



AUTODESK® REVIT® 2018

Free Trial

Try Revit free for 30 days

Available for Windows 32-bit & 64-bit. Only!

System requirements for Windows:

|Operating System| Windows 7(64-bit);
Windows 8.1(64-bit);
Windows 10 (64-bit)

|CPU Type| 64-bit: Highest affordable CPU speed rating recommended

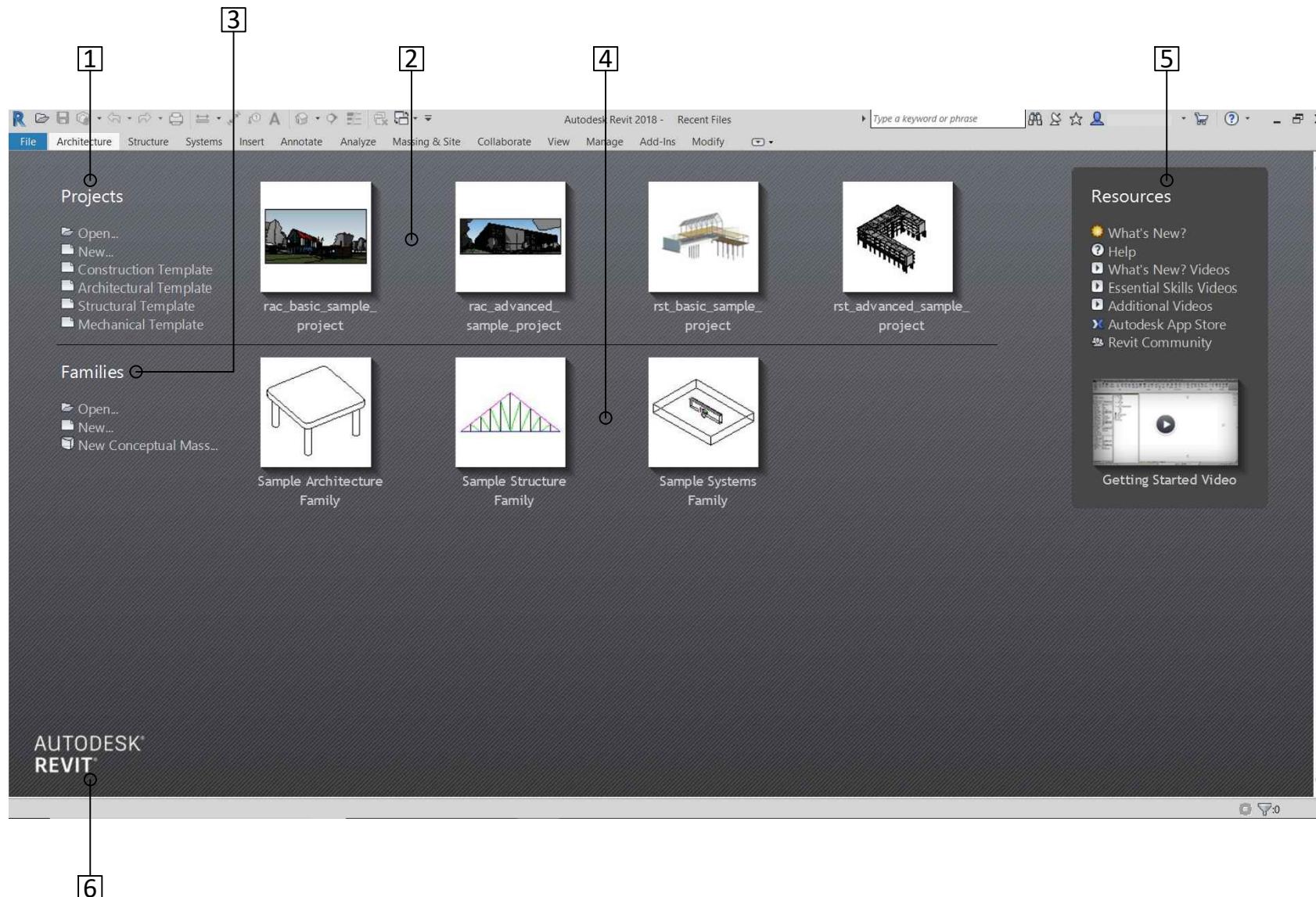
|Memory| 64-bit: 8GB

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(Click Hyperlink to be brought to webpage)



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1. PROJECTS

Open a project from your library, start a new project from a template or select one of the templates displayed

2. RECENT PROJECTS

Quickly select a project from the recently opened section

3. FAMILIES

Open a family from your library, start a new family from a template or quickly select a family from the recently opened section

4. RECENT FAMILIES

Quickly select a family from the recently opened section

5. RESOURCES

Find out what's new, get help, watch tutorials and speak with online community about any Revit issues

6. WEB LINK

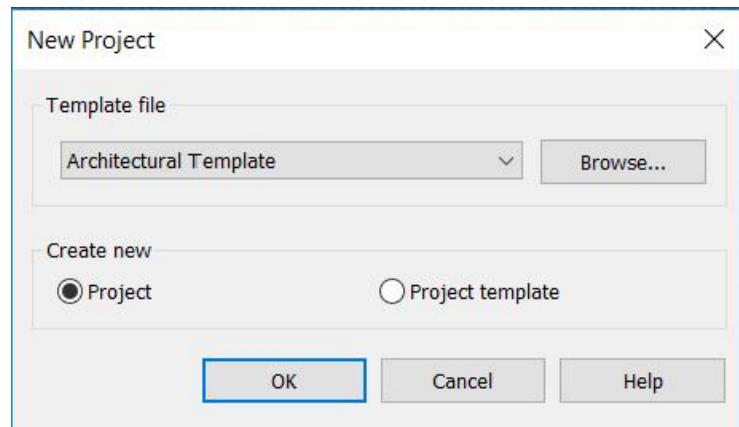
Brings you to the Revit overview page showing some tips and tutorials.

PROJECTS

A project is the single database of information for your design - the BIM. By using a single project file, Revit makes it easy for you to alter the design and have changes reflected in all associated areas (plan views, elevation views, section views, schedule and so forth). Having only one file to track also makes it easier to manage the project.

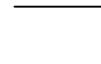
PROJECTS

- ***Open...***: Opens a project from your library
- ***New...***: Start a new project from scratch, from a list of various template or create a new template



PROJECT TEMPLATES

Use project templates as a starting point for new projects. Use the default templates or define custom templates to enforce office standards. A project template provides a starting point for a new project, including view templates, loaded families, defined settings (such as units, fill patterns, line styles, line weights, view scales and more), and geometry, if desired.

- ***Construction Template:*** 
- ***Architectural Template:*** 
- ***Structural Template:*** 
- ***Mechanical Template:*** 

The difference between each template is how the project browser configured.
Naming of floor plans, Elevations, Electrical, plumbing plans, etc.

FAMILIES

A family is a group of elements with a common set of properties, called parameters, and a related graphical representation. Different elements belonging to a family may have different values for some or all of their parameters, but the set of parameters (their names and meanings) is the same. These variations within the family are called family types or types.

FAMILIES

- ***Open***...: Opens a family from your library
- ***New***...: Start a new family from a list of various template
- ***New Conceptual Mass***...: Start a new mass from a template

FAMILY TEMPLATES

The template serves as a building block, containing the information that you need to start creating the family and that Revit needs to place the family in projects.

ELEMENTS

When creating a project, you add parametric building elements to the design. Revit classifies elements by categories, families, and types.

CATEGORY

A category is a group of elements that you use to model or document a building design.

EXAMPLES

- **Categories of model elements:** Walls & Beams
- **Categories of annotation elements:** Tags & Text notes

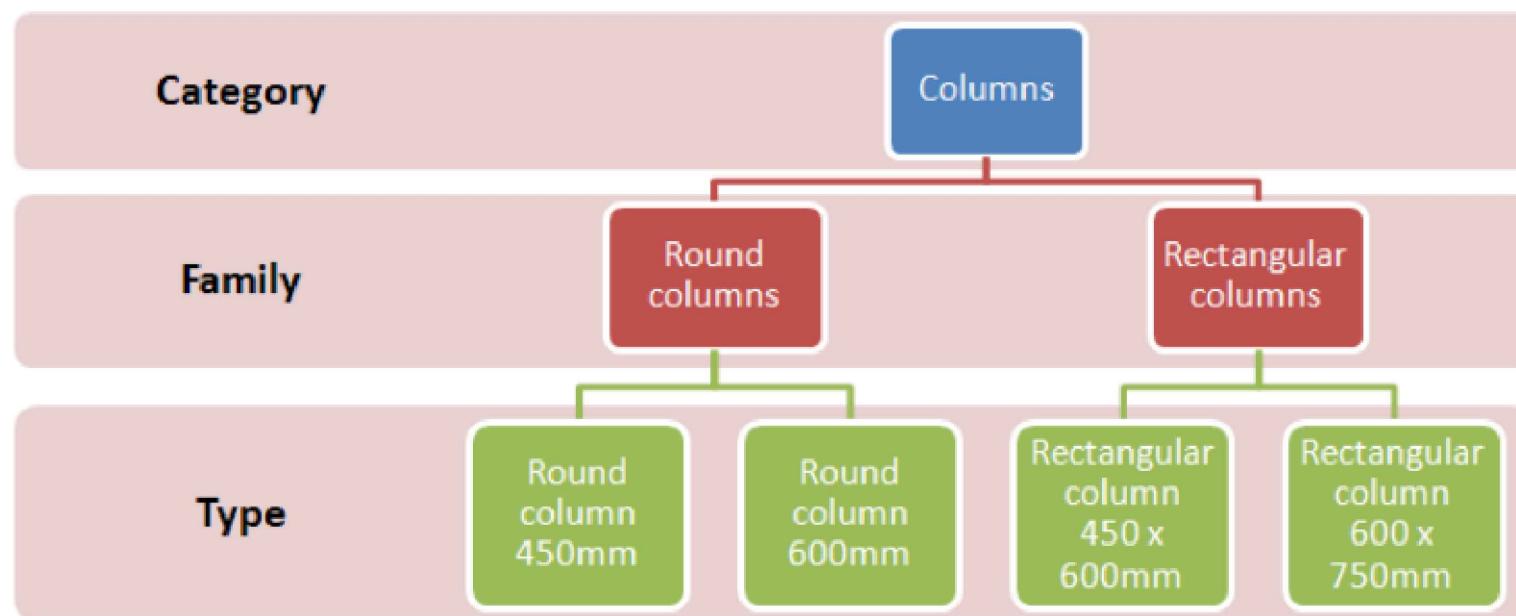
TYPE

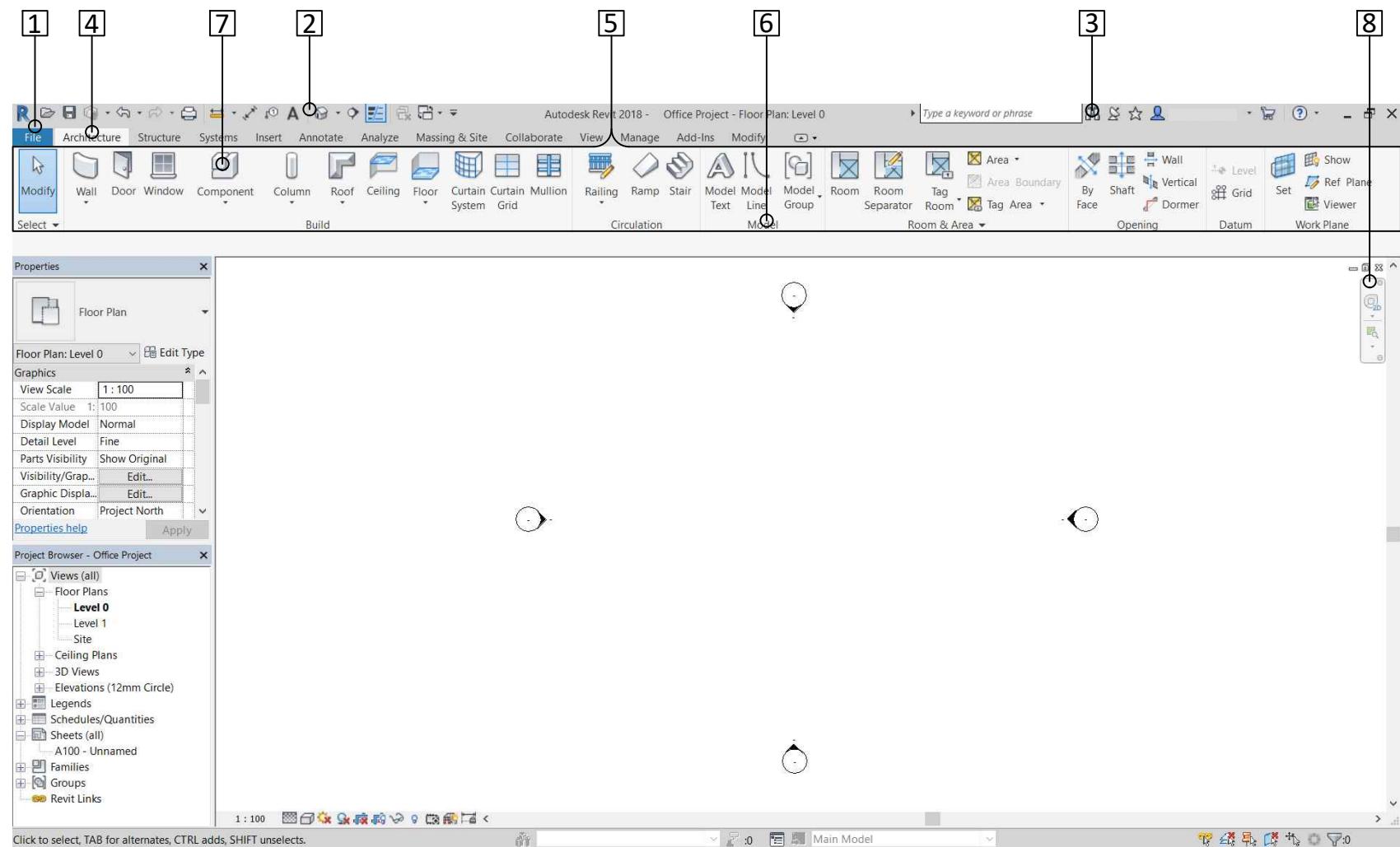
Each family can have several types. A type can be a specific size of a family, such as a '600x1200mm' or A0 title block.

A type can also be a style, such as default aligned or default angular style for dimensions.

INSTANCE

Instances are the actual items (individual elements) that are placed in the project and have specific locations in the building (model instances) or on a drawing sheet (annotation instances).





1. FILE (application menu)

The application menu contains commands that are relevant for the project as a whole.

2. QUICK ACCESS TOOL BAR

Displays frequently used tools like open, save, undo or plot

3. INFO-CENTRE

Search for info, sign in to your account, buy app's or get help

4. TABS

Organizes the ribbons

5. RIBBONS

Organizes commands and tools into panels

6. PANELS

Contains commands and tools

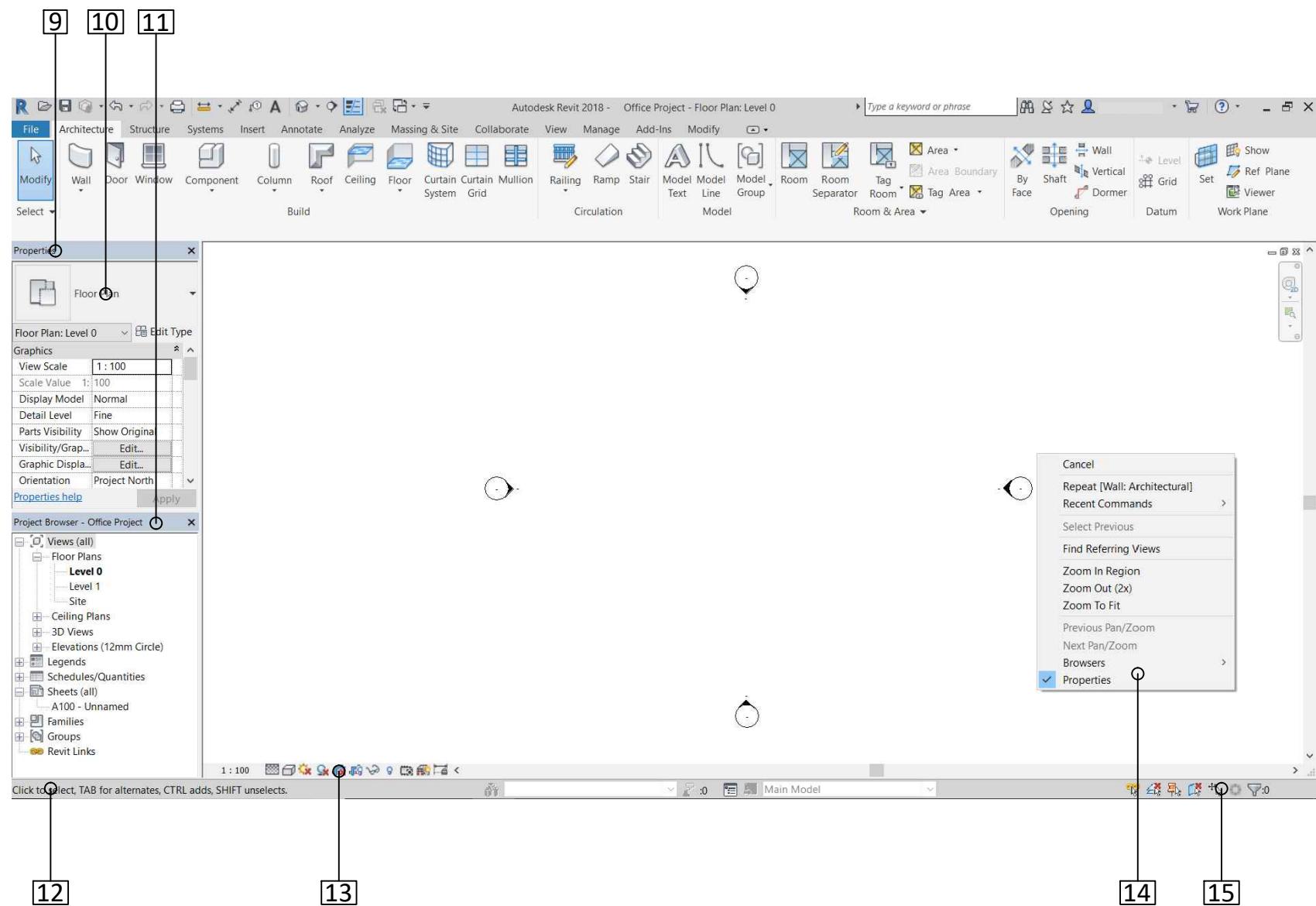
7. TOOLS

Use tools to create/modify your project

8. NAVIGATION BAR

Allows you to pan and zoom the drawing

Hovering over tools displays Tooltips, resting the cursor over Tooltips displays further info



9. PROPERTIES PALETTE

A modeless dialog where you can view and modify the parameters that define the properties of elements.

10. TYPE SELECTOR

Identifies the currently selected family type and provides a drop-down from which you can select a different type

11. PROJECT BROWSER

Shows a logical hierarchy for all views, schedules, sheets, groups, and other parts of the current project.

12. STATUS BAR

Provides tips or hints on what to do

13. VIEW CONTROLS

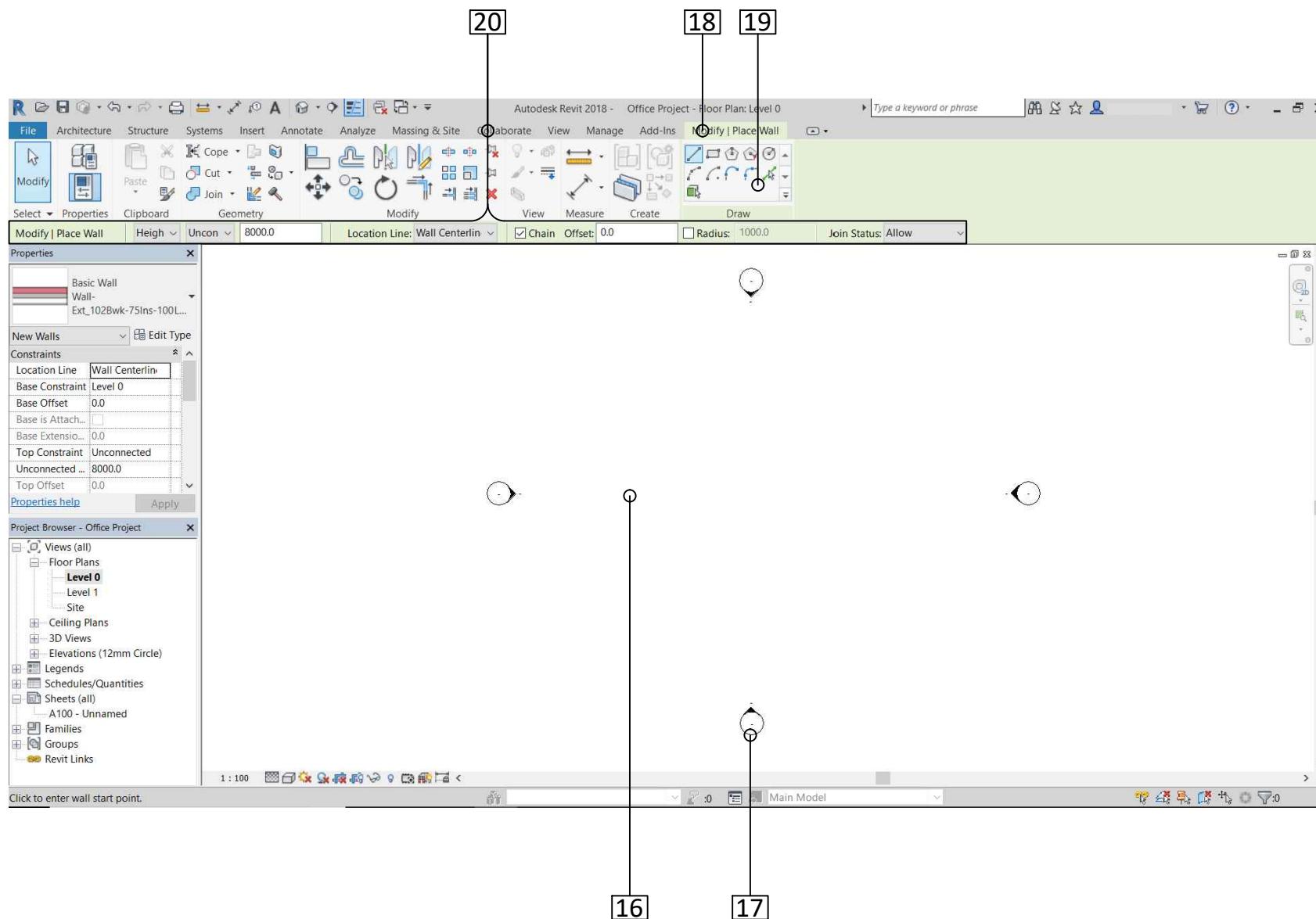
The View Control Bar provides quick access to functions that affect the current view

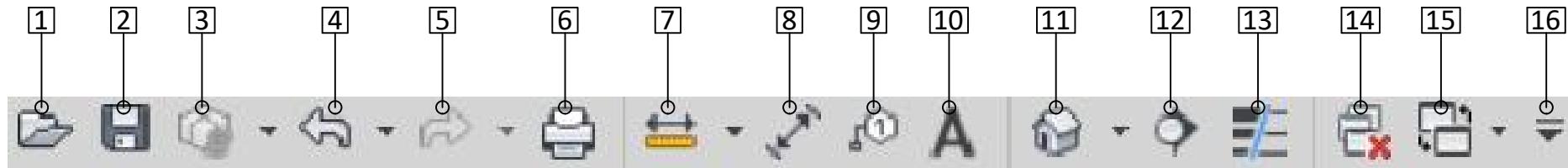
14. CONTEXT MENU

Right-click in the drawing area, the content of the context menu depends on the currently selected object(s)

15. SELECTION TOGGLERS

Various methods of selection tools and filters

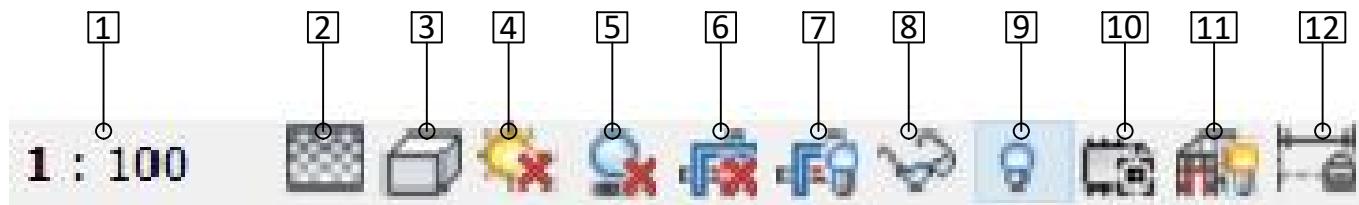




QUICK ACCESS TOOLBAR

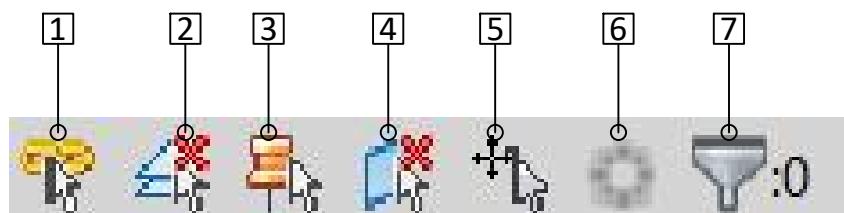
- 1. OPEN**
- 2. SAVE**
- 3. SYNCHRONISE AND MODIFY SETTINGS**
- 4. UNDO**
- 5. REDO**
- 6. PRINT**
- 7. MEASURE BETWEEN TWO REFERENCES**
- 8. ALIGNED DIMENSION**

- 9. TAG BY CATEGORY**
- 10. TEXT**
- 11. DEFAULT 3D VIEW**
- 12. SECTION**
- 13. THIN LINES**
- 14. CLOSE HIDDEN WINDOWS**
- 15. SWITCH WINDOWS**
- 16. CUSTOMISE QUICK ACCESS**



VIEW CONTROLS

- 1. SCALE**
- 2. DETAIL LEVEL**
- 3. VISUAL STYLE**
- 4. SUN PATH**
- 5. SHADOWS**
- 6. CROP VIEW**
- 7. SHOW CROP REGION**
- 8. TEMPORARY HIDE/ISOLATE**
- 9. REVEAL HIDDEN ELEMENTS**
- 10. TEMPORARY VIEW PROPERTIES**
- 11. HIDE ANALYTICAL MODE**
- 12. REVEAL CONSTRAINTS**



SELECTION TOGGLERS

- 1. SELECT LINKS**
- 2. SELECT UNDERLAY ELEMENTS**
- 3. SELECT PINNED ELEMENTS**
- 4. SELECT ELEMENTS BY FACE**
- 5. DRAG ELEMENTS ON SELECTION**
- 6. BACKGROUND PROCESSES**
- 7. FILTER**



MOUSE CONTROLS

1. Select objects - Left click
2. Context menu - Right click
3. Pan - Hold in scroll-wheel and drag
4. Zoom - Move the scroll-wheel
5. Zoom extents - Double click wheel to zoom extents

WINDOWS HOTKEYS

- | | |
|---------------------|---|
| 1. Ctrl + X = Cut | 4. Ctrl + Z = Undo last action |
| 2. Ctrl + C = Copy | 5. Ctrl + Y = Redo last action |
| 3. Ctrl + V = Paste | 6. Ctrl + Shift = Toggle between drawings |

ACTIVATION / DE-ACTIVATION OF TOOLS

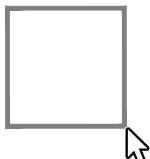
1. Select tool > use tool > tool will be active until you press ESC to complete tool
2. Hit ENTER to re-activate tool and de-activate once previously selected
3. Finished a Command by clicking ESC (sometimes twice)

OBJECT SELECTION

Window selection

Object only becomes selected once entirely inside the window selection

>Click and drag from the top left corner to the bottom right corner, selected objects become blue



Crossing selection

Objects become selected once the object touches the crossing selection

>Click and drag from the bottom right corner to the top left corner, selected objects become blue





WALL TOOL - ARCHITECTURAL

Like other basic elements in a building model, walls are instances of predefined system family types, which represent standard varieties of wall function, composition, and thickness.

You can customize these characteristics by modifying a wall's type properties to add or remove layers, divide them into regions, and change their thickness or assigned material.

>Click WALL(WA) in the Build panel

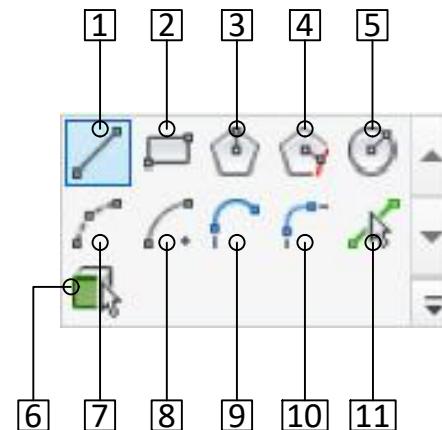
>Select Wall Type in Type Selector

>Click in the drawing area to specify first point

>Move your cursor in the direction you want the wall to be

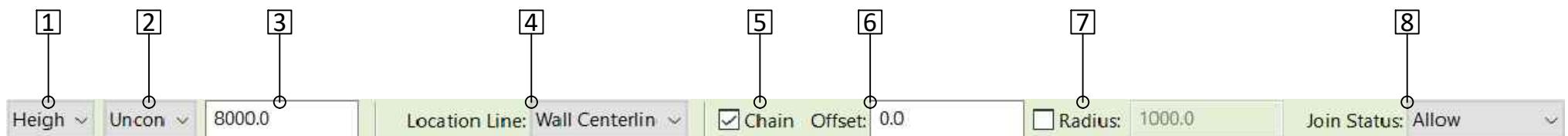
>Enter in a specified length or click again to specify the next point

>ESC to finish



WALL PLACEMENT METHODS

- 1. LINE**
- 2. RECTANGLE**
- 3. INSCRIBED POLYGON**
- 4. CIRCUMSCRIBED POLYGON**
- 5. CIRCLE**
- 6. PICK FACES**
- 7. START-END RADIUS ARC**
- 8. CENTRE-ARC**
- 9. TANGENT-ENDS ARC**
- 10. FILLET-ARC**
- 11. PICK LINES**



WALL OPTIONS BAR

1. HEIGHT / DEPTH

Height: The distance measured from the bottom to the top

Depth: The distance measured from the top to the bottom

2. CONSTRAINT

Select the level to constrain too or select 'UNCONNECTED' to then specify a height or depth

3. UNCONNECTED HEIGHT

Specify the unconnected height here

4. LOCATION LINE

(1)Wall centerline, (2)Core centerline, (3)Finish face: exterior, (4)Finish face: interior, (5)Core face: exterior, (6)Core face: interior

5. CHAIN

Creates a continuous chain of elements

6. OFFSET

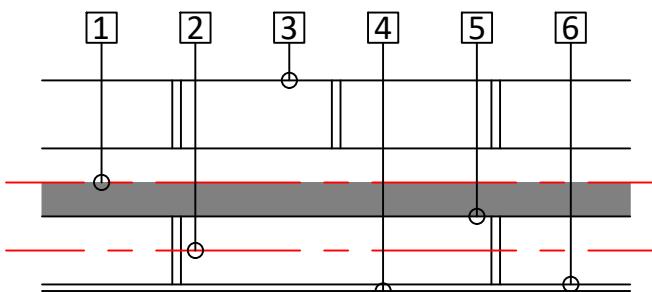
Creates an offset from the location line

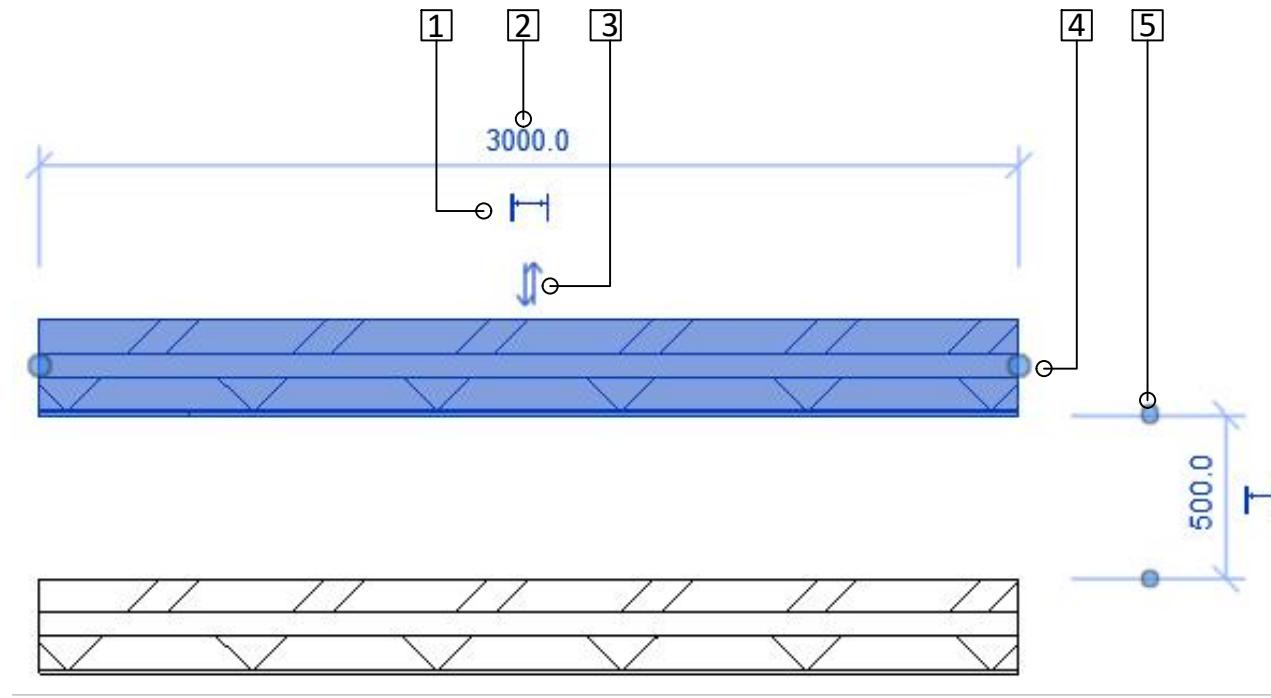
7. RADIUS

Creates a curve between two lines

8. JOIN STATUS

When walls intersect a join is automatically made





MODELLING AIDS

1. PERMANENT DIMENSION

Creates a permanent dimension from a temporary dimension

2. TEMPORARY DIMENSION

Changes the length and position of the wall.

Temporary dimensions automatically appear when an element is placed or near another element.

3. FLIP ARROW

Flips the wall across its location line

4. GRIP

Grab the grip to change the length and rotation of the wall

5. WITNESS LINE

Click the witness line to toggle between the different location lines.
Click and drag the witness line into a new location



ALIGN

Aligns one or more elements with a selected element.

- >Click ALIGN(AL) in the Modify panel >Select preference in options bar
- >Select line or point of reference for alignment
- >Select entity to align to reference line >Double ESC



OFFSET

Copies or moves a selected element a specified distance perpendicular to its length

- >Click OFFSET(OF) in the Modify panel >Enter offset in options bar
- >Select a wall or a line to offset >Double ESC



MIRROR - PICK AXIS

Reverses the position of selected elements, using an existing line or edge as the mirror axis

- >Click MIRROR(MM) in the Modify panel >Select element to mirror >Press ENTER
- >Select axis of element >Double ESC



MIRROR - DRAW AXIS

Draws a temporary line to use as an axis for mirroring

- >Click MIRROR(DM) in the Modify panel >Select element to mirror >Press ENTER
- >Draw axis of reflection >Double ESC



MOVE

Moves selected elements to the specified location in the current view

- >Click MOVE(MV) in the Modify panel >Select element to move >Press ENTER
- >Click to specify start point of move >Click to enter end point >Double ESC



COPY

Copies selected elements and places them in a specified location in the current view

- >Click COPY(CO) in the Modify panel >Select element to copy >Press ENTER
- >Click to specify start point of copy >Click to enter end point >Double ESC



ROTATE

Rotates selected elements around an axis

- >Click ROTATE(**RO**) in the Modify panel >Select element to rotate >Press ENTER
- >Make selection in options bar >Click start point of rotation
- >Click to enter end of rotation >Double ESC



TRIM/EXTEND - TO CORNER

Trim or extends elements to form a corner.

- >Click TRIM/EXTEND TO CORNER(**TR**) in the Modify panel
- >Select first line to trim or extend >Select second line to trim or extend >Double ESC



TRIM/EXTEND SINGLE ELEMENT

Trims or extends one element to a boundary defined by another element

- >Click TRIM/EXTEND SINGLE ELEMENT in the Modify panel
- >Select a reference as the trim/extend boundary >Select a line or wall to trim/extend too >Double ESC



TRIM/EXTEND MULTIPLE ELEMENTS

The Mirror tool reverses the position of a selected model element, using a line as the mirror axis.

- >Click MIRROR(**DM**) in the Modify panel >Select element to mirror >Press ENTER
- >Draw axis of reflection >Double ESC



SPLIT ELEMENT

Cuts an element at a selected point, or removes a segment between two points

- >Click SPLIT ELEMENT(**SL**) in the Modify panel >Select element to split >Double ESC



SPLIT ELEMENT WITH GAP

Splits a wall into two separate walls with a defined gap between them

- >Click SPLIT ELEMENT WITH GAP in the Modify panel >Specify joint gap in options bar >Select element to split >Double ESC



ARRAY

Creates a linear or radial array of selected elements.

- >Click ARRAY(AR) in the Modify panel >Select element to array >Press ENTER
- >Make selection in options bar >Double ESC



SCALE

Resizes the selected item

- >Click SCALE(RE) in the Modify panel >Select item to scale >Press ENTER
- >Make the selection in the options bar >Click to enter origin >Double ESC



PIN

Locks a model element in place

- >Click PIN(PN) in the Modify panel >Select element to pin >Press ENTER



UNPIN

Unlocks a model element so it can move

- >Click UNPIN(UP) in the Modify panel >Select element to unpin >Press ENTER



DELETE

Removes selected elements from the building model

- >Click DELETE(DE) in the Modify panel >Select element to delete >Double ESC



LEVELS

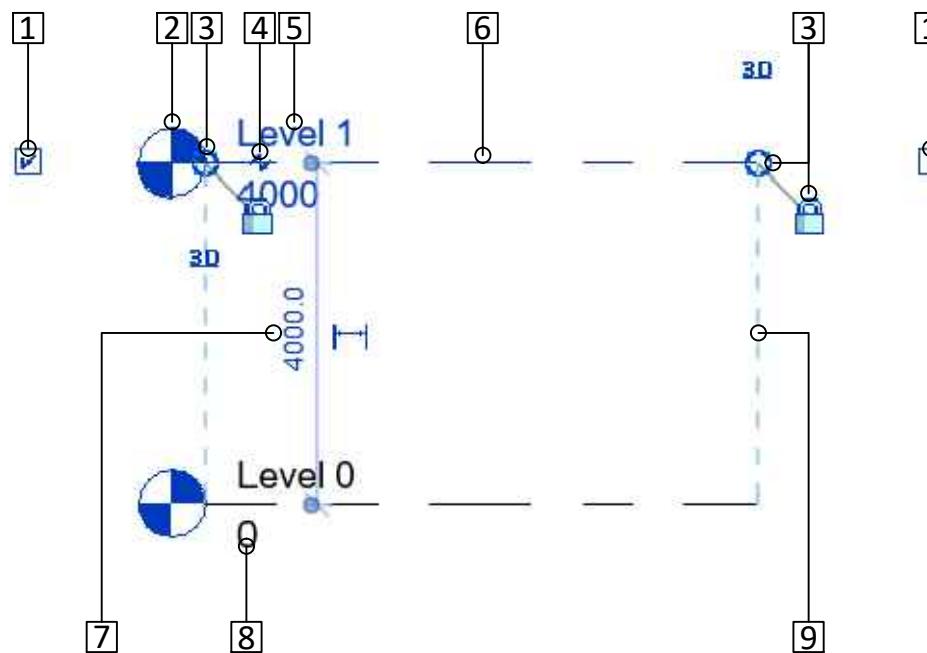
Levels are 3D elements that are only visible in views that intersect the level extents. Most building elements, such as floors and beams are hosted by levels. Other elements, such as columns and walls are constrained to levels.
Levels can only be modified or added in the correct view, i.e. Elevation or Section

MODIFY LEVELS

>Modify a level by selecting the levels Name or Elevation

Level names are organised alphabetically in the Project Browser, so it is best to organise them by numerically by adding 01., 02. etc. before each of the Levels name

When changing a Levels name you will be prompted to rename the corresponding view in the Project Browser.



LEVEL

1. SHOW/HIDE BUBBLE

2. ELEVATION BUBBLE

3. EXTENTS WITH PADLOCK

4. ELBOW

5. LEVEL NAME

6. LEVEL

7. TEMPORARY DIMENSION

8. LEVEL ELEVATION

9. TEMPORARY VERTICAL DIMENSION

Displays when aligned to level line



ADD LEVELS

When adding a new level you have two options,
1) Make with a plan view, or
2) Make without a plan view.

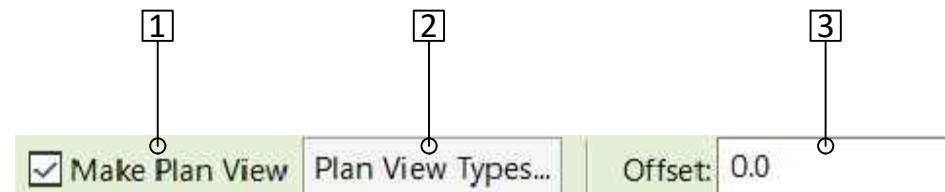
Make with a Plan View

Each level you create is a story level and has an associated floor plan view and a reflected ceiling plan view. If you click Plan View Types on the Options Bar, you can choose to create only the view types that you specify in the Plan View Types dialog, for example: Ceiling Plan, Floor Plan & Structural Plan

Make without a Plan View

If you clear Make Plan View, the level is considered to be a non-story level or a reference level; no associated plan view is created.

- >Click LEVEL(LL) in the Datum panel
- >Select preference in options bar
- >Click to enter the start and finish point, typically in-line with the default Levels
- >Double ESC



LEVEL OPTIONS BAR

- 1. TICK TO MAKE PLAN VIEW**
- 2. SELECT PLAN VIEW TYPES**
- 3. ADD OFFSET WHEN PLACED**

LEVELS

Create the Levels shown:



03. Roof

6000



02. First Floor

3000



01. Ground Floor

0



GRIDS

Grids are 3D elements that are visible only in views that intersect the grid extents. Structural columns automatically join the grid intersections.

Use the Grid tool to place column grid lines in the building design.

- >Click GRID(GR) in the Datum panel >Select preference in Draw Panel >Set an offset in the Options Bar
- >Click to enter the start and finish point
- >Double ESC

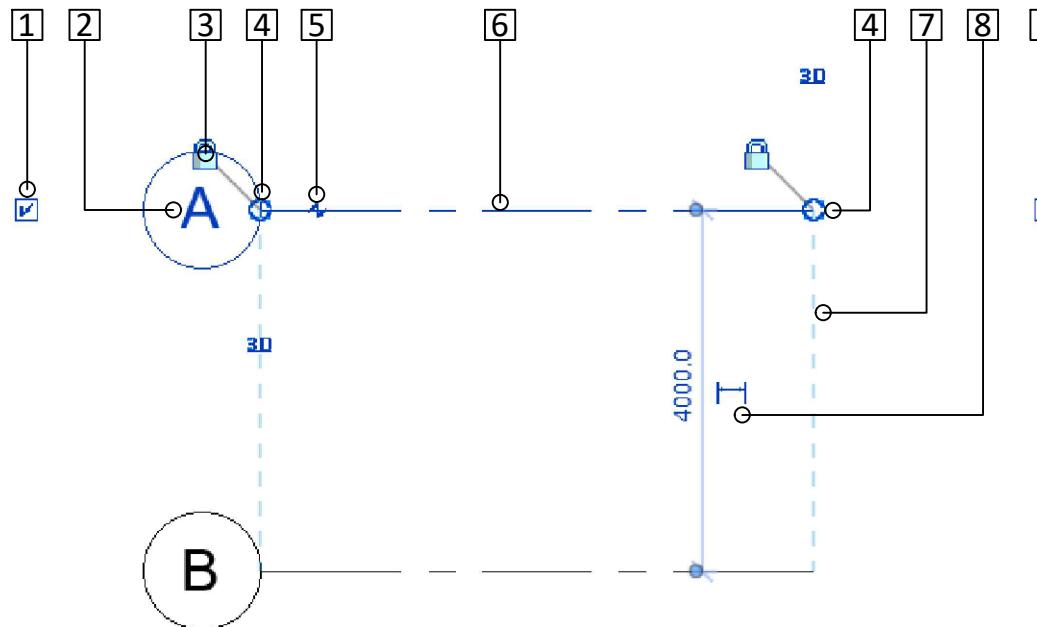
Grid lines are finite planes. You can drag their extents in elevation views so that they do not intersect level lines. This allows you to determine whether grid lines appear in each new plan view that you create for a project.

Grids can be straight lines, arcs or multi-segmented. You can hide grid lines after you add them.

NAMING GRIDS

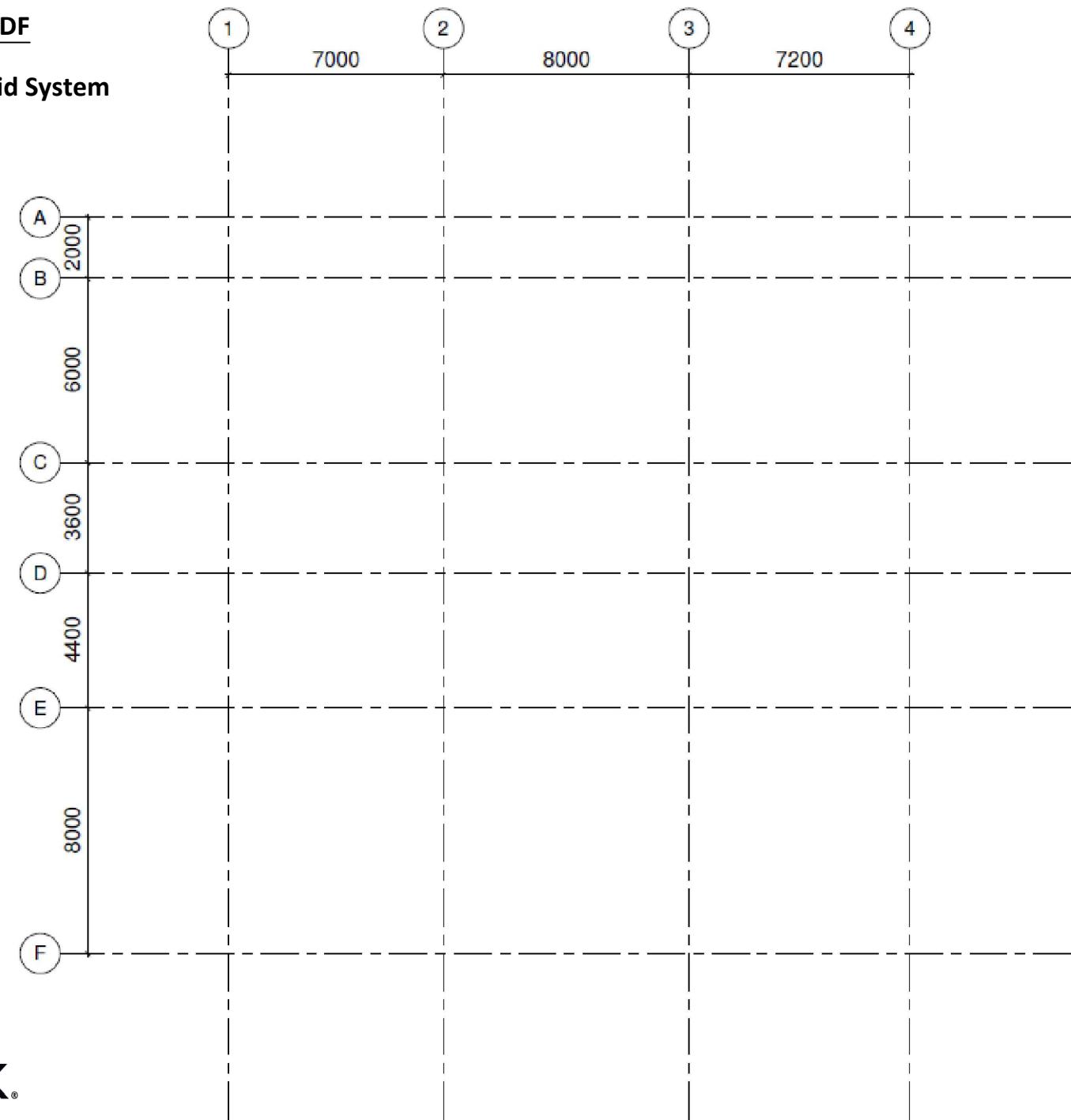
Change the grid value directly in the grid header or in the Name instance property.

It is best to name the first grid before placing the second as the naming is generated automatically.



GRID

- 1. SHOW/HIDE BUBBLE**
- 2. GRID NAME**
- 3. GRID BUBBLE**
- 4. EXTENTS WITH PADLOCK**
- 5. ELBOW**
- 6. GRID LINE**
- 7. TEMPORARY VERTICAL DIMENSION**
Displays when aligned to grid line
- 8. TEMPORARY DIMENSION**

[OPEN PDF](#)**001_Grid System**



STRUCTURAL COLUMNS

Adds a vertical load-bearing element to the building model.

Open a plan view or a 3D view to add structural columns. You can place each column manually, or use the At Grids tool to add columns to selected grid intersections.

Structural columns can join to structural elements, such as beams, braces and isolated foundations.

>Click STRUCTURAL COLUMN(CL) in the Build panel >Select preference from the Modify Tab

MODE

- ***Load Family:*** Opens the Revit Family Library

PLACEMENT

- ***Vertical Column:*** Adds a vertical column in a plan view or 3D view.
- ***Slanted Column:*** Adds a slanted column in a plan view, elevation, section or 3D view

MULTIPLE

- ***At Grids:*** Creates structural columns at the intersections of selected grid lines
- ***At Columns:*** Creates structural columns inside selected architectural columns

TAGS

- ***Tag on Placement:*** Places a tag for each element that you place

>Select preferences from the Options Bar



ARCHITECTURAL COLUMNS

Adds architectural columns to the building model.

To simplify the process of adding many columns, open a plan view and add columns along grid lines or walls.

To define the height of a column, edit its properties and set the Base Level, Base Offset, Top Level and Top Offset parameters

Compound layers in walls wrap at architectural columns. This does not apply to structural columns.

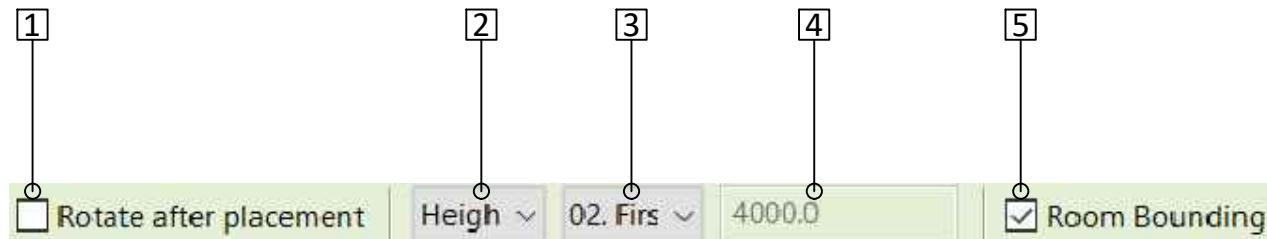
>Click ARCHITECTURAL COLUMN in the drop down arrow of the Structural column in the Build panel

>Select preference from the Modify Tab

MODE

- **Load Family:** Opens the Revit Family Library
- **Model In-place:** Creates a mass that is unique to the project

>Select preferences from the Options Bar



COLUMN OPTIONS BAR

1. ROTATE AFTER PLACEMENT

Tick to rotate the column after it is placed

2. HEIGHT / DEPTH

Height: The distance measured from the bottom to the top

Depth: The distance measured from the top to the bottom

3. CONSTRAINT

Select the level to constrain too or select 'UNCONNECTED' to then specify a height or depth

4. UNCONNECTED HEIGHT

Specify the unconnected height here

5. ROOM BOUNDING

Tick to indicate that an element should be used to define the boundaries of a room for room area and volume computations



STRUCTURAL COLUMNS

- >Click STRUCTURAL COLUMN(CL) in the Build panel >Select 'Vertical Column'
- >Select Column Type 'UC305x305x97'
- >Select [Height: 02. First Floor]
- >Place at Grid intersections



ARCHITECTURAL COLUMNS

- >Click ARCHITECTURAL COLUMN in the Build panel
- >Select Column Type '600x600mm'
- >Select [Height: 02. First Floor]
- >Place at Grid intersections



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002_Column Layout



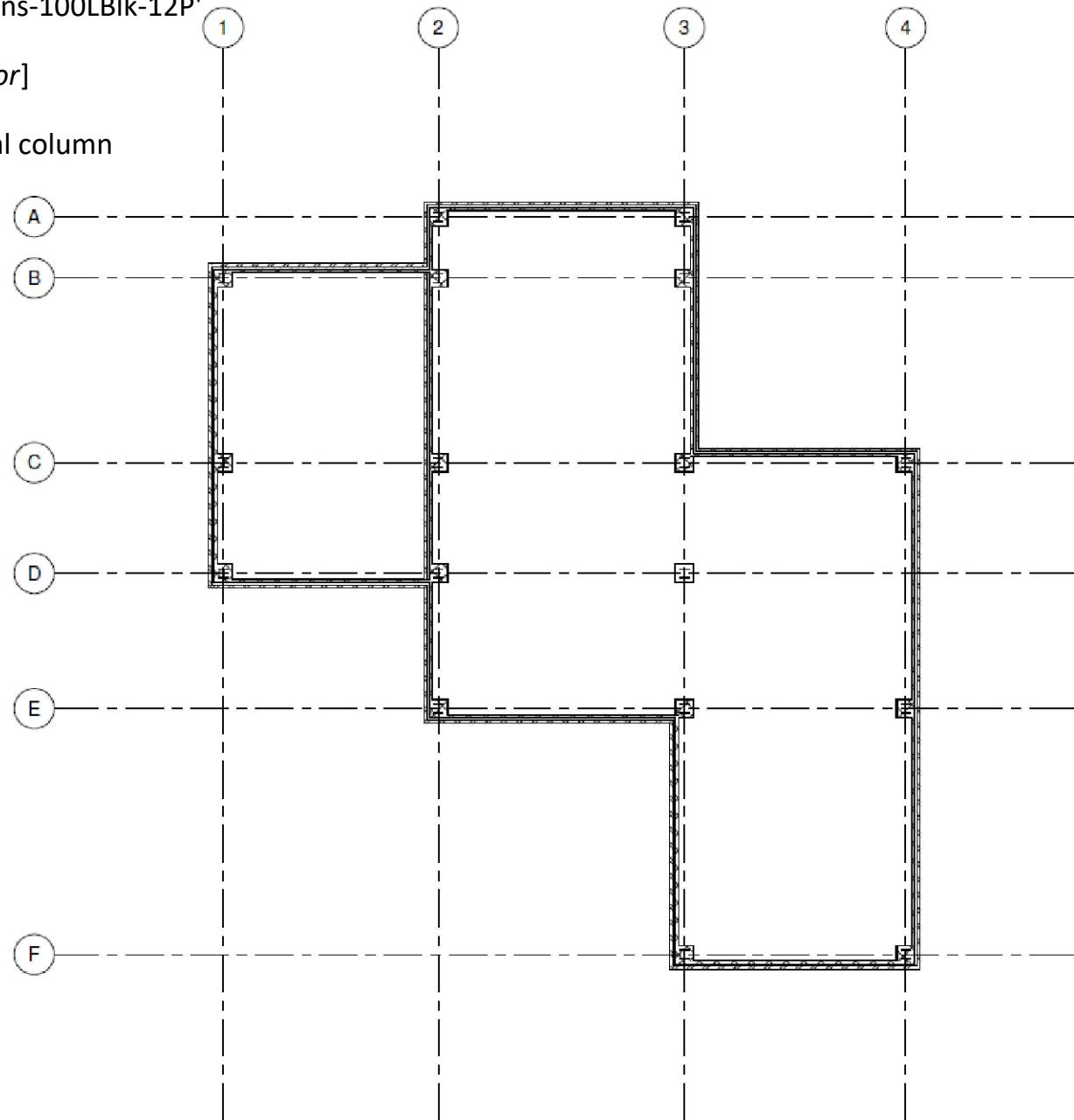
WALL TOOL - ARCHITECTURAL

- >Click WALL(WA) in the Build panel
- >Select Wall Type 'Wall-Ext_102Bwk-75Ins-100LBlk-12P'
- >Select [Height: 02. First Floor]
- >Select [Location Line: Core Face: Exterior]
- >Draw building outline as PDF
- >Snap to the corner of each architectural column
- >Double ESC to finish

OPEN PDF

PDF

003_External Walls





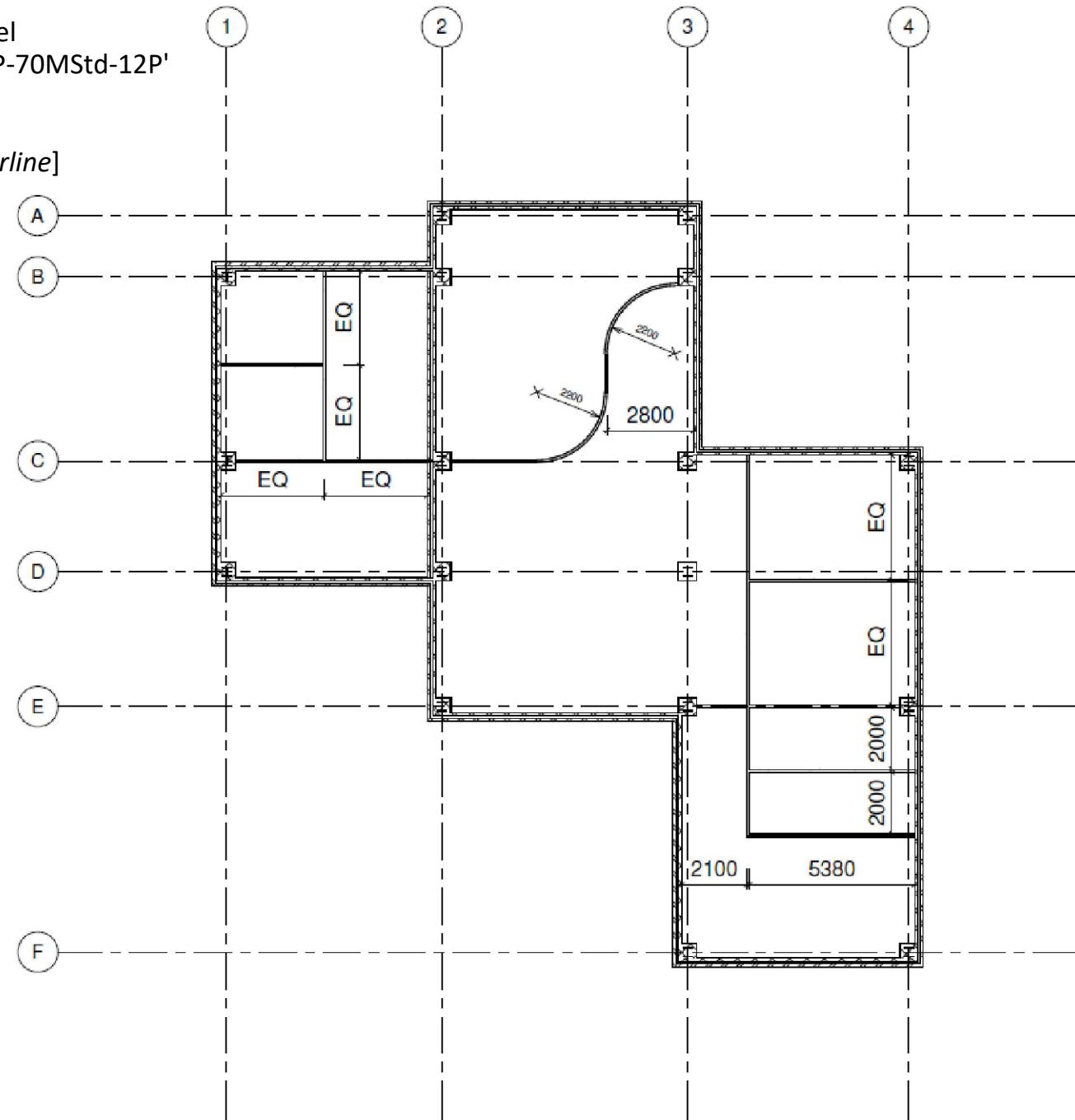
WALL TOOL - ARCHITECTURAL

- >Click WALL(WA) in the Build panel
- >Select Wall Type 'Wall-Partn_12P-70MStd-12P'
- >Select Wall placement method
- >Select [Height: 02. First Floor]
- >Select [Location Line: Wall Centerline]
- >Draw internal walls as PDF
- >Double ESC to finish



OPEN PDF

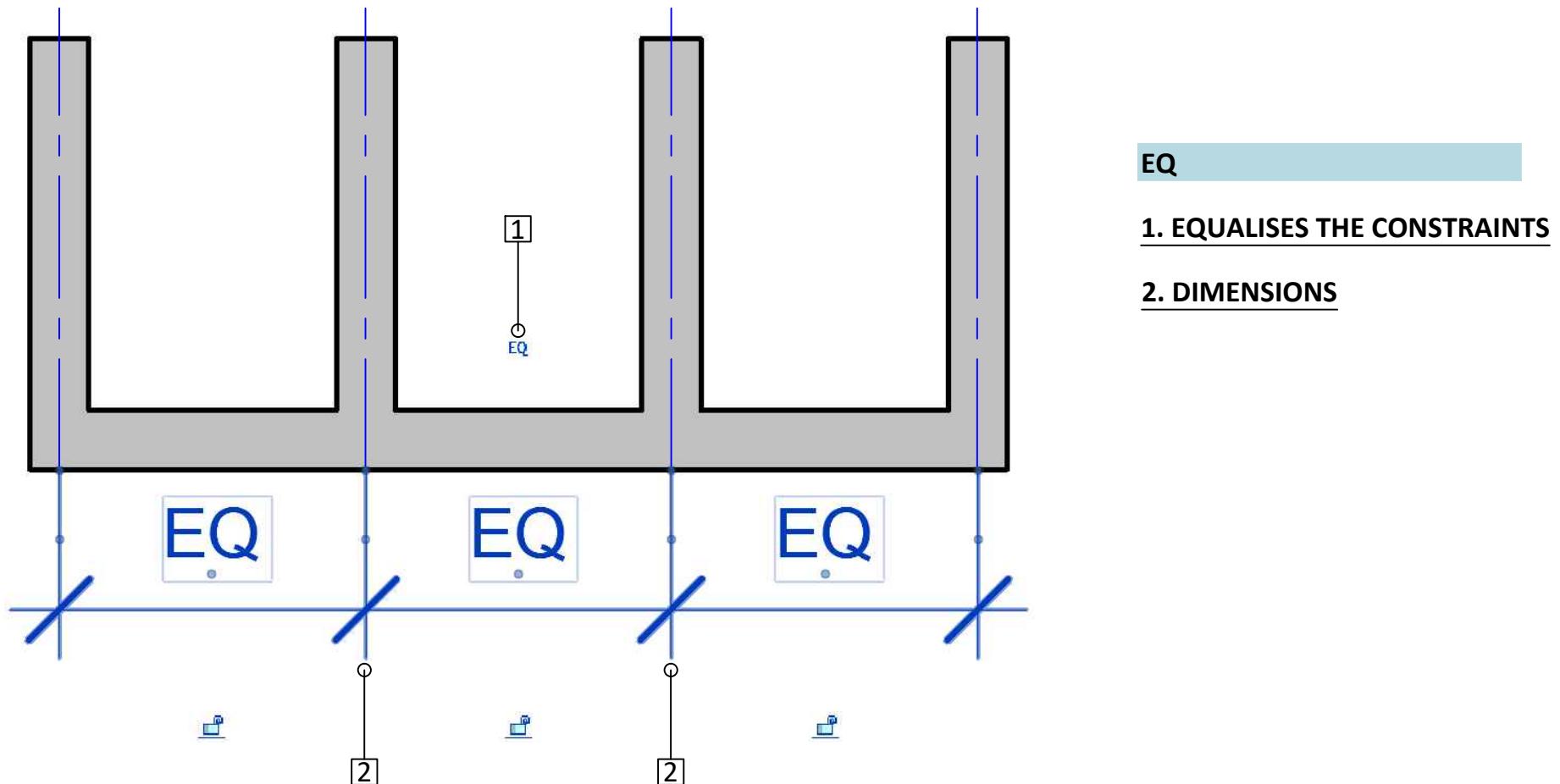
004_Internal Walls



EQUALITY CONSTRAINTS

An equality constraint appears as an EQ symbol near the dimension line when you select a multi-segmented dimension. If you select one of the references for the dimension line (such as a wall), the EQ symbol appears with a dashed blue line at the middle of the references.

The EQ symbol represents an equality constraint element applied to the references for this dimension. The references, which are walls in the graphic, remain at equal distances from one another while this constraint is active. If you select one of the walls and move it, all walls move together at a fixed distance.



EQUALITY CONSTRAINTS

After the components have been equally spaced, delete the Dimensions from the model.

When the dimensions are deleted a warning dialog box appears stating as below.

If you no longer want the components to be constrained then select 'Unconstrain'.

If you want the constraints to remain but to no longer display the dimension then select 'OK'

If you want the constraints to remain and display the dimension then select 'Cancel'



WALL JOINS

By default, Revit creates a join where 2 walls intersect. However, you can prevent joins for a selected wall whenever necessary. Disallowing joins is also useful for resolving complex joins. For example, if you add a wall to a complex join and it produces undesired results, you can disallow joins on the added wall and then use the Join Geometry tool to clean the join between this wall and other walls.

Either



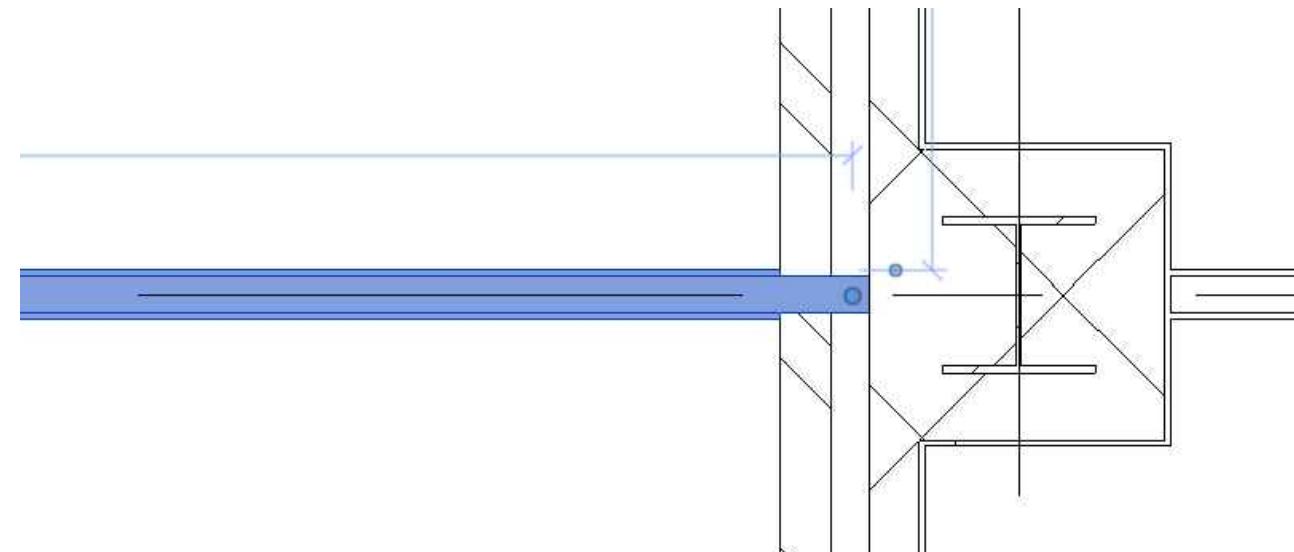
- >Click WALL JOINS in the Geometry panel of the Modify Tab
- >Place cursor over join and select 'Disallow Join'

Or

- >Select Wall
- >Right Click on End Grip
- >Select Disallow from Context Menu

Or

- >When placing a Wall select Disallow Join from Options Bar



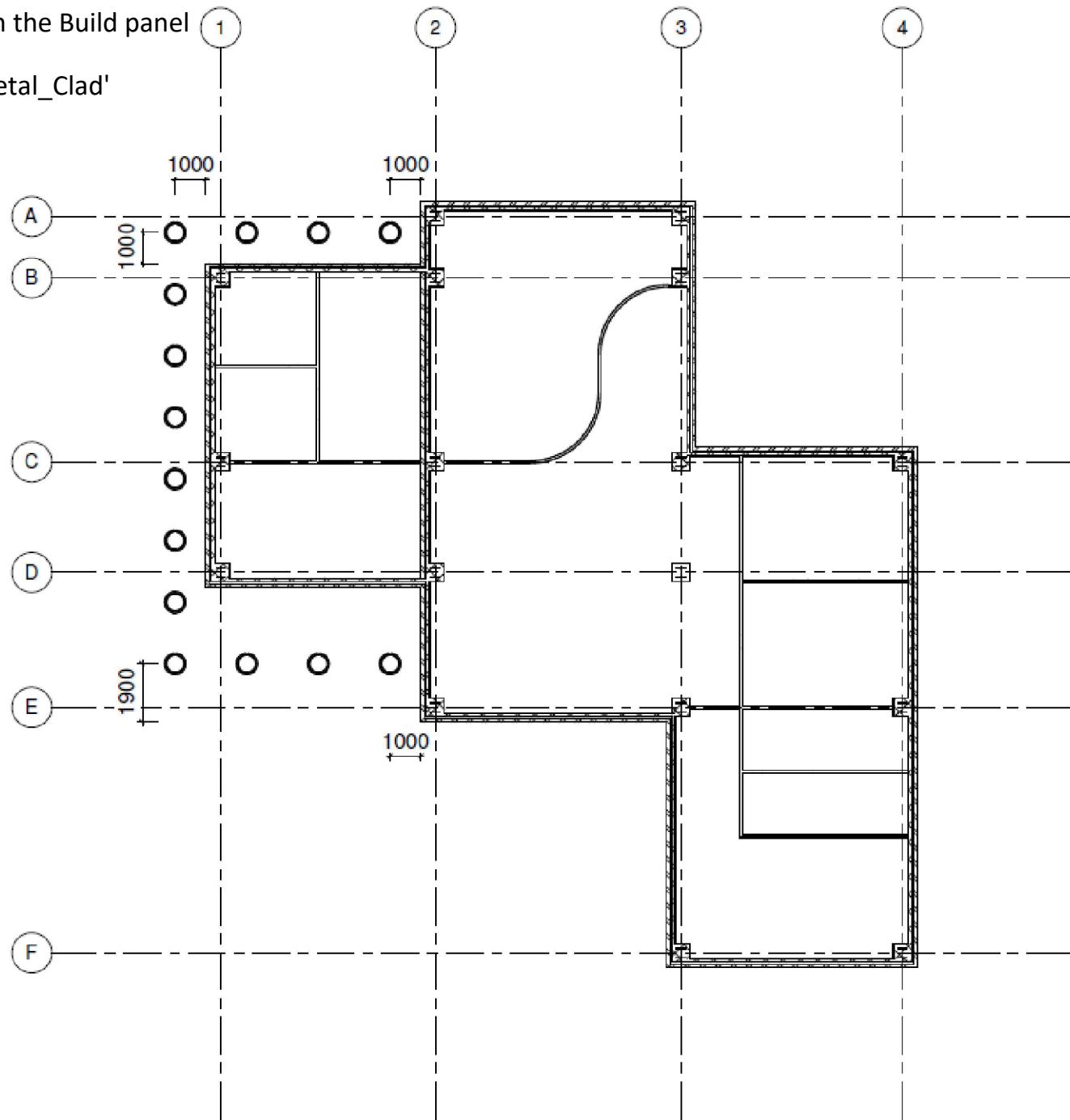


ARCHITECTURAL COLUMNS

- >Click ARCHITECTURAL COLUMN in the Build panel
 - >Open library and insert column
 - >Select Column Type 'Columns_Metal_Clad'
 - >Select [Height: 02. First Floor]
 - >Place as in PDF

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005 External Columns





LOAD FAMILY - FROM LIBRARY

You can load families from local or networked libraries, the web library or other sources. Within the contextual tab of some tools, the LOAD FAMILY icon will be present in the MODE panel, here is where you can load in a family from the library. Or you use PLACE A COMPONENT to place an instance of the family type in the drawing area.

- >Click COLUMN:ARCHITECTURAL in the Build panel
- >Select LOAD FAMILY from the Mode panel
- >In the Load Family dialog, double-click the 'Columns' category
- >Select the Column 'Columns_Metal_Clad' from the list
- >At the top right of the dialog, under Preview, a thumbnail image of the family displays
- >Select Open

The family type is now available to place in the project.

It displays in the appropriate category under Families in the Project Browser.



FLOOR: ARCHITECTURAL

Creates a floor for the current level of the building model.

To align the floor with existing walls, use the Pick Walls tool. Or to sketch the floor boundaries, draw lines or pick existing lines in the model.

The floor is offset downward from the level on which it is created.

>Click FLOOR in the Build panel >Select preference from the Modify Tab

MODE

- ***Cancel Edit Mode:*** Discards changes and exits sketch mode
- ***Finish Edit Mode:*** Saves changes and exits sketch mode

DRAW

- ***Boundary Line:*** Sketches lines to define the boundary of a floor. The sketch must contain a closed loop representing the outside or perimeter of the floor. The sketch may also contain other closed loops, which define openings in the floor.
- ***Slope Arrow:*** Adds slope arrows to a sketch. You can specify the height at the head and tail of the slope arrow, or enter a slope value (rise over run) using the properties.
- ***Span Direction:*** Specifies a boundary line of a structural floor to which metal decks will run parallel. A span direction symbol is placed with a structural floor. The metal deck and its symbol are specified by this initial placement and can be later modified.

>Select drawing method from the draw panel

WORK PLANE

- ***Set Work Plane:*** Specifies the work plane for the current view or for a selected work-plane-based element. When sketching, you can snap to the work plane grid, but you cannot align or dimension to it.
- ***Show Work Plane:*** Displays or hides the active work plane in the view. The work plane is necessary for sketching operations such as creating an extruded roof, and for enabling tools in particular views, such as Rotate and Mirror in a 3D view.
- ***Reference Plane(RP):*** Creates a reference plane using drawing tools. In the drawing area, sketch a line to define the new reference plane.
- ***Workplane Viewer:*** Enables the workplane Viewer. Use the Workplane Viewer as a temporary view to edit selected elements. The view displays elements from a selected work plane and is not saved in the Project Browser

>Select preferences from the Options Bar



PICK WALLS

When creating a floor or roof the Pick Walls tool becomes available when drawing the boundary. Pick Walls tool gives you more options to customise the floor or roof.

The tool adds a sketch line based on existing walls.

Sketch lines created using this tool are automatically constrained to the walls.

To select a chain of walls, move the cursor over a wall, press the Tab key to highlight the entire chain and click.

PICK WALLS TOOL

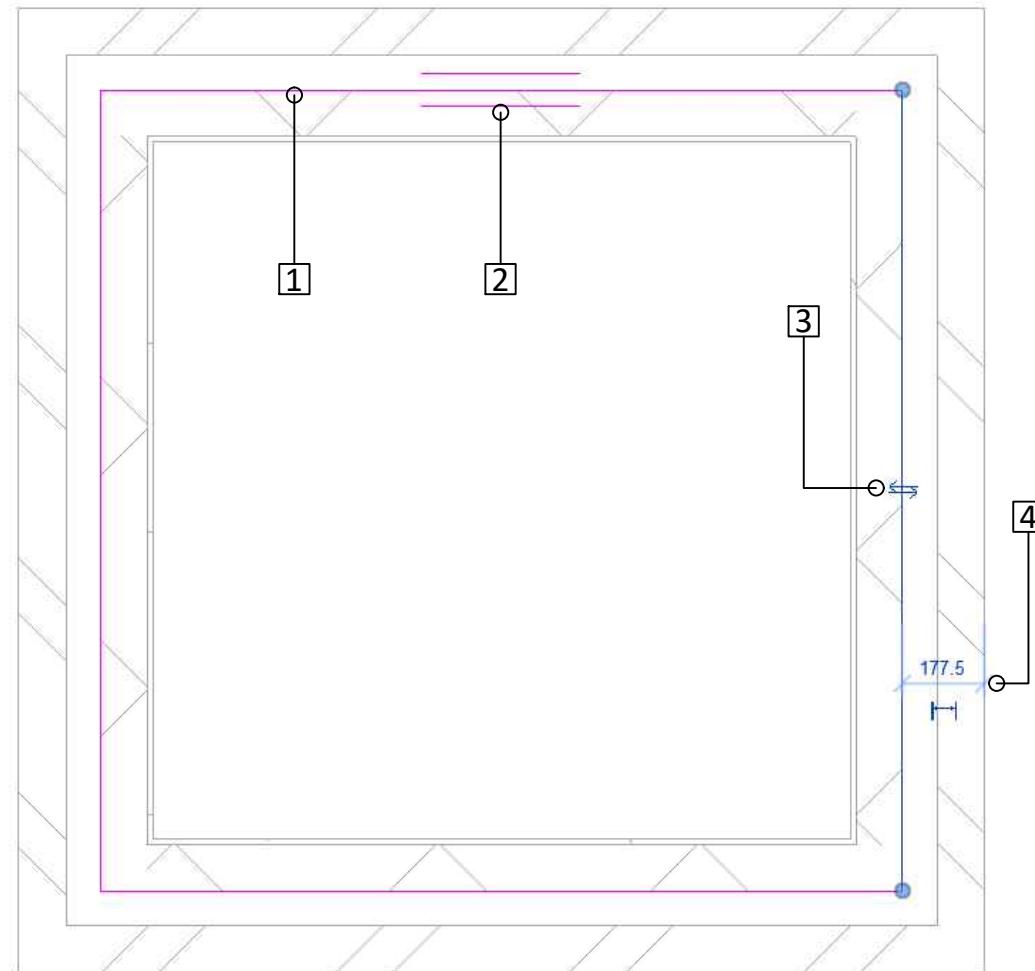
1. BOUNDARY LINE

2. SPAN DIRECTION

3. FLIP ARROW

Flips between boundaries

4. TEMPORARY DIMENSION





PICK WALLS OPTIONS BAR



PICK WALLS OPTIONS BAR

1. ADDS AN OFFSET

2. TICK TO DEFINE SLOPE

3. TICK TO EXTEND INTO WALL (to core)

4. ADDS A CANTILEVER TO CONCRETE OR STEEL

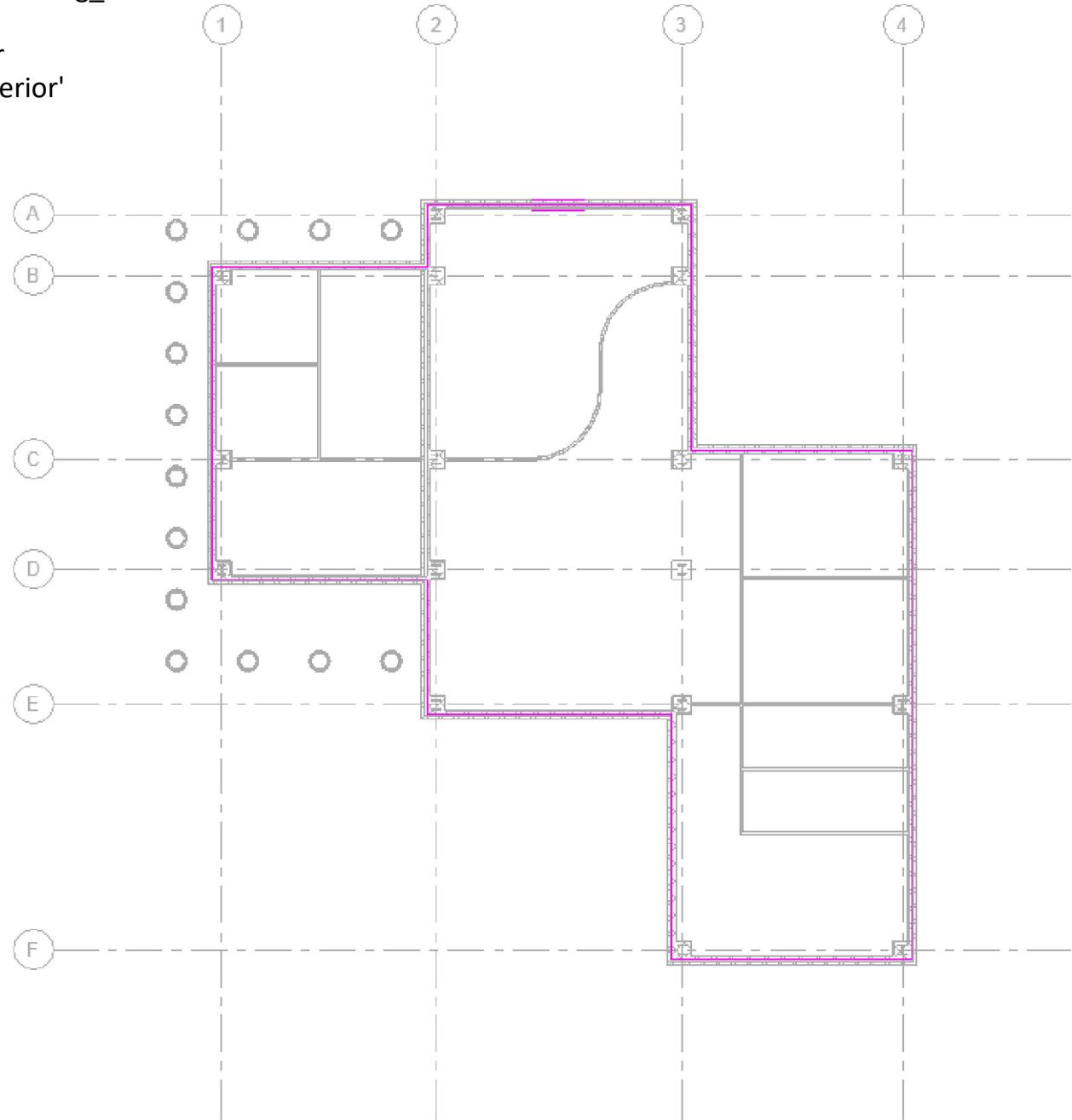


FLOOR: ARCHITECTURAL

- >Click FLOOR in the Build panel >Select Pick Walls in Draw Panel
- >Select Floor Type 'Floor-Grnd-Bearing_65Scr-90Ins-125Conc-50SBld-150Hcore'
- >Place as in PDF
- >Click flip arrow to ensure Floor Boundary is on 'Core Face: Exterior'
- >Click 'Finish Edit Mode'

[OPEN PDF](#)

006_Floors

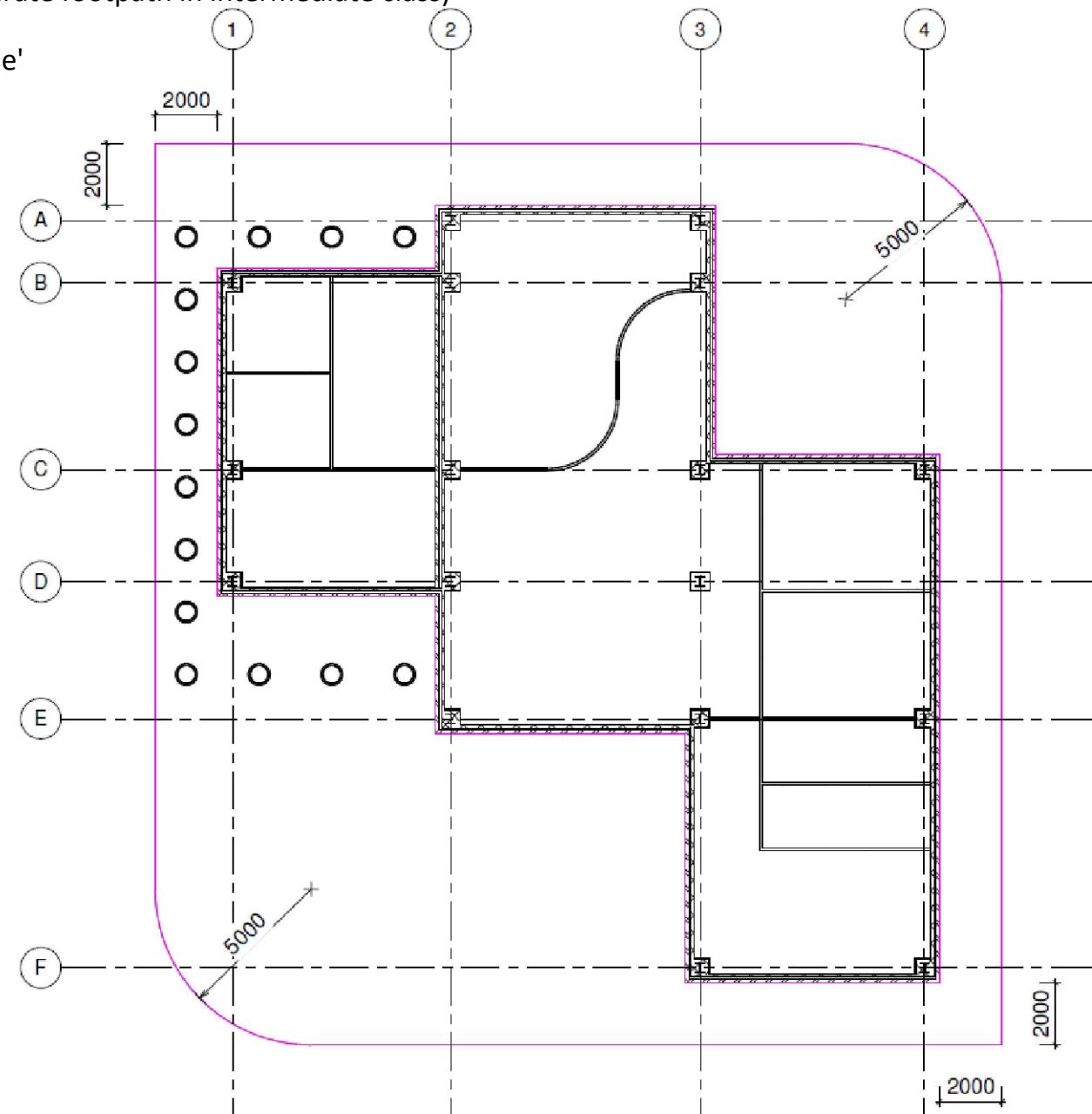


**BOUNDARY PATH**

- >Click FLOOR in the Build panel >Select Pick Walls in Draw Panel
- >Select Floor Type 'Floor-Grnd-Bearing_65Scr-90Ins-125Conc-50SBl-150Hcore'
(will modify to an accurate footpath in intermediate class)
- >Place as in PDF
- >Click 'Finish Edit Mode'

OPEN IMAGE**007_Path**

PDF





DOORS

Adds doors to the building model.

Use the Type Selector to specify the type of door to add, or load the desired door family into the project. A door can only be hosted by a Wall element.

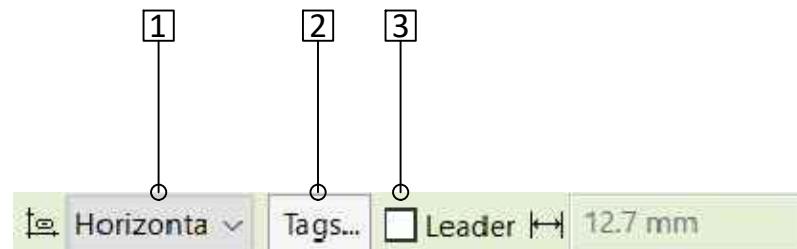
>Click DOOR(DR) in the Build panel >Select preference from the Modify Tab

MODE

- **Load Family:** Opens the Revit Family Library
- **Model In-place:** Creates a mass that is unique to the project

TAGS

- **Tag on Placement:** Places a tag for each element that you place
>Select preferences from the Options Bar



DOOR TAG OPTIONS

1. TAG ORIENTATION

Horizontal or Vertical

2. SPECIFY TAG

3. ADD LEADER TO TAG

>Select door type from the Type Selector

>Click to place on a Wall



PLACE DOOR

Once the door tool has been selected, move cursor over a wall to display a preview of the doors location.

When placing the door in plan view, press the Spacebar to flip the door hand from left to right.

To flip the door facing (make it swing in or out), move the cursor closer to the inner or outer wall edge.

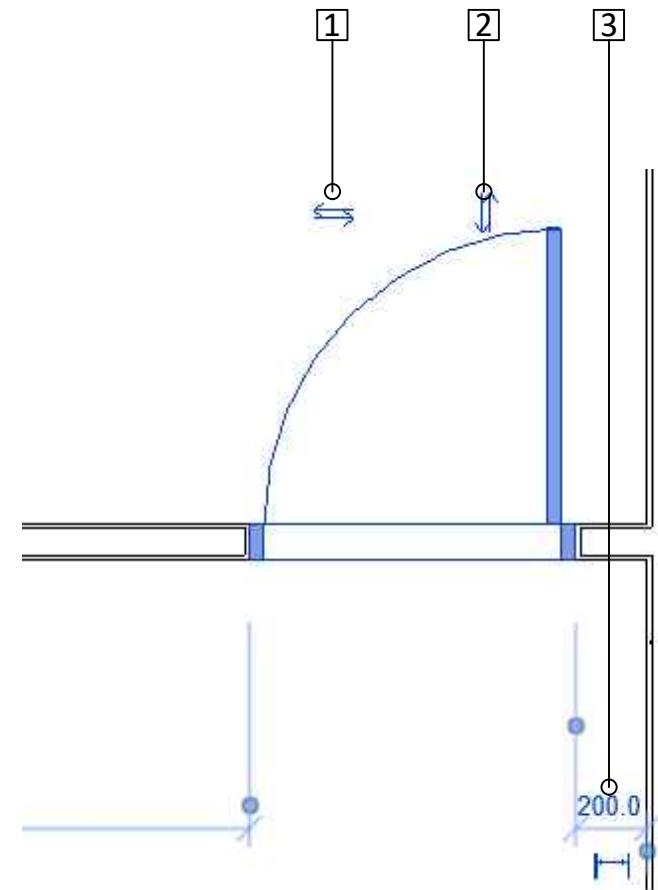
Once the door has been placed the flipping arrows and temporary dimensions appear to further position the door. By default, the temporary dimensions indicate the distances from the door centerline to the face of the nearest perpendicular walls.

DOOR PLACEMENT

1. DOOR HANDING

2. DOOR FACING

3. TEMPORARY DIMENSION



[OPEN PDF](#)

008_Doors

DOOR SIZES

1. 910x2110mm

2. 1510x2110mm

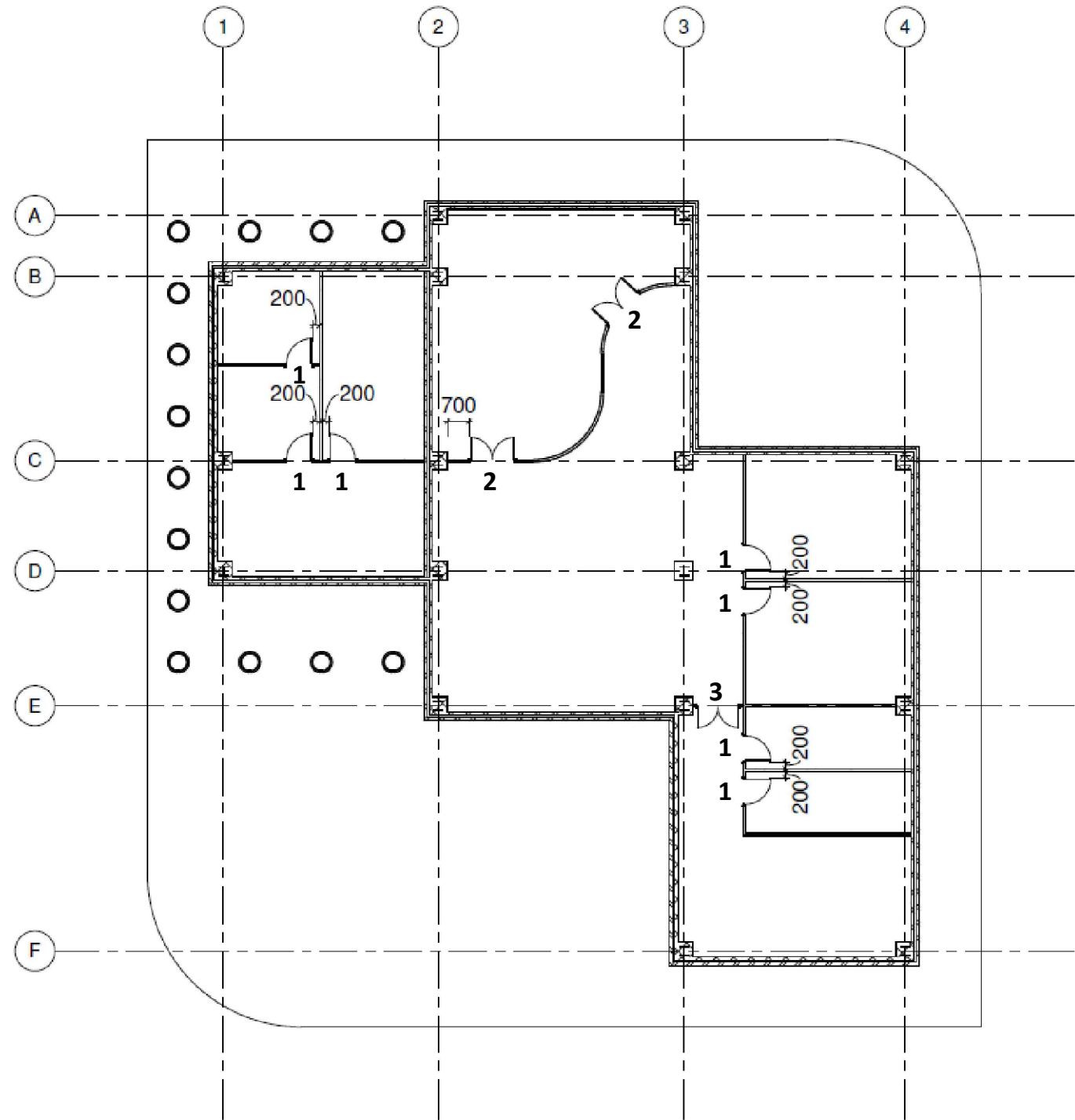
3. 1410x2110mm

>Rename Doors as:

1. DT-01 910x2110mm

2. DT-02 1510x2110mm

3. DT-03 1410x2110mm





LOAD A DOOR FROM LIBRARY

- >Click DOOR(DR) in the Build panel
- >Select LOAD FAMILY from the Mode panel
- >In the Load Family dialog, double-click the Doors category, then select the Sub-folder
- >Select the Door 'Doors_IntDbl_1' from the list
- >At the top right of the dialog, under Preview, a thumbnail image of the family displays
- >Select Open

The family type is now available to place in the project.

It displays in the appropriate category under Families in the Project Browser.



TYPE PROPERTIES

The Type Properties displays properties for the family type to which the selected element belongs.

Type properties affect all instances (individual elements) of that family in the project and any future instances that you place in the project.

To change properties for a single element or a subset of elements that belong to the family type, use the Properties palette.

>Select the Door to create a new Type

Either

>Select the Type Properties in the Properties panel of the Modify Tab

Or

>Select the 'Edit Type' under the Type Selector in the Properties palette

To create a new Type from the Family, you must select 'Duplicate'

>Once you select Duplicate, rename the Type

>Now that you have a new type, you can now change its properties

As an example:

>Select the 1510x2110mm

>Select the 'Edit Type'

>Select the 'Duplicate'

>Rename as 1410x2110mm

>Change the 'Width' under the 'Dimension' heading

There are 3 methods to creating an opening in a wall.

- 1) By using the Wall Opening tool
- 2) By using the Edit Profile tool
- 3) By inserting a structural opening in the wall



1) WALL OPENING TOOL

Cuts a rectangular opening in a straight or curved wall.

- >Create an opening using a view that shows the surface of the wall to cut, such as an elevation or a section, or use a plan view to create the opening, and adjust its Top Offset and Base Offset using the wall opening properties
>Click WALL OPENING in the Opening panel
>Select the wall >Draw the rectangle and adjust

For walls, you can create rectangular openings only.

To create round or polygon openings, select the wall and use the Edit Profile tool.



2) EDIT PROFILE TOOL

Changes the shape of the selected wall or opening.

- >Edit the profile by using a view that shows the surface of the wall to edit, such as an elevation or a section.
>Select the wall to edit >Click EDIT PROFILE in the Mode panel of the Modify Tab

MODE

- ***Cancel Edit Mode:*** Discards changes and exits sketch mode
- ***Finish Edit Mode:*** Saves changes and exits sketch mode

DRAW

Varies drawing methods



3) STRUCTURAL OPENING

- >Click DOOR(DR) in the Build panel
- >Click LOAD FAMILY
- >Select the DOORS category
- >Select the STRUCTURAL Sub-category
- >Select the 'Door-Opening' family
- >Click OPEN
- >Select door type from the Type Selector
- >Click to place on the Wall

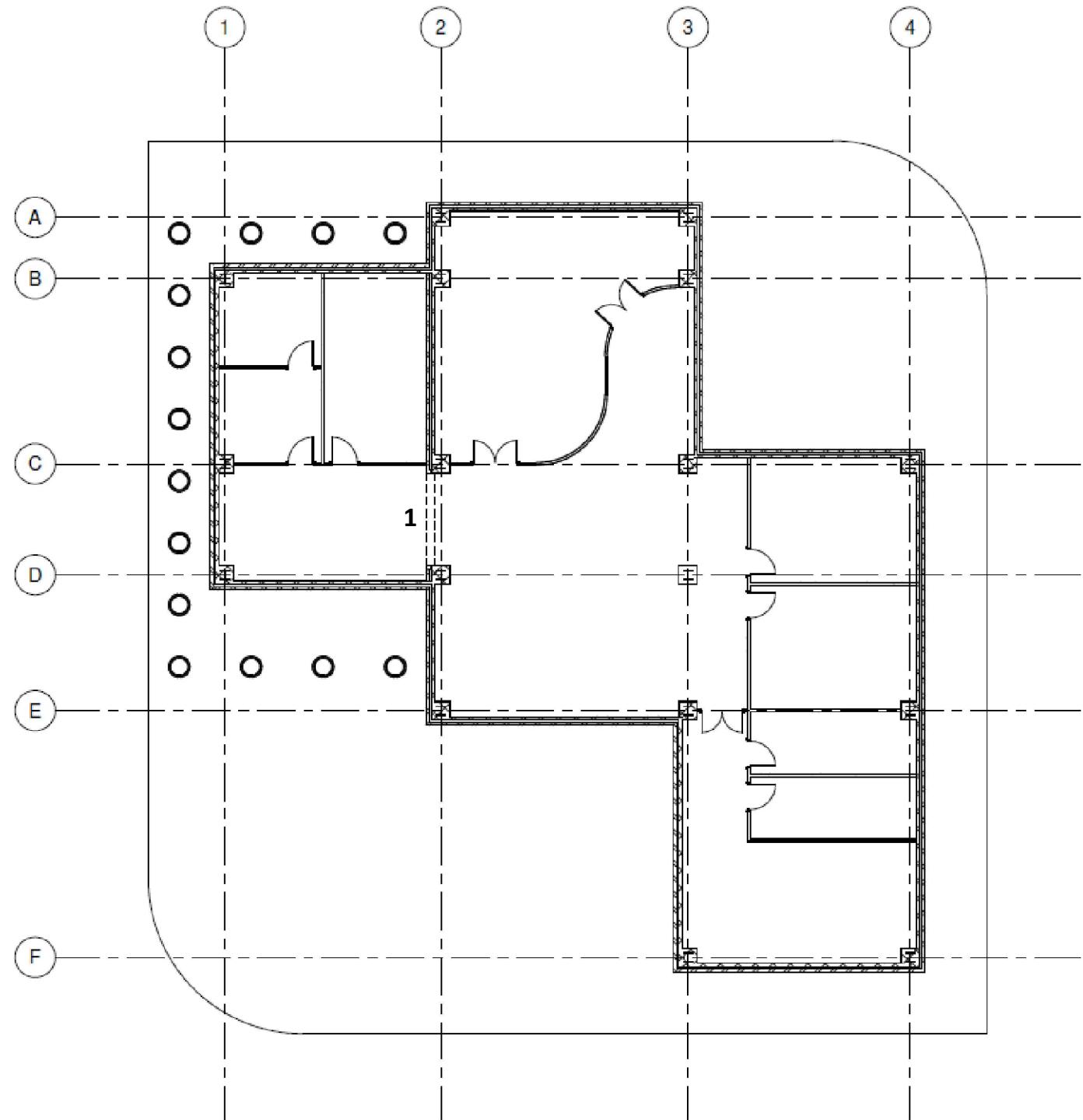
- >Edit the Type of door to fit the opening

[OPEN PDF](#)

009_Opening

OPENING SIZE

1. 3000x2200mm





WINDOWS

Adds windows to the building model.

Use the Type Selector to specify the type of window to add, or load the desired window family into the project.

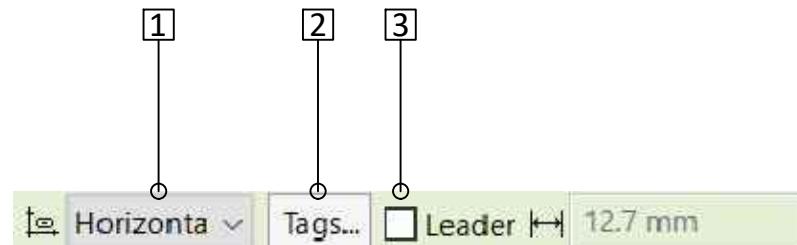
>Click WINDOW(WN) in the Build panel >Select preference from the Modify Tab

MODE

- **Load Family:** Opens the Revit Family Library
- **Model In-place:** Creates a mass that is unique to the project

TAGS

- **Tag on Placement:** Places a tag for each element that you place
>Select preferences from the Options Bar



>Select window type from the Type Selector

>Click to place on a Wall

WINDOW TAG OPTIONS

1. TAG ORIENTATION

Horizontal or Vertical

2. SPECIFY TAG

3. ADD LEADER TO TAG



PLACE WINDOW

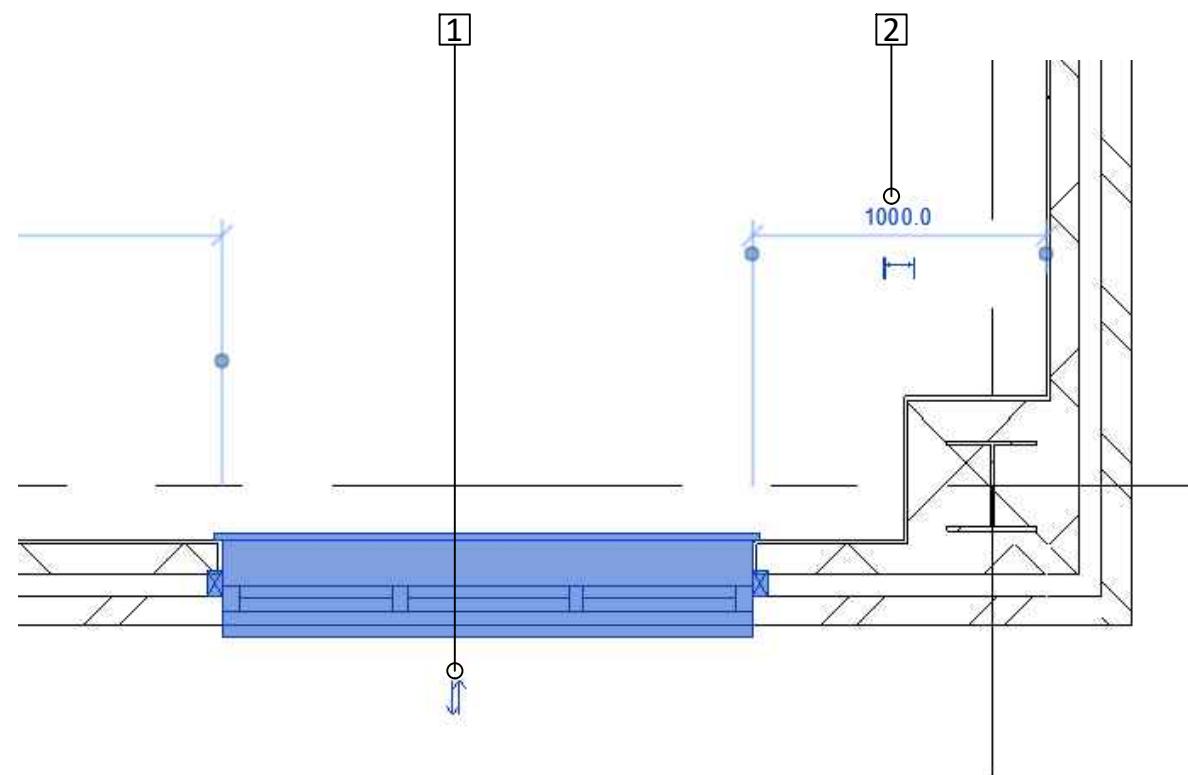
Once the window tool has been selected, move cursor over a wall to display a preview windows location. When placing the window in plan view, move the cursor to the exterior side of the wall centre-line so the temporary dimensions now show on the exterior side (when placed the temporary dimensions appear on the interior side). This means the window will be positioned correctly with the sill facing outwards.

Once the window has been placed the flipping arrows and temporary dimensions appear to further position the door. By default, the temporary dimensions indicate the distances from the windows structural openings to the face of the nearest perpendicular walls.

WINDOW PLACEMENT

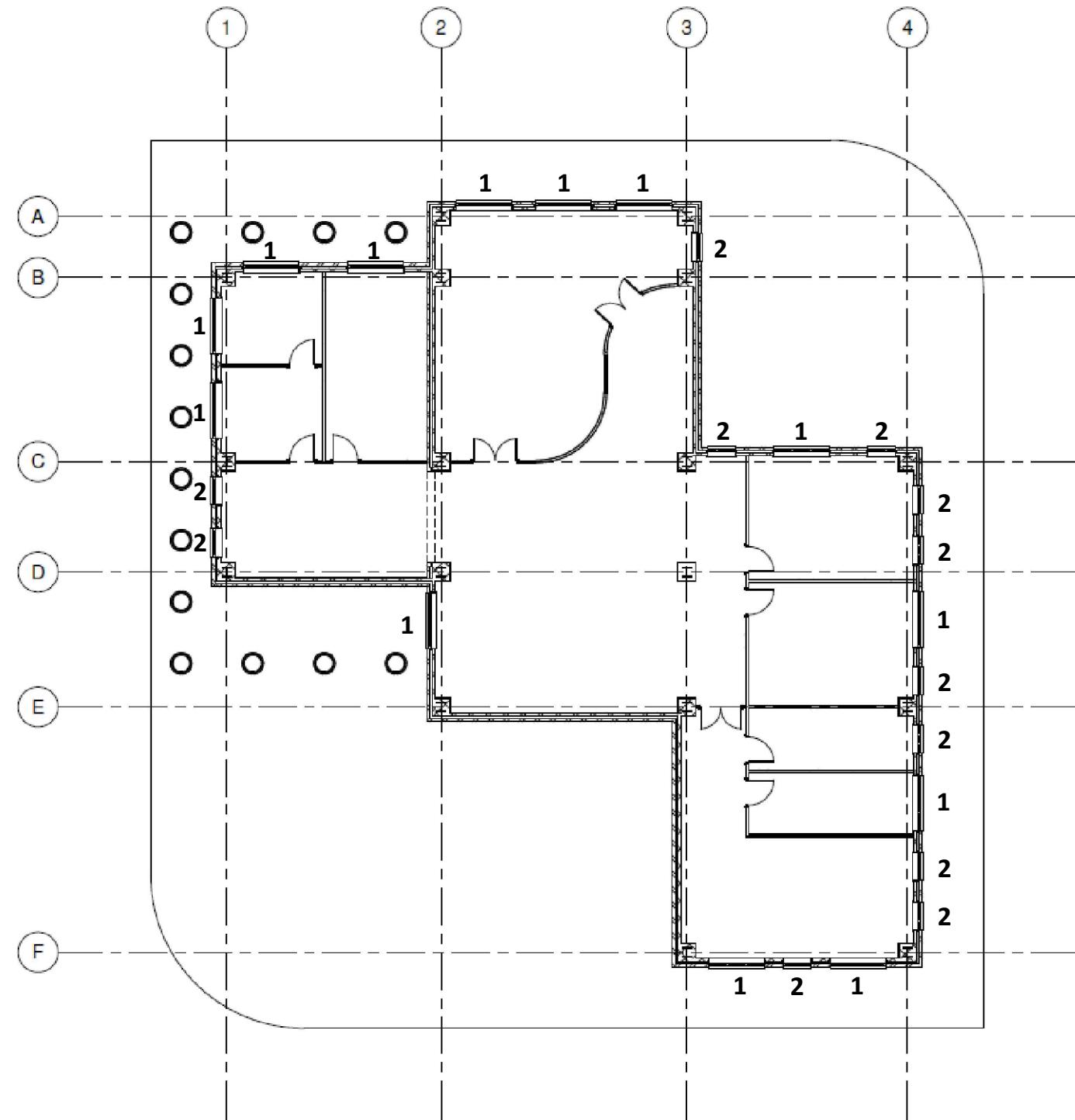
1. FLIPPING ARROW

2. TEMPORARY DIMENSION



[OPEN PDF](#)**010_Windows****WINDOW SIZES****1.** 1810x1210mm**2.** 910x1210mm

>Rename Windows as

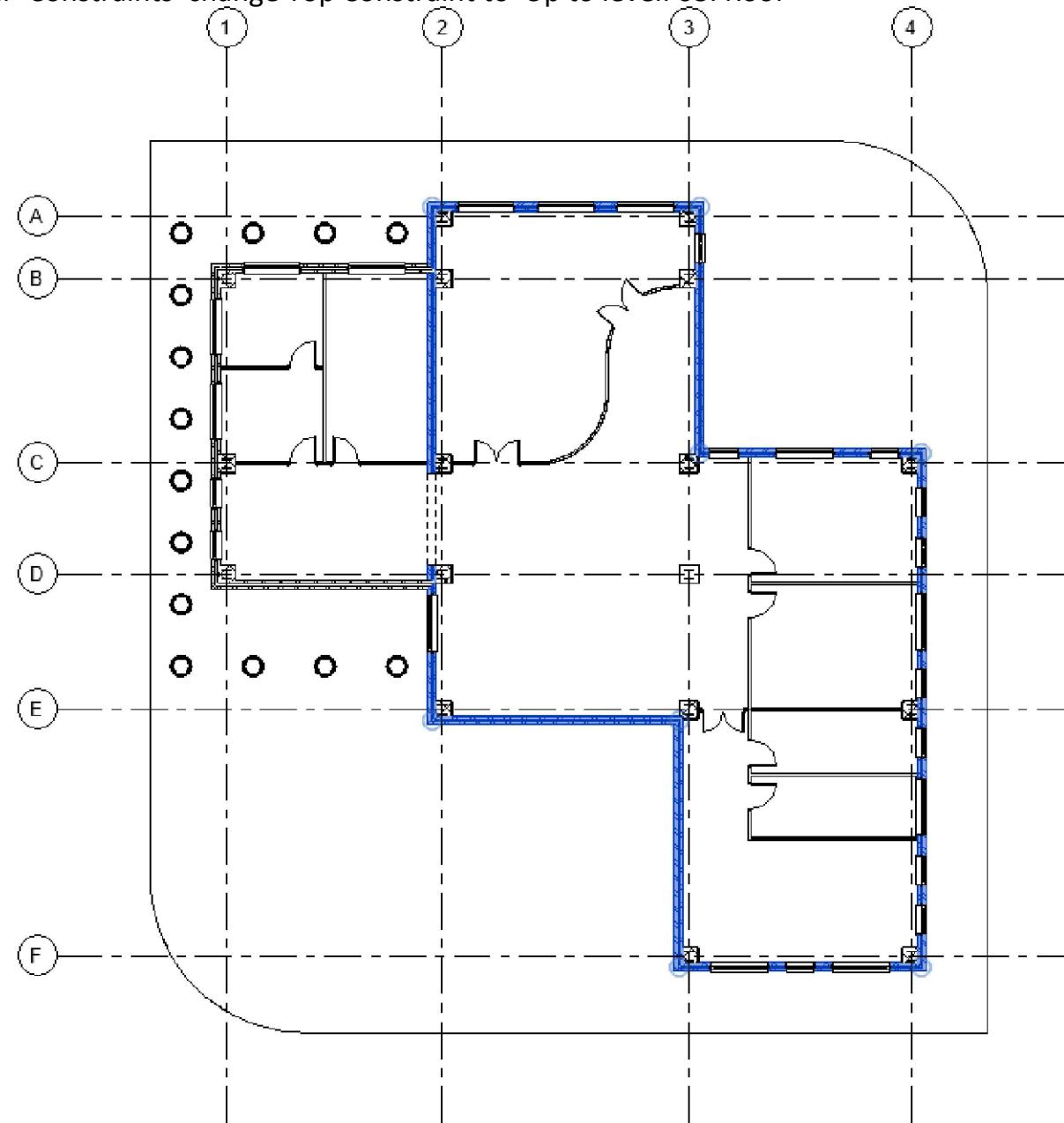
1. WT-01 1810x1210mm**2.** WT-02 910x1210mm

LEVEL CONSTRAINTS

To increase the height of the building to create a first floor, follow these steps:

>Select walls in image, a quick way of doing so is to hover over one wall and click the Tab key, then click on the wall.

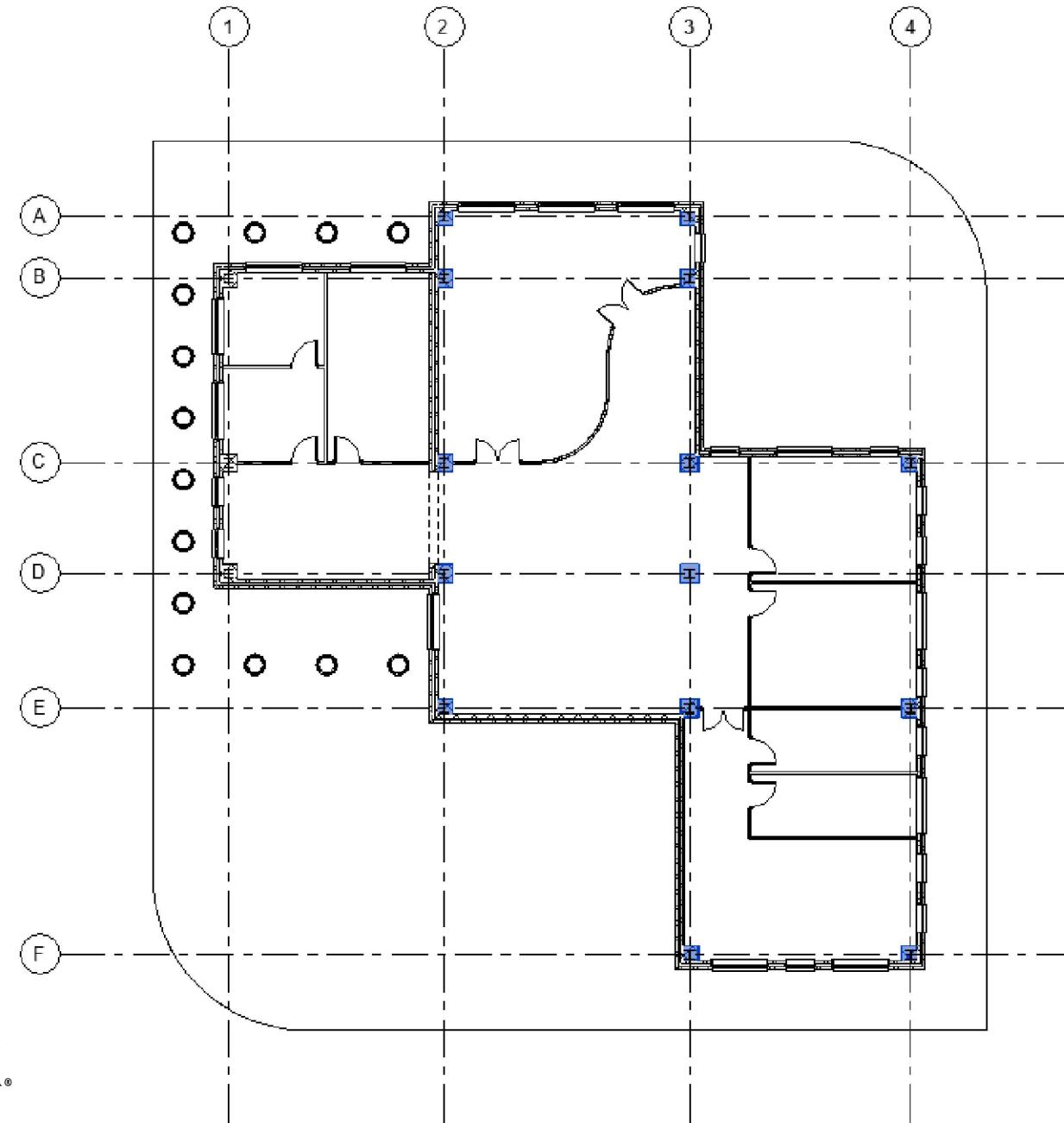
>In the Properties Palette under 'Constraints' change Top Constraint to 'Up to level: 03. Roof'

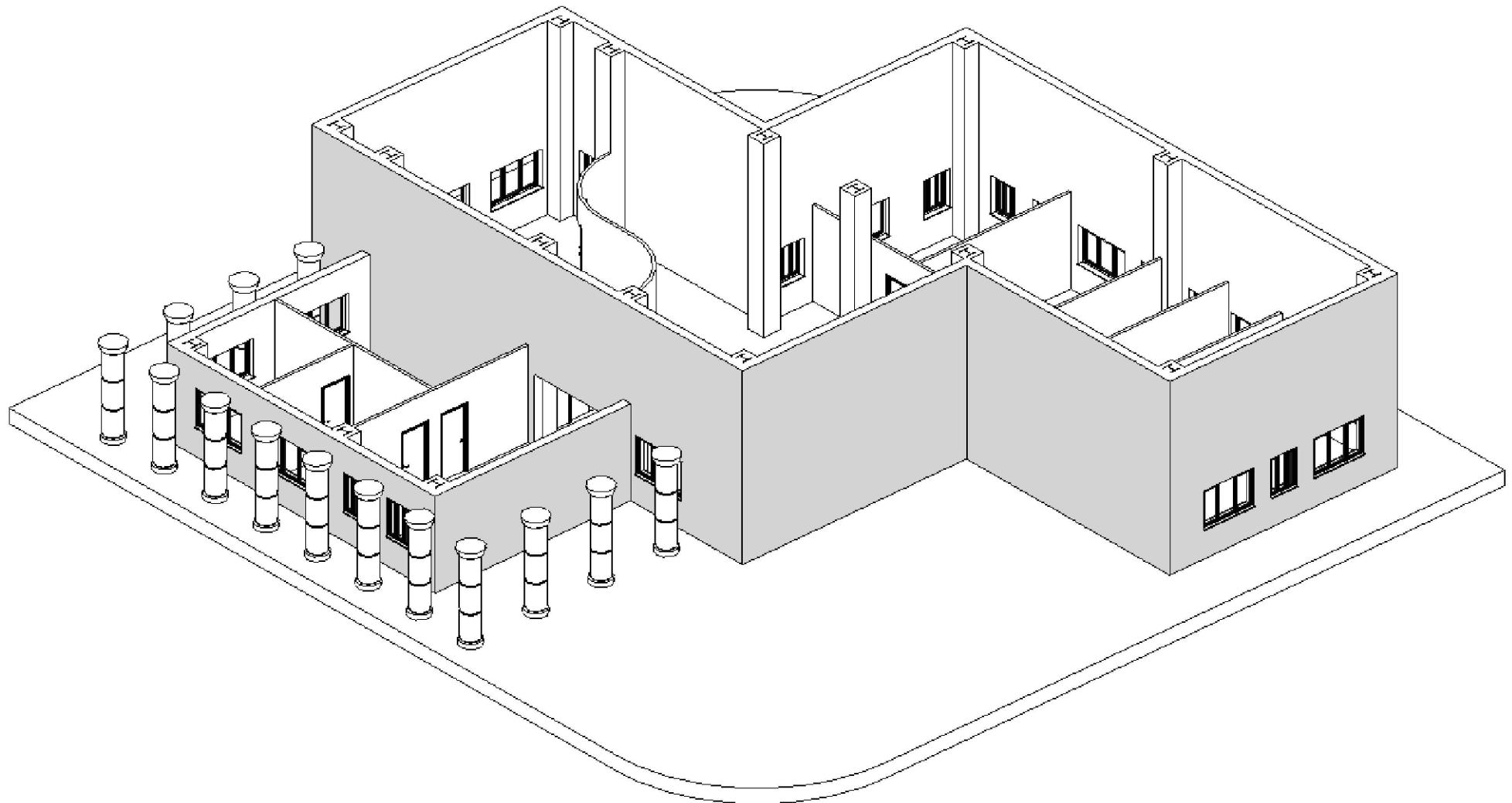


COLUMN CONSTRAINTS

>Select columns in image

>In the Properties Palette under 'Constraints' change Top Constraint to 'Up to level: 03. Roof'





UNDERLAY

The Underlay in the model is located in the Properties Palette

RANGE: BASE LEVEL

Displays a range of the model in the current plan view.

Set the underlay range by specifying a level for the Range: Base Level. The range of the model between that level and the next level up, or Range: Top Level, displays.

RANGE: TOP LEVEL

Displays a range of the model in the current plan view.

Set the underlay range by specifying a level for the Range: Base Level. The range of the model between that level and the next level up, or Range: Top Level, displays

UNDERLAY ORIENTATION

The Underlay Orientation sets the view direction of the Underlay Range. You can either Look Up at this range or Look Down on this range.



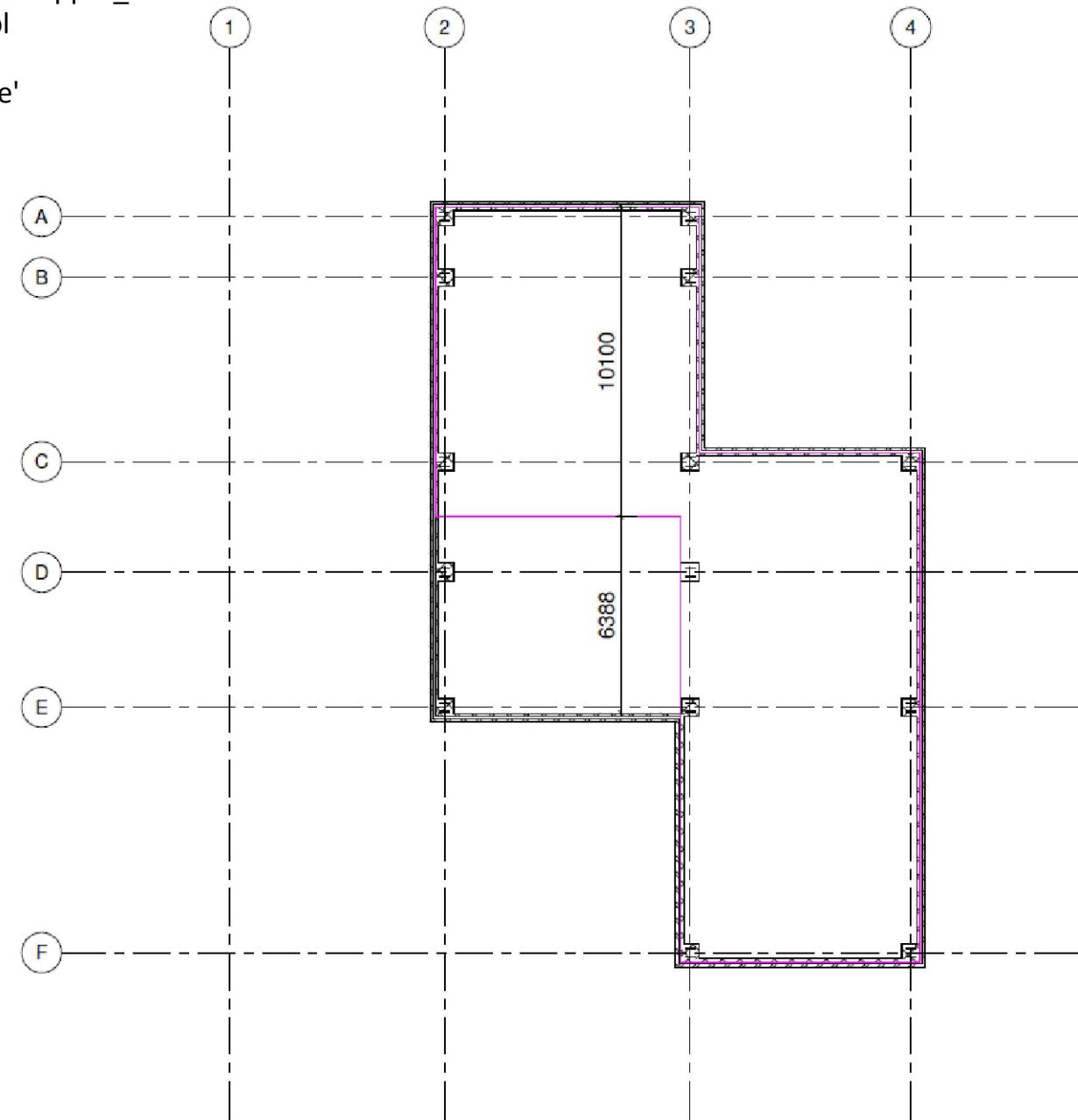
FIRST FLOOR

- >Select the '02. First Floor' plan in the Project Browser
- >Click FLOOR in the Build panel >Select Pick Walls in Draw Panel
- >Select Floor Type 'Floor-Upper_160mmConc-CorusComFlor51'
- >Select 'Pick Walls' tool
- >Place as in PDF
- >Click 'Finish Edit Mode'



[OPEN PDF](#)

011_First Floor





FILTER

Refines the element categories selected in a view.

Use the filter to view element counts by category and eliminate some categories from your selections.

>Create a crossing window selection

SELECTION

- **Filter:** Refines the element categories selected in a view
- **Save:** Saves the currently selected elements as a set
- **Load:** Load a previously saved selection set
- **Edit:** Edit a previously saved selection set

>Select 'Filter'

>The Filter dialog box appears, then select 'Check None'

>Now Select the Categories to remain i.e. Doors, Walls & Windows > Select OK

>Now deselect the 'External Walls' by holding down SHIFT and clicking on the walls

>With the current selection highlighted, Click COPY(**Ctrl+C or Ctrl+Insert**) in the Clipboard panel of the Modify Tab

>Click PASTE with ALIGNED TO SELECTED LEVELS in the Clipboard panel of the Modify Tab

>Select the '02. First Floor' from the dialog box



CUT TO CLIPBOARD

Removes selected elements and places them on the clipboard.

>Click CUT(**Ctrl+X or Shift+Delete**) in the Clipboard panel of the Modify Tab



COPY TO CLIPBOARD

Copies selected elements to the clipboard

>Click COPY(**Ctrl+C or Ctrl+Insert**) in the Clipboard panel of the Modify Tab



MATCH TYPE PROPERTIES

Converts one or more elements to match the type of another element in the same view.

>Click MATCH(**MA**) in the Clipboard panel of the Modify Tab



PASTE FROM CLIPBOARD

Paste elements from the clipboard into the current view.

>Click PASTE(**Ctrl+V**) in the Clipboard panel of the Modify Tab



ALIGNED TO SELECTED LEVELS

Paste multiple elements from one level to specified levels.

>Click in the Clipboard panel of the Modify Tab



ALIGNED TO SELECTED VIEWS

Paste selected elements, including view-specific elements such as dimensions into specified views.

>Click in the Clipboard panel of the Modify Tab



ALIGNED TO CURRENT VIEW

Pastes element that were cut or copied from another view into the current view.

>Click in the Clipboard panel of the Modify Tab



ALIGNED TO SAME PLACE

Pastes the elements to the same place from which they were cut or copied.

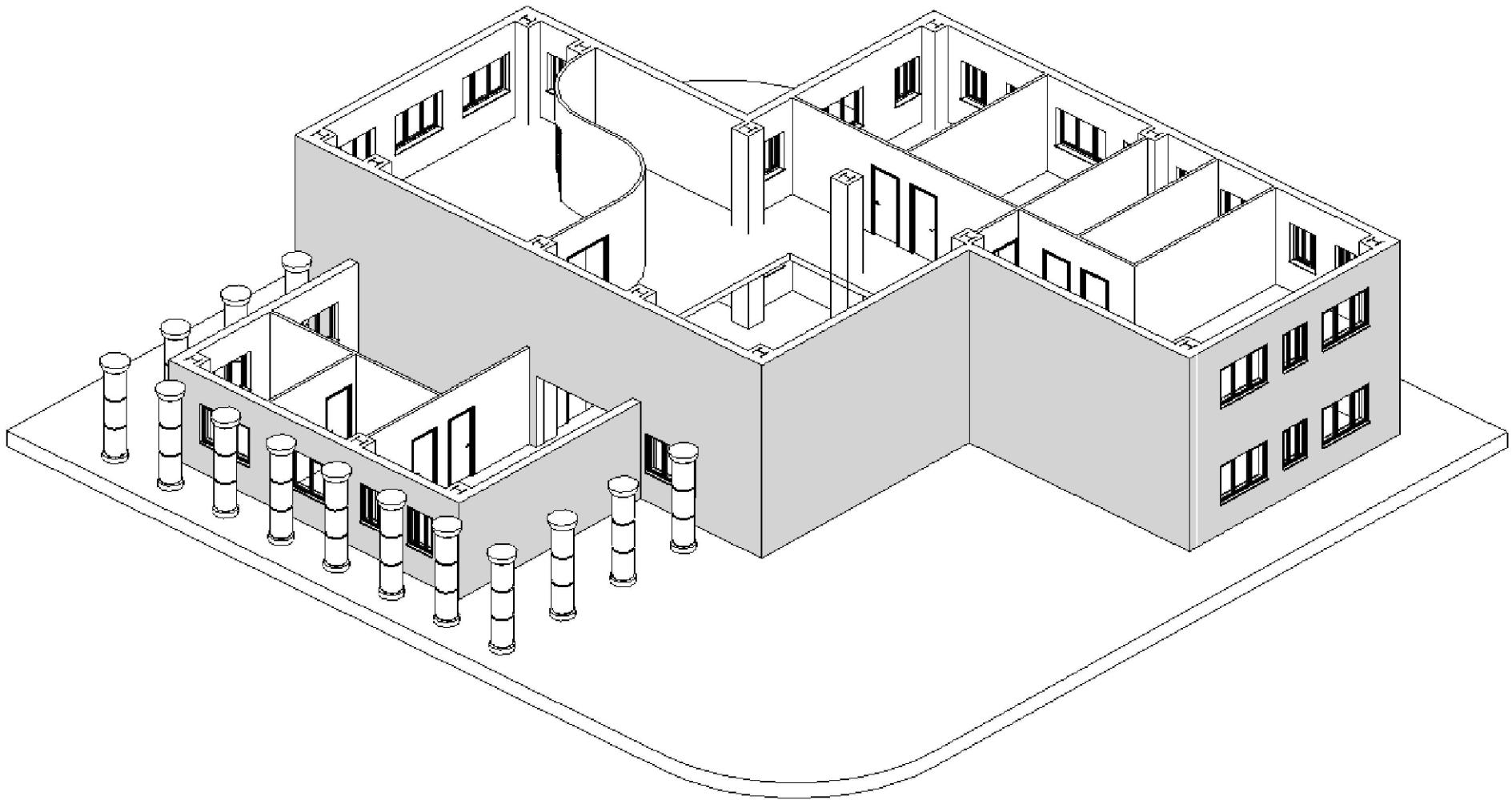
>Click in the Clipboard panel of the Modify Tab



ALIGNED TO PICKED LEVEL

Pastes the selected elements into an elevation view or section view.

>Click in the Clipboard panel of the Modify Tab





STAIR BY COMPONENT

Adds a stair to the building model by creating common run, landing and support components.

>Click STAIR in the Circulation panel of the Architecture Tab

To add stairs, open a plan view or a 3D view.

The number of treads for a stairs run is based on the distance between floors and the maximum riser height defined in the stair type properties.

MODE

- ***Cancel Edit Mode:*** Discards changes and exits sketch mode
- ***Finish Edit Mode:*** Saves changes and exits sketch mode

COMPONENTS

- ***Run:*** Creates a run of stairs by specifying points, using one of following methods: Straight; Full-step Spiral; Centre-ends Spiral; L-shaped Winder; U-shaped Winder; or Create Sketch.
 >Select preferences from the Options Bar
- ***Landing:*** Creates a landing component by picking two runs or creates a custom landing by sketching, using one of following methods: Pick two runs; or Create sketch
- ***Support:*** Creates a stringer or carriage by picking an individual path on a run or landing, by the following method: Pick Edges.

MULTISTORY STAIRS

- ***Connect Levels:*** Prompt you to select levels to generate a multistory stair from the current stair.

WORK PLANE

- ***Set Work Plane:*** Specifies the work plane for the current view or for a selected work-plane-based element. When sketching, you can snap to the work plane grid, but you cannot align or dimension to it.
- ***Show Work Plane:*** Displays or hides the active work plane in the view. The work plane is necessary for sketching operations such as creating an extruded roof, and for enabling tools in particular views, such as Rotate and Mirror in a 3D view.
- ***Reference Plane(RP):*** Creates a reference plane using drawing tools. In the drawing area, sketch a line to define the new reference plane.
- ***Workplane Viewer:*** Enables the workplane Viewer. Use the Workplane Viewer as a temporary view to edit selected elements. The view displays elements from a selected work plane and is not saved in the Project Browser



STAIR

TOOLS

- **Convert to sketch-based:** Converts a common run or landing to a custom component for sketch edit capability.
- **Edit Sketch:** Modifies an element in sketch mode
- **Flip:** Flips the up/down direction of the stair without changing the layout.
- **Railing:** Specifies the type of railing to use for the stairs or ramp and the railing placement option for stairs.



COMPONENT STAIR

1. LOCATION LINE

(1) Exterior Support: Left, (2) Run: Left,
(3) Run: Right, (4) Exterior Support: Right

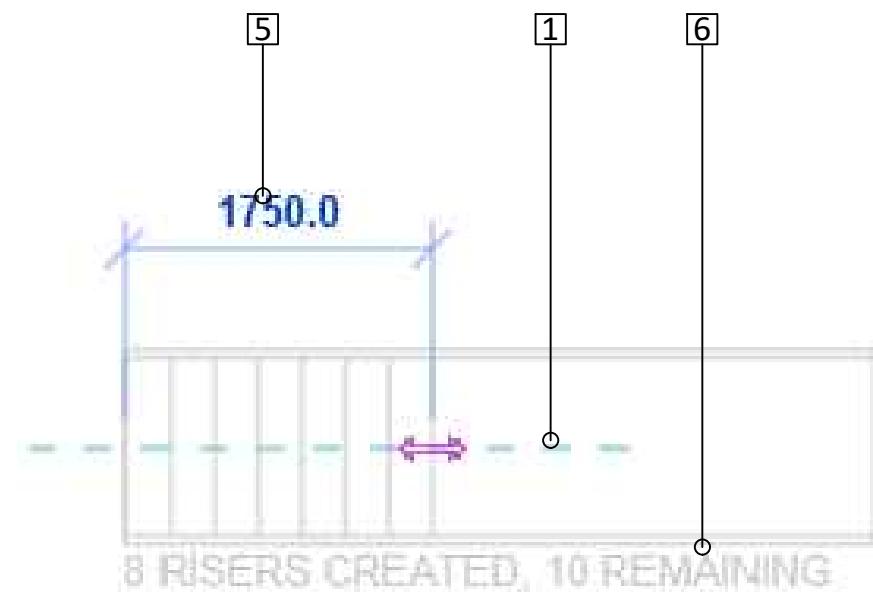
2. OFFSET

3. ACTUAL RUN WIDTH

4. AUTOMATIC LANDING

5. TEMPORARY DIMENSION

6. RISERS CREATED & REMAINING





STAIR BY SKETCH

Creates a custom run by sketching the shape.

>Click STAIR in the Circulation panel of the Architecture Tab

>Click CREATE SKETCH in the RUN heading of the Component panel of the Modify Tab

When sketching a run, select to sketch the boundary, riser or stair path.

MODE

- ***Cancel Edit Mode:*** Discards changes and exits sketch mode
- ***Finish Edit Mode:*** Saves changes and exits sketch mode

DRAW

- ***Boundary:*** Sketches lines to define the boundary of a run of stairs. Run boundary lines can be single lines or multi-segmented lines. Do not connect left and right boundary lines to each other.
>Select preferences from the Options Bar
- ***Riser:*** Sketches lines to define the risers for a run of stairs. Connect riser lines between the left and right boundaries.
>Select preferences from the Options Bar
- ***Stair Path:*** Sketches the stair path for a run or landing. The stair path indicates the walk line of the stair.
>Select preferences from the Options Bar

>Select Boundary and sketch as in image

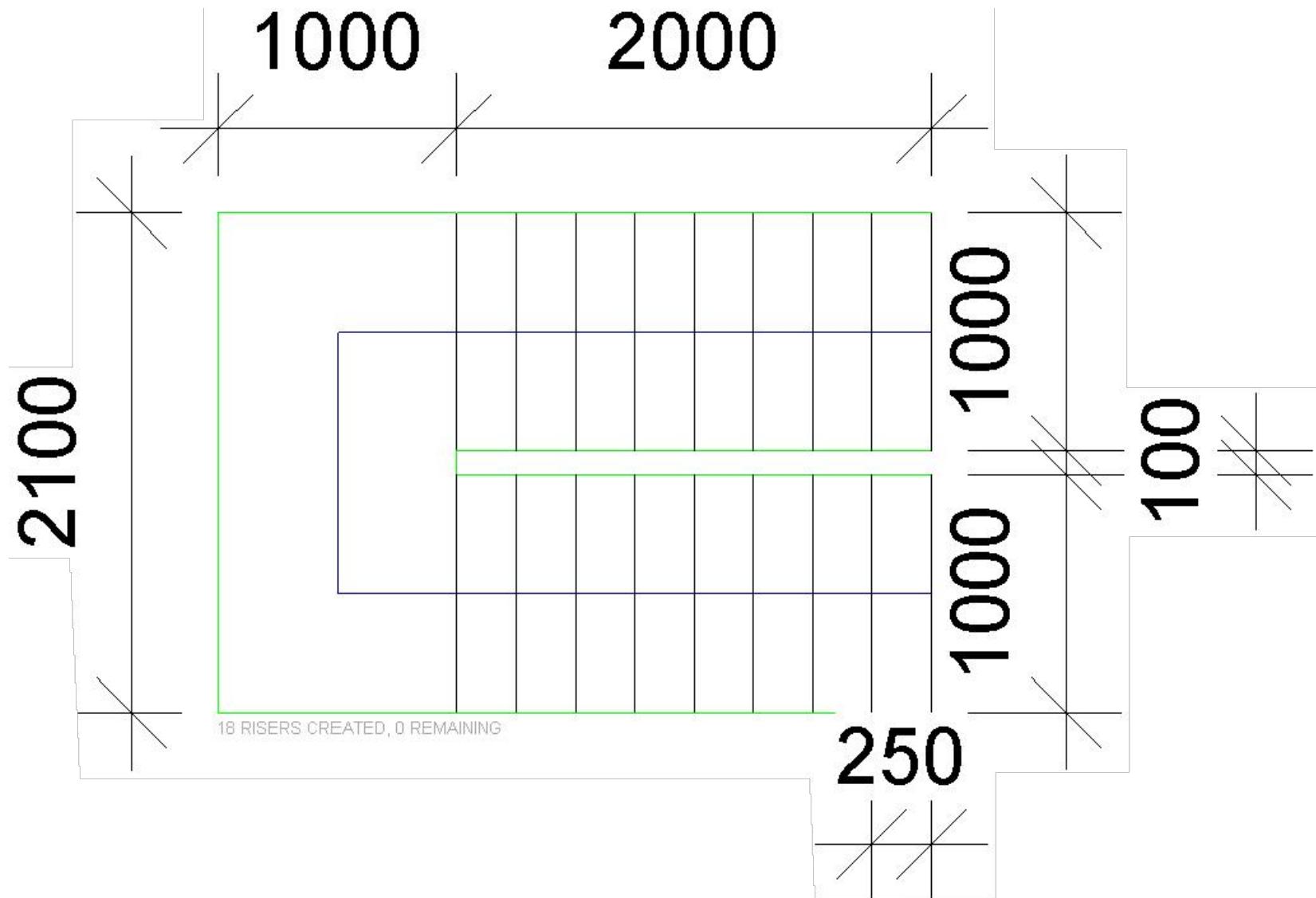
>Select Riser and sketch as in image

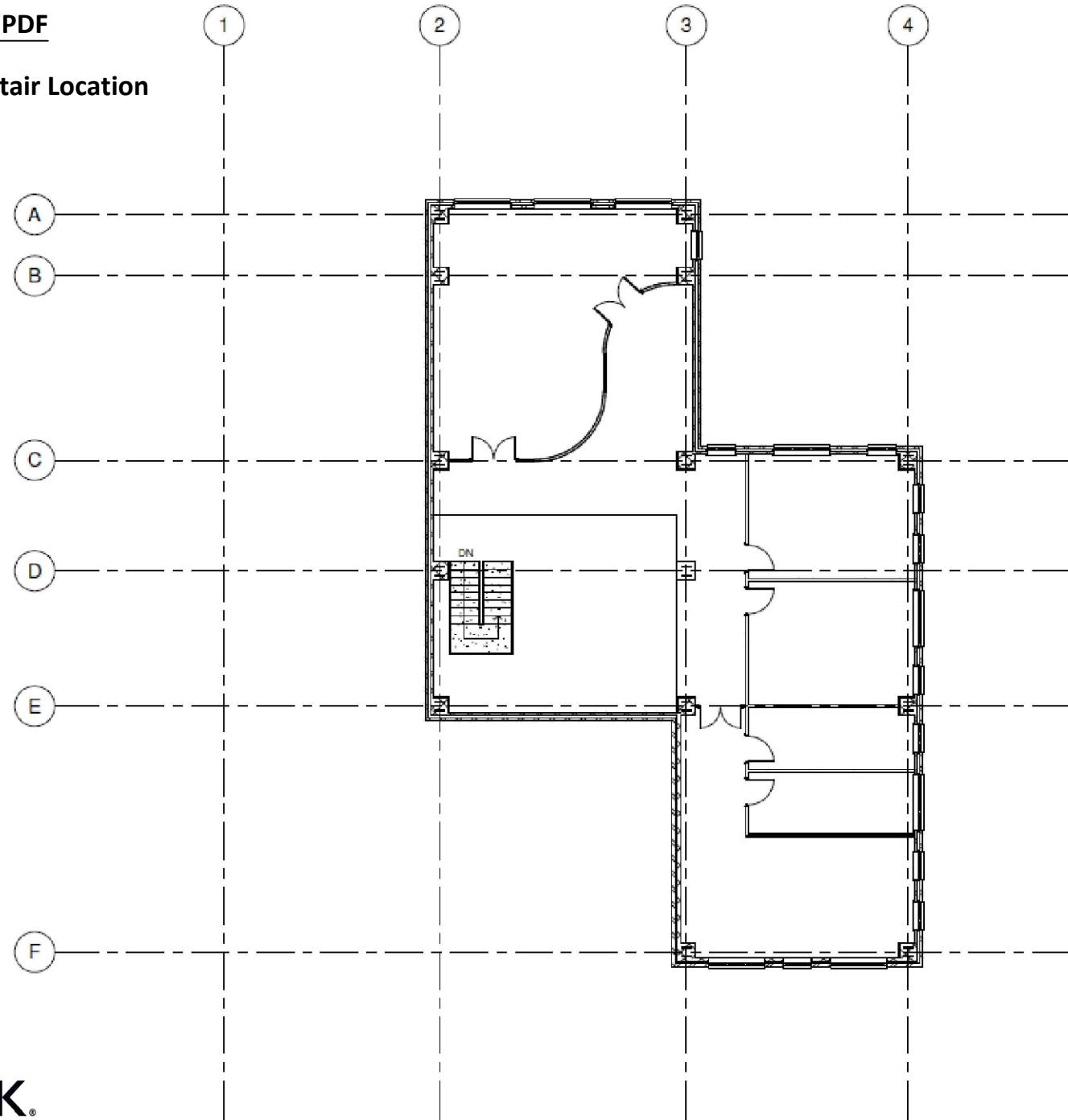
>Select Stair Path and sketch as in image

>Select Finish

>Select Finish

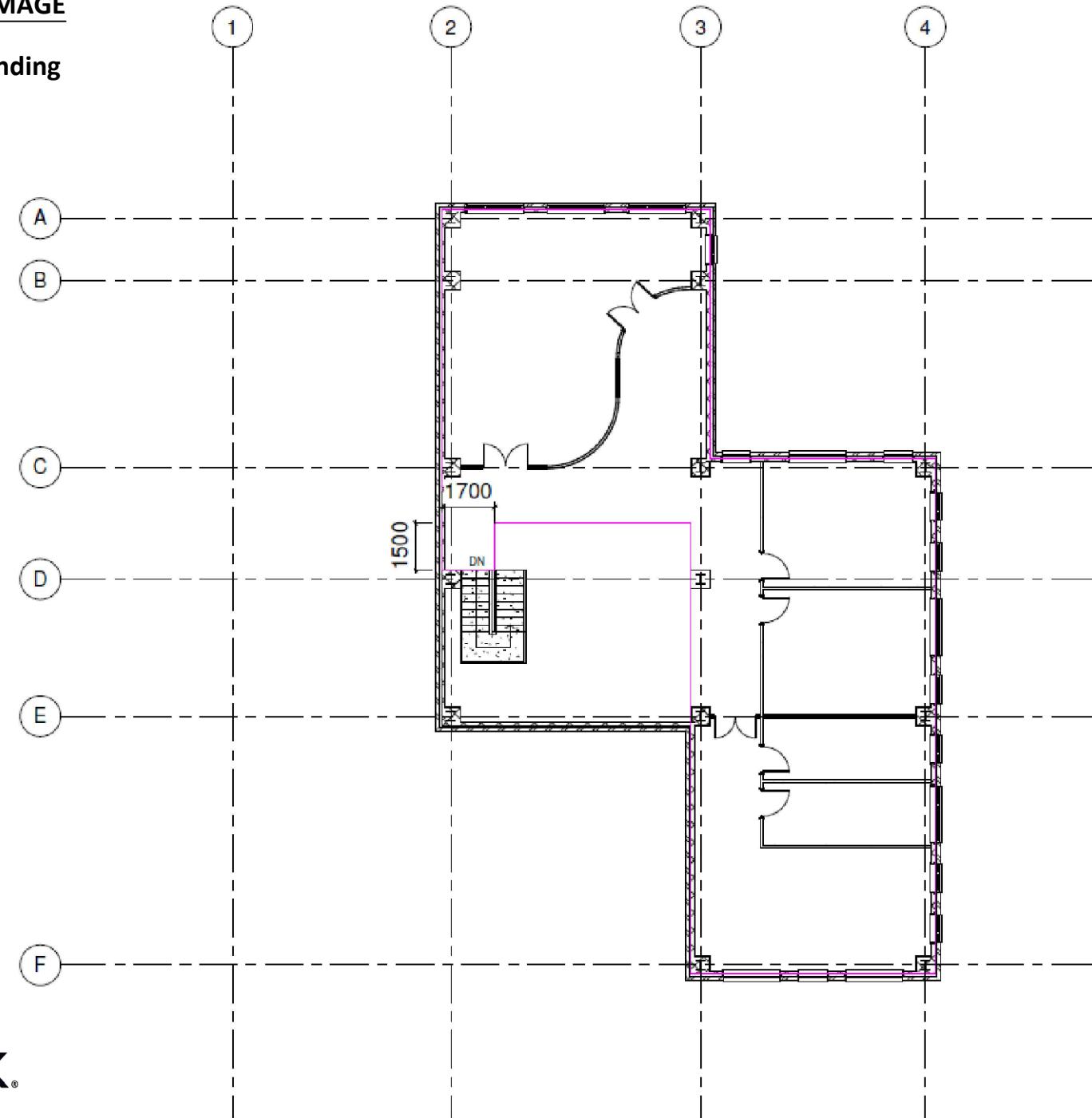
>Select Stair and change to type 'Insitu_Concrete_150mm_Waist'

STAIR BY SKETCH

[OPEN PDF](#)**012_Stair Location**

[OPEN IMAGE](#)

013_Landing





SHAFT OPENING

Creates a vertical opening that spans multiple levels, cutting through intervening roofs, floors and ceilings.
>Click SHAFT OPENING in the Opening panel of the Architecture Tab

You typically sketch the shaft on a host element (such as floors) in a plan view.
If you move the shaft opening on one level, it moves on all levels.

MODE

- ***Cancel Edit Mode:*** Discards changes and exits sketch mode
- ***Finish Edit Mode:*** Saves changes and exits sketch mode

DRAW

- ***Boundary Line:*** Sketches lines to define the boundary of a shaft
>Select preferences from the Options Bar
- ***Symbolic Line:*** Places a symbolic line in the shaft
>Select preferences from the Options Bar



SKETCH PATH

Creates a railing by sketching the railing path.

>Click RAILING in the Circulation panel of the Architecture Tab

Use the drawing tools and options to sketch the railing segments. The line segment must a closed loop

MODE

- **Cancel Edit Mode:** Discards changes and exits sketch mode
- **Finish Edit Mode:** Saves changes and exits sketch mode

DRAW

Various drawing tools.

>Select drawing method from the draw panel

>Select preferences from the Options Bar

WORK PLANE

- **Set Work Plane:** Specifies the work plane for the current view or for a selected work-plane-based element. When sketching, you can snap to the work plane grid, but you cannot align or dimension to it.
- **Show Work Plane:** Displays or hides the active work plane in the view. The work plane is necessary for sketching operations such as creating an extruded roof, and for enabling tools in particular views, such as Rotate and Mirror in a 3D view.
- **Reference Plane(RP):** Creates a reference plane using drawing tools. In the drawing area, sketch a line to define the new reference plane.
- **Workplane Viewer:** Enables the workplane Viewer. Use the Workplane Viewer as a temporary view to edit selected elements. The view displays elements from a selected work plane and is not saved in the Project Browser

TOOLS

- **Pick New Host:** Specifies the building element to host the railing, such as a floor, ramp or stair
- **Edit Joins:** Modifies the join for a selected connection, overriding the join method specified for the railing type.

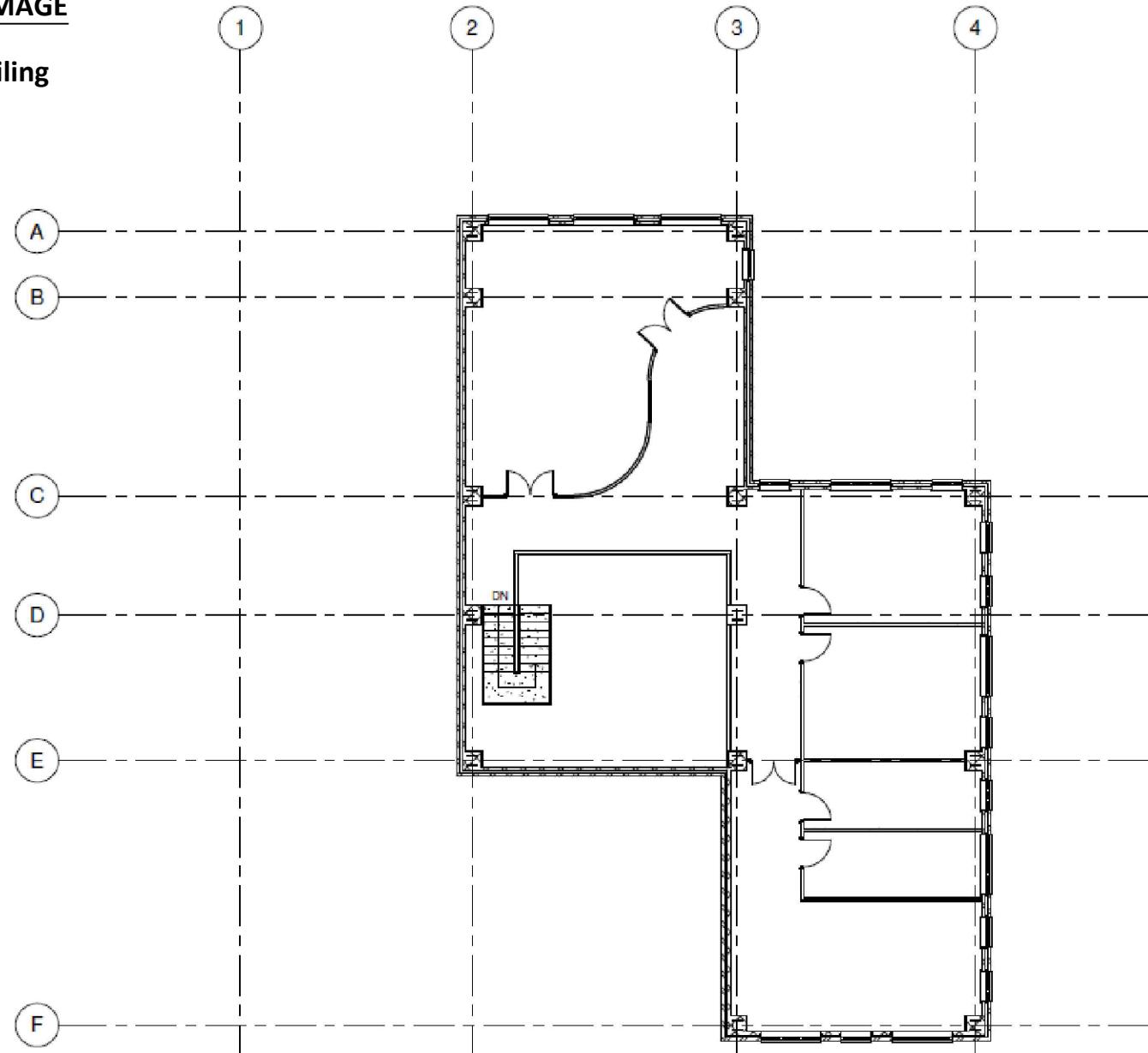
OPTIONS

- **Preview:** Select to display the railing system geometry along the path as it is selected.

>Select preferences from the Options Bar

[OPEN IMAGE](#)

014_Railing



RAIL STRUCTURE

To change the height, offset, profile, material, and number of rails within a railing type go to the Rail Structure in Type Properties.

>Select the railing then on the Properties palette, click Edit Type.

>In the Type Properties dialog, for Rail Structure (Non-Continuous), click Edit.

Note: Changes made to type properties affect all railings of this type in the project.

>Click Duplicate to create a new railing type and rename it to 'New Railing 1100mm'

In the Edit Rails dialog, for each rail, specify the following:

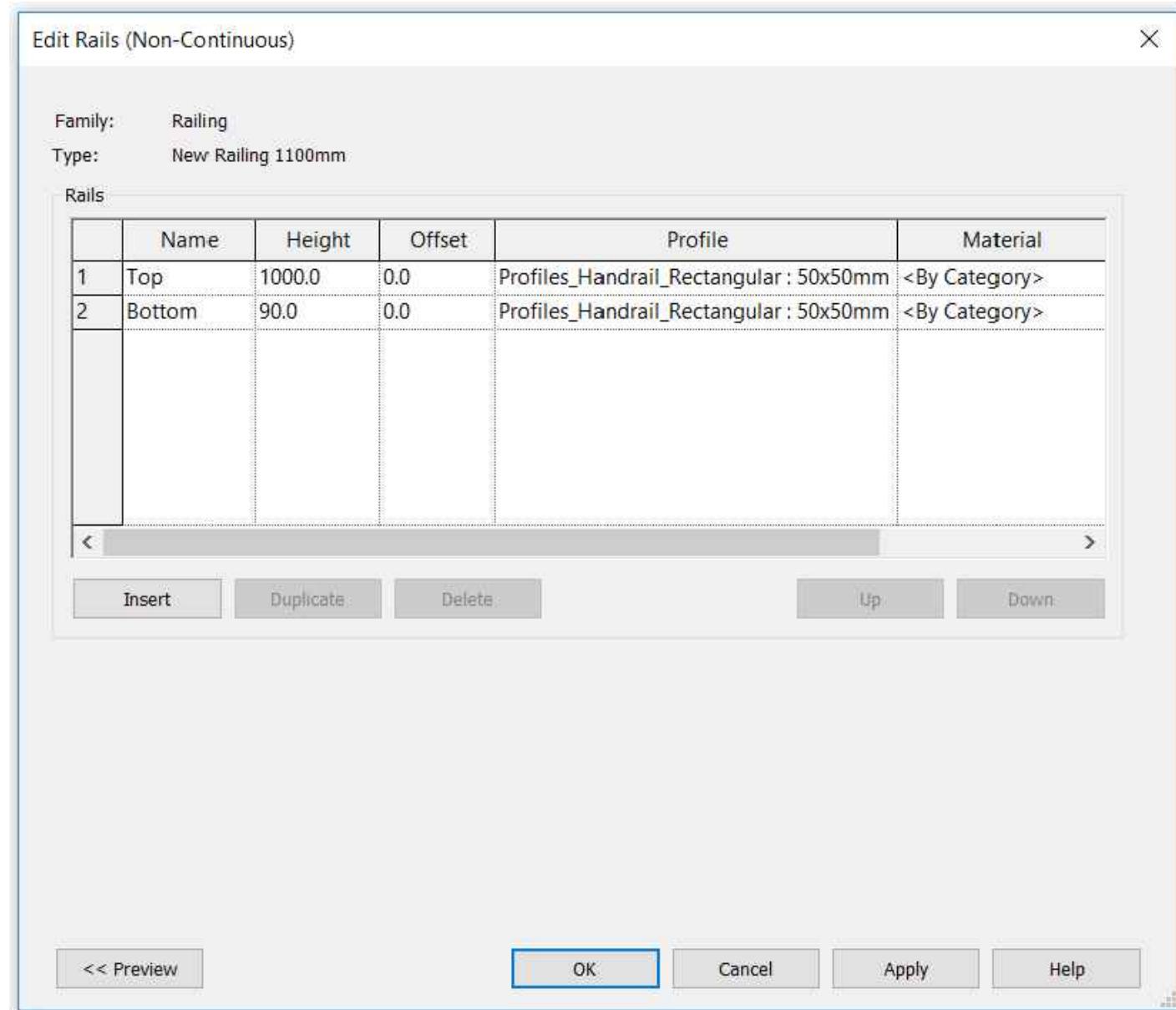
- The height and offset.
- A rail profile. To create your own rail profile, see Create a Profile Family.
- A material. To create your own rail material, see Materials.

>To create an additional rail, click Insert. Enter a name for the rail, and the height, offset, profile, and material properties.

>Click Up or Down to adjust the railing position.

>Click Apply to preview your changes in the model.

>When you are finished, click OK.



BALUSTER PLACEMENT

For a stair railing, you can specify the baluster family and the number of balusters per tread, go to the Baluster Placement in Type Properties.

>Select the railing 'New Railing 1100mm'

>In the Type Properties dialog, for Baluster Placement, click Edit.

MAIN PATTERN

Use the Main Pattern section of the Edit Baluster Placement dialog to customize balusters for railings, Specify the following:

- Name;
- Baluster Family;
- Base; Base Offset;
- Top ; Top Offset;
- Distance from previous;
- Offset;
- Break Pattern at;
- Angle;
- Pattern Length;
- Justify;
- Excess Length Fill;
- Spacing;
-

THREADS

Select to 'Use Baluster Per Tread on Stairs'. Specify the number of balusters on each tread.

POSTS

Use the Posts section of the Edit Baluster Placement dialog to customize posts for railings, specify the following:

- Name;
- Baluster Family;
- Base; Base Offset;
- Top; Top Offset;
- Space;
- Offset;
- Corner Posts At;
- Angle;



Edit Baluster Placement

Family: Railing Type: New Railing 1100mm

Main pattern

	Name	Baluster Family	Base	Base offset	Top	Top offset	Dist. from previous	Offset
1	Pattern start	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	Regular baluster b	Baluster_Steel_Flat_U	Bottom	0.0	Top	0.0	90.0	0.0
3	Pattern end	N/A	N/A	N/A	N/A	N/A	0.0	N/A

Break Pattern at: Each Segment End Angle: 0.00° Pattern Length: 90.0

Justify: Beginning Excess Length Fill: None Spacing: 0.0

Use Baluster Per Tread On Stairs Balusters Per Tread: 2 Baluster Family: Baluster_Square : 25m

Posts

	Name	Baluster Family	Base	Base offset	Top	Top offset	Space	Offset
1	Start Post	Baluster_Square : 2	Host	0.0	Top Rail E	0.0	12.5	0.0
2	Corner Post	Baluster_Square : 25m	Host	0.0	Top Rail E	0.0	0.0	0.0
3	End Post	Baluster_Square : 25m	Host	0.0	Top Rail E	0.0	-12.5	0.0

Corner Posts At: Each Segment End Angle: 0.00°

<< Preview OK Cancel Apply Help



ROOF BY FOOTPRINT

Creates a roof using the building footprint to define its boundaries.

To create a roof by footprint, open a floor plan view or a reflected ceiling plan view.

>Click ROOF in the Build panel of the Architecture Tab

MODE

- ***Cancel Edit Mode:*** Discards changes and exits sketch mode
- ***Finish Edit Mode:*** Saves changes and exits sketch mode

DRAW

Various drawing tools, including Pick Walls

>Select drawing method from the draw panel

>Select preferences from the Options Bar

WORK PLANE

- ***Set Work Plane:*** Specifies the work plane for the current view or for a selected work-plane-based element. When sketching, you can snap to the work plane grid, but you cannot align or dimension to it.
- ***Show Work Plane:*** Displays or hides the active work plane in the view. The work plane is necessary for sketching operations such as creating an extruded roof, and for enabling tools in particular views, such as Rotate and Mirror in a 3D view.
- ***Reference Plane(RP):*** Creates a reference plane using drawing tools. In the drawing area, sketch a line to define the new reference plane.
- ***Workplane Viewer:*** Enables the workplane Viewer. Use the Workplane Viewer as a temporary view to edit selected elements. The view displays elements from a selected work plane and is not saved in the Project Browser

TOOLS

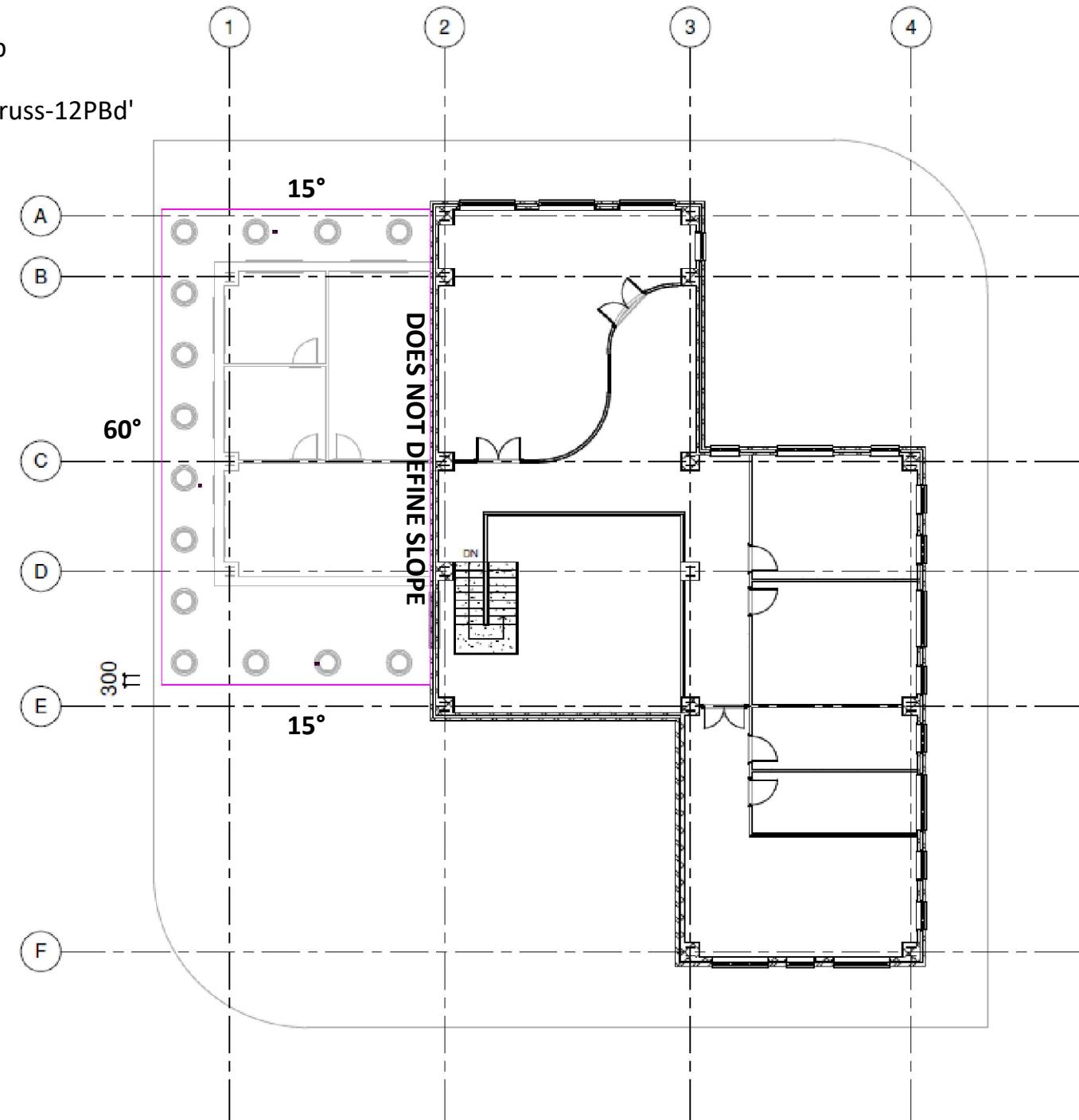
- ***Align Eaves:*** Aligns roof eaves that are different heights

>Select preferences from the Options Bar

- >Open '02. First' plan
- >Click ROOF in the Build panel of the Architecture Tab
- >Select Roof Type
'Roof_Pitched_38Tile-25Bat-0Felt-25bat-100Ins-150Truss-12PBD'
- >Sketch using the Rectangle tool
- >Change slopes
- >Select FINISH



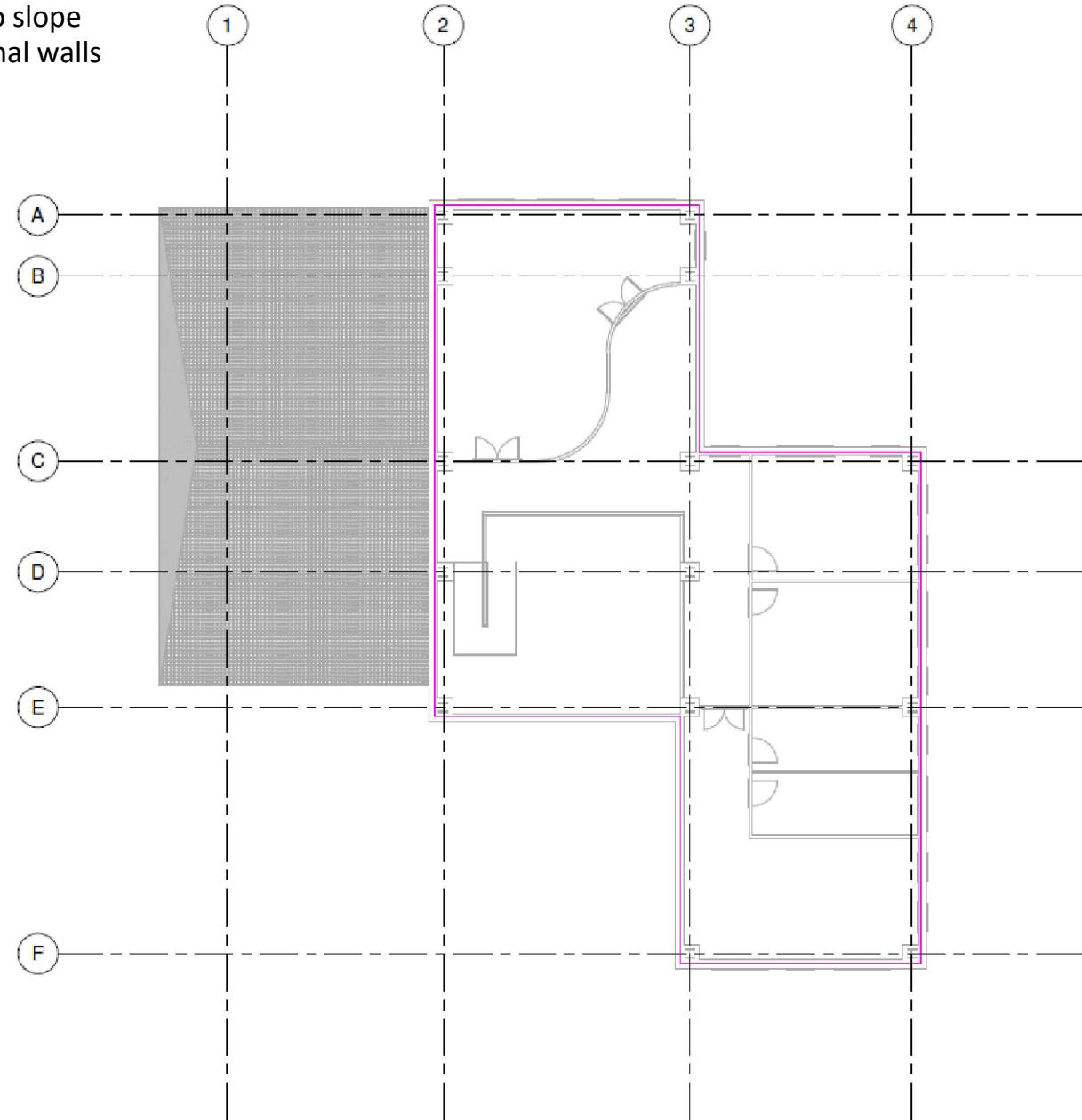
OPEN PDF
015_Pitched Roof

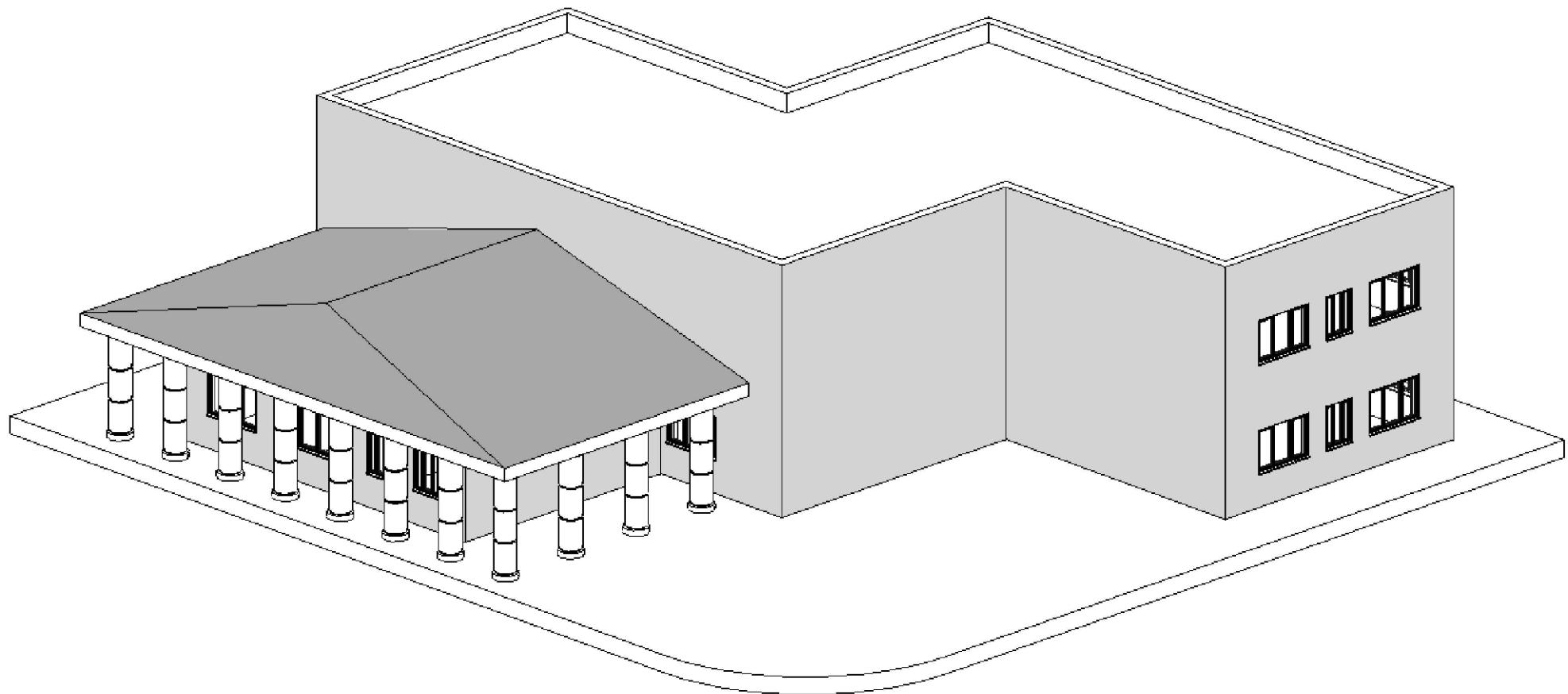


- >Open '03. Roof' plan
- >Click ROOF in the Build panel of the Architecture Tab
- >Select Roof Type 'Roof_Flat-4Felt-150Ins-50Scr-150Conc-12Plr'
- >Use the Pick Wall tool and select 'Extend to wall core'
- >Select external walls with no slope
- >Add 900mm Offset to external walls
- >Select FINISH

[OPEN PDF](#)

016_Flat Roof







ROOF BY EXTRUSION

Creates a roof by extruding a profile that you sketch.

>Click ROOF DROP DOWN ARROW in the Build panel of the Architecture Tab

To create a roof by extrusion, open an elevation view, a 3D view or a section view.

When sketching the roof profile, you can use a combination of straight lines and arcs, as well as reference planes.

The height of the roof depends on the location where you sketch the profile.

>Select Work Plane

MODE

- ***Cancel Edit Mode:*** Discards changes and exits sketch mode
- ***Finish Edit Mode:*** Saves changes and exits sketch mode

DRAW

Various drawing tools, including Pick Walls

>Select drawing method from the draw panel

>Select preferences from the Options Bar

WORK PLANE

- ***Set Work Plane:*** Specifies the work plane for the current view or for a selected work-plane-based element. When sketching, you can snap to the work plane grid, but you cannot align or dimension to it.
- ***Show Work Plane:*** Displays or hides the active work plane in the view. The work plane is necessary for sketching operations such as creating an extruded roof, and for enabling tools in particular views, such as Rotate and Mirror in a 3D view.
- ***Reference Plane(RP):*** Creates a reference plane using drawing tools. In the drawing area, sketch a line to define the new reference plane.
- ***Workplane Viewer:*** Enables the workplane Viewer. Use the Workplane Viewer as a temporary view to edit selected elements. The view displays elements from a selected work plane and is not saved in the Project Browser

>Select preferences from the Options Bar



ATTACH TO TOP

After placing a wall, you can override its initial top and base constraints by attaching its top or base to another element in the same vertical plane. By attaching a wall to another element, you avoid the need to manually edit the wall profile when the design changes.

The other element can be a floor, a roof, a ceiling, a reference plane, or another wall that is directly above or below. The height of the wall then increases or decreases as necessary to conform to the boundary represented by the attached element.

- >Select the wall which you want to attach to the roof
- >Click ATTACH TOP/BASE in the Modify Tab
- >Select the roof element to attach too



CURTAIN WALLS

A curtain wall is any exterior wall that is attached to the building structure and which does not carry the floor or roof loads of the building.

In common usage, curtain walls are often defined as thin, usually aluminum-framed walls containing in-fills of glass, metal panels, or thin stone. When you draw the curtain wall, a single panel is extended the length of the wall. If you create a curtain wall that has automatic curtain grids, the wall is subdivided into several panels.

In a curtain wall, grid lines define where the mullions are placed. Mullions are the structural elements that divide adjacent window units. You can modify a curtain wall by selecting the wall and right-clicking to access a context menu. The context menu provides several choices for manipulating the curtain wall, such as selecting panels and mullions.

- >Open a floor plan view or a 3D view
- >Click **WALL(WA)** in the Build panel
- >Scroll down to the CURTAIN WALL section from the Type Selector drop-down

You can use the default Revit curtain wall types to set up curtain walls. These wall types provide 3 levels of complexity, upon which you can simplify or enhance:

- ***Curtain_Wall-Empty:*** has no grids or mullions. There are no rules associated with this wall type. This wall type provides the most flexibility.
- ***Curtain_Wall-Exterior_Glazing:*** has preset grids. The grid rules can be changed if the setting is not suitable.
- ***Curtain_Wall-Storefront:*** has preset grids and mullions. The grid and mullion rules can be changed if the settings are not suitable.

- >Select 'Curtain_Wall-Empty' and Duplicate. Rename to 'Curtain_Wall-Entrance'
- >Tick 'Automatically Embed' in the Type Properties.
- >Select drawing method and make selections in Options Bar.
- >Place Curtain Wall, alter dimensions



CURTAIN GRID

Creates a grid line in a curtain wall or curtain system.

As you place curtain grids, they snap to evenly spaced intervals or to visible levels, grids and reference planes. Each section of the curtain grid is filled with a separate curtain wall panel.

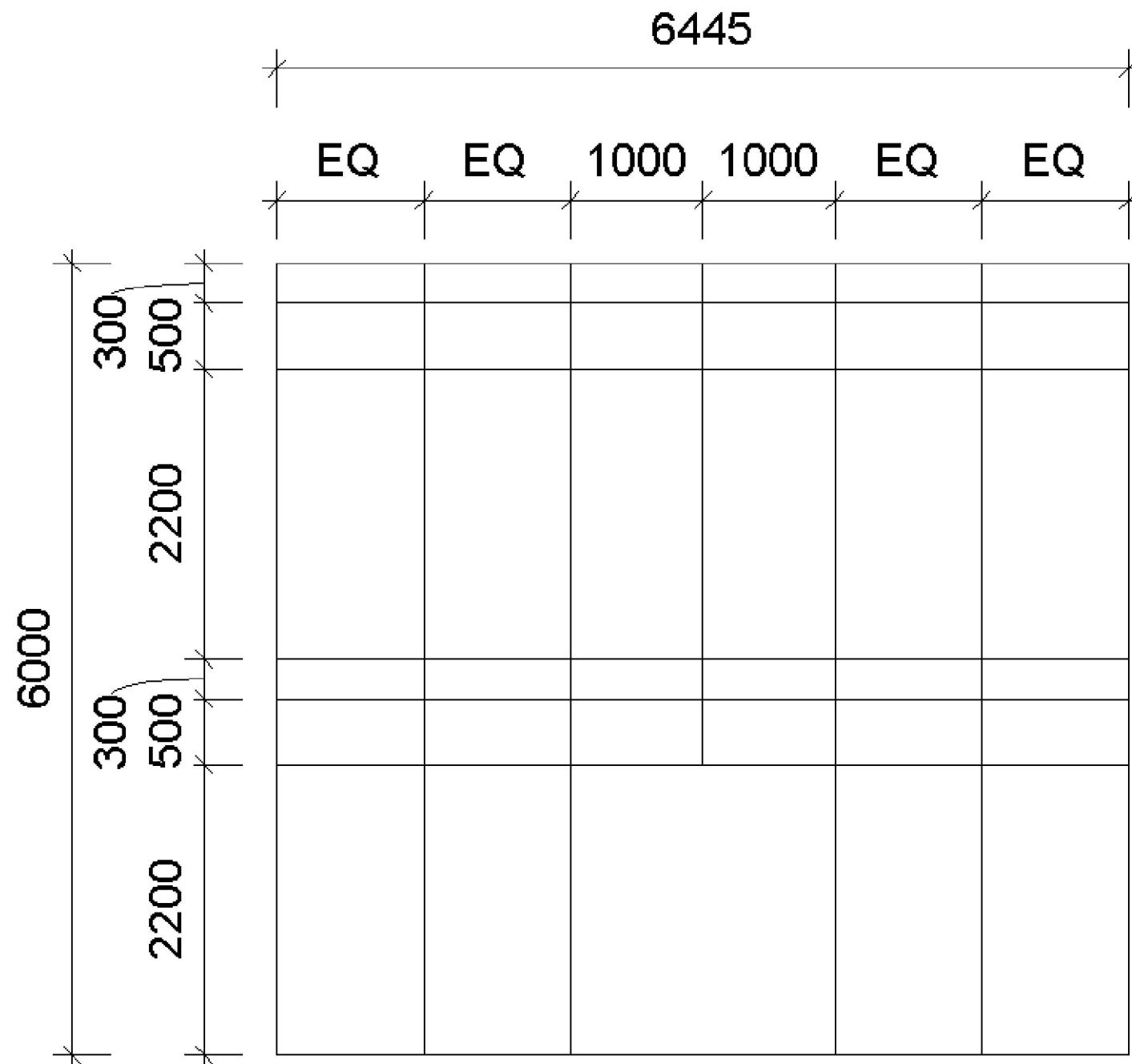
PLACEMENT

- **All Segments:** Places grid segments on all panels where the preview appears
- **One Segment:** Places one grid segment on one panel where the preview appears.
- **All Except Picked:** Places a grid segment on all panels except those you select to exclude.
- **Restart Curtain Grid:** Finishes editing the curtain system.



ADD/REMOVE SEGMENTS

- >Select a segment
- >Add/Remove Segment tool appears
- >Select segments to remove or add





CURTAIN PANEL

You can change a curtain wall panel to any type of wall.

Select a panel by putting the cursor over the panel and clicking the TAB key until the panel is selected. Then select a wall type in the Type Selector. You cannot explicitly control the size of a panel with drag controls, or by its properties; the panel is resized when the curtain wall is changed.

Changing the location line of the wall panel changes how it is placed in the curtain wall.

LOAD ADDITIONAL PANELS FROM LIBRARY

- >Select LOAD FAMILY from the INSERT tab
- >Got to the Library/UK/Curtain Wall Panels folder
- >Make a selection

- >Select panel and change type in the Type Selector
- >Remove any segments to enlarge panel



CURTAIN WALL MULLION

Creates a horizontal or vertical mullion on a curtain grid.

- >Select MULLION from the BUILD panel

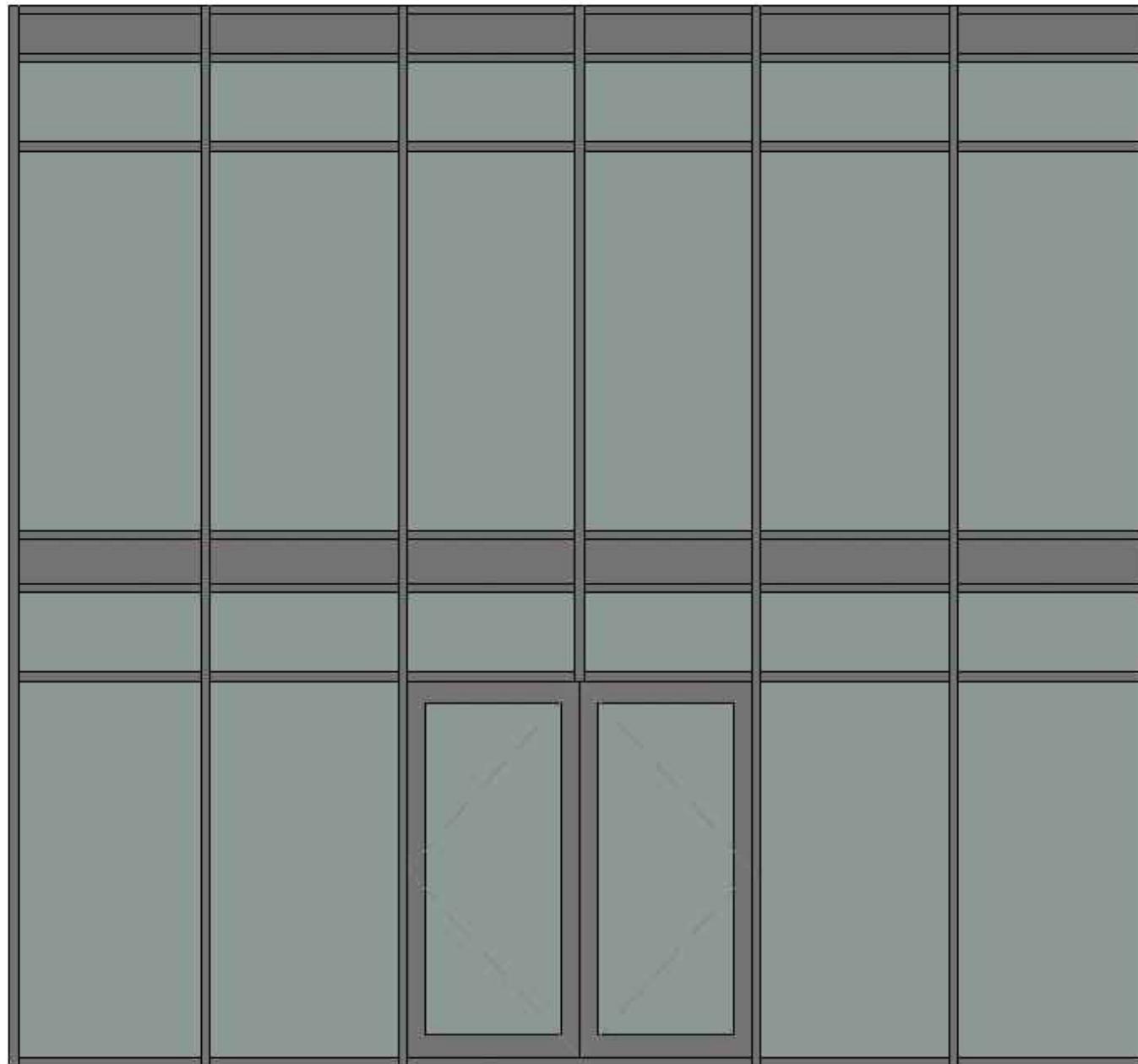
Specify the shape of mullions by loading a mullion profile into the project or creating a custom profile.

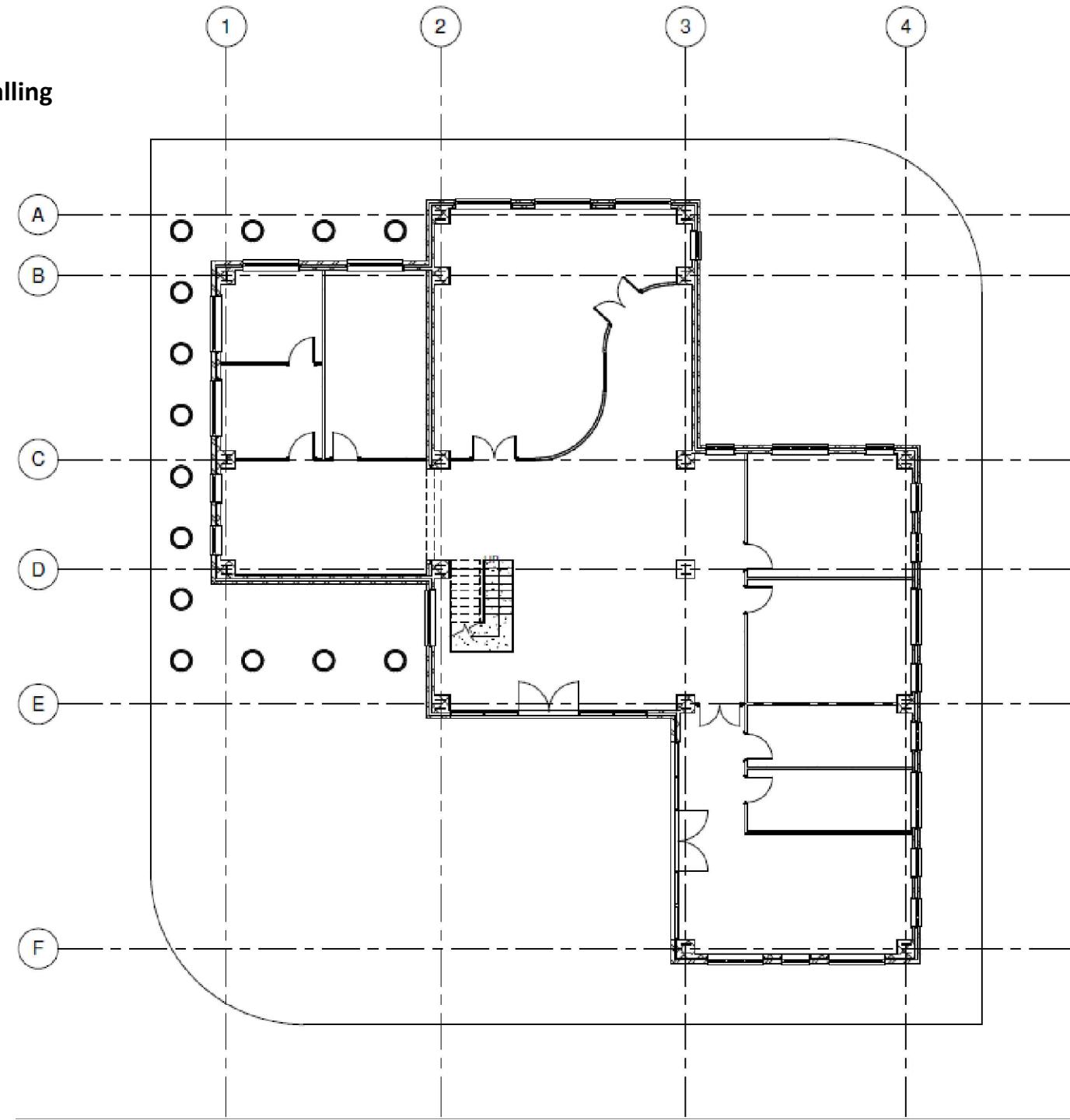
When you add mullions to a grid, the mullions resize to fit the grid.

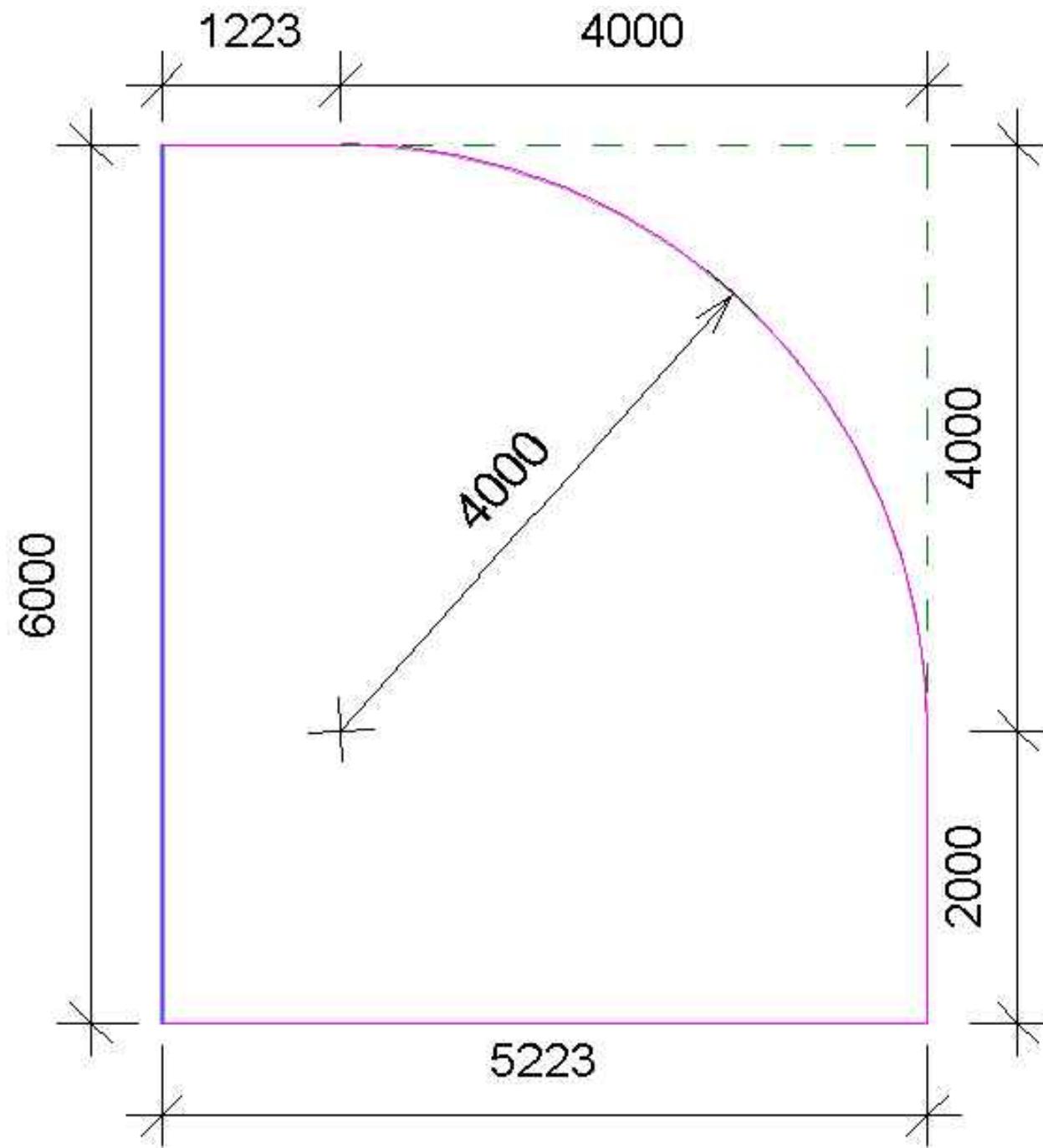
PLACEMENT

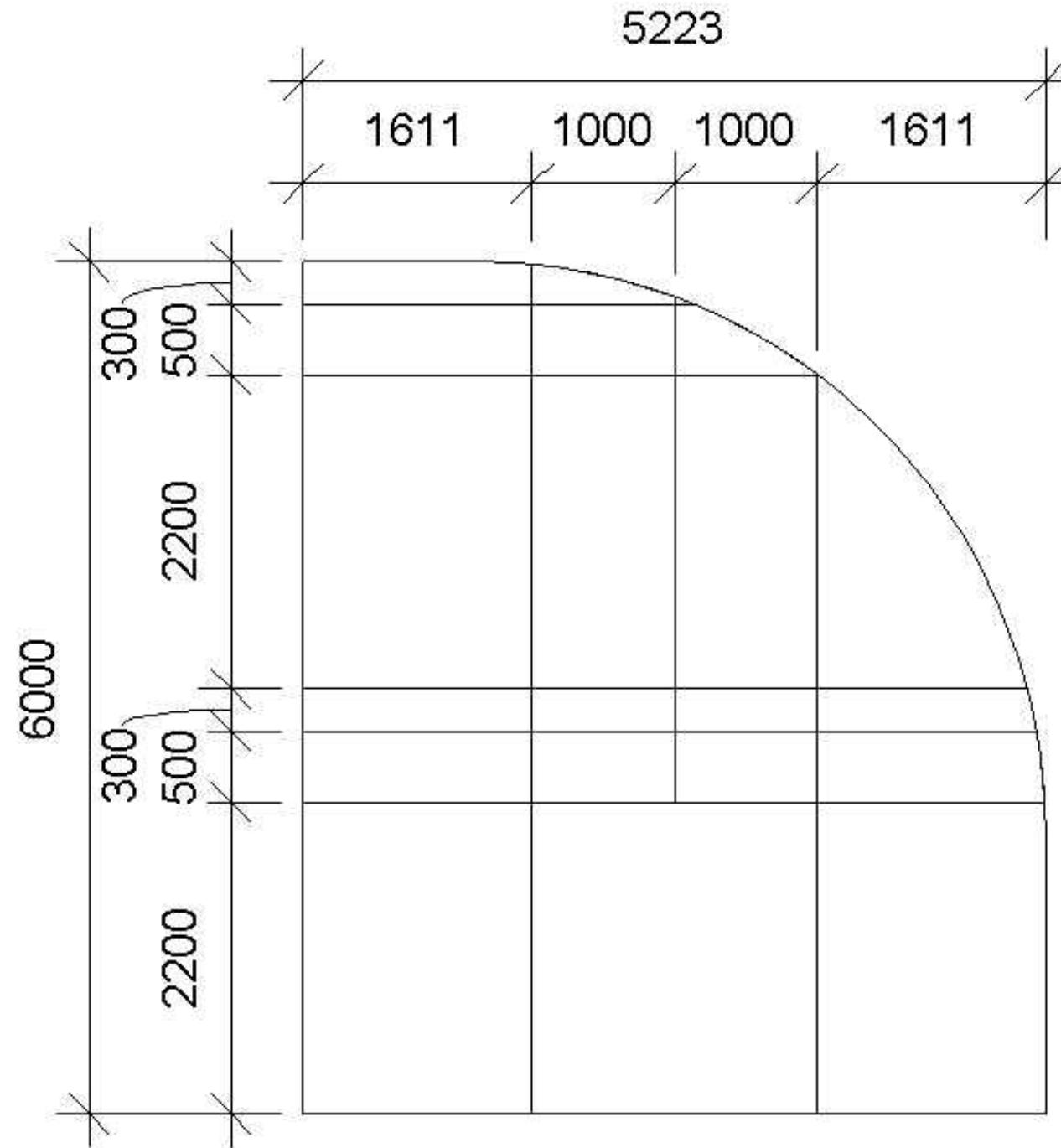
- ***Grid Line:*** Places a mullion at a single grid line
- ***Grid Line Segment:*** Places a mullion at a single segment of grid line
- ***All Grid Line:*** Places mullions at all grid line on a selected grid

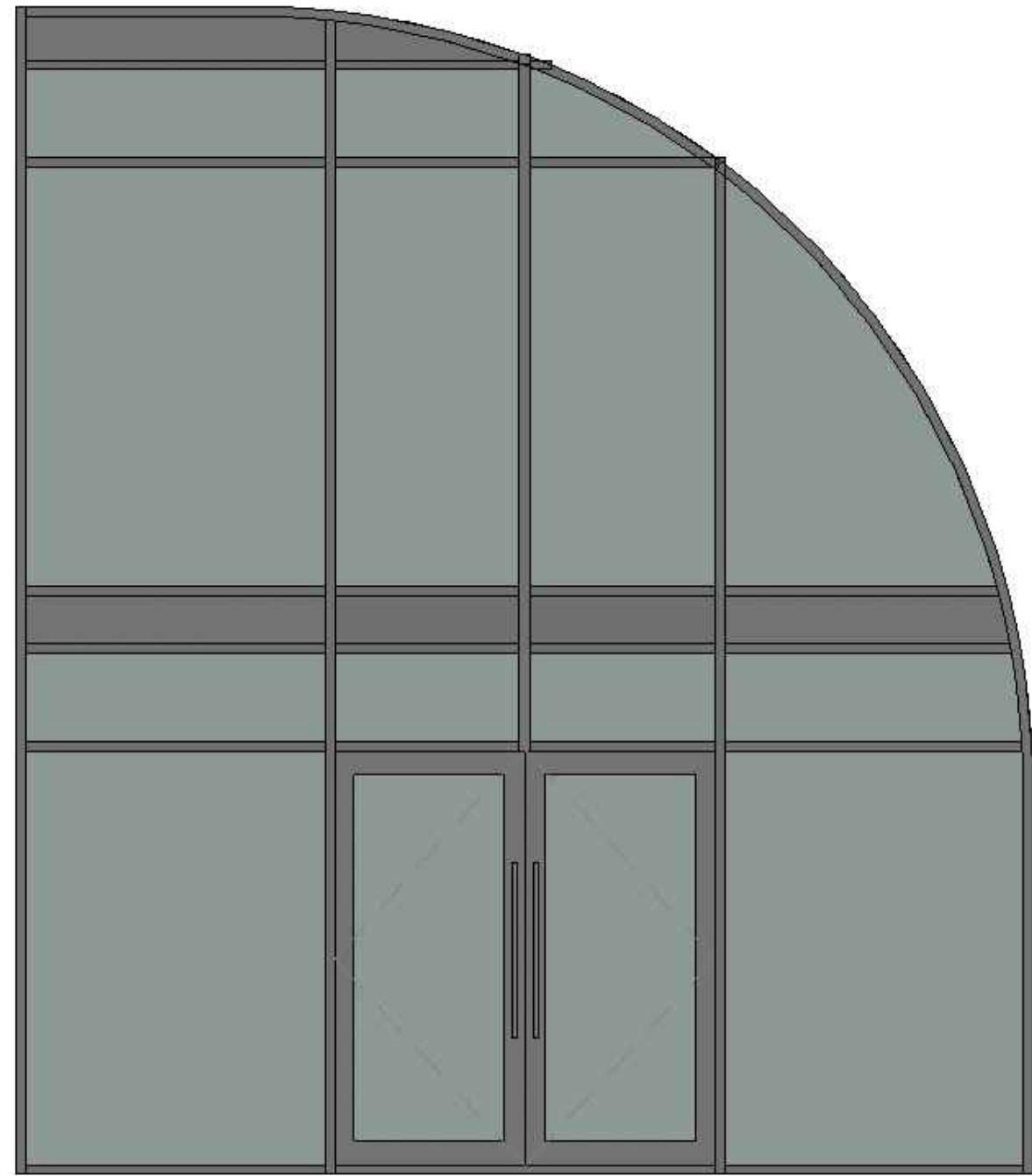
- >Select Type and then segments

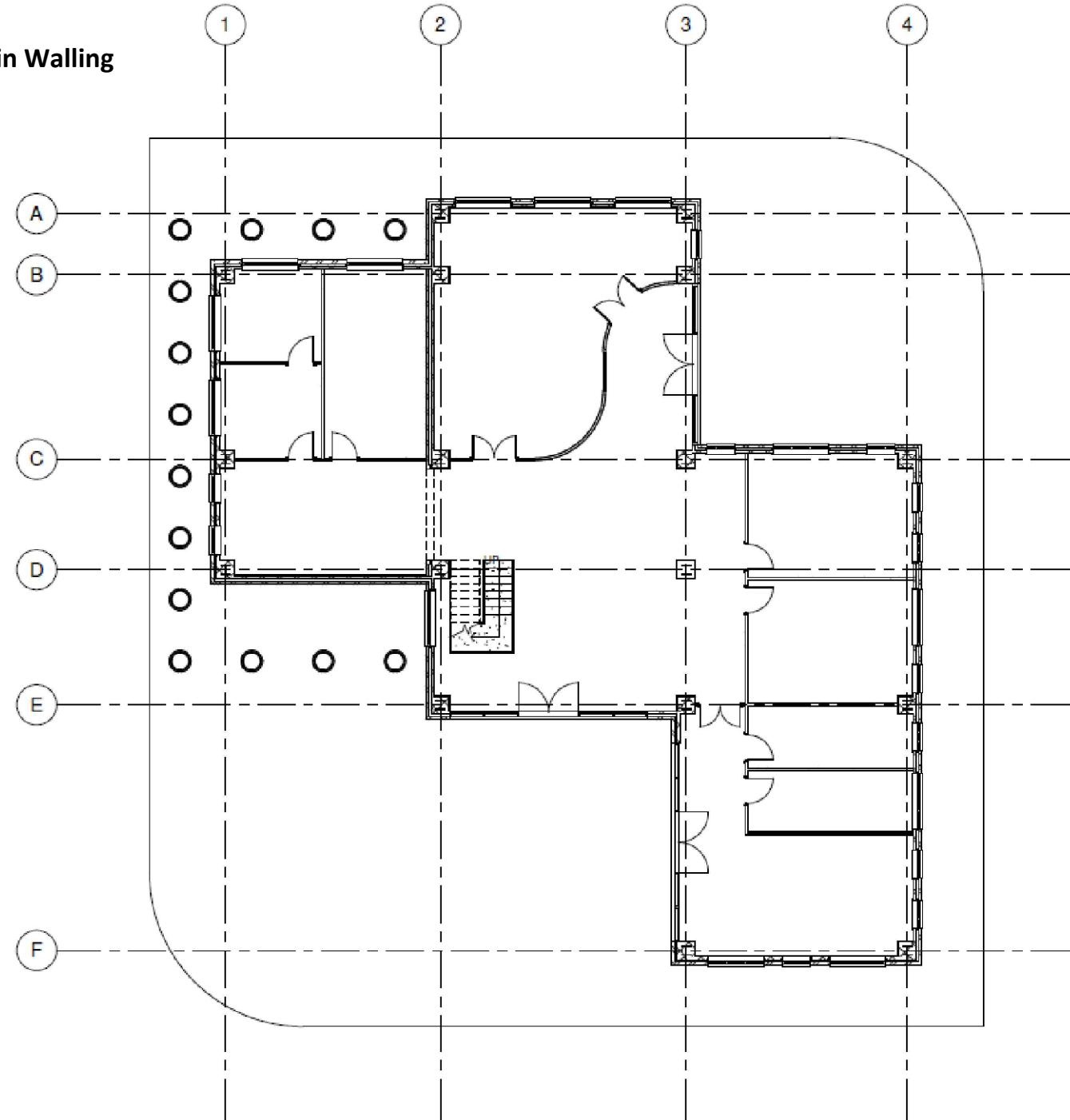


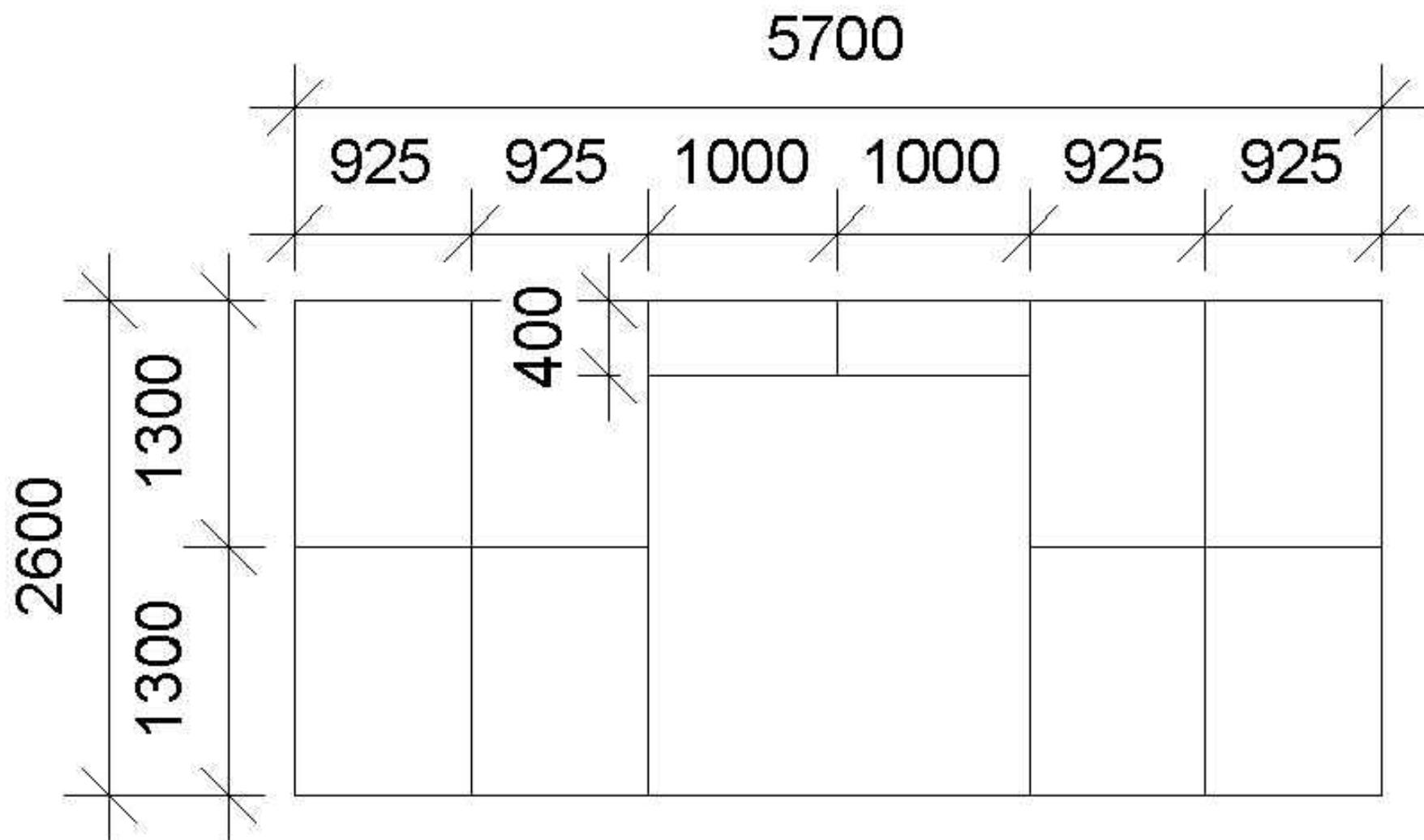
[OPEN PDF](#)**017_Curtain Walling**

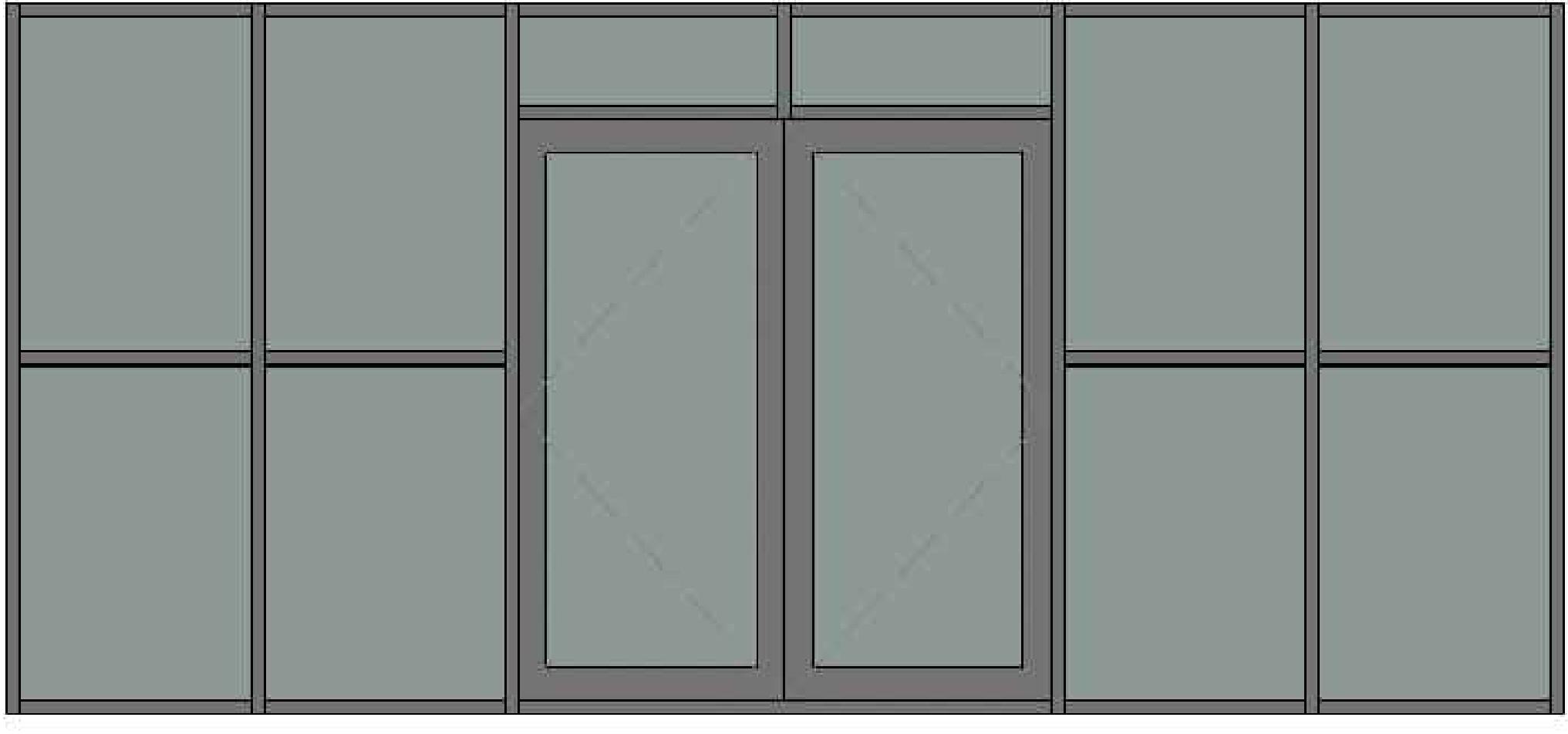


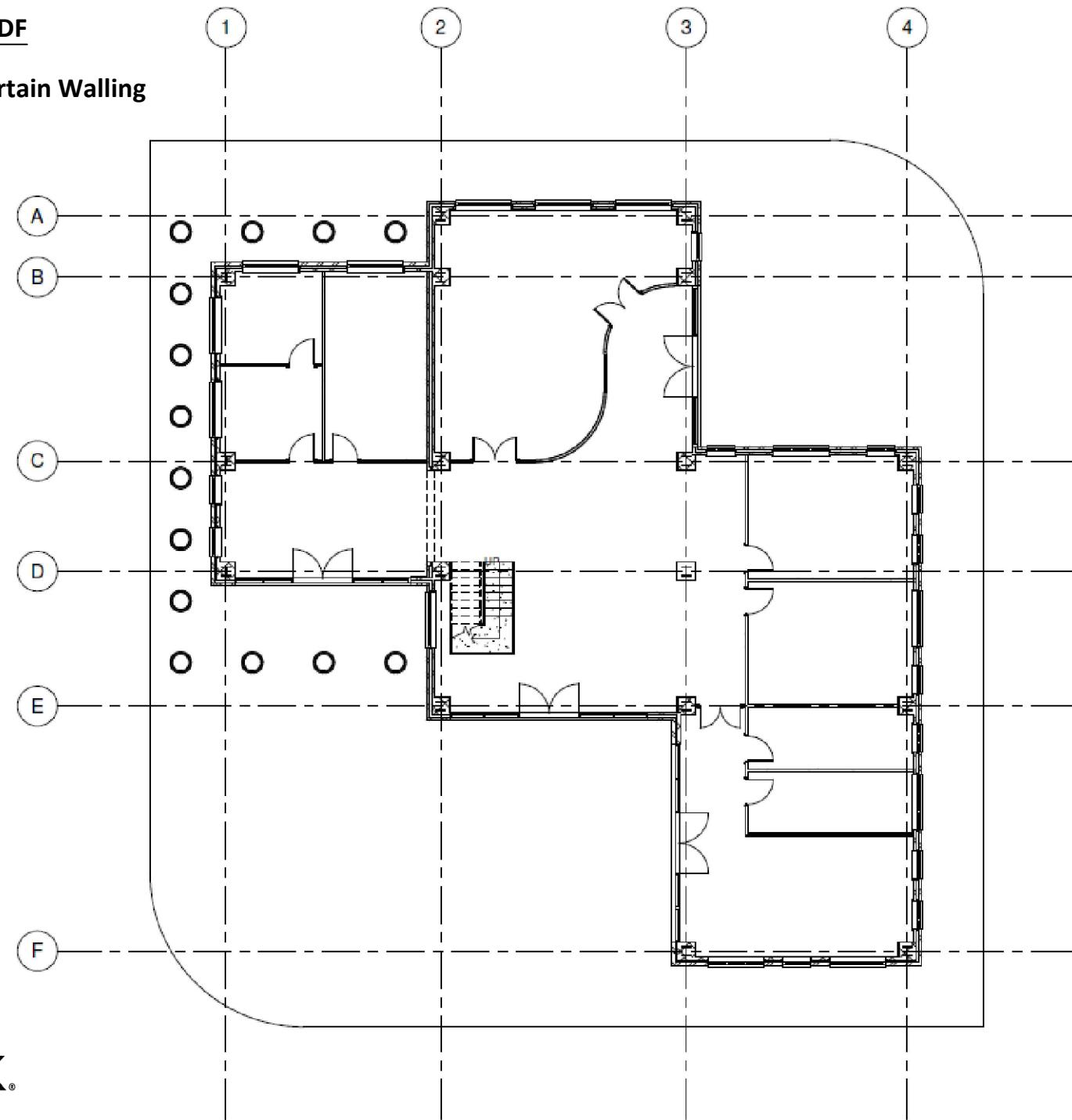




[OPEN PDF](#)**018_Curtain Walling**





[OPEN PDF](#)**019_Curtain Walling**



CEILING

Creates a ceiling at a specified distance above the level in which it resides.

To place a ceiling, click within walls that form a closed loop, or sketch its boundaries

>Open Ceiling plan from Project Browser

>Select CEILING from the BUILD panel

CEILING

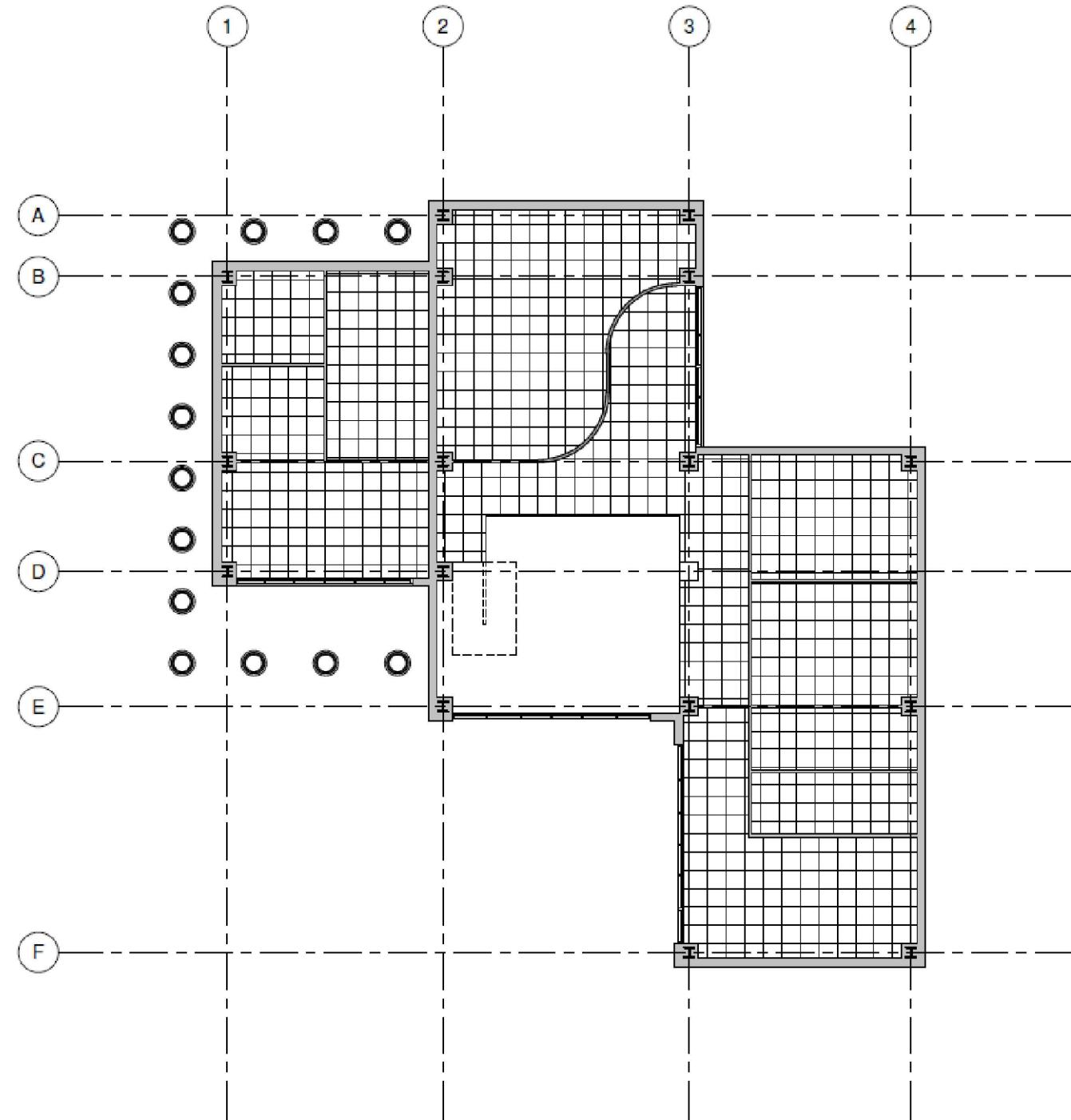
- ***Automatic Ceiling:*** Click inside the walls to automatically place ceiling
- ***Sketch Ceiling:*** Creates a ceiling based on selected walls or sketched lines
 - >Make your selection from the options bar

>Select '600x600mm_Grid' from the Type Selector

>Use the arrow keys to shift the ceiling into place

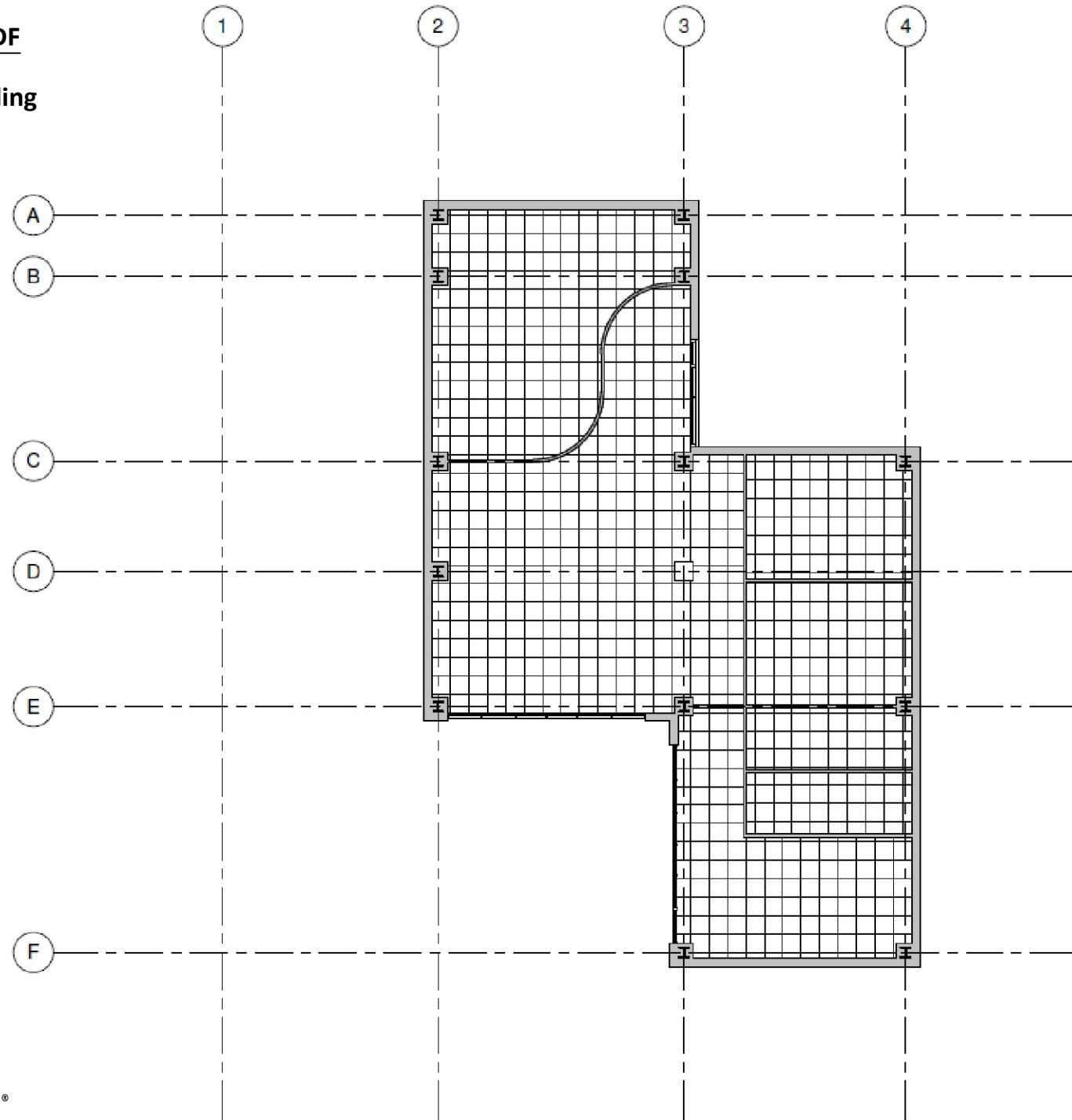
[OPEN PDF](#)

020_Ceiling



[OPEN PDF](#)

021_Ceiling





PLACE A COMPONENT

Places an element in the building model, based on a selected element type.

Use the Type Selector to select the element type. If the desired type is not listed, use the Load Family tool to load it into the project.

>Select COMPONENT (CM) from the BUILD panel

MODE

- ***Load Family:*** Loads a Revit family into the current file
- ***Model In-Place:*** Creates a mass that is unique to the project
 - >Make your selection from the options bar

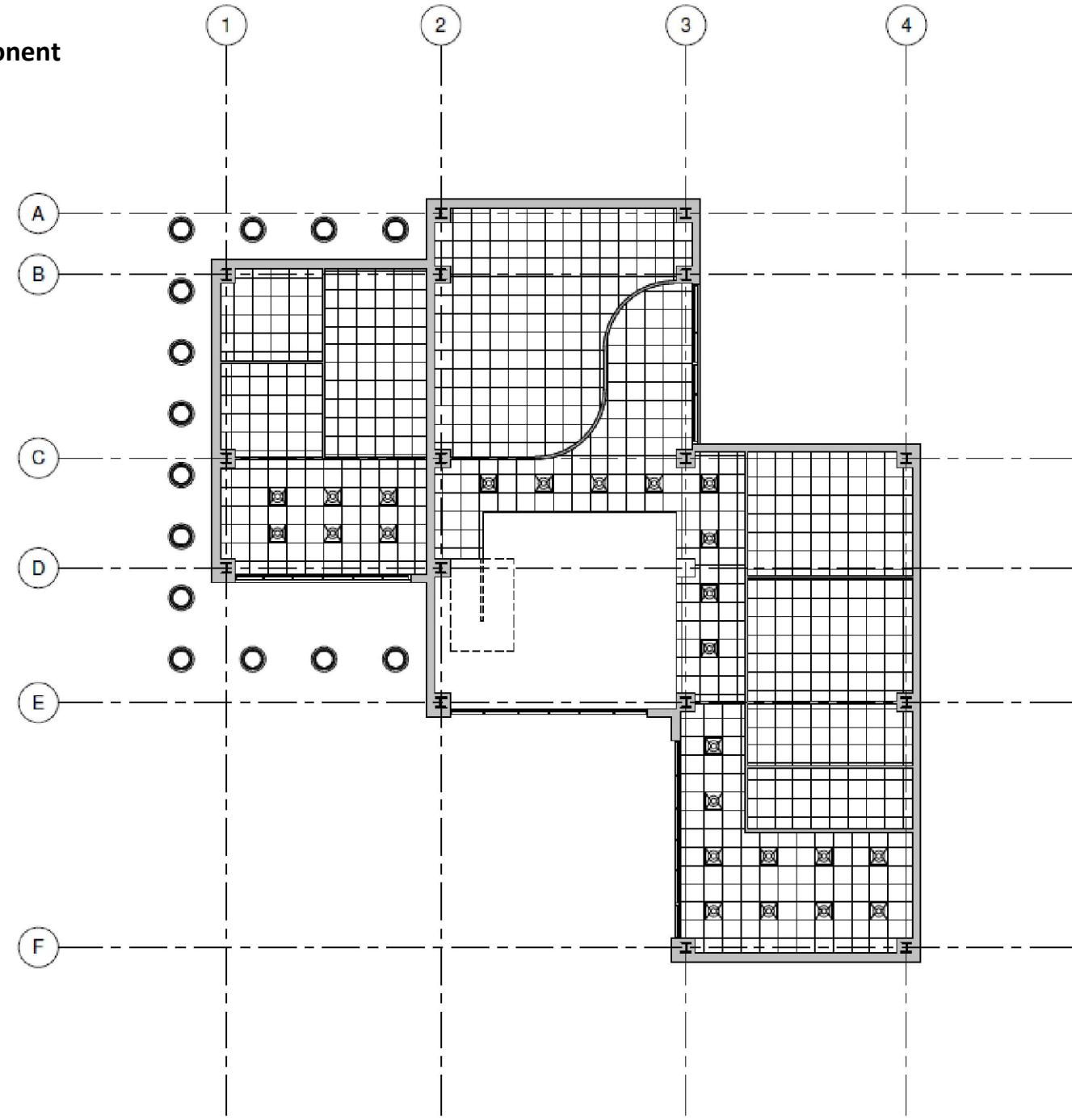
>Select 'Troffer' from the Library under the Internal Architectural Lighting folder.

>Select '600x600mm-4_Lamps' from the Type Selector

>Place on Ceiling Plan

[OPEN PDF](#)

022_Component







RECTANGLE CALLOUT

Creates a rectangular callout in the view.

Callouts (plan or detail) isolate a specific portion of the model geometry to show a greater level of detail. Reference callouts allow the same view to be referenced more than one time in a project.

>Select RECTANGLE CALLOUT from the CREATE panel in the VIEW tab.

REFERENCE

- **Reference Other View:** Adds a reference to a relevant, existing views or allows you to create and reference a drafting view.



SKETCH CALLOUT

Creates a callout in the view with the sketch tools.

Use to create a non-rectangular callout view.

>Select SKETCH CALLOUT from the drop-down arrow in the CREATE panel in the VIEW tab.

MODE

- **Cancel Edit Mode:** Discards changes and exits sketch mode
- **Finish Edit Mode:** Saves changes and exits sketch mode

DRAW

>Select drawing method from the draw panel

REFERENCE

- **Reference Other View:** Adds a reference to a relevant, existing views or allows you to create and reference a drafting view.

>Create a section view and place a Callout where the first floor intersects the external wall.



DETAIL LINE

Creates view-specific lines. Detail lines are visible only in the view in which they are drawn.

To sketch lines that exist in 3D space as part of the building model ad that display in all views, use the Model Line tool.

>Select DETAIL LINE(DL) from the DETAIL panel in the ANNOTATE tab.

DRAW

>Select drawing method from the draw panel

MODE

- ***Line Style:*** Select line style from the list

>Make selection from Options Bar



FILLED REGION

Creates a 2D, view-specific graphics with a fill pattern and a boundary line.

>Select FILLED REGION from the DETAIL panel in the ANNOTATE tab.

DRAW

>Select drawing method from the draw panel

MODE

- ***Line Style:*** Select line style from the list

>Make selection from Options Bar



MASKING REGION

Creates a graphic that obscures elements in a project or family.

>Select MASKED REGION from the DETAIL panel in the ANNOTATE tab.

DRAW

>Select drawing method from the draw panel

MODE

- ***Line Style:*** Select line style from the list

>Make selection from Options Bar



DETAIL COMPONENT

Adds a view-specific detail component to a view

>Select DETAIL COMPONENT from the DETAIL panel in the ANNOTATE tab.

MODE

- ***Load Family:*** Loads a Revit family into the current file.

>Make selection from Options Bar

REPEATING DETAIL COMPONENT

Repeats a detail component along a path

>Select REPEATING DETAIL COMPONENT from the DETAIL panel in the ANNOTATE tab.

DRAW

>Select drawing method from the draw panel

>Make selection from Options Bar



REVISION CLOUD

Adds a revision cloud to the current view or sheet to indicate design areas that have changed.

>Select REVISION CLOUD from the DETAIL panel in the ANNOTATE tab.

Use sketch tools, such as the line or rectangle, to draw the revision cloud. While sketching, press the spacebar to flip the direction of the arcs in the cloud shape. Specify the minimum arc length for revision clouds in the project on the Sheet Issues/Revisions dialog.

MODE

- ***Cancel Edit Mode:*** Discards changes and exits sketch mode
- ***Finish Edit Mode:*** Saves changes and exits sketch mode

DRAW

- >Select drawing method from the draw panel

>Make selection from Options Bar



PLACE DETAIL GROUP

Places an instance of a detail group in the view.

>Select PLACE DETAIL GROUP from the DETAIL panel in the ANNOTATE tab.

If the Revit file does not contain any detail groups, create one or load one using the Load as Group tool.



CREATE GROUP

Creates a group of elements for easy reuse.

>Select CREATE GROUP(GP) from the DETAIL panel in the ANNOTATE tab.

Use groups when you plan to repeat layouts many times in a project or family.



INSULATION

Places a batt insulation graphic in a detail view.

>Select INSULATION from the DETAIL panel in the ANNOTATE tab.

You can adjust the width and length of the insulation, and resize the bulge between insulation lines.

DRAW

- >Select drawing method from the draw panel

>Make selection from Options Bar

DETAIL

1. 50mm Insulation Batting Line

2. Brickwork - Section

3. Blockwork - 100mmTk

4. Dbl_Tri_Wall_Tie_Sec

5. Fixed_Win_Head_Sec

6. Open_Back_Steel_Lintel(CG50-100x140mm_Dp)

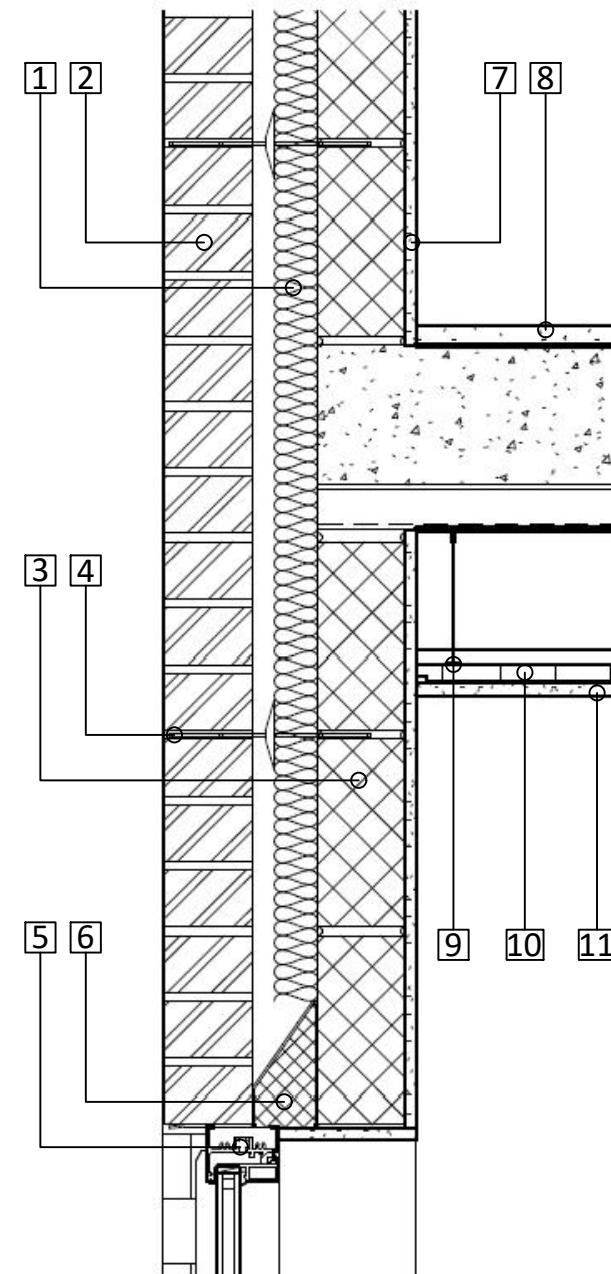
7. 12.5mm_Plasterboard

8. 22mm_Chipboard

9. Suspension_Tee_Sec_15x38mm

10. Acoustic_Ceiling_Tegular_Edge_Sec_19x600x600mm

11. 15mm_Plasterboard





LINE STYLES

Creates or modifies line styles

>Select LINE STYLES from the ADDITIONAL SETTINGS from the SETTINGS panel in the MANAGE tab.

Line styles are used to indicate different effects, such as a dashed (-----) line for reference planes.

When you install and run Revit, several line styles are included. Each predefined line style has a name that describes either the line (for example, Dash dot), or where Revit uses the line style (for example, <Sketch> lines).

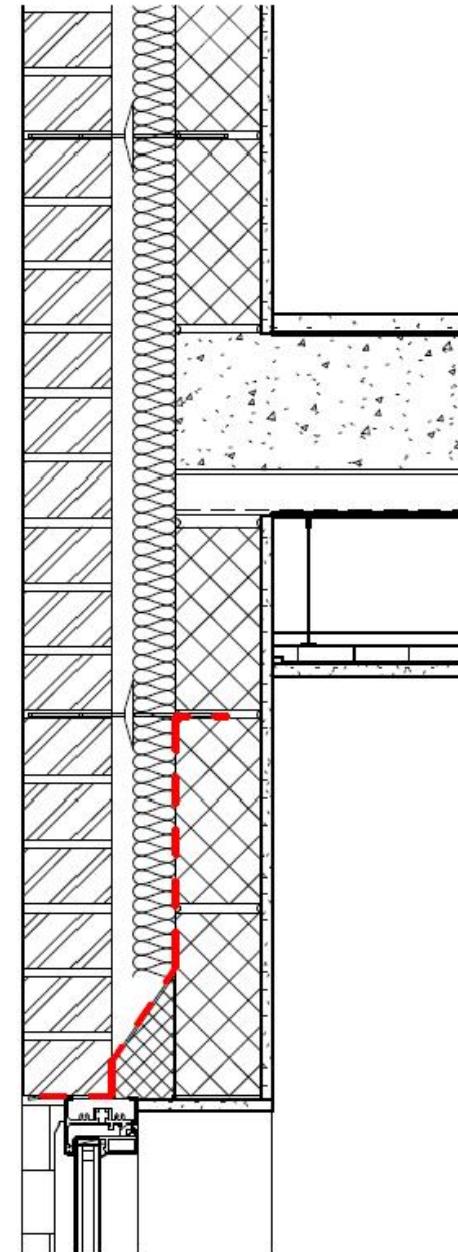
Revit stores the line styles in the default project template. See Project Templates.

When you are in the Family Editor, you cannot create new line styles, but you can modify line weight, line colour, and line pattern.

>Select LINE STYLES

>Select NEW in dialog box

- **Name:** DPM
- **Line Projection:** 4
- **Line Colour:** Red
- **Line Pattern:** Dash





TEXT

Adds text annotations to the current view

>Select TEXT(TX) from the TEXT panel in the ANNOTATE tab.

Text notes automatically scale with the view. If you change the view scale, the text automatically resizes.

LEADER

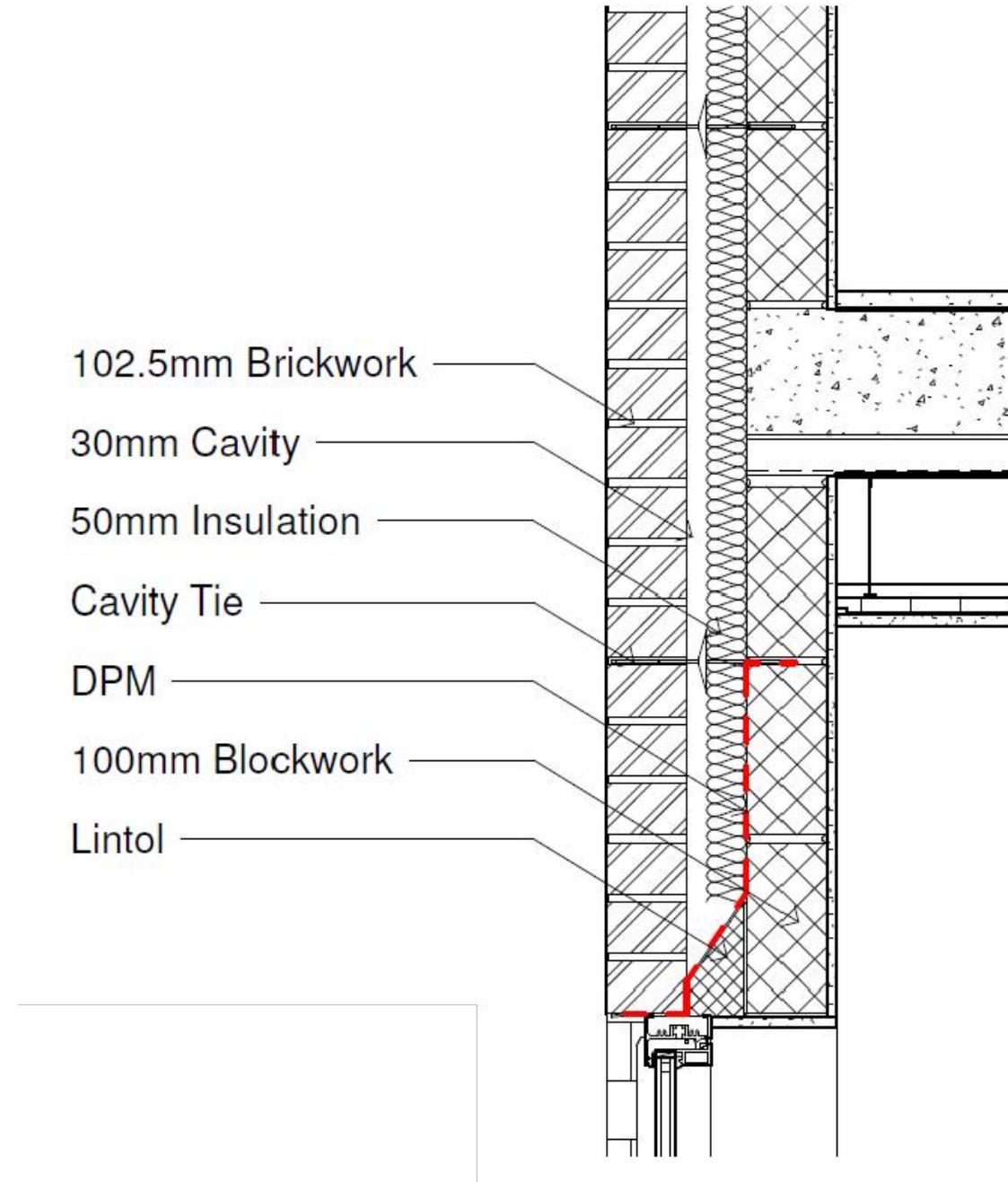
- **No Leader:** Omits a leader line for the annotation
- **One Segment:** Adds a single straight leader line from the text note to the specified location
- **Two Segments:** Adds a leader line consists of 2 straight line segments
- **Curved:** Adds a curved leader line from the text note to the specified location
- **Leader Justification:** Various leader justifications

PARAGRAPH

- **Justification:** Left, Centre, Right

TEXT

- **Check Spelling:** Checks the spelling of text notes
- **Find / Replace:** Find and replaces text





ALIGNED DIMENSION

Places dimensions between parallel references, or between multiple points
>Select ALIGNED(DI) from the DIMENSION panel in the ANNOTATE tab.

As you move the cursor over the drawing area, the reference points that you can use for dimensions are highlighted.
Press TAB to cycle through different reference points for elements that are close to one another.

OPTIONS BAR

- ***Location:*** Wall centerlines; Wall faces; Center of core; Faces of core
- ***Pick:*** Individual References; Entire Walls (Options are now accessible)

ENTIRE WALLS OPTIONS

- **Select references:** Openings; Intersecting Walls; Intersecting Grids



LINEAR DIMENSION

Places horizontal or vertical dimensions that measure the distance between reference points.
>Select LINEAR from the DIMENSION panel in the ANNOTATE tab.

The dimensions are aligned with the horizontal or vertical axis of the view



ANGULAR DIMENSION

Places a dimension that measures the angle between reference points sharing a common intersection.
>Select ANGULAR from the DIMENSION panel in the ANNOTATE tab.

OPTIONS BAR

- ***Location:*** Wall centerlines; Wall faces; Center of core; Faces of core



RADIAL DIMENSION

Places a dimension that measures the radius of an inner curve or fillet.

>Select RADIAL from the DIMENSION panel in the ANNOTATE tab.

OPTIONS BAR

- **Location:** Wall centerlines; Wall faces; Center of core; Faces of core



DIAMETER DIMENSION

Places a dimension that measures the diameter of an arc or circle

>Select DIAMETER from the DIMENSION panel in the ANNOTATE tab.

OPTIONS BAR

- **Location:** Wall centerlines; Wall faces; Center of core; Faces of core



ARC LENGTH DIMENSION

Places a dimension that measures the length of a curved wall or other element.

>Select ARC LENGTH from the DIMENSION panel in the ANNOTATE tab.

OPTIONS BAR

- **Location:** Wall centerlines; Wall faces; Center of core; Faces of core



SPOT ELEVATION

Displays the elevation of a selected point.

>Select SPOT ELEVATION(EL) from the DIMENSION panel in the ANNOTATE tab.

You can place spot elevations in plan views, elevations views and 3D views. Spot elevations are typically used to obtain a point of elevation for ramps, roads, topo-surfaces and stair landings.

>Select from Options Bar



SPOT COORDINATE

Displays the North/South and East/West coordinates of points in a project.

>Select SPOT COORDINATE from the DIMENSION panel in the ANNOTATE tab.

You can place spot coordinates on floors, walls, topo-surfaces and boundary lines. You also place spot coordinates on non-horizontal surfaces and non-planar edges.

>Select from Options Bar



SPOT SLOPE

Displays the slope at a specific point on a face or an angle of a model element.

>Select SPOT SLOPE from the DIMENSION panel in the ANNOTATE tab.

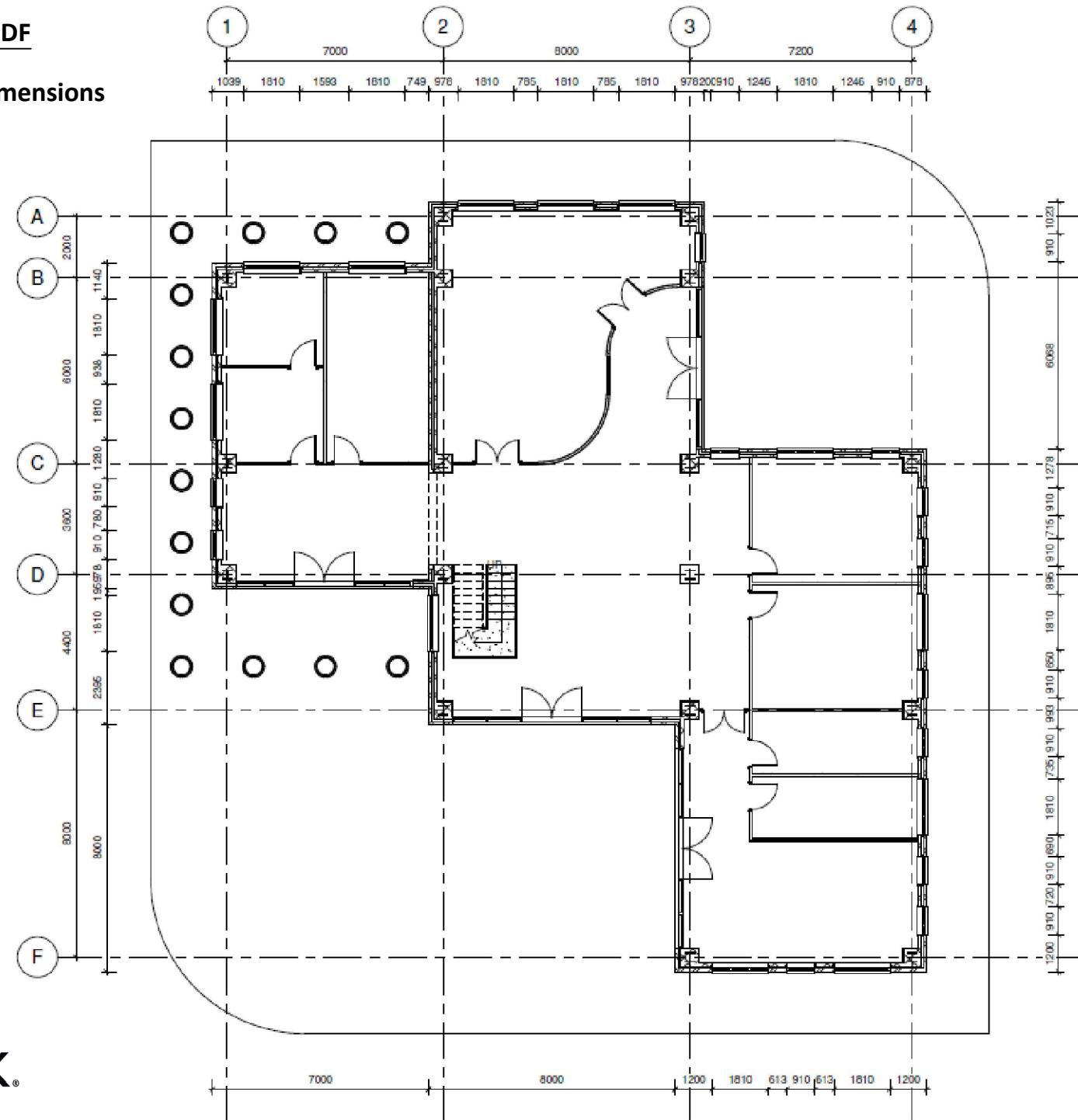
You can place spot slopes in plan views, elevation views and section views.

>Select from Options Bar



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023_Dimensions





EDIT WITNESS LINE

Adds witness lines for a dimension.

>Select the dimension to display MODIFY tab

>Select EDIT WITNESS LINE(EW) from the MODIFY tab.

ADD A WITNESS LINE

>Click the element for which you want to add a new witness line, and then click in the drawing area.

REMOVE A WITNESS LINE

>Hold SHIFT and click the element for which you want to add a new witness line, and then click in the drawing area.

>Add Witness Lines to Curtain Walls



TAG BY CATEGORY

Attaches a tag to an element based on the element category.

>Select TAG BY CATEGORY(**TG**) from the TAG panel in the ANNOTATE tab.

Before using a Tag tool, load desired tags into the project

>Select from Options Bar

>Select element to Tag



TAG ALL NOT TAGGED

Adds to multiple elements in one step.

>Select TAG ALL from the TAG panel in the ANNOTATE tab.

Load desired tag families into the project before using the Tag All tool. Then open a 2D view.

You can select the element categories to tag, the tag or structural symbol family to use for each category, and whether to tag all elements or selected elements only.

Some elements such as walls, must be tagged separately.

>Load Tags from Folder 'Files to share'

>Open each file and select 'Load into project and close'

>Select TAG ALL

>Select 'Door Tags' under Category, change 'Loaded Tags' to new Tag

>Select OK

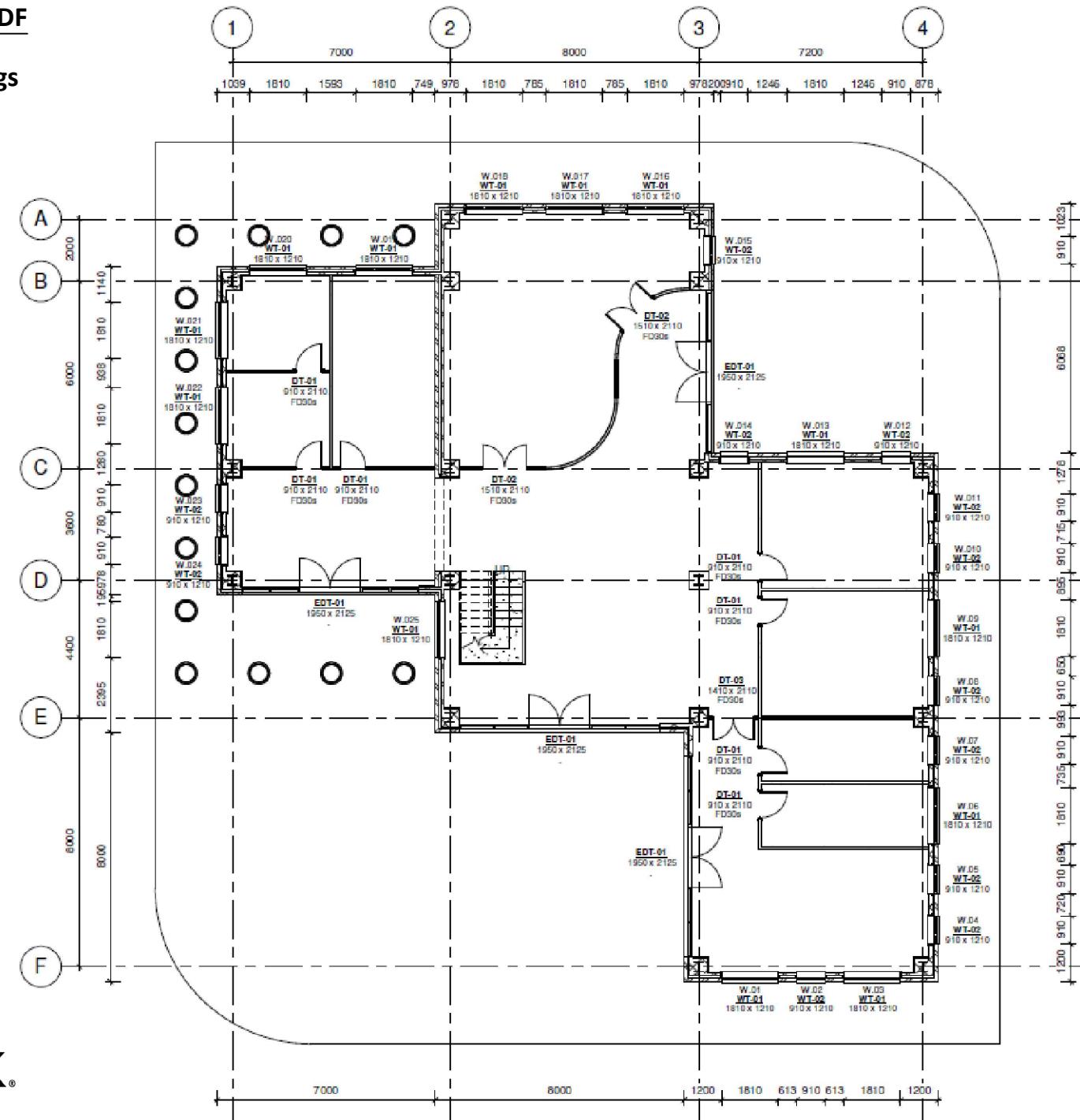
>Change the 'Type Mark' to describe Door Type

>Change the 'Fire Rating' to describe Fire Rating



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024_Tags





TAG BY CATEGORY

Creates a room bounded by model elements (such as walls, floors and ceilings) and separation lines.
>Select ROOM(RM) from the ROOM & AREA panel

Open a plan view.

Room boundaries are automatically defined by many types of model elements. You can add separation lines to add and adjust room boundaries.

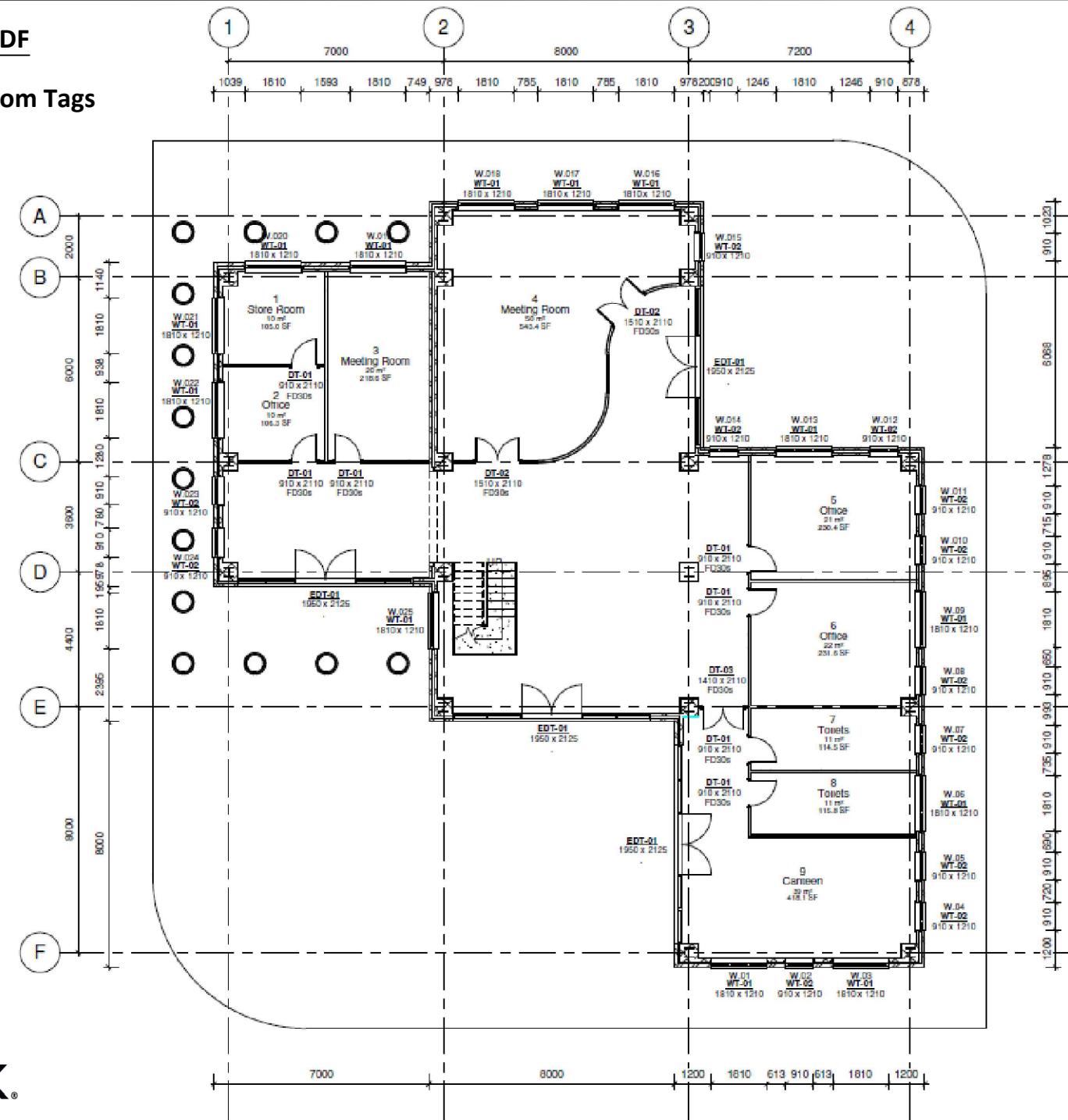
ROOM

- ***Place Rooms Automatically:*** Places rooms in all closed and bounded areas on the current level.
- ***Highlight Boundaries:*** Highlights all bounding elements in the current view.

TAG

- ***Tag on Placement:*** Places a tag for each element that you place.

>Select from Options Bar
>Place a ROOM in each of the rooms
>Tag each room
>Name each room

[OPEN PDF](#)**025_Room Tags**



COLOUR FILL LEGEND

Places a legend in a view to indicate the meanings of colour fills for rooms or areas.

>Select COLOUR FILL LEGEND from the COLOUR FILL panel in the ANNOTATE tab.

>Open a floor plan view or section view

>Select COLOUR FILL LEGEND and place location of legend.

Choose Space Type and Colour Scheme dialog box appears

>Choose the Space Type and Colour Scheme

>**Space Type:** Rooms

>**Colour Scheme:** By Department



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026_Colour Fill

Room Legend

- Canteen
 - Meeting Room
 - Office
 - Store Room
 - Toilets



The room schedule and rooms are associated; therefore, all fields that appear in the room schedule are part of the properties list for the room.

If you modify field values in the schedule, the corresponding property values update for the room, and vice versa. Also, this association extends to room tags. For example, if you change the room name in the schedule, the room and related tags update and display the new name.



SCHEDULE

Creates a key schedule or a schedule of building components.

A key schedule lets you define keys to automatically fill in some information for the schedule.

>Select SCHEDULES from the CREATE panel in the VIEW tab.

OR

>Right click SCHEDULES/QUANTITIES from the Project Browser, select NEW

>Select 'Rooms' in New Schedule dialog

>In the Properties Palette

OTHER

- **Fields:** Select the fields that appear in the schedule
- **Filter:** Specifies filters to display only certain types of information in the schedule
- **Sorting/Grouping:** Specifies the sorting options for rows in the schedule. Also adds headers, footers and blank lines to sorted rows
- **Formatting:** Specifies formatting options for each field of the schedule, such as column orientation and text alignment.
- **Appearance:** Specifies graphics and text formatting options for the schedule, such as gridlines, borders and fonts styles.

ROOM SCHEDULE

LEVEL	NAME	AREA	COUNT	COMMENTS
01. Ground Floor	OFFICE	10 m ²	1	
01. Ground Floor	STORE ROOM	10 m ²	1	
01. Ground Floor	MEETING ROOM	20 m ²	1	
01. Ground Floor	MEETING ROOM	51 m ²	1	
01. Ground Floor	OFFICE	21 m ²	1	
01. Ground Floor	OFFICE	22 m ²	1	
01. Ground Floor	TOILETS	11 m ²	1	
01. Ground Floor	TOILETS	11 m ²	1	
01. Ground Floor	CANTEEN	39 m ²	1	



SCHEDULE

>Select SCHEDULES from the CREATE panel in the VIEW tab.
OR
>Right click SCHEDULES/QUANTITIES from the Project Browser, select NEW

>Select 'Doors' in New Schedule dialog
>In the Properties Palette

OTHER

- **Fields:** Select the fields that appear in the schedule
- **Filter:** Specifies filters to display only certain types of information in the schedule
- **Sorting/Grouping:** Specifies the sorting options for rows in the schedule. Also adds headers, footers and blank lines to sorted rows
- **Formatting:** Specifies formatting options for each field of the schedule, such as column orientation and text alignment.
- **Appearance:** Specifies graphics and text formatting options for the schedule, such as gridlines, borders and fonts styles.

FIELDS

- Type Mark; Level; Width; Height; Fire Rating; Description; Finish; Count; Comments; Mark

FILTER

- Filter By: Mark >does not equal >AAA (change 'structural opening' Mark to AAA)

SORTING/GROUPING

- Sort By: Level >Show Header
- Then By: Width
- Show 'Grand Total'
- Do not 'Itemize every instance'

FORMATTING

- Fields: Mark > Tick 'Hidden Field'
- Fields: Level > Tick 'Hidden Field'

>Rename 'Type Mark' Field to 'Door Type'
>Add Finish to Doors

DOOR SCHEDULE

Door Type	Width	Height	Fire Rating	Description	Finish	Count	Comments
01. Ground Floor							
DT-01	910	2110	FD30s	Internal Single Door	OAK	7	
DT-03	1410	2110	FD30s	Internal Double Door	OAK	1	
DT-02	1510	2110	FD30s	Internal Double Door	OAK	2	
EDT-01	1950	2125	-	External Double Door	uPVC	4	
02. First Floor							
DT-01	910	2110	FD30s	Internal Single Door	OAK	4	
DT-03	1410	2110	FD30s	Internal Double Door	OAK	1	
DT-02	1510	2110	FD30s	Internal Double Door	OAK	2	

Grand total: 21



SCHEDULE

>Select SCHEDULES from the CREATE panel in the VIEW tab.
OR
>Right click SCHEDULES/QUANTITIES from the Project Browser, select NEW

>Select 'Windows' in New Schedule dialog
>In the Properties Palette

OTHER

- **Fields:** Select the fields that appear in the schedule
- **Filter:** Specifies filters to display only certain types of information in the schedule
- **Sorting/Grouping:** Specifies the sorting options for rows in the schedule. Also adds headers, footers and blank lines to sorted rows
- **Formatting:** Specifies formatting options for each field of the schedule, such as column orientation and text alignment.
- **Appearance:** Specifies graphics and text formatting options for the schedule, such as gridlines, borders and fonts styles.

FIELDS

- Type Mark; Level; Width; Height; Description; Count; Comments;

FILTER

-

SORTING/GROUPING

- Sort By: Level >Show Header
- Then By: Width
- Show 'Grand Total'
- Do not 'Itemize every instance'

FORMATTING

- Fields: Level > Tick 'Hidden Field'

>Rename 'Type Mark' Field to 'Window Type'
>Add Description to Windows

WINDOW SCHEDULE

Window Type	Width	Height	Description	Count	Comments
01. Ground Floor					
WT-02	910	1210	uPVC Triple Glazing, Plain	12	
WT-01	1810	1210	uPVC Triple Glazing, Plain	13	
02. First Floor					
WT-02	910	1210	uPVC Triple Glazing, Plain	10	
WT-01	1810	1210	uPVC Triple Glazing, Plain	8	

Grand total: 43



LEGEND

Legends displays a list of the various building compounds and annotations used in a project.

For example, you can create legends for materials, components, symbols, line styles, project phases and keynotes.

>Select LEGENDS from the CREATE panel in the VIEW tab.

OR

>Right click LEGENDS from the Project Browser, select NEW

>Rename to 'Doors & Windows'

>Set scale to 1:20

>Select LEGEND COMPONENT from the DETAIL panel in the ANNOTATE tab.

OPTIONS BAR

- **Family:** Choose from a list of family types in the current file
- **View:** Choose between: Floor Plan; Elevation: Front; Elevation: Back
- **Host Length:** When in Floor Plan View, choose the length of the family type

FAMILY

- EDT-01; DT-01; DT-02; DT-03; WT-01; WT-02

VIEW

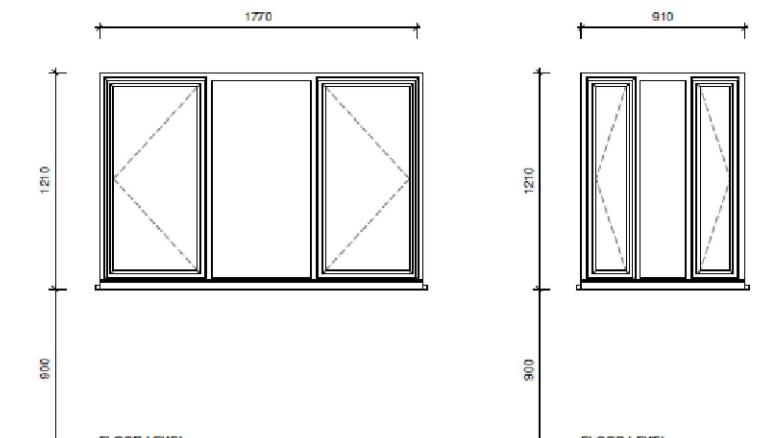
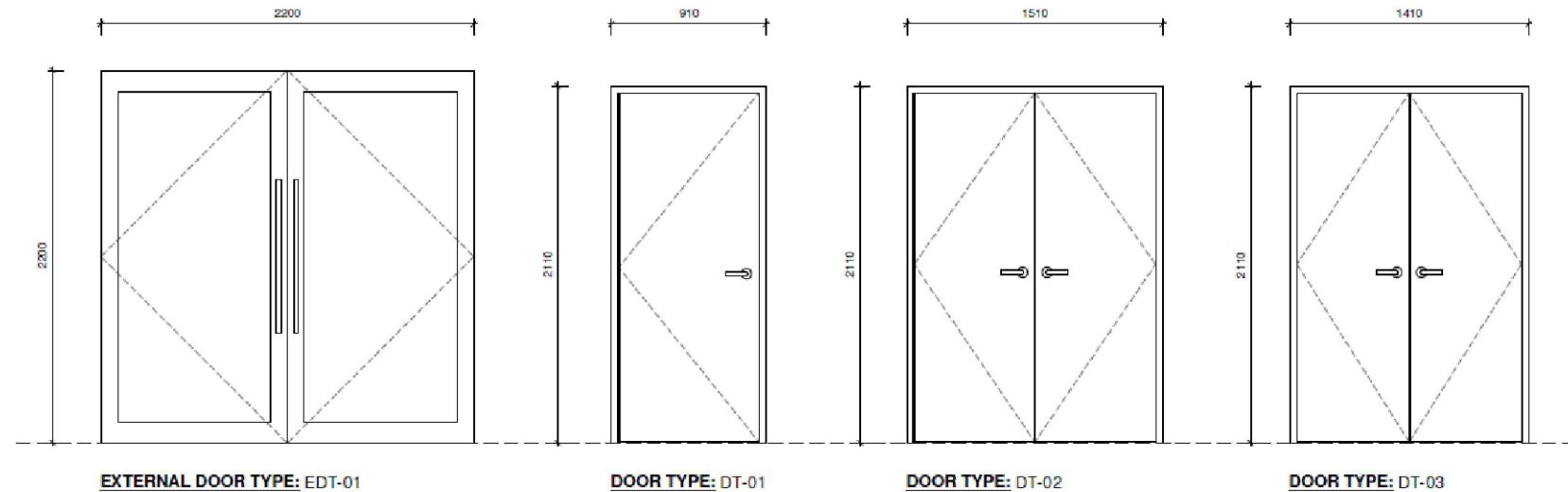
- Elevation: Front

HOST LENGTH

-

>Add Text, Dimensions and Detail Lines

>Detail Level: Fine

[OPEN PDF](#)**027_D&W Legend**

SUN AND SHADOWS

You control the visibility of the sun path and shadows on a view-by-view basis.

When you turn the sun path or shadows on or off in one view, no other views are affected.

3D views have more shadow-casting elements than 2D views, so they yield far more information about natural lighting, shading requirements, passive solar design potential, and renewable energy potential.

For the best results when studying the effect of light and shadows on a building and site, turn on both the sun path and shadow display in a 3D view.



TO TURN ON THE SUN PATH

>On the View Control Bar, click SUN PATH OFF/ONSUN PATH ON.

Or

>Click in an empty area of the view to display the view properties. On the Properties palette, under Graphics, select SUN PATH, and click Apply.

>To create lighting conditions based on the project location, date, and time, click Yes.

>Then, create a Still, Single Day, or Multi-Day solar study.

>To create lighting conditions that might not exist in the real world, click No. Then, use the Sun Settings dialog to specify the sun position.



TO TURN ON SHADOWS

>On the View Control Bar, click SHADOWS OFF/ONSHADOWS ON.

>On the View Control Bar, click Visual StyleGraphic Display Options. In the Graphic Display Options dialog, under Shadows, select Cast Shadows, and click OK.

To adjust the intensity of sun, indirect light, or shadows

>On the View Control Bar, click VISUAL STYLEGRAPHIC DISPLAY OPTIONS.

>In the Graphic Display Options dialog, under Lighting, move the Sun slider or enter a value between 0 and 100 to change the brightness of the direct light.

>For Ambient Light, move the slider or enter a value between 0 and 100 to change the brightness of the ambient light.

>Under Shadows, move the Shadow slider or enter a value between 0 and 100 to change the darkness of the shadows. Click OK.

SOLAR STUDY

Single-day solar studies produce animations that show the movement of shadows at a project location on a specified date for a specified period of time.

You can specify a time interval from 15 minutes to 1 hour between the frames in the animation.

TO USE THE SUN PATH

- >Open a 2D or 3D view that supports the display of shadows and turn on the sun and shadows, and adjust their intensity.
- >On the View Control Bar, click SUN then SUN SETTINGS
- >Under the SOLAR STUDY heading select SINGLE DAY and under the PRESETS heading select ONE DAY SOLAR STUDY
- >Specify the geographic location of the project, as well as the date and time. Specify the time as sunrise to sunset.

TO PLAY THE SOLAR STUDY

- >On the View Control Bar, click SUN, and select PREVIEW SOLAR STUDY.
- >To play the animation from start to finish, on the Options Bar, click PLAY.
- >To stop the animation, press ESC, or on the status bar, click CANCEL.
- >To control the animation, use the buttons on the Options Bar to:
 - Move backwards 10 frames
 - Move forwards 10 frames
 - Display the previous frame
 - Display the next frame
- >To display a specific frame of the animation, for Frame, enter the frame number.

TO EXPORT SOLAR STUDY

- Export a solar study to a variety of file formats to share with colleagues and clients.
- >Go to FILE tab >Export >Images and Animations >Solar Study
 - >Change the necessary options and click OK



CAMERA

Creates a 3D view from the perspective of a camera placed in the view.

>Open a plan, section, or elevation view.

>Select CAMERA from the drop down arrow of the 3D VIEW in the CREATE panel of the VIEW tab

Or

>Select CAMERA from the drop down arrow of the 3D VIEW in the QUICK ACCESS panel

- Note: If you clear the Perspective option on the Options Bar, the view that is created is an orthographic 3D view and not a perspective view.

- Use the Offset and Level options to specify a perspective. You can also edit the Eye Elevation and Target Elevation view properties to change the perspective.

>Click in the drawing area to place the camera.

>Drag the cursor to the desired target and click to place it.

>Revit creates a perspective 3D view and assigns a name to the view: 3D View1, 3D View2, and so on. To rename the view, in the Project Browser right-click it, and select Rename.

You can use a section box to limit the viewable portion of a 3D view.

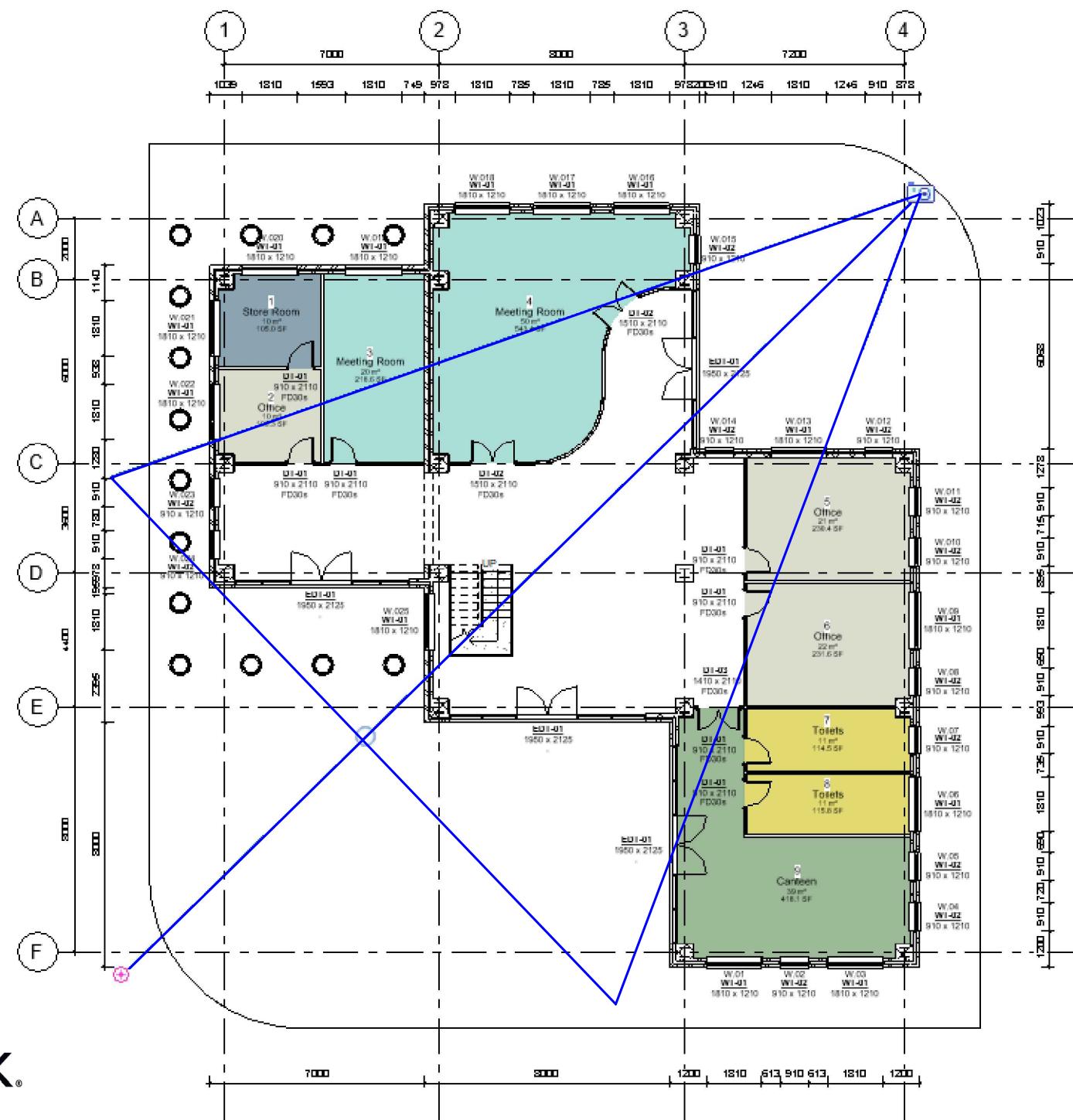
TO SHOW CAMERA ON PLAN

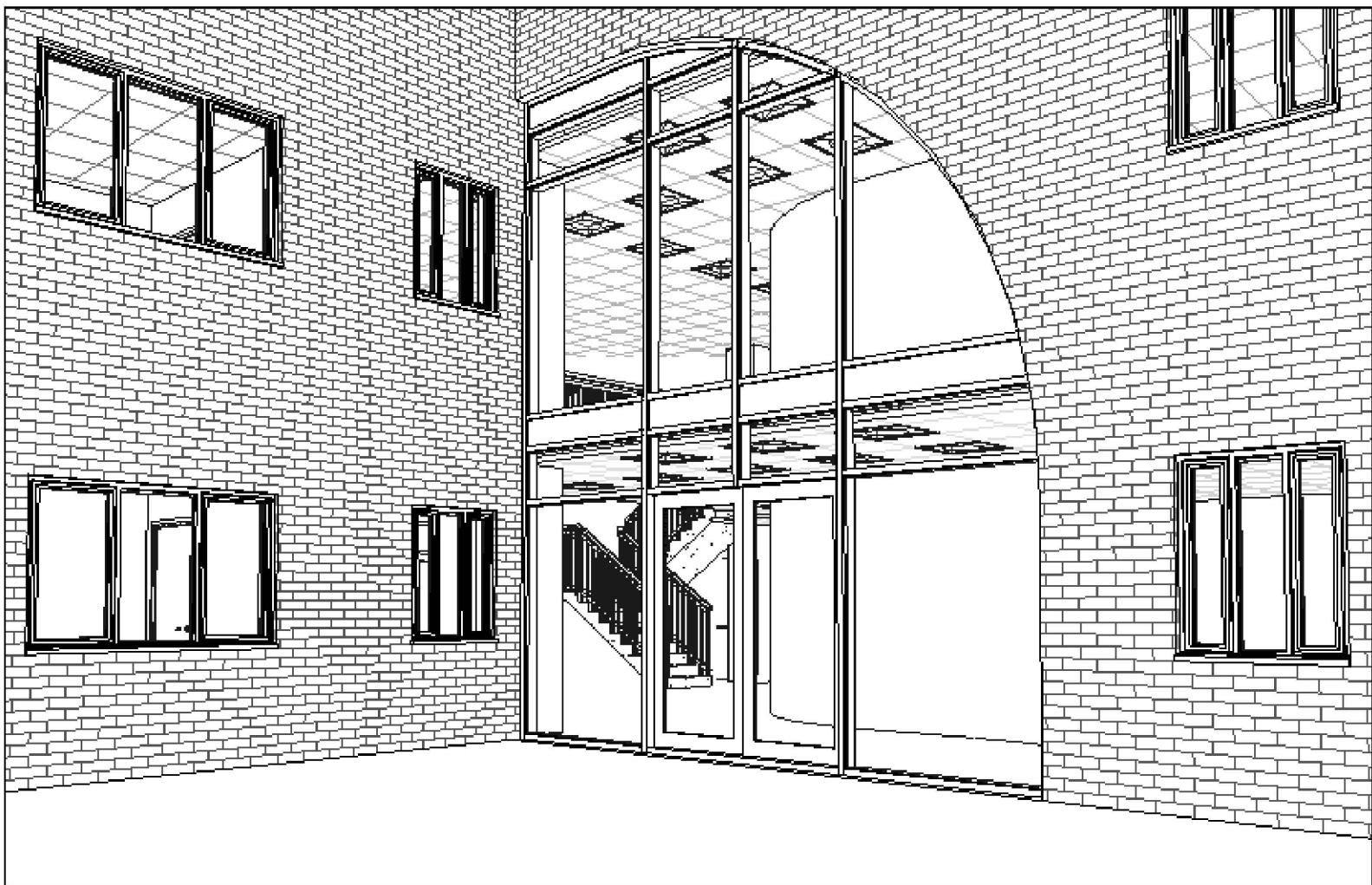
>Open floor plan which you want the camera to be displayed

>Go to 3D VIEWS in the Project Browser

>Right click and select SHOW CAMERA

>Select grips to adjust camera field of view







RENDER

Rendering is the automatic process of generating a photo-realistic or non-photo-realistic image from a 2D or 3D model.

You can place rendered images on sheets to present designs to clients.

The in-product rendering interface uses intelligent defaults so that you can easily generate a quality rendered image without in-depth understanding of rendering technology. The interface also offers advanced settings for users with more rendering experience.

Before rendering a 3D view, define settings that control lighting, exposure, resolution, background, and image quality. If desired, render the view using the default settings, which are designed to be intelligent and produce satisfactory results in many cases.

>Select RENDER(RR) from the PRESENTATION panel in the VIEW tab

>Rendering Dialog appears

RENDER

Renders the view

- **Region:** Specify a rectangular region within the view

QUALITY

- **Setting:** Specify the quality of the render from a list: Draft; Medium; High; Best; Custom; Edit
 - Edit: Opens up the quality editor

OUTPUT SETTINGS

- **Resolution:** Specify whether the image will be displayed on a screen or printed

LIGHTING

- **Scheme:** Specify whether lighting is [Exterior: Sun only; Sun and artificial; Artificial only] OR [Interior: Sun only; Sun and artificial; Artificial only]
- **Sun Setting:** Links you to the sun settings
- **Artificial Lights....:** Control any artificial light in the model



BACKGROUND

- **Style:** Specify whether Style is [Sky: No Clouds; Very Few Clouds; Few Clouds; Cloudy; Very Cloudy]; Colour; Image; Transparent

IMAGE

- **Adjust Exposure...**: After the image has been rendered you can further adjust the exposure
- **Save to Project...**: Saves the image to the Project Browser under the heading RENDERINGS
- **Export:** Export the image to a folder on your common drive

DISPLAY

- **Show the rendering...**: Shows the render image
- **Show the model...**: Shows the model image



RENDER IN CLOUD

Renders 3D views online to create still images or interactive panoramas

For rendering in the cloud, use Autodesk® A360 (available when you subscribe to Autodesk).

>Select RENDER IN CLOUD(RD) from the PRESENTATION panel in the VIEW tab



RENDER GALLERY

Opens your online gallery of completed and in-progress renderings in a web browser.

>Select RENDER GALLERY(RG) from the PRESENTATION panel in the VIEW tab

From the online render gallery, you can access multiple versions of your renderings, render images as panoramas, change rendering quality, and apply background environments to rendered scenes. Before rendering in the cloud, you can define some render settings in Revit.

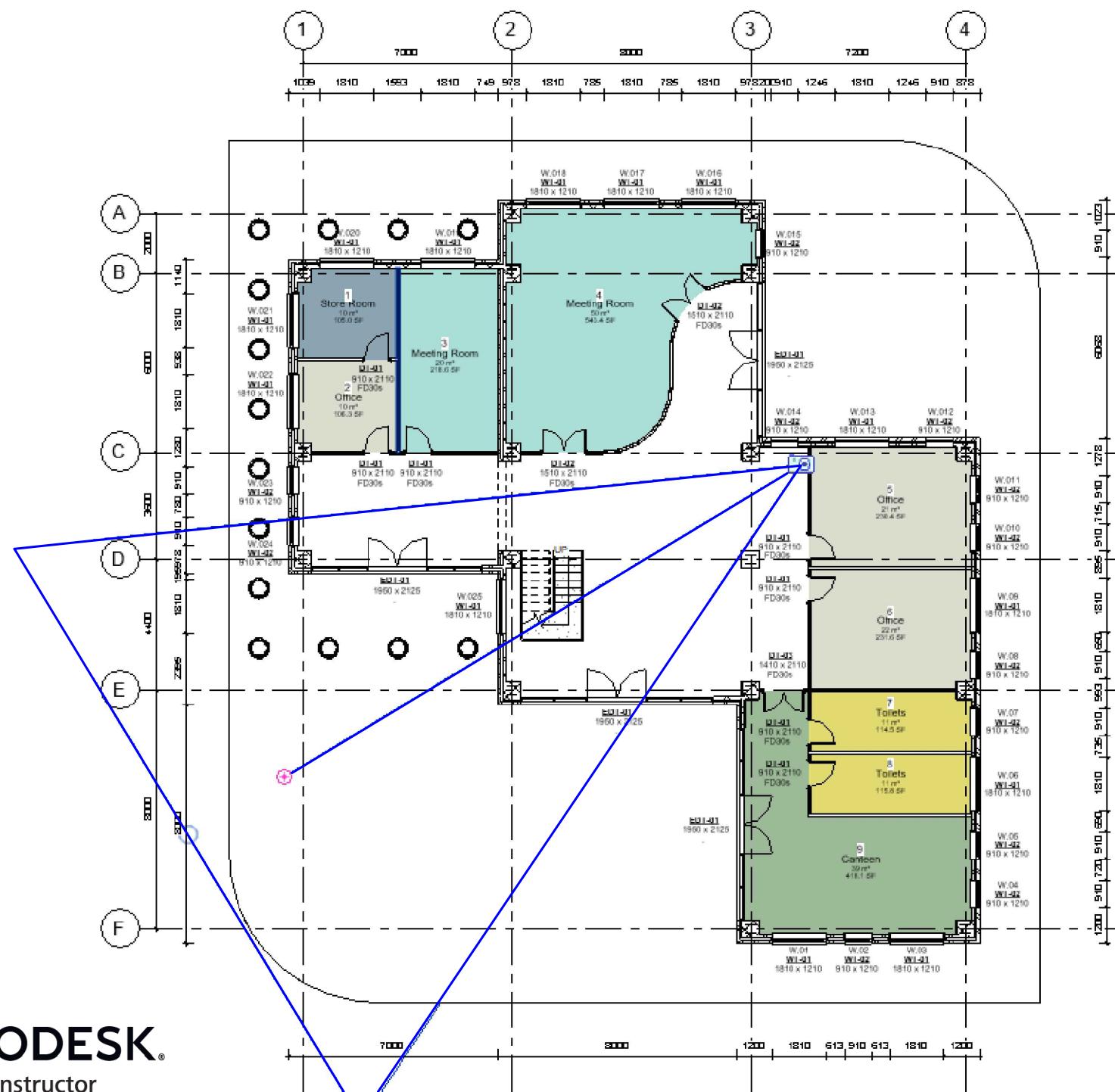
As an alternative, you can export a 3D view, and use another software application to render the image.



OPEN IMAGE

Render View 2







OPEN IMAGE

Render View 3





WALKTHROUGH

Creates an animated 3D walkthrough of a model.

>Open a view in which to place the walkthrough path

>Select WALKTHROUGH from the drop down arrow of the 3D VIEW in the CREATE panel of the VIEW tab

Or

>Select WALKTHROUGH from the drop down arrow of the 3D VIEW in the QUICK ACCESS panel

The walkthrough view is listed under the Walkthroughs branch of the Project Browser. You can change the default view name to be more descriptive.

WALKTHROUGH

- ***Finish Walkthrough:*** Completes the walkthrough path along the key frames.

OPTIONS BAR

- **Perspective:** If selected, creates a perspective view in walkthrough, otherwise an orthographic view is created
- **Scale:** Select the scale from the list
- **Offset:** Specify the offset from the selected level
- **From:** Specify the level for the camera view

>Place a key frame and create a path by:

- Position the cursor in the chosen view and click to place a key frame.
- Move the cursor in the desired direction to draw the path by placing additional key frames.

In a plan view, vary the height of the path and camera by offsetting it from a selected level. Select a level in the From drop-down list, then enter a height in the Offset text box.

>Continue placing key frames to define the walkthrough path.

- You can place key frames anywhere, but you cannot change their position while creating the path.
- Edit the key frames after you finish the path.

>To complete the walkthrough, do one of the following:

- Click Finish Walkthrough.
- Double-click to end the path.
- Press Esc.

To edit the walkthrough

>Select Walkthrough from the Project Browser, right click and select SHOW CAMERA

CROP

- **Size Crop:** Specifies the height and width of a crop region in paper space.

CAMERA

- **Reset Target:** Restores the position of the camera target to the centre of the crop region

WALKTHROUGH

- **Edit Walkthrough:** Modifies the walkthrough to change the path, add and remove key frames, reposition the camera and test the walkthrough.
 - On the options bar, you can select which control in the path you want to edit. Controls affect the position and direction of the camera.



EDIT WALKTHROUGH

Modifies the walkthrough to change the path, add and remove key frames, reposition the camera and test the walkthrough.

WALKTHROUGH

- **Previous Key Frame:** Moves the camera position back one key frame
- **Previous Frame:** Moves the camera position back one frame
- **Next Frame:** Moves the camera position forward one frame
- **Next Key Frame:** Moves the camera position forward one key frame
- **Play:** Displays the walkthrough frames sequentially
- **Open Walkthrough:** Opens the walkthrough view, so you can test the results of recent changes
- **Reset Cameras:** Moves the camera's target point back to the walkthrough path
- **Controls:** Choose the control to edit: Active Camera; Path; Add Key Frame; Remove Key Frame
- **Frame:** Specify which frame to edit, increase or decrease the amount of frames.

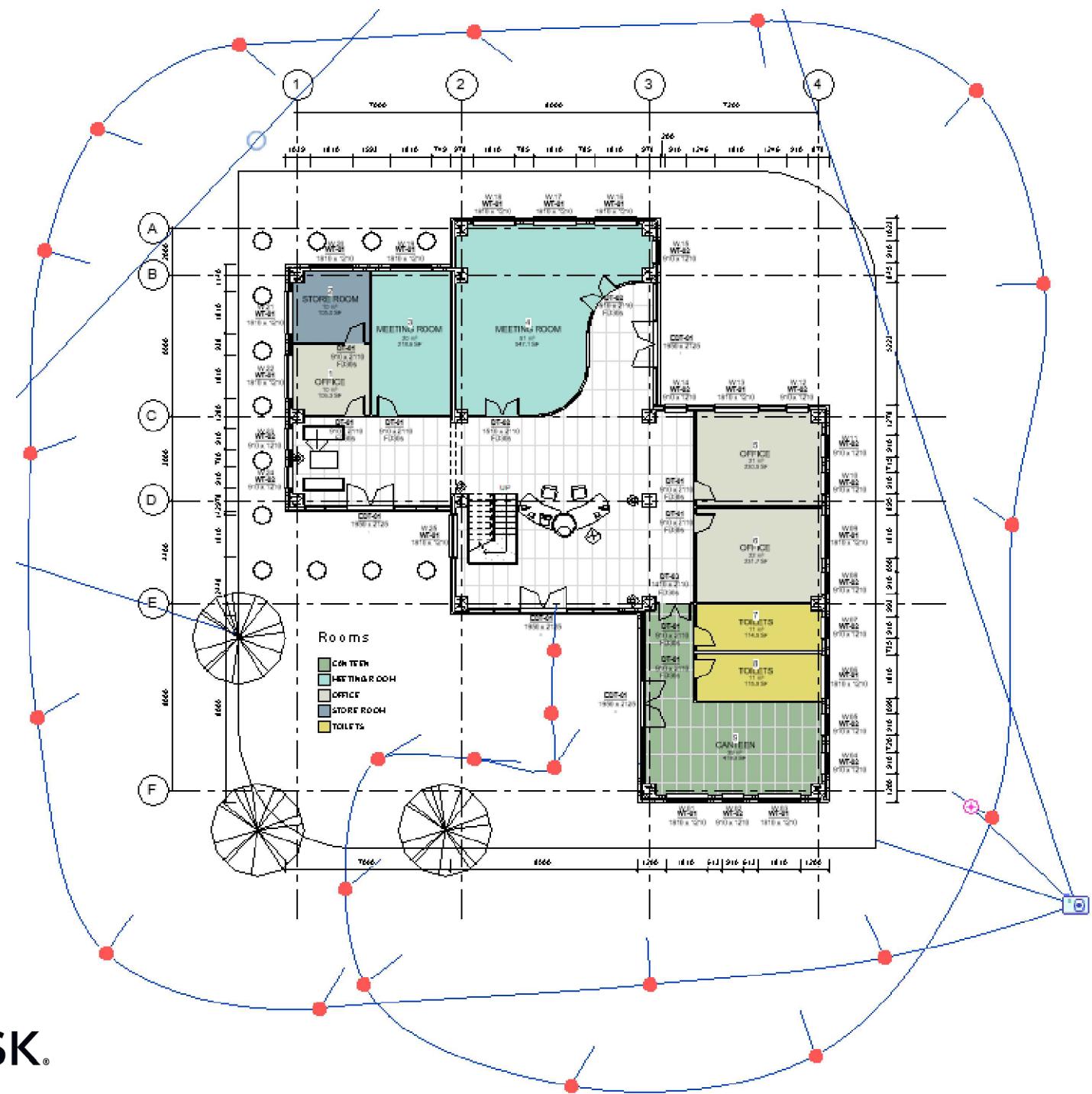


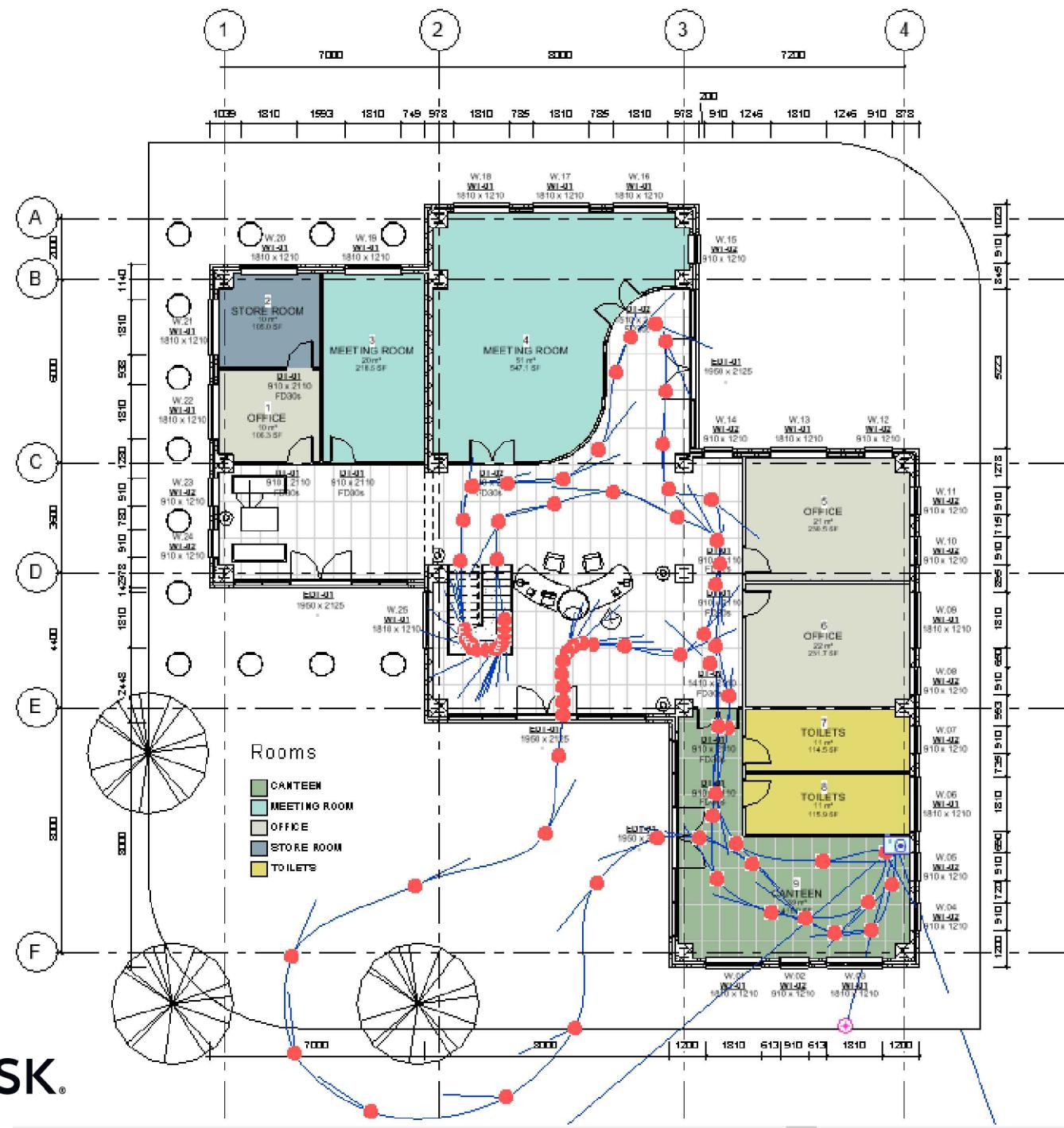
EDIT WALKTHROUGH

- >Change frame to 1
- >Adjust the position of the camera
- >Click on NEXT KEY FRAME
- >Adjust the position of the camera, repeat until on the final key frame

- >Change frame back to 1
- >Select OPEN WALKTHROUGH
- >Adjust crop if required
- >Select PLAY

- >Increase number of frames if the animation is too fast







SHEETS

Creates a page for a document set.

>Select SHEETS from the SHEET COMPOSITION panel in the VIEW tab.

OR

>Right click SHEETS from the Project Browser, select NEW

Create a sheet view for each sheet in the construction document set, and place multiple drawings or schedules on each sheet view.

When you add sheets to the project, they are listed in the Project Browser under Sheets (all).

>Choose 'Title_Blocks_A1_Metric' from the New Sheet list

PLACING VIEWS ON A SHEET

You can add one or more views of a building to a sheet, including floor plans, site plans, ceiling plans, elevations, 3D views, sections, detail views, drafting views, and rendered views. Each view can be placed on one sheet only. To add a particular view to multiple sheets in a project, create duplicate views, and place each one on a different sheet. To quickly open and identify the sheet a view is placed on, in the Project Browser, right-click the view name, and click Open Sheet.

Create duplicates of a single view to add that view to more than one sheet.

>Click and drag view '01. Ground Floor' onto sheet

>Adjust Views Title by selecting the view and using the grips to shorten the title

>Changes can be made to the model by double-clicking inside the view

>Click and drag view '02. First Floor' onto sheet

>Adjust Title by selecting the view and using the grips to shorten the title

>Changes can be made to the model by double-clicking inside the view

EXTENTS

The Extents of the model is located in the Properties Palette

CROP VIEW

When enabled, the current view is cropped.

A crop region can be rectangular or non-rectangular. Model elements or parts of model elements outside the crop region of a view will not display when the crop view is enabled.

CROP REGION VISIBLE

When selected the crop region is displayed

ANNOTATION CROP

An annotation crop region fully crops annotation elements when it touches any portion of the annotation element, so that no partial annotations are drawn.

You can display an annotation crop region in all graphical project views. Perspective 3D views do not support the annotation crop region.

VIEW RANGE

Changes the ranges of view from Top to Bottom and also creating a Cut Plane.

ASSOCIATED LEVEL

This read-only field displays the level the current view is associated with.

To add levels, you must be in a section or elevation view. When you add levels, you can create an associated plan view.

SCOPE BOX

Use a scope box to specify the views in which the datum elements will display.

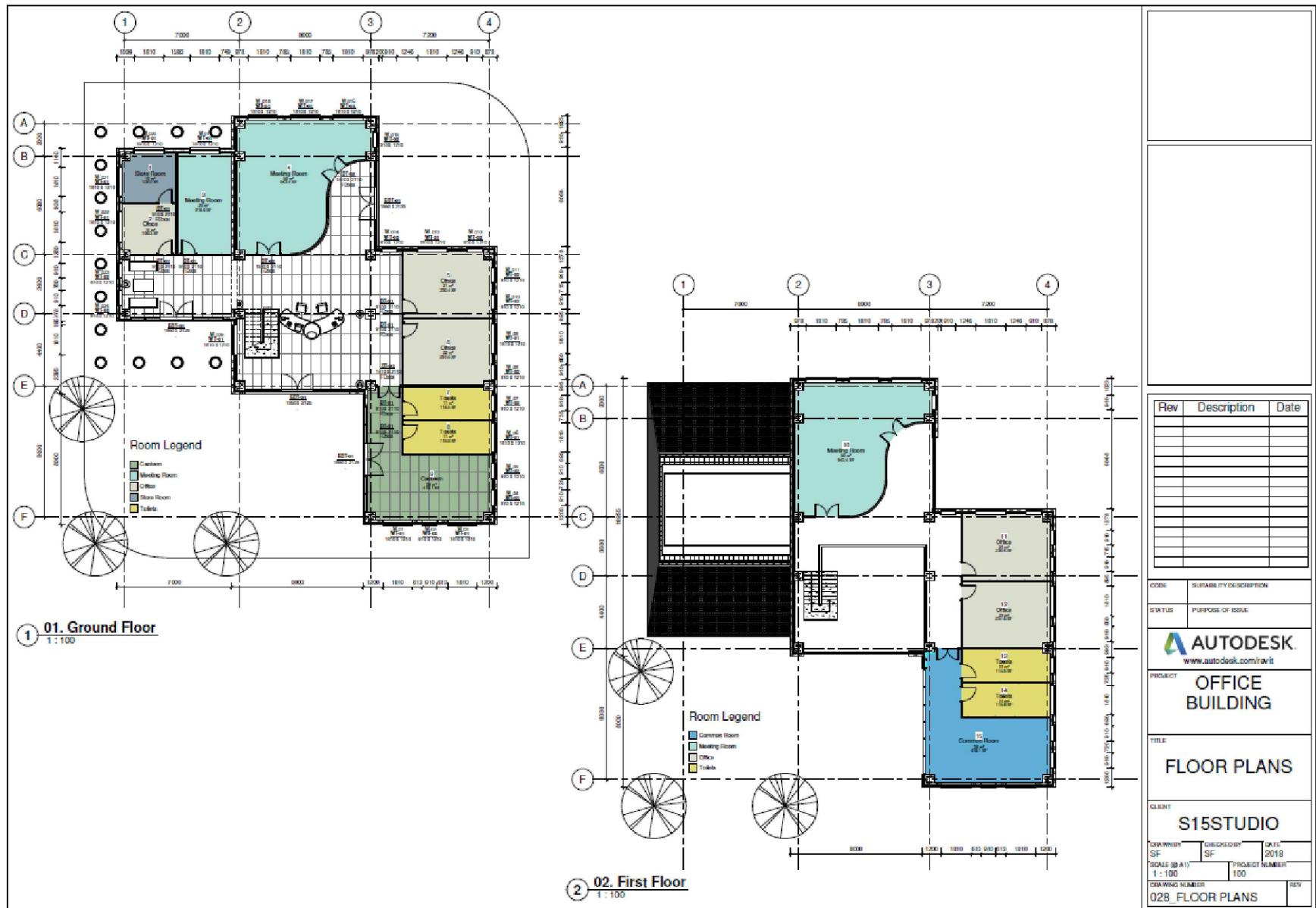
DEPTH CLIPPING

Use the Depth Clipping parameter to display parts of a model below the cut plane.

[OPEN PDF](#)

PDF

028_Floor Plans





PLACING VIEWS ON A SHEET

- >Right click SHEETS from the Project Browser, select NEW
- >Select the 'Title_Block_A1_Metric' Title-block
- >Click and drag all Elevation Views onto Sheet
- >Click and drag 'Callout 1' view onto Sheet
- >Click and drag all Render views onto Sheet
- >Adjust Views Title by selecting the view and using the grips to shorten the title
- >Changes can be made to the model by double-clicking inside the view

ADJUST FAR CLIPPING

- >Go to the Plan View '01. Ground Floor'
- >Turn off Crop View
- >Select each elevation bubble and adjust Far Clipping



GUIDE GRID

- Creates a new guide element in the active sheet to help align elements within and between sheets
- >Select GUIDE GRID from the SHEET COMPOSITION panel in the VIEW tab.

- >Name the Grid
- >Adjust the Guide Spacing by selecting the guide and changing the spacing in the property palette.
- >Select each view to align up with the grid

To display the same guide grid in different sheet views, set the Guide Grid sheet property in each sheet to the name of the desired guide grid.

[OPEN PDF](#)

029_Elevations

The drawing set includes:

- Callout 1:** A detailed cross-section of a wall showing insulation layers: 30mm Cavity, 50mm Insulation, Cavity Tie, DPM, 100mm Blockwork, and Lintel. The thickness of the brickwork is 300mm.
- South Elevation (1):** Shows the building's profile with four callouts labeled 1 through 4. It indicates floors: 01. Ground Floor, 02. First Floor, and 03. Roof. The scale is 1:100.
- North Elevation (3):** Shows the building's profile with callouts 1 through 4. It indicates floors: 01. Ground Floor, 02. First Floor, and 03. Roof. The scale is 1:100.
- West Elevation (2):** Shows the building's profile with callouts A through F. It indicates floors: 01. Ground Floor, 02. First Floor, and 03. Roof. The scale is 1:100.
- East Elevation (4):** Shows the building's profile with callouts A through F. It indicates floors: 01. Ground Floor, 02. First Floor, and 03. Roof. The scale is 1:100.
- Render View 1 (6):** An interior view looking down a hallway towards a staircase.
- Render View 2 (7):** An exterior view of the building's entrance area.
- Render View 3 (8):** An interior view looking across a large open-plan space towards a staircase.

Autodesk Project Information:

CODE	SUITABILITY DESCRIPTION	
STATUS	PURPOSE OF ISSUE	
AUTODESK. www.autodesk.com/revit		
PROJECT OFFICE BUILDING		
TITLE ELEVATIONS		
CLIENT S15STUDIO		
DRAWN BY	CHECKED BY	DATE
Author	Checker	05/22/18
SCALE (MM:1)	PROJECT NUMBER	
As indicated	100	
DRAWING NUMBER	REV	
029_ELEVATIONS		



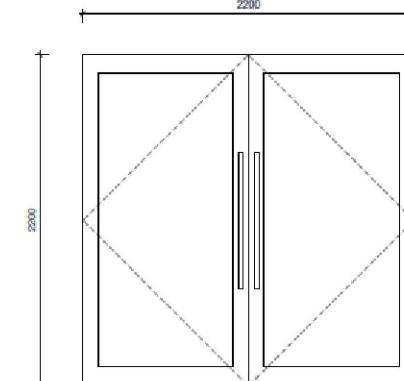
PLACING VIEWS ON A SHEET

- >Right click SHEETS from the Project Browser, select NEW
- >Select the 'Title_Block_A2_Metric' Title-block
- >Click and drag 'External Doors & Windows' Legend onto Sheet
- >Click and drag 'Door Schedule' & 'Window Schedule' onto Sheet

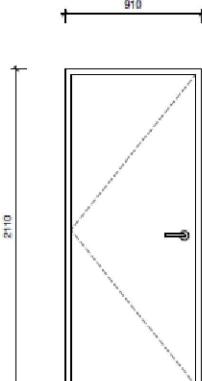
- >Adjust Views Title by selecting the view and using the grips to shorten the title
- >Changes can be made to the model by double-clicking inside the view


[OPEN PDF](#)

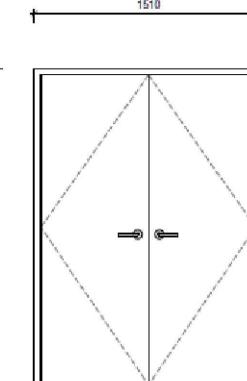
030_D&W Legends



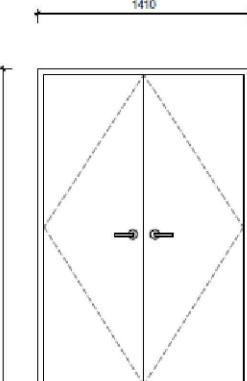
EXTERNAL DOOR TYPE: EDT-01
QTY: 04



DOOR TYPE: DT-01
QTY: 11



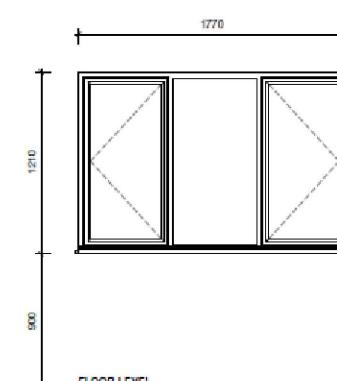
DOOR TYPE: DT-02
QTY: 04



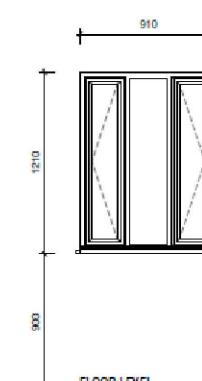
DOOR TYPE: DT-03
QTY: 02

DOOR SCHEDULE							
Door Type	Width	Height	Fire Rating	Description	Finish	Count	Comments
01. Ground Floor							
DT-01	910	2110	FD30s	Internal Single Door	Oak	7	
DT-03	1410	2110	FD30s	Internal Double Door	Oak	1	
DT-02	1510	2110	FD30s	Internal Double Door	Oak	2	
EDT-01	1950	2125	-	uPVC		4	
02. First Floor							
DT-01	910	2110	FD30s	Internal Single Door	Oak	4	
DT-03	1410	2110	FD30s	Internal Double Door	Oak	1	
DT-02	1510	2110	FD30s	Internal Double Door	Oak	2	
Grand total:	21						

WINDOW SCHEDULE					
Window Type	Width	Height	Description	Count	Comments
01. Ground Floor					
WT-02	910	1210	uPVC, Triple Glazed Palin	12	
WT-01	1810	1210	uPVC, Triple Glazed Palin	13	
02. First Floor					
WT-02	910	1210	uPVC, Triple Glazed Palin	10	
WT-01	1810	1210	uPVC, Triple Glazed Palin	8	
Grand total:	43				

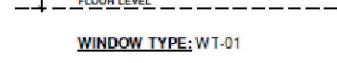


DOOR TYPE: DT-01
QTY: 11

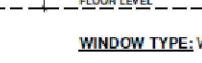


DOOR TYPE: DT-02
QTY: 04

DOOR TYPE: DT-03
QTY: 02



WINDOW TYPE: WT-01
QTY: 21



WINDOW TYPE: WT-02
QTY: 22

CODE	SUITABILITY DESCRIPTION
STATUS	PURPOSE OF ISSUE
AUTODESK. www.autodesk.com/revit	
PROJECT	
OFFICE BUILDING	
TITLE	
DOOR & WINDOW LEGEND	
CLIENT	
S15STUDIO	
DRAWN BY	CHECKED BY
SF	SF
SCALE (@A1)	PROJECT NUMBER
1 : 20	100
DRAWING NUMBER	REV
030_D&W LEGEND	

 **AUTODESK®**
Certified Instructor

Instructor: Steve Fagan

Level: Beginner Course



DUPLICATE VIEW

Creates a view that contains only the model geometry from the current view.
The new view omits any view-specific elements, such as annotations, dimensions and details.

>Select the DUPLICATE VIEW from the CREATE panel in the VIEW tab

A view is then created in the Project Browser



DUPLICATE WITH DETAILING

Creates a view that includes model geometry and view-specific elements from the current view.
View-specific elements include annotations, dimensions, detail components, detail lines, repeating details and filled regions.

>Select the DUPLICATE WITH DETAILING from the CREATE panel in the VIEW tab

A view is then created in the Project Browser



DUPLICATE AS DEPENDENT

Creates a view that is dependent on the original view.
The original view and its copy remain synchronized. Changes in either view (such as scale or view properties) automatically occur in the other.
Use multiple dependent copies to show segments of an extensive floor plan.

>Select the DUPLICATE AS DEPENDENT from the CREATE panel in the VIEW tab

A view is then created in the Project Browser



TITLEBLOCK

A title block is a template for a sheet and generally includes a border for the page and information about the design firm, such as its name, address, and logo.

The title block can also display information about the project, client, and individual sheets, including issue dates and revision information.

- >Right click SHEETS from the Project Browser, select NEW
- >Select the Titleblock from the list, or load one from the library

If you delete the Titleblock

>Select the TITLEBLOCK from the SHEET COMPOSITION panel in the VIEW tab

>Select each Parameter in the Titleblock to change

>Change name of:

- **Project:** OFFICE BUILDING
- **Client:** S15STUDIO
- **Drawn By:** Your initials

>Change name views to:

- **Floor Plans:** 101 - FLOOR PLANS
- **Elevation:** 102 - ELEVATIONS
- **Doors & Windows:** 103 - DOORS & WINDOWS



PRINT SETUP

Specifies print options.

Use the Print Setup dialog to define settings used when printing views and sheets from the current model, or when creating PDF, PLT, or PRN files.

>Select the PRINT SETUP from the PRINT section in the FILE tab

PRINTER

Name of printer

NAME

Name of Print Setup style

PAPER

- **Size:** Choose from a list of paper sizes
- **Source:** Choose from a list of paper sources

ORIENTATION

Choose between Portrait or Landscape

PAPER PLACEMENT

Choose between Centre or Offset from corner

HIDDEN LINE VIEWS

- **Remove Lines Using:** Choose between Vector Processing or Raster Processing

ZOOM

Choose between Fit to page or specify a zoom %size

APPEARANCE

- **Raster quality:** Choose between Low; Medium; High; Presentation
- **Colours:** Choose between Black Lines; Grayscale; Colour



PRINT

The Print tool prints the current window, a visible portion of the current window, or selected views and sheets. You can send the desired drawings to the printer, to a PRN or PLT file, or to a PDF file.

>Select PRINT from the PRINT section in the FILE tab

PRINTER

- **Name:** Name of printer. Select 'Properties' to change the properties of the printer.
- **Status:** Displays status of the printer
- **Type:** Displays the type of printer
- **Where:** Displays the location of the printer
- **Comment:** Displays any comments of the printer

FILES

- **Combine multiple...:** Combines multiple selected views/sheets into a single file
- **Create separate...:** Creates separate files
 - **Name:** Specify a Name for the PDF/file as well as specify the location under the Browse...

PRINT RANGE

Choose between:

- Current window
- Visible portion of selection window
- Selected views/sheets

OPTIONS

Choose:

- Number of copies
- Reverse print order
- Collate

SETTINGS

Select the Print Setup Style