



ASAS AUTODESK REVIT V.2027

Tutorial menyeluruh bagi pengguna baru

Penulis:

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Tutorial menyeluruh bagi pengguna baru

Hakcipta @ 2026 oleh Politeknik Sultan Salahuddin Abdul Aziz Shah. Hakcipta terpelihara. Tidak dibenarkan mengeluarkan ulang mana-mana bahagian artikel, ilustrasi dan isi kandungan buku ini dalam apa juga bentuk dan dengan cara apa juga sama ada secara elektronik, fotokopi, mekanik, rakaman atau cara lain sebelum mendapat izin bertulis daripada penulis.

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ASAS AUTODESK REVIT V.2027

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PENGHARGAAN

Syukur ke hadrat Allah SWT kerana dengan izin dan limpah kurnia-Nya, buku ini berjaya diterbitkan sebagai panduan asas kepada pengguna yang ingin mempelajari aplikasi Autodesk Revit.

Setinggi-tinggi penghargaan dan terima kasih saya rakamkan kepada para pengajar, pensyarah, guru serta pelajar yang sudi menggunakan buku ini sebagai bahan rujukan dan panduan dalam proses pembelajaran dan pengajaran. Sokongan, maklum balas serta galakan yang diberikan amat bermakna dalam usaha menghasilkan bahan pembelajaran yang lebih bermanfaat dan mudah difahami.

Buku ini diterbitkan dengan harapan dapat membantu pengguna baharu memahami konsep dan penggunaan Autodesk Revit secara lebih sistematik dan berkesan. Semoga segala ilmu dan panduan yang terkandung di dalam buku ini dapat dimanfaatkan sepenuhnya serta menjadi rujukan yang berguna kepada semua pembaca.

Akhir kata, saya berharap buku ini dapat menyumbang ke arah peningkatan pengetahuan dan kemahiran dalam bidang Pemodelan Maklumat Bangunan (Building Information Modeling, BIM) serta memberi manfaat yang berpanjangan kepada semua.

Sekian, terima kasih

NoorLazwa

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Pengenalan

CAD vs BIM

CAD ialah singkatan bagi Computer Aided Drafting

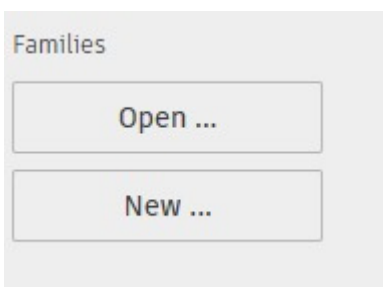
- Dalam CAD, kita tidak mereka bentuk atau model.
- Satu garisan dalam CAD boleh bermakna apa sahaja. Ia boleh bermaksud pinggir luar dinding, garisan wayar elektrik atau garisan paip air
- Dalam CAD, pelan, ketinggian bahagian dan butiran hendaklah dilukis dalam fail berasingan
- Helaian itu tidak saling berkaitan dengan apa-apa cara kecuali dalam fikiran pereka/*drafter* yang mereka bentuknya
- Jika satu bahagian dalam projek berubah, jurutera mesti menyemak semula lukisan yang berkaitan dan mengubahnya secara manual

BIM ialah singkatan bagi Pemodelan Maklumat Bangunan (Building Information Modelling).

- BIM merupakan pendekatan moden untuk mereka bentuk, membina dan mengurus bangunan.
- Model dihasilkan dalam bentuk tiga dimensi (3D) menggunakan elemen pintar seperti:
 - dinding;
 - pintu;
 - lantai;
 - siling; dan
 - bumbung.
- Pengguna tidak hanya bergantung pada garisan, lengkok atau bulatan seperti dalam kaedah lukisan konvensional.
- Setiap elemen pintar mengandungi pelbagai maklumat berkaitan ciri dan fungsinya.
- Sesetengah elemen memerlukan elemen perumah. Contohnya, pintu dan tingkap memerlukan dinding sebagai elemen perumah.
- BIM menyokong konsep parametrik, iaitu elemen-elemen dalam model saling memahami hubungan antara satu sama lain.
- BIM turut menyokong perkongsian maklumat dan kerjasama antara pengguna.
- Sebarang perubahan atau kemas kini yang dibuat oleh seorang pengguna dapat diketahui dan diakses oleh pengguna lain.

- Revit Architecture merupakan salah satu penyelesaian BIM yang sesuai untuk golongan pereka profesional, termasuk arkitek dan jurutera. Perisian ini digunakan secara meluas dalam industri seni bina, kejuruteraan dan pembinaan pada masa kini.
- Revit Architecture berasaskan konsep penghasilan keseluruhan model bangunan dalam satu fail yang mengandungi semua elemen seni bina. Walaupun model yang dibangunkan bersaiz besar dan kompleks, semua elemen tersebut masih boleh disimpan dan diuruskan dalam satu fail projek.
- Selain itu, Revit Architecture dilengkapi dengan keupayaan perkongsian maklumat dan pengemaskinian model secara bersepadu. Keupayaan ini membolehkan ahli pasukan bekerjasama dengan lebih cekap serta sejajar dengan perkembangan teknologi perisian masa kini.

Memulakan Autodesk Revit 2027



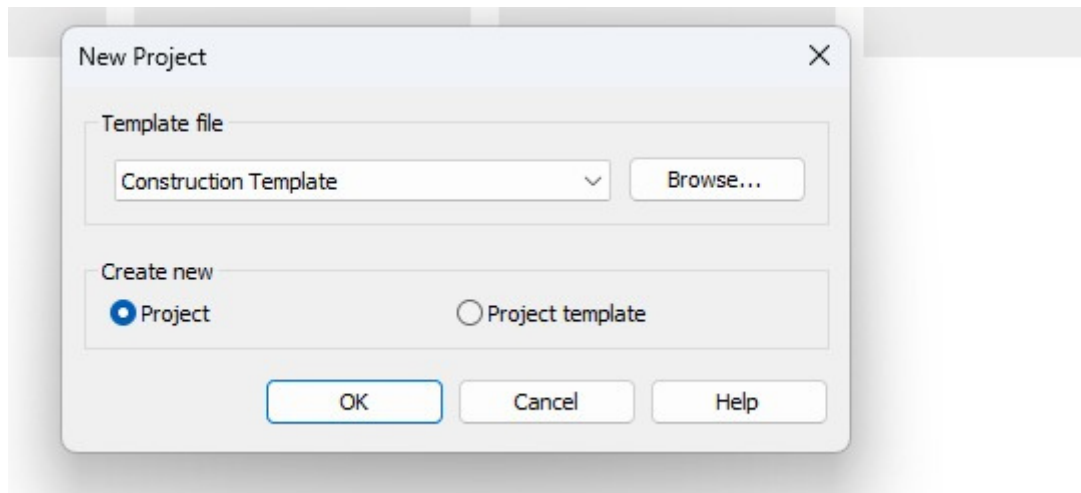
PART OF THE MODELS



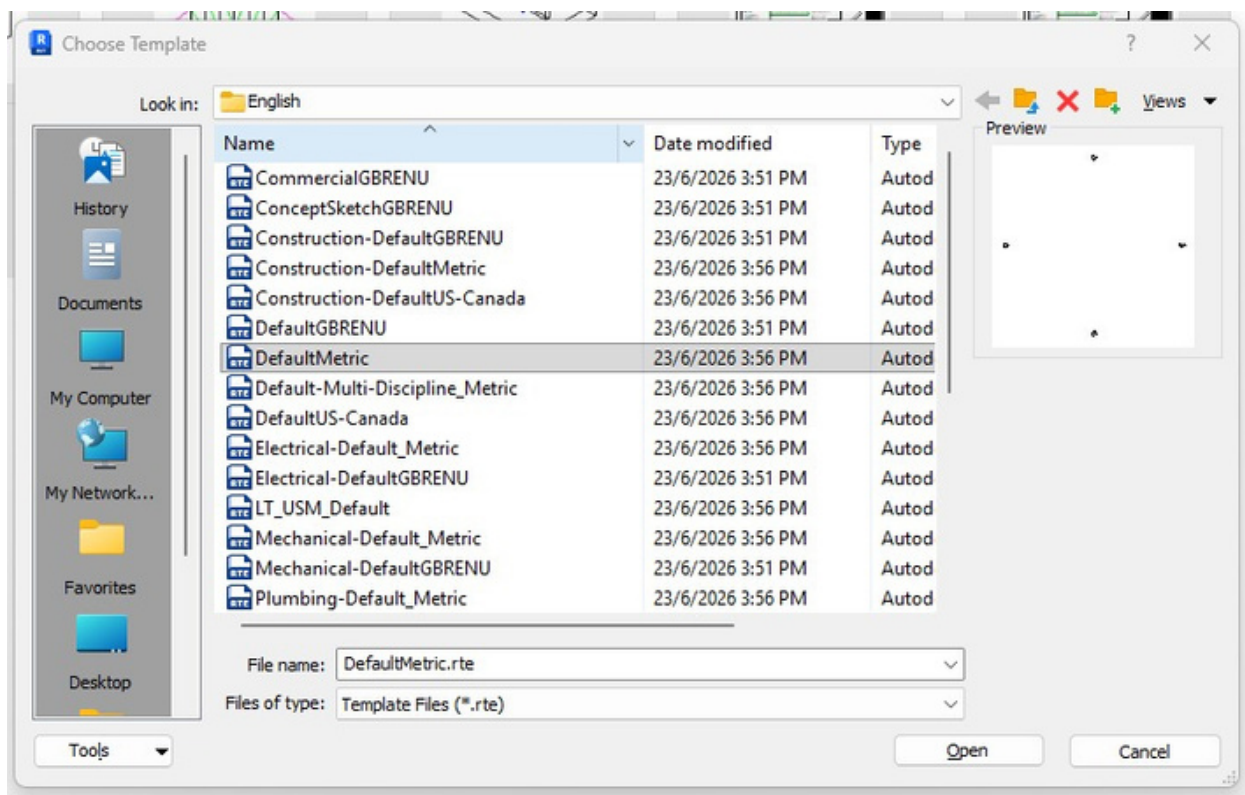
THE WHOLE PROJECT

To start project

pada Model click New. Kemudian click Browse



Ambil Default metric, click open



Then click OK

Revit ada 3 file name:

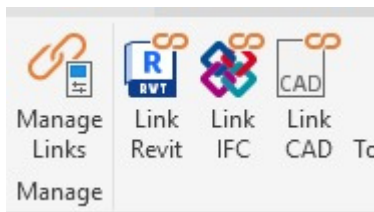
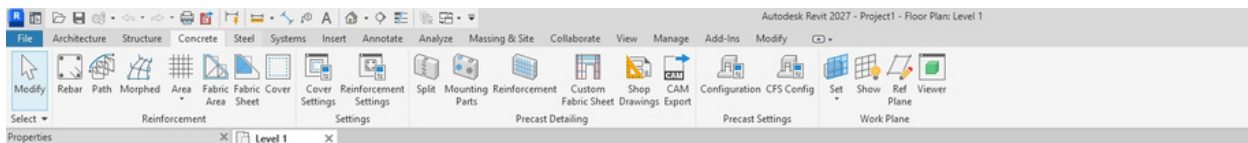
.rte — template

.rvt — revit

.rfa — family

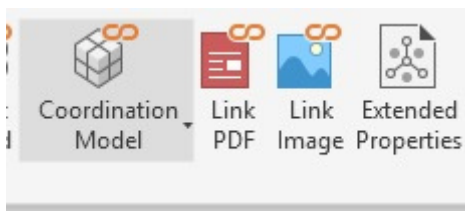
Ada 3 pecahan paparan pada main interface

A) Ribbon (belah atas)



Link IFC = international link

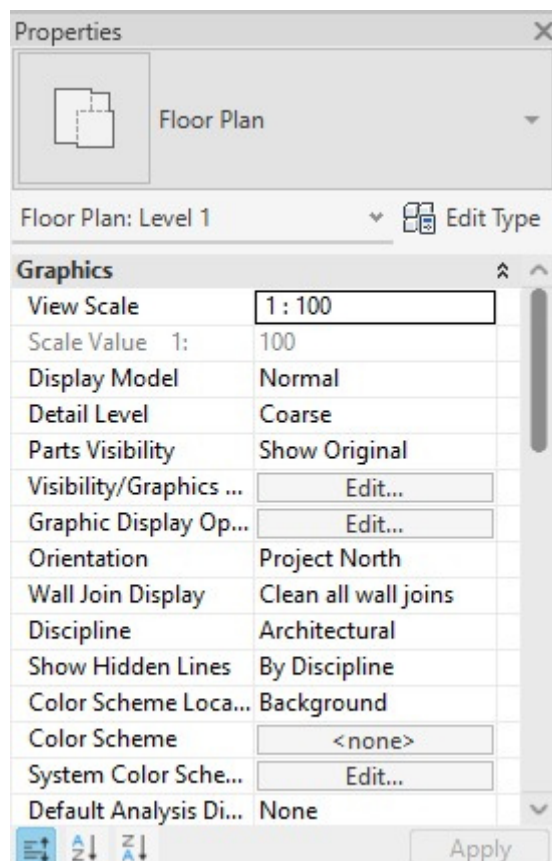
Link CAD = utk autoCAD



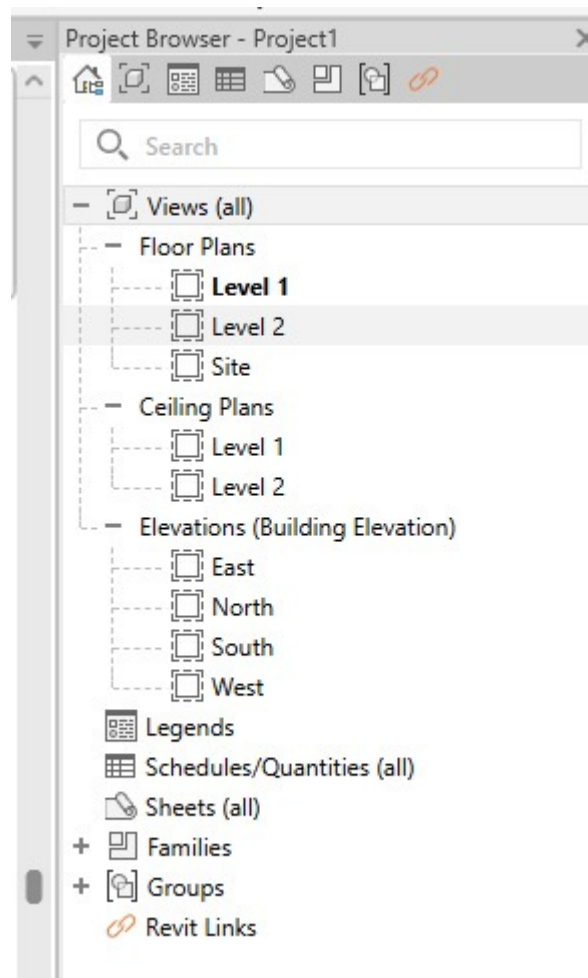
Link PDF = only generate from autodesk

Ribbon yang biasa digunakan ialah Architecture, Annotate, View, Manage

B) Properties (belah kiri)

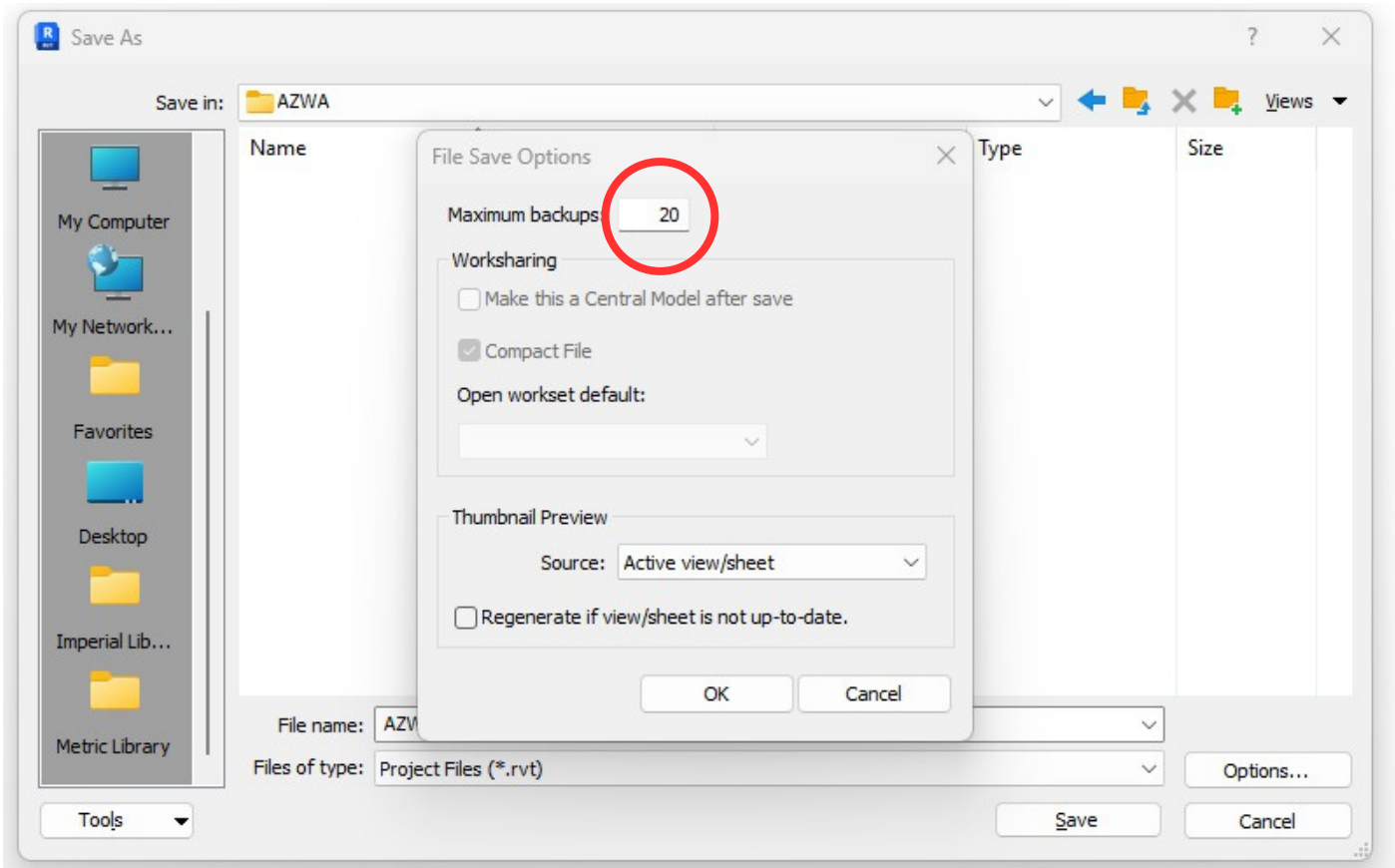


C) Project Browser (belah kanan)



To save project (untuk menyimpan projek)

1. Save AS
2. click Save As > choose Project
3. click Options > 2 (maximum backups) – number of files



To start a Project & draw horizontal lines

On Manage Tab

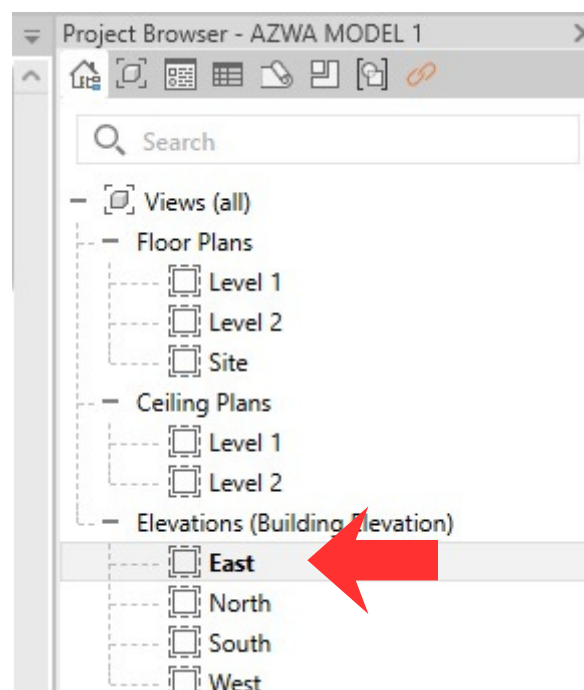
1. click Project Information

Parameter	Value
Identity Data	
Organization Name	
Organization Description	
Building Name	
Author	noorulazwa
IFC Parameters	
IfcSite GUID	
IfcBuilding GUID	
IfcProject GUID	
Route Analysis	
Route Analysis Settings	Edit

click OK

2. Tgk floor plan > tgk elevation

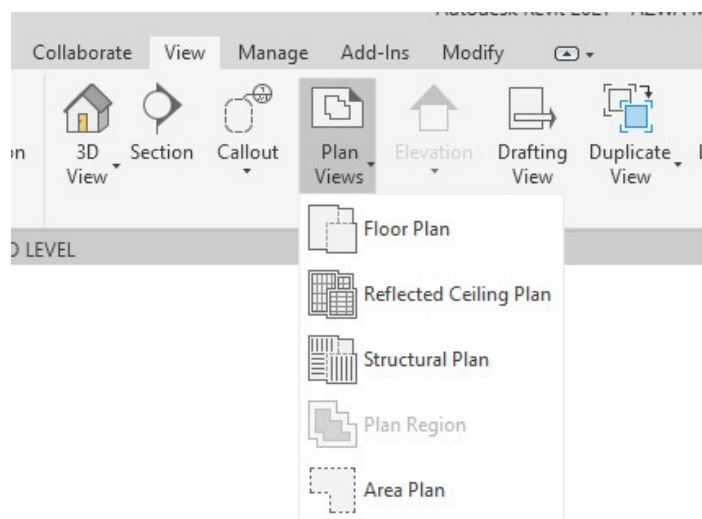
So at Revit, on project browser, double click on east



3. To start draw horizontal line, on Architecture Tab > click Label > bawak cursor ke lukisan

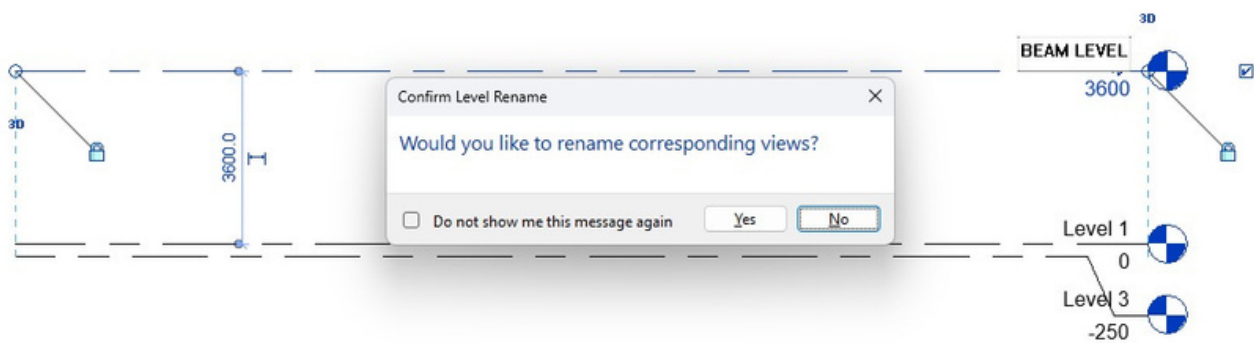


4. To ACTIVATE new level (sebab line beza warna biru & hitam), utk tukar semua ke warna biru, click VIEW tab, double click floor plan

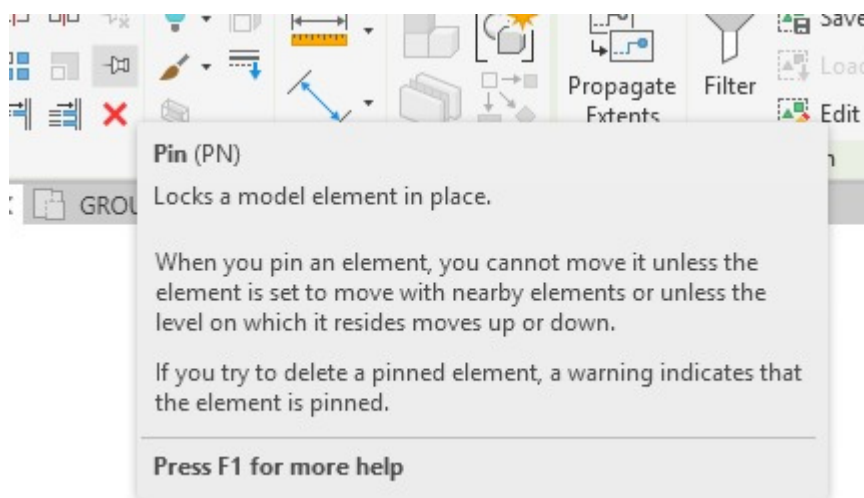


Untick do not duplicate > then OK

5. Untuk Rename floor name, double click and type new name, and enter, new popup appear > Click YES



6. Select ALL LEVEL lines, and on Modify Tab, click Pin

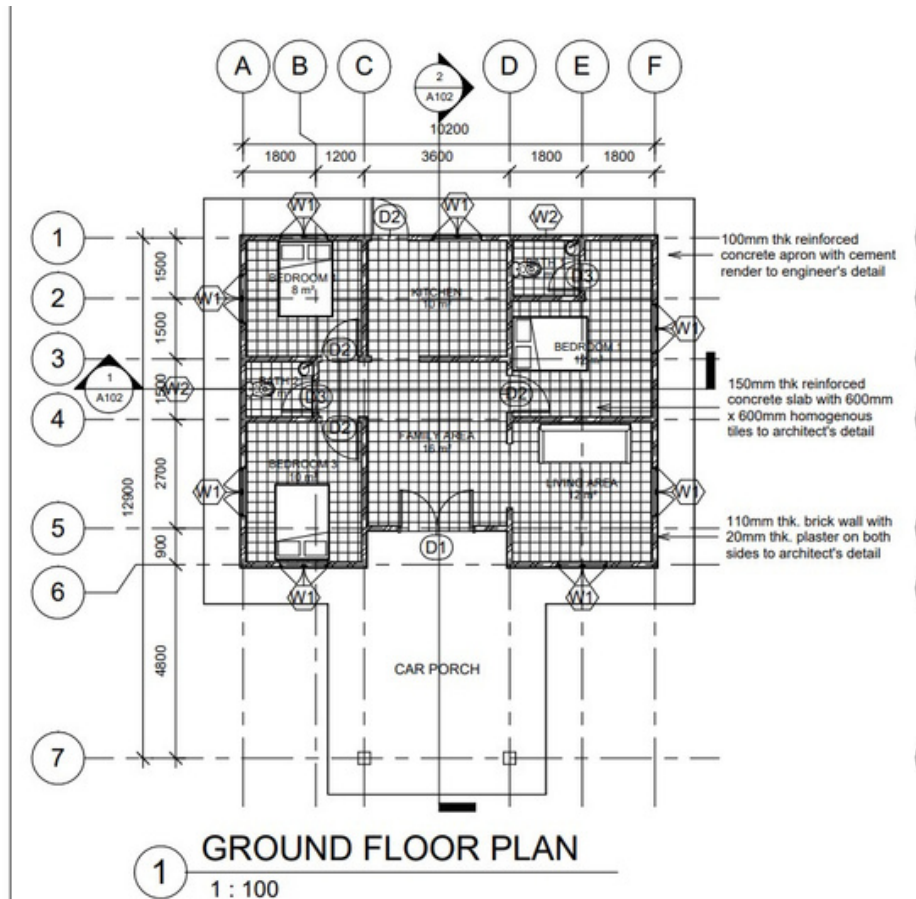


Pin utk kekalkan LEVEL tu

7. On Project Browser, click Site



8. To start Draw like plan below, click Architecture > select Grid > draw seven horizontal lines > click from right to left

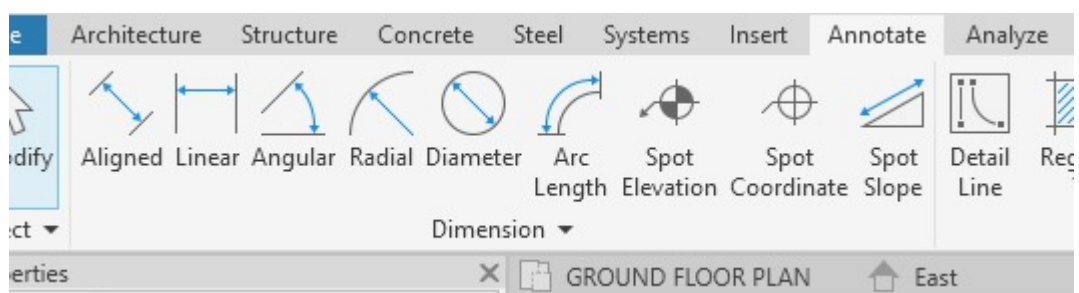


9. If the lines to long, click all the lines and then drag one of the line to shorten

click at each line, change the dimensions, key in according to floor plan

10. Untuk cek line kita lukis tu betul dimensions

click annotate > click Aligned and click pada horizontal lines



To draw vertical lines (untuk melukis garisan tegak)

click Architecture > click Grid, start draw from below to top(easier so the bubble will appear on top)

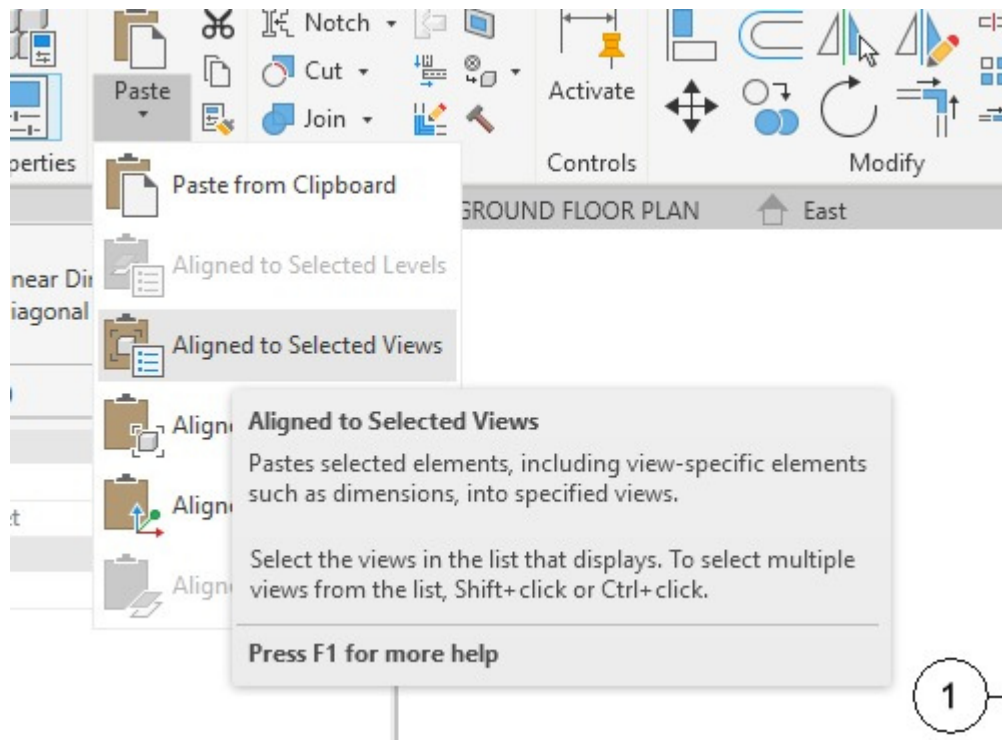
Repeat the same step like horizontal lines

Select All Lines (horizontal & vertical), click MOVE > click at intersection A1 > move to project base point

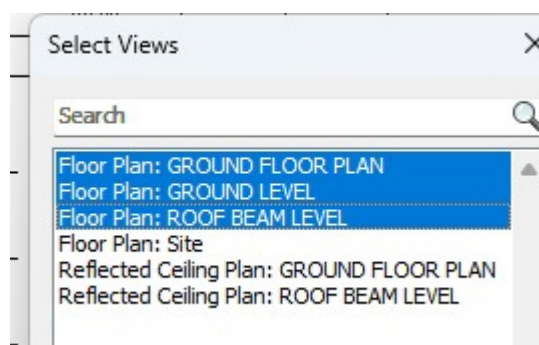
So all levels have the same plan. But no dimensions

To appear dimensions

Select All, click filter > copy > click paste > select none but activate dimensions >



Use shift keyboard > Select only floor plans > click OK

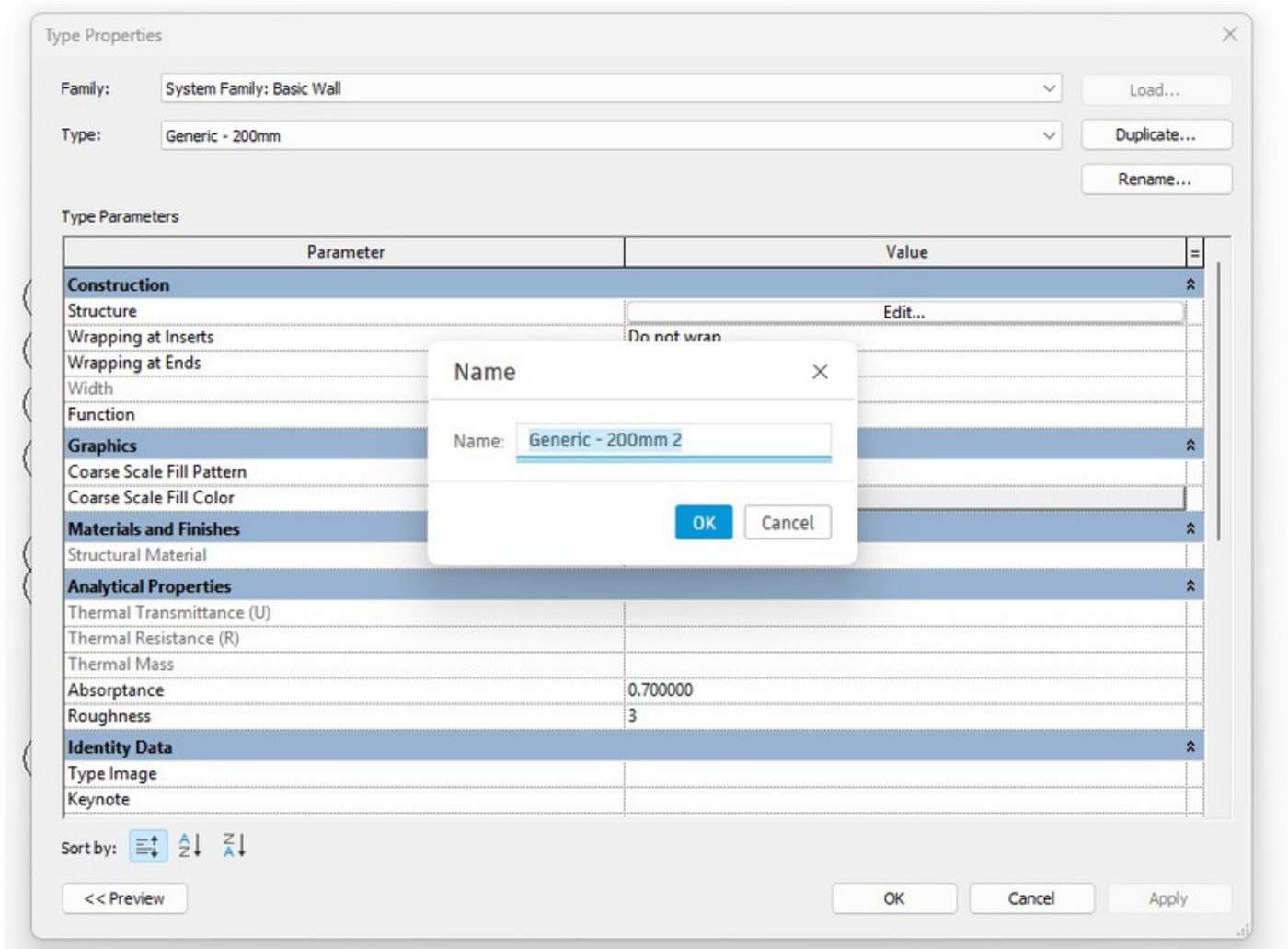


To secure the gridlines, on Site plan, select all lines, and PIN

Only activate on ground floor plan, close other plan

To Draw Wall

click wall > Wall architecture > edit type > duplicate to create new wall



Rename (150mm brickwall) > OK > on descriptions (scroll down) > paste the information

On construction tab > click Edit

Edit Assembly

Family: Basic Wall
 Type: 150mm brickwall
 Total thickness: 200.0 (Default)
 Resistance (R): 0.0000 (m²·K)/W
 Thermal Mass: 0.00 kJ/(m²·K)

Sample Height: 6000.0

Layers

EXTERIOR SIDE							
	Function	Priority	Material	Thickness	Wraps	Structural Material	Variable
1	Core Boundary		Layers Above Wrap	0.0			
2	Structure	1	<By Category>	200.0	☐	☒	☐
3	Core Boundary		Layers Below Wrap	0.0			
INTERIOR SIDE							

Insert Duplicate Delete Up Down

Default Wrapping
 At Inserts: Do not wrap
 At Ends: None

Modify Vertical Structure (Section Preview only)
 Modify Merge Regions Sweeps
 Assign Layers Split Region Reveals

OK Cancel Help

<< Preview

To add new layers, click Insert. Follow the drawings (2 plasters and 1 brickwall) > so we need 3 layers

And then move up & down

Edit Assembly

Family: Basic Wall
 Type: 150mm brickwall
 Total thickness: 130.0 (Default)
 Resistance (R): 0.0000 (m²·K)/W
 Thermal Mass: 0.00 kJ/(m²·K)

Sample Height: 6000.0

Layers

EXTERIOR SIDE							
	Function	Priority	Material	Thickness	Wraps	Structural Material	Variable
1	Structure	1	<By Category>	20.0	☒	☐	☐
2	Core Boundary		Layers Above Wrap	0.0			
3	Structure	1	<By Category>	110.0	☐	☒	☐
4	Core Boundary		Layers Below Wrap	0.0			
5	Structure	1	<By Category>	20	☒	☐	☐
INTERIOR SIDE							

Insert Duplicate Delete Up Down

Default Wrapping
 At Inserts: Do not wrap
 At Ends: None

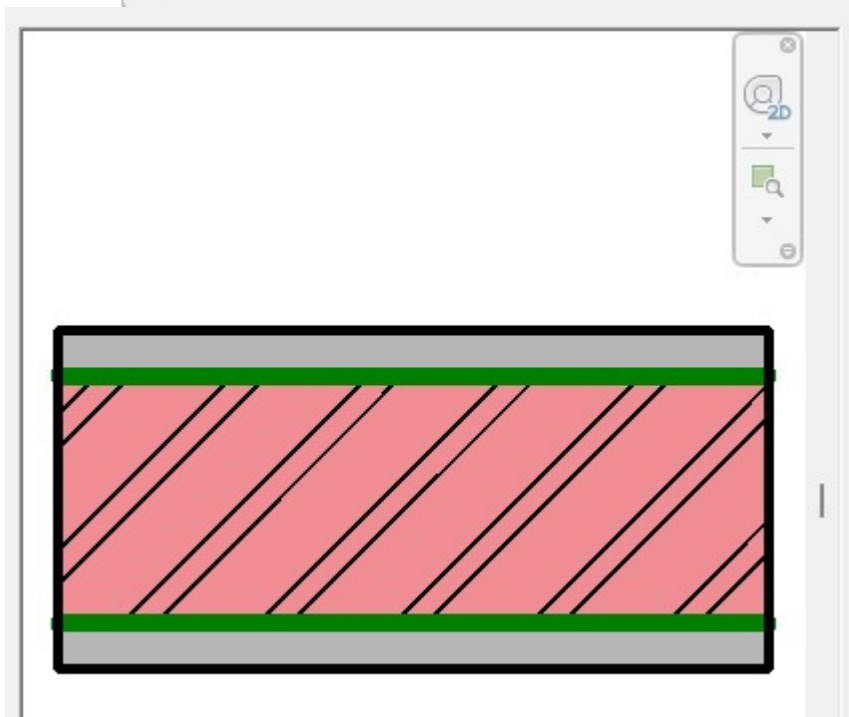
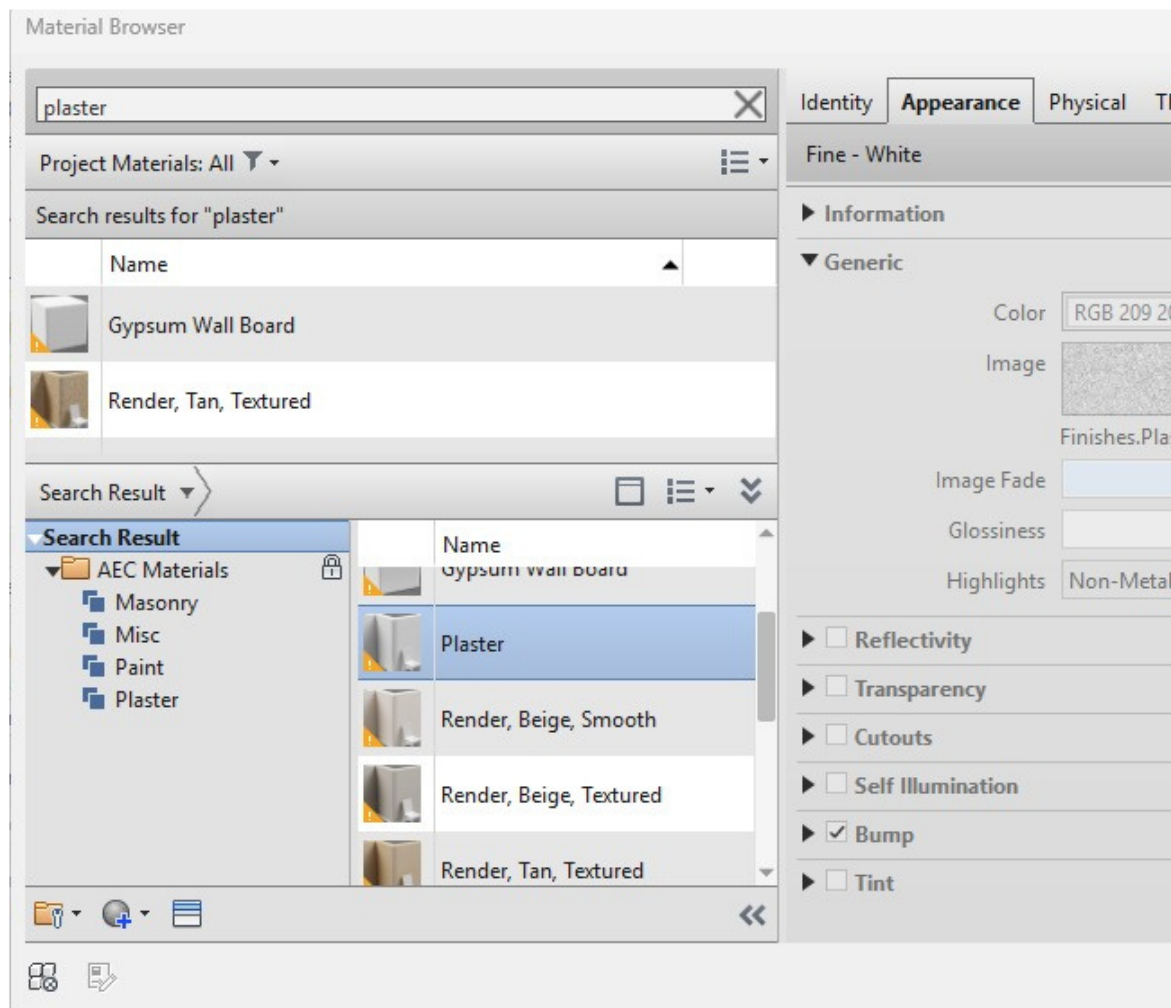
Modify Vertical Structure (Section Preview only)
 Modify Merge Regions Sweeps
 Assign Layers Split Region Reveals

OK Cancel Help

<< Preview

On materials by category, click properties, choose brick wall & plasters.

If plasters tiada pada project, search at the Library > choose plasters > click OK



Click Preview

On the Properties, Top Constraint > choose Up to Level Roof Beam

Draw the brickwall on the lines > draw according to the whole floor plans

On below tab, change to Shaded & Fine



Next to draw wall on Ground Level

Click Ground Level Floor Plans on Project Browser

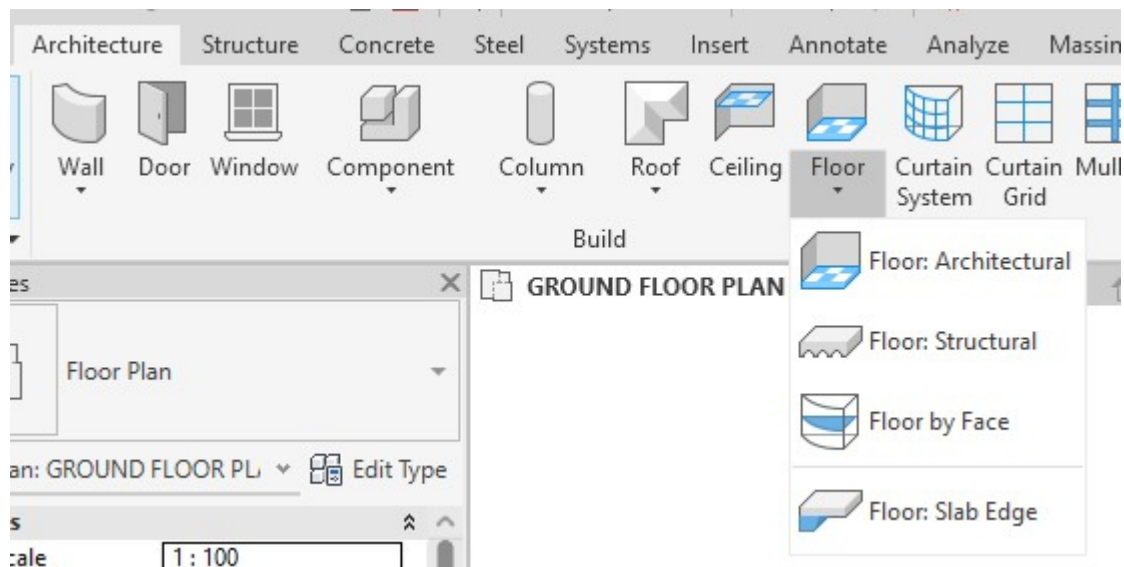
click Architecture, select Wall Architecture > check Base Constraints & Top Constraint (up to ground floor plan) > start draw Wall for perimeter only.

This one to show wall on ground level, to check, click on East.

To Draw Floors

Click Architecture > Floors Architectural > Edit Type

Duplicate file name > Rename the floor and change the description



At Edit Assembly > insert new layer

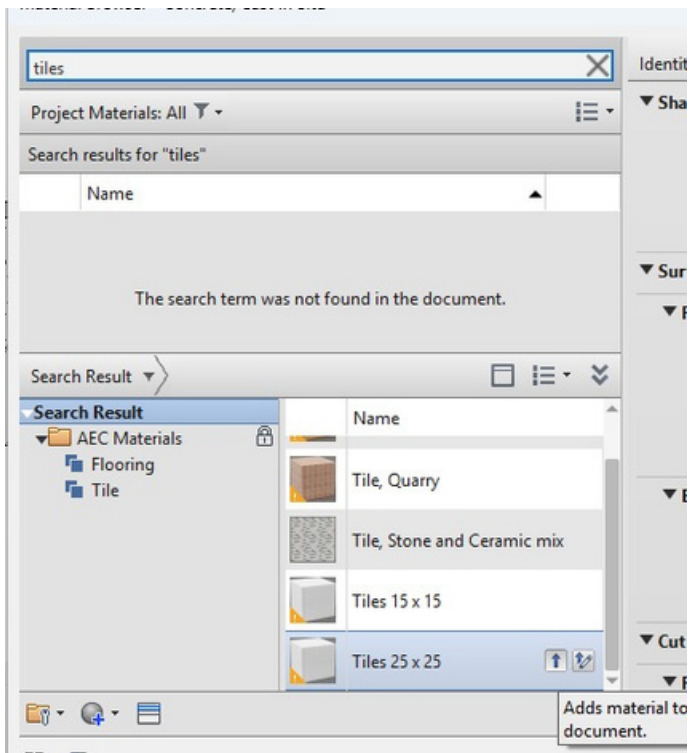
Family: Floor
 Type: 150mm Concrete Floor with 600x600 mm tiles
 Total thickness: 150.0 (Default)
 Resistance (R): 0.0000 (m²·K)/W
 Thermal Mass: 0.00 kJ/(m²·K)

Layers

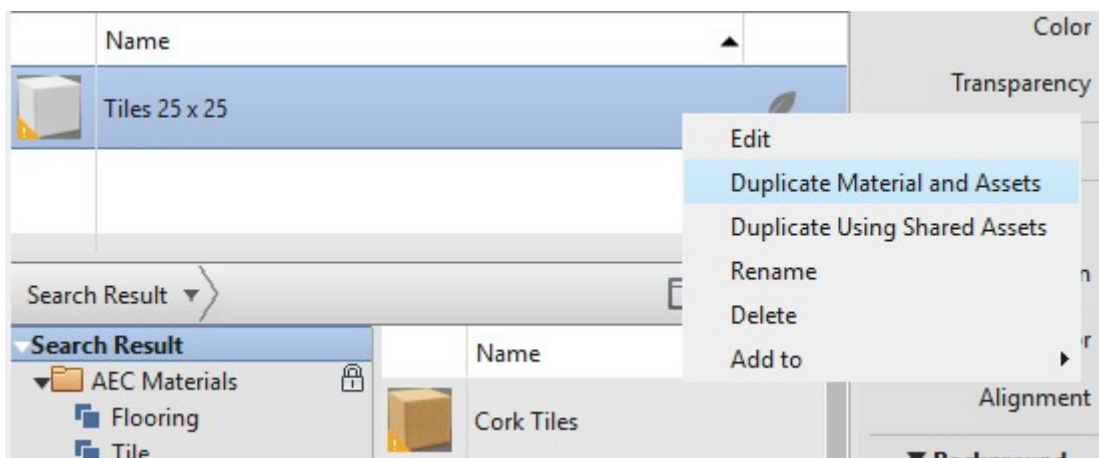
	Function	Priority	Material	Thickness	Wraps	Structural Material
1	Structure	1	<By Category>	0.0	☐	☐
2	Core Boundary		Layers Above Wrap	0.0		
3	Structure	1	<By Category>	150.0	☐	☒
4	Core Boundary		Layers Below Wrap	0.0		

Insert Duplicate Delete Up Down

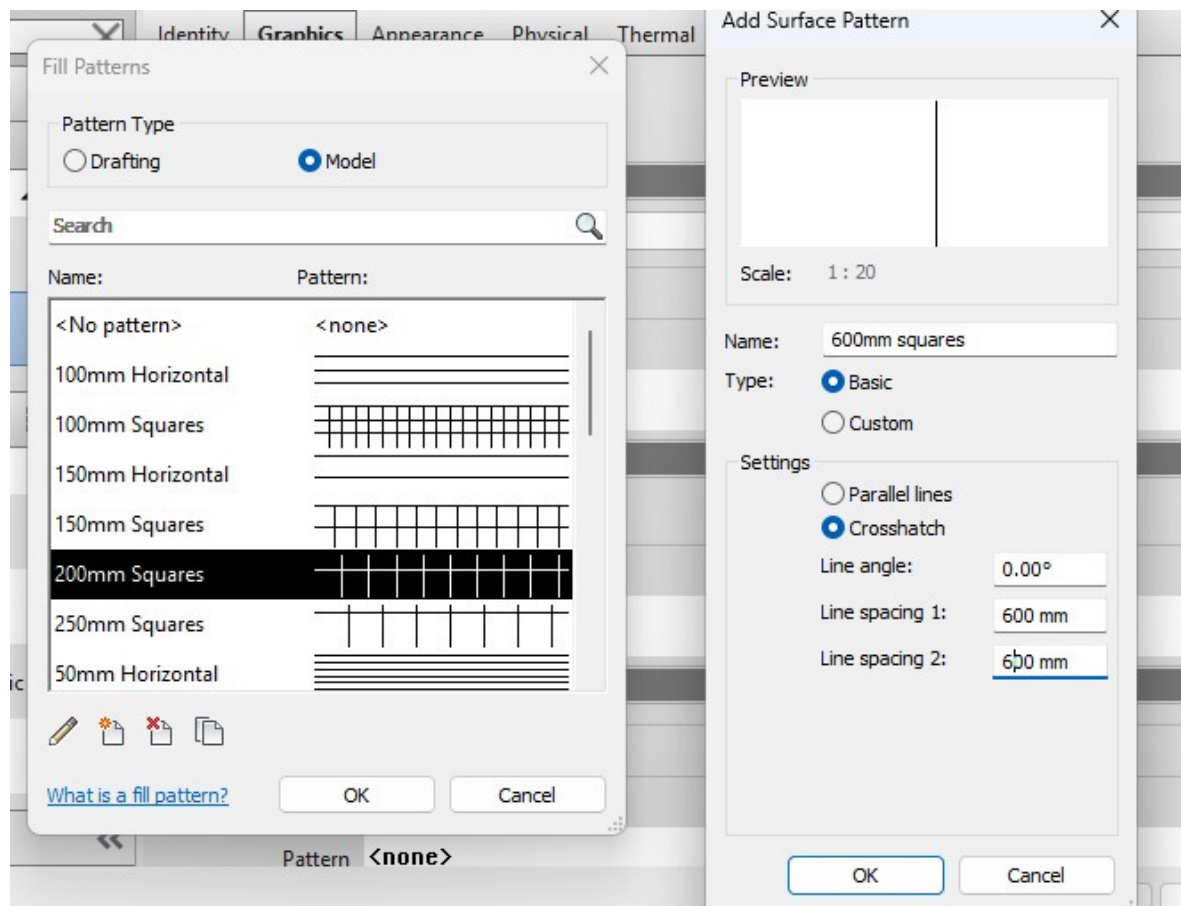
For tiles materials, type Tiles and click UP tiles size 25 x25 from library



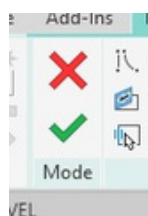
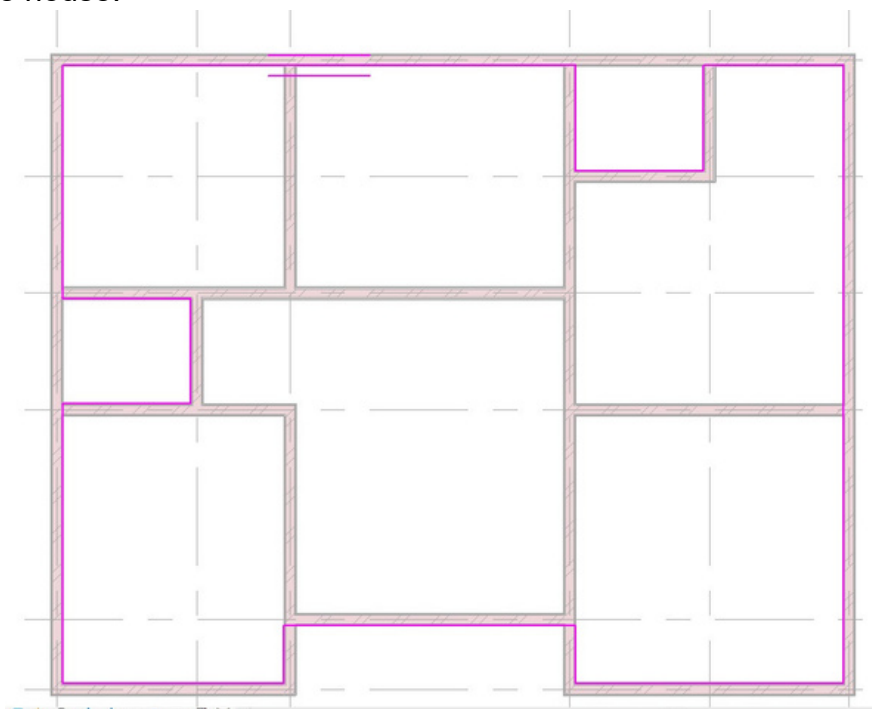
right click and rename.



On right hand side, Surface Pattern > Pattern > Model > Choose one tiles > Duplicate> resize



Start draw > at draw BOUNDARY LINE > pick LINE > start draw line for wall on the inside of the perimeter of the house.

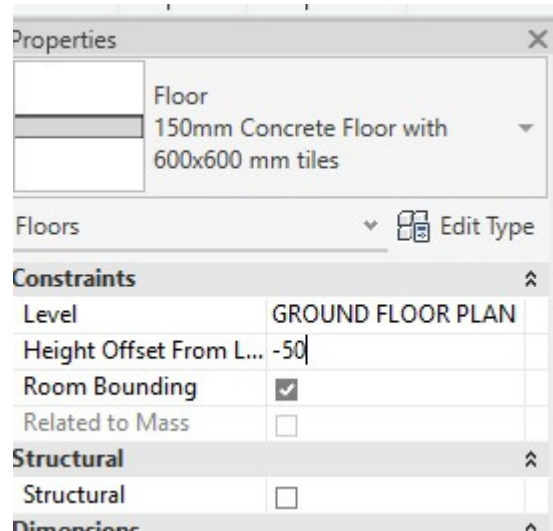


If done making line, click 

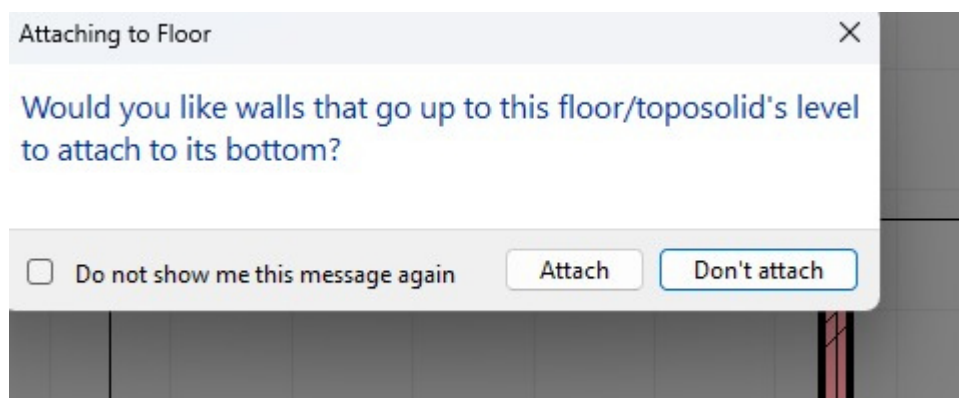
To View 3D, click house symbol on top of Tab button

To draw floor for Toilet,

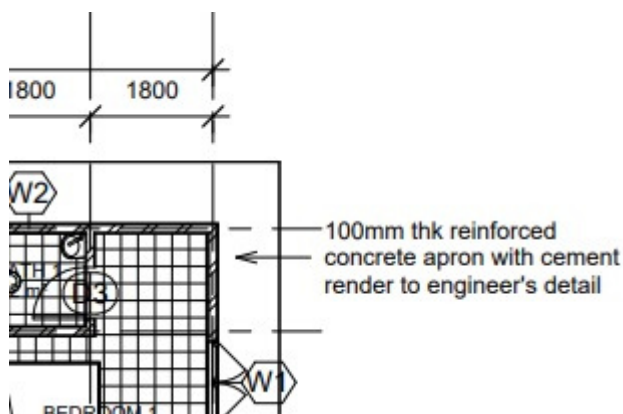
click floor > Boundary Line > Rectangle > Select toilet area in the floor plan Change the floor properties



Click ☒ > Dont Attach



To draw APRON



Click Ground Level Floor Plans, Floor Architectural > Edit Type > Duplicate > Rename '100 mm concrete apron' > Edit Assembly >

Family: Floor
 Type: 100mm Concrete Apron
 Total thickness: 150.0 (Default)
 Resistance (R): 0.1434 (m²·K)/W
 Thermal Mass: 226.67 kJ/(m²·K)

Layers

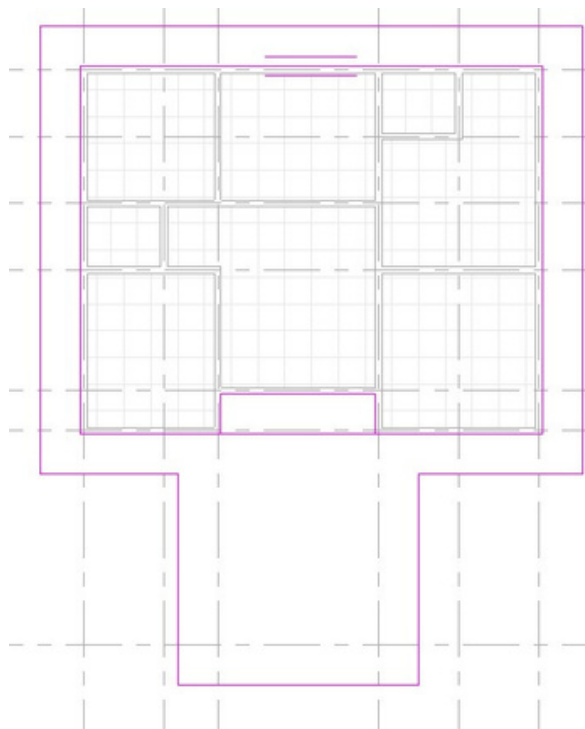
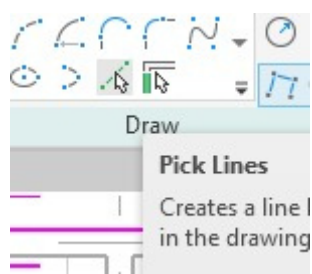
	Function	Priority	Material	Thickness	Wraps	Structural Material	
1	Core Boundary		Layers Above Wrap	0.0			
2	Structure	1	Concrete, Cast In Situ	100	☐	☒	☐
3	Core Boundary		Layers Below Wrap	0.0			

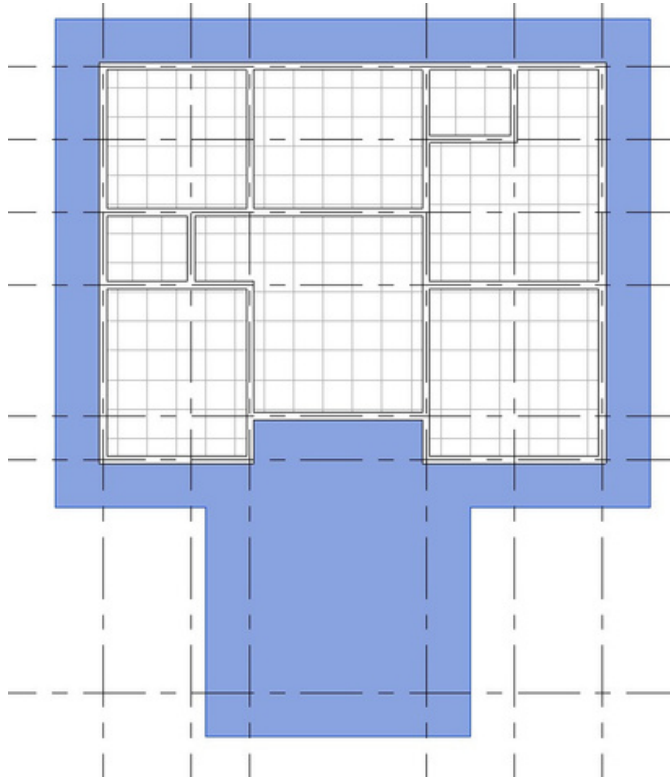
Insert Duplicate Delete Up Down

Then make border the whole outside the wall

On Edit Type, make sure the wall 'Height offset from level' is 0

Then click pick lines > Offset 900 (standard apron size)

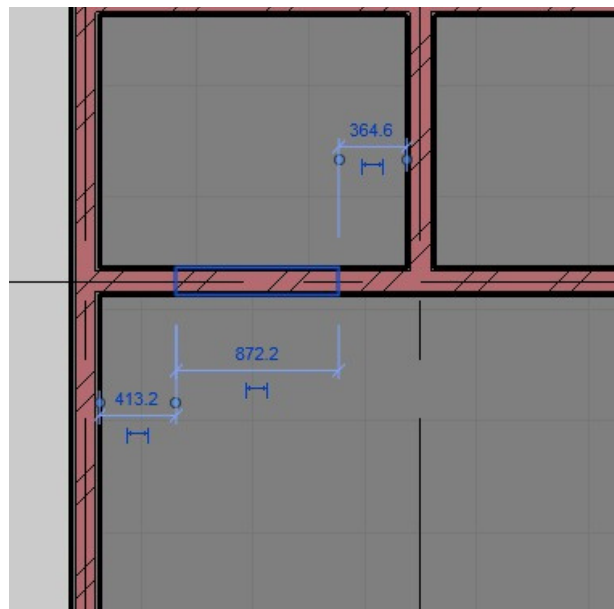


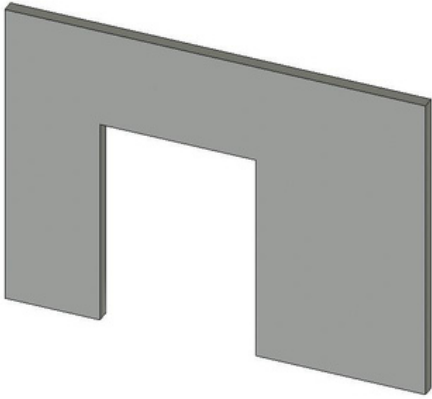


To create Wall Opening



Click Wall that needed to be opened > Click > click first point (start) and second point (end)





To create Window

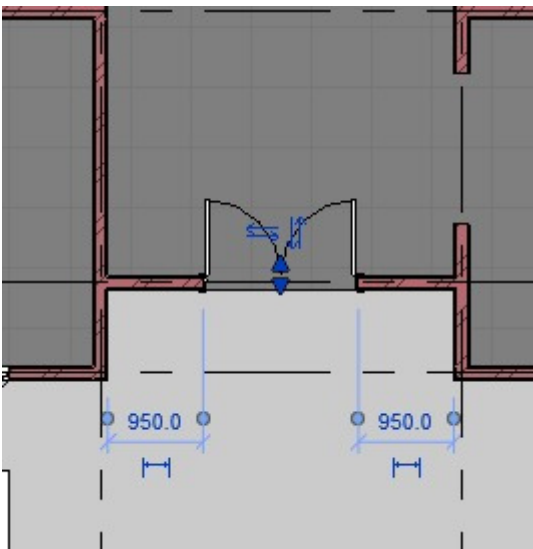
On Ground Floor Plan > Click Window > select desired window size. Make sure check the properties Then place the window according to floor plan

For toilet window, on the properties, change the still height to 1700

To create Door

Download door library at bimshares <https://bimshares.com/categories-mobiliarios/doors-for-revit/> > download

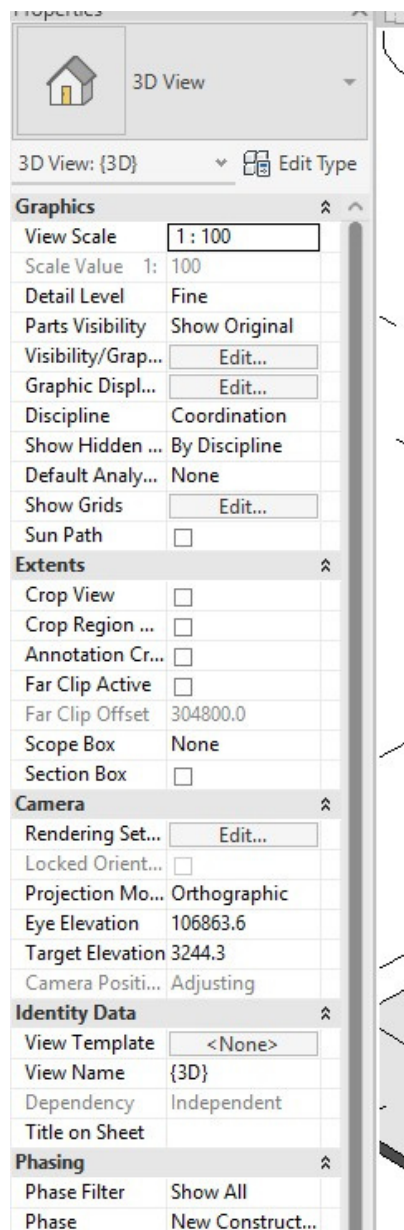
Click architecture > Door > Load family > insert door



To create ceiling

Click Architecture > Ceiling and select the floor area to cover the ceiling

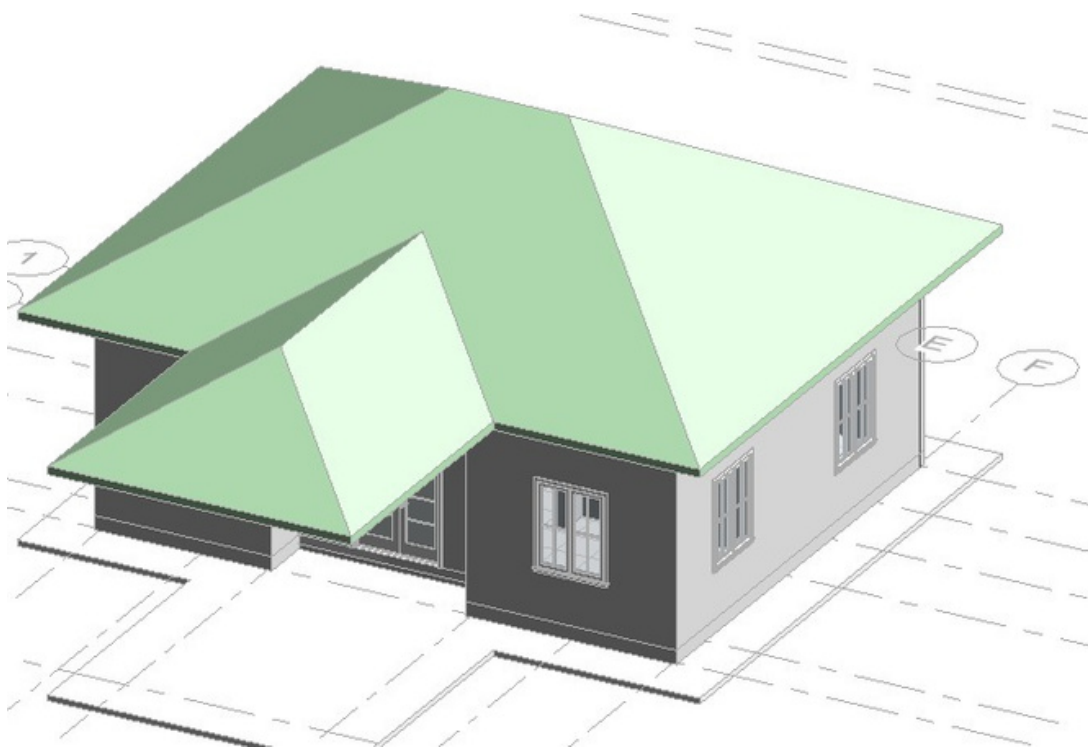
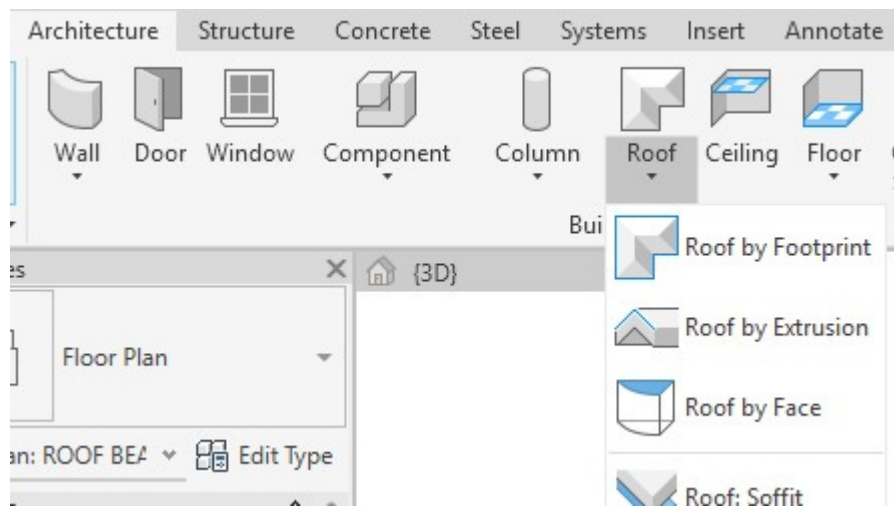
For 3D view, tick Section Box



Click Boundary line > Select the whole apron area > then click 

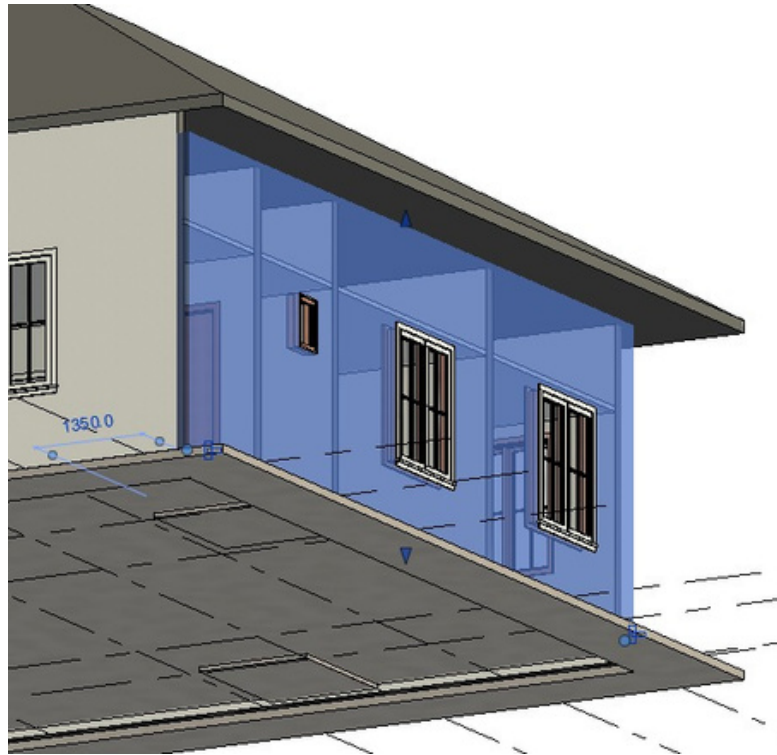
To Make Roof

click Roof Beam Level > Architectural > Roof > Roof By Foot Print > Properties Generic 125mm

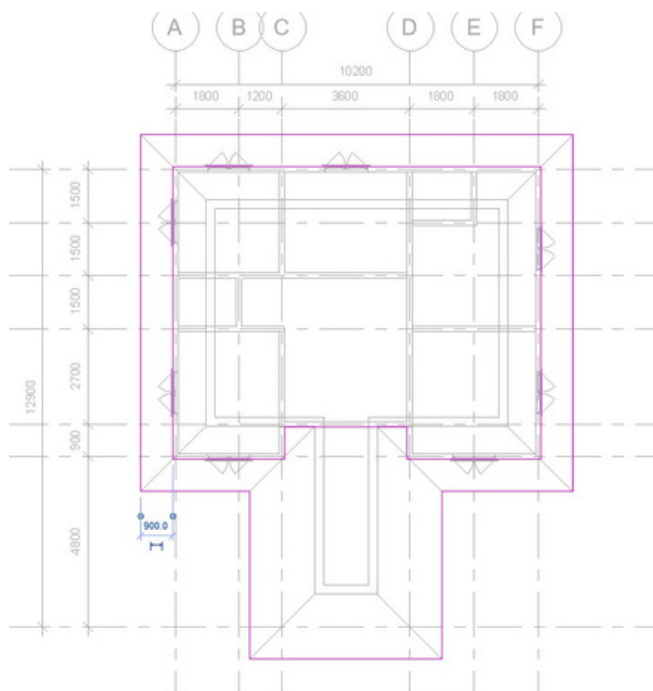


On 3D view > click Wall > Click Attach Top > Click Roof

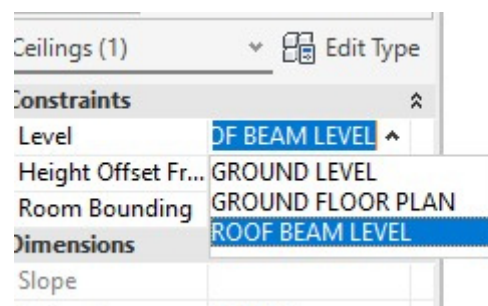
To draw Ceiling



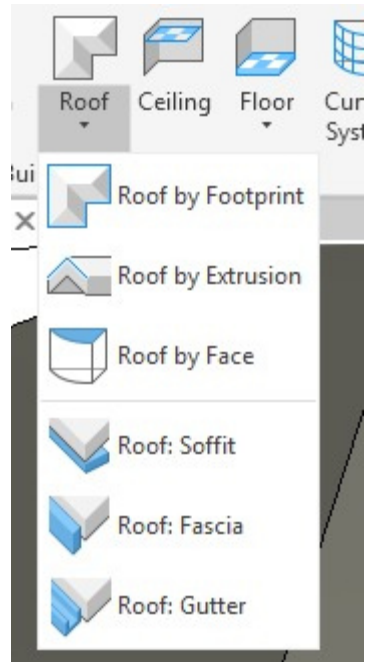
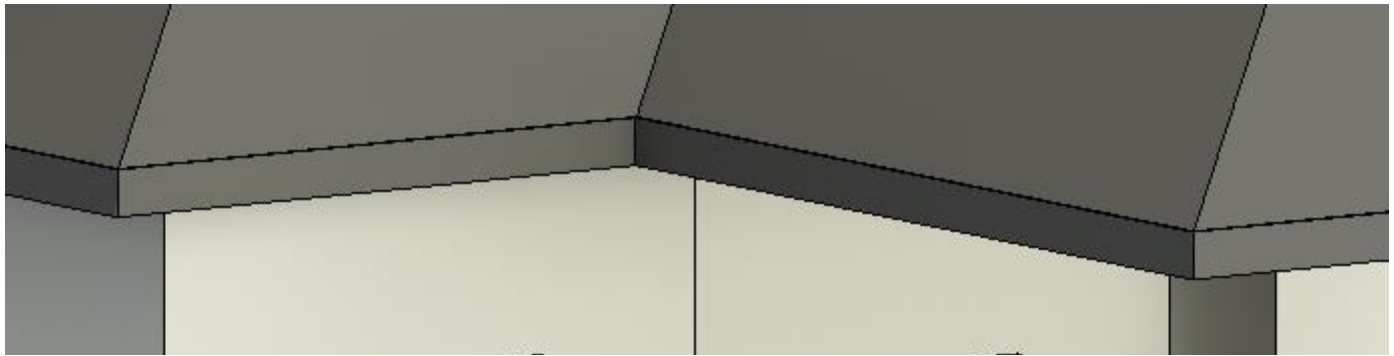
On Roof Beam Level > Click Ceiling > Sketch Ceiling > Boundary Line > Click wall boundary > tick



On 3D view, make sure properties ceiling is on Roof Beam Level & Offset is 0



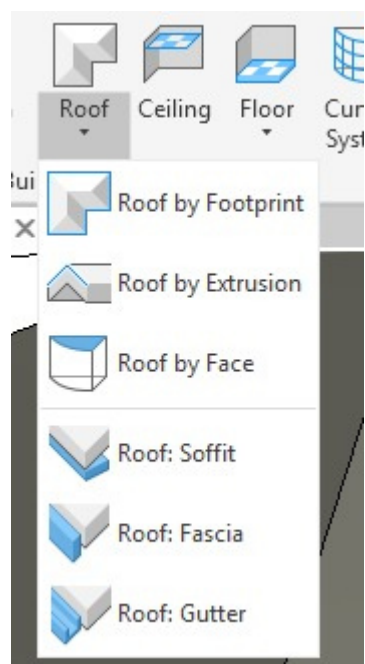
To draw Fascia



Click Architecture >

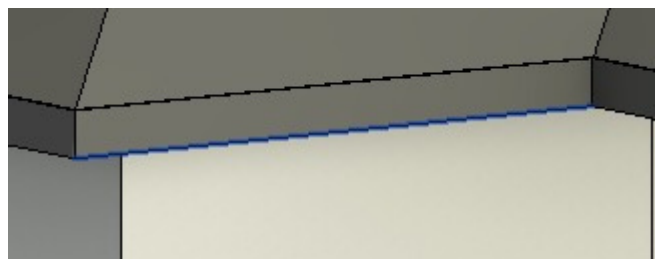
> Click line on top of roof

To draw Gutter

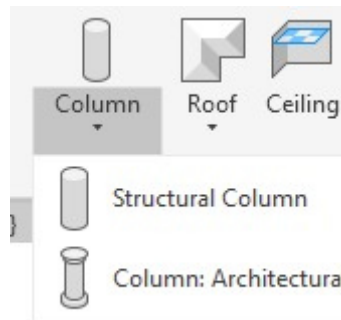


Click Architecture >

>



To add column



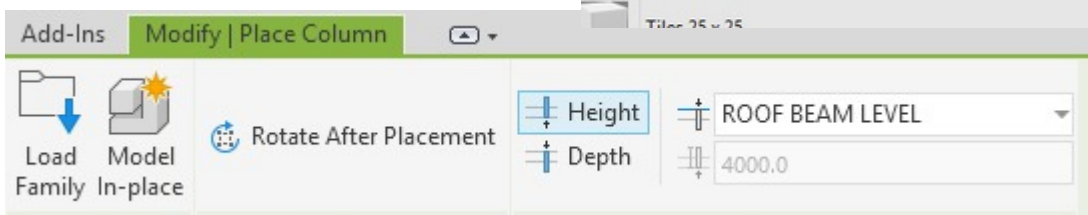
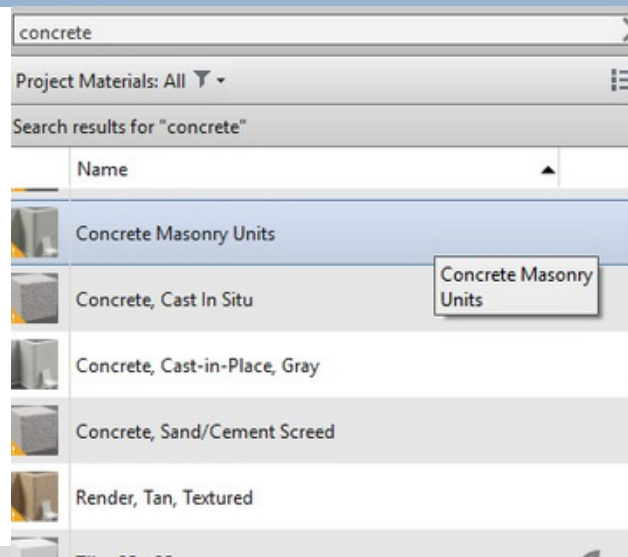
On Ground Level floor plan >Architecture >

>Properties Edit Type >

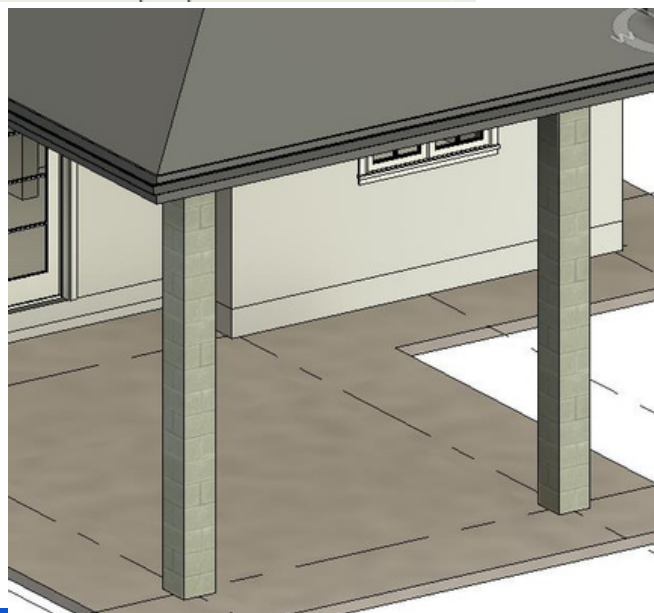
duplicate properties

Dimensions	
Depth	300.0
Offset Base	0.0
Offset Top	0.0
Width	300.0
Identity Data	

Change materials > Concrete Masonry or Cast in Situ.

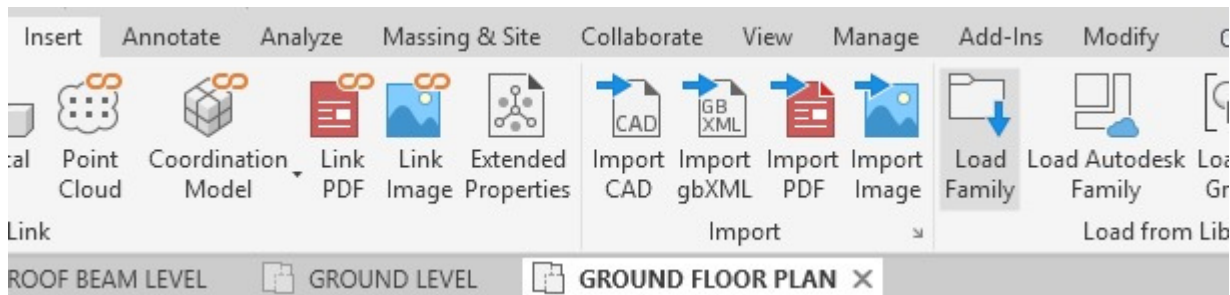


Click location of the column on floor plan

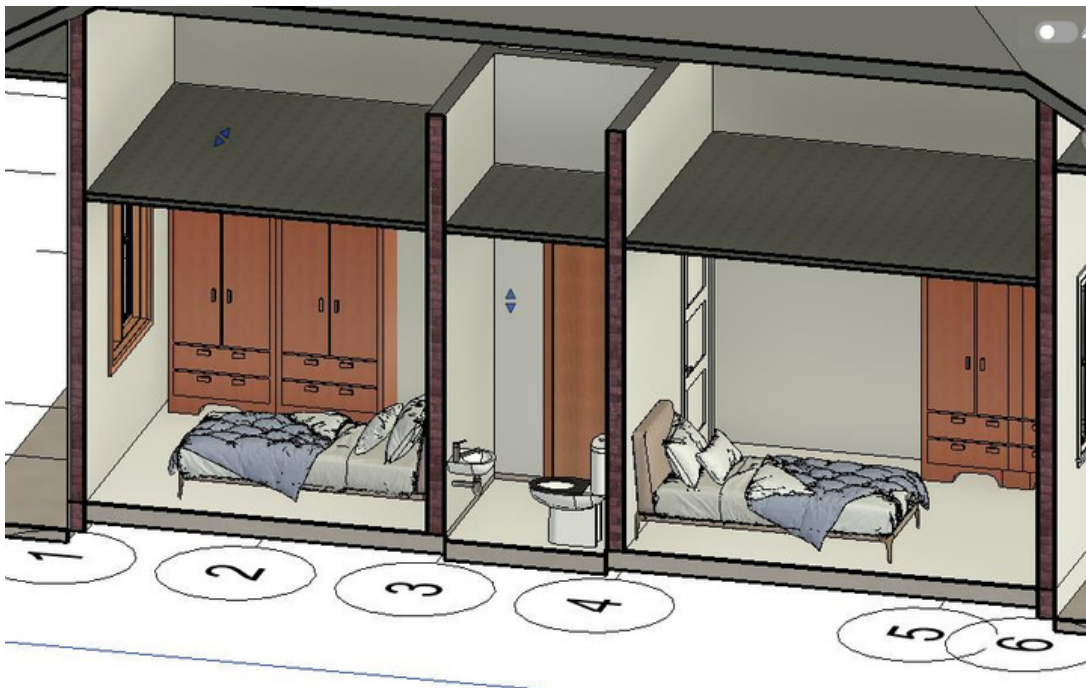


To add furniture

Insert > Load Autodesk Family > Browse the product > Click load

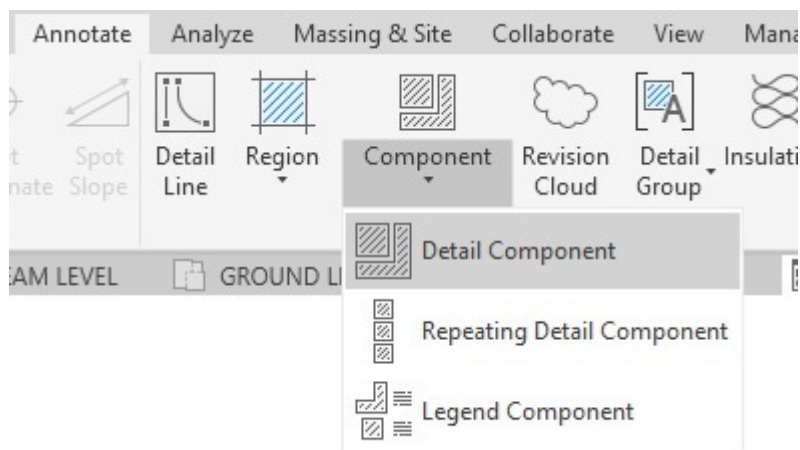
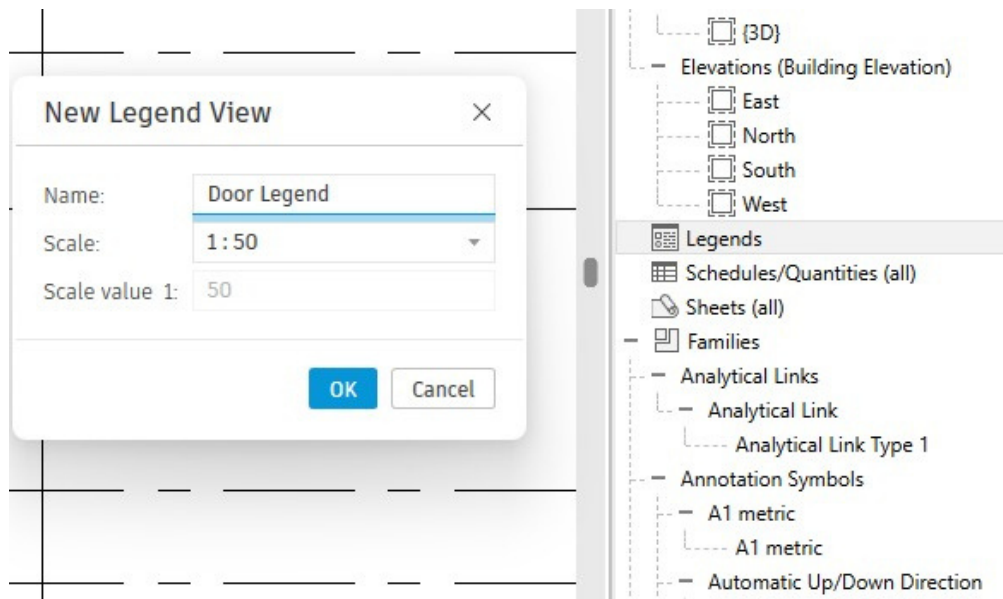


To add to floor plan > Click System > component

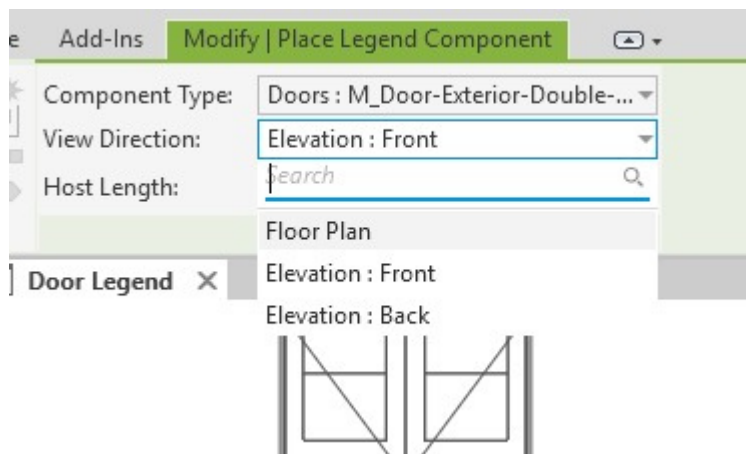


To create legend

On project browser > right click to Legend button



Choose Legend Component

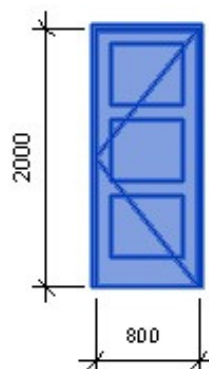


switch view direction from Front to Plan

To make box
click Annotation > Detail line > start draw

TYPE	D1	D2	D3
FRONT ELEVATION			
PLAN			
DIMENSION			
DESCRIPTION			

To write description, click on the door



on the properties, copy text

To create window legend

From Door legend > right click > click Duplicate with > duplicate with detailing

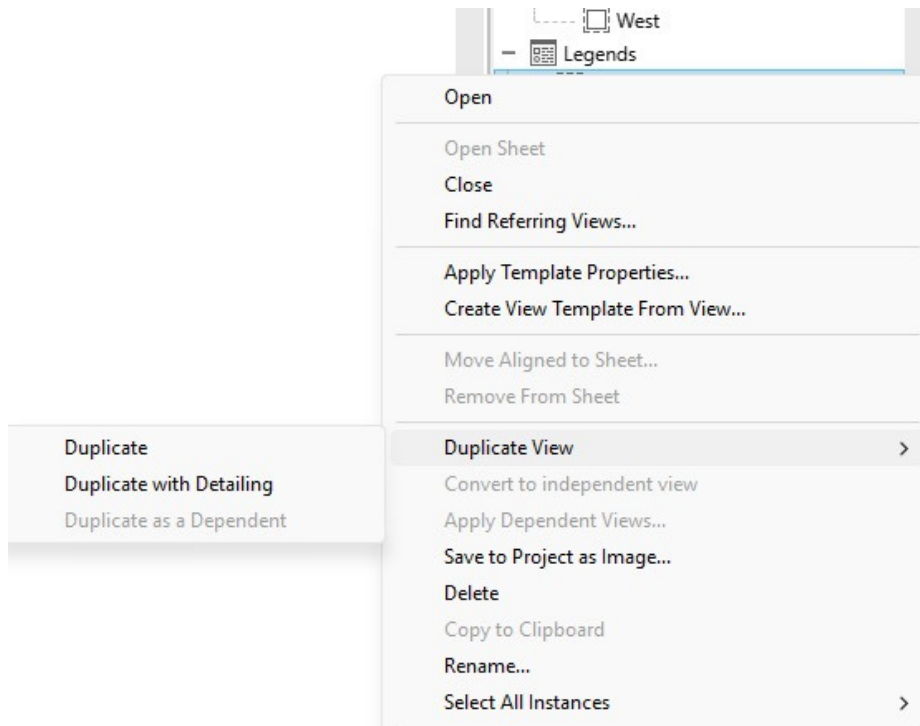
Rename the legend

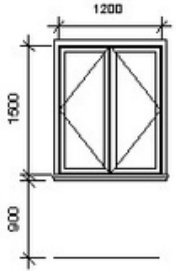
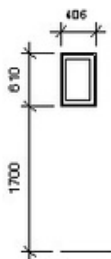
Repeat the process like Door Legend

Annotate > Component > Legend Component

Insert Window component.

To check window height from floor, go to Ground Floor Plans, check at still height



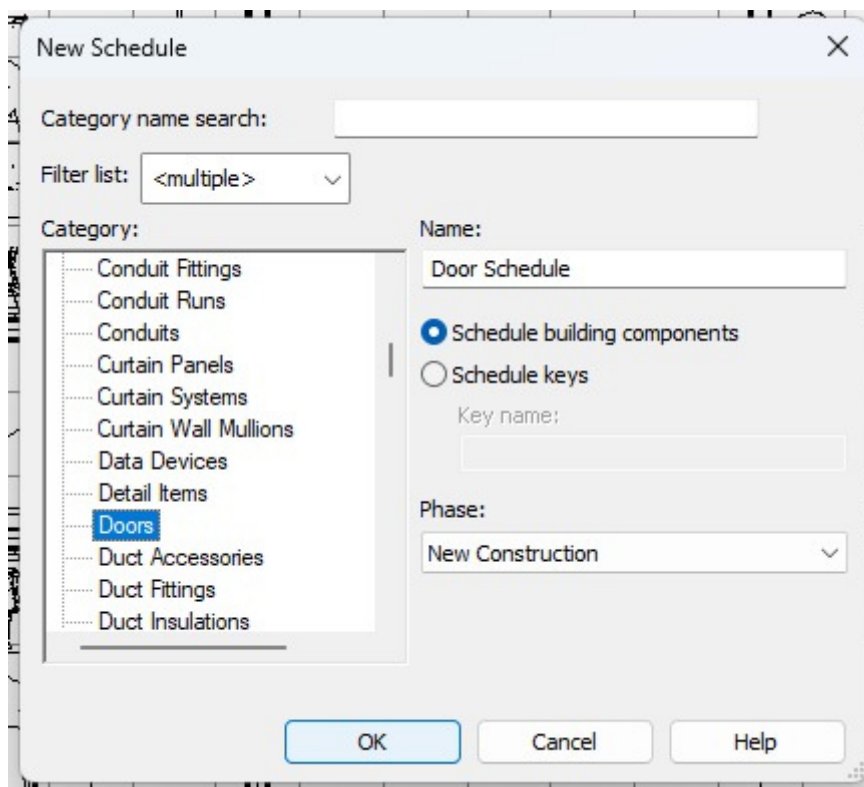
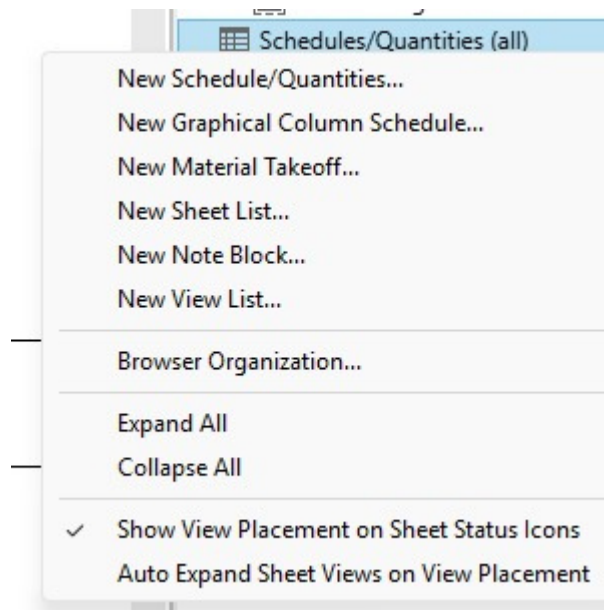
TYPE	W1	W2
FRONT ELEVATION		
PLAN		
DIMENSION	1200 x 1500	406 x 610
DESCRIPTION	M_Window-Casement-Double	M_Fixed

To create Door & Window Schedule

On Project Browser

Right click on Schedules

Click new schedule/quantities



On Schedules Properties

For Door Fields, insert available fields

Use arrow 

Insert:

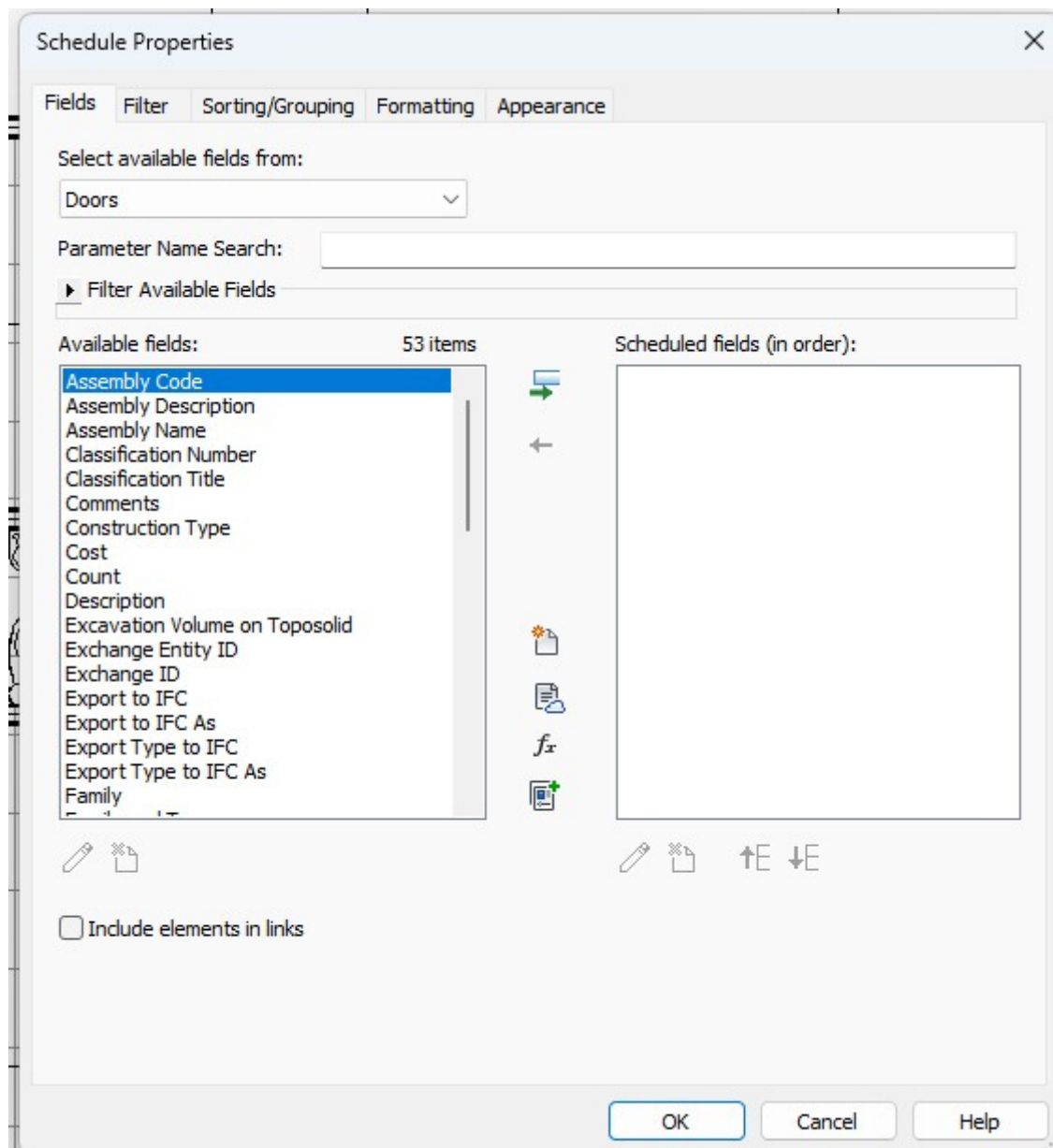
Family & type

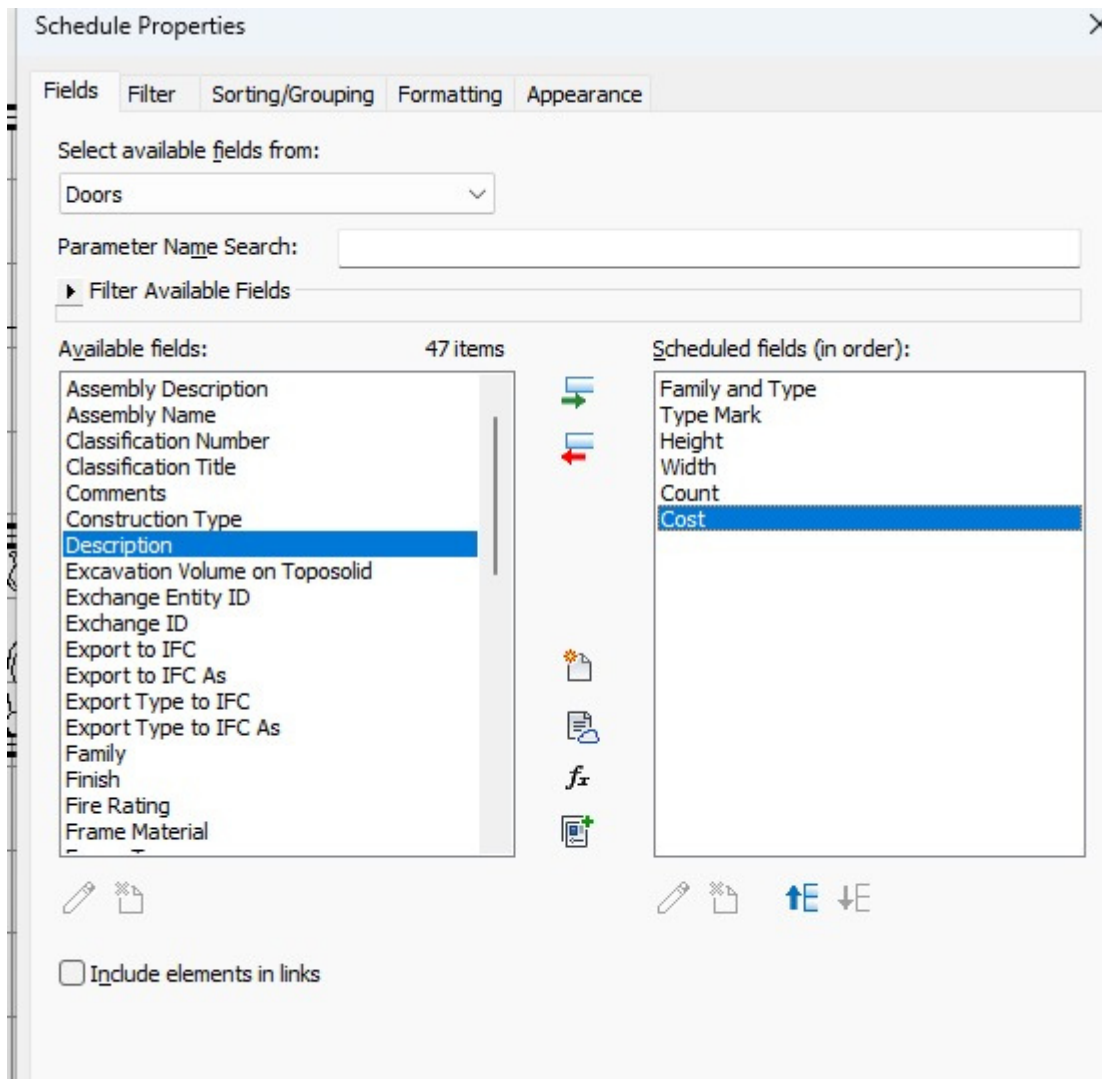
Type mark

Height

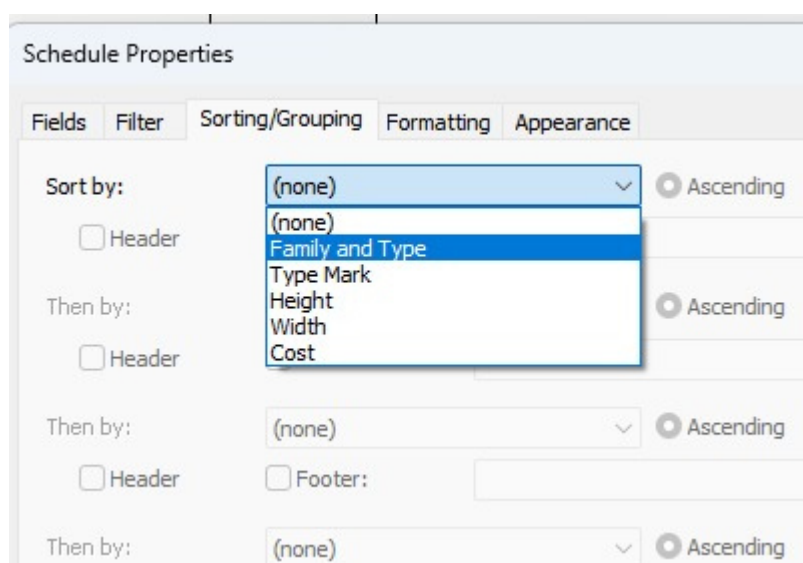
Width

Count





On sorting/ Grouping Tab



Schedule Properties

Fields Filter Sorting/Grouping Formatting Appearance

Fields:

- Family and Type
- Type Mark
- Height
- Width
- Count
- Cost

Heading: Count

Heading orientation: Horizontal

Alignment: Center

Field formatting: Field Format...

Conditional formatting: Conditional Format...

Show conditional format on sheets: ☒

Hidden field: ☐

No calculation

No calculation

Calculate totals

Calculate minimum

Calculate maximum

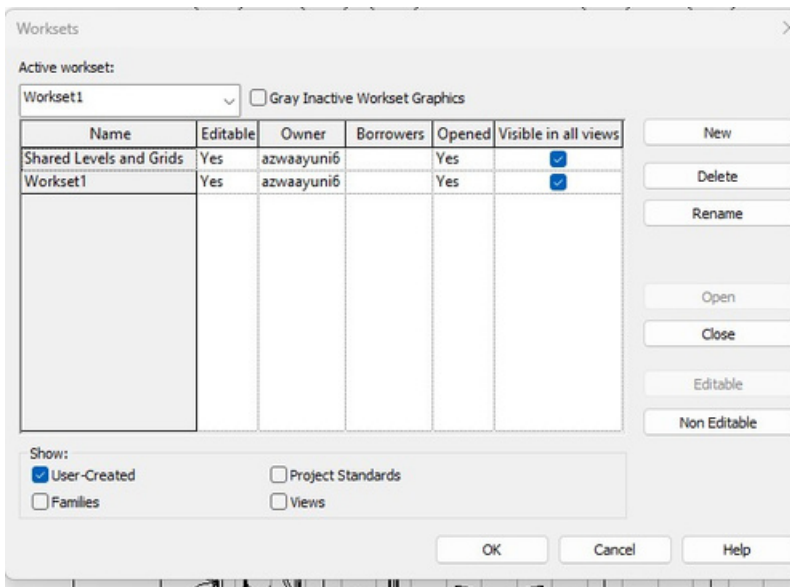
Calculate min ... max

☐ Display custom text:

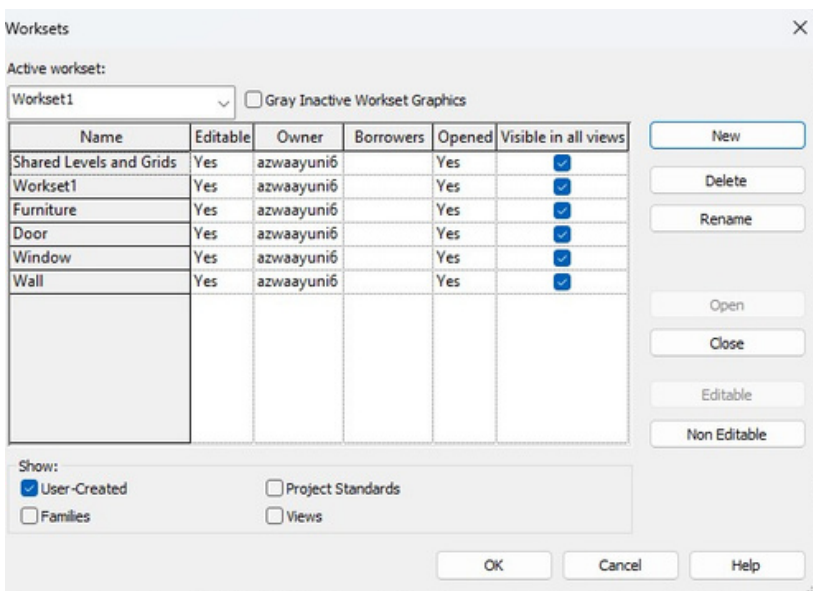
<Door Schedule>					
A	B	C	D	E	F
Family and Type	Type Mark	Height	Width	Count	Cost
M_Door-Exterior-D	D1	2000	1500	1	3000.00
M_Door-Interior-Si	D2	2000	800	4	4000.00
M_Single-Flush: 07	D3	2032	762	2	400.00
Grand total: 7				7	7400.00

To create Workset

On Collaboration > Click Workset > Click OK

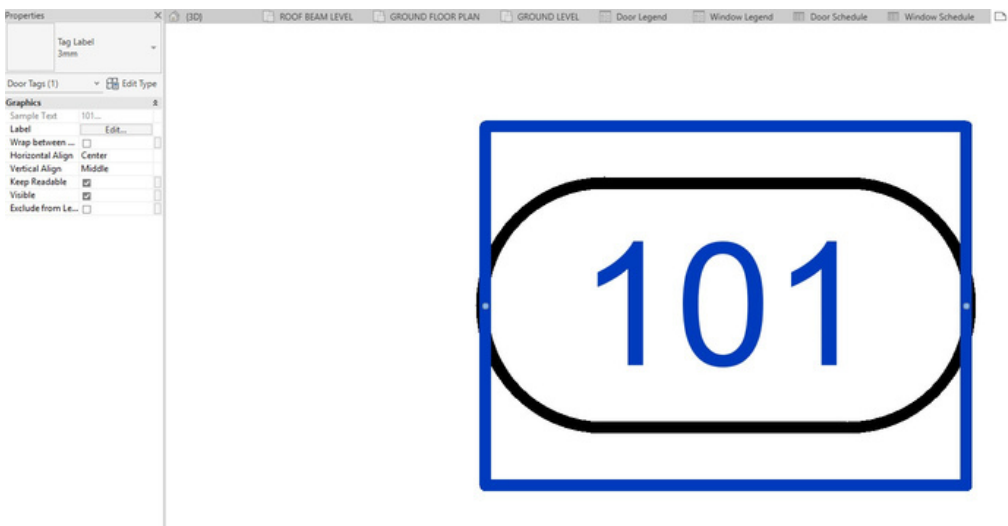


Click New > Furniture / New > Door / New > Window

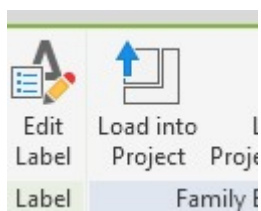
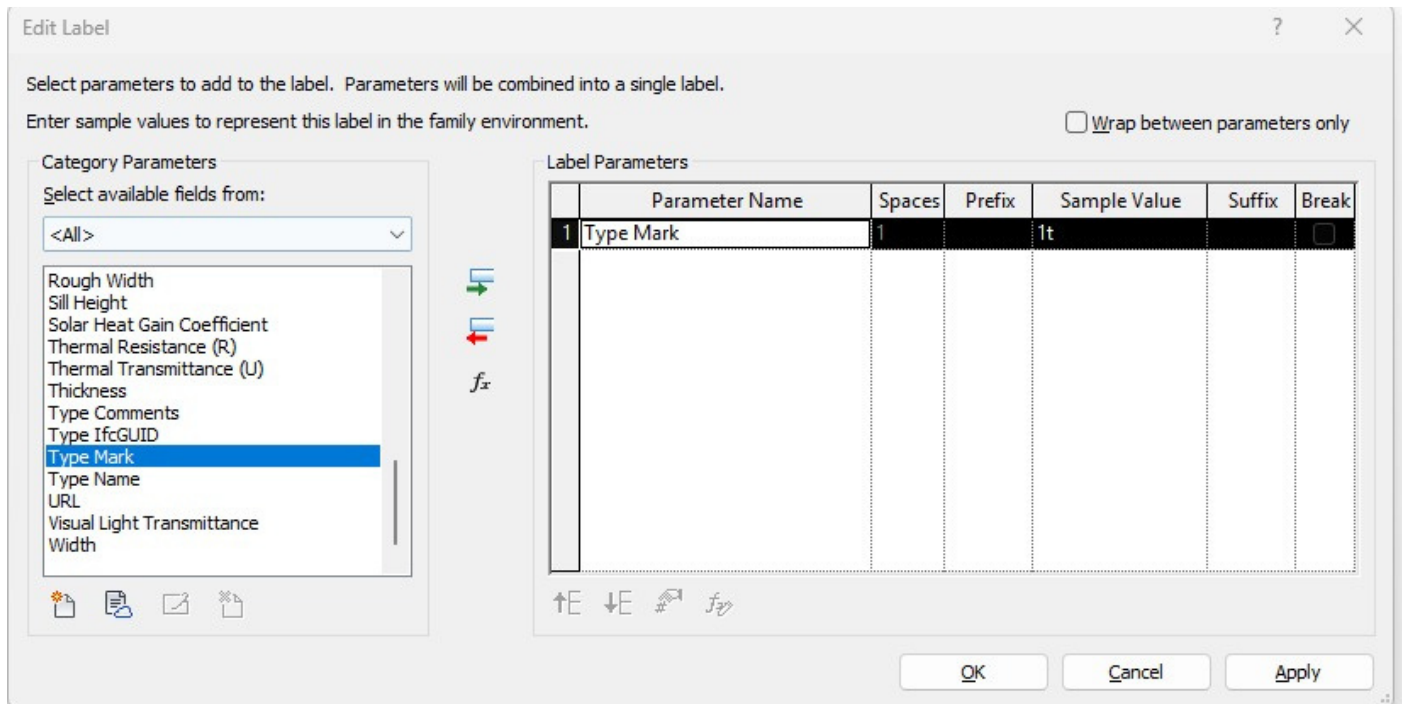


To create tagging

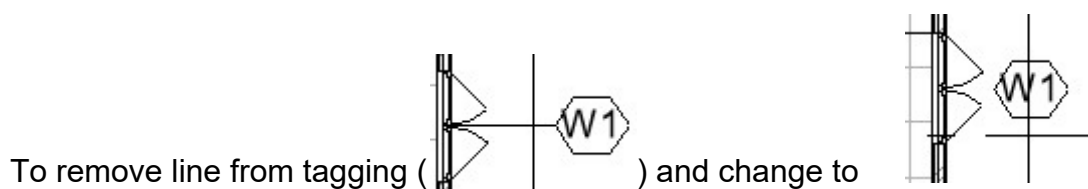
Click Annotate > Click Tag by Category > bawa cursor to component (i.e: door, window) > and click once > Edit Family > click once at the 101 number > click Edit on properties >



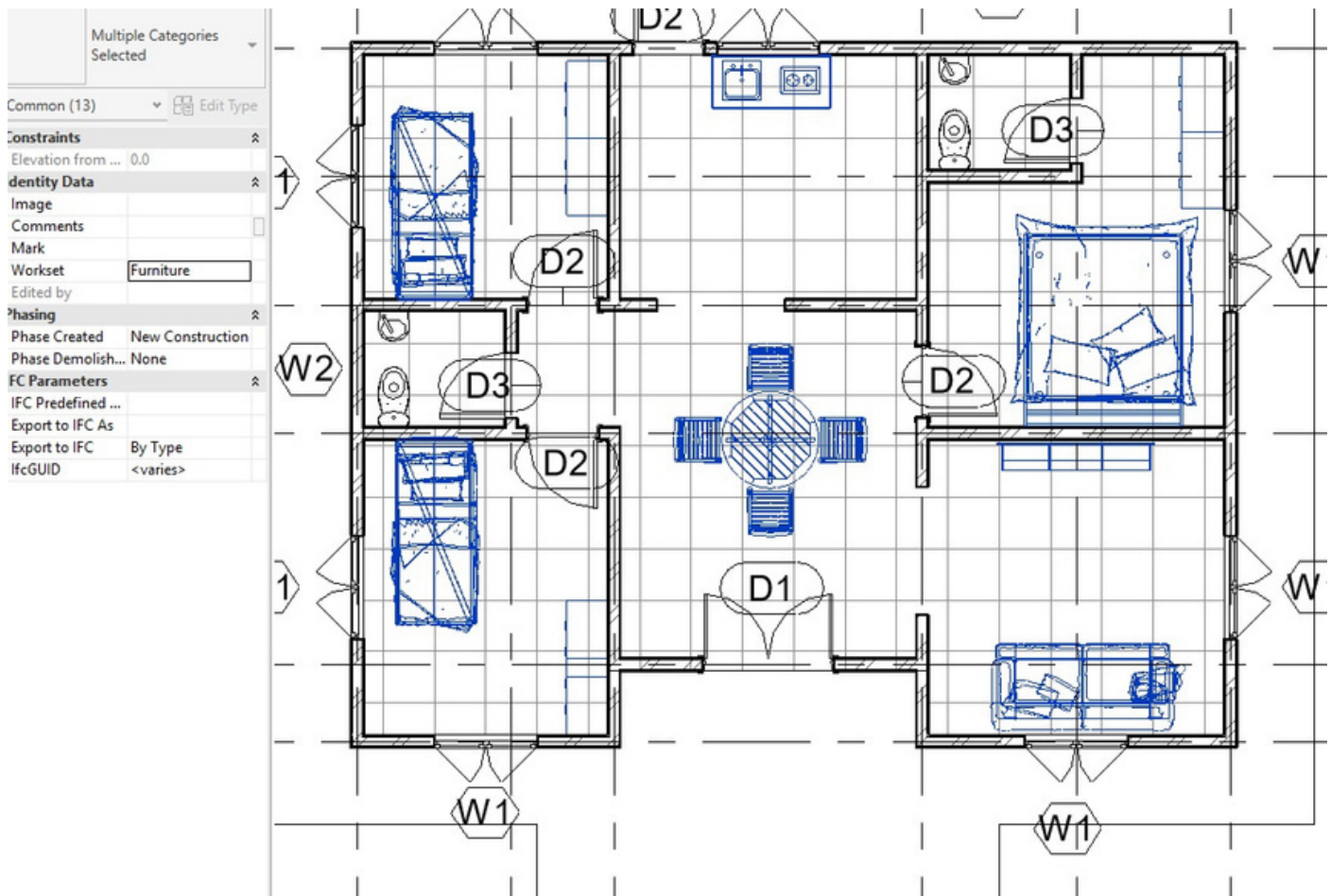
Load Type Mark > Click OK



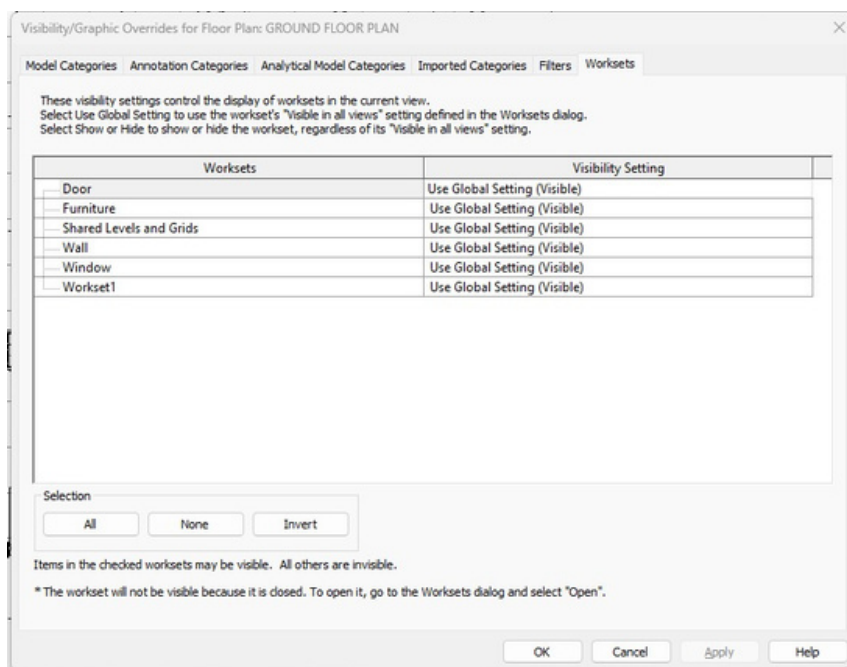
Overwrite on the floor plan



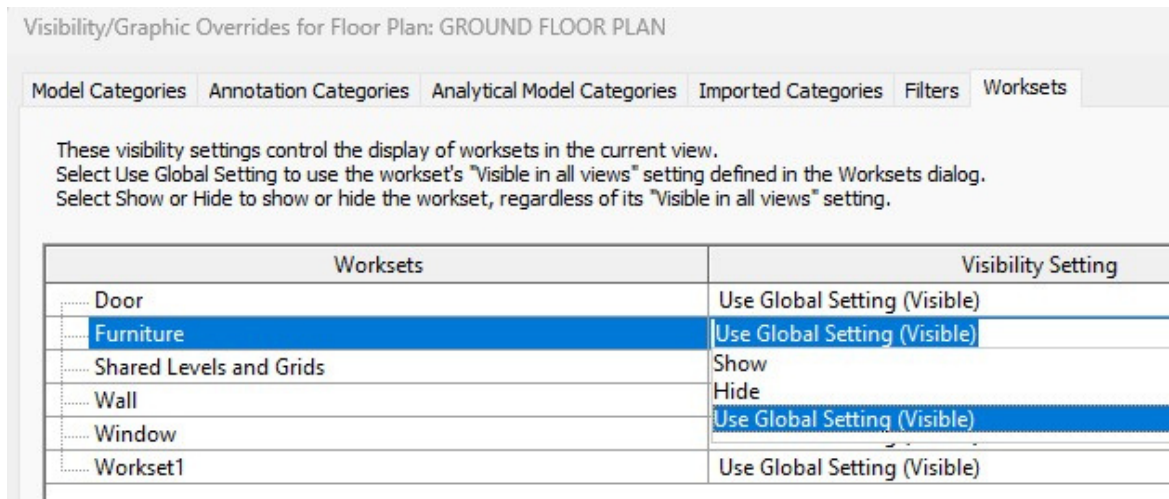
On the properties on the left, click once and remove / untick leader line



Using keyboard shortcut VG



On Tab Worksets > on Furniture choose Hide

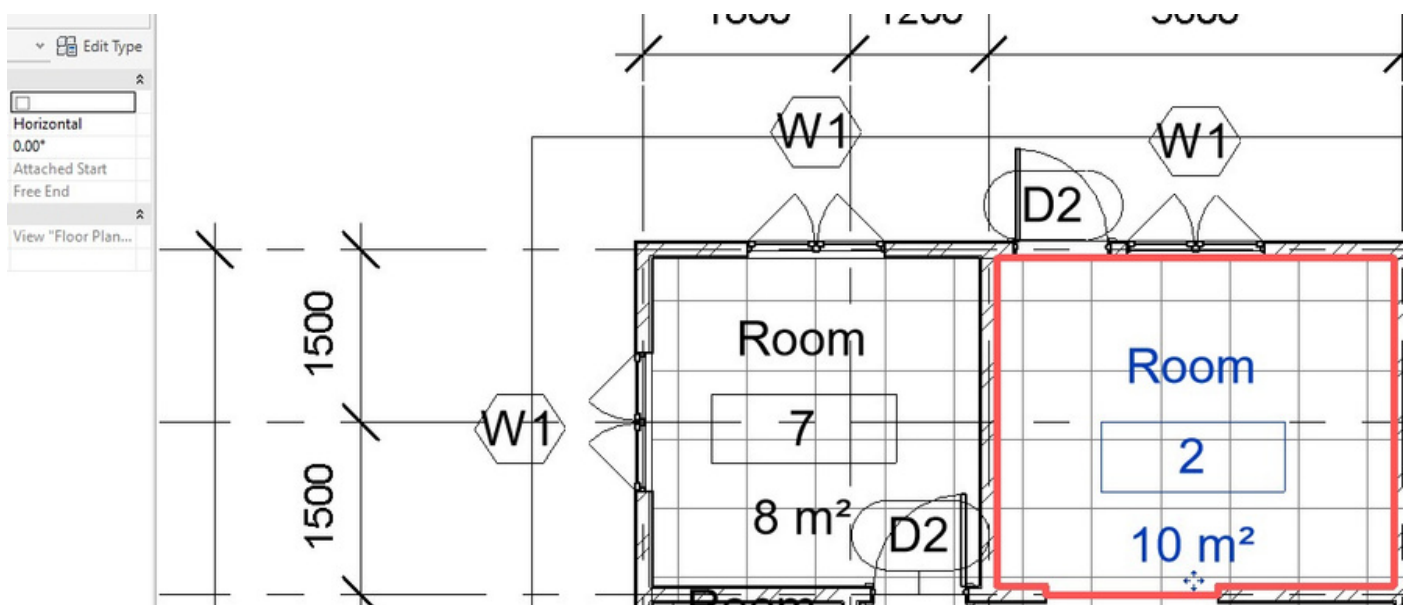
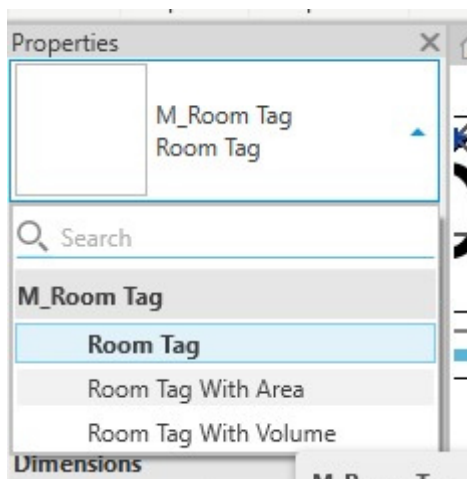


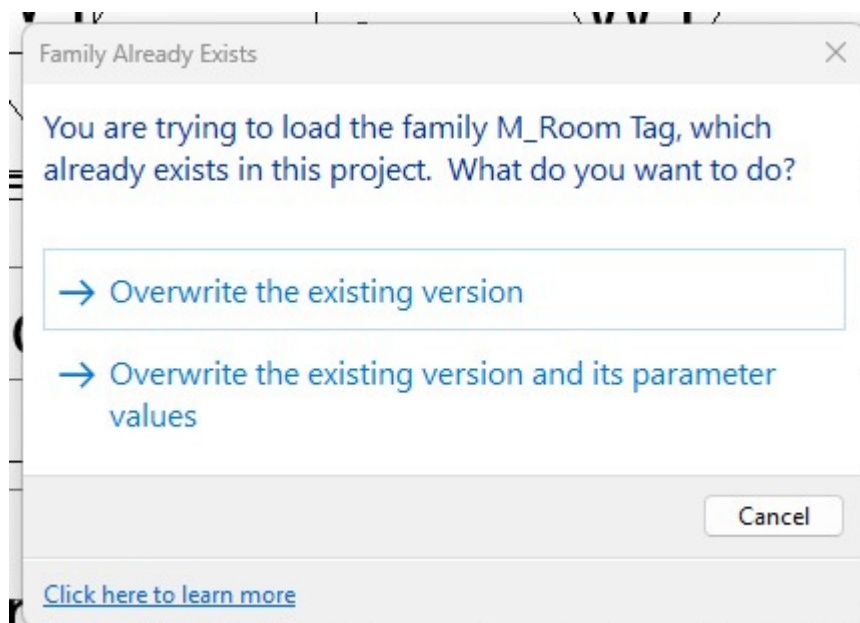
So all furnitures in the floor plan will be hide

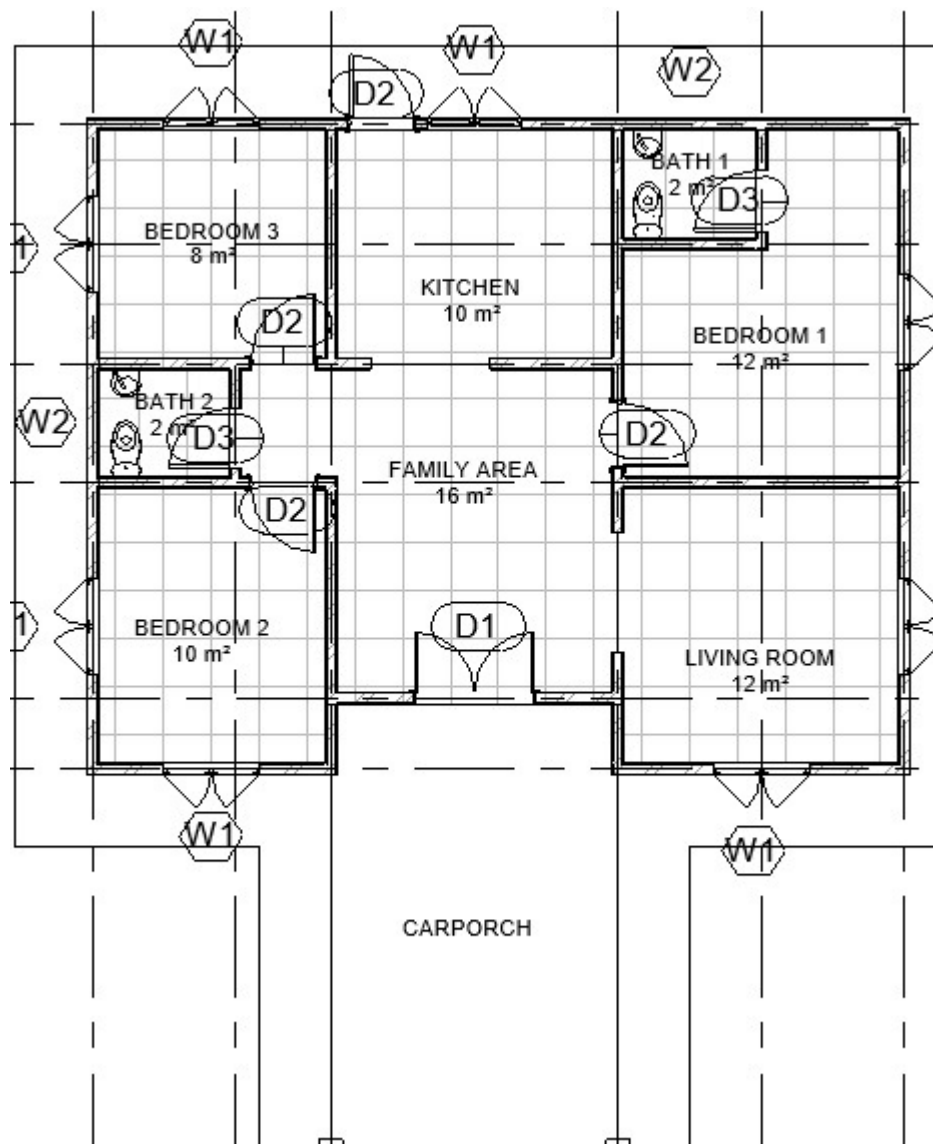
To create label & identify area food each area, must separate the area first

Architecture > Room Separator > and create line at the area that has no door

Then click Room > on properties > Choose Room Tag with Area



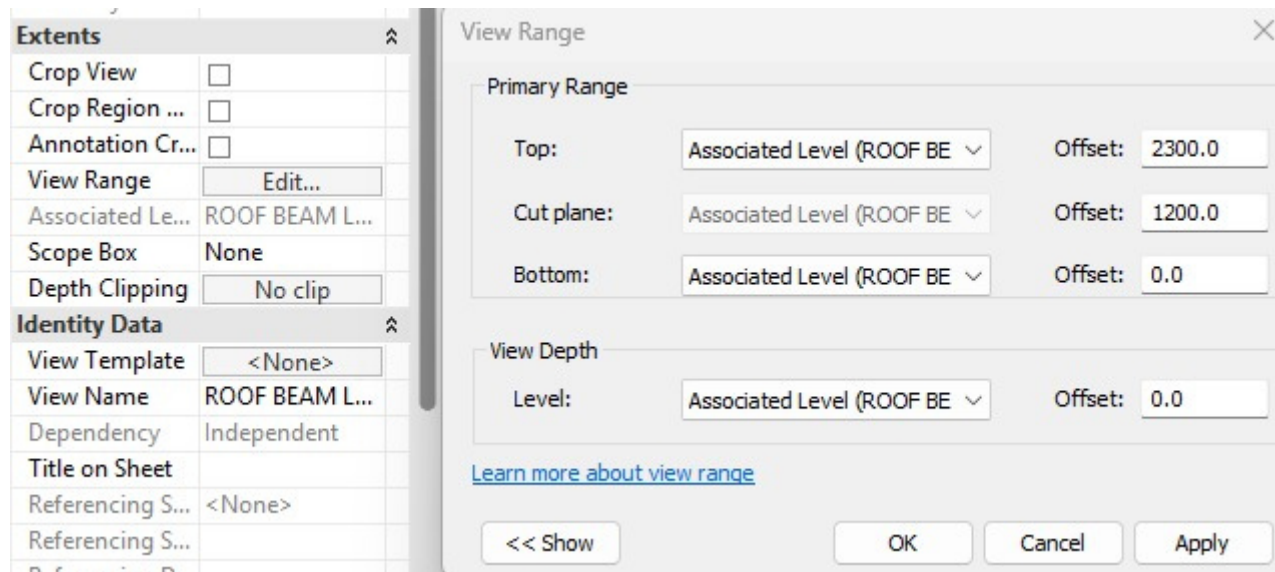




To create roof plan

Click roof beam level > click properties on the left > Underlay > Range base: click None

Extent > View Range > Edit



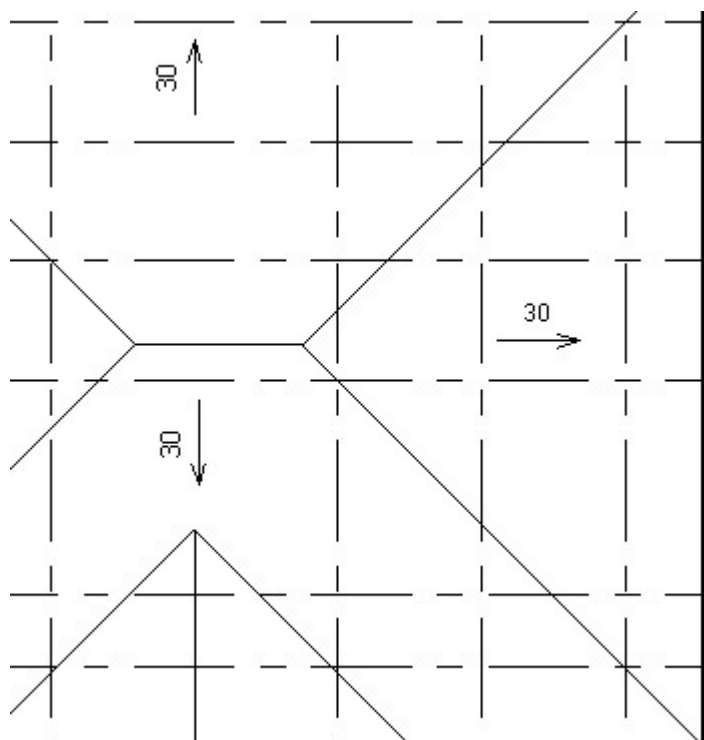
Top > Unlimited

Cutplane > Offset 3600mm

To enable roof slope

Click Annotate > Spot Slope > click cursor on drawing area

On Edit Type > Change unit formats > change unit to Degree

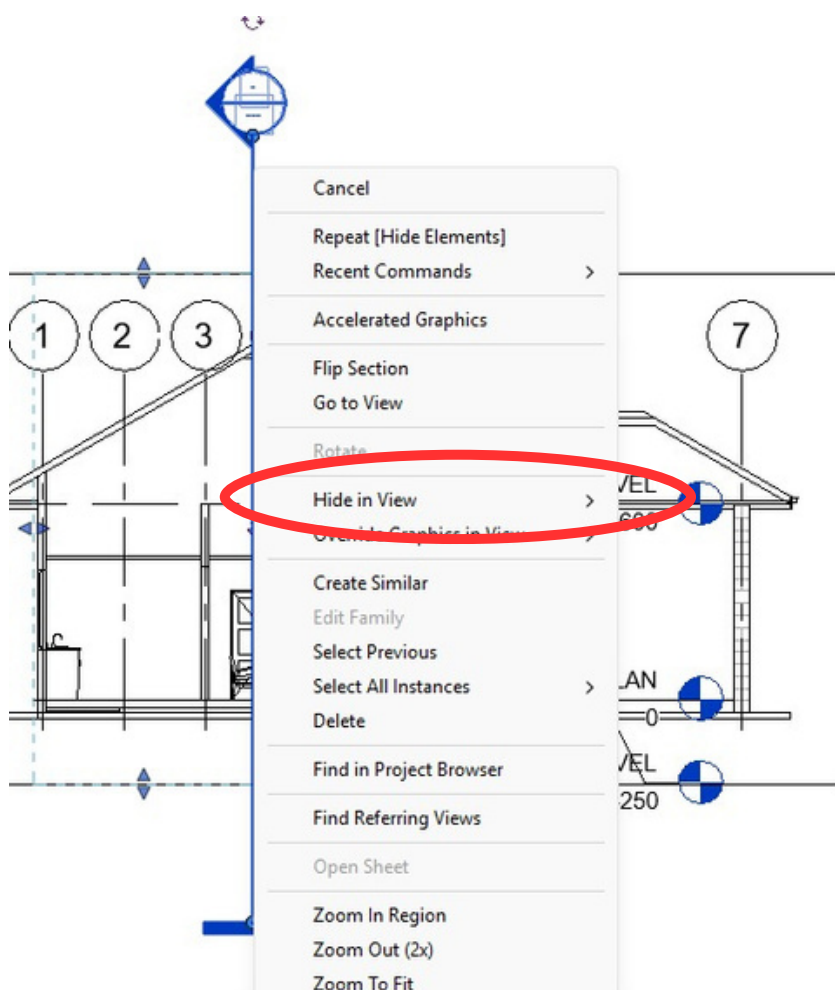


To create section



Double click on the section line, a new section plan will appear

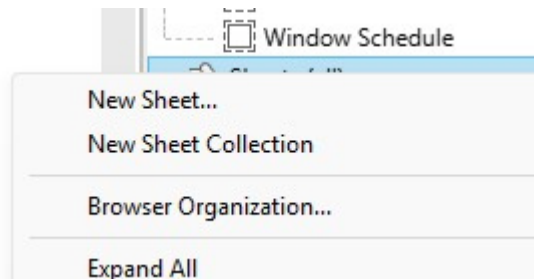
On Section view > to hide section line



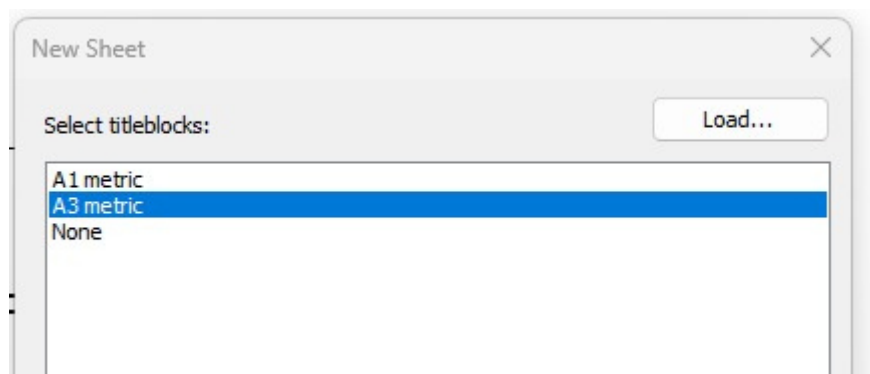
Click Hide in View > Elements

To create Title Block

On Project Browser > Right click New Sheet

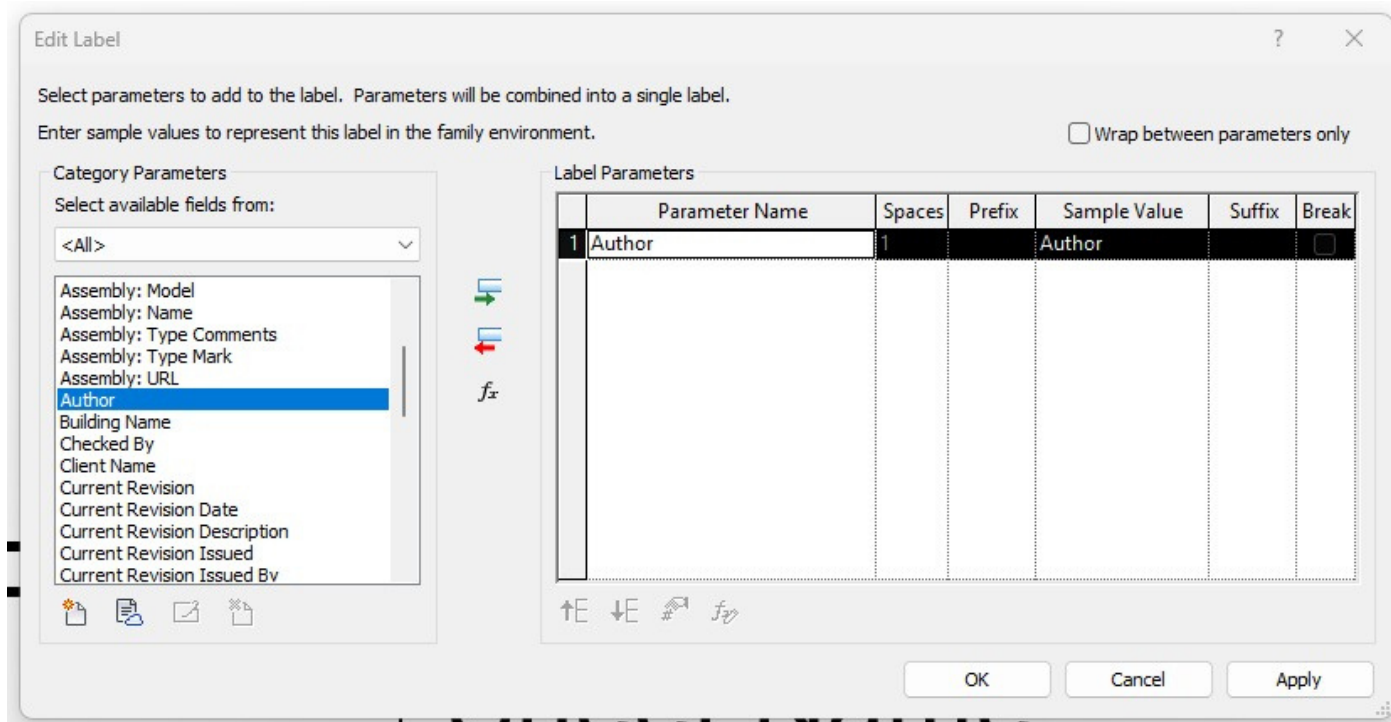


Click Load > import from given file



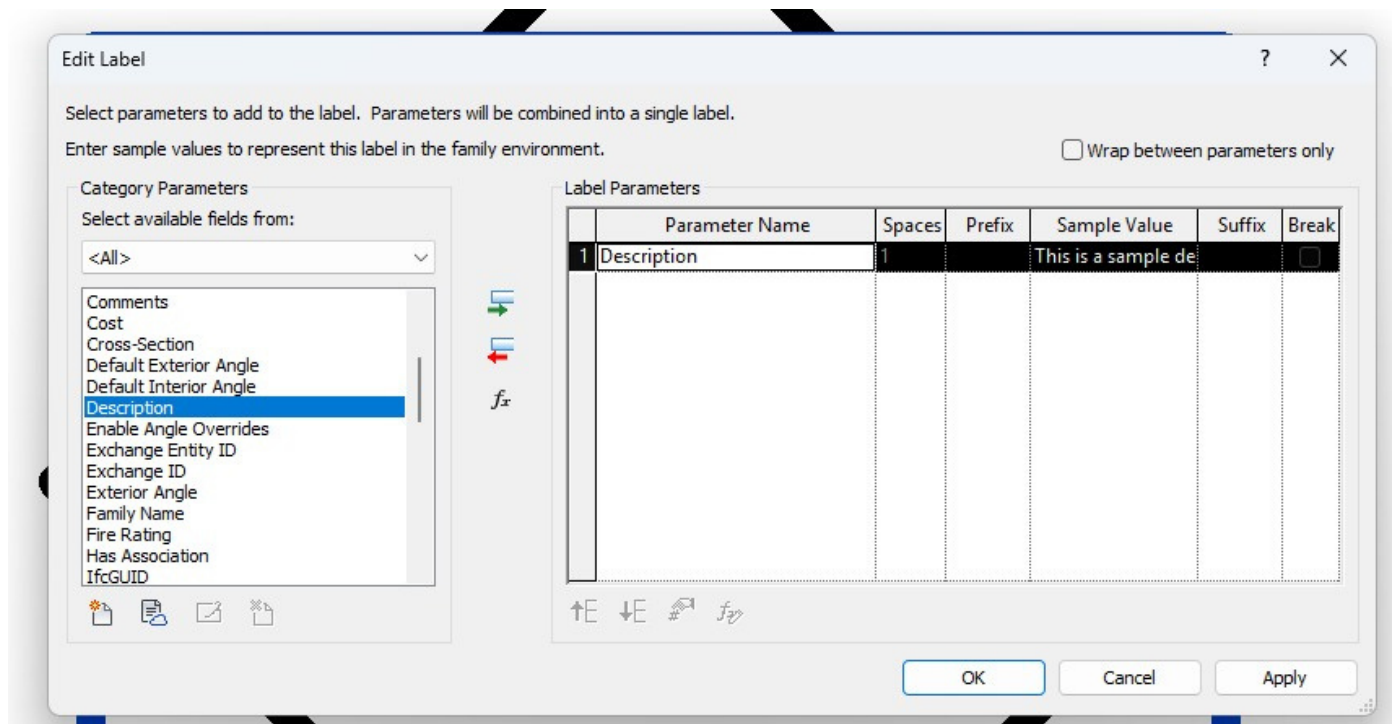
Click OK

To change drawn by



To add description on floor plan

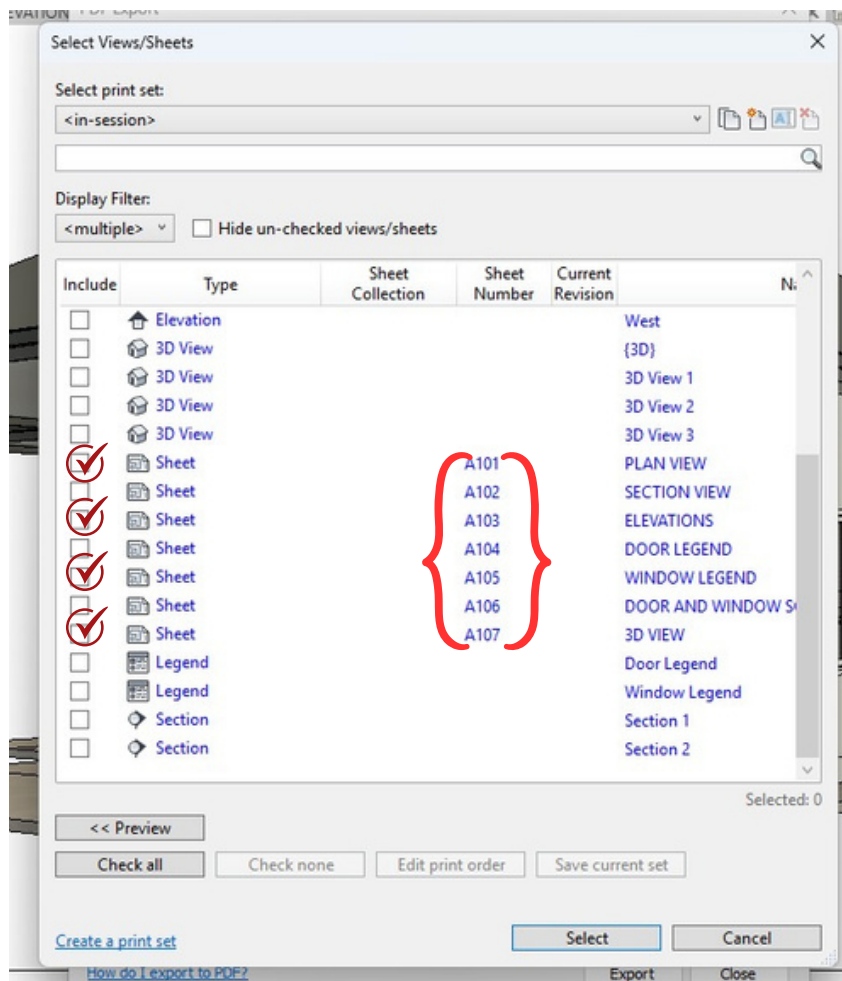
Click diamond shape > Edit Family > Edit



Load into Project > overwrite > Ok

To Export File

Click File > Export > PDF > Selected View > Click pencil > tick related sheet



Rujukan

Autodesk Revit 2025 Architecture, (2024). Munir M. Hamad. Mercury Learning and Information

Penulis

Penulis merupakan pemegang Ijazah Sarjana Muda Kejuruteraan Awam (Pengurusan Pembinaan) yang diperoleh pada tahun 2008 dari Universiti Teknologi Malaysia (UTM) dan Ijazah Sarjana Pengurusan Projek dari Universiti Malaya (UM) pada tahun 2017. Beliau berpengalaman dalam industri pembinaan melalui perkhidmatan di Glomac Berhad dari tahun 2008 hingga 2010. Pada penghujung tahun 2010, beliau memulakan kerjaya akademik sebagai pensyarah dan telah mengendalikan pelbagai kursus, termasuk AutoCAD selama empat tahun. Selain itu, beliau mempunyai kemahiran dalam pelbagai aplikasi komputer serta memiliki pensijilan Microsoft Word & Microsoft Project. Bidang pengajaran dan kepakaran beliau meliputi Reinforced Concrete Design dan Project Management.



