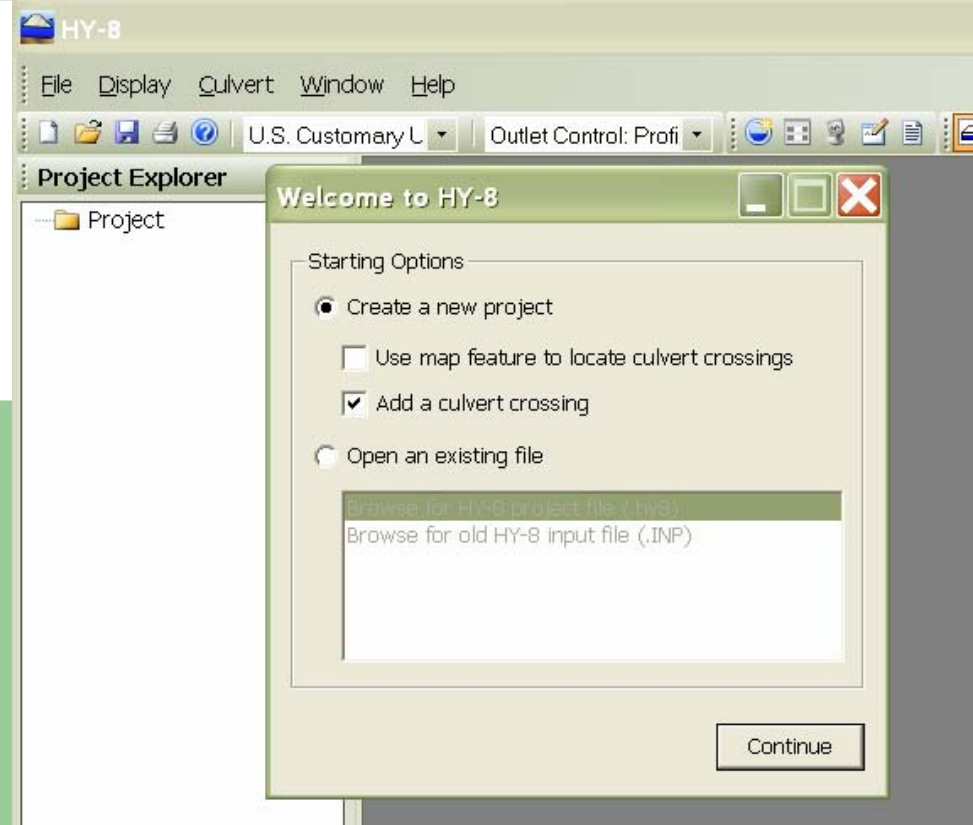




# Section 11: HY-8



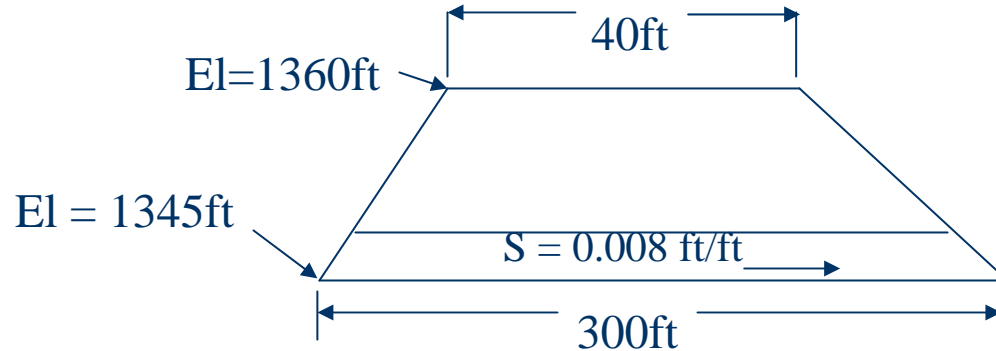
# Section 11

## HY8 Culvert Design Software

HY8 is a Window interactive program with a DOS engine that allows the user to :

1. Design and analyze a culvert or a system of culvert
2. Consider and analyze roadway overtopping
3. Generate and route hydrographs through a culvert
4. Design and analyze energy dissipators

## HY8 Example



Design Flow for Q25 = 100cfs  
Check Flow for Q100 = 250cfs

Tailwater Data-Trapezoidal Channel

Side Slopes = 1.5:1

Bottom Width = 3.5ft

Channel Slope = 0.008ft/ft

Channel Invert Elevation = 1342.6ft

Manning's n value = 0.035

Natural stream channel with gravel, cobbles, few boulders

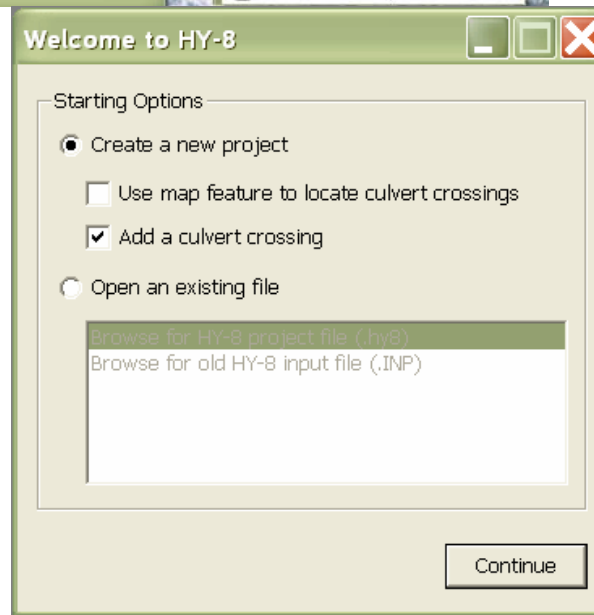
## HY8 Example

### 1. Open up the HY8 Input Generator



### 2. Create a new project

Select Continue



## HY8 Example

### 3. Add new culvert crossing

**Crossing Data - Crossing 1**

Crossing Properties

Name:

Parameter	Value	Units
<b>DISCHARGE DATA</b>		
Minimum Flow	0.00	cfs
Design Flow	0.00	cfs
Maximum Flow	0.00	cfs
<b>TAILWATER DATA</b>		
Channel Type	Rectangular Channel	
Bottom Width	0.00	ft
Channel Slope	0.0000	ft/ft
Manning's n (channel)	0.0000	
Channel Invert Elevation	0.00	ft
Rating Curve	View...	
<b>ROADWAY DATA</b>		
Roadway Profile Shape	Constant Roadway Elevation	
First Roadway Station	0.00	ft
Crest Length	0.00	ft
Crest Elevation	0.00	ft
Roadway Surface	Paved	
Top Width	0.00	ft

Culvert Properties


Culvert 1

Add Culvert

Duplicate Culvert

Delete Culvert

Parameter	Value	Units
<b>CULVERT DATA</b>		
Name	Culvert 1	
Shape	Circular	
Material	Concrete	
Diameter	0.00	ft
Manning's n	0.0120	
<input checked="" type="checkbox"/> Inlet Type	Conventional	
<input checked="" type="checkbox"/> Inlet Edge Condition	Square Edge with Headwall	
Inlet Depression?	No	
<b>SITE DATA</b>		
Site Data Input Option	Culvert Invert Data	
Inlet Station	0.00	ft
Inlet Elevation	0.00	ft
Outlet Station	0.00	ft
Outlet Elevation	0.00	ft
Number of Barrels	1	

Help    Click on any  icon for help on a specific

Analyze Crossing    OK    Cancel

## HY8 Example

4. Enter the following “Discharge Data” into the *Crossing Data*

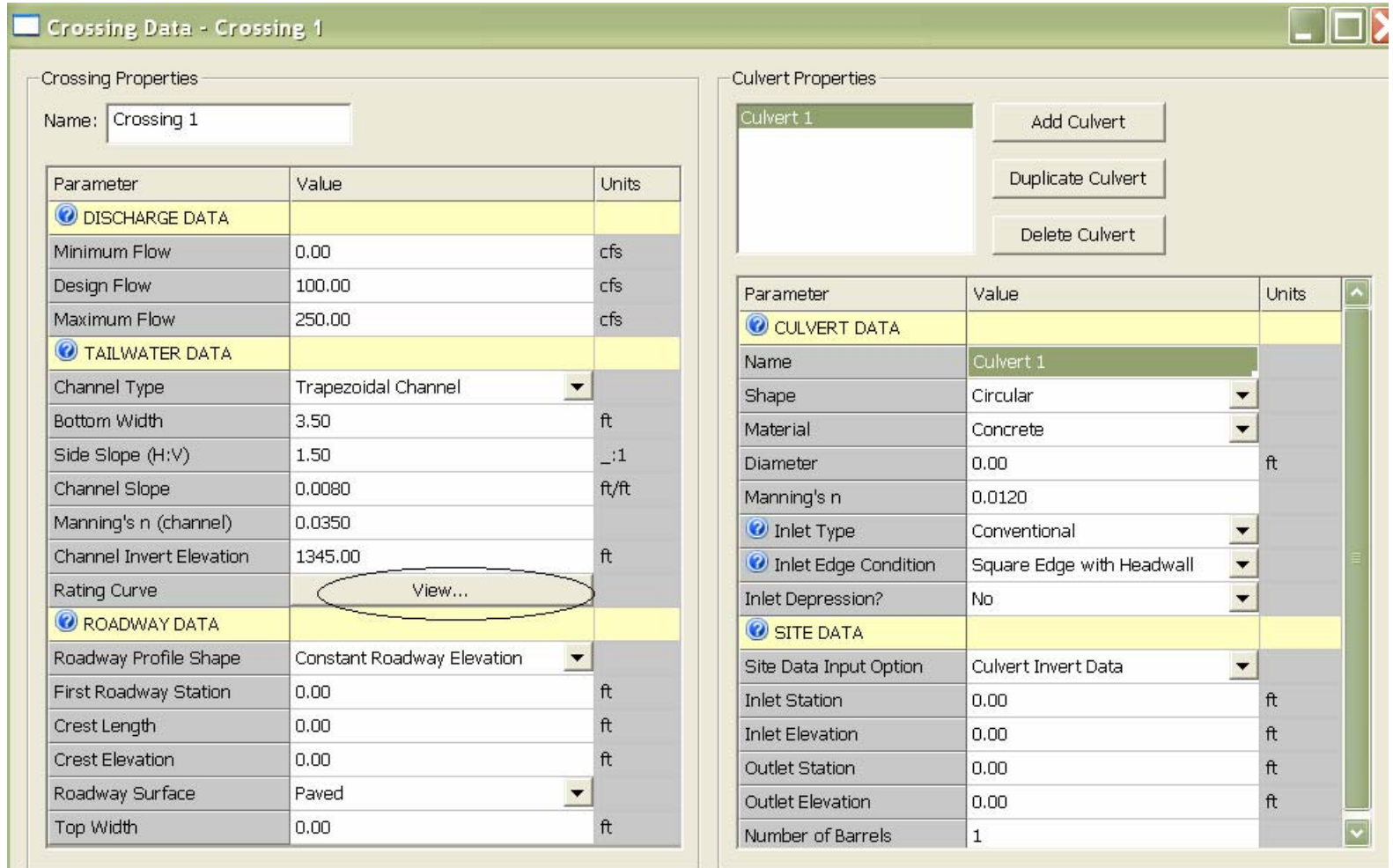
Minimum Flow	0.0 cfs
Design Flow	100.0 cfs
Maximum Flow	250.0 cfs

5. Enter the following “Tailwater Data” into the *Crossing Data* window

Channel Type	Trapezoidal Channel
Bottom Width	3.5 ft
Side Slope (H:V)	1.5:1
Channel Slope	0.008 ft/ft
Manning’s n (channel)	0.035
Channel Invert Elevation	1345.0 ft

## HY8 Example

6. Click “View” button to see the Rating Curve



**Crossing Data - Crossing 1**

Crossing Properties

Name: Crossing 1

Parameter	Value	Units
<b>DISCHARGE DATA</b>		
Minimum Flow	0.00	cfs
Design Flow	100.00	cfs
Maximum Flow	250.00	cfs
<b>TAILWATER DATA</b>		
Channel Type	Trapezoidal Channel	
Bottom Width	3.50	ft
Side Slope (H:V)	1.50	_:1
Channel Slope	0.0080	ft/ft
Manning's n (channel)	0.0350	
Channel Invert Elevation	1345.00	ft
Rating Curve	View...	
<b>ROADWAY DATA</b>		
Roadway Profile Shape	Constant Roadway Elevation	
First Roadway Station	0.00	ft
Crest Length	0.00	ft
Crest Elevation	0.00	ft
Roadway Surface	Paved	
Top Width	0.00	ft

**Culvert Properties**

Culvert 1

Add Culvert

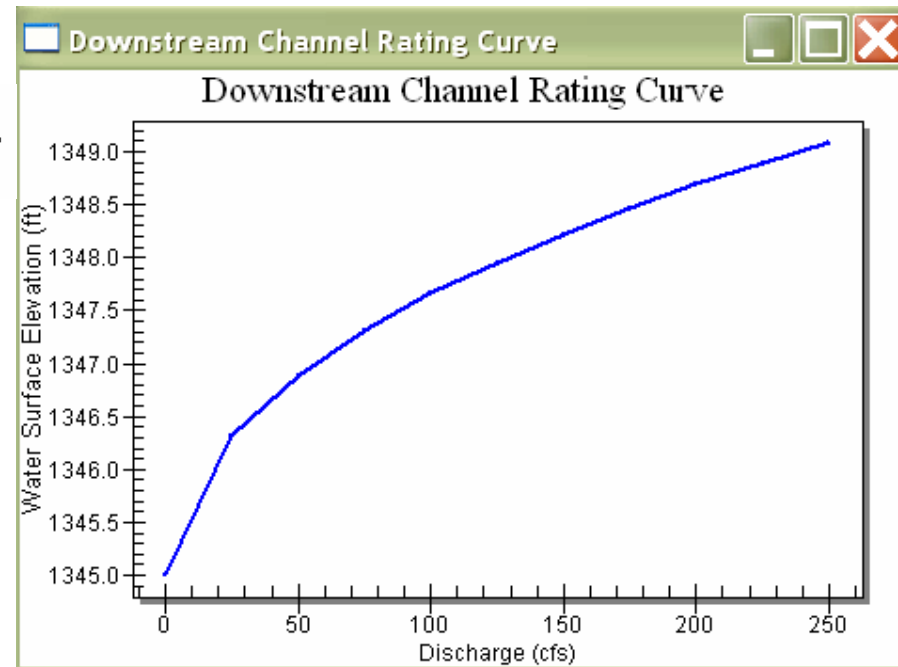
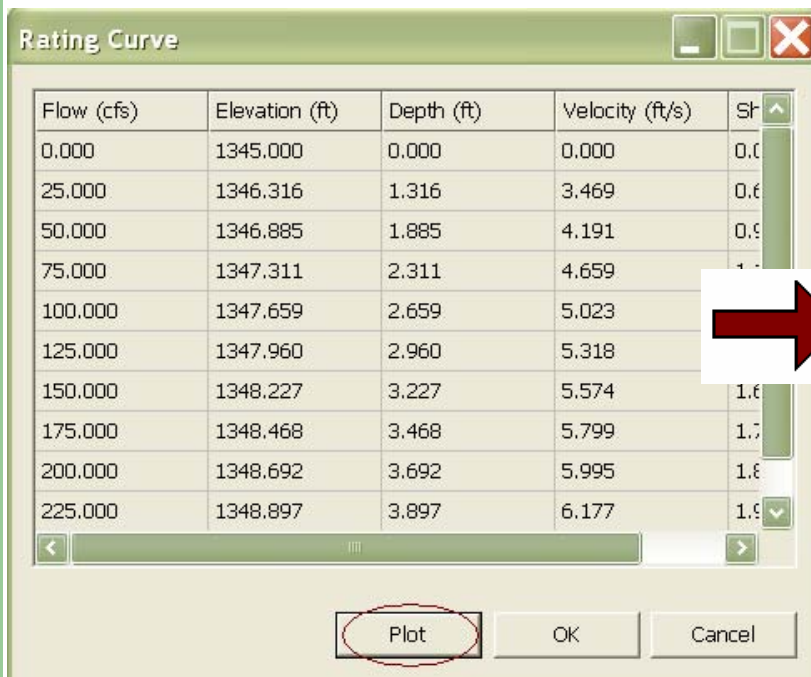
Duplicate Culvert

Delete Culvert

Parameter	Value	Units
<b>CULVERT DATA</b>		
Name	Culvert 1	
Shape	Circular	
Material	Concrete	
Diameter	0.00	ft
Manning's n	0.0120	
Inlet Type	Conventional	
Inlet Edge Condition	Square Edge with Headwall	
Inlet Depression?	No	
<b>SITE DATA</b>		
Site Data Input Option	Culvert Invert Data	
Inlet Station	0.00	ft
Inlet Elevation	0.00	ft
Outlet Station	0.00	ft
Outlet Elevation	0.00	ft
Number of Barrels	1	

## HY8 Example

7. Plot the Rating Curve, but when finished, close the plot window and choose “OK” in the Rating Curve window.





## HY8 Example

8. Enter the following “Roadway Data” into the *Crossing Data*

Roadway Profile Shape	Constant Roadway Elev.
First Roadway Station	0.0 ft
Crest Length	100.0 ft
Crest Elevation	110.0 ft
Roadway Surface	Paved
Top Width	150.0 ft

## HY8 Example

9. Enter the following “Culvert Data” into the *Crossing Data*

Name	Example 1
Shape	Circular
Material	Concrete
Diameter	4.0 ft
Manning's n	0.012
Inlet Type	Conventional
Inlet Edge Condition	Grooved End Projection
Inlet Depression?	No

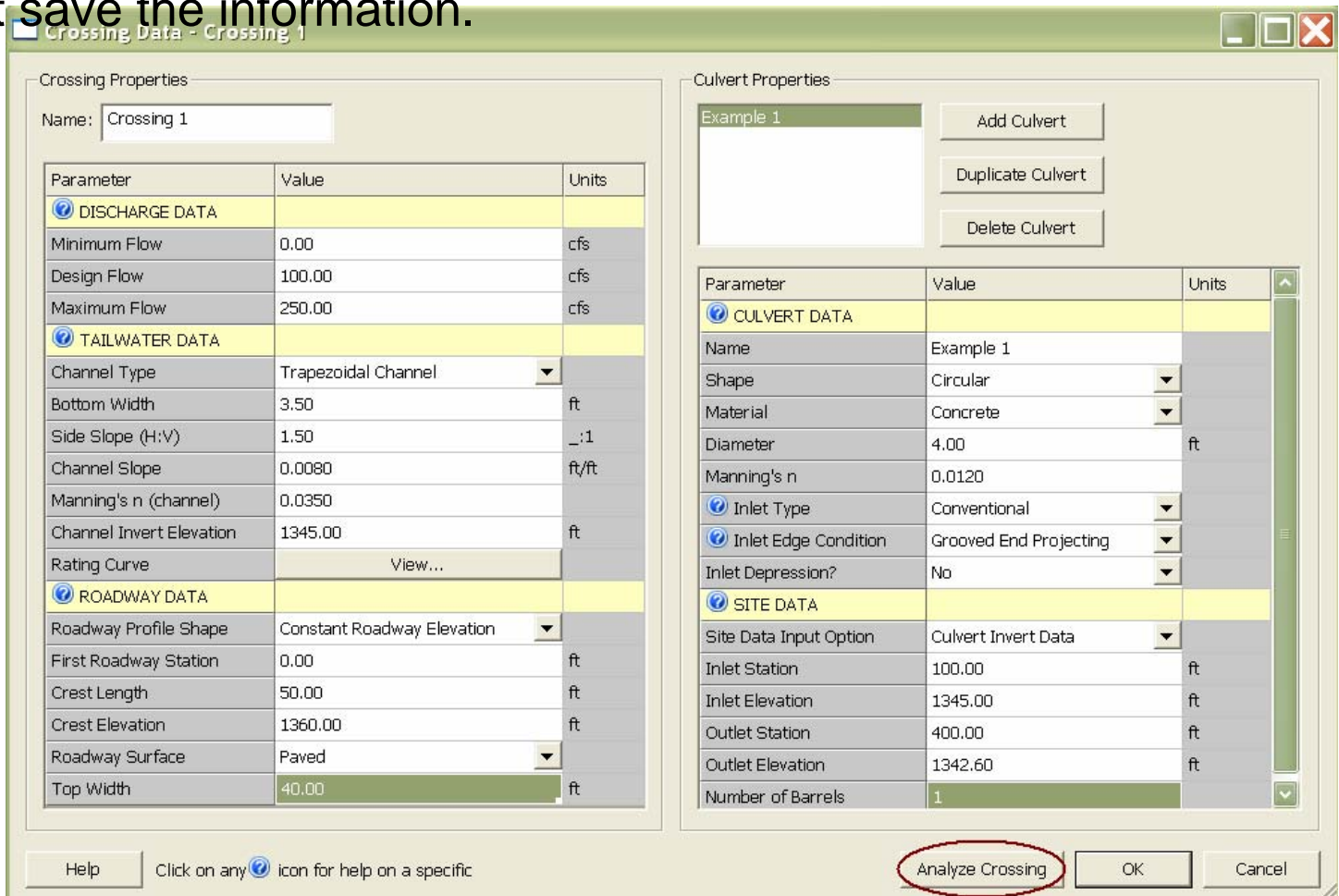
## HY8 Example

10. Enter the following “Site Data” into the *Crossing Data*

Site Data Input Option	Culvert Invert Data
Inlet Station	100.0 ft
Inlet Elevation	1345.0 ft
Outlet Station	400.0 ft
Outlet Elevation	1342.6 ft
Number of Barrels	1.0

## HY8 Example

11. Select the *Analyze Crossing* button. This runs the analysis, but does not save the information.



Crossing Data - Crossing 1

Crossing Properties

Name: Crossing 1

Parameter	Value	Units
<input checked="" type="radio"/> DISCHARGE DATA		
Minimum Flow	0.00	cfs
Design Flow	100.00	cfs
Maximum Flow	250.00	cfs
<input checked="" type="radio"/> TAILWATER DATA		
Channel Type	Trapezoidal Channel	
Bottom Width	3.50	ft
Side Slope (H:V)	1.50	_:1
Channel Slope	0.0080	ft/ft
Manning's n (channel)	0.0350	
Channel Invert Elevation	1345.00	ft
Rating Curve	View...	
<input checked="" type="radio"/> ROADWAY DATA		
Roadway Profile Shape	Constant Roadway Elevation	
First Roadway Station	0.00	ft
Crest Length	50.00	ft
Crest Elevation	1360.00	ft
Roadway Surface	Paved	
Top Width	40.00	ft

Culvert Properties

Example 1

Add Culvert

Duplicate Culvert

Delete Culvert

Parameter	Value	Units
<input checked="" type="radio"/> CULVERT DATA		
Name	Example 1	
Shape	Circular	
Material	Concrete	
Diameter	4.00	ft
Manning's n	0.0120	
<input checked="" type="radio"/> Inlet Type	Conventional	
<input checked="" type="radio"/> Inlet Edge Condition	Grooved End Projecting	
Inlet Depression?	No	
<input checked="" type="radio"/> SITE DATA		
Site Data Input Option	Culvert Invert Data	
Inlet Station	100.00	ft
Inlet Elevation	1345.00	ft
Outlet Station	400.00	ft
Outlet Elevation	1342.60	ft
Number of Barrels	1	

Help Click on any icon for help on a specific

Analyze Crossing OK Cancel

## HY8 Example

12. Select the *Crossing Rating Curve* button.

Summary of Flows at Crossing - Crossing 1

Headwater Elevation (ft)	Total Discharge (cfs)	Example 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
1345.00	0.00	0.00	0.00	1
1347.02	25.00	25.00	0.00	1
1348.03	50.00	50.00	0.00	1
1348.86	75.00	75.00	0.00	1
1350.07	100.00	100.00	0.00	1
1351.73	125.00	125.00	0.00	1
1353.65	150.00	150.00	0.00	1
1355.85	175.00	175.00	0.00	1
1358.34	200.00	200.00	0.00	1
1360.15	225.00	216.03	8.92	8
1360.37	250.00	216.25	33.67	6
1360.00	215.32	215.32	0.00	Overtopping

Display

Crossing Summary Table

Culvert Summary Table Example 1

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

Geometry

Inlet Elevation: 1345.00 ft

Outlet Elevation: 1342.60 ft

Culvert Length: 300.01 ft

Culvert Slope: 0.0080

Inlet Crest: 0.00 ft

Inlet Throat: 0.00 ft

Plot

Crossing Rating Curve

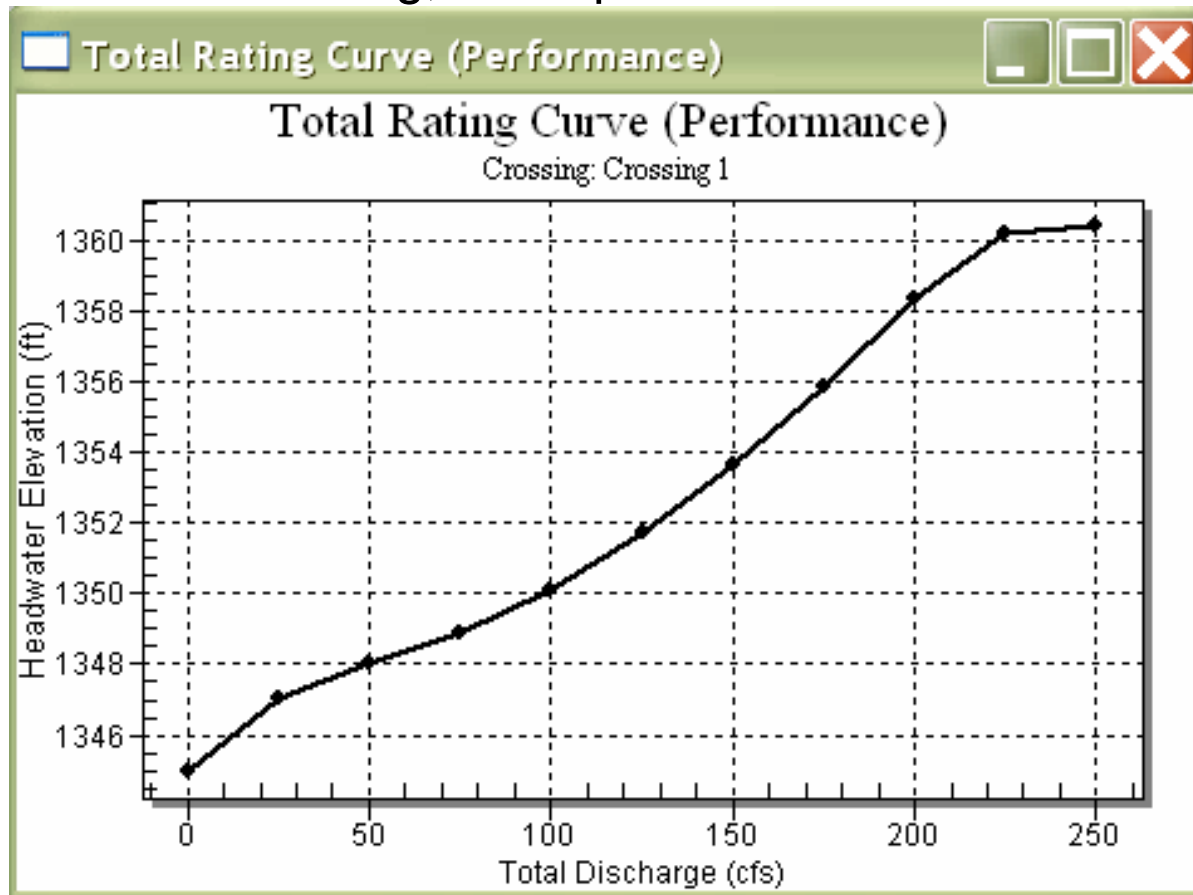
Culvert Performance Curve

Selected Water Profile

Help Flow Types... Edit Input Data... Outlet Control: Profiles Close

## HY8 Example

13. A plot of the rating curve (Headwater Elevation vs. Discharge) will appear. After viewing, close plot window.



## HY8 Example

14. Select *Culvert Summary Table* option in the *Display* box.

**Culvert Summary Table - Example 1**

Total Discharge	Culvert Discharge	Leadwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	1345.00	0.00	0.00	0-NF	0.00	0.00	0.00	0.00	0.00	0.00
25.00	25.00	1347.02	2.02	2.02	1-S2n	1.14	1.47	1.15	1.32	8.38	3.47
50.00	50.00	1348.03	3.03	3.03	1-S1f	1.65	2.11	2.11	1.89	7.42	4.19
75.00	75.00	1348.86	3.86	3.86	5-S1f	2.09	2.61	2.61	2.31	8.64	4.66
100.00	100.00	1350.07	4.76	<b>5.07</b>	4-FFf	2.51	3.02	4.00	2.66	7.96	5.02
125.00	125.00	1351.73	5.87	<b>6.73</b>	4-FFf	2.97	3.33	4.00	2.96	9.95	5.32
150.00	150.00	1353.65	7.25	<b>8.65</b>	4-FFf	4.00	3.59	4.00	3.23	11.94	5.57
175.00	175.00	1355.85	8.91	<b>10.85</b>	4-FFf	4.00	3.85	4.00	3.47	13.93	5.80
200.00	200.00	1358.34	10.82	<b>13.34</b>	4-FFf	4.00	4.00	4.00	3.69	15.92	5.99
225.00	216.03	1360.15	12.18	<b>15.15</b>	4-FFf	4.00	4.00	4.00	3.90	17.19	6.18
250.00	216.25	1360.37	12.21	<b>15.37</b>	4-FFf	4.00	4.00	4.00	4.09	17.21	6.34

**Display**

Crossing Summary Table

**Culvert Summary Table** Example 1

Water Surface Profiles

Improved Inlet Table

Customized Table Options...

**Geometry**

Inlet Elevation: 1345.00 ft

Outlet Elevation: 1342.60 ft

Culvert Length: 300.01 ft

Culvert Slope: 0.0080

Inlet Crest: 0.00 ft

Inlet Throat: 0.00 ft

**Plot**

Outlet Control: Profiles

## HY8 Example

15. Select the *Culvert Performance Curve* button.

**Culvert Summary Table - Example 1**

Total Discharge	Culvert Discharge	Inletwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	1345.00	0.00	0.00	0-NF	0.00	0.00	0.00	0.00	0.00	0.00
25.00	25.00	1347.02	2.02	2.02	1-S2n	1.14	1.47	1.15	1.32	8.38	3.47
50.00	50.00	1348.03	3.03	3.03	1-S1f	1.65	2.11	2.11	1.89	7.42	4.19
75.00	75.00	1348.86	3.86	3.86	5-S1f	2.09	2.61	2.61	2.31	8.64	4.66
100.00	100.00	1350.07	4.76	<b>5.07</b>	4-FFf	2.51	3.02	4.00	2.66	7.96	5.02
125.00	125.00	1351.73	5.87	<b>6.73</b>	4-FFF	2.97	3.33	4.00	2.96	9.95	5.32
150.00	150.00	1353.65	7.25	<b>8.65</b>	4-FFF	4.00	3.59	4.00	3.23	11.94	5.57
175.00	175.00	1355.85	8.91	<b>10.85</b>	4-FFF	4.00	3.85	4.00	3.47	13.93	5.80
200.00	200.00	1358.34	10.82	<b>13.34</b>	4-FFF	4.00	4.00	4.00	3.69	15.92	5.99
225.00	216.03	1360.15	12.18	<b>15.15</b>	4-FFF	4.00	4.00	4.00	3.90	17.19	6.18
250.00	216.25	1360.37	12.21	<b>15.37</b>	4-FFF	4.00	4.00	4.00	4.09	17.21	6.34

**Display**

- Crossing Summary Table
- Culvert Summary Table Example 1
- Water Surface Profiles
- Improved Inlet Table
- Customized Table Options...

**Geometry**

- Inlet Elevation: 1345.00 ft
- Outlet Elevation: 1342.60 ft
- Culvert Length: 300.01 ft
- Culvert Slope: 0.0080
- Inlet Crest: 0.00 ft
- Inlet Throat: 0.00 ft

**Plot**

- 
- 
- 

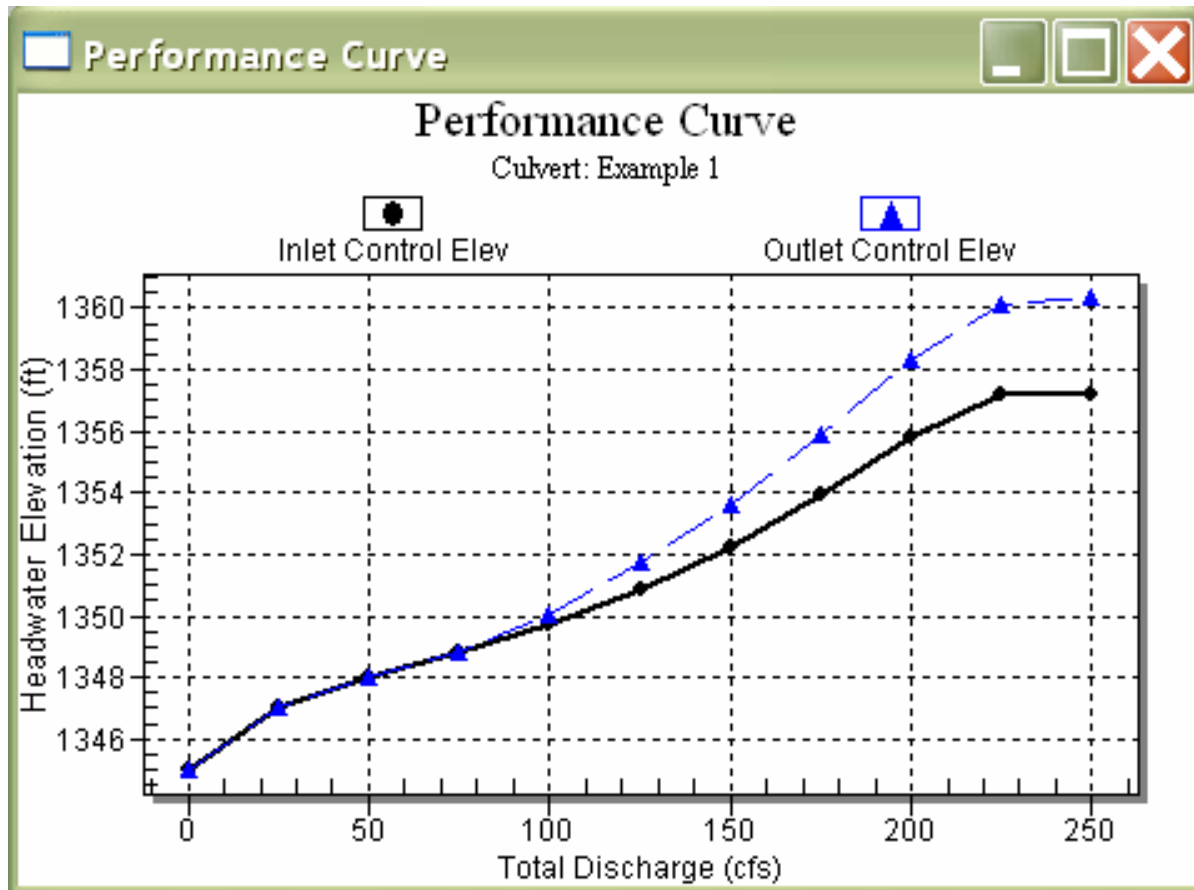
Outlet Control: Profiles

Buttons: Help, Flow Types..., Edit Input Data..., Close



## HY8 Example

16. A plot of the performance curve (Inlet/Outlet Control Headwater Elevation vs. Discharge) will appear. After viewing, close window.



## HY8 Example

17. Select the *Water Surface Profiles* option in the *Display* box.

Water Surface Profile Table - Example 1

Total Discharge	Culvert Discharge	Leadwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Length Full (ft)	Length Free (ft)	Last Step (ft)	Mean Slope (%)	First Depth (ft)	Last Depth (ft)
0.00	0.00	1345.00	0.00	0.00	0-NF	0.00	0.00	0.00	0.00	0.00	0.00
25.00	25.00	1347.02	2.02	2.02	1-S2h	0.00	300.01	1160.13	0.81	1.47	1.15
50.00	50.00	1348.03	3.03	3.03	1-S1f	35.67	185.24	5.71	0.25	4.00	2.20
75.00	75.00	1348.86	3.86	3.86	5-S1f	88.85	134.89	6.45	0.32	4.00	2.70
100.00	100.00	1350.07	4.76	<b>5.07</b>	4-FFF	300.01	0.00	0.00	0.00	4.00	4.00
125.00	125.00	1351.73	5.87	<b>6.73</b>	4-FFF	300.01	0.00	0.00	0.00	4.00	4.00
150.00	150.00	1353.65	7.25	<b>8.65</b>	4-FFF	300.01	0.00	0.00	0.00	4.00	4.00
175.00	175.00	1355.85	8.91	<b>10.85</b>	4-FFF	300.01	0.00	0.00	0.00	4.00	4.00
200.00	200.00	1358.34	10.82	<b>13.34</b>	4-FFF	300.01	0.00	0.00	0.00	4.00	4.00
225.00	216.03	1360.15	12.18	<b>15.15</b>	4-FFF	300.01	0.00	0.00	0.00	4.00	4.00
250.00	216.25	1360.37	12.21	<b>15.37</b>	4-FFF	300.01	0.00	0.00	0.00	4.00	4.00

Display

- Crossing Summary Table
- Culvert Summary Table Example 1
- Water Surface Profiles**
- Improved Inlet Table
- Customized Table Options...

Geometry

Inlet Elevation: 1345.00 ft  
 Outlet Elevation: 1342.60 ft  
 Culvert Length: 300.01 ft  
 Culvert Slope: 0.0080  
 Inlet Crest: 0.00 ft  
 Inlet Throat: 0.00 ft

Plot

Crossing Rating Curve  
 Culvert Performance Curve  
 Selected Water Profile

Help Flow Types... Edit Input Data... Outlet Control: Profiles Close

## HY8 Example

18. Select the 100 cfs profile (fourth from the top) and select the *Selected Water Profile* button.

Water Surface Profile Table - Example 1

Total Discharge	Culvert Discharge	headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Flow Type	Length Full (ft)	Length Free (ft)	Last Step (ft)	Mean Slope (%)	First Depth (ft)	Last Depth (ft)
0.00	0.00	1345.00	0.00	0.00	0-NF	0.00	0.00	0.00	0.00	0.00	0.00
25.00	25.00	1347.02	2.02	2.02	1-S2n	0.00	300.01	1160.13	0.81	1.47	1.15
50.00	50.00	1348.03	3.03	3.03	1-S1f	35.67	185.24	5.71	0.25	4.00	2.20
75.00	75.00	1348.86	3.86	3.86	5-S1f	88.85	134.89	6.45	0.32	4.00	2.70
100.00	100.00	1350.07	4.76	5.07	4-FFf	300.01	0.00	0.00	0.00	4.00	4.00
125.00	125.00	1351.73	5.87	6.73	4-FFf	300.01	0.00	0.00	0.00	4.00	4.00
150.00	150.00	1353.65	7.25	8.65	4-FFf	300.01	0.00	0.00	0.00	4.00	4.00
175.00	175.00	1355.85	8.91	10.85	4-FFf	300.01	0.00	0.00	0.00	4.00	4.00
200.00	200.00	1358.34	10.82	13.34	4-FFf	300.01	0.00	0.00	0.00	4.00	4.00
225.00	216.03	1360.15	12.18	15.15	4-FFf	300.01	0.00	0.00	0.00	4.00	4.00
250.00	216.25	1360.37	12.21	15.37	4-FFf	300.01	0.00	0.00	0.00	4.00	4.00

Display

Crossing Summary Table  
 Culvert Summary Table Example 1  
 Water Surface Profiles  
 Improved Inlet Table  
 Customized Table Options...

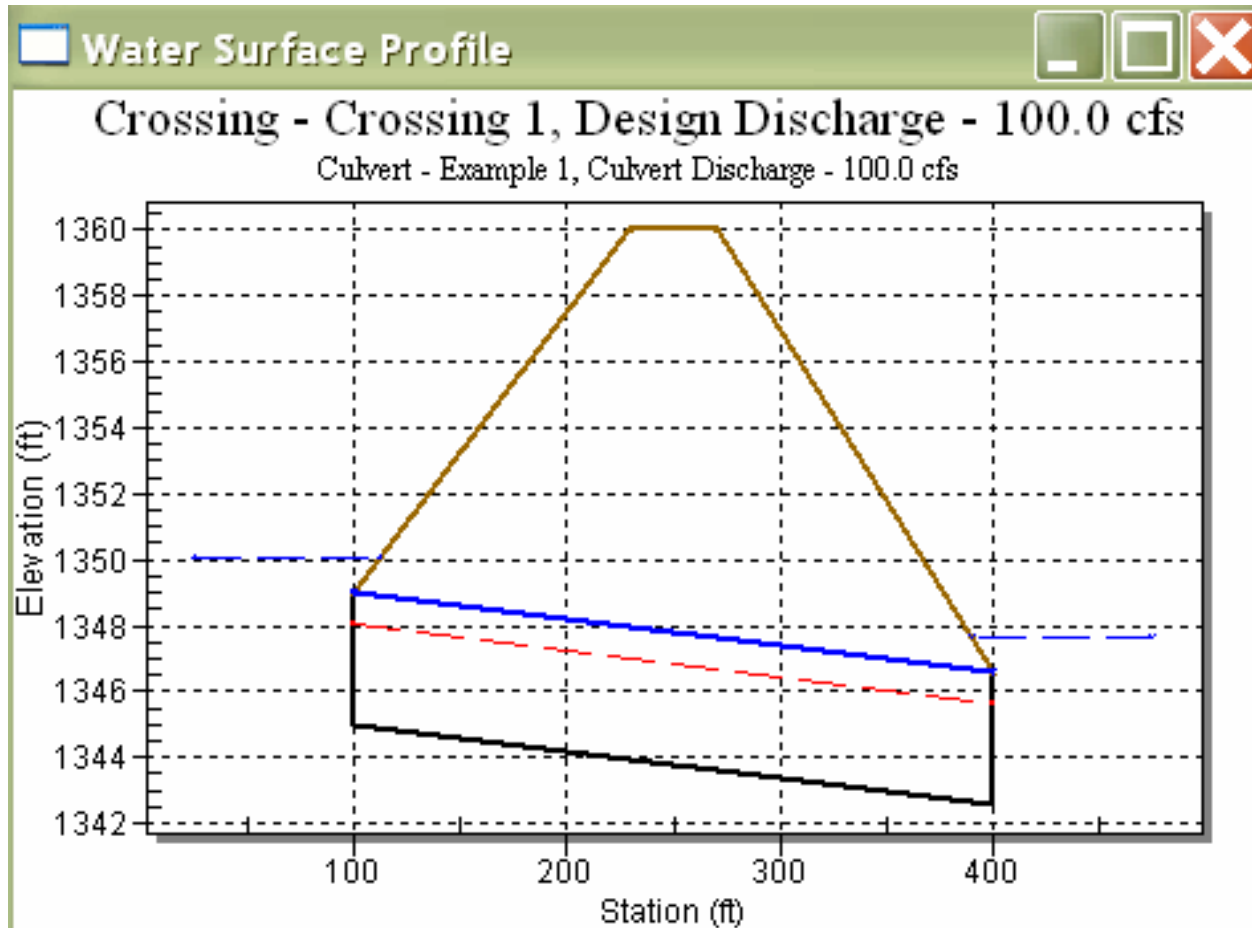
Geometry

Inlet Elevation: 1345.00 ft  
 Outlet Elevation: 1342.60 ft  
 Culvert Length: 300.01 ft  
 Culvert Slope: 0.0080  
 Inlet Crest: 0.00 ft  
 Inlet Throat: 0.00 ft

Plot

## HY8 Example

19. A plot of the curve profile (for the selected discharge of 100 cfs) will appear. After viewing, close window.



## HY8 Example

20. Select the *Close* button on the Analysis window.

Water Surface Profile Table - Example 1

Total Discharge	Culvert Discharge	headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Flow Type	Length Full (ft)	Length Free (ft)	Last Step (ft)	Mean Slope (%)	First Depth (ft)	Last Depth (ft)
0.00	0.00	1345.00	0.00	0.00	0-NF	0.00	0.00	0.00	0.00	0.00	0.00
25.00	25.00	1347.02	2.02	2.02	1-S2n	0.00	300.01	1160.13	0.81	1.47	1.15
50.00	50.00	1348.03	3.03	3.03	1-S1f	35.67	185.24	5.71	0.25	4.00	2.20
75.00	75.00	1348.86	3.86	3.86	5-S1f	88.85	134.89	6.45	0.32	4.00	2.70
100.00	100.00	1350.07	4.76	<b>5.07</b>	4-FFf	300.01	0.00	0.00	0.00	4.00	4.00
125.00	125.00	1351.73	5.87	<b>6.73</b>	4-FFf	300.01	0.00	0.00	0.00	4.00	4.00
150.00	150.00	1353.65	7.25	<b>8.65</b>	4-FFf	300.01	0.00	0.00	0.00	4.00	4.00
175.00	175.00	1355.85	8.91	<b>10.85</b>	4-FFf	300.01	0.00	0.00	0.00	4.00	4.00
200.00	200.00	1358.34	10.82	<b>13.34</b>	4-FFf	300.01	0.00	0.00	0.00	4.00	4.00
225.00	216.03	1360.15	12.18	<b>15.15</b>	4-FFf	300.01	0.00	0.00	0.00	4.00	4.00
250.00	216.25	1360.37	12.21	<b>15.37</b>	4-FFf	300.01	0.00	0.00	0.00	4.00	4.00

Display

- Crossing Summary Table
- Culvert Summary Table Example 1
- Water Surface Profiles
- Improved Inlet Table
- Customized Table Options...

Geometry

- Inlet Elevation: 1345.00 ft
- Outlet Elevation: 1342.60 ft
- Culvert Length: 300.01 ft
- Culvert Slope: 0.0080
- Inlet Crest: 0.00 ft
- Inlet Throat: 0.00 ft

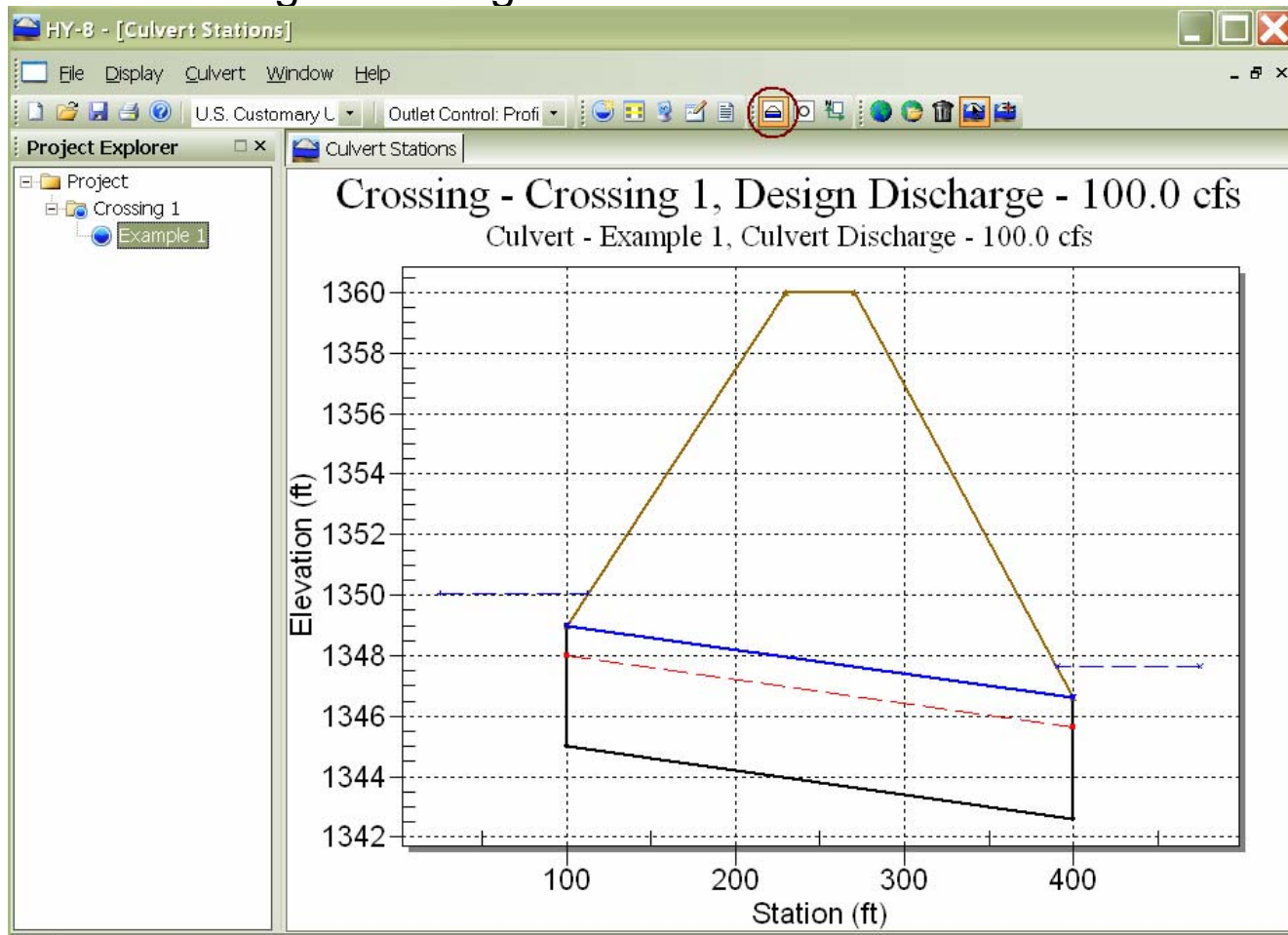
Plot

- 
- 
- 

Help   Flow Types...   Edit Input Data...   Outlet Control: Profiles

## HY8 Example

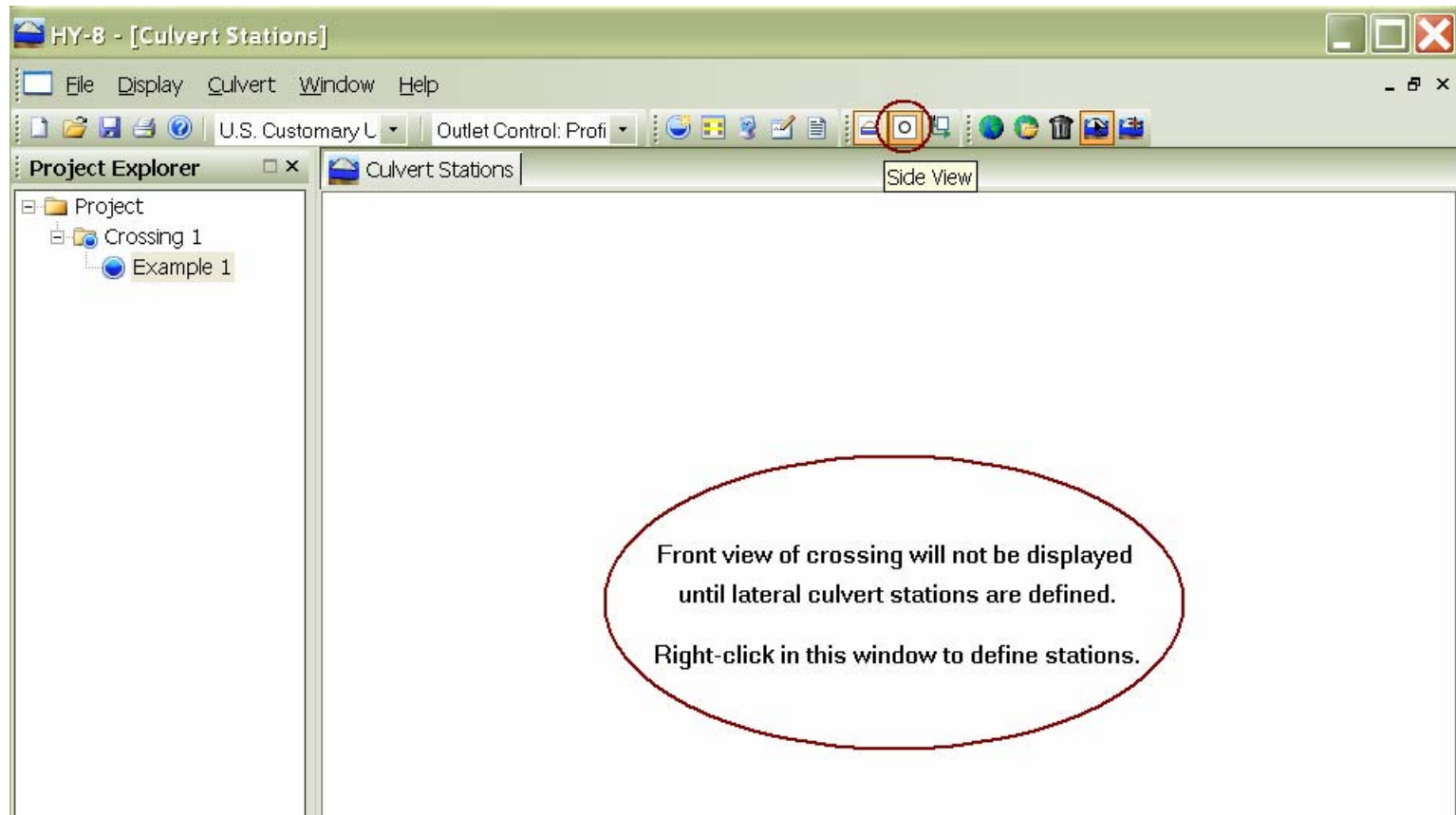
21. Select the “Example 1” culvert in the project explorer to show the culvert profile for the design discharge in the main window.



# Section 11

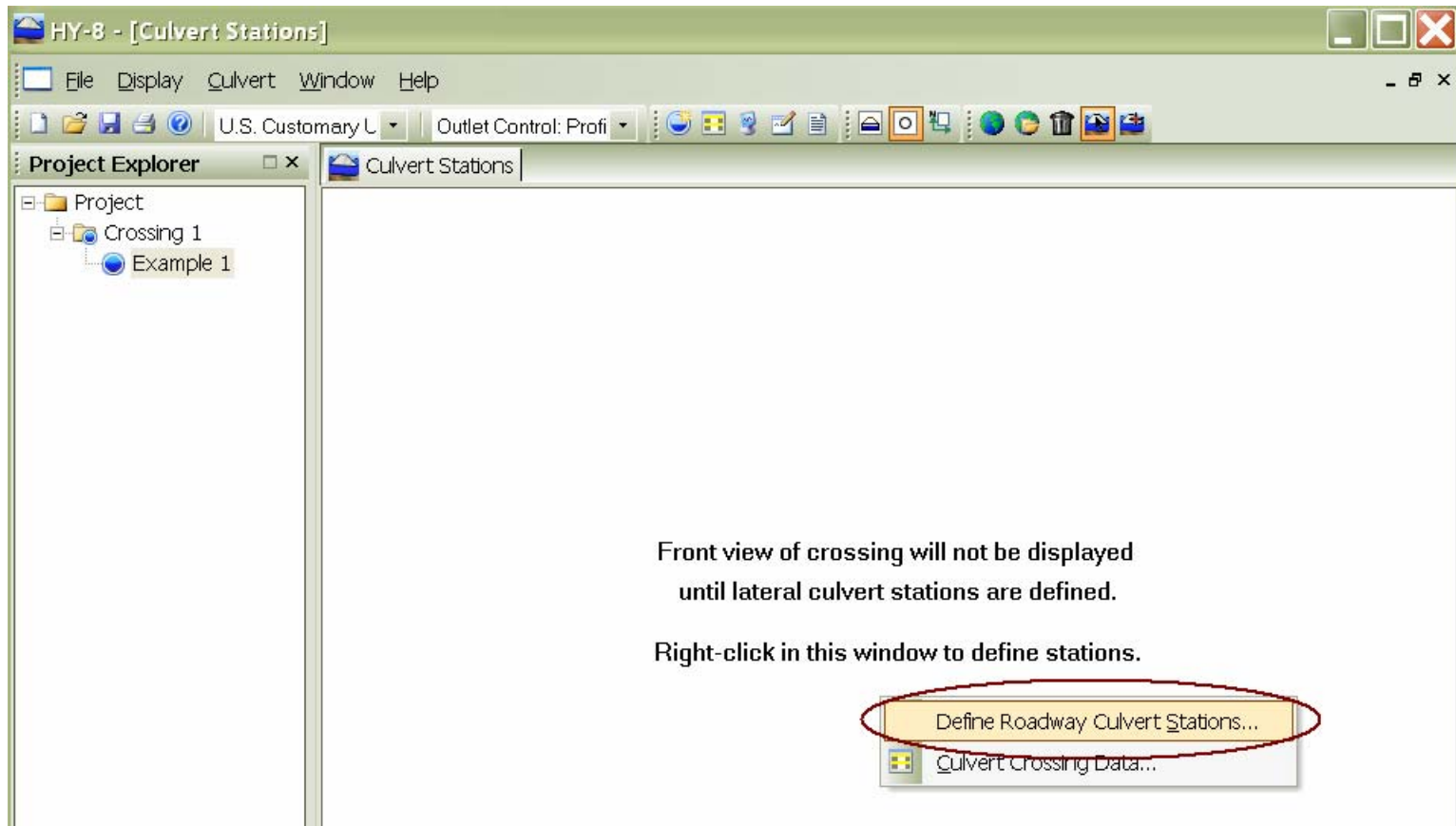
## HY8 Example Optional: Defining View

FV-1. Select the Front View icon. A message will appear in the Main window describing the requirement to define lateral culvert sections. Right click to do so.



## HY8 Example

FV-2. A message will appear. Select “Define Roadway Culvert Stations.”





## HY8 Example

FV-3. The Roadway Profile window appears. Notice that the roadway station data (0.00 ft and 50.00 ft) entered in step 7 are in this window. Click on Example 1 Station field (currently the default is zero).

Roadway Profile Culvert S...

Roadway Data

First Roadway Station: 0.00 ft

Roadway Crest Length: 50.00 ft

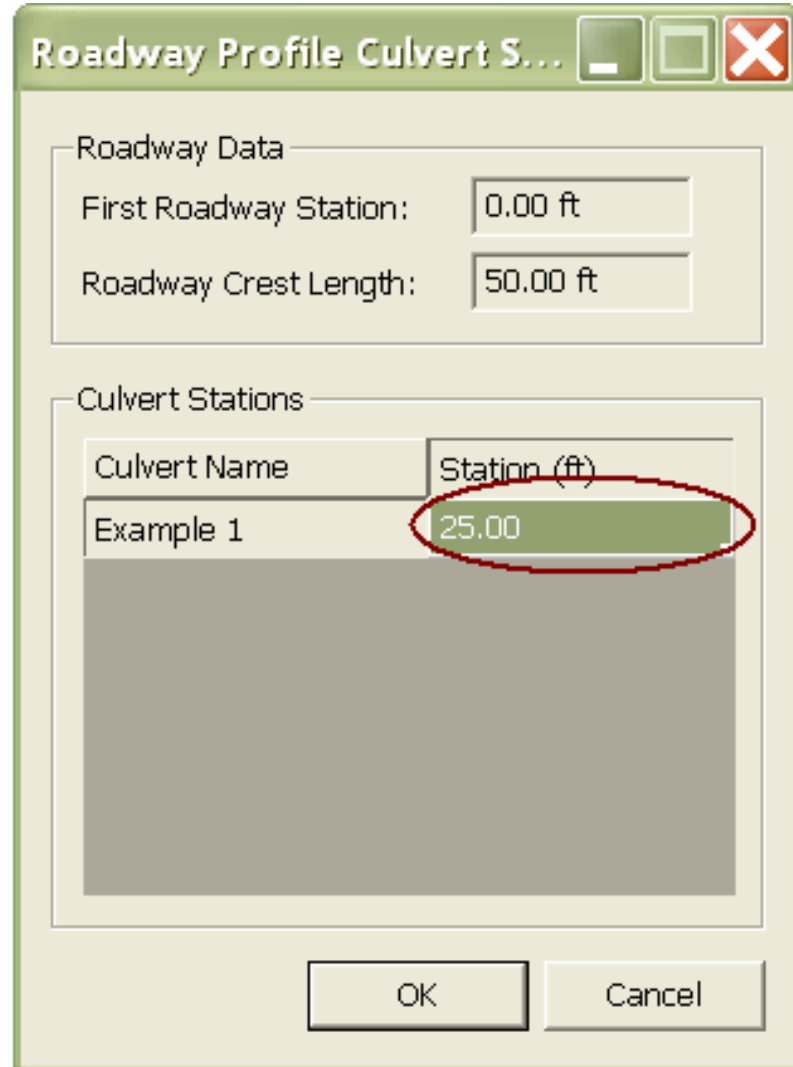
Culvert Stations

Culvert Name	Station (ft)
Example 1	0.00

OK Cancel

## HY8 Example

FV-4. Enter the station of the centerline of the culvert system. For this example, let's assume that this is at roadway station 25.0 ft ( or halfway between the roadway section acting as a weir.



Roadway Profile Culvert S...

Roadway Data

First Roadway Station: 0.00 ft

Roadway Crest Length: 50.00 ft

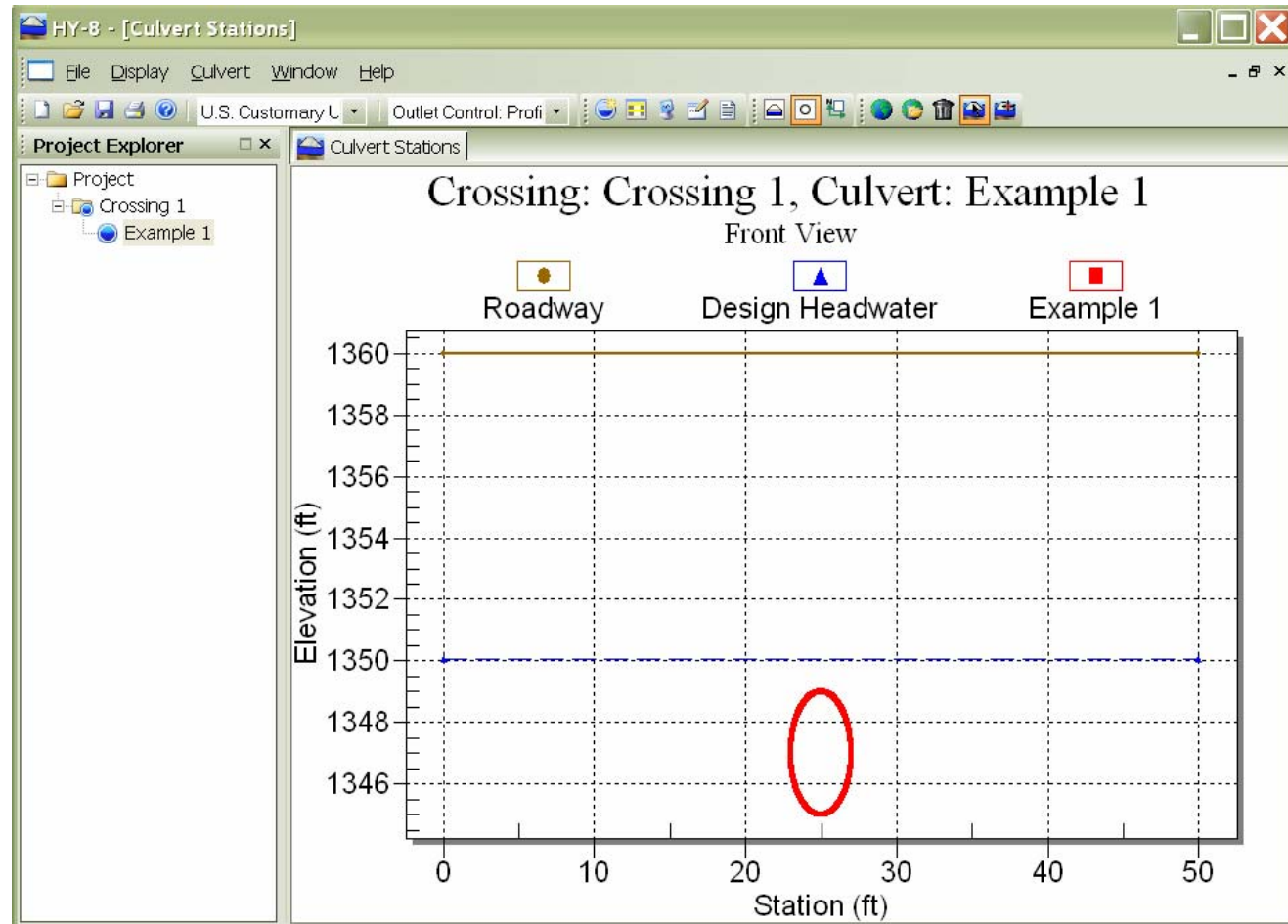
Culvert Stations

Culvert Name	Station (ft)
Example 1	25.00

OK Cancel

## HY8 Example

FV-5. Choose “OK” and the Main Window presents the Front View of the crossing.



## HY8 Example

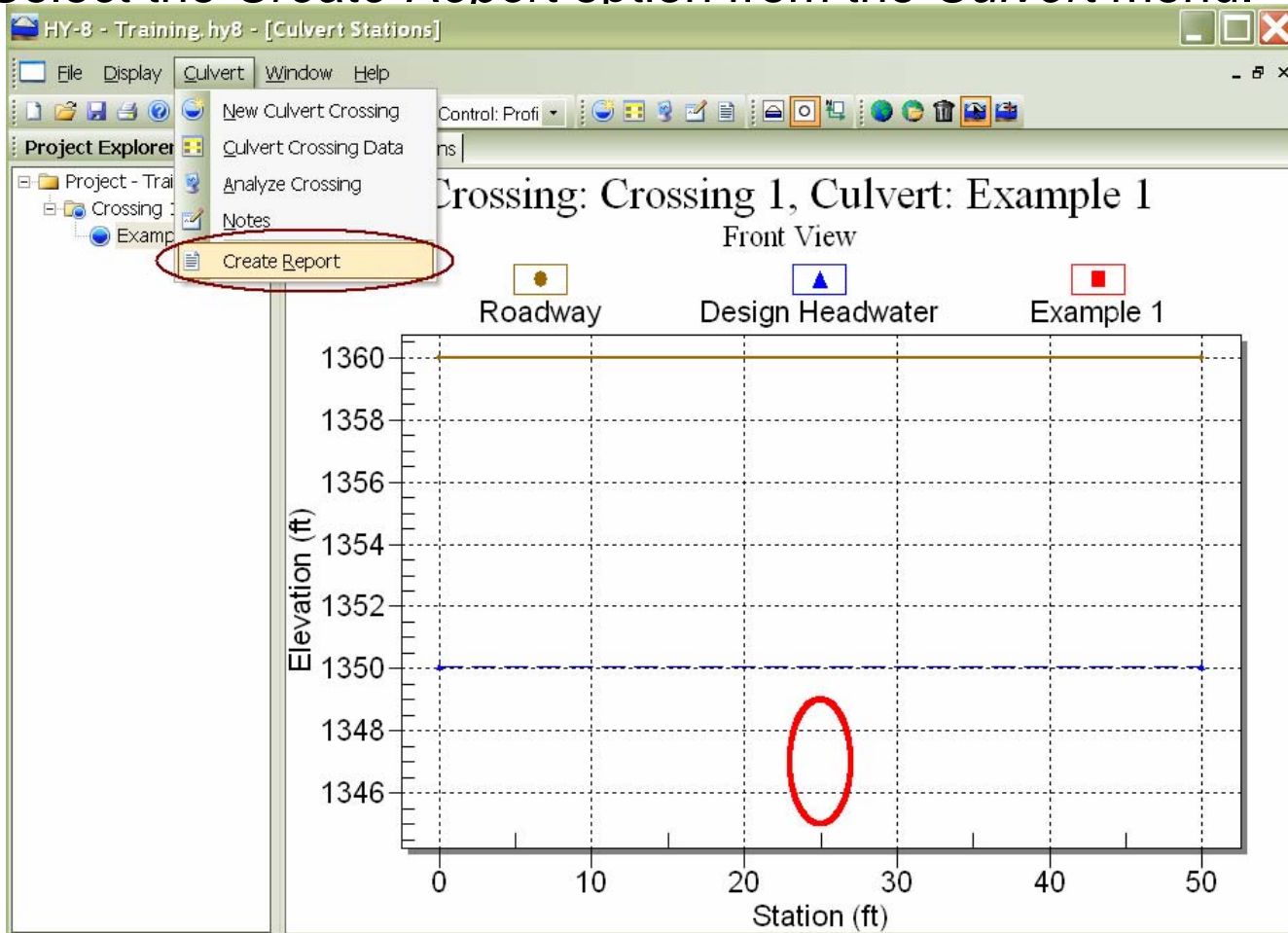
### Saving the Project File

22. Select the *Save As* option from the *File* menu. When prompted, call the project file *TrainingClass*. The program will automatically add the .HY8 extension to this file.

## HY8 Example

### Viewing Report

23. Select the *Create Report* option from the *Culvert* menu.



## HY8 Example

24. The *Report Generator* window will appear:

The screenshot shows the 'Report Generator' dialog box. It has a title bar with standard window controls. The main area is divided into several sections:

- Choose crossing(s) to include:** A list box containing 'Crossing 1'.
- Format:** A section with three controls: 'Report Type:' set to 'Standard Report', 'File:' set to 'RTF', and another 'File:' field containing 'HY8Report' with a browse button (...).
- Report Content:** A large section for selecting report fields, split into two columns:
  - Available Fields:** A list of fields including Project Notes, Project Units, Project Outlet Control Option, Crossing Notes, Crossing Summary Table, Crossing Rating Curve Plot, Crossing Front View Plot, Culvert Notes, Culvert Summary Tables, Culvert Performance Plot, Water Surface Profile Plot, Site Data, Culvert Data, Tailwater Data, Tailwater Rating Curve Plot, and Roadway Data.
  - Move fields up or down:** Two arrow buttons (> and <) between the columns.
  - Included Fields:** A list of fields currently included in the report: Crossing Summary Table, Crossing Rating Curve Plot, Culvert Summary Tables, Culvert Performance Plot, Water Surface Profile Plot, Site Data, Culvert Data, Tailwater Data, and Roadway Data. To the right of this list are 'Up' and 'Down' arrow buttons.
  - Include All >>** and **<< Remove All** buttons are located below the 'Available Fields' list.

At the bottom of the window are three buttons: 'Help', 'OK', and 'Cancel'.

## HY8 Example

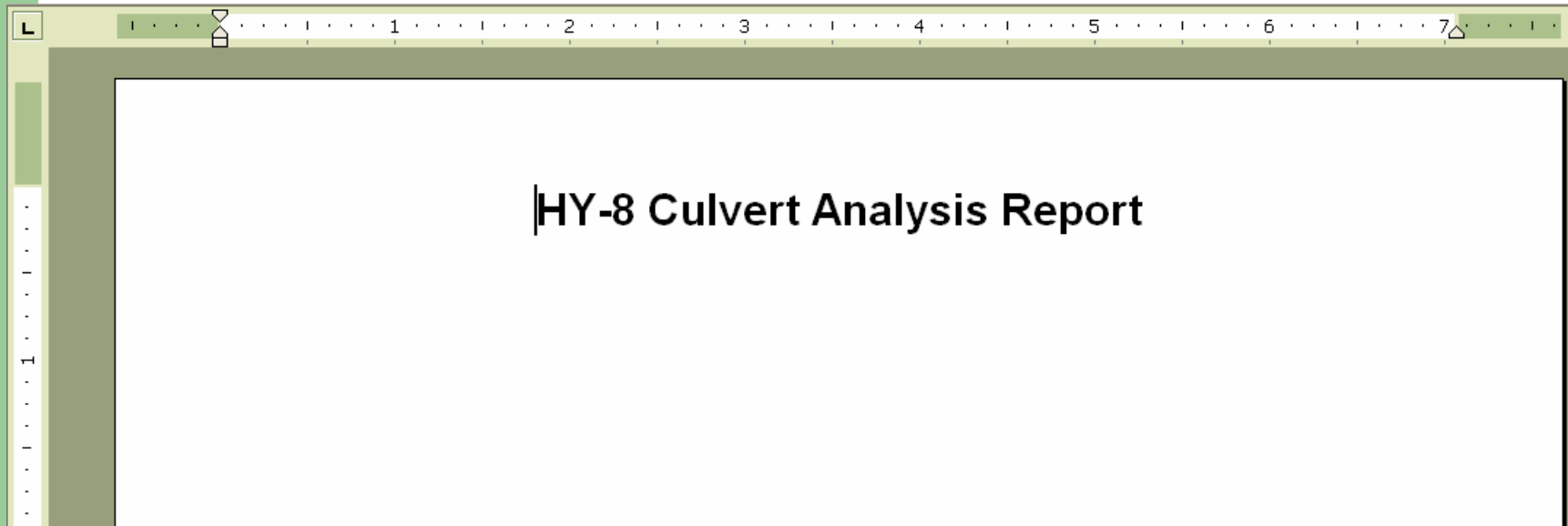
25. Select “OK” to export the data in the *Included fields* window to a report file. Additional data could be exported by selecting some or all items in the *Available fields* window and using the right arrow (>) to copy the fields from the available fields to the included fields window.

26. After selecting “OK”, a rich text (RTF) file is exported and opened in Microsoft Word or whatever application is assigned to open RTF files (possibly Wordpad if you do not have Microsoft Word installed). The report could have been exported in PDF format by selecting PDF for the *File Format* in the *Report Generator* window.

# Section 11

## HY8 Optional Editing HY8 Report

ED-1. If you have Microsoft Word, you should see the following view after exporting the report:

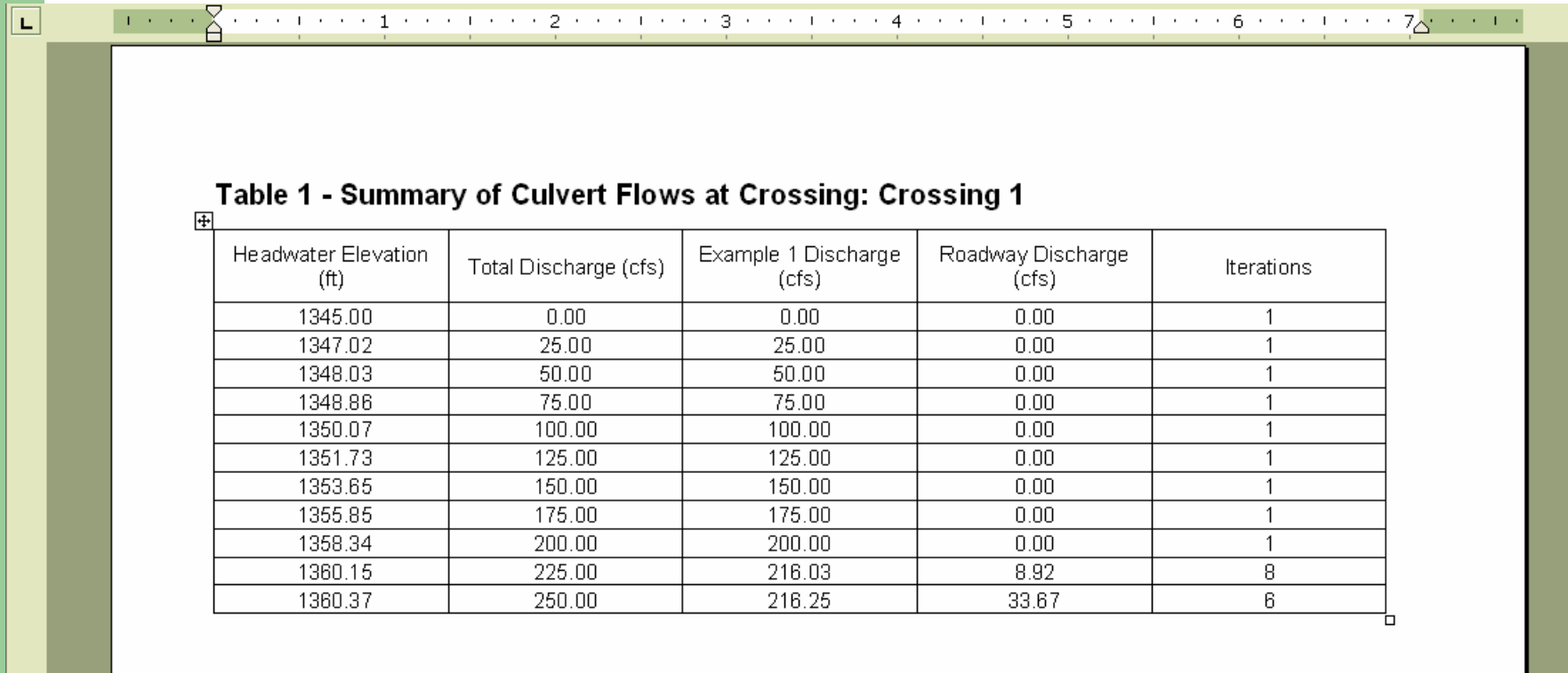




# Section 11

## HY8 Optional Editing HY8 Report

ED-2. Scroll down to the following page. You should see the following table:



**Table 1 - Summary of Culvert Flows at Crossing: Crossing 1**

Headwater Elevation (ft)	Total Discharge (cfs)	Example 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
1345.00	0.00	0.00	0.00	1
1347.02	25.00	25.00	0.00	1
1348.03	50.00	50.00	0.00	1
1348.86	75.00	75.00	0.00	1
1350.07	100.00	100.00	0.00	1
1351.73	125.00	125.00	0.00	1
1353.65	150.00	150.00	0.00	1
1355.85	175.00	175.00	0.00	1
1358.34	200.00	200.00	0.00	1
1360.15	225.00	216.03	8.92	8
1360.37	250.00	216.25	33.67	6

# Section 11

## HY8 Optional Editing HY8 Report

ED-3. Click within the table so the border appears around the table. Then right-click on the border of the table and select the *Format Frame* option as shown below:

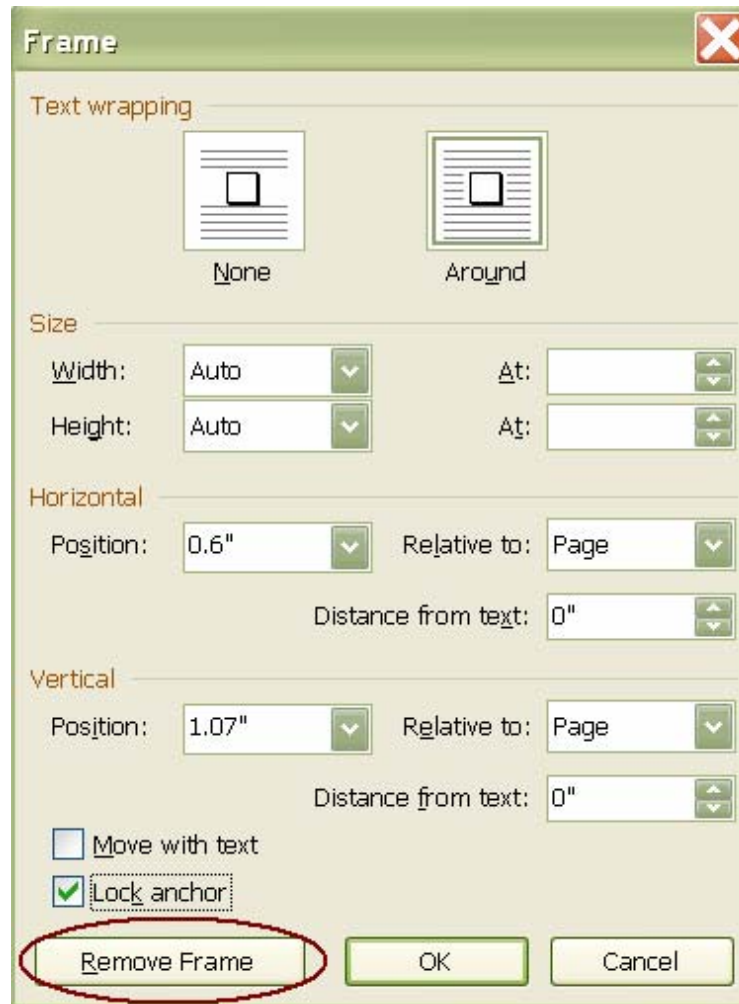
**Table 1 - Summary of Culvert Flows at Crossing: Crossing 1**

Headwater Elevation (ft)	Sample 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
1345.00	0.00	0.00	1
1347.02	25.00	0.00	1
1348.03	50.00	0.00	1
1348.86	75.00	0.00	1
1350.07	100.00	0.00	1
1351.73	125.00	0.00	1
1353.65	150.00	0.00	1
1355.85	175.00	0.00	1
1358.34	200.00	0.00	1
1360.15	225.00	8.92	8
1360.37	250.00	33.67	6

# Section 11

## HY8 Optional Editing HY8 Report

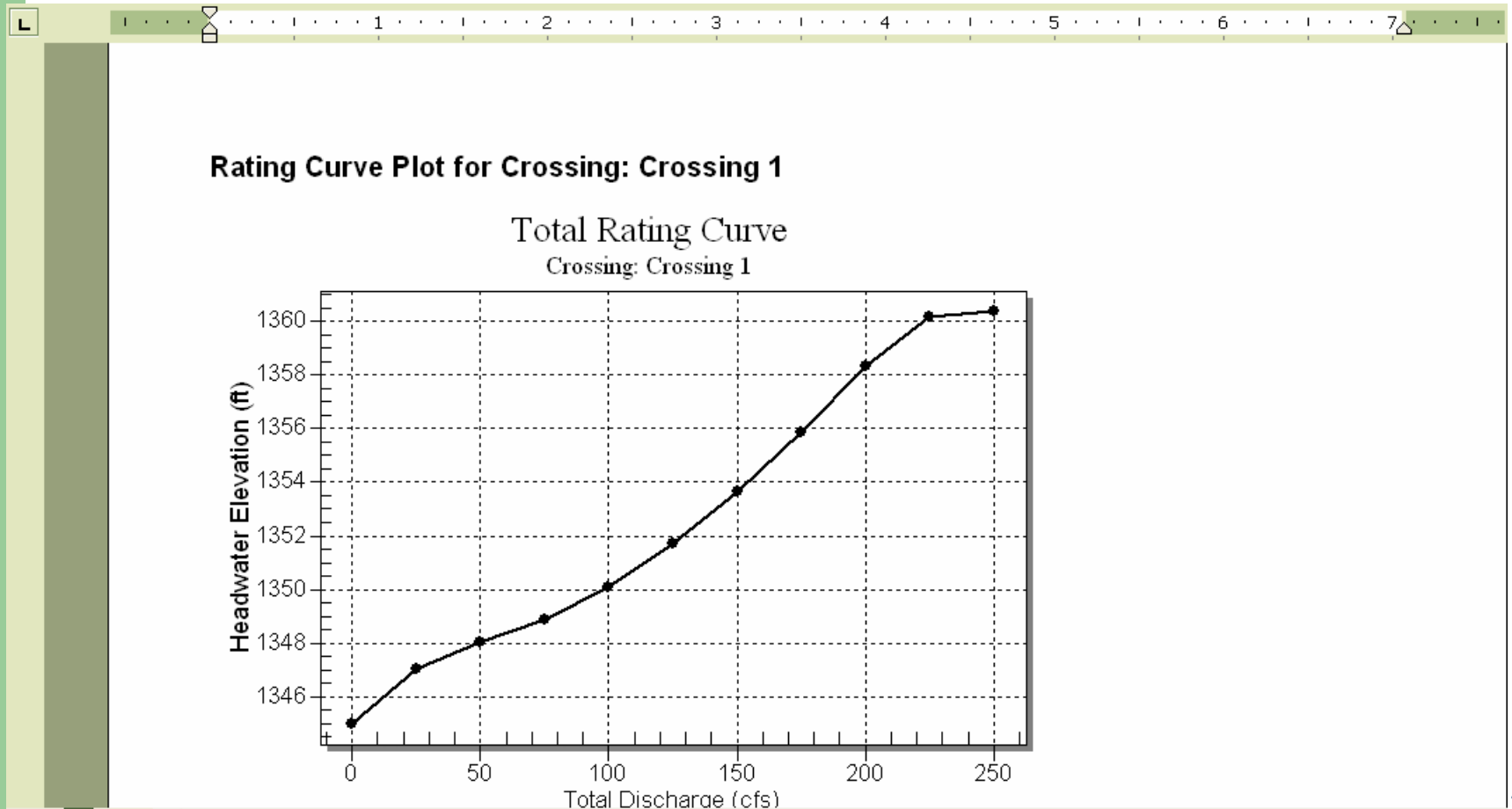
ED-4. In the *Frame* window, select the *Remove Frame* button:



# Section 11

## HY8 Optional Editing HY8 Report

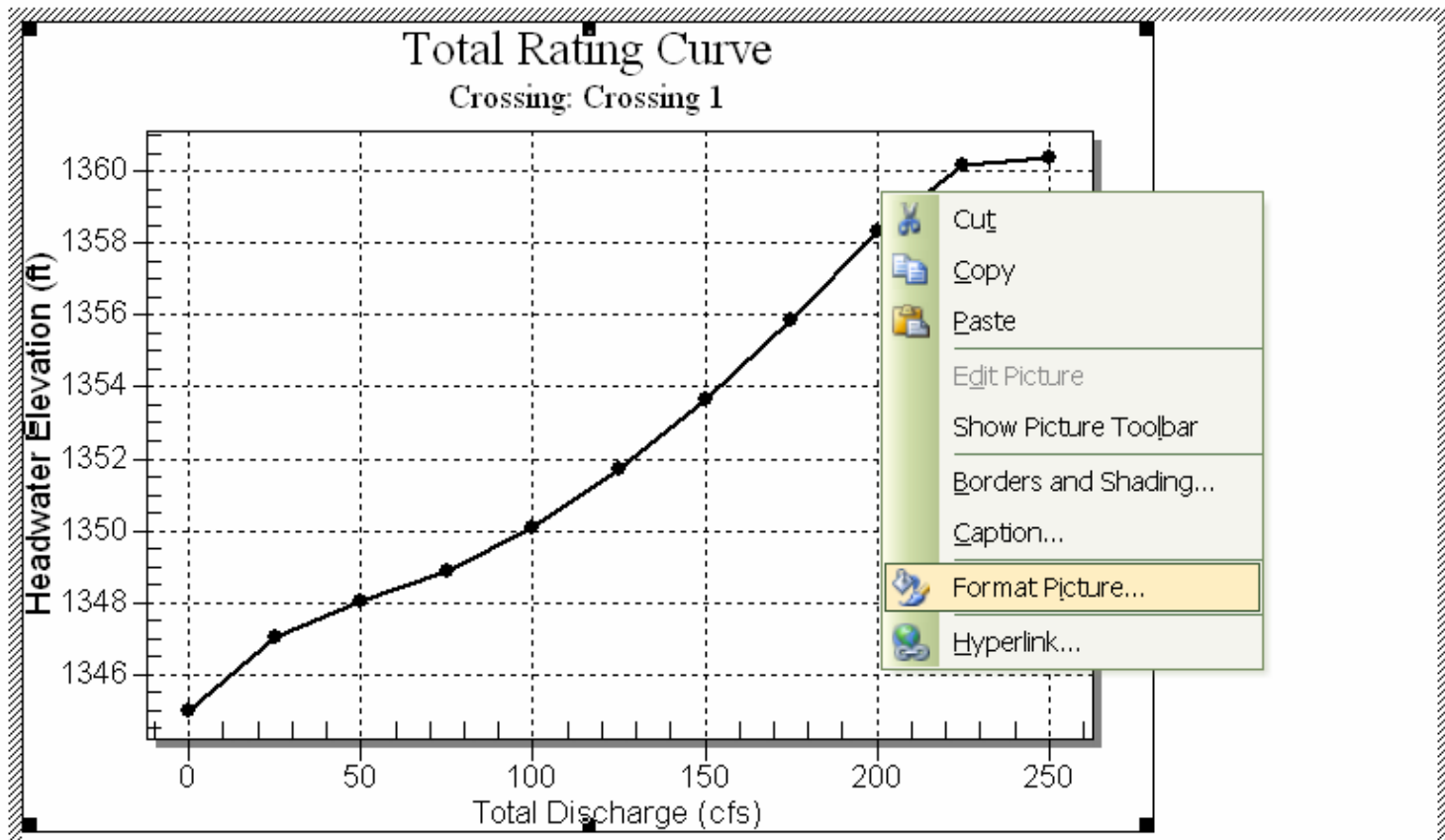
ED-5. Scroll down to the next page. You should see the following graph:



## HY8 Optional Editing HY8 Report

ED-6. Right-click on this graph and select the *Format Picture* option:

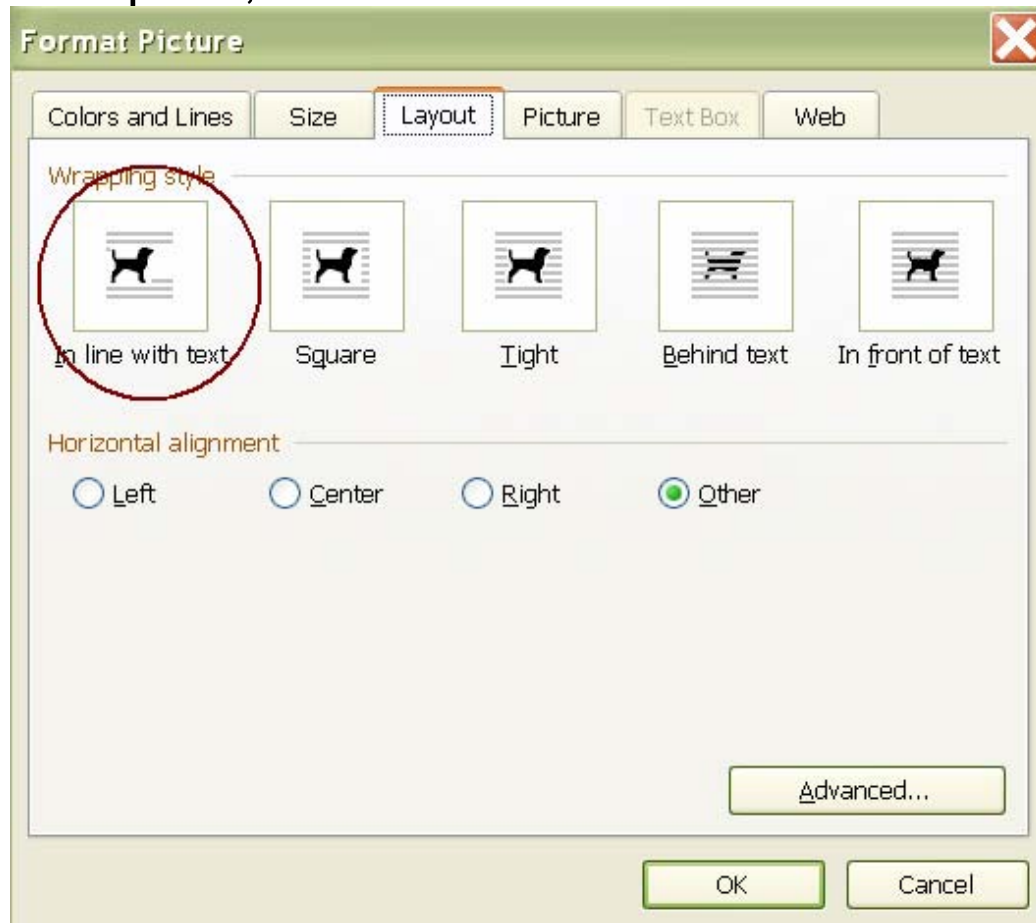
**Rating Curve Plot for Crossing: Crossing 1**



# Section 11

## HY8 Optional Editing HY8 Report

ED-7. In the *Format Picture* window, select the *Layout* tab, select the *In line with text* option, and select OK.



# Section 11

## HY8 Optional Editing HY8 Report

ED-8. Continue editing all your tables and graphs as described in the steps above by locking the anchor on all the tables and setting the graphs so they are all in line with the text.

ED-9. Select the *View / Normal* menu item. Finish formatting your report document by removing all the unwanted page breaks and adding any additional information you wish to add to the report. After you are done editing, you can select the *View / Print Layout* menu item to see what the report will look like when it is printed.

# Wrap Up of Day 2

**That Ends our training course on HY8**

**Questions?**