InRoads – Cross Section Planimetrics

Overview

Sometimes it’s useful to have stationing for two parallel alignments and their corresponding DTM surfaces. This Tech Note describes the process for viewing cross section lines that are skewed to one alignment and orthogonal to another. These alignments can be viewed within a single cross section set.

Workflow

View the Alignments

View each alignment graphically in MicroStation.

1. Right-click on each alignment, and select View.
2. Use the MicroStation Element Selection tool to create a selection set for both alignments.

Create Cross Sections

1. Open the Evaluation > Cross Section > Cross Sections command.
2. On the General category, use the dropdown menu for the Create field and select Planimetrics Only.

   NOTE: this menu allows you to create cross sections for the Window and Data, Window Only and Planimetrics Only.

3. Set the left and right offsets wide enough to cover both alignments.
4. From the Source tab, select the alignment that the cross section stations will be relative to.
5. From the Controls > Plan Display folder, toggle on the Planimetric and Planimetric Station symbology.

6. In the Custom > General folder, set the Type to Linestring. The Graphics button should now be enabled.

7. Apply the Graphics button.

   You may receive these errors:
   
   • Invalid element type
   • Cross section lines cannot have multiple intersections with the horizontal alignment
   • Unable to process elements

   Text is one type of an invalid element. Bring in only the line strings and no annotation in the selection set.

8. Click Apply.

   This will not create a cross section grid with data – rather it will apply the stationing along the alignments from the Custom > General tab.

   This process generates cross section lines on the alignment:

9. Create a cross section grid with the data by selecting Window and Data in the Create field on the General tab.

10. Click Apply to generate the cross sections.
Here is an example of a typical cross section for multiple alignments:

For questions or comments on this tech note, contact your regional CAE Support Coordinator or the WSDOT CAE Help Desk at (360) 709-8013.