

# Workflow ORD 1- Using GIS Data For A Title Sheet Vicinity Map For ORD 10.10

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 Vacinity Map for ORD 10-10 version.dgn** file:

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

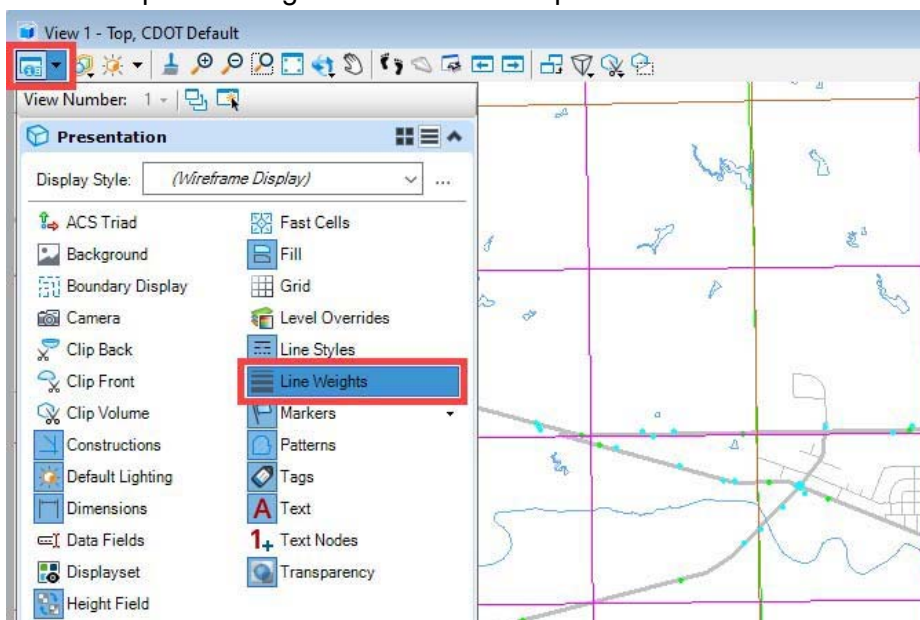
Look under the ORD Training Resources header. Select the file for the version of ORD that you are using. Save the downloaded file to your project perspective work area folder in ProjectWise.

**Note:** This file has been saved with **No Workspace**. Be sure to set the correct workspace before opening the file.

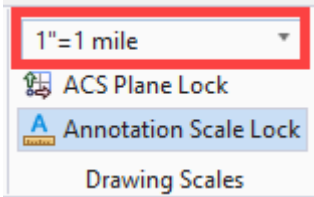
## Set Up For Annotating

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.



- Set the **Annotation Scale** to **1"=1 mile**.



**Note:** The defined Named Boundary area for the vicinity map, in the Sheet Model, is 5" by 5". This will accommodate an area of 5 miles by 5 miles in the CDOT Default model when using the 1" = 1 mile scale. For larger projects, a 1" = 2 miles scale is provided, which will accommodate an area of 10 miles by 10 miles in the CDOT Default model. The following examples use the 1" = 1 mile scale.

**Important!:** If you use the Detail/Annotation scale of 1"=2 miles (or actually any scale greater than 1"=1.578 Miles), there is a defect in version 10.10 where the Sheet model created does not set or hold the Reference Detail Scale correctly so the vicinity data referenced to the sheet is too large.

## Creating The Title Sheet

The following steps describe how to create the title sheet model Detail/Annotation scale of less than 1"=1.578 Miles.

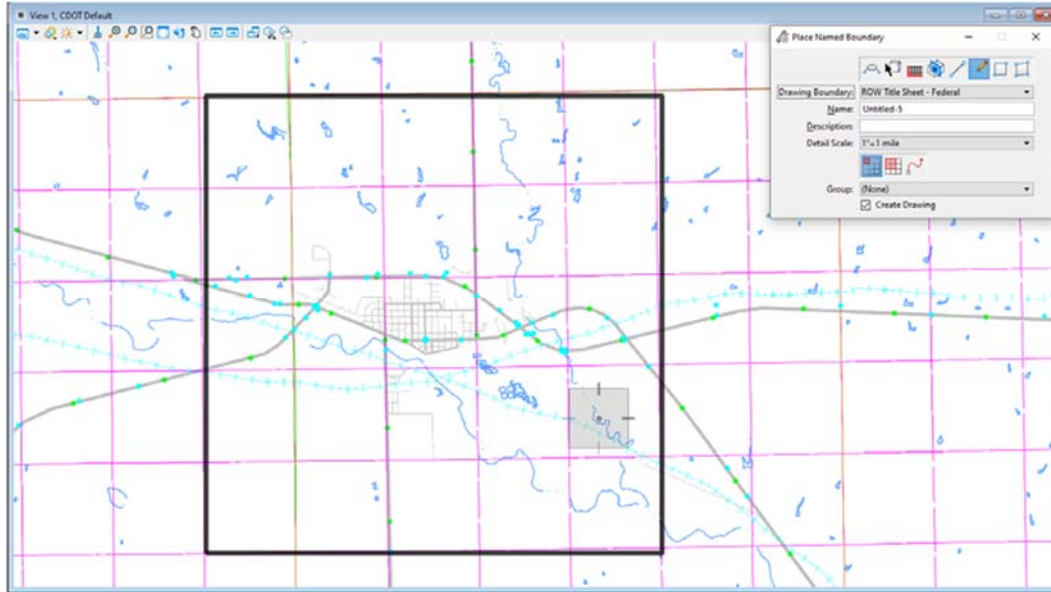
- Set the **Active Level** to **SHEET\_Named Boundary Shape**.
- Zoom in to the area of the project.
- From the **OpenRoads Modeling** workflow > **Drawing Production** tab > **Named Boundary** group, select the **Place Named Boundary** command.



- In the **Place Named Boundary** dialog box, select the **From Named Boundary** icon.
- Select the desired **Drawing Boundary** title sheet. In this example, the **Roadway Title Sheet** is used.
- Set the **Detail Scale** to **1" = 1 mile**. Note: The **Name** below is for this example, you should enter a name that matches your project and title sheet.
- Toggle on **Create Drawing**.



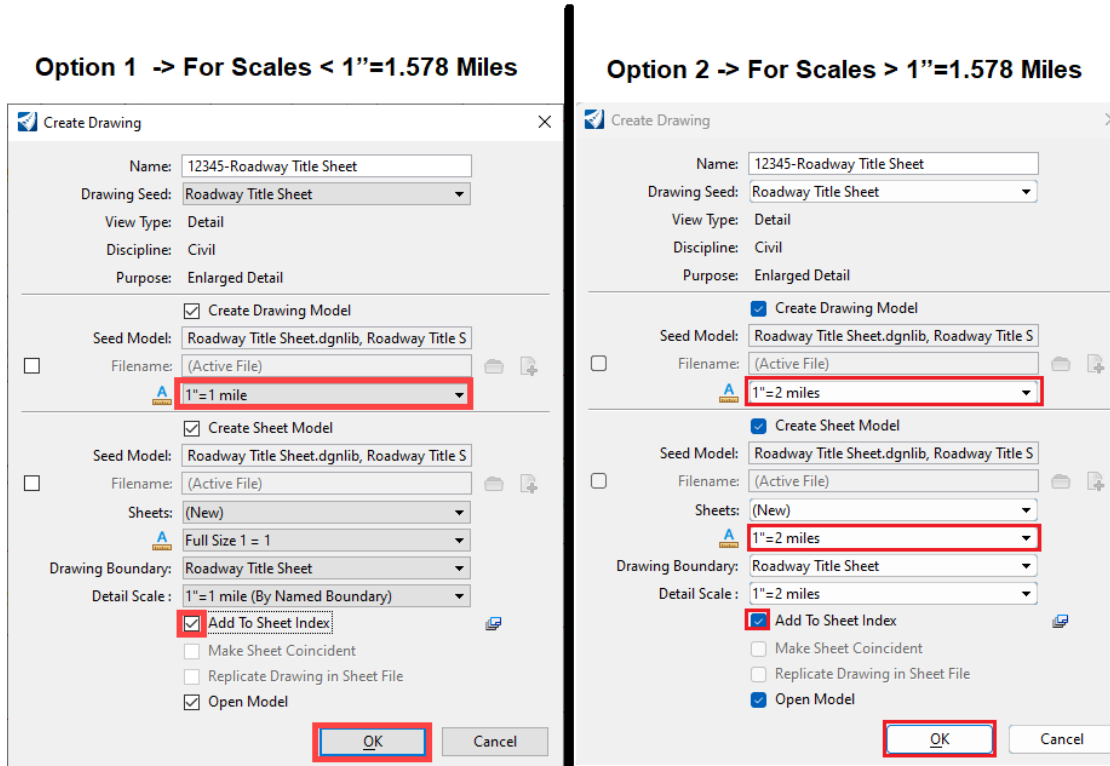
8. Place the named boundary in the desired location.



In the **Create Drawing** dialog box, set the **Drawing Model Annotation Scale** to **1" = 1 mile**.

9. Toggle on **Add To Sheet Index**, if desired.

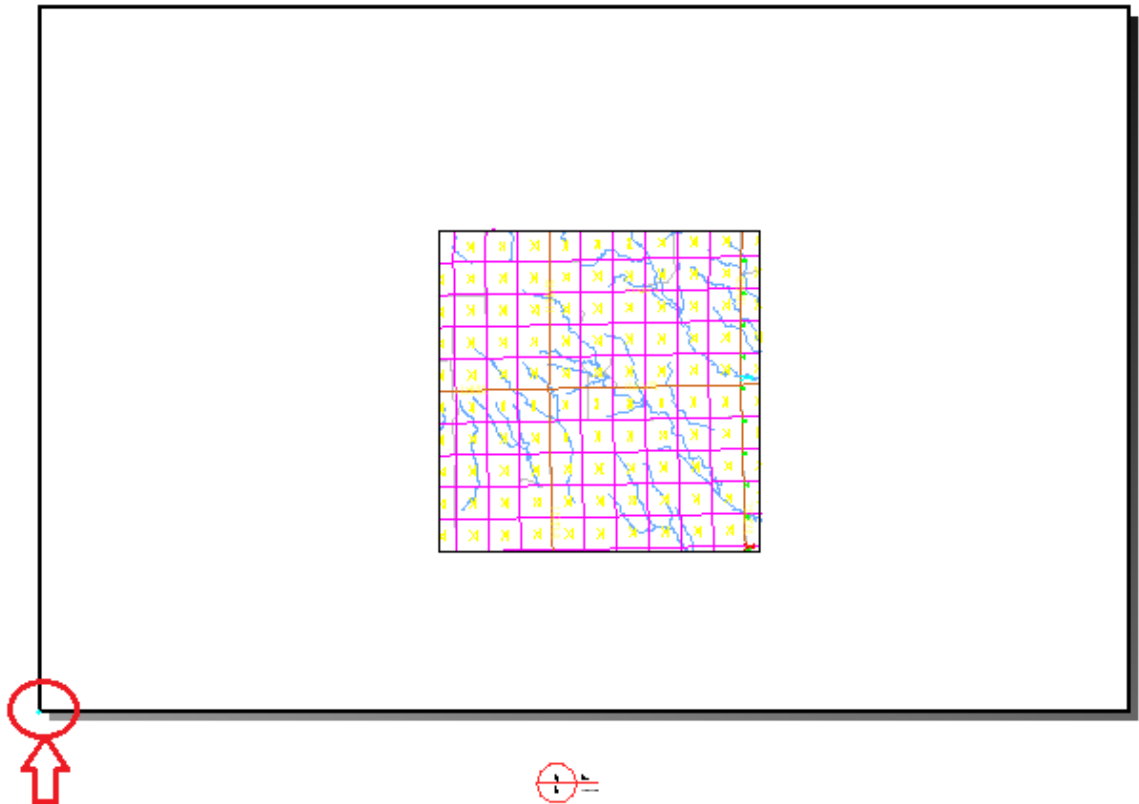
10. **Left Click** to **OK** button to create the Sheet and Drawing models. The sheet model is opened.



**NOTE:** If you use the Detail/Annotation scale of 1"=2 miles (or actually any scale greater than 1"=1.578 Miles), there is a defect in version 10.10 where the Sheet model created does not set or hold the Reference Detail Scale correctly so the vicinity data referenced to the sheet is too large.

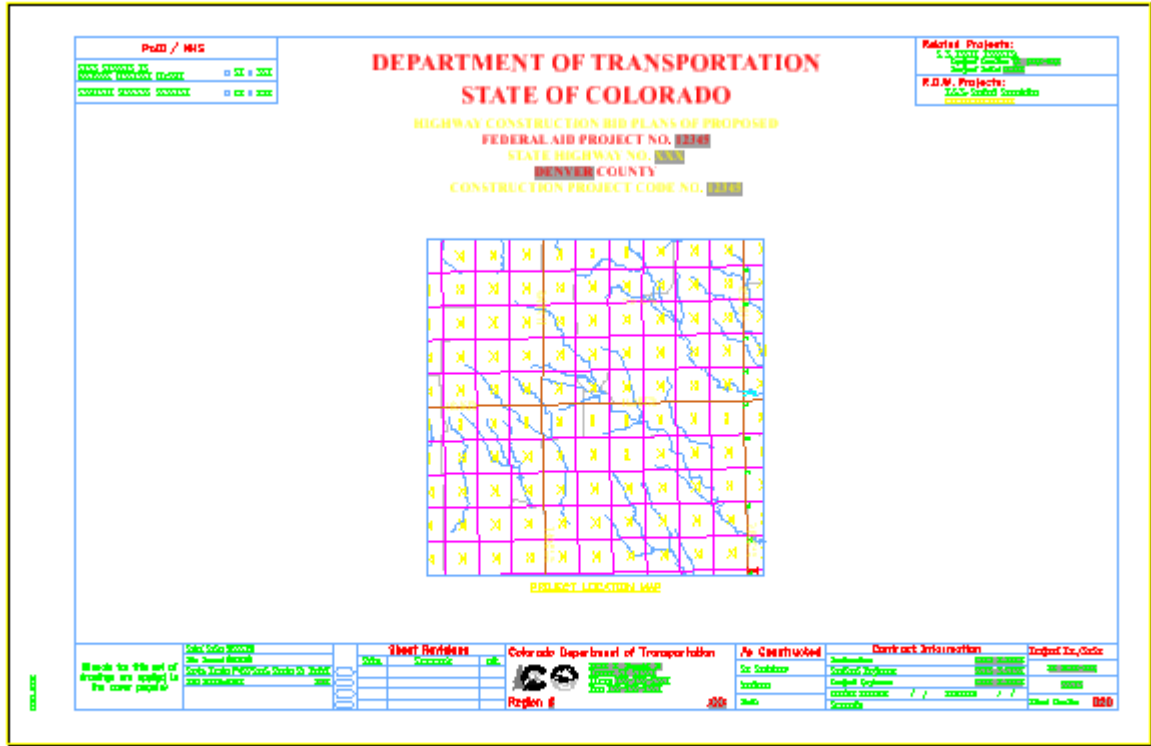
The work-a-round for this defect is to:

- a. Change the Sheet Scale on the dialog above from Full Size 1=1 (Normal setting) to the *Drawing Model Annotation Scale* used (On Option 2 in the example above, this is 1"=2 miles).
- b. When the Sheet is created, it will appear there has been no sheet border placed as shown below. The actual sheet border is just really small and located



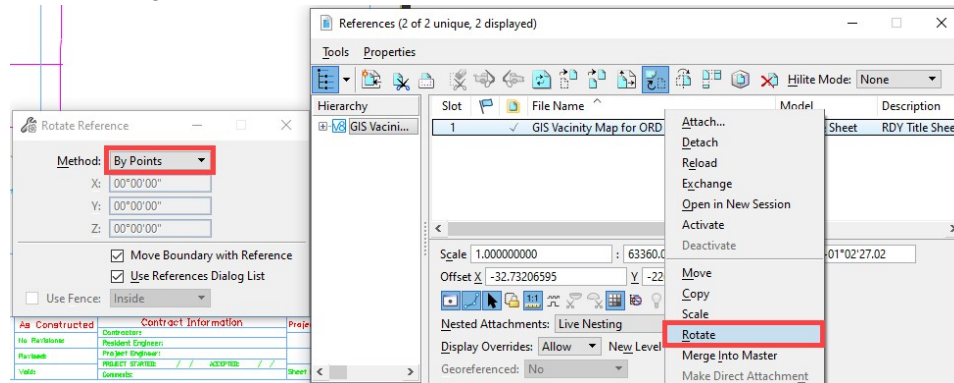
in the lower left of the Sheet Model shape as shown by the red arrow below.

- c. Zoom In to this area, select all the Sheet Border elements, choose MicroStation Scale command, set the scale method to 3 Points, and then scale the sheet border so that it fits the model shape as shown below.



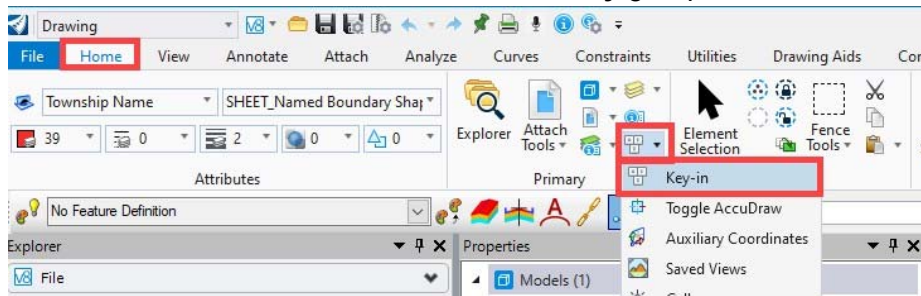
If the vicinity map is not square with the title sheet, the reference file can be rotated, moved, and re-clipped.

11. Open the **References** dialog box and **Right Click** on the reference file and select **Rotate**. Use the **By Points** option.

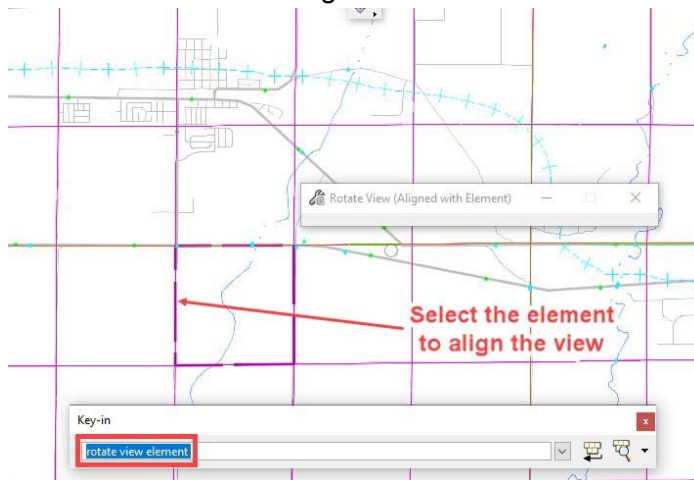


Another option is to rotate the view in the CDOT Default model before creating the Sheet Model. The steps below show how to align the view with an element in the file.

12. On the Ribbon, select the **Home** tab > **Primary** group > **More tools** > **Key-in**.

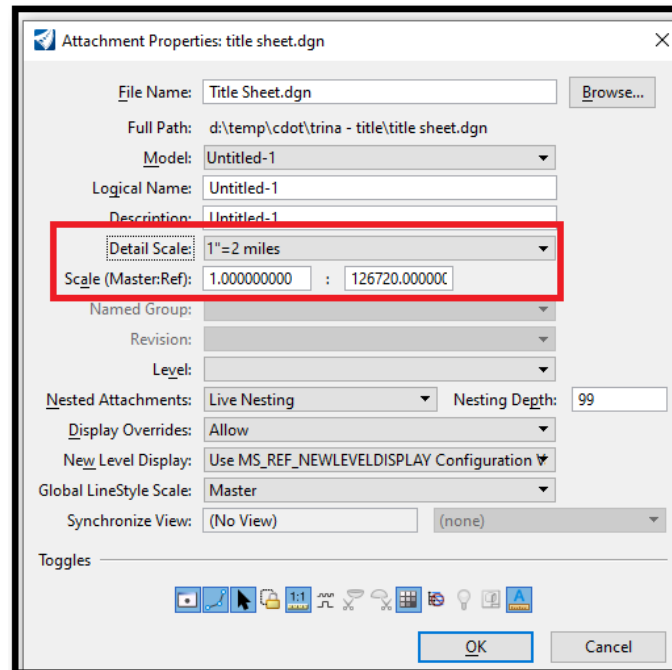


1. In the **Key-In** dialog, type **Rotate View Element** and press the **Enter** key.
2. Select the element to align the view with.



**Important!** If you use the Detail/Annotation scale greater than 1"=1.578 Miles, follow the steps below:

3. Create a New DGN file (Using a 2d Seed file).
4. Reference the Vicinity Map to this New DGN file.
5. Go through the **Creating the Title Sheet** steps 1-10 above to create the Sheet.
6. Be sure to set the **Reference Detail Scale** to your intended scale (1"=2 miles in the example below).





## Annotating The Vicinity Map

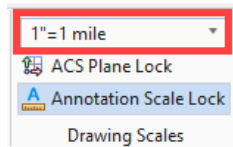
The Civil Labeler is set up to annotate all the GIS data included in the vicinity map file. Civil Labeler (and Place Label) command can lock up when labeling GIS elements that have been clipped in the drawing and sheet models. Therefore, it is recommended that annotating the vicinity map is done in the CDOT Default model. The annotation is placed using the *Civil Labeler* command.

If the referencing the GIS Vicinity Map DGN file option described above is used, it is recommended to open and perform the annotation in the GIS Vicinity Map DGN file for the ORD 10.10 version. Civil Labeler performs better in the file with the GIS data rather than having this data referenced.

1. Select the title sheet design model **CDOT Default**.

Name	Model
CDOT Default	CDOT Default
12345 - Title Sheet [Sheet] Views	12345 - Title Sheet [Sheet]
12345 - Title Sheet Views	12345 - Title Sheet
Visualization layout	CDOT Default

2. Set the **Annotation Scale** to **1"=1 mile**.



**Note:** The Civil Labeler uses Element Templates to set the symbology for labels that are placed so that the user does not have to manually set the active level in advance.

**Note:** Many of the GIS polygon data types (such as Sections and townships, county lines and engineering regions, etc.) share a common location. The Civil Labeler command does not allow a reset to pick items under another overlapping item. To make it easier to select the desired items, turn off levels not currently being labeled before applying annotation.

**Note:** If the wrong item is selected for the label, The annotation will result in either incomplete or no data is placed or the it will use the last label data placed.



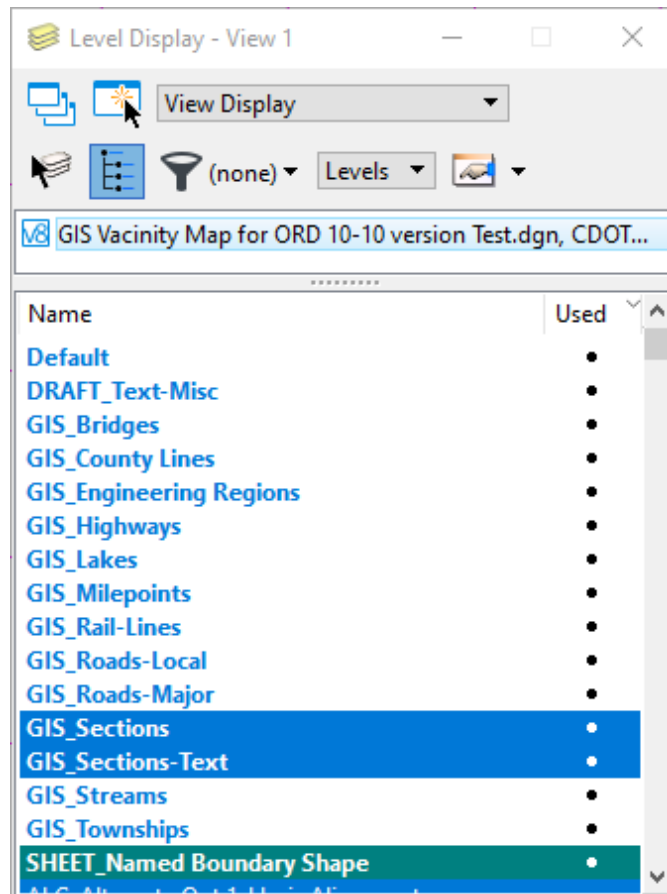
## Annotating A Group Of Elements

The example below uses the Civil Labeler to place section numbers in several sections at one time.

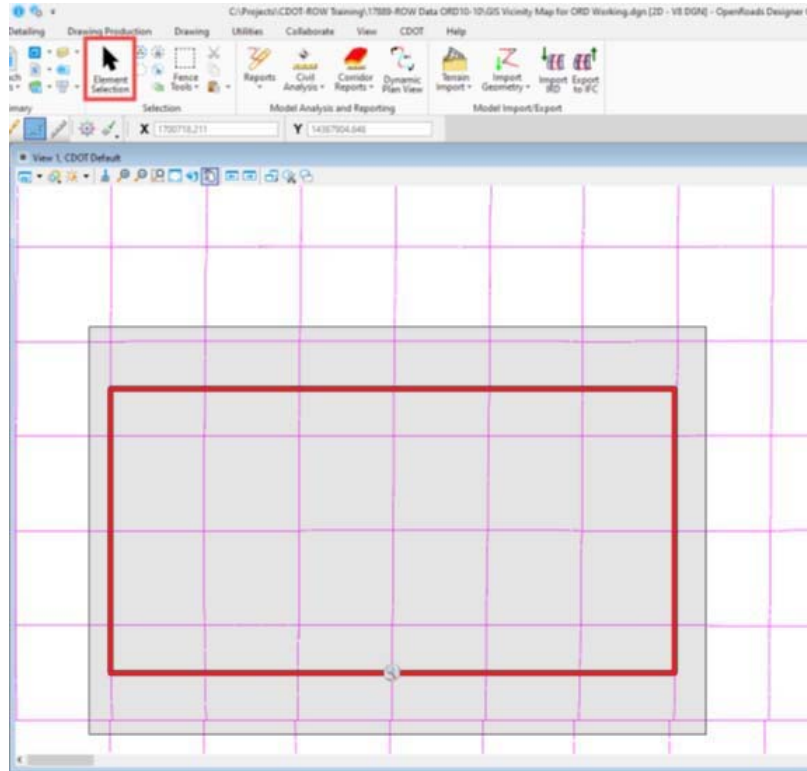
1. On the Ribbon, select **Drawing** tab > **Primary** group > **Level Display**. This displays the **Level Display** dialog box.



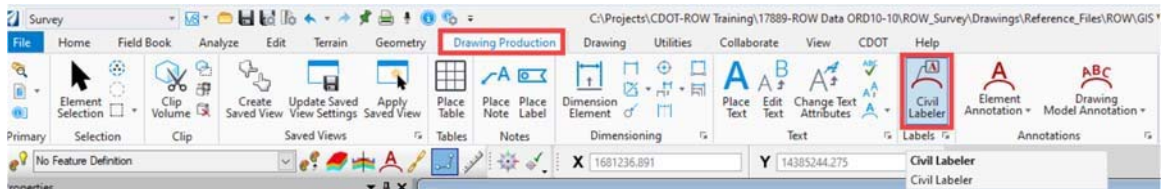
2. Turn off all levels.
3. Turn on the levels **GIS\_Sections**, **GIS\_Sections-Text**, and **SHEET\_Named Boundary Shape**



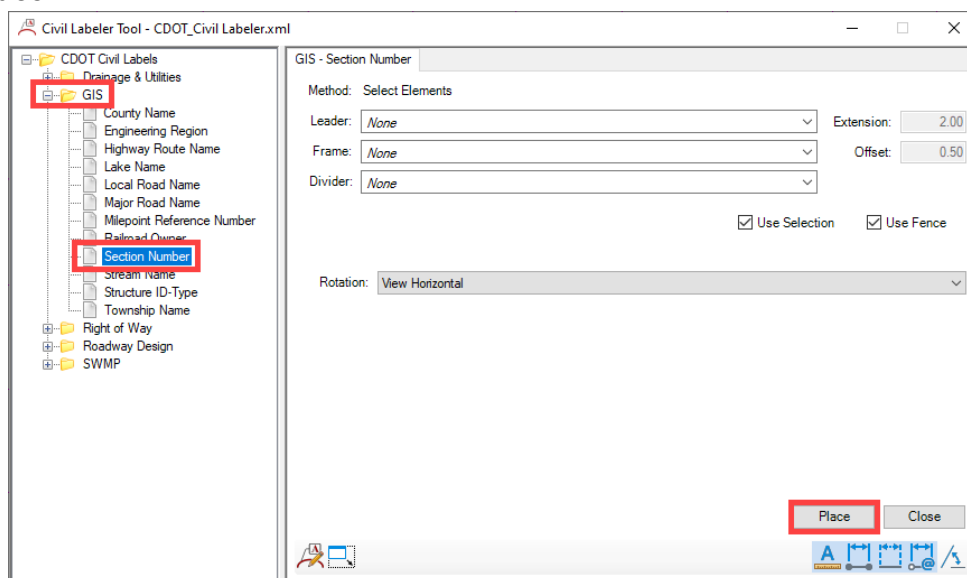
- Using the **Element Selector** tool, select all of the sections within the project area.



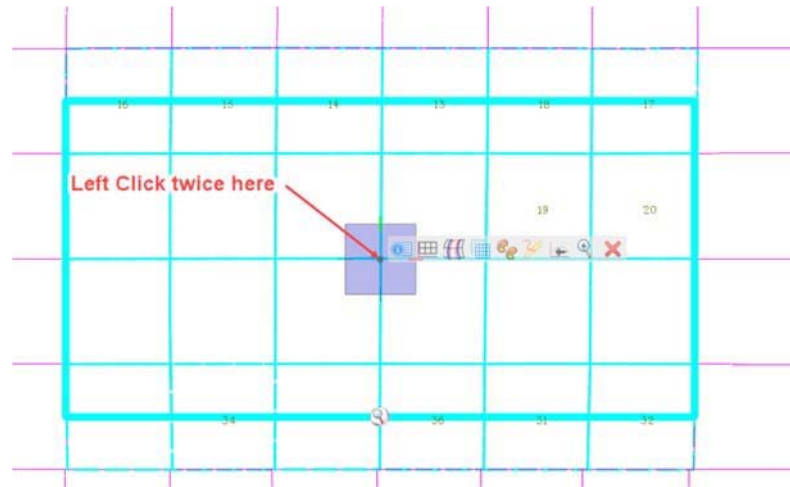
- Using the **OpenRoads Modeling** workflow > **Drawing Production** tab, select the **Civil Labeler** command.



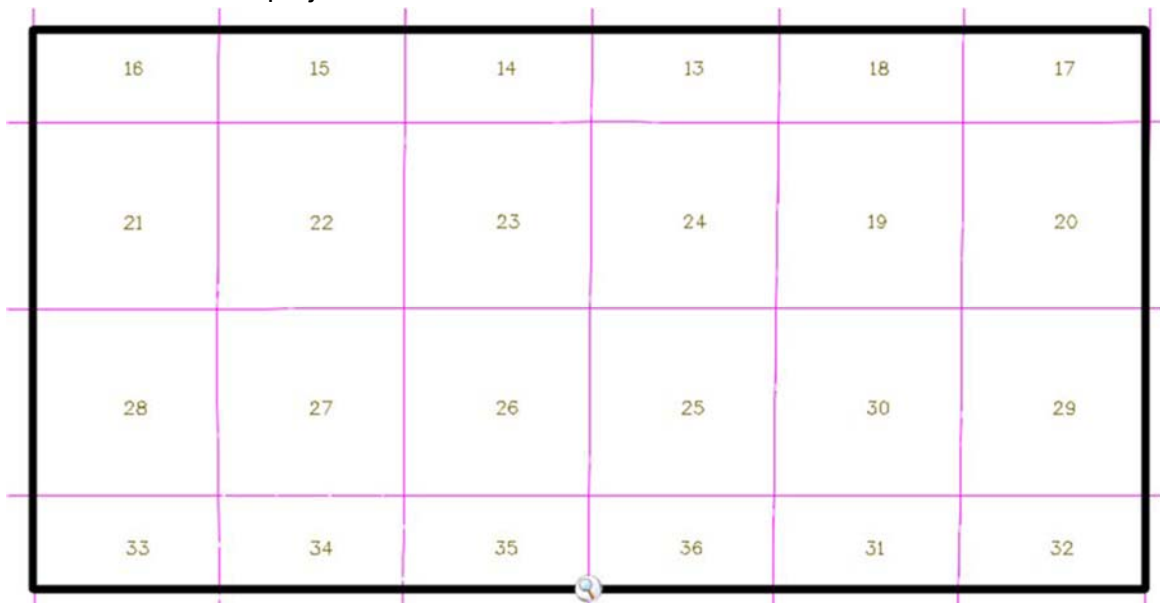
- In the **Civil Labeler** dialog box, **Highlight** the **Section Number** option then **Left Click** the **Place** button.



7. Move the cursor to the center of the project area and **Left Click twice**. This places the section numbers in the center of each section. Select the Element Selector to exit the command.



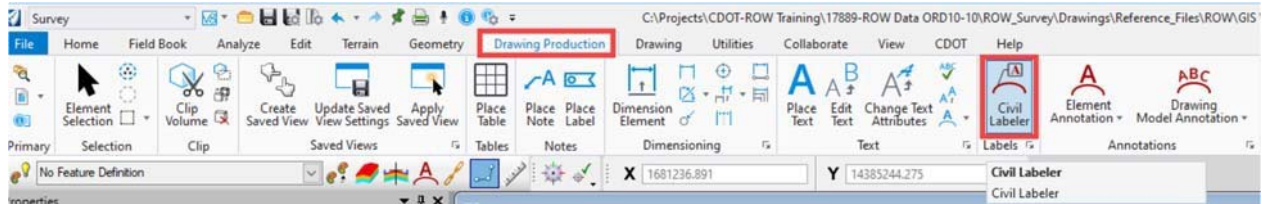
8. Use the **Drawing** tab > **Manipulate** group > **Move** command to move section numbers that are outside the project area inside.



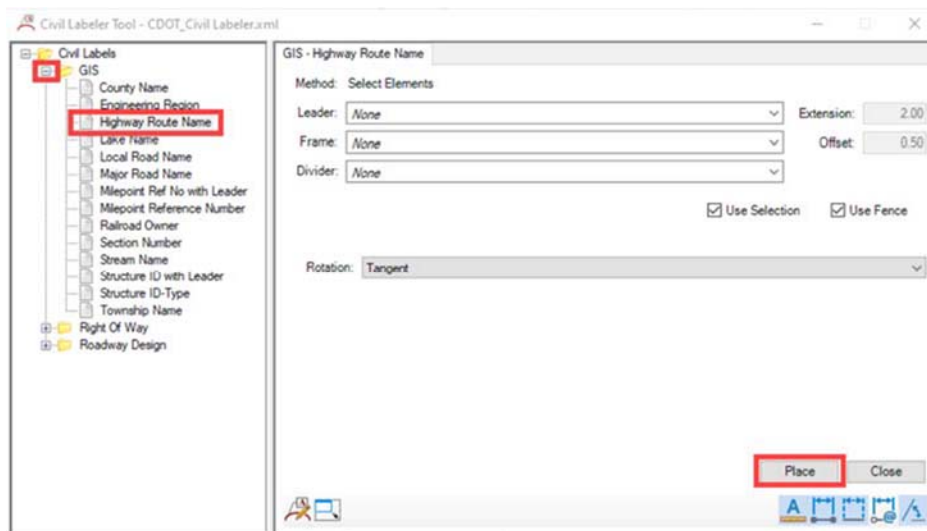
## Annotating Linear GIS Data

In this example, highways will be labeled. Labels for highways, major roads, minor roads, railroads, and streams are placed parallel to the line segment selected.

1. In **the Level Display** dialog box, turn on the levels **GIS\_Highways** and **GIS\_Highways-Text**. The GIS\_Highways-Text level is not currently used so it is further down the list.
2. On the **Ribbon**, select **Drawing Production** tab > **Labels** group > **Civil Labeler**. This displays the **Civil Labeler** dialog box.



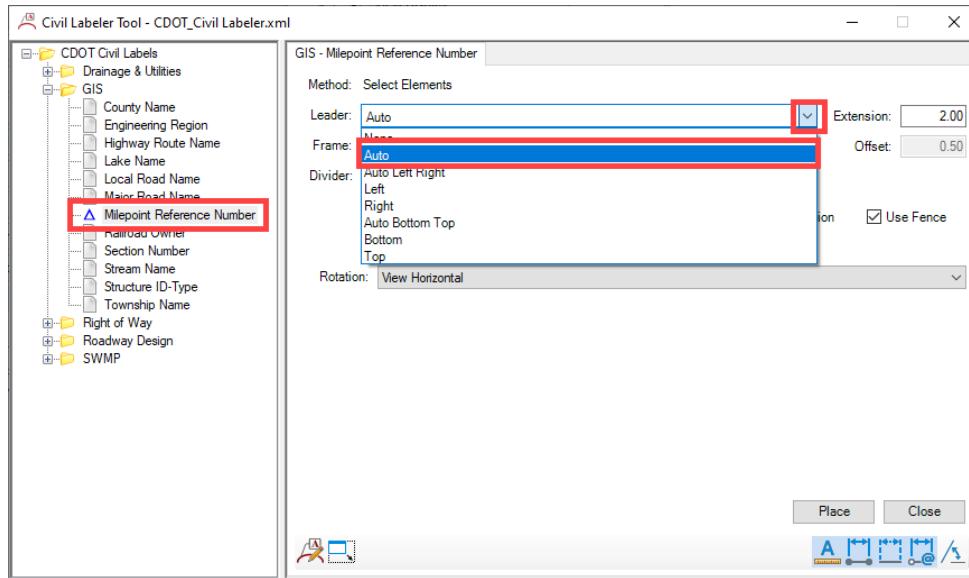
3. In the **Civil Labeler** dialog box, expand the folders to **Civil Labels > GIS**.
4. Highlight the **Highway Route Name** option then **Left Click** the **Place** button.



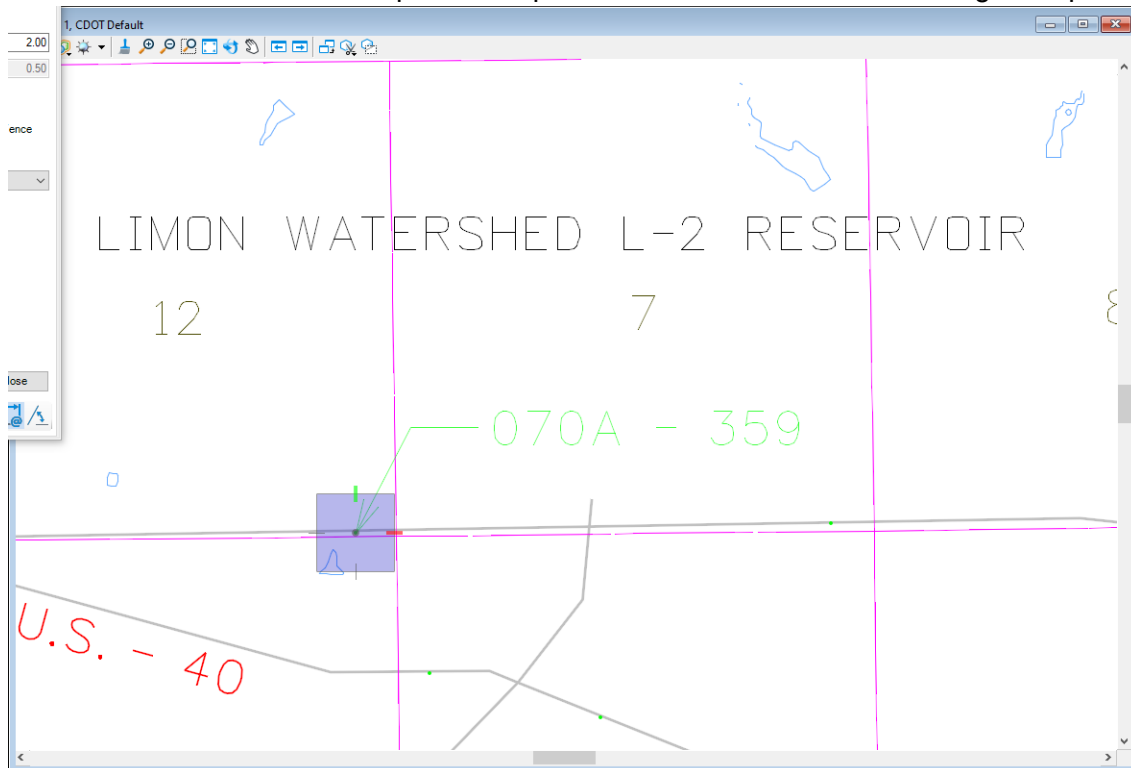
## Changing Label Settings

In this example, a milepoint is labeled with an added leader. This can be applied to any GIS data type. This includes adding dividers and frames and rotating the label.

1. Turn on the levels **GIS\_Milepoints** and **GIS\_Milepoints-Text**.
2. In the **Civil Labeler** dialog box, expand the folders to **Civil Labels > GIS**.
3. Highlight the **Milepoint Reference Number** option.
4. **Left Click** on the **Leader** dropdown menu and select **Auto**.



5. **Left Click** on the desired milepoint then position the label and **Left Click** again to place.



The table below shows the GIS levels and corresponding Civil Labeler item.

<b>GIS Data Level</b>	<b>Civil Labeler Item (in the GIS folder)</b>
GIS_Bridges	Structure ID-Type
GIS_County Lines	County Name
GIS_Engineering Regions	Engineering Region Name
GIS_Highways	Highway Route Name
GIS_Lakes	Lake Name
GIS_Milepoints	Milepoint Reference Number
GIS_Roads-Local	Local Rds Name
GIS_Roads-Major	Major Rd Name
GIS_Sections	Section Number
GIS_Streams	Stream Name
GIS_Townships	Townships Name