

### 6.0 Element Selection Tool

Selection tool



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

In the extended settings for the *Element Selection* window, tabs let you select elements by one or more attributes — Level, Color, Line Style, Line Weight, Element Type, Element Class, Element Template, Text Style, Dimension Style, Multi-line Style, Transparency and Display Priority. Alternatively, when you select elements graphically, the active set of attributes displays as a highlighted group in each tab's list box.

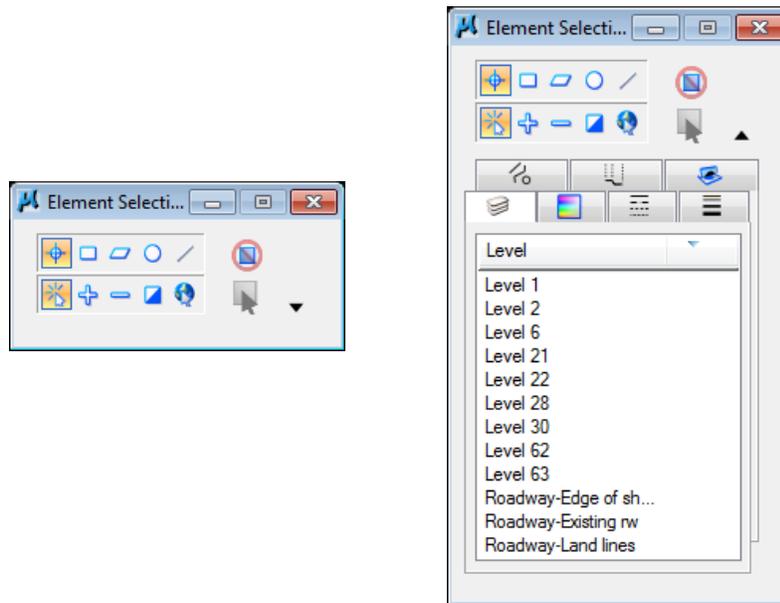
- Under the extended settings, you can add to the attribute set by clicking on additional (unhighlighted) attributes. If an element exists with an attribute, the attribute is included in the set. Similarly, you can remove an attribute from the set by clicking on it. Switching tabs lets you continue the process of adding or eliminating other attributes. Where you have a number of attributes selected you can <Ctrl-click> a highlighted attribute and all other highlighted attributes will be deselected.
- If you choose an attribute that exists in a complex element such as a cell, the entire complex element is selected. For example, if you choose the Element Type attribute for text, Element Selection finds normal text elements as well as cells that contain text. In each tab's list box, attributes that belong to complex elements are highlighted in gray, rather than the standard highlighting for attributes that belong to simple elements.
- If you choose a Color, Line Style, or Line Weight attribute, Element Selection finds all elements with this active symbology, including ByLevel attributes. For example, if you select the color blue, Element Selection finds blue elements as well as elements with ByLevel color that are set to blue. ByLevel attributes are listed separately in the list box.

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 (Input category).

If the desired element is visible in the aperture but you cannot select it, check the following:

- 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.

## MicroStation V8i – Element Selection



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, 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 elements with a dynamic rectangle.</li> </ul> </li> <li>— If you double-click an existing text element with the <i>Element Selection</i> pointer, the <a href="#">Edit Text</a> tool activates and the <a href="#">Text Editor window</a> opens.</li> <li>-If you double-click an existing tag element with the <i>Element Selection</i> pointer, the <a href="#">Edit Tags dialog</a> opens.</li> <li>-If you double-click an existing flag with the <i>Element Selection</i> pointer, the <a href="#">Show/Edit Flag</a> tool activates and the Define Flag Information dialog opens.</li> <li>-If you double-click a blank area of a view, the selection mode toggles between Block and Individual.</li> <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>

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Mode	<p>Sets the objective of using the tool. The Mode works in conjunction with the Method setting.</p> <ul style="list-style-type: none"> <li>• New — Clears the current selection set and starts a new selection set.</li> <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>
Select Handles	<p>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.)</p>
Attribute Tabs	<p>Clicking the Show Extended Settings arrow expands the tool settings window to reveal the Attribute tabs.</p> <ul style="list-style-type: none"> <li>• Level — Lets you select the required levels from a list of levels in the model.</li> <li>• Color — Lets you select the required colors from a list (0–254 plus By Level).</li> <li>• Line Style — Lets you select the required line styles from a list (standard line styles plus custom line styles, plus By Level).</li> <li>• Line Weight — Lets you select the required line weights from a list (0–31 plus By Level).</li> <li>• Element Type — Lets you select the required element types from a list.</li> <li>• Element Class — Lets you select the required element classes from a list.</li> <li>• Element Template — Lets you select the required <a href="#">element template</a> from a list.</li> <li>• Text Styles — You can select the required text style from a list.</li> <li>• Dimension Styles — You can select the required dimension style from a list.</li> <li>• Multi-line Styles — You can select the required multi-line style from a list.</li> </ul>

### To select a single element

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

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### 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

- a. Select the *Element Selection* tool.
- b. 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 select elements based on their attributes

- 1) Select the *Element Selection* tool.
- 2) In the tool settings window, click the Show Extended Settings icon.
- 3) Choose the desired attribute tab as the selection criterion.
- 4) In the attribute list box, click the attributes to be included in the selection criterion.  
If elements exist with these attributes in the design file, the attributes are highlighted and displayed in the list box and the elements are selected. If you select an attribute that does not coincide with an element in the design file, the attribute is not highlighted.

### To select additional elements or deselect some selected elements based on their attributes

- 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 defining points 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 or deselect.
- 6) Enter a second data point to close the block.  
Elements that meet the criterion within the block are selected.
- 7) In the tool settings window, click the Show Extended Settings icon.
- 8) Choose the desired attribute tab.  
The attributes that exist within the selection set (block) are highlighted and displayed in the list box.
- 9) To deselect elements with specific attributes from the selection set, click the highlighted attribute.  
The attribute is no longer highlighted and the elements with that attribute are unselected.

## MicroStation V8i – Element Selection

### 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

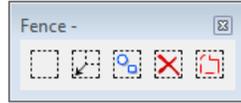
- 1) Select the *Element Selection* tool.
- 2) In the tool settings window, select Mode — Clear.

### 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.

## 6.1 Place Fence tool



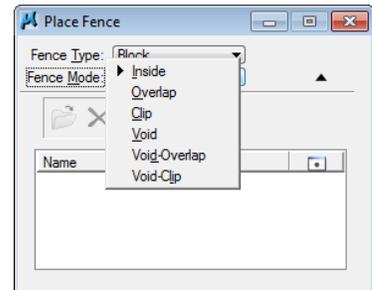
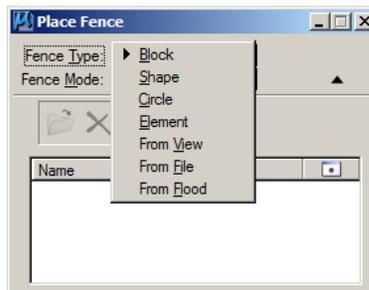
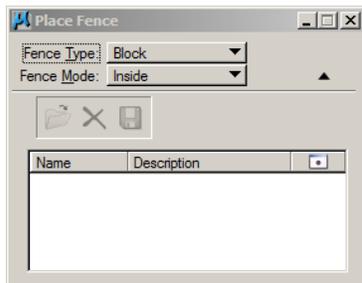
The Fence toolbox contains tools that are used to place, modify, move a fence, and delete the fence contents.

To	Select in the Fence toolbox
Place a fence.	 <i>Place Fence</i>
Modify one vertex of a fence.	 <i>Modify Fence</i>
Manipulate the fence contents. or Extend or shorten elements that overlap the fence.	 <i>Manipulate Fence Contents</i>
Delete the fence contents.	 <i>Delete Fence Contents</i>
Break up the complex elements in the fence contents into their components.	 <i>Drop Complex Status of Fence Contents</i>

### Place Fence



Used to place a fence.



## MicroStation V8i – Element Selection

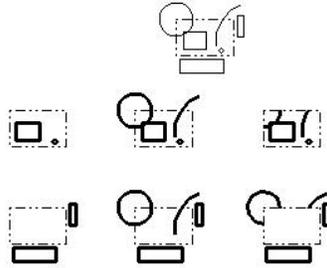
### Tool Settings

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.

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.

## MicroStation V8i – Element Selection



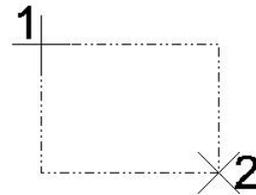
*Fence selection modes. Top, the fence and elements*

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

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

### 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.



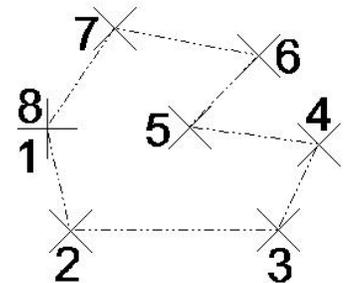
*Place Fence with Fence Type set to Block*

### 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*

## MicroStation V8i – Element Selection

### 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.

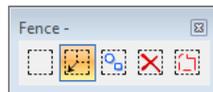
### To place a fence using an element

- 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.

### Modify Fence



Used to modify one vertex of a fence.



See the MicroStation on-line help documents for more information on the use of this tool.

### Manipulate Fence Contents



Used to manipulate the fence contents or extend or shorten elements that overlap the fence.



See the MicroStation on-line help documents for more information on the use of this tool.

### Delete Fence Contents



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.

## MicroStation V8i – Element Selection

### To delete a fence's contents

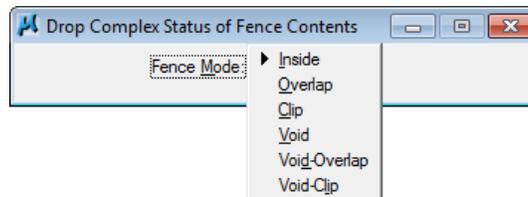


- 1) Select the Delete Fence Contents tool.
- 2) Accept the deletion.

### Drop Complex Status of Fence Contents



Used to break up the complex elements contained in a fence (cells, complex chains, complex shapes, text nodes, surfaces, and solids) into their components. The elements can then be manipulated individually.



Tool Settings	Effect
Fence Mode	<p>Sets how the fence contents are determined.</p> <ul style="list-style-type: none"> <li>• Inside</li> <li>• Overlap</li> <li>• Clip</li> <li>• Void</li> <li>• Void-Overlap</li> <li>• Void-Clip</li> </ul>

### To drop the complex status of the fence contents

- 1) Select the *Drop Complex Status of Fence Contents* tool.
  - 2) Accept the drop.
- To selectively break up a specific complex element(s), use the Drop Complex Status tool.
  - The *Drop Complex Status of Fence Contents* tool cannot be used to disassociate a B-spline curve from its control polygon.

### 6.2 Select By Attributes

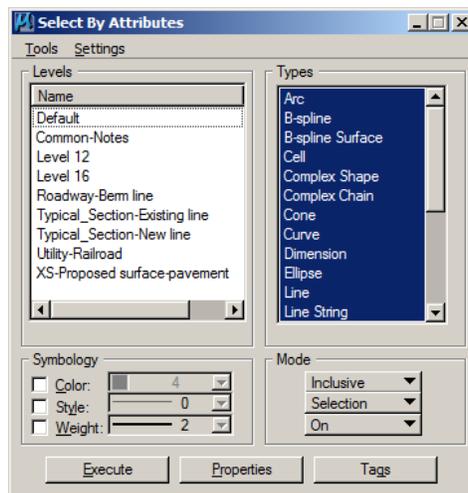
When you use the Element Selection tool, you can select, or group, the elements by a variety of means, including by:

- 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.

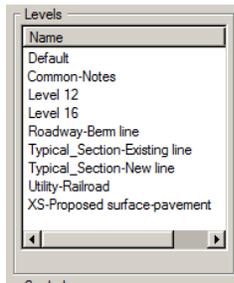


This dialog also provides the capability to filter the display of elements based on their attributes.

## MicroStation V8i – Element Selection

### Levels

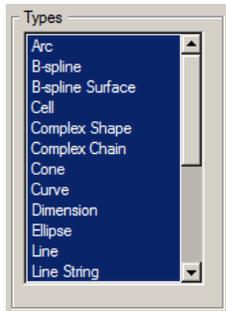
Used to specify level criteria.



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.

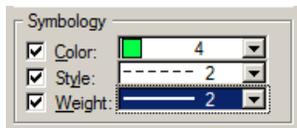
### Types

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



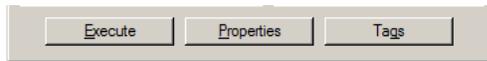
Three unlabeled option menus control the following:

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.

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Middle	<p>Controls how criteria are used when the Execute button is clicked.</p> <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	<p>If set to On (the default), Select By criteria is effective. If set to Off, Select By criteria is ignored.</p>

### Execute



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

### Properties

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

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.

### Tools menu > Set Select By from Element

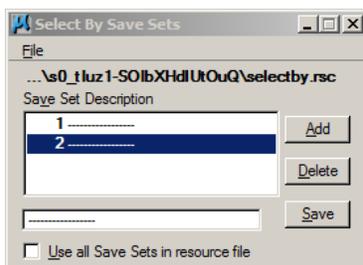


Opens the Set Select By dialog, which is used to set the search criteria so they match an element's attributes.

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.



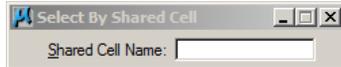
## MicroStation V8i – Element Selection

### Settings Menu > Cell



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

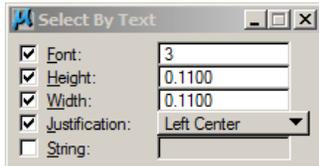
### Settings menu > Shared Cell



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.

## MicroStation V8i – Element Selection