



Laying Out Utilities in SS4

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Topics Covered

- Retired Utility Levels, QC Legacy
- Laying out utilities using Utility Features and viewing them in Cross Sections
- SUE/SUDA Licensing
- Laying out utilities using SUE Features and viewing them in Cross Sections
- Clash Detection
- Flex Tables

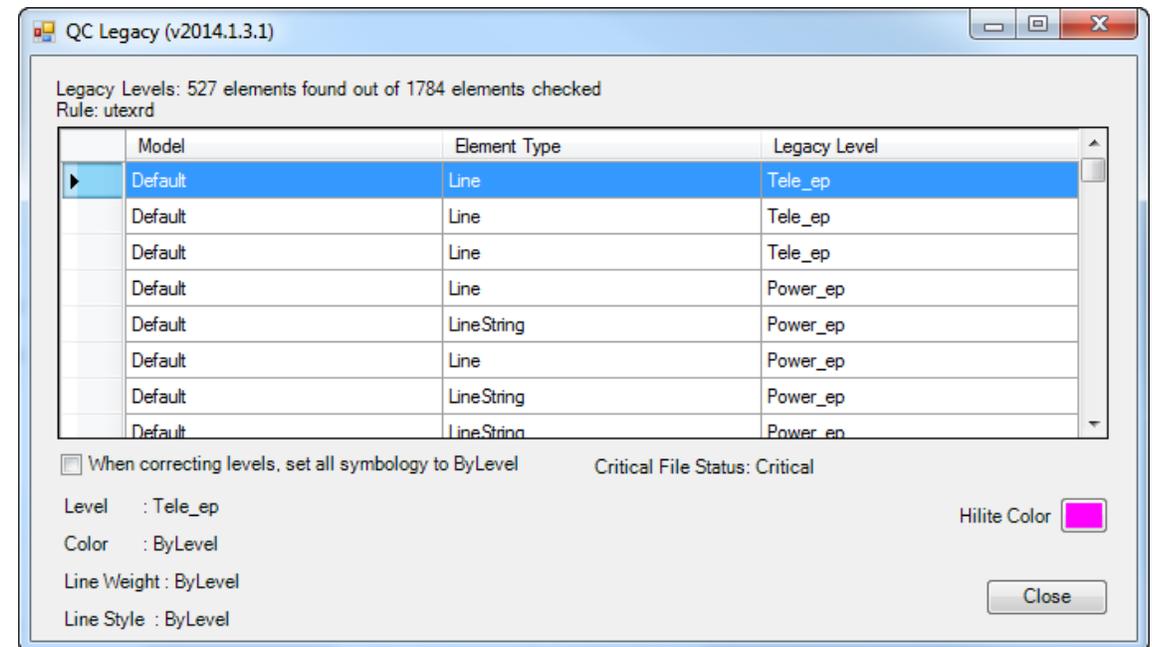
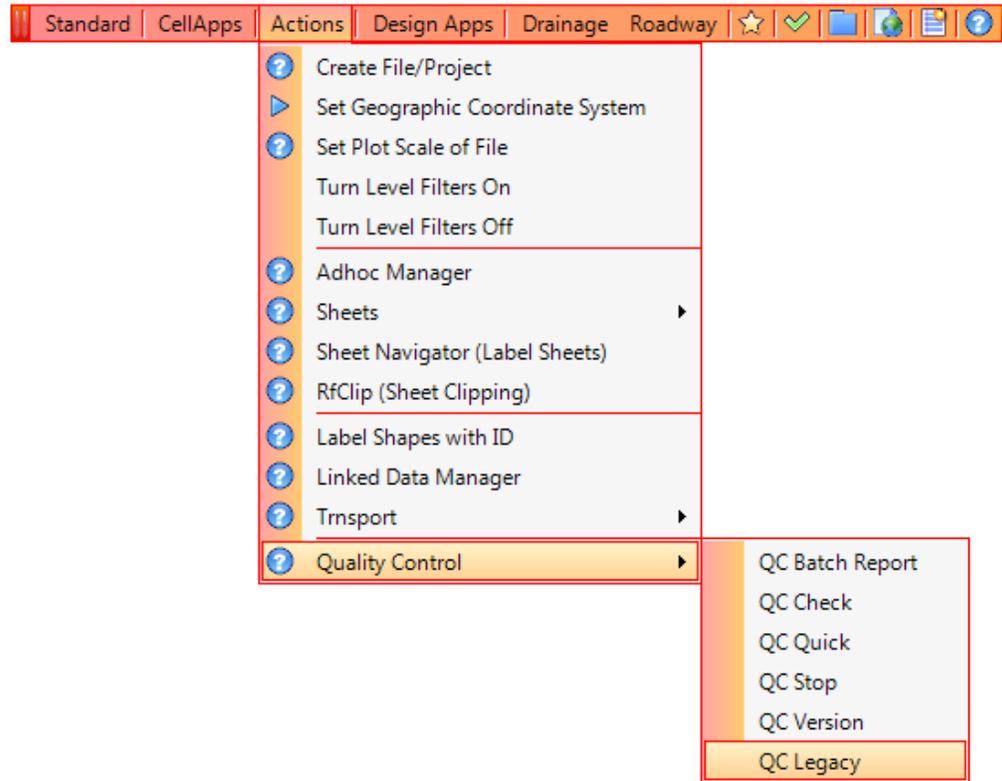
Updating Retired Utility Levels

- All utility levels without Quality Levels have been retired.
- Some utility level names have been updated to for consistency:
 - All “power” levels have been changed to “elec”
 - Fiber Optic has been broken out into 3 different types (FOCable, FOElec, and FOTele)
 - Other miscellaneous changes have been made also.

EXIST. WATER	W	-----	W
EXIST. WATER QUALITY LEVEL B	W(B)	-----	W(B)
EXIST. WATER QUALITY LEVEL C	W(C)	-----	W(C)
EXIST. WATER QUALITY LEVEL D	W(D)	-----	W(D)

Updating Retired Utility Levels

- Good News!! There is a tool for locating and updating the out of date levels:



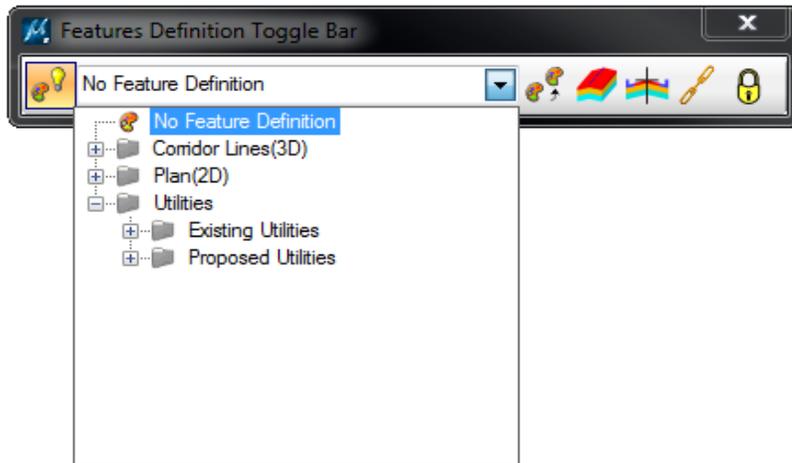
Utility Quality Levels

- **Quality Level D:** Lowest level of accuracy. Information is obtained from existing utility records.
- **Quality Level C:** More accurate than Quality Level D. Information is obtained from topographic surveying of visible utility features.
- **Quality Level B:** More accurate than Quality Level C. Information is obtained from the use of scanning technologies.

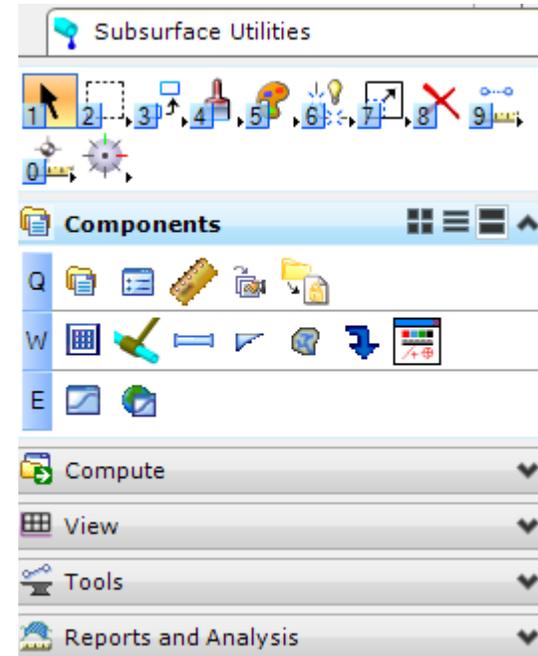
This information can be found in the **PPM Ch. 5; Section 5.3: Utility Locates.**

Laying Out Utilities

1. Utility Features:

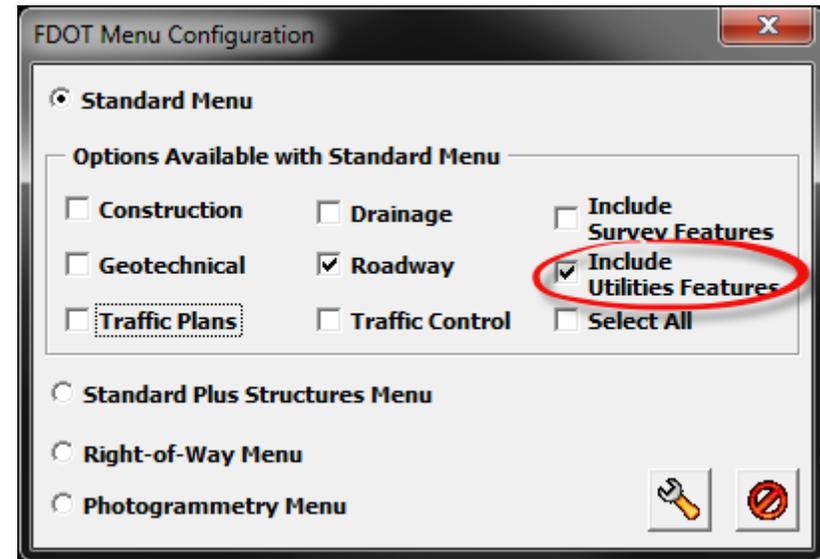


2. SUE Features:

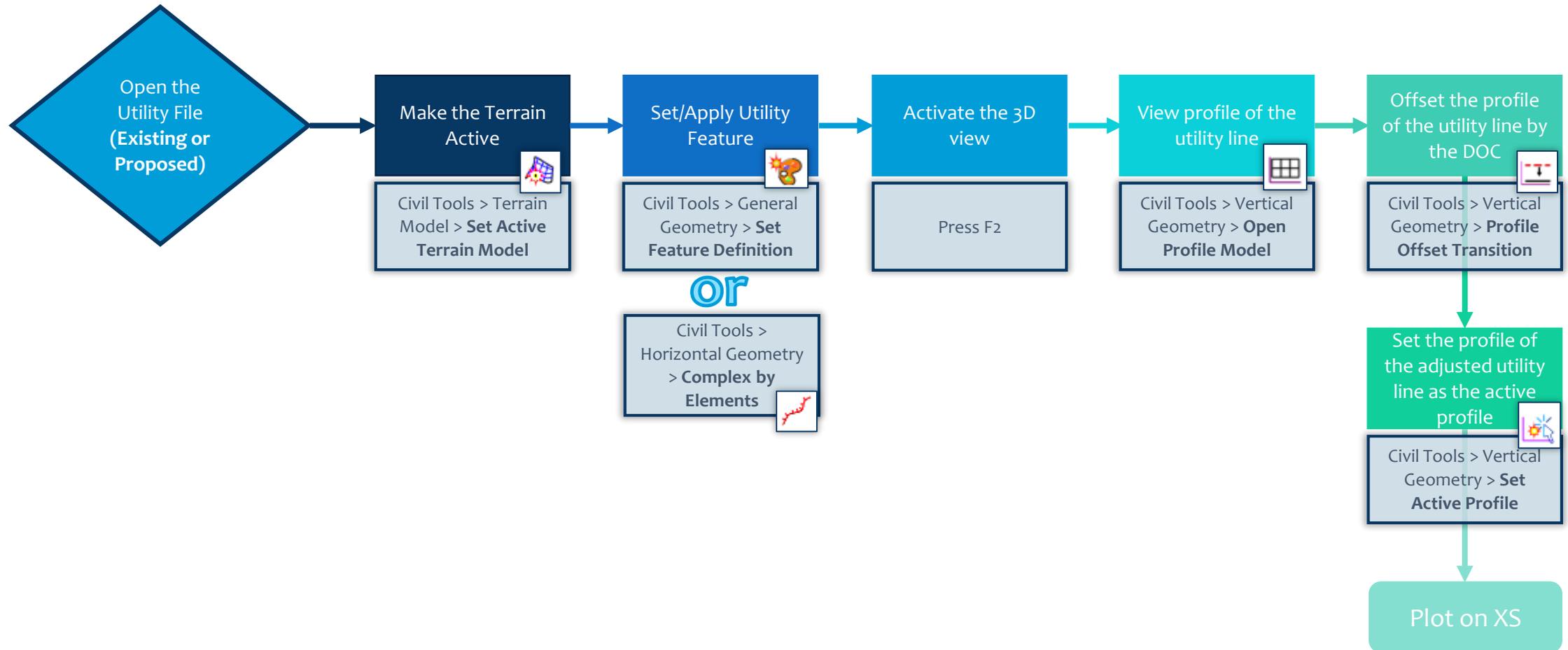


Utility Features

- There are utility features for each type of existing and proposed utility.
- To access the utility features delivered with FDOT SS4 go to the [FDOT Menu > Standard > FDOT Menu Configuration](#) and toggle on the *Include Utilities Features* option.



Utility Features Workflow



What is SUE or SUDA



Subsurface Utility Design and Analysis
(SUDA)

Subsurface Utility Engineering (SUE)

- Conflict Management / Clash Detection
- SUE Attribution

StormCAD Hydraulic Analysis/Design Engineering

- 3D Modeling of underground objects.
- Integrate with OpenRoads

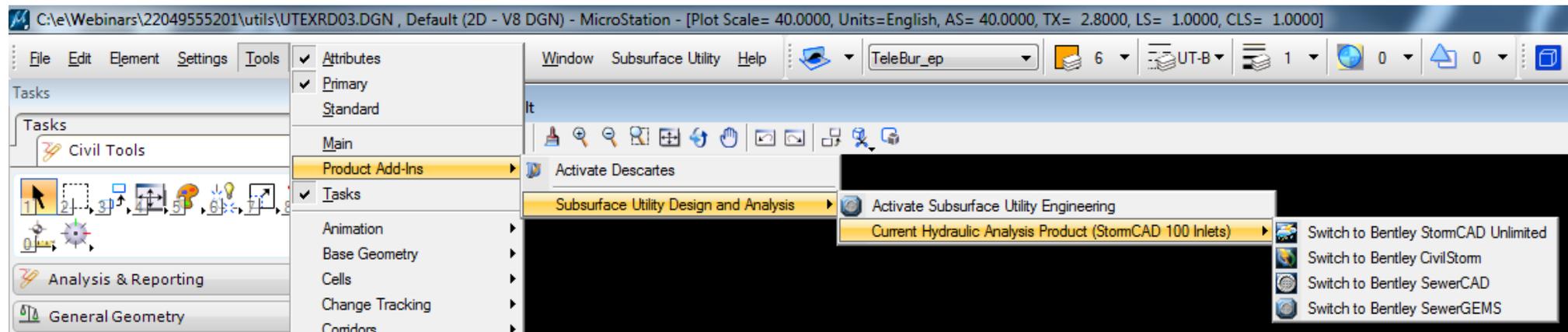
- Storm/Sanitary Hydraulic Analysis and Design
- Hydrology

SUDA/SUE Licensing

If you own this license:	Drainage Functions	Utility Functions
Any OpenRoads product: <ul style="list-style-type: none"> • GEOPAK • PowerGEOPAK 	<ul style="list-style-type: none"> • StormCAD which includes storm water design and analysis. • Maximum 100 Inlets per drainage model. • Storm Water Attributes. 	<ul style="list-style-type: none"> • Utilities can be modeled in 3D. • No SUE Attributes. • No Utility Conflict Tools
OpenRoads plus any of the following: <ul style="list-style-type: none"> • StormCAD Unlimited • SewerCAD • CivilStorm • SewerGEMS 	<ul style="list-style-type: none"> • Additional hydraulic calculations depending on which license is activated. 	<ul style="list-style-type: none"> • Utilities can be modeled in 3D. • No SUE Attributes. • No Utility Conflict Tools
Any of the products above plus a SUE license.	<ul style="list-style-type: none"> • Same hydraulic calculations capabilities as above. 	<ul style="list-style-type: none"> • SUE Attributes • Utility Conflict Tools

SUDA/SUE Product Add-Ins Activation

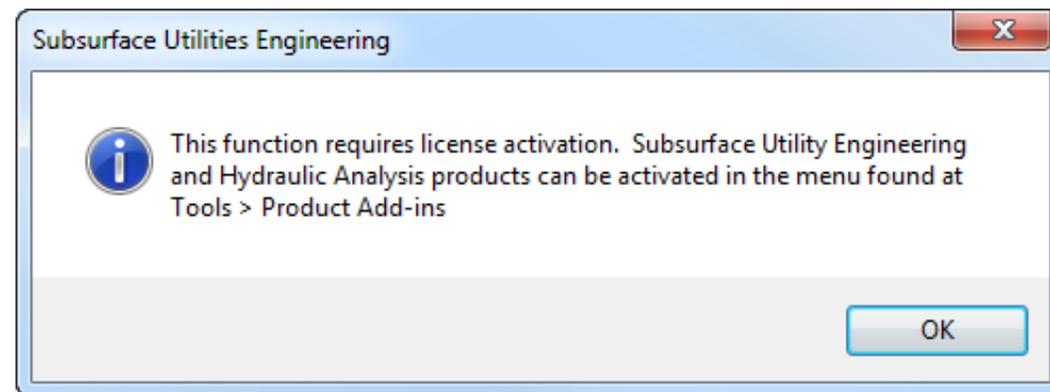
- To activate the different add-ins go to Tools > Product Add-Ins.



- If activated, an alert that an additional license usage will be logged which may result in **incremental** cost.

SUE Licensing

- The Subsurface Utility Engineering product has three main functions:
 - Model Utilities
 - Clash Detection (**Requires Product Add-In**)
 - Enhanced Utility Attribution (**Requires Product Add-In**)
- Tools > Product Add-Ins > Activate Subsurface Utility Engineering.



Disabling SUDA Products

- A customized DGNLIB is provided with the FDOTSS4 workspace.
 1. Copy the CivilCommands.dgnlib from the \FDOTSS4\RESOURCES\Dgnlibs\General folder on the server to the C:\Program Files (x86)\Common Files\Bentley Shared\Civil Platform\08.11.09 folder on each client PC.
 2. Add these variables to a file named CustomVars.txt file in the \FDOTSS4\Workspace\Users folder on the server.

Config Variables:

FDOT_DISABLE_SUE=TRUE

FDOT_DISABLE_STORMCADUNLIMITED=TRUE

FDOT_DISABLE_CIVILSTORM=TRUE

FDOT_DISABLE_SEWERCAD=TRUE

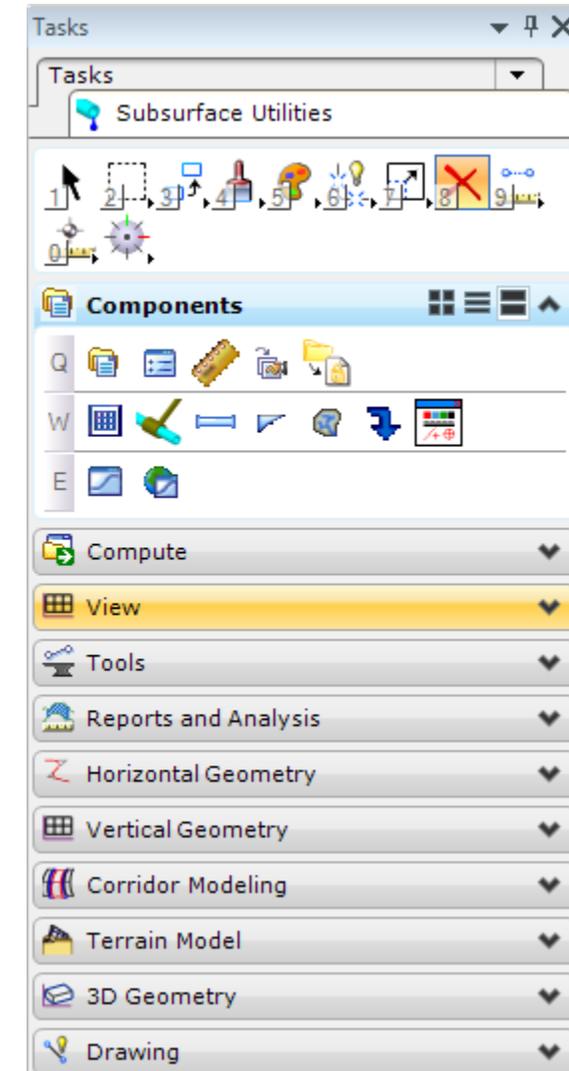
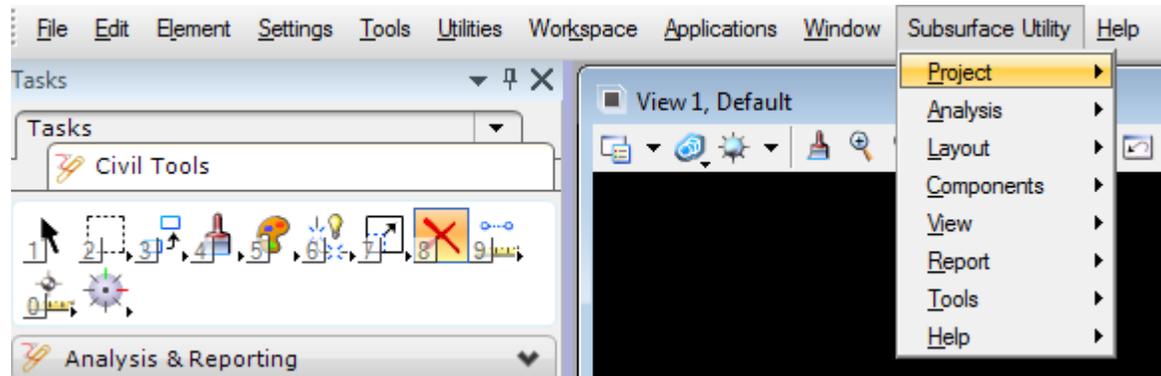
FDOT_DISABLE_SEWERGEMS=TRUE

SUE Hotfix DLL

- In the **SELECTseries 4 Maintenance Release 1 (build 08.11.09.845)** there is a bug in the SUE products that causes a .NET Framework error every time a file with SUE information closes. An updated DLL fixes this issue.
- The download to the DLL can be found on the Bentley communities site at the link below:

http://communities.bentley.com/communities/user_communities/fdot_cadd_support/m/fdotss3_-_post_release_fixes/271940

SUE Menu



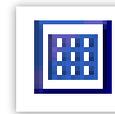
SUE Tools

Extract from Graphics



- The Extract Utilities from Graphics tool provides the ability to create utility models from graphic elements. These elements may result from survey processes, GIS graphic data, OpenRoads Geometry or other sources. But, in every case the elements are DGN graphic elements.

Place Node



- Used to place 3D utility cells or nodes (i.e. Manholes, Valves, etc.)

Connect Conduit Between Nodes



- Use the Place Link Between Nodes dialog to identify 2 points between which to connect the conduit.

Training Manuals

- All of these processes have been documented in the new training manuals. There are 3 new training manuals for SS4:
 1. FDOT Roadway Design and 3D Modeling for SS4
 2. FDOT Plans Development Workflows for SS4
 3. FDOT GEOPAK Drainage for SS4
- These manuals are available on our website at the following link:
<http://www.dot.state.fl.us/ecso/main/FDOTCaddTraining.shtm>
- There are also videos of the manuals recorded on our youtube site:
https://www.youtube.com/channel/UCqbY8kqZuXp1pyYV6lIQw_A



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- Today!!!

Questions?

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