

[AS227332](#)

Revit Efficiency, we all want it - come and get it!

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HKS Inc

Learning Objectives

- Learning quicker ways to improve efficiency
- Easier ways to control how the drawing looks visually
- Wait that button does WHAT?
- Time saving tips without “cheating”

Description

There can be so many ways that you complete a task in Revit, but it really the best way to efficiently complete your work? We'll go through some real-world examples of how to do things that will save you time in your daily work as well as show you a few tricks that will excite you and make you yearn to learn more ways to do things efficiently. I will help you bring back some lessons to your own office to help improve your workflow. Let's have some fun!

Speaker(s)



Cindy Wood is currently the Practice Technology BIM Specialist overseeing the Western US region for HKS Architects. She has been working in the Architecture field for the past 12 years. After graduating with a Bachelor of Environmental Design studies with a Co-op focus at Dalhousie University in Halifax, Canada she made the trek across the continent and established herself in Los Angeles starting her career at HKS Architects. Two years ago, she took on the role

of Practice Technology BIM Specialist for the Western Region of the company to help improve their project workflow and modeling skills. She's using her experience from working on small and large Revit dedicated projects to help bridge the gap between the drawing software tool and practical usability needs of Architects and Interior designers.



Vickie Patel currently is the Practice Technology Manager and Firmwide BIM Manager at HKS Architects based out of their headquarters in Dallas, Texas. She has over 12 years of architectural experience, with two years focused on BIM implementation within the firm. As a company BIM Manager, Vickie is focused on putting the needs of the project team first. She works directly with the Regional BIM Managers to develop a strategic plan outlining the BIM Implementation for the firm. She oversees the integration of necessary tools and helps develop custom training specific to HKS workflows. During her time as a BIM Manager, Vickie has developed, implemented, and maintains a firm wide BIM QM process, providing project teams and firm leadership real time model analytics and

performance trends. As a Practice Technology manager, Vickie assists the Director with the day to day operations of Practice Technology. She helps manage the BIM technology budget and provides guidance on prioritization of initiatives within the group. At a personal level, Vickie is very passionate about architecture and the role it plays in changing our environment. She acts as a voice and mentor for many young professionals within the company and her community. She is a former Emerging Leader participant with the local AIA, is an active member of the Women in Architecture committee and has spoken at a handful AIA and BIM conferences. Vickie is LEED BD+C accredited and holds a Master of Architecture from University of Texas at Arlington, a Bachelors of Environmental Design from Texas A&M University. She is also an Autodesk Revit Architecture Certified Professional. Some of her most recent speaking engagements have included being a keynote speaker at Mid-West U and presenting at the NA BILT conference.

Section 1: Efficiency!!

Whether you've been working in Revit for 10 days or 10 years, we can always learn new ways to do things that save us time. Sometimes we get set in our ways of doing things and don't realize that there might be another option. Let's talk a bit about schedules and legends, something we all can improve our workflow on.

- **Working schedules**

Having multiple schedules for the same thing is pretty helpful. For example, with sheet indexes you may have to sort by discipline or discipline code but then those aren't things that you want to see on the sheet in the set.

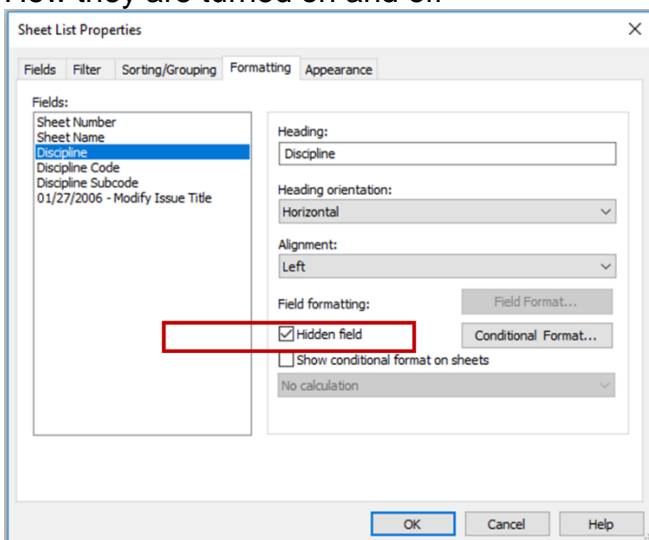
Schedule that is on sheet:

INDEX OF DRAWINGS		
Sheet Number	SHEET NAME	01/27/2006 - MODIFY ISSUE TITLE
AX.01	Unnamed	

Schedule that is just used to work in:

Index of Drawings_Working_HKS					
SHEET NUMBER	SHEET NAME	Discipline	Discipline Code	Discipline Subcode	01/27/2006 - MODIFY ISSUE TITLE
AX.01	Unnamed				

How they are turned on and off



Sheet List Properties

Fields Filter Sorting/Grouping Formatting Appearance

Fields:

- Sheet Number
- Sheet Name
- Discipline**
- Discipline Code
- Discipline Subcode
- 01/27/2006 - Modify Issue Title

Heading: Discipline

Heading orientation: Horizontal

Alignment: Left

Field formatting:

☒ Hidden field

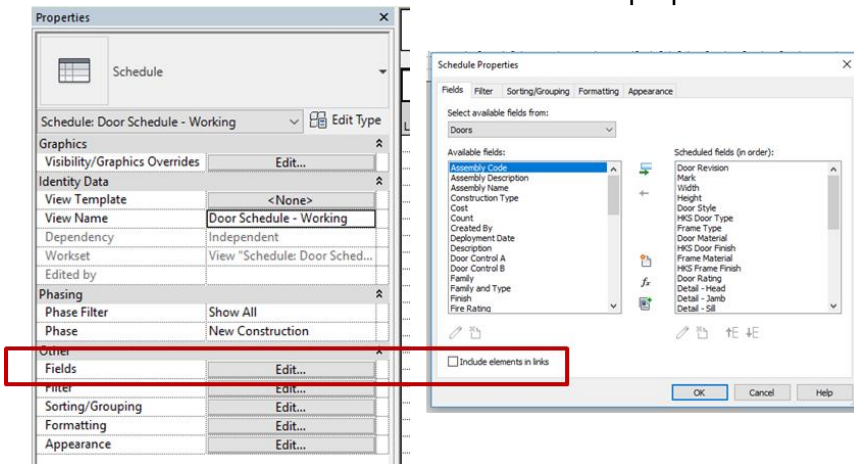
☐ Show conditional format on sheets

No calculation

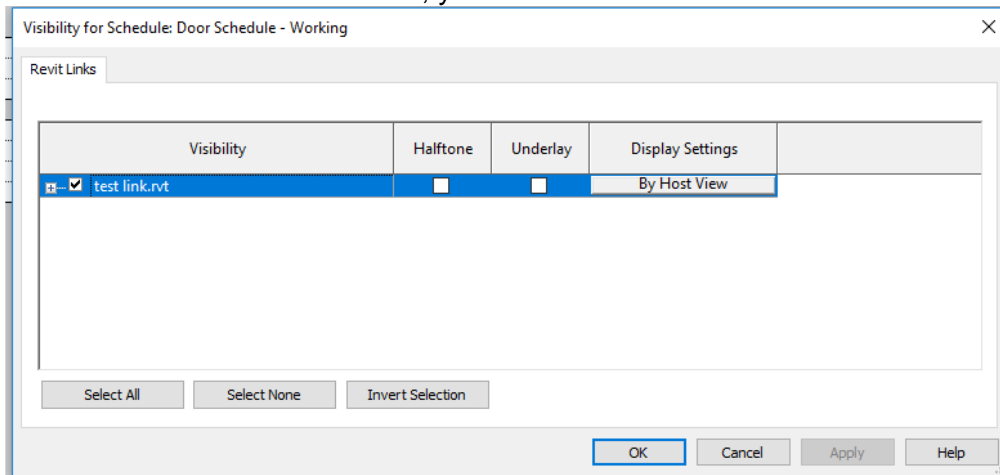
OK Cancel Help

- **Schedule visibility graphics**

This is one of those buttons that is NOT always there!! It will only show up when you have linked models checked off in the Field location in the schedule properties.



For example, if you want to have the doors show up in your schedule from your internal linked model but not those from the consultant model, you can turn them off in the VG of the schedule.



Some things to remember: The button WILL NOT show up if you haven't checked off to include linked models in the schedule. If the linked file includes design options, select design options to include in the reported schedule data.

- **Key Schedules**

Some parts of the schedule you can help fill in automatically by using key schedules. It's a master schedule where you can change many parameters with just one click. Fill in room and door parameters in a large schedule by having types.

Making "types" in the key schedule

DOOR KEY SCHEDULE								
A	B	C	D	E	F	G	H	I
Key Name	Frame Type	Frame Material	Door Material	Detail - Head	Detail - Jamb	Detail - Sill	Security Rating	Comments
exterior	HM	MT01	HM	A3.21/01	A3.21/02	A3.21/03		
office	WD	WD01	WD	A3.21/04	A3.21/05	A3.21/06	-	-

Just applying these 2 types to the schedule could fill in many parameters at once.

<Door Schedule - Working>																	
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
DOOR NUMBER	WIDTH	HEIGHT	Door Style	DOOR TYPE	FRAME TYPE	DOOR MATERIAL	DOOR FINISH	FRAME MATERIAL	FRAME FINISH	DOOR RATING	HEAD	JAMB	SILL	GLAZING TYPE	HARDWARE	SECURITY RATING	COMMENTS
1.05 COLOR LEGENDS																	
101	4' - 0"	7' - 0"	(none)	A1			-		-	-				-	-		
102	4' - 0"	7' - 0"	(none)	A1			-		-	-				-	-		
103	4' - 0"	7' - 0"	(none)	A1			-		-	-				-	-		
104	4' - 0"	7' - 0"	(none)	A1			-		-	-				-	-		
105	4' - 0"	7' - 0"	(none)	A1			-		-	-				-	-		
106	4' - 0"	7' - 0"	(none)	A1			-		-	-				-	-		
Level 2																	
107	4' - 0"	7' - 0"	(none)	A1			-		-	-				-	-		

After

<Door Schedule - Working>																	
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
DOOR NUMBER	WIDTH	HEIGHT	Door Style	DOOR TYPE	FRAME TYPE	DOOR MATERIAL	DOOR FINISH	FRAME MATERIAL	FRAME FINISH	DOOR RATING	HEAD	JAMB	SILL	GLAZING TYPE	HARDWARE	SECURITY RATING	COMMENTS
1.05 COLOR LEGENDS																	
101	4' - 0"	7' - 0"	exterior	A1	HM	HM	-	MT01	-	-	A3.21/01	A3.21/02	A3.21/03	-	-		
102	4' - 0"	7' - 0"	exterior	A1	HM	HM	-	MT01	-	-	A3.21/01	A3.21/02	A3.21/03	-	-		
103	4' - 0"	7' - 0"	office	A1	WD	WD	-	WD01	-	-	A3.21/04	A3.21/05	A3.21/06	-	-		
104	4' - 0"	7' - 0"	office	A1	WD	WD	-	WD01	-	-	A3.21/04	A3.21/05	A3.21/06	-	-		
105	4' - 0"	7' - 0"	office	A1	WD	WD	-	WD01	-	-	A3.21/04	A3.21/05	A3.21/06	-	-		
106	4' - 0"	7' - 0"	exterior	A1	HM	HM	-	MT01	-	-	A3.21/01	A3.21/02	A3.21/03	-	-		
Level 2																	
107	4' - 0"	7' - 0"	exterior	A1	HM	HM	-	MT01	-	-	A3.21/01	A3.21/02	A3.21/03	-	-		

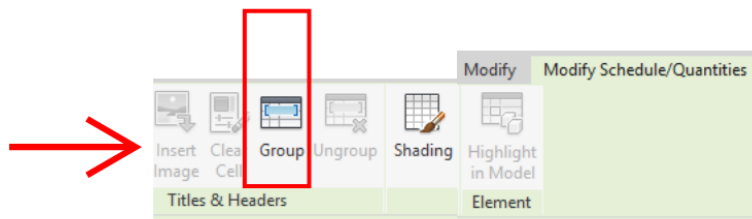
Some things to remember: Not all parameters can be used in key schedules. It's an easy way to fill out INSTANCE parameters, not TYPE.

Combining and grouping parameters

Group the headings of your schedule and give it an overall category.

When you highlight multiple columns, the "group" function will now highlight in the schedule modify toolbar.

H	I	J	K
DOOR MATERIAL	DOOR FINISH	FRAME MATERIAL	FRAME FINISH



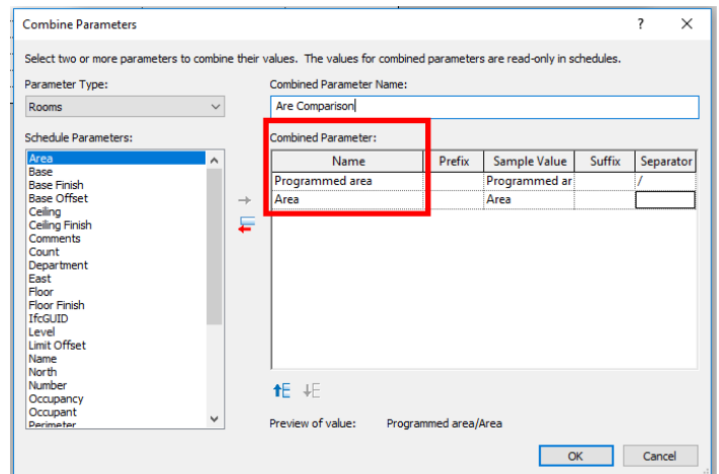
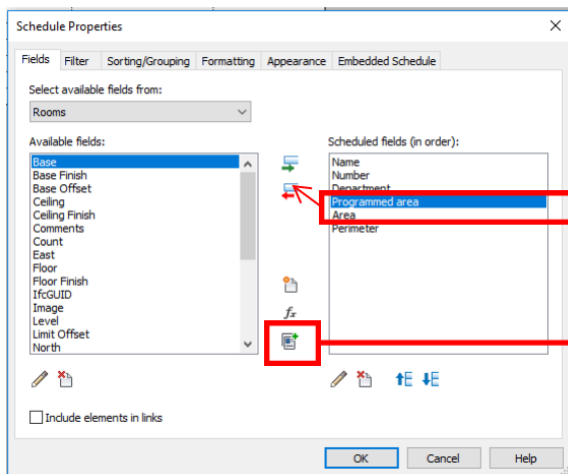
This will make your schedule look like this:

H	I	J	K
MATERIALS AND FINISHES			
PE DOOR MATERIAL	DOOR FINISH	FRAME MATERIAL	FRAME FINISH

Say that you wanted to show more than one parameter in the same space on a schedule, you can do that as well. For example, you could show programmed area vs actual area in the same schedule column. Separated parameters

<_1.04B COMBINE PARAMETERS>					
A	B	C	D	E	F
Name	Number	Department	Programmed area	Area	Perimeter
Room	101		2000	2232 SF	188' - 11 5/8"
Room	102		500	476 SF	104' - 4 1/2"
Room	103		800	816 SF	116' - 3 3/8"
Room	104		800	830 SF	117' - 1 1/8"
Room	105		75	74 SF	36' - 2 1/4"
Room	106		150	157 SF	50' - 2 1/4"
			4585 SF		613' - 1 1/8"

To have more than one parameter show up in the same column, first remove the ones from the schedule that you want to have together. Use the **combine parameter** button to put them together, give prefix/suffix and define the separation punctuation.



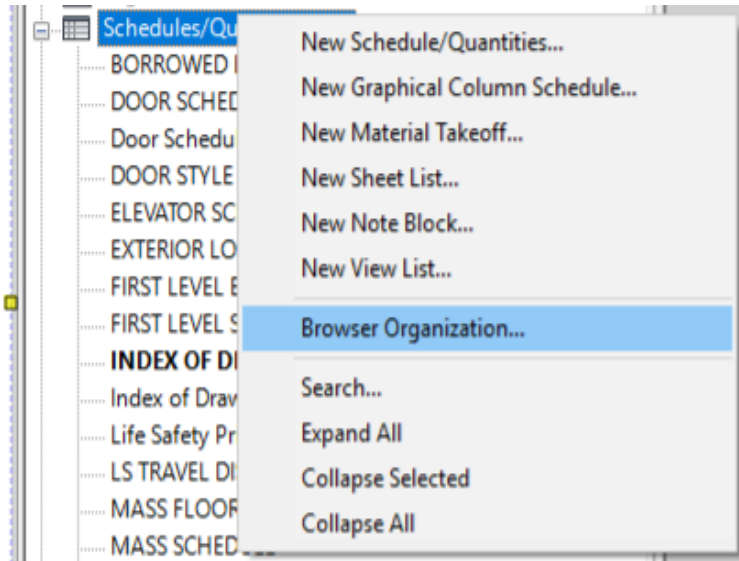
Final schedule looks like this:

<_1.04B COMBINE PARAMETERS>				
A	B	C	D	E
Name	Number	Department	Perimeter	Area Comparison
Room	101		188' - 11 5/8"	2000/2232 SF
Room	102		104' - 4 1/2"	500/476 SF
Room	103		116' - 3 3/8"	800/816 SF
Room	104		117' - 1 1/8"	800/830 SF
Room	105		36' - 2 1/4"	75/74 SF
Room	106		50' - 2 1/4"	150/157 SF
			613' - 1 1/8"	

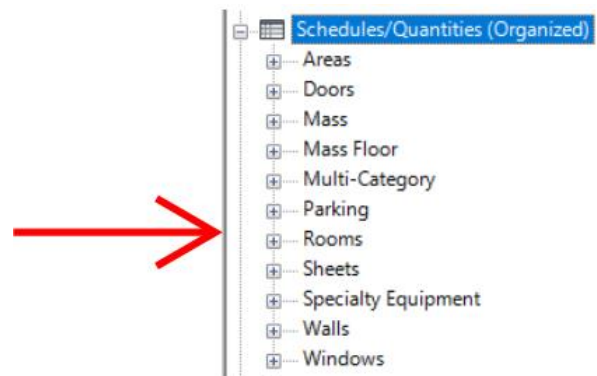
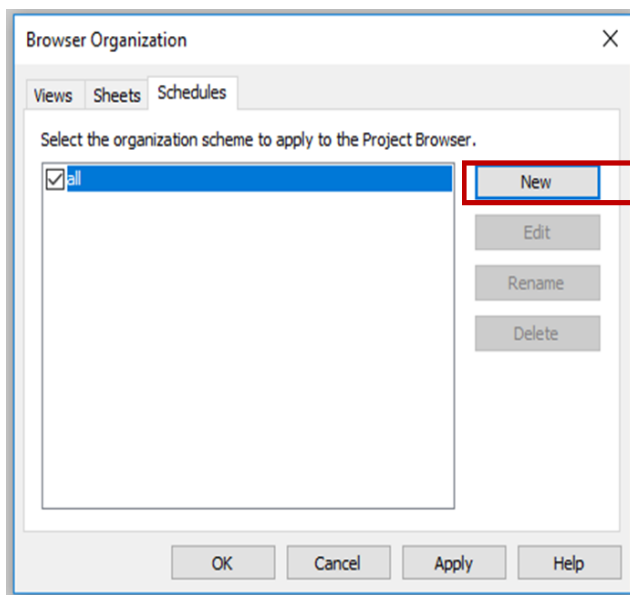
- **Organizing Schedules after 2018 – SERIOUSLY THOUGH!!!**

NEW in 2018.1, you can organize your schedules in the browser so that especially working on large projects, it's not just one big long list of schedules.

To execute, right click on schedules in the project browser



You can make new organization how you want the schedules to be, by working, type or whatever.

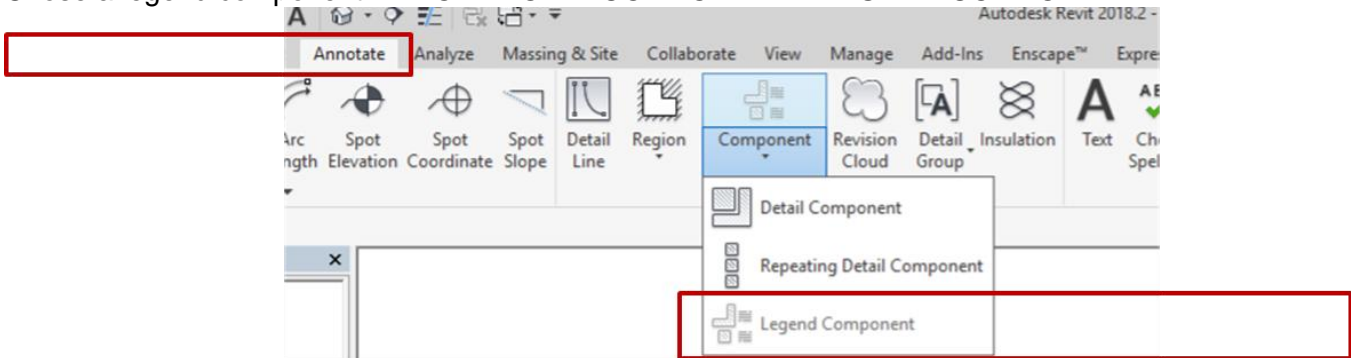


- **Legend Components**

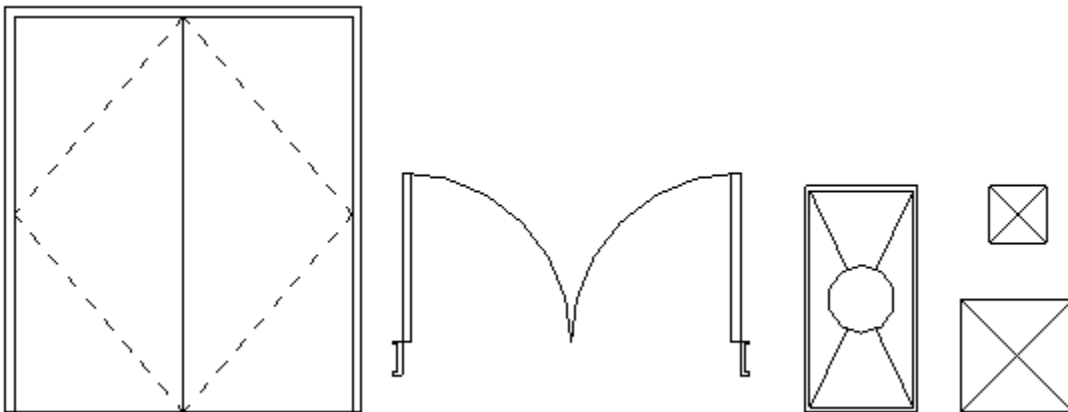
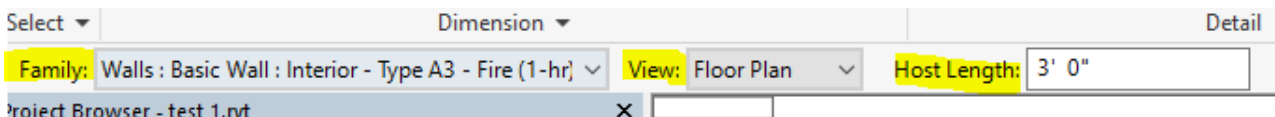
Legend components are in place of using details lines in a legend situation. Stop making RCP legends with lines hoping you do it in the same scale. For wall ratings if something changes you don't have to trace it back through the legends.

Make a new legend VIEW→LEGEND→LEGEND

Chose a legend component ANNOTATION→COMPONENT→LEGEND COMPONENT



You can then choose from any family that is loaded in the project and in which orientation. Choose which orientation that you want to be viewed and the host length (ie length of wall)



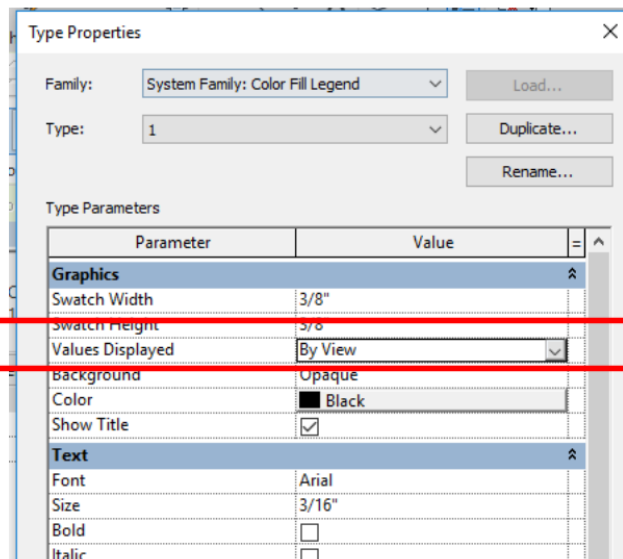
Some things to remember: The legend components are actual live snapshots of the families themselves. If you change the family, the legend component will update. You can dimension things like doors and windows in the legend with these components.

- **Color Legend types**

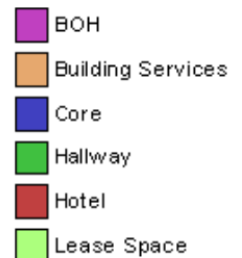
You don't have to just show all the colors in your legend, you can have it be specific to your view.

When a legend is dragged onto the view, it comes in showing all colors in that specific scheme. In the type properties of the color fill legend you can make it only show the colors of the areas you have in the view.

Color Palette



Color Palette



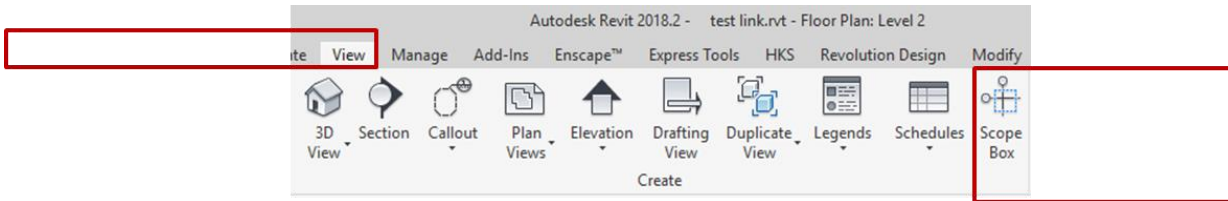
Section 2: Controlling drawings visual graphics

There are so many options on how to control the graphics on a view. Turn things on, turn them off, control by view or throughout the whole project.

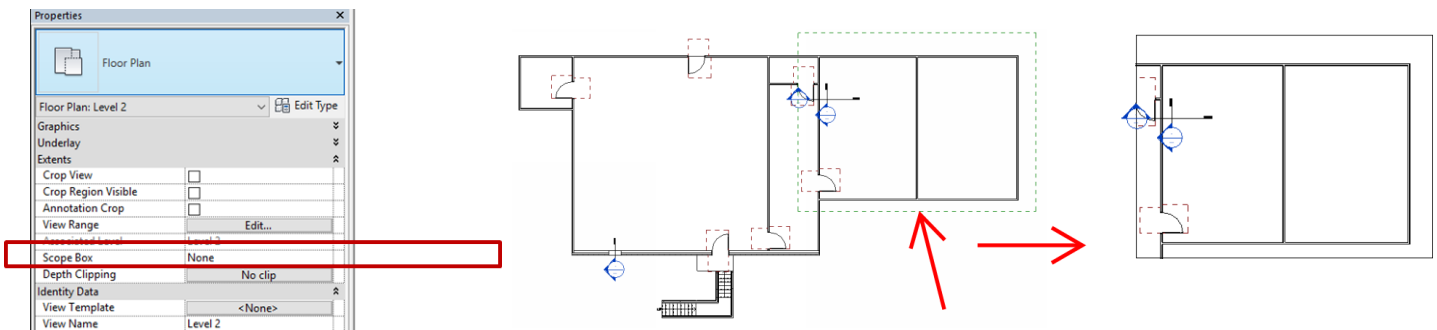
- **Scope Boxes**

Scope boxes are the easiest way to have consistent cropping of your views across your project. This really comes in handy if you have floor plans for a 50-story tower that all need to be cropped the same. Now say that the shape of your building changes (it happens, right?) Would you rather go in and change the crop on every view or change that ONE scope box that will update every view that it is applied to? I hope your answer is the latter. It's also very helpful for large master plans with sectors.

You can find scope boxes in VIEW → SCOPE BOXES (create section)



Draw your scope box where you want your view to crop. Then name it in the PROPERTIES panel and apply it to all views as needed.



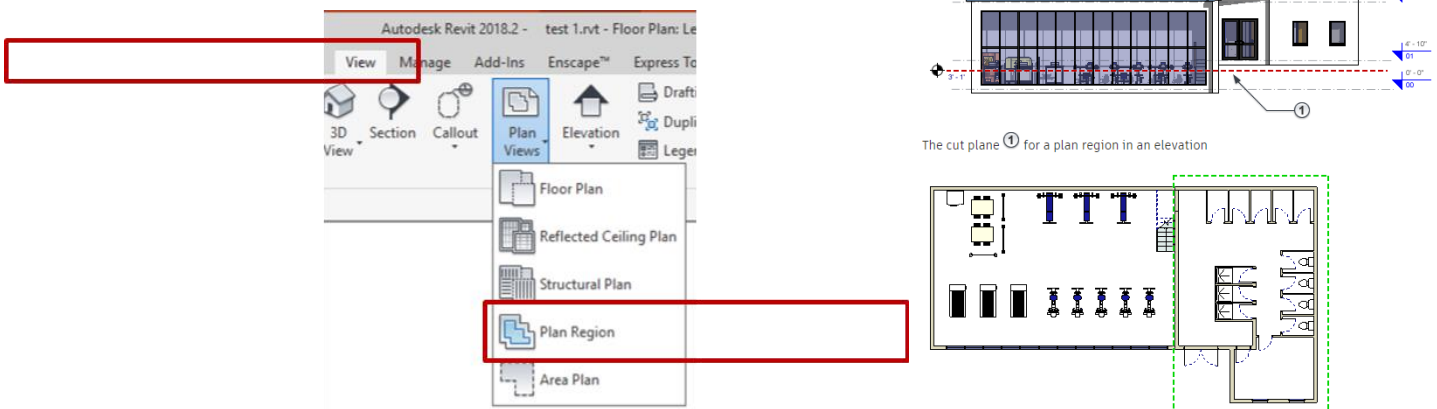
Some things to remember: These are usually turned off as default in views, I like to have mine on in working views to be able to control their extents.

• Plan Regions

Plan regions are used when you have a view that you need to see part of the graphics at a different cut plane than the overall view. For example, you need to see a part of the floor plan where the level is at the main level of a building and a mezzanine level that is 5' above the main level. You can use a plan region to be able to see that upper level without messing up the cut plane of the rest of the floor.

You can find plan regions in VIEW → PLAN VIEWS → PLAN REGIONS

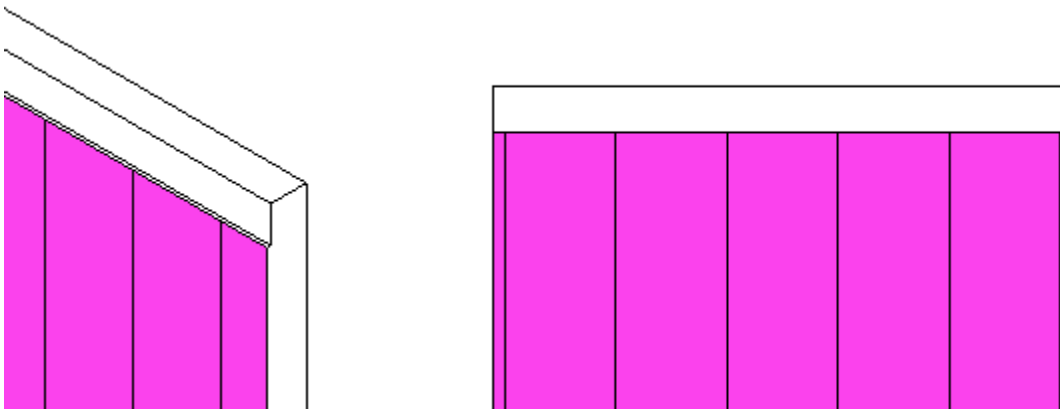
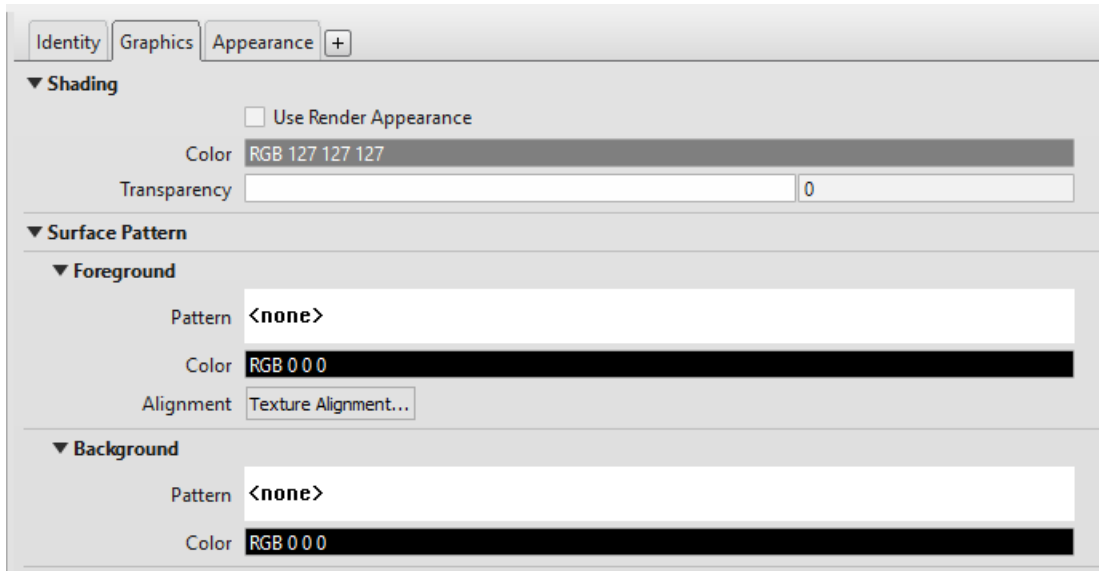
Example



Some things to remember: Plan regions cannot cross one another. They will Print if turned on. They are view specific! Will not translate over to other views of the same levels

- **New in 2019 – 2 patterns on one surface**

There is now an option for a foreground and background pattern option in 2019. This corrects where before we couldn't have a color background on a surface with an additional pattern on it.



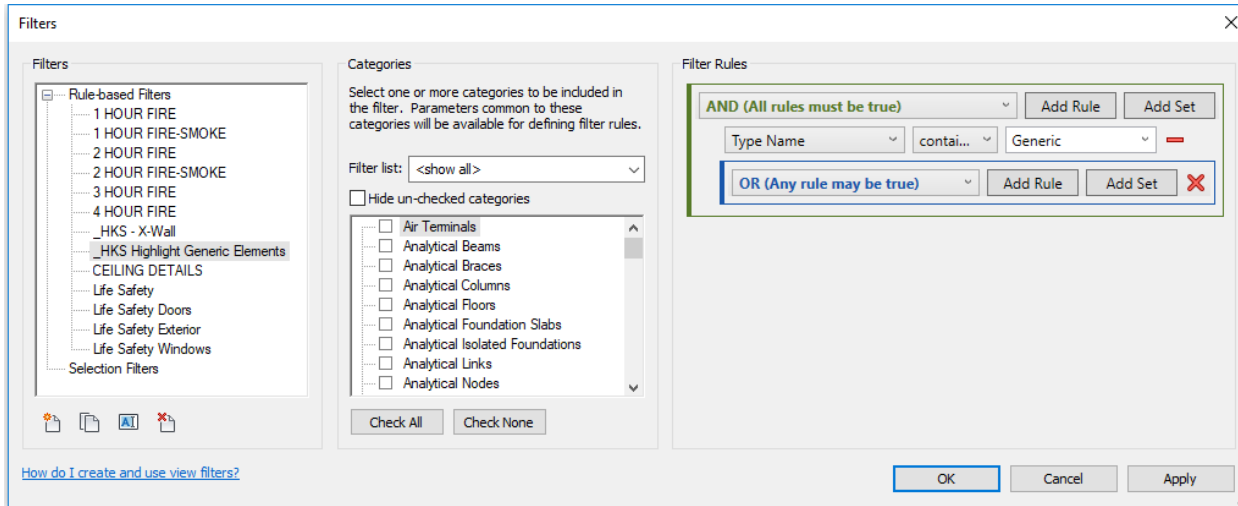
Some things to remember: The background pattern can ONLY be a drafting pattern which means it will change it's look with the scale of the view. Will work well with solid color backgrounds with a tile or panel type of pattern in the foreground.

- **New in 2019 – There’s an “or” condition in filters**

This is pretty much where people have gone wrong with filters working for them in the past, using the “AND” rule in filters like it meant “OR”. Filters are now separated

GREEN for AND rules

BLUE for OR rules



Some things to remember: If you’re not using an exact element in the filters rules ie the “equals” condition you have to be extremely careful on spelling and wording otherwise your filter won’t work. Also know that the order of your filters also affects the hierarchy of what can overrule.

Section 3: Wait that button does WHAT??

Another thing where we get set in our ways, maybe you haven’t explored all the buttons or even realized that there’s a different button in this release that didn’t exist before.

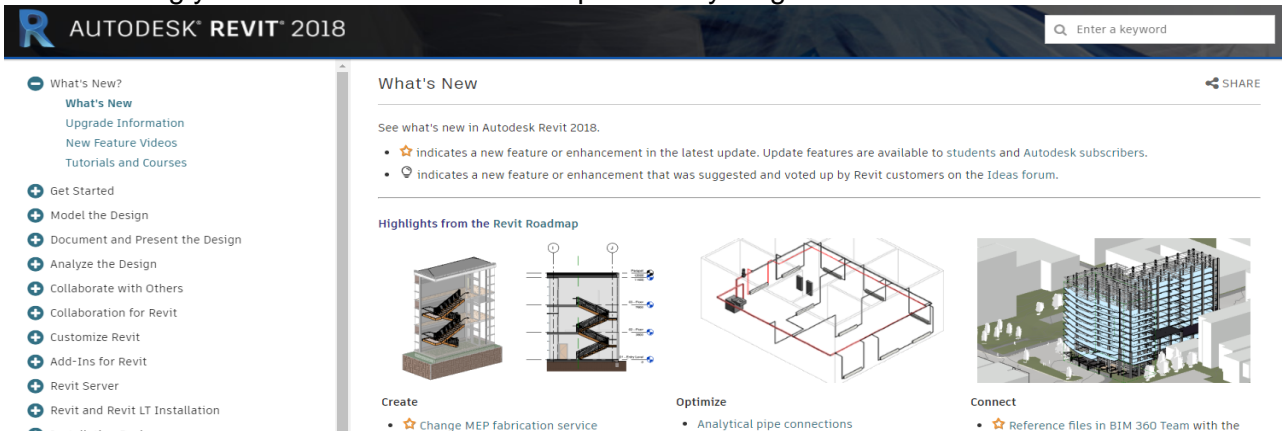
- **What’s new in Revit**

Every time that Revit gives up update, which in each version that is released every year, there are several updates. Having the latest update means it’s more stable and there might be new features added. You can find what update release you are on by going to the question mark in the upper corner of Revit.

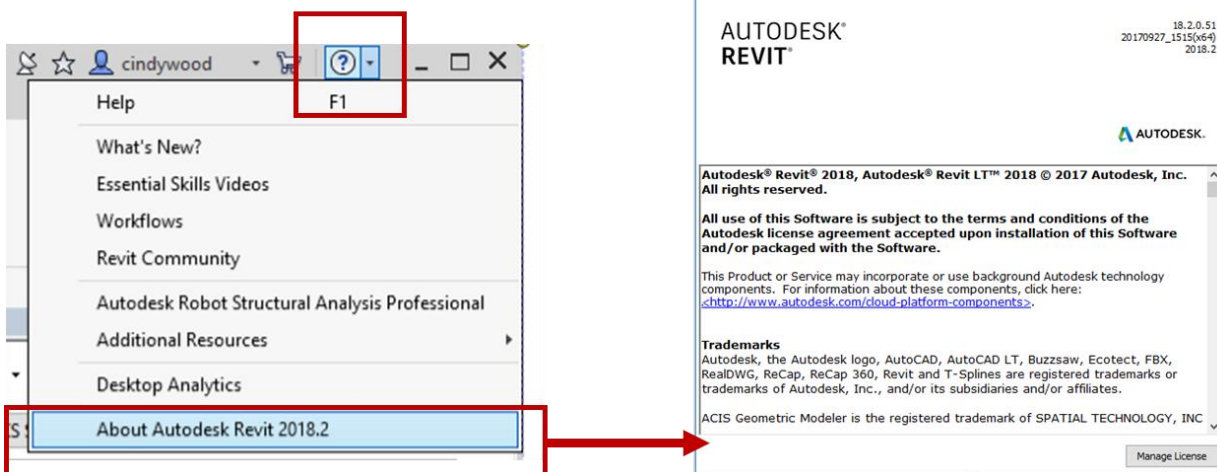
To find out the new features in your release you click here on the opening splash screen.



That will bring you to the Autodesk site to explore everything new!!



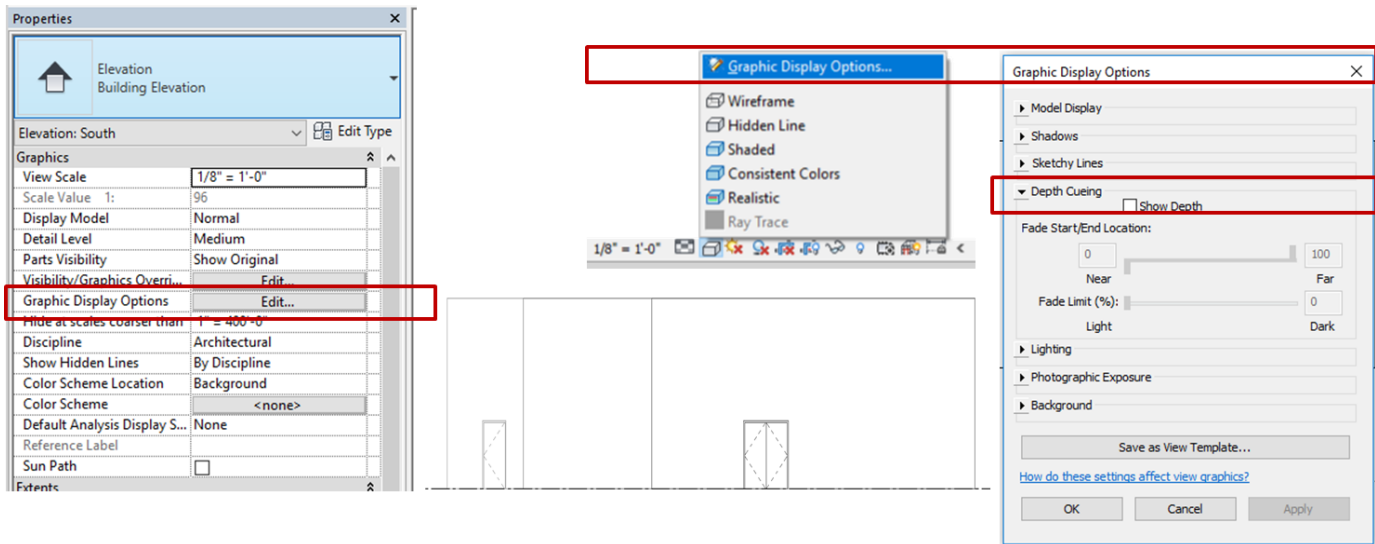
Even though your Revit says what version you are on when you open it, to find out what EXACT release you are on, you need to go into the information area.



- **Depth cueing**

FINALLY!!!! Something that project managers have been asking years for! Gone are the days of punching elevations with details lines and screening with filled regions!

In the control panel VISUAL STYLE→GRAPHIC DISPLAY OPTIONS or in the VIEW PROPERTIES



Some things to remember: This can be used in a view template once you get it to a point where it looks how you want. For the best effect and better performance, ensure that Far Clipping is specified for the view

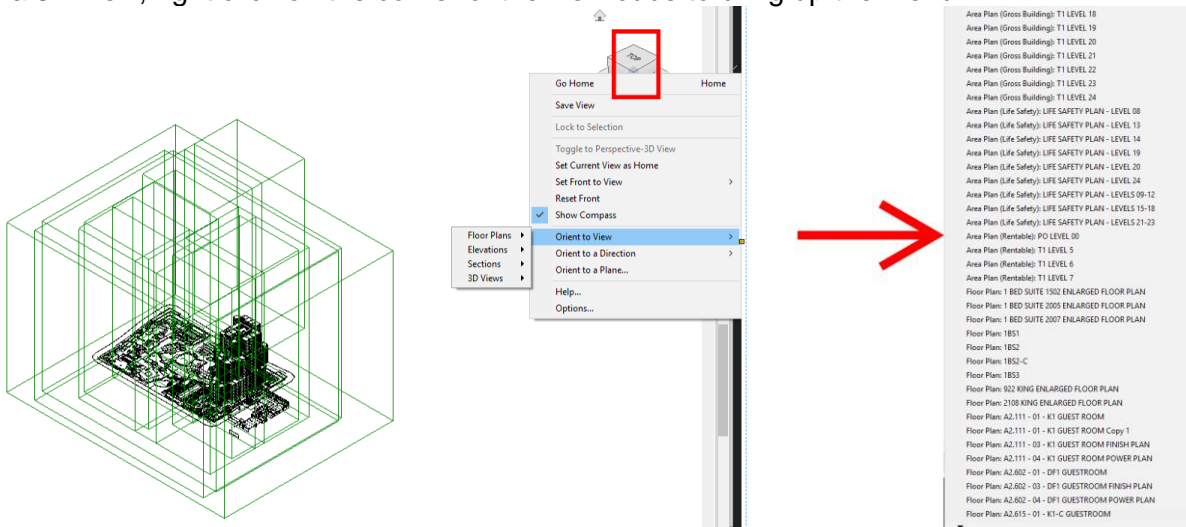
- **3D orient to view**

This is a way to make your view crop according to another view in your model.

Examples: Crop your large tower 3D view down to one level

Crop your view to match a section view

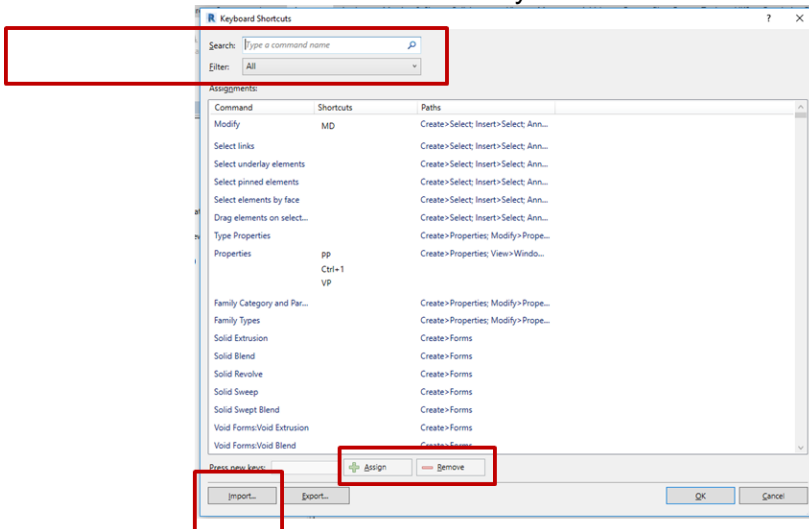
In a 3D view, right click on the corner of the view cube to bring up the menu



Some things to remember: The extents of your view is how your oriented view will crop. Your view range settings come into play here.

- **Keyboard shortcuts**

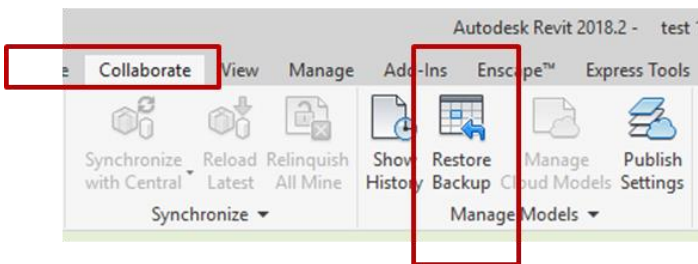
Not going to lie, keyboard shortcuts are my life!! Sometimes I may forget where to find something in the toolbars, but I always remember my shortcuts for them. Sometimes out of the box Revit doesn't have all the shortcuts I want. For example, I use the command PASTE ALIGNED all the time, yet there was no shortcut. Type **KS** into your keyboard and the shortcuts editing screen will pop up. Here you can delete ones you don't use and make new ones of commands you use often.



Some things to remember: Your keyboard shortcuts don't transfer from one version of Revit to another so make sure once you set it how you like it that you export the text file and save it for future import to newer versions

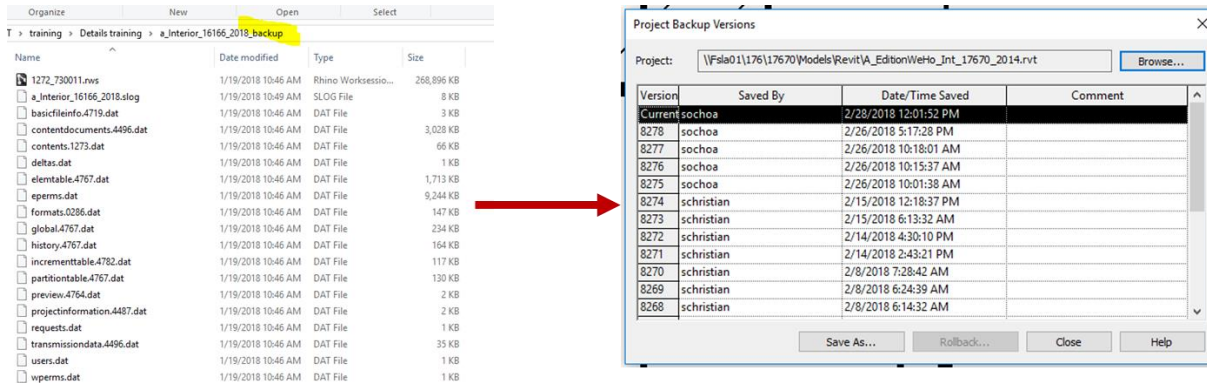
- **Restoring backup files**

This is helpful for rolling back corrupt files, and files that can't be open. You can open older sync to central versions. Therefore, setting up how many backups is very helpful especially on a larger team as it records every single sync. This is where the backup folders with the weird file types comes into play. It can be found under COLLABORATE→RESTORE BACKUP(manage models section)



IT HAPPENS!!
Files crash
Elements go missing

Below you can see what the backup folder looks like when you navigate to it and what it looks like when you open it from the restore backup button.

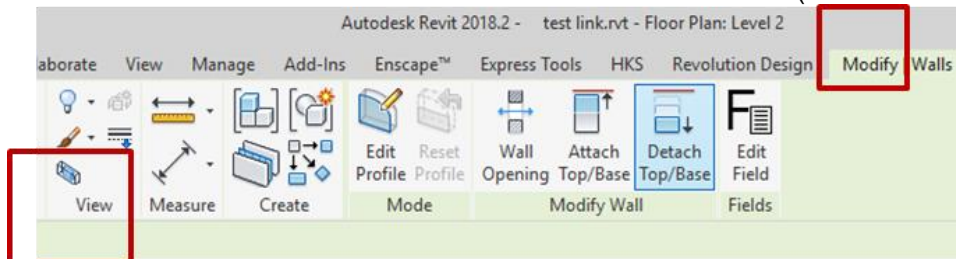


Some things to remember: Know that if you roll back, you will lose any of the latest version of the model. Make sure to audit you timestamped saved file when you open in case there are any corruptions that it will fix.

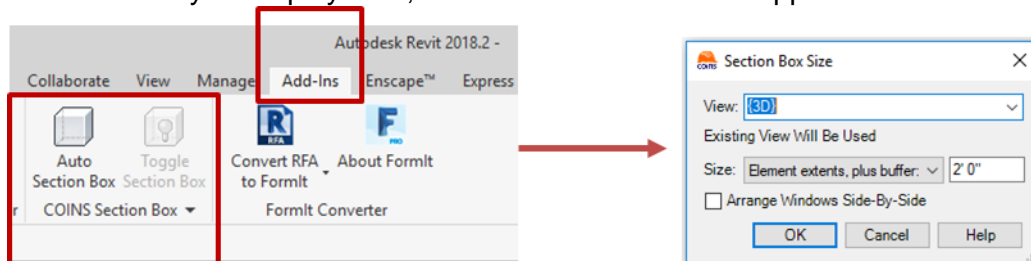
• Section Box VS Selection box

Need to see some elements in 3D but don't want to try to crop your default view down to the element? It gets cumbersome on a very large project to try to crop it to that stair that's way on the inside. To have this work properly you must select the items (in plan or wherever) FIRST that you want to be seen in a 3D view. As long as you pick elements on the extents of the area, everything in between will also be in the view.

You can find selection box in MODIFY→SELECTION BOXE (view section)



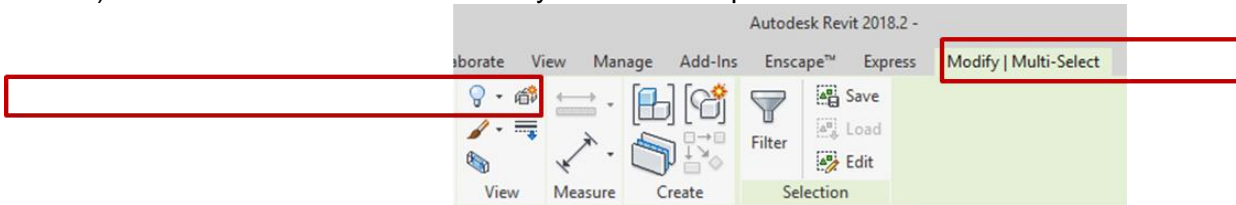
You can find Auto-Section Box in ADD INS→AUTO SECTION BOX (coins section). If you don't have this standard with your deployment, it is free on the Autodesk App website.



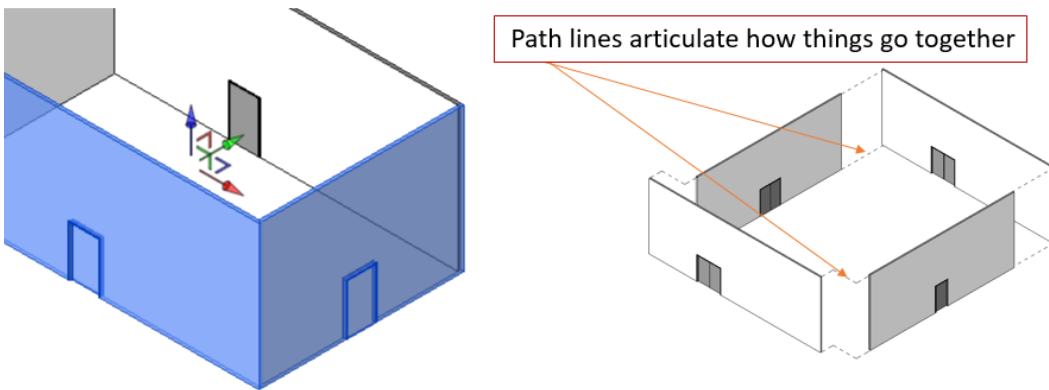
Some things to remember: SELECTION BOX just does it to your default 3D view and is not a permanent view. Coins AOTO-SECTION BOX makes a new 3D view of your selected elements that you can reference again later.

- **Displaced views (AKA exploded axonometric)**

Show elements taken apart either to see it's construction or to see behind/around elements. Make a new 3D view before you start the displacement process. It can be found under **MODIFY→DISPLACE ELEMENTS**(view section) You have to have elements that you want to displace selected for this button not to be greyed out.



Now your 3D elements will have XYZ grips to pull them apart. After elements are pulled apart, an option also shows up to put in path lines to show how the elements have been displaced.

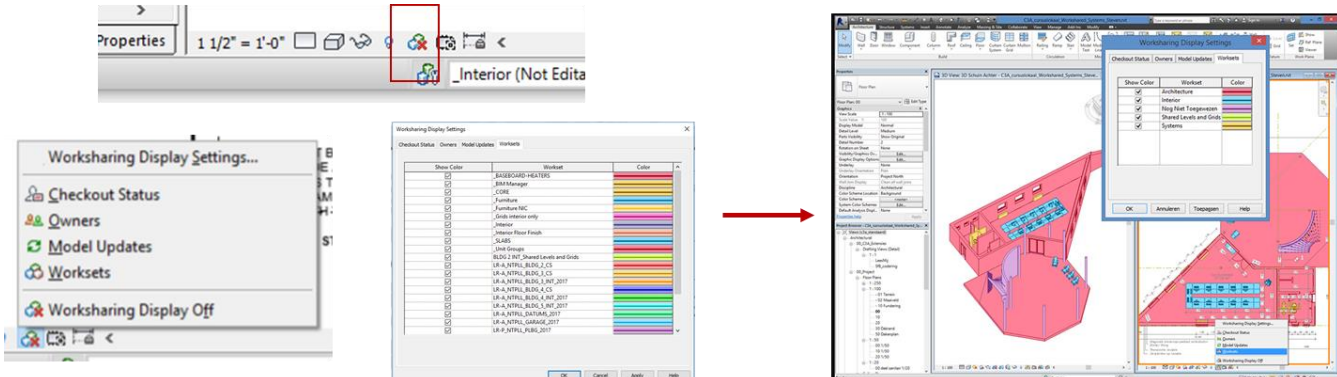


Some things to remember: The displaced elements are **VIEW SPECIFIC** and will not move in any other place in the model. You can displace many elements separately and in different directions, you don't have to do it all at once.

- **Workshare Display/Workshare Monitor**

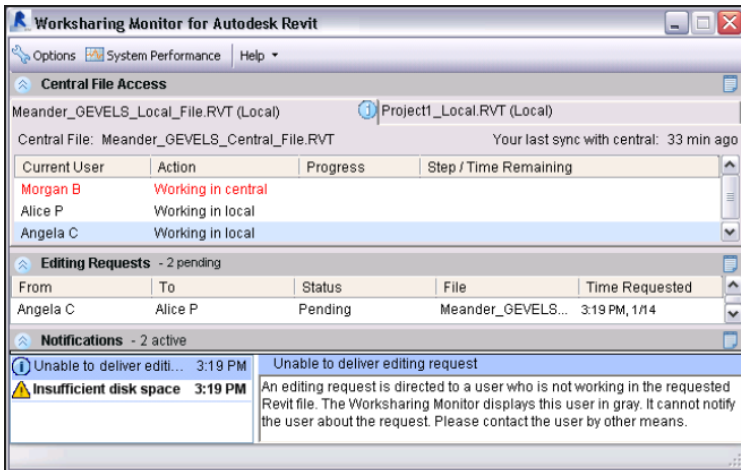
These are some tools that kind of work in the background to see things that are going on. Workshare display can help you manage if elements are put on the correct workset, who placed and last modified elements and who owns elements.

It can be found under **CONTROL PANEL→WORKSHARE DISPLAY**



Workshare Monitor shows you who is in the models, if they're performing a sync to central and if there are any editing requests that need to be granted. This is very helpful in making sure the model doesn't get locked up with multiple users performing a sync to central.

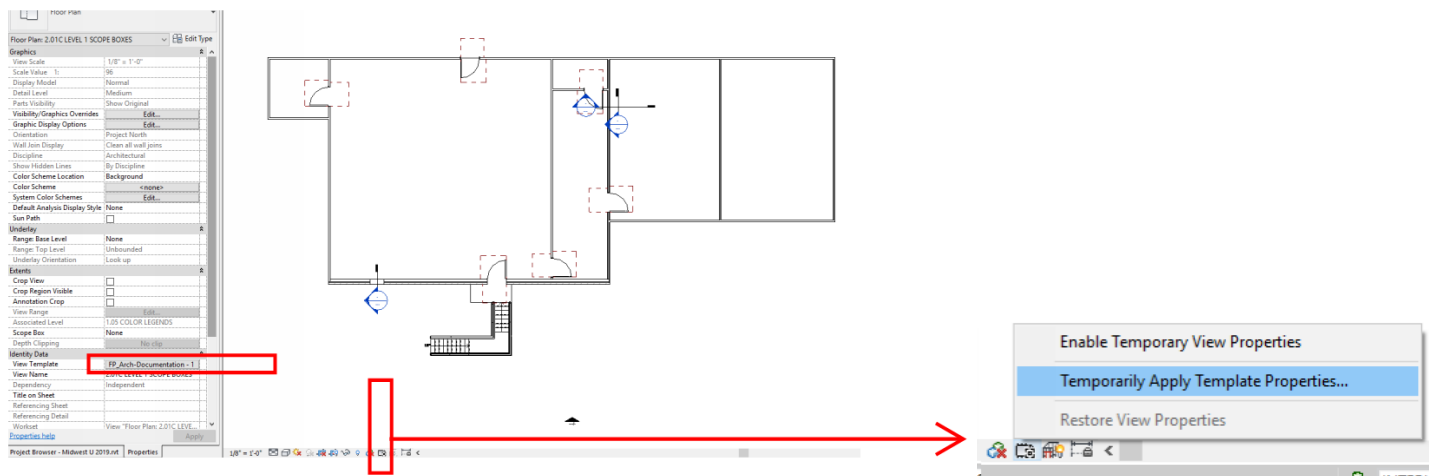
It can be found under ADD INS→LAUNCH WSM (worksharing monitor section)



Some things to remember: If you're working in a detached model, all the workshare display settings will default to you as the owner and placer of all elements. In workshare monitor, if you see your name in red, that means you're working in the central file and as we know.....that's a BIG NO NO when working with others.

- **Temporary view properties**

Sometimes you might need to see something in your view, but you have a view template on it and you don't want to risk removing the template for fear you'll forget to put it back on before print day. Temporary view properties is a way to show you what you need right now without being permanent.



Section 4: No cheating in Revit!!

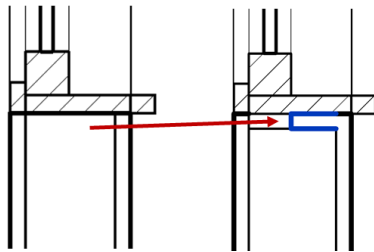
You might think what you're doing quickly at this moment, in the deadline crunch is the best thing to do, but when someone must come back and fix all these quick fixes, it's not so nice. Quick fix now usually means harder to change when the client wants something different later and let's face it, that always happens.

- **Cut profile**

Cut profile I've probably used most often in wall sections. It's used for things that would bog down the model being detailed too much in 3D. For example, wrapping gyp board up and around an element or pulling back the like of the wall stud.

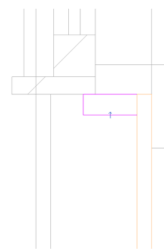
It can be found under VIEW→CUT PROFILE (graphics section)

BEFORE

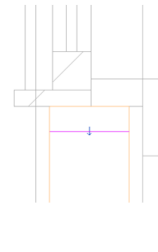


AFTER

ADDITION



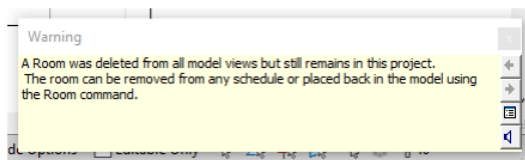
SUBTRACTION



Some things to remember: Cut profile elements are VIEW SPECIFIC and will not change in any other view in the model. The arrow in sketch mode will always show you the direction of what part the element will remain, everything on the other side will be cut. You can either cut in or expand items.

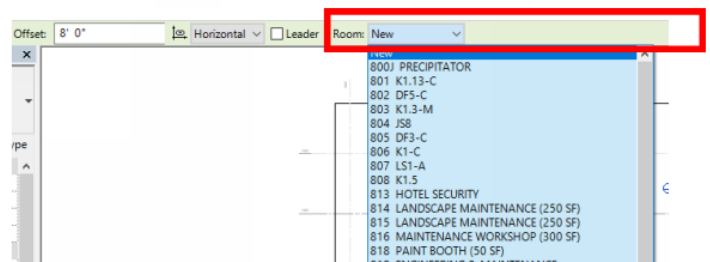
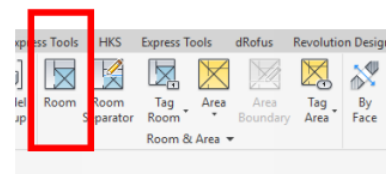
- **Room replace in dropdown menu**

When you delete some rooms in your model, they don't actually delete from the project. This really comes in handy if you've accidentally deleted some rooms and need to put them back.



Place them back in after you click the room button, there reveals a place to put back in the rooms

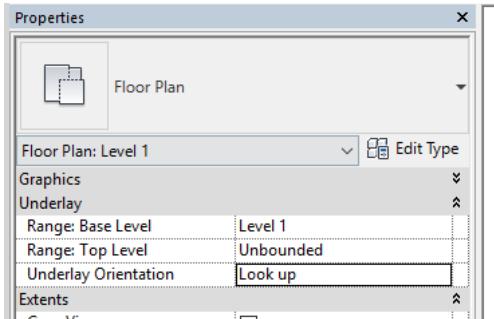
A	B	C	D	E	F
Area	LOCATION ROOM NUMBE	Department	Accessibility	Connecting Door	Communication
Not Placed	802	GUESTROOM		CONNECTING	
Not Placed	801	GUESTROOM		CONNECTING	
Not Placed	803	GUESTROOM			
Not Placed	805	GUESTROOM		CONNECTING	
Not Placed	806	GUESTROOM		CONNECTING	
Not Placed	807	GUESTROOM	ACCESSIBLE		
Not Placed	808	GUESTROOM			
350 SF	XX05	GUESTROOM			
357 SF	XX06	GUESTROOM			
348 SF	XX07	GUESTROOM			
366 SF	XX08	GUESTROOM			
357 SF	XX09	GUESTROOM			
354 SF	XX10	GUESTROOM		CONNECTING	
355 SF	XX11	GUESTROOM		CONNECTING	
367 SF	XX12	GUESTROOM			
379 SF	XX13	GUESTROOM			



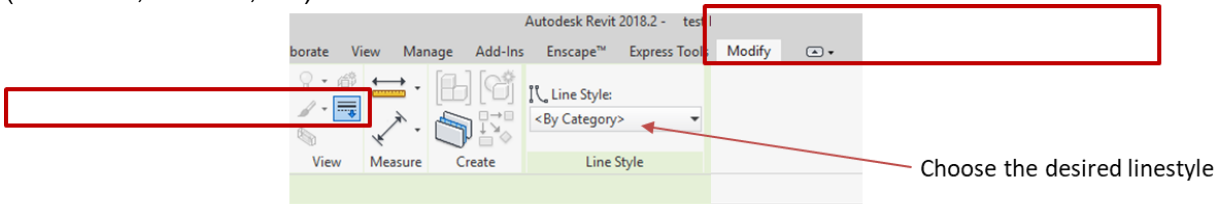
- **Linework tool for items overhead**

For so long we've drawn detail lines for things above, elements like roof overhangs, openings in slabs or ceiling elements. The downside of this is that those detail lines are view specific, if you change it in one area, it won't relay around the project.

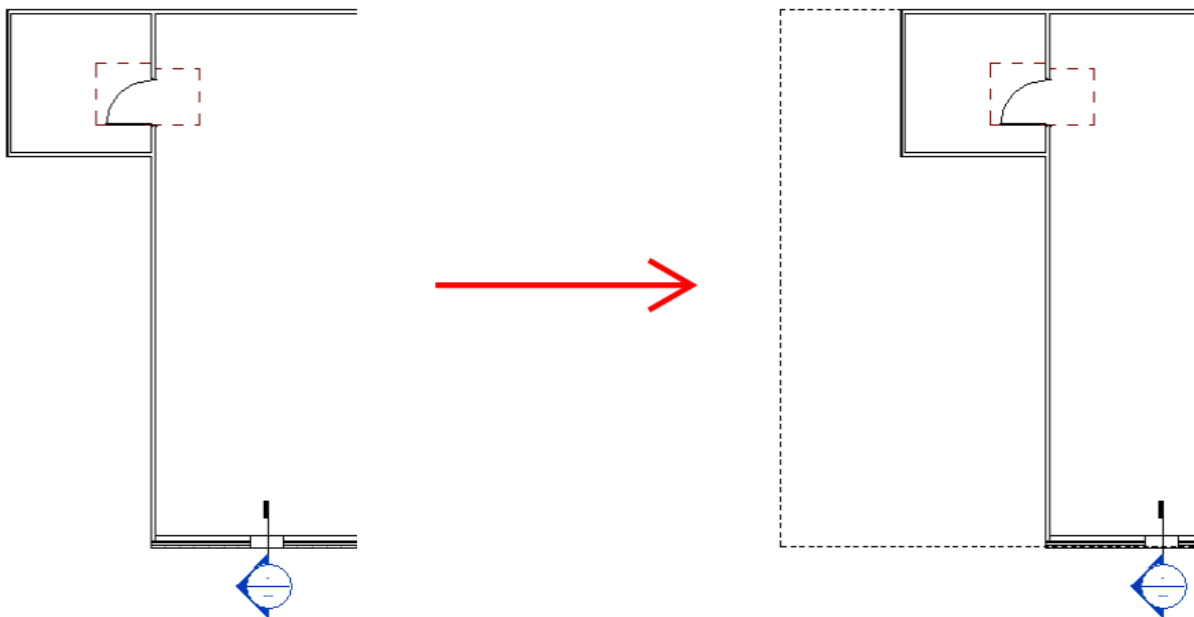
To do it this way.....you must first turn on your underlay in your floor plan properties until you can see what you need to above.



Choose the linework tool in MODIFY→LINEWORK (view section) and choose the line style you want (overhead, dashed, etc)



You then will proceed to select the lines in the underlay that you are wanting to see from above. After you have completed that step, turn the underlay off and the lines showing what is above will remain visible.



Some things to remember: The lines if you click on them are of the actual element, even when the underlay is turned off. If it's an opening in a floor above, and you delete these lines, it will delete the floor! When you move the elements that you translated from above, the lines below will update, if you delete or redraw those lines, the connection on those elements will be lost.

Thank you!!!

When all else fails and you have questions on how to use a tool in Revit, it's always helpful to press the F1 button while hovering over a tool itself. This will bring you to the Autodesk knowledge article and directions on how to use the tool.

Always remember, there is no such thing as a stupid question, the only stupid thing you can do is not ask the question at all. Everyone had to learn at some point and isn't it much more enjoyable if you don't go at it alone?

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