What’s New in MicroStation V8.5
2004 Edition

Presented by:
Pam Roberts – CAD Assist
&
Greg Roberts - TranSystems
# Table of Contents

Windows File Selection Dialog Boxes ................................................................. 4  
MicroStation Manager ......................................................................................... 5  
Primary Tools ...................................................................................................... 11  
Multi-snaps ......................................................................................................... 12  
  Multi-snap Settings ........................................................................................... 12  
  Multi-snap 1 ..................................................................................................... 13  
Text Style ........................................................................................................... 14  
  Hierarchy Tree .................................................................................................. 16  
  Preview ............................................................................................................ 16  
  Right-click options ......................................................................................... 17  
Place Text .......................................................................................................... 18  
  Setting the Annotation Scale ........................................................................ 19  
  Annotation Scale Lock .................................................................................. 19  
  Tabs and indents ............................................................................................ 20  
Edit Text ............................................................................................................ 20  
Dimension .......................................................................................................... 22  
  Dimension Styles .......................................................................................... 22  
**Dimensioning** ............................................................................................ 28  
  Dimension Linear .......................................................................................... 36  
  Angular Dimensions ...................................................................................... 40  
  Dimension Ordinates .................................................................................... 44  
  Dimension Ordinates .................................................................................... 45  
  Change Dimension ....................................................................................... 48  
  Reassociate Dimension .............................................................................. 48  
  Dimension Audit ............................................................................................ 49  
Place Note ......................................................................................................... 54  
Multi-line Styles ............................................................................................... 55  
  Import to Active DGN -> Multi-Line Styles .................................................. 56  
Patterns ............................................................................................................. 57  
  Hatch Area .................................................................................................... 58  
  Modify Pattern .............................................................................................. 63  
Compression Options ....................................................................................... 64  
Checking for Standards Compliance ............................................................... 65  
Reference Enhancements ................................................................................... 65  
Printing Enhancements ..................................................................................... 65
New with MicroStation V8.5 you change the Workspace -> Preferences the Look and Feel category to Use Windows file Open Dialogs.

By toggling this switch **ON**, you will see changes to the MicroStation Manager, File New, File Open and Save As.

While Use Windows File Open Dialogs is on, by pressing **<SHIFT-Esc>** will close that dialog box and reopen it in the default style.
MicroStation Manager

Let’s explore each section of the Windows File Selection Dialog Box. If you are familiar with Windows – using these boxes will be basically same. Bentley has added some of the MicroStation commands.

Look in:

This is a standard Windows feature. The Look in section allows you to select the directory or drive to view files.

Go To Last Folder Visited

The Arrow icon is the Go To Last Folder Visited. This will move you back to the folder you were at before you change directory. Of course it doesn’t do anything if you have not change the directory.
Up One Level

This is a standard Windows feature. The Up One Level icon will move your current view up one directory in your tree.

Create New Folder

This is a standard Windows feature. This will allow you to a new folder under your current directory.

When you click the icon – you will see the New Folder and will be able to rename the folder.

If you miss the opportunity to rename the folder – just right click on the New Folder name and select Rename. Notice too all the other standard window options which are available from the Right Click.
View Menu

This is a standard Windows feature. You can change the way you view the files in the folder.

**Thumbnails**
Shows a preview of the drawing.

**Tiles**
Show the icons next to the file named, the type of file and size of file tiled in the box.

**Icons**
The icons option shows the icon for the type of file and the name of the file.

**List**
The List option again shows the icon and the name of the file.

**Details**
The details option shows the Name, Size, Type and Date Modified.
New File

A MicroStation icon to Create a new file.

After selecting the icon, the New dialog box will appear.

Key in the name of the new file in the filename section.

**Save as type:**

This section allows you to choose if you are creating a MicroStation DGN file or and AutoCAD DWG file.
Seed:
To change the active seed file select the Browse button.

Select the seed file to be used. Then click the Open button.

Tools
The Bentley “B” button has some of MicroStation file management commands; such as: Compress, Upgrade to V8,…, Set default seed file and the lower section remember the last files opened.

Note: The Compress command has been enhanced. This will be covered in a different section of the guide.
Directory History

This is a MicroStation icon which allows you to select the directory Configuration Variable and also saves the history of the directories used.

File of type:

The File of type section allows you to filter the type of drawings in the current directory. This list contains the standard type of files in which MicroStation supports.

Open as read-only

The open as read only is a toggle box. If you click this option with your left button on your mouse, MicroStation will allow you to open a file as read-only. This means you cannot modify the file in which you open. You will only be able to View and Plot the file.
The Primary Tools menu has been updated to add the down arrows next to Models, References, Raster Manager, Level Manager, Level Display, Cells and Key-in. If you click on the icon the dialog box opens, but if you click on the down arrow next to the icon, the dialog box opens directly underneath the icon. You are now able to make the changes in the box, but when you move the cursor outside the dialog box it will close.
We now have three new snap modes called multi-snap 1, multi-snap 2 and multi-snap 3. You can customize these snap modes to use a list of snap modes such as Keypoint, Intersection and Nearest. As you move cursor over the elements MicroStation will indicate which snap mode is active.

You can access the multi-snaps from the status bar – click on the snap section.

On the Button Bar the multi-snaps are the last three icons.

You can also select the Settings -> Snaps pull down menu.

**Multi-snap Settings**

For each of the three multi-snaps you can toggle on and off: Intersection, Origin, Bisector, Midpoint, Keypoint, Center and Nearest. Click on the icon at the top of the box to customize each snap mode.
Multi-snap 1

In this example, Multi-snap 1 settings are set to Intersection, Keypoint and Nearest ON. As you move your cursor over the objects you will see the current snap mode in which is being used.

As you slide my cursor over the intersection you will see the snap mode change to Intersection.

As you slide to the corner of the box the snap mode will change to Keypoint.

And then as you just slide around on the objects; the snap mode will again change to Nearest.
Text Style

The Text Style dialog box has been total redesigned. The dialog box now includes tabs to group together Text Style parameters. They also added a Hierarchy Tree and Preview Text Icon.

![Text Style dialog box]

**General**

- **Line Length**: 255
- **Line Spacing**: 0.5000
- **Line Spacing Type**: Exact
- **Intercharacter**: 0.0000
- **Line Offset X**: 0.0000
- **Line Offset Y**: 0.0000

**Spacing**

- **Fixed Spacing**
- **Backwards**
- **Upside Down**
- **Super Script**
- **Sub Script**
### Under/Overline

- **Use Style Below**
  - Offset: 0.0500
  - Color: 0
  - Style: 0
  - Weight: 0

- **Use Style Below**
  - Offset: 0.0500
  - Color: 0
  - Style: 0
  - Weight: 0

### Background

- **Background**
  - Fill Color: 0

#### Background Border:
- Offset X: 0.0000
- Offset Y: 0.0000
  - Color: 0
  - Style: 0
  - Weight: 0

### Background

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Parent</th>
<th>Override</th>
</tr>
</thead>
<tbody>
<tr>
<td>Style Name</td>
<td>Style (none)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent Style Name</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Font</td>
<td>ENGINEERING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width</td>
<td>0.2500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>0.2500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slant Angle</td>
<td>0.000000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line Spacing</td>
<td>0.5000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter Character Spacing</td>
<td>0.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color Value</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Advanced
**Hierarchy Tree**

The Hierarchy Tree list the text styles and child text style in the form of a tree. This option can be toggled On/Off by clicking the Toggle Hierarchy Tree.

![Hierarchy Tree Off/On](image)

**Preview**

The preview window can also be toggled On/Off by selecting the Toggle Preview Icon.

![Preview On/Off](image)
Right-click options

Right-click options have been added to several MicroStation dialogs. On the Text Styles dialog right-clicking a style name opens a pop-up menu. This pop-up menu has the options for Activate, New Child, Save, Copy, Rename, Delete and Reset.
A new lock has been added to the Place Text tool setting box – Annotation Scale Lock.

With the Annotation Scale lock On, the annotation scale is applied to any text placed in the model.

Use the Model Properties dialog box to define the Annotation Scale from the. The Annotation Scale sets the scale for the text and dimensions.
Setting the Annotation Scale

When creating a New Model you can set the Annotation Scale. Or if the Model already exists select the Edit Model Properties.

Select the scale of the final plot. By using this Annotation Scale feature, you later change the scale and update all the text.

Annotation Scale Lock

For the Annotation Scale feature to work with the text, the Annotation Scale Lock must be On.
Tabs and indents

Indents and Tabs have been added to MicroStation V8.5. This word processor has a ruler that works like a basic word processor. Right-click on the ruler to access the Indents and Tabs Settings.

![Indents and Tabs Settings](image)

**Edit Text**

A new shortcut has been added to editing to text. When using the **Element Selection** tool on text. Double click on the text and it will initiate the Edit Text command.

![Shortcut for editing text](image)
Shortcut for editing test
DIMENSION

Dimension Styles

In this session we will cover the changes made to the Dimension Styles.

Place Note

Terminator – You can have a different terminator for the Place Note. Select the desired terminator or create a custom symbol from the Terminator Symbols.

Inline Leader - Toggles on the inline leader. Define the length in working units.

Left Margin - Defines the distance between the endpoint of the leader and the text. Define the Left Margin in working units.

Lower Margin – Only active if Text Frame defined. The Lower Margin defines the distance between the top and bottom margins of the text, and the top and bottom edges of the text frame.

Horizontal Attachment- Defines how the note text is attached to the leader.
  
  • Left – the note text will attach to left side of the leader.
  
  • Right - the note text will attach to right side of the leader.
  
  • Automatic – the note will automatically be positioned to the left or right of the leader.
**Edit About** - Sets the position of the vertical origin to edit text about. If you need to see the Edit About point, turn on the Text Nodes in the view attributes box (CTL+B or Settings -> View Attributes).

- Top
- Center
- Bottom
- Dynamic

**Justification** – Set the alignment of multiple lines of text. The preview graphics shows the justification settings.

The top row of Justification buttons:

- Dynamic Justifies
- Left
- Center
- Right

The Leader Placement for Left, Center and Right:

- Leader at Top Text
- Leader at Top Line
- Leader at middle
- Leader at Bottom Line
- Leader at Bottom Text
- Leader as underline
Placement

The **Geometry Scale** section has been added to the Placement of the Dimension Styles.

Use Annotation Scale will use the scale set in the Model.

Override will apply a scale factor to the dimensions.
**Text**

**Orientation** has two options:

- Aligned – the text will be aligned with the dimension line.
- Horizontal – the text will be placed horizontal.

**Annotation Scale Lock** - On or Off.

**Underline** – To underline the dimension text.
Unit Format

Unit Separator: Select how you want to separate the thousandths and millionths.

Use Stacked Fractions
Settings... Button opens the Stacked Fractions dialog box.

Type:
- From Font – Works with MicroStation fonts
- Horizontal – Stacks True Type fonts with horizontal line.
- Diagonal - Stacks True Type fonts with diagonal line.

Alignment – The Type must be set to Horizontal to select:
- Top

\[ 6 \frac{1}{2} \]
- Center

\[ 6 \frac{1}{2} \]
- Bottom

\[ 6 \frac{1}{2} \]

Scale — The scale of the fraction.
Import to Active DGN -> Dimension Styles

If you have the dimensions per defined in your Settings -> Manage, you can import them into your active design.

Open Settings -> Manage

Select File -> Edit

From the Edit V7 Settings – select

File -> Import to Active DGN -> Dimension Styles
The Dimensioning tool bar has been updated in version 8.5. If you don’t want to use the new dimensioning tools you can still access the original tool from the Tools -> Dimension tool menu.

Also be careful when using the dimensioning tool – the order of the pick has been change. WOW – you need to read the prompts. The AutoCAD users will love this, because it works more like AutoCAD.

You can change the MicroStation pick points by editing you configuration variable: MS_DIMLEGACYPPOINTORDER to 1.
Dimension Element

Key-In: DIMCREATE ELEMENT

**Reset Style** – Restores the settings from the Dimension Style settings box. So if you override any of the settings from this tool settings box, you can quick reset the dimension style.

**Next**

*Where did the Next button GO?* The Next button has been replaced with icons. Depending on what type of element you select with the dimension Element command – either linear or circular.

**Annotation Scale Lock**

You again have the Annotation Scale Lock available to toggle on or off.
Dimension Element - Linear

Prompts:
Dimension element > Select element to dimension (Tool will change depending on element type)
Dimension Linear Size > Select location of dimension, Accept/Reset
Label Line
The Label Line command is used to label the Length and/or Angle. New settings have been added to define the Label Line results.

**Label Line settings:**
Length / Angle

<table>
<thead>
<tr>
<th>Length Above</th>
<th>Angle Above</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 1/2&quot;</td>
<td>0°</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Angle / Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>0°</td>
</tr>
<tr>
<td>8 1/2&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Length Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 1/2&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Angle Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>0°</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Length Angle Above</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 1/2&quot; 0°</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Length Angle Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 1/2&quot; 0°</td>
</tr>
</tbody>
</table>

**Prompts:**
Dimension element > Select element to dimension (Tool will change depending on element type)
Label Line > Select location of dimension, Accept/Reset
Dimension Size Perpendicular to Line
When selecting a linear element – the
Dimension size Perpendicular to Line – the
command will create a perpendicular dimension
line from the linear element.

Prompts:
Dimension element > Select element to
dimension (Tool will change depending on
element type)

Dimension Size Perpendicular to Line > select
location of dimension, Accept/Reset

15\text{\footnotesize$\frac{3}{8}$}
Element Dimension - Circular

Dimension Radius

**Prompts:**
- Dimension element > Select element to dimension (Tool will change depending on element type)
- Dimension Radius > Select location of dimension, Accept/Reset

**Center Mark** – Toggle on to place a center mark when dimensioning circular elements.
Dimension Diameter (Extended Leader)

The Dimension Diameter Leader will actually do two dimensions. If you use this tool and place the dimension outside the element, you will dimension the element with an extended leader. You can also use this tool and click to place dimension inside the element and the results will be an interior dimension. See the examples.

Prompts:

Dimension element > Select dimension (Tool will change depending on element type)

Dimension Diameter (Extended Leader) > Select location of dimension, Accept/Reset

(Extended Leader) click to element – with an this same inside the interior below.

DATA point placed outside element  DATA point placed inside element
Dimension Diameter Parallel

Dimension Diameter Parallel will place the diameter dimension parallel to the element either in the horizontal or vertical.

**Prompts:**

Dimension element > Select element to dimension (Tool will change depending on element type)

Dimension Diameter Parallel > Select location of dimension, Accept/Reset
Dimension Linear

Dimension Linear allows the user to place the dimension line in between to points. This command does not require you to select an element, so be accurate and select the exact point using AccuSnap or a Tentative Point.

Select Multiple Elements

Another new feature to V8.5 is that you can select multiple elements to dimension at one time. By stretching a line across the elements, each endpoint of the crossed line will be dimensioned. You can also select additional line by holding down the control key and stretching the line across more elements.
Linear Size

Prompts:
Dimension Linear Size > Select start of dimension Point #1
Dimension Linear Size > Select dimension endpoint Point #2
Dimension Linear Size > define length of extension line Point #3
Linear Stacked

Prompts:
Dimension Location [Stacked] > Select start of dimension Point #1
Dimension Location [Stacked] > Select dimension endpoint Point #2
Dimension Location [Stacked] > define length of extension line Point #3
Dimension Location [Stacked] > Select dimension endpoint Point #4
Dimension Location [Stacked] > Select dimension endpoint Point #5
Linear Single

Prompts:
Dimension Location > Select start of dimension Point #1
Dimension Location > Select dimension endpoint Point #2
Dimension Location > Define length of extension line Point #3
Dimension Location > Select dimension endpoint Point #4
Dimension Location > Select dimension endpoint Point #5
Angular Dimensions

Angle Size

Prompts:
Dimension Angle Size > Select start of dimension Point #1
Dimension Angle Size > Enter point on axis Point #2
Dimension Angle Size > Select dimension endpoint Point #3
Dimension Angle Size > Define length of extension line Point #4
Dimension Angle Size > Select dimension endpoint Point #5
Angle Location

Prompts:
Dimension Angle Location > Select start of dimension Point #1
Dimension Angle Location > Enter point on axis Point #2
Dimension Angle Location > Select dimension endpoint Point #3
Dimension Angle Location > Define length of extension line Point #4
Dimension Angle Location > Select dimension endpoint Point #5
Angle Between lines

Prompts:
Dimension Angle Between Lines > Select first line Point #1
Dimension Angle Between Lines > Select second line Point #2
Dimension Angle Between Lines > Select location of dimension, Accept/Reset Point #3
Arc Size

Prompts:
Dimension Arc Size > Select start of dimension
Dimension Arc Size > Select dimension endpoint
Dimension Arc Size > Define length of extension line
Dimension Arc Size > Select dimension endpoint
Arc Stacked

Prompts:
Dimension Arc Location > Select start of dimension
Dimension Arc Location > Select dimension endpoint
Dimension Arc Location > Define length of extension line
Dimension Arc Location > Select dimension endpoint
Dimension Ordinates

Ordinate Unstacked

Prompts:
Dimension Ordinates > Select ordinate origin
Point #1
Dimension Ordinates > Select ordinate direction
Point #2
Dimension Ordinates > Select dimension endpoint
Point #3
Dimension Ordinates > Select dimension endpoint
Point #4
Dimension Ordinates > Select dimension endpoint
Point #5
Ordinate Stacked

**Prompts:**
Dimension Ordinates > Select ordinate origin
*Point #1*

Dimension Ordinates > Select ordinate direction
*Point #2*

Dimension Ordinates > Select dimension endpoint
*Point #3*

Dimension Ordinates > Select dimension endpoint
*Point #4*

Dimension Ordinates > Select dimension endpoint
*Point #5*
Ordinate Free Location

Prompts:
Dimension Ordinates > Select ordinate origin
Point #1
Dimension Ordinates > Select ordinate direction
Point #2
Dimension Ordinates > Select dimension endpoint
Point #3
Dimension Ordinates > Select dimension endpoint
Point #4
Dimension Ordinates > Select dimension endpoint
Point #5
Change Dimension

The Change Dimension command is used to change the dimension style of the selected dimension. Select the dimension style and click on the dimension to be changed.

Prompts:
Change Dimension > Identify element
Change Dimension > Accept/Reject [select next input]

Reassociate Dimension

The Reassociate Dimension is used to associate the dimension back to the element.

Prompts:
Reassociate Dimension > Select Dimension
Reassociate Dimension > Reassociated 1 of 1 selected dimensions, ACCEPT or REJECT changes
A new utility - Dimension Audit is used to search the active model and report any problems with the dimensions. After selecting the Utilities -> Dimension Audit command the Dimension Audit tool box will appear. The tools control the appearance of the results of Dimension Audit.

Key-In: DIMENSION AUDIT

Let’s review each icon on the Tool Box.

**Dimension Audit Find**

The First icon with the dimension and the green check mark is the Dimension Audit Find. This will run the Dimension Audit based on the toggles, which are the following icons.
Find Overridden Text

With this toggle on, the Dimension audit will locate and dimension text that has been edited.

If MicroStation locates problems, you will see the count of the problems in the tool box. Click the down arrow to view a report of the problem.

To review the problem, click the Next Item button. MicroStation will zoom in on the dimension and place a highlighted circle around the edited dimension text.
Find Dropped Dimensions

Toggle ON the Find Dropped Dimensions to view any dimension that has been dropped. After toggling the icon on – click the first icon again the run the Dimension Audit.

After running the Dimension Audit again you again click the Next button to review any dropped dimensions. MicroStation will again zoom in on the problem dimension and place a highlighted circle around the dimensions.
Find Non-Associative Dimensions

Toggle ON the Find Non-Associative Dimensions to find dimensions that were place without snapping to elements or with the association lock off.

Again run the Dimension Audit and click the Next button to review the Non-associative Dimensions.
Find Lost Associations

Toggle the Find Lost Associations ON and MicroStation will locate any dimensions placed and the element it was associated no longer exists.

Click the Next button to view any problems.
**Place Note**

MicroStation v8.5 has enhanced the Place Note command to include new settings to:

- Restore Style
- Text Rotation – Horizontal, Vertical, In-Line
- Annotation Scale
- Location – Automatic or Manual
- Leader Type – Line or Curve
- Start At – Terminator or Text
- In-line Leader Toggle – the segment of leader is aligned with the text.
Another new feature??? Not really Multi-line Styles have been around since MicroStation version. Before this release we were able to access the multi-line styles from the settings manager. Now the new improved Multi-Line Styles can be accessed from the Element -> Multi-line Styles dialog box. This box works very much like Text Styles and Dimension Styles.

The definition of a Multi-Line can contain 16 components or as defined in the Multi-line dialog box Profiles. We will now go through all the steps to create a new Multi-line style name.
Import to Active DGN -> Multi-Line Styles

If you have the multi-line per defined in your Settings -> Manage, you can import them into your active design.

Open Settings -> Manage

Select File -> Edit

From the Edit V7 Settings – select

File -> Import to Active DGN -> Multi-Line Styles
Patterns

There are enhancements to hatching and patterning tools in V8.5:

Selecting patterning methods
The Tool Settings window for hatching and patterning tools has an icon bar that is used to choose the method — element, flood, intersection, etc.

Hole processing
When hatching or patterning an element, you can control the manner in which the tool searches for holes.

Interior shapes processing using the Flood method
When hatching or patterning using the Flood method, you can set the tool to ignore interior shapes, locate interior shapes, or identify alternating interior shapes.

Selecting pattern definitions
The controls in the Tool Settings window for selecting a pattern definition are improved.
Hatch Area

Element

The first icon on the Hatch Area tool settings box is Element. Use this command to hatch closed elements such as circles, blocks, polygons or complex shapes.

Prompts:
Hatch Area > Identify element
Hatch Area > Accept @pattern intersection point

Note: The first point can be anywhere on the element. The second point is important because it tells MicroStation where one of the hatch points will connect. Notice on my example I snapped to the corner of the element for the 2nd point. This made my hatch connect to the corner.
Flood

The second icon on the Hatch Area tool settings box is Flood. This command has five new options for flooding elements:

- Ignore Interior Shapes
- Locate Interior Shapes
- Identify Alternating Interior Shapes
- Locate Interior Text - Toggle
- Dynamic Area Locate - Toggle

Ignore Interior Shapes

Prompts:
Hatch Area Enclosing Point > Enter data point inside area
Hatch Area Enclosing Point > Accept/Reject (Ctrl+Data to select)

1. Pick Point #1 inside the area to be hatched.
2. The second point can be picked in where on the drawing area.
Locate Interior Shapes

Prompts:

Hatch Area Enclosing Point > Enter data point inside area

Hatch Area Enclosing Point > Accept/Reject (Ctrl+Data to select)

1. Pick Point #1 inside the area to be hatched.
2. The second point can be picked in where on the drawing area.

Notice this time MicroStation did not hatch through the shapes inside the area.
Identify Alternating Interior Shapes

Prompts:

Hatch Area Enclosing Point > Enter data point inside area

Hatch Area Enclosing Point > Accept/Reject (Ctrl+Data to select)

1. Pick Point #1 inside the area to be hatched.

2. The second point can be picked in where on the drawing area.

Notice this time MicroStation hatched ever other section.
**Locate Interior Text**

The Locate Interior Text is a toggle to identify text inside of the area. If the toggle is On MicroStation will not hatch through the text. If the toggle is Off MicroStation will ignore the text and hatch through it. You also have a setting to adjust the Text Margin. This toggle will work with any of the three flood methods previously discussed.

Let’s look at these tow examples. In first on we have the Locate Interior Text On and the Associative Pattern lock On. MicroStation locates the text and places a shape around the text and then hatches the element.

In the second example we have turned off the Associative Pattern Lock and MicroStation does not put a shape around the text.
Modify Pattern

This is a new command in V8.5. The tool tip calls the command Modify Pattern, but when you select the command – the tool setting box calls the command Change Pattern.

There are four toggles for changing the Pattern.

- Attributes
- Pattern Parameters
- Intersection Point
- Re-Flood

Attributes

When you hatch elements, MicroStation uses the active attributes to place the hatch. Change Pattern command with the Attributes toggled On, will allow you to update the color, weight, line style and level of the hatch.

Pattern Parameters

The Pattern Parameters toggle will allow you to change the pattern to the active settings.

Note: The settings are not on the tool settings so you will need to go back to either Hatch, Cross Hatch or Pattern to adjust the parameters.

Intersection Point

Remember I told you that the 2nd point when patterning or hatching sets the intersection point. By toggling On Intersection Point, you can change the Intersection point.

Re-Flood

The Re-Flood toggle allows you to flood the pattern again after something has been modified.
You can delete or purge empty and unused data resources from the open DGN file as well as deleted elements.

The **File -> Compress -> Options** dialog box allows you to select from the list the types of resources for deletion:

- empty cell headers
- empty text elements
- text elements that contain only space characters
- unused shared cells
- unused line styles
- unused dimension styles
- unused text styles
- unused levels
- unused fonts
Checking for Standards Compliance

MicroStation V8.5 introduces a utility, Standards Checker, which enables you to check DGN files for compliance with pre-defined standards.

The utility has the capability to check compliance with standards for usage of the following:

- levels
- dimension styles
- text styles
- line styles

Reference Enhancements

MicroStation V8.5 includes several enhancements that improve the process for managing and attaching references.

Enhancements to the References dialog box include:

- a nested references tree
- an information panel that displays reference settings
- the Copy/Fold Reference tool
- additional columns in the list box
- ability to edit slot numbers

Printing Enhancements

One of the most significant enhancements in MicroStation V8.5 is support for generating output in PDF format. PDF (Portable Document Format) developed by Adobe, rapidly has become an industry standard format for electronic publishing.