



The Big Ten

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The Big Ten Dialog Boxes

Many users find that Civil 3D is a tangled mystery in the beginning, and then come to discover how it just simply “clicks.” This is primarily due to the “great” work done by Autodesk on the Civil 3D user interface (how often do you hear that said without a hint of sarcasm?).

Land Desktop, and even AutoCAD to some extent were cobbled together from several sources. Land Desktop still bears the mark of Softdesk programmers, Access programmers, and the programmers of all the myriad add-ons over the years. As such, its user interface is non-standardized, every menu looks and behaves in a slightly different way from every other ones, paths that seem to point to the same thing don't, and commands for one object are found in three other menus. .

Civil 3D, at least for the time being, does not have these problems. In fact, 98% of the processes in the program are expressed in only ten – that's 10 – major dialog boxes. There are also additional boxes, but are used less frequently. The Big Ten boxes are:

- 1) Civil Toolspace
- 2) Layout Toolbars
- 3) Display Order Properties
- 4) Feature Properties
- 5) Edit Feature Labels
- 6) Add Labels Tool
- 7) Panorama Editors
- 8) Feature Style Editor
- 9) Label Style Editor
- 10) Text Component Editor

Once a user learns and masters the first 7 of these dialog boxes, they will have enough control over Civil 3D and will come to realize how the entire program just “clicks.” Understanding the remaining 3 boxes allows a user to customize Civil 3D Feature and Label Styles. That's not to say that there aren't problems and issues to be solved afterwards, but it is to say that the user understands the software to the extent that solving those problems can be a science, rather than dumb luck.

Table of Contents	
Civil Toolspace	2
Layout Toolbars	2
Display Order Properties	3
Feature Properties	3
Edit Feature Labels	4
Add Labels Tool	5
Panorama Editors	5
Feature Style Editor	6
Label Style Composer	6
Text Component Editor	7

03.02.2

About the Authors

Portions of this document were produced and edited by multiple members of our Technical Services staff without whose knowledge and expertise this document would be impossible to produce.

Special recognition to our Clients and their staffs who aided in the validation and review of the contents.

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Civil Toolspace

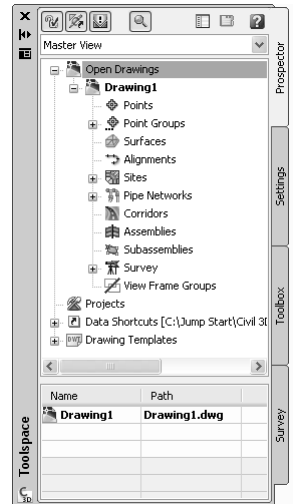
The heart of Civil 3D is the Civil Toolspace. If Civil 3D were a company, the Toolspace would be the President and CEO.

What the Toolspace does

- Organizes all the features, styles, and reports on one or more drawings
- Provides access for creating and modifying features, styles, and reports
- Provides access to the project structure and data-sharing interface
- Sets the defaults for commands, features, and the drawing
- Has limited object-creation and editing capabilities

Parts of the Toolspace

- **Tabs** – Controls the type of information displayed in the tree (see below). The Prospector tab shows non-survey drawing features, and the projects interface. The Settings tab shows all styles and settings. The Toolbox tab shows all reports. The Survey tab shows survey features.
- **Settings Buttons** – The buttons along the top of the Toolspace control which icons are displayed next to drawing features and styles in the Prospector and Settings tabs. For more information, search help for "state icons." In the Survey and Toolbox tabs, these buttons access settings.
- **View Dropdown** – This list control what displays in the tree. It is only available in the Prospector and Settings tabs.
- **Tree** – This is the main part of the Toolspace. It shows all the data in the drawing(s). Depending on the tab, this can be feature & project data (Prospector), styles & settings (Settings), Reports (Toolbox), or Survey data (Survey).
- **Preview Pane** – This is either at the bottom or one side of the tree, depending on whether the Toolspace is undocked. It shows a preview of the selected branch of the tree. Some edits can be done through this, for instance to points.



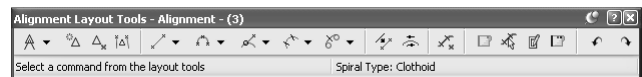
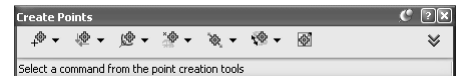
Layout Toolbars

Layout toolbars are specialized design and drafting toolbars available for most Civil 3D objects. They are similar to the line drafting tools in AutoCAD, but far more powerful.

There are layout tools for Points, Parcels, Alignments, Profiles, Grading Groups, Cross Sections, and Pipe Networks. There is also a toolbar, the Feature Lines toolbar that fits into this category. The rule for using layout tools is simple: work from left to right.


What the Layout Tools do

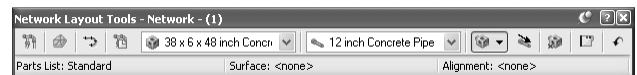
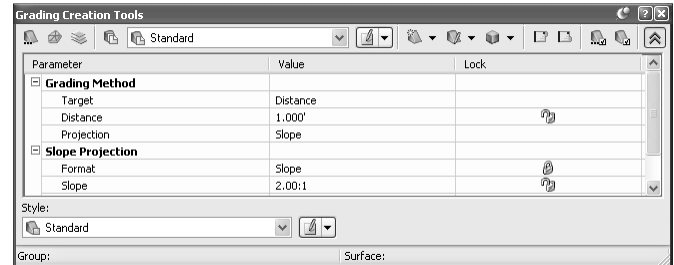
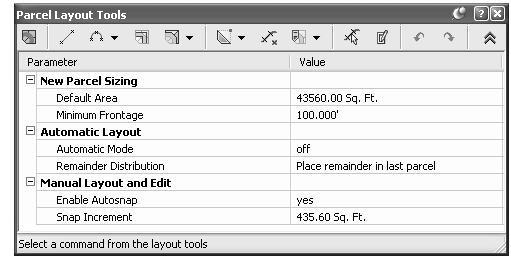
- Provide tools for drafting and design features



- Interface for editing most features' geometry
- "Floating" or modal box: Other tools and dialog boxes can be opened while it is active

Parts of the Layout Tools (Left-to-Right)

- **Creation and settings tools** – Used to create "containers" for some objects, like Parcels and Grading objects. These containers are then "filled" with geometry using the other tools. More settings can be accessed in some layout toolbars by clicking the  chevron button.
- **Drafting tools** – Line, curve, point, parcel, and other drawing tools.
- **Editing tools** – Used primarily to alter or view the properties of features that have already been created. For instance, the delete sub-entity and table editor tools fit into this category.
- **Undo/Redo tools** – When using layout tools, it is important to use the undo/redo buttons on the layout toolbar. This will only undo the last toolbar specific action; whereas the standard undo/redo buttons will undo the entire layout process.

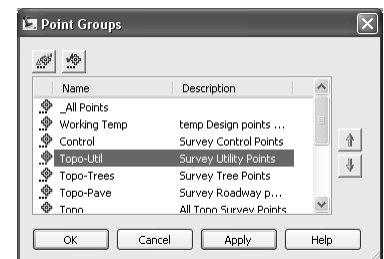


Display Order Properties

Certain Features employ the concept of Display Order (Point Groups and Parcels) or they employ a specific stacked order to the how Style Sets are applied during creation (Description Key Sets).

What Display Order Properties does

- Orders the named objects or styles
- Allows you manually order and/or reorder (give precedence) to one named object or Style over another

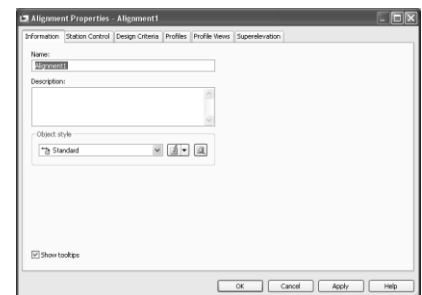


Feature Properties

Features are the civil engineering objects in a drawing – the surfaces, alignments, pipes, profile views, and so on. The Feature Properties box shows the properties of a feature. It has different tabs depending on the types of features, but its setup and function is the same.

What the Feature Properties does

- Handles all non-geometrical properties of a feature
- Handles geometry, design criteria, Data, and Rules connected to the Feature
- Keeps track of what labels a feature automatically displays

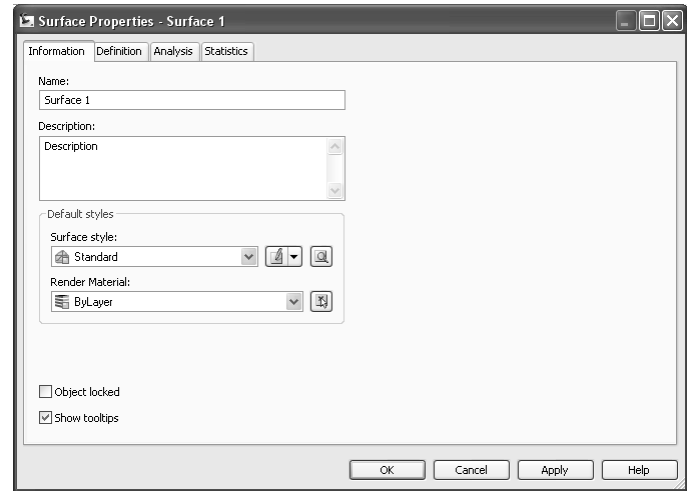


03.02.4

- Handles other features that are referenced by the feature (i.e., which alignment a profile is built from)
- Display statistics for some objects

Parts of the Feature Properties

- **Information Tab** – Holds identity data for the object – name, description, and applied feature style(s).
- **Other Tabs** – Other tabs are specific to each feature type. Some common ones include:
 - Statistics – displays calculated statistics for a feature, like total area of a surface or number of structures in a network
 - Labels – (for features with label sets) - Organizes the type of labels that automatically are placed on a feature (different from manually added labels, which are controlled in the #8 Add Labels box)

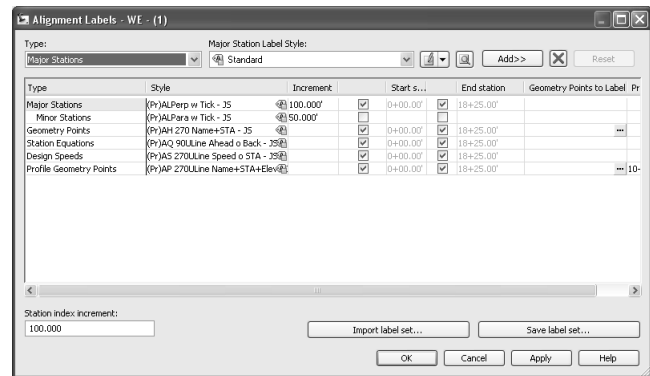


Edit Feature Labels

Any Feature that supports Label Sets includes an Edit Labels pick in its right click menu. Labels Sets allow you to apply lots of labels to a Feature all at once via a named and preconfigured set of styles – a Label Set. The Sets can also contain other properties that allow you to save specific properties of how the labels are applied to the Feature. Labels applied via Label Sets are typically referred to as Group Labels.

What the Edit Labels Tool does

- Determines the current label styles used and their current properties
- Allows you to Import different Label Sets and therefore rapidly re-label a complex feature quickly
- Allows you to Export sets of labels and specific properties to a Label Set
- Allows you add or remove Labels from the current configuration and change properties



Add Labels Tool

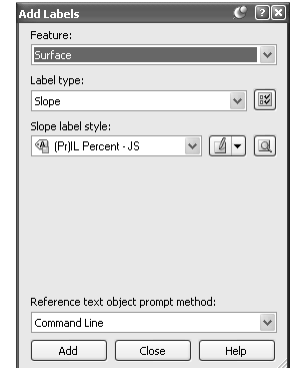
Many labels are controlled and placed automatically by Label Sets and label styles. However, some labels cannot be automatically added to a plan yet by Civil 3D – station offsets for hydrants and light poles, spot elevations at important grading points, and generic line and curve labels to name a few. The Add Labels pinup is a single interface for all manually-placed labels.

What the Add Labels Tool does

- Determines the type of feature and label
- Determines the label style and, sometimes, a marker style
- “Floating” or modal box: other boxes can be opened while it is active

Parts of the Add Labels Pinup

- **Feature Dropdown** – Selects which type of feature the label will be added to.
- **Label Type Dropdown** – Most features have several types of labels.
- **Style Dropdown(s)** – Selects label style to use and, if available, a style for a marker to be placed where at the base point of the label



Panorama Editors


The Panorama is the “potpourri” box in Civil 3D. It contains most of the things that don’t fit into other parts of the interface.

You can think of it as a configurable way to edit much of the core data used by Civil 3D in many features.

What the Panorama does

- Tracks events, warnings, and errors
- Provides a tabular editor for objects like points, alignments, and profiles
- Contains specialized utilities like the Grading Volume Tools

Parts of the Panorama

- **Tabs** – The Panorama can multi-task. The tabs are used to switch between various Panorama functions. To close a particular tab without closing the Panorama, click the  check box when the tab is active.
- **Work space** – The rest of the Panorama is given over to whatever is needed for a function. Generally, there is some kind of table listing what is being edited or tracked. For some functions, there are also buttons and tools.

Point Num...	Easting	Northing	Point Elevation	Name	Raw Description	F
2001	51298.5252'	99470.5309'	783.998'	CP01		Stk
2002	51297.8535'	98522.6867'	784.088'	MON		MC
2003	51300.3200'	98191.2787'	781.018'	MON		MC
2004	51297.5220'	98626.6197'	784.808'	SET NAIL		SE
2005	51241.0345'	98521.1886'	784.318'	CLR SET NAIL		CL
2006	51176.0743'	98519.5149'	784.718'	CLR SET NAIL		CL
2007	51094.0410'	98517.4011'	785.358'	CLR SET NAIL		CL
2008	51397.1024'	98472.8716'	784.308'	CLR		CL
2009	51569.2129'	98476.9584'	785.568'	CLR SET NAIL		CL
2010	51298.8989'	98412.3801'	783.788'	CLR		CL
2011	51299.2595'	98356.2823'	783.108'	CLR SET NAIL		CL
2012	51298.8123'	98370.1280'	783.198'	CLR SET NAIL		CL

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Feature Style Editor

There are three main types of styles in Civil 3D – feature styles, label styles, and table styles. Feature styles are the most basic. They control everything of how a feature’s geometry display on screen.

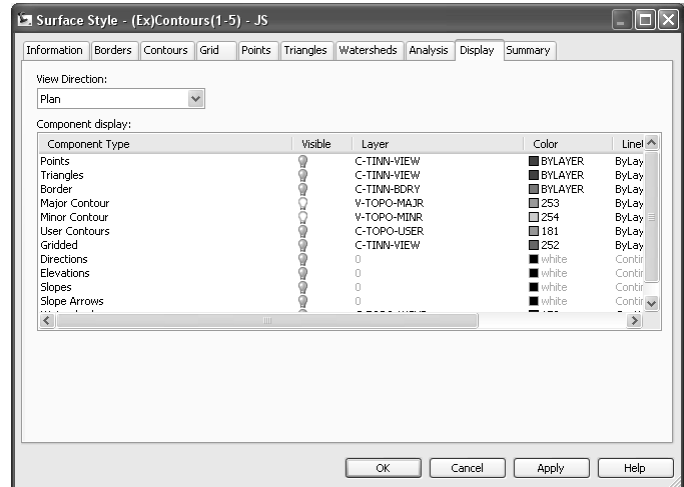
Every feature style is described in the same dialog box – the Feature Style Editor.

What the Feature Style Editor does

- Controls each aspect of a feature’s appearance
- Maintains a display system to toggle component display on and off
- Sets the layer, basic AutoCAD properties, and plot style of different parts of a feature in each of the available object representations

Parts of the Feature Style Editor

- **Information Tab** – Holds identity data for the style – name and description.
- **Display Tab** – Looks and behaves very similarly to the AutoCAD Layer manager. This is the master control room for the style. It determines the basic display properties of each component, like color and lineweight, as well as turning various style components on or off.
- **Summary Tab** – List all the information in all other tabs except the Display tab. Seldom used.
- **Other Tabs** – These are specific to each feature type. They control settings specific to certain style components, like contour spacing, profile view annotation, grading tick mark blocks, etc.

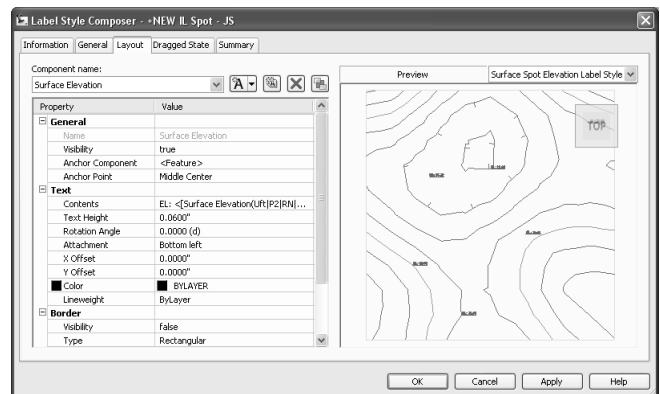


Label Style Composer

Label style controls quite possibly the most significant part of Civil 3D – the dynamic annotation. All annotation in Civil 3D that is not basic mtext or dtext is controlled by a label style. All label styles have the same exact editor – the Label Style Composer.

What the Label Style Composer does

- Sets the layer where a label is placed (some exceptions)
- Organizes the layout of different label components
- Sets the basic AutoCAD properties of each label component, like color and line weight
- Provides a link to the Text Component Editor for building labels that update automatically as the underlying feature changes



Parts of the Label Style Composer

- **Information Tab** – Holds identity data for the style – name and description.
 - **General Tab** – Sets properties that apply to the entire label, like orientation, plan readability, and layer.
 - **Layout Tab** – Breaks the tab into one or more components. This allows different parts of the label to behave independently, and it also provides for label components like ticks, underlines, blocks, and referenced text. The Contents cell for text and referenced text components link to the Text Component Editor. The preview pane on the right shows how the label will look in the drawing.
- Dragged State Tab** – Controls how a label behaves and displays when it is dragged from its default location.
- **Summary Tab** – Lists all the information from all the other tabs except the Display tab. Seldom used.

Text Component Editor

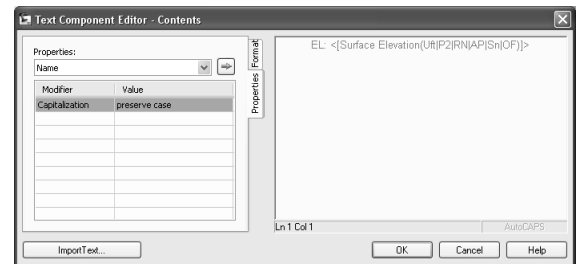
The Text Component Editor is primarily accessed for label styles, although it has other uses. It has one job, which provides for a dynamic link between features and labels; this is so when the feature geometry changes, the label values change to reflect it automatically.

What the Text Component Editor does

- Links feature properties to label text
- Includes an editor to add static text
- Controls basic formatting of text, such as precision, rounding, and font

Parts of the Text Component Editor

- **Properties Tab** – Contains all the available feature properties that can be added as dynamic text in the dropdown at the top, and all the formatting that is specific to each property in the table.
- **Format Tab** – Controls basic AutoCAD properties, like Font and color. This is an override and it is better to control these things in other places, like the Text Style and the Label Style Composer.
- **Preview Pane** – Located on the right side of the dialog box, this shows the placement and order of the text.



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