

State of Florida

Department of Transportation



FDOTConnect
for
OpenRoads Designer
Roadway Plan Development
Workflows

Course Guide

2023

PRODUCTION SUPPORT CADD OFFICE
TALLAHASSEE, FLORIDA

<http://www.fdot.gov/cadd>

FDOTConnect for OpenRoads Designer

Plan Development Workflows

Description

This is a 2-day training course to introduce OpenRoads Designer CONNECT Edition - OpenRoads Technology tools for Plan Development Workflows on Florida Department of Transportation (FDOT) projects. The curriculum was developed within the FDOTCONNECT Workspace to provide sample exercises for most of the new Plan Development tools on a sample project data set to include the following:

- Key Sheet
- Signature Sheet
- Typical Section Sheet
- General Notes Sheet
- Plan Only Sheets
- Plan - Profile Sheets
- Profile Only Sheets
- Cross Section Sheets
- Plan Sheet Annotation and Indexing
- Plan Labeling

Objectives

- Learn about the various Plans Development Materials and where they are located
- Use and discover the Named Boundary Tools and FDOT Tab
- Use and discover the FDOT Workspace/CADD Standards
- Learn how to prepare a set of FDOT Plans

Audience

- *FDOT Roadway Designers and Engineers*

Prerequisites

Participants need to have a basic understanding of Computer Aided Drafting and Design (CADD) using MicroStation, a basic understanding of OpenRoads Designer Connect Edition concepts and a solid understanding of the engineering necessary to design a Roadway.

In addition to the above, the participant is required to complete:

FDOT Roadway Design 2D and 3D Modeling - Basic Training.

Duration: 16 Hours

Professional Credit Hours: 16 PDHs

Note PDH Credit will only be available with Instructor lead or Computer Based Training (CBT) thru Learning Curve.

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INTRODUCTION

This course was developed to introduce OpenRoads Designer CONNECT Edition tools for Plan Development Workflows on Florida Department of Transportation (FDOT) projects. The curriculum was developed within the FDOTCONNECT Workspace to provide sample exercises for most of the new Plan Development tools on a sample project data set

COURSE OBJECTIVES

Participants of this course will be introduced to the newest OpenRoads Technology and a Workflow for creating Plans, Profiles, Cross Sections, and other Project Sheets. At successful completion they will have learned how to:

- Learn about the various Plans Development Materials and where they are located
- Use and discover the Named Boundary Tools and FDOT Tab
- Use and discover the FDOT Workspace/CADD Standards
- Learn how to prepare a set of FDOT Plans

PLAN DEVELOPMENT MATERIALS

FDOT DESIGN MANUAL

The *FDOT Design Manual (FDM)* sets forth geometric and other design criteria, as well as procedures for Florida Department of Transportation (FDOT) projects. The information contained in the FDM applies to the preparation of contract plans for roadways and structures. Contract Plan Sets, and the specifications that they contain, are the key documents for detailed project construction and are the record on which the contractor bids.

The *FDM* is a multi-part manual.

1. *Part 1* provides guidelines for the development and processes of those contract plan sets.
2. *Part 2* provides the design and engineering criteria and provides the basis for uniform plans preparation for typical roadway design. Precise standards for specific situations must be based upon sound engineering practices and judgments.
3. *Part 9* provides the reference material necessary for the assembly and plans preparation of those contract plan sets. Those materials will include the specific requirements for a plan sheet or component in the order they appear in a standard plan set.

The design and preparation of these plans is purely a matter of the application of sound engineering practices including engineering criteria, standards, and presentation techniques. The use of these plan set guidelines from the FDM does not exempt the engineer from their professional responsibility for the necessary accuracy and completeness of the plan set.

FDOT REFERENCE LINKS

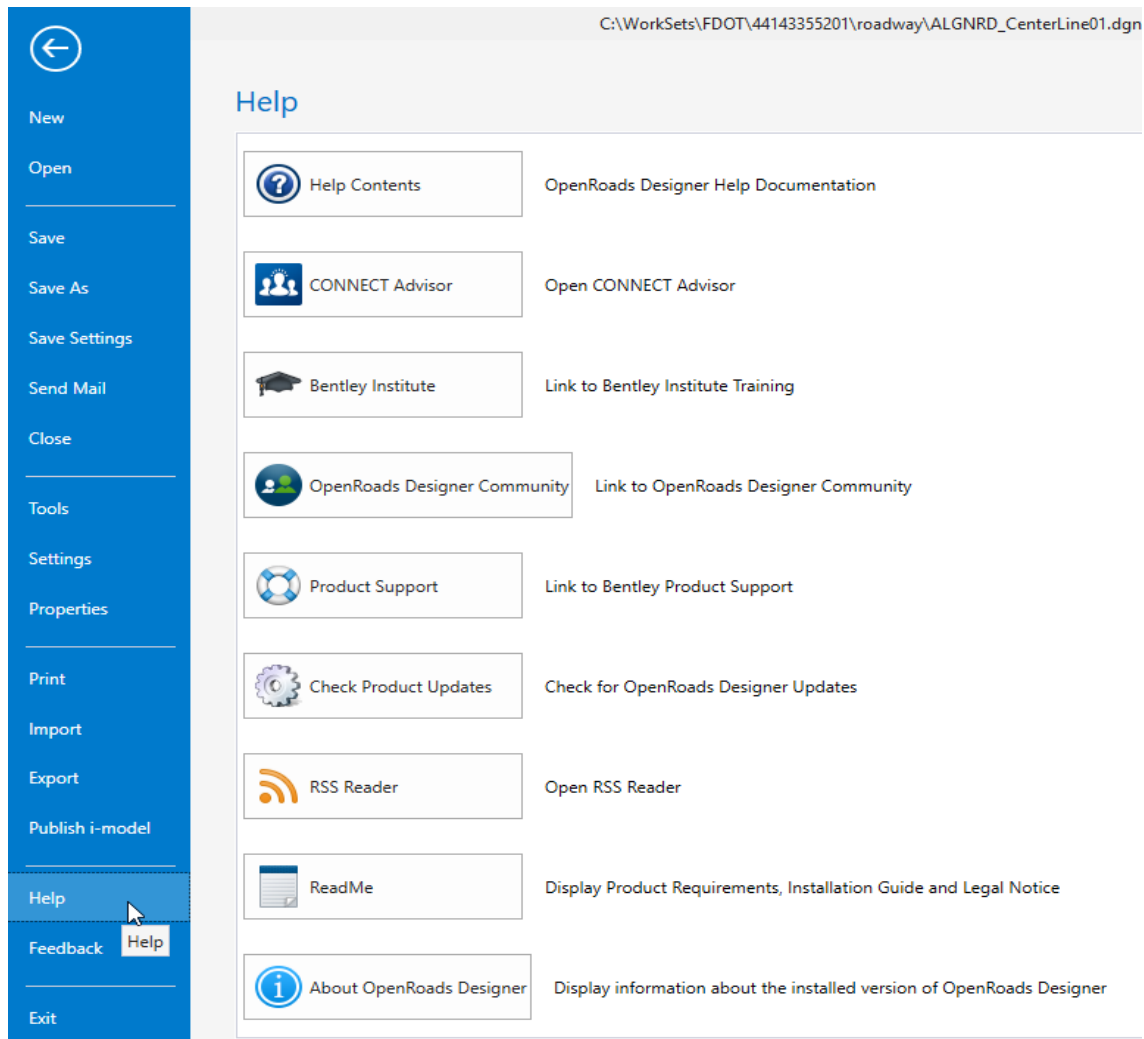
The latest versions of the FDOT reference materials are available from various websites:

- The latest version of the *FDM* is located at:
<http://www.fdot.gov/roadway/FDM/>
- The latest version of the *FDOT CADD Manual* is located at:
<https://www.fdot.gov/cadd/downloads/publications/caddmanualfdm/fdotconnectc3d.shtm>

EXPECTATIONS – WHAT THIS COURSE PROVIDES

This course provides a standard workflow for designing a project with Bentley Systems OpenRoads Designer CONNECT Edition within the FDOTCONNECT Workspace. Although most tools are used throughout, this course does not provide a description of every Bentley Systems OpenRoads Designer CONNECT Edition - Civil Tool. Integrated help for each of the tools can be found by selecting FILE and selecting Help to bring up Bentley’s Online Help.

File > Help



DOCUMENT STYLE

Style conventions used throughout the course guide are shown in the following table.

Item	Convention	Example
Menu names and commands	Bold N <i>(Names separated with > symbol)</i>	<ul style="list-style-type: none"> • File > Open • File > ComSelect > Design
Dialog box Actions	Bold	<ul style="list-style-type: none"> • Click the Apply button. • Click the Graphic Select button to the right of the <i>Horizontal Alignment Include</i> box. • In the <i>Segment Type</i> list, click Lines.
Dialog box Field Names	Italic	<ul style="list-style-type: none"> • Key in Hemfield Road in the <i>Alignment Name</i> field. • Click the Graphic Select button to the right of the <i>Horizontal Alignment Include</i> field. • In the <i>Segment Type</i> list, click Lines.
Key-ins	Bold	<ul style="list-style-type: none"> • Key in Hemfield Road in the <i>Alignment Name</i> field.
File Names	Italic	<ul style="list-style-type: none"> • Open the file <i>ALGNRD01.dgn</i> in the C:\WorkSets\FDOT\22049555201\Roadway.
File Paths	Non italic	<ul style="list-style-type: none"> • Open the file <i>_Blank.dgn</i> in the C:\WorkSets\FDOT\22049555201
New Terms or Emphasis	Italic	<ul style="list-style-type: none"> • The Template Library contains <i>templates</i>, which represent typical sections of the proposed roadway.

We would like to introduce the user to a new workflow terminology using the Ribbon. If you see a direction like this:

OPENROADS MODELING > GEOMETRY > HORIZONTAL > Lines > Line from Element > **Simple Line from Element**

This means we are in the **Workflow** of **OpenRoads Modeling** which has a **Tab** named **Geometry** and has tools that are in the **Horizontal Group**. Now that we are in the right workflow, Tab and Group we may need to click on a tool that has more than one option.

FILE TYPES

The Bentley Systems OpenRoads technology road design process now uses a single source file type, the *DGN* file. All pertinent design data is stored in the design file. This information can be viewed through the Project Explorer and reported on in the Civil Report Browser.

Below is a brief description of the legacy file types used in GEOPAK which can be imported or exported (i/o) with OpenRoads Technology.

File Type Description:

- *Surface.tin (i/o)* - A binary file, also known as a GEOPAK digital terrain model (DTM), that stores features made up of random points, break lines, and boundary data along with triangulated surface model. The features and the triangles together represent an existing ground surface.
- *Surface.dat (i)* - A binary (or ASCII) file containing string and point information that is used for digital terrain model construction.
- *Surface.dtm (i/o)* - A binary file, also known as a Roadway Designer digital terrain model, stores features made up of components, break lines, and boundary data along with triangulated surface model. The features and the triangles together represent either existing ground surface or the proposed roadway corridor model.
- *Template Library.itl (i)* - Stores templates and template components. Different components can be assembled to build templates, which define the typical sections of a roadway. Only one Template Library file may be open for editing at a given time.

LEARNING RESOURCES

There are several resources available for learning about the various Bentley Systems OpenRoads Designer CONNECT Edition tools. Among them are:

- Bentley OpenRoads Wiki Page:
https://communities.bentley.com/products/road_site_design/w/road_and_site_design_wiki/33435/openroads-designer
- Bentley OpenRoads Communities Page:
https://communities.bentley.com/products/road_site_design/f/geopak-inroads-mx-openroads-forum
- Bentley Learn:
<https://www.bentley.com/en/learn>
- Bentley OpenRoads Videos are available on a variety of topics:
<http://www.youtube.com/user/BentleyCivil>
- Production Support Office | CADD (CADD) Website: <http://www.fdot.gov/cadd/>
- Webinar training recordings are available on many of the subjects covered in this manual:
<http://www.fdot.gov/cadd/main/FDOTCaddTraining.shtm>
<http://www.fdot.gov/cadd/downloads/webinars/Posted.shtm#loadSection>
https://www.youtube.com/channel/UCqbY8kqZuXp1pyYV6IIQw_A

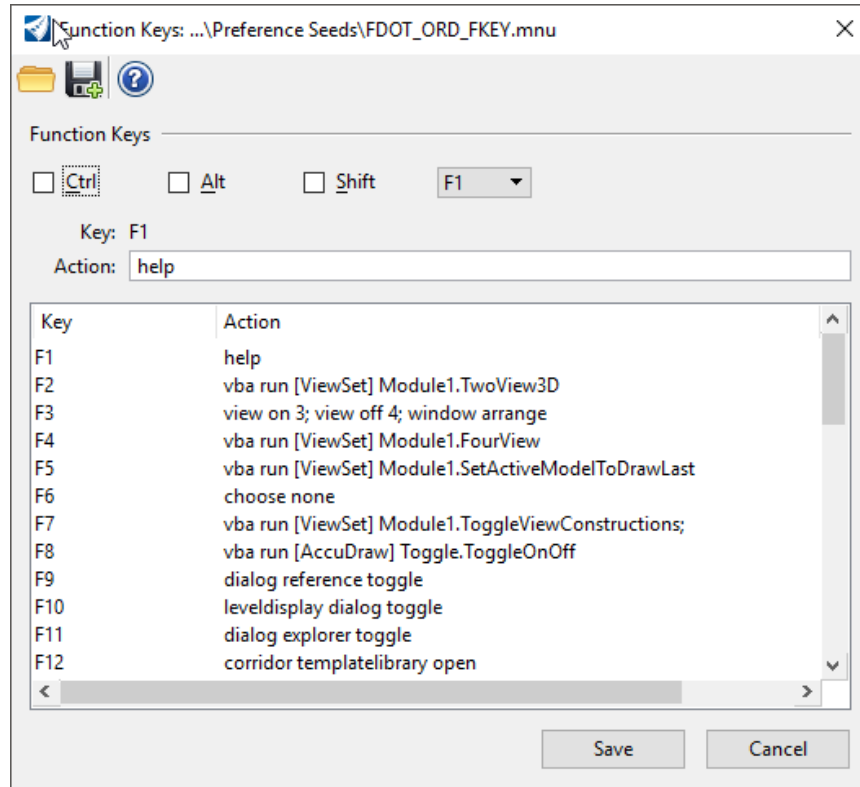
COURSE SUPPORTING FILES

The exercises for each chapter are independent of one another and can be used without having to complete the exercises in previous modules. The exercise files are organized into separate completed Selected zip files for each chapter. All files used in this course are located also at this link:

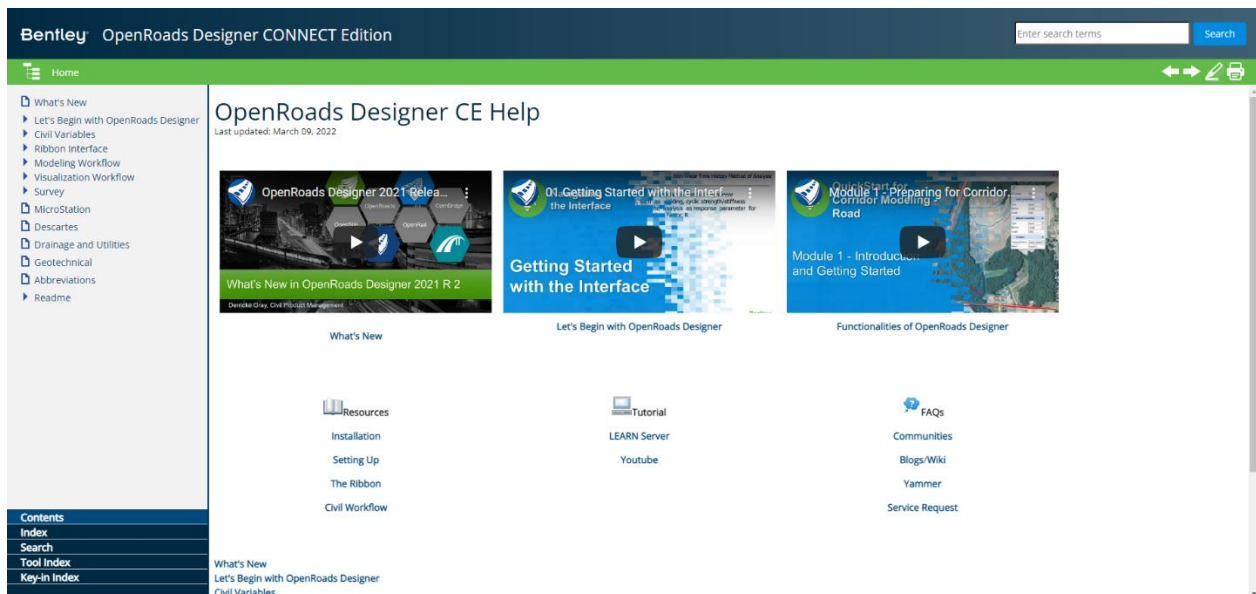
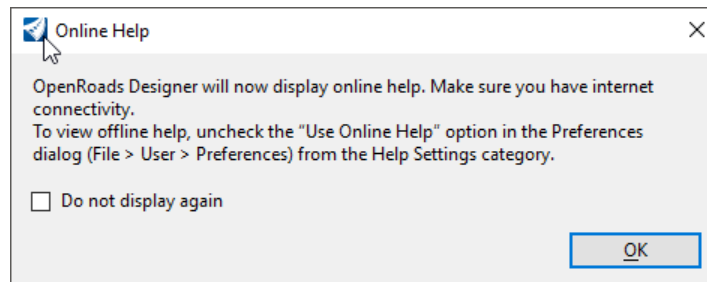
<https://www.fdot.gov/cadd/downloads/documentation/fdotconnecttraining/fdotconnect-plan-development-workflow>

FDOTCONNECT FUNCTION KEYS

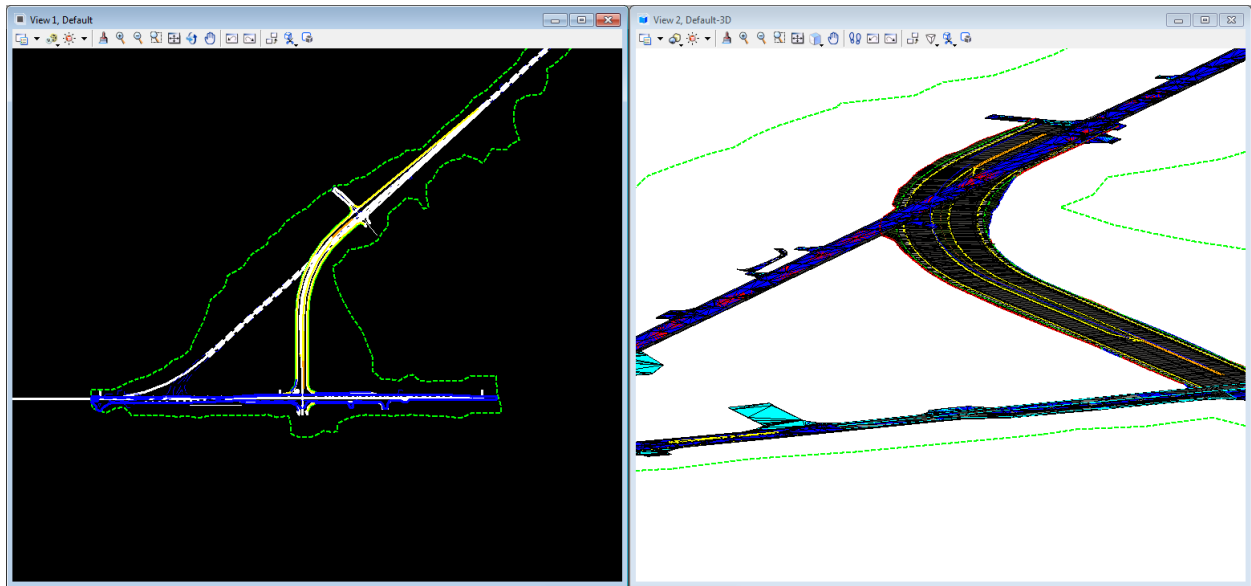
FDOTCONNECT Function Key Assignments	
F1	Opens the OpenRoads Designer Online Help. Ctrl+F1 Closes all Views except View 1
F2	Open View 1 (2D Plan) and View 2 (3D Isometric) and fits both views.
F3	Opens View 3 (2D Plan), closes all View 4, and arranges all Views.
F4	Open View 1 (2D Plan), View 2 (3D Isometric), View 1 (2D Plan), View 1 (2D Plan) & Fits All views
F5	Toggles Dim References ON/OFF
F6	Resets out of any ongoing commands.
F7	Toggles the Construction view attribute ON/OFF.
F8	Toggles between MicroStation AccuDraw and Civil AccuDraw.
F9	Toggles (opens or closes) the Reference dialog.
F10	Toggles (opens or closes) the Level Display dialog.
F11	Toggles (opens or closes) the Project Explorer dialog.
F12	Opens the Create Template dialog.



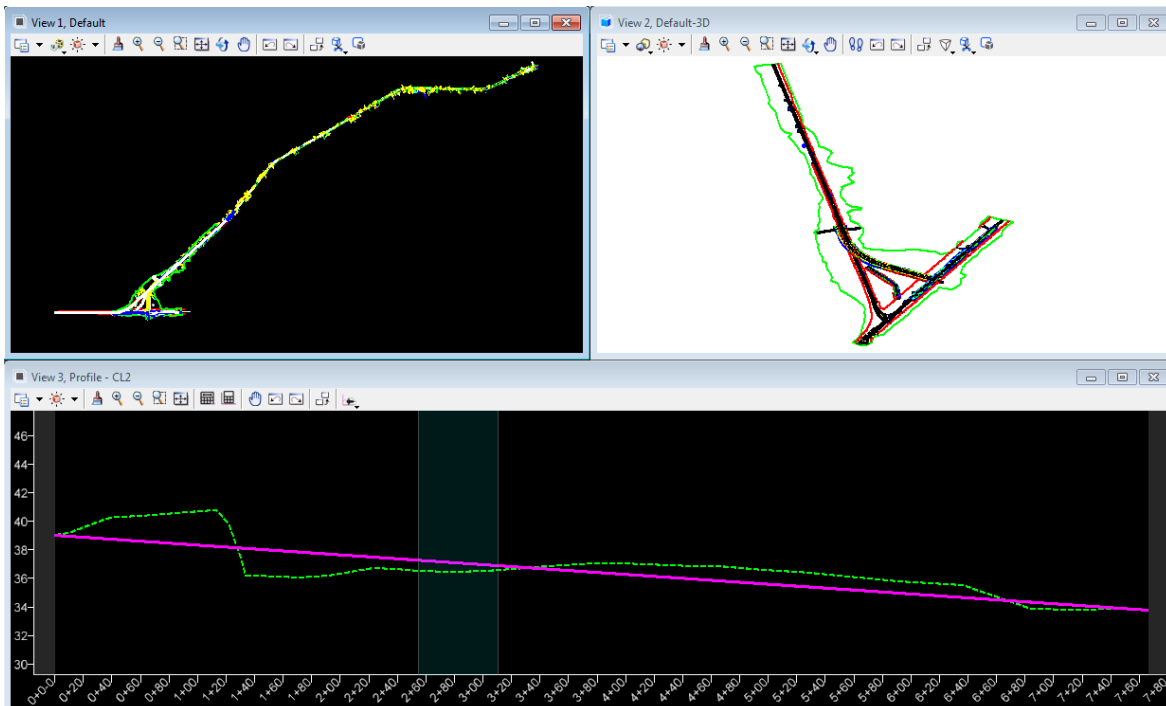
- Function Key **F1** – Civil Help.



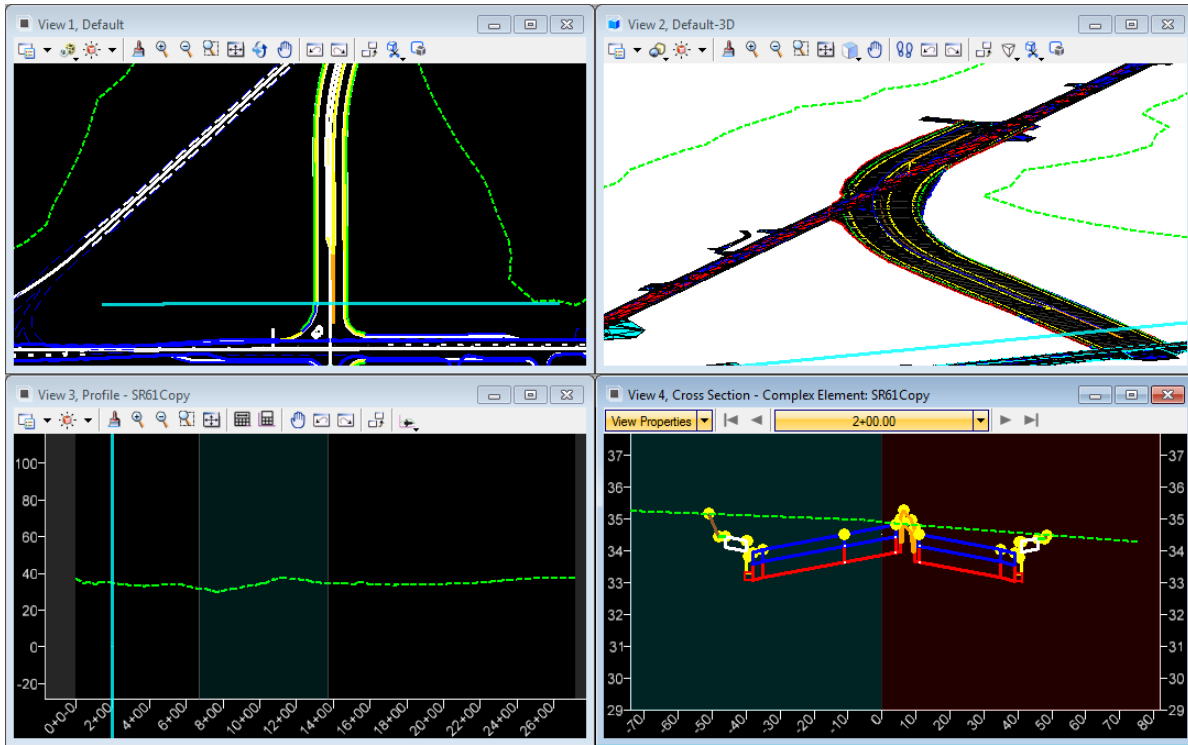
- Function Key **F2** – Open and Fits Two Views Setup; View 1- 2D Plan, View 2-Isometric.



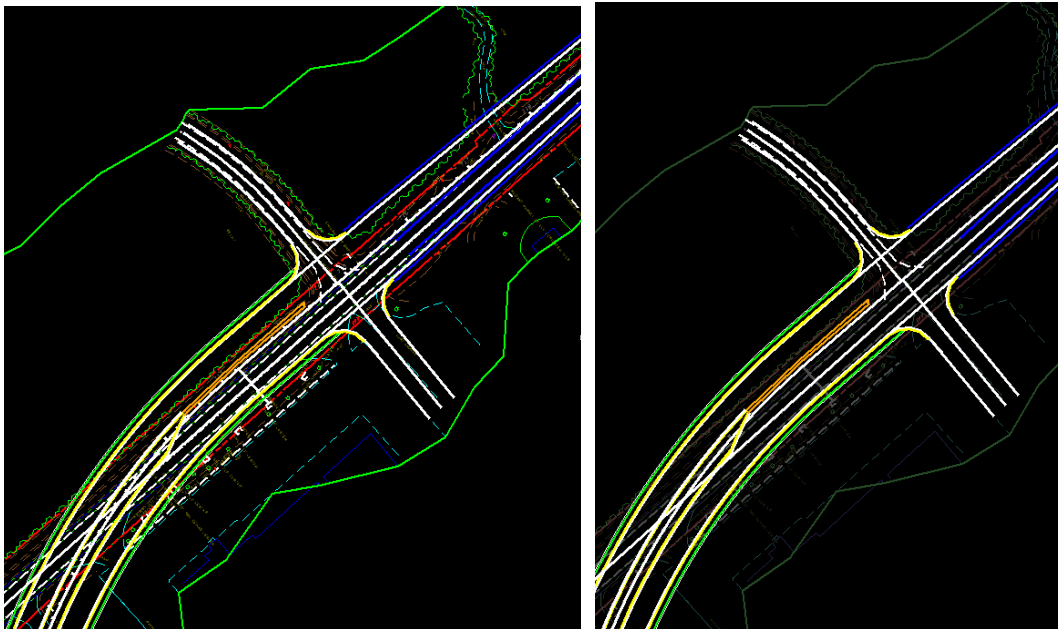
- Function Key **F3** – Opens View 3; Closes View 4 and Arranges Views.



- Function Key **F4** – Opens and fits Four View Setup; View 1- 2D Plan, View 2-Isometric, View 3,4 – custom.



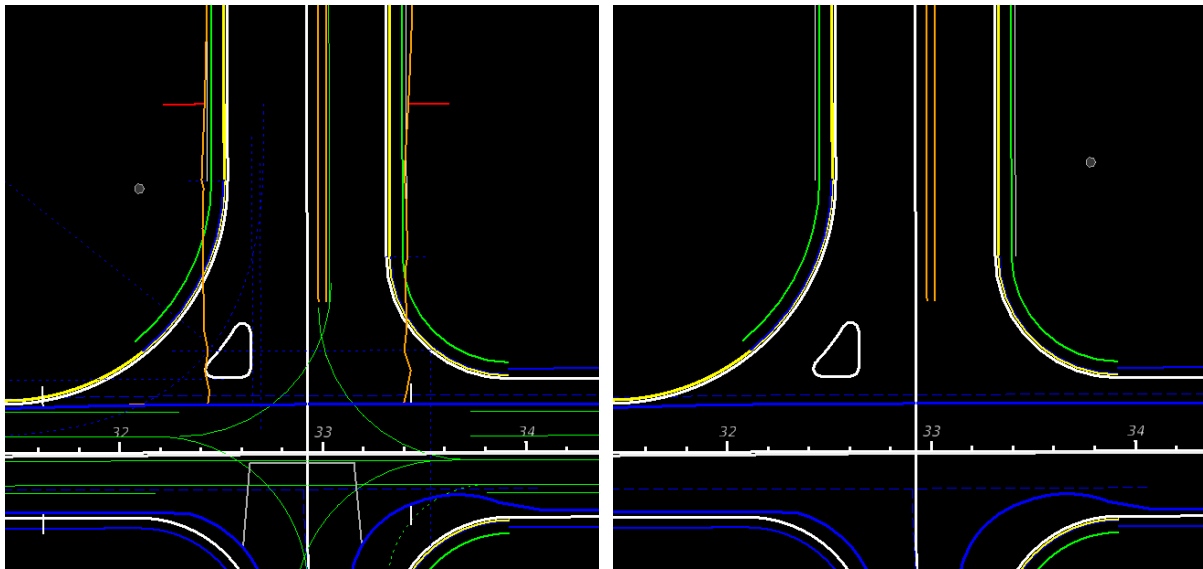
- Function Key **F5** – Toggle Dim References.



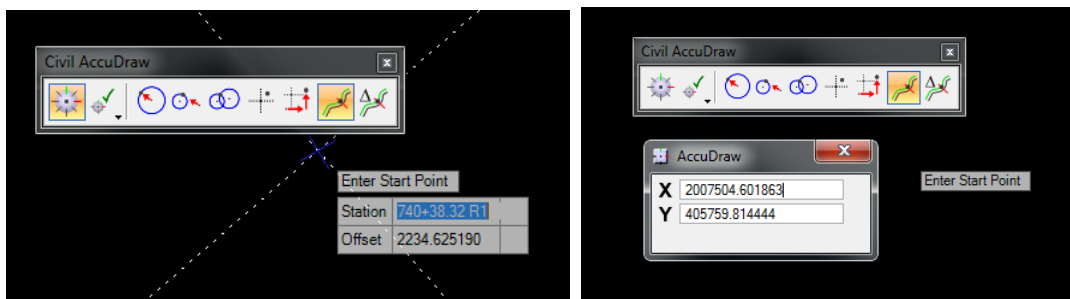
- Function Key **F6** – Resets Out of Any Ongoing Commands.



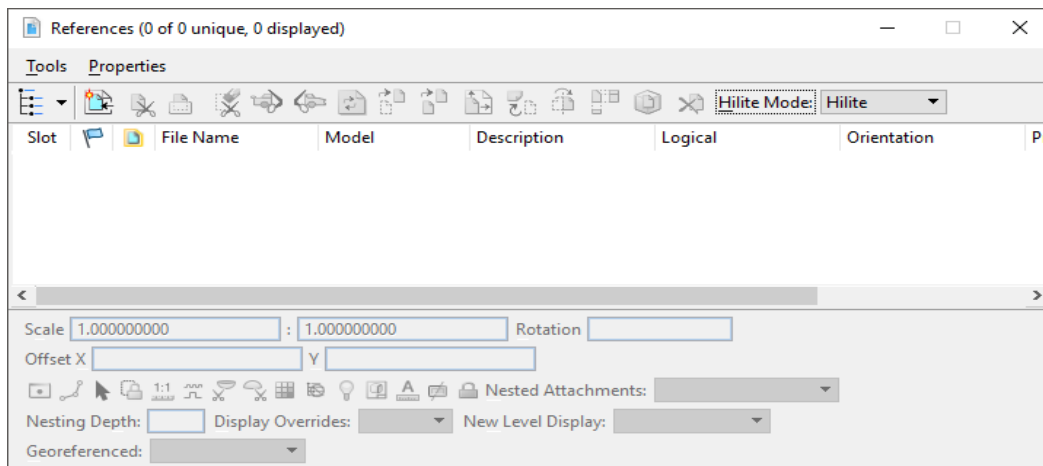
- Function Key **F7** – Toggles On/Off Construction View Attributes



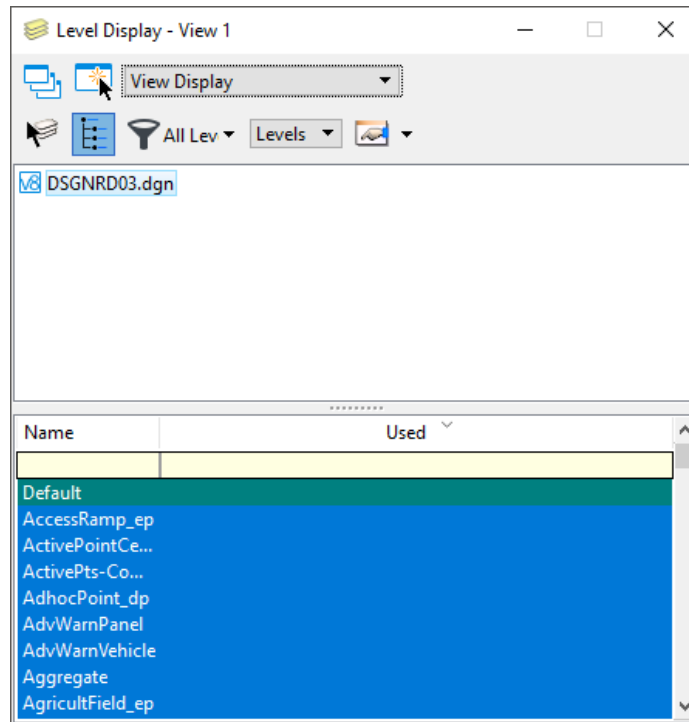
- Function Key **F8** – Toggles Between MicroStation AccuDraw and Civil AccuDraw



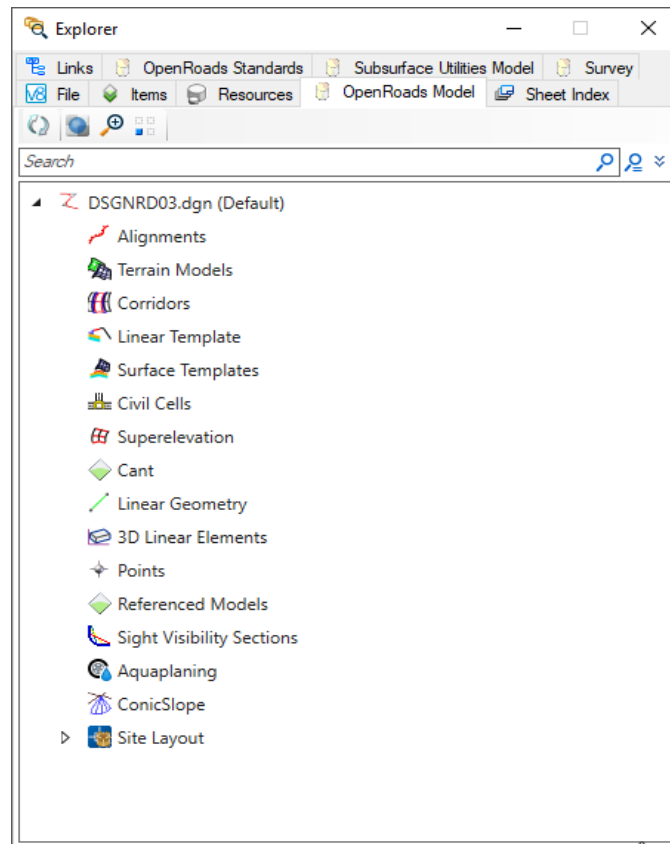
- Function Key **F9** – Toggles Reference Dialog Open\Close.



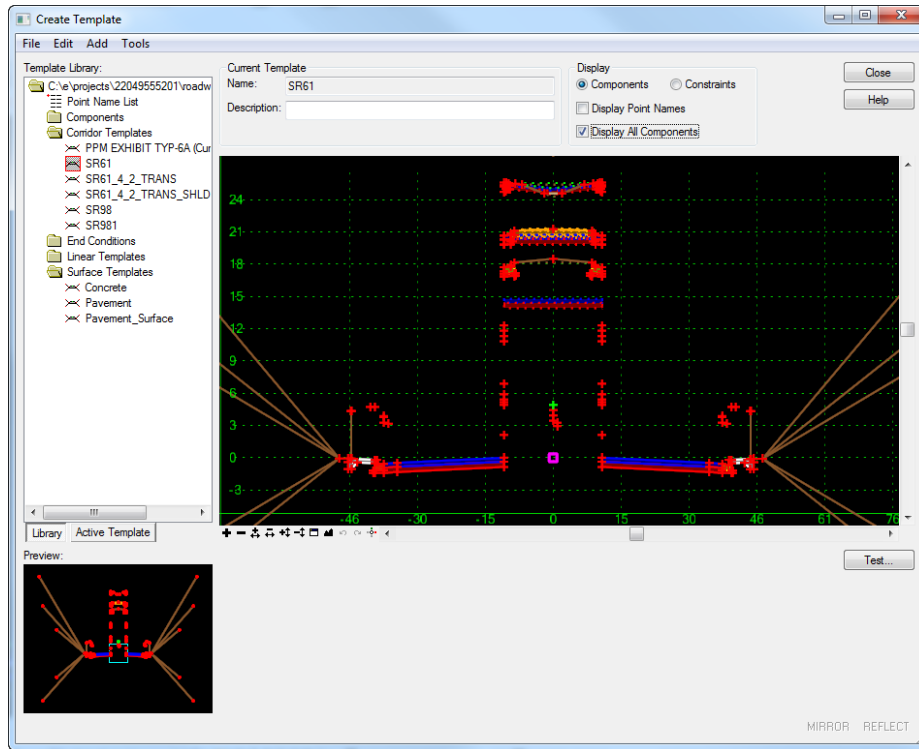
- Function Key **F10** – Toggles Level Display Dialog Open\Close.



- Function Key **F11** Toggles Explorer Dialog Open/Close.



- Function Key **F12** Corridor Modeling, Opens Create Template Dialog.



1 Key Sheet

KEY SHEET

The Key Sheet is defined as the first sheet in the contract plans. The Key Sheet describes the project, the contents of the plans, and identifies those responsible for preparing the plans. All requirements for the Key Sheet, can be found in *Part 9, Chapter 910* of the *FDOT Design Manual (FDM)*.

OBJECTIVES

- Create a Key Sheet DGN File
- Setup Key Sheet with All Necessary Information

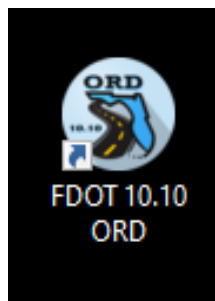
EXERCISE OVERVIEW – KEY SHEET

- | | |
|-----|---|
| 1.1 | Create the Key Sheet |
| 1.2 | Place and Edit the Components of Contract Plan Set List |
| 1.3 | Create and Place the Key Sheet Index |
| 1.4 | Place the Project Location Labels |
| 1.5 | Place the Contract Revision Note (Optional) |
| 1.6 | Edit Project Information with Plan Set Manager |

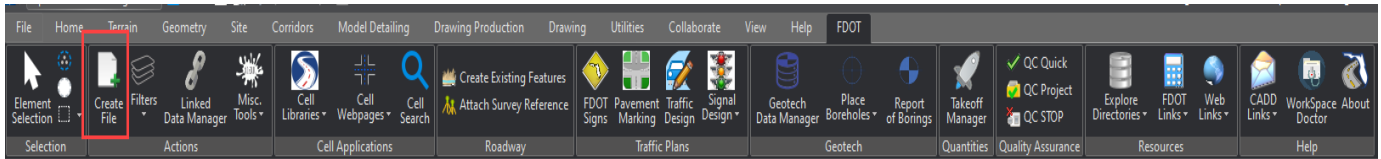
Exercise 1.1 Create the Key Sheet

In this exercise, the Key Sheet DGN file will be created, and all the necessary information will be added to the sheet.

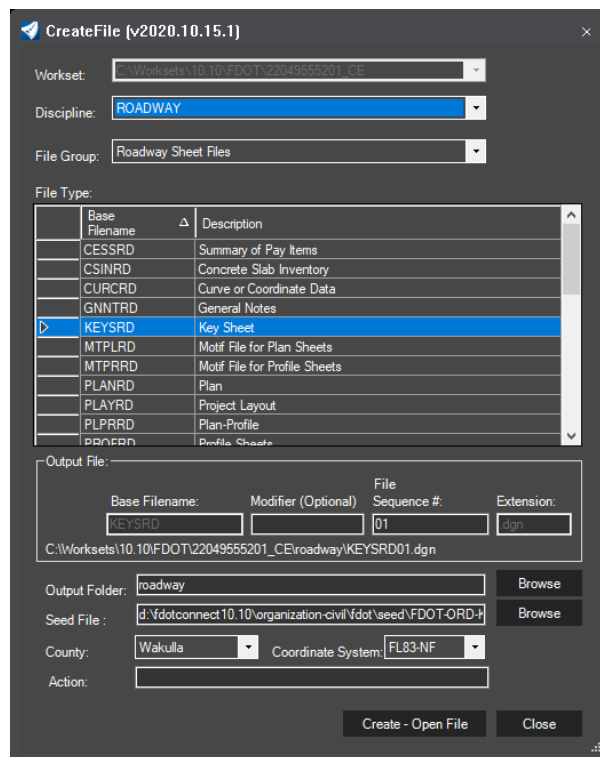
1. Using the FDOTCONNECT icon on your desktop, open the MicroStation design file:
C:\Worksets\FDOT\22049555201_CE\BlankFile.dgn



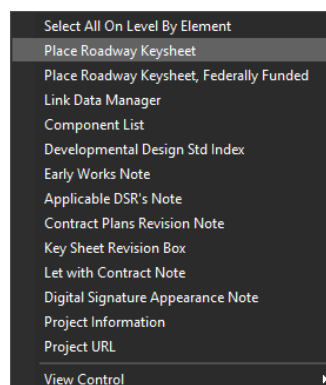
- On the OpenRoads Modeling Workflow, select **Create File**, from the **FDOT** Tab.



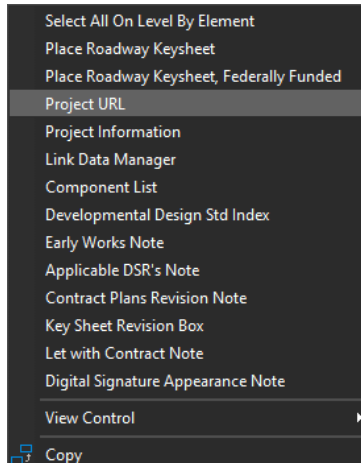
- The Create File dialog displays. On the Create File dialog set the *Discipline* to **Roadway** and *File Group* to **Roadway Sheet Files**. From the File Type list, select **KEYSRD**. On the Output File section of the dialog, be sure to set the County to Wakulla. Once everything is set up to match the image below, click **Create – Open File** to create and open the Roadway Key Sheet file. Click **Close** to close the Create File dialog.



- The file is created and opened to the Key Sheet sheet model. Once in the file, right-click and hold to bring up the Context menu. From this menu, select **Place Roadway Key Sheet** to bring up the Place Active Cell dialog with the KSRoadway cell set as the Active Cell. Place the Roadway Key Sheet into the file, snapping to the lower left corner on the Sheet Boundary.

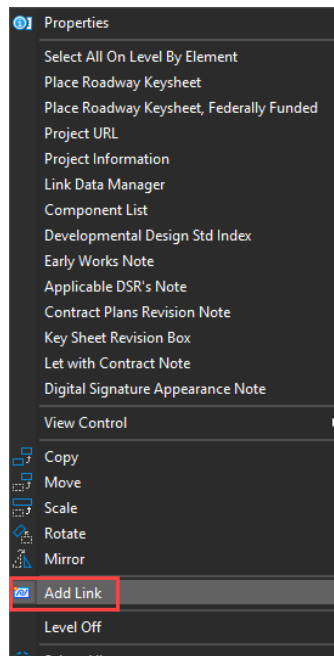


5. With the Key Sheet cell placed, bring up the Context Menu and select Project URL to open the Place Active Cell dialog with the KNProjectURL cell set as the Active Cell. Snap to the upper left corner of the Project Information box to place the cell.

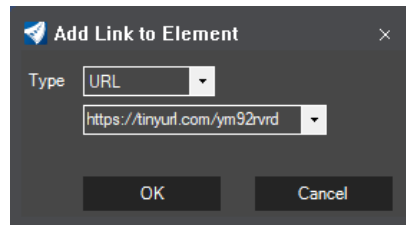


Note The cell was created using this dataset project as an example. Refer to FDM [Chapter 910.2.2](#) for more information on how to create a project specific URL.

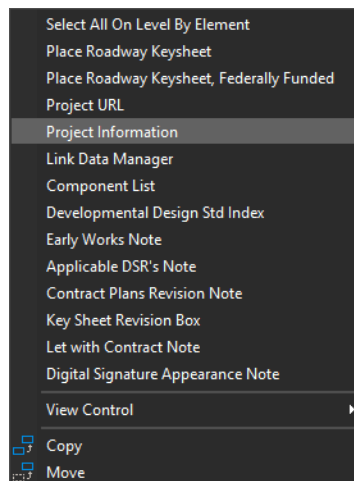
- a. Double click on the tinyurl text, to open the Text Editor dialog. Copy the web address text and close the Text Editor dialog.
- b. Hover over the tinyurl address, open the Context Menu and select Add Link from the list. This will open the Add Link to Element dialog.



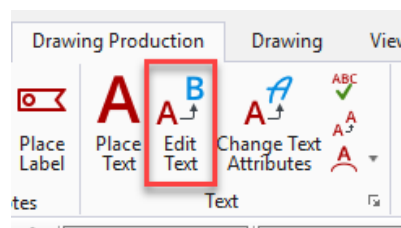
- c. On the Add Link to Element dialog, set the Type to URL and paste in the tinyurl web address copied from Step a. Click OK to add the link to the Project Location URL text.



6. Place the Project Information cell.
 - a. Bring up the Context Menu and select Project Information to open the Place Active Cell dialog with the KNProjectInfo cell set as the Active Cell. Snap to the upper left corner of the Project Information box to place the cell.



- b. Double-click on the “BEGIN MP...” text to edit the mile post information. For the Begin MP, enter 9.340 and 9.824 for the End MP.
 - c. There are no Exceptions, Bridge Limits or Railroad Crossings for this project so these will be left as “None”.
7. On the Drawing Production tab, use the Edit Text tool to enter the information *GOVERNING STANDARD PLANS as 2019-20*.



GOVERNING STANDARD PLANS:

Florida Department of Transportation, **FY2019-20** Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available at the following website: <http://www.fdot.gov/design/standardplans>

- a. Use the Edit Text tool to enter the information *GOVERNING STANDARD SPECIFICATIONS* as **July 2019**.

GOVERNING STANDARD SPECIFICATIONS:
Florida Department of Transportation, July 2019 Standard Specifications
for Road and Bridge Construction at the following website:
<http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

- b. Use the Edit Text tool to enter the *Construction Contract No.* as **T-8888**.

*CONSTRUCTION
CONTRACT NO.*
T-8888

- c. Use the Edit Text tool to enter the *Fiscal Year Value* as **19**.

*FISCAL
YEAR*
19

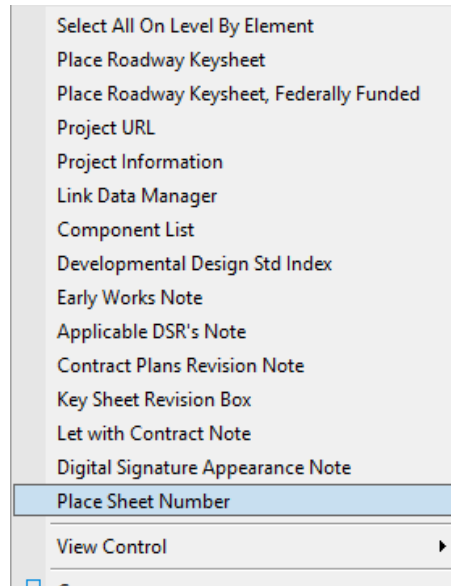
- d. Use the Edit Text tool to enter the *FDOT Project Manager*.

FDOT PROJECT MANAGER:
CHRISTOPHER THORP

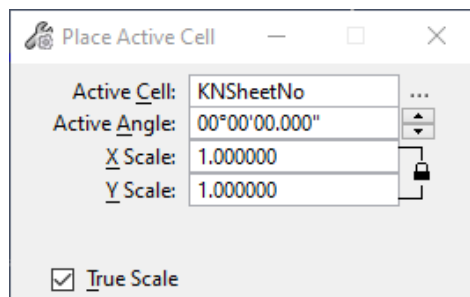
- e. Finally, use the Edit Text tool to edit “PROJECT DESCRIPTION” Change the text to “ADD LANES & RECONSTRUCT” left click in the file to apply.

WAKULLA COUNTY (59010)
STATE ROAD NO. 61
ADD LANES & RECONSTRUCT

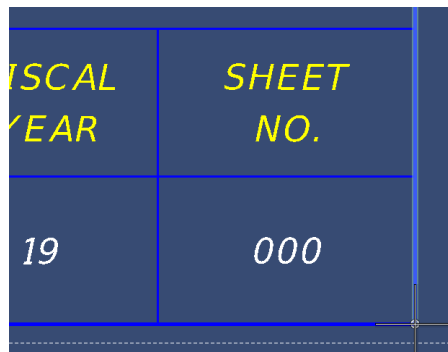
8. With the Element Selection tool active, right-click and hold to bring up the Context Menu. On the Context Menu, select Place Sheet Number.



9. The MicroStation Place Active Cell command launches with **KNSheetNo** set as the *Active Cell*.



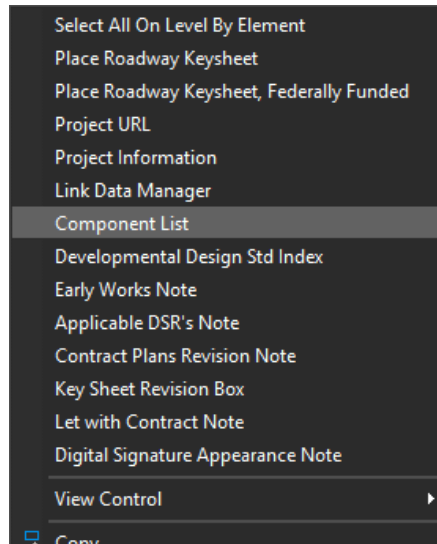
10. **Data point** to the lower right corner of the *Key Sheet border*. The *Sheet Number* should display as shown.



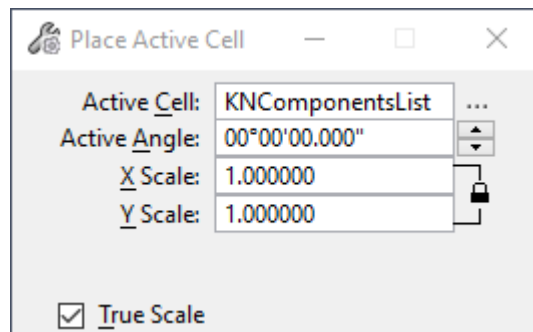
Exercise 1.2 *Place and Edit the Components of Contract Plans Set List*

The Components of Contract Plans Set is a list of all the components included in the plan set. This exercise demonstrates how to add this list to the Key Sheet.

1. Once the Key Sheet has been created, right-click and hold to bring up the context menu. From the context menu, select Component List.



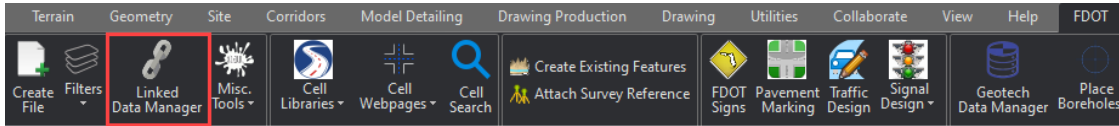
2. The MicroStation Place Active Cell command launches with **KNComponentsList** set as the *Active Cell*.



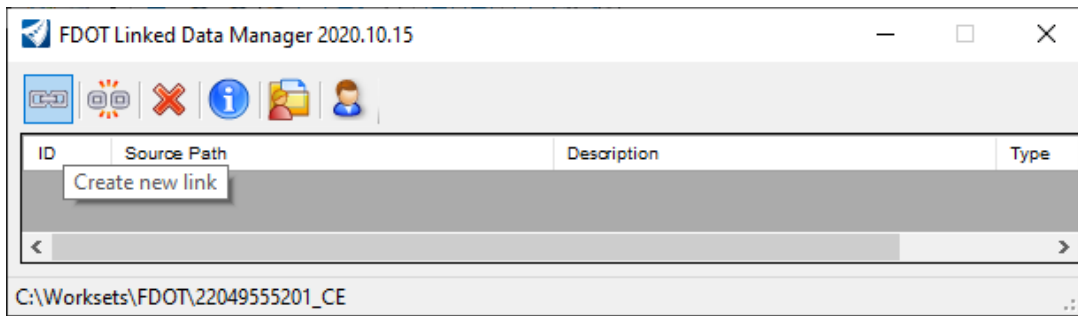
3. **Data Point** at the upper left corner of the *Key Sheet* border to place the cell.
4. The text appears under the *CONTRACT PLANS COMPONENTS* on the *Key Sheet*.
5. To edit the list of components, double-click on the text.
6. Edit the list in the Text Editor dialog. This project should include plans for the following components:
 - ROADWAY PLANS
 - SIGNING AND PAVEMENT MARKING PLANS
 - SIGNALIZATION PLANS
7. Data point in MicroStation when finished editing the text.

Exercise 1.3 Create and Place the Key Sheet Index

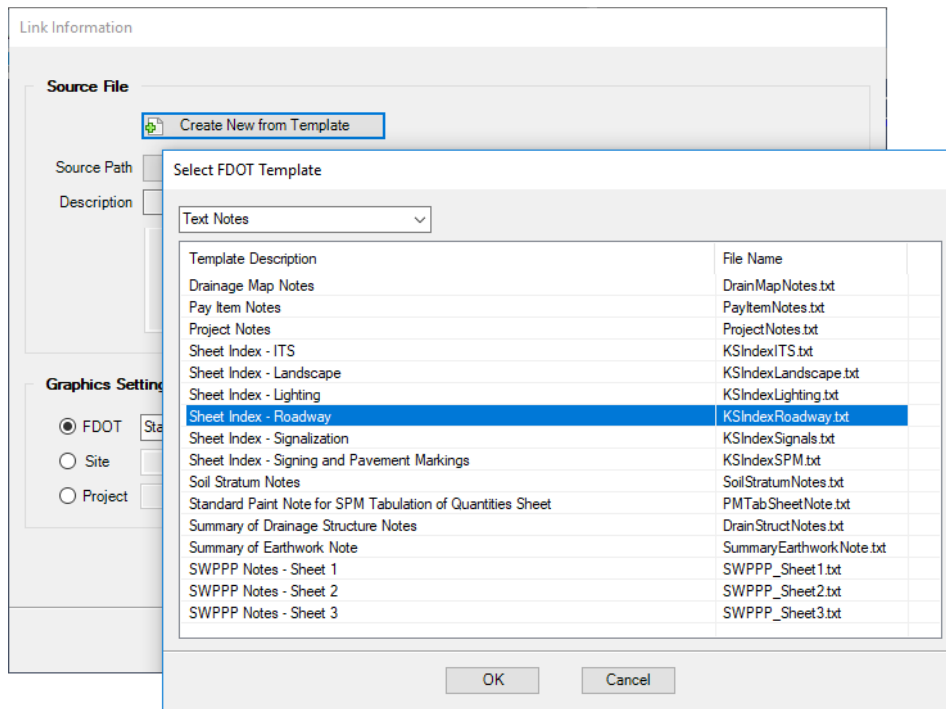
1. On the FDOT Tab, select **LDM** from the Actions group.



2. On the Linked Data Manager dialog, select the Create new link button.



3. From the Link Information dialog, select Create New from Template. On the Select FDOT Template dialog select the Sheet Index - Roadway from the Text Notes category. Click OK and save the KSIndexRoadway.txt file in your Roadway folder.

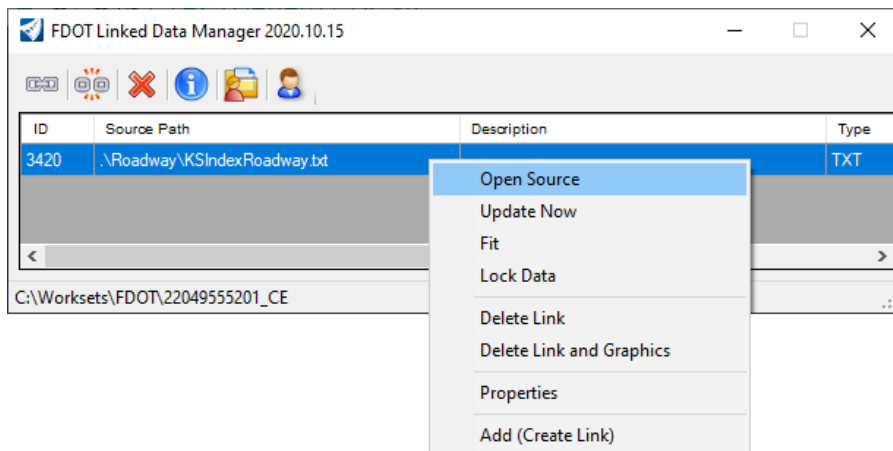


- a. Once saved and back on the Link Information dialog, click OK to place the Index.

- b. Place the Index so that it lines up with the SHEET NO. and SHEET DESCRIPTION headers.

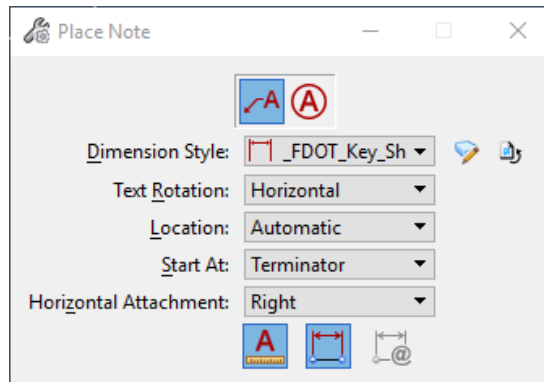
<i>INDEX OF ROADWAY PLANS</i>	
<i>SHEET NO.</i>	<i>SHEET DESCRIPTION</i>
1	KEY SHEET
2	SIGNATURE SHEET
3	DRAINAGE MAP
4 - 5	TYPICAL SECTIONS
6	CROSS SLOPE CORRECTION DETAILS
7 - 9	MODEL MANAGEMENT
10	PROJECT CONTROL
11	GENERAL NOTES
12 - 14	ROADWAY PLAN-PROFILES
15 - 16	DRAINAGE STRUCTURES
17	LATERAL DITCHES
18	STORM WATER POLLUTION PREVENTION PLAN
19 - 26	TEMPORARY TRAFFIC CONTROL PLANS
27 - 32	UTILITY ADJUSTMENTS
33 - 36	SELECTIVE CLEARING AND GRUBBING
GR-1*	ROADWAY SOIL SURVEY

- c. Once this is placed in the file, the Index will be modified within the actual text file and not in the ORD dgn file. To get to the Index text file, from within Linked Data Manager, right-click on the Link and select Open Source.

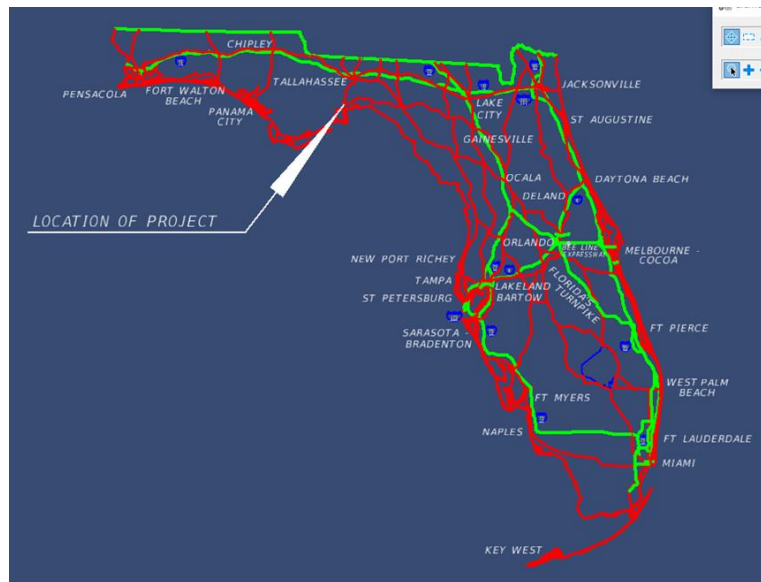


Exercise 1.4 Place the Project Location Label

1. From the Home tab, set the level to TextLabel.
2. From the Drawing Production Tab, select **Place Note**.
3. Set the Place Note Parameters as shown below, with the Dimension Style set to `_FDOT_Key_Sheet_Locate`:



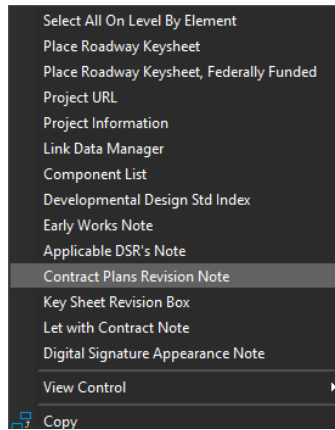
4. In the Text Editor, set the Text Style to FDOT (Small) and then type LOCATION OF PROJECT. Select the general *project location* on the Florida map, position the *label*, and **data point** again to place it. The *label* should display as shown below.



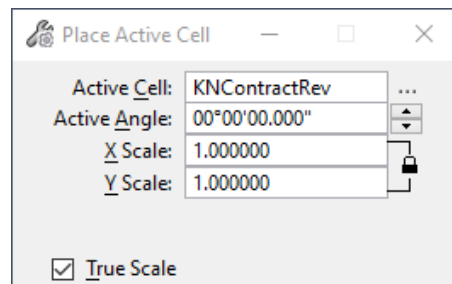
Exercise 1.5 *Place the Contract Revision Note (Optional)*

The Contract Plans Revision Note is only placed into the file to document which Component and which Sheets have been revised throughout the project. If there are no revisions this is not required.

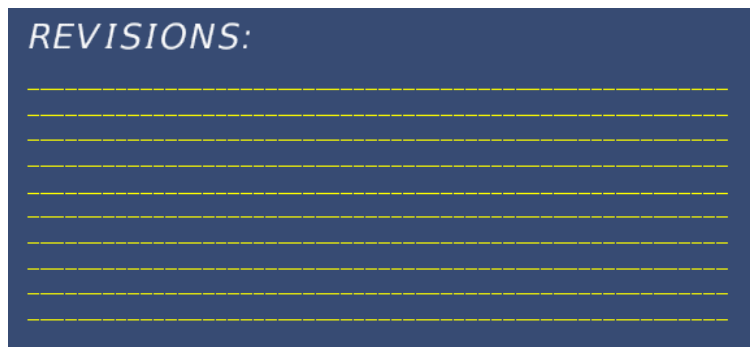
1. With the Element Selection tool active, right-click and hold to bring up the Context Menu. On the Context Menu, select Contract Plans Revision Note.



2. The MicroStation Place Active Cell command launches with **KNContractRev** set as the *Active Cell*.

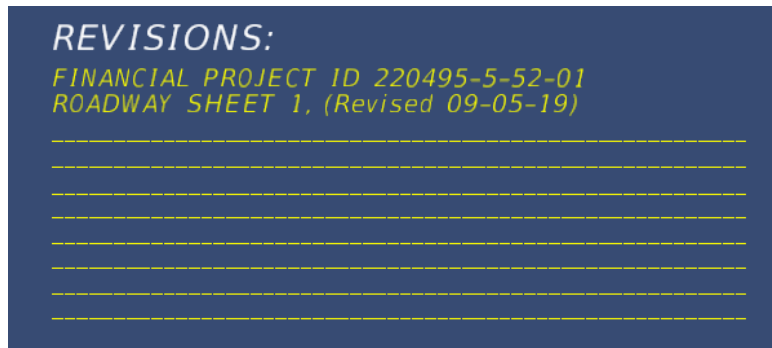


3. **Data point** to the lower left corner of the *Key Sheet border*. The *Note* should display as shown.

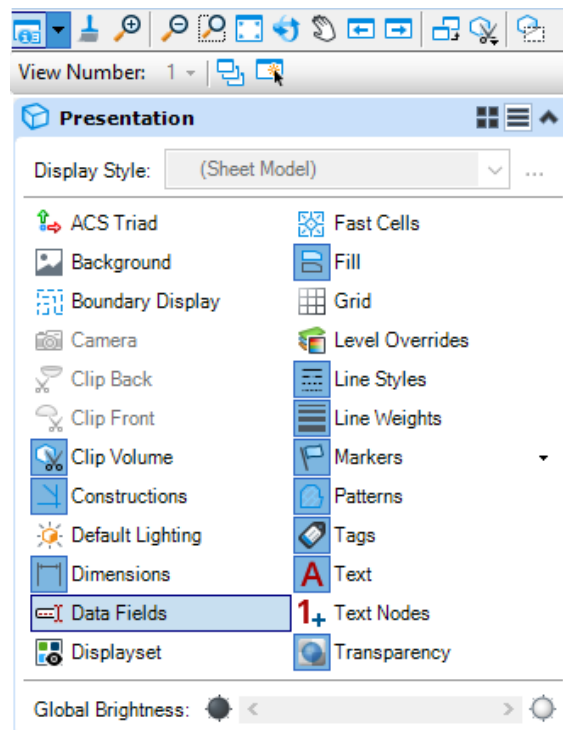




- Select the **Edit Text** tool to enter the *Financial Project ID*, **220495-5-52-01** as well as the *Revision Number*, the *Component Set*, the *Revised Page Numbers*, and *Date of Revision*. See below.



- Go to the MicroStation *View* options and turn **Off** *Data Fields*.

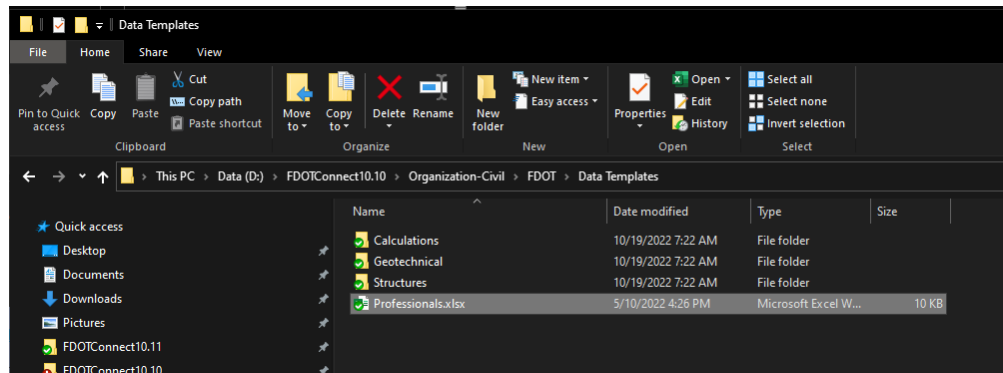


- Fit View to center the sheet.

Exercise 1.6 Edit Project Information with Plan Set Manager

This exercise will demonstrate how to use the new Plan Set Manager in Single Sheet mode.

1. Open a Windows Explorer dialog and navigate to the C:\FDOTConnect10.10\Organization-Civil\FDOT\Data Templates folder. Copy the *Professionals.xlsx* file from here to the local project directory, C:\Worksets\FDOT\22049555201_CE\Data.

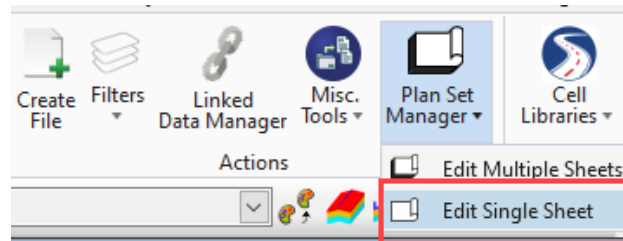


Note A District or Company can create a custom spreadsheet and save it in <server:\>FDOTConnect\Workspaces\FDOT\Standards\Data for common access.

2. Open the copied *Professionals.xlsx* file and fill out as shown below. For “ProfessionalType,” be sure to choose a selection from the drop-down list. Save and close the file when finished.

Name	LicenseNumber	ProfessionalType	Company	Street	City	State	Zip	Phone	Fax
Christopher Thorp	12345	Engineer of Record	FDOT	605 Suwannee St	Tallahassee	FL	32399	850-123-4567	

3. From the FDOT tab, select Edit Single Sheet from the Plan Set Manager drop-down button.



- Fill out the Sheet Information on the Edit Single Sheet dialog, as shown below.

Edit Single Sheet

Sheet Information

Sheet Title

Sheet Number

Sheet Sequence

Project Information

Financial Project Id

Road Number

Roadway ID

County

Top ▾

Middle ▾

Bottom ▾

- In the Professional Information section, click on Ellipses button to the right of the Select Professional drop-down.

Professional Information

Select Professional ▾

Professional Name

Professional Type ▾

License Number

Company Name

Street

City

State

Zip

F.A.C Note

- Browse to the *Professionals.xlsx* file within the Workset and Open. From the Select Professional drop-down, select Professional's name that was saved into the file.

Professional Information

Select Professional ▾

Professional Name

Professional Type ▾

License Number

Company Name

Street

City

State

Zip

F.A.C Note

- Click Ok to apply the information to the sheet.

2 Signature Sheet

All projects must be signed and sealed by the Engineer of Record. Therefore, each project requires a Signature Sheet. This chapter will show the tools used to correctly create a signature cell and sheet. For more information about signature sheets and their requirements see *Part 9, Chapter 910* of the *FDM*.

OBJECTIVES

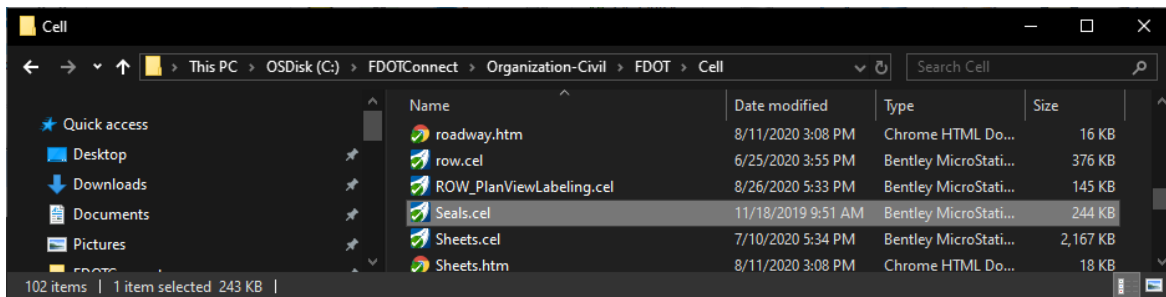
- Create Custom Signature Cells
- Create the Signature Sheet

EXERCISE OVERVIEW

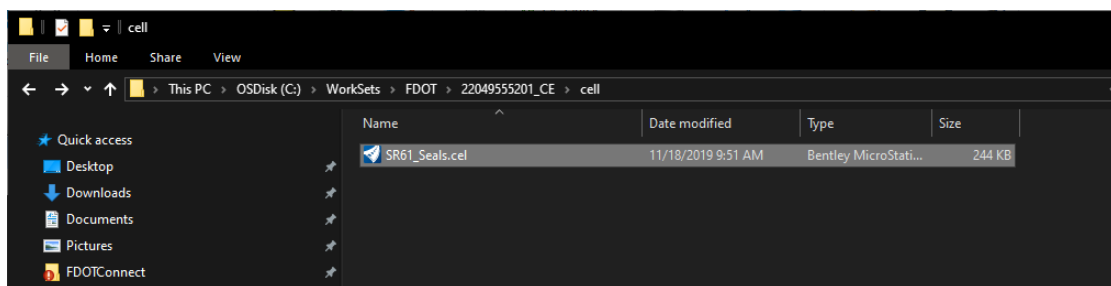
- 2.1 Creating Custom Signature Cells
- 2.2 Creating the Signature Sheet
- 2.3 Creating the BIM File Manifest

Exercise 2.1 *Creating Custom Signature Cells*

1. Open a Windows Explorer dialog and navigate to the `C:\FDOTConnect10.10\Organization-Civil\FDOT\Cell` folder.

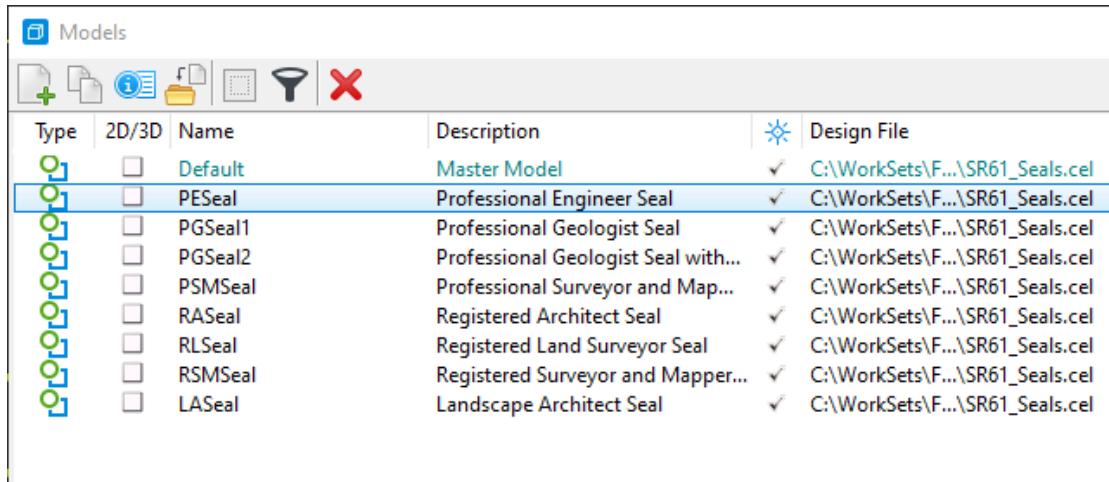


2. Copy the `Seals.cel` from this directory to the project directory `C:\WorkSets\FDOT\22049555201_CE\cell` and name it `SR61_Seals.cel`.

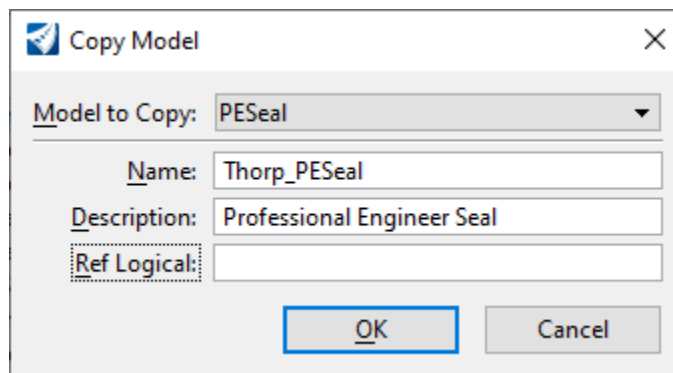


Note A District or Company can create a custom library and save it in <server:\>FDOTConnect\Workspaces\FDOT\Standards\Cell for common access.

- Use the **FDOTCONNECT** icon to open the *SR61_Seals.cel* file, within the 22049555201_CE Workset.
- On the Home tab select **Models** from the Primary group. The Models dialog displays.



- Right-click on the **PESeal** model and select **Copy**. Change the Model Name to **YourName_PESeal** and update the *Description*, then click **OK**. The created model opens.



- From the Drawing Production tab, select **Edit Text**.

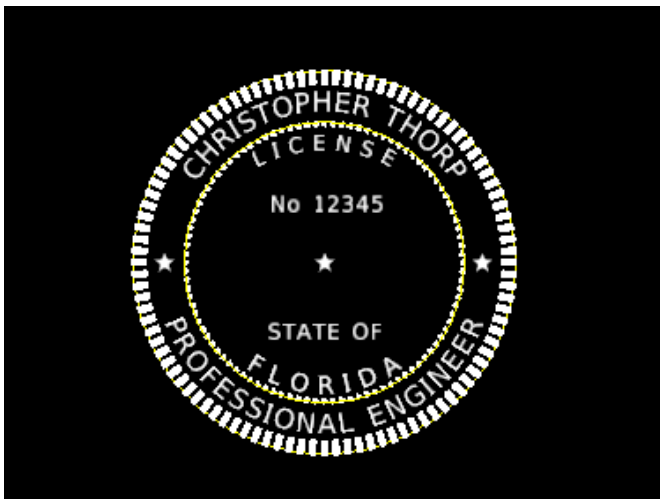
7. Select the *text* SIGNATURE NAME to edit.



8. In the Text Editor dialog, enter *your name* and **data point** to accept.

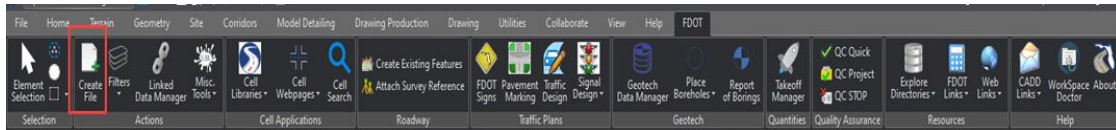


9. Next, select the **License No.** *text* and enter the *P.E. number 12345* and **data point** to accept.

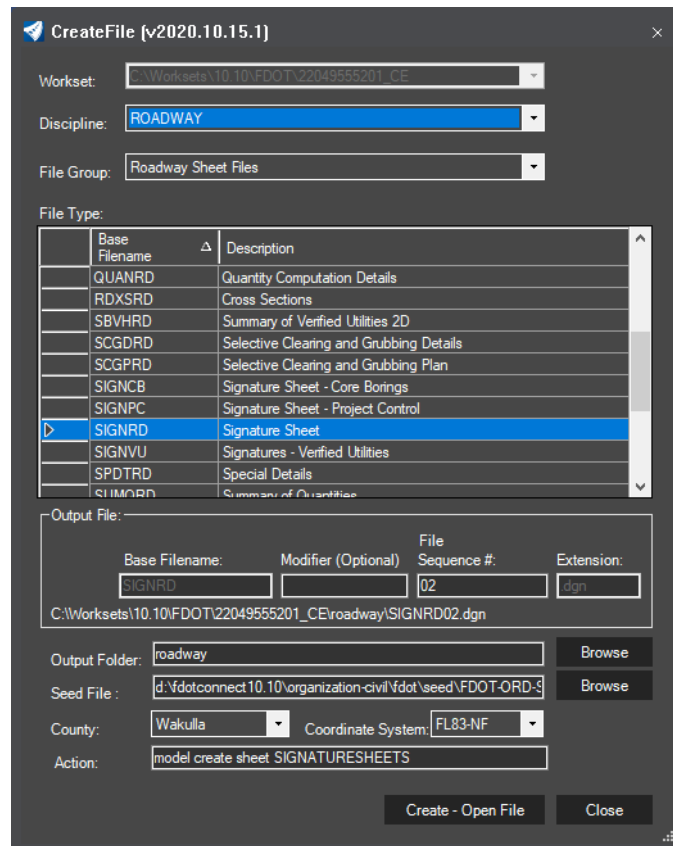


Exercise 2.2 Creating the Signature Sheet

1. On the OpenRoads Modeling Workflow, select Create File, from the FDOT Tab.

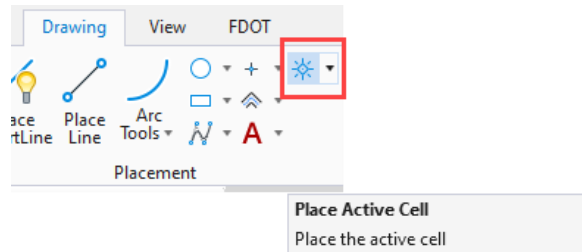


2. The Create File dialog displays. On the Create File dialog set the *Discipline* to **Roadway** and *File Group* to **Roadway Sheet Files**. From the File Type list, select **SIGNRD**. On the Output File section of the dialog, be sure to set the County to **Wakulla**. Once everything is set up to match the image below, click **Create – Open File** to create and open the Project Notes file. Click **Close** to close the Create File dialog.

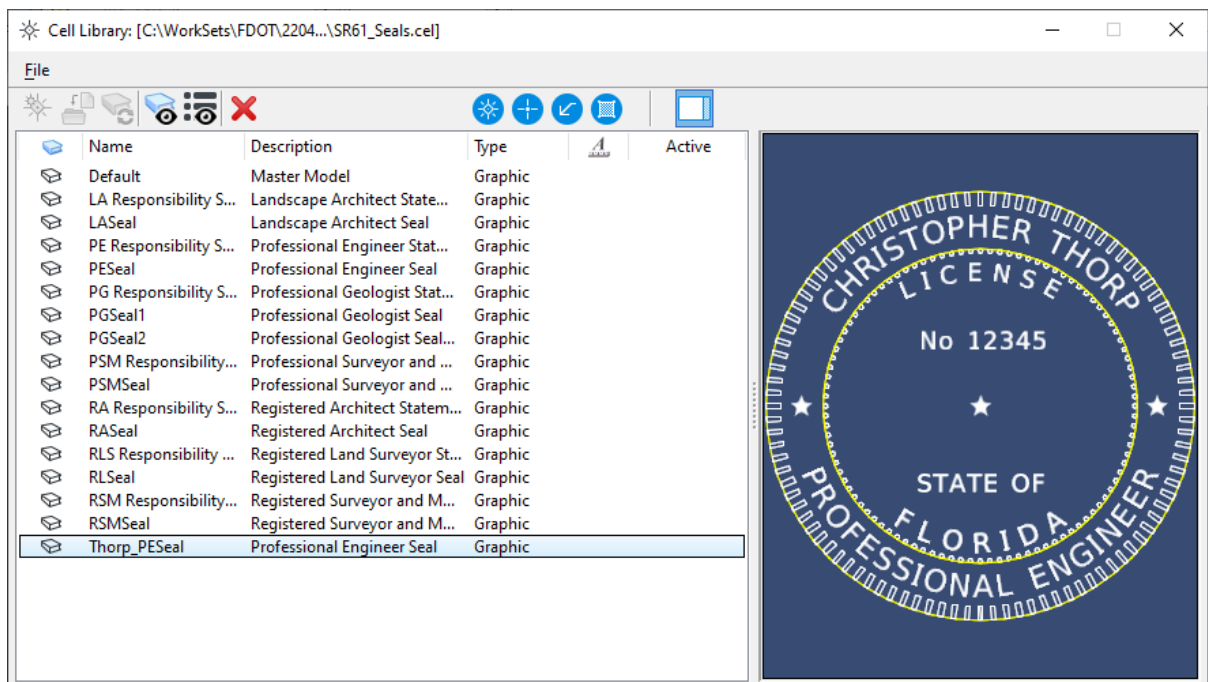


➤ Placing the Signature Information (Part 1)

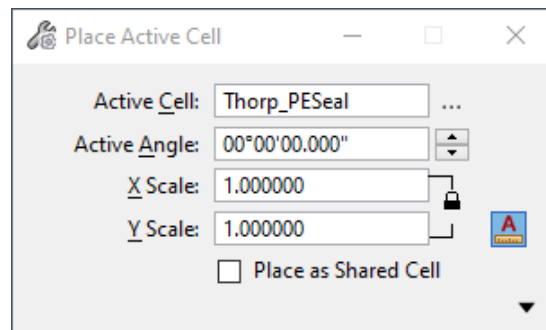
1. From the Drawing tab, select the Place Active Cell tool.



2. From the Place Active Cell dialog, select Browse Cells(s). this will open the Cell Library dialog.
3. From the Cell Library dialog, select **File > Attach File...** and navigate to the *SR61_Seals.cel* file and click **Open**.
4. From the Cell Library dialog, highlight the newly created *seal cell* and double-click on the **YourName_PESeal**.



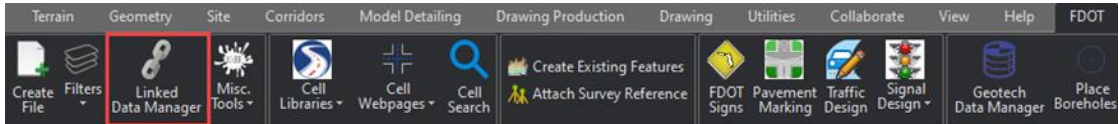
5. This sets **YourName_PESeal** as the *Active Cell*. Set *scale* of the cell to **1.0**.



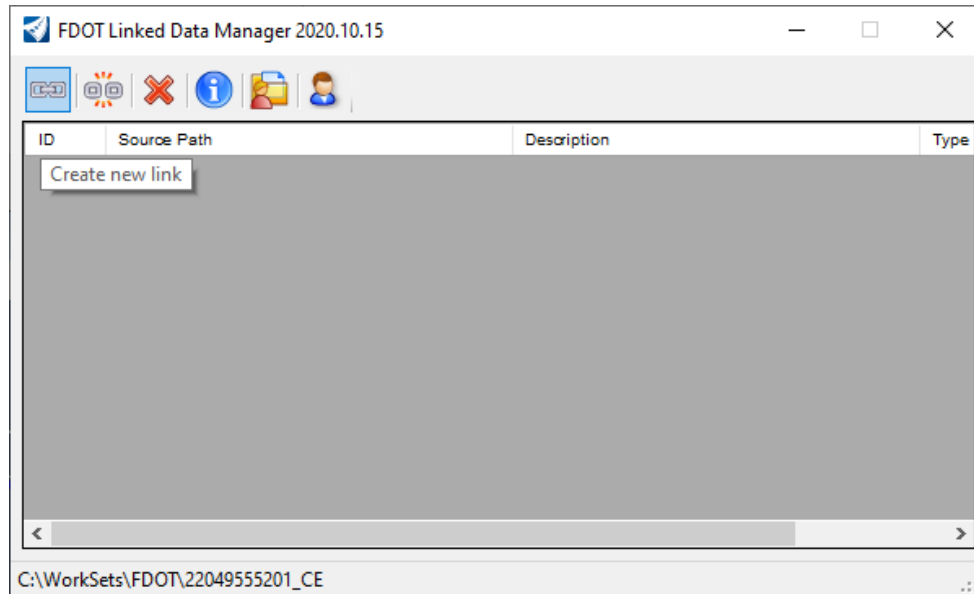
6. **Data point** to place the cell in the file. Place the *cell* in the upper left corner of the sheet. **Reset** when finished to get out of the *Place Cell* command.

➤ **Placing the Signature Information (Part 2)**

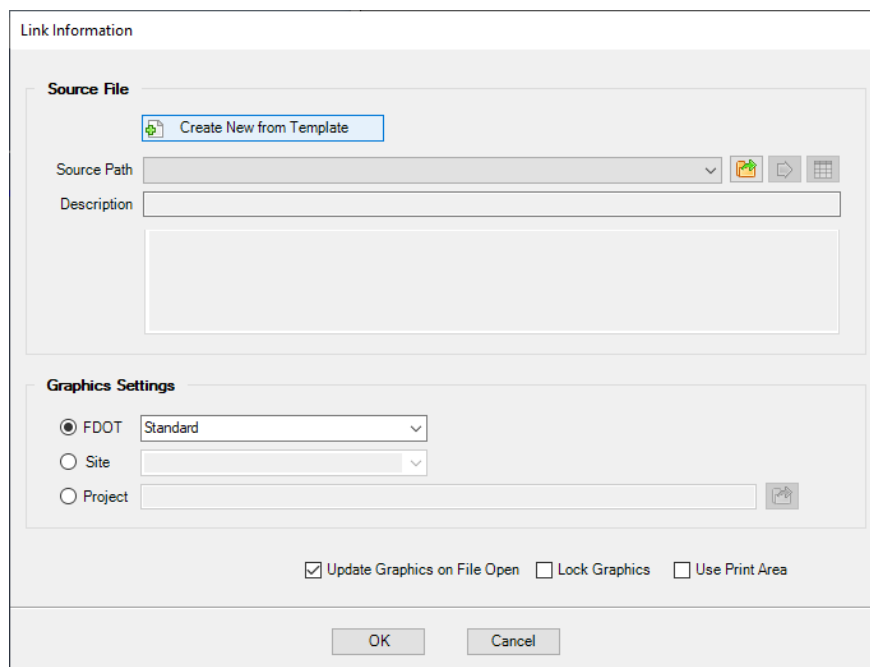
1. The *Statement of Responsibility* is placed using Linked Data Manager. From the FDOT tab select **Linked Data Manager**.



2. The FDOT Linked Data Manager dialog displays. Select the **Create New Link** icon.

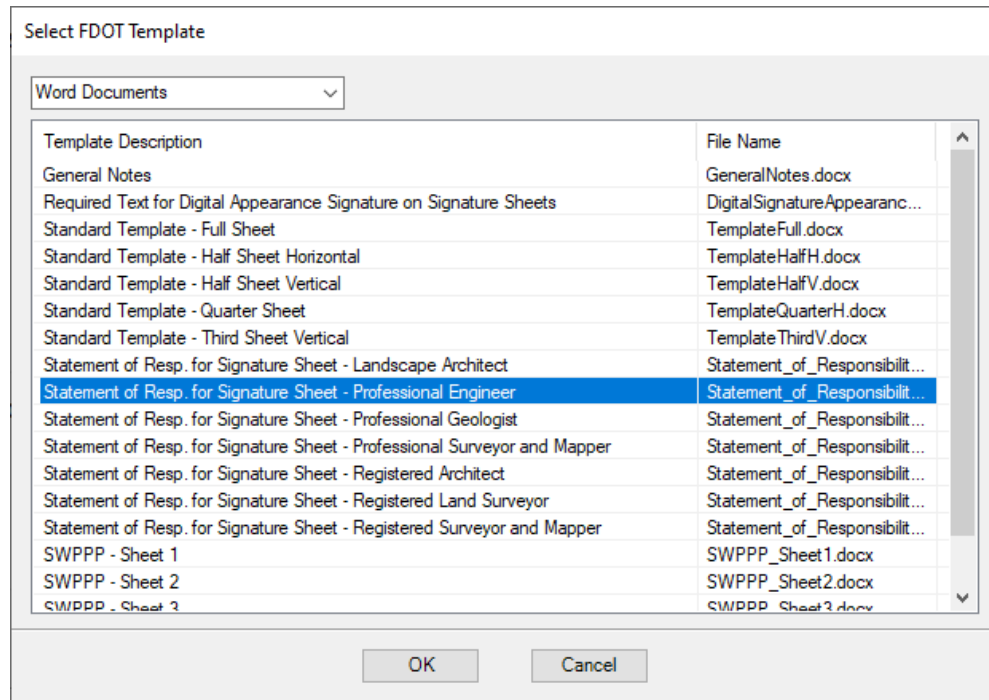


3. The Link Information dialog displays. Click on the **Create New from Template** button.



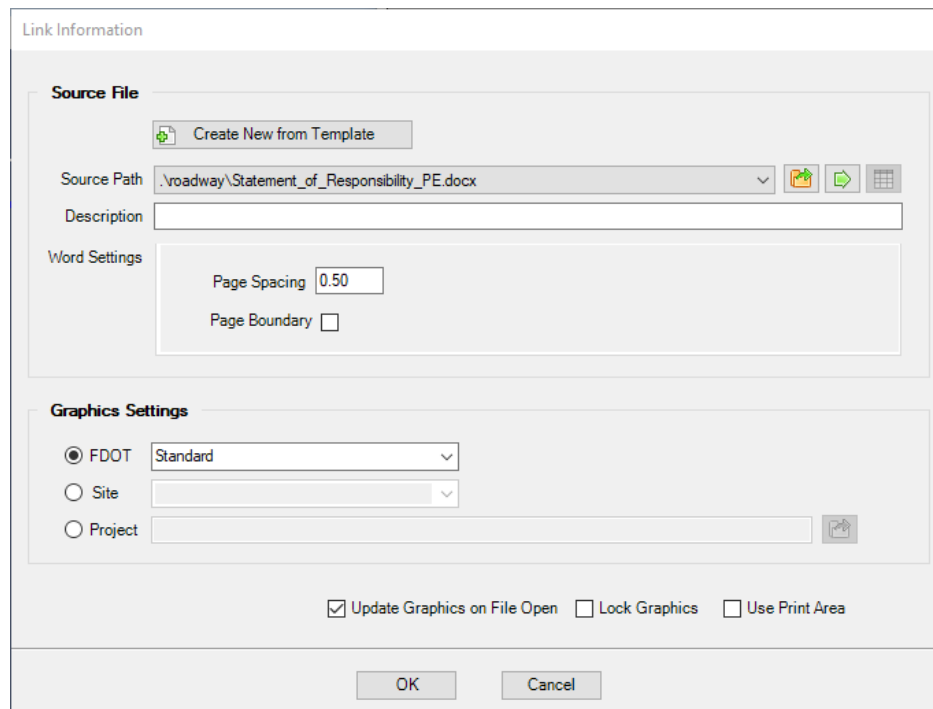
4. The Select FDOT Template dialog displays.

- a. Set the drop down to **Word Documents** and select the **Statement of Resp. for Signature Sheet – Professional Engineer Template**. Click **OK**.

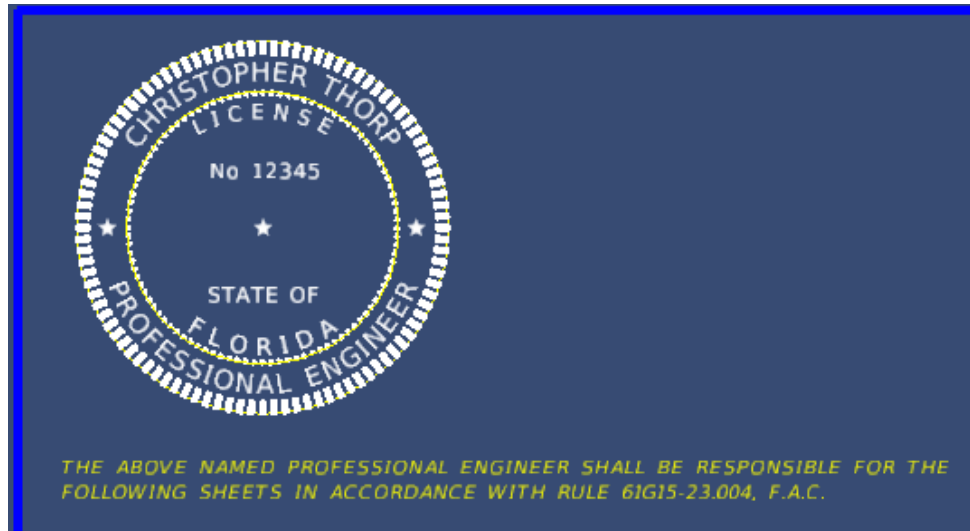


- b. The *Save File* dialog displays. Browse to the *C:\WorkSets\FDOT\22049555201_CE\roadway* folder, accept the default *filename* and **Save** the file.
5. From the Link Information dialog, toggle **Off** the *Page Boundary* check box and click **OK**.

Note The file name of the document can be changed to reflect the Professional's name.



6. With the *Statement of Responsibility Note* attached to cursor, **data point** under the *seal cell* to place the link. The *link* is created and listed in the Linked Data Manager dialog.



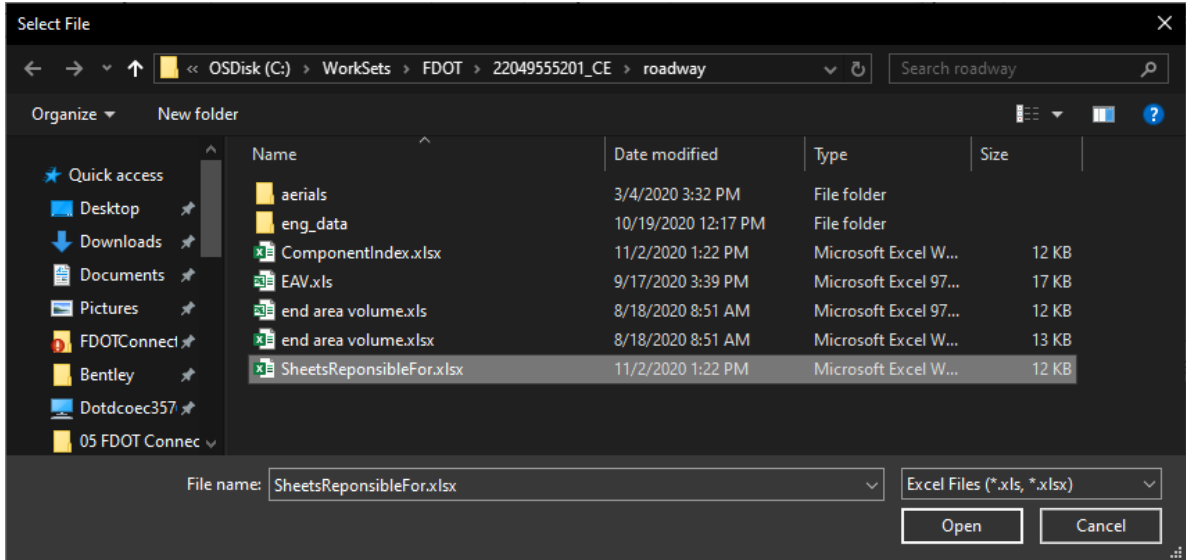
➤ **Placing the Signature Information (Part 3)**

The list of sheets the Engineer is responsible for is also placed using Linked Data Manager.

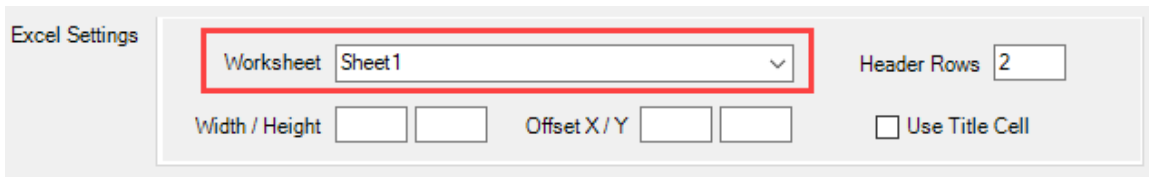
- Navigate to the *C:\WorkSets\FDOT\22049555201_CE\roadway* folder. Copy the *ComponentIndex.xlsx* file and paste it into the *Roadway* folder with the name *SheetsResponsibleFor.xlsx*.
- From the FDOT tab select **Linked Data Manager**.
- From the FDOT Linked Data Manager dialog, click the **Create New Link** button.
- The Link Information dialog displays. Click the **Select Existing File** button.

Link Information

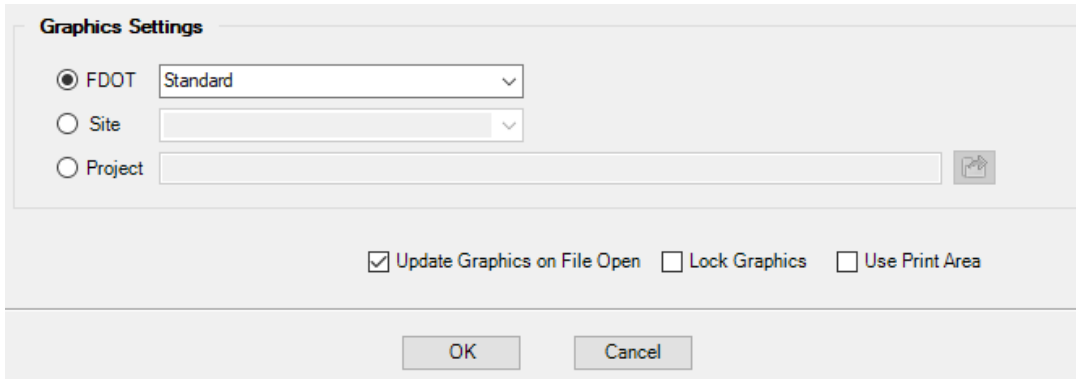
- Select File displays. Select the *SheetsResponsibleFor.xlsx* and click the **Open** button.



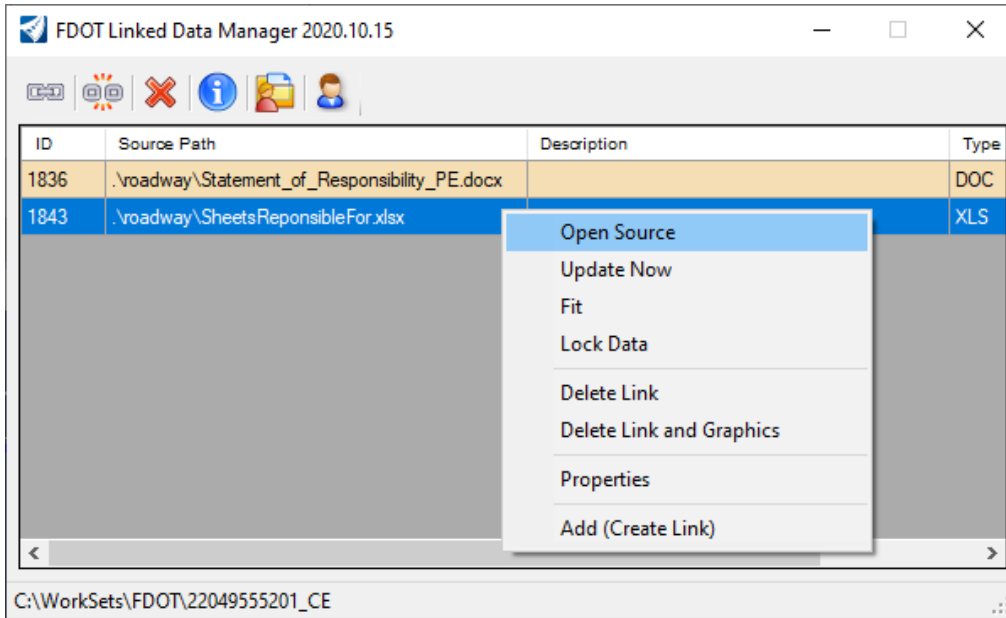
- From the FDOT Linked Data Manager dialog, for the *Excel Settings*, set the *Worksheet* to **Sheet 1** as shown below.



- Set the *Graphic Settings* as shown below. Click the **OK** button.



- Data Point** to place the text under the *Statement of Responsibility Note* in the MicroStation file.
- From the FDOT Linked Data Manager dialog, right-click on the *SheetsResponsibleFor.xlsx* link and select **Open Source**.

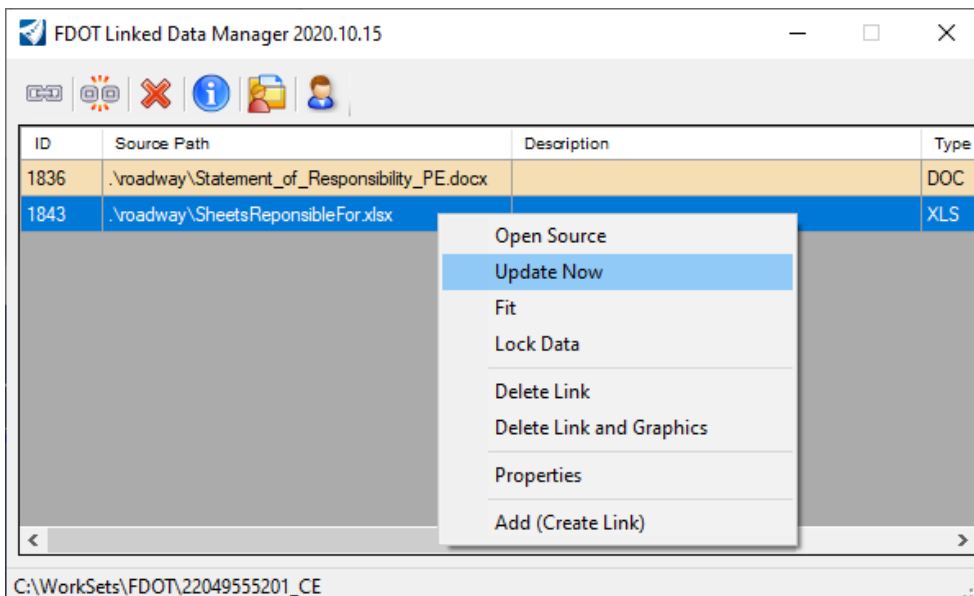


- The Excel file opens. Insert a *row* and add the *title* **ROADWAY PLANS**.

2	ROADWAY PLANS	
3	1	KEY SHEET
4	4 - 5	TYPICAL SECTIONS
5	6	CROSS SLOPE CORRECTION DETAILS
6	7 - 9	MODEL MANAGEMENT
7	10	PROJECT CONTROL
8	11	GENERAL NOTES
9	12 - 14	PLAN/PROFILE
10	19 - 26	TEMPORARY TRAFFIC CONTROL PLANS
11		

10. **Save** and **close** the Excel file.

- From the FDOT Linked Data Manager dialog, right-click on the *SheetsResponsibleFor.xlsx* link and select **Update Now**.

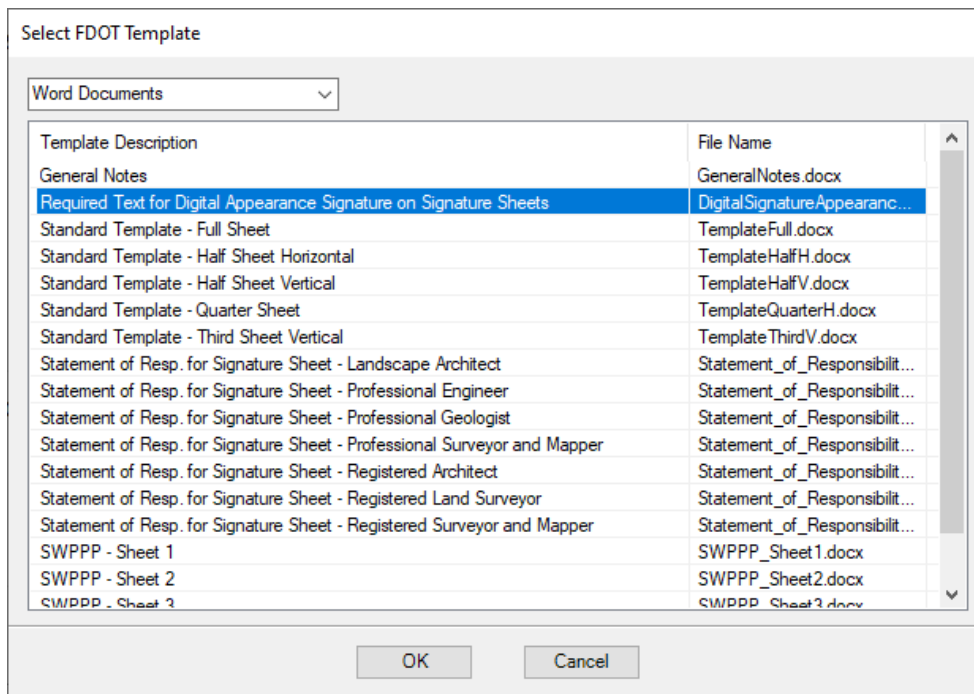


12. The link will be updated in the MicroStation file to reflect the changes made.

➤ **Placing the Signature Information (Part 4)**

The *Digital Signature Appearance* information text is placed using Linked Data Manager.

1. From the FDOT tab select **Linked Data Manager**.
2. The FDOT Linked Data Manager dialog displays. Select the **Create New Link** icon.
3. The Link Information dialog displays. Click on the **Create New from Template** button.
4. The Select FDOT Template dialog displays.
 - a. Set the drop down to **Word Documents** and select the **Required Text for Digital Appearance Signature on Signature Sheets Template**. Click **OK**.



- b. The *Save File* dialog displays. Browse to the *C:\WorkSets\FDOT\22049555201_CE\roadway* folder, accept the default *filename* and **save** the file.
5. From the Link Information dialog, toggle **Off** the *Page Boundary* check box and click **OK**.

Link Information

Source File

Create New from Template

Source Path: .\roadway\DigitalSignatureAppearance.docx

Description:

Word Settings

Page Spacing: 0.50

Page Boundary:

Graphics Settings

FDOT Standard

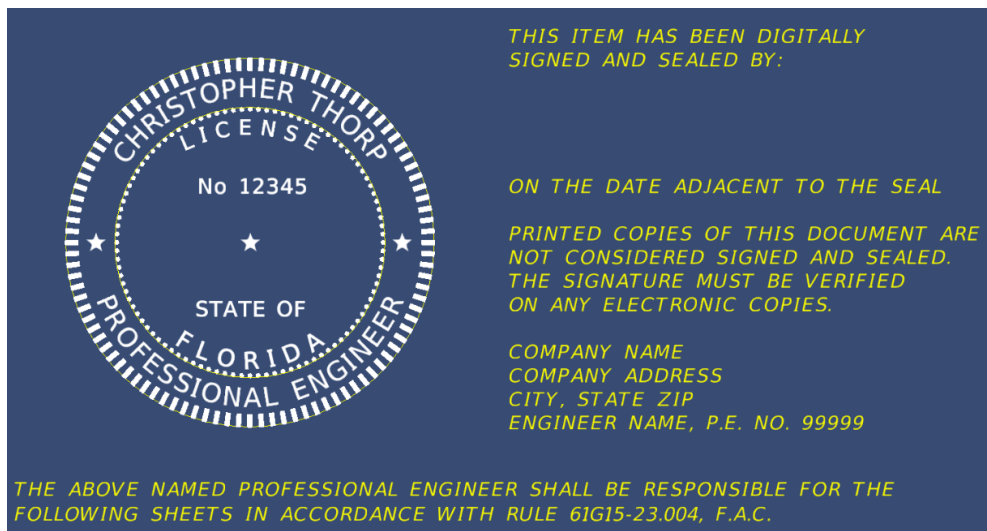
Site

Project

Update Graphics on File Open Lock Graphics Use Print Area

OK Cancel

6. With the *Digital Signature Appearance Note* attached to cursor, **data point** in the MicroStation file to the right of the seal cell to place the link. The link is created and listed in the Linked Data Manager dialog.



7. To edit the *Digital Signature Appearance Note*:
- Go to the Linked Data Manager dialog, right-click on the *link* and select **Open Source**.
 - The Word document displays. At the bottom portion of the note, input the correct *company information*. See below:

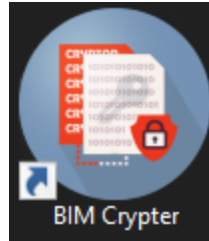
FDOT ENGINEERING, INC.
605 SUWANNEE STREET
TALLAHASSEE, FL 32399
CHRISTOPHER THORP, P.E. NO. 12345
 - Save** the file and **close** it.
8. From the Linked Data Manager dialog, select the link again, right-click and select **Update Now**.

Note The note will be updated in the MicroStation file to reflect the changes.

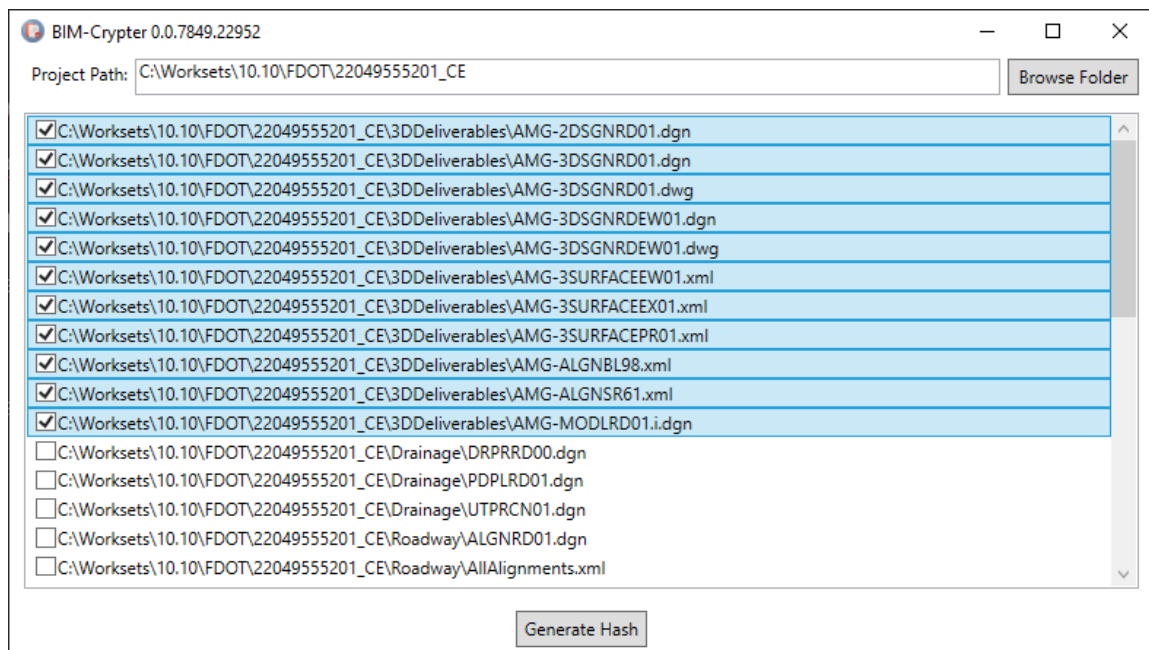
- Use MicroStation **Fit View** and then select **File > Save Settings**.

Exercise 2.3 *Creating the BIM Manifest*

- From the FDOTConnect desktop folder, open the BIM Cryptor tool.



- On the BIM Cryptor dialog, click Browse Folder, and browse to the *C:\WorkSets\FDOT\22049555201_CE* folder and click OK.
- With the Project Path set to the 22049555201_CE location, select the files to be included in the manifest. For this dataset, select all the AMG files.



- Click Generate Hash to create the BIM File Manifest. Save this .xlsx file in the *_Meta_Info* folder.
- In the SIGNRD01.dgn file, open the Linked Data Manager tool from the FDOT tab.
- The FDOT Linked Data Manager dialog displays. Select the **Create New Link** icon.
- The Link Information dialog displays. Click the **Select Existing File** button.
- Select File displays. Browse to the *_Meta_Info* folder and select the *Contract_BIM_Files.xlsx* file. Click the **Open** button.
- For the *Excel Settings*, set the *Worksheet* to **Sheet 1**. Verify the Link Information dialog is set up as shown below and click OK.

Link Information

Source File

Create New from Template

Source Path: .\Meta_Info\Contract_BIM_Files.xlsx

Description:

Excel Settings

Worksheet: Sheet1 | Header Rows: 2

Width / Height: | | | Offset X / Y: | | | Use Title Cell

Graphics Settings

FDOT: Standard

Site

Project

Update Graphics on File Open Lock Graphics Use Print Area

OK Cancel

10. With the table attached to the cursor, data point to place the table on the sheet.

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 91019-23.004, F.A.C.

ROADWAY PLANS	KEY SHEET
1	4-5
5	6
7-9	10
11	12-14
19-20	

FILE NAME	FILE DESCRIPTION	SHA256 Encryption Code
22049555201_CE_300e11verables.AMG_30SONRD01.dgn	AMG File For 3D-Deliverables	83088C18531847A335801263C48174261A2E4831C2K38728002A2202E
22049555201_CE_300e11verables.AMG_30SONRD01.dgn	AMG File For 3D-Deliverables	9E41E7E20C9E48384E41E9E05803C1881802487E8358C2E900E4643E478
22049555201_CE_300e11verables.AMG_30SONRD01.dgn	AMG File For 3D-Deliverables	77250F5C0D343749E3A457893CD1AA92255183C40361925A3B7294140745
22049555201_CE_300e11verables.AMG_30SIGNRD01.dgn	AMG File For 3D-Deliverables	52C6233959FF348F3B96D4C1D9F8973A2112F9A8F94F0339A27A0D3044519
22049555201_CE_300e11verables.AMG_30SIGNRD01.dgn	AMG File For 3D-Deliverables	7A0E21B44F8E74858B74E73E423C678A5AF0BA184E9CB7A166117E491E09
22049555201_CE_300e11verables.AMG_30SURFACEPRO1.xml	AMG File For 3D-Deliverables	1508C408E1E4B801030C74E3E3423B3509E38C40346E723C0B329A
22049555201_CE_300e11verables.AMG_30SURFACEPRO1.xml	AMG File For 3D-Deliverables	58793EFD02A3452E78521C101E5FFAC808185740E42401E3A859A1248E121
22049555201_CE_300e11verables.AMG_30SURFACEPRO1.xml	AMG File For 3D-Deliverables	56ACE56376868E8D091C97841239A8E760868500C9F58486832D0A81B098
22049555201_CE_300e11verables.AMG_ALGNBIB0.xml	AMG File For 3D-Deliverables	D8A843A58EC7769D04A0740E8A84F18884713F64474589E7D745C4E862
22049555201_CE_300e11verables.AMG_ALGNBIB0.xml	AMG File For 3D-Deliverables	8A8AC3C8B4886AC128056AC481808888A8D4338913518D87E805940
22049555201_CE_300e11verables.AMG_ALGNBIB0.xml	AMG File For 3D-Deliverables	8C718E80F3537188004F34EE6481200182C0C82512480C07944602A12E9

h4b5c7f7c0m178_01xh08_10\m\line-top12345256_checksum.html

REVISIONS	PROFESSIONAL TYPE	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	SHEET NO.
DATE	DESCRIPTION	PROFESSIONAL NAME LICENSE NUMBER ***** COMPANY NAME STREET CITY, STATE ZIP CODE	000
		ROAD NO. COUNTY FINANCIAL PROJECT ID	
		ROAD # TOP CTY MIDDLE CTY BOTTOM CTY PROJECT ID	

Note For more information on the BIM Cryptor tool, view the posted BIM Cryptor Tools webinar at <https://www.youtube.com/watch?v=oj-Gr2sNUI8>

3 Typical Sections

TYPICAL SECTIONS

OBJECTIVES

- Create Roadway Typical Section Sheets for plans
- Create Typical Section Data Package

EXERCISES OVERVIEW

- 3.1 Creating the Roadway Typical Section Sheet
- 3.2 Creating the Typical Section Data Package
- 3.3 Edit Project Information with Plan Set Manager

Exercise 3.1 *Creating the Roadway Typical Section Sheet*

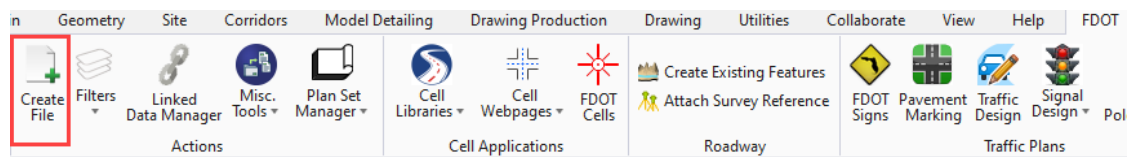
The FDOT Workspace contains several Typical Sections that can be used and adjusted to suit the conditions of a particular project. For the purposes of this project and class, the New 4 Lane, Divided Urban Typical will be used. This Typical Section should be modified based on project specific requirements.

Note Due to time constraints of this course, the design modification of the Typical Section is assumed.

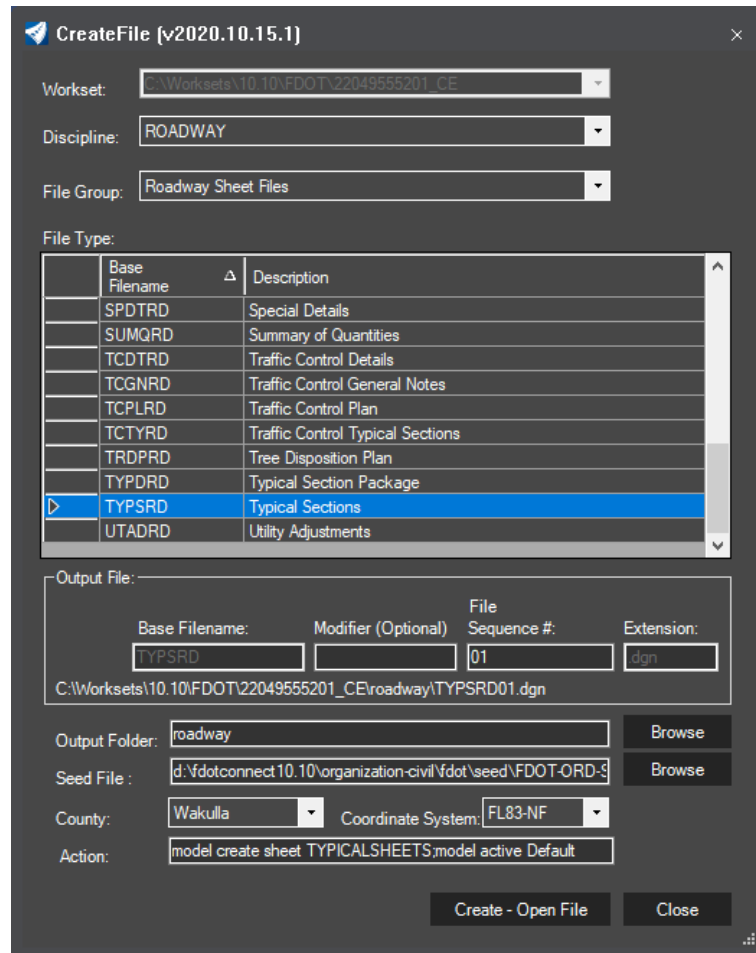
1. Use the FDOTCONNECT for OpenRoads Designer icon to open:

C:\Worksets\FDOT\22049555201_CE\BlankFile.dgn file

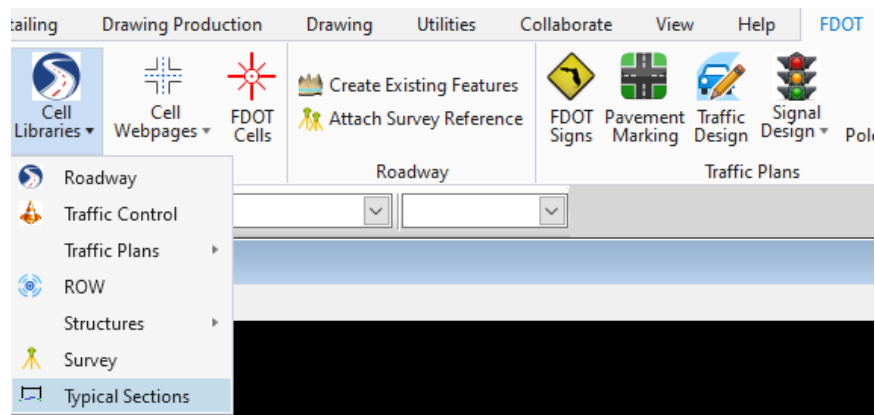
2. On the OpenRoads Modeling Workflow, select **Create File**, from the **FDOT** Tab



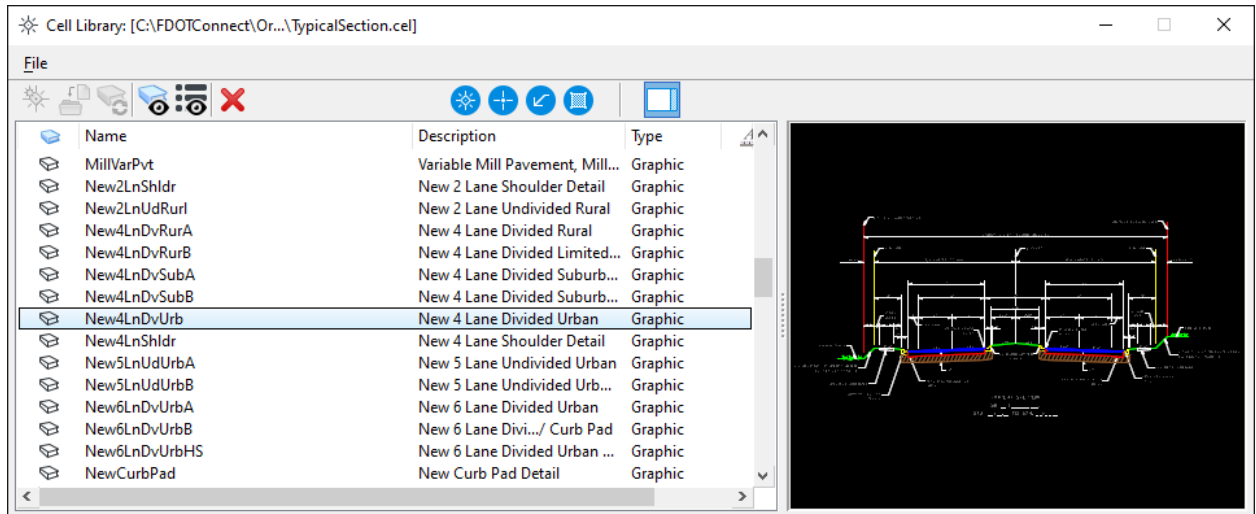
3. The Create File dialog displays. On the Create File dialog set the *Discipline* to **Roadway** and *File Group* to **Roadway Sheet Files**. From the File Type list, select **TYPSRD**. On the Output File section of the dialog, be sure to set the County to Wakulla. Once everything is set up to match the image below, click **Create – Open File** to create and open the Typical Section Sheet file. Click **Close** to close the Create File dialog.



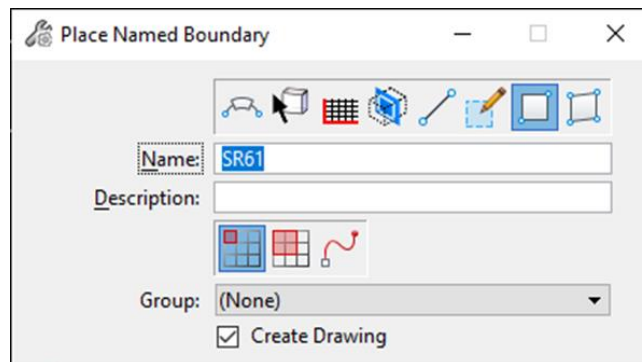
4. Close the Create File dialog.
5. From the FDOT Tab, select the Typical Sections cell library from the Cell Libraries drop down button.



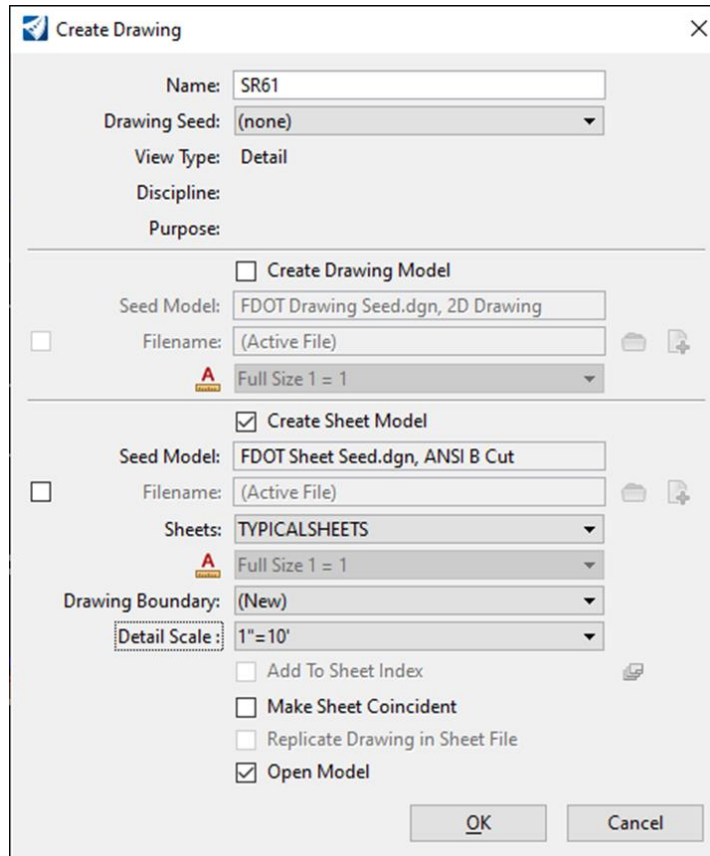
6. Find the **New4LnDvUrb** cell and double click. The MicroStation *Place Active Cell* command displays with **New4LnDvUrb** set as the *Active Cell*.



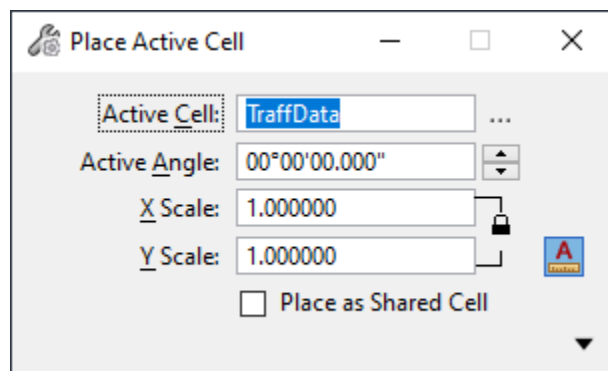
- Set *scale* of the cell to **1.0. Data point** to place the *cell* in the file. **Reset** when finished to exit the *Place Cell* command. Click on Fit View to center the typical section in the view.
- Select the Home tab and set the Level to ClipDrawingBound_dp. From the Drawing Production tab, select the Place Named Boundary tool and set the mode to By 2 Points and fill out the dialog as shown. Follow the prompts in the lower left corner to place the named boundary around the typical section cell.



- Once the Named Boundary is placed, fill out the Create Drawing as shown to place the Typical Section on the plan sheet. Be sure to check on Create Sheet Model, set the Sheets field to TYPICALSHEETS (this model was created as part of the Create File process) and the Detail Scale to 1"=10'



10. In the sheet model, the Typical Section may need to be moved up on the sheet. This can be done from the References dialog by moving the reference created by the Named Boundary tool. There may also be other visual cleanup to be done on the Plan sheet, such as turning off the named boundary level and disabling the Markers within View Attributes.
11. Continuing in the TYPICALSHEETS model, open the Typical Sections Cell Library. On the Cell Library dialog, double click on the *cell* **TraffData**. The MicroStation Place Active Cell command displays with **TraffData** set as the *Active Cell*.
12. Set *scale* of the cell to **1.0**.



13. **Data point** to place the *cell* in the left bottom corner of the sheet. **Reset** when finished to get out of the *Place Cell* command.
14. Double-click on the text to enter the *Traffic Data* information as shown below.

TRAFFIC DATA	
CURRENT YEAR	= 2015 AADT = 8,400
ESTIMATED OPENING YEAR	= 2020 AADT = 9,900
ESTIMATED DESIGN YEAR	= 2040 AADT = 14,100
K = 9.5%	D = 56.5%
T = 2.74%	(24 HOUR)
DESIGN HOUR T	= 3.5%
DESIGN SPEED	= 45 MPH
CONTEXT CLASSIFICATION	= C3C

15. Repeat steps 11 through 14 to place and edit the following cells with the information shown below. Place these cells in the middle of the sheet, under the *typical section*.

Cell Name: **NewOBGSPFC125**

OPTIONAL BASE GROUP 6
 TYPE SP STRUCTURAL COURSE (TRAFFIC B) (2 1/2")
 FRICTION COURSE FC-9.5 (TRAFFIC B) (1") (PG 76-22)

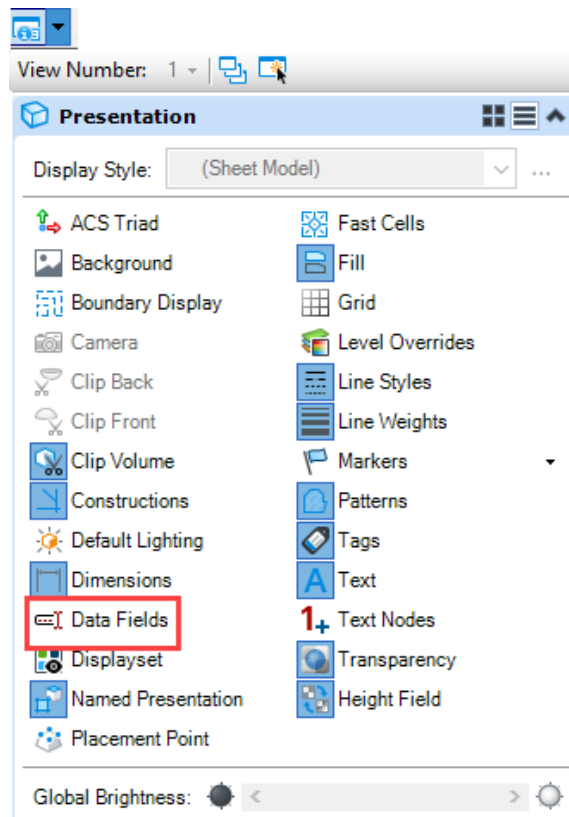
Cell Name: **MillPvt**

MILL EXISTING ASPHALT
 PAVEMENT FOR DEPTH (1")

Cell Name: **ResrPvtFC95**

FRICTION COURSE FC-9.5 (TRAFFIC B) (1") (PG 76-22)

16. Go to the MicroStation *View* options and turn **Off** the *Data Fields* option. Select **File > Save Setting**.

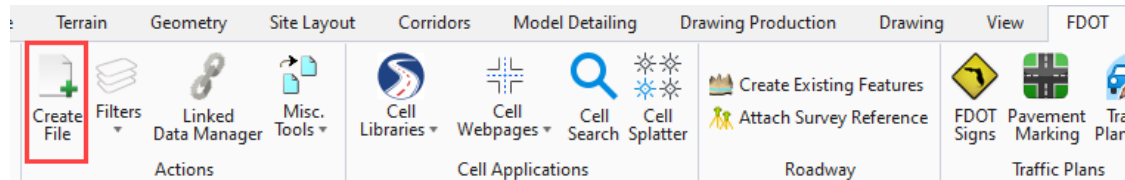


Exercise 3.2 Creating the Typical Section Data Package

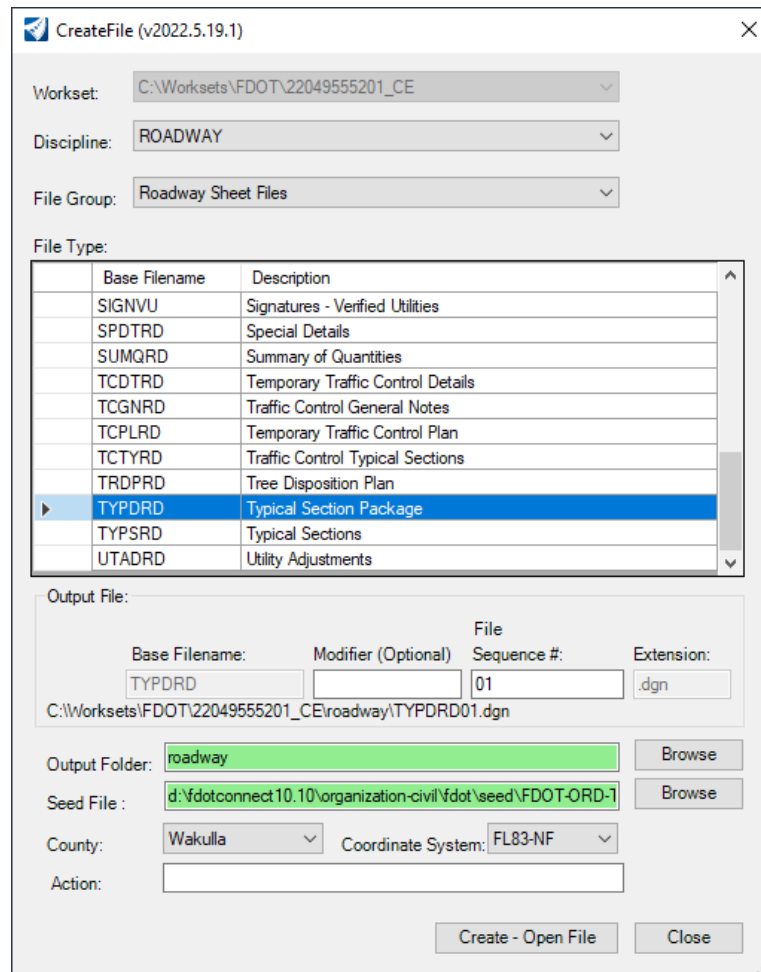
Typical Section Data sheets are used for what is called the “Typical Section Package”. This is done before the design starts but after the seed project is delivered from Florida Department of Transportation (FDOT). An approved Typical Sections Package must exist before the design on a project starts. This exercise will demonstrate how to create all the sheets needed for the package.

➤ Data Package Cover Sheet:

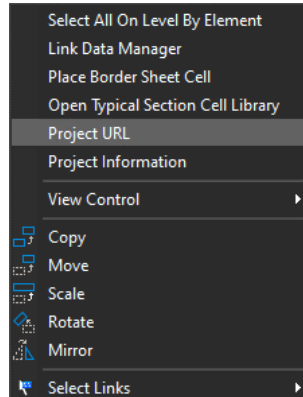
1. On the OpenRoads Modeling Workflow, select **Create File**, from the **FDOT** Tab.



2. The Create File dialog displays. On the Create File dialog set the *Discipline* to **Roadway** and *File Group* to **Roadway Sheet Files**. From the File Type list, select TYPDRD. On the Output File section of the dialog, be sure to set the County to Wakulla. Once everything is set up to match the image below, click **Create – Open File** to create and open the Typical Section Package file. Click **Close** to close the Create File dialog.

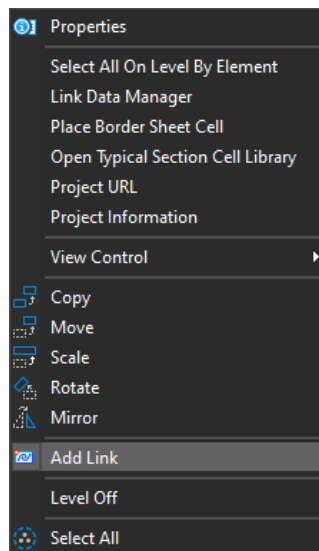


3. Right click and hold to bring up the Context Menu. Select Project URL to open the Place Active Cell dialog with the KNProjectURL cell set as the Active Cell. Snap to the upper left corner of the Project Information box to place the cell.

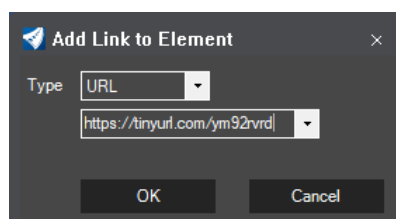


Note The cell was created using this dataset project as an example. Refer to FDM [Chapter 910.2.2](#) for more information on how to create a project specific URL.

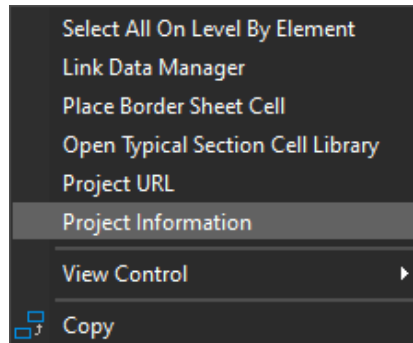
- a. Double click on the tinyurl text, to open the Text Editor dialog. Copy the web address text and close the Text Editor dialog.
- b. Hover over the tinyurl address, open the Context Menu and select Add Link from the list. This will open the Add Link to Element dialog.



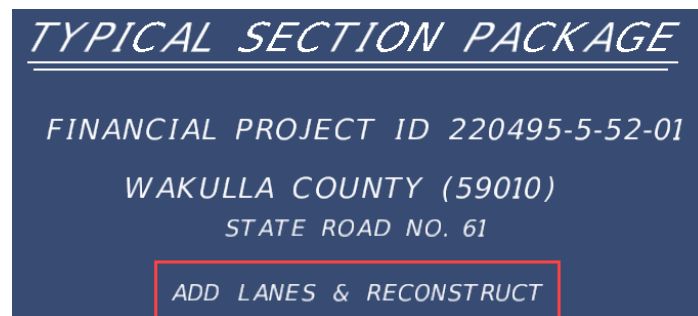
- c. On the Add Link to Element dialog, set the Type to URL and paste in the tinyurl web address copied from Step a. Click OK to add the link to the Project Location URL text.



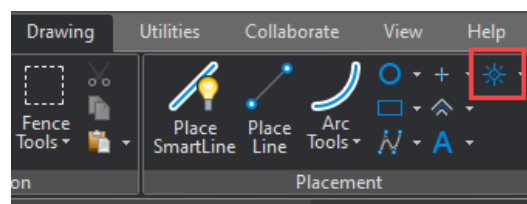
4. Place the Project Information cell.
 - a. Bring up the Context Menu and select Project Information to open the Place Active Cell dialog with the KNProjectInfo cell set as the Active Cell. Snap to the upper left corner of the Project Information box to place the cell.



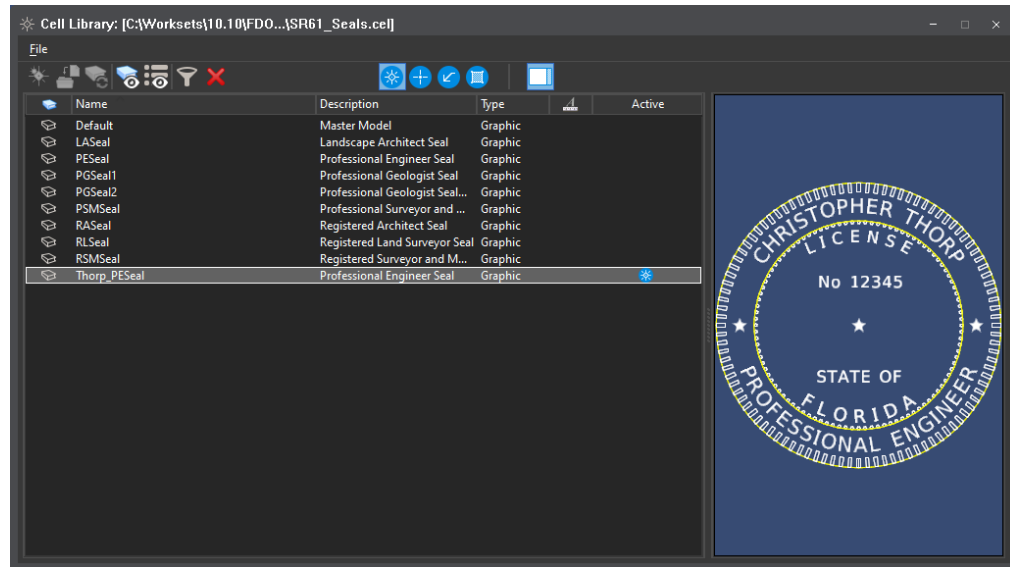
- b. Double-click on the “BEGIN MP...” text to edit the mile post information. For the Begin MP, enter 9.340 and 9.824 for the End MP.
 - c. There are no Exceptions, Bridge Limits or Railroad Crossings for this project so these will be left as “None”.
5. Use the Edit Text tool to edit the *PROJECT DESCRIPTION*, as shown below.



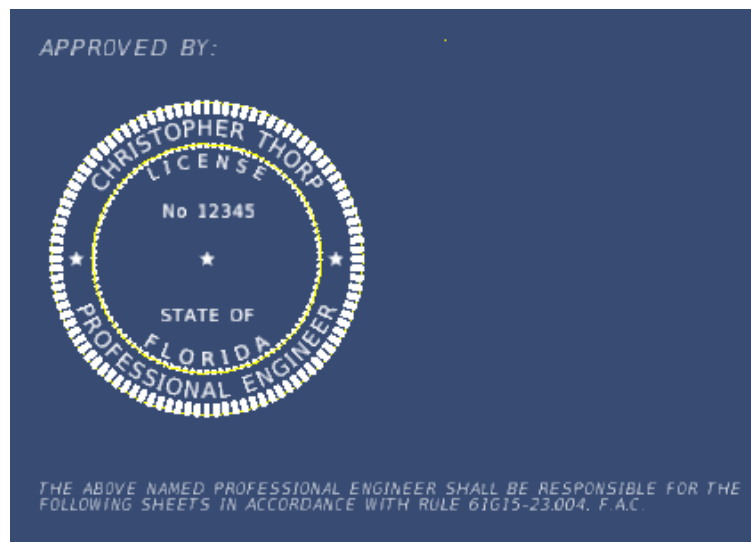
6. From the Drawing tab, launch the Place Active Cell tool.



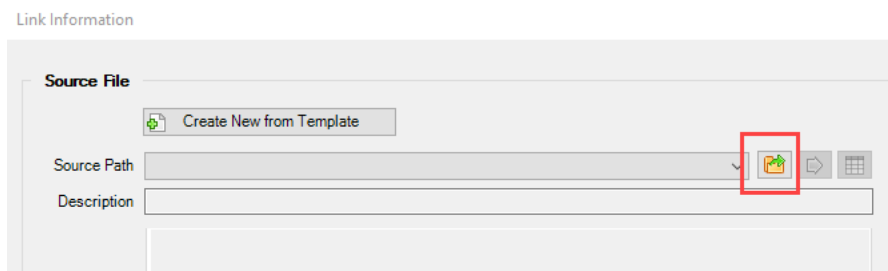
7. Browse to the SR61_Seals library, within the Cells folder, that was created in the previous chapter. From the Cell Library dialog, highlight the newly created *seal cell* and double-click on the **YourName_PESeal**. This sets **YourName_PESeal** as the *Active Cell*.



- Make sure that the Scale for the cell is set to 1.0. Place the *cell* under the “APPROVED BY:” text on the sheet. **Data point** to place the cell in the file. **Reset** when finished to close the *Place Cell* command.



- From the FDOT tab select **Linked Data Manager**.
- From the FDOT Linked Data Manager dialog, click the **Create New Link** button.
- The Link Information dialog displays. Click the **Select Existing File** button.

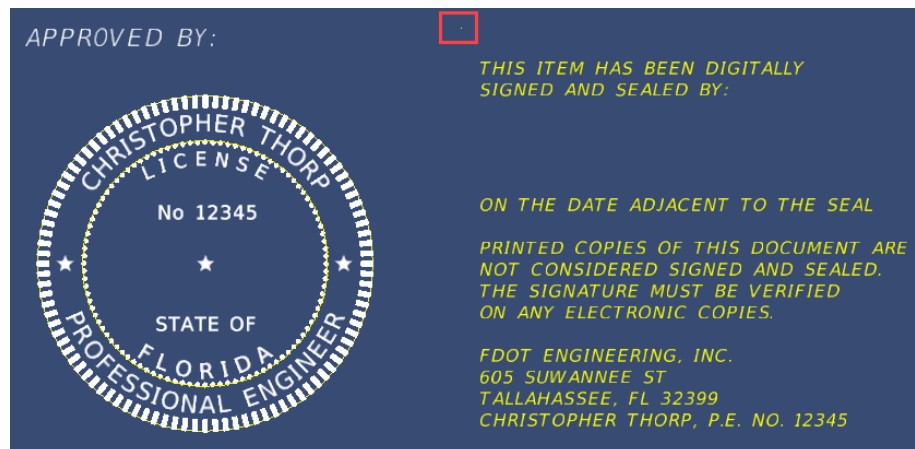


- Select File displays. Switch the File Type to Word Files. Select the *DigitalSignatureAppearance.docx* and click the **Open** button.

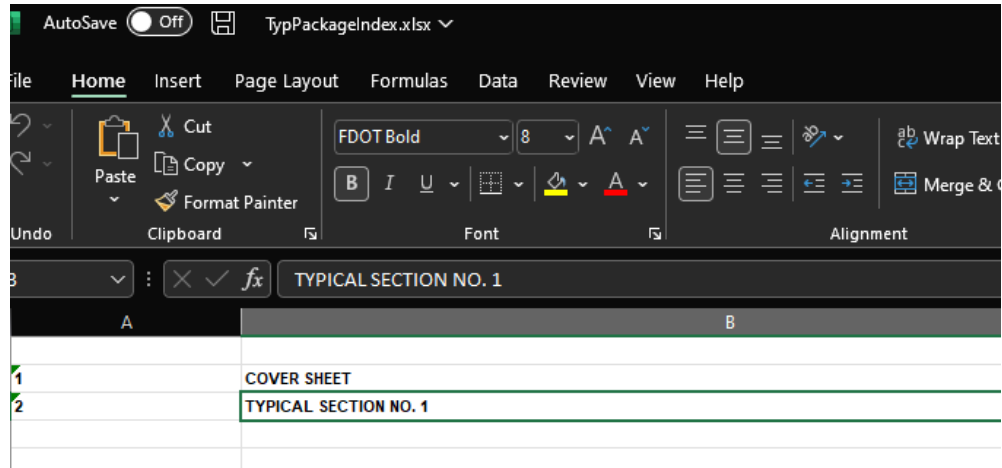
13. From the Link Information dialog, toggle **Off** the *Page Boundary* check box and click **OK**.

The screenshot shows the 'Link Information' dialog box. It has several sections: 'Source File' with a 'Create New from Template' button and a 'Source Path' field containing '.\Roadway\DigitalSignatureAppearance.docx'; a 'Description' field; 'Word Settings' with 'Page Spacing' set to 0.50 and 'Page Boundary' checked (highlighted with a red box); 'Graphics Settings' with radio buttons for 'FDOT', 'Site', and 'Project', and dropdown menus for 'Standard', 'Site', and 'Project'; and checkboxes for 'Update Graphics on File Open', 'Lock Graphics', and 'Use Print Area'. 'OK' and 'Cancel' buttons are at the bottom.

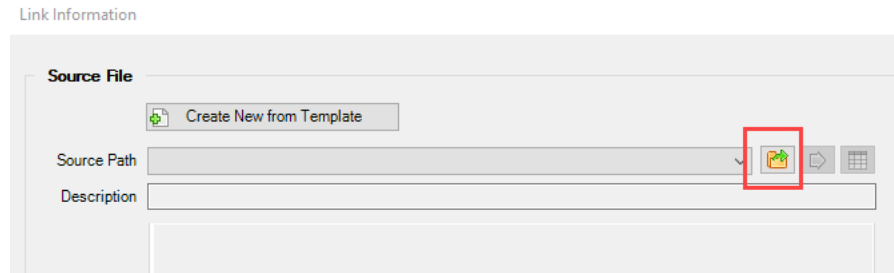
14. With the *Digital Signature Appearance* note attached to cursor, snap to the Point next to “APPROVED BY:” and **data point** to place the link. The *link* is created and listed in the Linked Data Manager dialog.



15. Open Windows Explorer and navigate to the *C:\WorkSets\FDOT\22049555201_CE\roadway* folder. Copy the *ComponentIndex.xlsx* file and paste it into the *Roadway* folder. Rename the file to *TypPackageIndex.xlsx*.
16. Open the *TypPackageIndex.xlsx* in Excel, edit as shown below, save and close the file.



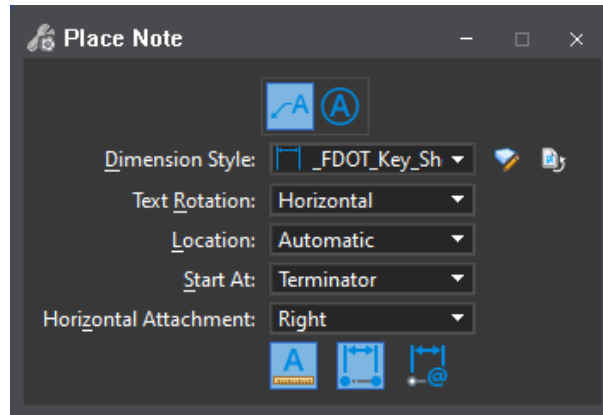
17. From the FDOT Linked Data Manager dialog, click the **Create New Link** button.



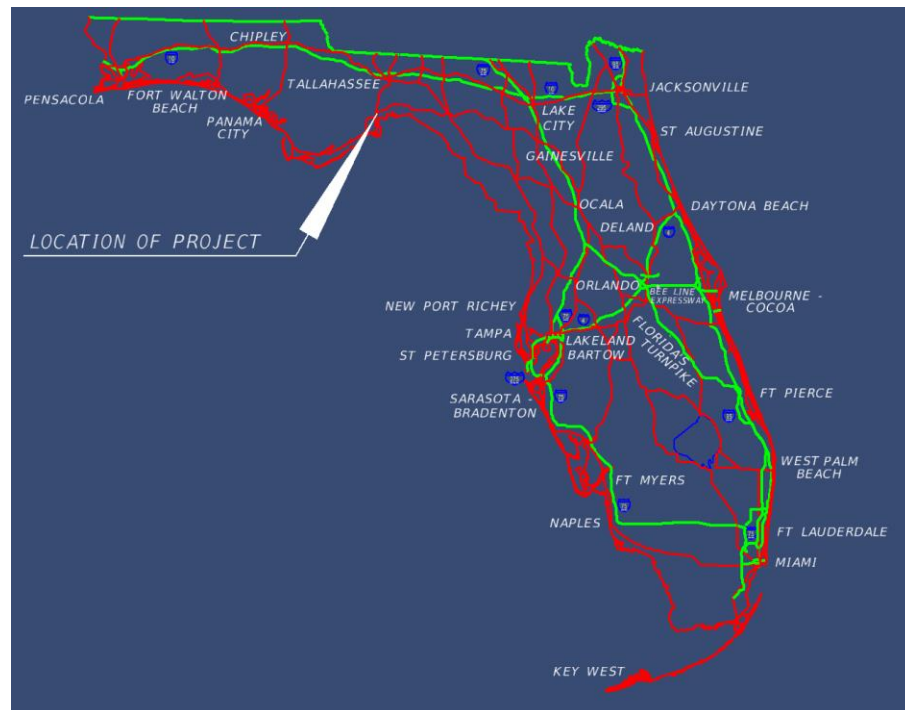
18. Select File displays. Select the *TypPackageIndex.xlsx* and click the **Open** button.
19. From the FDOT Linked Data Manager dialog, for the *Excel Settings*, set the *Worksheet* to **Sheet 1** and click OK.
20. Snap to the top left of the “SHEET NO” text and data point to place the Index.



21. From the Home tab, set the level to TextLabel.
22. From the Drawing Production Tab, select **Place Note**.
23. Set the Place Note Parameters as shown below, with the Dimension Style set to *_FDOT_Key_Sheet_Locate*.



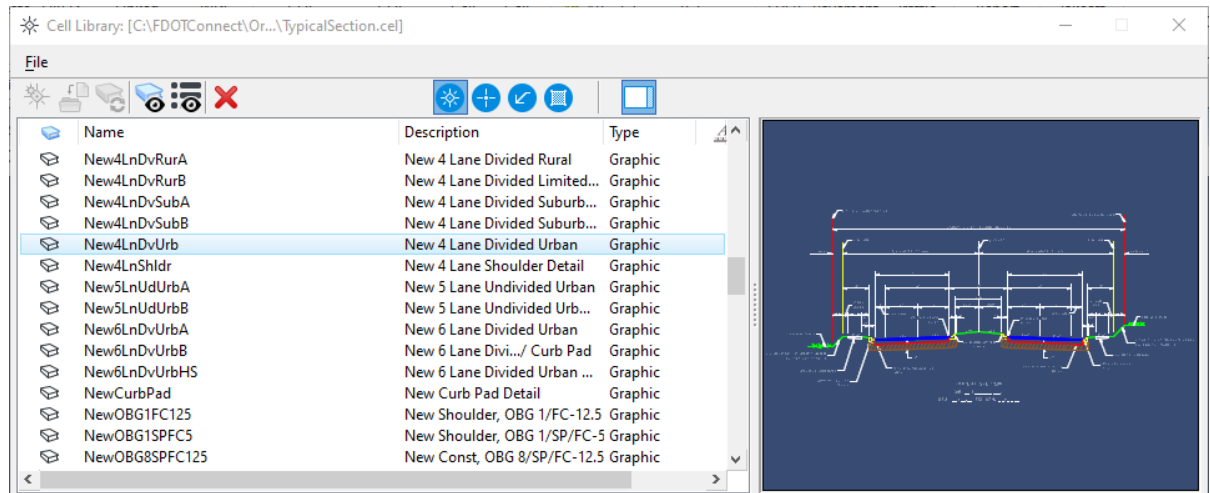
24. In the Text Editor, set the Text Style to FDOT (Small) and then type LOCATION OF PROJECT. Select the general *project location* on the Florida map, position the *label*, and **data point** again to place it. The *label* should display as shown below.



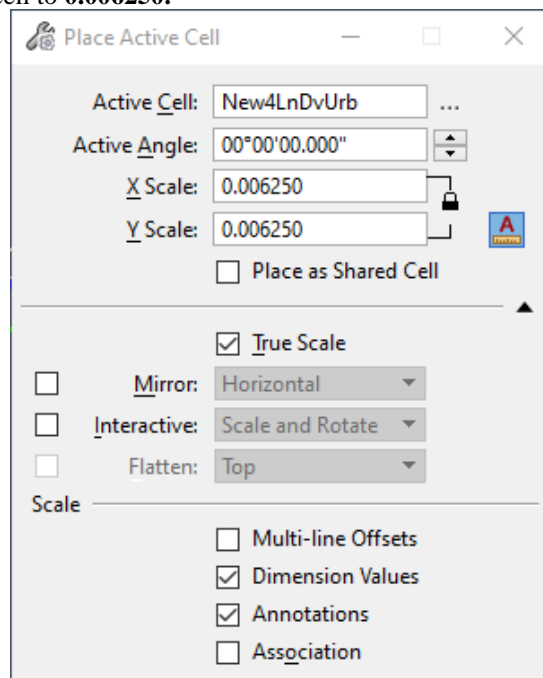
25. Navigate to the `C:\WorkSets\FDOT\22049555201_CE\roadway` folder. Copy the `ComponentIndex.xlsx` file and paste it into the `Roadway` folder with the name `TypPackageIndex.xlsx`

➤ **Typical Section Data Sheet:**

1. Staying in the TYPDRD01 file, switch to the TYPICAL PACKAGE SHEET model.
2. Open the **Typical Sections Cell Library**. On the Cell Library dialog find the **New4LnDvUrb** cell and double click. The MicroStation Place Active Cell command displays with **New4LnDvUrb** set as the *Active Cell*.



- Set the *scale* of the cell to **0.006250**.



- Data point** to place the cell in the middle of the sheet. **Reset** when finished to get out of the *Place Cell* command.
- Double click on the **CONST. ***** label and change it to display: **CONST. SR 61**.
- Edit the *Road* and *Station* information as shown below:

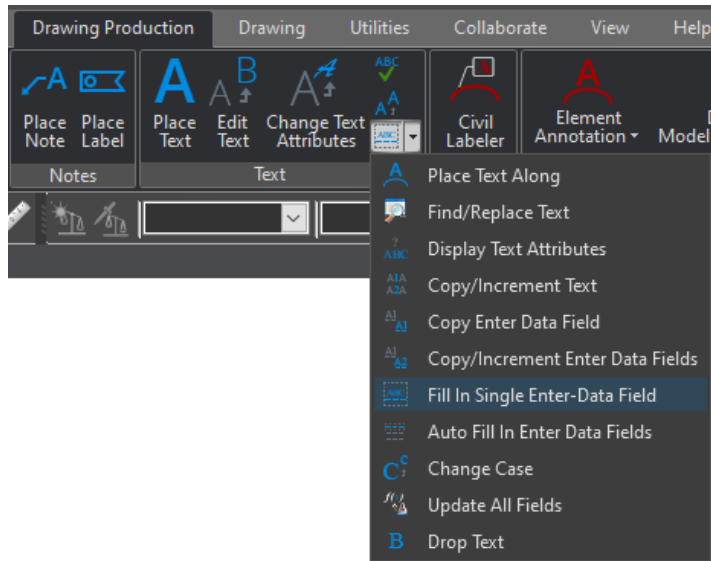
TYPICAL SECTION

SR 61 (US 319) (CRAWFORDVILLE HWY.)

STA 700+00.00 TO STA. 715+50.00

Note All the text on the form under the *Project Controls* section of the sheet are *Enter Data Fields*.

- From the *Drawing Production* tab, select **Fill In Single Enter-Data Field** to edit the *Data Fields* in the sheet and fill out the information as in the image below.



CONTEXT CLASSIFICATION

<input type="checkbox"/> C1 : NATURAL	<input checked="" type="checkbox"/> C3C : SUBURBAN COMM.
<input type="checkbox"/> C2 : RURAL	<input type="checkbox"/> C4 : URBAN GENERAL
<input type="checkbox"/> C2T : RURAL TOWN	<input type="checkbox"/> C5 : URBAN CENTER
<input type="checkbox"/> C3R : SUBURBAN RES.	<input type="checkbox"/> C6 : URBAN CORE
<input type="checkbox"/> N/A : L.A. FACILITY	

FUNCTIONAL CLASSIFICATION

<input type="checkbox"/> INTERSTATE	<input type="checkbox"/> MAJOR COLLECTOR
<input type="checkbox"/> FREEWAY/EXPWY.	<input type="checkbox"/> MINOR COLLECTOR
<input checked="" type="checkbox"/> PRINCIPAL ARTERIAL	<input type="checkbox"/> LOCAL
<input type="checkbox"/> MINOR ARTERIAL	

HIGHWAY SYSTEM

<input checked="" type="checkbox"/> NATIONAL HIGHWAY SYSTEM
<input type="checkbox"/> STRATEGIC INTERMODAL SYSTEM
<input checked="" type="checkbox"/> STATE HIGHWAY SYSTEM
<input type="checkbox"/> OFF-STATE HIGHWAY SYSTEM

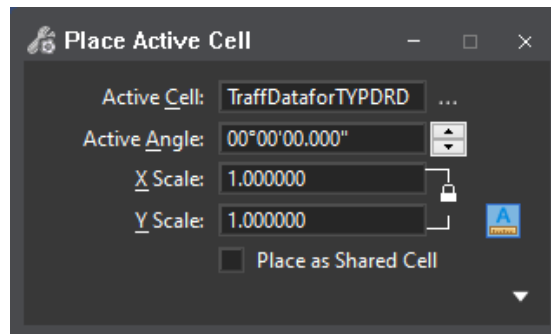
ACCESS CLASSIFICATION

- 1 - FREEWAY
- 2 - RESTRICTIVE w/Service Roads
- 3 - RESTRICTIVE w/660 ft. Connection Spacing
- 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- 5 - RESTRICTIVE w/440 ft. Connection Spacing
- 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
- 7 - BOTH MEDIAN TYPES

CRITERIA

- NEW CONSTRUCTION / RECONSTRUCTION
- RESURFACING (LA FACILITIES)
- RRR (ARTERIALS & COLLECTORS)

8. From the FDOT Tab, select the Typical Sections cell library from the Cell Libraries drop down button.
9. On the Cell Library dialog, double click on the *cell* **TraffDataforTYPDRD**. The Place Active Cell command displays with **TraffDataforTYPDRD** set as the *Active Cell*.
10. Set *scale* of the cell to **1.0**.



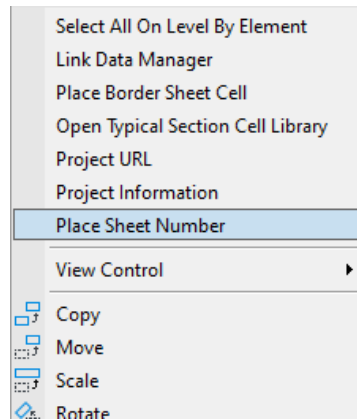
11. **Data point** to place the *cell* in the left bottom corner, below the typical section. **Reset** when finished to exit the *Place Cell* command.
12. Double-click on the text to enter the correct *Traffic Data* information as shown below.

TRAFFIC DATA

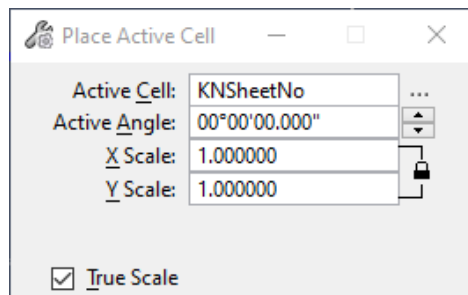
CURRENT YEAR = 2015 AADT = 8,400
 ESTIMATED OPENING YEAR = 2020 AADT = 9,900
 ESTIMATED DESIGN YEAR = 2040 AADT = 14,100
 K = 9.5% D = 56.5% T = 2.74% (24 HOUR)
 DESIGN HOUR T = 3.5%
 TARGET SPEED = 45 MPH
 DESIGN SPEED = 45 MPH
 POSTED SPEED = 45 MPH

Exercise 3.3 *Edit Project Information with Plan Set Manager*

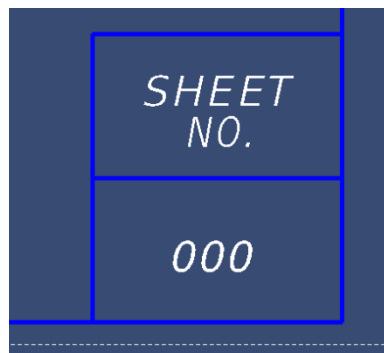
1. Switch back to the Typical Section Package Cover Sheet model.
2. Right-click and hold to bring up the context menu. Select Place Sheet Number from the list.



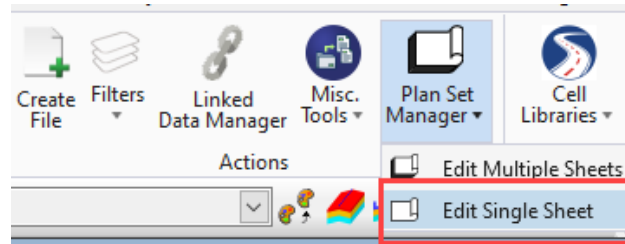
3. The MicroStation Place Active Cell command launches with **KNSheetNo** set as the *Active Cell*.



4. Place the cell in the center of the empty section below the **SHEET NO.** section **Data point** to the lower right corner of the *Key Sheet border*. The *Sheet Number* should display as shown below.



5. Fit View to center the border in the window.
6. From the FDOT tab, select Edit Single Sheet from the Plan Set Manager drop-down button.



- Fill out the Sheet Information on the Edit Single Sheet dialog, as shown below.

Edit Single Sheet

Sheet Information

Sheet Title

Sheet Number

Sheet Sequence

Project Information

Financial Project Id

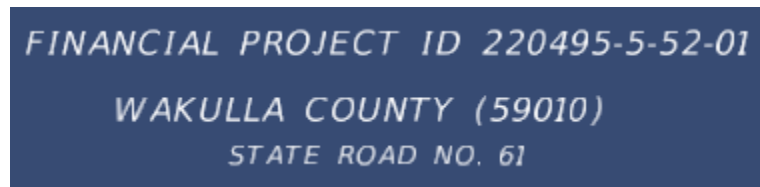
Road Number

Roadway ID

County

Top	<input type="text" value="N/A"/>
Middle	<input type="text" value="Wakulla"/>
Bottom	<input type="text" value="N/A"/>

- Click OK to accept the changes and update the sheet border.



- Switch back to the Typical Section Package Sheet and repeat steps 2-8 to fill out the border. The only fields needed to be filled out are the Financial Project ID and sheet number. For this model, the sheet number will be 2.
- Once finished, Fit View, Save Settings and Exit.

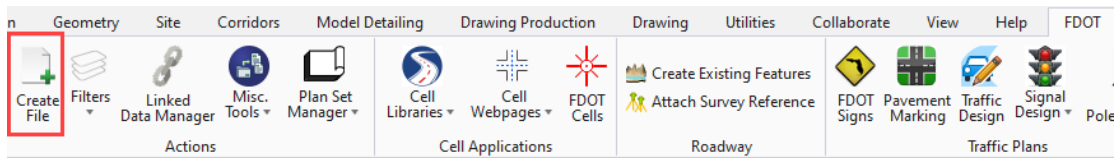
4 General Notes

GENERAL NOTES

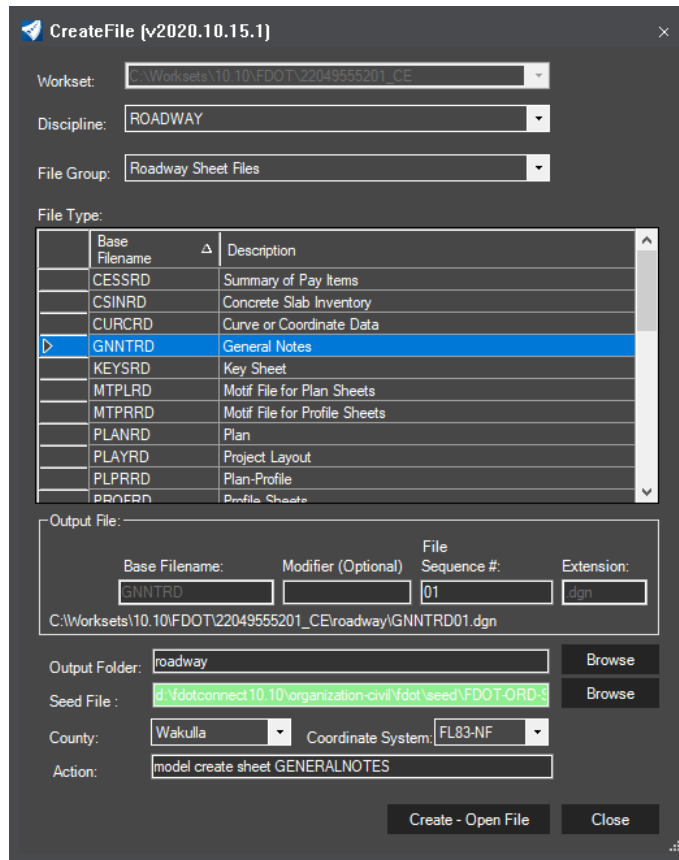
The General Notes sheet is required for each project. See [Chapter 914.2.2](#) in *Part 9* of the *FDOT Design Manual (FDM)* for a list of General Notes that are required.

Exercise 4.1 *Creating the General Notes Sheet*

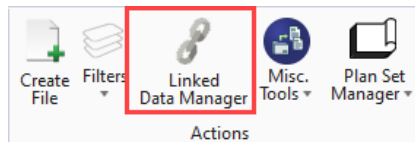
- Use the FDOTCONNECT for OpenRoads Designer icon to open:
C:\Worksets\FDOT\22049555201_CE\BlankFile.dgn file
- On the OpenRoads Modeling Workflow, select Create File, from the FDOT Tab.



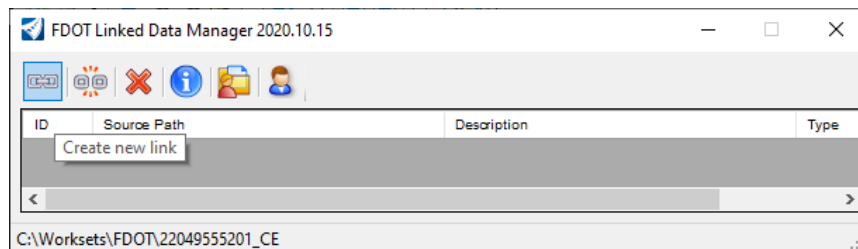
- The Create File dialog displays. On the Create File dialog set the *Discipline* to **Roadway** and *File Group* to **Roadway Sheet Files**. From the File Type list, select **GNNTRD**. On the Output File section of the dialog, be sure to set the County to Wakulla. Once everything is set up to match the image below, click **Create – Open File** to create and open the Project Notes file. Click **Close** to close the Create File dialog.



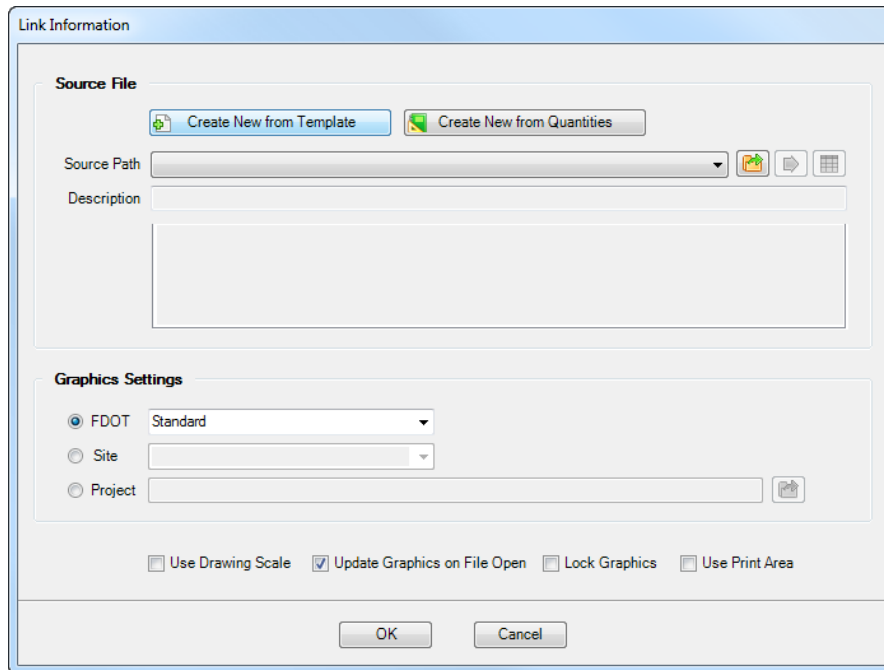
- From the FDOT Tab, select **Linked Data Manager** from the Actions group.



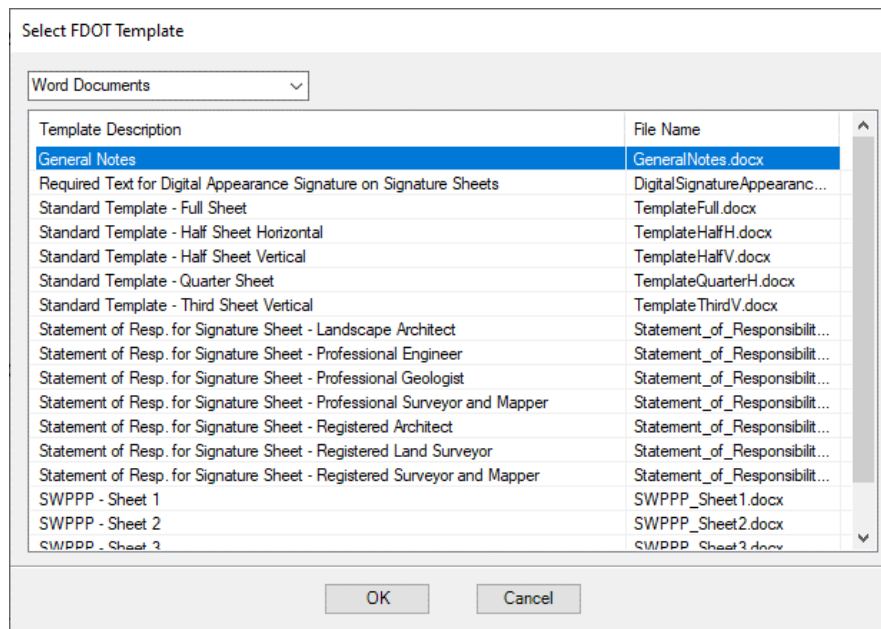
- The FDOT Linked Data Manager dialog displays. Select the **Create New Link** icon.



- The Link Information dialog displays. Click on the **Create New from Template** button.



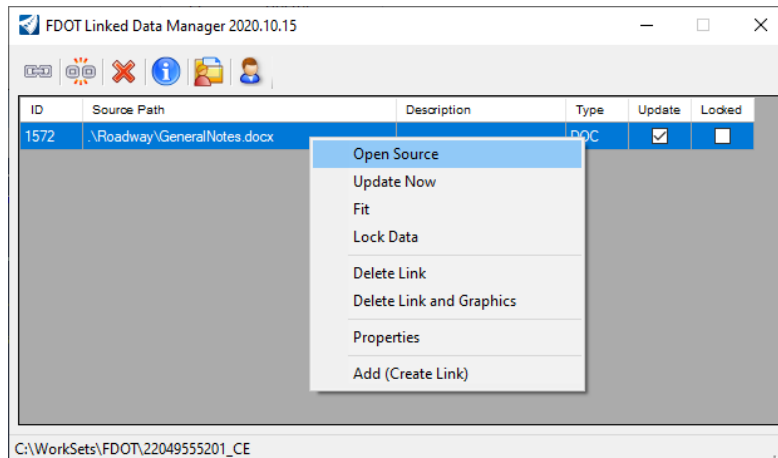
- The Select FDOT Template dialog displays. Set the drop down to **Word Documents** and select the **General Notes Template**. Click **OK**.



- From the *Save File* dialog browse to the C:\Worksets\FDOT\22049555201_CE\roadway folder, accept the default filename and **Save** the file.
- From the Link Information dialog uncheck the Page Boundary box and then click **OK**.

- With the *General Notes* attached to cursor snap to the upper left corner of the border and data point to place the link. The Link is created and listed in the **Linked Data Manager** dialog.
- To edit the *General Notes*: Go to the **Linked Data Manager** dialog, right-click on the link and select **Open Source**.

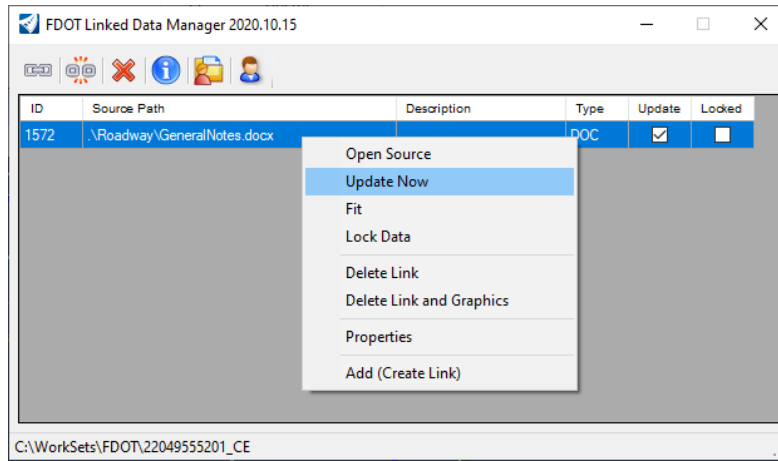
Note DO NOT edit the text for the General Notes in the MicroStation file. Always edit the word document or the link will be broken.



- The Text Document opens. **Add** the utility owners below, **Save** the file and **close** it.

UTILITY AGENCY/OWNERS:	CONTACT	TELEPHONE NUMBERS
TELEPHONE COMPANY A	OWNER A	(850) 222-2222
GAS COMPANY B	OWNER B	(850) 333-3333

- From the **Linked Data Manager** dialog, select the link again, right-click and select **Update Now**. The *General Notes* will be updated in the MicroStation file to reflect the changes made.



6. From MicroStation turn **Off Data Fields**, **Fit View** and then select **File > Save Settings**.

5 Plan Only Sheets

Part 9, Chapter 915 of the *FDOT Design Manual (FDM)* outlines Florida Department of Transportation (FDOT) Roadway Plan and Roadway Plan-Profile Sheets. The Roadway plan sheets show the project's complete horizontal alignment. The plan-profile sheets show the project's complete horizontal and vertical alignment. Various Roadway elements such as pavement width, medians, paved shoulders, curbs, drainage elements, tapers, turn provisions, and intersecting roadways, are also shown on these sheets.

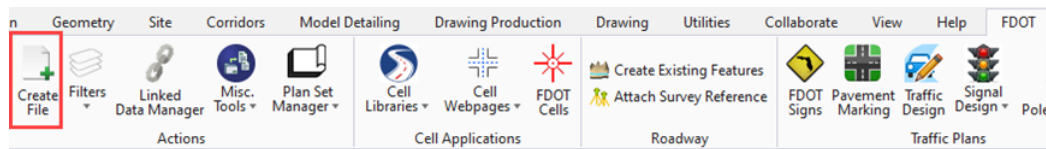
EXERCISE OVERVIEW

Exercise 5.1 *Create the Plan Sheets*

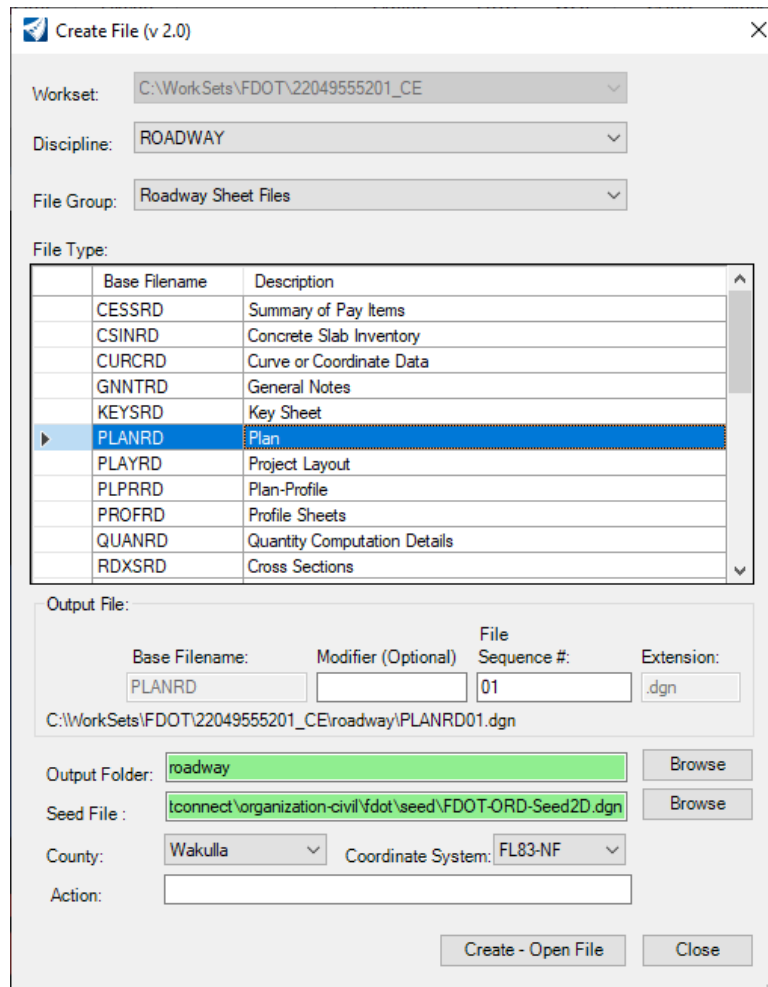
1. Use the **FDOTCONNECT for OpenRoads Designer** icon to open:

C:\Worksets\FDOT\22049555201_CE_BlankFile.dgn file

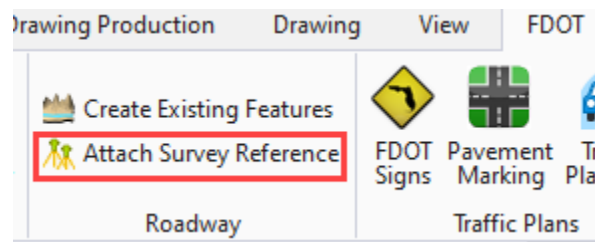
2. On the OpenRoads Modeling Workflow, select Create File, from the FDOT Tab.



3. The Create File dialog displays. On the Create File dialog set the *Discipline* to **Roadway** and *File Group* to **Roadway Sheet Files**. From the File Type list, select **PLANRD**. Set the County to Wakulla. Once everything is set up to match the image below, click **Create – Open File** to create and open the Plan file. Click **Close** to close the Create File dialog.



- Navigate to *FDOT* > *Roadway* > **Attach Survey Reference**.



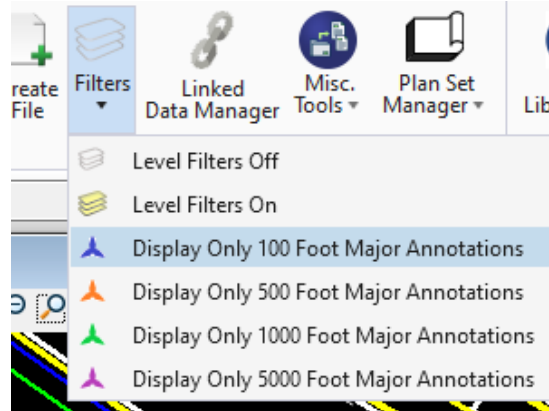
The *SURVRD01.dgn* file located within the project directory will be referenced 4 times with different logical names and filters set for each type of file.

- *SURVRD01.dgn*, logical *TOPO* (Existing Roadway)
- *SURVRD01.dgn*, logical *GDTM* (Existing Terrain)
- *SURVRD01.dgn*, logical *DREX* (Existing Drainage)
- *SURVRD01.dgn*, logical *UTEX* (Existing Utilities)

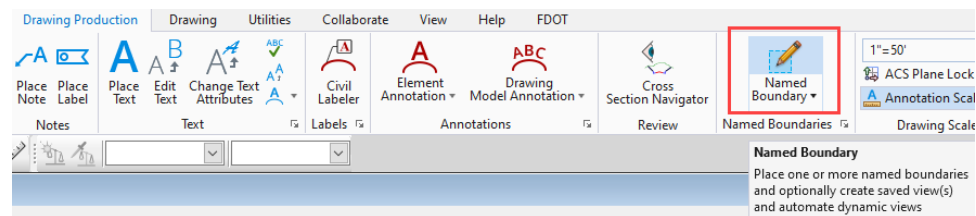
- Reference** in the additional design files:

- C:\WorkSets\FDOT\22049555201_CE\roadway\ALGNRD01.dgn
- C:\WorkSets\FDOT\22049555201_CE\roadway\DSGNRD01.dgn

6. Use the Level Display to turn OFF any levels that are not needed for the Plan Sheets.
7. From the *Drawing Production* tab, select the **Annotate Element** tool
 - a. Drawing Production > Annotations > Element Annotation > Annotate Element
 - b. Select the Alignment to annotate and then Reset To Complete
 - c. From the FDOT tab, select the Display Only 100 Foot Major Annotations action from the Filters drop-down button



8. From the *Drawing Production* tab, select the **Place Named Boundary** tool.



9. Select Drawing Production > Named Boundaries > Named Boundary > Place Named Boundary.
 - a. Select the **Civil Plan** mode.
 - a. Set *Drawing Seed* to **11x17 Plan Only**.
 - b. In the 2D view, select the CL_SR61 alignment along which the plan named boundaries will be created.
 - c. Fill out the dialog, as shown.

Place Named Boundary Civil Plan

Drawing Seed: 11x17 Plan Only

Detail Scale: 1"=50'

Name: Plan 1

Description:

Group: (New)

Name: CL_SR61

Description:

Start Location: 698+95.00

Stop Location: 726+46.38

Length: 750.000000

Left Offset: -240.000000

Right Offset: 240.000000

Overlap: 0.000000

Boundary Chords: 5

Create Drawing

Show Dialog

- d. Follow the prompts in the lower left corner **left click** to define the named boundaries. *Multiple left clicks may be required.*

Note Two or three clicks are required to (1) accept the Start Location, (2) accept the Stop Location, and (3) create the Named Boundaries. However, if the Start or Stop Location are selected graphically one or more of these clicks has already been completed.

10. On the *Create Drawing* dialog, click OK to create the sheets.

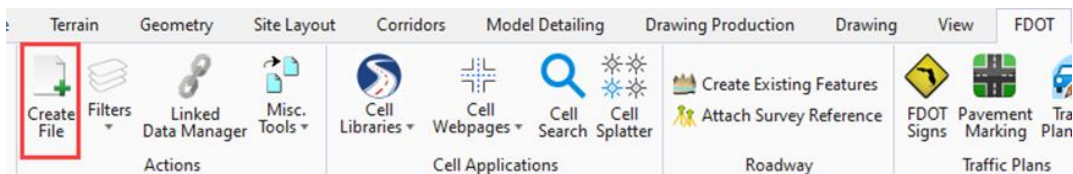
6 Plan – Profile Sheets

PLAN - PROFILE

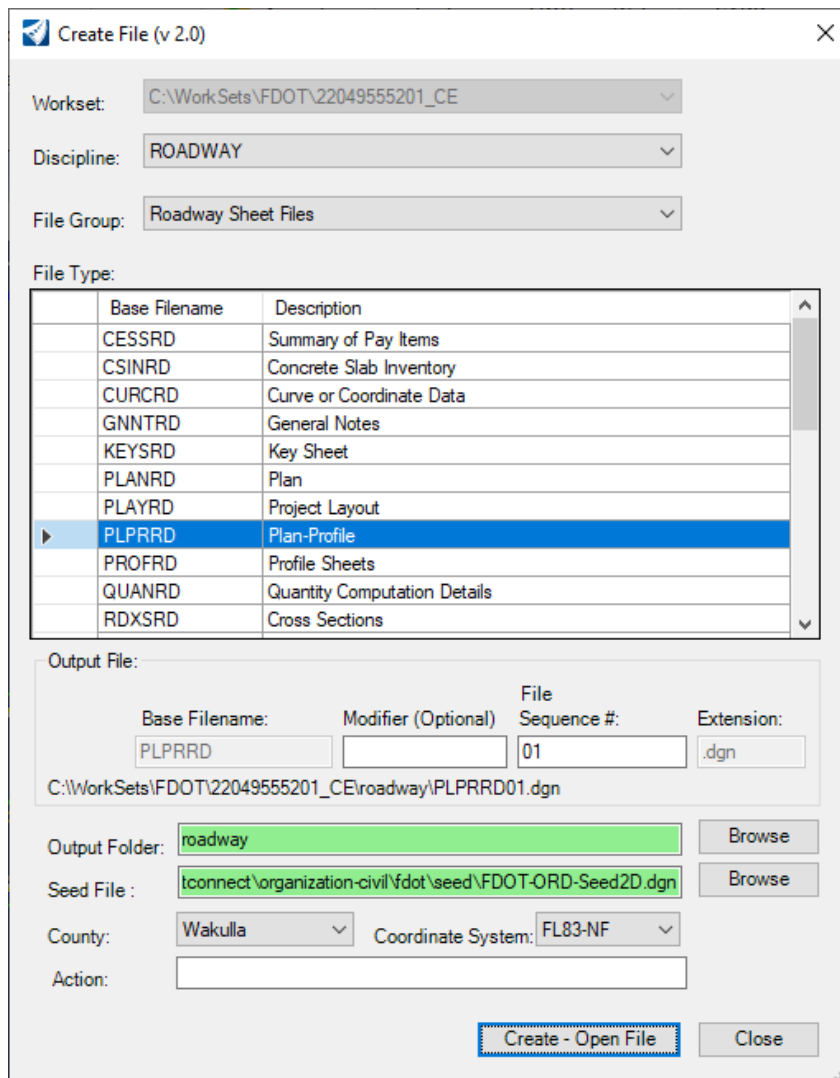
EXERCISE OVERVIEW

Exercise 6.1 Create the Plan - Profile Sheets

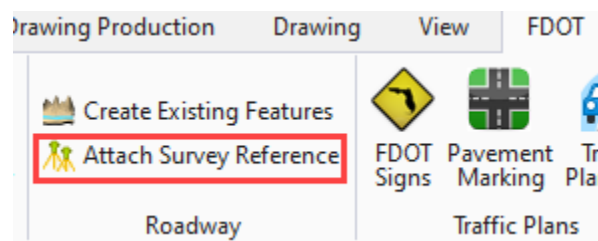
1. Use the **FDOTCONNECT for OpenRoads Designer** icon to open:
C:\Worksets\FDOT\22049555201_CE_BlankFile.dgn file
2. On the OpenRoads Modeling Workflow, select Create File, from the FDOT Tab.



3. The Create File dialog displays. On the Create File dialog set the *Discipline* to **Roadway** and *File Group* to **Roadway Sheet Files**. From the File Type list, select **PLPRRD**. On the Output File section of the dialog, be sure to set the County to Wakulla. Once everything is set up to match the image below, click **Create – Open File** to create and open the Plan-Profile file. Click **Close** to close the Create File dialog.



4. Navigate to *FDOT > Roadway > Attach Survey Reference*.



The *SURVRD01.dgn* file located within the project directory will be referenced 4 times with different logical names and filters set for each type of file.

- *SURVRD01.dgn*, logical *TOPO* (Existing Roadway)
- *SURVRD01.dgn*, logical *GDTM* (Existing Terrain)
- *SURVRD01.dgn*, logical *DREX* (Existing Drainage)
- *SURVRD01.dgn*, logical *UTEX* (Existing Utilities)

5. **Reference** in the additional design files:
 - C:\WorkSets\FDOT\22049555201_CE\roadway\ALGNRD01.dgn
 - C:\WorkSets\FDOT\22049555201_CE\roadway\DSGNRD01.dgn
6. Use the Level Display to turn OFF any levels that are not needed for the Plan Sheets.
7. From the *Drawing Production* tab, select the **Annotate Element** tool
 - a. Drawing Production > Annotations > Element Annotation > Annotate Element
 - b. Select the Alignment to annotate and then Reset To Complete
 - c. From the FDOT tab, select the Display Only 100 Foot Major Annotations action from the Filters drop-down button
8. Create Named Boundaries for the **Plan** portion of the sheets.

Place Named Boundary Civil Plan

Drawing Seed: 11x17 Plan Over Profile - Plan

Detail Scale: 1"=50'

Name: Plan 1

Description:

Group: (New)

Name: CL_SR61

Description:

Start Location: 698+95.00

Stop Location: 726+46.38

Length: 700.000000

Left Offset: -135.000000

Right Offset: 135.000000

Overlap: 0.000000

Boundary Chords: 5

Create Drawing

Show Dialog

- a. Select Drawing Production > Named Boundaries > Named Boundary > Place Named **Boundary**.
- b. Select the mode **Civil Plan**.
- c. Set *Drawing Seed* to **11x17 Plan Over Profile – Plan**.
- d. In the 2D view, select the CL_SR61 alignment along which the plan named boundaries will be created.
- e. Fill out the dialog, as shown, making sure that *Create Drawing* is NOT checked.
- f. *Follow the prompts* in the lower left corner **left click** to define the named boundaries. Multiple left clicks may be required. A total of two clicks are required to (1) accept the Start Location, (2) accept the Stop Location, and (3) create the Named Boundaries. However, if the Start or Stop Location are selected graphically one or more of these clicks has already been completed.

9. Create Named Boundaries for the **profile** portion of the sheets.

Place Named Boundary Civil Profile

Drawing Seed: 11x17 Plan Over Profile - Profile

Detail Scale: 1"=50'

Name: Profile 1

Description:

Method: From Plan Group

Plan Group: CL_SR61

Group: (New)

Name: CL_SR61_PR1

Description: From Plan Group: CL_SR61

Vertical Exaggeration: 10.000000

Available Profile Height: 19.800000

Top Clearance: 0.500000

Bottom Clearance: 0.500000

Elevation Datum Spacing: 2.000000

Station Datum Spacing: 1.000000

Profile Shifts: Datum Stations

Use Terrains

Use Active Vertical

Create Drawing

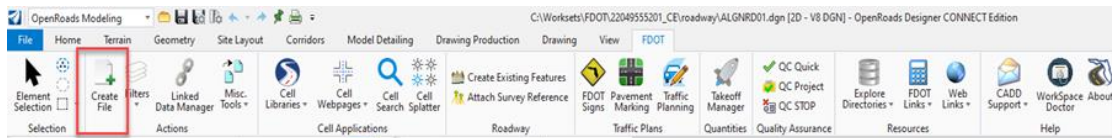
Show Dialog

- Open a profile view for the CL_SR61 alignment. This can be done using the right click View Control context menus.
- Select *Drawing Production* > *Named Boundaries* > *Named Boundary* > **Place Named Boundary**.
- Select the **Civil Profile** mode.
- Set *Drawing Seed* to **11x17 Plan Over Profile – Profile**.
- In the *profile* view, select the profile along which the named boundaries will be created.
- Fill out the dialog, as shown, this time making sure that *Create Drawing* is enabled.
- Follow the prompts* in the lower left corner **left click** to define the named boundaries. *Multiple left clicks may be required*.
- On the *Create Drawing* dialog, click OK to create the sheets.

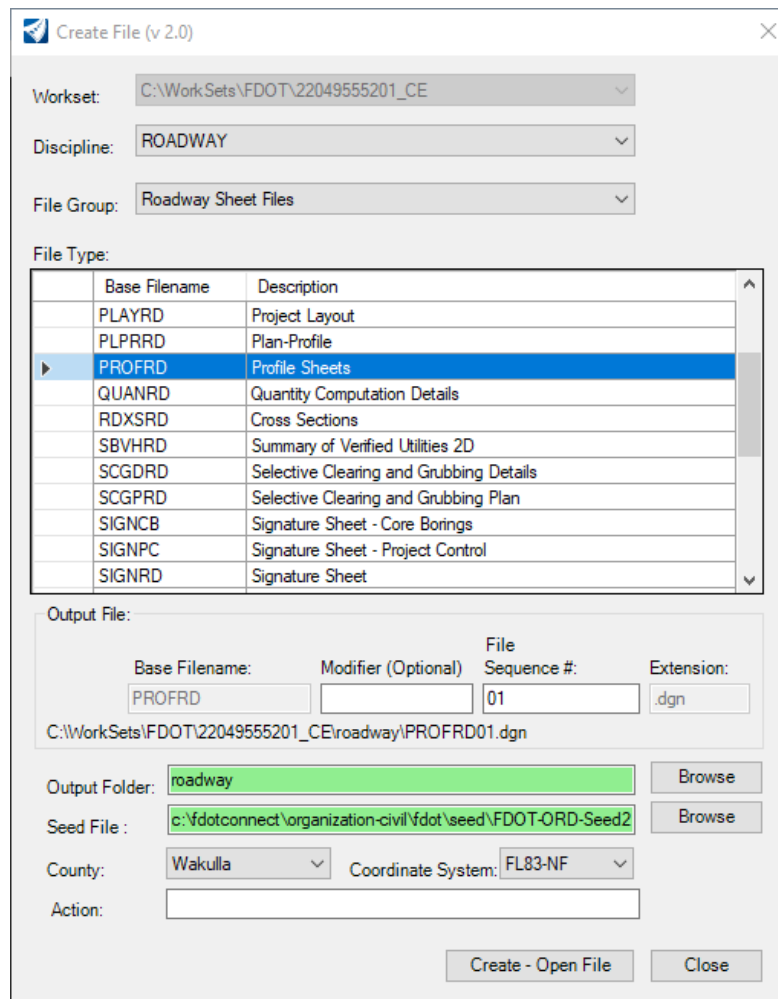
7 Profile Only Sheets

Exercise 7.1 Create the Profile Sheets

1. Use the **FDOTCONNECT for OpenRoads Designer** icon to open:
C:\Worksets\FDOT\22049555201_CE\BlankFile.dgn file
2. On the OpenRoads Modeling Workflow, select Create File, from the FDOT Tab.



3. The Create File dialog displays. On the Create File dialog set the *Discipline* to **Roadway** and *File Group* to **Roadway Sheet Files**. From the File Type list, select **PROFRD**. On the Output File section of the dialog, be sure to set the County to Wakulla. Once everything is set up to match the image below, click **Create – Open File** to create and open the Plan-Profile file. Click **Close** to close the Create File dialog.



4. **Reference** in the following design files:
 - C:\WorkSets\FDOT\22049555201_CE\roadway\ALGNRD01.dgn
 - C:\WorkSets\FDOT\22049555201_CE\roadway\DSGNRD01.dgn
 - C:\WorkSets\FDOT\22049555201_CE\survey\SURVRD01.dgn
5. Use the Level Display to turn OFF levels and clean up the view or do a right click and hold to select the Level Off command.
6. Open a profile view for the CL_SR61 alignment. This can be done using the right click View Control context menus. View Control > 2 Views Plan/Profile.
7. Select Drawing Production > Named Boundaries > Named Boundary > **Place Named Boundary**.
8. Select the **Civil Profile** mode.
9. In the Profile view, select the CL_SR61 alignment along which the plan named boundaries will be created.
10. Fill out the dialog being sure to set the Drawing Seed and Method, as shown below.

Place Named Boundary Civil Profile

Drawing Seed: 11x17 Profile Only

Detail Scale: 1"=50'

Name: Profile 1

Description:

Method: Station Limits

Group: (New)

Name: CL_SR61_PR1

Description:

Start Location: 698+95.00

Stop Location: 726+46.38

Length: 700.000000

Vertical Exaggeration: 10.000000

Available Profile Height: 47.200000

Top Clearance: 0.500000

Bottom Clearance: 0.500000

Elevation Datum Spacing: 2.000000

Station Datum Spacing: 1.000000

Profile Shifts: Datum Stations

Use Terrains

Use Active Vertical

Create Drawing

Show Dialog

11. Follow the prompts in the lower left corner **left click** to define the named boundaries. *Multiple left clicks may be required.*
12. On the *Create Drawing* dialog, click OK to create the sheets.

Create Drawing

Mode: Profile
Name: Profile 1
 One Sheet Per Dgn:

Drawing Seed: 11x17 Profile Only
View Type: Civil Profile
Discipline: Civil
Purpose: Elevation View

Drawing Model
Seed Model: 11x17 Profile Only Named Boundary.dgn
 Filename: (Active File)
Annotation Group: Profile Grid 50_5 Scale
Scale: 1" = 50'

Sheet Model
Seed Model: 11x17 Profile Only Named Boundary.dgn
 Filename: (Active File)
Sheets: (New)
Scale: Full Size 1 = 1
Drawing Boundary: 11x17 Profile Only
Detail Scale: 1" = 50' (By Named Boundary)

Add To Sheet Index
 Make Sheet Coincident
 Open Model

OK Cancel

8 Cross Section Sheets

CROSS SECTIONS

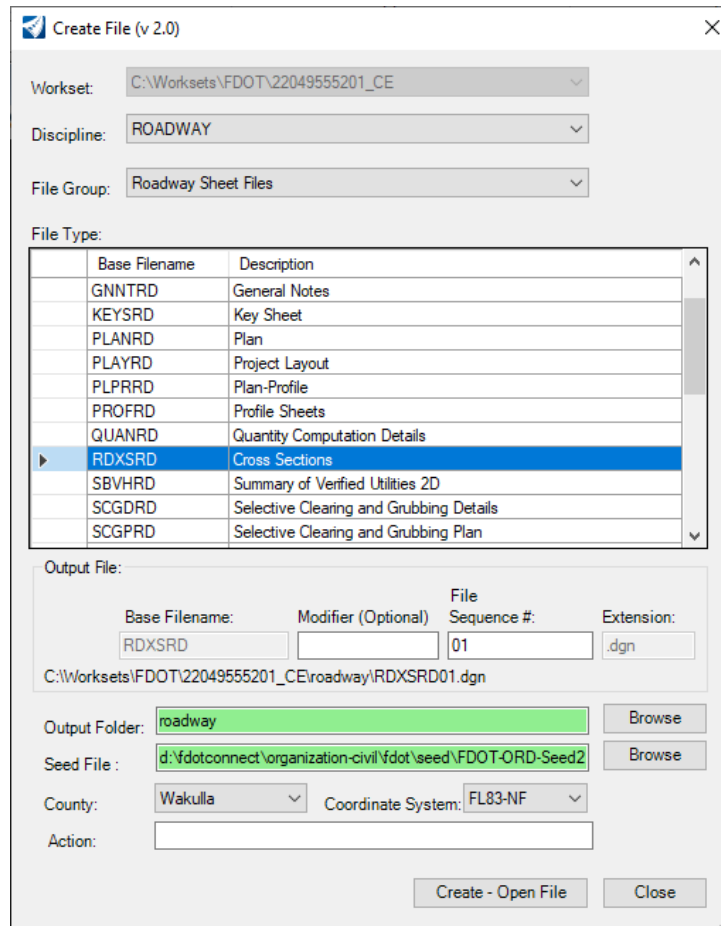
OVERVIEW

Part 9, Chapter 905 of the *FDM* outlines FDOT Roadway Cross Sections Sheets. Cross Sections depict the existing ground, including all man-made features, and proposed roadway template as sections perpendicular to the respective stations along a survey baseline or construction centerline. Cross section sheets are used to provide supplemental information during the plans phase review process. These sheets may also be used for coordination purposes (e.g., permit or utility, local agency, public meetings). These sheets are not to be placed within the Contract Plans Set. Signing and sealing these sheets is not required

EXERCISES

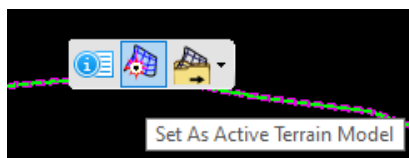
Exercise 8.1 Create Cross Section Sheets

1. Use the **FDOTCONNECT for OpenRoads Designer** icon to open:
C:\Worksets\FDOT\22049555201_CE\BlankFile.dgn file
2. On the OpenRoads Modeling Workflow, select Create File, from the FDOT Tab.
3. The Create File dialog displays. On the Create File dialog set the *Discipline* to **Roadway** and *File Group* to **Roadway Sheet Files**. From the File Type list, select RDXSRD. On the Output File section of the dialog, be sure to set the County to Wakulla. Once everything is set up to match the image below, click **Create – Open File** to create and open the Cross Sections file. Click **Close** to close the Create File dialog.

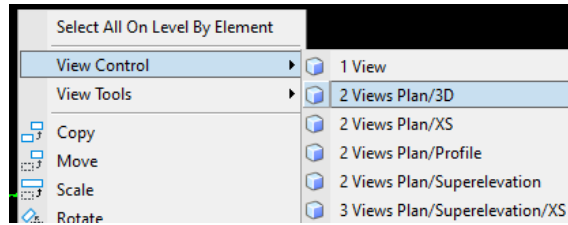


4. **Reference** in the following design files:
 - C:\WorkSets\FDOT\22049555201_CE\Roadway\ALGNRD01.dgn
 - C:\WorkSets\FDOT\22049555201_CE\Roadway\MODLRDDetail61.dgn
 - C:\WorkSets\FDOT\22049555201_CE\Roadway\MODLRD_Existing_Drainage01.dgn
 - C:\WorkSets\FDOT\22049555201_CE\Roadway\MODLRD_Existing_Features01.dgn
 - C:\WorkSets\FDOT\22049555201_CE\Roadway\MODLRD_Existing_Uilities01.dgn
 - C:\WorkSets\FDOT\22049555201_CE\Roadway\MODLRDMainLine61.dgn
 - C:\WorkSets\FDOT\22049555201_CE\Roadway\MODLRDUS98.dgn
 - C:\WorkSets\FDOT\22049555201_CE\Roadway\RWDTRD01.dgn
 - C:\WorkSets\FDOT\22049555201_CE\Survey\GDTMRD01.dgn

5. Set the **Existing Ground** Terrain Model to active by selecting and hovering over the boundary of the Terrain Model to open the contextual menu. Select “**Set as Active Terrain Model**”.

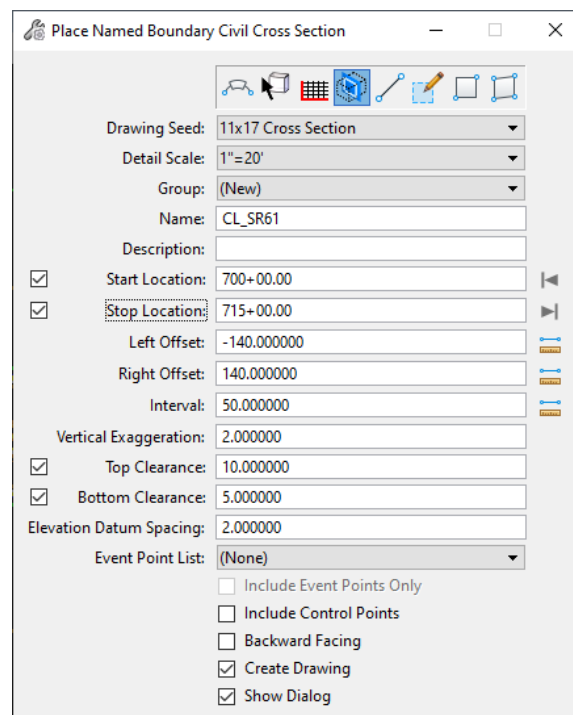


6. Open a 3D view by selecting **2 Views Plan/3D** from the right-click context menu or pressing F2.



Important! Both the 2D and the 3D models must be open in a view to create cross sections.

7. Create Named Boundaries which define the location and extent of each cross section.
 - a. Select Drawing Production > Named Boundaries > Named Boundary > **Place Named Boundary**.
 - b. Select the **Civil Cross Section** mode.
 - c. Set *Drawing Seed* to **11x17 Cross Section**.
 - d. In the 2D view, select the CL_SR61 alignment along which the cross section named boundaries will be created.
 - e. Set the *Start Location* to **700+00** and the *Stop Location* to **715+00**. the dialog should be filled out as shown below. The settings from the *Left Offset* down are set based on the applied *Drawing Seed*.



- f. Follow the prompts in the lower left corner **left click** to define the named boundaries. *Multiple left clicks may be required*. Once the named boundaries are created, they appear in the 3D view.
- g. Click **OK** on the *Create Drawing* dialog to create the sheets.

9 Plan Set Manager

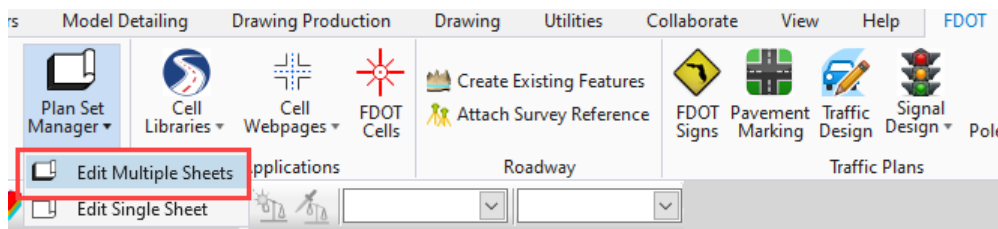
In FDOTConnect the plan sheet annotations have been set up to populate using the Plan Set Manager (PSM) tool. In this chapter we will review this tool's Multi Sheet mode, as Single Sheet edit has been covered in the Key Sheet and Typical Sections chapters. This chapter will also show how to create a PSET with PSM.

OBJECTIVES

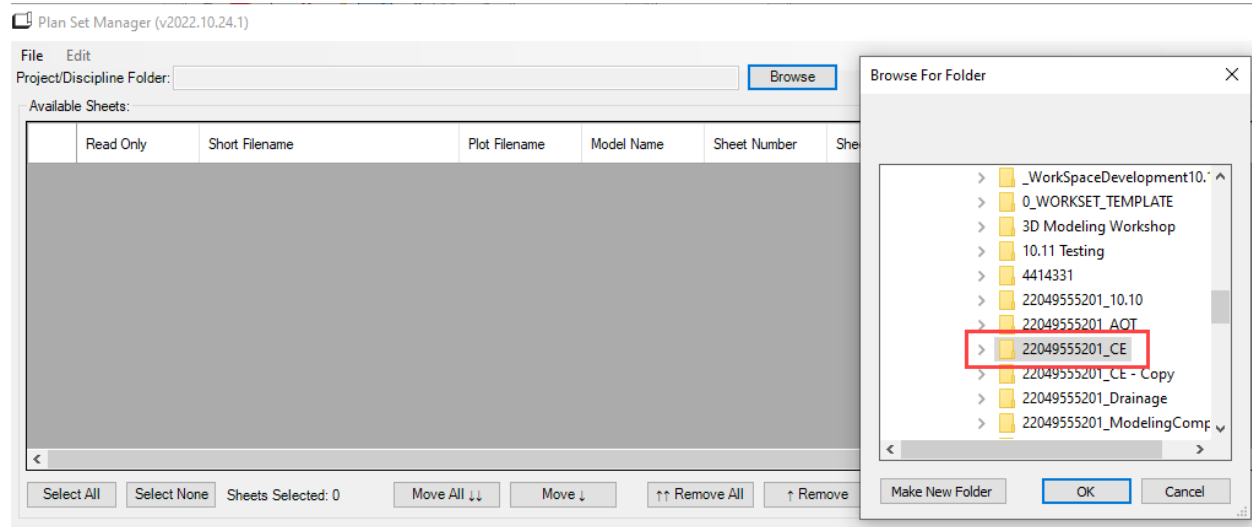
- Annotate Sheet Border Title Block using Multi Sheet mode
- Edit Sheet Numbers
- Create a PSet
- Plot Plan Sheets to PDF

Exercise 9.1 Annotating Title Block Information with Plan Set Manager

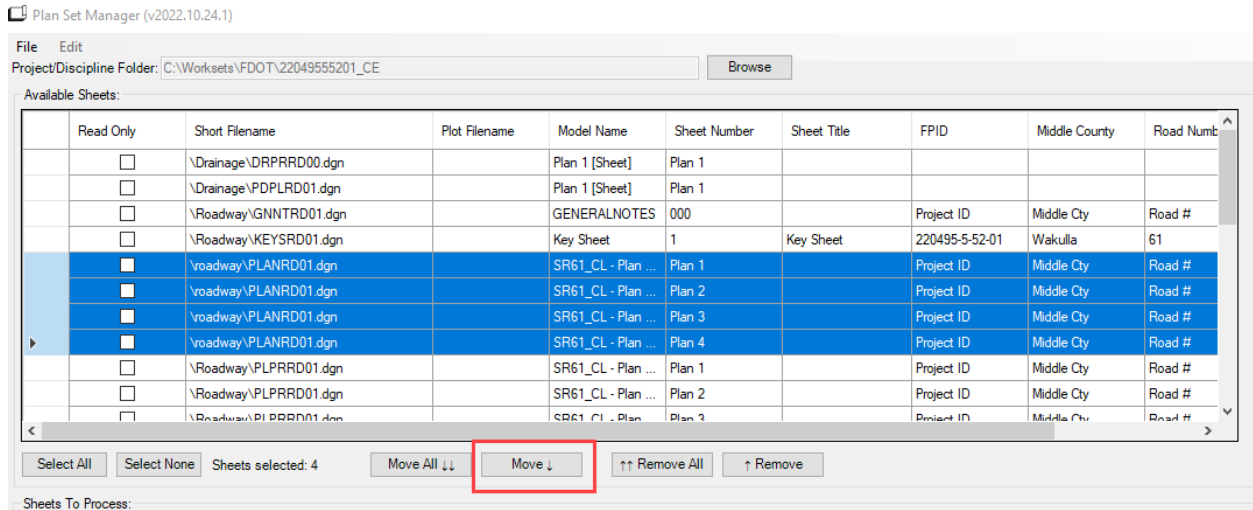
1. Use the **FDOTCONNECT for OpenRoads Designer** icon to open the C:\Worksets\FDOT\22049555201_CE\PLANRD01.dgn file.
2. From the FDOT tab, select Edit Multiple Sheets from the Plan Set Manager drop-down button.



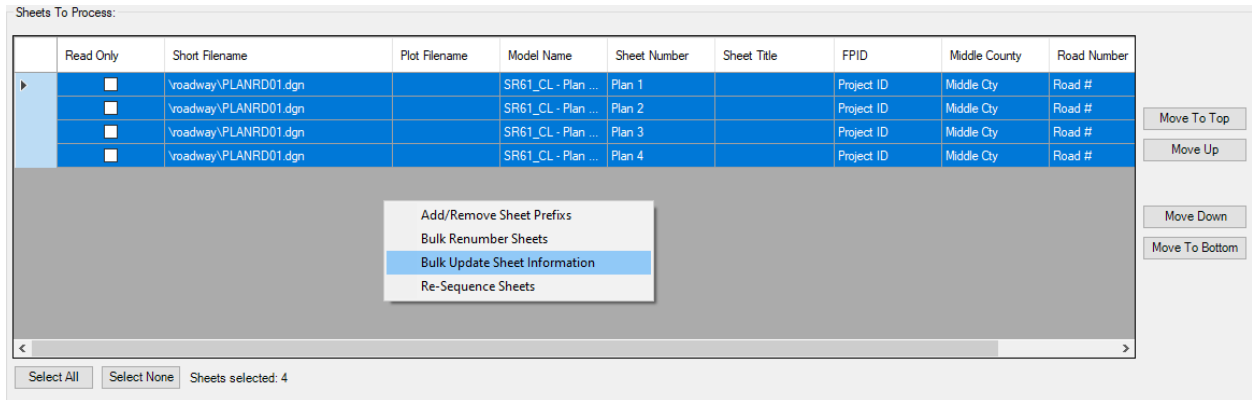
3. On the Plan Set Manager dialog, click on the Browse button and browse to the C:\Worksets\FDOT\22049555201_CE folder. Select the Workset folder and click OK.



- From the Available Sheets list, select the sheets listed for the \roadway\PLANRD01.dgn Short Filename category. With these 4 sheets selected, click Move to move these into the Sheets To Process portion of the dialog.



- In the Sheets to Process portion of PSM, select all the sheets and right-click to bring up the context menu. From this menu, select Bulk Update Sheet Information.



- On the Bulk Edit Sheet Information dialog, enable Edit Sheet Information, Edit Project Information, and the Edit Professional Information toggles.

Bulk Edit Sheet Information

Edit Sheet Information

Sheet Information

Sheet Title

Edit Project Information

Project Information

Financial Project Id

Road Number

Roadway ID

County Top

Middle

Bottom

Edit Professional Information

Professional Information

Select Professional ...

Professional Name

Professional Type

License Number

Company Name

Street

City

State

Zip

F. A. C. Note

Edit Bridge Information

Bridge Information

Bridge Number

Project Description

Edit Bridge Drawing Information

Bridge Drawing Information

Drawn By (XXX) Date (MM-YY)

Drawing Checked by (XXX) Date (MM-YY)

Edit Bridge Design Information

Bridge Design Information

Design By (XXX) Date (MM-YY)

Design Checked by (XXX) Date (MM-YY)

OK Cancel

- With these fields toggled on, fill out the dialog as shown below. Be sure to set the Professional Information by selecting the name within the dropdown list. Once this is all filled out, click OK.

Bulk Edit Sheet Information

Edit Sheet Information

Sheet Information

Sheet Title

Edit Project Information

Project Information

Financial Project Id

Road Number

Roadway ID

County Top

Middle

Bottom

Edit Professional Information

Professional Information

Select Professional ...

Professional Name

Professional Type

License Number

Company Name

Street

City

State

Zip

F. A. C. Note

Edit Bridge Information

Bridge Information

Bridge Number

Project Description

Edit Bridge Drawing Information

Bridge Drawing Information

Drawn By (XXX) Date (MM-YY)

Drawing Checked by (XXX) Date (MM-YY)

Edit Bridge Design Information

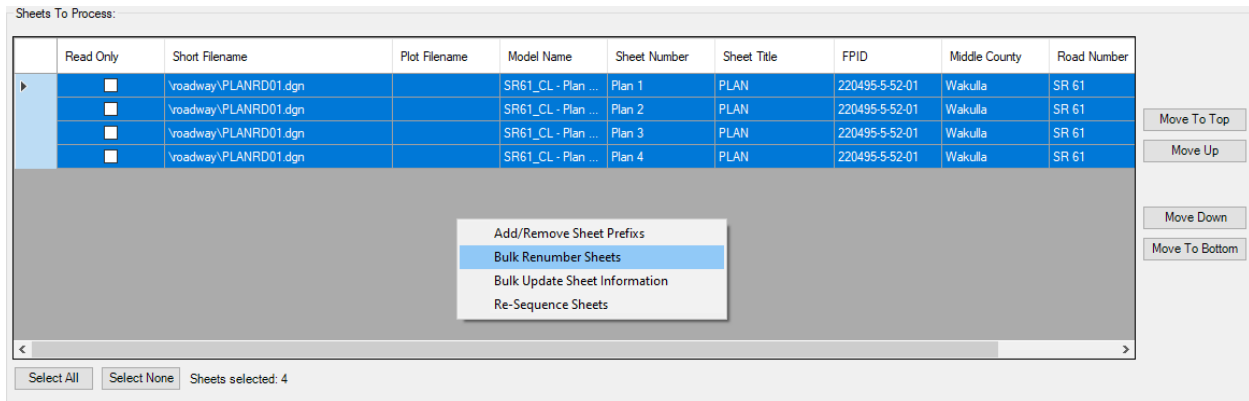
Bridge Design Information

Design By (XXX) Date (MM-YY)

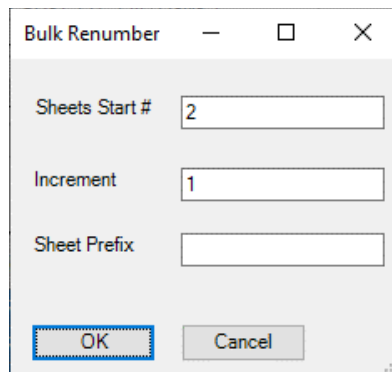
Design Checked by (XXX) Date (MM-YY)

OK Cancel

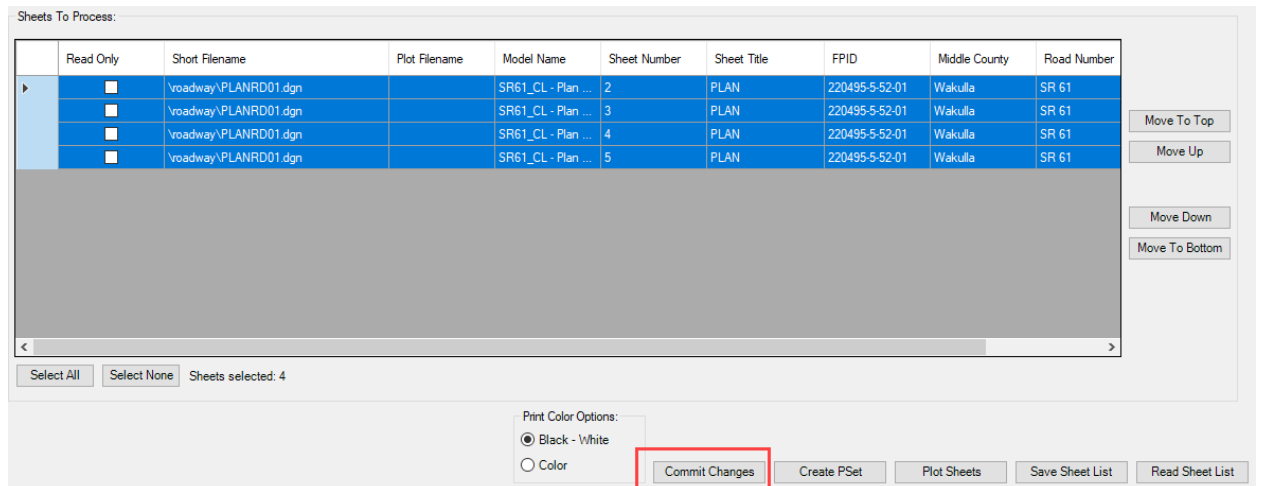
- With the PLANRD01 models still highlighted, in the Sheets to Process section, right click to bring up the context menu and select Bulk Renumber Sheets.



- Fill out Bulk Renumber dialog as shown below. Click OK when finished. Once finished, be sure to open each sheet model in order to graphically update sheet number text field.

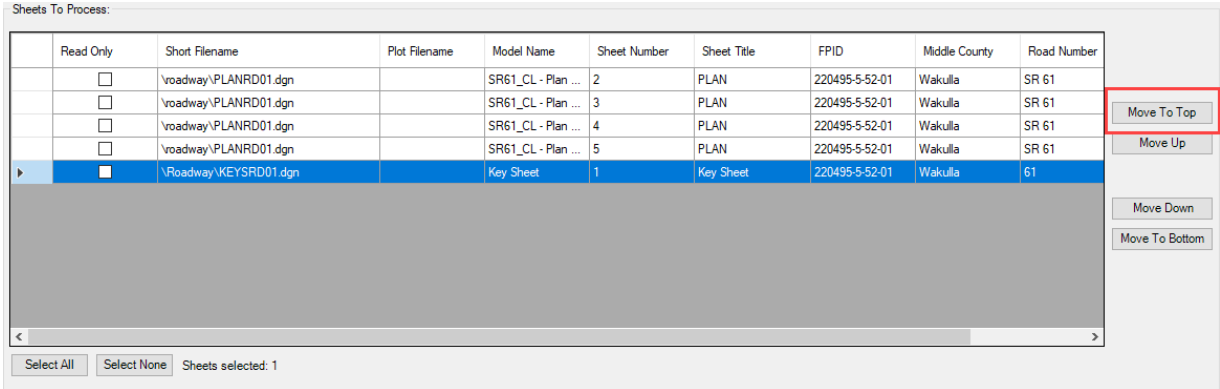


- With the PLANRD01 models still highlighted, in the Sheets to Process section, click Commit Changes to apply the edits to the plan sheets. Once the changes are committed, close Plan Set Manager to see the edits applied. Also note, the signature note is applied automatically based on the Professional Type.

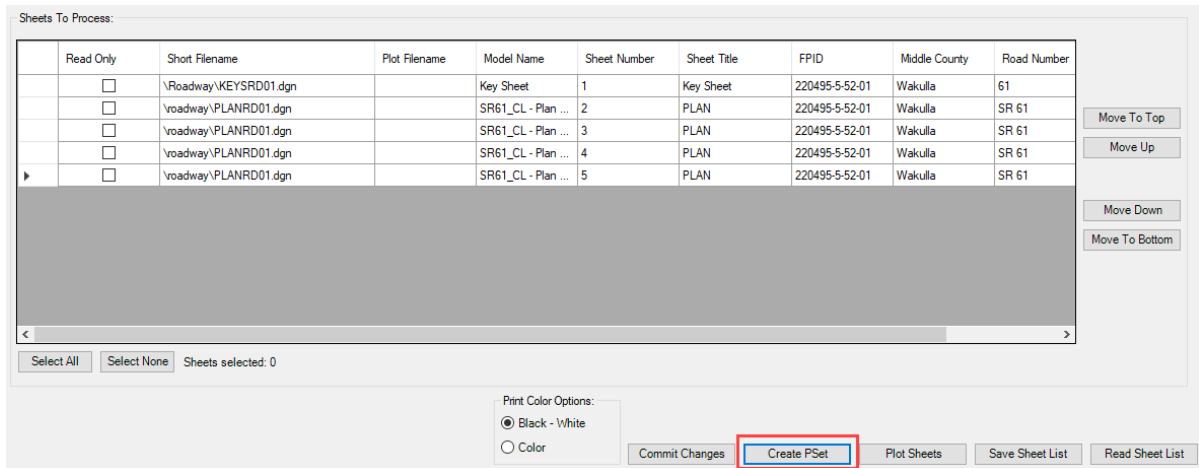


Exercise 9.2 *Creating a PSET with Plan Set Manager*

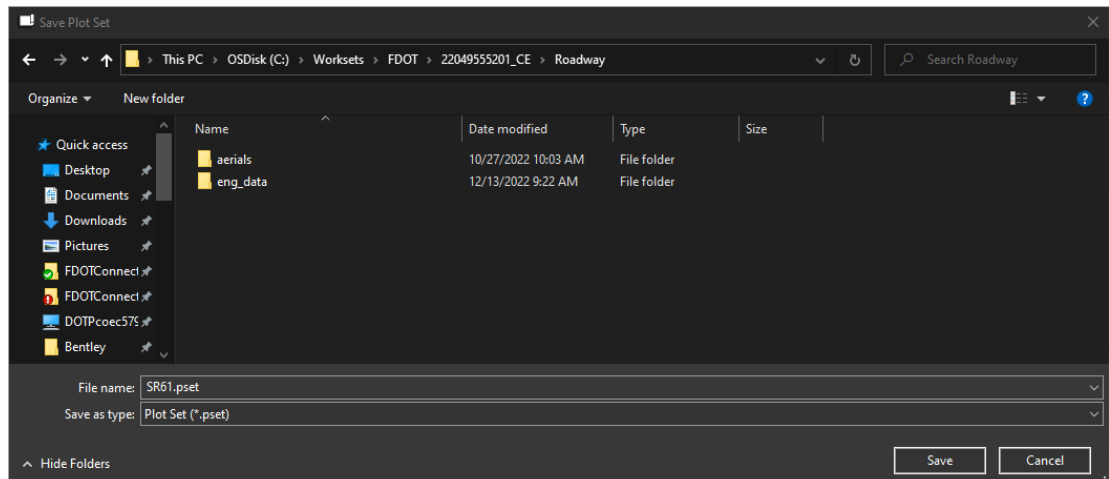
- With the PLANRD01 sheets, highlight and add the KEYSRD01 file to the Sheets to Process list. Once the Key Sheet file is added, highlight, and move it to the top of the Sheets to Process list.



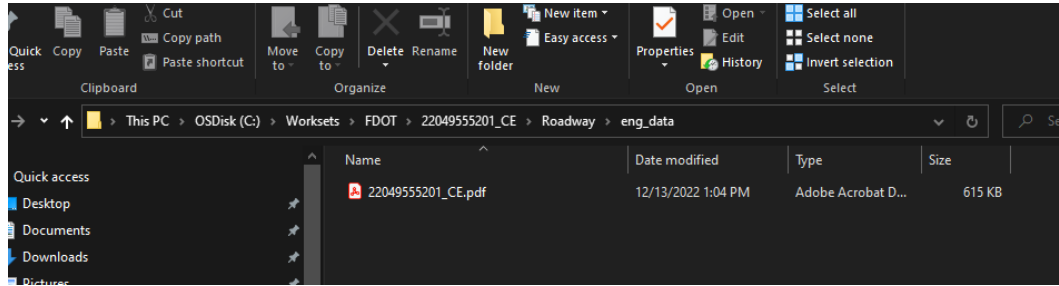
- Click on Create PSet to create a print set for the files in the Sheets to Process list.



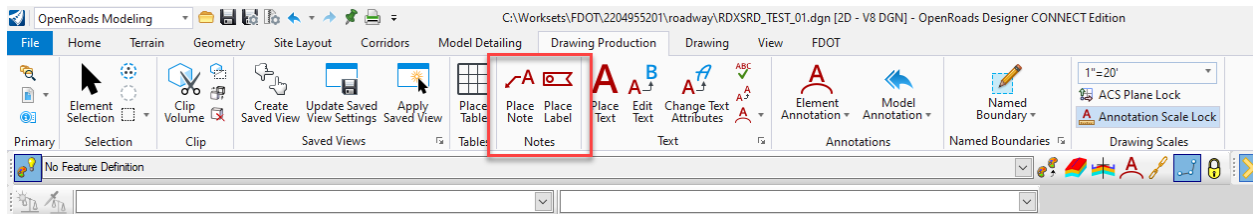
- On the Save Plot Set dialog, browse to the eng_data folder within the Roadway folder and save the PSet file with the name SR61.pset.



4. Once the PSet is created, click the Plot Sheets button to plot the plan sheets. When the Save Plot dialog displays, browse to the eng_data folder within the Roadway folder and save the file as 22049555201_CE. Click Save and the pdf will process, create and open the file when completed.



10 Plan Labeling Workflow



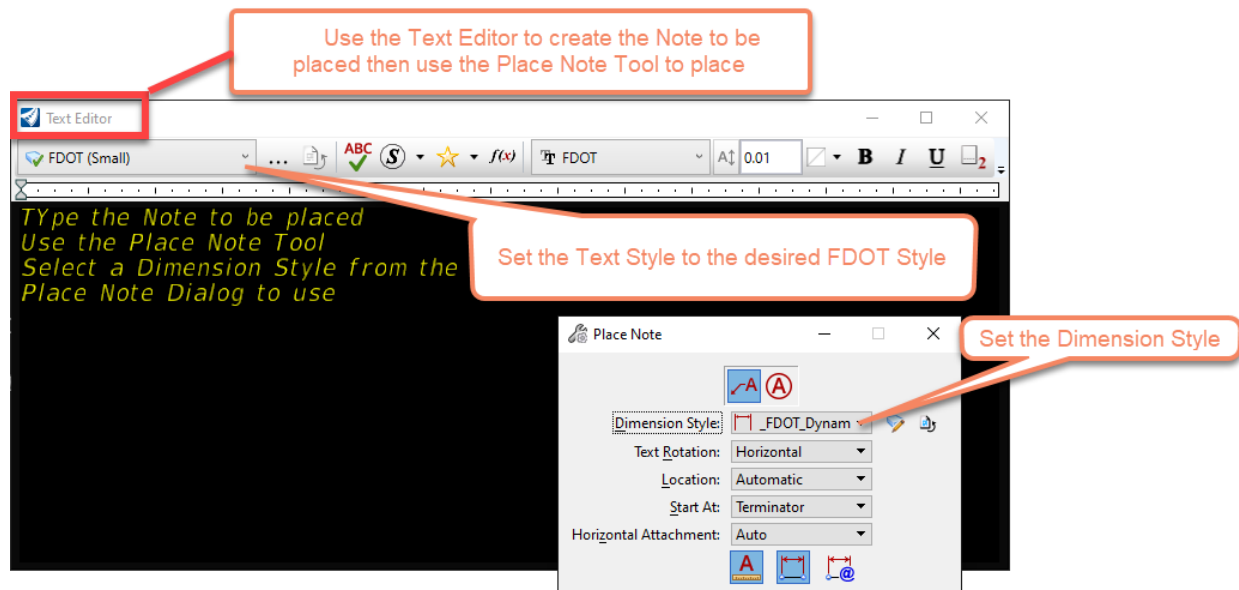
This chapter will review the PLACE NOTE or PLACE LABEL tools. This tool can be found in the Drawing Production Tab, and the Notes Group of the OpenRoads Modeling Workflow.

OPENROADS MODELING>DRAWING PRODUCTION>NOTES>Place Note or Place Label.

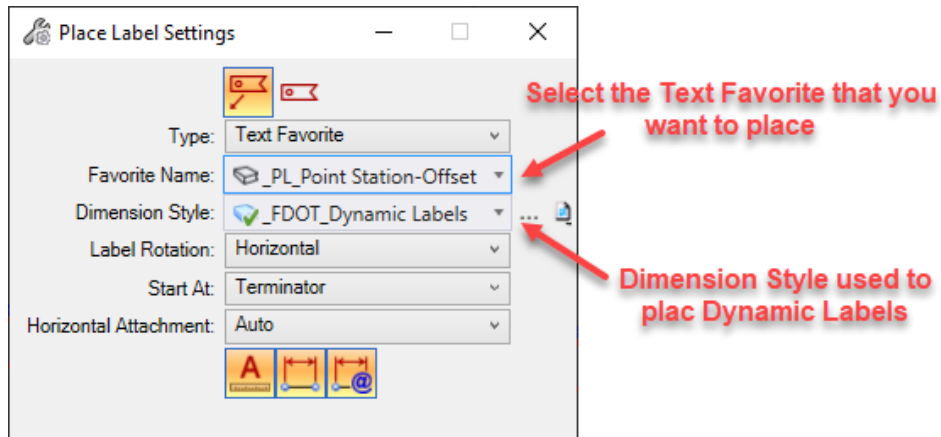
The two new ways of labeling your plan sheets are using the Place Note or Place label. First the Place Note is just a simple way of placing information.

The Place Label tool places labels using Text Favorites that are set up with Civil properties. In OpenRoads Designer there are two different ways of placing notes or labels. The first way is by the Place Note. With this method the user would type the note using the text editor dialog and would select a dimension style before placing the note.

PLACE NOTE

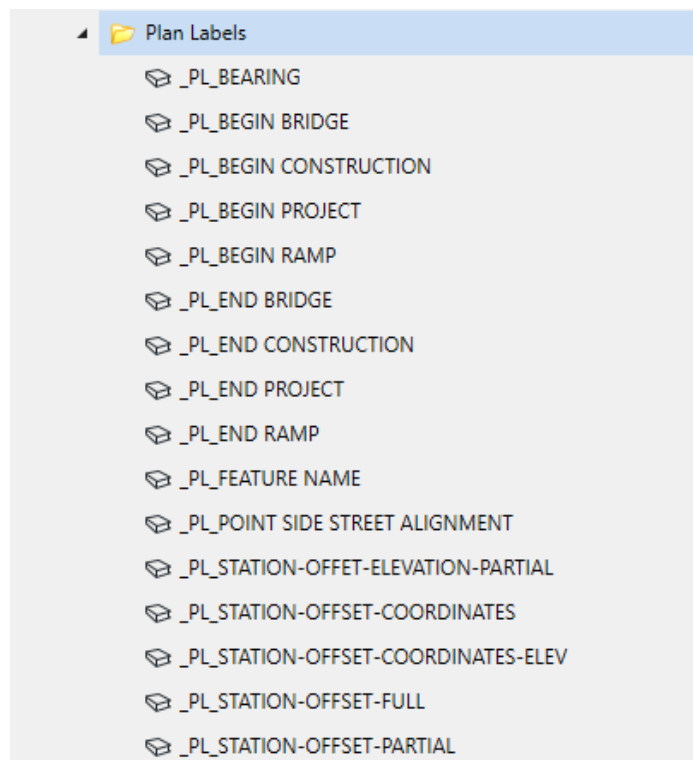


PLACE LABEL



We have created Text Favorites to label in the plan, profile, and cross sections.

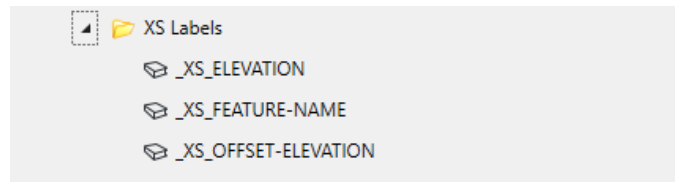
- The Plan Text Favorite have the prefix of `_PL_`.



- The Profile Text Favorite have the prefix `_PR_`.



- The Cross Section Text Favorites have a prefix `_XS_`.



EXERCISE OVERVIEW – PLACE LABELS

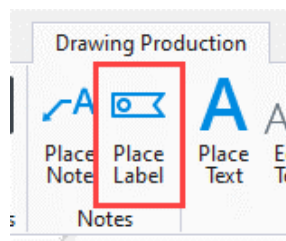
- 11.1 Place Labels in Plan Sheets
- 11.2 Place Labels on the Profile
- 11.3 Place Labels on the Cross Section

Exercise 10.1 Place Labels on the Plan

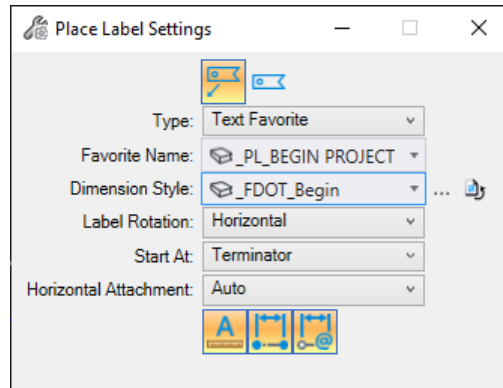
1. Click on the FDOTCONNECT for OpenRoads Designer icon to launch the file, PLANRD_LABELING_01.dgn.



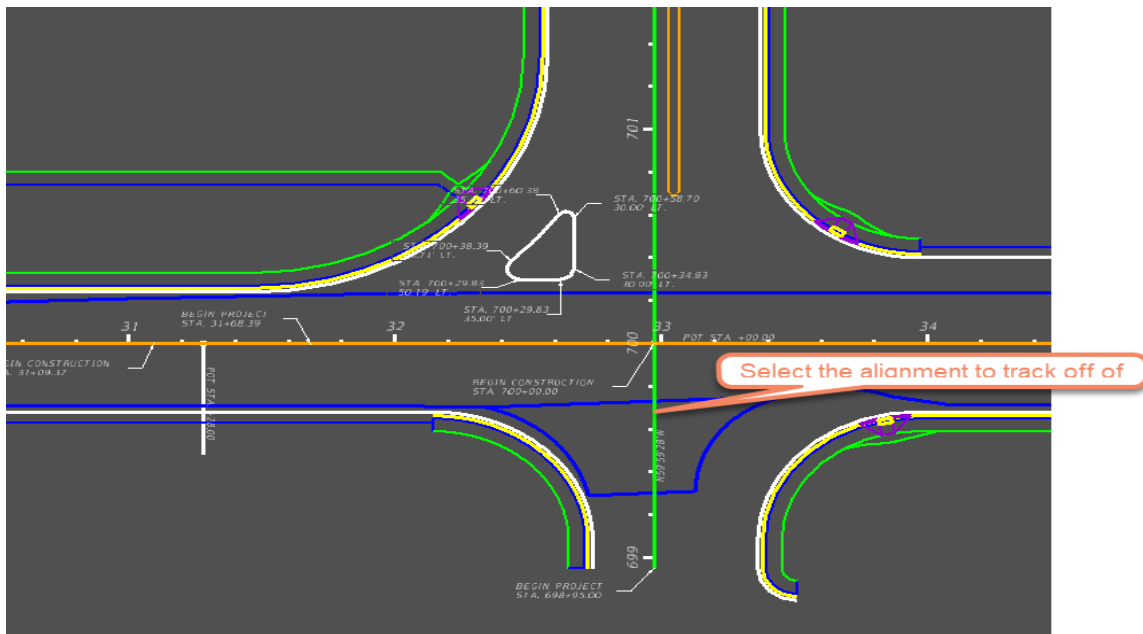
2. Set the Level to a TextLabel before placing any notes or Labels.
3. Switch to the Drawing Production Tab and launch the Place Label tool.



- This will bring the Place Label Dialog, set the Type to Text Favorite, Select Text Favorite from list. Set your Dimension Style from list (Set the Dialog as shown below.)



- Once the dialog is set, select the Alignment from which you would like to track to place the label, then select where you want the label to be placed.
- Use the same process to place the Begin Construction and Station Offset. With the Station Offset label, be sure to change the Dimension Style to _FDOT_Dynamic Labels.



Exercise 10.2 Place Labels on the Profile

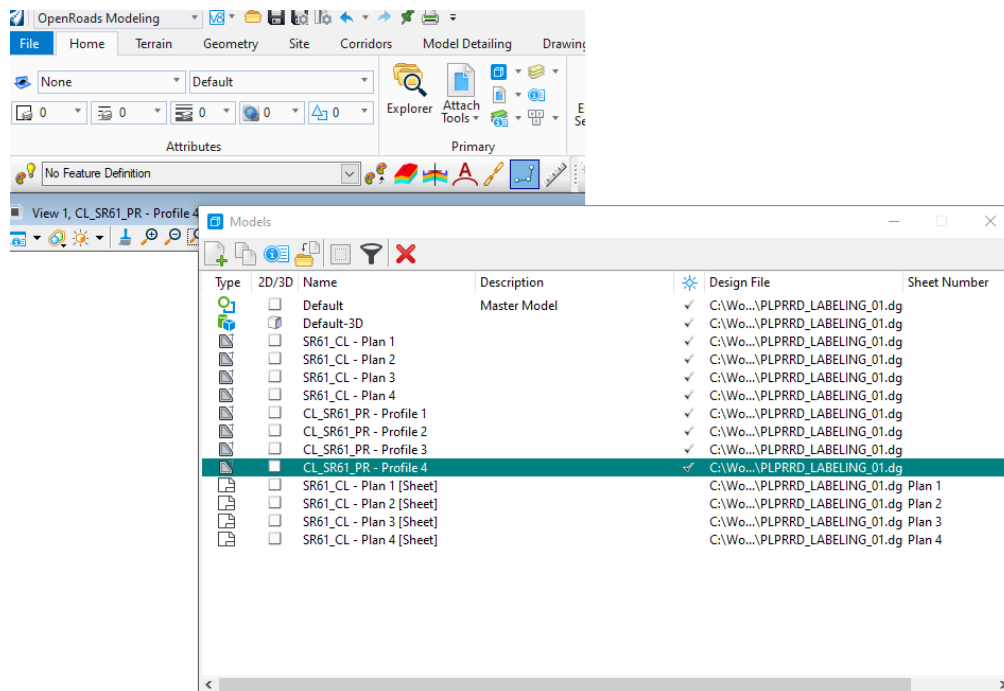
In this exercise, we are going to open the PLPRRD_LABELING_01.dgn to place dynamic labels.

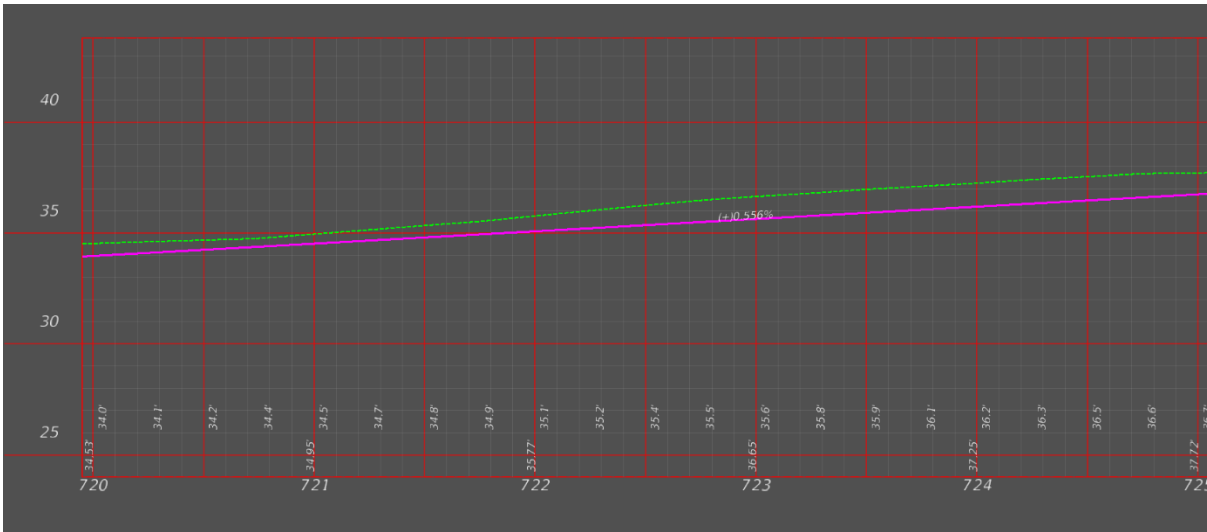
We will place a **Begin Profile**, **Begin Widening**, **Begin Milling-Resurfacing**, **End Profile**, **End Widening**, **End Milling-Resurfacing**.

1. Click on the FDOTCONNECT for OpenRoads Designer icon to launch the file PLPRRD_LABELING_01.dgn.

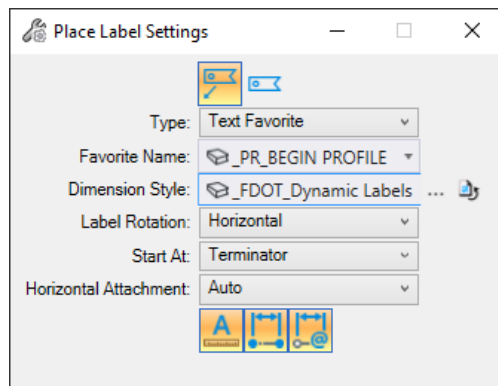


2. Once the file is open, select the Drawing Tab, select the Models dialog to switch to the Drawing Model highlighted below. This is where we will start placing our labels.

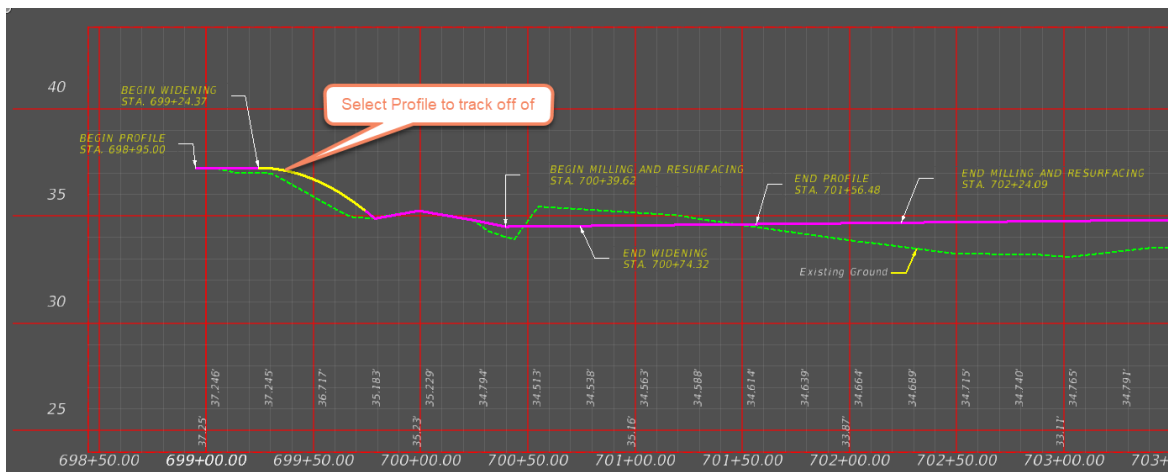




3. Set the Level to TextLabel.
4. Switch to the Drawing Production Tab and launch the Place Label tool.
5. Set the Type to Text Favorite, Select Text Favorite from list. Set your Dimension Style from list (Set the Dialog as the picture below.)



6. Once the dialog is set, select the Profile that you would like to track from to place the label, then select where you want the label to be placed.
7. Use the same process to place the Begin Milling and Resurfacing, Begin Widening.



Exercise 10.3 Place Labels on a Cross Section

In this exercise, we are going to open the RDXSRD_LABELING_01.dgn to place dynamic labels.

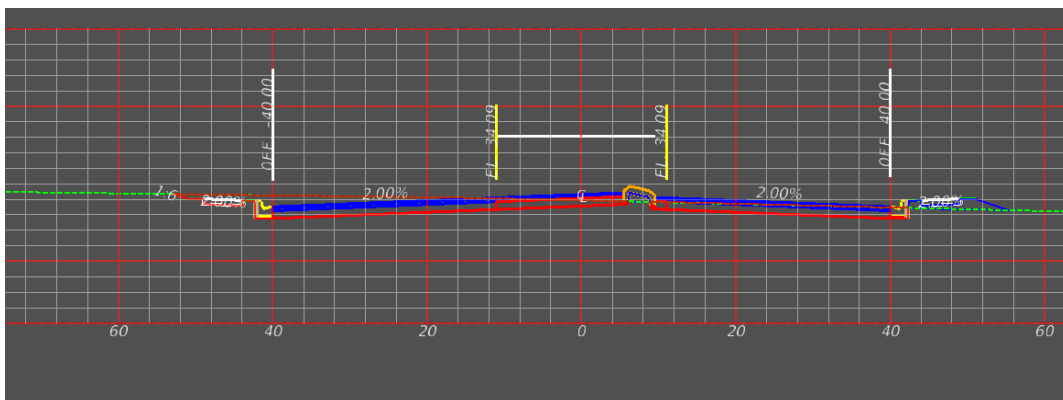
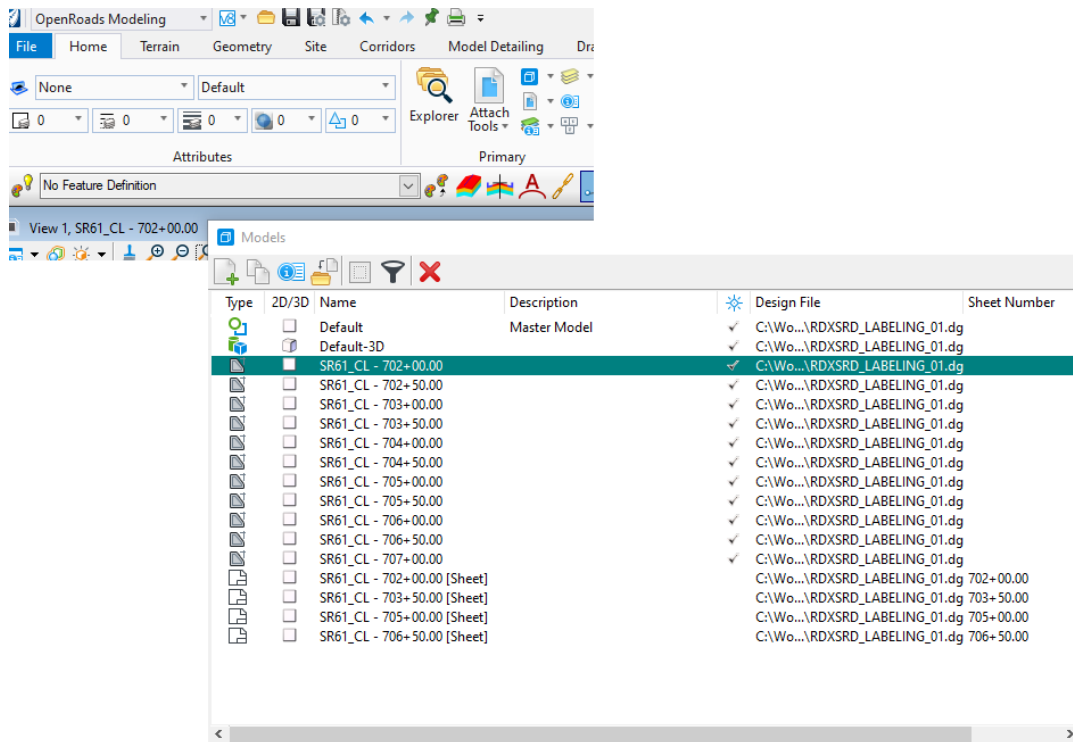
We will place an **Elevation, Offset-Elevation**.

1. Click on the FDOTCONNECT for OpenRoads Designer icon to launch the file RDXSRD_LABELING_01.dgn.

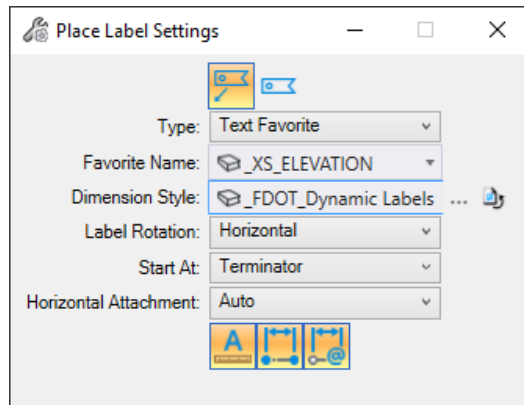


2. Once the file is open, select the Drawing Tab, select the Models dialog to switch to the Drawing Model highlighted below. This is where we will start placing our labels.

OPENROADS MODELING>DRAWING>PRIMARY> Models



3. Set the Level to TextLabel before placing any notes or Labels.
4. Switch to the Drawing Production Tab and launch the Place Label tool.
5. On the Place Label Dialog, set the Type to Text Favorite, Select Text Favorite from list. Set your Dimension Style from list (Set the Dialog as the picture below.)



6. Once the dialog is set, select the Point that you would like to label.
7. Use the same process to place the Offset-Elevation.

