

Overview: Plotting from a paperspace layout tab involves setting up a viewport that displays the desired items at useable scales. Plan views, profiles, or cross sections can be plotted on individual pages or combined on one page using multiple viewports. Dimensioning, bar scales, and north arrows for plan views along with construction notes are typically done in the paperspace mode.

Software: Autodesk Map 2006 (NRCS v2.00 menu), NRCS national CAD std v1.0

Notation Method

Button to Press	Displayed Text	Icon	Action	{Text to Enter}	Menu Item...
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AutoCAD Steps Using the NRCS Customized Menu

Create an Additional Drawing Page using Paperspace Layout - (Optional)

1. In AutoCAD Right Click on any layout tab.
2. Click From Template...
3. Double Click the template size/type that was used to start this drawing. E.g. {11x17EngTemplate(B).dwt }
4. Click the layout type that you are using.
 - a. Use {Layout w Doc Fields} for projects that use “fields” from within the document to fill out the title block. (This is used on simpler projects.)
 - i. Use *File... Drawing Properties... Custom* to edit these fields.
 - ii. Use *View... Regen All...* to update the display of the field data.
 - b. **Or**, Use {Layout w SSet Fields} for projects that use the Sheet Set Manager to fill out the title block fields. (Useful on projects with numerous dwg files.)
5. Click
6. Right click on the new layout. Click Rename
7. Input a descriptive name for the layout. E.g. {Plan View}. Click .



Selecting layers to Not Appear within a Viewport - (Optional)

1. Double click inside of the viewport. *PAPER* status will switch to *MODEL*.
2. In AutoCad, click *Express... Layers... Layer Freeze...* 
3. Click on any object whose layer you do NOT want to see in this viewport.
4. Click on additional objects to be frozen. (Press {U} to undo the most recent freeze)
5. When done, press enter

Note: This affects the Current VP status in the Layer Properties Manger screen if it is done from a within a viewport. If this command is done from the Model tab or in paperspace it will affect the Freeze status.



Thawing Layers that are Frozen within a Viewport - (Optional)

1. Double click inside of the viewport. *PAPER* status will switch to *MODEL*.
2. Click the **Layer Properties Manager Icon**. 

3. Scroll through the layer list to find the layer name that is frozen within this viewport by looking at the *Current VP* column.

Stat	Name	On	Freeze	Lock	Color	Linetype	Lineweight	Plot Style	Plot	Current VP	Ne	De
	C.Topo.Embk.Indx				90	Continuous	0...m	Color_90				
	C.Topo.Embk.Intr				94	Continuous	0...m	Color_94				
	C.Topo.Embk.Slop				90	Continuous	0...m	Color_90				
	C.Topo.Embk.Tin_				white	Continuous	0...m	Color_7				

4. Click on the **Current VP icon** for the intended layer to toggle its status.
 5. Click **OK** close out of Layer Manager.
- Note: The On and Freeze status columns apply to the entire drawing and can prevent objects from displaying in a viewport also.

Preparing a Plan View for Plotting in a Layout Tab

Setting up Viewport.

1. In AutoCAD Click on a layout tab. E.g. Plan View
2. Double click inside of the viewport. PAPER will switch to MODEL and the viewport border will appear thicker.
3. Zoom in on the area to view by
 - a. Using the mouse wheel to zoom the window to the area that you want, Or
 - b. Click View... Named Views... and highlight the named view that you want to appear in this viewport. E.g. Dam. Click Set Current. Click **OK**.

Rotating the Display of a Viewport - (Optional)

4. While in MODEL of the viewport type {mvsetup} Press Enter
5. Type {a} Press Enter
6. Type {r} Press Enter
7. Click near the center of the viewport.
8. Input the counterclockwise rotation angle relative to the original survey orientation. E.g. {45} Press Enter (Remember this rotation angle for use with a North arrow.)
9. Press Enter
10. Press Enter

Setting the Scale & Locking the View.

11. Double click outside of the viewport. The MODEL status will switch to PAPER.
12. Select the viewport border. Right Click Properties...
13. Look at the Custom Scale. Determine a useable engineering scale near this custom scale. E.g. Custom Scale = 0.0113 is 1/0.0113 or 88.49'. 1"=100' is the nearest scale.
14. Input a useable scale into the custom scale box as a {1/xxx} enter. E.g. Input 200 scale as {1/200} Enter. (Or select a useable scale from the Standard Scale list.)
15. Once you set the scale you might need to switch into the viewport's modelspace in order to pan the view and have the correct details appear. Make sure that you switch back to paperspace and recheck the scale setting after you have panned.
16. With the viewport selected pulldown the display locked property to Yes.

Place a Bar Scale onto the Page (Paperspace)

17. From the AutoCAD Tool Palettes (**Ctrl** + **3**) click **11x17 Scales** (or *22x34 Scales*)
18. **Click** on the correct size bar scale. E.g. {*bScale200*} (or *dScale200* for 22x34)
19. **Click** at the location to place the Bar Scale.

Place a North Arrow onto the Page (Paperspace)

20. From the AutoCAD Tool Palettes select **11x17 Symbols** (or *22x34 Symbols*)
21. **Click** *bNArrow* (or use *dNArrow* for a 22x34 drawing)
22. **Click** the location where you want to place the North Arrow.
23. **Input** the counterclockwise rotation angle used for the viewport if it was rotated.
E.g. {45} (See “Rotating the Display of a Viewport”) If it was not rotated leave the value as {0}.
24. **Press Enter**

Place Plan View Dimensioning onto the Page (Paperspace)

25. Make sure that the Dimension Style Control is set to 001xB_Dim (or 001xD_Dim)
26. From the AutoCAD Tool Palettes (**Ctrl** + **3**) click **11x17 Text_Dims** (or *22x34 Text_Dims*)
27. **Click** on the correct dimension tool. E.g. {*Aligned Dimension(PS)*}
28. **Osnap** to the beginning point of the object to dimension.
29. **Osnap** to the ending point of the object to dimension.
30. **Click** to place the dimensioning in a useable location.

Place Notes onto the Page (Paperspace)

31. From the AutoCAD Tool Palettes click **11x17 Text_Dims** (or *22x34 Text_Dims*)
32. **Click** on *Notes - Multiline(PS)*
33. **Click** to the set first corner of the text box.
34. **Click** to the set opposite corner of the text box
35. **Input** the text.
36. **Click** **OK** when done.

Adding an Extra Viewport to a Layout (Optional)

Setting up more than one viewport in a layout allows any combination of profiles, cross sections, or plan views to be plotted on the same sheet.

1. Click on the **Layout Tab** where you want to add a viewport.
2. From the NRCS Tool Palettes (**Ctrl** + **3**) to toggle on/off) select **Plan** or **Profile**
3. **Click** *Viewport* **Viewport** (**F3** toggles Osnaps on/off.)
4. **Click** in the layout to specify the lower left corner of the new viewport.
5. **Click** in the layout to specify the upper right corner of the new viewport.

Preparing a Profile View for Plotting in a Layout Tab

1. Double click inside of the viewport. *PAPER* will switch to *MODEL*.
2. Zoom in on the area to view by
 - a. Using the mouse wheel to zoom the window to the area that you want, **Or**
 - b. Click *View... Named Views...* and highlight the profile named view that you want to appear in this viewport. E.g. *CL dam profile*. Click **Set Current**. Click **OK**.
3. Double click outside of the viewport. *MODEL* status will switch to *PAPER*
4. Select the viewport border. Click *Modify... Properties...*
5. Input the Horizontal Scale of the profile into the custom scale box as a {1/xxx} enter. E.g. Input 40 scale as {1/40} enter.
6. Pulldown the display locked to *Yes*. With Display Locked you cannot change the scale of the viewport or pan the viewport.
7. Click and drag the viewport grips in order to resize the viewport border so that it is slightly outside of the Profile grid. (F3 toggles Osnap on/off)
8. With the viewport selected click the **move** icon 
9. For the 1st displacement point, Osnap the lower left corner of the Profile Grid border.
10. For the 2nd displacement point, Osnap the lower left corner of the Title Block border.

Plotting from a Layout Tab

Select the Printer & Paper Size.

1. In AutoCAD click on the layout tab to be plotted. E.g. **Plan View**
2. Right Click the **Plan View** Tab and Click *Page Setup Manager...*
3. Click **Modify**
4. Pulldown the printer/plotter that you will use. E.g. {*HP 5000*}
5. Pulldown Plot style table to either *Monochrome.ctb* for B&W plotting only or to *NRCS BWgray.ctb* for gray plotting of gray lines.
6. Pulldown the paper size E.g. {*11 x 17*}. Plot Scale is typically left at 1:1.
7. Click Plot area = *Extents* and in Plot offset checkmark *Center the plot*.
8. Click **OK**. Click **Close**

Previewing & Plotting the Page.

9. Right Click the **Plan View** Tab and Click **Plot...**
10. Click **Preview...** to review the planned plot.
11. Press **Enter** to return to the Plot screen.
12. Click **OK** to Plot.