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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 to 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 placed 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:

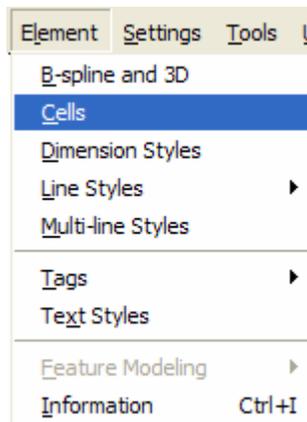
*N:\Standards\V8\_RESOURCE\X\_30\Standards\Cell\_lib\*

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

1. *For CFLHD consultants, begin by downloading V8\_Resource.zip from the CFLHD web site. As the cell libraries are specific to CFLHD projects, the user should leave the libraries in the V8\_Resource\X\_30\Standards\Cell\_lib directory.*
2. *From the MicroStation drop down menu's, select Element>Cells.*



**Figure 8-1: Element Menu**

3. *The cell library palette will now be accessible. Select File>Attach, and navigate to the correct cell library.*

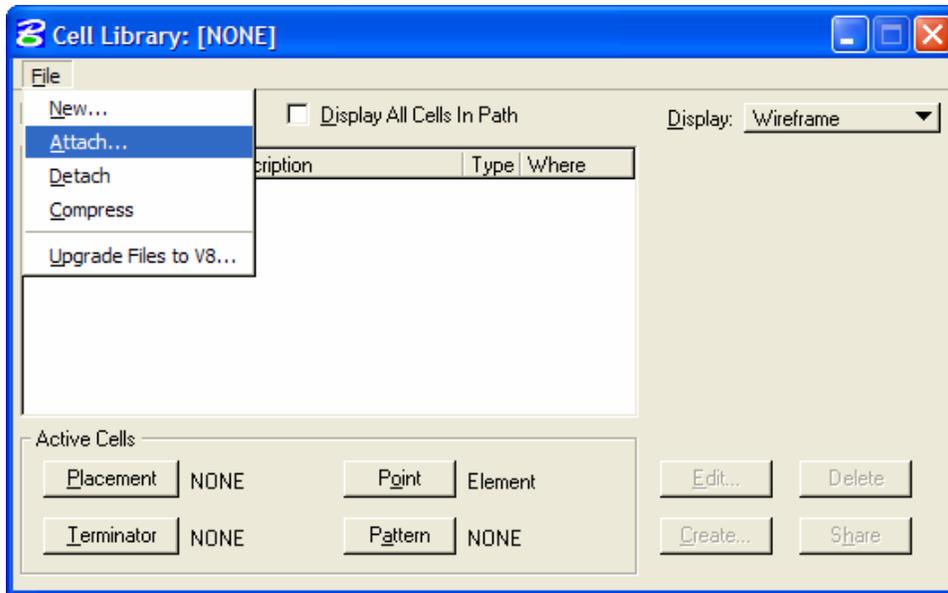


Figure 8-2: Cell Library Dialog Box

*Once selected, the cells will be visible in the windows on the Cell Library palette.*

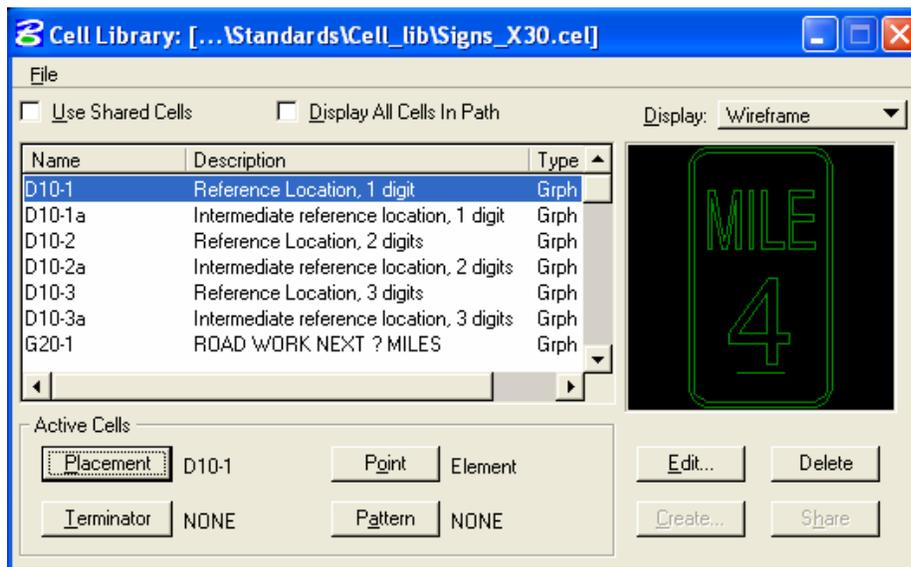


Figure 8-3: Populated Cell Library Dialog Box

## 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

1. Access the cell library palette as shown in Workflow 1. From the cell library palette, select File>New

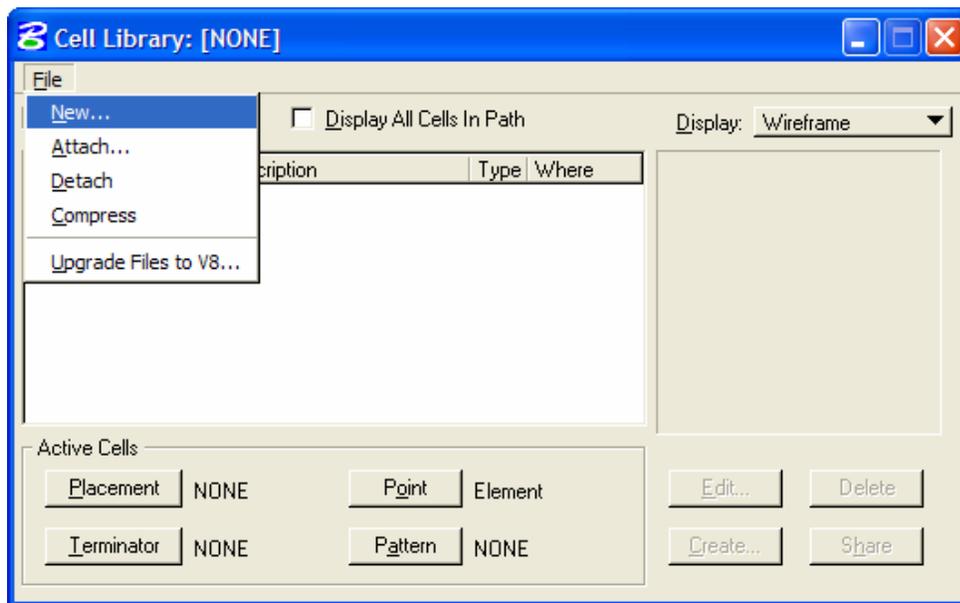


Figure 8-4: Cell Library Dialog Box

2. Pick a path to the directory where the cell library is to be created.
3. Type in a name for the new cell library.

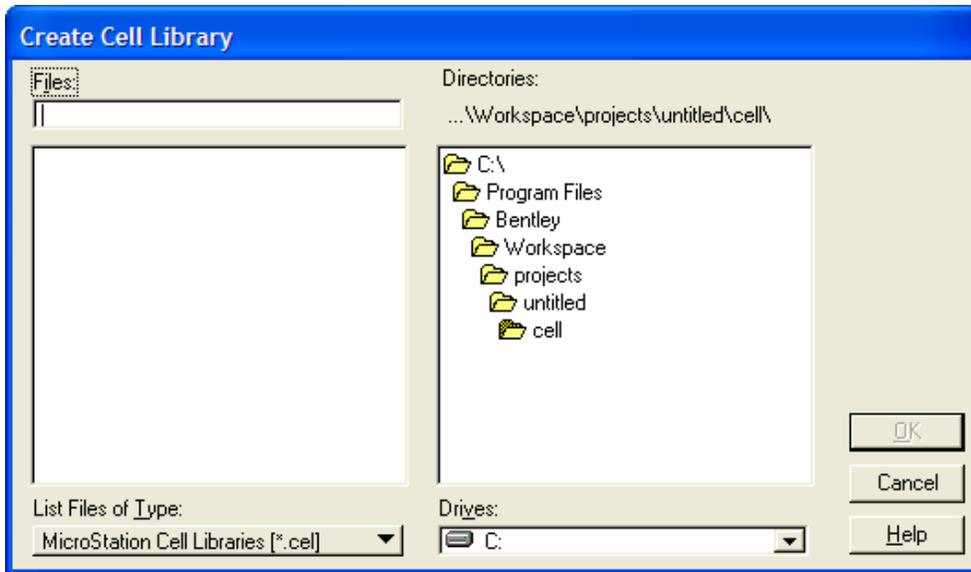


Figure 8-5: Create Cell Library Dialog Box

4. *Once the new name has been given, the OK button will activate. Select OK and the new cell library will be attached.*

## 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

1. From the MicroStation pull down menu's, select *Workspace>Configuration*.

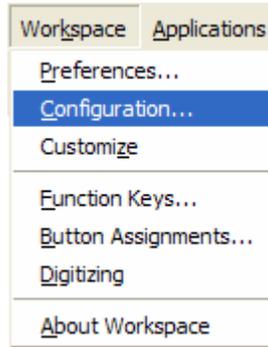


Figure 8-6: Workspace Menu

2. From the workspace configuration palette, select cells from the category list on the left side of the dialog box.

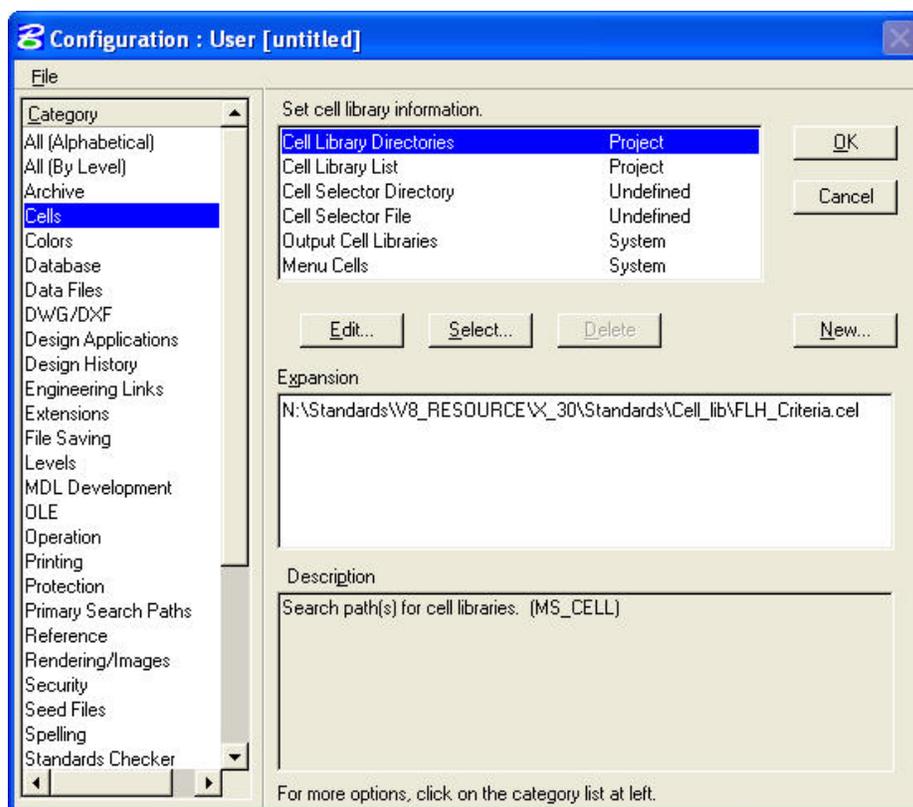
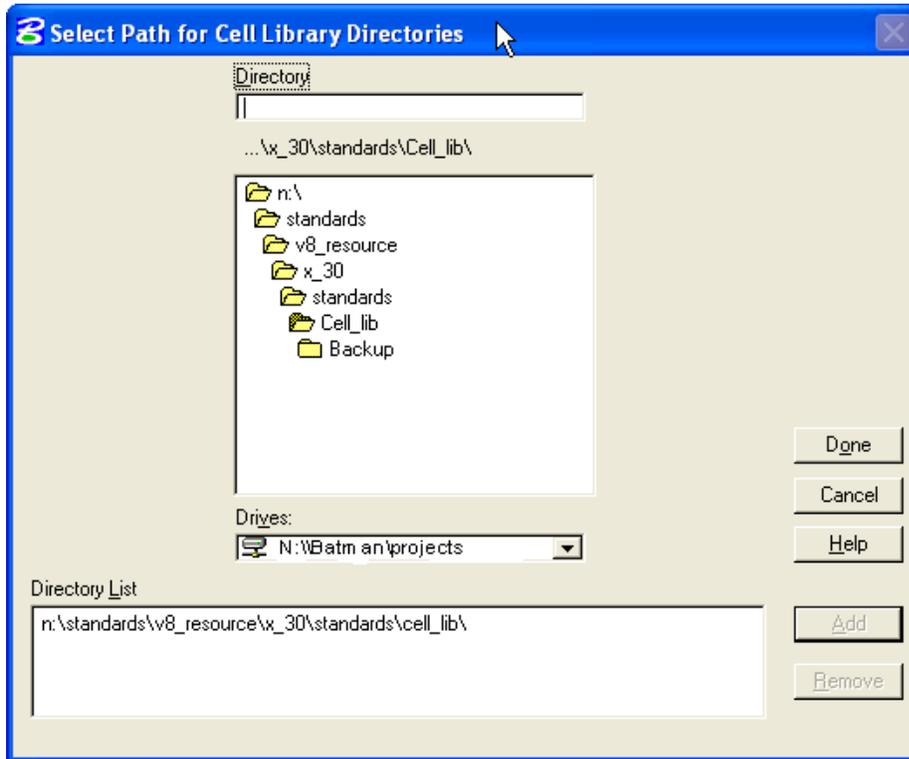


Figure 8-7: Configuration Dialog Box

3. Highlight the *Cell Library Directories* and press the *Select* button. The default MicroStation directories may be listed in the directory list, as shown below. Highlight these directories and click on the *Remove* button.



4. *Path to the directory where the CFLHD cell libraries are stored. Once the directory is displayed, press the Add button. After the correct directory populates the directory list, select the Done button to return to the Configuration dialog.*
5. *Repeat steps 3 and 4 to set the Output Cell Libraries variable.*



**Figure 8-8: Cell Library Path Dialog Box**

6. *Highlight the Cell Library List variable and press the Select button.*
7. *Select the directory where the CFLHD cell libraries are stored. When the directory has been selected, the available cell libraries will be displayed.*

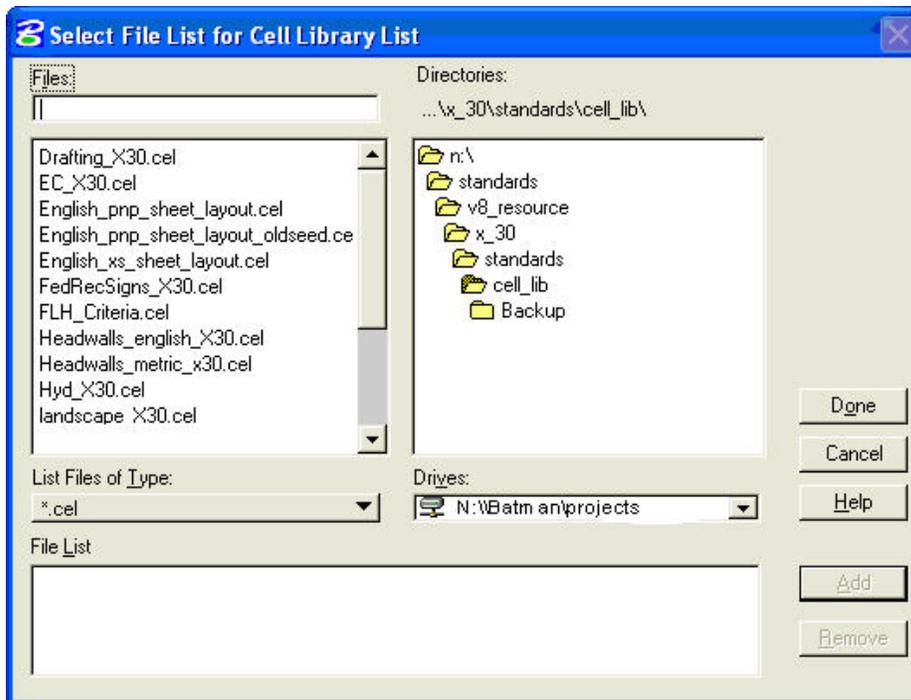


Figure 8-9: File Selection List for Cell Libraries

8. Double-clicking the desired cell library, or highlighting the desired cell library and selecting the Add button will place the cell library in the File List box at the bottom of this dialog. Select the cell libraries that the user most commonly uses. When finished select the Done button.
9. At the Configuration dialog box, select OK, to accept the changes that were made.
10. MicroStation will ask if changes to the configuration file should be saved, answer by selecting the Yes button.
11. After changing configuration variables, you must exit MicroStation and re-enter for these changes to take affect.

Workflow 3 will allow user level configuration, which is not the recommended method for the X30 standard files.



Workflow 3 – Modifying Cell Library Configuration Variables is for information only. CFLHD designers should not manually attach or edit configuration variables. For CFLHD, the CADD Coordinator sets the configuration variables.



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.

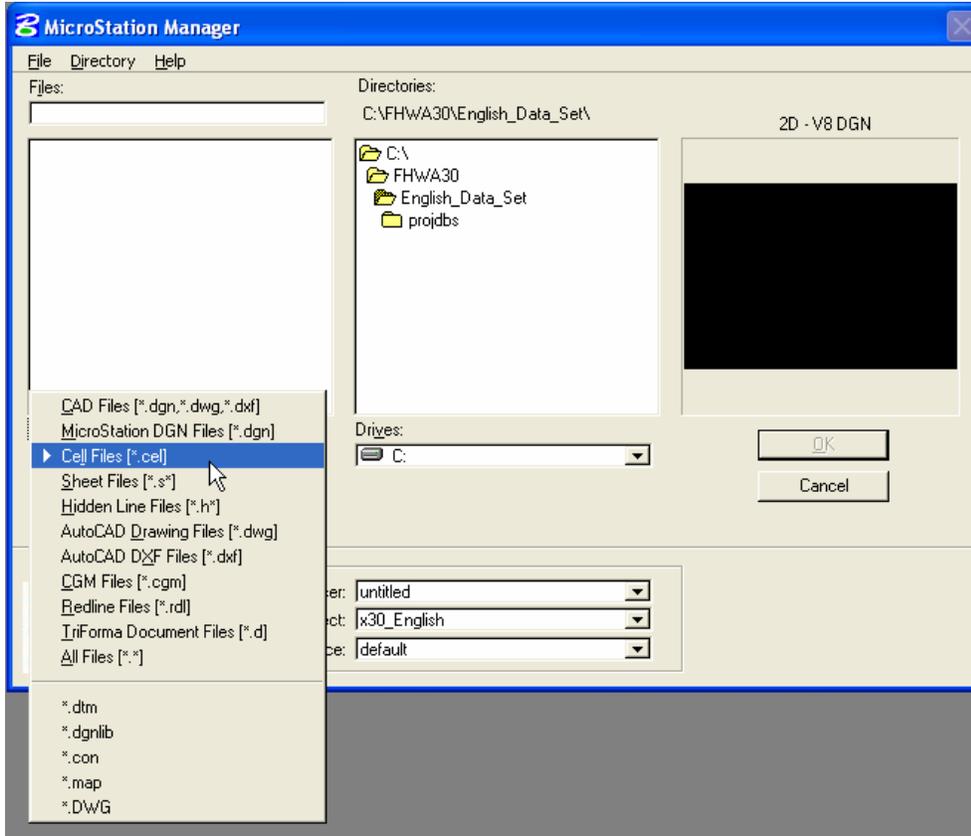


Figure 8-10: MicroStation Manager Dialog Box

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.

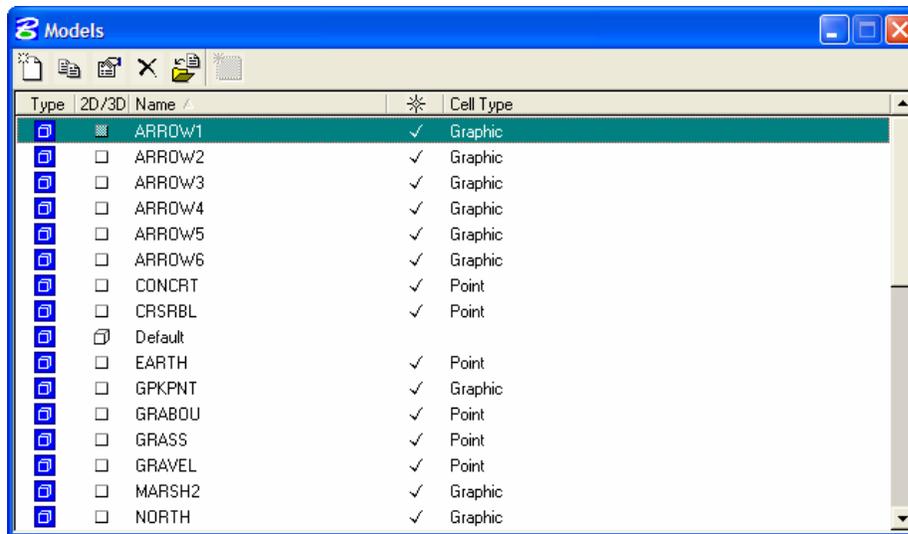


Figure 8-11: Models Dialog Box

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 a New Model

1. From the MicroStation pull down menu's select *File>Models*

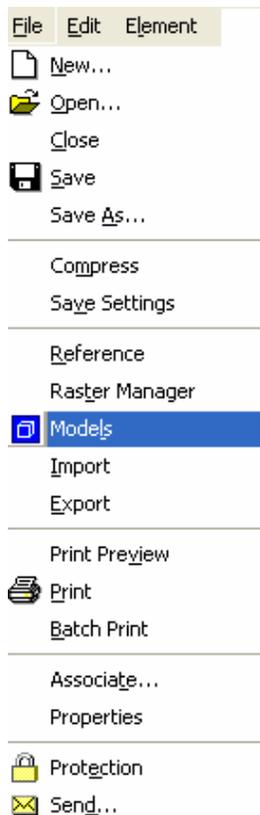


Figure 8-12: Models Menu



- From the models dialog box select the Create a new model icon.

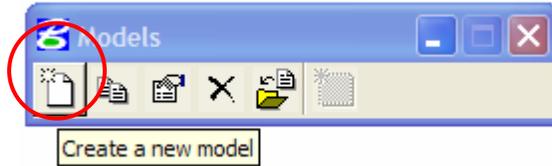


Figure 8-13: Models Dialog Box

- Once selected, the following dialog box will activate.

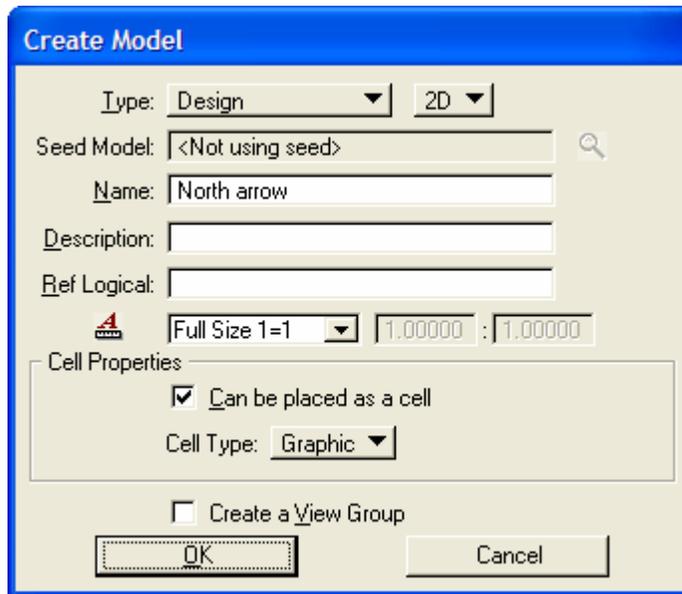


Figure 8-14: Create Models

- Fill in the dialog box as above with the exception of Name. The name field is the desired name of the new cell. Select OK.
- You will now be in the new cell, named North arrow in the example above.
- Begin drawing your new north arrow as desired.

The newly created north arrow is now a cell within the cell library. It will be available when accessing the cell library from any drawing.



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.