

Workflow ORD 1- Using GIS Data For A Title Sheet Vicinity Map For ORD 10.08

This document guides you through the process of creating a title sheet vicinity map using GIS data. The GIS data has been compiled from a number of shape files into a single DGN file. GIS attribute data is used to label the drawing for the title sheet vicinity map. This workflow replaces the **PW17 – Creating A Project Location Map Using The ProjectWise ArcGIS Connector** workflow as the ArcGIS Connector is no longer available in ProjectWise.

Downloading the GIS Vicinity Map.DGN file

Use the link below to download the **GIS Vicinity Map.DGN file**:

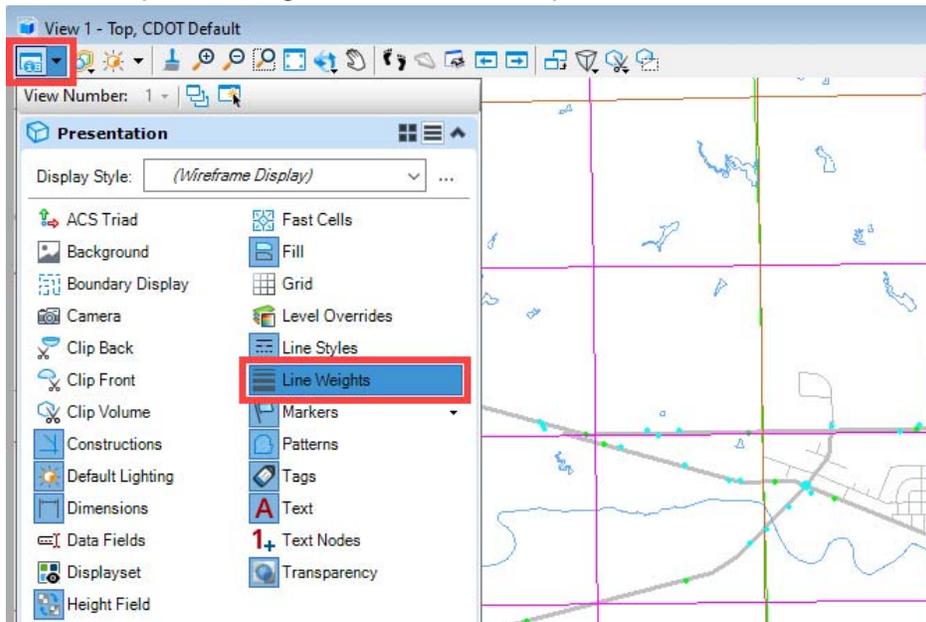
<https://www.codot.gov/business/designsupport/cadd/ord/ord-page>

Look under the ORD Training Resources header. Select the file and save the downloaded file to your project perspective work area folder in ProjectWise.

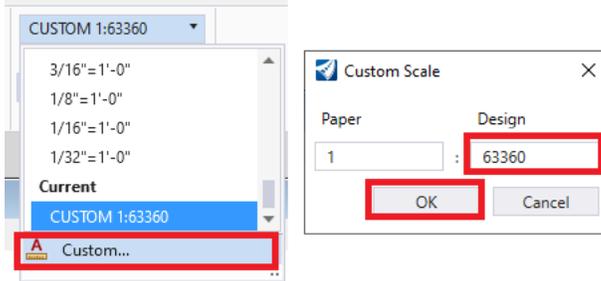
Set Up For Annotating

The following steps prepare the file for annotation. Placing the block and creating the saved view will make it easier to locate your project area in the CDOT Default model.

1. Open the **GIS Vicinity Map.DGN** file.
2. In the **View Attributes** icon from the **View** toolbar ensure the **Line Weights** are on. This will help in locating structures and milepoints. This is the default setting for this file.



3. Set the **Annotation Scale** to **1=63360**.



Note: 1:63360 is 1"=1 mile expressed in inches.

Creating The Title Sheet

The following steps describe how to create the title sheet model.

1. Set the **Active Level** to **SHEET_Named Boundary Shape**.
2. From the **OpenRoads Modeling** workflow > **Drawing Production** tab > **Named Boundary** group, select the **Place Named Boundary** command.

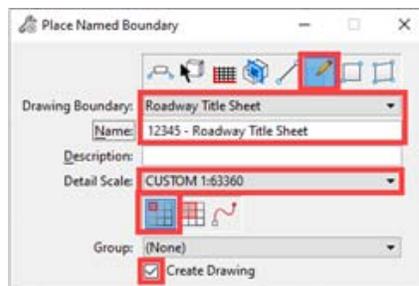


There are two options for creating the title sheet using the Named Boundary command; *From Named Boundary* or *By 2 Points*. The preferred option is *From Named Boundary*. The *By 2 Points* option should only be used when a vicinity map larger than 5 miles by 5 miles is needed for your project limits. Both options are explained below.

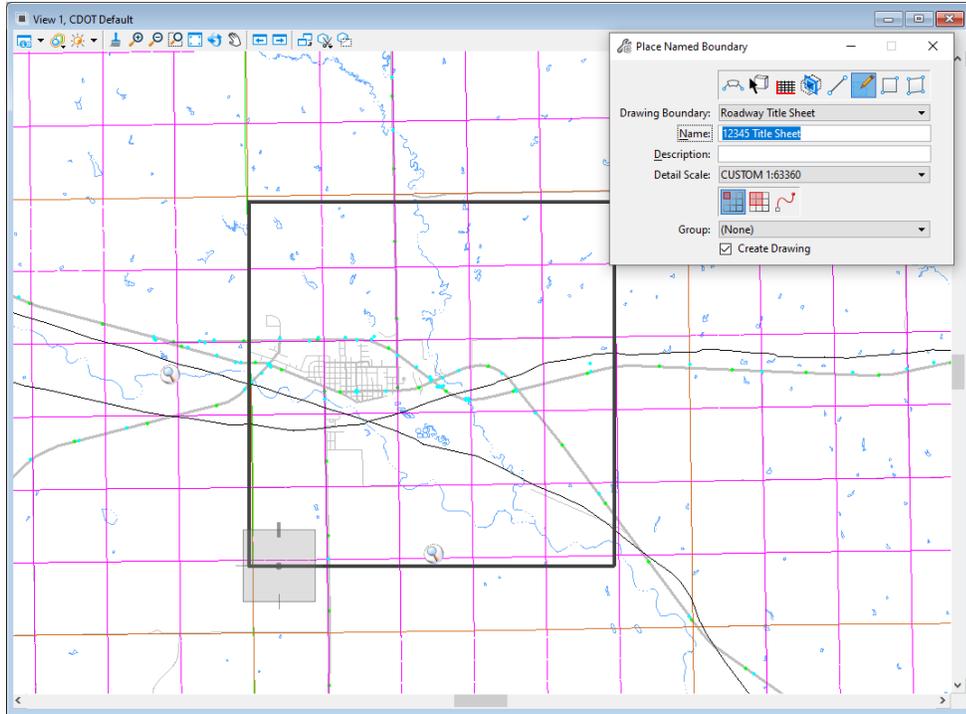
From Named Boundary

When creating the sheet model, if your vicinity map will fit in the defined Named Boundary (5 miles by 5 miles at 1= 63360 scale), then this option can be used. The **From Named Boundary** option places the title sheet border so it will not have to be placed separately.

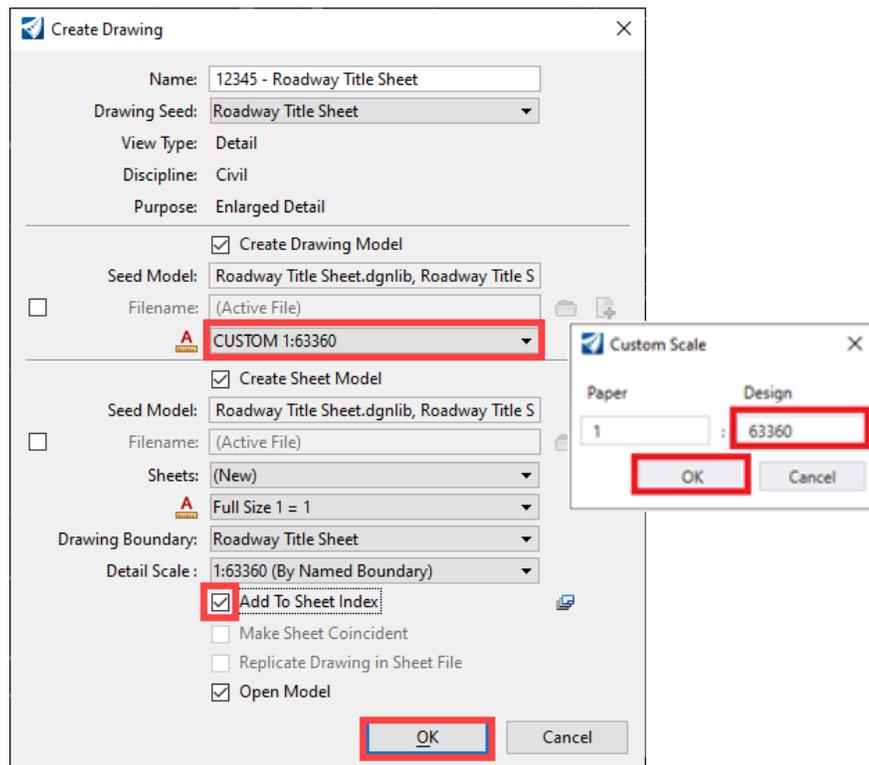
1. In the **Place Named Boundary** dialog box, select the **From Named Boundary** icon.
2. Select the desired **Drawing Boundary** title sheet. In this example, the **Roadway Title Sheet** is used.
3. Set the **Detail Scale** as shown below for the version of ORD being used. Note: The **Name** below is for this example, you should enter a name that matches your project and title sheet.



- Place the named boundary in the desired location.



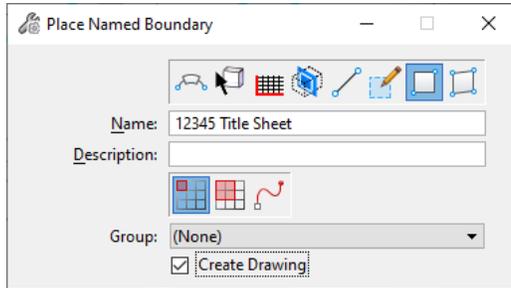
- Set the **Drawing Model Scale** to **1=63360**.
- In the **Create Drawing** dialog box, do not make any changes except for toggling on **Add To Sheet Index**, if desired.
- Left Click to **OK** button to create the **Sheet** and **Drawing** models and opens the sheet model.



Named Boundary By 2 Points

This option is used when the project limits require a vicinity map larger than 5 miles by 5 miles. This option does not automatically place the title sheet border so adding the sheet border is explained in the steps below.

1. In the **Place Named Boundary** dialog, select the **By 2 points** icon.
2. Key in a **Name** and **Description**, if desired.
3. Select the **Place a single named boundary** icon.
4. Toggle on **Create Drawing**.

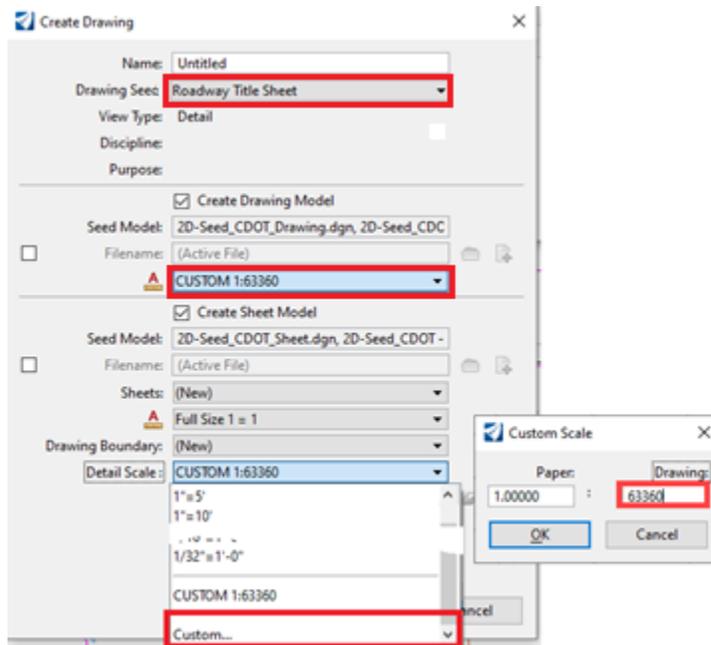


5. Left Click on the upper left corner of the vicinity map and then Left Click the lower right corner.

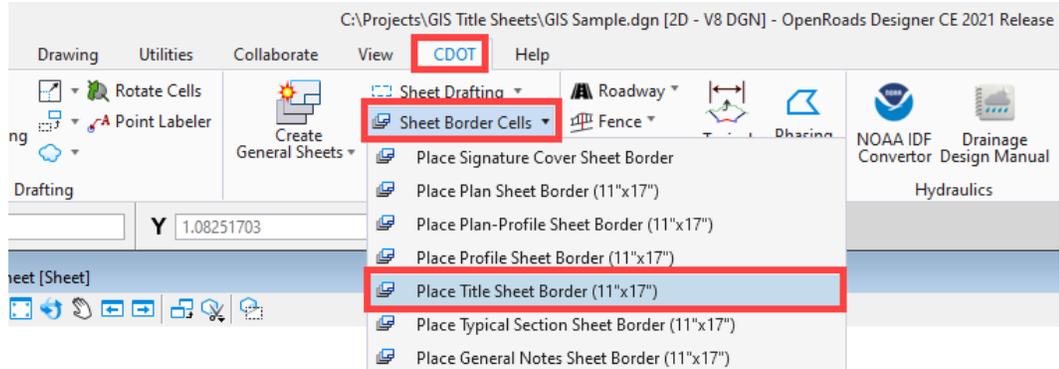
Note: When using the **By Two Points** option, an area approximately 5 miles high by 8 miles wide can fit on the title sheet at 1 : 63360 scale. The largest scale that can be used is 1" = 1.5 miles entered as 1 : 95040.

6. Left Click in the view to accept the defined area. This displays the **Create Drawing** dialog.

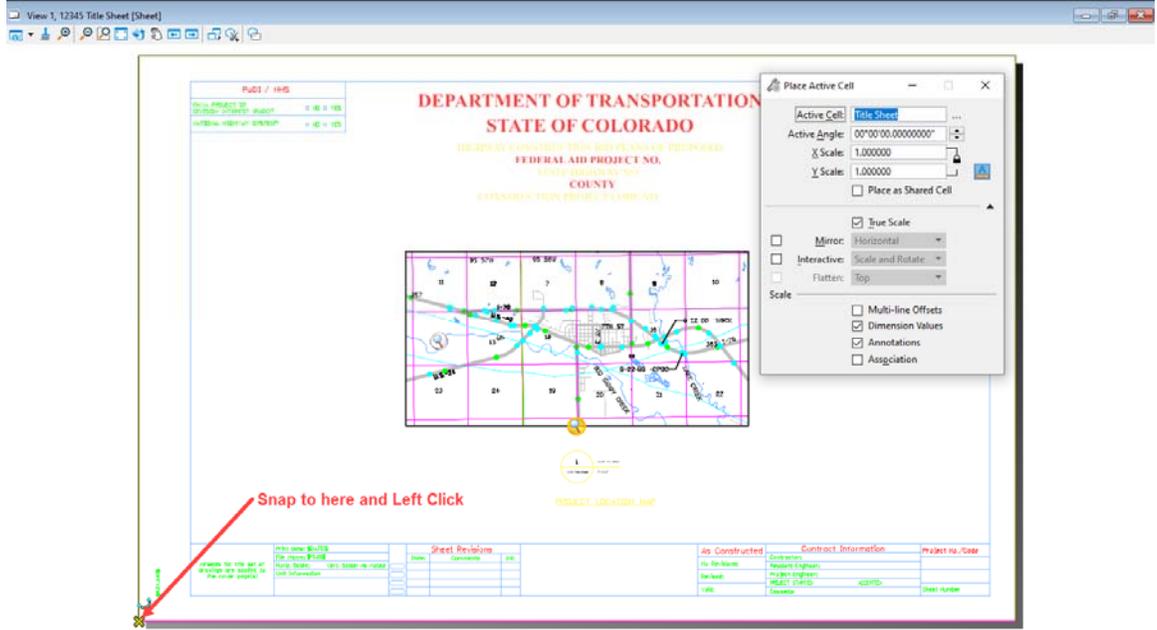
7. In the **Create Drawing** dialog, Set the **Drawing Seed** to the desired title sheet. In this example, the **Roadway Title Sheet** is used.
8. Set the **Drawing Model Scale** to **1=63360**.
9. toggle on both **Create Drawing Model** and **Create Sheet Model**.
10. Set the **Detail Scale** as shown in the image below for the version you are using. The examples below use a scale of **1=63360**.
11. If desired, toggle on **Add to Sheet Index**.
12. Left Click the **OK** button. This creates the drawing model and sheet model and opens the sheet model.



13. From the **CDOT** tab > **Sheets** group, select **Sheet Border Cells** > **Place Title Sheet Border (11"x17")**.



14. Snap the title sheet cell to the lower left corner of the sheet then Left Click to place the cell. **Note:** The sheet border is placed with a X and Y scale of 1.0.

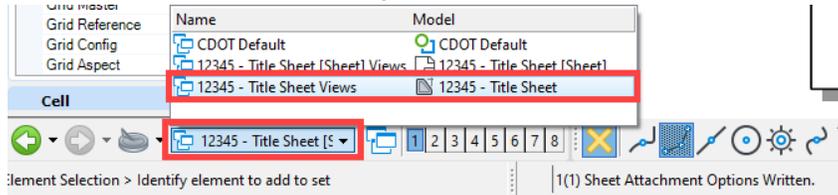


The CDOT Logo can be placed in the same manner. This completes the sheet model creation.

Annotating The Vicinity Map

Annotating the vicinity map is done in the Drawing Model that was created above with the title sheet. The annotation is placed using the Place Label command using Text Favorites that access the GIS data associated with the elements.

1. Select the title sheet ***Drawing model***.



The table below shows the GIS levels and corresponding Text Favorite.

GIS Data Level	Text Favorite
GIS_Bridges	GIS – Structure ID-Type
GIS_County Lines	GIS – County Name
GIS_Engineering Regions	GIS_Engineering Region Name
GIS_Highways	GIS_Highway Route Name
GIS_Lakes	GIS – Lake Name
GIS_Milepoints	GIS – Milepoint Reference Number
GIS_Roads-Local	GIS_Local Rds Name
GIS_Roads-Major	GIS_Major Rd Name
GIS_Sections	GIS_Section Number
GIS_Streams	GIS_Stream Name
GIS_Townships	GIS – Townships Name

These can be labeled in any order desired. Highways, Major Roads, Minor Roads, and Streams are labeled using the in-line with the element. The remaining items are labeled horizontally or vertically. However, the In Line option is not allowing the label to rotate in the ORD 10.08 version. If you are working in ORD 10.08, place labels horizontally then move and rotate them as needed.

Important Information Prior to Labeling

Much of the GIS data shares a common location (such as Sections and townships, county lines and engineering regions, etc.) To make it easier to select the desired items, turn off levels not currently being labeled.

The Place Label command does not allow a reset to pick items under another overlapping item on the same level. It will also not work with pre-selected items. This issue is most apparent when labeling items such as sections, townships, and counties. A work around for this issue is in the Tips section.

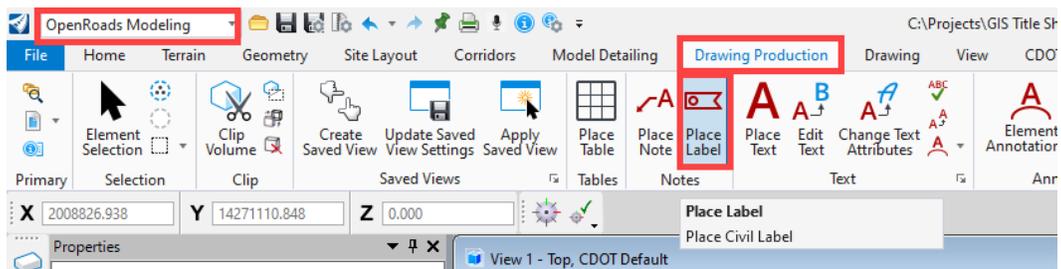
Rotating or moving a label will break the Association to the parent item. This does not affect the print output.

If the Place Label command hangs up in the Drawing Model, annotate in the CDOT Default model instead.

Place Label Using A Horizontal Or Vertical Label Rotation Option

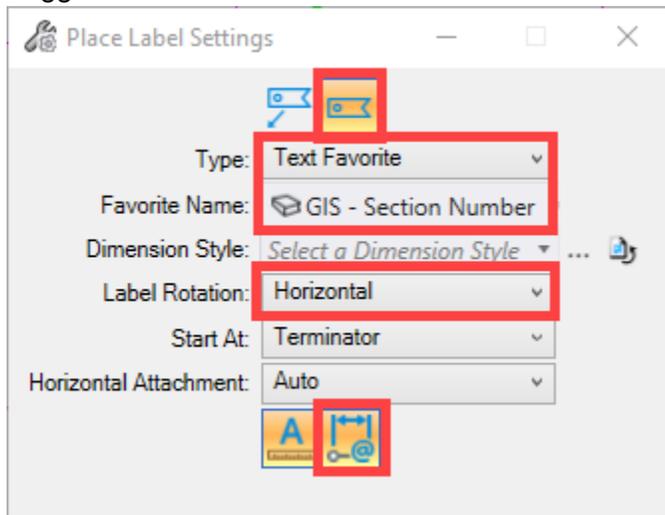
The example below uses the Place a label without a leader option, however, a leader can and should be used where it will improve clarity. In the example below uses the Horizontal label rotation option.

1. Set the active level to the desired Text level (in this example, **GIS_Sections-Text** is used). If the data type does not have a GIS Text level, use the **DRAFT_Text-Notes** level.
2. It is good practice to turn on only the levels (GIS data type and text levels) for the data type to be annotated. The text levels that have been previously annotated are left on so that new labels can be placed in an open area.
3. Using the **OpenRoads Modeling** workflow > **Drawing Production** tab, select the **Place Label** command.

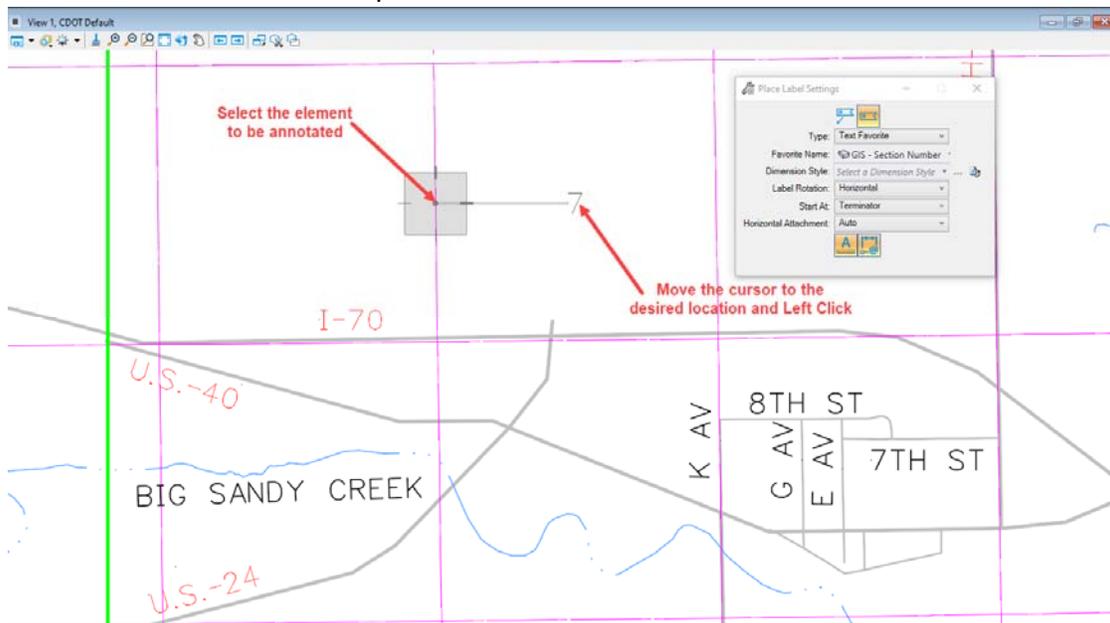


4. In the **Place Label** tool settings dialog, select the **Place a label without a leader** icon.
5. Set the **Type** to **Text Favorite**.

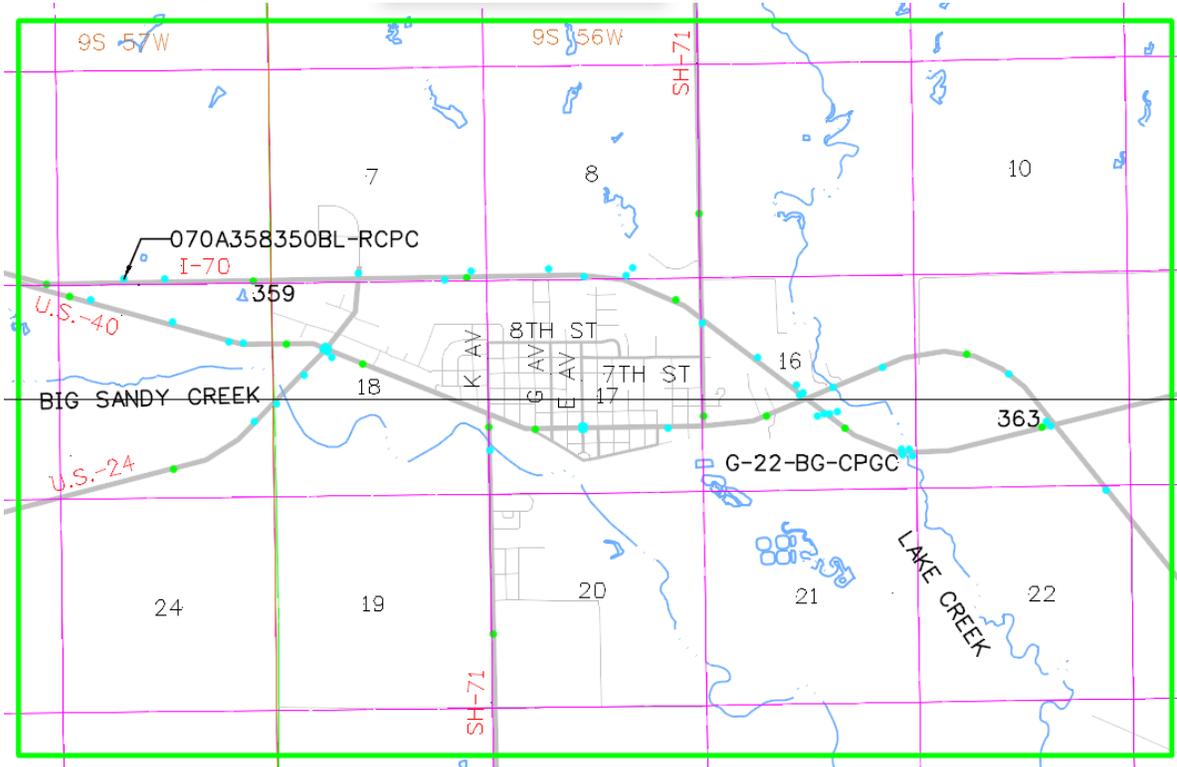
6. Select the desired text favorite from the **Favorite Name** dropdown. In this example GIS – Section Number is used.
7. Set the **Label Rotation** to **Horizontal**.
8. Toggle on the **Enable to create relative associations to elements** icon.



9. **Left Click** on the element to be annotated. Move the cursor where the label is to be located then **Left Click** to place the label.



10. Repeat step 9 for each element to be annotated.
 11. Once all the labels have been placed for a data type, set the **Active Level** to the next data type's Text level. Turn on that data type's level.
 12. Repeat steps 4 through 10 for the selected data type.
- In the illustration below, townships, sections, mile points and Structures have been annotated using the Horizontal Label Rotation.

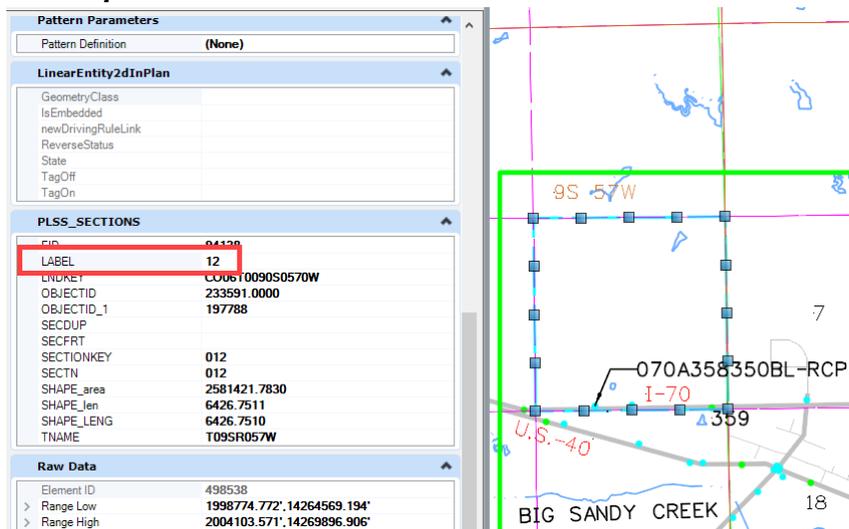


Tips and Notes for Annotating GIS Data

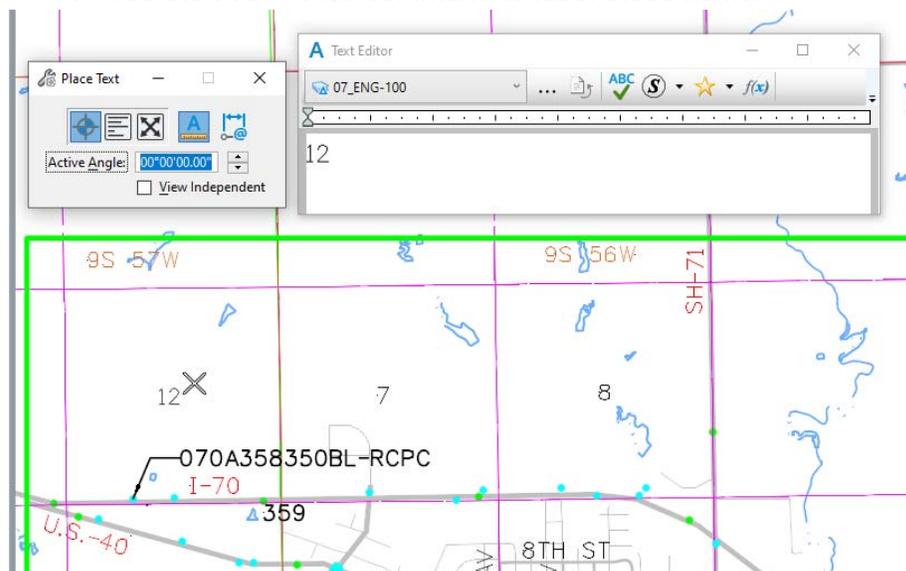
The Place Label command does not allow a reset to pick items under another overlapping item on the same level. It will also not work with pre-selected items. This issue is most apparent when labeling items such as sections, townships, and counties.

To work around this issue, use the following steps:

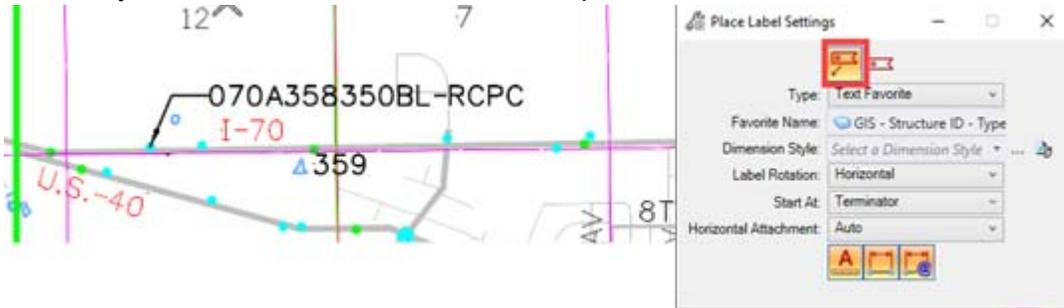
1. Set the desired level.
2. Open the **Properties** dialog box.
3. Select the **Element Selector** tool and select the desired element. Right Click to select underlying elements.
4. Look in the **Properties** dialog box for the data needed. The illustration below shows the **Properties** for a **Section**.



5. Use the **Place Text** command to label these items.

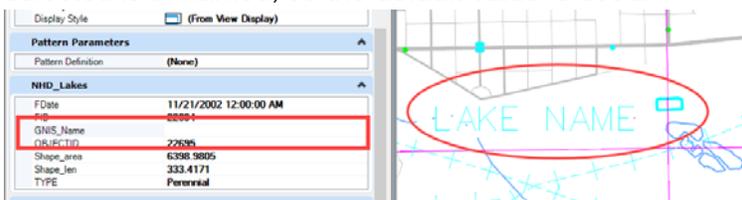


For clarity, the **Place a label with a leader** option can be used.

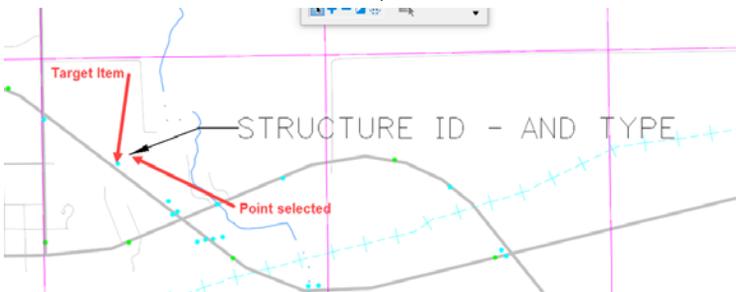


Please note when a GIS item does not have a value associated with it, the Place Label command will return a default value.

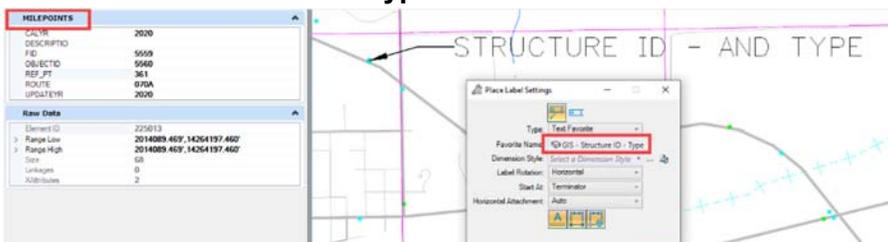
The item selected does not have data for the label. In the illustration below, the lake selected is unnamed, so the default value is used.



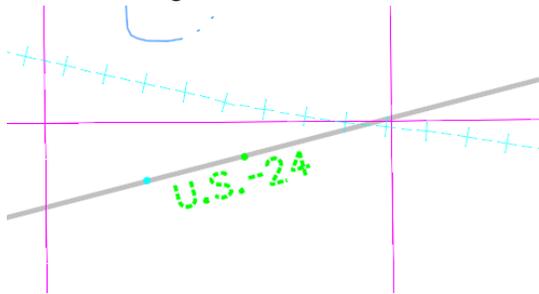
Another situation that displays a default value is if the item was missed when placing the label. In the illustration below, the structure was missed when placing the label.



If the wrong text favorite is used for the selected item the default value to the selected text favorite is displayed. In the illustration below a milepoint was selected but the text favorite is set to **GIS - Structure ID - Type**.



Rotating or moving a label will break the Association to the parent item. The display of the label is changed as shown below.



This does not affect the print output but it does bother some users. If you do not like seeing the broken associations but need to move labels, you can turn off the **Highlight Broken Associations**. Select **File > Settings > User > Preferences**. In the Preferences dialog box, select Operation from the list on the left side. Toggle off **Highlight Broken Associations**. Left Click the **OK** button to accept the change.

