

Brown Bag Lunch & Learn #17 5/09/07 & 6/6/07

Topic: SignCAD Basics

SignCAD is a stand alone program with smart objects that allow you to design highway signs. Smart objects that are available through SignCAD are route markers, panels, symbols, arrows, text, rectangles, and lines. SignCAD has a DynArrange Engine, so every time you add, modify or remove an object, the size and dimensions of the panels are dynamically updated.

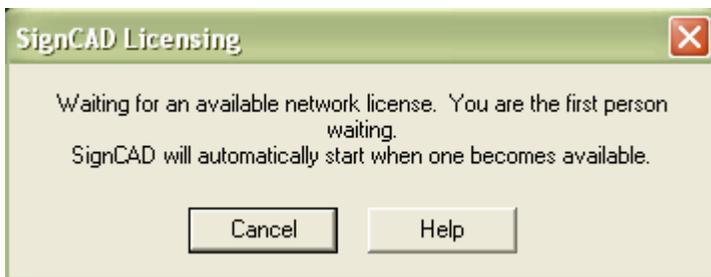
SignCAD supports state and federal standards for traffic signs; customization is available for fonts, characters, symbols and objects.

Start SignCAD by double clicking the **SignCAD Icon** found on your desktop.



Be patient, it will take a few seconds to start the program.

If the server licenses are unavailable, the following message will appear:



If a SignCAD license is available then the **New File** dialog will appear as shown below. Select the unit for your file and the standard you want to use. Scroll down to select Federal or state standards. Select **OK**.



Note: Some tools are not available in some of the state standards.

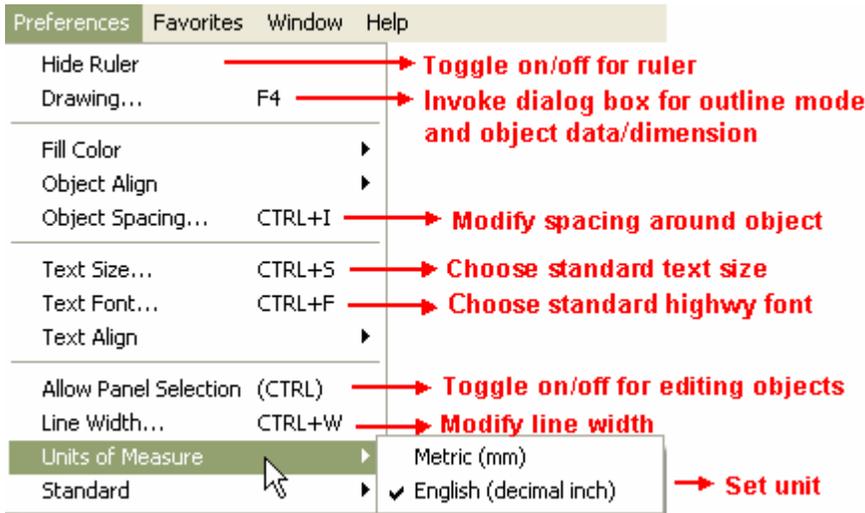
A blank workspace will appear for you to design your sign.

Preferences

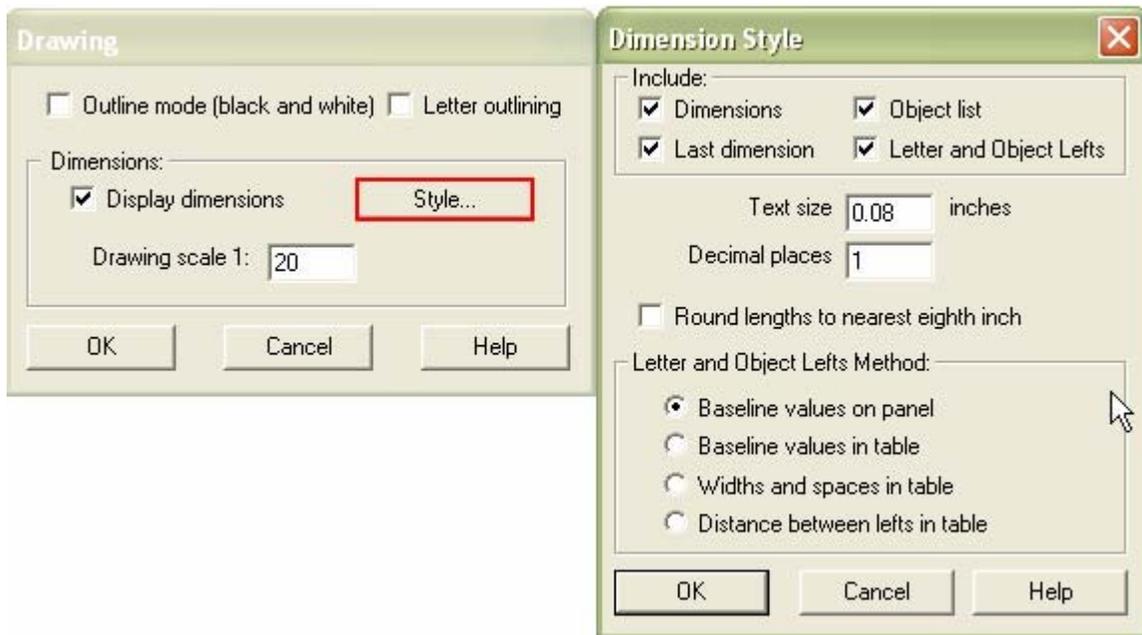
When signs are created a default preference file is used. Preference file can be modified and saved to a sign file. Preferences can be accessed from the main SignCAD selection tool. Preferences for an object can be changed by selecting the object and changing the preference at anytime.

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Shown below are the preference options:



- **Hide Ruler** - Turn **on/off** the ruler for your workspace (drawing plane).
- Select **F4** or **Preferences>Drawing** to invoke the following dialog box which can be used to toggle outline mode (b/w or color) and object data/dimension mode:

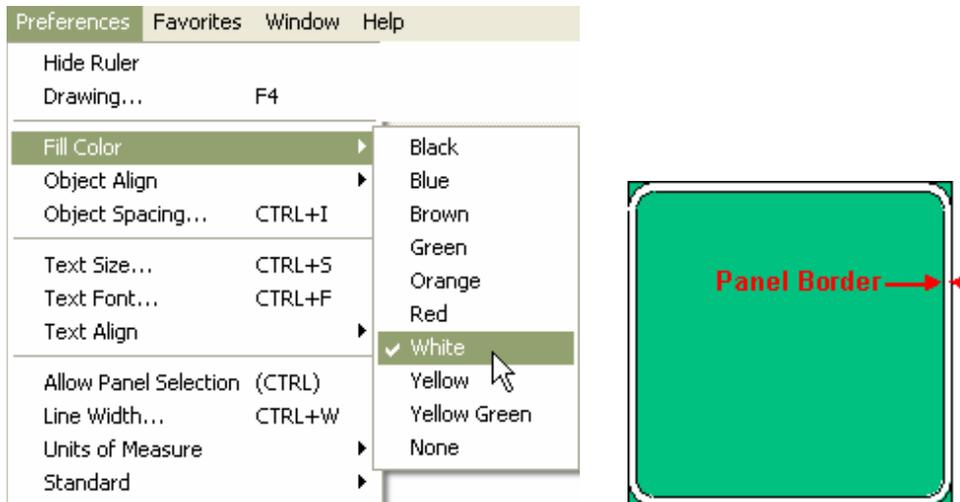


Toggle on **Display dimensions** to see the dimension of your sign while designing. Dimensions displayed will be what is selected in the **Dimensions Style** dialog box.

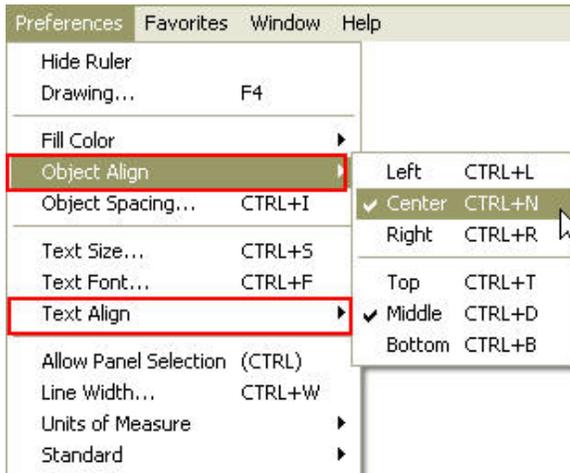
- Select **Preferences>Fill Color** to select the fill color of the smart objects (text, lines, arrows, panel borders, etc.).

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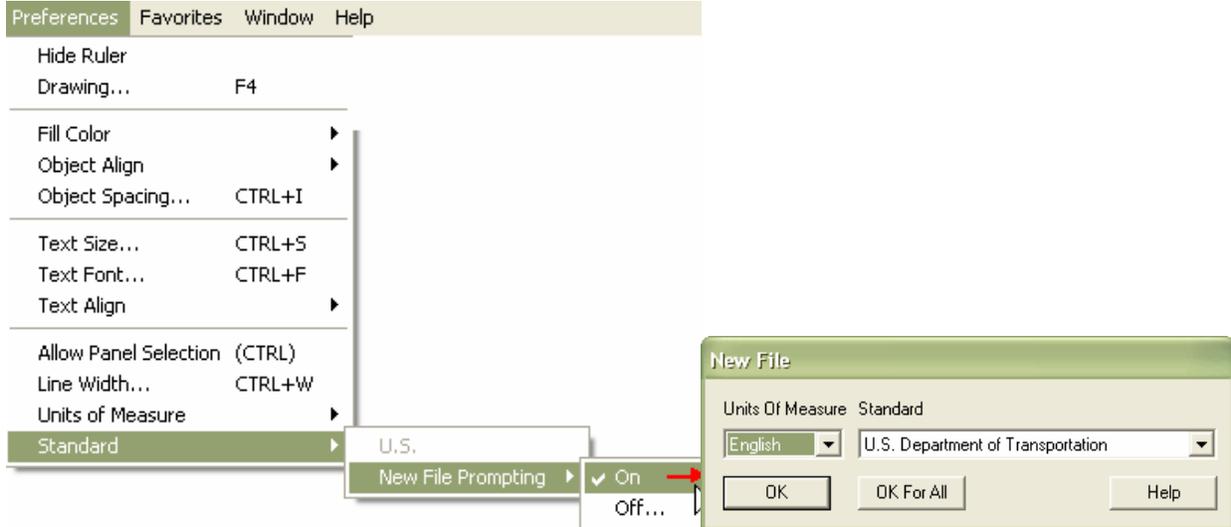
- Select the **Object Align** to align multiple objects in a panel.



- **Object Spacing** or **CTRL+I** to set the minimum distance an object can get to an adjacent object or panel border.
- **Text Size** or **CTRL+S** can be used to set the size of text. Choose from a list of standard text sizes.
- **Text Font** or **CTRL+F** can be used to set the font of text. Choose from a list of standard highway fonts.
- Use **Text Align** to align different sizes of text (similar to setting justification) within the panel.
- **Allow Panel Selection** toggled on will allow selecting and moving the panel around in the workspace and copy to the clipboard (cut/paste between .sgn files). If turned off, use CNTRL key and left mouse to move and edit the panel.

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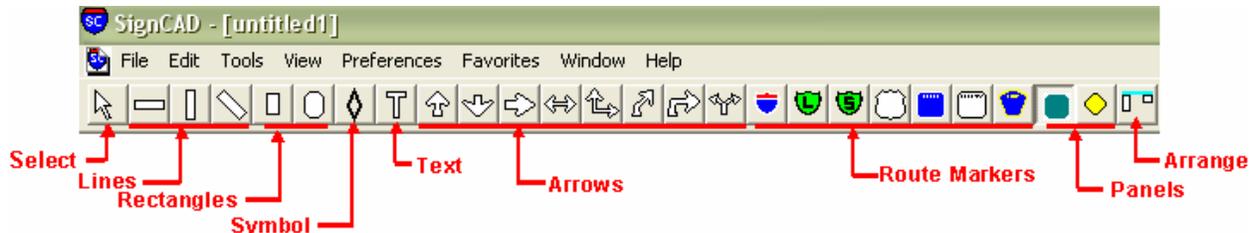
- **Line Width** or **CTRL+W** can be used to set the width of the Line Tools (Horizontal, Vertical or Arbitrary). 
- **Unit of Measure** can be toggled to set English or Metric units.



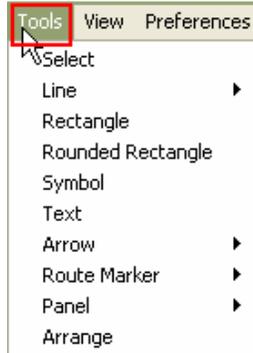
- If **Standard>New File Prompting>on** is checked, then when opening a new file, a dialog box will appear allowing you to select units of measure and standard. If you select **OK for all** then the new file prompting will get turned off for the session.

Objects and selection tools

Shown below are icons for objects and selection tools. These objects and tools can be used to create and change sign objects.

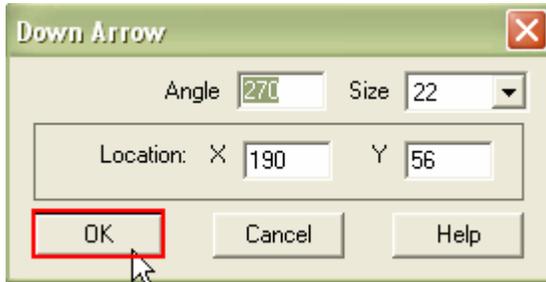


Tools are also available through the pulldown menu:



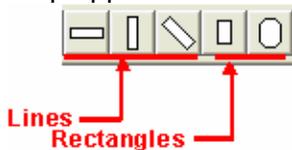
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- Select an object and place point on the screen. The dialog box associated with the object will appear allowing the user to enter or select parameters for the object. Shown below is a dialog box for a **Down Arrow**.

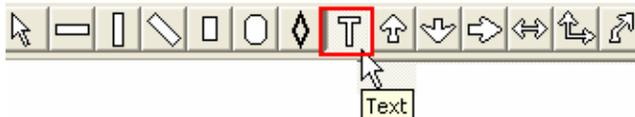


Selecting OK will create the object on the screen. **Right clicking on an object and selecting Edit Data** will allow the user to **edit the parameters** of an object at any time.

- An object placed on the screen can be **removed by** using the **Select icon** and **clicking the delete button** on the keyboard or use Edit>Delete.
- To place **lines and rectangles**, select the tool, select a point on the screen, drag and drop opposite corners. Panels will automatically adjust to fit the lines and rectangles.



- To add **text**, select the text tool, select a point on the screen and type the desired text. Text size, font and alignment can be adjusted by right clicking on the text and selecting from the options (text size, text font or text align).



- Use **Standard Sign Panel** to layout fixed size signs of varying shapes. The size of the panel will not be adjusted automatically. Use **Rectangular Panel** to layout any signs. The size of the panel will adjust automatically as objects are added or removed.

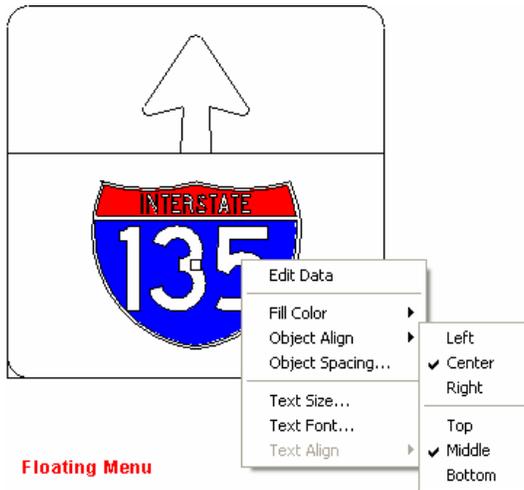


- The **arrange** button can be used to arrange objects in rows, columns or tabular arrangement. Tabular arrangement arranges objects in both rows and columns.



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- To **modify an object** right click to access the floating menu or edit data. Select and double click on an object to invoke the properties dialog box.



In SignCAD, multiple (*.sgn) file can be opened at one time. See **Window** pulldown for window arrangement options.

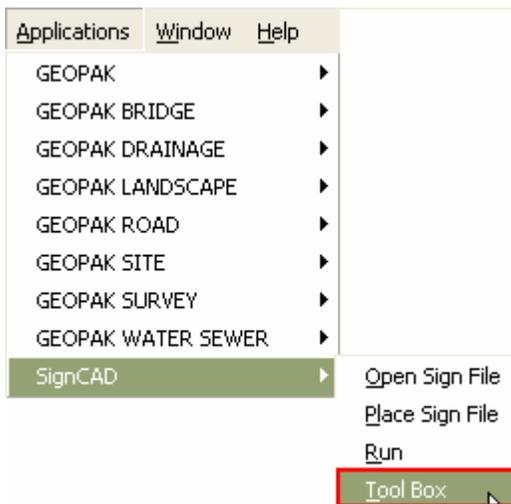
See **Edit** pulldown for copy/cut/paste/delete options available in SignCAD.

See **View** pulldown for zoom options available in SignCAD.

A sign developed with SignCAD can be placed into MicroStation as a dgn element or as a cell.

SignCAD Menu in MicroStation:

Open a MicroStation file. SignCAD MDL is automatically loaded with MicroStation. SignCAD Menu is available through MicroStation as shown below:



OR select the Tool Box to invoke a dockable SignCAD dialog box.



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If the Tool Box is selected and docked, for future MicroStation sessions SignCAD Tool Box will automatically be loaded.

Using the MicroStation SignCAD Menu:

Open Sign file - Opens the sign file (*.SGN) from a file list and places the sign into a new MicroStation DGN file. User can select the MicroStation seed file. Saves the file in .DGN format.

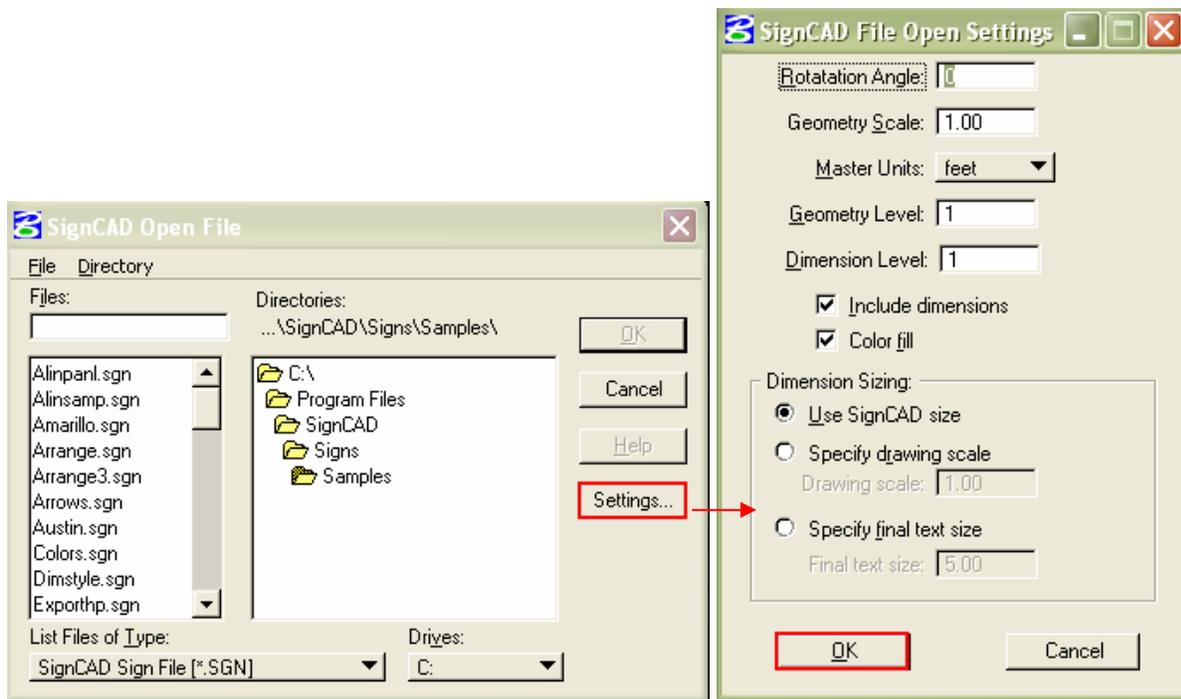
Place Sign file - Selects the sign file (*.SGN) from a file list and places the sign as .DGN format file to the current MicroStation file

Run SignCAD - Opens the SignCAD program from MicroStation.

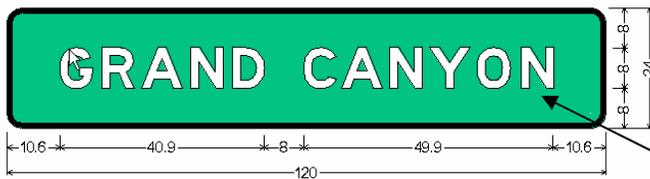
Display Tool Box - To place a dockable SignCAD toolbar.



Selecting **Place Sign File** will invoke the following dialog box:

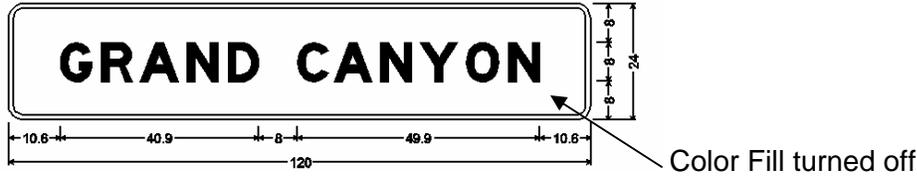


Select your file and select **Settings** button to modify initial settings for scale, color or dimension display. Select **OK** twice to place the file into MicroStation.



Color Fill turned on

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⚠ If the color fill is turned on when sign is placed into a MicroStation drawing, the sign will print all black.

MicroStation level D_Dimensions will be used when sign is placed into a MicroStation file. Sign information should be moved to the proposed sign level P_TC_Signs_Permanent.

Another way to place a sign file into MicroStation is using the edit and paste commands.

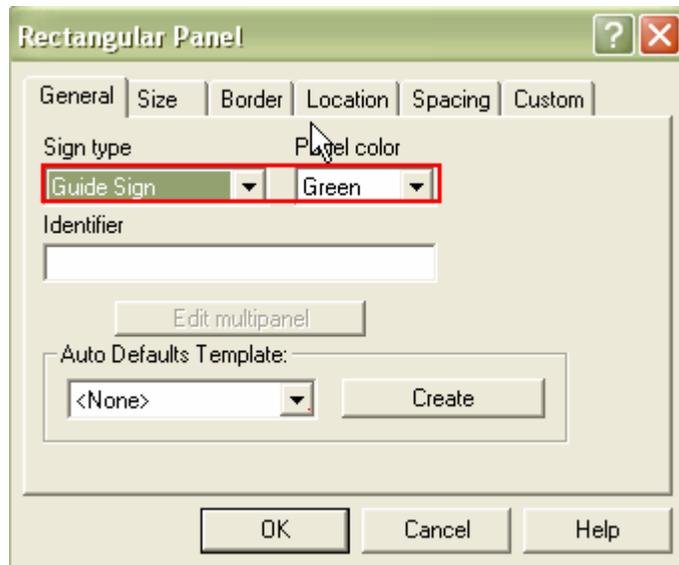
Using Edit/Paste command:

Open a MicroStation file and the SignCAD file. Select sign in SignCAD file and select **Edit>Copy**, Go to MicroStation file and Select **Edit>Paste>Sign**. **Allow Panel Selection** must be toggled on to copy to clipboard. The .sgn file will placed as cell.

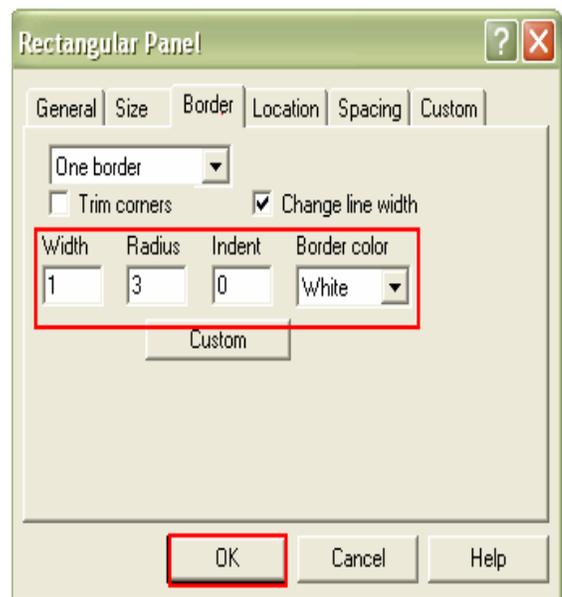
Workflow #1 – Creating a Distance Sign

This example will create a sign with 3 rows of object that will be left aligned.

1. Select the Rectangular panel tool from the tool bar and data point on the screen to invoke the Rectangular Panel dialog box:

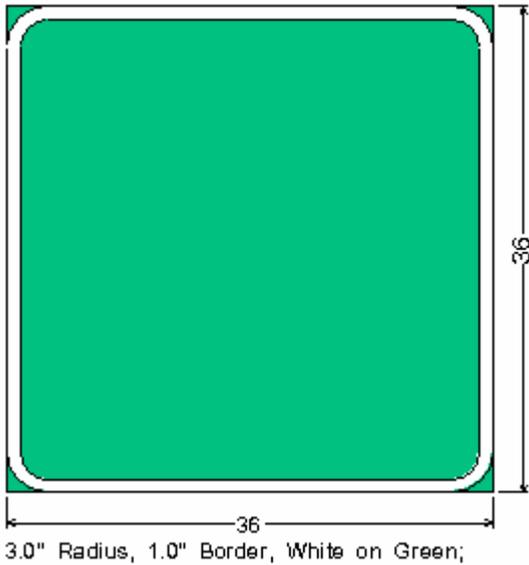


2. Select Guide Sign from the General Tab. Go to the Border Tab and uncheck Size automatically. Width, Radius and Indent will be un-grayed allowing the user to input the values.



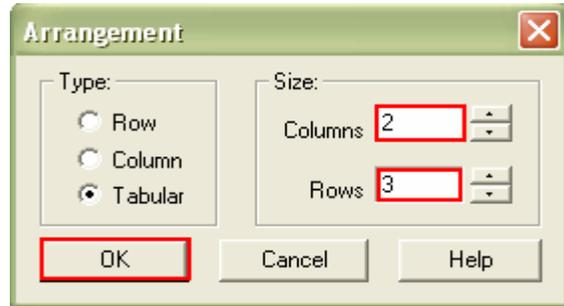
3. Select OK to invoke a blank Panel

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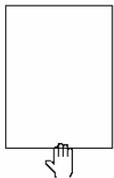
Note: Click on Trim corners in the border tab above to show panel with only rounded corners.

4. Select the Arrange tool  from the tool bar. Select a point on the screen with the left mouse to invoke the Arrangement dialog box shown below:

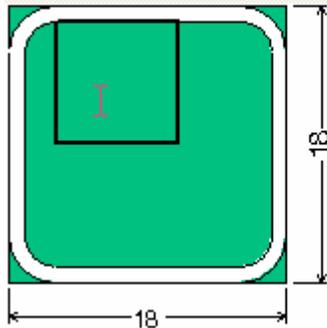


5. Select number of columns to two and rows to three by entering or scrolling. Select OK.

6. Pick the Select tool  and select an edge (not a corner) of the arrangement box. A drag hand will appear.

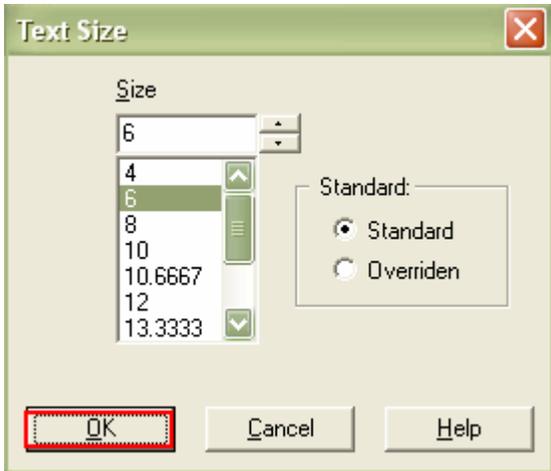


7. Drag the box into the panel and when the blinking rectangle appears in the panel release the mouse button. Dashed blue lines show alignments of objects and are visible only when the arrange tool is picked.

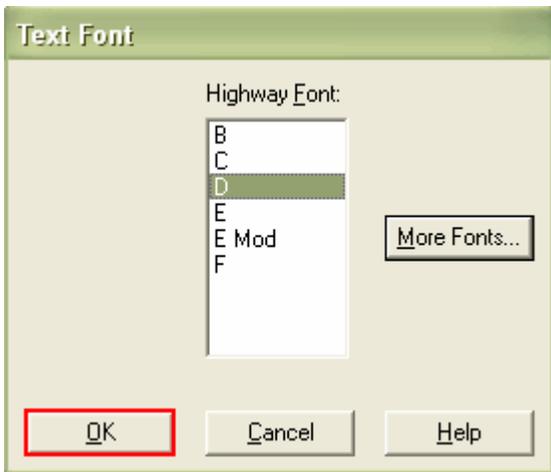


8. Select the text icon and move the cursor around on the panel. Blinking rectangles appear in different locations as the cursor is moved over the panel.
9. Press the left mouse button and select upper left cell of the tabular arrangement.

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10. To select the Text size, use Preference Menu or Press <Ctrl> S and pick 6" from the size list. Press OK.



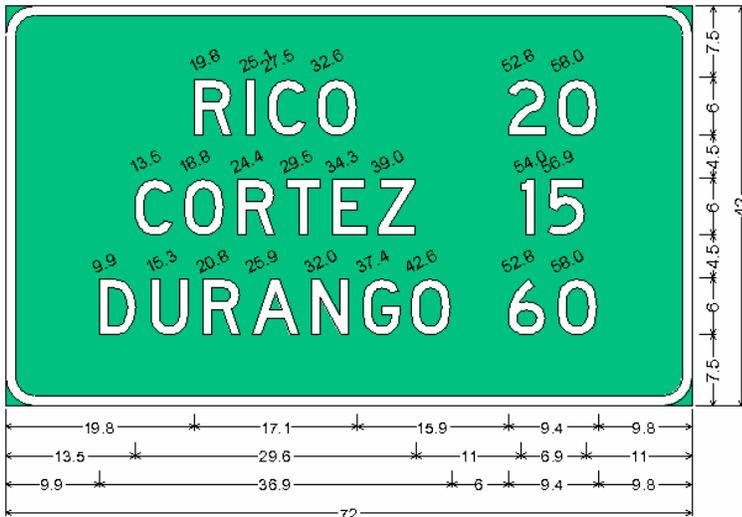
11. To select the Font, Press <Ctrl> F and pick D from the series list. Press OK.



12. Type the following text (turn on the caps lock): "RICO" >Enter
 "CORTEZ" >Enter
 "DURANGO" >Enter.
 The panel will adjust size to accommodate the entered text.

3.0" Radius, 1.0" Border, White on Green;
 "RICO" D; "CORTEZ" D; "DURANGO" D;

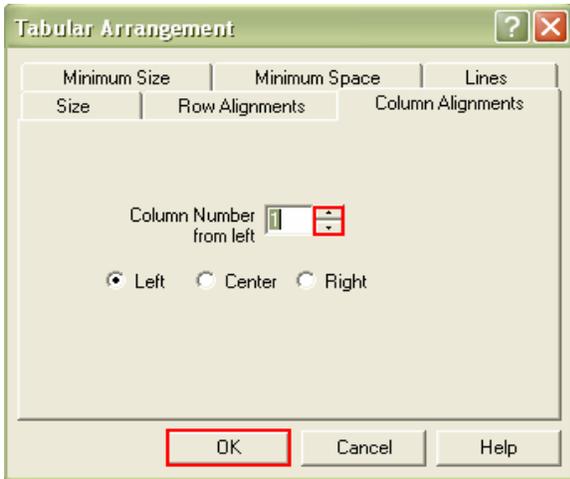
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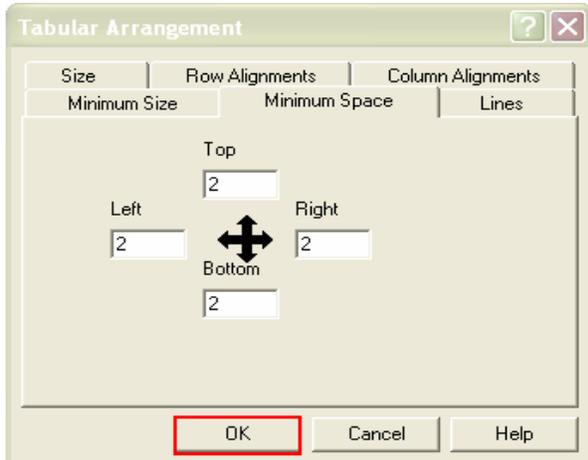
3.0" Radius, 1.0" Border, White on Green;
 "RICO" D; "20" D; "CORTEZ" D; "15" D; "DURANGO" D; "60" D;

13. Tab to the second column and Type
 "20" > Enter
 "15" > Enter
 "60" > Enter.

14. Select the Arrange tool  and double click on one of the dashed lines to invoke the Tabular Arrangement dialog box.



15. Select the column Alignments tab and enter left alignment for column 1, scroll and select Left alignment for column 2. This will left justify all the text.



16. Select Minimum Space tab and set all the fields to 2 (minimize). Minimum spacing and object spacing controls the spacing between objects in a tabular arrangement. The larger of the 2 values control. Select OK.

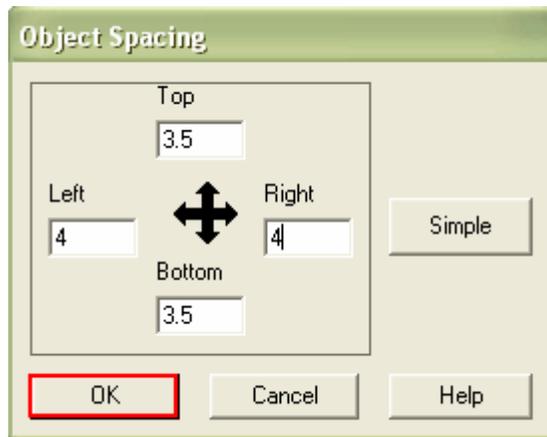
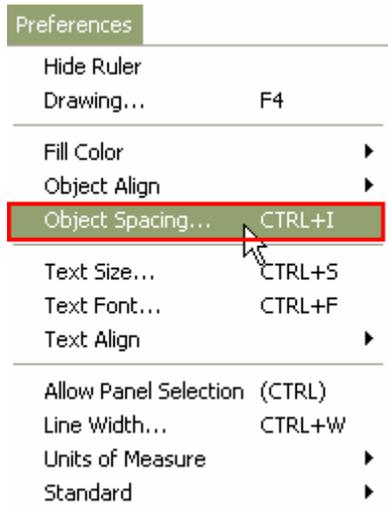
In tabular arrangement minimum space is the minimum distance between one object to the adjacent object, set minimum spacing so it does not control. Object spacing should control in a tabular arrangement.

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17. Pick the Select tool  and window select the panel (click on one corner, hold and drag mouse to opposite corner). The objects in panel will have handles as shown below:

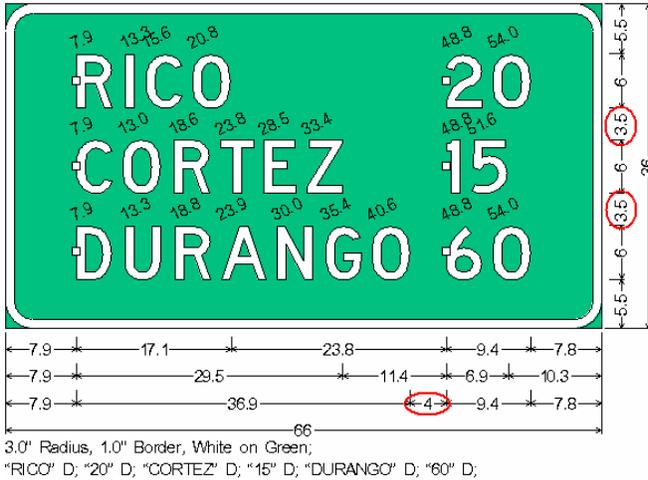


18. Select Preferences > Object Spacing. Distance between objects vertically and horizontally are controlled by the Object Spacing values. Enter 3.5 in the fields for top and bottom spacing and 4 for left and right spacing. Select OK.

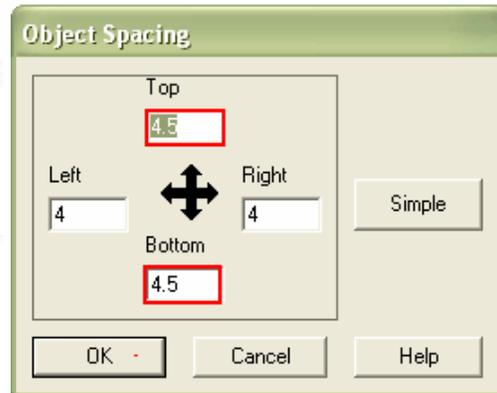
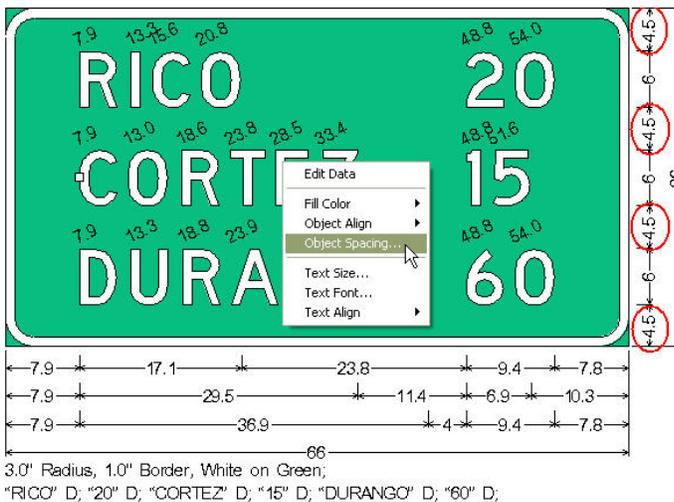


 If Allow Panel Selection is toggled on Object Spacing will be grayed out.

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19. Right click on the middle line and select object spacing from the preference menu. Set the top and bottom spacing to 4.5”.



Left and right spacing can be adjusted by assigning a value larger than 4” between object.

 **Tips**

- Signs created using a SignCAD can be saved into a library for future use. Special signs developed for a project should be placed on **N:\Programs\Signs\cflsamples**.
- Double clicking on a **.sgn** file in windows explorer will open up the sign file in the SignCAD program.
- State and Federal SignCAD library can be accessed by selecting **File>Open>Standard Sign**. Files are located in C:\Program Files\SignCAD\Signs\Standard

Related links: SignCAD by SignCAD Systems Inc. Information contained in this handout is taken from the SignCAD help file.