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Chapter 8: Cell Libraries

About CFLHD Cell Libraries

The cell libraries currently in use at CFLHD contain signs, figures, symbols, borders, title maps, etc. The cell libraries have been organized based on cells types within the libraries. This, in most cases, will prevent the user from having to search through many cells to find the desired one.

New Cell Formats (MicroStation V8, 2004 Edition)

New in MicroStation V8 2004 is the file format of cell libraries. Cell libraries now have the same format as .dgn files, making it much easier to edit and create new cells. Also new, is that the restrictions on placing 3D cells in 2D drawings has been removed. 3D and 2D cells may now be placed in any drawing, and you can have both 3D and 2D cells in the same cell library.

This chapter contains information about the CFLHD cell libraries including:

- Names of cell libraries
- Description of each cell library
- Locations of cell libraries, both internally and for consultants

There are also helpful workflows for using these cell libraries throughout this chapter including; attaching cell libraries, using cell selector, and defining variables within MicroStation to make finding cells and cell libraries easier.



CFLHD Cell Libraries

At CFLHD there are currently 20 cell libraries for general use. The CFLHD cells have been divided into cell libraries based on the type of sheet the cells will most likely be used on. See the table below for a list of cell libraries and a short description of each.

File Name	Description
Drafting_X30.cel	Cells used for the final drafting stage, including cells such as north arrows, bar scales and patterns.
EC_X30.cel	Cells typically shown on erosion control plans.
FedRecSigns_X30.cel	Cells of Federally approved Recreation Signs.
FLH_Criteria.cel	Cell used for X30 Criteria. (Includes guardrail, concrete barrier, etc.,)
Headwalls_English_X30.cel	Cells for use on cross sections (circular and elliptical headwalls)
Headwalls_Metric_X30.cel	Cells for use on cross sections (circular and elliptical headwalls)
Hyd_X30.cel	Cells for use on the plan & profile view. Drainage type cells for pipes shown in profile.
landscape_X30.cel	Cells typically shown on landscaping plans.
Pavement_Markings_X30.cel	Cells for use on striping plans (pavement markings)
RWD_X30.cel	Cells typically shown in the overall plan view (gate, cattleguard,etc.).
Signs_Post_X30.cel	Cells typically shown in the overall plan view (sign post, delineator,etc.).
Signs_X30.cel	Cells for use on signing plans
SmrowV8_k2006.cel	Survey, mapping, and ROW cell library
State_Maps_X30.cel	Cells such as overall state maps, USDOT seals, and interstate markers, for use on title sheets.
TC_X30.cel	Cells such as barrels and barricades for traffic control /detour plans, etc.
utilities_X30.cel	Utility cells for the overall utility design file.
Metric_pnp_sheet_layout.cel	Cells for use by criteria to layout plan, profile, plan/profile and plan/plan sheets.
English_pnp_sheet_layout.cel	
Metric_xs_sheet_layout.cel	
English_xs_sheet_layout.cel	
	Cells to layout cross-section sheets.

Table 8-1: Cell Libraries



These cell libraries are to be used on all CFLHD projects and are located on the CFLHD network at:
N:\Standards\V8_RESOURCE\X_30\Standards\Cell_lib

For consultants, CFLHD cell libraries are available through the **V8_Resource.zip** download.

These cell libraries are not to be edited by anyone other than CFLHD CADD support. If you have suggestions for new cells, edits to existing cells, or general suggestions regarding the CFLHD cell libraries please address these to CFLHD CADD support as detailed in Chapter 1.

Workflow 1: Attaching CFLHD Cell Libraries

To access this workflow, follow this link:

http://www.cflhd.gov/resources/CADD/documents/Workflow_8.1_Cells_AttachingCFLHDCell%20Libraries_x30.pdf

Project Specific and Personal Cells

There is often a need for an individual user to create cells during the course of a project for things such as:

- Creating standards notes to be used on multiple sheets.
- Copying information from sheet to sheet.
- Copying information for another user within the project.

While these are valid reasons for creating cells, they must not be placed within the CFLHD standard cell libraries listed above. In these cases, simply create a new cell library and create the new cell there. Once the information has been used the temporary cell library may be deleted, or the temporary cells within the cell library may be deleted. See workflow 2 below, for information on creating new cell libraries.

Workflow 2: Creating a New Cell Library

To access this workflow, follow this link:

http://www.cflhd.gov/resources/CADD/documents/Workflow_8.2_Cells_CreatingaNewCellLibrary_x30.pdf



MicroStation Cell Configuration Variables

There are several configuration variables that will make the selection of cell libraries easier. The list below shows these variables and a brief description.

- Cell library directories Where MicroStation will look first for cell libraries.
- Cell library list The list of cell libraries to be shown in the **File** pull down. (Shown below)
- Output cell libraries Default directory where new cell libraries are placed.



For CFLHD employees, cell libraries are automatically attached while opening a design file using the Project Configuration (*.pcf). If the correct cell libraries are not displaying, contact CADD support to have this setup.

Workflow 3: Modifying Cell Library Configuration Variables

To access this workflow, follow this link:

http://www.cflhd.gov/resources/CADD/documents/Workflow_8.3_Cells_ModifyingCellLibraryConfigurationVariables_x30.pdf



MicroStation Models as Cells

As described at the beginning of this chapter, cell libraries now have the same file format as **.dgn** files, and may be opened and edited the same as a **.dgn** file. As shown in the figure below, there is now a filter for opening **.cel** files through the MicroStation Manager dialog box, as well as the standard **file>open** dialog.

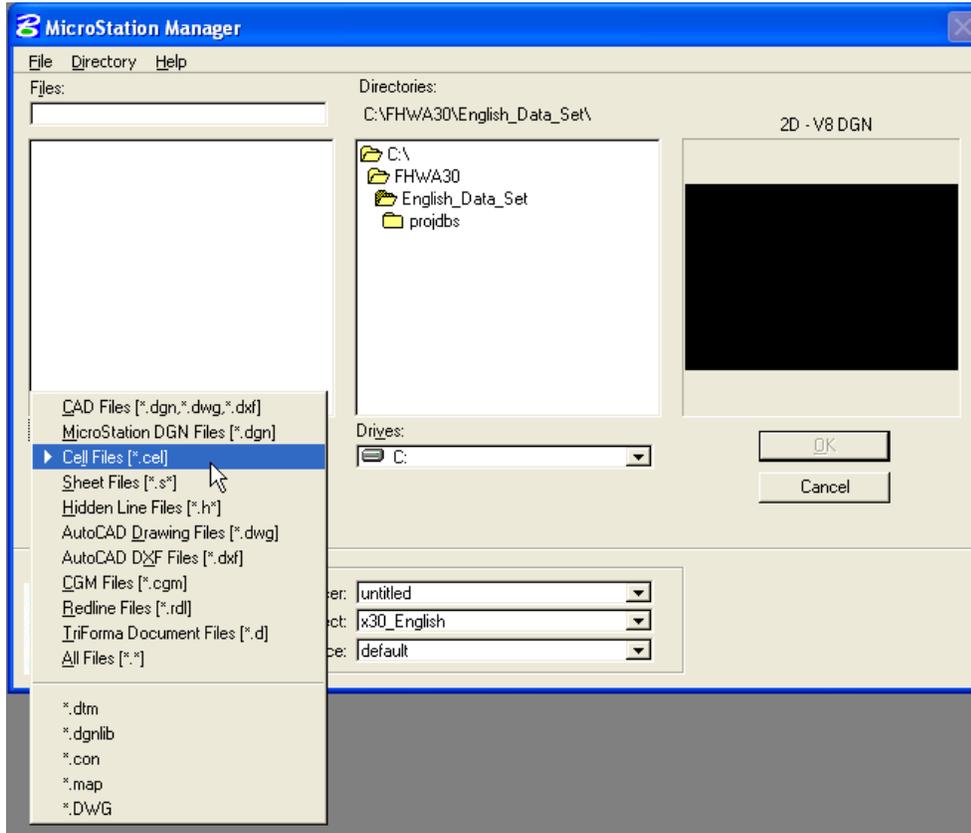


Figure 8-10: MicroStation Manager Dialog Box

Once the cell library is opened, each cell will be contained in its own model. From the models dialog box shown below, arrows, concrt, earth, etc. are cells within the cell library. As such they may be edited in this file, and new cells may be created here as well.

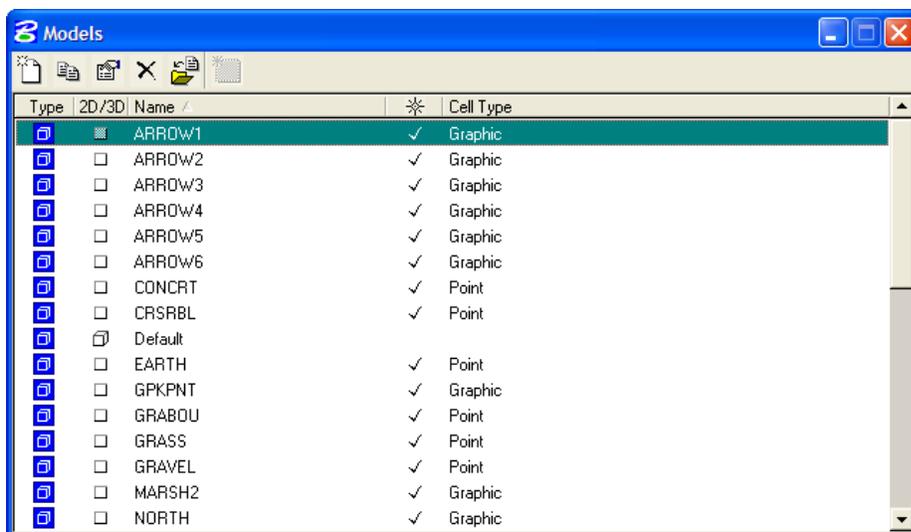


Figure 8-11: Models Dialog Box

When creating cells in the cell library create a new model and begin drawing. When finished, the resulting drawing created in the new model will be a cell.

Workflow 4: Creating Models as Cells

To access this workflow, follow this link:

http://www.cflhd.gov/resources/CADD/documents/Workflow_8.4_Cells_CreatingModelasCells_x30.pdf



Due to the new format of cell libraries, creating new cells in MicroStation V8 is as easy as creating a new model in the cell library and drawing the new elements. However, it is important to remember that creating a cell in this manor will not automatically place the origin. In creating cells this way the origin will always be at the coordinates of 0, 0. Create the drawing at these coordinates or when finished select the entire cell and move to the correct origin by selecting the move command, issuing a data point at the desired origin then, in the key-in window type: $xy=0,0$. This will move the cell to the correct location.