



Florida Department of Transportation

605 Suwannee Street
Tallahassee, FL 32399-0450

FDOTConnect Design Survey Workflow Orientation

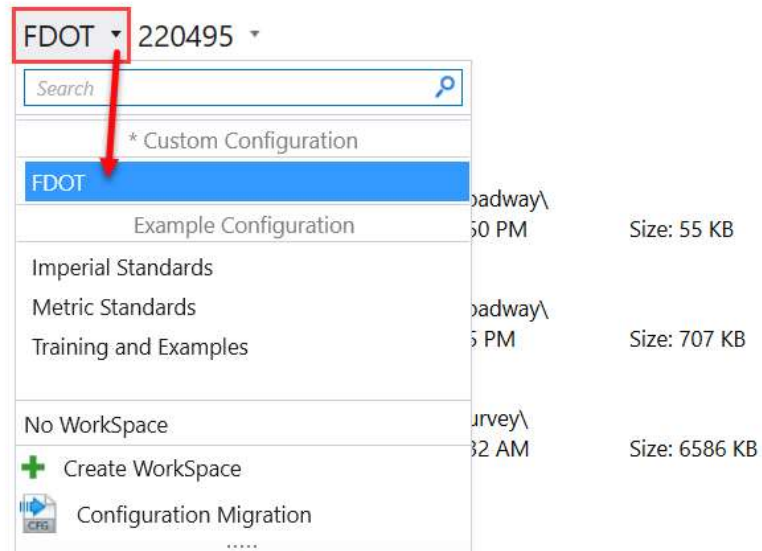
**BENTLEY'S OPEN ROADS DESIGNER
SURVEY WORKFLOW FOR
DESIGNERS**

FDOTConnect MR1

ORD SURVRD

- Set the Workspace to “FDOT”

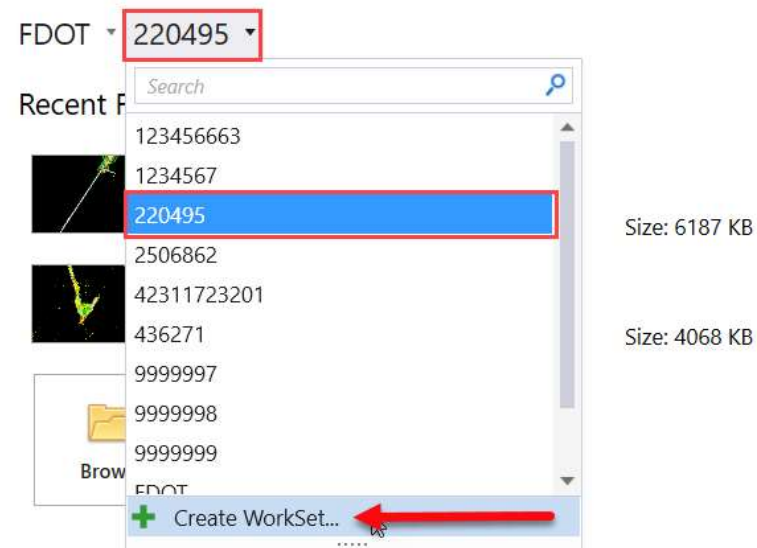
OpenRoads Designer CONNECT Edition



ORD SURVRD

- Create or Select Workset Project

OpenRoads Designer CONNECT Edition



ORD SURVRD

- Create or Select Workset Project

Create WorkSet

Name: 220495

Description:

Template: 0_WORKSET_TEMPLATE Create Folders Only

+ Add a Custom Property

Folder locations

Root Folder: C:\Worksets\FDOT\220495\ Browse...

Design Files: C:\Worksets\FDOT\220495\ Browse...

Standard Files: C:\Worksets\FDOT\220495\Standards\ Browse...

Standards Subfolders: admin;admin\eng_data

CONNECTED Project

(click Browse to attach a Project) Browse... x

OK Cancel

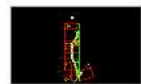
ORD SURVRD

- Select, Browse or Open New File

OpenRoads Designer CONNECT Edition

FDOT ▾ 220495 ▾

Recent Files

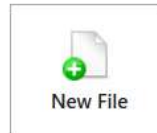
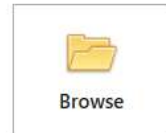


SURVRD01.dgn

C:\Worksets\FDOT\220495\Survey\

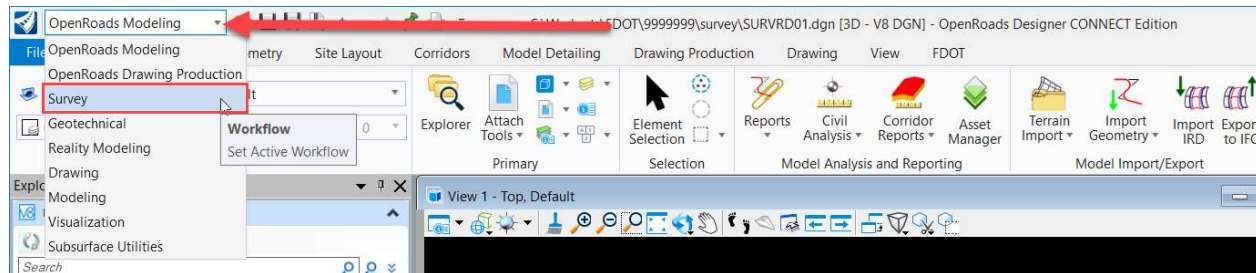
Modified: 10/22/2019 5:32:25 PM

Size: 6586 KB

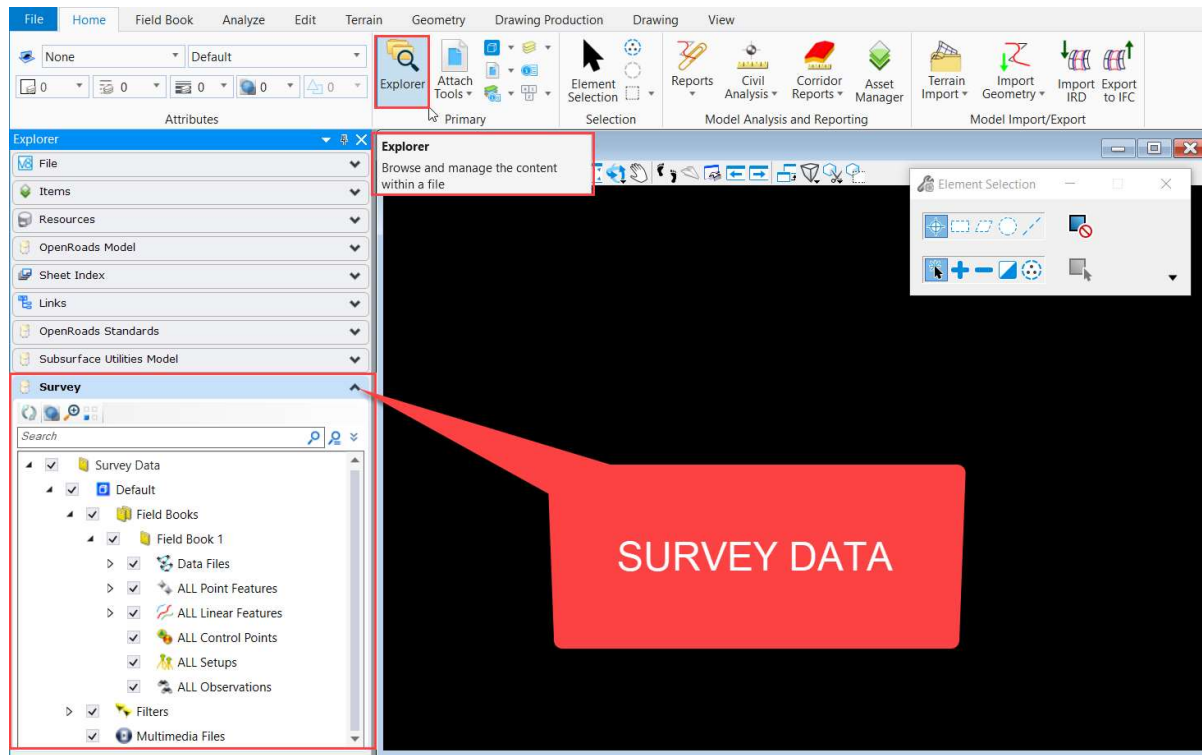


ORD SURVRD

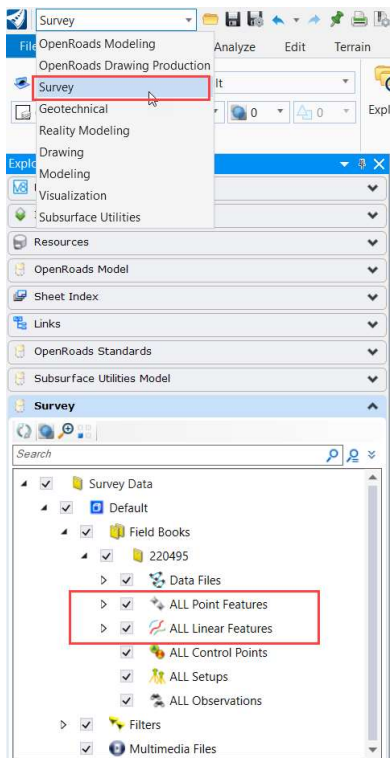
- Set the “**Workflow**”
 - In ORD the Ribbon shown depends on which Workflow is chosen



ORD SURVRD

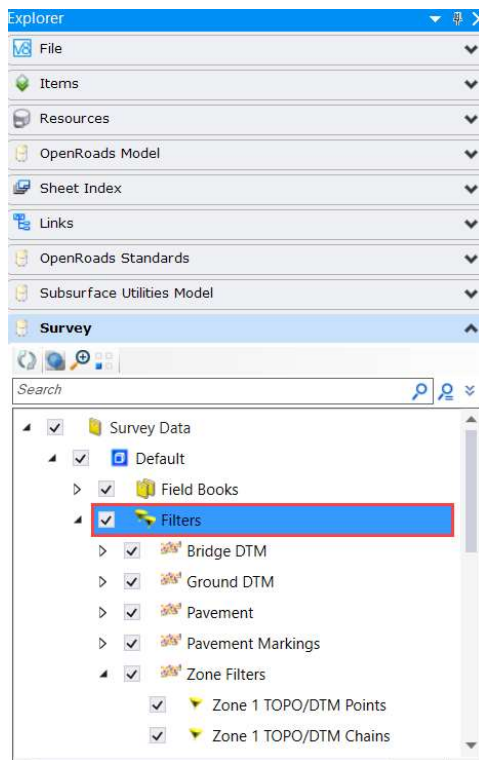


ORD SURVRD Survey Data



- Choose the survey Workflow for Survey tools
- Survey can be visualized with check boxes
- Expand Survey Data folder to segregate survey data

ORD SURVRD Survey Data



- Survey Filters can be used to visualize the Survey Data by attributes
- Including but not limited to Field Code, DTM attribute, Zone or a combination of attributes

ORD SURVEY Field Books

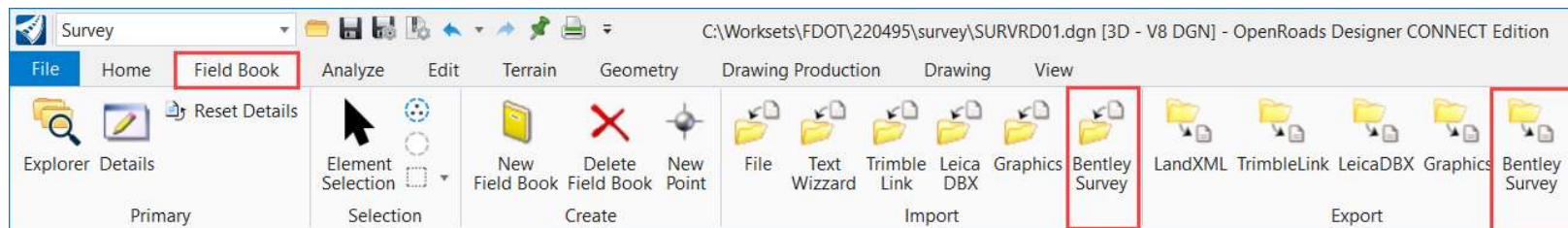
The screenshot displays the Bentley software interface. The 'Field Book' ribbon is active, with the 'Details' button highlighted by a red box and a red arrow pointing to the 'Survey Details' window. The 'Survey Details' window shows a table with the following data:

Name	Display	Field Code	Link Code	Zone	Description	Terrain Mo...	Attributes P...	Control Cod...	Easting	Northing	Elevation
CAFM19	True	CLNO	None	3	APPROX LOCATION OF 6" PVC STUB O...	Determine By...			2006116.31'	402977.11'	0.00'
MCLN1	True	CLNO	None	3		Determine By...			2006376.65'	401717.93'	42.14'
AAALO1	True	CLNO	None	3		Determine By...			2004286.02'	417299.97'	23.23'

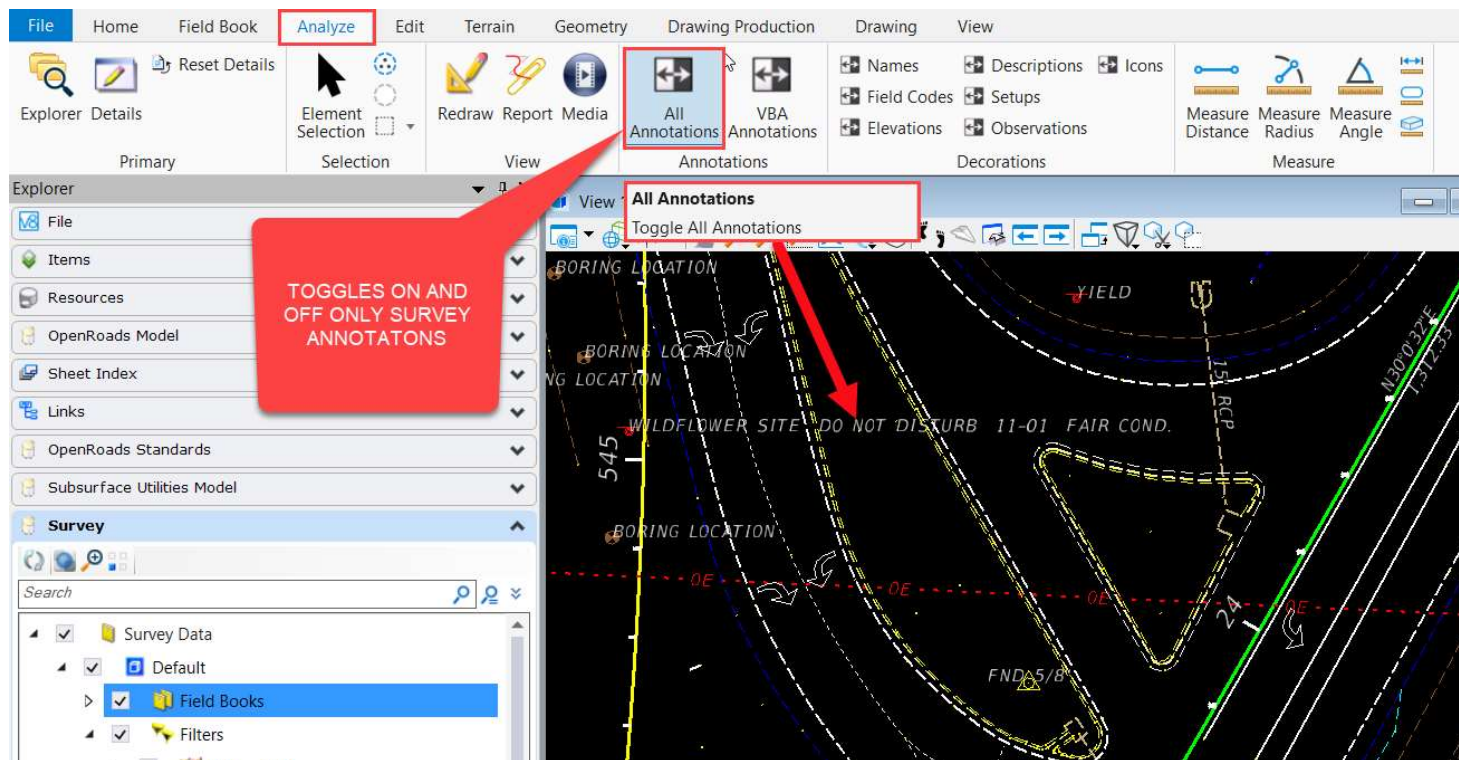
The Explorer panel on the left shows the project structure, with 'Survey Data' expanded to show 'Field Books' and '220495'. Under '220495', 'Data Files' and 'ALL Point Features' are expanded, and 'CLNO' is highlighted with a red box.

ORD SURVRD

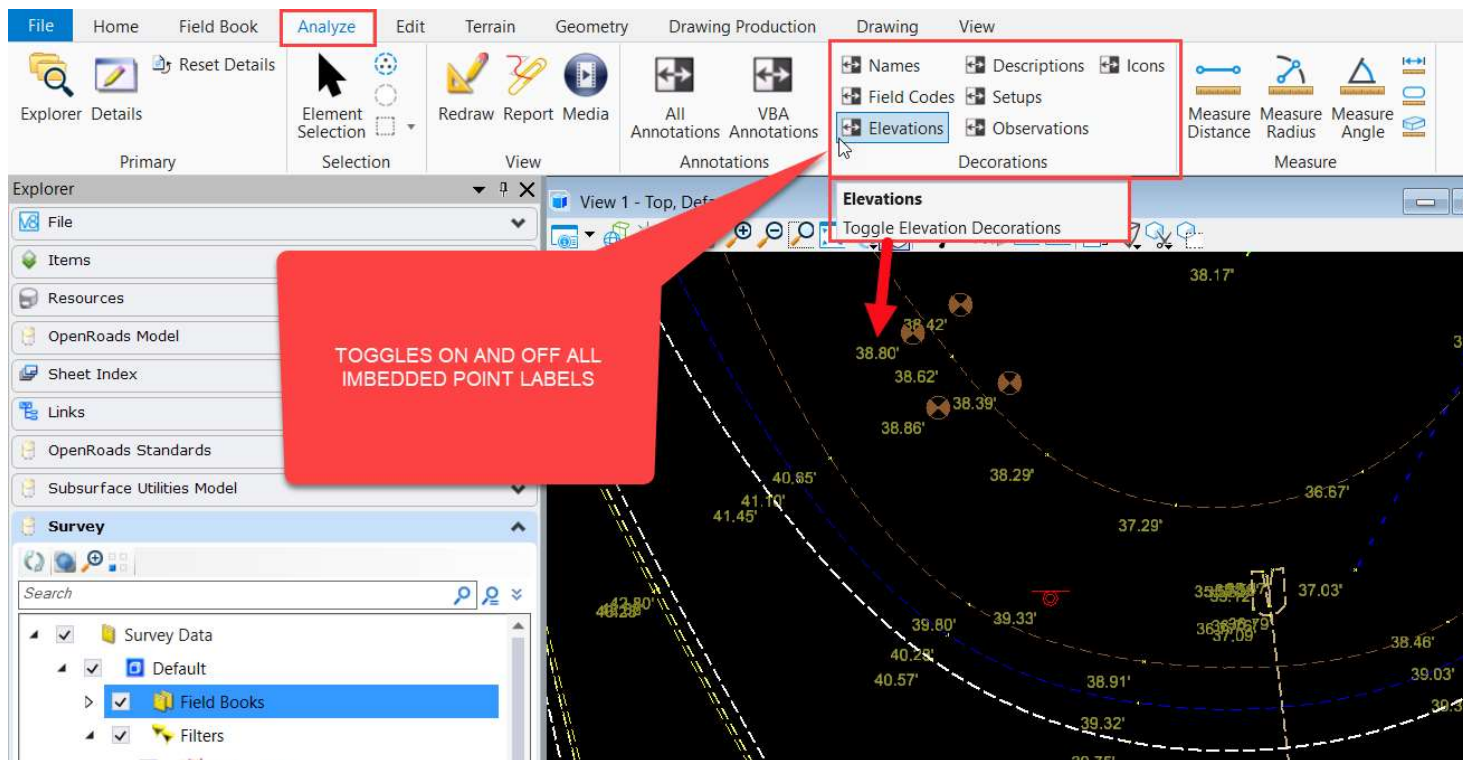
- Note a new tool for Importing and Exporting a Bentley Survey Field Book to a **“.sqlite”** file



ORD SURVEY Analyze



ORD SURVEY Analyze



ORD SURVEY Analyze

The screenshot displays the ORD SURVEY software interface. The top menu bar includes File, Home, Field Book, Analyze, Edit, Terrain, Geometry, Drawing Production, Drawing, and View. The Edit menu is highlighted, showing options like Break, Close, Join, Move, Transpose, Transform, Append, Move Along, Insert Point, and Delete Point. A red box highlights the Edit menu, and a red callout bubble points to it with the text "CONTEXTUAL MENUS ARE STILL AVAILABLE".

The main workspace shows a top-down view of a road layout with a dashed green line representing a "Break Line". A yellow tooltip is visible over the Break Line, displaying the following information:

```
Linear Feature
-----
Name: BRBC1_2
Field Code: CGB
Zone: 1
Terrain Model Attribute: Break Line
Data File Name: BR
Field Book Name: Z20495
Feature Definition: Survey\Linear\Existing Topography\Topo Elements (Zone 1)\CGB
Feature Description: Gurb and Gutter -Back
Creation Type: GeneratedByPointList
-----
Line String
Level: CGBback_ep
```

ORD SURVEY EDIT

The screenshot displays the Bentley OpenRoads Designer software interface. The ribbon menu is set to 'Terrain', and the 'Edit Model' tool is selected. The Explorer panel on the left shows the 'Survey' project structure, with 'Survey Data' expanded to show 'Default'. A context menu is open over 'Default', with 'Deactivate Survey Processing Rules' highlighted. A red callout box points to this menu item with the text: 'MUST DEACTIVATE SURVEY PROCESSING RULES TO EDIT MODEL'. The main workspace shows a 3D terrain model with a road layout.

File Home Field Book Analyze Edit **Terrain** Geometry Drawing Production Drawing View

From File From Graphical Filter From Elements Additional Methods 10.0 Active Edit Model Edit Complex Model Feature Management Boundary Options Transform Points Volumes Hydraulic Reporting Aquaplaning Sight Visibility Graphical Filter Manager Export To File Label Terrain Contours Label Terrain Spots

Primary Selection Create Edit Terrain Model

View 1 - Top, Default

Explorer

- File
- Items
- Resources
- OpenRoads Model
- Sheet Index
- Links
- OpenRoads Standards
- Subsurface Utilities Model
- Survey**

Survey Data

- Default
 - Field Books
 - Filters
 - Multimedia Files

Deactivate Survey Processing Rules

- Show Message Icons
- Show Names
- Show Features
- Show Elevations
- Show Descriptions
- Hide Setups
- Hide Observations
- Properties
- Zoom
- Isolate

Properties (Survey)

- Selection (1)
- Default

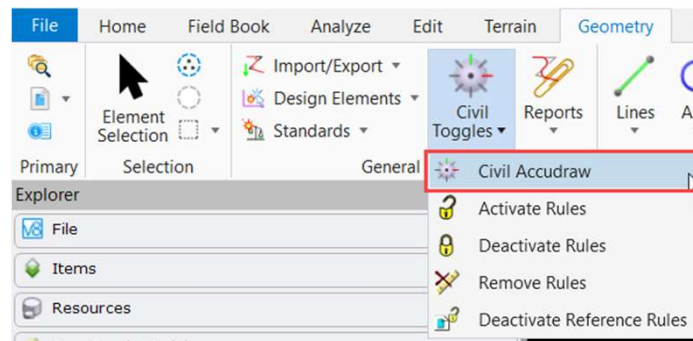
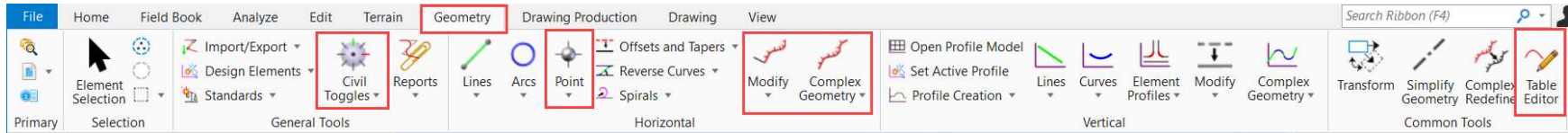
Survey Project

Name	Default
Datasets	1
Current Settings	FDOT

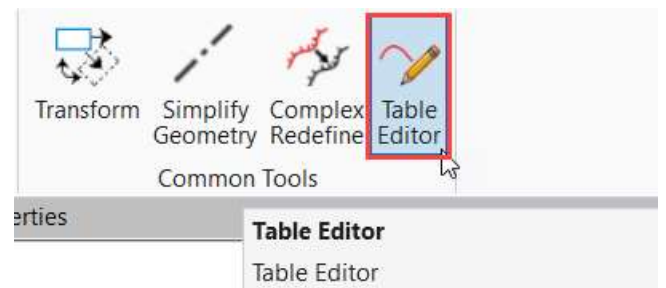
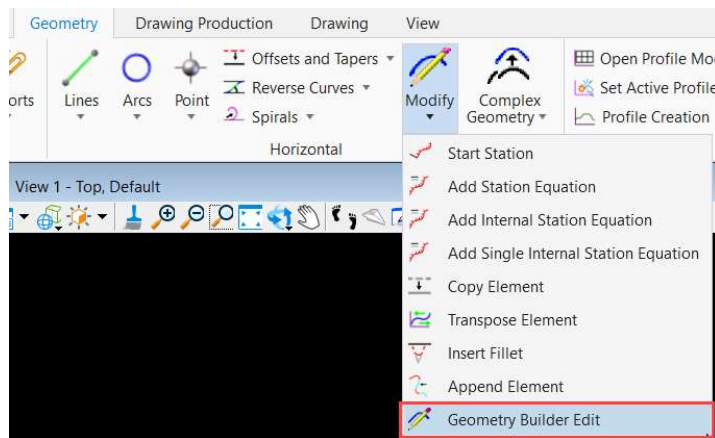
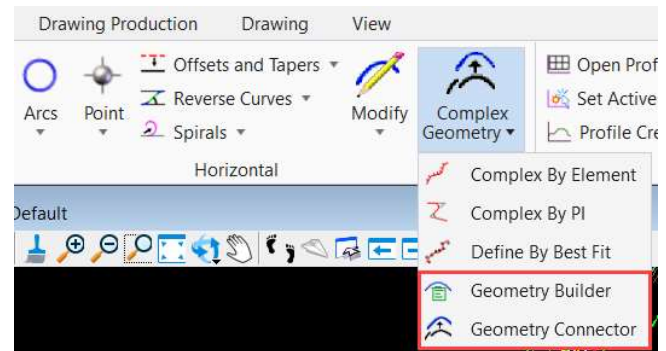
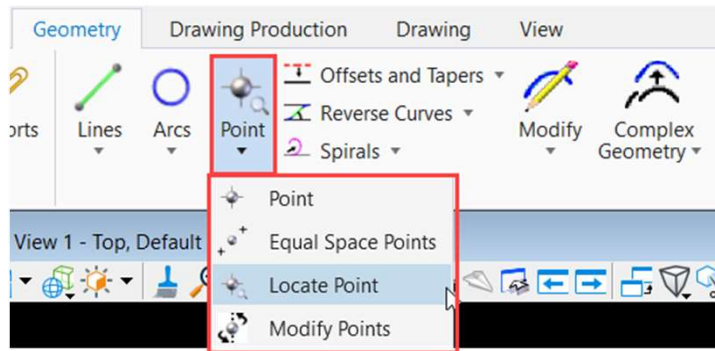
MUST DEACTIVATE SURVEY PROCESSING RULES TO EDIT MODEL

ORD SURVRD GEOMETRY TOOLS

- Note that the “Geometry” TAB has new COGO and edit tools for producing 2D geometry

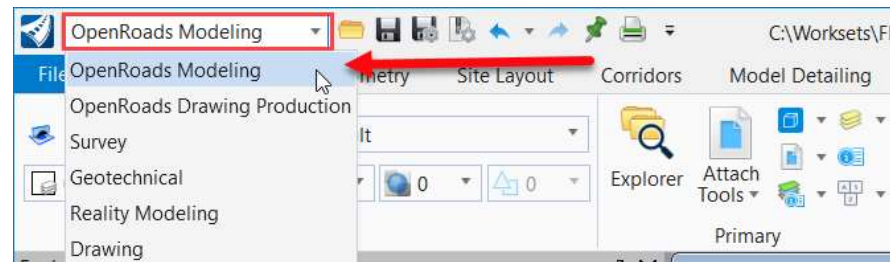


ORD SURVRD GEOMETRY TOOLS

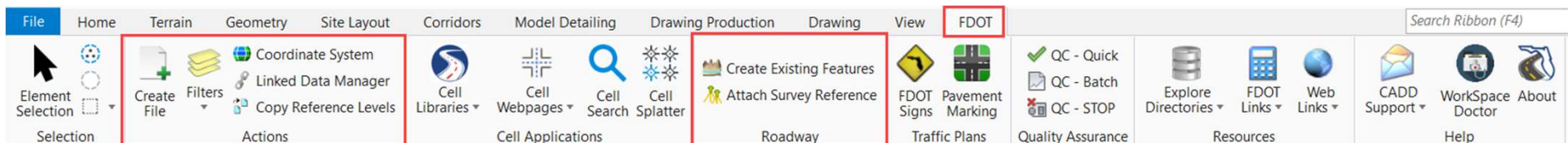


ORD FDOT MENU TAB

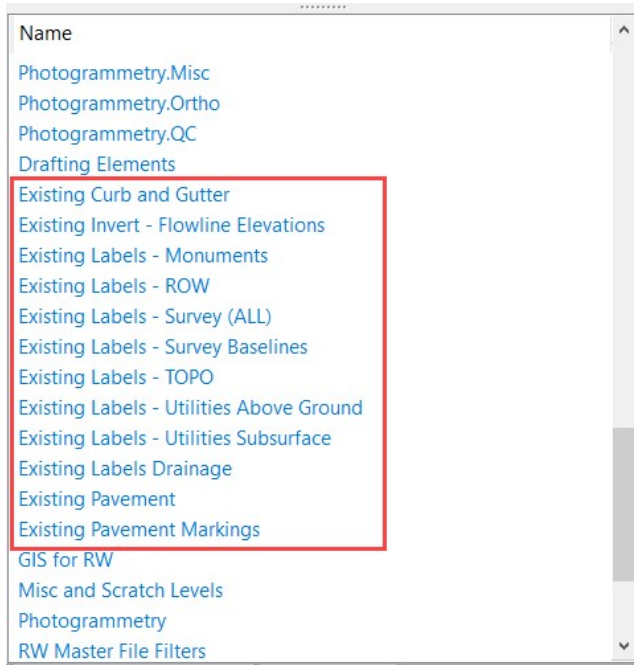
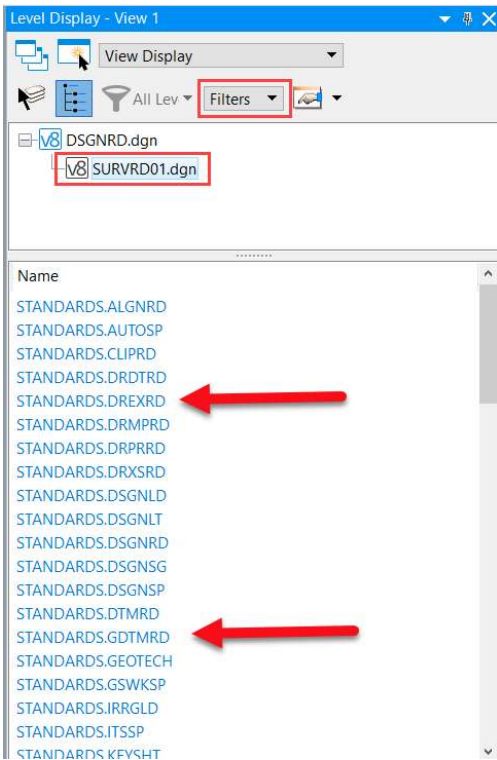
- Set the Workflow to “OpenRoads Modeling”



- NOTABLES - Create Files, LDM, Coordinate System, Workspace Doctor, Quality Control

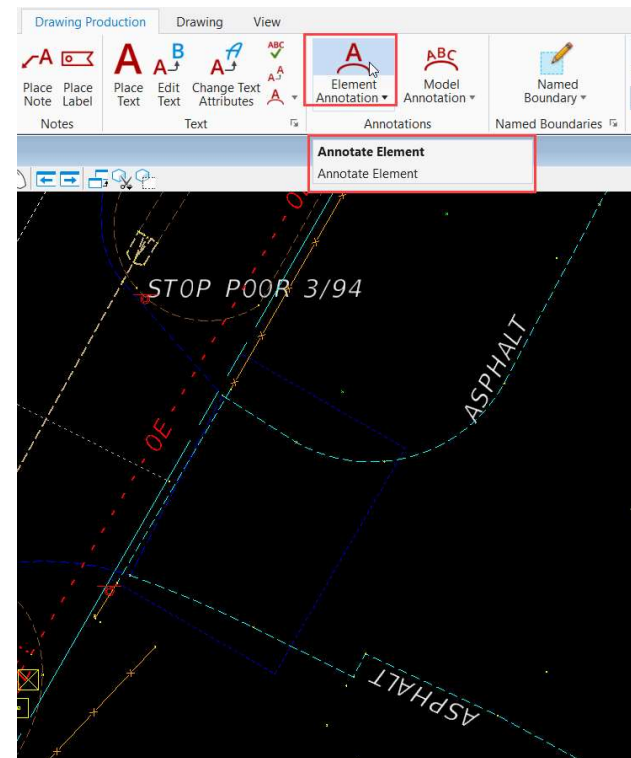


ORD SURVRD LEVEL FILTERS



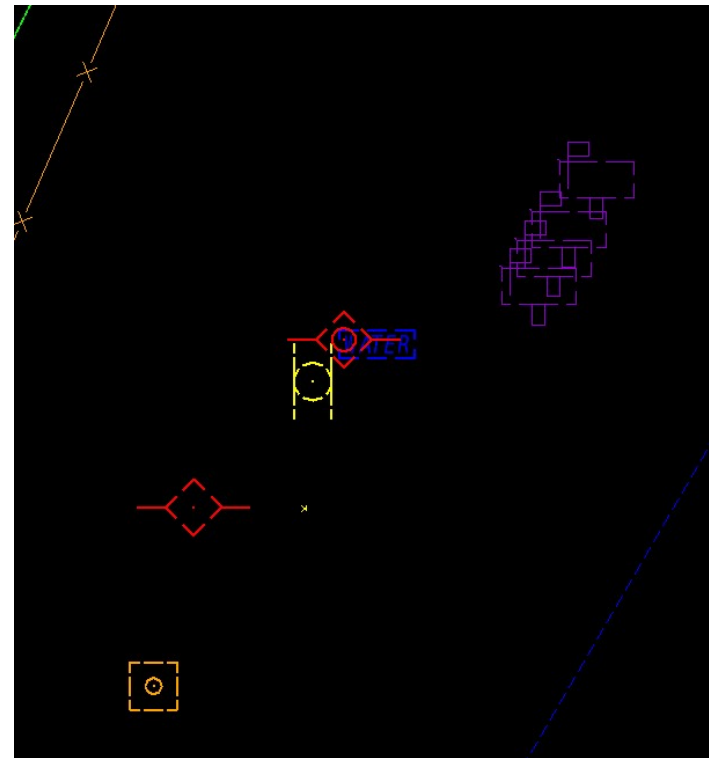
ORD SURVRD ANNOTATE FEATURES

- Select Element Annotation
- **BEWARE – Selecting Model Annotation will annotate the entire model... with possible undesired side effects such as empty text nodes (prior to version 10.07.01.32)**



ORD SURVRD EXISTING POINT FEATURES

- Dashed Cells were not legible to when plotted
- ORD Dashed Cells for existing features will have inherent dashes
- There is now only one cell library for survey symbology - ***Survey.cel***



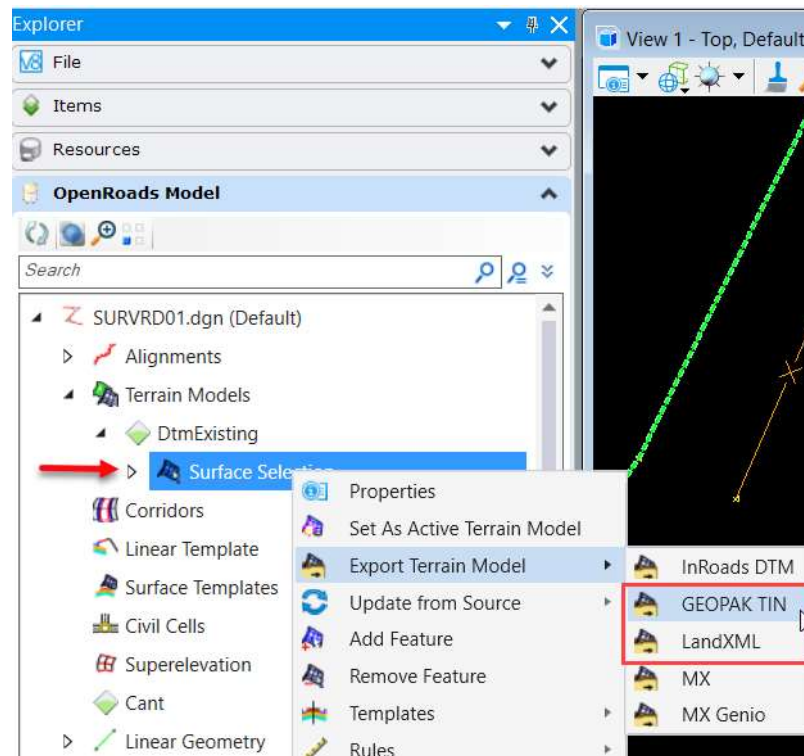
ORD SURVEY TERRAIN MODELS

- Terrain Models built from the Field Book are tied to the Field Book
- Terrain Models can be exported to a LandXML or TIN and brought back into a DGN (GDTMRD)
- “Export Both”, “Import Terrain Only”

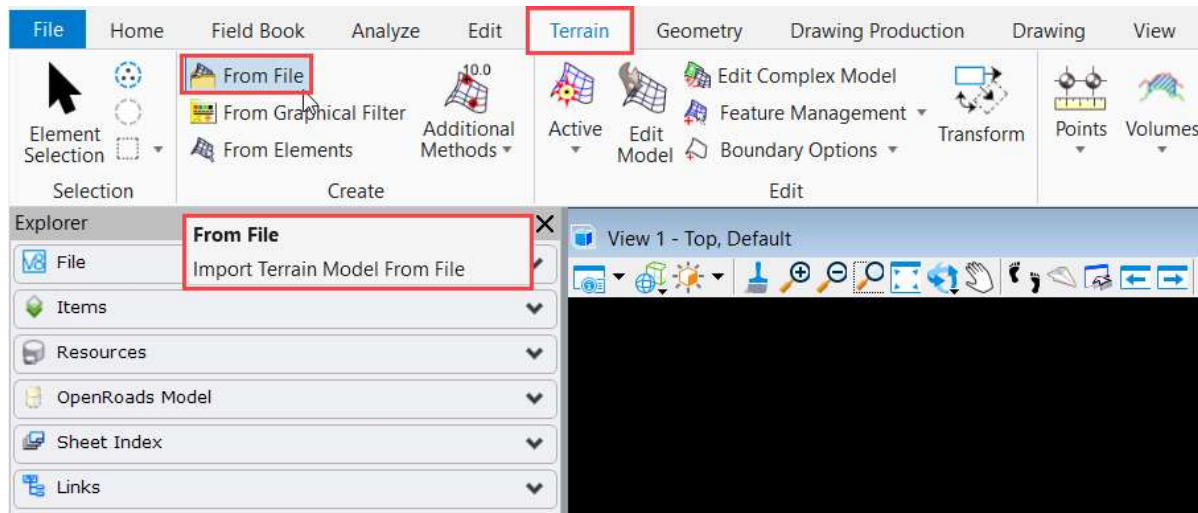
FDOTSS4 SURVEY ←-----→ ORD SURVEY

- Export SS4 Terrain Models to “TIN” and delete
- Export SS4 Alignments to LandXML and delete
- Export all other SS4 data to pure graphics
- Import/merge all into new ORD Survey File

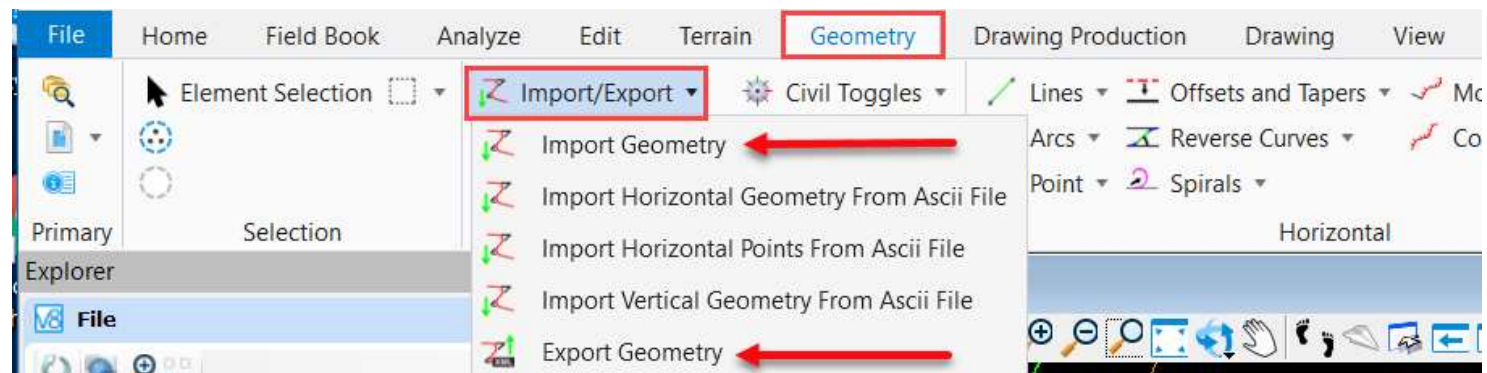
ORD SURVEY TERRAIN MODELS



ORD SURVEY TERRAIN MODELS



ORD SURVEY ALIGNMENTS



ORD SURVEY CREATE TERRAIN MODEL

BEWARE:

- **WHEN SELECTING ELEMENTS TURN OFF PROPERTIES (Element Information) DIALOGUE**
- **WHEN CREATING TERRAIN MODEL FROM SELECTION SET – Hold down CTL and then RIGHT CLICK on Field Books**



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**DIRECT QUESTIONS TO:
CADD.Support@dot.state.fl.us**