

## 6.0 Element Selection Tool Box



### Selection tool bar

The Selection tool bar contains tools for selecting elements

**Element Selection** – Selects and deselects elements on a per element basis, by defining an area, by drawing a line that intersects them, or by individually selecting them.

**Fence Tool** – This tool allows the selection of elements by placing a block around the geometry. This tool also allows an alternative plotting method.

**Delete Fence Tool** – This tool will delete elements depending on the mode selected.

## 6.1 Element Selection Tool



Used to select and deselect elements for modification or manipulation. The set of selected elements is called the **selection set**.

While the *Element Selection* tool is selected, the pointer becomes an arrowhead with an aperture encircling the tip. The aperture denotes the design plane area in which MicroStation searches for elements. The aperture size or Locate Tolerance is a user preference that is adjustable in the Preferences dialog.

- To select a shape, the pointer must be close to one of the enclosing lines. To select a circle or an ellipse, the pointer must be close to the circumference or center. A filled element can be selected by its interior or surface, which is set in the Locate Interiors option menu of the Preferences dialog Input category.
- If Level Lock is on, you can only select elements on the active level.

Tool Settings	Effect
Method	<p>Sets the selection method. The method works in conjunction with the Mode setting. The Method settings allow you to select individual elements or drag to select elements with a dynamic rectangle, block, shape, circle, or line. Use a left-right direction for inside selection and a right-left direction for overlap selection. The line style for the dynamic rectangle/block/shape/circle changes from a solid line (inside) to a dashed line (overlap). A tap of the &lt;Shift&gt; key while dragging/defining points will invert the current inside/overlap direction.</p> <ul style="list-style-type: none"> <li>➤ Individual — Lets you select individual elements graphically. To select additional elements: <ul style="list-style-type: none"> <li>○ (when mode is set to New) Hold the &lt;Ctrl&gt; key, and then click on the elements.</li> <li>○ (when mode is set to Add) Click on the elements.</li> <li>○ (when mode is set to New or Add) Click in the view window, then drag to select</li> </ul> </li> </ul>

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	<p>elements with a dynamic rectangle.</p> <p>If you double-click an existing text element with the Element Selection pointer, the Edit Text tool activates and the Text Editor window opens.</p> <p>If you double-click an existing tag element with the <i>Element Selection</i> pointer, the Edit Tags dialog opens.</p> <p>If you double-click an existing flag with the <i>Element Selection</i> pointer, the Show/Edit Flag tool activates and the Define Flag Information dialog opens.</p> <p>If you double-click a blank area of a view, the selection mode toggles between Block and Individual.</p> <ul style="list-style-type: none"> <li>➤ Block — When set to inside selection, all elements inside the block are selected. When set to overlap selection, all elements inside or overlapping the block are selected.</li> <li>➤ Shape — When set to inside selection, all elements inside the shape are selected. When set to overlap selection, all elements inside or overlapping the shape are selected.</li> <li>➤ Circle — When set to inside selection, all elements inside the circle are selected. When set to overlap selection, all elements inside or overlapping the circle are selected.</li> <li>➤ Line — Lets you select elements by defining a line that intersects them.</li> </ul>
Mode	<p>Sets the objective of using the tool. The Mode works in conjunction with the Method setting.</p> <p>New — Clears the current selection set and starts a new selection set.</p> <ul style="list-style-type: none"> <li>➤ Add — Adds elements to the selection set.</li> <li>➤ Subtract — Removes elements from the selection set.</li> <li>➤ Invert — Toggles the selection status of an element (selects deselected elements and deselects selected elements).</li> <li>➤ Clear/Select All — Deselects all selected elements if element handles are not visible. If handles are visible and selected (orange), selecting the Clear mode deselects the handles (blue). Selects all elements if no elements are currently selected.</li> </ul>
Disable Handles	<p>If on, handles are not displayed for selected elements.</p> <p>With the Individual method plus New mode, element handles are displayed by default if you select a single element or multiple elements using &lt;Ctrl-click&gt;. Element handles are not displayed when you select multiple elements by dragging a rectangle or with another selection method (Block, Shape, Circle, or Line).</p>

## MicroStation V8i – Element Selection

Select Handles	If on, the Block/Shape/Circle/Line selection methods and the Add/Subtract/Invert/Clear selection modes apply to selecting handles rather than elements. (To use this icon, Disable Handles must be off.)
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### To select a single element

- 1) Select the *Element Selection* tool.
- 1) In the tool settings window, select the following icons: Method - Individual, and Mode - New.
- 2) Click the element you want to select.  
The selected element is bracketed with handles.

### To select one or more elements with the individual method

- 1) Select the *Element Selection* tool.
- 2) In the tool settings window, select these icons: Method - Individual, and Mode - New.
- 3) Drag around the area containing the elements you want to select. As you drag, a dynamic rectangle outlines the area. Use a left-right direction for inside selection and a right-left direction for overlap selection.
- 4) (Optional) Tap the <Shift> key while dragging to invert the current inside/overlap direction.
- 5) Release the Data button.  
All elements that are inside (or overlapping) the rectangle are selected.

### To select additional elements with the individual method

- 1) Select the *Element Selection* tool.
- 2) In the tool settings window, select these icons: Method - Individual, and Mode - New.
- 3) Hold the <Ctrl> key, and click on the elements to select.

### To select all elements in the active model

- From the Reset pop-up menu, choose Select All.  
Or  
Choose Edit > Select All. (or press <ctrl-A>).  
Or  
In the status bar, click the element selection indicator field, and choose Select All from the pop-up menu.

Note: Elements in references cannot be selected with this method.

### Alternative Method – To select all elements in the active model

- 1) Select the *Element Selection* tool.
- 2) In the tool settings window, select Mode — Select All.

Note: Elements in references cannot be selected with this mode.

## MicroStation V8i – Element Selection

### To select elements inside or overlapping a rectangular area

- 1) Select the Element Selection tool.
- 2) In the tool settings window, select the following icons: Method - Block, and Mode - Add (+).
- 3) Enter a data point to define the first corner of the block. Use a left-right direction for inside selection and a right-left direction for overlap selection.
- 4) (Optional) Tap the <Shift> key while dragging to invert the current inside/overlap direction.
- 5) Move the pointer until the dynamically displayed block contains or overlaps the elements you want to select.
- 6) Enter a second data point to close the block.

### To select elements contained in or overlapping a polygonal area

- 1) Select the *Element Selection* tool.
- 2) In the tool settings window, select the following icons: Method - Shape, and Mode - Add (+).
- 3) Enter a data point to define the first vertex of the polygonal shape. Use a left-right direction for inside selection and a right-left direction for overlap selection.
- 4) (Optional) Tap the <Shift> key while defining points to invert the current inside/overlap direction.
- 5) Continue entering data points until the polygonal shape contains or overlaps the elements you want to select.
- 6) Enter a final data point to close the polygonal shape.

### To select elements contained in or overlapping a circle

- 1) Select the *Element Selection* tool.
- 2) In the tool settings window, select the following icons: Method - Circle, and Mode - Add (+).
- 3) Enter a data point to define the center of the circle. Use a left-right direction for inside selection and a right-left direction for overlap selection.
- 4) (Optional) Tap the <Shift> key while dragging to invert the current inside/overlap direction.
- 5) Enter a second data point to complete the circle.

## MicroStation V8i – Element Selection

### To select elements that intersect a line

- 1) Select the *Element Selection* tool.
- 2) In the tool settings window, select the following icons: Method - Line, and Mode - Add (+).



- 3) Enter a data point to begin the line.
- 4) Enter a data point to end the line.  
All elements touched by the line are selected.

### To deselect an element

- 1) Select the *Element Selection* tool.
- 2) In the tool settings window, select the following icons: Method - Individual, and Mode - New.
- 3) <Ctrl-click> the element to deselect.

### To deselect all elements

- 1) From the Reset pop-up menu, choose Select None.  
Or  
Choose Edit > Select None.  
Or  
In the status bar, click the element selection indicator field, and choose Select None from the pop-up menu.

### Alternative Method – To deselect all elements

- 1) Select the *Element Selection* tool.
- 2) In the tool settings window, select Mode — Clear.

### To restore the previous selection set

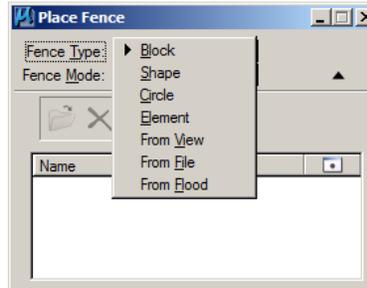
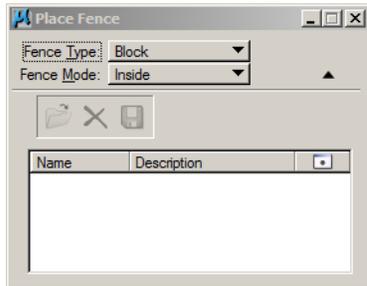
- 1) From the Reset pop-up menu, choose Select Previous.

Note: If any currently selected elements were not in the previous selection set, choosing Select Previous will cause those elements to be deselected.

## 6.2 Place Fence Tool



Used to place a fence.



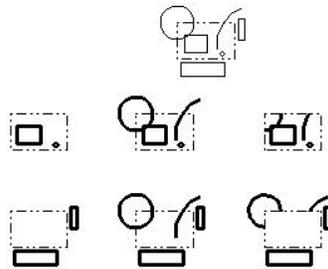
### Tool Settings

Tool Settings	Effect
Fence Type	<p>When the Fence Type is:</p> <ul style="list-style-type: none"> <li>• Block, Shape, or Circle — Sets the geometric characteristics of a fence for graphical placement.</li> <li>• Element — Lets you create a fence by selecting an element. Elements that can be used for a fence include closed planar elements (shapes, circles, ellipses, complex shapes, and grouped holes), any solid (other than spheres or feature solids) or closed extrusion, or cylinders. If a planar element is used in a 3D file, then the volume is applied by sweeping the planar region through the entire model.</li> <li>• From View — Sets a fence to include the contents of the selected view.</li> <li>• From File — Sets a fence to include the contents of a DGN file. An option menu lets you choose from: <ul style="list-style-type: none"> <li>○ Active — elements in the active model from a selected view.</li> <li>○ All — elements in the active model and its references, from a selected view.</li> <li>○ Choose — elements from a selected reference (or the active model), which you identify by identifying an element from the required model/reference.</li> </ul> </li> <li>• From Flood — Sets a fence to include the (minimum) area enclosed by a set of elements.</li> </ul>
Fence Mode	Sets the Fence (Selection) Mode that, in conjunction with the fence placement, defines the fence contents for manipulation.

## MicroStation V8i – Element Selection

The Fence (Selection) Mode determines just what constitutes the contents of a fence — that is, whether the elements (or parts of elements) inside, outside, or overlapping the fence are “contained” by the fence to be processed.

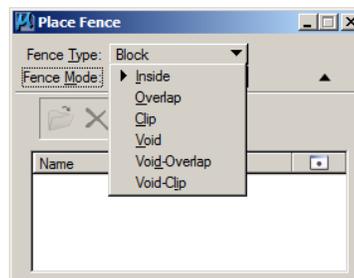
- Inside — Only those elements completely inside the fence are processed.
- Overlap — Only those elements inside or overlapping the fence are processed.
- Clip — Only elements completely inside the fence and parts of elements inside and overlapping the fence are processed.
- Void — Only those elements completely outside the fence are processed.
- Void-Overlap — Only those elements outside or overlapping the fence are processed.
- Void-Clip — Only elements completely outside the fence and parts of elements outside and overlapping the fence are processed.



*Fence selection modes. Top, the fence and elements*

*Center Left: Inside; Center Middle: Overlap; Center Right: Clip*

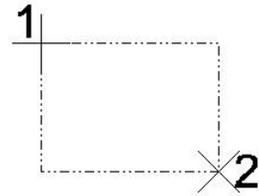
*Bottom Left: Void; Bottom Middle: Void-Overlap; Bottom Right: Void-Clip*



## MicroStation V8i – Element Selection

### To place a rectangular fence

- 1) Select the *Place Fence* tool.  
If a fence already exists, it is removed.
- 2) In the Tool Settings window, set Fence Type to Block.
- 3) Enter a data point to define one corner.
- 4) Enter a data point to define the diagonally opposite corner.



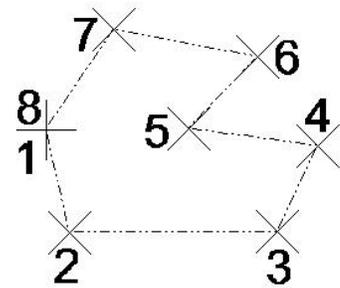
*Place Fence with Fence Type set to Block*

### Alternative Method – To place a rectangular fence

- 1) Select the *Place Fence* tool.  
If a fence already exists, it is removed.
- 2) In the Tool Settings window, set Fence Type to Block.
- 3) Click and drag the pointer from the first corner to the diagonally opposite corner.

### To place a polygonal (non-rectangular) fence

- 1) Select the *Place Fence* tool.  
If a fence already exists, it is removed.
- 2) In the Tool Settings window, set Fence Type to Shape.
- 3) Enter a data point to define the beginning (and end) point.
- 4) Continue to enter data points to define the vertices.
- 5) To close the shape, enter a data point at the location of the first data point.  
Or  
Click the Close Fence button.



*Place fence, with Fence Type set to shape*

### To place a circular fence

- 1) Select the *Place Fence* tool.  
If a fence already exists, it is removed.
- 2) In the Tool Settings window, set Fence Type to Circle.
- 3) Enter a data point to define the center.
- 4) Enter a data point to define the radius.

## MicroStation V8i – Element Selection

### To place a fence using an element

- 1) Select the *Place Fence* tool.  
If a fence already exists, it is removed.
- 2) In the Tool Settings window, set Fence Type to Element.
- 3) Identify a shape element that is the same shape as the fence shape you want to place.
- 4) Enter a data point to accept the element. A fence is placed.

**Note:** Selecting Place Fence automatically disables AccuDraw if it was not already disabled. To activate AccuDraw for use with Place Fence, select the Toggle AccuDraw tool in the Primary Tools toolbox.

If, after placing a fence but before selecting another tool, you decide the fence placement is unsatisfactory, simply reset to begin re-placing it.

### 6.3 Delete Fence Contents Tool



Used to delete the fence contents, which are defined by a fence and the Fence (Selection) Mode, which determines what constitutes the contents of a fence.



### To delete a fence's contents

- 1) Select the Delete Fence Contents tool.
- 2) Accept the deletion.

### 6.4 Select By Attributes

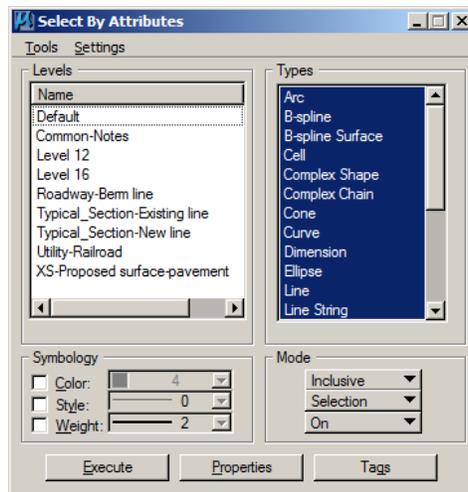
When you use the Element Selection tool, you can select, or group, the elements by a variety of means, including by:

- Level
- Color
- Line Style
- Line Weight
- Type
- Class
- Template

For example, you can request MicroStation to select all text elements or all elements with line weight 3. You can even specify search criteria based on different kinds of attributes — for example, green, dotted arc elements on level 12 and level 16.

By default, selected elements are bracketed with squares called handles. If any elements are selected, an arrowhead icon is displayed in the status bar. The number to the right of the icon is the number of selected elements.

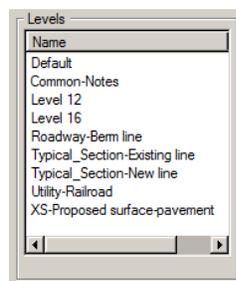
The Select By Attributes dialog (Edit > Select By Attributes) provides additional attribute-based element selection options — selection by attached tag values and by properties. Properties include the area attribute, whether an element can be snapped to, whether it is locked, and whether it has been modified.



This dialog also provides the capability to filter the display of elements based on their attributes.

#### Levels

Used to specify level criteria.

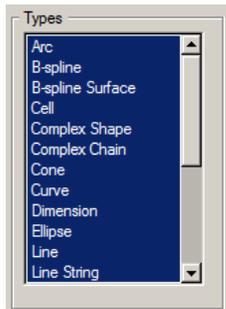


## MicroStation V8i – Element Selection

To	Do this
Select a single level	Click the level.
Select many levels at once	Click and drag through the level list.
Select non-contiguous levels in the list	<Ctrl> click required levels.
Deselect a level	<Ctrl> click the highlighted level.

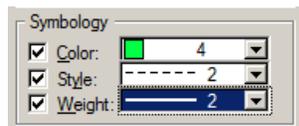
### Types

Used to specify criteria based on element type:



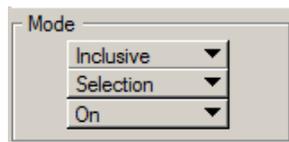
To	Do this
Select a single type	Click the type.
Select many types at once	Click and drag through the types.
Select non-contiguous types in the list	<Ctrl> click required types.
Deselect a type	<Ctrl> click the highlighted type.

### Symbology



Used to specify criteria based on element color, line style (including custom line style), and line weight.

### Mode



Three unlabeled option menus control the following:

Option menu	Description
Top	Controls which elements are selected, displayed, or located when the Execute button is clicked. Inclusive — All elements that match search criteria. Exclusive — All elements that do not match search criteria.
Middle	Controls how criteria are used when the Execute button is clicked. <ul style="list-style-type: none"> <li>• Selection — Elements are selected based on Select By criteria.</li> <li>• Location — Filters location of elements based on Select By criteria. Elements can then be selected by using the Select All command.</li> <li>• Display — Filters display of elements based on Select By criteria.</li> </ul>
Bottom	If set to On (the default), Select By criteria is effective. If set to Off, Select By criteria is ignored.

## MicroStation V8i – Element Selection

### Execute



Selects, Locates, or Displays elements in accordance with the specified search criteria and Mode.

### Properties

Opens the Select By Properties dialog, which is used to specify criteria based on less prominent element attributes, such as area and class.

### Tags

Opens the Select By Tags dialog, which is used to specify criteria based on tag values. If selection criteria based on tag values are specified, elements that do not have attached tags with the specified tag name(s) will *not* be selected, located, or displayed.

Control	Criteria matched if on
Level	Levels
Symbology	Symbology
Type	Types
Properties	Properties
Class	Class

Tools menu > Set Select By from Element

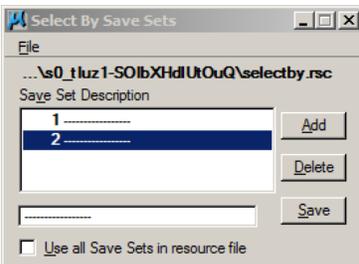


Opens the Set Select By dialog, which is used to set the search criteria so they match an element's attributes.

After you turn on the controls for the desired criteria, identify the element whose attributes you want to specify as criteria.

### Tools menu > Selector Save Sets

Opens the Select By Save Sets dialog, which is used to save and retrieve sets of search criteria settings.



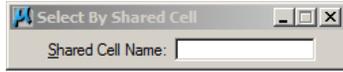
### Settings Menu > Cell



Opens the Select By Cell dialog, which is used to specify a criterion based on the name of an unshared cell.

## MicroStation V8i – Element Selection

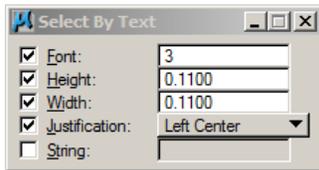
### Settings menu > Shared Cell



Opens the Select By Shared Cell dialog, which is used to specify a criterion based on the name of a shared cell.

### Settings menu > Text

Opens the Select By Text dialog, which is used to specify criteria based on element attributes specific to text elements. Text strings are case-sensitive. For example, inputting the string “North” would select “North”, but not “north”, nor “NORTH”.



### Settings menu > Text Node

MoDOT does not use text nodes.