

SHORT SHARP MANUALS

1610

New in

Vectorworks

2017



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Contents

Introduction.....	4
New Technologies	13
Resource Manager	13
Project Sharing 2.0.....	22
Camera Match	24
Structural Member	25
Core Vectorworks	34
Story Support (Symbols)	34
Plug-in Styles (Doors And Windows).....	37
Pen And Fill Opacity.....	42
Drop Shadows.....	43
Scalable Worksheets.....	45
Master Snaps.....	46
Data Visualization	48
Drawing Labels and Numbers In Viewports.....	52
Property Line	53
Architect.....	54
Slab Association And Offset Edges	54
Slab Drainage.....	58
Internal Elevations.....	63
Delete 3D Wall Peaks.....	68
Save Column.....	70
Landscape	72
Plant Tool Changes.....	72
Save Landscape area.....	74

Introduction

For Vectorworks 2017 we have five major new technologies:

- Resource Manager
- Camera Match
- Structural Member Objects
- Irrigation Tools
- Virtual Reality

We will be covering these technologies in detail, probably later in the year or early next year, but in this manual there will be a brief overview of them.

Last year there were several new technologies introduced and these have had a major upgrade this year:

- Subdivision Modeling
- Project Sharing
- Vectorworks Graphics Module

As well as these major changes to Vectorworks there are also some changes to the interface. Often, these changes do not seem very dramatic, but history shows us that these changes tend to make it easier to use Vectorworks, making us more productive.

<p>New Technologies</p>	<p>Resource Manager</p>	<p>The Resource Browser has been replaced by a new Resource Manager that will provide a consistent interface for resources regardless of where you are in Vectorworks or where you want to look. But this is not just a new palette, it has been implemented throughout Vectorworks and will appear whenever you look for resources.</p>
	<p>Camera Match</p>	<p>Camera match is a fantastic addition to Vectorworks. Camera match will match your model to a photograph, allowing you to substantially reduce the amount of work that you have to do.</p>
	<p>Structural Member</p>	<p>The Structural Member is a brand-new way of drawing structural elements. Structural elements drawn with this tool create a network, meaning that if you make a change to one of them, the other objects will move.</p>
	<p>Irrigation Tools</p>	<p>The irrigation tools are a complete suite of tools to draw and calculate irrigation. This is a specialist area which means that you need to understand water flows, pressures and pipe losses. it does have a simple hydrozone which can be used to calculate water quantities for an area.</p>
	<p>Export Web View / VR</p>	<p>The export Web View is a new way of sharing your models with others. it explodes your model to a webpage that allows people to walk through your design. if they have a mobile phone, they can use the VR walk-through mode and a headset to work through the design.</p>

<p>Updated Technologies</p>	<p>Energos</p> <p>Point Cloud</p> <p>Project Sharing</p> <p>Subdivision Modeling</p>	<p>Energos has been updated to improve its abilities and reliability. The improvements are mainly “under the hood”.</p> <p>The point cloud has been updated to improve its speed and to allow you to filter the number of points.</p> <p>Project sharing has had a major improvement in its ability to share projects using cloud services such as Dropbox, Google, etc. this should allow many more people to use project sharing, offering a low cost network solution. Another improvement for project sharing is the ability to check out or groups of objects, giving much more flexibility in how project responsibilities will be assigned.</p> <p>Subdivision modeling has been improved with the introduction of a couple of new modes and the ability to take a standard Vectorworks three the object and convert it to a subdivision object.</p>
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<p>Interface</p>	<p>Improved Macintosh palette docking</p> <p>Improved windows palette docking</p> <p>File Info Dialog</p> <p>2D Drop Shadows</p> <p>Pen and Fill Opacity</p> <p>Improved Dragging of Co-incident Objects</p> <p>View Center Mode for Fly-over Tool</p> <p>VGM Top/Plan</p> <p>Data pane of the Object Info palette</p> <p>Improved Consistency in Export 3D Options Dialogs</p>	<p>The new interface changes make it easier to dock palettes on the both platforms and on the Macintosh you can now have file open on more than one monitor.</p> <p>The File Info dialog will tell you the size of the file and where it is stored. If the file is a working file, it will also show you where the project file is stored.</p> <p>VGM in Top/Plan view. This will implement multicore processing for Top/Plan view, using the full power of your computer.</p> <p>Complete redesign of the Object Info palette, making it more modern and easier to edit names on objects.</p>
<p>3D Modeling</p>	<p>Export 3D Options</p> <p>Texture Mapping Improvements</p> <p>Subdivision Modeling</p> <p>Image Alpha Transparency</p>	<p>These changes will make subdivision modeling more powerful and easier to access. The 3D export options allow you to control the quality of the 3D exports.</p> <p>Subdivision Modeling has been improved with a few new modes that make it much easier to use.</p> <p>This makes it easier to create image props, meaning that you do not need to create the mask image, Vectorworks will use the alpha channel of the image.</p>

Worksheets	<p>Scalable worksheets</p> <p>Custom Image resolution in image cells</p>	<p>These two new features will make it easier to place large worksheet on a drawing and the custom resolution in the image cells will allow you to control the quality of the images.</p>
Printing	<p>Raster PDF</p>	<p>This will improve printing on many devices so that the PDF will print the way you see it on the screen. It will also prevent others from extracting the vector information.</p>
Workflow changes	<p>Drawing Labels for Regular Viewports</p> <p>Modernize the Data pane of the Object Info palette</p> <p>Plug-in Object Styles</p> <p>Master Snaps</p> <p>Editing Image Attributes</p>	<p>The drawing labels can be created at the time you make the Viewports, saving you time having to enter the annotations to add them later.</p> <p>The changes to the Object Info palette Data pane also have an impact on Record formats, making it easier to create pull-down menus for records.</p> <p>These styles are a combination of a symbol and a plug-in object, allowing the style to control some parts of the object.</p> <p>Master Snaps have precedence over regular snap points, making it easier to snap to parts of symbols, groups, walls, etc.</p>

<p>Site Modeling</p>	<p>Property Line Update</p> <p>Site Model Geometry Elevation Control</p> <p>Stake Update</p> <p>Lock Modifiers when Locking the Site Model</p> <p>Railing / Fence</p>	<p>The Property Line tool has had an overhaul to give you more control over the look and units that are on the annotations.</p> <p>The new rail/fence tool gives a high level of flexibility and will fit to a site model</p>
<p>Landscape Improvements</p>	<p>Landscape Area Tool Update</p> <p>Plant Tool Update</p>	<p>Save and re-use Landscape settings, making it easier to create similar landscape areas.</p> <p>The Plant Tool spacing now has control for spacing in a row and in a column.</p>

<p>Architecture Improvements</p>	<p>Slab Association Improvements</p> <p>Story Support for Symbols and Plugin Objects</p> <p>Interior Elevation marker and Viewports</p> <p>Improved Resizing of Pitched Framing Members</p> <p>Delete 3D Wall Peaks</p> <p>Slab Drainage Tool</p> <p>IFC and COBie Support for Systems and Groups</p> <p>Elevator Improvements</p> <p>Classing Controls for Elevator Object Parts</p> <p>Cut-Plane for Design Layers</p> <p>Rename Create Joists from Poly</p> <p>Cabinet Improvements</p> <p>Callout Multileader</p> <p>Re-Engineer Record and Schedule Documentation</p>	<p>You can choose to have some slab edges associated to walls, and some not.</p> <p>Story support will allow to use levels to control the elevation of symbols and plug-in objects.</p>
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<p>Importing</p>	<p>Improved Planar Graphics Support on DXF/DWG Import</p> <p>Textures Support on DXF/DWG Import</p> <p>Revit File Formats Import Phase 1</p> <p>Import CINEMA 4D Textures</p>	
<p>Exporting</p>	<p>Exporting</p> <p>Export OBJ (3D Only)</p> <p>Textures Support on DXF/DWG Import</p> <p>CINEMA 4D Export Improvements</p> <p>DWG/DXF Export Viewports With Overridden Graphic Attributes</p> <p>Export Image File with Transparent Background</p>	

<p>Spotlight</p>	<p>Tape Maker</p> <p>Number Instruments</p> <p>Update Create Room Command</p> <p>Lighting Device Improvements</p> <p>3D Label Legend</p> <p>Hoist Tool Improvements</p> <p>Object Subclasses</p> <p>AV Tool Improvements</p> <p>Rope and Stanchion</p> <p>Replace with Stock Symbols</p> <p>Lighting Device Focus Note</p> <p>Seating Layout Improvements</p> <p>Copy Label Position</p> <p>Cable Tools</p> <p>Seating Section</p>	
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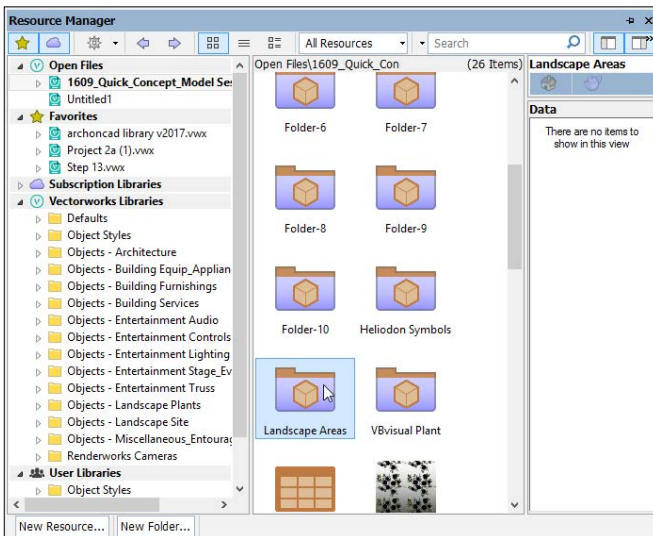
New Technologies

Resource Manager

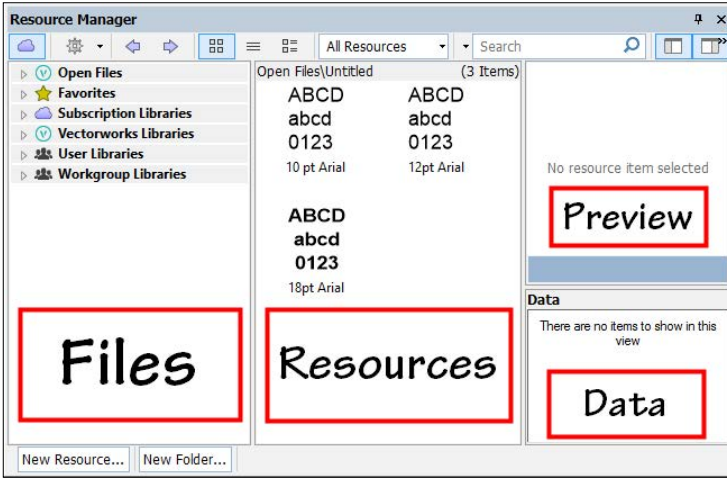
[cadmovie_1610-01](#)

When you look at the new Resource Manager, it may look like an updated Resource Browser, but it is much more than that. The Resource Manager has been embedded throughout Vectorworks. This means that whenever you look for a resource, the resource manager will appear showing you the best results. The resource manager can look for files on your computer, and your favourites, in your user folder, and your workgroup folder, in the Vectorworks libraries (some are on your computer and some are online), and in the Vectorworks subscription libraries (VSS).

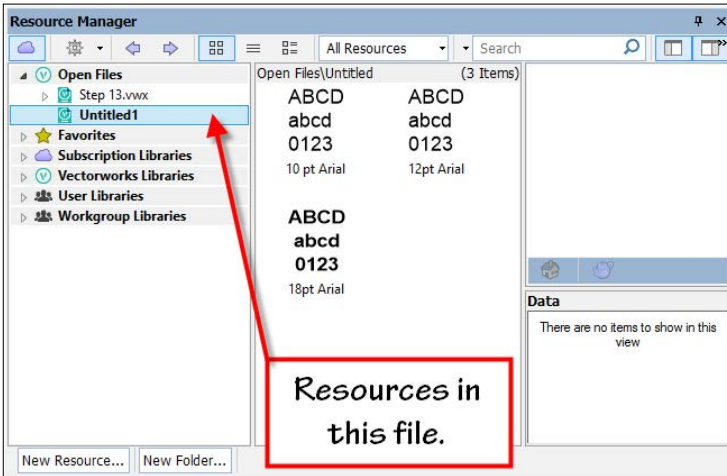
- The Resource Manager has its own palette, much like the old Resource Browser.



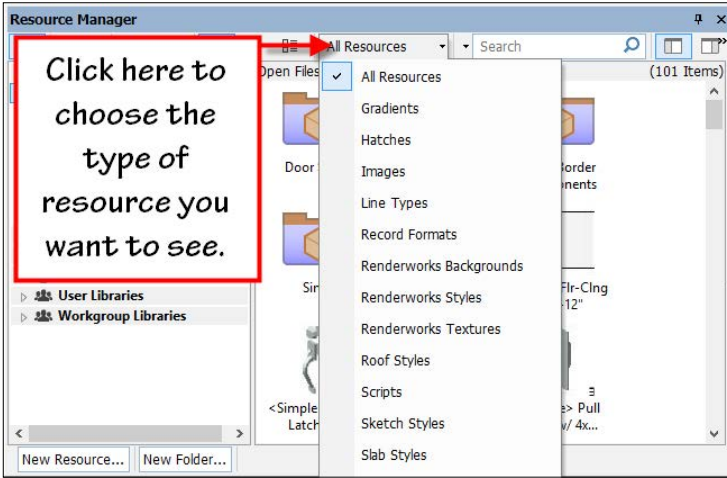
- The resource manager is divided up into three main panes.



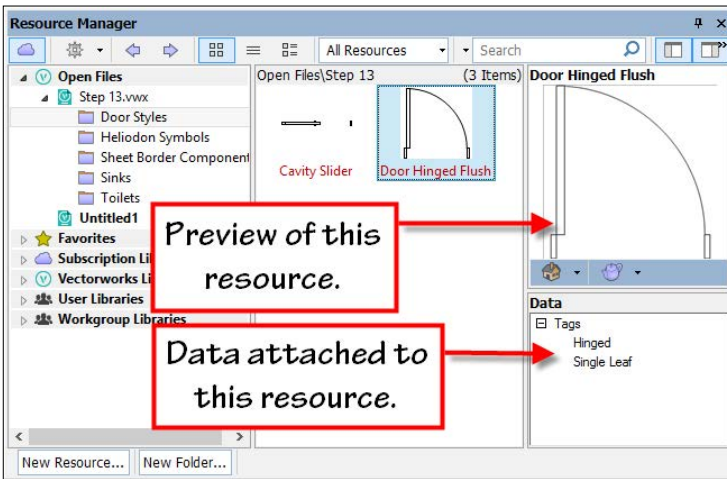
- The Files area is used to choose the source file. This is where you can choose a library file, an online file, et cetera.
- when you have selected a file, the middle pane will show you all the resources that are available in that file.



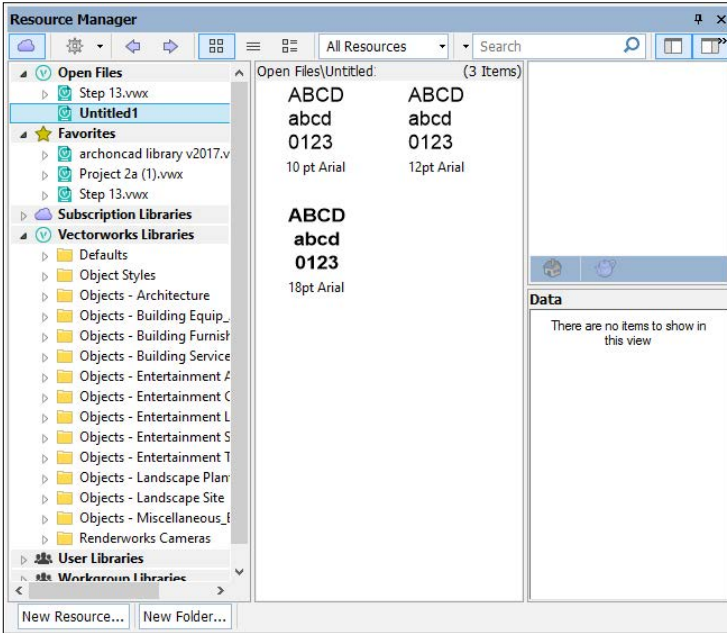
- Above the middle pane is a pop-up menu where you can choose which resources you want to view, and this image I have selected All Resources.



- When you select the resource, the right-hand pane will show you a preview of the resource along with any data that is attached to it.

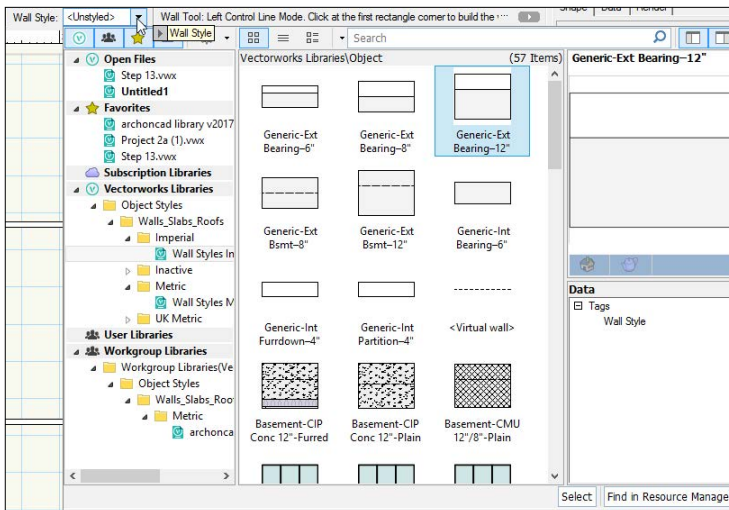


- When you open up the Vectorworks Libraries, you will see many folders are already there for you to use. In the past you had to add favourites to see the resources, now Vectorworks add these automatically for you.

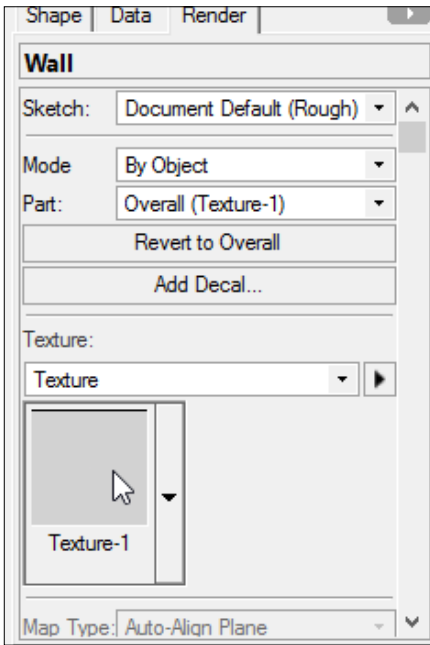


The other important part of the resource manager is the way that it has been implemented when ever you need to find a resource.

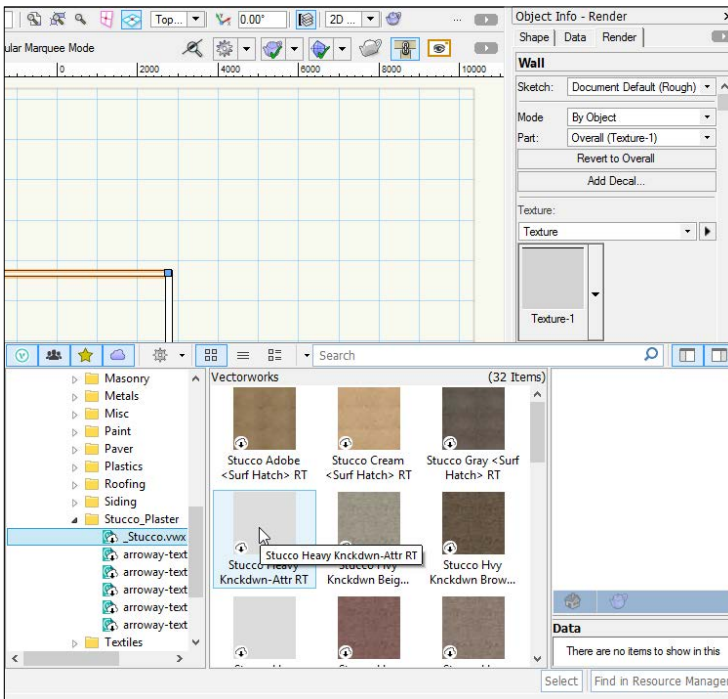
- For example, in this image I selected the Wall tool when I click on the menu to choose a wall style, Vectorworks presents me with all the wall files in my current file, in the Vectorworks libraries, and even in my user or workgroup library.
- This makes it extremely quick to find any wall style anywhere on my computer or stored online in the Vectorworks subscription or standard libraries.



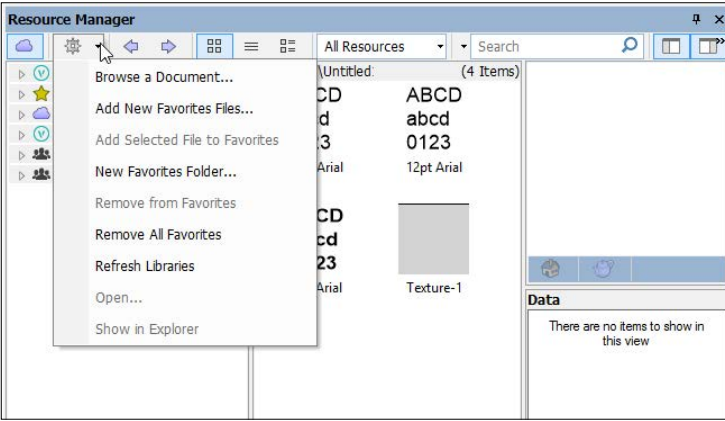
- In this example I'd like to assign a texture to part of the wall.



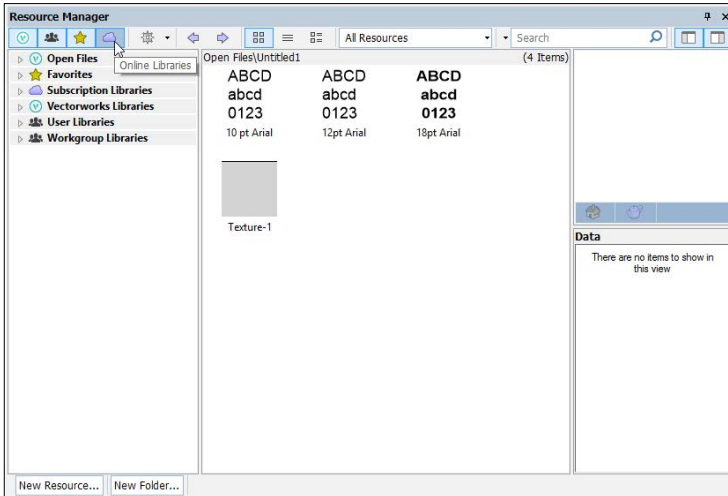
- When I click on the texture pop-up menu, Vectorworks shows me all the textures that are available in my current file, in the Vectorworks libraries, in my workgroup folder, et cetera



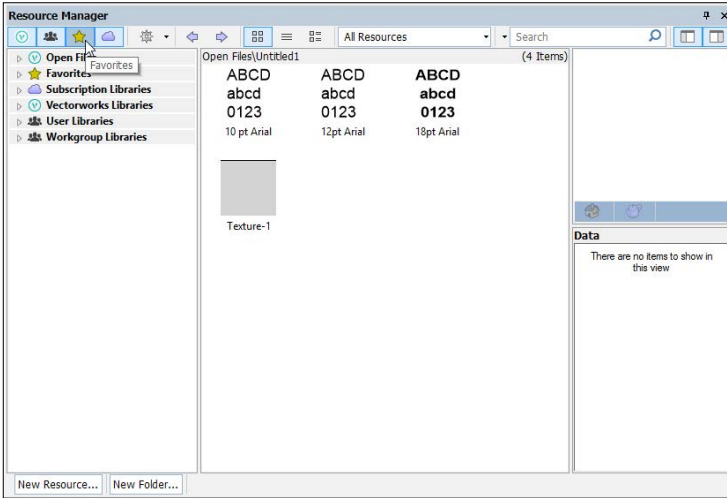
- The gear button allows you to browse a document, add new favourites files, et cetera. This is the same as the utility menu on the old Resource Browser.



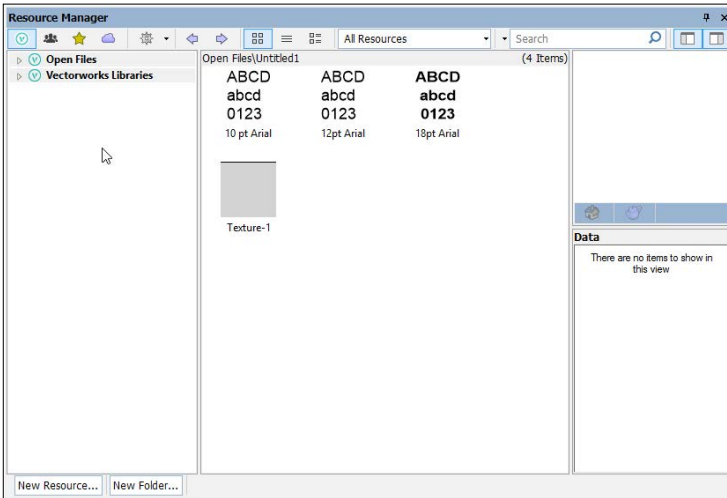
- The row of buttons at the top left are there for you to filter what the resource manager will show you.
- If the buttons are darker, then they are activated, and Vectorworks will show you the library files that are in those locations.
- This image is showing the **Online Libraries** activated.



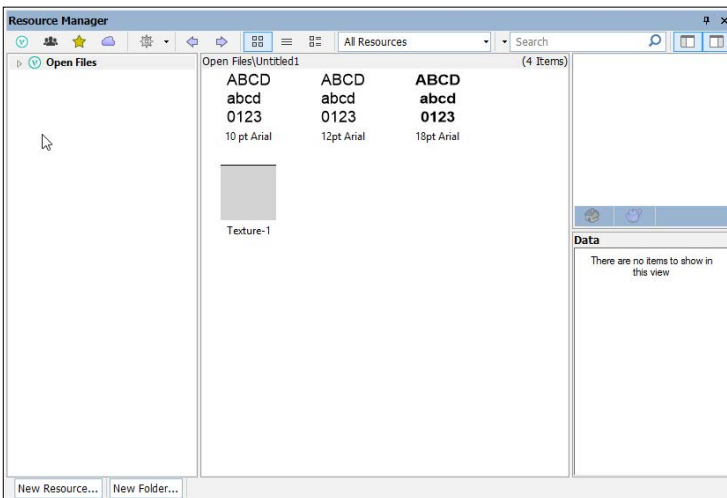
- This image is showing all the options activated.



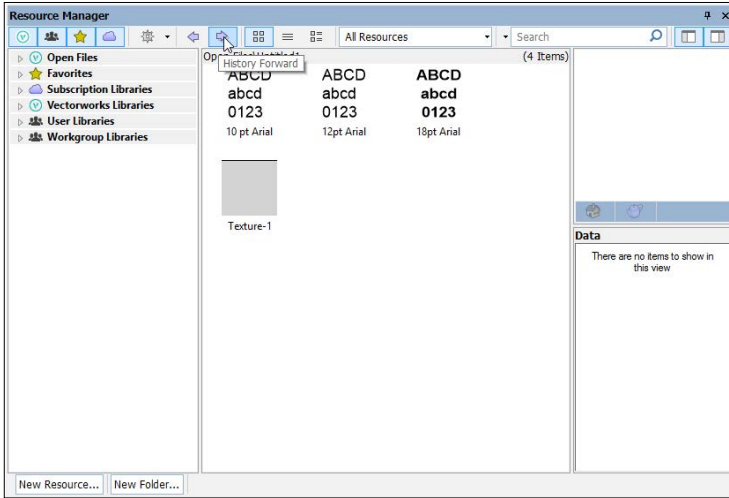
- This image is showing only the **Vectorworks Libraries** (stored in your computer) activated.



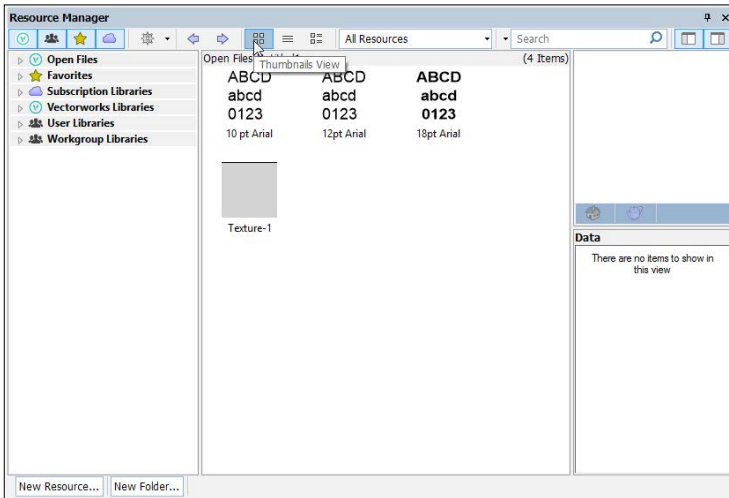
- This image is showing none of the options activated.



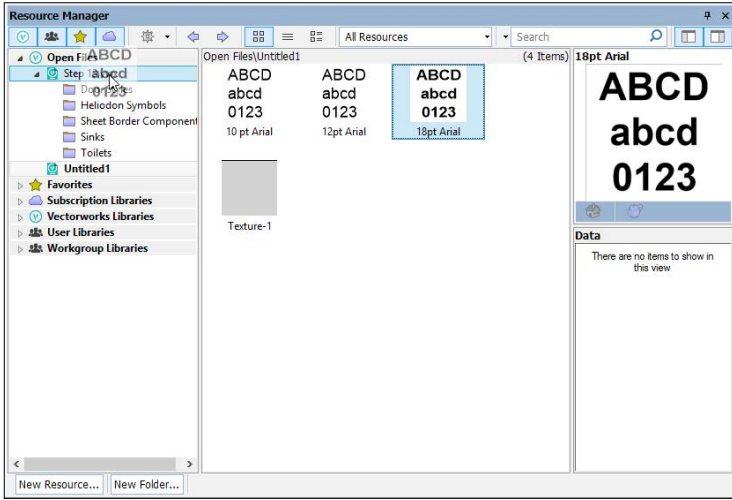
- There are History buttons allowing you to go forward or back.



- You can choose to view your resources as tiles, as a list, or a combination of both.



- The new resource manager allows you to drag-and-drop resources from one file to another, allowing you to export resources to another file by dragging and dropping.



Project Sharing 2.0

[cadmovie_1610-02](#)

Project sharing was introduced with Vectorworks 2016. It worked really well, but it did require that all the users be on the same network. This can work fine when you're in the same office, but it didn't work well if you weren't in the same office, you would require a Virtual Personal Network in order to do this.

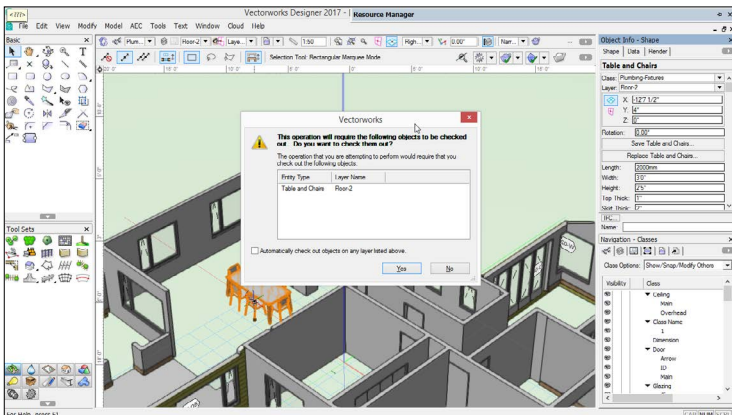
Many people they work with others that are not in the same office, but still wanted use project sharing. Now, project sharing can be carried out using a range of cloud-based systems. There are several other cloud based storage systems, but not every one of the systems is supported. In basic terms Vectorworks needs to be able to look at the file that stored in the cloud, and detect whether that file has been updated or not. It also needs to be able to write to that file.

One of the cloud systems that I have used for a long time is Dropbox. This is certainly supported by Vectorworks project sharing and there are other systems that are supported as well (OneDrive and Box).

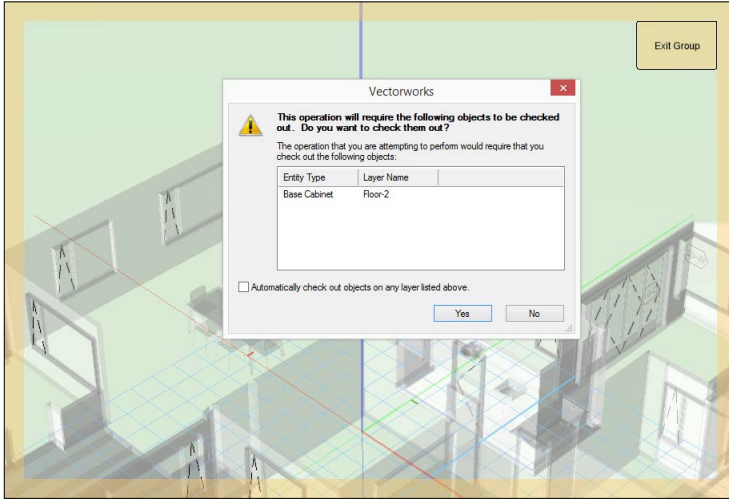
There is nothing that I need to show you on the project sharing dialog, the change to cloud sharing is in the background.

Another change to project sharing is the ability to check out objects or groups of objects. In previous versions, you had to check out an entire layer in order to work on anything in that layer. With this new version of project sharing you can check out a single object.

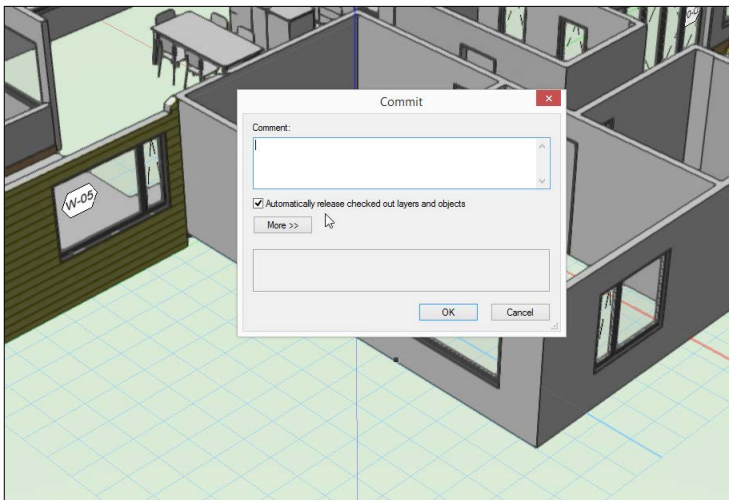
- Select the object that you want to work on.
- When you try to edit that object you will see a dialog asking you to check out that object. This means that others can work on other parts of the design layer while you are editing this object.



- If the objects are grouped, you are able to enter the group without checking it out, but any object inside the group will have to be checked out before you can edit it.



- When you Save and Commit, you can choose to release all the checked out layers and objects



Camera Match

I have covered the camera match before, it used to be a plug-in that you would have to purchase separately, but with Vectorworks 2017 it is now included.

There is a [manual \(1308\)](#) that covers how to use camera match, this is recommended reading.



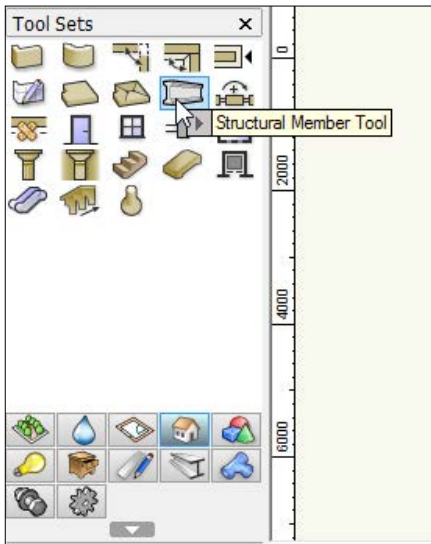
Structural Member

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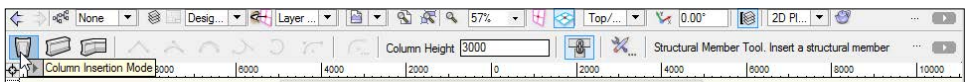
This is a brand-new tool. The structural member tool is designed to be an intelligent object that will know when it joins another structural object. One way of thinking about this is that it's like walls for structural members, so that when you move a column, the connected beams will move as well.

You can join beams to columns and beams to beams.

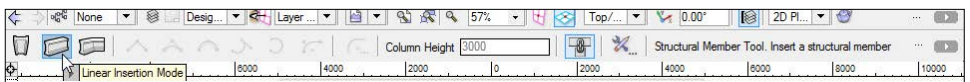
- Go to the **Building Shell** toolset.
- Click on the **Structural Member Tool**



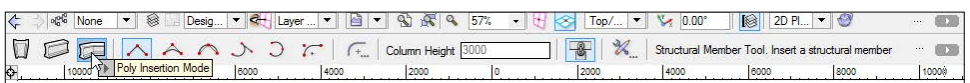
- Go to the Tool bar.
- There are three modes for using the Structural Member. The first mode is for creating columns.



- The second mode is for creating beams using the Linear Insertion mode.



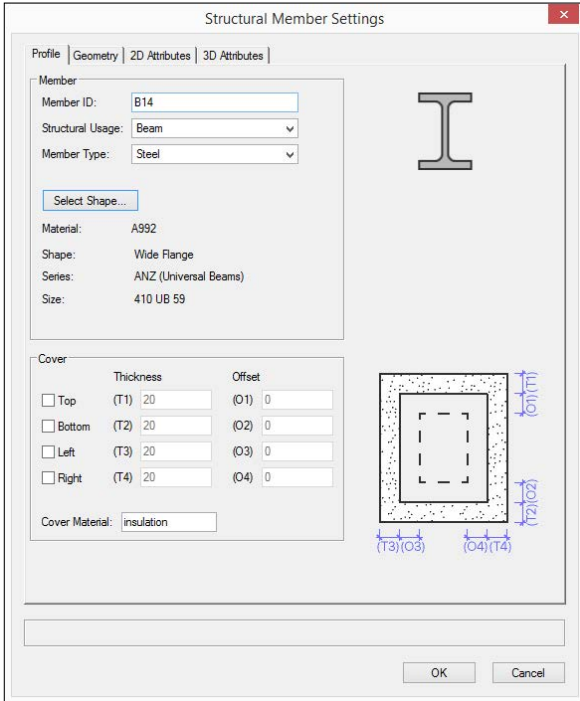
- The second mode is for creating structural Members (columns and beams) using the Poly Insertion mode. An example of using this mode might be to draw a portal frame in elevation.



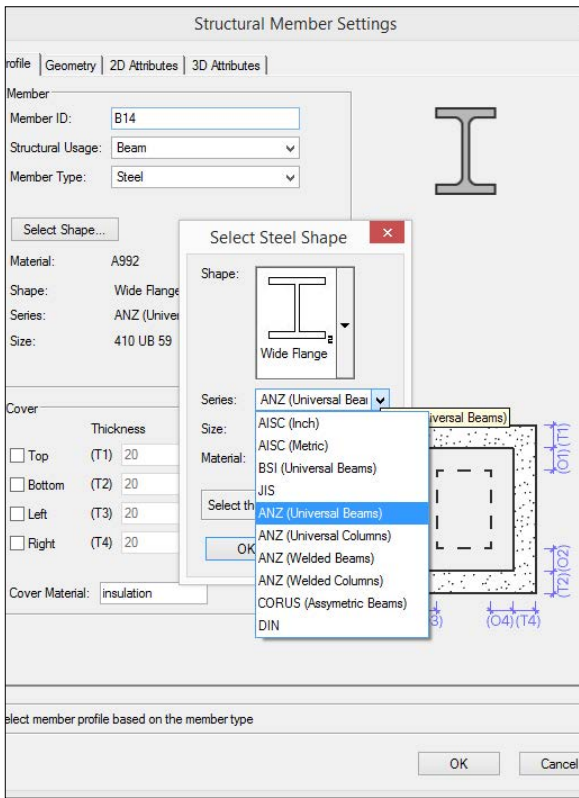
- When you click on the Preferences button (the last button on the Tool

bar) you will see this dialog.

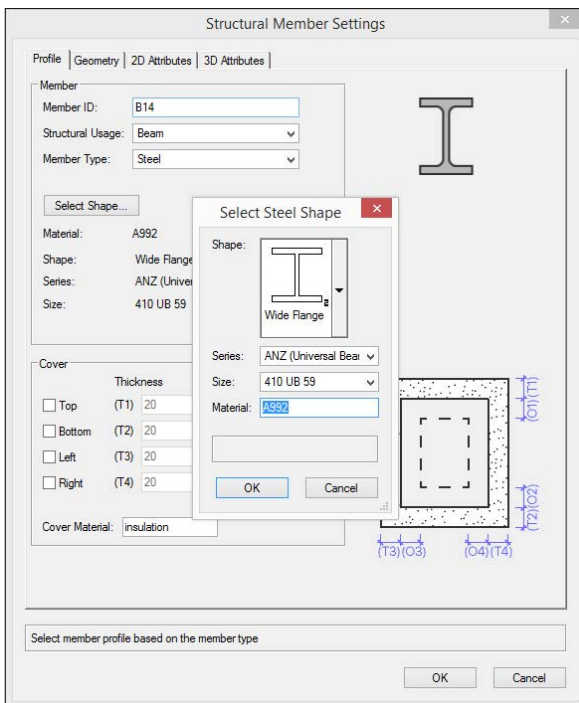
- This allows you to choose the profile and set the graphic properties.



- When you click on the Select Shape button, you can choose the structural property using the standard Vectorworks objects (wide flange, channel, et cetera).

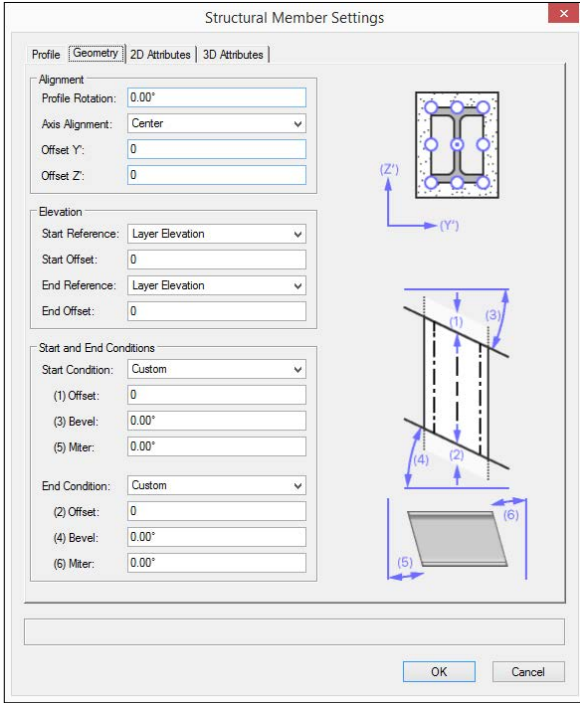


- You can choose from the subset of structural shapes and you can choose the actual size of your structural member.

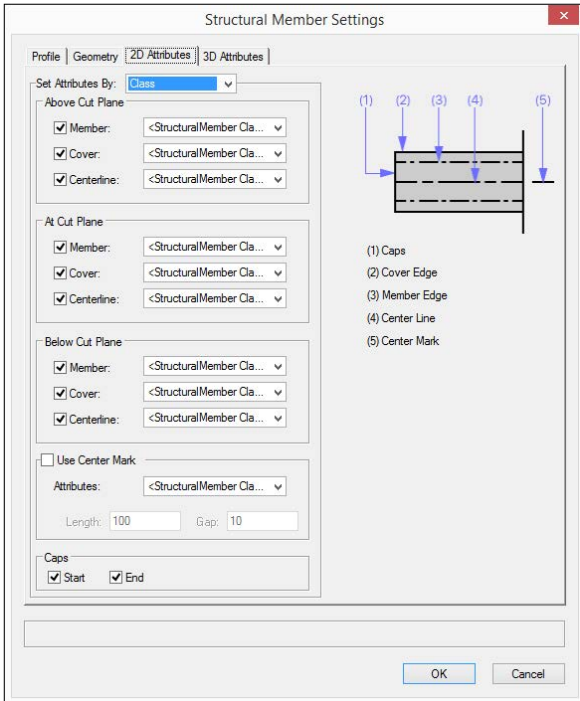


- There are several options for setting the geometry of your objects. It's important to set the alignment and elevation of your objects. If use the Object Info palette later to change the elevation of your structural

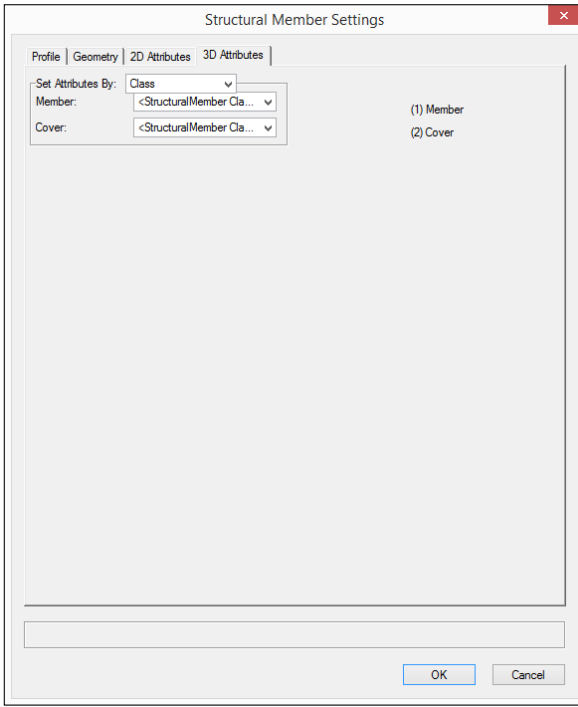
member it will break the network.



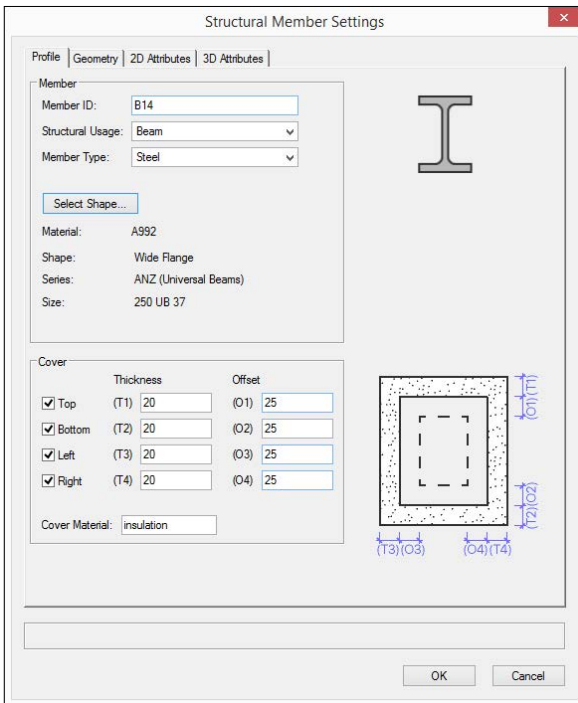
- You can set the 2D attributes using classes.



- You can also set the 3D attributes using classes.

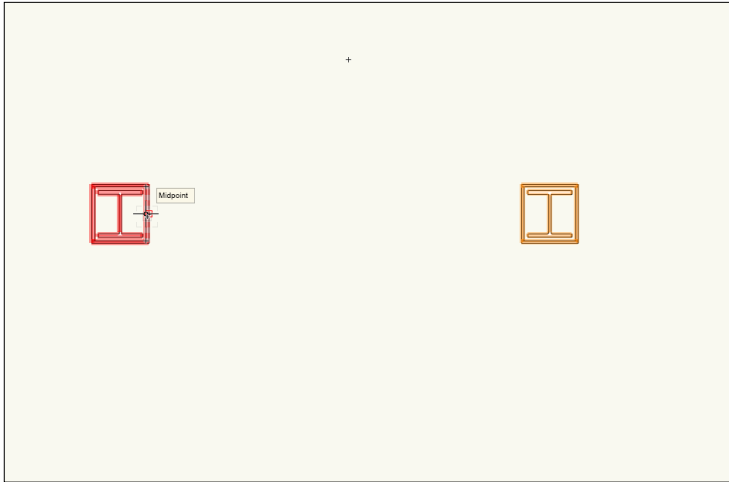


- For many commercial buildings you are also required to have fireproofing around the columns and beams. You can create this covering as part of the structural member.

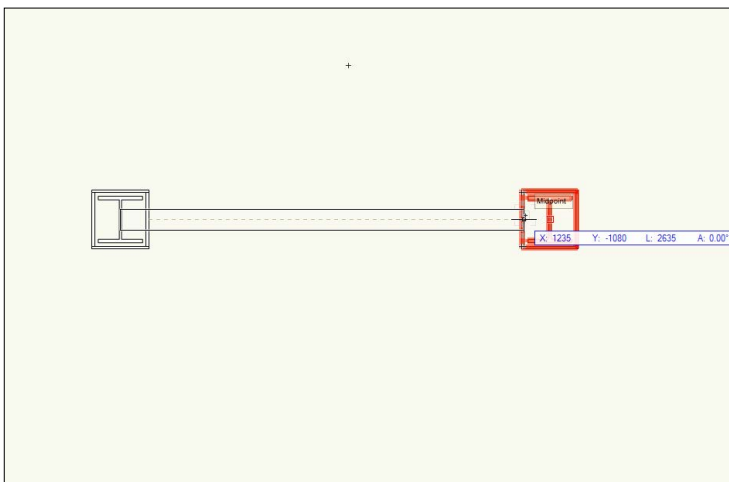


- In this image I have placed two columns. you can place a column by setting the preferences that you want, choosing the first mode from the Tool bar, then double-clicking.

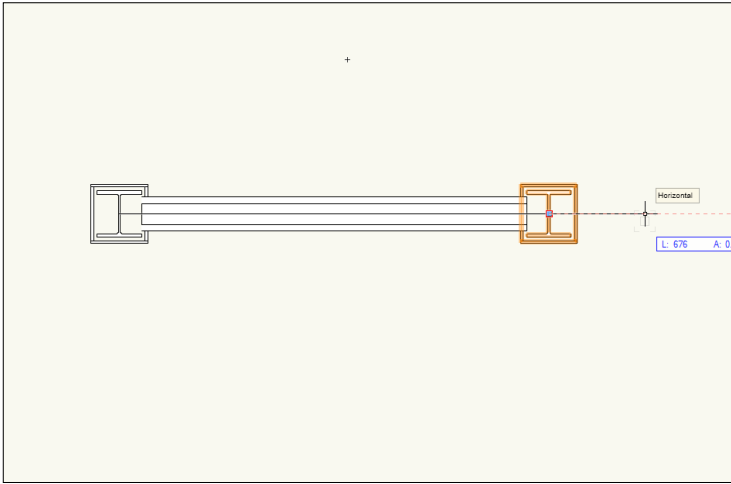
- Like many other objects in Vectorworks the first click will place the insertion point of the object and the second click will control its rotation.
- When you change to the second mode on the Tool bar, you change to the mode for placing linear beams.
- When you move near an existing beam or column, it will highlight in red. This is similar to when you draw on the wall with auto join turned on.
- Click once to start the beam.



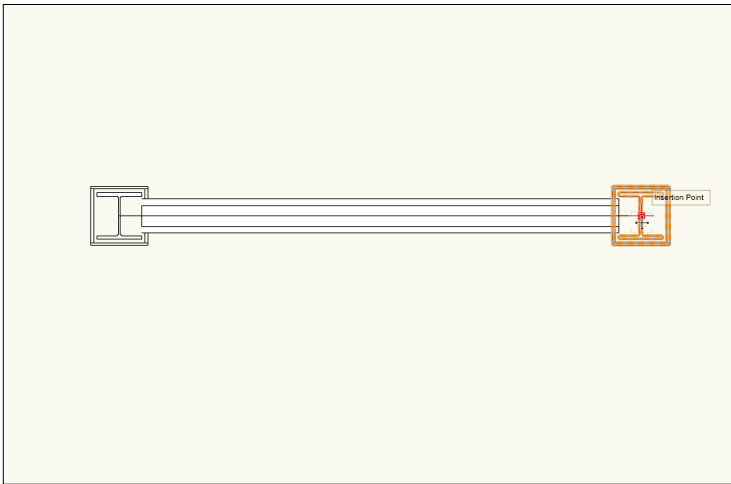
- Move to the next column. Notice how the column is also highlighted in red.



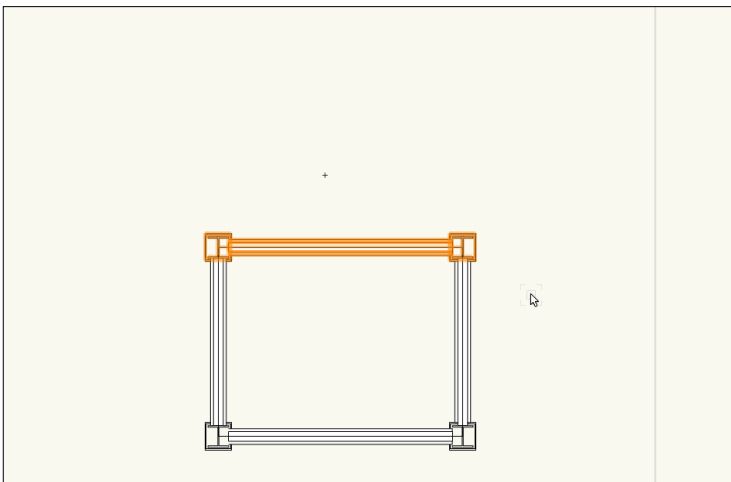
- click once more to finish your beam.
- The beam is now connected to these two columns and they form a network.
- If you move one of the columns, the connected beam will also adjust.
- In the image below you can see the column being dragged to the right.



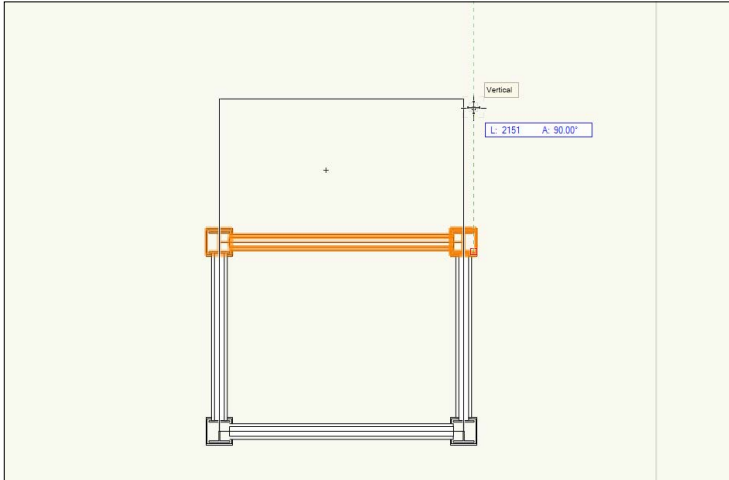
- When the drag is completed, the connected beam is adjusted so that it still connects to the column.



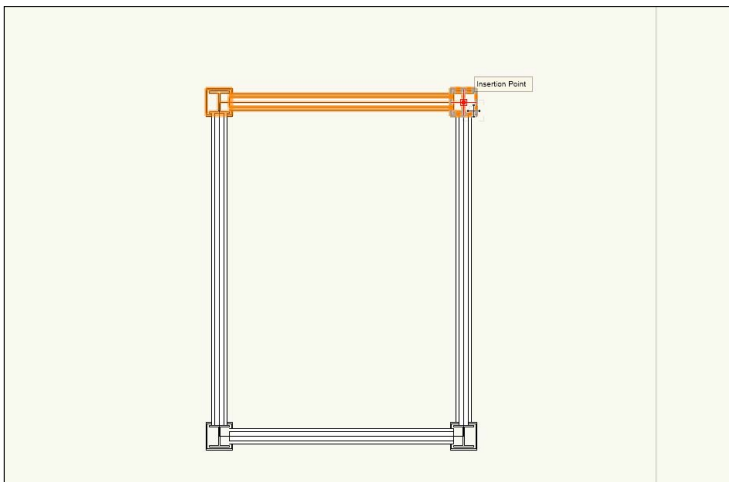
- If you create a network with four columns and four beams, you can stretch several objects at the same time, all you have to do is to select them and then drag them.



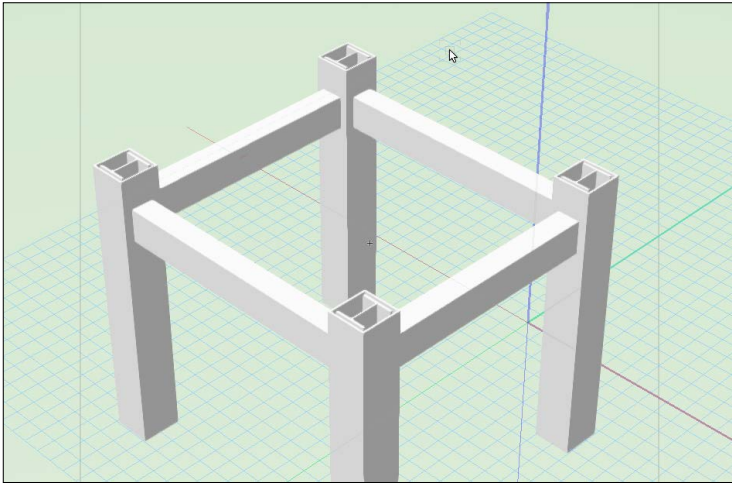
- Notice that if you drag the columns and beams, you get a guideline showing you the connected beams. This is very similar to a wall network when you drag one of the walls.



- When you finish dragging your selected objects, the columns and beams will update.



- If you change to a 3D view you can see quite a detailed network of columns and beams. All of these columns and beams have fireproofing on them.



Core Vectorworks

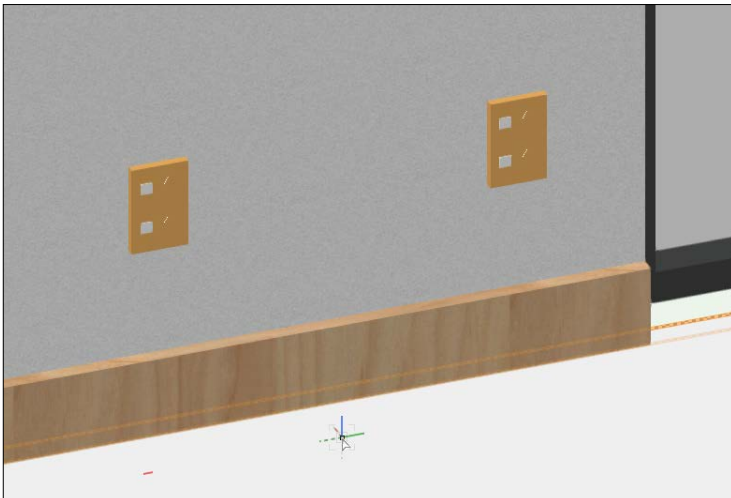
These are the changes to Vectorworks that affect all the versions.

Story Support (Symbols)

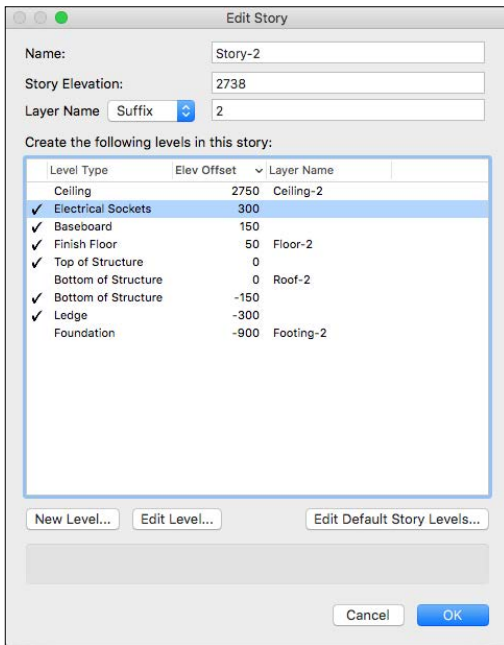
[cadmovie_1610-04](#)

When you place a symbol in a design, you can choose the elevation of that symbol. But you might have a situation where you want most of the symbols to be at the same elevation. If this was the case you could set the elevation of the objects as you create the symbol. But on another project you might want to use the same symbol but vary the height.

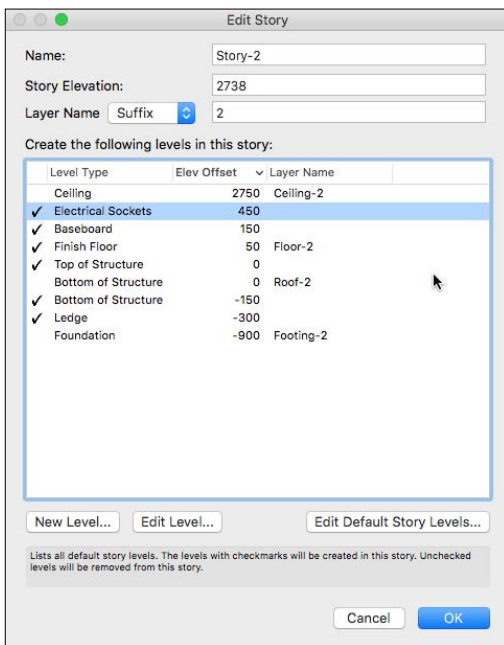
Story support the symbols allows you to connect the elevation of the symbols to a level of your story. This would allow you to control the symbols by a level, but you might have a different elevation on each story of the building.



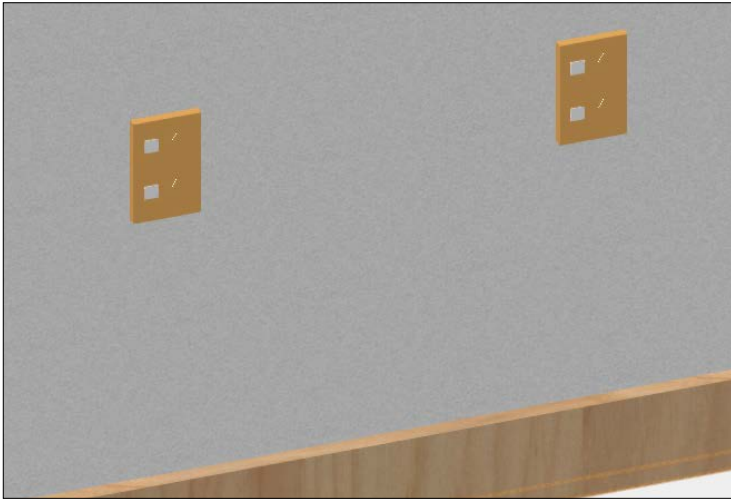
- In this project I have a level to control the elevation of electrical symbols. It is currently set to 300 mm (12"). The symbol has been designed so that it is connected to the story level called Electrical Sockets.



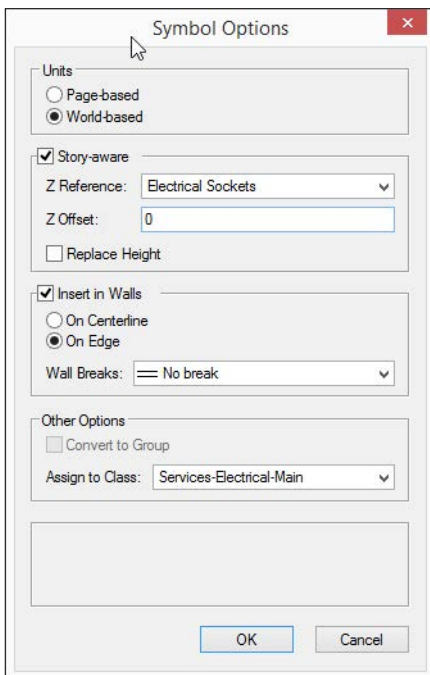
- For a specific project the story level might need to be higher or lower.
- The story elevation can be adjusted in the Edit Story dialog.



- When you edit the story elevation and return to the design, the symbols will change their elevation.



- When you create a symbol there is now a new area where you can connect your symbol to the story, making a Story Aware. You can then choose which level you want to connect your symbol to.



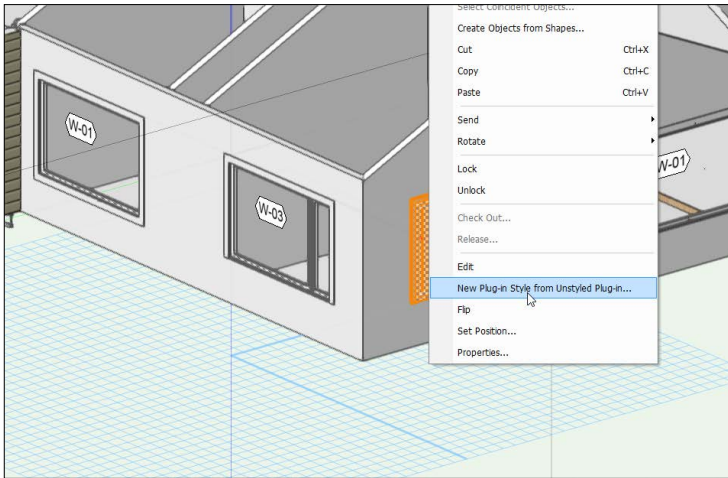
Plug-in Styles (Doors And Windows)

[cadmovie_1610-05](#)

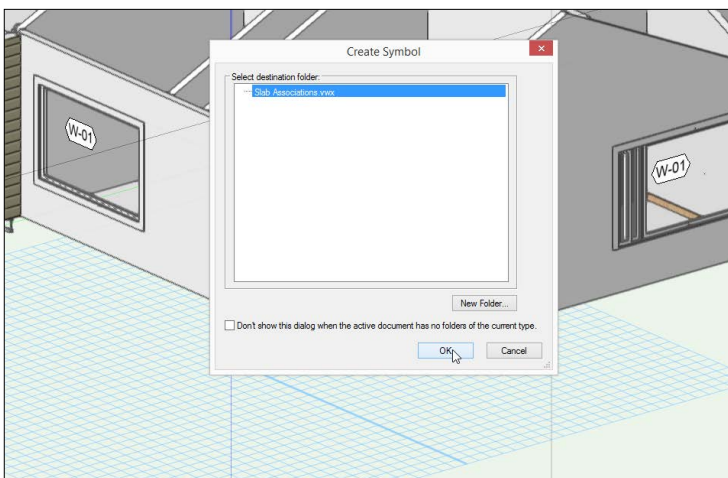
The new Plug-in Styles is an interesting concept that is a cross between a symbol and a plug in object. The purpose is to allow you to control parts of these plug-in objects while maintaining overall control for other parts.

At the moment these plug-in styles only apply to doors and windows (and will apply to Windowor if you live in Australia or New Zealand).

- The first step is to select a window or door object.
- Right click on the object and choose **New Plug-in Style from Unstyled Plug-in...**

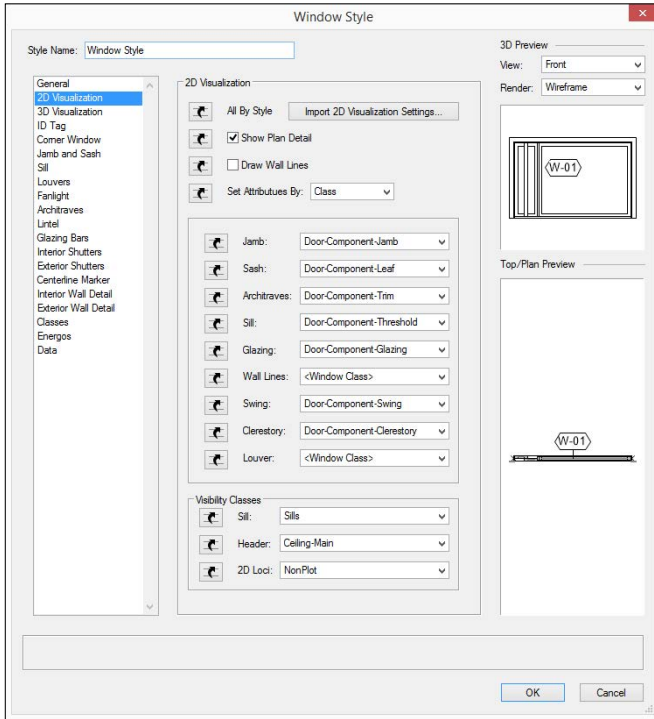


- You can choose to store your style doors and windows in folders if required. On a large project this could be useful.

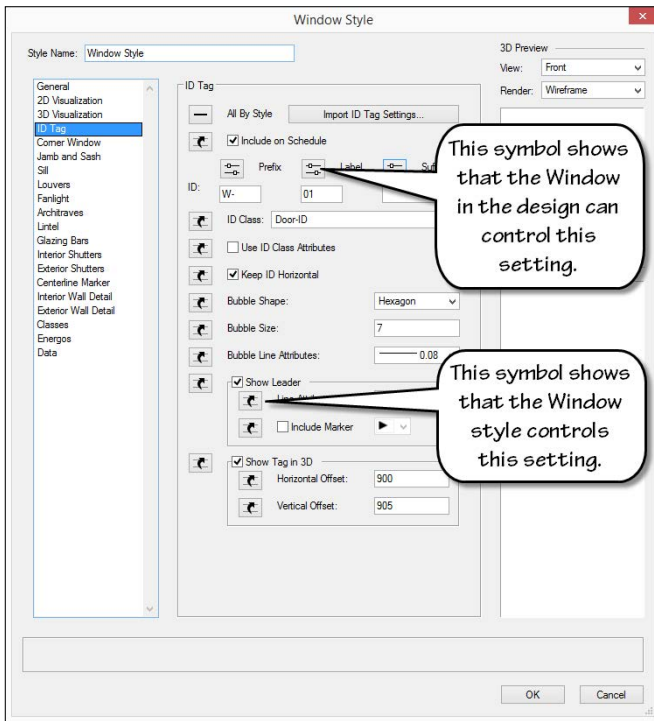


- Click on the **OK** button.
- Name the plug-in object style. It's a good idea to treat this plug-in object style like a symbol and give it a name that would be appropriate. Doors

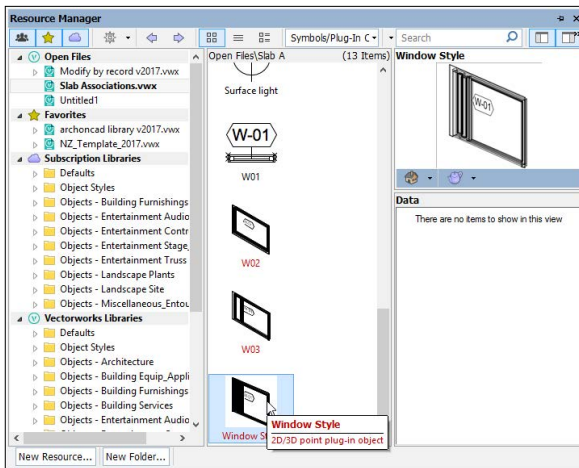
might have a name similar to Door Type A, Windows might have an name similar to Window Type A. The actual naming is up to you, just make sure that it is a name that is clear.



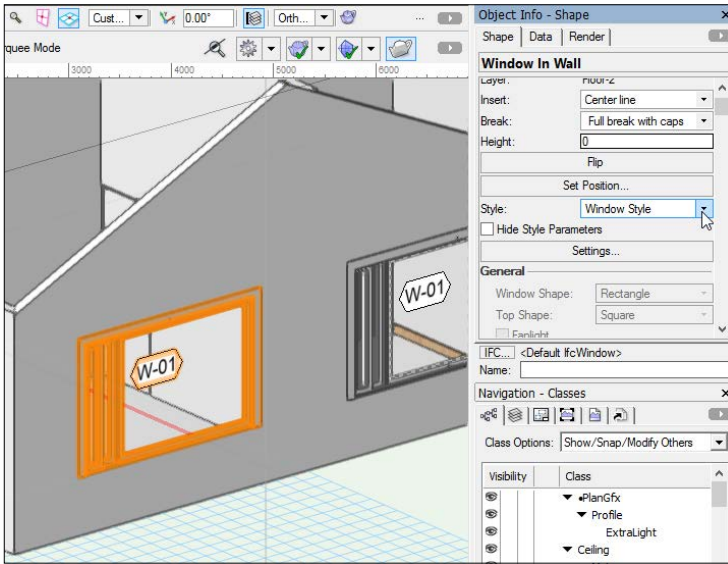
- Every setting on the window or door dialog box has an icon.
- When the icon looks like a curvy arrow, this means that your window or door style will control the setting in the design layer.
- When the icon looks like a set of sliders, this means that the object in the drawing has control over this setting.



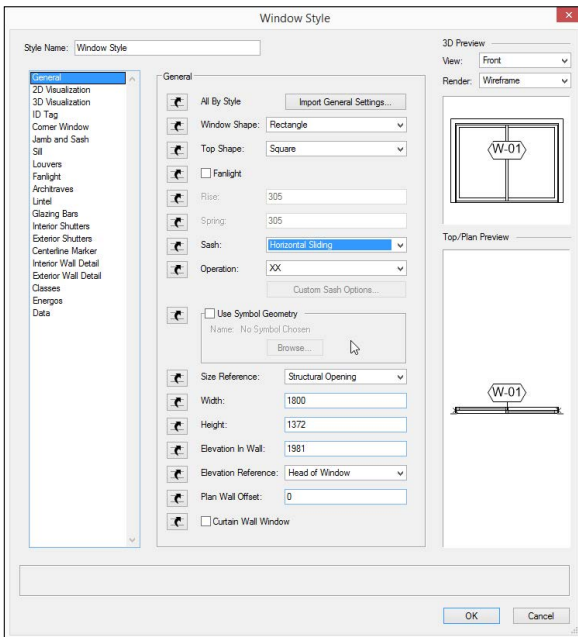
- The way to use this concept is to decide what things you want to be controlled by the symbol, and what things you want to be controlled in the drawing.



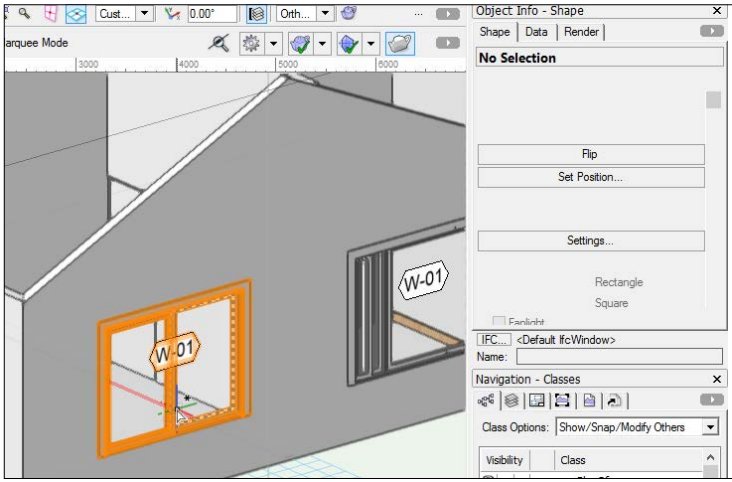
- When a door or window object is connected to a style, you will see the style listed in the Object Info palette.



- To edit a door or window style, use the **Resource Manager**.
- Right click on the door or window style, and choose **Edit...**
- This will open the Window Style dialog. this dialogue is similar to the window settings dialog.
- Make the required changes in this dialogue.



- Click on the OK button to commit the changes.
- All of the windows that use that style in your file will update. This will not affect window styles in other files

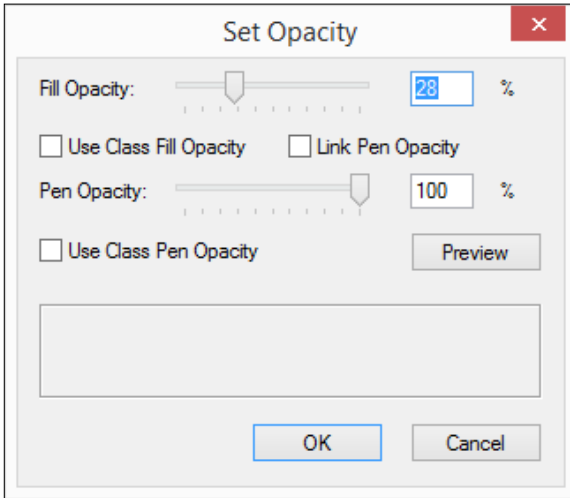


Pen And Fill Opacity

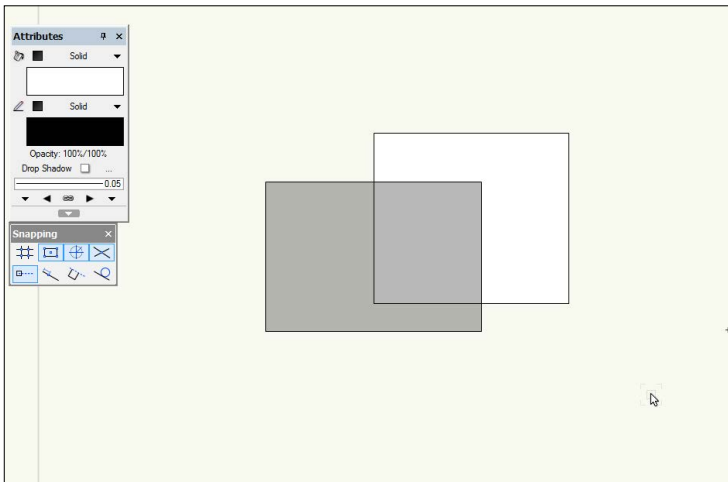
[cadmovie_1610-06](#)

Vectorworks have separated the opacity so you can control the fill without affecting the pen opacity.

- When you open the Set Opacity dialog, Un-check the option to Link Pen Opacity.
- Set the Fill Opacity.



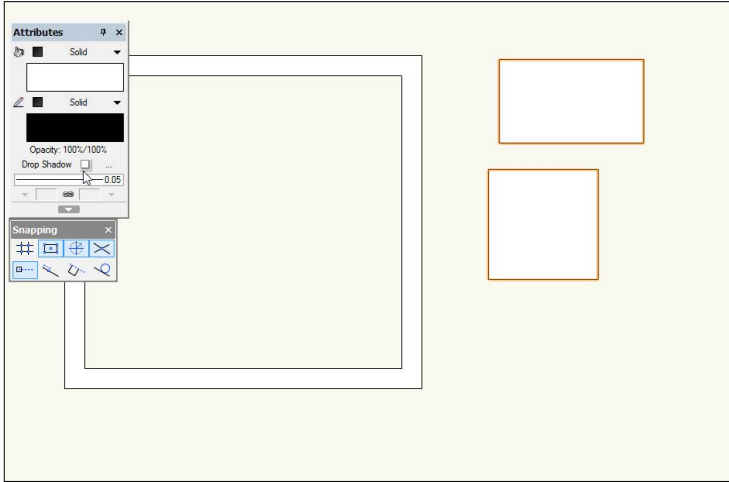
- Click on the OK button.
- Notice that the fill is see-through, but the line is still solid.



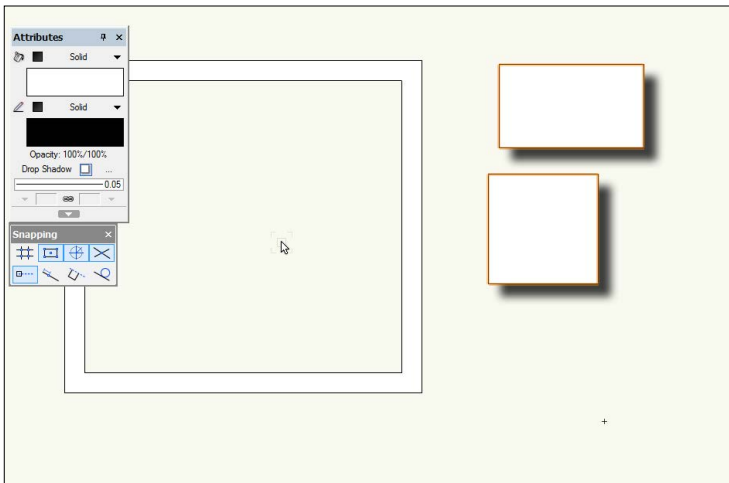
Drop Shadows

[cadmovie_1610-07](#)

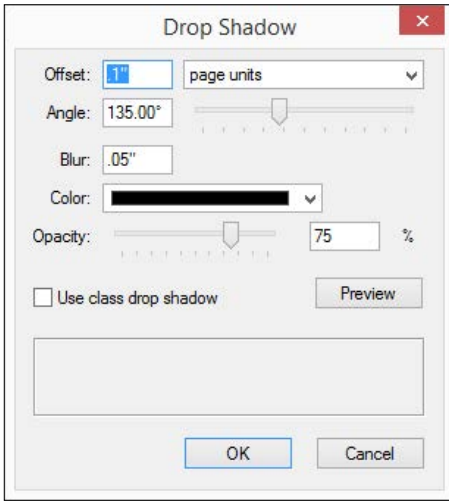
- You will find the Drop Shadows control on the Attributes palette.
- Select the objects that you want to add drop shadows to.
- Go to the Attributes palette.
- Click on the Drop Shadows button.



- Drop shadows will be applied to all the selected objects.



- Next to the drop shadows button on the Attributes palette is the button to open the control dialog for drop shadows.

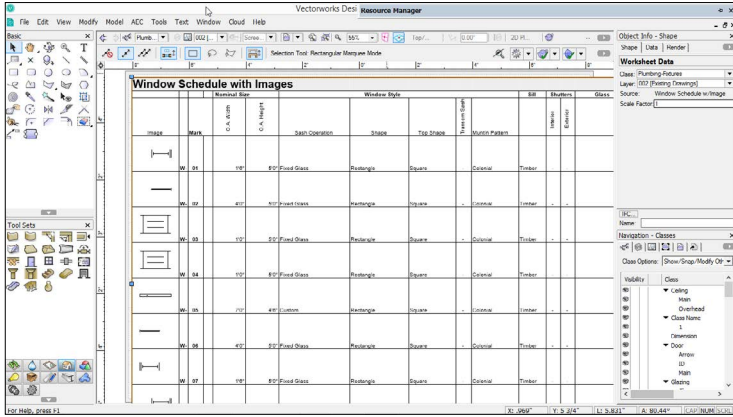


Scalable Worksheets

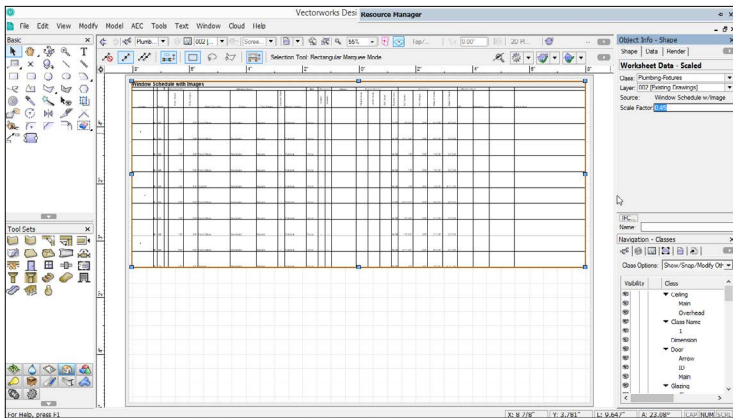
[cadmovie_1610-08](#)

It has often been a challenge getting your worksheets to fit onto a sheet layer. There was a way to scale your worksheets, which was the use of viewport. This is no longer required.

- Select the worksheet.



- Go to the Object Info palette.
- Input the scale required.
- Use the enter or Tab key.
- Vectorworks will re-scale your worksheet. This is a complete scaling of the worksheet meaning that every word, image, et cetera will be scaled.

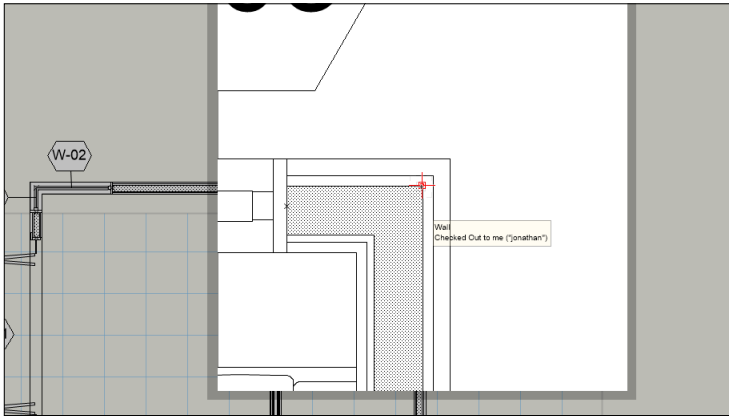


Master Snaps

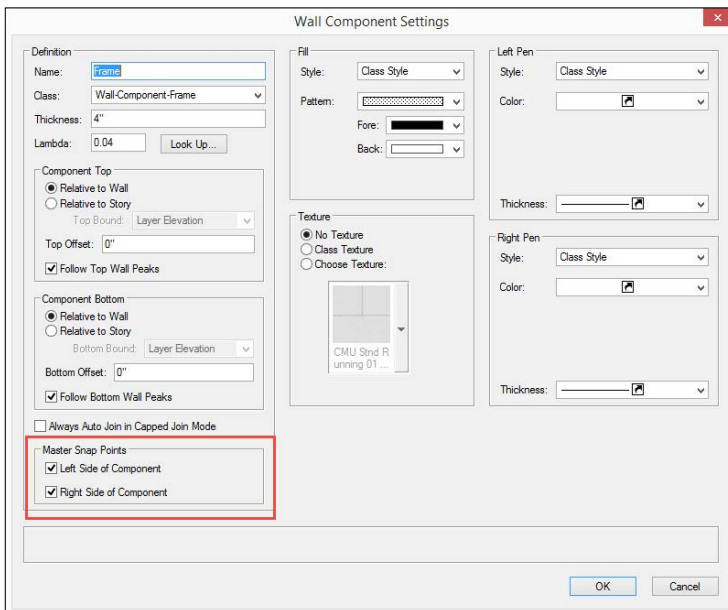
[cadmovie_1610-09](#)

When you have a lot of objects that are close together it is difficult to snap to the one you want. The concept of master snaps is to have an overriding snap that makes it easy to click on.

- For example, in this situation I have a wall with components. When I dimension I really want to be able to snap to the framing of my wall.
- You could set master snaps to the edge of the framing component, Vectorworks would then snap to these in preference to snapping to other parts of the wall.

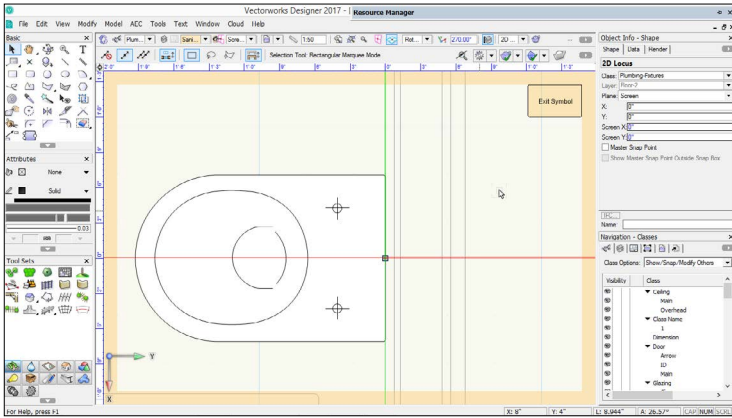


- When you create a wall component, you have the ability to choose whether it has master snap points, and which side of the component will have them.

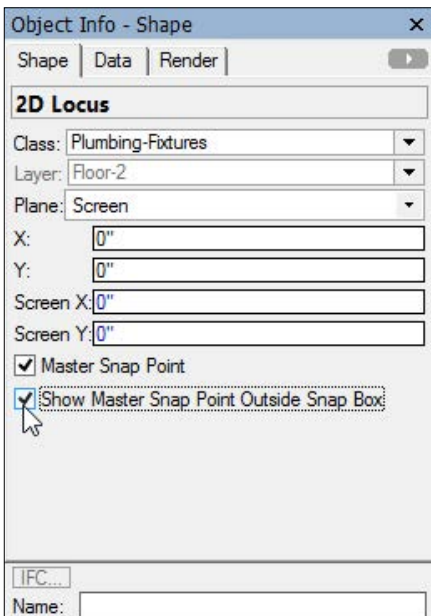


- When you create a symbol, if you place a 2D or 3D locus inside the

symbol you can choose whether that locus becomes a master snap point.



- Insider symbol or insider group, the Object Info palette controls whether that locus will be a master snap.

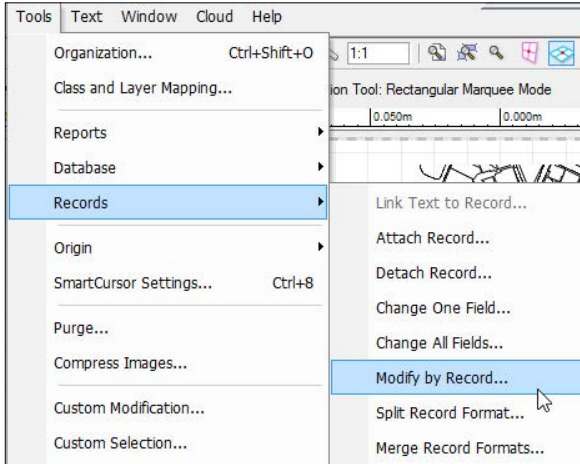


Data Visualization

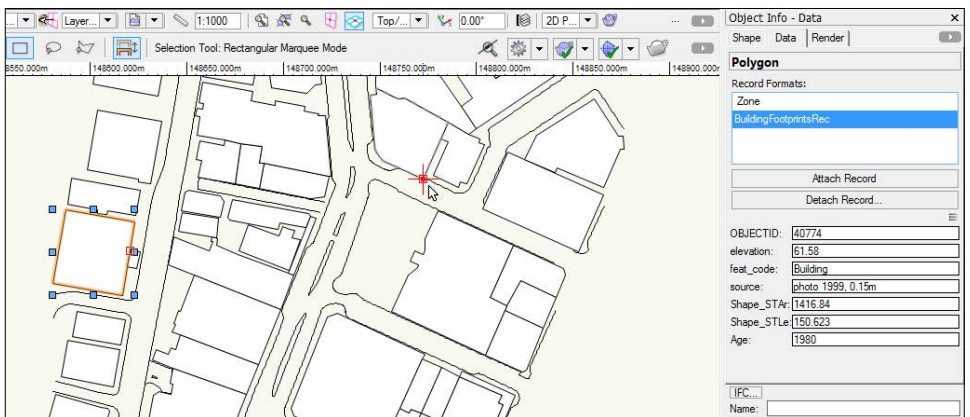
[cadmovie_1610-10](#)

When we draw objects, we quite often add information to the objects using Record Formats. These record formats allow you to attach information and this information can be used to change the look of your objects

- For some time Vectorworks has had a concept called **Modify By Record**.



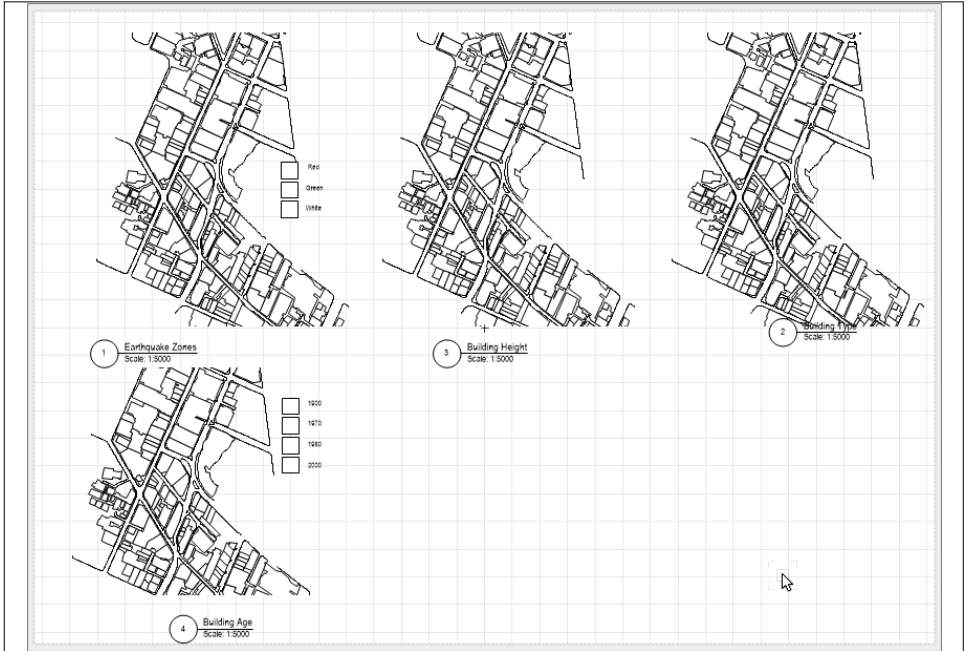
- This command would allow you to change the look of objects using data that is attached to them.



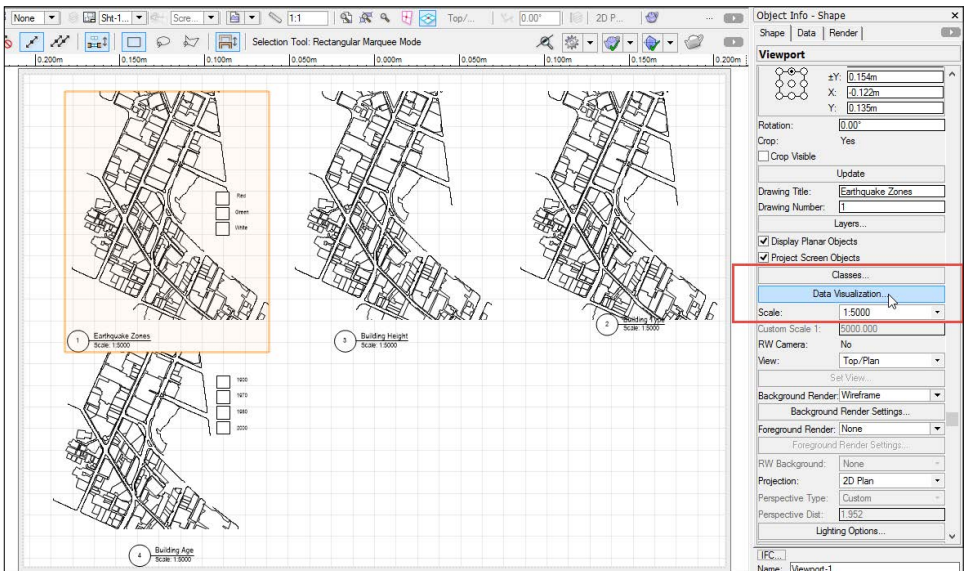
- It would allow to change many aspects of the objects including the fill, line weight, gradient, even extruding the objects.
- The downside of this command is that the change is permanent.

Data visualisation takes the concept of modified by record and incorporates it into view ports. This means that you can create a viewport that looks at the data attached to the objects inside the viewport and then changes the graphic style of the objects based on the data attached to the objects.

In this example I have several view ports that show the same part of Wellington CBD. All of the objects in the design layer have data attached to them with regard to the building height, earthquake zone, building type, and building age.

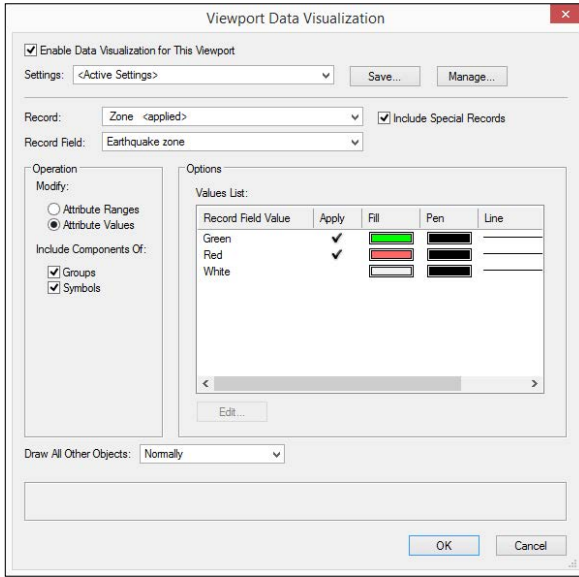


- Select the viewport.
- Go to the **Object Info** palette.
- Click on the **Data Visualization** button.

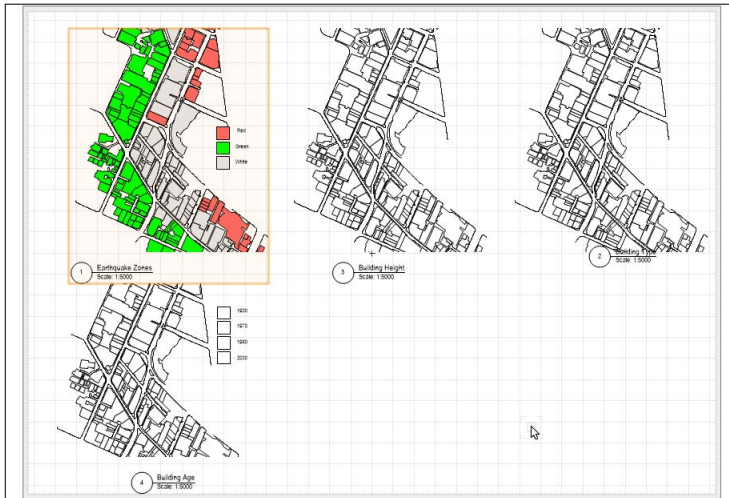


- This opens the dialog where you choose the record format that will be used to change the graphics and fill in the choices.
- Make sure you activate the check box at the top, otherwise your choices

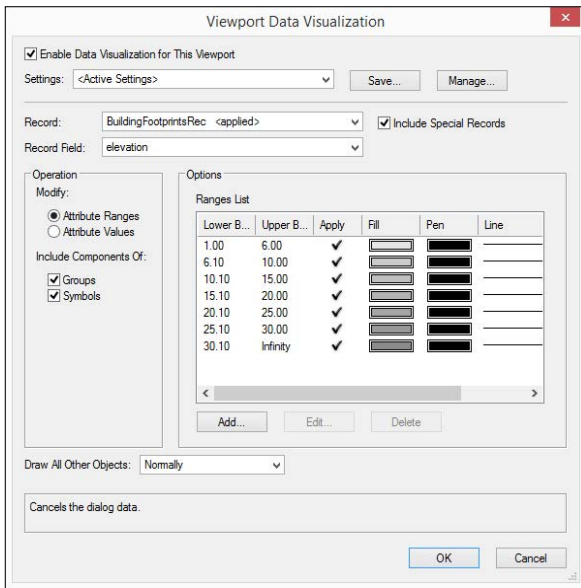
will be ignored.



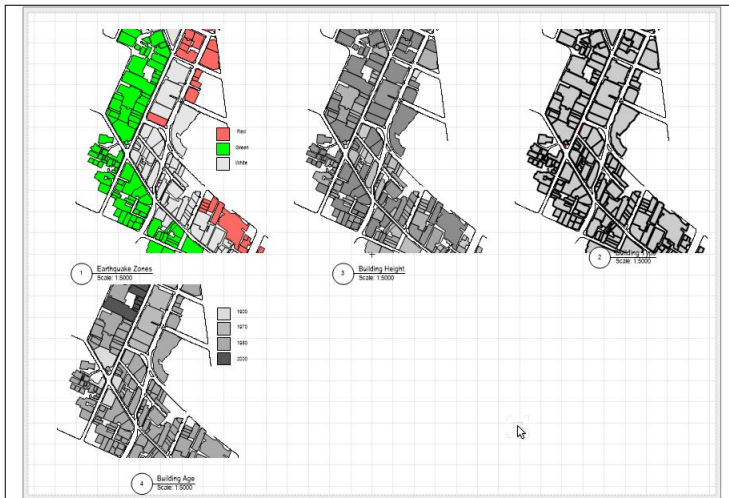
- Click on the OK button.
- Your settings will be applied to the viewport.



- Each viewport can have its own settings.
- Select the next viewport.
- Go to the **Object Info** palette.
- Click on the **Data Visualization** button.
- Choose a different record format and fill in the choices.



- Click on the OK button.
- Each viewport can have its own settings.

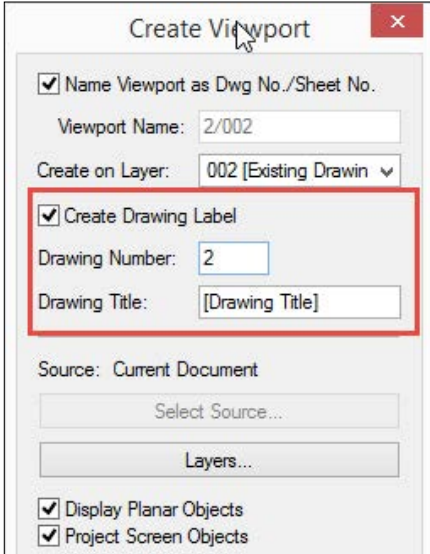


Drawing Labels and Numbers In Viewports

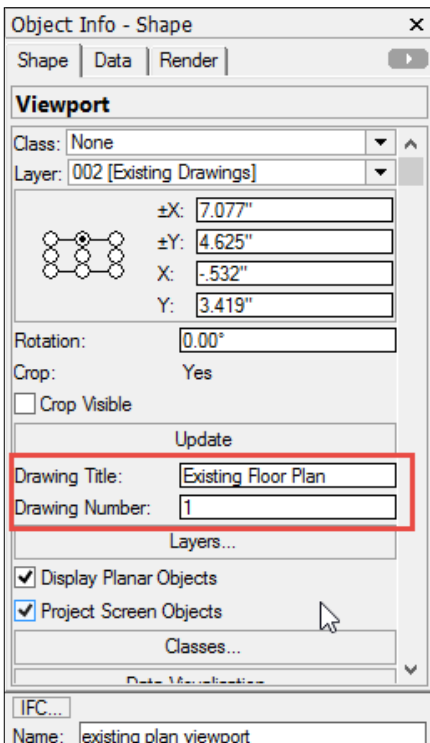
[cadmovie_1610-11](#)

This might seem like a small thing, but it means that all of your view ports now follow the same strategy for having labels when you create them.

- When you create a viewport, you can create the drawing label.



- You can now edit the label name and number without having to enter the viewport.

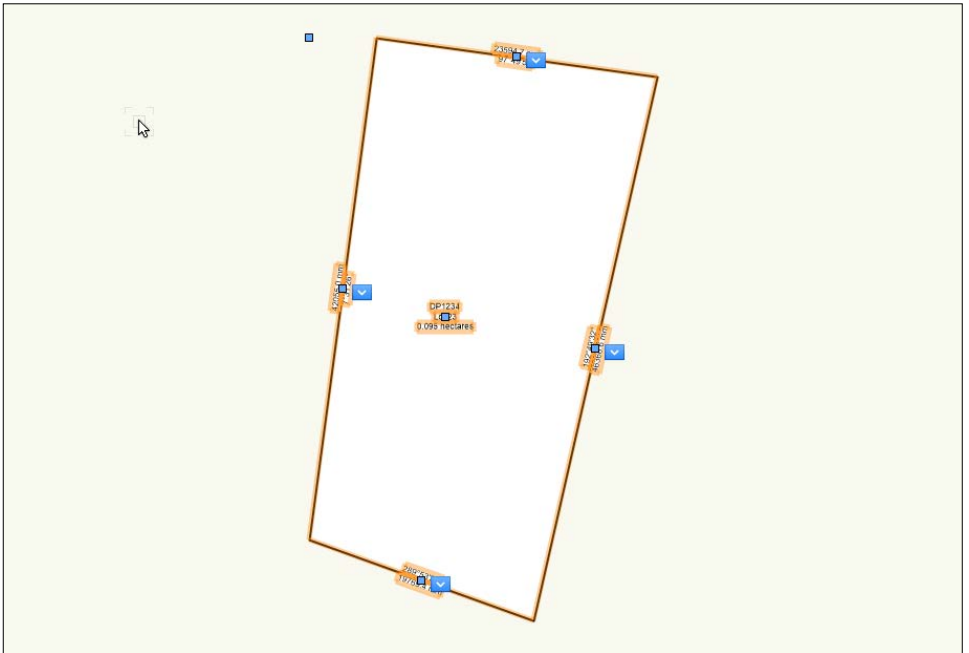


Property Line

[cadmovie_1610-12](#)

Property Line - There have been many requests to make the Property Line more flexible. Vectorworks have been listening and they have improved the Property Line to make it much more flexible.

- You can choose which segments are annotated.
- Notice that each segment has a blue arrow. When you click on this arrow, you can choose to hide or show (if it has already been hidden) the segment text.



- The blue handle on each segment allows you to move the location of segment annotation.
- You can choose the units for the segment annotation, and you can choose to have all the annotation inside or outside the property line.

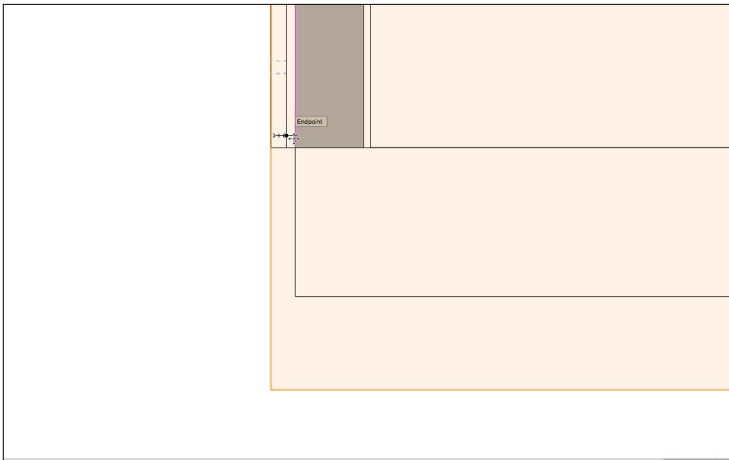
Architect

Slab Association And Offset Edges

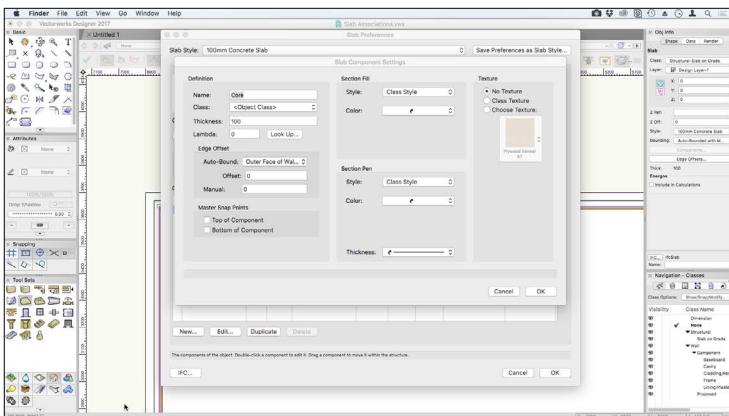
[cadmovie_1610-13](#)

For a few versions now we have had the ability to connect a slab style to a wall style. This allows us to choose an association between components of the wall and the edge of the slab.

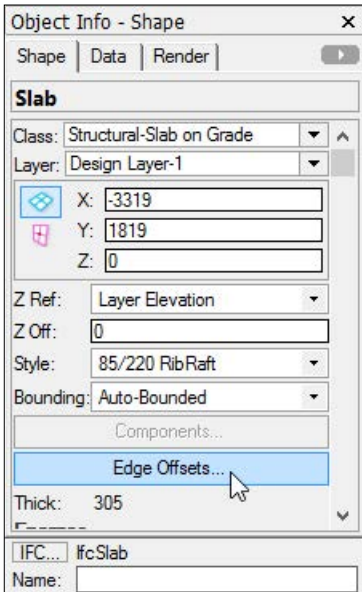
- In some situations though you may require the framing of the wall to sit beyond the edge of the slab. The change in the slab association will allow you to do this.



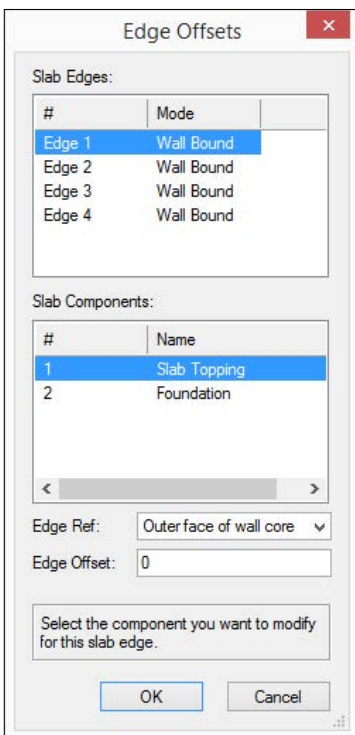
- In previous versions, you could not create a slab style where the wall sat over the edge of the slab. You could do this up using manual placement, but not if you wanted to associate the slabs to the walls.
- Now you can. When you create or edit your slab components, you can add an automatic offset from the slab edge.



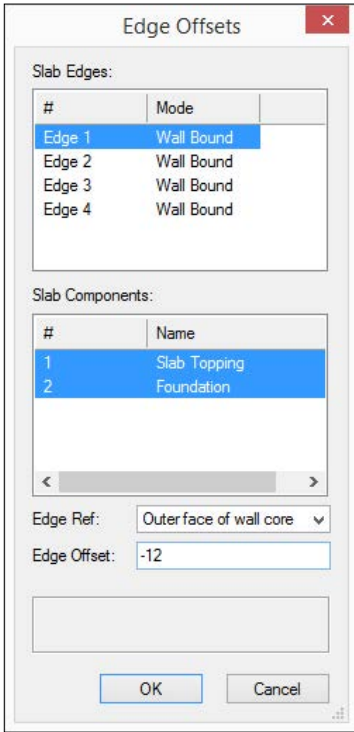
- As well as setting up the slab style to have edge offsets, you can also edit individual edges of the slab.
- Click on the Edge Offsets... button on the Object Info palette.



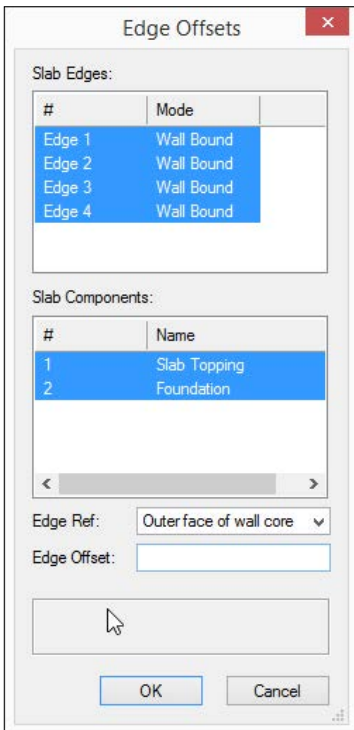
- This dialog will open where you can choose the edges to offset, the components to offset, and the amount of the offset.
- When you select an edge in this dialog, a red indicator will appear in on the slab so that you can see what edge of the slab this relates to.



- You can select multiple components.

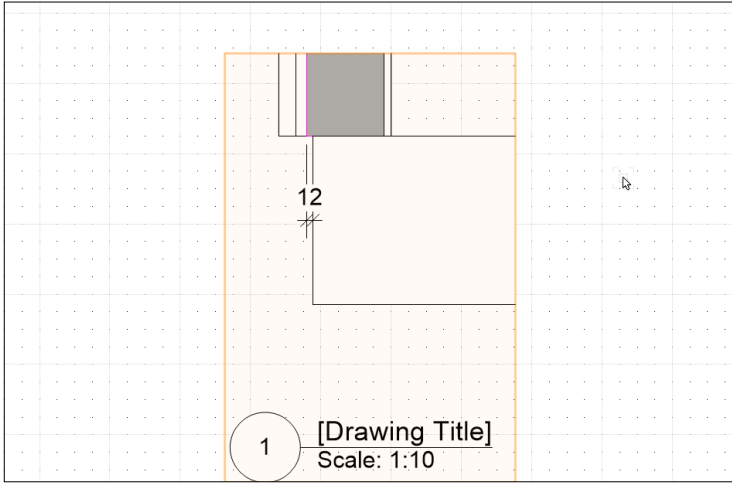


- You can select multiple edges and components.



- When you have edited the edge offsets, the slabs will update.
- In this image you can see that the slab has been offset from the face of the

wall core by 12mm (1/2").



Slab Drainage

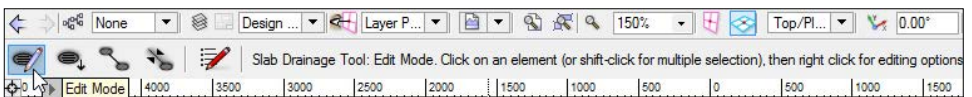
[cadmovie_1610-14](#)

This tool allows you to create a slab with falls to a drain. Flat roofs are never really flat and this tool allows you to make better flats roofs.

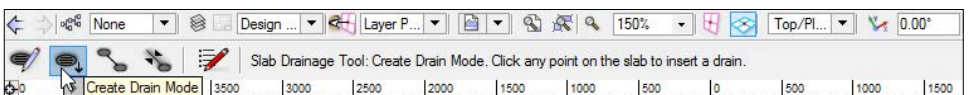
- Select a slab. This tool only works with slabs.
- Go to the **Building Shell** Tool set.
- Click on the Slab Drainage tool



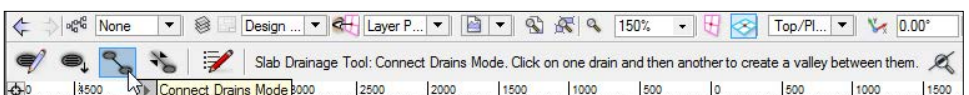
- Go to the **Tool** bar.
- The first mode is for editing slab drainage.



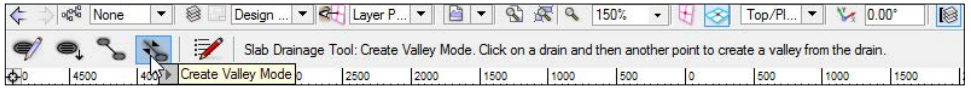
- The second mode is for adding a drain.



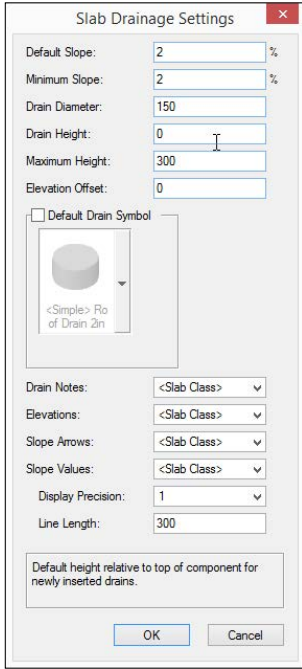
- The third mode is used to connect two or more drains.



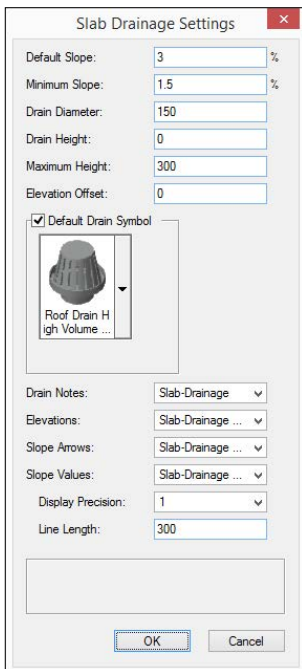
- The fourth mode is for creating valleys.



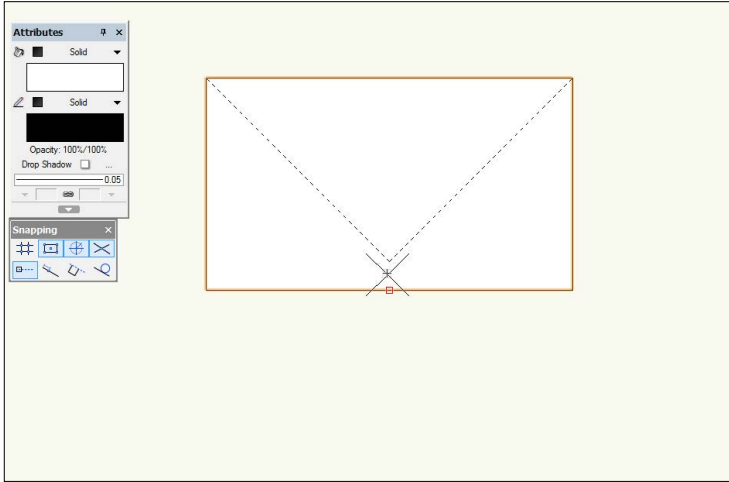
- The last mode is the preferences. When you click on it, you will see this dialog.



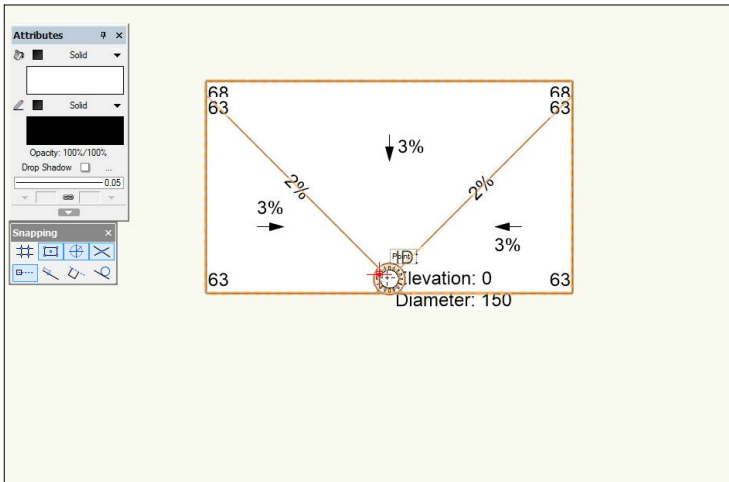
- Set the slopes and other preferences and choose the drain symbol.



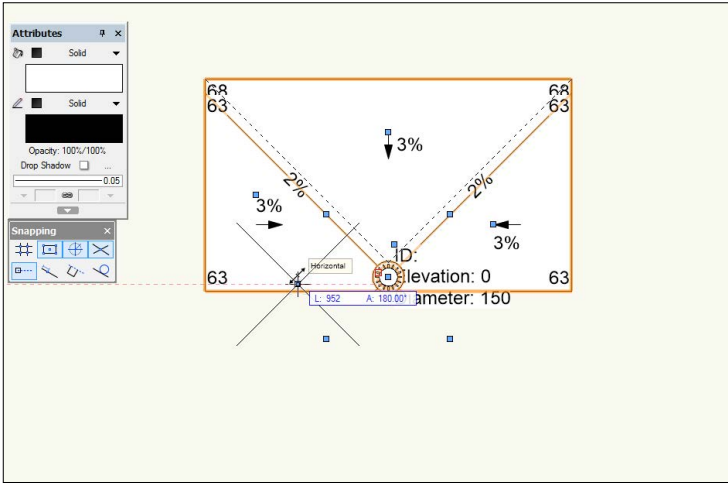
- You do not have to choose a drain symbol, it works without a symbol.
- Click on the OK button.
- Move your cursor over the slab.
- The proposed drainage will appear on the slab.



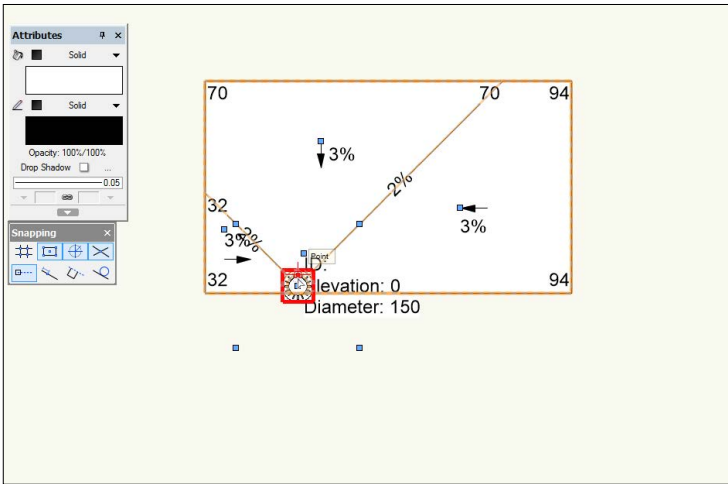
- Click once to place the drain.



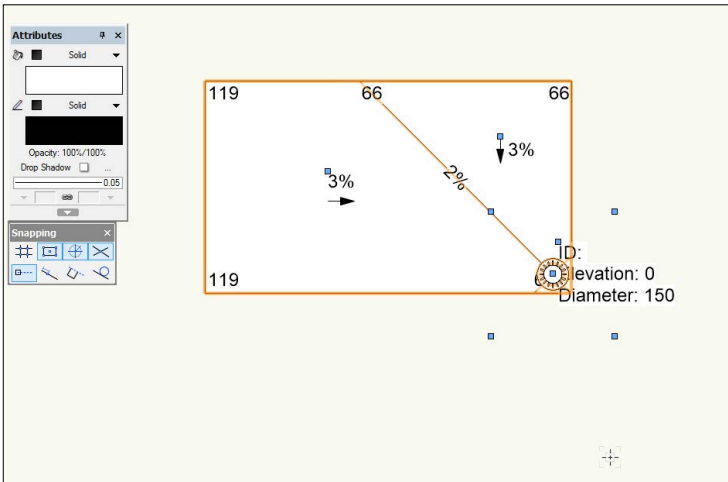
- Use the first mode to move the location of the drain, or change the position of the valleys.



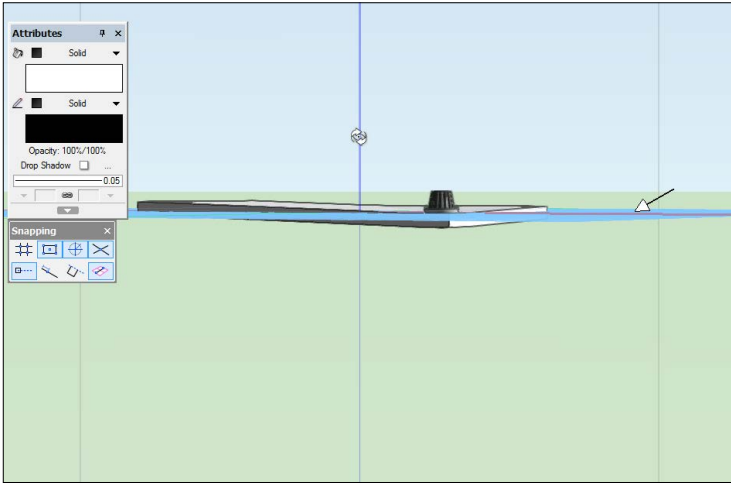
- To delete a drain, click on it with the first mode, then use the delete key to delete it.



- Use the second mode to place a new drain.



- This tool slopes the entire slab in 3D.

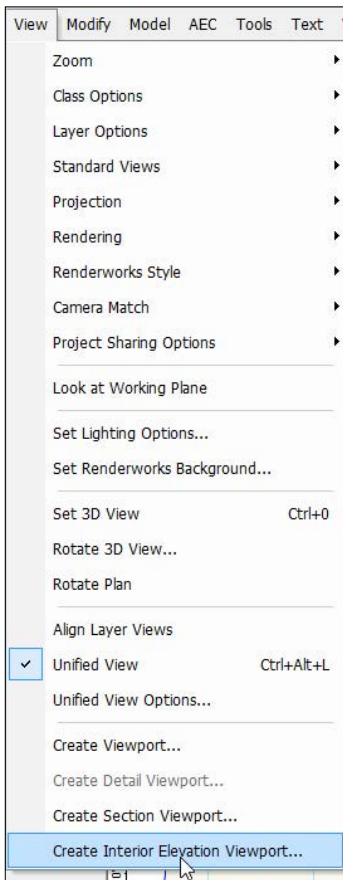


Internal Elevations

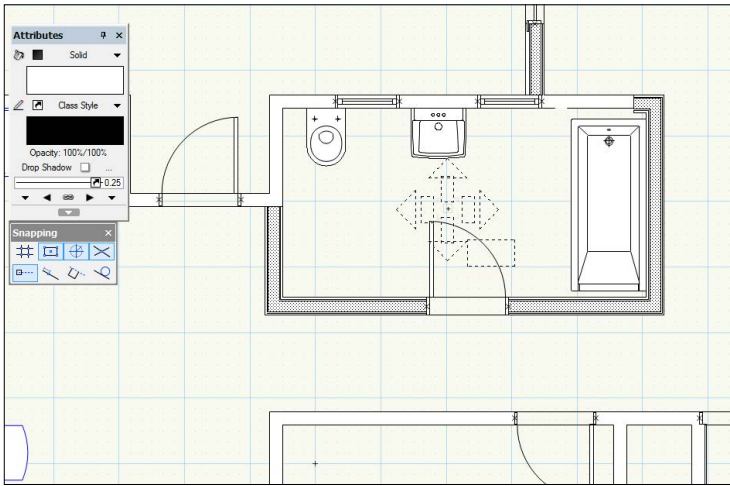
[cadmovie_1610-15](#)

Internal Elevations - This command will create internal room elevations, put them on a sheet layer for you, and create an elevation marker on the design layer that is linked to the viewports. And it is all editable.

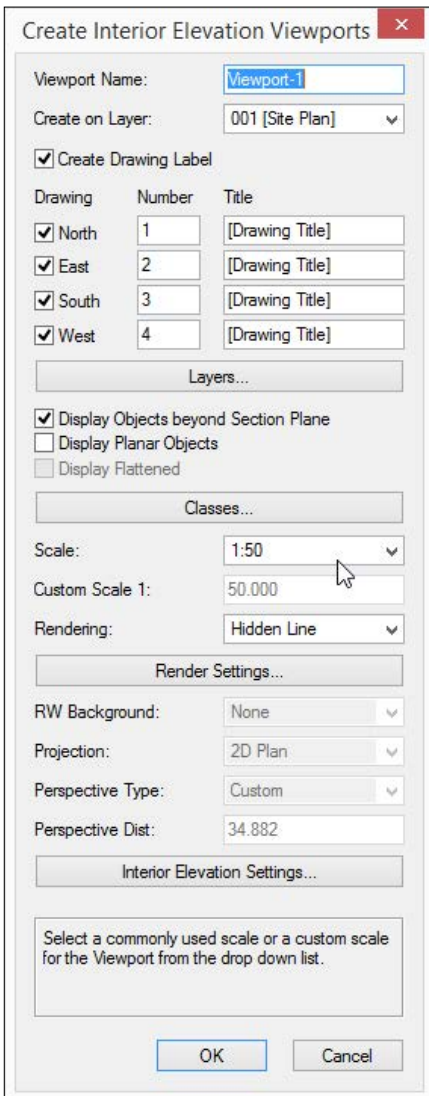
- Change to the design layer that has the room you want to elevate. This command does not work unless you are on the correct design layer for your rooms.
- Go to the **Menu Bar**.
- Choose **View > Create Interior Elevation Viewport...**



- Your cursor will change to show an Interior Elevation marker.
- Click once in the required room to place the center of the marker.
- Click once more to set the rotation of the marker. The rotation will affect the viewports. Ensure that the marker is perpendicular to the walls. If you have a building where all the are not perpendicular to each other, you can repeat this command for each wall.

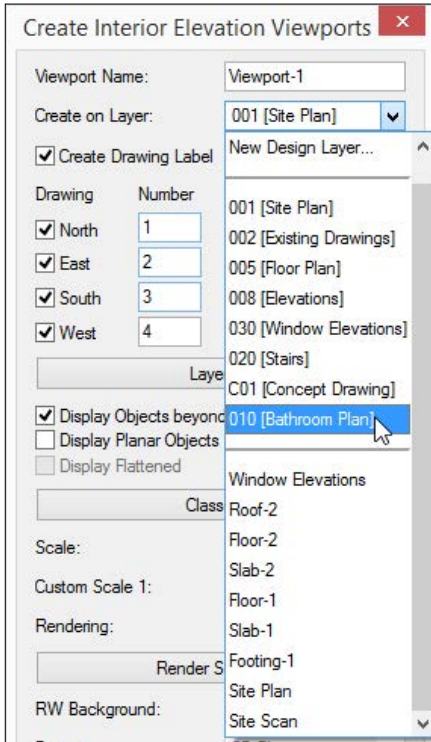


- This dialog appears. Choose the required wall elevations.

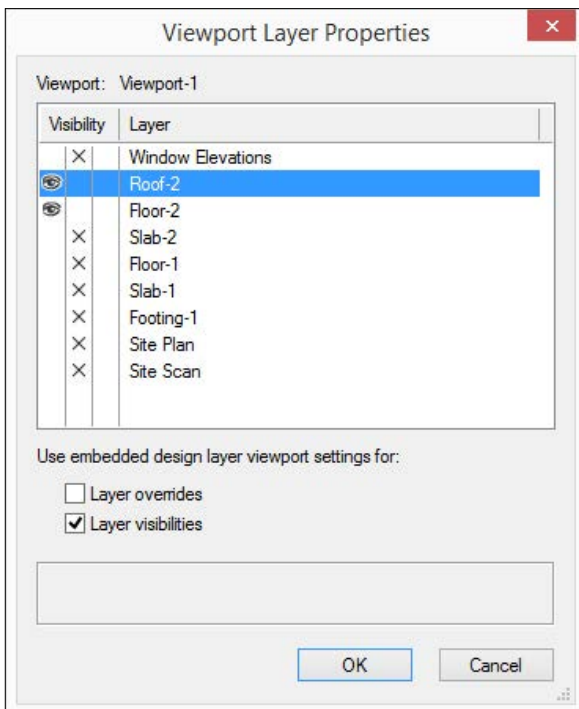


- Choose the required sheet layer for the elevations, or create a new sheet

layer.

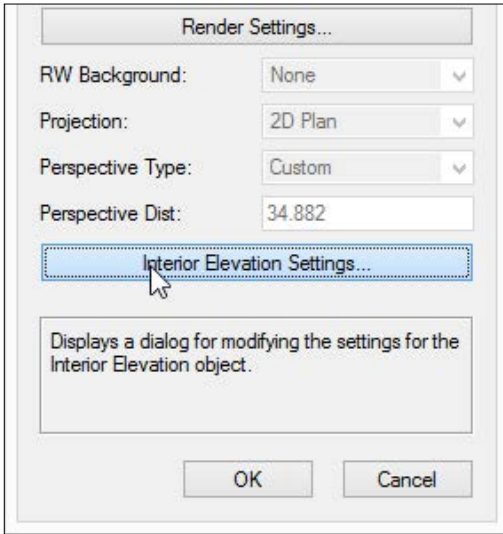


- Choose the layers that you want to be in the viewports (but you can always change this later).
- Click on the OK button to return to the Create Interior Elevation dialog.

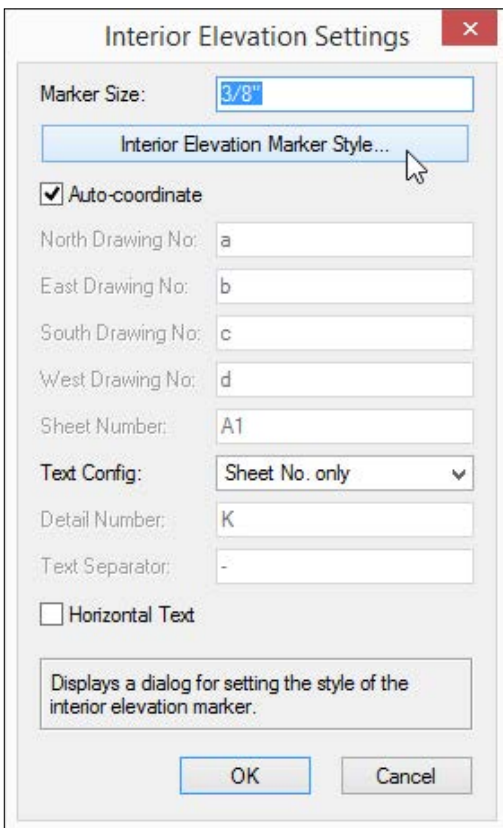


- Click on the Interior Elevation Settings button to set the options for the

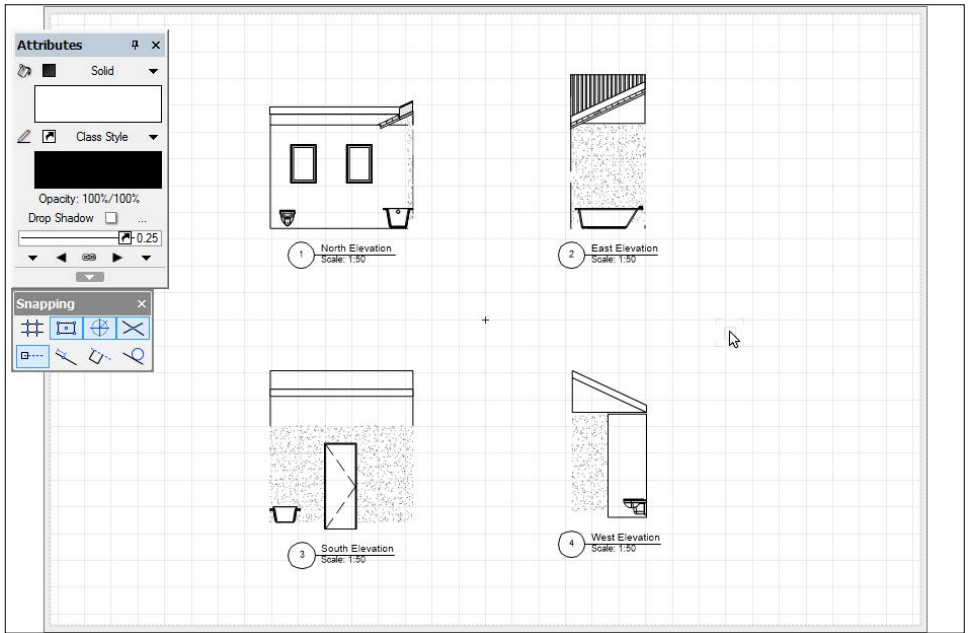
marker.



- Set the Marker Size and any other options you require.
- There are several marker styles that come with Vectorworks, or you can edit the symbols to create your own marker styles.



- Click on the OK button to return to the Create Interior Elevation dialog.
- Click on the OK button once more to finish.
- Your interior elevations will be created.



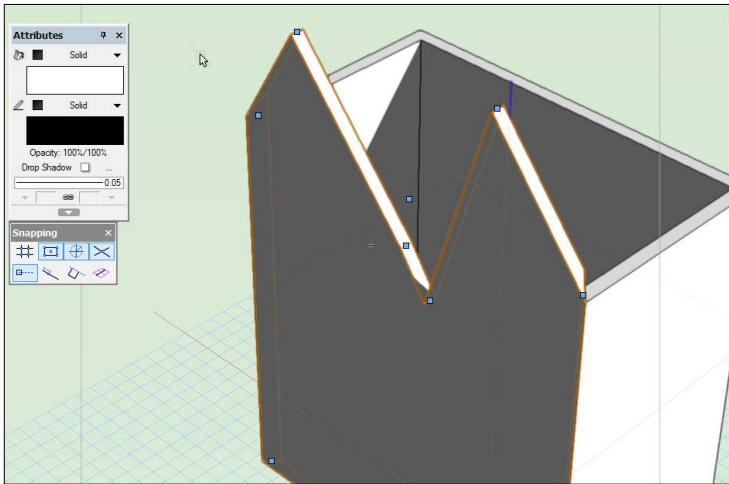
- When you update the drawing, you just will need to update the elevations (I don't mean re-make them)
- If you delete a viewport from this sheet layer, the marker in the design layer will update to remove the deleted viewport.
- If you double click on the marker in the design layer, you can edit section the lines that control these viewports.

Delete 3D Wall Peaks

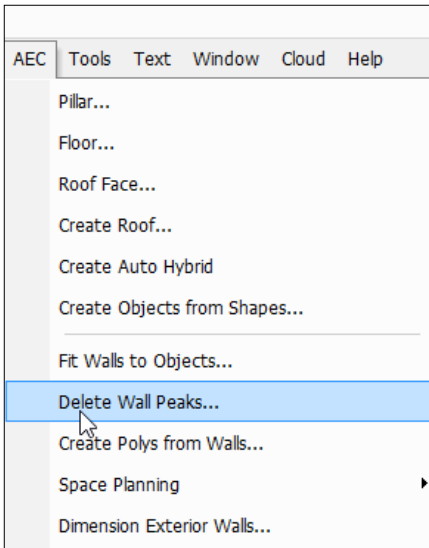
[cadmovie_1610-16](#)

For a long time we have been able to fit our walls to 3D geometry. The downside is that you end up with a wall that has peaks. While it has been easy to add these peaks it has always been troublesome to remove them, and now we have a method.

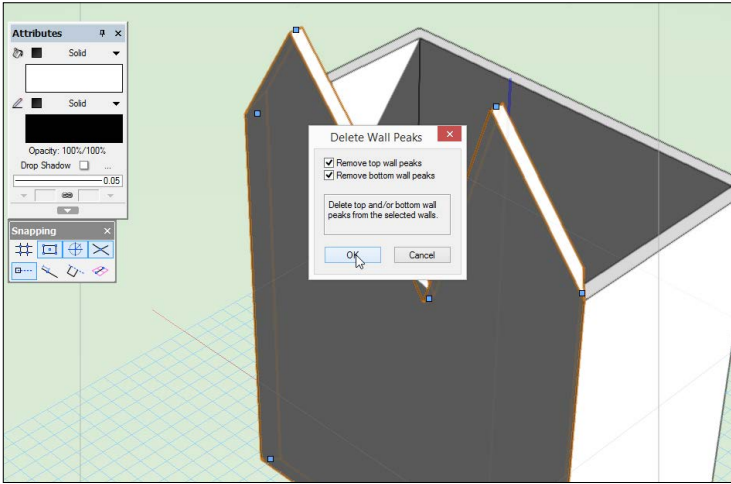
- Select the required wall.



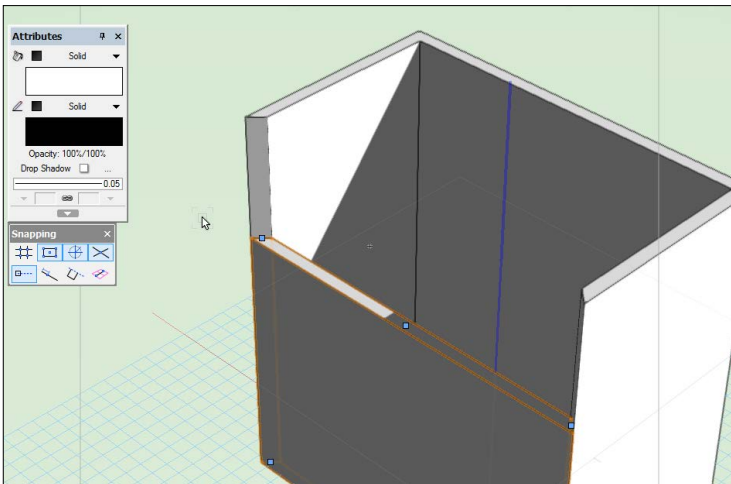
- Go to the Menu Bar.
- Choose **AEC > Delete Wall Peaks...**



- You can choose to remove the top peaks, the bottom peaks, or both. If your wall is fitted to a slab, then do not choose to remove bottom wall peaks otherwise you will have to fit the wall to the slab again.



- Click on the **OK** button.
- The wall will be restored to its correct height

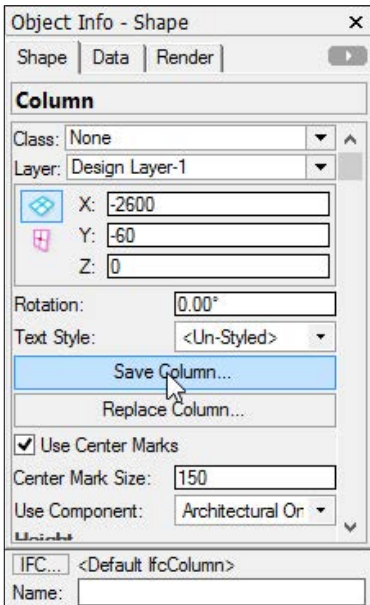


Save Column

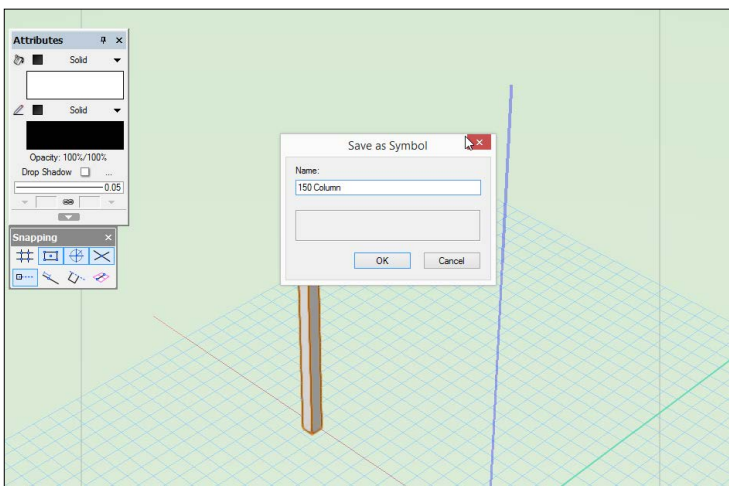
[cadmovie_1610-17](#)

There haven't been a lot of changes to the column object, except for the ability to save a column. This is not the same as the object styles for doors and windows, but it does improve your ability to reuse columns on several projects.

- Use the **Column** tool to create your column and set up the preferences to suit your design.
- After you have created a column you will notice a **Save Column...** button on the **Object Info** palette.

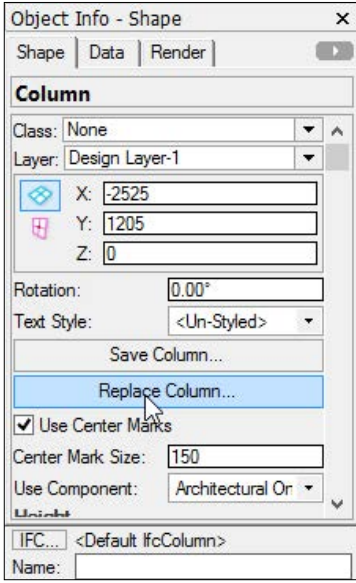


- Name the column to make it easy to find later.



- After you have saved columns, you can use them in other locations. One

way of updating the columns is to use the Replace Column... Button on the Object Info palette.



- This allows you to replace a column in the drawing with one that you have previously saved.

Landscape

Plant Tool Changes

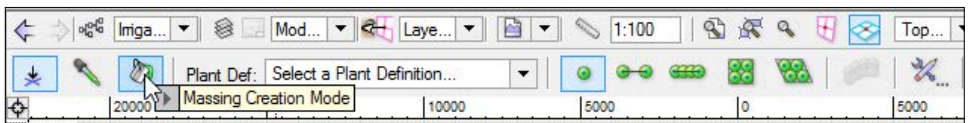
[cadmovie_1610-18](#)

There are a few powerful changes to plants. There has been a change to the plant modes and plant spacing.

- Go to the **Site Planning** Tool set.
- Click on the **Plant** tool.



- Go to the **Tool** bar.
- There is a new mode for creating mass planting. This mode works in conjunction with the other multiple plant placement modes.

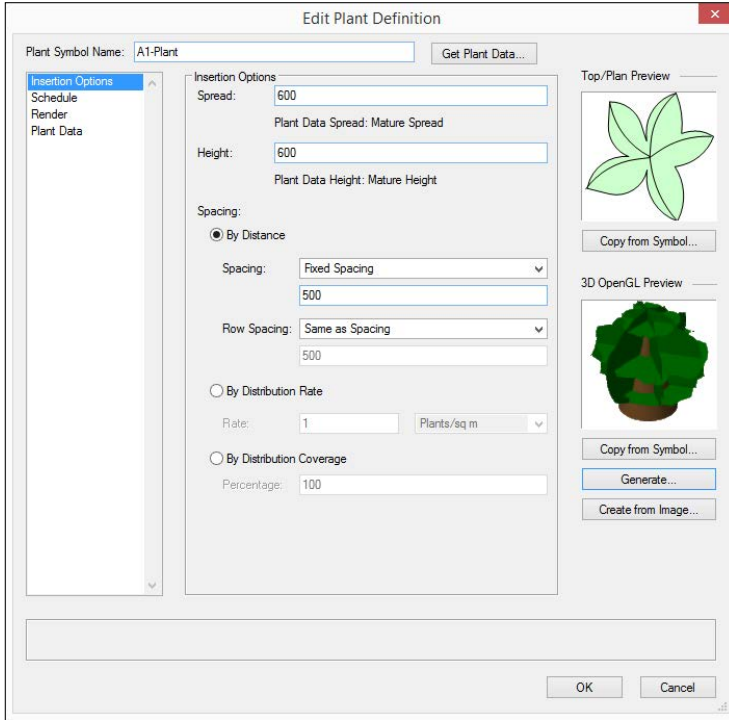


- The other new mode is the hedge mode. This mode works with the other plant placement modes and works extremely well with the Mass Creation mode, creating a hedge along the edge of a polyline.

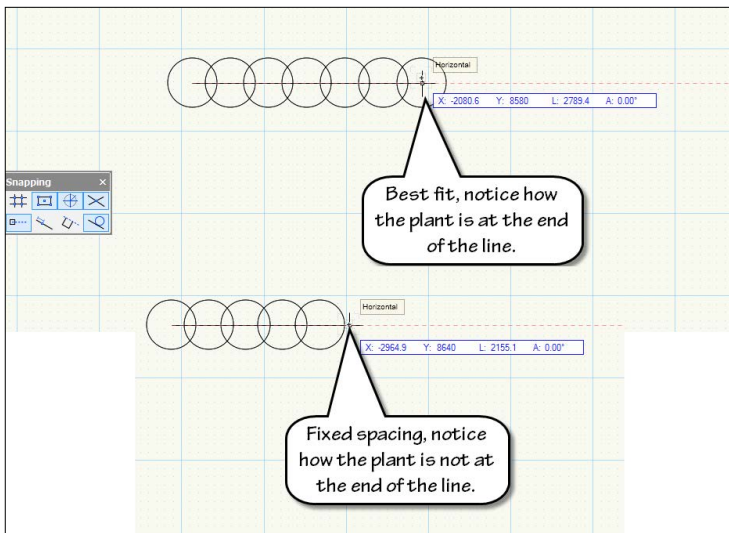


- When you edit the plant definition, there are new plant spacing options.

- The first option to notice is that you have separate control over plant spacing and plant row spacing. This allows you to create large planting layouts more easily. I recently worked on an orchard where the plants were spaced at 1.8m, but the rows were 2.4m apart. This new option makes that easy.



- You can choose the spacing to be Fixed, Best Fit or Count.
- The difference between Fixed and Best Fit is that Best Fit tries to fit the plants using the specified plant spacing, but will adjust that to suit the length of the line you draw. If you are using the Poly-Edge mode, Vectorworks will place a plant at each corner and use the best fit to calculate the plants on the edge.



Save Landscape area

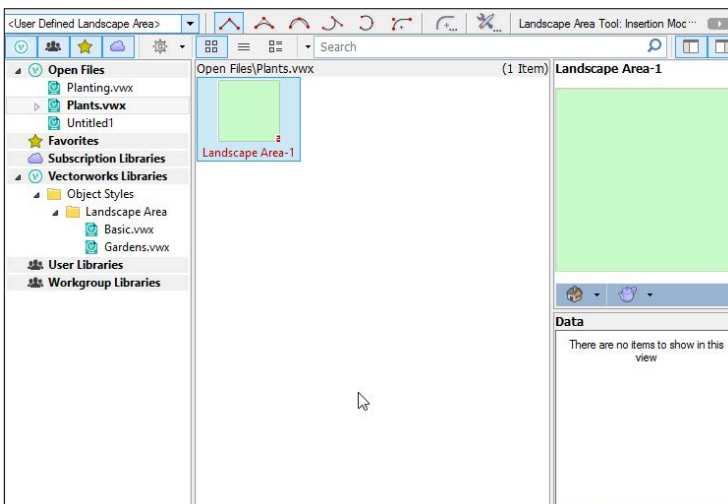
[cadmovie_1610-19](#)

The main change is the ability to save a landscape area as a resource so that you can reuse it on several projects.

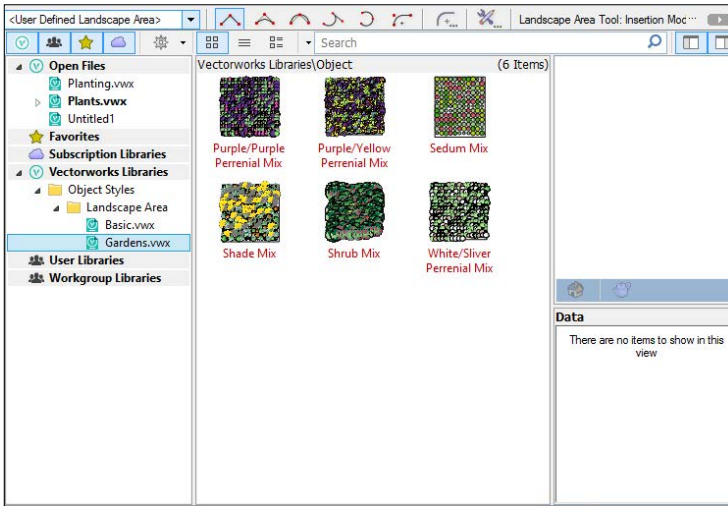
- Go to the **Site Planning** Tool set.
- Click on the **Landscape Area** tool.



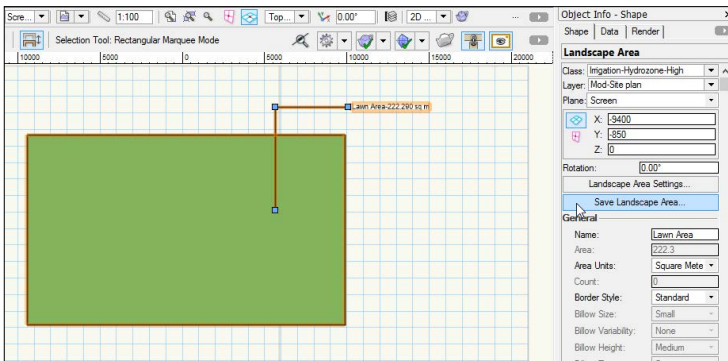
- Go to the **Tool** bar.
- Because it can be saved as a resource, when you use the Landscape Area tool you will now find there is a pop-up menu and you can then look for other saved Landscape Areas.



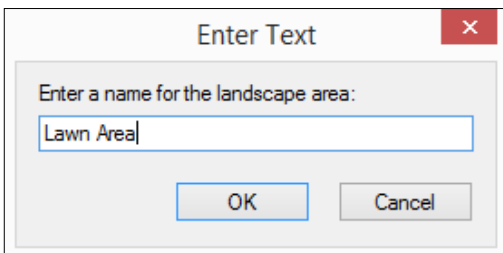
- This new browser also allows you to search for other Landscape Areas in the Vectorworks Libraries, User Folder, Workgroup Folder, etc.



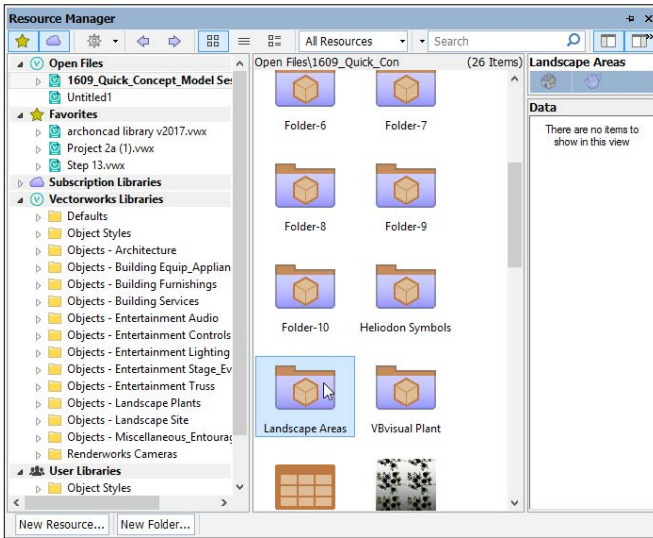
- When you select a Landscape Area from the browser, all the settings from the saved Landscape Area will be copied.
- To save a Landscape Area, set up an area that you want to reuse.
- Go to the **Object Info** palette.
- Click on the **Save Landscape Area...** button.



- Use a descriptive name the area so that it is easier to find the area later.



- The area will be saved in the current file, in a new Landscape Areas folder.



- You can export the area to your library, or drag and drop it to an other file.

Conclusion

As it often happens with the annula upgrade there are a few major tool and loads of minor updates to the existing tools. The big changes like the Resource Manager will change your workflow (being able to tag resources will change the way that you search for them), while smaller changes like saving Landscape Areas will improve your productivity.

Should you upgrade? Yes, absolutely you should. You should also be on VSS (Vectorworks Service Select) because that is the cheapest and fastest way to keep up to date.

Thank you

We trust that you have enjoyed working through this manual and that it has been informative and constructive.

For more information, please visit: <http://learn.archoncad.com/>. If you just want someone to help you learn Vectorworks, to carry out some Vectorworks contract work, or you want someone to make Vectorworks easier, contact us, as this is a service that we also offer:

jon@archoncad.com

Thank you again,
Jonathan Pickup
October 2016