

Welcome to the

# Work Zone Traffic Control Unit

Microstation V8 Training  
Session



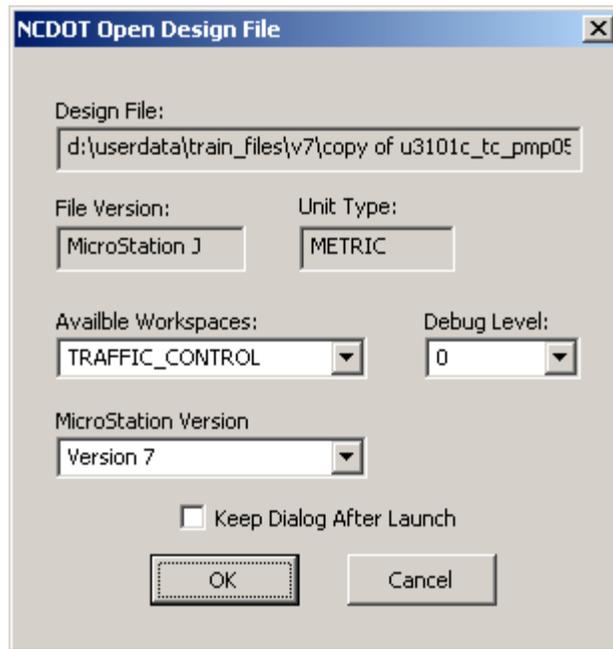
# Today's Training Agenda

- We'll go over the file conversion process to be used for Traffic Control Plans
- We'll go through and show the Levels created for Traffic Control Plans
- We'll discuss the Attributes tool box and Level Filters created for Traffic Control Plans
- We'll go over the Work Zone Traffic Control Unit's Menu bar
- We'll introduce some new Line Styles
- We'll show you how to save files to other versions / formats (Handout only)
- Wrap it up with the basic file naming / creation process to be used for Traffic Control Plans

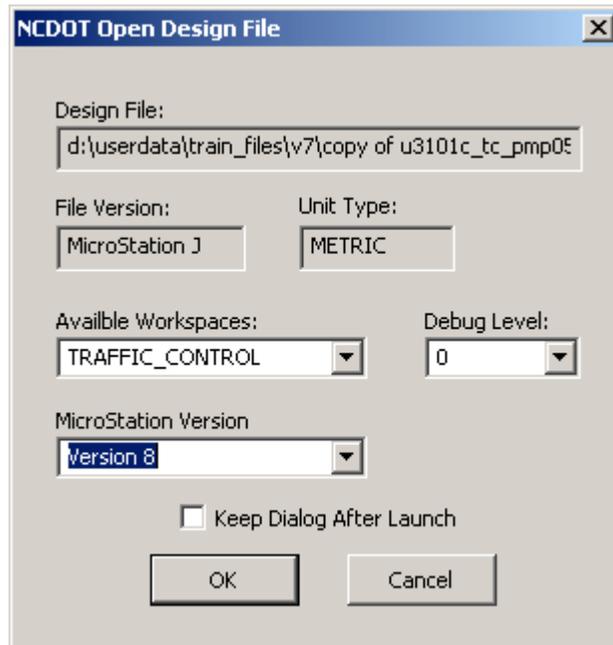
## V7 to V8...Converting your Files

Double Click on the file you wish to Convert within the Microsoft Explorer Window.

The dialog below will immediately appear.

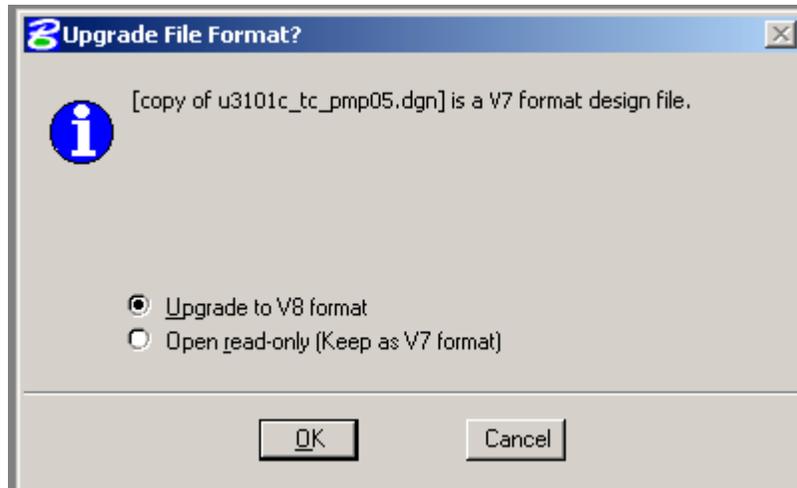


Select Microstation Version 8 within the drop down menu as shown below then hit OK.



The next dialog (shown below) will inquire as to your intentions, Upgrade to V8 or open read-only and keep the V7 format.

To convert your file to version V8 select upgrade and hit the OK button.

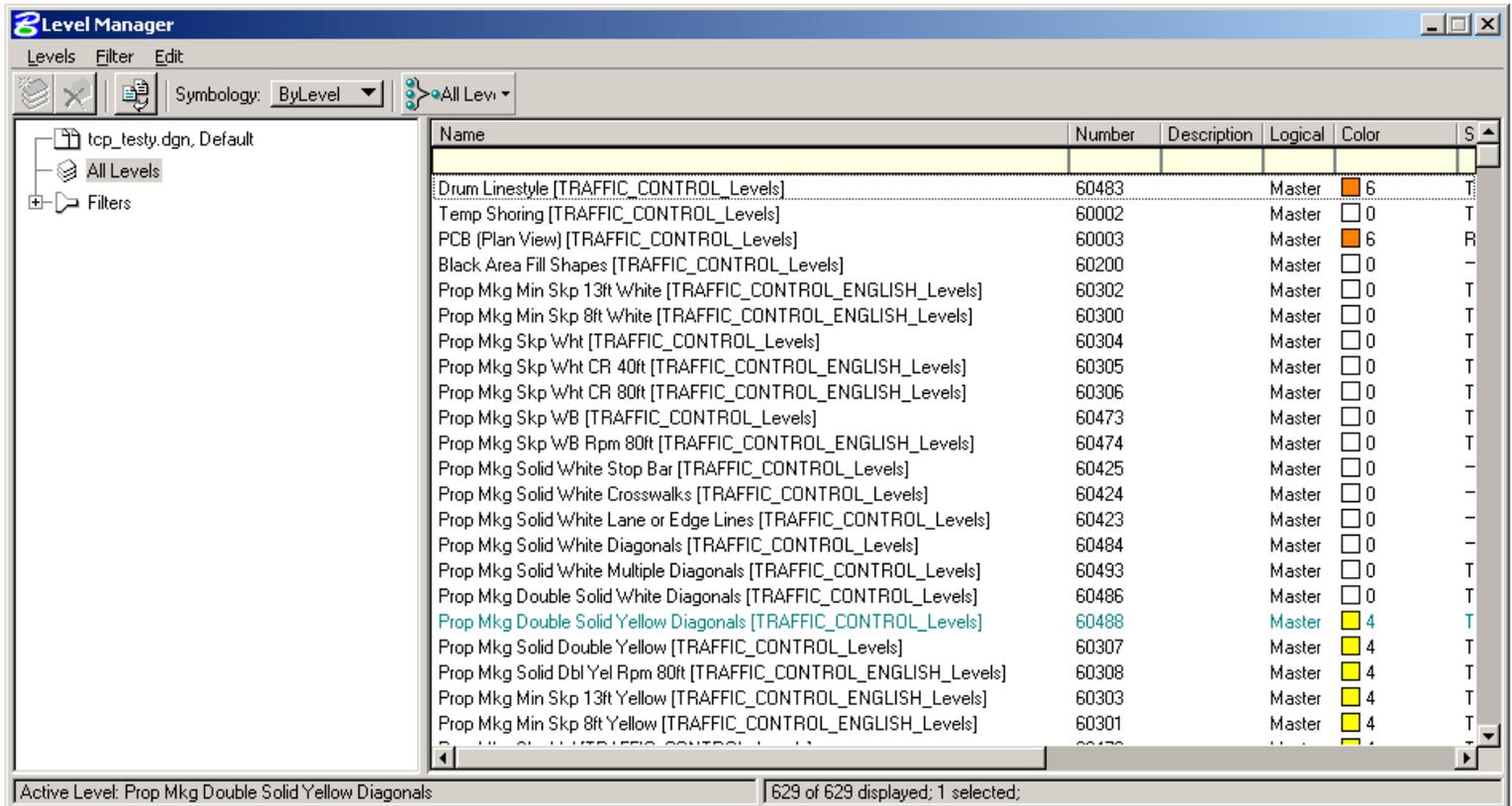


*That's all there is to it!*

Repeat the process for the rest of your active project files.



# NCDOT's New Leveling Scheme within V8



## Bunches and Bunches of Levels – Just for YOU!

Traffic Control alone has an approximate total of **400 levels** to date.

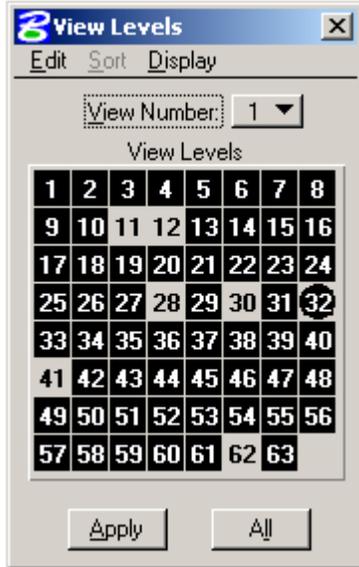
If you were to consider all Units I'm sure you'll be into the thousands.

*How in the world are you going to remember this stuff and maintain a respectable production rate?*

**The Answer....FILTERS (to be covered later)**

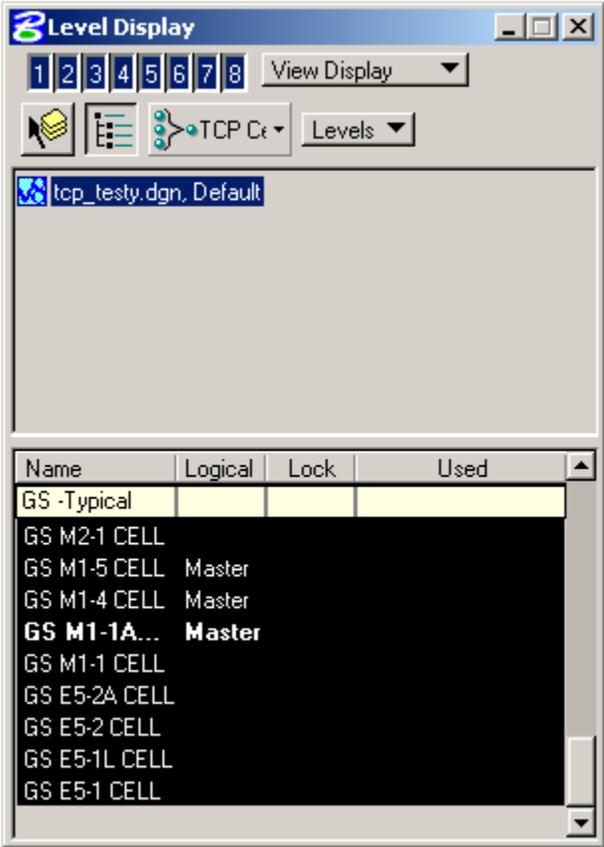
First let's get familiar with the New Level Display dialog.

# New Level Display dialog



Out with the OLD

In with the NEW



# General Questions – Levels

***Question 1: What do the different colors for a level in the Level Display mean?***

*Answer:* Definitions of the different color is outlined below.

Black = the Level is ON.

No color = the level is currently turned OFF.

Gray highlight = the level is ON in some of the views and OFF in the other views.

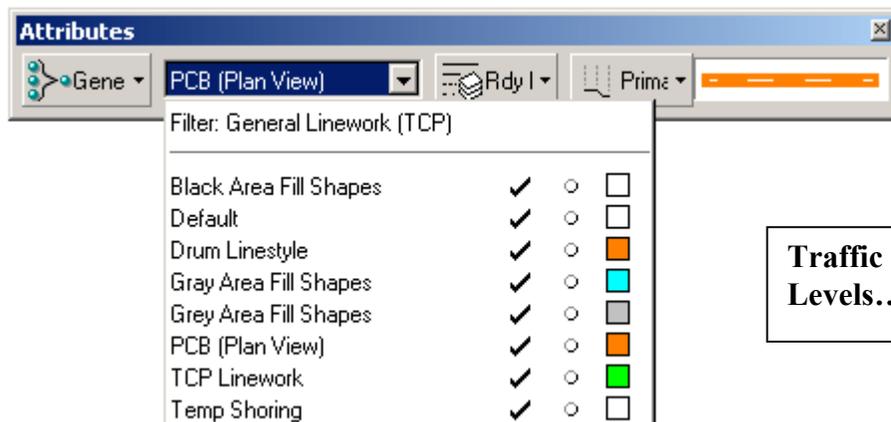
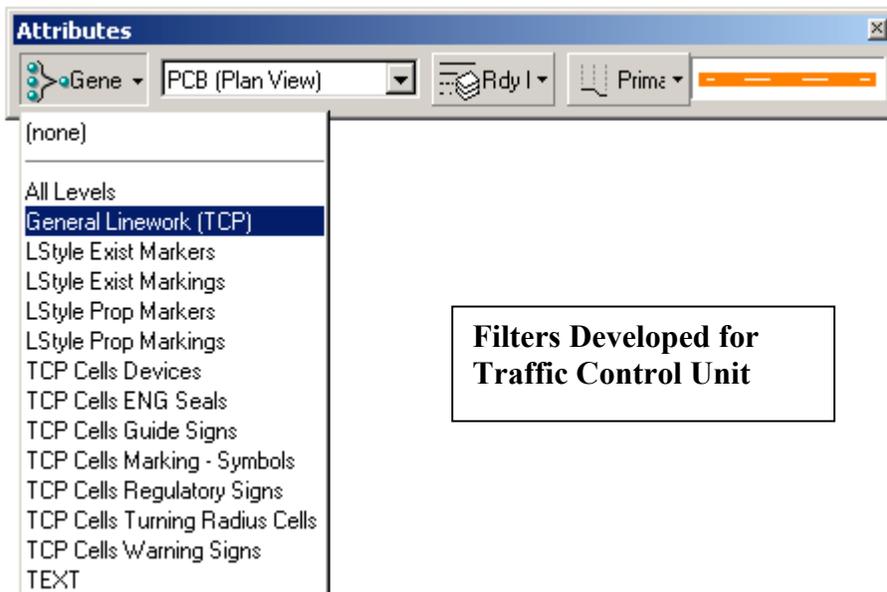
***Question 2: What happens to my V8 files levels when I save it to V7 if there are more than 63 levels?***

*Answer:* The elements that are on levels beyond level 63 will be placed on levels that will wrap around starting with level 1. For example, if you have elements on level 64, the elements will be placed on level 1 when the file is saved to V7.

# Attributes Toolbox



Invoke by selecting **tools** from the top menu then **attributes**



# New Junk Level



To retain elements within your design file (ex. alternate designs) that would not display or plot you used to move them to Level 62 which was our Junk Level as we called it.

In Microstation V8 the ByLevel methodology used for level naming requires us to define the line style, weight and color for each level created. This in turn will change the symbology of all those items moved to a particular level. This is not good when trying to recall what was moved to a “Junk Level” for later recall such as we had done with the Junk Level 62 in version 7.

To overcome this tendency we had to come up with another approach to retain design elements for later recall.

## **The New Method:**

You should now change the classification of these elements to “Construction” rather than the normal “Primary” classification. Construction elements will not plot per our plot settings.

To recall elements whose classification has been changed, simply follow these steps:

1. Turn on the display for construction elements by either hitting keys ‘Cntl+B’ together or selecting “View Attributes” from the WZTCU Barmenu under the Utilities/MDLapps catagory for the display attributes dialog box to appear. (See Figure 1 Sheet 2)
2. Once the dialog box opens check the box next to Constructions.
3. Select the items you wish to recall and move them back to the appropriate design level.

## Important things to remember:

When you either move or create an element to a construction element class be mindful that all subsequent elements placed in the design file may be placed within that element classification unless you specifically toggle the active class back to primary. Try to get into habit of changing the class of elements to construction then switching the active class back to primary before placing other elements in your design file. If you have the construction element display turned off within your design file you will hopefully be aware something's gone amiss when trying to place future elements. It may also be helpful if you display the active element class toggle button as shown on Figure 2 below which could also, serve as a visual aid.

Figure 1

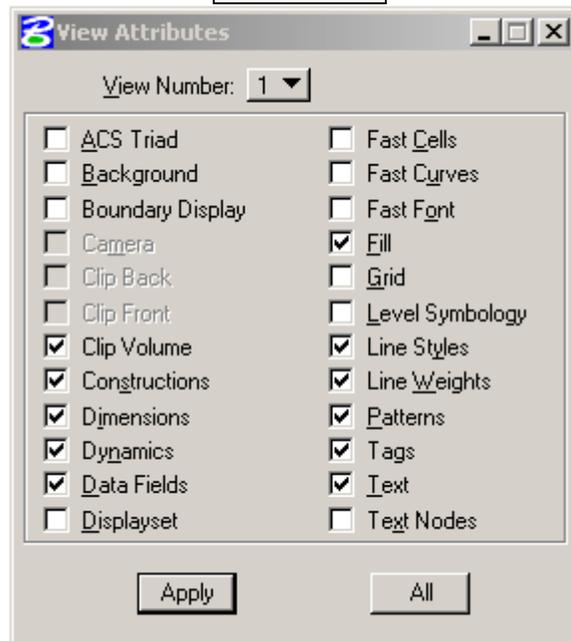
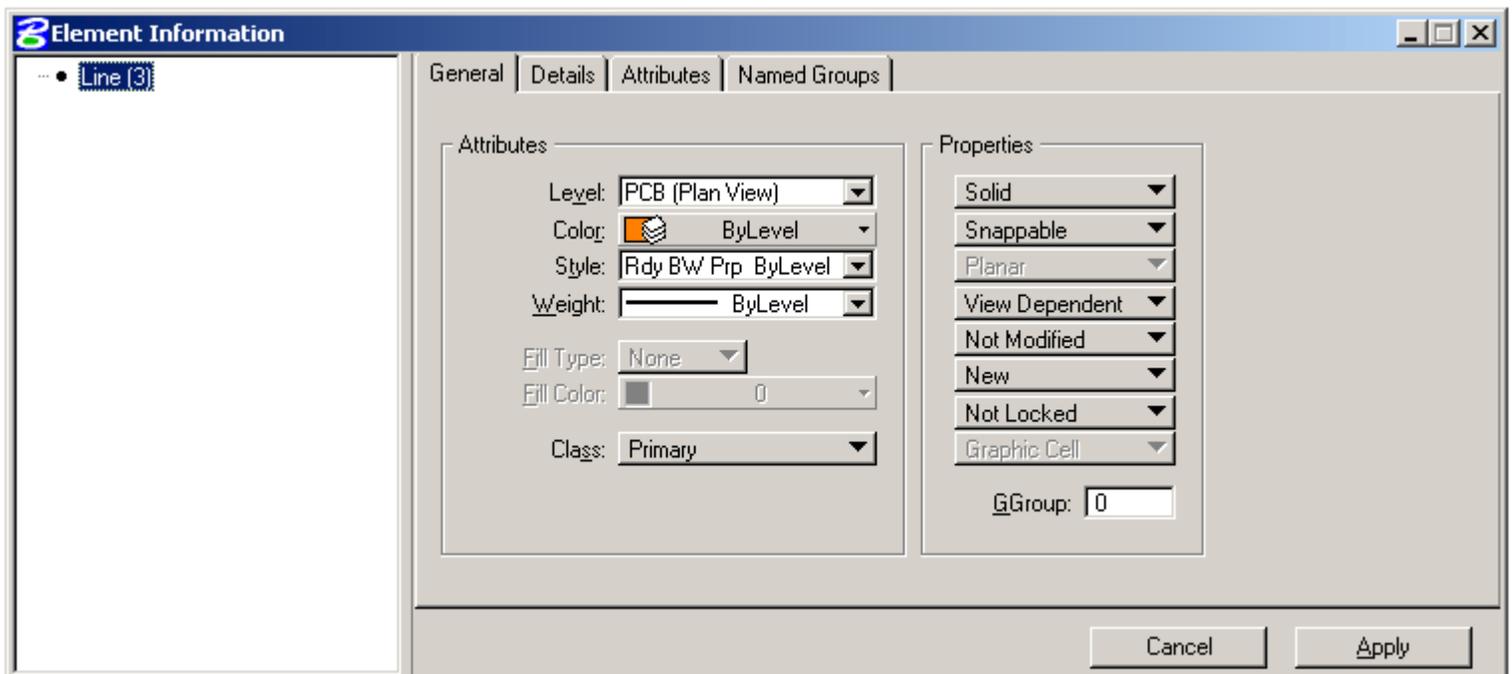
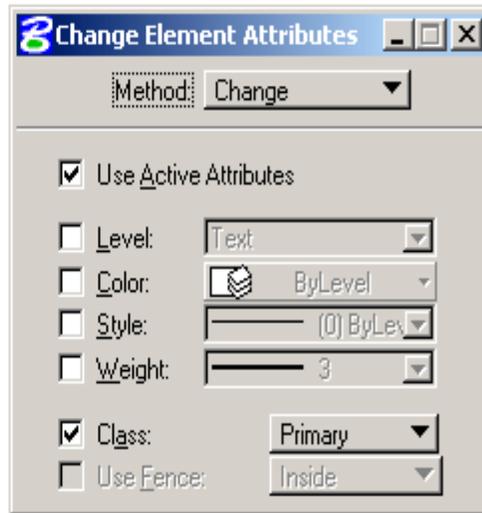


Figure 2

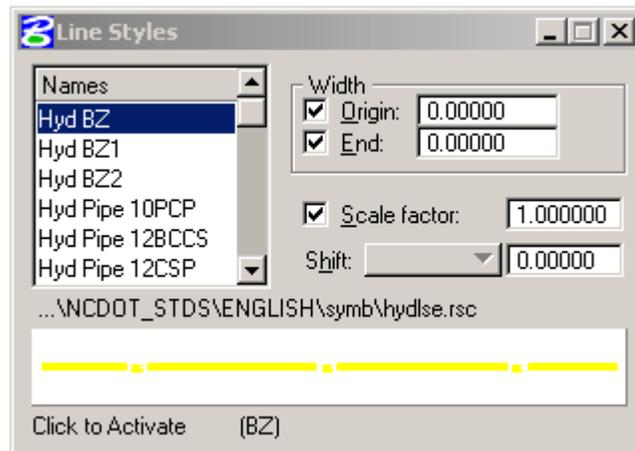
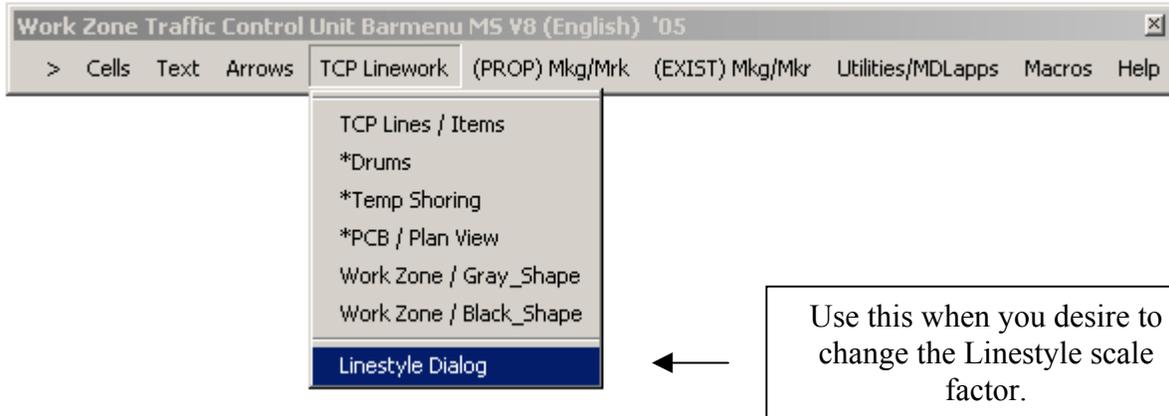


## Other ways of moving elements to other levels.



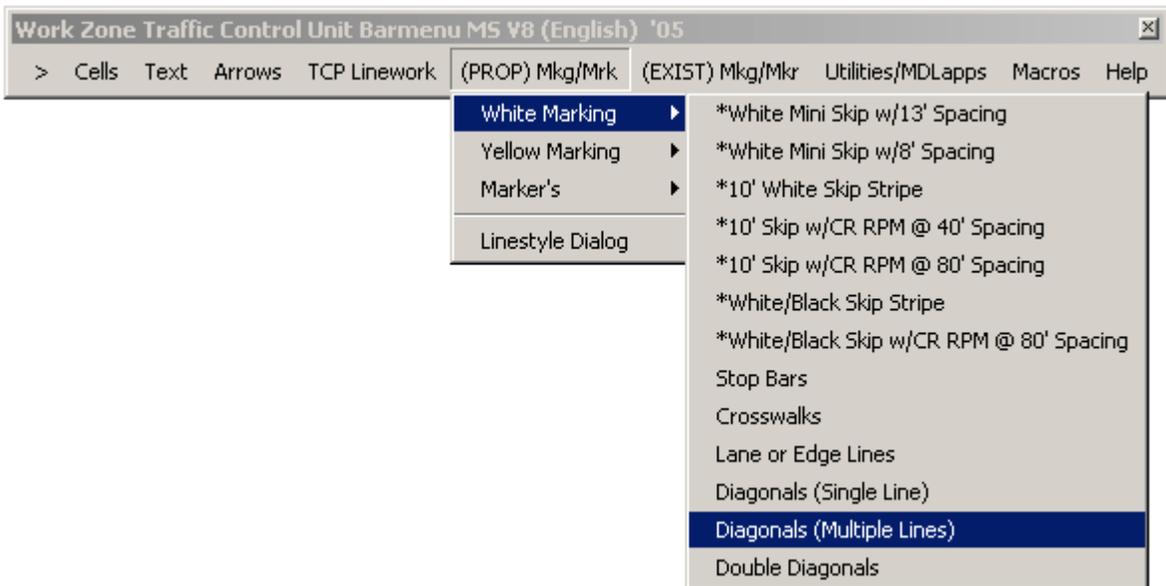
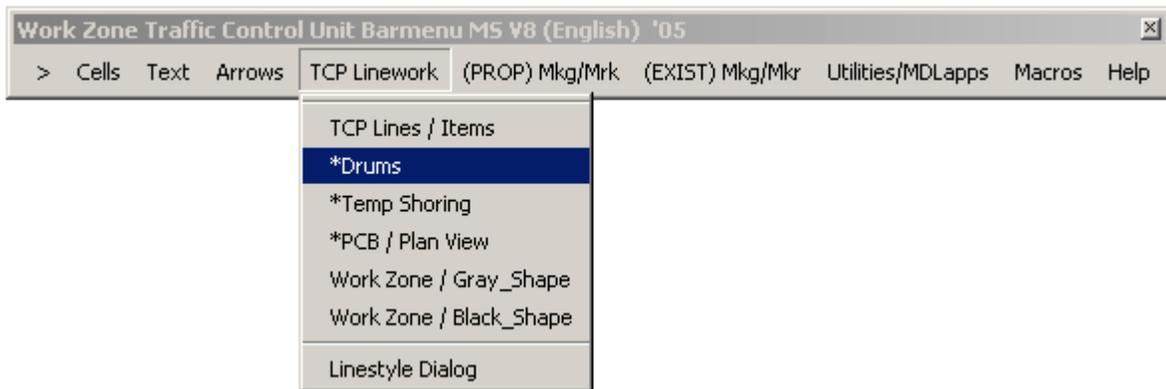
# WZTCU – Barmenu

## Linestyle Dialog Functions

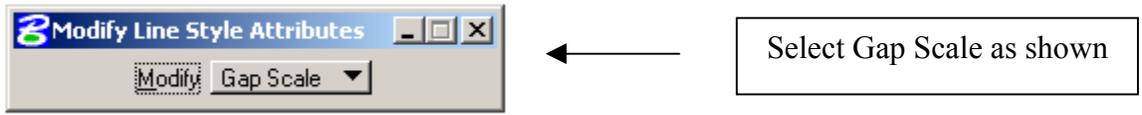
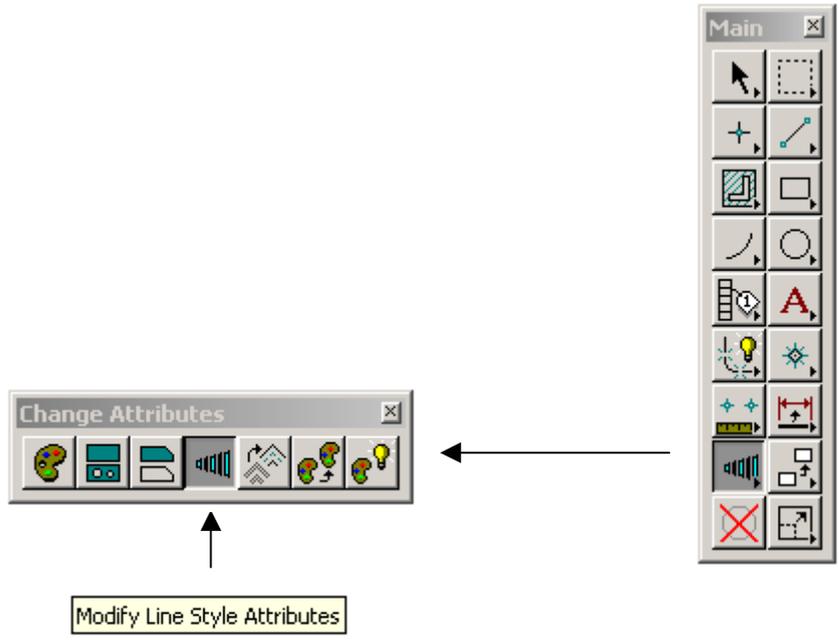


NOTE: If the Linestyle was selected utilizing the Barmenu this dialog comes up automatically for those linestyles you usually desire to change the scale factor on. If you use the ByLevel selection method new to V8 you will have to invoke this dialog on your own; change the scale factor then remember to change it back to 1 once through with the linestyle placement else all subsequent selections will use the improper scale.

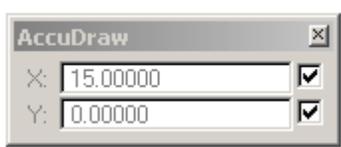
# New Line Styles



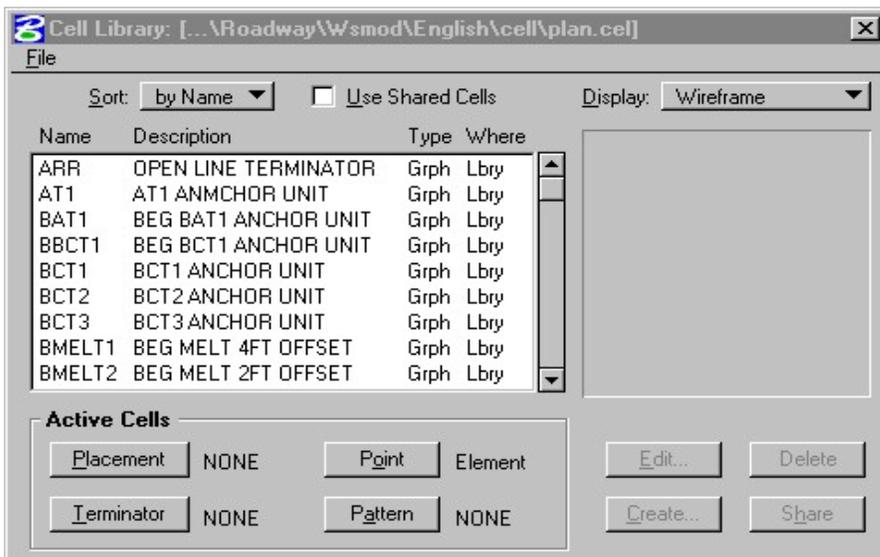
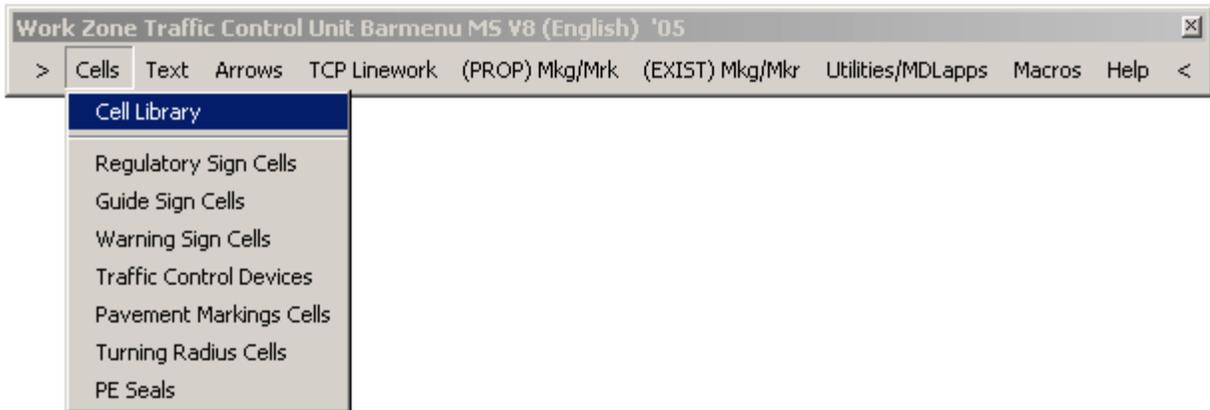
# Changing the Gap Scale with the New Line Styles



Select the element then key in the distance desired with the Accudraw Dialog Box shown below.



## - Cell Library -

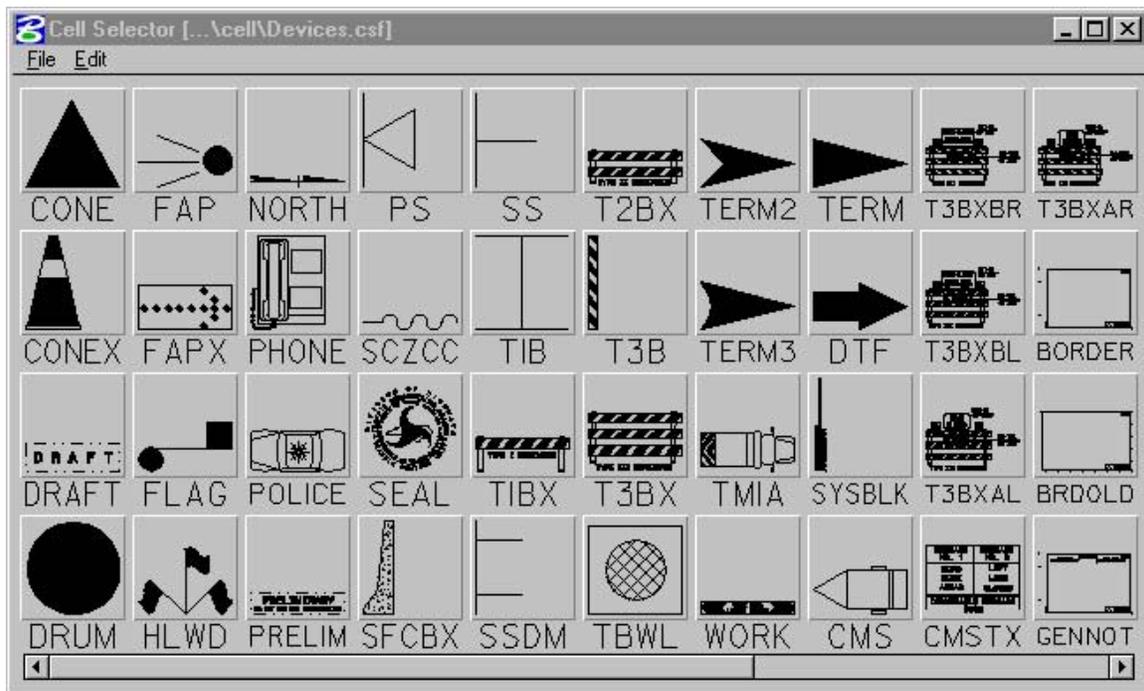
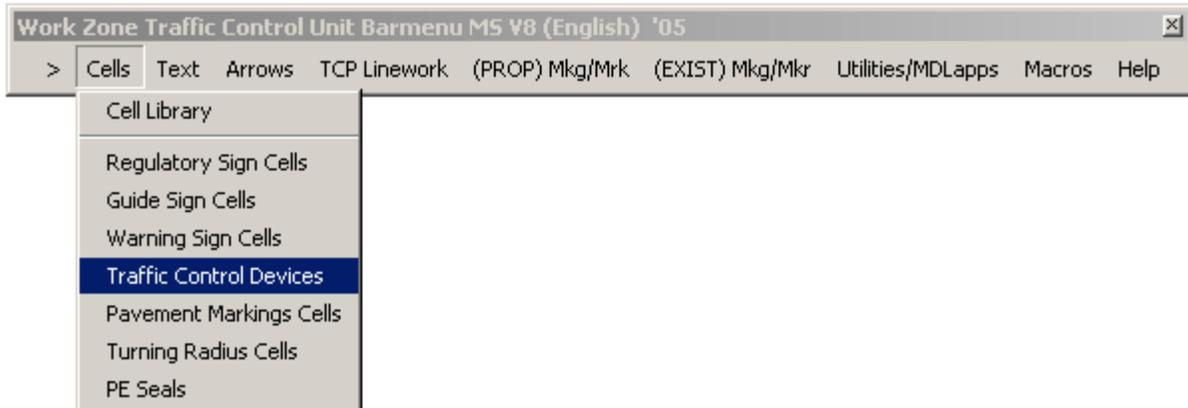


### Overview

This selection does not load the individual cell libraries. It merely loads the generic cell library dialog box to where you can select the desired library from the file dropdown list. This dropdown list is obtained from a MicroStation variable MS\_CELLLIST. This variable points to the directory(s) that contain the appropriate cell libraries and cell library index files (\*.cdx). They are located on our server in a central location.

One nice thing about defining a cell listing is when a cell name is known and entered as the active cell (AC=term) for example, MicroStation will scan each cell library index file in alphabetical order until the cell is located. It will continue to scan the index files until all have been checked. If the cell name is in another file, the last one found will be used. This process eliminates the need for you to remember which cell library the actual cell resides in.

## - Cell Selectors -



### Overview

This Section of the Barmenu utilizes a utility, which brings up a dialog box graphically showing the contents of the related cell libraries. Each selection has been setup to go to the appropriate cell library and bring up a user-sizeable dialog box. Each button within these dialog boxes is associated with a cell from the cell library as selected from the Barmenu. Most of the buttons have been setup to display both the cell graphic as well as the cell name. Some, as with Guide Signs, just display the description (e.g. JCT) .

Each button can also contain a MicroStation key-in which is activated when the button is pressed. This key-in field can contain up to 511 characters.

If for some reason you wish to elaborate and customize the buttons with specific keyins and or create your own cell selector files you may do so by utilizing the pulldown menus on the cell selector dialog box.

Once defined and or customized you must save your file with a unique name in a location on your machine that **WILL NOT BE REPLACED** when we perform a workspace or software update.

To invoke your files simply select any of the listed cell libraries on the Barmenu dropdown; once into a dialog box simply select file open and select your own unique file.

The following gives you a synopsis of the pulldown menu items:

### **File Pulldown Menu**

The File pulldown menu is used to load and save cell selector files. Cell selector files contain each button's configuration information including the size and number of buttons to be displayed.

File > New - Assigns a filename to the current configuration. Save must be used to write the configuration to this new name.

File > Open - Load the previously saved cell selector configuration file.

File > Save - Rewrites the current configuration to the current cell selector file.

File > Save As - Write the current configuration to the cell selector file specified.

File > Load Cell Library - Automatically defines the configuration based on the selected cell library and the current default button settings. Each cell in the selected library is assigned to a button with the command and color for each button specified through the Edit>Set Defaults menu selection. The load command appends to the current configuration, if the user desires to overwrite the current configuration the Edit>Clear Configuration option should be selected prior to loading the cells.

File > Load Remote Cell Library - Lets you select a library on a web page for example.

File > Exit - Closes the Cell Selector dialog box.

## Edit Pulldown Menu

The Edit pulldown menu is used to insert, delete, and configure individual buttons. To modify a button the user must first ensure that the button has focus (highlighted box is around the button). Optionally, the user may double click the mouse on the button to edit.

Edit Cut...Copy...Paste > Allows you to grab previously defined buttons from one file and copy or paste into another.

Edit > Button - Opens the Configure Cell Selector Button dialog box shown below. As the focus changes between items this dialog will update itself so that it always represents the button which has focus.

Edit > Insert - Inserts a new button after the button which has focus. The user must set the button configuration using the dialog box shown below. The default settings for the inserted cell are defined via the Edit>Defaults menu selection.

Edit > Delete - Deletes the button which has focus.

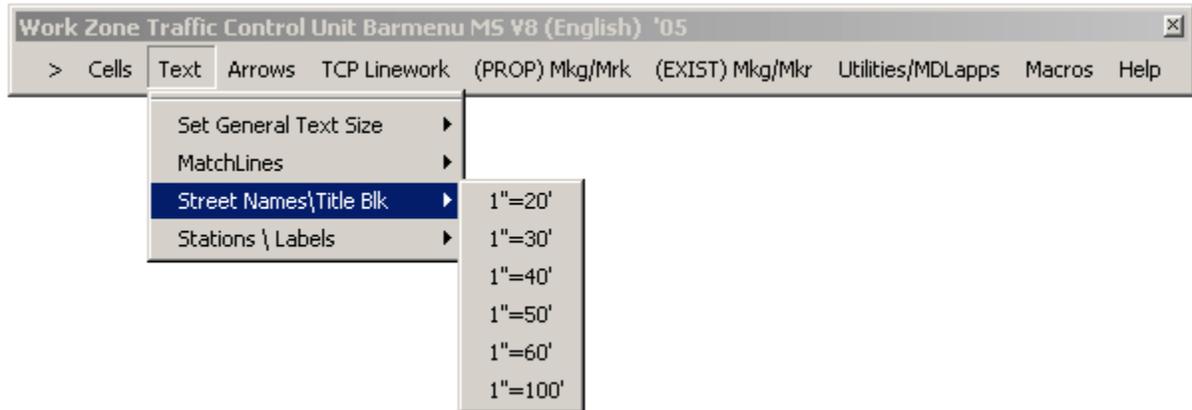
Edit > Clear Configuration - Clear the configuration of all buttons. This command is generally used prior to loading cells from a cell library.

Edit > Button Size - Allows the user to set the size of buttons and the gap between them.

Edit > Defaults - Sets the button defaults, which are used when inserting new button configurations. These defaults should be set prior to loading cells from cell libraries. The default key-in is made up of the prefix of the cell name and a suffix. If the toggle for cell name is set, the cell name is inserted into the key-in string after the string stored in the prefix. The suffix is appended to the string after the cell name (if the toggle is set). For example if the prefix is "AC=", the toggle is set (and the cell is LIGHT), and the prefix is ";aa=45;cm=2,3,25.0,25.0". The complete key-in would be:

"AC=LIGHT;aa=45;cm=2,3,25.0,25.0".

## - Text Sizes -



### Overview

Sets the active text parameters to the symbology for plan view labeling as defined in the Traffic Control's CADD Standards Manual.

This dropdown allows you to select the standard text size, font, weight, color and level for most of the scales used for our plans.

### The four (4) main categories defined are as follows:

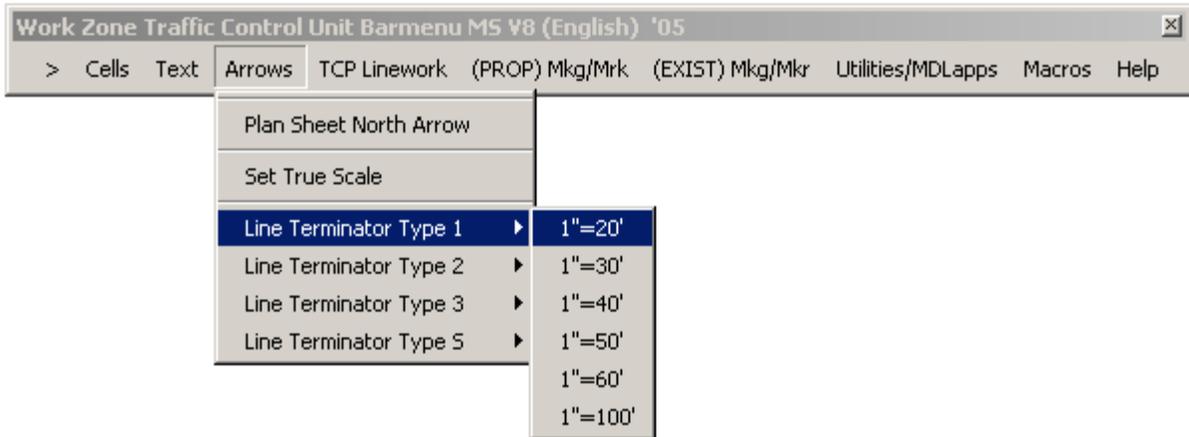
**Set General Text Size** > Used for most of the proposed text or callouts on your drawings.

**MatchLines** > Self explanatory.

**Street Names/Title Blk**> Self explanatory.

**Stations/Labels** > Used for the **Cardinal Station Labels** along each alignment plus other various labels such as for sectional views, etc.

## - Arrows -



### **Plan Sheet North Arrow**

This selection merely makes our standard north arrow cell active for placement into your design file.

NOTE: You will have to set the active scale to suit your own drawings needs.

### **Set True Scale**

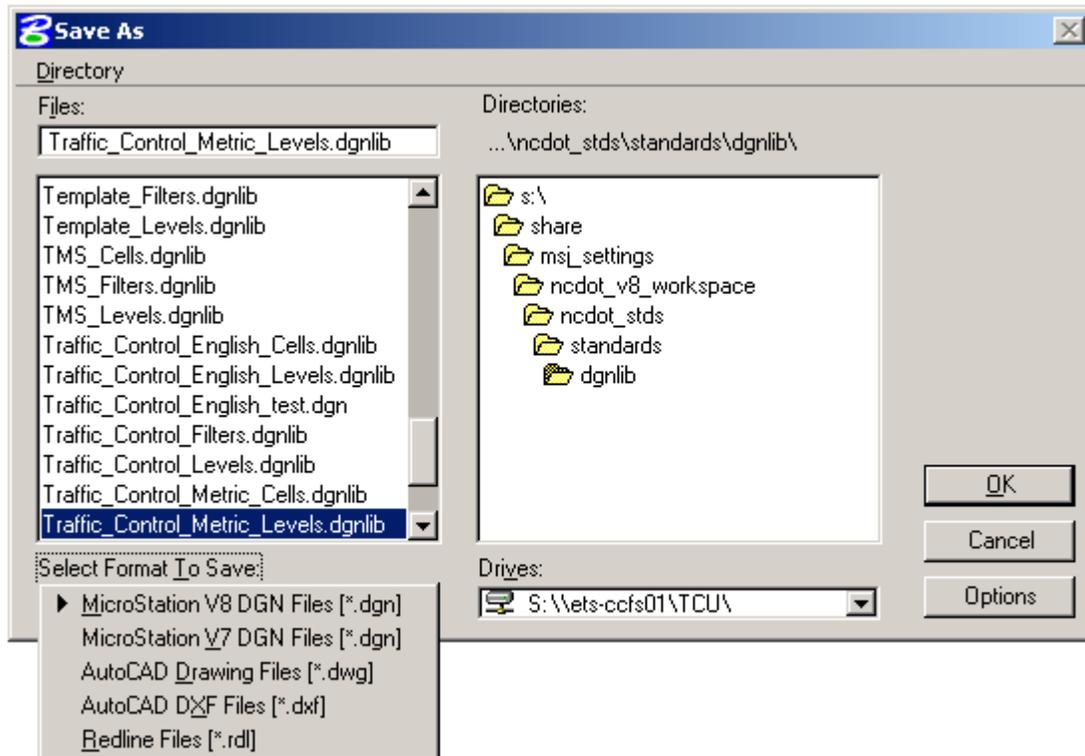
Use this feature to adjust the Line Terminators and Cells to a proper size when dealing with prior or existing design files that were using the "Old English" working unit that has been converted to Microstation V8.

### **Line Terminators**

Sets the active Line Terminator to the desired type and proper size relative to the drawing scale you are utilizing.

There are currently four (4) types to choose from according to you needs or preference.

## Saving Design Files to other Versions / Formats



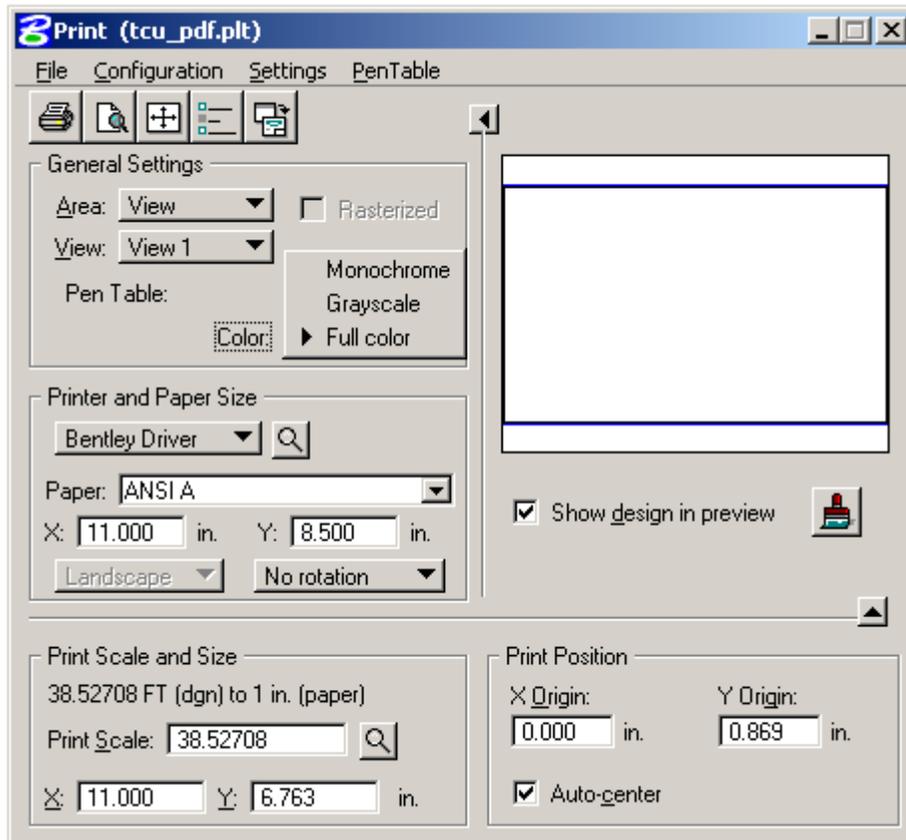
### V8 to V7

To save your version 8 or V8 files to version 7 or V7 simply choose File...Save As... from the top menu within Microstation and select the proper version or format from the drop down menu shown above.

NOTE: Be sure to rename your file and select the destination folder or directory before hitting the OK button.

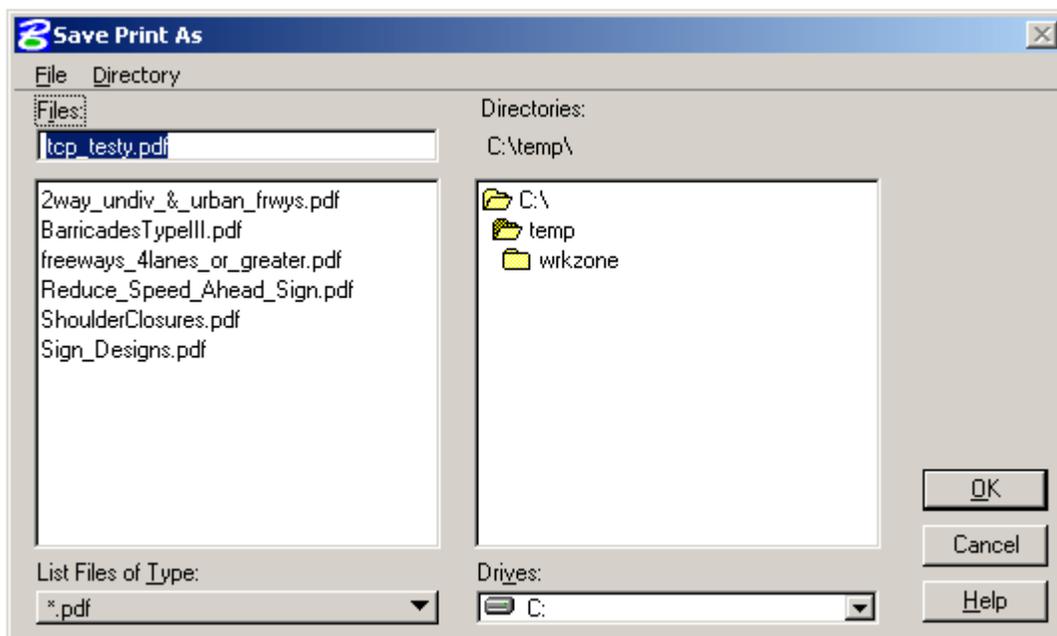
# Creating PDF Files within Microstation

## 1. Using the Print or Cntl+P function within Microstation



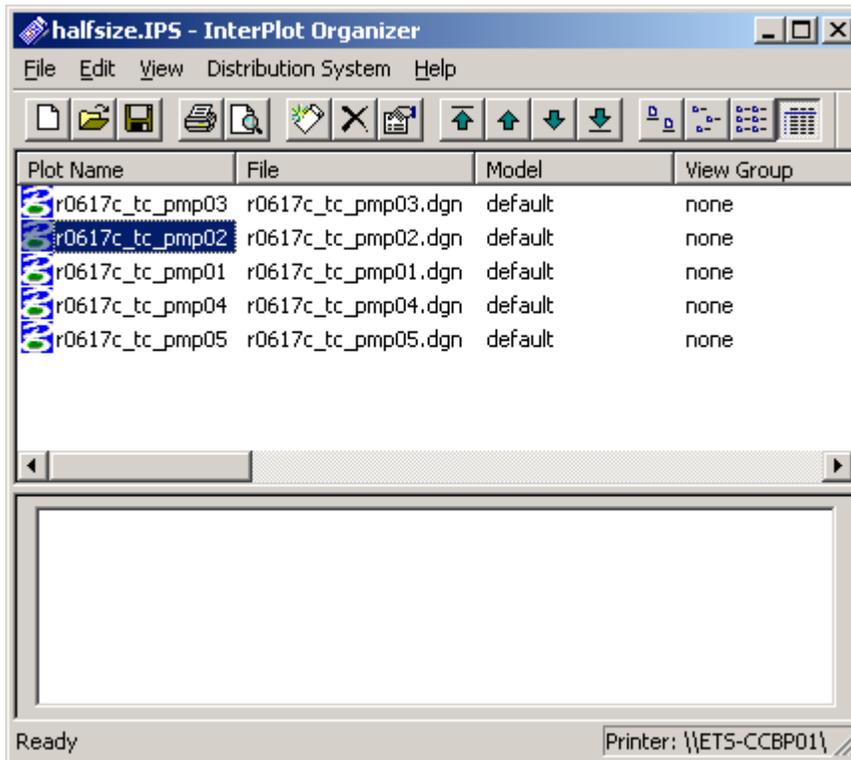
Once you have defined or placed a fence around the elements you wish to export or plot Select – **File...** then **Print** from the Top menu in Microstation or hit the **Cntl+P** keys simultaneously to invoke the print dialog box shown to the left.

**NOTE:** The plot driver is already established for the pdf output. All you need do is choose whether you want Monochrome, Grayscale or Full Color results.

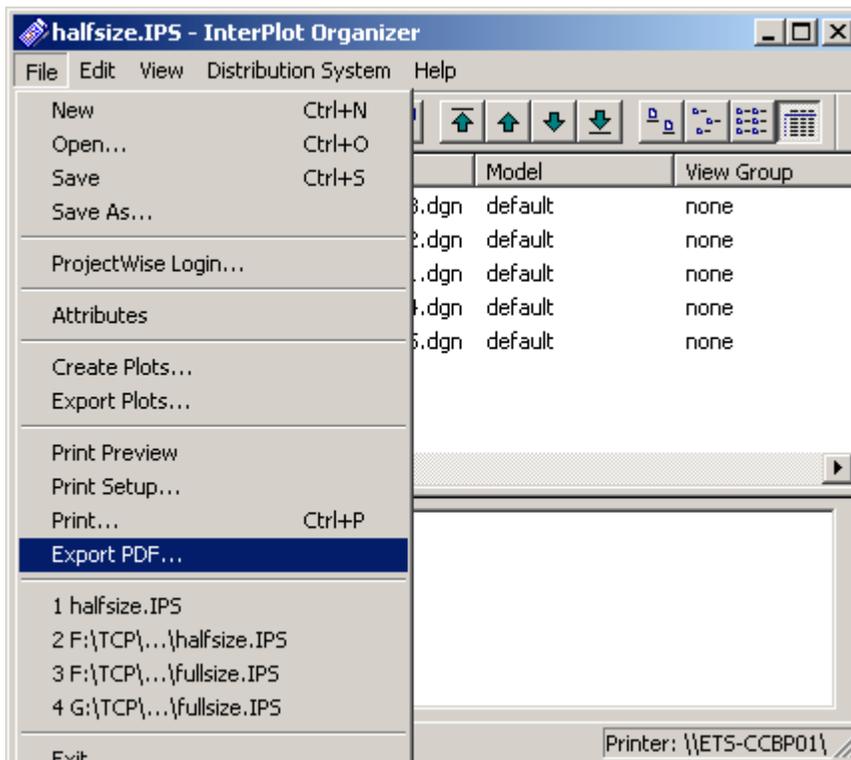


Next hit the **Printer Icon** or Select **File....Print** from the top menu then choose the Name and the location you wish the file to be created in on our system.

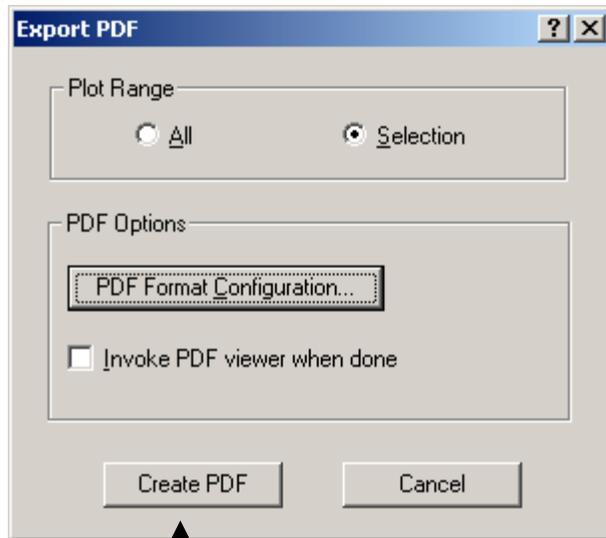
## 2. Using InterPlot Organizer



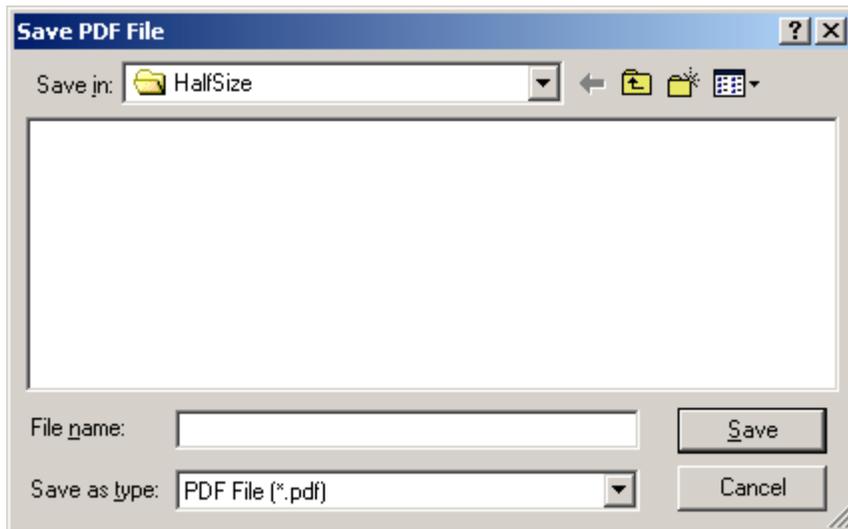
Choose a file previously saved within the InterPlot Organizer or create a plot using IPLOT making sure you save the iparm, (ifile). Next drag and drop the ifile into the InterPlot Organizer Window as shown on the Left.



Next select the file you desire within the Organizer window and Select **File...Export PDF...** from the top menu.

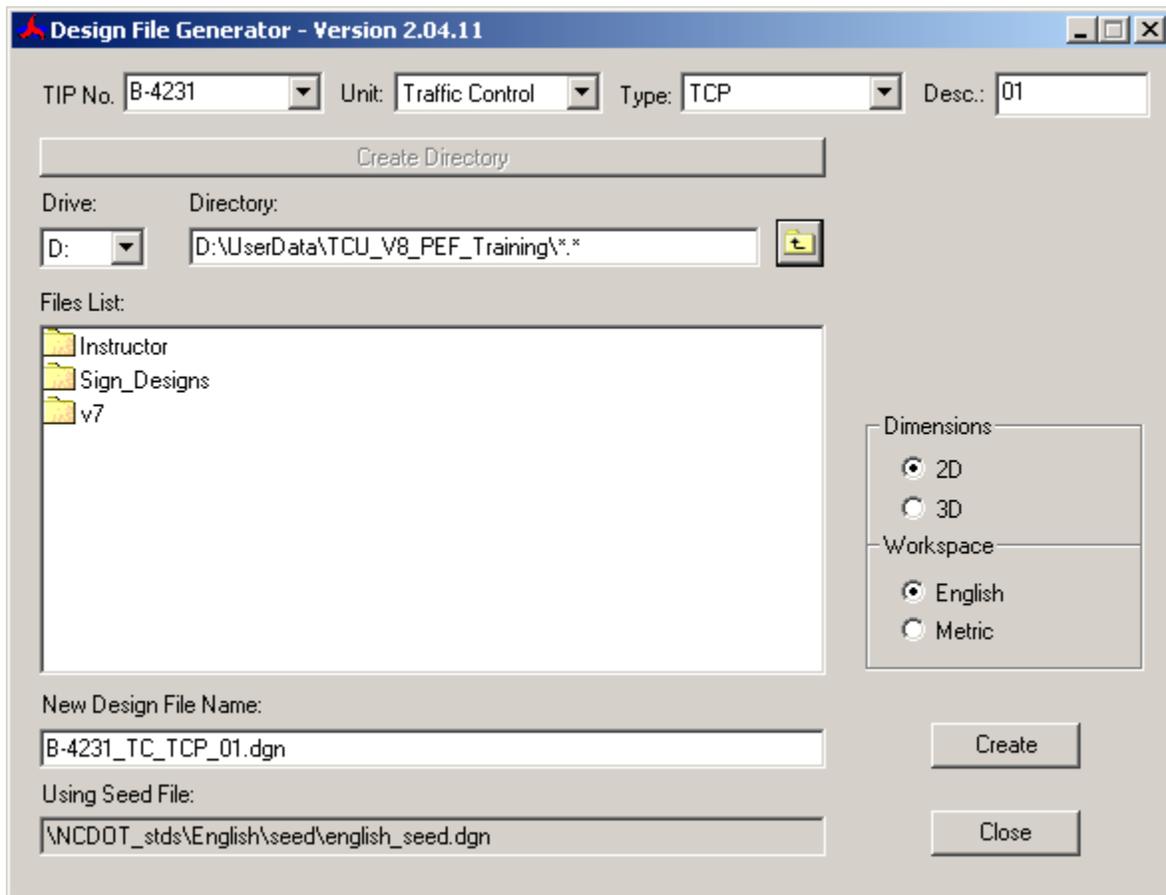


Make other selections as desired then Hit the **Create PDF** button.



**Name** and **Save** the file to the desired location on our system.

# The New Design File Generator Program



This program is an extremely helpful tool to create Traffic Control design files utilizing the current NCDOT file naming convention. Setup a shortcut Icon on your desktop as you will want this program often.

## File Naming Convention

1. **TCP Design File Naming Structure.** When creating design files, name each file according to the convention **TIPNumber\_Unit\_FileType\_Desc.dgn**:
  - **TIPNumber** – use the full tip number without any other symbols like “-“.
  - **Unit** – This will always be TC for Traffic Control.
  - **File Type** – There are four basic types used in Traffic Control as shown below.
  - **Desc** – This is optional and can be any “short” description you want to use. Some units are using this for a date. A good use would be for revisions (e.g. \_Rev#1). As we move into using file referencing, this can be used to indicate the Phase of the plan. (e.g. **B9999BB\_TC\_Tcp1\_PH1.dgn** or **B9999BB\_TC\_Tcp23\_PH3.dgn**)
    - a. **B9999BB\_TC\_BPmp.dgn** - This is the base pavement marking file. Roadway files will be referenced to the these base files. **If the Roadway files have a true “Display On Reference” relationship then the Roadway files will be archived with the other files, otherwise they will be deleted.**
    - b. **B9999BB\_TC\_pmp#.dgn** - This is the pavement marking plan. The “#” denotes file number beginning with the number 1 and going to the last file. **The PMP base map will be referenced to these files.**
    - c. **B9999BB\_TC\_BTcp.dgn** – This is the base traffic control plan file. Roadway files will be referenced to these base files. **If the Roadway files have a true “Display On Reference” relationship then the Roadway files will be archived with the other files, otherwise they will be deleted.**
    - d. **B9999BB\_TC\_tcp#.dgn** – This are the actual traffic control plan design files. These files will consist of the plan sheets for your design. **The TCP Base map will be referenced to these files.** The “tcp” denotes the traffic control plan. The “#” denotes file number beginning with the number 1 and going to the last file.

**NOTE:** To facilitate file referencing and plotting, you should have only **one design sheet per file (Mandatory)**. However, this is not critical for Title, Phasing, and General Notes sheets.

# Reasons for One File per Sheet

- Better organization of plans.
- Allows the plans to be coordinately correct.
- Allows others following behind you to quickly ascertain and retrieve data from your project file.
- Also, allows others the ability to purge your project files leaving only the essential final drawings.
- If one file gets corrupt to where you have to restore same, the entire project isn't shut down.
- Allows two or more people the ability to work on a set of plans without the duplication of files.
- Easier for retrieval purposes many years down the road.
- Allows someone who is not familiar with your project, the ability to go in and create a plot on specific sheets in very little time.
- Leads us into the use of reference files, which again eliminates duplication of files and provides for a more efficient method of file manipulation.
- Finally, it is now mandatory.