
| Rio_Nodu        | 1     | 24.94146  | Tr 100  | 8.22              | 3.62             | 4.24             | 4.26             | 4.42             | 0.010995            | 2.47              | 6.97              | 22.10            | 1.02         |
| Rio_Nodu        | 1     | 24.94146  | Tr 50   | 7.62              | 3.62             | 4.22             | 4.24             | 4.40             | 0.010974            | 2.42              | 6.54              | 21.50            | 1.02         |
| Rio_Nodu        | 1     | 3.407436  | Tr 500  | 9.67              | 3.71             | 3.77             | 3.77             | 3.78             | 0.000588            | 0.05              | 33.78             | 61.78            | 0.08         |
| Rio_Nodu        | 1     | 3.407436  | Tr 200  | 8.82              | 3.71             | 3.77             | 3.77             | 3.78             | 0.000489            | 0.04              | 33.78             | 61.78            | 0.07         |
| Rio_Nodu        | 1     | 3.407436  | Tr 100  | 8.22              | 3.71             | 3.77             | 3.77             | 3.78             | 0.000425            | 0.04              | 33.78             | 61.78            | 0.06         |
| Rio_Nodu        | 1     | 3.407436  | Tr 50   | 7.62              | 3.71             | 3.77             | 3.77             | 3.77             | 0.000365            | 0.04              | 33.78             | 61.78            | 0.06         |
| Rio_De_Su_Laccu | 1     | 265.1963  | Tr 500  | 38.13             | 0.63             | 2.40             | 2.22             | 2.53             | 0.002139            | 2.00              | 44.32             | 81.80            | 0.52         |
| Rio_De_Su_Laccu | 1     | 265.1963  | Tr 200  | 34.79             | 0.63             | 2.33             | 2.17             | 2.48             | 0.002388            | 2.05              | 35.19             | 59.81            | 0.55         |
| Rio_De_Su_Laccu | 1     | 265.1963  | Tr 100  | 32.41             | 0.63             | 2.29             | 1.98             | 2.43             | 0.002447            | 2.03              | 32.61             | 58.70            | 0.55         |
| Rio_De_Su_Laccu | 1     | 265.1963  | Tr 50   | 30.06             | 0.63             | 2.24             | 1.93             | 2.39             | 0.002523            | 2.02              | 29.96             | 57.55            | 0.56         |
| Rio_De_Su_Laccu | 1     | 225.1963  | Tr 500  | 38.13             | 0.62             | 2.45             |                  | 2.46             | 0.000436            | 0.51              | 104.29            | 100.00           | 0.12         |
| Rio_De_Su_Laccu | 1     | 225.1963  | Tr 200  | 34.79             | 0.62             | 2.39             |                  | 2.40             | 0.000435            | 0.49              | 98.51             | 100.00           | 0.12         |
| Rio_De_Su_Laccu | 1     | 225.1963  | Tr 100  | 32.41             | 0.62             | 2.35             |                  | 2.36             | 0.000433            | 0.48              | 94.28             | 100.00           | 0.12         |
| Rio_De_Su_Laccu | 1     | 225.1963  | Tr 50   | 30.06             | 0.62             | 2.31             |                  | 2.31             | 0.000435            | 0.48              | 89.76             | 100.00           | 0.12         |
| Rio_De_Su_Laccu | 1     | 184.5672  | Tr 500  | 68.88             | 0.65             | 2.40             |                  | 2.42             | 0.001509            | 0.91              | 97.50             | 84.95            | 0.22         |
| Rio_De_Su_Laccu | 1     | 184.5672  | Tr 200  | 62.84             | 0.65             | 2.34             |                  | 2.36             | 0.001459            | 0.87              | 92.82             | 84.19            | 0.22         |
| Rio_De_Su_Laccu | 1     | 184.5672  | Tr 100  | 58.55             | 0.65             | 2.30             |                  | 2.32             | 0.001413            | 0.85              | 89.44             | 83.39            | 0.22         |
| Rio_De_Su_Laccu | 1     | 184.5672  | Tr 50   | 54.30             | 0.65             | 2.26             |                  | 2.28             | 0.001384            | 0.82              | 85.81             | 82.99            | 0.21         |

HEC-RAS Plan: attuale (Continued)

| River           | Reach | River Sta | Profile | Q Total<br>(m3/s) | Min Ch El<br>(m) | W.S. Elev<br>(m) | Crit W.S.<br>(m) | E.G. Elev<br>(m) | E.G. Slope<br>(m/m) | Vel Chnl<br>(m/s) | Flow Area<br>(m2) | Top Width<br>(m) | Froude # Chl |
|-----------------|-------|-----------|---------|-------------------|------------------|------------------|------------------|------------------|---------------------|-------------------|-------------------|------------------|--------------|
| Rio_De Su Laccu | 1     | 150       | Tr 500  | 68.88             | 0.55             | 2.34             | 1.54             | 2.37             | 0.001623            | 0.95              | 95.84             | 100.00           | 0.23         |
| Rio_De Su Laccu | 1     | 150       | Tr 200  | 62.84             | 0.55             | 2.28             | 1.51             | 2.31             | 0.001596            | 0.92              | 90.42             | 100.00           | 0.23         |
| Rio_De Su Laccu | 1     | 150       | Tr 100  | 58.55             | 0.55             | 2.24             | 1.49             | 2.27             | 0.001570            | 0.90              | 86.49             | 100.00           | 0.23         |
| Rio_De Su Laccu | 1     | 150       | Tr 50   | 54.30             | 0.55             | 2.20             | 1.47             | 2.23             | 0.001557            | 0.88              | 82.18             | 100.00           | 0.22         |
| Rio_De Su Laccu | 1     | 100       | Tr 500  | 68.88             | 0.71             | 2.25             | 1.53             | 2.28             | 0.001722            | 0.88              | 98.07             | 100.00           | 0.23         |
| Rio_De Su Laccu | 1     | 100       | Tr 200  | 62.84             | 0.71             | 2.20             | 1.51             | 2.23             | 0.001623            | 0.83              | 91.50             | 89.90            | 0.23         |
| Rio_De Su Laccu | 1     | 100       | Tr 100  | 58.55             | 0.71             | 2.17             | 1.49             | 2.19             | 0.001572            | 0.80              | 88.19             | 88.90            | 0.22         |
| Rio_De Su Laccu | 1     | 100       | Tr 50   | 54.30             | 0.71             | 2.13             | 1.47             | 2.15             | 0.001544            | 0.78              | 84.48             | 88.21            | 0.22         |
| Rio_De Su Laccu | 1     | 49.99997  | Tr 500  | 68.88             | 0.46             | 1.82             | 1.82             | 2.05             | 0.020390            | 2.62              | 39.91             | 88.20            | 0.78         |
| Rio_De Su Laccu | 1     | 49.99997  | Tr 200  | 62.84             | 0.46             | 1.79             | 1.79             | 2.01             | 0.020286            | 2.55              | 36.80             | 81.68            | 0.77         |
| Rio_De Su Laccu | 1     | 49.99997  | Tr 100  | 58.55             | 0.46             | 1.77             | 1.74             | 1.98             | 0.019149            | 2.46              | 35.53             | 80.46            | 0.75         |
| Rio_De Su Laccu | 1     | 49.99997  | Tr 50   | 54.30             | 0.46             | 1.78             | 1.72             | 1.95             | 0.015788            | 2.24              | 36.15             | 80.81            | 0.68         |
| Rio_De Su Laccu | 1     | 13.47104  | Tr 500  | 68.88             | 0.73             | 1.80             | 1.12             | 1.82             | 0.001538            | 0.68              | 104.00            | 100.00           | 0.21         |
| Rio_De Su Laccu | 1     | 13.47104  | Tr 200  | 62.84             | 0.73             | 1.80             | 1.10             | 1.82             | 0.001281            | 0.62              | 104.00            | 100.00           | 0.19         |
| Rio_De Su Laccu | 1     | 13.47104  | Tr 100  | 58.55             | 0.73             | 1.80             | 1.09             | 1.82             | 0.001112            | 0.58              | 104.00            | 100.00           | 0.18         |
| Rio_De Su Laccu | 1     | 13.47104  | Tr 50   | 54.30             | 0.73             | 1.80             | 1.07             | 1.81             | 0.000956            | 0.54              | 104.00            | 100.00           | 0.17         |
| Canale          | 1     | 213.57    | Tr 500  | 21.08             | 7.24             | 9.13             | 8.79             | 9.65             | 0.002966            | 3.19              | 6.60              | 3.50             | 0.74         |
| Canale          | 1     | 213.57    | Tr 200  | 19.23             | 7.24             | 9.13             | 8.70             | 9.56             | 0.002463            | 2.91              | 6.61              | 3.50             | 0.68         |
| Canale          | 1     | 213.57    | Tr 100  | 17.92             | 7.24             | 9.13             | 8.63             | 9.50             | 0.002139            | 2.71              | 6.61              | 3.50             | 0.63         |
| Canale          | 1     | 213.57    | Tr 50   | 16.62             | 7.24             | 9.13             | 8.56             | 9.45             | 0.001846            | 2.52              | 6.60              | 3.50             | 0.59         |
| Canale          | 1     | 143.57    | Tr 500  | 21.08             | 6.66             | 9.14             | 8.21             | 9.44             | 0.001462            | 2.43              | 8.67              | 3.50             | 0.49         |
| Canale          | 1     | 143.57    | Tr 200  | 19.23             | 6.66             | 9.14             | 8.11             | 9.39             | 0.001218            | 2.22              | 8.67              | 3.50             | 0.45         |
| Canale          | 1     | 143.57    | Tr 100  | 17.92             | 6.66             | 9.14             | 8.05             | 9.35             | 0.001059            | 2.07              | 8.67              | 3.50             | 0.42         |
| Canale          | 1     | 143.57    | Tr 50   | 16.62             | 6.66             | 9.13             | 7.98             | 9.32             | 0.000914            | 1.92              | 8.65              | 3.50             | 0.39         |
| Canale          | 1     | 142.57    | Tr 500  | 21.08             | 6.66             | 9.33             |                  | 9.36             | 0.000226            | 0.77              | 43.13             | 50.00            | 0.17         |
| Canale          | 1     | 142.57    | Tr 200  | 19.23             | 6.66             | 9.30             |                  | 9.32             | 0.000204            | 0.72              | 41.41             | 50.00            | 0.16         |
| Canale          | 1     | 142.57    | Tr 100  | 17.92             | 6.66             | 9.27             |                  | 9.29             | 0.000186            | 0.68              | 40.27             | 50.00            | 0.15         |
| Canale          | 1     | 142.57    | Tr 50   | 16.62             | 6.66             | 9.25             |                  | 9.27             | 0.000169            | 0.64              | 39.12             | 50.00            | 0.15         |
| Canale          | 1     | 137.57    | Tr 500  | 21.08             | 6.58             | 9.33             |                  | 9.35             | 0.000222            | 0.76              | 43.27             | 50.00            | 0.17         |
| Canale          | 1     | 137.57    | Tr 200  | 19.23             | 6.58             | 9.30             |                  | 9.32             | 0.000200            | 0.71              | 41.56             | 50.00            | 0.16         |
| Canale          | 1     | 137.57    | Tr 100  | 17.92             | 6.58             | 9.27             |                  | 9.29             | 0.000182            | 0.68              | 40.43             | 50.00            | 0.15         |
| Canale          | 1     | 137.57    | Tr 50   | 16.62             | 6.58             | 9.25             |                  | 9.27             | 0.000165            | 0.64              | 39.28             | 50.00            | 0.14         |
| Canale          | 1     | 47.85723  | Tr 500  | 21.08             | 6.58             | 9.31             |                  | 9.33             | 0.000233            | 0.77              | 42.20             | 50.00            | 0.17         |
| Canale          | 1     | 47.85723  | Tr 200  | 19.23             | 6.58             | 9.28             |                  | 9.30             | 0.000208            | 0.73              | 40.60             | 50.00            | 0.16         |
| Canale          | 1     | 47.85723  | Tr 100  | 17.92             | 6.58             | 9.26             |                  | 9.28             | 0.000190            | 0.69              | 39.55             | 50.00            | 0.15         |
| Canale          | 1     | 47.85723  | Tr 50   | 16.62             | 6.58             | 9.23             |                  | 9.25             | 0.000171            | 0.65              | 38.49             | 50.00            | 0.15         |
| Canale          | 1     | 45.86     | Tr 500  | 21.08             | 6.58             | 9.31             | 7.82             | 9.33             | 0.000233            | 0.77              | 42.17             | 50.00            | 0.17         |
| Canale          | 1     | 45.86     | Tr 200  | 19.23             | 6.58             | 9.28             | 7.77             | 9.30             | 0.000209            | 0.73              | 40.58             | 50.00            | 0.16         |
| Canale          | 1     | 45.86     | Tr 100  | 17.92             | 6.58             | 9.26             | 7.72             | 9.28             | 0.000190            | 0.69              | 39.53             | 50.00            | 0.15         |
| Canale          | 1     | 45.86     | Tr 50   | 16.62             | 6.58             | 9.23             | 7.68             | 9.25             | 0.000172            | 0.65              | 38.47             | 50.00            | 0.15         |
| Canale          | 1     | 38.86     |         | Culvert           |                  |                  |                  |                  |                     |                   |                   |                  |              |
| Canale          | 1     | 31.86     | Tr 500  | 21.08             | 6.58             | 8.11             |                  | 8.34             | 0.004268            | 2.14              | 9.85              | 9.40             | 0.67         |
| Canale          | 1     | 31.86     | Tr 200  | 19.23             | 6.58             | 8.04             |                  | 8.26             | 0.004282            | 2.08              | 9.24              | 9.23             | 0.66         |
| Canale          | 1     | 31.86     | Tr 100  | 17.92             | 6.58             | 7.99             |                  | 8.21             | 0.004282            | 2.04              | 8.80              | 9.11             | 0.66         |
| Canale          | 1     | 31.86     | Tr 50   | 16.62             | 6.58             | 7.94             |                  | 8.15             | 0.004324            | 2.00              | 8.32              | 8.96             | 0.66         |
| Canale          | 1     | 26.86     | Tr 500  | 21.08             | 6.58             | 7.82             | 7.82             | 8.25             | 0.010293            | 2.90              | 7.27              | 8.60             | 1.01         |
| Canale          | 1     | 26.86     | Tr 200  | 19.23             | 6.58             | 7.77             | 7.77             | 8.17             | 0.010410            | 2.83              | 6.79              | 8.42             | 1.01         |
| Canale          | 1     | 26.86     | Tr 100  | 17.92             | 6.58             | 7.72             | 7.72             | 8.12             | 0.010500            | 2.79              | 6.43              | 8.25             | 1.01         |
| Canale          | 1     | 26.86     | Tr 50   | 16.62             | 6.58             | 7.68             | 7.68             | 8.06             | 0.010447            | 2.72              | 6.11              | 8.09             | 1.00         |
| Canale          | 1     | 0         | Tr 500  | 21.08             | 6.05             | 6.53             | 6.79             | 7.44             | 0.241524            | 4.50              | 5.59              | 23.68            | 2.25         |
| Canale          | 1     | 0         | Tr 200  | 19.23             | 6.05             | 6.52             | 6.77             | 7.37             | 0.233378            | 4.32              | 5.27              | 23.39            | 2.20         |
| Canale          | 1     | 0         | Tr 100  | 17.92             | 6.05             | 6.51             | 6.76             | 7.31             | 0.227118            | 4.19              | 5.03              | 23.13            | 2.16         |
| Canale          | 1     | 0         | Tr 50   | 16.62             | 6.05             | 6.50             | 6.75             | 7.26             | 0.219029            | 4.04              | 4.81              | 22.84            | 2.11         |