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Chapter 5 Annotation

Introduction

Annotation, as it pertains to this chapter, includes both text and dimensions. This chapter will outline the text styles and dimension styles in use at EFLHD, as well as some of the key settings associated with these styles.

Text

MicroStation 2004 gives the user the ability to save the various text settings as a text style. With MicroStation 2004 text styles the user no longer needs to set text parameters such as text font, height, width, etc. each time text is needed. Each of these settings are saved within a text style.

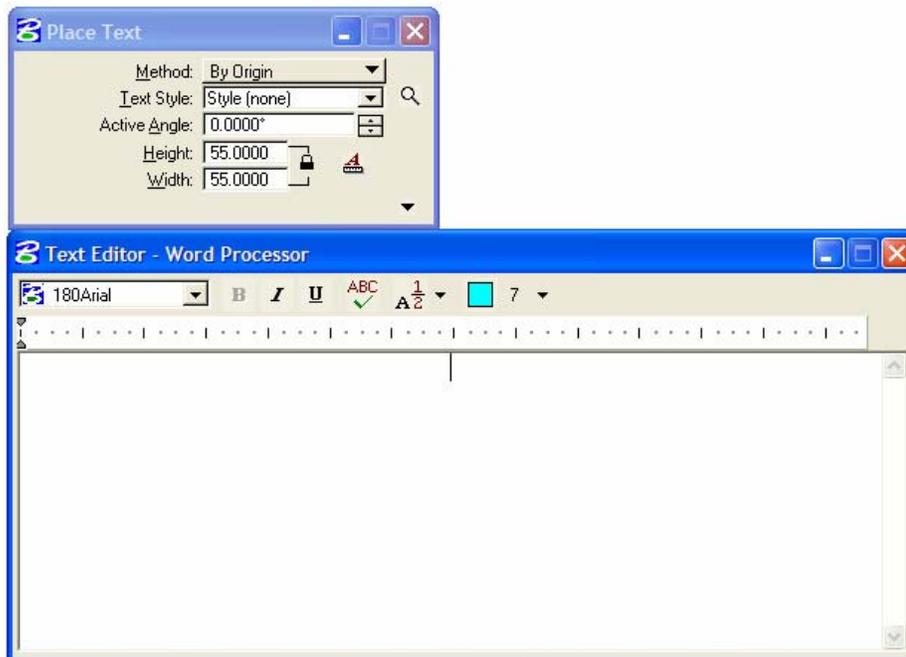


Figure 5-1: Place Text

In the example above, the user has selected the place text tool. The tool settings window, shown above, allows the user to select the correct text style, the Text Editor – Word Processor also becomes active allowing the user to begin annotating the design file.

Also new with Microstation 2004 Edition is **annotation scale**. Annotation scale allows the user to set an annotation scale for the current model allowing text to be scaled to fit the desired output. With this tool, the drawing elements are at a 1:1 scale, but the text will be placed to fit the final scale of the drawing. This also allows EFLHD to have 1 text style for each type of text; title, standard, italic, non-italic, etc., rather than 1 for each type and each scale within each type. For consultants, Annotation



scale definition files are available through the **CADD_Resources_V8.zip** download. Annotation scale definition files for U.S. Customary and Metric units can be found on the EFLHD designers local computer at:

M:\Cadd_resource_v8\X_30\Standards (English or Metric)\

At EFLHD there is 1 text style for each italics and non-italics for both standard text and title/heading text, for both English and Metric EFLHD projects. This is a total of 4 text styles for English and 4 for Metric.

The main attributes of each are the text height, width, and line spacing, at a scale of 1"=100' for U.S. Customary and 1:1000 for Metric, and the font. **Federal Lands Highway will use the Verdana true type font for all projects.**

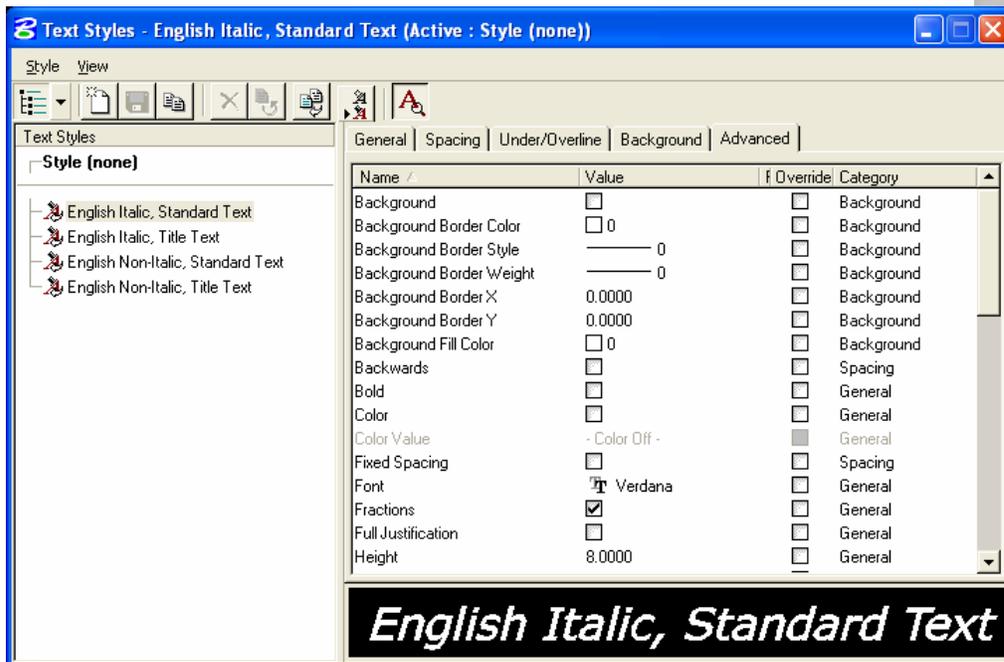


Figure 5-2: EFLHD Text Styles

As mentioned above, available in Microstation 2004 Edition is the use of true type fonts and AutoCAD .shx fonts. Microstation will automatically find true type fonts installed on each computer in the operating system \fonts directory, and will find AutoCAD .shx file in the AutoCAD system \fonts directory. The original Microstation fonts are still available for use.



EFLHD text styles are contained in 2 Libraries called **eflhd_eng_text_styles.dgnlib** and **eflhd_met_text_styles.dgnlib**.

For consultants, EFLHD text style libraries are available through the **CADD_Resources_V8.zip** download. The EFLHD DGN library can be found on the EFLHD designers local computer at:

M:\Cadd_resource_v8\X_30\Standards\Library_Files\



DGN Libraries are the containers for 3 important features in MicroStation V8. These include: Levels, Text Styles and Dimension Styles. With the DGN library attached each of these will be available to the user. For EFLHD employees, DGN Libraries are automatically attached while opening a design file using the Project Configuration (*.pcf). For EFLHD consultants, using the Project Configuration (*.pcf) files provided with the **CADD_Resources_V8.zip** download will automatically attach the dgn libraries.

Workflow 1: Manually attaching the EFLHD DGN Library

1. *Select Workspace>Configuration from the main Microstation pull down menus*

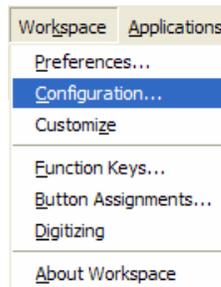


Figure 5-3: Workspace Menu



*2. In the Workspace configuration list, select
MS_DGNLIBLIST*

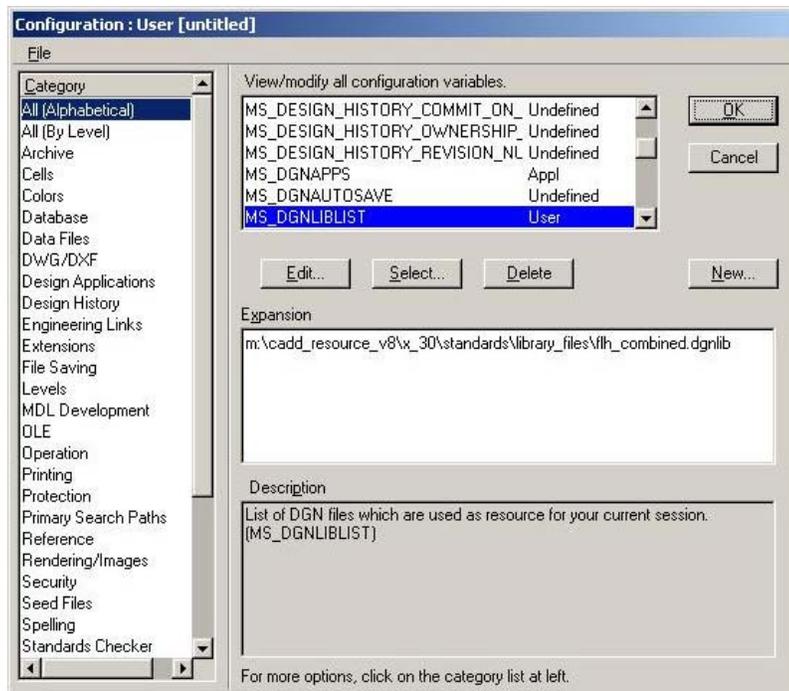


Figure 5-4: DGNLIBLIST Configuration Variable

*3. Choose the select button, and path to the location of
the DGN Library.*



4. *Select the library and click the Add button to add the file to the File List section in the bottom of the dialog box.*

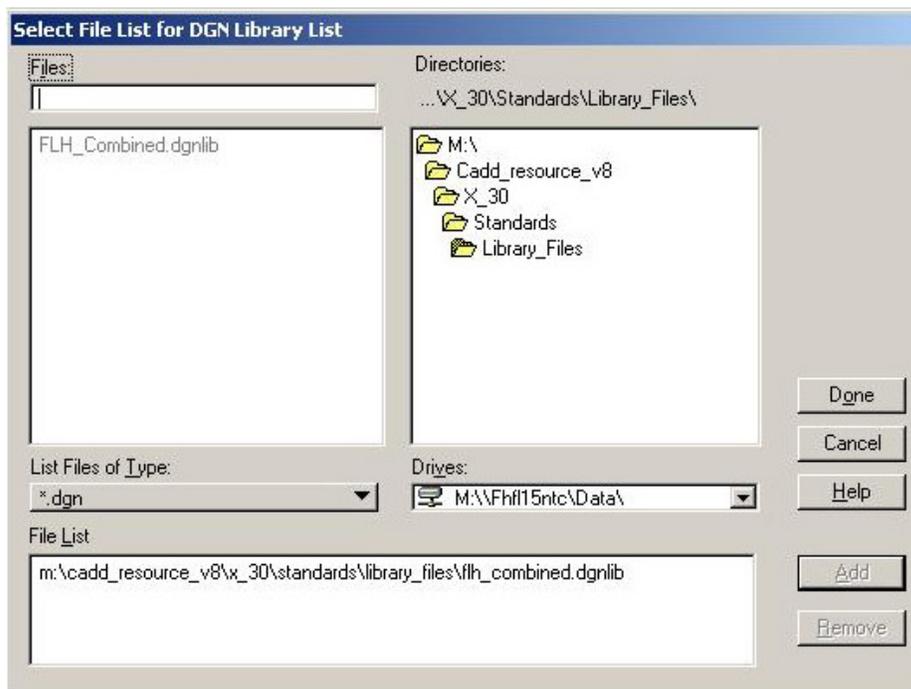


Figure 5-5: Select DGN Library

5. *Select Done.*



6. *When prompted to save changes to workspace, select Yes.*

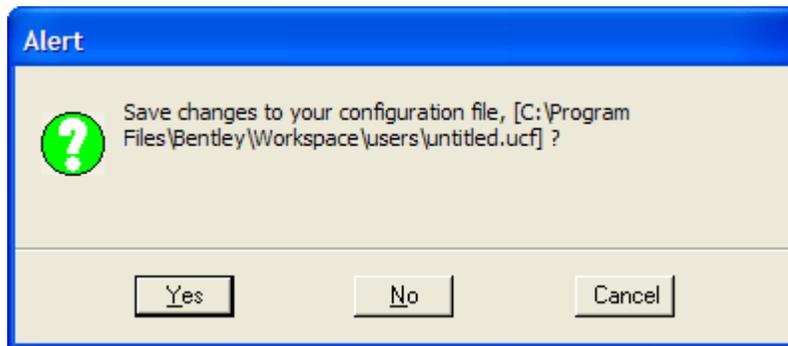


Figure 5-6: Microstation Alert Dialog

7. *In order for these changes to take affect you must exit Microstation and restart.*



Workflow 1 - Manually attaching the EFLHD dgn library is for information only. EFLHD designers should not manually attach or edit configuration variables. For EFLHD, the CADD Coordinator sets the configuration variables.



Workflow 2: Annotation Scale, Setting the Model Properties

(See the section on the use of models on page 1-4.)

1. From the MicroStation Primary toolbar, select the Models icon.



Figure 5-7: Primary Tools

2. From the Models dialog box, select Model Properties.

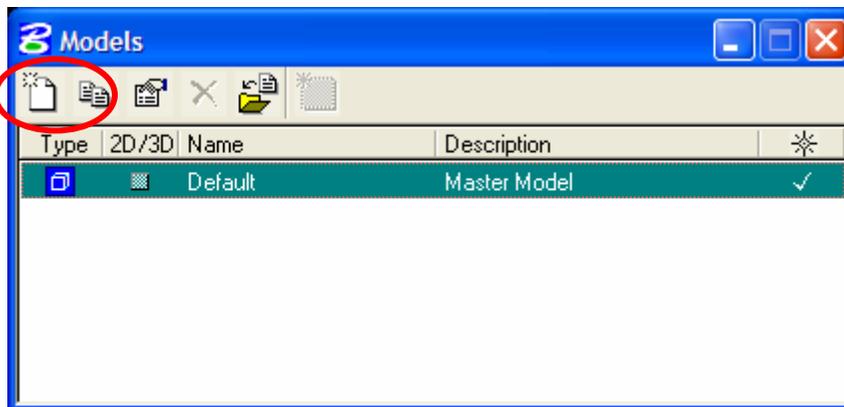


Figure 5-8: Models Dialog

3. Select the Edit Model Properties Icon.

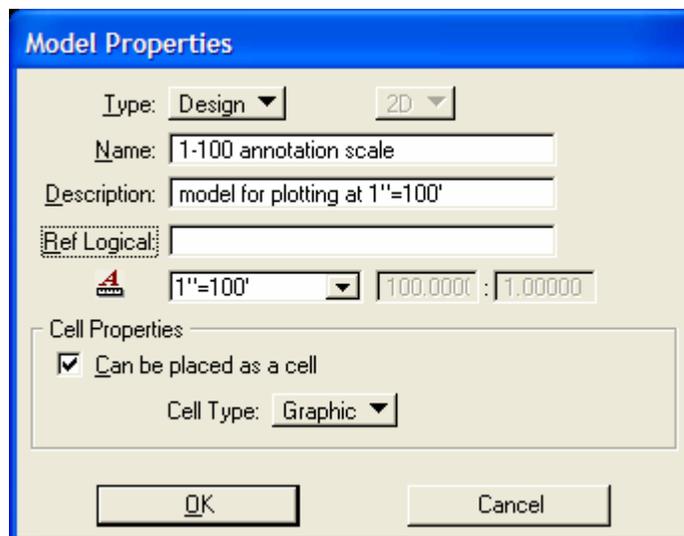


Figure 5-9: Model Properties



4. You can rename the model, give a new description and select the annotation scale from the dialog above. In the example above, the annotation scale has been set to 1"=100'. Once the model properties have been set, select OK.

Workflow 3: Annotation Scale, Setting Annotation Lock and Placing Text

1. Annotation Lock can be selected from the main Microstation pull down menus by selecting Settings>Locks>Annotation Scale, as shown on the left below, or by using the locks menu on the Microstation status bar, as shown on the right below.

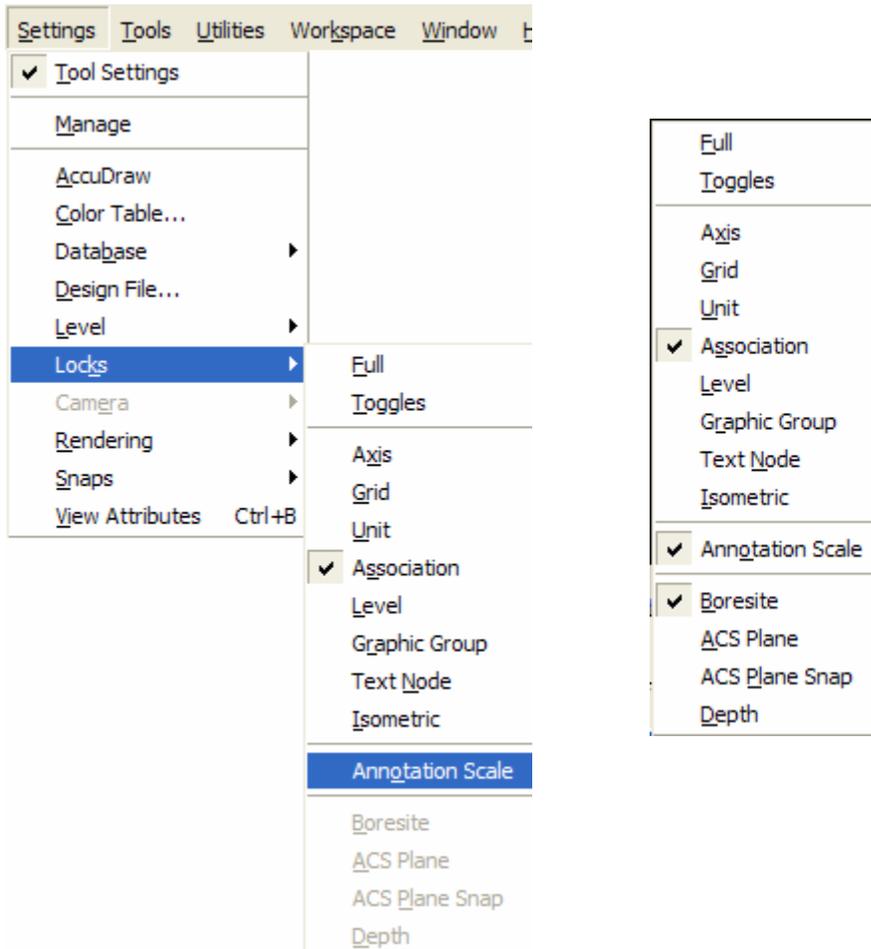


Figure 5-10: Annotation Scale

2. With Annotation Scale lock on, text will now be placed at the proper size for the output scale.



3. Select the Place Text tool.

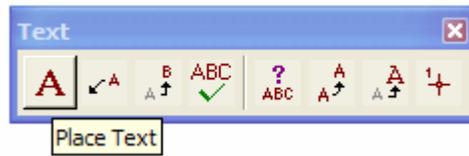


Figure 5-11: Text Menu

4. From the tool settings window, select the desired text style.

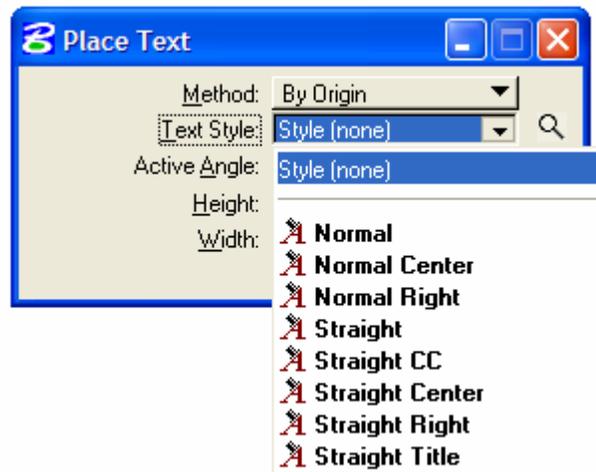


Figure 5-12: Select Text Style

5. By selecting the English Italics Standard Text, the proper text size, font, line spacing, etc. will be set automatically.

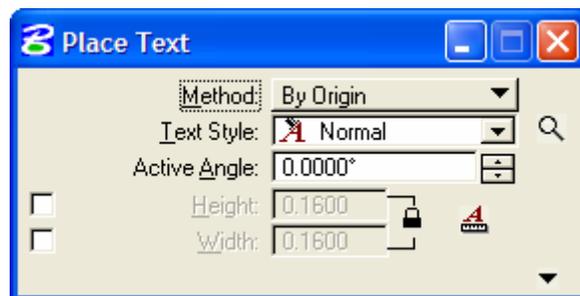


Figure 5-13: Place Text Dialog



6. Begin placing text.

Text Sizes

The following tables outline the text sizes to be used on EFLHD plans. These text sizes have been incorporated into the use of annotation scale.

| Metric Text sizes | | | | | | | | | |
|--------------------------|-----------|-----|-----|------|-----|-----|------|------|------|
| 11x17 Sheet size | Scale n:1 | | | | | | | | |
| Description | 50 | 100 | 200 | 250 | 300 | 400 | 500 | 1000 | 2000 |
| Standard Text | 0.1 | 0.2 | 0.4 | 0.5 | 0.6 | 0.8 | 1 | 2 | 4 |
| Text Spacing | 0.05 | 0.1 | 0.2 | 0.25 | 0.3 | 0.4 | 0.5 | 1 | 2 |
| Title/Heading Text | .015 | 0.3 | 0.6 | 0.75 | 0.9 | 1.2 | 1.5 | 3 | 6 |
| Title Sub-Heading Text | .125 | .25 | .5 | .625 | .75 | 1 | 1.25 | 2.5 | 5 |
| Sheet Layout Information | | | | | | | | | |
| Meters per plan sheet | 17.5 | 35 | 70 | 75 | 100 | 140 | 175 | 350 | 700 |
| Major tick spacing | 2.5 | 5 | 10 | 25 | 25 | 25 | 25 | 50 | 100 |
| Minor tick spacing | 0.5 | 1 | 2 | 5 | 5 | 5 | 5 | 10 | 20 |

Table 5-1: Metric Text Sizes

| English Text sizes | | | | | | | |
|--------------------------|-------------|-----|-----|-----|------|------|------|
| 11x17 Sheet size | Scale ft/in | | | | | | |
| Description | 10 | 20 | 40 | 50 | 100 | 200 | 500 |
| Standard Text | 0.8 | 1.6 | 3.2 | 4 | 8 | 16 | 40 |
| Text Spacing | 0.4 | 0.8 | 1.6 | 2 | 4 | 8 | 20 |
| Title/Heading Text | 1.2 | 2.4 | 4.8 | 6 | 12 | 24 | 60 |
| Title Sub-Heading Text | 1 | 2 | 4 | 5 | 10 | 20 | 50 |
| Sheet Layout Information | | | | | | | |
| Feet per plan sheet | 140 | 280 | 550 | 700 | 1400 | 2800 | 7000 |
| Major tick spacing | 50 | 100 | 100 | 100 | 500 | 1000 | 1000 |
| Minor tick spacing | 10 | 25 | 50 | 50 | 100 | 100 | 500 |

Table 5-2: English Text Sizes



Standard text height for Metric drawings is calculated as: $\text{Scale} \times 0.002$. The standard text height for English drawings is calculated as: $\text{Scale} \times 0.08$. Text width will always = text height. Text spacing = text height $\times .5$



Dimensions

Also new in MicroStation V8, 2004 Edition, is the introduction of Dimension Styles. This is a huge benefit for users of the dimensioning tools in MicroStation.

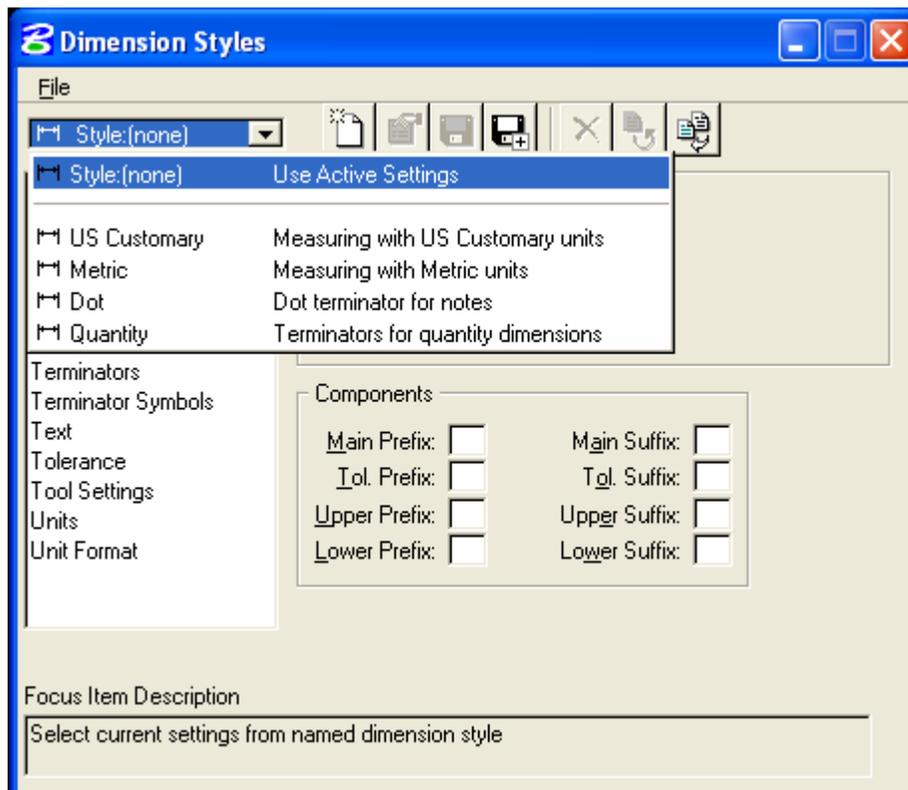


Figure 5-14: Dimension Settings dialog box

In Microstation V8, 2004 Edition the user may setup the parameters for dimensioning and save these parameters as a dimension style, much like text styles, for use at a later time, as shown below. As discussed above, these styles will be contained in a DGN Library that will be attached automatically for EFLHD employees, and will be attached through a project configuration variable for consultants working on EFLHD projects.

As with text, dimension styles also use the Annotation scale to control the size of dimension text. Currently there are 2 dimension styles currently used for Metric and U.S. Customary units. These dimension styles use the correct levels and text styles for EFLHD work. As with text, simply select the dimension tool, then from the Element Dimensioning dialog box, select the correct dimension style, as shown below.

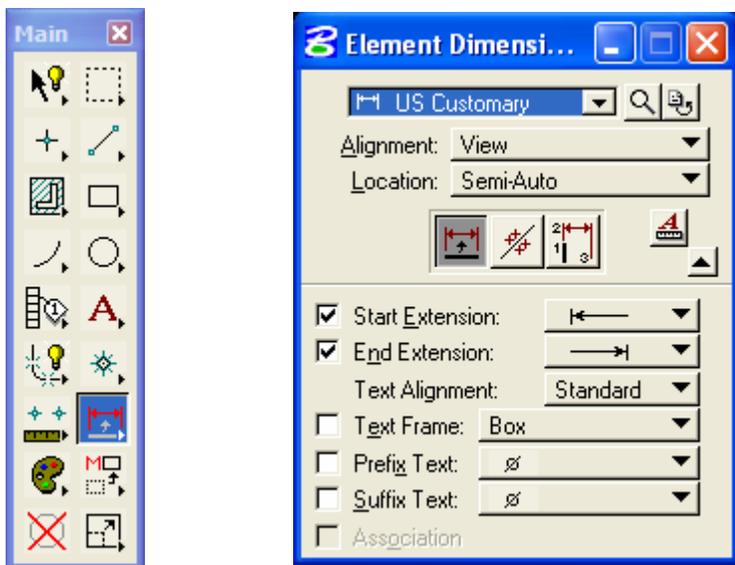


Figure 5-15: Dimensioning dialog boxes



As EFLHD has not used dimensioning in the past, the creation of these styles will be an ongoing process. Check the standard downloads at EFLHD website often to see updates as they are posted