# CDOT Workflow IR 19 - Cross Section Point Display

This workflow demonstrates how to modify design feature definitions stored in the corridor DGN file. Feature definitions control how features are displayed in the dynamic cross section view and in cross section sets.

1. Open InRoads using the file containing the corridor model. In this example, 14553DES_ DesignModel01.dgn is used

2. From the *Tasks* toolbar, **Left Click** on the **Element Selector** tool.

3. **Left Click** and hold inside the corridor boundary to display its context menu. **Note**: All of the corridor data will highlight when the corridor model is selected.

4. **Left Click** on **Corridor Views > Open Cross Section Model** from the context menu.

5. The prompt reads *Select or Open View*. Open **View 2**.
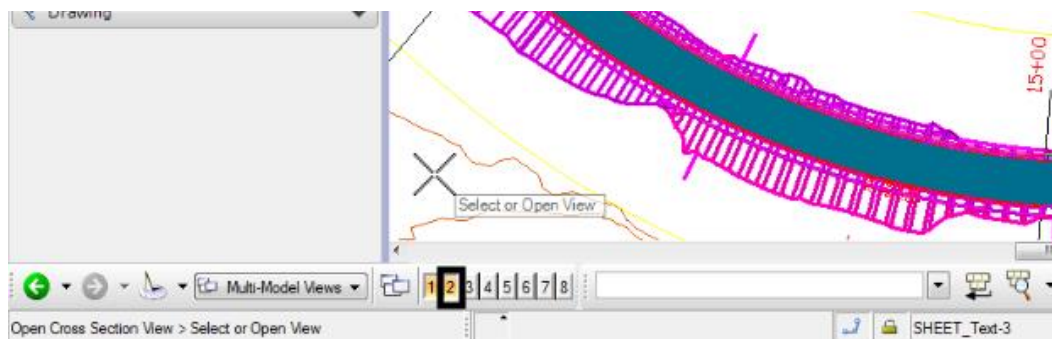
6. **Left Click** in **View 2** to display the ***Cross Section Model***.
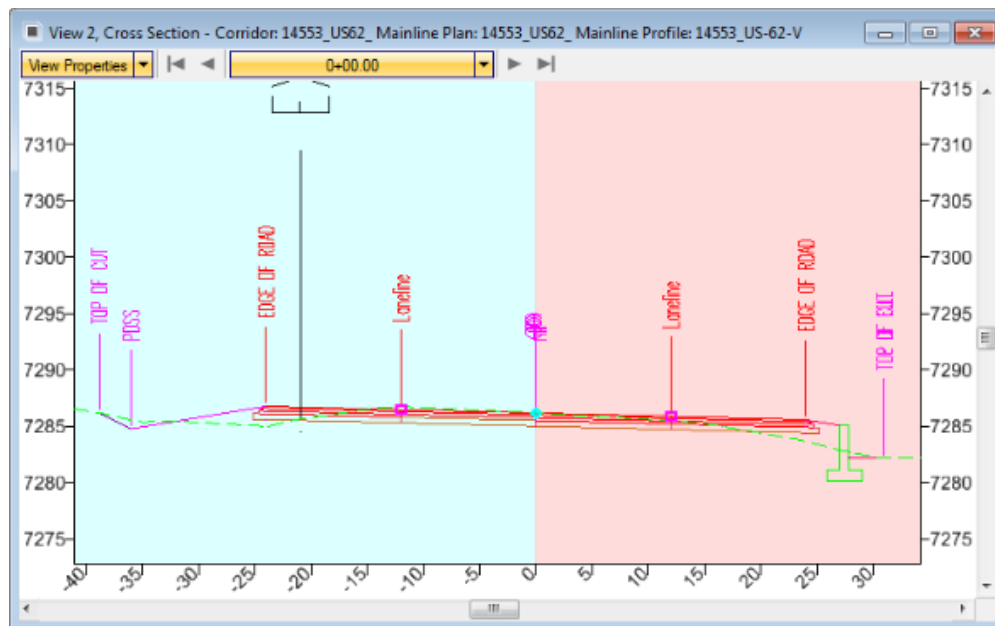
Notice that point labels have been placed along the template. The display of a set of cross sections will look like the dynamic cross section window shown above.

The following steps demonstrate how to change the point display in the design model so that the point labels are not displayed but the features can still be annotated in the cross section set.

In this process, the feature definitions stored in the corridor DGN file are modified so that the point label is not displayed.

7. From the MicroStation menu bar, select **File > Project Explorer**. This displays the ***Project Explorer*** dialog box.


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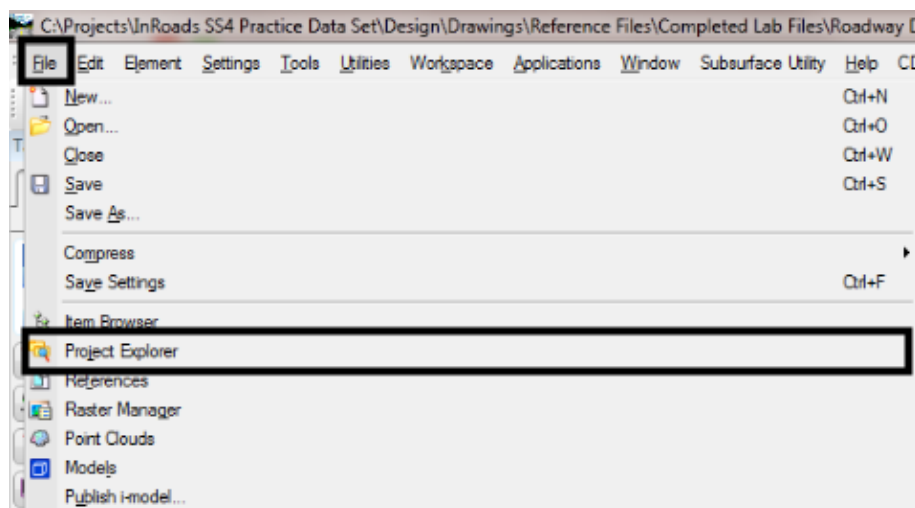
8. In the *Project Explorer* dialog box, select the **Civil Standards** tab.
9. Expand the *Active File.dgn* **> Feature Definitions > CDOT_Civil_SS4 .xin**. In this example, **14553DES_DesignModel01.dgn** is the active file.
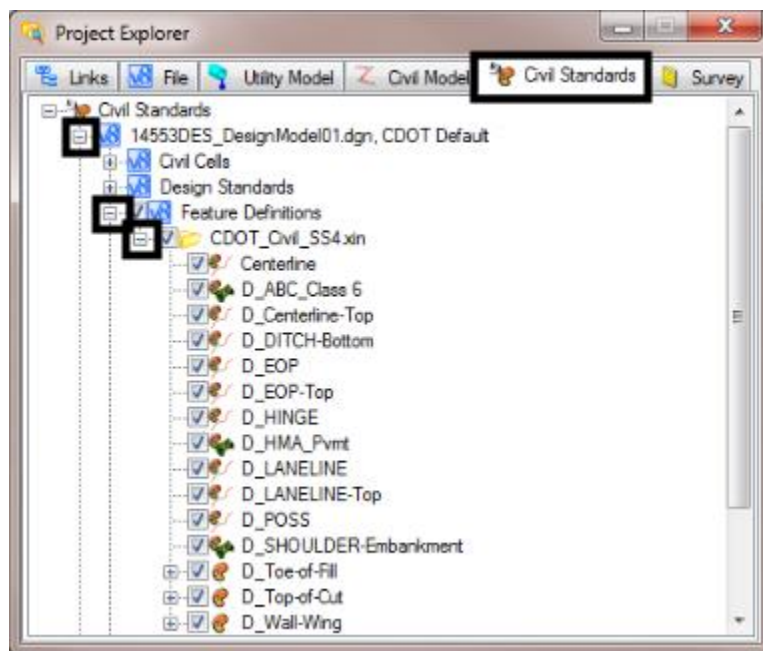
10. Right Click on the desired feature definition and select **Properties** from the fly-out menu. This displays the *Element Information* dialog box for the selected feature definition. In this example the **Centerline** feature definition is selected.

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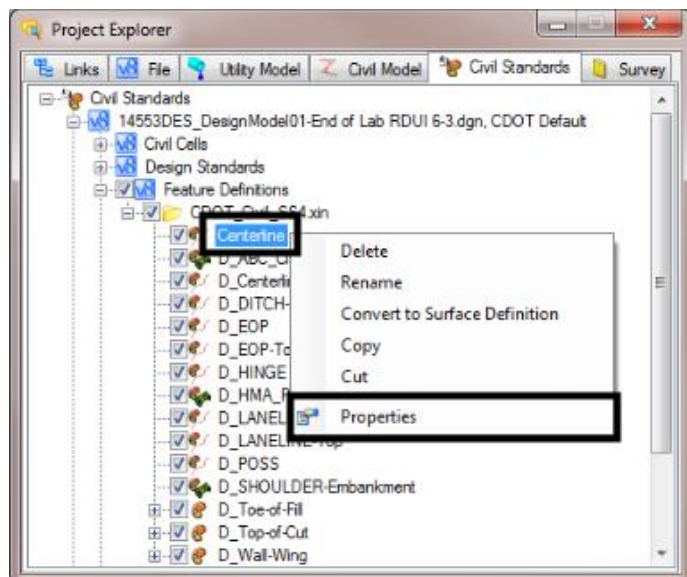
11. In the ***Element Information*** dialog box, open the ***Cross Section*** tab.
12. In the ***Cross Section*** tab, Left Click in the ***Native Style*** field and select ***D_XSEC_Annotation-Point*** from the drop-down menu.
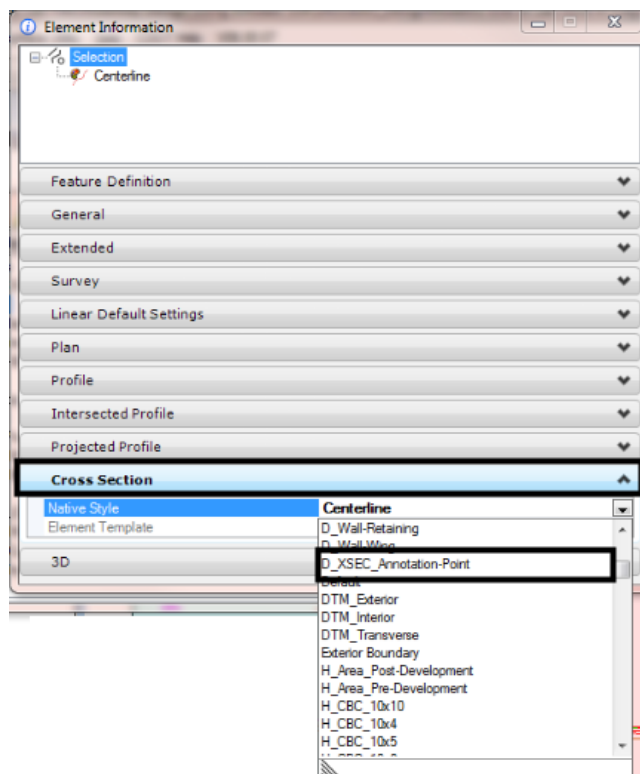

The ***D-XSEC_Annotation-Point*** feature definition displays a small dot at the surface feature's cross section crossing point. The dot will be covered by the cross section linework, so it will not be visible in printed cross sections. However, because the dot is there, the point can be annotated.

13. Repeat steps 10 through 12 for each Feature Definition to be modified.

Note: if the Element Information dialog box is left open then step 9 can be omitted because the information will automatically be displayed in the Element Information dialog box once a different feature definition is selected.

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14. For feature definitions with multiple definition types, expand the feature definition and apply steps 9 through 11 to the **Linear** definition.
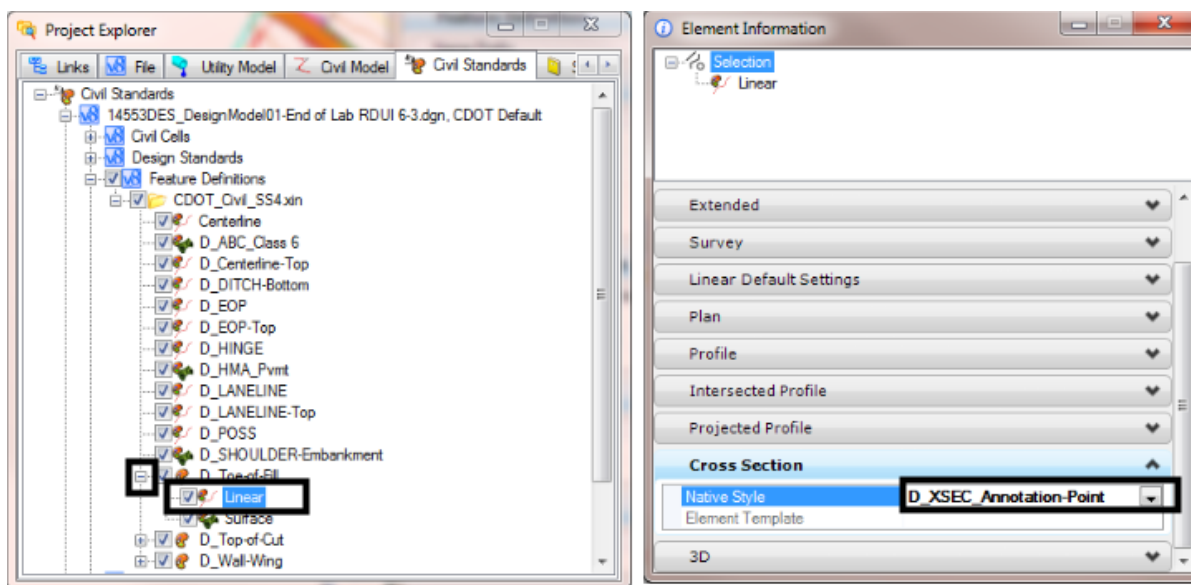

15. Once all the changes are made, dismiss the **Element Information** and **Project Explorer** dialog boxes.

Finally, the updated Feature Definitions are applied to the Design Model. To do this, the corridor is reprocessed. Changes made to the feature definitions will not be reflected in the dynamic cross sections (or in a cross section set) until the corridor has been processed as shown below.

16. Select the corridor plan view, View 1 in this example.
17. Using the **Element Selector**, Left Click on the corridor and select the **Process Corridor** button from the context menu. This updates the features in the design model with the modified feature definitions.

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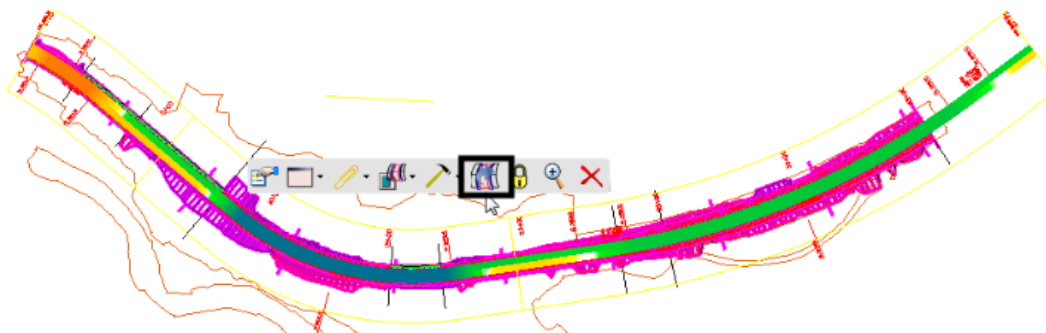
18. Look in View 2 (the dynamic cross section view) and notice that the point labels for the design model are gone.
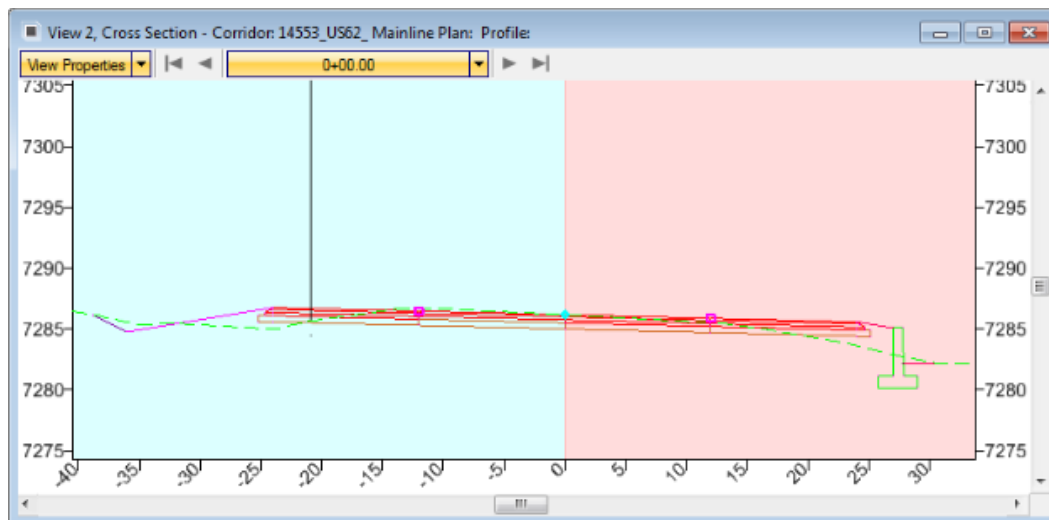

The dynamic cross section display reflects what will be shown in a cross section set. The changes made to Feature Definitions will not be reflected in existing cross section sets.

Note: The feature definitions must be defined as desired before the cross section set is generated. Changes to feature definitions cannot be reflected in an existing set of cross sections. If the feature definitions are changed, cross sections will have to be regenerated.

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Creating Cross Sections

Once the Feature Definitions have been set as desired and the corridor reprocessed, the next step is to generate a cross section set.

1. From the *Tasks* menu, expand the *Corridor Modeling* tasks.
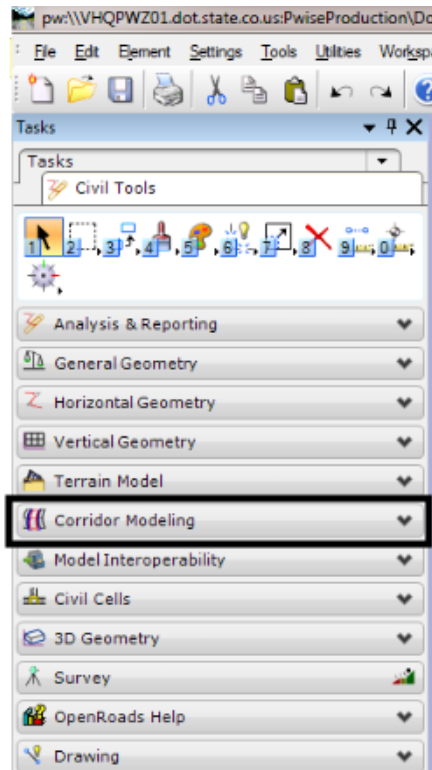
2. In the *Corridor Modeling* tasks, left click the **Create Cross Sections** button.

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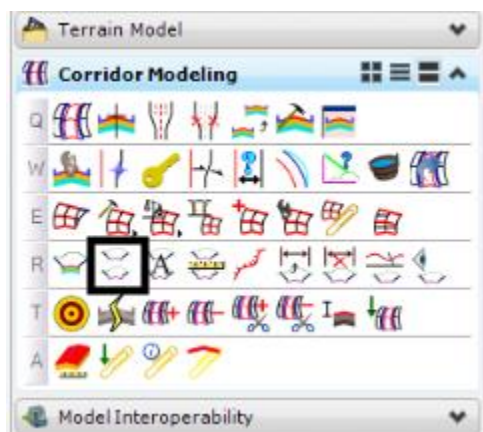
3. The first prompt reads Locate Alignment. Left click on the attached alignment. The command will only select an alignment, so it does not have to be visible through other graphics to be selected. This displays the **Create Cross Section** dialog box.
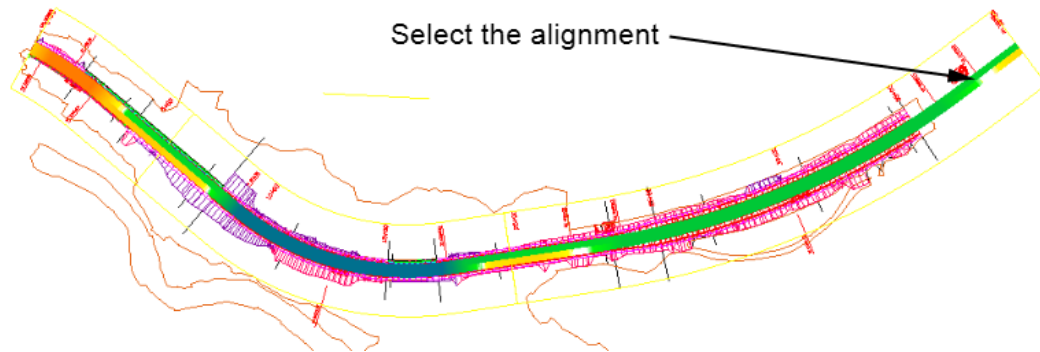

4. In the **Create Cross Section** dialog box, left click the **Preferences** button. This displays the **Preferences** dialog box.

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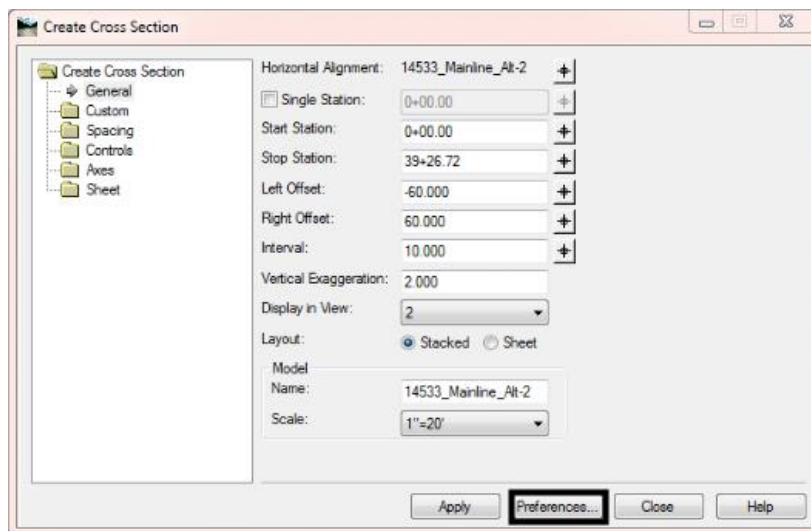
5. In the **Preferences** dialog box, select the desired Preference. In this example, the **20H 10V 120' Wide** preference was selected.
6. Left click the **Load** then **Close** buttons.
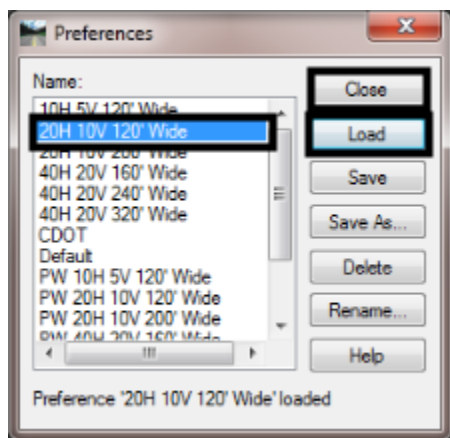
7. In the **Create Cross Section** dialog box, set the desired **Vertical Exaggeration** value.

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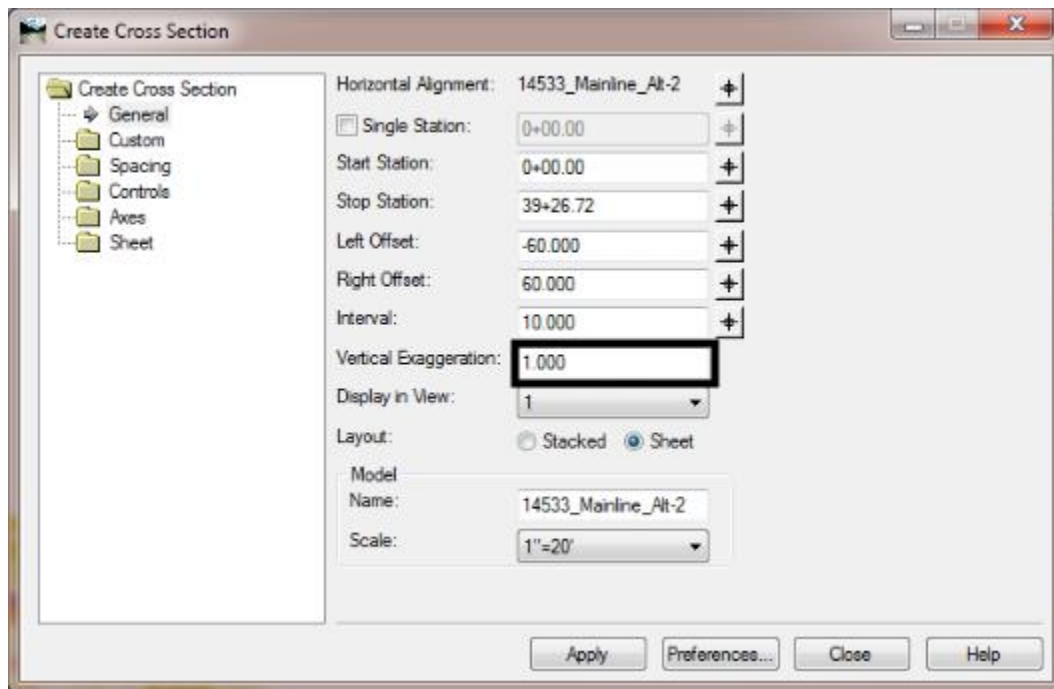
8. Select a different view from the ***Display in View*** drop down.
9. Set the Scale to either **1"=20'** or **1"-30'**. Either value is used as a CDOT standard.
10. Left click the **Apply** button.
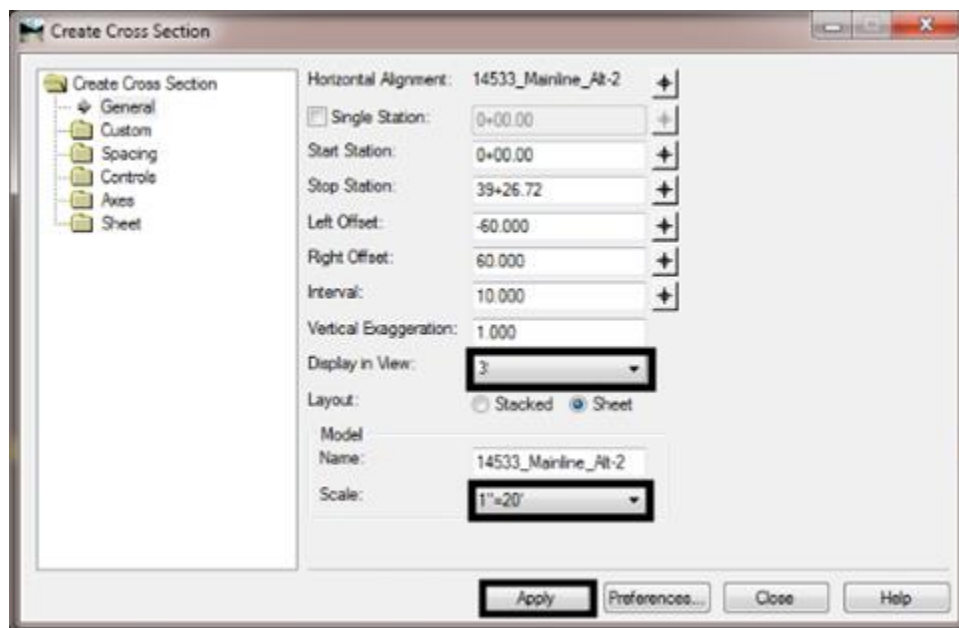
The dialog box disappears and the command is processed.
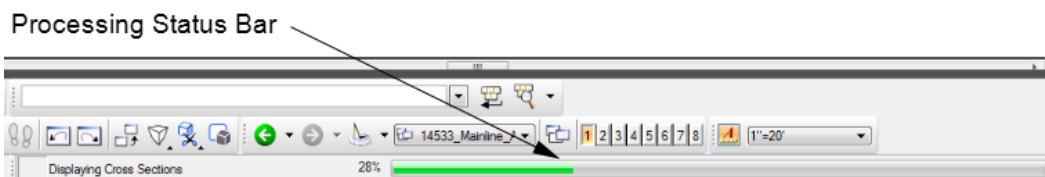

Once the processing is completed the cross section set is visible. The information in the cross section set is the same as that displayed in the dynamic cross section view.

Managing Survey Point Cells

Because the existing ground terrain element belongs to Survey, designers cannot make the changes to its feature definitions. In order to turn off the point cells in the existing terrain element, the levels must be turned off in the cross section model. To accomplish this, the Graphic Group lock must be turned off first, otherwise the entire cross section set will be turned off.

1. At the bottom of the MicroStation window, Left Click the **Locks** icon. This displays the *Locks* fly-out menu.
2. In the *Locks* fly-out menu, toggle off Graphic Group.
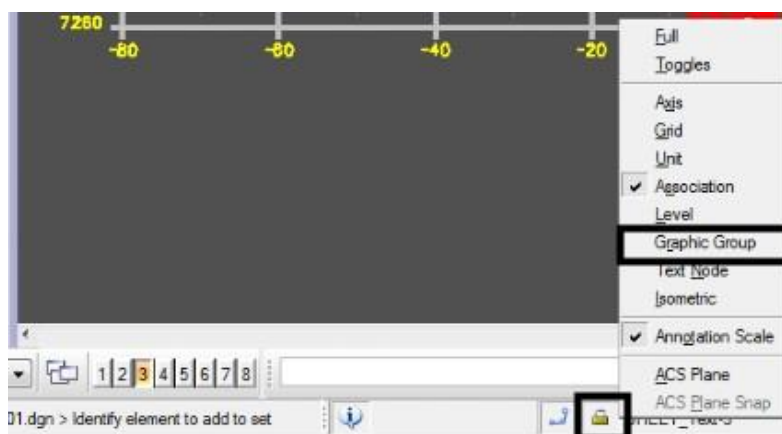
With the Graphic Group lock turned off, the existing ground point cells can be turned off as desired.

3. Open the **Level Display** dialog box.
4. In the *Level Display* dialog box, Right Click in the level list and select **Off By Element** from the fly-out menu.

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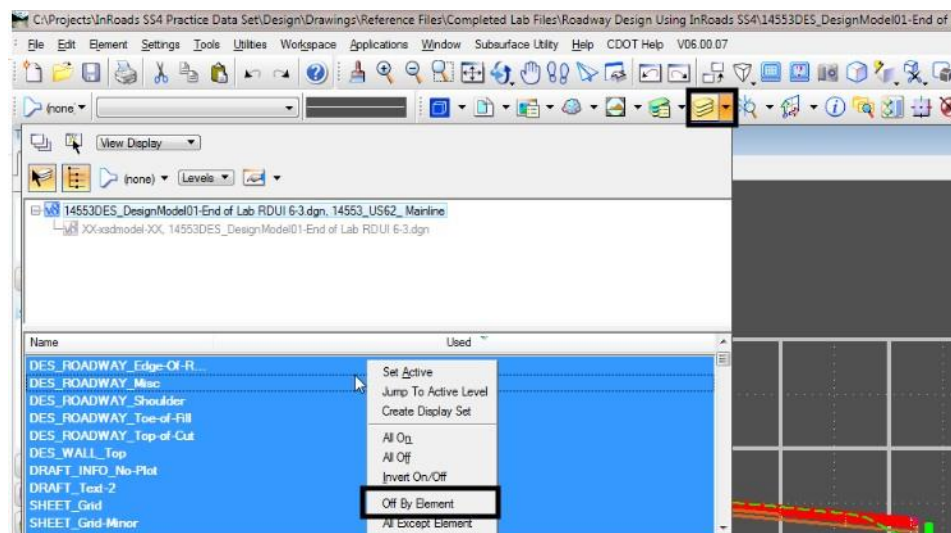
5. Left Click on the cells to be turned off. Multiple levels can be turned off by left clicking on each of the desired cells. In this example, the Existing Fence and Existing Electric cell levels are turned off.
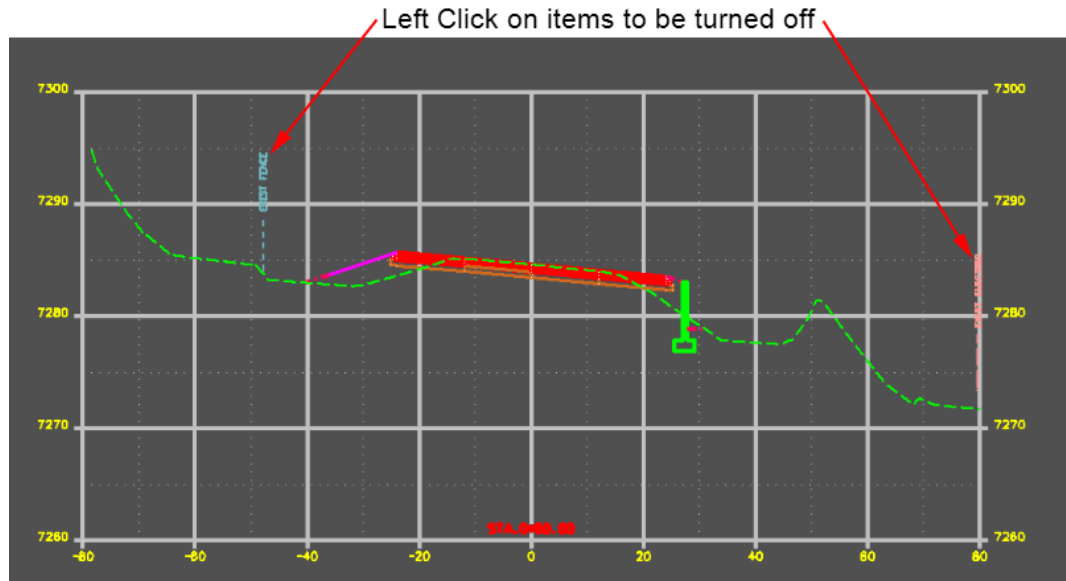
6. After selecting all of the desired elements, Left Click on any command in the Tasks menu to exit the **Off By Elements** command. The cells are now turned off, as illustrated in the image below.

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