

FDOT Plans Production Tools

This course helps you automate the creation of Sheets, Plan, Plan/Profile and Cross Section sheets.

FDOT State Kit for AutoCAD Civil 3D 2014



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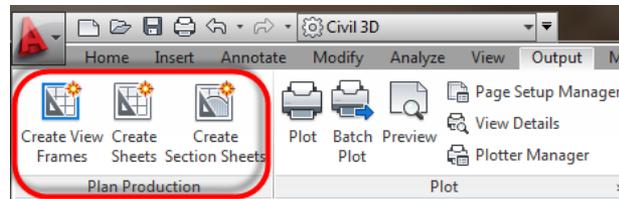
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**Florida Department of
TRANSPORTATION**

Engineering/CADD Systems Office

- ◆ The workflows created for use with Florida Department of Transportation (FDOT) plans are dependent on the following:
 - **Creating a Sheet Set (dst) file** - Displays and organizes named collections of drawings.
 - **Data Shortcuts** – Used only for the creation of data references such as Alignments, Surfaces, Pipe networks, and View Frames...
 - **Create View Frames wizard** - Clip Borders for Plan and Plan/Profile View Sheets.
 - **Create Sheets wizard** - Use to create Plan or Plan/Profile sheets and add to existing Sheet Set file.
 - **Create Section Sheets wizard** - Use to create Cross Section Sheets and add to an existing Sheet Set file.



- **Create View frames** are used to represent rectangular areas along the alignment that will be displayed on plan/profile or plan-only sheets. Before you create view frames, an alignment must already exist in your drawing. Depending on the type of sheets you want to produce (plan and profile or profile only), you may also need to have a profile already created. If you are creating a plan only view frame (or sheet set), then you do not need to have a profile in the drawing.

***Command will not execute with out an alignment.**

- **Create Sheets** wizard to quickly create sheets for construction documents (plans) from View Frames.

***Command will not execute with out an alignment.**

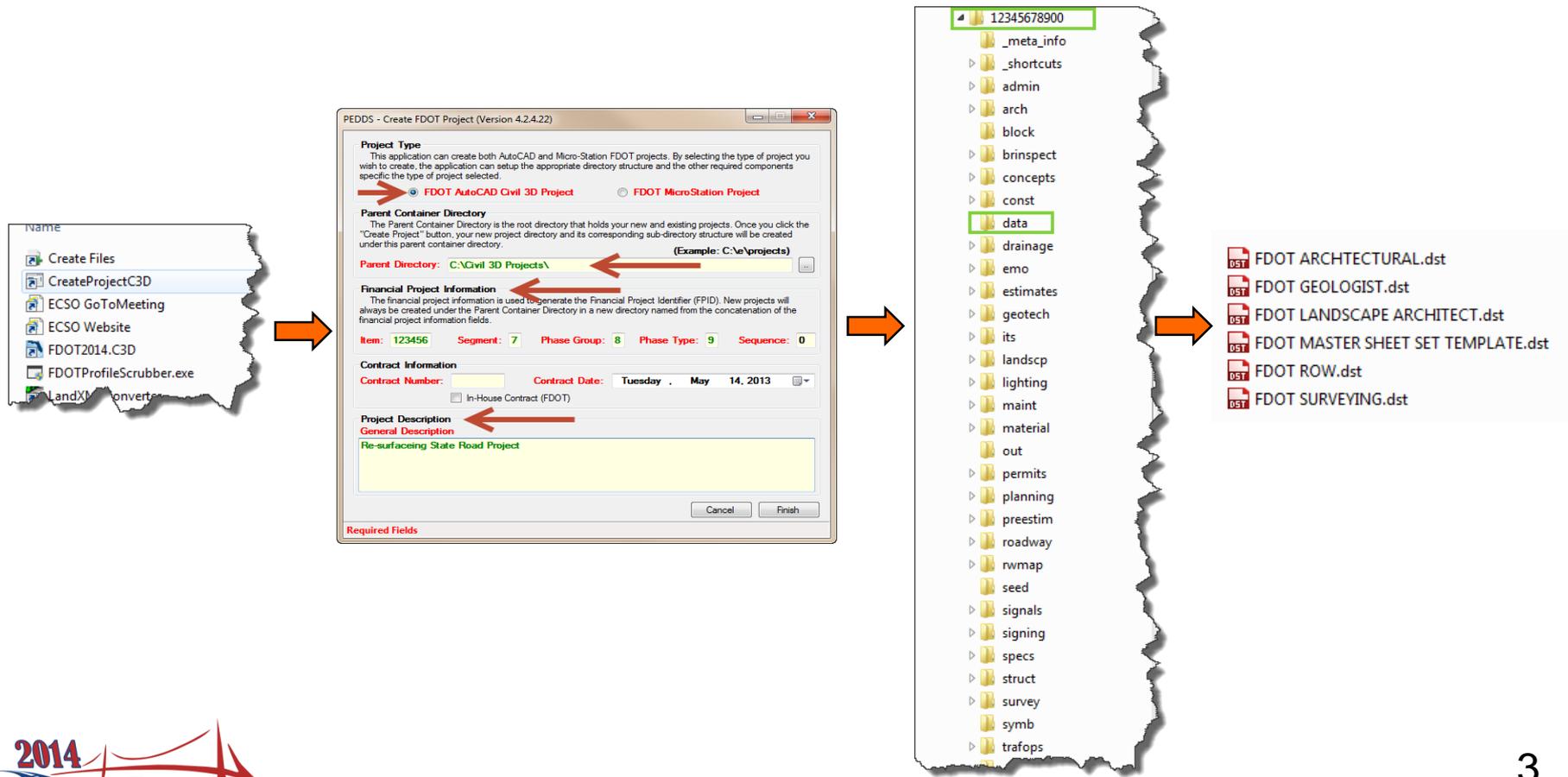
- **Create Section Sheets** command to create layouts for plotting section views and Sheets. As a prerequisite to using the Create Section Sheets command, you must use the “Sample Lines” and “Create Multiple Views” command to generate section views before you can Create Section Sheets.

***Requires and Alignment, Sample Line Group Name and Section View Group.**

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Creating a Civil 3D FDOT Project

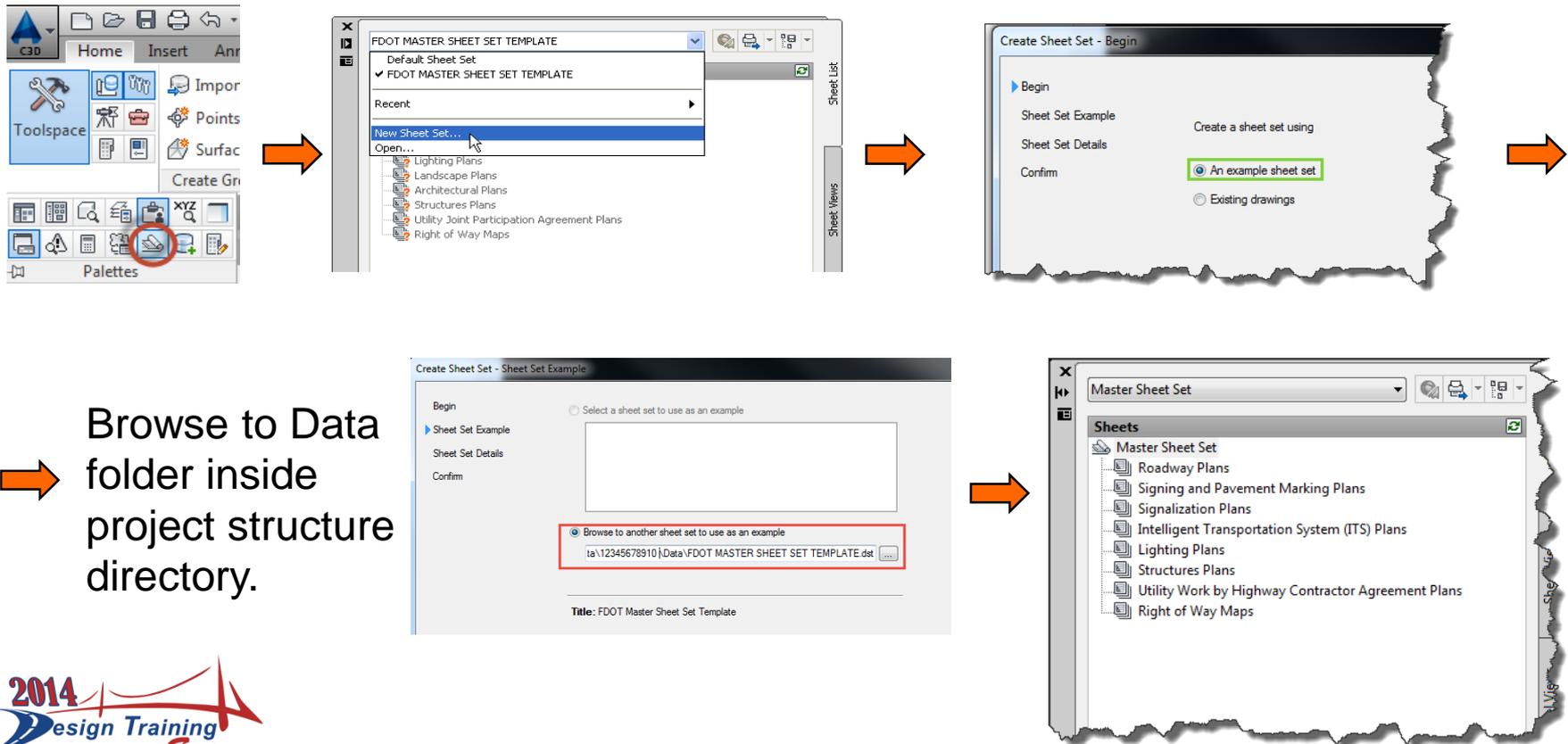
- ◆ *Data from the FDOT Create Project application is carried down into the Sheet Set file or DST file..*



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Creating a Sheet Set (.dst) file

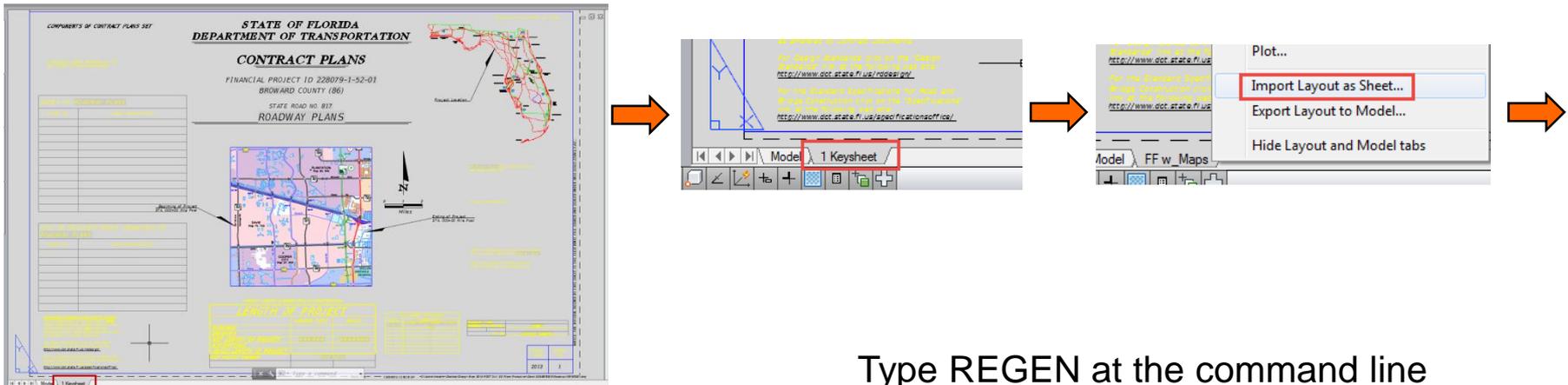
The Sheet Manager organizes, displays and manages collections of drawing sheets. Each *sheet* in a set is a layout in a drawing (DWG)



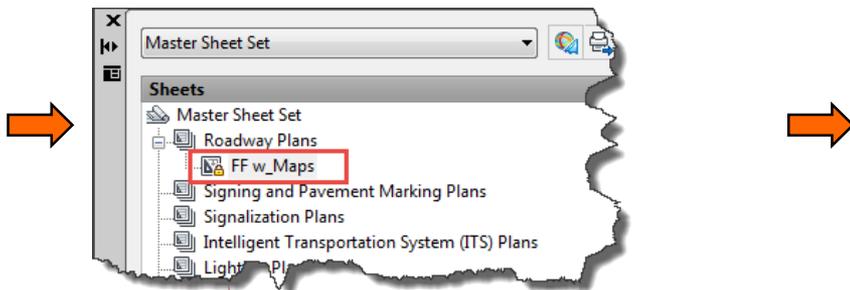
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Manually adding a Key Sheet layout to Sheet Set file.

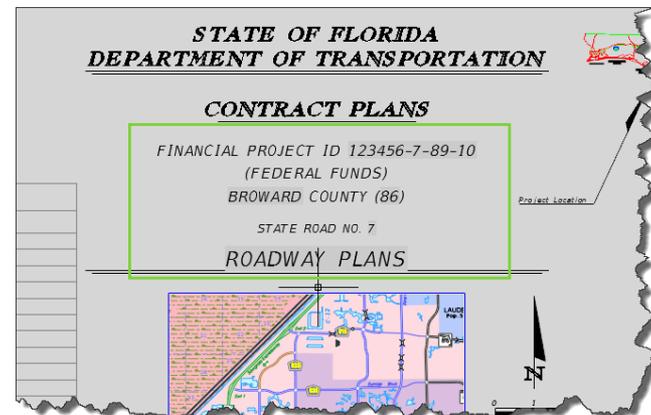
Exercise: Open an existing Key Sheet.dwg file and add it manually to the Sheet Set (DST) file.



Layouts become sheets in Sheet Set Manager



Type REGEN at the command line to fill in Text Fields



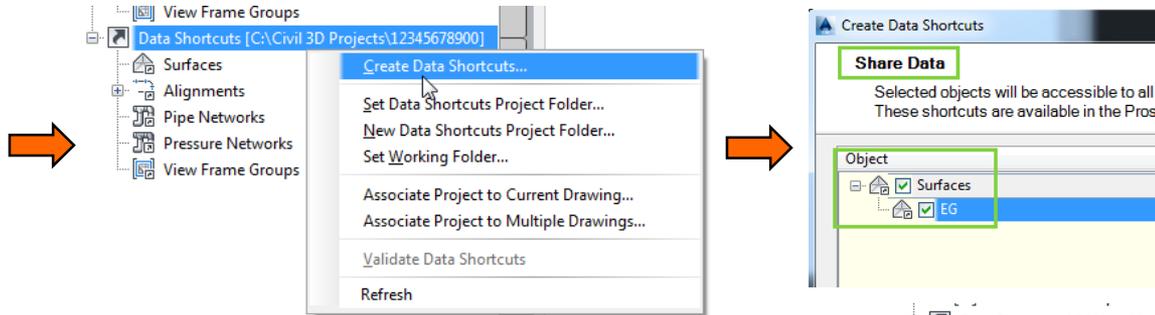
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Data Shortcuts – (Data Referencing Alignments, View Frames...)

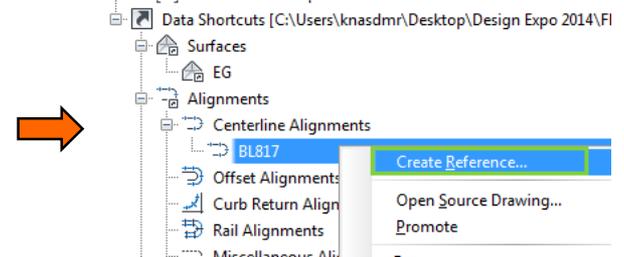
- ◆ Data Shortcuts – A data shortcut provides a direct path to the location of a shareable source object such as Alignments, Surfaces, Pipe Networks, Pressure Networks and View Frame Groups. In a single operation, you can create data shortcuts for multiple objects in a source drawing. The data shortcut is used only for the creation of data references.

A data reference is a read-only copy of a source object, inserted into another drawing, often called a consumer drawing. From the Prospector tab, you can select a shortcut for an object and create a reference to that object in the active drawing. The data reference maintains an active link to the source object in the source drawing, without relying on the data shortcut.

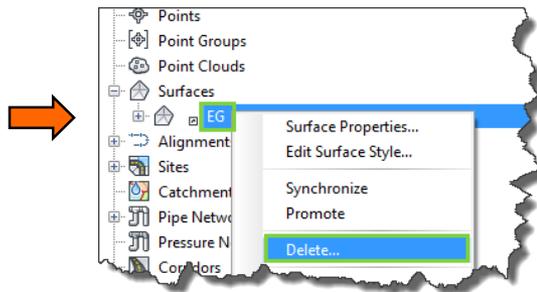
Objects that are added as Data Shortcuts can dynamically be shared across multiple drawings.



Regardless of who creates the Data Shortcuts, once it is created it can be shared with others for data referencing.



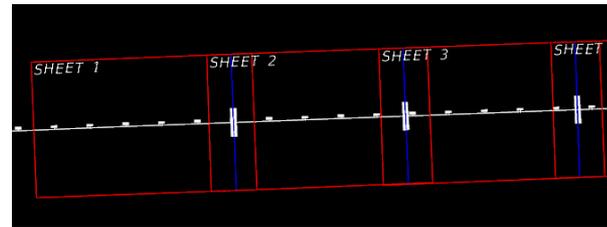
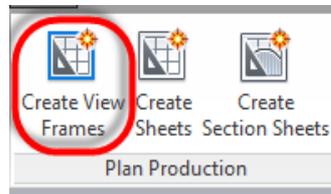
If an object needs to be removed from a design file, expand the object category under the design file heading and Delete. You do not have to delete from Data Shortcuts.



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Create View Frames

- ❖ View Frames are used to represent rectangular areas along the alignment that will be displayed on Plan/Profile or Plan only sheets. You can only create View Frames when an alignment is present. Alignment must be present when creating view frames.



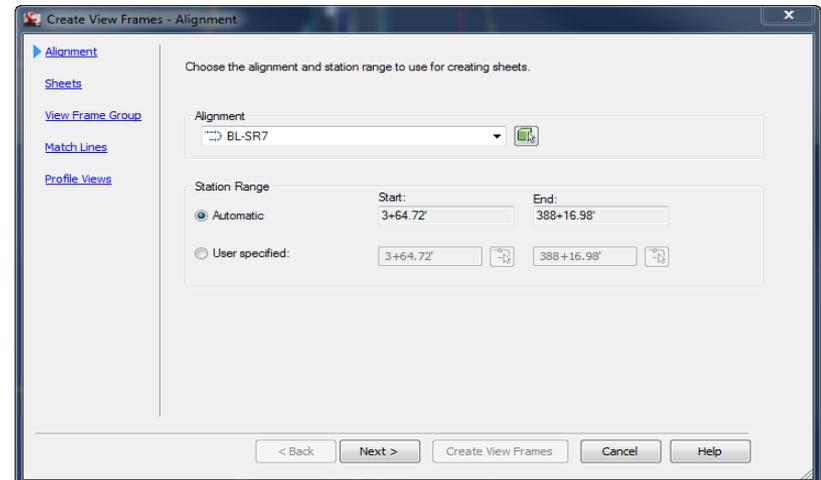
[Alignment](#) - Choose the desired Alignment and Station range for creating Sheets.

[Sheets](#) - Define a View Frame Group name to help you identify what the View Frame Group is for.

[View Frame Group](#) - Specify object creation criteria for the view frames group and view frames.

[Match Lines](#) - Choose to insert match lines automatically and define how they are placed and named.

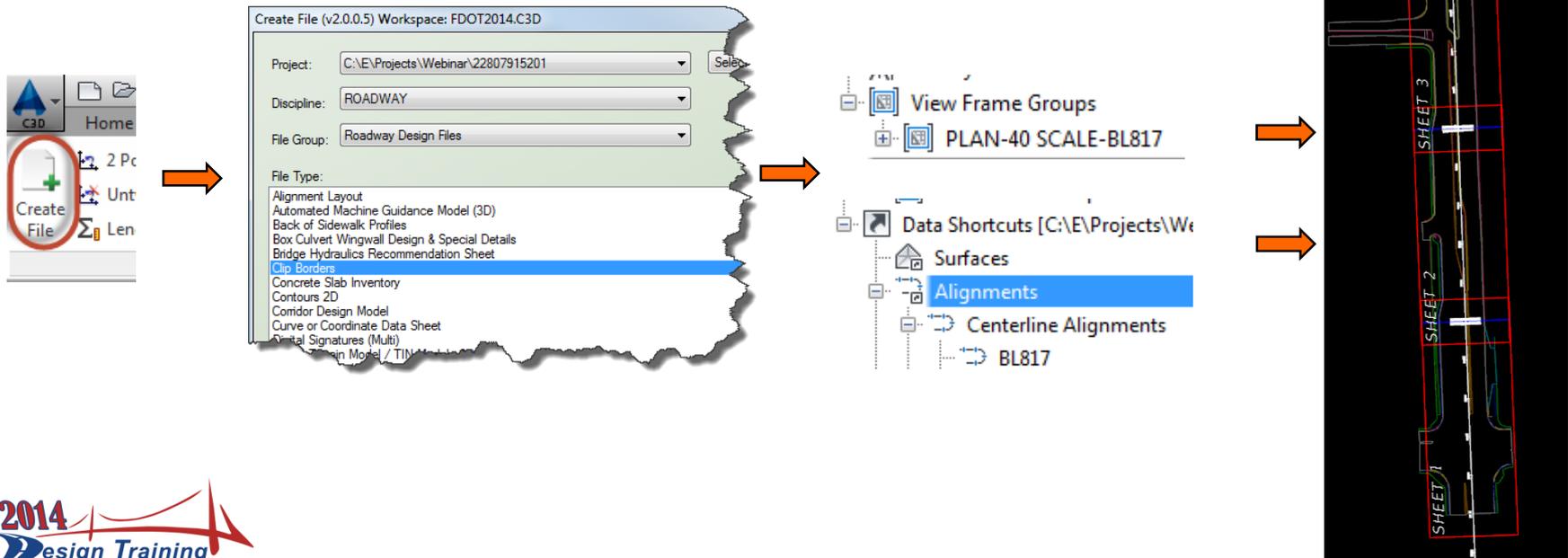
[Profile Views](#) - Select the profile view style and band set that will be used for the profile views displayed in the viewports (sheets).



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Create File for View Frames - Used as a source Drawing to House and Create View Frames

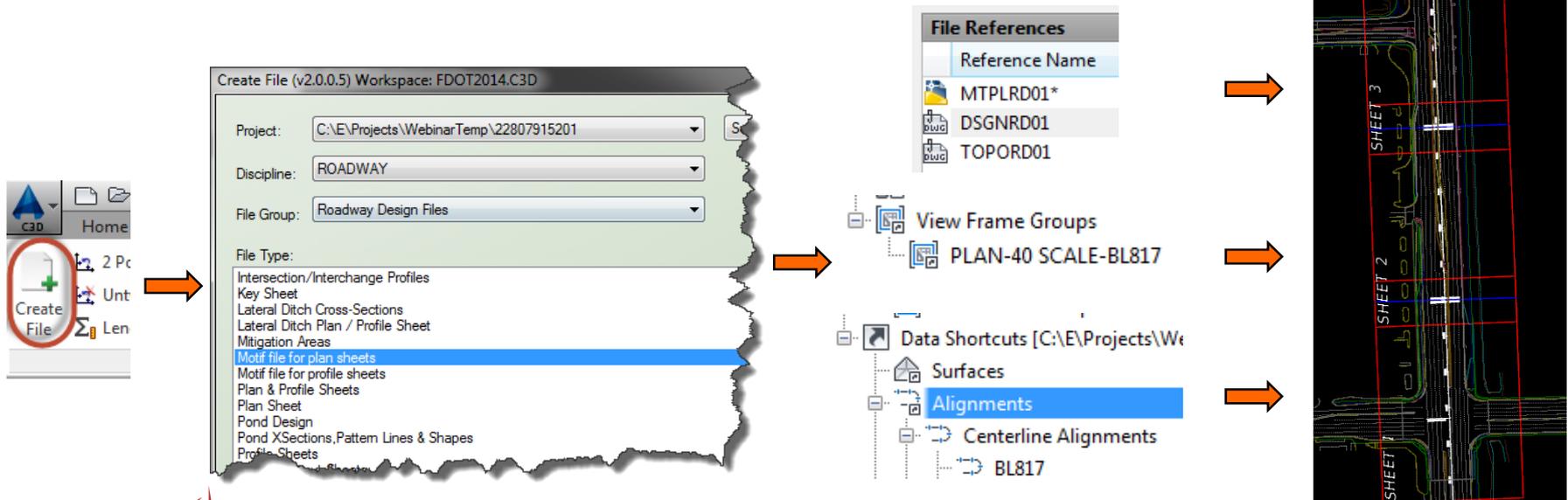
- ❖ *Exercise: Generate Drawings for View Frames and create Data Shortcuts for the View Frame group to share with other users.*
- Start the Create File app. Use the “Clip Borders” template to create a new file called CLIPRD##.dwg. This file is used to combine the View Frames and Alignment data.



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Create File for Plan Sheet Motif - Use to create Plan or Plan/Profile
Exercise: Generate Drawings for Plan Sheets.

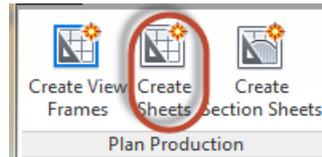
- Use the “Motif File for Plan Sheets” template to create a new file called MTPLRD##.dwg using the FDOT Create File tool. This file is used to combine the Design file, Topography file, Alignment data and the View Frame Group.



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Create Sheets – Used for generating Plan/Profile sheets

- ❖ Creates sheets for plotting from existing view frames.
- ❖ CREATE SHEETS command (Output Ribbon → Plans Production Tab).

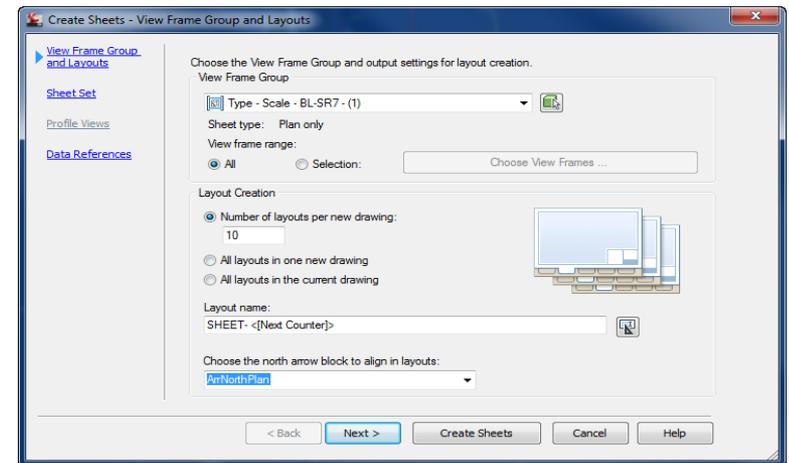


[View Frame Group and Layouts](#) – Choose the desired View Frame Group and output settings for Sheet layout Creation.

[Sheet Set](#) – Use these options to create a new sheet set or add to an existing sheet set. You can also specify storage location of the sheet set file association with the new or existing sheet set.

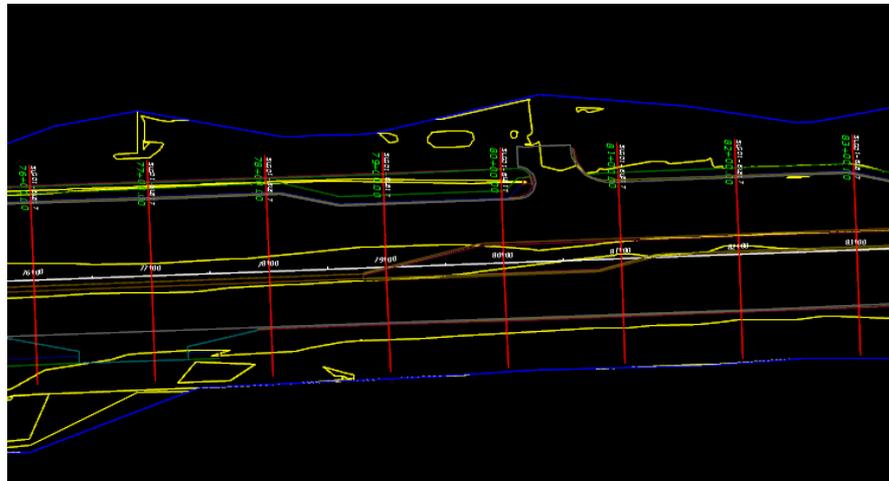
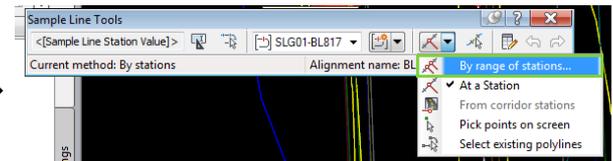
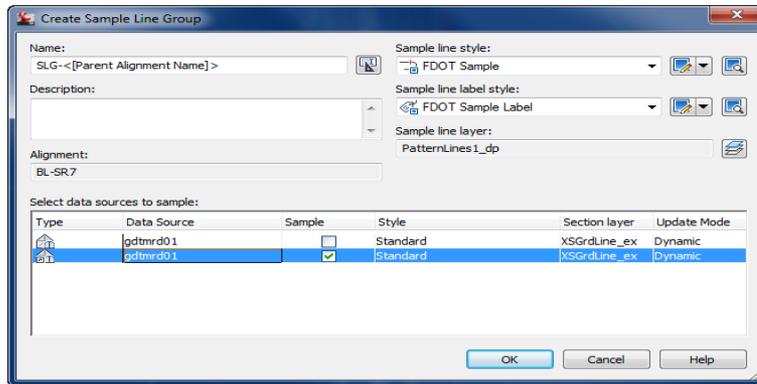
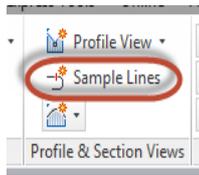
Select “Add to existing sheet set:” Select *Roadway Plan.dst* file located in the *eng_data* folder under the roadway folder.

[Data References](#) - Select the data you want to reference in your sheets.



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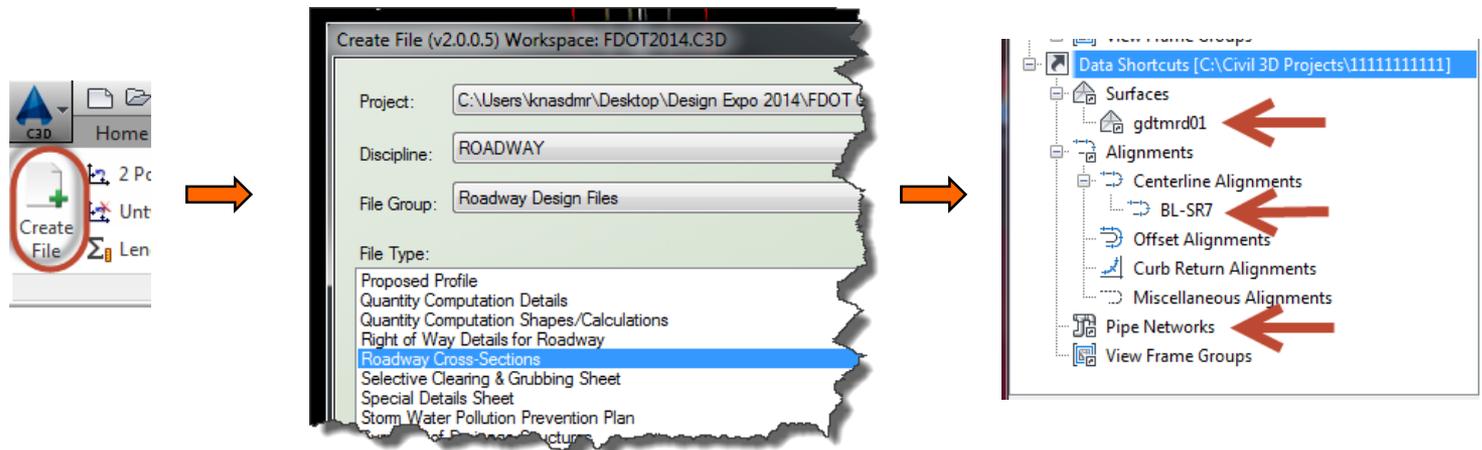
Create Sample Lines – Define the station at which the Cross-Sections are cut, and also the width of the sections to the left and right of the alignment.



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Create File for Cross-Sections – Create new drawing to derive new Cross Sections from.

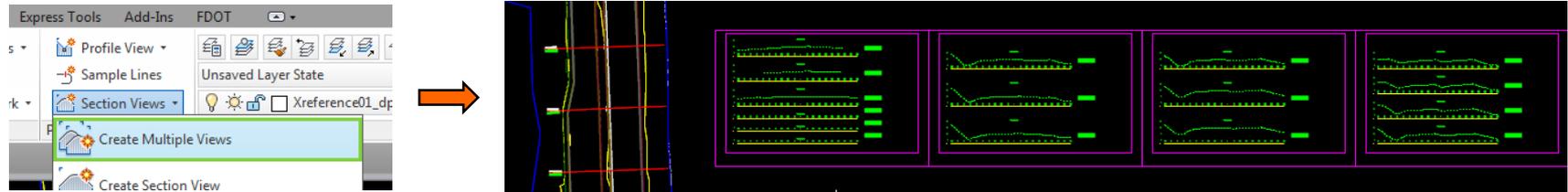
- Use the “Roadway Cross-Sections” template to create a new file called RDXSRD##.dwg using the FDOT Create File tool. You will use this file for the Sample lines and Create Multiple Views commands



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Create Section Sheets wizard - (Use to create Cross Section Sheets and add to an existing Sheet Set file)

Exercise: Create Multiple Views (Create multiple sections views for a group of sample lines along an alignment).



General - Specify information about the section views, including the parent alignment and sample line group name, range of stations, description, style, and layer. Adjust "Section View Style" to anything other than _No Display.

Section Placement – Pick a placement option, then choose a group plot style. Specify a drawing template to use for creating production-ready section sheets.

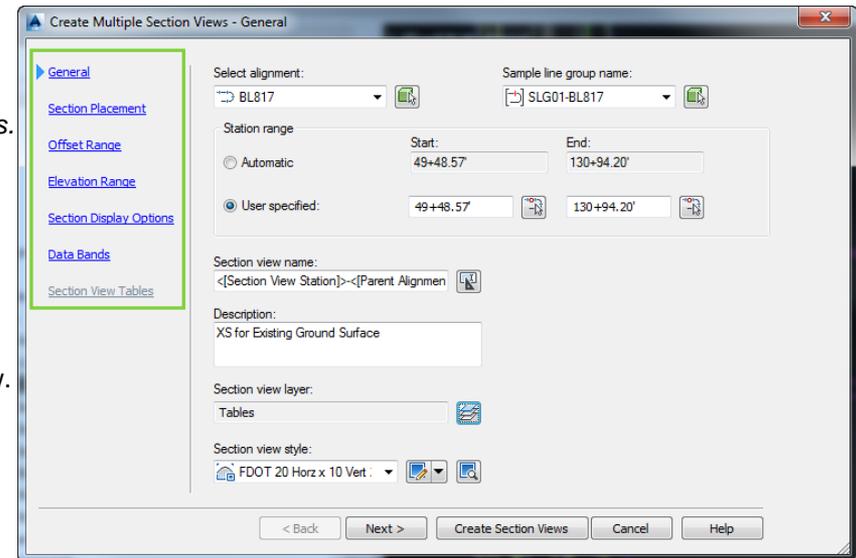
C:\FDOT2012.C3D\Data\templates\Sheets\Roadway\SHPLAN.dwt
(For PLAN ONLY TEMPLATE)

Offset Range – Use this page to specify the offset range to which the section views are drawn.

Elevation Range - Specify the elevation properties of the selected section view. Use default settings

Section Display Options – Select Data types and style to display in the X-sections.

Data Bands – Select the data band type to associate with the section view. Use FDOT Page Plot option



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Create Section Sheets wizard - Use to create Cross Section Sheets and add to an existing Sheet Set file

- ❖ Create Layouts for plotting section views. Use this dialog box to create paper space layouts that contain the section views in your drawing

The image illustrates the workflow for creating section sheets. It starts with the 'Plan Production' ribbon in the software interface, where the 'Create Section Sheets' button is highlighted. This leads to the 'Create Section Sheets' dialog box, which is used to configure the wizard. The dialog box includes the following fields and options:

- Select alignment:** A dropdown menu with 'BL817' selected.
- Sample line group name:** A dropdown menu with 'SLG01-BL817' selected.
- Select section view group:** A dropdown menu with 'Section View Group - 1' selected.
- Layout Settings:** A section with a note: 'Note: All layouts will go into the current drawing'. Below it, the 'Layout name' field contains 'CROSS SECTIONS'.
- Sheet Set:** A section with two radio buttons: 'New sheet set' (unselected) and 'Add to existing sheet set' (selected). Under 'Add to existing sheet set', the 'Master Sheet Set' is selected in a dropdown menu. Below this, the 'Sheet set storage location' is shown as '2014\FDOT Civil 3D Plans Production\Data\12345678910 - Copy\Roadway\eng_data\'.

Arrows indicate the flow from the ribbon button to the dialog box, and from the dialog box to the 'Master Sheet Set' tree view and the resulting section sheet layout. The 'Master Sheet Set' tree view shows a list of sheets, with '13 - CROSS SECTIONS' through '25 - CROSS SECTIONS' highlighted in green. The resulting section sheet layout shows a grid with multiple cross-section views plotted, with stationing labels on the right side (e.g., 75+00.00, 77+00.00, 76+00.00, 73+00.00).

Notes:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

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Thank You!

Are there any questions?

Are there any comments to improve your experience?

Email me at

Mike.Racca@dot.state.fl.us

The Civil 3D FDOT State kit is available for download at:

<http://www.dot.state.fl.us/ecso/downloads/software/FDOT2014CADDSoftware.shtm>

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