



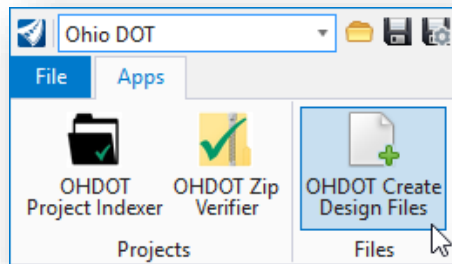
OpenRoads Survey Right-of-Way and Parcels

Right-of-Way and Parcel Design Files

For ODOT projects, Right-of-Way and Parcel data is typically stored in a basemap (BR) design file. These files are stored in the **400-Engineering\RW\Basemaps** folder.

Read and **Write Permissions** to this folder include Ohio DOT Survey and Ohio DOT Design.

Right-of-Way design files are created using the **OHDOT Create Design Files** application. The application is accessed from the **Ohio DOT** workflow by selecting the **OHDOT Create Design Files** icon.



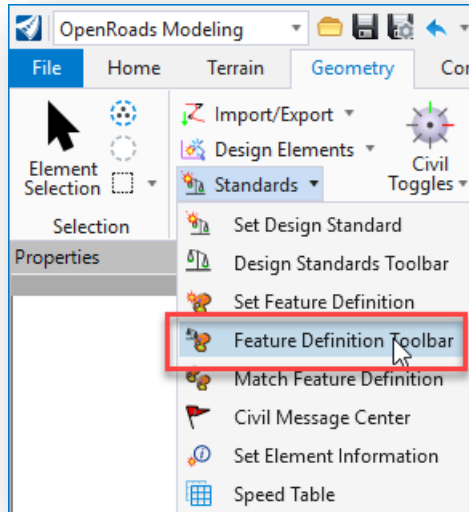
The create design files application has been enhanced to utilize multiple filter fields to find the basemap or sheet files you are looking to create.

For the Right-of-Way basemap (BR) design file we can utilize a **Right-of-Way** and a **Basemap Filter** to narrow down our file types within the application.



Feature Definitions for Parcels

The Feature Definition Toolbar allows you to control how you want each feature definition to be displayed.



The following parcel types are currently defined:

- P_Easement_Area
- P_Taking_Area
- X_Easement_Area
- X_Occupied_Area
- X_Parent_Track

In addition to how the element is displayed (line style, weight, etc.), the feature definition defines how the element will be annotated using the drawing production tools and how it will appear in other contexts such as the profile, cross sections, etc.

Features are defined in MicroStation DGN Libraries (.dgnlib). The OHDOT Configuration defines which feature libraries are available for ODOT use. The libraries can be reviewed using the OpenRoads Standards tab of the Project Explorer dialog



ORD Parcel and Right-of-Way Exercise

This lab exercise will demonstrate the basic workflow for creating, translating, and rotating parcel and right-of-way alignments in OpenRoads Designer utilizing the OHDOT standards inside of ProjectWise.

Overview

- Opening project with ProjectWise
- Open the DesignSeed2d file from ProjectWise
 - Create 1 Field Book (FB) and 1 Right-of-Way (BR) design file
- Importing field data into the Field Book file (FB)
- Reference in a Field Book file (FB) into Right-of-Way file (BR)
- Import parent tract into Right-of-Way file (BR)
- Create a Parcel using Geometry Builder
- Translate a Parcel to field data imported into Field Book file (FB)
- Rotating Parcel
- Creating Right-of-Way alignment using Geometry Builder
- Translating Right-of-Way alignment to field data imported into Field Book file (FB)
- Rotation of Right-of-Way alignment
- Creating a vertical profile for the Right-of-Way using a terrain model

Files Needed

This exercise will need 1 Field Book (FB) and 1 Right-of-Way (BR) file.



Exercise 1: Creating Design Files

For this exercise we will need to generate 1 Right-of-Way basemap design file (BR) file using the seed files for the project.

ODOT projects that have been created outside of the ProjectWise environment using the OHDOT template contain the file **400-Engineering\Startup.dgn**. This file is used as the launching point for opening ORD to create new DGN files for the WorkSet. The Startup.dgn file can be ignored once the initial design files for the project are created.

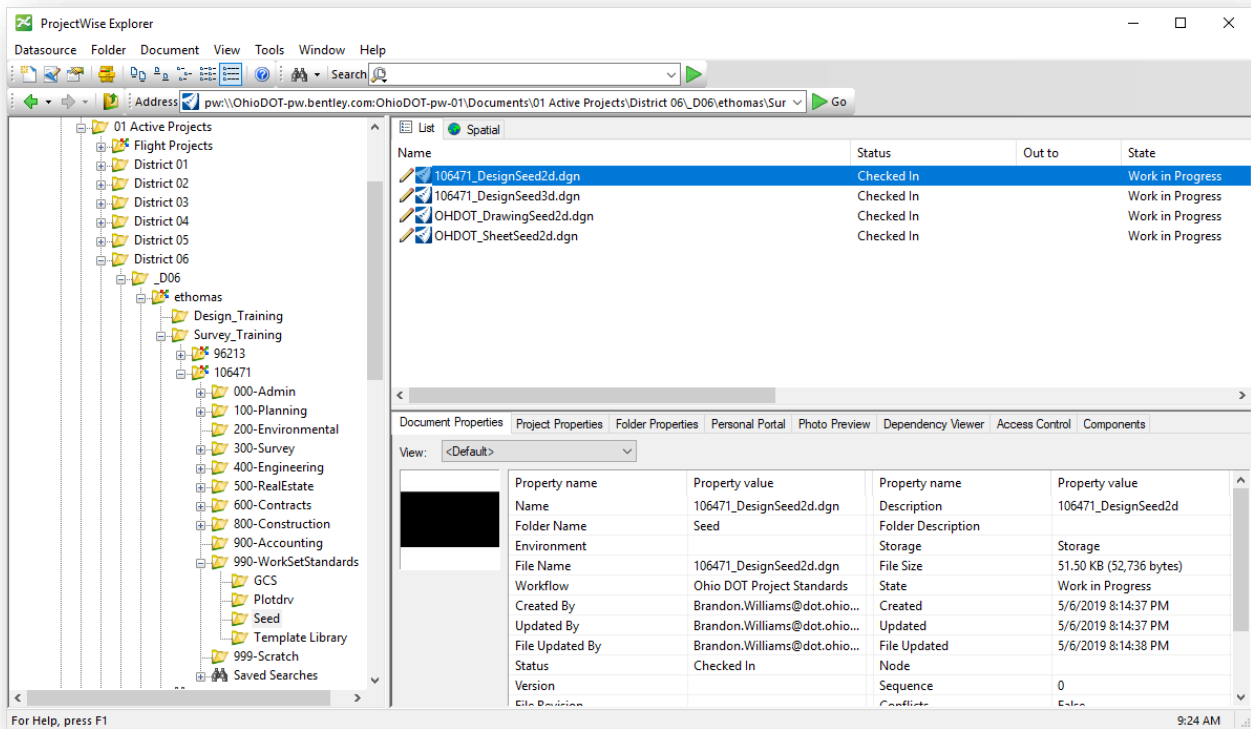
Inside the ProjectWise environment, the Startup DGN file is not used. One of the seed files is used as the initial launching point to create new design files for the WorkSet.

Take the following steps to open **106471_DesignSeed2d.dgn** and create a new FB design file for the project.

- Open ProjectWise Explorer

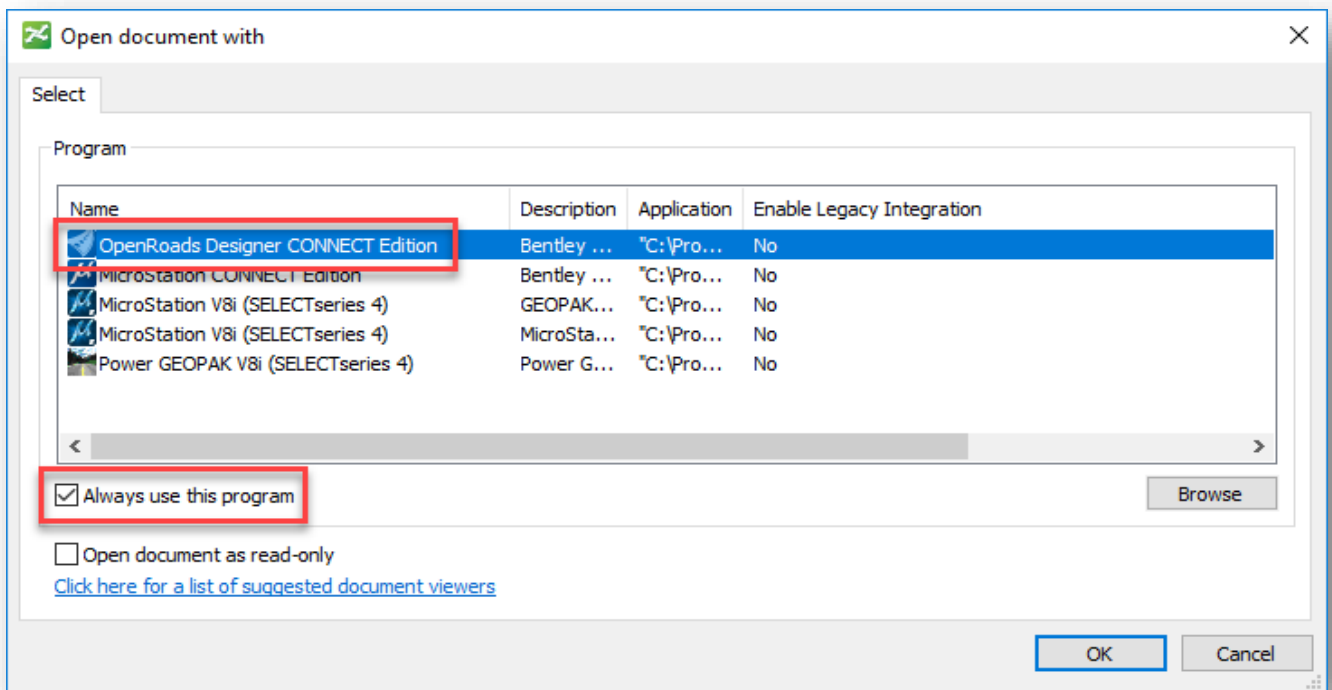


- Browse to the folder shown below, using your home District and your user name.
 - `..\106471\990-WorkSetStandards\Seed\`

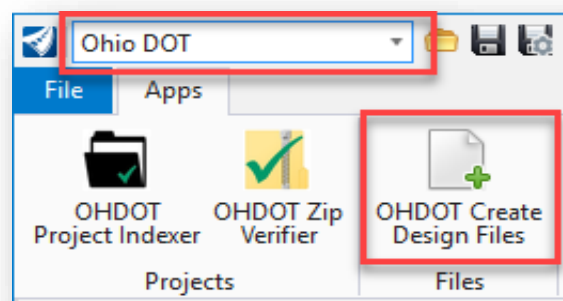




- Right-Click on the file **106471_DesignSeed2d.dgn** and choose the **Open With...** option to open the file with OpenRoads Designer CONNECT Edition. Toggle the **Always use the program** option **ON**

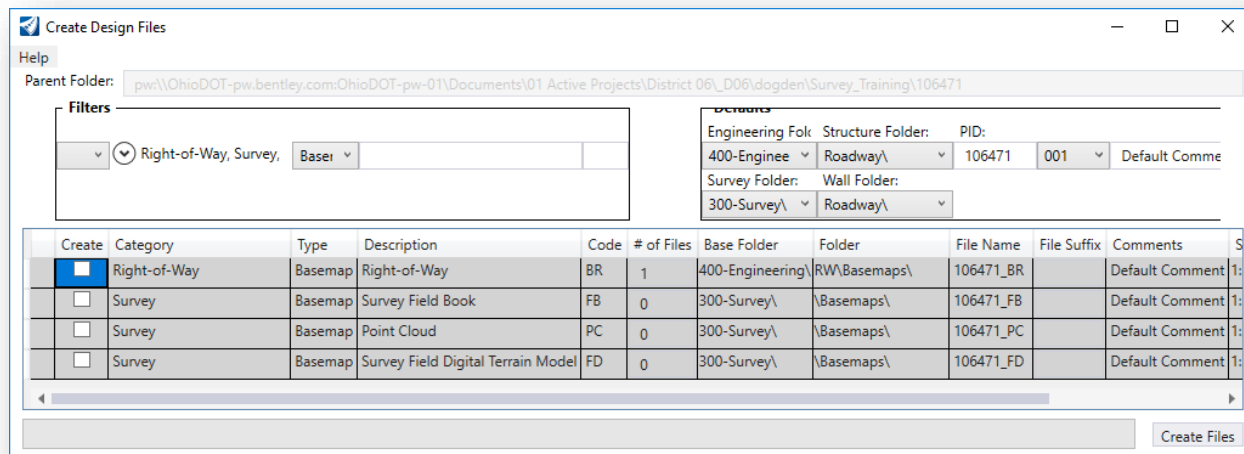


- Select **OK** to open the file.
- Select the **Ohio DOT** workflow from the top left of the ORD interface.
- From the **Apps** tab, select the **OHDOT Create Design Files** icon





- The application dialog will appear as shown below:



The **Create Design Files** app allows for multiple filters to be active allowing the user to narrow down the search results

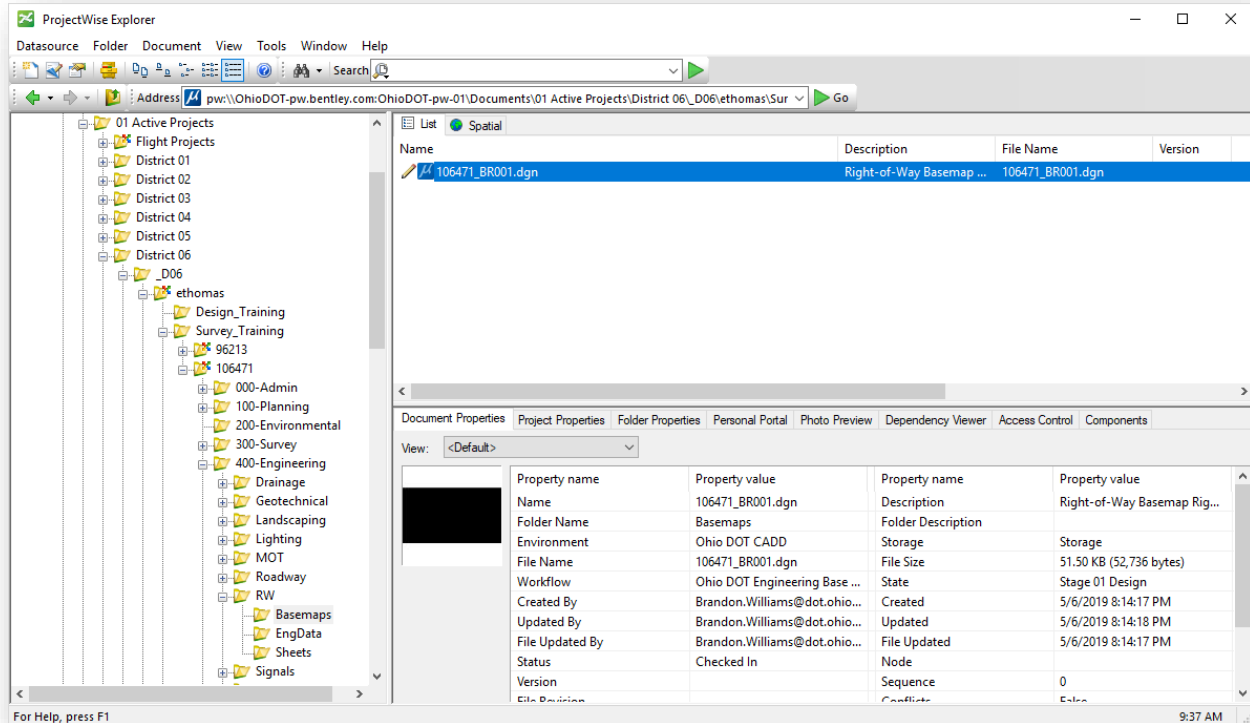
- In this example we can use the **Right-of-Way** and **Survey** Filters under the Category and the **Basemap** filter under Type.
- Select the create box for the BR and FB files.
- Fill in the comments section accordingly for each centerline and Field Book
 - 106471_BR001.dgn
 - 106471_FB001.dgn
- Click the **Create Files** button in the lower right-hand corner.
- After creating the Field Book (FB) and Right-of-Way design files, close and check in the 106471_DesignSeed2d.dgn file



Exercise 2: Referencing FB File into BR File

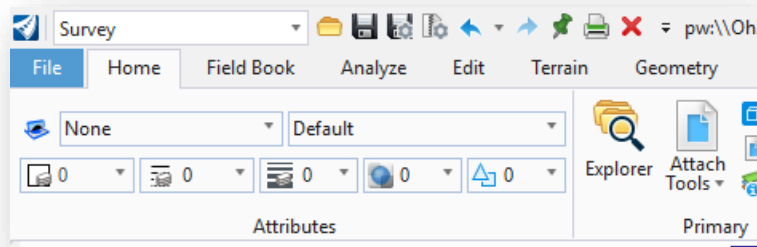
The purpose of this exercise is to show how to reference in one file into another. First step is to open the **106471_BR001.dgn** file, which is located in the **106471\400-Engineering\RW\Basemaps** folder.

Make sure this file is opened with **OpenRoads Designer**.

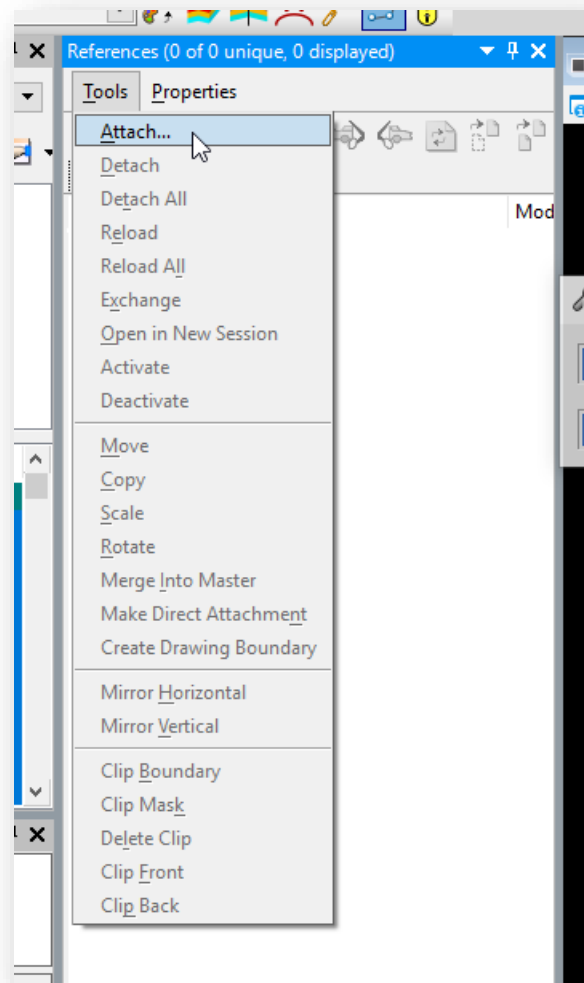


Once the BR file is opened the first step is to reference in the **106471_FB001.dgn** file. To do this the **Survey** workflow (or any other workflow) needs to be selected, **Home** tab opened, and select the **Attach Tools** tool.

- Survey > Home > Attach Tools

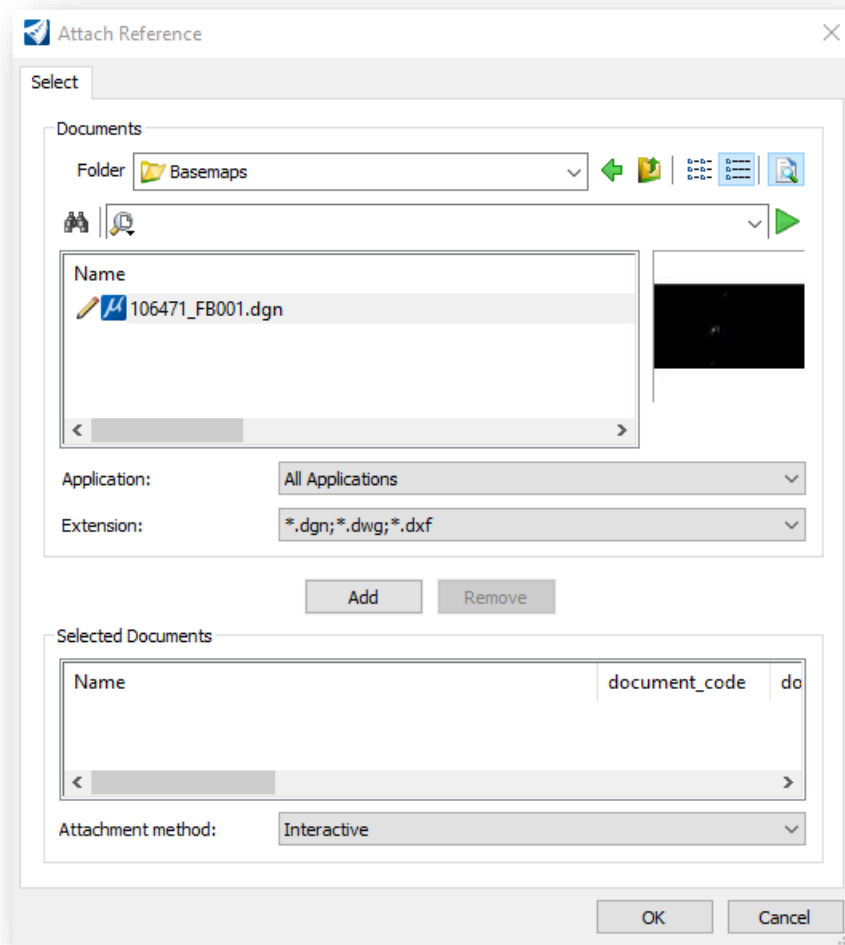


Inside the **Attach Tools** select **References**. Once the references tab is displayed select **Tools > Attach**.



The file that will need to be attached is the **106471_FB001.dgn** file. This FB file is located in the following folder:

..\106471\300-Survey\Basemaps



Select **OK** with a nesting depth of **1**. Select the fit view button to make sure the document was attached.

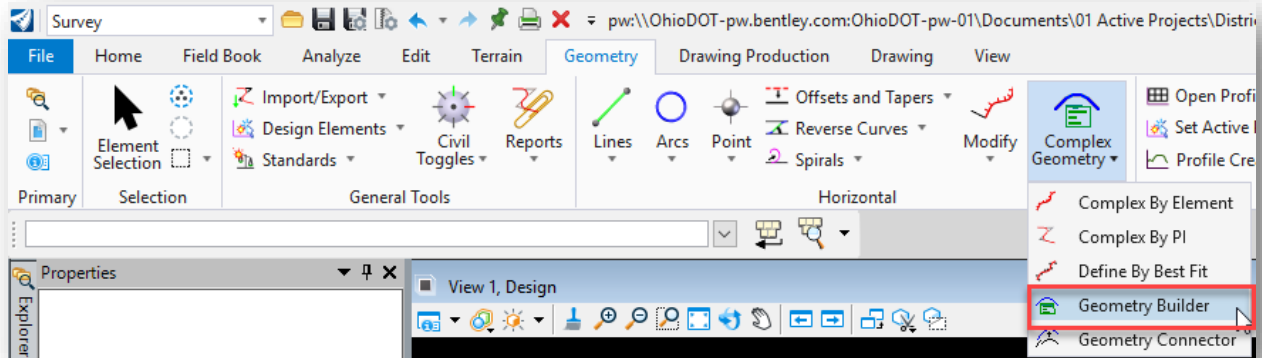


Exercise 3: Creating A Parcel Using Geometry Builder Tool

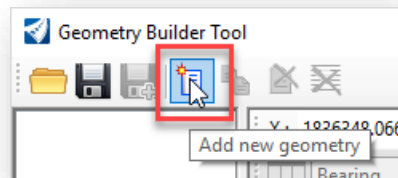
There are multiple ways to create a parcel in ORD. In this exercise though we will create a parcel using the **Geometry Builder** tool.

- Open the **106471_BR001.dgn** file. (This file is located ..\106471\400-Engineering\RW\Basemaps\)

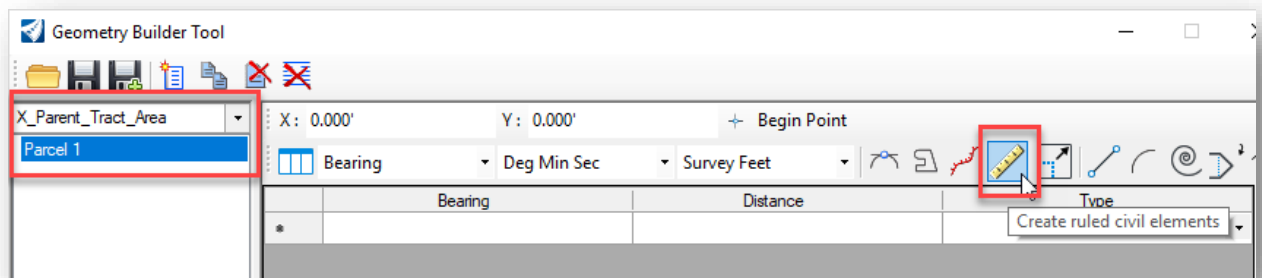
The **Geometry Builder** tool is in **Survey > Horizontal Geometry Tab > Complex Geometry** as shown below.



- Once the **Geometry Builder Tool** is open select the **Add New Geometry** icon.



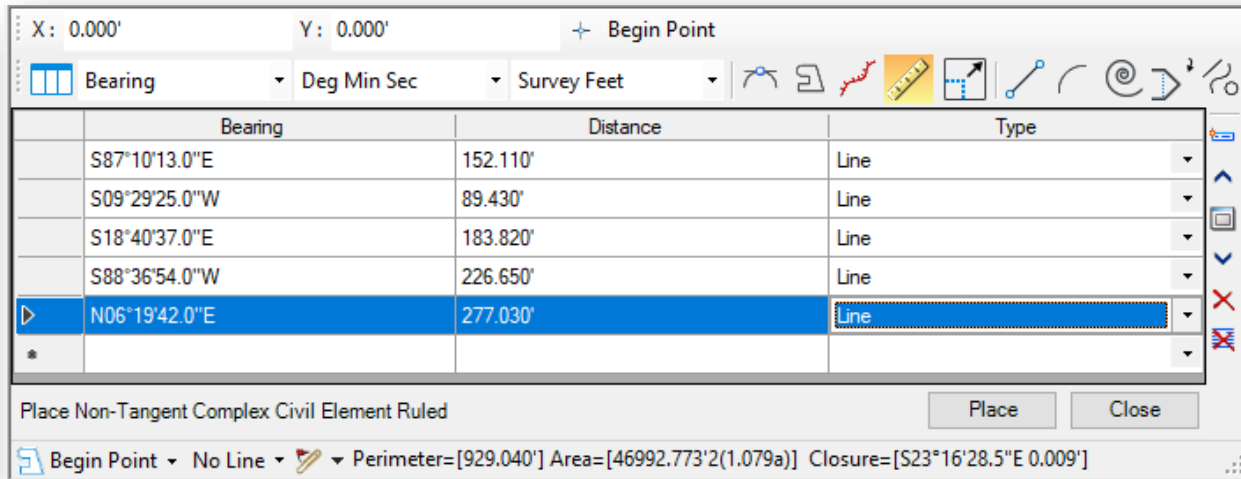
- Enter the **Name** and select a **Feature Definition** for the new geometry. For this exercise the name is **Parcel 1** and the feature definition is **Linear > Parcel Areas > X_Parent_Tract_Area**.
- Toggle on the **Create ruled civil elements** icon





The next step is to input the data needed to create the geometry for the parcel.

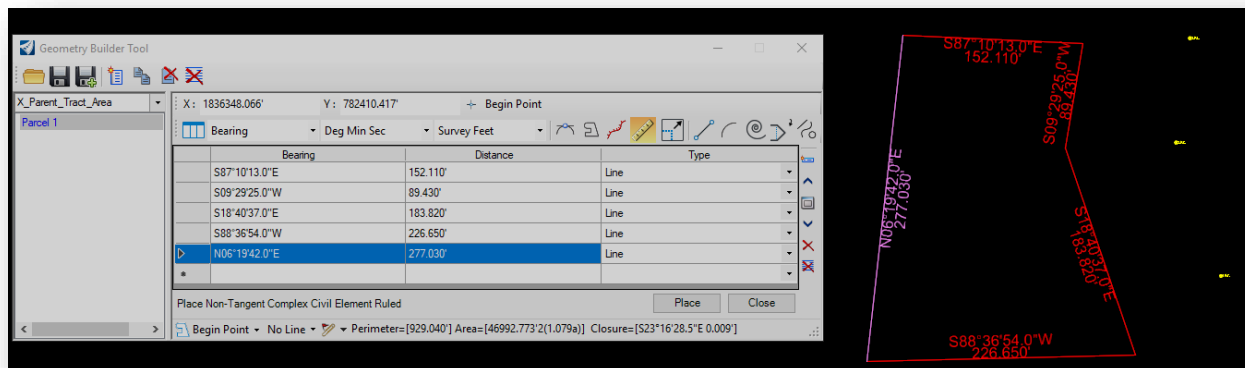
- Enter the geometry using the values below



Note: On the bottom of the geometry builder tool is information about the parcel such as the perimeter, area, and closure of the shape.

The **Begin Point** tool at the top of the dialog is used to define the starting point for the geometry. The values can be keyed-in using a known coordinate value or selected graphically by selecting the **Begin Point** icon.

- Select the **Begin Point icon**. Choose a location in the design file close to point SV110 as shown below. The graphics are shown with the bearings and distances as shown below. These graphics are temporary and will not be written to the file until the **Place** command is selected.

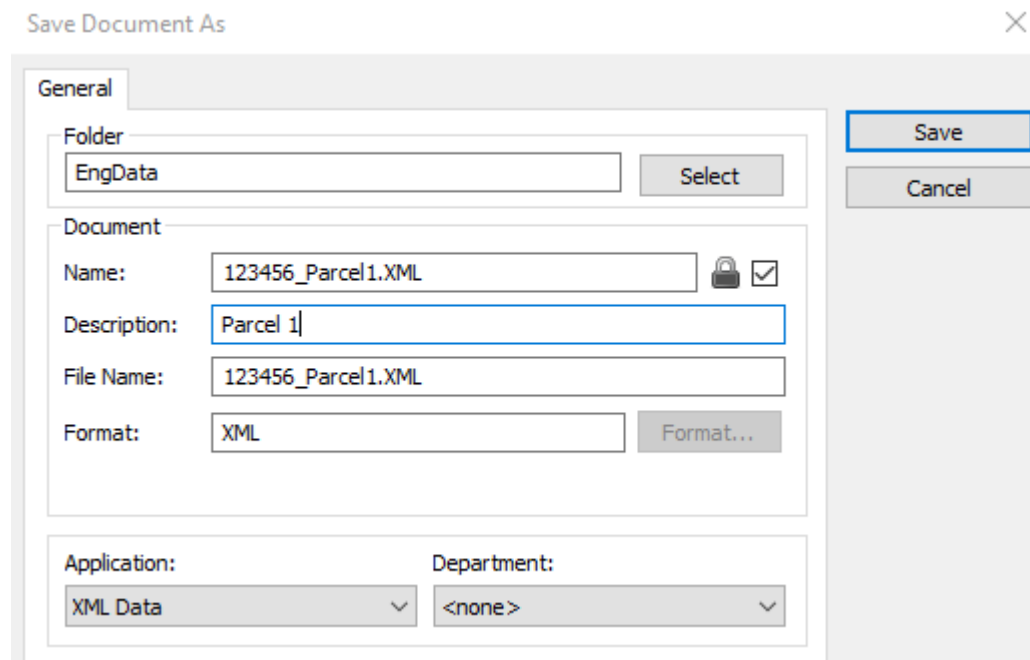


- Select the **Place** command to place the geometry in the design file. The geometry is placed at the location defined by the **Begin Point** value.



After the geometry has been defined, it is good practice to save an XML file with the geometry data.

- Choose the **Save** icon at the top left of the **Geometry Builder** dialog.
- Either choose No Wizard or Advanced Wizard (helps with naming)



- Save the file into the **300-Survey\SurveyData \Reports** folder.
- Close the Geometry Builder dialog when complete.



Exercise 4: Translating Parcels

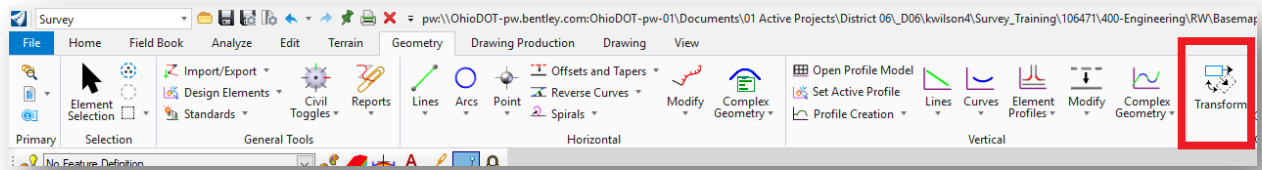
For this exercise the Transform tool will be utilized to translate a parcel from one point to the next. In this exercise we will be using the **106471_BR001.dgn** that was created in the previous exercise.

First open the **106471_BR001.dgn**.

- The location of this file is 106471\400-Engineering\RW\Basemaps\

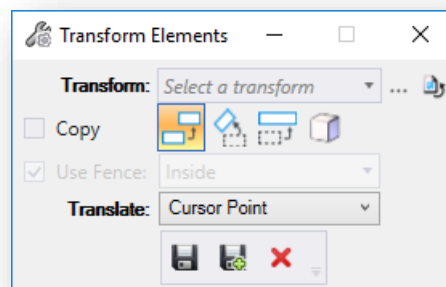
Next open the **Transform Tool**, which is located:

- Survey workflow > Geometry Tab > Transform Tool

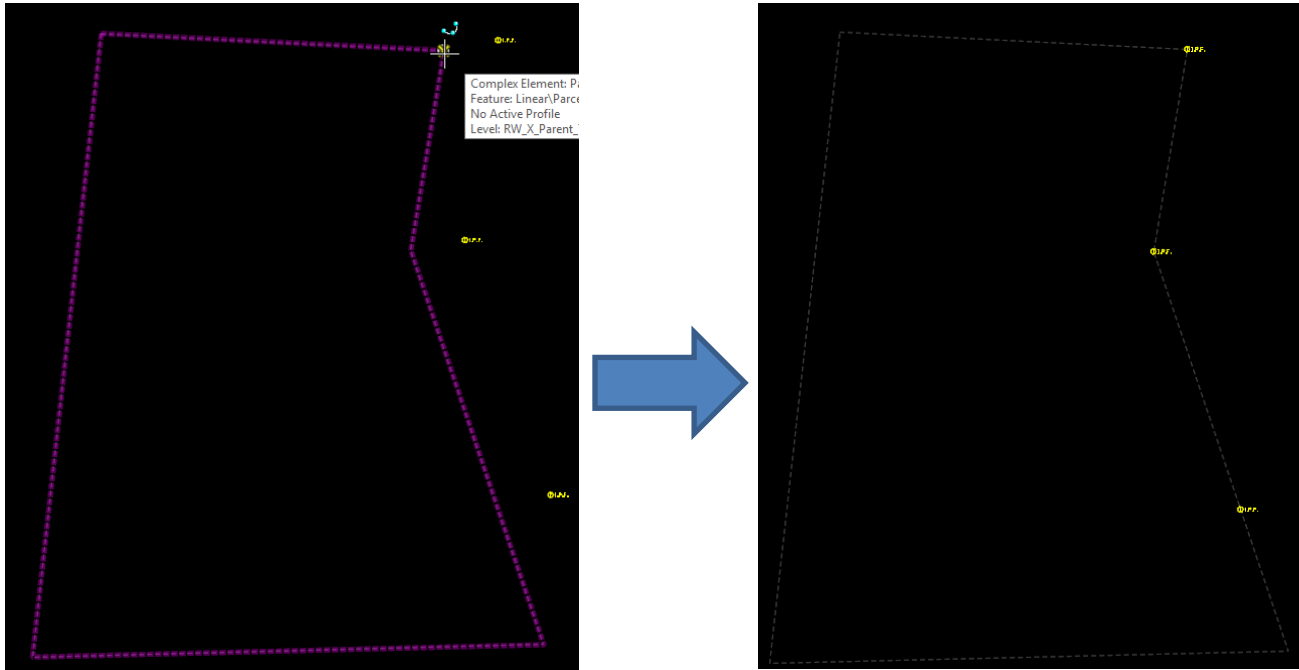


Once the transform tool is selected this icon will pop up. Make sure the translate element icon is the only one selected.

- Make sure the **Translate:** is selected as **Cursor Point**



The next step is to select which point you want to translate the shape by. In this exercise we will select the top right point as shown in the figure. Next select the iron pin found just to the right of the parcel and click it. This will translate the entire parcel to that point.



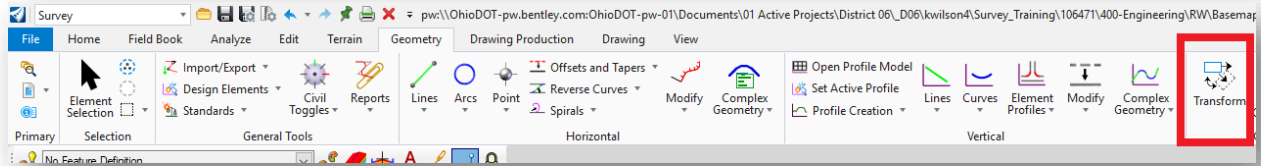
This is what it should look like after the translation is done.



Exercise 5: Rotating Parcels

This exercise will explain how to rotate an element to known points. The rotation tool is in the same location as the translation tool.

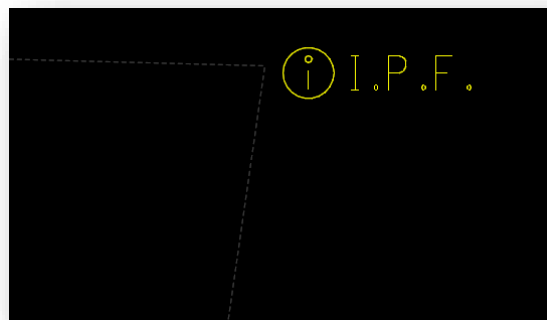
- Survey workflow > Geometry Tab > Transform Tool



To complete this exercise the **106471_BR001.dgn** from the previous exercises needs to be opened.

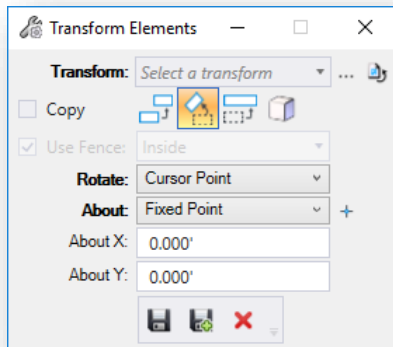
- The location of this file is 106471\400-Engineering\RW\Basemaps\

The rotation tool will be used for rotating the parcel to the known points that were shot in the field. The below photograph shows that the corner of the parcel is a couple feet away from the iron pin found. To fix this the rotation tool needs to be used.





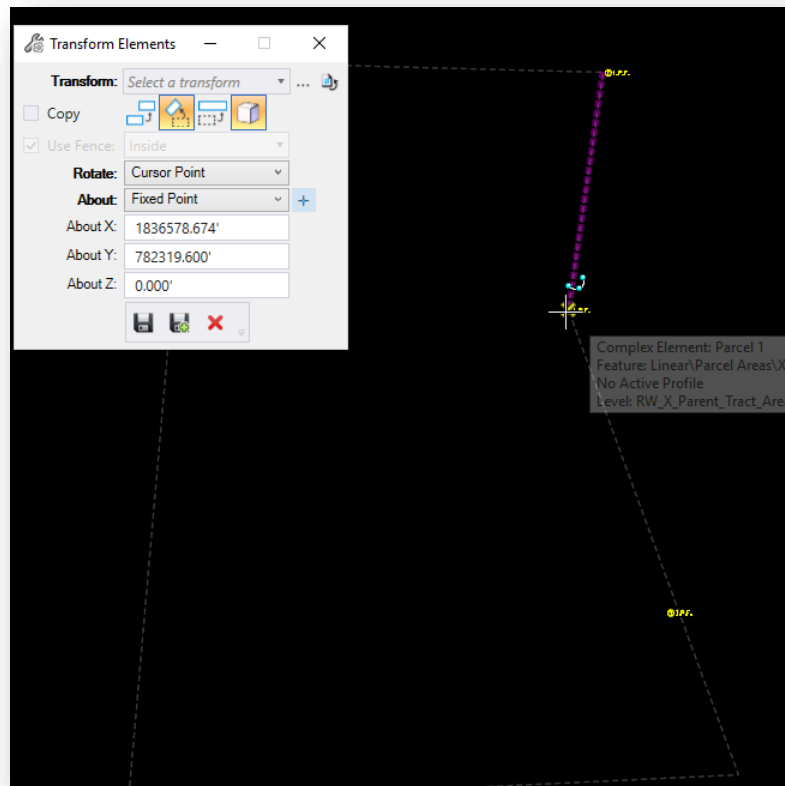
Once the transform tool is opened, the second icon needs to be selected. Make sure the translate tool is clicked off.



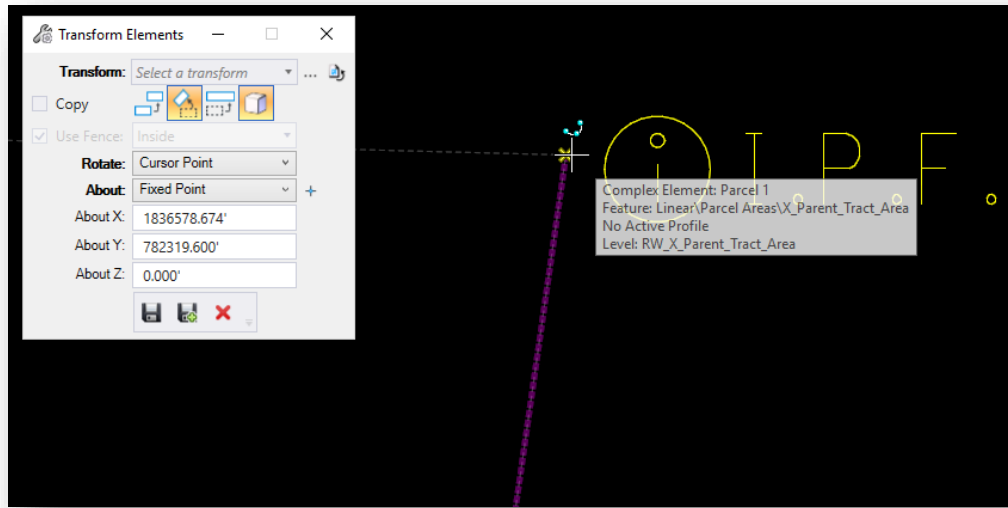
- **Rotate** = Cursor Point
- **About** = Fixed Point

After those have been chosen, the icon next to the **About** needs to be selected. This allows a point to be chosen to be rotated about. This tool needs to be selected first.

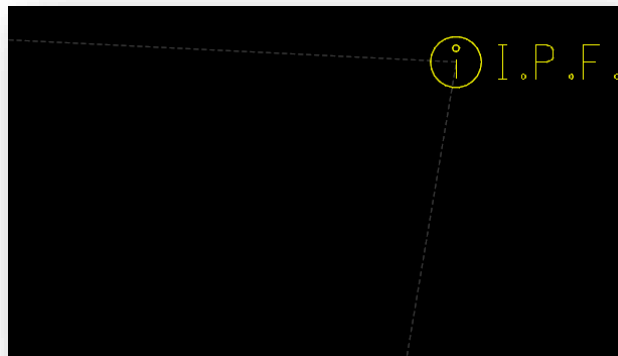
The next step is to select the point that needs to be rotated about. For this exercise the middle iron pin found needs to be selected like the picture below.



After this point is selected the entire parcel will be rotating around that point. So, the next step is to select the cursor point to rotate. For this exercise the top point will be chosen.



Once the top right corner of the parcel is selected it will allow parcel to be rotated so the corner will be on the I.P.F. This is what it will look like when completed.





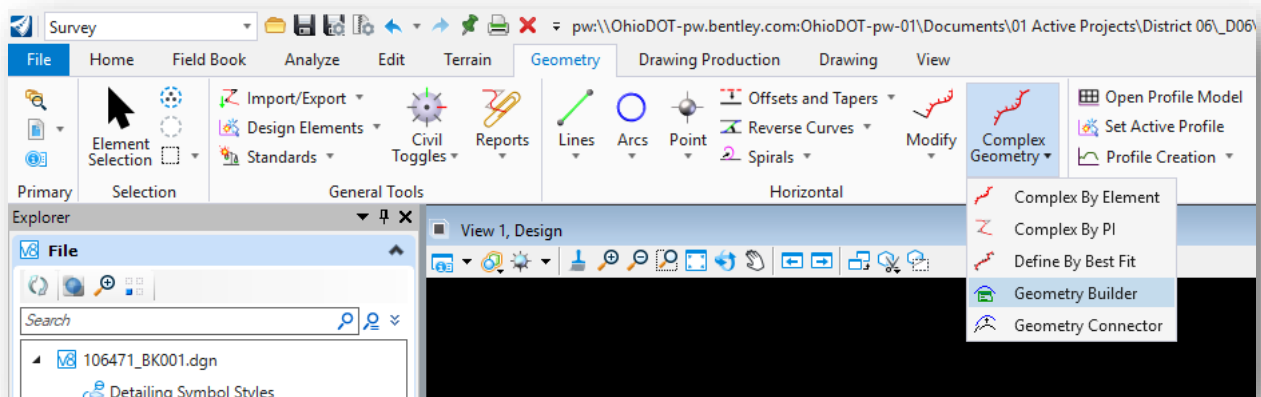
Exercise 6: Importing a Parcel into OpenRoads Designer

This exercise will demonstrate how to import a parcel that was exported into an XML format. This functionality will be helpful for reoccurring or adjoining projects and posterity reasons.

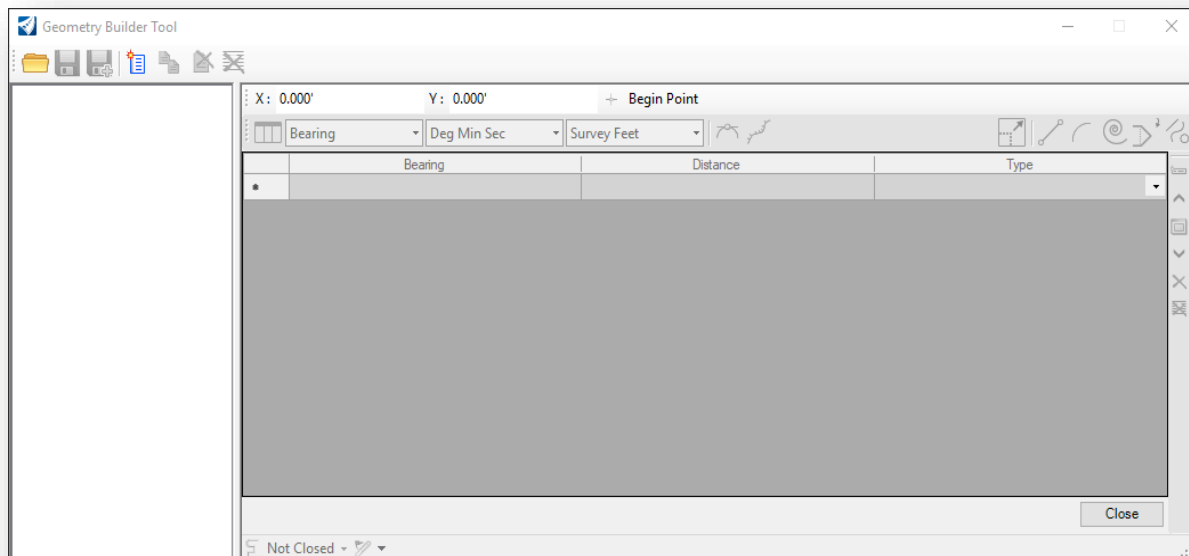
*Note It is best practice to export out parcels and alignments once created for record keeping purposes.

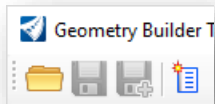
To begin, open the 106471_BR001.dgn file, located in the following folder: 106471\400-Engineering\RW\Basemaps\

- Under the **Survey** workflow select the **Geometry** tab and open the **Geometry Builder** from the **Horizontal** group under the **Complex Geometry** tool dropdown.



Once opened the **Geometry Builder Tool** dialog box will appear

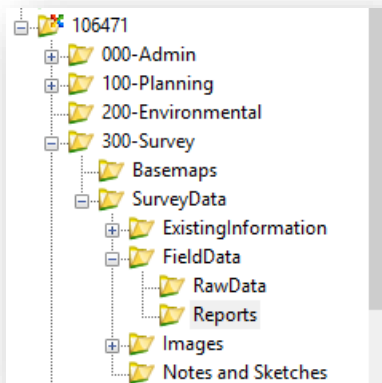




- Select the **Open File** command from the top left of the **Geometry Builder Tool** dialog.

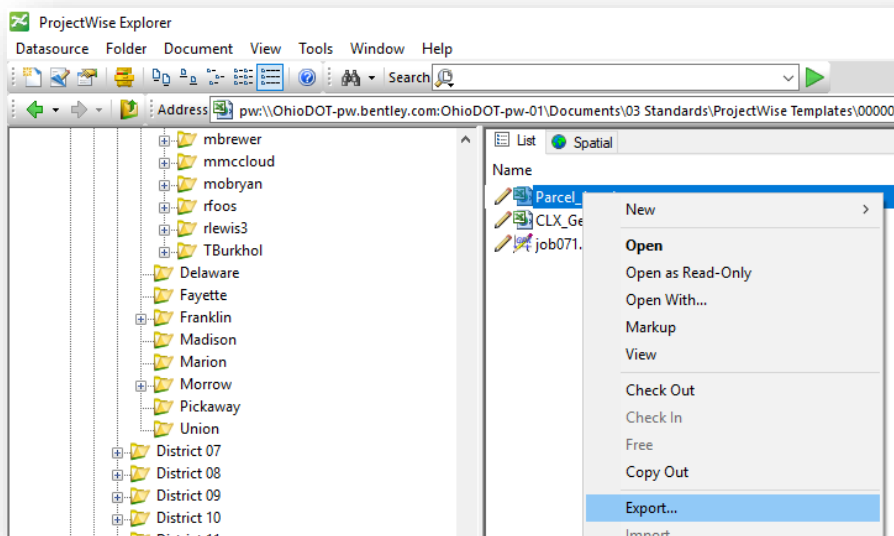
Exporting a Document from ProjectWise (Informational)

- In the ProjectWise Explorer, browse to the location of the parcel XML file.

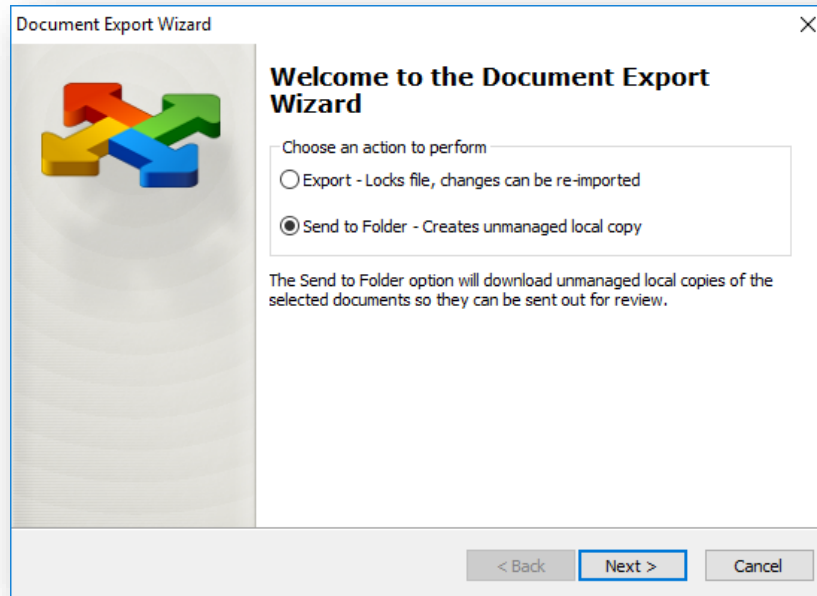


The recommended location for storing XML exports of alignments and parcels is under the 300-Survey\Survey Data\Field Data\Reports

- **Right Click** the Parcel_2.xml file from the Reports folder and select **Export**.

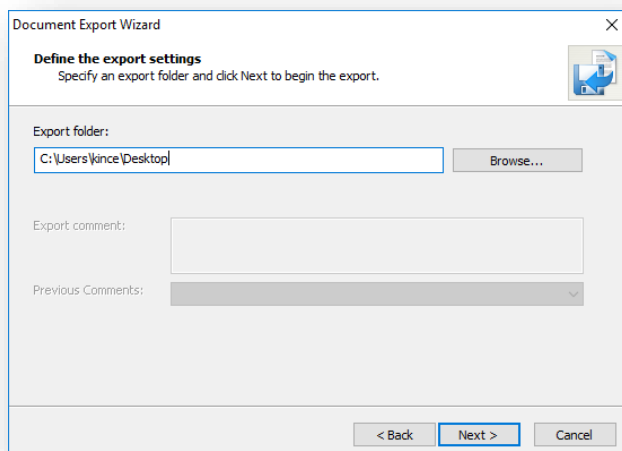


Once selected, the **Document Export Wizard** dialog will appear.



There are two types of document exports:

- Type 1: Export – This type will lock the file and create a “managed” copy, meaning ProjectWise knows that modifications are being done to this file outside of the system. To use this file inside of ProjectWise the file will need to be imported back into the system.
 - Type 2: Send to Folder – This type creates an “unmanaged” copy outside of ProjectWise as a duplicate and users can still use the file inside of ProjectWise.
 - Please use proper judgement when utilizing this function so outdated data isn’t utilized in an inappropriate application.
- For this application, utilize the **Send to Folder** function.
 - Select **Next** in the *Document Export Wizard* dialog.



- Select export location.

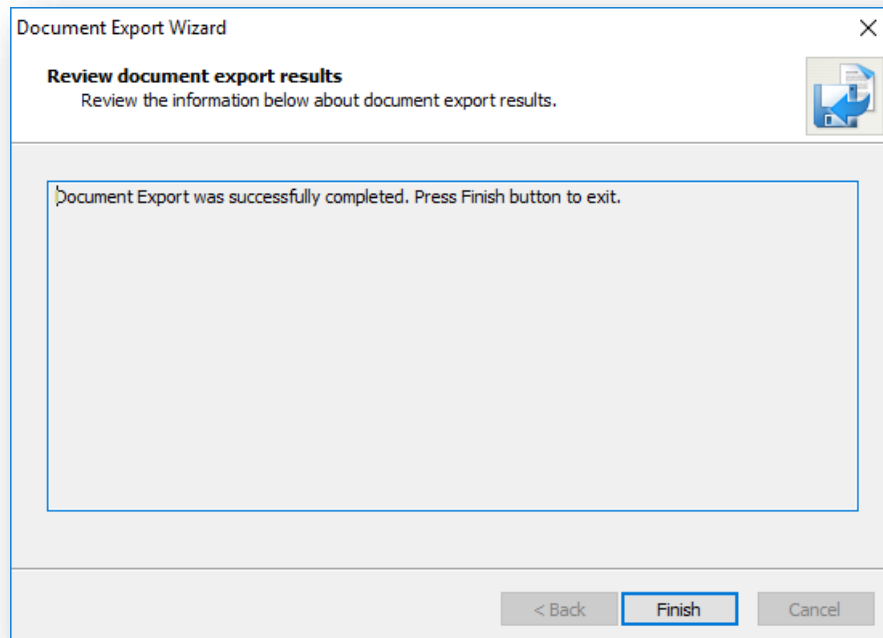
For this example, please export to the desktop for ease of use.

(C:\Users\yourusername\Desktop)

- Select **Next**

appear. Select **Finish**.

- The Document Export Results dialog will



Importing a Document into ProjectWise (Informational)

This section is for informational purposes only (not required to complete for the exercise).

If the document was exported from the previous step, as a managed copy, the document will need to be imported back into ProjectWise for future use and archiving.

One way to tell the status of a document is through the ProjectWise interface.

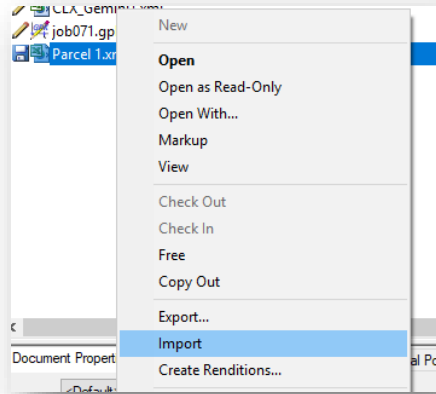


The interface will show a “save disk” and have a status of Exported. Additional information can be viewed depending on the users view settings. For example, when using the Basic view setting you can see who the document was exported or “checked out” to as well as if the document has a workflow associated with it.

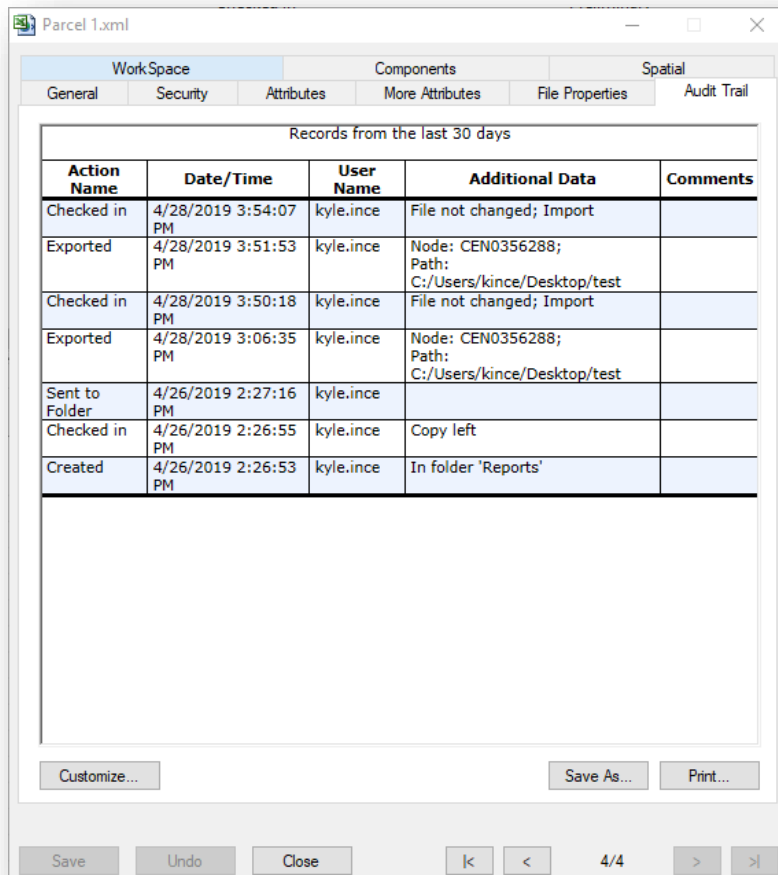
*Note When importing a document back into ProjectWise, the location may have changed since it was exported. ProjectWise will look for the path it was exported to, if it fails, ProjectWise will prompt the user to import the document from another location (this applies to name changes as well).



- To import the document back into ProjectWise right click on the document
- Select the Import command from the pop-up options



Once selected the **Check In Document** dialog will appear. Enter in comments if applicable.



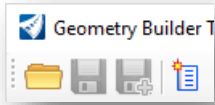
- Select **OK**. The document is now imported back into ProjectWise and the audit trail is updated.

Note* To view a documents audit trail **Right Click** on the document → Properties → Audit Trail tab



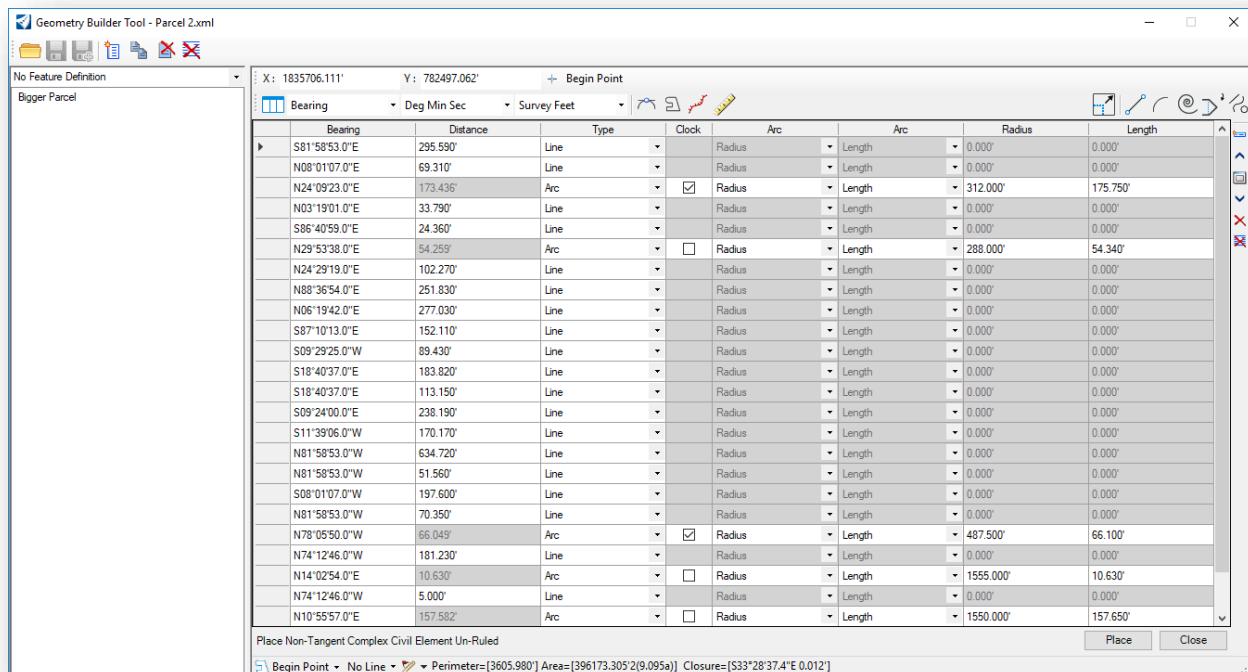
Transition back into OpenRoads Designer

- Select the **Open File** command from the top left of the **Geometry Builder Tool** dialog.



Browse to the XML file.

- Click **Open**



The parcel values as defined in the XML file are loaded into the dialog and can be placed into the design file.

- Toggle on the **Create Ruled Civil Elements** icon before placing the parcel in the design file

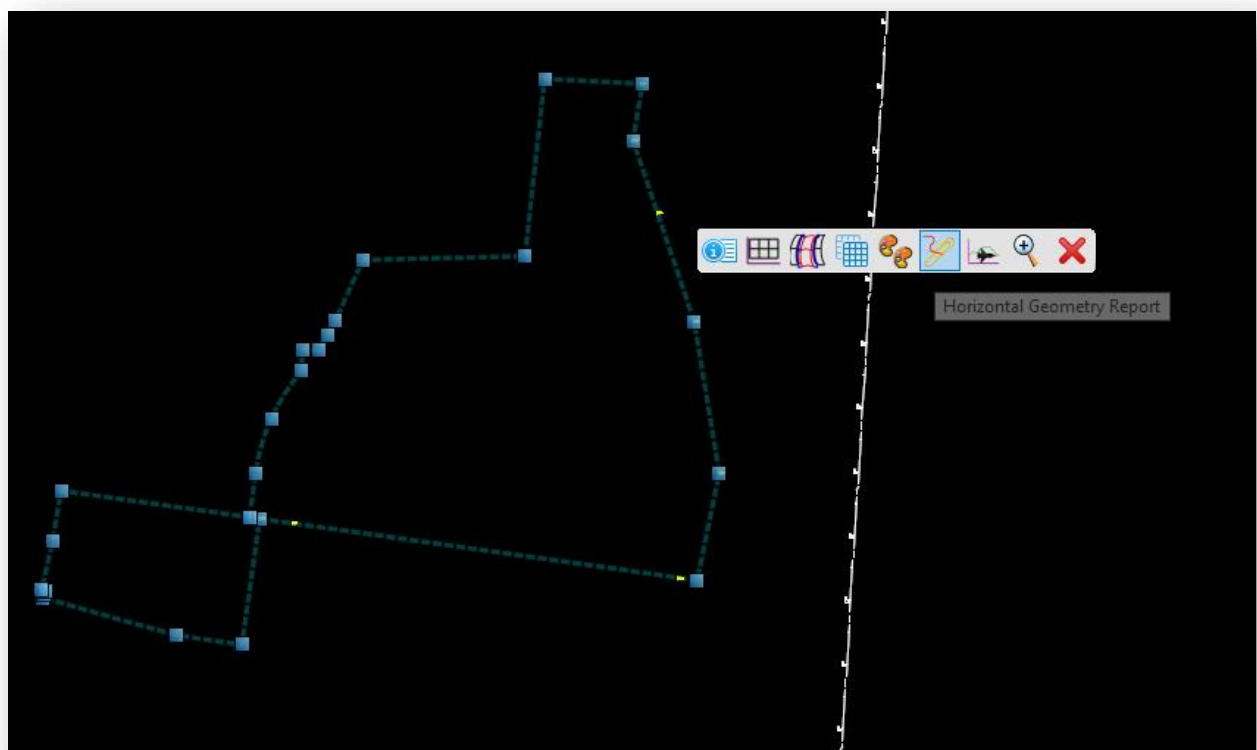
Note* The **Geometry Builder** allows for lines to be added or removed and edited in this stage.



Exercise 7: Generating Reports

With the OpenRoads Designer there are plenty of reports that can be generated. This exercise will demonstrate some of the out-of-the-box reporting functionality.

- First open the **106471_BR001.dgn** file that was used in the last exercise.
 - This file is in PID (106471) 400-Engineering\RW\Basemaps\.
- Once this file is open **Select** a parcel.
 - Hover over one of the lines until the heads-up display appears.
- The 6th icon on the tool bar is the **Horizontal Geometry Report** tool (looks like a paperclip with an alignment attached).





Once selected a report tab will appear.

Map Check Report
Report Created: Sunday, April 28, 2019
Time: 12:17:31 PM

Project: Design
Description:
File Name: c:\users\kince\appdata\local\bentley\projectwise\workingdir\ohiodot-pw.bentley.com_ohiodot-pw-01\kyle.ince\dms55282\106471_BR001.dgn
Last Revised: 4/28/2019 10:59:27
Input Grid Factor:

Note: All units in this report are in feet unless specified otherwise.

Alignment Name: Parcel 1
Alignment Description:

Type	Point Name/ Direction	Northing/ Length	Easting	Elevation
POT	()	781734.558	1835982.862	0.000
	N8.019°E	69.310		
PC	()	781803.191	1835992.530	0.000
	S81.981°E	311.993		
CC	()	781759.669	1836301.472	0.000
	S49.706°E	311.993		
PT	()	781961.439	1836063.505	0.000
	N3.317°E	33.790		
HPI	()	781995.172	1836065.460	0.000

There are plenty of options to choose from when it comes to reports, but for this exercise the **Map Check** report will be the focus to show our closure calculations.

PC	N81.981°W	70.352			
	N8.019°E	781546.478	1835901.522	0.000	
	N8.019°E	487.500			
CC	()	782029.212	1835969.525	0.000	
	N15.787°E	487.500			
PT	()	781560.101	1835836.893	0.000	
	N74.213°W	181.229			
PC	()	781609.407	1835662.500	0.000	
	S75.756°E	1555.000			
CC	()	781992.022	1834155.307	0.000	
	S76.148°E	1555.000			
PT	()	781619.719	1835665.081	0.000	
	N74.213°W	5.000			
PC	()	781621.080	1835660.269	0.000	
	S76.163°E	1555.000			
CC	()	781992.972	1834150.395	0.000	
	S81.972°E	1555.000			
PT	()	781775.802	1835690.155	0.000	
	S81.981°E	295.590			
POT	()	781734.569	1835982.855	0.000	

Summary:
Northing Error: 0.011 ft
Easting Error: -0.007 ft
Closing Direction: S32.093°E
Closing Distance: 0.013 ft
Closed Area: 0.000 sq ft 0.000 ac
Perimeter: 3605.980 ft
Precision: 935460.976

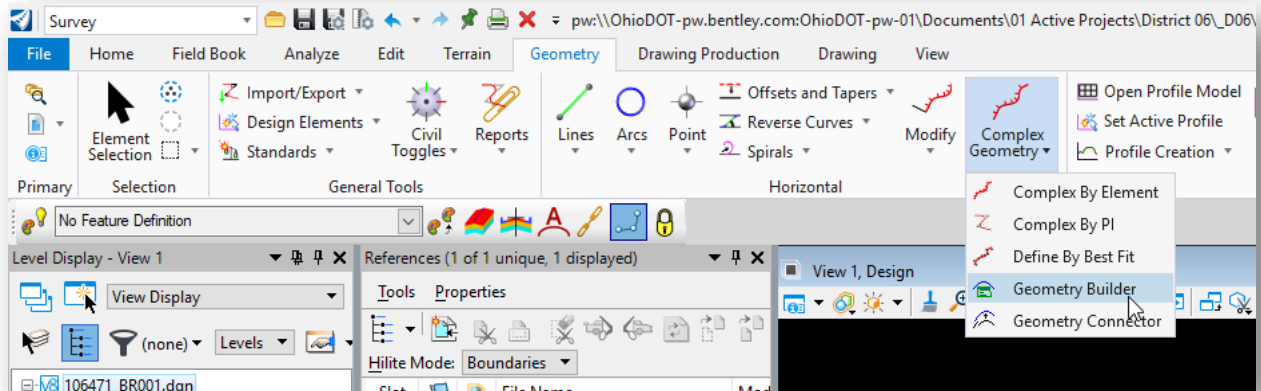


Exercise 8: Creating Right-of-Way using Geometry Builder

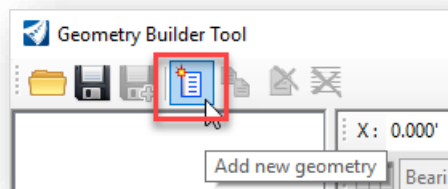
This exercise will be explaining how to use the Geometry Builder to put in Right-of-Way for a project.

Please open the **106471_BR001.dgn** file that was used in the last exercise. (This file is located PID (106471) 400-Engineering\RW\Basemaps\.

The **Geometry Builder** Tool is in Survey > Horizontal Geometry Tab > Complex Geometry.

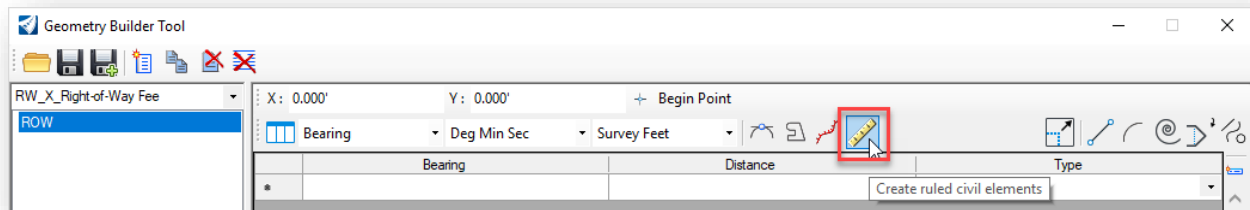


- Once the **Geometry Builder Tool** is open select the **Add New Geometry**.



Create a **Name** and select a **Feature Definition** for the new geometry. For this exercise the name is **ROW** and the feature definition is **Linear > Right-of-Way > RW_X_Right-of-Way Fee with Limitation of Access**.

- Toggle on the **Create ruled civil elements** icon





Enter the values for the Right-of-Way line shown below:

Bearing	Distance	Type
N28°55'59.0"W	261.840'	Line
N15°30'39.0"E	246.670'	Line
N44°14'36.0"E	246.310'	Line
N82°18'44.0"E	208.250'	Line
N30°44'32.0"E	324.350'	Line
N11°34'11.0"E	236.010'	Line
N09°17'29.0"W	238.520'	Line
N18°40'36.0"W	296.980'	Line
N09°29'23.0"E	89.430'	Line
N15°19'34.0"W	295.810'	Line

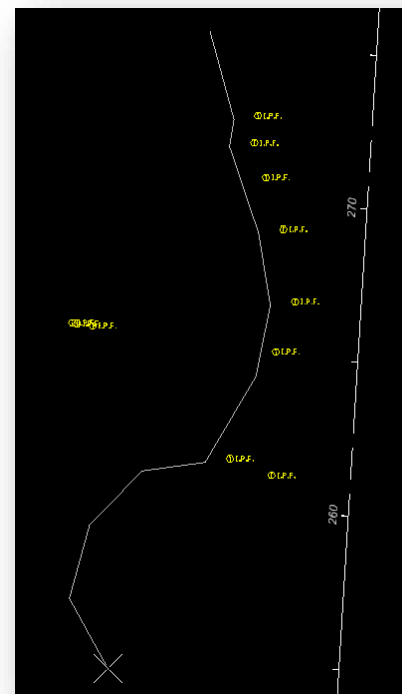
Place Non-Tangent Complex Civil Element Ruled

Begin Point No Line Perimeter=[2444.170'] Area=[244438.460'2(5.612a)] Closure=[S09°08'56.8"W 2098.061']

After all the bearings and distances are typed in, select the **Begin Point** function from the dialog. After it is selected, it will then allow you to place the parcel that you just created anywhere you want it to be.

Note* If the point you are "holding" is not the beginning point (like in this exercise) place the point close to the final position as shown at right.

- Select the **Place** button from the lower right corner of the **Geometry Builder Tool** dialog. The right-of-way line is drawn in the design file at the location specified by the **Begin Point** coordinates.

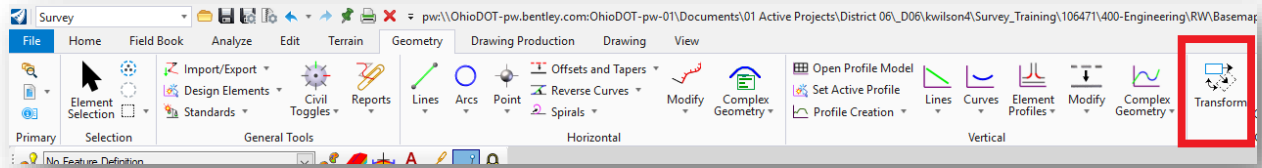




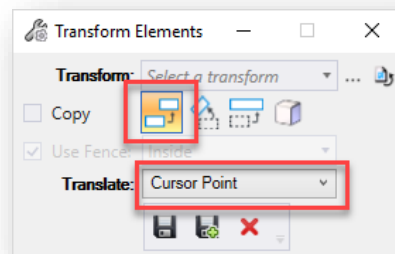
Exercise 9: Translating Right-of-Way

After placing the Right of Way line, the next step is to translate it to where it needs to be.

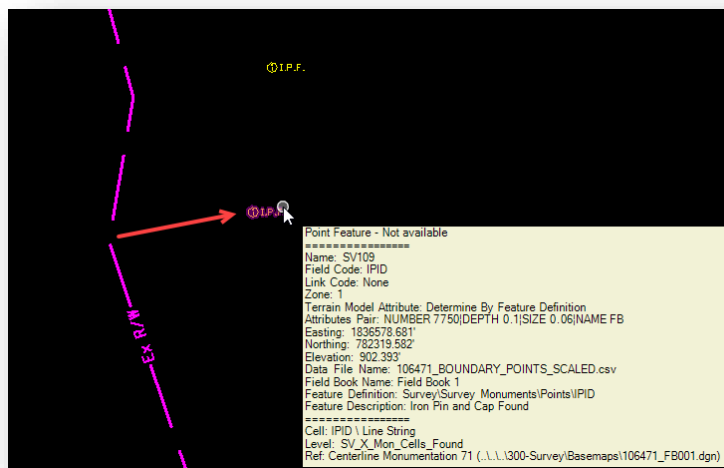
- Open the transform tool (Survey workflow > Geometry tab > Transform command)



Once opened the **Transform Elements** dialog will appear.



- Inside the **Transform Elements** dialog select the **Translate** function and under the Translate options select **Cursor Point**.
- **Select** the point to “hold” on the plotted Right-of-Way line.
- After the point has been selected, drag the Right-of-Way to the proper location. For this exercise we will be translating the Right-of-Way to point SV109 as shown below.

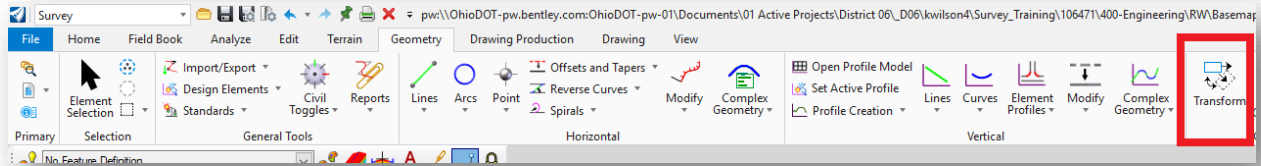




Exercise 10: Rotating Right-of-Way Alignment

This exercise will explain how to rotate an element to known points. The rotation tool is in the same command as the translation tool.

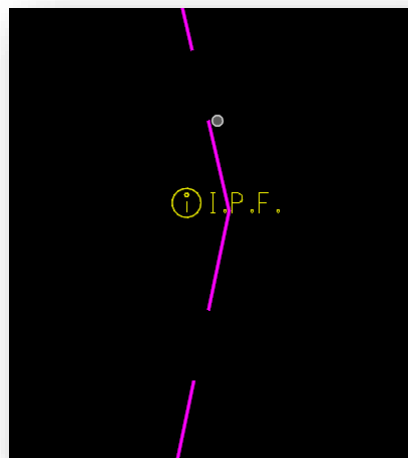
- Survey workflow > Geometry Tab > Transform Tool



To complete this exercise, the **106471_BR001.dgn** from the previous exercises needs to be opened.

- The location of this file is 106471\400-Engineering\RW\Basemaps\

The **Rotation** tool inside the **Transform** command will be used for rotating the Right-of-Way Alignment to the known points that were field collected. The image below shows the Right-of-Way alignment is a couple feet away from the iron pin found, point SV110.

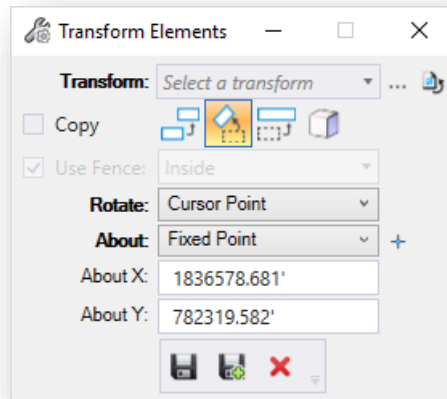


- Open the **Transform** command
- Once opened the **Transform Elements** dialog will appear
- Select the **Rotate Elements** icon
- Also select:
 - **Rotate** = Cursor Point
 - **About** = Fixed Point



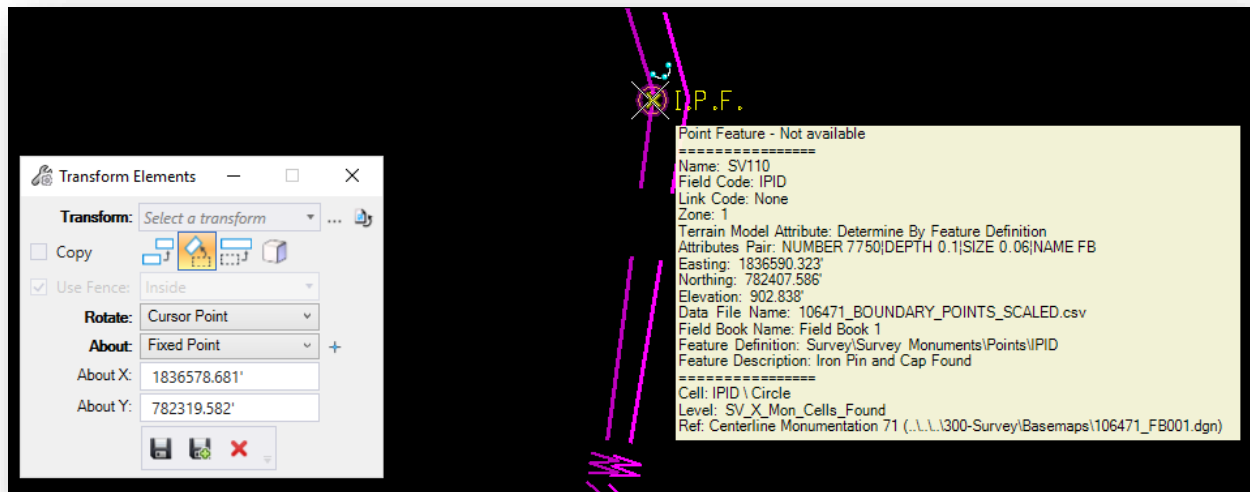
The **About X** and **About Y** options can be keyed-in manually if the coordinates are known. The icon next to the **About: Fixed Point** option is used to define the **About X** and **About Y** values by selecting a data-point in the design file as the rotation point.

- Select the **Select point to be scaled or rotated about** command
- Next select the point that will be used as the rotation point, point SV109. The coordinates for the point are read into the **About X** and **About Y** fields as shown below.



The next step is to select the cursor point to rotate the right-of-way line.

- Choose the right-of-way line by snapping to the line at the vertex that is to the right of point SV110 as shown below. As you move the cursor, the rotation of the right-of-way line is visualized. Snap to point SV110 to complete the rotation.



Once rotated the alignment will be in its proper real-world location (horizontally).



Exercise 11: Creating a Vertical Profile for a Right-of-Way Alignment

The last few exercises have created a horizontal alignment for the Right-of-Way line. To show the Right-of-Way line on a plan set, a vertical profile will need to be added. This stems from Openroads Designers inherent modeling capabilities. When cross-sections are “cut” from the model, the only information that will be shown at that section will be what is displayed on the model at that location. Meaning the Right-of-Way will need to be displayed at the surface level.

In this exercise a KD (Digital Terrain Model) has been provided for ease of use.

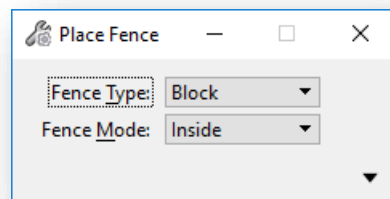
- Start by **Opening** the **106471_BR001.dgn** from the previous exercises.
 - The location of this file is 106471\400-Engineering\RW\Basemaps\
- Once opened reference in the 106471_KD001.dgn
 - The location of this file is 106471\400-Engineering\Roadway\Basemaps\

Note* The model the KD will be referenced into is a 2D model. OpenRoads Designer will handle creating and managing the 3D portion.

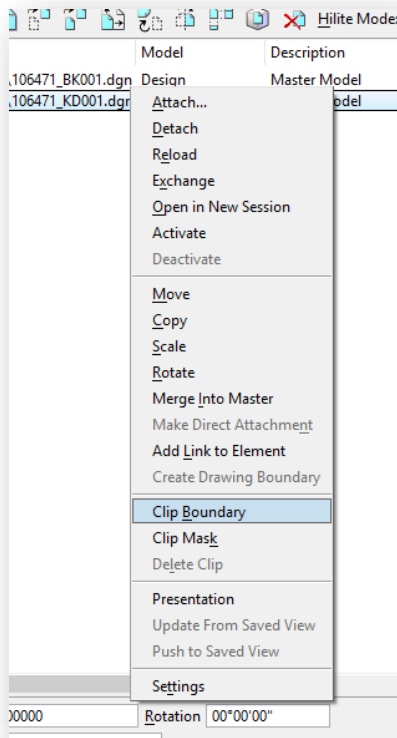
Reference Clipping Tool

Since the terrain model is large use the reference clipping tool for ease of use.

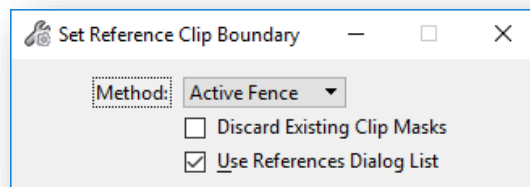
- Place a fence for the clipping boundary
 - The tool is under the **Home** tab → **Selection** group



- For this example, use a **Block** Fence Type
- In the Reference Manager right click select the KD file



- Select Clip Boundary from the flyout menu

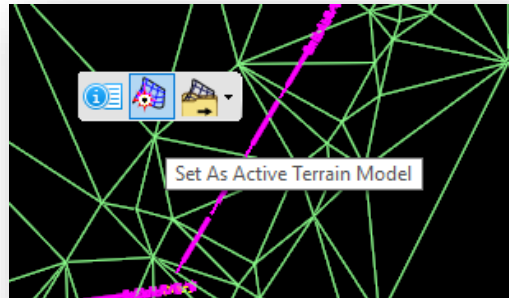


- Using the Method Active Fence, data point inside the fence drawn in the previous step.

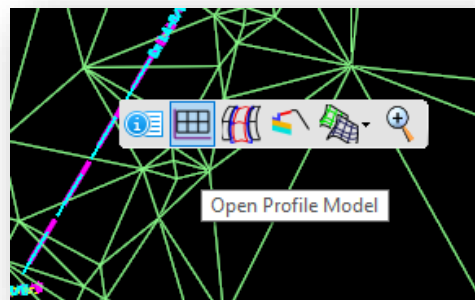


Setting an Active Terrain and Profile

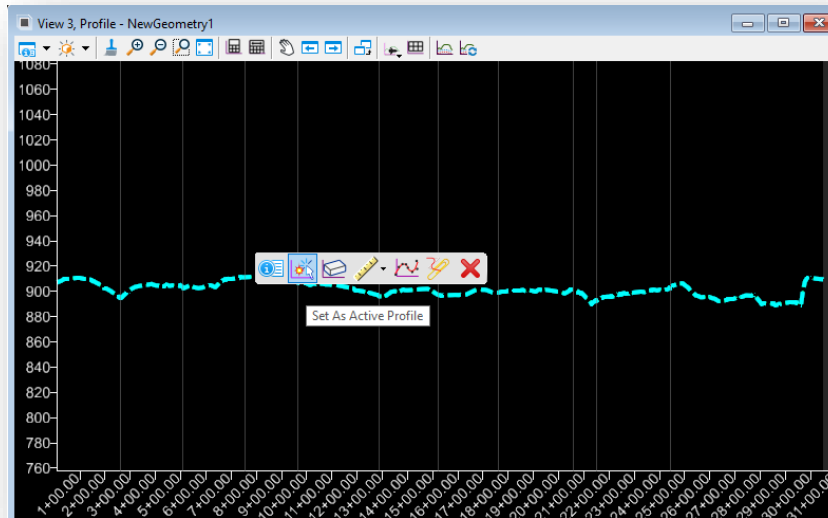
- Select the clipped terrain and hover to show the heads-up toolbar.



- Inside the heads-up toolbar set the terrain as active using the **Set As Active Terrain Model** command.
- Once the terrain is set active, select the Right-of-Way alignment and hover to get the heads-up toolbar
 - Select the **Open Profile Model** command



- Open a window or select the window to open the profile view
- Select the alignment from the profile window and hover to get the heads-up toolbar



- Set the profile as the active by selecting the **Set As Active Profile** command.

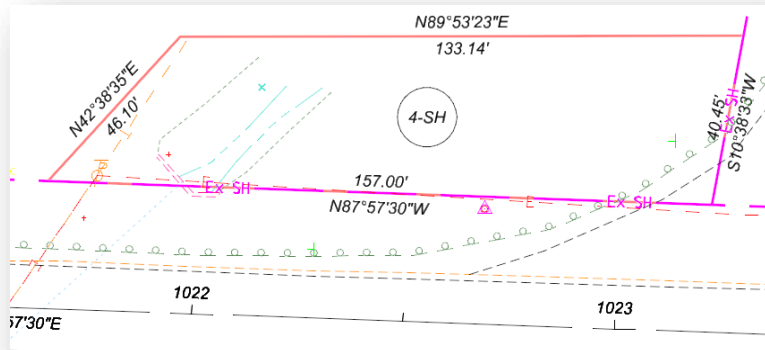
The vertical profile is now set and is active

- Close and check-in the file.



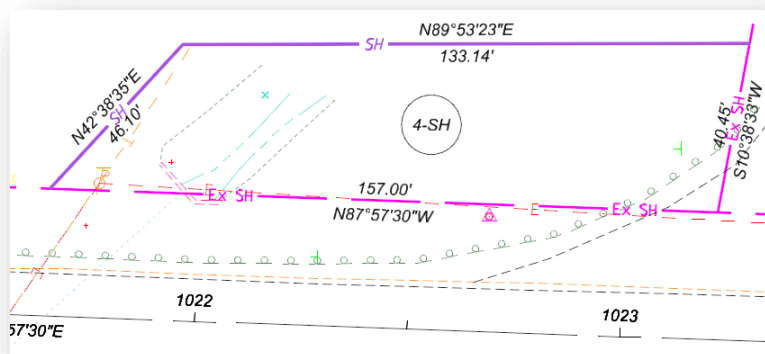
Right-of-Way and Parcel Annotation

Right-of-Way lines and parcel areas are typically drawn in the Right-of-Way basemap (BR) design file. The OHDOT feature definitions for these elements are defined with an annotation definition that has been defined to draw the length, bearing, and curve data. These annotations are placed using the **Drawing Production > Annotations** tools. An example of the annotations placed for the **P_Taking_Area** feature definition is shown below.



The linework using the parcel area feature definitions is not intended to be shown on the final plan set. The lines that will be shown on the plan are placed in the BR design file on top of the taking area lines.

In the example below, the **Line Between Points** command was used to place two lines on top of the taking area using the **RW_P_Standard Highway Easement** Feature Definition. The level **RW_P_Taking_Area** has been turned off.



Annotation for Right-of-Way lines and parcels can be placed in the basemap, but a better option is to place these annotations in the drawing model of the sheet design file. This way, the annotations can be modified as needed for the completed sheets. Even if the Right-of-Way elements are annotated in the BR file, those annotations can be turned off for the reference attachment as new annotations are placed in the sheet design file.

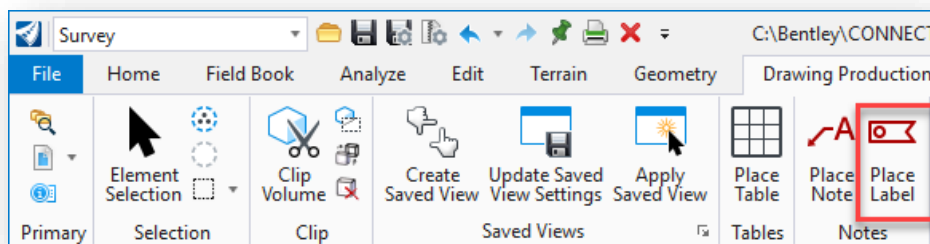


Station and Offset Labels

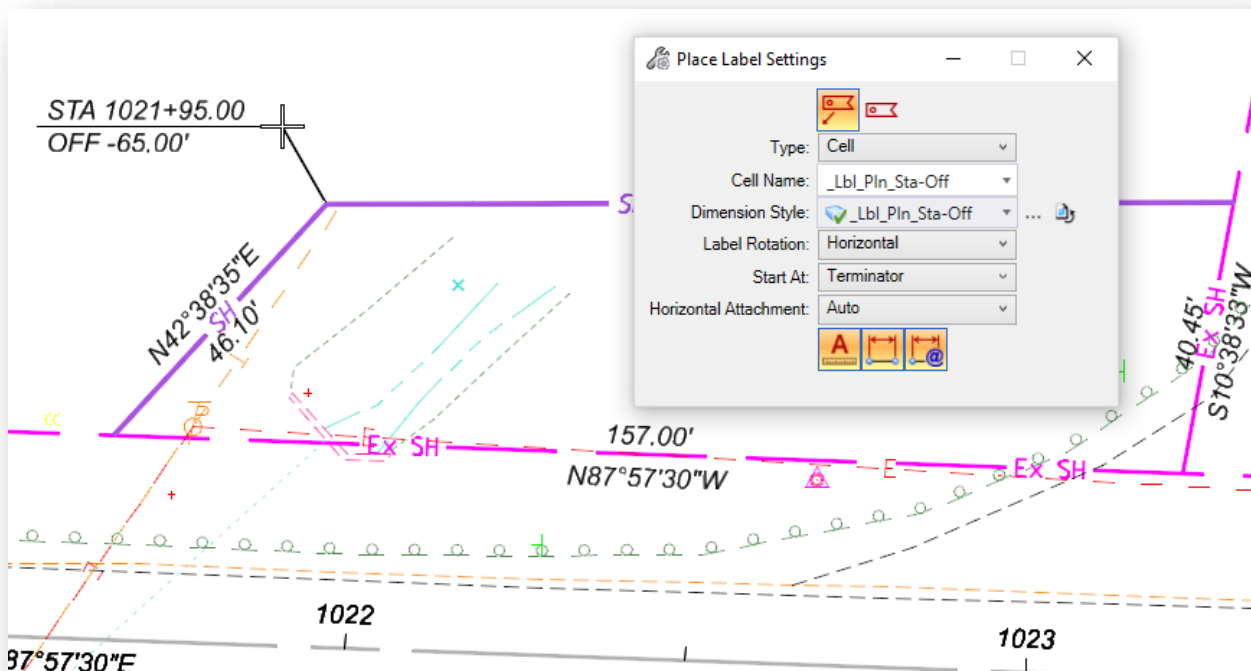
ORD supports placing labels that have fields computed from the selected geometry graphic or data point location. The label maintains an association to the element that is being labeled and is automatically updated if changes are made to the element.

A label can maintain two types of associations. The first is regular association, in which if you move the element, the label remains at the same place, only the leader line moves along with the element. The second is relative association, in which the label will stay at the same location relative to the original snap point. That is, if you move the element the label will also move with it.

Several labels have been configured in the OHDOT standards for various types of labels. These labels are placed using the **Drawing Production > Notes > Place Label** command.



The **Place Label Settings** parameters are displayed in the **Tool Settings** dialog as shown below.

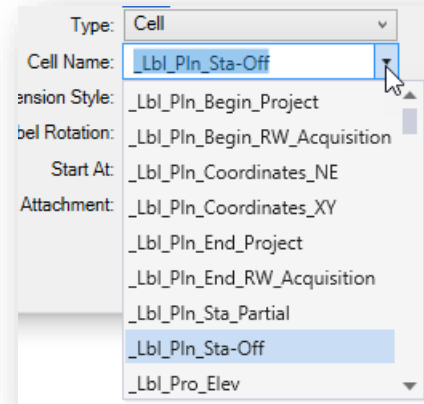




Labels can be placed with or without a leader line by selecting the desired icon at the top of the dialog. The dialog has the following parameters:

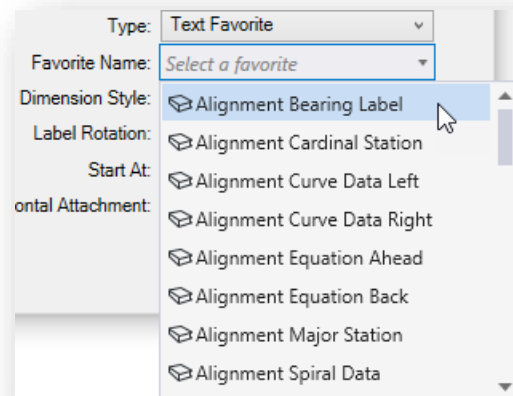
Type

The **Type** option is used to place labels using a **Cell** or a **Text Favorite**. The cell option allows for labels that contain multiple computed annotations. When the cell option is selected, the dialog allows selection of the label from a cell library. The **Cell Name** parameter lists all the cells found in the libraries defined by the configuration variable MS_CELLLIST. The labels that have been defined in the OHDOT standards are named with the prefix **_Lbl** so that they will be listed first in the dialog. Some of the available cells are shown at right. An example of the **_Lbl_Pln_Sta-Off** label is shown on the previous page.



If the **Type** parameter is set to **Text Favorite**, the **Favorite Name** item allows selection of a predefined text favorites.

In general, the text favorites are used as a component of the Cell labels, or other annotation functions within ORD such as the station annotation or the curve data. There may be occasions when using one of the text favorites directly is desired.



See the online documentation for a description of the remaining parameters.



OpenRoads Software Version

This document was prepared using the following software version:

- OpenRoads Designer CONNECT Edition 2019 Release 1 – Update 7 – Version 10.07.00.56

Contacts

For any questions, suggestions, or problems with this document please contact the ODOT Office of CADD and Mapping Services by use of the following form on the ODOT website:

https://odot.formstack.com/forms/cadd_servicerequest