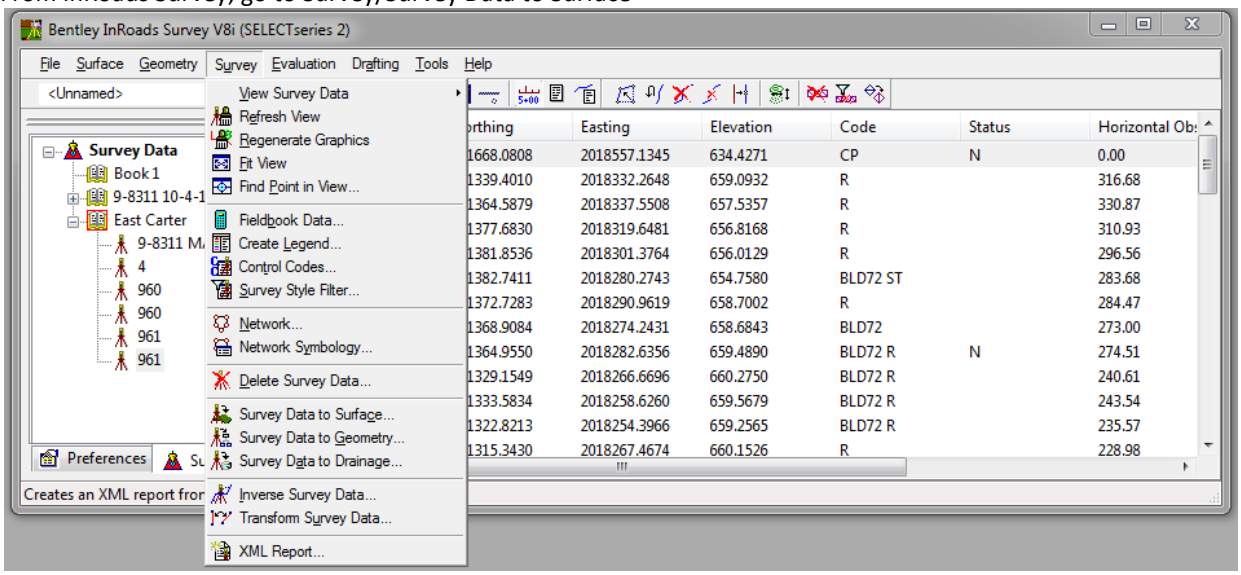
Creating Cross-Sections from Field Survey Data in a 2D File

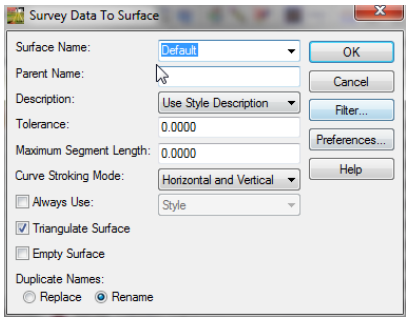
8/21/2014

Once all survey data is brought into InRoads Survey, reviewed and the survey is written to graphics, a surface has to be created from the survey data.

From InRoads Survey, go to Survey/Survey Data to Surface



This dialog box appears:



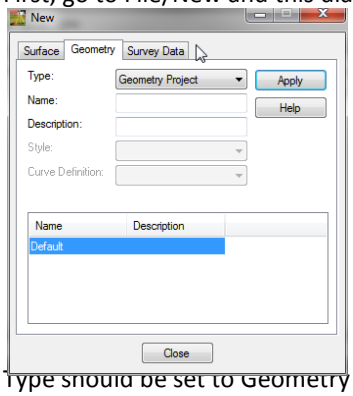
The Surface Name should be a name that distinguishes the surface to a specific project.

Make sure that Triangulate Surface in toggled on.

Click OK

Once the surface is named and created, a horizontal alignment is needed.

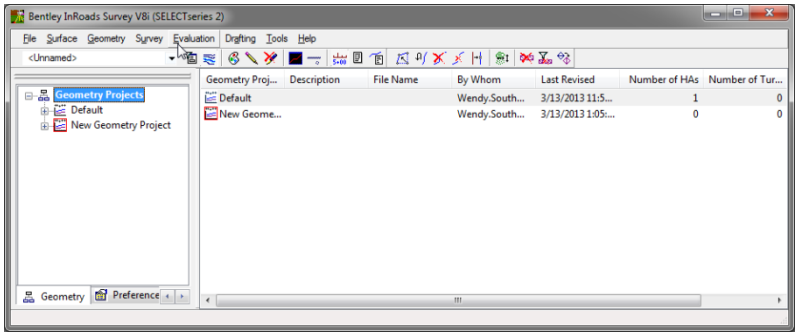
First, go to File/New and this dialog box appears



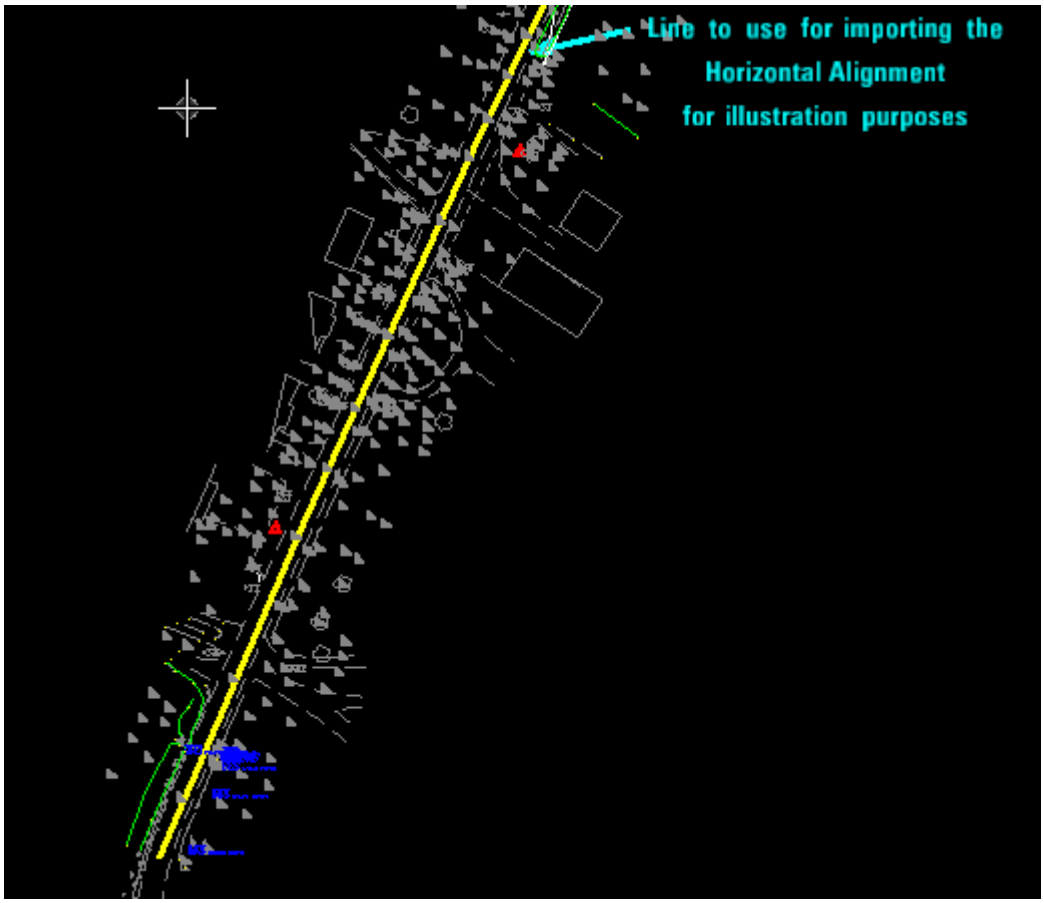
Type should be set to Geometry Project from the pull down menu.

Name should be a name which distinguishes your Geometry Project for a specific project.

Give the geometry project a description and click Apply.
The new Geometry project should then show up on the Geometry tab at the bottom of the InRoads window.



Next we want to create the Horizontal alignment.
Make sure that you have a graphic element (a line using the smartline command from the task bar in MicroStation) which can be selected when importing the horizontal alignment.



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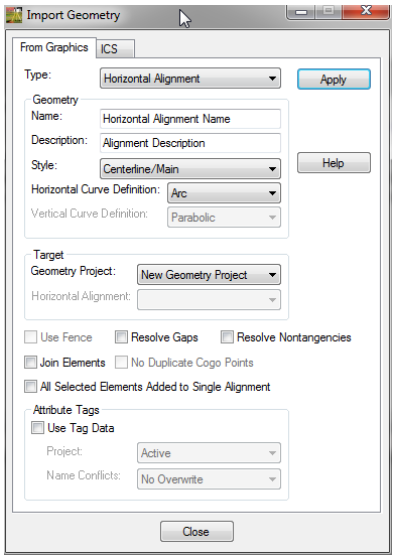
8/21/2014

Go to File/Import/Geometry
Click on From Graphics tab



Type: Horizontal Alignment
Fill in Name and Description, choose a Style that best fits your alignment
Target
Geometry Project: Choose the Geometry Project that you just created
Click Apply
You are asked to identify element (This should be the line that was drawn to indicate the horizontal alignment)
Click on the element
You are asked to Accept/Reject.
Click in the window one more time to accept the selection of the element.

Now the newly created horizontal alignment should appear under the New Geometry project that you just created. You can check the horizontal alignment by going to Geometry/Review Horizontal. This should highlight the horizontal alignment in the MicroStation window and you will be able to view the critical points on the alignment in the Review Horizontal Window.

Save the newly created Surface (.dtm) and Geometry Project (.alg)
Exit InRoads Survey
Open InRoads
Open the .dtm file and the .alg file that you created (File/Open)

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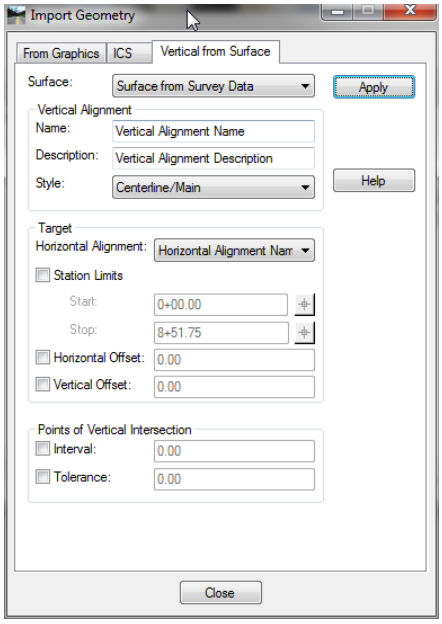
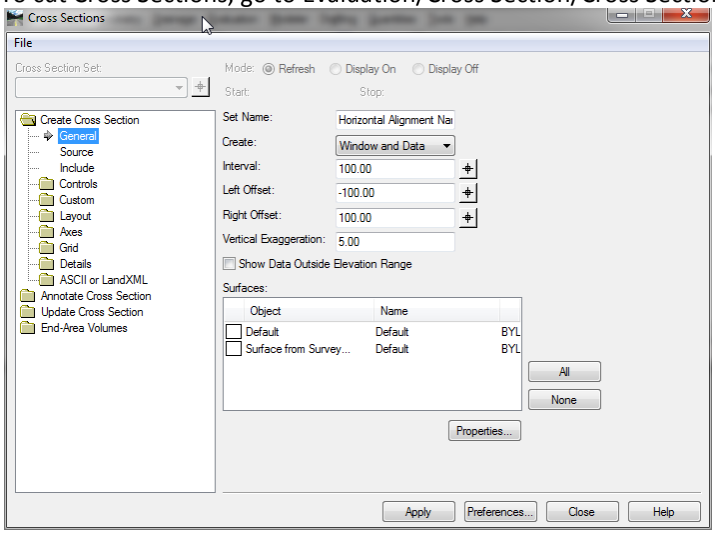
8/21/2014

Click File/Import/Geometry and click on the Vertical from Surface tab, this dialog box appears:



Make sure Surface is the surface that you created from the Survey Data, put a name and description for the vertical alignment. Target should be Horizontal Alignment with the horizontal alignment (that previously created) selected.
Click Apply
Should see "Successful Completion" at the bottom of the InRoads window.

To cut Cross Sections, go to Evaluation/Cross Section/Cross Sections, the Cross Section dialog box should appear.



Click the Create Cross Section folder
The Set Name should be the Horizontal Alignment Name that was created
Choose the interval at which the cross sections will be cut.
Choose a Left Offset and Right Offset that will show the surface adequately to the left and right of the horizontal alignment.
Under Surfaces: toggle on the surface that you want to show on the cross sections.
Click Apply
Click a spot in the MicroStation window where you want the cross sections to be displayed.
The Cross Sections should be displayed there.