

RENOVATION PROJECT

2 phases is usually enough for renovation
Don't create a "demolition" phase!

Phases represent an action. Example: wall created in **Existing**, demolished in **New**

Project Phases | Phase Filters | Graphic Overrides

	Name	Description
1	Existing	
2	New	

PAST

FUTURE

Insert

Before

After



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MULTIPLE PHASES PROJECT

Possible to create a different phase for multi phases project
However: graphics can't automatically be different for each phase.
(example: phase 1 is red, phase 2 is yellow, etc)

PAST

	Name	Description
1	Phase 1	East Wing, Entrance
2	Phase 2	South Tower
3	Phase 3	North Tower
4	Phase 4	West Hotel

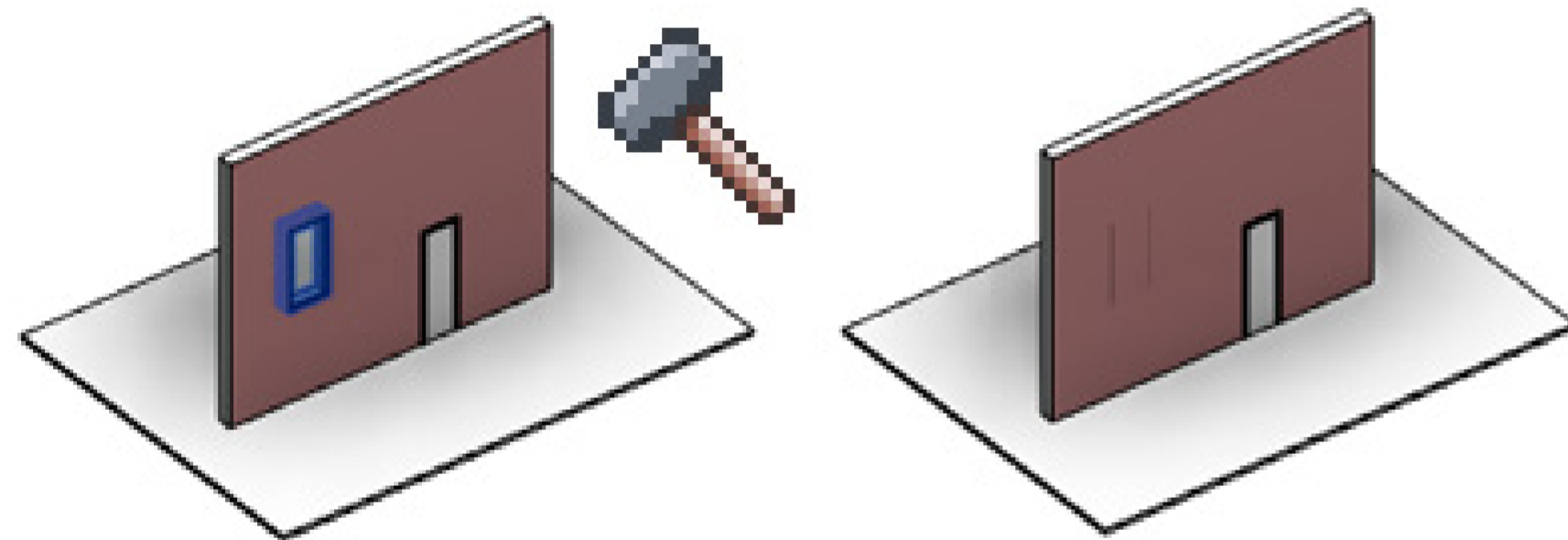
FUTURE

Insert

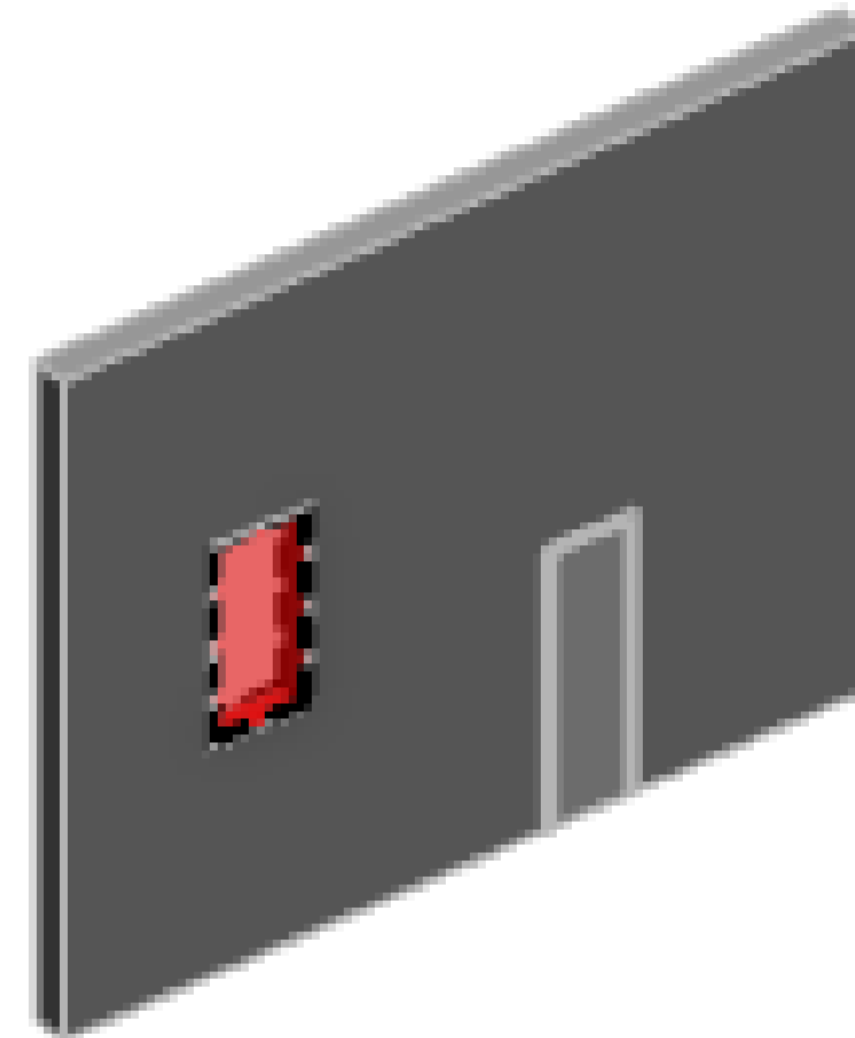


SETTING UP PHASES

Phasing	
Phase Created	Existing
Phase Demolished	New



Demolishing an element: use the hammer tool or simply change “Phase Demolished” to New.



Use “Show Previous + Demo” phase filter to show window with overrides settings



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WHAT IS A PHASE FILTER?

There are 4 “states”: New, Existing, Demolished and Temporary

New: Element created in current phase and not demolished

Existing: Element created in previous phase and not demolished

Demolished: Element created in previous phase and demolished in current phase

Temporary: Element created in current phase and demolished in current phase

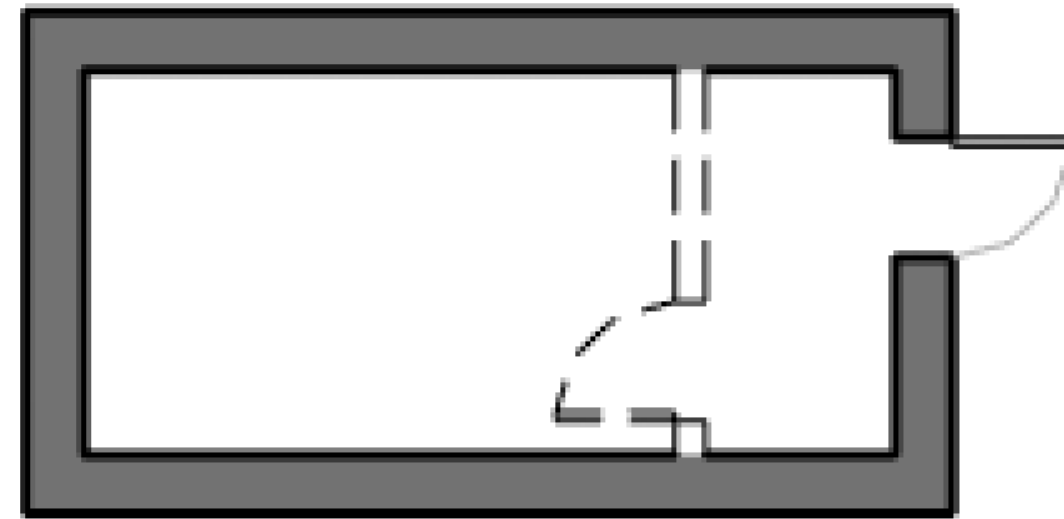
For each, you can set visibility to **By Category**, **Not Displayed** and **Overriden**

Filter Name	New	Existing	Demolished	Temporary
Show All	By Category	Overriden	Overriden	Overriden
Show Complete	By Category	By Category	Not Displayed	Not Displayed
Show Complete + Temp	By Category	By Category	Not Displayed	Overriden

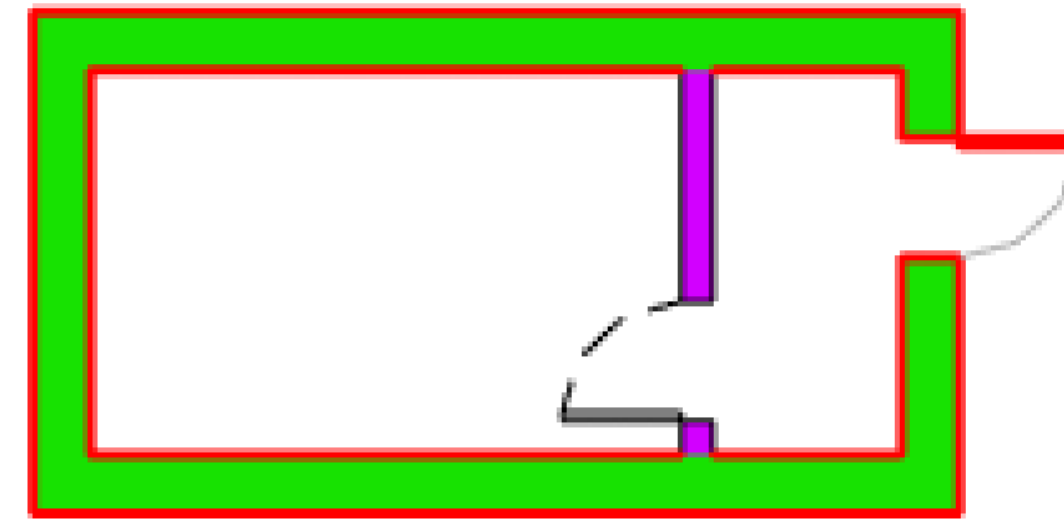


WHAT ARE GRAPHIC OVERRIDES

When the Overriden option is used, what you've set in the "Graphic Overrides" will be used to represent the elements category. Check out in the image below what happens to our overriden existing and demolished elements:



Phase Status	Cut	
	Lines	Patterns
Existing		
Demolished	-----	Hidden



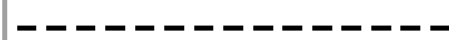









Phase Status	Cut	
	Lines	Patterns
Existing	_____	_____
Demolished	-----	_____



SINCE 2019: DOUBLE PATTERNS

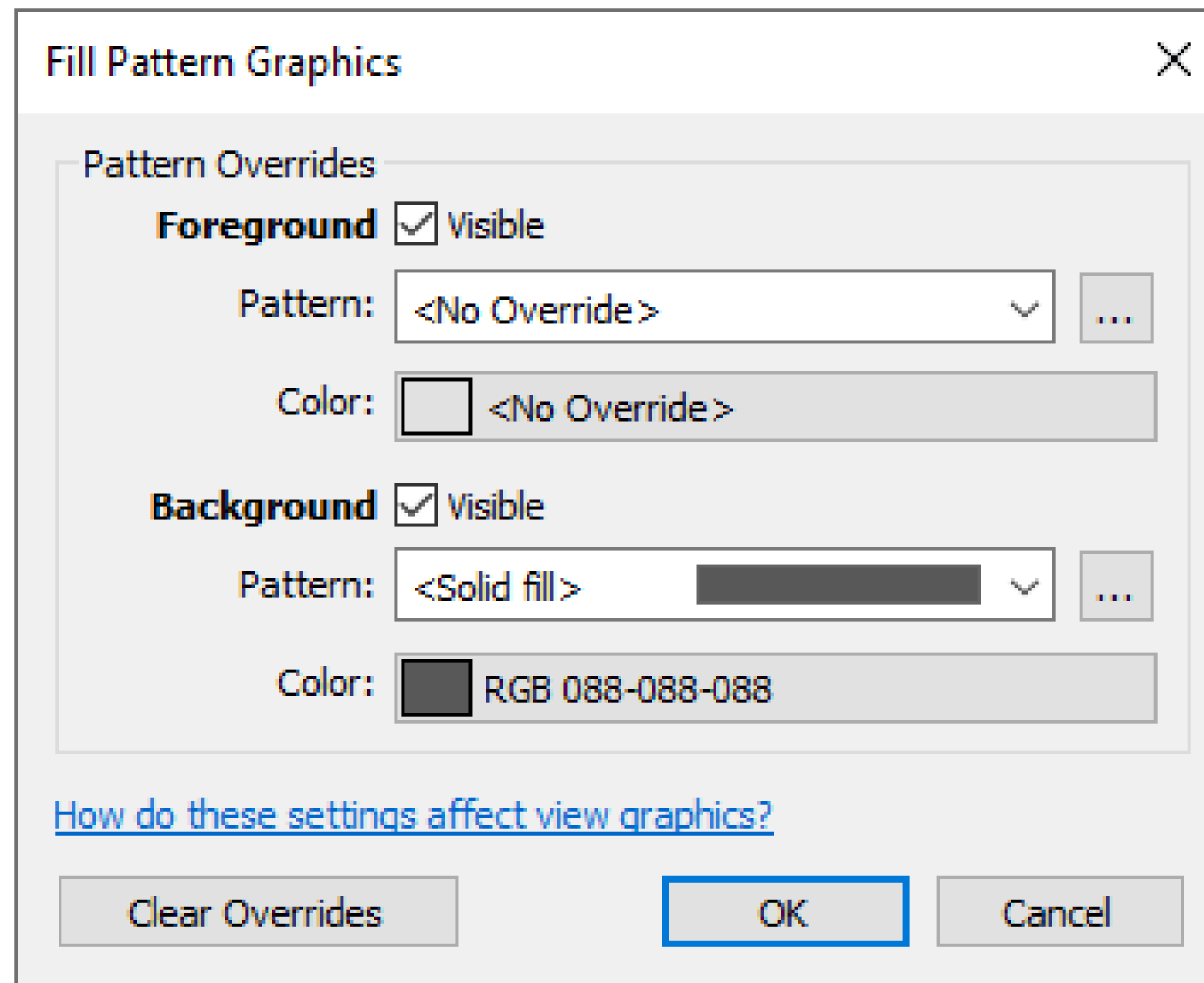
If you are using Revit 2019 or a more recent version, phases have become easier to control with the double pattern feature. Revit now has both a **Foreground** and a **Background** pattern.

Phase Status	Projection/Surface		Cut		Halftone	Material
	Lines	Patterns	Lines	Patterns		
Existing					<input type="checkbox"/>	RP-Phase-Existing
Demolished				Hidden	<input type="checkbox"/>	RP-Phase-Demo
New					<input type="checkbox"/>	RP-Phase-New
Temporary					<input type="checkbox"/>	RP-Phase-Temporary



DOUBLE PATTERN

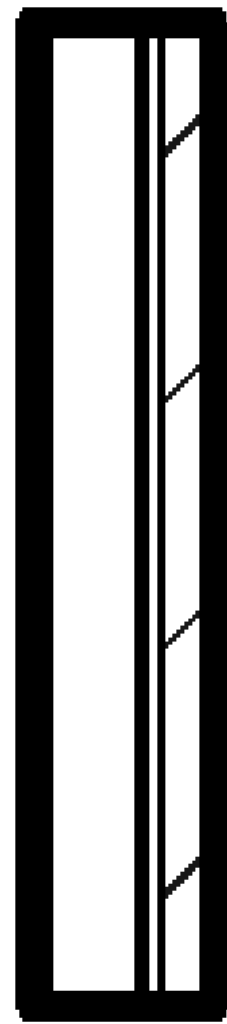
Here is the good practice you should follow with patterns: Keep the **Foreground** pattern to represent the material and the **Background** pattern for the phase.



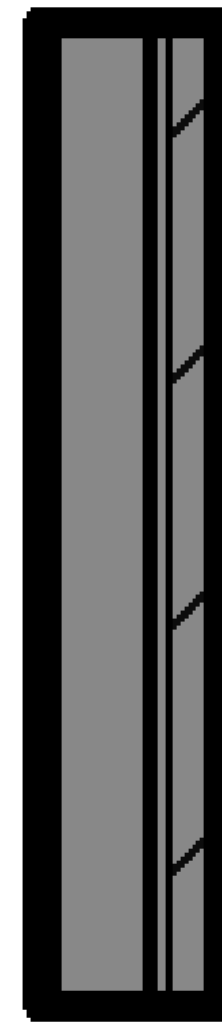
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DOUBLE PATTERN

Here is an example: an existing and a new brick wall. With the existing brick wall, you can see that the material patterns are still visible even when the background pattern grey override is visible.



NEW



EXISTING



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WATCH OUT WITH MATERIAL OVERRIDES

In the graphics override menu, you can choose to pick a material override. While it can be useful, it comes with some issues. For example, if you have a wall with multiple layers of materials, the layers will all be gone and replaced with a single layer. Here is an example:

Phase Status	Material
Existing	



Phase Status	Material
Existing	RP-Phase-Existing

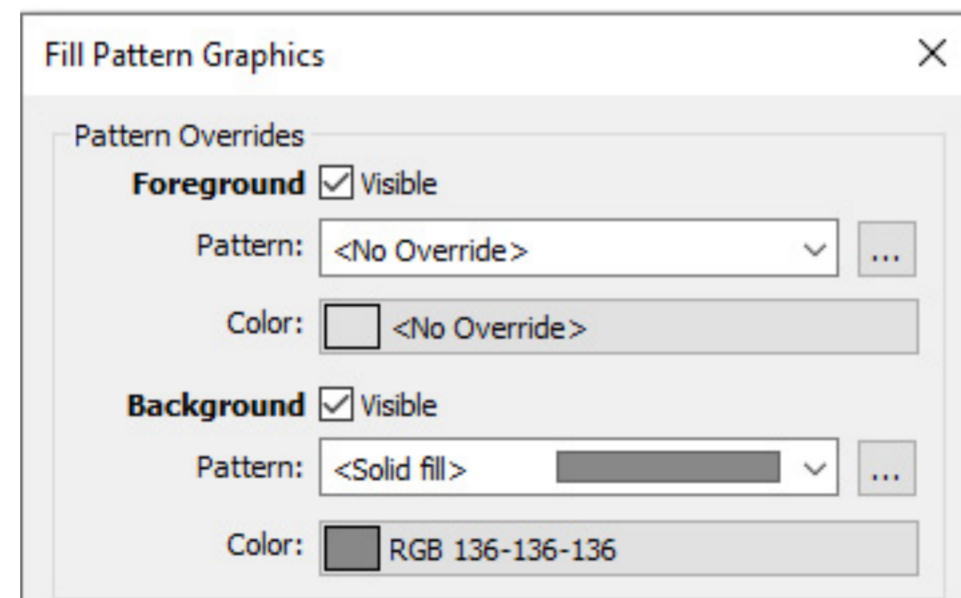


PATTERN PRIORITY

- 1- Phase Pattern Overrides
- 2- Phase Material Override
- 3- Element Material

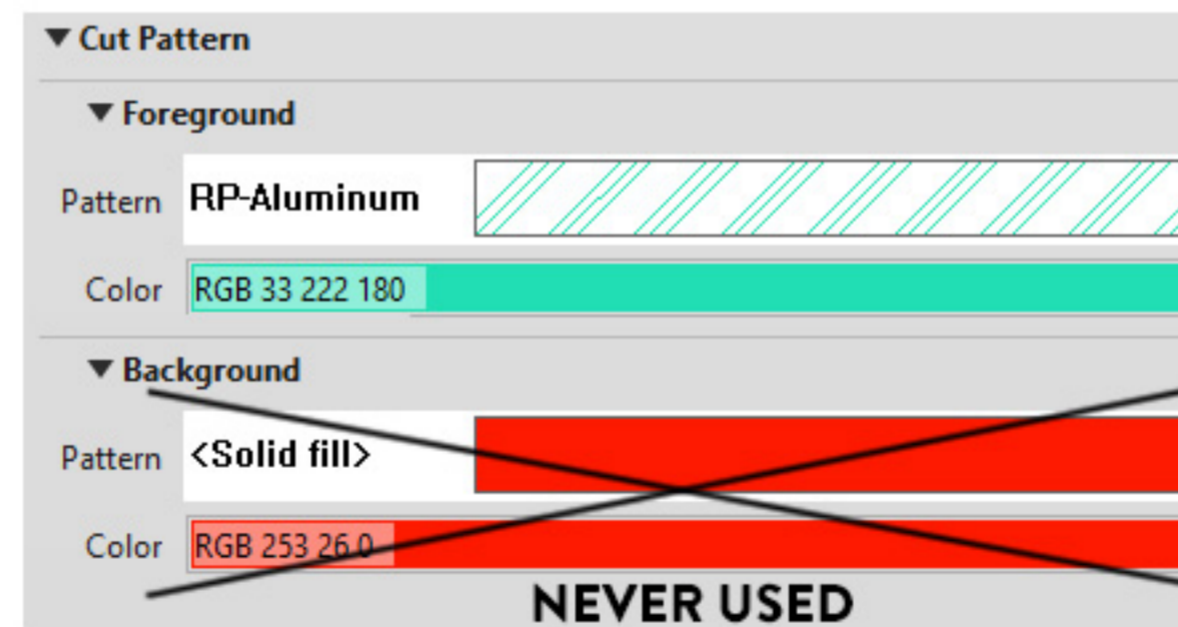
In the graphics override menu, you can choose to pick a material override. While it can be useful, it comes with some issues. For example, if you have a wall with multiple layers of materials, the layers will all be gone and replaced with a single layer. Here is an example:

PHASE OVERRIDES

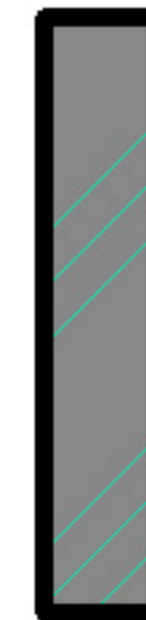


PRIORITY #1

PHASE MATERIAL OVERRIDE



PRIORITY #2



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PHASE MATERIAL OVERRIDE

Both the **background** and **foreground** patterns of phase material overrides are never used when activated. However, the shading properties of the material will act as a Background pattern in shaded views.

PHASE MATERIAL SHADING

▼ Shading

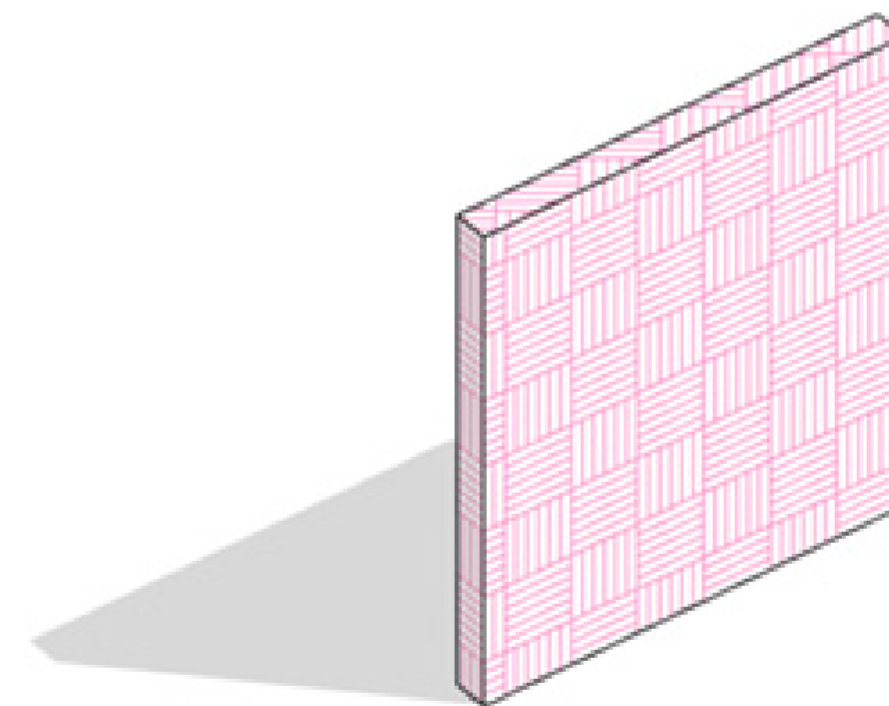
Use Render Appearance

Color RGB 90 245 241

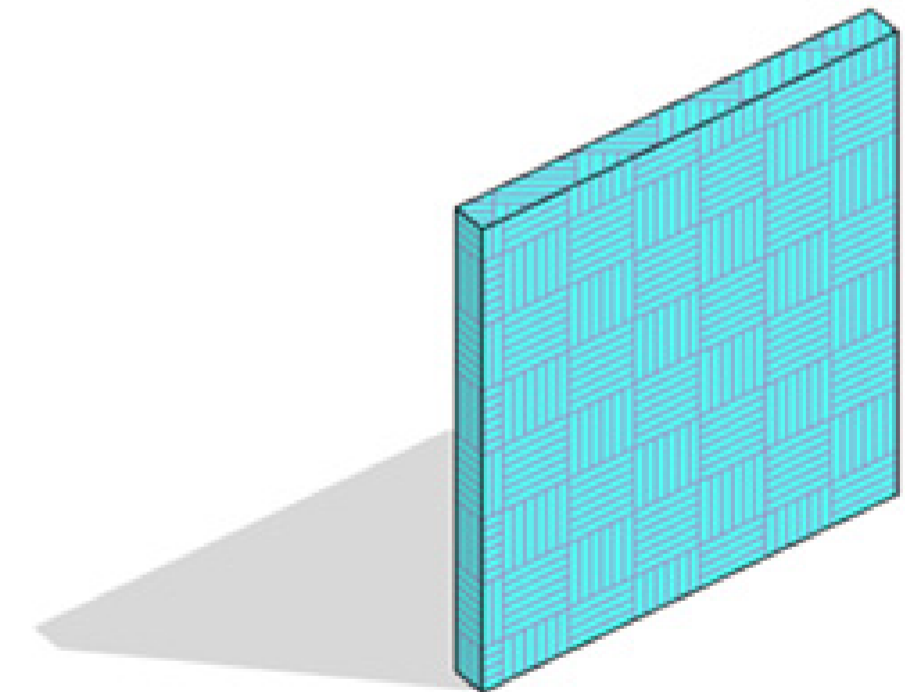
Transparency 0

GRAPHIC PATTERN OVERRIDE

Phase Status	Projection/Surface	
	Lines	Patterns
Existing		



HIDDEN LINES



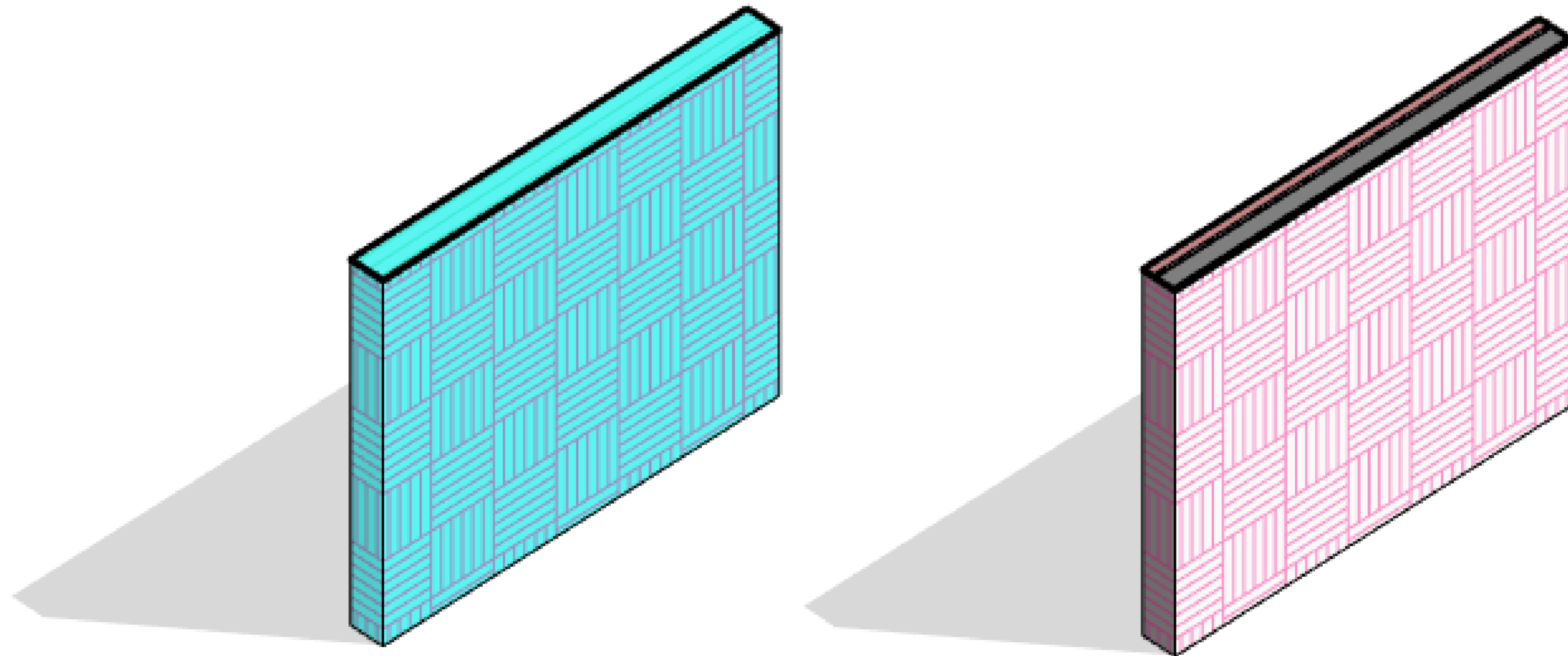
SHADED



WITHOUT MATERIAL OVERRIDE

The image on the left has a material override; you can see the whole wall is shaded.

On the right, the phase material override has been removed: all the layers can be seen on top, the blue shading is gone.

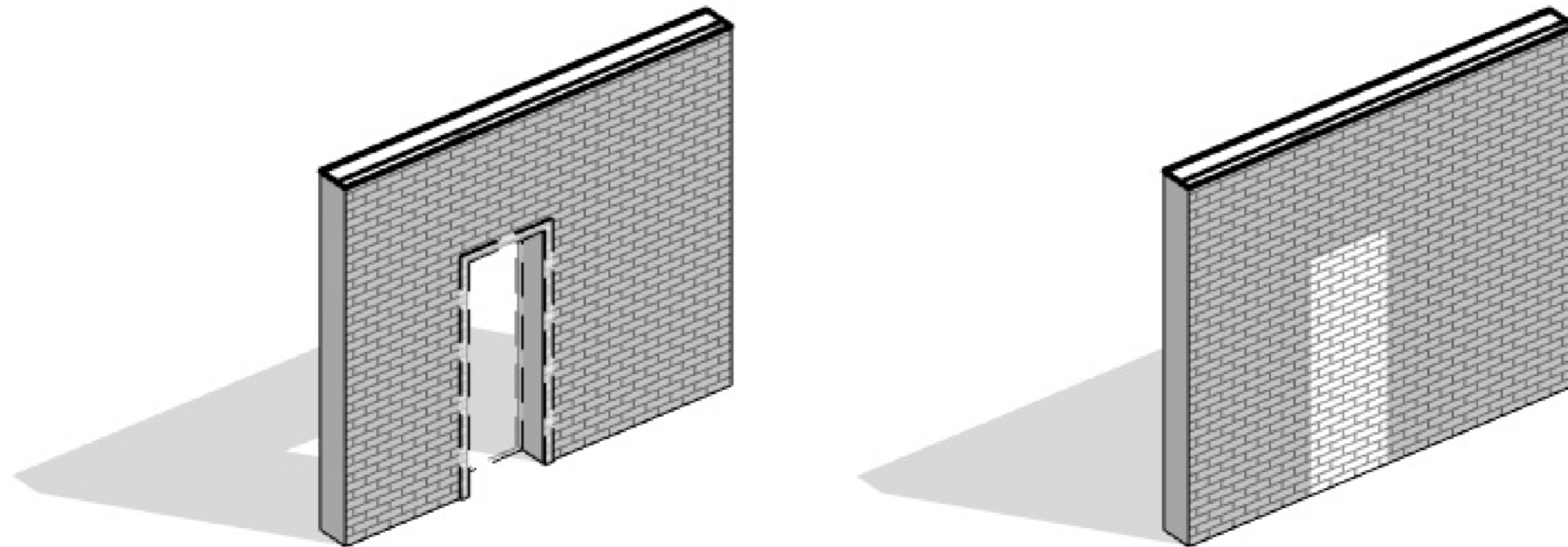


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MANAGING AUTOMATIC INFILL ELEMENTS

If you demolish a door or window, Revit will automatically fill up the hole in the wall with an “infill” element. If you want to patch up the wall, that’s perfect. but sometimes, you want to replace it with another door or window! That’s when you might have problems.

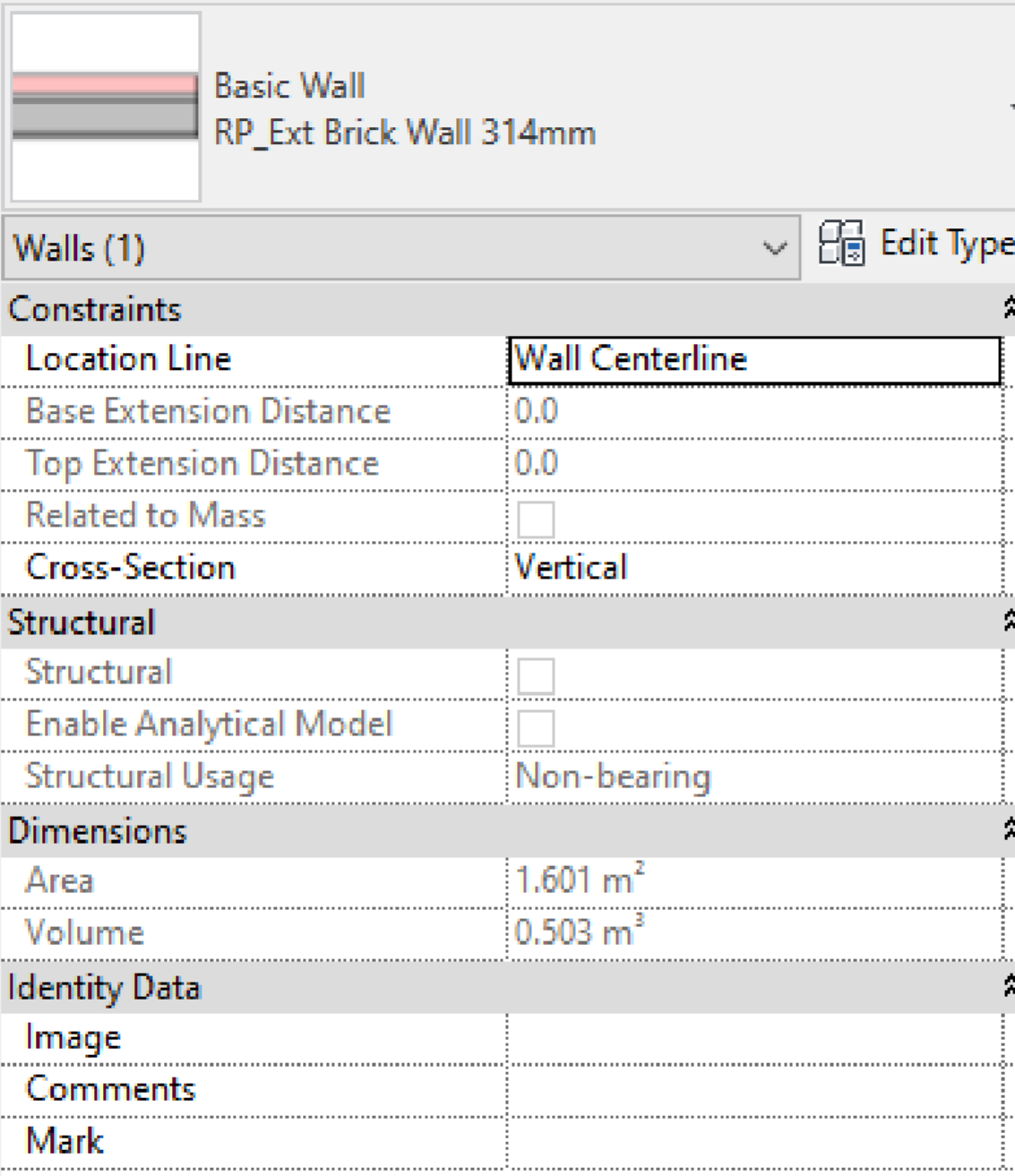
You can see the automatic infill element on the “complete” view on the right:



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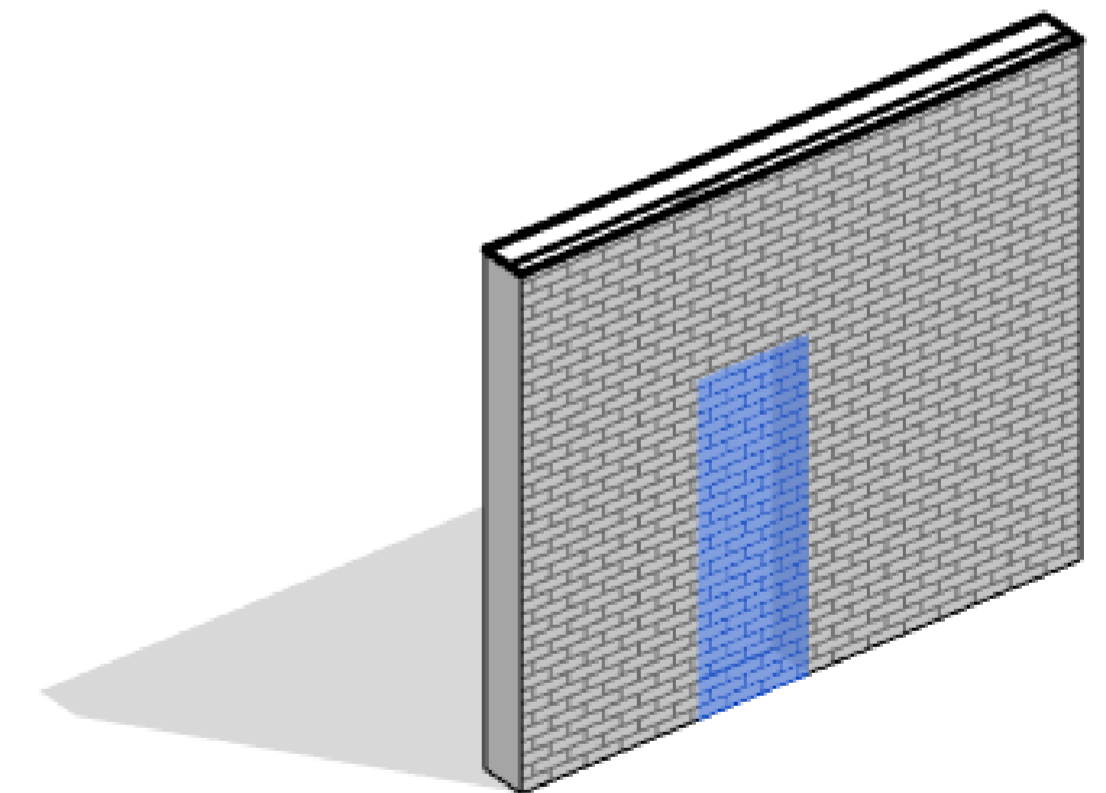
MANAGING AUTOMATIC INFILL ELEMENTS

As you can see, this automatic infill element doesn't have a phase. You can change the wall type, but you can't move it or modify the extents. A strange element indeed!



The screenshot shows the Revit Properties palette for a wall element. The type is 'Basic Wall' with a sub-type 'RP_Ext Brick Wall 314mm'. The 'Walls (1)' section is expanded, showing 'Constraints' with 'Location Line' set to 'Wall Centerline', 'Base Extension Distance' and 'Top Extension Distance' both at 0.0, 'Related to Mass' unchecked, and 'Cross-Section' set to 'Vertical'. The 'Structural' section shows 'Structural' unchecked, 'Enable Analytical Model' unchecked, and 'Structural Usage' set to 'Non-bearing'. The 'Dimensions' section shows 'Area' as 1.601 m² and 'Volume' as 0.503 m³. The 'Identity Data' section includes 'Image', 'Comments', and 'Mark' fields.

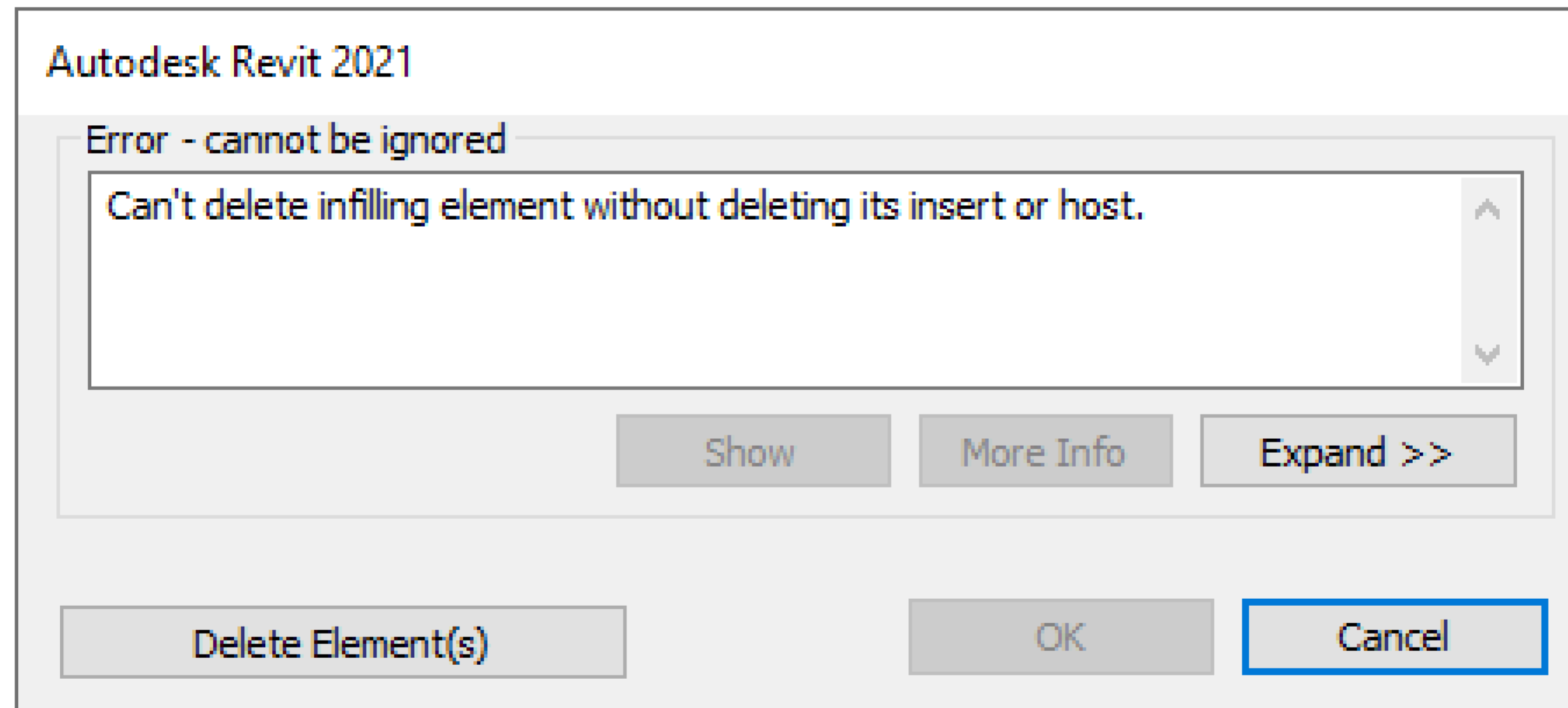
NO PHASE!



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MANAGING AUTOMATIC INFILL ELEMENTS

If you try to delete the infilling element, you will get this warning. If you proceed, the demolished door will be deleted! Be careful.

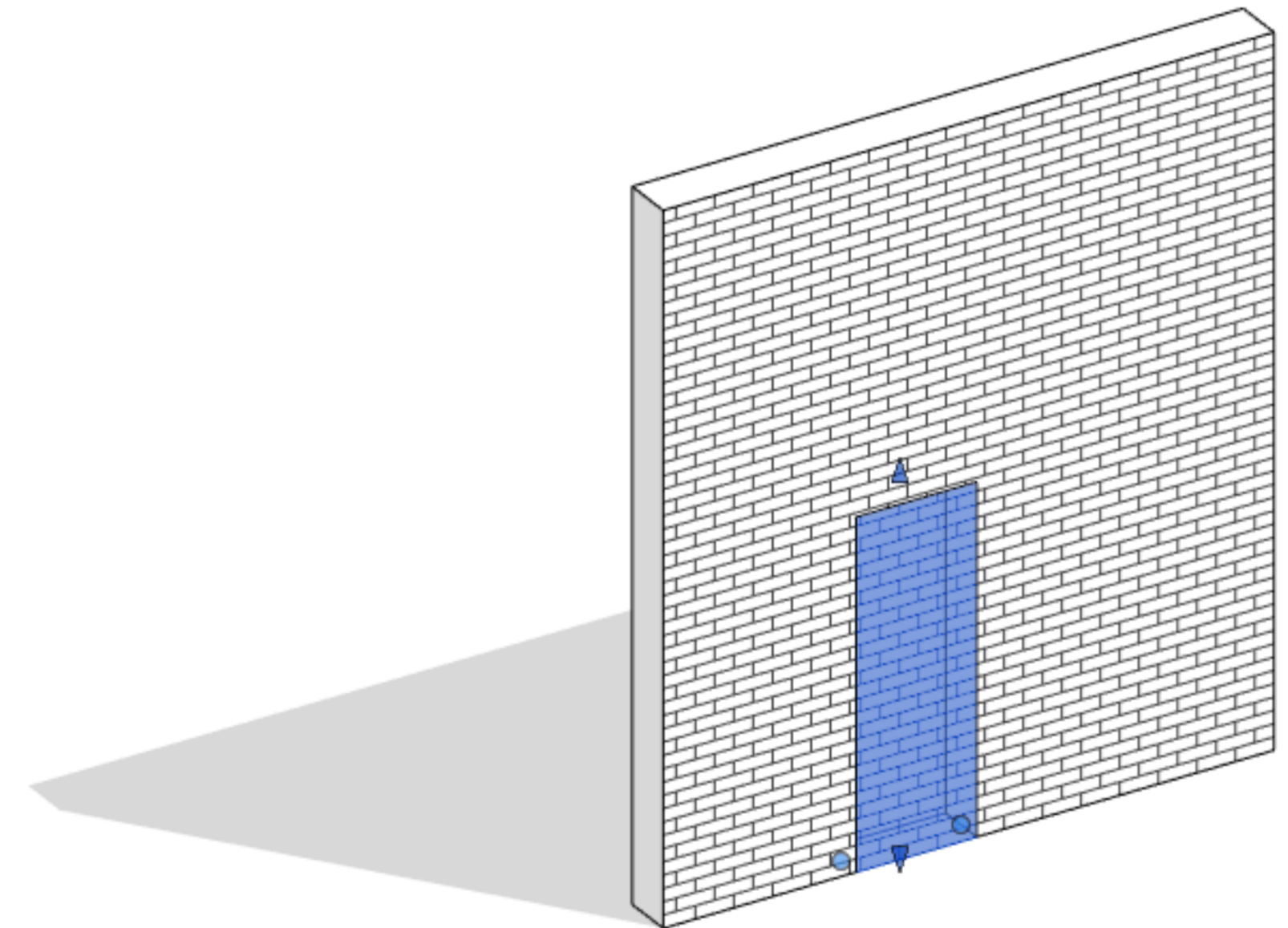


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ALTERNATIVE: CREATE DEMOLISHED HOSTED WALL

Sadly, there is no easy way to delete this automatic infill in case you don't like it. But there is a helpful workaround: create a separate wall just where the door is located and the demolish that small wall too.

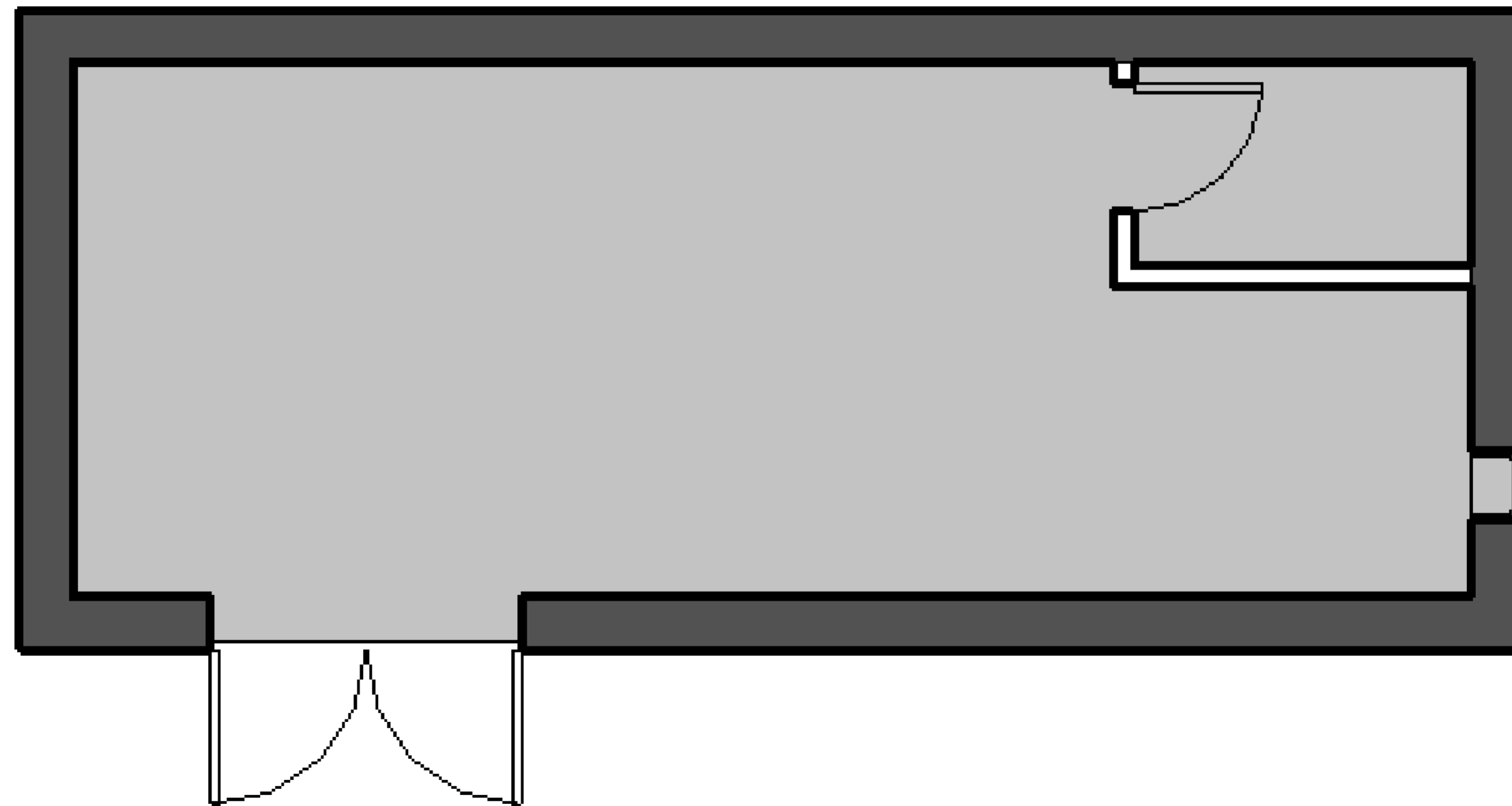
Basic Wall RP_Ext Brick Wall 314mm	
Walls (1) Edit Type	
Constraints	
Location Line	Wall Centerline
Base Constraint	LEVEL 1
Base Offset	0.0
Base is Attached	<input type="checkbox"/>
Base Extension Distance	0.0
Top Constraint	Up to level: ROOF
Unconnected Height	2134.0
Top Offset	-3866.0
Top is Attached	<input type="checkbox"/>
Top Extension Distance	0.0
Room Bounding	<input checked="" type="checkbox"/>
Related to Mass	<input type="checkbox"/>
Cross-Section	Vertical
Structural	
Structural	<input type="checkbox"/>
Enable Analytical Model	<input type="checkbox"/>
Structural Usage	Non-bearing
Dimensions	
Length	750.0
Area	1.601 m ²
Volume	0.503 m ³
Identity Data	
Image	
Comments	
Mark	
Phasing	
Phase Created	Existing
Phase Demolished	New



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MANAGING FLOORS AND CEILINGS PHASES

When using phases overrides, the graphics of some elements might be affected even if you don't want them to. For example, maybe you don't want the surface pattern of the existing floor to appear in grey, like below:

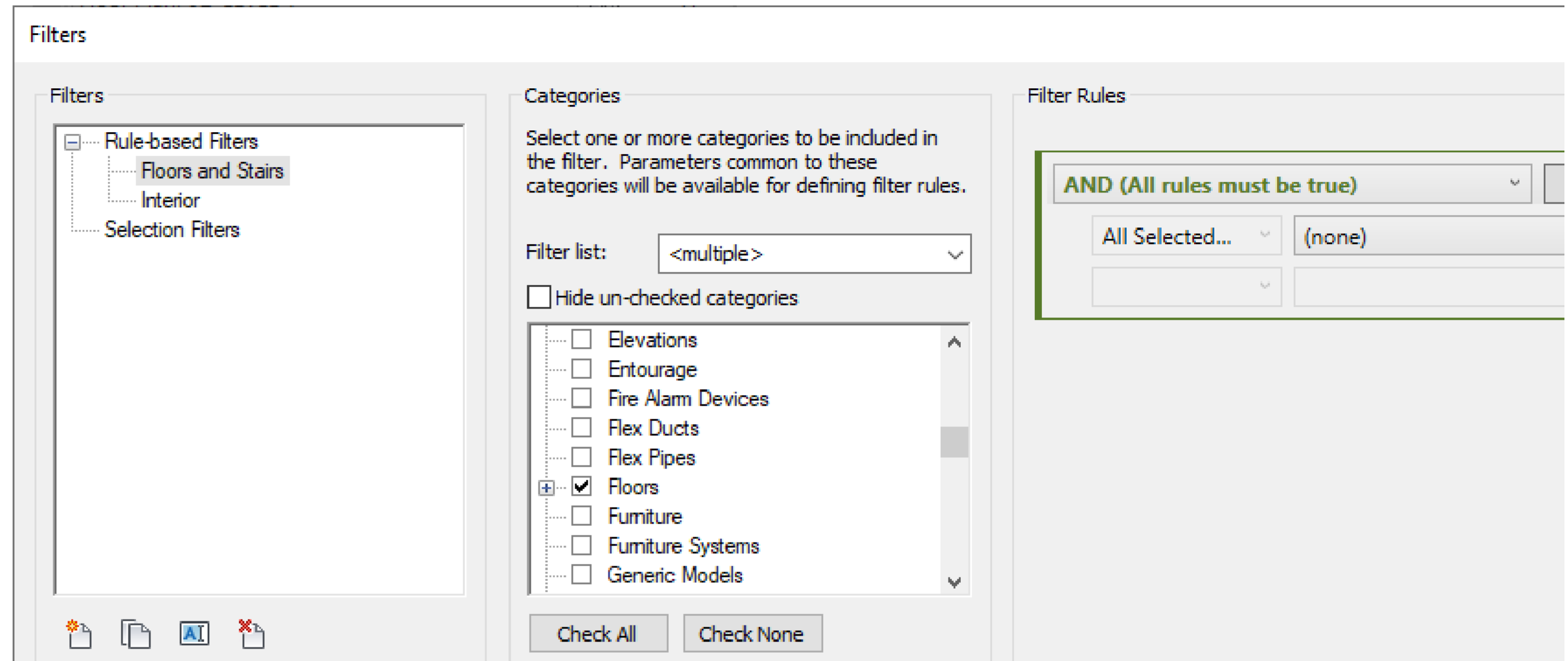


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MANAGING FLOORS AND CEILINGS PHASES

A quick fix is to create a view filter that includes all elements you don't want to be affected. For example, you could include all floors and all stairs. Then, you deactivate the visibility of the background pattern.

The view filters graphics overrides have priority over phases graphic overrides.



Visibility/Graphic Overrides for Floor Plan: 02-LEVEL 1

Name	Enable Filter	Visibility	Projection/Surface		
			Lines	Patterns	Transpare...
Floors and Stairs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Hidden	

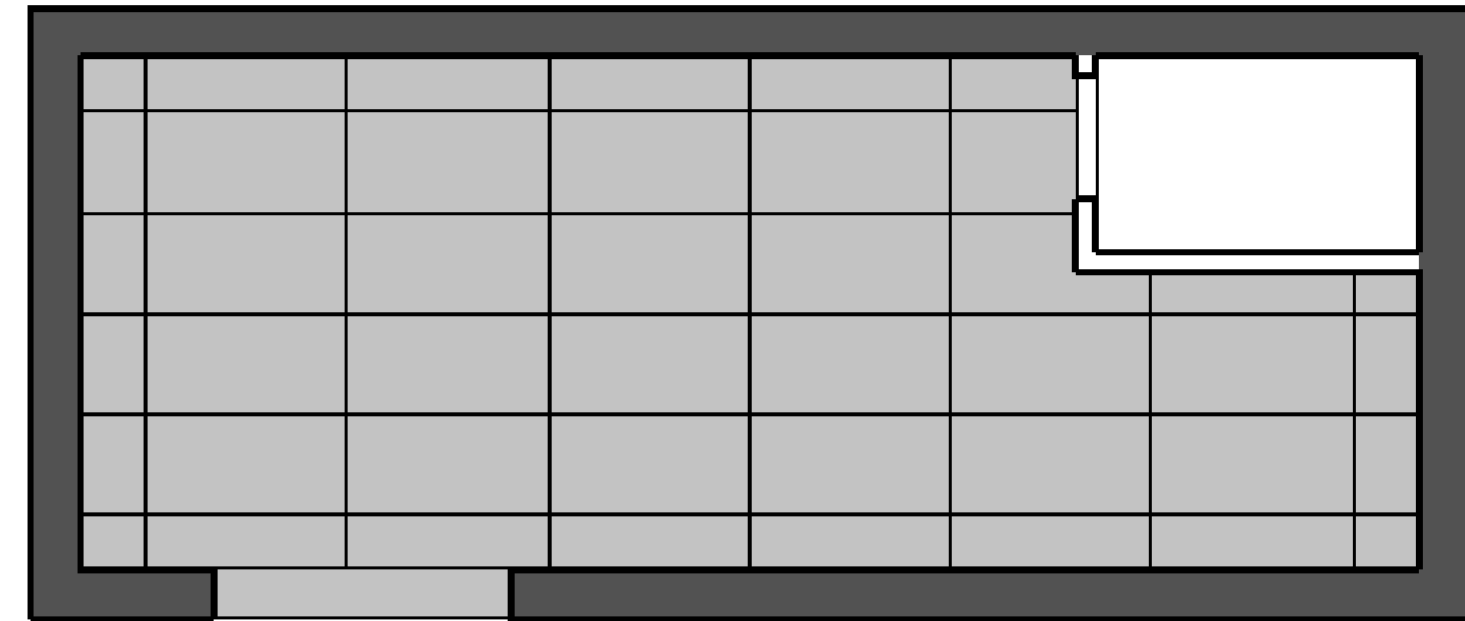


DEMOLISHING CEILINGS AND FLOOR FINISH

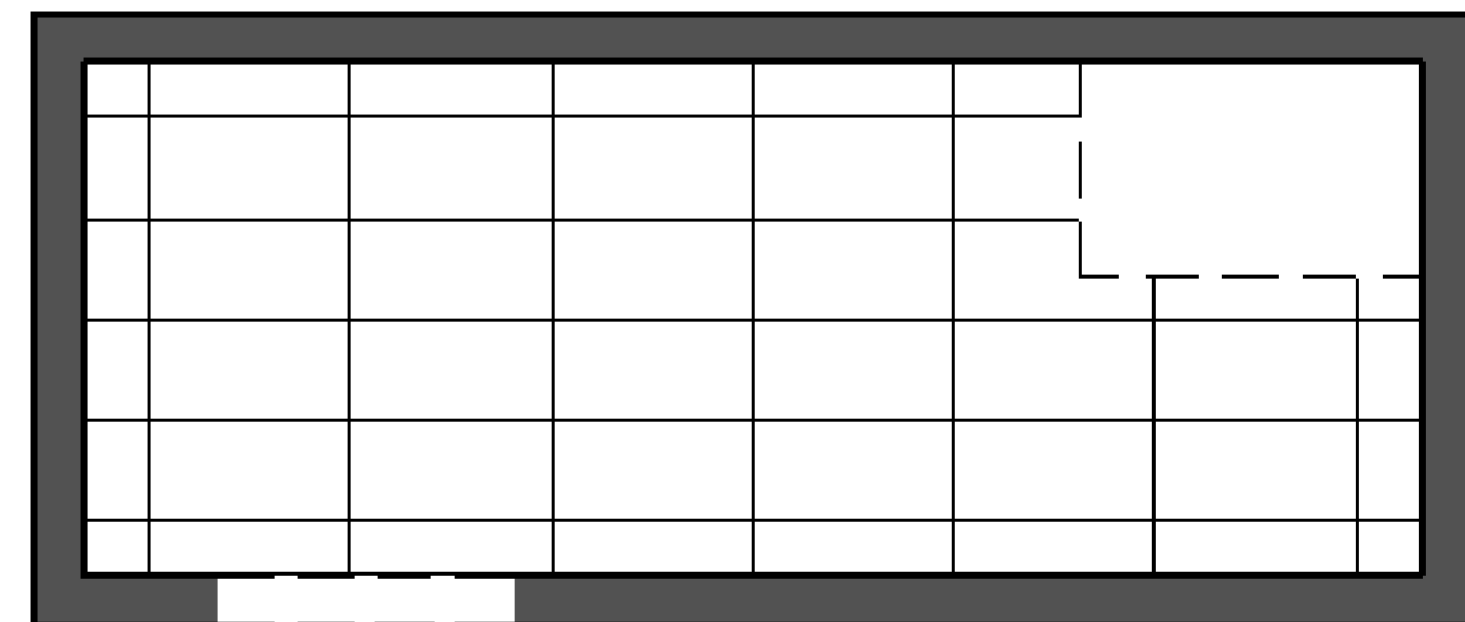
Another issue you will face when demolishing ceilings or floor finishes is that the pattern isn't modified with dashed lines.

For example, the demolished ceiling in the image below appears like a regular new ceiling, not like a demolished one.

For it to show in dashed lines, you'll have to create a new pattern specifically for demolition.



EXISTING CEILING



DEMOLISHED CEILING



CREATE DEMOLISHED PATTERN

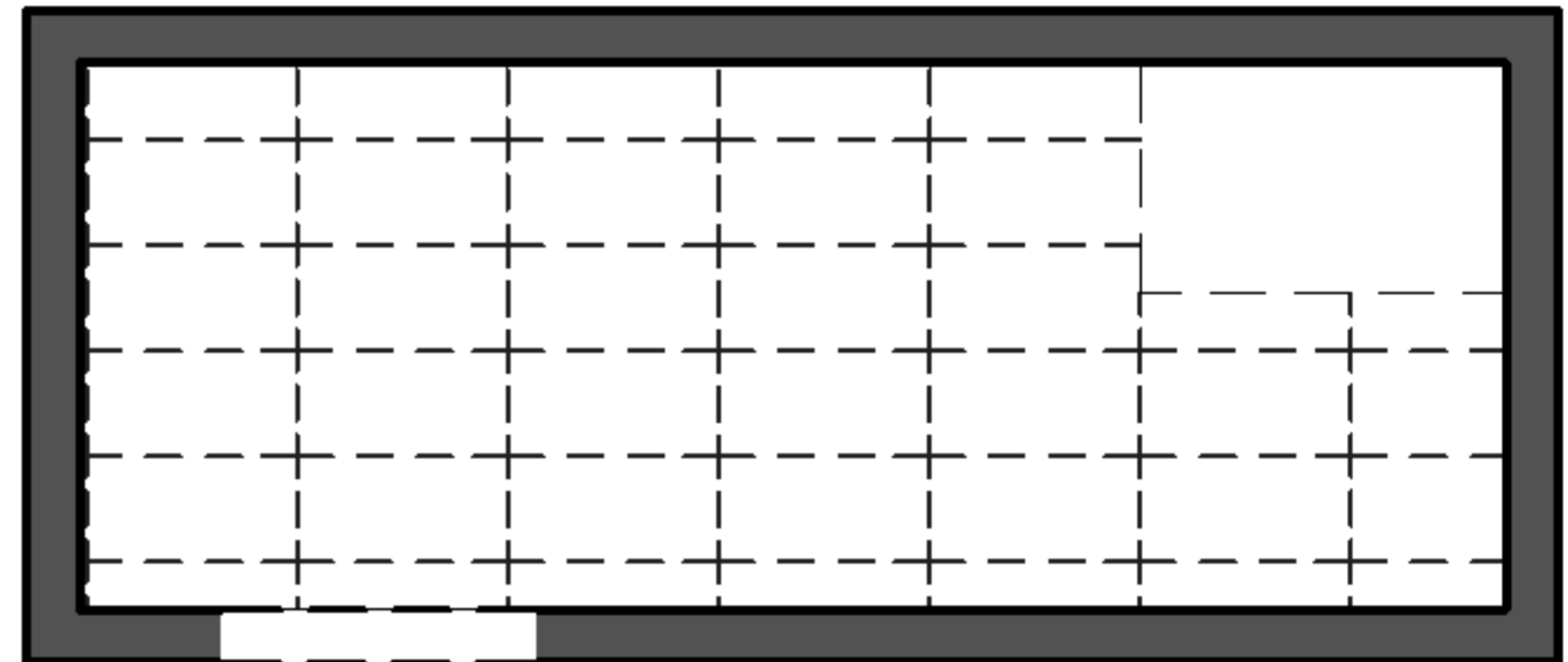
Creating a pattern used to be a boring hassle, but the free PyRevit plugin allows you to quickly create one.

There is a complete tutorial on this URL:

<https://revitpure.com/blog/how-to-quickly-create-a-pattern-in-revit-using-pyrevit>

Here, we recreate the 2x4 ceiling pattern, but with dashed lines.

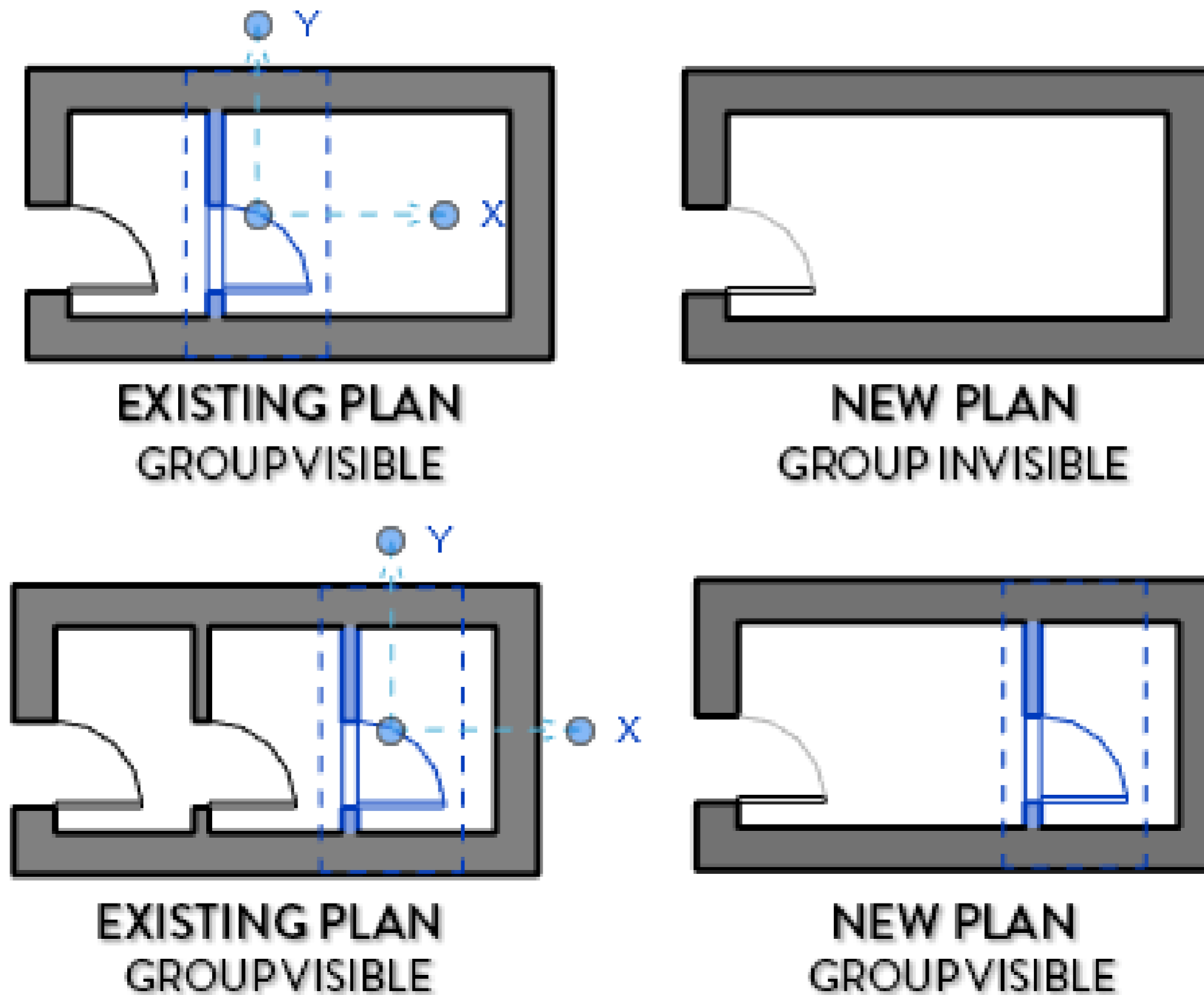
You can use the same process for floor finishes.



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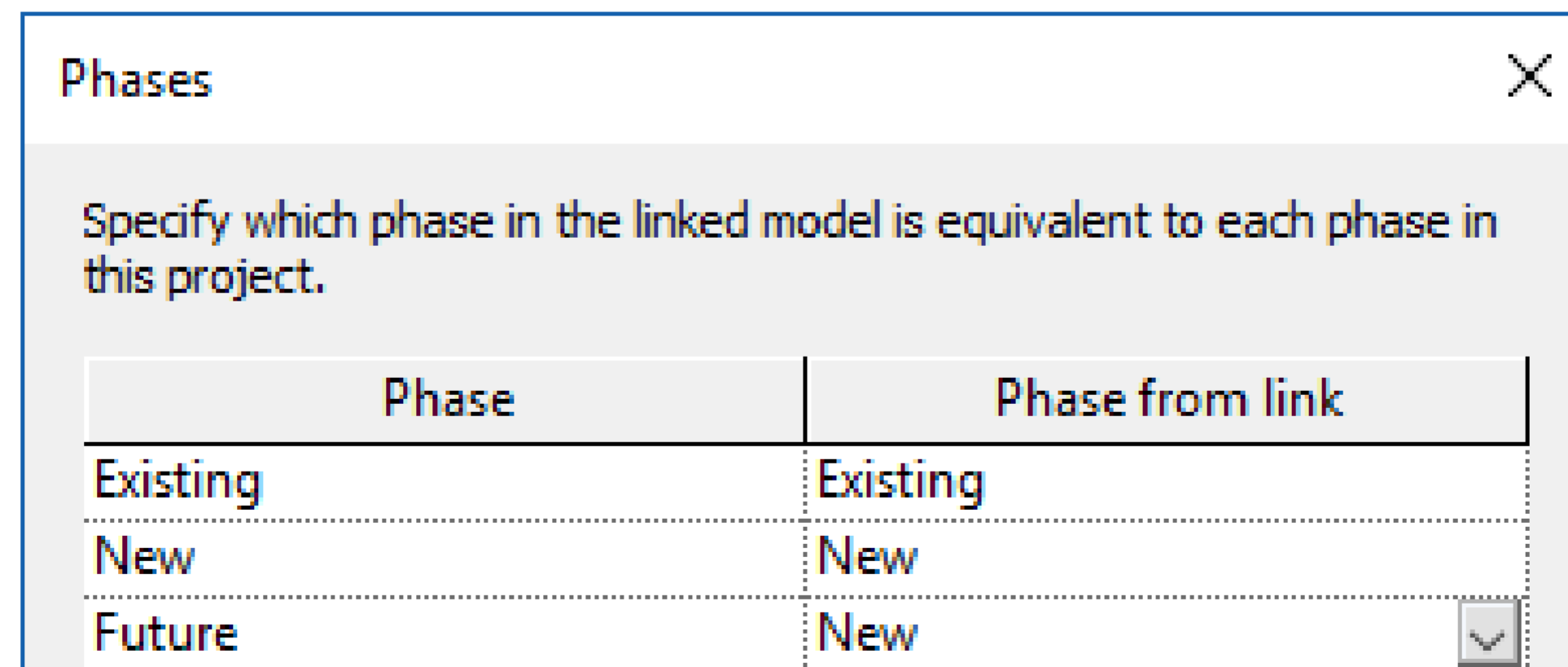
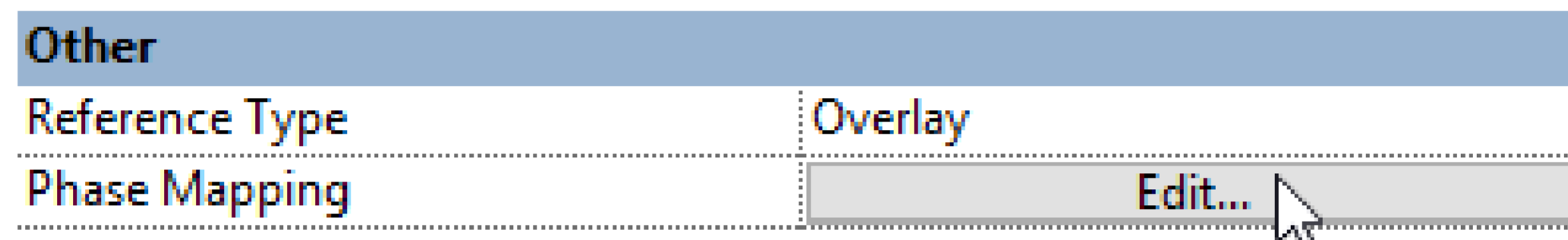
GROUPS AND PHASES

In the image below, a group with demolished element is copy/pasted. The demolition information isn't copied, the walls appear in the "new" plan.



PHASE MAPPING WITH REVIT LINK

For phases to properly work between linked models, you have to map them together. In the example below, we go to the type properties of the Revit link. In the phase mapping menu, we make sure the phases match.



PARTS IN REVIT: AVOID

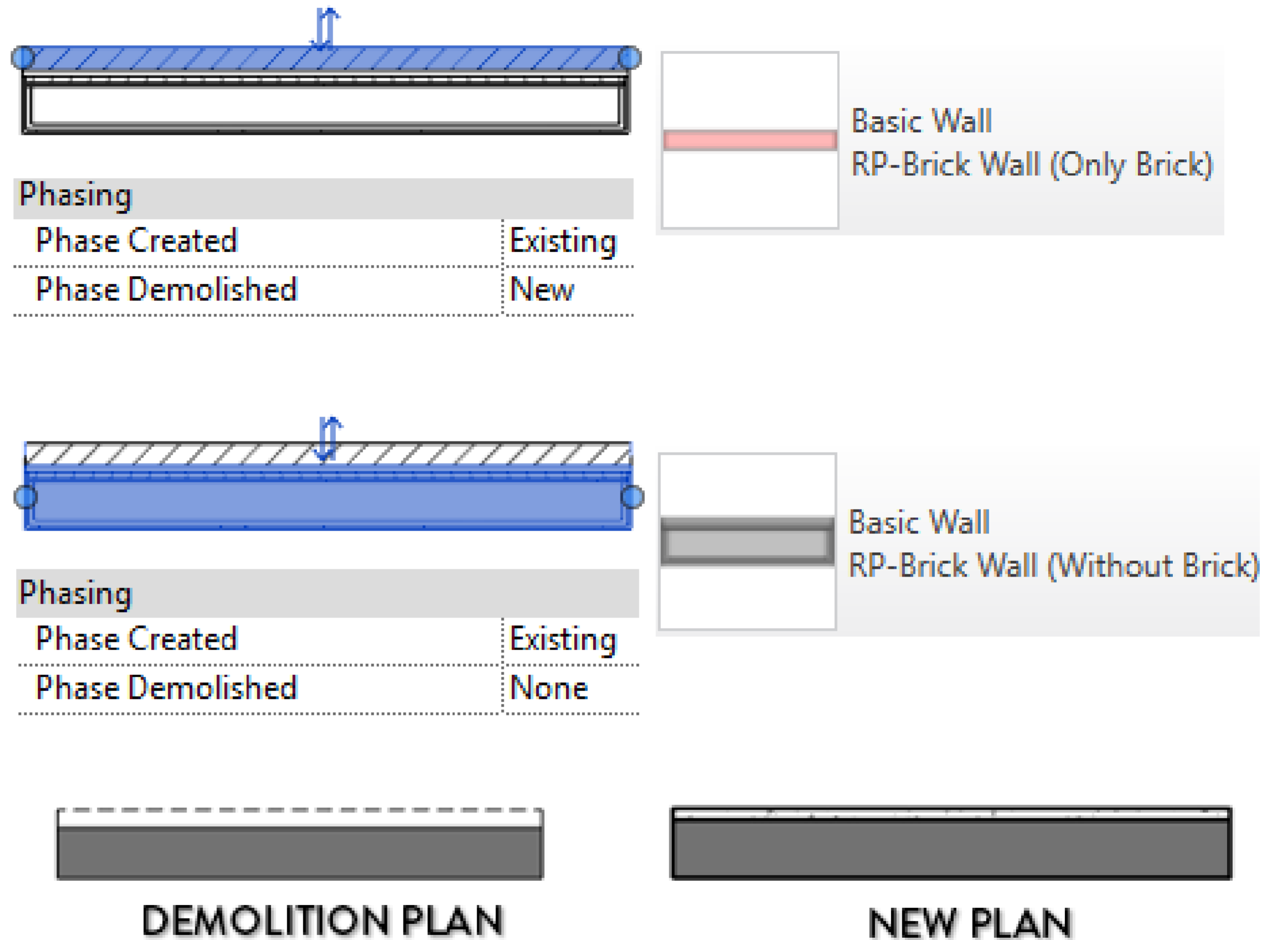
The parts tool might seem perfect to demolish and keep certain part of an assembly (like a wall). But the tool isn't made for that kind of use and you might face issues later on.

Material	RP-Brick
Construction	Finish
Phasing	
Phase Created	Existing
Phase Demolished	New
Phase Created By Original	<input checked="" type="checkbox"/>
Phase Demolished By Original	<input type="checkbox"/>



CREATE SEPARATE WALL FOR FINISH DEMO

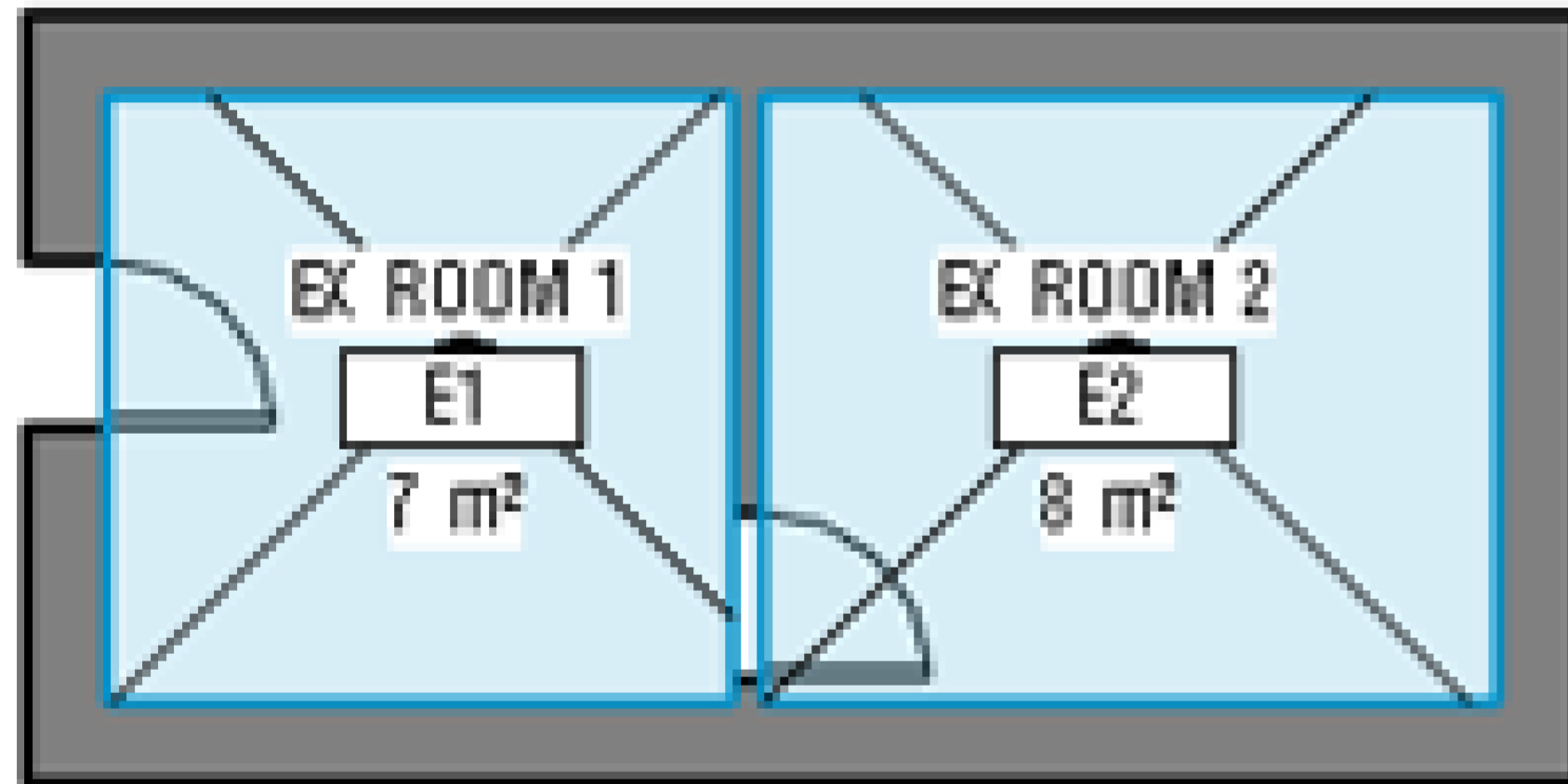
Want to demolish the finish of a wall but keep the rest? Create two different walls and only demolish the finish one. Like in this example.



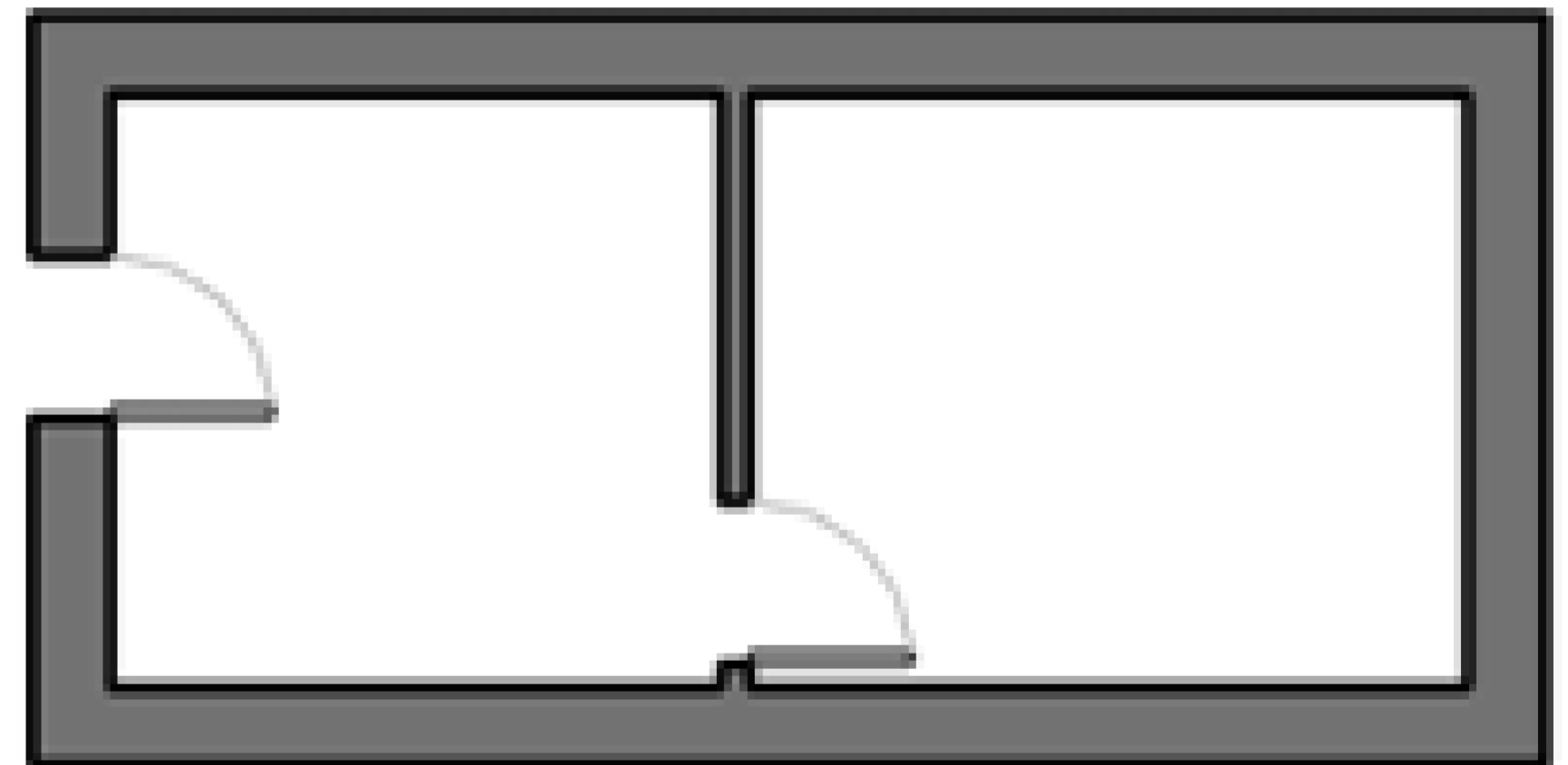
ROOMS ARE ONLY VISIBLE IN A SINGLE PHASE

Rooms created in the existing phase will only be visible in “existing” views, regardless of the phase filter.

That is a quite annoying issue when creating demolition plan where you can't show room tags from existing rooms.



PHASE: EXISTING
ROOMS: VISIBLE



PHASE: NEW
ROOMS ARE GONE :(



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PROJECT BROWSER WITH PHASES

It's a good idea to create view types specific to phases in renovation projects, like in the image below.

