

10.0 Chapter Ten - Plotting

This chapter will describe CDOT's plotting standards, as well as introduce workflows for plotting and the use of printer drivers at CDOT. Plotting addressed in this chapter refers to output to a standard 11"x17" printer or the creation of an Adobe Portable Document File (PDF). PDF files are to be stored in the project specific Plot_Sets folder under the appropriate subfolder, for use by the reproduction department and other disciplines for reference and review. Only final submittals should be stored in this location.

Plots can be created for individual files or by using batch-processing methods. Links for these and other plotting workflows are attached below. The user may create plots for any number of plan sheets. Printer drivers - which control plotting devices, plot sizes, etc., and pen tables - which allow for post processing of weights, colors, fill, shading, etc., have been created for CDOT and are outlined below.

One of the goals in the development of CADD Standards at CDOT is to create uniform plot sets. These plot sets, when created as outlined in this chapter, will be a seamless extension of the CADD standards outlined in the manual. Following these standards will ensure that plots are consistent between the Specialty Groups within CDOT as well as consultants working on CDOT projects.

Specific plotting standards include line thickness (in inches) for CDOT weights 0-7 and the stroke lengths (in inches) for the standard MicroStation line styles 1-7. These standards have been set as a baseline so all plotting at CDOT can be duplicated whether creating a hard copy plot or a PDF file. Printer size specification has also been established by default for ease in sending files to plot.

Workflow documents detailing the CDOT plotting procedure are linked below and can also be found on the windows Start Menu under Program files > _CDOT_CADD_Information. Additionally, listed below the workflows, is a plotting demonstration walking the user through creating a simple plot in MicroStation.

CDOT MicroStation Printing
CDOT Batch Printing
CDOT Printer Driver Adjustments
CDOT MicroStation Level Synchronization



Standard MicroStation Plotting Demonstration

10.1 Plotting Standards

10.1.1 Acceptable Scales

CDOT CADD standards, including annotation scale and plot drivers are built to work with specific scales. Creating Final drawings adhering to these supported scales will ensure adherence to the CADD standards. The following table outlines acceptable scales that can be used for CDOT production. If a designer determines that an additional scale should be used outside the limits defined below, the Project Manager/Specialty Group Lead should coordinate and approve the scale deviation. It is the designer's responsibility to ensure that CADD standards are still being met.

Engineering Scale	Bridge Scale
1:10	3/32" = 1'
1:20	1/8" = 1'
1:30	3/16" = 1'
1:40	1/4" = 1'
1:50	3/8" = 1'
1:60	1/2" = 1'
1:100	3/4" = 1'
1:200	1-1/2" = 1'
1:250	3" = 1'
1:500	12" = 1'
1:1000	

10.1.2 Acceptable Media Sizes

The standard CDOT deliverable printing size is 11" x 17" (Tabloid or B-size) which is set by default in the print drivers. Other plot sizes are acceptable, such as 8 1/2"x11" for "write-up" jobs or 22"x34" for court exhibit or town hall presentation, but user adjustments will be necessary to accommodate these sizes.

10.2 Plot Driver Descriptions

The CDOT default plot drivers have been created to generate plots to scale on 11" x 17" CDOT printers or to create PDF files. These plot drivers have been created to work on various different CDOT printers, and as such there may be circumstances where a plot driver will need minor adjustments to print as desired, if using a non-standard printer or plotter. CDOT users should contact the CADD Help Desk if MicroStation files are not plotting correctly according to the workflows listed above.

File Name	Printer	Description
CDOT-DefaultPrinter.plt	Windows Printer Default form = 11x17	11x17 print
CDOT-PDFdriver.plt	Windows Printer Default form = 11x17	Creates a PDF file

10.3 Pen Tables

CDOT pen tables are applied to the MicroStation file during plotting to control pen widths, colors, screening, etc., in conjunction with the DGNLIB Specialty Group-specific level library. Pen tables have been set up to recognize standard levels. If levels exist in a design file and not in the CDOT workspace, the printed document and the MicroStation printing preview window, will not display properly, nor plot as desired. For example, a line weight within the MicroStation drawing will be plotted to a corresponding thickness on paper based on the parameters in the CDOT pen table. Pen tables have been created for Black and White plotting with topography grayscaling, full color plotting, and full color plotting with black annotation. The Pen Table attachment directory should be set by default and should not require adjustment. If required, the pen tables can be found in the \Workspace-CDOT\Standards-Global\MicroStation\Tables\Pen folder.

Color - B/W Output	MicroStation plot driver	Description
B/W	CDOT-Pen Table.tbl	Black and White plotting with Grey scaled topography
Full Color	CDOT-ColorPenTable.tbl	Full Color plotting - Yellow Annotation is plotted as color
Full Color - Blank Annotation	CDOT-ColorPenTablewithYellowtoBlack.tbl	Full Color plotting - Annotation is plotted as Black