

Anexo VI. Resultados del Programa HY-8.

Crossing Data - Cuanca 01

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 281.00 | cms |
| Maximum Flow | 281.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 32.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0010 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 54.50 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 64.00 | m |
| Crest Elevation | 60.52 | m |
| Roadway Surface | Paved | |
| Top Width | 13.80 | m |

Culvert Properties

Pr. 0+486.15m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|----------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 0+486.15m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 32000.00 | mm |
| Rise | 5000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | Square Edge (90°) Headwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 54.52 | m |
| Outlet Station | 15.80 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 0+486.15m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 54.52 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 28.15 | 28.15 | 55.61 | 0.76 | 1.09 | 3-M1t | 0.48 | 0.43 | 1.06 | 1.06 | 0.83 | 0.78 |
| 56.30 | 56.30 | 56.19 | 1.18 | 1.67 | 3-M1t | 0.72 | 0.68 | 1.59 | 1.59 | 1.10 | 1.00 |
| 84.45 | 84.45 | 56.65 | 1.54 | 2.13 | 3-M1t | 0.94 | 0.89 | 2.02 | 2.02 | 1.31 | 1.16 |
| 112.60 | 112.60 | 57.06 | 1.86 | 2.54 | 3-M1t | 1.13 | 1.08 | 2.39 | 2.39 | 1.47 | 1.28 |
| 140.75 | 140.75 | 57.43 | 2.16 | 2.91 | 3-M1t | 1.29 | 1.26 | 2.72 | 2.72 | 1.62 | 1.38 |
| 168.90 | 168.90 | 57.76 | 2.43 | 3.24 | 3-M1t | 1.46 | 1.42 | 3.03 | 3.03 | 1.74 | 1.47 |
| 197.05 | 197.05 | 58.07 | 2.68 | 3.55 | 3-M1t | 1.60 | 1.57 | 3.31 | 3.31 | 1.86 | 1.54 |
| 225.20 | 225.20 | 58.37 | 2.93 | 3.85 | 3-M1t | 1.74 | 1.72 | 3.57 | 3.57 | 1.97 | 1.61 |
| 253.35 | 253.35 | 58.65 | 3.16 | 4.13 | 3-M1t | 1.88 | 1.86 | 3.82 | 3.82 | 2.07 | 1.67 |
| 281.00 | 281.00 | 58.91 | 3.38 | 4.39 | 3-M1t | 2.01 | 1.99 | 4.05 | 4.05 | 2.17 | 1.73 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 0+486.15m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

Geometry

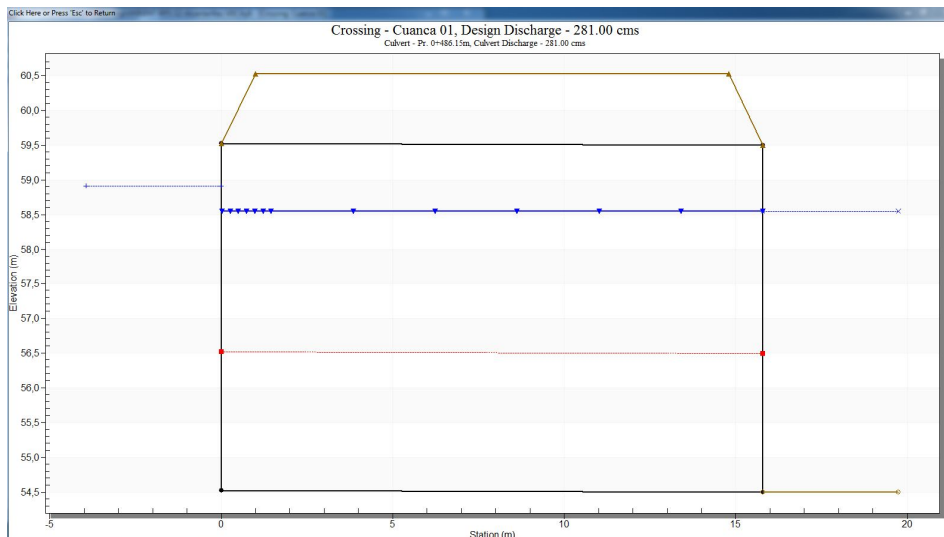
Inlet Elevation: 54.52 m
 Outlet Elevation: 54.50 m
 Culvert Length: 15.80 m
 Culvert Slope: 0.0013
 Inlet Crest: 0.00 m
 Inlet Throat: 0.00 m

Plot

Crossing Rating Curve
 Culvert Performance Curve
 Selected Water Profile
 Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuanca 02

Crossing Properties
Name: Cuanca 02

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 79.00 | cms |
| Maximum Flow | 80.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 12.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0017 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 54.89 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 24.00 | m |
| Crest Elevation | 59.92 | m |
| Roadway Surface | Paved | |
| Top Width | 13.80 | m |

Culvert Properties
Pr. 3+958.43m

| Parameter | Value | Units |
|------------------------|----------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 3+958.43m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 12000.00 | mm |
| Rise | 4000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | Square Edge (90°) Headwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 54.92 | m |
| Outlet Station | 15.80 | m |

Buttons: Help, Click on any icon for help on a specific topic, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 3+958.43m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 54.92 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8.00 | 8.00 | 55.71 | 0.62 | 0.79 | 1-S1t | 0.35 | 0.36 | 0.76 | 0.76 | 0.88 | 0.78 |
| 16.00 | 16.00 | 56.13 | 0.98 | 1.21 | 1-S1t | 0.55 | 0.57 | 1.13 | 1.13 | 1.18 | 0.99 |
| 24.00 | 24.00 | 56.51 | 1.28 | 1.59 | 1-S1t | 0.72 | 0.74 | 1.43 | 1.43 | 1.40 | 1.13 |
| 32.00 | 32.00 | 56.77 | 1.54 | 1.85 | 1-S1t | 0.87 | 0.90 | 1.68 | 1.68 | 1.59 | 1.24 |
| 40.00 | 40.00 | 57.03 | 1.79 | 2.11 | 1-S1t | 1.00 | 1.04 | 1.90 | 1.90 | 1.75 | 1.33 |
| 48.00 | 48.00 | 57.28 | 2.02 | 2.36 | 1-S1t | 1.13 | 1.18 | 2.11 | 2.11 | 1.90 | 1.41 |
| 56.00 | 56.00 | 57.51 | 2.23 | 2.59 | 1-S1t | 1.25 | 1.31 | 2.29 | 2.29 | 2.04 | 1.47 |
| 64.00 | 64.00 | 57.72 | 2.43 | 2.80 | 1-S1t | 1.36 | 1.43 | 2.47 | 2.47 | 2.16 | 1.53 |
| 72.00 | 72.00 | 57.93 | 2.62 | 3.01 | 1-S1t | 1.47 | 1.55 | 2.63 | 2.63 | 2.28 | 1.59 |
| 79.00 | 79.01 | 58.10 | 2.78 | 3.18 | 1-S1t | 1.56 | 1.64 | 2.76 | 2.76 | 2.38 | 1.63 |

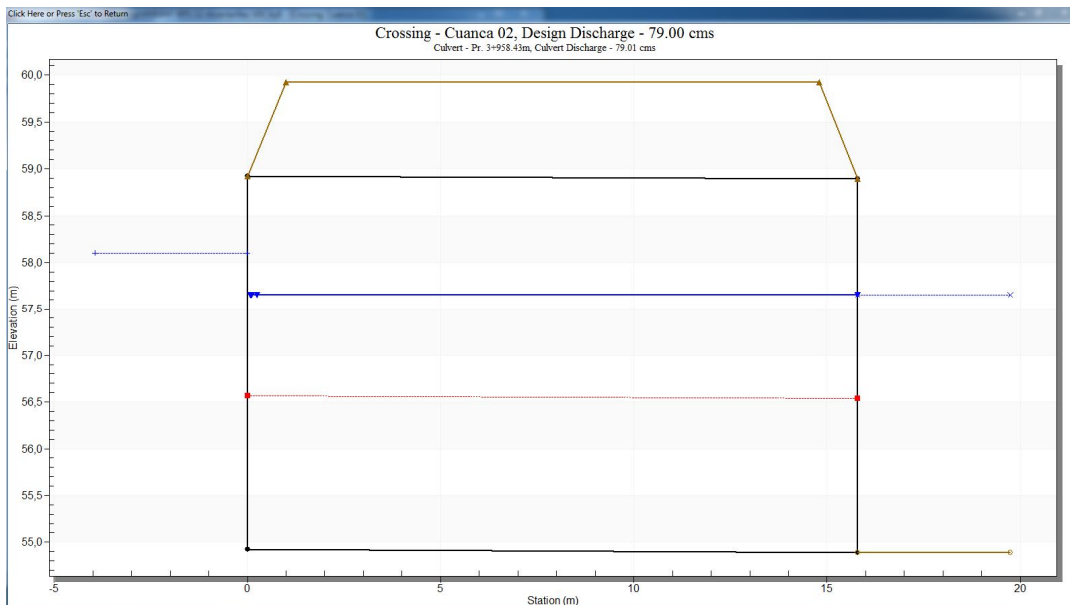
Display: Crossing Summary Table, Culvert Summary Table (Pr. 3+958.43m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 54.92 m, Outlet Elevation: 54.89 m, Culvert Length: 15.80 m, Culvert Slope: 0.0019, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, Culvert Performance Curve, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuanca 03

Crossing Properties
Name: Cuanca 03

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 158.50 | cms |
| Maximum Flow | 159.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 20.00 | m |
| Side Slope (H:V) | 2.00 | 1:1 |
| Channel Slope | 0.0011 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 52.68 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 180.00 | m |
| Crest Elevation | 58.70 | m |
| Roadway Surface | Paved | |
| Top Width | 13.80 | m |

Culvert Properties
Pr. 5+314.40m
Pr. 5+175.41m

| Parameter | Value | Units |
|------------------------|----------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 5+314.40m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 10000.00 | mm |
| Rise | 5000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | Square Edge (90°) Headwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 52.70 | m |
| Outlet Station | 15.80 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 5+314.40m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 52.70 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15.90 | 7.96 | 53.70 | 0.72 | 1.00 | 3-M1t | 0.45 | 0.40 | 0.96 | 0.96 | 0.83 | 0.75 |
| 31.80 | 15.95 | 54.21 | 1.10 | 1.52 | 3-M1t | 0.70 | 0.64 | 1.44 | 1.44 | 1.10 | 0.96 |
| 47.70 | 23.85 | 54.64 | 1.44 | 1.94 | 3-M1t | 0.93 | 0.84 | 1.83 | 1.83 | 1.31 | 1.10 |
| 63.60 | 31.80 | 54.95 | 1.73 | 2.31 | 3-M1t | 1.12 | 1.01 | 2.16 | 2.16 | 1.47 | 1.21 |
| 79.50 | 39.76 | 55.34 | 2.02 | 2.64 | 3-M1t | 1.30 | 1.17 | 2.45 | 2.45 | 1.62 | 1.30 |
| 95.40 | 47.71 | 55.64 | 2.28 | 2.94 | 3-M1t | 1.47 | 1.33 | 2.72 | 2.72 | 1.76 | 1.38 |
| 111.30 | 55.57 | 55.91 | 2.51 | 3.22 | 3-M1t | 1.62 | 1.47 | 2.96 | 2.96 | 1.88 | 1.45 |
| 127.20 | 63.61 | 56.18 | 2.74 | 3.48 | 3-M1t | 1.78 | 1.61 | 3.19 | 3.19 | 1.99 | 1.51 |
| 143.10 | 71.56 | 56.43 | 2.96 | 3.73 | 3-M1t | 1.93 | 1.74 | 3.41 | 3.41 | 2.10 | 1.57 |
| 158.50 | 79.27 | 56.66 | 3.16 | 3.96 | 3-M1t | 2.07 | 1.86 | 3.61 | 3.61 | 2.20 | 1.61 |

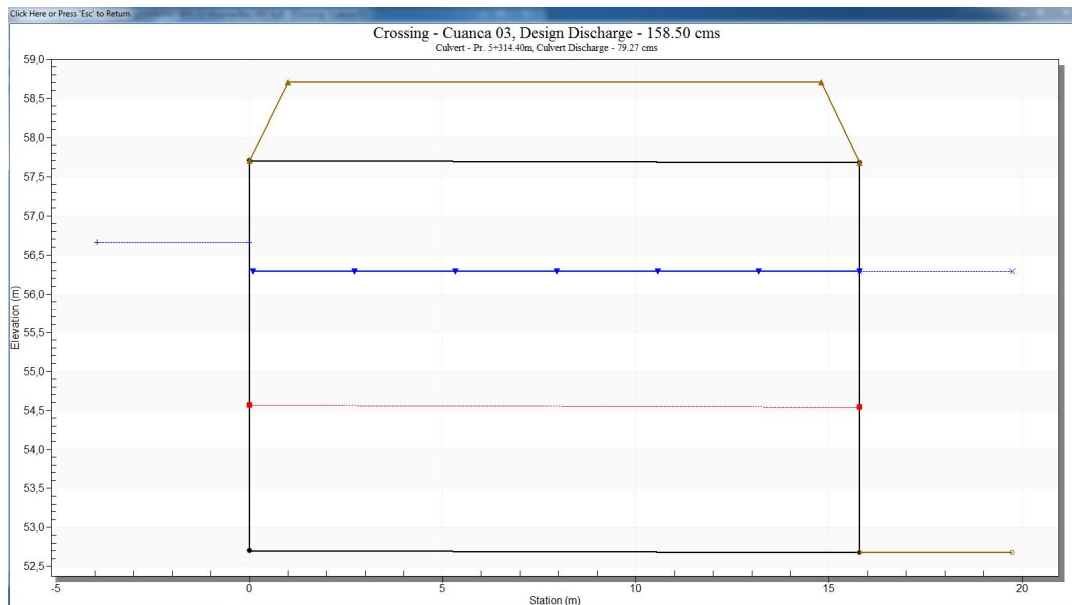
Display
 Crossing Summary Table
 Culvert Summary Table: Pr. 5+314.40m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

Geometry
 Inlet Elevation: 52.70 m
 Outlet Elevation: 52.68 m
 Culvert Length: 15.80 m
 Culvert Slope: 0.0013
 Inlet Crest: 0.00 m
 Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuanca 03

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 158.50 | cms |
| Maximum Flow | 159.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 20.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0011 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 52.68 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 180.00 | m |
| Crest Elevation | 58.70 | m |
| Roadway Surface | Paved | |
| Top Width | 13.80 | m |

Culvert Properties

Pr. 5+314.40m
Pr. 5+175.41m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|----------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 5+175.41m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 10000.00 | mm |
| Rise | 5000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | Square Edge (90°) Headwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 52.70 | m |
| Outlet Station | 15.80 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 5+175.41m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 52.70 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15.90 | 7.96 | 53.70 | 0.72 | 1.00 | 3-M1t | 0.45 | 0.40 | 0.96 | 0.96 | 0.83 | 0.75 |
| 31.80 | 15.95 | 54.21 | 1.10 | 1.52 | 3-M1t | 0.70 | 0.64 | 1.44 | 1.44 | 1.10 | 0.96 |
| 47.70 | 23.85 | 54.64 | 1.44 | 1.94 | 3-M1t | 0.93 | 0.84 | 1.83 | 1.83 | 1.31 | 1.10 |
| 63.60 | 31.80 | 54.95 | 1.73 | 2.31 | 3-M1t | 1.12 | 1.01 | 2.16 | 2.16 | 1.47 | 1.21 |
| 79.50 | 39.76 | 55.34 | 2.02 | 2.64 | 3-M1t | 1.30 | 1.17 | 2.45 | 2.45 | 1.62 | 1.30 |
| 95.40 | 47.71 | 55.64 | 2.28 | 2.94 | 3-M1t | 1.47 | 1.33 | 2.72 | 2.72 | 1.76 | 1.38 |
| 111.30 | 55.57 | 55.91 | 2.51 | 3.22 | 3-M1t | 1.62 | 1.47 | 2.96 | 2.96 | 1.88 | 1.45 |
| 127.20 | 63.61 | 56.18 | 2.74 | 3.48 | 3-M1t | 1.78 | 1.61 | 3.19 | 3.19 | 1.99 | 1.51 |
| 143.10 | 71.56 | 56.43 | 2.96 | 3.73 | 3-M1t | 1.93 | 1.74 | 3.41 | 3.41 | 2.10 | 1.57 |
| 158.50 | 79.27 | 56.66 | 3.16 | 3.96 | 3-M1t | 2.07 | 1.86 | 3.61 | 3.61 | 2.20 | 1.61 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 5+175.41m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

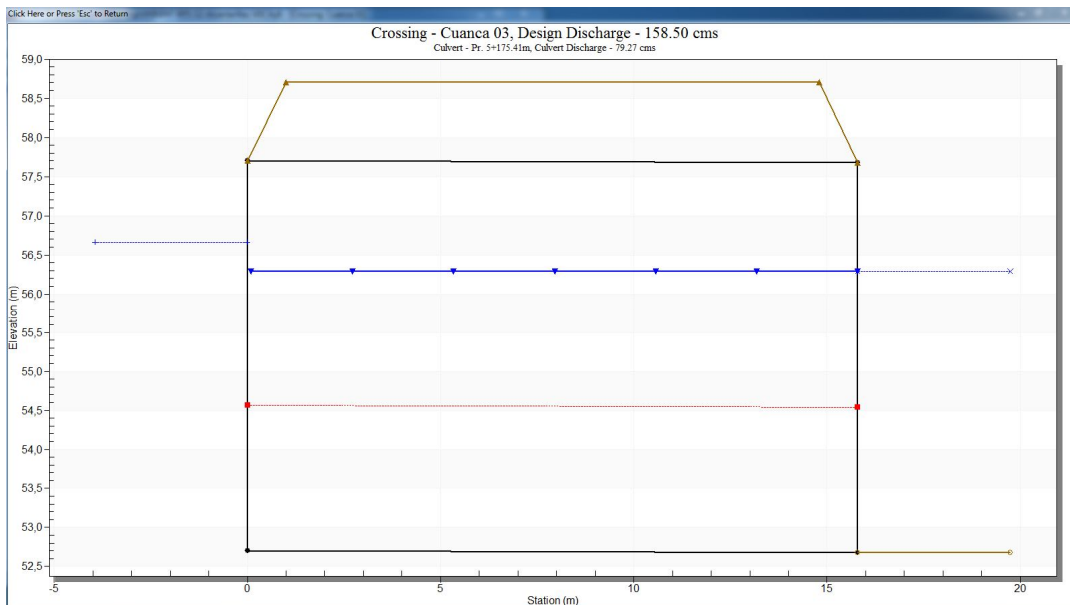
Geometry

Inlet Elevation: 52.70 m
Outlet Elevation: 52.68 m
Culvert Length: 15.80 m
Culvert Slope: 0.0013
Inlet Crest: 0.00 m
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuanca 04

Crossing Properties
Name: Cuanca 04

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 1.00 | cms |
| Maximum Flow | 1.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0025 | m/m |
| Manning's n (channel) | 0.1500 | |
| Channel Invert Elevation | 63.48 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 66.48 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 2+364.87m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 2+364.87m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 63.98 | m |
| Outlet Station | 20.00 | m |

Buttons: Help, Click on any icon for help on a specific topic, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 2+364.87m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 63.98 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.15 | 0.15 | 64.11 | 0.13 | 0.0* | 1-S2n | 0.02 | 0.08 | 0.02 | 0.38 | 3.37 | 0.14 |
| 0.30 | 0.30 | 64.17 | 0.19 | 0.0* | 1-S2n | 0.04 | 0.13 | 0.07 | 0.55 | 2.20 | 0.18 |
| 0.45 | 0.45 | 64.23 | 0.25 | 0.0* | 1-S2n | 0.07 | 0.17 | 0.09 | 0.68 | 2.46 | 0.20 |
| 0.60 | 0.60 | 64.29 | 0.31 | 0.0* | 1-S2n | 0.09 | 0.21 | 0.12 | 0.79 | 2.60 | 0.21 |
| 0.75 | 0.75 | 64.41 | 0.35 | 0.43 | 1-S1t | 0.11 | 0.24 | 0.88 | 0.88 | 0.43 | 0.23 |
| 0.90 | 0.90 | 64.48 | 0.40 | 0.50 | 1-S1t | 0.13 | 0.27 | 0.97 | 0.97 | 0.47 | 0.24 |
| 1.00 | 1.00 | 64.53 | 0.43 | 0.55 | 1-S1t | 0.15 | 0.29 | 1.02 | 1.02 | 0.49 | 0.24 |
| 1.20 | 1.20 | 64.63 | 0.49 | 0.65 | 1-S1t | 0.16 | 0.33 | 1.11 | 1.11 | 0.54 | 0.26 |
| 1.35 | 1.35 | 64.69 | 0.52 | 0.71 | 1-S1t | 0.18 | 0.36 | 1.18 | 1.18 | 0.57 | 0.26 |
| 1.50 | 1.53 | 64.77 | 0.57 | 0.78 | 1-S1t | 0.19 | 0.39 | 1.24 | 1.24 | 0.62 | 0.27 |

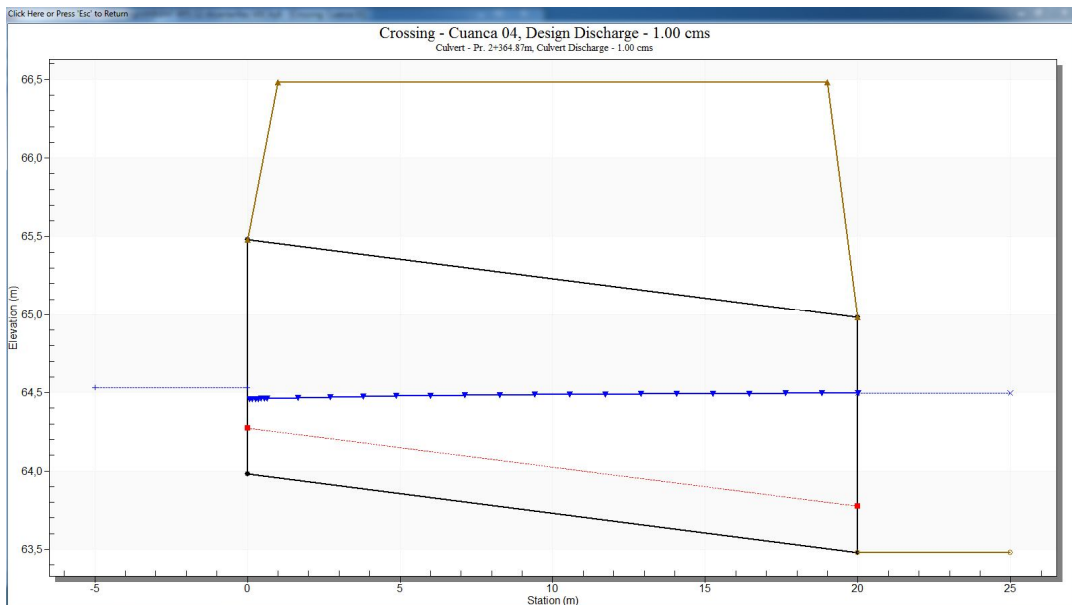
Display: Crossing Summary Table, Culvert Summary Table (Pr. 2+364.87m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 63.98 m, Outlet Elevation: 63.48 m, Culvert Length: 20.01 m, Culvert Slope: 0.0250, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, Culvert Performance Curve, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuanca 05

Crossing Properties
Name: Cuanca 05

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 3.50 | cms |
| Maximum Flow | 4.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0026 | m/m |
| Manning's n (channel) | 0.1300 | |
| Channel Invert Elevation | 63.17 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 66.18 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 2+730.31m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 2+730.31m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 63.68 | m |
| Outlet Station | 20.00 | m |

Buttons: Help, Click on any icon for help on a specific topic, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 2+730.31m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 63.68 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.40 | 0.40 | 63.91 | 0.23 | 0.0* | 1-S2n | 0.06 | 0.16 | 0.08 | 0.59 | 2.47 | 0.21 |
| 0.80 | 0.80 | 64.05 | 0.37 | 0.0* | 1-S2n | 0.12 | 0.25 | 0.13 | 0.84 | 3.10 | 0.26 |
| 1.20 | 1.20 | 64.24 | 0.48 | 0.56 | 1-S1t | 0.16 | 0.33 | 1.03 | 1.03 | 0.58 | 0.29 |
| 1.60 | 1.60 | 64.40 | 0.59 | 0.72 | 1-S1t | 0.19 | 0.40 | 1.18 | 1.18 | 0.68 | 0.31 |
| 2.00 | 2.00 | 64.54 | 0.68 | 0.86 | 1-S1t | 0.22 | 0.47 | 1.31 | 1.31 | 0.76 | 0.33 |
| 2.40 | 2.40 | 64.67 | 0.77 | 0.99 | 1-S1t | 0.25 | 0.53 | 1.43 | 1.43 | 0.84 | 0.35 |
| 2.80 | 2.80 | 64.78 | 0.86 | 1.10 | 1-S1f | 0.28 | 0.59 | 1.50 | 1.54 | 0.93 | 0.36 |
| 3.20 | 3.20 | 64.89 | 0.95 | 1.21 | 1-S1f | 0.31 | 0.64 | 1.50 | 1.63 | 1.07 | 0.37 |
| 3.50 | 3.50 | 64.97 | 1.01 | 1.29 | 1-S1f | 0.33 | 0.68 | 1.50 | 1.70 | 1.17 | 0.38 |
| 4.00 | 4.00 | 65.10 | 1.12 | 1.42 | 1-S1f | 0.36 | 0.74 | 1.50 | 1.81 | 1.33 | 0.39 |

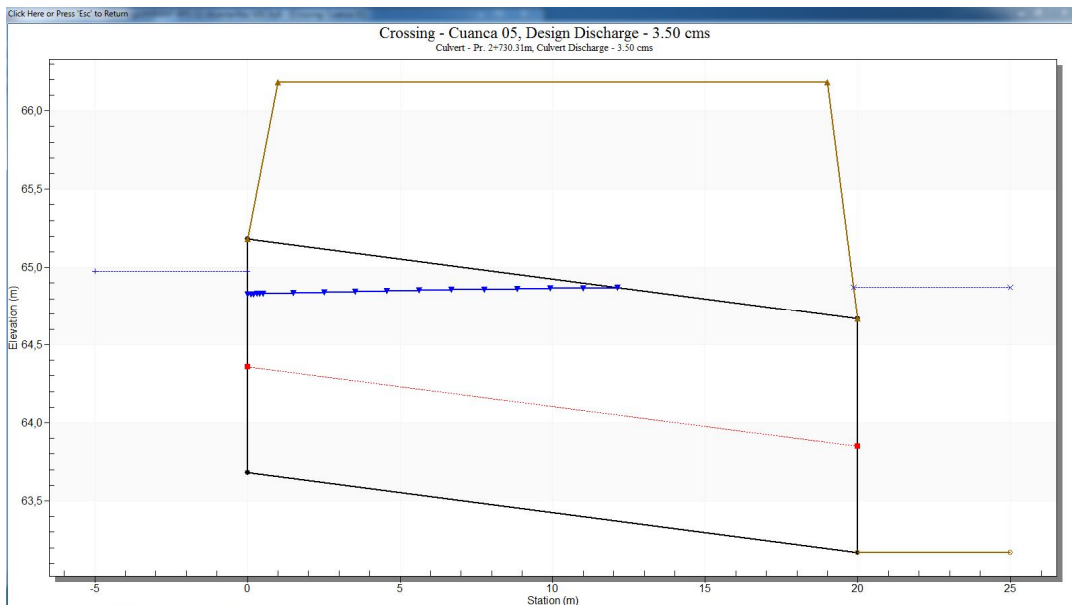
Display: Crossing Summary Table, **Culvert Summary Table** (Pr. 2+730.31m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 63.68 m, Outlet Elevation: 63.17 m, Culvert Length: 20.01 m, Culvert Slope: 0.0255, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, Culvert Performance Curve, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuanca 06

Crossing Properties

Name: Cuanca 06

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 22.50 | cms |
| Maximum Flow | 23.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 10.00 | m |
| Side Slope (H:V) | 2:00 | :1 |
| Channel Slope | 0.0062 | m/m |
| Manning's n (channel) | 0.1500 | |
| Channel Invert Elevation | 55.75 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 20.00 | m |
| Crest Elevation | 60.85 | m |
| Roadway Surface | Paved | |
| Top Width | 13.80 | m |

Culvert Properties

Pr. 6+442.77m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|----------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 6+442.77m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 10000.00 | mm |
| Rise | 4000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | Square Edge (90°) Headwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 55.85 | m |
| Outlet Station | 15.80 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 6+442.77m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 55.85 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2.30 | 2.30 | 56.36 | 0.40 | 0.51 | 1-S1t | 0.07 | 0.18 | 0.60 | 0.60 | 0.38 | 0.34 |
| 4.60 | 4.60 | 56.67 | 0.52 | 0.82 | 1-S1t | 0.13 | 0.28 | 0.90 | 0.90 | 0.51 | 0.44 |
| 6.90 | 6.90 | 56.91 | 0.63 | 1.06 | 1-S1t | 0.20 | 0.37 | 1.13 | 1.13 | 0.61 | 0.50 |
| 9.20 | 9.20 | 57.12 | 0.76 | 1.27 | 1-S1t | 0.27 | 0.44 | 1.33 | 1.33 | 0.69 | 0.54 |
| 11.50 | 11.50 | 57.31 | 0.88 | 1.46 | 1-S1t | 0.34 | 0.51 | 1.51 | 1.51 | 0.76 | 0.58 |
| 13.80 | 13.80 | 57.48 | 1.00 | 1.63 | 1-S1t | 0.40 | 0.58 | 1.67 | 1.67 | 0.82 | 0.62 |
| 16.10 | 16.10 | 57.64 | 1.10 | 1.79 | 1-S1t | 0.43 | 0.64 | 1.82 | 1.82 | 0.88 | 0.65 |
| 18.40 | 18.40 | 57.79 | 1.20 | 1.94 | 1-S1t | 0.47 | 0.70 | 1.96 | 1.96 | 0.94 | 0.67 |
| 20.70 | 20.70 | 57.92 | 1.30 | 2.07 | 1-S1t | 0.50 | 0.76 | 2.09 | 2.09 | 0.99 | 0.70 |
| 22.50 | 22.53 | 58.03 | 1.37 | 2.18 | 1-S1t | 0.53 | 0.80 | 2.19 | 2.19 | 1.03 | 0.72 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 6+442.77m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 55.85 m

Outlet Elevation: 55.75 m

Culvert Length: 15.80 m

Culvert Slope: 0.0063

Inlet Crest: 0.00 m

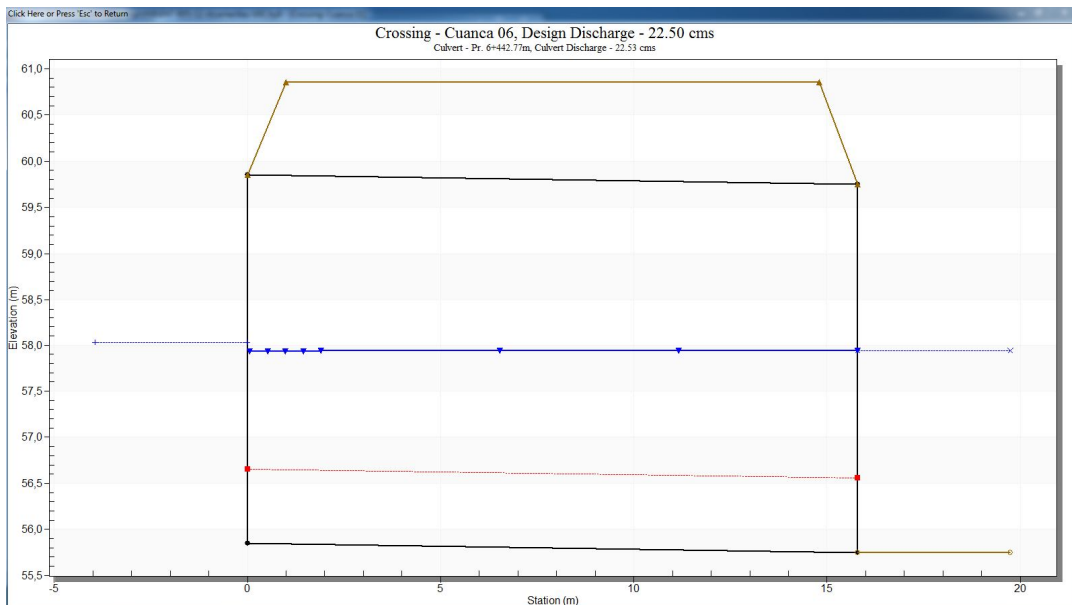
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuanca 07

Crossing Properties
Name: Cuanca 07

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 23.50 | cms |
| Maximum Flow | 24.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 8.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0031 | m/m |
| Manning's n (channel) | 0.0300 | |
| Channel Invert Elevation | 58.13 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 16.00 | m |
| Crest Elevation | 60.69 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 7+177.23m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 7+177.23m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 58.19 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 7+177.23m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 58.19 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2.40 | 2.40 | 58.54 | 0.31 | 0.35 | 1-S1t | 0.20 | 0.21 | 0.33 | 0.33 | 0.91 | 0.84 |
| 4.80 | 4.80 | 58.74 | 0.50 | 0.55 | 1-S1t | 0.33 | 0.33 | 0.50 | 0.50 | 1.20 | 1.07 |
| 7.20 | 7.20 | 58.91 | 0.65 | 0.72 | 1-S1t | 0.43 | 0.44 | 0.63 | 0.63 | 1.43 | 1.23 |
| 9.60 | 9.60 | 59.06 | 0.79 | 0.87 | 3-M1t | 0.53 | 0.53 | 0.75 | 0.75 | 1.61 | 1.36 |
| 12.00 | 12.00 | 59.20 | 0.92 | 1.01 | 3-M1t | 0.62 | 0.61 | 0.85 | 0.85 | 1.77 | 1.46 |
| 14.40 | 14.40 | 59.33 | 1.05 | 1.14 | 3-M1t | 0.71 | 0.69 | 0.94 | 0.94 | 1.91 | 1.55 |
| 16.80 | 16.80 | 59.45 | 1.17 | 1.26 | 3-M1t | 0.79 | 0.77 | 1.03 | 1.03 | 2.04 | 1.63 |
| 19.20 | 19.20 | 59.56 | 1.29 | 1.37 | 3-M1t | 0.87 | 0.84 | 1.11 | 1.11 | 2.17 | 1.70 |
| 21.60 | 21.60 | 59.67 | 1.41 | 1.48 | 3-M1t | 0.95 | 0.91 | 1.18 | 1.18 | 2.28 | 1.76 |
| 23.50 | 23.50 | 59.76 | 1.50 | 1.57 | 7-M1t | 1.01 | 0.96 | 1.24 | 1.24 | 2.37 | 1.81 |

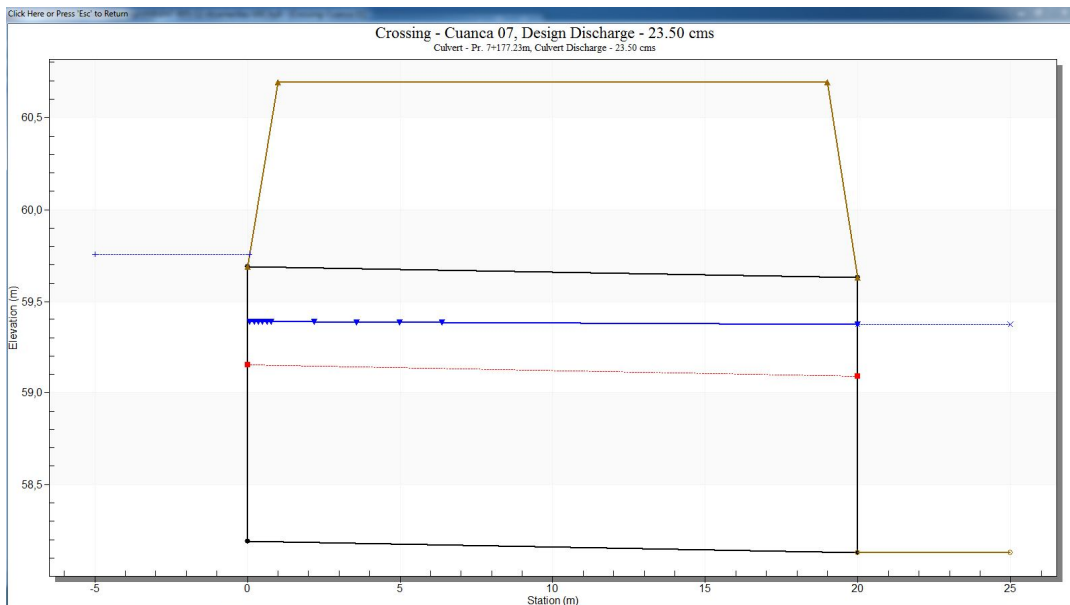
Display
 Crossing Summary Table
 Culvert Summary Table Pr. 7+177.23m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

Geometry
 Inlet Elevation: 58.19 m
 Outlet Elevation: 58.13 m
 Culvert Length: 20.00 m
 Culvert Slope: 0.0030
 Inlet Crest: 0.00 m
 Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuanca 08

Crossing Properties

Name: Cuanca 08

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 24.00 | cms |
| Maximum Flow | 24.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 8.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0044 | m/m |
| Manning's n (channel) | 0.0300 | |
| Channel Invert Elevation | 58.29 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 16.00 | m |
| Crest Elevation | 60.88 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 7+978.80m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 7+978.80m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 58.38 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 7+978.80m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 58.38 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2.45 | 2.45 | 58.70 | 0.32 | 0.0* | 1-S2n | 0.18 | 0.21 | 0.19 | 0.30 | 1.65 | 0.94 |
| 4.90 | 4.90 | 58.88 | 0.50 | 0.0* | 1-S2n | 0.29 | 0.34 | 0.29 | 0.46 | 2.08 | 1.21 |
| 7.35 | 7.35 | 59.04 | 0.66 | 0.0* | 1-S2n | 0.38 | 0.44 | 0.39 | 0.58 | 2.38 | 1.39 |
| 9.80 | 9.80 | 59.18 | 0.80 | 0.0* | 1-S2n | 0.47 | 0.54 | 0.47 | 0.68 | 2.61 | 1.53 |
| 12.25 | 12.25 | 59.32 | 0.94 | 0.0* | 1-S2n | 0.55 | 0.62 | 0.55 | 0.78 | 2.81 | 1.65 |
| 14.70 | 14.70 | 59.45 | 1.07 | 0.0* | 1-S2n | 0.62 | 0.70 | 0.62 | 0.86 | 2.95 | 1.75 |
| 17.15 | 17.15 | 59.57 | 1.19 | 0.0* | 1-S2n | 0.69 | 0.78 | 0.69 | 0.94 | 3.09 | 1.84 |
| 19.60 | 19.60 | 59.69 | 1.31 | 0.0* | 1-S2n | 0.76 | 0.85 | 0.77 | 1.02 | 3.20 | 1.92 |
| 22.05 | 22.05 | 59.81 | 1.43 | 0.0* | 1-S2n | 0.83 | 0.92 | 0.83 | 1.09 | 3.30 | 2.00 |
| 24.00 | 24.00 | 59.91 | 1.53 | 0.0* | 5-S2n | 0.89 | 0.97 | 0.89 | 1.14 | 3.38 | 2.05 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 7+978.80m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 58.38 m

Outlet Elevation: 58.29 m

Culvert Length: 20.00 m

Culvert Slope: 0.0045

Inlet Crest: 0.00 m

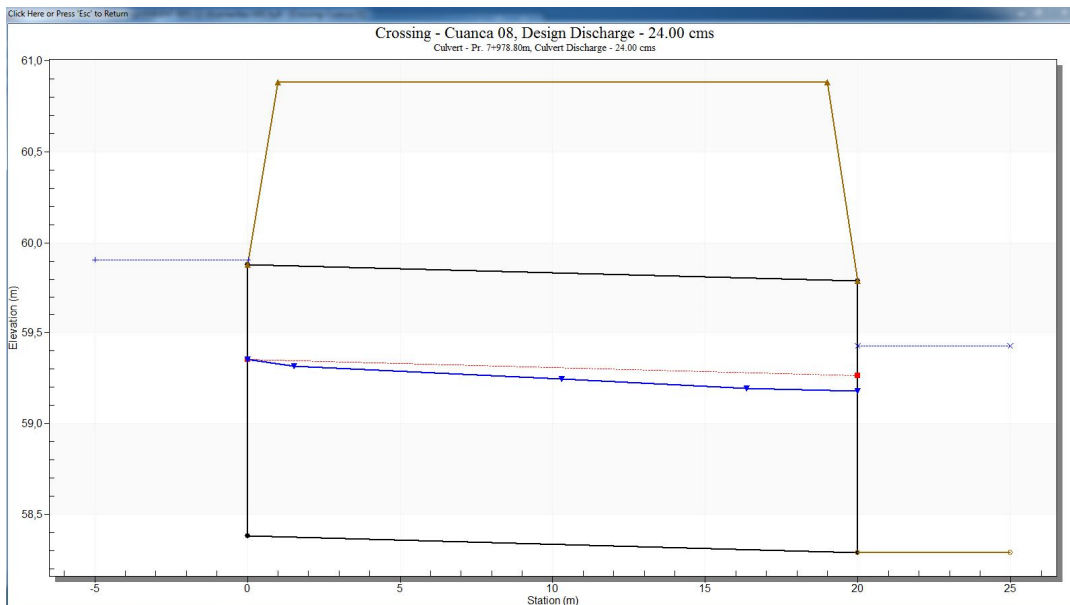
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuanca 10

Crossing Properties

Name: Cuanca 10

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 22.00 | cms |
| Maximum Flow | 22.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 8.00 | m |
| Side Slope (H:V) | 2.00 | 1:1 |
| Channel Slope | 0.0026 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 64.80 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 16.00 | m |
| Crest Elevation | 67.35 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 9+355.25m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 9+355.25m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 64.85 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 9+355.25m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 64.85 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2.25 | 2.25 | 65.24 | 0.30 | 0.39 | 3-M1t | 0.21 | 0.20 | 0.40 | 0.40 | 0.71 | 0.64 |
| 4.50 | 4.50 | 65.46 | 0.47 | 0.61 | 3-M1t | 0.34 | 0.32 | 0.60 | 0.60 | 0.94 | 0.82 |
| 6.75 | 6.75 | 65.65 | 0.62 | 0.80 | 3-M1t | 0.44 | 0.42 | 0.76 | 0.76 | 1.12 | 0.94 |
| 9.00 | 9.00 | 65.80 | 0.75 | 0.95 | 3-M1t | 0.54 | 0.51 | 0.89 | 0.89 | 1.26 | 1.03 |
| 11.25 | 11.25 | 65.95 | 0.88 | 1.10 | 3-M1t | 0.63 | 0.59 | 1.01 | 1.01 | 1.39 | 1.11 |
| 13.50 | 13.50 | 66.08 | 1.00 | 1.23 | 3-M1t | 0.72 | 0.66 | 1.12 | 1.12 | 1.50 | 1.17 |
| 15.75 | 15.75 | 66.20 | 1.12 | 1.35 | 3-M1t | 0.81 | 0.74 | 1.22 | 1.22 | 1.61 | 1.23 |
| 18.00 | 18.00 | 66.32 | 1.23 | 1.47 | 3-M1t | 0.89 | 0.80 | 1.32 | 1.32 | 1.71 | 1.28 |
| 20.25 | 20.25 | 66.43 | 1.34 | 1.58 | 7-M1t | 0.97 | 0.87 | 1.41 | 1.41 | 1.80 | 1.33 |
| 22.00 | 22.00 | 66.51 | 1.43 | 1.66 | 7-M1t | 1.03 | 0.92 | 1.47 | 1.47 | 1.87 | 1.36 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 9+355.25m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 64.85 m

Outlet Elevation: 64.80 m

Culvert Length: 20.00 m

Culvert Slope: 0.0025

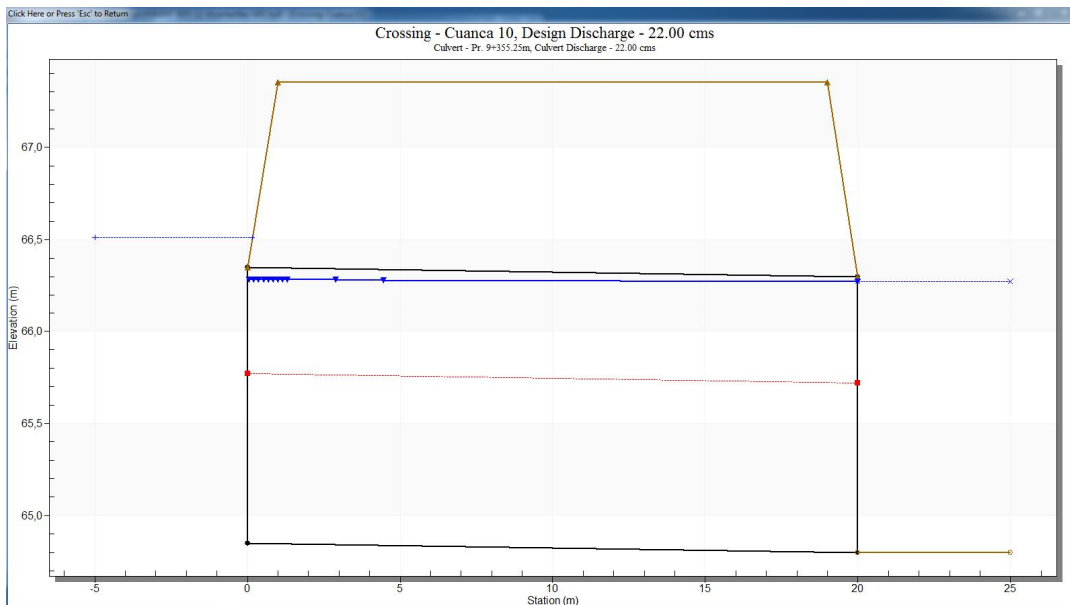
Inlet Crest: 0.00 m

Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuanca 11

Crossing Properties
Name: Cuanca 11

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 3.00 | cms |
| Maximum Flow | 3.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0123 | m/m |
| Manning's n (channel) | 0.1500 | |
| Channel Invert Elevation | 67.27 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 69.52 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 10+066.20m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 10+066.20m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 67.52 | m |
| Outlet Station | 20.00 | m |

Buttons: Help, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 10+066.20m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 67.52 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.35 | 0.35 | 67.66 | 0.14 | 0.0* | 1-S2n | 0.05 | 0.09 | 0.06 | 0.27 | 1.49 | 0.28 |
| 0.70 | 0.70 | 67.74 | 0.22 | 0.0* | 1-S2n | 0.09 | 0.15 | 0.10 | 0.41 | 1.84 | 0.36 |
| 1.05 | 1.05 | 67.80 | 0.28 | 0.0* | 1-S2n | 0.12 | 0.19 | 0.12 | 0.51 | 2.16 | 0.41 |
| 1.40 | 1.40 | 67.91 | 0.34 | 0.39 | 1-S1t | 0.14 | 0.23 | 0.60 | 0.60 | 0.58 | 0.45 |
| 1.75 | 1.75 | 68.00 | 0.40 | 0.48 | 1-S1t | 0.17 | 0.27 | 0.68 | 0.68 | 0.64 | 0.48 |
| 2.10 | 2.10 | 68.07 | 0.45 | 0.55 | 1-S1t | 0.19 | 0.30 | 0.76 | 0.76 | 0.70 | 0.50 |
| 2.45 | 2.45 | 68.14 | 0.50 | 0.62 | 1-S1t | 0.21 | 0.34 | 0.82 | 0.82 | 0.75 | 0.53 |
| 2.80 | 2.80 | 68.21 | 0.55 | 0.69 | 1-S1t | 0.23 | 0.37 | 0.88 | 0.88 | 0.79 | 0.55 |
| 3.00 | 3.00 | 68.25 | 0.57 | 0.73 | 1-S1t | 0.24 | 0.39 | 0.92 | 0.92 | 0.82 | 0.56 |
| 3.50 | 3.50 | 68.33 | 0.64 | 0.81 | 1-S1t | 0.26 | 0.43 | 1.00 | 1.00 | 0.88 | 0.59 |

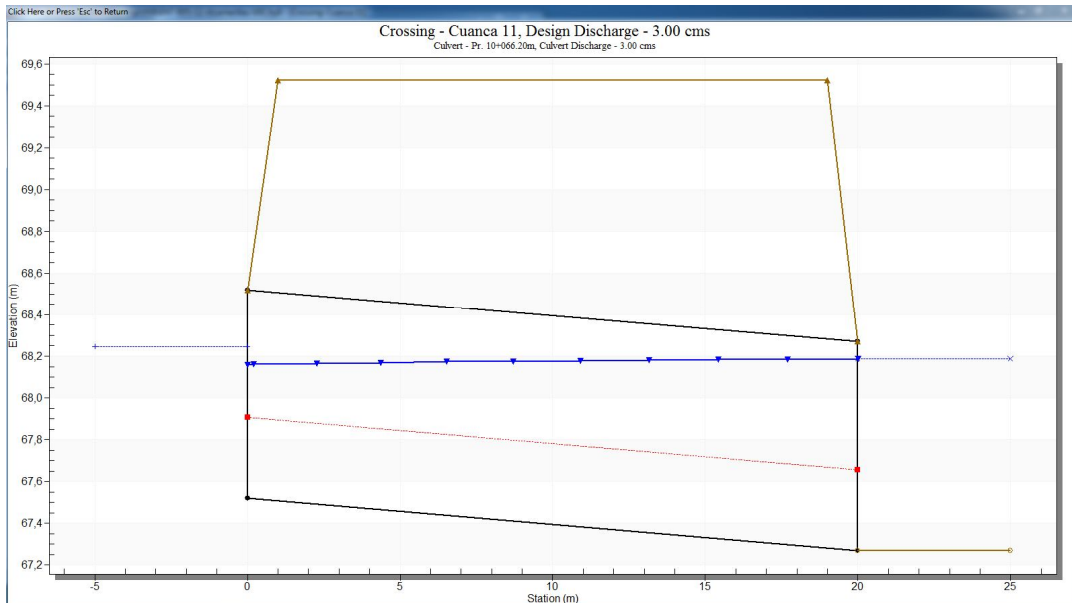
Display: Crossing Summary Table, Culvert Summary Table (Pr. 10+066.20m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 67.52 m, Outlet Elevation: 67.27 m, Culvert Length: 20.00 m, Culvert Slope: 0.0125, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, Culvert Performance Curve, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuanca 12

Crossing Properties

Name: Cuanca 12

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 10.00 | cms |
| Maximum Flow | 10.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0036 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 64.18 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 66.75 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 10+771.28m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 10+771.28m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 64.25 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 10+771.28m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 64.25 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1.05 | 1.05 | 64.58 | 0.29 | 0.33 | 1-S1t | 0.18 | 0.19 | 0.34 | 0.34 | 0.77 | 0.66 |
| 2.10 | 2.10 | 64.78 | 0.45 | 0.53 | 1-S1t | 0.29 | 0.30 | 0.51 | 0.51 | 1.03 | 0.82 |
| 3.15 | 3.15 | 64.93 | 0.59 | 0.68 | 1-S1t | 0.37 | 0.40 | 0.64 | 0.64 | 1.23 | 0.93 |
| 4.20 | 4.20 | 65.07 | 0.72 | 0.82 | 1-S1t | 0.46 | 0.48 | 0.75 | 0.75 | 1.40 | 1.02 |
| 5.25 | 5.25 | 65.20 | 0.84 | 0.95 | 1-S1t | 0.53 | 0.56 | 0.85 | 0.85 | 1.55 | 1.09 |
| 6.30 | 6.30 | 65.32 | 0.96 | 1.07 | 1-S1t | 0.61 | 0.63 | 0.93 | 0.93 | 1.69 | 1.15 |
| 7.35 | 7.35 | 65.43 | 1.07 | 1.18 | 1-S1t | 0.68 | 0.70 | 1.01 | 1.01 | 1.81 | 1.20 |
| 8.40 | 8.40 | 65.53 | 1.17 | 1.28 | 1-S1t | 0.75 | 0.77 | 1.09 | 1.09 | 1.93 | 1.25 |
| 9.45 | 9.45 | 65.63 | 1.28 | 1.38 | 1-S1t | 0.81 | 0.83 | 1.16 | 1.16 | 2.04 | 1.29 |
| 10.00 | 10.00 | 65.68 | 1.33 | 1.43 | 1-S1t | 0.85 | 0.86 | 1.19 | 1.19 | 2.09 | 1.31 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 10+771.28m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 64.25 m

Outlet Elevation: 64.18 m

Culvert Length: 20.00 m

Culvert Slope: 0.0035

Inlet Crest: 0.00 m

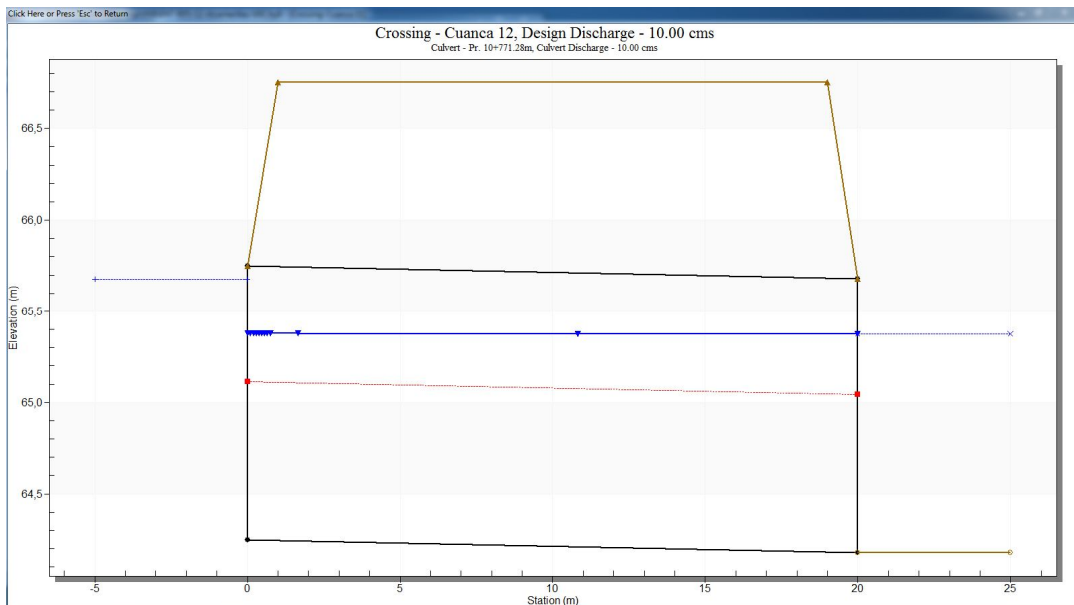
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuanca 13

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 14.00 | cms |
| Maximum Flow | 14.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 8.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0023 | m/m |
| Manning's n (channel) | 0.0500 | |
| Channel Invert Elevation | 64.48 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 16.00 | m |
| Crest Elevation | 67.03 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 11+434.54m

Pr. 11+434.54m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 11+434.54m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 64.53 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 11+434.54m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 64.53 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1.45 | 1.45 | 64.86 | 0.22 | 0.33 | 3-M1t | 0.16 | 0.15 | 0.36 | 0.36 | 0.50 | 0.46 |
| 2.90 | 2.90 | 65.06 | 0.35 | 0.53 | 3-M1t | 0.25 | 0.24 | 0.55 | 0.55 | 0.66 | 0.58 |
| 4.35 | 4.35 | 65.22 | 0.46 | 0.69 | 3-M1t | 0.33 | 0.31 | 0.69 | 0.69 | 0.79 | 0.67 |
| 5.80 | 5.80 | 65.35 | 0.56 | 0.82 | 3-M1t | 0.40 | 0.38 | 0.82 | 0.82 | 0.89 | 0.74 |
| 7.25 | 7.25 | 65.47 | 0.65 | 0.94 | 3-M1t | 0.47 | 0.44 | 0.93 | 0.93 | 0.98 | 0.79 |
| 8.70 | 8.70 | 65.59 | 0.74 | 1.06 | 3-M1t | 0.53 | 0.49 | 1.03 | 1.03 | 1.06 | 0.84 |
| 10.15 | 10.15 | 65.69 | 0.82 | 1.16 | 3-M1t | 0.59 | 0.55 | 1.12 | 1.12 | 1.13 | 0.88 |
| 11.60 | 11.60 | 65.79 | 0.90 | 1.26 | 3-M1t | 0.65 | 0.60 | 1.21 | 1.21 | 1.20 | 0.92 |
| 13.05 | 13.05 | 65.88 | 0.98 | 1.35 | 3-M1t | 0.70 | 0.65 | 1.29 | 1.29 | 1.26 | 0.95 |
| 14.00 | 14.00 | 65.94 | 1.03 | 1.41 | 3-M1t | 0.74 | 0.68 | 1.34 | 1.34 | 1.30 | 0.98 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 11+434.54m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 64.53 m

Outlet Elevation: 64.48 m

Culvert Length: 20.00 m

Culvert Slope: 0.0025

Inlet Crest: 0.00 m

Inlet Throat: 0.00 m

Plot

Crossing Rating Curve

Culvert Performance Curve

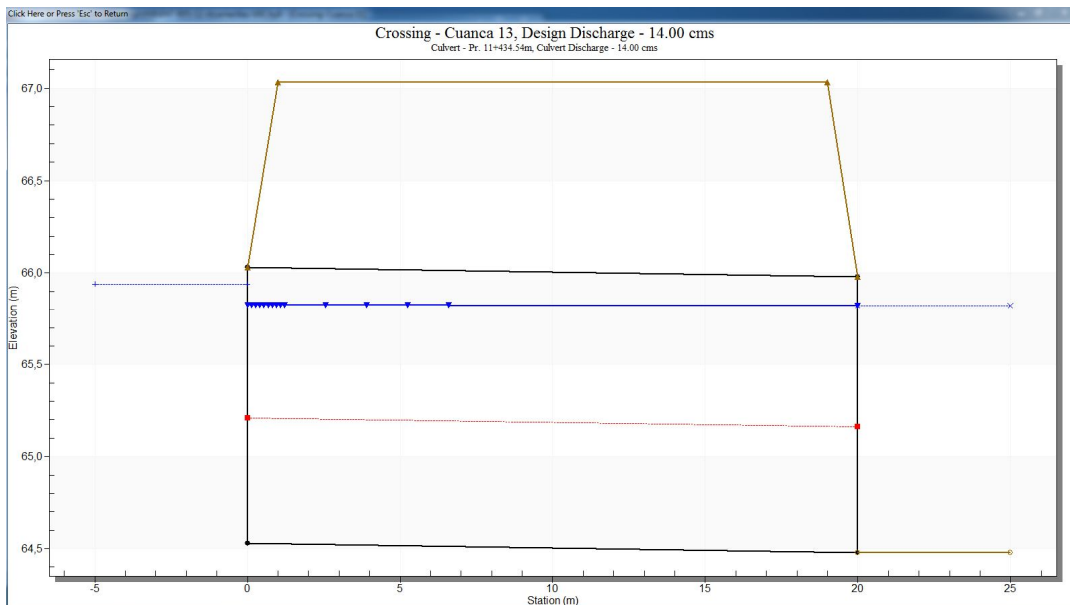
Selected Water Profile

Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuanca 14

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 8.50 | cms |
| Maximum Flow | 9.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0016 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 68.43 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 70.96 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 12+288.92m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 12+288.92m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 68.46 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 12+288.92m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 68.46 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.90 | 0.90 | 68.85 | 0.26 | 0.39 | 3-M1t | 0.21 | 0.17 | 0.39 | 0.39 | 0.57 | 0.48 |
| 1.80 | 1.80 | 69.06 | 0.41 | 0.60 | 3-M1t | 0.34 | 0.27 | 0.59 | 0.59 | 0.77 | 0.59 |
| 2.70 | 2.70 | 69.22 | 0.54 | 0.76 | 3-M1t | 0.45 | 0.36 | 0.73 | 0.73 | 0.92 | 0.67 |
| 3.60 | 3.60 | 69.37 | 0.65 | 0.91 | 3-M1t | 0.55 | 0.44 | 0.86 | 0.86 | 1.05 | 0.73 |
| 4.50 | 4.50 | 69.49 | 0.75 | 1.03 | 3-M1t | 0.65 | 0.51 | 0.97 | 0.97 | 1.16 | 0.78 |
| 5.40 | 5.40 | 69.61 | 0.86 | 1.15 | 3-M1t | 0.74 | 0.57 | 1.07 | 1.07 | 1.26 | 0.82 |
| 6.30 | 6.30 | 69.72 | 0.96 | 1.26 | 3-M1t | 0.83 | 0.63 | 1.16 | 1.16 | 1.36 | 0.86 |
| 7.20 | 7.20 | 69.82 | 1.05 | 1.36 | 3-M1t | 0.91 | 0.69 | 1.24 | 1.24 | 1.45 | 0.89 |
| 8.10 | 8.10 | 69.91 | 1.14 | 1.45 | 3-M1t | 0.99 | 0.75 | 1.32 | 1.32 | 1.53 | 0.92 |
| 8.50 | 8.50 | 69.95 | 1.19 | 1.49 | 3-M1t | 1.03 | 0.77 | 1.36 | 1.36 | 1.57 | 0.93 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 12+288.92m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

Geometry

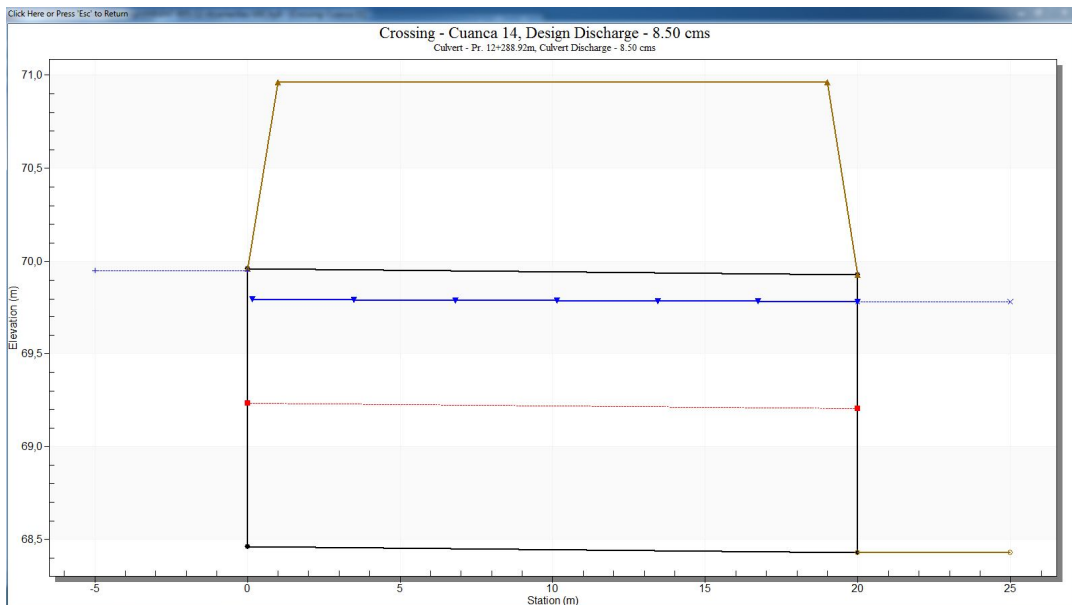
Inlet Elevation: 68.46 m
Outlet Elevation: 68.43 m
Culvert Length: 20.00 m
Culvert Slope: 0.0015
Inlet Crest: 0.00 m
Inlet Throat: 0.00 m

Plot

Crossing Rating Curve
Culvert Performance Curve
Selected Water Profile
Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 15

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 350.00 | cms |
| Maximum Flow | 355.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 34.00 | m |
| Side Slope (H:V) | 1:1 | |
| Channel Slope | 0.0005 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 54.64 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 68.00 | m |
| Crest Elevation | 61.65 | m |
| Roadway Surface | Paved | |
| Top Width | 13.80 | m |

Culvert Properties

Pr. 19+669.34m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|----------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 19+669.34m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 34000.00 | mm |
| Rise | 6000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | Square Edge (90°) Headwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 54.65 | m |
| Outlet Station | 15.80 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 19+669.34m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 54.65 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 35.50 | 35.50 | 56.12 | 0.86 | 1.47 | 3-M1t | 0.65 | 0.48 | 1.44 | 1.44 | 0.73 | 0.67 |
| 71.00 | 71.00 | 56.87 | 1.32 | 2.22 | 3-M1t | 0.99 | 0.76 | 2.16 | 2.16 | 0.97 | 0.86 |
| 106.50 | 106.50 | 57.48 | 1.73 | 2.83 | 3-M1t | 1.30 | 1.00 | 2.74 | 2.74 | 1.14 | 0.98 |
| 142.00 | 142.00 | 58.00 | 2.08 | 3.35 | 3-M1t | 1.55 | 1.21 | 3.24 | 3.24 | 1.29 | 1.08 |
| 177.50 | 177.50 | 58.47 | 2.42 | 3.82 | 3-M1t | 1.80 | 1.41 | 3.68 | 3.68 | 1.42 | 1.17 |
| 213.00 | 213.00 | 58.90 | 2.73 | 4.25 | 3-M1t | 2.00 | 1.59 | 4.08 | 4.08 | 1.53 | 1.24 |
| 248.50 | 248.50 | 59.30 | 3.02 | 4.65 | 3-M1t | 2.21 | 1.76 | 4.46 | 4.46 | 1.64 | 1.30 |
| 284.00 | 284.00 | 59.68 | 3.29 | 5.03 | 3-M1t | 2.41 | 1.93 | 4.80 | 4.80 | 1.74 | 1.36 |
| 319.50 | 319.50 | 60.03 | 3.55 | 5.38 | 3-M1t | 2.59 | 2.08 | 5.13 | 5.13 | 1.83 | 1.41 |
| 350.00 | 350.00 | 60.32 | 3.76 | 5.67 | 3-M1t | 2.75 | 2.21 | 5.40 | 5.40 | 1.91 | 1.45 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 19+669.34m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 54.65 m

Outlet Elevation: 54.64 m

Culvert Length: 15.80 m

Culvert Slope: 0.0006

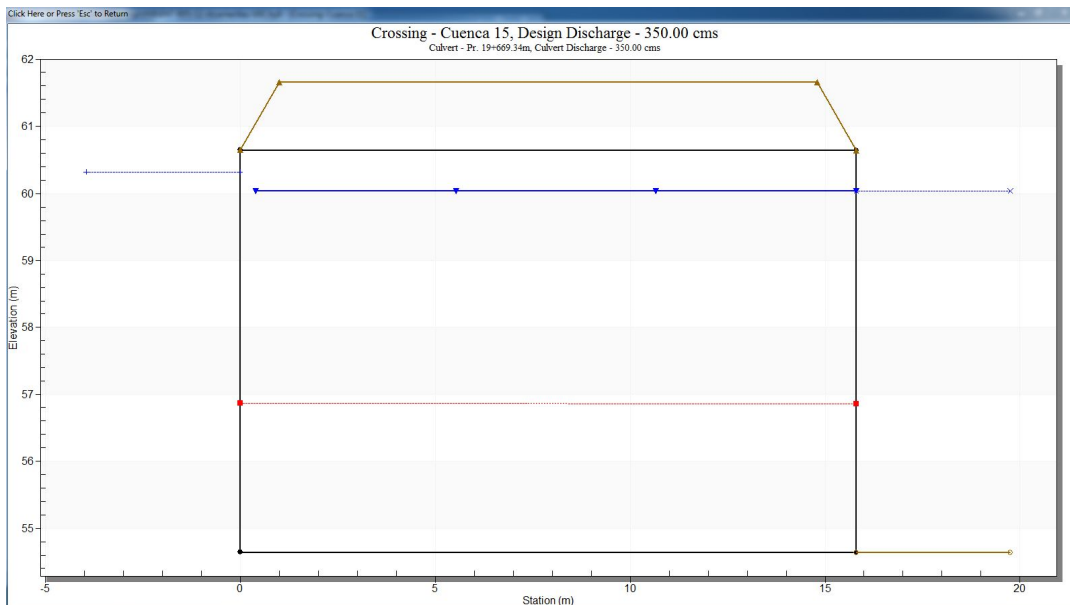
Inlet Crest: 0.00 m

Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 16

Crossing Properties

Name: Cuenca 16

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 8.50 | cms |
| Maximum Flow | 9.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0008 | m/m |
| Manning's n (channel) | 0.0110 | |
| Channel Invert Elevation | 69.26 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 71.78 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 13+490.70m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 13+490.70m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 69.28 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 13+490.70m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 69.28 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.90 | 0.90 | 69.57 | 0.26 | 0.29 | 3-M2t | 0.24 | 0.17 | 0.23 | 0.23 | 0.99 | 0.89 |
| 1.80 | 1.80 | 69.73 | 0.41 | 0.45 | 3-M2t | 0.39 | 0.27 | 0.34 | 0.34 | 1.32 | 1.13 |
| 2.70 | 2.70 | 69.87 | 0.54 | 0.59 | 3-M2t | 0.52 | 0.36 | 0.43 | 0.43 | 1.56 | 1.29 |
| 3.60 | 3.60 | 69.99 | 0.65 | 0.71 | 3-M2t | 0.64 | 0.44 | 0.51 | 0.51 | 1.77 | 1.41 |
| 4.50 | 4.50 | 70.10 | 0.75 | 0.82 | 3-M2t | 0.75 | 0.51 | 0.58 | 0.58 | 1.95 | 1.51 |
| 5.40 | 5.40 | 70.20 | 0.86 | 0.92 | 3-M2t | 0.86 | 0.57 | 0.64 | 0.64 | 2.11 | 1.60 |
| 6.30 | 6.30 | 70.30 | 0.96 | 1.02 | 3-M2t | 0.96 | 0.63 | 0.70 | 0.70 | 2.26 | 1.68 |
| 7.20 | 7.20 | 70.40 | 1.05 | 1.12 | 3-M2t | 1.06 | 0.69 | 0.75 | 0.75 | 2.40 | 1.75 |
| 8.10 | 8.10 | 70.49 | 1.15 | 1.21 | 3-M2t | 1.16 | 0.75 | 0.80 | 0.80 | 2.53 | 1.81 |
| 8.50 | 8.50 | 70.52 | 1.19 | 1.24 | 3-M2t | 1.20 | 0.77 | 0.82 | 0.82 | 2.59 | 1.84 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 13+490.70m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

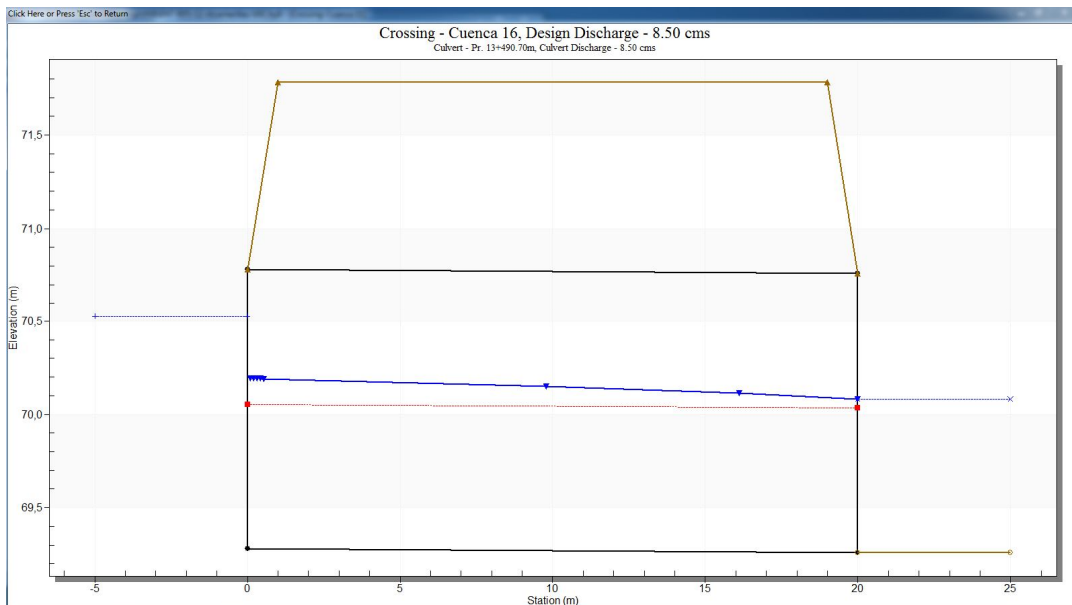
Geometry

Inlet Elevation: 69.28 m
 Outlet Elevation: 69.26 m
 Culvert Length: 20.00 m
 Culvert Slope: 0.0010
 Inlet Crest: 0.00 m
 Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 17

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 2.50 | cms |
| Maximum Flow | 3.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0093 | m/m |
| Manning's n (channel) | 0.1500 | |
| Channel Invert Elevation | 70.52 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 72.71 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 14+204.34m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 14+204.34m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 70.71 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 14+204.34m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 70.71 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.30 | 0.30 | 70.83 | 0.12 | 0.0* | 1-S2n | 0.05 | 0.08 | 0.05 | 0.27 | 1.51 | 0.25 |
| 0.60 | 0.60 | 70.94 | 0.20 | 0.23 | 1-S1t | 0.09 | 0.13 | 0.40 | 0.40 | 0.37 | 0.31 |
| 0.90 | 0.90 | 71.05 | 0.26 | 0.34 | 1-S1t | 0.12 | 0.17 | 0.51 | 0.51 | 0.44 | 0.35 |
| 1.20 | 1.20 | 71.14 | 0.31 | 0.43 | 1-S1t | 0.14 | 0.21 | 0.60 | 0.60 | 0.50 | 0.39 |
| 1.50 | 1.50 | 71.23 | 0.36 | 0.52 | 1-S1t | 0.16 | 0.24 | 0.68 | 0.68 | 0.55 | 0.41 |
| 1.80 | 1.80 | 71.30 | 0.41 | 0.59 | 1-S1t | 0.19 | 0.27 | 0.75 | 0.75 | 0.60 | 0.44 |
| 2.10 | 2.10 | 71.37 | 0.45 | 0.66 | 1-S1t | 0.21 | 0.30 | 0.82 | 0.82 | 0.64 | 0.46 |
| 2.40 | 2.40 | 71.43 | 0.49 | 0.72 | 1-S1t | 0.23 | 0.33 | 0.88 | 0.88 | 0.68 | 0.48 |
| 2.50 | 2.50 | 71.46 | 0.51 | 0.75 | 1-S1t | 0.23 | 0.34 | 0.90 | 0.90 | 0.70 | 0.48 |
| 3.00 | 3.00 | 71.56 | 0.58 | 0.85 | 1-S1t | 0.26 | 0.39 | 0.99 | 0.99 | 0.76 | 0.51 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 14+204.34m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 70.71 m

Outlet Elevation: 70.52 m

Culvert Length: 20.00 m

Culvert Slope: 0.0095

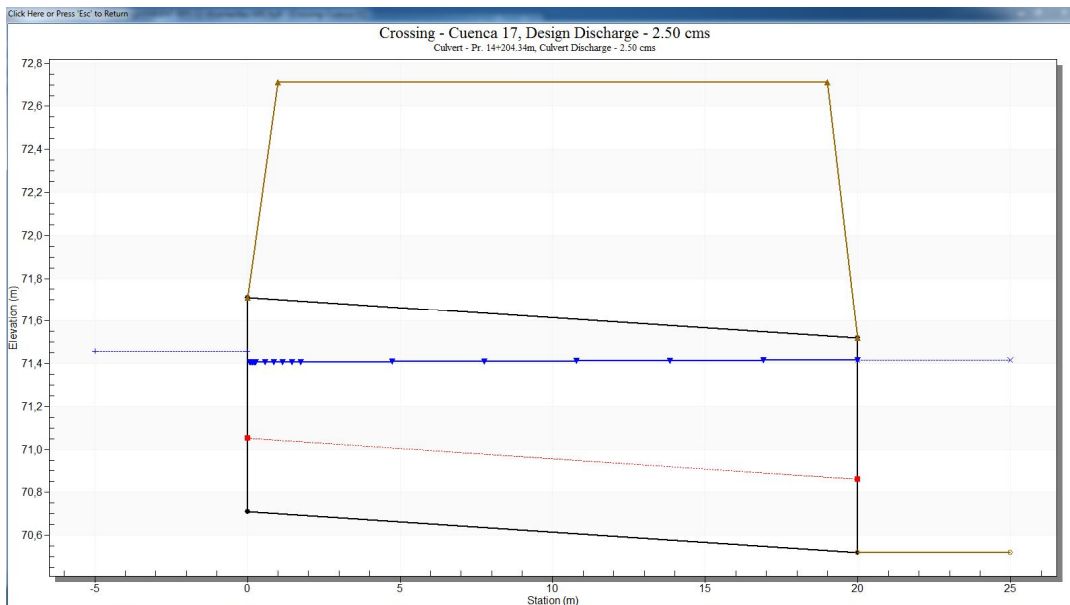
Inlet Crest: 0.00 m

Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 18

Crossing Properties

Name: Cuenca 18

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 4.00 | cms |
| Maximum Flow | 4.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0029 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 69.25 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 71.31 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 15+029.05m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 15+029.05m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 69.31 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 15+029.05m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 69.31 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.45 | 0.45 | 69.50 | 0.16 | 0.19 | 3-M1t | 0.11 | 0.11 | 0.22 | 0.22 | 0.51 | 0.46 |
| 0.90 | 0.90 | 69.62 | 0.26 | 0.31 | 1-S1t | 0.17 | 0.17 | 0.33 | 0.33 | 0.68 | 0.58 |
| 1.35 | 1.35 | 69.72 | 0.34 | 0.41 | 1-S1t | 0.23 | 0.23 | 0.42 | 0.42 | 0.80 | 0.66 |
| 1.80 | 1.80 | 69.81 | 0.41 | 0.50 | 1-S1t | 0.27 | 0.27 | 0.50 | 0.50 | 0.91 | 0.73 |
| 2.25 | 2.25 | 69.89 | 0.47 | 0.58 | 1-S1t | 0.32 | 0.32 | 0.56 | 0.56 | 1.00 | 0.78 |
| 2.70 | 2.70 | 69.96 | 0.54 | 0.65 | 1-S1t | 0.36 | 0.36 | 0.62 | 0.62 | 1.08 | 0.83 |
| 3.15 | 3.15 | 70.03 | 0.60 | 0.72 | 1-S1t | 0.40 | 0.40 | 0.68 | 0.68 | 1.16 | 0.87 |
| 3.60 | 3.60 | 70.09 | 0.66 | 0.78 | 1-S1t | 0.43 | 0.44 | 0.73 | 0.73 | 1.23 | 0.90 |
| 4.00 | 4.00 | 70.15 | 0.71 | 0.84 | 1-S1t | 0.47 | 0.47 | 0.77 | 0.77 | 1.29 | 0.93 |
| 4.50 | 4.50 | 70.21 | 0.77 | 0.90 | 3-M1t | 0.51 | 0.51 | 0.83 | 0.83 | 1.36 | 0.96 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 15+029.05m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 69.31 m

Outlet Elevation: 69.25 m

Culvert Length: 20.00 m

Culvert Slope: 0.0030

Inlet Crest: 0.00 m

Inlet Throat: 0.00 m

Plot

Crossing Rating Curve

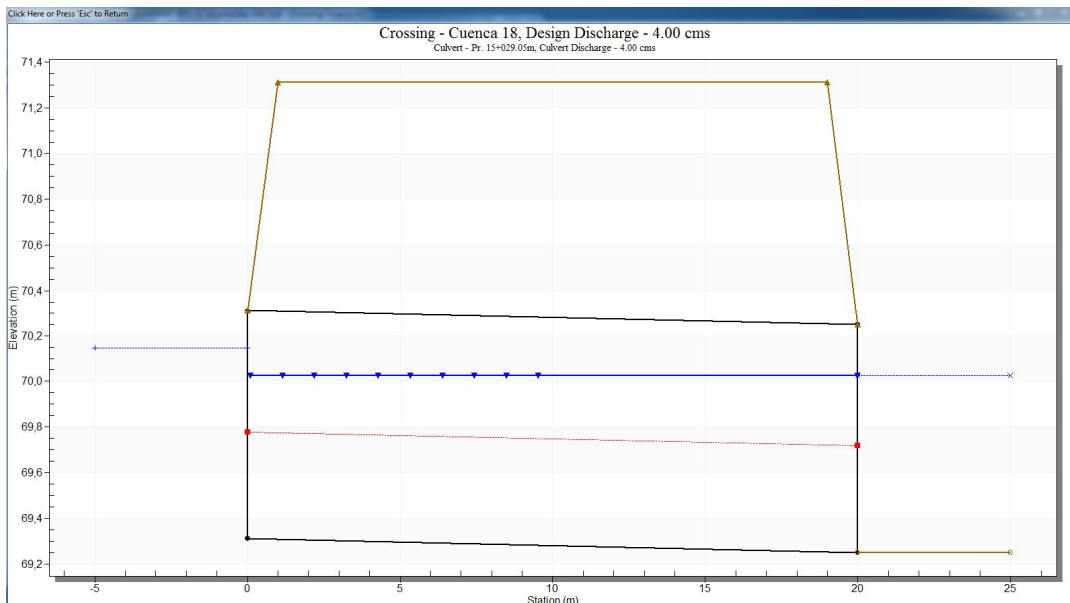
Culvert Performance Curve

Selected Water Profile

Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 19

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 2.50 | cms |
| Maximum Flow | 3.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0036 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 69.15 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 71.22 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 17+138.95m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 17+138.95m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 69.22 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 17+138.95m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 69.22 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.30 | 0.30 | 69.34 | 0.12 | 0.0* | 1-S2n | 0.08 | 0.08 | 0.08 | 0.16 | 0.94 | 0.42 |
| 0.60 | 0.60 | 69.42 | 0.20 | 0.0* | 1-S2n | 0.13 | 0.13 | 0.13 | 0.25 | 1.16 | 0.54 |
| 0.90 | 0.90 | 69.52 | 0.26 | 0.30 | 1-S1t | 0.16 | 0.17 | 0.31 | 0.31 | 0.72 | 0.62 |
| 1.20 | 1.20 | 69.58 | 0.31 | 0.36 | 1-S1t | 0.20 | 0.21 | 0.37 | 0.37 | 0.81 | 0.69 |
| 1.50 | 1.50 | 69.64 | 0.36 | 0.42 | 1-S1t | 0.23 | 0.24 | 0.42 | 0.42 | 0.89 | 0.74 |
| 1.80 | 1.80 | 69.70 | 0.41 | 0.48 | 1-S1t | 0.26 | 0.27 | 0.47 | 0.47 | 0.97 | 0.78 |
| 2.10 | 2.10 | 69.75 | 0.45 | 0.53 | 1-S1t | 0.29 | 0.30 | 0.51 | 0.51 | 1.03 | 0.82 |
| 2.40 | 2.40 | 69.80 | 0.50 | 0.58 | 1-S1t | 0.31 | 0.33 | 0.55 | 0.55 | 1.09 | 0.86 |
| 2.50 | 2.50 | 69.81 | 0.51 | 0.59 | 1-S1t | 0.32 | 0.34 | 0.56 | 0.56 | 1.11 | 0.87 |
| 3.00 | 3.00 | 69.88 | 0.58 | 0.66 | 1-S1t | 0.36 | 0.39 | 0.62 | 0.62 | 1.21 | 0.92 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 17+138.95m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

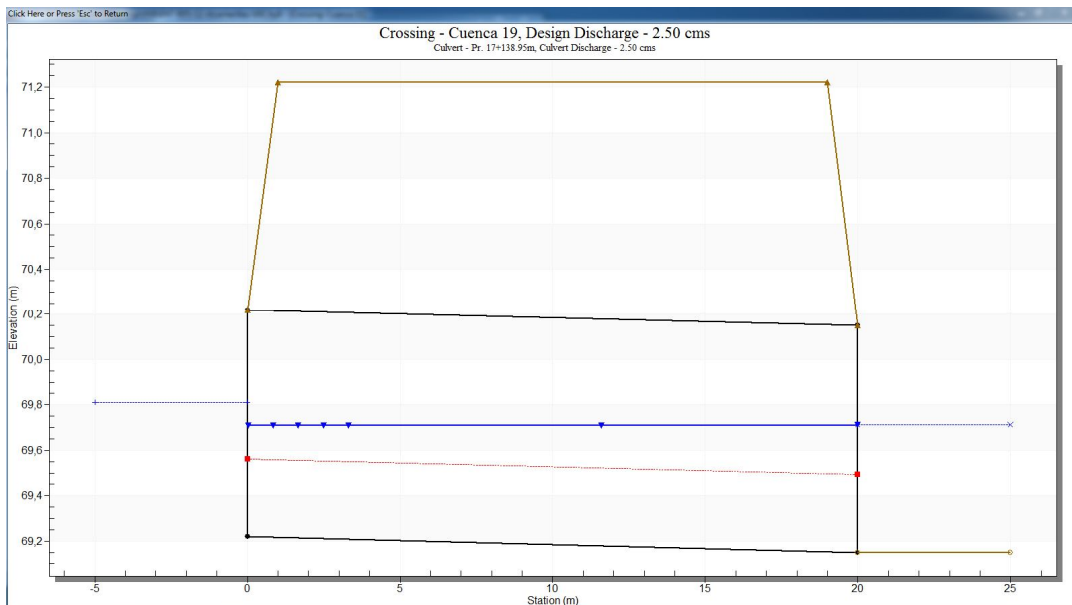
Geometry

Inlet Elevation: 69.22 m
 Outlet Elevation: 69.15 m
 Culvert Length: 20.00 m
 Culvert Slope: 0.0035
 Inlet Crest: 0.00 m
 Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 20

Crossing Properties

Name: Cuenca 20

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 2.00 | cms |
| Maximum Flow | 2.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0058 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 67.34 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 69.46 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 18+078.14m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 18+078.14m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 67.46 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 18+078.14m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 67.46 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.25 | 0.25 | 67.63 | 0.17 | 0.0* | 1-S2n | 0.10 | 0.12 | 0.10 | 0.19 | 1.31 | 0.56 |
| 0.50 | 0.50 | 67.74 | 0.28 | 0.0* | 1-S2n | 0.15 | 0.19 | 0.15 | 0.28 | 1.64 | 0.70 |
| 0.75 | 0.75 | 67.82 | 0.36 | 0.0* | 1-S2n | 0.19 | 0.24 | 0.19 | 0.35 | 1.93 | 0.79 |
| 1.00 | 1.00 | 67.90 | 0.44 | 0.0* | 1-S2n | 0.23 | 0.29 | 0.24 | 0.41 | 2.09 | 0.86 |
| 1.25 | 1.25 | 67.97 | 0.51 | 0.0* | 1-S2n | 0.27 | 0.34 | 0.27 | 0.47 | 2.32 | 0.92 |
| 1.50 | 1.50 | 68.04 | 0.58 | 0.0* | 1-S2n | 0.31 | 0.39 | 0.31 | 0.51 | 2.46 | 0.97 |
| 1.75 | 1.75 | 68.11 | 0.65 | 0.0* | 1-S2n | 0.34 | 0.43 | 0.34 | 0.56 | 2.58 | 1.01 |
| 2.00 | 2.00 | 68.17 | 0.71 | 0.0* | 1-S2n | 0.37 | 0.47 | 0.39 | 0.60 | 2.59 | 1.05 |
| 2.25 | 2.25 | 68.23 | 0.77 | 0.0* | 1-S2n | 0.40 | 0.51 | 0.42 | 0.64 | 2.68 | 1.08 |
| 2.50 | 2.50 | 68.29 | 0.83 | 0.0* | 1-S2n | 0.43 | 0.54 | 0.43 | 0.67 | 2.89 | 1.12 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 18+078.14m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

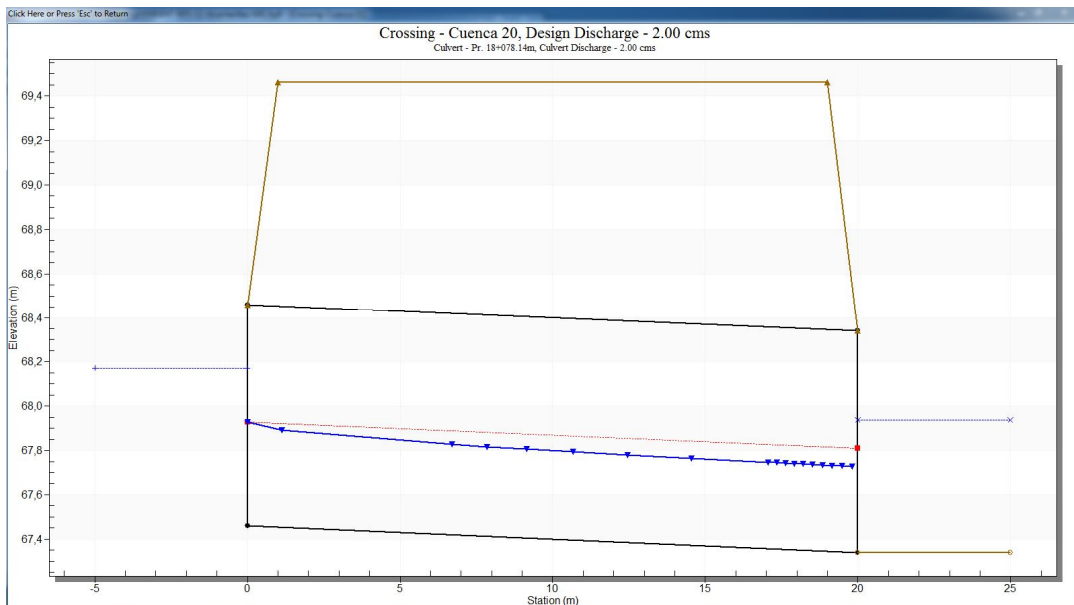
Geometry

Inlet Elevation: 67.46 m
 Outlet Elevation: 67.34 m
 Culvert Length: 20.00 m
 Culvert Slope: 0.0060
 Inlet Crest: 0.00 m
 Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 21

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 22.50 | cms |
| Maximum Flow | 23.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 6.00 | m |
| Side Slope (H:V) | 1:1 | |
| Channel Slope | 0.0060 | m/m |
| Manning's n (channel) | 0.0300 | |
| Channel Invert Elevation | 60.95 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 12.00 | m |
| Crest Elevation | 65.04 | m |
| Roadway Surface | Paved | |
| Top Width | 13.80 | m |

Culvert Properties

Pr. 21+396.02m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|----------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 21+396.02m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 6000.00 | mm |
| Rise | 3000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | Square Edge (90°) Headwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 61.04 | m |
| Outlet Station | 15.80 | m |

Buttons: Help, Click on any icon for help on a specific topic, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 21+396.02m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 61.04 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2.30 | 2.30 | 61.48 | 0.44 | 0.0* | 1-S2n | 0.14 | 0.25 | 0.20 | 0.31 | 1.95 | 1.11 |
| 4.60 | 4.60 | 61.71 | 0.67 | 0.0* | 1-S2n | 0.29 | 0.39 | 0.31 | 0.47 | 2.43 | 1.41 |
| 6.90 | 6.90 | 61.92 | 0.88 | 0.0* | 1-S2n | 0.37 | 0.51 | 0.42 | 0.59 | 2.76 | 1.61 |
| 9.20 | 9.20 | 62.10 | 1.06 | 0.0* | 1-S2n | 0.44 | 0.62 | 0.51 | 0.70 | 3.00 | 1.77 |
| 11.50 | 11.50 | 62.27 | 1.23 | 0.0* | 1-S2n | 0.51 | 0.72 | 0.60 | 0.80 | 3.20 | 1.90 |
| 13.80 | 13.80 | 62.43 | 1.39 | 0.0* | 1-S2n | 0.58 | 0.82 | 0.68 | 0.88 | 3.38 | 2.01 |
| 16.10 | 16.10 | 62.58 | 1.54 | 0.0* | 1-S2n | 0.64 | 0.90 | 0.76 | 0.96 | 3.53 | 2.11 |
| 18.40 | 18.40 | 62.72 | 1.68 | 0.0* | 1-S2n | 0.70 | 0.99 | 0.84 | 1.04 | 3.67 | 2.20 |
| 20.70 | 20.70 | 62.85 | 1.81 | 0.0* | 1-S2n | 0.76 | 1.07 | 0.91 | 1.11 | 3.80 | 2.28 |
| 22.50 | 22.50 | 62.95 | 1.91 | 0.0* | 1-S2n | 0.80 | 1.13 | 0.96 | 1.16 | 3.89 | 2.34 |

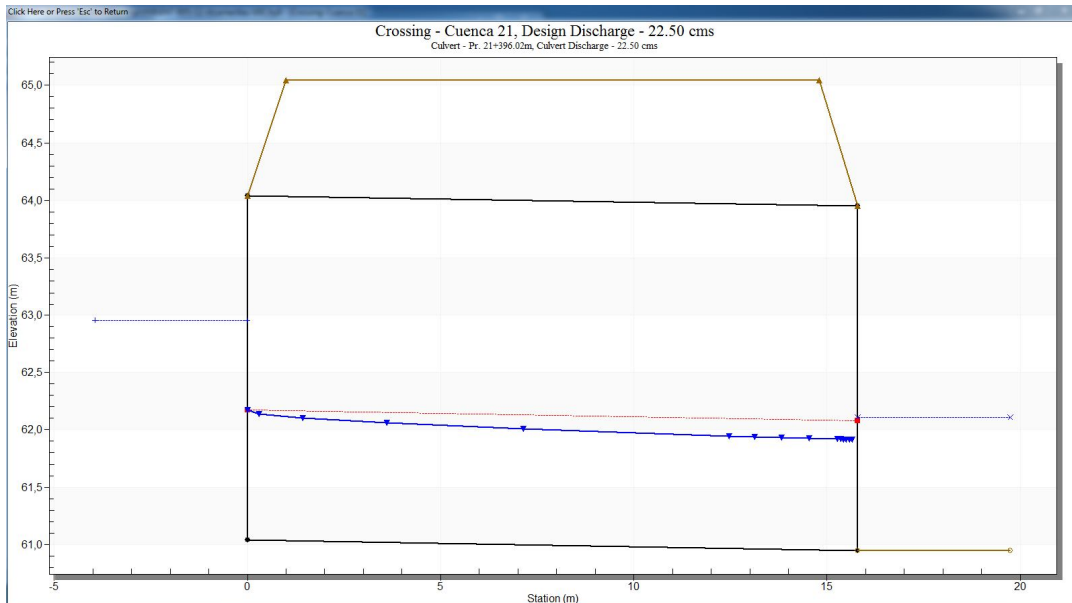
Display: Crossing Summary Table, Culvert Summary Table (Pr. 21+396.02m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 61.04 m, Outlet Elevation: 60.95 m, Culvert Length: 15.80 m, Culvert Slope: 0.0057, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, Culvert Performance Curve, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 22

Crossing Properties

Name: Cuenca 22

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 17.00 | cms |
| Maximum Flow | 17.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 6.00 | m |
| Side Slope (H:V) | 2.00 | 1:1 |
| Channel Slope | 0.0046 | m/m |
| Manning's n (channel) | 0.0300 | |
| Channel Invert Elevation | 65.82 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 12.00 | m |
| Crest Elevation | 68.41 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 23+028.52m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 23+028.52m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 65.91 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 23+028.52m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 65.91 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1.75 | 1.75 | 66.22 | 0.31 | 0.0* | 1-S2n | 0.18 | 0.21 | 0.18 | 0.29 | 1.63 | 0.92 |
| 3.50 | 3.50 | 66.40 | 0.49 | 0.0* | 1-S2n | 0.28 | 0.33 | 0.28 | 0.43 | 2.06 | 1.18 |
| 5.25 | 5.25 | 66.55 | 0.64 | 0.0* | 1-S2n | 0.37 | 0.43 | 0.37 | 0.55 | 2.36 | 1.35 |
| 7.00 | 7.00 | 66.68 | 0.77 | 0.0* | 1-S2n | 0.45 | 0.52 | 0.46 | 0.65 | 2.53 | 1.48 |
| 8.75 | 8.75 | 66.81 | 0.90 | 0.0* | 1-S2n | 0.53 | 0.60 | 0.53 | 0.74 | 2.76 | 1.59 |
| 10.50 | 10.50 | 66.94 | 1.03 | 0.0* | 1-S2n | 0.60 | 0.68 | 0.60 | 0.82 | 2.91 | 1.69 |
| 12.25 | 12.25 | 67.06 | 1.15 | 0.0* | 1-S2n | 0.67 | 0.75 | 0.67 | 0.89 | 3.04 | 1.77 |
| 14.00 | 14.00 | 67.18 | 1.27 | 0.0* | 1-S2n | 0.74 | 0.82 | 0.74 | 0.96 | 3.16 | 1.85 |
| 15.75 | 15.75 | 67.29 | 1.38 | 0.0* | 1-S2n | 0.80 | 0.89 | 0.81 | 1.02 | 3.26 | 1.91 |
| 17.00 | 17.00 | 67.37 | 1.46 | 0.0* | 1-S2n | 0.85 | 0.94 | 0.85 | 1.07 | 3.33 | 1.96 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 23+028.52m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

Geometry

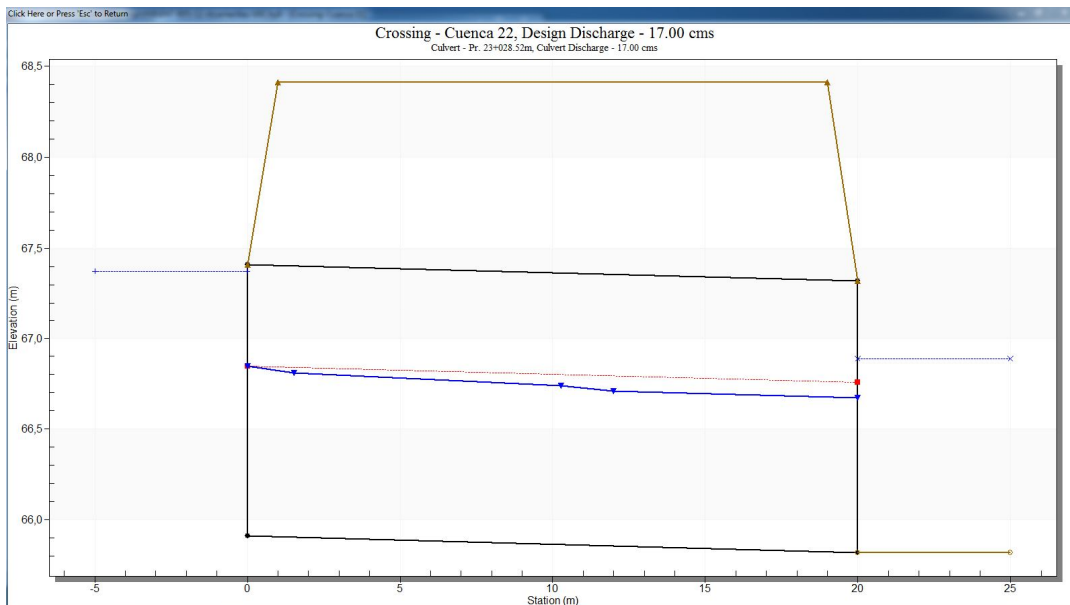
Inlet Elevation: 65.91 m
Outlet Elevation: 65.82 m
Culvert Length: 20.00 m
Culvert Slope: 0.0045
Inlet Crest: 0.00 m
Inlet Throat: 0.00 m

Plot

Crossing Rating Curve
Culvert Performance Curve
Selected Water Profile
Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 23

Crossing Properties
Name: Cuenca 23

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 14.00 | cms |
| Maximum Flow | 14.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 8.00 | m |
| Side Slope (H:V) | 2.00 | 1:1 |
| Channel Slope | 0.0010 | m/m |
| Manning's n (channel) | 0.0300 | |
| Channel Invert Elevation | 63.78 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 16.00 | m |
| Crest Elevation | 66.30 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 24+370.53m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 24+370.53m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 63.80 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 24+370.53m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 63.80 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1.45 | 1.45 | 64.15 | 0.22 | 0.35 | 3-M1t | 0.21 | 0.15 | 0.34 | 0.34 | 0.53 | 0.49 |
| 2.90 | 2.90 | 64.33 | 0.35 | 0.53 | 3-M1t | 0.34 | 0.24 | 0.52 | 0.52 | 0.70 | 0.62 |
| 4.35 | 4.35 | 64.48 | 0.46 | 0.68 | 3-M1t | 0.45 | 0.31 | 0.65 | 0.65 | 0.83 | 0.71 |
| 5.80 | 5.80 | 64.61 | 0.56 | 0.81 | 3-M1t | 0.55 | 0.38 | 0.77 | 0.77 | 0.94 | 0.79 |
| 7.25 | 7.25 | 64.73 | 0.65 | 0.93 | 3-M1t | 0.64 | 0.44 | 0.88 | 0.88 | 1.03 | 0.85 |
| 8.70 | 8.70 | 64.84 | 0.74 | 1.04 | 3-M1t | 0.73 | 0.49 | 0.97 | 0.97 | 1.12 | 0.90 |
| 10.15 | 10.15 | 64.94 | 0.82 | 1.14 | 3-M1t | 0.82 | 0.55 | 1.06 | 1.06 | 1.19 | 0.94 |
| 11.60 | 11.60 | 65.04 | 0.90 | 1.24 | 3-M1t | 0.90 | 0.60 | 1.15 | 1.15 | 1.26 | 0.98 |
| 13.05 | 13.05 | 65.13 | 0.98 | 1.33 | 3-M1t | 0.98 | 0.65 | 1.23 | 1.23 | 1.33 | 1.02 |
| 14.00 | 14.00 | 65.18 | 1.03 | 1.38 | 3-M1t | 1.04 | 0.68 | 1.27 | 1.27 | 1.37 | 1.04 |

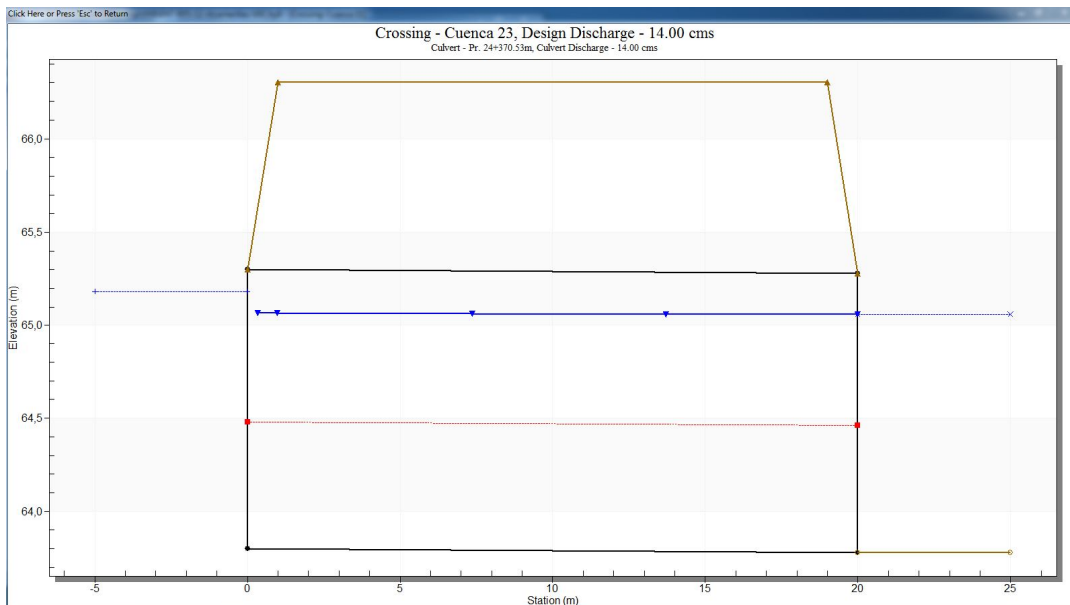
Display
 Crossing Summary Table
 Culvert Summary Table Pr. 24+370.53m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

Geometry
 Inlet Elevation: 63.80 m
 Outlet Elevation: 63.78 m
 Culvert Length: 20.00 m
 Culvert Slope: 0.0010
 Inlet Crest: 0.00 m
 Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 24

Crossing Properties
Name: Cuenca 24

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 46.00 | cms |
| Maximum Flow | 46.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 10.00 | m |
| Side Slope (H:V) | 2.00 | -:1 |
| Channel Slope | 0.0023 | m/m |
| Manning's n (channel) | 0.0300 | |
| Channel Invert Elevation | 59.16 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 20.00 | m |
| Crest Elevation | 63.20 | m |
| Roadway Surface | Paved | |
| Top Width | 13.80 | m |

Culvert Properties
Pr. 25+426.81m

| Parameter | Value | Units |
|------------------------|----------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 25+426.81m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 10000.00 | mm |
| Rise | 3000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | Square Edge (90°) Headwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 59.20 | m |
| Outlet Station | 15.80 | m |

Buttons: Help, Click on any icon for help on a specific topic, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 25+426.81m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 59.20 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4.65 | 4.65 | 59.72 | 0.49 | 0.52 | 1-S1t | 0.26 | 0.28 | 0.47 | 0.47 | 0.99 | 0.90 |
| 9.30 | 9.30 | 60.01 | 0.77 | 0.81 | 1-S1t | 0.40 | 0.45 | 0.71 | 0.71 | 1.32 | 1.15 |
| 13.95 | 13.95 | 60.26 | 1.00 | 1.06 | 1-S1t | 0.53 | 0.58 | 0.89 | 0.89 | 1.56 | 1.32 |
| 18.60 | 18.60 | 60.47 | 1.21 | 1.27 | 1-S1t | 0.64 | 0.71 | 1.06 | 1.06 | 1.76 | 1.46 |
| 23.25 | 23.25 | 60.66 | 1.41 | 1.46 | 1-S1t | 0.73 | 0.82 | 1.20 | 1.20 | 1.94 | 1.56 |
| 27.90 | 27.90 | 60.84 | 1.58 | 1.64 | 1-S1t | 0.83 | 0.93 | 1.33 | 1.33 | 2.10 | 1.66 |
| 32.55 | 32.55 | 61.01 | 1.75 | 1.81 | 1-S1t | 0.92 | 1.03 | 1.45 | 1.45 | 2.24 | 1.74 |
| 37.20 | 37.20 | 61.18 | 1.91 | 1.98 | 1-S1t | 1.00 | 1.12 | 1.56 | 1.56 | 2.38 | 1.81 |
| 41.85 | 41.85 | 61.33 | 2.06 | 2.13 | 1-S1t | 1.07 | 1.22 | 1.67 | 1.67 | 2.51 | 1.88 |
| 46.00 | 46.00 | 61.46 | 2.19 | 2.26 | 1-S1t | 1.14 | 1.29 | 1.76 | 1.76 | 2.61 | 1.93 |

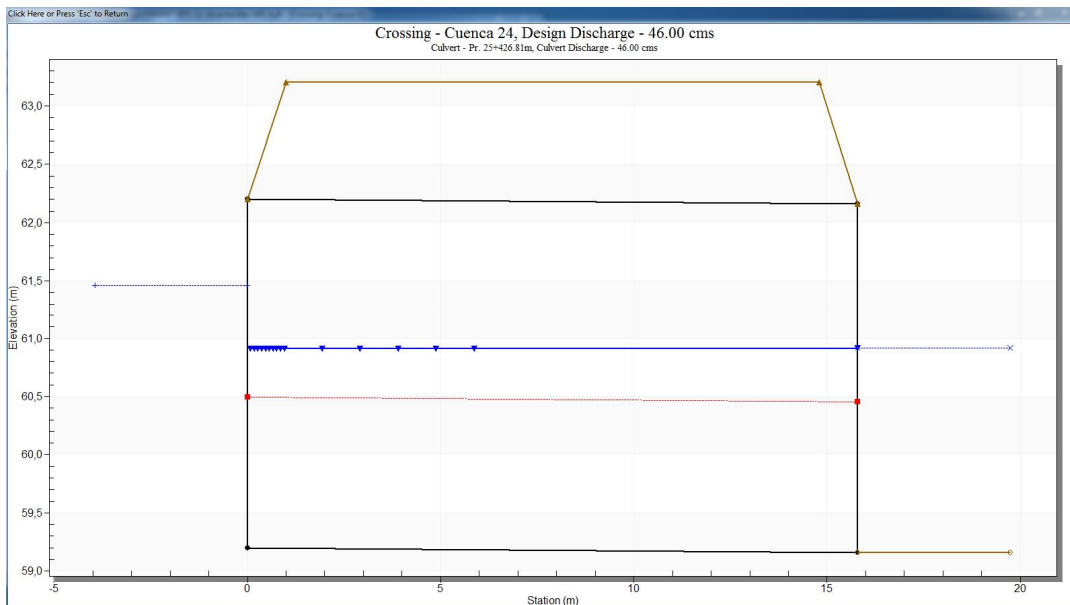
Display: Crossing Summary Table, Culvert Summary Table (Pr. 25+426.81m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 59.20 m, Outlet Elevation: 59.16 m, Culvert Length: 15.80 m, Culvert Slope: 0.0025, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, Culvert Performance Curve, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 25

Crossing Properties
Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 15.00 | cms |
| Maximum Flow | 15.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 6.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0023 | m/m |
| Manning's n (channel) | 0.0300 | |
| Channel Invert Elevation | 62.35 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 12.00 | m |
| Crest Elevation | 64.90 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 25+865.53m

Parameter Value Units

CULVERT DATA

Name Pr. 25+865.53m

Shape Concrete Box

Material Concrete

Span 2000.00 mm

Rise 1500.00 mm

Embedment Depth 0.00 mm

Manning's n 0.0120

Inlet Type Conventional

Inlet Edge Condition 1:1 Bevel (45° flare) Wingwall

Inlet Depression? No

SITE DATA

Site Data Input Option Culvert Invert Data

Inlet Station 0.00 m

Inlet Elevation 62.40 m

Outlet Station 20.00 m

Buttons: Help, Click on any icon for help on a specific topic, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 25+865.53m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 62.40 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1.55 | 1.55 | 62.73 | 0.28 | 0.33 | 3-M1t | 0.20 | 0.19 | 0.33 | 0.33 | 0.78 | 0.71 |
| 3.10 | 3.10 | 62.93 | 0.45 | 0.53 | 3-M1t | 0.32 | 0.30 | 0.49 | 0.49 | 1.05 | 0.90 |
| 4.65 | 4.65 | 63.09 | 0.59 | 0.69 | 3-M1t | 0.42 | 0.39 | 0.62 | 0.62 | 1.24 | 1.03 |
| 6.20 | 6.20 | 63.23 | 0.71 | 0.83 | 3-M1t | 0.51 | 0.48 | 0.74 | 0.74 | 1.40 | 1.13 |
| 7.75 | 7.75 | 63.36 | 0.83 | 0.96 | 3-M1t | 0.60 | 0.56 | 0.84 | 0.84 | 1.55 | 1.21 |
| 9.30 | 9.30 | 63.47 | 0.95 | 1.07 | 3-M1t | 0.68 | 0.63 | 0.93 | 0.93 | 1.68 | 1.28 |
| 10.85 | 10.85 | 63.58 | 1.06 | 1.18 | 3-M1t | 0.76 | 0.69 | 1.01 | 1.01 | 1.79 | 1.34 |
| 12.40 | 12.40 | 63.69 | 1.16 | 1.29 | 3-M1t | 0.84 | 0.76 | 1.09 | 1.09 | 1.90 | 1.40 |
| 13.95 | 13.95 | 63.79 | 1.26 | 1.39 | 3-M1t | 0.91 | 0.82 | 1.16 | 1.16 | 2.01 | 1.45 |
| 15.00 | 15.00 | 63.85 | 1.33 | 1.45 | 3-M1t | 0.96 | 0.86 | 1.21 | 1.21 | 2.07 | 1.48 |

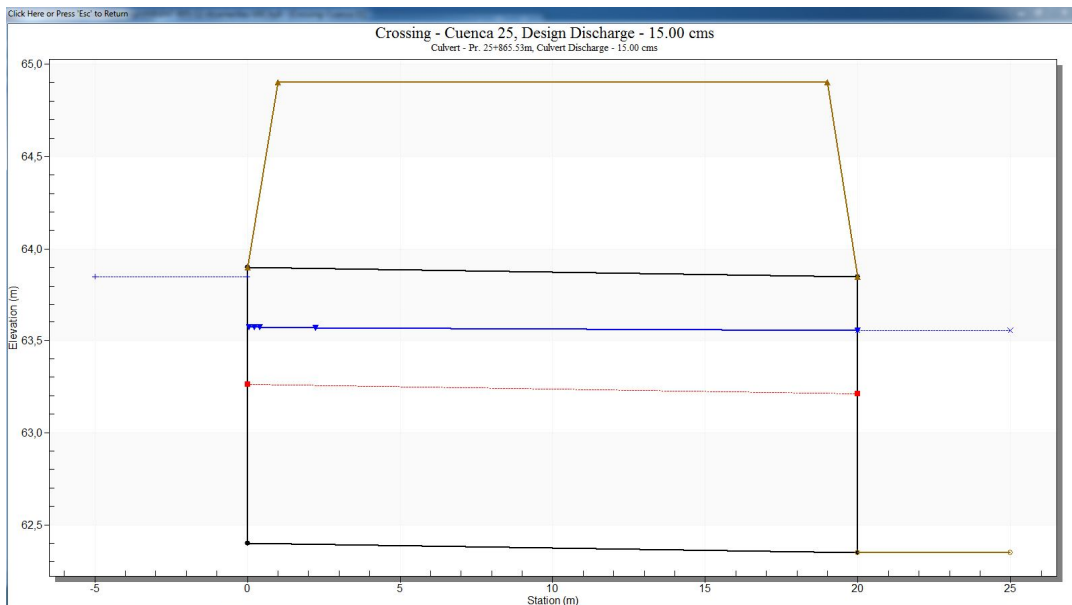
Display: Crossing Summary Table, Culvert Summary Table (Pr. 25+865.53m), Water Surface Profiles, Improved Inlet Table, Customized Table (Options...)

Geometry: Inlet Elevation: 62.40 m, Outlet Elevation: 62.35 m, Culvert Length: 20.00 m, Culvert Slope: 0.0025, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot:

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 26

Crossing Properties
Name: Cuenca 26

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 2255.00 | cms |
| Maximum Flow | 2255.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 180.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0001 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 46.92 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 360.00 | m |
| Crest Elevation | 59.92 | m |
| Roadway Surface | Paved | |
| Top Width | 13.80 | m |

Culvert Properties
Pr. 32+359.29m

| Parameter | Value | Units |
|------------------------|----------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 32+359.29m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 180000.00 | mm |
| Rise | 12000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | Square Edge (90°) Headwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 46.92 | m |
| Outlet Station | 15.80 | m |

Buttons: Help, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 32+359.29m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 46.92 | 0.00 | 0.00 | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 225.60 | 225.60 | 49.56 | 1.23 | 2.64 | 3-M1t | 2.06 | 0.54 | 2.62 | 2.62 | 0.48 | 0.46 |
| 451.20 | 451.20 | 50.92 | 1.59 | 4.00 | 3-M1t | 3.18 | 0.86 | 3.97 | 3.97 | 0.63 | 0.61 |
| 676.80 | 676.80 | 52.01 | 1.96 | 5.09 | 3-M1t | 4.09 | 1.13 | 5.05 | 5.05 | 0.74 | 0.71 |
| 902.40 | 902.40 | 52.96 | 2.36 | 6.04 | 3-M1t | 4.90 | 1.37 | 5.99 | 5.99 | 0.84 | 0.78 |
| 1128.00 | 1128.00 | 53.82 | 2.75 | 6.90 | 3-M1t | 5.61 | 1.59 | 6.84 | 6.84 | 0.92 | 0.85 |
| 1353.60 | 1353.60 | 54.61 | 3.11 | 7.69 | 3-M1t | 6.28 | 1.80 | 7.62 | 7.62 | 0.99 | 0.91 |
| 1579.20 | 1579.20 | 55.35 | 3.44 | 8.43 | 3-M1t | 6.91 | 1.99 | 8.34 | 8.34 | 1.05 | 0.96 |
| 1804.80 | 1804.80 | 56.04 | 3.75 | 9.12 | 3-M1t | 7.51 | 2.18 | 9.03 | 9.03 | 1.11 | 1.01 |
| 2030.40 | 2030.40 | 56.70 | 4.04 | 9.78 | 3-M1t | 8.07 | 2.35 | 9.68 | 9.68 | 1.17 | 1.05 |
| 2255.00 | 2255.00 | 57.33 | 4.33 | 10.40 | 3-M1t | 8.62 | 2.52 | 10.29 | 10.29 | 1.22 | 1.09 |

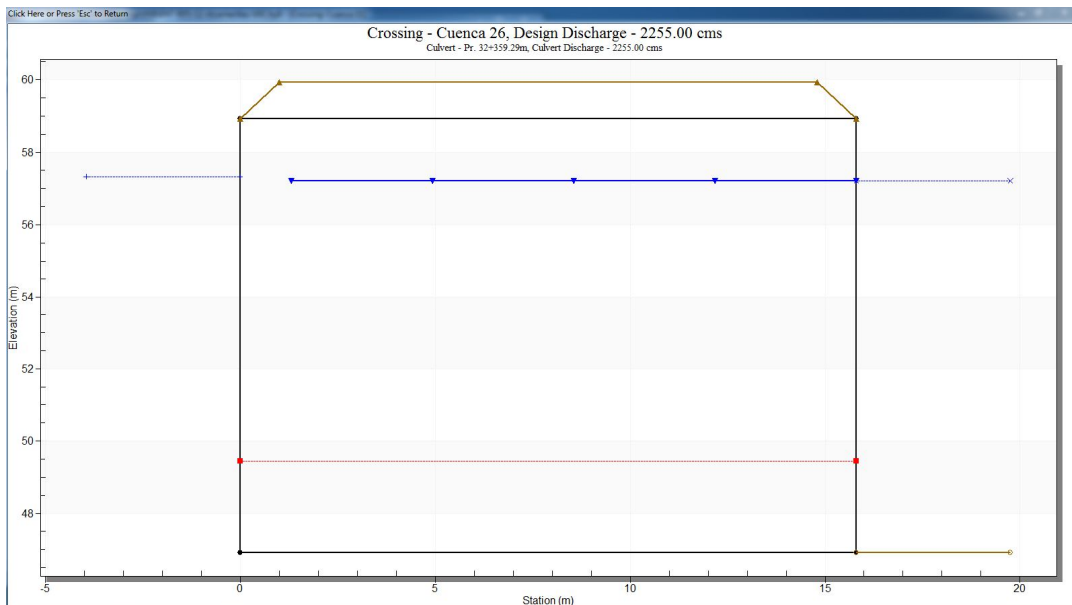
Display: Crossing Summary Table, **Culvert Summary Table** (Pr. 32+359.29m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 46.92 m, Outlet Elevation: 46.92 m, Culvert Length: 15.80 m, Culvert Slope: 0.0000, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, **Culvert Performance Curve**, Selected Water Profile, Water Surface Profile Data

Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 27

Crossing Properties
Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 4.00 | cms |
| Maximum Flow | 4.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0018 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 65.72 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 67.76 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 27+653.03m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 27+653.03m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 65.76 | m |
| Outlet Station | 20.00 | m |

Culvert Summary Table - Pr. 27+653.03m

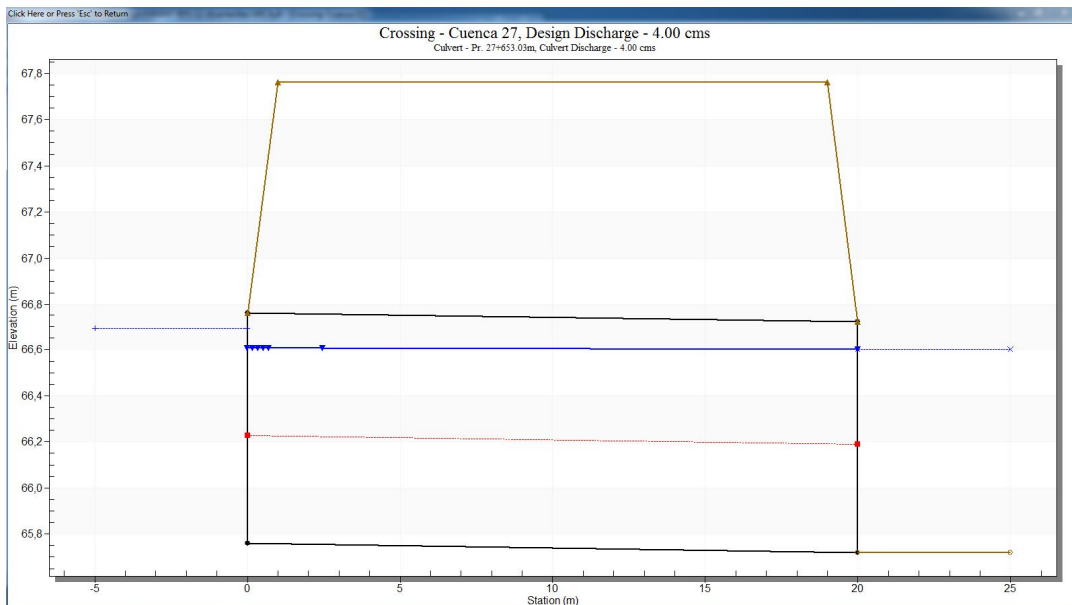
| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 65.76 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.45 | 0.45 | 65.99 | 0.16 | 0.23 | 3-M1t | 0.12 | 0.11 | 0.26 | 0.26 | 0.44 | 0.39 |
| 0.90 | 0.90 | 66.13 | 0.26 | 0.37 | 3-M1t | 0.20 | 0.17 | 0.38 | 0.38 | 0.59 | 0.49 |
| 1.35 | 1.35 | 66.24 | 0.34 | 0.48 | 3-M1t | 0.26 | 0.23 | 0.48 | 0.48 | 0.70 | 0.56 |
| 1.80 | 1.80 | 66.33 | 0.41 | 0.57 | 3-M1t | 0.31 | 0.27 | 0.57 | 0.57 | 0.79 | 0.62 |
| 2.25 | 2.25 | 66.42 | 0.47 | 0.66 | 3-M1t | 0.36 | 0.32 | 0.64 | 0.64 | 0.88 | 0.66 |
| 2.70 | 2.70 | 66.50 | 0.54 | 0.74 | 3-M1t | 0.41 | 0.36 | 0.71 | 0.71 | 0.95 | 0.70 |
| 3.15 | 3.15 | 66.57 | 0.60 | 0.81 | 3-M1t | 0.46 | 0.40 | 0.77 | 0.77 | 1.02 | 0.73 |
| 3.60 | 3.60 | 66.64 | 0.66 | 0.88 | 3-M1t | 0.50 | 0.44 | 0.83 | 0.83 | 1.08 | 0.76 |
| 4.00 | 4.00 | 66.69 | 0.71 | 0.93 | 3-M1t | 0.54 | 0.47 | 0.88 | 0.88 | 1.13 | 0.79 |
| 4.50 | 4.50 | 66.76 | 0.77 | 1.00 | 3-M1t | 0.58 | 0.51 | 0.94 | 0.94 | 1.20 | 0.81 |

Display: Crossing Summary Table Culvert Summary Table Water Surface Profiles Improved Inlet Table Customized Table

Geometry: Inlet Elevation: 65.76 m, Outlet Elevation: 65.72 m, Culvert Length: 20.00 m, Culvert Slope: 0.0020, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot:

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 28

Crossing Properties
Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 1.50 | cms |
| Maximum Flow | 2.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0060 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 63.86 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 65.98 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 29+302.14m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 29+302.14m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 63.98 | m |
| Outlet Station | 20.00 | m |

Buttons: Help, Click on any icon for help on a specific topic, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 29+302.14m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 63.98 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.20 | 0.20 | 64.13 | 0.15 | 0.0* | 1-S2n | 0.08 | 0.10 | 0.08 | 0.16 | 1.21 | 0.52 |
| 0.40 | 0.40 | 64.22 | 0.24 | 0.0* | 1-S2n | 0.13 | 0.16 | 0.13 | 0.24 | 1.58 | 0.66 |
| 0.60 | 0.60 | 64.29 | 0.31 | 0.0* | 1-S2n | 0.16 | 0.21 | 0.17 | 0.31 | 1.80 | 0.74 |
| 0.80 | 0.80 | 64.36 | 0.38 | 0.0* | 1-S2n | 0.20 | 0.25 | 0.20 | 0.36 | 1.97 | 0.81 |
| 1.00 | 1.00 | 64.42 | 0.44 | 0.0* | 1-S2n | 0.23 | 0.29 | 0.24 | 0.41 | 2.09 | 0.87 |
| 1.20 | 1.20 | 64.47 | 0.49 | 0.0* | 1-S2n | 0.26 | 0.33 | 0.26 | 0.45 | 2.27 | 0.92 |
| 1.40 | 1.40 | 64.53 | 0.55 | 0.0* | 1-S2n | 0.29 | 0.37 | 0.29 | 0.49 | 2.39 | 0.96 |
| 1.50 | 1.50 | 64.56 | 0.58 | 0.0* | 1-S2n | 0.31 | 0.39 | 0.31 | 0.51 | 2.46 | 0.98 |
| 1.80 | 1.80 | 64.64 | 0.66 | 0.0* | 1-S2n | 0.34 | 0.44 | 0.36 | 0.56 | 2.51 | 1.03 |
| 2.00 | 2.00 | 64.69 | 0.71 | 0.0* | 1-S2n | 0.37 | 0.47 | 0.39 | 0.59 | 2.59 | 1.06 |

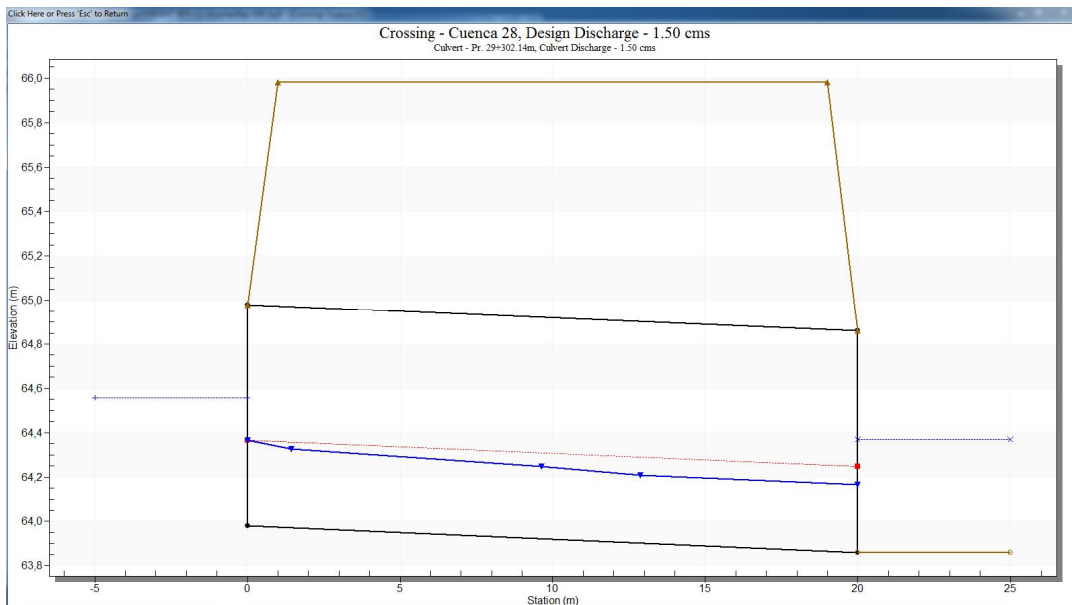
Display: Crossing Summary Table, Culvert Summary Table (Pr. 29+302.14m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 63.98 m, Outlet Elevation: 63.86 m, Culvert Length: 20.00 m, Culvert Slope: 0.0060, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, Culvert Performance Curve, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 29

Crossing Properties
Name: Cuenca 29

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 15.00 | cms |
| Maximum Flow | 15.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 6.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0030 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 56.60 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 12.00 | m |
| Crest Elevation | 59.16 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 31+422.08m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 31+422.08m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 56.66 | m |
| Outlet Station | 20.00 | m |

Buttons: Help, Click on any icon for help on a specific topic, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 31+422.08m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 56.66 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1.55 | 1.55 | 57.01 | 0.28 | 0.35 | 1-S1t | 0.19 | 0.19 | 0.36 | 0.36 | 0.72 | 0.64 |
| 3.10 | 3.10 | 57.21 | 0.45 | 0.55 | 1-S1t | 0.30 | 0.30 | 0.54 | 0.54 | 0.96 | 0.81 |
| 4.65 | 4.65 | 57.38 | 0.59 | 0.72 | 1-S1t | 0.39 | 0.39 | 0.68 | 0.68 | 1.14 | 0.93 |
| 6.20 | 6.20 | 57.53 | 0.71 | 0.87 | 1-S1t | 0.48 | 0.48 | 0.80 | 0.80 | 1.29 | 1.01 |
| 7.75 | 7.75 | 57.65 | 0.83 | 0.99 | 3-M1t | 0.56 | 0.56 | 0.91 | 0.91 | 1.42 | 1.09 |
| 9.30 | 9.30 | 57.77 | 0.95 | 1.11 | 3-M1t | 0.64 | 0.63 | 1.01 | 1.01 | 1.54 | 1.15 |
| 10.85 | 10.85 | 57.89 | 1.05 | 1.23 | 3-M1t | 0.71 | 0.69 | 1.10 | 1.10 | 1.65 | 1.20 |
| 12.40 | 12.40 | 57.99 | 1.16 | 1.33 | 3-M1t | 0.78 | 0.76 | 1.18 | 1.18 | 1.75 | 1.25 |
| 13.95 | 13.95 | 58.09 | 1.26 | 1.43 | 3-M1t | 0.85 | 0.82 | 1.26 | 1.26 | 1.84 | 1.30 |
| 15.00 | 15.00 | 58.16 | 1.33 | 1.50 | 7-M1t | 0.90 | 0.86 | 1.31 | 1.31 | 1.91 | 1.33 |

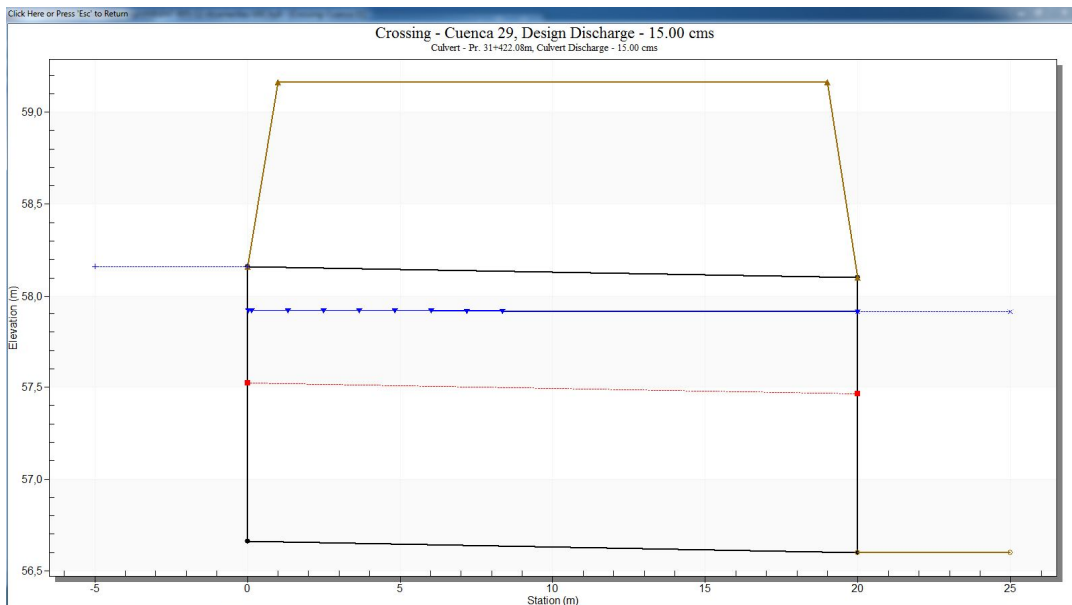
Display: Crossing Summary Table, **Culvert Summary Table** (Pr. 31+422.08m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 56.66 m, Outlet Elevation: 56.60 m, Culvert Length: 20.00 m, Culvert Slope: 0.0030, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, **Culvert Performance Curve**, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 30

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 13.00 | cms |
| Maximum Flow | 13.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 12.00 | m |
| Side Slope (H:V) | 2.00 | 1:1 |
| Channel Slope | 0.0006 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 62.70 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 24.00 | m |
| Crest Elevation | 65.21 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 38+392.34m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 38+392.34m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 62.71 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 38+392.34m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 62.71 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1.35 | 1.35 | 63.09 | 0.26 | 0.38 | 3-M1t | 0.31 | 0.17 | 0.36 | 0.36 | 0.63 | 0.30 |
| 2.70 | 2.70 | 63.29 | 0.41 | 0.58 | 3-M1t | 0.50 | 0.27 | 0.54 | 0.54 | 0.83 | 0.38 |
| 4.05 | 4.05 | 63.46 | 0.54 | 0.75 | 3-M1t | 0.66 | 0.36 | 0.69 | 0.69 | 0.98 | 0.44 |
| 5.40 | 5.40 | 63.60 | 0.65 | 0.89 | 3-M2t | 0.82 | 0.44 | 0.81 | 0.81 | 1.11 | 0.49 |
| 6.75 | 6.75 | 63.73 | 0.76 | 1.02 | 3-M2t | 0.97 | 0.51 | 0.93 | 0.93 | 1.21 | 0.53 |
| 8.10 | 8.10 | 63.85 | 0.86 | 1.14 | 3-M2t | 1.11 | 0.57 | 1.03 | 1.03 | 1.31 | 0.56 |
| 9.45 | 9.45 | 63.96 | 0.96 | 1.25 | 3-M2t | 1.25 | 0.63 | 1.13 | 1.13 | 1.40 | 0.59 |
| 10.80 | 10.80 | 64.06 | 1.05 | 1.35 | 3-M2t | 1.50 | 0.69 | 1.22 | 1.22 | 1.48 | 0.62 |
| 12.15 | 12.15 | 64.16 | 1.15 | 1.45 | 3-M2t | 1.50 | 0.75 | 1.30 | 1.30 | 1.56 | 0.64 |
| 13.00 | 13.00 | 64.22 | 1.20 | 1.51 | 3-M2t | 1.50 | 0.78 | 1.35 | 1.35 | 1.60 | 0.65 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 38+392.34m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

Geometry

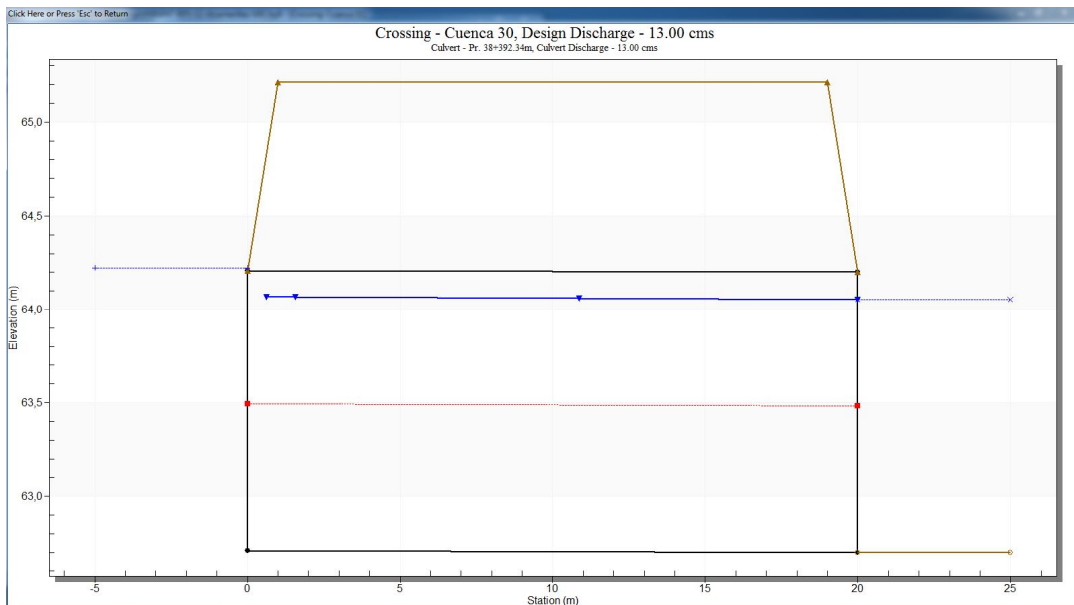
Inlet Elevation: 62.71 m
Outlet Elevation: 62.70 m
Culvert Length: 20.00 m
Culvert Slope: 0.0005
Inlet Crest: 0.00 m
Inlet Throat: 0.00 m

Plot

Crossing Rating Curve
Culvert Performance Curve
Selected Water Profile
Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 31

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 11.00 | cms |
| Maximum Flow | 11.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 6.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0045 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 65.00 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 12.00 | m |
| Crest Elevation | 67.59 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 40+842.05m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 40+842.05m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 65.09 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 40+842.05m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 65.09 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1.15 | 1.15 | 65.32 | 0.23 | 0.0* | 1-S2n | 0.13 | 0.16 | 0.14 | 0.27 | 1.40 | 0.65 |
| 2.30 | 2.30 | 65.49 | 0.37 | 0.40 | 1-S1t | 0.21 | 0.25 | 0.40 | 0.40 | 0.95 | 0.84 |
| 3.45 | 3.45 | 65.62 | 0.48 | 0.53 | 1-S1t | 0.28 | 0.32 | 0.51 | 0.51 | 1.12 | 0.96 |
| 4.60 | 4.60 | 65.73 | 0.58 | 0.64 | 1-S1t | 0.34 | 0.39 | 0.60 | 0.60 | 1.27 | 1.06 |
| 5.75 | 5.75 | 65.84 | 0.68 | 0.75 | 1-S1t | 0.39 | 0.45 | 0.69 | 0.69 | 1.40 | 1.14 |
| 6.90 | 6.90 | 65.93 | 0.76 | 0.84 | 1-S1t | 0.45 | 0.51 | 0.76 | 0.76 | 1.51 | 1.20 |
| 8.05 | 8.05 | 66.02 | 0.85 | 0.93 | 1-S1t | 0.50 | 0.57 | 0.83 | 0.83 | 1.62 | 1.27 |
| 9.20 | 9.20 | 66.11 | 0.94 | 1.02 | 1-S1t | 0.55 | 0.62 | 0.90 | 0.90 | 1.71 | 1.32 |
| 10.35 | 10.35 | 66.19 | 1.02 | 1.10 | 1-S1t | 0.59 | 0.67 | 0.96 | 0.96 | 1.80 | 1.37 |
| 11.00 | 11.00 | 66.24 | 1.06 | 1.15 | 1-S1t | 0.62 | 0.70 | 0.99 | 0.99 | 1.85 | 1.39 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 40+842.05m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

Geometry

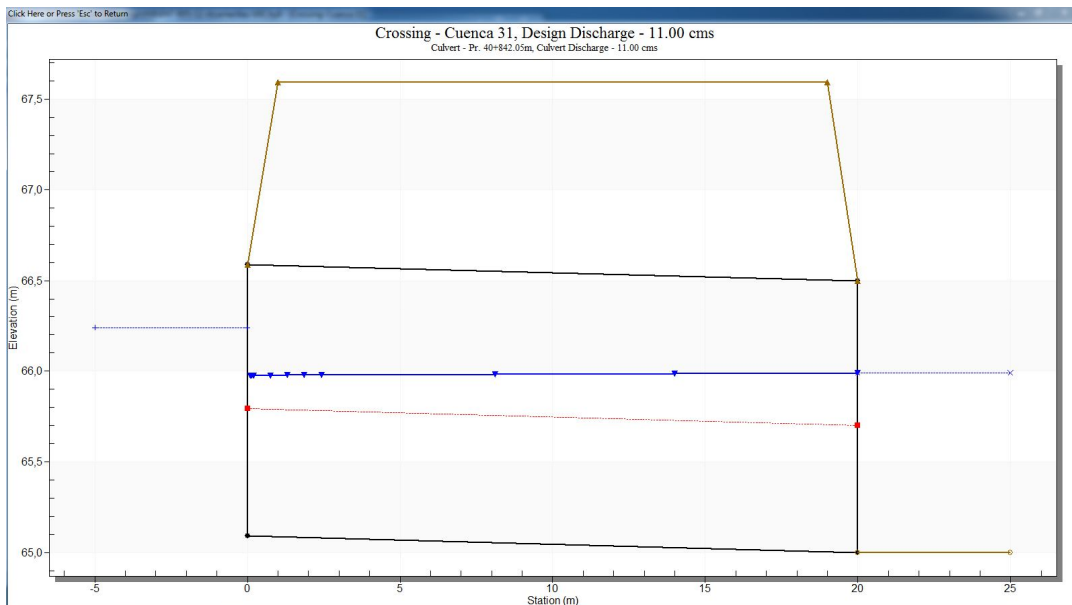
Inlet Elevation: 65.09 m
Outlet Elevation: 65.00 m
Culvert Length: 20.00 m
Culvert Slope: 0.0045
Inlet Crest: 0.00 m
Inlet Throat: 0.00 m

Plot

Crossing Rating Curve
Culvert Performance Curve
Selected Water Profile
Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 32

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 1.50 | cms |
| Maximum Flow | 2.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0035 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 66.27 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 68.34 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 41+654.57m

Buttons: Add Culvert, Duplicate Culvert, Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 41+654.57m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 66.34 | m |
| Outlet Station | 20.00 | m |

Buttons: Help, Click on any icon for help on a specific topic, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 41+654.57m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 66.34 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.20 | 0.20 | 66.49 | 0.15 | 0.0* | 1-S2n | 0.10 | 0.10 | 0.10 | 0.19 | 1.00 | 0.44 |
| 0.40 | 0.40 | 66.61 | 0.24 | 0.27 | 1-S1t | 0.15 | 0.16 | 0.29 | 0.29 | 0.70 | 0.55 |
| 0.60 | 0.60 | 66.69 | 0.31 | 0.35 | 1-S1t | 0.20 | 0.21 | 0.36 | 0.36 | 0.84 | 0.62 |
| 0.80 | 0.80 | 66.77 | 0.38 | 0.43 | 1-S1t | 0.24 | 0.25 | 0.42 | 0.42 | 0.95 | 0.67 |
| 1.00 | 1.00 | 66.84 | 0.44 | 0.50 | 1-S1t | 0.28 | 0.29 | 0.47 | 0.47 | 1.06 | 0.72 |
| 1.20 | 1.20 | 66.90 | 0.50 | 0.56 | 1-S1t | 0.31 | 0.33 | 0.52 | 0.52 | 1.15 | 0.76 |
| 1.40 | 1.40 | 66.96 | 0.55 | 0.62 | 1-S1t | 0.35 | 0.37 | 0.57 | 0.57 | 1.24 | 0.79 |
| 1.50 | 1.50 | 66.98 | 0.58 | 0.64 | 1-S1t | 0.36 | 0.39 | 0.59 | 0.59 | 1.28 | 0.81 |
| 1.80 | 1.80 | 67.06 | 0.66 | 0.72 | 1-S1t | 0.41 | 0.44 | 0.64 | 0.64 | 1.40 | 0.85 |
| 2.00 | 2.00 | 67.11 | 0.71 | 0.77 | 1-S1t | 0.44 | 0.47 | 0.68 | 0.68 | 1.47 | 0.87 |

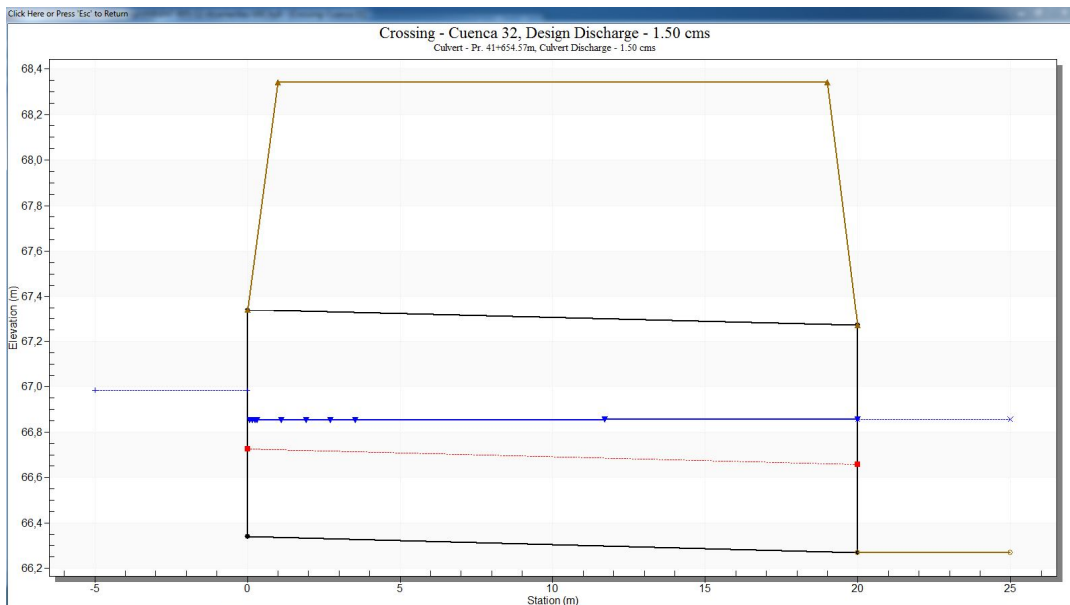
Display: Crossing Summary Table, **Culvert Summary Table** (Pr. 41+654.57m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 66.34 m, Outlet Elevation: 66.27 m, Culvert Length: 20.00 m, Culvert Slope: 0.0035, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, **Culvert Performance Curve**, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 33

Crossing Properties
Name: Cuenca 33

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 1.00 | cms |
| Maximum Flow | 1.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | 1:1 |
| Channel Slope | 0.0005 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 66.01 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 68.02 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 42+665.65m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 42+665.65m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 66.02 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 42+665.65m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 66.02 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.15 | 0.15 | 66.30 | 0.13 | 0.28 | 3-M1t | 0.15 | 0.08 | 0.28 | 0.28 | 0.26 | 0.21 |
| 0.30 | 0.30 | 66.44 | 0.20 | 0.42 | 3-M1t | 0.24 | 0.13 | 0.42 | 0.42 | 0.36 | 0.25 |
| 0.45 | 0.45 | 66.54 | 0.26 | 0.52 | 3-M1t | 0.31 | 0.17 | 0.52 | 0.52 | 0.43 | 0.29 |
| 0.60 | 0.60 | 66.63 | 0.31 | 0.61 | 3-M1t | 0.38 | 0.21 | 0.60 | 0.60 | 0.50 | 0.31 |
| 0.75 | 0.75 | 66.71 | 0.36 | 0.69 | 3-M1t | 0.44 | 0.24 | 0.68 | 0.68 | 0.55 | 0.33 |
| 0.90 | 0.90 | 66.78 | 0.41 | 0.76 | 3-M1t | 0.50 | 0.27 | 0.74 | 0.74 | 0.60 | 0.35 |
| 1.00 | 1.00 | 66.82 | 0.44 | 0.80 | 3-M1t | 0.54 | 0.29 | 0.79 | 0.79 | 0.64 | 0.36 |
| 1.20 | 1.20 | 66.91 | 0.50 | 0.89 | 3-M1t | 0.61 | 0.33 | 0.86 | 0.86 | 0.70 | 0.37 |
| 1.35 | 1.35 | 66.96 | 0.54 | 0.94 | 3-M1t | 0.67 | 0.36 | 0.91 | 0.91 | 0.74 | 0.39 |
| 1.50 | 1.50 | 67.01 | 0.58 | 0.99 | 3-M1t | 0.72 | 0.39 | 0.96 | 0.96 | 0.78 | 0.40 |

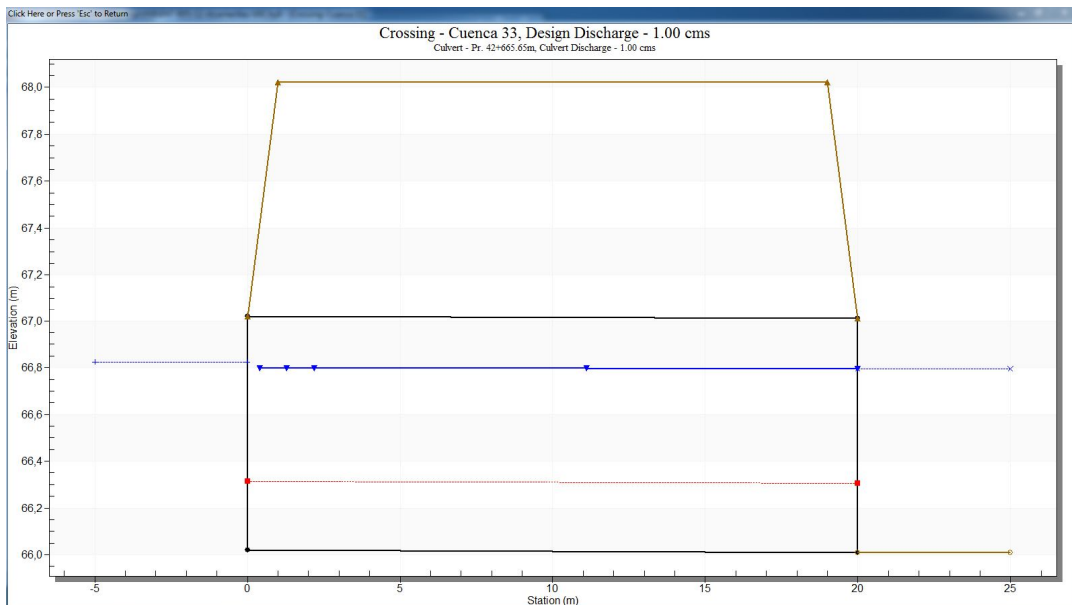
Display
 Crossing Summary Table
 Culvert Summary Table Pr. 42+665.65m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

Geometry
 Inlet Elevation: 66.02 m
 Outlet Elevation: 66.01 m
 Culvert Length: 20.00 m
 Culvert Slope: 0.0005
 Inlet Crest: 0.00 m
 Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 34

Crossing Properties
Name: Cuenca 34

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 1.00 | cms |
| Maximum Flow | 1.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0006 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 65.97 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 67.98 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 43+300.41m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 43+300.41m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 65.98 | m |
| Outlet Station | 20.00 | m |

Buttons: Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 43+300.41m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 65.98 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.15 | 0.15 | 66.25 | 0.13 | 0.27 | 3-M1t | 0.15 | 0.08 | 0.27 | 0.27 | 0.28 | 0.22 |
| 0.30 | 0.30 | 66.38 | 0.20 | 0.40 | 3-M1t | 0.24 | 0.13 | 0.40 | 0.40 | 0.38 | 0.27 |
| 0.45 | 0.45 | 66.48 | 0.26 | 0.50 | 3-M1t | 0.31 | 0.17 | 0.49 | 0.49 | 0.46 | 0.30 |
| 0.60 | 0.60 | 66.57 | 0.31 | 0.59 | 3-M1t | 0.38 | 0.21 | 0.58 | 0.58 | 0.52 | 0.33 |
| 0.75 | 0.75 | 66.64 | 0.36 | 0.66 | 3-M1t | 0.44 | 0.24 | 0.65 | 0.65 | 0.58 | 0.35 |
| 0.90 | 0.90 | 66.71 | 0.41 | 0.73 | 3-M1t | 0.50 | 0.27 | 0.71 | 0.71 | 0.63 | 0.37 |
| 1.00 | 1.00 | 66.75 | 0.44 | 0.77 | 3-M1t | 0.54 | 0.29 | 0.75 | 0.75 | 0.67 | 0.38 |
| 1.20 | 1.20 | 66.83 | 0.50 | 0.85 | 3-M1t | 0.61 | 0.33 | 0.82 | 0.82 | 0.73 | 0.40 |
| 1.35 | 1.35 | 66.88 | 0.54 | 0.90 | 3-M1t | 0.67 | 0.36 | 0.87 | 0.87 | 0.77 | 0.41 |
| 1.50 | 1.50 | 66.94 | 0.58 | 0.96 | 3-M1t | 0.72 | 0.39 | 0.92 | 0.92 | 0.82 | 0.42 |

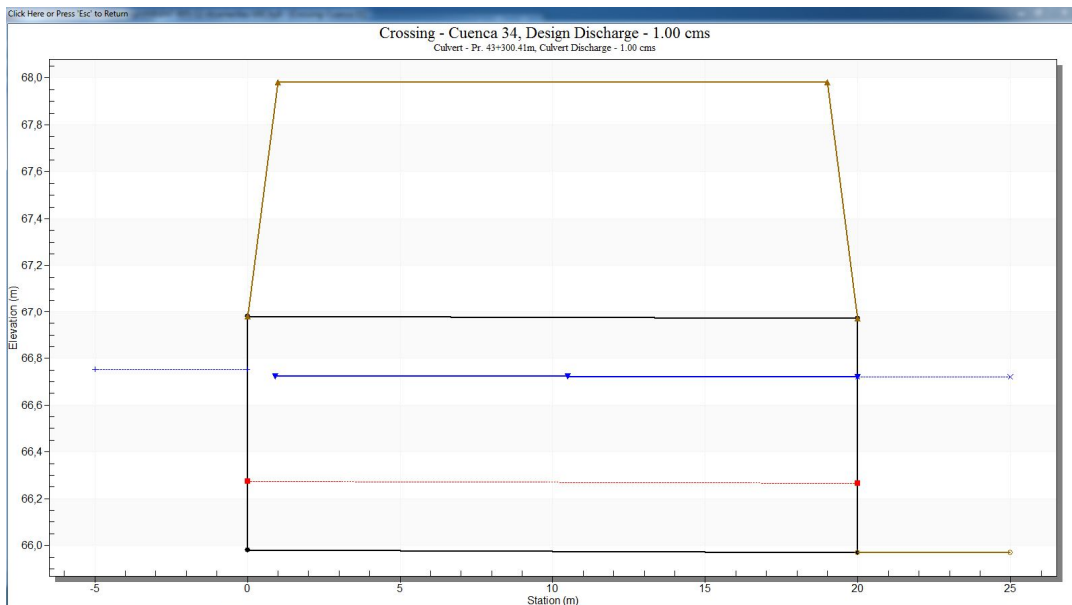
Display: Crossing Summary Table, Culvert Summary Table (Pr. 43+300.41m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 65.98 m, Outlet Elevation: 65.97 m, Culvert Length: 20.00 m, Culvert Slope: 0.0005, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, Culvert Performance Curve, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 35

Crossing Properties
Name: Cuenca 35

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 38.00 | cms |
| Maximum Flow | 39.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 10.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0014 | m/m |
| Manning's n (channel) | 0.0300 | |
| Channel Invert Elevation | 59.05 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 20.00 | m |
| Crest Elevation | 63.07 | m |
| Roadway Surface | Paved | |
| Top Width | 13.80 | m |

Culvert Properties
Pr. 47+213.04m

| Parameter | Value | Units |
|------------------------|----------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 47+213.04m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 10000.00 | mm |
| Rise | 3000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | Square Edge (90°) Headwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 59.07 | m |
| Outlet Station | 15.80 | m |

Buttons: Help, Click on any icon for help on a specific topic, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 47+213.04m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 59.07 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3.90 | 3.90 | 59.60 | 0.44 | 0.53 | 3-M1t | 0.30 | 0.25 | 0.49 | 0.49 | 0.79 | 0.72 |
| 7.80 | 7.80 | 59.88 | 0.68 | 0.81 | 3-M1t | 0.45 | 0.40 | 0.74 | 0.74 | 1.06 | 0.92 |
| 11.70 | 11.70 | 60.11 | 0.89 | 1.04 | 3-M1t | 0.60 | 0.52 | 0.93 | 0.93 | 1.25 | 1.06 |
| 15.60 | 15.60 | 60.31 | 1.08 | 1.24 | 3-M1t | 0.71 | 0.63 | 1.10 | 1.10 | 1.42 | 1.16 |
| 19.50 | 19.50 | 60.49 | 1.25 | 1.42 | 3-M1t | 0.82 | 0.73 | 1.25 | 1.25 | 1.56 | 1.25 |
| 23.40 | 23.40 | 60.66 | 1.42 | 1.59 | 3-M1t | 0.93 | 0.82 | 1.39 | 1.39 | 1.69 | 1.32 |
| 27.30 | 27.30 | 60.82 | 1.56 | 1.75 | 3-M1t | 1.02 | 0.91 | 1.51 | 1.51 | 1.81 | 1.39 |
| 31.20 | 31.20 | 60.97 | 1.70 | 1.90 | 3-M1t | 1.11 | 1.00 | 1.63 | 1.63 | 1.92 | 1.45 |
| 35.10 | 35.10 | 61.11 | 1.84 | 2.04 | 3-M1t | 1.20 | 1.08 | 1.74 | 1.74 | 2.02 | 1.50 |
| 38.00 | 38.00 | 61.21 | 1.93 | 2.14 | 3-M1t | 1.27 | 1.14 | 1.82 | 1.82 | 2.09 | 1.54 |

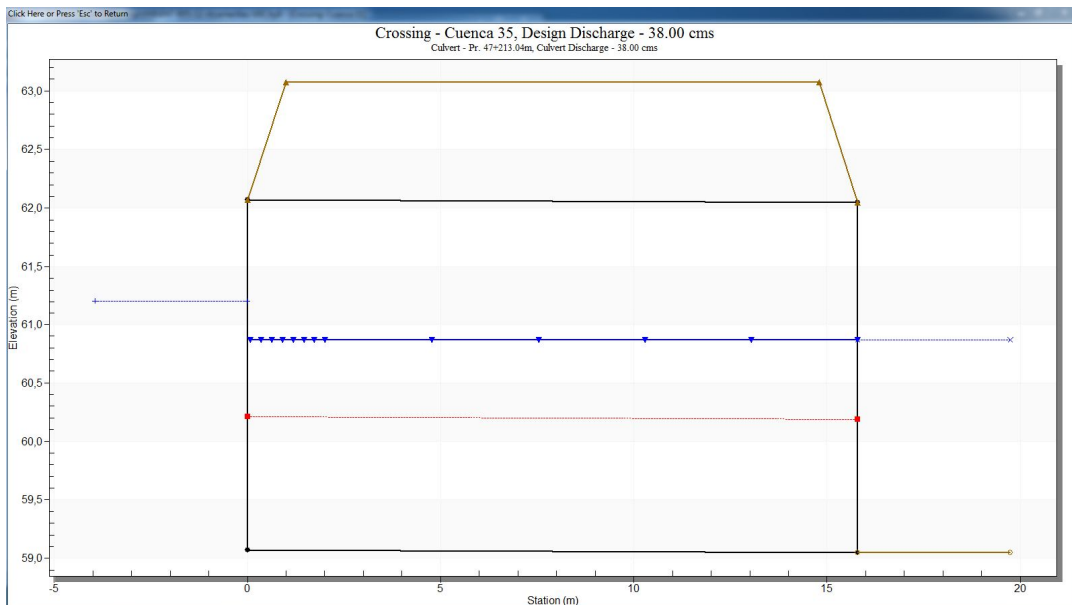
Display: Crossing Summary Table, **Culvert Summary Table** (Pr. 47+213.04m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 59.07 m, Outlet Elevation: 59.05 m, Culvert Length: 15.80 m, Culvert Slope: 0.0013, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, **Culvert Performance Curve**, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 36

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 2.00 | cms |
| Maximum Flow | 2.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 1:1 | |
| Channel Slope | 0.0034 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 64.84 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 66.91 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 45+250.12m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 45+250.12m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 64.91 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 45+250.12m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 64.91 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.25 | 0.25 | 65.08 | 0.17 | 0.0* | 1-S2n | 0.11 | 0.12 | 0.11 | 0.22 | 1.10 | 0.46 |
| 0.50 | 0.50 | 65.22 | 0.28 | 0.31 | 1-S1t | 0.18 | 0.19 | 0.33 | 0.33 | 0.77 | 0.58 |
| 0.75 | 0.75 | 65.32 | 0.36 | 0.41 | 1-S1t | 0.23 | 0.24 | 0.41 | 0.41 | 0.92 | 0.65 |
| 1.00 | 1.00 | 65.41 | 0.44 | 0.50 | 1-S1t | 0.28 | 0.29 | 0.48 | 0.48 | 1.05 | 0.71 |
| 1.25 | 1.25 | 65.48 | 0.51 | 0.57 | 1-S1t | 0.32 | 0.34 | 0.54 | 0.54 | 1.16 | 0.76 |
| 1.50 | 1.50 | 65.56 | 0.58 | 0.65 | 1-S1t | 0.36 | 0.39 | 0.59 | 0.59 | 1.27 | 0.80 |
| 1.75 | 1.75 | 65.62 | 0.65 | 0.71 | 1-S1t | 0.41 | 0.43 | 0.64 | 0.64 | 1.37 | 0.83 |
| 2.00 | 2.00 | 65.69 | 0.71 | 0.78 | 1-S1t | 0.44 | 0.47 | 0.69 | 0.69 | 1.46 | 0.86 |
| 2.25 | 2.25 | 65.75 | 0.77 | 0.84 | 1-S1t | 0.48 | 0.51 | 0.73 | 0.73 | 1.54 | 0.89 |
| 2.50 | 2.50 | 65.81 | 0.83 | 0.90 | 1-S1t | 0.52 | 0.54 | 0.77 | 0.77 | 1.63 | 0.92 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 45+250.12m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 64.91 m

Outlet Elevation: 64.84 m

Culvert Length: 20.00 m

Culvert Slope: 0.0035

Inlet Crest: 0.00 m

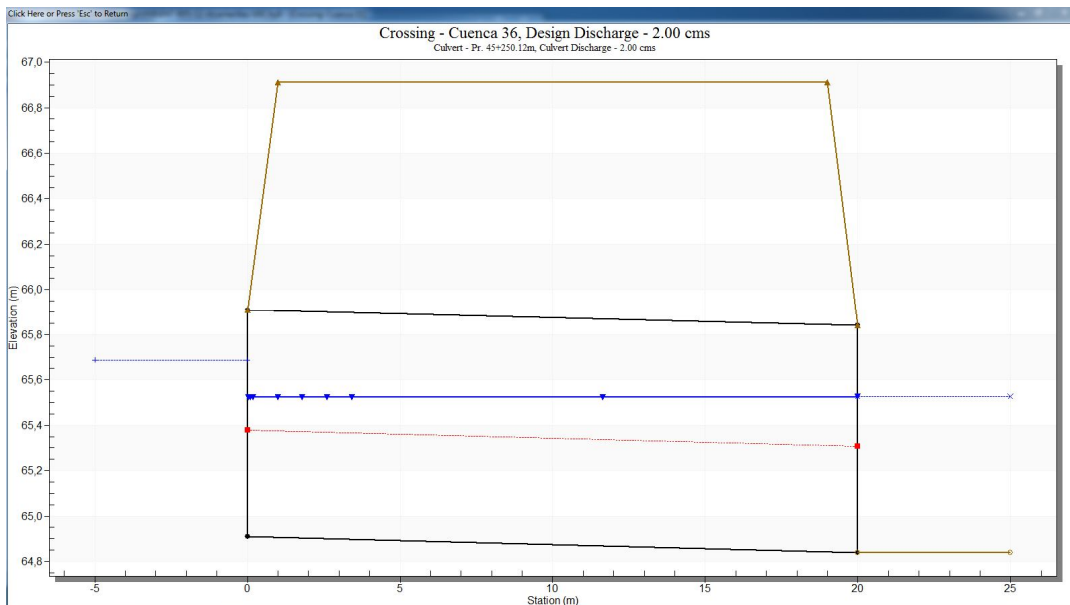
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 37

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 3.50 | cms |
| Maximum Flow | 4.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 1:1 | |
| Channel Slope | 0.0037 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 65.88 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 67.95 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 48+459.02m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 48+459.02m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 65.95 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 48+459.02m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 65.95 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.40 | 0.40 | 66.19 | 0.24 | 0.0* | 1-S2n | 0.15 | 0.16 | 0.16 | 0.28 | 1.27 | 0.56 |
| 0.80 | 0.80 | 66.37 | 0.38 | 0.42 | 1-S1t | 0.24 | 0.25 | 0.41 | 0.41 | 0.97 | 0.69 |
| 1.20 | 1.20 | 66.50 | 0.50 | 0.55 | 1-S1t | 0.31 | 0.33 | 0.51 | 0.51 | 1.17 | 0.77 |
| 1.60 | 1.60 | 66.62 | 0.61 | 0.67 | 1-S1t | 0.38 | 0.40 | 0.60 | 0.60 | 1.34 | 0.84 |
| 2.00 | 2.00 | 66.72 | 0.71 | 0.77 | 1-S1t | 0.44 | 0.47 | 0.67 | 0.67 | 1.49 | 0.89 |
| 2.40 | 2.40 | 66.81 | 0.81 | 0.86 | 1-S1t | 0.50 | 0.53 | 0.74 | 0.74 | 1.63 | 0.94 |
| 2.80 | 2.80 | 66.90 | 0.91 | 0.95 | 1-S1t | 0.56 | 0.59 | 0.80 | 0.80 | 1.76 | 0.98 |
| 3.20 | 3.20 | 66.99 | 1.00 | 1.04 | 5-S1t | 0.62 | 0.64 | 0.85 | 0.85 | 1.88 | 1.01 |
| 3.50 | 3.50 | 67.05 | 1.07 | 1.10 | 5-S1t | 0.66 | 0.68 | 0.89 | 0.89 | 1.96 | 1.04 |
| 4.00 | 4.00 | 67.15 | 1.20 | 1.20 | 5-S1t | 0.72 | 0.74 | 0.95 | 0.95 | 2.10 | 1.08 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 48+459.02m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 65.95 m

Outlet Elevation: 65.88 m

Culvert Length: 20.00 m

Culvert Slope: 0.0035

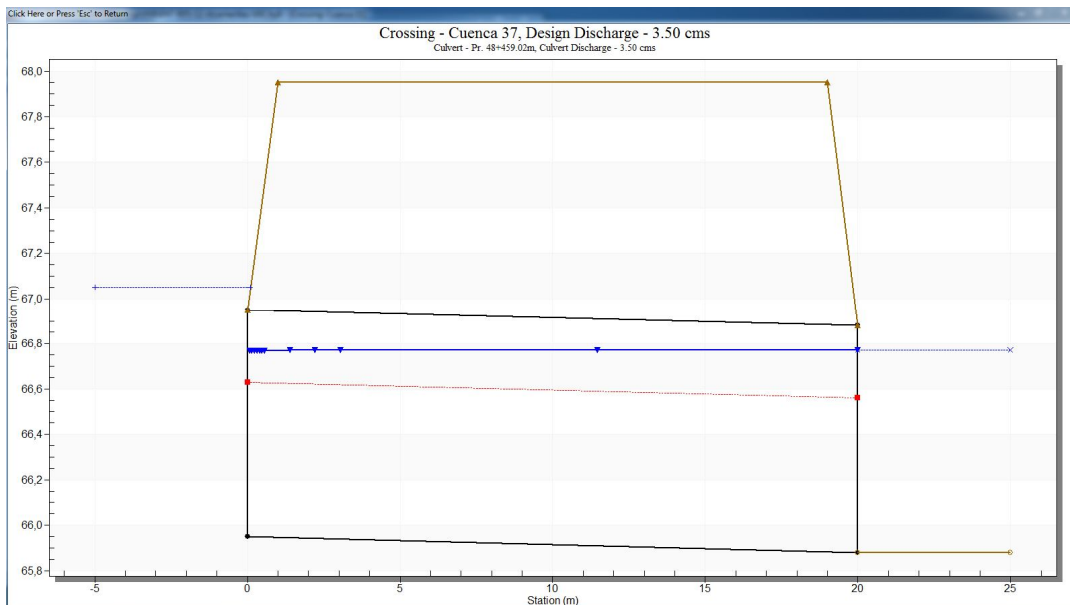
Inlet Crest: 0.00 m

Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 38

Crossing Properties

Name: Cuenca 38

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 14.00 | cms |
| Maximum Flow | 14.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 6.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0112 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 63.07 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 12.00 | m |
| Crest Elevation | 65.79 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 49+193.15m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 49+193.15m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 63.29 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 49+193.15m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 63.29 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1.45 | 1.45 | 63.56 | 0.27 | 0.0* | 1-S2n | 0.11 | 0.18 | 0.12 | 0.24 | 2.06 | 0.95 |
| 2.90 | 2.90 | 63.72 | 0.43 | 0.0* | 1-S2n | 0.18 | 0.29 | 0.18 | 0.35 | 2.62 | 1.22 |
| 4.35 | 4.35 | 63.85 | 0.56 | 0.0* | 1-S2n | 0.24 | 0.38 | 0.26 | 0.45 | 2.75 | 1.40 |
| 5.80 | 5.80 | 63.97 | 0.68 | 0.0* | 1-S2n | 0.29 | 0.46 | 0.32 | 0.53 | 2.98 | 1.55 |
| 7.25 | 7.25 | 64.08 | 0.79 | 0.0* | 1-S2n | 0.34 | 0.53 | 0.38 | 0.60 | 3.15 | 1.67 |
| 8.70 | 8.70 | 64.19 | 0.90 | 0.0* | 1-S2n | 0.38 | 0.60 | 0.44 | 0.67 | 3.31 | 1.77 |
| 10.15 | 10.15 | 64.29 | 1.00 | 0.0* | 1-S2n | 0.43 | 0.66 | 0.49 | 0.73 | 3.44 | 1.86 |
| 11.60 | 11.60 | 64.39 | 1.10 | 0.0* | 1-S2n | 0.47 | 0.73 | 0.54 | 0.79 | 3.56 | 1.94 |
| 13.05 | 13.05 | 64.49 | 1.20 | 0.0* | 1-S2n | 0.51 | 0.79 | 0.59 | 0.84 | 3.67 | 2.01 |
| 14.00 | 14.00 | 64.55 | 1.26 | 0.0* | 1-S2n | 0.54 | 0.82 | 0.62 | 0.88 | 3.74 | 2.06 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 49+193.15m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 63.29 m

Outlet Elevation: 63.07 m

Culvert Length: 20.00 m

Culvert Slope: 0.0110

Inlet Crest: 0.00 m

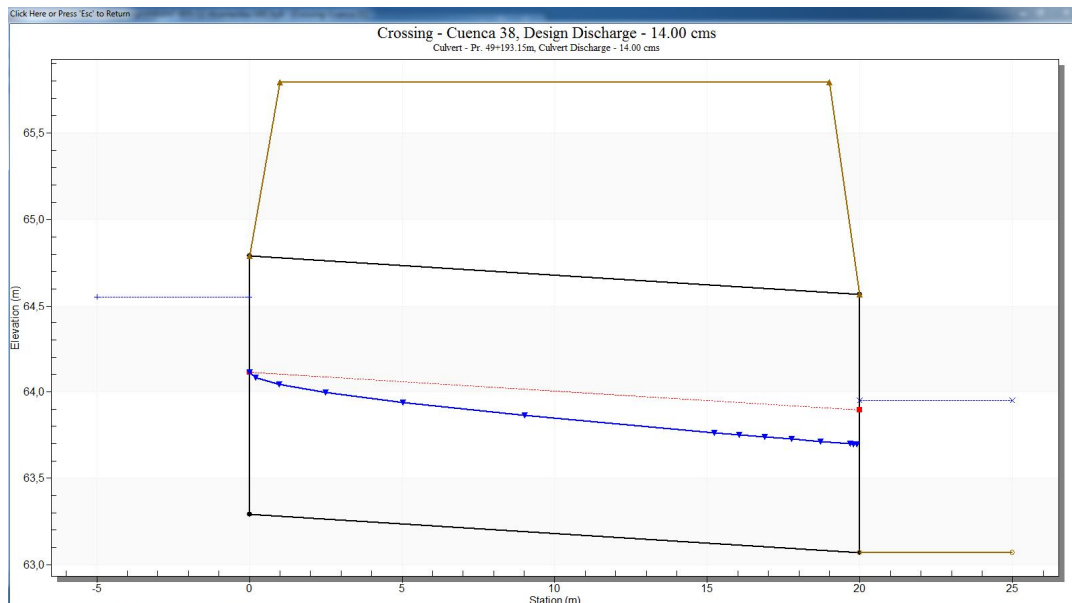
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 39

Crossing Properties

Name: Cuenca 39

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 1.50 | cms |
| Maximum Flow | 2.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 1:1 | |
| Channel Slope | 0.0031 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 66.01 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 68.07 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 50+029.20m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 50+029.20m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 66.07 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 50+029.20m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 66.07 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.20 | 0.20 | 66.24 | 0.15 | 0.17 | 3-M1t | 0.10 | 0.10 | 0.20 | 0.20 | 0.50 | 0.42 |
| 0.40 | 0.40 | 66.35 | 0.24 | 0.28 | 1-S1t | 0.16 | 0.16 | 0.30 | 0.30 | 0.68 | 0.52 |
| 0.60 | 0.60 | 66.44 | 0.31 | 0.37 | 1-S1t | 0.21 | 0.21 | 0.37 | 0.37 | 0.81 | 0.59 |
| 0.80 | 0.80 | 66.51 | 0.38 | 0.44 | 1-S1t | 0.25 | 0.25 | 0.43 | 0.43 | 0.92 | 0.64 |
| 1.00 | 1.00 | 66.58 | 0.44 | 0.51 | 1-S1t | 0.29 | 0.29 | 0.49 | 0.49 | 1.02 | 0.69 |
| 1.20 | 1.20 | 66.65 | 0.50 | 0.58 | 1-S1t | 0.33 | 0.33 | 0.54 | 0.54 | 1.11 | 0.72 |
| 1.40 | 1.40 | 66.70 | 0.55 | 0.63 | 1-S1t | 0.37 | 0.37 | 0.58 | 0.58 | 1.20 | 0.76 |
| 1.50 | 1.50 | 66.73 | 0.58 | 0.66 | 1-S1t | 0.38 | 0.39 | 0.61 | 0.61 | 1.24 | 0.77 |
| 1.80 | 1.80 | 66.81 | 0.66 | 0.74 | 1-S1t | 0.43 | 0.44 | 0.67 | 0.67 | 1.35 | 0.81 |
| 2.00 | 2.00 | 66.86 | 0.71 | 0.79 | 1-S1t | 0.47 | 0.47 | 0.70 | 0.70 | 1.42 | 0.84 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 50+029.20m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 66.07 m

Outlet Elevation: 66.01 m

Culvert Length: 20.00 m

Culvert Slope: 0.0030

Inlet Crest: 0.00 m

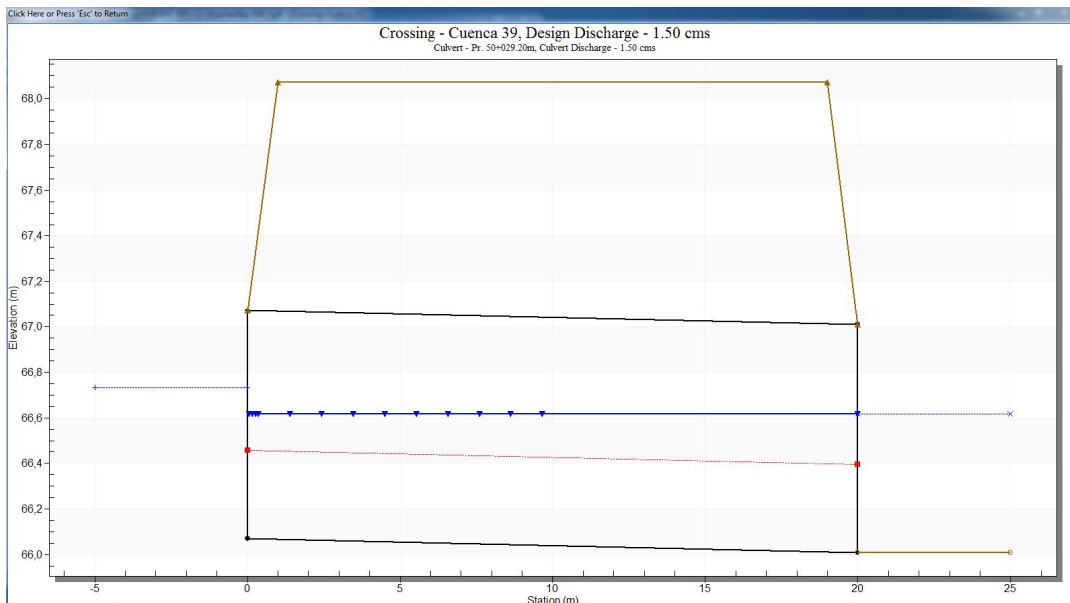
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 40

Crossing Properties

Name: Cuenca 40

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 6.00 | cms |
| Maximum Flow | 6.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 8.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0005 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 67.01 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 16.00 | m |
| Crest Elevation | 69.52 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 50+609.14m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 50+609.14m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 67.02 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 50+609.14m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 67.02 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.65 | 0.65 | 67.33 | 0.14 | 0.31 | 3-M1t | 0.16 | 0.09 | 0.31 | 0.31 | 0.26 | 0.24 |
| 1.30 | 1.30 | 67.49 | 0.21 | 0.47 | 3-M1t | 0.25 | 0.14 | 0.47 | 0.47 | 0.35 | 0.31 |
| 1.95 | 1.95 | 67.62 | 0.27 | 0.60 | 3-M1t | 0.33 | 0.18 | 0.59 | 0.59 | 0.41 | 0.36 |
| 2.60 | 2.60 | 67.73 | 0.33 | 0.71 | 3-M1t | 0.40 | 0.22 | 0.70 | 0.70 | 0.46 | 0.39 |
| 3.25 | 3.25 | 67.83 | 0.38 | 0.81 | 3-M1t | 0.47 | 0.26 | 0.80 | 0.80 | 0.51 | 0.42 |
| 3.90 | 3.90 | 67.92 | 0.43 | 0.90 | 3-M1t | 0.53 | 0.29 | 0.89 | 0.89 | 0.55 | 0.45 |
| 4.55 | 4.55 | 68.00 | 0.48 | 0.98 | 3-M1t | 0.59 | 0.32 | 0.97 | 0.97 | 0.59 | 0.47 |
| 5.20 | 5.20 | 68.08 | 0.52 | 1.06 | 3-M1t | 0.65 | 0.35 | 1.04 | 1.04 | 0.62 | 0.49 |
| 5.85 | 5.85 | 68.15 | 0.57 | 1.13 | 3-M1t | 0.70 | 0.38 | 1.12 | 1.12 | 0.66 | 0.51 |
| 6.00 | 6.00 | 68.17 | 0.58 | 1.15 | 3-M1t | 0.72 | 0.39 | 1.13 | 1.13 | 0.66 | 0.52 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 50+609.14m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

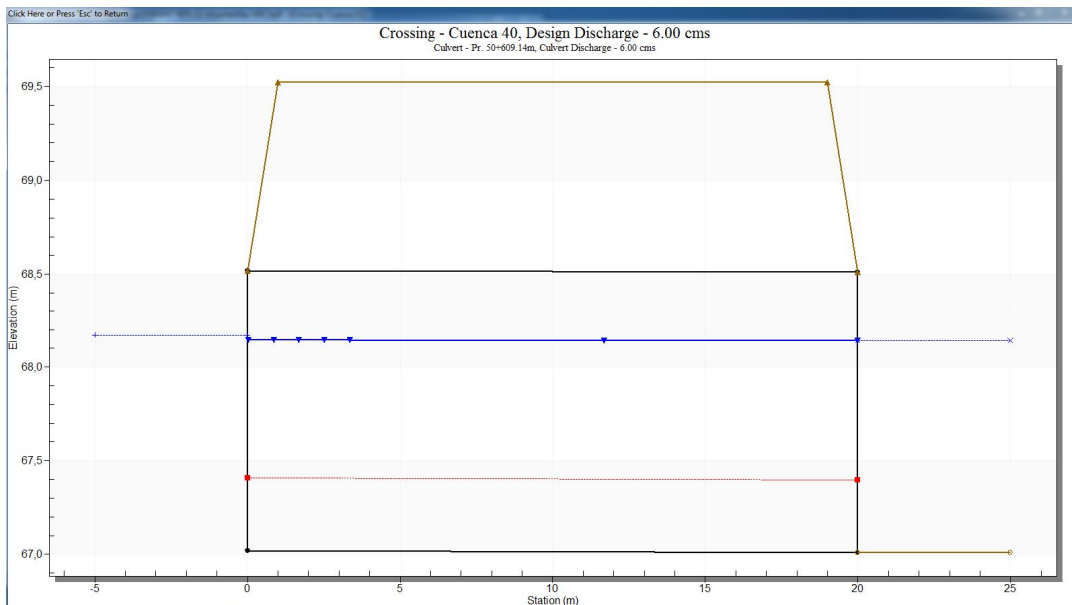
Geometry

Inlet Elevation: 67.02 m
 Outlet Elevation: 67.01 m
 Culvert Length: 20.00 m
 Culvert Slope: 0.0005
 Inlet Crest: 0.00 m
 Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 42

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 3.50 | cms |
| Maximum Flow | 4.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0005 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 67.84 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 70.35 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 51+322.79m

Parameter Value Units

CULVERT DATA

Name Pr. 51+322.79m

Shape Concrete Box

Material Concrete

Span 2000.00 mm

Rise 1500.00 mm

Embedment Depth 0.00 mm

Manning's n 0.0120

Inlet Type Conventional

Inlet Edge Condition 1:1 Bevel (45° flare) Wingwall

Inlet Depression? No

SITE DATA

Site Data Input Option Culvert Invert Data

Inlet Station 0.00 m

Inlet Elevation 67.85 m

Outlet Station 20.00 m

Buttons: Add Culvert, Duplicate Culvert, Delete Culvert, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 51+322.79m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 67.85 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.40 | 0.40 | 68.34 | 0.24 | 0.49 | 3-M1t | 0.29 | 0.16 | 0.49 | 0.49 | 0.41 | 0.28 |
| 0.80 | 0.80 | 68.56 | 0.38 | 0.71 | 3-M1t | 0.46 | 0.25 | 0.70 | 0.70 | 0.57 | 0.34 |
| 1.20 | 1.20 | 68.74 | 0.50 | 0.89 | 3-M1t | 0.61 | 0.33 | 0.86 | 0.86 | 0.70 | 0.37 |
| 1.60 | 1.60 | 68.88 | 0.60 | 1.03 | 3-M1t | 0.75 | 0.40 | 0.99 | 0.99 | 0.81 | 0.40 |
| 2.00 | 2.00 | 69.00 | 0.70 | 1.15 | 3-M1t | 0.89 | 0.47 | 1.11 | 1.11 | 0.90 | 0.43 |
| 2.40 | 2.40 | 69.12 | 0.79 | 1.27 | 3-M1t | 1.01 | 0.53 | 1.21 | 1.21 | 0.99 | 0.45 |
| 2.80 | 2.80 | 69.22 | 0.88 | 1.37 | 3-M1t | 1.14 | 0.59 | 1.30 | 1.30 | 1.08 | 0.47 |
| 3.20 | 3.20 | 69.31 | 0.97 | 1.46 | 3-M1t | 1.26 | 0.64 | 1.39 | 1.39 | 1.16 | 0.48 |
| 3.50 | 3.50 | 69.38 | 1.03 | 1.53 | 3-M2t | 1.50 | 0.68 | 1.44 | 1.44 | 1.21 | 0.50 |
| 4.00 | 4.00 | 69.50 | 1.14 | 1.65 | 4-FFF | 1.50 | 0.74 | 1.50 | 1.54 | 1.33 | 0.51 |

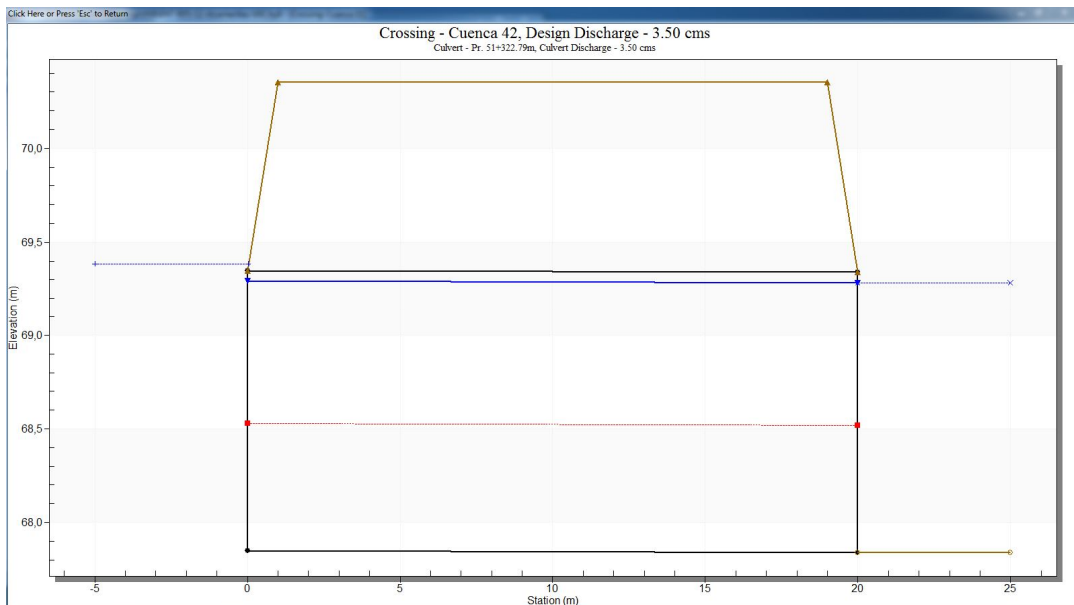
Display: Crossing Summary Table, Culvert Summary Table (Pr. 51+322.79m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 67.85 m, Outlet Elevation: 67.84 m, Culvert Length: 20.00 m, Culvert Slope: 0.0005, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, Culvert Performance Curve, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 43

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 1.50 | cms |
| Maximum Flow | 2.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0016 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 66.62 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 68.65 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 52+212.42m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 52+212.42m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 66.65 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 52+212.42m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 66.65 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.20 | 0.20 | 66.88 | 0.15 | 0.23 | 3-M1t | 0.13 | 0.10 | 0.24 | 0.24 | 0.42 | 0.34 |
| 0.40 | 0.40 | 67.00 | 0.24 | 0.35 | 3-M1t | 0.20 | 0.16 | 0.35 | 0.35 | 0.56 | 0.42 |
| 0.60 | 0.60 | 67.10 | 0.31 | 0.45 | 3-M1t | 0.26 | 0.21 | 0.44 | 0.44 | 0.68 | 0.47 |
| 0.80 | 0.80 | 67.18 | 0.38 | 0.53 | 3-M1t | 0.32 | 0.25 | 0.52 | 0.52 | 0.77 | 0.51 |
| 1.00 | 1.00 | 67.26 | 0.44 | 0.61 | 3-M1t | 0.37 | 0.29 | 0.58 | 0.58 | 0.86 | 0.54 |
| 1.20 | 1.20 | 67.32 | 0.50 | 0.67 | 3-M1t | 0.42 | 0.33 | 0.64 | 0.64 | 0.94 | 0.57 |
| 1.40 | 1.40 | 67.39 | 0.55 | 0.74 | 3-M1t | 0.46 | 0.37 | 0.69 | 0.69 | 1.01 | 0.60 |
| 1.50 | 1.50 | 67.42 | 0.58 | 0.77 | 3-M1t | 0.49 | 0.39 | 0.72 | 0.72 | 1.04 | 0.61 |
| 1.80 | 1.80 | 67.50 | 0.66 | 0.85 | 3-M1t | 0.55 | 0.44 | 0.79 | 0.79 | 1.14 | 0.64 |
| 2.00 | 2.00 | 67.55 | 0.71 | 0.90 | 3-M1t | 0.60 | 0.47 | 0.83 | 0.83 | 1.20 | 0.66 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 52+212.42m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 66.65 m

Outlet Elevation: 66.62 m

Culvert Length: 20.00 m

Culvert Slope: 0.0015

Inlet Crest: 0.00 m

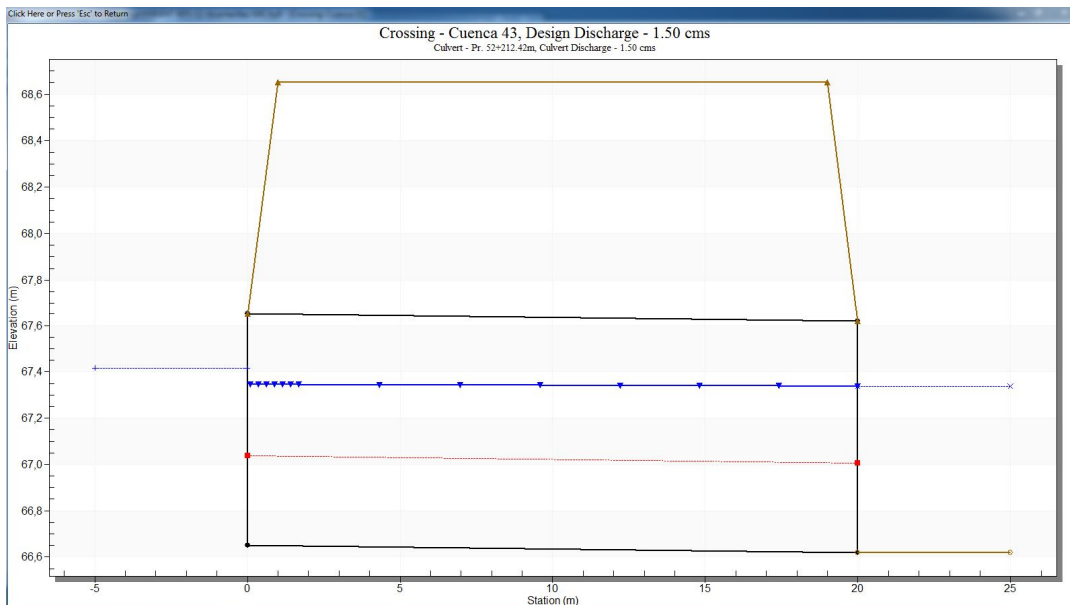
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Window: Crossing Data - Cuenca 44

Crossing Properties

Name: Cuenca 44

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 24.00 | cms |
| Maximum Flow | 24.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 10.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0018 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 62.67 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 20.00 | m |
| Crest Elevation | 66.70 | m |
| Roadway Surface | Paved | |
| Top Width | 13.80 | m |

Culvert Properties

Pr. 52+982.31m

Buttons: Add Culvert, Duplicate Culvert, Delete Culvert

| Parameter | Value | Units |
|------------------------|----------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 52+982.31m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 10000.00 | mm |
| Rise | 3000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | Square Edge (90°) Headwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 62.70 | m |
| Outlet Station | 15.80 | m |

Buttons: Energy Dissipation, Analyze Crossing, OK, Cancel

Window: Culvert Summary Table - Pr. 52+982.31m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 62.70 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2.45 | 2.45 | 63.11 | 0.36 | 0.41 | 1-S1t | 0.16 | 0.18 | 0.41 | 0.41 | 0.60 | 0.55 |
| 4.90 | 4.90 | 63.34 | 0.50 | 0.64 | 3-M1t | 0.31 | 0.29 | 0.62 | 0.62 | 0.79 | 0.71 |
| 7.35 | 7.35 | 63.53 | 0.66 | 0.83 | 3-M1t | 0.38 | 0.38 | 0.78 | 0.78 | 0.94 | 0.81 |
| 9.80 | 9.80 | 63.69 | 0.80 | 0.99 | 1-S1t | 0.46 | 0.46 | 0.92 | 0.92 | 1.06 | 0.89 |
| 12.25 | 12.25 | 63.83 | 0.92 | 1.13 | 1-S1t | 0.53 | 0.54 | 1.05 | 1.05 | 1.17 | 0.96 |
| 14.70 | 14.70 | 63.96 | 1.04 | 1.26 | 3-M1t | 0.61 | 0.61 | 1.17 | 1.17 | 1.26 | 1.02 |
| 17.15 | 17.15 | 64.09 | 1.15 | 1.39 | 1-S1t | 0.66 | 0.67 | 1.27 | 1.27 | 1.35 | 1.07 |
| 19.60 | 19.60 | 64.21 | 1.26 | 1.51 | 1-S1t | 0.72 | 0.73 | 1.37 | 1.37 | 1.43 | 1.12 |
| 22.05 | 22.05 | 64.32 | 1.36 | 1.62 | 1-S1t | 0.78 | 0.79 | 1.47 | 1.47 | 1.50 | 1.16 |
| 24.00 | 24.00 | 64.40 | 1.44 | 1.70 | 1-S1t | 0.82 | 0.84 | 1.54 | 1.54 | 1.56 | 1.19 |

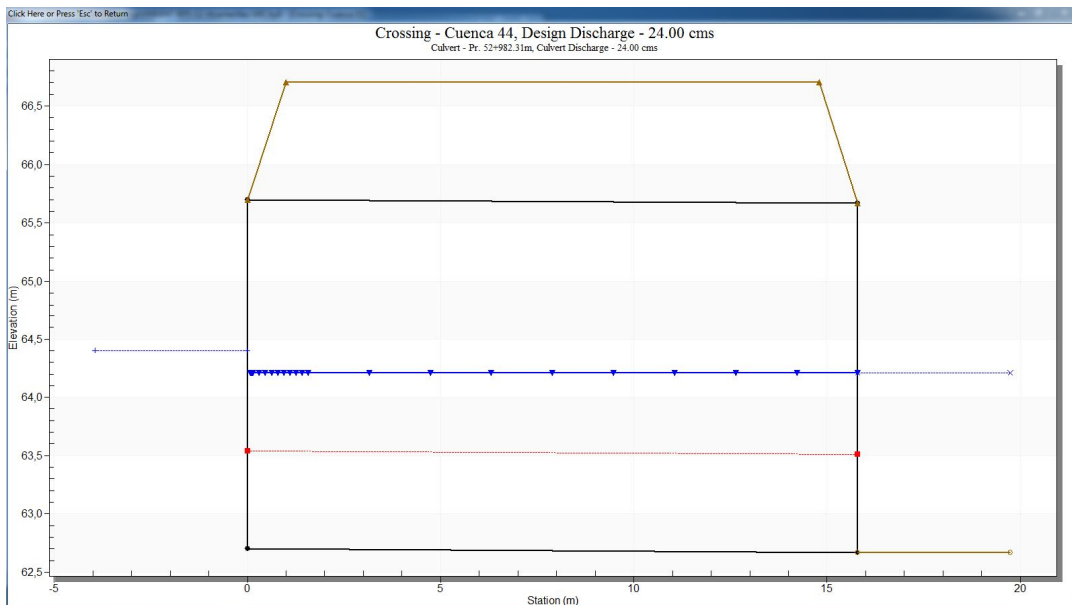
Display: Crossing Summary Table, Culvert Summary Table (Pr. 52+982.31m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 62.70 m, Outlet Elevation: 62.67 m, Culvert Length: 15.80 m, Culvert Slope: 0.0019, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, Culvert Performance Curve, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 45

Crossing Properties
Name: Cuenca 45

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 7.00 | cms |
| Maximum Flow | 7.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0021 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 68.14 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 70.66 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 54+384.05m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 54+384.05m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 68.16 | m |
| Outlet Station | 20.00 | m |

Buttons: Help, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 54+384.05m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 68.16 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.75 | 0.75 | 68.50 | 0.23 | 0.34 | 3-M1t | 0.22 | 0.15 | 0.33 | 0.33 | 0.57 | 0.49 |
| 1.50 | 1.50 | 68.67 | 0.36 | 0.51 | 3-M1t | 0.35 | 0.24 | 0.49 | 0.49 | 0.77 | 0.62 |
| 2.25 | 2.25 | 68.82 | 0.48 | 0.66 | 3-M1t | 0.46 | 0.32 | 0.62 | 0.62 | 0.91 | 0.70 |
| 3.00 | 3.00 | 68.94 | 0.58 | 0.78 | 3-M1t | 0.56 | 0.39 | 0.72 | 0.72 | 1.04 | 0.76 |
| 3.75 | 3.75 | 69.05 | 0.67 | 0.89 | 3-M1t | 0.66 | 0.45 | 0.82 | 0.82 | 1.15 | 0.82 |
| 4.50 | 4.50 | 69.15 | 0.75 | 0.99 | 3-M1t | 0.75 | 0.51 | 0.90 | 0.90 | 1.25 | 0.86 |
| 5.25 | 5.25 | 69.24 | 0.84 | 1.08 | 3-M1t | 0.84 | 0.56 | 0.98 | 0.98 | 1.34 | 0.90 |
| 6.00 | 6.00 | 69.33 | 0.93 | 1.17 | 3-M1t | 0.93 | 0.61 | 1.05 | 1.05 | 1.43 | 0.94 |
| 6.75 | 6.75 | 69.41 | 1.01 | 1.25 | 3-M1t | 1.01 | 0.66 | 1.12 | 1.12 | 1.51 | 0.97 |
| 7.00 | 7.00 | 69.44 | 1.03 | 1.28 | 3-M1t | 1.04 | 0.68 | 1.14 | 1.14 | 1.53 | 0.98 |

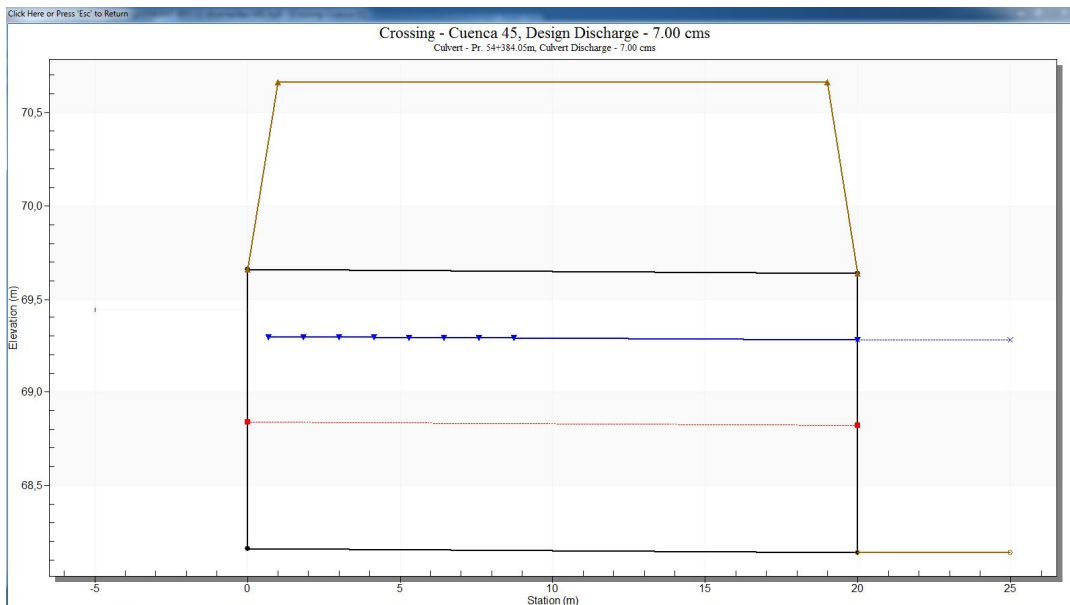
Display: Crossing Summary Table, **Culvert Summary Table** (Pr. 54+384.05m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 68.16 m, Outlet Elevation: 68.14 m, Culvert Length: 20.00 m, Culvert Slope: 0.0010, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, **Culvert Performance Curve**, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 46

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 1.50 | cms |
| Maximum Flow | 2.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 1:1 | |
| Channel Slope | 0.0014 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 69.65 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 71.68 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 55+612.86m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 55+612.86m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 69.68 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 55+612.86m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 69.68 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.20 | 0.20 | 69.92 | 0.15 | 0.24 | 3-M1t | 0.13 | 0.10 | 0.25 | 0.25 | 0.40 | 0.32 |
| 0.40 | 0.40 | 70.04 | 0.24 | 0.36 | 3-M1t | 0.20 | 0.16 | 0.37 | 0.37 | 0.54 | 0.40 |
| 0.60 | 0.60 | 70.14 | 0.31 | 0.46 | 3-M1t | 0.26 | 0.21 | 0.46 | 0.46 | 0.65 | 0.45 |
| 0.80 | 0.80 | 70.23 | 0.38 | 0.55 | 3-M1t | 0.32 | 0.25 | 0.54 | 0.54 | 0.75 | 0.49 |
| 1.00 | 1.00 | 70.30 | 0.44 | 0.62 | 3-M1t | 0.37 | 0.29 | 0.60 | 0.60 | 0.83 | 0.52 |
| 1.20 | 1.20 | 70.37 | 0.50 | 0.69 | 3-M1t | 0.42 | 0.33 | 0.66 | 0.66 | 0.91 | 0.54 |
| 1.40 | 1.40 | 70.44 | 0.55 | 0.76 | 3-M1t | 0.46 | 0.37 | 0.72 | 0.72 | 0.98 | 0.57 |
| 1.50 | 1.50 | 70.47 | 0.58 | 0.79 | 3-M1t | 0.49 | 0.39 | 0.74 | 0.74 | 1.01 | 0.58 |
| 1.80 | 1.80 | 70.55 | 0.66 | 0.87 | 3-M1t | 0.55 | 0.44 | 0.82 | 0.82 | 1.10 | 0.61 |
| 2.00 | 2.00 | 70.60 | 0.71 | 0.92 | 3-M1t | 0.60 | 0.47 | 0.86 | 0.86 | 1.16 | 0.63 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 55+612.86m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

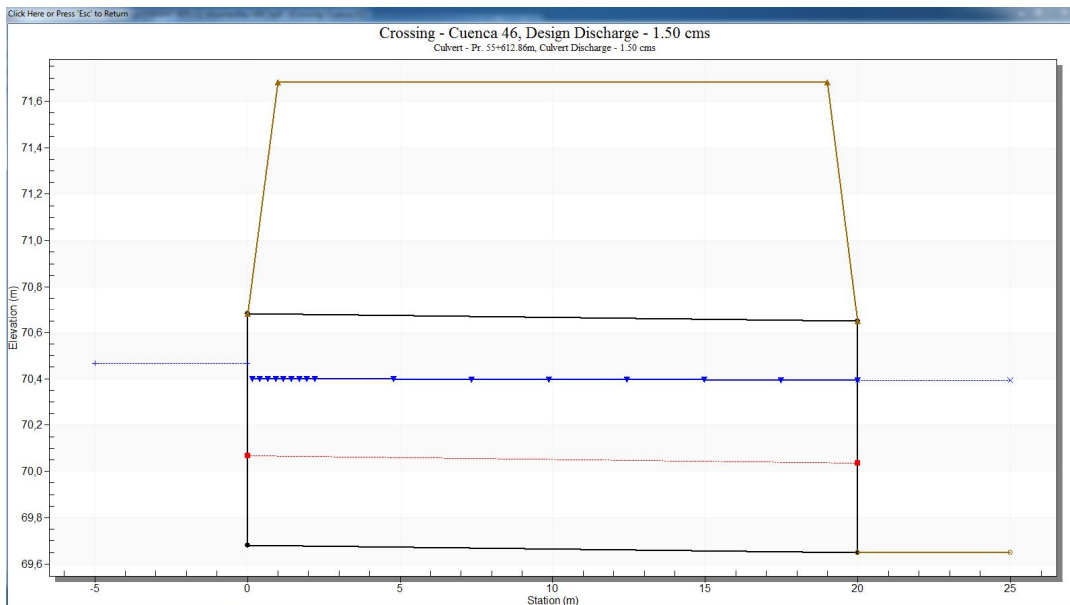
Geometry

Inlet Elevation: 69.68 m
 Outlet Elevation: 69.65 m
 Culvert Length: 20.00 m
 Culvert Slope: 0.0015
 Inlet Crest: 0.00 m
 Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 47

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 2.00 | cms |
| Maximum Flow | 2.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 1:1 | |
| Channel Slope | 0.0043 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 66.18 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 68.27 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 56+959.24m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 56+959.24m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 66.27 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 56+959.24m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 66.27 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.25 | 0.25 | 66.44 | 0.17 | 0.0* | 1-S2n | 0.11 | 0.12 | 0.11 | 0.21 | 1.16 | 0.50 |
| 0.50 | 0.50 | 66.55 | 0.28 | 0.0* | 1-S2n | 0.16 | 0.19 | 0.16 | 0.31 | 1.55 | 0.63 |
| 0.75 | 0.75 | 66.63 | 0.36 | 0.0* | 1-S2n | 0.21 | 0.24 | 0.21 | 0.38 | 1.76 | 0.71 |
| 1.00 | 1.00 | 66.71 | 0.44 | 0.0* | 1-S2n | 0.25 | 0.29 | 0.26 | 0.45 | 1.96 | 0.77 |
| 1.25 | 1.25 | 66.82 | 0.51 | 0.55 | 1-S1t | 0.30 | 0.34 | 0.50 | 0.50 | 1.24 | 0.82 |
| 1.50 | 1.50 | 66.89 | 0.58 | 0.62 | 1-S1t | 0.33 | 0.39 | 0.56 | 0.56 | 1.35 | 0.87 |
| 1.75 | 1.75 | 66.95 | 0.65 | 0.68 | 1-S1t | 0.37 | 0.43 | 0.60 | 0.60 | 1.45 | 0.91 |
| 2.00 | 2.00 | 67.02 | 0.71 | 0.75 | 1-S1t | 0.41 | 0.47 | 0.65 | 0.65 | 1.55 | 0.94 |
| 2.25 | 2.25 | 67.09 | 0.77 | 0.82 | 1-S1t | 0.44 | 0.51 | 0.69 | 0.69 | 1.64 | 0.97 |
| 2.50 | 2.50 | 67.10 | 0.83 | 0.0* | 1-S2n | 0.47 | 0.54 | 0.48 | 0.72 | 2.63 | 1.00 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 56+959.24m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 66.27 m

Outlet Elevation: 66.18 m

Culvert Length: 20.00 m

Culvert Slope: 0.0045

Inlet Crest: 0.00 m

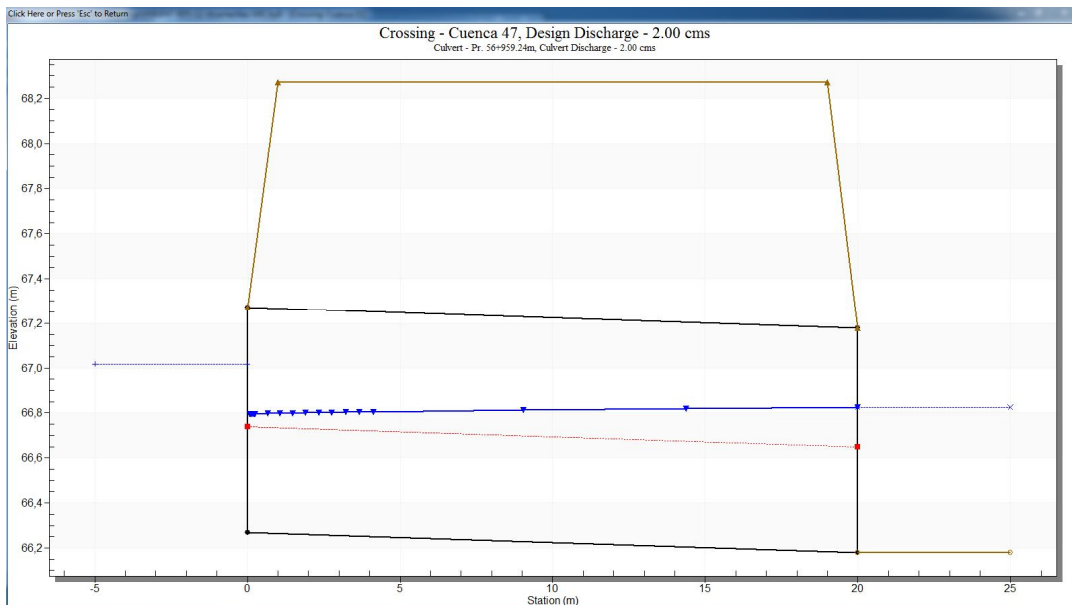
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 48

Crossing Properties

Name: Cuenca 48

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 6.00 | cms |
| Maximum Flow | 6.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0020 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 67.18 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 69.71 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 58+000.00m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 58+000.00m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 67.21 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 58+000.00m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 67.21 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.65 | 0.65 | 67.51 | 0.21 | 0.30 | 3-M1t | 0.17 | 0.14 | 0.31 | 0.31 | 0.53 | 0.46 |
| 1.30 | 1.30 | 67.68 | 0.33 | 0.47 | 3-M1t | 0.28 | 0.22 | 0.46 | 0.46 | 0.71 | 0.58 |
| 1.95 | 1.95 | 67.81 | 0.43 | 0.60 | 3-M1t | 0.36 | 0.29 | 0.58 | 0.58 | 0.85 | 0.66 |
| 2.60 | 2.60 | 67.92 | 0.52 | 0.71 | 3-M1t | 0.44 | 0.35 | 0.68 | 0.68 | 0.96 | 0.72 |
| 3.25 | 3.25 | 68.02 | 0.61 | 0.81 | 3-M1t | 0.51 | 0.41 | 0.76 | 0.76 | 1.06 | 0.77 |
| 3.90 | 3.90 | 68.12 | 0.69 | 0.91 | 3-M1t | 0.59 | 0.46 | 0.84 | 0.84 | 1.15 | 0.81 |
| 4.55 | 4.55 | 68.21 | 0.76 | 1.00 | 3-M1t | 0.65 | 0.51 | 0.92 | 0.92 | 1.24 | 0.85 |
| 5.20 | 5.20 | 68.29 | 0.84 | 1.08 | 3-M1t | 0.72 | 0.56 | 0.99 | 0.99 | 1.32 | 0.88 |
| 5.85 | 5.85 | 68.36 | 0.91 | 1.15 | 3-M1t | 0.78 | 0.60 | 1.05 | 1.05 | 1.39 | 0.91 |
| 6.00 | 6.00 | 68.38 | 0.92 | 1.17 | 3-M1t | 0.80 | 0.61 | 1.07 | 1.07 | 1.41 | 0.92 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 58+000.00m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 67.21 m

Outlet Elevation: 67.18 m

Culvert Length: 20.00 m

Culvert Slope: 0.0015

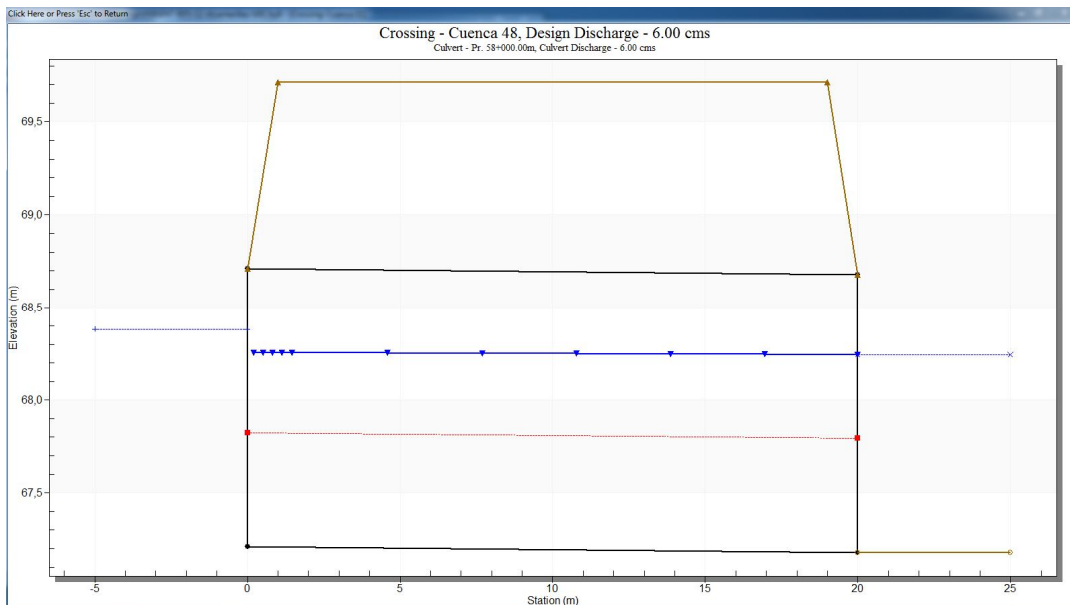
Inlet Crest: 0.00 m

Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 49

Crossing Properties

Name: Cuenca 49

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 20.50 | cms |
| Maximum Flow | 21.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 8.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0107 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 65.88 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 16.00 | m |
| Crest Elevation | 68.47 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 59+579.33m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 59+579.33m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 65.97 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 59+579.33m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 65.97 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2.10 | 2.10 | 66.26 | 0.29 | 0.0* | 1-S2n | 0.17 | 0.19 | 0.17 | 0.25 | 1.57 | 0.98 |
| 4.20 | 4.20 | 66.42 | 0.45 | 0.0* | 1-S2n | 0.26 | 0.30 | 0.26 | 0.38 | 2.00 | 1.27 |
| 6.30 | 6.30 | 66.56 | 0.59 | 0.0* | 1-S2n | 0.34 | 0.40 | 0.35 | 0.48 | 2.27 | 1.46 |
| 8.40 | 8.40 | 66.69 | 0.72 | 0.0* | 1-S2n | 0.42 | 0.48 | 0.43 | 0.57 | 2.45 | 1.61 |
| 10.50 | 10.50 | 66.81 | 0.84 | 0.0* | 1-S2n | 0.49 | 0.56 | 0.49 | 0.65 | 2.67 | 1.74 |
| 12.60 | 12.60 | 66.92 | 0.95 | 0.0* | 1-S2n | 0.56 | 0.63 | 0.56 | 0.72 | 2.82 | 1.85 |
| 14.70 | 14.70 | 67.04 | 1.07 | 0.0* | 1-S2n | 0.62 | 0.70 | 0.62 | 0.79 | 2.95 | 1.95 |
| 16.80 | 16.80 | 67.14 | 1.17 | 0.0* | 1-S2n | 0.68 | 0.77 | 0.68 | 0.85 | 3.07 | 2.04 |
| 18.90 | 18.90 | 67.25 | 1.28 | 0.0* | 1-S2n | 0.74 | 0.83 | 0.75 | 0.91 | 3.17 | 2.12 |
| 20.50 | 20.50 | 67.33 | 1.36 | 0.0* | 1-S2n | 0.79 | 0.88 | 0.79 | 0.95 | 3.24 | 2.17 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 59+579.33m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 65.97 m

Outlet Elevation: 65.88 m

Culvert Length: 20.00 m

Culvert Slope: 0.0045

Inlet Crest: 0.00 m

Inlet Throat: 0.00 m

Plot

Crossing Rating Curve

Culvert Performance Curve

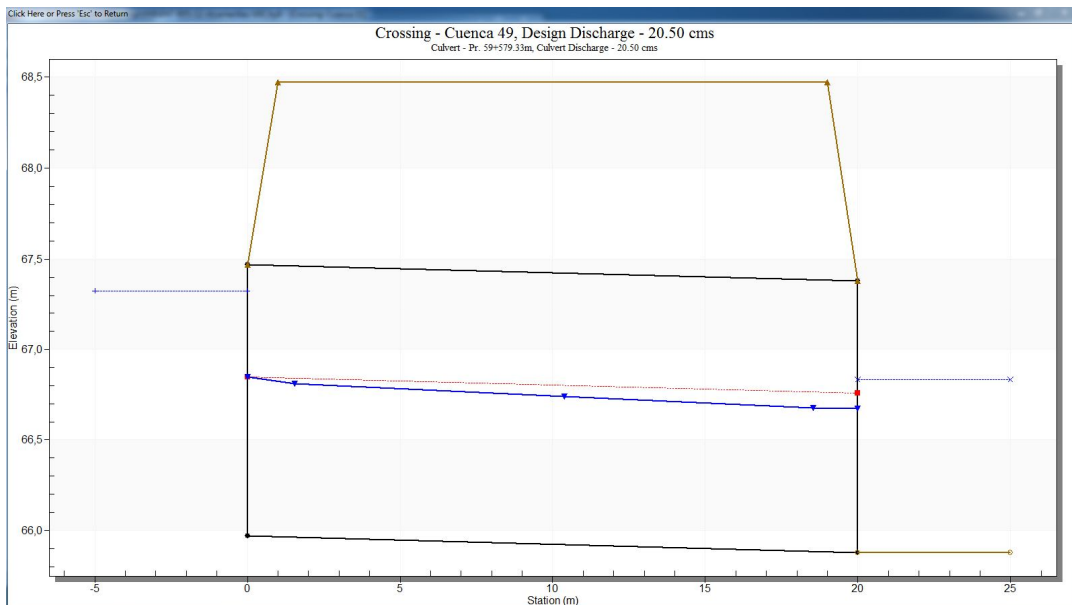
Selected Water Profile

Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 50

Crossing Properties

Name: Cuenca 50

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 1.50 | cms |
| Maximum Flow | 2.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 1:1 | |
| Channel Slope | 0.0014 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 68.94 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 70.97 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 61+014.83m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 61+014.83m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 68.97 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 61+014.83m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 68.97 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.20 | 0.20 | 69.21 | 0.15 | 0.24 | 3-M1t | 0.13 | 0.10 | 0.25 | 0.25 | 0.40 | 0.32 |
| 0.40 | 0.40 | 69.33 | 0.24 | 0.36 | 3-M1t | 0.20 | 0.16 | 0.37 | 0.37 | 0.54 | 0.40 |
| 0.60 | 0.60 | 69.43 | 0.31 | 0.46 | 3-M1t | 0.26 | 0.21 | 0.46 | 0.46 | 0.65 | 0.45 |
| 0.80 | 0.80 | 69.52 | 0.38 | 0.55 | 3-M1t | 0.32 | 0.25 | 0.54 | 0.54 | 0.75 | 0.49 |
| 1.00 | 1.00 | 69.59 | 0.44 | 0.62 | 3-M1t | 0.37 | 0.29 | 0.60 | 0.60 | 0.83 | 0.52 |
| 1.20 | 1.20 | 69.66 | 0.50 | 0.69 | 3-M1t | 0.42 | 0.33 | 0.66 | 0.66 | 0.91 | 0.54 |
| 1.40 | 1.40 | 69.73 | 0.55 | 0.76 | 3-M1t | 0.46 | 0.37 | 0.72 | 0.72 | 0.98 | 0.57 |
| 1.50 | 1.50 | 69.76 | 0.58 | 0.79 | 3-M1t | 0.49 | 0.39 | 0.74 | 0.74 | 1.01 | 0.58 |
| 1.80 | 1.80 | 69.84 | 0.66 | 0.87 | 3-M1t | 0.55 | 0.44 | 0.82 | 0.82 | 1.10 | 0.61 |
| 2.00 | 2.00 | 69.89 | 0.71 | 0.92 | 3-M1t | 0.60 | 0.47 | 0.86 | 0.86 | 1.16 | 0.63 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 61+014.83m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

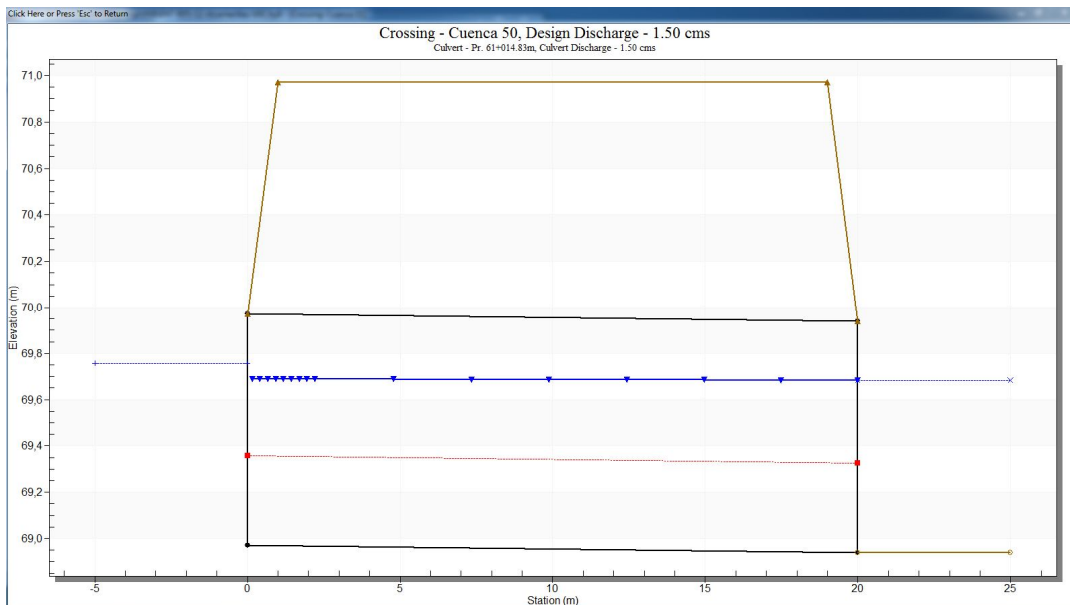
Geometry

Inlet Elevation: 68.97 m
Outlet Elevation: 68.94 m
Culvert Length: 20.00 m
Culvert Slope: 0.0015
Inlet Crest: 0.00 m
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 51

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 1.00 | cms |
| Maximum Flow | 1.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 1:1 | |
| Channel Slope | 0.0012 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 69.68 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 71.70 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 62+783.74m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 62+783.74m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 69.70 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 62+783.74m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 69.70 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.15 | 0.15 | 69.91 | 0.13 | 0.21 | 3-M1t | 0.12 | 0.08 | 0.22 | 0.22 | 0.34 | 0.28 |
| 0.30 | 0.30 | 70.03 | 0.20 | 0.33 | 3-M1t | 0.19 | 0.13 | 0.33 | 0.33 | 0.46 | 0.34 |
| 0.45 | 0.45 | 70.11 | 0.26 | 0.41 | 3-M1t | 0.25 | 0.17 | 0.41 | 0.41 | 0.55 | 0.39 |
| 0.60 | 0.60 | 70.19 | 0.31 | 0.49 | 3-M1t | 0.30 | 0.21 | 0.48 | 0.48 | 0.63 | 0.42 |
| 0.75 | 0.75 | 70.26 | 0.36 | 0.56 | 3-M1t | 0.35 | 0.24 | 0.54 | 0.54 | 0.70 | 0.45 |
| 0.90 | 0.90 | 70.32 | 0.41 | 0.62 | 3-M1t | 0.39 | 0.27 | 0.59 | 0.59 | 0.76 | 0.48 |
| 1.00 | 1.00 | 70.35 | 0.44 | 0.65 | 3-M1t | 0.42 | 0.29 | 0.63 | 0.63 | 0.80 | 0.49 |
| 1.20 | 1.20 | 70.42 | 0.50 | 0.72 | 3-M1t | 0.48 | 0.33 | 0.69 | 0.69 | 0.87 | 0.51 |
| 1.35 | 1.35 | 70.47 | 0.54 | 0.77 | 3-M1t | 0.52 | 0.36 | 0.73 | 0.73 | 0.92 | 0.53 |
| 1.50 | 1.50 | 70.52 | 0.58 | 0.82 | 3-M1t | 0.56 | 0.39 | 0.77 | 0.77 | 0.97 | 0.55 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 62+783.74m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 69.70 m

Outlet Elevation: 69.68 m

Culvert Length: 20.00 m

Culvert Slope: 0.0010

Inlet Crest: 0.00 m

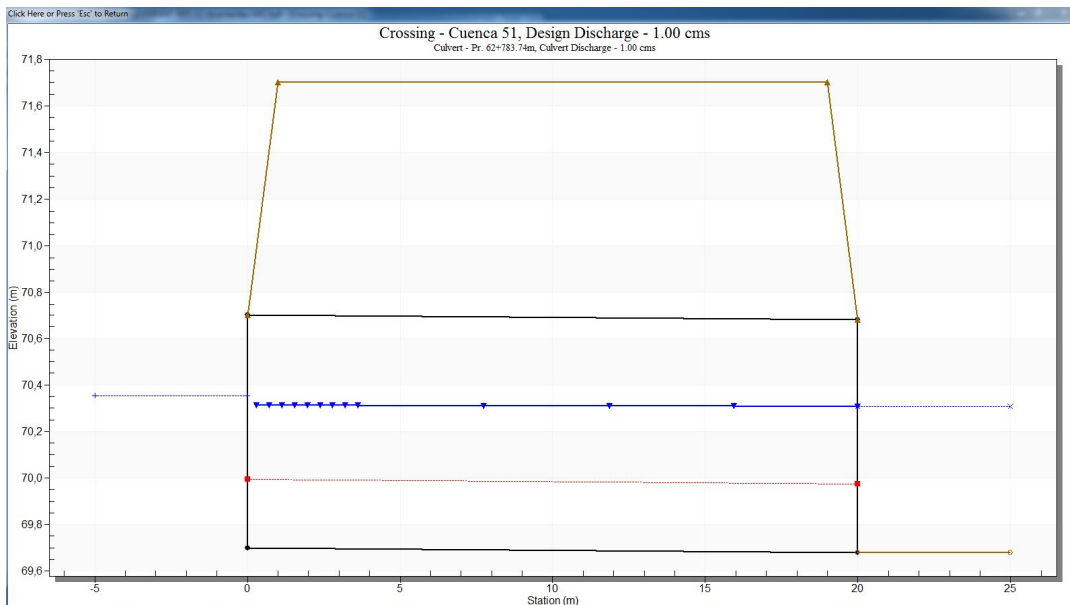
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 52

Crossing Properties
Name: Cuenca 52

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 1.00 | cms |
| Maximum Flow | 1.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | 1:1 |
| Channel Slope | 0.0012 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 69.14 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 71.16 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 64+026.98m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 64+026.98m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 69.16 | m |
| Outlet Station | 20.00 | m |

Buttons: Help, Click on any icon for help on a specific topic, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 64+026.98m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 69.16 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.15 | 0.15 | 69.37 | 0.13 | 0.21 | 3-M1t | 0.12 | 0.08 | 0.22 | 0.22 | 0.34 | 0.28 |
| 0.30 | 0.30 | 69.49 | 0.20 | 0.33 | 3-M1t | 0.19 | 0.13 | 0.33 | 0.33 | 0.46 | 0.34 |
| 0.45 | 0.45 | 69.57 | 0.26 | 0.41 | 3-M1t | 0.25 | 0.17 | 0.41 | 0.41 | 0.55 | 0.39 |
| 0.60 | 0.60 | 69.65 | 0.31 | 0.49 | 3-M1t | 0.30 | 0.21 | 0.48 | 0.48 | 0.63 | 0.42 |
| 0.75 | 0.75 | 69.72 | 0.36 | 0.56 | 3-M1t | 0.35 | 0.24 | 0.54 | 0.54 | 0.70 | 0.45 |
| 0.90 | 0.90 | 69.78 | 0.41 | 0.62 | 3-M1t | 0.39 | 0.27 | 0.59 | 0.59 | 0.76 | 0.48 |
| 1.00 | 1.00 | 69.81 | 0.44 | 0.65 | 3-M1t | 0.42 | 0.29 | 0.63 | 0.63 | 0.80 | 0.49 |
| 1.20 | 1.20 | 69.88 | 0.50 | 0.72 | 3-M1t | 0.48 | 0.33 | 0.69 | 0.69 | 0.87 | 0.51 |
| 1.35 | 1.35 | 69.93 | 0.54 | 0.77 | 3-M1t | 0.52 | 0.36 | 0.73 | 0.73 | 0.92 | 0.53 |
| 1.50 | 1.50 | 69.98 | 0.58 | 0.82 | 3-M1t | 0.56 | 0.39 | 0.77 | 0.77 | 0.97 | 0.55 |

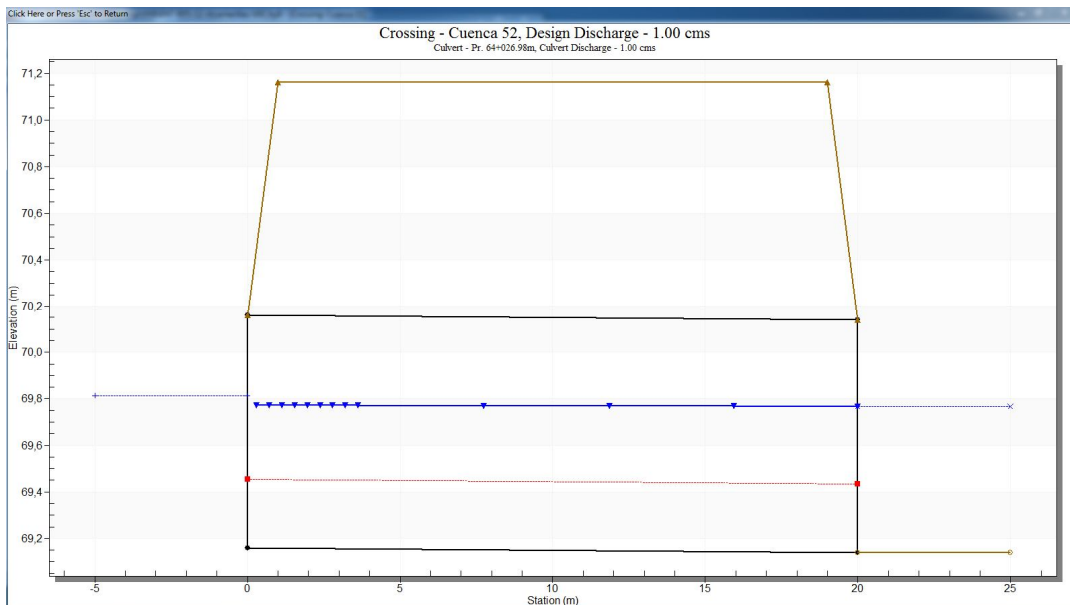
Display: Crossing Summary Table, Culvert Summary Table (Pr. 64+026.98m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 69.16 m, Outlet Elevation: 69.14 m, Culvert Length: 20.00 m, Culvert Slope: 0.0010, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, Culvert Performance Curve, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 53

Crossing Properties

Name: Cuenca 53

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 4.00 | cms |
| Maximum Flow | 4.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0049 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 67.64 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 69.74 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 65+413.22m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 65+413.22m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 67.74 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 65+413.22m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 67.74 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.45 | 0.45 | 67.90 | 0.16 | 0.0* | 1-S2n | 0.09 | 0.11 | 0.10 | 0.19 | 1.16 | 0.54 |
| 0.90 | 0.90 | 68.00 | 0.26 | 0.0* | 1-S2n | 0.14 | 0.17 | 0.15 | 0.29 | 1.54 | 0.69 |
| 1.35 | 1.35 | 68.08 | 0.34 | 0.0* | 1-S2n | 0.19 | 0.23 | 0.19 | 0.36 | 1.75 | 0.79 |
| 1.80 | 1.80 | 68.15 | 0.41 | 0.0* | 1-S2n | 0.23 | 0.27 | 0.23 | 0.43 | 1.94 | 0.87 |
| 2.25 | 2.25 | 68.21 | 0.47 | 0.0* | 1-S2n | 0.27 | 0.32 | 0.27 | 0.48 | 2.09 | 0.93 |
| 2.70 | 2.70 | 68.28 | 0.54 | 0.0* | 1-S2n | 0.30 | 0.36 | 0.30 | 0.54 | 2.23 | 0.99 |
| 3.15 | 3.15 | 68.38 | 0.60 | 0.64 | 1-S1t | 0.33 | 0.40 | 0.59 | 0.59 | 1.34 | 1.04 |
| 3.60 | 3.60 | 68.44 | 0.66 | 0.70 | 1-S1t | 0.37 | 0.44 | 0.63 | 0.63 | 1.43 | 1.08 |
| 4.00 | 4.00 | 68.49 | 0.71 | 0.75 | 1-S1t | 0.39 | 0.47 | 0.67 | 0.67 | 1.49 | 1.12 |
| 4.50 | 4.50 | 68.55 | 0.77 | 0.81 | 1-S1t | 0.43 | 0.51 | 0.71 | 0.71 | 1.57 | 1.16 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 65+413.22m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 67.74 m

Outlet Elevation: 67.64 m

Culvert Length: 20.00 m

Culvert Slope: 0.0050

Inlet Crest: 0.00 m

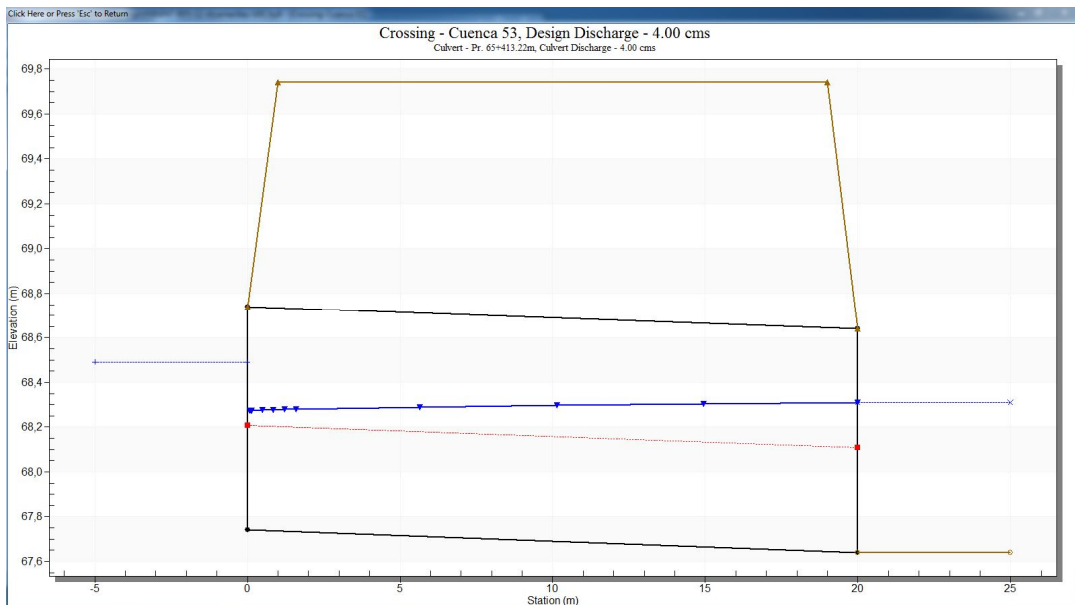
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 54

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 3.50 | cms |
| Maximum Flow | 4.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | 1:1 |
| Channel Slope | 0.0024 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 66.98 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 69.03 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 65+950.47m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 65+950.47m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 20.00 | m |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 67.03 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 65+950.47m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 67.03 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.40 | 0.40 | 67.22 | 0.15 | 0.19 | 3-M1t | 0.11 | 0.10 | 0.22 | 0.22 | 0.46 | 0.41 |
| 0.80 | 0.80 | 67.34 | 0.24 | 0.31 | 3-M1t | 0.17 | 0.16 | 0.33 | 0.33 | 0.61 | 0.52 |
| 1.20 | 1.20 | 67.44 | 0.31 | 0.41 | 3-M1t | 0.22 | 0.21 | 0.41 | 0.41 | 0.72 | 0.60 |
| 1.60 | 1.60 | 67.52 | 0.38 | 0.49 | 3-M1t | 0.27 | 0.25 | 0.49 | 0.49 | 0.82 | 0.66 |
| 2.00 | 2.00 | 67.60 | 0.44 | 0.57 | 3-M1t | 0.31 | 0.29 | 0.55 | 0.55 | 0.90 | 0.71 |
| 2.40 | 2.40 | 67.67 | 0.50 | 0.64 | 3-M1t | 0.35 | 0.33 | 0.61 | 0.61 | 0.98 | 0.75 |
| 2.80 | 2.80 | 67.73 | 0.55 | 0.70 | 3-M1t | 0.39 | 0.37 | 0.67 | 0.67 | 1.05 | 0.78 |
| 3.20 | 3.20 | 67.79 | 0.61 | 0.76 | 3-M1t | 0.43 | 0.40 | 0.72 | 0.72 | 1.11 | 0.82 |
| 3.50 | 3.50 | 67.83 | 0.65 | 0.80 | 3-M1t | 0.45 | 0.43 | 0.76 | 0.76 | 1.15 | 0.84 |
| 4.00 | 4.00 | 67.90 | 0.71 | 0.87 | 3-M1t | 0.50 | 0.47 | 0.82 | 0.82 | 1.23 | 0.87 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 65+950.47m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

Geometry

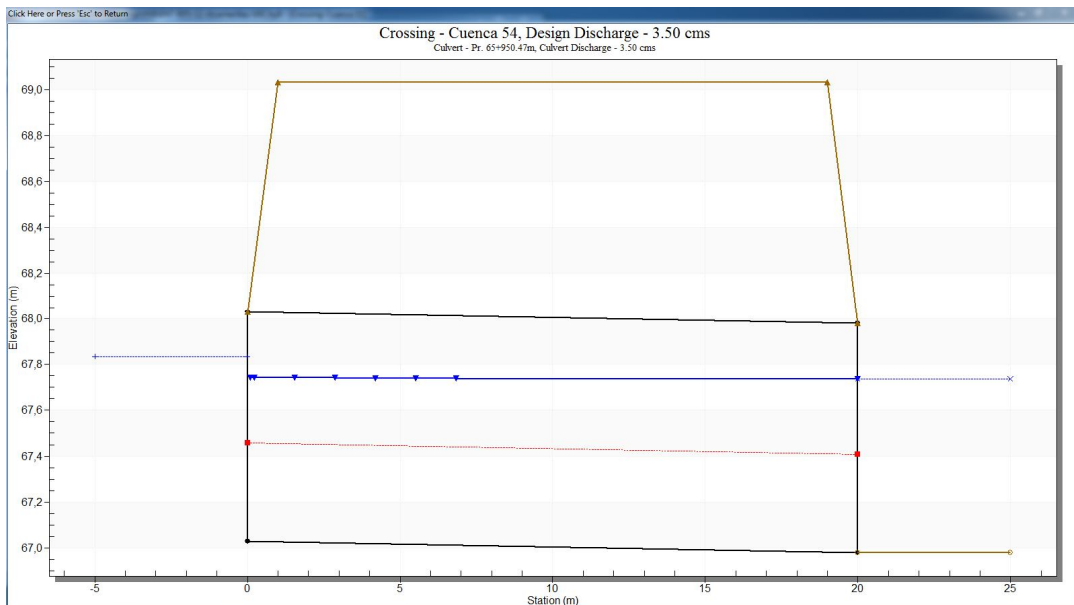
Inlet Elevation: 67.03 m
Outlet Elevation: 66.98 m
Culvert Length: 20.00 m
Culvert Slope: 0.0025
Inlet Crest: 0.00 m
Inlet Throat: 0.00 m

Plot

Crossing Rating Curve
Culvert Performance Curve
Selected Water Profile
Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 55

Crossing Properties

Name: Cuenca 55

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 21.50 | cms |
| Maximum Flow | 22.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 8.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0322 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 65.35 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 16.00 | m |
| Crest Elevation | 68.49 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 67+227.30m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 67+227.30m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 65.99 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 67+227.30m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 65.99 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2.20 | 2.20 | 66.28 | 0.29 | 0.0* | 1-S2n | 0.07 | 0.20 | 0.08 | 0.19 | 3.62 | 1.41 |
| 4.40 | 4.40 | 66.44 | 0.45 | 0.0* | 1-S2n | 0.14 | 0.31 | 0.14 | 0.28 | 3.83 | 1.83 |
| 6.60 | 6.60 | 66.59 | 0.60 | 0.0* | 1-S2n | 0.18 | 0.41 | 0.21 | 0.36 | 3.86 | 2.12 |
| 8.80 | 8.80 | 66.71 | 0.72 | 0.0* | 1-S2n | 0.22 | 0.50 | 0.27 | 0.42 | 4.12 | 2.35 |
| 11.00 | 11.00 | 66.84 | 0.85 | 0.0* | 1-S2n | 0.26 | 0.58 | 0.32 | 0.48 | 4.32 | 2.54 |
| 13.20 | 13.20 | 66.96 | 0.97 | 0.0* | 1-S2n | 0.30 | 0.65 | 0.37 | 0.54 | 4.49 | 2.71 |
| 15.40 | 15.40 | 67.07 | 1.08 | 0.0* | 1-S2n | 0.33 | 0.72 | 0.42 | 0.59 | 4.63 | 2.85 |
| 17.60 | 17.60 | 67.18 | 1.19 | 0.0* | 1-S2n | 0.36 | 0.79 | 0.46 | 0.64 | 4.76 | 2.99 |
| 19.80 | 19.80 | 67.29 | 1.30 | 0.0* | 1-S2n | 0.38 | 0.86 | 0.51 | 0.68 | 4.87 | 3.11 |
| 21.50 | 21.50 | 67.37 | 1.38 | 0.0* | 1-S2n | 0.41 | 0.90 | 0.54 | 0.71 | 4.96 | 3.20 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 67+227.30m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

Geometry

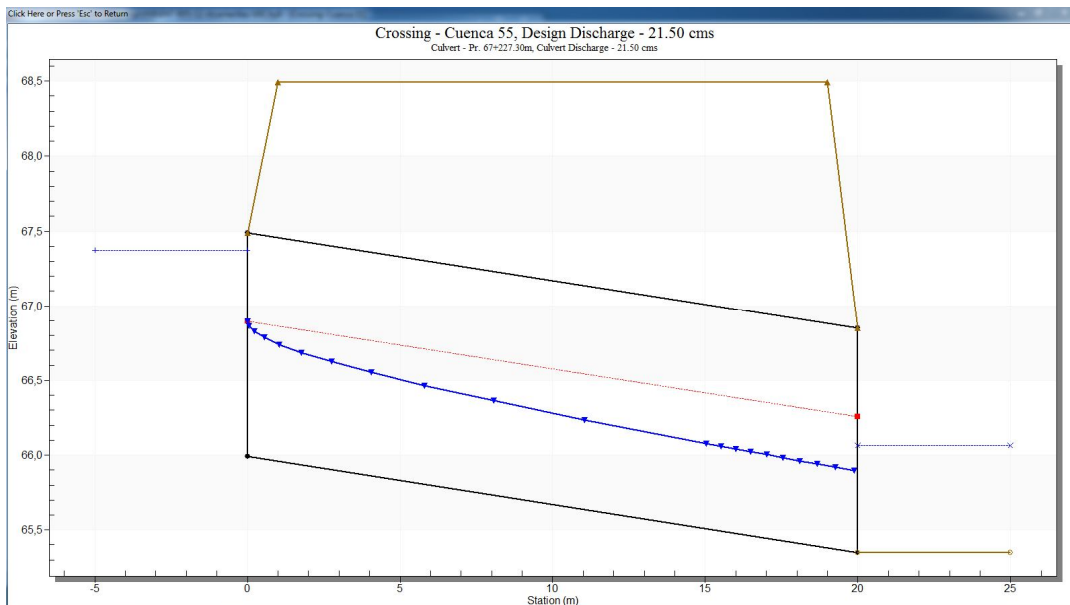
Inlet Elevation: 65.99 m
Outlet Elevation: 65.35 m
Culvert Length: 20.01 m
Culvert Slope: 0.0320
Inlet Crest: 0.00 m
Inlet Throat: 0.00 m

Plot

Crossing Rating Curve
Culvert Performance Curve
Selected Water Profile
Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 56

Crossing Properties

Name: Cuenca 56

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 6.00 | cms |
| Maximum Flow | 6.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0350 | m/m |
| Manning's n (channel) | 0.1500 | |
| Channel Invert Elevation | 65.31 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 68.01 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 67+227.30m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 67+227.30m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 66.01 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 67+227.30m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 66.01 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.65 | 0.65 | 66.21 | 0.20 | 0.0* | 1-S2n | 0.05 | 0.14 | 0.08 | 0.29 | 2.16 | 0.49 |
| 1.30 | 1.30 | 66.33 | 0.32 | 0.0* | 1-S2n | 0.10 | 0.22 | 0.10 | 0.43 | 3.18 | 0.62 |
| 1.95 | 1.95 | 66.43 | 0.42 | 0.0* | 1-S2n | 0.13 | 0.29 | 0.13 | 0.54 | 3.63 | 0.71 |
| 2.60 | 2.60 | 66.52 | 0.51 | 0.0* | 1-S2n | 0.15 | 0.35 | 0.17 | 0.64 | 3.75 | 0.78 |
| 3.25 | 3.25 | 66.61 | 0.60 | 0.0* | 1-S2n | 0.18 | 0.41 | 0.21 | 0.72 | 3.95 | 0.83 |
| 3.90 | 3.90 | 66.69 | 0.68 | 0.0* | 1-S2n | 0.20 | 0.46 | 0.24 | 0.80 | 4.13 | 0.88 |
| 4.55 | 4.55 | 66.77 | 0.76 | 0.0* | 1-S2n | 0.22 | 0.51 | 0.27 | 0.87 | 4.27 | 0.92 |
| 5.20 | 5.20 | 66.85 | 0.84 | 0.0* | 1-S2n | 0.24 | 0.56 | 0.30 | 0.93 | 4.38 | 0.95 |
| 5.85 | 5.85 | 66.93 | 0.92 | 0.0* | 1-S2n | 0.26 | 0.60 | 0.33 | 0.99 | 4.49 | 0.99 |
| 6.00 | 6.00 | 66.95 | 0.94 | 0.94 | 1-S1f | 0.27 | 0.61 | 0.61 | 1.00 | 2.45 | 0.99 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 67+227.30m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 66.01 m

Outlet Elevation: 65.31 m

Culvert Length: 20.01 m

Culvert Slope: 0.0350

Inlet Crest: 0.00 m

Inlet Throat: 0.00 m

Plot

Crossing Rating Curve

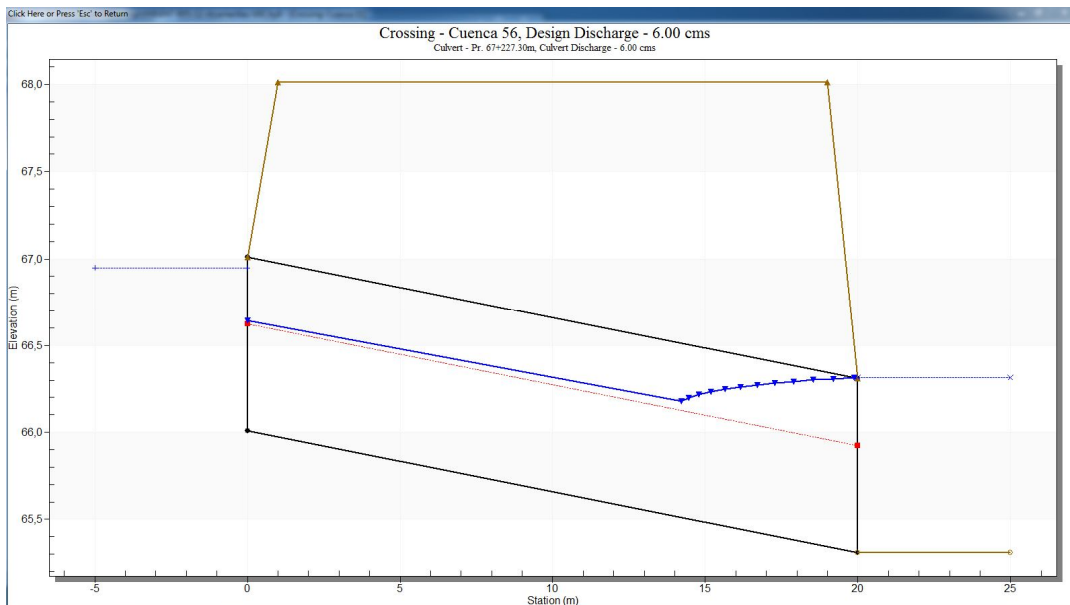
Culvert Performance Curve

Selected Water Profile

Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 57

Crossing Properties

Name: Cuenca 57

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 11.00 | cms |
| Maximum Flow | 11.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0328 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 66.49 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 69.65 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 68+086.83m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 68+086.83m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 67.15 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 68+086.83m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 67.15 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1.15 | 1.15 | 67.44 | 0.29 | 0.0* | 1-S2n | 0.07 | 0.20 | 0.10 | 0.19 | 2.92 | 1.39 |
| 2.30 | 2.30 | 67.62 | 0.47 | 0.0* | 1-S2n | 0.15 | 0.32 | 0.15 | 0.28 | 3.88 | 1.78 |
| 3.45 | 3.45 | 67.76 | 0.61 | 0.0* | 1-S2n | 0.19 | 0.42 | 0.22 | 0.36 | 3.94 | 2.04 |
| 4.60 | 4.60 | 67.89 | 0.74 | 0.0* | 1-S2n | 0.23 | 0.51 | 0.27 | 0.42 | 4.19 | 2.24 |
| 5.75 | 5.75 | 68.02 | 0.87 | 0.0* | 1-S2n | 0.26 | 0.60 | 0.33 | 0.48 | 4.40 | 2.41 |
| 6.90 | 6.90 | 68.15 | 1.00 | 0.0* | 1-S2n | 0.30 | 0.67 | 0.38 | 0.53 | 4.57 | 2.55 |
| 8.05 | 8.05 | 68.27 | 1.12 | 0.0* | 1-S2n | 0.33 | 0.75 | 0.43 | 0.58 | 4.71 | 2.68 |
| 9.20 | 9.20 | 68.38 | 1.23 | 0.0* | 1-S2n | 0.36 | 0.82 | 0.47 | 0.63 | 4.85 | 2.79 |
| 10.35 | 10.35 | 68.49 | 1.34 | 0.0* | 1-S2n | 0.39 | 0.88 | 0.52 | 0.67 | 4.96 | 2.89 |
| 11.00 | 11.00 | 68.56 | 1.41 | 0.0* | 1-S2n | 0.41 | 0.92 | 0.55 | 0.69 | 5.03 | 2.95 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 68+086.83m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

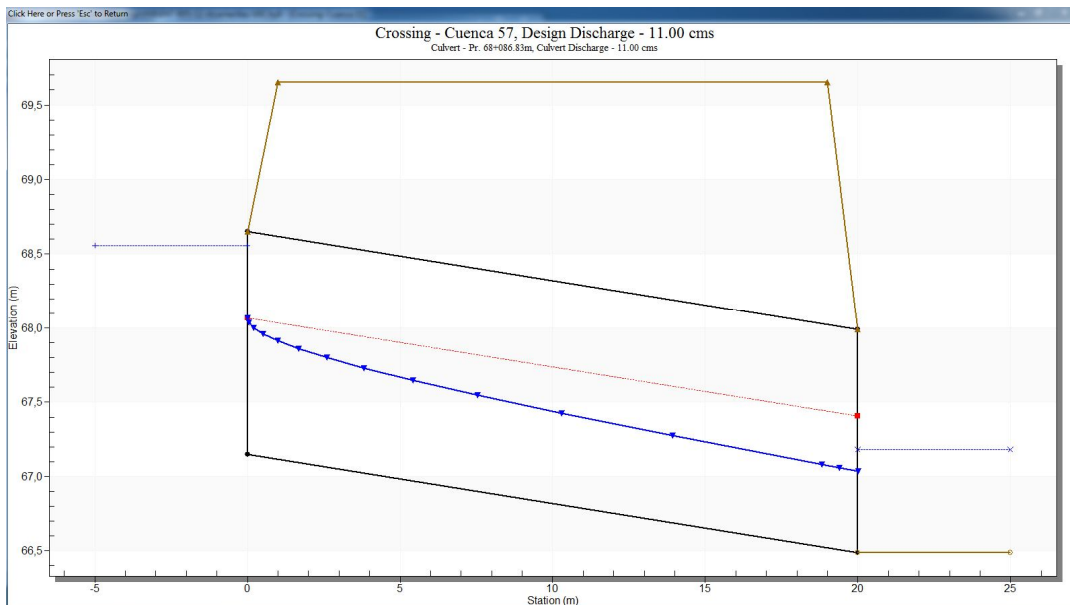
Geometry

Inlet Elevation: 67.15 m
 Outlet Elevation: 66.49 m
 Culvert Length: 20.01 m
 Culvert Slope: 0.0330
 Inlet Crest: 0.00 m
 Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 58

Crossing Properties

Name: Cuenca 58

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 3.00 | cms |
| Maximum Flow | 3.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0119 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 67.41 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 69.65 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 68+086.83m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 68+086.83m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 67.65 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 68+086.83m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 67.65 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.35 | 0.35 | 67.87 | 0.22 | 0.0* | 1-S2n | 0.09 | 0.15 | 0.09 | 0.19 | 1.85 | 0.79 |
| 0.70 | 0.70 | 67.99 | 0.34 | 0.0* | 1-S2n | 0.14 | 0.23 | 0.15 | 0.28 | 2.38 | 0.99 |
| 1.05 | 1.05 | 68.10 | 0.45 | 0.0* | 1-S2n | 0.19 | 0.30 | 0.19 | 0.35 | 2.70 | 1.12 |
| 1.40 | 1.40 | 68.20 | 0.55 | 0.0* | 1-S2n | 0.23 | 0.37 | 0.25 | 0.41 | 2.78 | 1.22 |
| 1.75 | 1.75 | 68.29 | 0.64 | 0.0* | 1-S2n | 0.27 | 0.43 | 0.30 | 0.46 | 2.96 | 1.30 |
| 2.10 | 2.10 | 68.38 | 0.73 | 0.0* | 1-S2n | 0.30 | 0.48 | 0.34 | 0.51 | 3.11 | 1.37 |
| 2.45 | 2.45 | 68.47 | 0.82 | 0.0* | 1-S2n | 0.33 | 0.54 | 0.38 | 0.55 | 3.24 | 1.44 |
| 2.80 | 2.80 | 68.55 | 0.90 | 0.0* | 1-S2n | 0.37 | 0.59 | 0.42 | 0.59 | 3.35 | 1.49 |
| 3.00 | 3.00 | 68.60 | 0.95 | 0.0* | 1-S2n | 0.38 | 0.61 | 0.44 | 0.61 | 3.41 | 1.52 |
| 3.50 | 3.50 | 68.72 | 1.07 | 0.0* | 5-S2n | 0.43 | 0.68 | 0.49 | 0.66 | 3.54 | 1.59 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 68+086.83m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 67.65 m

Outlet Elevation: 67.41 m

Culvert Length: 20.00 m

Culvert Slope: 0.0120

Inlet Crest: 0.00 m

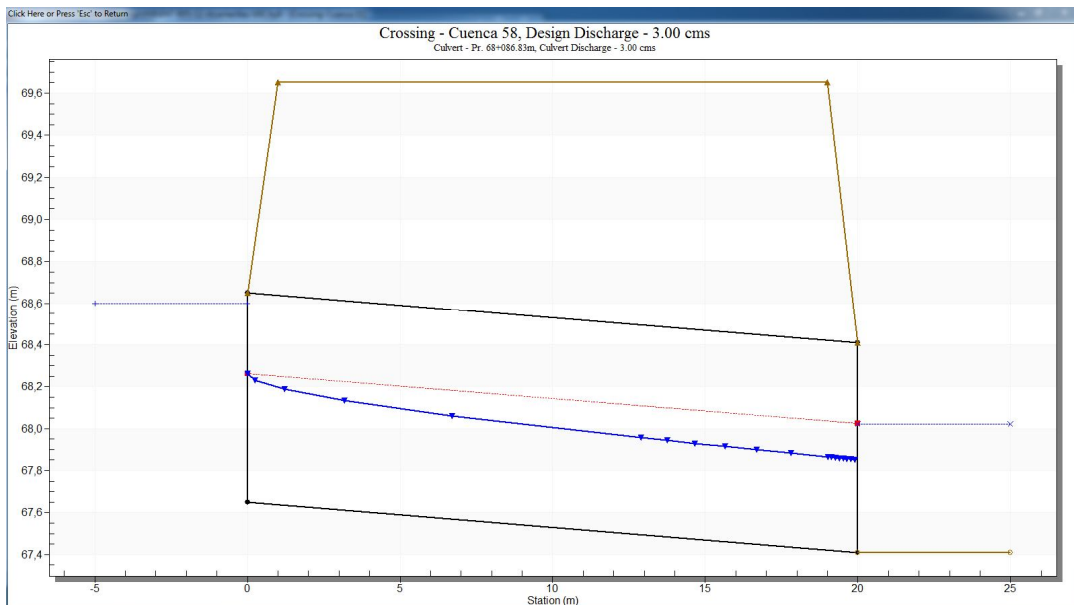
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 59

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 1.50 | cms |
| Maximum Flow | 2.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0098 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 70.56 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 72.76 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 69+037.36m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 69+037.36m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 70.76 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 69+037.36m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 70.76 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.20 | 0.20 | 70.91 | 0.15 | 0.0* | 1-S2n | 0.06 | 0.10 | 0.07 | 0.14 | 1.49 | 0.61 |
| 0.40 | 0.40 | 71.00 | 0.24 | 0.0* | 1-S2n | 0.11 | 0.16 | 0.11 | 0.21 | 1.80 | 0.77 |
| 0.60 | 0.60 | 71.07 | 0.31 | 0.0* | 1-S2n | 0.14 | 0.21 | 0.15 | 0.27 | 2.06 | 0.88 |
| 0.80 | 0.80 | 71.14 | 0.38 | 0.0* | 1-S2n | 0.17 | 0.25 | 0.17 | 0.32 | 2.32 | 0.96 |
| 1.00 | 1.00 | 71.20 | 0.44 | 0.0* | 1-S2n | 0.20 | 0.29 | 0.21 | 0.36 | 2.40 | 1.03 |
| 1.20 | 1.20 | 71.25 | 0.49 | 0.0* | 1-S2n | 0.22 | 0.33 | 0.22 | 0.39 | 2.68 | 1.09 |
| 1.40 | 1.40 | 71.31 | 0.55 | 0.0* | 1-S2n | 0.24 | 0.37 | 0.26 | 0.43 | 2.66 | 1.14 |
| 1.50 | 1.50 | 71.34 | 0.58 | 0.0* | 1-S2n | 0.26 | 0.39 | 0.28 | 0.45 | 2.71 | 1.16 |
| 1.80 | 1.80 | 71.42 | 0.66 | 0.0* | 1-S2n | 0.29 | 0.44 | 0.32 | 0.49 | 2.85 | 1.23 |
| 2.00 | 2.00 | 71.47 | 0.71 | 0.0* | 1-S2n | 0.31 | 0.47 | 0.34 | 0.52 | 2.94 | 1.27 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 69+037.36m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 70.76 m

Outlet Elevation: 70.56 m

Culvert Length: 20.00 m

Culvert Slope: 0.0100

Inlet Crest: 0.00 m

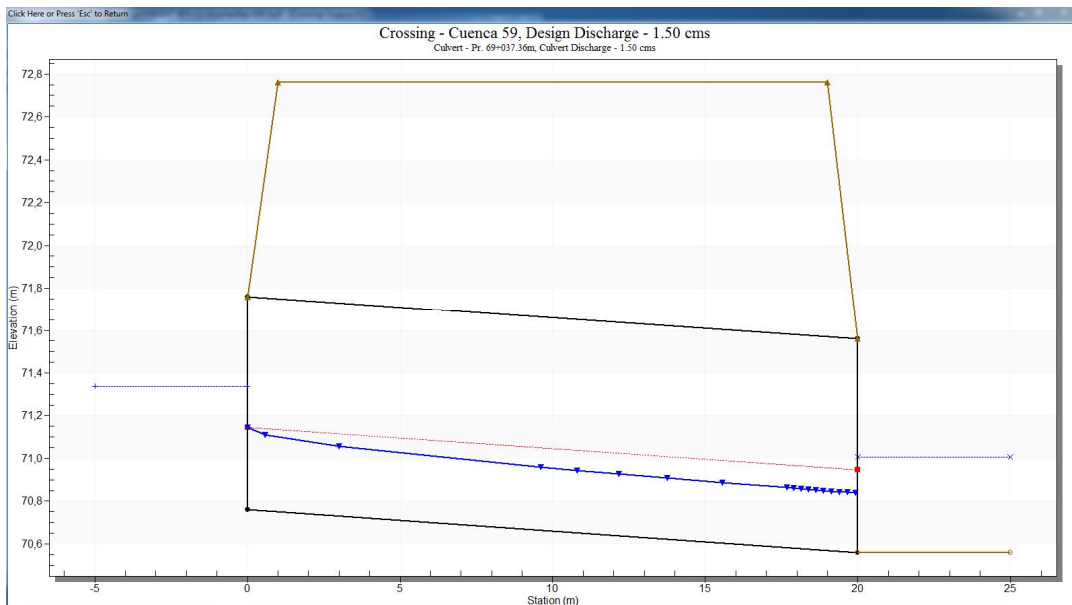
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 60

Crossing Properties

Name: Cuenca 60

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 2.00 | cms |
| Maximum Flow | 2.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0080 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 71.03 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 73.19 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 69+508.33m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 69+508.33m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 71.19 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 69+508.33m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 71.19 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.25 | 0.25 | 71.36 | 0.17 | 0.0* | 1-S2n | 0.08 | 0.12 | 0.08 | 0.17 | 1.50 | 0.62 |
| 0.50 | 0.50 | 71.46 | 0.27 | 0.0* | 1-S2n | 0.13 | 0.19 | 0.13 | 0.26 | 1.87 | 0.78 |
| 0.75 | 0.75 | 71.55 | 0.36 | 0.0* | 1-S2n | 0.17 | 0.24 | 0.18 | 0.32 | 2.09 | 0.88 |
| 1.00 | 1.00 | 71.63 | 0.44 | 0.0* | 1-S2n | 0.21 | 0.29 | 0.21 | 0.38 | 2.34 | 0.96 |
| 1.25 | 1.25 | 71.70 | 0.51 | 0.0* | 1-S2n | 0.24 | 0.34 | 0.26 | 0.43 | 2.42 | 1.03 |
| 1.50 | 1.50 | 71.77 | 0.58 | 0.0* | 1-S2n | 0.28 | 0.39 | 0.28 | 0.47 | 2.69 | 1.08 |
| 1.75 | 1.75 | 71.83 | 0.64 | 0.0* | 1-S2n | 0.31 | 0.43 | 0.31 | 0.51 | 2.85 | 1.13 |
| 2.00 | 2.00 | 71.90 | 0.71 | 0.0* | 1-S2n | 0.33 | 0.47 | 0.36 | 0.55 | 2.78 | 1.18 |
| 2.25 | 2.25 | 71.96 | 0.77 | 0.0* | 1-S2n | 0.36 | 0.51 | 0.39 | 0.58 | 2.87 | 1.22 |
| 2.50 | 2.50 | 72.02 | 0.83 | 0.0* | 1-S2n | 0.39 | 0.54 | 0.42 | 0.62 | 2.95 | 1.25 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 69+508.33m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 71.19 m

Outlet Elevation: 71.03 m

Culvert Length: 20.00 m

Culvert Slope: 0.0080

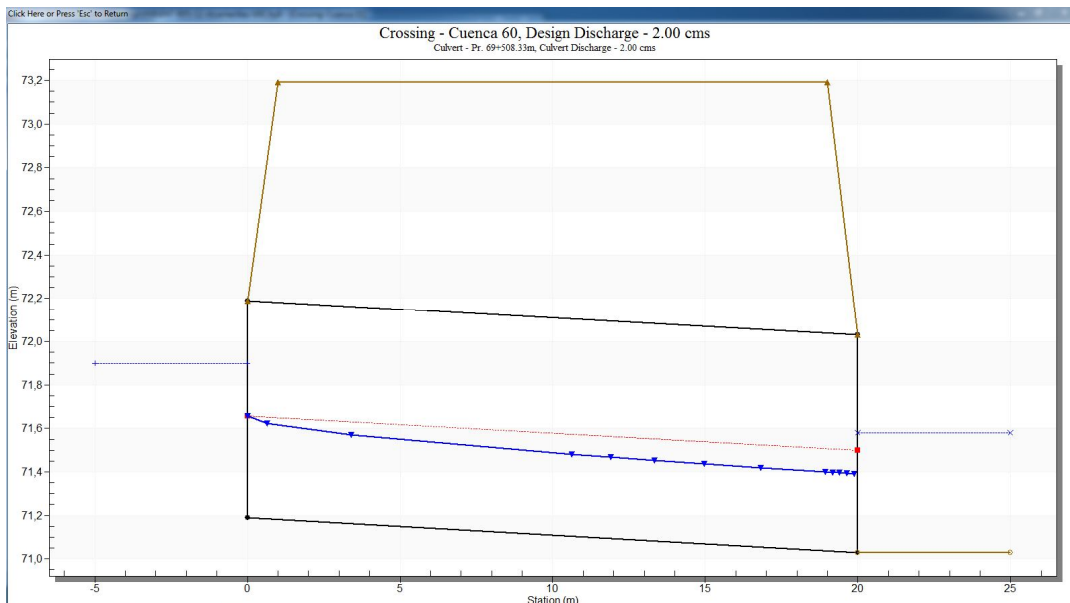
Inlet Crest: 0.00 m

Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 62

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 30.50 | cms |
| Maximum Flow | 31.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 12.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0034 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 61.45 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 24.00 | m |
| Crest Elevation | 64.02 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 70+421.20m

Parameter Value Units

CULVERT DATA

Name Pr. 70+421.20m

Shape Concrete Box

Material Concrete

Span 2000.00 mm

Rise 1500.00 mm

Embedment Depth 0.00 mm

Manning's n 0.0120

Inlet Type Conventional

Inlet Edge Condition 1:1 Bevel (45° flare) Wingwall

Inlet Depression? No

SITE DATA

Site Data Input Option Culvert Invert Data

Inlet Station 0.00 m

Inlet Elevation 61.52 m

Outlet Station 20.00 m

Buttons: Add Culvert, Duplicate Culvert, Delete Culvert, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 70+421.20m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 61.52 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3.10 | 3.10 | 61.85 | 0.28 | 0.33 | 1-S1t | 0.18 | 0.19 | 0.35 | 0.35 | 0.74 | 0.69 |
| 6.20 | 6.20 | 62.06 | 0.45 | 0.54 | 1-S1t | 0.28 | 0.30 | 0.53 | 0.53 | 0.97 | 0.90 |
| 9.30 | 9.30 | 62.22 | 0.59 | 0.70 | 1-S1t | 0.37 | 0.39 | 0.67 | 0.67 | 1.15 | 1.04 |
| 12.40 | 12.40 | 62.37 | 0.71 | 0.85 | 1-S1t | 0.45 | 0.48 | 0.80 | 0.80 | 1.30 | 1.14 |
| 15.50 | 15.50 | 62.50 | 0.83 | 0.98 | 1-S1t | 0.53 | 0.56 | 0.91 | 0.91 | 1.42 | 1.24 |
| 18.60 | 18.60 | 62.63 | 0.94 | 1.11 | 1-S1t | 0.60 | 0.63 | 1.01 | 1.01 | 1.54 | 1.31 |
| 21.70 | 21.70 | 62.74 | 1.05 | 1.22 | 1-S1t | 0.67 | 0.69 | 1.10 | 1.10 | 1.64 | 1.38 |
| 24.80 | 24.80 | 62.85 | 1.16 | 1.33 | 1-S1t | 0.74 | 0.76 | 1.19 | 1.19 | 1.73 | 1.45 |
| 27.90 | 27.90 | 62.96 | 1.26 | 1.44 | 1-S1t | 0.81 | 0.82 | 1.27 | 1.27 | 1.82 | 1.50 |
| 30.50 | 30.50 | 63.04 | 1.35 | 1.52 | 5-S1t | 0.86 | 0.87 | 1.34 | 1.34 | 1.89 | 1.55 |

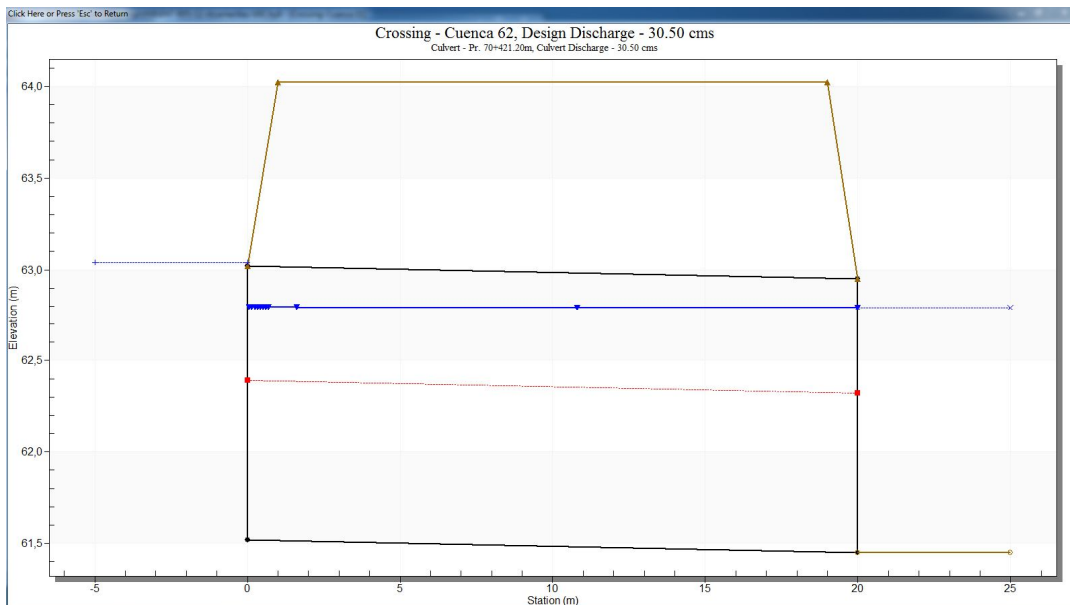
Display: Crossing Summary Table, Culvert Summary Table (Pr. 70+421.20m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 61.52 m, Outlet Elevation: 61.45 m, Culvert Length: 20.00 m, Culvert Slope: 0.0035, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, Culvert Performance Curve, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 63

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 6.50 | cms |
| Maximum Flow | 7.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0195 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 63.06 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 65.45 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 70+934.34m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 70+934.34m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 63.45 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 70+934.34m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 63.45 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.70 | 0.70 | 63.66 | 0.21 | 0.0* | 1-S2n | 0.07 | 0.15 | 0.08 | 0.16 | 2.12 | 0.99 |
| 1.40 | 1.40 | 63.79 | 0.34 | 0.0* | 1-S2n | 0.12 | 0.23 | 0.13 | 0.25 | 2.78 | 1.26 |
| 2.10 | 2.10 | 63.90 | 0.45 | 0.0* | 1-S2n | 0.16 | 0.30 | 0.17 | 0.31 | 3.17 | 1.45 |
| 2.80 | 2.80 | 63.99 | 0.54 | 0.0* | 1-S2n | 0.20 | 0.37 | 0.22 | 0.37 | 3.19 | 1.60 |
| 3.50 | 3.50 | 64.09 | 0.64 | 0.0* | 1-S2n | 0.23 | 0.43 | 0.26 | 0.42 | 3.38 | 1.72 |
| 4.20 | 4.20 | 64.18 | 0.73 | 0.0* | 1-S2n | 0.26 | 0.48 | 0.30 | 0.47 | 3.54 | 1.83 |
| 4.90 | 4.90 | 64.26 | 0.81 | 0.0* | 1-S2n | 0.29 | 0.54 | 0.33 | 0.51 | 3.66 | 1.92 |
| 5.60 | 5.60 | 64.35 | 0.90 | 0.0* | 1-S2n | 0.31 | 0.59 | 0.37 | 0.55 | 3.78 | 2.00 |
| 6.30 | 6.30 | 64.43 | 0.98 | 0.0* | 1-S2n | 0.34 | 0.63 | 0.41 | 0.59 | 3.88 | 2.08 |
| 6.50 | 6.50 | 64.46 | 1.01 | 0.0* | 5-S2n | 0.34 | 0.65 | 0.42 | 0.60 | 3.91 | 2.10 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 70+934.34m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 63.45 m

Outlet Elevation: 63.06 m

Culvert Length: 20.00 m

Culvert Slope: 0.0195

Inlet Crest: 0.00 m

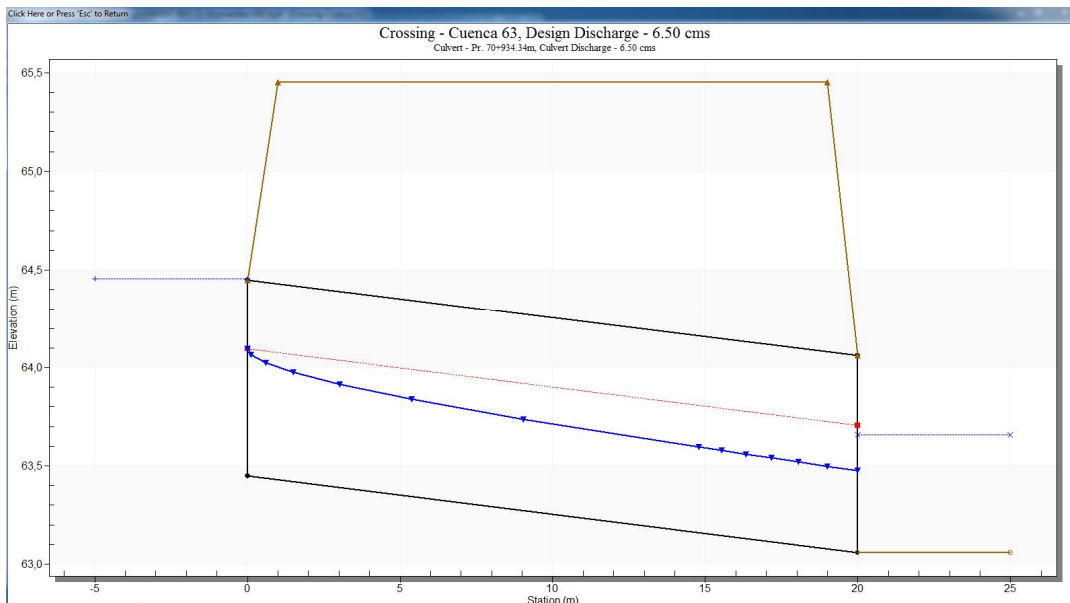
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 64

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 0.50 | cms |
| Maximum Flow | 1.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | _:1 |
| Channel Slope | 0.0012 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 64.90 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 66.92 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 71+298.99m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 71+298.99m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 64.92 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 71+298.99m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 64.92 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.10 | 0.10 | 65.08 | 0.10 | 0.16 | 3-M1t | 0.09 | 0.06 | 0.18 | 0.18 | 0.28 | 0.24 |
| 0.20 | 0.20 | 65.17 | 0.15 | 0.25 | 3-M1t | 0.14 | 0.10 | 0.26 | 0.26 | 0.38 | 0.30 |
| 0.30 | 0.30 | 65.25 | 0.20 | 0.33 | 3-M1t | 0.19 | 0.13 | 0.33 | 0.33 | 0.46 | 0.34 |
| 0.40 | 0.40 | 65.31 | 0.24 | 0.39 | 3-M1t | 0.23 | 0.16 | 0.38 | 0.38 | 0.52 | 0.38 |
| 0.50 | 0.50 | 65.36 | 0.28 | 0.44 | 3-M1t | 0.27 | 0.19 | 0.43 | 0.43 | 0.58 | 0.40 |
| 0.60 | 0.60 | 65.41 | 0.31 | 0.49 | 3-M1t | 0.30 | 0.21 | 0.48 | 0.48 | 0.63 | 0.42 |
| 0.70 | 0.70 | 65.45 | 0.35 | 0.53 | 3-M1t | 0.33 | 0.23 | 0.52 | 0.52 | 0.67 | 0.44 |
| 0.80 | 0.80 | 65.50 | 0.38 | 0.58 | 3-M1t | 0.36 | 0.25 | 0.56 | 0.56 | 0.72 | 0.46 |
| 0.90 | 0.90 | 65.54 | 0.41 | 0.62 | 3-M1t | 0.39 | 0.27 | 0.59 | 0.59 | 0.76 | 0.48 |
| 1.00 | 1.00 | 65.57 | 0.44 | 0.65 | 3-M1t | 0.42 | 0.29 | 0.63 | 0.63 | 0.80 | 0.49 |

Display

Crossing Summary Table
 Culvert Summary Table Pr. 71+298.99m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

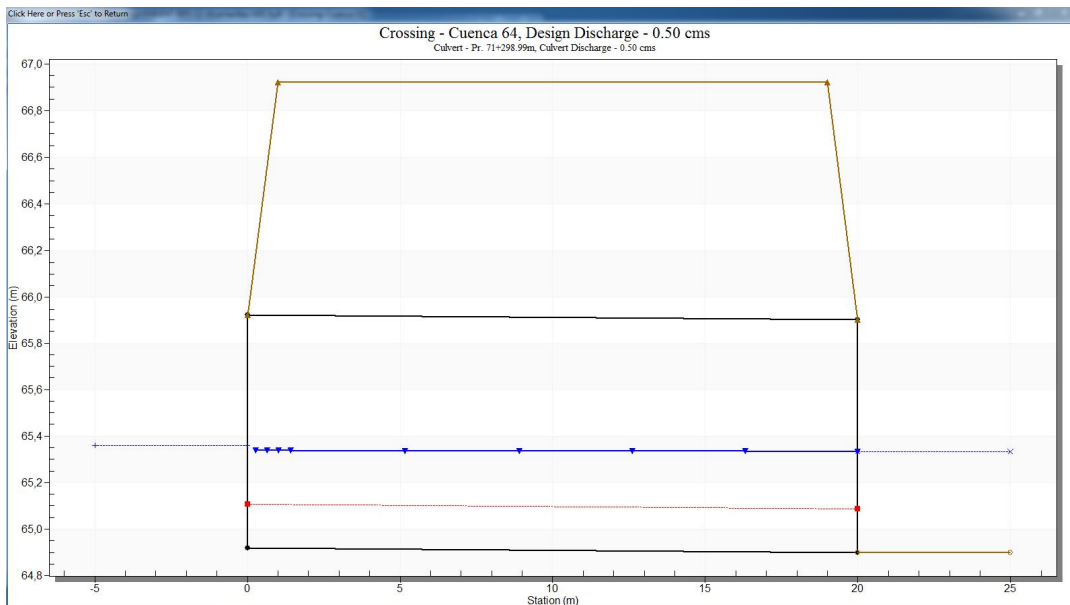
Geometry

Inlet Elevation: 64.92 m
Outlet Elevation: 64.90 m
Culvert Length: 20.00 m
Culvert Slope: 0.0010
Inlet Crest: 0.00 m
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 65

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 46.50 | cms |
| Maximum Flow | 47.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 20.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0028 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 57.56 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 40.00 | m |
| Crest Elevation | 61.60 | m |
| Roadway Surface | Paved | |
| Top Width | 13.80 | m |

Culvert Properties

Pr. 71+859.76m

Add Culvert
Duplicate Culvert
Delete Culvert

| Parameter | Value | Units |
|------------------------|----------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 71+859.76m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 20000.00 | mm |
| Rise | 3000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | Square Edge (90°) Headwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 57.60 | m |
| Outlet Station | 15.80 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 71+859.76m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 57.60 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4.70 | 4.70 | 57.96 | 0.35 | 0.36 | 1-S1t | 0.13 | 0.18 | 0.35 | 0.35 | 0.67 | 0.64 |
| 9.40 | 9.40 | 58.16 | 0.49 | 0.56 | 1-S1t | 0.25 | 0.28 | 0.53 | 0.53 | 0.88 | 0.84 |
| 14.10 | 14.10 | 58.33 | 0.64 | 0.73 | 1-S1t | 0.34 | 0.37 | 0.68 | 0.68 | 1.04 | 0.97 |
| 18.80 | 18.80 | 58.48 | 0.77 | 0.88 | 1-S1t | 0.40 | 0.45 | 0.81 | 0.81 | 1.17 | 1.08 |
| 23.50 | 23.50 | 58.61 | 0.90 | 1.01 | 1-S1t | 0.46 | 0.52 | 0.92 | 0.92 | 1.28 | 1.17 |
| 28.20 | 28.20 | 58.74 | 1.01 | 1.14 | 1-S1t | 0.52 | 0.59 | 1.02 | 1.02 | 1.38 | 1.25 |
| 32.90 | 32.90 | 58.86 | 1.12 | 1.26 | 1-S1t | 0.58 | 0.65 | 1.12 | 1.12 | 1.47 | 1.32 |
| 37.60 | 37.60 | 58.97 | 1.22 | 1.37 | 1-S1t | 0.63 | 0.71 | 1.21 | 1.21 | 1.55 | 1.38 |
| 42.30 | 42.30 | 59.07 | 1.32 | 1.47 | 1-S1t | 0.67 | 0.77 | 1.30 | 1.30 | 1.63 | 1.44 |
| 46.50 | 46.50 | 59.16 | 1.41 | 1.56 | 1-S1t | 0.71 | 0.82 | 1.37 | 1.37 | 1.69 | 1.49 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 71+859.76m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 57.60 m

Outlet Elevation: 57.56 m

Culvert Length: 15.80 m

Culvert Slope: 0.0025

Inlet Crest: 0.00 m

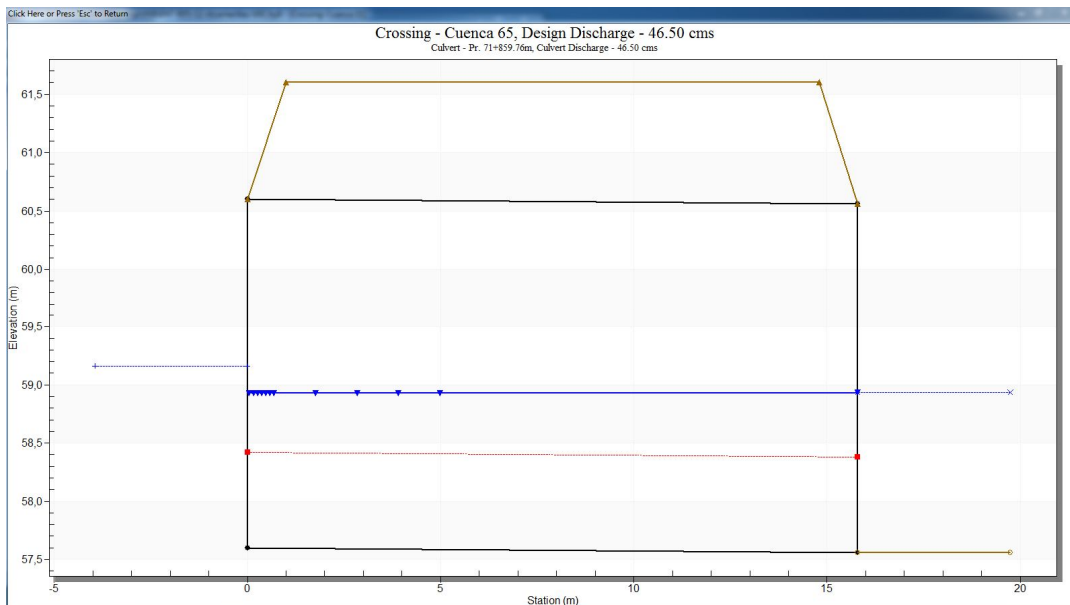
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 66

Crossing Properties

Name: Cuenca 66

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 24.00 | cms |
| Maximum Flow | 24.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 8.00 | m |
| Side Slope (H:V) | 1:1 | |
| Channel Slope | 0.0050 | m/m |
| Manning's n (channel) | 0.0150 | |
| Channel Invert Elevation | 67.91 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 16.00 | m |
| Crest Elevation | 70.43 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 73+597.75m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 73+597.75m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 67.93 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 73+597.75m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 67.93 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2.45 | 2.45 | 68.28 | 0.32 | 0.35 | 2-M2c | 0.30 | 0.21 | 0.21 | 0.19 | 1.45 | 1.52 |
| 4.90 | 4.90 | 68.48 | 0.50 | 0.55 | 2-M2c | 0.49 | 0.34 | 0.34 | 0.29 | 1.82 | 1.96 |
| 7.35 | 7.35 | 68.64 | 0.66 | 0.71 | 2-M2c | 0.65 | 0.44 | 0.44 | 0.37 | 2.08 | 2.27 |
| 9.80 | 9.80 | 68.79 | 0.80 | 0.86 | 2-M2c | 0.80 | 0.54 | 0.54 | 0.44 | 2.29 | 2.52 |
| 12.25 | 12.25 | 68.93 | 0.94 | 1.00 | 2-M2c | 0.94 | 0.62 | 0.62 | 0.50 | 2.47 | 2.72 |
| 14.70 | 14.70 | 69.06 | 1.07 | 1.13 | 2-M2c | 1.08 | 0.70 | 0.70 | 0.56 | 2.62 | 2.90 |
| 17.15 | 17.15 | 69.18 | 1.19 | 1.25 | 2-M2c | 1.21 | 0.78 | 0.78 | 0.61 | 2.76 | 3.06 |
| 19.60 | 19.60 | 69.30 | 1.31 | 1.37 | 2-M2c | 1.34 | 0.85 | 0.85 | 0.66 | 2.89 | 3.20 |
| 22.05 | 22.05 | 69.41 | 1.43 | 1.48 | 2-M2c | 1.50 | 0.92 | 0.92 | 0.70 | 3.01 | 3.33 |
| 24.00 | 24.00 | 69.49 | 1.53 | 1.56 | 2-M2c | 1.50 | 0.97 | 0.97 | 0.74 | 3.09 | 3.43 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 73+597.75m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 67.93 m

Outlet Elevation: 67.91 m

Culvert Length: 20.00 m

Culvert Slope: 0.0010

Inlet Crest: 0.00 m

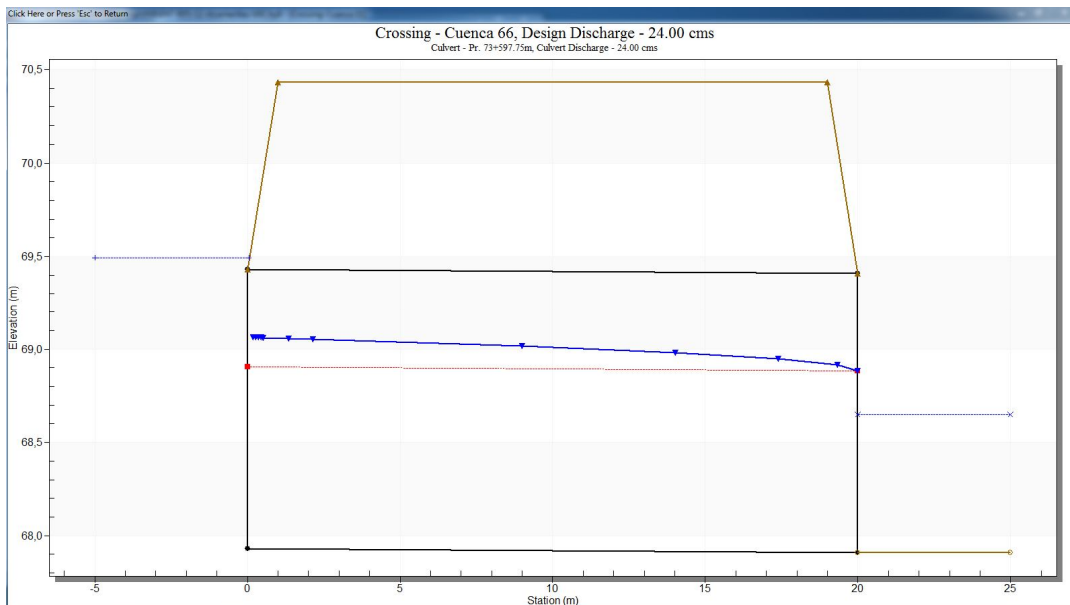
Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected.

Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 67

Crossing Properties
Name: Cuenca 67

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 9.00 | cms |
| Maximum Flow | 9.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 4.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0073 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 60.06 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 8.00 | m |
| Crest Elevation | 62.71 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 74+553.84m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 74+553.84m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 60.21 | m |
| Outlet Station | 20.00 | m |

Buttons: Help, Click on any icon for help on a specific topic, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 74+553.84m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 60.21 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.95 | 0.95 | 60.48 | 0.27 | 0.0* | 1-S2n | 0.13 | 0.18 | 0.13 | 0.26 | 1.78 | 0.80 |
| 1.90 | 1.90 | 60.63 | 0.42 | 0.0* | 1-S2n | 0.20 | 0.28 | 0.21 | 0.39 | 2.28 | 1.01 |
| 2.85 | 2.85 | 60.76 | 0.55 | 0.0* | 1-S2n | 0.27 | 0.37 | 0.29 | 0.49 | 2.48 | 1.15 |
| 3.80 | 3.80 | 60.88 | 0.67 | 0.0* | 1-S2n | 0.33 | 0.45 | 0.35 | 0.58 | 2.70 | 1.26 |
| 4.75 | 4.75 | 60.99 | 0.78 | 0.0* | 1-S2n | 0.38 | 0.52 | 0.41 | 0.66 | 2.87 | 1.35 |
| 5.70 | 5.70 | 61.10 | 0.89 | 0.0* | 1-S2n | 0.44 | 0.59 | 0.47 | 0.73 | 3.02 | 1.43 |
| 6.65 | 6.65 | 61.20 | 0.99 | 0.0* | 1-S2n | 0.48 | 0.66 | 0.53 | 0.79 | 3.15 | 1.50 |
| 7.60 | 7.60 | 61.30 | 1.09 | 0.0* | 1-S2n | 0.53 | 0.72 | 0.58 | 0.85 | 3.27 | 1.56 |
| 8.55 | 8.55 | 61.40 | 1.19 | 0.0* | 1-S2n | 0.58 | 0.78 | 0.63 | 0.91 | 3.37 | 1.61 |
| 9.00 | 9.00 | 61.44 | 1.23 | 0.0* | 1-S2n | 0.60 | 0.80 | 0.66 | 0.94 | 3.42 | 1.64 |

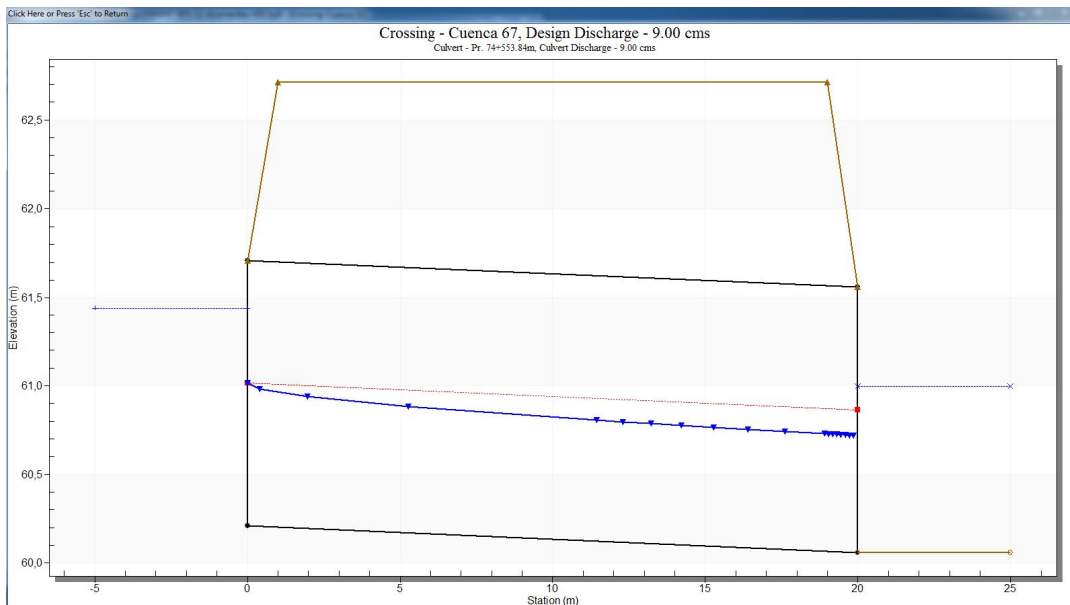
Display: Crossing Summary Table, **Culvert Summary Table** (Pr. 74+553.84m), Water Surface Profiles, Improved Inlet Table, Customized Table

Geometry: Inlet Elevation: 60.21 m, Outlet Elevation: 60.06 m, Culvert Length: 20.00 m, Culvert Slope: 0.0075, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot: Crossing Rating Curve, **Culvert Performance Curve**, Selected Water Profile, Water Surface Profile Data

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 68

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 71.00 | cms |
| Maximum Flow | 71.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 20.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0026 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 55.86 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 40.00 | m |
| Crest Elevation | 59.90 | m |
| Roadway Surface | Paved | |
| Top Width | 13.80 | m |

Culvert Properties

Pr. 75+696.02m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|----------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 75+696.02m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 20000.00 | mm |
| Rise | 3000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | Square Edge (90°) Headwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 55.90 | m |
| Outlet Station | 15.80 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 75+696.02m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 55.90 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7.15 | 7.15 | 56.38 | 0.42 | 0.48 | 1-S1t | 0.19 | 0.24 | 0.46 | 0.46 | 0.77 | 0.74 |
| 14.30 | 14.30 | 56.65 | 0.64 | 0.75 | 1-S1t | 0.34 | 0.37 | 0.70 | 0.70 | 1.02 | 0.95 |
| 21.45 | 21.45 | 56.87 | 0.84 | 0.97 | 1-S1t | 0.43 | 0.49 | 0.89 | 0.89 | 1.20 | 1.11 |
| 28.60 | 28.60 | 57.06 | 1.02 | 1.16 | 1-S1t | 0.52 | 0.59 | 1.05 | 1.05 | 1.36 | 1.23 |
| 35.75 | 35.75 | 57.24 | 1.18 | 1.34 | 1-S1t | 0.61 | 0.69 | 1.20 | 1.20 | 1.49 | 1.33 |
| 42.90 | 42.90 | 57.40 | 1.33 | 1.50 | 1-S1t | 0.68 | 0.78 | 1.34 | 1.34 | 1.60 | 1.41 |
| 50.05 | 50.05 | 57.56 | 1.48 | 1.66 | 1-S1t | 0.75 | 0.86 | 1.46 | 1.46 | 1.71 | 1.49 |
| 57.20 | 57.20 | 57.70 | 1.61 | 1.80 | 1-S1t | 0.81 | 0.94 | 1.58 | 1.58 | 1.81 | 1.56 |
| 64.35 | 64.35 | 57.84 | 1.74 | 1.94 | 1-S1t | 0.88 | 1.02 | 1.69 | 1.69 | 1.90 | 1.62 |
| 71.00 | 71.02 | 57.96 | 1.85 | 2.06 | 1-S1t | 0.93 | 1.09 | 1.79 | 1.79 | 1.98 | 1.68 |

Display

Crossing Summary Table

Culvert Summary Table Pr. 75+696.02m

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 55.90 m

Outlet Elevation: 55.86 m

Culvert Length: 15.80 m

Culvert Slope: 0.0025

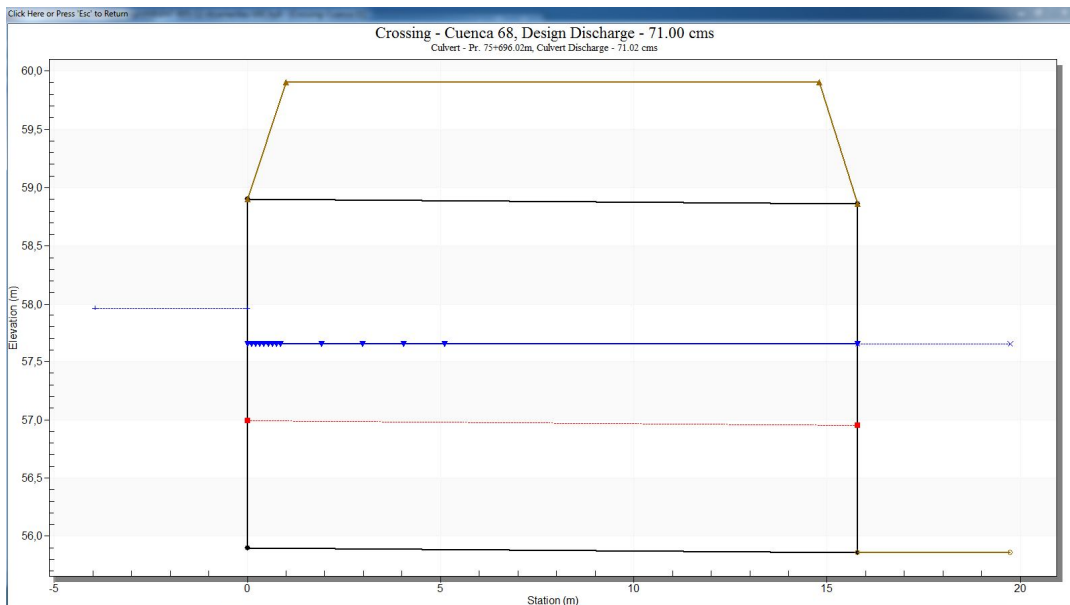
Inlet Crest: 0.00 m

Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 69

Crossing Properties
Name: Cuenca 69

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 3.00 | cms |
| Maximum Flow | 3.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0191 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 66.08 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 68.46 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 76+460.15m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 76+460.15m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 66.46 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 76+460.15m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 66.46 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.35 | 0.35 | 66.67 | 0.21 | 0.0* | 1-S2n | 0.08 | 0.15 | 0.08 | 0.16 | 2.12 | 0.93 |
| 0.70 | 0.70 | 66.80 | 0.34 | 0.0* | 1-S2n | 0.13 | 0.23 | 0.13 | 0.24 | 2.78 | 1.16 |
| 1.05 | 1.05 | 66.91 | 0.45 | 0.0* | 1-S2n | 0.16 | 0.30 | 0.16 | 0.30 | 3.19 | 1.32 |
| 1.40 | 1.40 | 67.00 | 0.54 | 0.0* | 1-S2n | 0.20 | 0.37 | 0.22 | 0.36 | 3.17 | 1.44 |
| 1.75 | 1.75 | 67.10 | 0.64 | 0.0* | 1-S2n | 0.23 | 0.43 | 0.26 | 0.40 | 3.35 | 1.54 |
| 2.10 | 2.10 | 67.19 | 0.73 | 0.0* | 1-S2n | 0.26 | 0.48 | 0.30 | 0.45 | 3.51 | 1.63 |
| 2.45 | 2.45 | 67.27 | 0.81 | 0.0* | 1-S2n | 0.29 | 0.54 | 0.34 | 0.48 | 3.64 | 1.70 |
| 2.80 | 2.80 | 67.36 | 0.90 | 0.0* | 1-S2n | 0.31 | 0.59 | 0.37 | 0.52 | 3.75 | 1.77 |
| 3.00 | 3.00 | 67.41 | 0.95 | 0.0* | 1-S2n | 0.33 | 0.61 | 0.39 | 0.54 | 3.81 | 1.80 |
| 3.50 | 3.50 | 67.53 | 1.07 | 0.0* | 5-S2n | 0.36 | 0.68 | 0.44 | 0.59 | 3.95 | 1.88 |

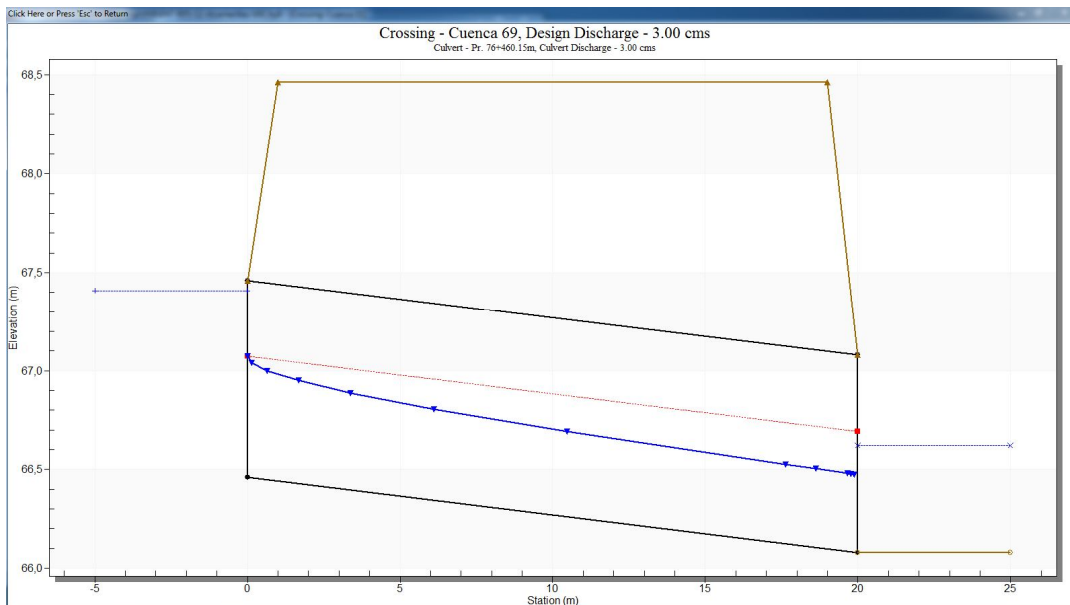
Display
 Crossing Summary Table
 Culvert Summary Table Pr. 76+460.15m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

Geometry
 Inlet Elevation: 66.46 m
 Outlet Elevation: 66.08 m
 Culvert Length: 20.00 m
 Culvert Slope: 0.0190
 Inlet Crest: 0.00 m
 Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 70

Crossing Properties
Name: Cuenca 70

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 4.00 | cms |
| Maximum Flow | 4.50 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 2.00 | :1 |
| Channel Slope | 0.0121 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 66.96 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 69.70 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties
Pr. 77+439.80m

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 77+439.80m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1500.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 67.20 | m |
| Outlet Station | 20.00 | m |

Help Click on any icon for help on a specific topic

Energy Dissipation Analyze Crossing OK Cancel

Culvert Summary Table - Pr. 77+439.80m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 67.20 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.45 | 0.45 | 67.46 | 0.26 | 0.0* | 1-S2n | 0.10 | 0.17 | 0.11 | 0.21 | 2.06 | 0.86 |
| 0.90 | 0.90 | 67.61 | 0.41 | 0.0* | 1-S2n | 0.17 | 0.27 | 0.17 | 0.32 | 2.59 | 1.08 |
| 1.35 | 1.35 | 67.73 | 0.53 | 0.0* | 1-S2n | 0.22 | 0.36 | 0.24 | 0.40 | 2.76 | 1.22 |
| 1.80 | 1.80 | 67.84 | 0.64 | 0.0* | 1-S2n | 0.27 | 0.44 | 0.30 | 0.46 | 2.98 | 1.32 |
| 2.25 | 2.25 | 67.95 | 0.75 | 0.0* | 1-S2n | 0.32 | 0.51 | 0.36 | 0.52 | 3.16 | 1.41 |
| 2.70 | 2.70 | 68.05 | 0.85 | 0.0* | 1-S2n | 0.36 | 0.57 | 0.41 | 0.58 | 3.32 | 1.49 |
| 3.15 | 3.15 | 68.15 | 0.95 | 0.0* | 1-S2n | 0.40 | 0.63 | 0.46 | 0.62 | 3.45 | 1.55 |
| 3.60 | 3.60 | 68.24 | 1.04 | 0.0* | 1-S2n | 0.43 | 0.69 | 0.50 | 0.67 | 3.57 | 1.61 |
| 4.00 | 4.00 | 68.33 | 1.13 | 0.0* | 1-S2n | 0.47 | 0.74 | 0.55 | 0.71 | 3.66 | 1.66 |
| 4.50 | 4.50 | 68.43 | 1.23 | 0.0* | 1-S2n | 0.51 | 0.80 | 0.60 | 0.75 | 3.77 | 1.71 |

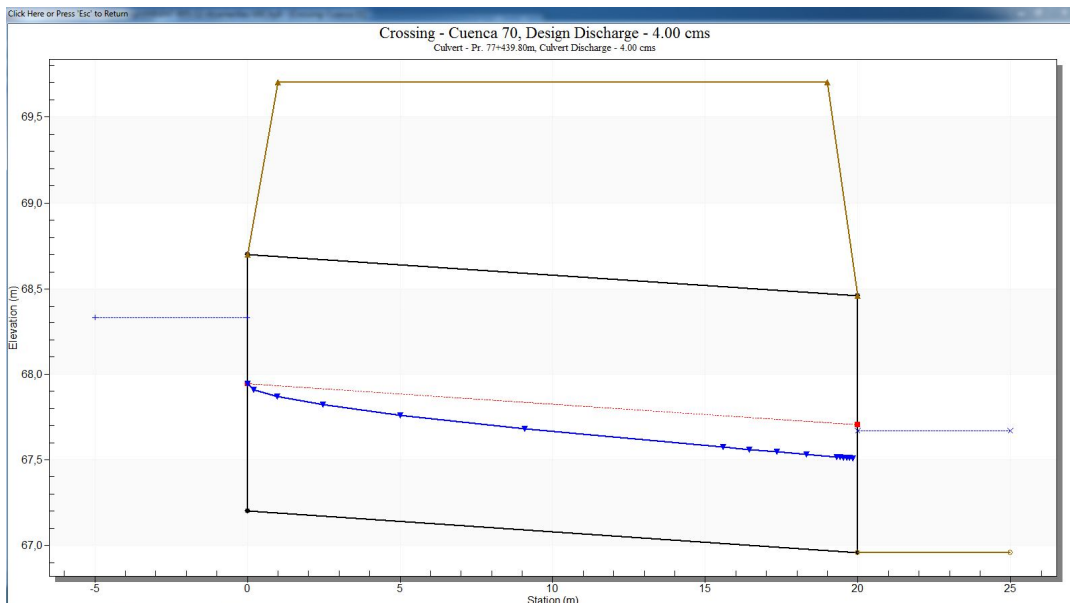
Display
 Crossing Summary Table
 Culvert Summary Table Pr. 77+439.80m
 Water Surface Profiles
 Improved Inlet Table
 Customized Table Options...

Geometry
 Inlet Elevation: 67.20 m
 Outlet Elevation: 66.96 m
 Culvert Length: 20.00 m
 Culvert Slope: 0.0120
 Inlet Crest: 0.00 m
 Inlet Throat: 0.00 m

Plot

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Help Flow Types... Edit Input Data... Energy Dissipation... Export Report Adobe PDF (*.pdf) Close



Proyecto y Diseño de Obras Hidráulicas. RP5 – Tramo: Federal empalme RP2
Provincia de Entre Ríos

Crossing Data - Cuenca 71

Crossing Properties

Name:

| Parameter | Value | Units |
|--------------------------|----------------------------|-------|
| DISCHARGE DATA | | |
| Minimum Flow | 0.00 | cms |
| Design Flow | 2.50 | cms |
| Maximum Flow | 3.00 | cms |
| TAILWATER DATA | | |
| Channel Type | Trapezoidal Channel | |
| Bottom Width | 2.00 | m |
| Side Slope (H:V) | 1:1 | |
| Channel Slope | 0.0124 | m/m |
| Manning's n (channel) | 0.0400 | |
| Channel Invert Elevation | 68.55 | m |
| Rating Curve | View... | |
| ROADWAY DATA | | |
| Roadway Profile Shape | Constant Roadway Elevation | |
| First Roadway Station | 0.00 | m |
| Crest Length | 4.00 | m |
| Crest Elevation | 70.80 | m |
| Roadway Surface | Paved | |
| Top Width | 18.00 | m |

Culvert Properties

Pr. 78+723.83m

Parameter Value Units

| Parameter | Value | Units |
|------------------------|--------------------------------|-------|
| CULVERT DATA | | |
| Name | Pr. 78+723.83m | |
| Shape | Concrete Box | |
| Material | Concrete | |
| Span | 2000.00 | mm |
| Rise | 1000.00 | mm |
| Embedment Depth | 0.00 | mm |
| Manning's n | 0.0120 | |
| Inlet Type | Conventional | |
| Inlet Edge Condition | 1:1 Bevel (45° flare) Wingwall | |
| Inlet Depression? | No | |
| SITE DATA | | |
| Site Data Input Option | Culvert Invert Data | |
| Inlet Station | 0.00 | m |
| Inlet Elevation | 68.80 | m |
| Outlet Station | 20.00 | m |

Buttons: Help, Click on any icon for help on a specific topic, Energy Dissipation, Analyze Crossing, OK, Cancel

Culvert Summary Table - Pr. 78+723.83m

| Total Discharge (cms) | Culvert Discharge (cms) | Headwater Elevation (m) | Inlet Control Depth(m) | Outlet Control Depth(m) | Flow Type | Normal Depth (m) | Critical Depth (m) | Outlet Depth (m) | Tailwater Depth (m) | Outlet Velocity (m/s) | Tailwater Velocity (m/s) |
|-----------------------|-------------------------|-------------------------|------------------------|-------------------------|-----------|------------------|--------------------|------------------|---------------------|-----------------------|--------------------------|
| 0.00 | 0.00 | 68.80 | 0.00 | 0.0* | 0-NF | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.30 | 0.30 | 68.99 | 0.19 | 0.0* | 1-S2n | 0.08 | 0.13 | 0.08 | 0.17 | 1.80 | 0.76 |
| 0.60 | 0.60 | 69.11 | 0.31 | 0.0* | 1-S2n | 0.13 | 0.21 | 0.13 | 0.25 | 2.30 | 0.96 |
| 0.90 | 0.90 | 69.21 | 0.41 | 0.0* | 1-S2n | 0.17 | 0.27 | 0.17 | 0.32 | 2.63 | 1.08 |
| 1.20 | 1.20 | 69.29 | 0.49 | 0.0* | 1-S2n | 0.21 | 0.33 | 0.22 | 0.37 | 2.70 | 1.18 |
| 1.50 | 1.50 | 69.37 | 0.57 | 0.0* | 1-S2n | 0.24 | 0.39 | 0.24 | 0.42 | 3.11 | 1.27 |
| 1.80 | 1.80 | 69.46 | 0.66 | 0.0* | 1-S2n | 0.27 | 0.44 | 0.30 | 0.46 | 3.01 | 1.33 |
| 2.10 | 2.10 | 69.53 | 0.73 | 0.0* | 1-S2n | 0.30 | 0.48 | 0.33 | 0.50 | 3.14 | 1.40 |
| 2.40 | 2.40 | 69.61 | 0.81 | 0.0* | 1-S2n | 0.33 | 0.53 | 0.37 | 0.54 | 3.25 | 1.45 |
| 2.50 | 2.50 | 69.63 | 0.83 | 0.0* | 1-S2n | 0.33 | 0.54 | 0.38 | 0.55 | 3.28 | 1.47 |
| 3.00 | 3.00 | 69.75 | 0.95 | 0.0* | 1-S2n | 0.38 | 0.61 | 0.44 | 0.61 | 3.44 | 1.54 |

Display: Crossing Summary Table, Culvert Summary Table (Pr. 78+723.83m), Water Surface Profiles, Improved Inlet Table, Customized Table (Options...)

Geometry: Inlet Elevation: 68.80 m, Outlet Elevation: 68.55 m, Culvert Length: 20.00 m, Culvert Slope: 0.0125, Inlet Crest: 0.00 m, Inlet Throat: 0.00 m

Plot:

* theoretical depth is impractical. Depth reported is corrected. Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Energy Dissipation..., Export Report, Adobe PDF (*.pdf), Close

