Migrating to FDOTSS3

(Importing Civil Data)

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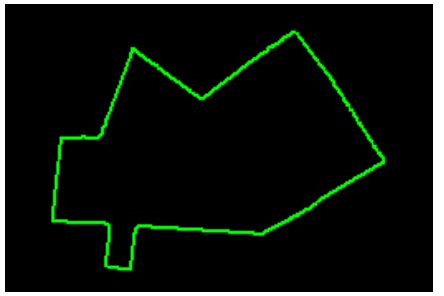
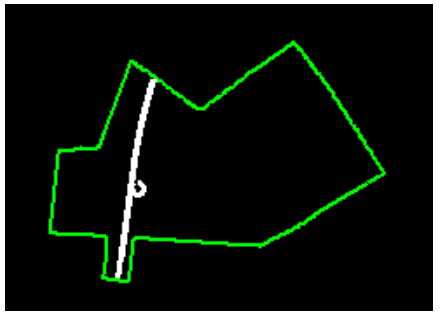
What's Different

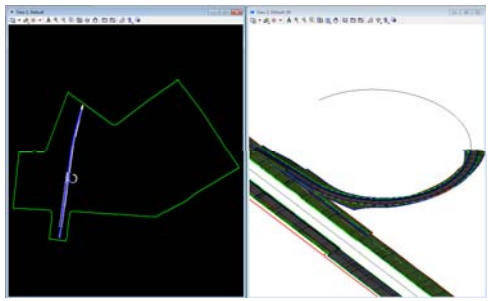
- Bentley's new "Open Roads" technology in GEOPAK Select Series 3 (SS3) will require existing Corridor Modeling projects be imported.
- The Corridor Modeling dialog has been removed.
- The Roadway Designer dialog has been removed.
- Open Roads reads and saves data in the DGN file instead of external files like the GPK, ALG,ITL, IRD, and TIN.
- Features replace the Drafting Standards & Styles.

FDOTSS3 Migration Workflow

1. Create new GDTMRDxx.DGN
   a) Import existing terrain.
2. Create a new ALGNRDxx.DGN
   a) Reference GDTMRDxx.DGN
   b) Convert ALG, ITL, and IRD files with FDOT Conversion Tools.
   c) Import alignments and profiles
   d) Set profile for each alignment to “Active”
3. Create DSGNRDxx.DGN
   a) Reference ALGNRDxx.DGN
   b) Import remaining geometry from ALG file
   c) Attach Project ITL
   d) Arrange views so 2D plan and 3D views are shown.
   e) Review Corridor Dependencies
   f) Import IRD Files
   g) Add Corridor References



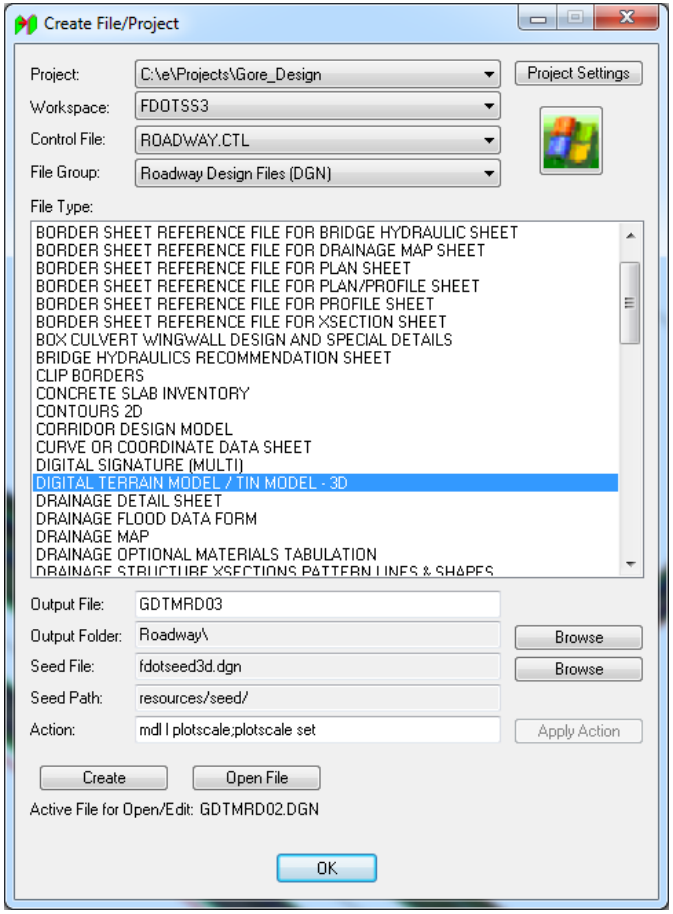




1. Create new GDTMRDxx.DGN

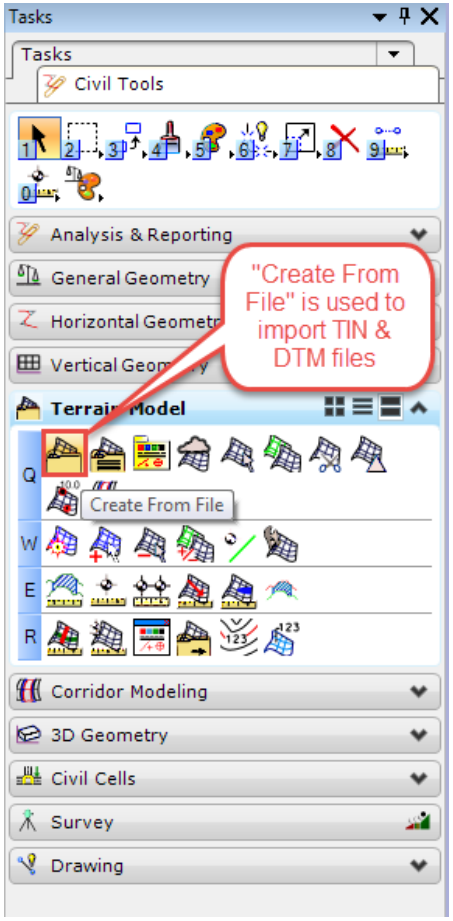
The GDTMRD file will contain the new Terrain element for the existing surface.

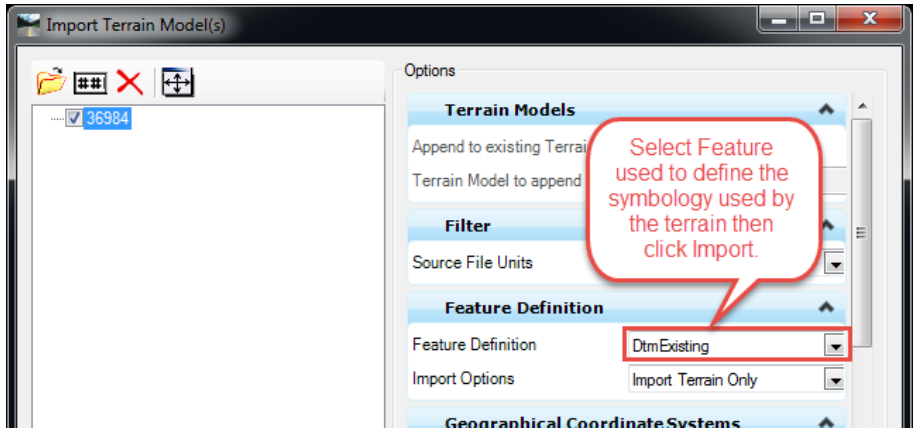
- From the FDOT menu select “Actions > Create/Edit File”
- From the Roadway Design Files File Group select Digital Terrain Model / TIN Model
- Click Create and then Click Open



1. a) Import Existing Terrain

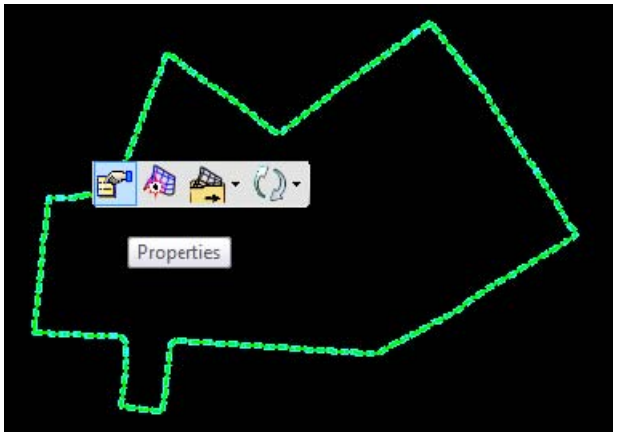
- From the “Civil Tools” Workflow select “Terrain Model > Create From File”
- When prompted browse for the TIN or DTM to be imported.
- On the Import Terrain Models dialog select the appropriate Feature Definition and Click Import.



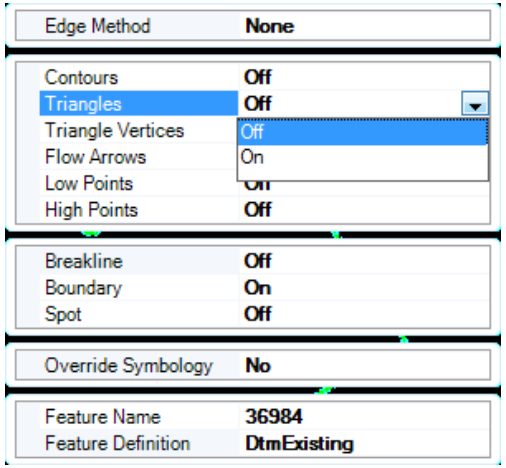


Terrain Properties

- Hover over the terrain hull and select “Properties” from the context menu.



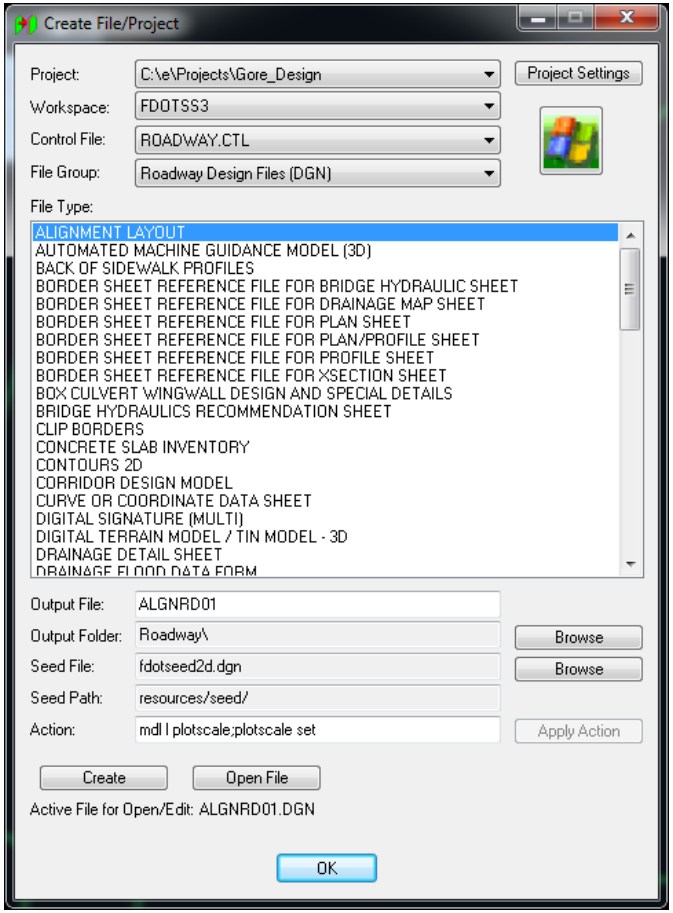
- Properties of the terrain such as the Feature Definition and if Triangles, Contour, and such are displayed can be adjusted here.
  - ✓ These properties can also be adjusted using Element Info and Project Explorer.



2. Create a new ALGNRDxx.DGN

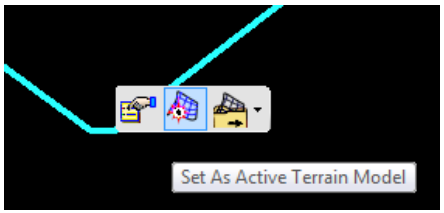
The ALGNRD file will contain the alignments and associated profiles.

- From the FDOT menu select “Actions > Create/Edit File”
- From the Roadway Design Files File Group select Alignment Layout
- Click “Create” and then Click “Open File”

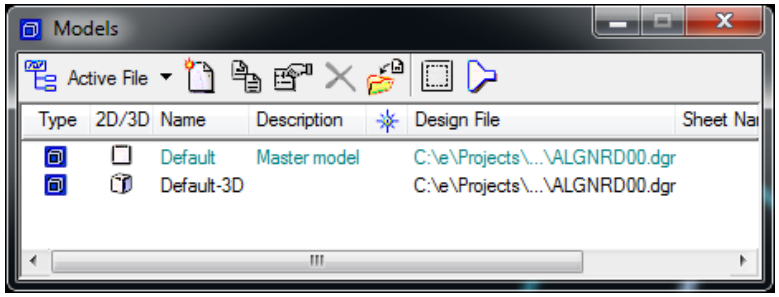


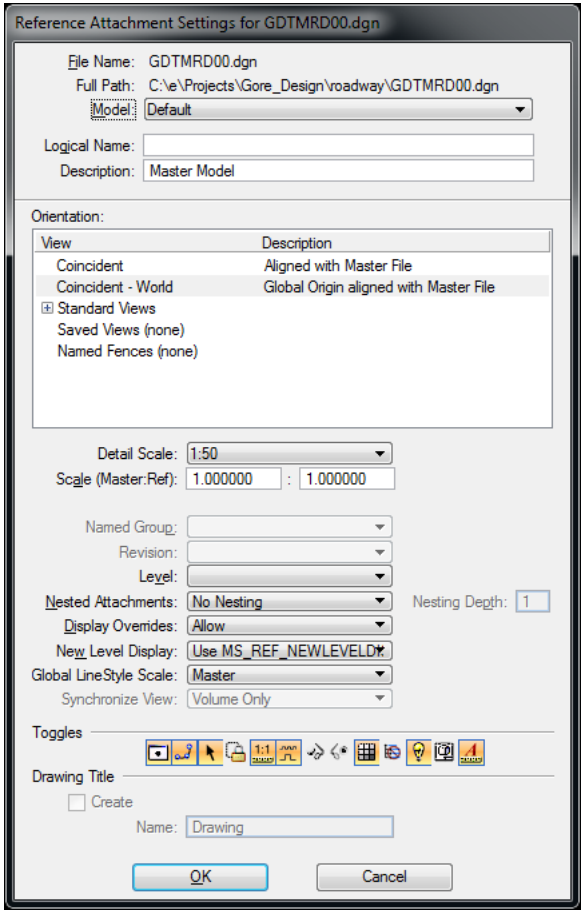
2. a) Reference GDTMRDxx.DGN

- Reference the GDTMRD file.
- After fitting the view, select & hover over the terrain hull then select “Set As Active Terrain Model” from the context menu.



- This will cause a 3D model to be created.





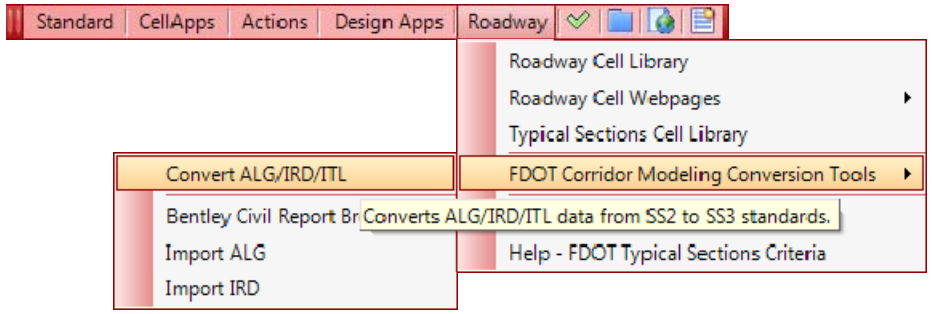
2. b) Convert ALG, ITL, and IRD files

In an effort to better organize the elements produced in 3D design some of the Styles used in FDOTSS2 were renamed and several new SS3 Features were created.

The ALG, IRD, and ITL files, where these names are stored, will have to be updated before importing or the imported elements will be on the “Default” level.

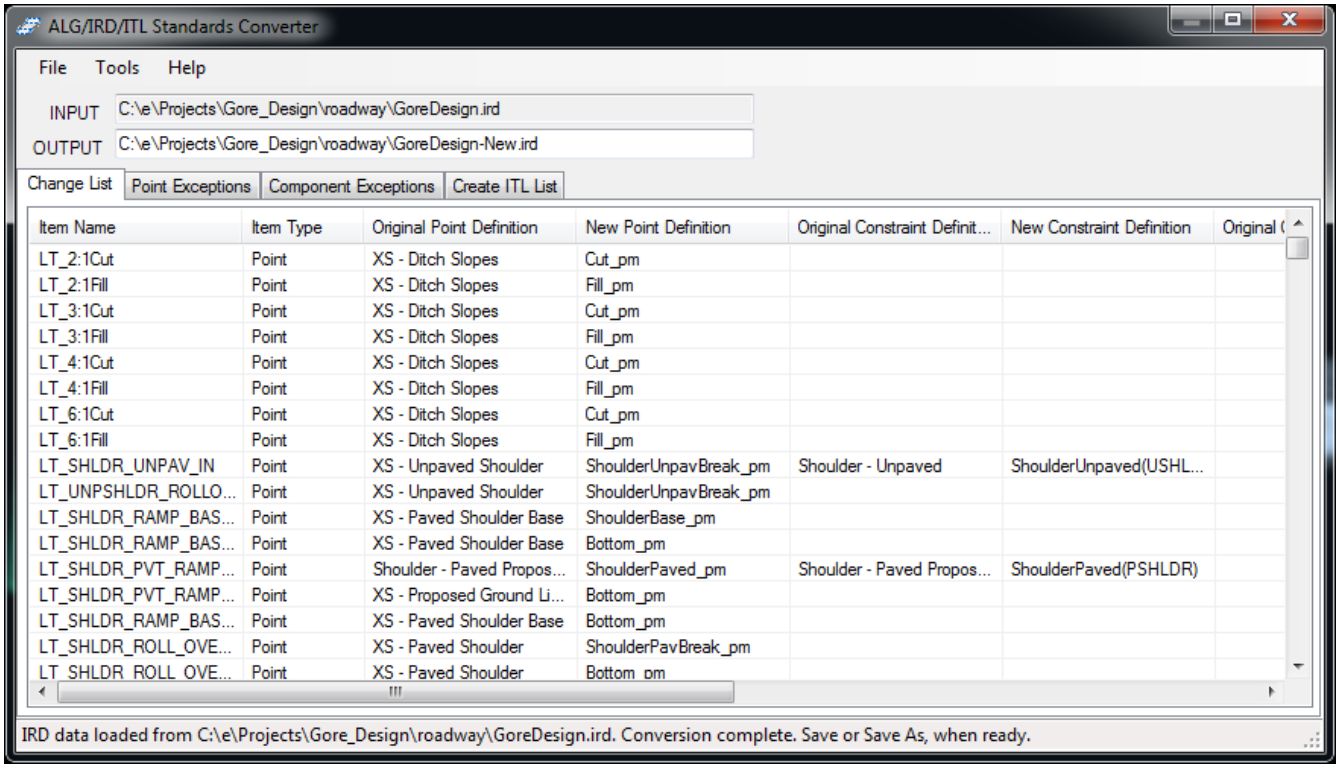
FDOT developed a tool to automat this process.

From the FDOT Menu select Roadway > FDOT Corridor Modeling Tools > Convert ALG/IRD/ITL”



ALG/IRD/ITL Standards Converter

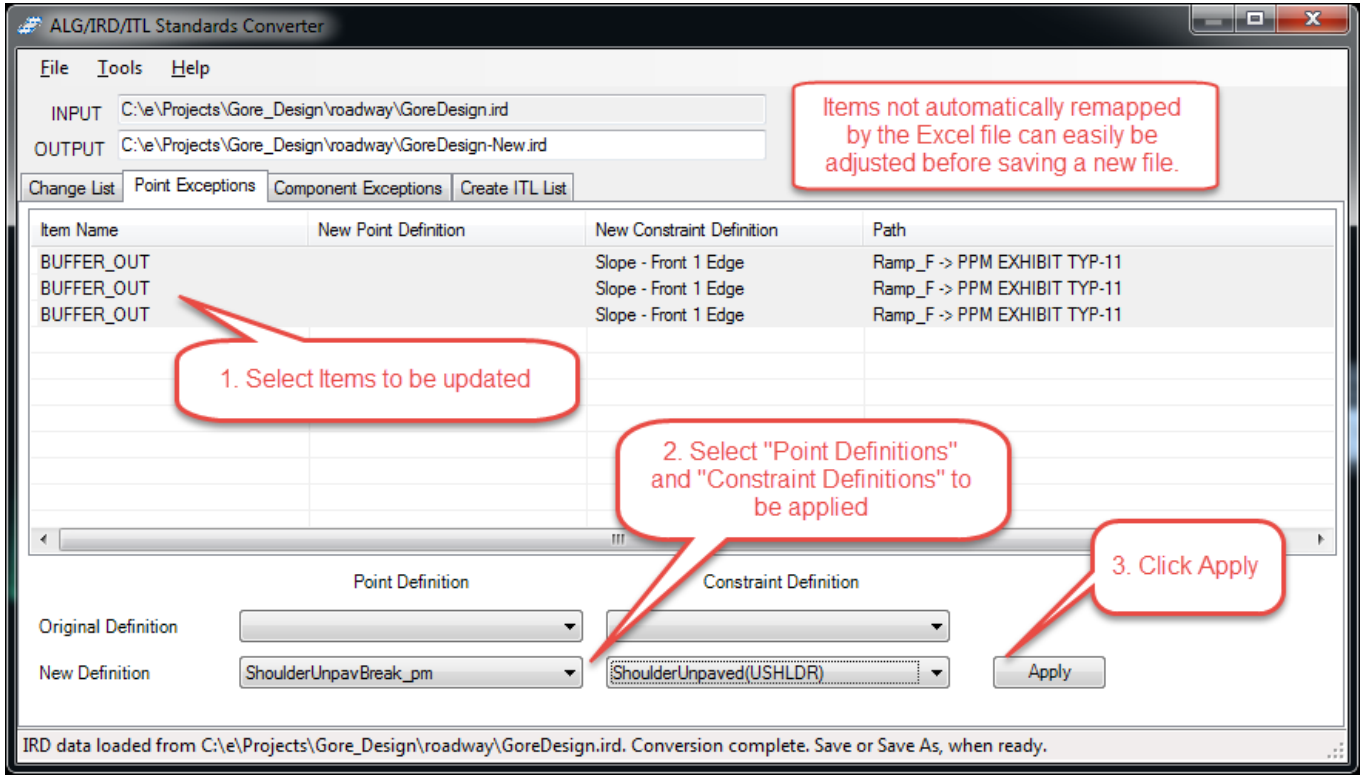
- ALG/IRD/ITL Standards Converter uses an Excel file which renames old FDOTSS2 Styles to new FDOTSS3 Features.



2014 Design Training Expo

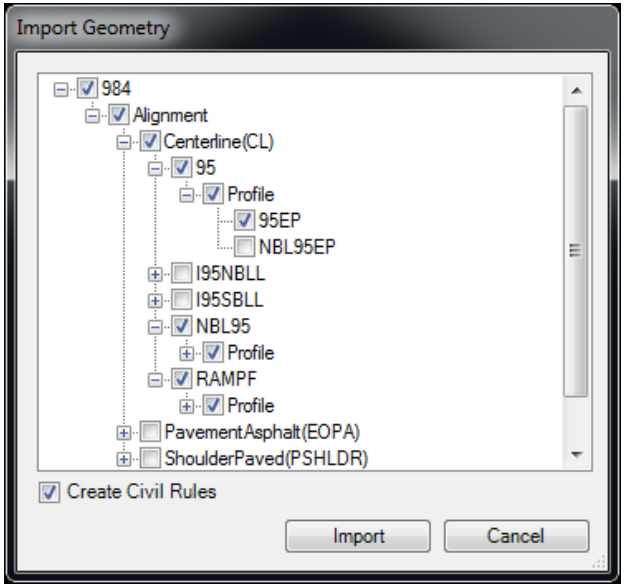
Exceptions

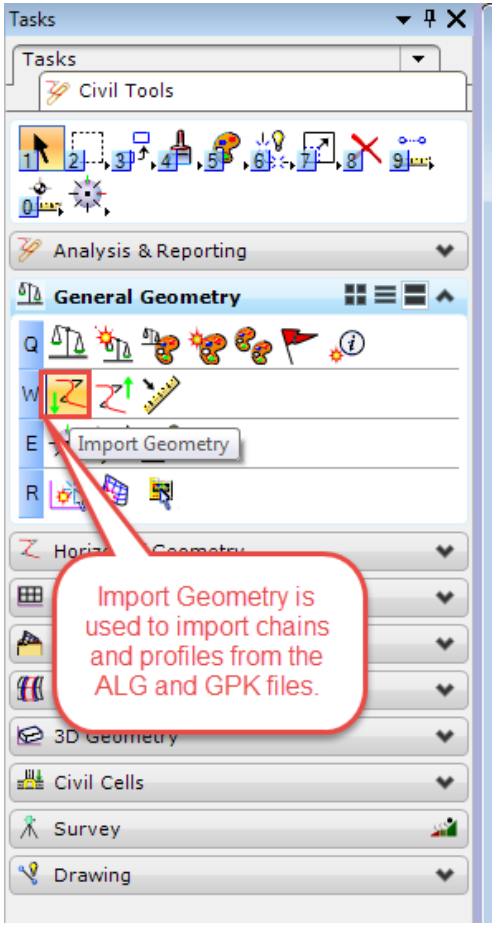
- Items not covered by the Excel file are called Exceptions and can be addressed on the “Point Exceptions” and “Component Exceptions” tabs.



2. c) Import alignments and profiles

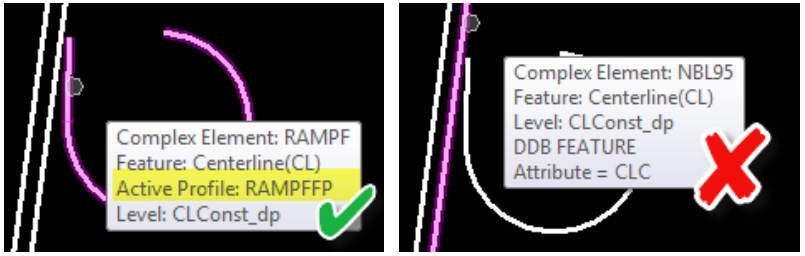
- From the “Civil Tools” Workflow select “General Geometry > Import Geometry”
- When prompted browse for the ALG or GPK file.
  - ✓ ALG is preferred because it sets Features
- On the Import Geometry select the alignments and profiles to be imported.
- Select “Create Civil Rules”
- Click Import



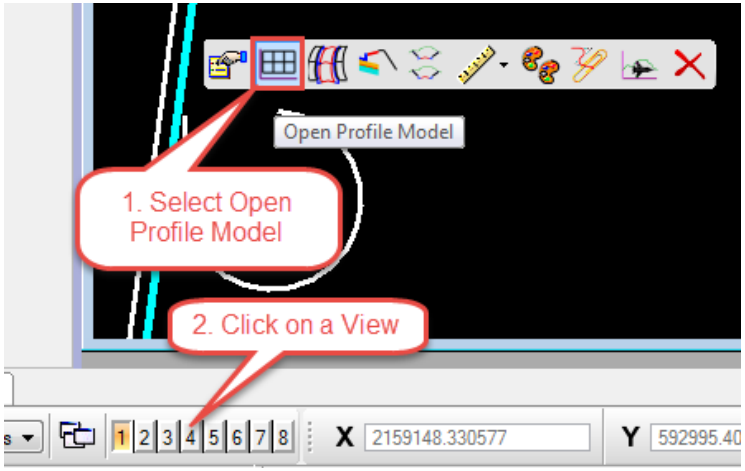


2. d) Set profile for each alignment to “Active”

- Make sure an Active Profile is set for each alignment

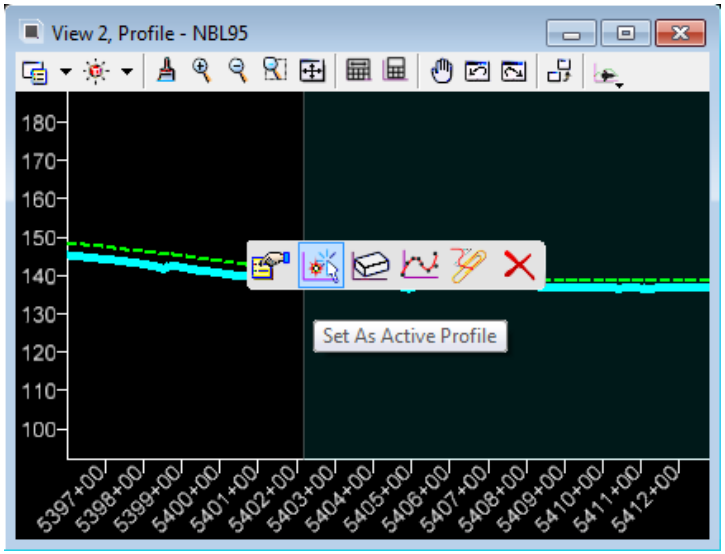


- If not hover over the alignment and select “Open Profile Model” from the context menu.
- When prompted open another view window and select it.



2. d) Set profile for each alignment to “Active”

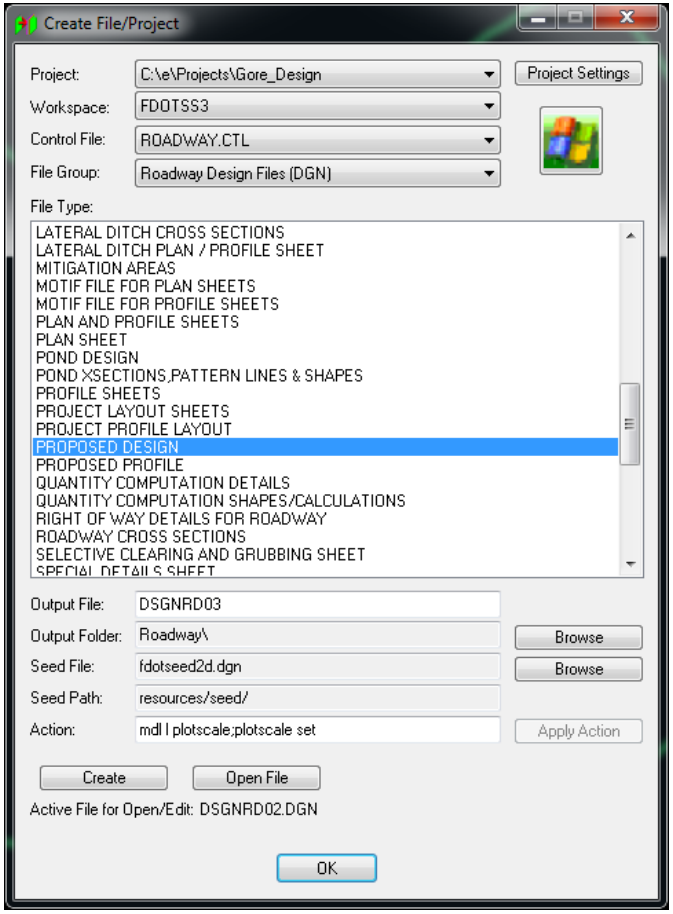
- In the profile view select the appropriate profile and select Set As Active Profile from the context menu



3. Create new DSGNRDxx.DGN

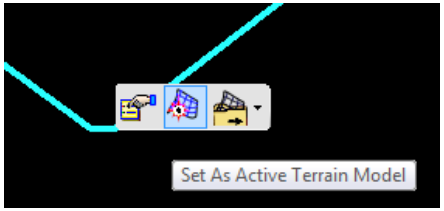
The DSGNRD file will contain the proposed design elements and corridors.

- From the FDOT menu select “Actions > Create/Edit File”
- From the Roadway Design Files File Group select Proposed Design
- Click Create and then Click Open

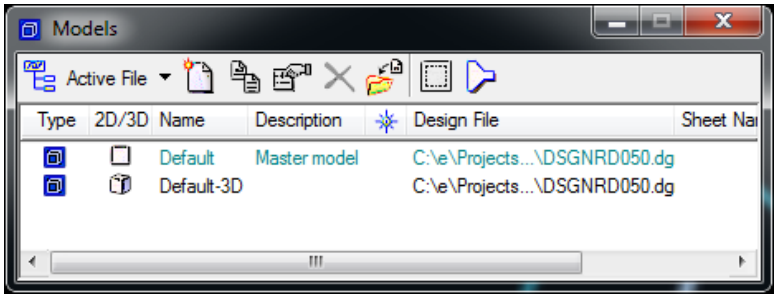


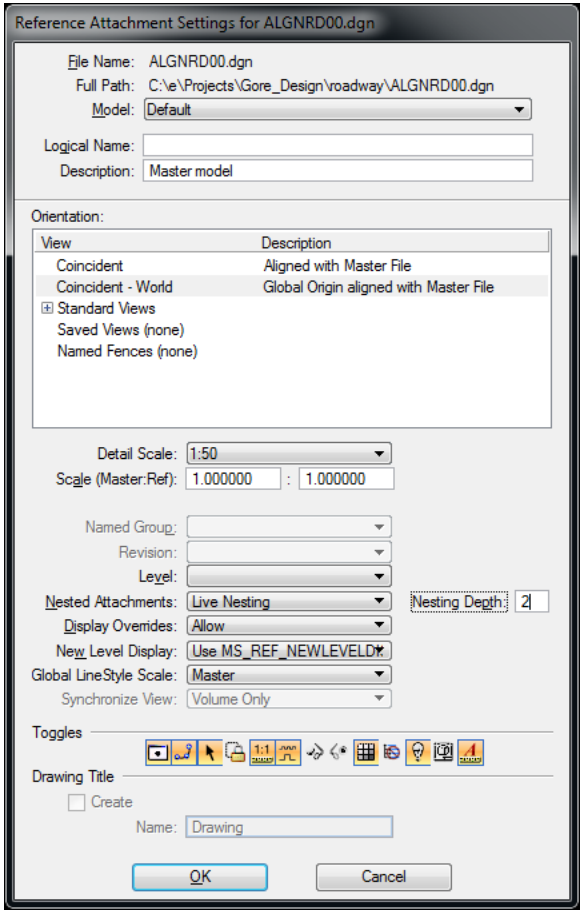
3. a) Reference ALGNRDxx.DGN

- Reference the ALGNRD file.
- After fitting the view, select & hover over the terrain hull then select “Set As Active Terrain Model” from the context menu.



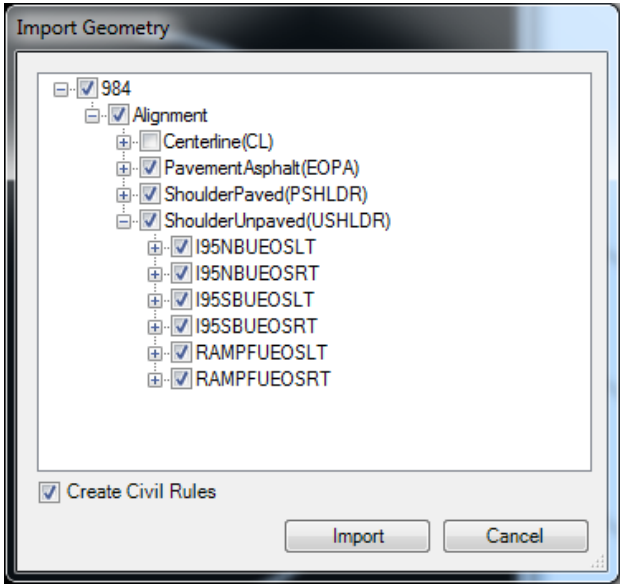
- This will cause a 3D model to be created.

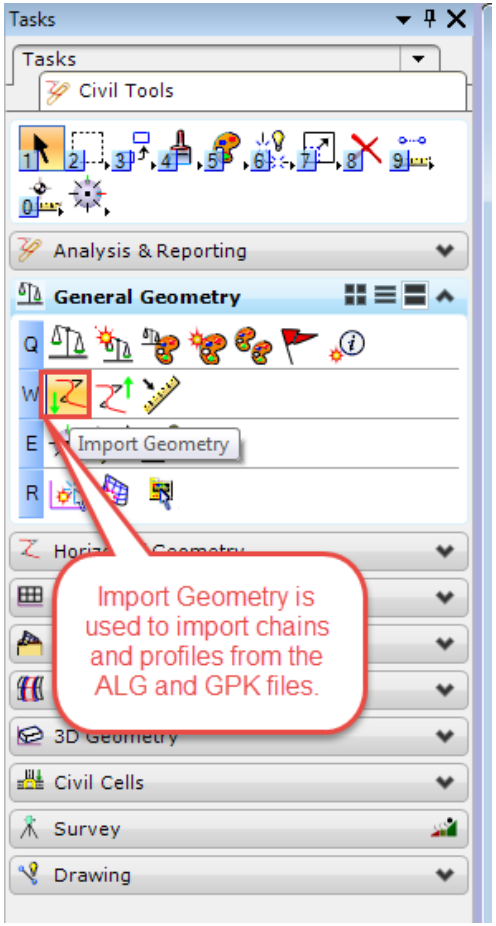




3. b) Import remaining geometry from ALG file

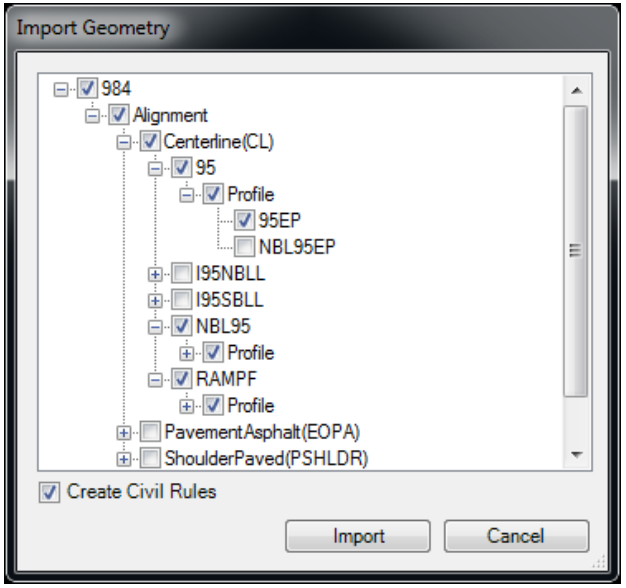
- From the “Civil Tools” Workflow select “General Geometry > Import Geometry”
- When prompted browse for the ALG file.
- On the Import Geometry select the alignments not imported into the ALGNRD file.
- Select “Create Civil Rules”
- Click Import

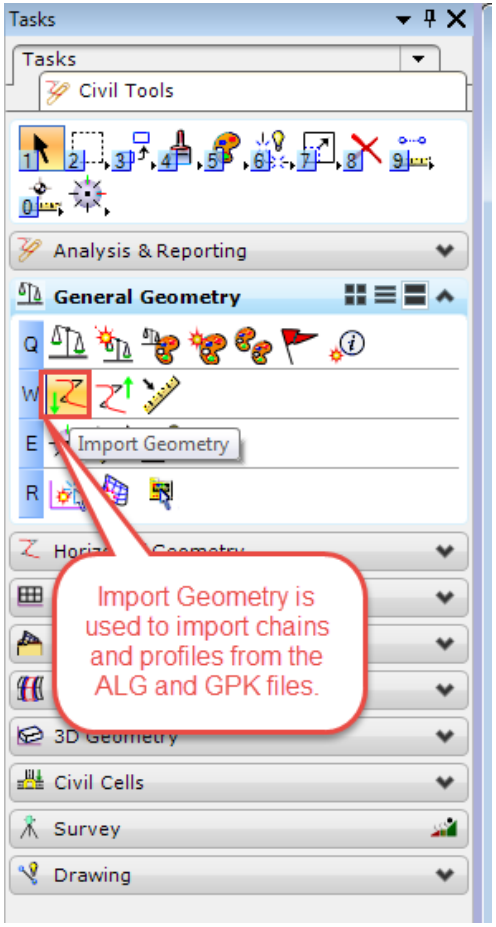




3. c) Attach Project ITL

- From the “Civil Tools” Workflow select “General Geometry > Import Geometry”
- When prompted browse for the ALG or GPK file.
  - ✓ ALG is preferred because it sets Features
- On the Import Geometry select the alignments and profiles to be imported.
- Select “Create Civil Rules”
- Click Import

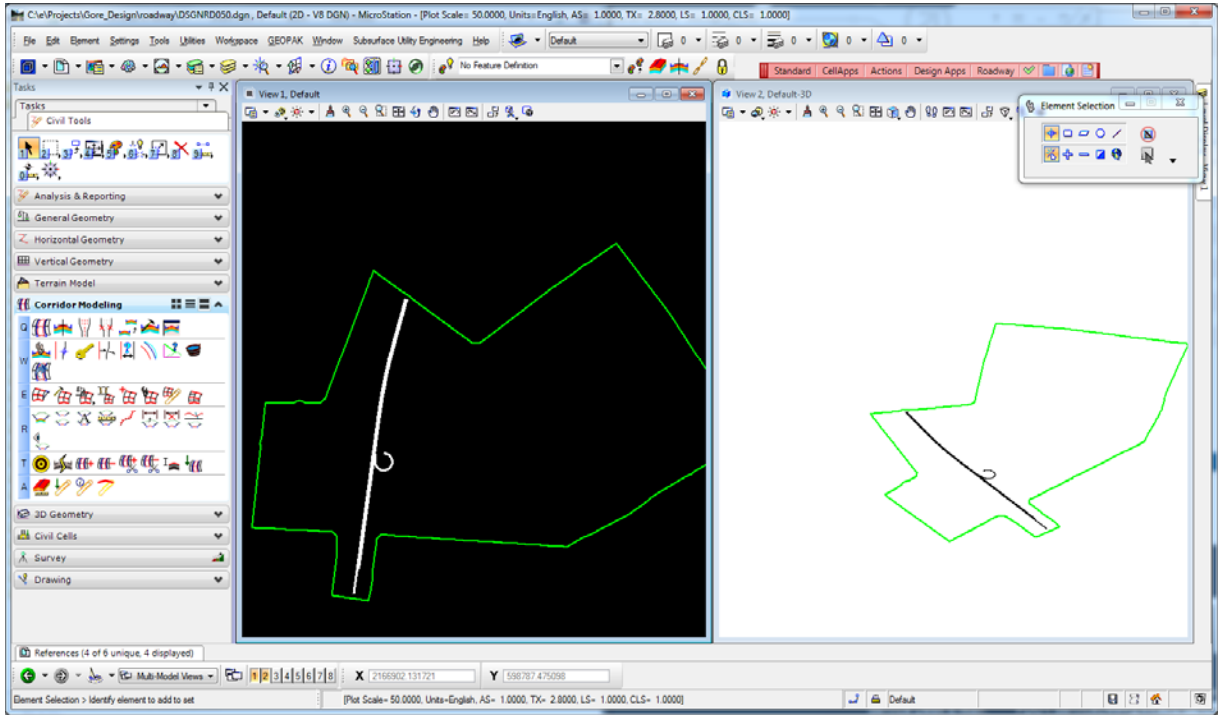




PJ1

3. d) Arrange views so 2D plan and 3D views are shown.

- Function Keys to automate the view arrangements have been added.
  - ✓ F9 = 2 views
  - ✓ F10 = 4 views
  - ✓ Ctrl+F1 = 1 view



Note that FDOTSS3 is still in development and function key assignments may be adjusted in released version.

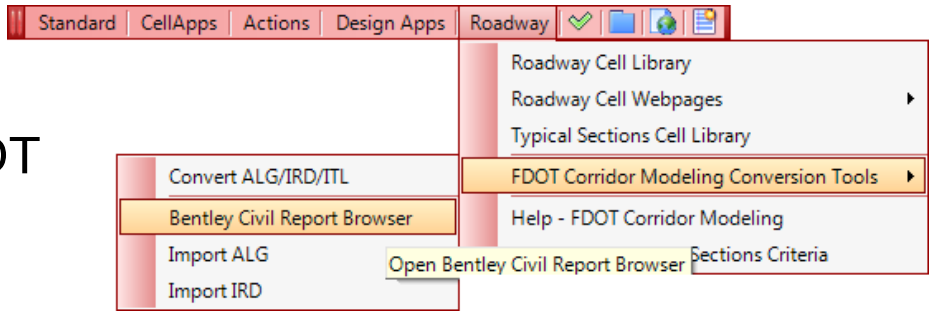
Slide 19

PJ1 Prow, Jimmie, 6/3/2014

3. e) Review Corridor Dependencies

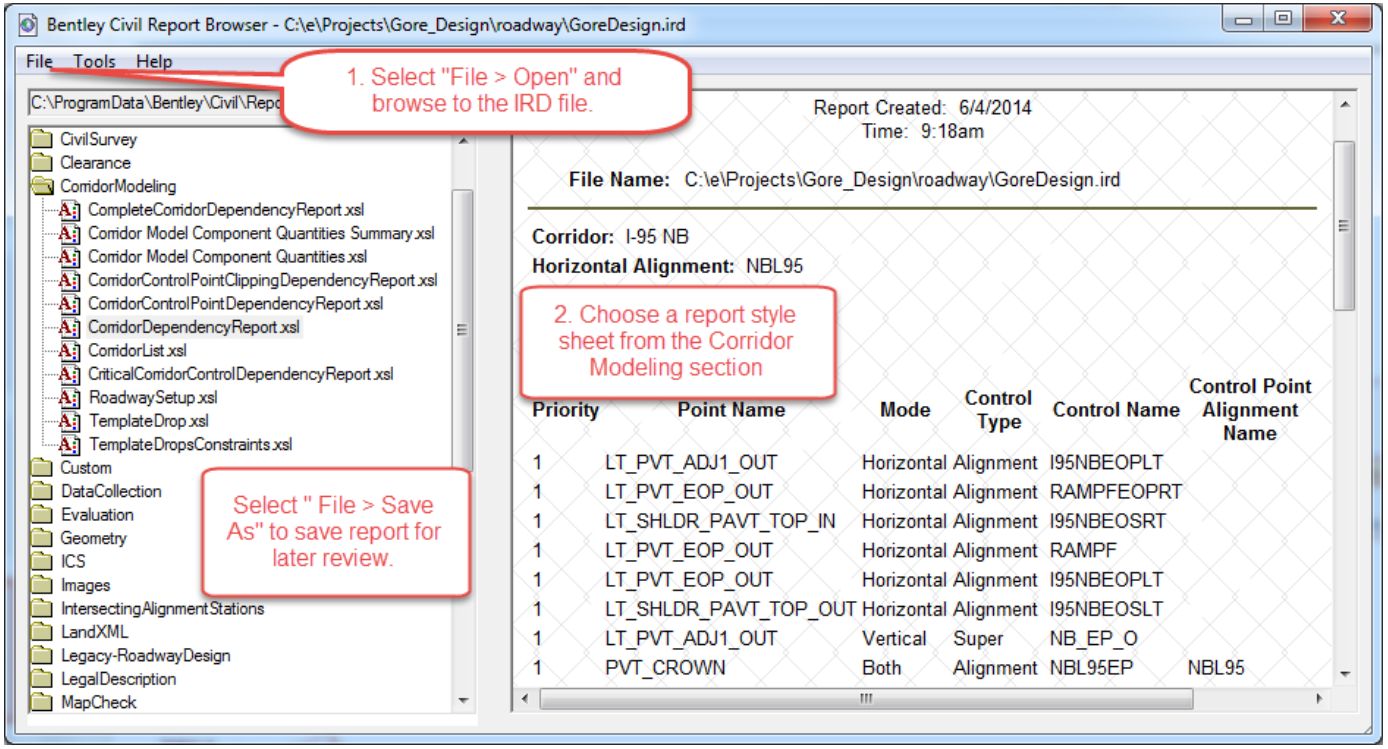
Corridor dependencies must be present in the file before importing a corridor or the dependency will be lost.

- Reports are available to review the dependencies.
- To view reports, elect “Roadway > FDOT Corridor Modeling Conversion Tools > Bentley Civil Report Browser”



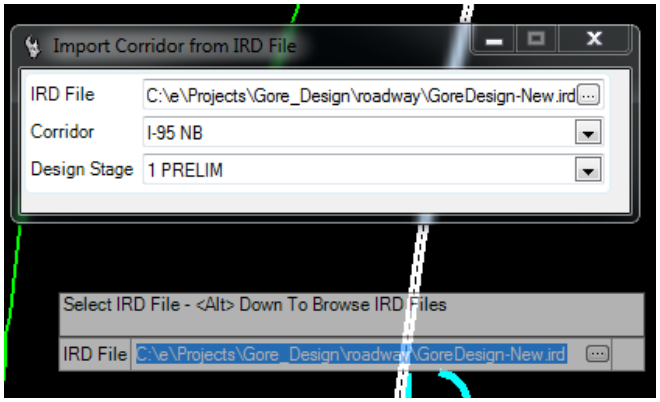
3. e) Review Corridor Dependencies

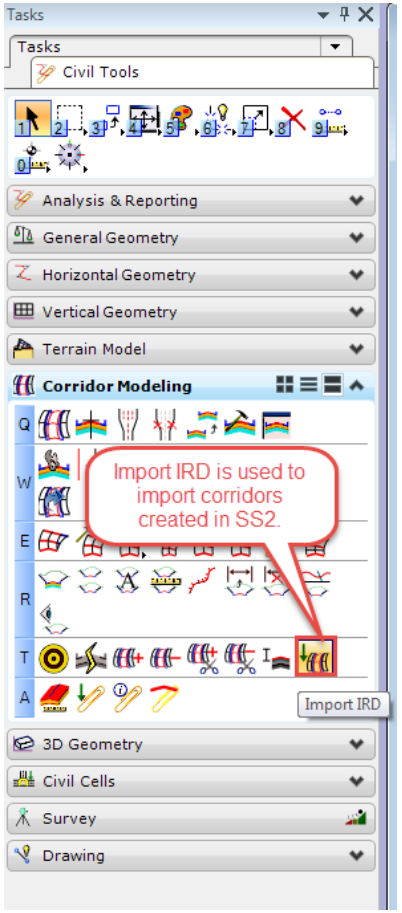
The Bentley Civil Report Browser allows you to open the IRD files and use style sheets to format the information for easy use.



3. f) Import IRD Files

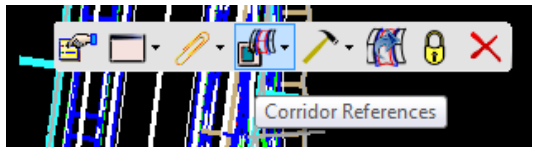
- From the “Civil Tools” Workflow select “Corridor Modeling > Import IRD””
- On the Import Corridors from IRD File dialog
  - ✓ Browse to the converted IRD file.
  - ✓ Select the first corridor to be imported
  - ✓ Select the1 PRELIM Design Stage.
- Data Point twice in the design file to accept the settings.
- Repeat for other corridors.



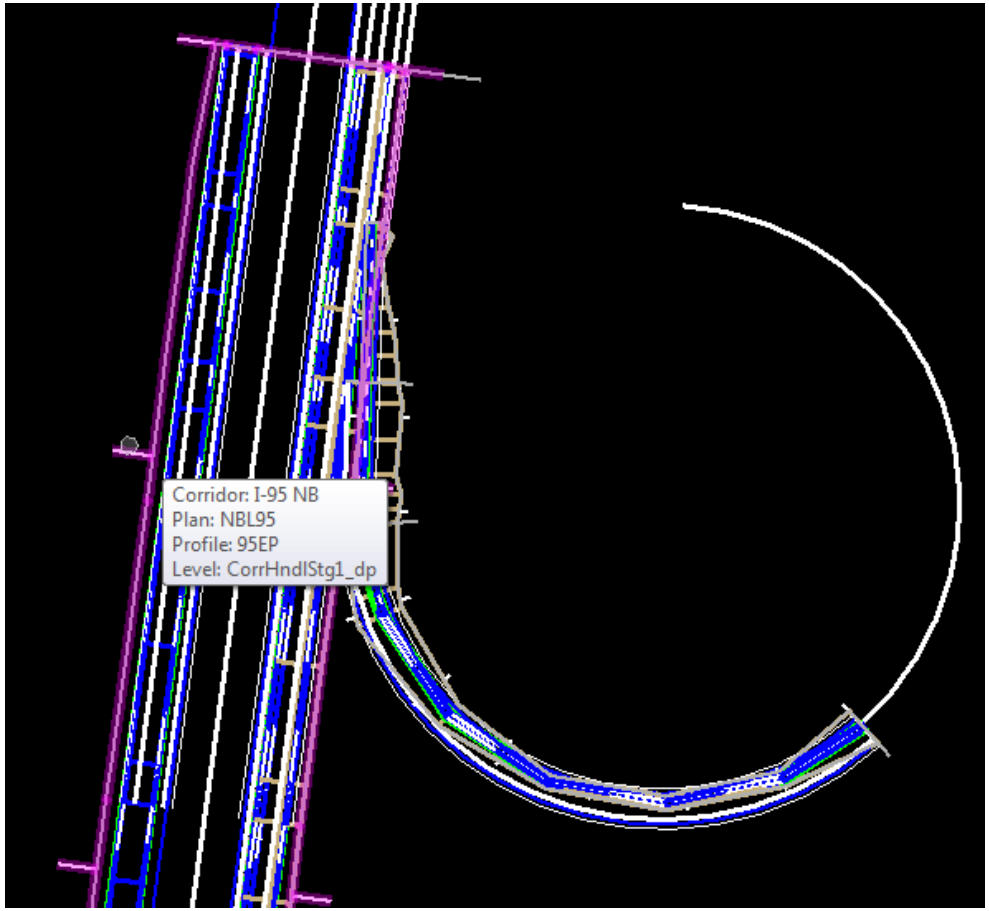


3. f) Import IRD Files

- Corridors will have a boundary with handles for the corridor and template drops.
- These handles are used to access various properties of the corridor.
  - Corridor Context Menu



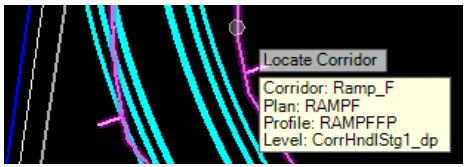
  - Template Drops



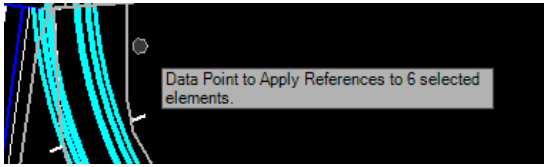
3. g) Add Corridor References

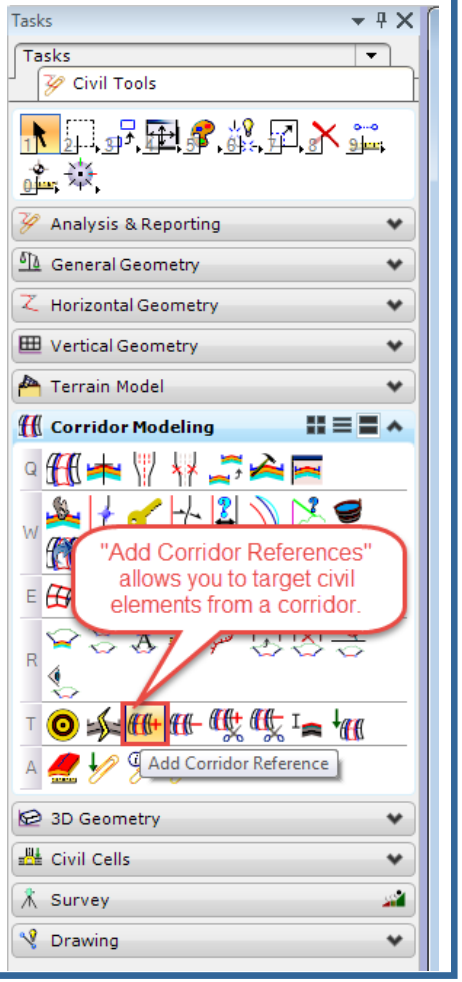
In order to target civil elements in the design file they must be added as corridor references.

- Select the elements to be added as references to one of the corridors.
- Click the “Add Corridor References” tool.
- When prompted, select the corridor.



- Data point to accept.





Copy in MicroStation Elements

At this point the civil data has been imported into the new files.

- The old DSGNRD file can be referenced to copy in elements that were not imported.
- Any adjustments to the corridor will now be made using the context menus and Civil Tools workflow on the task menu.

Contact Information

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