# MicroStation® V8 2004 Productivity Tips

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## Speaker: Mark Mates, ProSoft

Do you want to be more productive using MicroStation? This session is packed with valuable tips, tricks, techniques and third-party applications guaranteed to increase your efficiency and productivity using MicroStation. Based on excerpts from the **MicroStation V8 2004 Update** manual by ProSoft.

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# Primary Tools Tool Box

The **Primary Tools** tool box provides access to commonly used dialog boxes, including the Models, References, Level Manager, Level Display and Element Information dialog boxes. It also contains tools for toggling on and off the **AccuDraw**® precision drawing tool and the Tool Settings window **PopSet** feature. It is a good idea to leave this tool box open and docked to provide quick access to these dialog boxes and utilities.

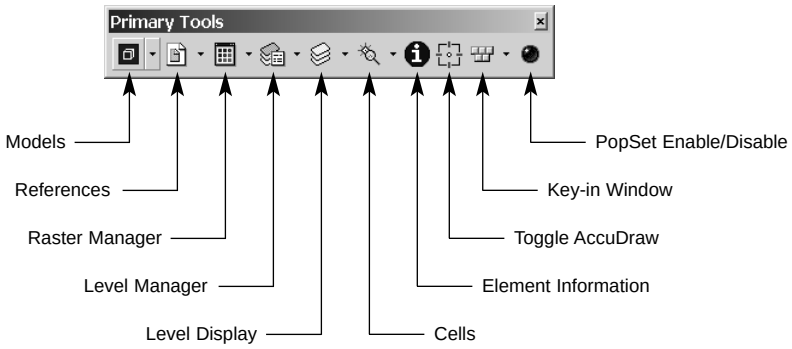



**Figure 1**
The Primary Tools Tool Box

Most of the icons contain an adjacent down arrow. Click on the arrow to open the corresponding dialog box in pop-up mode. The dialog box closes when you move your cursor away from it.

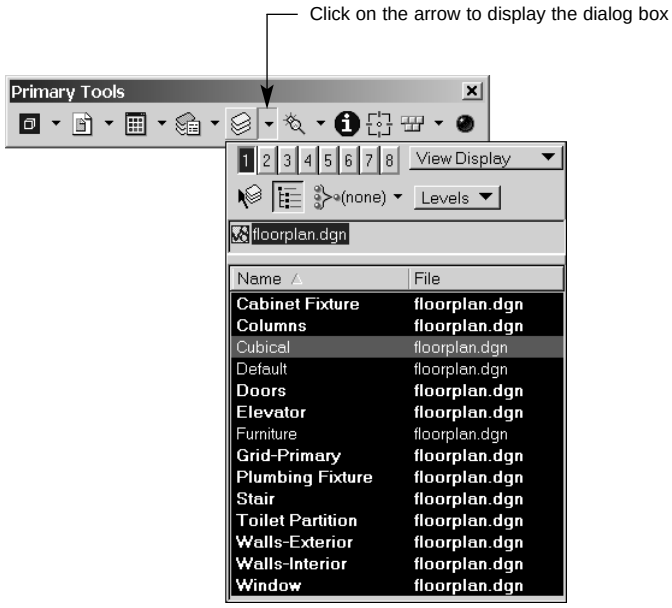



**Figure 2**
Opening the Level Display Dialog Box in Pop-up Mode

# PopSet

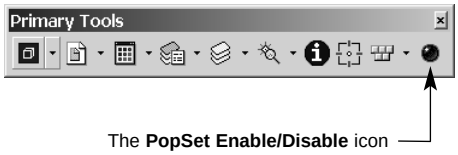
**Popset** is a utility that causes the Tool Settings window to automatically reposition itself next to any tool you select, then hide itself automatically after you have made settings adjustments and moved your pointer into a view window. This prevents the Tool Settings window from intruding on view space while you are actually placing or editing elements.

You can redisplay the Tool Settings window at any time by moving your pointer over the active tool's icon or the **PopSet Enable/Disable** icon in the Primary Tools tool box. You can also redisplay the Tool Settings window by typing **[CTRL] + [SPACEBAR]** on your keyboard.

To activate PopSet, click on the **PopSet Enable/Disable** icon in the Primary Tools tool box. The icon changes from red to green to indicate that PopSet is active.

To turn PopSet off, click on the **PopSet Enable/Disable** icon again. The icon changes from green to red to indicate that PopSet is off.

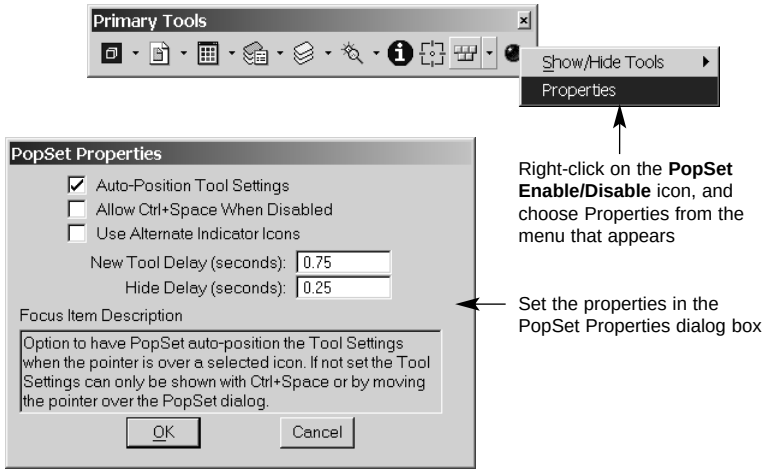
**Figure 3**
The PopSet Enable/Disable Icon in the Primary Tools Tool Box




## PopSet Properties Dialog Box

The PopSet Properties dialog box shown below contains settings that control the way the PopSet utility functions. To access this dialog box, right-click on the **PopSet Enable/Disable** icon in the Primary Tools tool box, and choose **Properties** from the menu that appears.

**Figure 4**
Setting PopSet Properties



## Wheel Mouse Preferences

If you are using a wheel mouse, you can assign the **Tentative** function to the mouse wheel. You can also use the wheel to perform panning and zooming operations in MicroStation. A separate panning or zooming function can be assigned to each of the following:

- The mouse wheel alone
- The mouse wheel plus the **[CTRL]** key
- The mouse wheel plus the **[SHIFT]** key

You can change the active wheel mouse functions in the **Mouse** category of the Preferences dialog box. To access this dialog box, choose **Workspace > Preferences** from the MicroStation menu bar.

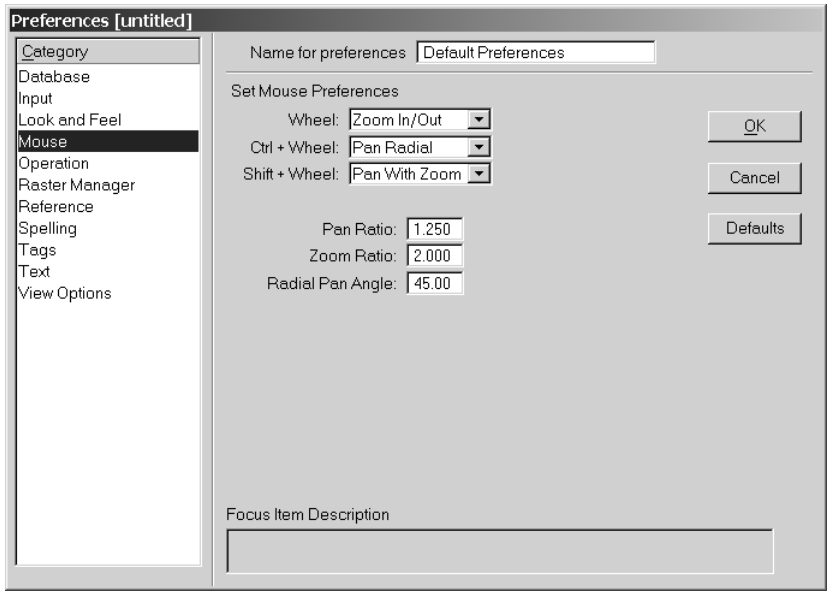



**Figure 5**
Wheel Mouse Preferences in the Preferences Dialog Box

MicroStation has a feature called **Design History** that allows you to restore elements that have been deleted, even after the file as been compressed. For more information on Design History, refer to the **MicroStation V8 2004 Fundamentals Reference Manual** by ProSoft.

# Compressing Design Files

When you delete elements from a MicroStation design file, the elements no longer display in the drawing, but a record of the deleted elements remains in the file. The **compress** command removes deleted elements and potentially purges unused information from the file, reducing the file size. You can compress the active design file by choosing **File > Compress > Design** from the MicroStation menu bar. If you are at the MicroStation Manager dialog box, you can compress the selected design file by choosing **File > Compress** or compress all design files in the active directory by choosing **Directory > Compress**.

## Compress Options

Introducing DWG content to MicroStation increased the possibility to have "unused" information in the design file. The **Compress** option allows you to easily remove much of this unused information at once. To access the Compress Options dialog box, choose **File > Compress > Options** from the MicroStation menu bar.

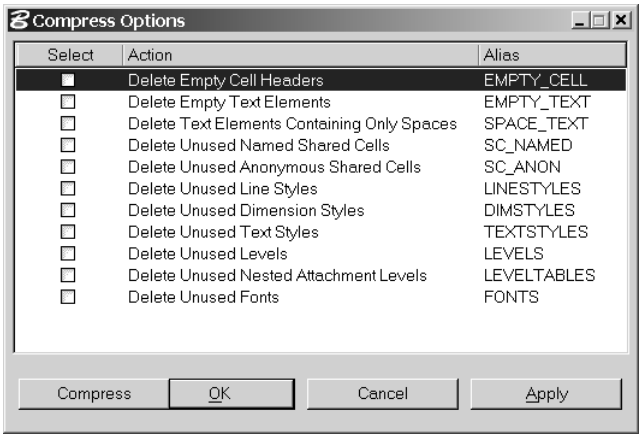



**Figure 6**
The Compress Options Dialog Box

## Define Sheet Layout

MicroStation allows you to set up sheets by defining sheet layouts to help you create a print-ready drawing sheet. A transient sheet element can display in the drawing that adjusts according to the settings of the sheet layout dialog box (properties). To define a sheet layout, click on the **Define Sheet Layout** icon in the Models dialog box. The Define Sheet Layout dialog box appears where you can define the sheet properties including display, size, origin, and rotation.

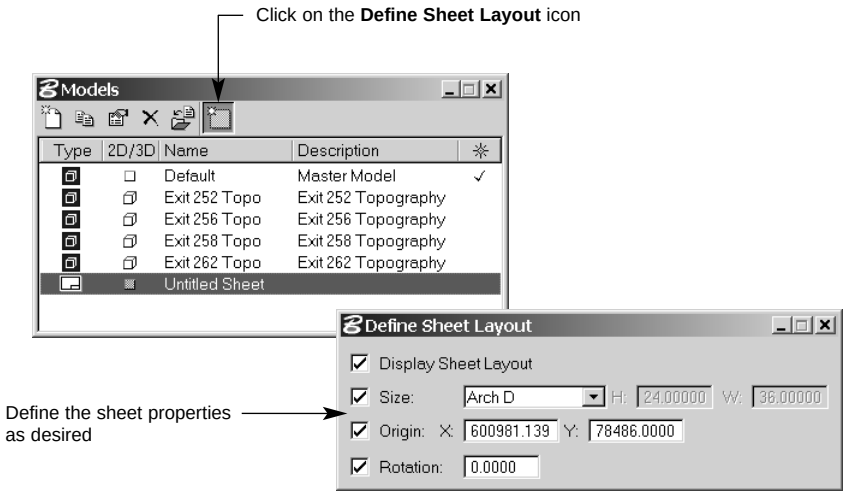



**Figure 7**
Defining the Sheet Layout

## Annotation Scale Lock

You can set an annotation scale independently within each model.

The **Annotation Scale** lock assists in the placement of text and dimensions within individual models. This lock is also located in the text and dimensions placement tools. If activated, the annotation scale is applied to any text or dimensions that are placed in the model. The annotation scale controls the size of text for placement, and then scales it back to normal size when printing. The annotation scale can be set in the Model Properties dialog box. For example, if you set the annotation scale to 1/8" = 1'-0" and then place text with a height of 1/8" with the annotation scale locked on, it will be scaled up to 12" high. Therefore, when printing to a scale of 1/8" = 1'-0" it will be scaled back down to 1/8" high.

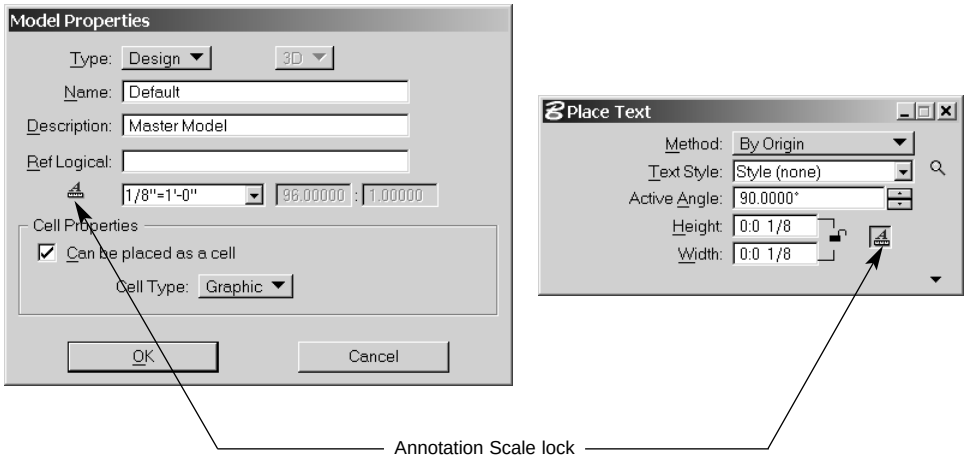



**Figure 8**
The Annotation Scale and Lock in the Model Properties Dialog Box and the Place Text Tool Settings Window

# Multi-snaps

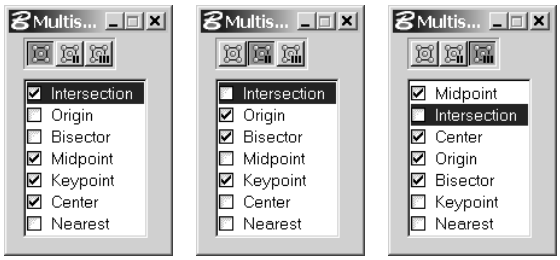
Multi-snaps are groups of snap modes that can allow more than one snap mode to be available for certain commands. There are three multi-snap groups that can store various combinations of snap modes. The snap modes available for multi-snaps include **Midpoint**, **Intersection**, **Center**, **Origin**, **Bisector**, **Keypoint**, and **Nearest**.

**Figure 9**
The Multi-snap 1 Snap Mode


## Multi-snap Sets

Multi-snaps sets store combinations of activated snap modes. To access Multi-Snap sets, choose **Settings > Snaps > Multi-snaps**, or select **Multi-snaps** from the **Snaps** pop-up menu. Multi-snap sets are saved as a user preference, however the default snap mode, even if set to a multi-snap, is saved to the design file with the **save settings** command.

**Figure 10**
Multi-snap Sets 1, 2 and 3

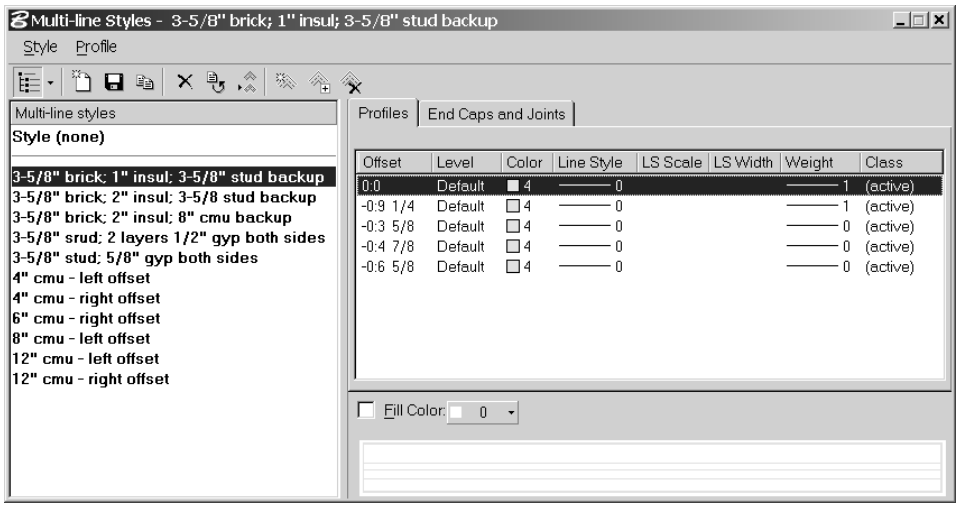



If a multi-snap is set as the default snap mode, it is only saved with the design file if the **Save Settings** command is invoked. However, the individual snap modes that are set within the Multi-snap groups are stored with the individual user's preference file.

## Multi-line Styles Dialog Box

Multi-line styles are defined in the Multi-line Styles dialog box. To access this dialog box, choose **Element > Multi-line Styles** in the MicroStation menu bar.

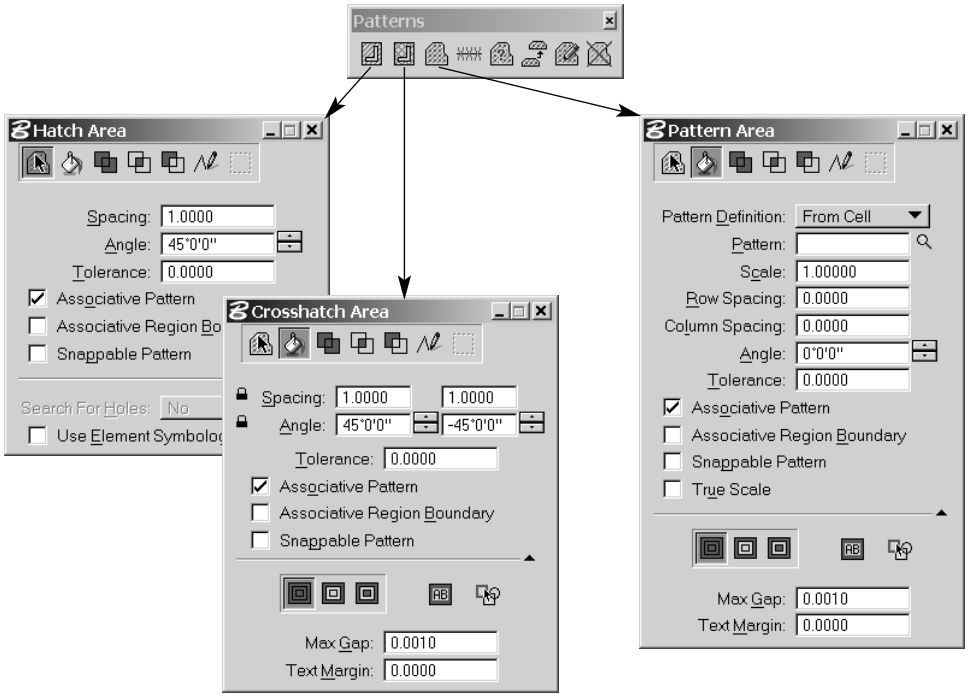
**Figure 11**
The Multi-line Style Dialog Box



## Pattern Tools

The **Hatch Area**, **Crosshatch Area** and **Pattern Area** tools fill an element or region with hatch pattern, crosshatch pattern or a cell pattern. The pattern boundary can reside in the active model or in an attached reference. You can define the spacing and angle of the hatch lines and other pattern settings in the Tool Settings window. These tools have been redesigned in MicroStation V8. The methods are now displayed as icons rather than pull-down menus.

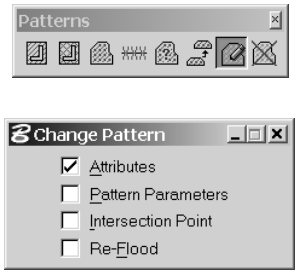
**Figure 12**
The Hatch Area, Crosshatch Area and Pattern Area Tools and Options




## Change Pattern

The **Change Pattern** tool changes the pattern settings of existing patterns including the attributes, parameters and intersection point. It can also recalculate the flooded area. The active pattern parameters and attributes can be set up and then applied to existing patterns.

**Figure 13**
The Change Pattern Tool and Options



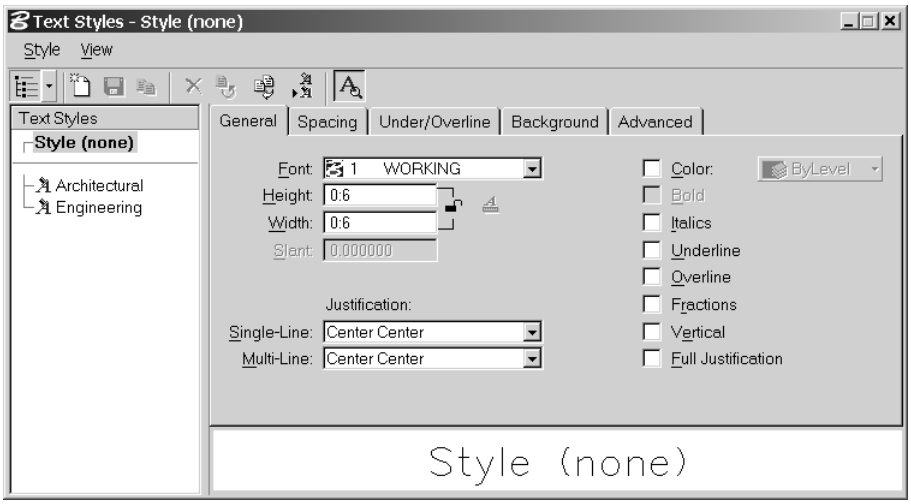
# Text Styles

MicroStation allows you to define and save **text styles** that can be applied to new and existing text. Text styles simplify text placement by predefining all text formatting options. When you activate a text style, MicroStation automatically sets up the active text parameters to match the text style, thereby eliminating the need to set individual text parameters each time you place text. Text styles can be activated in the Tool Settings window when you select a text placement tool.

## Text Styles Dialog Box

Text styles are defined in the Text Styles dialog box. To access this dialog box, choose **Element > Text Styles** from the MicroStation menu bar.

**Figure 14**
The Text Styles Dialog Box



## Place Note

The **Place Note** category of the Dimension Styles dialog box controls the appearance and placement of leaders and text used with the **Place Note** tool.

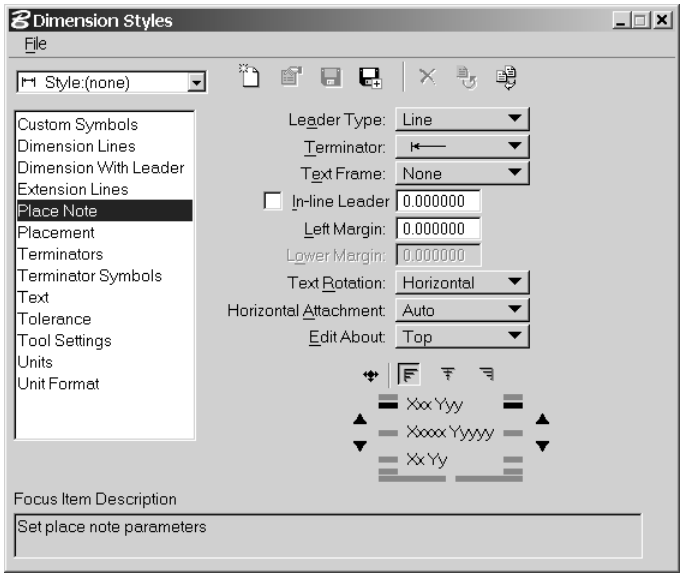



**Figure 15**
The Place Note Category of the Dimension Styles Dialog Box

# Linear Dimensioning

The **Linear Dimensioning** tool combines the functions of linear type dimension tools into a single tool. This tool allows you to place a linear dimension by identifying the linear distance points first, and then the dimension line location. This process is different from the typical process of selecting the dimension line location in the middle of the two distance (start and end) points. This added process is similar to that of AutoCAD®.

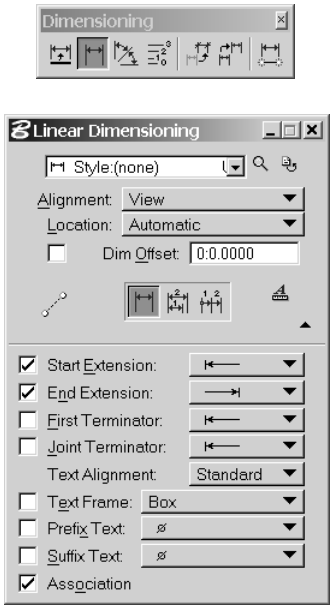



**Figure 16**
The Linear Dimensioning Tool and Options

# MDL Applications and Macros

The following are add-in MDL applications and macros for use with MicroStation, guaranteed to give your productivity a boost!

## SSCloud

**SSCloud** is an excellent MDL application (.MA) for creating revision clouds. This application, once loaded, can create new clouds or convert existing shapes into clouds. It does lack the ability to add triangles and text to create revision number markers, although this can be done within MicroStation.

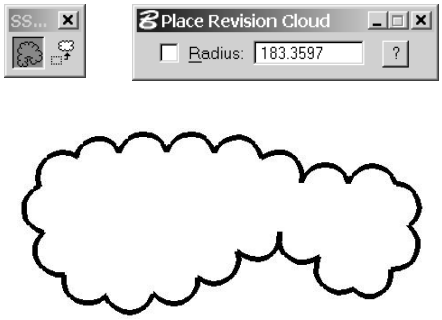



**Figure 17**
Placing a Revision Cloud

From an administrative point of view, **SSCloud** can be complicated to control. When the application is loaded for the first time, it creates the variables **MS_DGNAPPS** and **MS_CMDTABLE_LOAD** in the active user configuration file (.UCF). In addition, any existing definitions of these variables at the **system**, **application**, **site** or **project** level are added to the user configuration file (.UCF). To prevent the definitions at the user level from loading, it is recommended that you define **MS_DGNAPPS > sscloud** and **MS_CMDTABLE_LOAD = sscloud** in a **site** configuration file (.CFG).

Available from Salient Solutions: **http://www.nesin.net/salient/**

## ModZ

There are several methods to set elevations of existing objects to a specified value, such as **0**. This is also referred to as **flattening graphics**. You could use the scale Z to .000001 concept or the **Align Edges** tool. You could also use the **SetZ** or **SetElementZ** applications (.MA), however the **ModZ** application (.MA) works on more types of elements and has a “user-friendly” dialog box.

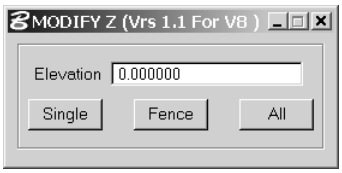



**Figure 18**
The ModZ Dialog Box

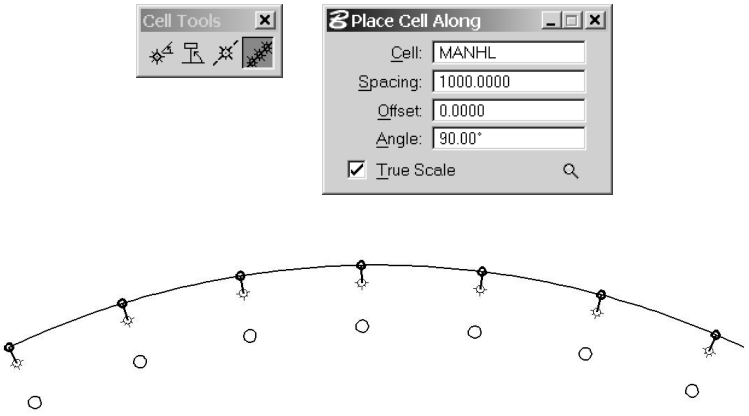
**ModZ** does not unload automatically by simply closing the dialog box. The first time it is loaded, the dialog box appears. The next time the application is loaded, the dialog box does not appear. To avoid this issue, run the key-in **mdl l modz:modifyz dialog**. It is recommended that you assign this key-in to a function key, toolbar or pull-down menu for easy access.

Available from Bob Biggar: **http://www.iddea.org/images/modz.zip**

## CellTool

The **CellTool** application (.MA) includes the **Place Cell and Rotate**, **Place Cell On and Rotate**, **Place Cell On** and **Place Cells Along** tools, and can be thought of as an extension of the **Points** toolbar in MicroStation. **Place Cells Along**, for example, is an excellent tool for placing cells along an element even with an offset distance.

**Figure 19**
Placing Cells Along an Element

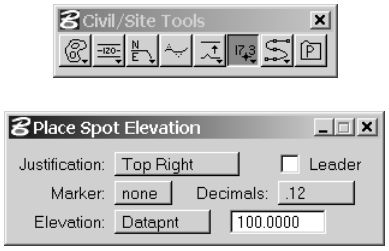



Available from Bentley Systems, Inc.: **http://microstation.bentley.com/resources/utilities.cfm**

## CivTools

The CivTools application (.MA) provides several tools typically used in civil engineering design files. It includes the **Place Contour**, **Label Contour**, **Place Coordinate**, **Modify Contour**, **Set Element Elevation**, **Place Spot Elevation**, and **Place Composite Curve** tools.

**Figure 20**
The Place Spot Elevation Tool and Options




Available from Bentley Systems, Inc.: **http://microstation.bentley.com/resources/utilities.cfm**

## TextUtil

The **TextUtil** application (.MA) assists in placing and modifying text elements. It can change case, angles, apply prefixes and suffixes, drop lines of text, place coordinates and apply grade elevation boxes. To access the **TextUtil** commands, run the corresponding key-ins that appear in the Key-in window once the application is loaded.

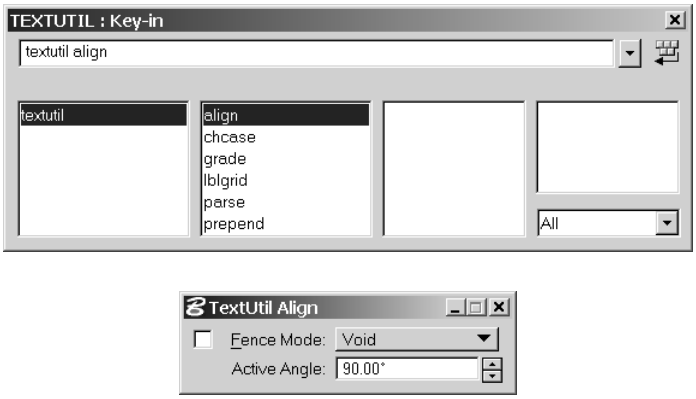



**Figure 21**
Accessing the TextUtil Align Command from the Key-in Window

Available from Advanced CAD Services, Inc.: **http://www.acsnb.com/downloads.php**

## CellClip

This simple macro (.BAS) deletes elements that exist behind cells using the predefined built-in cell shape or the cell range. The figure below is an example of clipping wall that exists behind a newly placed door.

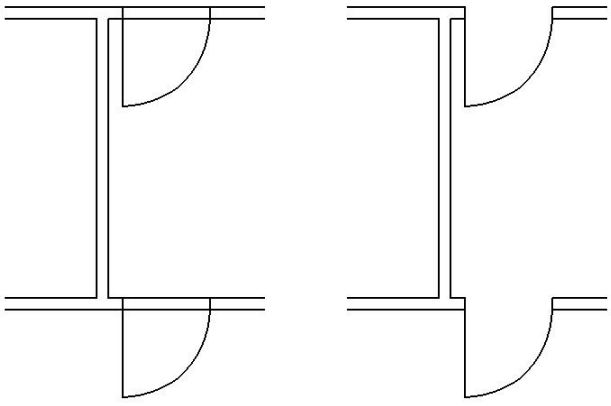



**Figure 22**
Clipping Elements with the CellClip Utility

Available from Advanced CAD Services, Inc.: **http://www.acsnb.com/downloads.php**

## Pipend

The **Pipend** application (.MA) places a break symbol at the end or middle of a pipe. This command will run regardless of size or rotation of the pipe.

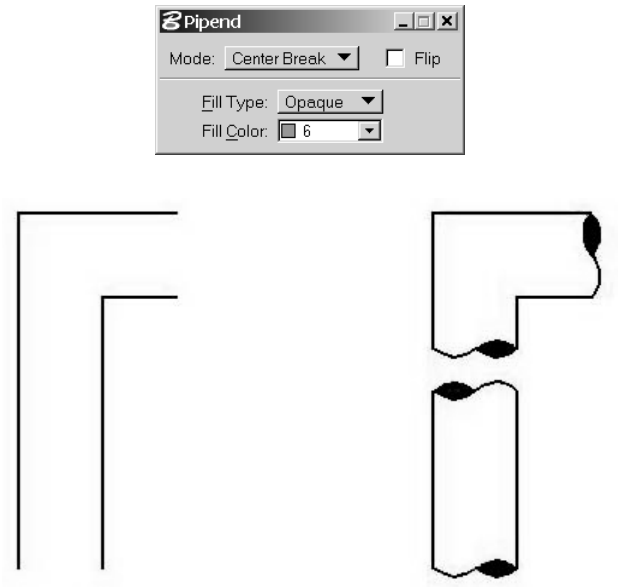



**Figure 23**
Using the Pipend Utility to Place a Break Symbol

Available from Advanced CAD Services, Inc.: **http://www.acsnb.com/downloads.php**

# Courseware Available from ProSoft

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*Bundles include a reference manual and discipline-specific exercise workbook.