Various MicroStation Tips and Tricks

MicroStation (SELECTseries 3)

Tine Lai Andersen, LEARNing Consultant

MicroStation Tips and tricks

At the end of this training session, an assessment will be given. We will review all assessment questions and answers to see what you have learned.

Learning Objectives

After this session you will be able:

- Use AccuDraw temporary origin

- Use improved Selection Set functionality

- Use drag and drop capabilities

- Use the Text String quick edit

- Capture any color from external sources to Active Attributes

- Create and use item Sets

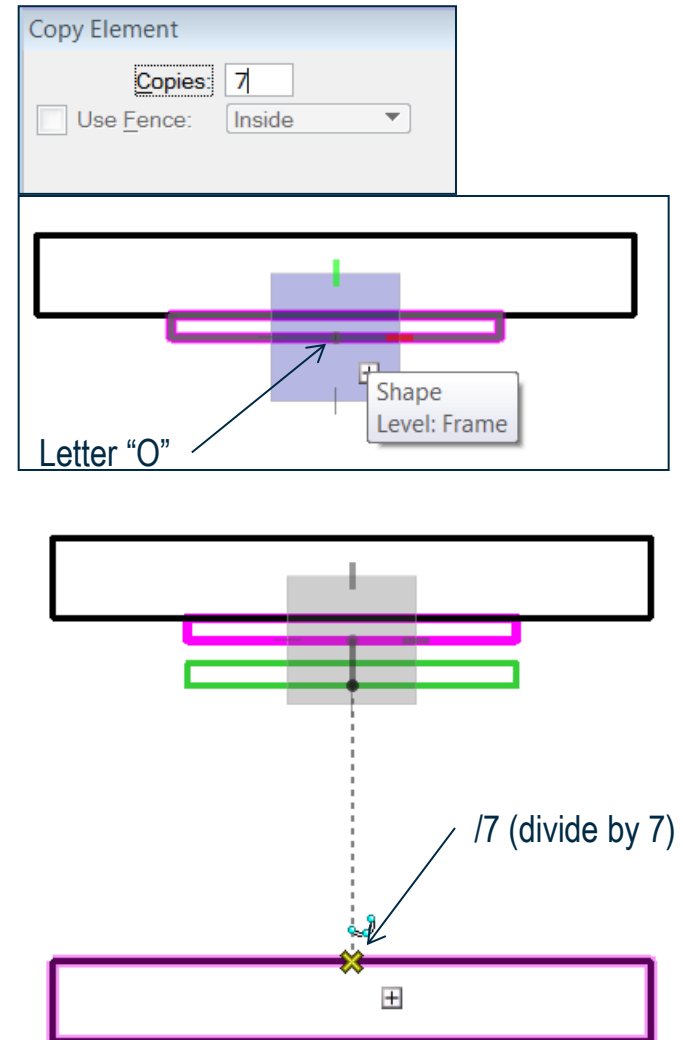- And more…

Tip for AccuDraw
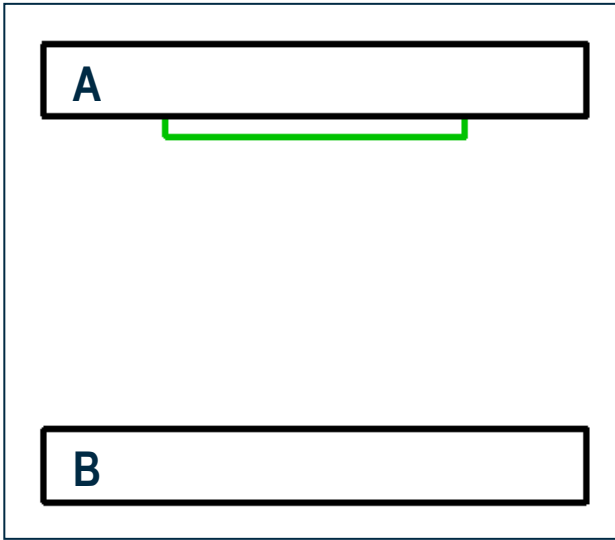
Objective:
Create 8 green blocks equal distance apart, between Block A & B, without measuring the distance between Blocks A & B.
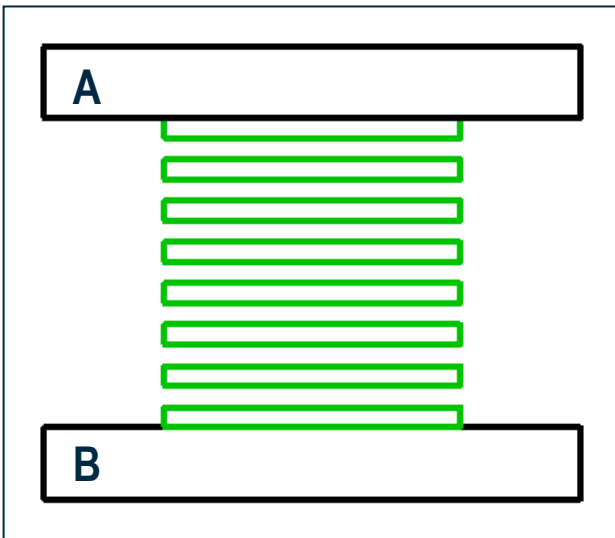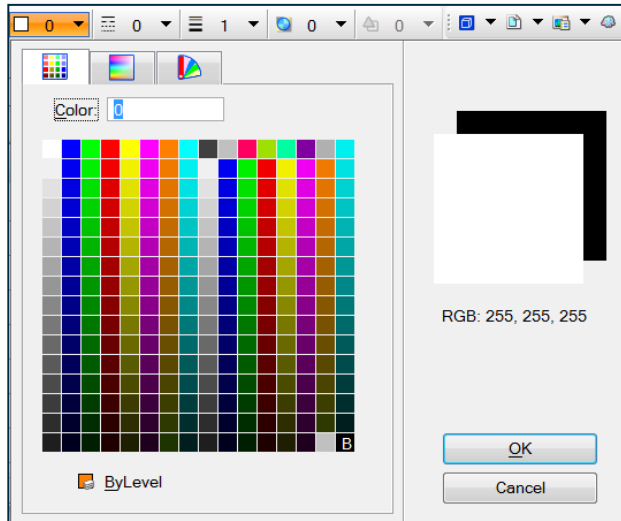
Demonstration of AccuDraw Tip

1. Select Copy Element 7 copies

2. Select green block

3. Type letter "O" on green block

4. Hover cursor on Block "B" type Divide by 7 (/7)
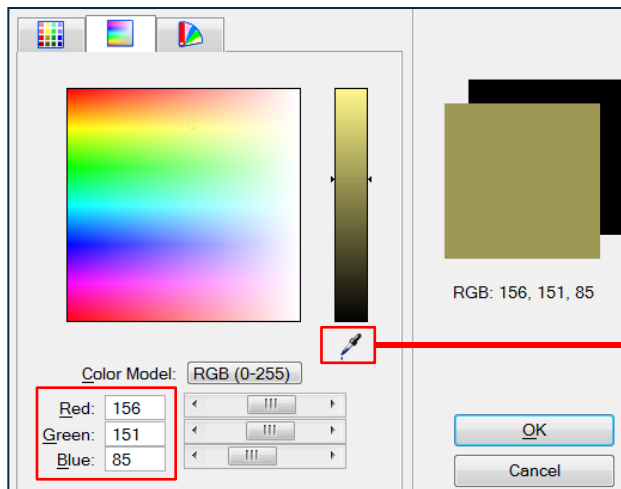
File:MicroStationTips.dgn, Model: 01 AccuDraw

Copy Element

Copies 7

Use Fence: Inside

Shape
Level: Frame

Letter "O"

/7 (divide by 7)

Bentley
Sustaining Infrastructure

External Color as the Active Color

Objective: Select an active color from an external source.

Internet Browser

RGB: 255, 255, 255

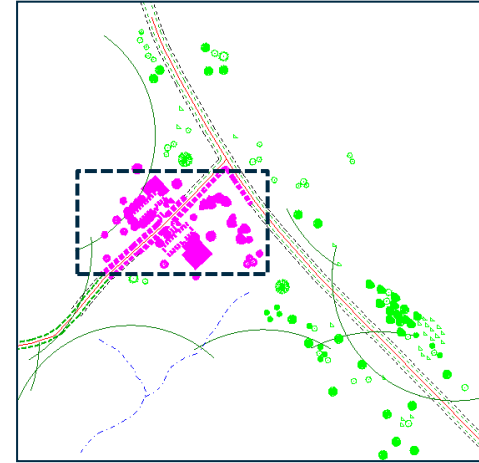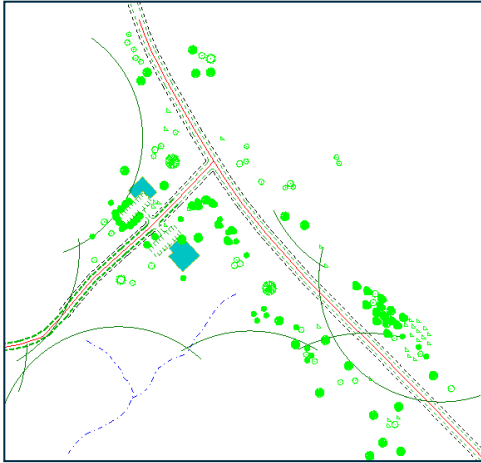RGB: 156, 151, 85

Color Model: RGB (0-255)
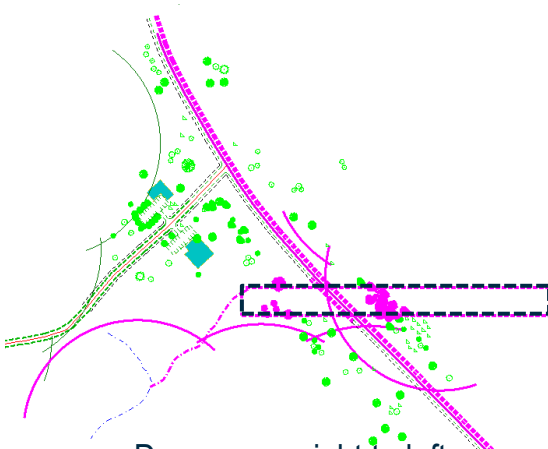
Red: 156
Green: 151
Blue: 85

File:MicroStationTips.dgn, Model: 02 Active Color

Selection Set Drag Direction

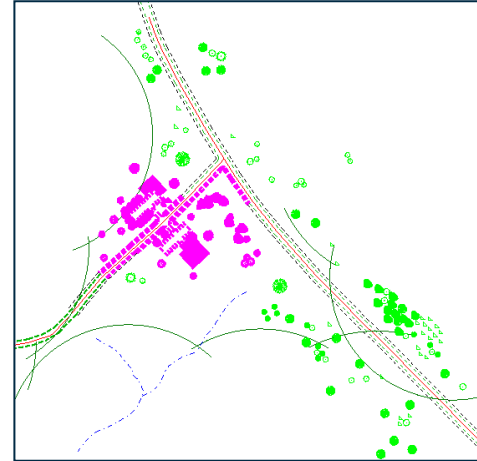Drag cursor left to right
Anything contained in box is selected

Drag cursor right to left
Anything selection box crosses is selected

File:MicroStationTips.dgn, Model: Selections
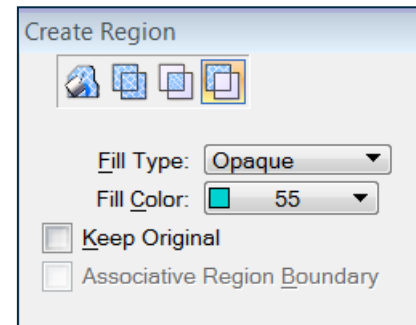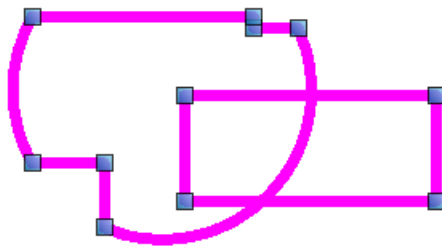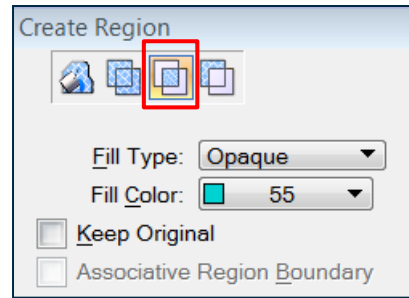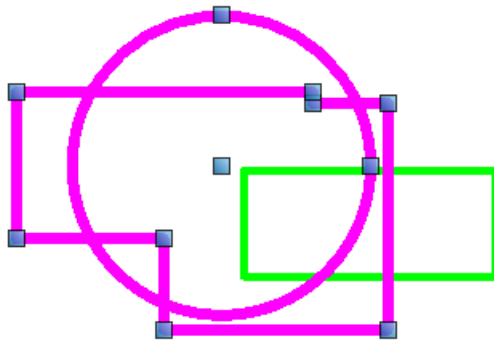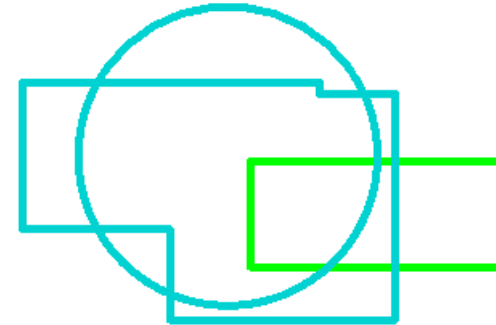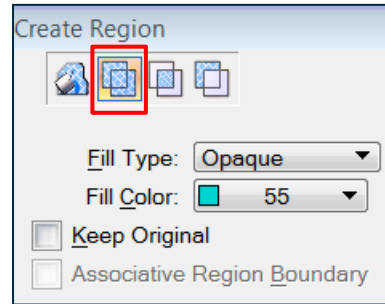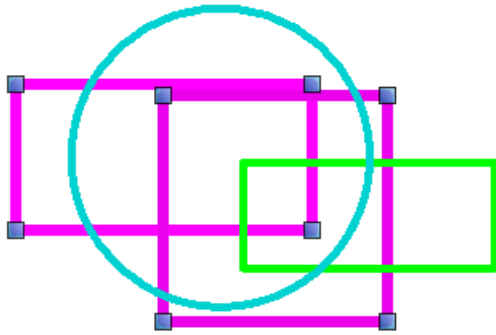
Element Selection

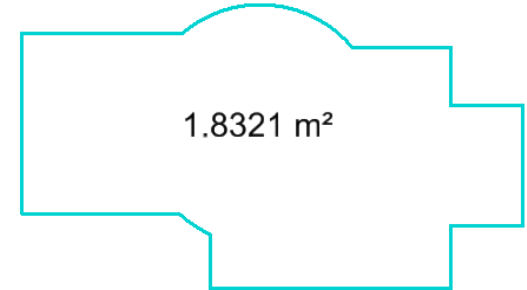Use the ALT key to change to linemode

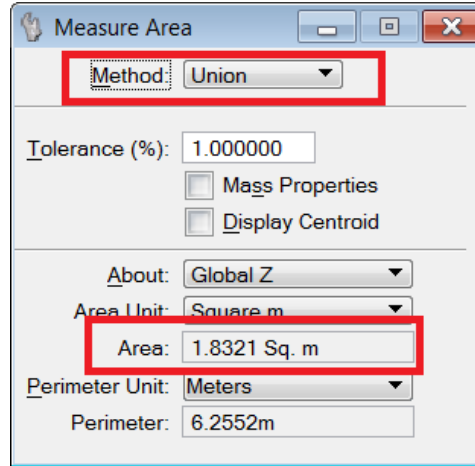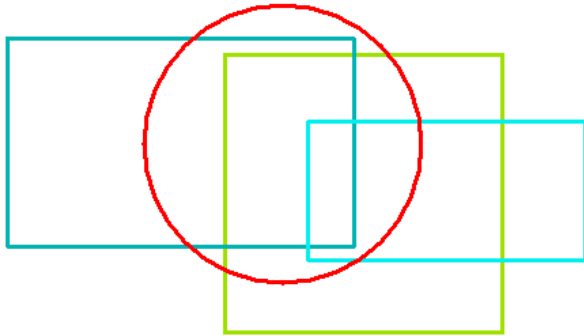Use the SHIFT key to change between inside and overlap mode

Selection Set Union,Difference,Intersect

Create Region

Fill Type: Opaque
Fill Color: 55
☐ Keep Original
☐ Associative Region Boundary

Create Region

Fill Type: Opaque
Fill Color: 55
☐ Keep Original
☐ Associative Region Boundary

Create Region

Fill Type: Opaque
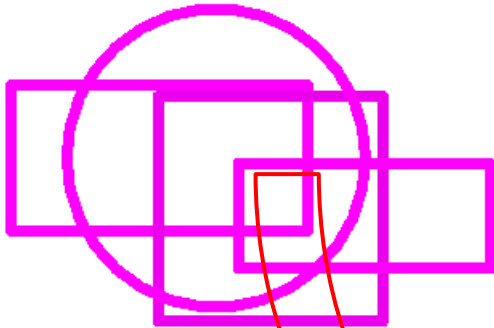Fill Color: 55
☐ Keep Original
☐ Associative Region Boundary

File:MicroStationTips.dgn, Model: 04 Region

Measure Area of Multiple Elements

File:MicroStationTips.dgn, Model: 05 Measure Area

| WWW.BENTLEY.COM | © 2013 Bentley Systems, Incorporated

Drag & Drop Elements to Named Groups

Separate Elements
In a selection set

Tip: Utilities > Named groups,
And you need to have a Named Group
before you can drag and drop
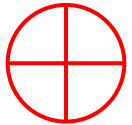
4 elements added to group

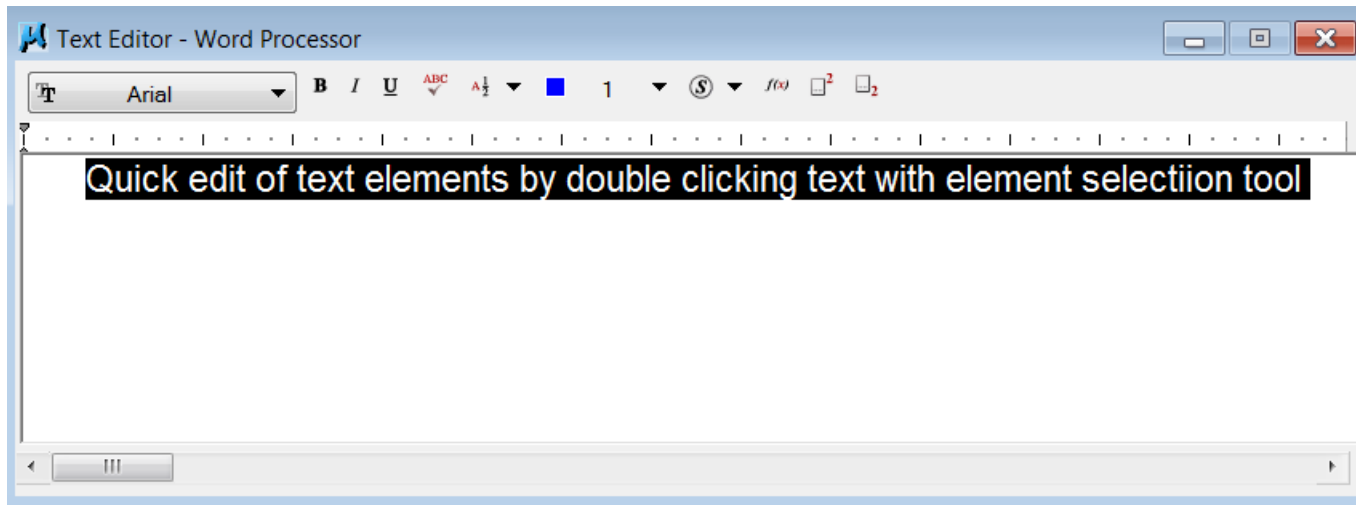File:MicroStationTips.dgn, Model: 06 NamedGroups

Drag & Drop Element to View Attributes
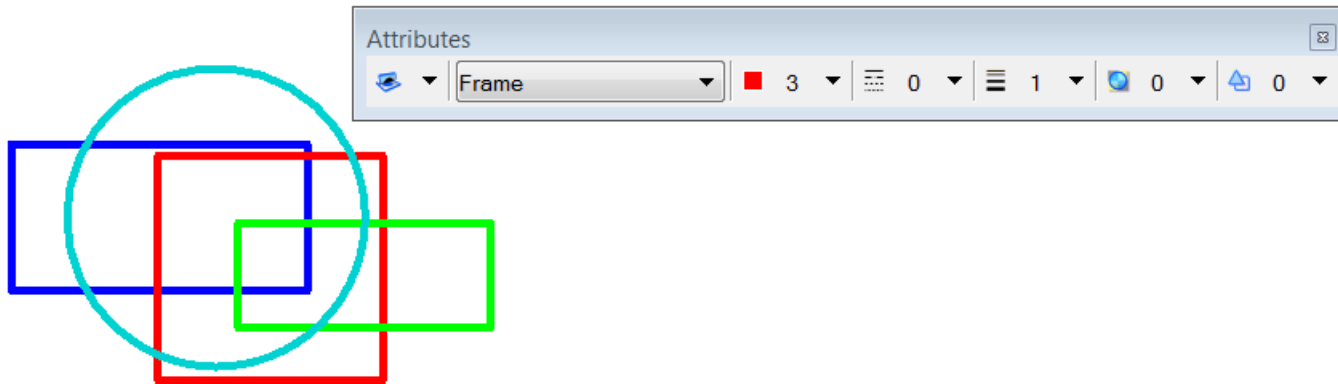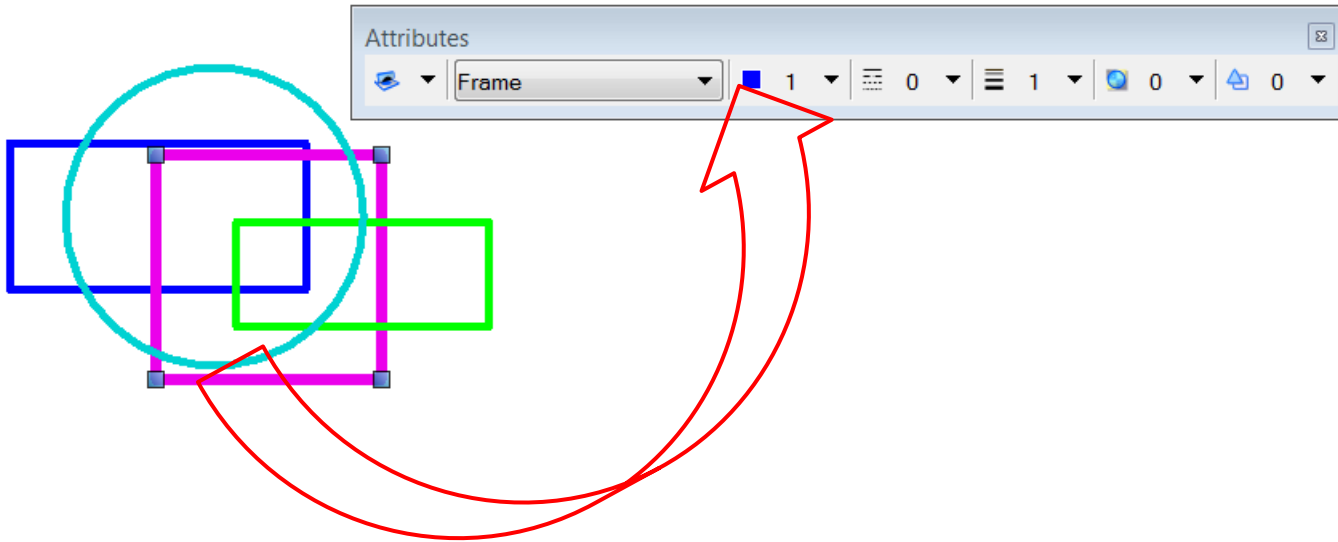
Continue in file: MicroStationTips.dgn, Model: 06 NamedGroups

Quick Edit of Text Elements

Double click
Text element
With Selection tool

Quick edit of text by double clicking text with element selection tool

Text Editor Opens

File:MicroStationTips.dgn, Model: 08 EditText

Drag & Drop to Reference Dialog

Drag from:
- Project Explorer dialog Links tab
- Windows Explorer
- Models dialog
- Models dialog in another session
- Project Explorer dialog Links tab in another session

| WWW.BENTLEY.COM | © 2013 Bentley Systems, Incorporated

Bentley
Sustaining Infrastructure

Drag & Drop DGN Files as Cells
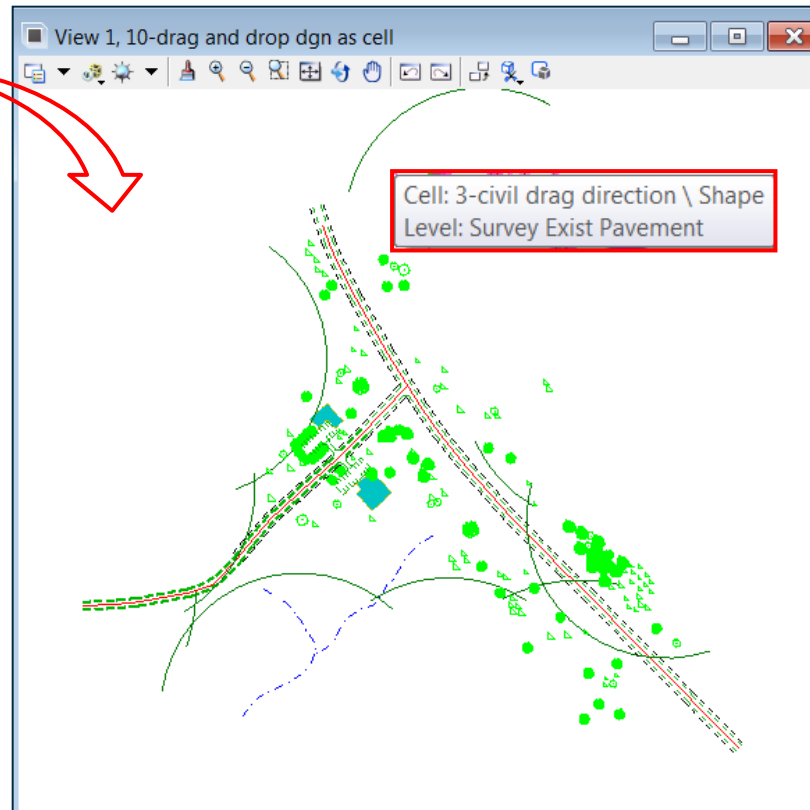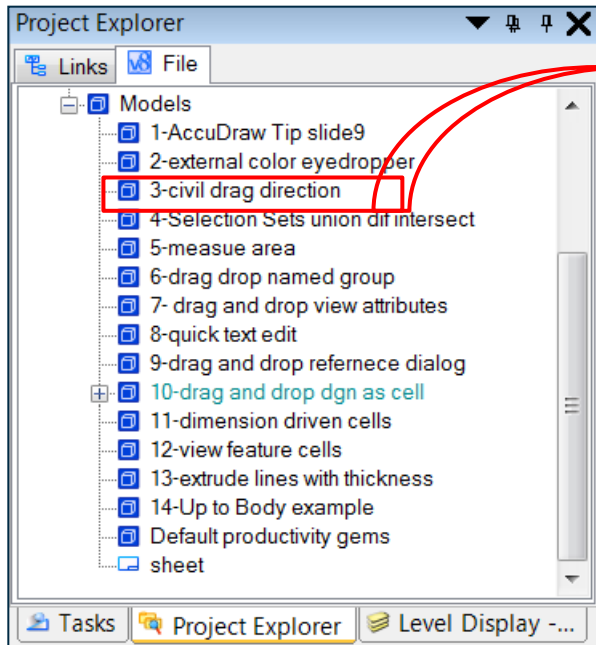
Tip: Hold CTRL key down while you drag

File:MicroStationTips.dgn, Model: 10 CellDragAndDrop

| WWW.BENTLEY.COM | © 2013 Bentley Systems, Incorporated

ProjectExplorer Drag & Drop Combinations

Drag from Project Explorer dialog Links tab	Key pressed	Drop into	Result
Any link	.	Project Explorer dialog Links tab	Move link
Any link	<Ctrl>	Project Explorer dialog Links tab	Copy link
Any link	<Alt>	View window	Link on element
Any link	.	Print Organizer dialog	Create print definition
Model	.	Models dialog	Import model
Model	.	Batch Processor dialog	Add Batch Job
Model	.	References dialog	Attach reference
Model link	.	View window	Attach reference
Model link	<Ctrl>	View window	Place Cell
Model link	<Alt>	View window	Link on element
Model link	.	Print Organizer dialog in another session	Create print definition
Model link	.	Models dialog in another session	Import models
Saved view link	.	View window	Attach reference
Saved view link	<Alt>	View window	Link on element
Saved view link	.	Saved Views dialog	Import saved view
Saved view link	.	Saved Views dialog in another session	Import saved view

You can use the drag-and-drop feature for the following items into the Project Explorer dialog Links tab.

| Drag from	Drop into Project Explorer dialog Links tab	Result
Models dialog	Model	Model link
Models dialog in another session	Model	Model link
Saved Views dialog in another session	Saved view	Saved view link
Saved Views dialog	Saved view	Saved view link
Windows Explorer	File or Folder	File or Folder link

Google Maps
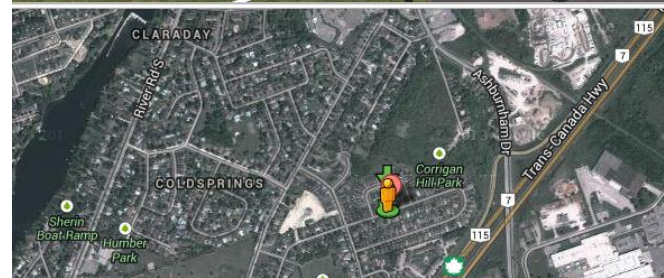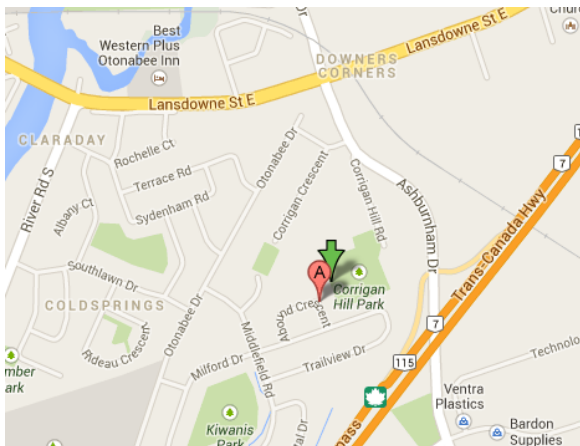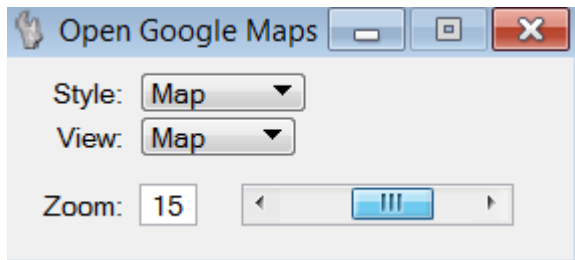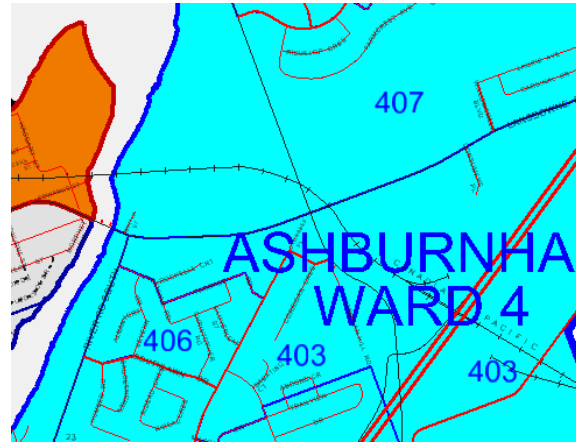
File:MicroStationTips.dgn, Model: 11 GoogleMaps

Reference View Flags
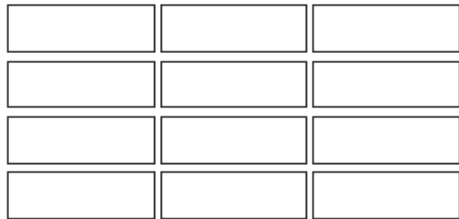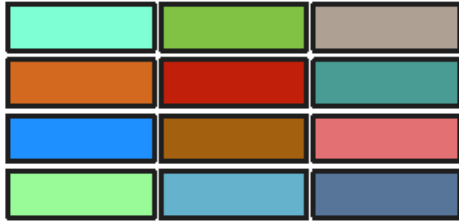

2 references; One with fill and one without
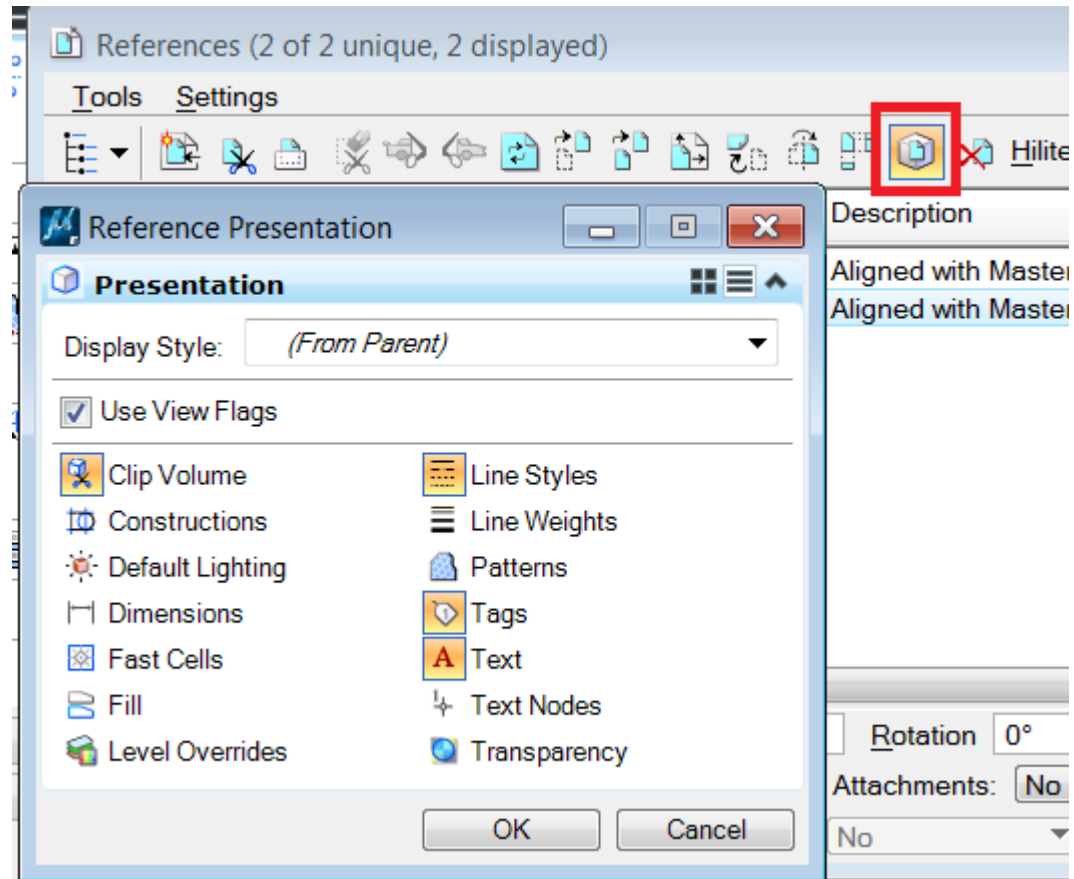
File:MicroStationTips.dgn, Model: 12 Reference View Flags

| WWW.BENTLEY.COM | © 2013 Bentley Systems, Incorporated

Raster References as Elements

As with references, raster references are treated as elements which allow you to manipulate them as you would any other element. In the event that this is undesirable, simply lock the raster attachment. They'll still be selectable, but impossible to manipulate. And, to prevent accidental deleting/detaching when they are unlocked. Go to:

Workspace > Preferences > Raster Manager > Enable:
Delete element Tool on Selected Rasters.
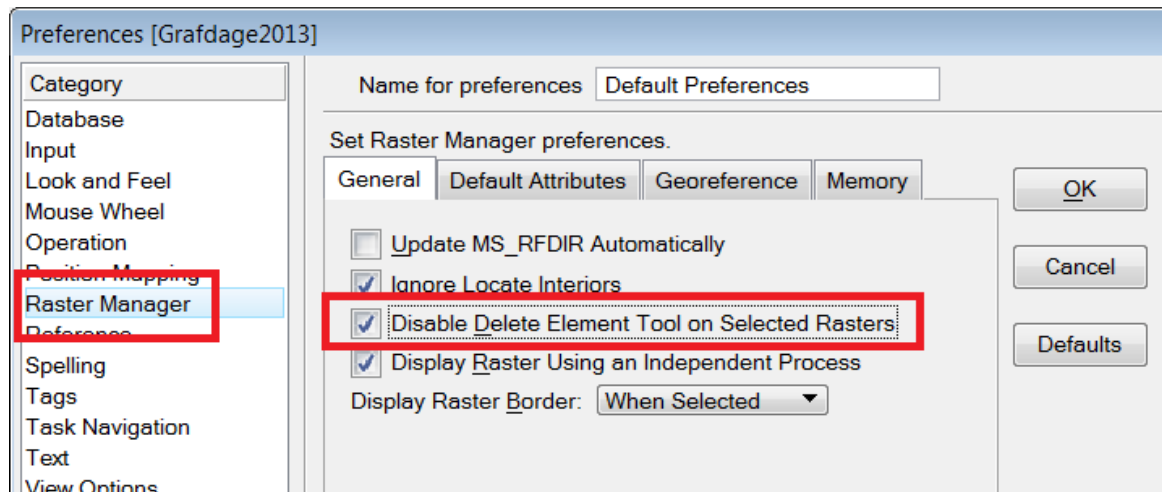
File:MicroStationTips.dgn, Model: 13 DeleteRasterReference

Item sets

Used to create sets of items based on the properties you select.
Utilities > Item Sets
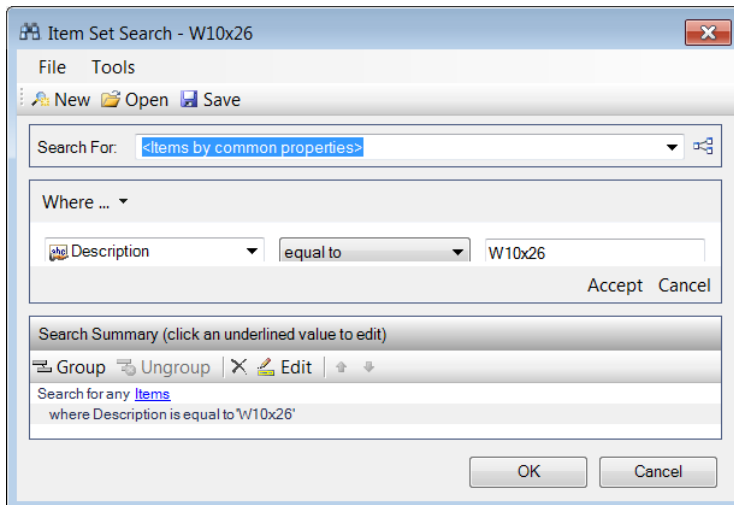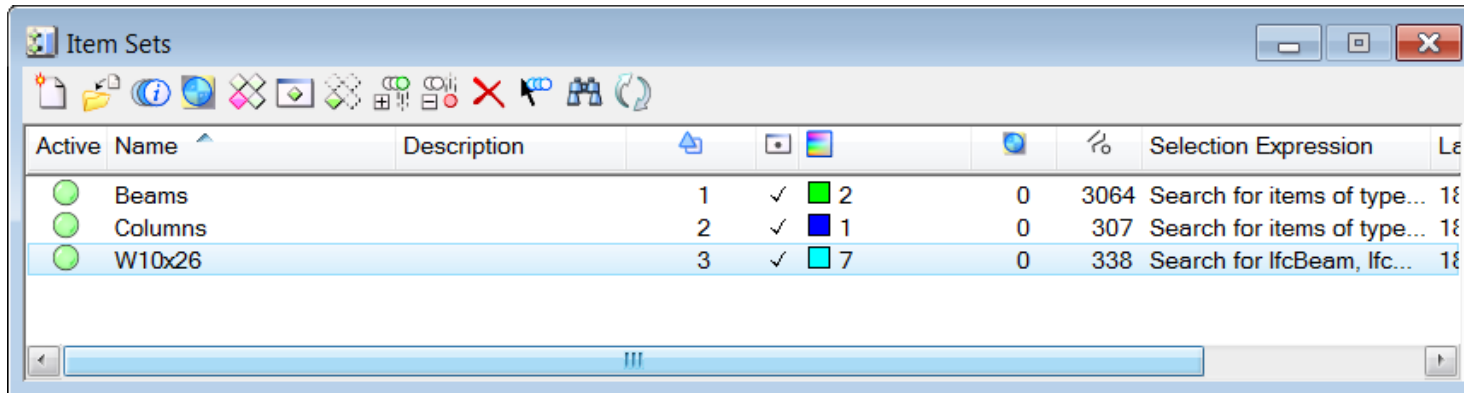
Tip to hands-on:
Create an Item Set and search for objects where Description = W12x65

File:MicroStationTips.dgn, Model: 14 Itemsets

Fields - drag and drop
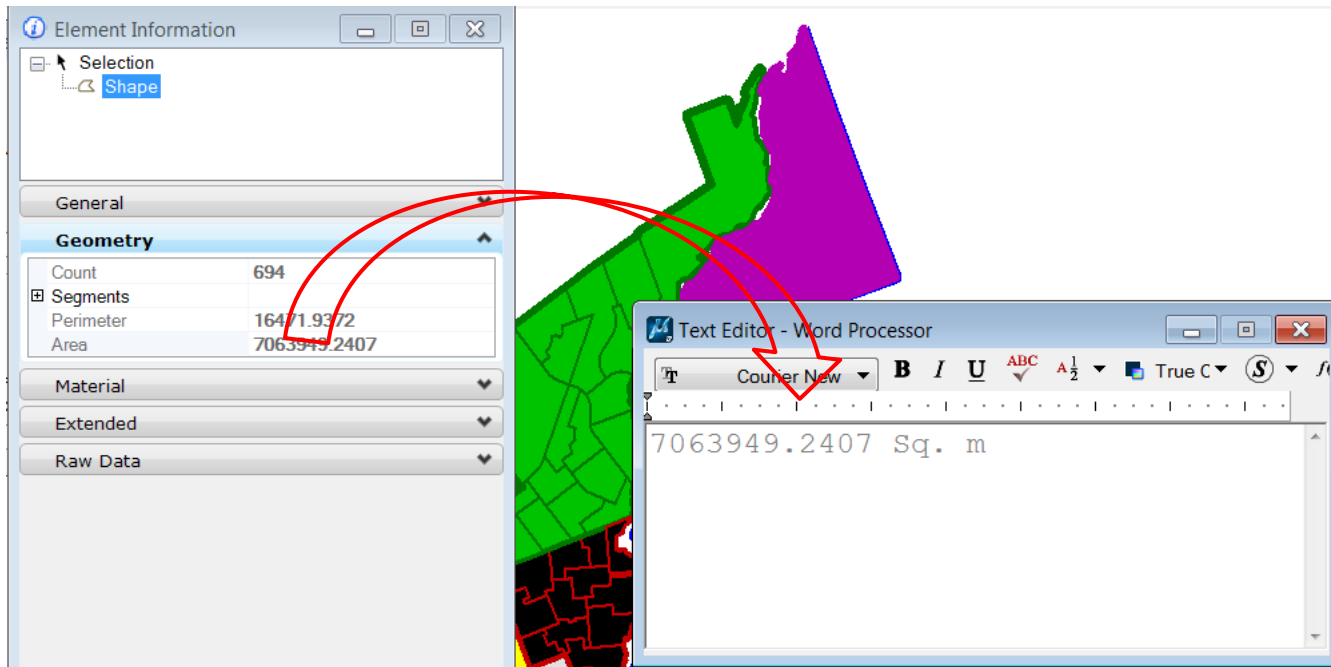
Tip: if you want to change sq. m to m², double clik on field to edit

File:MicroStationTips.dgn, Model: 15 FieldsDragAndDrop

Save a Fence
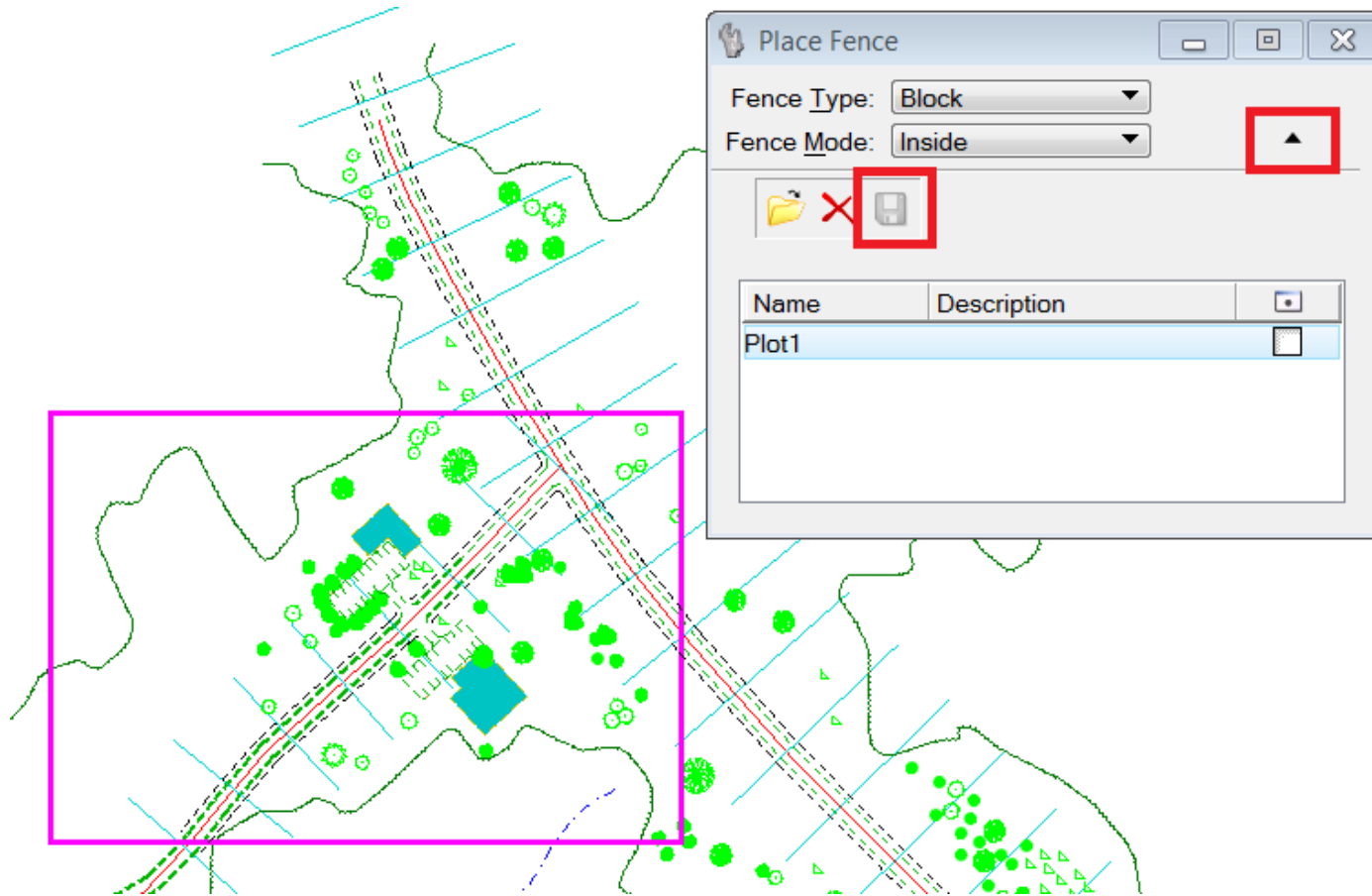
File:MicroStationTips.dgn, Model: 16 SaveFence

| WWW.BENTLEY.COM | © 2013 Bentley Systems, Incorporated

Fence and references

File:MicroStationTips.dgn, Model: 17 FenceAndRefences

DGN indexing

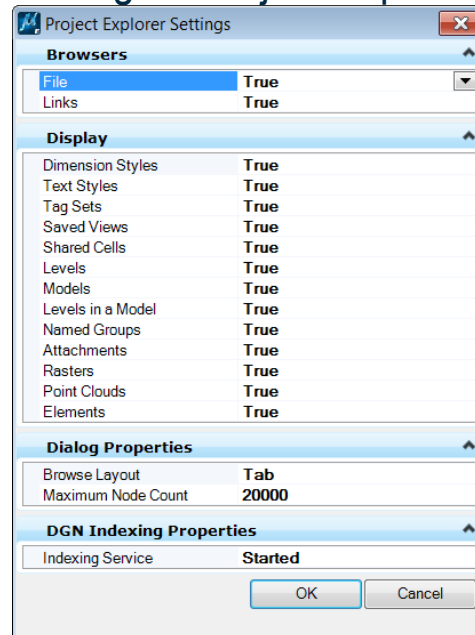Used to start or stop the DGN indexing service and set options for DGN indexing.

From Windows

From MicroStation:

Settings > Project Explorer
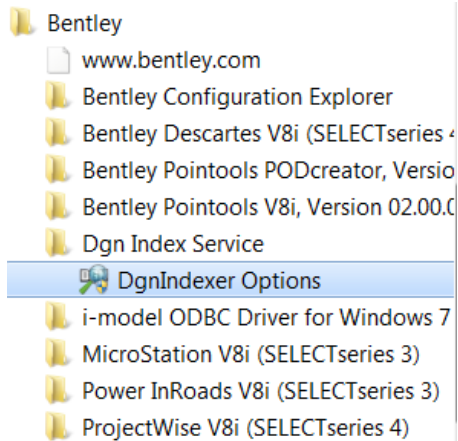
Tip: Workspace is located here:

C:\Documents and Settings\All Users\Application Data\Bentley\MicroStation V8i (SELECTseries)\WorkSpace\Projects\MicroStationTips
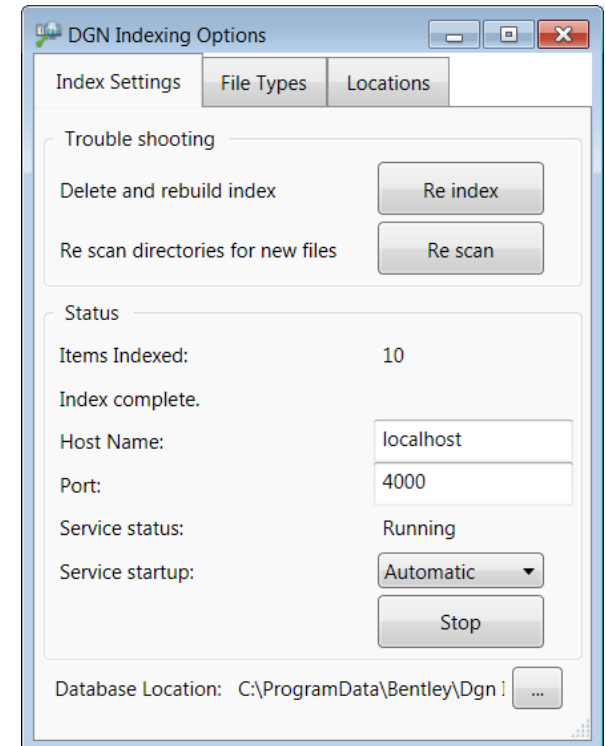
Bentley DGN iFilter

Bentley DGN IFilter is a tool that enables searching text content in DGN files using Windows Search. It supports all the text-based elements such as text, text nodes, fields, tags, XYZ text, cells, and digital signatures. It also supports overridden dimensions.

In addition to .dgn files, Bentley DGN IFilter also supports .cel, .rdl, .sht file types. It also supports published files such as i.dgn, dgn.i.dgn, and dwg.i.dgn.

Use Window search, and search for "Find text"
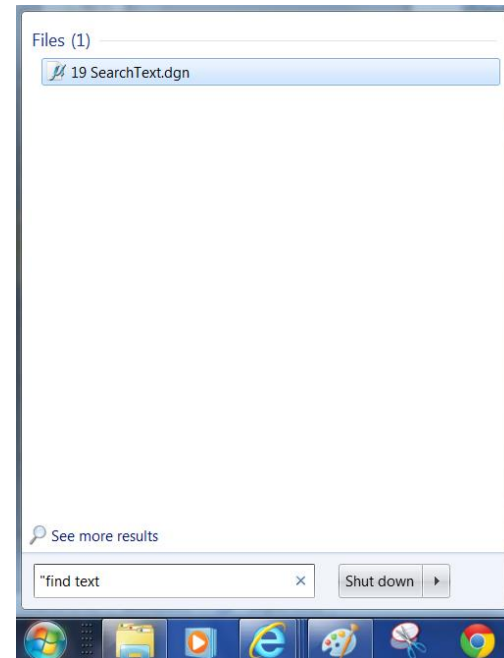
Focus

Home – ESC or F12

When the focus is home, you need not use the mouse to navigate toolboxes, tasks, and the Tool Settings window: You can quickly select tools by pressing keys on your keyboard. This technique is called positional keyboard navigation.

Tool Settings - F10

The Tool Settings window has the focus.

Key-in – ENTER or F9

The Key-in window has the focus.

AccuDraw – SPACE or F11

The AccuDraw window has the focus.

(No icon)

nother window or dialog has the focus

Sheets and border

Link your border to the sheet, and automatically scale the border reference with annotation scale
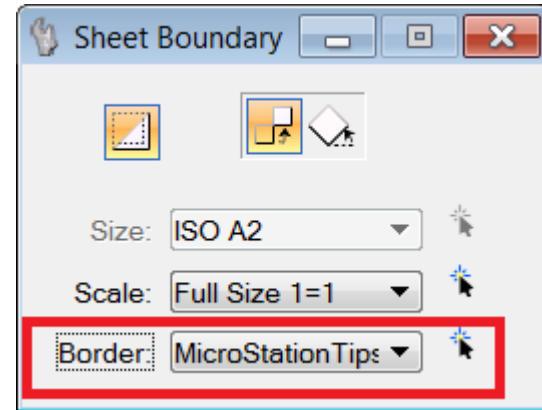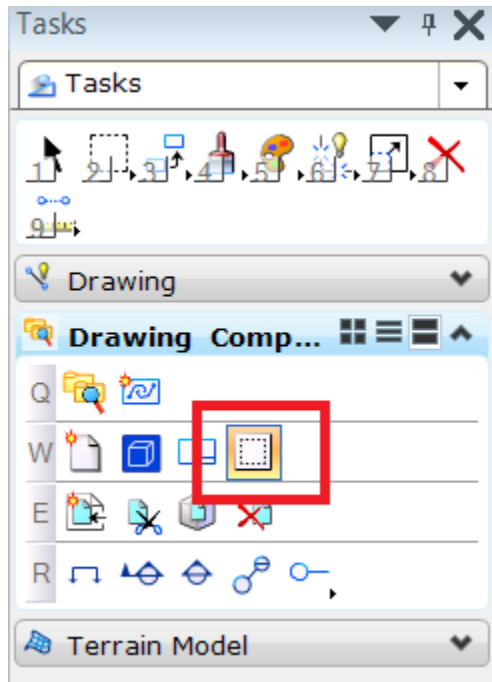
File:MicroStationTips.dgn, Model: 21 Sheet and border

Align Edges

Move your elements to a specific elevation - using the align edges command
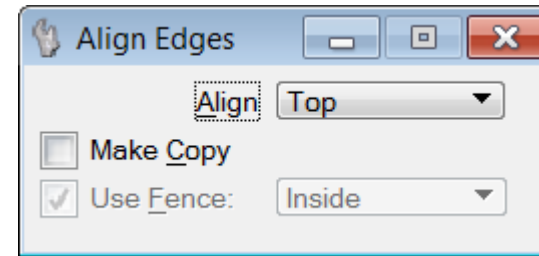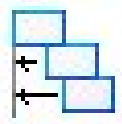
Before
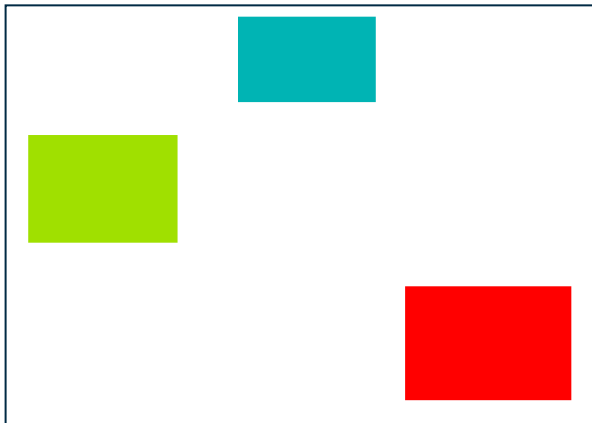
After

File:MicroStationTips.dgn, Model: 22 Align Edges

MultiModel Views
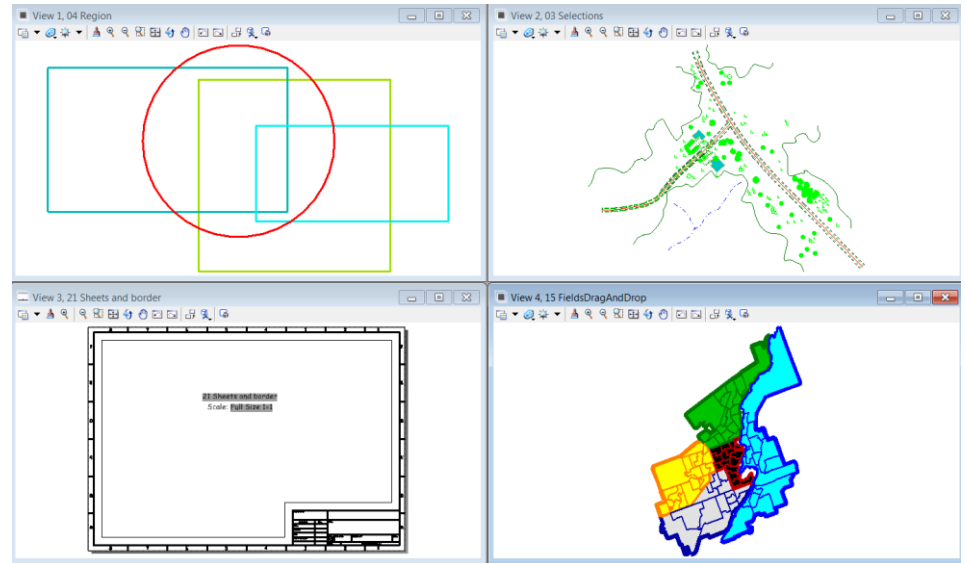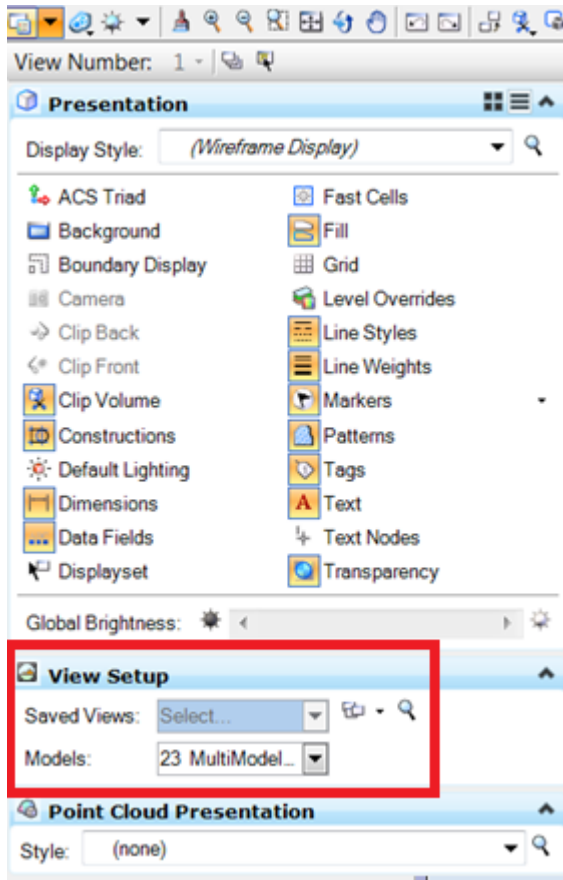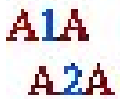
File:MicroStationTips.dgn, Model: 23 MultiModelViews

Multi copy with increment text

A combination of an old key-in and Copy Increment text.

DL=0,-10,0|6

Where *DL = 0,-10* is the X,Y distance between the copied elements and *|6* is the number of copies

Before

After

Number : 105

Number : 105

Number : 106

Number : 107

Number : 108

Number : 109

Number : 110

Number : 111

File:MicroStationTips.dgn, Model: 24 Multi copy with increment text

Perpendicular line from intersection
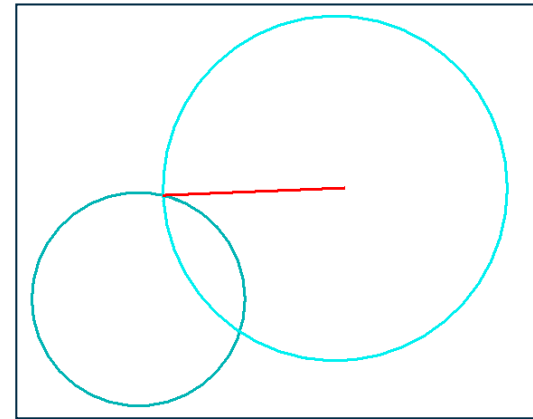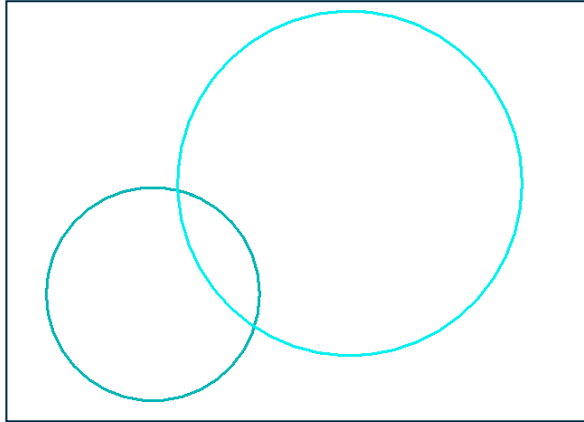
1. Select Place Smartline (or the tool you want to use)

2. Make IntersectionSnap the default snapfunction by double clikking on the icon

3. Then select PerpendicularSnap Point

4. Move the curser to the intersection point and draw your line

File:MicroStationTips.dgn, Model: 25 Perpendicular line from intersection

Bentley
Sustaining Infrastructure

Quick info

ALT + Reset
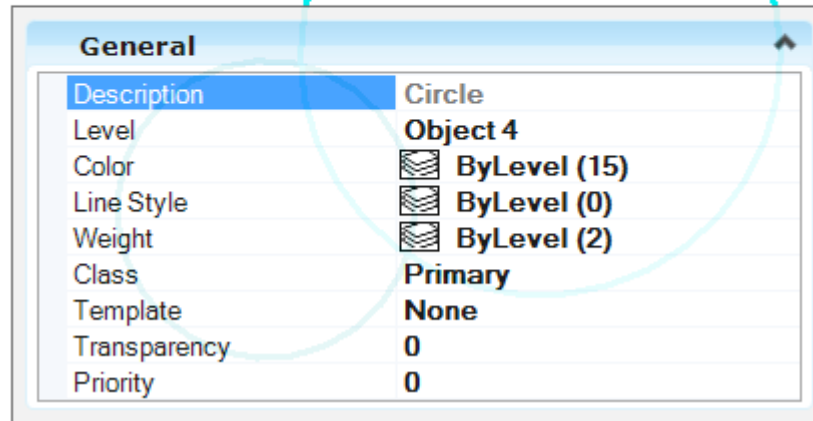
Pachpersize settings

Settings > Preferences

Extrude 2D Lines with Thickness
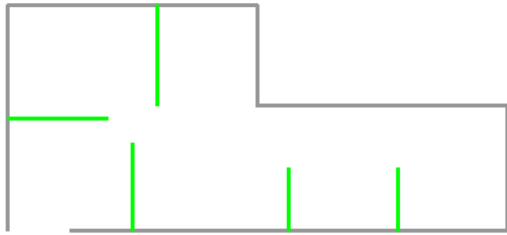
Simple existing 2D drawing can be converted to a 3D drawing.
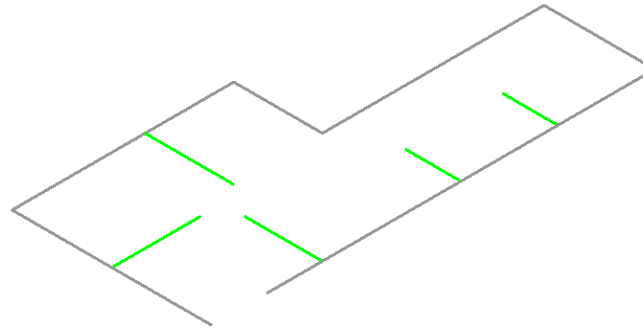
In 3D model set a standard isometric view
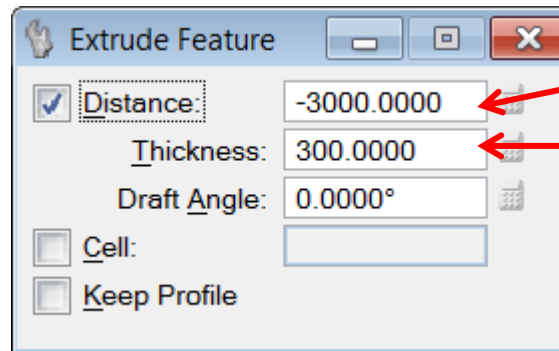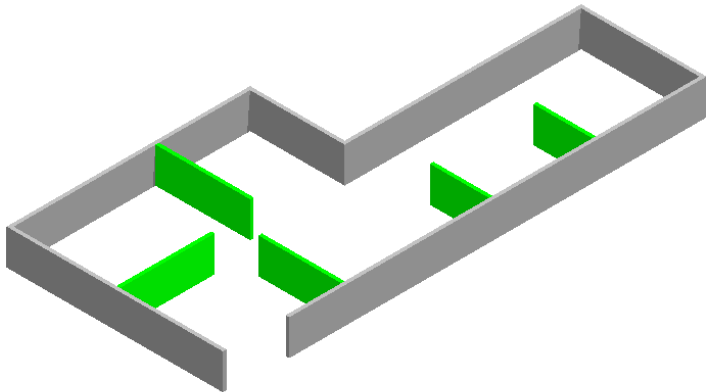
Height of wall

Wall thickness

Extrude Feature	
✔ Distance:	-3000.0000
Thickness:	300.0000
Draft Angle:	0.0000°
☐ Cell:	
☐ Keep Profile	

Use Feature Modeling Extrude
with thickness to create 3D walls.

File:MicroStationTips.dgn, Model: 28 Extrude 2D lines

Bentley
Sustaining Infrastructure

Fields and cells

A cell can contain a field that read the properties from the cell.

It's called a "Place Holder Cell Property field"
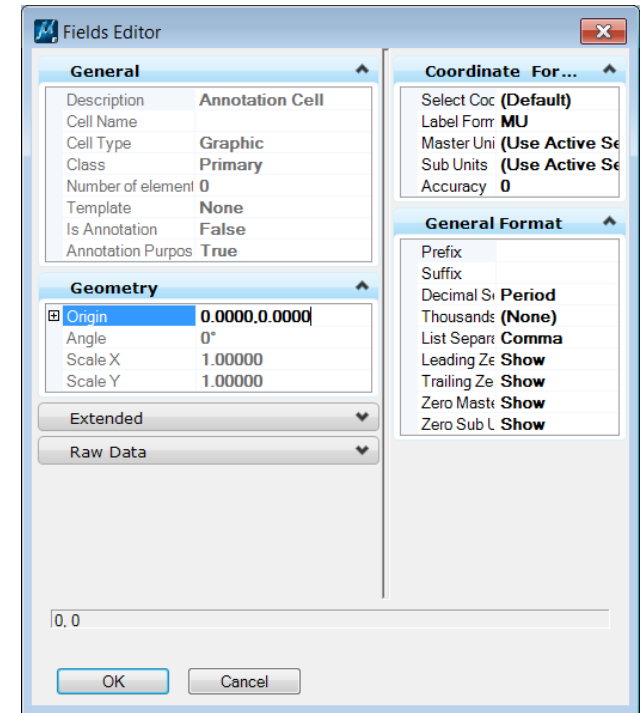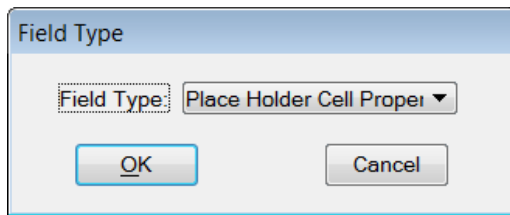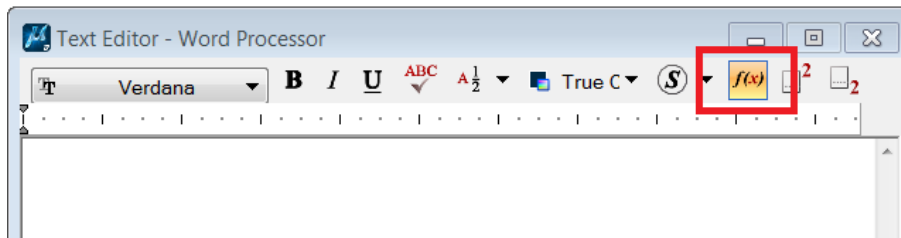
File:MicroStationTips.dgn, Model: 29 FieldsAndCells

Attach Raster

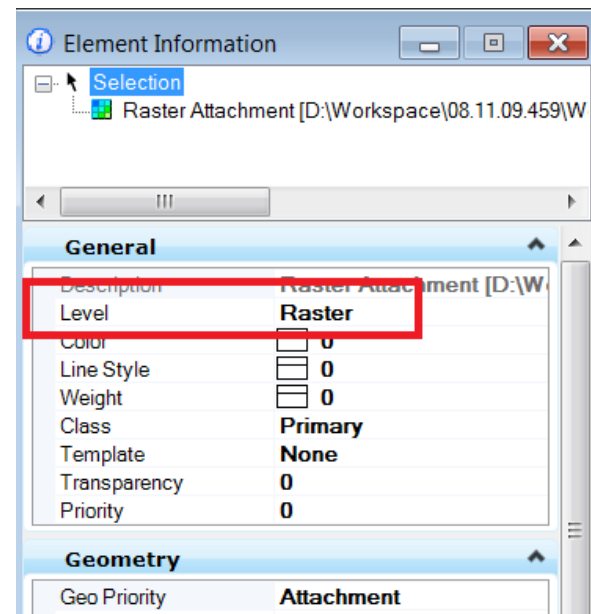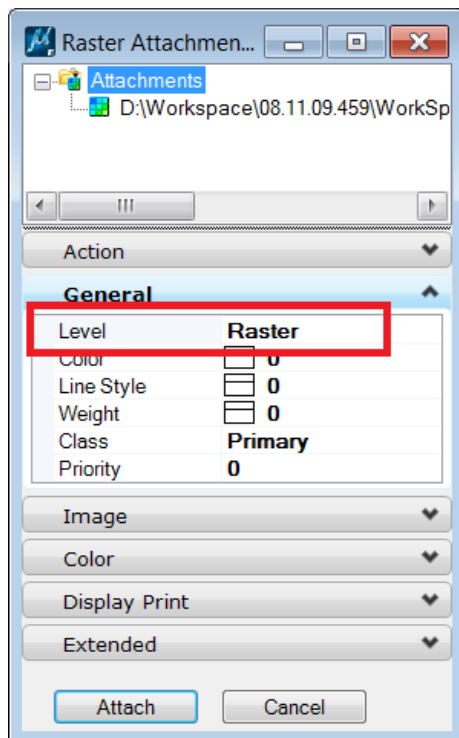Note the options when you attach a reference
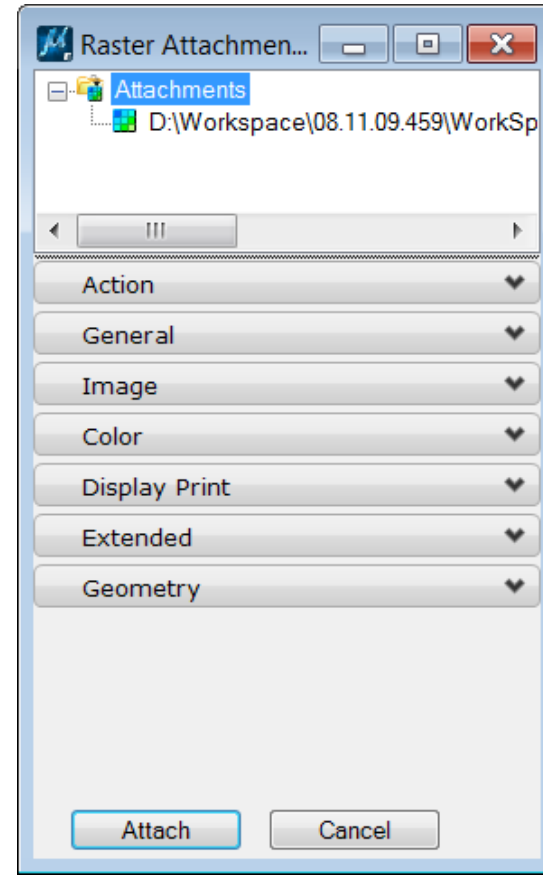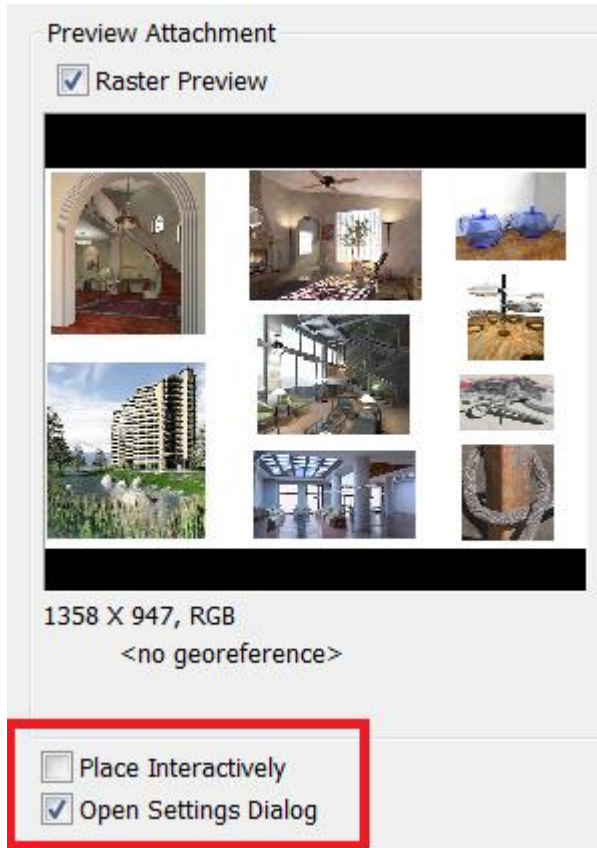
File:MicroStationTips.dgn, Model: 30 Attach Raster
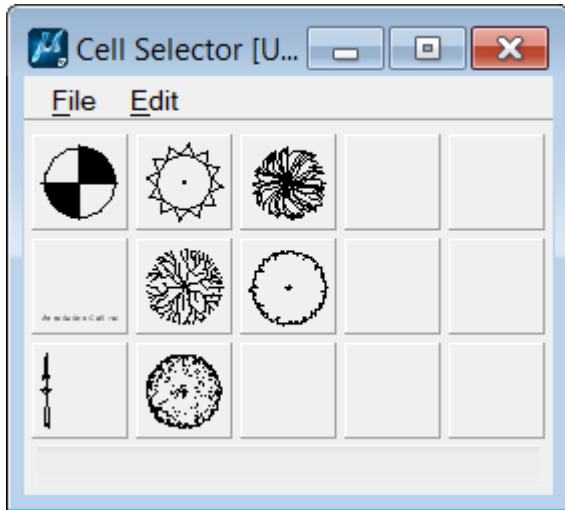
Raster and levels

A raster reference is placed on the active level, unless to define which level it should be placed on.

You can use Level Display to turn on and off your raster references.

Continue in File:MicroStationTips.dgn, Model: 30 Attach Raster

Cell Selector

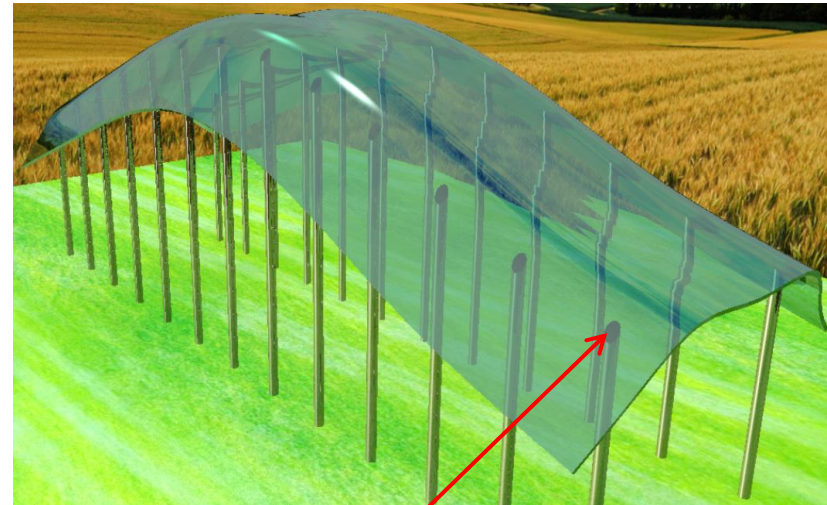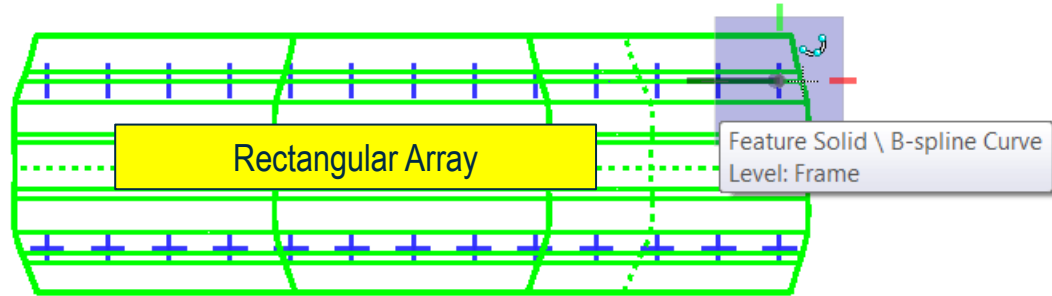You can modify the cell selector file by using the menu in the Cell Selector dialog.

Import and delete cell icons, change size etc.

Save your favorites in a cfs file, and set the configuration variable: MS_CELLSELECTOR

Parametric Feature Modeling Protrusion
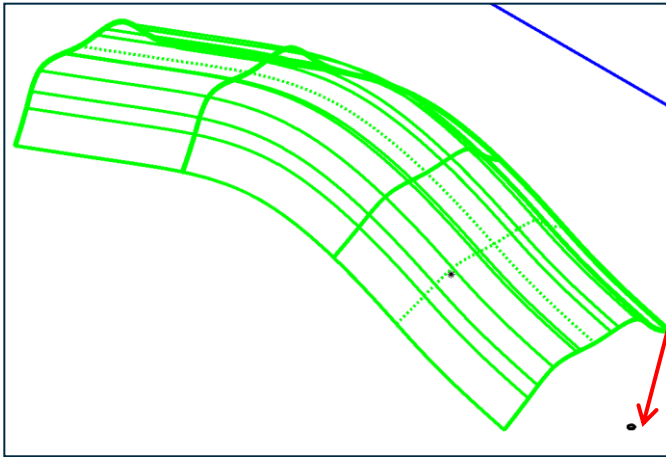
A circle is protruded Up to the body of a solid (green canopy). Then this feature is arrayed.

Rectangular Array

Feature Solid \ B-spline Curve
Level: Frame

All features in array are trimmed to the canopy therefore, if canopy changes, then columns will modify

Bentley®
Sustaining Infrastructure

Modified Canopy Results

Original profile of canopy is modified (red b-spline) then placed back into model. The canopy updates and all the up to body columns modify dynamically.

File:MicroStationTips.dgn, Model: 30 Attach Raster

Bentley Sustaining Infrastructure
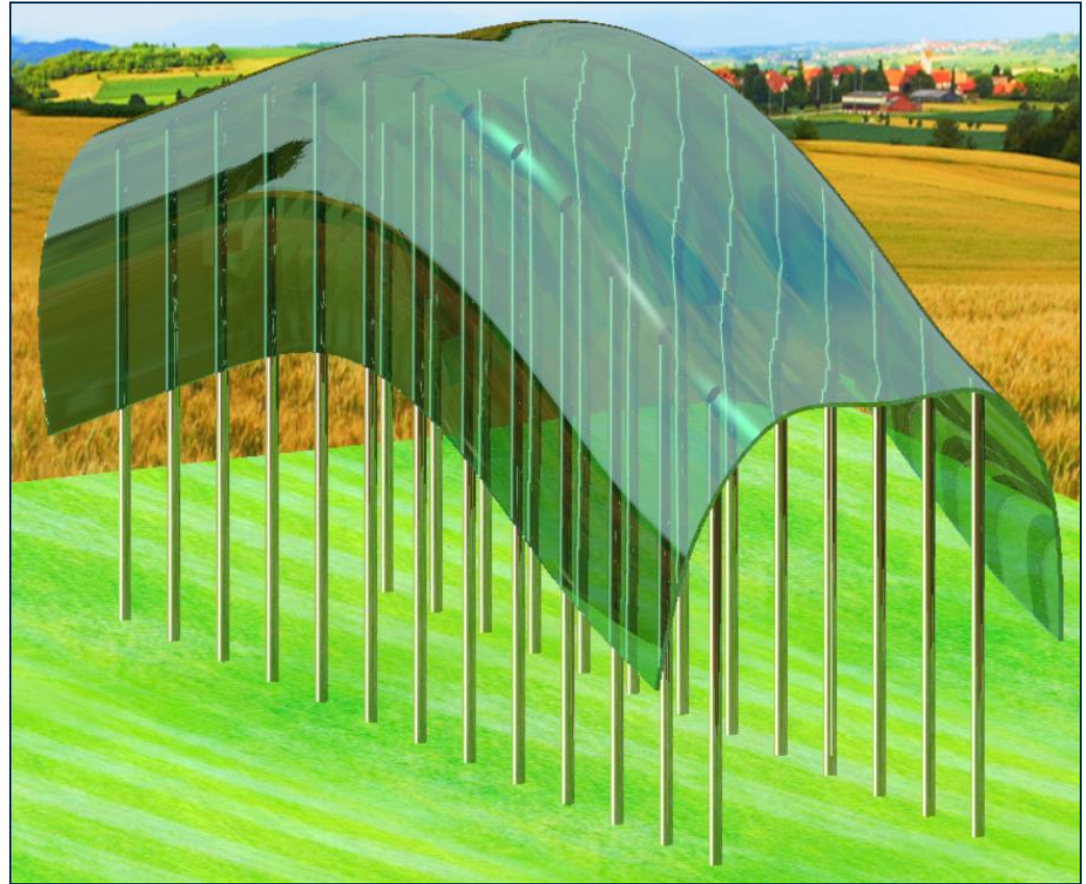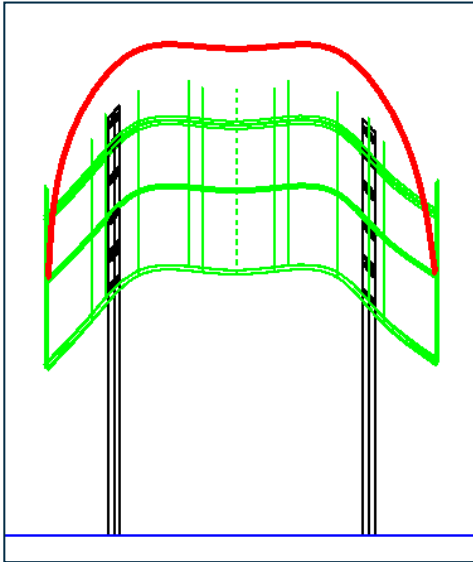
Learning Paths:
Ready-Made Training Plans

Choose from:

– Bentley recommendations

– Configure your own
  • Organizational
  • Personal

Select:

– Product(s) and version(s)

– Language

– Training type

Enroll team members in:

– One learning path

– Multiple learning paths

Learning paths to you and your colleagues

Link to a video presentation + a LIVE session with many of these tips:

http://learn.bentley.com/app/Public/ViewLearningPathDetails?lpId=105555

Link to a learning path about the LEARN server:

http://learn.bentley.com/app/Public/ViewLearningPathWithMasterCourseExpanded?lpId=101155&mcId=100515

Other good lectures about MicroStation from Bentley LEARNing conference 2013.

http://learn.bentley.com/app/Public/ViewLearningPathDetails?lpId=104215

Bentley
Sustaining Infrastructure

Assessment

1. What is the AccuDraw shortcut to place a temporary origin?

2. How do you drag and drop a dgn file as a cell into a file?

3. What is the quickest way to edit a text string?

Assessment Answers

1. The letter "O" - Moves the drawing plane origin to the current pointer position.

2. Drag the DGN file to the View Window while holding the Control key.

3. To edit a text string, simply double click the text string using the Element Selection tool.

Thanks to all!

A thank you to all attendees, and also thanks to all my great colleagues for contribution to this session. Especially Bob Bossler, who delivered many of these tips at the Bentley LEARNing conference 2013. ☺

More tips and tricks? –Don't hesitate to contact me:

Tine Lai Andersen
tinelai.andersen@bentley.com

LEARNing Consultant