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CONNECTICUT DEPARTMENT OF TRANSPORTATION

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CTDOT

MicroStation V8i Guide for Traffic Design

Architectural, Engineering and Construction Applications

Division of Facilities & Transit

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Thanks!

Thanks go out to all that contributed to the creation of this document, especially to Sarah Rose who assisted with the writing and development; Gerald Fascione and Michael Cloutier for sharing their Traffic Design CAD standard knowledge; Diane Swinburne, James Massini and Lisa Conroy for their Traffic Engineering expertise. The support that they have provided has been invaluable and is appreciated beyond measure.

Elaine Richard

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Introduction

This manual was put together to serve as a course manual as well as a reference document used to guide State Engineers and Consultant Engineers through the standard CAD procedures. New MicroStation tools for Traffic Design are now available to assist with the adherence to the standards. For State Engineers these tools can be found in the existing workspace. For consultants these tools can be downloaded with the **CTDOT Digital Design Environment** found on the following web page.

http://www.ct.gov/dot/cwp/view.asp?a=3194&q=483668&PM=1

Please read a detailed description of the issues that we are trying to avoid and how this manual and the new procedures will assist in the effort.

1. Graphics from reference files are being copied into the traffic sheets and then those levels are shut off in the reference files. ROW lines from the existing survey ground file are one example. This is done so the weight can be changed. Referenced design features from other units are copied in as well. This is done primarily when there are items on the same levels and some need to be displayed and others do not. This practice makes it easy to miss updates made to the reference files and then the sheet goes out with the old outdated information.

   Solution: No copying, use Reference Level Overrides and screening on references

2. All traffic appurtenances are being placed in the sheet model. The intersection is then being cut up and portions are moved to fit within the sheet border. This causes multiple issues because the traffic signal appurtenances are no longer in the correct geospatial location.

   - Makes it impossible for other engineers to reference the intersection layout back into the main design files from Highway and Structure Bridge.
   - Makes it difficult to find existing underground utility conflicts. The existing survey gets referenced into the sheet and then the underground utility levels get shut off. When portions of the intersection gets moved to fit within the sheet they copy and move only the existing ground features from levels that are turned on. The levels that where shut off never get copied and moved with the other signal appurtenances so conflicts will never be seen.

   Solution: All traffic appurtenances should be placed in a Design Model so it retains its geospatial location.

3. Contract Plan CAD Standards not being followed (adopted April 3, 2007) http://www.ct.gov/dot/lib/dot/documents/deng/CAD_Standards.pdf

   Solution: Created Tasks for placing standard annotation

4. Traffic appurtenances are copied numerous times for blow ups and details. The design gets edited and not all copies are getting updated.

Solution: All traffic appurtenances are placed in the Design model. The deign model referenced in to the sheet model at 40 scale for entire intersection. The design model is referenced again at needed scale for detail blow ups.

5. The MicroStation pull down menu was confusing because it used abbreviated items, for example CIJBP (Cast Iron Junction Box).

   Solution: Created Tasks that lists the full name for what is being placed.

   Questions or inquiries regarding the subject matter can be forwarded to the following contacts:

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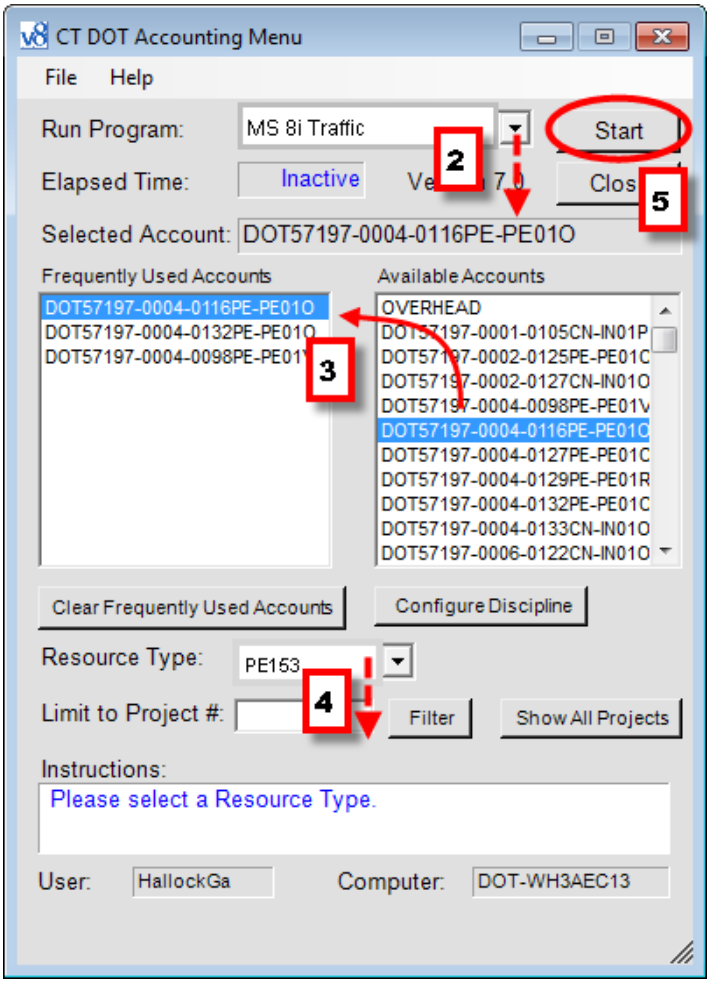
Section 1 Getting Started

1.1 Opening MicroStation through Accounting

1. Double click on the **Accounting** icon located on your desktop.

2. Within the Accounting Menu select **Run Program**, choose **MS 8i Traffic**.
3. Select a project number from **Available Accounts** and then highlight it within the **Frequently Used Accounts**. If you do not have a project number you can pick **Overhead**.
4. Select the correct **Resource Type**. If you picked Overhead you do not have to pick a resource type.
5. Click on the **Start** button.

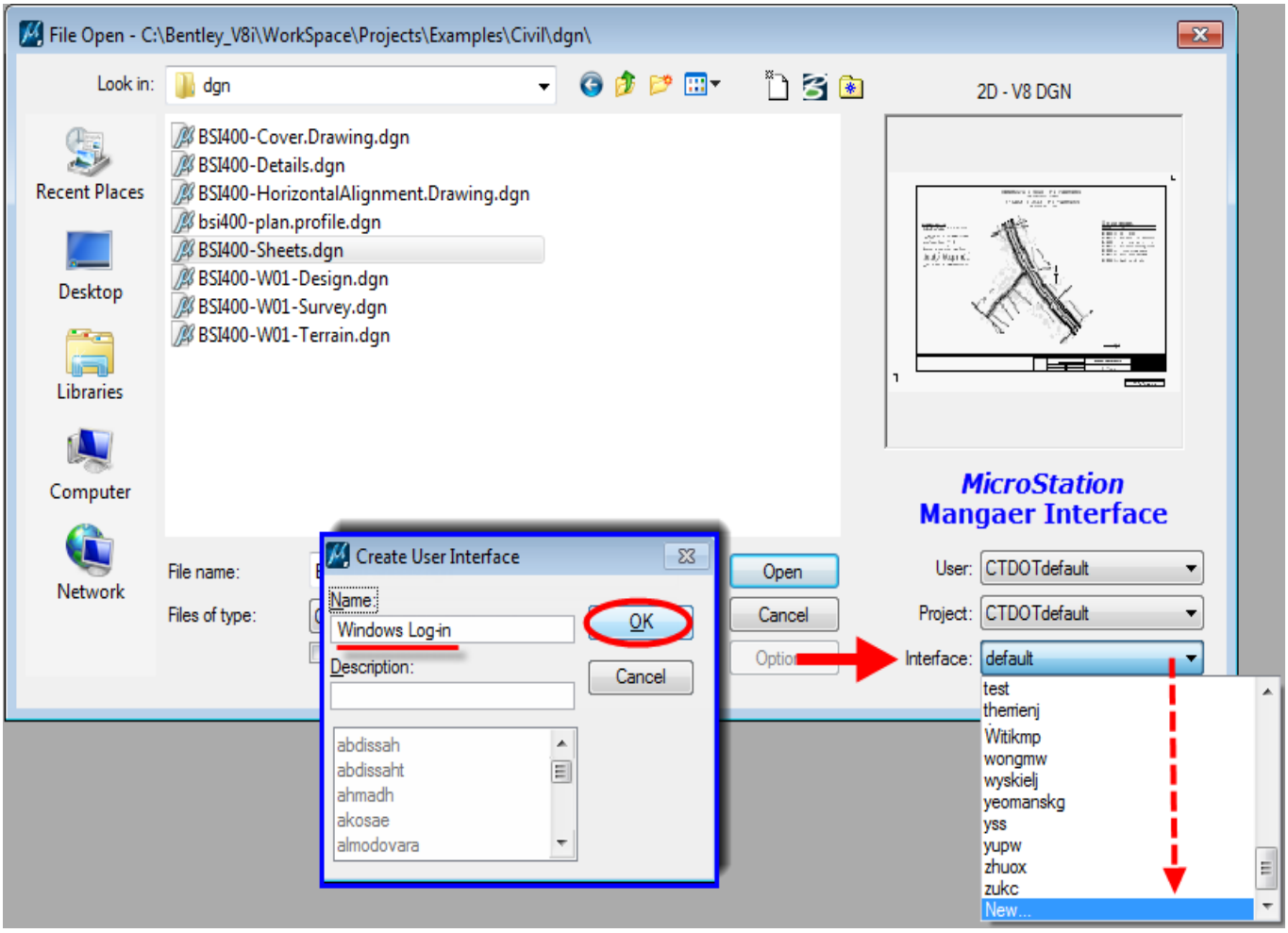


1.2 Creating a User Configuration File

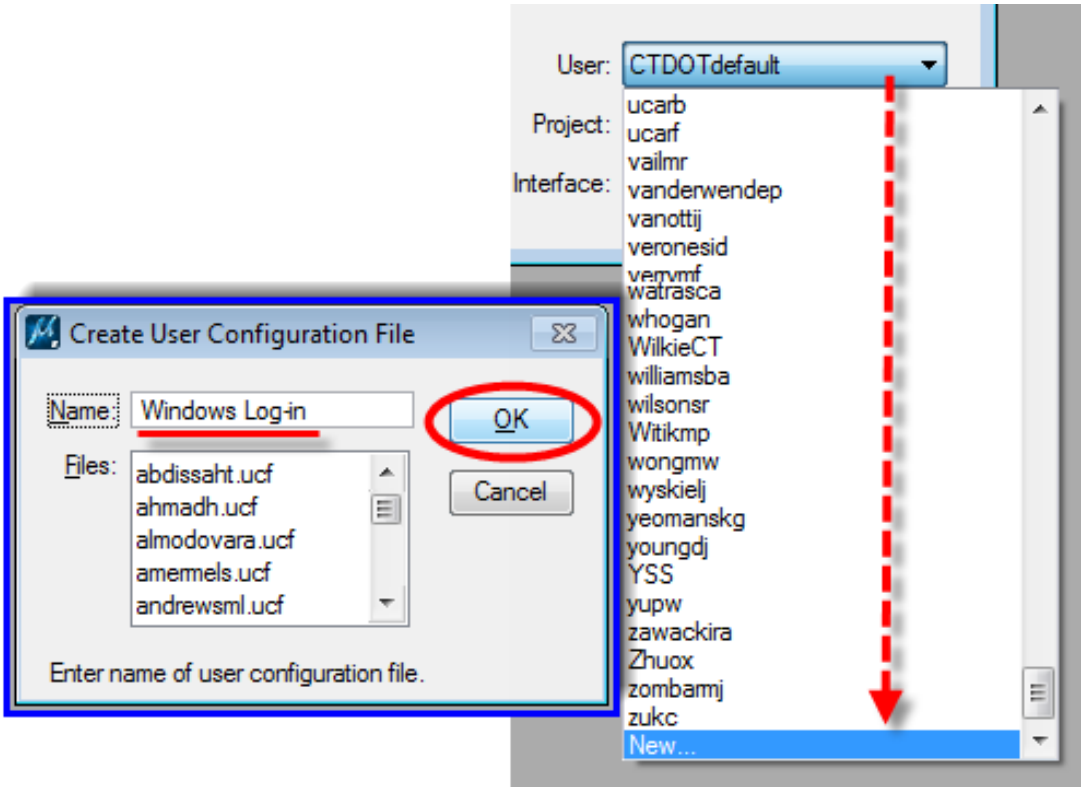
1. The first time into MicroStation the "out of the box" MicroStation Manager Interface will appear. Select the **Interface** pull down **first**, pick **new** and type in your **Windows Login user name**.

   It must match your computer login exactly.

   Click the **OK** button.



2. Select the **User** pull down second, pick **new** and type in your **Windows Login user name**. This will create your user configuration file (.ucf). Click the **OK** button.



3. In the **Project** drop down select one of your design projects.

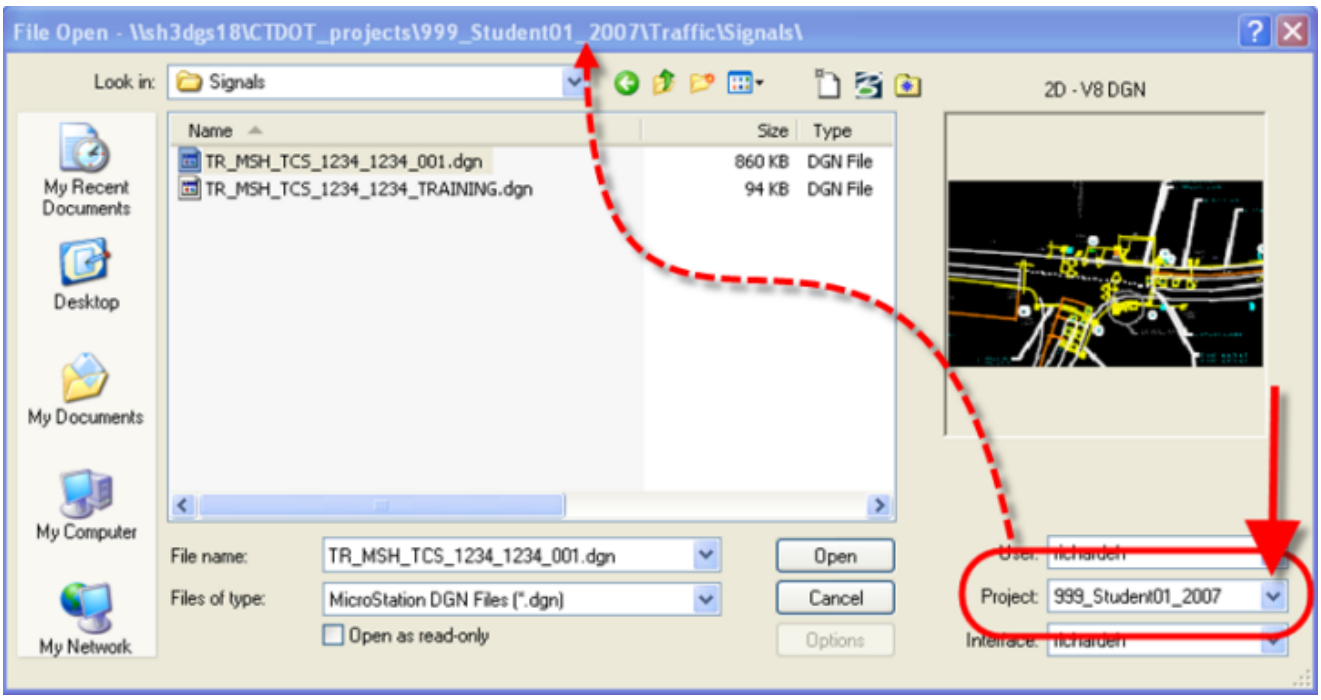
4. Browse to any .dgn file, **open** the file and then immediately **Exit** out of MicroStation.

1.3 Picking a Project and the CTDOT Workspace

1. Once you get into MicroStation through Accounting you will see the dialog box for opening or creating new files.
2. Next you will choose a project folder to work in based on what type of file you will be working on.

1.3.1 Traffic Projects with a Project Number

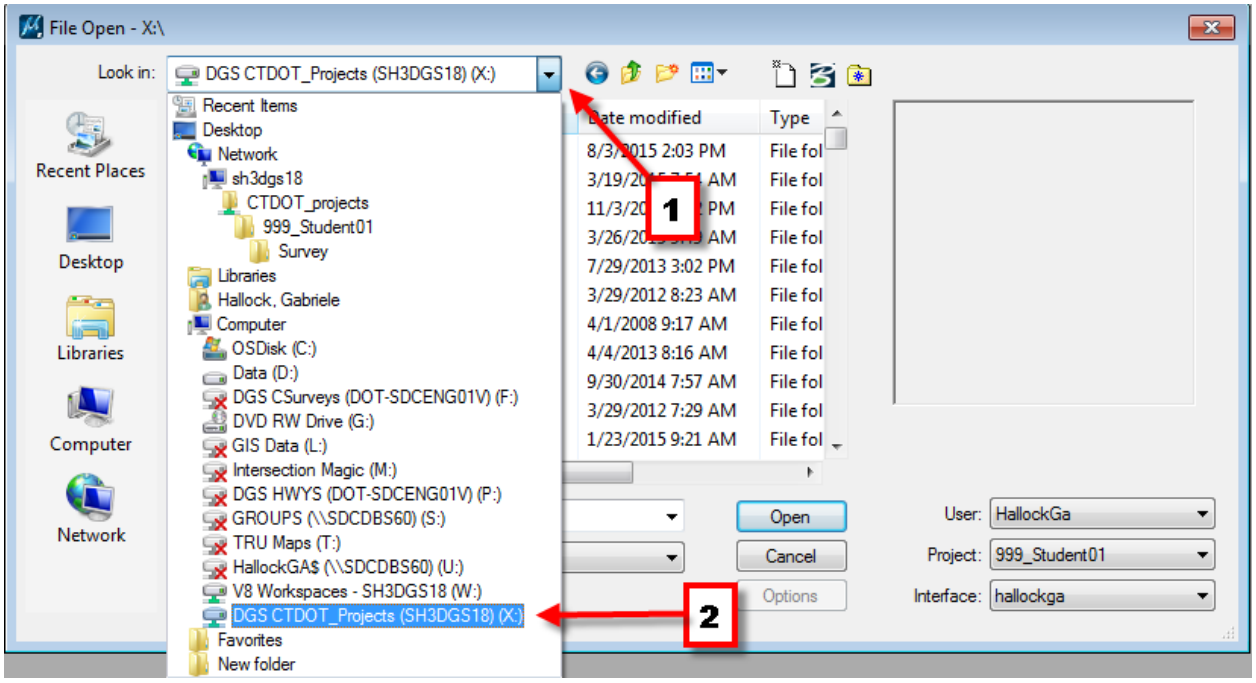
1. If you are working on a Traffic project with a project number, select the project number from the Project pull down.
2. Picking the project number will direct you into the project folder.
3. Open the Traffic folder.



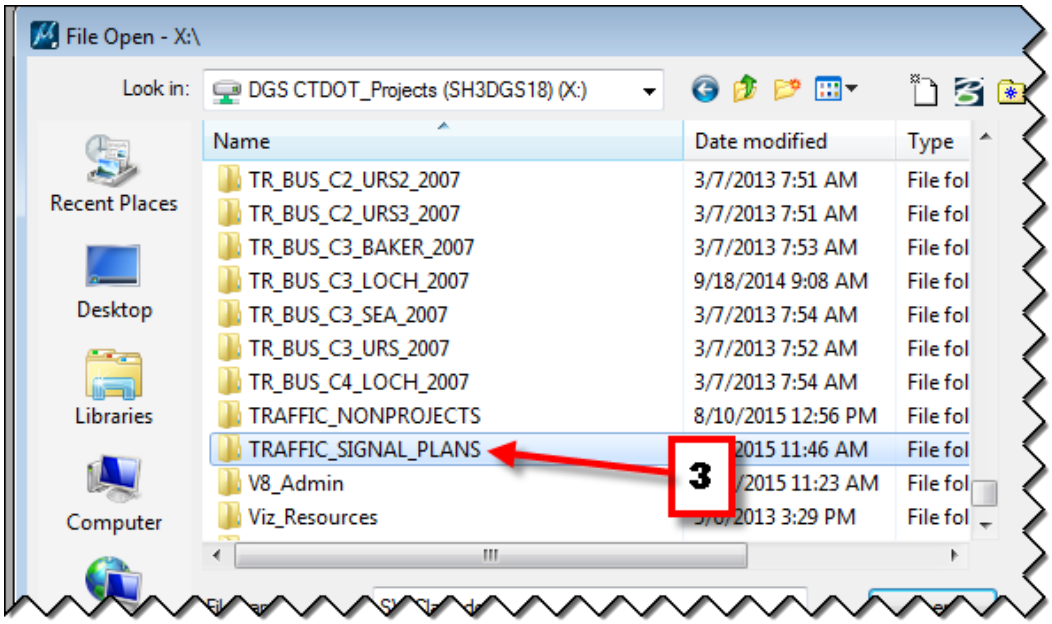
4. If the project you are working on does not have a project folder on the X-drive yet, then contact Ron Tellier and/or John Rinaldi to request a new project folder. Send an email to Ron <u>and</u> John requesting the project folder; please include project number and a short project description (5 – 7 words).
5. From here continue to Section 2, if you are creating a design file or Section 3, if you are making a sheet model.

1.3.2 Revisions to Traffic Signal Plans

1. If you are working on a traffic signal plan that is stored in the archive you will select the project number from the Project drop down.
2. Then pick the **Look in:** drop down at the top of the dialog box and select the X Drive.



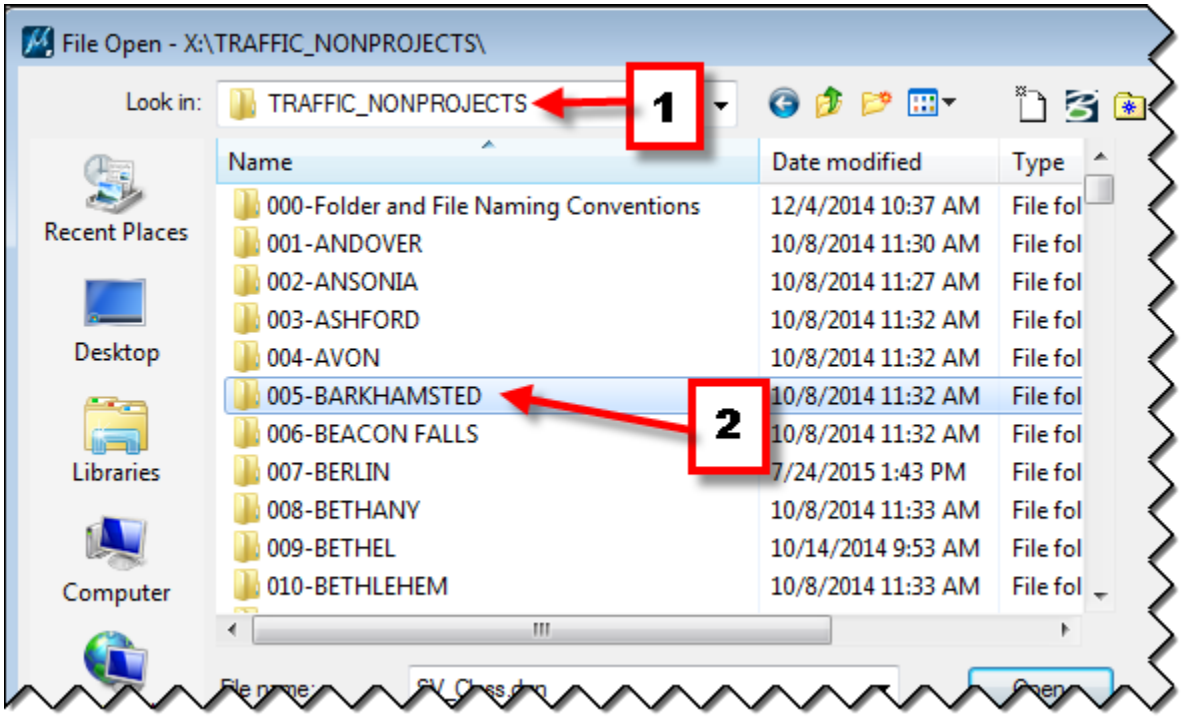
3. Now scroll down and select TRAFFIC_SIGNAL_PLANS > Traffic > WORKING_FILES and select the folder for the town where your signal is located.



4. Now select your dgn file and click **Open**.

1.3.3 Non-Project and Non-Signal CAD Design

1. If you are working on a CAD file that does not have a project number and is not a signal plan, then select **TRAFFIC_NONPROJECTS** from the Project drop down.
2. Select the folder with the name of the town where your job is located.



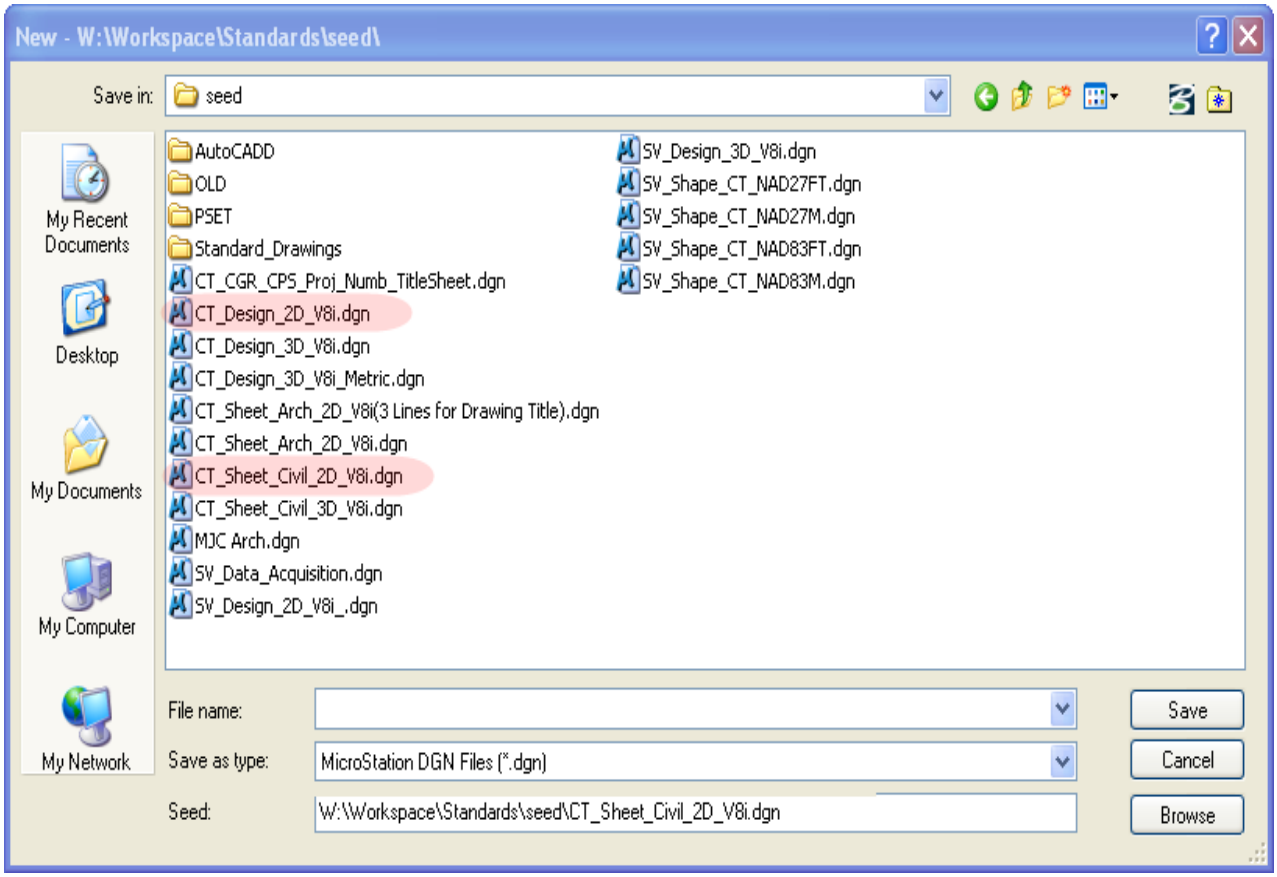
3. Create your dgn files here.

1.4 Seed Files

A seed file is MircoStation's term for a template. When you select **File/New** or click the **New** icon, MicroStation makes a copy of the selected seed file, places it in your selected project folder and you give it a new name.

The MicroStation seed files can be found in **W:\Workspace\Standards\seed**

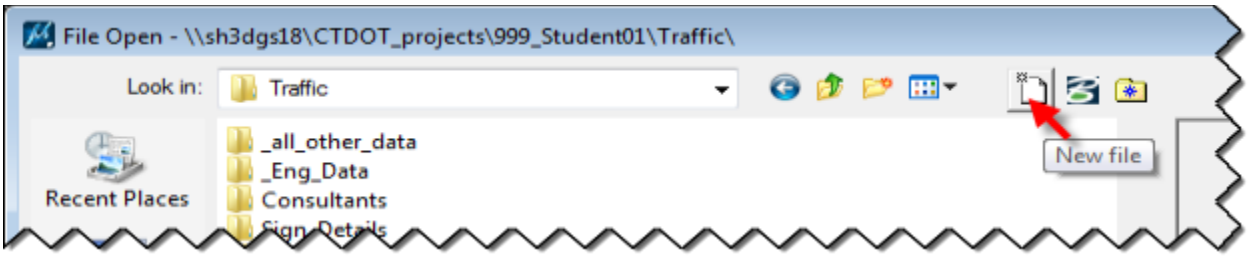
- For Design Models used to layout design features use the seed file **CT_Design_2D_V8i.dgn**
- For Sheet Files that use a border cell and will contain the annotation use the seed file **CT_Sheet_Civil_2D_V8i.dgn**



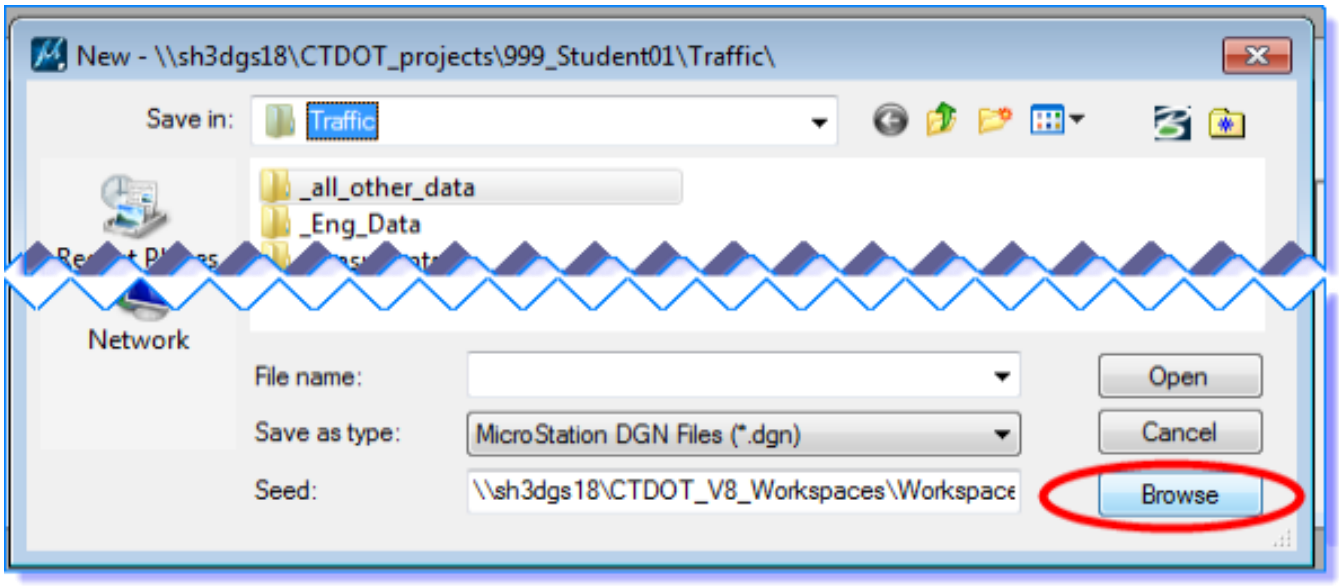
Section 2 Design Models

2.1 Creation

1. Once you have gone through Accounting and chosen your project folder go into the folder where you want your design file to be located. Click on **New File** icon.



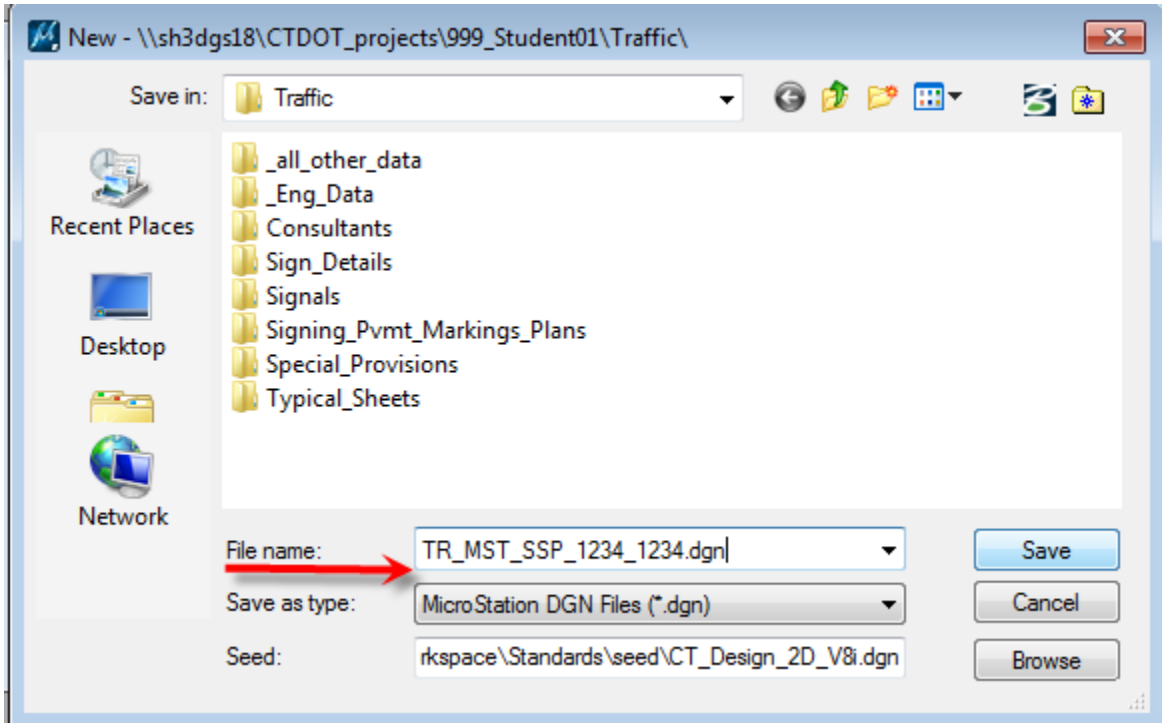
2. On the bottom right, next to the file path for the seed file, click on **Browse**.



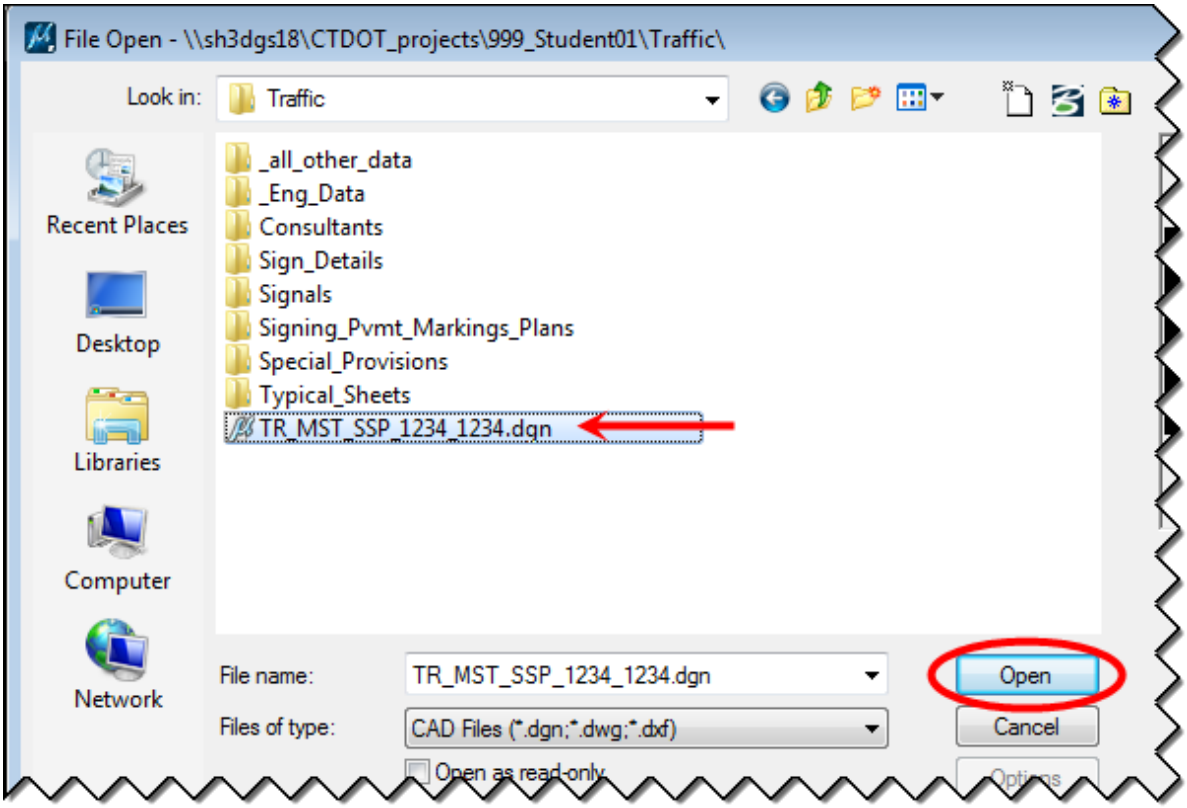
3. Browse to **W:\Workspace\Standards\seed\CT_Design_2D_V8i.dgn** seed file and click **Open**.

4. Type in **File name:** For files used to develop a design for construction projects use the following file name TR_MST_SSP_####_####.dgn and Click **Save**. For non-project study related you can use any file name.

TR = Traffic (Discipline Designator)
MST = MicroStation Design/Layout (MOdel Type)
Specific Use Three Digit Code
SSP = Signal, Signing and Pavement Marking
DTR = Detour

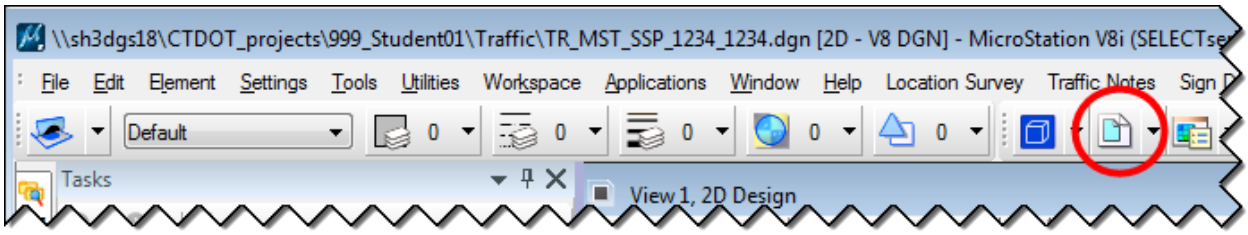


5. Select the file you just created and click **Open**.

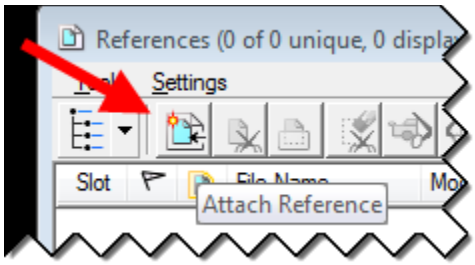


6. In the newly created file, **Click** on **Workspace > Preferences**, select **Reference** and Toggle on **Use Color Table**.

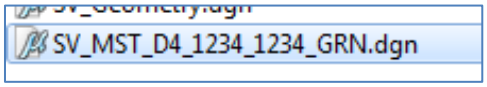
7. Next **Click** on the **References button** to open the References dialog box.



8. In the References dialog box select **Attach Reference** icon.

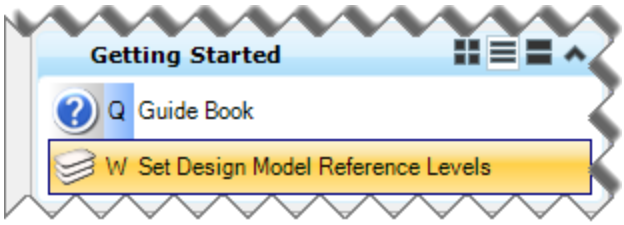


9. Navigate to the Survey folder and reference the Survey *.dgn file.



10. Select **Attach** from the References dialog box again. Navigate to the Highways folder, then the MSta Design folder and reference the highway design file.

11. Select Level Display and turn off desired levels in the reference files.
Select **File > Save Settings**.
12. You can also use the tool in the Traffic task menu **Select Traffic > Getting Started > Set Design Model Reference Levels.**



2.2 Drawing Tasks

In this section you will draw a lane line for a shoulder, place some signs, place some metal conduits, and draw a traffic signal assembly. These are just a few examples of the many Traffic Tools.

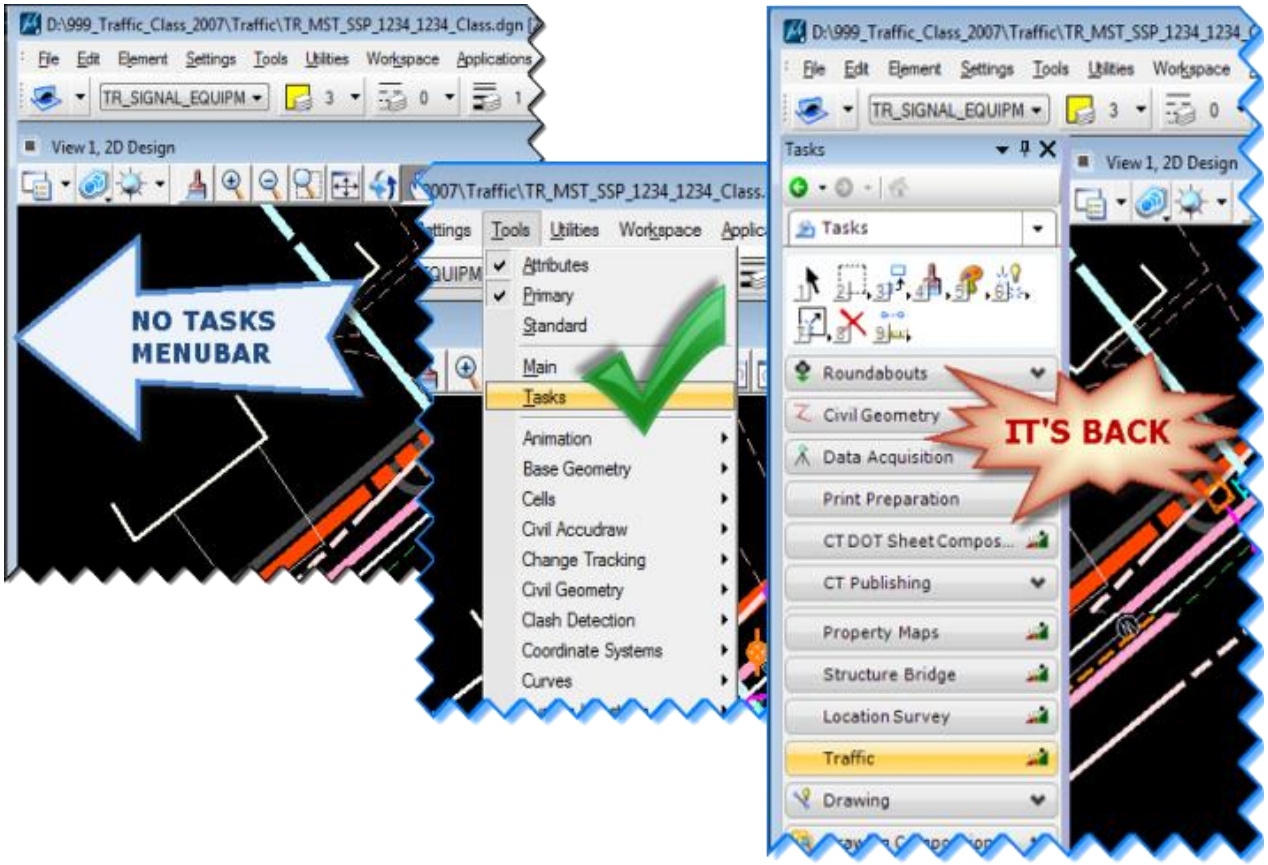
2.2.1 Tasks Menu

What is a task?

A task is a set of tools grouped to facilitate a particular job/task. Tasks comprise a command with the correct symbology for a feature and/or pay item.

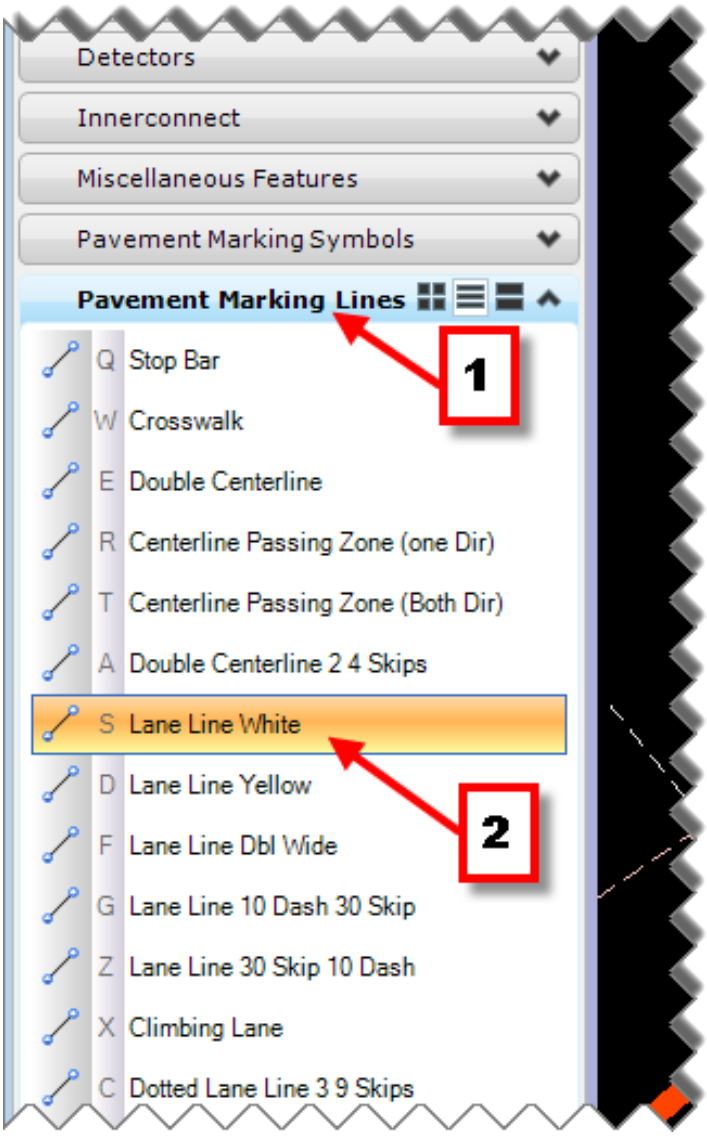
If you don't see the Main Task menu click on "**Tools**" and toggle on "**Tasks**", usually it pops back to the left side of your MicroStation view.

You can dock it where you want it, by dragging the menu to either left or right, up or down to the arrows appearing when close to the edge.



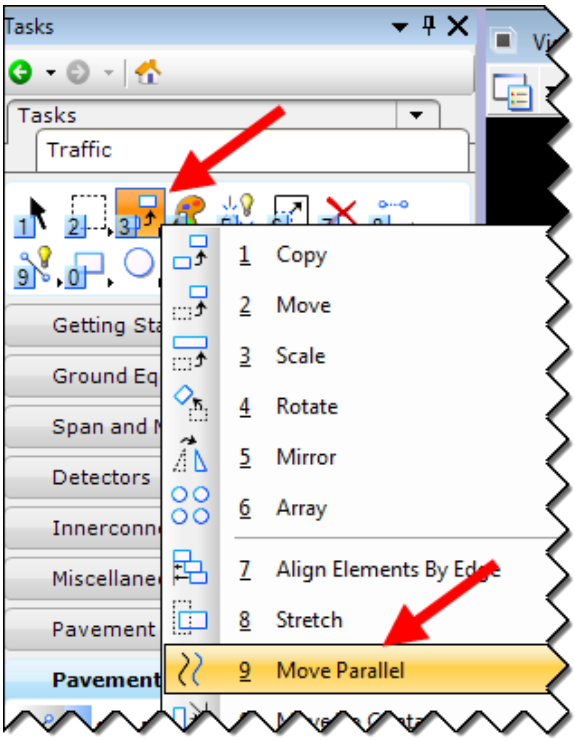
2.2.2 Drawing a Shoulder Line

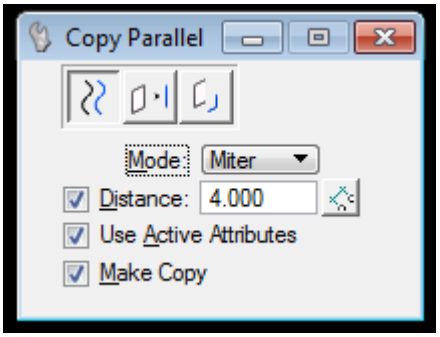
1. Here is one way to draw a shoulder line. Make sure the **Pavement Marking Lines** tab is open on the task bar and then click on **Lane Line White**.



2. This sets the correct level, color, line style, and weight for a lane line. This tool also activates the place smart line tool. In this example you won't be drawing the line, you will copy the edge of road.

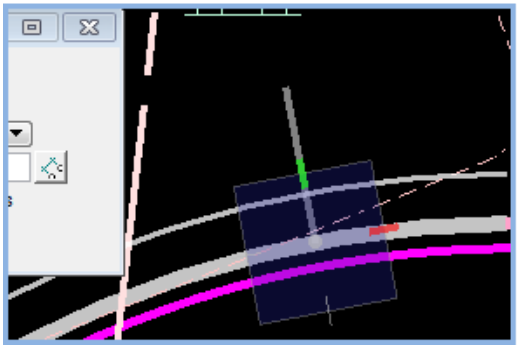
3. At the top of the task menu select the Manipulate tools and then **Move Parallel**.

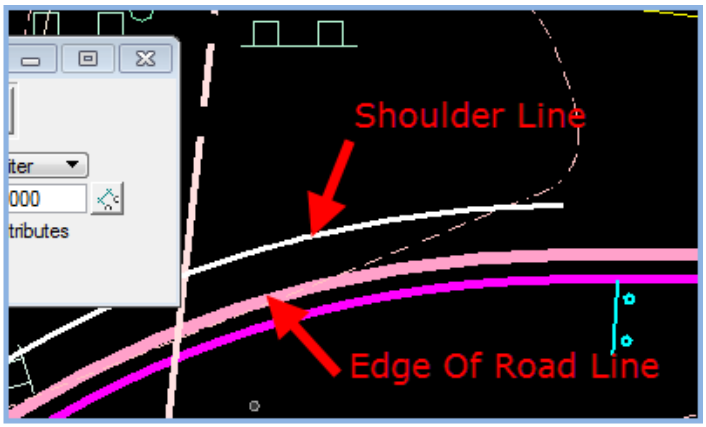




4. Set up the Copy Parallel dialog box as shown above. The top button should be set to **Element** because you will be copying an entire element. The Mode is set to **Miter**. This mode will lengthen or shorten the element to try to match the shape of the original. The distance is set to **4** feet. Check **Use Active Attributes** to create the copy using the active attributes. Most importantly check **Make Copy** or else you won't get a copy.

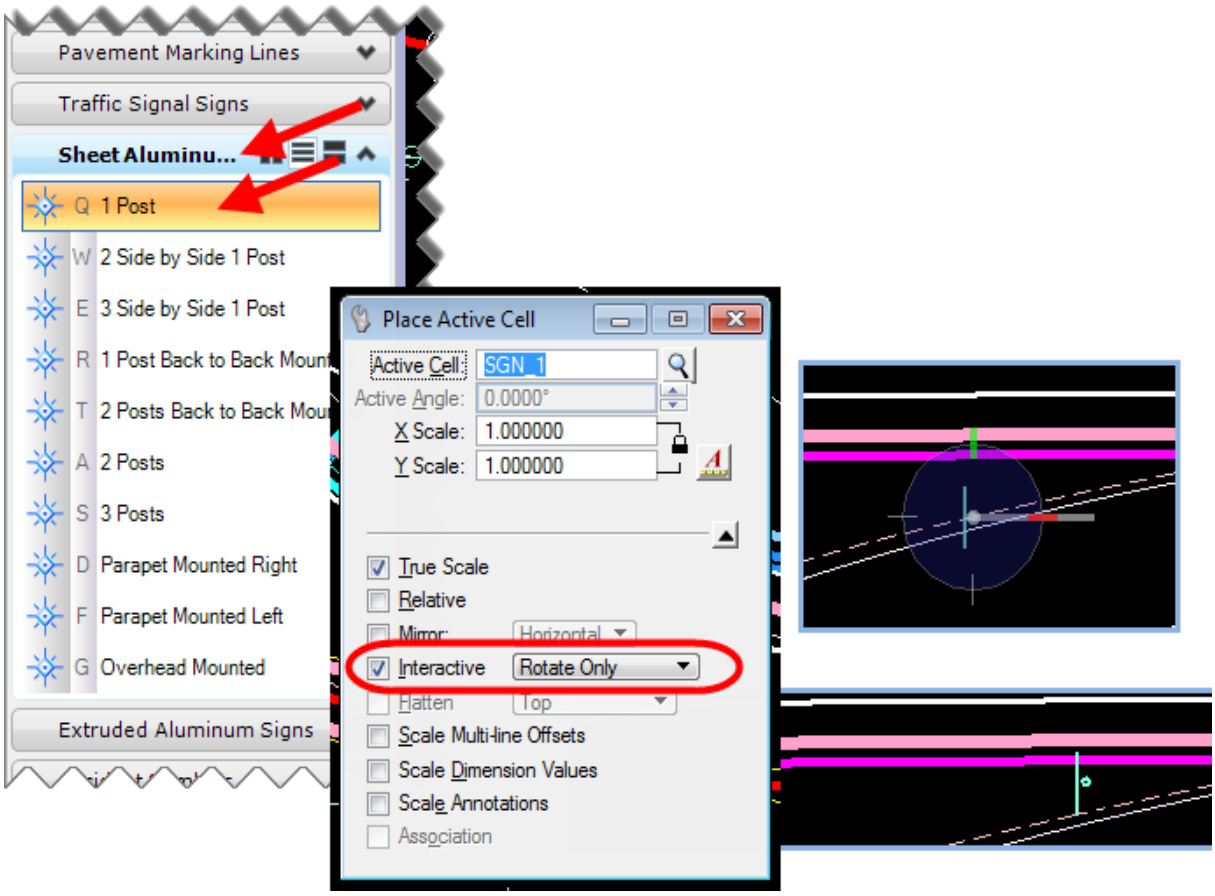
5. Now click on one of the pink edge of road lines and move the cursor to the inside of the road and click. Now you should have a shoulder line 4 feet away and parallel to the edge of road.





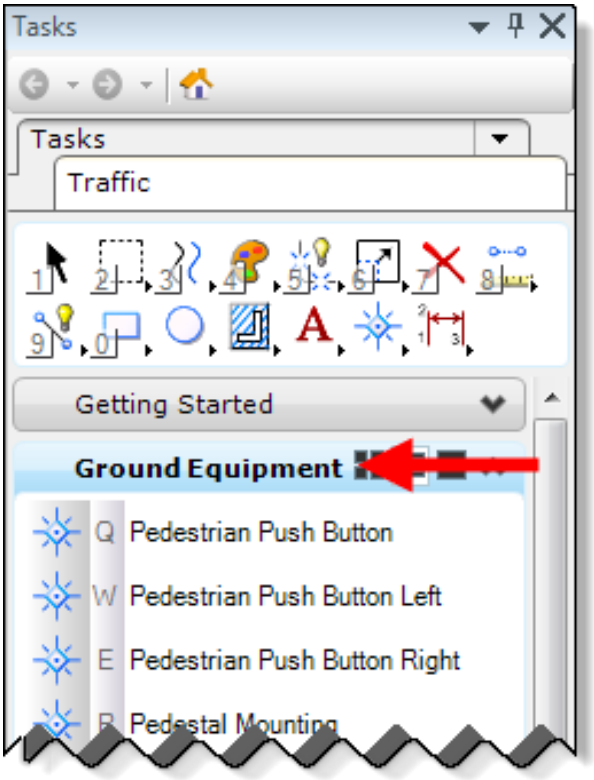
2.2.3 Placing a Sign

1. Make sure the Sheet Aluminum Signs tab is open on the task bar. Then click on **1 Post**. Then click to place the sign cell. Next you will want to rotate the cell so the sign face is aligned with the roadway.
2. In the Place Active Cell Dialog select Interactive and Rotate Only
3. Data Point where you would like to place the sign and spin it by moving the curser to the desired rotation. If you do not like where you originally intended the sign to be placed simply right click to release and then Data Point in the correct location. Spin the curser again and Data Point a second time to place.

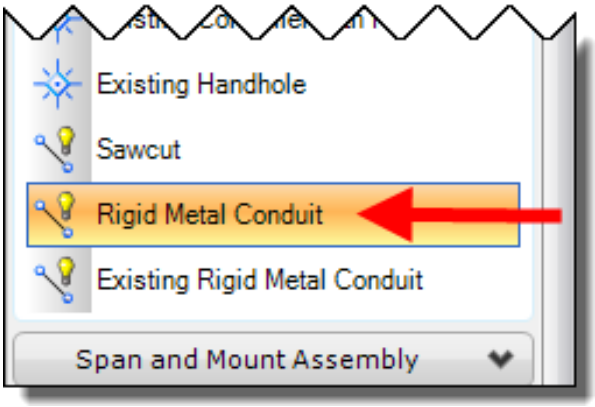


2.2.4 Placing a Metal Conduit

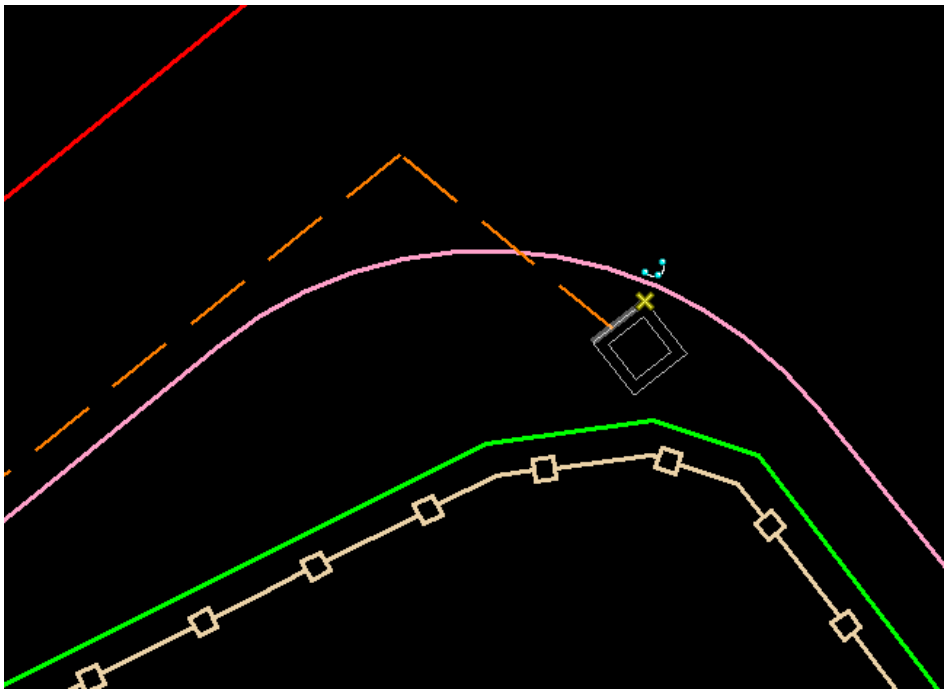
1. First select the **Ground Equipment** tab from the Task Menu.



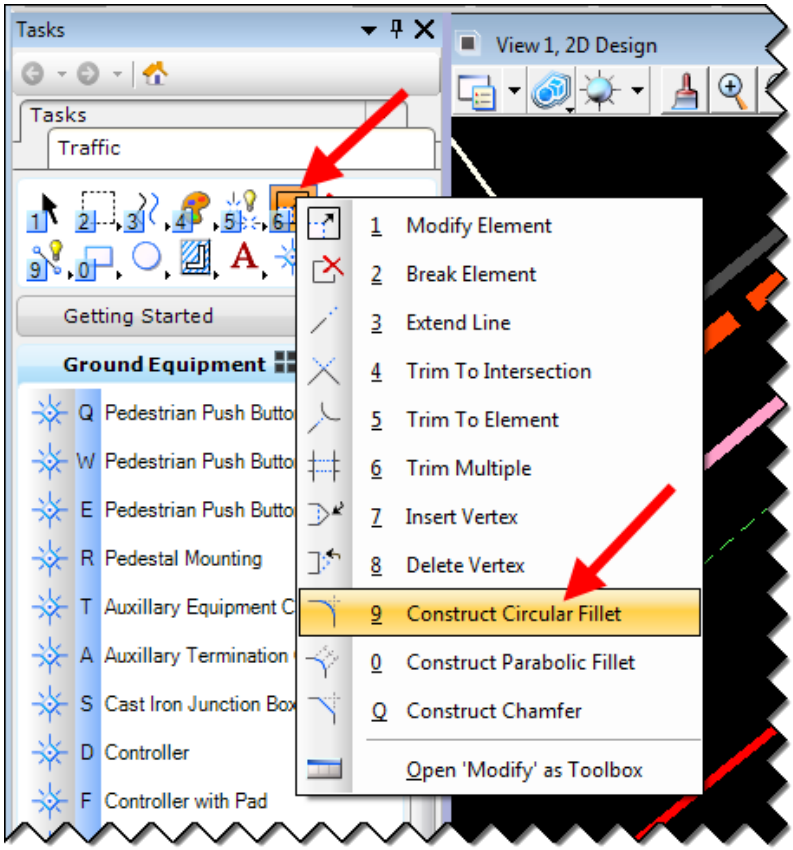
2. Then select the **Rigid Metal Conduit** tool.



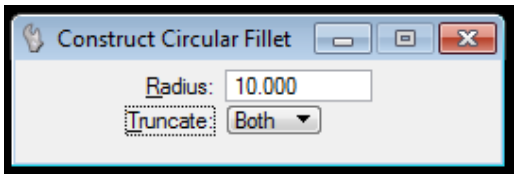
3. You can place the conduit as straight sections as shown below.



4. Then select **Construct Circular Fillet**.

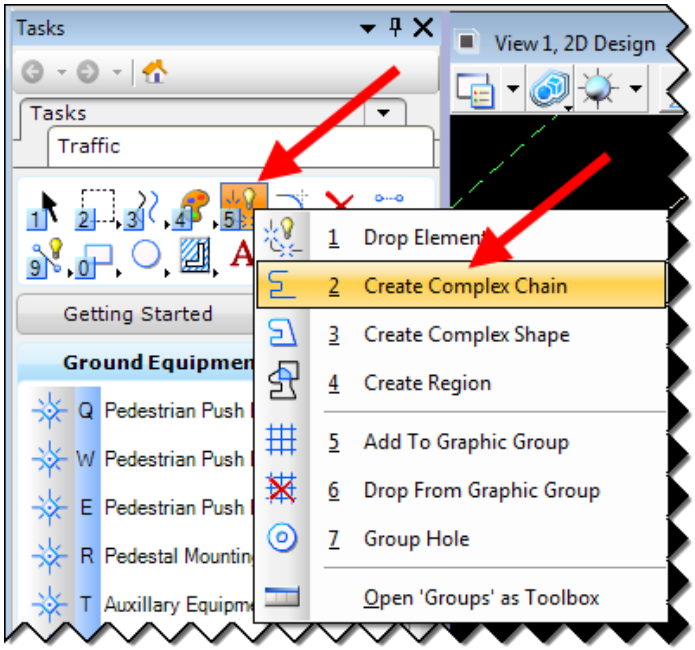


5. Type in a radius of 10 and truncate both.



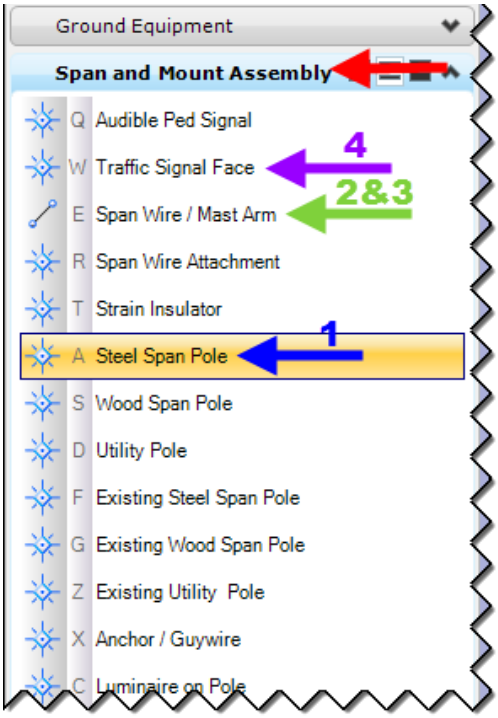
6. Click one line then the other and an arch will be constructed between the lines.

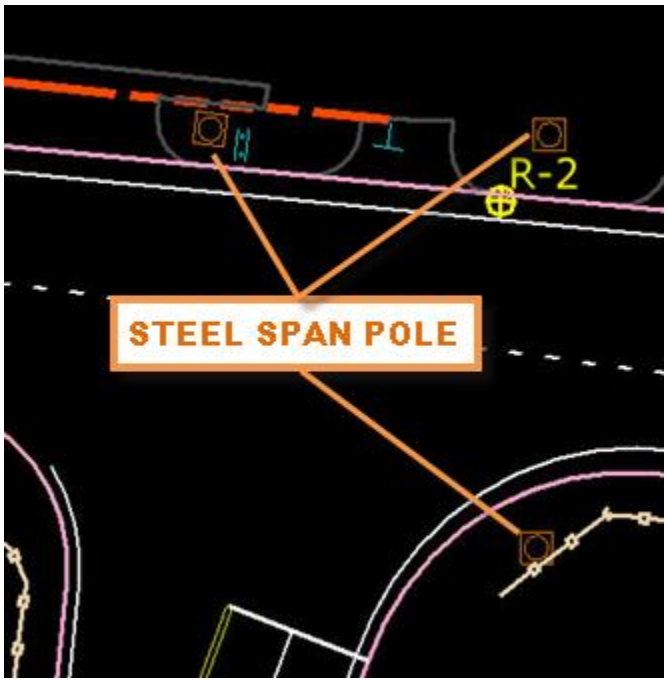
7. Once you have placed all the segments of the conduit, select the Create Complex Chain tool to connect all of the segments. Click on each segment and this will redraw the line as one continuous element.



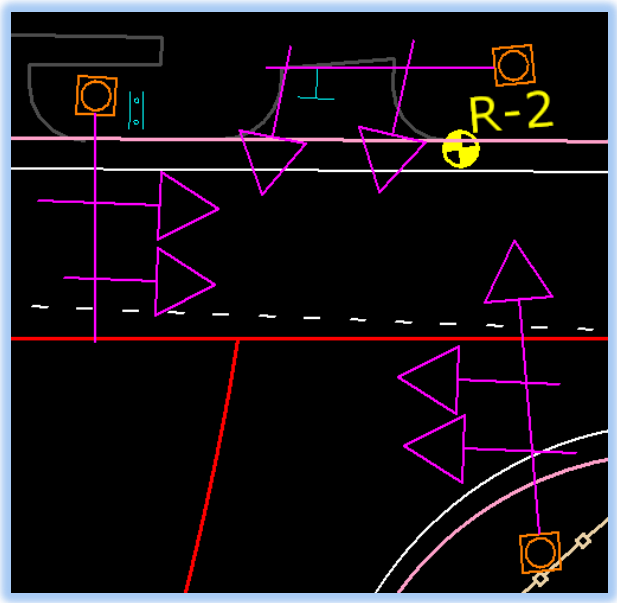
2.2.5 Placing a Signal Assembly

1. First place some Steel Span Poles. Select a **Steel Span Pole** cell then place the poles. Rotate as needed.

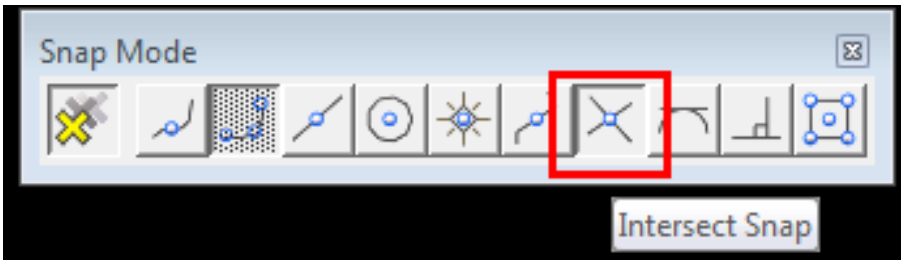




2. Now click on the Span Wire tool and place the spans or mast arms.
3. Also use the Span Wire tool and draw lines that will connect from the Spans/mast arms to the traffic signal face symbols.
4. Select the Traffic Signal Face tools to place the triangle symbols to the line placed in step 3 and clip the lines to the symbols.

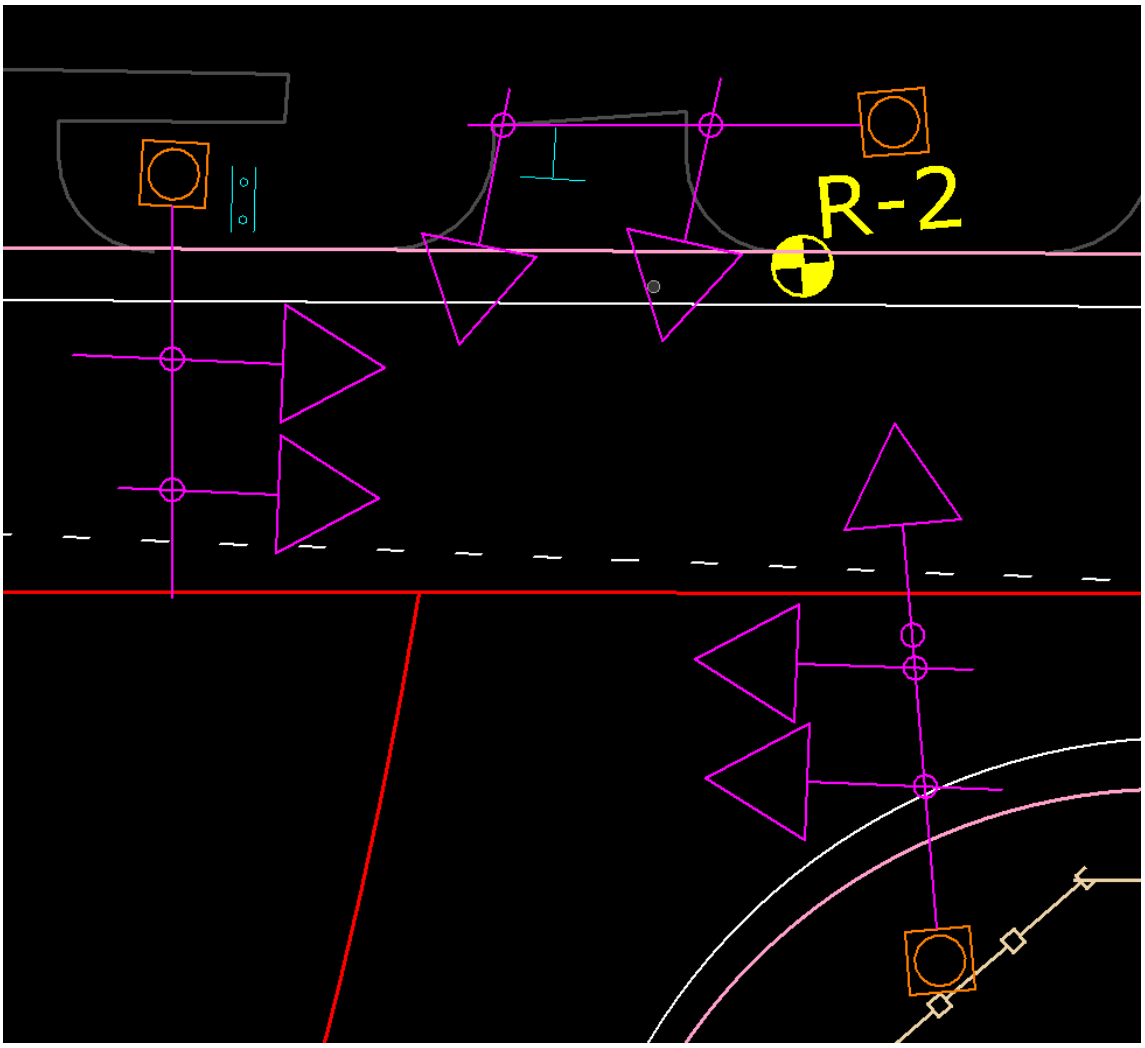


5. Now you are going to use AccuSnap to place the Span Wire Attachment circles at the intersections of the span lines. If you don't already have the Snap buttons docked on your screen go to **Settings < Snaps < Button Bar**. Then drag the button bar and dock it where you like on the screen.

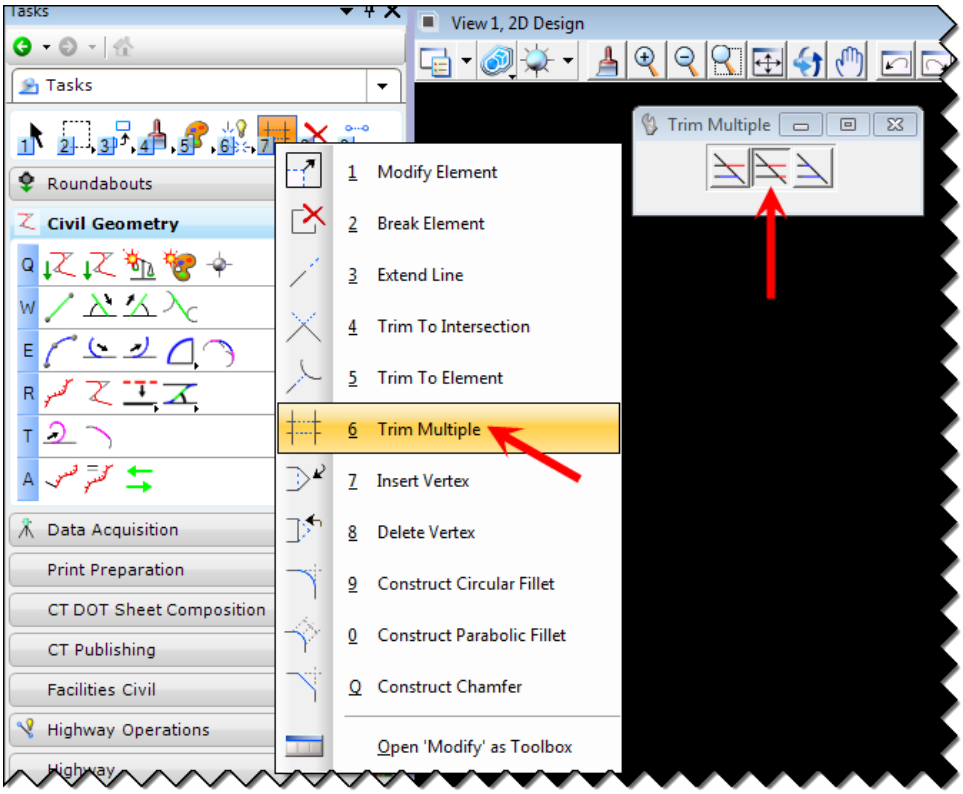


6. Double click on the **Intersect Snap** to lock it. Another good choice for snapping is the **Key Point Snap**. That is usually the snap turned on by default. That is the second snap from the left. You may want to double click that snap after placing the circles.

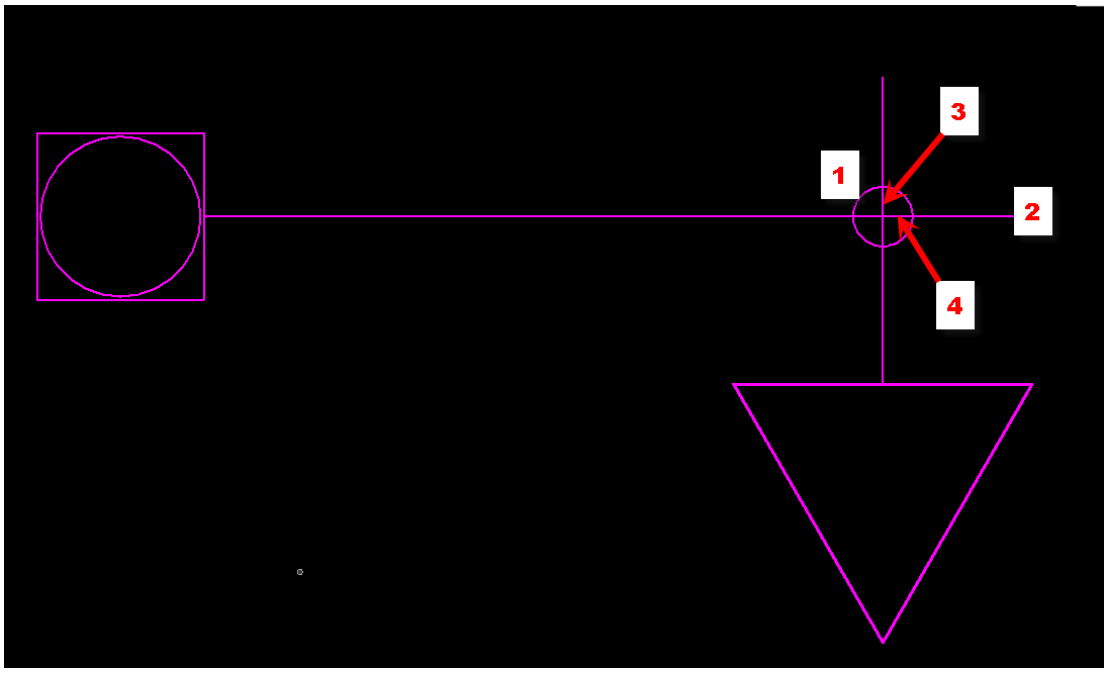
7. Now select the **Span Wire Attachment** tool from the Task Bar and click on the intersection of the span lines.



8. Now select the Trim Multiple tool and set it to Trim.



9. Select the Circle for the cutting edge and click on the ends sticking out of the circle and click on the line segments inside of the circle.



Section 3 Sheet Models

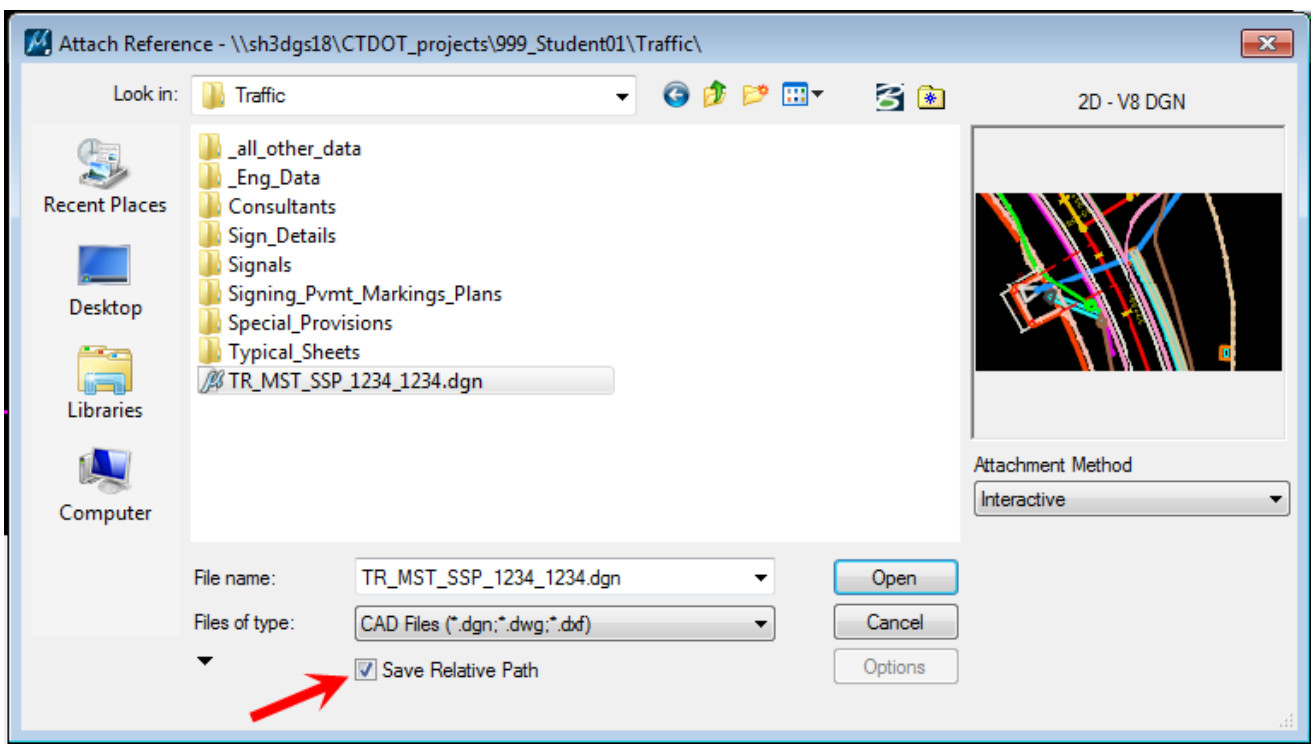
3.1 Creation

1. Create a new dgn file (we will be creating a Traffic Control Signal Plan), but this time use the seed file W:\Workspace\Standards\seed\CT_Sheet_Civil_2D_V8i.dgn.

Use the chart below as a guide for naming the file. Use either the project number or Intersection number in the name along with the drawing number as needed.

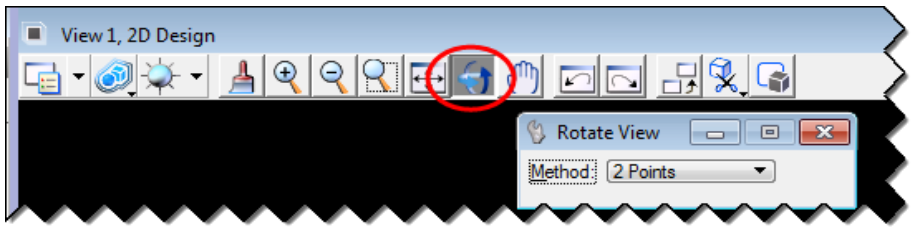
Traffic Control Signal Plan Sheet	TR_MSH_TCS_1234_1234_###.dgn
Detour Plan Sheet	TR_MSH_DTR_1234_1234_###.dgn
Pavement Marking Plan Sheet	TR_MSH_PVT_1234_1234_###.dgn
Signing and Pavement Marking Plans Sheet	TR_MSH_SPM_1234_1234_###.dgn
Signing Plan Sheet	TR_MSH_SGN_1234_1234_###.dgn
Maintenance and Protection of Traffic	TR_MSH_MPT_1234_1234_###.dgn

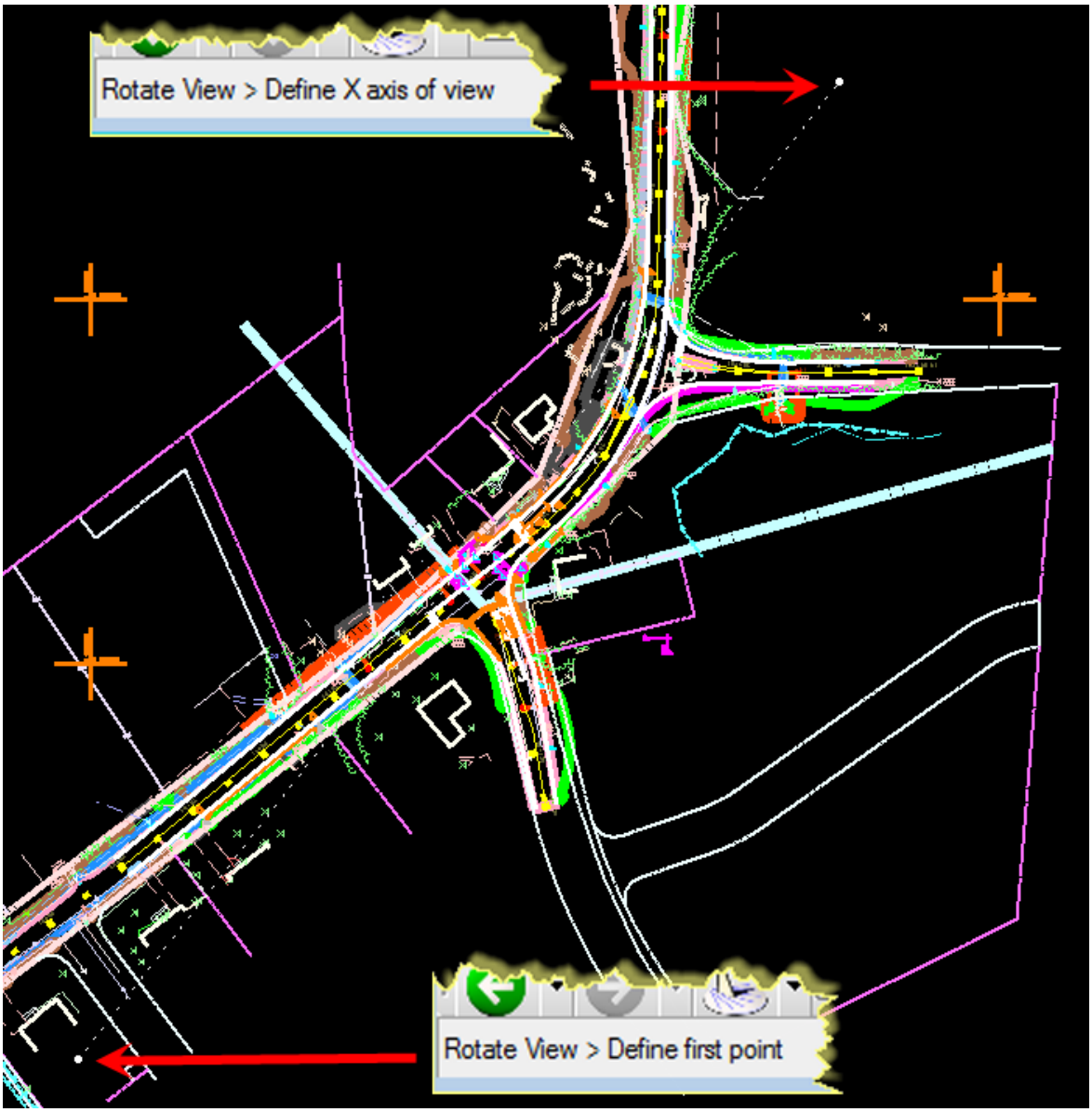
2. Reference in your Traffic design file completed in Section 2. Turn on **Save Relative Path** and click **Open**.



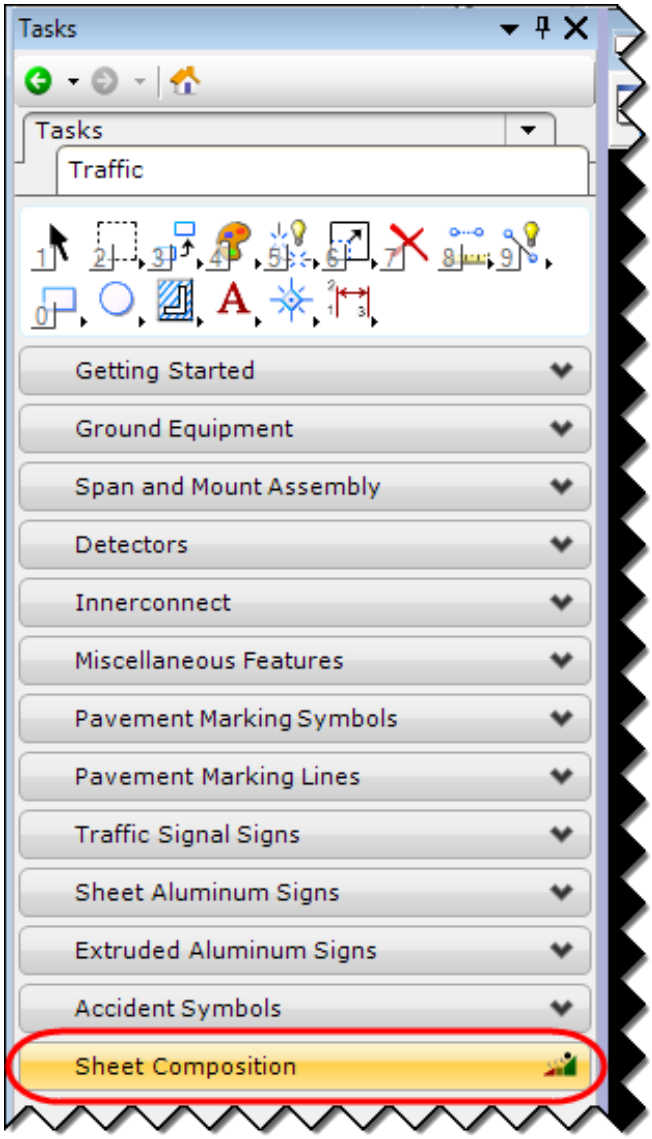
3. Give it a Logical Name of Traffic Design and Nested Attachments should be set to **No Nesting.**

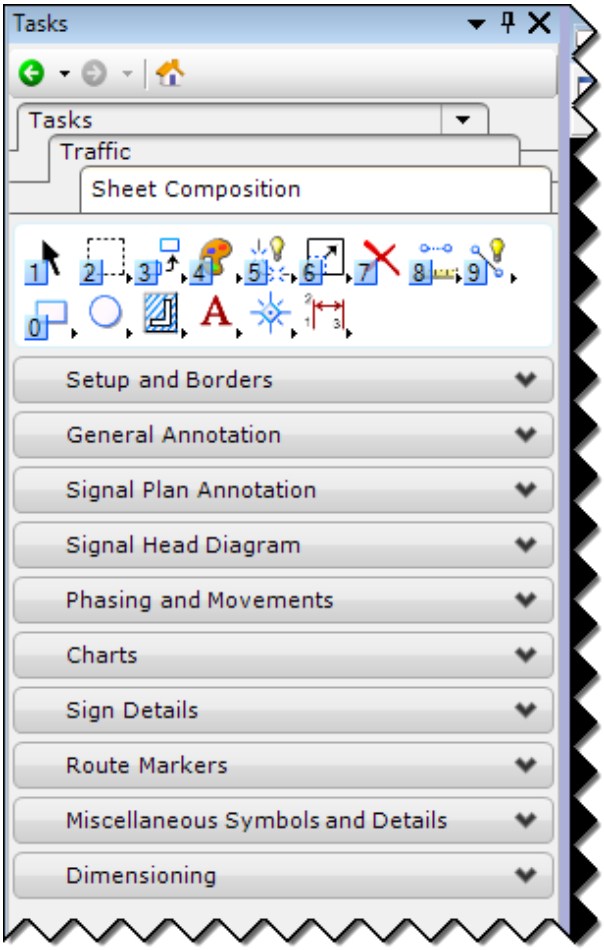
4. Repeat for the Survey Ground File. Give it a Logical Name of **SWW Survey** and Nested Attachments should be set to **No Nesting**.
5. If required repeat for the Highway Design file. Give it a Logical Name of **Highway** and Nested Attachments should be set to **No Nesting**.
6. Rotate view as needed. Select the Method 2 Points and data point following the prompts to Define your X axis.





7. Access the **Sheet Composition Task**. Now you will see another set of tasks, all related to working on Traffic Sheets.



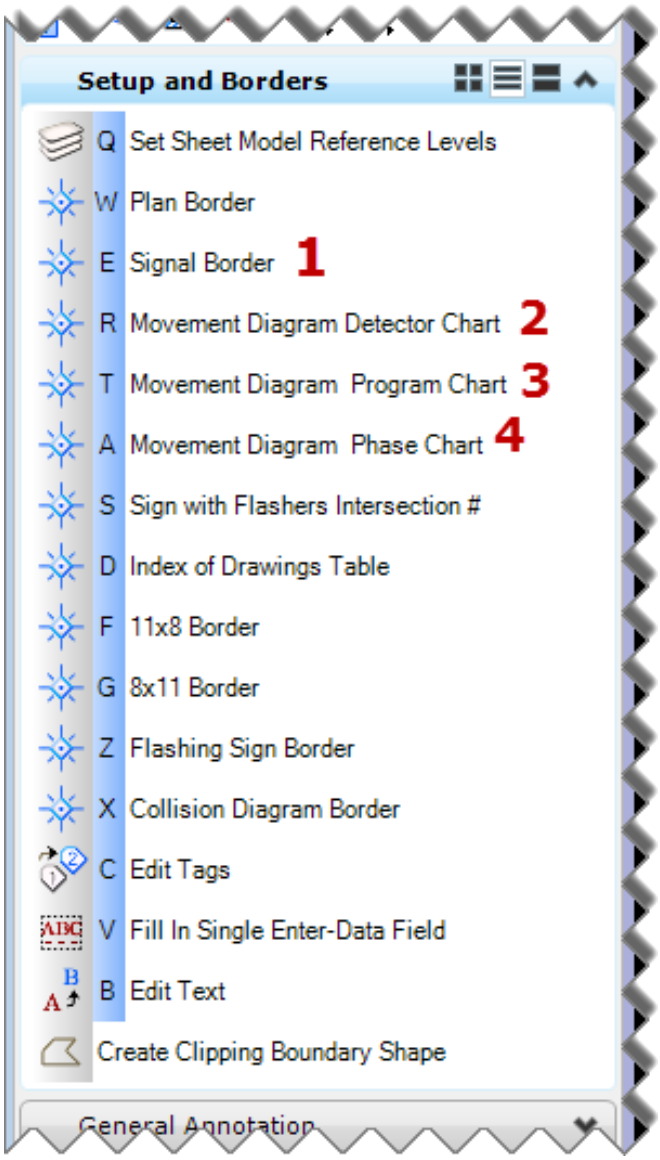


3.2 Attaching a Border and Clipping the References

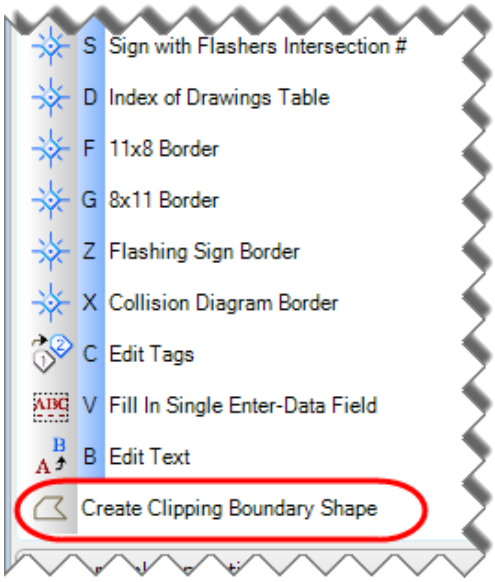
Major changes have been made to the signal border, there were four to choose from and now it has been combined into one. All other types of sheets will use the general plan sheet border.

1. Before clipping your Reference files **copy** in the North Arrow from the Survey Ground file.
2. Go to the **Setup and Borders** Task Menu and select a border cell and place it. When working on a Signal Plan as we are, you will also need to attach the Detector Chart, Program Chart and Phase Chart. These are cells that can be attached using the Sheet Composition Task. These cells will be placed under the Signal Border Movement Diagram from left to right in the order below.

PLEASE NOTE:
Do not use the Drop Element command on the cell borders, this will cause multiple issues.

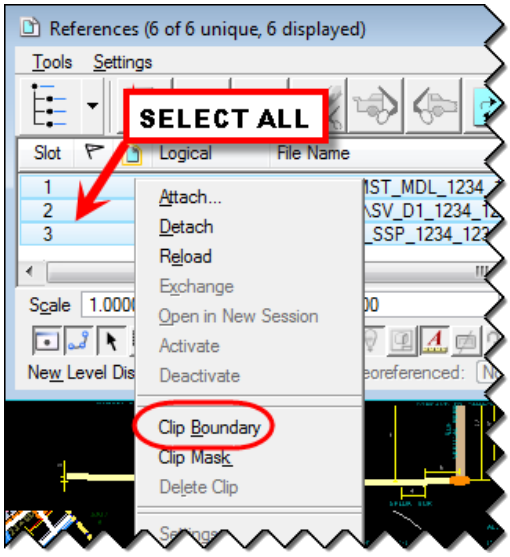


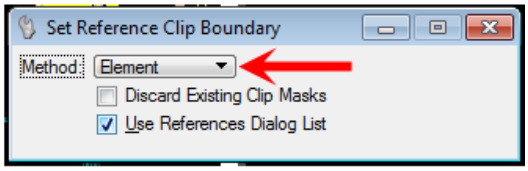
3. Select the **Create Clipping Boundary Shape** on the same task menu. Place a shape around what you want inside your Border



4. Now go to the **References** dialog box and select all of the reference files. Right click on them and select **Clip Boundary**.

5. Select the Method **Element** and data point on the element that was placed in step 3.

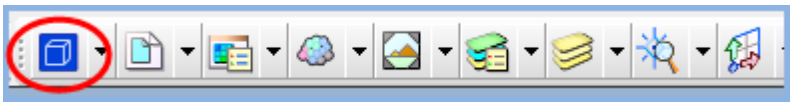




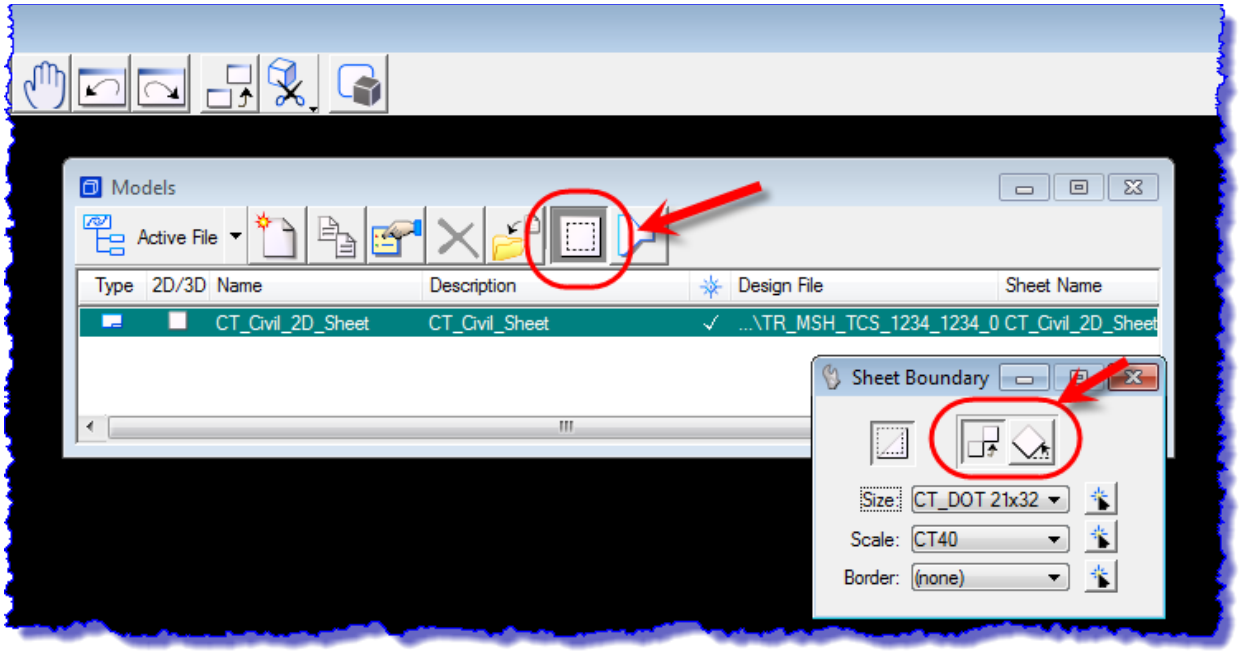
PLEASE NOTE:

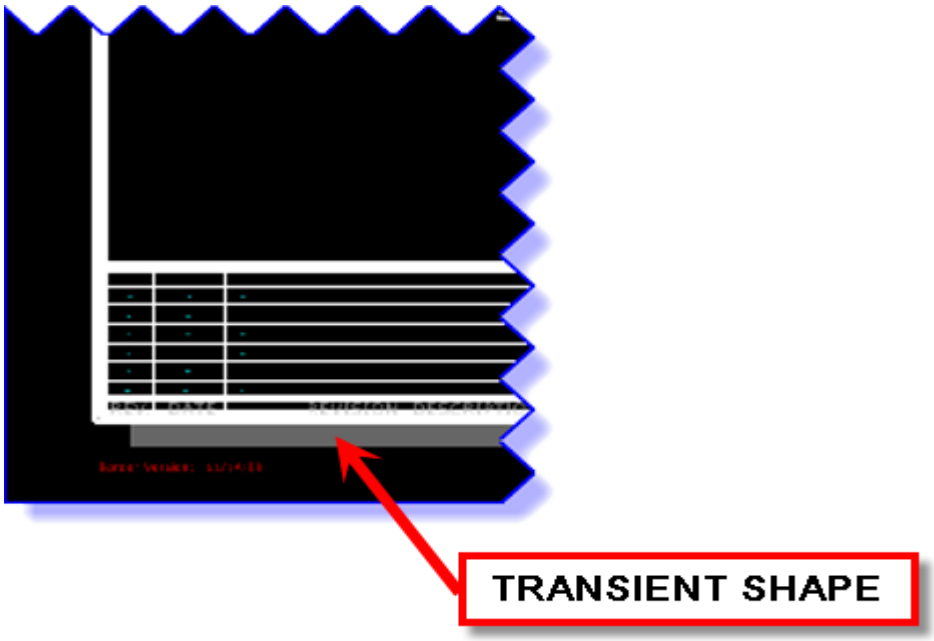
If you are unable to fit the entire design within one border, make additional dgn files; one file for each sheet. You can also reference all the files in again (Traffic Design Highway Design and the Survey Ground file) and then move them together to a blank area on the sheet and clip them as needed. Do not copy in these reference files.

6. Click on the Models Icon.

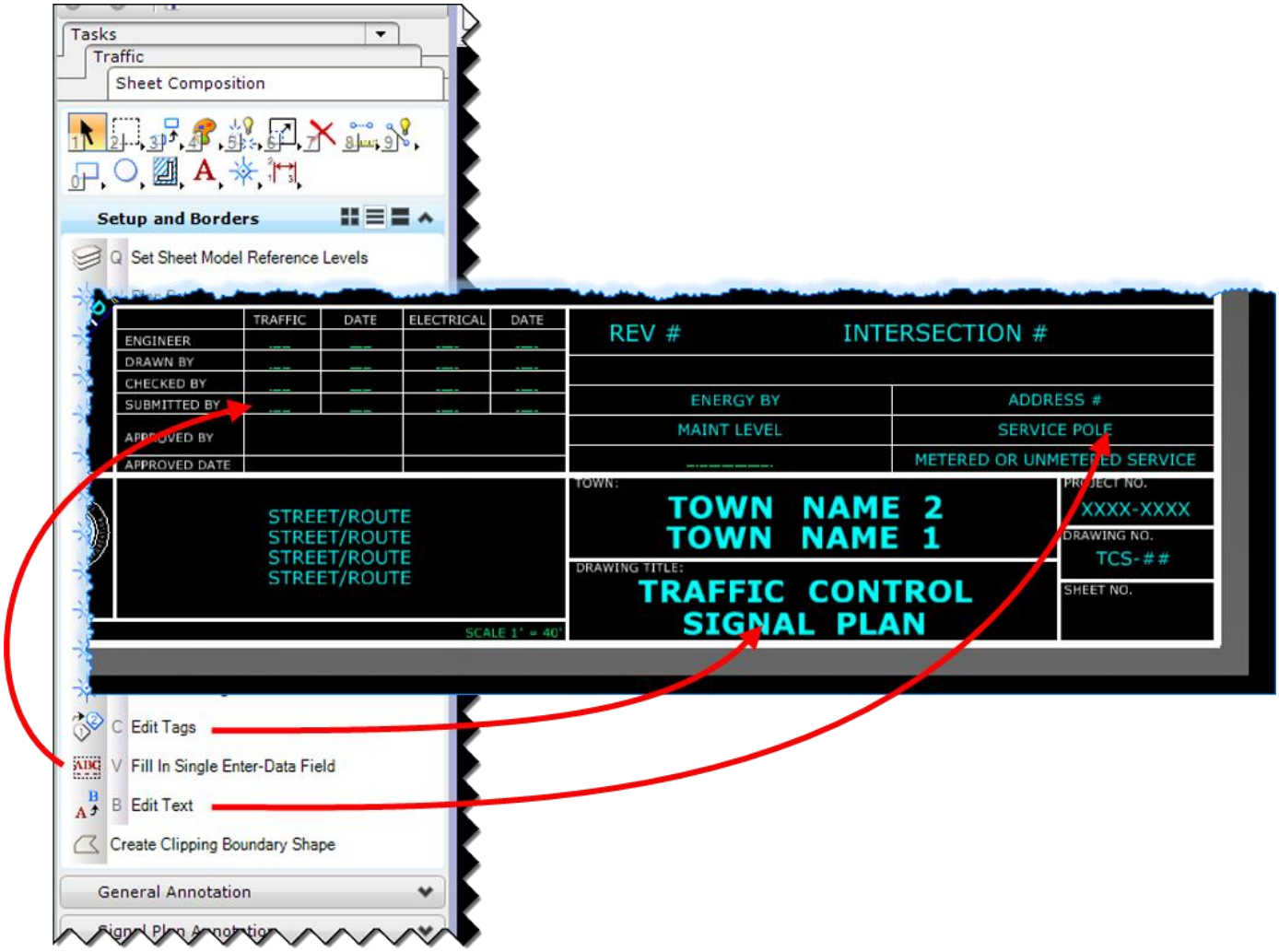


7. Use the **Sheet Boundary** tools to move your Transient Shape (Plotting Boundary) into place around the Border Cell. Use the Move and Rotate tools shown below and follow the MicroStation prompts for accurate placement.





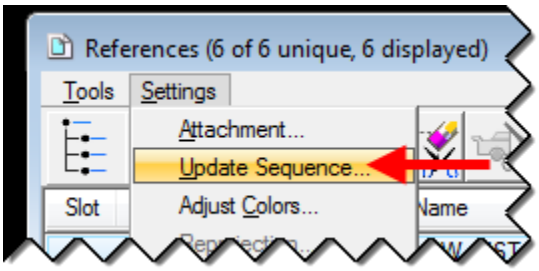
8. Use the Edit Tags tools to fill out the Blue Town, Drawing Title, Project Number and Drawing No.. Use the Data Field and Edit Text tools to complete edit the green text.

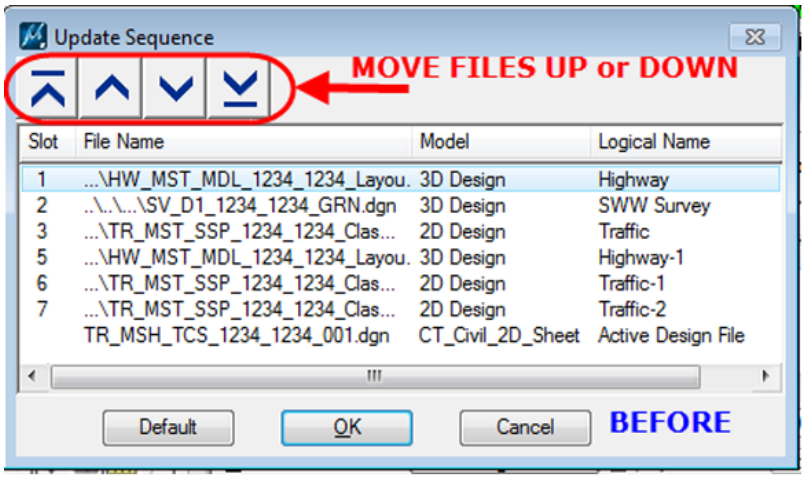


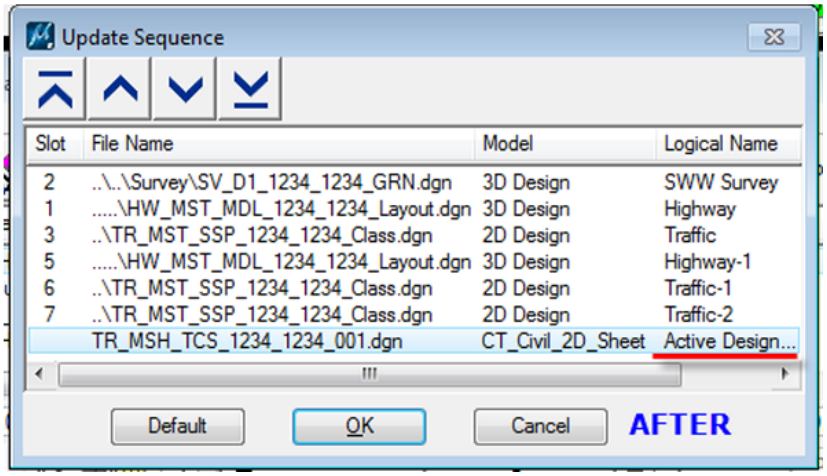
3.3 Adjusting the Appearance of the Sheet

3.3.1 Update the Display Sequence of Reference Files

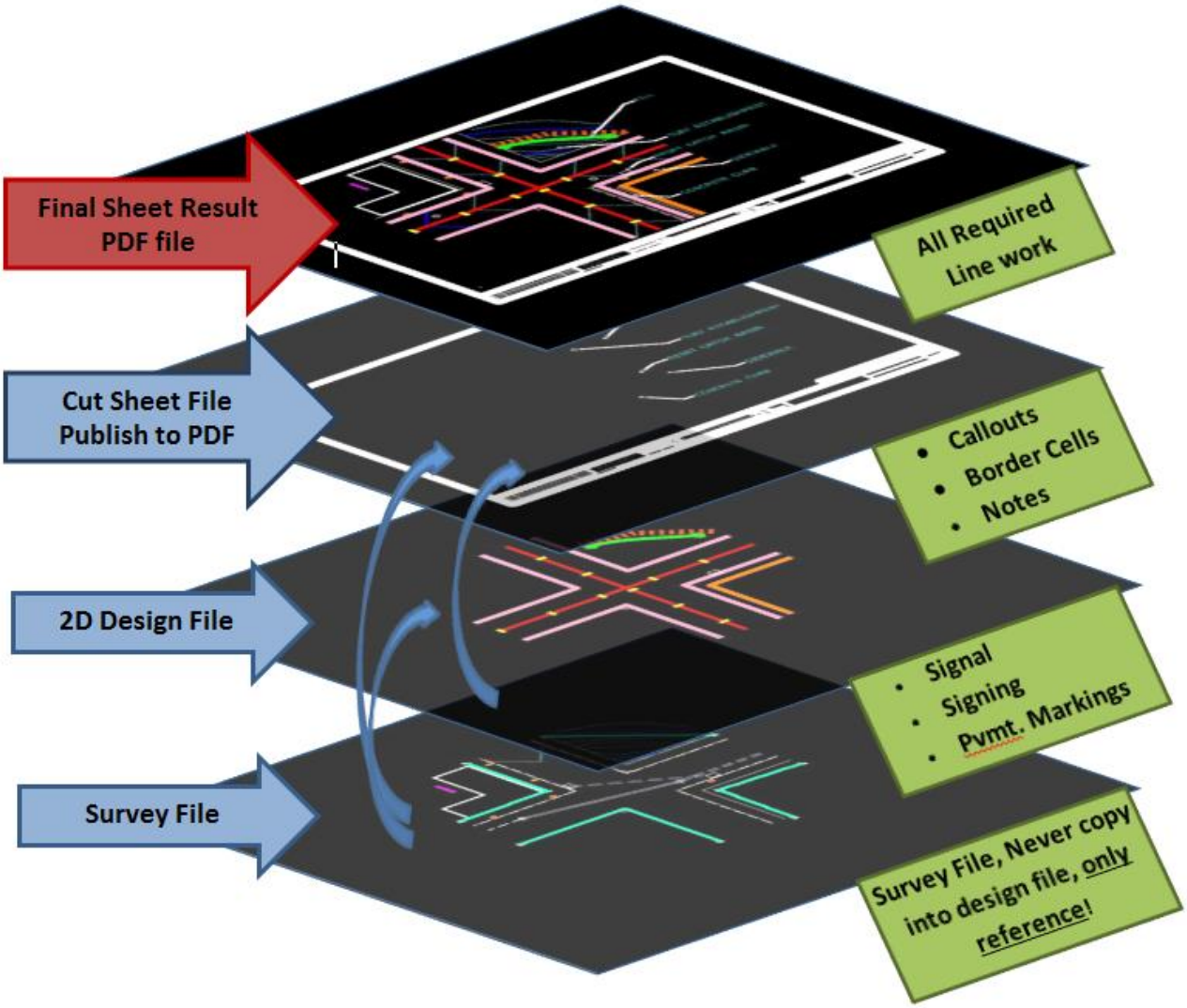
1. In the references dialog box click on **Settings > Update Sequence**. The sequence is the order in which MicroStation loads the files. When a file is listed at the top of the sequence, that means it is loaded first and will appear on the bottom as if it is below the other files.
2. Using the **Update Sequence…** tools (up and down arrows) move the files either up or down to the desired location(s). The Active Design file should be the last file in the update sequence, meaning this is the last layer the printer/plotter prints, see update sequence graphic. When finished click **Ok**.





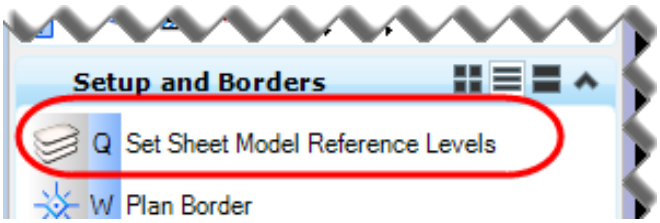


UPDATE SEQUENCE GRAPHIC



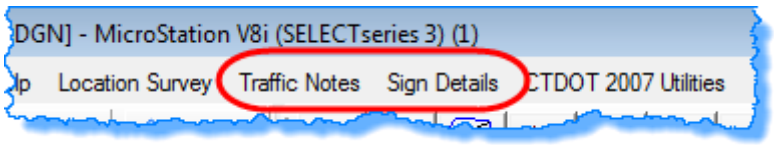
3.3.2 Level Display

1. You will need to turn off some unneeded levels from the highway or ground file. Click on **Level Display** to open the Level Display Dialog box. This way you will see which levels get turned off.
2. Select the Setup and Borders tab on the Sheet Composition task and select **Set Model Reference Levels**.



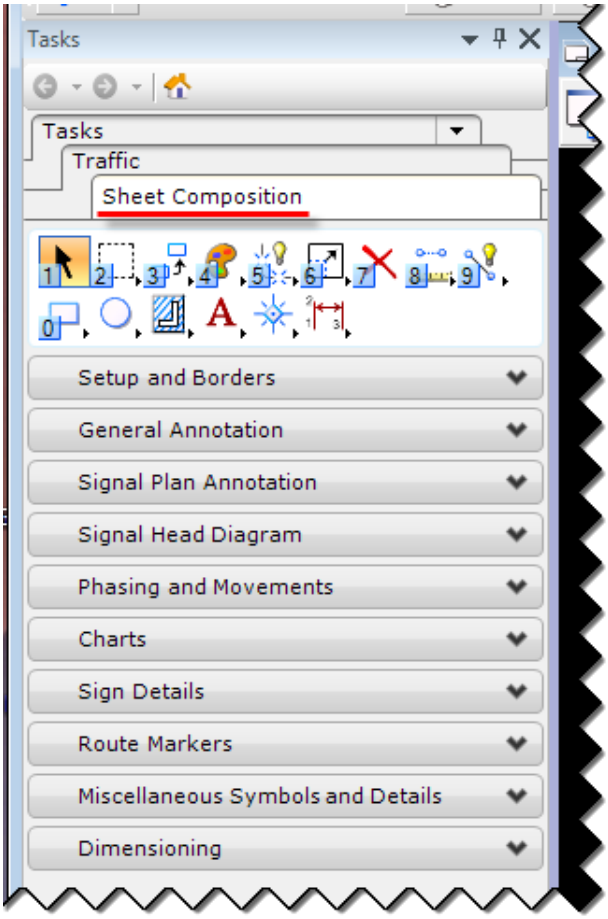
3.4 Pull Down Menu

There have been many changes made to the drop down menu. The drop down menu formerly had a section called Traffic and a section called Signing. These sections have been renamed to **Traffic Notes** and **Sign Details**. The items from the drop down menu that represent physical objects, such as aluminum signs or pavement markings, were relocated to the Task Menu. The items that are graphics or text used for annotation, such as notes or sign details, were left in the drop down menu.



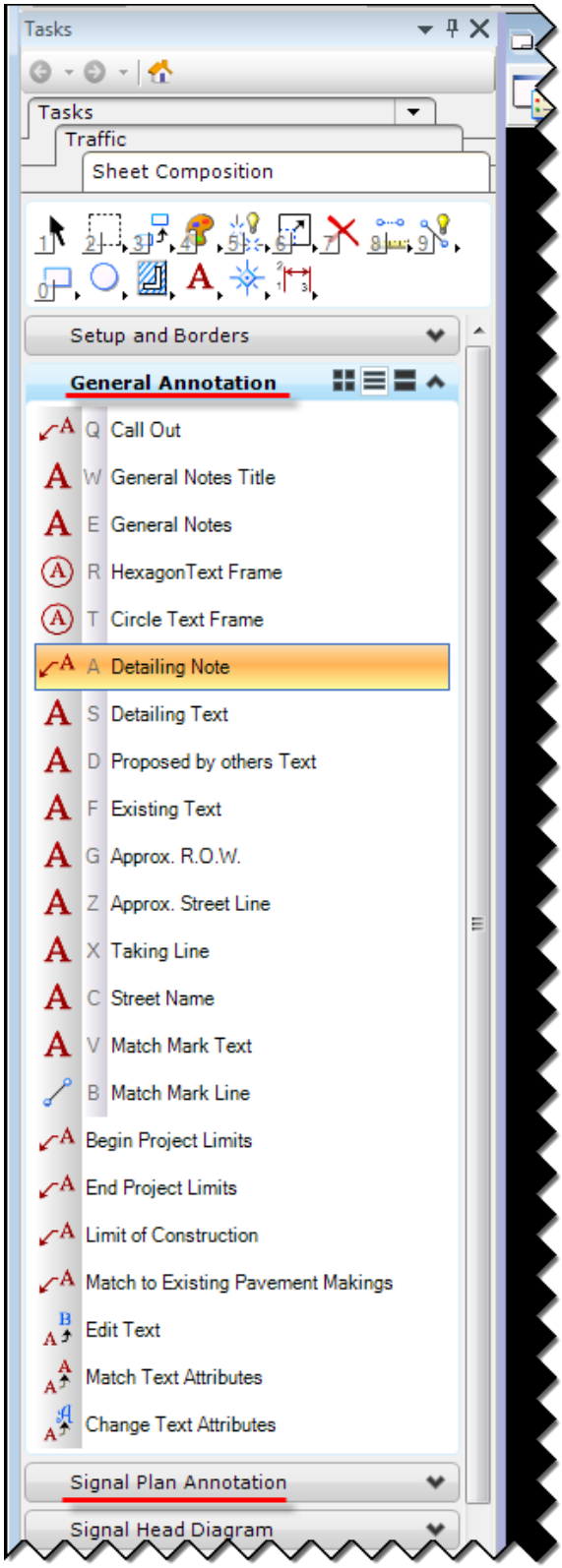
3.5 Sheet Composition Task

In this section you will be using some of the new tools that were created for making sheets. There are two menus for Annotation; General and Signal Plan. The General Annotation has a larger font size and the Signal Plan Annotation has a smaller font size. The Sheet Composition Task can be found using this path in the task menu **Traffic > Sheet Composition**.



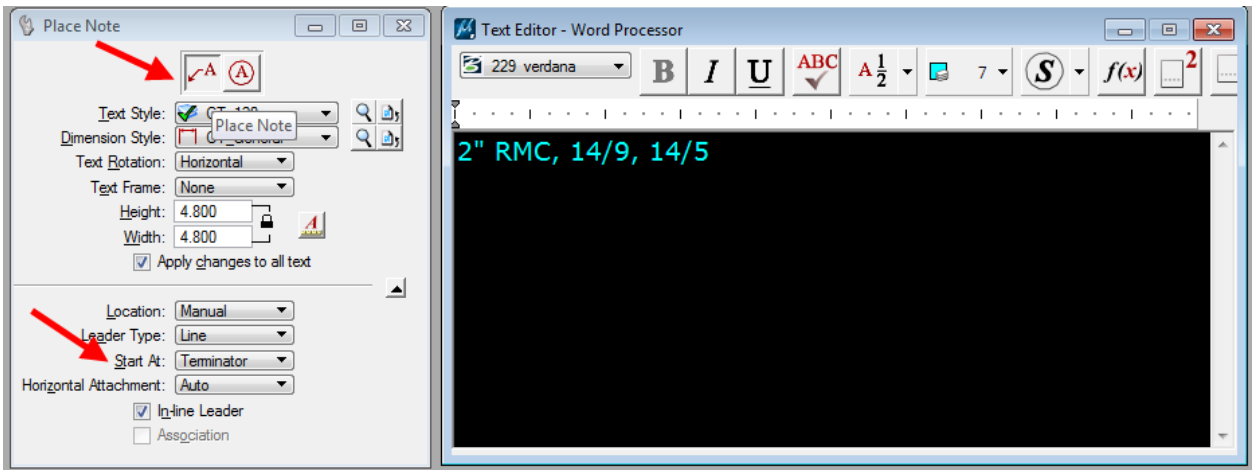
3.5.1 General Call Outs

1. Select the **General Annotation** or **Signal Plan Annotation** tab on the Task Menu.



2. Select the **Call Out** tool. In the Place Note Dialog box make sure the left tool **'Place Note'** is active and **Start At** is set to **Terminator.**

3. Type in the note you wish to place in the text box that appears.

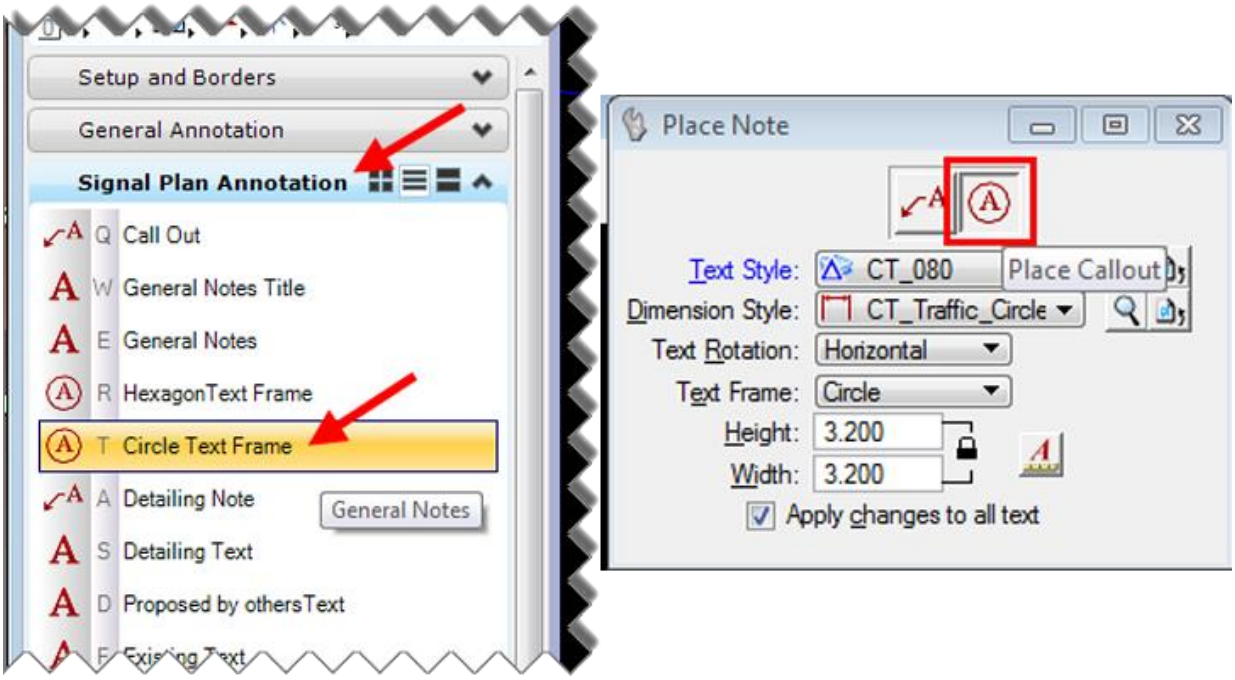


4. Click on the item you wish to annotate and then click in the location you want the note to be located. Right click to place the call out.

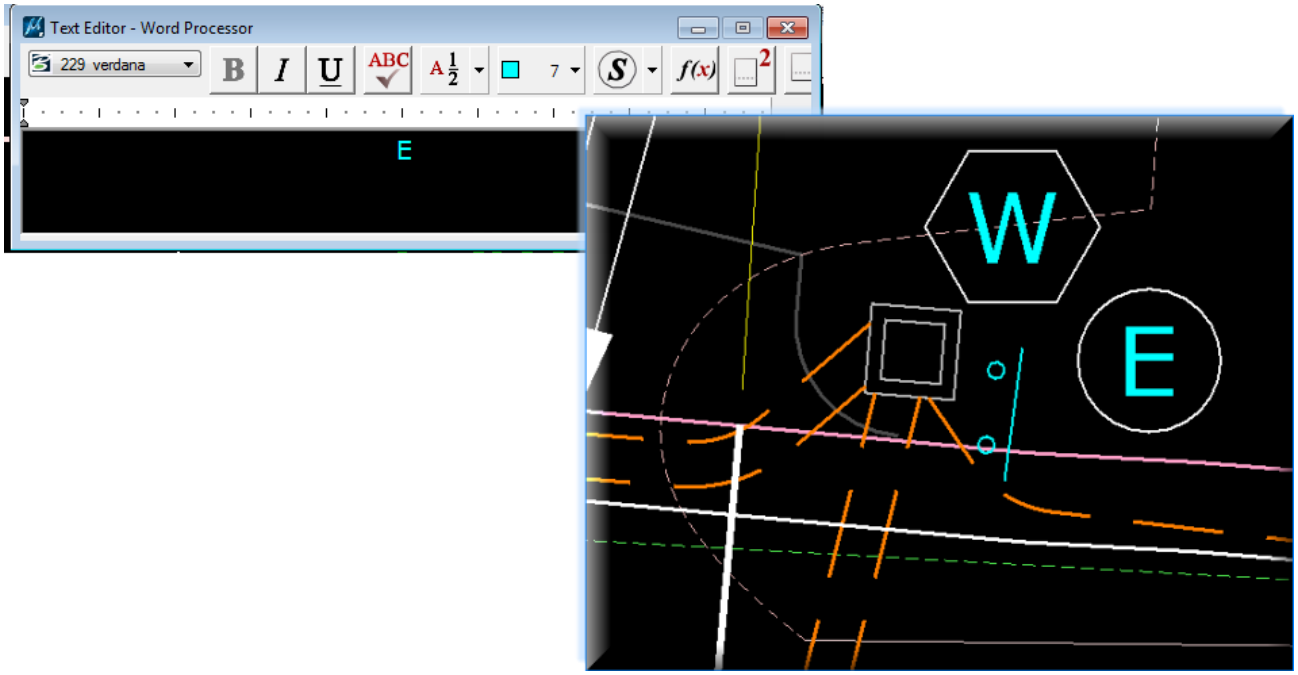
3.5.2 Circle and Hexagon Text Frames

1. Typically on a Traffic Signal Plan signs are annotated with a circle text frame. On the Task Menu make sure you are in the **Signal Plan Annotation** tab. Then select the **Circle Text Frame** tool.

2. Make sure the **Place Note** dialog box that comes up is set to **Place Callout**.



3. In the Text Editor dialog box type in the letter for the callout. Then click on the screen to place the callout bubble.

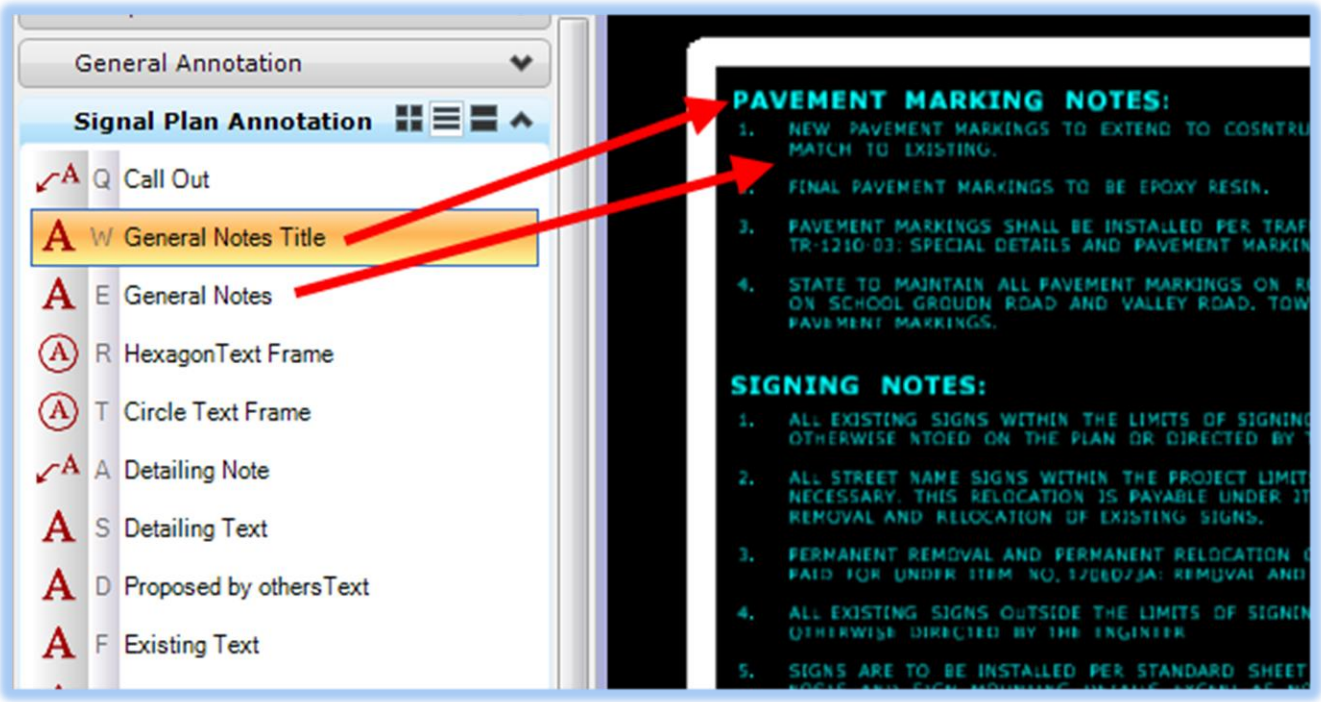


4. Construction notes use a hexagon text frame. You should follow the same procedure shown above, but choose the **Hexagon Text Frame** tool instead.

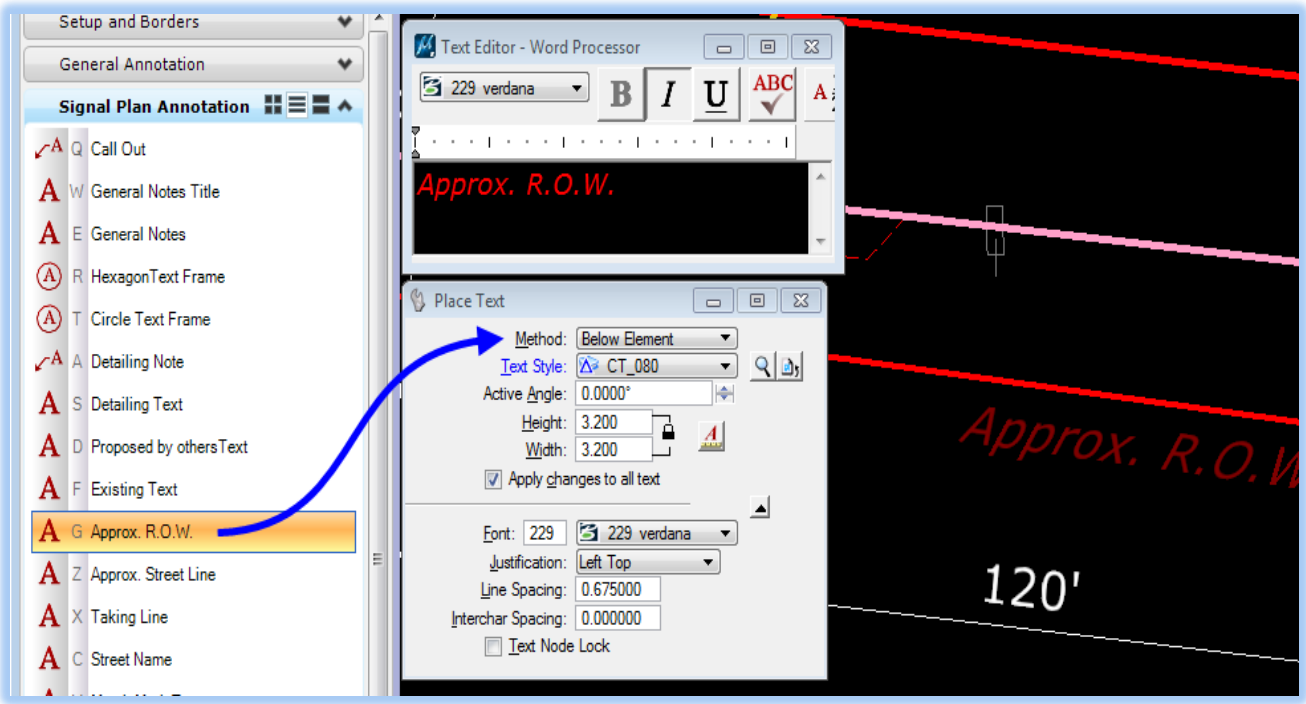
3.5.3 Labeling and Notes

Select **General Annotation** and browse through the labeling and notes options.

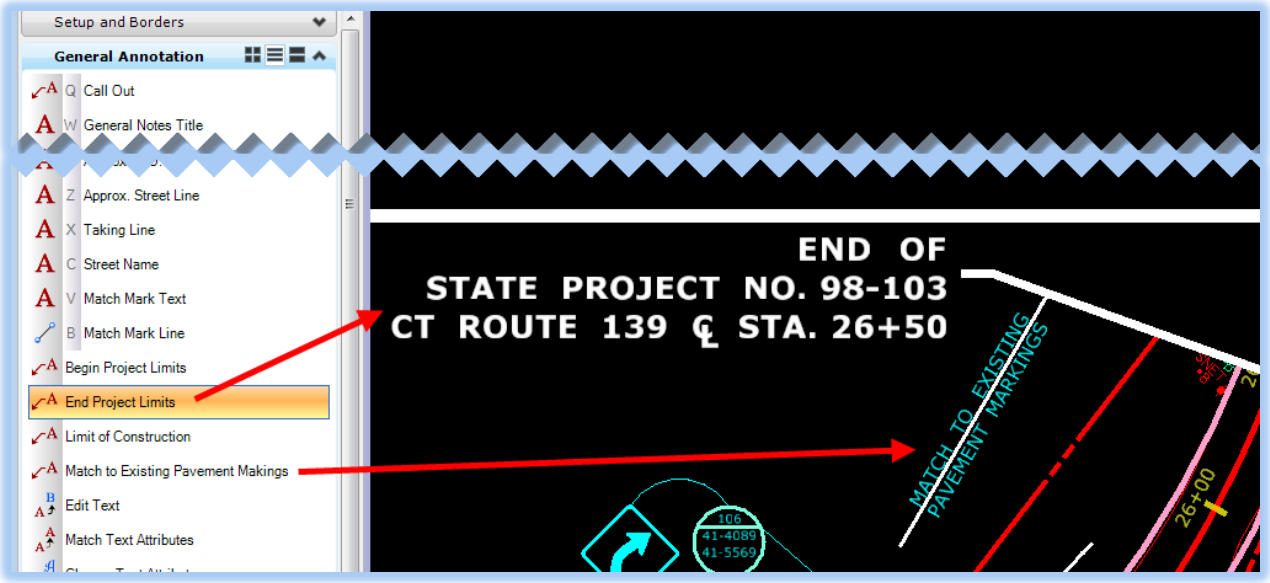
1. The **General Note Title** uses larger text than the **General Notes**.

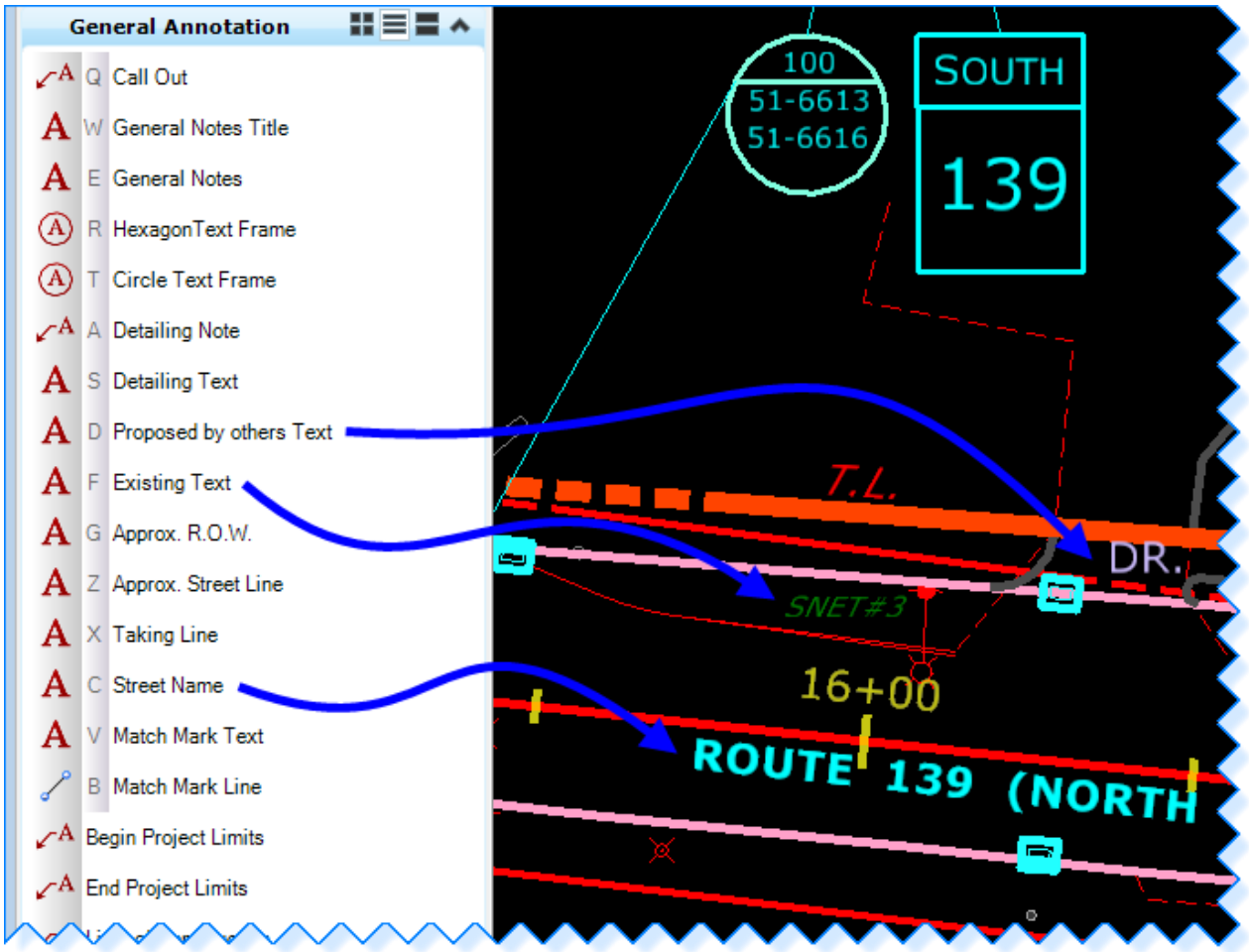


2. The **Approx. R.O.W.** text will appear in the dialog box automatically and you choose the method of placement for example: Below or Above Element.



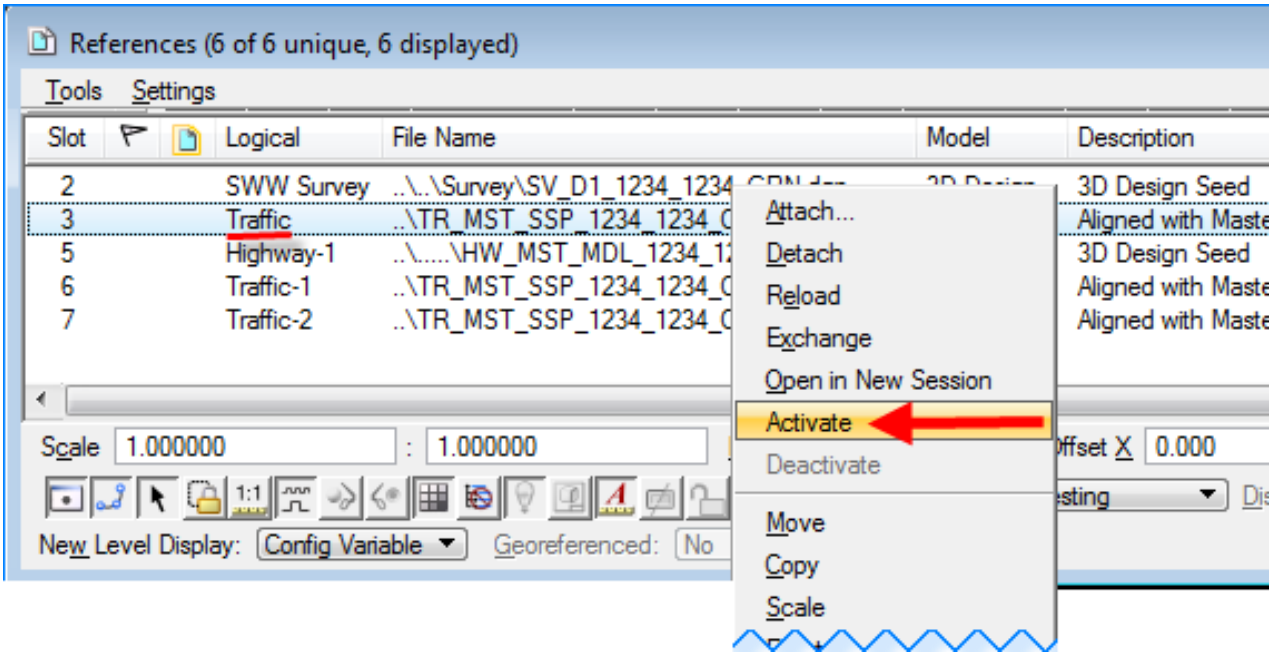
3. Some more examples of annotations.



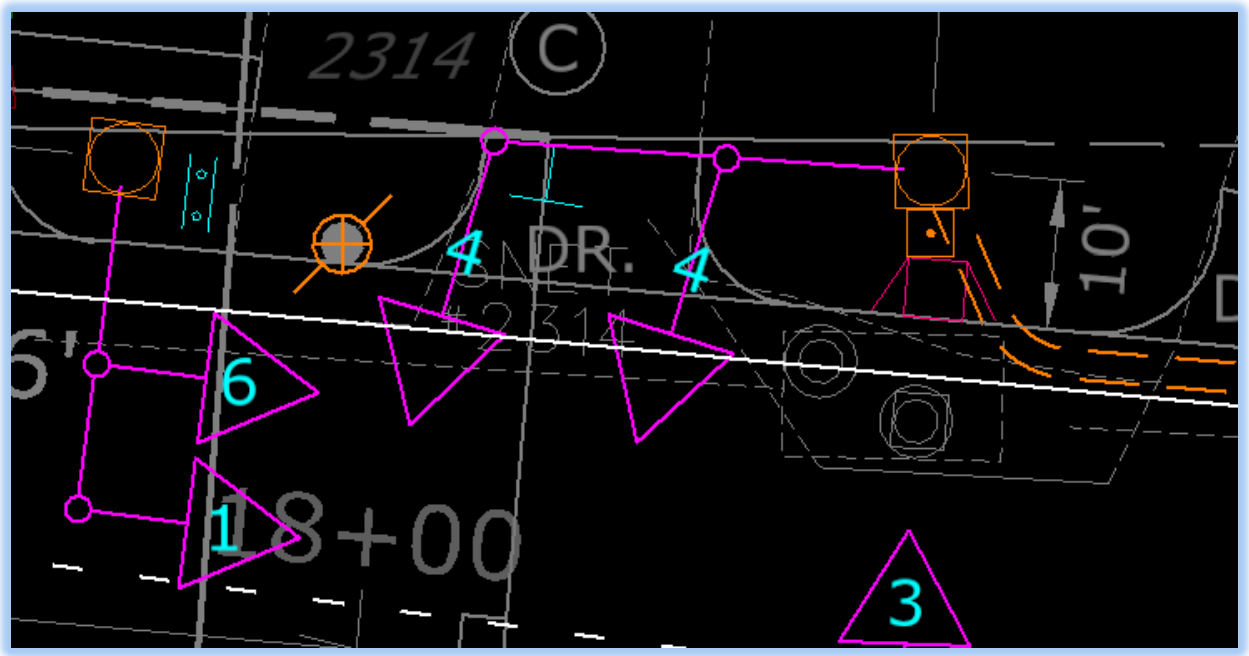


3.5.4 Labeling the Traffic Signal Faces

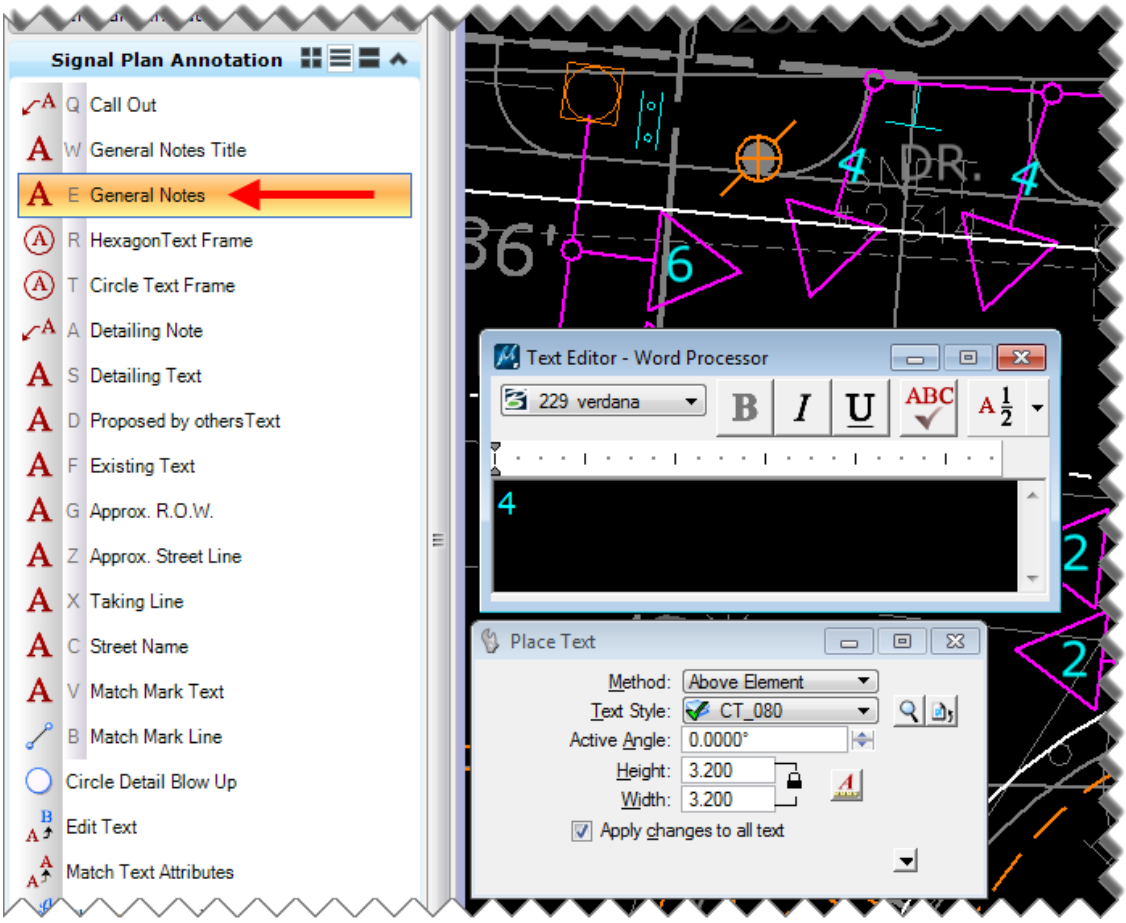
1. Even though the labeling of the traffic signal faces is annotation, it should be placed in the traffic signal plan. This way you can make a blow up to more clearly show the intersection and the signal face annotation will scale along with the rest of the design file.
2. Highlight the **Traffic Signal Plan** file in the References dialog box.
3. Right click on the reference and select **Activate**.



4. Now the elements in the active reference appear in their normal colors, but everything else appears grey. You can now manipulate the reference file and the elements within it.



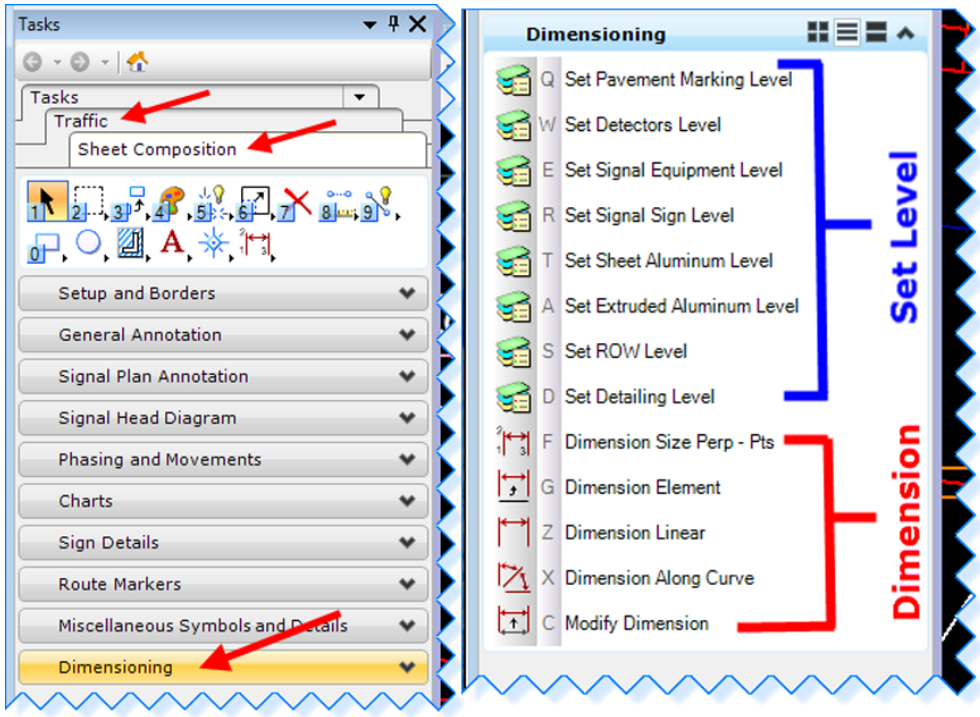
5. In the Signal Plan Annotation tab select the **General Notes** tool. Set the Method to **Above Element**. Type the number for the signal and click on the triangle that represents the signal. The number will appear aligned with the triangle for the signal face. Click to accept, and then move the number as needed to fit inside of the triangle.



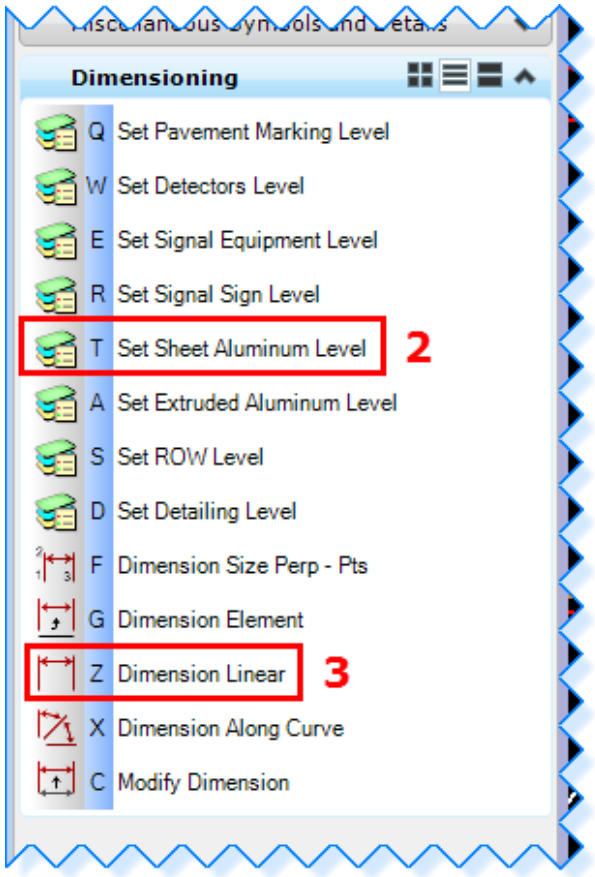
6. When you are done making your changes to the Traffic Design file, right click the reference file and select **Deactivate**. Now the changes will be applied to the reference file.

3.5.5 Linear Dimensioning

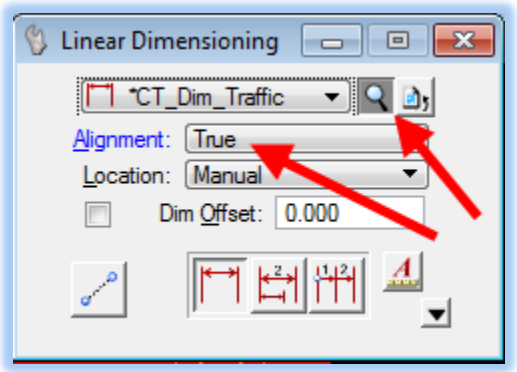
1. Go to the Dimensioning Tab on the Task Menu.



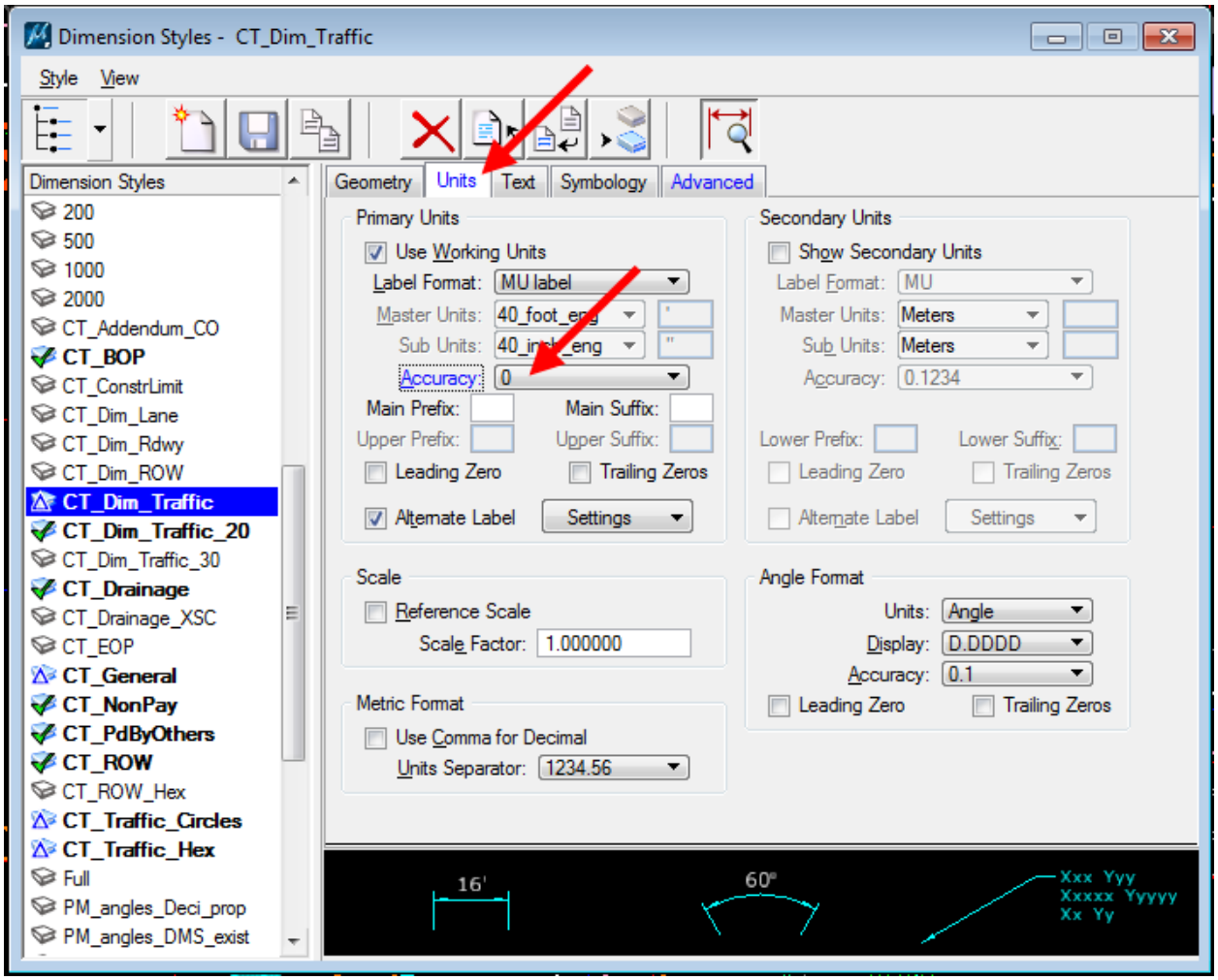
2. Select the **Sheet Aluminum Dimensioning Level** tool to set the active level.



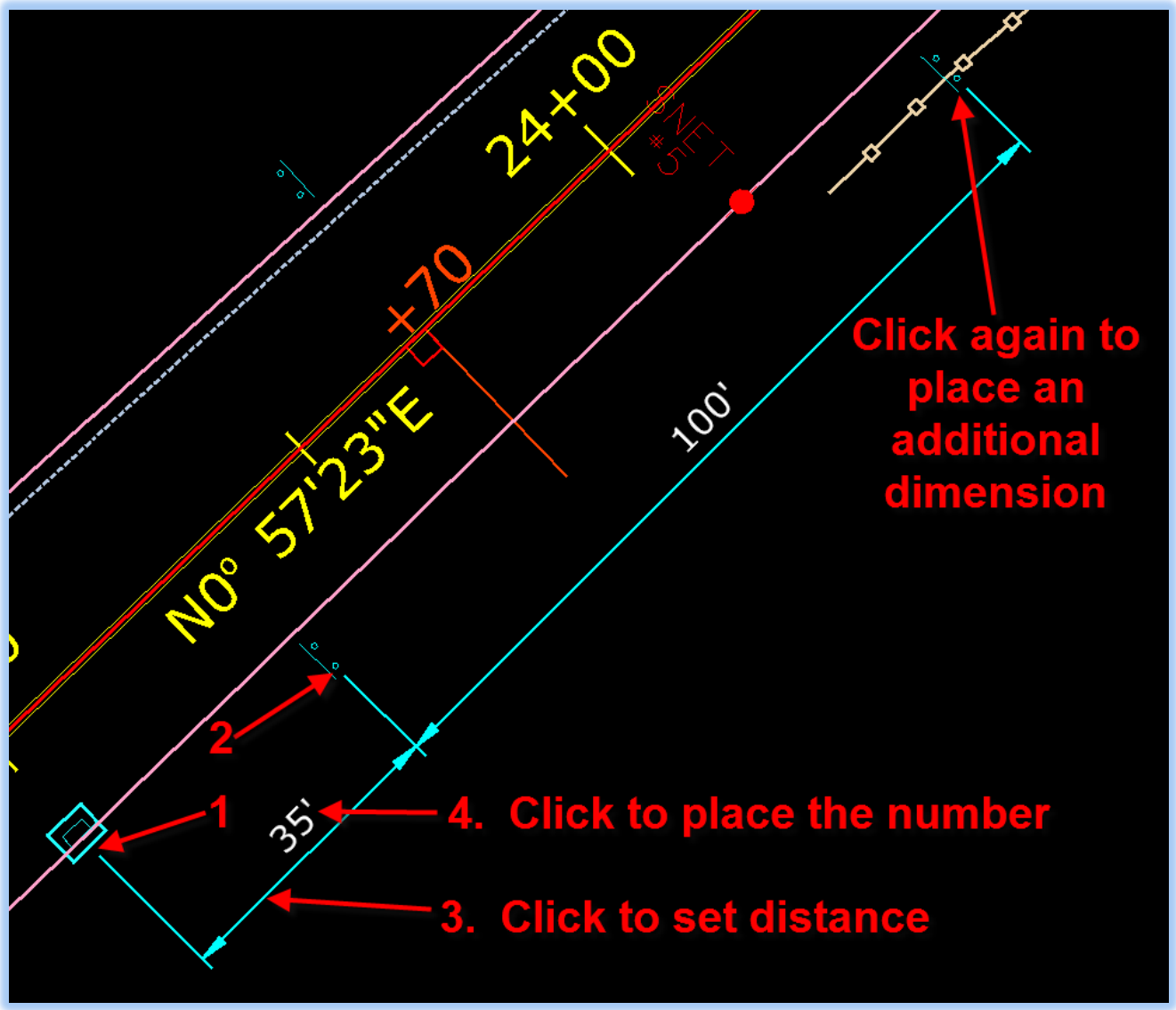
3. Select the **Dimension Linear** tool.
4. In the Linear Dimensioning dialog box set the Alignment to **True** and then click the magnifying glass to open the Dimension Styles dialog box.



5. In the Dimension Styles dialog box go to the **Units** tab. For the Units change the **Accuracy to 0**.

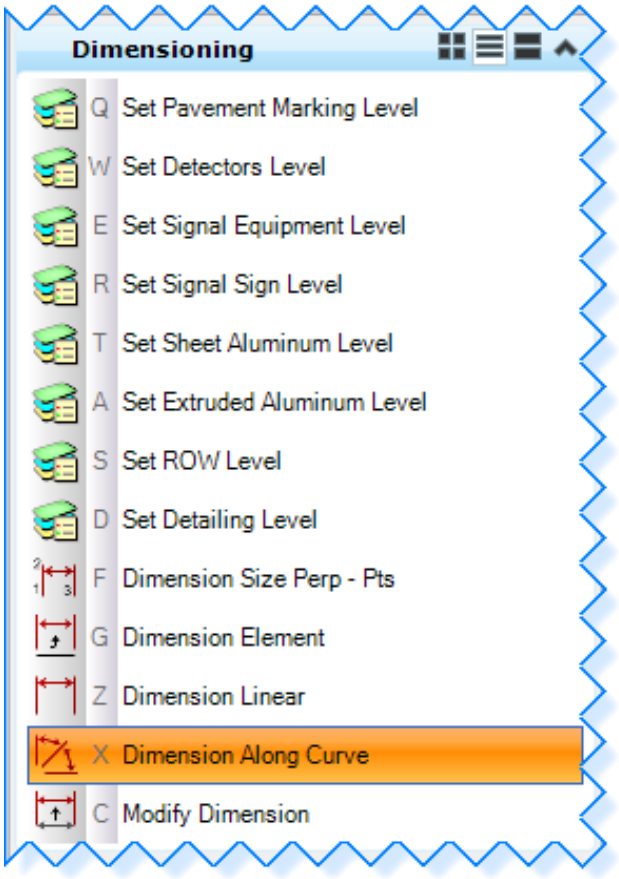


6. Now click on the object you are using for a reference (1 – catch basin), and then click on the sign (2). Next click to determine how far the dimension will extend (3). Click one more time to place the number value for the dimension (4). At this point you can right click to finish using the tool, <u>or</u> if you have another sign farther down the alignment you can click to that sign and an additional dimension will be drawn.

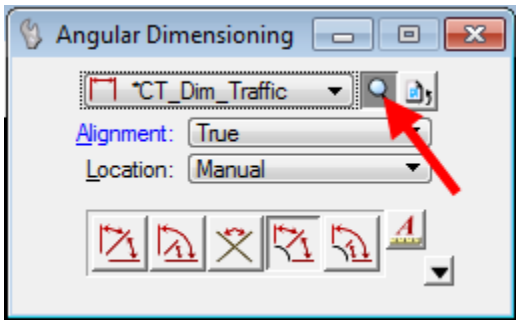


3.5.6 Dimensioning Length Along a Curve

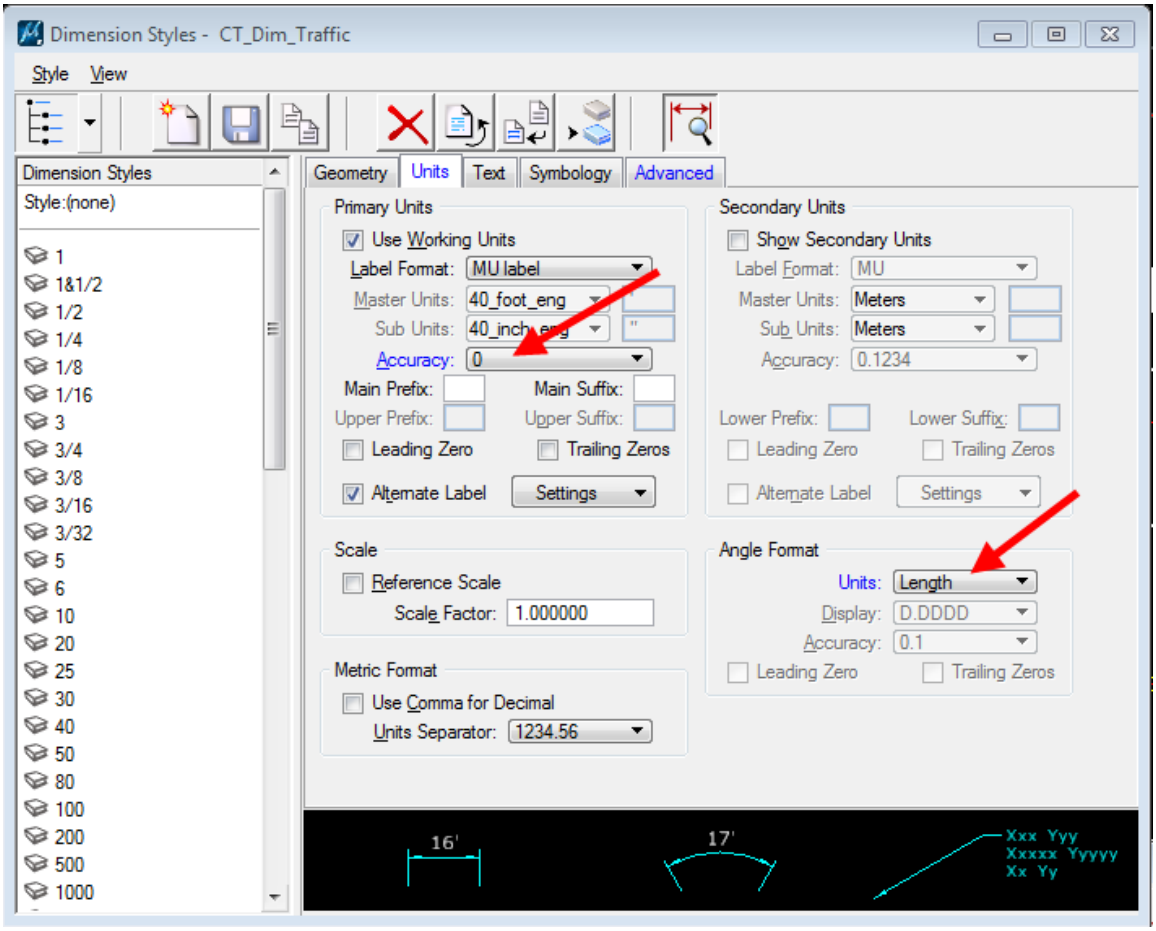
1. First click on the tool to select the level of the object you are dimensioning.
2. Then click on **Dimension Along Curve**.



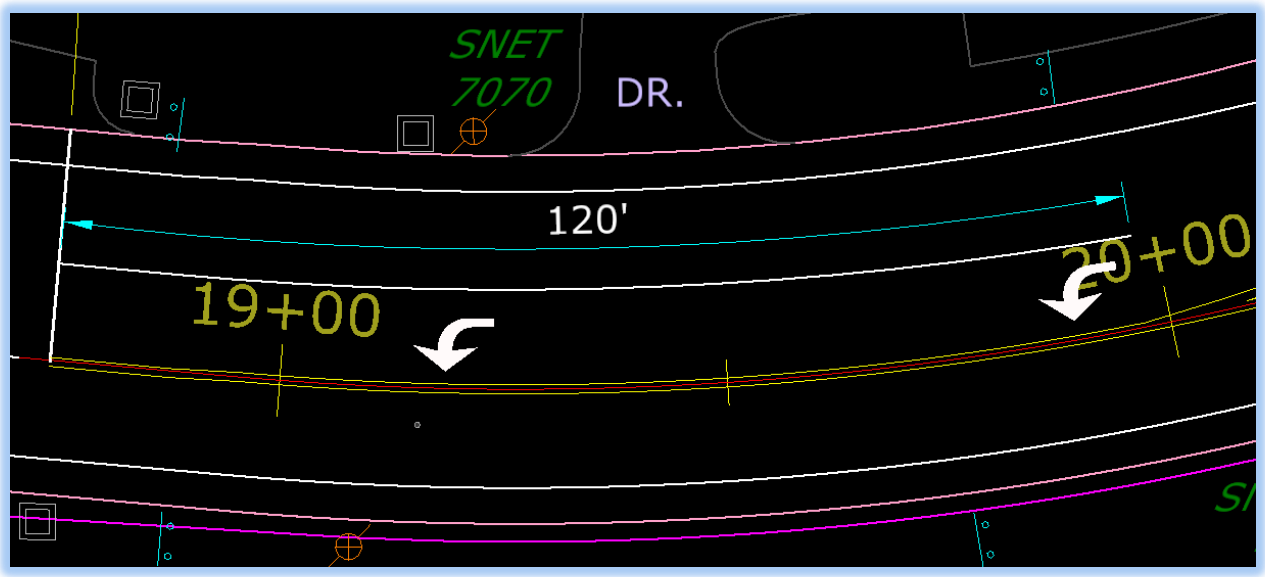
3. Click the magnifying glass to open the Dimension Styles dialog box.



4. In the Dimension Style dialog box, go to the Units tab. Set the Units Accuracy to **0** and set Angle Format – Units: to **Length**.

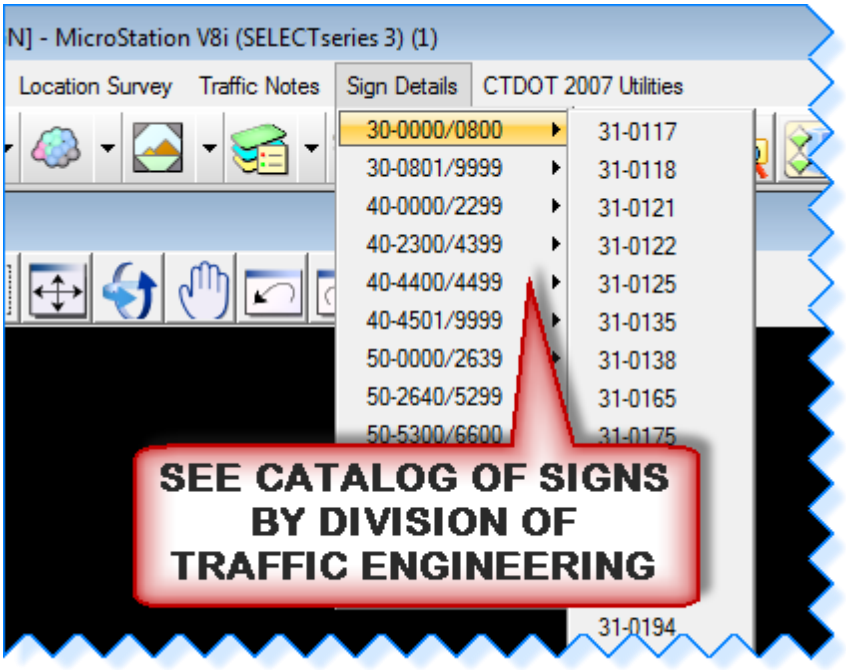


5. Click on the two points on the curve you wish to dimension. Then click again to select the length of the dimension lines. Click again to place the number. Then right click to accept the dimensioning.

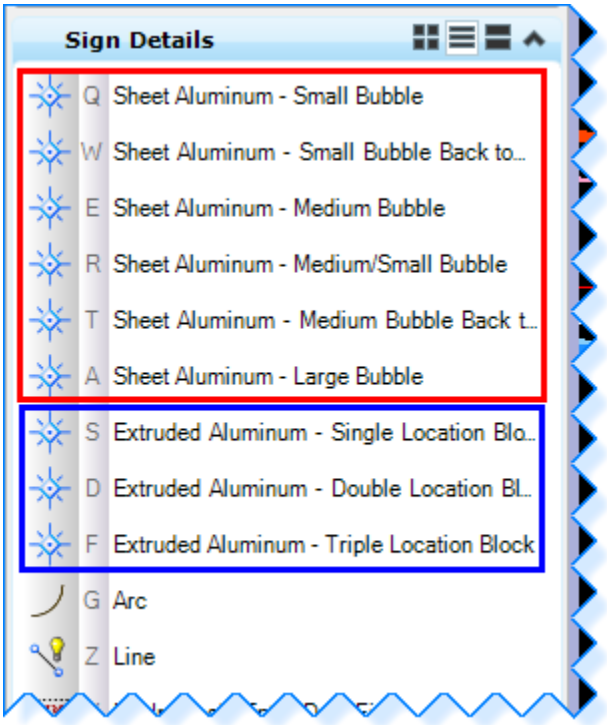


3.5.7 Sign Details

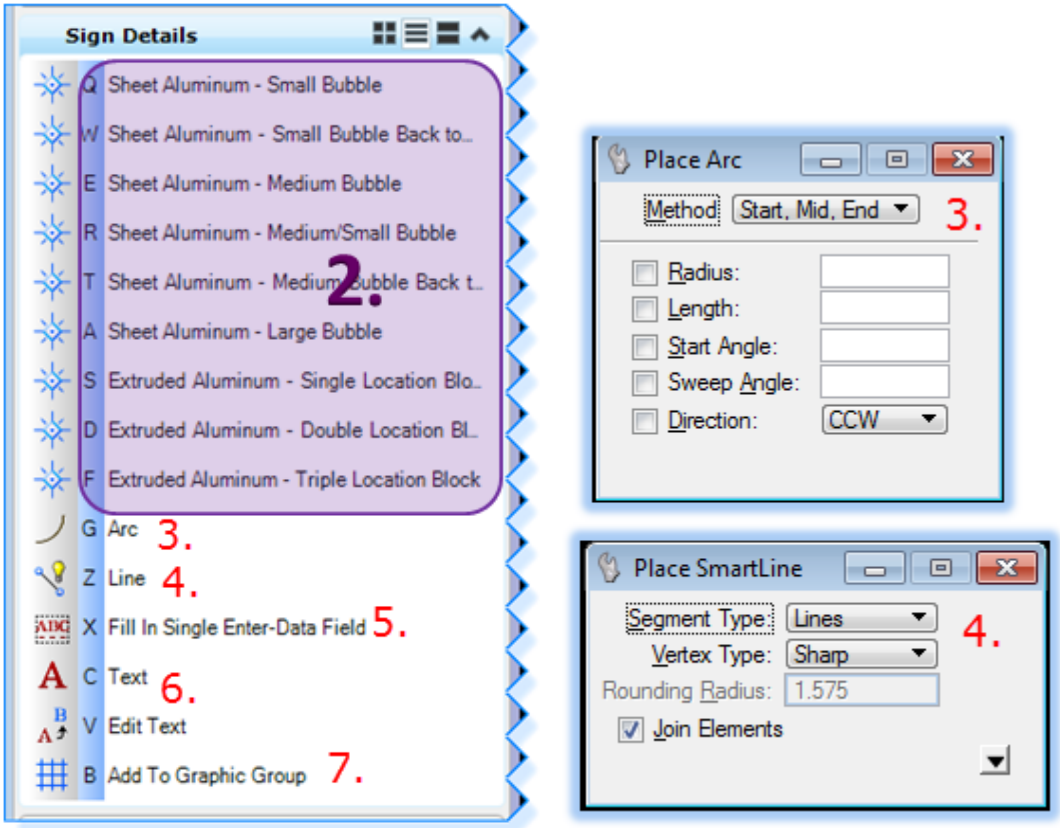
1. First select the needed sign detail from the **Sign Details** drop down menu and place it at desired location on sheet.



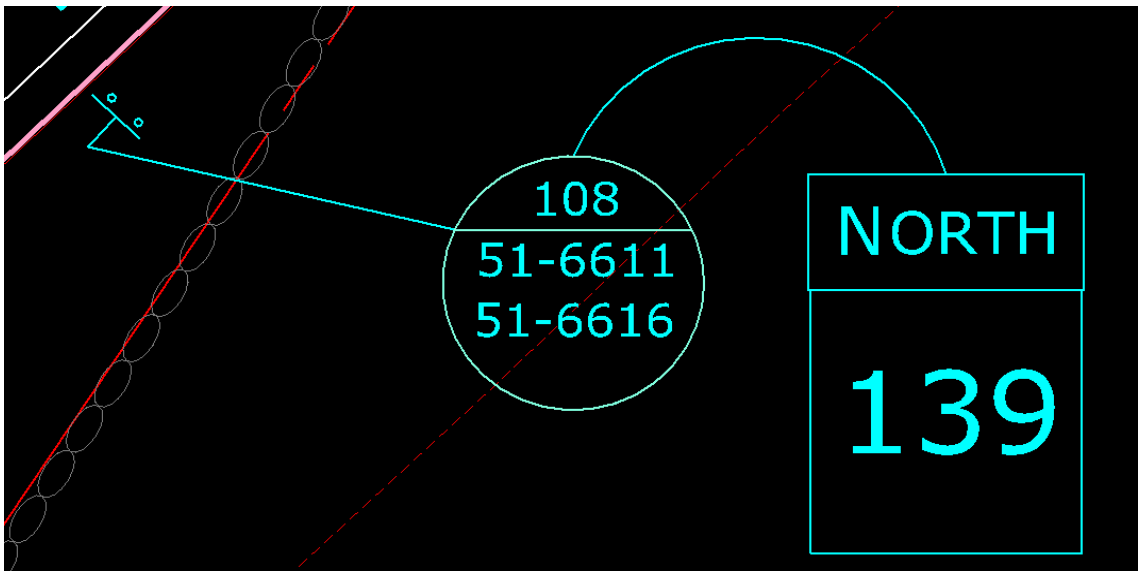
2. Next select the **Bubble** or **Block** cell for Sheet Aluminum or Extruded Aluminum depending on which one you need and place it next to Sign Detail.



3. Select the **Arc** tool for either sheet or extruded aluminum and place it to connect the detail and call out. For Method select **Start, Mid, End** and follow the prompts for placement.



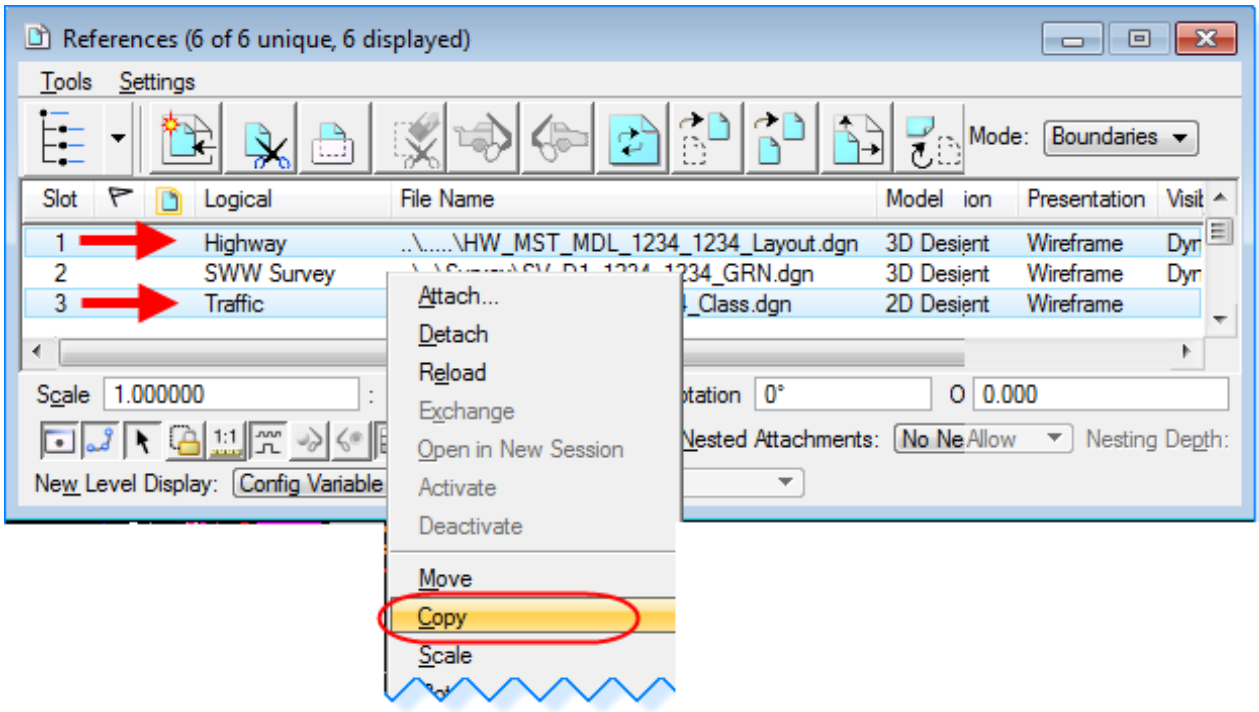
4. Then select the **Line** tool and connect the call out to the sign you are detailing.
5. Select **Fill in Single Enter Data Field** in the call out bubble/location box.
6. Add **Text** and **Edit Text** as needed
7. Add all elements of the sign detail to a **Graphic Group**



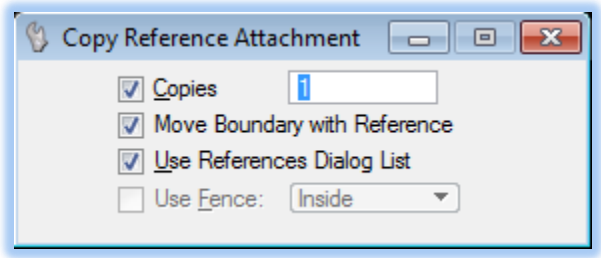
3.5.8 Detail Blow ups

When doing blow up details it is better to reference the layout model(s), and move and scale, rather than to copy the features into the sheet model, this way the blow-up stays current with design changes.

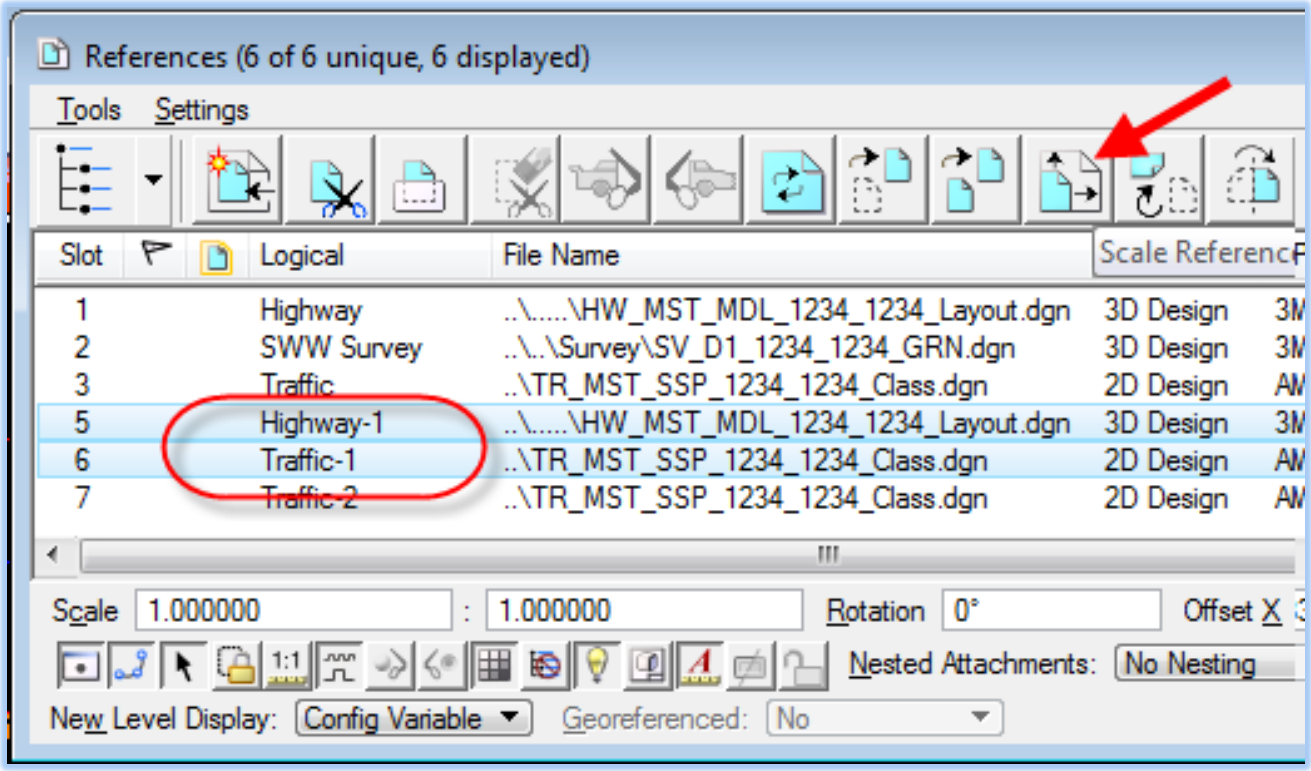
1. Open the References dialog box. Select the Layout Model(s) and copy the attachments, Right click and select **Copy**.



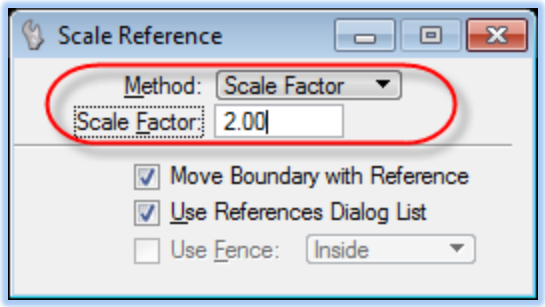
2. Toggle on as shown below and data point in View 1 and then again to where you would like to move them and reset to accept.



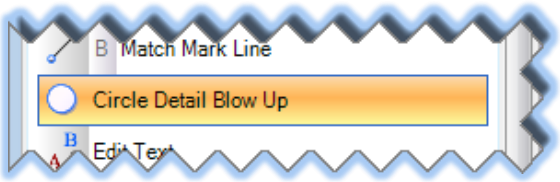
3. Select the copied reference attachments, right click and select **Scale,** or click on the **Scale Reference** icon. Make sure all needed files are highlighted.

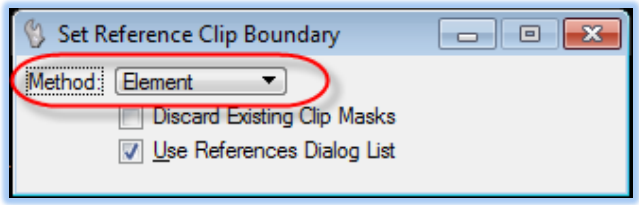


4. In the Scale Reference box input a scale factor and follow the prompts to accept.

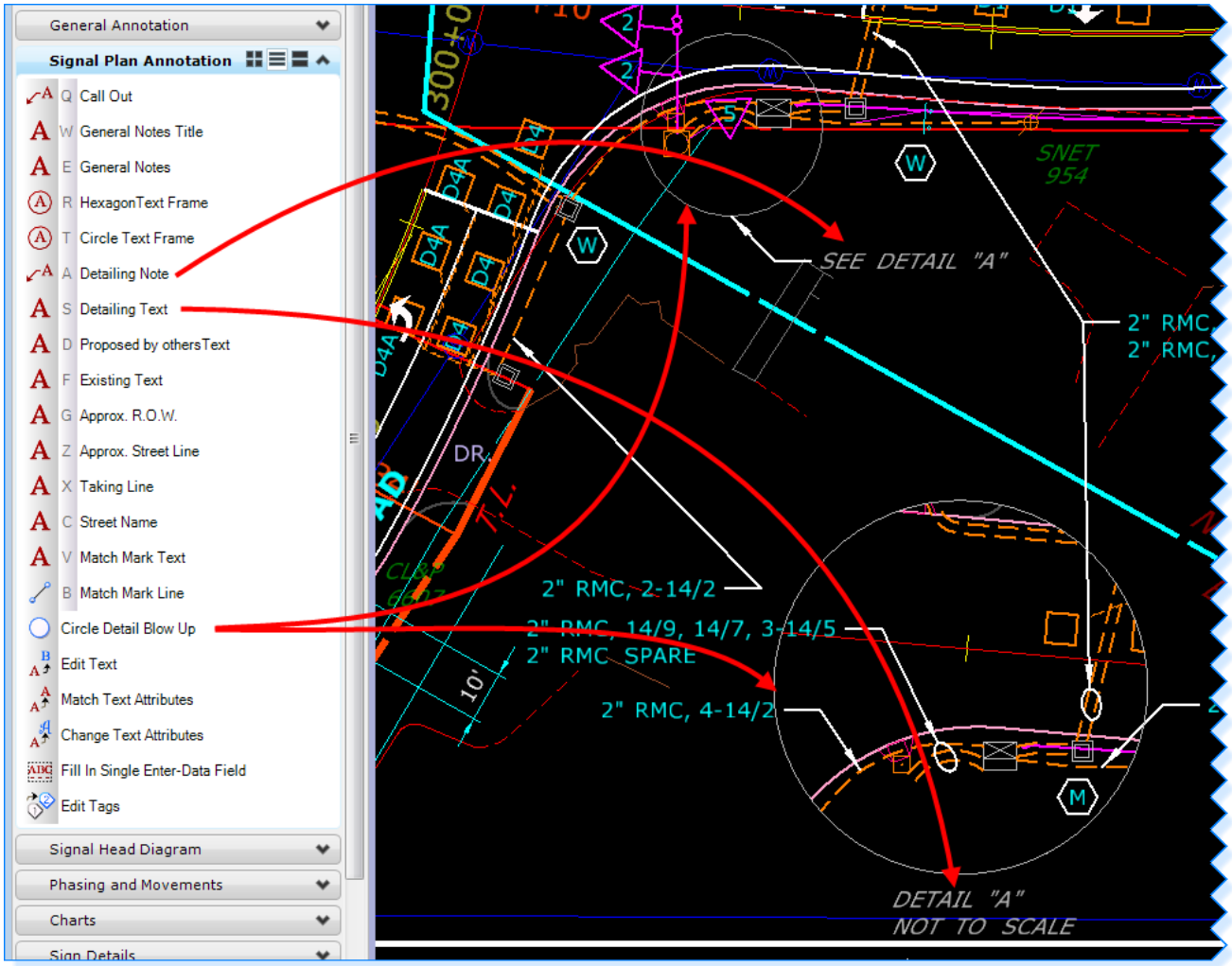


5. In the Sheet Composition Task select **Signal Plan Annotation > Circle Detail Blow Up** and place a circle around what you would like to detail. This will serve as the clipping boundary. In the reference dialog box select the files you need clipped, right click, and select **Clip Boundary**. Select the element method and click on the circle.





6. Use the tools **Circle Detail Blow Up, Detailing Note,** and **Detailing Text** to label the detail. Turn Off levels as needed.



7. Move the reference files in the detail around as needed and adjust the size and placement of the clipping circle.

8. To dimension the Detail you will need to select the correct dimension style. The base scale for all tools in Traffic Dimensioning Tasks is 1in = 40 ft, if you scaled the reference files by 2 you will need to set a Dimension Style that uses 1 in = 20 ft.

9. Select **Element > Dimension Styles**, select **CT_DIM_Traffic_20** (if you scaled the references by 1.5 use CT_Dim_Traffic_30)

10. Use the Dimensioning tools to dimension the detail.

11. Select **Detailing Text** to label the scale of the detail.

Section 4 Additional Workflows and Help

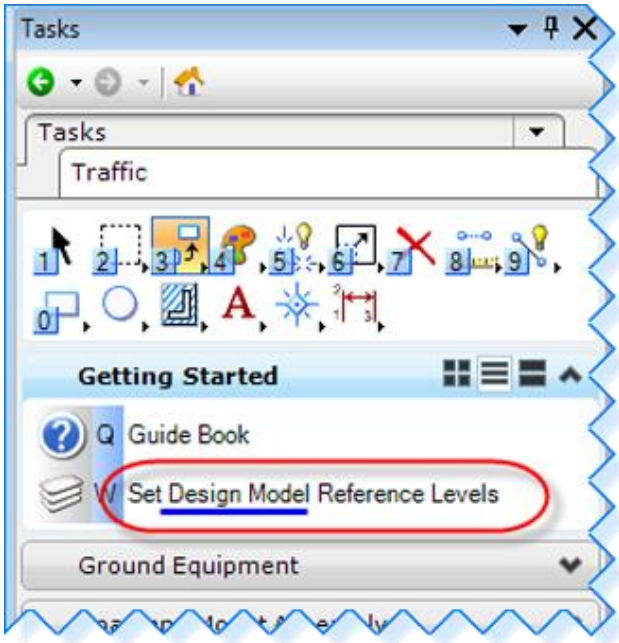
4.1 Screening and Level Display Automation

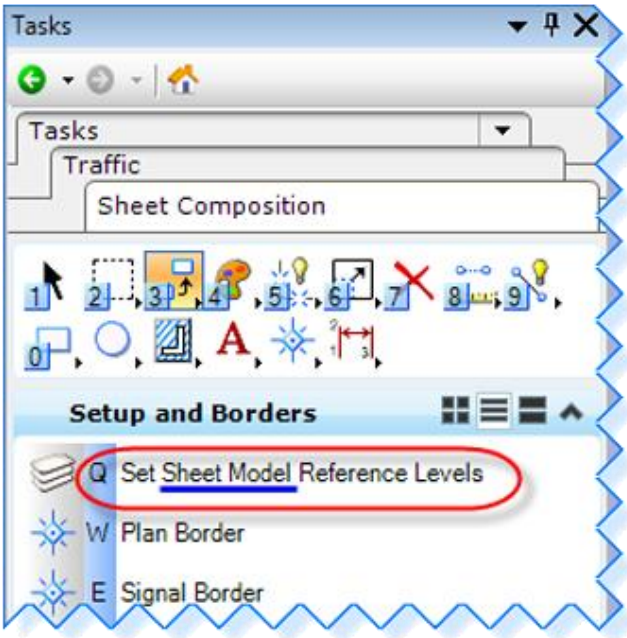
4.1.1 Set Reference Levels Tools

The Traffic Task includes two tools to help automate turning on and off levels and adjusting their appearance in your reference files. The tool shown below on the left is to be used when you are in a design model laying out the features. The tool shown below on the right is to be used when you are in a cut sheet (sheet model) doing the annotation. This tool also overrides the level symbology of the reference files to the preferred look for PDF creation.

PLEASE NOTE:

Do not use nesting when referencing, if you would like to be able to utilize these tools.





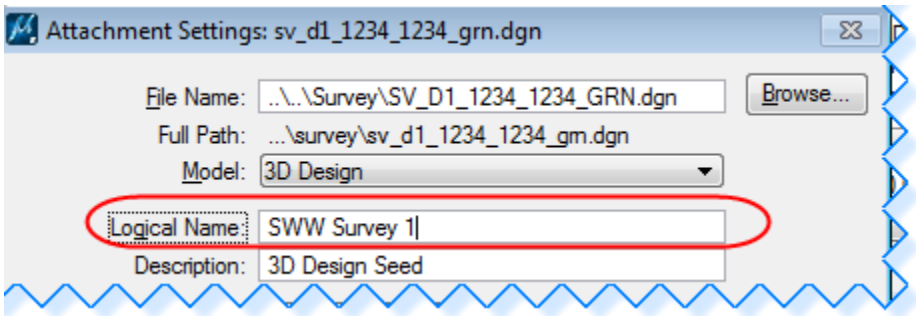
4.1.2 Reference File Logical Names

The correct logical name is needed for the Set Reference Levels Tools to work properly. If you don't put these names in correctly, you will not get the desired outcome when running the tools.

It should be noted that these tools only turn on and off Traffic, Survey and Highway levels, other discipline reference files level will need to be turned on and off manually in the Level Display dialog box.

To do this simply open the references dialog Box and double click on the reference file. In the Logical Name field type in Logical Names listed in 4.1.2.1 and 4.1.2.2. Each logical name needs to be unique, it is suggested to use numbers following each name.

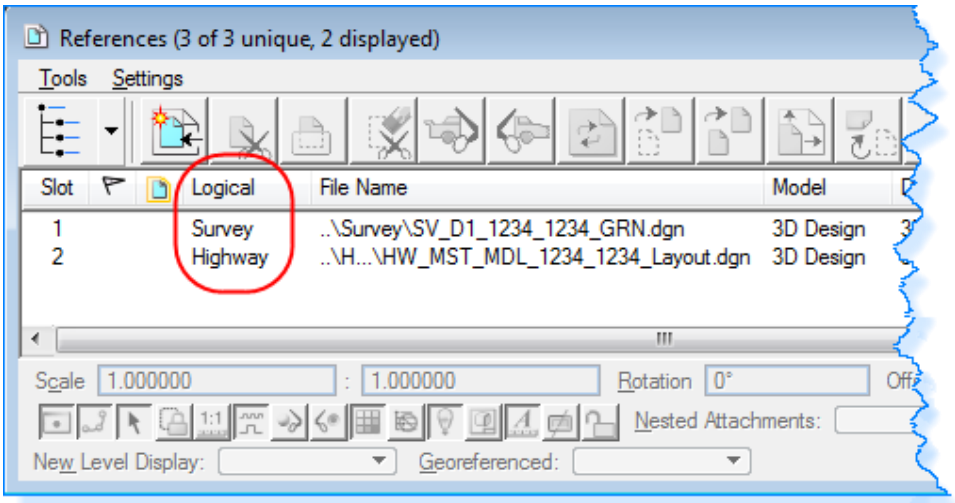
SWW stands for **S**creen **W**ith **W**eights, this will plot the level screened at the weight in your level overrides.



4.1.2.1 Set Design Model Reference Levels

Since you do not print from the design model, you do not have to screen any reference files.

- Survey ground files
  Logical Name: **Survey**
- Highway design models
  Logical Name: **Highway**



4.1.2.2 Set Sheet Model Reference Levels

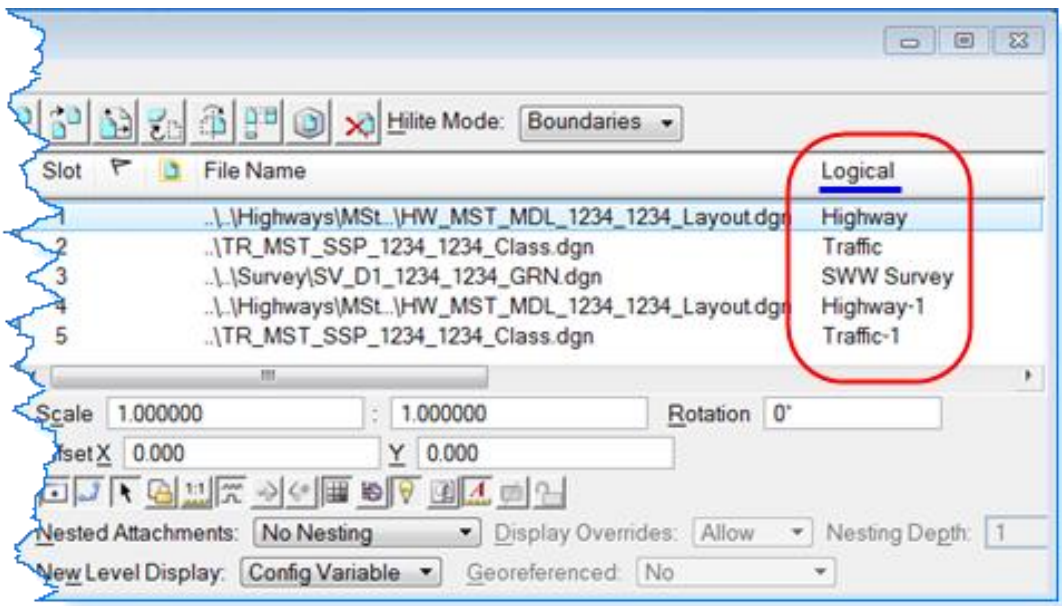
4.1.2.2.1 Major projects in involving Highway Design

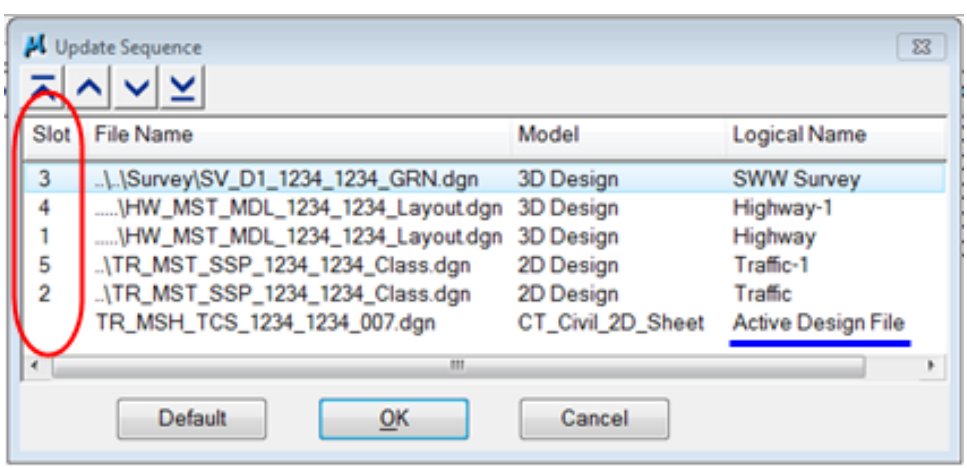
- Survey ground files published using screening
  Logical Name: **SWW Survey**

- Highway design models
  Logical Name: **Highway**

- Traffic design models
  Logical Name: **Traffic**

Your Sheet Models should follow the example below for logical name and Update Sequence order.





4.1.2.2.2 Signal only with no major roadway redesign

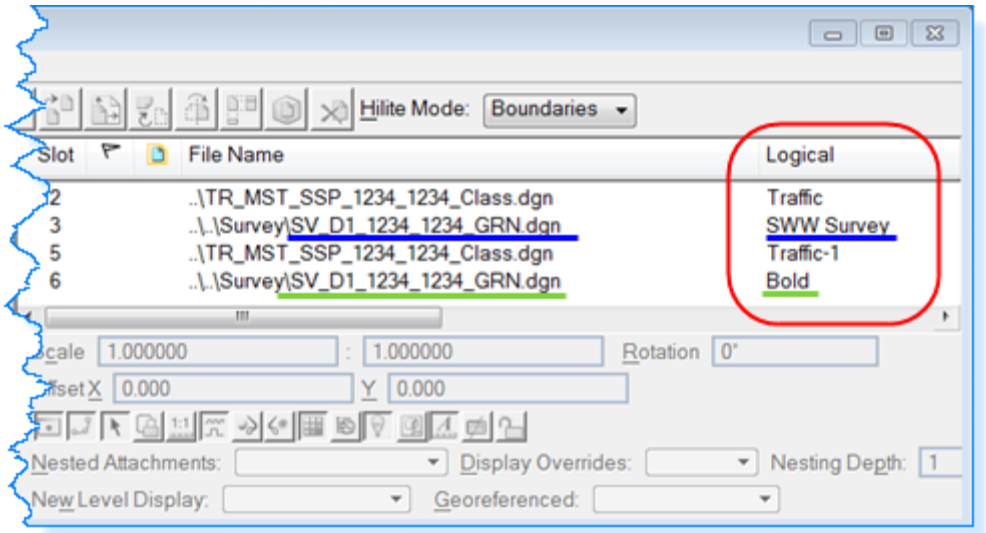
The Survey file will be referenced in twice. The Existing Edge of Road, Drainage Structures, Guiderail, Utility Poles and related text will be turned on and not be screened in one reference file. All the other levels will be screened in the other reference file.

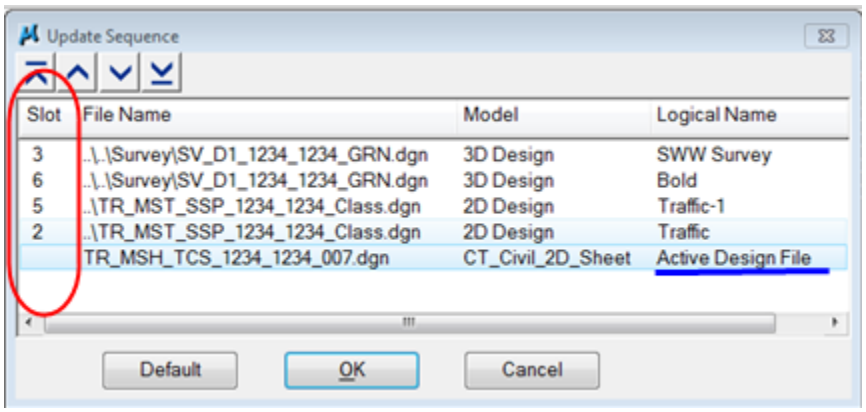
- Survey ground files published using screening
  Logical Name: **SWW Survey**

- Survey ground files with levels on that will **not** be screened.
  Logical Name: **Bold**

- Traffic design models
  Logical Name: **Traffic**

Your Sheet Models should follow the example below for logical name and Update Sequence order.

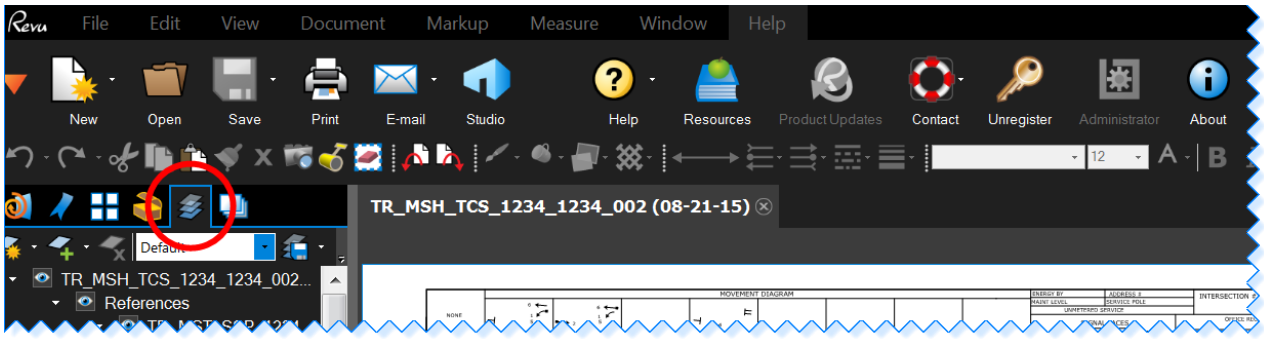




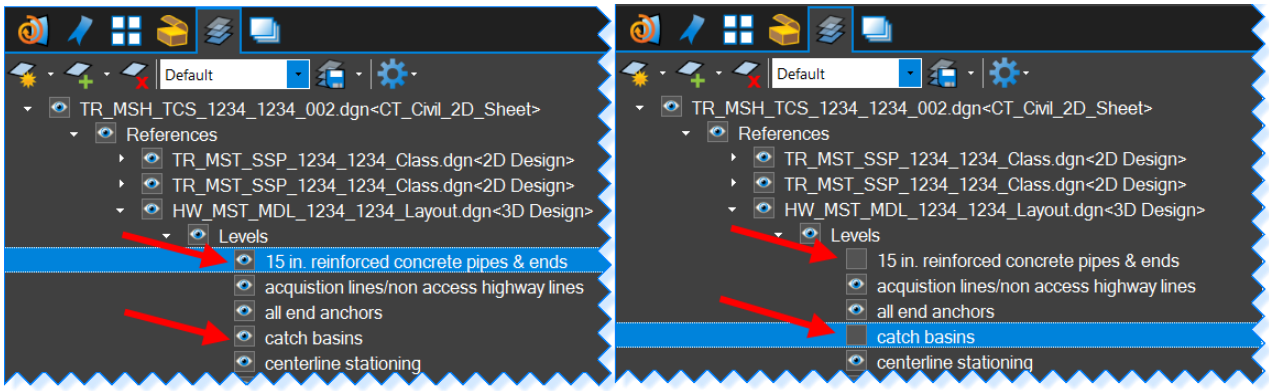
4.2 Underground Utilities and Drainage Pipes

In MicroStation the "Set Reference Levels" tool is used when in a cut sheet (Sheet Model) and it will leave the Underground and Drainage levels on. Users will turn these levels off in **Bluebeam Revu** before getting the plan set signed. Below is the procedure for turning off levels in Bluebeam Revu.

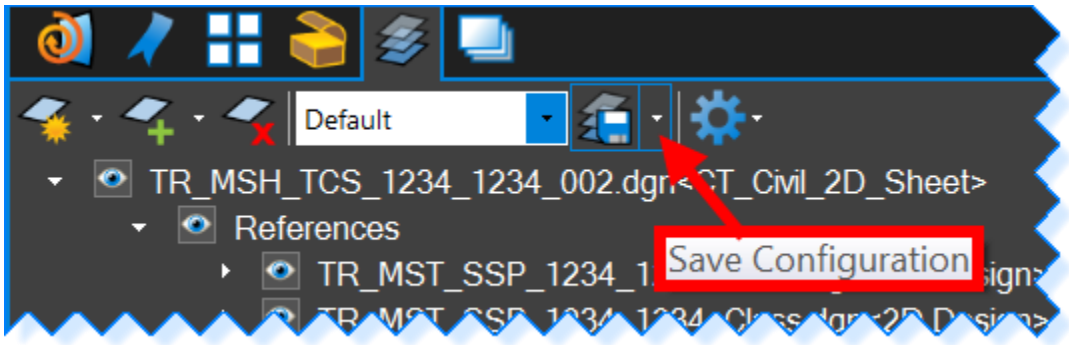
1. Click on the Layers Icon.



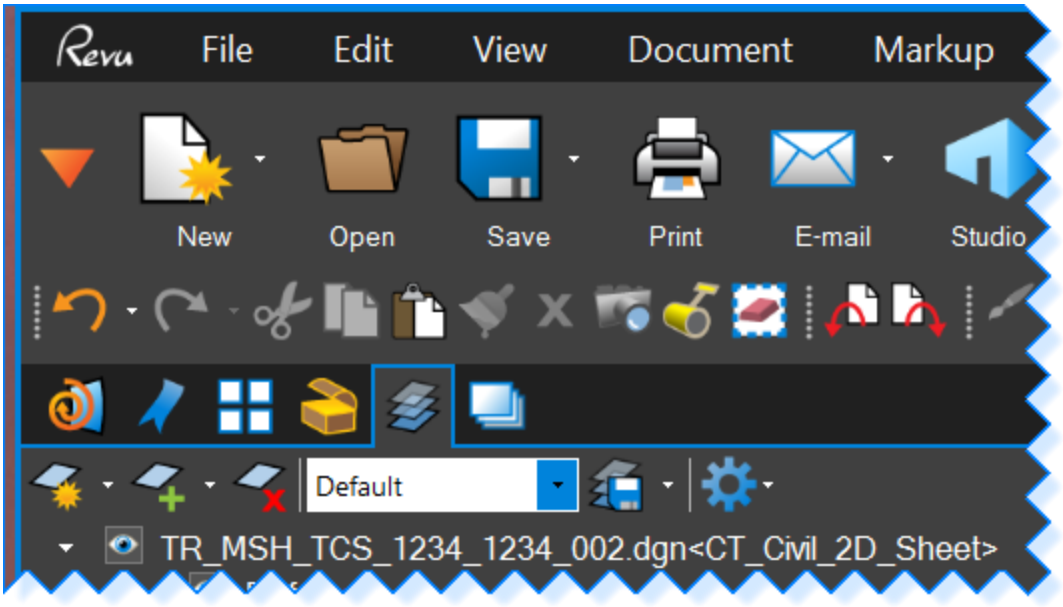
2. Select the levels you would like to be off by clicking on the eye next to each level and you will be left with a empty box.



3. When you are done turning off all the needed levels, click the arrow to the right of and select Save Configuration.

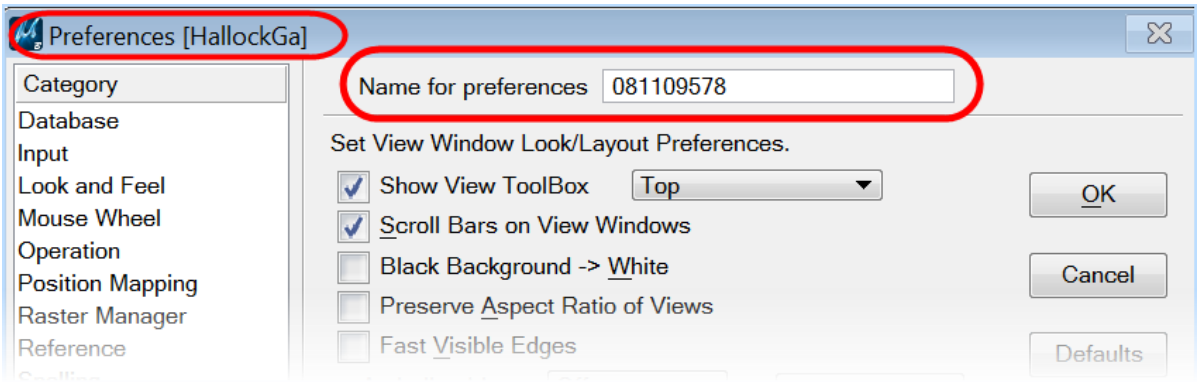


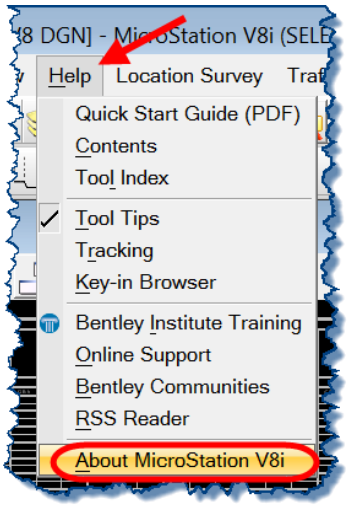
4. Click on the Save Icon before closing the file.

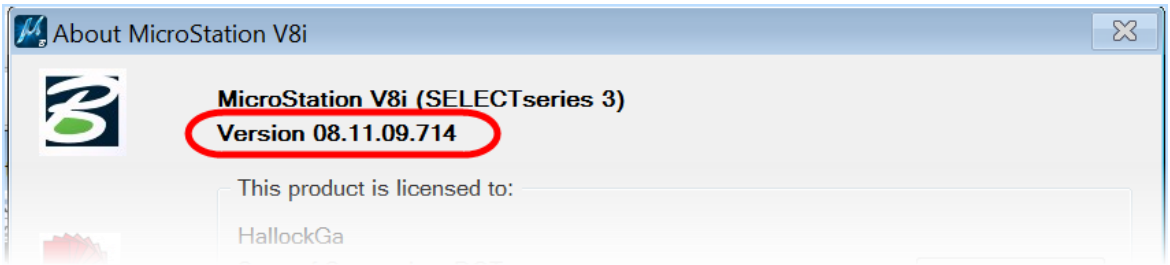


4.3 User Preference File

1. On the MicroStation Main Menu select **Workspace > Preferences**.
2. Your Windows login name should appear in the blue title of the Preferences Dialog box and the Name of Preferences field should match the version of MicroStation you are running. To check the version you are running close the Preferences Dialog box and select **Help > About MicroStation.**







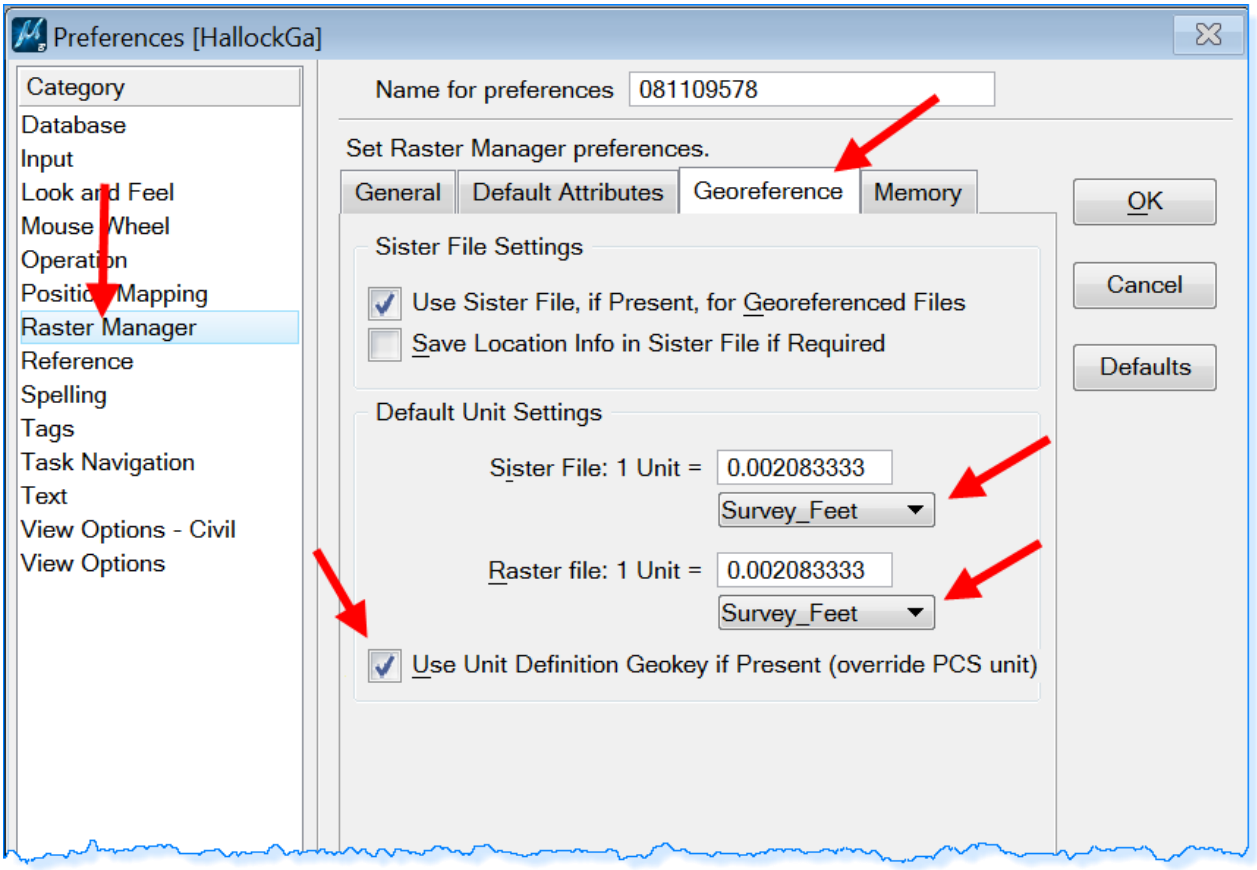
3. If your login name in the blue portion of the preference both did not match your windows login go back to 1.2 Creating a User Configuration File. It is imperative that you follow these directions and you use your Windows Login Name to create your MicroStation User and Interface.

4. If the version Number doesn't match exit MicroStation. **Open Windows Explorer** and navigate to the location (Windows 7):

D:\Users\YourUserName\AppData\Local\Bentley\MicroStation\8.11\irRFESEEaUk7nwy13ZRxlQ\prefs

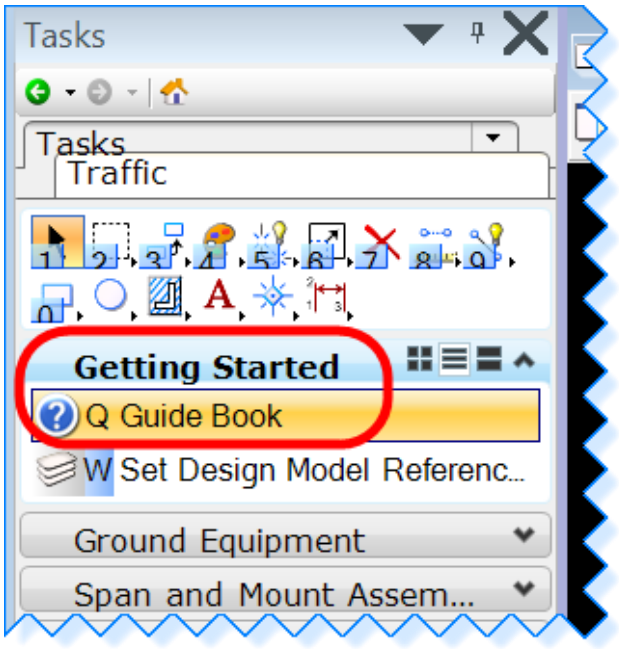
Find your user name with the **UPF** extension and delete it. Open MicroStation back up making sure you use your MicroStation Interface and user names and immediately close MicroStation. The file you just deleted will get automatically recreated. Open MicroStation one more time and check the Name of the Preference and the version numbers should now match.

5. If you are having issues getting raster files to align properly. Select **Raster Manager Georeference Tab**. The setting should match as shown below:

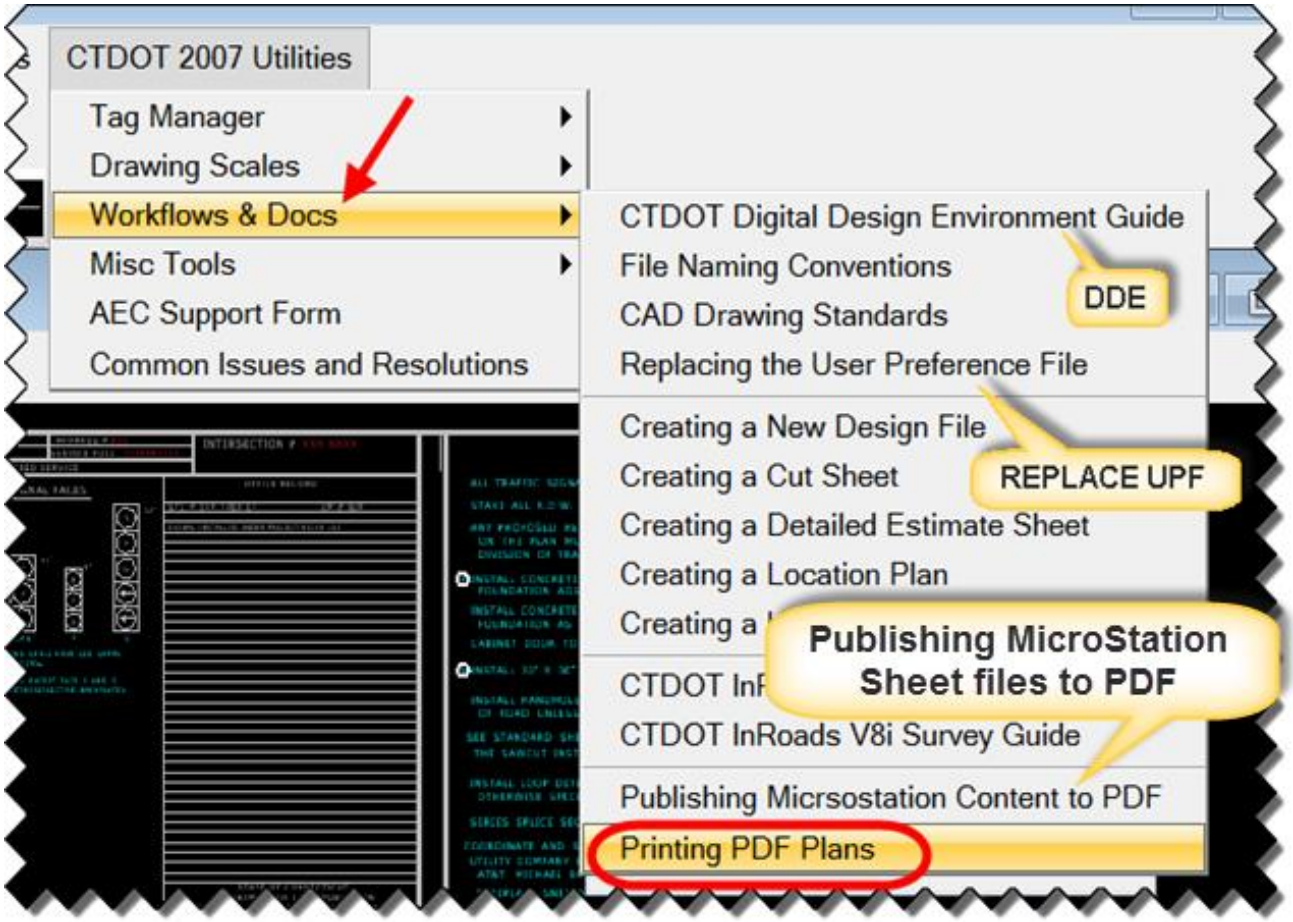


4.4 Links

This Document



MicroStation Workflows



CTDOT - SELECTseries DDE (Digital Design Environment)

http://www.ct.gov/dot/cwp/view.asp?a=3194&q=483668&PM=1

Publishing MicroStation Content to PDF

http://www.ct.gov/dot/lib/dot/documents/aec/Publishing_Mircostation_Content_to_PDF.pdf

Printing PDF Plans

http://www.ct.gov/dot/lib/dot/documents/aec/Plotting_Workflow.pdf

AASHTO Trns•port

http://www.ct.gov/dot/cwp/view.asp?a=3194&q=484952&PM=1