

Paper Space and Creating Viewports

The following instructions will guide you through creating viewports in paper space. Viewports allow you to create different views of the objects in your model space and display them on the printed page from different angles and at different scales. They help you to organize your drawings and manage the multitude of views required for a full set of plans including the topo or plan view, profiles, sections and details.

SurvCADD modules are displayed as {**COGO-Design**}, main menus are displayed as [**Points**], and submenus and menu commands are displayed as <**Edit Points**>.

Model Space to Paper Space – Page Set Up Manager

- 1) In model space complete your drawings of the topography, profiles, cross sections and details that will be included in your final drawing. In the beginning of your drawing you should have had an idea of what size sheet you will need to use. **See MD-SC-11 *Setting Up a Drawing in SurvCADD* for further details.**
- 2) To toggle back to paper space, right click on the paper space tab (most likely named “Layout 1”)
- 3) Left click “Page Set up Manager”
- 4) The page Setup Manager Dialog Box Appears. Make sure Layout 1 is highlighted and click “**Modify...**”
- 5) In the Page Setup window, set the following options:
 - a. Printer/Plotter Name: use the pull down list to select the desired plotter
 - b. Paper Size: Check the Paper size to make sure it matches the sheet size selected at the beginning of the drawing
 - c. Plot Area: Set to “extents”
 - d. Plot Offset: check the “Center the plot” setting
 - e. Plot Scale: Check that the scale is 1” = 1’
 - f. Press OK
- 6) Click Close in the Page Set Up Manager Window

Viewports – The Link Between Paper Space and Model Space

- 7) Once you have set up your Page, the program will automatically create a single viewport and display the objects in your model space within it.
- 8) **Viewports function within paper space** and to use them effectively you must toggle between model space and paper space.
- 9) At the very bottom of the screen, outside of the drawing area and below the command line, there is a box labeled either Paper or Model. **Click**

- repeatedly on this box.** You will see it toggle between off and on. Notice that when the Model tab is activated, the boundary line of the viewport becomes thick and dark. You are now working in model space, looking through the “window” of the viewport at the model “below”.
- 10) Use the **Pan command** to move the objects in model space around within the viewport. Use your mouse to **zoom in and out**. Notice how the paper space remains constant while the model appears different.
 - 11) **Toggle back to paper space.** Move the cursor over the boundary line of the viewport. Notice that you can now select the viewport itself.
 - 12) Use the **Move command** to move the viewport to different areas of the paper space.
 - 13) Select the viewport again, and notice grips appear at the corners of the viewport. Use the grips to modify the size of the viewport.
 - 14) **Double Click** in the interior space of the viewport. This will also toggle back into model space.

Creating a Single Viewport

- 15) **Toggle to paper space.** Adjust any current or default viewport so that there is room on the page to insert another viewport if needed. Select the **Viewport layer** as the current layer. If one does not exist, create it and make it current.
- 16) The “**Viewports**” dialog box will appear.
 - a. On the “**New Viewports**” tab select a **Single** viewport.
 - b. Make sure the setup tab indicates **2D**
 - c. Select **OK**
 - d. **Screen Pick** and drag to size your viewport.
 - e. Note: If you select the default “Fit” the viewport will automatically be sized to fit the entire page. If you have a border on the page you may not be able to see the viewport boundary.

Scaling the Viewport

- 17) **Method 1: Mvsetup**
 - a. Determine the scale you need to use for the viewport. In model space measure the length of the objects you wish to view. Toggle to paper space and measure the area you have to work with. Calculate the ratio to determine the appropriate scale.
 - b. At the command line type the command “**Mvsetup**”.
 - c. Enter option **S** for Scale Viewports
 - d. **Screen Pick the boundary** of the viewport you wish to scale
 - e. Enter the number of paper space units as **1.0** (usually the default)
 - f. Enter the number of model space units you want. (10, 20, 40 etc.) and “Enter”

18) **Method 2: Using the Properties Dialog Box**

- a. If the Properties dialog box is not active, click it on.
- b. Toggle paper space on
- c. **Screen Pick the boundary** of the viewport you wish to scale
- d. Notice that the word Viewport will appear in the top left of the box
Look for a tab labeled "**Misc**"
- e. In the row labeled "**Standard Scale**" select the scale you wish to use.

Correcting Lines That Do Not Display Correctly in Paper Space

Many times line types will look correct in model space but will not look correct in paper space. This is caused by a variable that needs affects the scaling of lines in paper space.

- 19) **Toggle to paper space** for the layout that the lines are not correctly displaying.
- 20) Type in "**PSLTSCALE**" at the command line
 - a. The command line will show the current value (typ. 1.0)
 - b. Type in "**0**" and press "**Enter**"
- 21) Update the display by clicking on the "**Model**" tab and then back to the **paper space tab** that you were working in.
- 22) This variable may need to be set for each layout tab if the lines are not displaying properly.