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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 CFLHD, as well as some of the key settings associated with these styles.

Text

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.

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 is saved within a text style.



Figure 5-1: Place Text

In the example above, the user has selected English Italic, Standard as the text style and all of the parameters stored with this style will be active

CFLHD Text Styles

At CFLHD there is 1 text style for each italics and non-italics for standard text, title/heading text and sub-title text, for both English and Metric CFLHD projects. Additionally, a text style for the project information on plan sheets has been added. This is a total of 7 text styles for English and 7 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. CFLHD will use the Verdana true type font for most text on CFLHD projects.

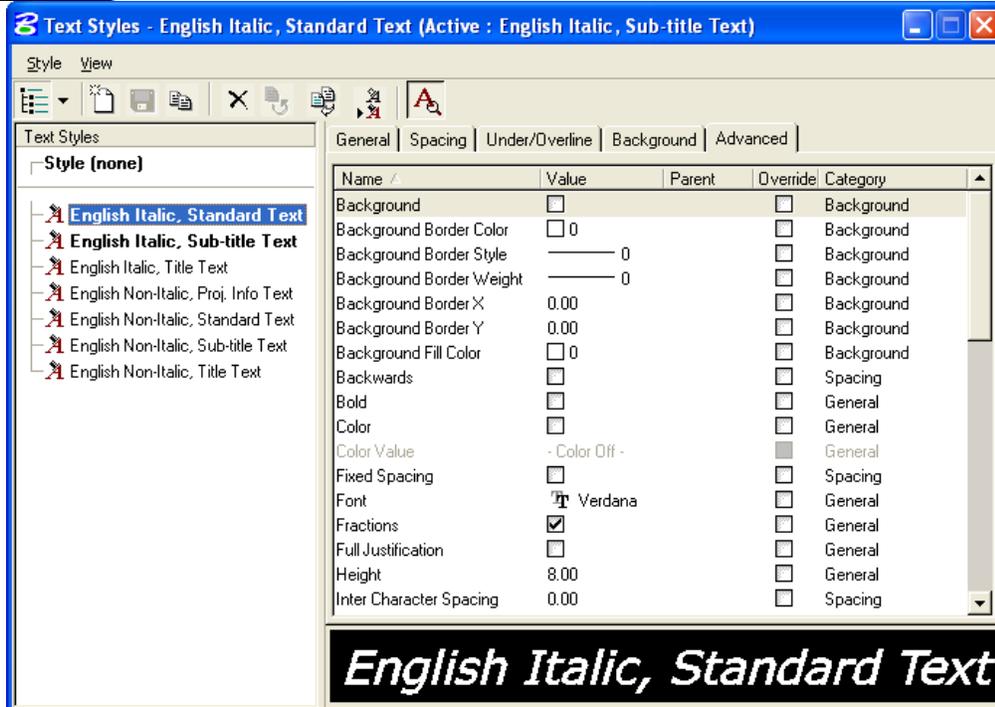


Figure 5-2: CFLHD Text Styles

CFLHD text styles are to be used in CFLHD plan packages. Each style has specific purposes. Examples of these uses can be found in the FLH Standard Plans, the CFLHD Sample Plans and the list below:

- Italic, Standard: (Common notes, text, dimensions and labels)
- Italic Sub-title: (Sub titles for detail titles)
- Italic, Title: (Detail titles, note titles, project begin/end labels)
- Non-Italic, Proj. Info: (Project information in sheet border boxes)
- Non-Italic, Standard: (Stationing and vertical elevation labels in profile views)
- Non-Italic Sub-title: (Sub titles for Sheet titles)
- Non-Italic, Title: (Sheet titles)

Dimensions

Once drawing objects have been established at the proper size, scale, and orientation, annotation generally begins. Adding dimensions, symbols, and notes to a drawing (sometimes referred to as detailing) conveys intent. A dimension is a label in a design showing a linear, angular, or radial measurement.

MicroStation has many dimensioning tools. For example, the Dimension Element tool can be used to quickly dimension most elements.

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.

CFLHD Dimension Styles

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. CFLHD also has created defined dimension styles for use on CFLHD project plans. These styles will be contained in a DGN Library that will be attached automatically for CFLHD employees, and will be attached through a project configuration variable for consultants working on CFLHD projects.

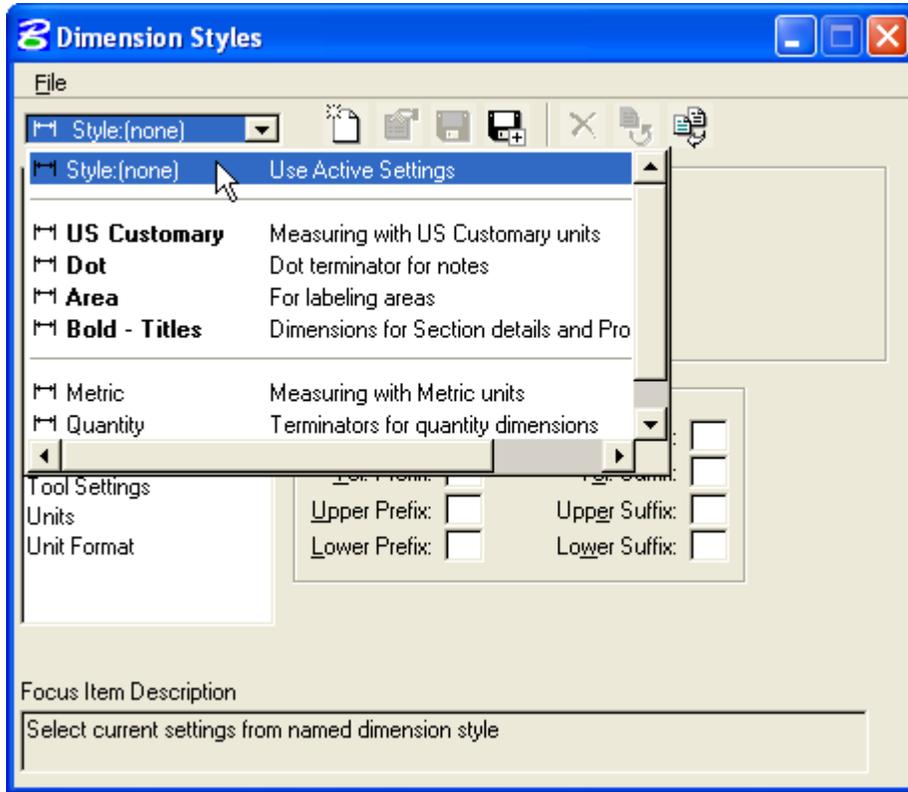


Figure 5-14: Dimension Settings dialog box

As with text, dimension styles also use the Annotation scale to control the size of dimension text. Currently there are 2 dimension styles used for “common” dimensions for each Metric and U.S. Customary units. Additionally, there are three more styles (Dot, Area and Bold-title) for miscellaneous dimensioning that can be used for either U.S. Customary or Metric units.

These dimension styles use the correct levels and text styles for CFLHD work. As with text, simply select the dimension tool, then from the Element Dimensioning dialog box, select the correct dimension style, as shown below.

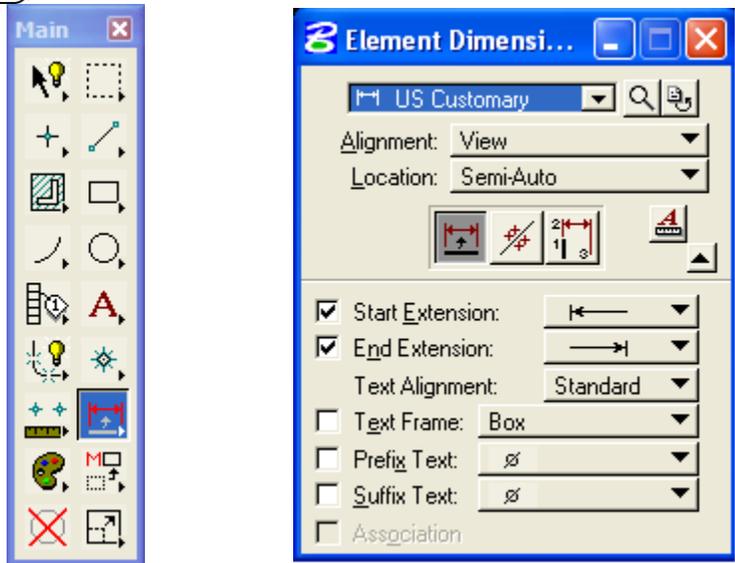


Figure 5-15: Dimensioning dialog boxes



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

CFLHD text styles and dimension styles are contained in 2 Libraries called **cfl_english_text_styles.dgnlib** and **cfl_metric_text_styles.dgnlib**.

For consultants, CFLHD style libraries are available through the **V8_Resource.zip** download. The CFLHD DGN library can be found on the CFLHD network at:
N:\Standards\V8_Resource\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 CFLHD employees, DGN Libraries are automatically attached while opening a design file using the Project Configuration (*.pcf). For CFLHD consultants, using the Project Configuration (*.pcf) files provided with the **V8_Resource.zip** download will automatically attach the dgn libraries.



Workflow 1: Manually attaching the CFLHD DGN Library

To access this workflow, follow this link:

http://www.cflhd.gov/resources/CADD/documents/Workflow_5.1_Annotation_ManuallyattachingCFLHDDGNLibrary_x30.pdf

Annotation Scale

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 CFLHD 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 **V8_Resource.zip** download. Annotation scale definition files for U.S. Customary and Metric units can be found on the CFLHD network at:

N:\Standards\V8_RESOURCE\X_30\Standards\Custom_Standards
(English or Metric)\



Each model may be renamed and an annotation scale may be set from the model properties dialog box, as shown in Workflow 2.

Workflow 2: Setting the Annotation Scale in the Model Properties

To access this workflow, follow this link:

http://www.cflhd.gov/resources/CADD/documents/Workflow_5.2_Annotation_SettingtheAnnotationScaleinModel%20Properties_x30.pdf

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

To access this workflow, follow this link:

http://www.cflhd.gov/resources/CADD/documents/Workflow_5.3_Annotation_SettingAnnotationScaleLockandPlacingText_x30.pdf

[_SettingAnnotationScaleLockandPlacingText_x30.pdf](#)



Text Sizes

The following tables outline the text sizes to be used on CFLHD 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	560	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: Scale x 0.002. The standard text height for English drawings is calculated as: Scale x 0.08. Text width will always = text height. Text spacing = text height x .5