

CAD Layer Controls

The CAD Layer Controls window provides access to display settings for CAD layers. You can open the CAD Layer Controls window by left-clicking on the layer's icon button in the Display Manager or by right-clicking on the layer name and choosing Controls from the popup menu.

The layer controls are organized in a set of tabbed panels. The Object panel provides settings that pertain to the entire layer. The Elements tabbed panel provides control settings for the CAD elements, and the Labels panel provides controls for the display of label elements and for setting up dynamic display labels.

After changing display settings, press the Apply button to apply the changes to the View while the CAD Layer Controls window remains open. Press the OK button to apply the changes and close the window. The Close button cancels any changes in settings not already applied and closes the window.

Object Panel

The Object tabbed panel is exposed by default when the Spatial Layer Controls window opens (see illustration to the right).

Object: The Object field shows the filename and object name of the CAD object being displayed. Press the Object pushbutton to open the Select Object window to select a different CAD object to assign to the current layer.

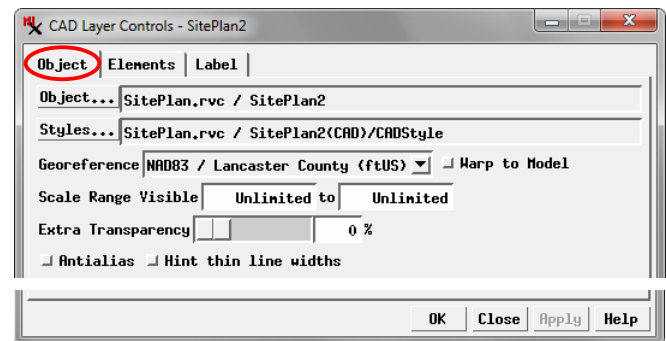
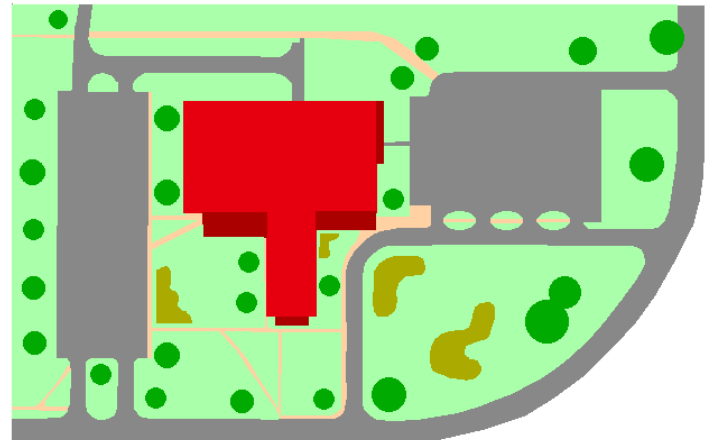
Styles: Press the Styles pushbutton to select a style subobject of the current CAD object or a main-level style object in a Project File as a source of styles to use to display the elements. Style subobjects of a spatial object are primarily used to store style information for elements in that object with All Same styles that utilize symbols or patterns. Styles assigned to elements by attribute can be stored in a style subobject of the style assignment table, which is independent of the style object selected on the Object panel. See the Technical Guide entitled *Managing Styles* for more information about style objects.

Georeference: The Georeference menu defaults to the georeference subobject that was last used. If the object has more than one georeference subobject (not recommended), you can use the Georeference menu to choose the desired georeference to use for the display.

If the CAD object has control point georeference, turn on the *Warp to Model* toggle button to use the object-to-map coordinate transformation model stored with the georeference information when rendering the layer in the View.

Scale Range Visible: The Scale Range Visible fields let you limit the range of map scales over which the layer is displayed. For example, you may wish to hide a detailed layer when the View is zoomed out beyond a certain scale.

You set up scale control by specifying a minimum (field on the left) and maximum (field on the right) map scale. The mini-



Object panel on the CAD Layer Controls window.

imum map scale controls how far out you can zoom and still show the layer, while the maximum map scale controls how far you can zoom in.

The Scale Range Visible fields by default are initially set to Unlimited, in which case the layer is shown at all map scales. You can change both scale limits, just one, or neither. To set a map scale for either field, you can enter the full scale fraction (e.g., 1:10000) or just the denominator of the scale fraction (e.g., 10000); the resulting map scale fraction is then shown in the field. To reset a map scale field to Unlimited, enter 0. For more information about scale ranges, see the TechGuide entitled *Display Layers, Elements and Groups by Scale*.

Extra Transparency: Use the Extra Transparency slider and numeric field to set a transparency percentage for the entire layer (all elements). Transparency applied to the entire layer is in addition to any transparency set for particular element styles, such as partially-transparent polygon fill colors. Layer transparency can also be adjusted using the Transparency controls in the View window sidebar (see the TechGuide *Easily Vary Transparency for Any Layer*). Each transparency control is updated when the setting on the other control is changed.

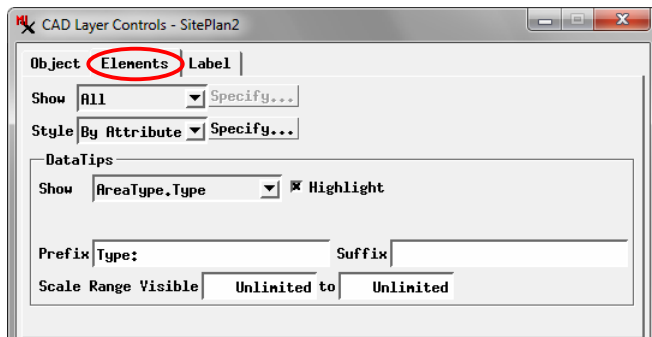
Antialias and Hint: Turning on the *Antialias* toggle button applies antialiasing to lines or polygon borders to reduce the stairstep effect on diagonal and curving lines in the View. Antialiasing is applied to any line that has a width of less than

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1.5 pixels on screen. Turning on the *Hint thin line widths* toggle applies partial transparency to lines that would be less than one pixel wide on screen at the current scale. The degree of transparency is proportional to the intended scaled width of the lines. For information and illustrations of antialiasing and hinting see the TechGuide entitled *Enhanced Line Rendering*.

Elements Panel

The Elements panel (illustrated below) includes display settings for the CAD elements, including DataTips settings.

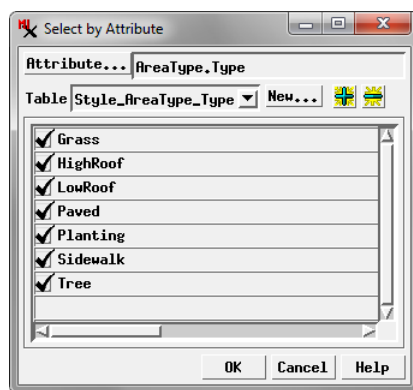


Elements tabbed panel

Show: The Show menu provides choices governing which elements to display. The options are All, By Attribute, By Map Scale, By Query and By Type. Choosing an option other than All activates the *Specify* button next to the menu.

The *By Attribute* option lets you display only the elements that have selected values in a specified database attribute field. After choosing this option from the Show menu, pressing the Specify button opens the Select by Attribute window (illustrated below). This window allows you to choose an associated database table and field by pressing the *Attribute* button; the selected *table.field* reference is shown in the text field next to the button. If the elements are displayed using styling by attribute, the field on which the styles are based is selected by default.

The scrolling list in the Select by Attribute window shows all of the attribute values in the specified field; turn on the checkbox for each value whose elements are to be displayed. *Select All* and *Deselect All* icon buttons are provided above the list.



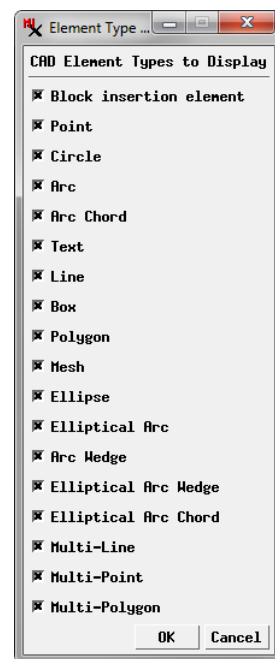
Select by Attribute window

The *Table* combobox shows the name of the table in which the attribute selections are recorded. If you are using the “style by attribute” field, the associated style table is selected by default. If you are using a different attribute field, a selection table is created to record the element selections. You can create and save more than one selection table; all available selection tables are listed on the Table combobox.

The *By Map Scale* option on the Show menu lets you set scale ranges for groups of elements by attribute value; the display scale in the View then determines which of these elements are displayed. Pressing the Specify button after selecting this option opens the Scale Ranges window, which is described and illustrated in the TechGuide entitled *Display Layers, Elements and Groups by Scale*.

The Specify button for the *By Query* option from the Show menu opens the Script Editor window so you can enter a selection query to specify the elements to display. Examples of selection queries are provided in the *Building and Using Queries* tutorial.

The Specify button for the *By Type* option from the Show menu opens the Element type window (illustrated to the right). This window provides a toggle button for each of the possible element types that can be contained in a CAD object, including text, point, line, arc, and geometric shapes such as circle, box, polygon, and others. Turn on the toggle button for each element type you wish to display.



Element Type window

Style: The Style menu provides choices for styling the elements; the options include All Same, By Attribute, By Script, and By Element. Press the *Specify* button next to the menu to set up the styles.

When you select *All Same*, pressing the Specify button opens the Style Editor with style controls available for points, lines, polygons, and text. The styles you create or select are applied to all of the elements.

Choose *By Attribute* to set up different styles for different values in a specified attribute field. Styles can be created and assigned to attribute values manually or using an automated procedure. Associations between attribute values and styles are saved in a style assignment table. For information on setting up styling by attribute see the TechGuides entitled *Style By Attribute: Manual Assignment* and *Style By Attribute: Automatic Style Generation*.

The *By Script* style option lets you use a script to set drawing styles based on element attributes and to use CartoScripts to create custom cartographic renderings for point and line elements. For more information see the *Building and Using Queries* tutorial for examples of simple style scripts and the *Using CartoScripts* tutorial.

The *By Element* style option uses styles that may have been assigned to individual elements in the CAD object in the Editor. The Specify button is inactive when the By Element option is selected.

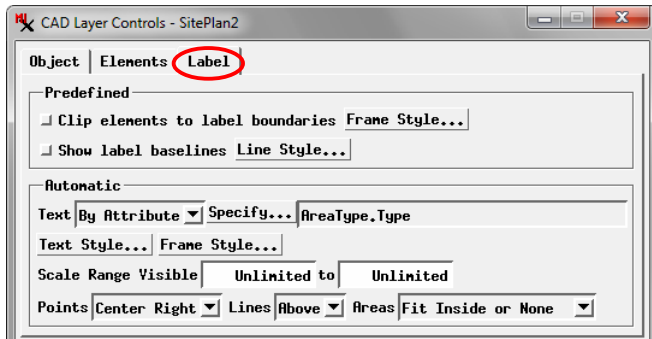
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DataTips: Use the DataTips controls on the Elements panel to specify an attribute field as the source for information to show in the View when the cursor is paused over or near the element. You can also set Prefix and Suffix text and set the DataTips to appear over a limited range of map scales. For more information on these controls see the TechGuides entitled *DataTips* and *DataTip Highlighting of Geometric Elements*.

Label Panel

Predefined: The Predefined box on the Label tabbed panel provides some additional controls dealing with text label elements in the CAD object.

Turning on the *Clip elements to label boundaries* toggle pre-



Label tabbed panel

vents other elements in the layer from being rendered within the confines of the rectangle bounding the label; this choice can make the label text more legible.

Label elements can have the label enclosed in a frame with your choice of frame shape and fill and border colors. For labels with leader lines you can choose the leader line width and color or choose to show the leader as a triangular extension of the frame. Press the *Frame Style* pushbutton to open the Label Frame Style window to set these options; see the TechGuide entitled *Label Frames and Leader Lines* for more information.

Label elements are stored with a baseline that is hidden unless you turn on the *Show label baselines* toggle. Pressing the *Line Style* pushbutton to the right of this toggle opens the Style Editor with controls for setting a line style for the baselines (see the TechGuide entitled *Creating Styles for Lines*).

Automatic: The controls in the Automatic box let you configure the layer to show automatic display labels for the CAD elements using information in the element database. You can set text style options and choose to enclose the dynamic labels in frames with your choice of fill and border colors. Dynamic labels can also be set to display only within a specific scale range. For more information on these controls see the Technical Guide entitled *Dynamic Labels for Geometric Elements*.

