

CDOT Sheet File Creation

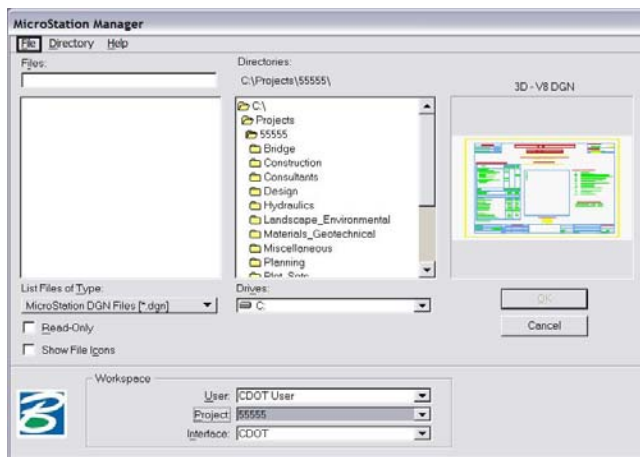


This document guides you through creating a new sheet file in MicroStation. We will be going over placing the sheet border around coordinate based model graphics. Setting up sheets this way maintains the coordinate based information and measurements are in real-world dimensions. This is a complimentary guide to Chapter 11, Drawing Composition from the Roadway Drafting Using MicroStation Manual.

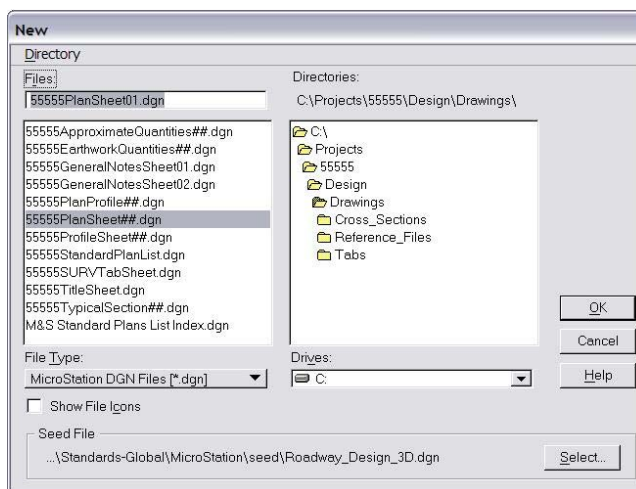
Setting up the Sheet File:

Beginning a New Drawing File

1. From the MicroStation Manager, select **File > New**.

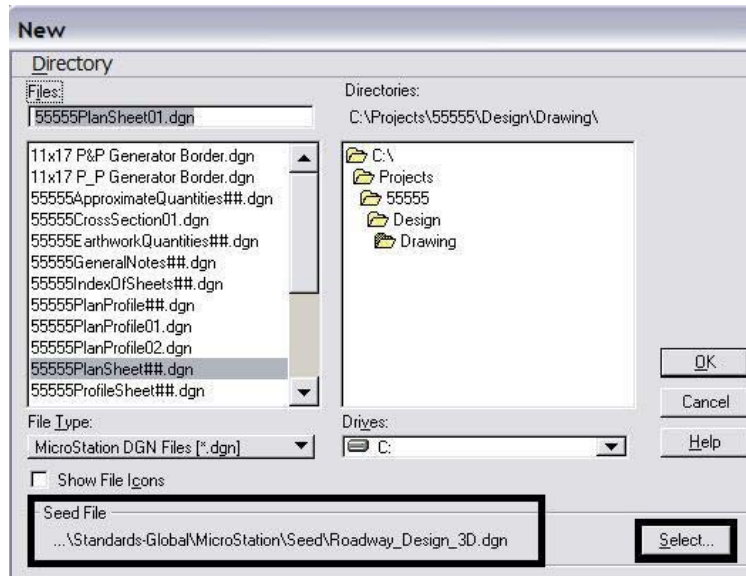


2. Enter a drawing file name that corresponds to the next consecutive sheet number and place it under the appropriate file location under C:\Projects\.....

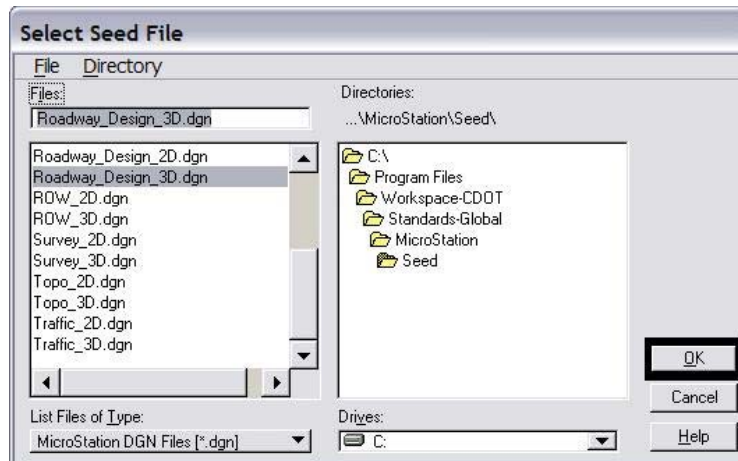


CDOT Sheet File Creation.pdf

3. Verify the **Seed File** corresponds to your discipline. If it does not, click Select and browse to C:\Program Files\Workspace_CDOT\Standards-Global\MicroStation\Seed\...



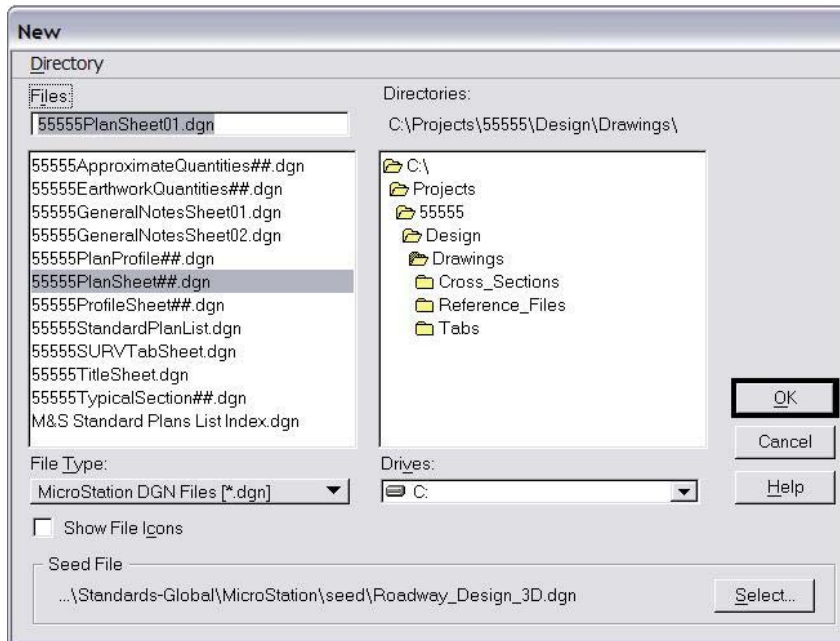
4. Highlight the Seed file for the appropriate discipline and Select **OK**.



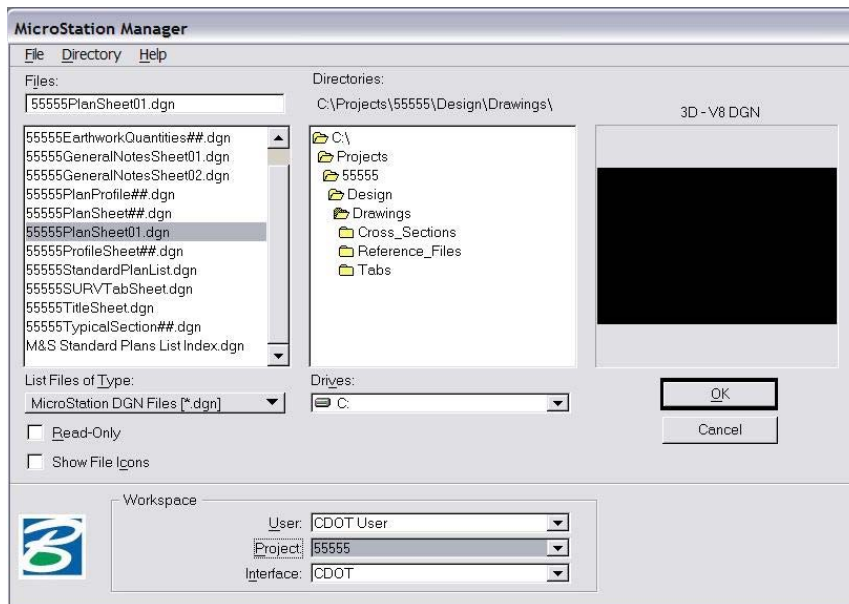
Note: Seed files are separated out by discipline. The options include Bridge, Construction, Hydraulics, Landscape and Environmental, Materials and Geotechnical, Roadway, ROW, Survey, Topo, Traffic, and Utilities.

CDOT Sheet File Creation.pdf

5. In the **New** dialog box, select **OK**.

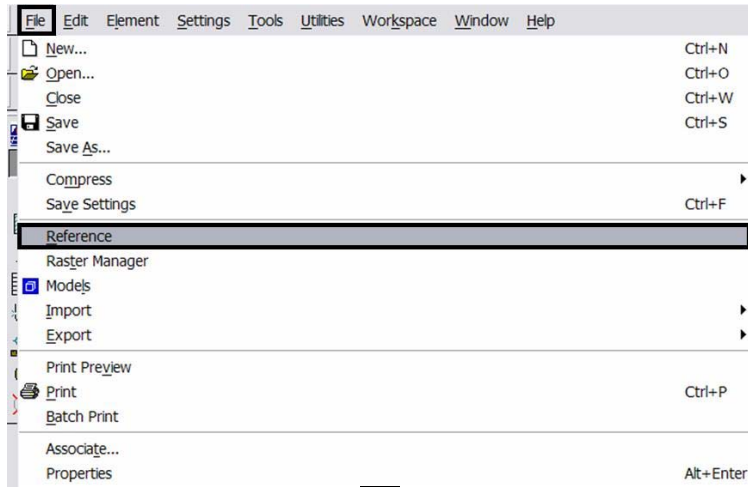


6. The file you created will be highlighted. Select **OK** to open that file.

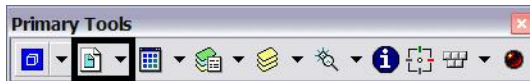


Attaching Model Files to the Sheet File

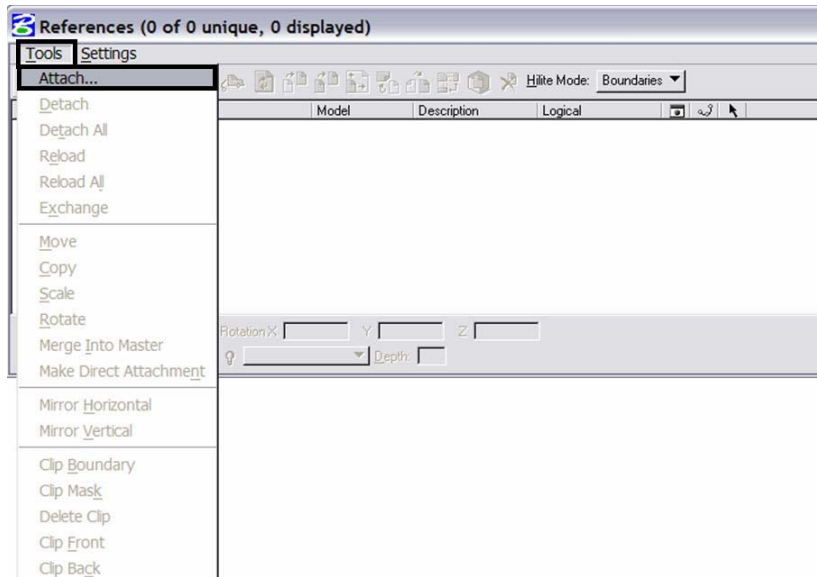
7. Select **File > Reference**.



Or choose the **Reference** icon  from the **Primary Tools** toolbar.

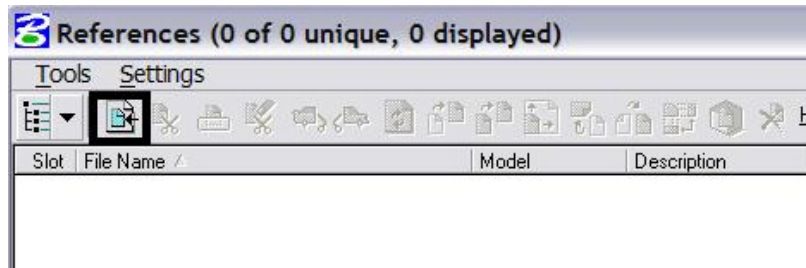


8. From the Reference Manager tool bar select **Tools > Attach**

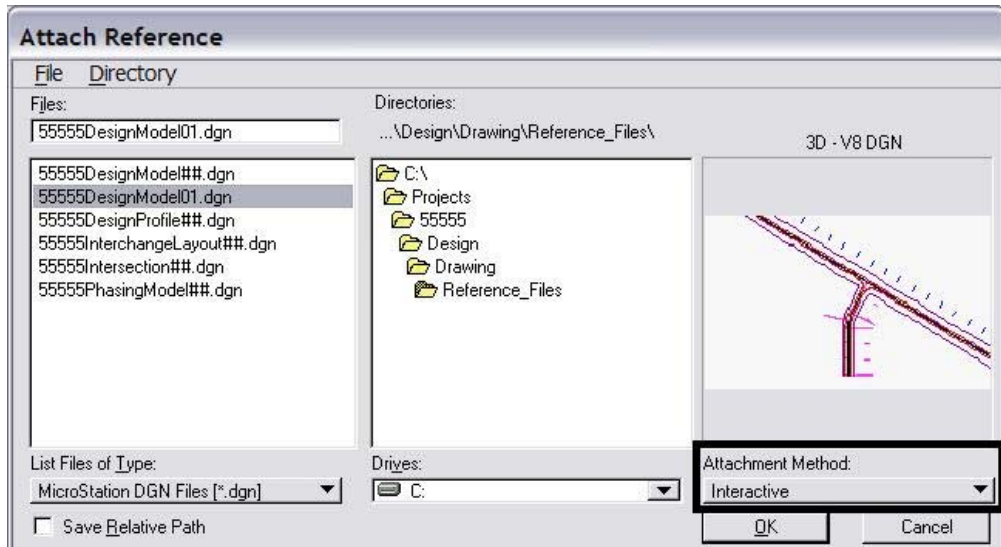


CDOT Sheet File Creation.pdf

Or choose the **Attach Reference** icon .



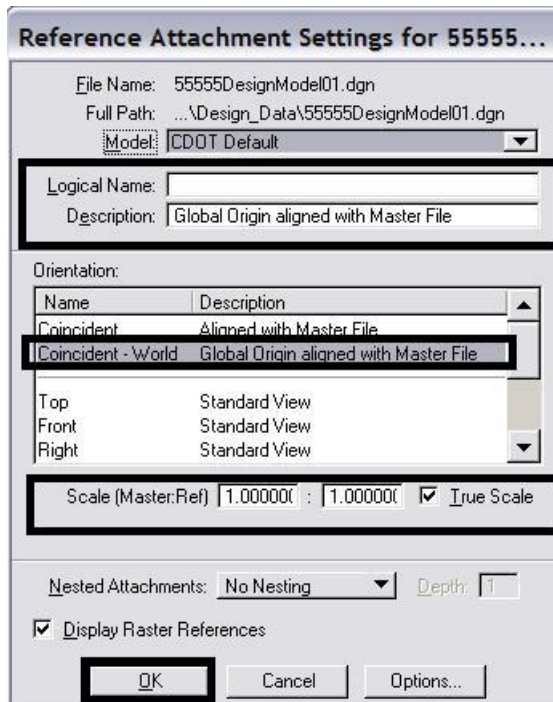
9. Search for the model file and verify the **Attachment Method** is set to *Interactive*. Select **OK**.



Note: You can select more than one file at a time by holding the **<Shift>** or **<Control>** keys down when you are making your selection. Also, you can Drag and Drop directly from Windows Explorer into the Reference Manager Tool box, selecting several files at one time as mentioned above.

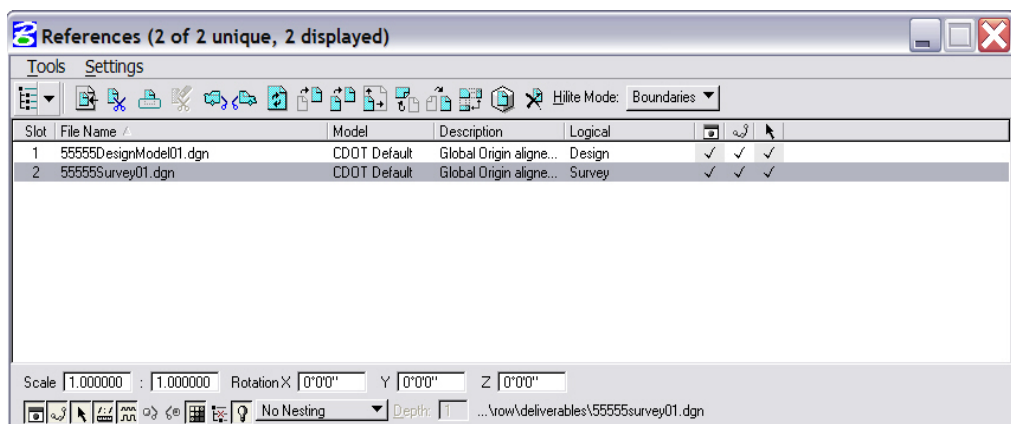
CDOT Sheet File Creation.pdf

- Under **Reference Attachment Settings**, key in a logical name and a description. For instance, the logical name might be **Design** for the DesignModel drawing. The other settings should not have to be edited. **Coincident-World** is selected by default. Also the **Scale** is set at 1:1 by default. Verify **True Scale** is checked **ON**. Select **OK**.



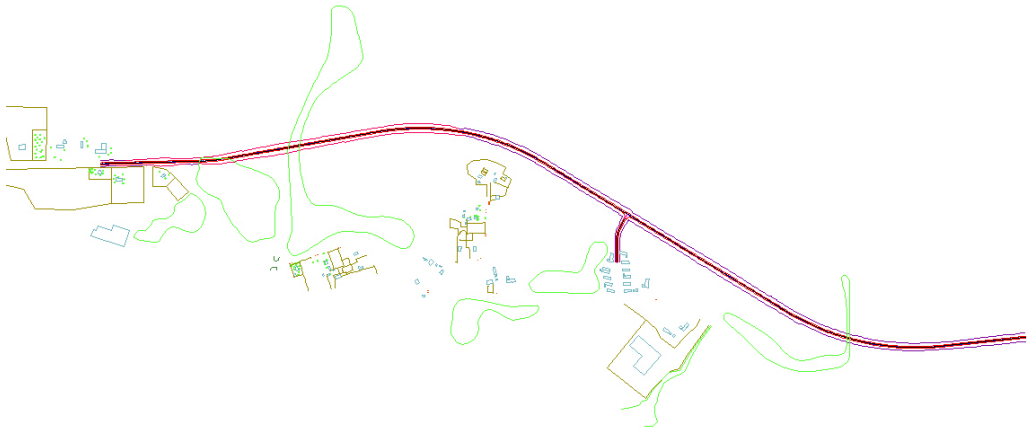
Note: When Coincident World under Orientation is selected and a scale factor of 1:1 is entered, plan graphics are being referenced to the sheet file with the true coordinate information. All other attachment methods will not maintain the true coordinate values.

- The files will be shown in the References dialog box.

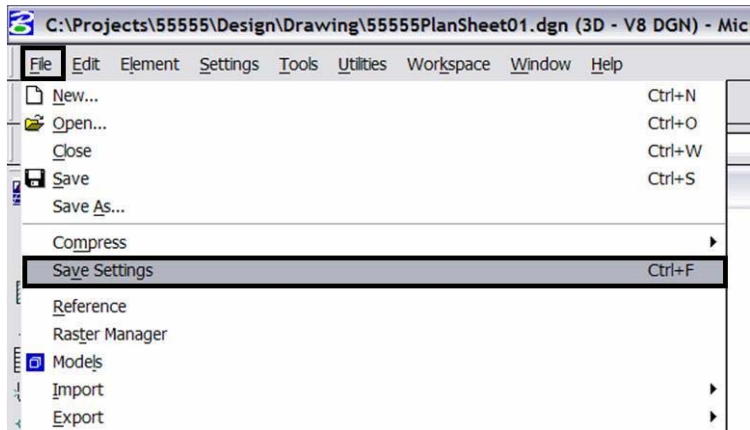


Note: Whenever you make graphical model file changes, your sheet file will automatically update.

12. **Fit View** using the icon  so all graphics are displayed.

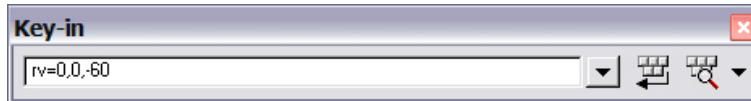


13. Select **File > Save Settings** from the **Primary** toolbar.

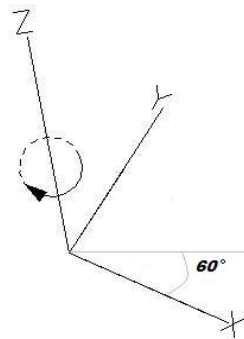


Rotating the View

14. After the references are attached, you may need to rotate the view depending on the layout of the sheet. **Note:** You are not rotating the reference file(s). You are only rotating the view. The coordinate system will not change.
15. One option to rotate the view is to **Key-in** $rv = x,y,z$ and press **<Enter>** or **<Tab>**.



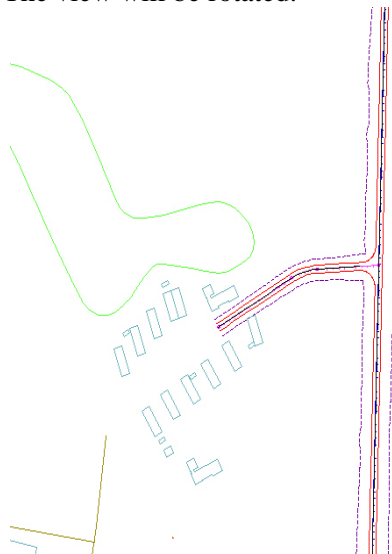
Note: $x = 0$, $y = 0$, and $z = \text{Rotation Angle}$. You are rotating the view about the z -axis. This is the axis perpendicular to the view. Otherwise, if you are working in a 2D file the **key-in** would be **rv = value of rotation**.



16. You will be prompted to select the view you would like to rotate in. **<D>** (data-point) in the active view window.

Rotate View (Relative) > Select view

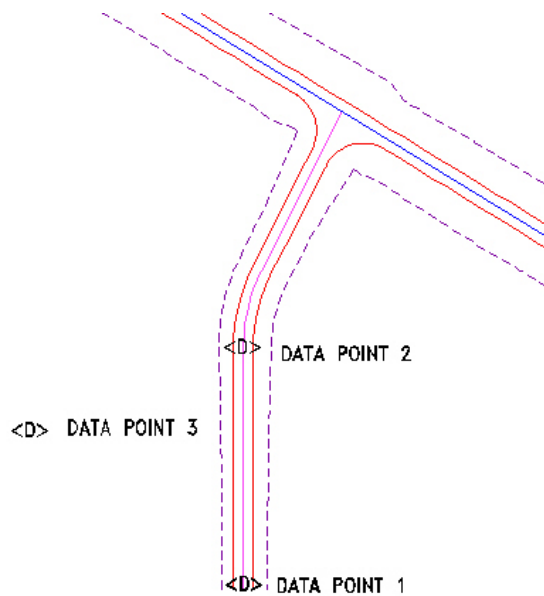
The view will be rotated.



17. Or you can rotate graphics using **3 Points**. Select **Rotate View**.



Change the **Method** to **3 Points**.



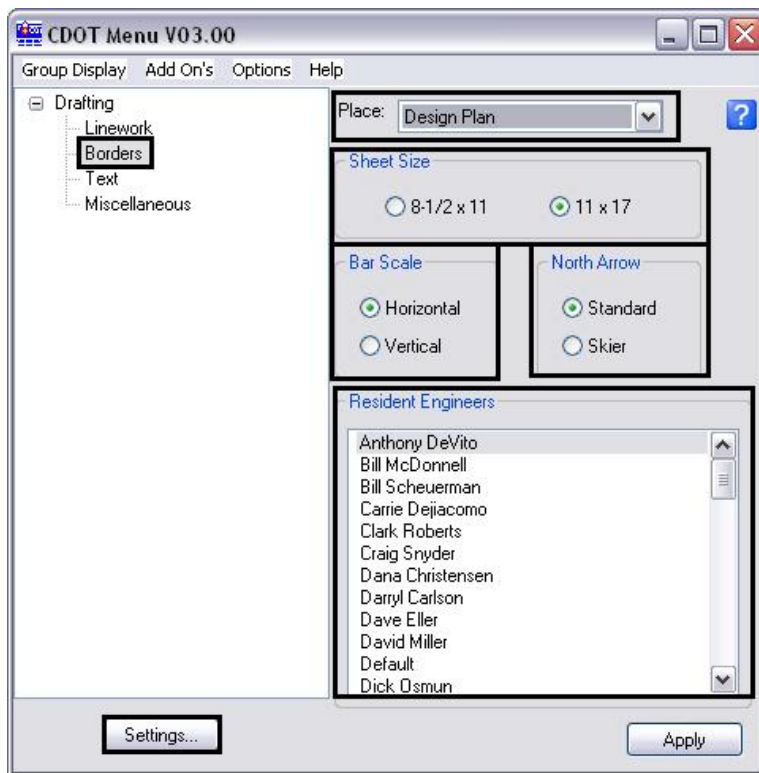
Note: Make sure you are picking a data point near the 3D element. Do not snap to 3D elements because you will be rotating along the z axis instead of just the x and y plane. Turn Accusnap off or you can hold down the <Ctrl> and <Enter> keys down at the same time to temporarily disable Accusnap while you are locating the data points.

The view will be rotated.

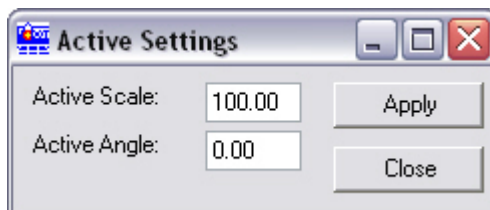


Attaching the Border, Bar Scale, North Arrow, and Resident Engineer/Survey Supervisor Cells

- From the CDOT Menu, select **Drafting > Borders**. From here you will select the type of border to use from the **Place** pull-down menu then select the **Sheet Size**. Select a **Horizontal** or **Vertical Bar Scale** then select the **North Arrow** type. Finally, select **Resident Engineer** information.



- Select **Settings** if the desired sheet scale is something other than 1" = 100'. In the Active Settings dialog box you can change the **Active Scale** and the **Active Angle**.



Note: The Active Angle is view independent and not associated with view rotation. Therefore, the x-axis is always horizontal regardless of the view rotation. You will not need to set this for correct placement of the North Arrow or other cells.

- Select **Apply**, when the desired changes are made in the **CDOT Menu**.

CDOT Sheet File Creation.pdf

21. First, you will be prompted to locate the lower left hand corner of the sheet border.

Locate lower left hand corner of sheet / Reset for next

Note: The sheet border cell is not anchored to your cursor but will be visible after you <D> (data-click) to accept placement.

22. Next, you will be prompted to locate the **Bar Scale**. <D> (data-click) to accept placement inside the sheet border.

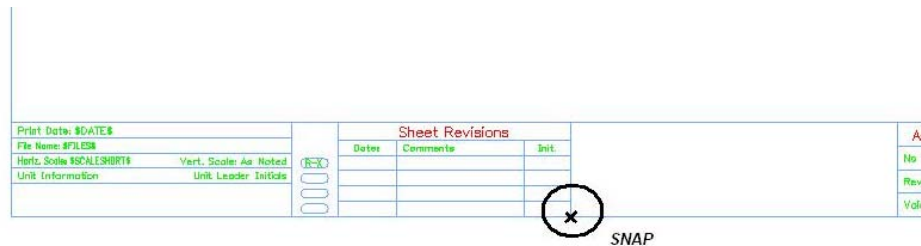
Locate point for bar scale / Reset for next

23. Then you will be prompted to locate the **North Arrow**, <D> (data-click) to accept placement inside the sheet border.

Locate point for north arrow / Reset for next

24. Lastly, you will be prompted to locate the **Region Engineer** cell. Tentative snap and <D> (data-click) to accept placement.

Locate point for regional engineer cell / Reset to exit



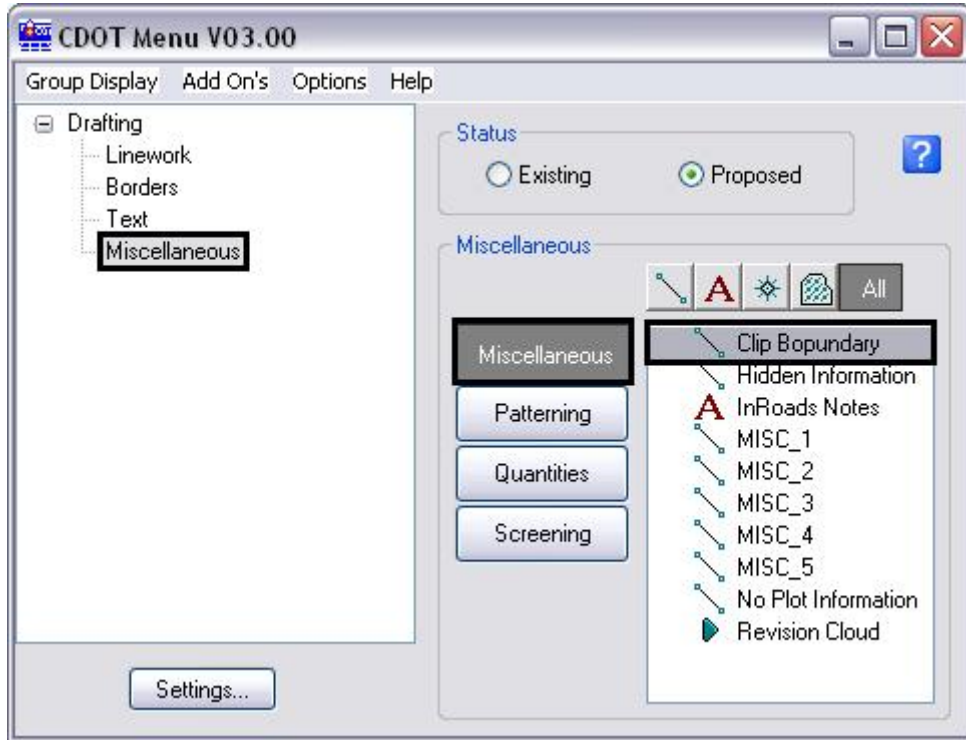
The screenshot shows a software interface with a sheet border. On the left, there are several text fields: 'Print Date: \$DATE\$', 'File Name: \$FILENAME\$', 'Hatch, Scale: \$SCALE\$ \$SHORT\$', and 'Unit Information'. To the right of these fields is a 'Sheet Revisions' table with columns for 'Date', 'Comments', and 'Init.'. Below the table, there are several empty rows. A circled 'x' is positioned over the bottom right corner of the sheet border, with the word 'SNAP' written below it.

Note: Contact the CADD Manager if any edits need to be made to a Region Engineer cell. Remember, you **can** edit the cell with the Edit Text command until the changes are available in the next configuration.

25. Double click on any of the text fields in the border to add sheet specific information.
26. Coordinate with the Region Surveyor when you are creating sheets that are not at a 1:100 scale. They will provide you with the topography and survey MicroStation files at a different scale. Otherwise, the line work and cells will not be the correct size for the print scale.

Placing a Clip Boundary


27. From the CDOT Group Menus select **Drafting** > **Miscellaneous** > **Clip Boundary**.

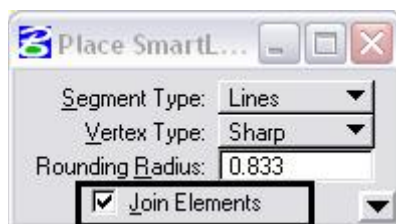


Verify the **SHEET_Clip-Boundary** level is active.




Note: The level **SHEET_Clip-Boundary** will not print.

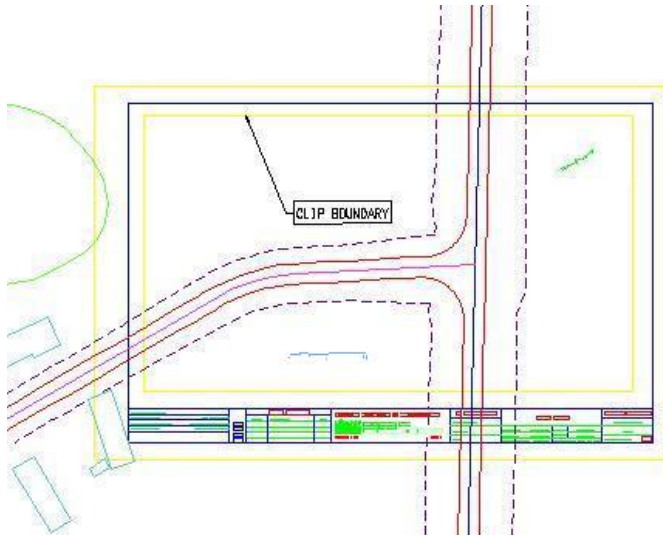
28. The Place Smart Line  command will be active. Verify the option for **Join Elements** is checked **ON** and draw a closed shape that will represent your clipping boundary of the model file.



CDOT Sheet File Creation.pdf

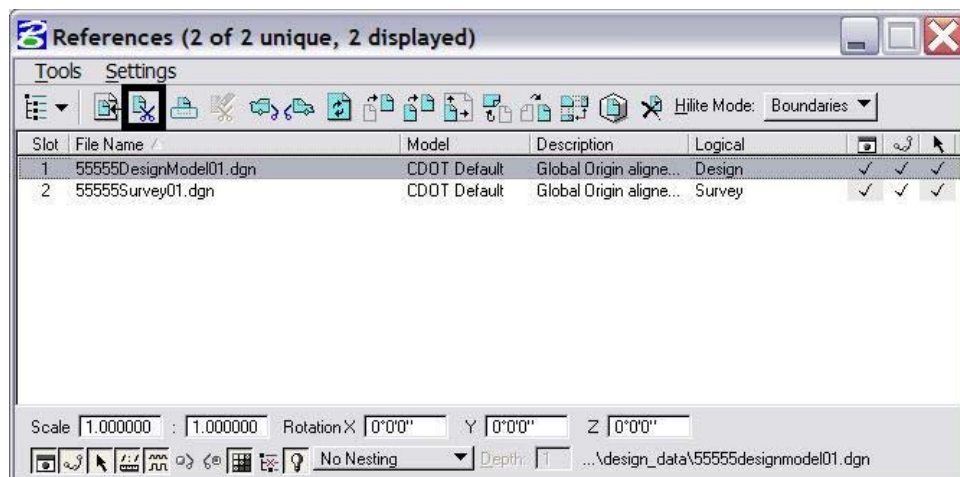
29. Otherwise, if the clipping boundary shape is rectangular, select the **Place Block**

icon  from the **Main** toolbar.



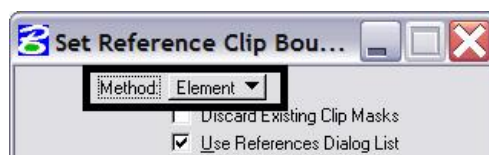
Clipping the Reference File

30. In References dialog box, highlight the Reference file to be clipped. Select the **Clip Reference** icon.



Note: You can select more than one reference file at a time by holding the **<Shift>** or **<Control>** keys down while you are making your selection. You can clip multiple drawings in one step when they are all selected.

31. The following dialog box will open. Verify **Method** is set to **Element**.

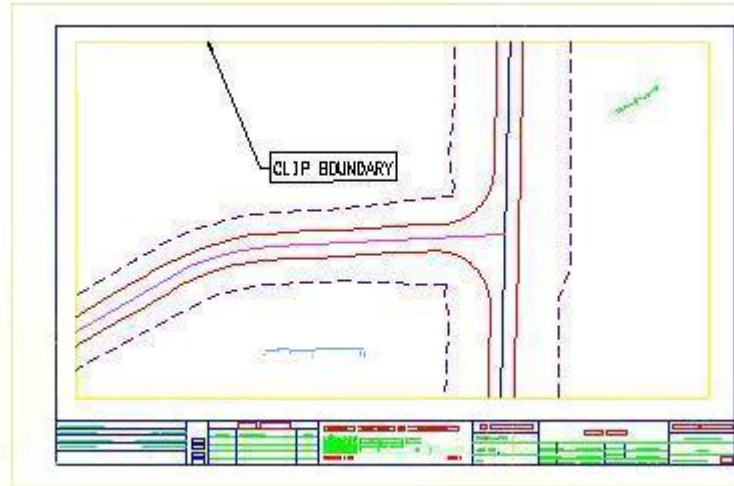


CDOT Sheet File Creation.pdf

- You will be prompted to select the **Element** you want to clip the reference from. Select the rectangular element that was placed inside the border on **GEN_SHEET_Clip-Boundary** level.

Set Reference Clip Element > Identify Clipping Element

- Fit** the MicroStation view  and **Save Settings** after clipping the reference files.



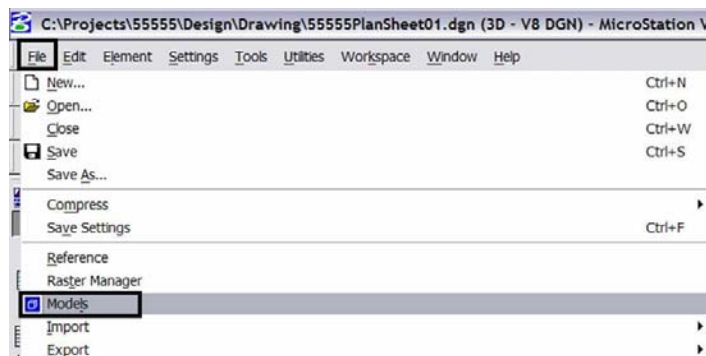
Note: Once the clipping boundary is placed, do not delete it. The clipping region of the reference file will be lost.

Additional Sheet File Information

Setting up Text and Dimension Scale in the Sheet File

- You must change the Annotation Scale Factor if the border cell was scaled to a factor other than 1:100. Otherwise, the text size in the sheet file will not correspond to the scale factor chosen when placing the border cell.

Select **File > Models** from the **Primary** toolbar.

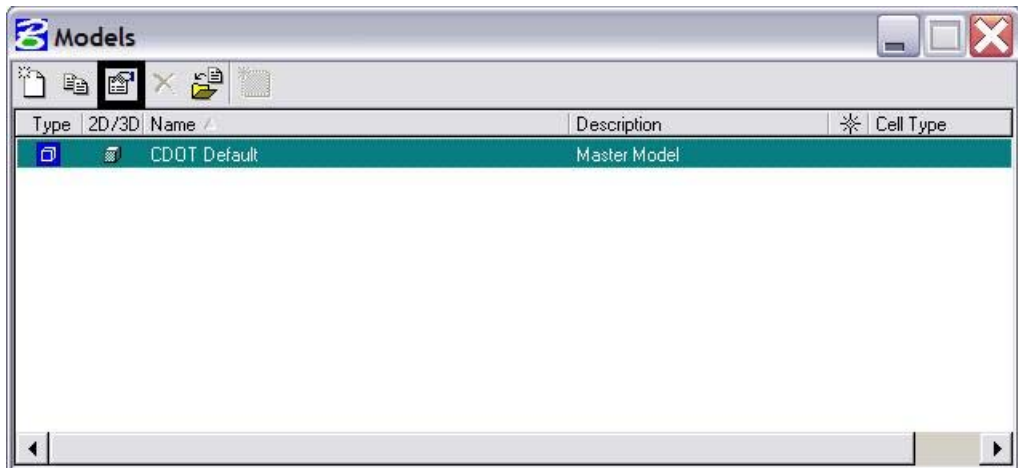


CDOT Sheet File Creation.pdf

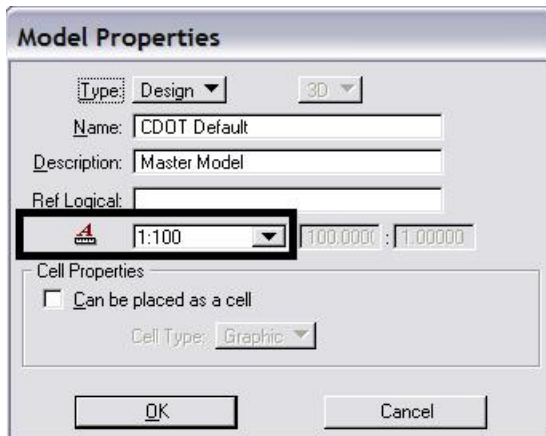
Or select **Models** icon  from **Primary Tools**.



35. Select the **Edit Model Properties** icon 

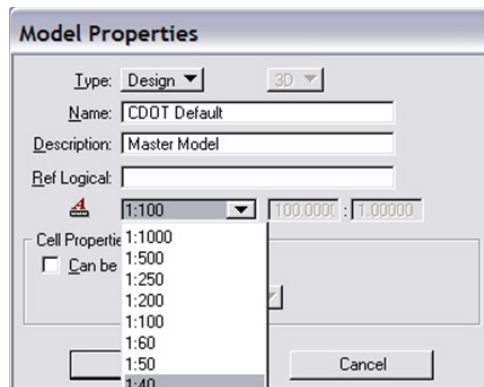


36. The **Annotation Scale** factor defaults to 1:100. Select the arrow to change the scale factor. If you try to place text before setting this, it will be too large since the drawing plot scale is at a 1:40.

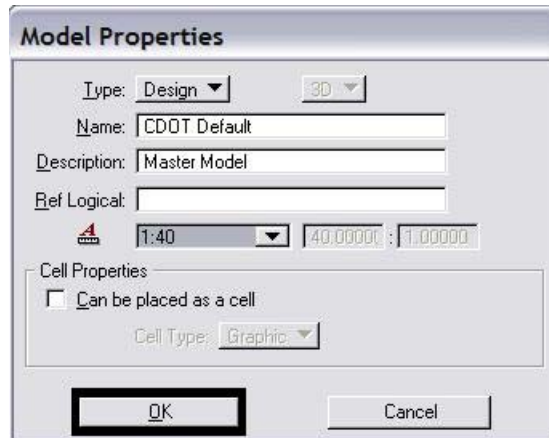


CDOT Sheet File Creation.pdf

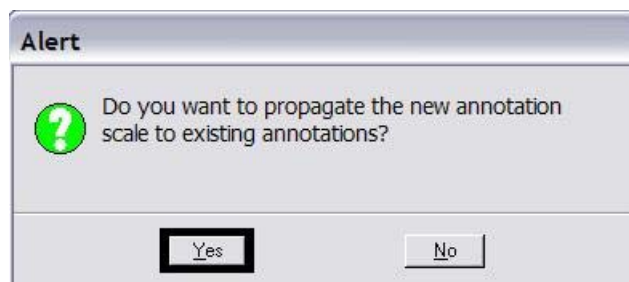
37. From the pull down, select the **Annotation Scale** factor to match the scale factor used when placing the border cell.



38. In this example, an annotation scale factor of 1:40 is chosen. Select **OK**.

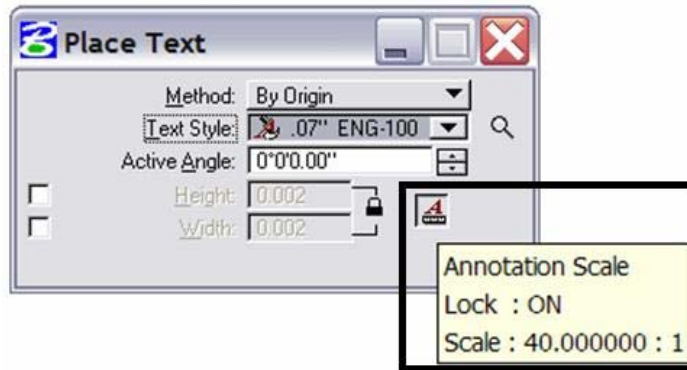



39. You will be prompted with the following dialog box. Select **Yes**. Selecting **Yes** will update any text previously placed in your sheet file.



CDOT Sheet File Creation.pdf

40. Now, you can add text to the new sheet file. It will be scaled to the correct height based on the plot scale or in this case 1:40.



Note: Annotation Scale Lock must be turned **ON** when placing text or dimensions for the scale factor to take affect. Verify it is **ON** by hovering with your cursor over the  icon.

41. Select **File > Save Settings** before you exit MicroStation.