

CES500073

## Project Explorer: Constant Companion

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### Learning Objectives

- Learn how to edit object data parameters in the data grids.
- Learn how to visibly confirm design features in the profile viewer.
- Learn how to setup which parameters are displayed in the data grids.
- Learn how to output data to reports, tables, and 2D DWG files.

### Description

This session will look at how Project Explorer can help users access and make changes to object data during project work. Project Explorer gives users access for editing and confirmation of object data, the ability to compare multiple object physical locations, and visibly confirm objects in profile views of objects. The efficiency and accuracy these tools bring will make Project Explorer your constant companion.

### Speaker(s)

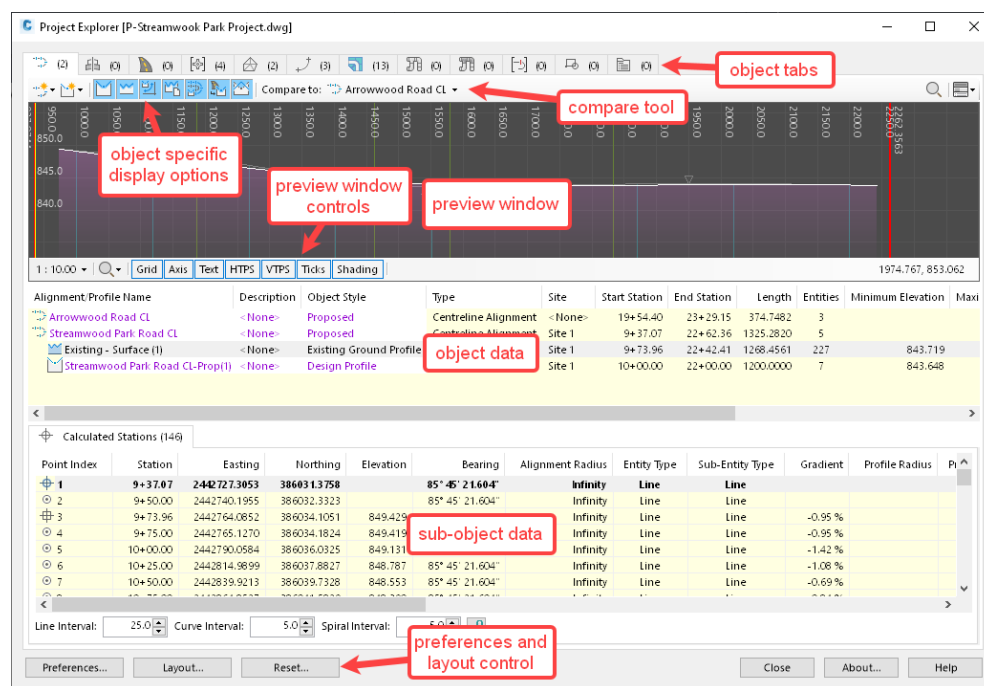
Russ Nicloy has been in the civil/infrastructure industry for over 26 years; 10 years in production drafting and GIS, and 13 years for an Autodesk reseller, providing subject-matter expertise in Civil 3D, InRoads, and Autodesk products. He is a consultant member of the Methods Development team at Wisconsin DOT. His company, MACER Technologies, provides drafting services to the civil/infrastructure industry, with the Autodesk Infrastructure Collection of products.

## Guided Tour Through the Project Explorer Window

The Project Explorer window is a “modeless” dialog which means it does not interfere with access to Civil 3D and its tools. This means you can leave it open at all times so it is more readily available when needed. Moving the window to a second monitor can be useful since the modeless window stays open in front of Civil 3D. It can also be useful to see it side-by-side to the instance of Civil 3D. Project Explorer will automatically change to read information from whichever file is active. You will not forget to set it to the proper information.

### The Project Explorer Window

The Project Explorer window is made up of several parts. The Object Tabs at the top allow you to move from one object type to another. Below that are tools that toggle object specific display options. Also, there is a Compare To tool that compares the current object to some related objects. Most object types have a profile preview window that can provide graphic information regarding the object type. A row of tools below it control the visibility of the view components. Below that are object data grid, and the sub-object data grid. If object data is selected that object's sub-object data will be opened below for more granular access.



A graphic guided tour of the Project Explorer window.

### Some Best Practices

- Always keep Project Explorer on for quick access (“constant companion”).
- Keep Project Explorer open on a second screen (when possible).
- Setup data grid columns for certain tasks. Save and load the styles as needed.
- Some sub-object tables offer “interval” readouts. Set these so you can gather information at (or near) locations that are important.

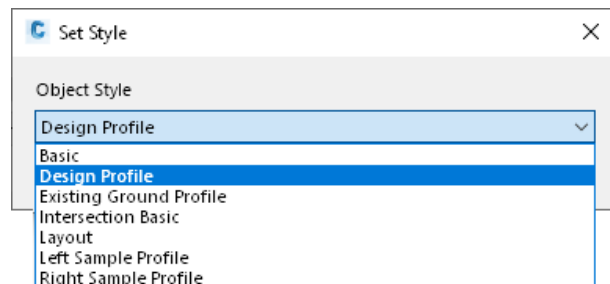
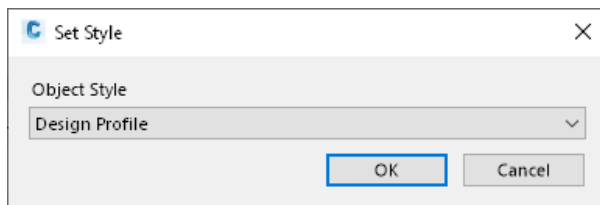
## Edit Object Data Parameters in the Data Grids

Object data and sub-object data can be edited in the data grids. If a field is editable the text will be magenta. Text that is not editable in Project Explorer may still be editable in more traditional locations in Civil 3D.

Alignment/Profile Name	Description	Object Style	Type	Site	Start Station	End Station
Streamwood Park Road CL	<None>	Proposed	Centreline Alignment	Site 1	9+37.07	22+62.36
Existing - Surface (1)	<None>	Existing Ground Profile	Surface Profile	Site 1	9+73.96	22+42.41
Streamwood Park Road CL-Prop(1)	<None>	Design Profile	Layout Profile	Site 1	10+00.00	22+29.95

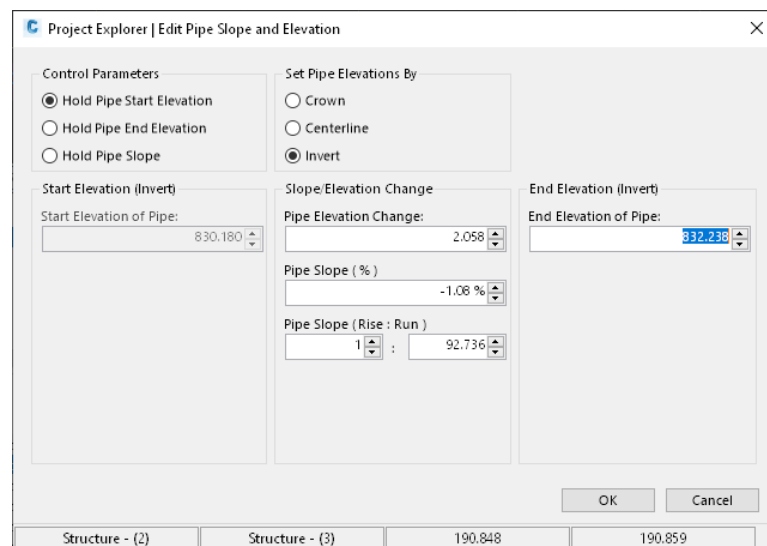
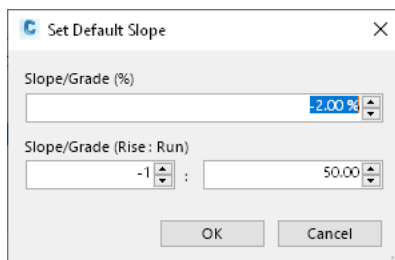
Insert AU caption.

To edit the text, double-click in the field and an edit dialog will open. Make the appropriate changes there then click OK. The data grid fields will update immediately.



Double click the magenta text field to open the text editor.

Each field can have a different style of edit dialog box, depending on the parameters available for editing. When editing a slope you are given the opportunity to change the slope, grade, or the rise over run. In other slope edit dialogs, like for pipes, you could also change the start or end elevations, among other options.



A comparison of the subassembly slope edit dialog (left) versus the pipe elevation/slope dialog (right).

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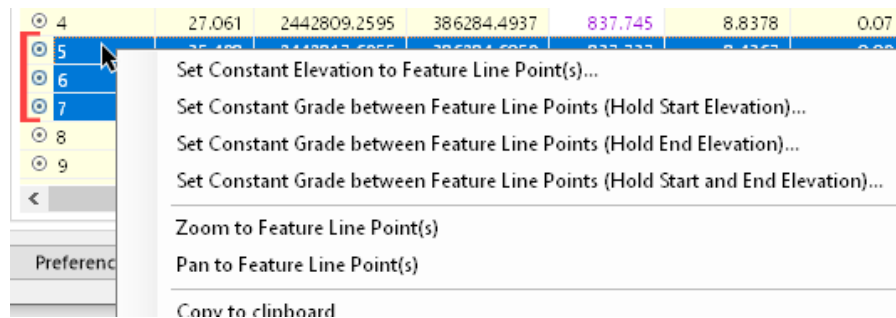
Text that is red indicates an object with a warning or a message. In these cases the editable text will be in a non-shaded box, while the uneditable text will be in a shaded box. Warnings can be read in a tool tip by hovering over ANY part of the row.

Assembly Name	Description	Assembly Style	Code Set Style	Corridors	Regions	Subassemblies
SP-Drive Left	<None>	Basic	All Codes	0	0	8
SP-Drive Right	<None>	Basic	All Codes	0	0	8
SP-Main	<None>	Basic				

**SP-Drive Right**  
- This assembly is not referenced to any corridors.

Hover the cursor over the row with red text to read the error/message tooltip.

One exception to the editing dialogs is the feature line slope edits. This is found in a right-click menu with options for creating constant slope through multiply selected feature line points. The first option will override ALL of the point elevations to the one that is selected (be VERY careful with this!), while the next three are options regarding maintaining an elevation (either start or end of the selected points) while adjusting slope. This can quickly fix slopes in large and small lengths of the feature line.



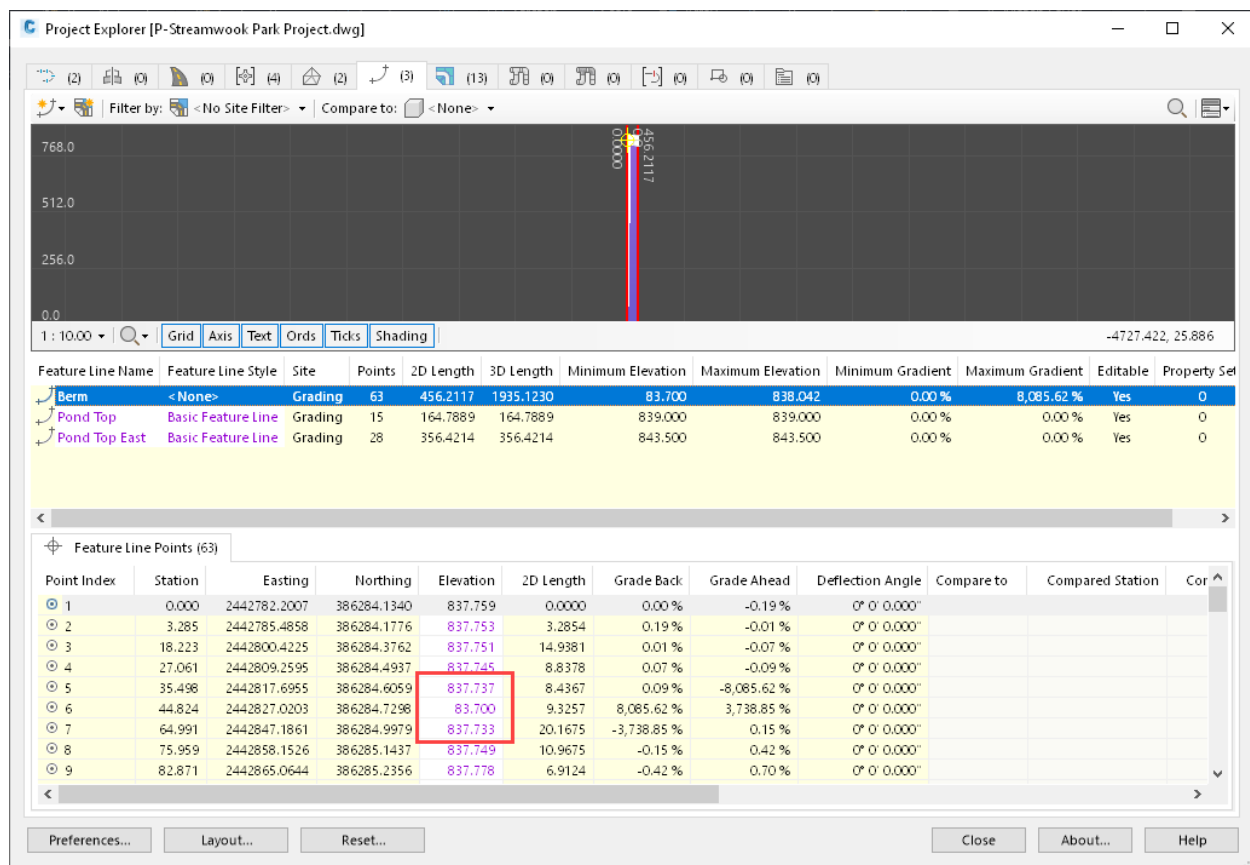
Selected three rows, right-click and set the slope between those points.

## Visibly Confirm Design Features in the Profile Viewer

Not all objects use the profile preview window. Those that do provide an immediate quick analysis of the design object. Many errors are surprisingly visible in a profile view. The user does not need to change the orientation of the file, open the Object Viewer, or create quick profiles to analyze the object design.

### A Real World Example

In the image below you should be able to see a profile view of the feature line that is to be used for some localized grading. Instead the view is zoomed very far out. You may even be able to see the feature line profile dives from near the top of the profile view to a depth very low in the view. This is easier to see if you zoom in on the profile view. In any case, you can tell something is not right. A quick scroll through the feature line point elevations shows that one of the elevations was entered or edited incorrectly.



An example of the preview window confirming an error in a feature line.

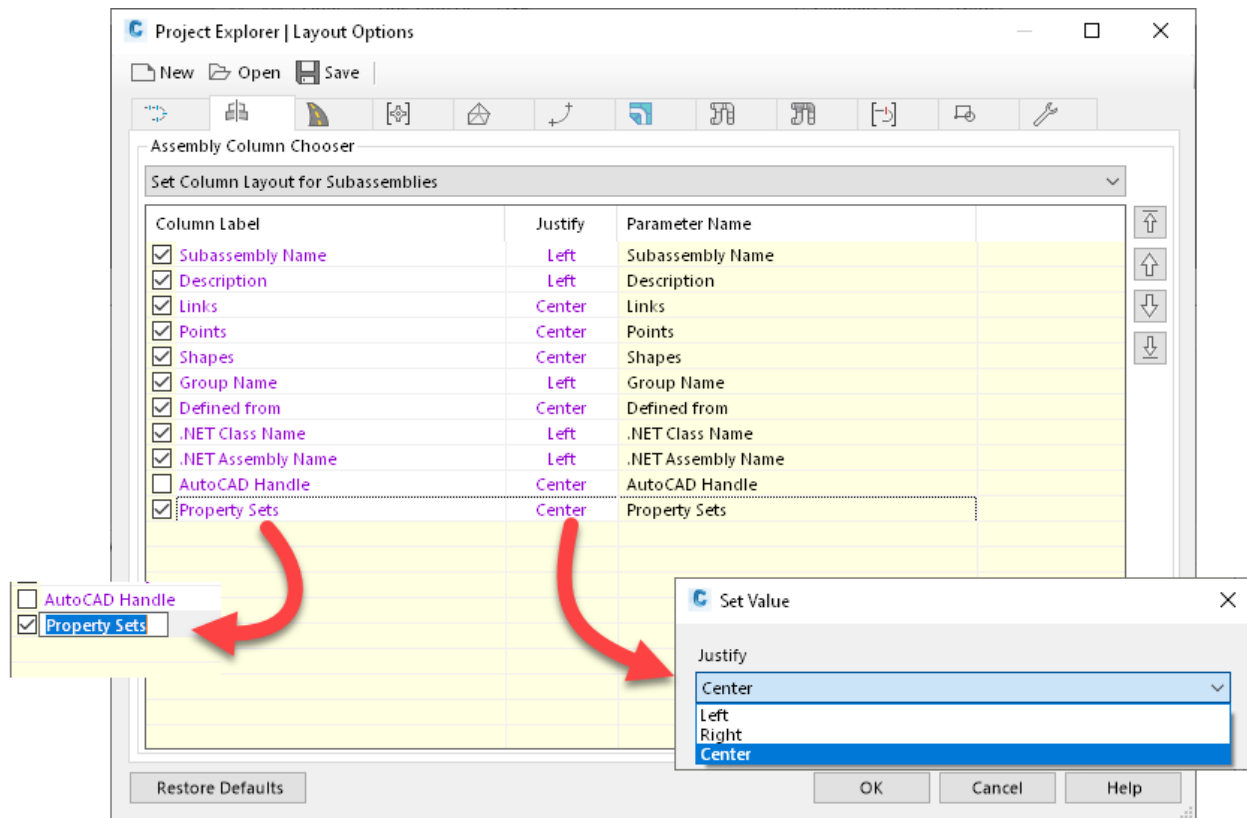
This example is representative of an issue that caused other problems with the grading and breaklines on an actual project surface. In the case of the project issue the error went on for several days, with hours of troubleshooting before the elevation error was found. In the preview window we can tell there is a problem before we had an incorrect grading, or strange results in our surface.

## Setup Which Parameters are Displayed in the Data Grids

It can be useful to turn off unused data grid columns to make accessing object data easier. The layout settings can be saved for quick loading of different parameter access for different phases of the project. The data grid layout can also be used for report and table data layout later.

### The Layout Options

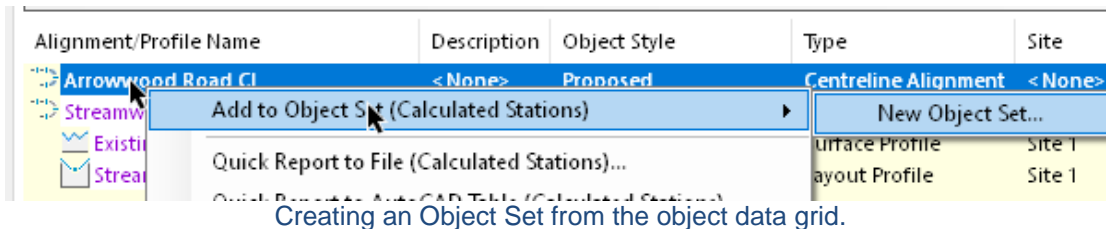
The Layout button will open the layout options dialog for the active object tab. You can switch between the object type tabs in this dialog. The Column Chooser drop-down is particularly important since edits will be made to whatever is selected here, and it defaults to the object data, NOT sub-object data as may be assumed. As in other fields, magenta text is editable. Column names can be changed, and the Justify column provides a list of options that can be chosen. Each column can be toggled ON/OFF, or the order changed with the arrows in the upper right of the dialog. After making the changes Saving the layout options make them available to be Opened later, or to be used in the Report and Table layouts later.



The magenta text in the Layout Options can be edited to change output.

## Output Data to Reports, Tables, and 2D DWG Files

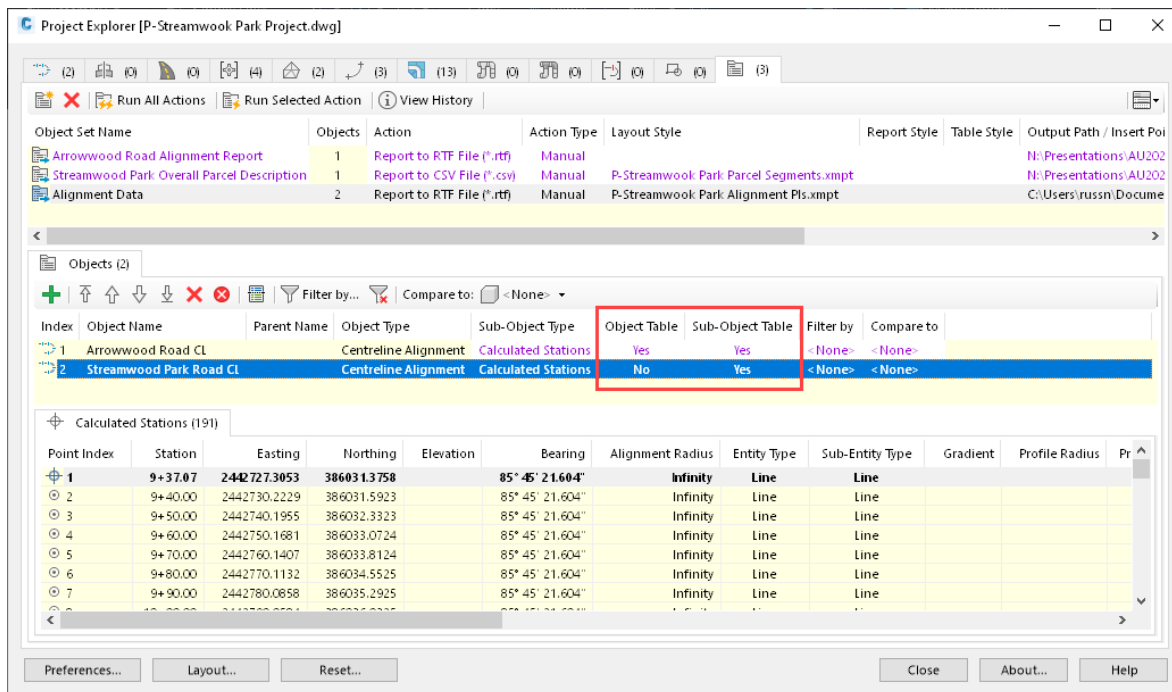
To output reports, tables, or 2D dwg files, you must first create Object Sets. Object Sets are a package of data that gives you special access to the included data. In an object tab, right-click on the object data, choose Add to Object Set, New Object Set. If an Object Set was previously created it will be listed as an option to creating a new set.



Creating an Object Set from the object data grid.

In the Create Object Set dialog you can set the name, add a description, set the actions; create reports, export to ACAD tables, or export to 2D dwg files. You can also assign or setup a Layout Style (see Setup Which Parameters are Displayed in the Data Grids above). If exporting to a file or to a table you also have options for naming and file save location, as well as report style.

The last object tab is the Object Set tab. In this tab will be a list of all Object Sets with options to run the actions assigned (reports, tables, or files). Selecting an Object Set opens object data in the middle window, and sub-object data in the lower window. These windows will appear in the reports or tables unless they are toggled off in the object data grid (marked in image below). Running an action on an Object Set creates the report or file in the path indicated during the Object Set creation, or allows placement of the table in model or paperspace.



The Object Set tab to run the actions.