

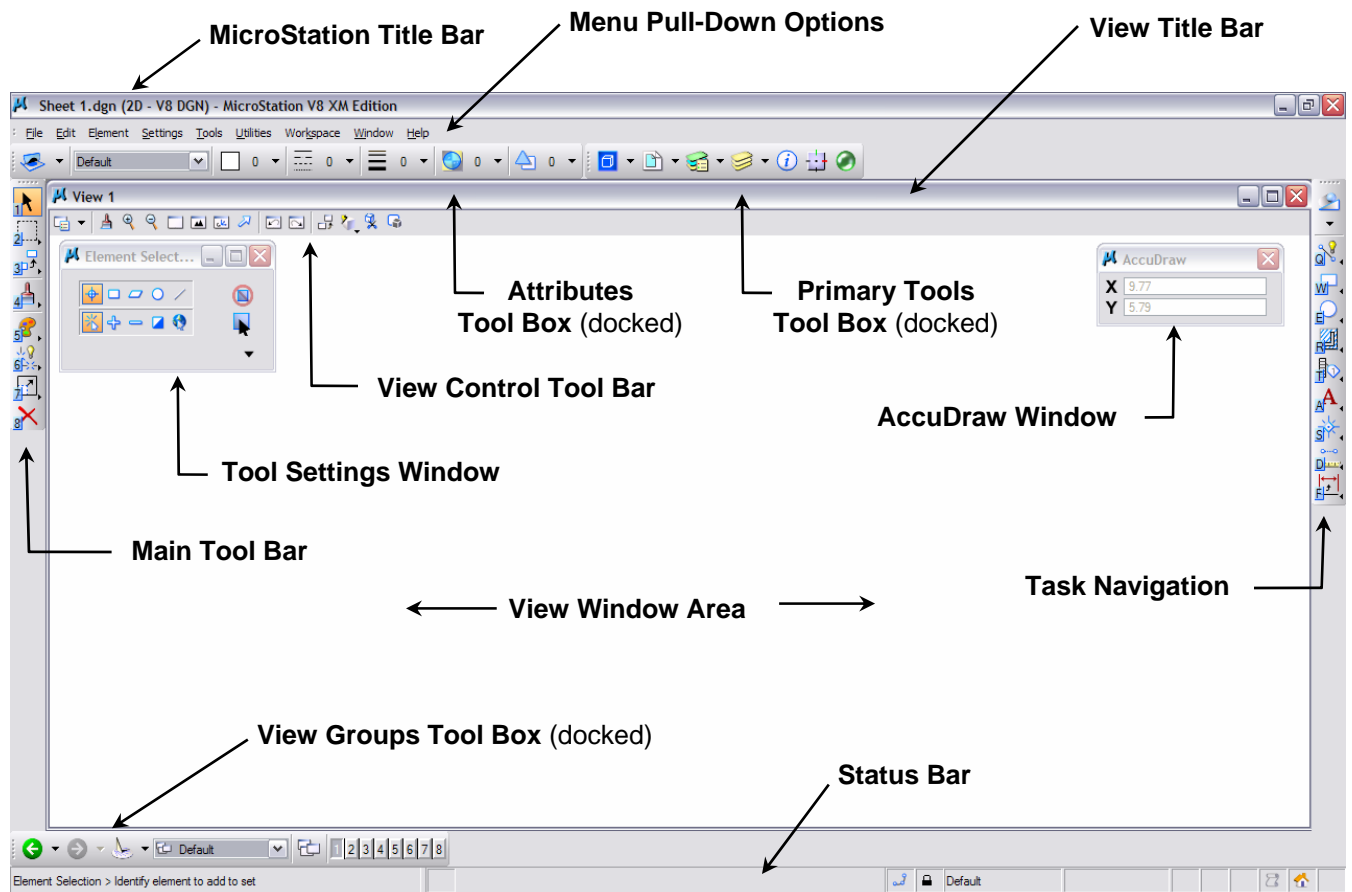
chapter 2

The MicroStation Graphics Environment

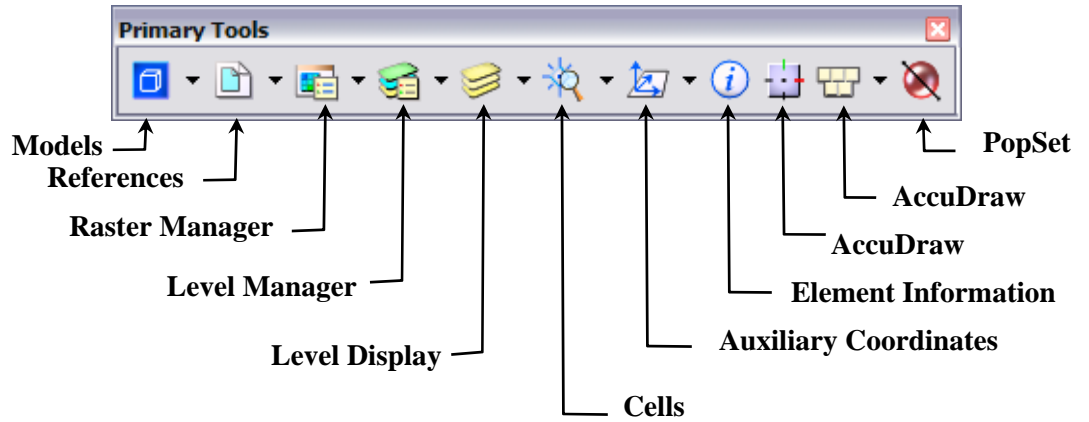
2. The MicroStation Graphics Environment

MicroStation Interface

The **MicroStation Design Interface** contains a variety of tool command icons, toggles, dialog boxes, pull-down menus, and various information displays. Most of these interface tools and options will be discussed in this chapter as well as others.

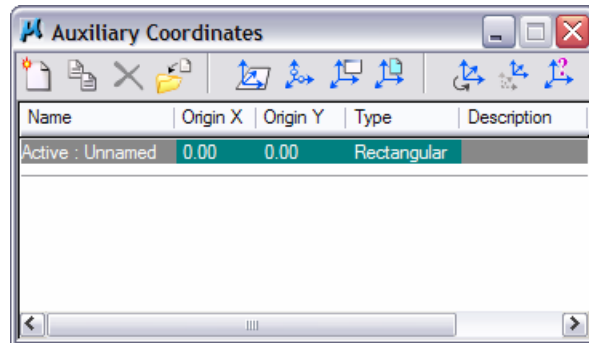


Primary Tools Tool Box





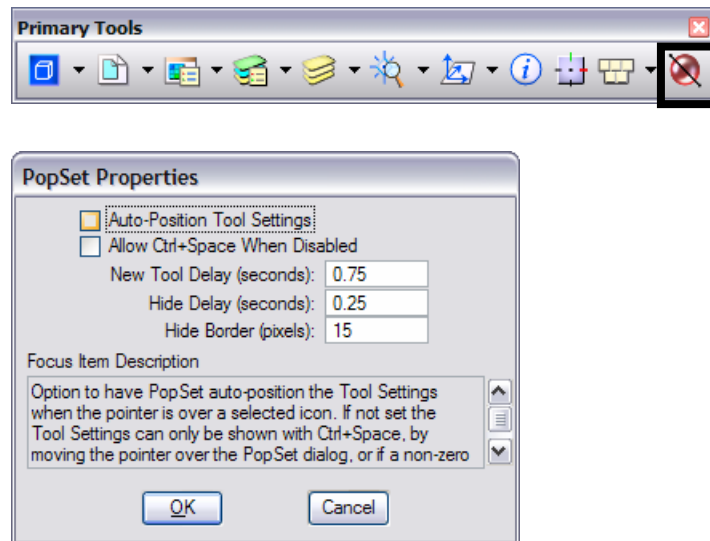
Auxiliary Coordinates

The Primary Tools has added one new icon called Auxiliary Coordinates which will open the Auxiliary Coordinates dialog for managing and switching between coordinate systems.



PopSet

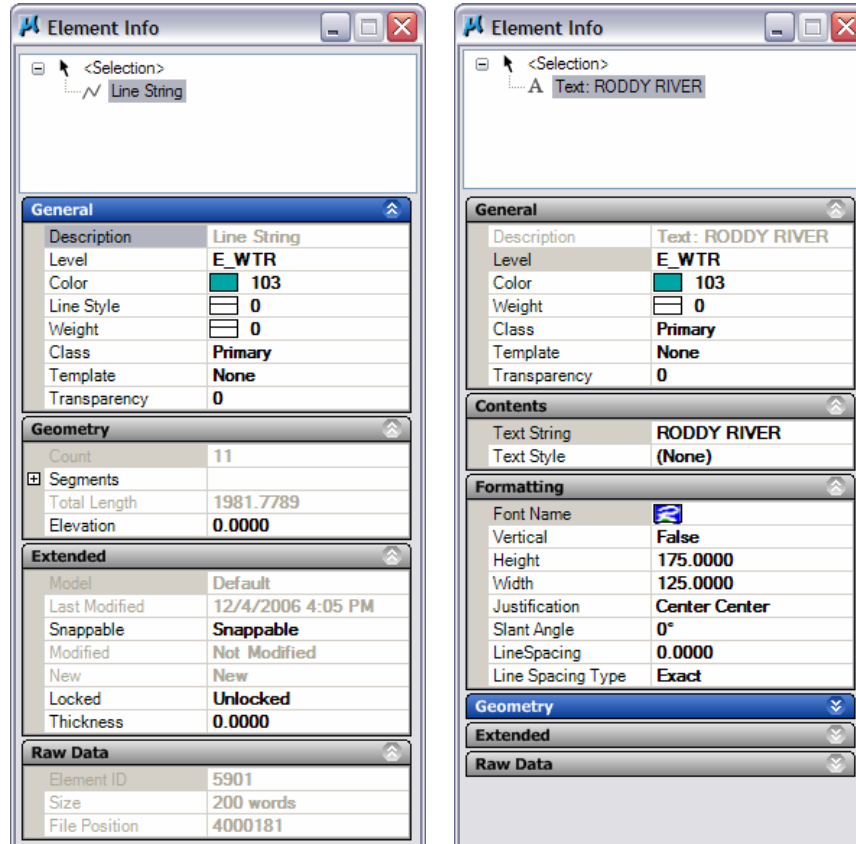
Additionally, the **PopSet**   tool works differently then before. When the **PopSet** icon is enabled, the Tool Settings window will automatically hide itself when you move your cursor within the buffer area around the dialog. The buffer area is defined in PopSet Properties which can be opened by <R> the PopSet button and selecting Properties.



The way to tell if **PopSet** is *enabled* or *disabled* is that enabling **PopSet** will turn the icon to green.

Element Information

The Element Information dialog box has been redesigned and has additional ways for editing element information. Information displayed varies depending what type of elements are selected. If multiple elements are selected the elements will be listed in the top section Selection tree.

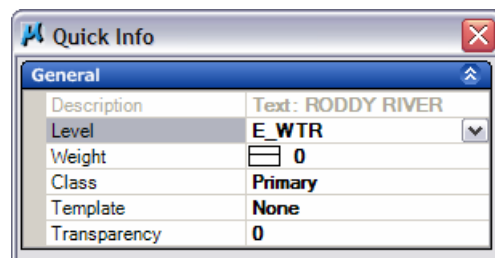


Element properties can be edited from this dialog by selecting the field and either key in the new value or select from the drop down menu.

Right clicking in the dialog will bring up the Show/Hide shortcut menu to control the display of available tabs.

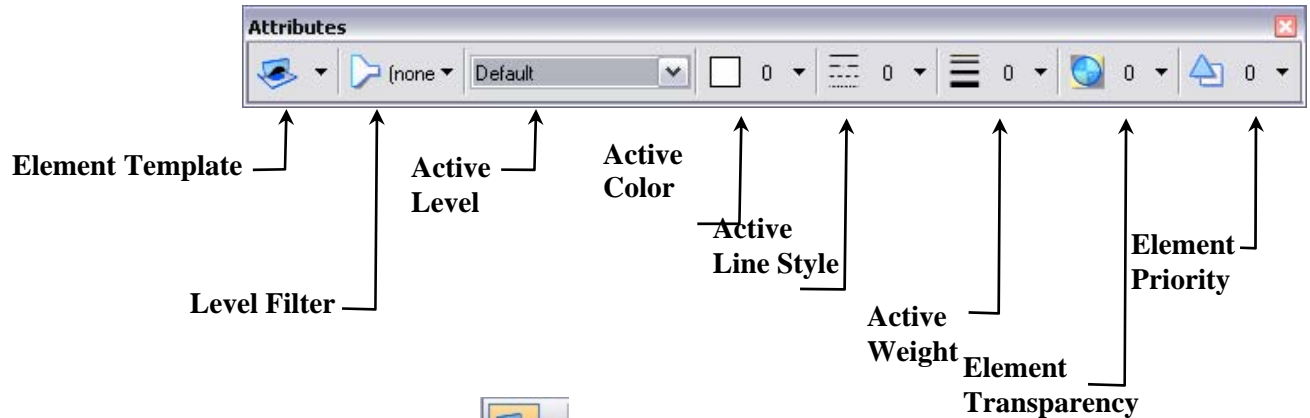
Quick Info


This dialog will display the element level and symbology. To access the dialog hover your cursor over the element, hold down the Alt key, then right click.




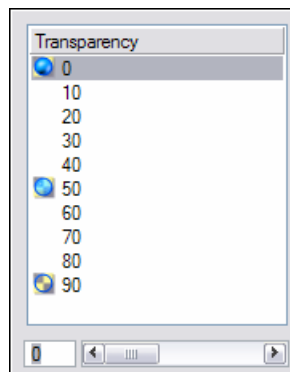
Attributes Tool Box

The Attributes toolbar controls the element symbology prior to placement. Functionality highlights include:




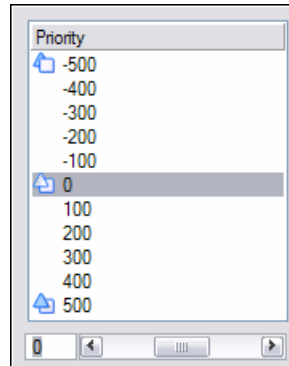
Element Template  works similar to Settings Manager by defining level, color, style, weight, and type of element being placed. If the Element Template lock is enabled, then any change to the Element Template will globally update elements placed.

Element Transparency  allows elements color fill that is defined to be transparent. The setting can be selected from the pull down or typed in manual. A setting of 0 is opaque and a setting of 100 is virtually invisible.



The MicroStation Graphics Environment

Element Priority  allows the elements to be placed in front of or behind other elements in the file regardless of when the element is placed. The setting can be selected from the pull down or typed in manually. Valid values for the active design model range from negative 500 to positive 500. Element Priority only works with 2D design models. In 3D design models, element elevation replaces the priority.



The MicroStation Graphics Environment

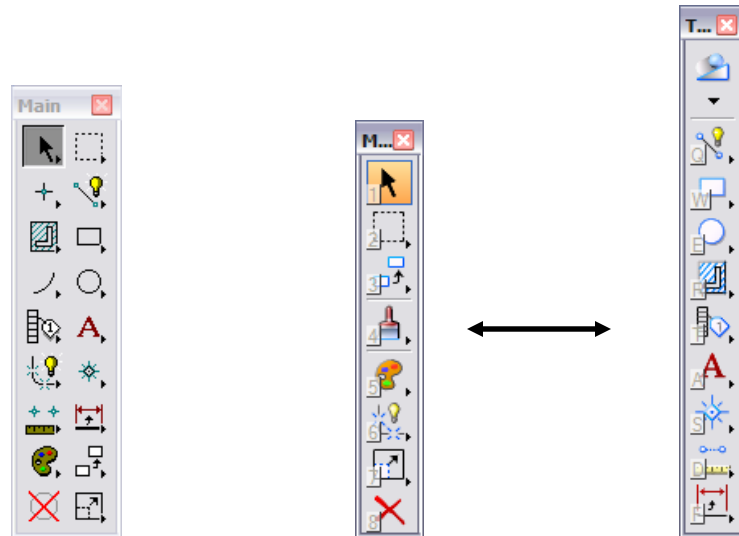
Main Tool Frame - 2004 Edition

The 2004 Edition Main Tool Frame has been replaced by two new tool boxes in the XM Edition.

**2004 Edition
Main Tool Frame**

**XM Edition
Main Tool Box**

**XM Edition
Task Navigation Tool Box**

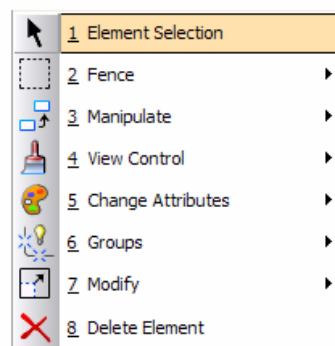


Main Tool box

The Main tool box includes the tools that will in some manner manipulate current elements. The numbers next to each icon represents the positional keyboard mapping assigned to each icon. Each icon has a child toolbar that can be ripped from the parent toolbar except for Element Selection [1] and Delete [8] icons.



If you have the default function key menu loaded F3 will place the Main fly-out on your cursor.




Task Navigation Tool Frame

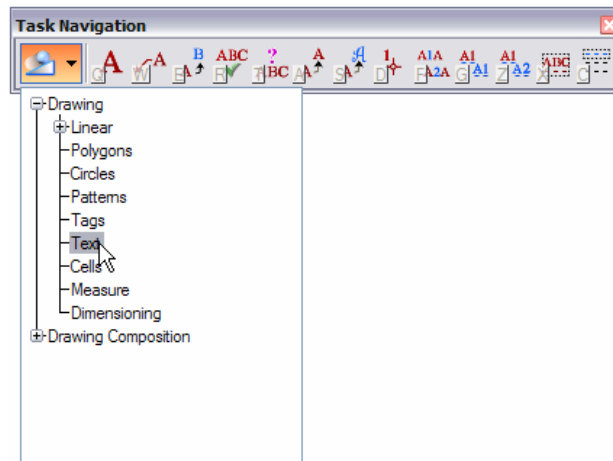
The Task toolbar has been added to include the primary creation tools for elements, text, dimensions etc. The purpose of the task tool bar is to be customized in such a way that it encourages a general workflow. Different Task lists can be displayed by selecting the Task button on the toolbar.



Task-based Interface

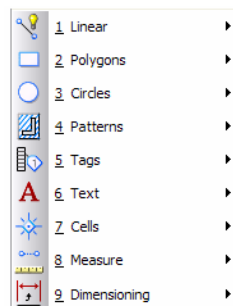
When thinking about Task Navigation think “Workflow”. By default the Tasks are in a grouping of tools that similar. Customizing the order of the tools can be used to follow a specific work flow or general progression of work.

The Task List  icon will open the task list. By selecting a tool group from the list will display the tools from the list.

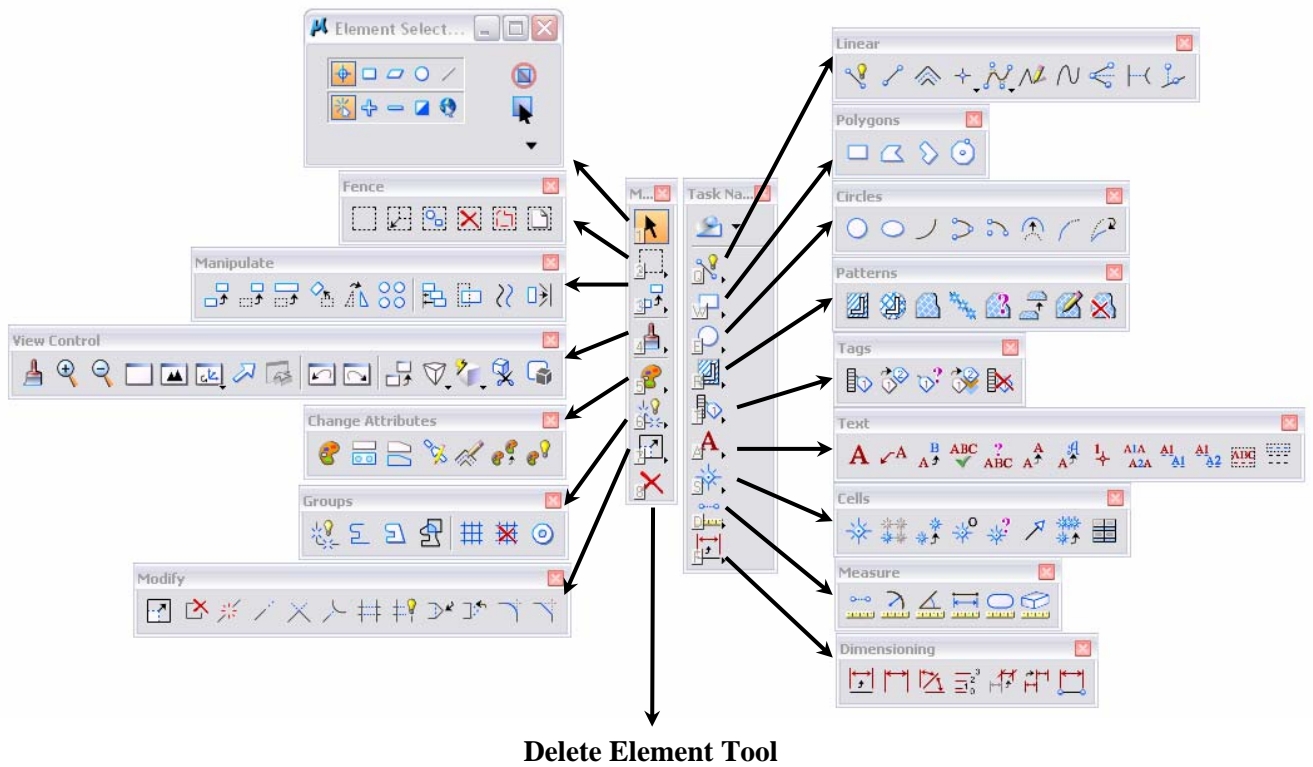


The **Page Up** and **Page Down** keys will quickly page through the Task Navigation tools.

If you have the default function key menu loaded **F4** will place the Task Navigation flyout on your cursor.



Use the flyout menu option *Open as Toolbox* to display a Flyout tool box.



Positional Keyboard mapping

Positional Keyboard mapping allows access to tools through the keyboard. The three main toolbars that are defined with positional keyboard mapping are the Main, Task Navigation and Tool Settings dialog. Each tool has a zone on the keyboard assigned to it. For example the Main tool box uses the numbers 1-8 across the top of the keyboard.

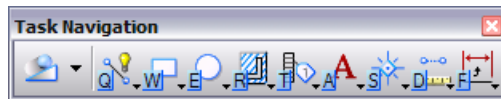
Main tool box

The Main tool box has the keyboard numbers assigned to it. Pressing a number will accomplish the same thing as selecting the icon. For numbers 2-7, a flyout list will appear on you cursor showing the additional tools from that child toolbox, either select the tool with the cursor or continue utilizing the keyboard mapping.



Task Navigation

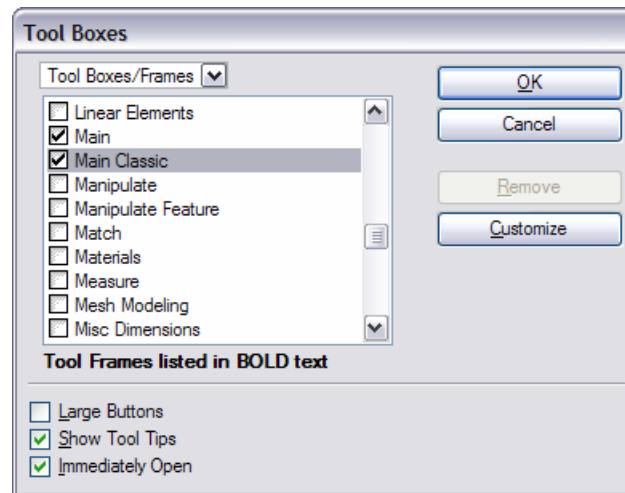
The Task Navigation has the left side of the keyboard assigned to it. Pressing a letter will accomplish the same thing as selecting an icon. By pressing a letter, a flyout list will appear on the cursor showing the additional tools from that child toolbox. A tool can be selected with the cursor or by continuing to utilize the keyboard mapping.



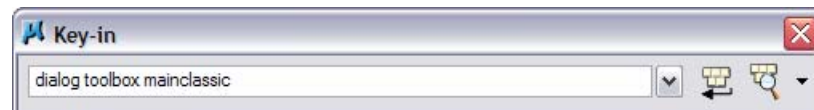
Main Classic

If this is all to much to figure out at this time. The Main Classic Tool box can be accessed from the Tool Boxes dialog or Key-in Browser.

1. From the MicroStation pull down menu **Tools > Tool Boxes**.




1. From the MicroStation Key-in Browser
“DIALOG TOOLBOX MAINCLASSIC”.

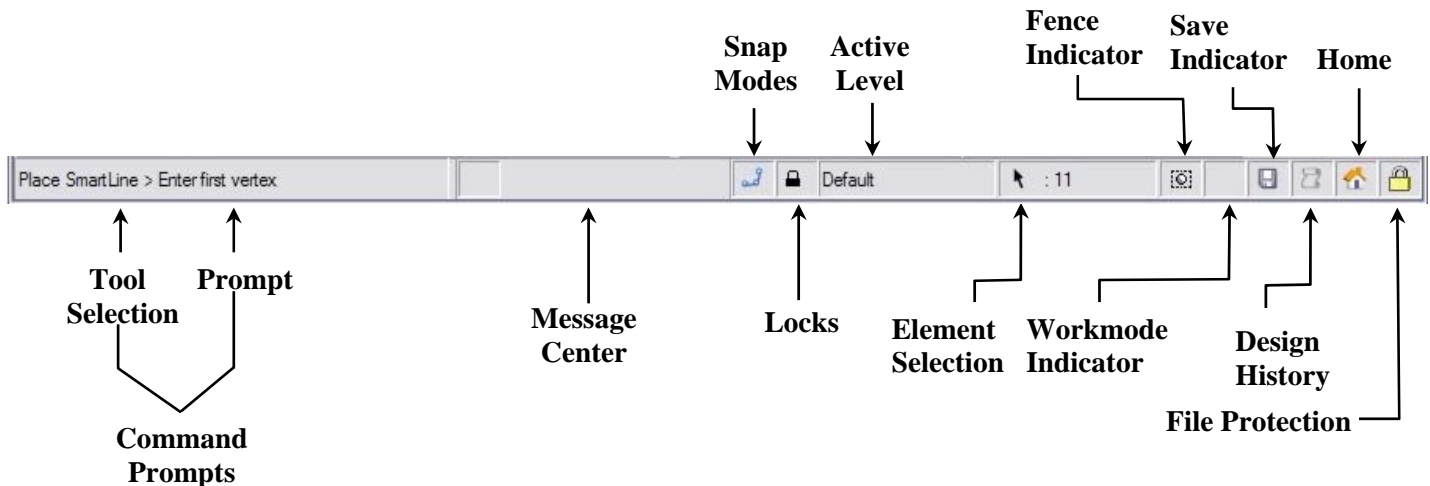


Using the Main Classic tool box will get you productive in MicroStation XM out of the gate. But do not give up on the Positional Keyboard Mapping, Main and Task Navigation tool boxes.





Status Bar

The Status bar has added one new section to display if the **Design History**  has been initialized. By selecting the Design History icon in the status bar you can initialize it.

Also there is a new look to the Home  section of the status bar. The status bar will display one of four options depending on which dialog has focus.



The Home section of the status bar will display one of four options depending on which dialog has focus.

-  **Home** allows use of the positional keyboard mapping.
-  **Tool Settings** dialog has input focus.
-  **AccuDraw** dialog has input focus.
-  **Key-in Browser** has input focus.

Additional Keyboard Focus

Escape – will take you to the Home position in the Status Bar

Enter – will open the Key-in Browser at your cursor

Spacebar – will change the focus to the AccuDraw dialog

Tab – will cycle elements that overlap (use instead of right click)

Page Up – move up in the Task Navigation tool box tree

Page Down – move down in the Task Navigation tool box tree

F9 – will open the key-in browser at your cursor.

F10 – change focus to Tool Settings window

F11 – will change the focus to the AccuDraw dialog.

F12 – will take you to the Home position in the status bar

Tool Settings Window

Many tools in MicroStation offer several different options that can be utilized to achieve a specific way elements are to be created or modified. These various tool options are located in a special dialog box, referred to as a window (Tool Settings window).

The Tool Setting window has the right side of the keyboard assigned to it. Pressing a letter will accomplish the same thing as selecting an option in the dialog. To see which letters are assigned to the Tool Settings window select the Escape key and the letters will temporarily appear.



If you have the default function key menu loaded **F10** will open the Tool Settings window. If the Tool Settings window is docked it will receive focus.

The main things to remember regarding the Tool Settings window are:

- The Tool Settings window can be moved or relocated anywhere on or outside the MicroStation application window by left-click and dragging on the title bar.

- The Tool Settings window can be docked along the side of the application window.

- To display the options for a specific tool, simply click on the tool and the Tool Settings window will automatically display the specific options available for that tool.

- If there are no additional options available for a specific tool, the Tool Settings window will still be displayed, showing just the active tool in the title bar.

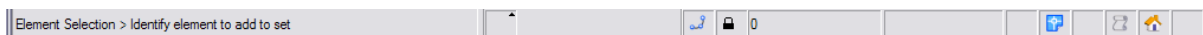
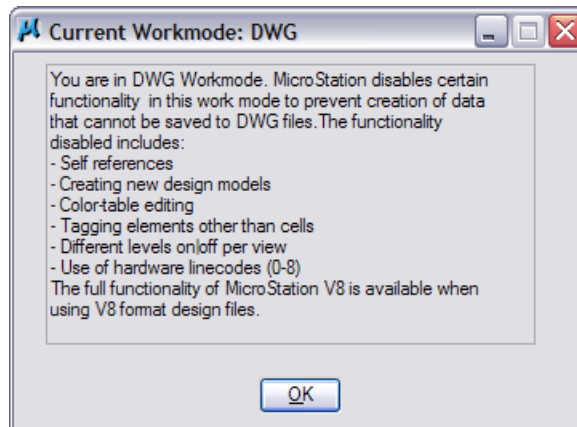
Workmodes

MicroStation XM provides the ability to be compatible with other file formats. This is accomplished by using different working environments or **workmodes**. Along with the **V8 DGN Workmode**, the other two available working environments are **MicroStation V7 Workmode** and **AutoCAD DWG Workmode**. Each workmode has its own functional capabilities. By placing your pointer in this area and left clicking you will open a dialog with a description of what functionality is available in the current workmode.

DWG Workmode

The **DWG Workmode** is the default workmode when in a DWG or DXF file. When in this workmode, the MicroStation V8 XM capabilities that are not natively compatible with the AutoCAD file format are disabled.

MicroStation XM can now open AutoCAD files up to version 2008.



↑
DWG Workmode
indicator

Mouse Mechanics

The mouse has expanded its functionality greatly by including useful tools to the typical two button mouse with wheel. The wheel is now referred to the “XButton 1” which, by default, is the pan drag command. Button assignments are now stored as a file that can be saved by the user, the default name for this file is *default.btnmenu*.

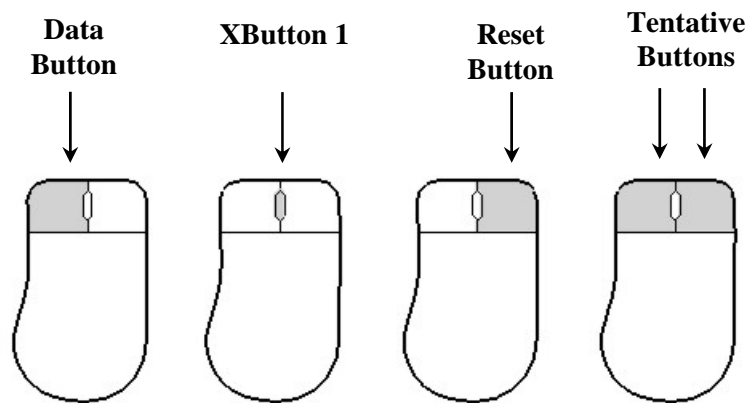
Data <D> – Used to select commands, icons, pull-down menus, etc.
The data button is also used to accept or confirm a command or tentative snap.

XButton 1 <M> - Used as the pan view command in the active view.

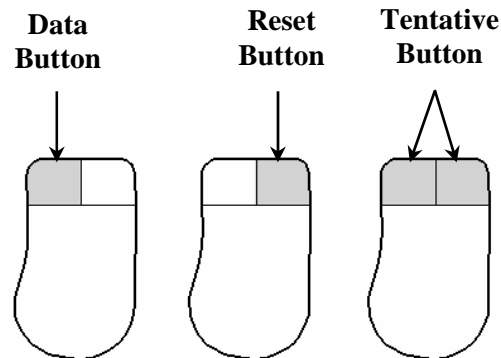
Reset <R> – Used to release a current operation or reset a command.

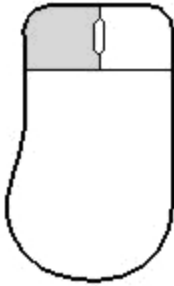
Tentative <T> – Used as a tool for temporarily selecting a location or element.

Default Button Assignments for a Three-Button Mouse



Default Button Assignments for a Two-Button Mouse



Left button “Data”

Click: Accept or identify

Shift + Click: Pan view

Ctrl + Click: Continue a selection

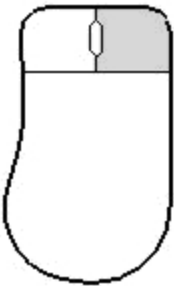
Alt + Click: Match attributes from an element

Drag: Defines start and stop of a selection area, fence or element

Shift + Ctrl: Temporarily disables AccuSnap

Shift + Ctrl + Drag: Element selection overlap block

Double Click: Edit text

Right button “Reset”

Click: reset command

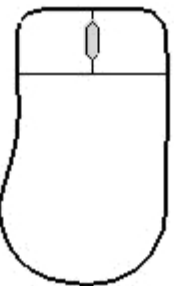
Click and Hold: MicroStation context sensitive menu on you cursor

Shift + Click: View pop-up control located on your cursor

Ctrl + Click: Main toolbar located on your cursor

Alt + Click: Element quick info located on your cursor

Shift + Ctrl: Task Navigation toolbar located on your cursor

Wheel “XButton1”

No longer defined as the Tentative button the preferred setting for tentative is now Left - Right chord.

Click: Pan view

Click and Hold: Pan View

Double Click: Fit view

Shift + Click: Rotate view target is reference point (3D tool only)

Ctrl + Click: Rotate view camera is reference point (3D tool only)

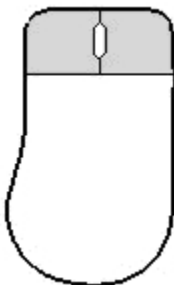
Alt + Click: Set rotate view target reference point (3D tool only)

Roll: Zoom in/out

Shift + Roll: Pan with zoom

Ctrl + Roll: Walk forwards / backwards

Alt + Roll: Pan left / right

Left and Right button “Chord”

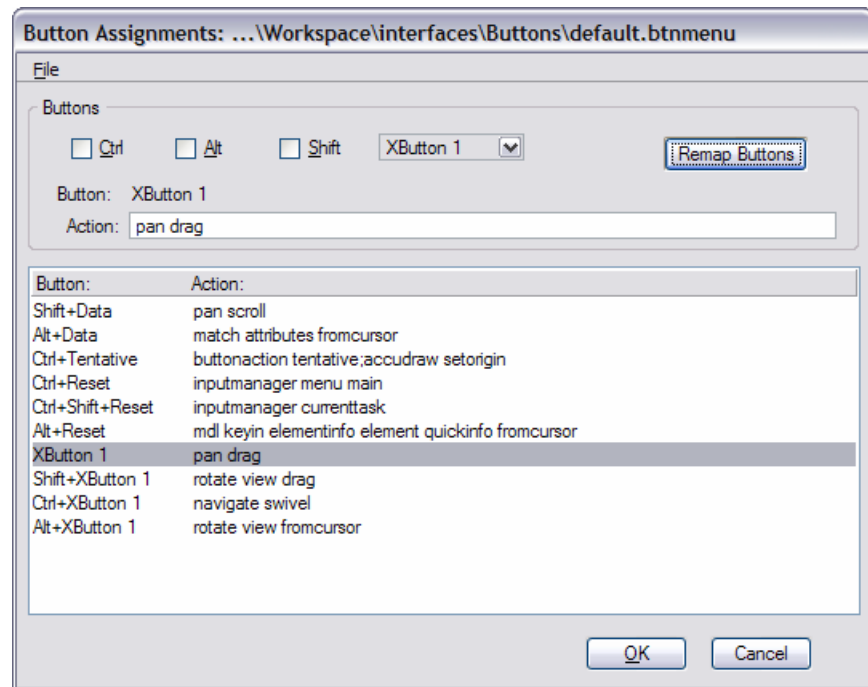
Click: Tentative point

Shift + Click: Snaps pop-up located on your cursor

Ctrl + Click: Set AccuDraw origin

Changing the Button Assignments

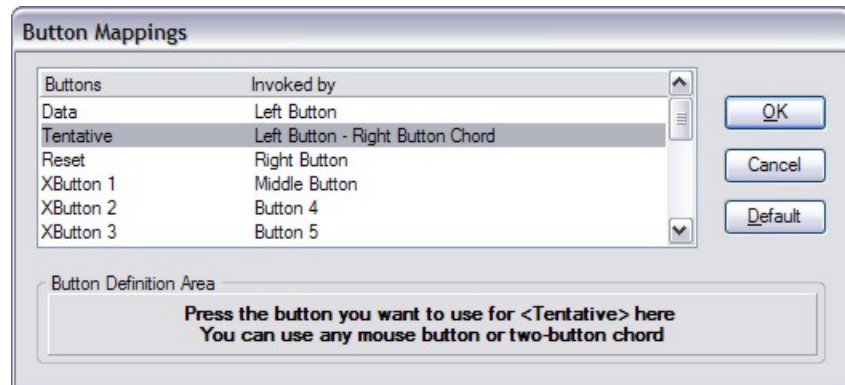
1. From the MicroStation pull down menu select **Workspace > Button Assignments**.
2. In the Button Assignments dialog select the button to be defined.
3. Select the check box or boxes Ctrl, Alt, and/or Shift.
4. In the Action field enter the MicroStation command.



Note: These settings are saved to the file shown in the title bar. These settings can be saved to another location by using the File drop down menu.

Changing the Button Mappings

1. From the MicroStation pull down menu select **Workspace > Button Assignments**.
2. From the Button Assignment dialog select the **Remap Buttons** button.

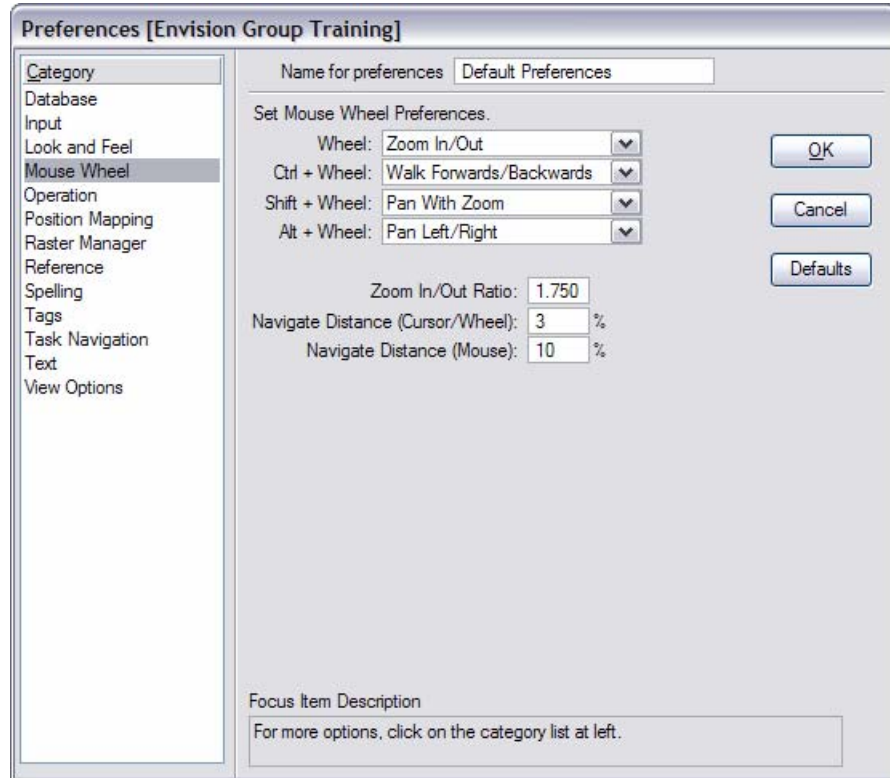


3. In the Button Mappings dialog highlight the **Button** to redefine.
4. Place your cursor in the **Button Definition Area**.
5. **Click** the mouse button to be redefined in the **Button Definition Area**. The new button definition will be displayed.
6. Select **OK** in the **Button Mappings** dialog to invoke the changes.
7. Select **OK** in the **Button Assignments** dialog.

Mouse Wheel Preferences

Utilizing the roll of the mouse to control panning and zooming is set in the Preferences dialog box. From the MicroStation pull down menu **Workspace > Preferences [Mouse Wheel]**

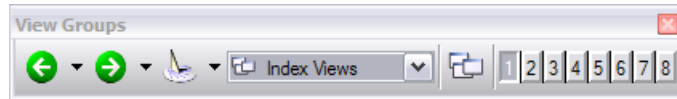
New wheel preferences include *Alt + Wheel* and *Navigate Distance* settings.





Note: The default settings for the Wheel are shown above.


View Groups

The View Groups toolbar is used to open and close MicroStation view windows and manage View Groups. It has also added the functionality to open models and design files previously viewed during the current session of MicroStation.



View Previous Model  – opens the last model or design file opened. A drop-down list of previously opened models can also be displayed to see a list of previously opened models.

View Next Model  – opens a model or design file defined as next in a list of models or design files previously opened. A drop-down list of previously opened models can also be displayed to see a list of previously opened models.

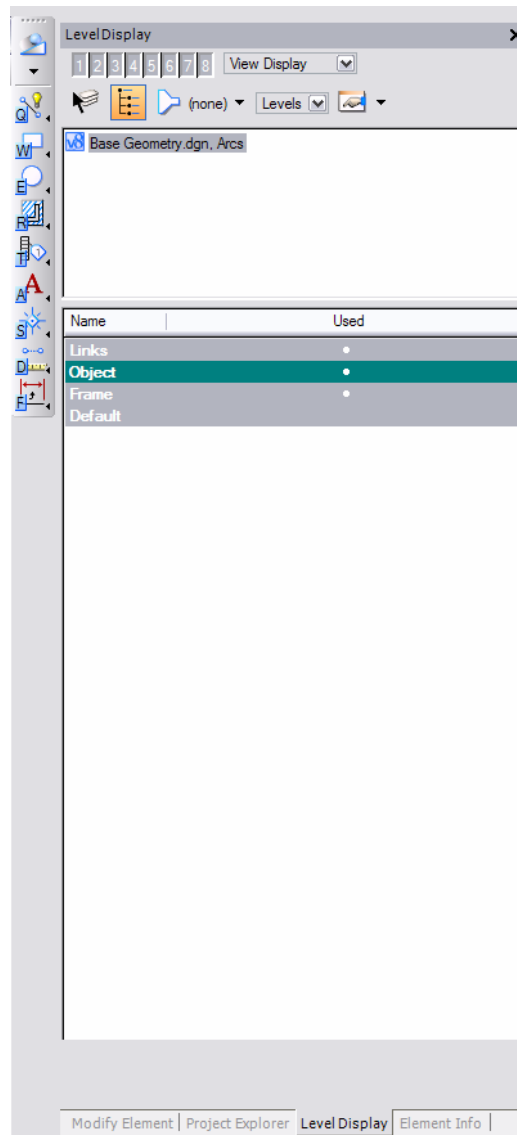
All Models  – displays a list of all the models and design files opened during the current session of MicroStation. This list is not the same as File History and will be emptied between sessions of MicroStation.

Dockable and Floating Dialogs

Many dialogs can now be docked to create tabs in the MicroStation application window. These tabbed dialogs can be resized with the maximized view. The dialogs including the Tool Settings window can also be dragged outside the MicroStation application window.

Docked tools as tabs

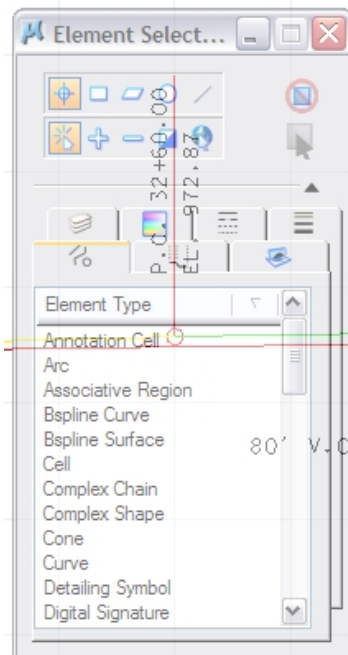
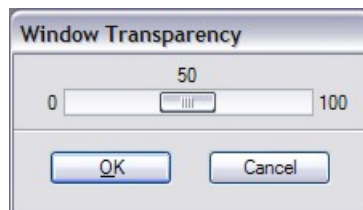
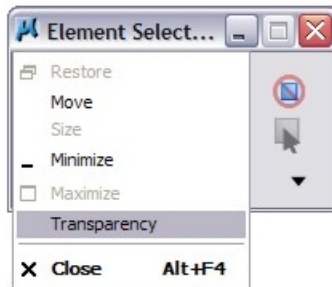
[Tool Settings] [Project Explorer] [**Level Display**] [Element Information]



To add the dialogs to the tab layout; click, hold, and drag the dialog to the edge of the MicroStation application window. The dialog will then resize and show a shaded area representing the tab. Release the mouse button to finish adding the tab.

Transparent Dialogs

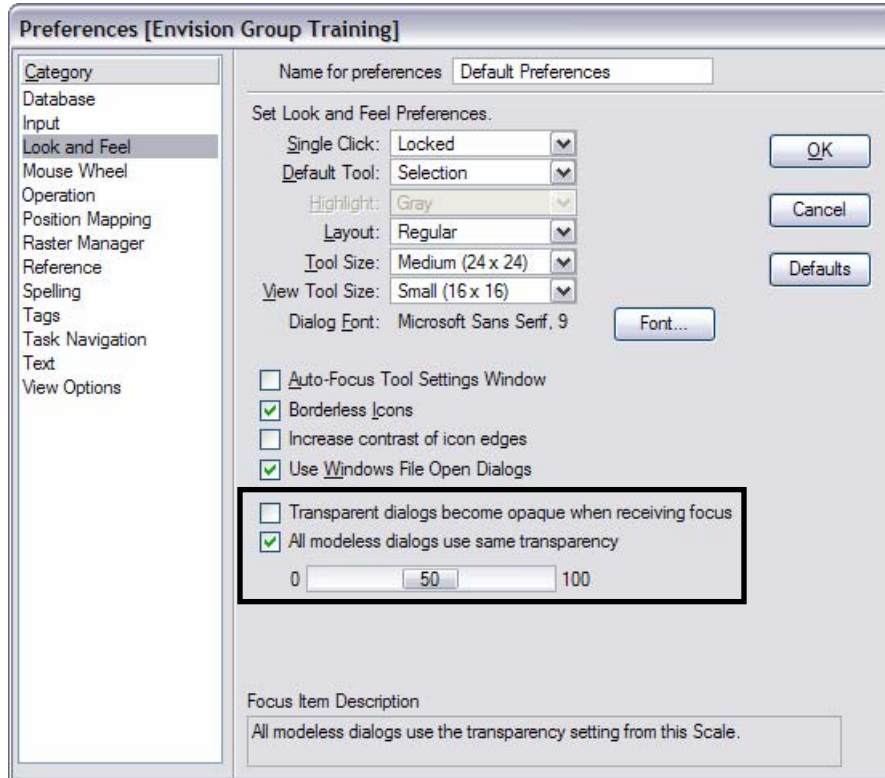
Each MicroStation dialog has the option to become transparent. Click the XM logo in the upper left hand corner of the dialog. From the drop down list, select **Transparency**. A Transparency setting of 0 is opaque, while a setting of 100 is virtually invisible.



Transparent Dialog Preference

The transparency of all dialog boxes can be controlled using options in **Workspace > Preferences**.

Highlight **Look and Feel**. Select the options as shown below, and then set the slide bar to define the transparency setting.



Lab 2 – MicroStation Design Environment

Objectives

The purpose of this lab will be to:

Dock and undock tool boxes.

Open and close tool boxes.

Show and hide tools.

Examine the contents of the status bar.

Open the Design File

1. Launch MicroStation.
2. From the MicroStation Manager dialog set the directory to:
C:\Envision Group_Training\MS XM Update\CIVIL
3. Select the file named:
Project Mapping.dgn
4. <D> the **Open** button.

Mouse Mechanics Review

Prior to starting the lab exercise, review the following information on the specific mouse button operations:

<D> or ‘Data’

By default, the **LEFT** button

Most commonly used button

<R> or ‘Reset’

By default, the **RIGHT** button

Used to reset or complete a command

<M> or ‘XButton 1’

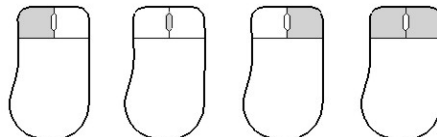
By default, the **Middle** button

Used to navigate the drawing

<T> or ‘Tentative’

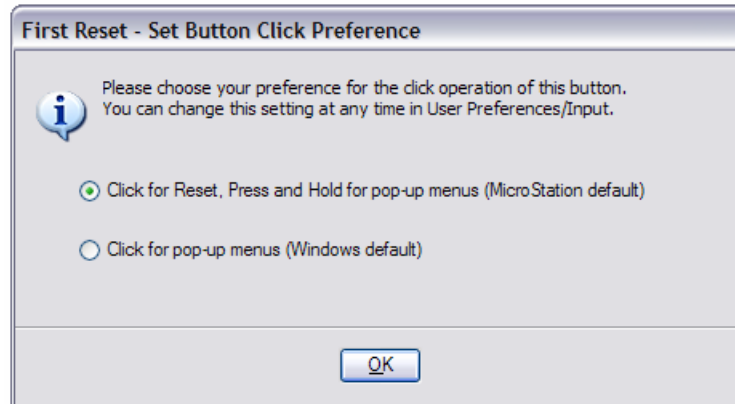
By default, the **Left Right Chord** button

Used to “tentative” snap to a location



The MicroStation Graphics Environment

5. In the MicroStation View <R> the First Reset dialog will appear.



Note: This is a one time selection when a new user preference has been added. To change this setting later open the Preferences dialog under Input category.

6. Select the *Click for Reset (MicroStation default)* radio button
7. <D> the OK button the dialog will close.

PopSet

1. Undock the Primary tool box.

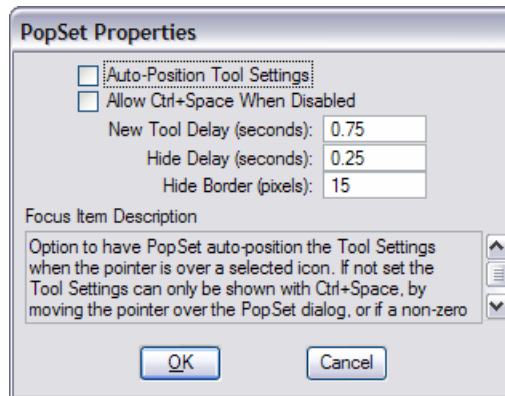


2. <R> the tool box from the fly-out menu select **Show Hide Tools > Show All** available buttons will be displayed in the tool box.

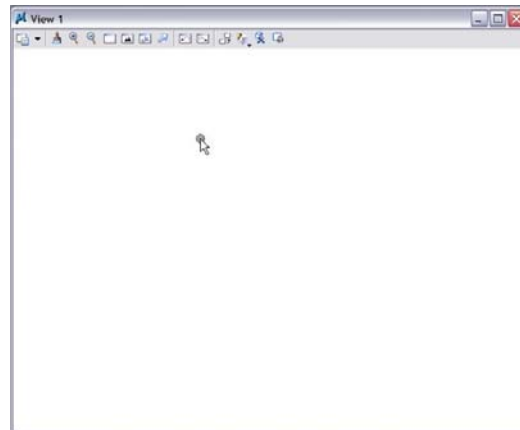
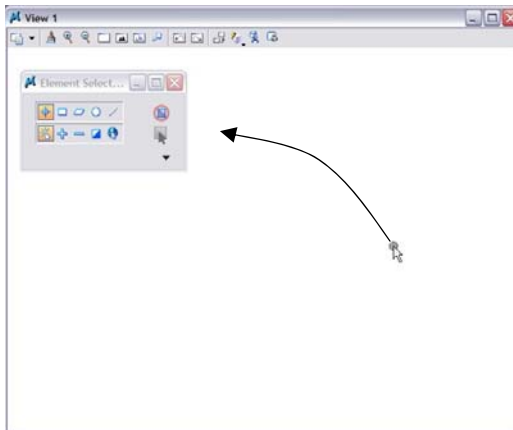


The MicroStation Graphics Environment

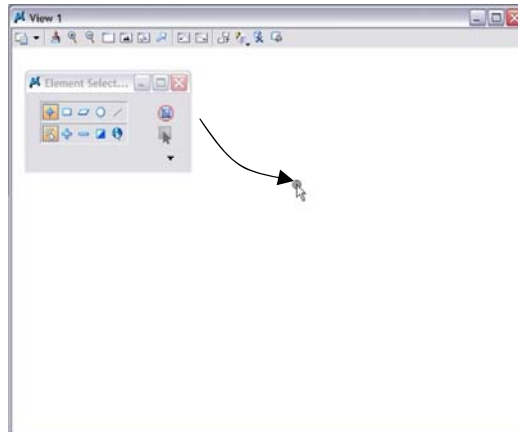
3. <R> the PopSet button from the fly-out menu select Properties. The PopSet Properties dialog will display.



4. Verify the settings are the same as the screen capture above.
5. <D> the OK button the PopSet Properties dialog will close.
6. Select the **Element Selection** tool from the Main tool box [1]
7. Move your cursor toward the Tool Settings dialog and pause. The Tool Settings dialog will disappear.



8. Move your cursor away from the Tool Settings dialog. The Tool Settings dialog reappears.



9. Continue to practice with the PopSet enabled Tool Settings dialog box.
10. Dock the Primary tool box back.