

# **Independent Checking Unit**

## **BIM Standards and Modelling Guidelines**

**for**

## **Statutory and Building Control Submission of General Building Plan, Foundation Plan and Superstructure Plan**

July 2022

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## 1 INTRODUCTION

Key Objective of this TechConnect Block Vote Project, is to set out:

- (1) General guidelines for reference by users in preparing the following statutory plans by BIM authoring software:
  - a) General Building Plan;
  - b) Foundation Plan;
  - c) Superstructure Plan, and
- (2) Recommended good practices and procedures for reference by users who aims to minimize manual-editing works in preparing the statutory plans.

Users should note that the use of the guidelines, recommended good practices and procedures is not a mandatory requirement or a pre-requisite for statutory and building control submission of the statutory plans. Users are reminded to read in conjunction with the prevailing "Guidelines for using Building Information Modelling in General Building Plans Submission" and "Building Information Modelling Standards for Preparation of Statutory Plan Submissions" published by the Buildings Department and Construction Industry Council respectively for the general statutory submission requirements. Users should also make reference to their own in-house BIM drawing practice of their organization to avoid conflict of practice.

Good practice to create 3D model and produce 2D drawings is essential. If not following proper procedures, it will generate a lot of errors when producing 2D drawings. As a result, a lot of manual-editing works will be required to rectify the drawings. This is time consuming and not efficient. As such, this document will quantify meaning of “proper procedure”.

For avoidance of doubt, elements and information shown on the generated 2D plans/sections/elevations/schedules/details that linked up with the BIM model that would be updated automatically according to the changes of the BIM model would not be considered as manual-editing works.

Target users of this document includes building professionals who are experienced in preparation of the aforementioned submission plan. Users should possess minimum Higher Certificate in relation to building, construction or related engineering and have hands-on experience in using Revit to build BIM models to produce General Building Plan, Foundation Plan or Superstructure Plan.

## 2 PROJECT SCOPE

- 2.1 TO ACHIEVE THE KEY OBJECTIVE, THE FOLLOWING DELIVERABLES WILL BE DEVELOPED:

### 2.1.1 **BIM Standards**

The BIM standards for statutory and building control submission shall at least cover the following aspects:

- a) The standard of BIM families, library components and BIM objects;
- b) The essential information in BIM model, 2D plans and schedules; and
- c) The standard of presentation format of 2D plans and schedules.

It explains what should be done for preparation of Building Control Submission.

### 2.1.2 **BIM modelling guidelines**

The BIM modelling guidelines shall cover the following aspects:

- a) The guidelines of using the BIM model templates
- b) The guidelines of building BIM models in order to meet the BIM standards

### 2.1.3 **BIM model templates**

The BIM model templates shall have the following features:

- a) Naming system in the model, e.g. views, families, plans, sections, etc.;
- b) Schedules that required for statutory and building control submission;
- c) 2D presentation formats, e.g. annotations, dimension, fonts and font size, line type and thickness, scale, etc.;
- d) Pre-set the colouring of 2D plans in accordance with the statutory and building control requirements; and
- e) Preload the BIM families / library components.

### 2.1.4 **The BIM families, library components, objects and elements**

The BIM families, library components, objects and elements shall:

- a) facilitate the production of 2D plans and schedules from the BIM model so as to minimise the effort for manual-editing works on 2D plans and schedules.
- b) be able to handle and store custom designed parameters, e.g. FRR, material grading, loadings, etc.
- c) Guidelines for creating BIM objects so as to minimize the effort for manual-editing works on 2D plans and schedules are included under BIM guidelines.

### 2.1.5 **Plugin to check and highlight the manual-editing works**

Due to software limitation, full elimination of manual-editing works is NOT feasible. Example such as indication of slab edge above on a floor plan, or universal

level difference mark. As such, a plugin is developed to facilitate both Approval Authority and Building Professionals to locate the works easily. Manual-editing works (MEW) that can be highlighted by the plugin includes:

- Detail Line
- Text
- Filled Region
- Masking Region
- Symbol
- Dimension on 2D plan with replaced value, or value rounded up to the nearest 10 or above

According to the tender document of this Project, tenderers were allowed to propose any one BIM software for the development of this Project. As Autodesk Revit was proposed in all the tenders returned to ICU, therefore, the development of this Project was based on Autodesk Revit.

#### 2.1.6 **Limitation of Plugin**

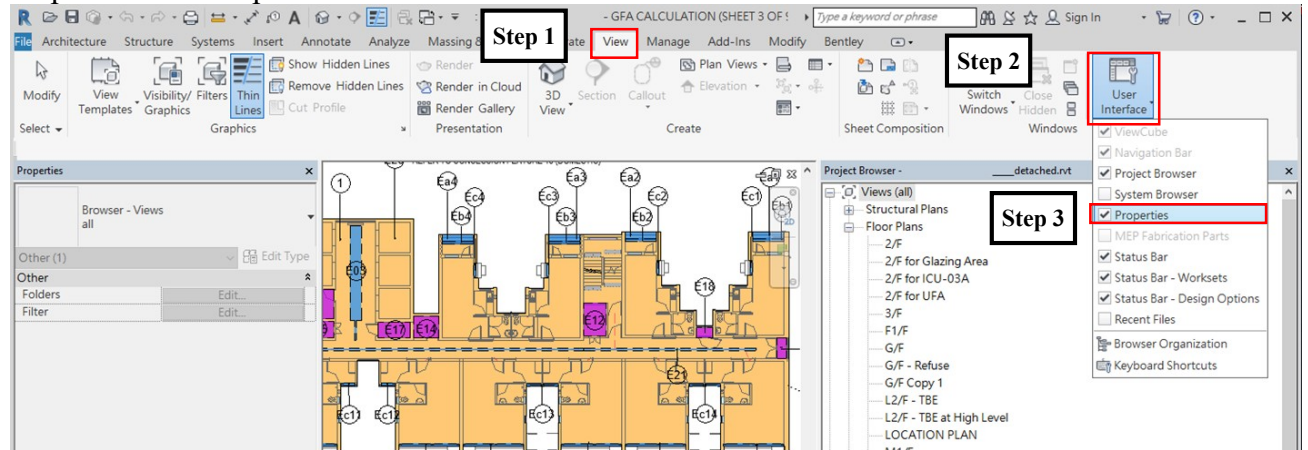
For the schedules on the 2D plans which are generated using the built-in function "Schedules / Quantities" of Revit with "linked" values to the BIM model, they would not be checked by the plugin. However, users can verify the figures in the schedules against their "true values" from BIM model and check whether the figures in the schedules have been manually edited using the methodology as shown on p.ix to p.xi of this Guidelines.

## Methodology to verify the figures in the Schedules against their “true values” from BIM model

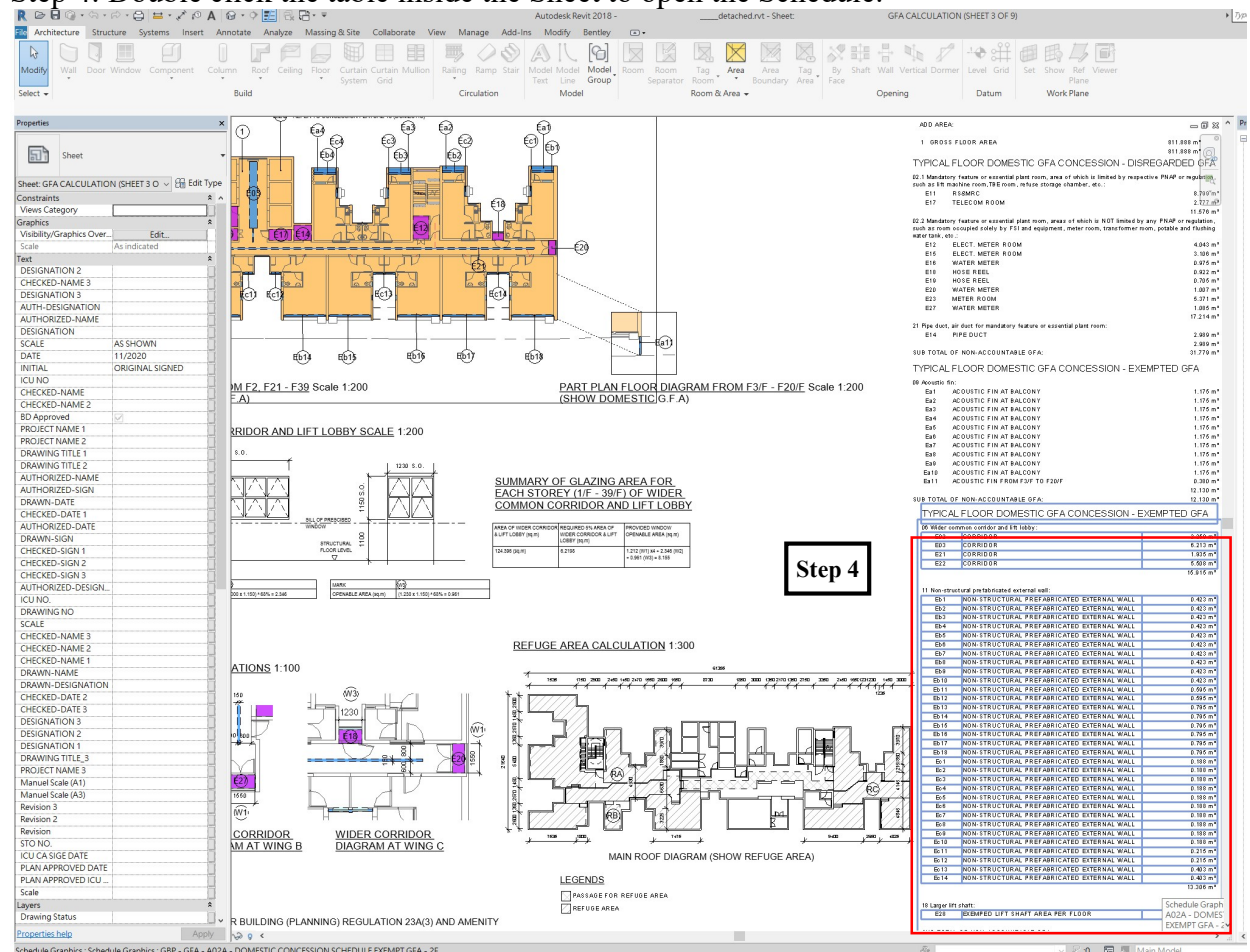
Step 1: Select “View”.

Step 2: Select “User Interface”.

Step 3: Select “Properties”.



Step 4: Double click the table inside the Sheet to open the Schedule.



Step 5: Select “Edit” button next to “Formatting” inside the “Properties” window.

Step 6: Select “Area” under Fields.

Step 7: Untick the “Hidden Field”.

Step 8: Press OK button.

The screenshot shows the 'Modify Schedule/Quantities' dialog box for a schedule titled 'TYPICAL FLOOR DOMESTIC GFA CONCESSION - EXEMPTED GFA'. The 'Other' section has 'Formatting' selected. The 'Schedule Properties' dialog box is open, showing the 'Fields' list with 'Area' selected. The 'Hidden field' checkbox is unchecked. The 'OK' button is highlighted.

A	B	C
<b>06 Wider common corridor and lift lobby:</b>		
E02	CORRIDOR	2.259 m <sup>2</sup>
E03	CORRIDOR	6.213 m <sup>2</sup>
E21	CORRIDOR	1.935 m <sup>2</sup>
E22	CORRIDOR	5.508 m <sup>2</sup>
		19.915 m <sup>2</sup>
<b>11 Non-structural prefabricated external wall:</b>		
Eb1	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.423 m <sup>2</sup>
Eb2	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.423 m <sup>2</sup>
Eb3	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.423 m <sup>2</sup>
Eb4	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.423 m <sup>2</sup>
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Eb6	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.423 m <sup>2</sup>
Eb7	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.423 m <sup>2</sup>
Eb8	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.423 m <sup>2</sup>
Eb9	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.423 m <sup>2</sup>
Eb10	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.423 m <sup>2</sup>
Eb11	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.595 m <sup>2</sup>
Eb12	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.595 m <sup>2</sup>
Eb13	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.795 m <sup>2</sup>
Eb14	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.795 m <sup>2</sup>
Eb15	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.795 m <sup>2</sup>
Eb16	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.795 m <sup>2</sup>
Eb17	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.795 m <sup>2</sup>
Eb18	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.795 m <sup>2</sup>
Ec1	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>
Ec2	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>
Ec3	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>
Ec4	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>
Ec5	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>
Ec6	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>
Ec7	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>
Ec8	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>
Ec9	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>
Ec10	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.215 m <sup>2</sup>
Ec11	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.215 m <sup>2</sup>
Ec12	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.215 m <sup>2</sup>
Ec13	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.403 m <sup>2</sup>
Ec14	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.403 m <sup>2</sup>
		13.306 m <sup>2</sup>
<b>16 Larger lift shaft:</b>		
E28	EXEMPTED LIFT SHAFT AREA PER FLOOR	7.431 m <sup>2</sup>
		7.431 m <sup>2</sup>
<b>SUB TOTAL OF NON-ACCOUNTABLE GFA:</b>		<b>38.652 m<sup>2</sup></b>



Step 9: A column showing the true values of the area from the BIM model will now be displayed. You can verify the figures in the Schedules against their true values from the BIM model by visual inspection.

TYPICAL FLOOR DOMESTIC GFA CONCESSION - EXEMPTED GFA			
A	B	C	D
<b>06 Wider common corridor and lift lobby:</b>			
E02	CORRIDOR	2.259 m <sup>2</sup>	2.259 m <sup>2</sup>
E03	CORRIDOR	6.213 m <sup>2</sup>	6.213 m <sup>2</sup>
E21	CORRIDOR	1.935 m <sup>2</sup>	1.935 m <sup>2</sup>
E22	CORRIDOR	5.508 m <sup>2</sup>	5.508 m <sup>2</sup>
		15.915 m <sup>2</sup>	15.915 m <sup>2</sup>
<b>11 Non-structural prefabricated external wall</b>			
Eb1	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.423 m <sup>2</sup>	0.423 m <sup>2</sup>
Eb2	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.423 m <sup>2</sup>	0.423 m <sup>2</sup>
Eb3	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.423 m <sup>2</sup>	0.423 m <sup>2</sup>
Eb4	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.423 m <sup>2</sup>	0.423 m <sup>2</sup>
Eb5	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.423 m <sup>2</sup>	0.423 m <sup>2</sup>
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Eb13	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.795 m <sup>2</sup>	0.795 m <sup>2</sup>
Eb14	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.795 m <sup>2</sup>	0.795 m <sup>2</sup>
Eb15	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.795 m <sup>2</sup>	0.795 m <sup>2</sup>
Eb16	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.795 m <sup>2</sup>	0.795 m <sup>2</sup>
Eb17	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.795 m <sup>2</sup>	0.795 m <sup>2</sup>
Eb18	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.795 m <sup>2</sup>	0.795 m <sup>2</sup>
Ec1	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>	0.188 m <sup>2</sup>
Ec2	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>	0.188 m <sup>2</sup>
Ec3	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>	0.188 m <sup>2</sup>
Ec4	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>	0.188 m <sup>2</sup>
Ec5	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>	0.188 m <sup>2</sup>
Ec6	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>	0.188 m <sup>2</sup>
Ec7	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>	0.188 m <sup>2</sup>
Ec8	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>	0.188 m <sup>2</sup>
Ec9	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>	0.188 m <sup>2</sup>
Ec10	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.188 m <sup>2</sup>	0.188 m <sup>2</sup>
Ec11	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.215 m <sup>2</sup>	0.215 m <sup>2</sup>
Ec12	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.215 m <sup>2</sup>	0.215 m <sup>2</sup>
Ec13	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.403 m <sup>2</sup>	0.403 m <sup>2</sup>
Ec14	NON-STRUCTURAL PREFABRICATED EXTERNAL WALL	0.403 m <sup>2</sup>	0.403 m <sup>2</sup>
		13.310 m <sup>2</sup>	13.308 m <sup>2</sup>
<b>18 Larger lift shaft:</b>			
E28	EXEMPED LIFT SHAFT AREA PER FLOOR	7.431 m <sup>2</sup>	7.431 m <sup>2</sup>
		7.431 m <sup>2</sup>	7.431 m <sup>2</sup>
SUB TOTAL OF NON-ACCOUNTABLE GFA:		36.856 m <sup>2</sup>	36.652 m <sup>2</sup>

Step 9

True values from BIM model.

### 3 REFERENCE

- This document is in line with Guidelines for Using Building Information Modelling in General Building Plans Submission 2019 issued by Buildings Department (BD)
- This includes “BIM File Submission Requirements” and “Specification for Native File” which form the major parts of BD Guidelines. For example, required unit, measurement, colour code system, 3D model, essential views and schedules etc. adopted in this document are in line with BD Guidelines.
- Please note that HA have their own file naming convention for BIM files with specific sheet name and drawing title block. Also, HA adopt cloud instead of blue dotted line and coloring for GBP amendment. Users for HA Projects should follow the guidelines stated in relevant parts of the Housing Authority Building Information Modelling Standards and Guidelines (HABIMSG). Users for non-HA project should follow their own practice.
- It is understood that as there are software limitations on presentation format/style of BIM schedules which may not be fully aligned with the required format promulgated in the BD’s BIM guidelines. Users are reminded to exercise professional judgement when adopting the BIM based format to ensure that the essential information are clear and logically presented to the approval authority’s satisfaction.
- The only minor deviations, are the file naming and drawing number standard. They are in line with Housing Authority Building Information Modelling Standards and Guidelines Version 2.0. Follow up will be made to study if the standard can be aligned with BD Guidelines.
- This document is in line with BIM Standards of Statutory Plan Submission issued by Construction Industry Council for sections related to Superstructure and Foundation Plan Submission. This includes “BIM model general requirements”, “BIM model submission requirements”, “statutory plan specific requirements”, and “Revit User Guide” which form the major parts of CIC BIM Standards. For example, required unit, measurement, drawings, notes and essential information of 3D model etc. adopted in this document are in line with CIC Standards.
- Approach to minimize the use of manual-editing works adopted in this document are also in line with CIC Standards. This includes concept of providing essential information for 3D model, the use of “tag” and “schedule” for automatic presentation of provided information on 2D drawings.
- The only minor deviations, are the graphic standard adopted in the template files. This includes use of line width, & format of “tag” and “schedule”. Graphic standard adopted in this project are in line with Housing Authority Building Information Modelling Standards and Guidelines Version 2.0.

# 4 GETTING START

## 4 GETTING START

- Key objective of this document, is to minimize manual-editing works during production of 2D drawings for BIM Statutory and Building Control Submission. This section provides a high level strategy on how can this objective be achieved
- A drawing is composed of two types of elements:
  - Graphical line works;
  - Annotations
- Majority of graphical line works and annotation can be generated automatically from a “proper 3D model”
- BIM standard, is to quantify definition of “proper 3D model”
- BIM guideline illustrates how the BIM standard can be achieved

# 4 GETTING START

## 4 Wall - Create

1 Taking “wall” as an example, properties highlighted in blue are its essential parameters, which must be provided properly to facilitate direct generation of 2D drawing. These highlighted properties are the BIM standard.

1 select draw line / pick line

2 select type, confirm material and thickness

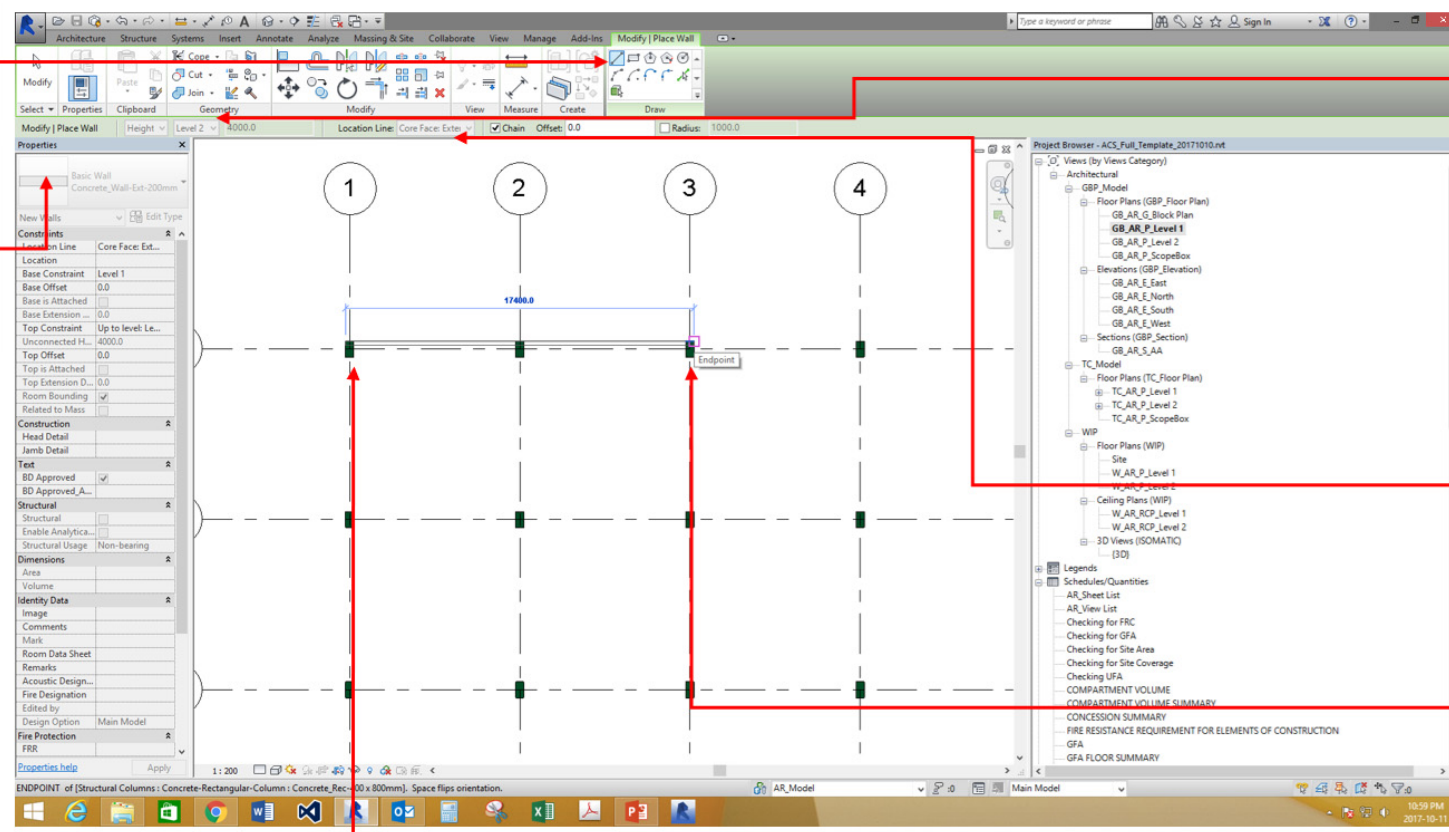
3 Confirm top level, or select “unconnected” then confirm number on the right, which is wall height

4 use core face for location line for most cases

5 pick first point

6 pick second point

2 to achieve the standard, follow the numeric sequence, then click the button/area pointed by red arrow. These are BIM guidelines



## 4 GETTING START

- Annotations of 2D drawing should be presented by BIM “Tag” & “Schedule” as much as practical. Textural content of these functions are dynamically linked to the 3D model.
- Guidelines to insert “Tag” & “Schedule” are included in this document
- “Tag” & “Schedule” which are universally applicable in Hong Kong are prepared under BIM template file. Guidelines of using the template are also included in this document.

## 4 GETTING START

- This document is composed of 6 main sections, in particular,
  - Section 4 – project setup. It provides essential guideline to setup a project before modelling. E.g., setting up of coordinate, site map, level & grid etc.
  - Section 5 – Modelling Standards & Guidelines. It is subdivided into 4 parts. For contents such as wall and floor which are universally applicable to both General Building Plan, Superstructure Plan & Foundation Plan, they are included under Section 5.1 General Modelling. For contents which are specific to one of above Statutory and Building Control Submissions only, they are included under their specific parts. Section 5.2, 5.3, & 5.4 provides contents specific for General Building Plan, Superstructure Plan & Foundation Plan respectively.

## 4 GETTING START

- Section 6 – Drawing Production Guidelines. For contents such as insertion of automatic “tag” & schedule” which are universally applicable to both General Building Plan, Superstructure Plan & Foundation Plan, they are included under Section 6.1 General Modelling. For contents which are specific to General Building Plan, they are included under Section 6.2, it includes guideline to overlay previous approved drawings, & guideline to highlight changes in colour. Section 6.4 provides contents specific for Superstructure Plan & Foundation Plan, it includes guideline to highlight changes by cloud. Section 6.3 & 6.5 also include guidelines for using the template. As full elimination of manual-editing works are NOT feasible, Section 6.1 also includes guidelines of manual-editing tools, these includes creation of line, manual text, filled and masking region.



## 4 GETTING START

- Order of this document follows workflow of how a building professional develop BIM model in general. Please follow the order to develop the BIM model and produce the statutory and building control submission.
- For Section 5 & 6, as guidelines of common topic are grouped, building professionals are required to make cross reference between general section and discipline specific sections.

## 4 GETTING START

- Standards, Guidelines, required knowledge of using BIM and provided template to produce statutory and building control submissions are all included in this document. BIM Objects that are commonly required for a typical Subsidized Residential BIM Projects are also provided. Nevertheless, users are always required to develop BIM Objects to suit their own project requirements. Guideline to develop BIM Objects are provided in this guideline. All templates and BIM Objects are developed according to Housing BIM Standard.
- For projects under Housing Authority, users should develop the model according to Housing BIM Standard. For private projects, users can follow your own project standards.

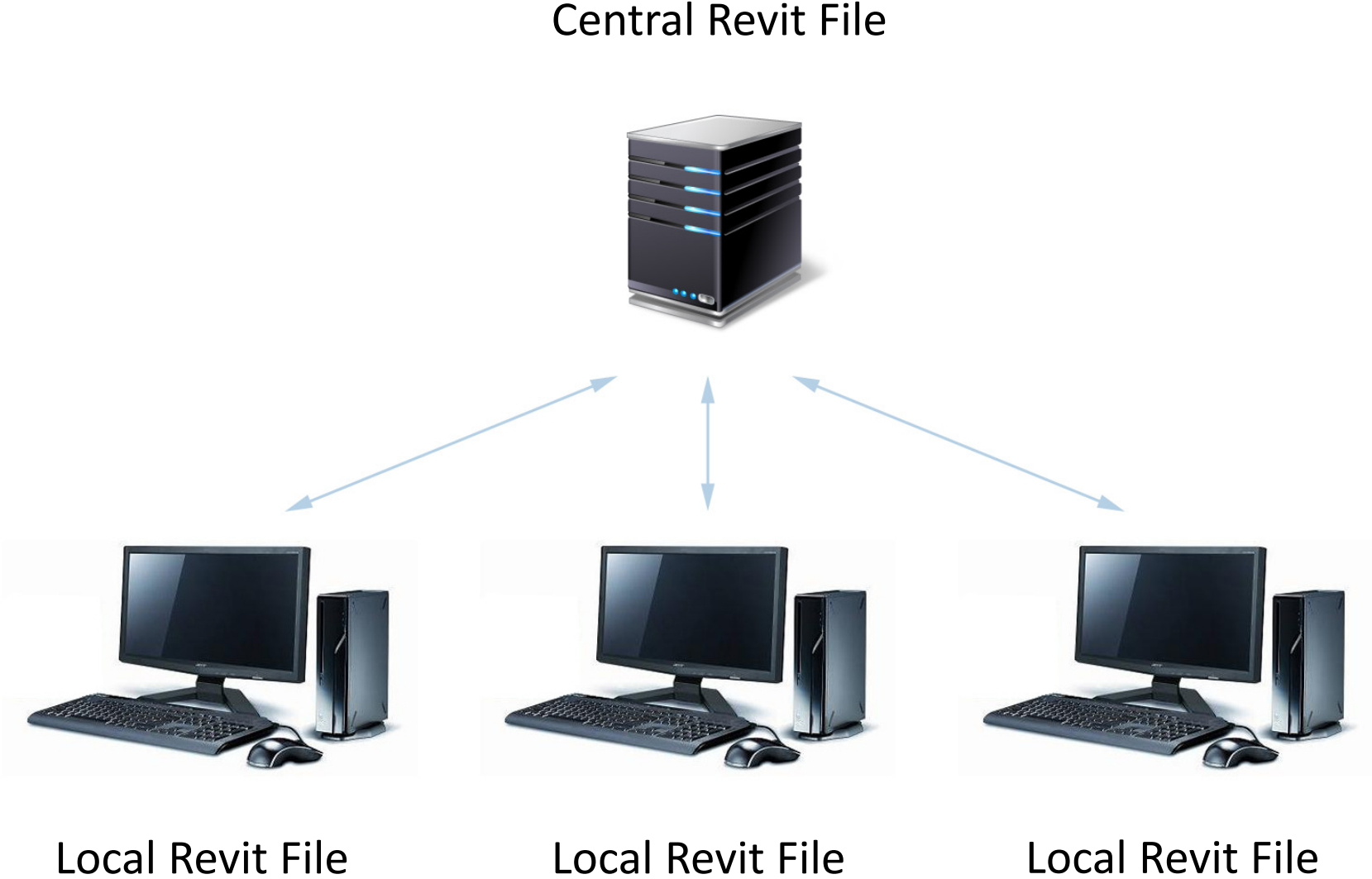
## 4 GETTING START

- Before you start, please download architecture/structure template and BIM objects from <https://www.hb.gov.hk/icu/eng/bim/index.html>.

## 4.1 CREATE NEW PROJECT

- Revit allows users to edit same file simultaneously.
- To prevent conflicts from different users. When an object is being edited by user A, software will assign edit right of such object to user A only. If user B wants to edit same object, the software will stop user B. The software will ask if user A wants to relinquish the edit right. If answer is yes, then user B can edit the object. This mechanism prevents ambiguity when same file is edited by multi-users
- This system requires setup of Central file, which is normally located in server, and separate local files, which are normally located in each users' workstations.
- The following pages will illustrate how to setup Central and Local files.

# 4.1 CREATE NEW PROJECT



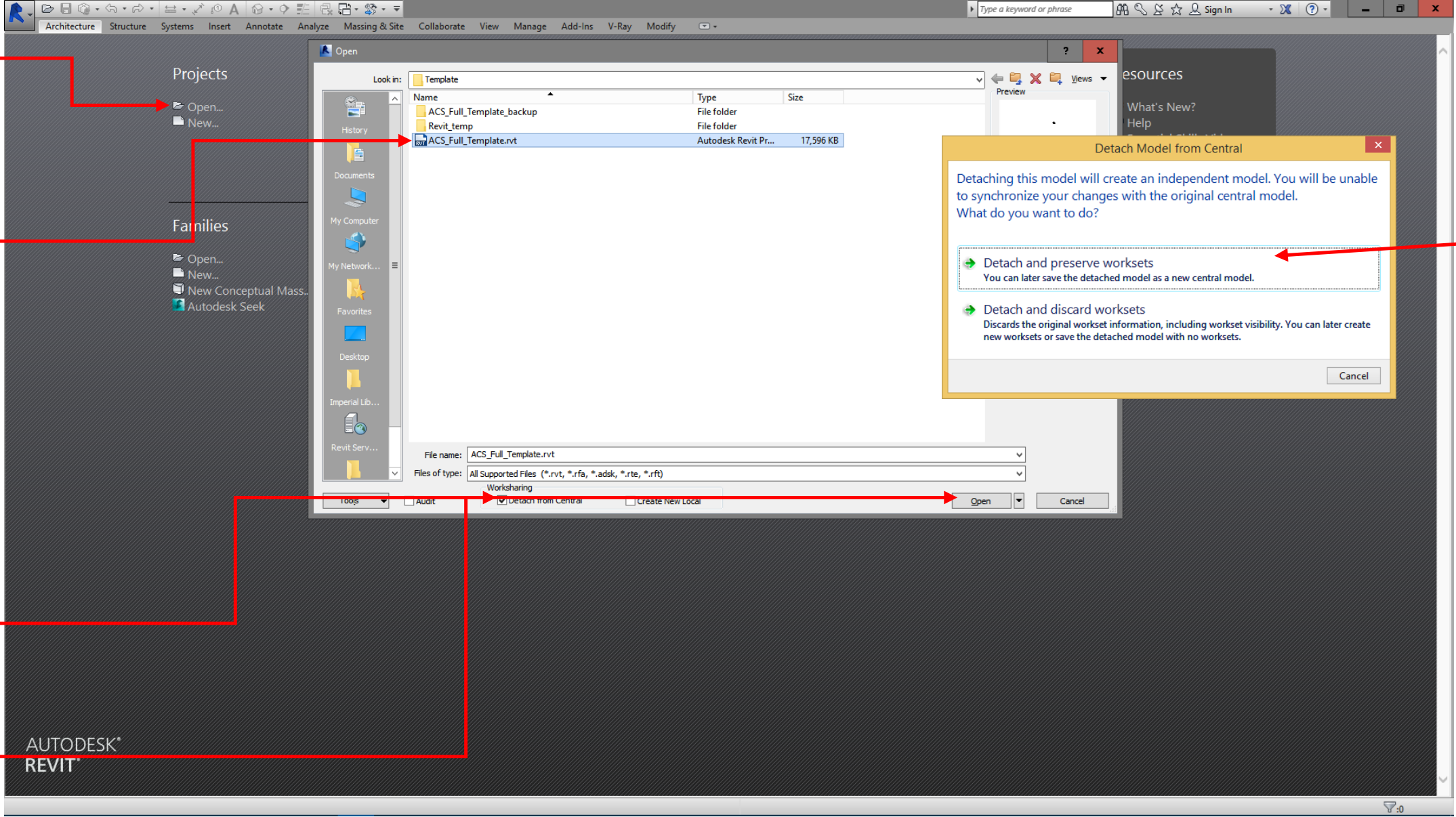
# 4.2 CREATE NEW PROJECT CENTRAL FILE

1 Click "Open"

2 Select Template file

3 Detach

4 Click "Open"



5 Click "Detach and preserve worksets"

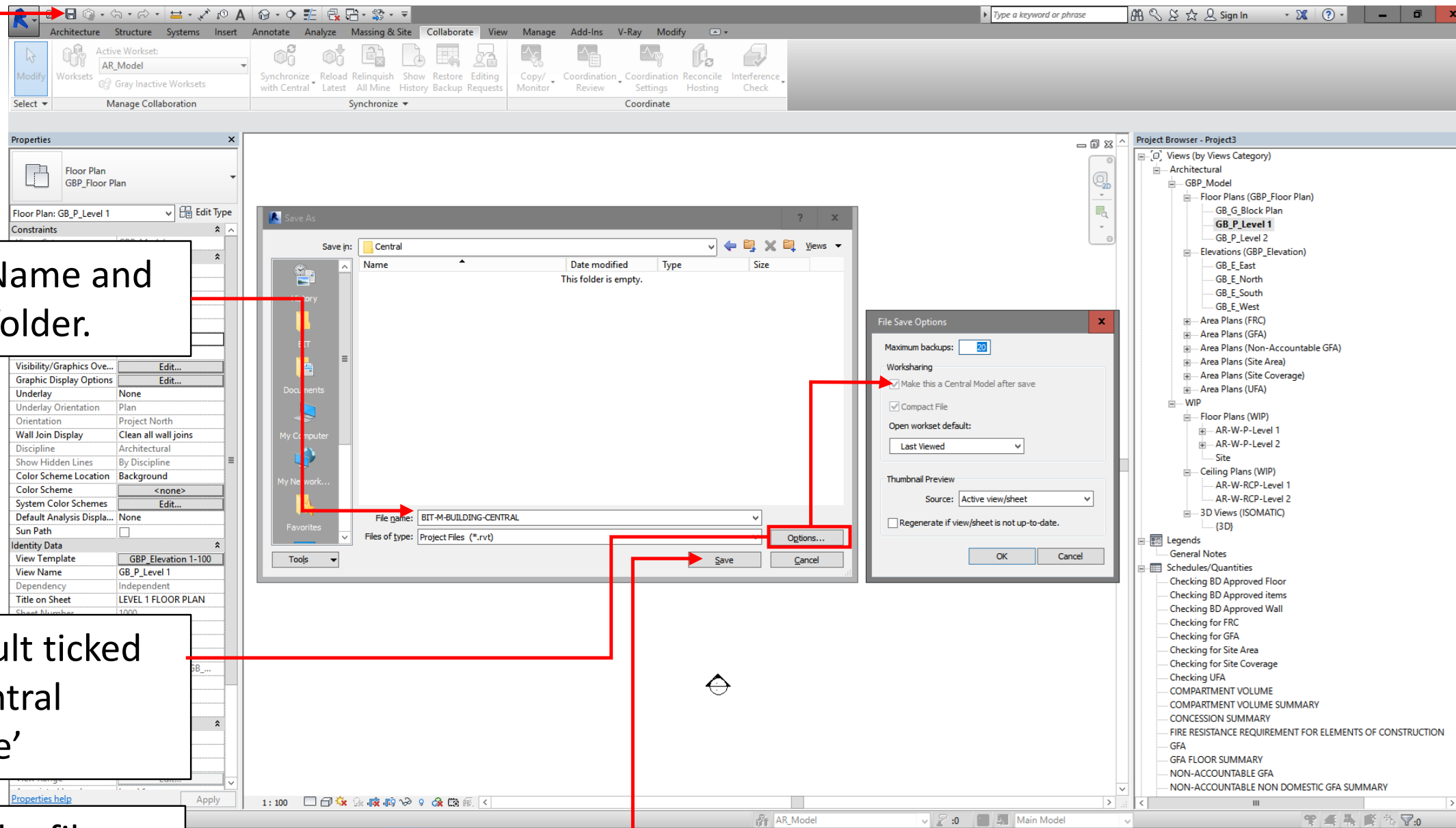
## 4.2 CREATE NEW PROJECT CENTRAL FILE

1 Save  
(Ctrl + S)

2 Type the File Name and  
Save in Central folder.

3 Options, Default ticked  
'Make this a Central  
Model after save'

4 Save & Close the file





## 4.3 CREATE NEW PROJECT LOCAL FILE

1 Click "Open"

2 Default 'Create the Local', Automatic save to your own PC

3 From now on ALWAYS open local file for editing.

4 Note, starting from Revit 2020, the software is enhanced, user can simply select the central file and they will always be transferred to local file for editing.

AUTODESK  
REVIT



# 4.4 SOFTWARE USER INTERFACE INTRODUCTION

The image shows a screenshot of the Revit software interface with several callout boxes pointing to specific UI elements:

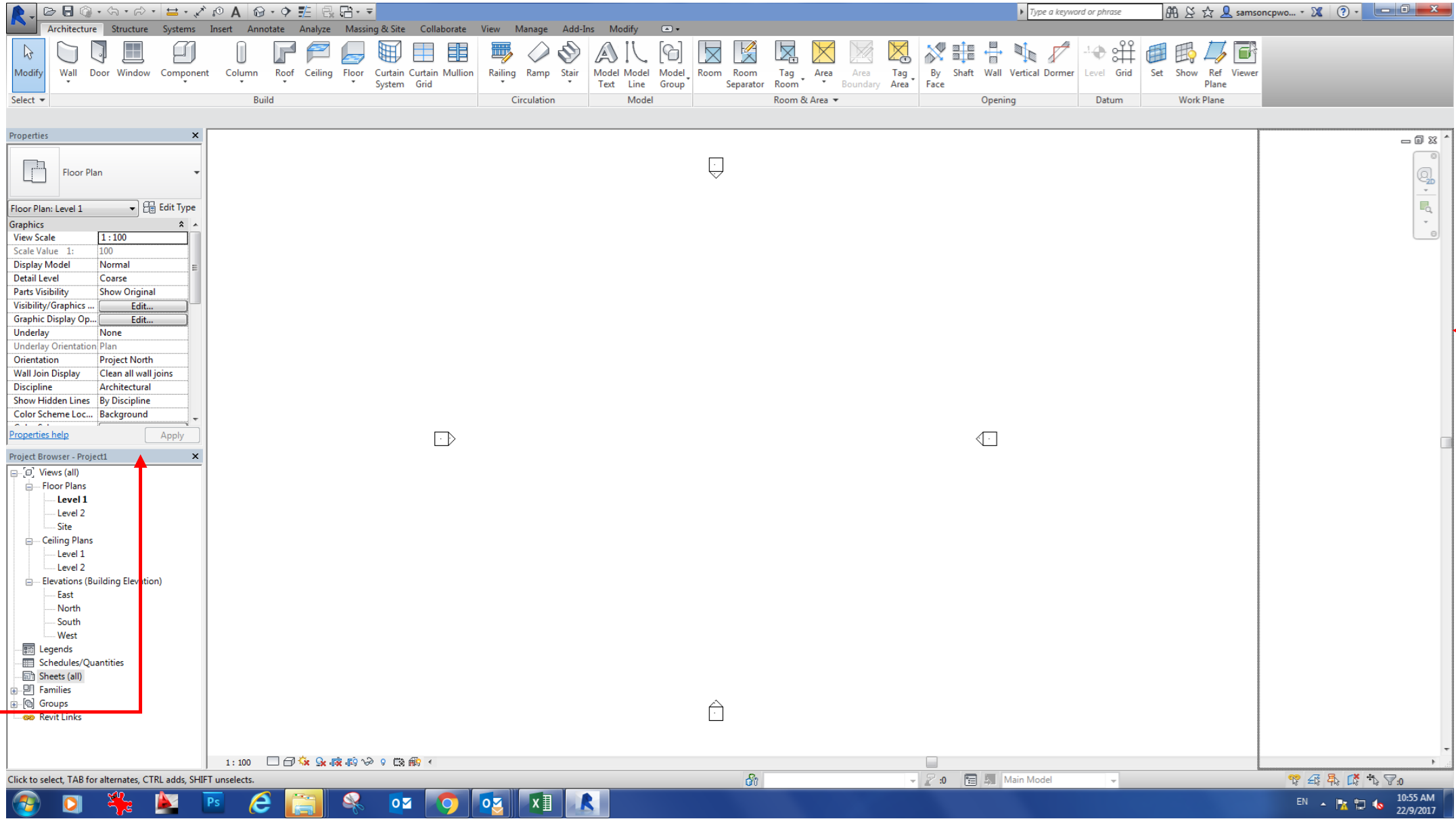
- Quick Bar stores frequently used commands**: Points to the top ribbon area.
- Command**: Points to the 'Modify | Place Wall' ribbon tab.
- Command options**: Points to the 'Height' dropdown menu.
- Properties**: Points to the Properties panel on the left.
- Project Browser**: Points to the Project Browser on the left.
- Drawing Scale**: Points to the scale indicator '1:100' at the bottom.
- Help**: Points to the Help icon in the top right corner.
- Navigation Bar: Zoom, Pan**: Points to the navigation icons on the right side.

# 4.5 SOFTWARE USER INTERFACE BASIC CUSTOMIZATION

1 Default setting of project browser is short which is inconvenient for browsing. It is suggested to increase its height by relocation.

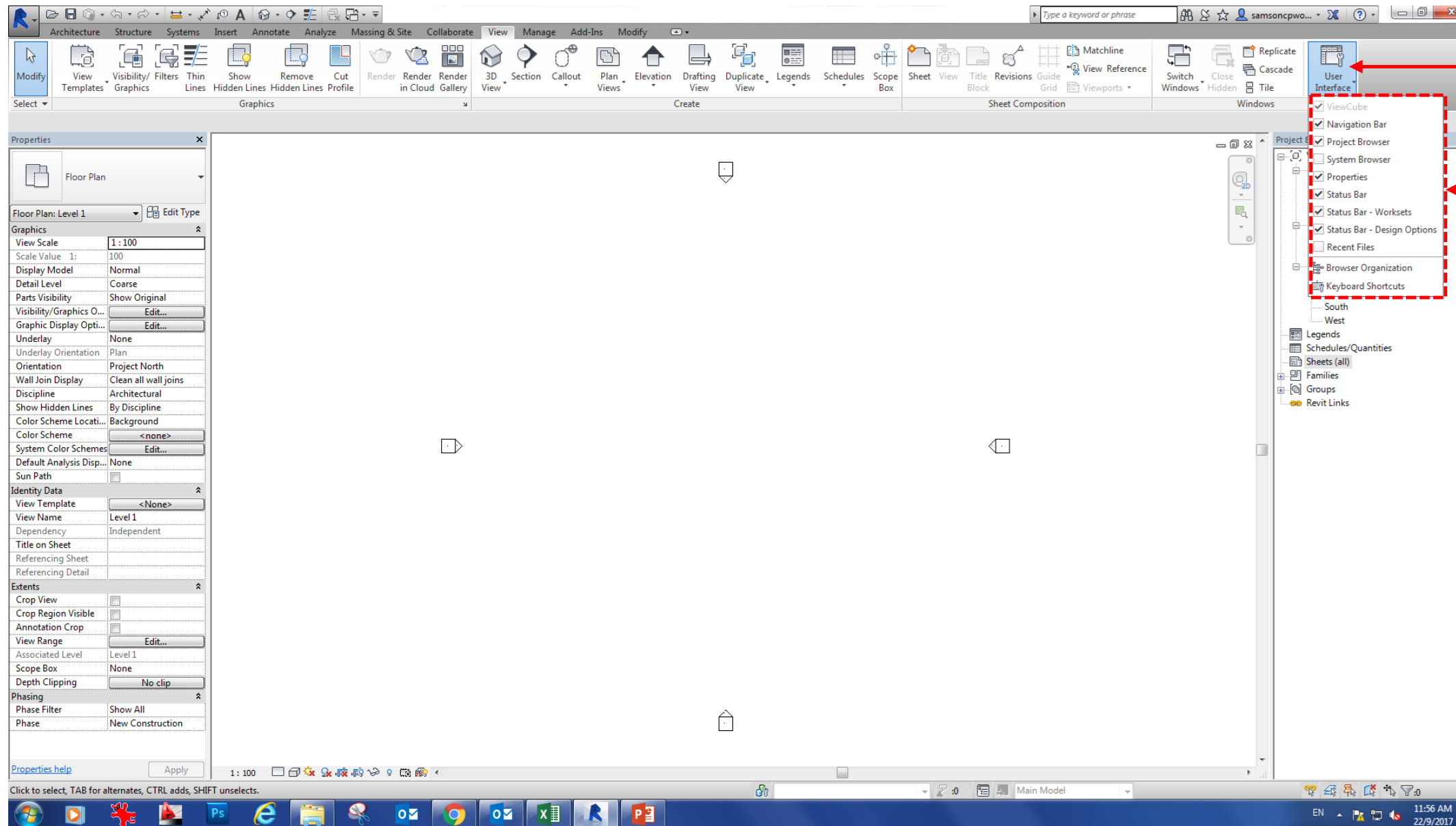
2 Click, press, then drag

3 Drag to here



## 4.6 SOFTWARE USER INTERFACE USER INTERFACE VISIBILITY CONTROL

1 Properties Window and Project Browser are the two essential user interfaces for software operation. If they become invisible then follows this step to turn them on.



2 Click User Interface

3 Turn on and off

## **4.7 SETTING UP OF:**

### **4.7.1 Coordinate and Site Plan**

- Two methods are provided for inserting CAD site plan to Revit
- Both methods ensure that the site map will be located accurately without the need to adjust its position after inserting.
- The first method is a lot simpler. But it only supports accurate insertion of one CAD file, position of all remaining CAD file must be adjusted manually after insertion.
- The second method is more complicated. It supports accurate insertion of multiple CAD files.

## **4.7 SETTING UP OF:**

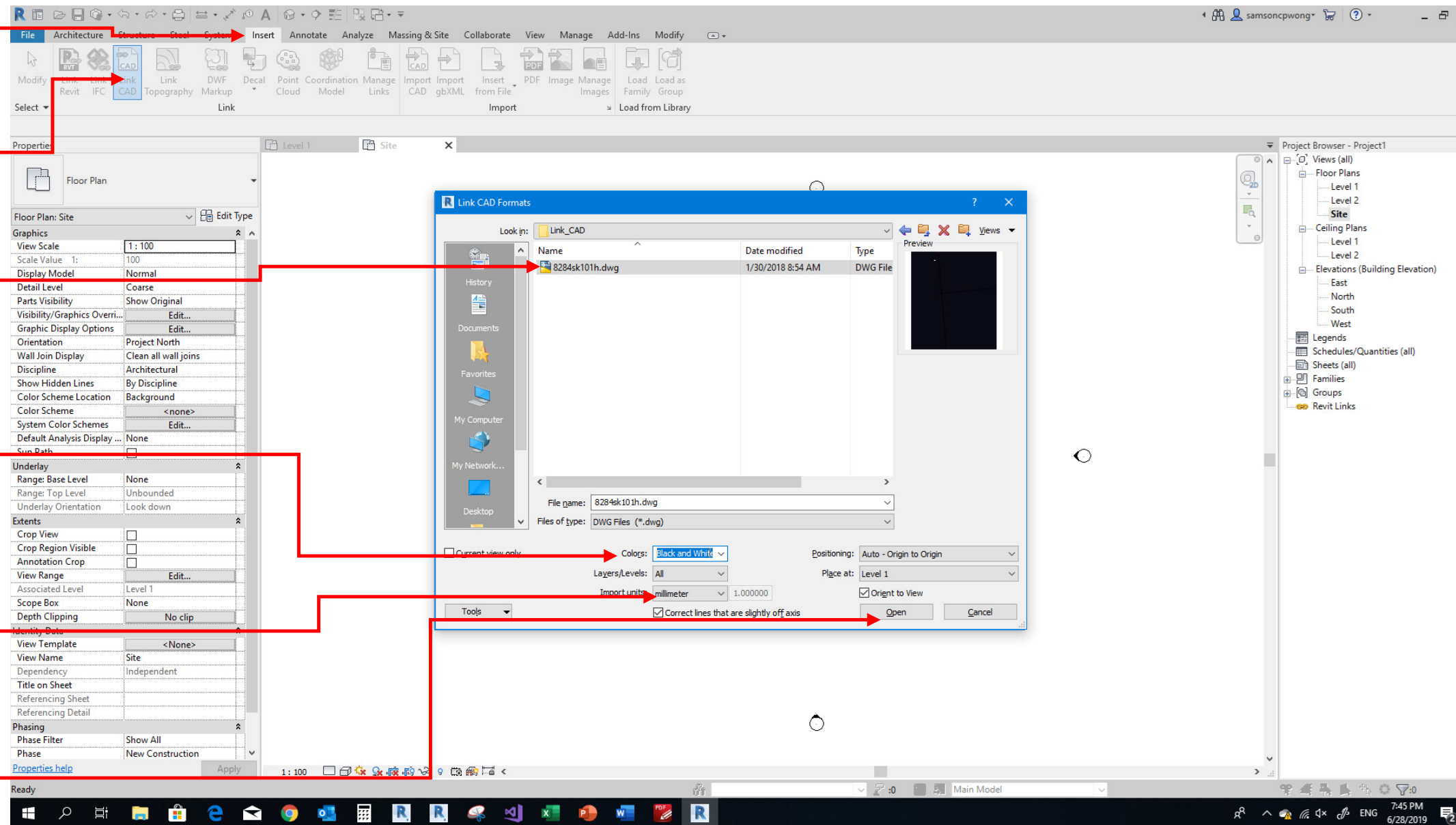
### **4.7.1 Coordinate and Site Plan**

- For both methods, CAD file must be tuned before insertion, otherwise it can cause Revit malfunctions.
- Elements too far away from site should be thoroughly deleted in CAD. As according to Autodesk, Revit can only handle extent of 20 miles (~33km)
- All block in CAD should be thoroughly exploded. As a block can have element too far away from its insertion point.

## 4.7 SETTING UP OF:

### 4.7.2 Coordinate and Site Plan – Option 1 – Support Single CAD File Accurate Positioning

- 1 Click "Insert"
- 2 Click "Link CAD"
- 3 Select CAD file
- 4 Select "Black and White"
- 5 Select "millimeter"
- 6 Click "Open"



## 4.7 SETTING UP OF:

### 4.7.2 Coordinate and Site Plan – Option 1 – Support Single CAD File Accurate Positioning

1 Click “Manage”

2 Click “Coordinates”

3 Click “Acquire Coordinates”

4 Pick CAD

The screenshot displays the Revit software interface with the following elements:

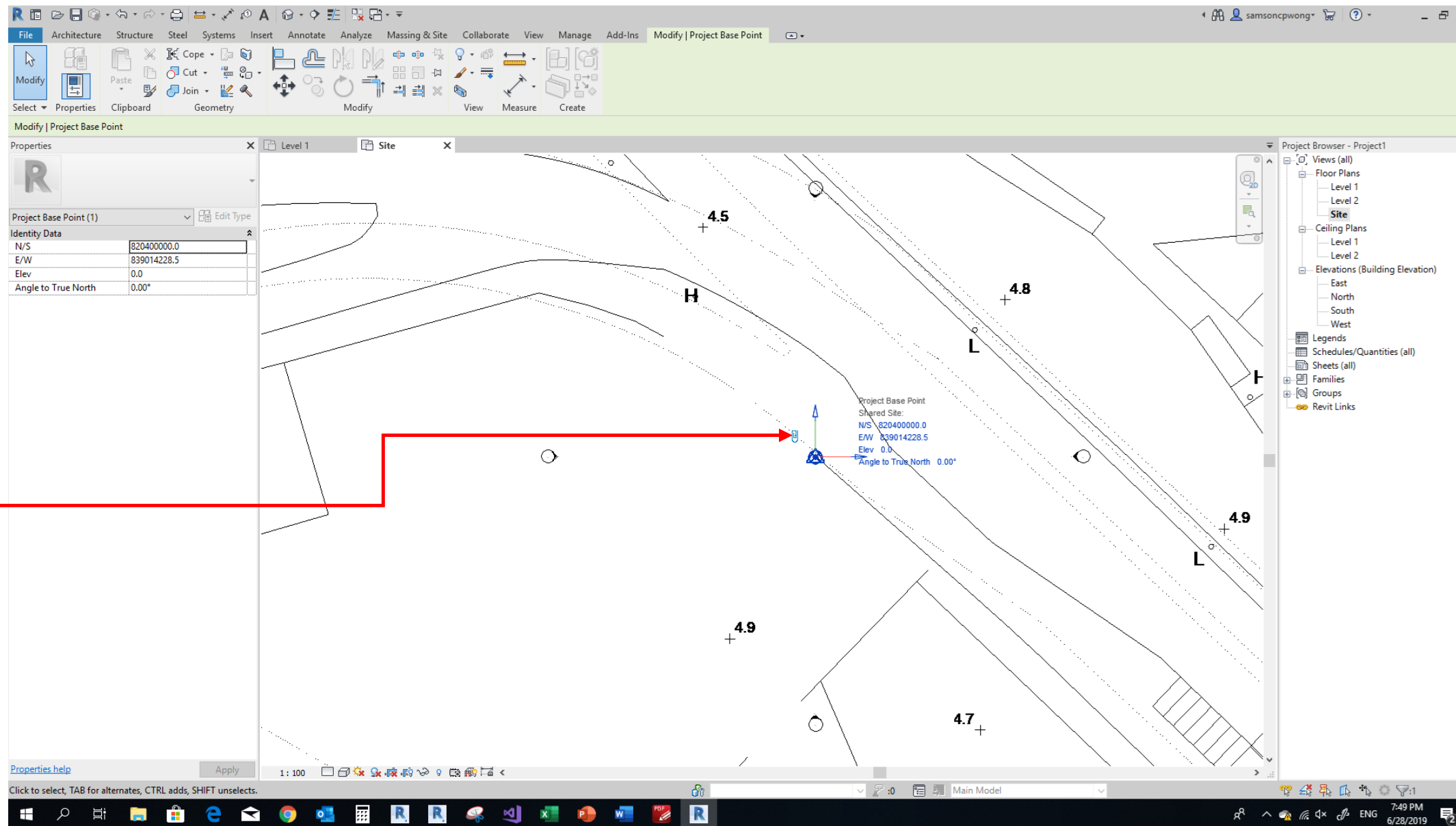
- Top Ribbon:** The 'Manage' tab is active, and the 'Coordinates' panel is expanded, showing the 'Acquire Coordinates' button.
- Properties Panel:** The 'Site' view is selected, and the 'Acquire Coordinates' dialog box is open, showing options for 'Coordinates' and 'Coordinates at Point'.
- Main View:** A site plan view is shown with various annotations and levels (e.g., 4.5, 4.7, 4.8, 4.9).
- Project Browser:** The 'Site' view is highlighted in the Project Browser on the right.



## 4.7 SETTING UP OF:

### 4.7.2 Coordinate and Site Plan – Option 1 – Support Single CAD File Accurate Positioning

1 Select survey point, check if its coordinate is updated



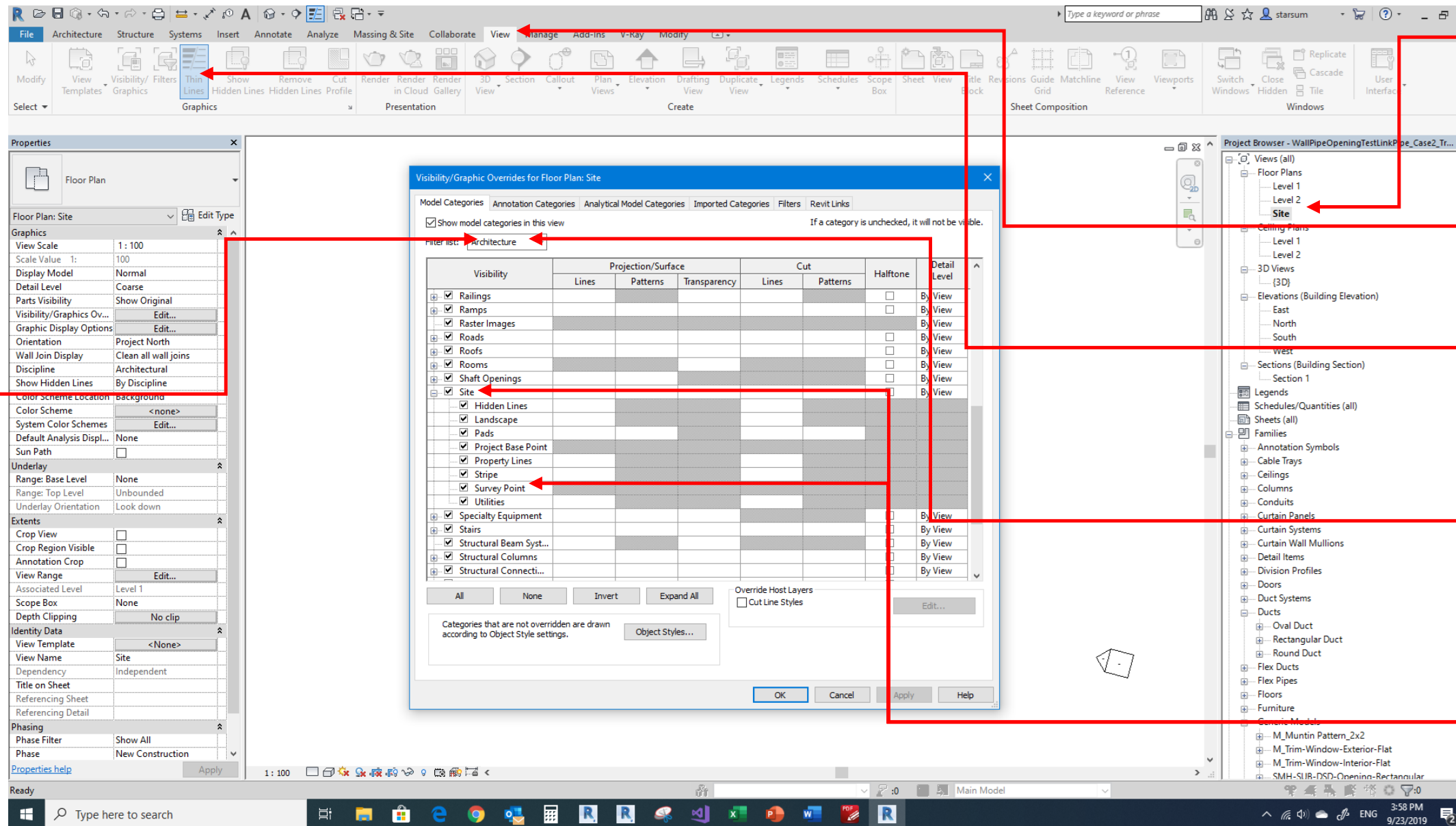
2 By default, survey point can be found under "Site" floor plan.



## 4.7 SETTING UP OF:

### 4.7.2 Coordinate and Site Plan – Option 1 – Support Single CAD File Accurate Positioning

1 Follow this page if you cannot find survey point



2 Select a Plan

3 Click View

4 Click Visibility/ Graphics

5 Ensure "Architecture" is checked

6 Ensure "Site" & "Survey Point" are checked

## 4.7 SETTING UP OF:

### 4.7.2 Coordinate and Site Plan – Option 1 – Support Single CAD File Accurate Positioning

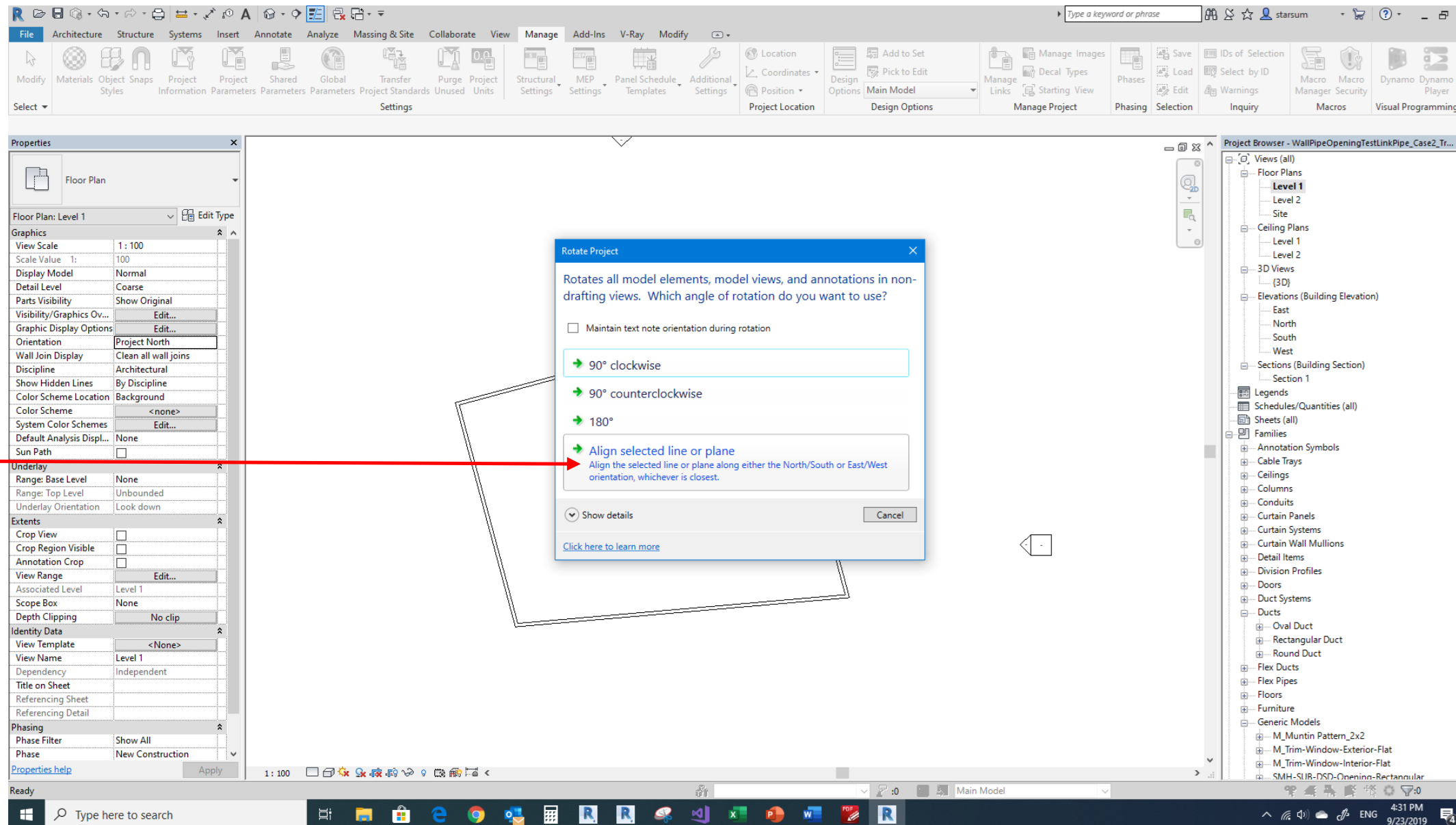
The screenshot shows the Revit software interface with the following elements and annotations:

- 1 Select a Plan:** A red arrow points from the instruction box to the 'Level 1' plan in the Project Browser on the right.
- 2 Switch to "Project North":** A red arrow points from the instruction box to the 'Orientation' dropdown menu in the Properties panel, which is currently set to 'Project North'.
- 3 Click "Manage":** A red arrow points from the instruction box to the 'Manage' tab on the ribbon.
- 4 Click "Position":** A red arrow points from the instruction box to the 'Position' button in the 'Additional Settings' panel on the ribbon.
- 5 Click "Rotate Project North":** A red arrow points from the instruction box to the 'Rotate Project North' option in the context menu that appears after clicking 'Position'.

The Properties panel on the left shows the 'Floor Plan: Level 1' settings, including View Scale (1:100), Display Model (Normal), and Orientation (Project North). The Project Browser on the right shows the hierarchy of views, including Level 1, Level 2, and Site.

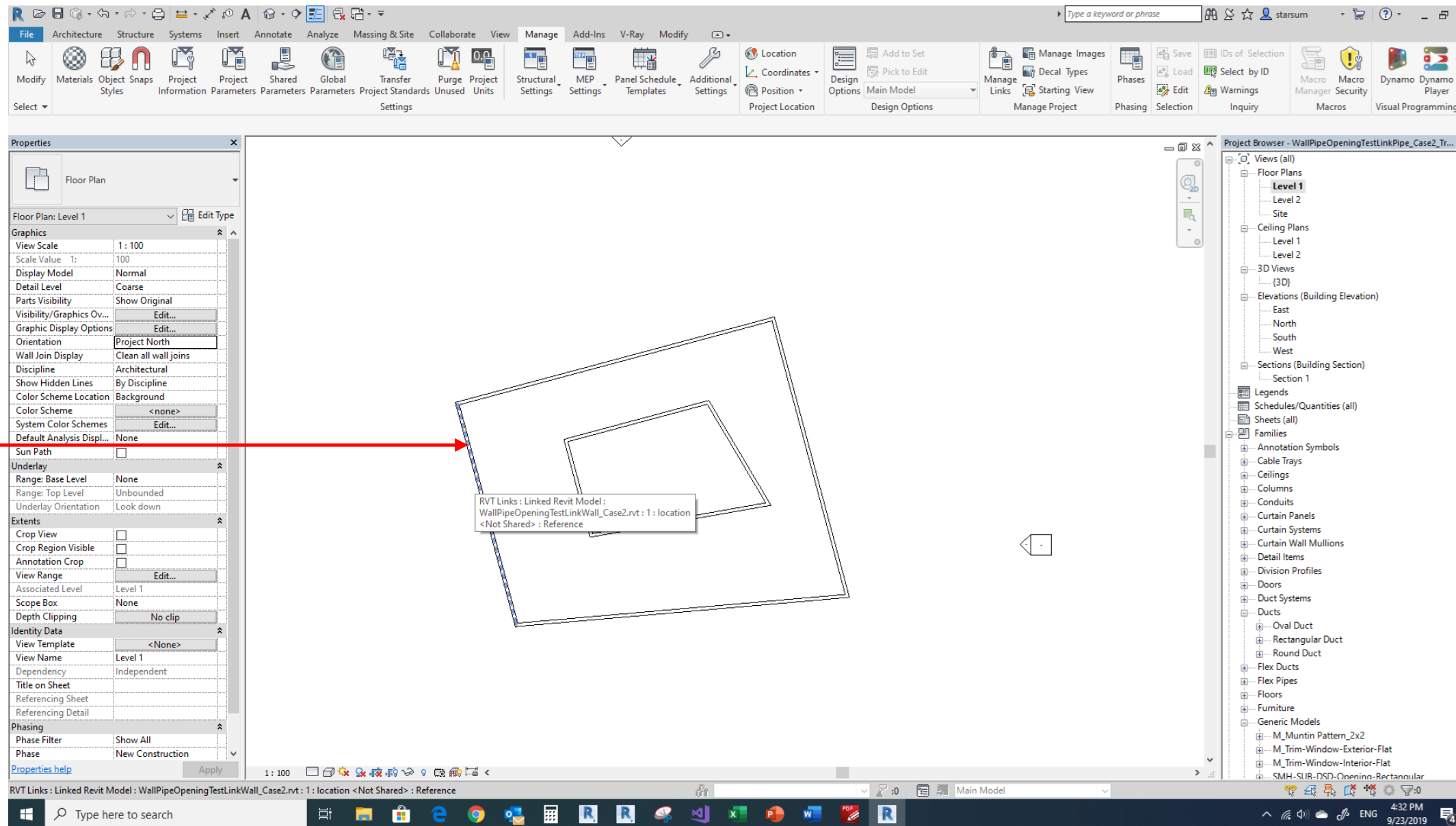
## 4.7 SETTING UP OF:

### 4.7.2 Coordinate and Site Plan – Option 1 – Support Single CAD File Accurate Positioning



## 4.7 SETTING UP OF:

### 4.7.2 Coordinate and Site Plan – Option 1 – Support Single CAD File Accurate Positioning



## 4.7 SETTING UP OF:

### 4.7.3 Coordinate and Site Plan – Option 2 – Support Multiple CAD Files Accurate Positioning

The screenshot displays the AutoCAD interface with a site plan. A circle is drawn on the plan, and its properties are shown in the Properties palette on the left. The angle of the circle is 31.74290335°. A north arrow is visible in the top right corner. The Properties palette shows the following values:

Property	Value
Center X	834570874.5951
Center Y	816228785.3350
Center Z	0.0000
Radius	4312.2892
Diameter	8624.5784
Circumference	27094.9120
Area	58420547.9030
Normal X	0.0000
Normal Y	0.0000
Normal Z	1.0000

Four callout boxes provide instructions:

- 1 Site Plan in CAD file with Co-ordinate
- 2 Select a Base point
- 3 True Co-ordinate  
Center X = East/West  
Center Y = North/South
- 4 Angle from Project North to True North



## 4.7 SETTING UP OF:

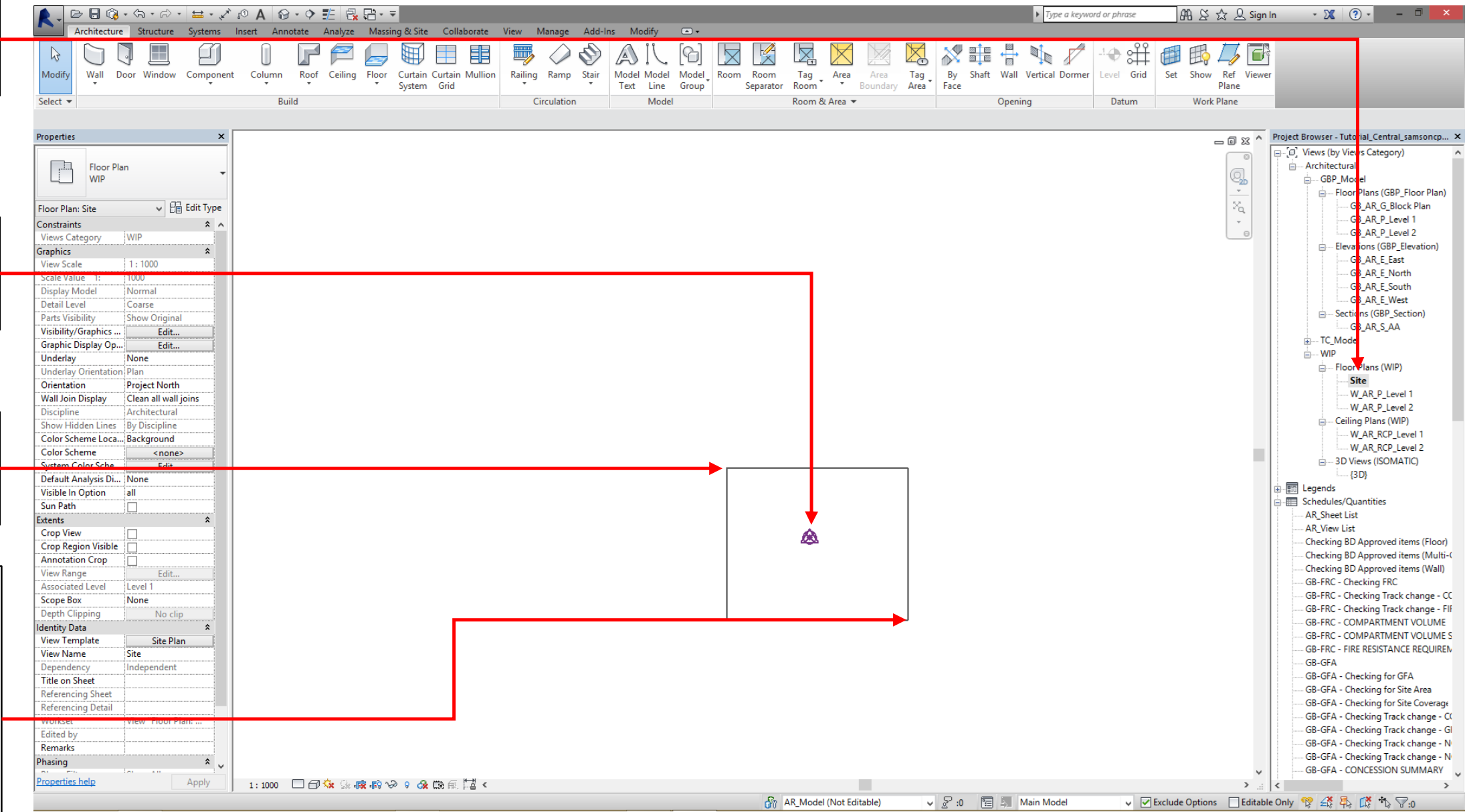
### 4.7.3 Coordinate and Site Plan – Option 2 – Support Multiple CAD Files Accurate Positioning

1 Go to Site Plan

2 Find this survey point

3 Left click on one point

4 Hold mouse button and drag to here to include the triangular point



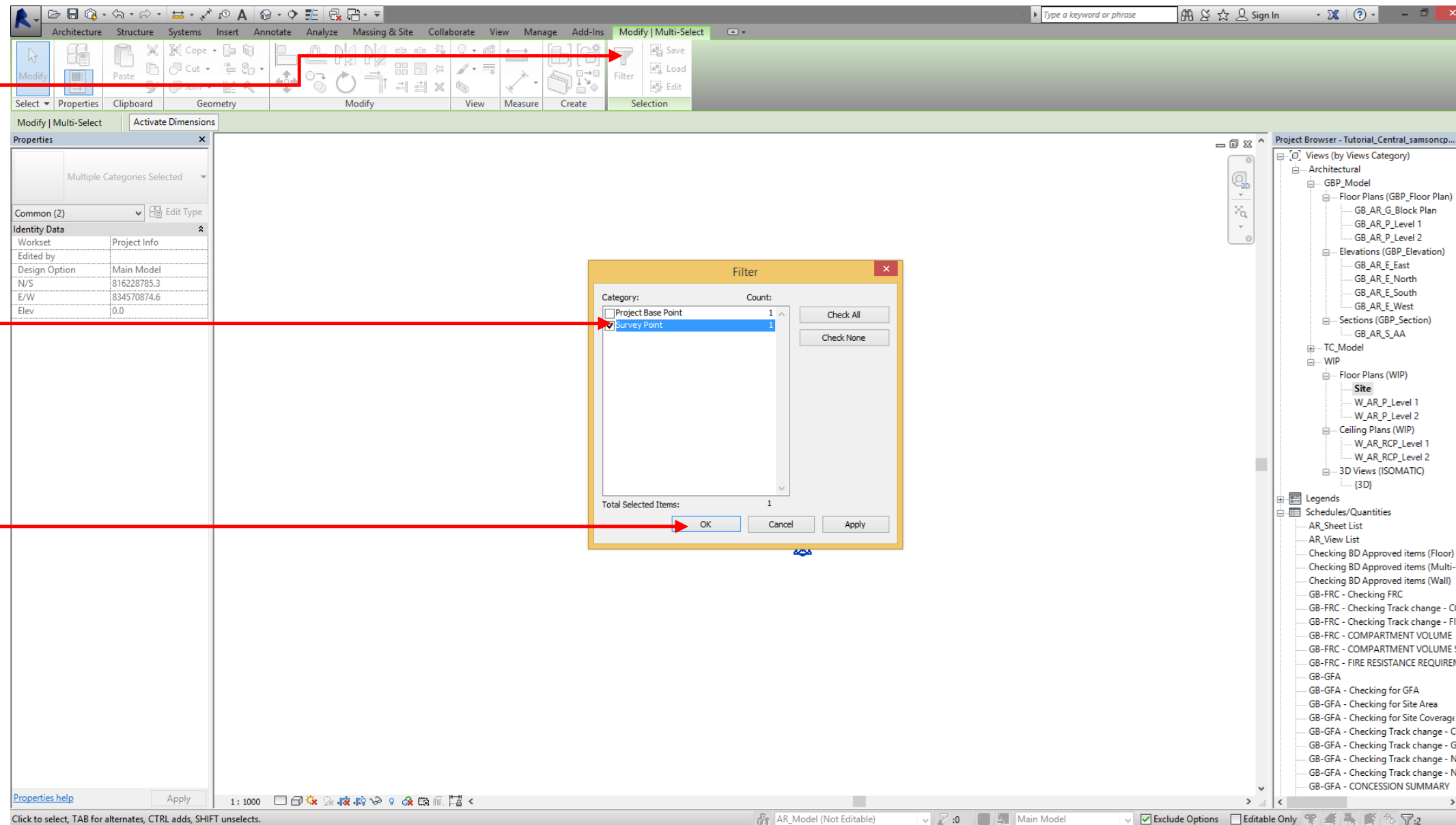
## 4.7 SETTING UP OF:

### 4.7.3 Coordinate and Site Plan – Option 2 – Support Multiple CAD Files Accurate Positioning

1 Click  
“Filter”

2 Select  
Survey Point

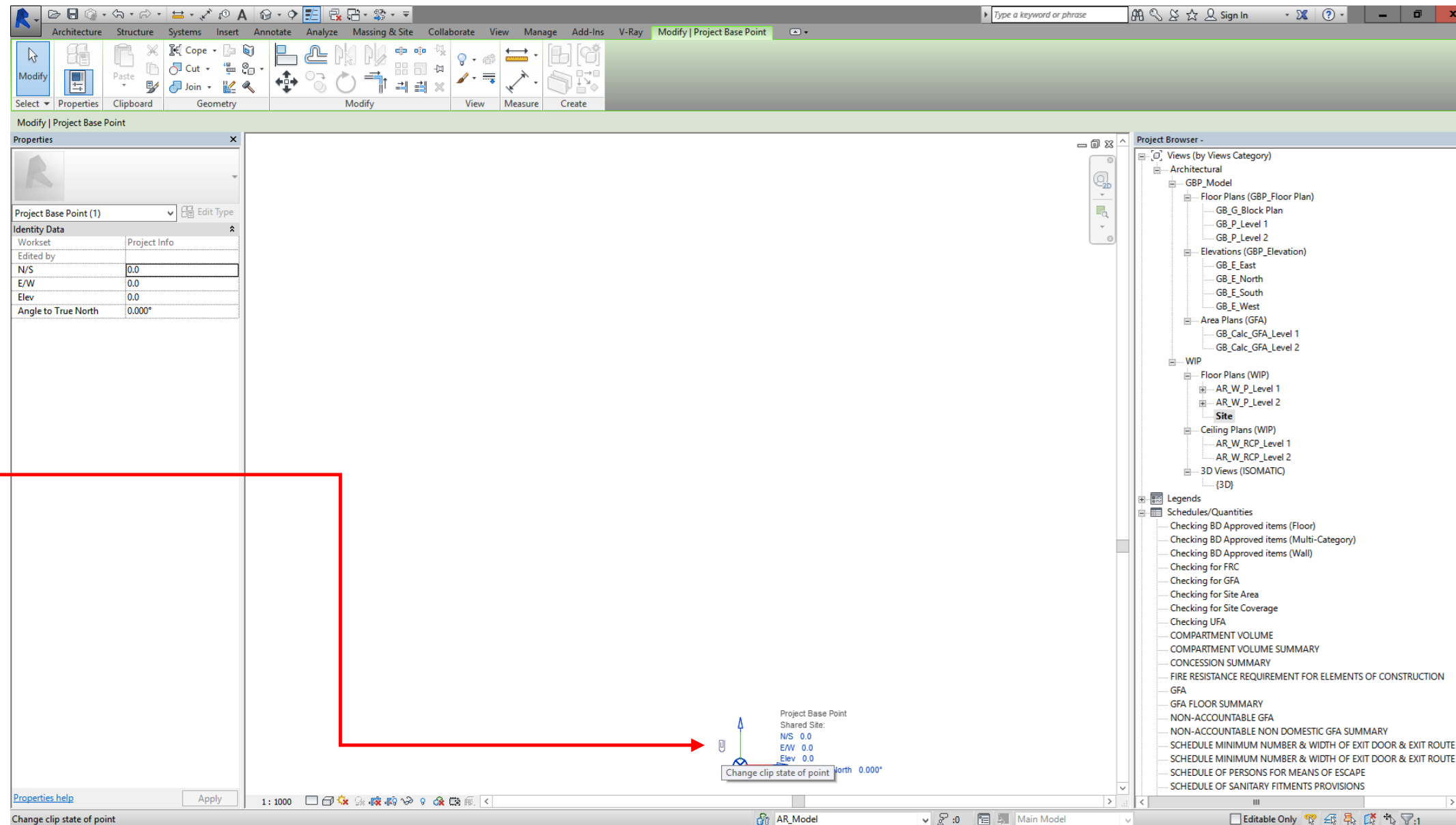
3 Click “OK”



## 4.7 SETTING UP OF:

### 4.7.3 Coordinate and Site Plan – Option 2 – Support Multiple CAD Files Accurate Positioning

1 Click the Clip to turn on a red line over the clip. This enables “survey point” to be moved together with “base point”. This is important to prevent Revit malfunction.





## 4.7 SETTING UP OF:

### 4.7.3 Coordinate and Site Plan – Option 2 – Support Multiple CAD Files Accurate Positioning

1 Click "Manage"

2 Click "Coordinates"

3 Click "Specify Coordinate at Project Survey Point"

4 Specify Coordinate at Project Survey Point

5 Fill the information from CAD file of Site Plan

The screenshot shows the Revit software interface with the 'Specify Shared Coordinates' dialog box open. The dialog box contains the following information:

Relocate this project in Shared Coordinates by specifying known values at the point you selected. Current project will move relative to globally positioned links.

New Coordinates

East/West: 834570874.6

North/South: 816228785.3

Elevation: 0.0

Angle from Project North to True North

31° 44' 34"

West (selected)

East

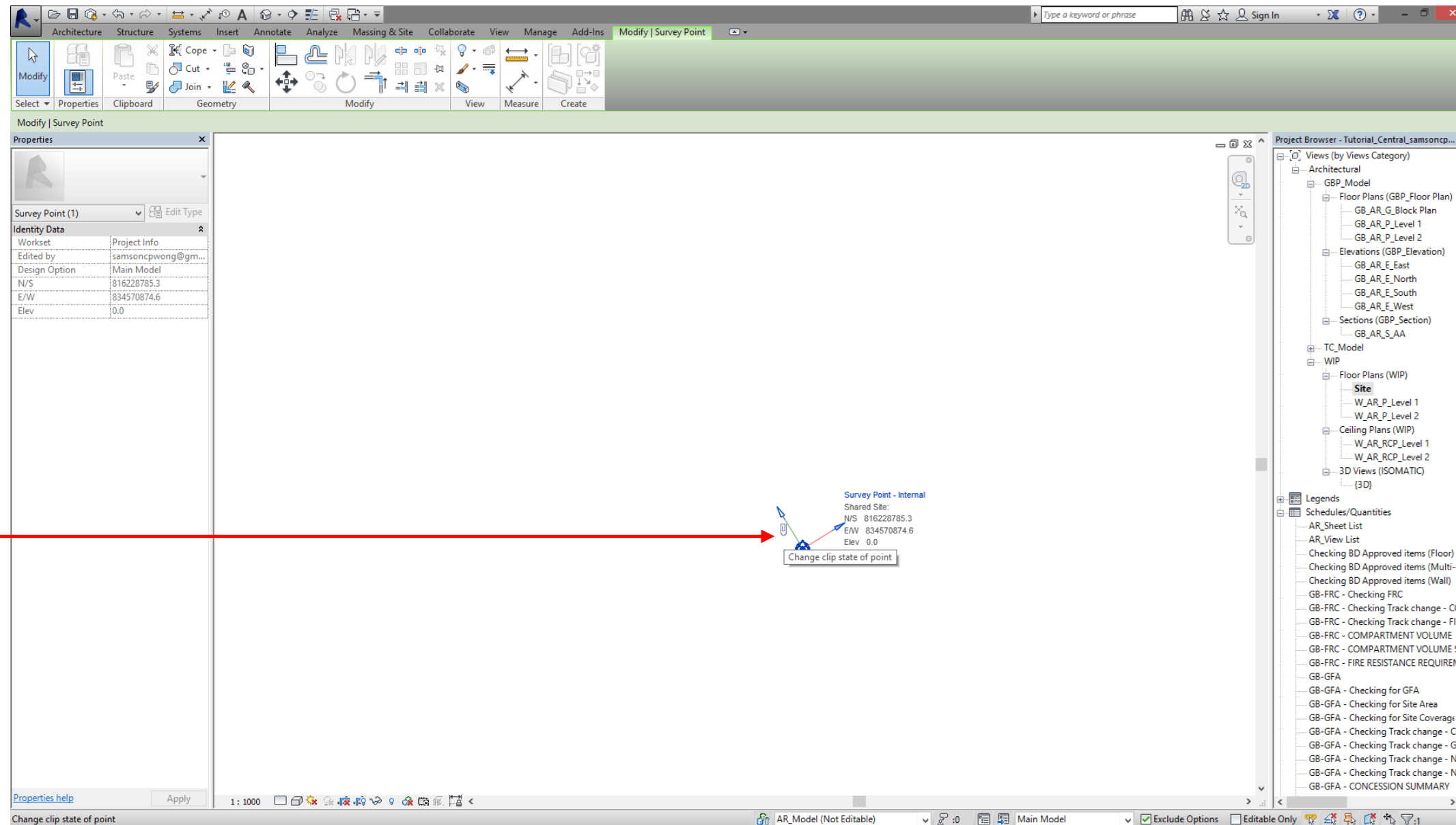
West

OK Cancel

## 4.7 SETTING UP OF:

### 4.7.3 Coordinate and Site Plan – Option 2 – Support Multiple CAD Files Accurate Positioning

1 Select survey point and click the clip again to turn off the red line



## 4.7 SETTING UP OF:

### 4.7.3 Coordinate and Site Plan – Option 2 – Support Multiple CAD Files Accurate Positioning

1 Click "DWG"

2 Click [...]

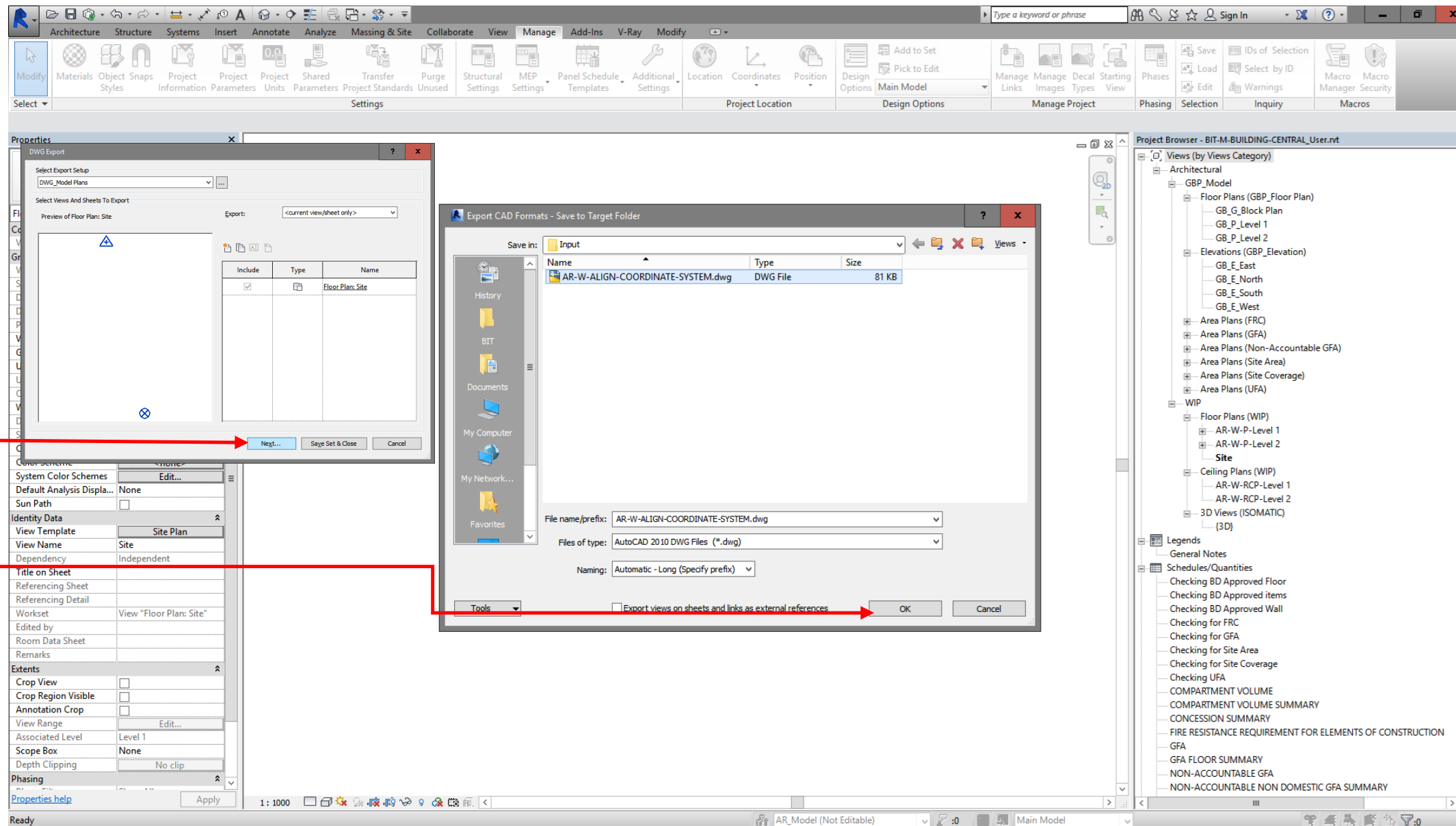
3 Tick 'Shared' in DWG Export Setup

The screenshot shows the Revit software interface with the following elements:

- Export Menu:** A list of export options including CAD Formats, DWG, DXF, DGN, ACIS (SAT), FBX, Family Types, gbXML, Mass Model gbXML, IFC, ODBC Database, and Images and Animations.
- DWG Export Dialog:** A dialog box for selecting export settings. It shows 'DWG Model Plans' selected in the 'Select Export Setup' dropdown and 'DWG Model Plans' selected in the 'Select Views And Sheets To Export' list.
- Modify DWG/DXF Export Setup Dialog:** A dialog box for configuring export settings. The 'General' tab is active, showing 'One DWG unit is:' set to 'Millimeter' and 'Coordinate system basis:' set to 'Shared'.
- Project Browser:** A tree view on the right side of the interface showing the project structure, including 'Architectural', 'WIP', 'Legends', and 'Schedules/Quantities'.

## 4.7 SETTING UP OF:

### 4.7.3 Coordinate and Site Plan – Option 2 – Support Multiple CAD Files Accurate Positioning



## 4.7 SETTING UP OF:

### 4.7.3 Coordinate and Site Plan – Option 2 – Support Multiple CAD Files Accurate Positioning

1 Open the exported CAD from Revit at previous step

2 Attach the Original Site Plan

3 Select Overlay. This prevent loading nested link file

4 Ensure “specify on-screen” are not selected for “scale” “insertion point” & “rotation”. This ensure loaded site map is in correct alignment

5 Repeat procedure from p.35-37 for other CAD files

P.35



## 4.7 SETTING UP OF:

### 4.7.3 Coordinate and Site Plan – Option 2 – Support Multiple CAD Files Accurate Positioning

1 Click "Bind"

2 Insert

EXTERNAL REFERENCES

File References

Reference Name

AR-W-ALIGN-COORDINATE-SYSTEM\*

AR-W-2D-Map

- Open
- Attach...
- Unload
- Reload
- Detach
- Bind...
- Xref Type >
- Path >

Bind Xrefs/DGN underlays

Bind Type

Bind

Insert

OK

Cancel

Command: \*Cancel\*  
Command: \*Cancel\*  
Command: \*XATTACH\*  
Overlay Xref "AR-W-2D-Map": N:\BIM\BIT\20170905\_ACS course Outline\CAD\AR-W-2D-Map.dwg  
"AR-W-2D-Map" loaded.

Model Layout1 Layout2 +

8.3485E+08, 8.1621E+08, 0.0000 MODEL

1:1 / 100%

Decimal

## 4.7 SETTING UP OF:

### 4.7.3 Coordinate and Site Plan – Option 2 – Support Multiple CAD Files Accurate Positioning

1 Explode the Block

2 Save as the Site Plan

3 Close the AutoCAD

## 4.7 SETTING UP OF:

### 4.7.3 Coordinate and Site Plan – Option 2 – Support Multiple CAD Files Accurate Positioning

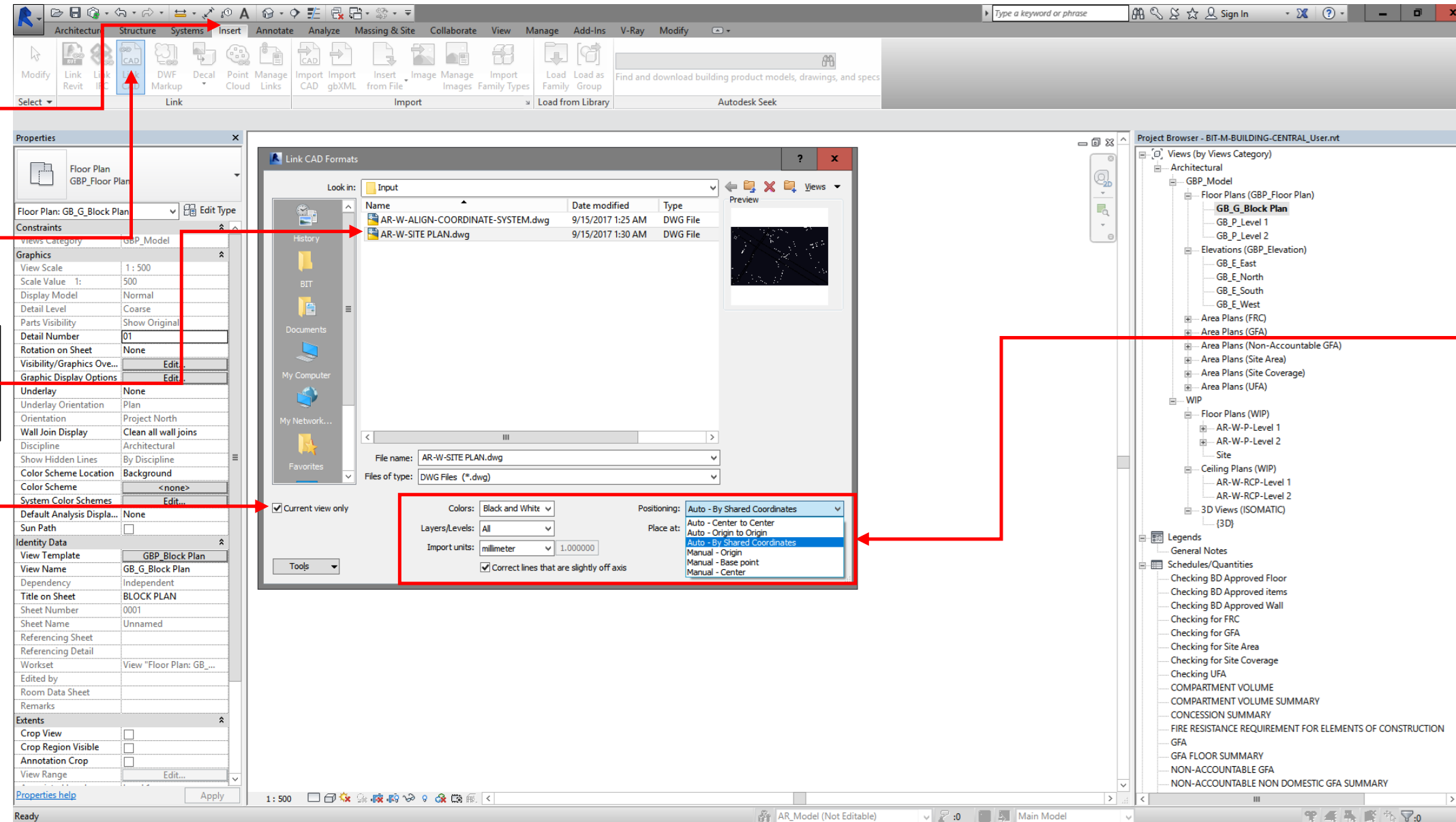
1 Plan View

2 Click “Insert”

3 Click “Link CAD”

4 Select CAD file of Site Plan

5 Tick it



6 Follow this settings

7 Click [Open]



## 4.7 SETTING UP OF:

### 4.7.3 Coordinate and Site Plan – Option 2 – Support Multiple CAD Files Accurate Positioning

The screenshot displays the Revit software interface with the following components and annotations:

- Properties Panel:** The 'Orientation' dropdown menu is highlighted with a red box and labeled '1 Click True North'. Below it, the 'Wall Join Display' is set to 'Project North', which is also highlighted with a red box and labeled '2 True North'.
- Site Plan Drawing:** A detailed architectural site plan is shown in the center. A red arrow points from the 'Orientation' dropdown to a north arrow symbol on the drawing, labeled 'Linked CAD of Site Plan'.
- Project Browser:** The right-hand panel shows a hierarchical tree of views, including 'Architectural', 'WIP', and 'Legends'.
- Annotations:** Three callout boxes are present: '1 Click True North' (pointing to the Orientation dropdown), '2 True North' (pointing to the Wall Join Display), and 'Linked CAD of Site Plan' (pointing to the north arrow on the drawing).

## 4.7 SETTING UP OF:

### 4.7.3 Coordinate and Site Plan – Option 2 – Support Multiple CAD Files Accurate Positioning

1 Click  
“Project  
North”

2 Project North

3 Align proposed Grid

Properties

Floor Plan  
GBP\_Floor Plan

Floor Plan: GB\_G\_Block Plan

Constraints

Views Category: GBP\_Model

Graphics

View Scale: 1: 500

Scale Value 1: 500

Display Model: Normal

Detail Level: Coarse

Parts Visibility: Show Original

Detail Number: 01

Rotation on Sheet: None

Visibility/Graphics Over...: Edit...

Graphic Display Options: Edit...

Underlay: None

Underlay Orientation: Plan

Orientation: Project North

Wall Join Display: Project North

Discipline: True North

Show Hidden Lines: By Discipline

Color Scheme Location: Background

Color Scheme: <none>

System Color Schemes: Edit...

Default Analysis Displa...: None

Sun Path

Identity Data

View Template: GBP\_Block Plan

View Name: GB\_G\_Block Plan

Dependency: Independent

Title on Sheet: BLOCK PLAN

Sheet Number: 0001

Innamed

Room Data Sheet

Remarks

Extents

Crop View

Crop Region Visible

Annotation Crop

View Range: Edit...

Project Browser - BIT-M-BUILDING-CENTRAL\_User.rvt

Views (by Views Category)

Architectural

GBP\_Model

Floor Plans (GBP\_Floor Plan)

GB\_G\_Block Plan

GB\_P\_Level 1

GB\_P\_Level 2

Elevations (GBP\_Elevation)

GB\_E\_East

GB\_E\_North

GB\_E\_South

GB\_E\_West

Area Plans (FRC)

Area Plans (GFA)

Area Plans (Non-Accountable GFA)

Area Plans (Site Area)

Area Plans (Site Coverage)

Area Plans (UFA)

WIP

Floor Plans (WIP)

AR-W-P-Level 1

AR-W-P-Level 2

Site

Ceiling Plans (WIP)

AR-W-RCP-Level 1

AR-W-RCP-Level 2

3D Views (ISOMATIC)

{3D}

Legends

General Notes

Schedules/Quantities

Checking BD Approved Floor

Checking BD Approved items

Checking BD Approved Wall

Checking for FRC

Checking for GFA

Checking for Site Area

Checking for Site Coverage

Checking UFA

COMPARTMENT VOLUME

COMPARTMENT VOLUME SUMMARY

CONCESSION SUMMARY

FIRE RESISTANCE REQUIREMENT FOR ELEMENTS OF CONSTRUCTION

GFA

GFA FLOOR SUMMARY

NON-ACCOUNTABLE GFA

NON-ACCOUNTABLE NON DOMESTIC GFA SUMMARY

1: 500

AR\_Model (Not Editable)

Main Model

Editable Only

## 4.7 SETTING UP OF:

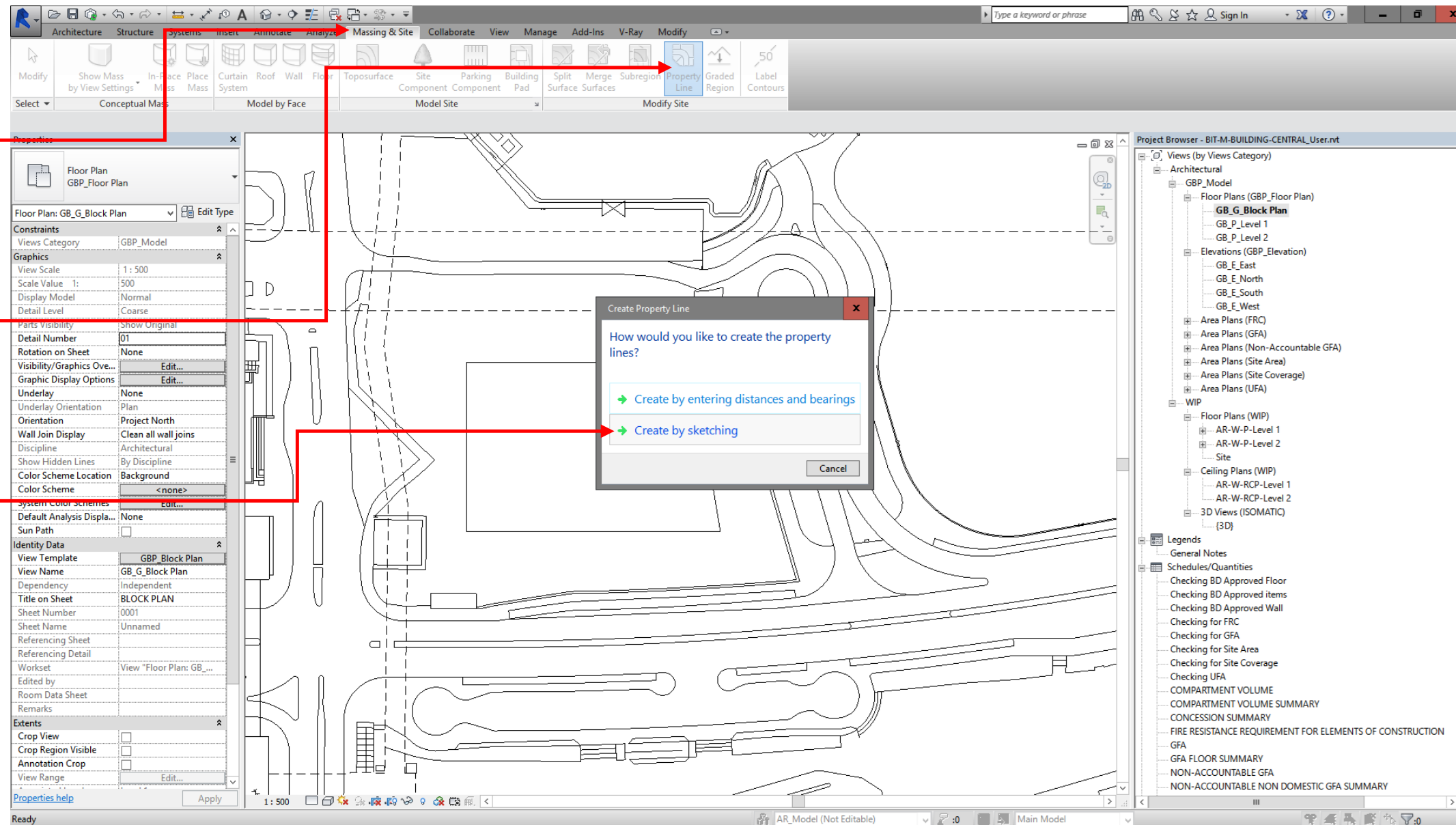
### 4.7.4 Site Boundary

1 Plan View

2 Click  
“Massing &  
Site”

3 Click  
“Property  
Line”

4 Click  
“Create by  
sketching”



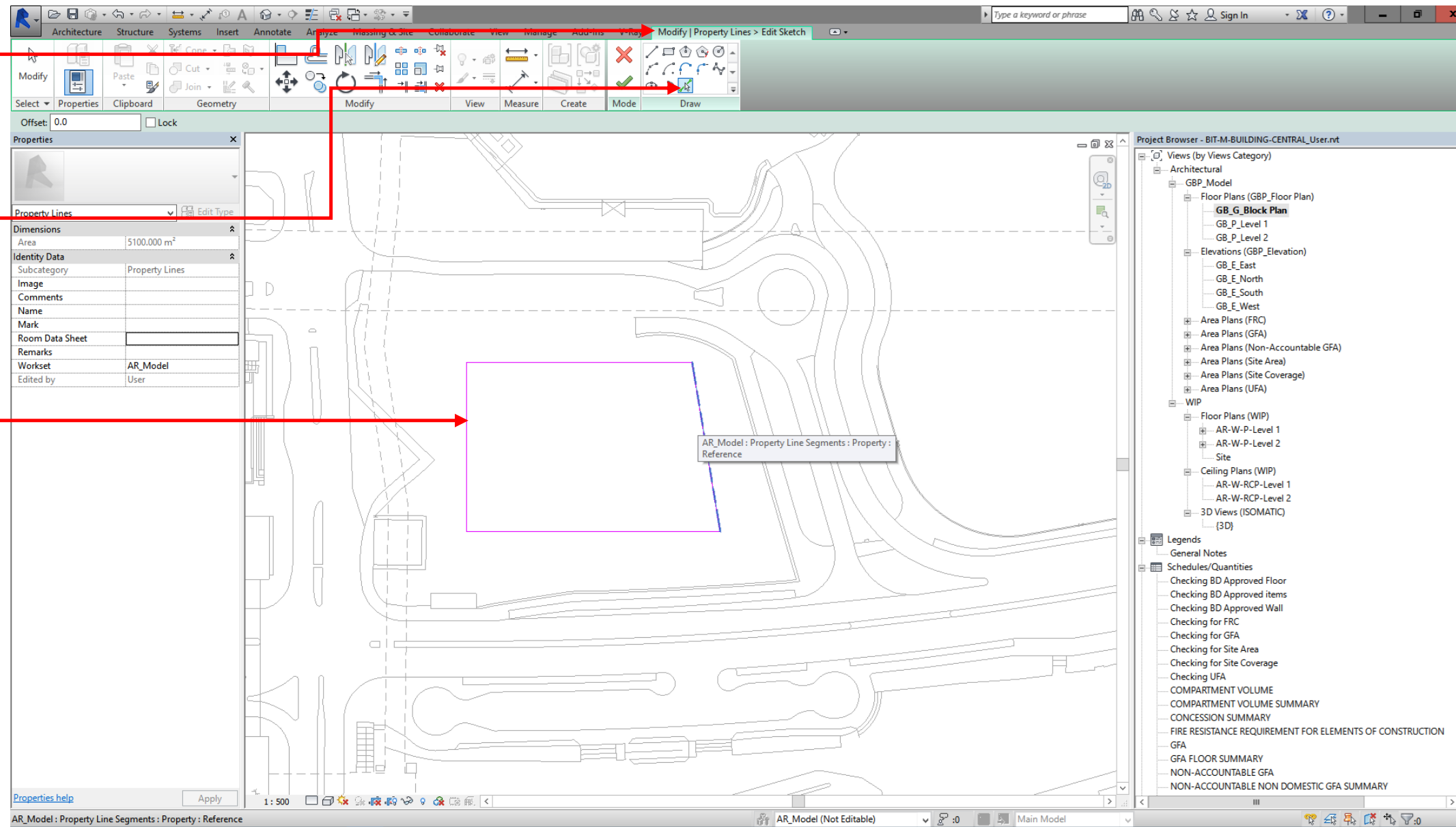
## 4.7 SETTING UP OF:

### 4.7.4 Site Boundary

1 Click  
“Modify”

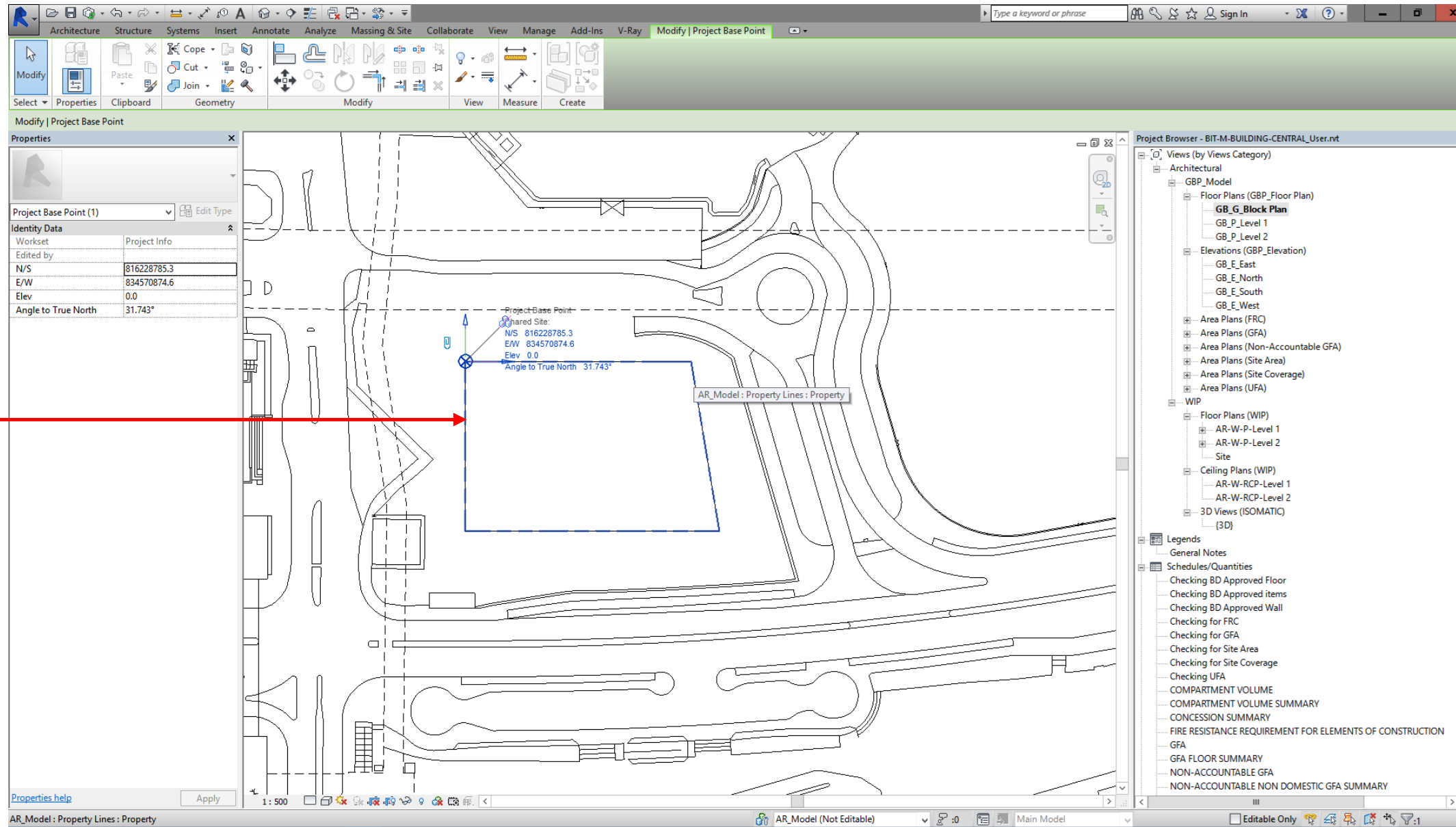
2 Click “Pick  
Lines”

3 Pick the  
Line



## 4.7 SETTING UP OF:

### 4.7.4 Site Boundary





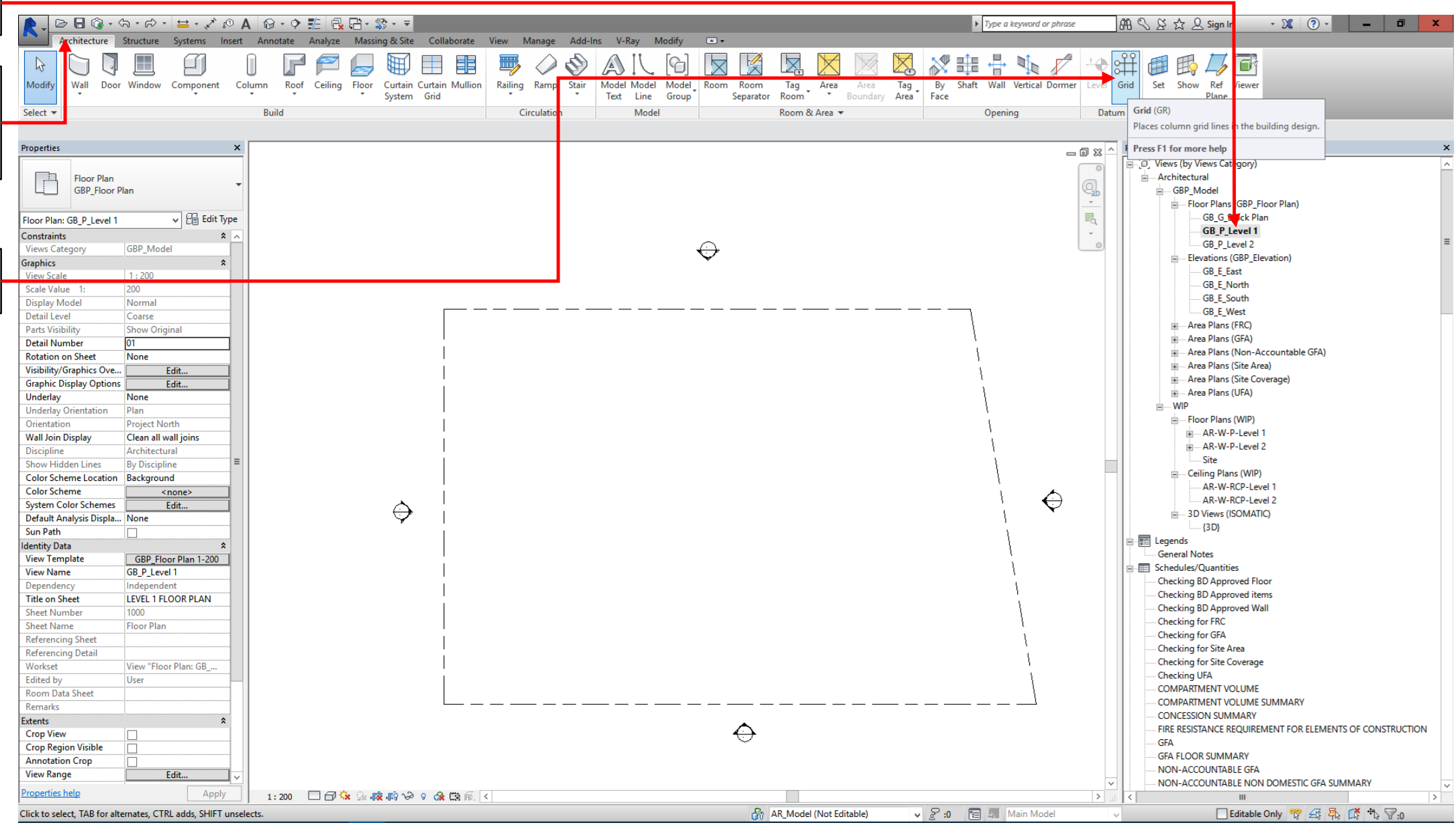
# 4.7 SETTING UP OF:

## 4.7.5 Grid Line

1 Plan View

2 Click "Architecture"

3 Click "Grid"



# 4.7 SETTING UP OF:

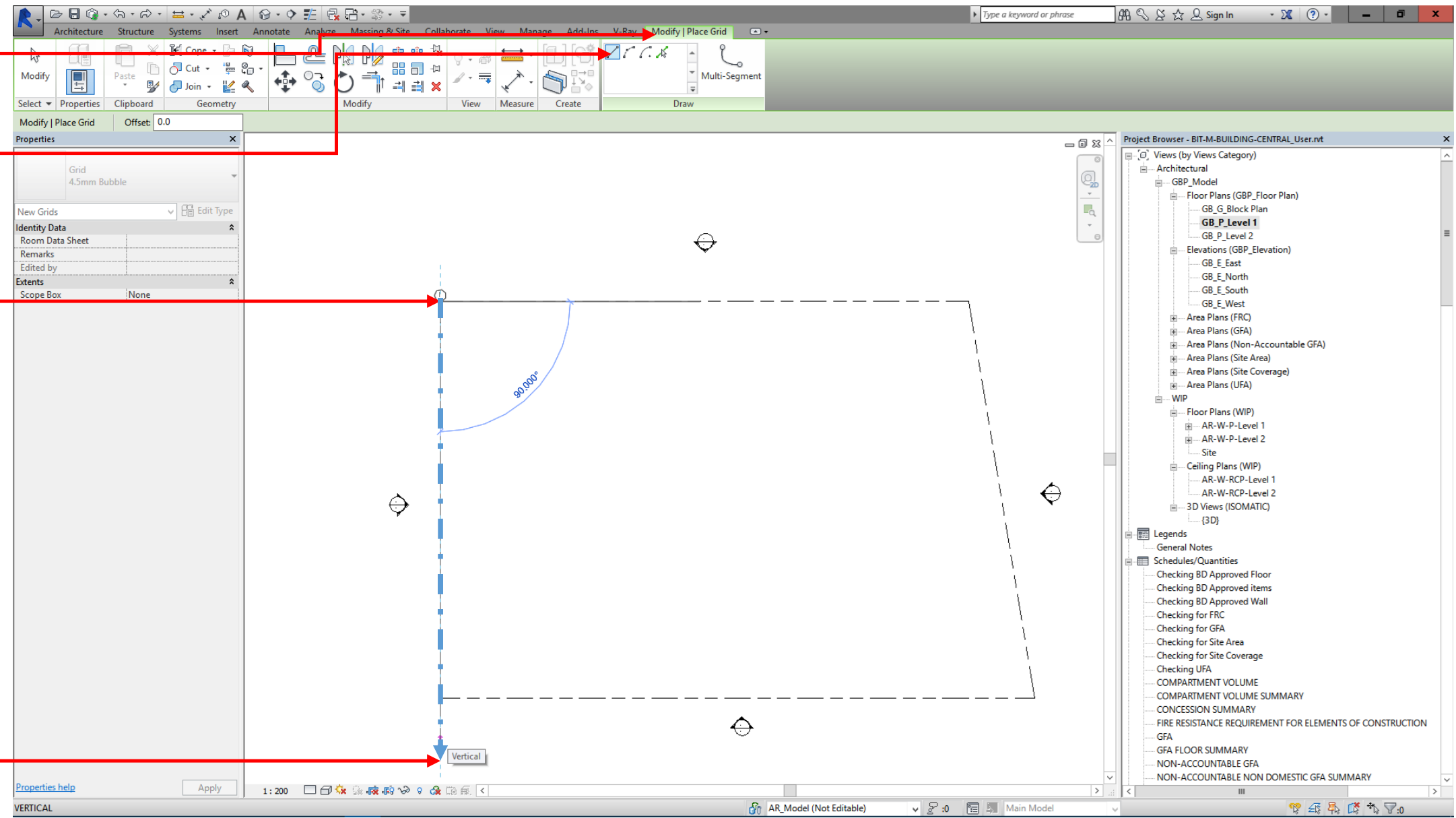
## 4.7.5 Grid Line

1 Click "Modify"

2 Click "Line"

3 Pick first point

4 Pick second point





## 4.7 SETTING UP OF:

### 4.7.5 Grid Line

1 Type first number

2 Adjust the Bubble

3 Array Grid

4 Edit array number

5 Uncheck if typical grid spacing unlikely to change, check if it always change

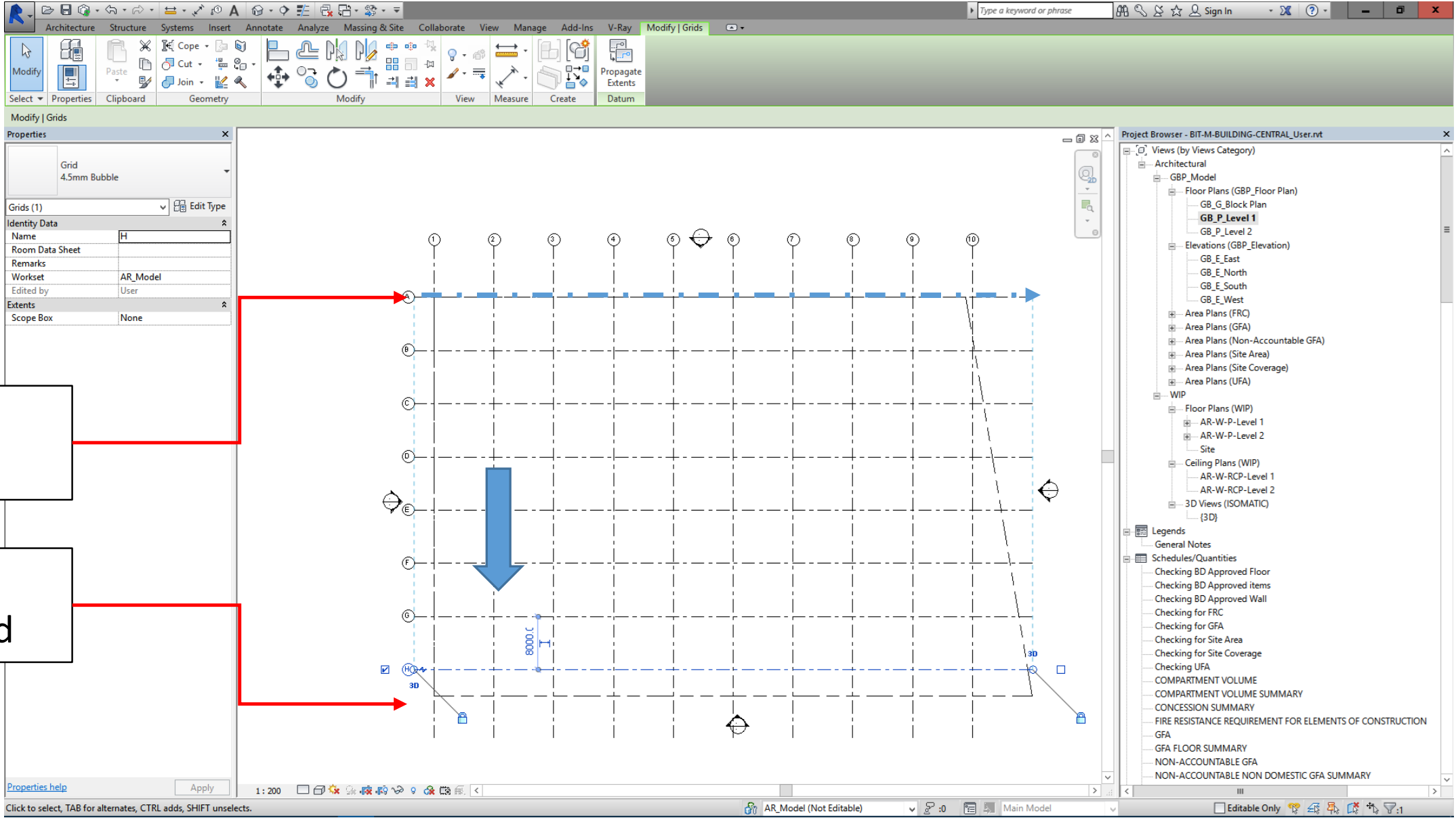
6 Click any point on screen, move to right in this case, then key in spacing e.g. 8500

# 4.7 SETTING UP OF:

## 4.7.5 Grid Line

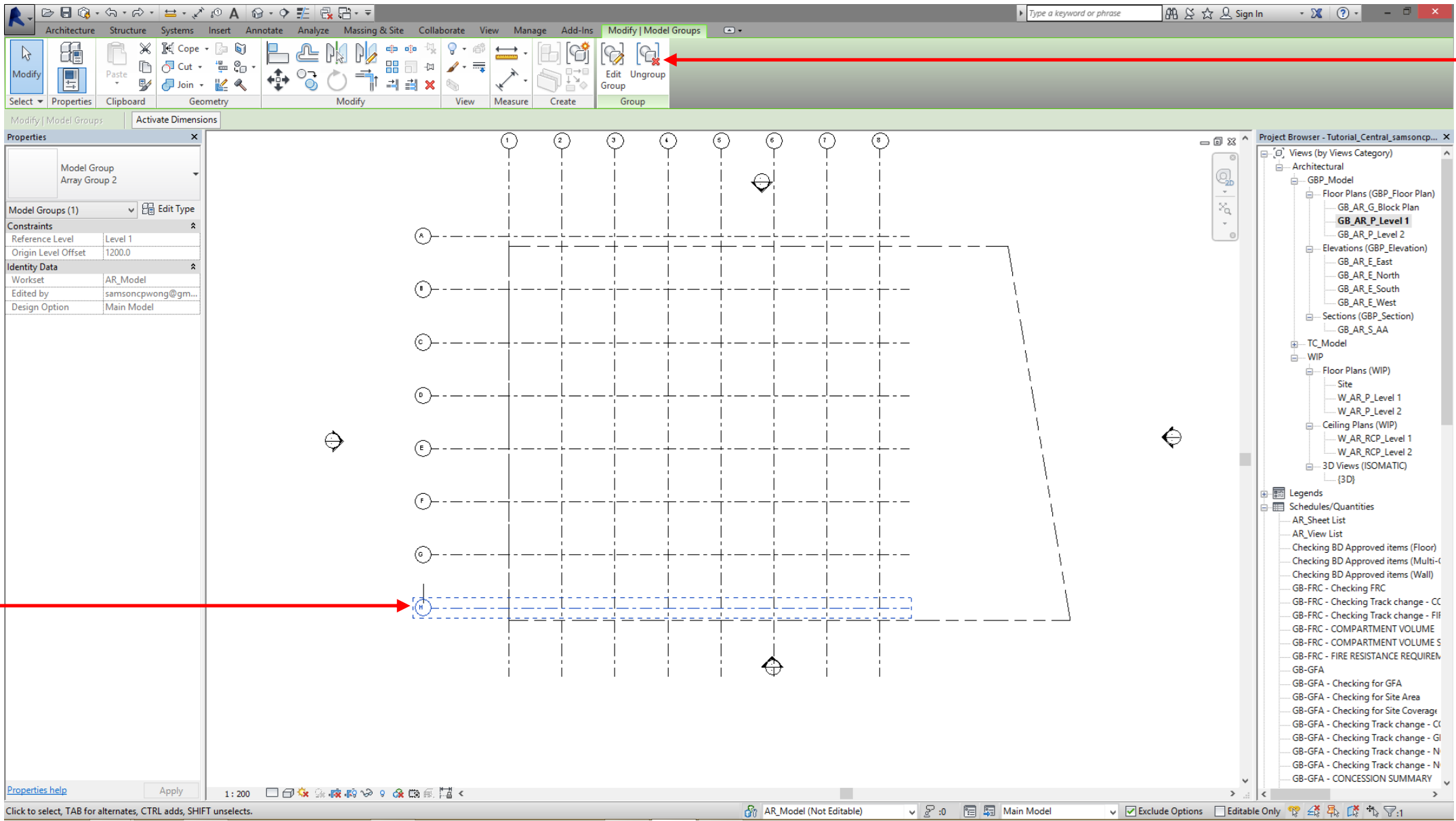
1 Type first alphabet

2 Follow similar step to array Grid



# 4.7 SETTING UP OF:

## 4.7.5 Grid Line



2 Edit / ungroup

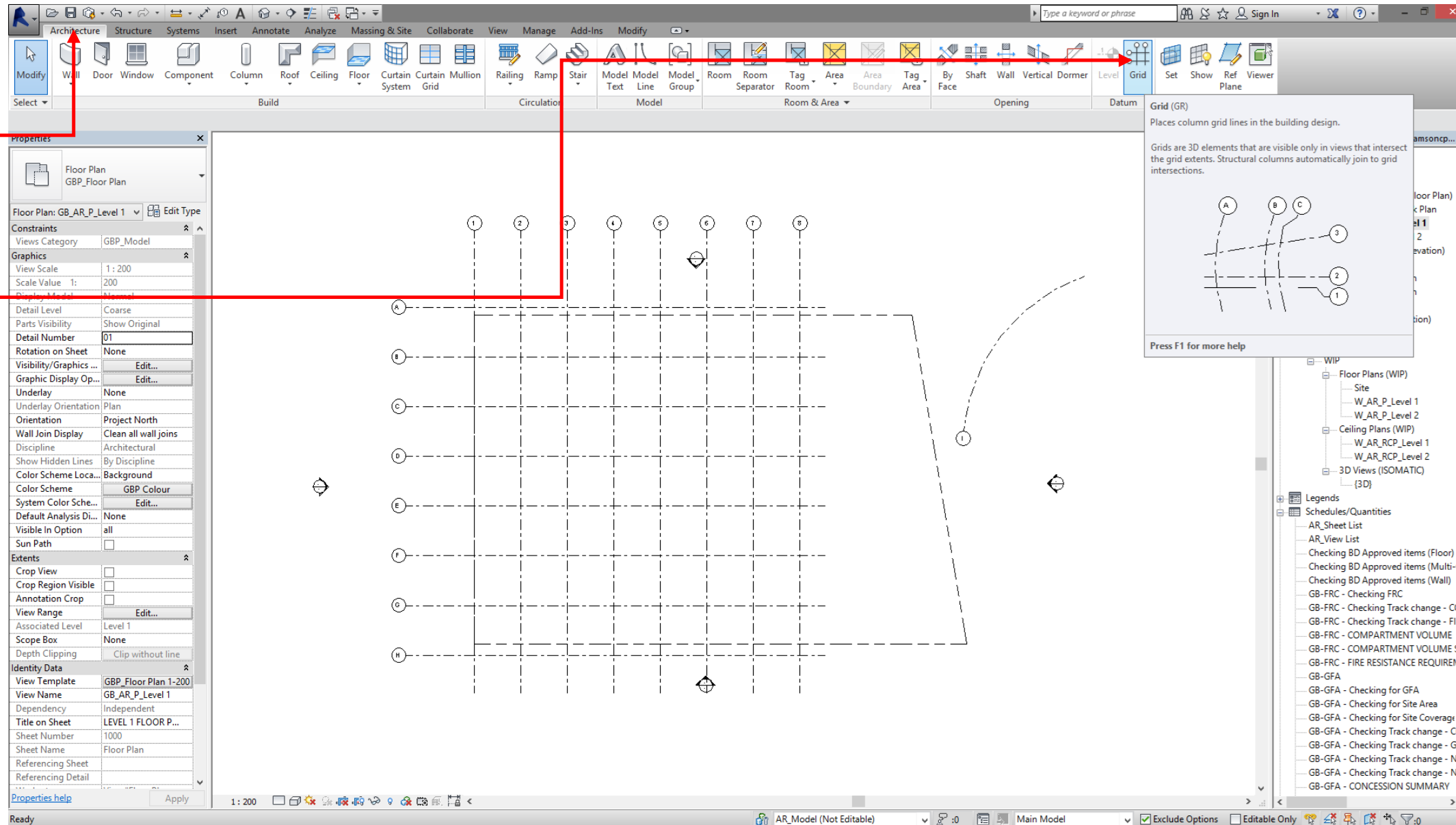
1 Select a grouped grid

# 4.7 SETTING UP OF:

## 4.7.5 Grid Line

1 Click  
"Architecture"

2 Click "Grid"



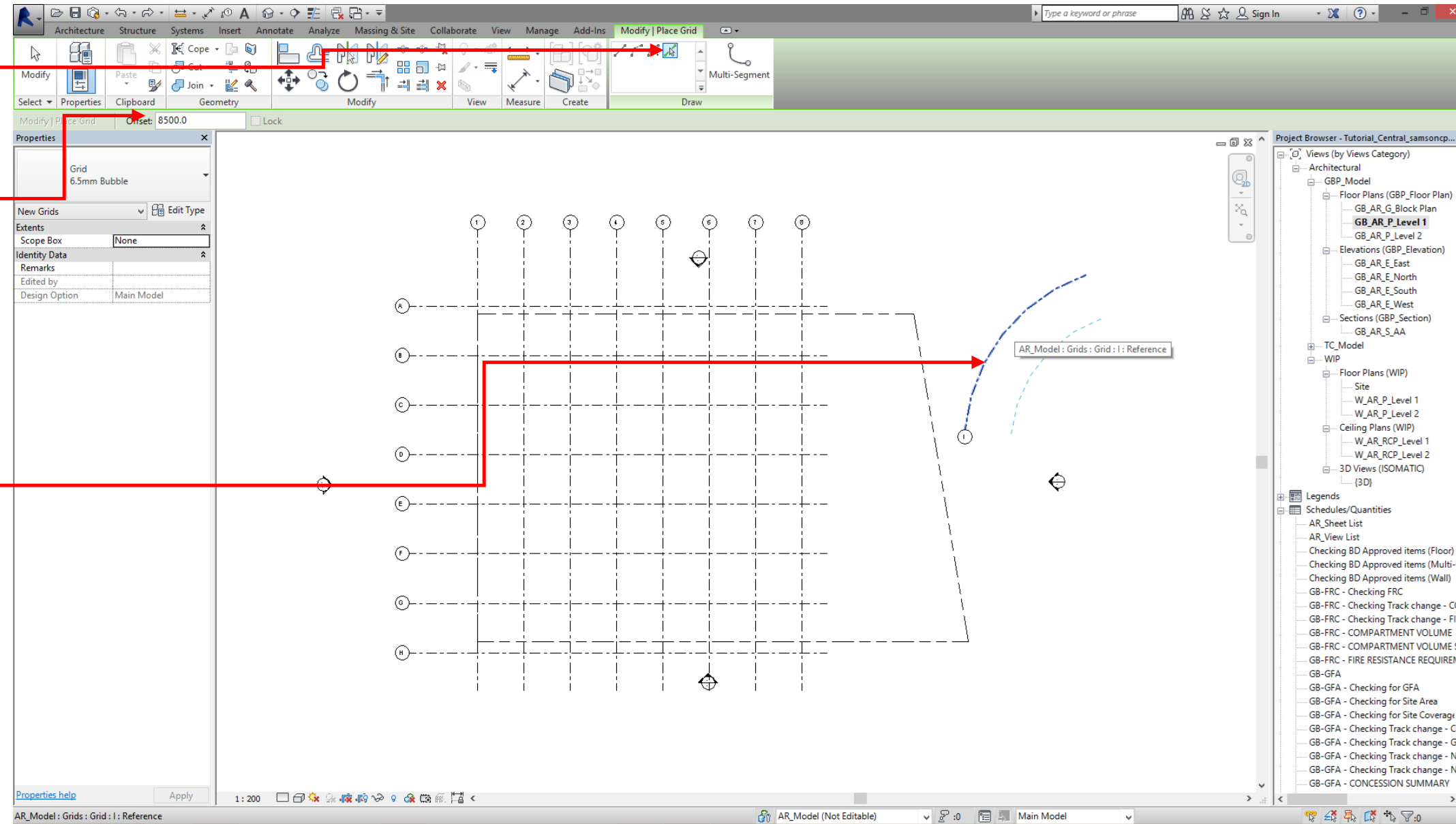
## 4.7 SETTING UP OF:

### 4.7.5 Grid Line

1 Click "Pick Lines"

2 Enter grid spacing

3 Move cursor to curve grid, slightly move away to select offset direction, then left click



# 4.7 SETTING UP OF:

## 4.7.6 Level

The screenshot shows the Revit interface with the 'Modify | Levels' ribbon active. The main view displays a vertical level grid with levels Level 1 (+0.000), Level 2 (+4.000), and Level 3 (+7.000). Grid lines are numbered 1 through 6. A vertical dimension line between grid lines 1 and 2 is labeled '3500.0'. A blue arrow labeled 'Vertical' points upwards from grid line 2. A red box highlights the 'Group and Associate' checkbox in the Properties panel, which is currently checked. A red box also highlights the 'Number' field in the 'Group and Associate' panel, which contains the value '10'. A red box highlights the 'Project Browser' on the right, where the 'GB\_E\_South' elevation view is selected. A red box highlights the 'Modify | Levels' ribbon, specifically the 'Array Grid' tool. A red box highlights the 'Properties' panel, specifically the 'Elevation' section. A red box highlights the 'Modify | Levels' ribbon, specifically the 'Edit array number' field. A red box highlights the 'Project Browser' on the right, where the 'Group and Associate' checkbox is unchecked. A red box highlights the 'Project Browser' on the right, where the 'Array Grid' tool is selected. A red box highlights the 'Project Browser' on the right, where the 'Edit array number' field is highlighted. A red box highlights the 'Project Browser' on the right, where the 'Group and Associate' checkbox is unchecked. A red box highlights the 'Project Browser' on the right, where the 'Array Grid' tool is selected. A red box highlights the 'Project Browser' on the right, where the 'Edit array number' field is highlighted.

1 Elevation View

2 Select Level

3 Array Grid

4 Edit array number

5 Uncheck "Group and Associate" if typical grid spacing unlikely to change, check if it always change

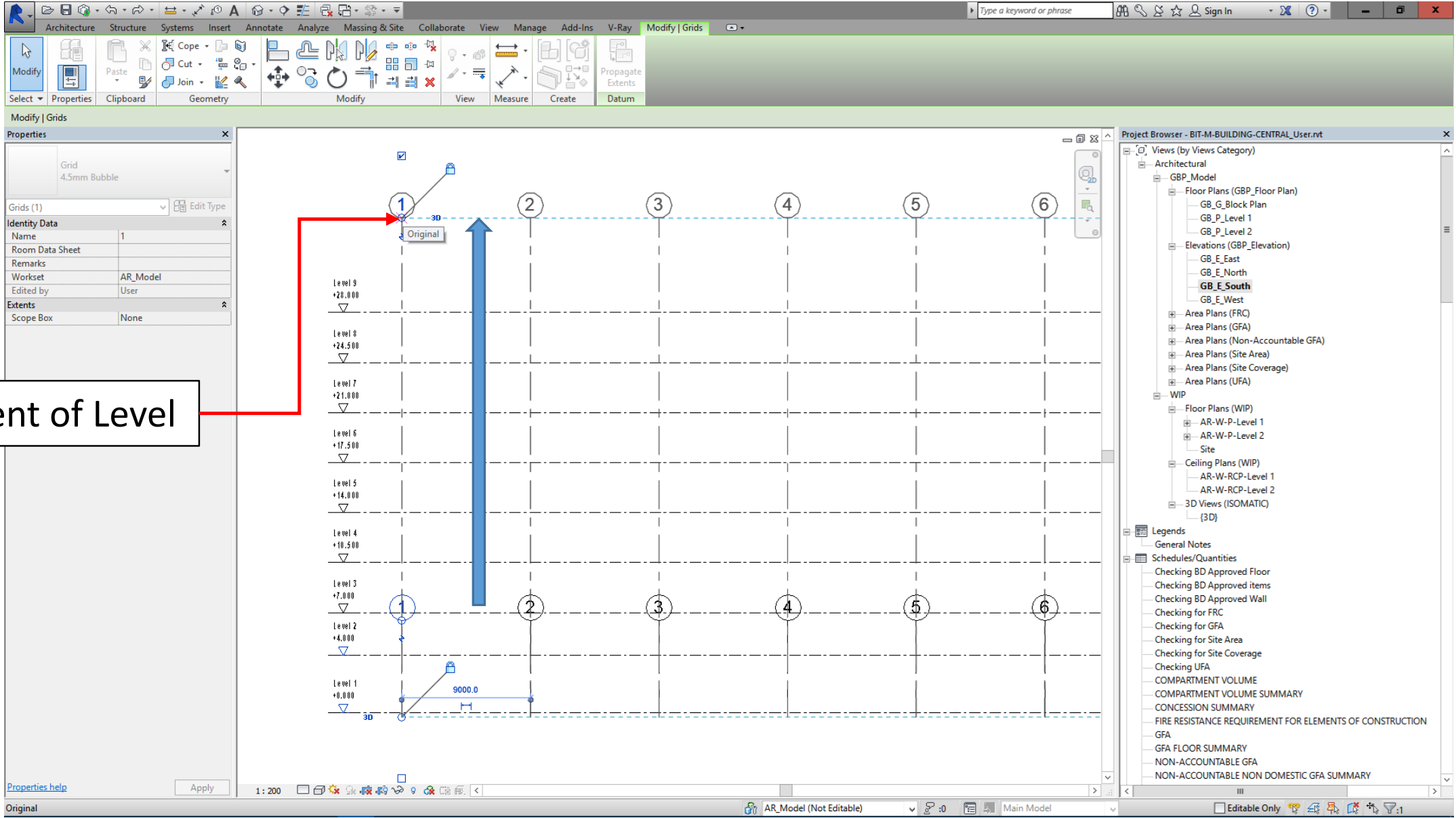
6 Click any point on screen, move up in this case, then key in spacing e.g. 4000



# 4.7 SETTING UP OF:

## 4.7.6 Level

1 Adjust 3D extent of Level





## 4.7 SETTING UP OF:

### 4.7.7 Scope Box – an effective tool to control extent and orientation of view

1 Click "View"

2 Click "Scope Box"

3 Provide name

4 Pick first point

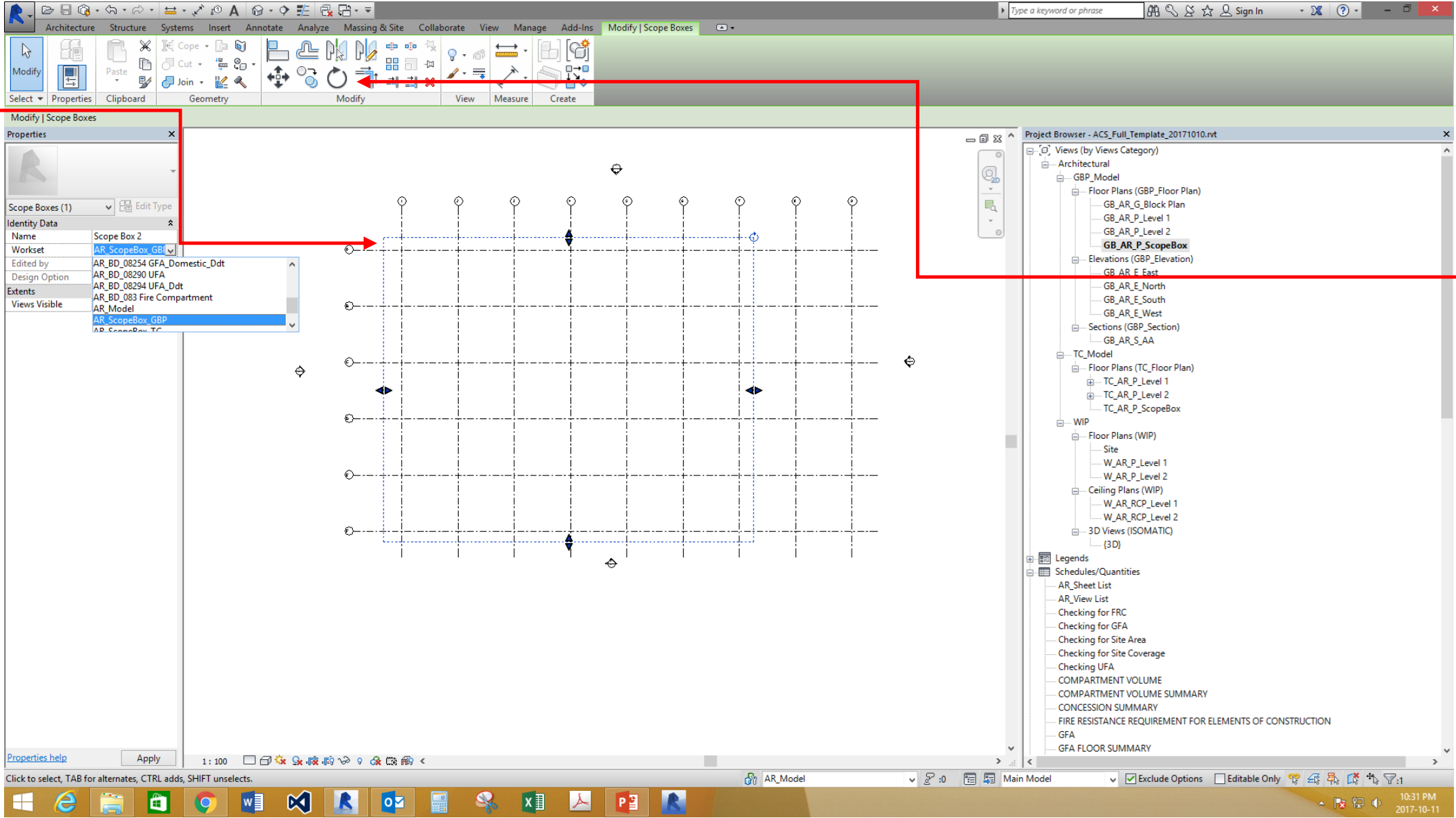
5 Pick second point

6 Remark: Scope Box is only available on 2D plan view and is not available for 3D view.

# 4.7 SETTING UP OF:

## 4.7.8 Scope Box Rotation

1 Select Scopebox



2 Rotate the scope box will then re-orient a view. This is similar to "UCS" of AutoCAD. It is useful for both drafting of drawing setup.

## 4.7 SETTING UP OF:

### 4.7.9 Scope Box Application to View

The screenshot displays the Revit software interface with the following components and annotations:

- Properties Panel (Left):** Shows the 'Scope Box' dropdown menu set to 'Scope Box 2'. A red box highlights this dropdown, with an arrow pointing to the callout '2 Change scope box'.
- View Area (Center):** Shows a floor plan view with a grid. A red rectangle is drawn over the grid, representing the scope box. Red arrows point from the callouts '1 Go to view' and '3 Grid extent will be updated automatically' to this area.
- Project Browser (Right):** Shows the 'Views (by Views Category)' tree. A red arrow points from the callout '3 Grid extent will be updated automatically' to the 'GB\_AR\_P\_Level 1' view.
- Callout 4:** A red arrow points from the callout '4 Toggle show crop region to turn on / off this rectangle' to the 'Show Crop Region' checkbox in the Properties panel.

# 4.7 SETTING UP OF:

## 4.7.10 Workset

1 Select Collaborate

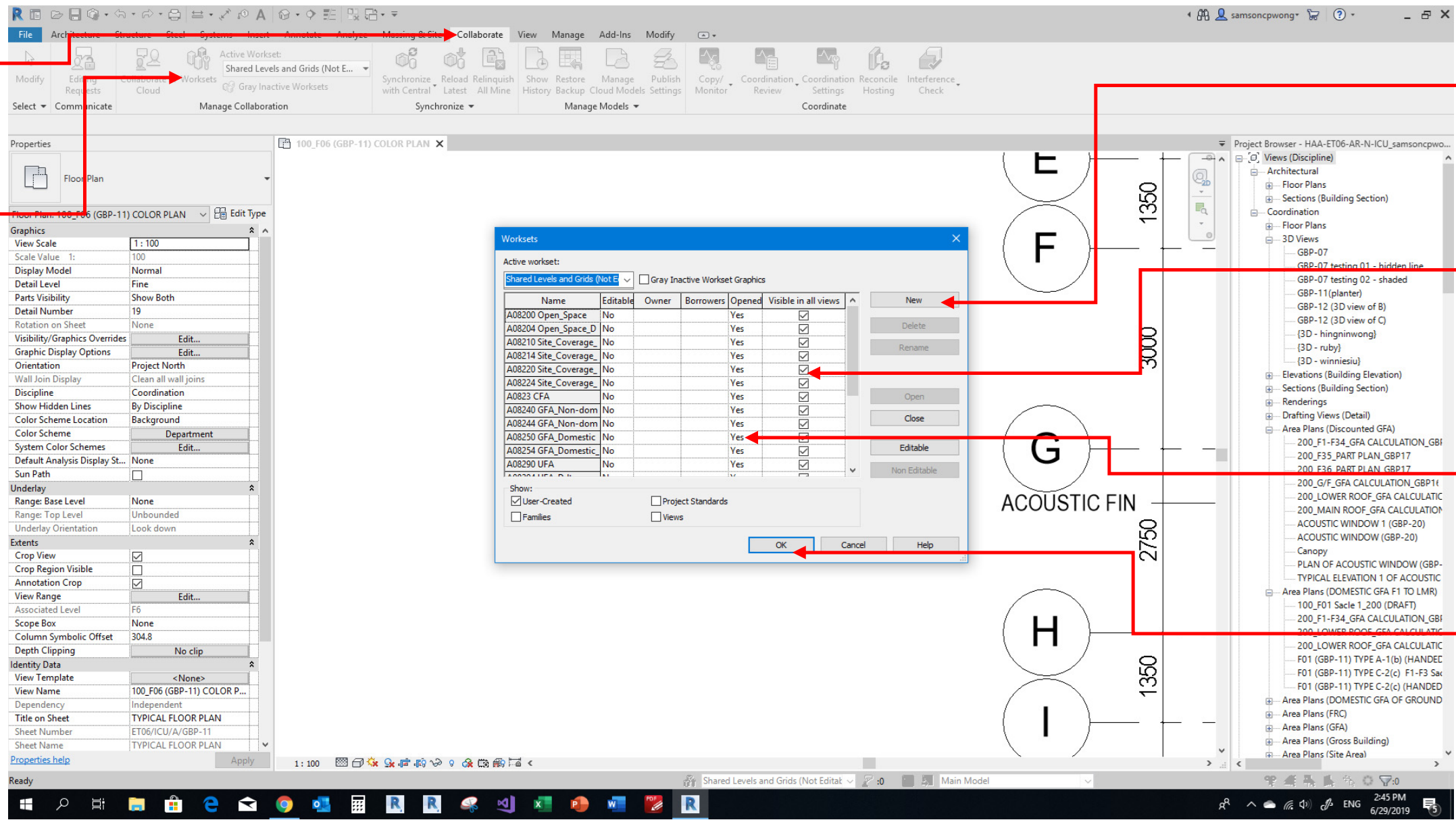
2 Select Worksets

3 Add, delete, or rename workset

4 Control default visibility

5 Control if the workset will be opened

6 Click "OK"





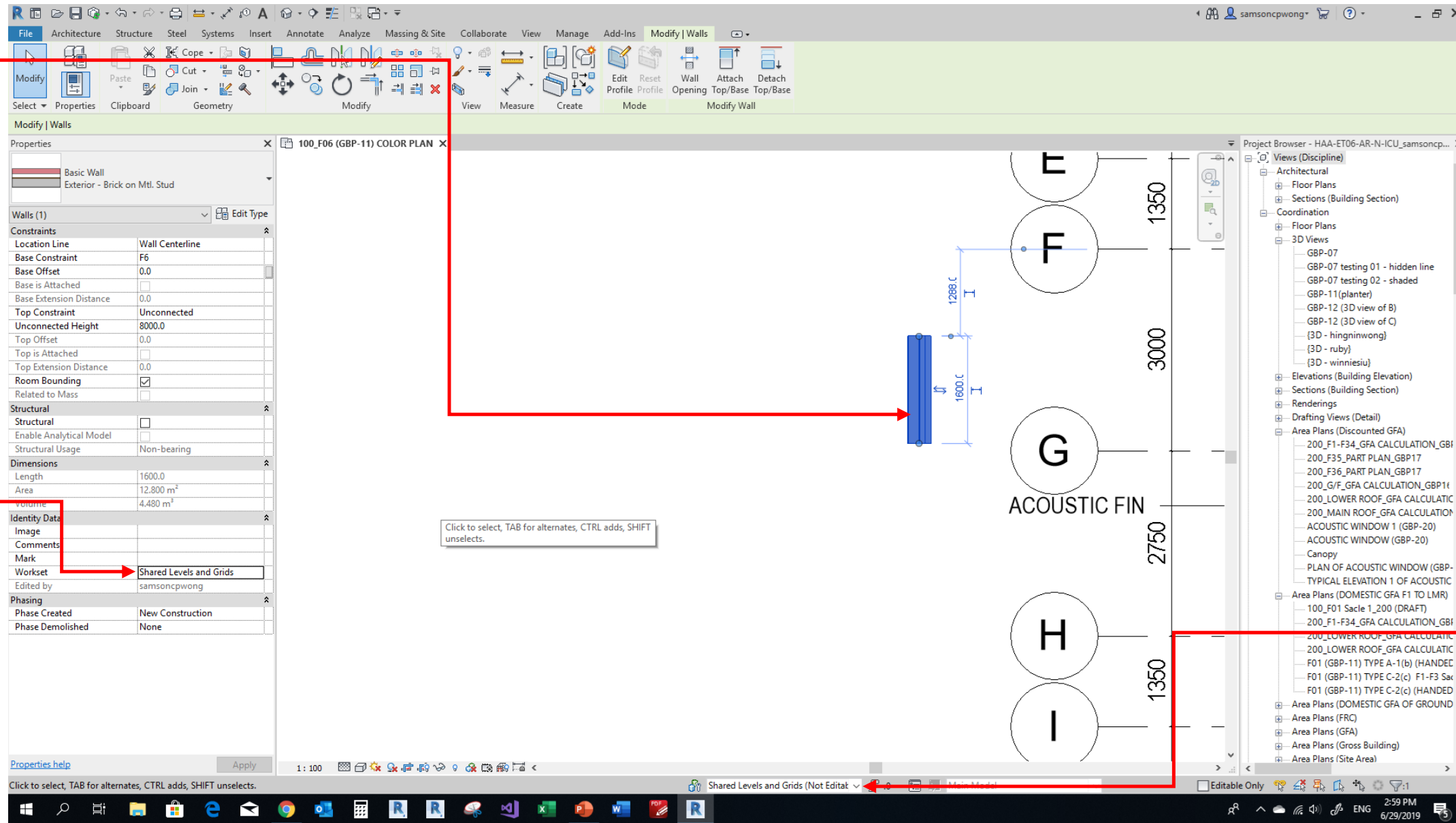
## 4.7 SETTING UP OF:

### 4.7.10 Workset

1 Select object(s)

2 Change workset

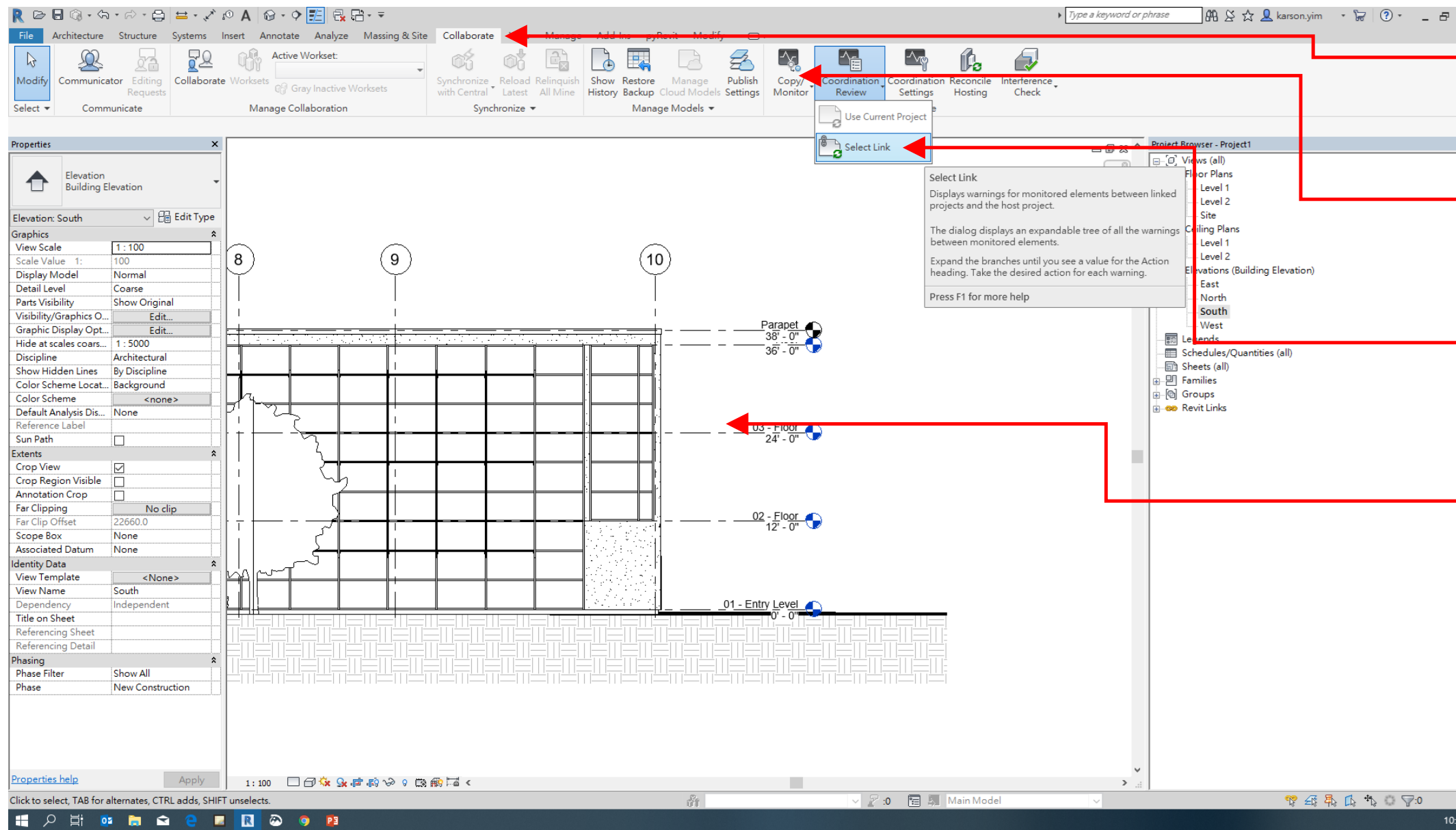
3 Set default workset, this minimize works to amend workset



## 4.8 COPY AND MONITOR

- Copy and Monitor is the way to collaborate between multi-disciplinary professionals as recommended by software developer. It provides an automatic mechanism to inform other parties when one party moves or deletes an elements.
- This section will:
  - introduce the basic operation of “Copy and Monitor”
  - Provide a list of software limitation

# 4.8 COPY AND MONITOR



1 Click "Collaborate"

2 Click "Copy and Monitor"

3 Click "Select Link"

4 Pick link file from other discipline

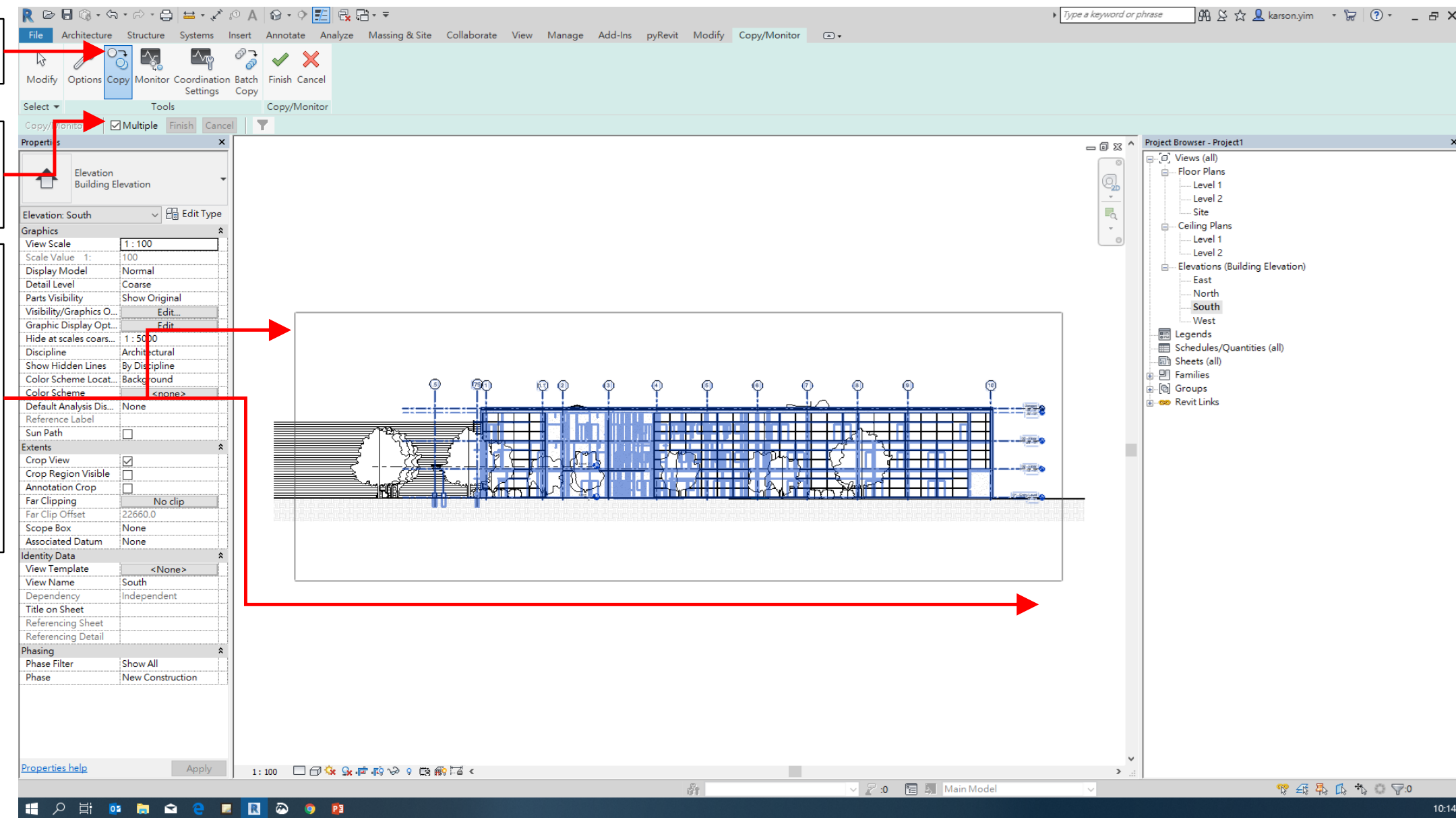


## 4.8 COPY AND MONITOR

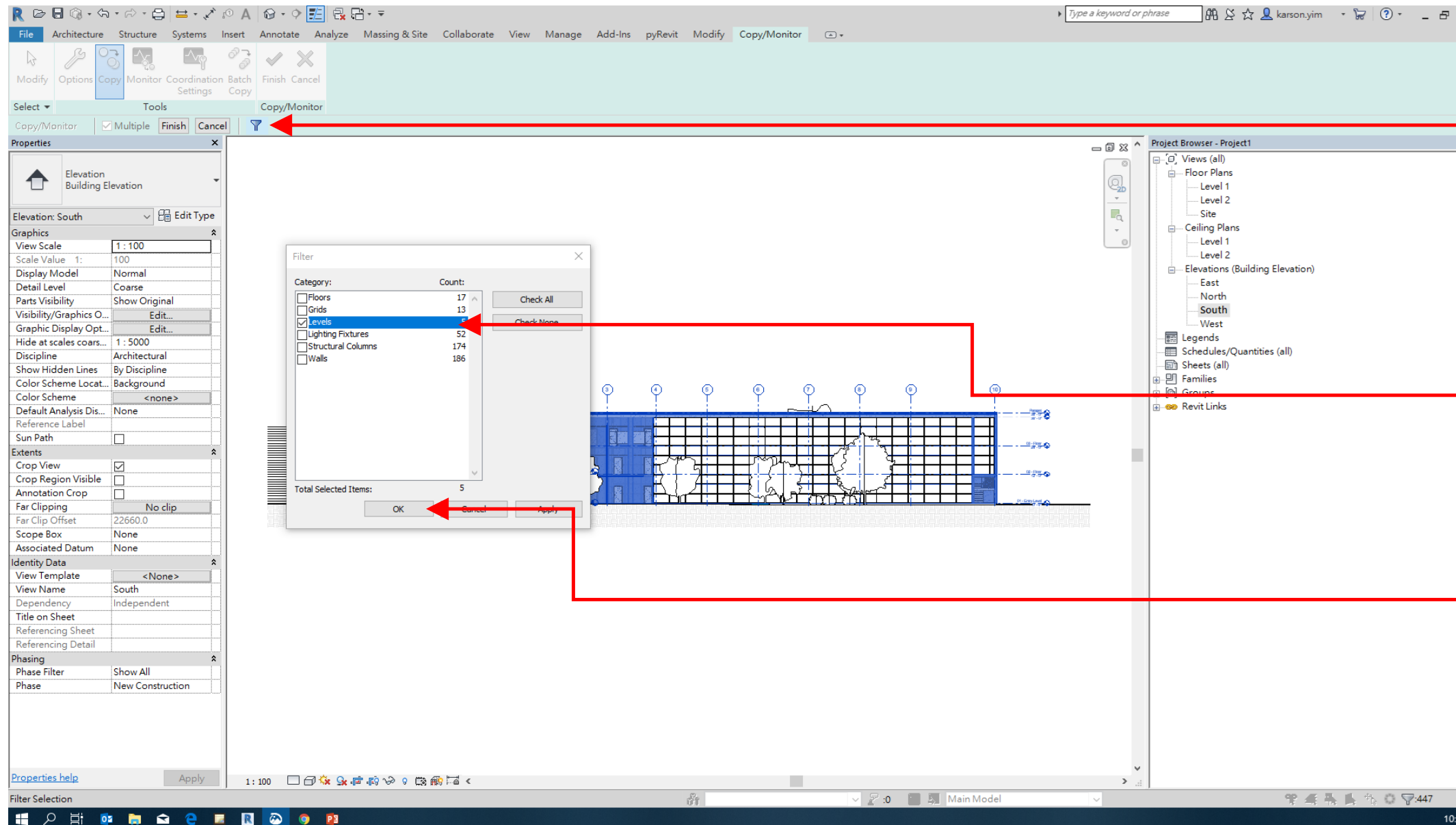
1 Click "Copy"

2 Click "Multiple"

3 Pick upper left and lower right corner to select everything from link file



# 4.8 COPY AND MONITOR



1 Click "Filter"

2 Select appropriate object, e.g. levels in this example.

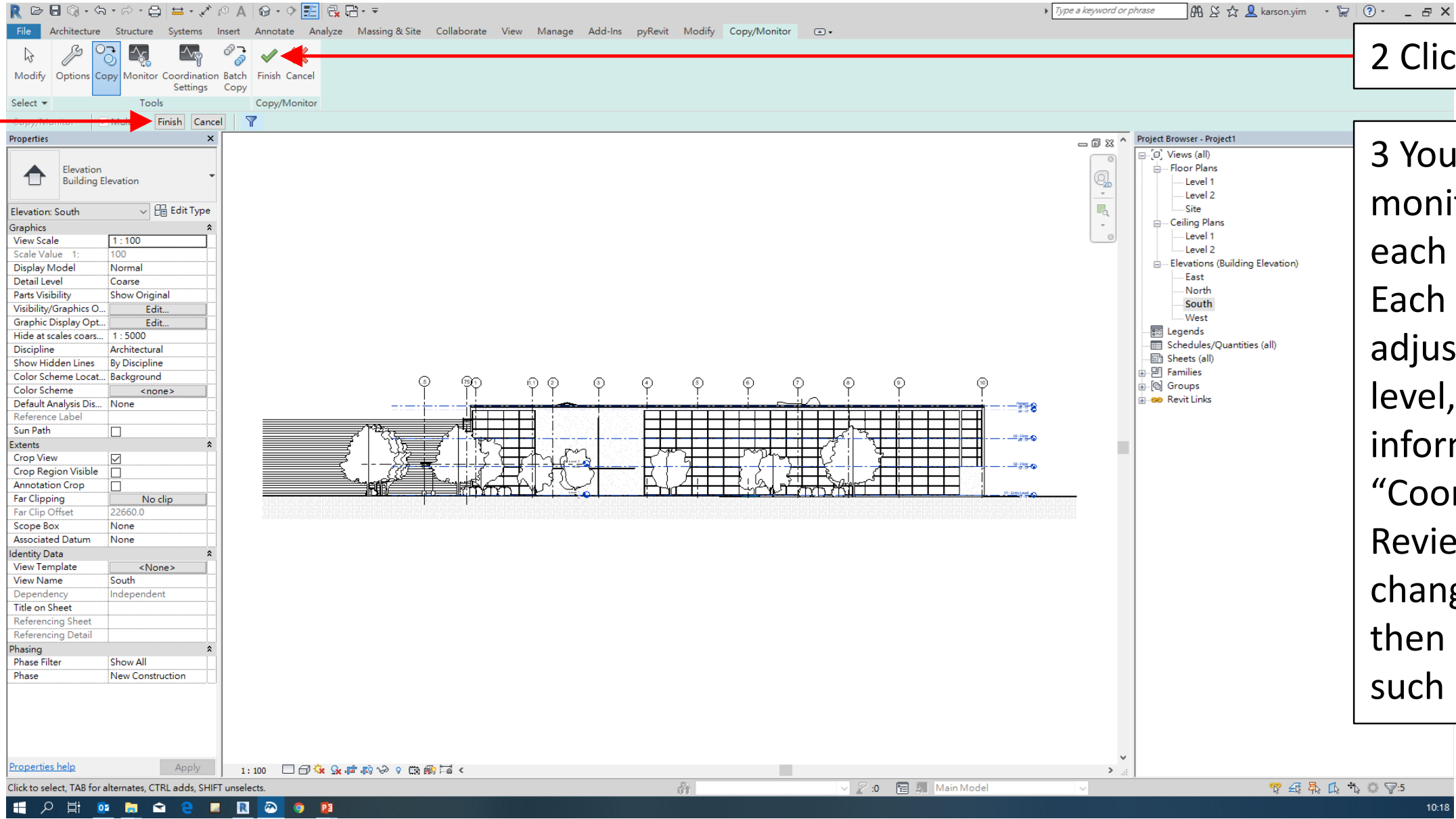
3 Click "OK"

# 4.8 COPY AND MONITOR

1 Click "Finish"

2 Click "Finish"

3 You can then see a monitoring signal on each copied level. Each time architect adjusts height of level, the system will inform you to use "Coordination Review" to highlight changes. You can then decide adopting such change or not.



# 4.8 COPY AND MONITOR

Not all elements support copy and monitor function. Please refer to the list for easy identification.

	Copy and Monitor, Report Changes
Column	Y
Wall	Y
Floor	Y
Beam	N
Stair	N
Ceiling	N
Lighting	Y
Air Louvre	Y
Plumbing Fixture	Y
Sprinkler	Y

## 4.9 VIEW SETUP

- View must be setup prior to 3d modelling
- The following section will provide guideline on setting up of different kinds of views

# 4.10 VIEW SETUP FOR PLAN

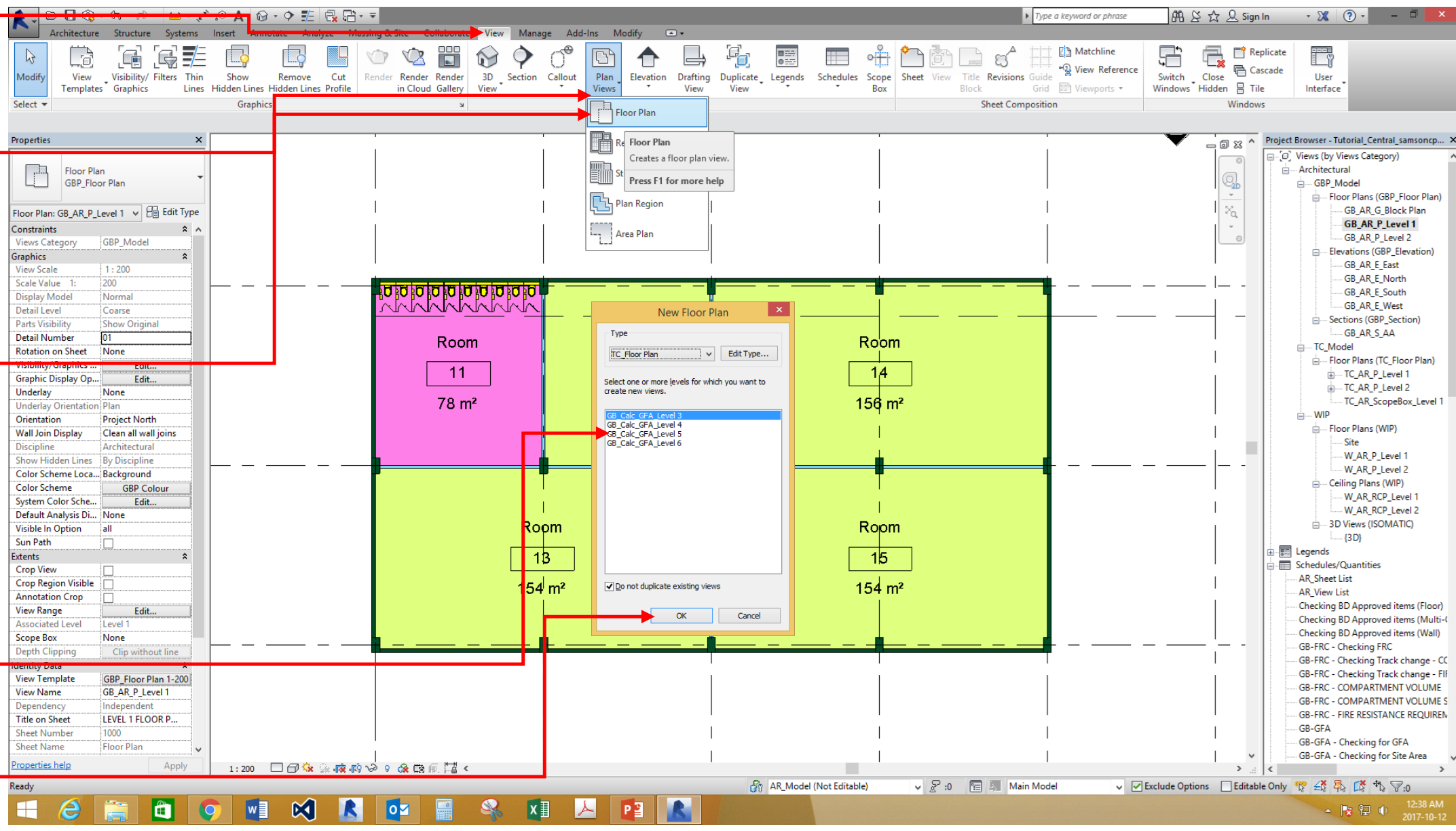
1 Click "View"

2 Click "Plan Views"

3 Click "Floor Plan" or "Structural Plan"

4 Select 1 or more view

5 Click "OK"

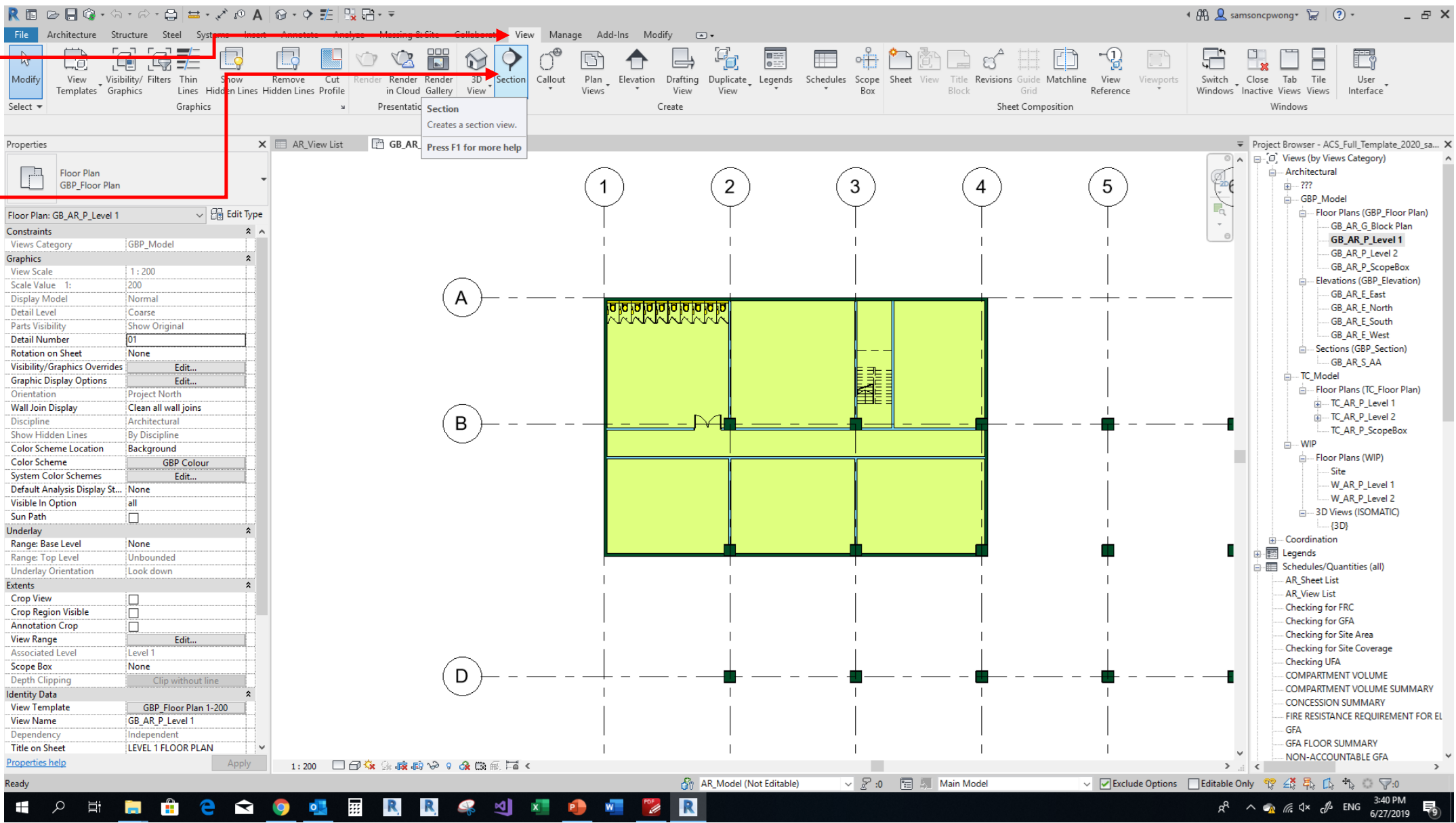




# 4.11 VIEW SETUP FOR SECTION

1 Click "View"

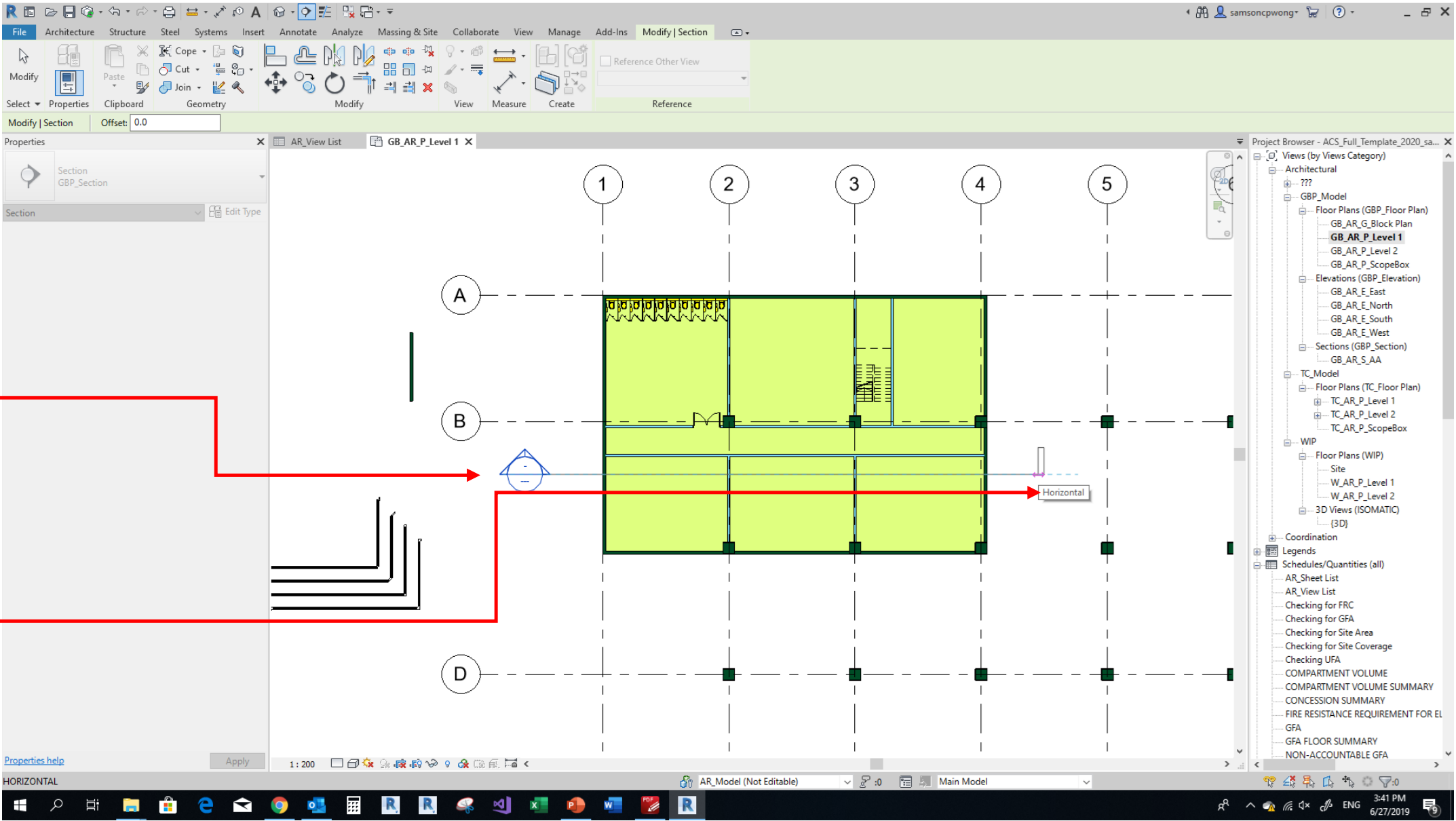
2 Click "Section"



# 4.11 VIEW SETUP FOR SECTION

1 Click "First Point" on view

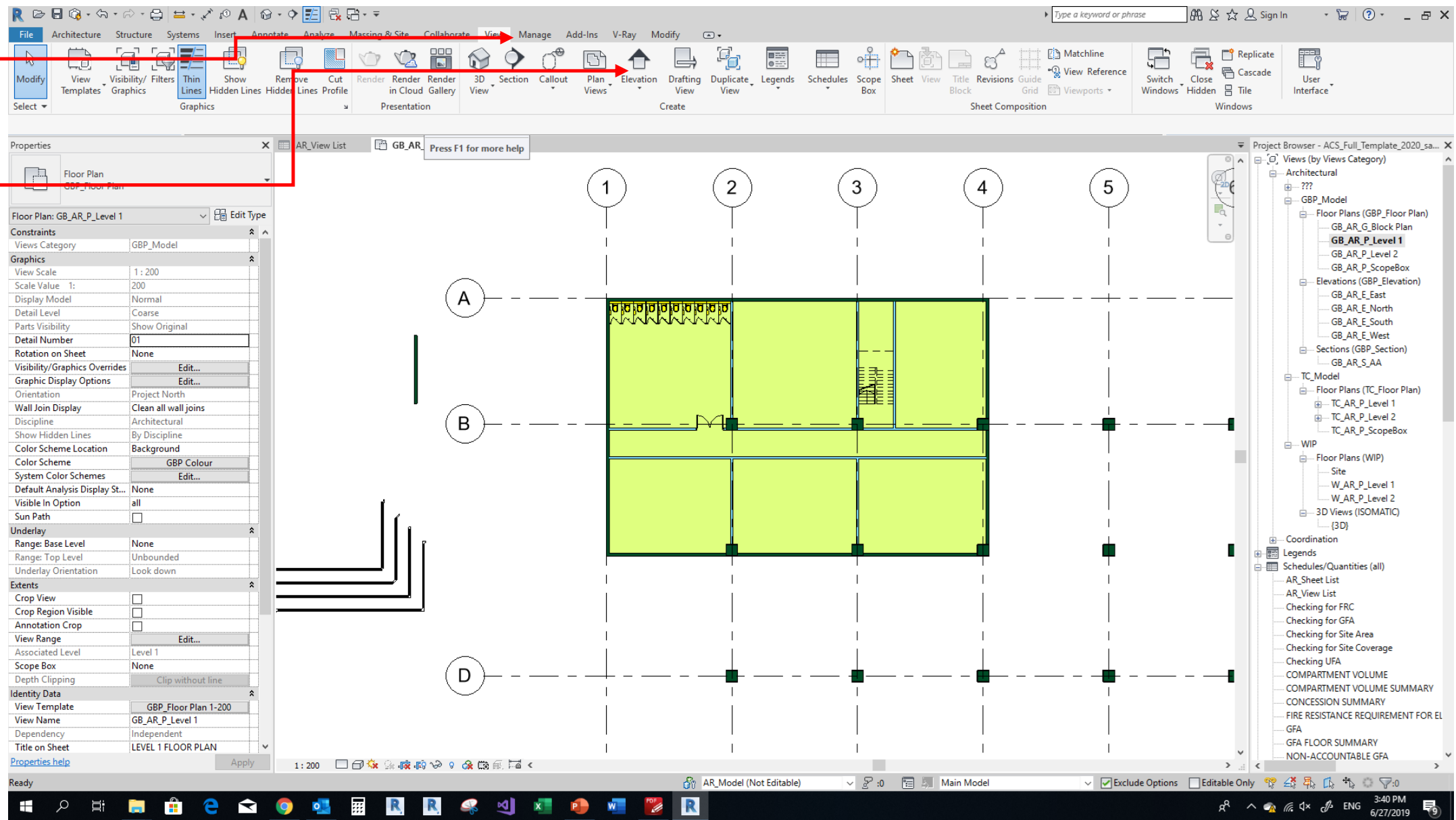
2 Click "Second Point" on view



# 4.12 VIEW SETUP FOR ELEVATION

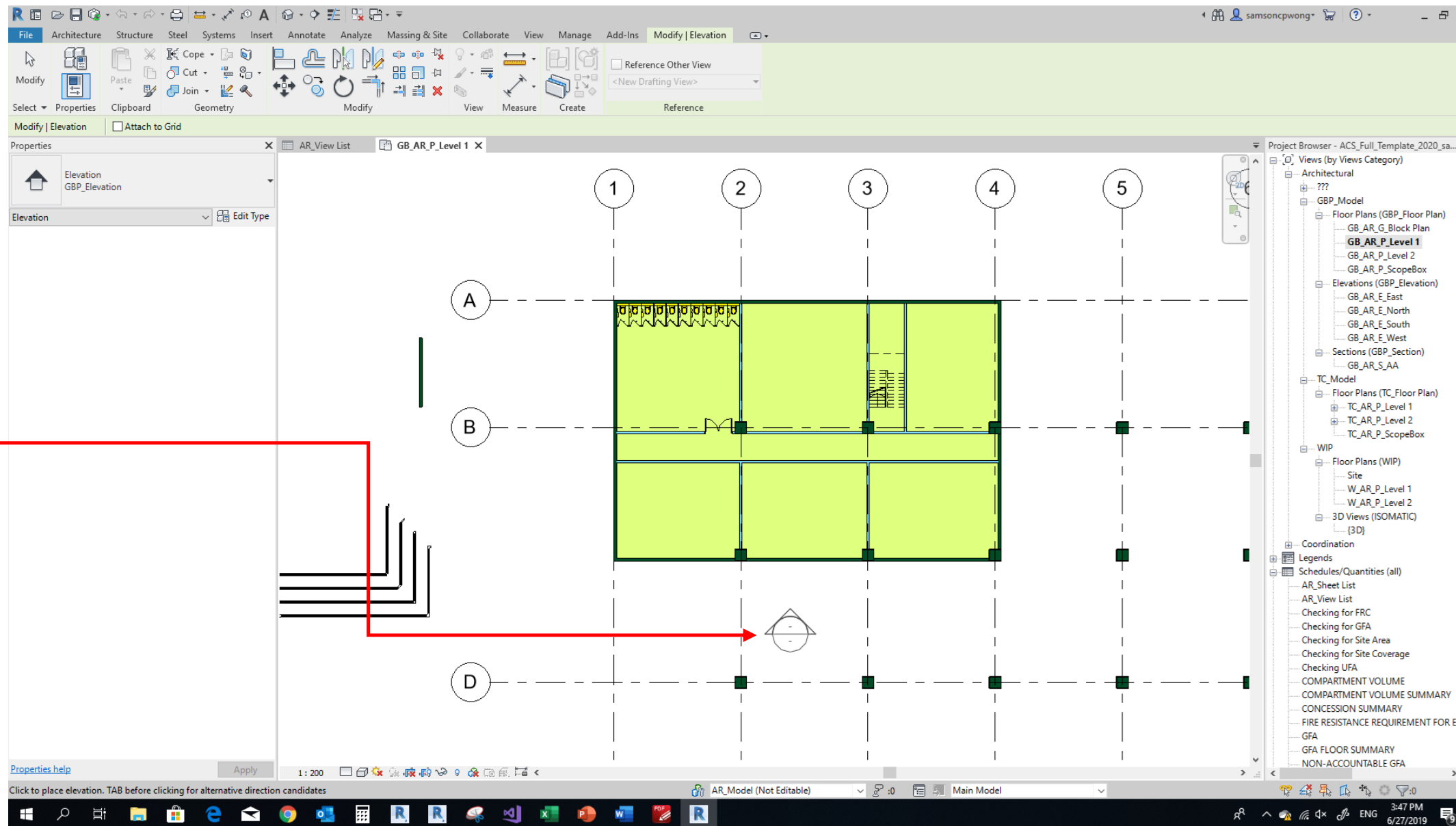
1 Click  
"View"

2 Click  
"Elevation"



## 4.12 VIEW SETUP FOR ELEVATION

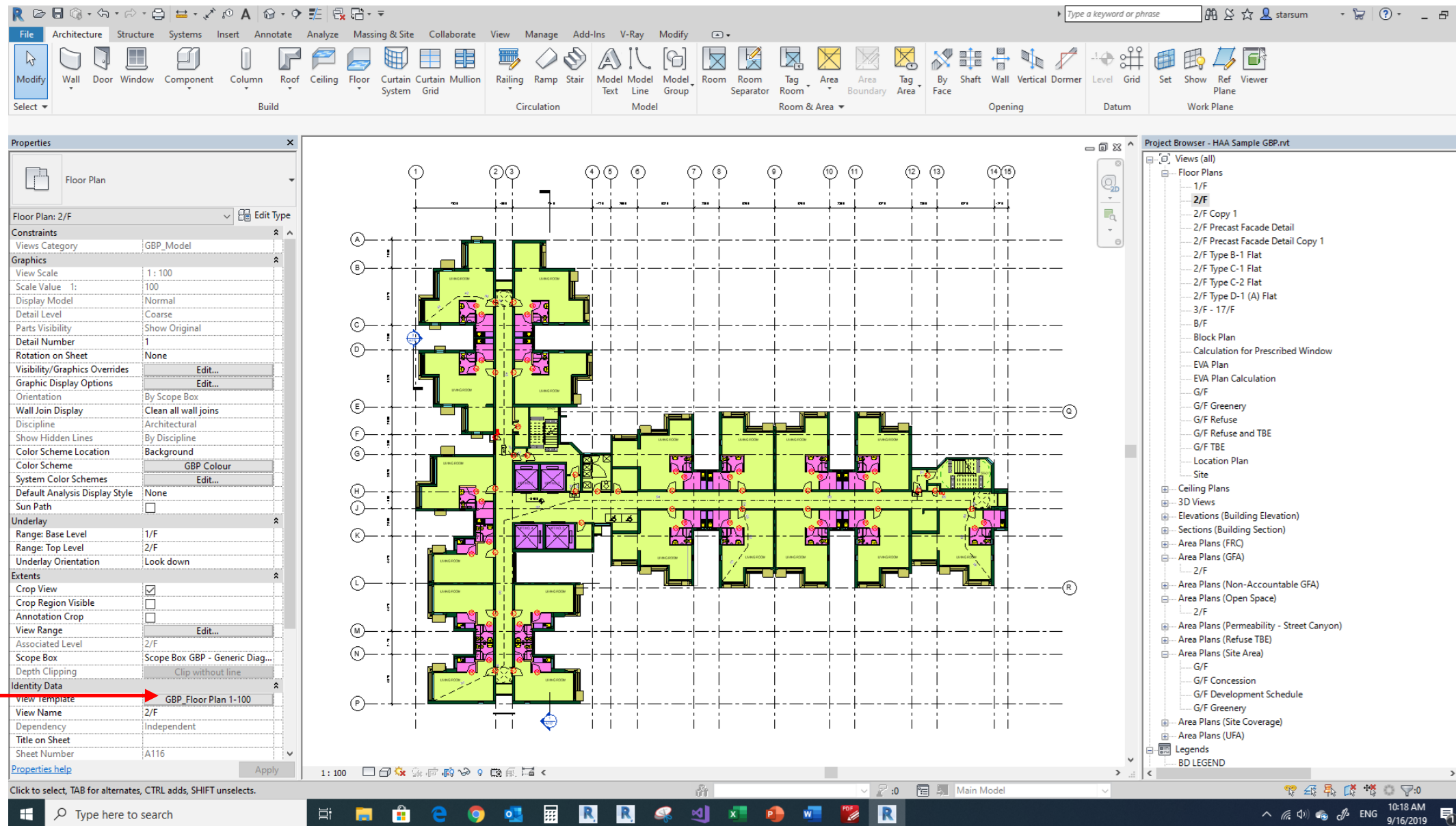
1 Pick a point to insert.  
Direction of elevation will be detected automatically. Such direction can also be altered by using keyboard “tab” key when BIM objects are located in other directions from the elevation mark



## 4.13 VIEW TEMPLATE SETUP

- View Template is a collection of visibility/graphics setup which control how a 3D model is presented on particular view. This includes use of line type, line weight & colour etc.
- It can be used to control how to generate 2D drawing from 3D model.
- Commonly used view template settings are provided in Revit template file. Please refer to Section 6.2.2 & 6.4.2 for available view template settings.
- It is recommended to adopt this settings prior to 3d modelling. So that generated 2D drawings can be reviewed immediately.
- The following section will provide guideline on view template setup.

# 4.13 VIEW TEMPLATE SETUP

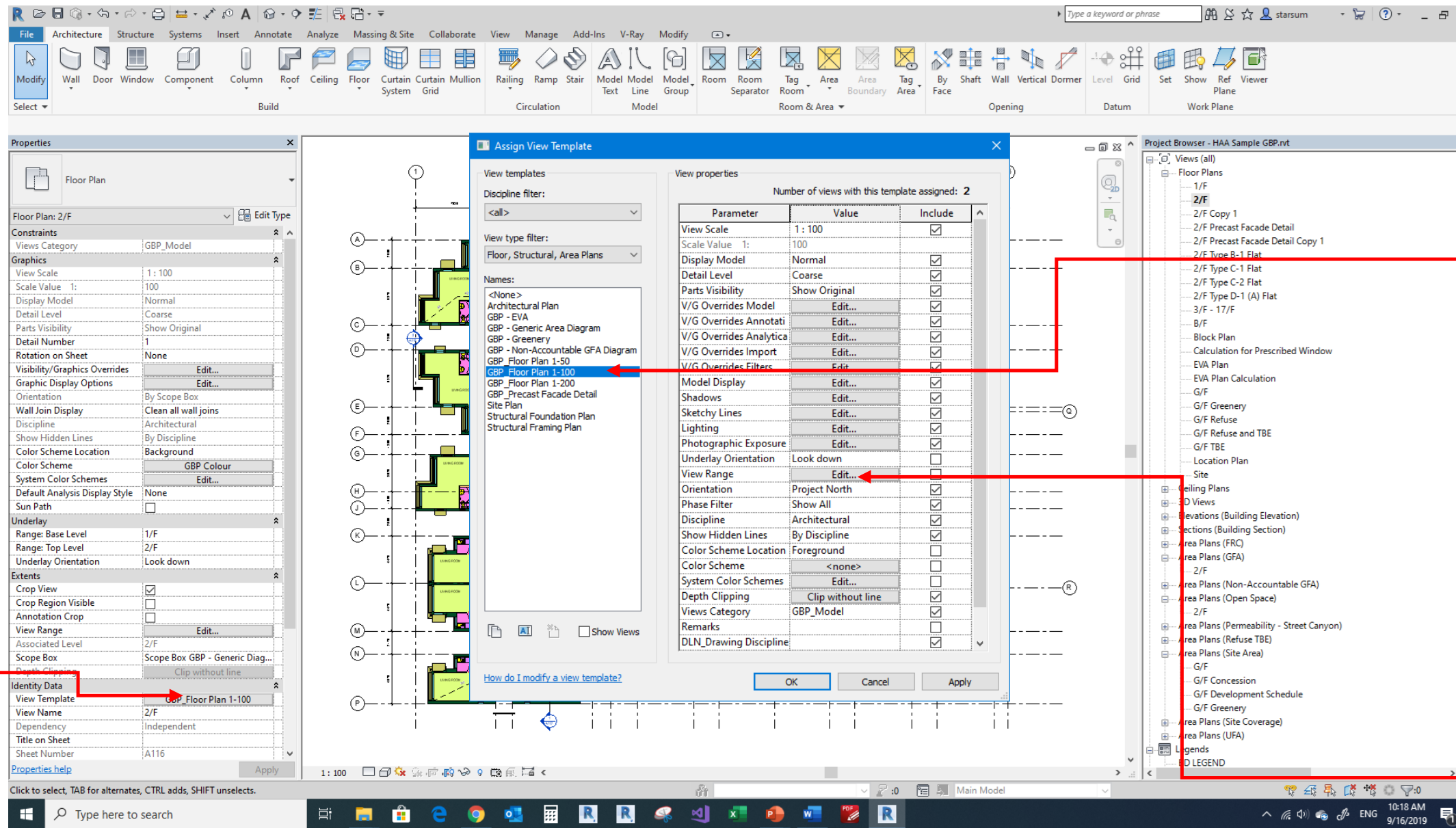


1 Go to view and click on this button



# 4.13 VIEW TEMPLATE SETUP

1 Select a view under Project Browser and click on this button



2 Select view template. For detail, please refer to Section 6.2.2 & 6.4.2 for which view template should be used

3 Modify Setting if necessary

# 5 MODELING STANDARDS & GUIDELINES

## 5 MODELING STANDARDS & GUIDELINES

- This sections illustrates standards & guidelines for 3d modelling.
- It covers aspects which are commonly required by architectural and structural building professionals, e.g. modelling of column, wall, floor & stair etc.
- Each project will have its statutory submission strategy, which should be decided by the project team.

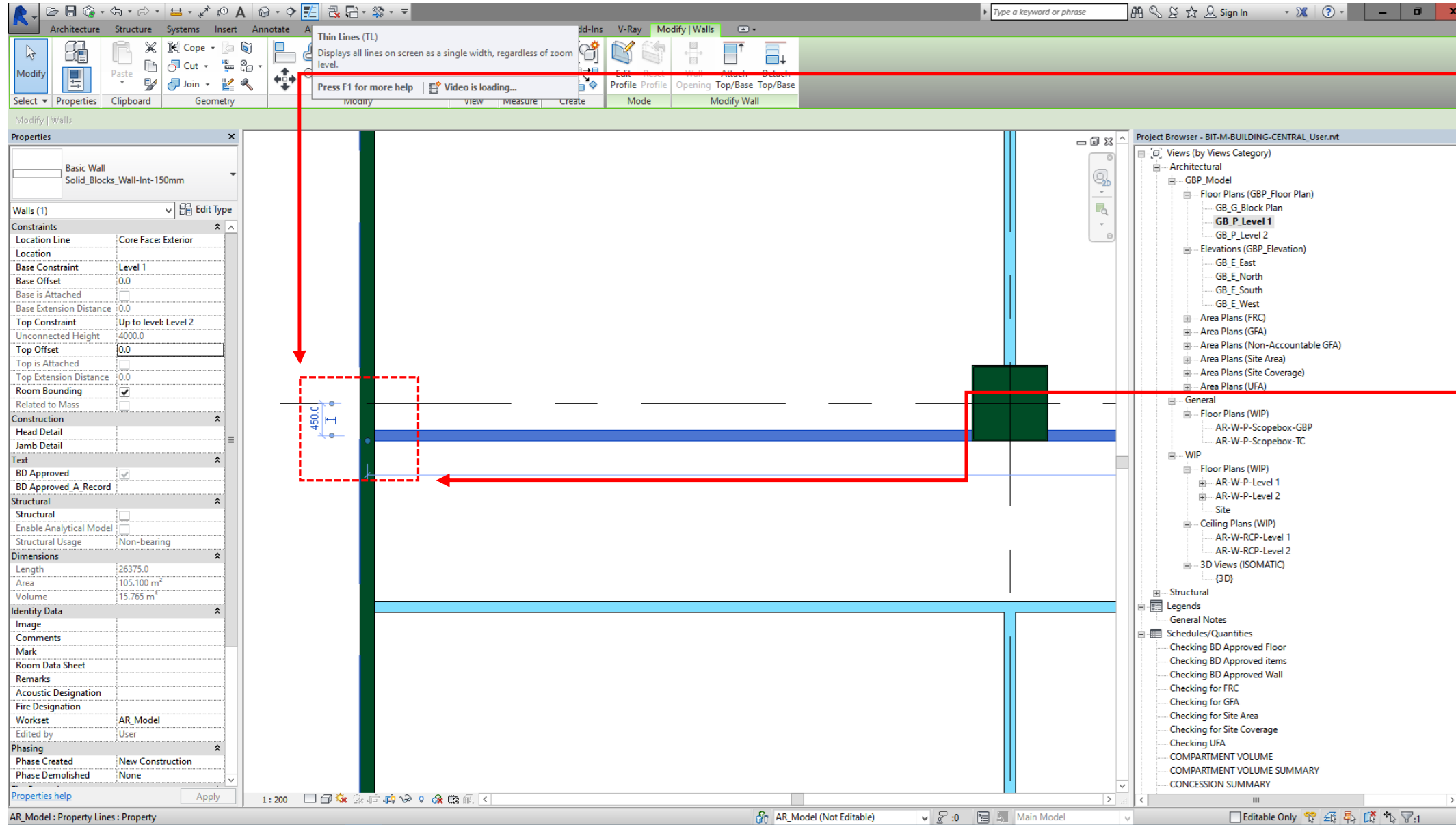
## 5 MODELING STANDARDS & GUIDELINES

- Accurate Modelling is essential for BIM
- Inaccurate modelling can be easily occurred especially for model with high level of details. As such model can have lots of congested line works. Users may pick the incorrect element as setting out point. Then whole model will then become inaccurate. Inaccurate model will cause problems for drawing production of statutory and building control submission. And it is very time consuming to fix the accuracy.

# 5.1 MODELLING – GENERAL

## 5.1.1 Techniques for Accurate Modelling

1 Type keyboard “tl” to toggle thin line display to prevent overlook of congested line-works



2 Type keyboard “zr” to zoom in

3 Pick first point

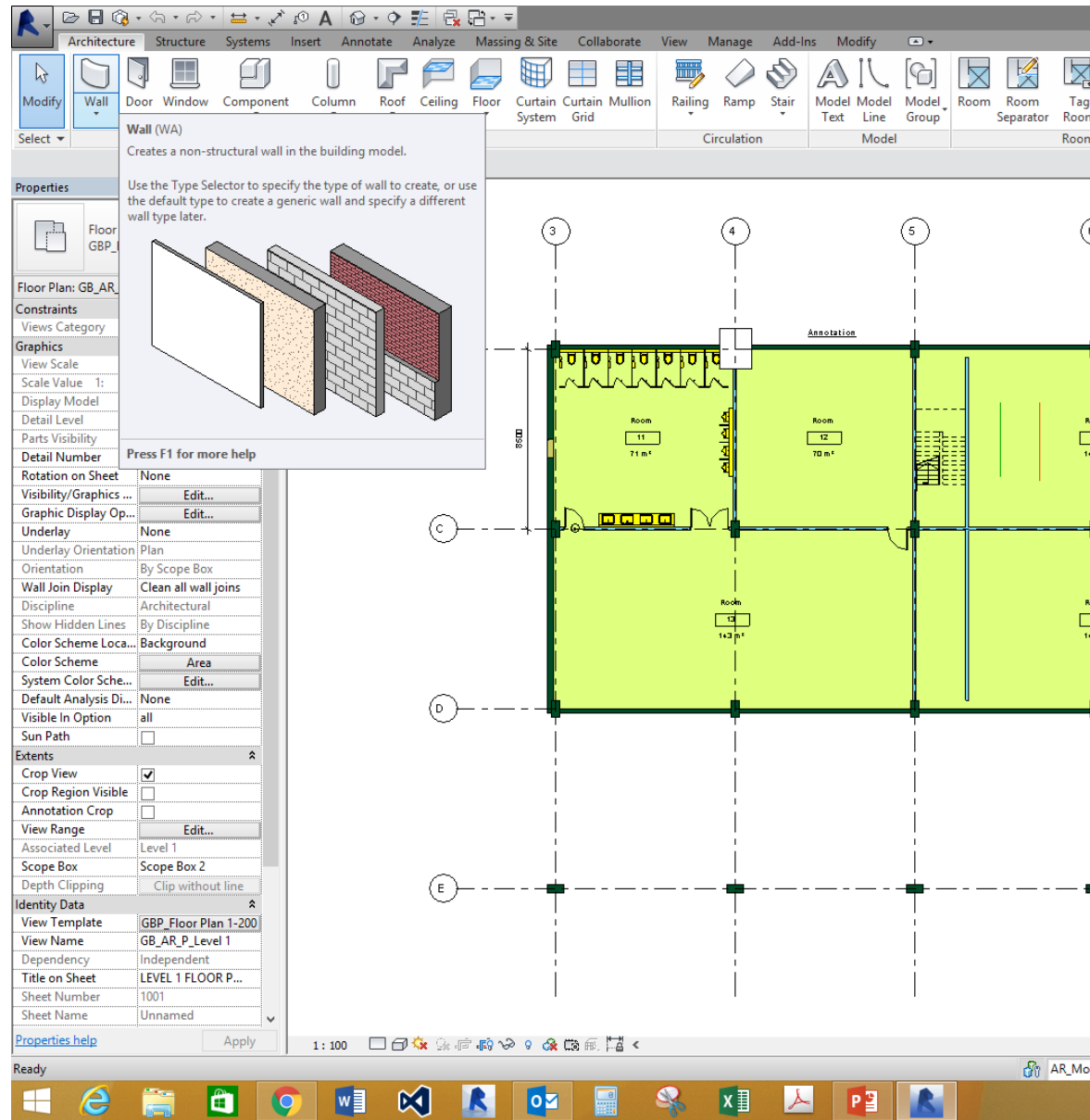
4 Hold mouse button, drag to another point to define zoom window extent then release to zoom in

5 Type keyboard “ze” to zoom out

# 5.1 MODELLING – GENERAL

## 5.1.1 Techniques for Accurate Modelling

1 Use snap point shortcut to ensure accurate modelling



2 Shortcut for snap point, nearly all starts with "S" then follow by first letter of the snap point

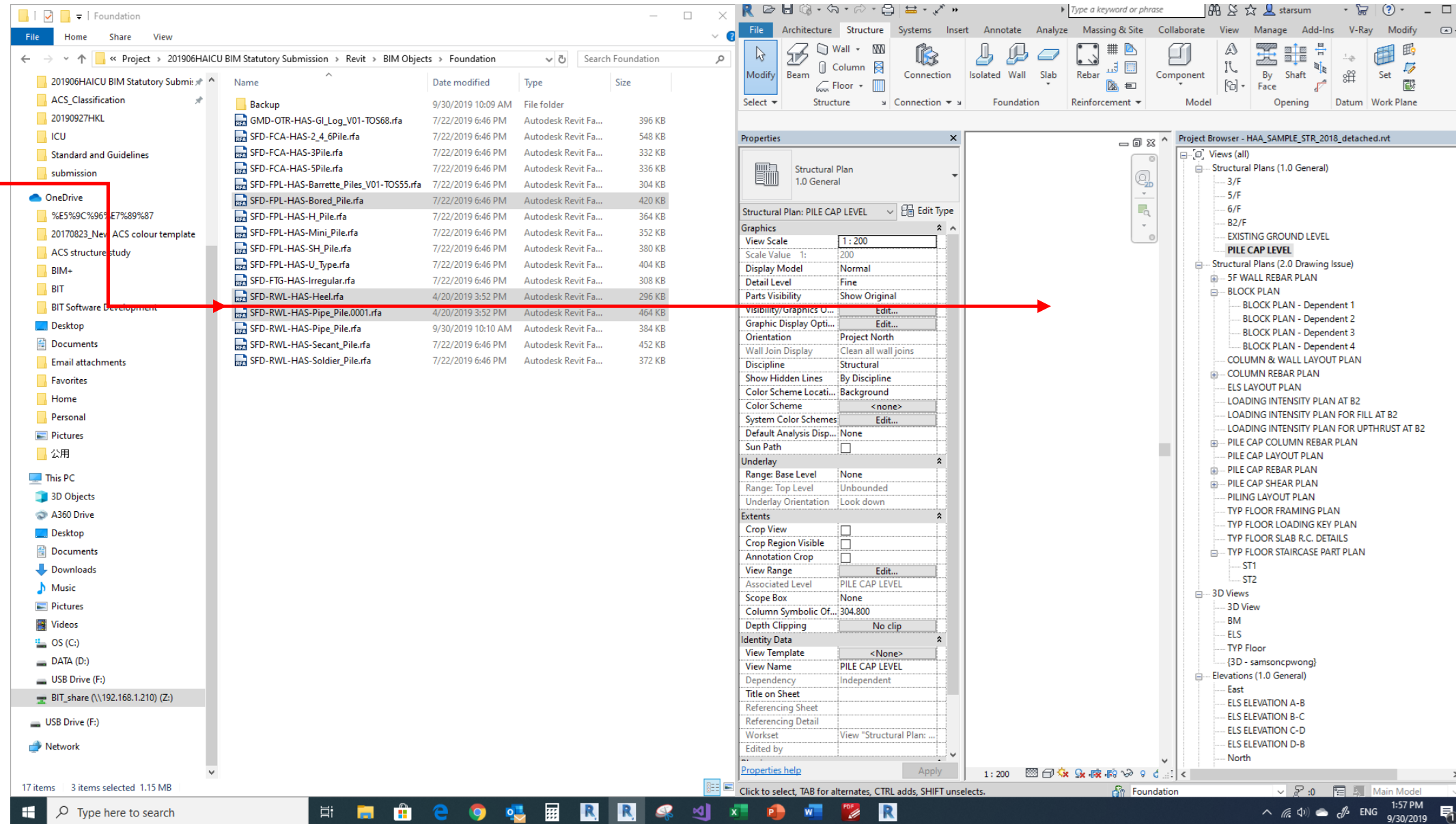
Object Snap	Shortcut Key	Description
Endpoints	SE	Snaps to the endpoint of an element or component.
Midpoints	SM	Snaps to the midpoint of an element or component. When placing a wall insert, such as a window, door, or opening, you can use the midpoint override, SM, to snap the insert to the midpoint of the wall segment.
Nearest	SN	Snaps to the nearest element or component. If you turn off the Nearest object snap by clearing the check box or using the keyboard override, Revit LT allows jump snaps to endpoints, midpoints, and centers. A jump snap is a snap point that is more than 2 mm away from the cursor on the screen.
Work Plane Grid	SW	Snaps to a work plane grid.
Quadrants	SQ	Snaps to quadrant points. For arcs, jump snaps are enabled.
Intersections	SI	Snaps to intersections.
Centers	SC	Snaps to the center of an arc.
Perpendicular	SP	Snaps to perpendicular elements or components.
Tangents	ST	Snaps tangent to an arc.
Points	SX	Snaps to site points when editing points using the Move or Copy tool.
Snap to Remote Objects	SR	This is similar to jump snaps. When you select this option, snaps look for objects that are not near the element.
Close	SZ	Snaps to close valid open loops. See <a href="#">Closing an Open Loop</a> .
Turn Override Off	SS	Turns off snap overrides.
Cycle through snaps	Tab key	Cycles through the available snap options.
Reverse direction when cycling through snaps	Shift+Tab	Cycles through the available snap options in reverse order.
Force Horizontal and Vertical	Shift key	Forces horizontal and vertical constraints.
Snaps Off	SO	Disables all snap settings.



# 5.1 MODELLING – GENERAL

## 5.1.2 Load Family

1 Select family(ies) to be inserted by windows explorer, drag and drop to Revit



# 5.1 MODELLING – GENERAL

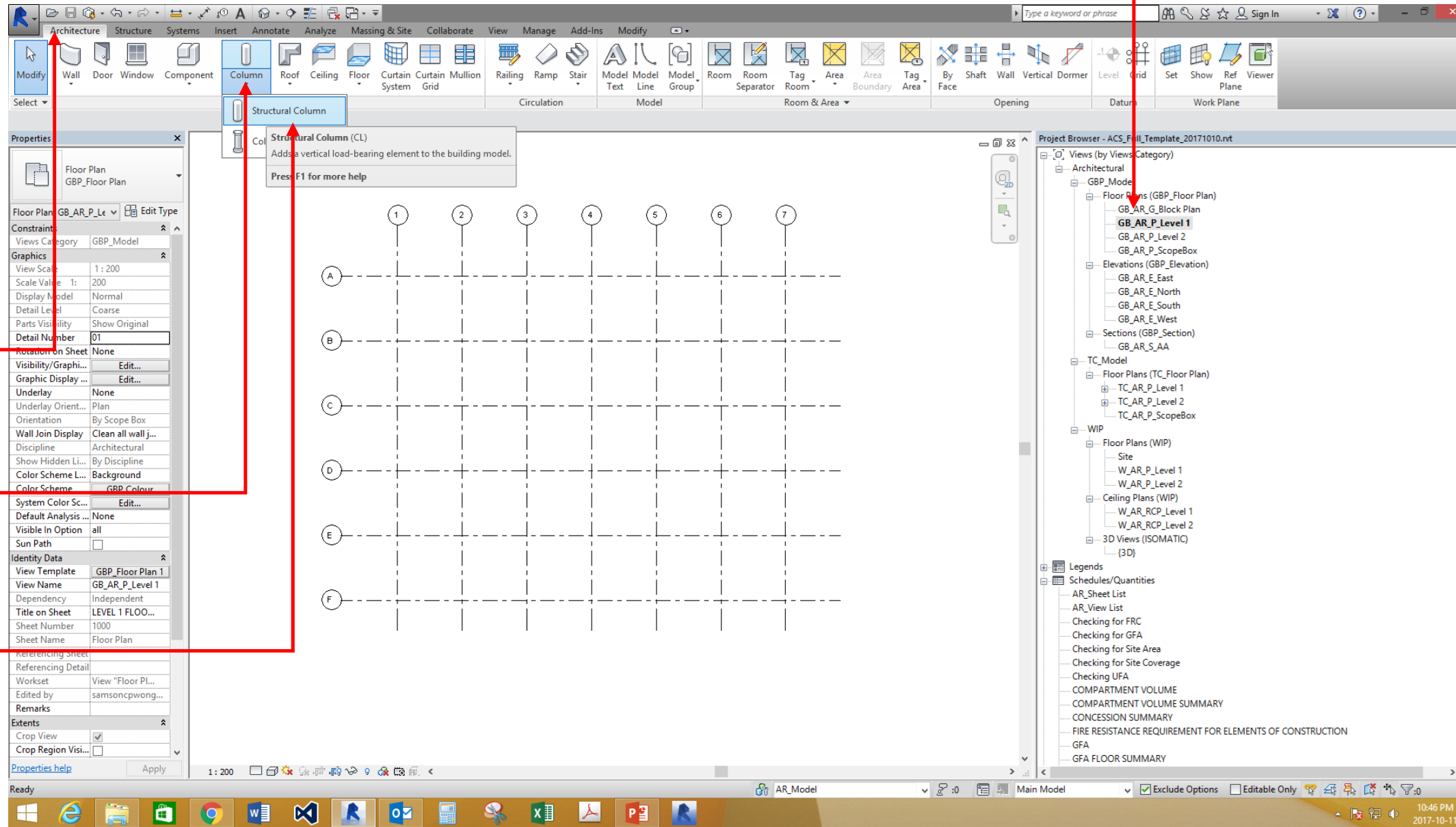
## 5.1.3 Column – Single Column Insertion

1 Select relevant floor plan view, it define base level

2 Click “Architecture”

3 Click “Column”

4 Click “Structural Column”



# 5.1 MODELLING – GENERAL

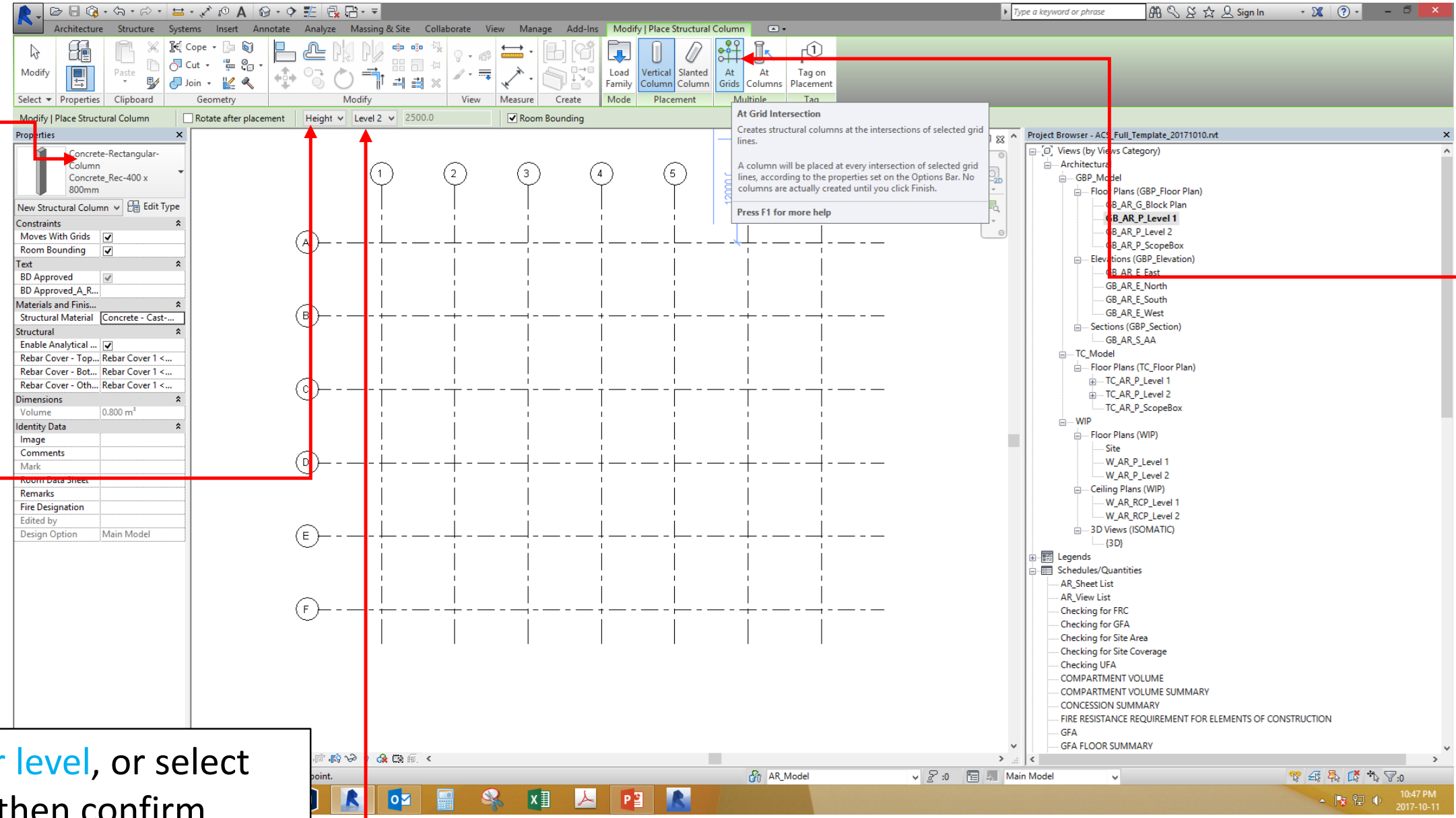
## 5.1.3 Column – Single Column Insertion

1 Select column type, material & size

2 Select “Height” for vertical upward column, or “Depth” for vertical downward column

3 Select another level, or select “unconnected” then confirm number on the right as column height

4 Either pick a point on screen to add one column, or switch on this button to create multi-column at grid line intersection points



# 5.1 MODELLING – GENERAL

## 5.1.4 Column – Multiple Columns Insertion

1 Pick first point

2 Pick second point to multi-select grids

3 Press keyboard space to rotate column

4 Click "Finish"

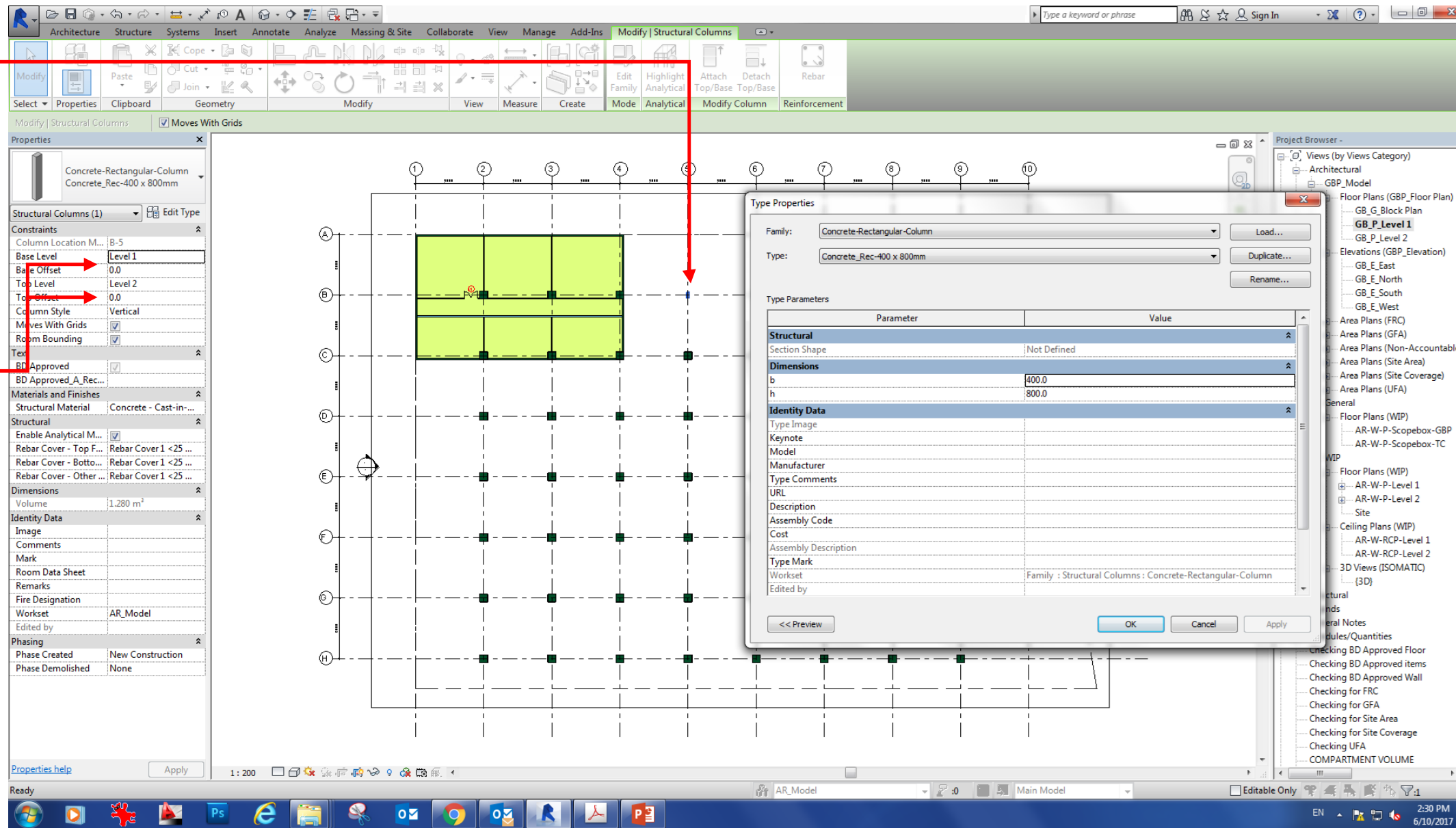
The screenshot shows the Revit software interface during the 'Place Structural Column' process. The ribbon is set to 'Place Structural Column > At Grid Intersection'. The Properties panel shows 'Concrete-Rectangular-Column' with a size of 'Concrete\_Rec-400 x 800mm'. The main view displays a grid with columns numbered 1 to 7 and rows lettered A to F. A red dashed rectangle highlights the area between grid lines 1 and 7, and A and F. The Project Browser on the right shows the current project structure, including 'Architectural', 'TC\_Model', and 'WIP' views. The status bar at the bottom indicates 'AR\_Model' and 'Main Model'.

# 5.1 MODELLING – GENERAL

## 5.1.5 Column – Adjust Base and Top Offset

1 Select column(s)

2 Adjust Base and Top Offset. E.g. 300 means moving the base/top 300mm up





# 5.1 MODELLING – GENERAL

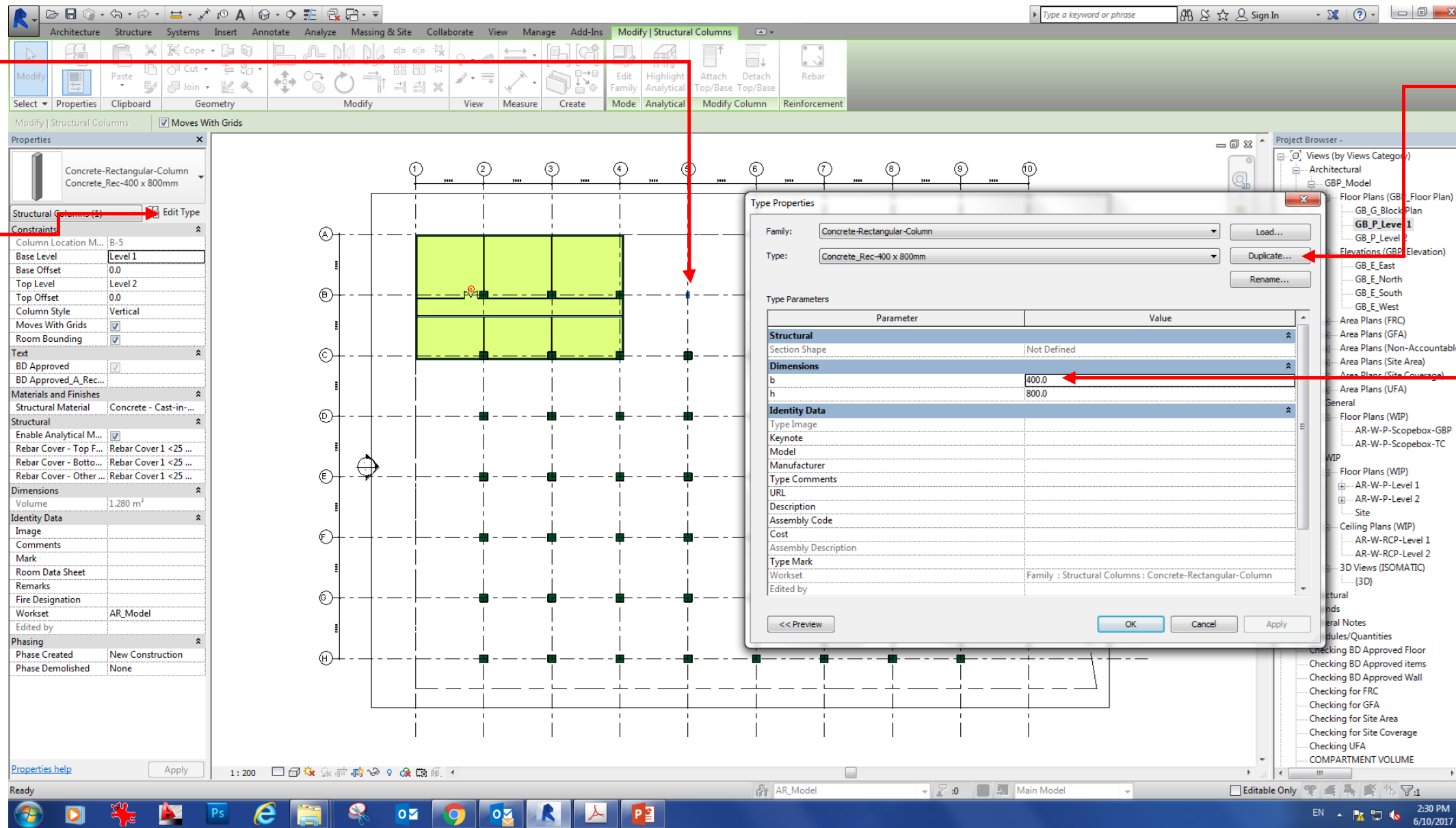
## 5.1.6 Column – Create New Column Type

1 Select 1 column

2 Click “Edit Type”

3 Duplicate and assign a new name

4 Modify Dimensions





# 5.1 MODELLING – GENERAL

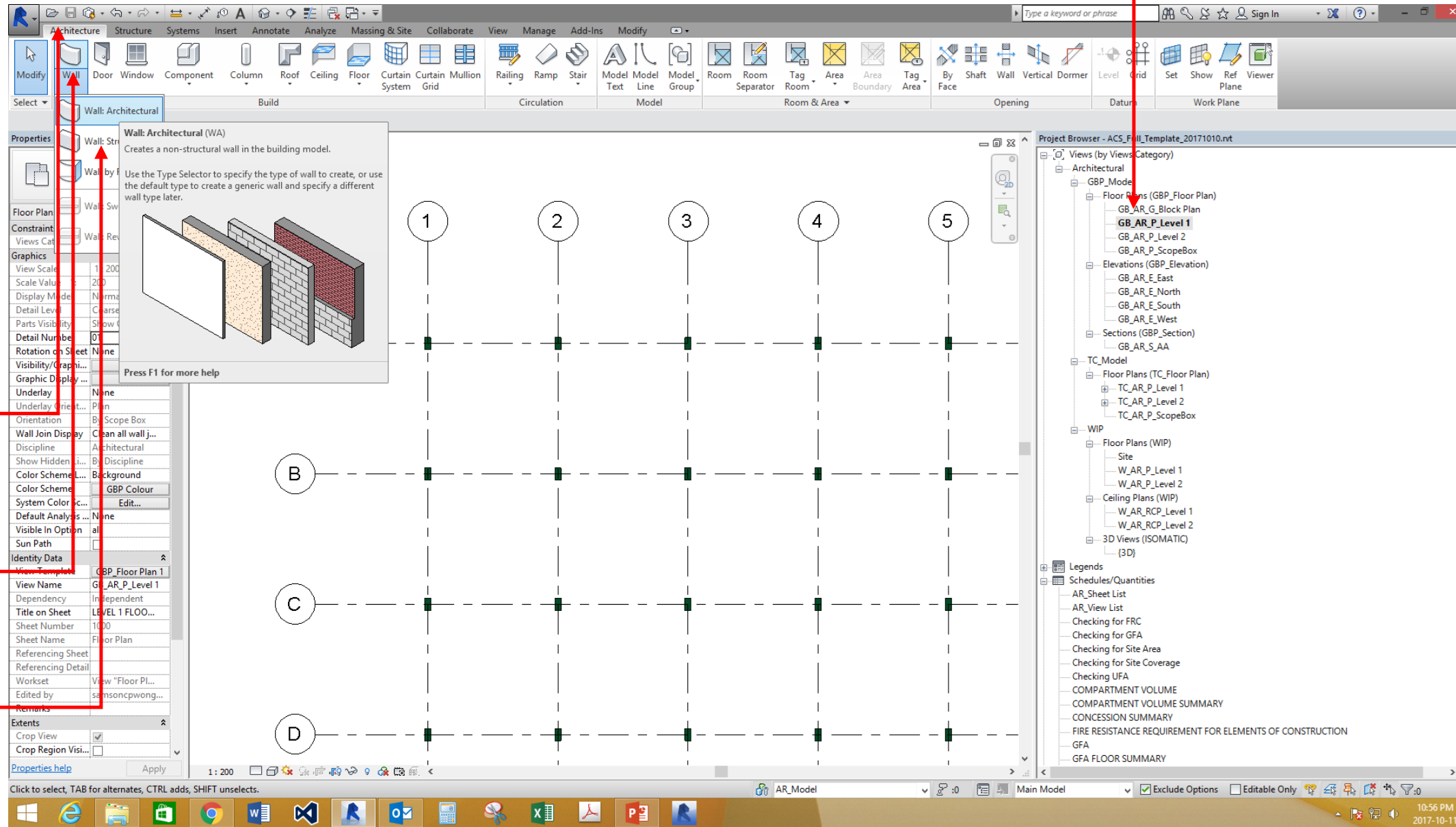
## 5.1.7 Wall

1 Select relevant floor plan view, it define wall base level

2 Click “Architecture” or “Structural”

3 Click “Wall”

4 Click “Wall: Architectural/ Structural”



# 5.1 MODELLING – GENERAL

## 5.1.7 Wall

The screenshot shows the Revit software interface with the 'Place Wall' tool active. The main drawing area displays a grid with four vertical lines labeled 1, 2, 3, and 4. A horizontal wall is being placed between lines 2 and 3. The Properties panel on the left shows the 'Basic Wall' family with various parameters. The Project Browser on the right shows the current project structure. Seven numbered callouts provide step-by-step instructions:

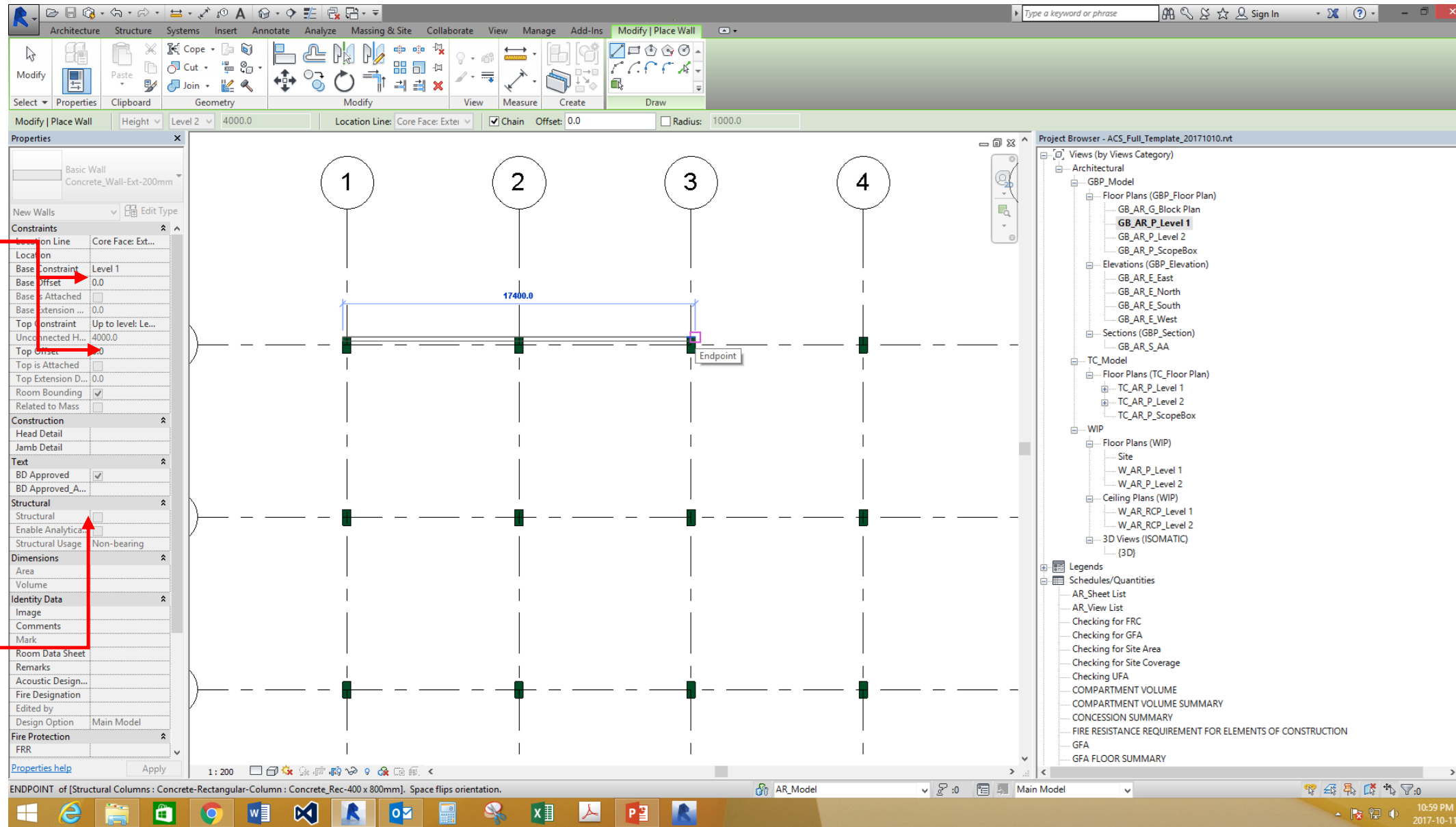
- 1 Select draw line / pick line
- 2 Select type, material and thickness which is displayed by family name
- 3 Confirm top level, or select "unconnected" then confirm number on the right, which is wall height
- 4 Use core face for location line for most cases
- 5 Pick first point
- 6 Pick second point
- 7 For structural wall. Point should be picked from left to right & bottom to top on plan view

# 5.1 MODELLING – GENERAL

## 5.1.7 Wall

1 Adjust **base offset, top offset** if necessary

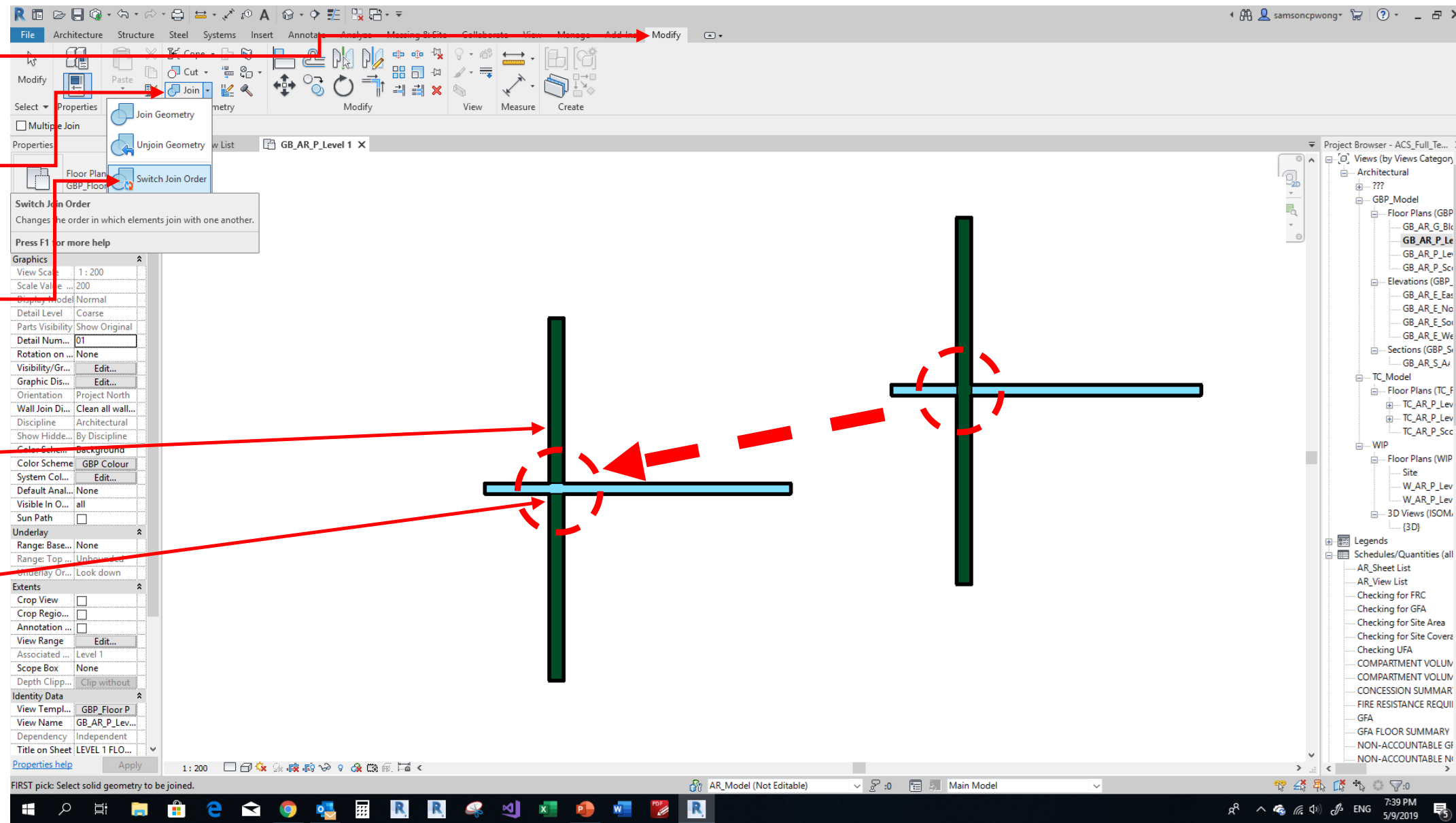
2 Toggle **structural** if necessary



# 5.1 MODELLING – GENERAL

## 5.1.8 Wall – Modify Wall Junction

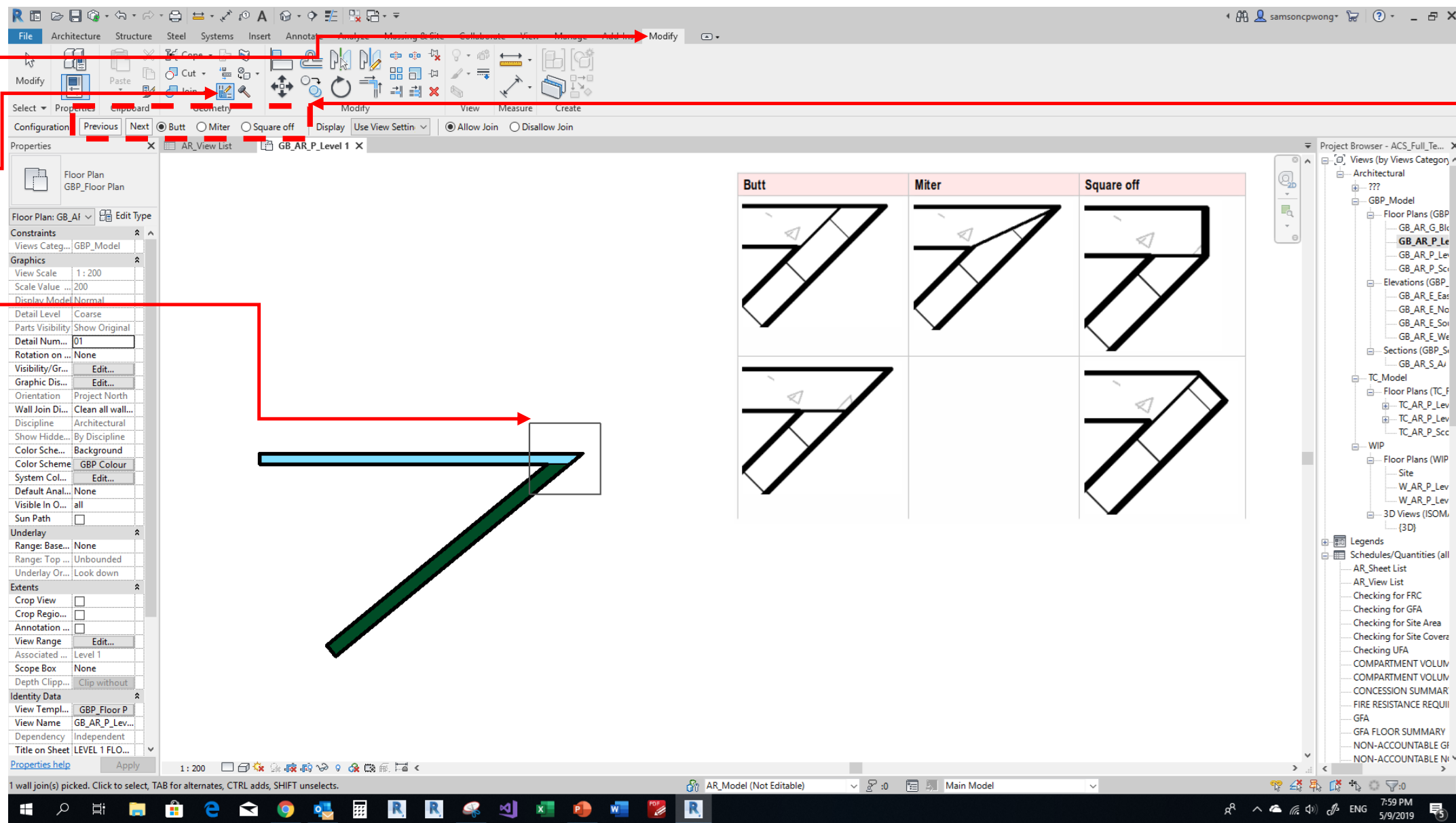
- 1 Click "Modify"
- 2 Click "Join"
- 3 Click "Switch Join Order"
- 4 Pick first "Wall"
- 5 Pick second "Wall"



# 5.1 MODELLING – GENERAL

## 5.1.8 Wall – Modify Wall Junction

- 1 Click “Modify”
- 2 Click “Wall Joins”
- 3 Click near wall junction



- 4 Select appropriate option



# 5.1 MODELLING – GENERAL

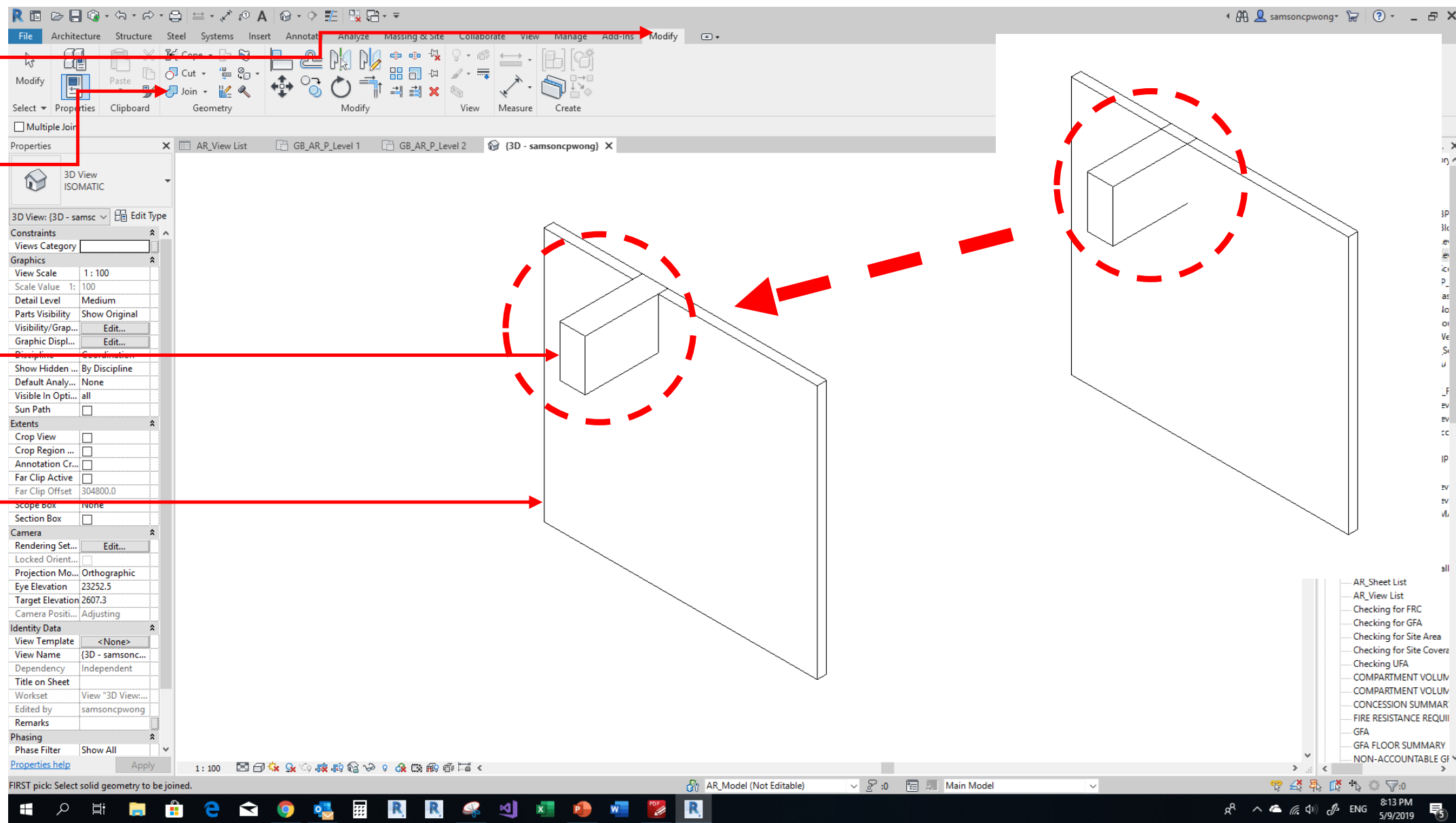
## 5.1.8 Wall – Modify Wall Junction

1 Click  
“Modify”

2 Click “Joins”

3 Pick “Beam”

4 Pick “Wall”





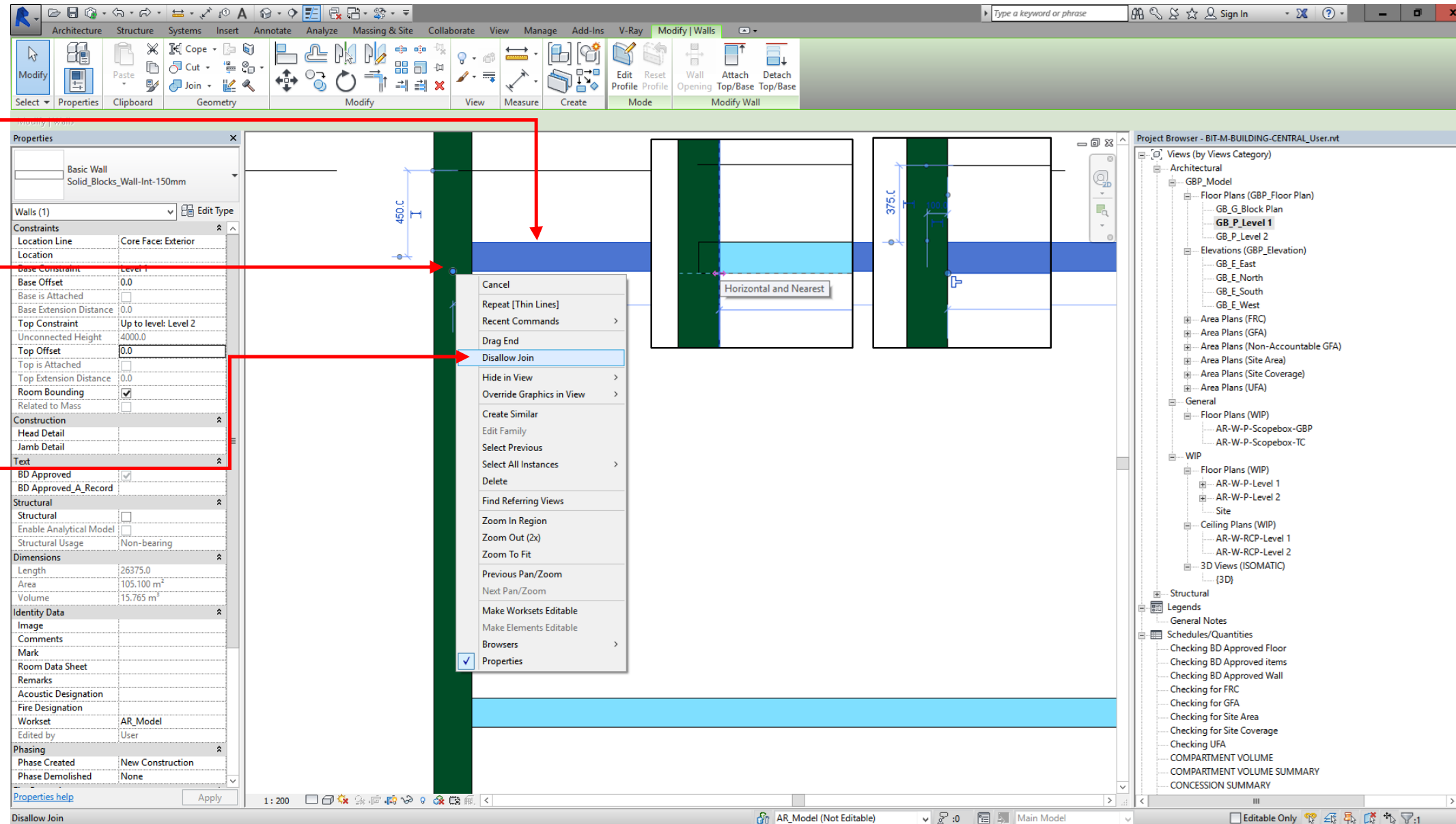
# 5.1 MODELLING – GENERAL

## 5.1.8 Wall – Modify Wall Junction

1 Select wall

2 Click blue dot

3 Right click, select disallow join



# 5.1 MODELLING – GENERAL

## 5.1.9 Wall – Modify Wall Thickness

1 Select a wall on screen

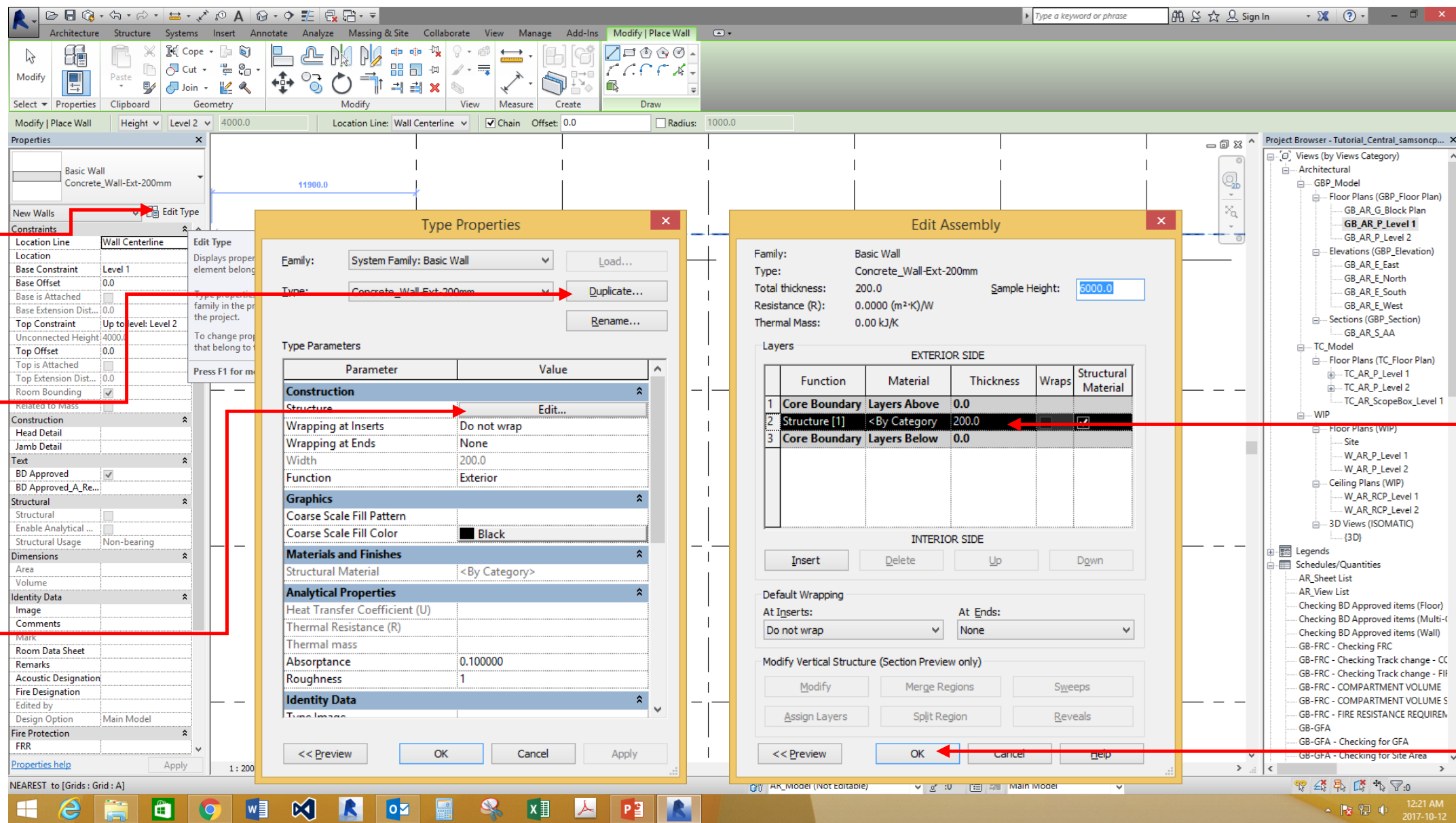
2 Click “Edit Type”

3 Duplicate and provide a new name

4 Click “Edit”

5 Modify thickness

6 Click “OK”



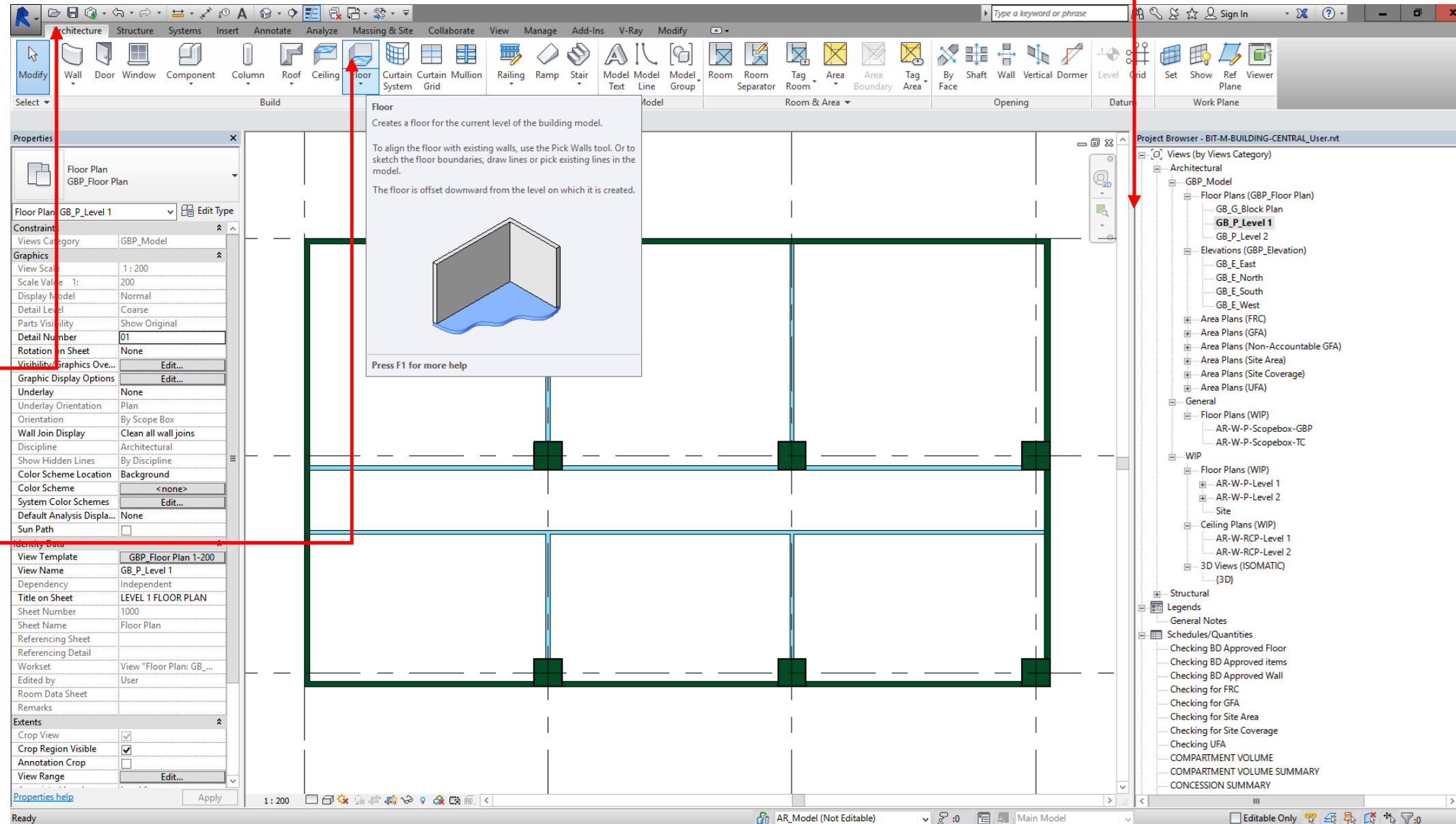
# 5.1 MODELLING – GENERAL

## 5.1.10 Floor

1 Select relevant floor plan view, it define **base level**

2 Click “Architecture” or “Structure”

3 Click “Floor:Arch/Structural”



# 5.1 MODELLING – GENERAL

## 5.1.11 Floor & Roof

1 Click "Boundary Line"

2 Select type, material and thickness

3 Adjust height offset if necessary

4 Draw line / pick line / wall

5 Draw line / pick line on screen

6 Select tick

The screenshot shows the Revit software interface. The ribbon at the top has the 'Boundary Line' tool selected. The Properties panel on the left shows the 'Concrete\_Floor-Int-150mm' type. The main drawing area shows a grid with dimensions 27525.0 and 16625.0. The Project Browser on the right shows the 'GB\_P\_Level 1' element. Red arrows point from the numbered text boxes to the 'Boundary Line' tool, the Properties panel, the 'Height Offset From Level' field, the 'Boundary Line' tool, the drawing area, and the 'Endpoint' tick mark.

# 5.1 MODELLING – GENERAL

## 5.1.12 Floor & Roof – Modify Junction with Wall

1 Select wall

2 Select attach / detach

3 Select another object

Properties	
Basic Wall	Generic - 200mm
Walls (1) Edit Type	
Constraints	
Location Line	Wall Centerline
Base Constraint	Level 1
Base Offset	0.0
Base is Attached	<input type="checkbox"/>
Base Extension ...	0.0
Top Constraint	Unconnected
Unconnected H...	8000.0
Top Offset	0.0
Top is Attached	<input type="checkbox"/>
Top Extension ...	0.0
Room Bounding	<input checked="" type="checkbox"/>
Related to Mass	



# 5.1 MODELLING – GENERAL

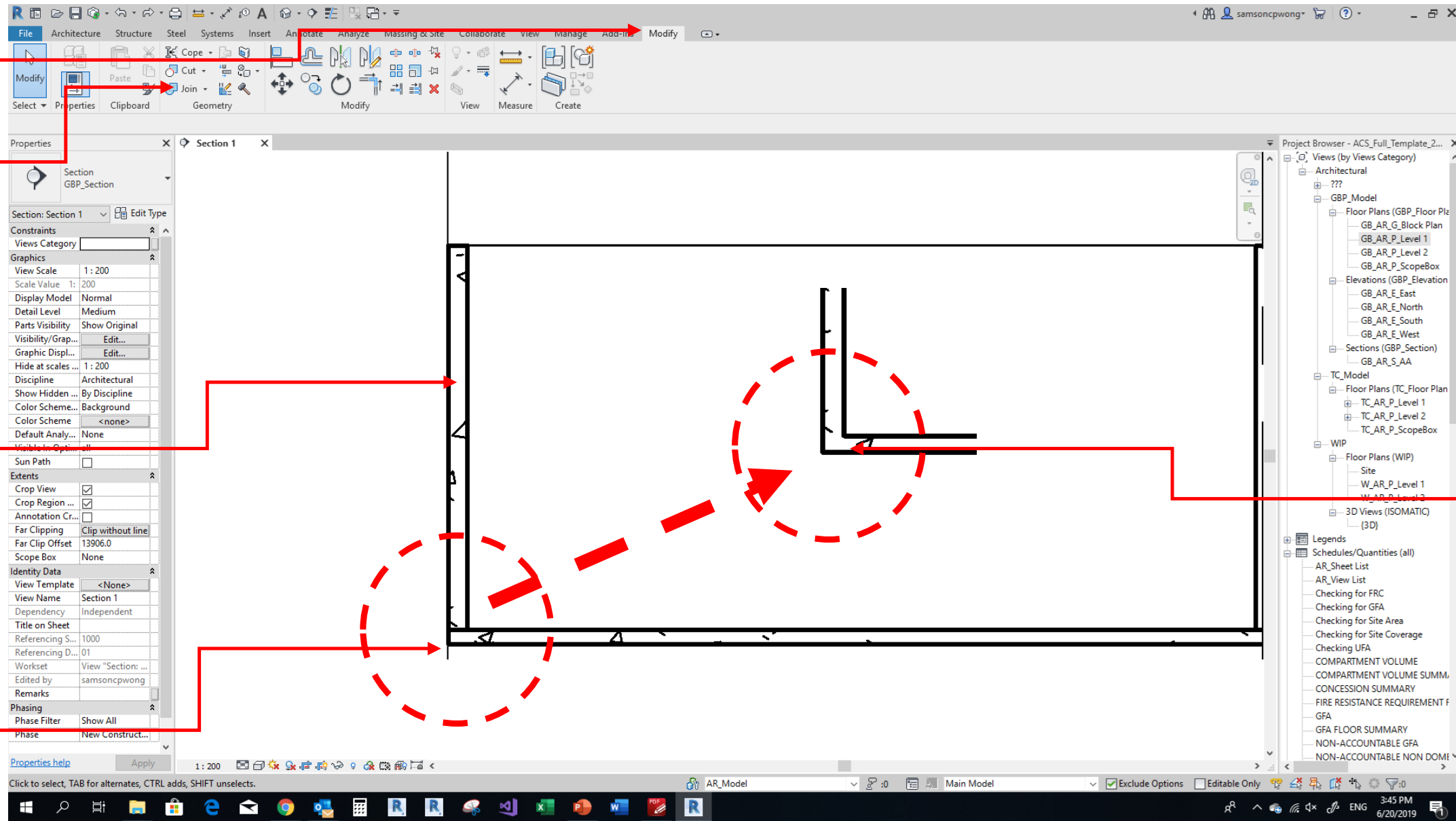
## 5.1.13 Join/unjoin Geometry

1 Click “Modify”

2 Click “Join”

3 Pick first object

4 Pick second object



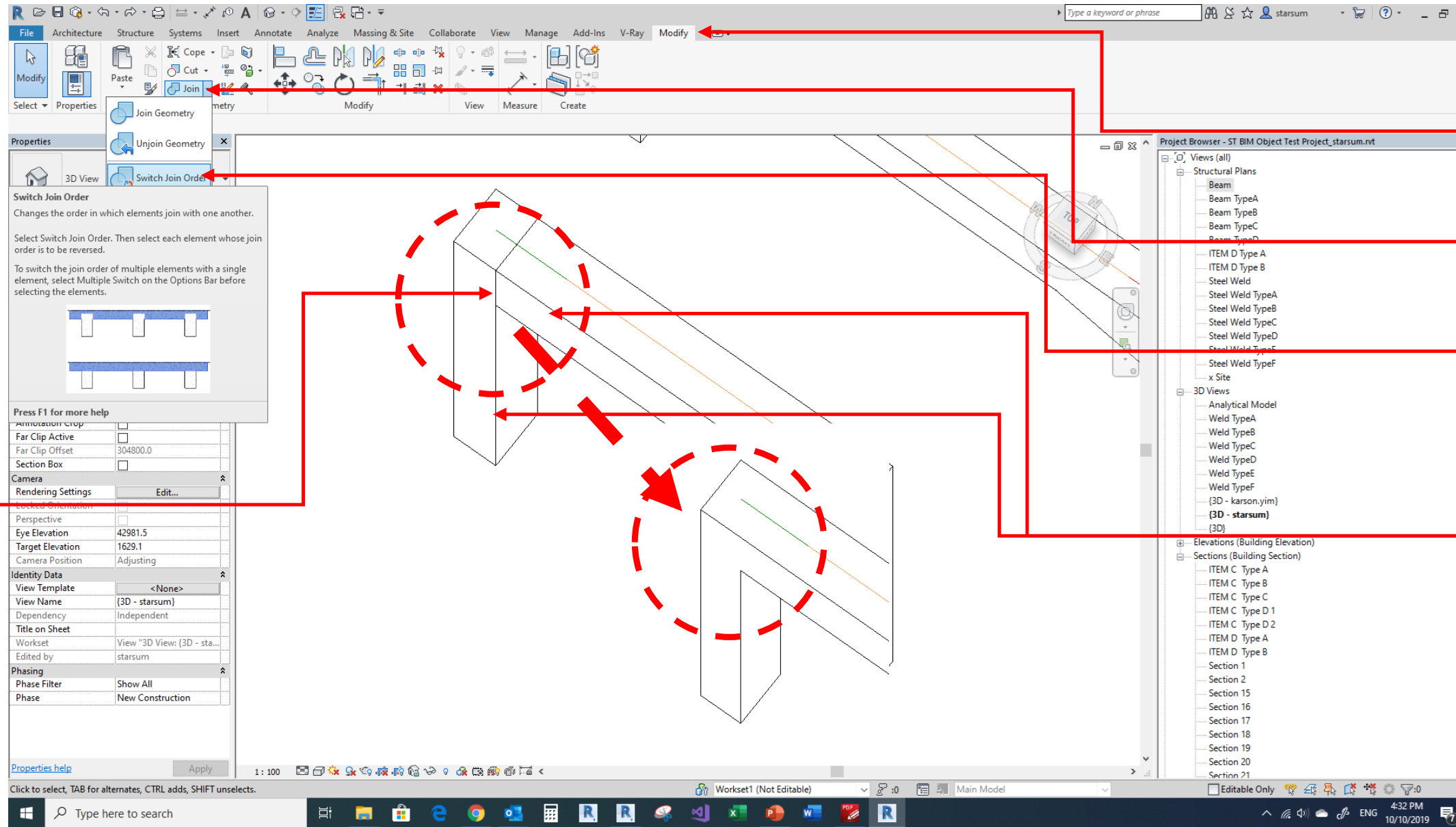
5 Junction line removed when two objects are under same material



# 5.1 MODELLING – GENERAL

## 5.1.13 Join/unjoin Geometry

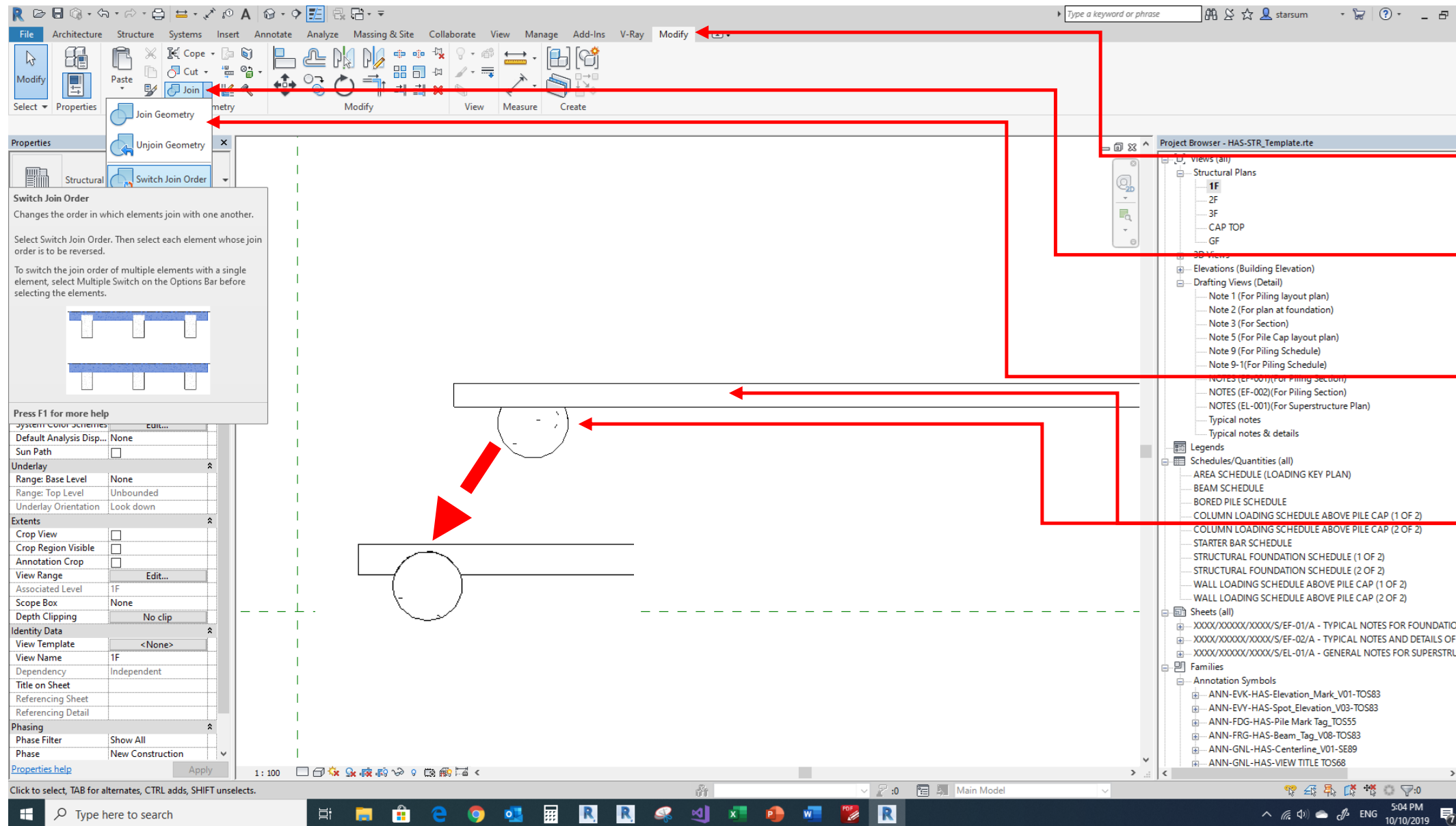
1 By default, a beam will join a column if they touch each other. If it is required to remove the line between beam and column, ensure both elements are under same material, then follow the steps



- 2 Click "Modify"
- 3 Click "Join"
- 4 Click "Switch Join Order"
- 5 Pick beam and column

# 5.1 MODELLING – GENERAL

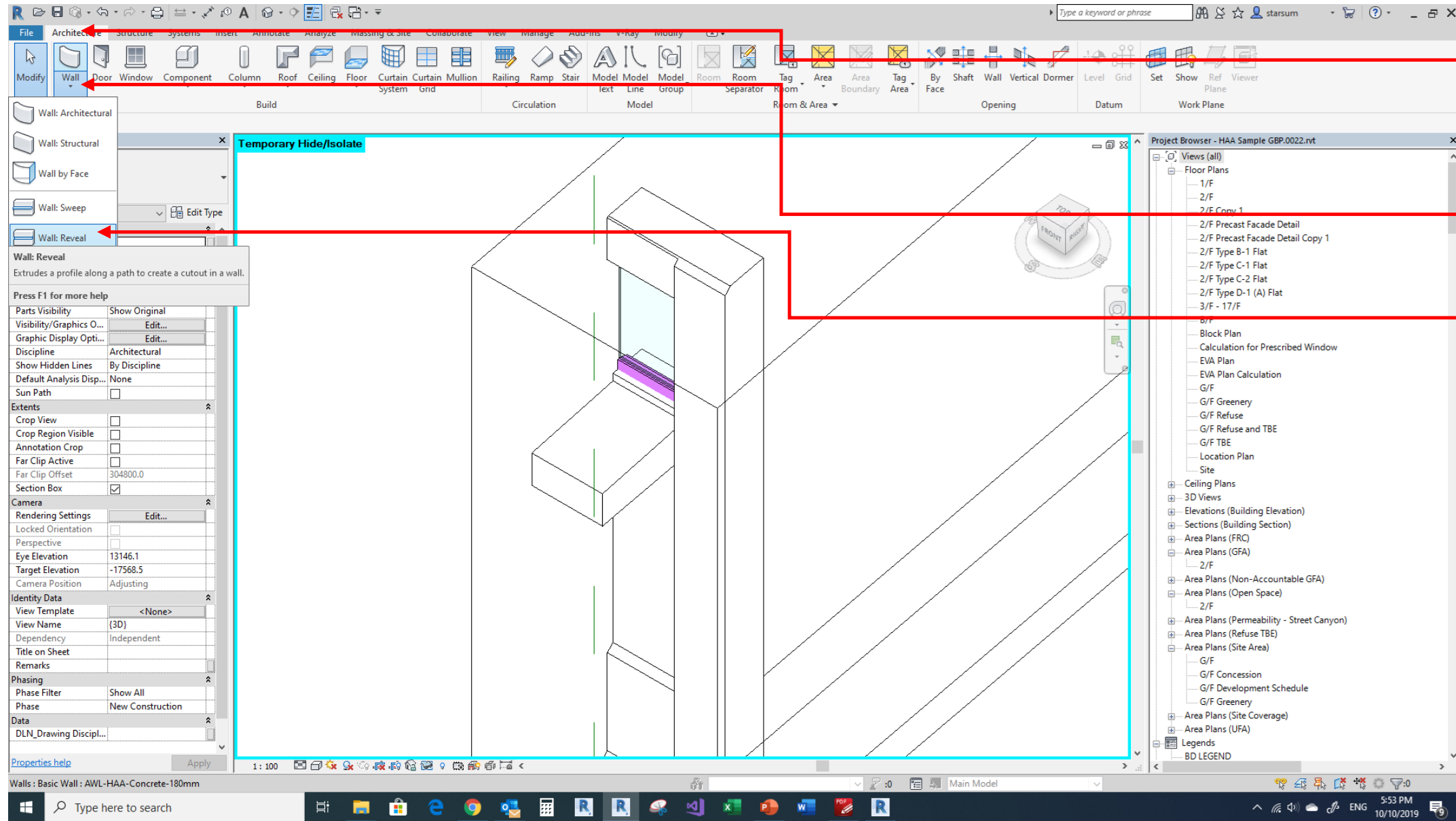
## 5.1.13 Join/unjoin Geometry



# 5.1 MODELLING – GENERAL

## 5.1.14 Junction between Precast and Cast-in-situ Elements

1 Go to 3d view



2 Click "Architecture"

3 Click "Wall"

4 Click "Wall Reveal"

## 5.1 MODELLING – GENERAL

### 5.1.14 Junction between Precast and Cast-in-situ Elements

1 Select horizontal or vertical reveal, i.e. the junction

2 Select junction profile, a profile “Façade Wall Key” is preloaded.

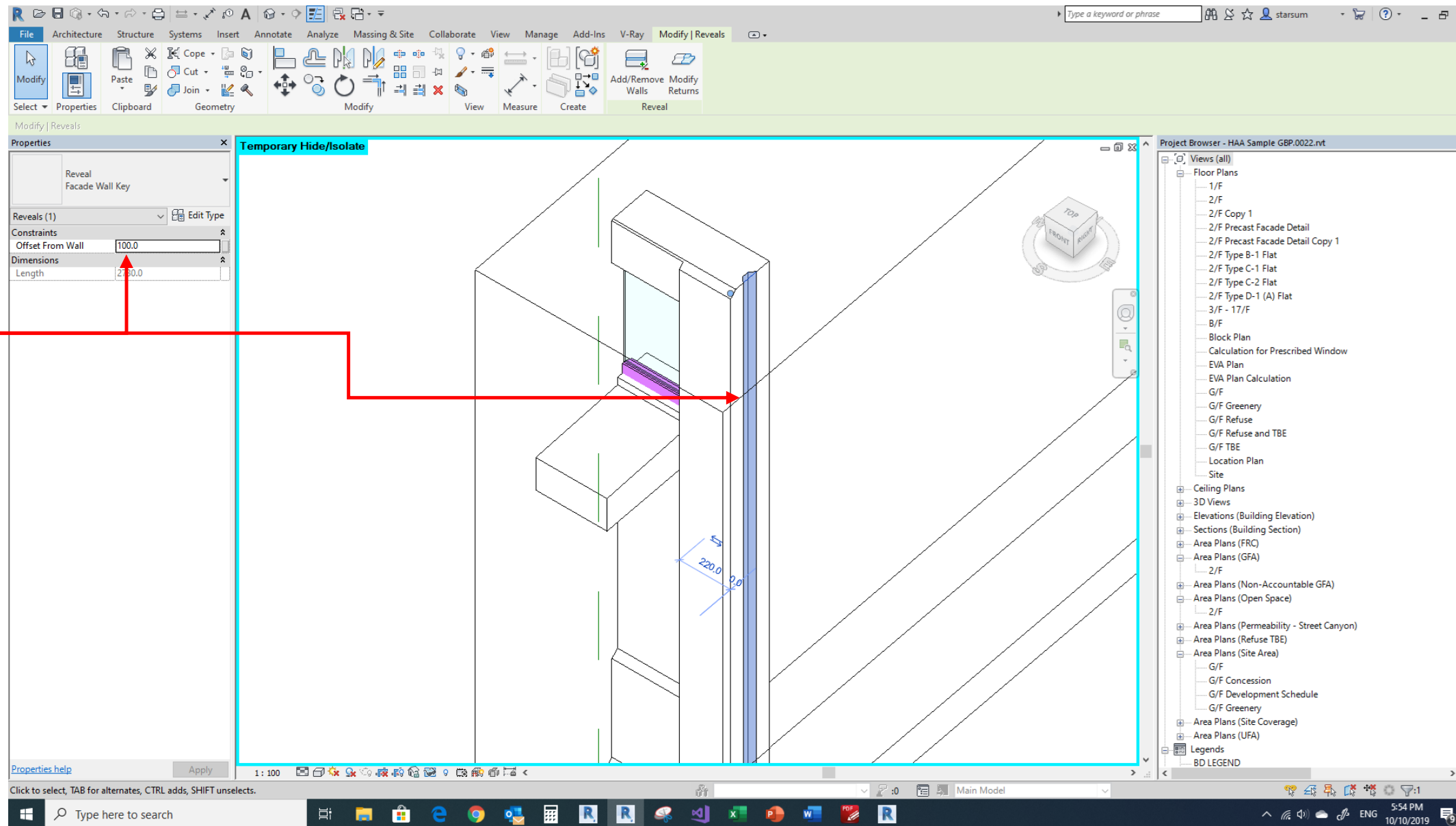
3 reveal can be inserted by picking any edge or any point on wall surface

4 In this case we will insert the junction at wall end point by picking the vertical wall edge. Click twice for insertion.

## 5.1 MODELLING – GENERAL

### 5.1.14 Junction between Precast and Cast-in-situ Elements

1 Select the junction and provide offset to move it towards wall centre line. In this case offset will be 100mm which is half of wall thickness.

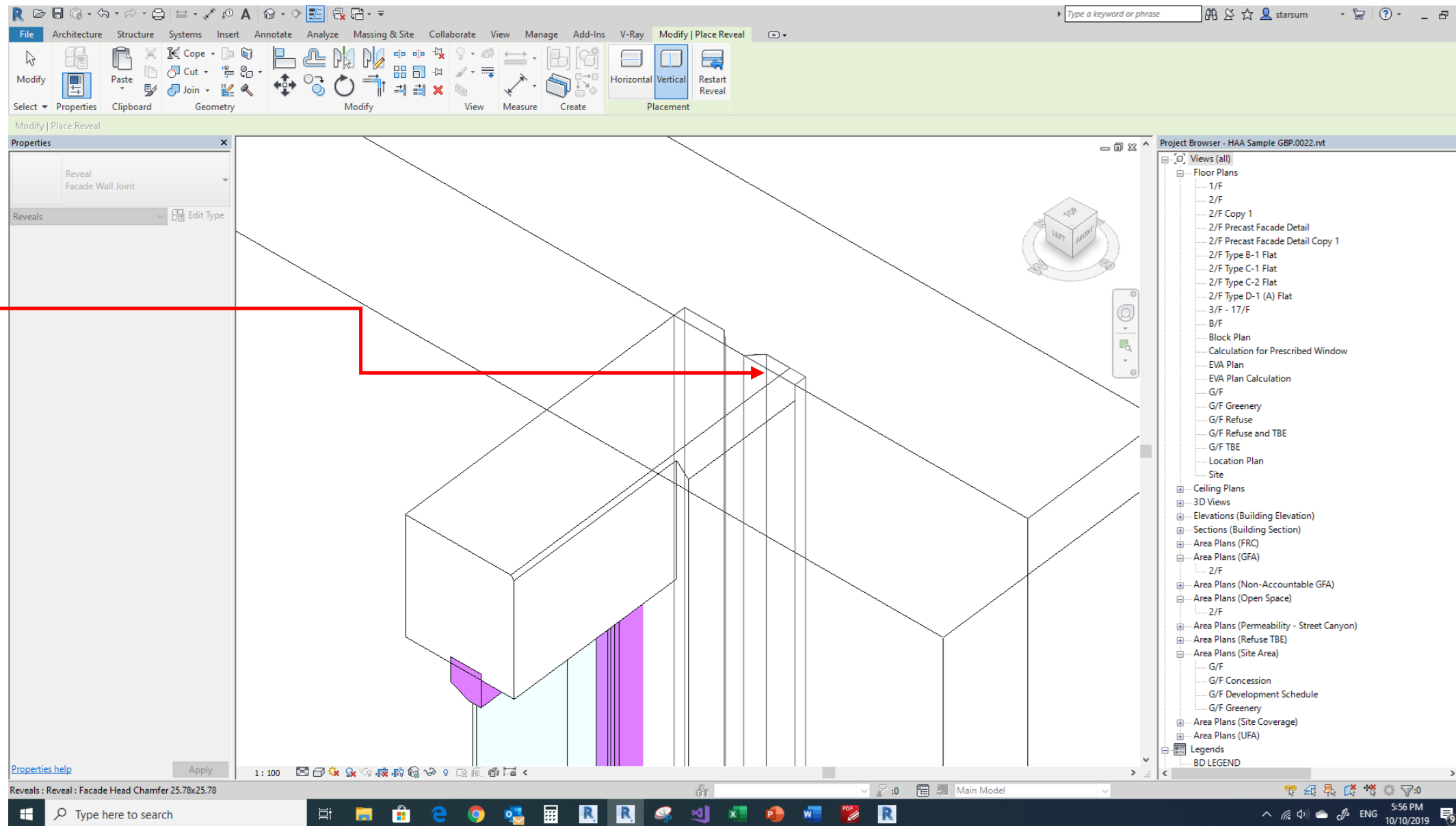




## 5.1 MODELLING – GENERAL

### 5.1.14 Junction between Precast and Cast-in-situ Elements

1 Follow similar procedure then insert a preloaded junction – Façade Wall Joint to Insitu Wall. In this case, no need to adjust offset





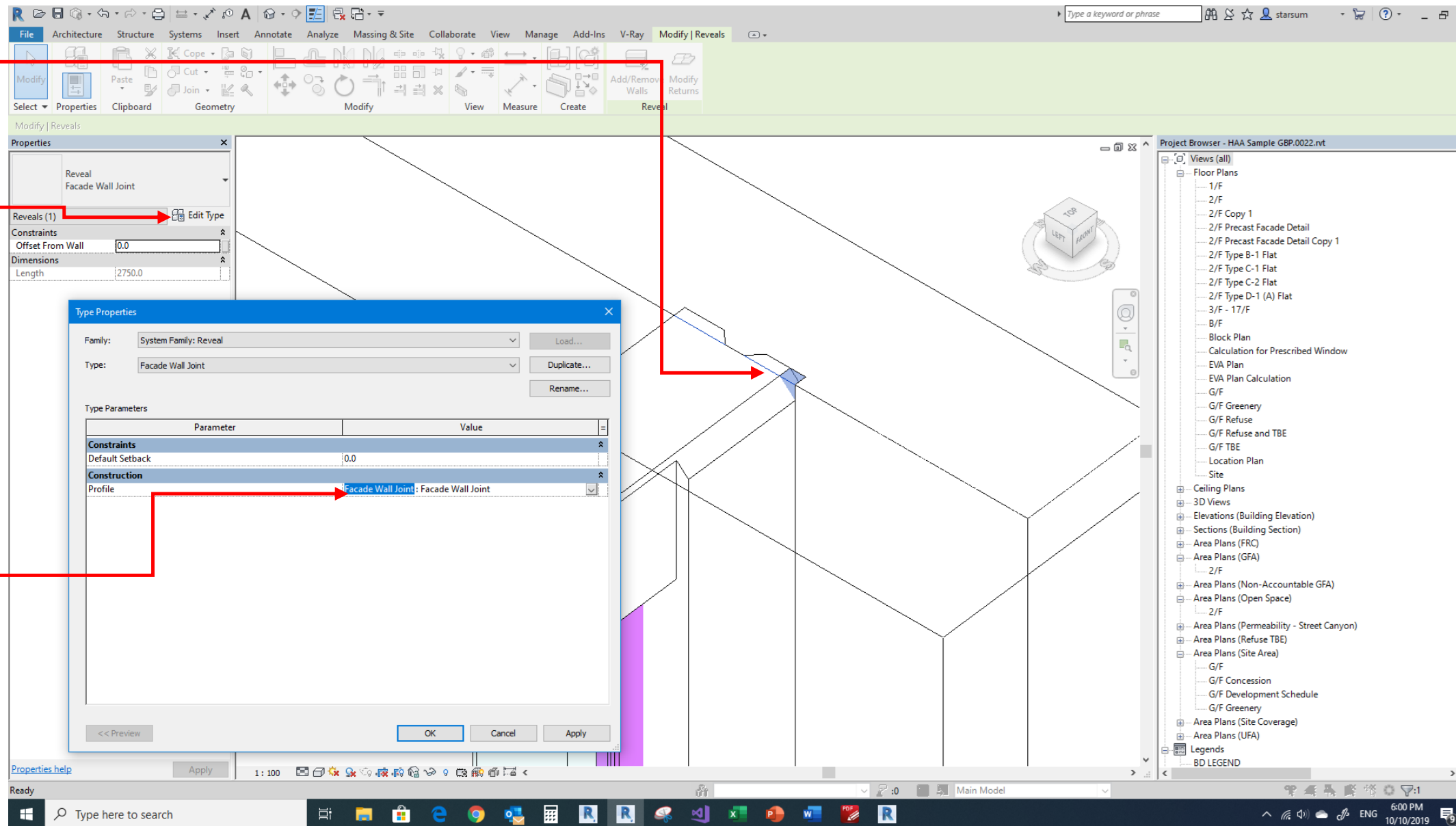
## 5.1 MODELLING – GENERAL

### 5.1.14 Junction between Precast and Cast-in-situ Elements

1 Select a junction

2 Click “Edit Type”

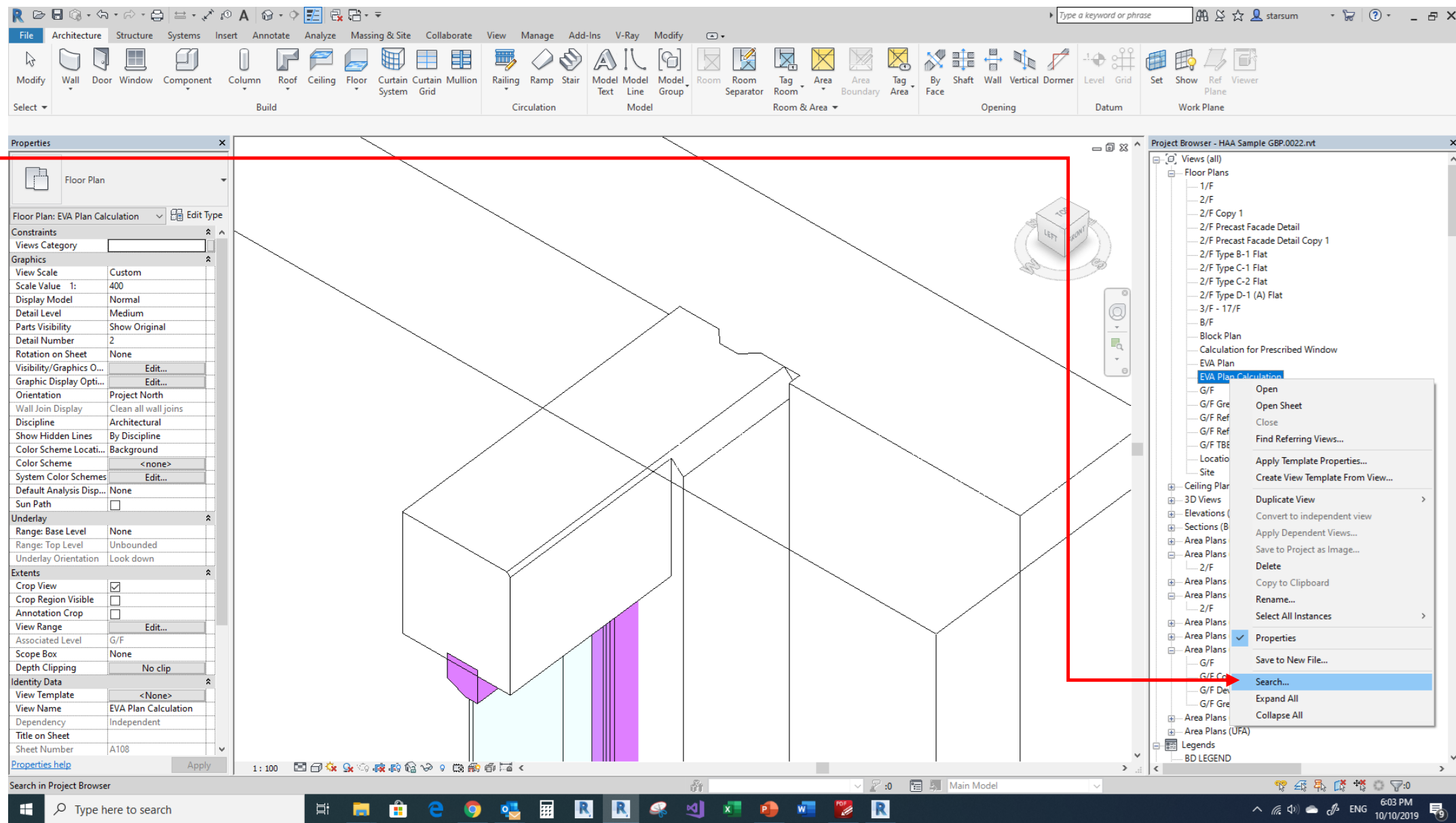
3 Select profile name which is the name before “:”, then press keyboard “Control” + “C” to copy the name



# 5.1 MODELLING – GENERAL

## 5.1.14 Junction between Precast and Cast-in-situ Elements

1 Mouse over Project Browser, right click, select "Search"

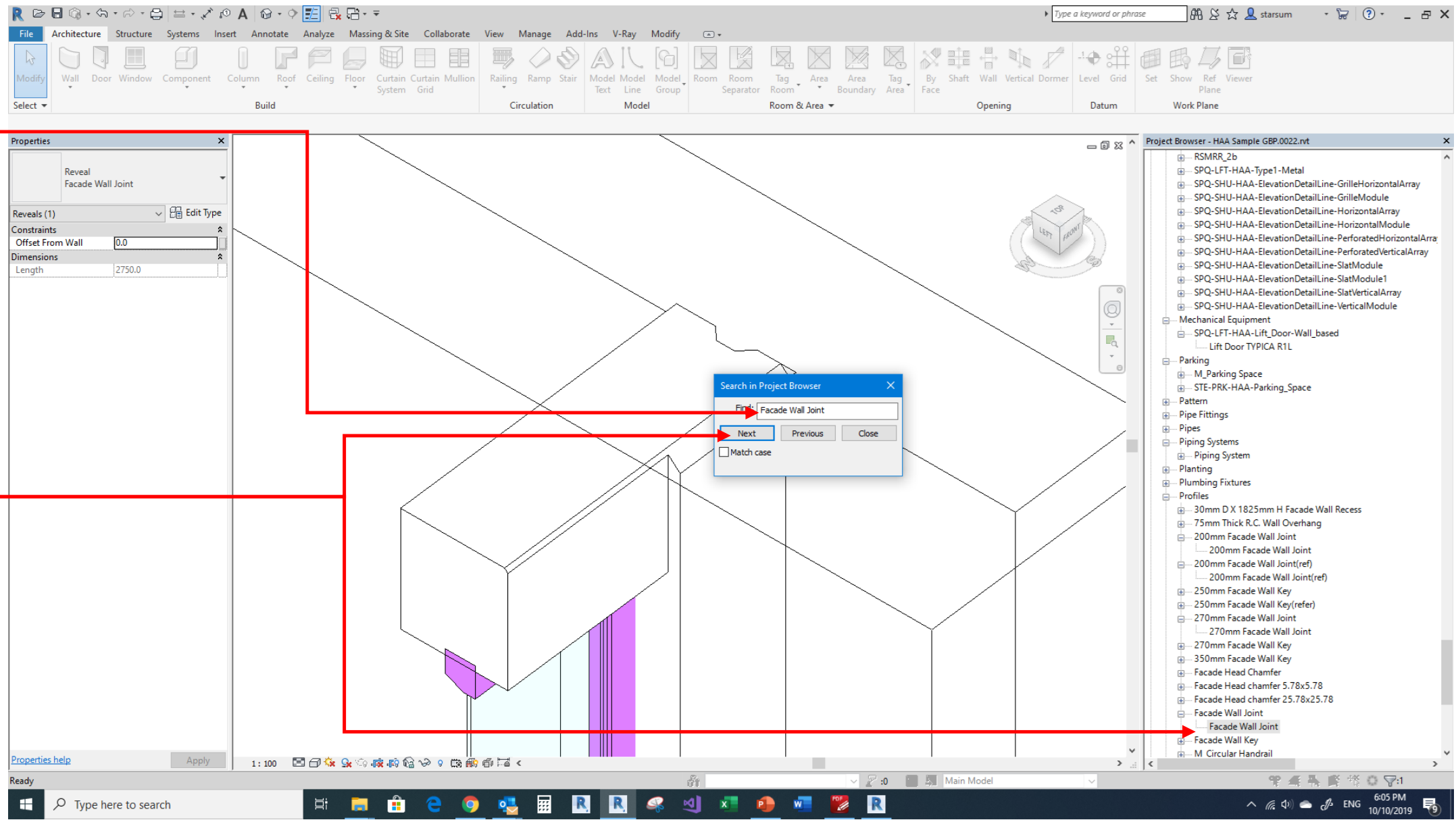


# 5.1 MODELLING – GENERAL

## 5.1.14 Junction between Precast and Cast-in-situ Elements

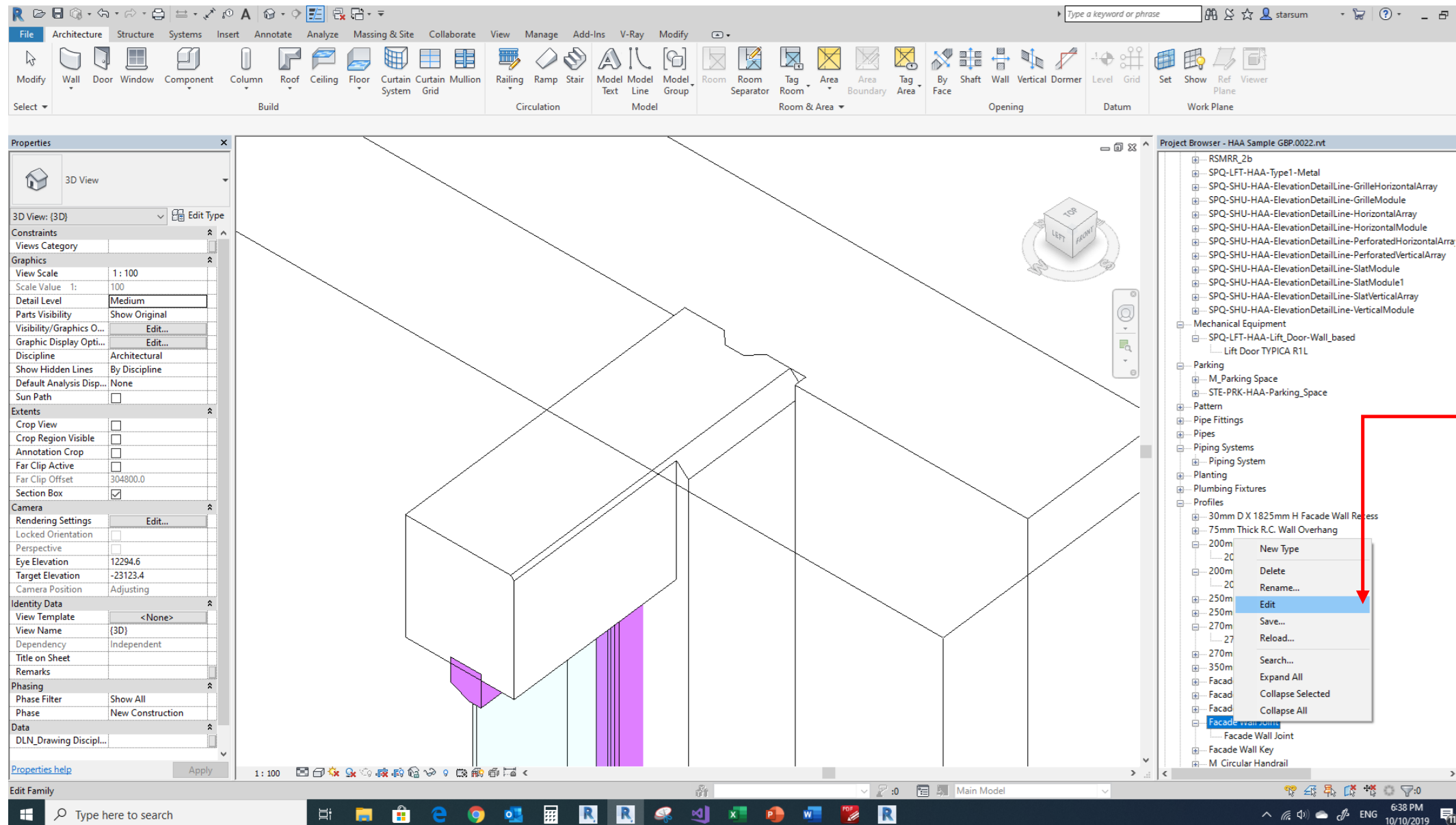
1 Press keyboard “Control” + “V” to paste the name

2 Keep pressing “Next” until you find the profile



# 5.1 MODELLING – GENERAL

## 5.1.14 Junction between Precast and Cast-in-situ Elements

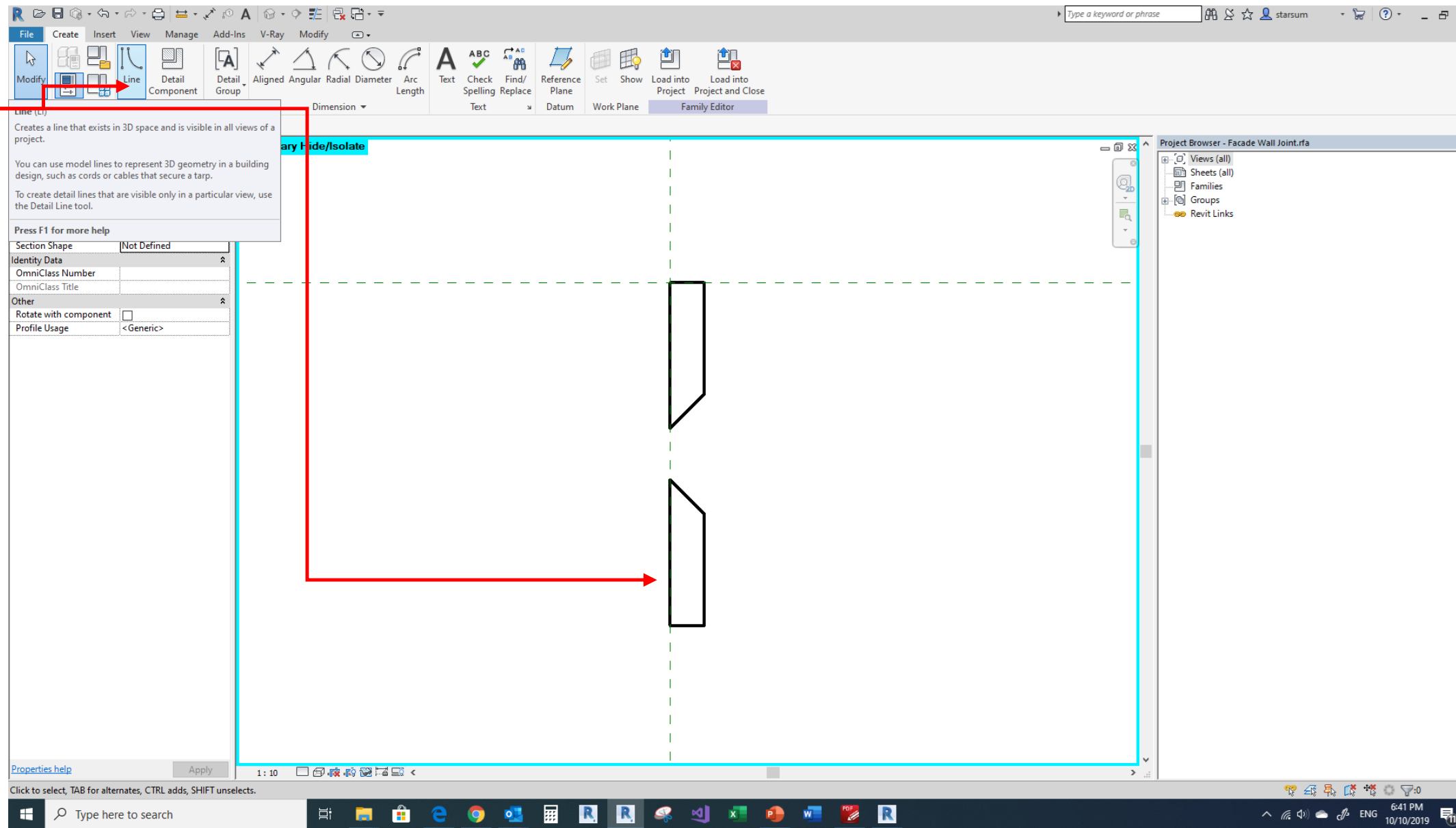


1 Select the profile, right click, select "Edit"

# 5.1 MODELLING – GENERAL

## 5.1.14 Junction between Precast and Cast-in-situ Elements

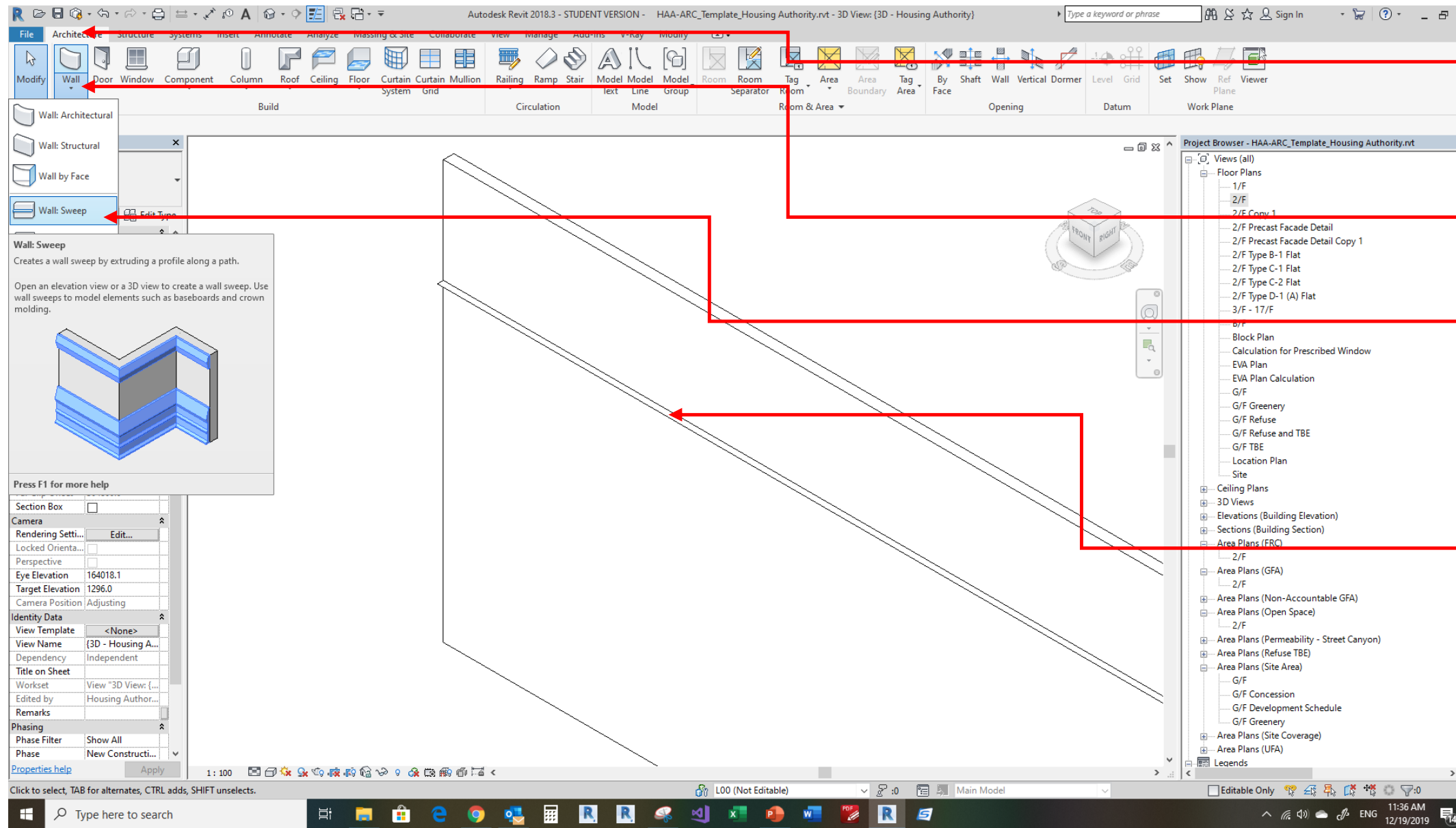
1  
Create/edit  
line of  
profile



# 5.1 MODELLING – GENERAL

## 5.1.15 Wall Sweep as Architectural Feature

1 Wall Sweep can be used to represent architectural feature



2 Click "Architecture"

3 Click "Wall"

4 Click "Wall Sweep"

5 Click on wall to define wall sweep location, click again to add

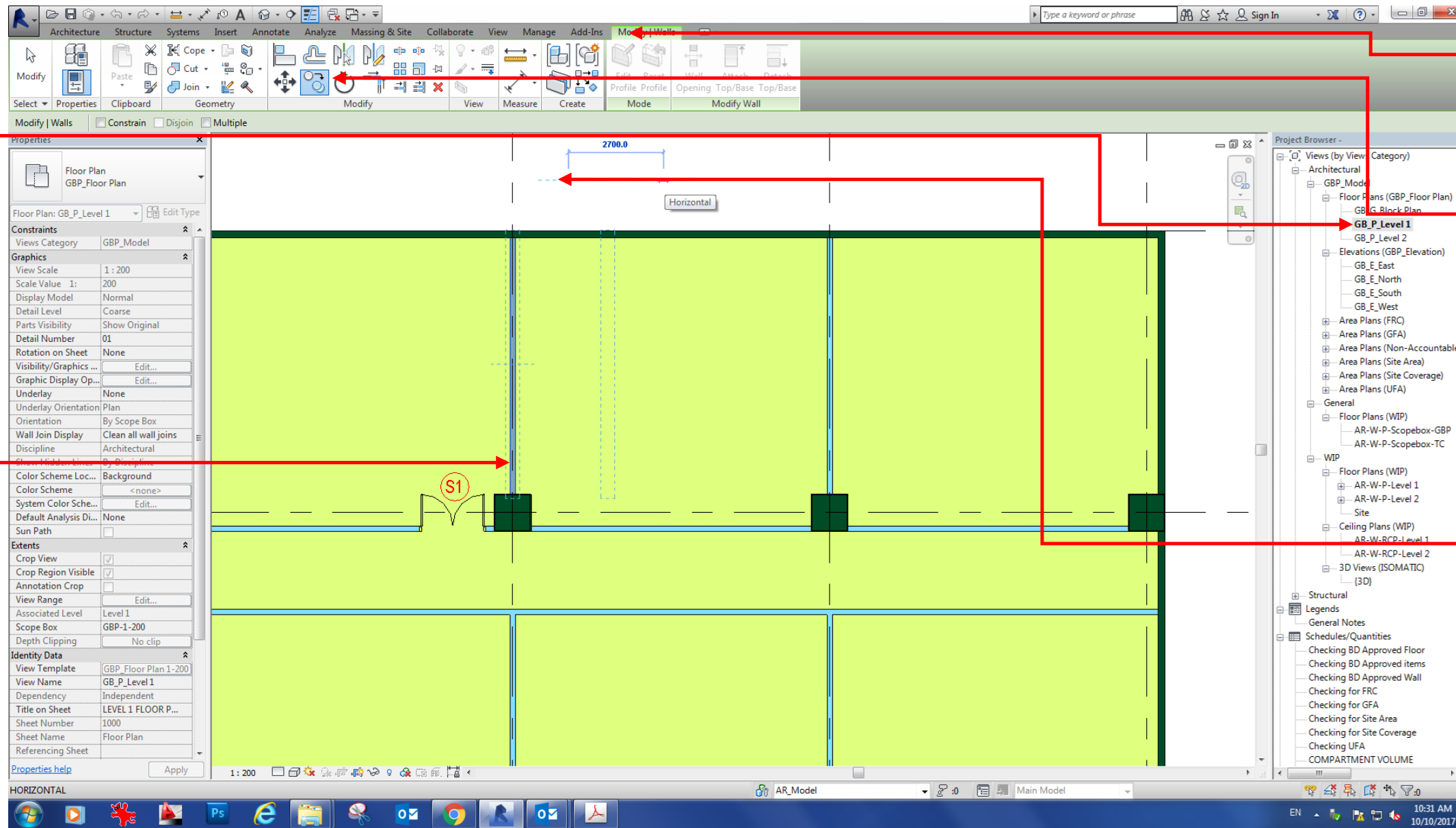


# 5.1 MODELLING – GENERAL

## 5.1.16 Stair

1 Select relevant floor plan view, it define base level

2 Optional for step 2 to 5 – draw wall / line for stair setting out. Select wall



3 Click “Modify”

4 Copy

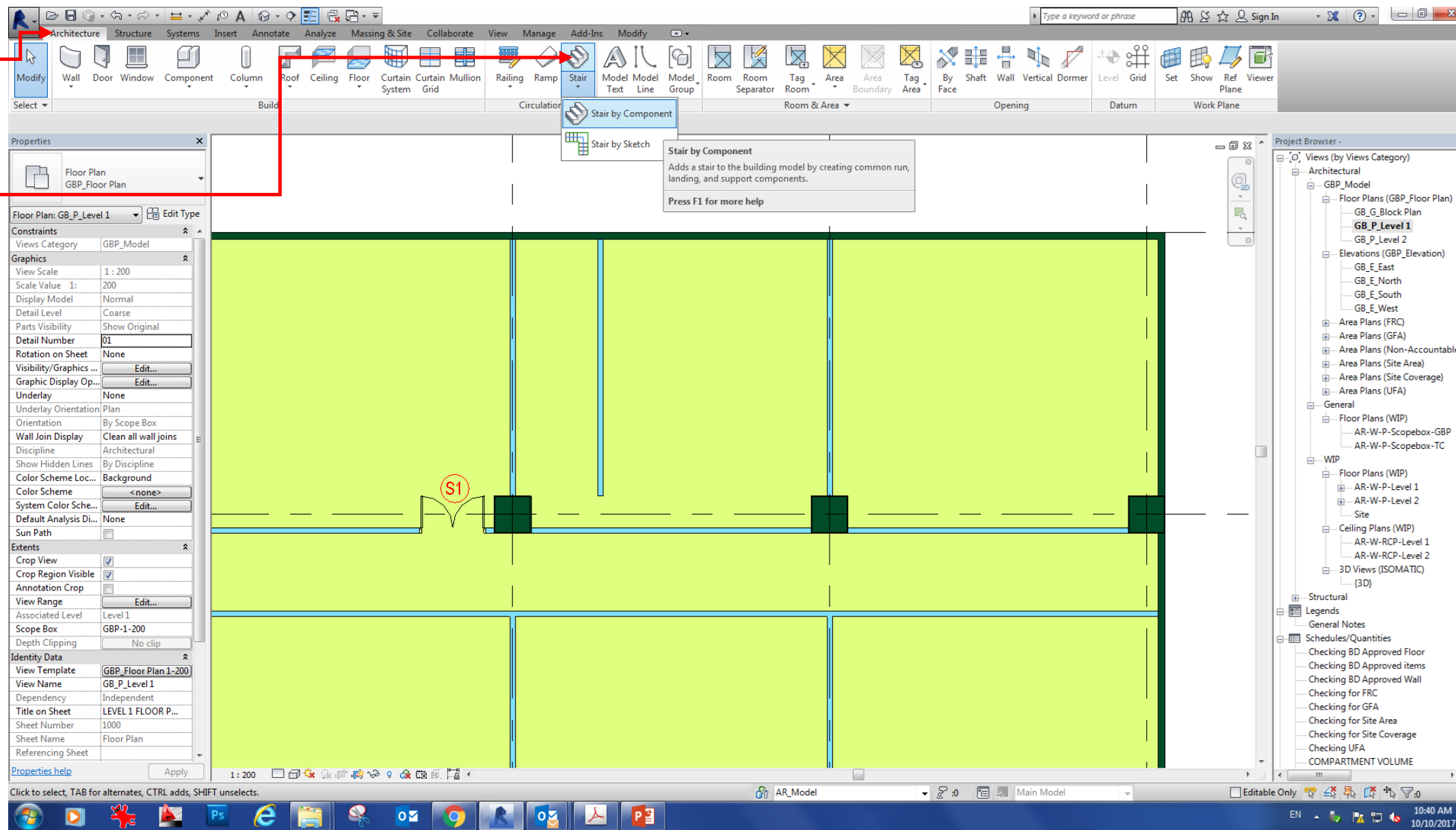
5 Pick first point, then key in distance to move = 2 x (wall width + stair structure to structure width)

# 5.1 MODELLING – GENERAL

## 5.1.16 Stair

1 Click  
“Architecture”

2 Click “Stair”



# 5.1 MODELLING – GENERAL

## 5.1.16 Stair

1 Select **type** which define stair **material, size of tread & riser, stair thickness.** Edit type detail if necessary.

2 Set **top/base level**, and set **base and top offset** if necessary

3 Take note to number of riser, and riser height

4 Select run, then select shape, e.g. straight run or spiral form.

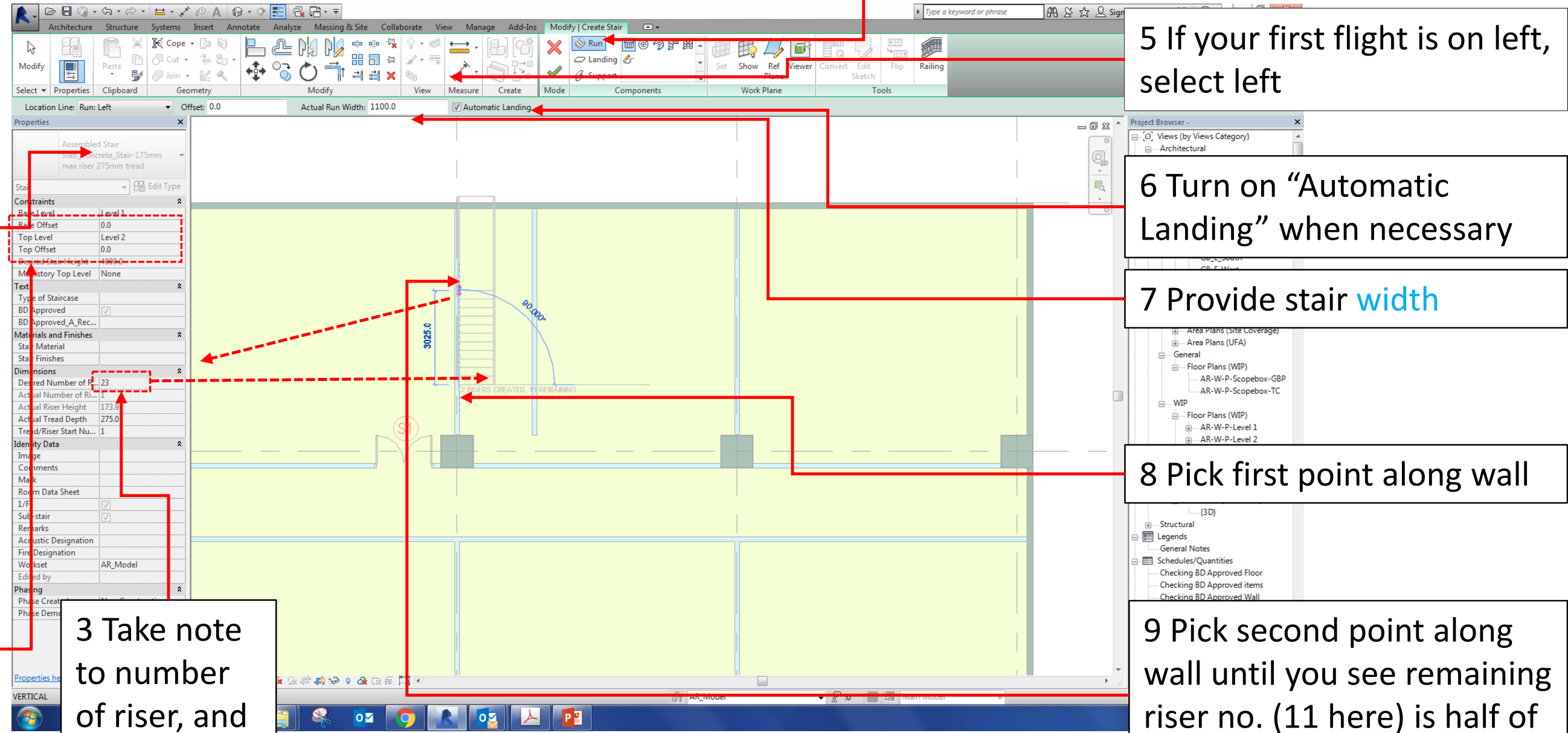
5 If your first flight is on left, select left

6 Turn on “Automatic Landing” when necessary

7 Provide stair **width**

8 Pick first point along wall

9 Pick second point along wall until you see remaining riser no. (11 here) is half of total riser no. (23)



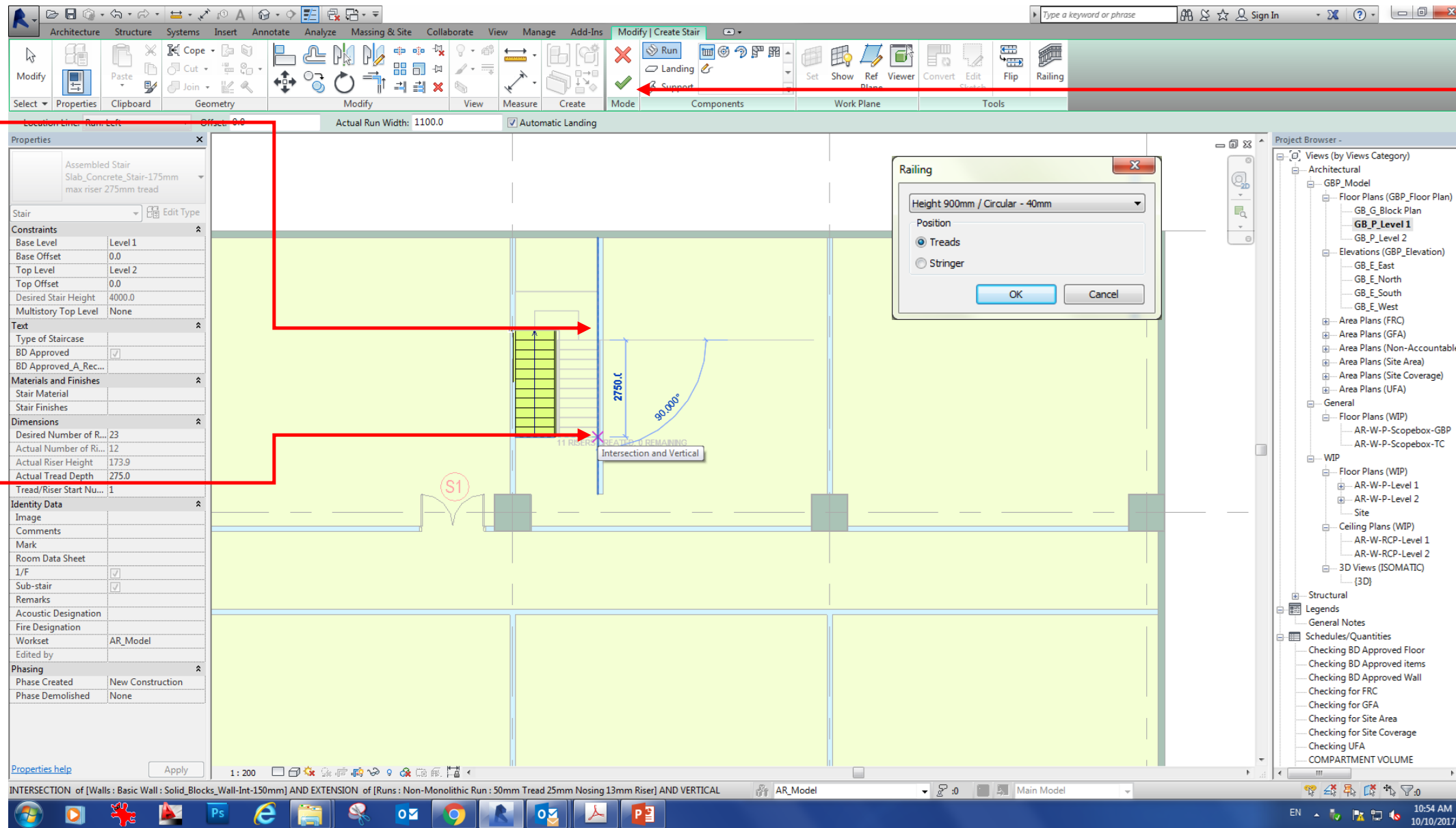
# 5.1 MODELLING – GENERAL

## 5.1.16 Stair

1 Pick 1<sup>st</sup> point of 2<sup>nd</sup> flight along wall

2 Pick 2<sup>nd</sup> point of 2<sup>nd</sup> flight along wall

3 Click tick



# 5.1 MODELLING – GENERAL

## 5.1.17 Stair – Multi-storey Setting

The screenshot shows the Revit software interface with the 'Modify | Stairs' ribbon active. A 'Go To View' dialog box is open, listing several views for selection. Red arrows and callout boxes provide instructions:

- 1 Select stair**: Points to a stair element in the 3D model.
- 2 Click "Select Levels"**: Points to the 'Select Levels' button on the 'Modify | Stairs' ribbon.
- 3 Select section/elevation view for picking level**: Points to the 'Elevation: GB\_AR\_E\_South' view in the Project Browser.

The 'Go To View' dialog box contains the following text and options:

In order to add new stairs to multistory stairs, please open one of the following views to pick the connected levels:

- 3D View: (3D)
- Elevation: GB\_AR\_E\_East
- Elevation: GB\_AR\_E\_North
- Elevation: GB\_AR\_E\_South
- Elevation: GB\_AR\_E\_West
- Section: GB\_AR\_S\_AA
- Section: Section 1

Buttons: Open View, Cancel



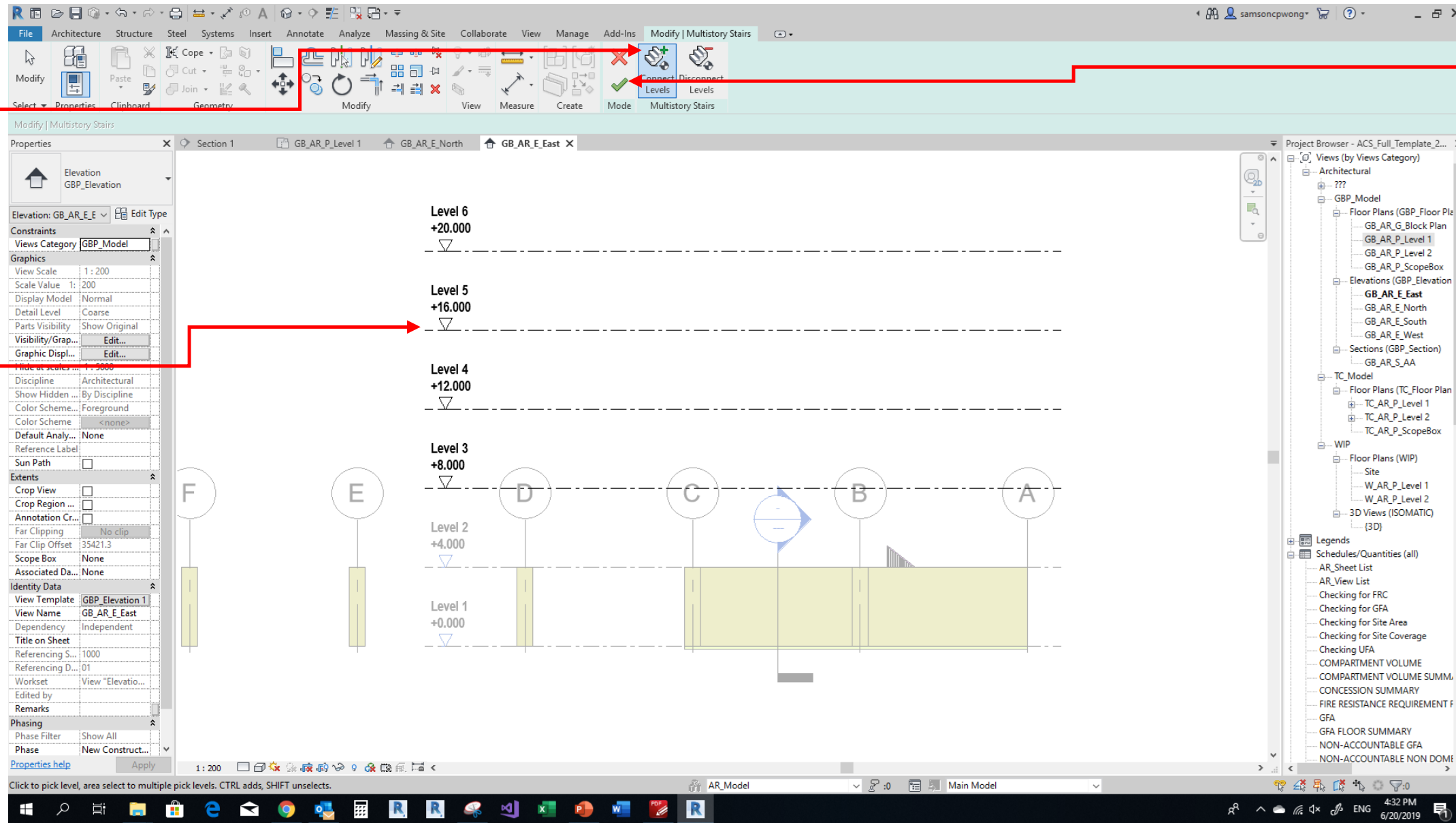
# 5.1 MODELLING – GENERAL

## 5.1.17 Stair – Multi-storey Setting

1 Pick connect/disconnect levels

2 Pick level(s)

3 Select tick





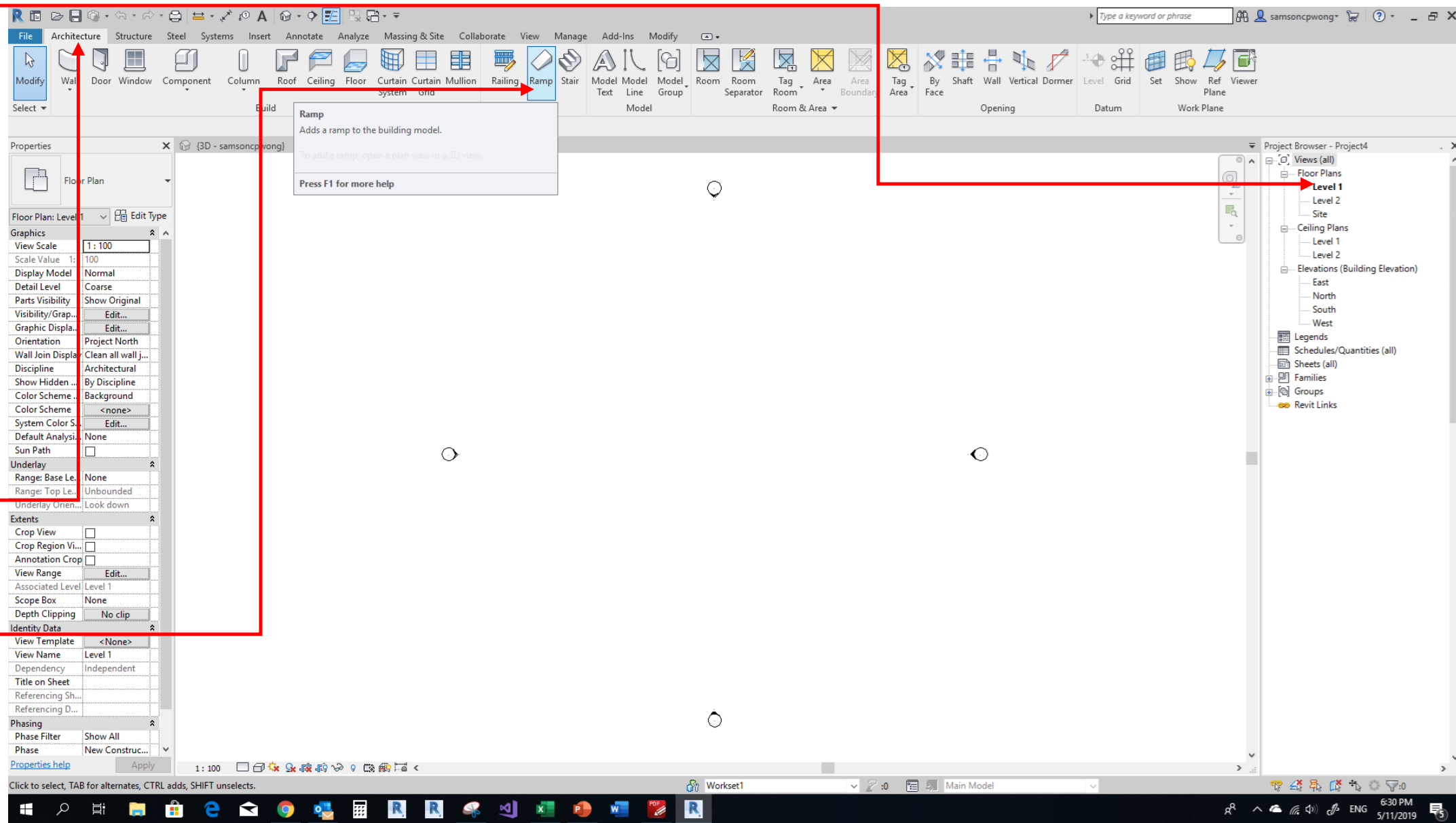
# 5.1 MODELLING – GENERAL

## 5.1.18 Ramp

1 Select relevant floor plan view, it define **base level**

2 Click “Architecture”

3 Click “Ramp”



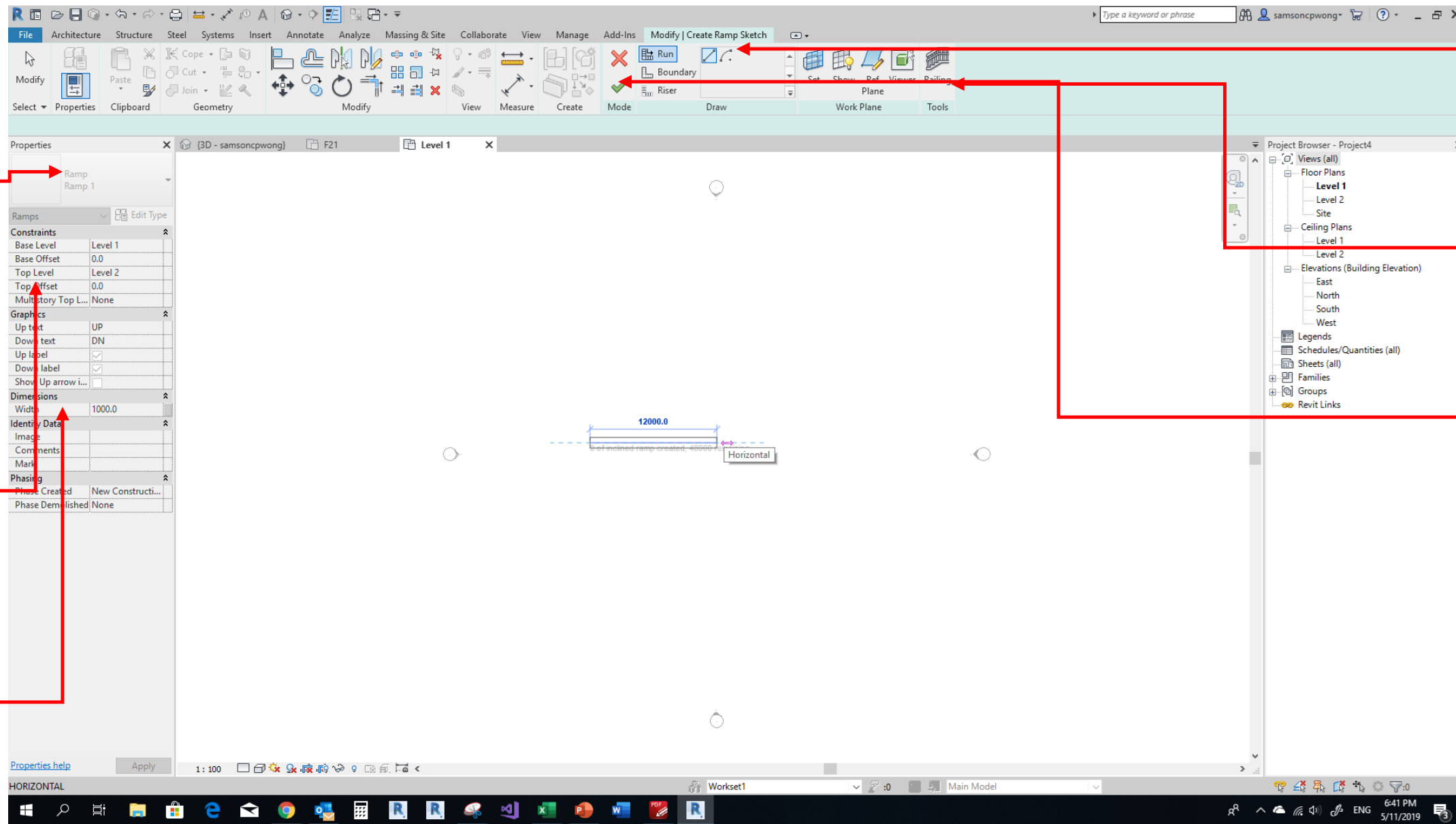
# 5.1 MODELLING – GENERAL

## 5.1.18 Ramp

1 Select type, including material, slope & thickness

2 Adjust base offset, top level, top offset

3 Adjust width



4 Draw line / pick line / wall

5 Toggle creation of railing

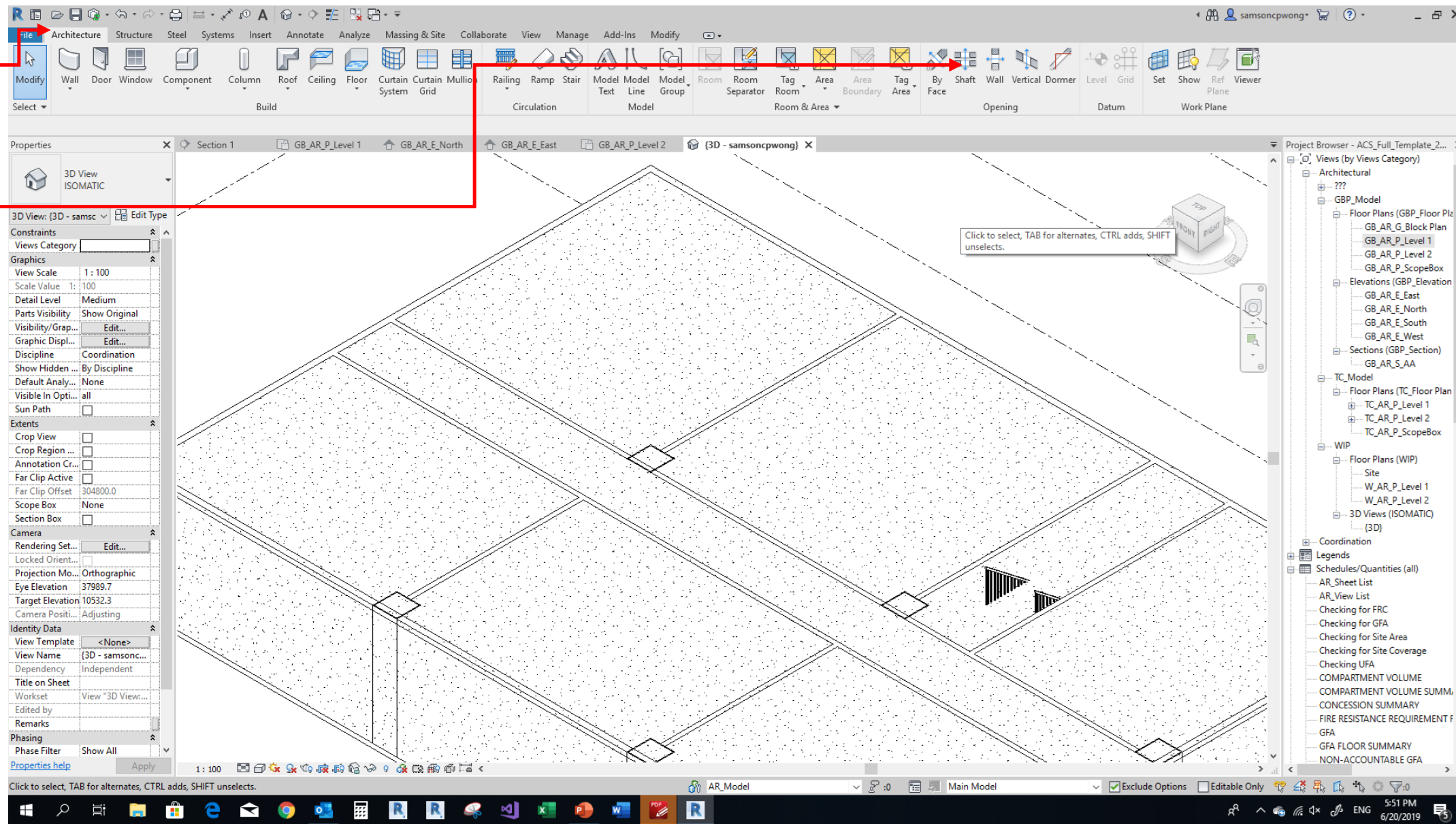
6 select tick

# 5.1 MODELLING – GENERAL

## 5.1.19 Shaft Opening that spans multiple levels

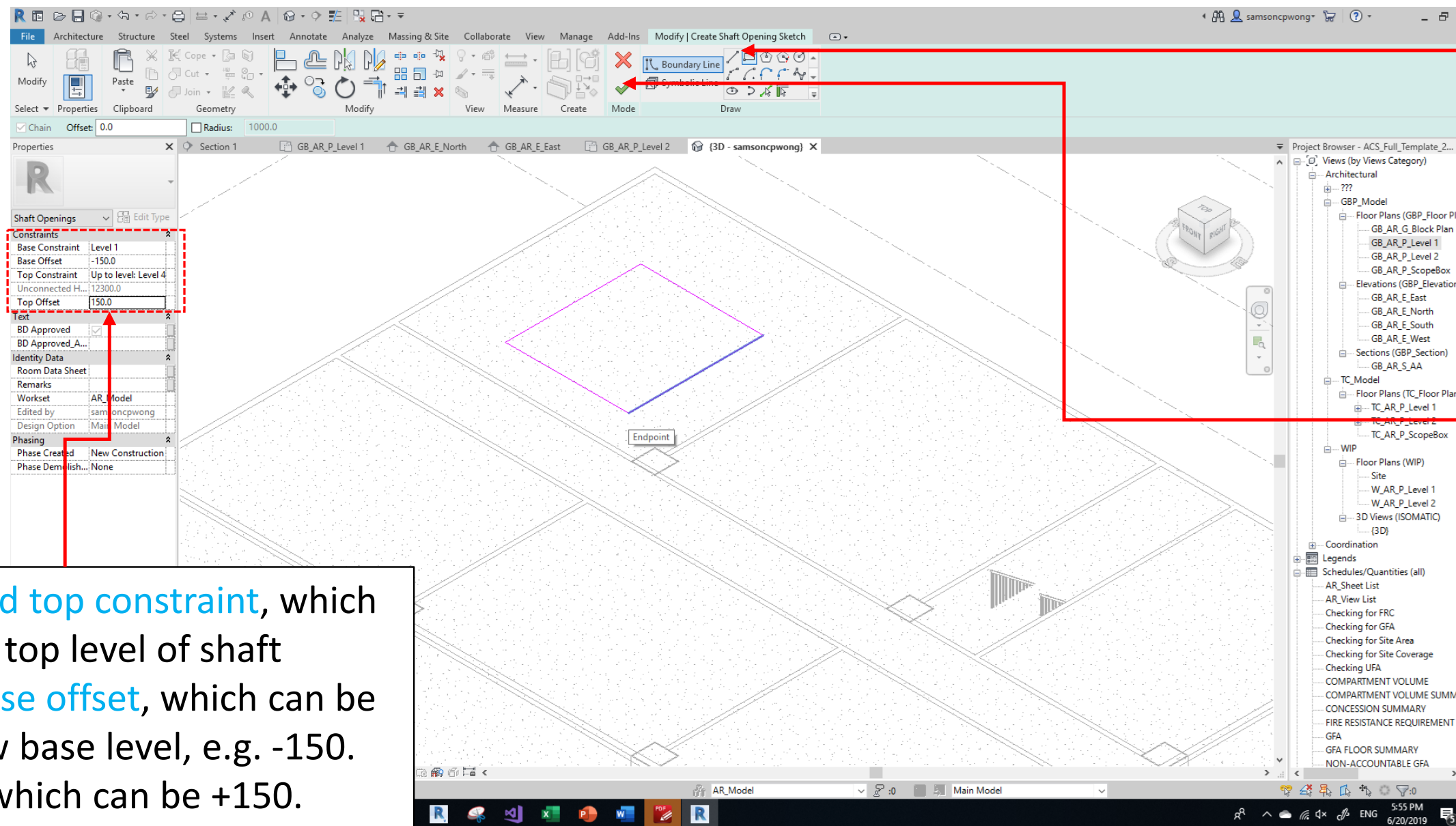
1 Click  
“Architecture”

2 Click “Shaft”



## 5.1 MODELLING – GENERAL

### 5.1.19 Shaft Opening that spans multiple levels





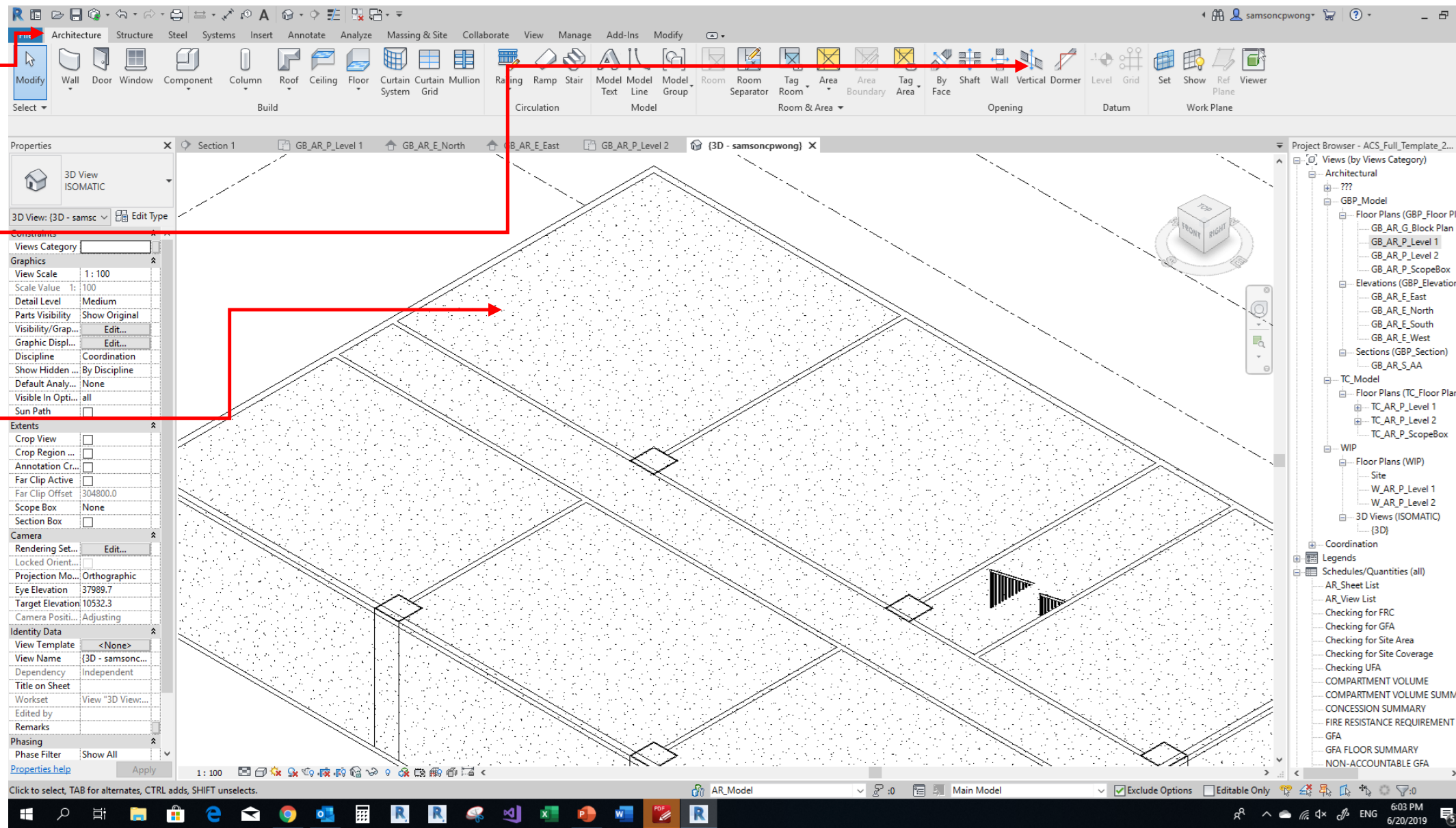
# 5.1 MODELLING – GENERAL

## 5.1.20 Floor/Roof/Ceiling Opening on single level

1 Click  
“Architecture”

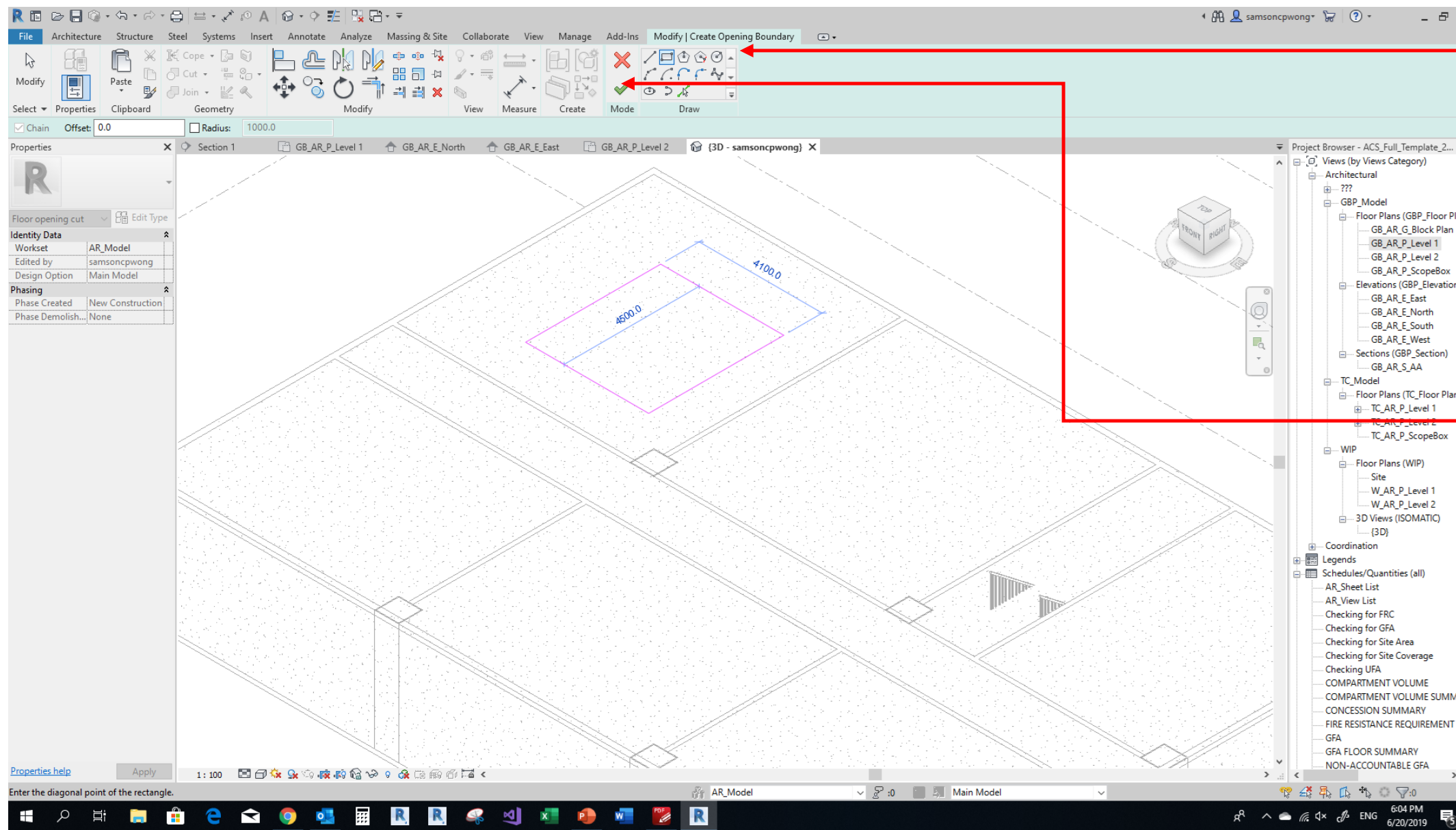
2 Click  
“Vertical”

3 Pick a  
floor/ roof/  
ceiling



# 5.1 MODELLING – GENERAL

## 5.1.20 Floor/Roof/Ceiling Opening on single level



1 Draw line /  
pick line /  
wall

2 Select tick



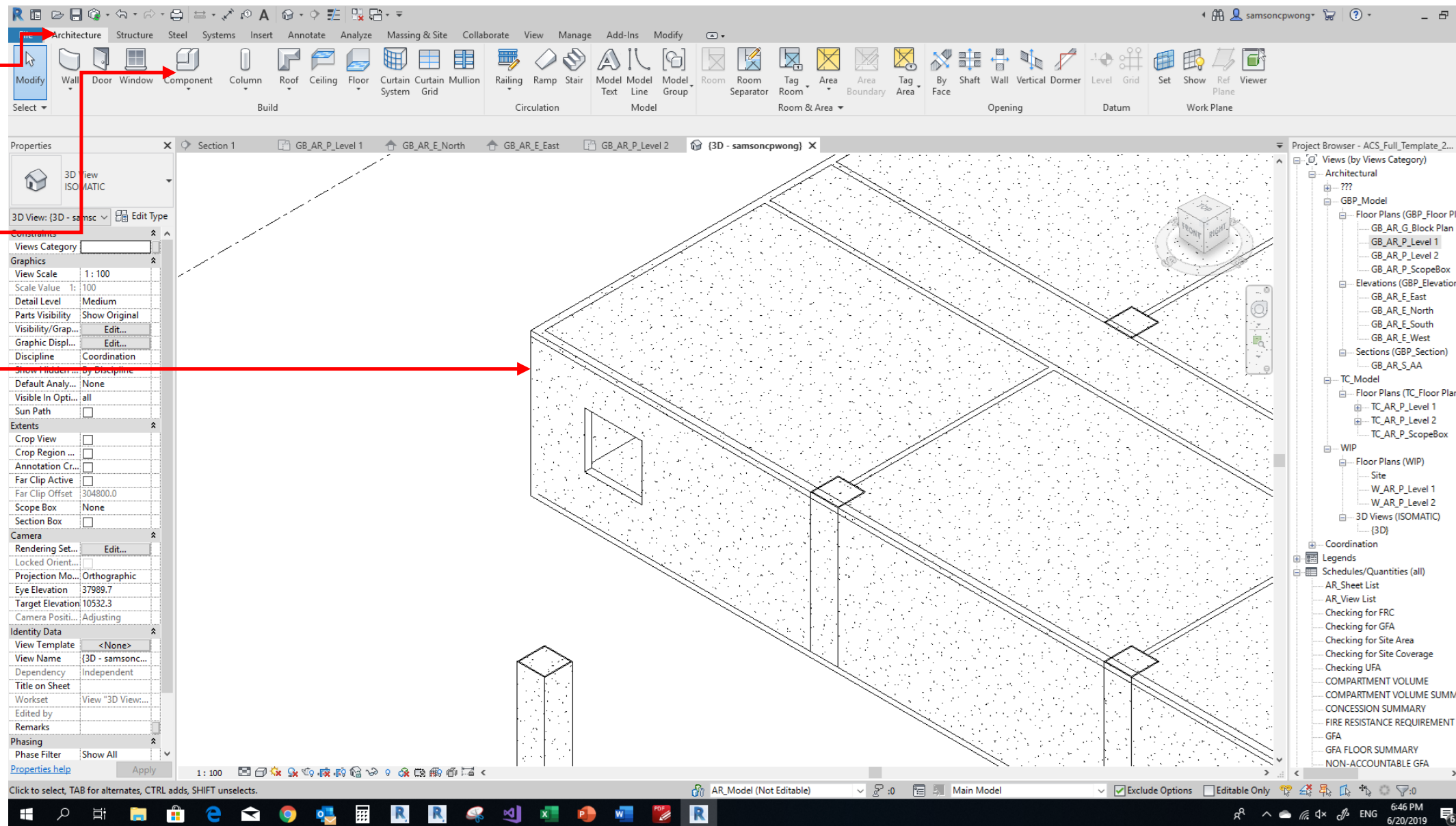
# 5.1 MODELLING – GENERAL

## 5.1.21 Wall Opening – Option 1 Insert Opening by Revit Opening Family

1 Click  
“Architecture”

2 Click  
“Component”

3 Pick a wall



4 Shape of opening in option 1 is highly customizable through editing its family

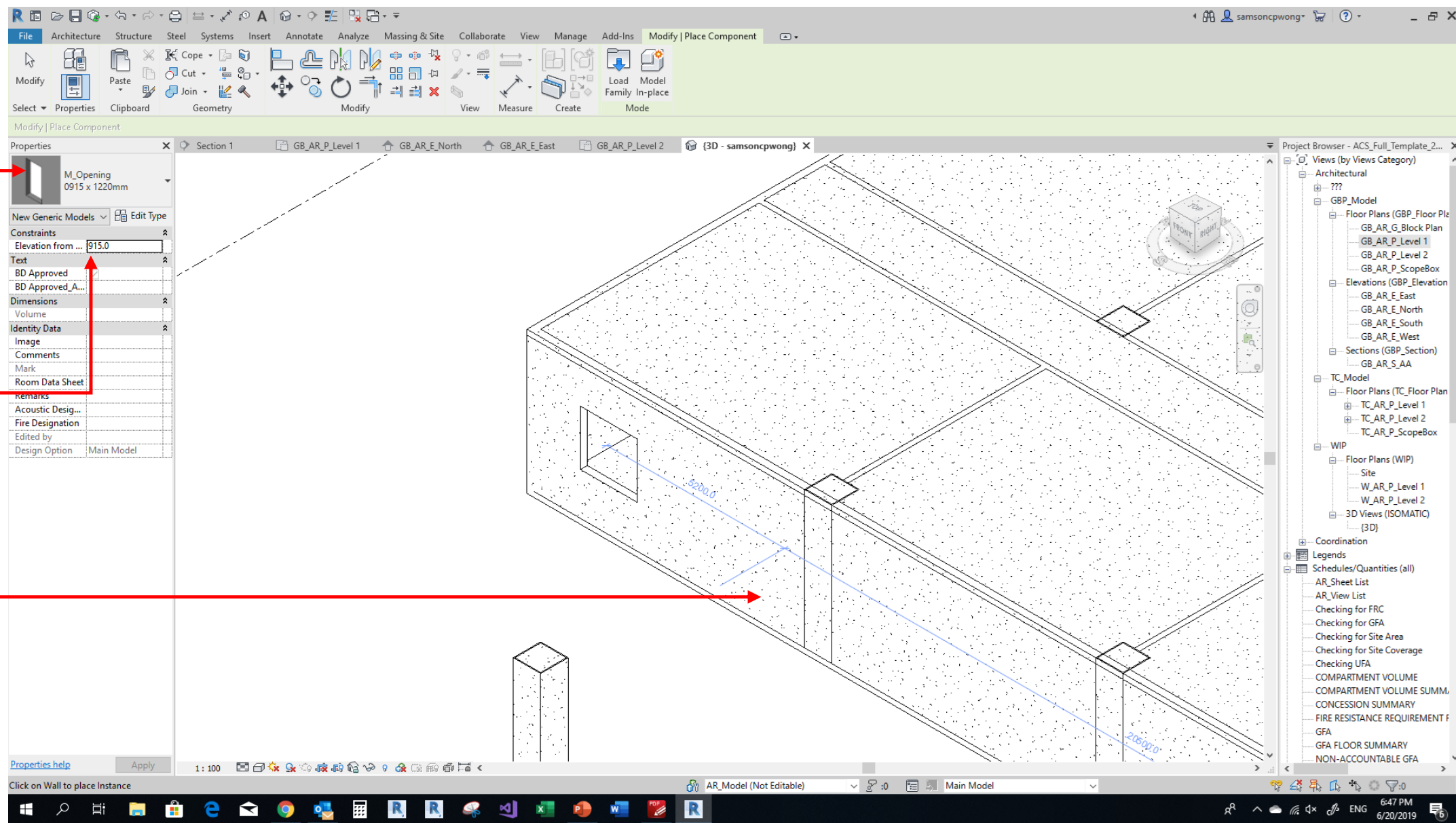
# 5.1 MODELLING – GENERAL

## 5.1.21 Wall Opening – Option 1 Insert Opening by Revit Opening Family

1 Select opening, including shape and size

2 Set height above level

3 Pick a point on wall to create



# 5.1 MODELLING – GENERAL

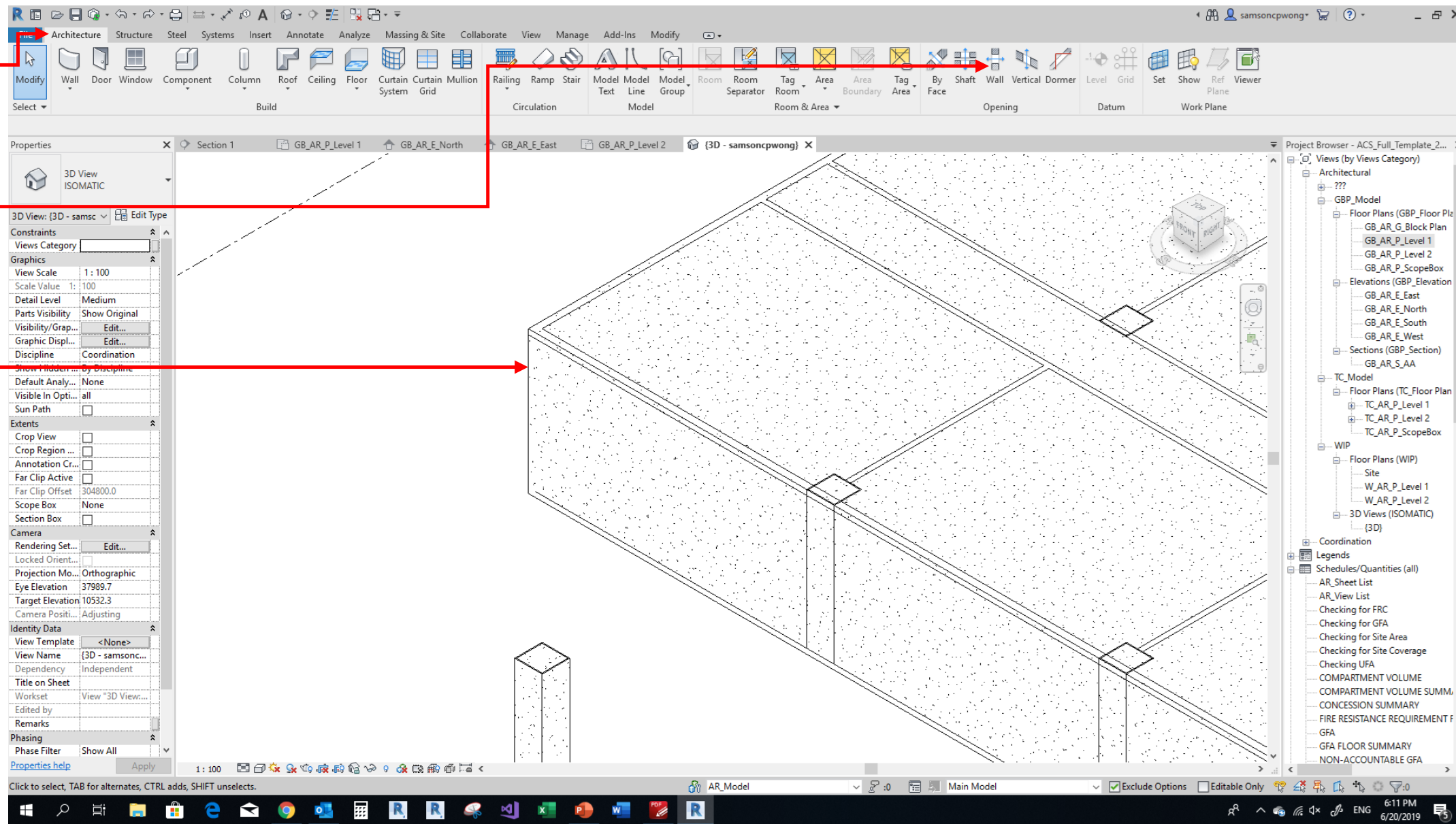
## 5.1.22 Wall Opening – Option 2 Insert Opening by Revit System Wall Opening

1 Click  
“Architecture”

2 Click “Wall”

3 Pick a wall

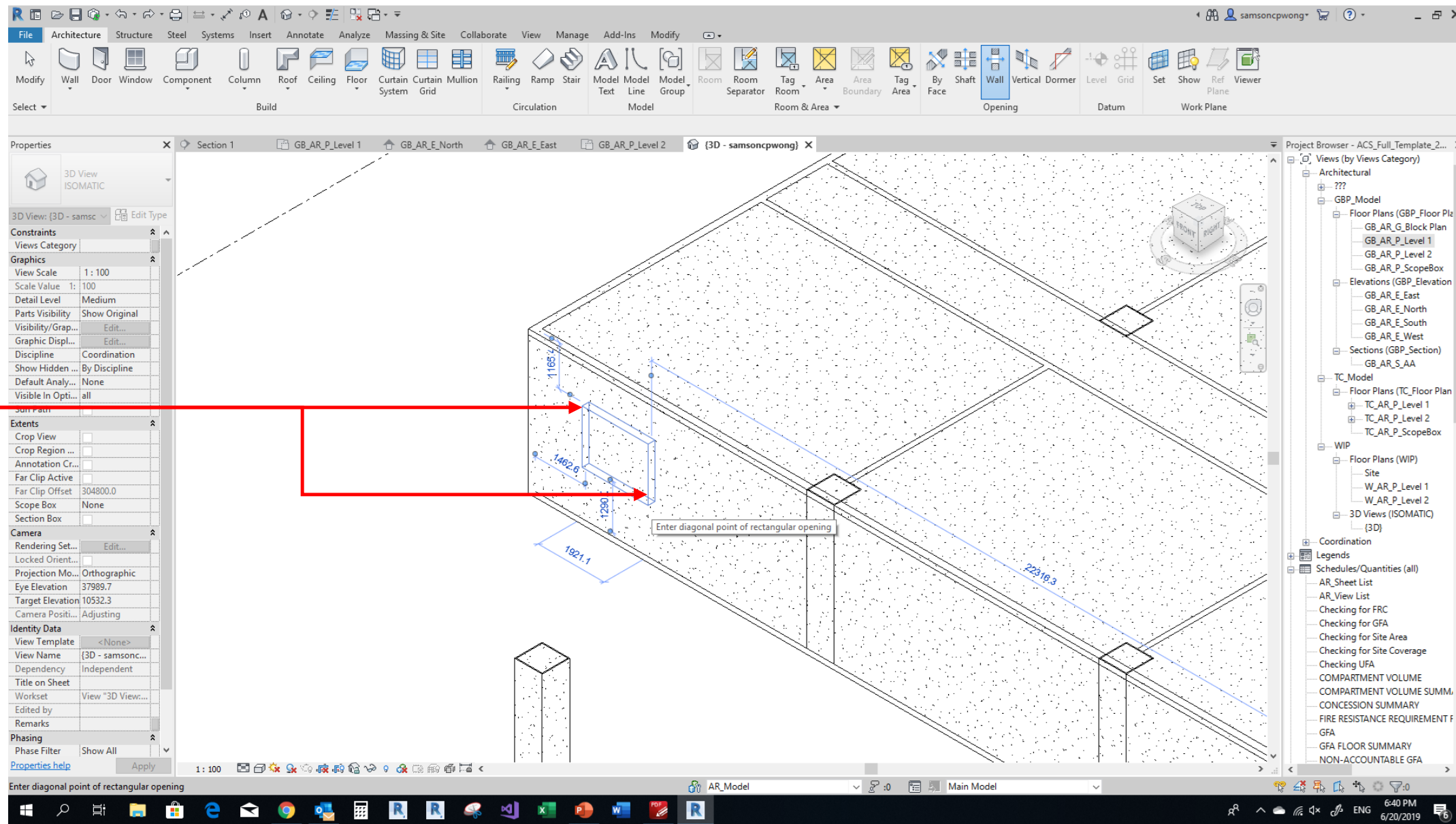
4 Option 2  
only supports  
rectangular  
opening



# 5.1 MODELLING – GENERAL

## 5.1.22 Wall Opening – Option 2 Insert Opening by Revit System Wall Opening

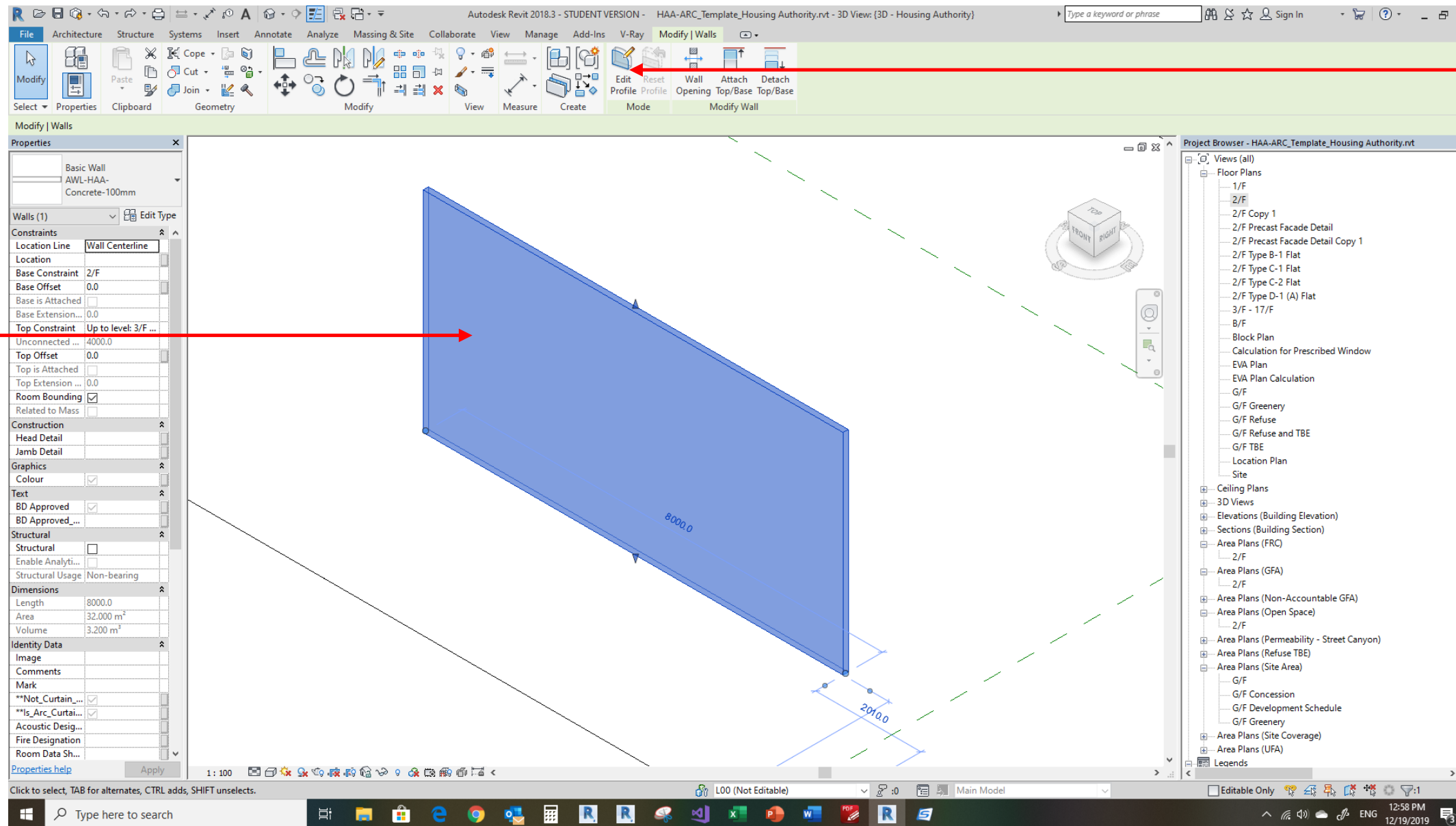
1 Pick 2 points to define an opening





# 5.1 MODELLING – GENERAL

## 5.1.23 Wall Opening – Option 3 Insert Opening by Modifying Wall Profile



1 Select wall

2 Click "Edit Profile"

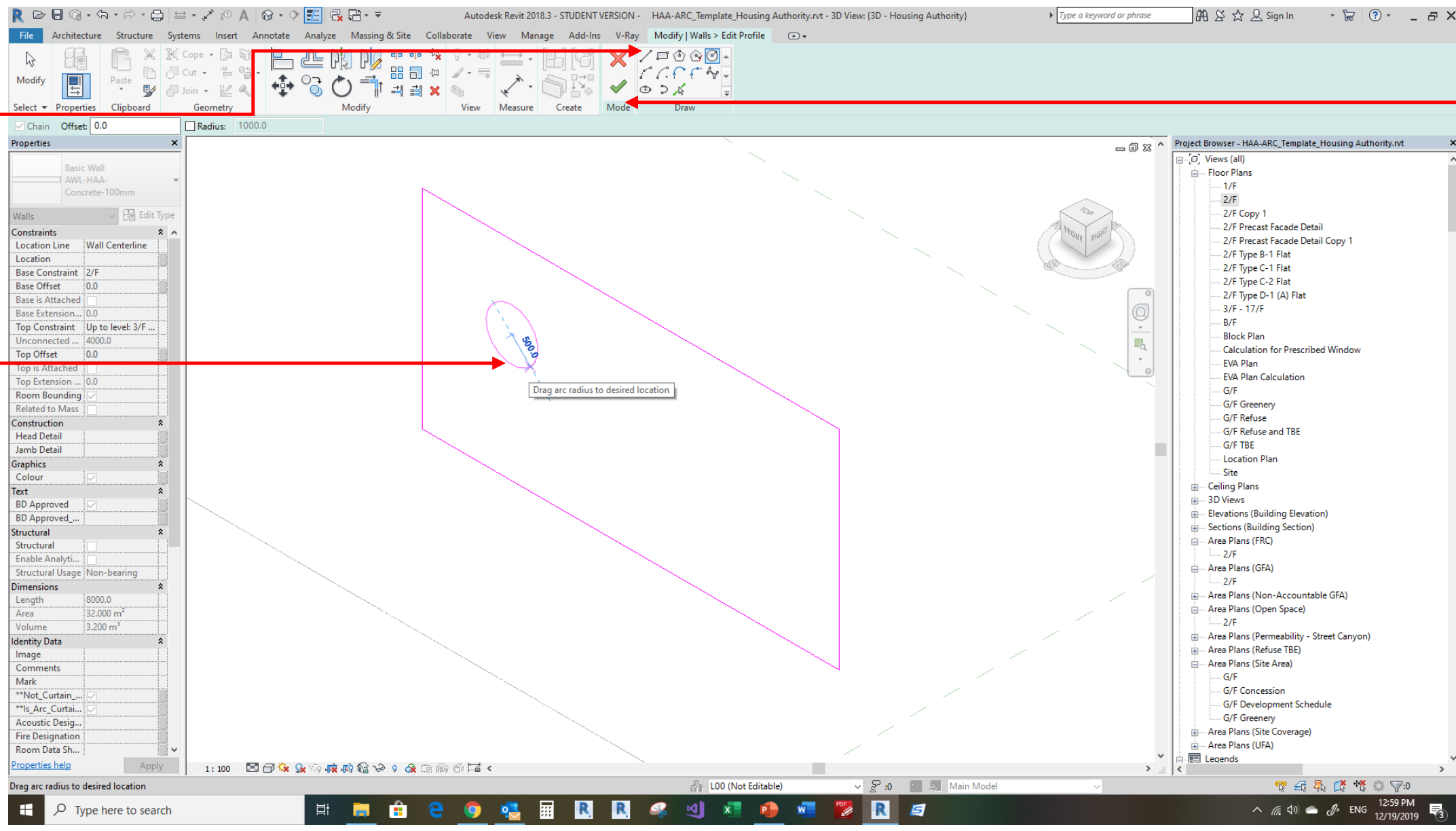
# 5.1 MODELLING – GENERAL

## 5.1.23 Wall Opening – Option 3 Insert Opening by Modifying Wall Profile

1 use these tools to draw/pick line

2 create completed loop inside wall surface

3 Click “Tick” to complete





## 5.1 MODELLING – GENERAL

### 5.1.24 Toposurface

- Two methods provided:
  - Option 1 - Create by Point, suitable for site with survey points data
  - Option 2 - Create from import instance, suitable for site with contour line available in CAD format

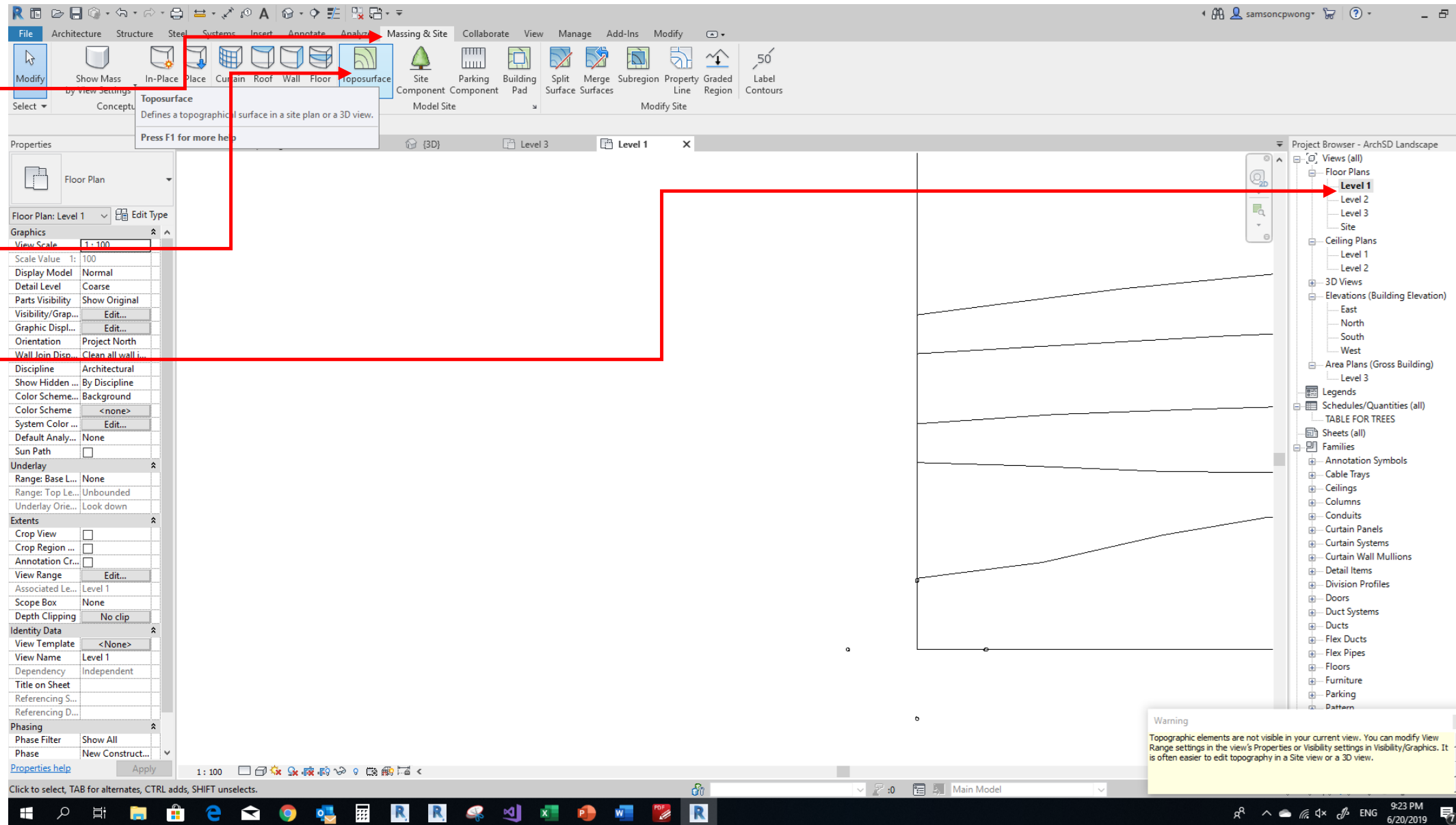
# 5.1 MODELLING – GENERAL

## 5.1.25 Toposurface – Option 1 – Create by Points

1 Click  
“Massing &  
Site”

2 Click  
“Toposurface”

3 Click “Level”



# 5.1 MODELLING – GENERAL

## 5.1.25 Toposurface – Option 1 – Create by Points

1 Click “Place Point”

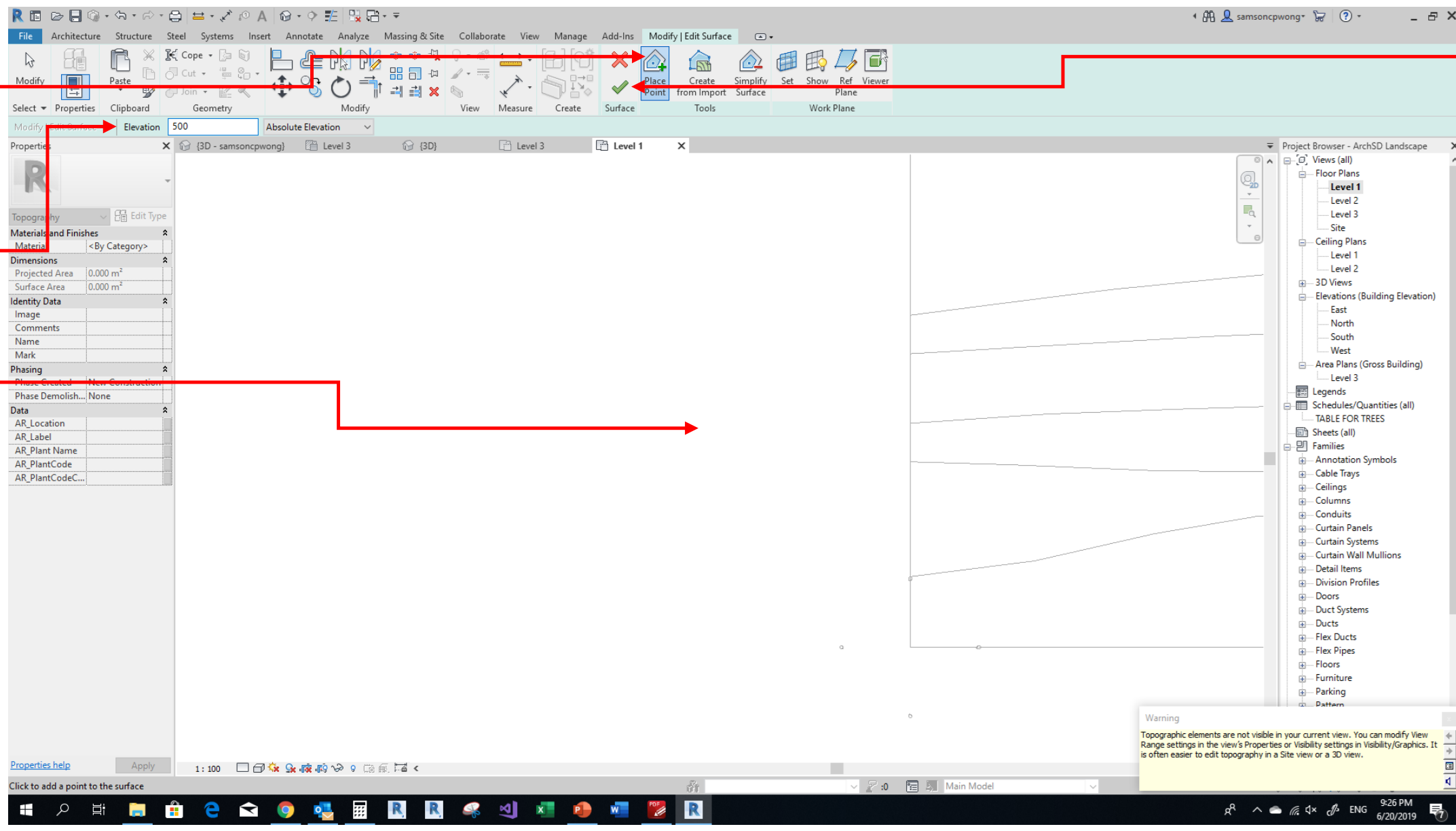
2 Enter Elevation

3 Click on Screen

4 Repeating same exercise

5 At least 3 points to form a surface

6 Finish



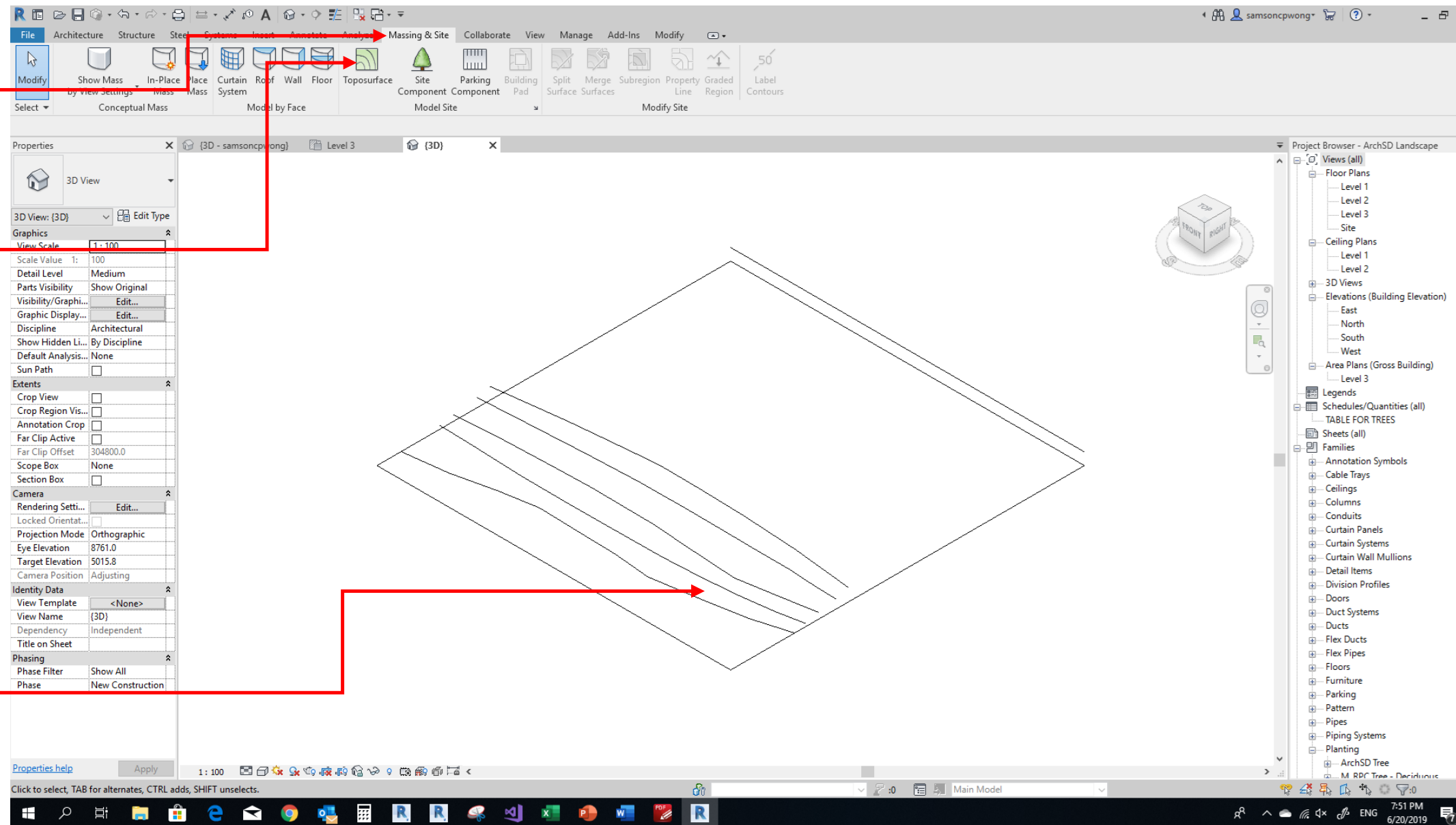
## 5.1 MODELLING – GENERAL

### 5.1.26 Toposurface – Option 2 – Create by Importing Contour Lines from CAD

1 Click  
“Massing &  
Site”

2 Click  
“Toposurface”

3 Each  
contour lines  
of imported  
CAD should  
be located at  
appropriate  
level and  
location



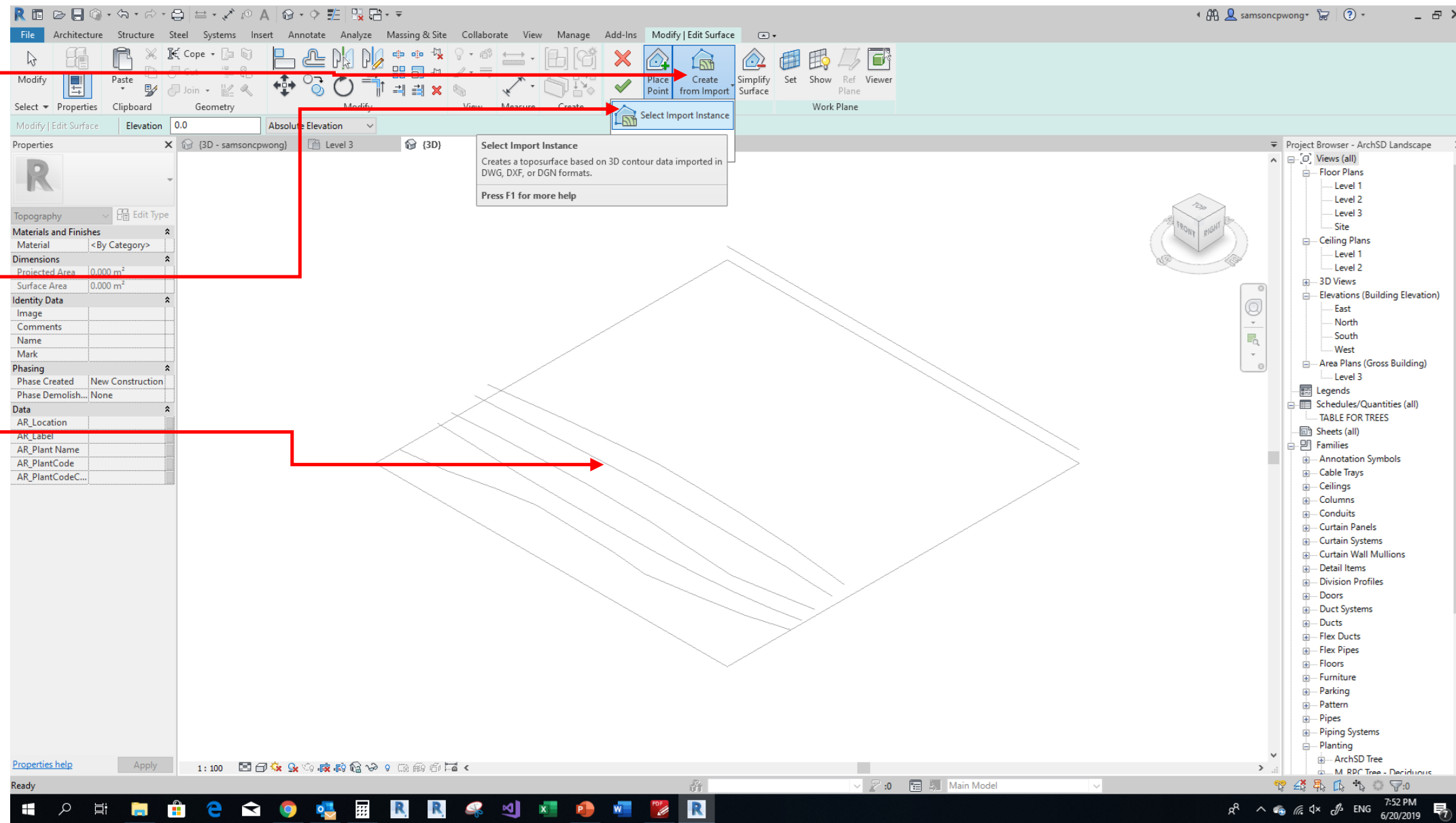
# 5.1 MODELLING – GENERAL

## 5.1.26 Toposurface – Option 2 – Create by Importing Contour Lines from CAD

1 Click  
“Create from  
Import”

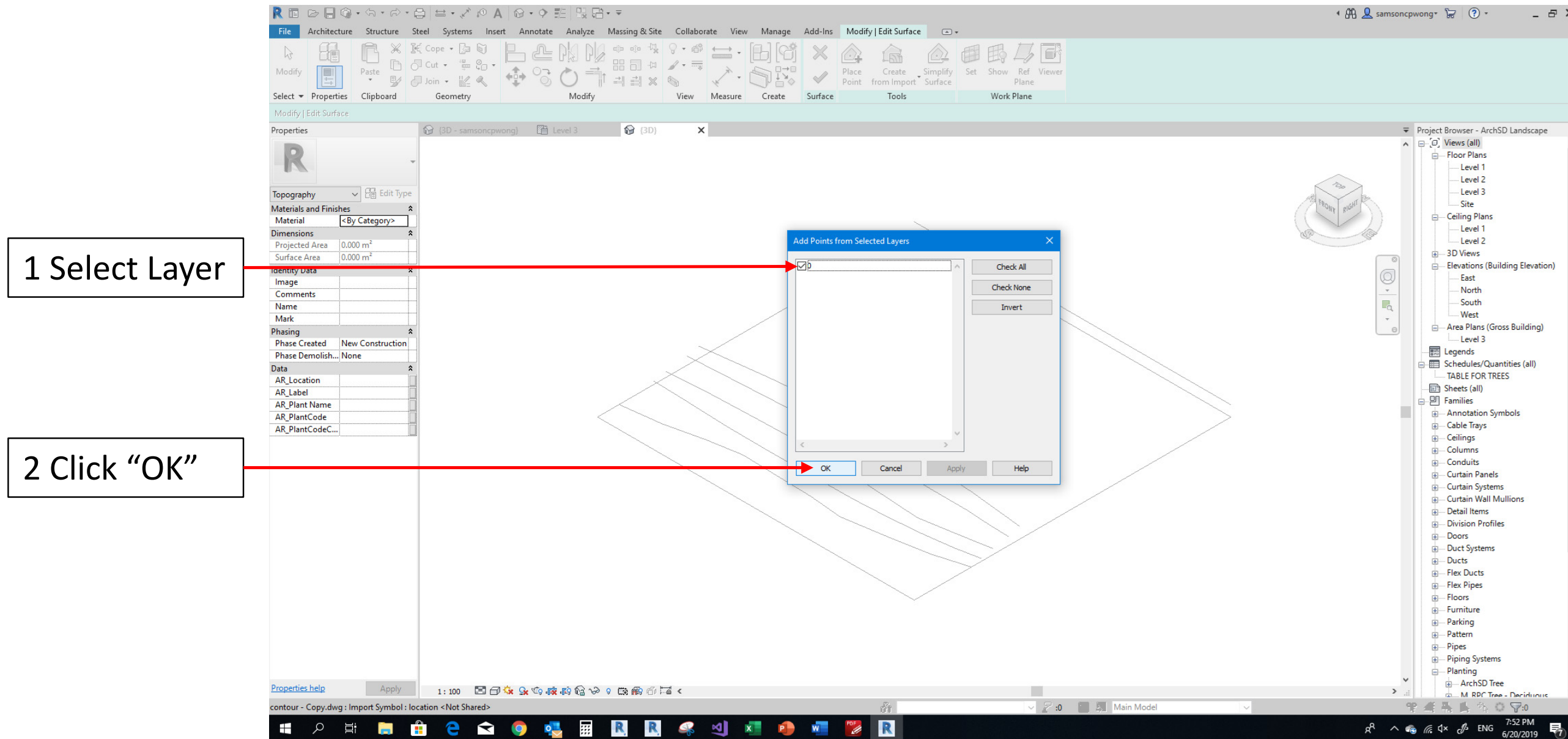
2 Click  
“Select  
Import  
Instance”

3 Select CAD



## 5.1 MODELLING – GENERAL

### 5.1.26 Toposurface – Option 2 – Create by Importing Contour Lines from CAD





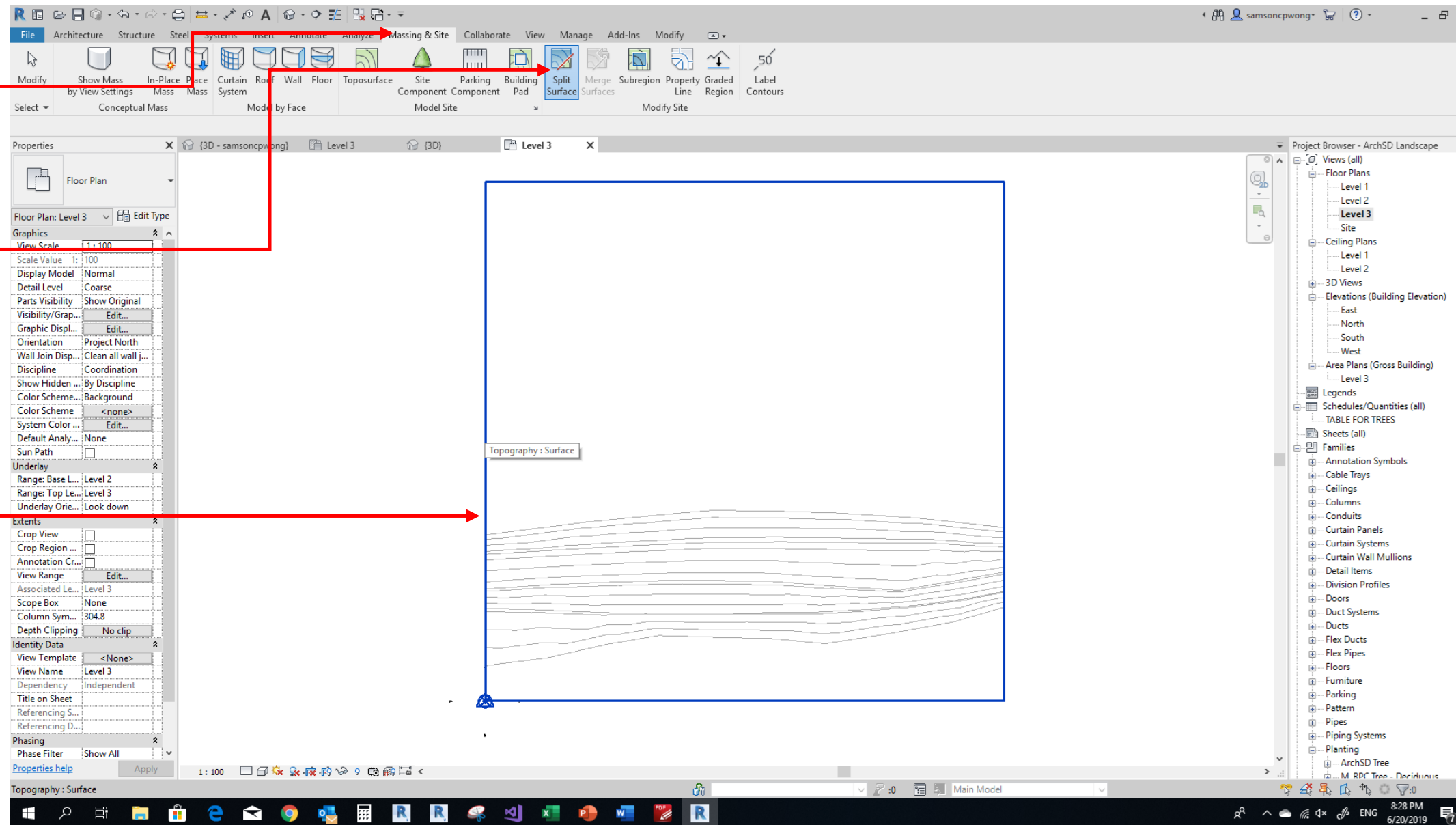
# 5.1 MODELLING – GENERAL

## 5.1.27 Prepare to Modify Topography - Split Toposurface

1 Click  
“Massing &  
Site”

2 Click “Split  
Surface”

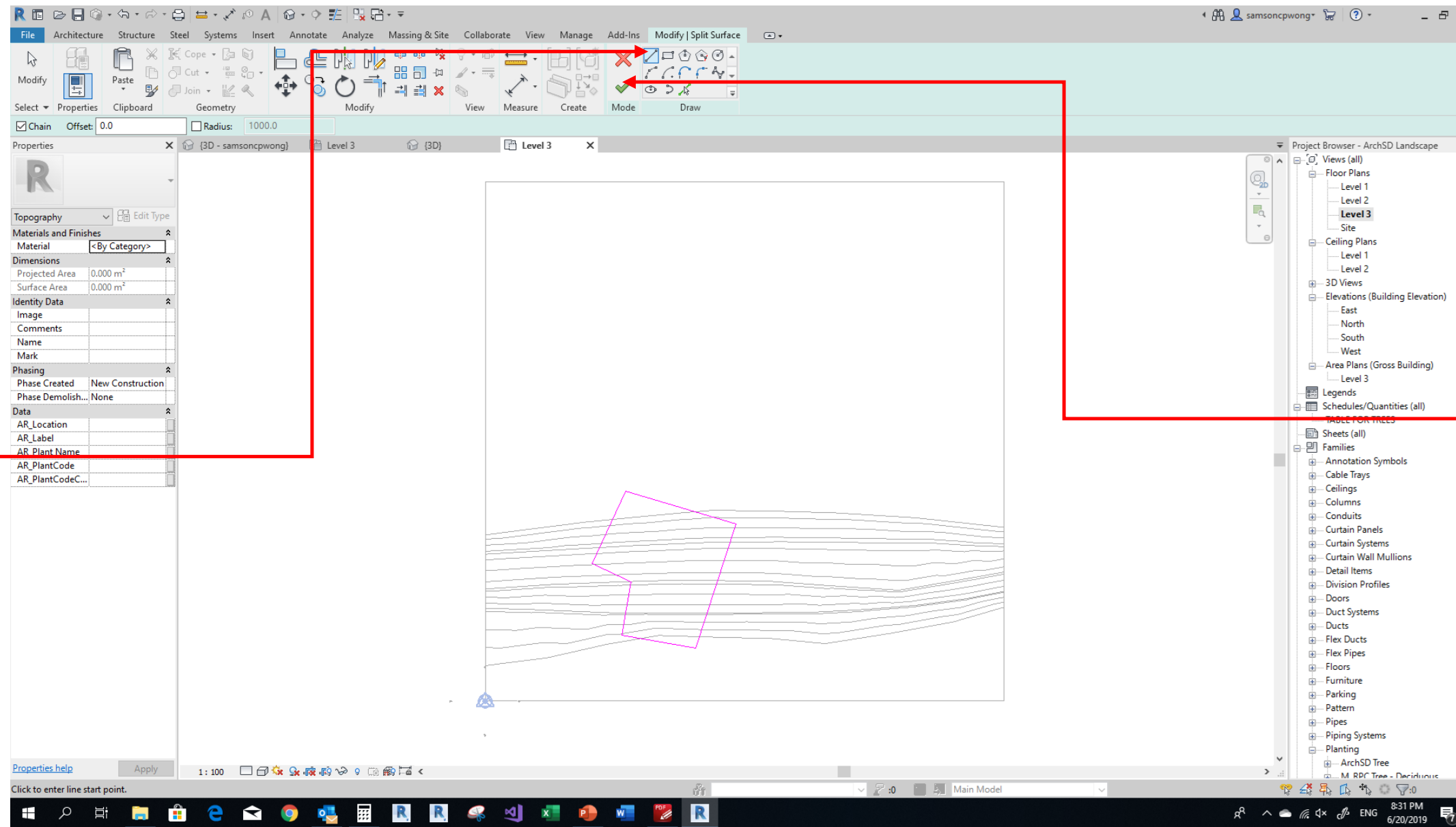
3 Select  
topography



## 5.1 MODELLING – GENERAL

### 5.1.27 Prepare to Modify Topography - Split Toposurface

1 Draw line / pick line / wall, to subdivide the site area. The lines should form a complete loop representing area of topography which will be modified, e.g. it can be formed according to site area



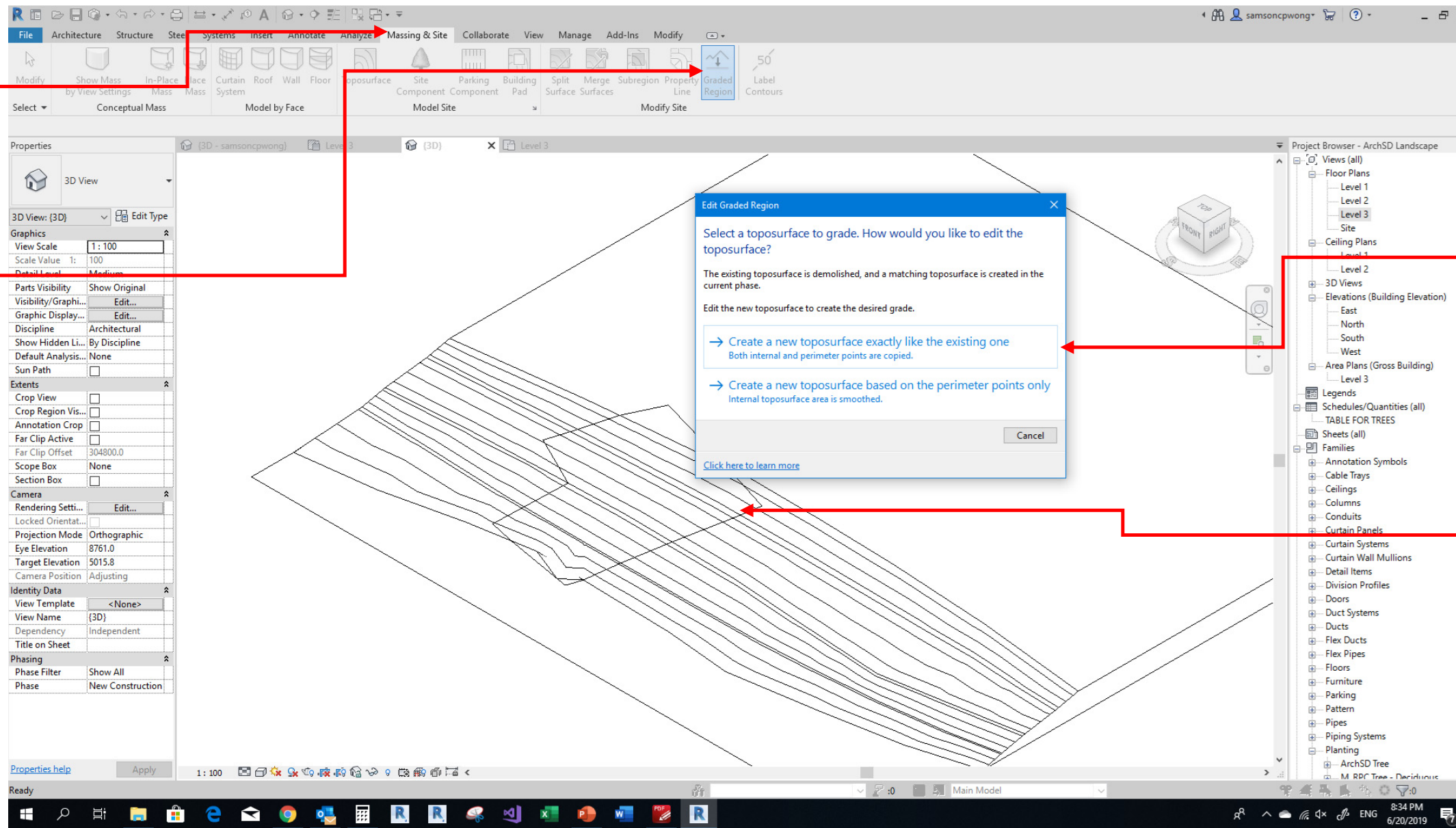
2 Select "OK"

# 5.1 MODELLING – GENERAL

## 5.1.28 Prepare to Modify Topography – Use Graded Region to Record Change

1 Click  
“Massing &  
Site”

2 Click  
“Graded  
Region”



3 Create a  
new  
toposurface  
exactly like  
the existing  
one

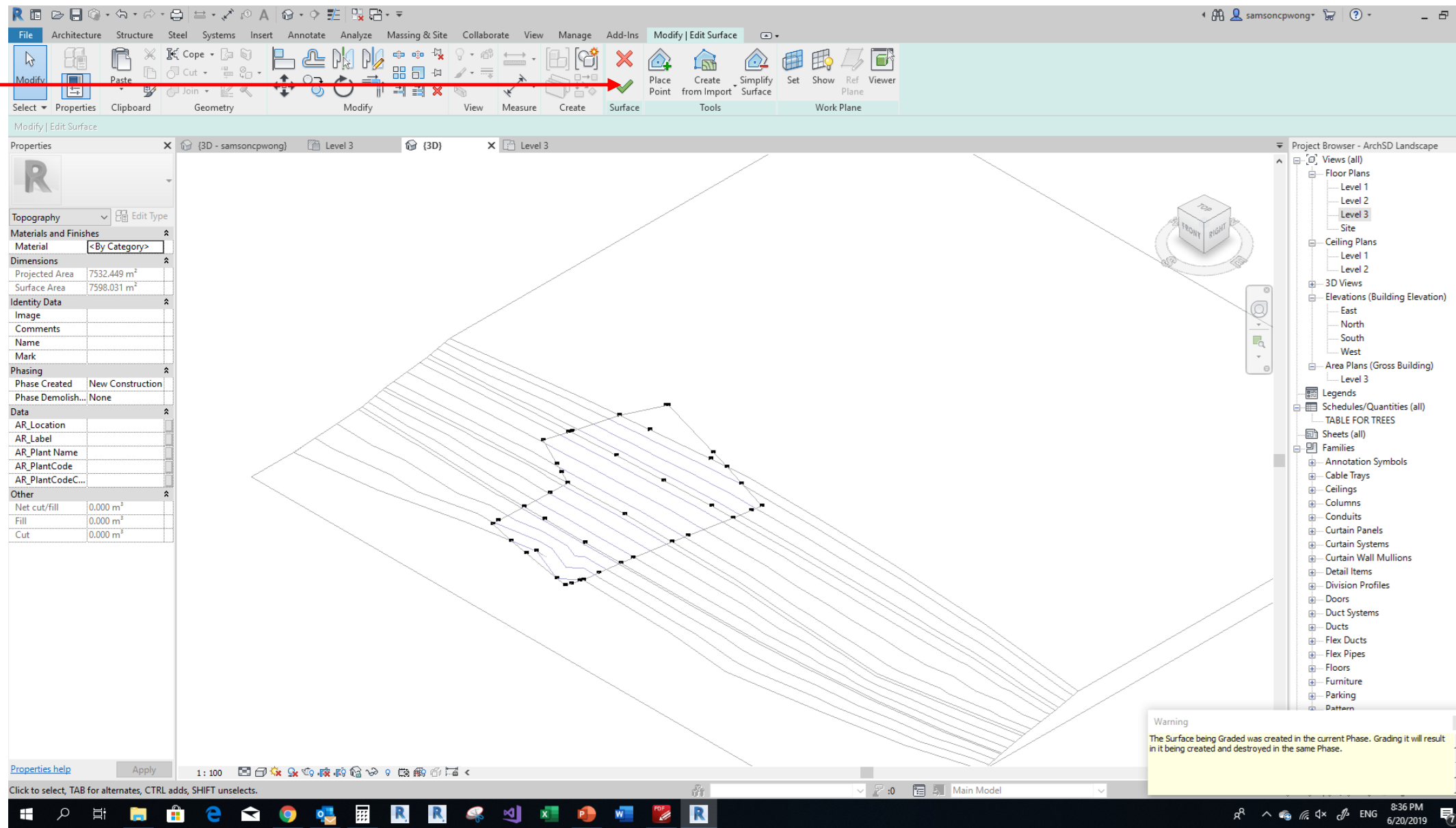
4 Pick  
topography  
representing  
the site

# 5.1 MODELLING – GENERAL

## 5.1.28 Prepare to Modify Topography – Use Graded Region to Record Change

1 Select tick

2 “Graded Region” records both existing and proposed topography

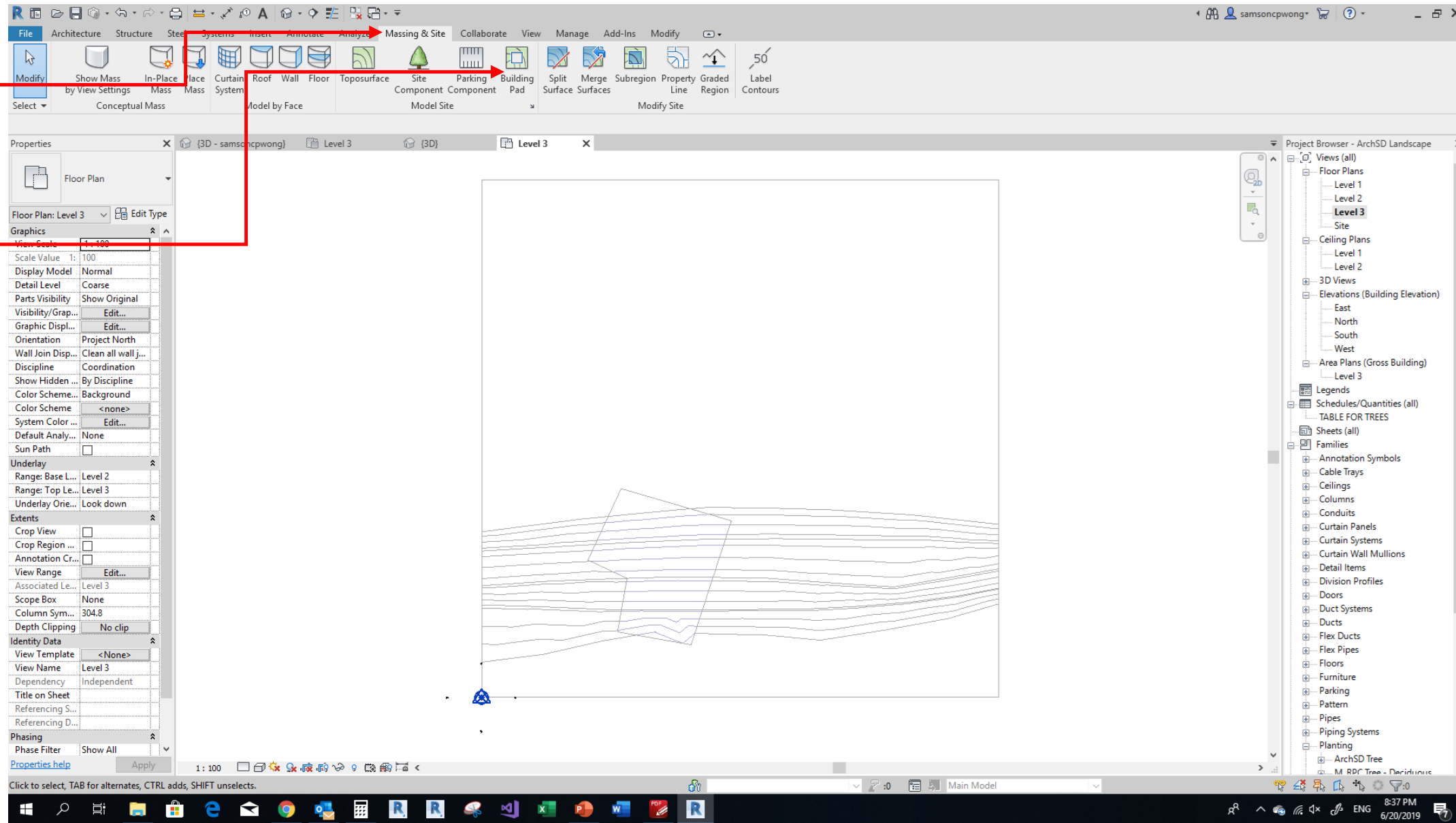


# 5.1 MODELLING – GENERAL

## 5.1.29 Modify Topography by Building Pad

1 Click  
“Massing &  
Site”

2 Click  
“Building Pad”





# 5.1 MODELLING – GENERAL

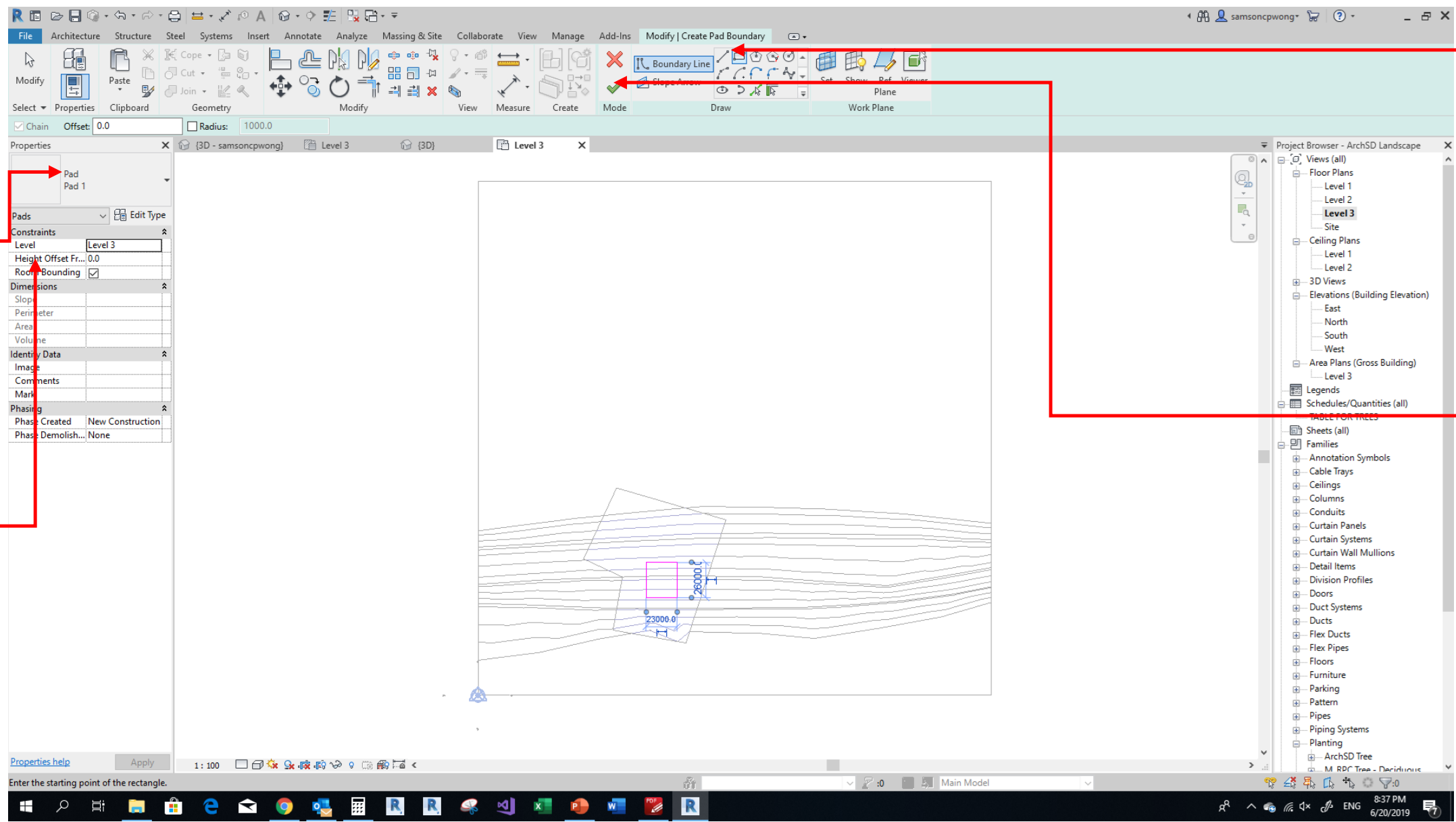
## 5.1.29 Modify Topography by Building Pad

1 Select type, including material & thickness

2 Adjust level, height offset

3 Draw line / pick line / wall

4 Select tick



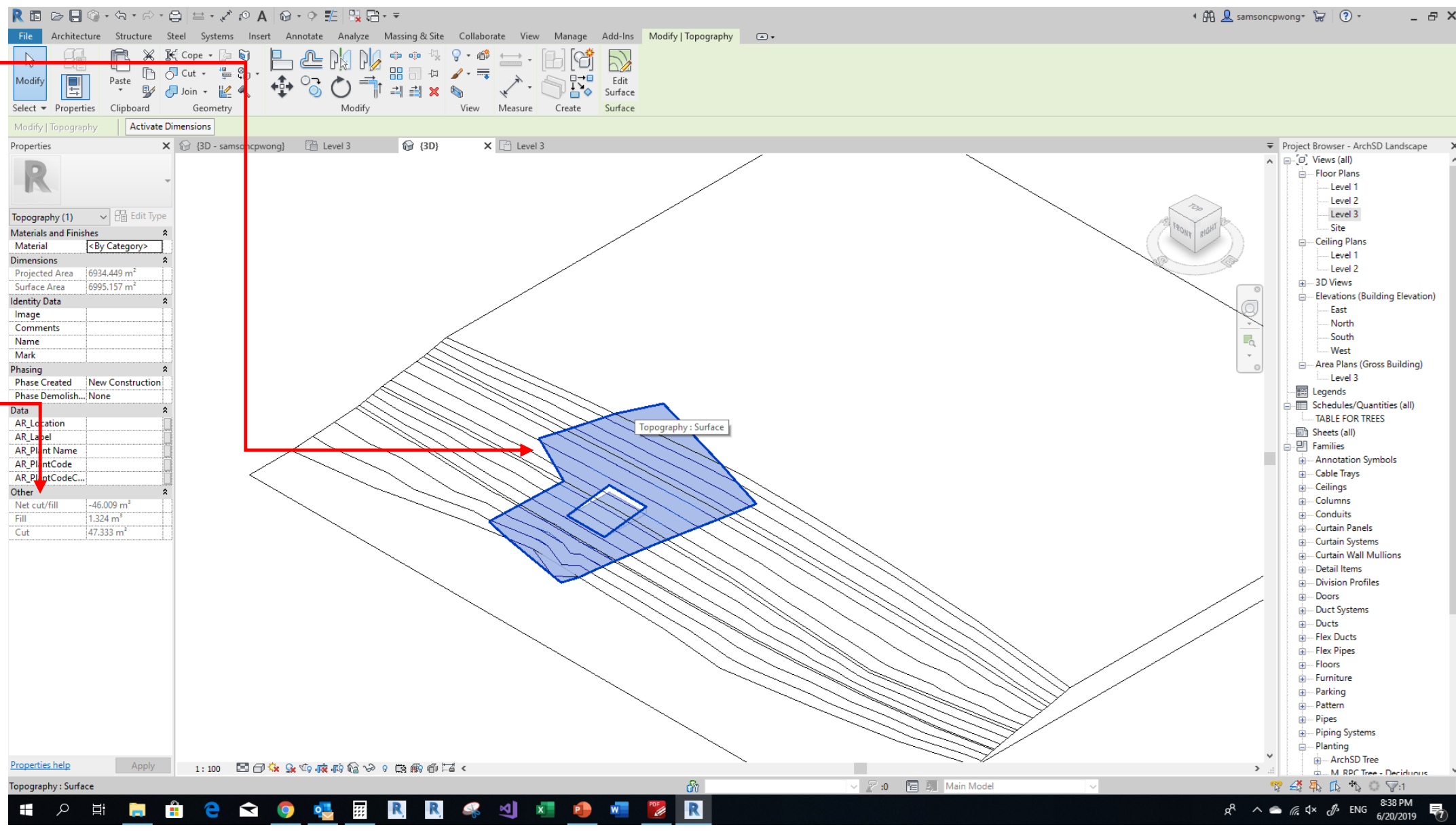


# 5.1 MODELLING – GENERAL

## 5.1.30 Cut & Fill Volume

1 Select topography

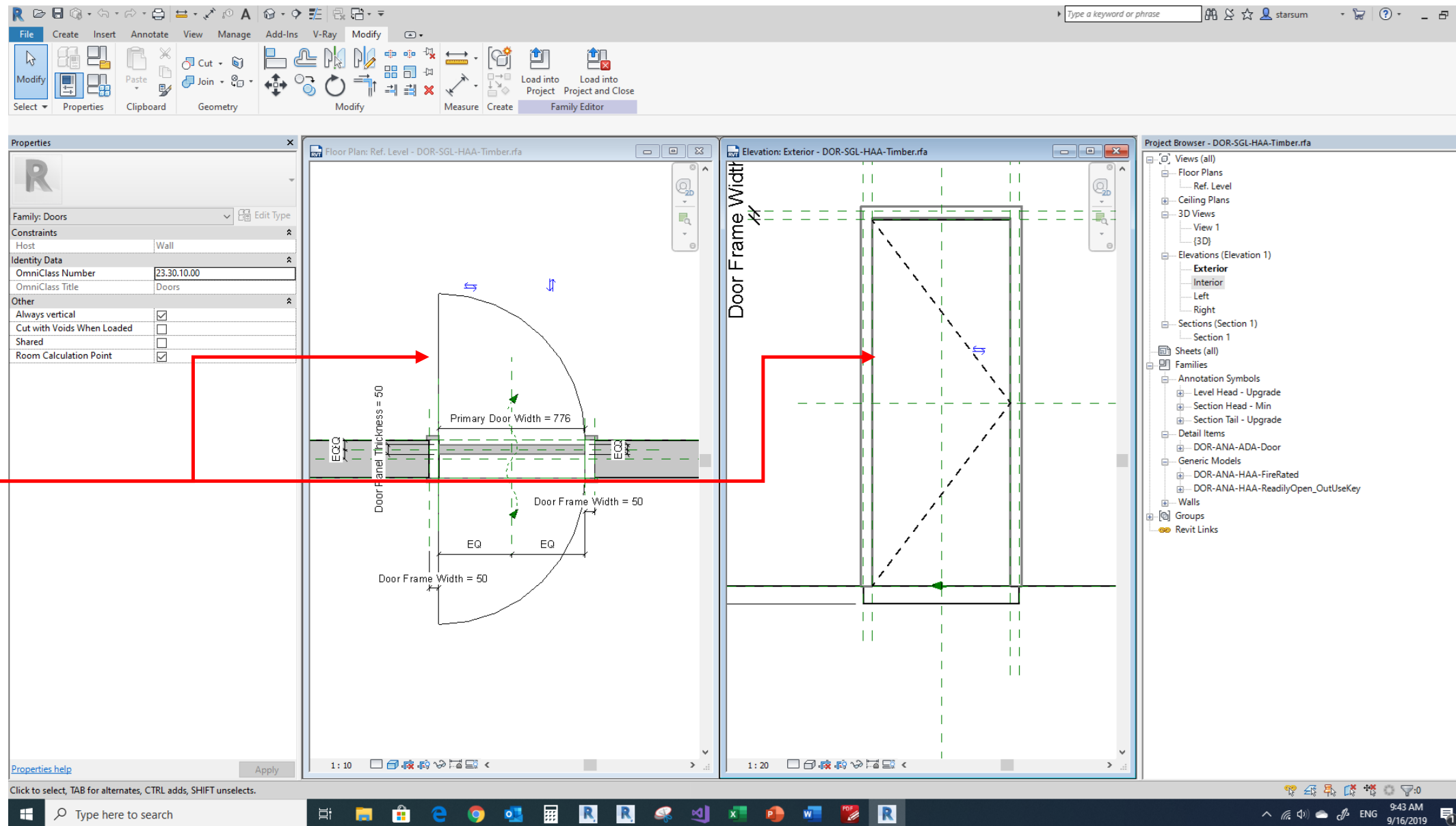
2 Check cut/fill volume, which can also be listed under a schedule



## 5.1 MODELLING – GENERAL

### 5.1.31 Creation of BIM Object

1 When there is a need to create new BIM Object, and 3D geometry cannot be used directly for drawing production. 2D symbolic line can be used. Same dimensional control should be used.



2 This ensure parametric control to link 3D geometry and 2D symbolic line. In this example, radius of door swing 2D symbol is linked to width of door leaf.

## 5.2 MODELLING - GENERAL BUILDING PLANS

- This sections illustrates standards & guidelines for 3d modelling.
- It covers aspects which are specific to architectural building professionals, e.g. modelling of window, door, railing, fire services installation etc.

## 5.2 MODELLING - GENERAL BUILDING PLAN

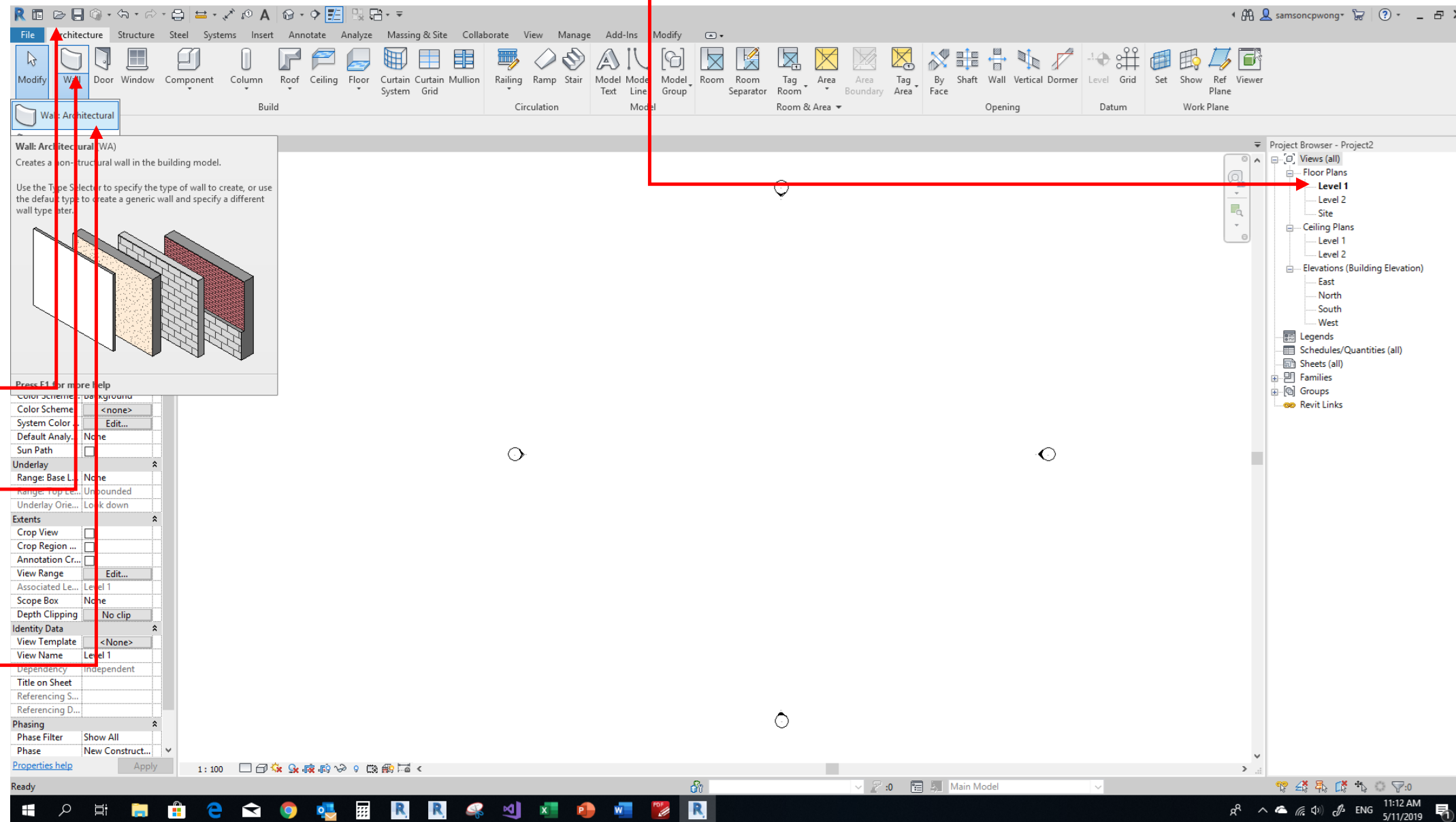
### 5.2.1 Curtain Wall – an Efficient Tool to Create both Curtain Wall & Normal Window

1 Select relevant floor plan view, it define **base level**

2 Click "Architecture"

3 Click "Wall"

4 Click "Wall: Architectural/ Structural"



## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.1 Curtain Wall – an Efficient Tool to Create both Curtain Wall & Normal Window

The screenshot displays the Revit software interface during the 'Place Wall' command. The ribbon shows 'Modify | Place Wall' with various options like Height, Location Line, Chain, Offset, Radius, and Join Status. The Properties palette on the left shows the 'Curtain Wall' type selected. The Project Browser on the right shows the current level (Level 1). The main view shows a blank workspace with a red line indicating the wall's location.

**1 Draw line / pick line**

**2 Select curtain wall type, confirm design, material, division spacing etc.**

**3 Confirm upper level, or select "unconnected" then confirm number on the right, which is wall height**

**4 Pick two points to create**

## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.2 Curtain Wall – Modify Mullion and Transom Setting

1 Select

2 Click "Edit Type"

3 Adjust vertical division spacing rule

4 Normally leave horizontal division as "none"

5 Amend mullion type

Parameter	Value
Family	System Family: Curtain Wall
Type	Curtain Wall
Function	Exterior
Automatically Embed	<input type="checkbox"/>
Curtain Panel	System Panel : Glazed
Join Condition	Not Defined
Structural Material	
Layout	Maximum Spacing
Spacing	1500.0
Adjust for Mullion Size	<input checked="" type="checkbox"/>
Layout	None
Spacing	1500.0
Adjust for Mullion Size	<input checked="" type="checkbox"/>
Interior Type	Rectangular Mullion : 50 x 150mm
Border 1 Type	V Corner Mullion : V Mullion 1
Border 2 Type	V Corner Mullion : V Mullion 1
Interior Type	Rectangular Mullion : 50 x 150mm
Border 1 Type	Rectangular Mullion : 50 x 150mm
Border 2 Type	Rectangular Mullion : 50 x 150mm

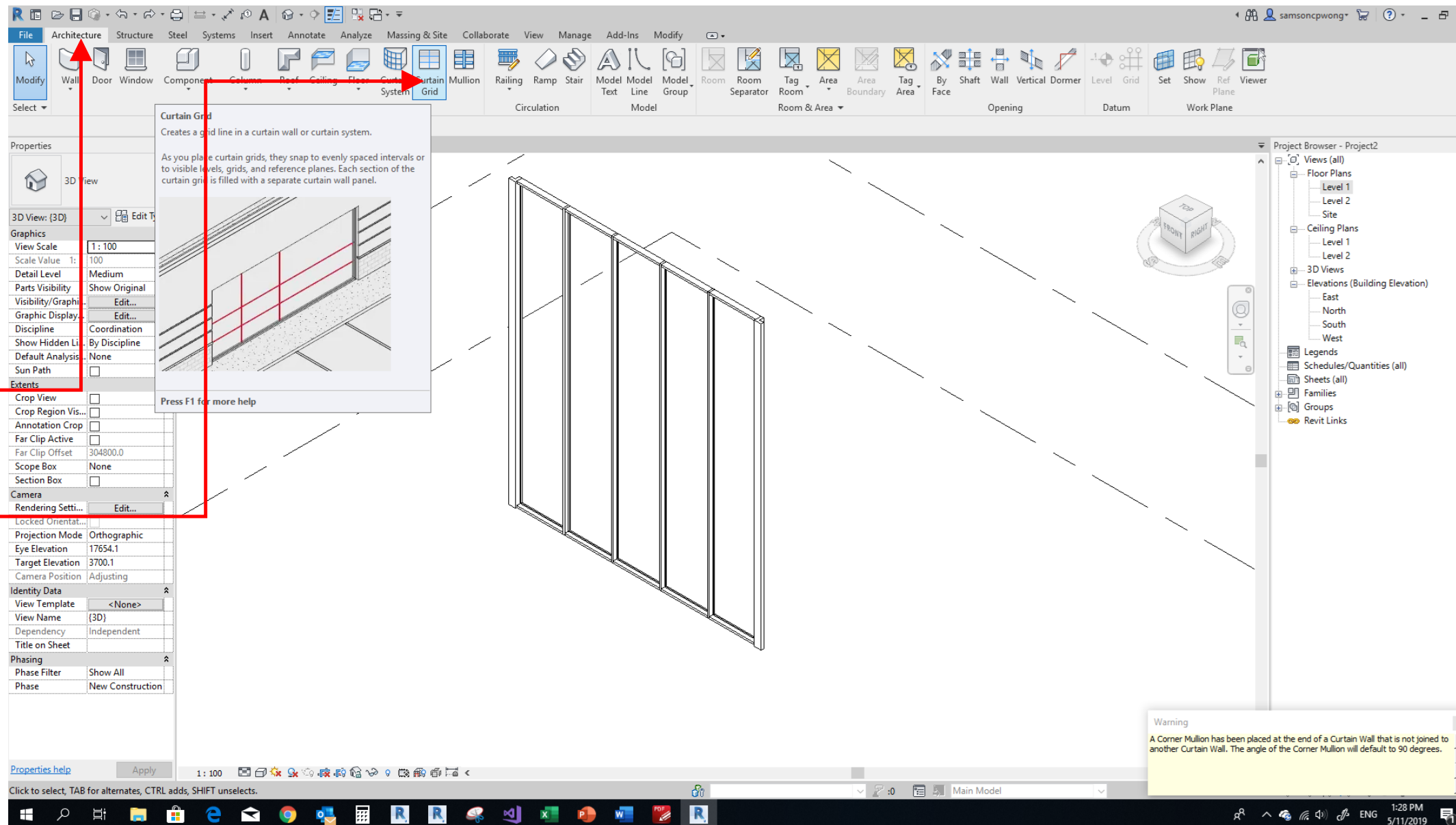


## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.2 Curtain Wall – Modify Mullion and Transom Setting

1 Click  
"Architecture"

2 Click  
"Curtain Grid"

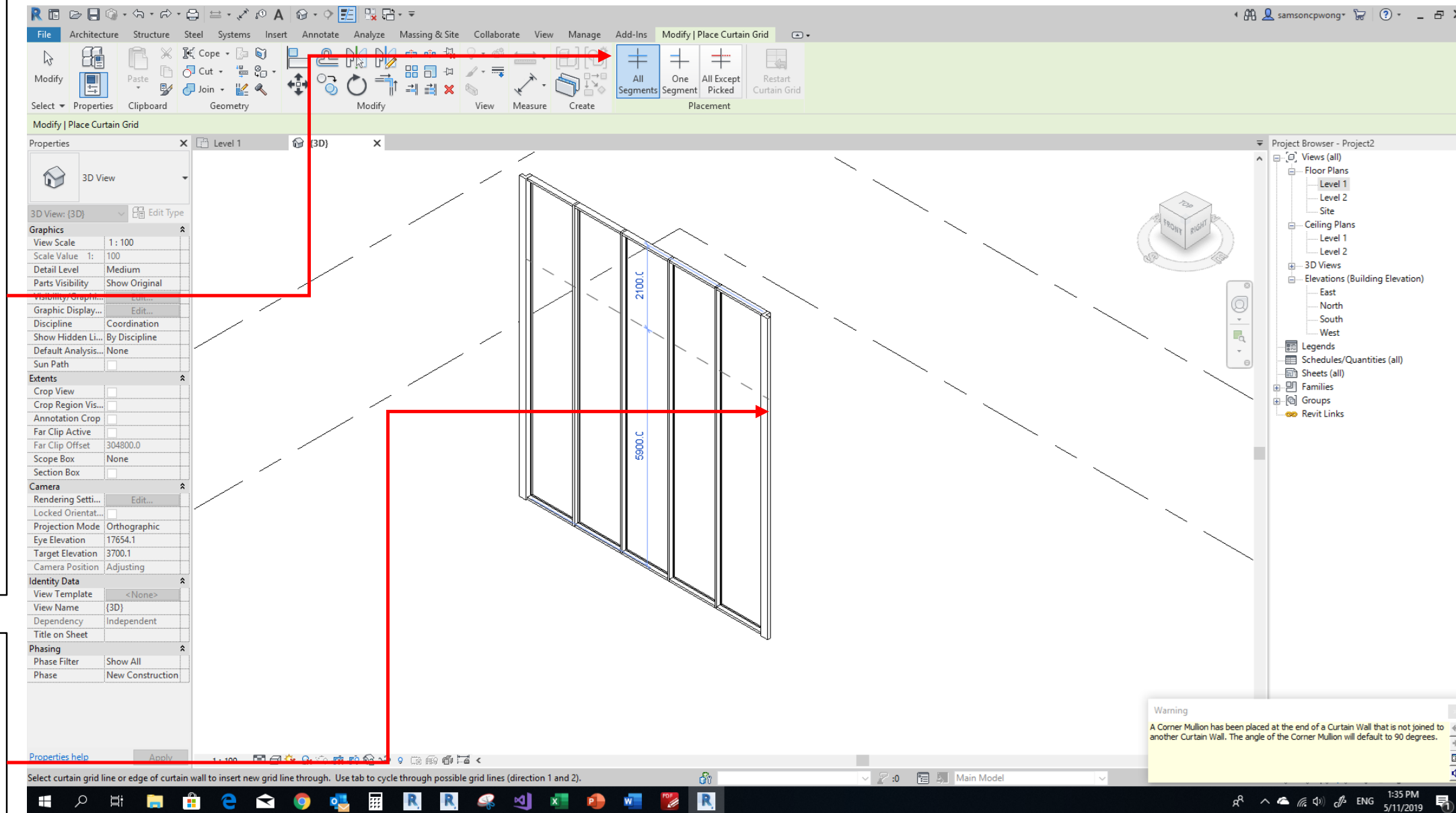


## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.2 Curtain Wall – Modify Mullion and Transom Setting

1 By default, horizontal grid will be applied to whole curtain wall. Revise application to “one segment” or “all except picked” if necessary

2 Mouse over vertical edge of curtain wall, click to confirm



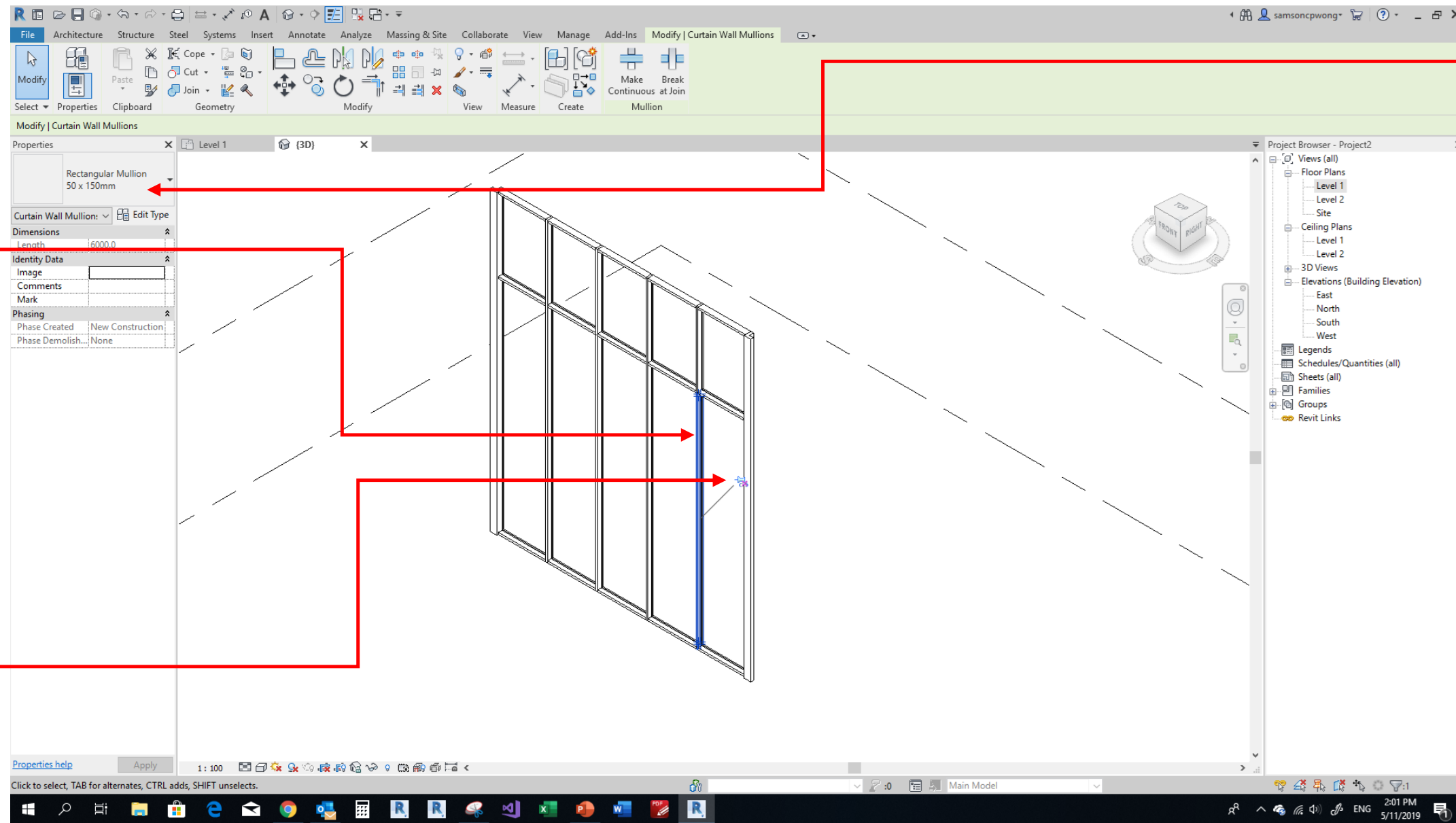
## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.2 Curtain Wall – Modify Mullion and Transom Setting

1 Mouse over a sub component, e.g. curtain panel / mullion. Keep pressing keyboard “tab” key to cycle selection

2 Click “pin” symbol to unlock

3 Change type

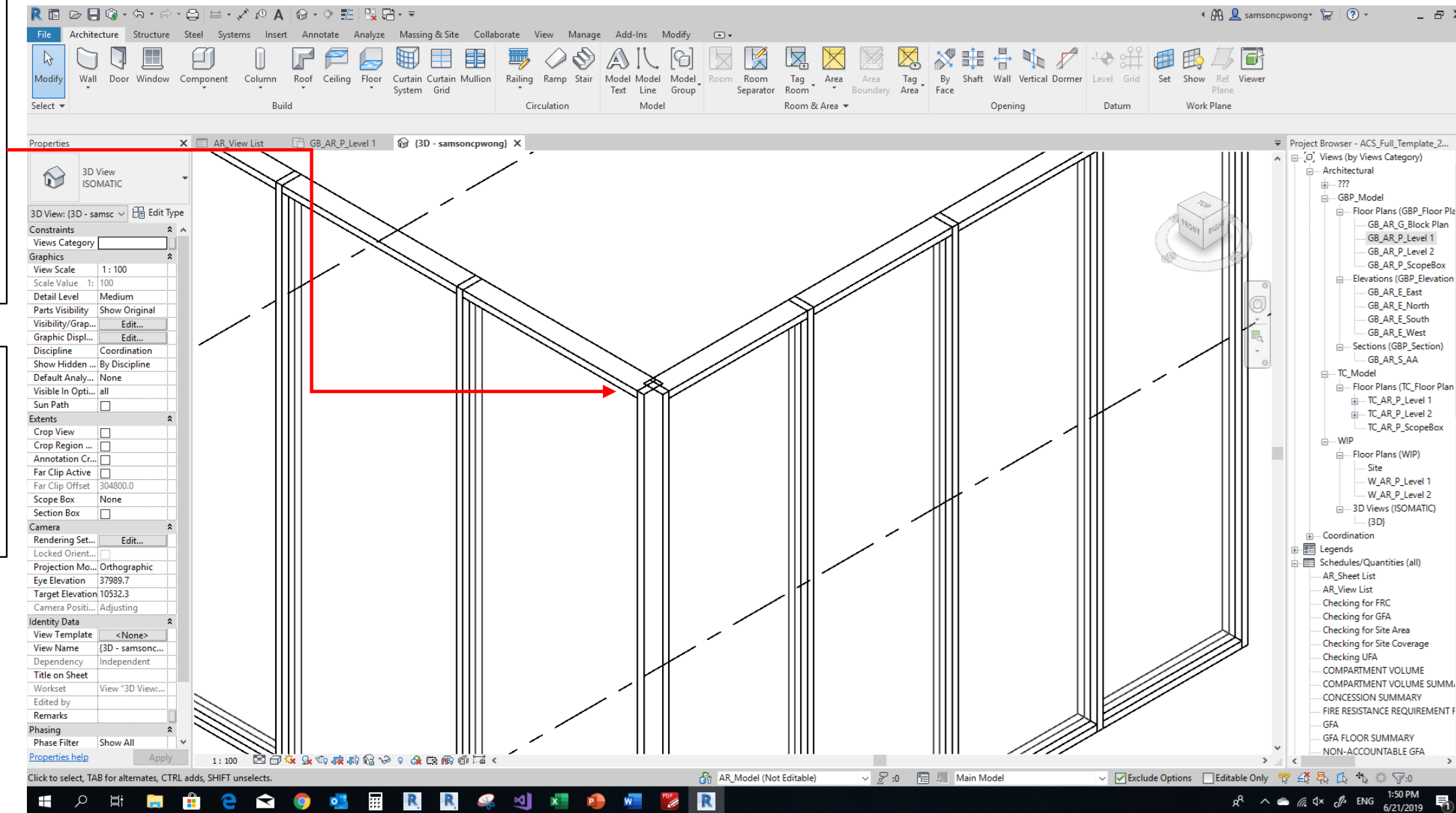


## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.3 Curtain Wall – Create Corner Window

1 By default, two adjacent curtain walls will not be joined automatically.

2 Next slide will illustrate way to join curtain walls

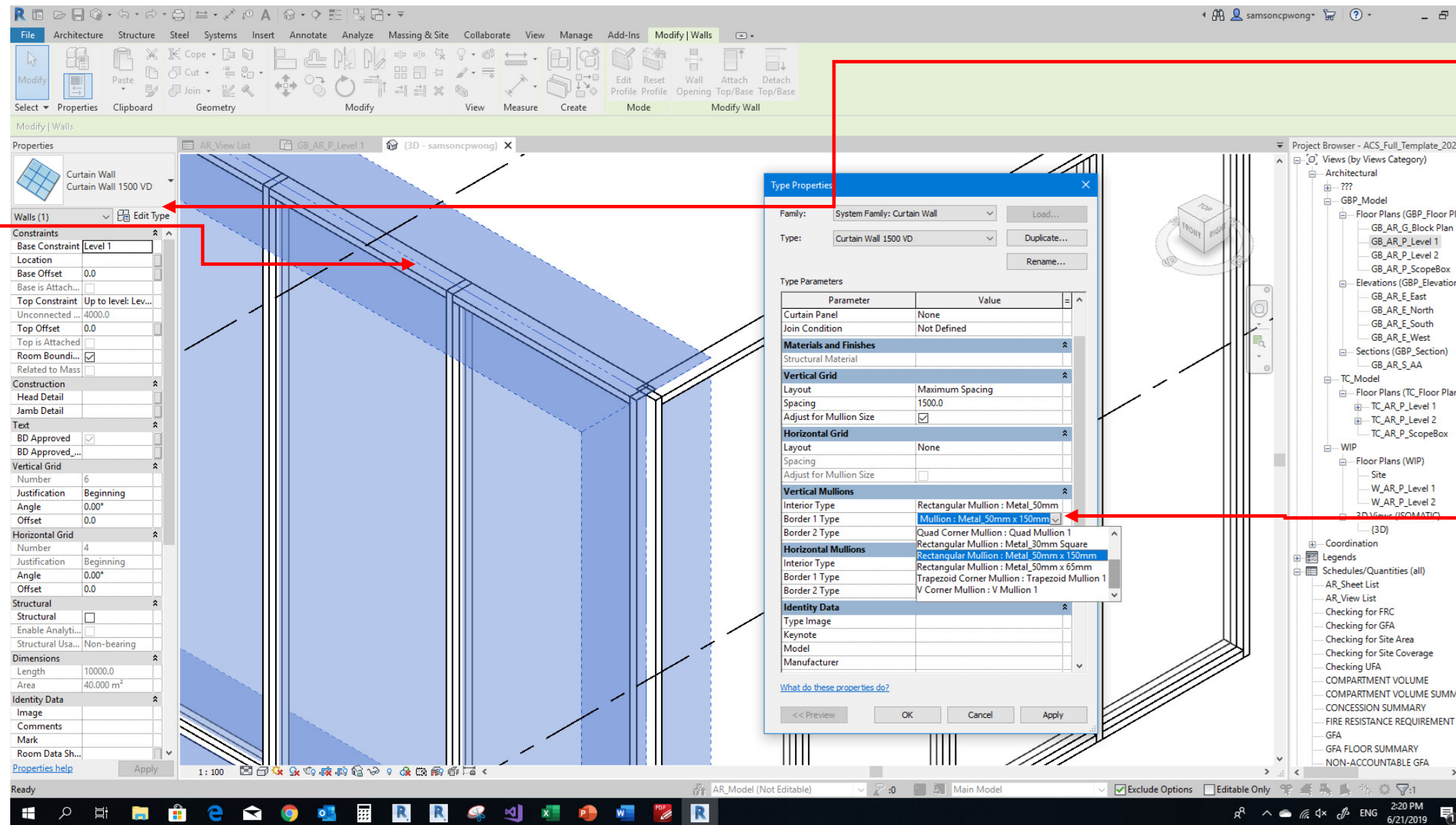




## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.3 Curtain Wall – Create Corner Window

1 Mouse over curtain wall until notional blue line covering whole piece of curtain wall is shown, click to select



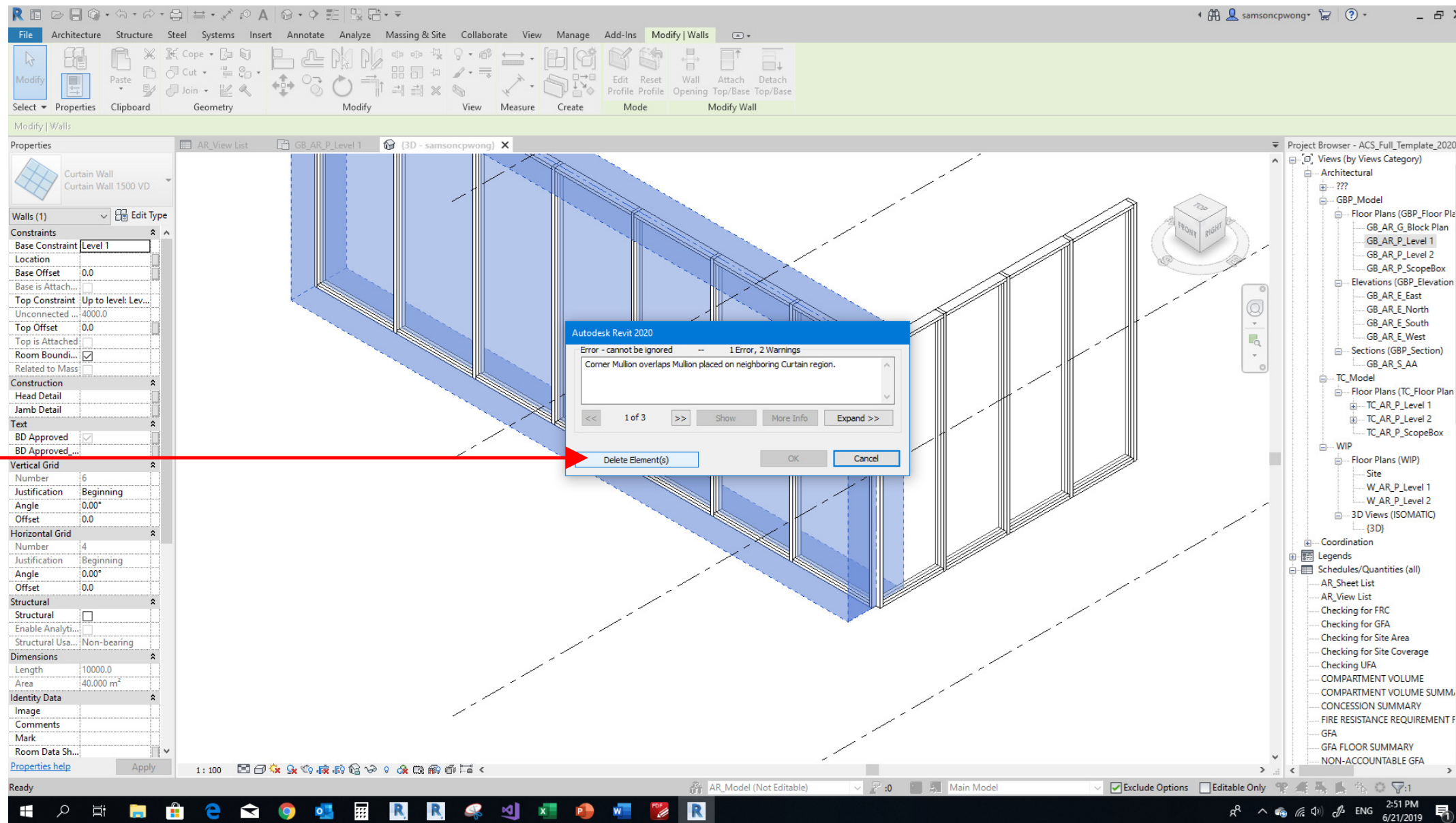
2 Change type

3 Select border 1 and border 2 type, it represents first and final mullions. Modify to L/ Quad/ Trapezoid/ V/ Corner Mullion

## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.3 Curtain Wall – Create Corner Window

1 Click  
“Delete  
Element(s)”

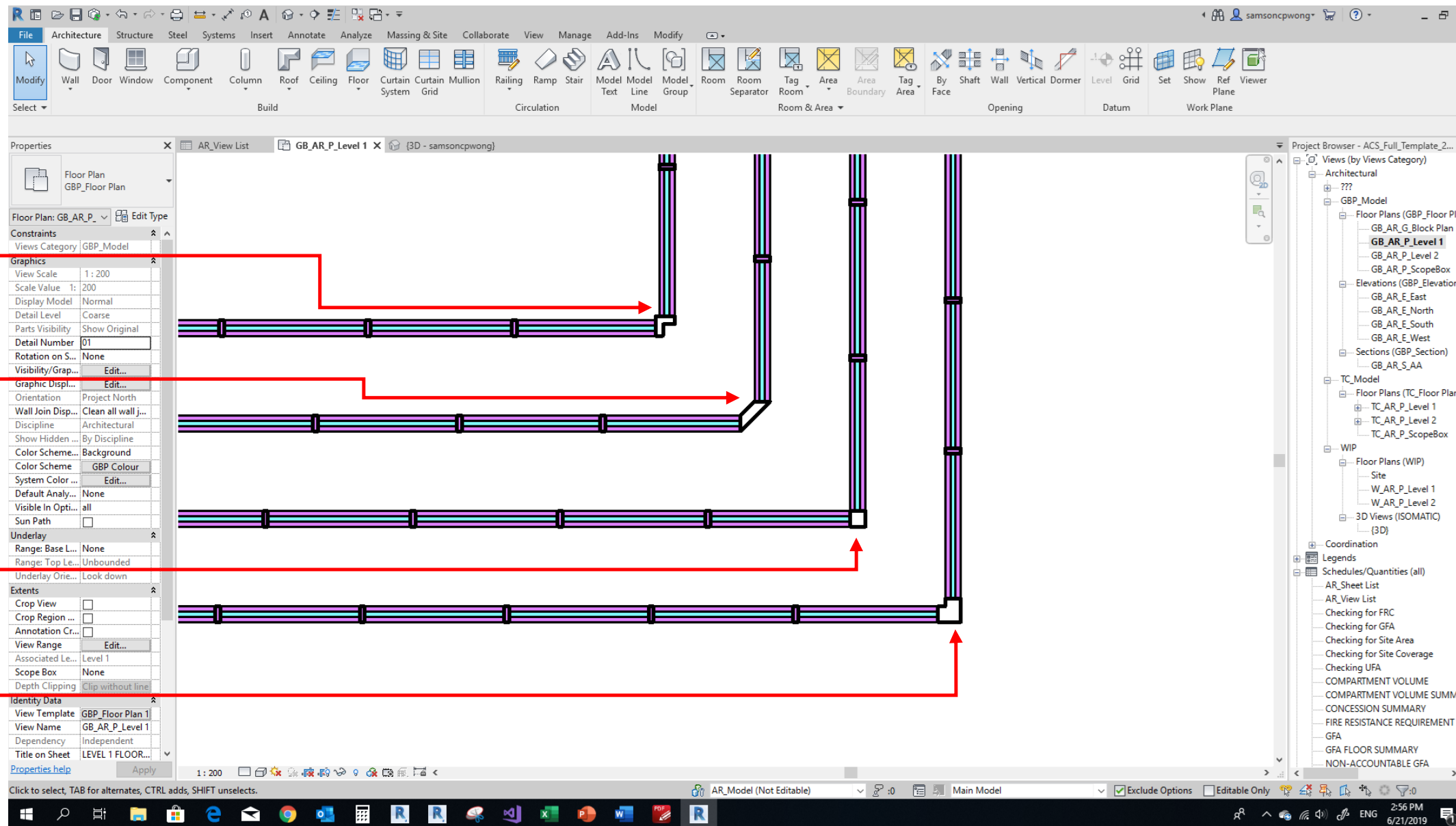




## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.4 Curtain Wall – Available Corner Details in Revit

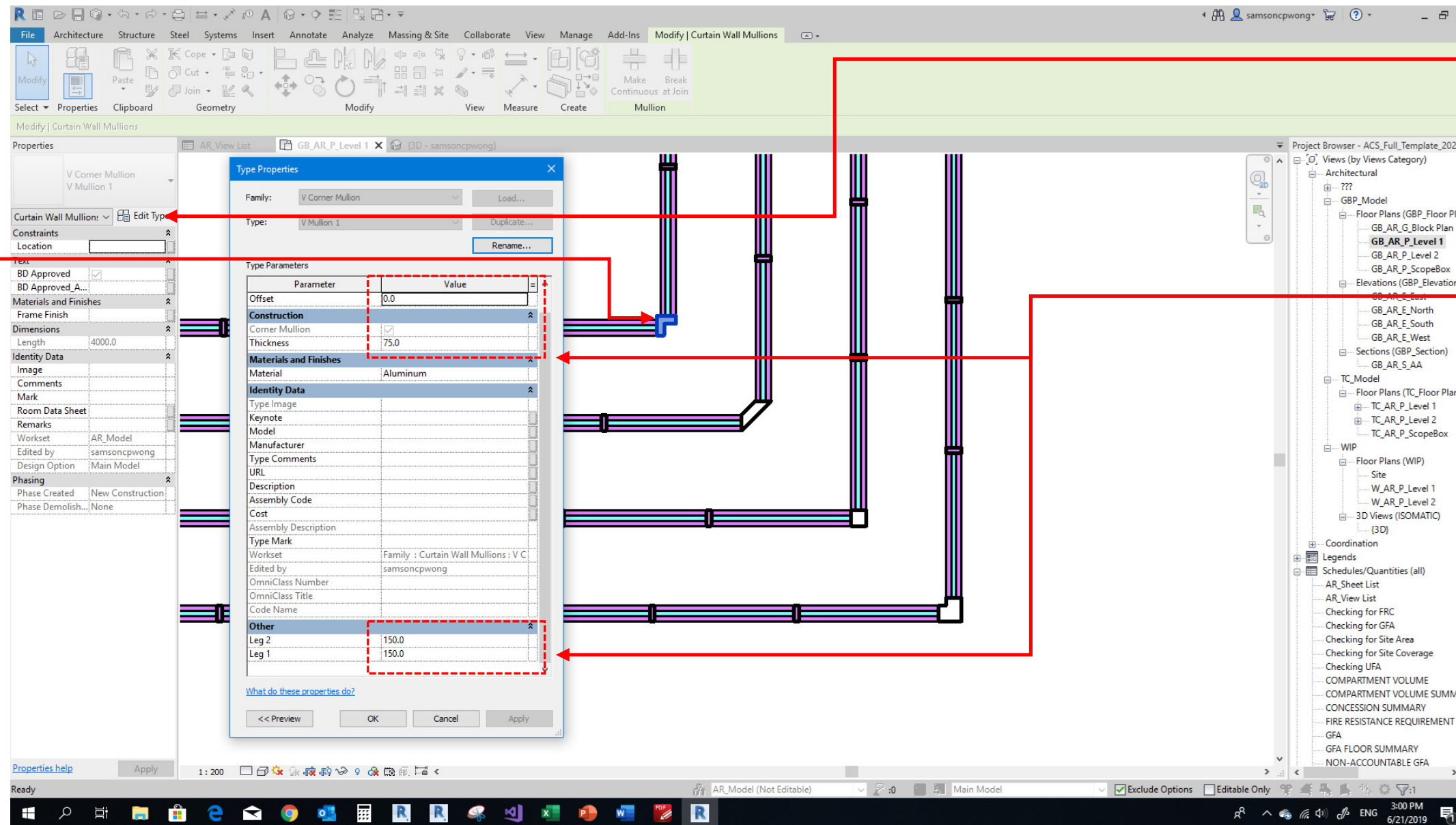
- 1 V Corner
- 2 Trapezoid Corner
- 3 Quad Corner
- 4 L Corner



## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.5 Curtain Wall – Modify Dimension of Corner Detail

1 Mouse over corner mullion, keep pressing keyboard “tab” button to cycle selection. Click to confirm



2 Click “Edit Type”

3 Modify available dimension

## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.6 Curtain Wall – Use Curtain Wall as Normal Window

1 Select curtain wall

2 Click "Edit Type"

3 With this check box ticked, when such curtain wall is moved to another wall, opening will be created automatically

Parameter	Value
Family	System Family: Curtain Wall
Type	Curtain Wall
Function	Exterior
Automatically Embed	<input checked="" type="checkbox"/>
Curtain Panel	System Panel : Glazed
Join Condition	Not Defined
Structural Material	
Layout	Maximum Spacing
Spacing	1500.0
Adjust for Mullion Size	<input checked="" type="checkbox"/>
Layout	None
Spacing	1500.0
Adjust for Mullion Size	<input checked="" type="checkbox"/>
Interior Type	Rectangular Mullion : 50 x 150mm
Border 1 Type	None
Border 2 Type	V Corner Mullion : V Mullion 1
Interior Type	Rectangular Mullion : 50 x 150mm
Border 1 Type	Rectangular Mullion : 50 x 150mm
Border 2 Type	Rectangular Mullion : 50 x 150mm
Type Image	

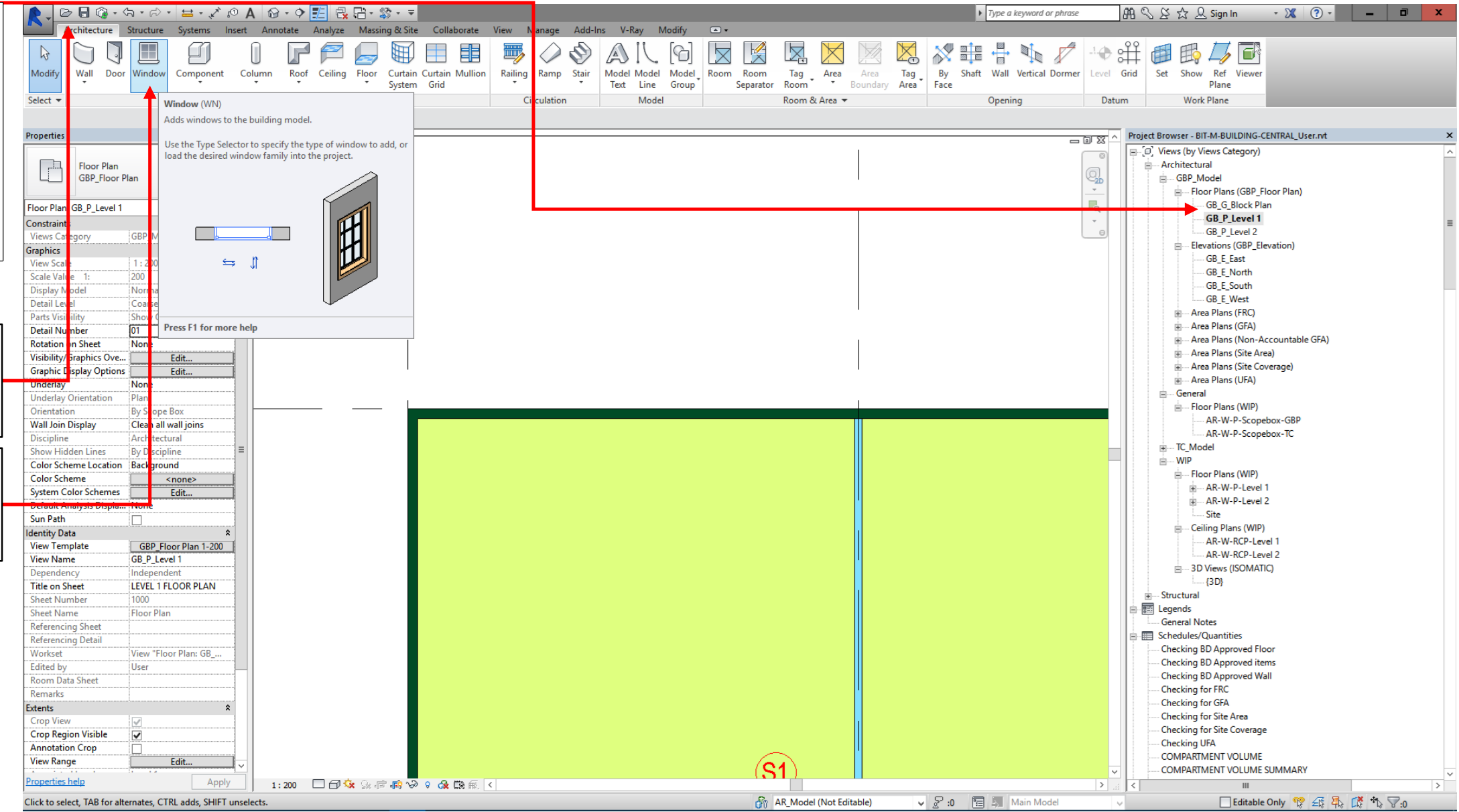
# 5.2 MODELLING - GENERAL BUILDING PLAN

## 5.2.7 Window

1 Select relevant floor plan view, it define base level

2 Click "Architecture"

3 Click "Windows"





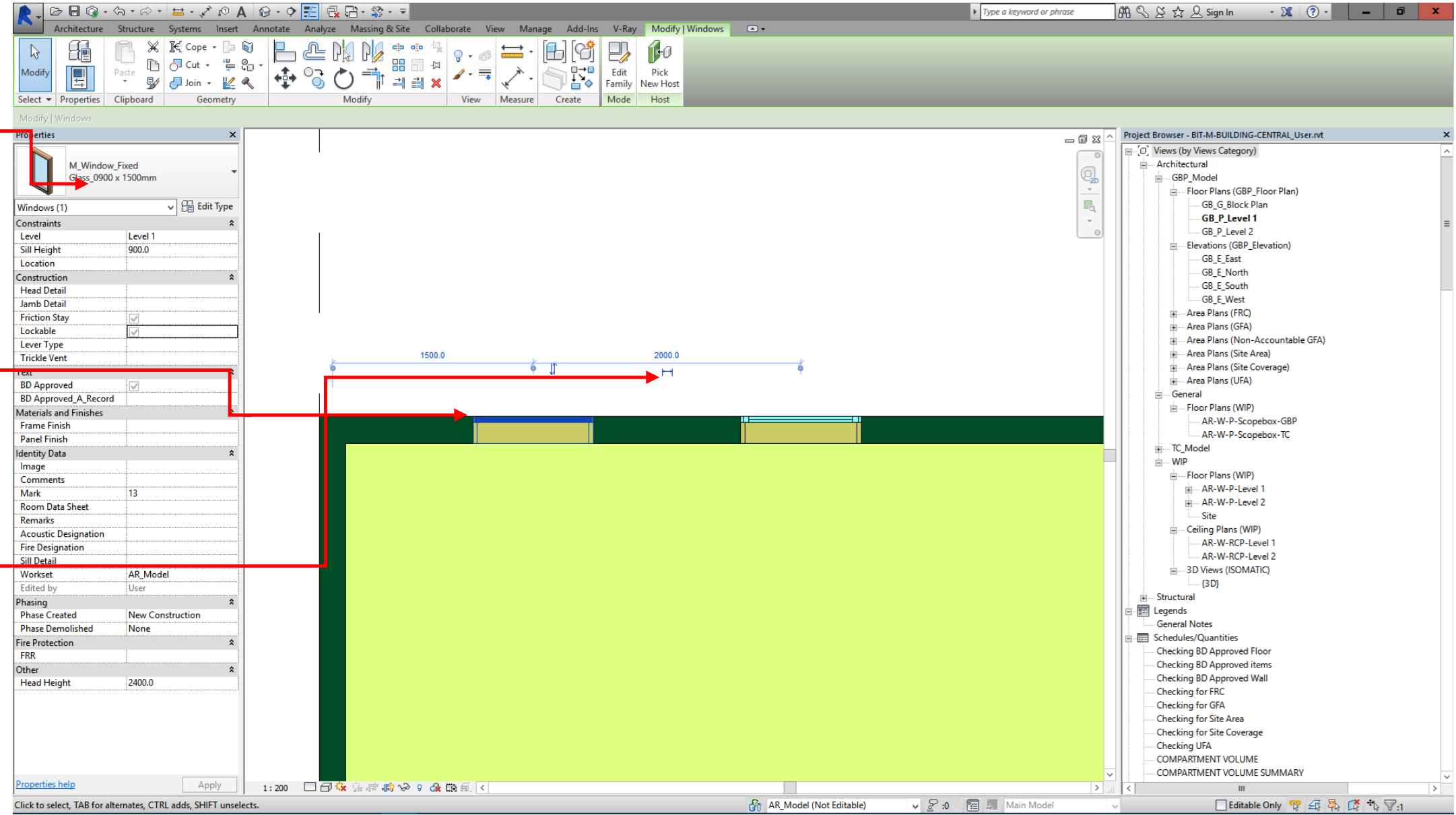
# 5.2 MODELLING - GENERAL BUILDING PLAN

## 5.2.7 Window

1 Select type, confirm design, material, size, fire rating etc.

2 Mouse over on wall

3 Check setting out then click to insert



# 5.2 MODELLING - GENERAL BUILDING PLAN

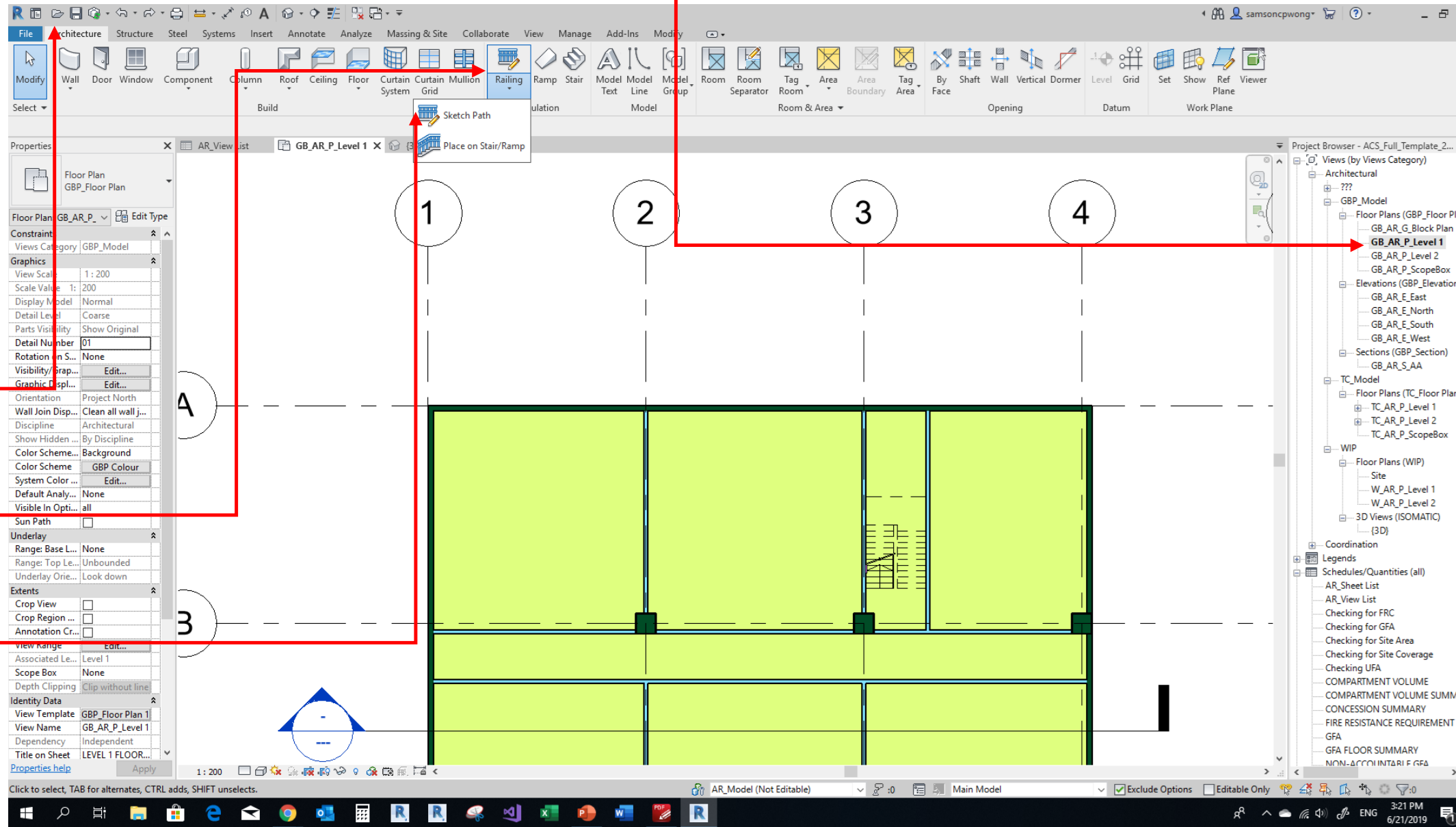
## 5.2.8 Railing

1 Select relevant floor plan view, it define base level

2 Click "Architecture"

3 Click "Railing"

4 Click "Sketch Path"



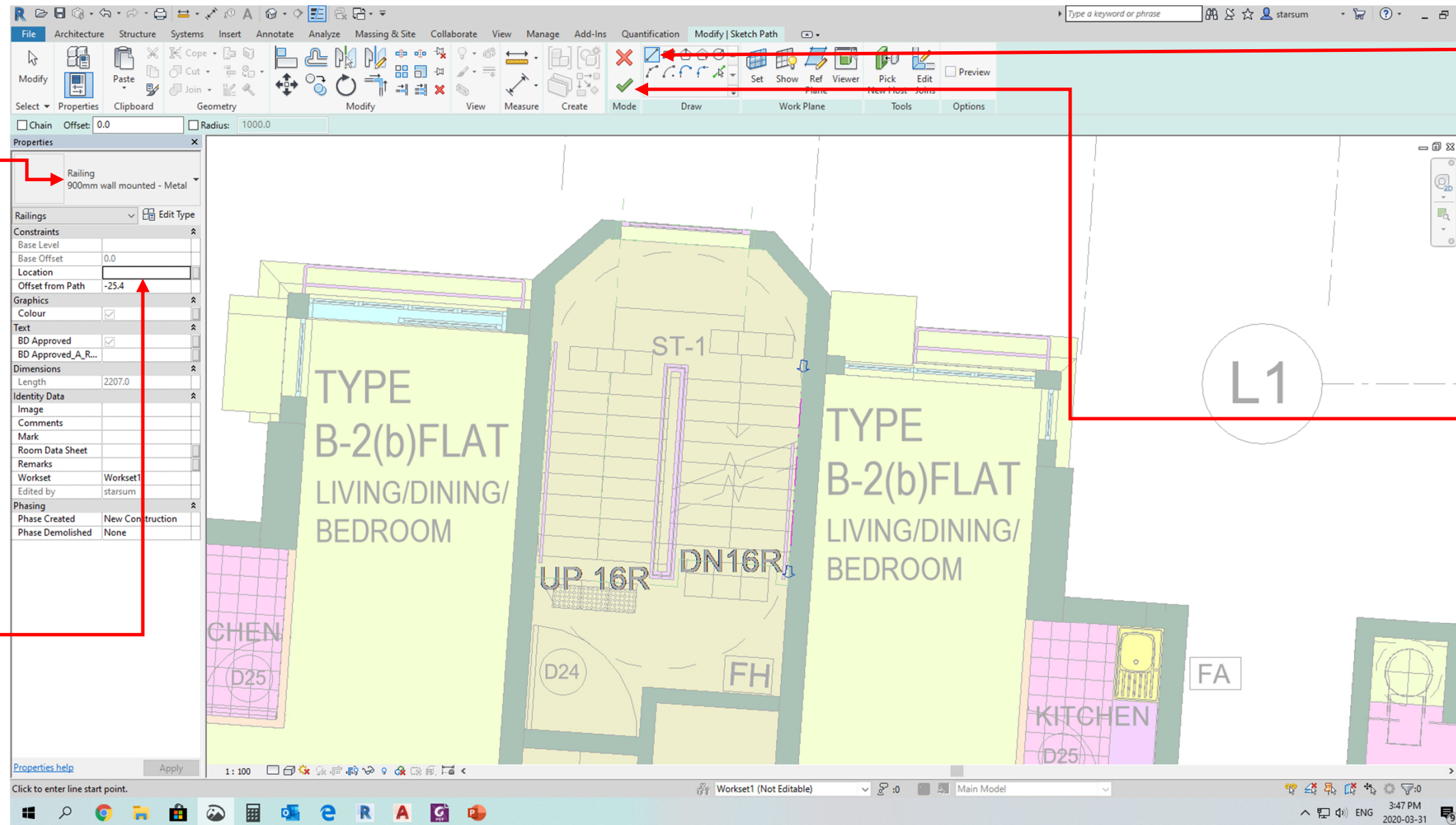


## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.8 Railing

1 Select railing type, confirm design, material, division spacing etc.

2 Adjust base offset, which is vertical offset distance & offset from path, which is horizontal offset distance if necessary



3 Draw line / pick line / wall

4 Select tick

## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.9 Railing – Setting up of Direction to Follow Stair/Ramp/Topography

1 Select Railing

2 Attach to stair/ ramp/ topography by clicking "Pick New Host", then select the host element if necessary

The screenshot displays the Revit interface with the 'Modify | Railings' ribbon active. The ribbon includes buttons for 'Pick New Host Railing' and 'Reset Railing'. A red box highlights the 'Pick New Host Railing' button. A red arrow points from this button to a railing on a staircase labeled 'ST-1'. Another red arrow points from the railing to a text box on the right. The building plan shows two 'TYPE B-2(b) FLAT' units, each containing 'LIVING/DINING/BEDROOM' and 'KITCHEN' areas. Other elements include 'CHEN', 'D24', 'D25', 'FH', and 'FA'. The 'Properties' panel on the left shows the railing type as 'Railing 900mm wall mounted - Metal' and the length as 2207.0. The status bar at the bottom indicates 'Workset1: Walls: Basic Wall: AWL-HAA-Concrete-250mm' and the date '2020-03-31'.

## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.10 Railing – Introduction of Railing Setting

1 Select railing

2 Click "Edit Type"

3 Rail Structure allows addition of horizontal rail

4 Baluster Placement allows modification of vertical baluster

5 Top Rail control

6 Two sets of Handrail control

The screenshot shows the Revit software interface with the 'Modify | Railings' ribbon active. The central view displays a building plan for 'B-2(b) FLAT LIVING/DINING/BEDROOM' with railings and stairs (UP 16R, DN 16R). The 'Type Properties' dialog box is open, showing parameters for the '900mm wall mounted - Metal' railing type. The 'Type Parameters' table is as follows:

Parameter	Value
<b>Construction</b>	
Railing Height	850.0
Rail Structure (New Continuous)	Edit...
Baluster Placement	Edit...
Baluster Offset	-25.0
Use Landing Height Adjustment	No
Landing Height Adjustment	0.0
Angled Joins	Add Vertical/Horizontal Segments
Tangent Joins	Extend Rails to Meet
Rail Connections	Trim
<b>Top Rail</b>	
Use Top Rail	Yes
Height	850.0
Type	circular 30mm
<b>Handrail 1</b>	
Lateral Offset	
Height	
Position	None
Type	<None>
<b>Handrail 2</b>	
Lateral Offset	
Height	
Position	None
Type	<None>
<b>Identity Data</b>	
Type Image	
Keynote	
Model	
Manufacturer	
Type Comments	

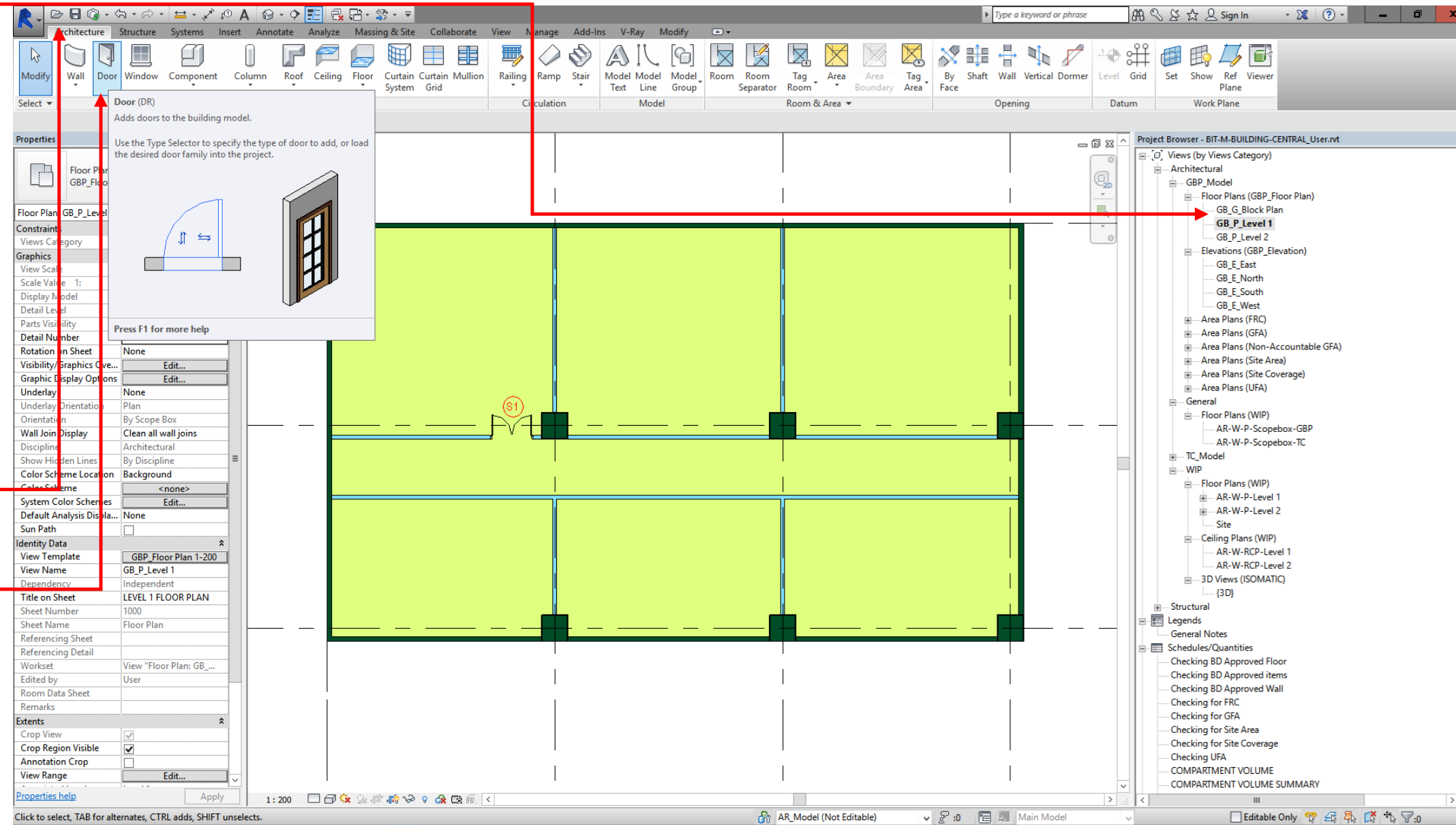
# 5.2 MODELLING - GENERAL BUILDING PLAN

## 5.2.11 Door

1 Select relevant floor plan view, it define base level

2 Click "Architecture"

3 Click "Door"





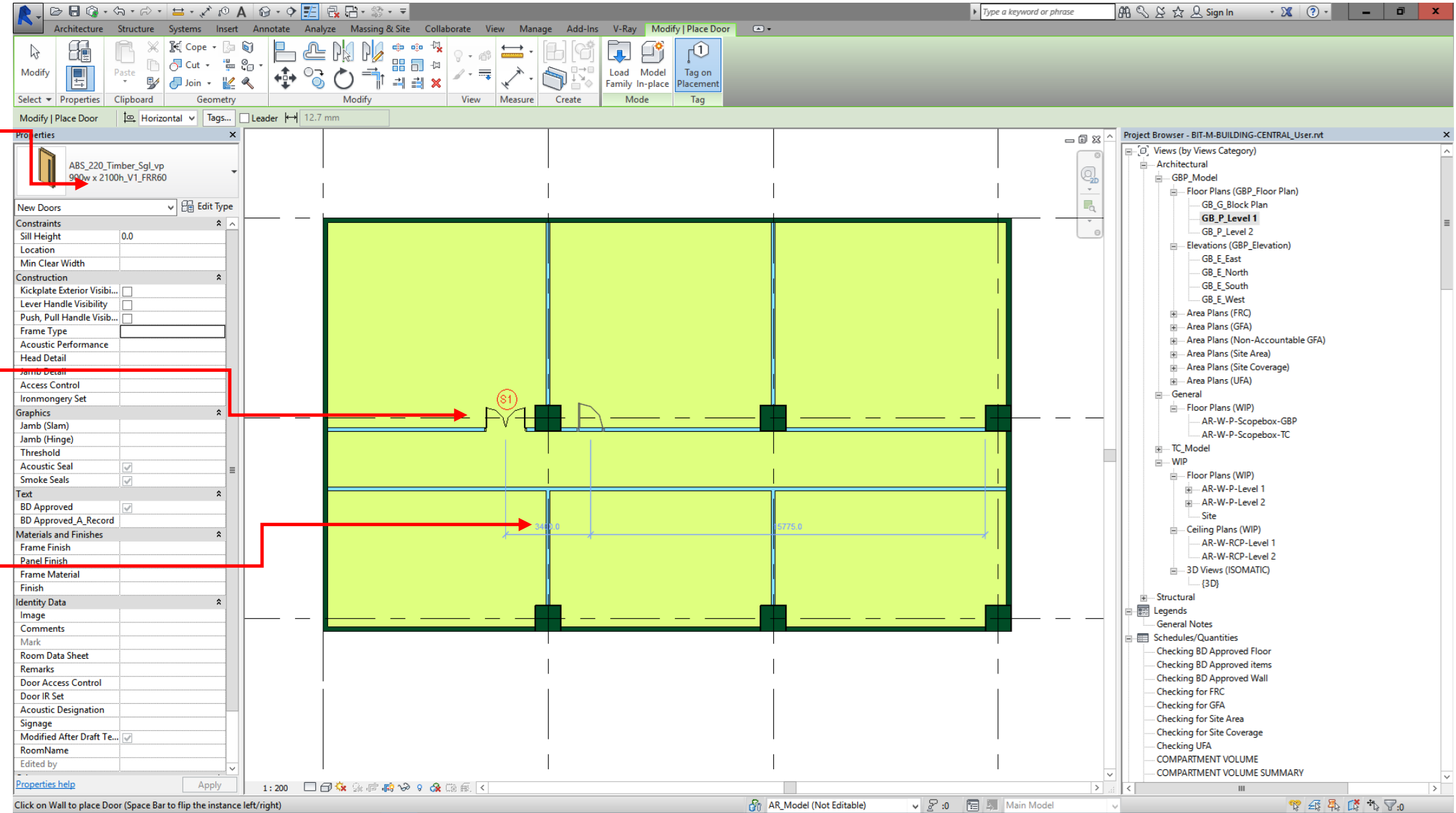
# 5.2 MODELLING - GENERAL BUILDING PLAN

## 5.2.11 Door

1 Select type, confirm design, material, size, fire rating etc.

2 Mouse over on wall

3 Check setting out then click to insert



## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.11 Door

1 Select door

2 Adjust Sill Height if necessary

The screenshot displays the Revit software interface for editing a door. The main view shows a door model in a general building plan view. The door is highlighted in blue. The Properties panel on the left shows the door type as 'DOR-SGL-ADA 850mmx2100mm\_Timber'. The 'Sill Height' is set to '-300.0'. The 'Level' is set to 'Level 2 FFL'. The 'FFL Height' is set to '300.0'. The 'Head Height' is set to '-300.0'. The 'Level 2 SFL' is 3850 and the 'Level 2 FFL' is 4000. The 'Level 1 SFL' is -100 and the 'Level 1 FFL' is 0. The 'Project Browser' on the right shows the project structure.



## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.12 Roller Shutter

1 Click "Architecture"

2 Click "Component"

3 Select relevant floor plan view, it define base level

The screenshot shows the Revit software interface with the 'Place Component' tool selected in the 'Architecture' tab. A tooltip provides instructions: 'Place a Component (CM) Places an element in the building model, based on a selected element type. Use the drop-down list to select the element type. (If the desired type is not listed, use the Load Family tool to load it into the project.) Then click in the drawing area to place elements of that type in the building model.' The Project Browser on the right shows 'Level 1' selected under 'Floor Plans'. The main drawing area displays a floor plan with level markers for Level 2 (4000) and Level 1 (0). A red line connects the 'Level 1' selection in the Project Browser to the floor plan view.

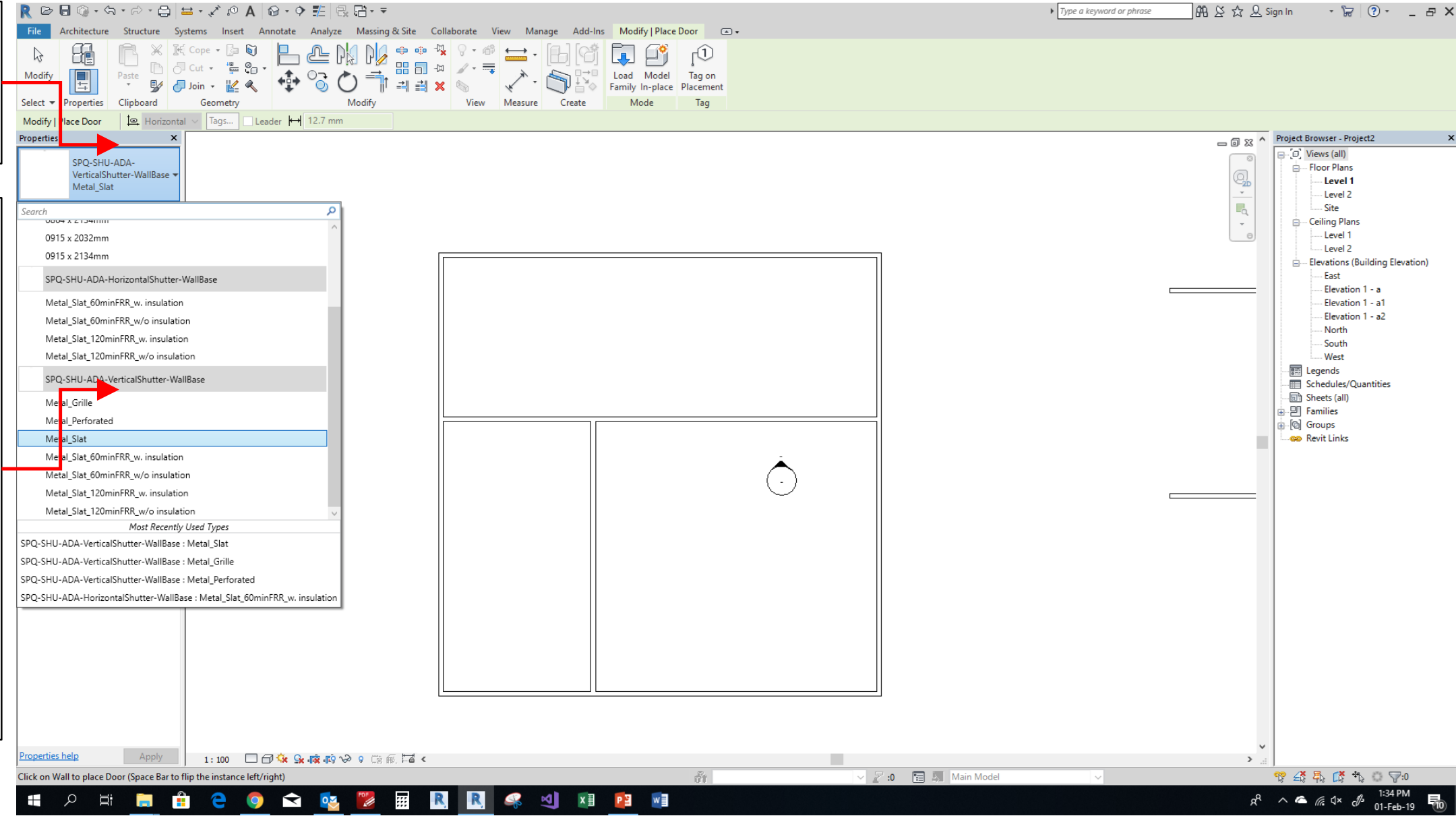
# 5.2 MODELLING - GENERAL BUILDING PLAN

## 5.2.12 Roller Shutter

1 Click on  
“Type  
Selector”

2 Search and  
select “SPQ-  
SHU-HAA-  
Horizontal/Ver-  
ticalShutter-  
WallBase”

Select sub  
type with  
appropriate  
fire rating

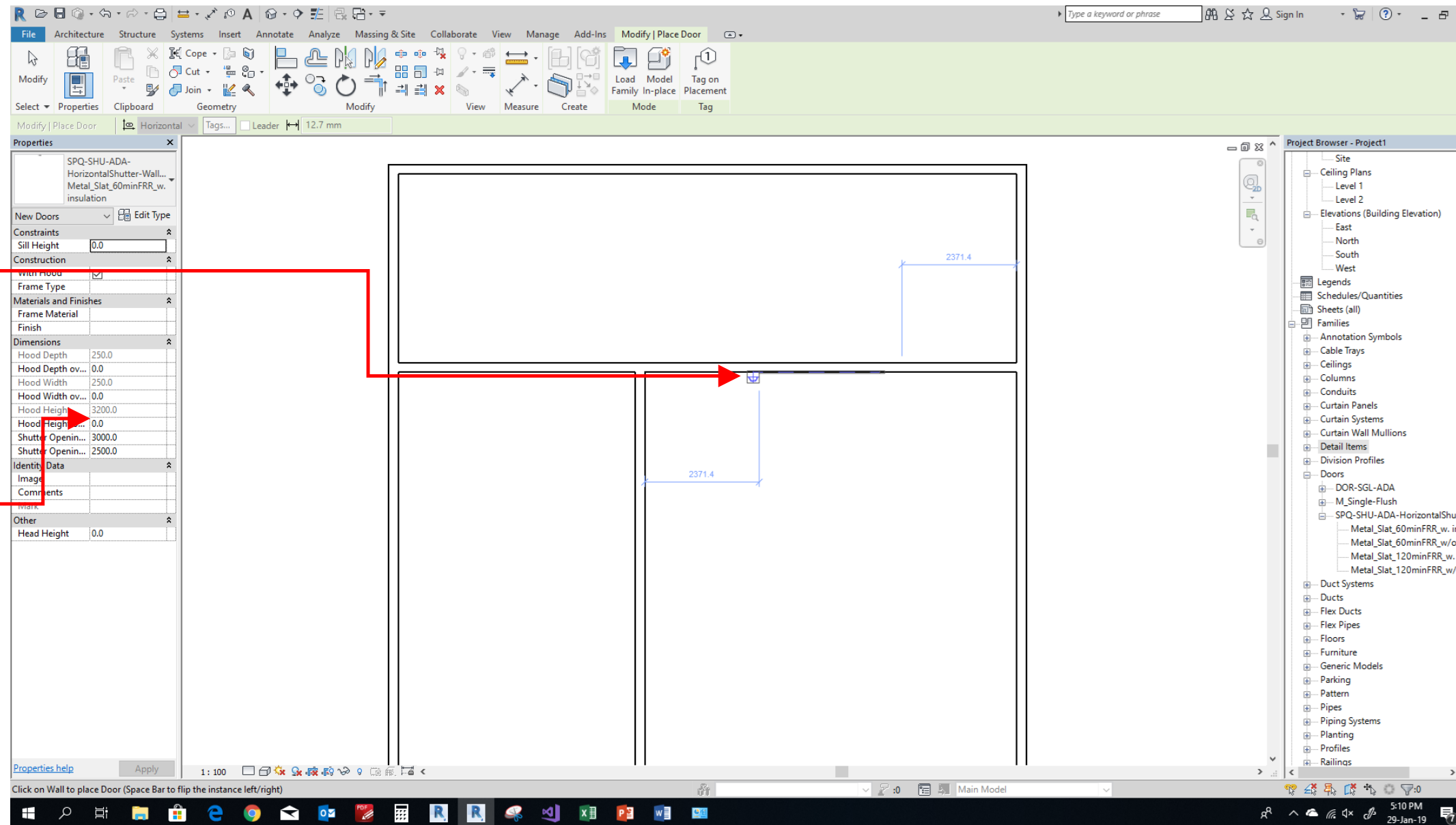


## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.12 Roller Shutter

1 Click on any point of a wall to insert.

2 Adjust size of shutter



## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.13 Room

1 Click "Architecture"

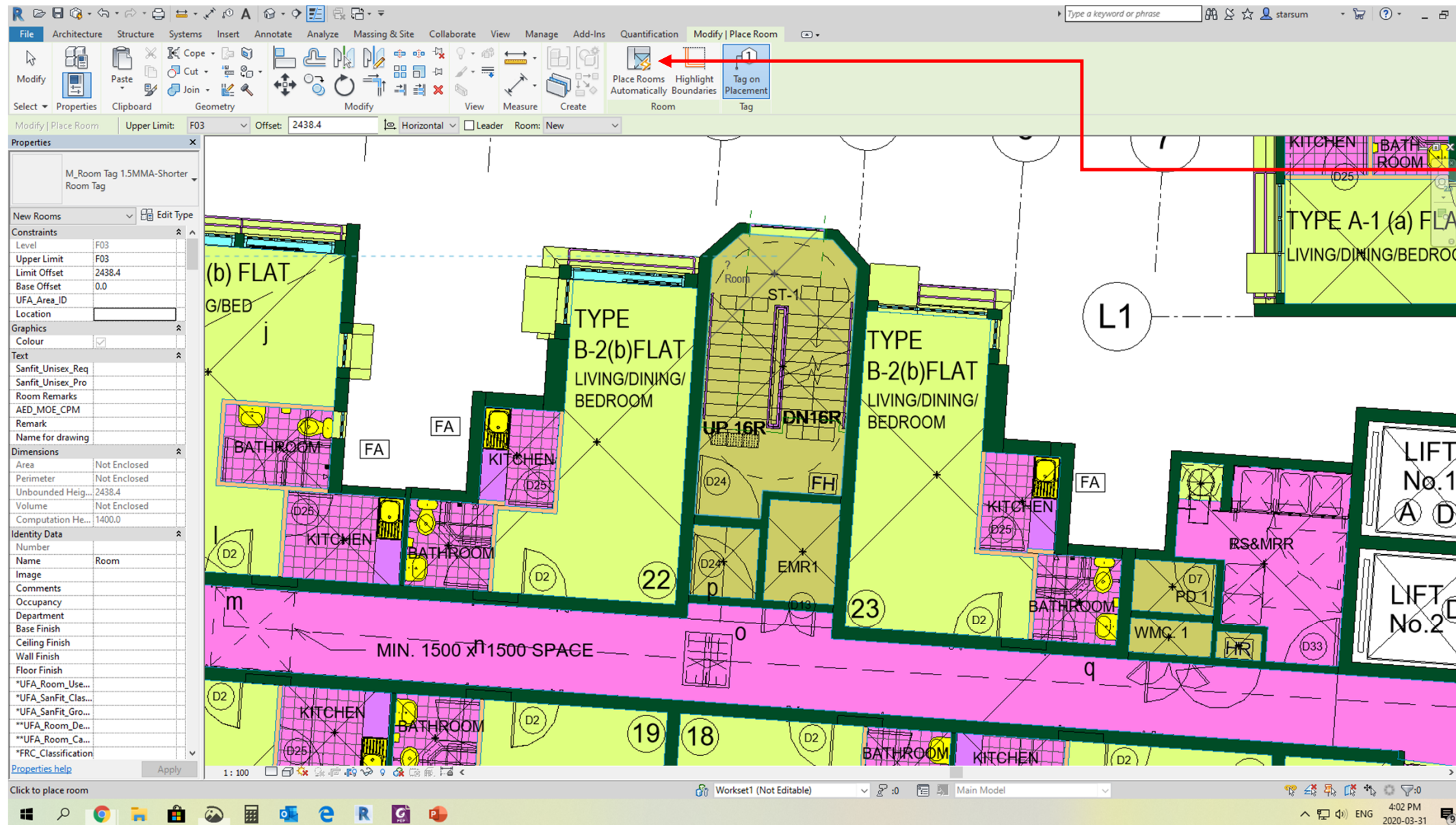
2 Click "Room"

The screenshot displays the Revit software interface with the 'Modify | Rooms' ribbon active. The ribbon contains various tools for room creation and modification, including 'Room', 'Room Separator', 'Tag Room', 'Area', 'Area Boundary', 'Tag Area', 'By Face', 'Shaft', 'Wall', 'Vertical', 'Dormer', 'Level', 'Grid', 'Set', 'Show', 'Ref', and 'Viewer'. The 'Room' button is highlighted with a red arrow. The floor plan shows several rooms, including 'TYPE B-2(b) FLAT LIVING/DINING/BEDROOM' and 'TYPE A-1 (a) FLAT LIVING/DINING/BEDROOM'. The 'Properties' panel on the left shows the 'Room' properties, such as 'Level: F03', 'Upper Limit: F03', and 'Limit Offset: 2438.4'. The 'Dimensions' section shows 'Area: 15.831 m²', 'Perimeter: 19060.3', 'Unbounded Height: 2438.4', 'Volume: 38.628 m³', and 'Computation Height: 1400.0'. The 'Identity Data' section shows 'Workset: Workset1', 'Number: 422', and 'Name: LIVING/DINING/...'. The 'Comments' section is empty. The 'Floor Finish' section shows 'Basic Wall: AWL-HAA-Concrete-100mm'. The 'Workset' section shows 'Workset1 (Not Editable)'. The 'Main Model' section shows 'Main Model'. The 'Editability' section shows 'Editable Only'. The system tray shows the date and time: '4:00 PM 2020-03-31'.



## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.13 Room



1 Pick a point or click here to create multiple rooms automatically

# 5.2 MODELLING - GENERAL BUILDING PLAN

## 5.2.13 Room

The screenshot shows the Autodesk Revit 2018.3 interface with the following elements and annotations:

- 1 Click "Architecture":** A red arrow points to the 'Architecture' tab in the top ribbon.
- 2 Click "Room & Area":** A red arrow points to the 'Room & Area' dropdown menu in the 'Room' panel of the ribbon.
- 3 Click "Area and Volume Computations":** A red arrow points to the 'Area and Volume Computations' option in the dropdown menu.
- 4 Confirm "at wall core layer" is selected:** A red arrow points to the 'At wall core layer' radio button in the 'Area and Volume Computations' dialog box.
- 5 Click "OK":** A red arrow points to the 'OK' button in the 'Area and Volume Computations' dialog box.

The 'Area and Volume Computations' dialog box is open, showing the following settings:

- Computations: Area Schemes
- Volume Computations:  Areas only (faster),  Areas and Volumes
- Room Area Computation:  At wall finish,  At wall center,  At wall core layer,  At wall gore center

The Properties panel on the left shows the 'Room' properties for 'Level 1', including 'View Scale' (1:100), 'Display Model' (Normal), and 'Orientation' (Project North). The Project Browser on the right shows the project hierarchy, including 'Level 1' and 'Level 2'.



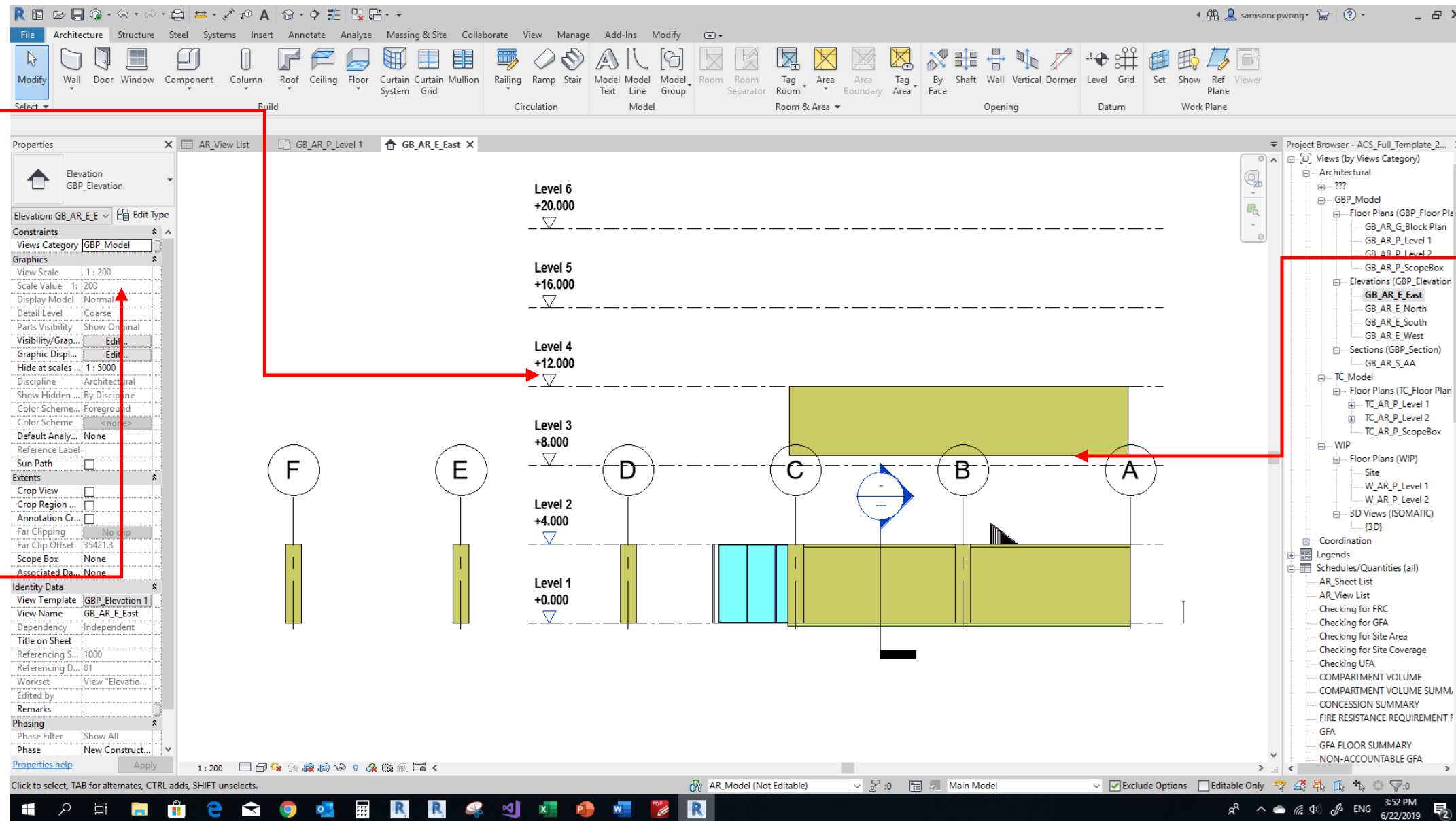
## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.13 Room

1 Go to elevation/section view, select a level

2 By default, computation height = 0 and room will be detected at its level. If adjust the value to, e.g. +1200, then room will be detected at 1200mm above level

3 This computation height should be changed when (1) slant wall exists, or (2) when bottom part of wall is above its level

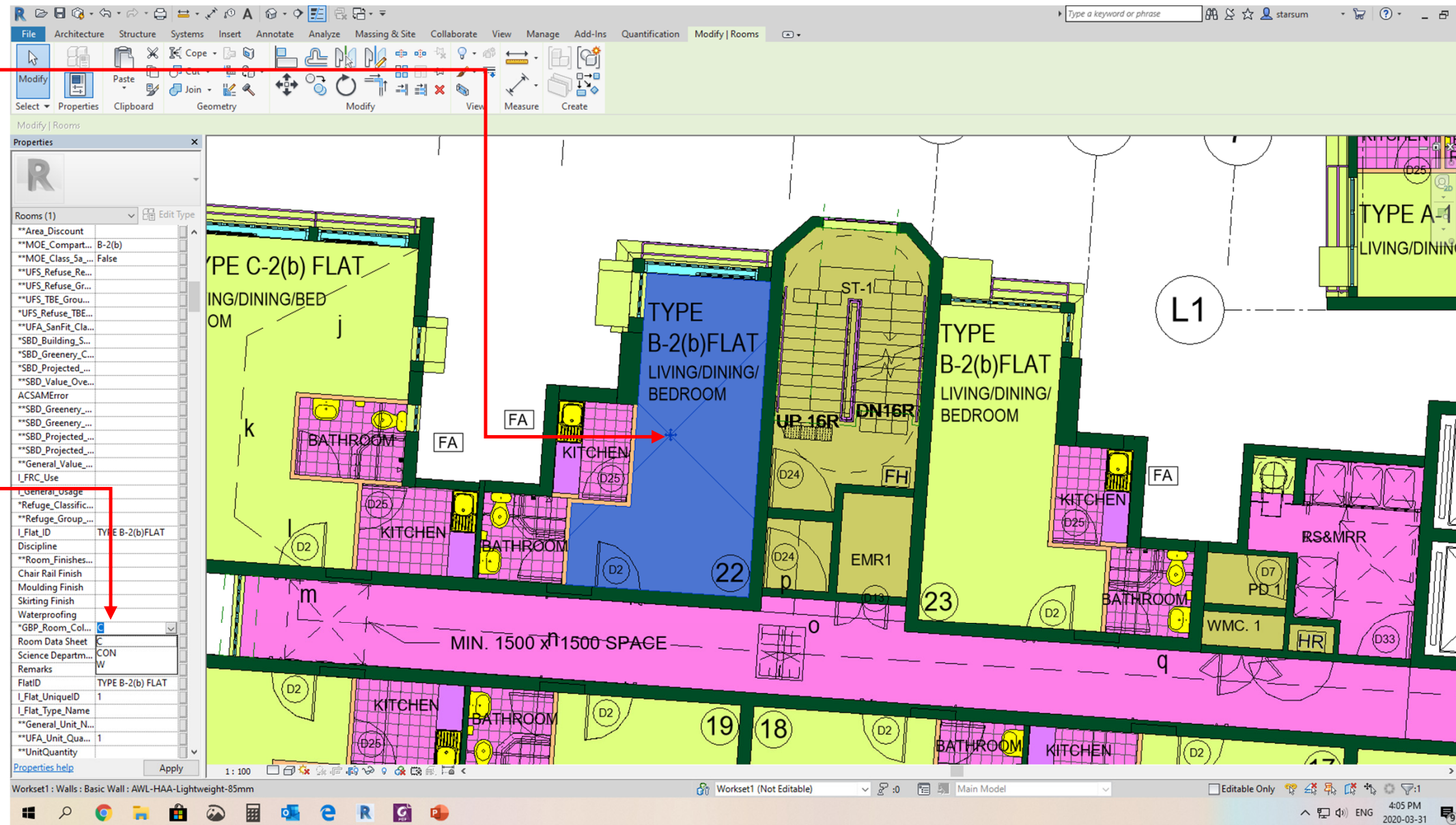


## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.13 Room

1 Select Room

2 Change GBP\_Room\_Colour to "C" for light green, "W" for pink, "D" for green in GBP. These are the colour required for GBP submission as defined under practice note.



# 5.2 MODELLING - GENERAL BUILDING PLAN

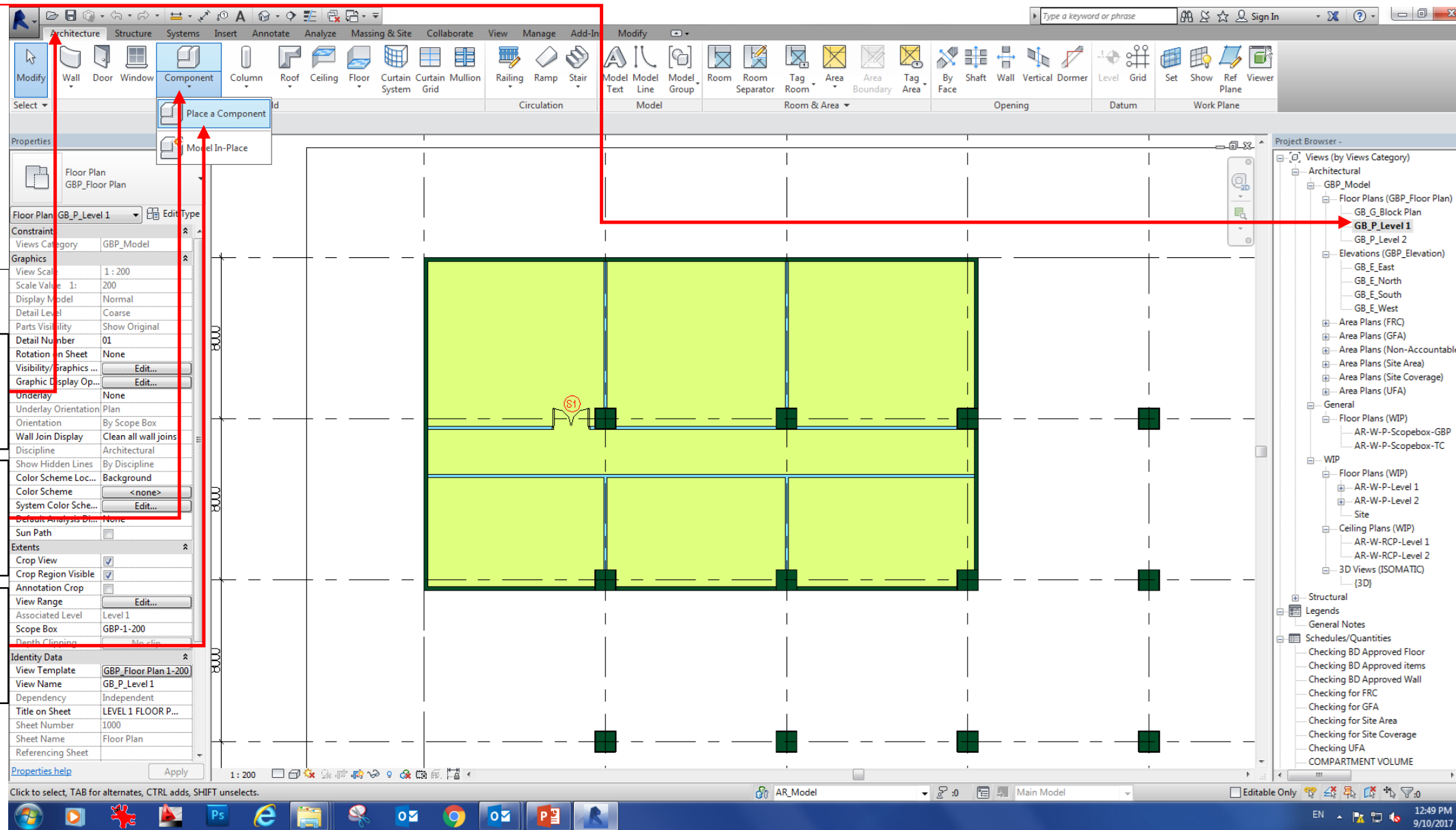
## 5.2.14 Sanitary Fitment

1 Select relevant floor plan view, it define base level

2 Click "Architecture"

3 Click "Component"

4 Click "Place a Component"



## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.14 Sanitary Fitment

1 Click "Type Selector"

2 Type "Toilet Line" to search

3 Select Toilet Array – line..... (New)

4 Click "Place on Work Plane"



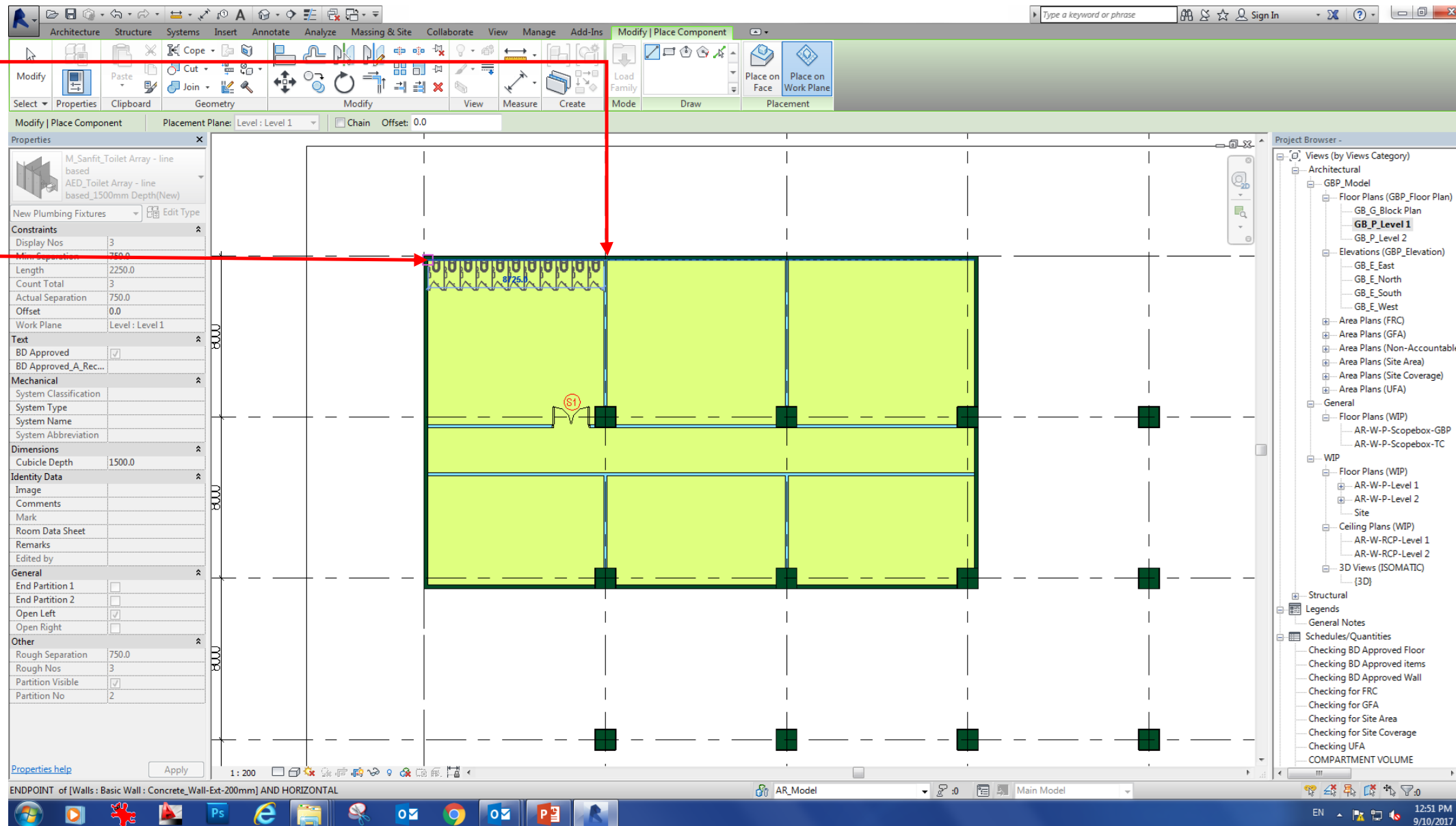
## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.14 Sanitary Fitment

1 Pick first point

2 Pick second point

3 Use similar procedure to insert “...Basin Array – line based...” & “...Urinal Array – line based...”



4 Use “...Disabled Toilet Arrangement” & pick 1 point

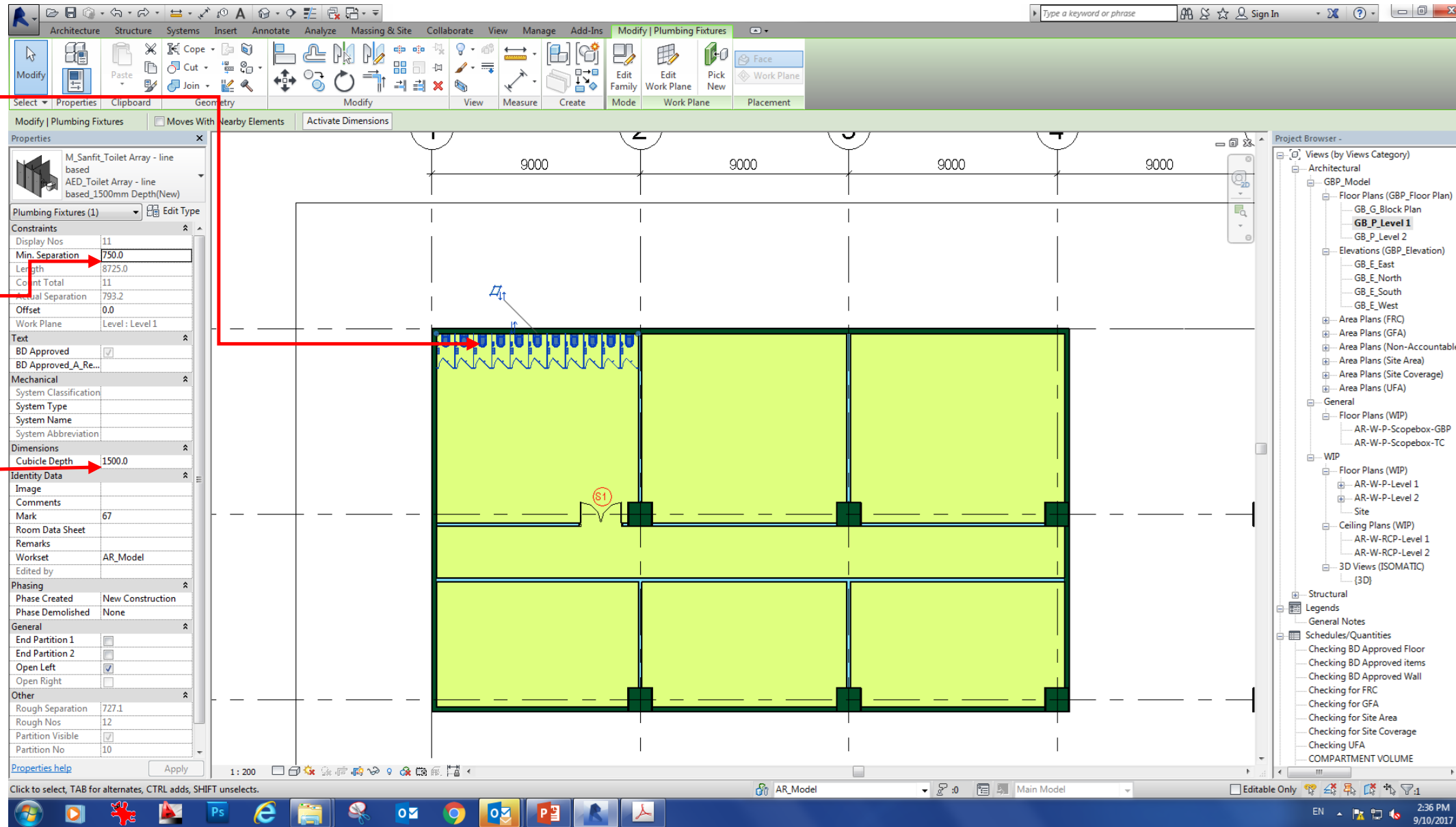
# 5.2 MODELLING - GENERAL BUILDING PLAN

## 5.2.14 Sanitary Fitment

1 Select Sanitary Fitment

2 Adjust Minimum Spacing

3 Adjust Depth





## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.15 Lift

1 Select relevant floor plan view, it define base level

2 Click "Architecture"

3 Click "Component"

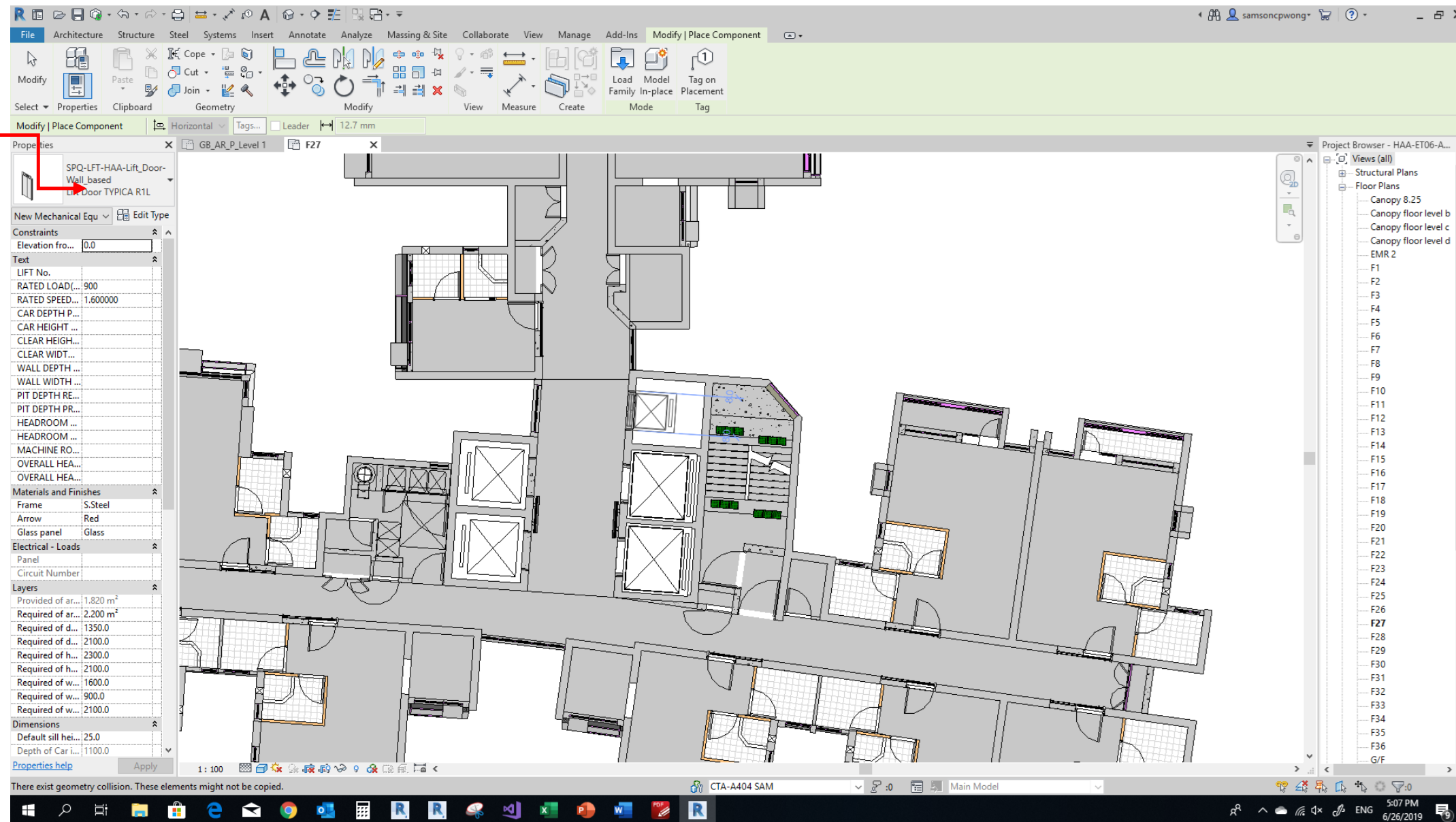
4 Click "Place a Component"

The screenshot displays the Revit software interface. The ribbon at the top shows the 'Architecture' tab selected, with the 'Component' button highlighted. A help window titled 'Place a Component (CM)' is open, providing instructions on how to use the tool. The main view shows a 3D model of a building floor plan with a lift shaft. The Project Browser on the right shows a list of levels, with 'F27' selected. The status bar at the bottom indicates the current level is 'F27'.

## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.15 Lift

1 Select type,  
example  
include SPQ-  
LFT-HAA-  
Lift\_Door

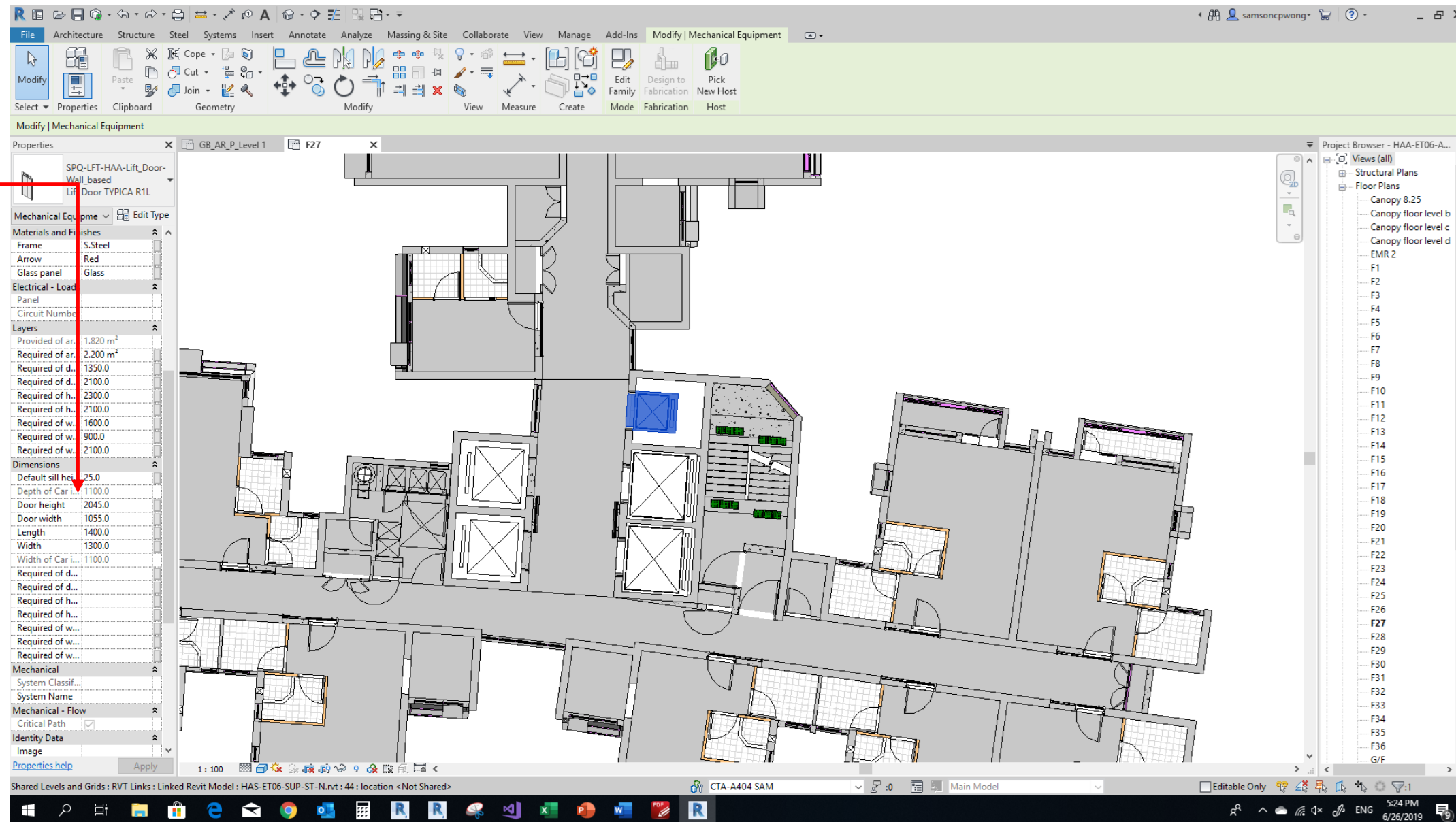


## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.15 Lift

1 Amend  
Door height,  
Door width,  
Shaft Length,  
Shaft Width  
when  
necessary

2 This insert  
lift car on this  
level. Repeat  
similar  
procedure to  
insert lift car  
on other level.



## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.16 Surface Channel

1 Select relevant floor plan view, it define base level

2 Click "Architecture"

3 Click "Component"

4 Click "Place a Component"

The screenshot shows the Revit software interface. The ribbon at the top has the 'Architecture' tab selected, and the 'Component' button is highlighted. A 'Place a Component (CM)' dialog box is open, showing a list of materials and finishes. The floor plan view in the center shows a building layout with various rooms and corridors. The Project Browser on the right shows a list of levels, with 'F27' selected. Red arrows point from the text boxes to the corresponding actions in the software interface.

## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.16 Surface Channel

1 Select type, name containing "surface channel"

2 Adjust Offset when necessary

3 Click on view to insert

Properties panel details:

Category	Value
Level	G/F
Elevation from ...	0.0
Host	Level: G/F
Offset from Host	0.0
Moves With Ne...	
Dimensions	
Volume	0.29 m <sup>3</sup>
Identity Data	
Image	
Comments	
Mark	
Edited by	



# 5.2 MODELLING - GENERAL BUILDING PLAN

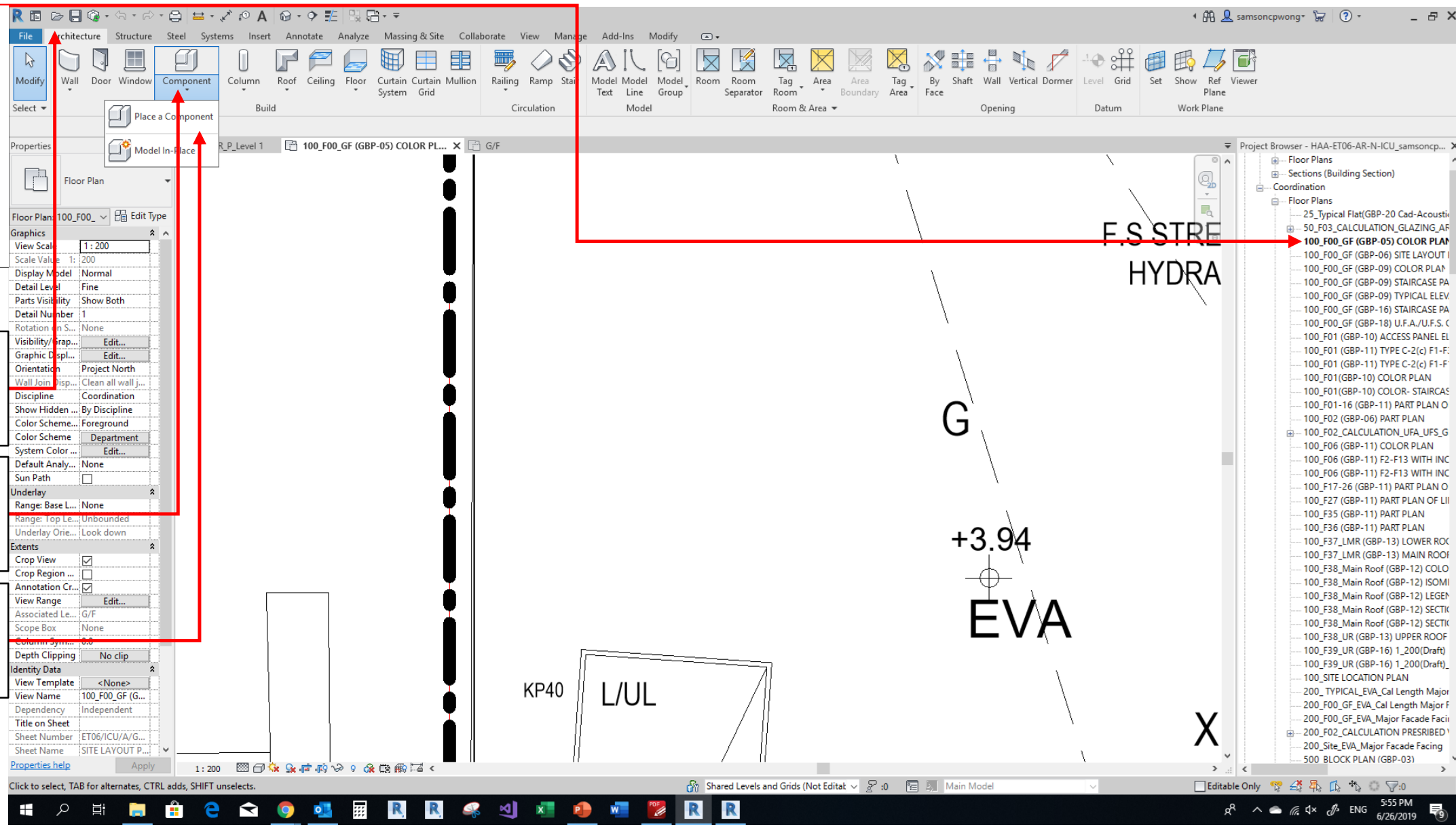
## 5.2.17 Tactile

1 Select relevant floor plan view, it define base level

2 Click "Architecture"

3 Click "Component"

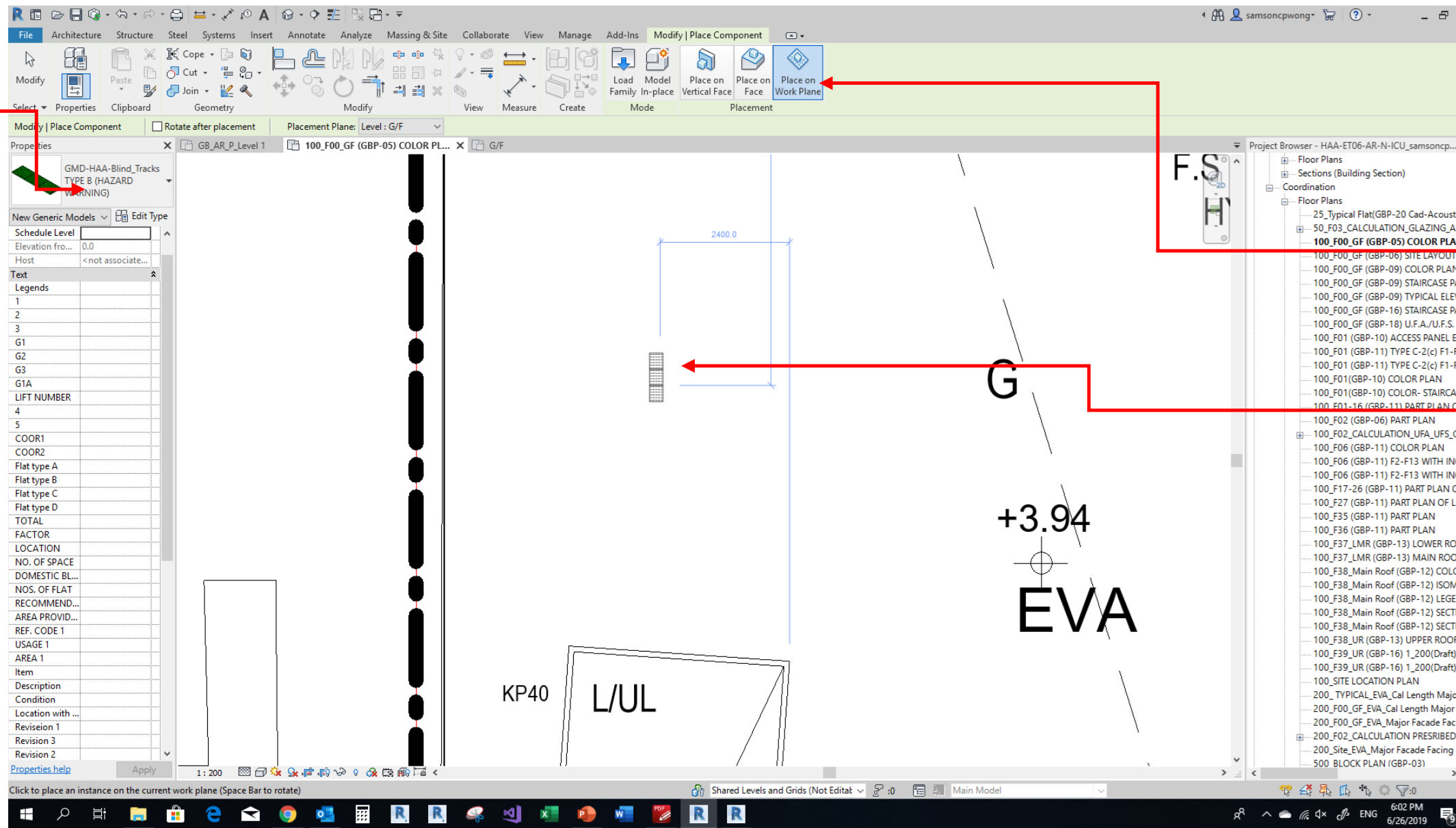
4 Click "Place a Component"



# 5.2 MODELLING - GENERAL BUILDING PLAN

## 5.2.17 Tactile

1 Select type, name containing "blind\_tracks"



2 Click "Place on Work Plane"

3 Click on view to insert

## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.18 Cat Ladder

1 Select relevant floor plan view, it define base level

2 Click "Architecture"

3 Click "Component"

4 Click "Place a Component"

The screenshot shows the Revit software interface with the 'Architecture' tab selected in the ribbon. The 'Component' button is highlighted in the ribbon. The 'Place a Component' dialog is open, showing the 'Floor Plan G/F' view selected. The 'Component' button is also highlighted. The 'Place a Component' dialog is open, showing the 'Floor Plan G/F' view selected. The 'Component' button is also highlighted.

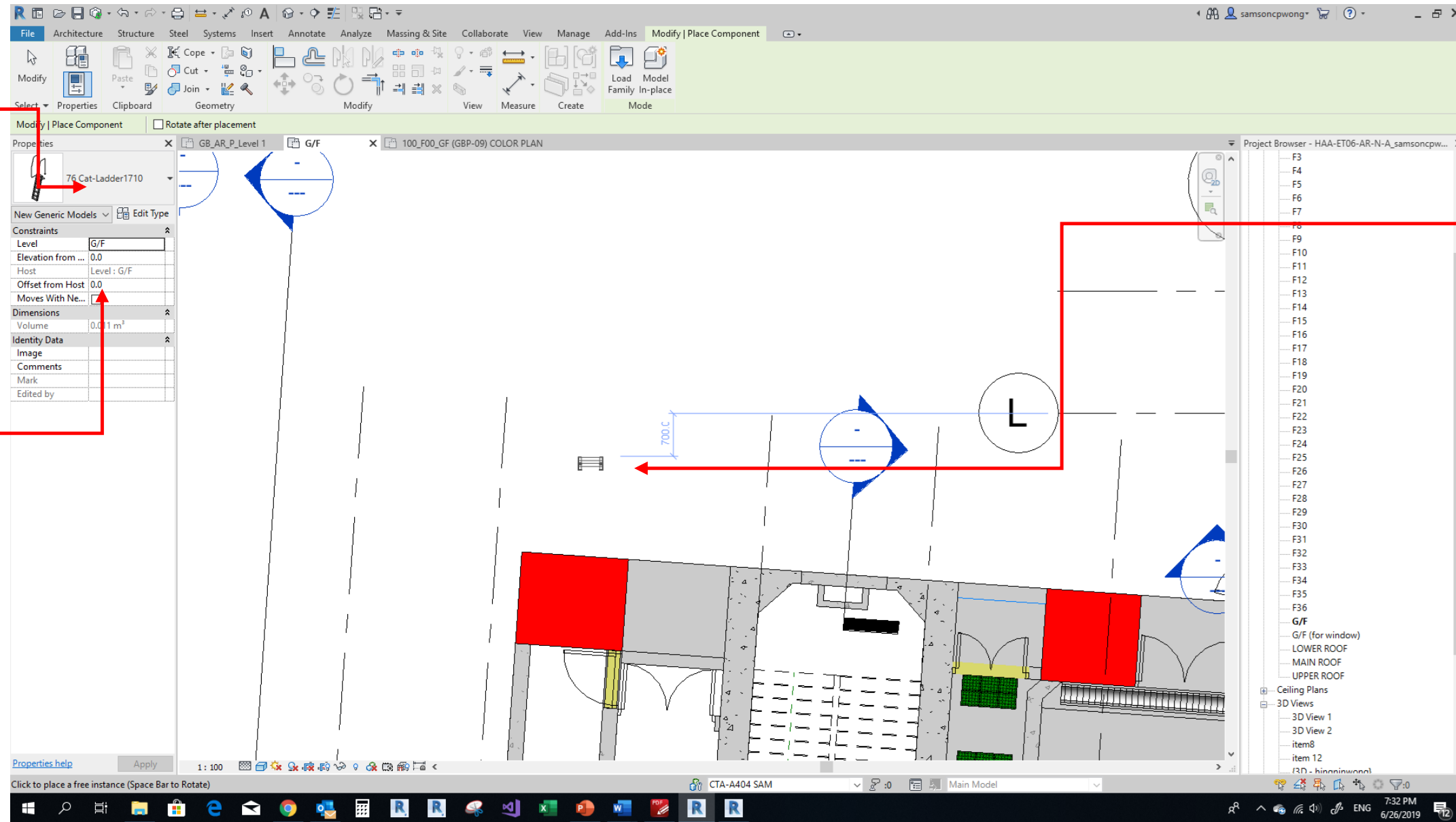
## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.18 Cat Ladder

1 Select type, name containing "cat-ladder"

2 Adjust Offset when necessary

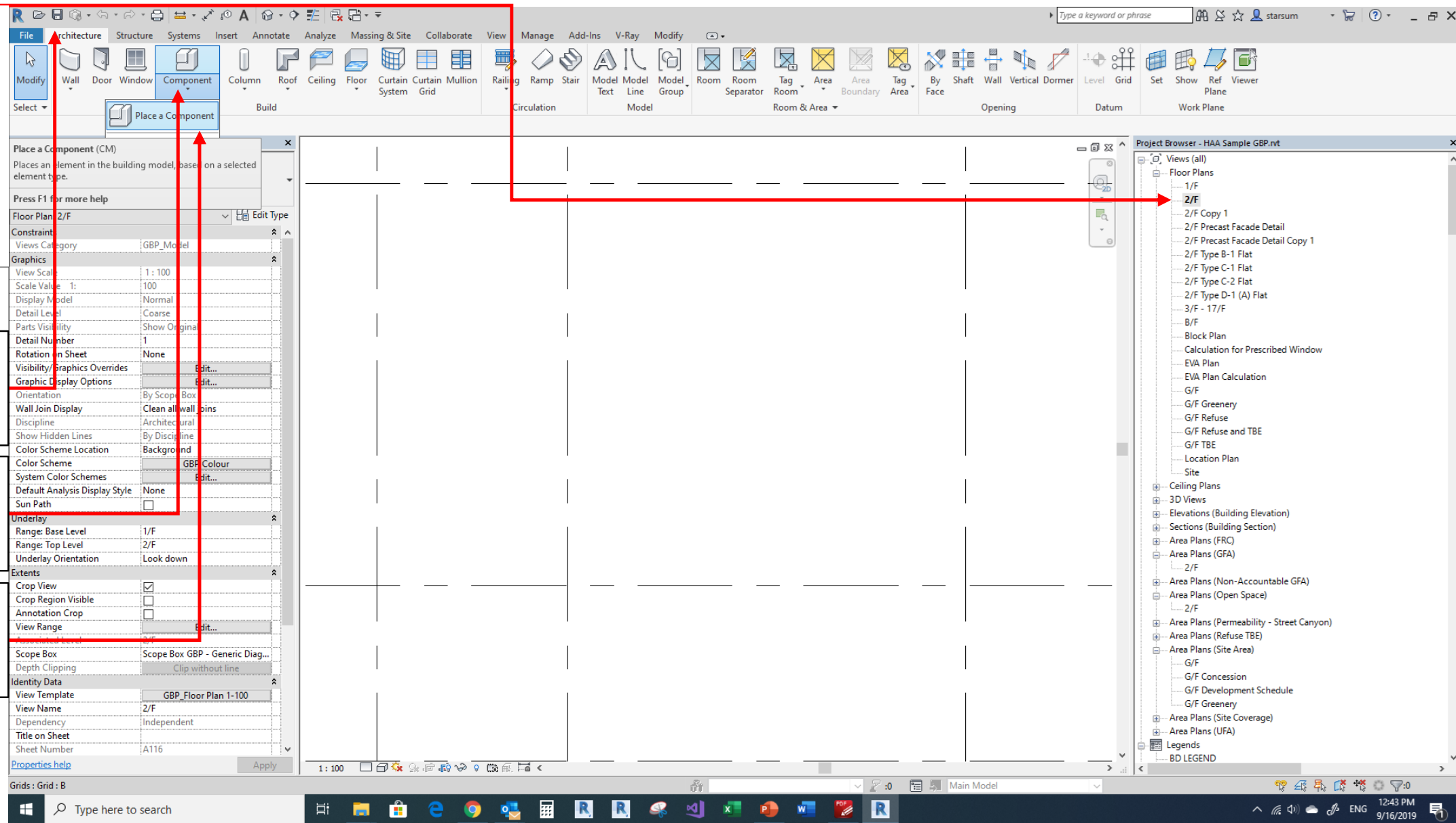
3 Click on view to insert



# 5.2 MODELLING - GENERAL BUILDING PLAN

## 5.2.19 FSI

- 1 Select relevant floor plan view, it define base level
- 2 Click "Architecture"
- 3 Click "Component"
- 4 Click "Place a Component"

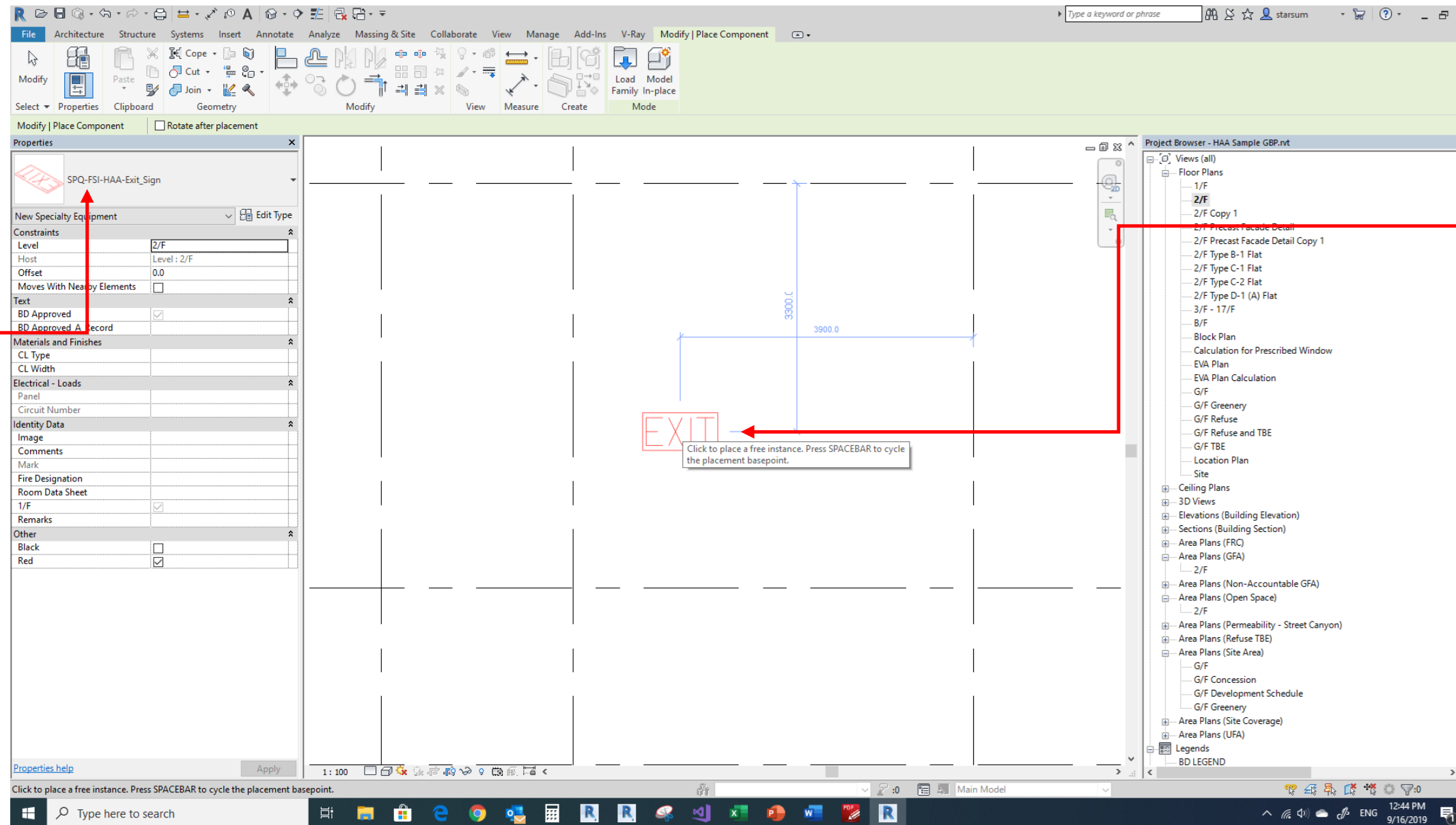




## 5.2 MODELLING - GENERAL BUILDING PLAN

### 5.2.19 FSI

1 Select type, name containing “SPQ-FSI-HAA”, then refer to description for exit sign, directional exit sign, fire hydrant, fire extinguisher, fire hose reel etc.



2 Click on view to insert

## 5.3 MODELLING – SUPERSTRUCTURE PLAN

- This sections illustrates standards & guidelines for 3d modelling.
- It covers aspects which are specific to structural building professionals, e.g. beam and input of structural properties.
- Demarcation for extent between superstructure and substructure statutory submission should be referred to latest version of Housing Authority Building Information Modelling Standards and Guidelines.
- Only authorized person can execute the optimization of the template model.
- All items in Template/ Family in the template model are suggested to be retained. Users are recommended to copy the existing items and edit the properties of the replicated to suit their own needs.

## 5.3 MODELLING – SUPERSTRUCTURE PLAN

### 5.3.1 Wall Structural Properties

The image is a screenshot of the Revit software interface, specifically the 'Modify | Walls' ribbon and the Properties palette. The main view shows a 3D model of a wall structure with grid lines numbered 1 through 12. The Properties palette on the left is divided into several sections: 'Walls (1)', 'Constraints', 'Structural', 'Dimensions', and 'Identity Data'. Red boxes and arrows highlight specific settings and callouts:

- 1 Select a wall:** An arrow points from the 'Modify | Walls' ribbon to the wall in the 3D view.
- 2 Select type for concrete grade:** An arrow points from the 'Basic Wall' type dropdown in the Properties palette to the wall.
- 3 Check Structural and Enable Analytical Model, provide input for Structural Usage:** A red dashed box highlights the 'Structural' section in the Properties palette, where 'Enable Analytical Model' is checked and 'Structural Usage' is set to 'Bearing'. Arrows point from this section to the wall and the 'Rebar Cover' settings.
- 4 Provide input under comment for hanging wall, screen wall, parapet, stub wall & bearing wall when necessary:** An arrow points from the 'Comments' field in the Properties palette to the wall.

The Properties palette shows the following settings for the selected wall:

Property	Value
Location Line	Core Face: Interior
Base Constraint	+0.00mPD
Base Offset	-800.0
Base is Attached	<input type="checkbox"/>
Base Extension Distance	0.0
Top Constraint	Up to level: +0.00mPD
Unconnected Height	800.0
Top Offset	0.0
Top is Attached	<input type="checkbox"/>
Top Extension Distance	0.0
Room Bounding	<input checked="" type="checkbox"/>
Related to Mass	<input type="checkbox"/>

The 'Structural' section is highlighted with a red dashed box:

Property	Value
Structural	<input checked="" type="checkbox"/>
Enable Analytical Model	<input checked="" type="checkbox"/>
Structural Usage	Bearing
Rebar Cover - Exterior Face	Exterior - 10M to 16M <40 m...
Rebar Cover - Interior Face	Interior (slabs, walls, joists) - ...
Rebar Cover - Other Faces	Interior (slabs, walls, joists) - ...

The 'Dimensions' section shows:

Property	Value
Length	8900.0
Area	7.120 m <sup>2</sup>
Volume	1.424 m <sup>3</sup>

The 'Identity Data' section shows:

Property	Value
Design Option	Main Model
Phase Created	New Construction
Phase Demolished	None

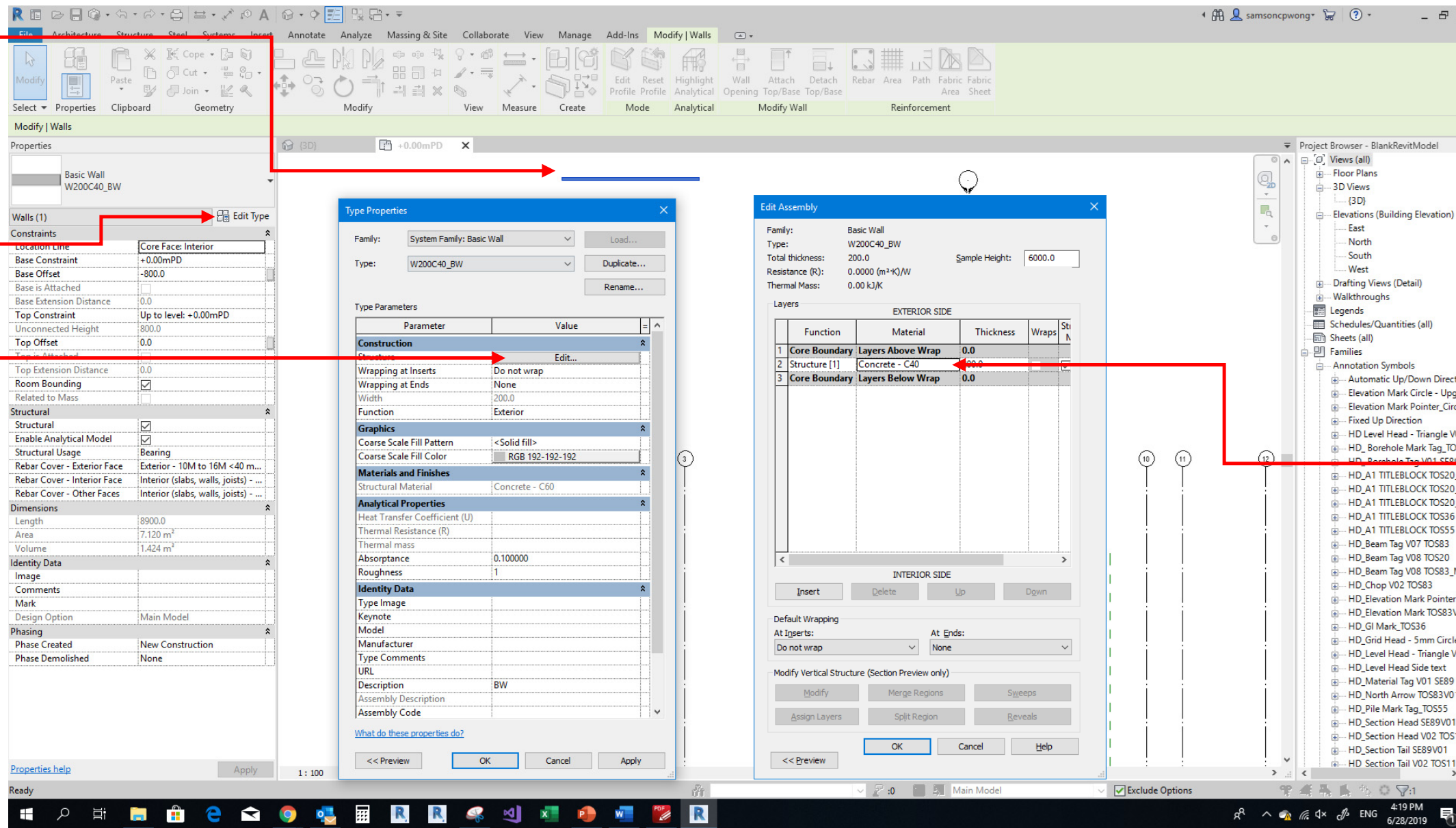
# 5.3 MODELLING – SUPERSTRUCTURE PLAN

## 5.3.1 Wall Structural Properties

1 Select a wall

2 Click “Edit Type”

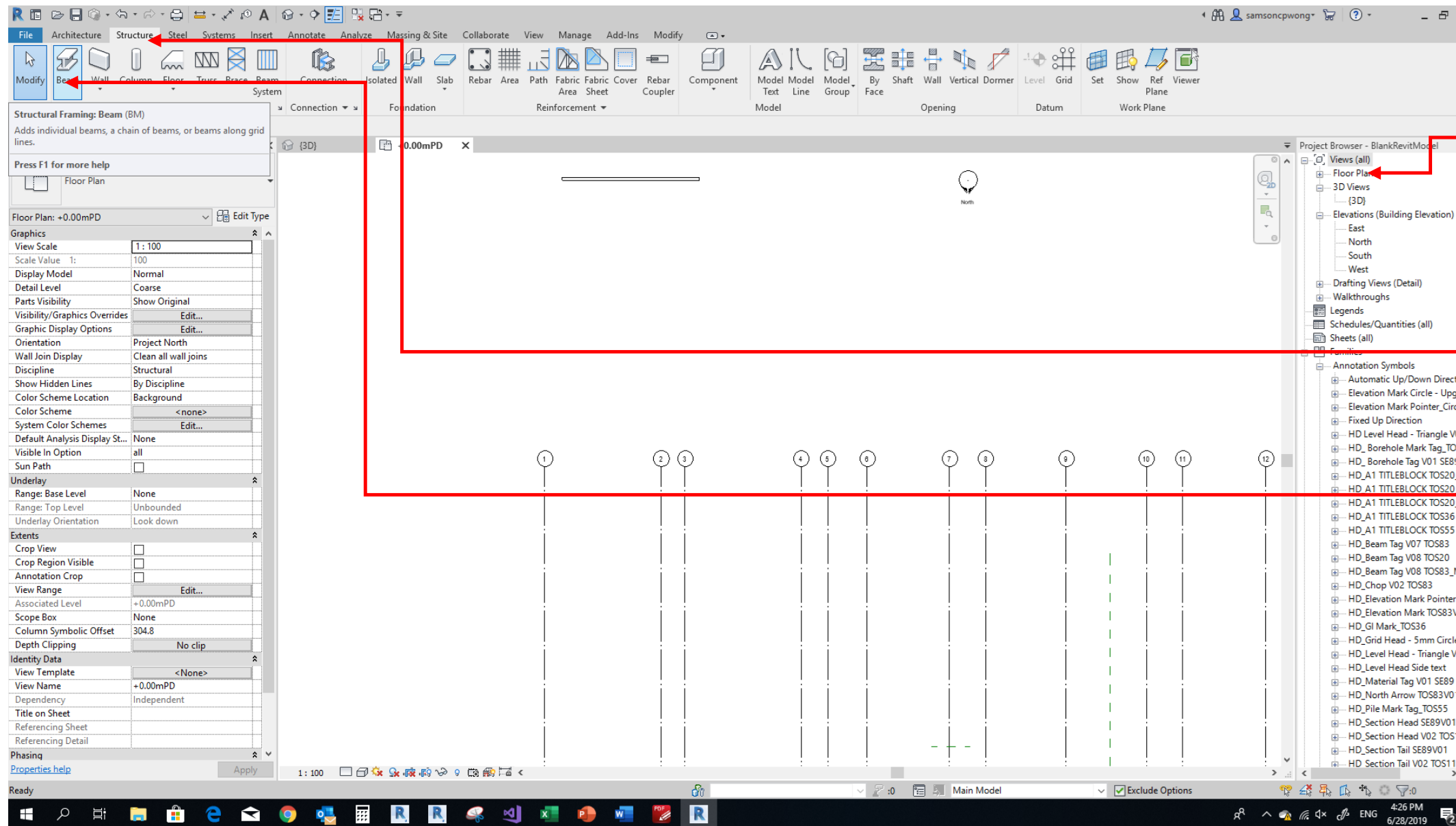
3 Click “Edit”



4 Amend material representing concrete grade when necessary

# 5.3 MODELLING – SUPERSTRUCTURE PLAN

## 5.3.2 Beam



1 Select relevant floor plan view, it define base level

2 Click "Structure"

3 Click "Beam"



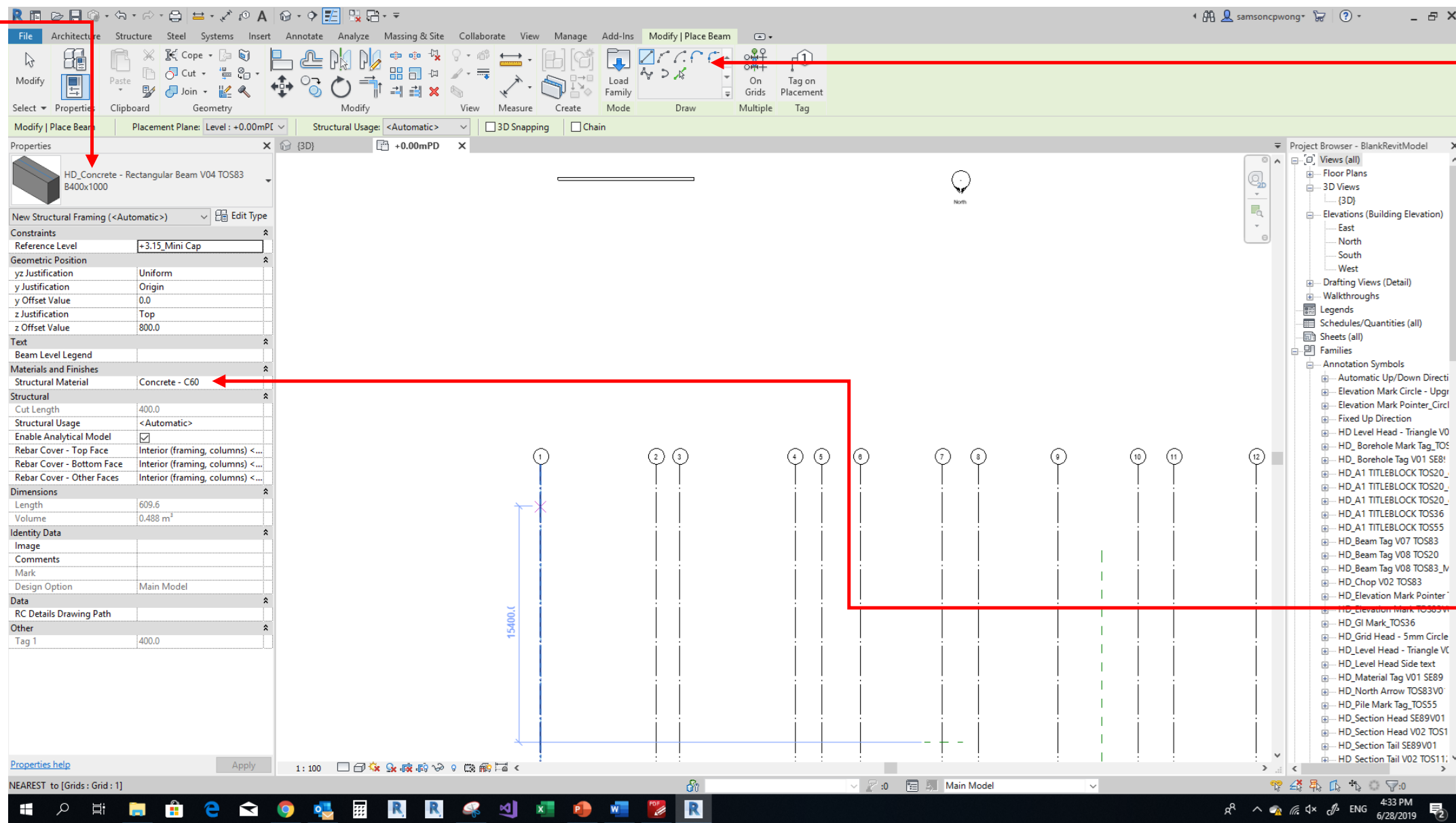
# 5.3 MODELLING – SUPERSTRUCTURE PLAN

## 5.3.2 Beam

1 Select type, including size

2 Draw line / pick line

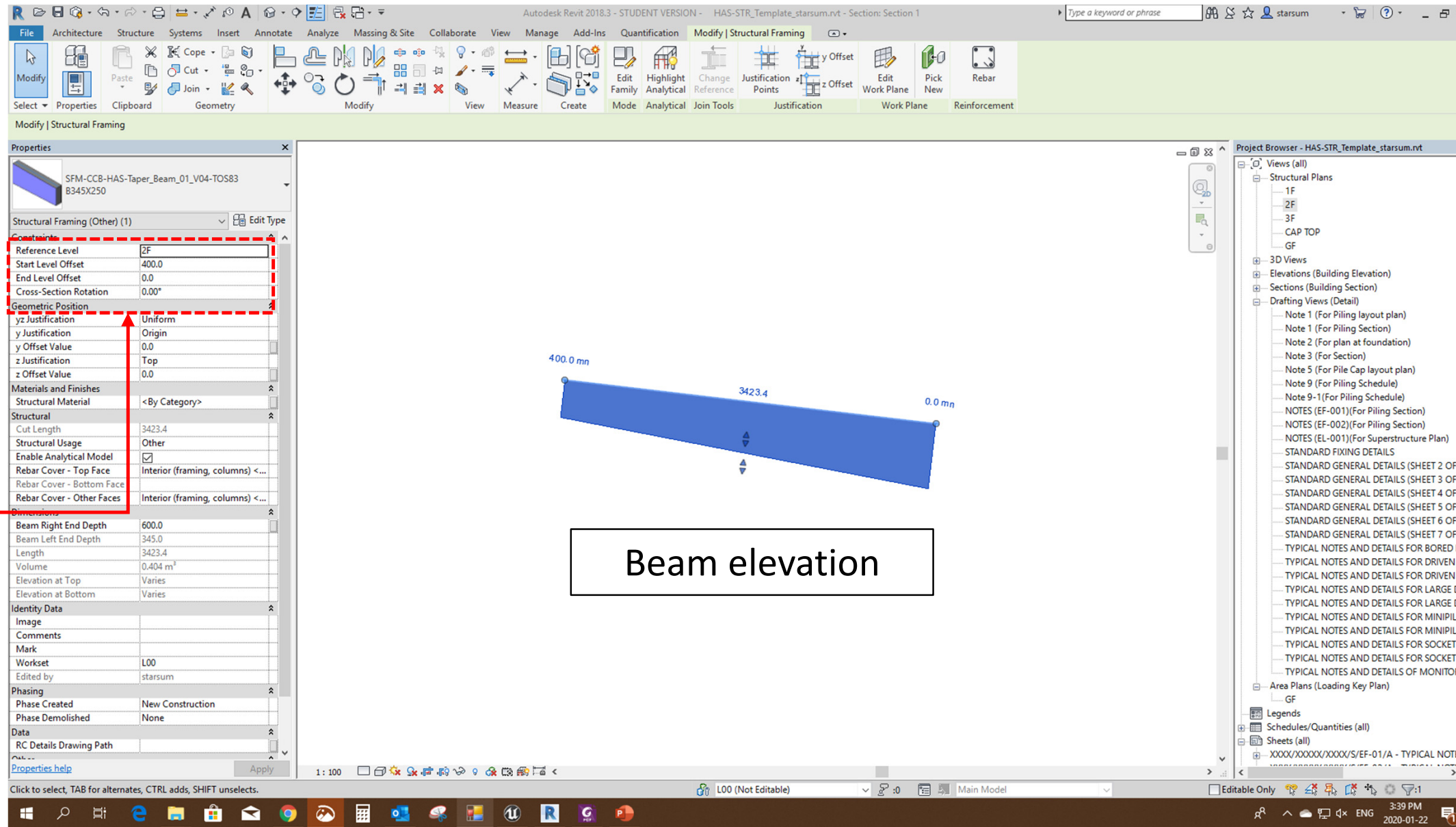
3 Amend Structural Material when necessary



# 5.3 MODELLING – SUPERSTRUCTURE PLAN

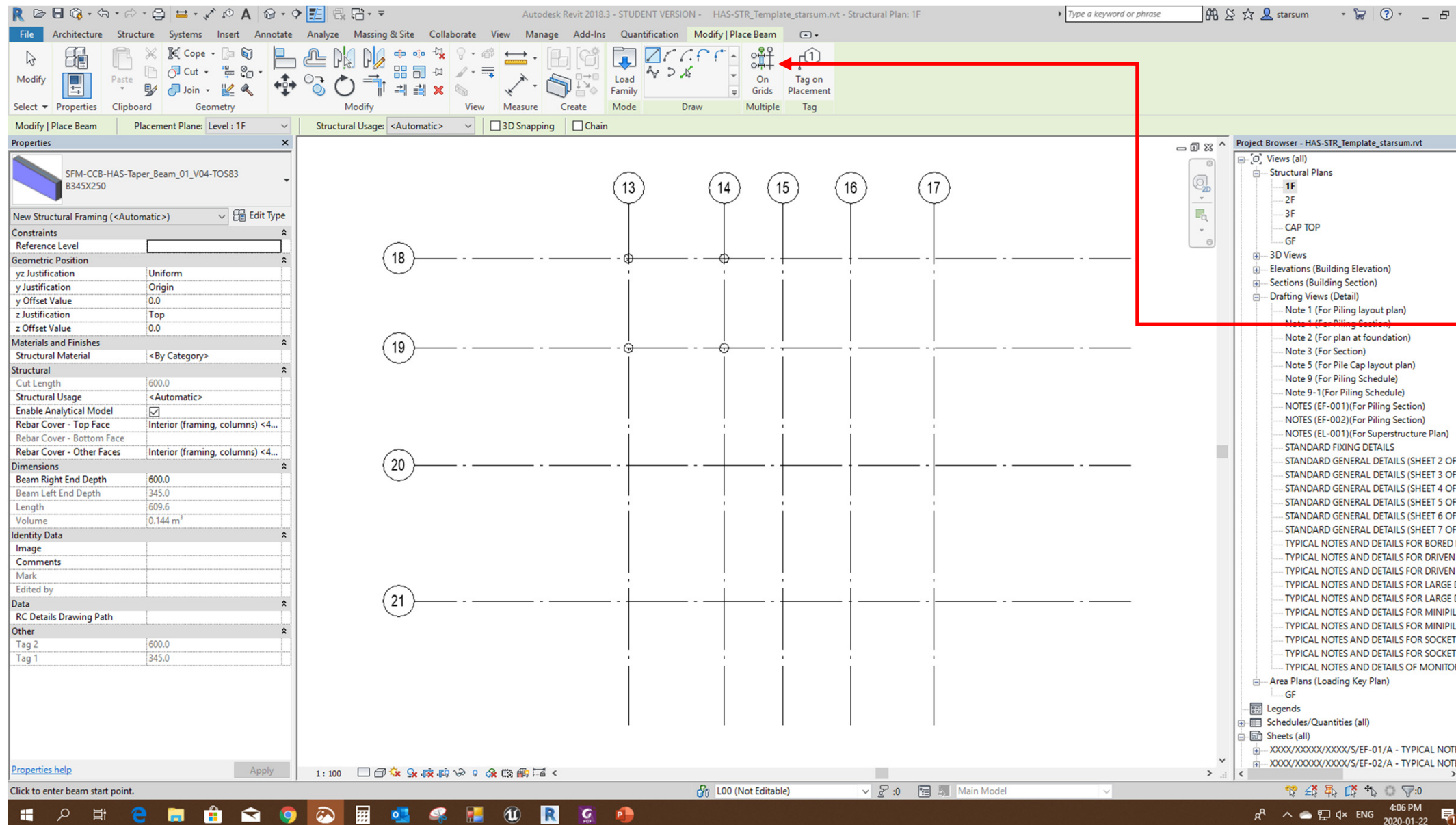
## 5.3.2 Beam

1 “z justification” should normally be “Top”. It can be “Bottom” for inverted beam. “y justification” can be “origin” for most cases, or “left / right” for edge beam. Adjust y and z offset when necessary



# 5.3 MODELLING – SUPERSTRUCTURE PLAN

## 5.3.2 Beam

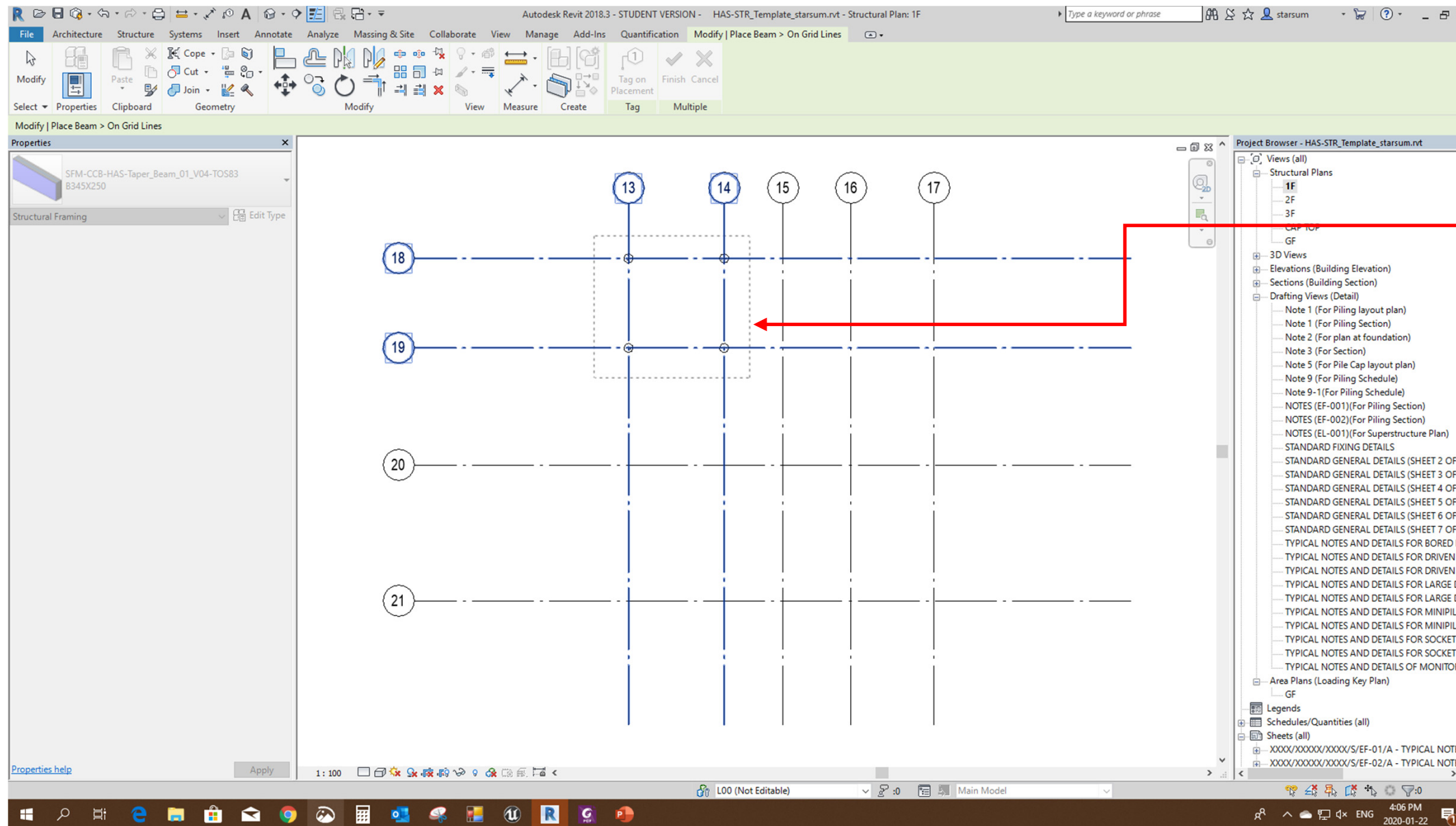


1 Alternatively, toggle "Multiple" for multiple insertion of beam.



# 5.3 MODELLING – SUPERSTRUCTURE PLAN

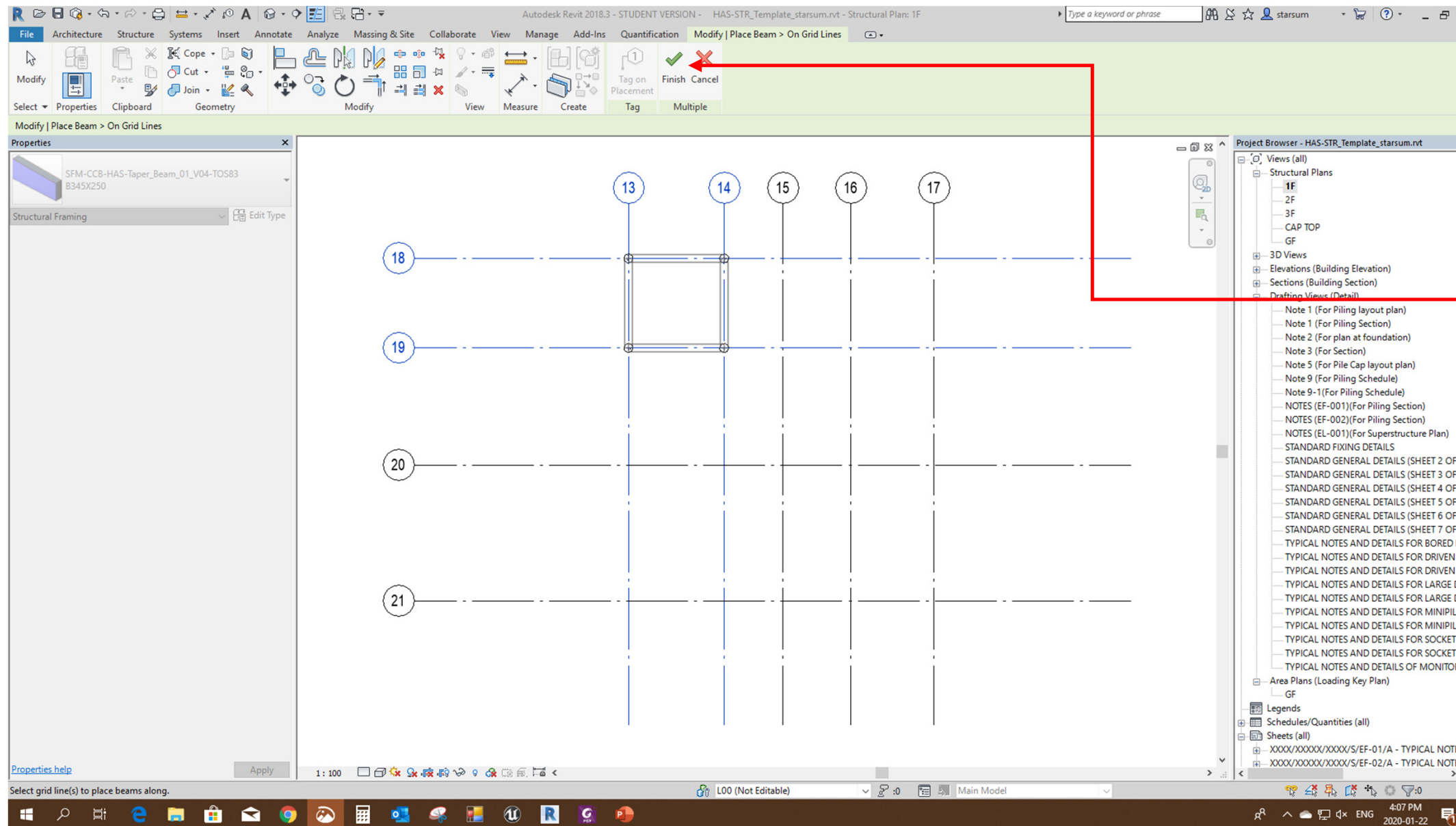
## 5.3.2 Beam



1 Select multiple grids

## 5.3 MODELLING – SUPERSTRUCTURE PLAN

### 5.3.2 Beam

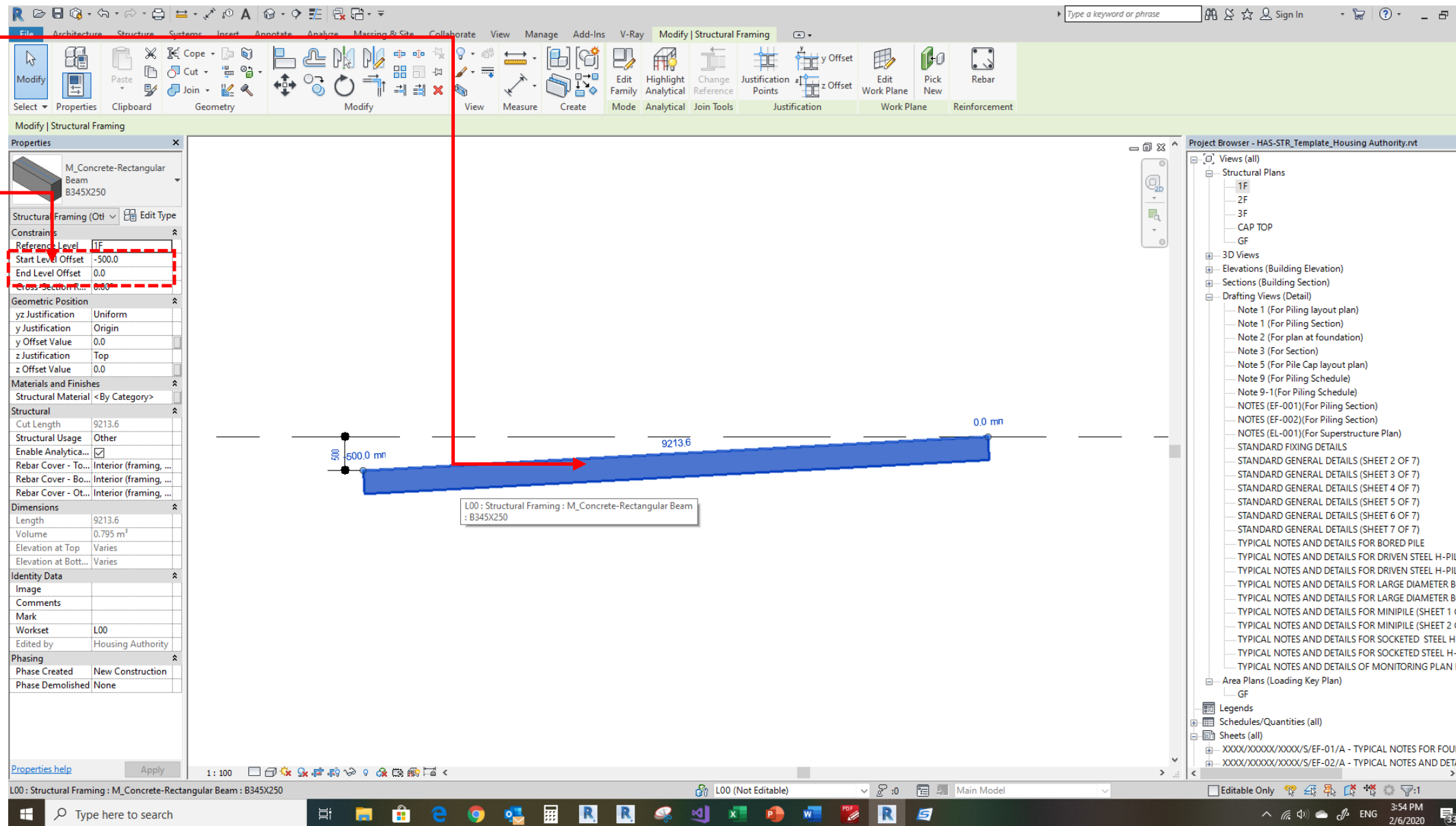




# 5.3 MODELLING – SUPERSTRUCTURE PLAN

## 5.3.2 Beam

- 1 Select beam
- 2 Adjust Start / End Level Offset when necessary

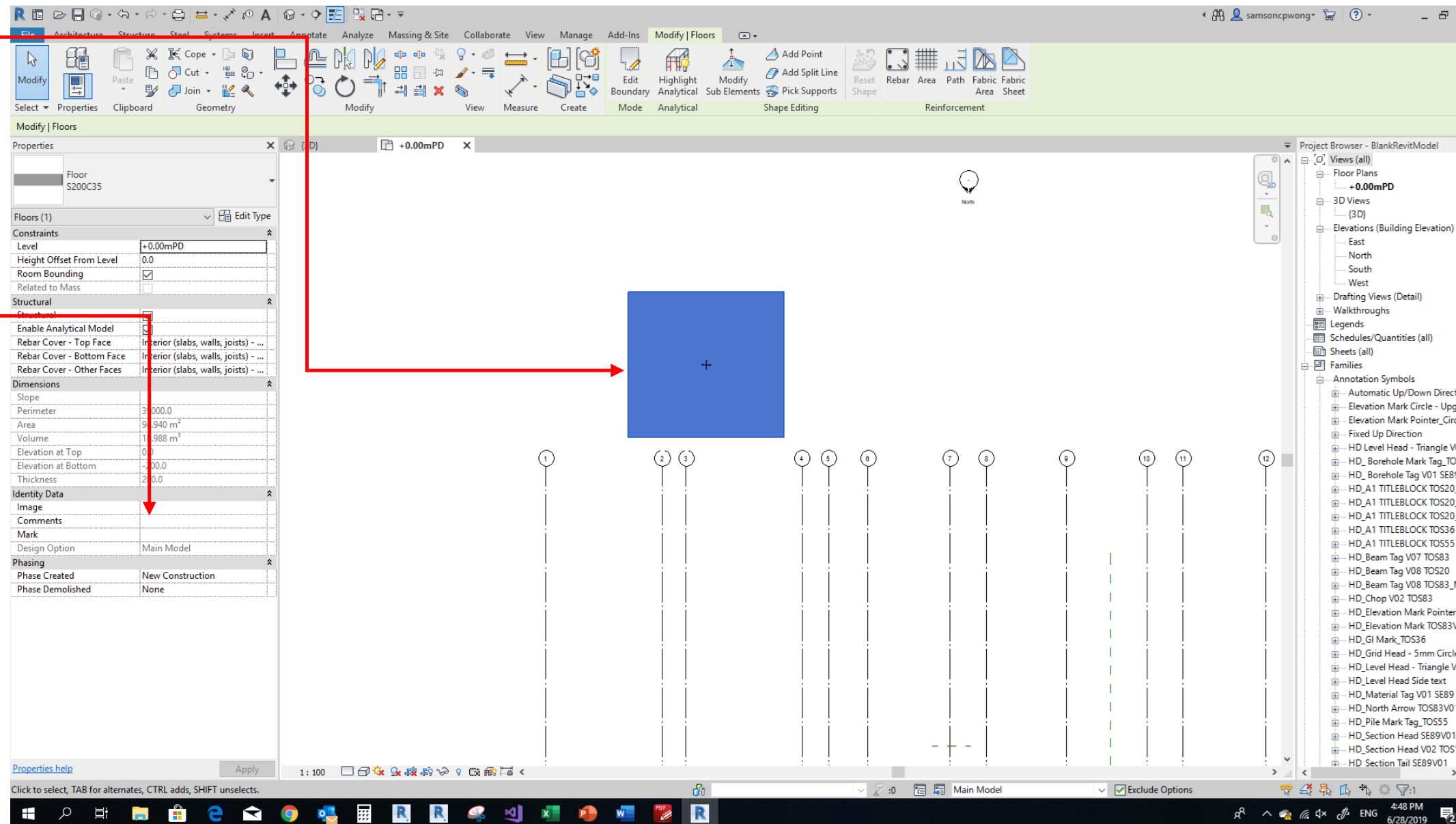


# 5.3 MODELLING – SUPERSTRUCTURE PLAN

## 5.3.3 Floor

1 Select floor

2 Provide input e.g. “On-Grade Slab / Suspended Slab” under comment when necessary

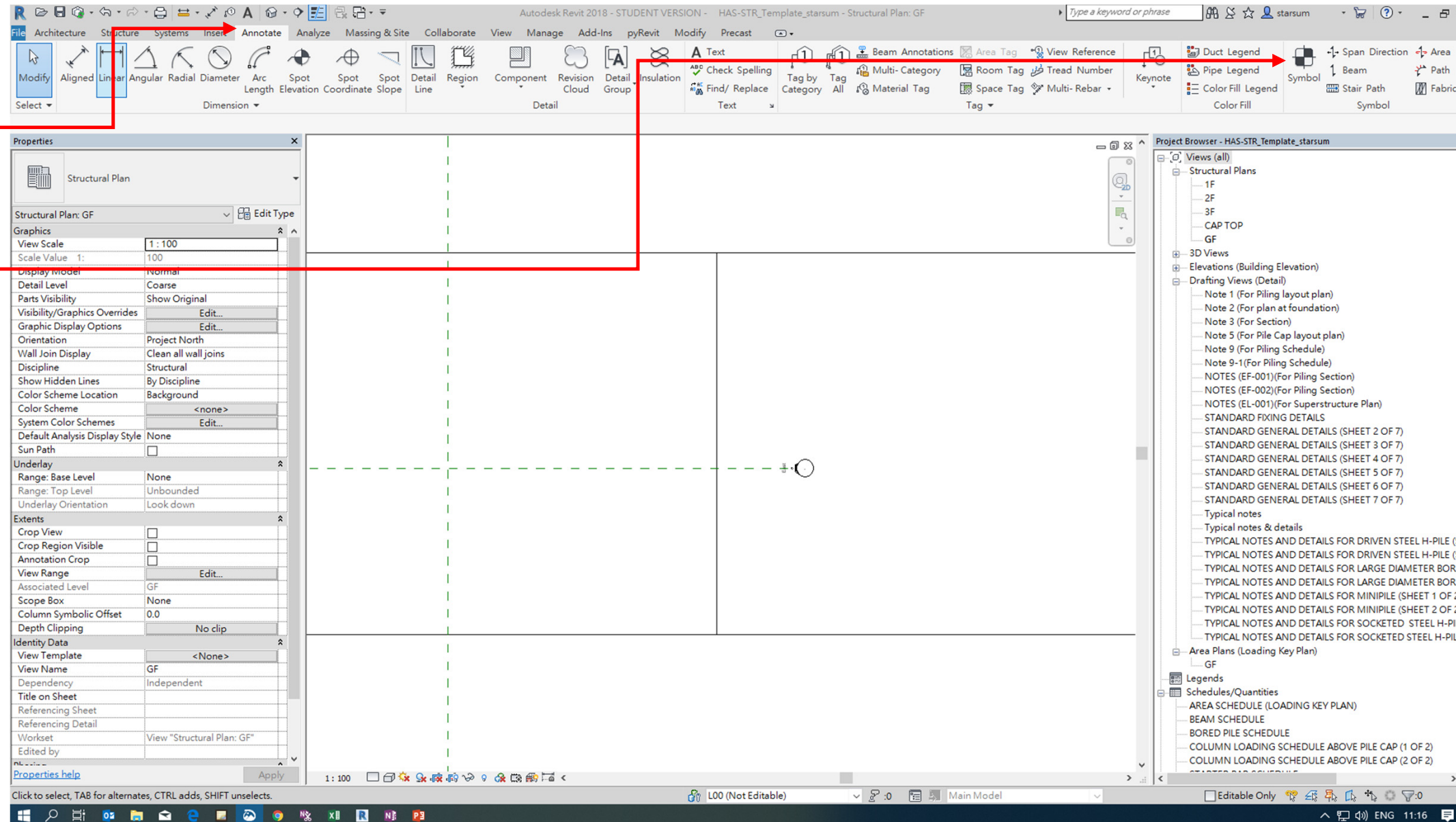


# 5.3 MODELLING – SUPERSTRUCTURE PLAN

## 5.3.4 Level Difference Symbol

1 Click  
"Annotate"

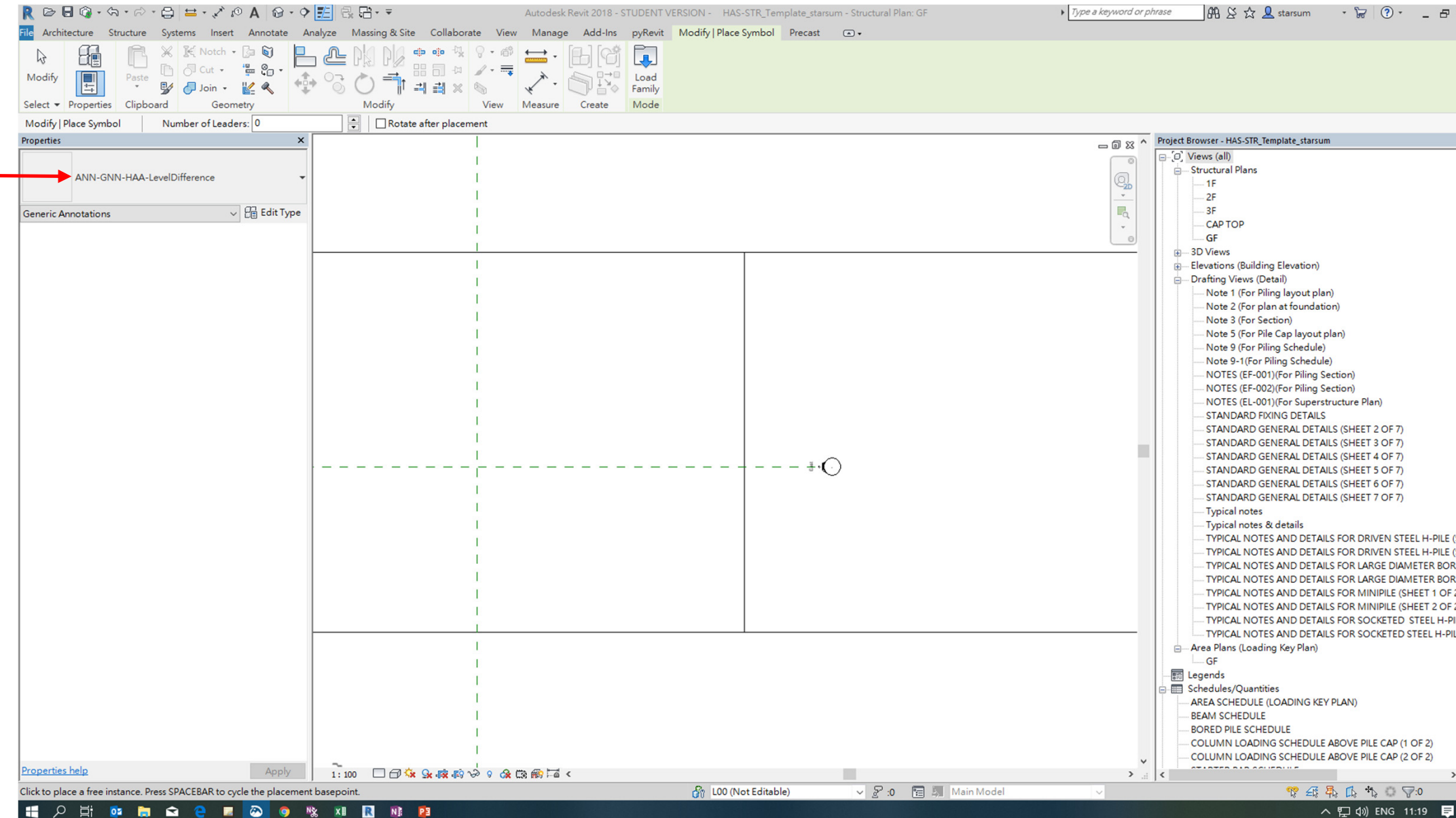
2 Click  
"Symbol"



## 5.3 MODELLING – SUPERSTRUCTURE PLAN

### 5.3.4 Level Difference Symbol

1 Select the Level Difference symbol



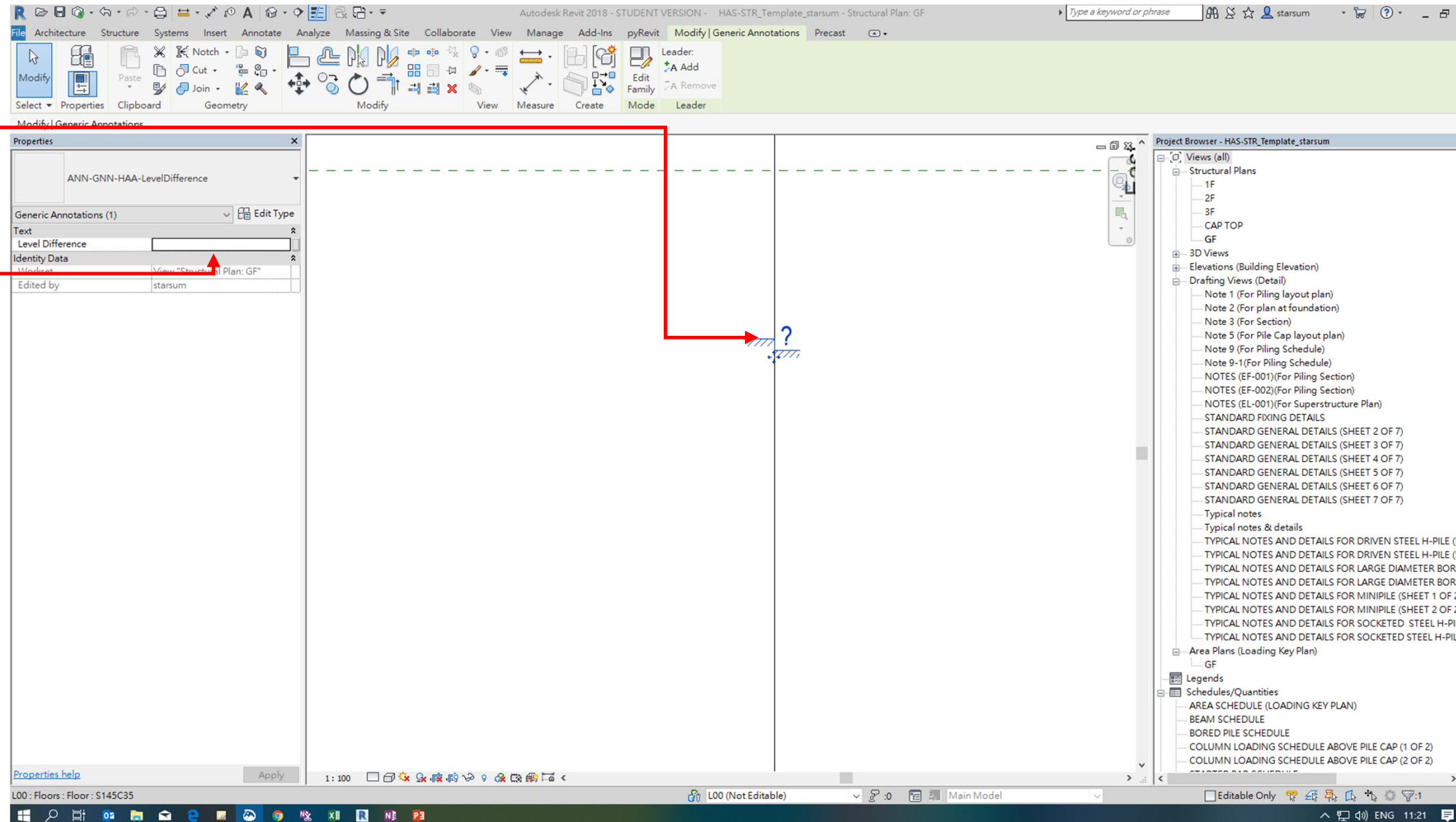


# 5.3 MODELLING – SUPERSTRUCTURE PLAN

## 5.3.4 Level Difference Symbol

1 Place in the Plan

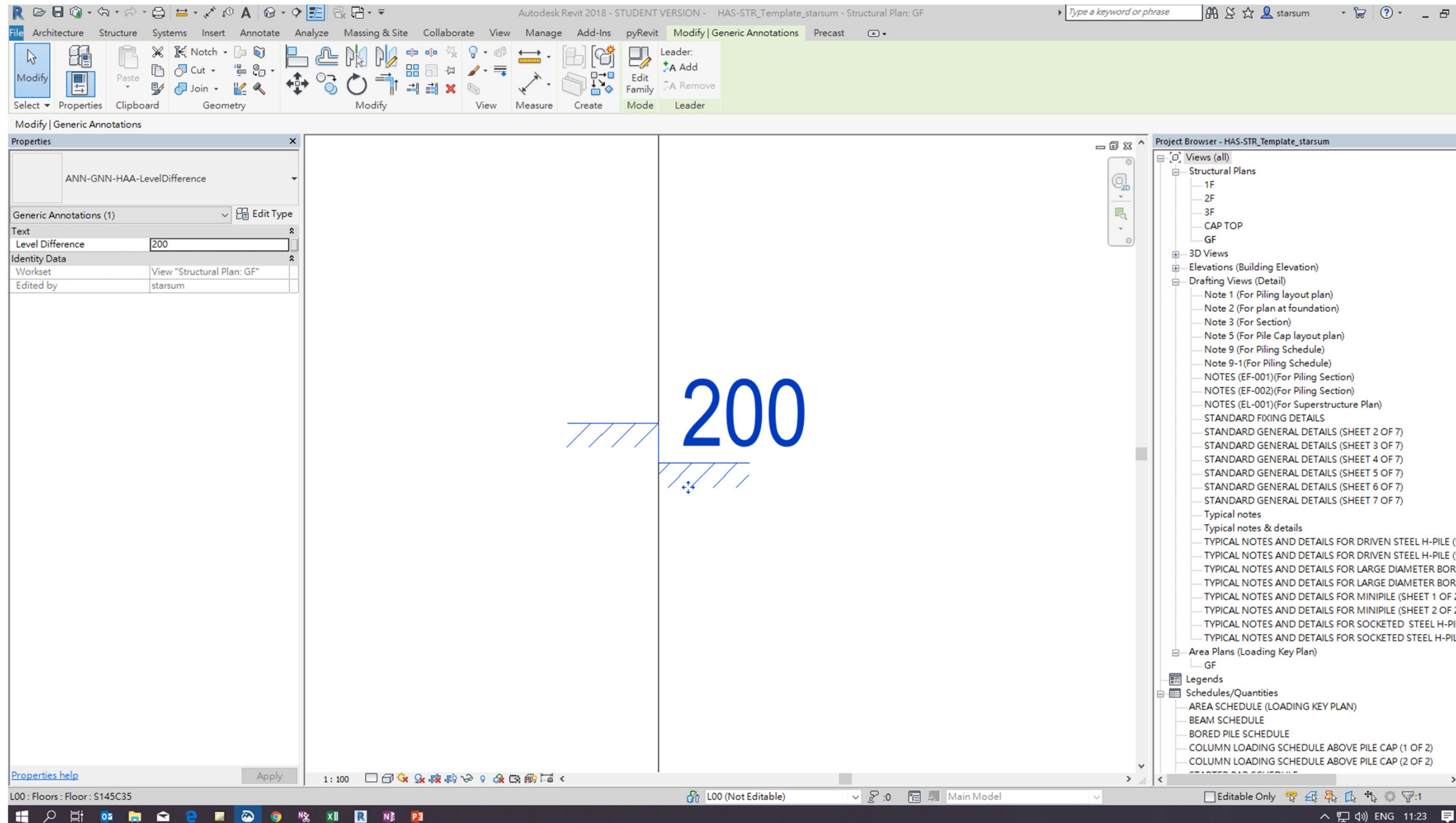
2 Enter the difference





## 5.3 MODELLING – SUPERSTRUCTURE PLAN

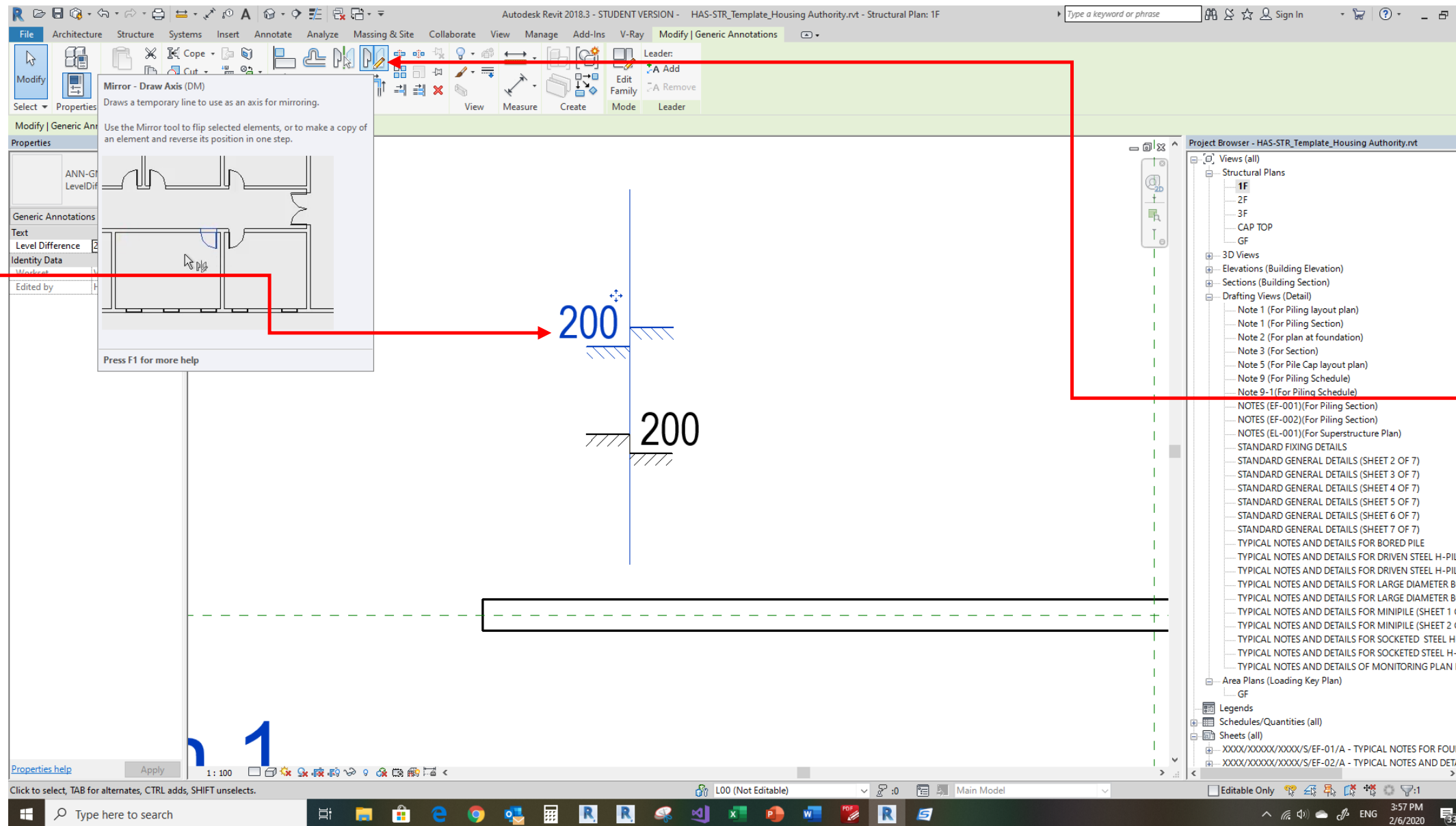
### 5.3.4 Level Difference Symbol



## 5.3 MODELLING – SUPERSTRUCTURE PLAN

### 5.3.5 Level Difference Symbol Modification

1 Select Symbol



2 Click "Mirror – Draw Axis", then pick 2 points to draw an axis to mirror level difference symbol.

## **5.3 MODELLING – SUPERSTRUCTURE PLAN**

### **5.3.6 Reinforcement**

- This section is for reference only, modelling of 3D rebars is not mandatory and should be decided by project team.

# 5.3 MODELLING – SUPERSTRUCTURE PLAN

## 5.3.6 Reinforcement

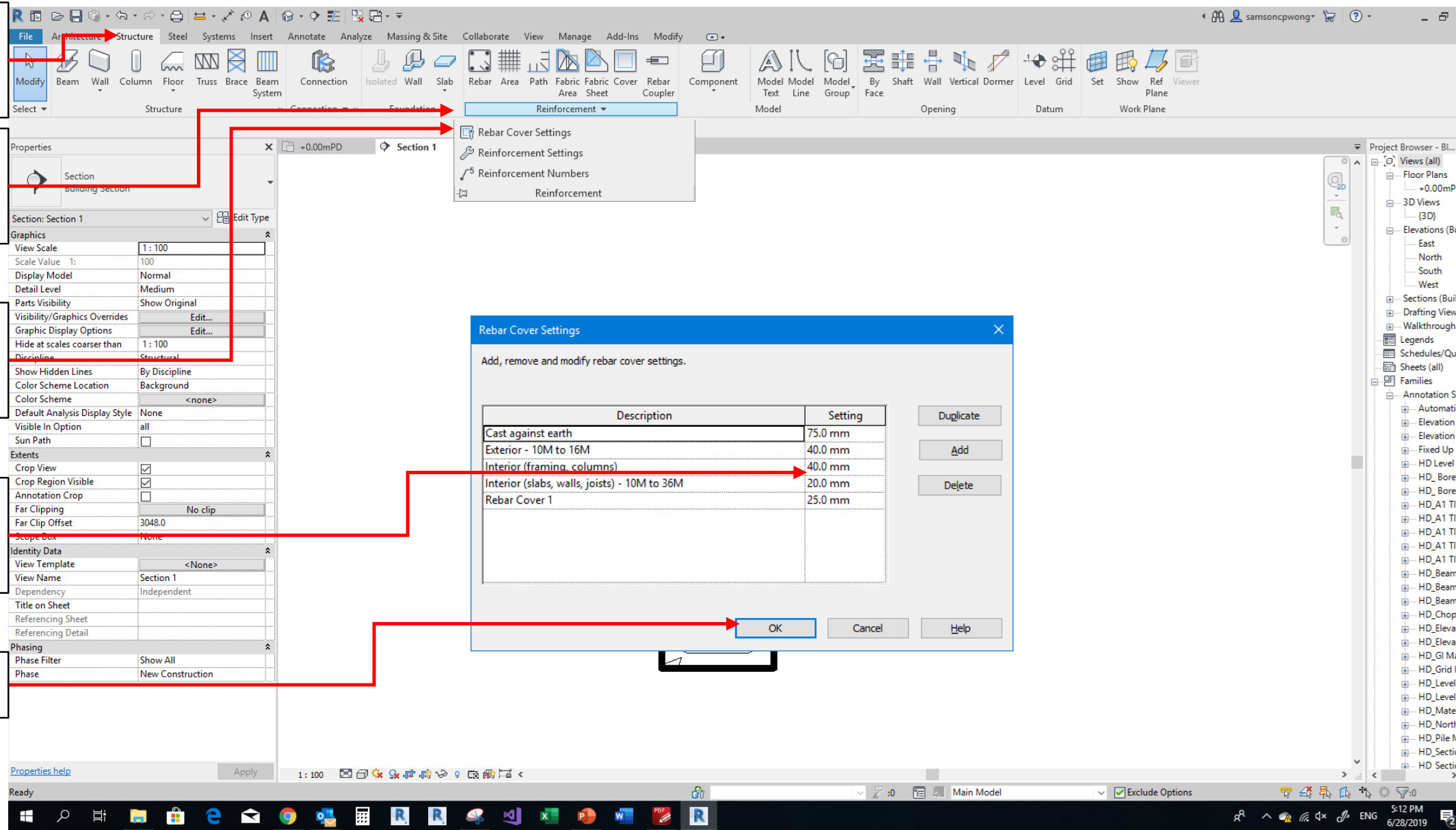
1 Click  
"Structure"

2 Click  
"Reinforcement"

3 Click "Rebar  
Cover Settings"

4 Edit concrete  
cover

5 Click "OK"

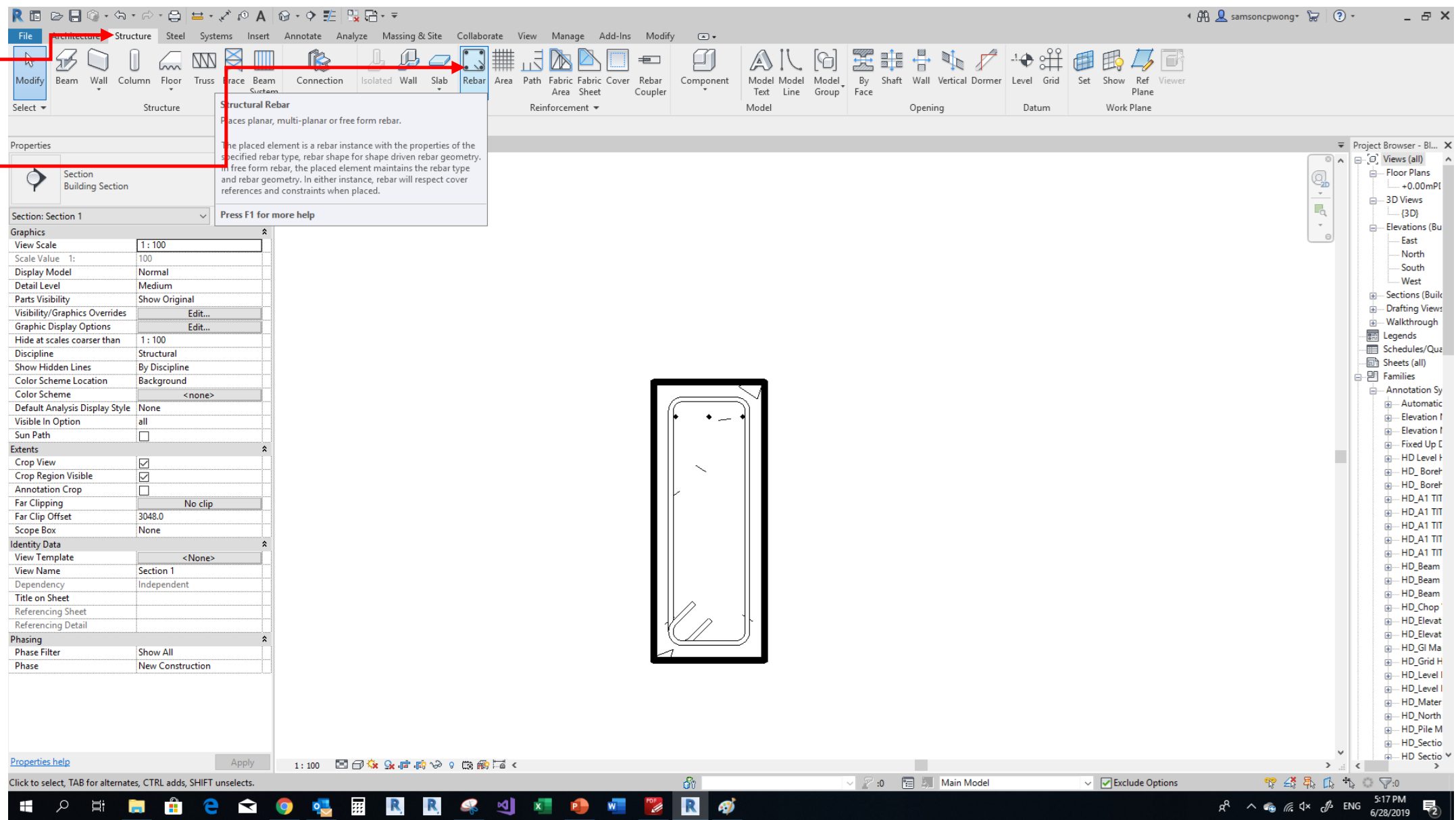


# 5.3 MODELLING – SUPERSTRUCTURE PLAN

## 5.3.6 Reinforcement

1 Click  
“Structure”

2 Click “Rebar”

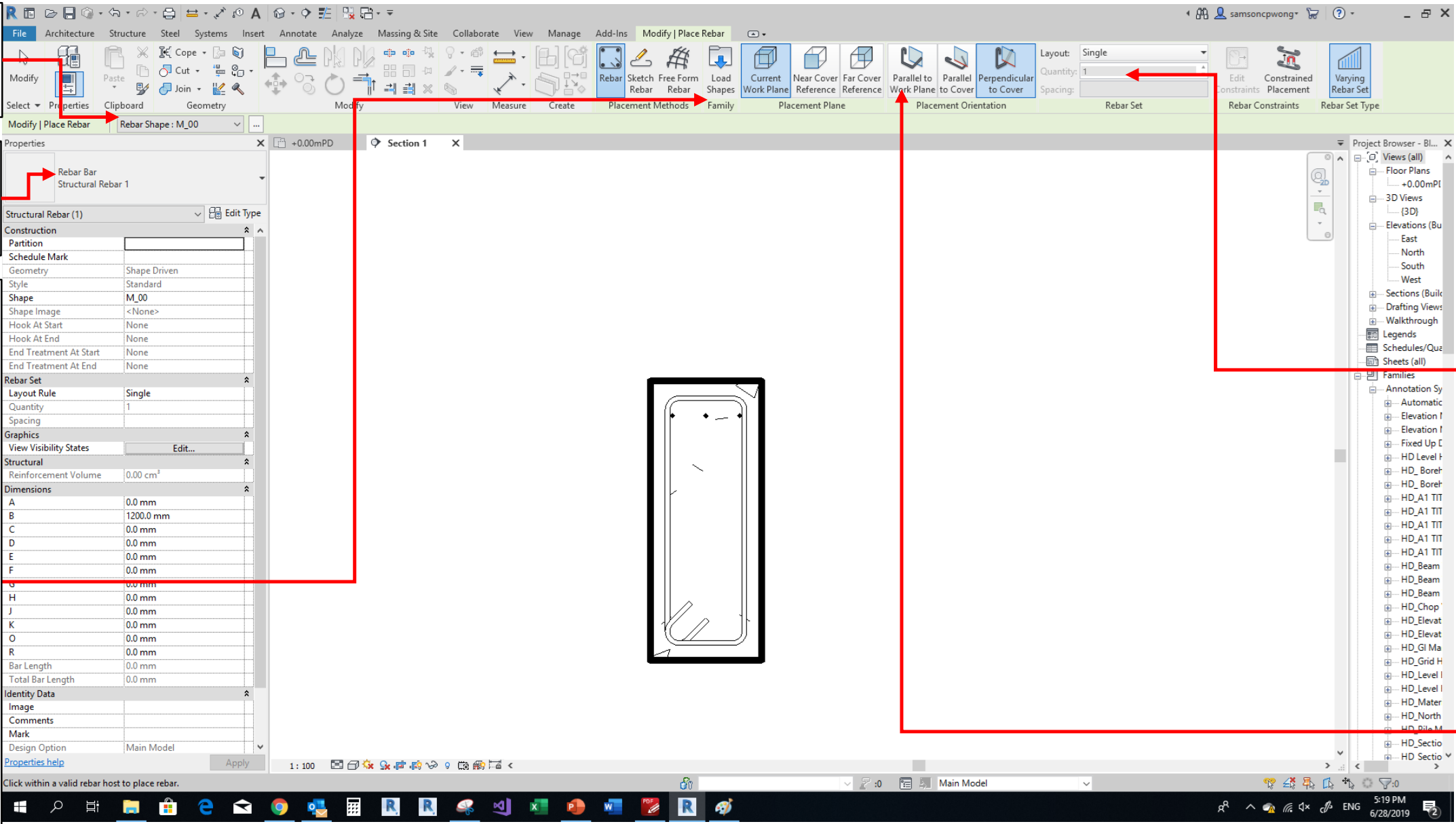




# 5.3 MODELLING – SUPERSTRUCTURE PLAN

## 5.3.6 Reinforcement

- 1 Select **shape** of rebar
- 2 Change type for rebar **size**
- 3 Load rebar shape when necessary. It can normally be found under C:\ProgramData\Autodesk\RVT version\Libraries\Metric (& Location)\Structural Rebar Shapes



- 4 Change rebar layout, single vs multiple and the rules when necessary
- 5 Amend **Placement Plane and Orientation** when necessary

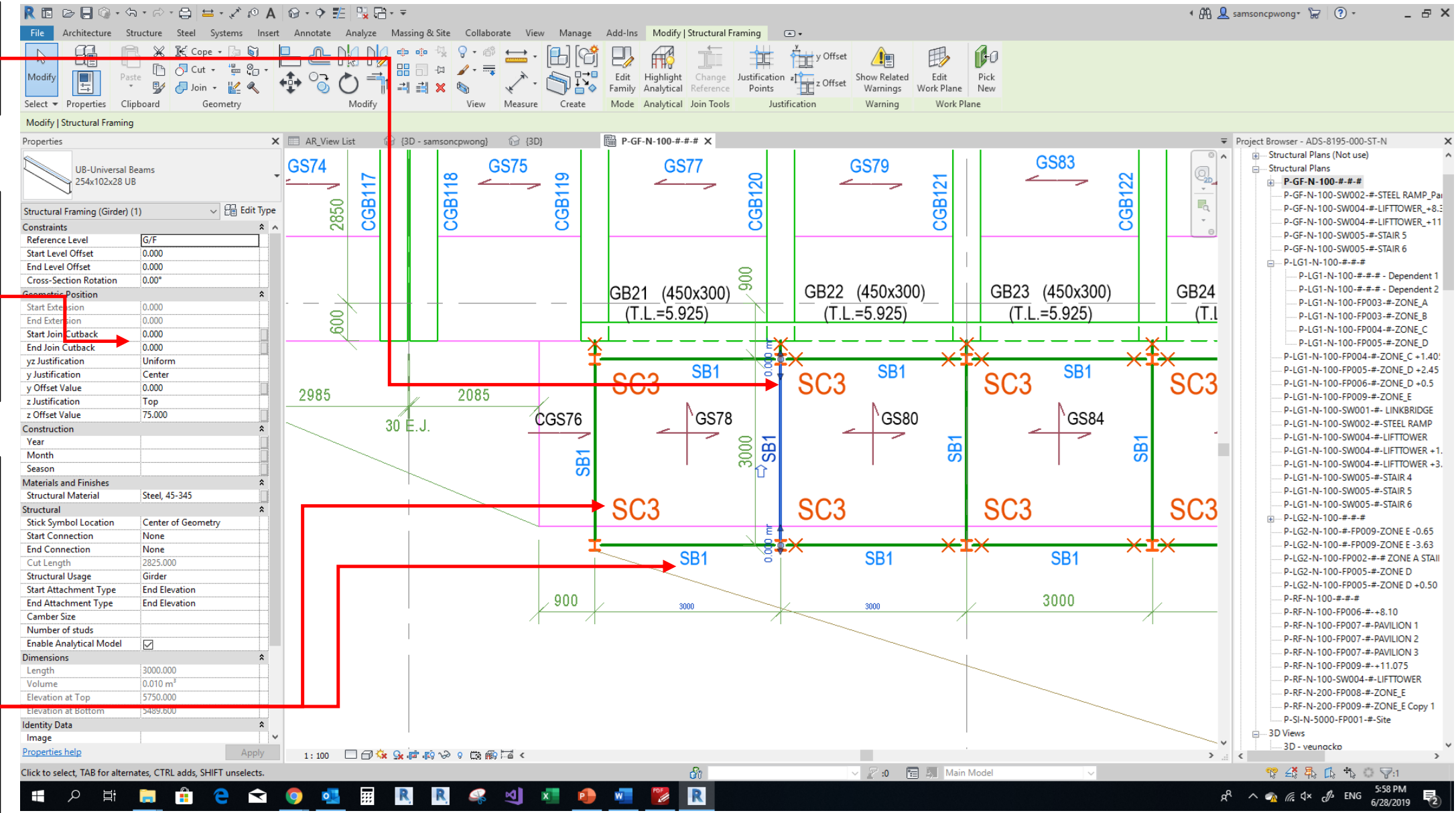
# 5.3 MODELLING – SUPERSTRUCTURE PLAN

## 5.3.7 Additional Settings for Steel Beam and Column

1 Select steel beam

2 Adjust Start / End Join Cutback when necessary

3 Annotate steel beam and column similar to concrete beam and column by inputting value through the tag



## 5.3 MODELLING – SUPERSTRUCTURE PLAN

### 5.3.7 Additional Settings for Steel Beam and Column

1 Click "Modify"

2 Click "Cope"

3 Pick secondary beam

4 Pick main beam

5 Junction will be formed

before

after



# 5.3 MODELLING – SUPERSTRUCTURE PLAN

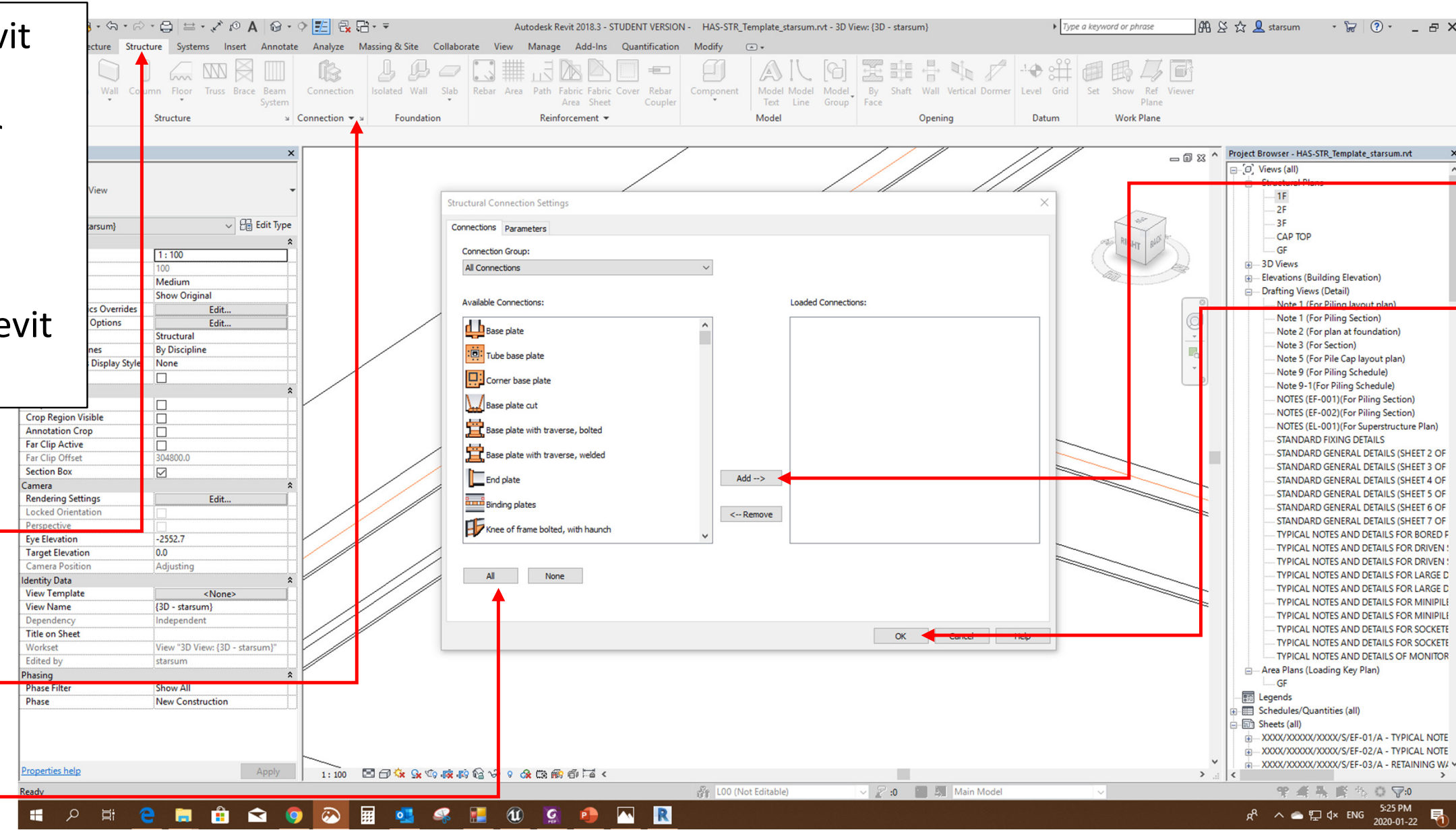
## 5.3.8 Steel Connection Introduction

1 Download Revit Structural Connections for 2018. Same functions are integrated with Revit on later Revit version.

2 Click “Structure”

3 Click “Arrow”

4 Click “All”



5 Click “Add”

6 Click “ok”

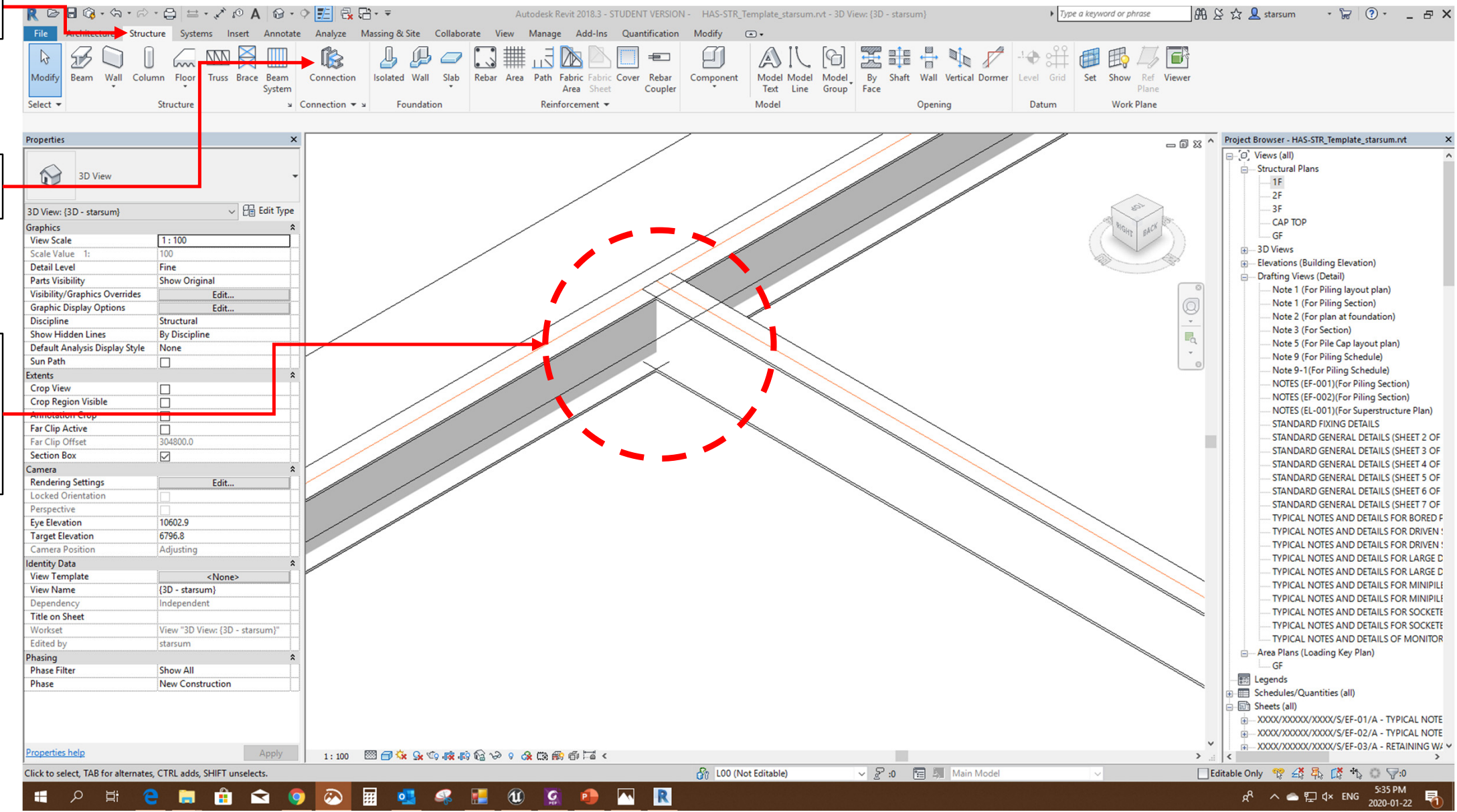
# 5.3 MODELLING – SUPERSTRUCTURE PLAN

## 5.3.8 Steel Connection Introduction

1 Steel

2 Connection

3 Pick multiple steel elements

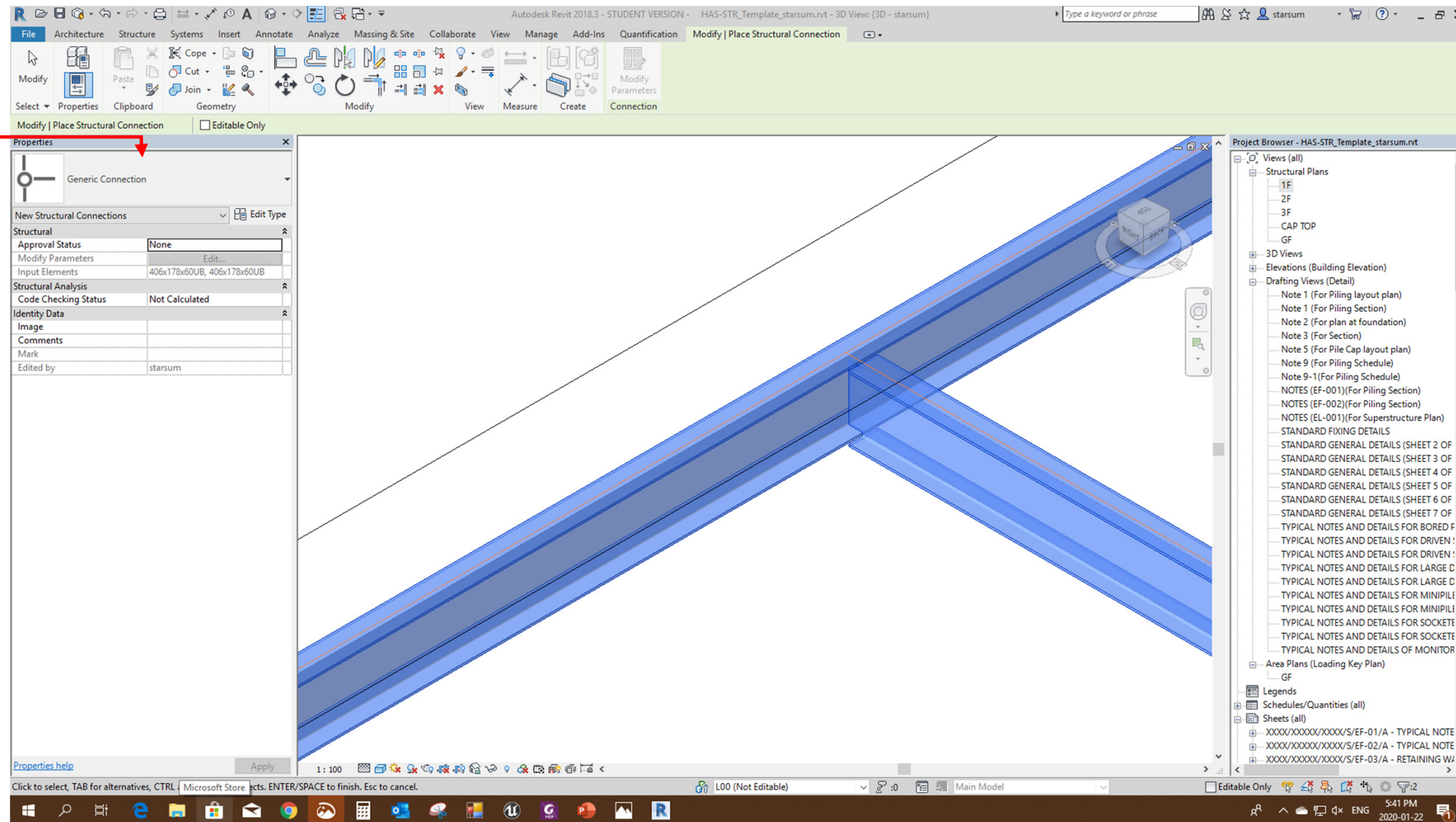




## 5.3 MODELLING – SUPERSTRUCTURE PLAN

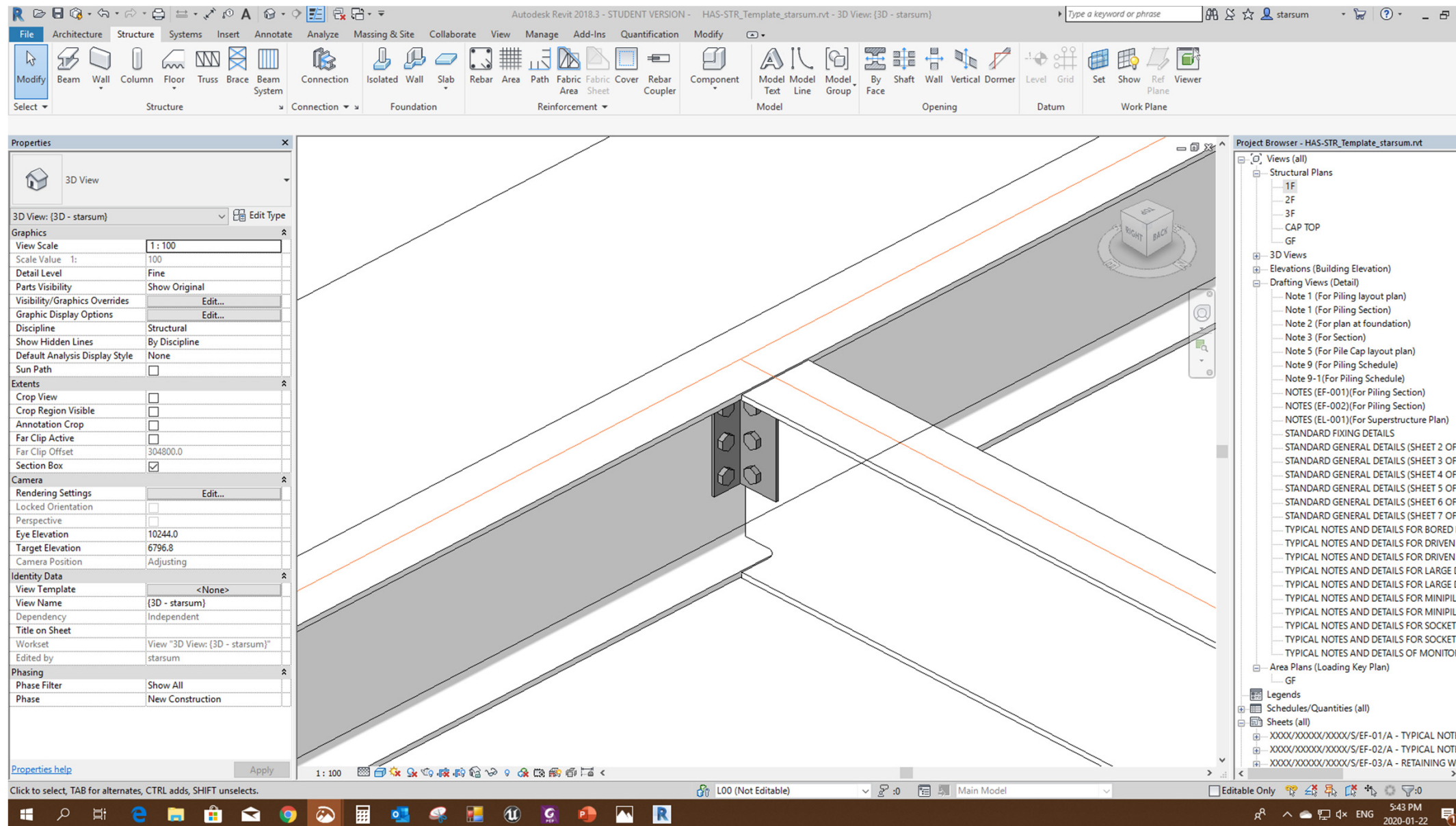
### 5.3.8 Steel Connection Introduction

1 Select type of connection then press keyboard enter



# 5.3 MODELLING – SUPERSTRUCTURE PLAN

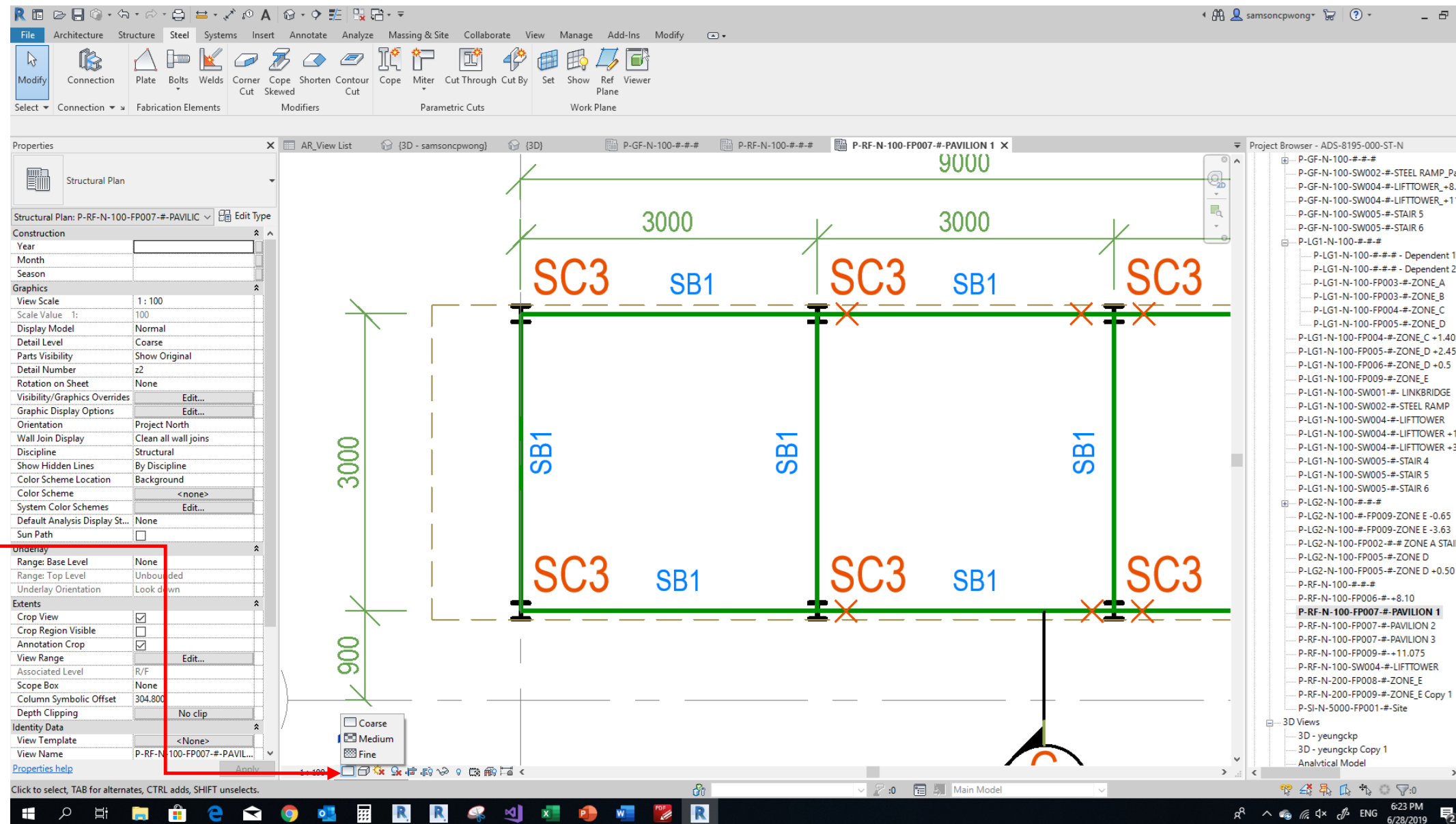
## 5.3.8 Steel Connection Introduction



## 5.3 MODELLING – SUPERSTRUCTURE PLAN

### 5.3.9 Steel Member - Detail Levels

1 Click this icon then select “Coarse”, which will generate single line framing.

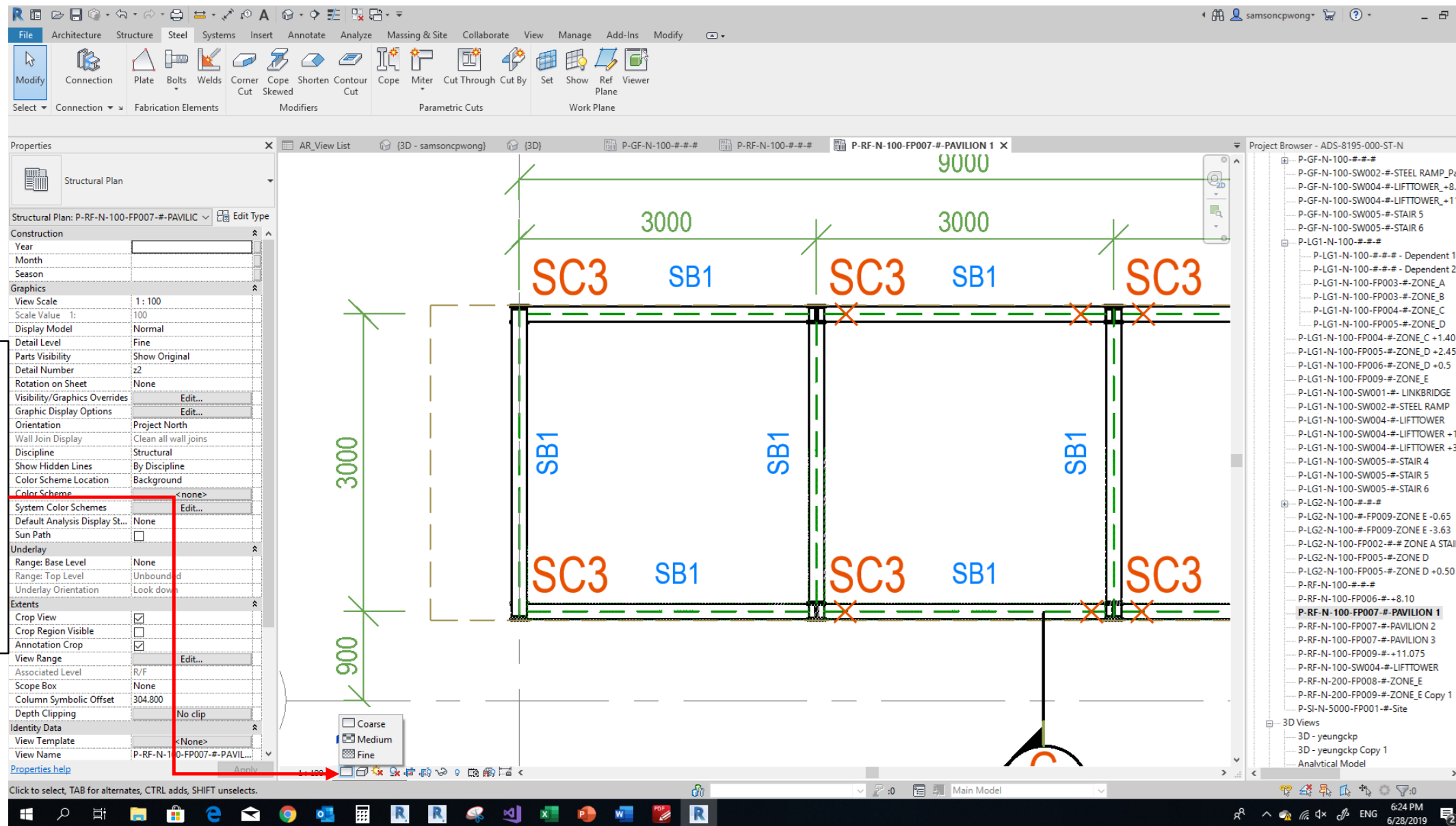




## 5.3 MODELLING – SUPERSTRUCTURE PLAN

### 5.3.9 Steel Member - Detail Levels

1 Click this icon then select “Medium/Fine”, which will generate double line framing.



2 Choice of presentation style should be decided by project team.

## 5.4 MODELLING – FOUNDATION PLAN

- This sections illustrates standards & guidelines for 3d modelling.
- It covers aspects which are specific to structural building professionals, e.g. modelling of piling, pile cap, bore log, retaining wall etc.
- Demarcation for extent between superstructure and substructure statutory submission should be referred to latest version of Housing Authority Building Information Modelling Standards and Guidelines.



## 5.4 MODELLING – FOUNDATION PLAN

### 5.4.1 Foundation – Insert Pile Cap and Foundation (except Footing under Wall) from Family

1 Select relevant floor plan view, it define insertion level

2 Click “Structure”

3 Click “Isolated”

The screenshot shows the Revit software interface. The ribbon is set to 'Structure', and the 'Isolated' option is highlighted. A tooltip for 'Structural Foundation: Isolated' is displayed, stating: 'Adds footings or pile caps to the building model. Isolated foundations automatically attach to the bottoms of columns. You may need to load an isolated foundation family before you can place them in the building model.' The Project Browser on the right shows the 'GF' level selected under 'Views (all)'. The Properties panel on the left shows the 'Structural Plan: GF' view selected.

## 5.4 MODELLING – FOUNDATION PLAN

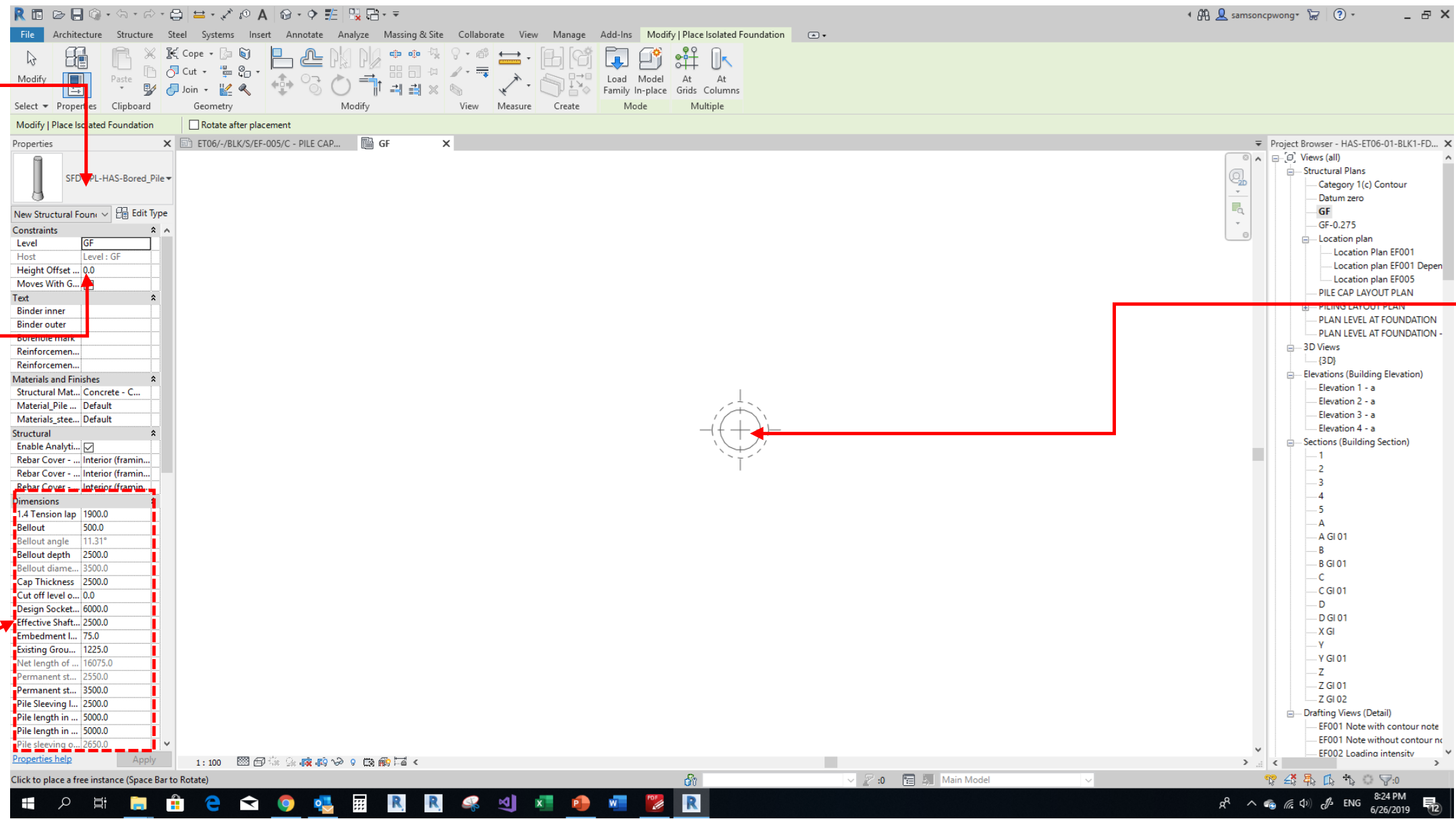
### 5.4.1 Foundation – Insert Pile Cap and Foundation (except Footing under Wall) from Family

1 Select foundation type

2 Adjust Offset when necessary

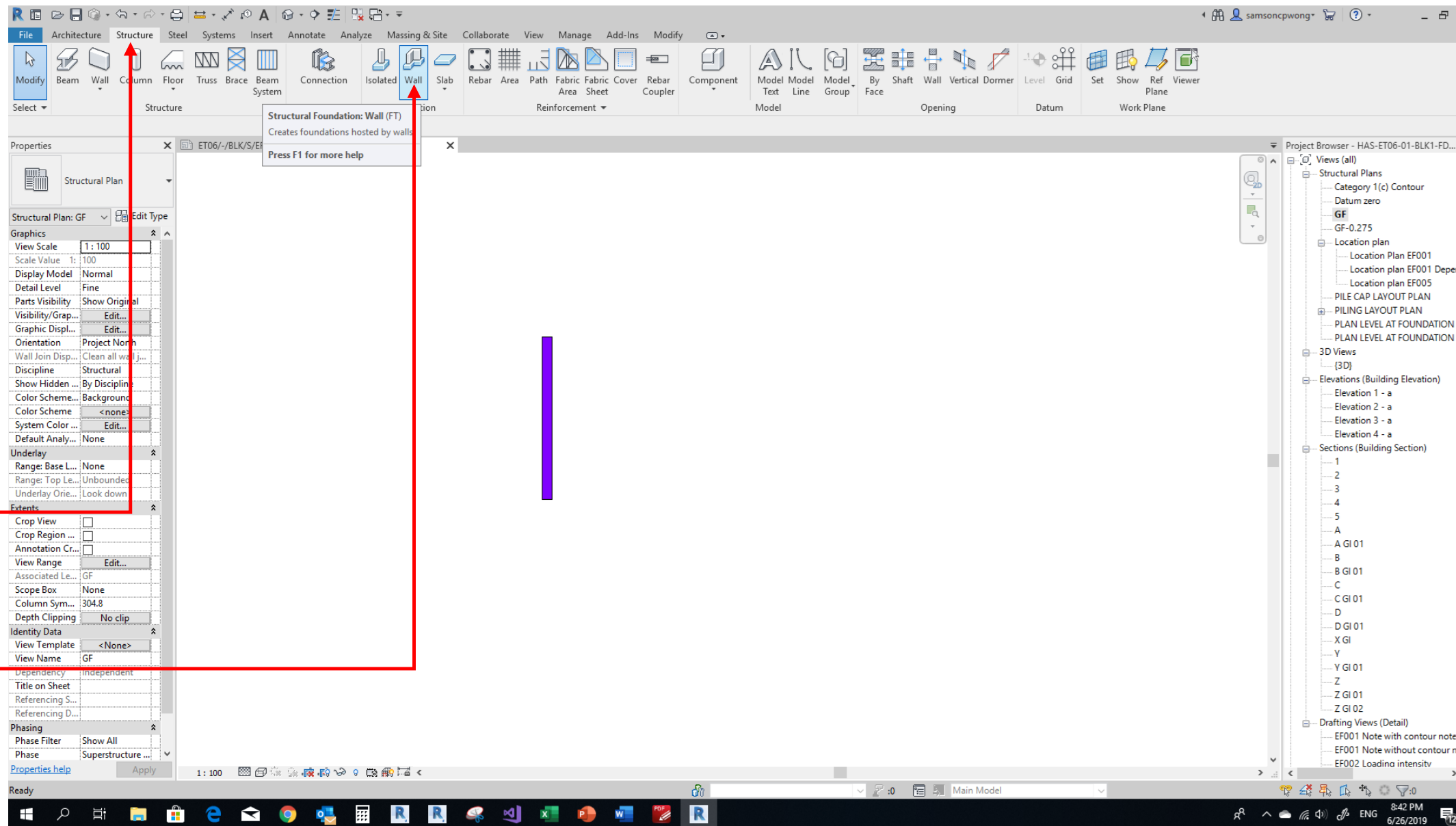
3 Adjust available parameters under “Dimensions” to adjust size of foundation

4 Pick a point to insert foundation



## 5.4 MODELLING – FOUNDATION PLAN

### 5.4.2 Foundation – Insert Footing under Wall from Family



## 5.4 MODELLING – FOUNDATION PLAN

### 5.4.2 Foundation – Insert Footing under Wall from Family

1 Select foundation type, including size

2 Adjust Eccentricity i.e. horizontal offset when necessary

3 Pick multiple when necessary

4 Pick wall(s) to create

The screenshot displays the Revit software interface during the 'Place Wall Foundation' process. The ribbon at the top shows the 'Modify | Place Wall Foundation' context. The Properties palette on the left is open, showing the 'Wall Foundation' family with various parameters such as 'Eccentricity', 'Length', and 'Width'. A red arrow points from the 'Eccentricity' field to the callout box. Another red arrow points from the 'Select Multiple' button on the ribbon to the callout box. A third red arrow points from the 'Pick Multiple' button on the ribbon to the callout box. A fourth red arrow points from the 'Pick Wall(s)' button on the ribbon to the callout box. The main view shows a vertical wall with a footing being placed underneath it. The Project Browser on the right shows the current project structure, including 'Location plan' and 'PILE CAP LAYOUT PLAN'.

## 5.4 MODELLING – FOUNDATION PLAN

### 5.4.3 Foundation – Draw Pile Cap / Footing, e.g. Raft Footing

1 Select relevant floor plan view, it define insertion level

2 Click “Structure”

3 Click “Slab”

The screenshot displays the Autodesk Revit software interface. The ribbon is set to the 'Structure' tab, and the 'Slab' button is highlighted. A red box encloses the 'Structure' and 'Slab' buttons. A red arrow points from the 'Slab' button to the 'GF' level in the Project Browser. A blue vertical bar is visible in the center of the drawing area. The Project Browser on the right shows a tree view of the project structure, including 'Views (all)', 'Structural Plans', 'Location plan', '3D Views', 'Elevations (Building Elevation)', and 'Sections (Building Section)'. The 'GF' level is selected under 'Structural Plans'. The Properties panel on the left shows the 'Structural Plan' properties, including 'View Scale', 'Display Model', 'Detail Level', 'Parts Visibility', 'Orientation', 'Discipline', 'Color Scheme', 'System Color', 'Default Analy...', 'Underlay', 'Extents', 'View Range', 'Associated Le...', 'Scope Box', 'Column Sym...', 'Depth Clipping', 'Identity Data', 'View Template', 'View Name', 'Dependency', 'Title on Sheet', 'Referencing S...', 'Referencing D...', 'Phasing', and 'Phase Filter'. The status bar at the bottom shows 'Click to select, TAB for alternates, CTRL adds, SHIFT unselects.' and the system tray shows the date and time as 8:47 PM on 6/26/2019.



## 5.4 MODELLING – FOUNDATION PLAN

### 5.4.3 Foundation – Draw Pile Cap / Footing, e.g. Raft Footing

1 Select foundation type, including size, concrete grade, cap thickness etc.

2 Adjust Height Offset when necessary

3 Draw line / pick line / pick wall

4 Click tick

The screenshot shows the Revit software interface. The ribbon is set to 'Modify | Create Floor Boundary'. The Properties panel on the left shows the 'Foundation Slab' type selected, with 'Height Offset From' set to '250.0'. The project browser on the right shows the 'GF' level selected. The main view shows a rectangular foundation plan with dimensions 4100.0 and 4900.0. A red line is drawn on the model, and a red arrow points to a tick mark in the project browser.

# 5.4 MODELLING – FOUNDATION PLAN

## 5.4.4 Editing Piling Properties

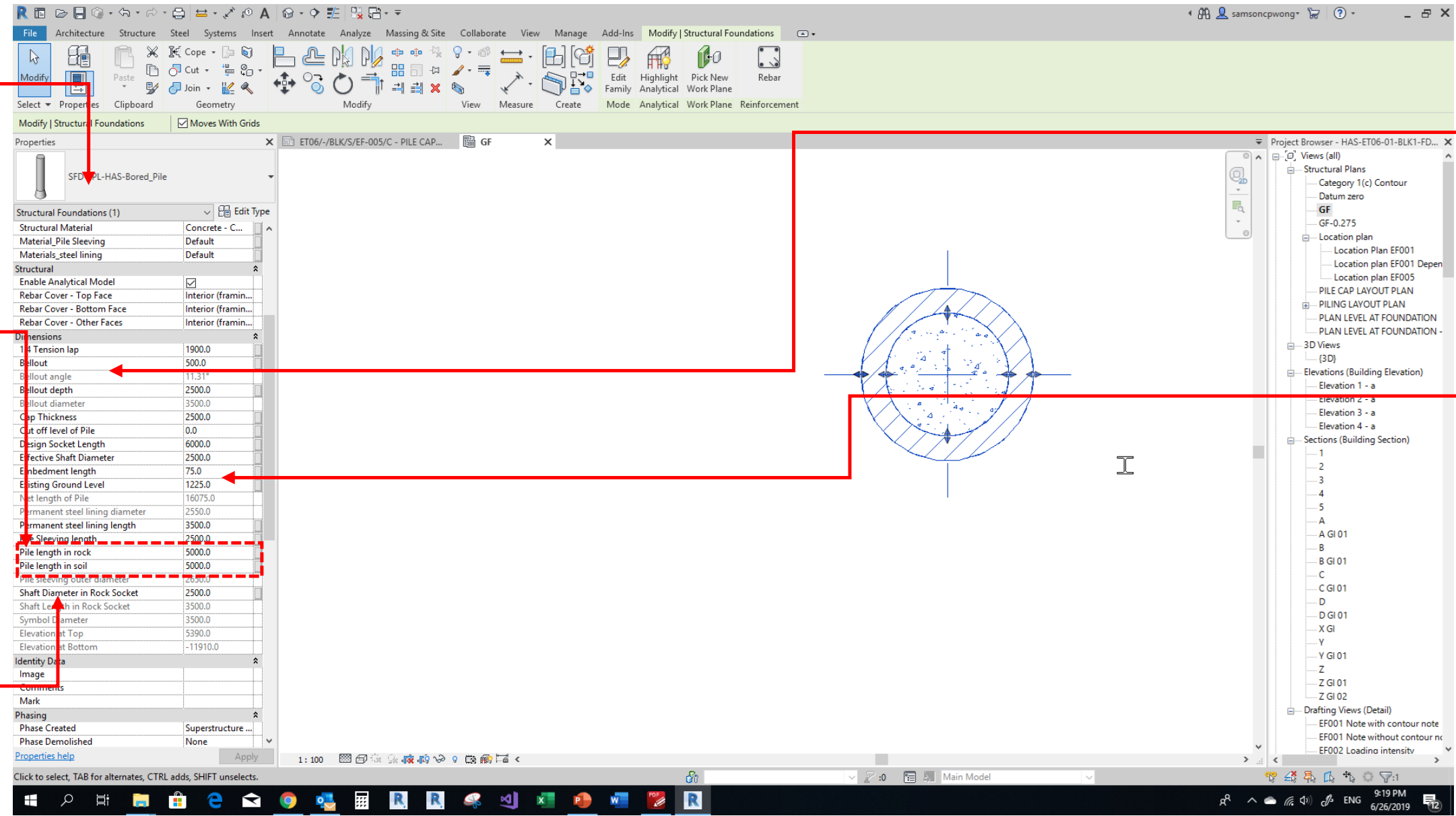
1 Select foundation type

2 Adjust Pile length in rock, Pile length in soil when necessary

3 Adjust Shaft Diameter in Rock Socket when necessary

4 Adjust Bellout, Bellout depth when necessary

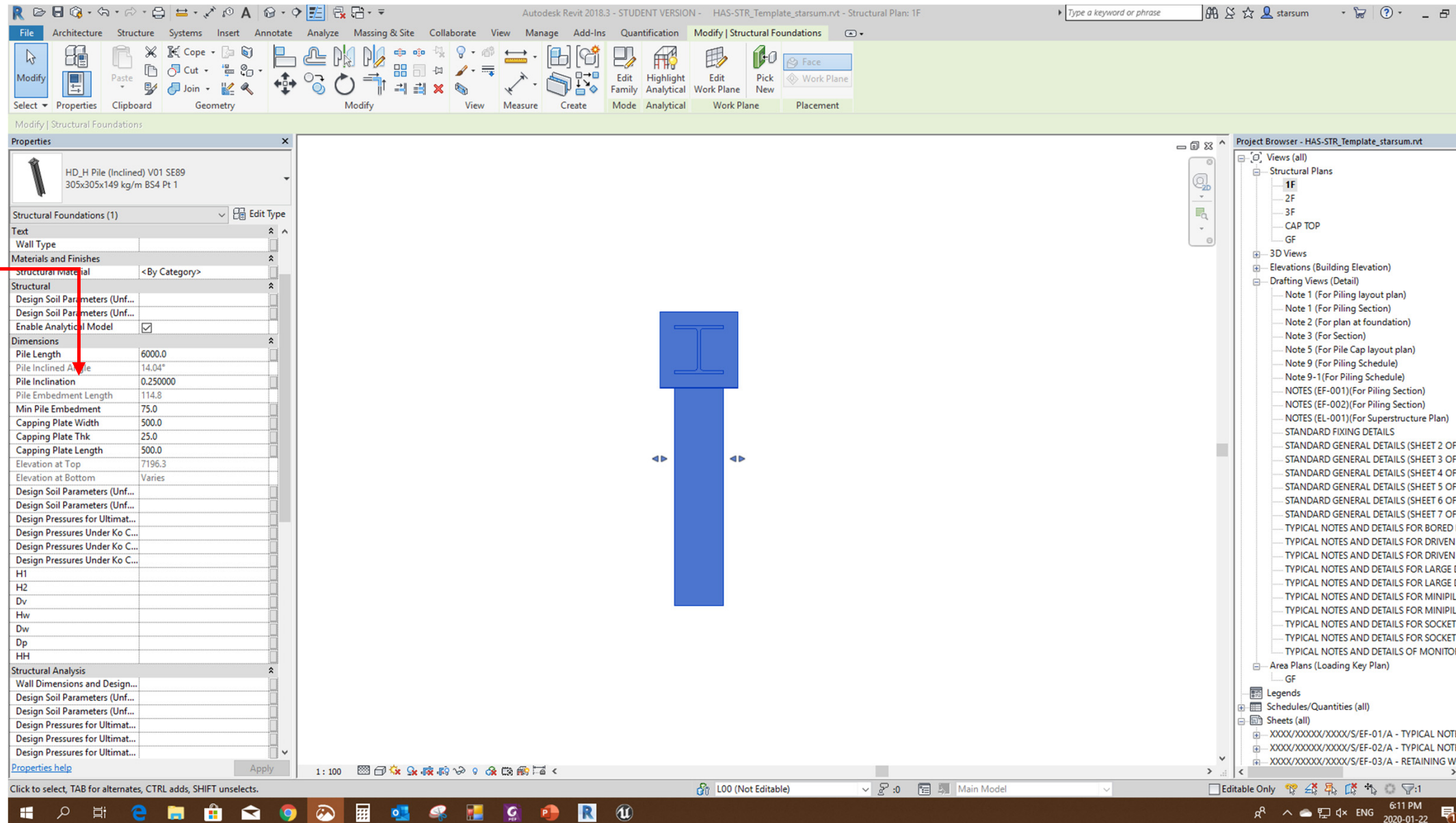
5 Adjust Embedment length when necessary



# 5.4 MODELLING – FOUNDATION PLAN

## 5.4.4 Editing Piling Properties

1 Adjust raking of pile for certain foundation type by adjusting pile inclination when necessary



## 5.4 MODELLING – FOUNDATION PLAN

### 5.4.5 Retaining Wall / Structure

1 Select relevant floor plan view, it define insertion level

2 Click "Structure"

3 Click "Component"

4 Select relevant floor plan view, it define insertion level

Place a Component (CM)  
Places an element in the building model, based on a selected element type.  
Press F1 for more help



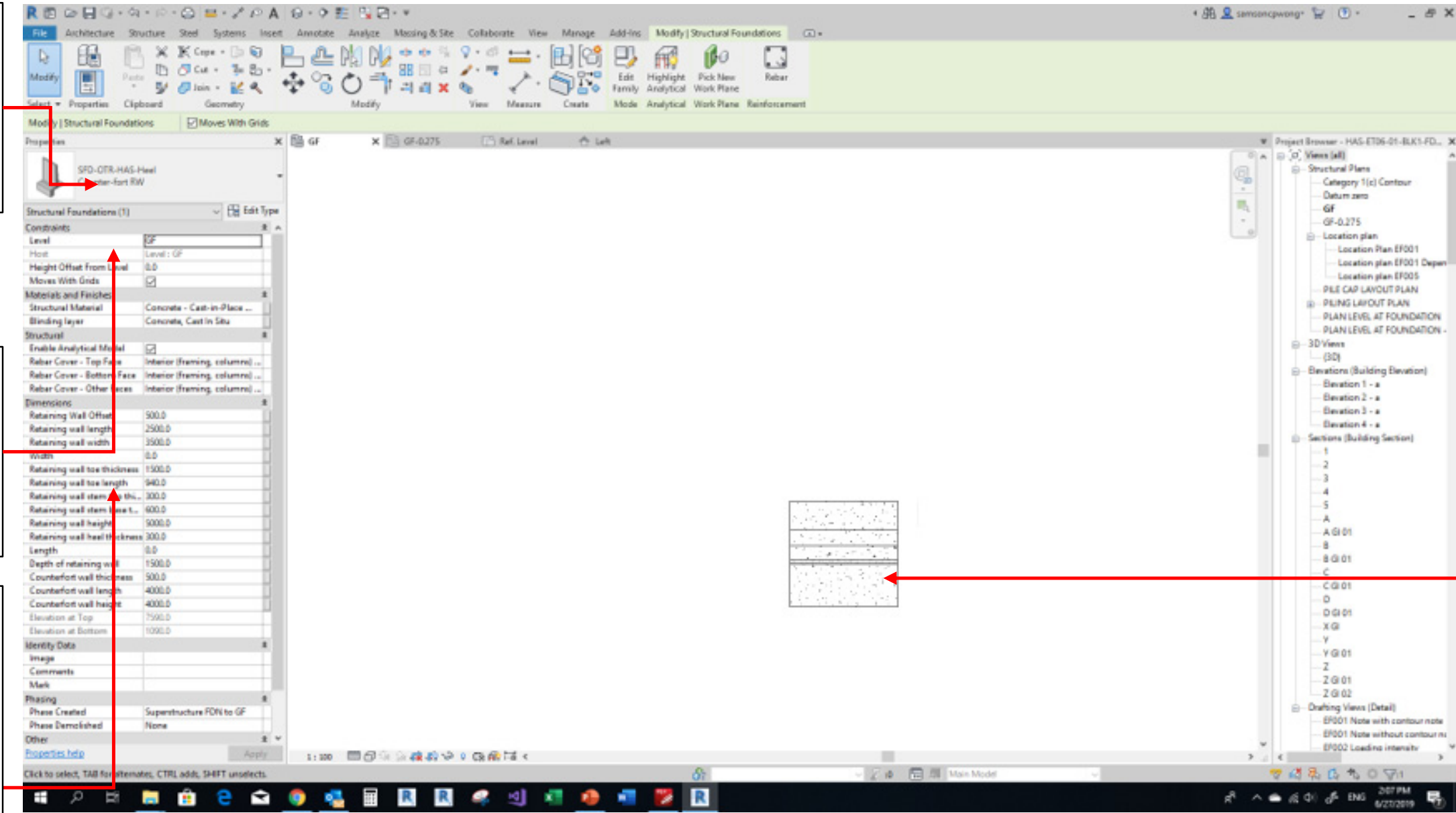
# 5.4 MODELLING – FOUNDATION PLAN

## 5.4.5 Retaining Wall / Structure

1 Select type, including design, material

2 Adjust Height Offset when necessary

3 Adjust dimension of retaining wall by amending parameters under “dimension” group



4 Click on view to insert



## 5.4 MODELLING – FOUNDATION PLAN

### 5.4.6 Ground Investigation Bore Logs

1 Select relevant floor plan view, it define insertion level

2 Click “Structure”

3 Click “Component”

4 This family is under site category, it can be turned on / off by visibility / graphics settings.

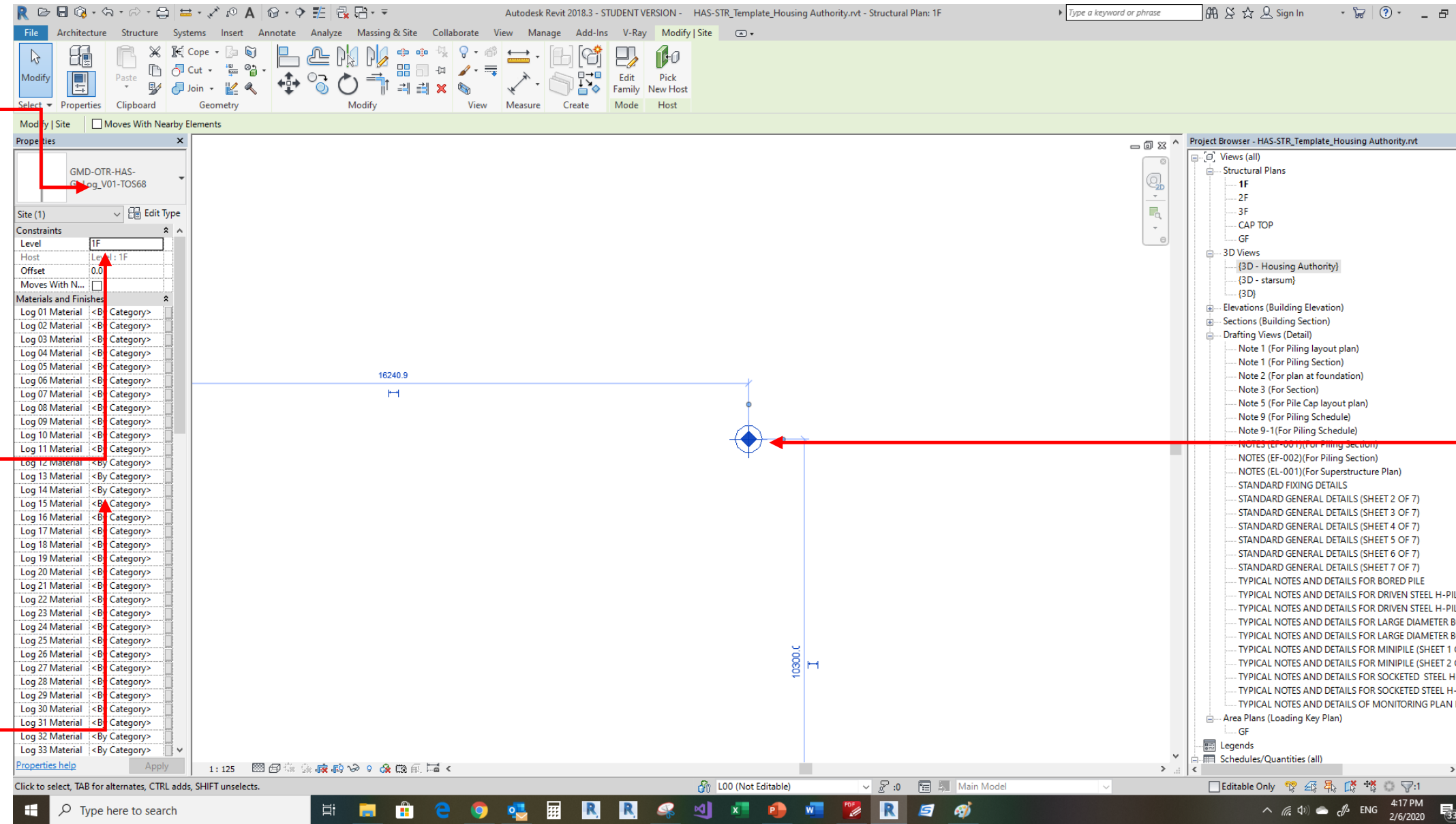
# 5.4 MODELLING – FOUNDATION PLAN

## 5.4.6 Ground Investigation Bore Logs

1 Select type, name including “Log”

2 Adjust Height Offset when necessary

3 Adjust log material and length for each log section.

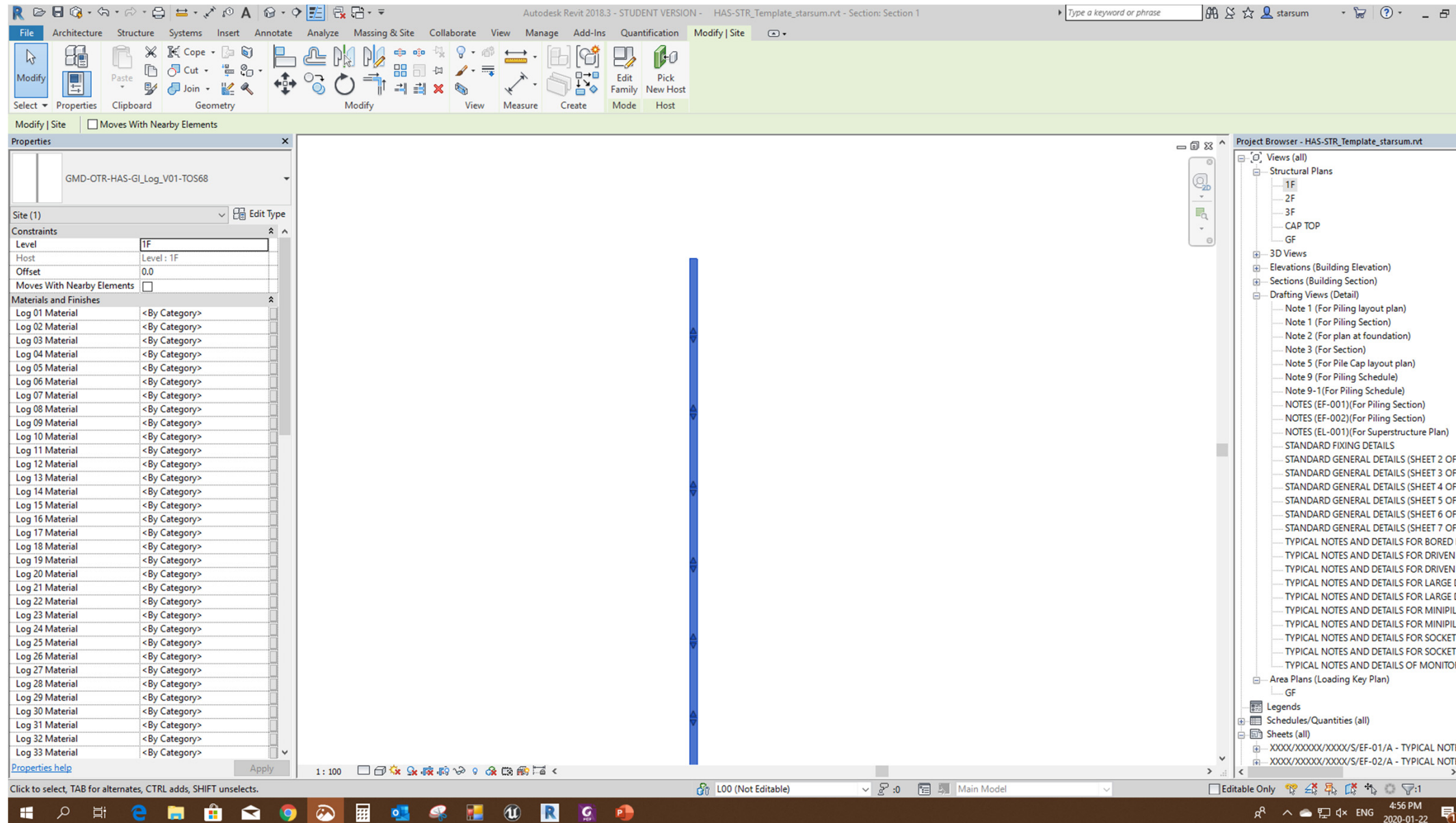


4 Click on view to insert

# 5.4 MODELLING – FOUNDATION PLAN

## 5.4.6 Ground Investigation Bore Logs

1 The Bore Logs would not to be show on the Plan View, it only show in the Section, Elevation and 3D View



# 6 DRAWING PRODUCTION GUIDELINES

## 6 DRAWING PRODUCTION GUIDELINES

- This sections illustrates standards & guidelines for 2d drawing production.
- It covers aspects which are common to architectural and structural building professionals, e.g. use of annotation, dimension, lineworks, filled region (hatch pattern), schedule and setting up of sheet etc.



## 6.1 DRAWING PRODUCTION – GENERAL

- Before generating a 2D drawing from 3D model, a view must first be created. Such view is a media to present 2D drawing. It allows users to add annotation on 2D drawing.
- Majority of views including plan, section and elevation views should be created prior to 3d modelling as suggested under section 4.5. Nevertheless, generate adequate views according to section 4.5. Please also note that separate view is required for each drawing.

## 6.1 DRAWING PRODUCTION – GENERAL

- Besides plan, section and elevation view, “area plan view” is required for 2D drawing production in particular for production of General Building Plan. Area plan view is a plan view which allows users to create “area boundary” and “area”. These are the two essential tools for area measurement on plan. This view must first be created for generation of GFA, Non-accountable GFA, Site Coverage, Fire Compartment, Open Space diagrams. Please refer to section 6.1.1 for details.

## 6.1 DRAWING PRODUCTION – GENERAL

- With created views, it is suggested to setup and apply “scope box” to the views. This define extent & orientation of views. Please refer to section 4.3.7 for details.
- A number of commonly required view templates are provided in the template file. View templates control generation of 2D drawing from 3D model, including line type (solid line vs dotted line), line weight and colouring etc. It helps to minimize manual-editing works. To apply preset view template, please refer to section 4.5. Users are also required to modify setting of view template if necessary.

## 6.1 DRAWING PRODUCTION – GENERAL

- Before going into details of 2D drawing, it is suggested to first setup all required sheets. This procedure includes creating new sheets, and placing plans, sections, elevations, diagrams, notes, legends, schedules etc. to sheets. A number of commonly required notes, legends, schedules are provided in template. Please refer to section 6.3 & 6.5 for details.
- With above proper set up, users can start reviewing content of generated 2D drawing. If any problematic area is found, users should check if the model is prepared according to section 5 and revise the model if necessary.

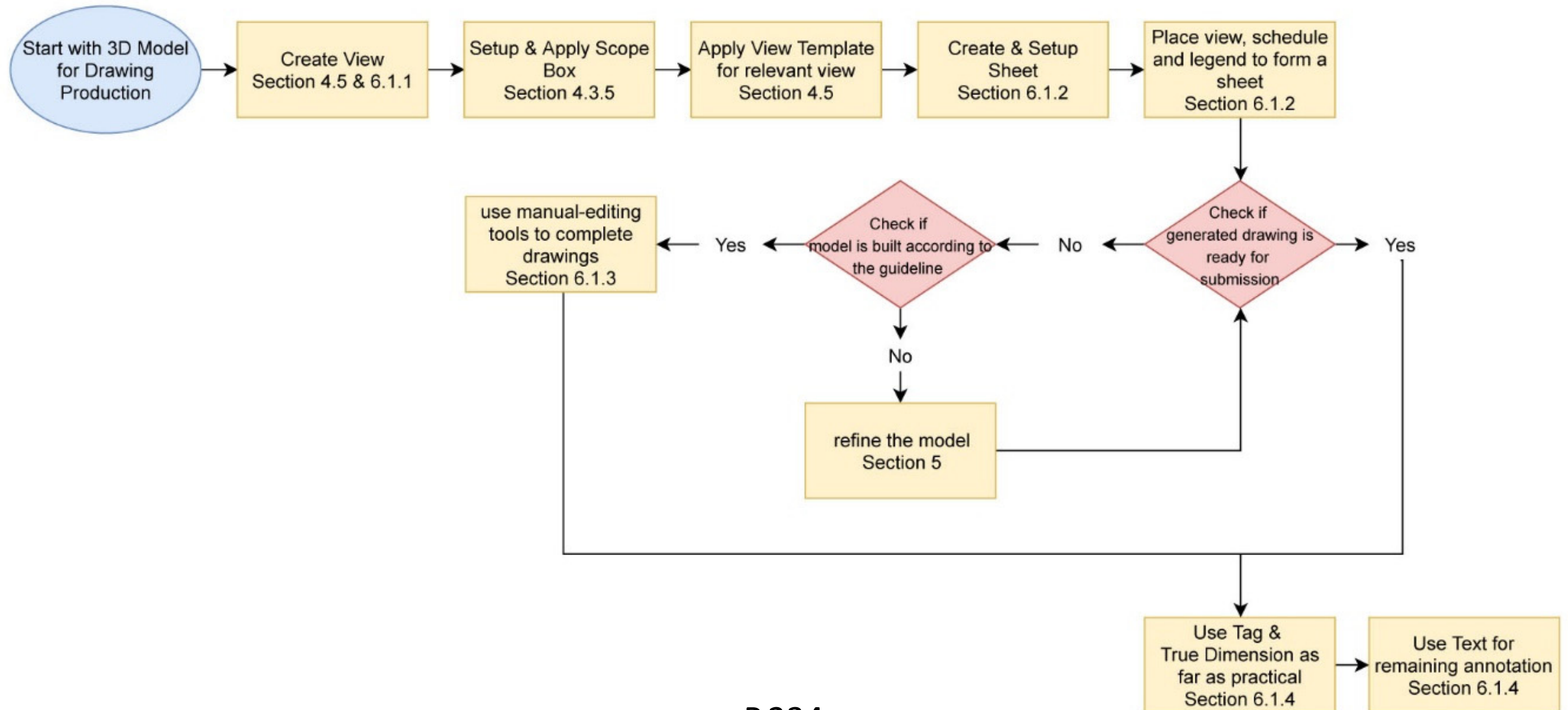
## 6.1 DRAWING PRODUCTION – GENERAL

- On assumption that the model is properly built according to this guideline, users can then use the manual-editing tools according to Section 6.1.5 – 6.1.8 to complete the drawings. Due to software constraint, manual-editing works can be minimized but cannot be fully eliminated. This includes line works representing slab edge above.
- Next annotate the drawing. Use “tag” and true dimension as much as practical. A number of commonly used “tag” is provided under the template file. Please refer to section 6.3 & 6.5 for details. Please also refer to section 6.1.9 & 6.1.11 for procedure of adding annotation. For annotation that cannot be presented by “tag”, use command “text” to complete the drawing. Please refer to section 6.1.10 for details.



## 6.1 DRAWING PRODUCTION – GENERAL

This is typical workflow of BIM drawing production.



# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.1 View Setup – Create “Area Plan View”

1 Click “Architecture”

2 Click “Area”

3 Click “Area Plan”

4 Select “GFA”\*

5 Click first item

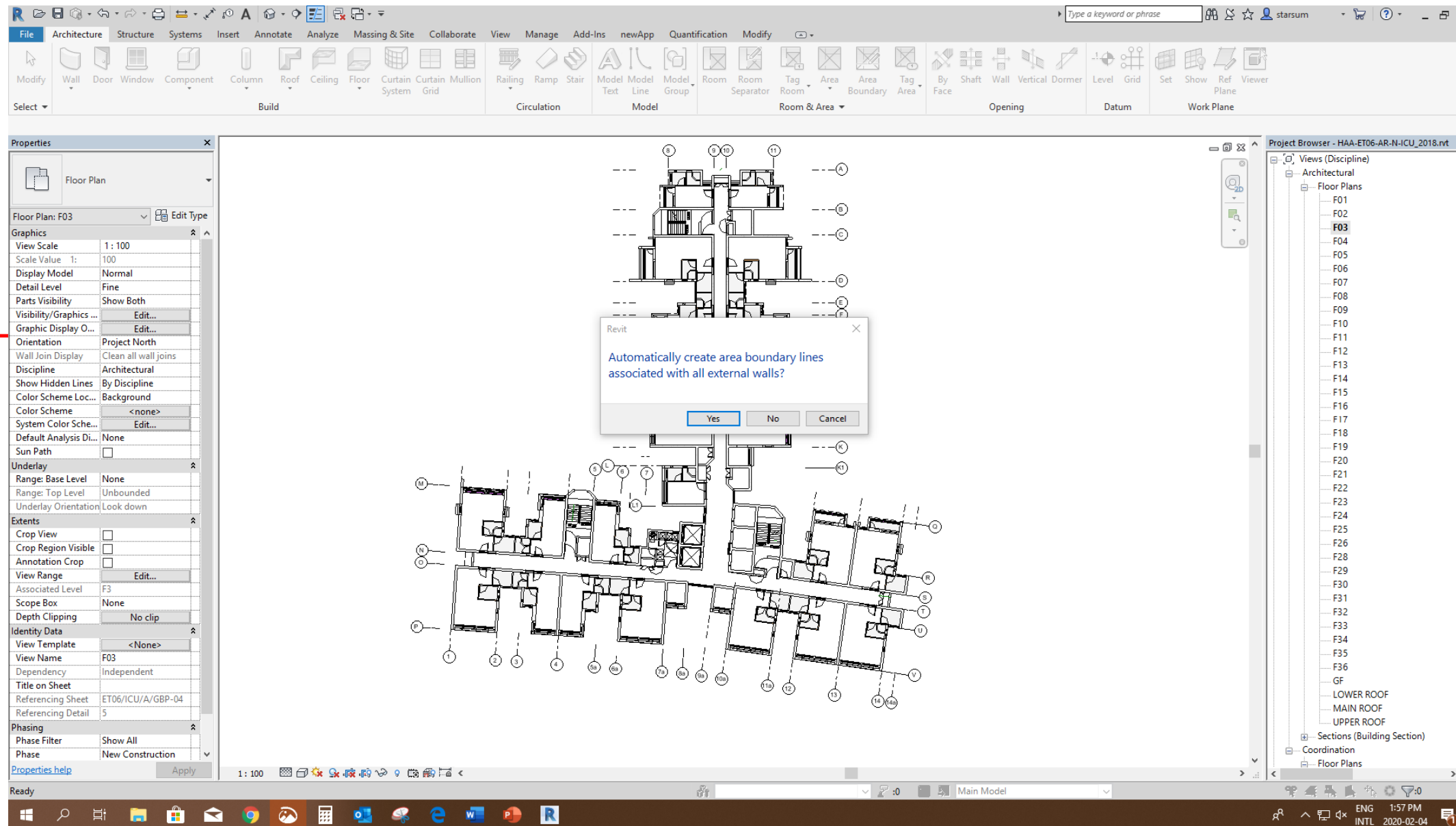
6 Press and hold keyboard “shift” key, click last item. This select all items

7 Click “OK”

# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.1 View Setup – Create “Area Plan View”

1 Confirm No



## 6.1 DRAWING PRODUCTION – GENERAL

### 6.1.1 View Setup – Create “Area Plan View”

1 Create other area plans as below:

2 Refer to the table to select area type and level

Area Type:	Select which level(s)?:	Automatic Create Area Boundary?	Remark
Non-Accountable GFA	All Levels	No	Lift Shaft should be drawn here
Site Coverage	Level above 15m with largest coverage	No	
Site Area	Lowest Level	No	
FRC	All Levels	No	
Greenery	Level with Greenery	No	
Open Space	Level demarcating Open Space	No	
Permeability - Street Canyon	Level representing Low, Middle, High Zone	No	

# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.2 View Setup – Create “Area Boundary”

1 Double click any Area Plan (GFA)

2 Click “Architecture”

3 Click “Area Boundary”

Area Boundary  
Defines boundaries for areas.  
Press F1 for more help

Area Plan  
GFA

Area Plan: GFA of domestic and non-domestic

Graphics

View Scale: 1:100

Scale Value: 1:100

Display Model: Normal

Detail Level: Medium

Parts Visibility: Show Original

Visibility/Graphics: Edit...

Graphic Display Options: Edit...

Orientation: Project North

Wall Join Display: Clean all wall joins

Discipline: Coordination

Show Hidden Lines: By Discipline

Color Scheme Location: Background

Color Scheme: Scheme 1

System Color Scheme: Edit...

Default Analysis Discipline: None

Sun Path:

Underlay

Range: Base Level: F2

Range: Top Level: F3

Underlay Orientation: Look down

Extents

Crop View:

Crop Region Visible:

Annotation Crop:

View Range: Edit...

Associated Level: F3

Scope Box: None

Column Symbolic: 304.8

Depth Clipping: No clip

Identity Data

View Template: <None>

View Name: GFA of domestic and non-domestic

Dependency: Independent

Title on Sheet

Referencing Sheet: ET06/ICU/A/GBP-04

Referencing Detail: 5

Phasing

Phase Filter: Show All

Project Browser - HAA-ET06-AR-N-ICU\_2018.rvt

- 200\_G/F\_GFA CALCULATION\_GI
- 200\_LOWER ROOF\_GFA CALCULATION
- 200\_MAIN ROOF\_GFA CALCULATION
- ACOUSTIC WINDOW 1 (GBP-20)
- ACOUSTIC WINDOW (GBP-20)
- Canopy
- F1
- F4
- PLAN OF ACOUSTIC WINDOW (TYPICAL ELEVATION 1 OF ACOUSTIC WINDOW (GBP-20))
- Area Plans (DOMESTIC GFA F1 TO L1)
- 100\_F01 Sacle 1\_200 (DRAFT)
- 200\_F1-F34\_GFA CALCULATION
- 200\_LOWER ROOF\_GFA CALCULATION
- 200\_LOWER ROOF\_GFA CALCULATION
- F01 (GBP-11) TYPE A-1(b) (HAI)
- F01 (GBP-11) TYPE C-2(c) F1-F
- F01 (GBP-11) TYPE C-2(c) (HAI)
- Area Plans (DOMESTIC GFA OF GRC)
- Area Plans (FRC)
- Area Plans (GFA)
- GFA of domestic and non-domestic
- MAIN ROOF
- UPPER ROOF
- Area Plans (Gross Building)
- Area Plans (Site Area)
- Area Plans (Site Coverage)
- Area Plans (Site Coverage Area of D)
- Area Plans (UFA)
- Legends
- Schedules/Quantities (all)
- Sheets (Sheet Prefix)
- ET06
- ET06/ICU/A/GBP-01 - GENERAL NC
- ET06/ICU/A/GBP-02 - SCHEDULE 8
- ET06/ICU/A/GBP-03 - MASTER LAY
- ET06/ICU/A/GBP-04 - EVA PLAN &
- ET06/ICU/A/GBP-05 - SITE LAYOUT
- ET06/ICU/A/GBP-06 - CALCULATIO
- ET06/ICU/A/GBP-07 - SITE ELEVATI
- ET06/ICU/A/GBP-08 - SITE ELEVATI
- ET06/ICU/A/GBP-09 - GROUND FLU
- ET06/ICU/A/GBP-10 - FIRST FLOOR
- ET06/ICU/A/GBP-11 - TYPICAL FLC
- ET06/ICU/A/GBP-12 - MAIN ROOF

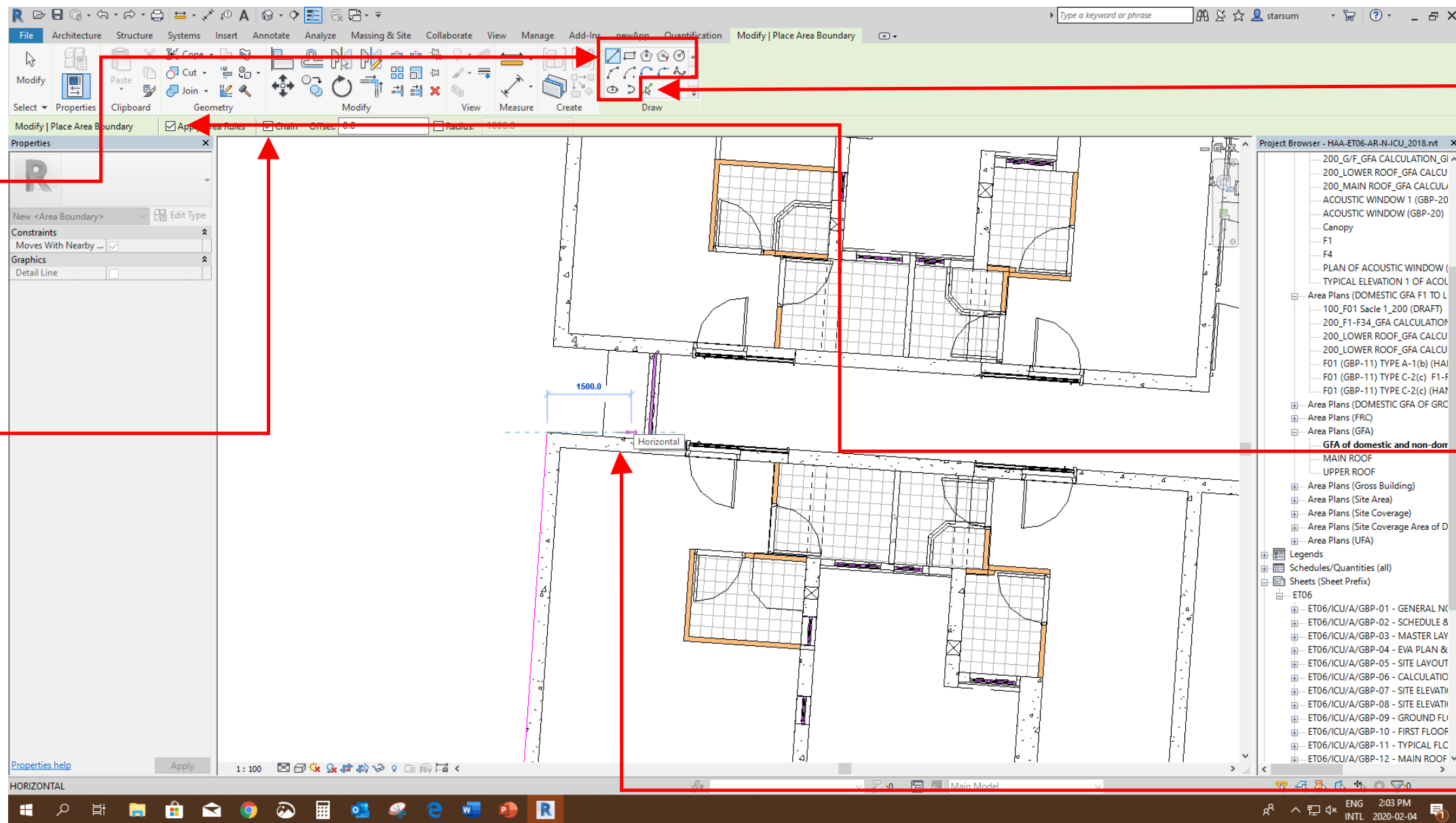


# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.2 View Setup – Create “Area Boundary”

1a Click any 1 tool to draw line

2a Turn on to draw continuous lines



1b or click here to pick line from plan

2b Turn off to pick any line. Turn on to pick room boundary object, e.g. wall, column, room separator etc.

3 Click to draw/pick line

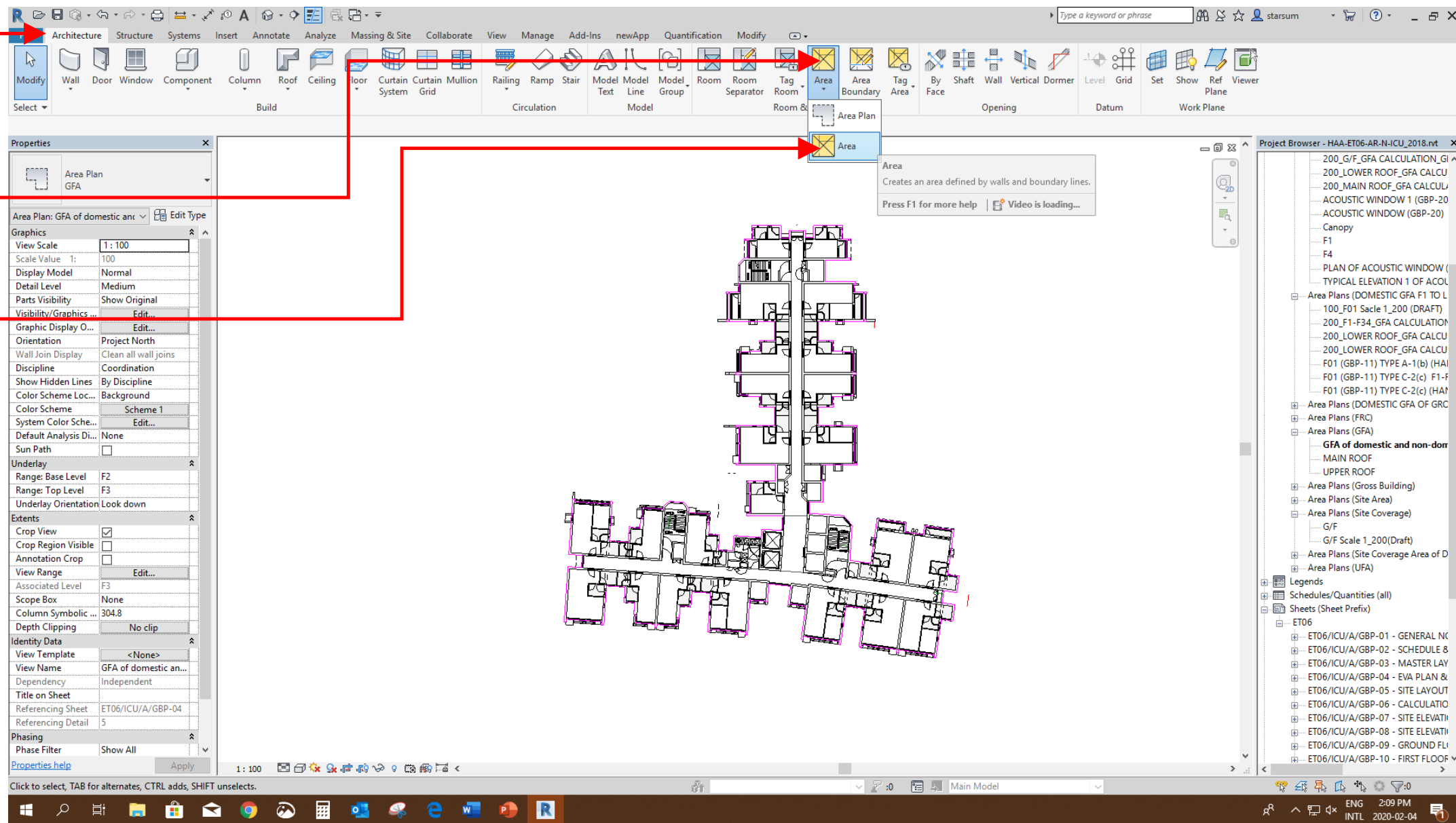
# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.3 View Setup – Create “Area”

1 Click  
“Architecture”

2 Click “Area”

3 Click “Area”



# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.3 View Setup – Create “Area”

1 Select M\_Area\_Tag\_ID

2 Click any point within area boundary

The screenshot shows the Revit interface with the 'Modify | Place Area' ribbon active. The 'Tag on Placement' button is highlighted with a blue circle and a '1'. A callout box on the left points to this button with the text '1 Select M\_Area\_Tag\_ID'. The main view is a floor plan of a building with a red boundary. A callout box on the right points to a point on this boundary with the text '2 Click any point within area boundary'. The Properties panel on the left shows the 'ANN-HAA-Area\_Tag\_2.5mm(OS)' tag. The Project Browser on the right shows a tree view of the project, including 'Area Plans (DOMESTIC GFA F1 TO L...)' and 'Area Plans (GFA)'. The status bar at the bottom shows '1: 100' and 'Main Model'.

# 6.1 DRAWING PRODUCTION – GENERAL

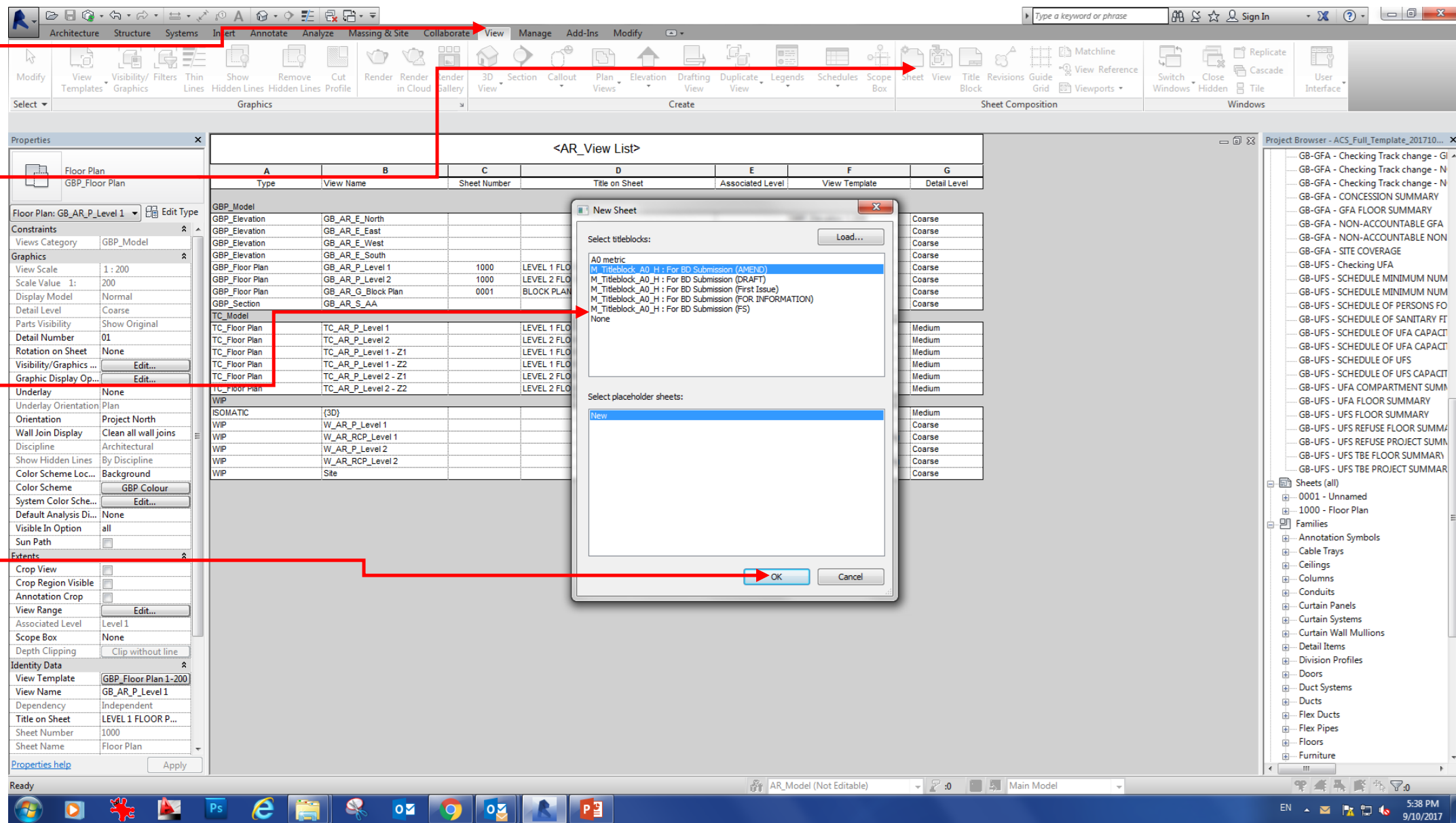
## 6.1.4 Create Sheet

1 Click  
“View”

2 Click  
“Sheet”

3 Select title  
block. Load  
your title  
block if  
necessary

4 Click “OK”

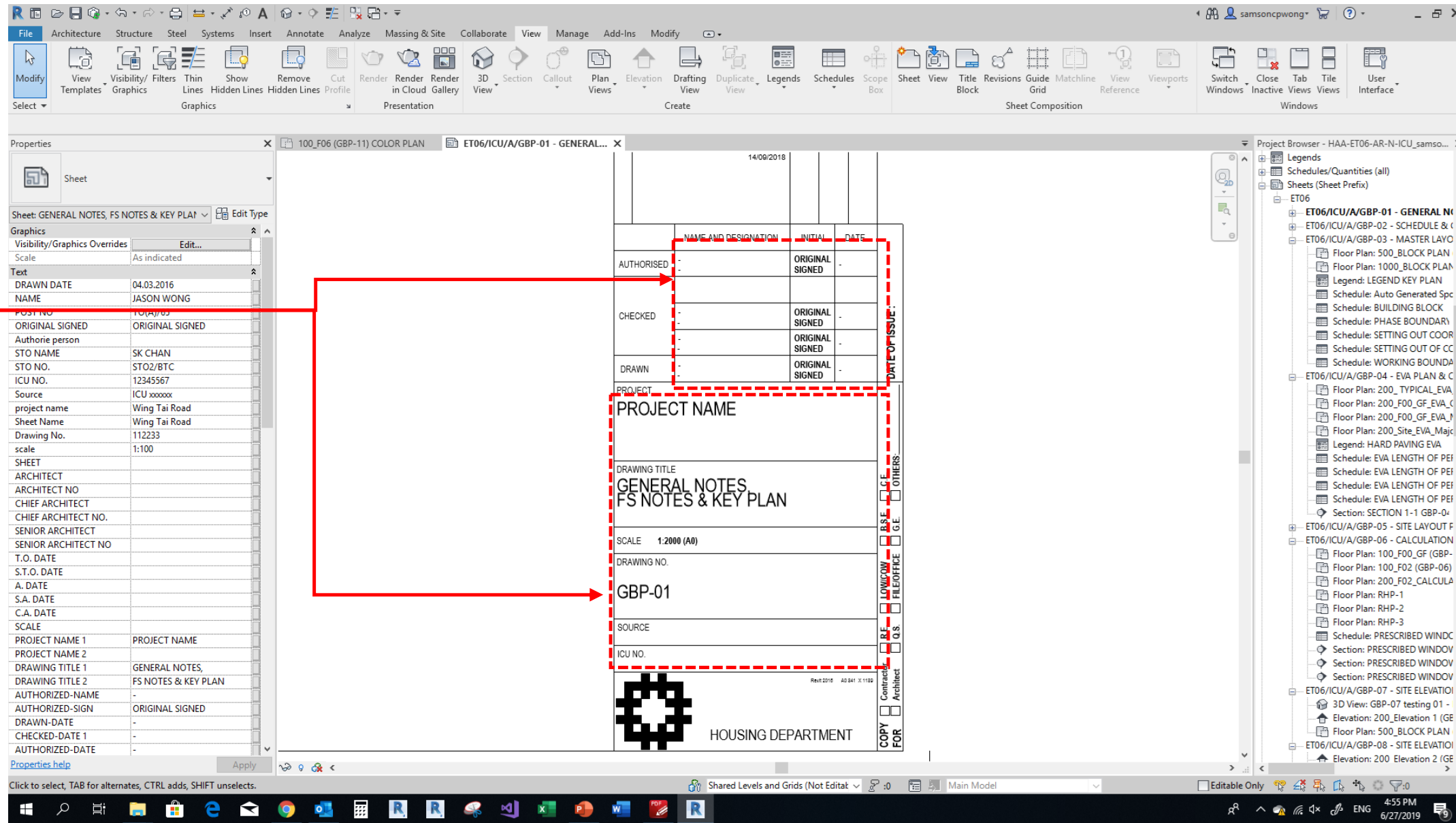




# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.4 Create Sheet

1 Click to modify

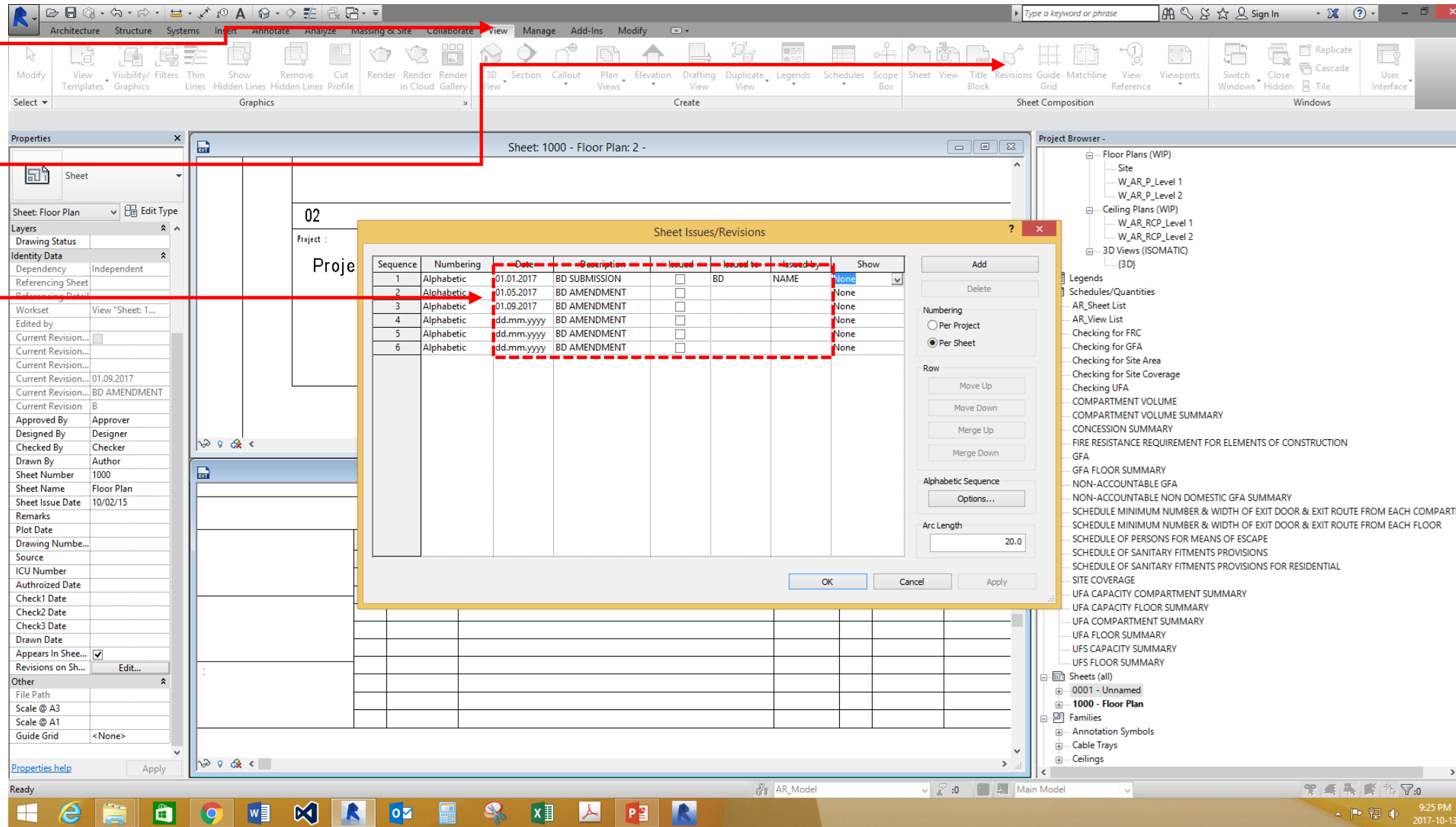




# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.4 Create Sheet

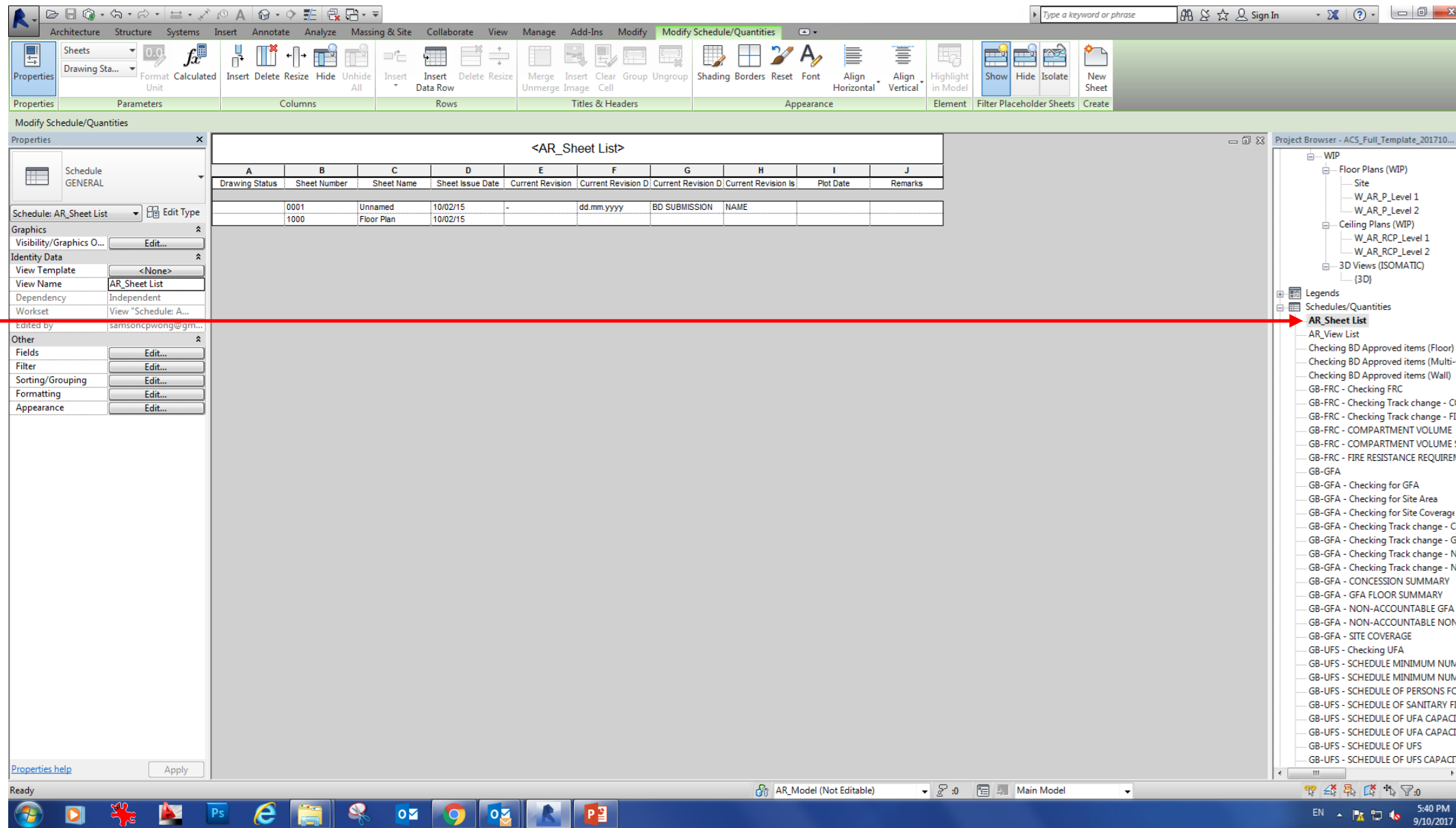
- 1 Click "View"
- 2 Click "Revisions"
- 3 Edit



# 6.1 DRAWING PRODUCTION – GENERAL

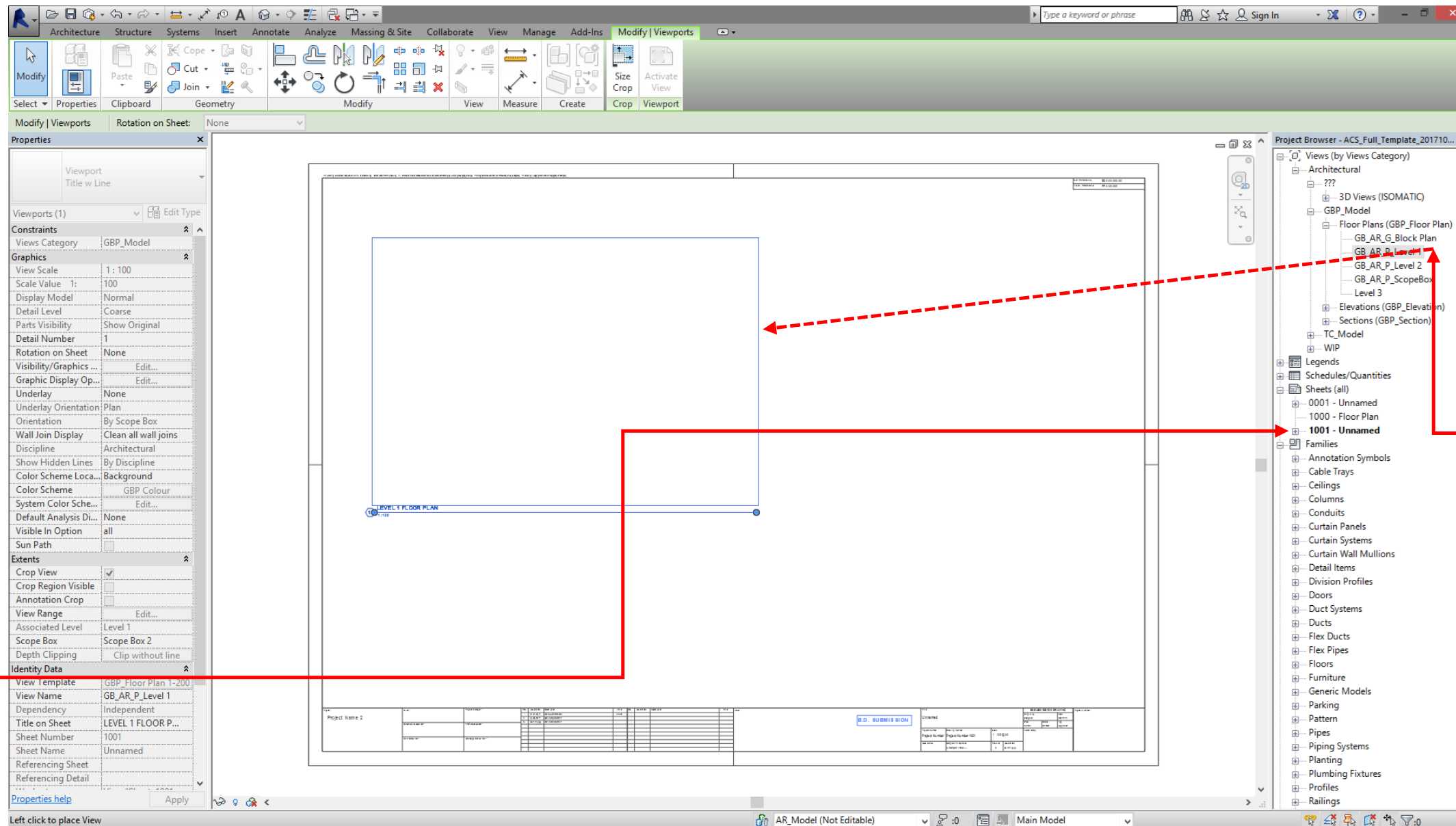
## 6.1.4 Create Sheet

1 Automatic sheet list



# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.4 Create Sheet



1 Go to sheet view

2 Drag and drop a content to sheet. Commonly required notes, legends & schedules are provided in template file. Please refer to section 6.3 & 6.5 and drag relevant information such as view and details etc. to form a sheet.

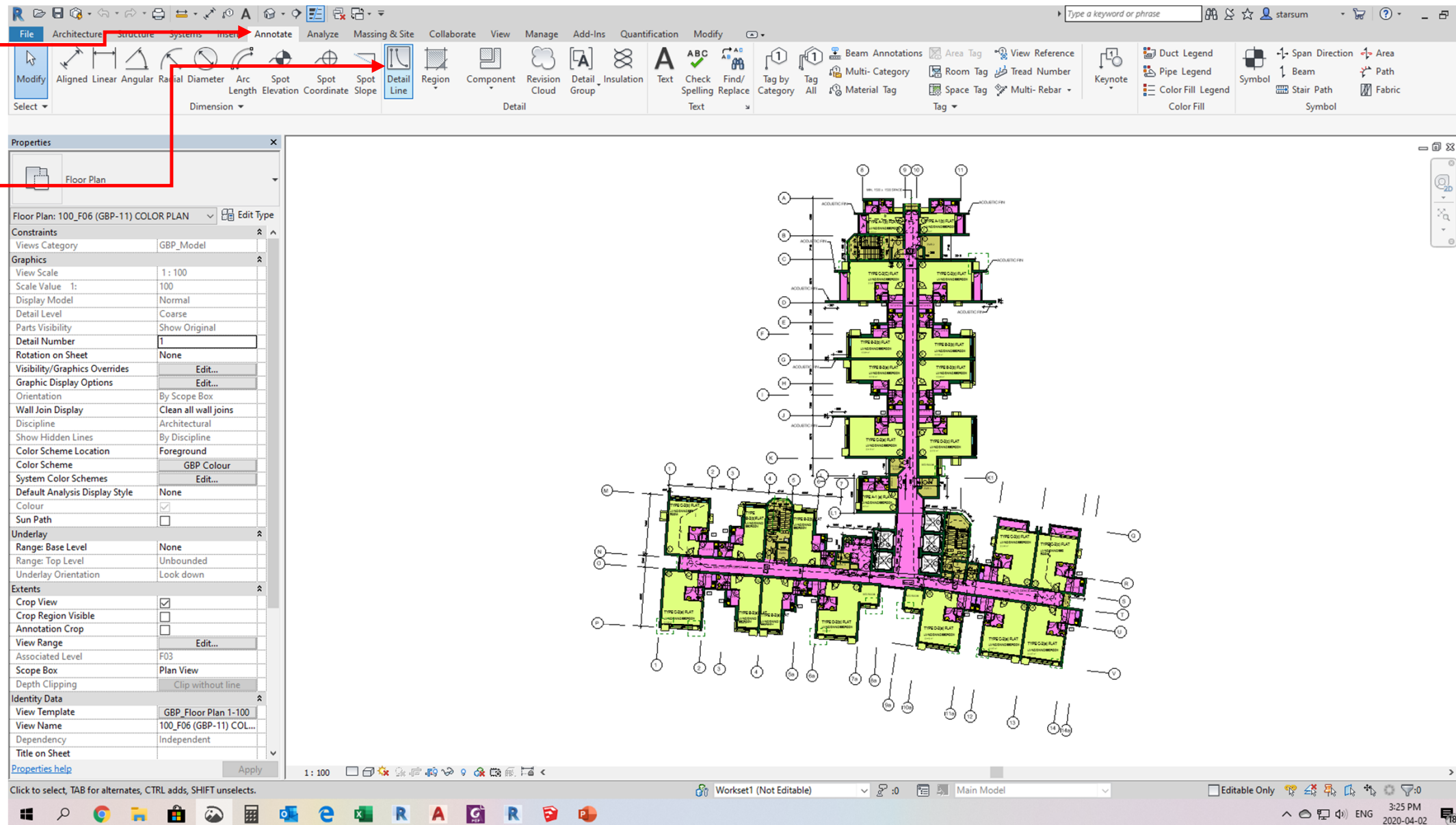
# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.5 2D Drafting Tools – 2D Detail Line

1 Click  
“Annotate”

2 Click  
“Detail Line”

3 Model line will be shown in both 3D and 2D views, Detail Line is view-specific and will only be shown in the view where it created





# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.5 2D Drafting Tools – 2D Detail Line

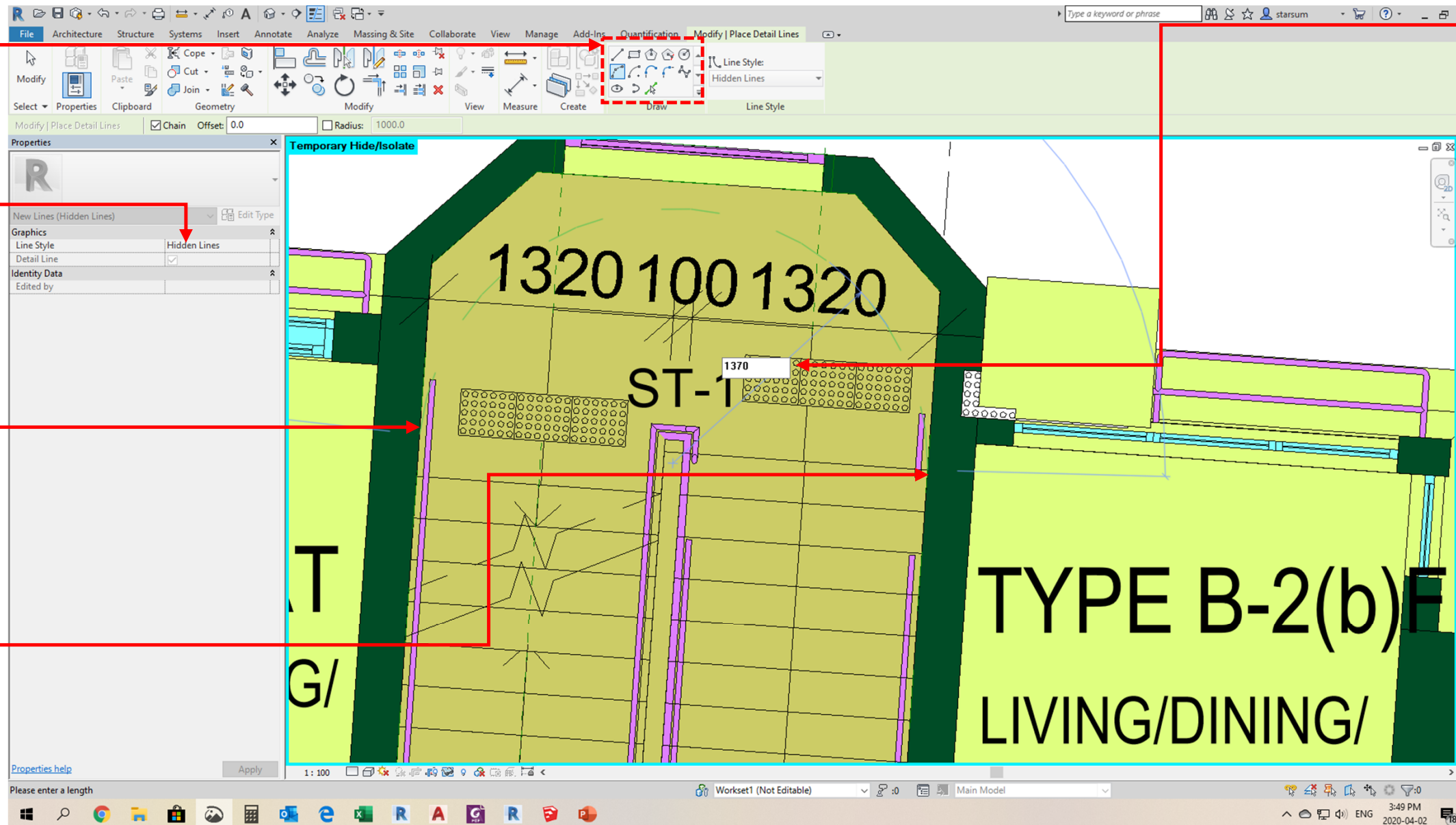
1 Draw by these tools

2 Change line type

3 Pick on screen for 1<sup>st</sup> point

4 Pick for 2<sup>nd</sup> point

5 (Optional)  
Enter Radius  
if detail line  
is an arc.





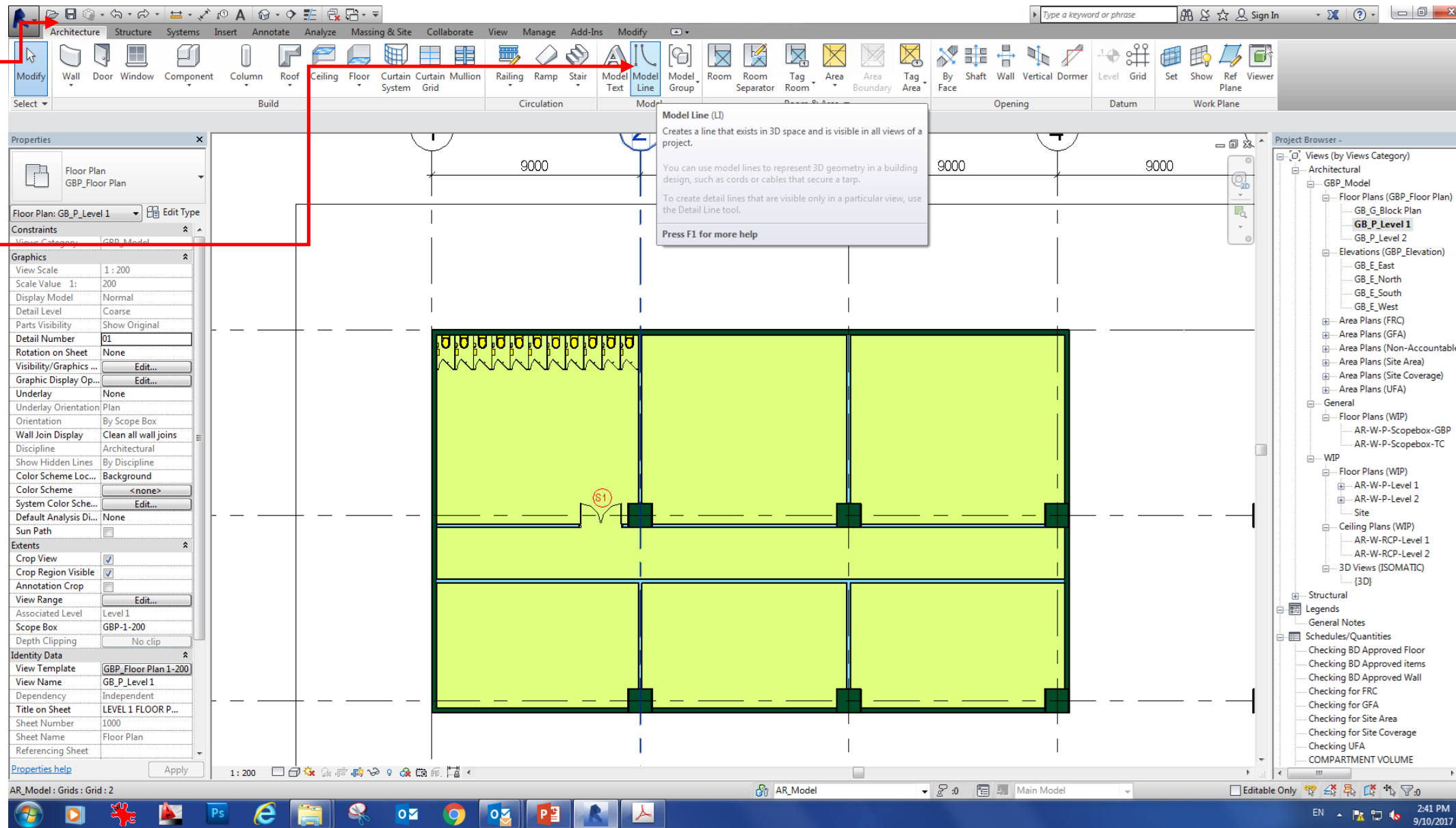
# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.6 2D Drafting Tools – 3D Model Line

1 Click  
“Architecture”

2 Click  
“Model Line”

3 Draw  
“Model Line”  
by using the  
tools similar  
to “Detail  
Line”



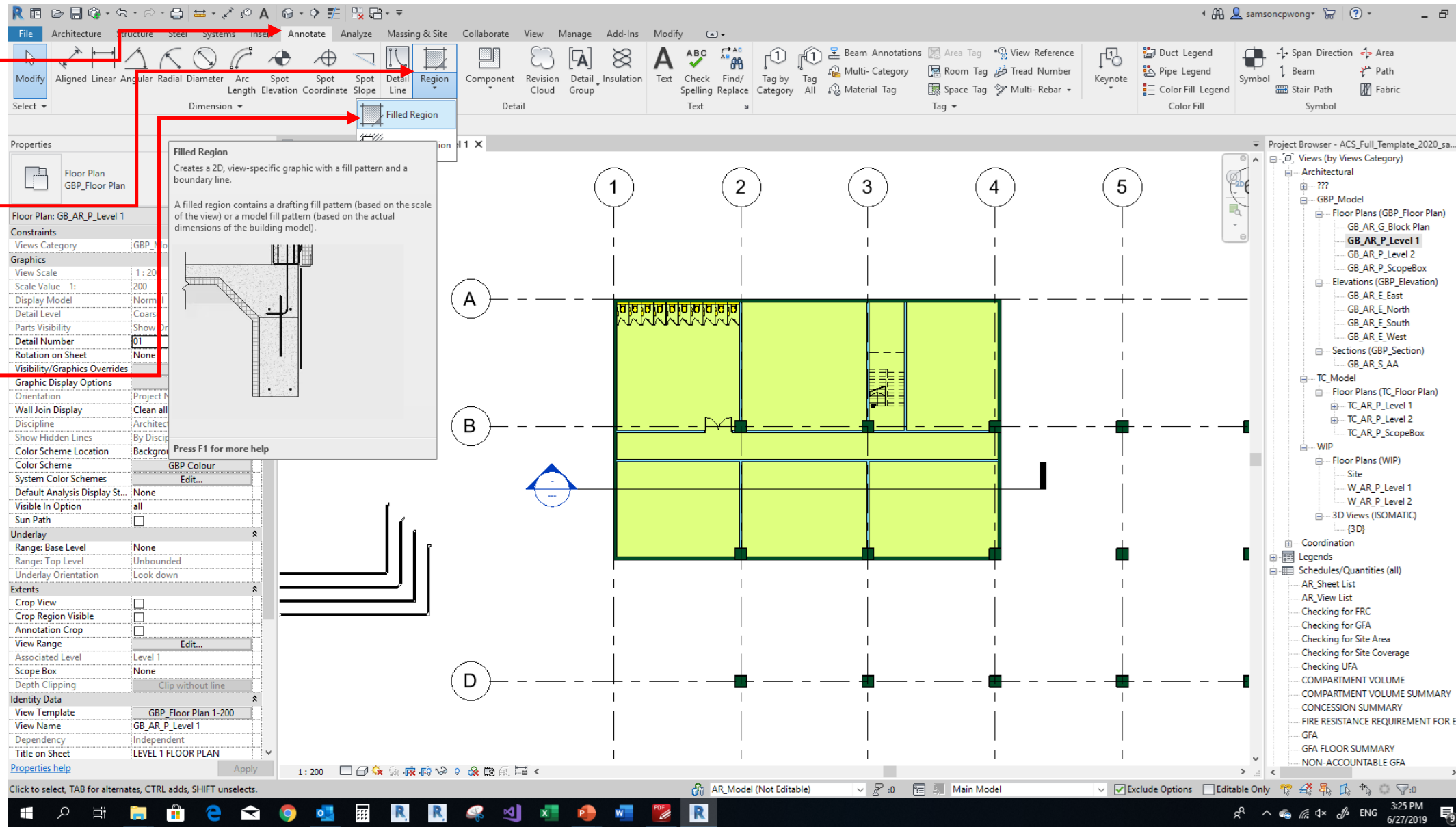
# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.7 2D Drafting Tools – Filled Region

1 Click  
“Annotate”

2 Click  
“Region”

3 Click  
“Filled  
Region”



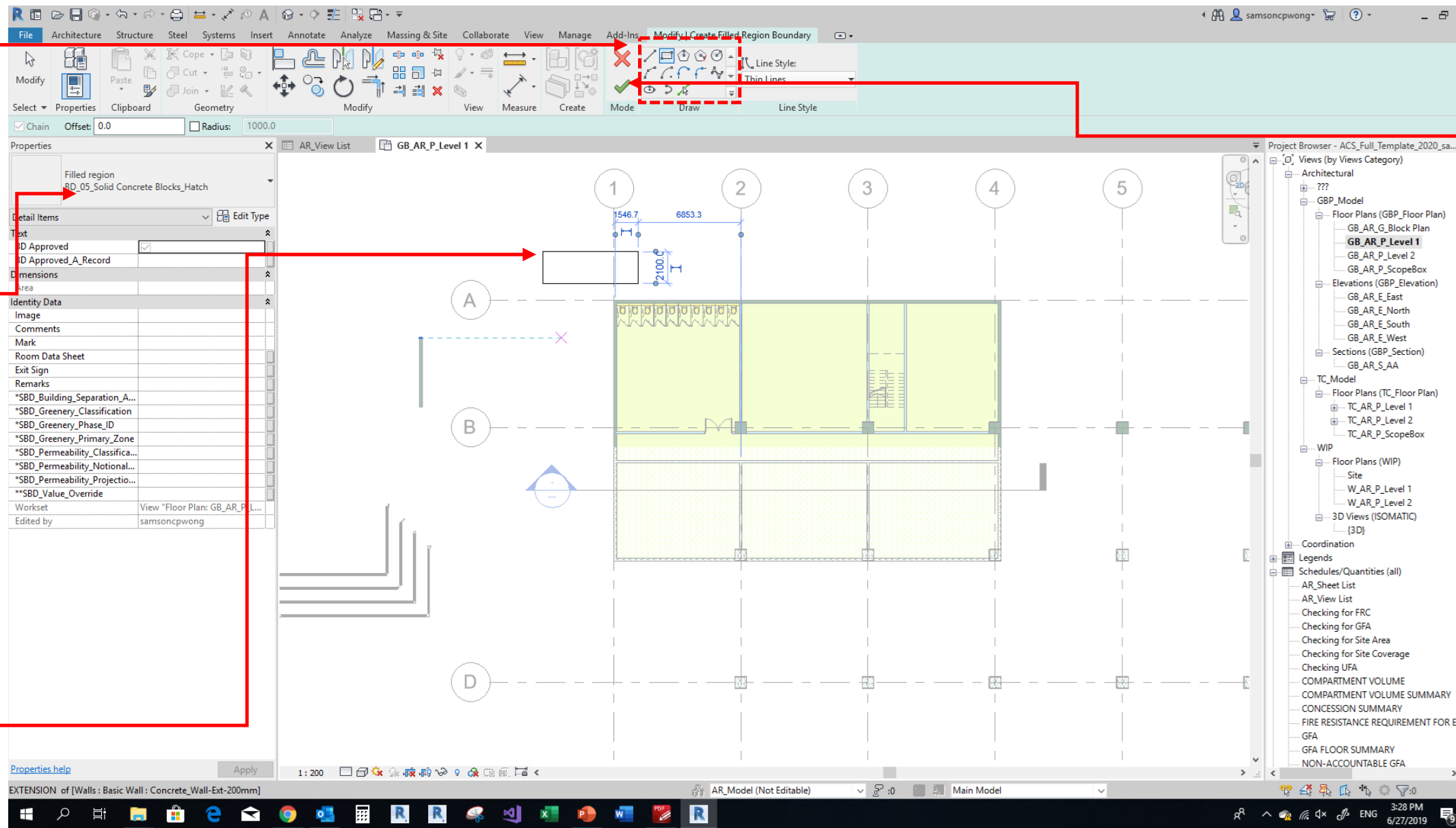
# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.7 2D Drafting Tools – Filled Region

1 Draw by these tools

2 Select type, including hatch pattern

3 Click on view to draw lines forming a complete loop

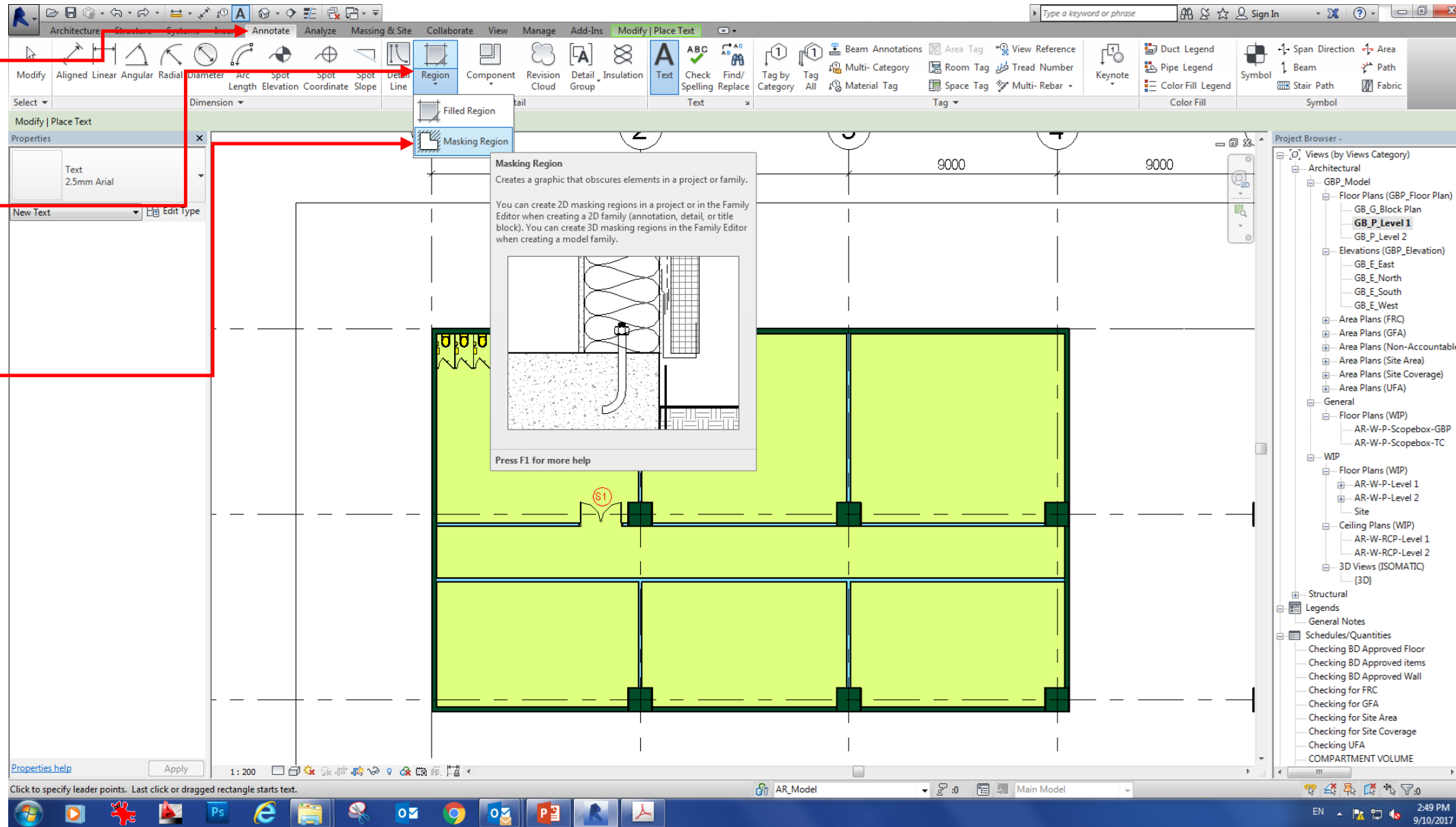


4 Click tick

# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.8 2D Drafting Tools – Masking Region

- 1 Click “Annotate”
- 2 Click “Region”
- 3 Click “Masking Region”
- 4 “Masking Region” can be used to obscure elements on a 2D view.



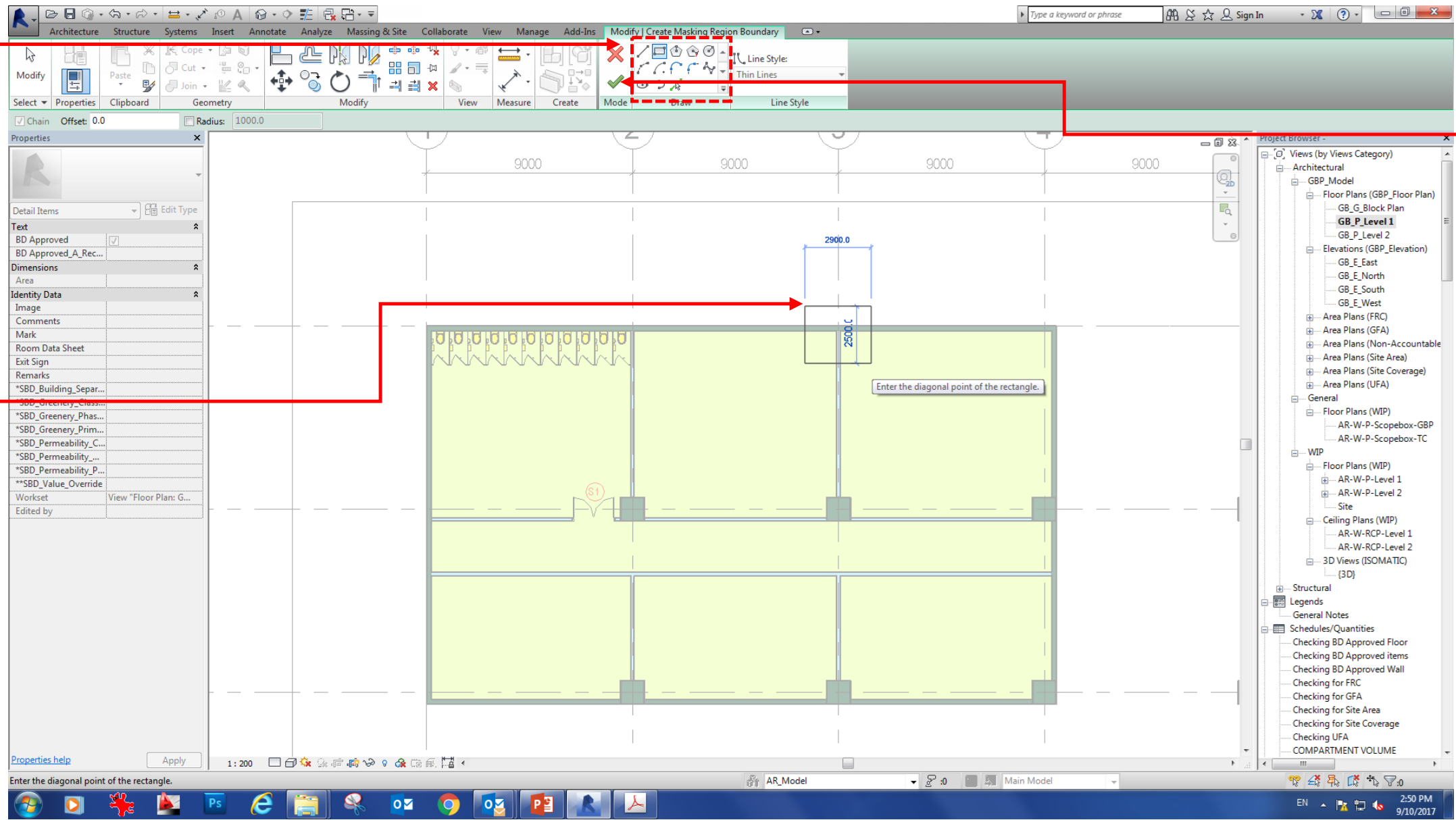
# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.8 2D Drafting Tools – Masking Region

1 Draw by these tools

2 Click on view to draw lines forming a complete loop

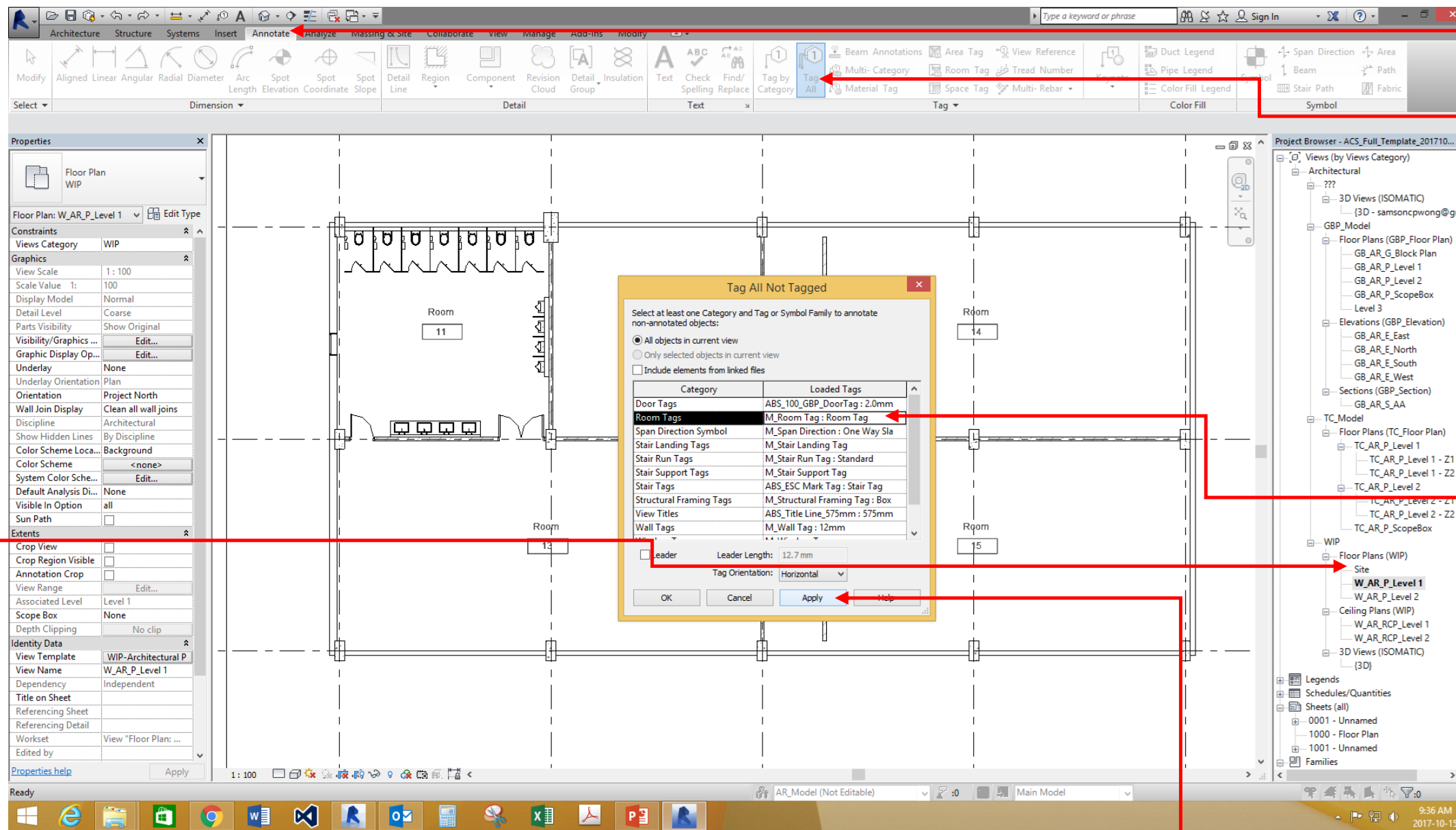
3 Click tick





# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.9 Annotation - Tag



1 Go to a view

2 Click "Annotate"

3 Click "Tag All"

4 Highlight one category, select a tag. Please refer to template manual section 6.3 & 6.5 for pre-defined tag

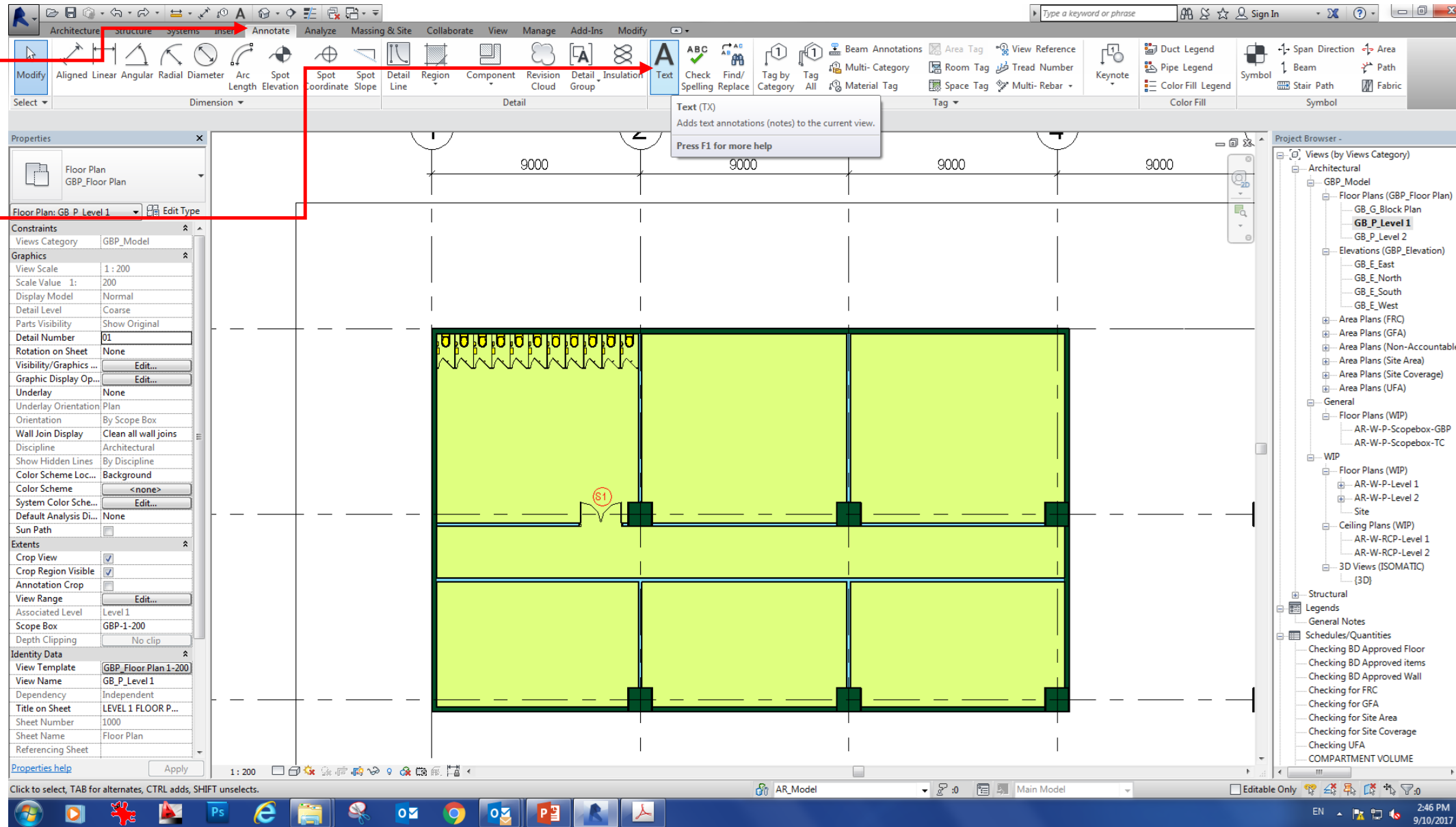
5 Click "Apply"

# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.10 Annotation - Text

1 Click  
“Annotate”

2 Click  
“Text”



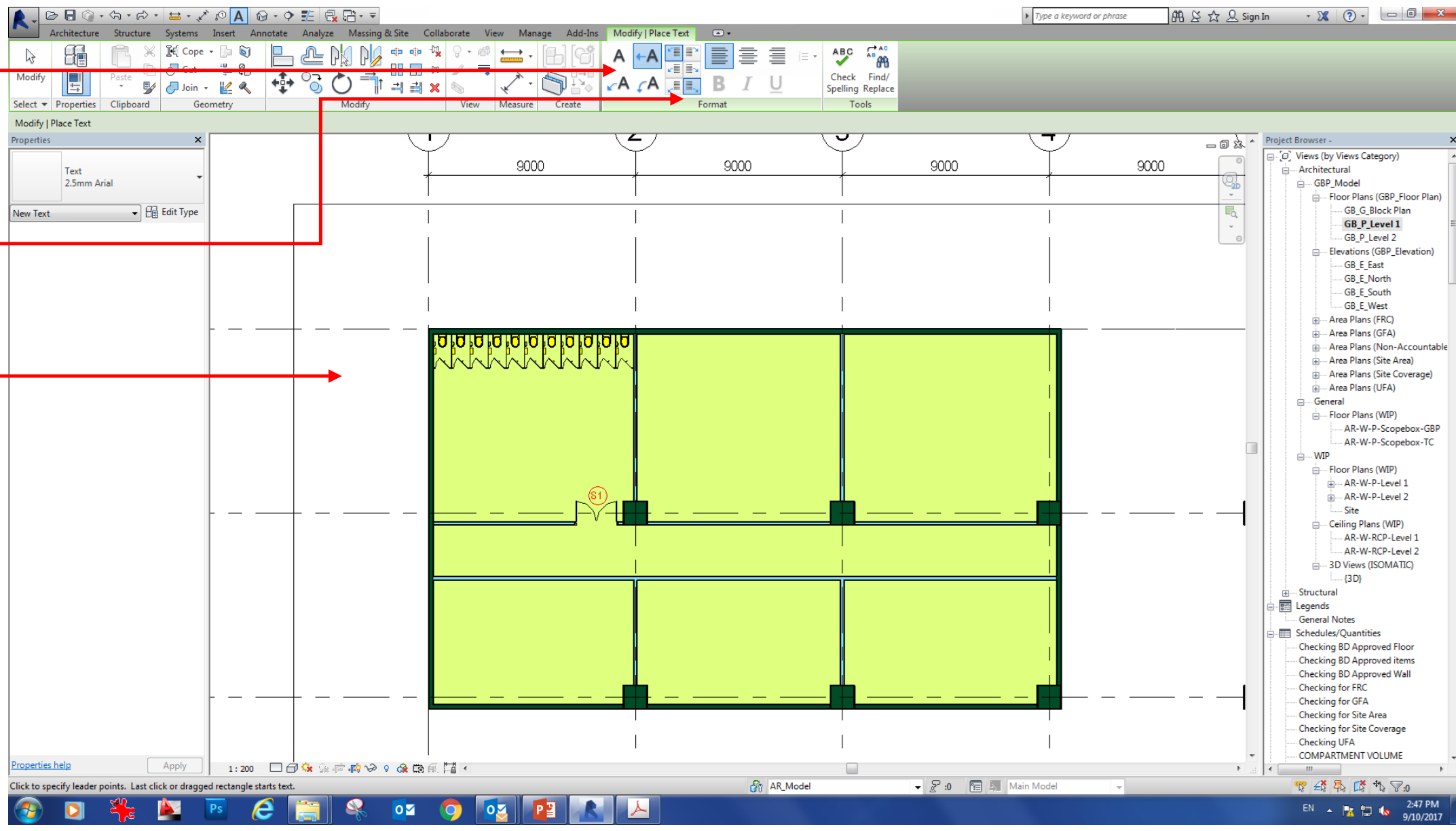
# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.10 Annotation - Text

1 with or without arrow

2 arrow on left / right

3 point(s)

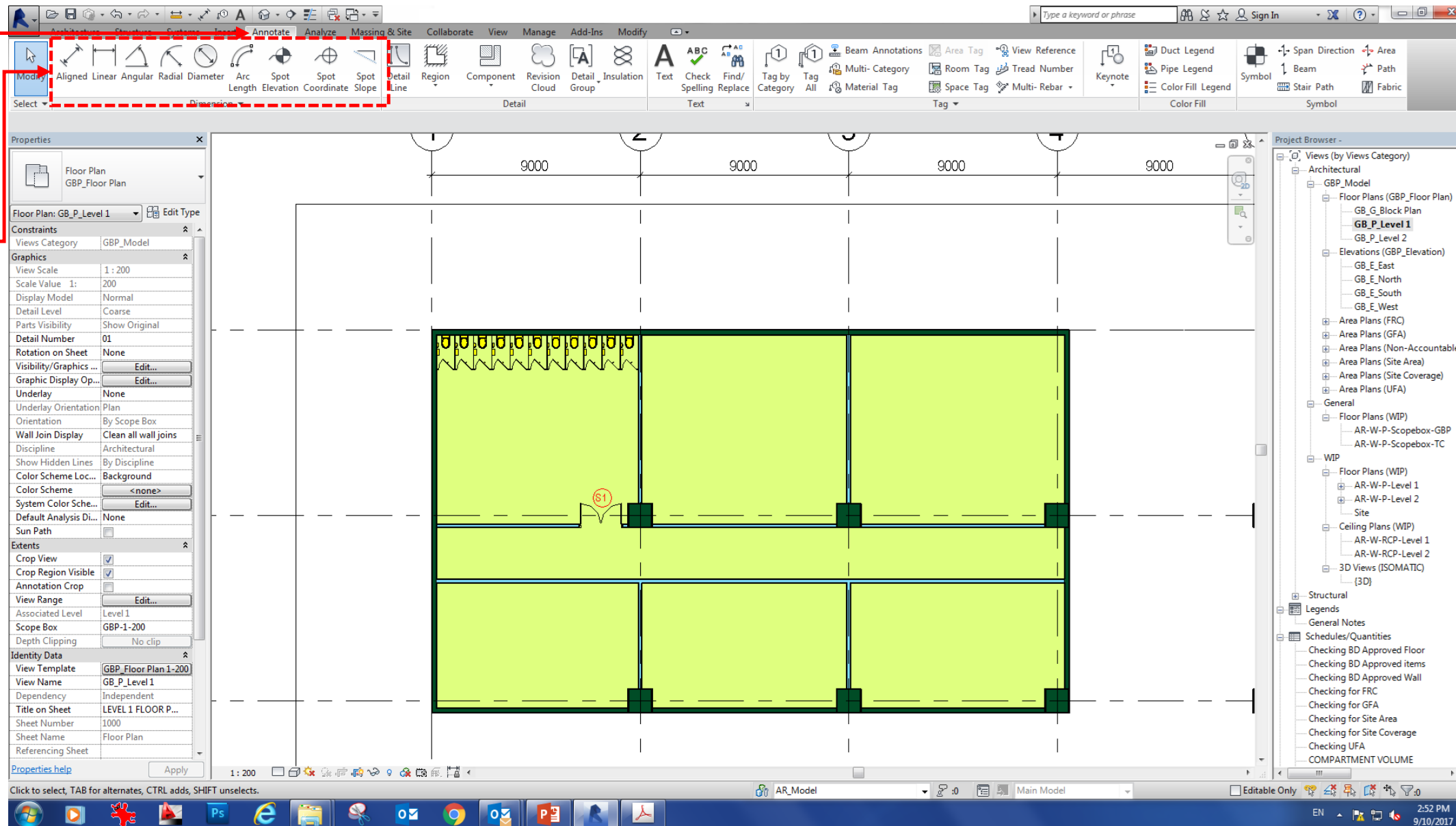


# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.11 Annotation - Dimension

1 Annotate

2 Use these tools to insert dimension



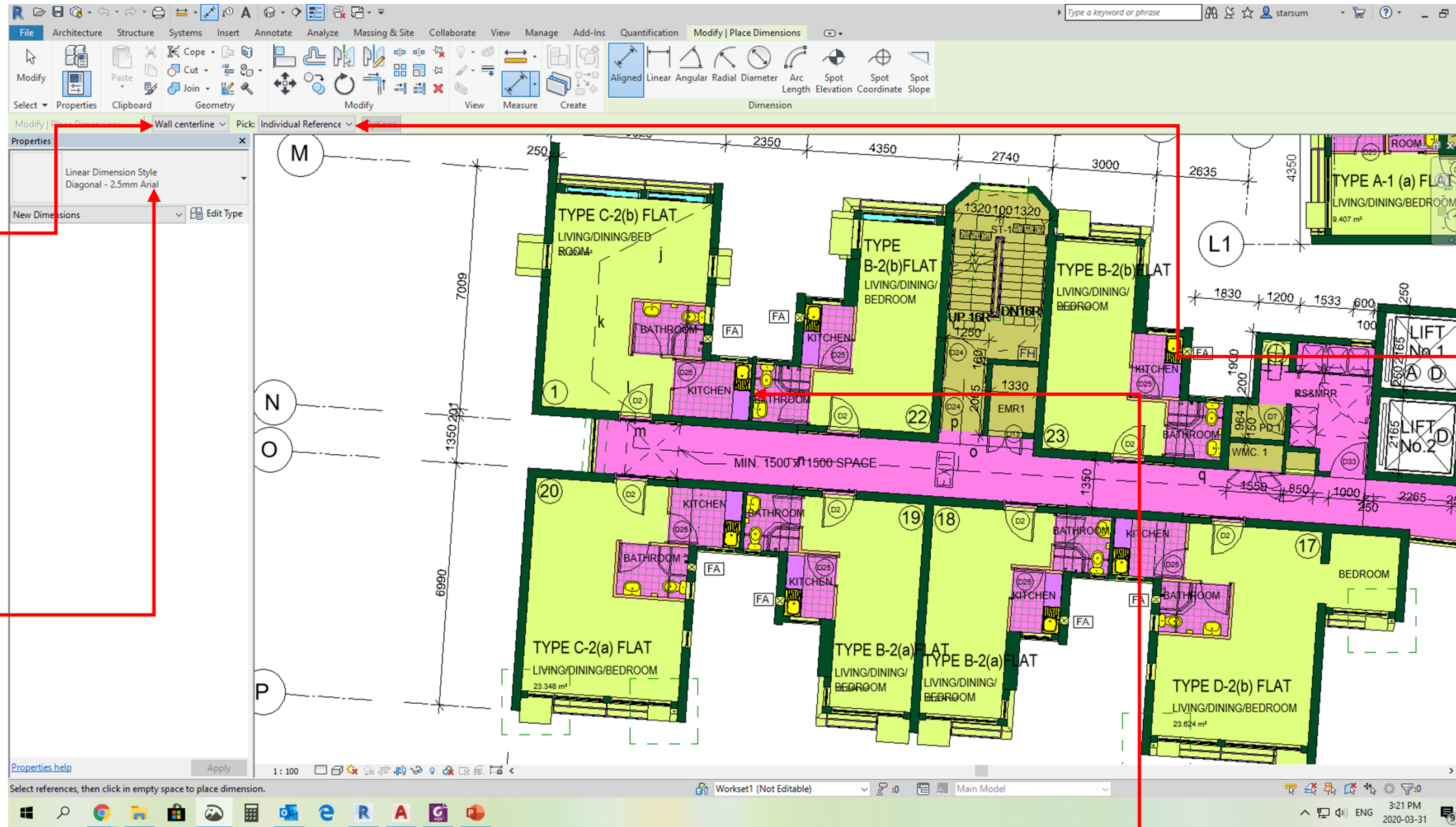


# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.11 Annotation - Dimension

1 Select dimension reference, “wall faces” & “faces of core” are appropriate in most cases

2 Select type, including font type, size, colour



3 Pick “individual references” to create dimension one by one, or pick “entire walls” to create multiple dimension by Revit logic

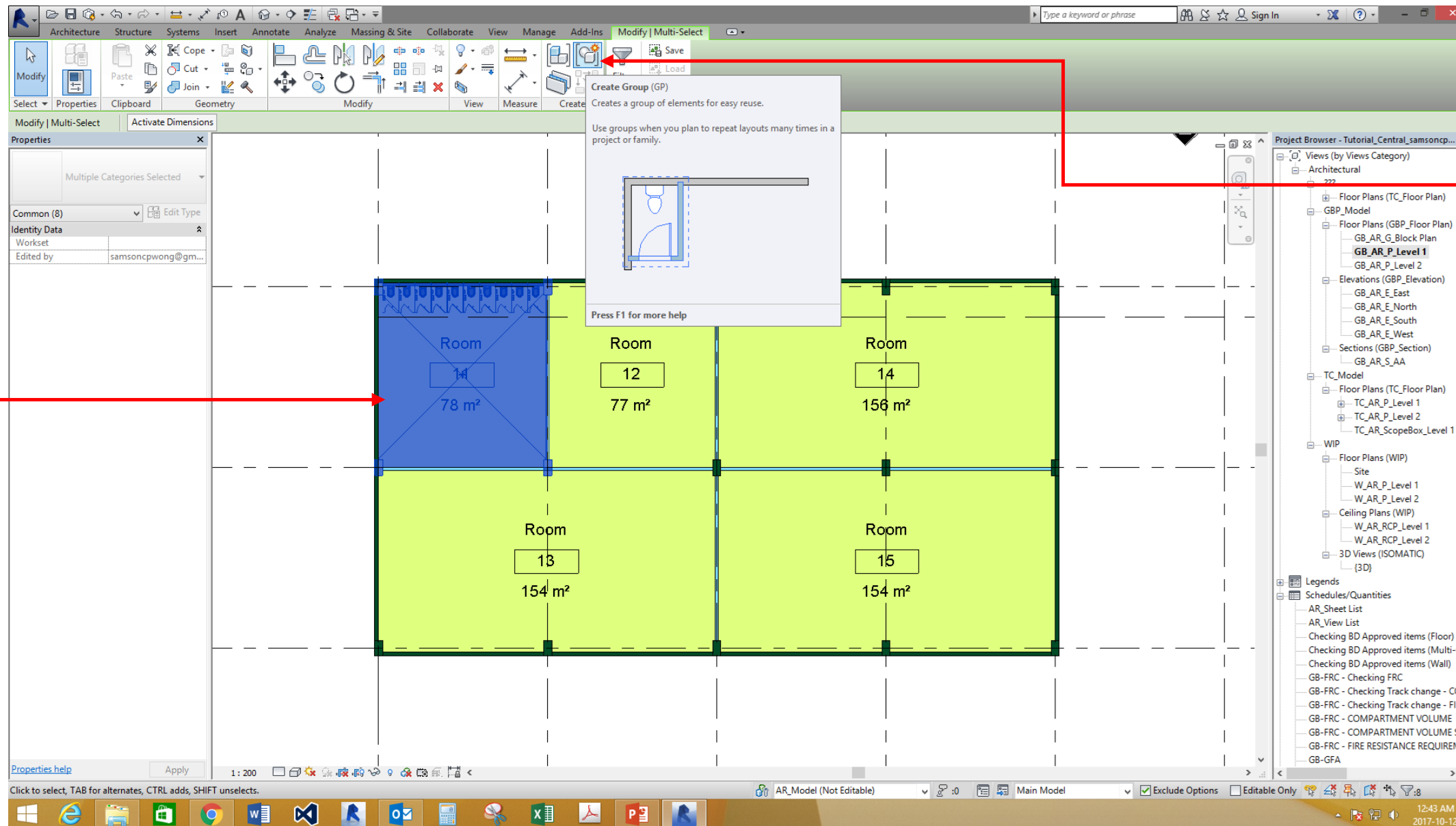
4 Pick reference(s) on view to create dimension



# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.12 Management Tools - Group

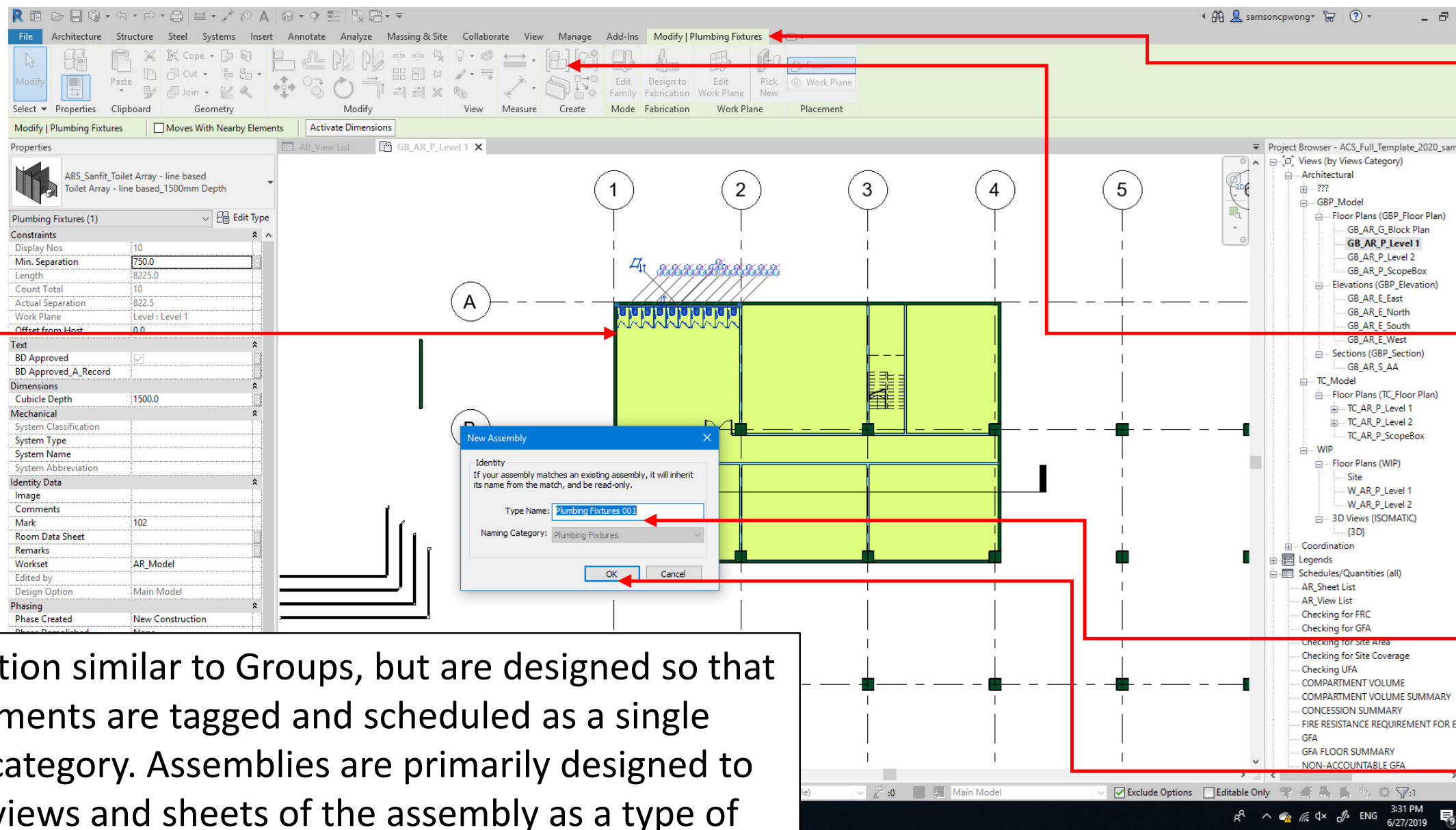
1 Select multiple objects



2 Group, which is similar to block in Autocad, use it for repeating items

# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.13 Management Tools - Assembly



1 Select multiple objects

2 Click "Modify"

3 Assembly, which is similar to block in Autocad, use it for repeating items

4 Provide name

5 Click "OK"

Assemblies function similar to Groups, but are designed so that the grouped elements are tagged and scheduled as a single unit under one category. Assemblies are primarily designed to create detailed views and sheets of the assembly as a type of shop drawing to show how the group is constructed.

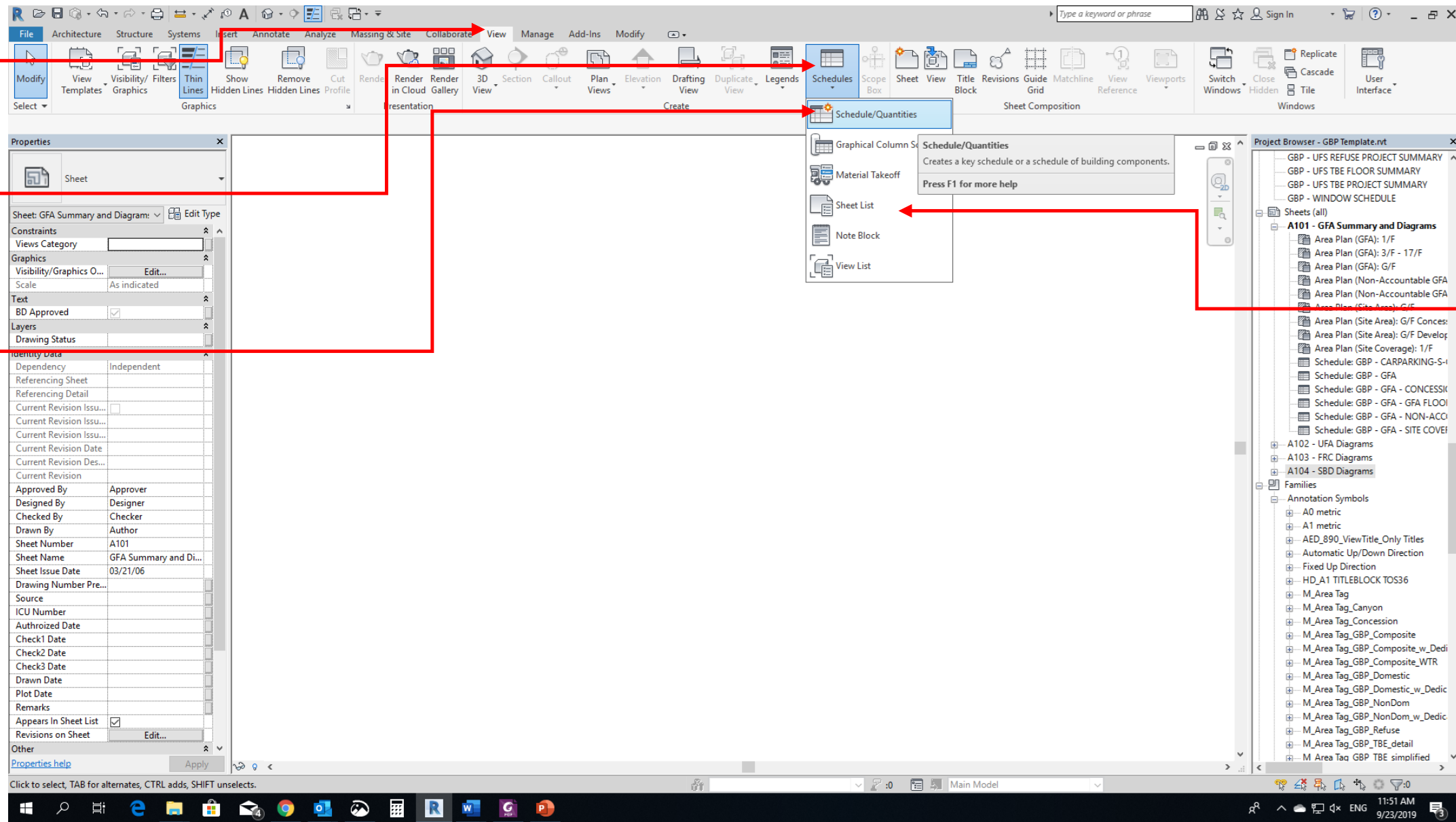
# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.14 Create Schedule

1 Select  
“View”

2 Select  
“Schedules”

3 Select  
“Schedule/  
Quantities”

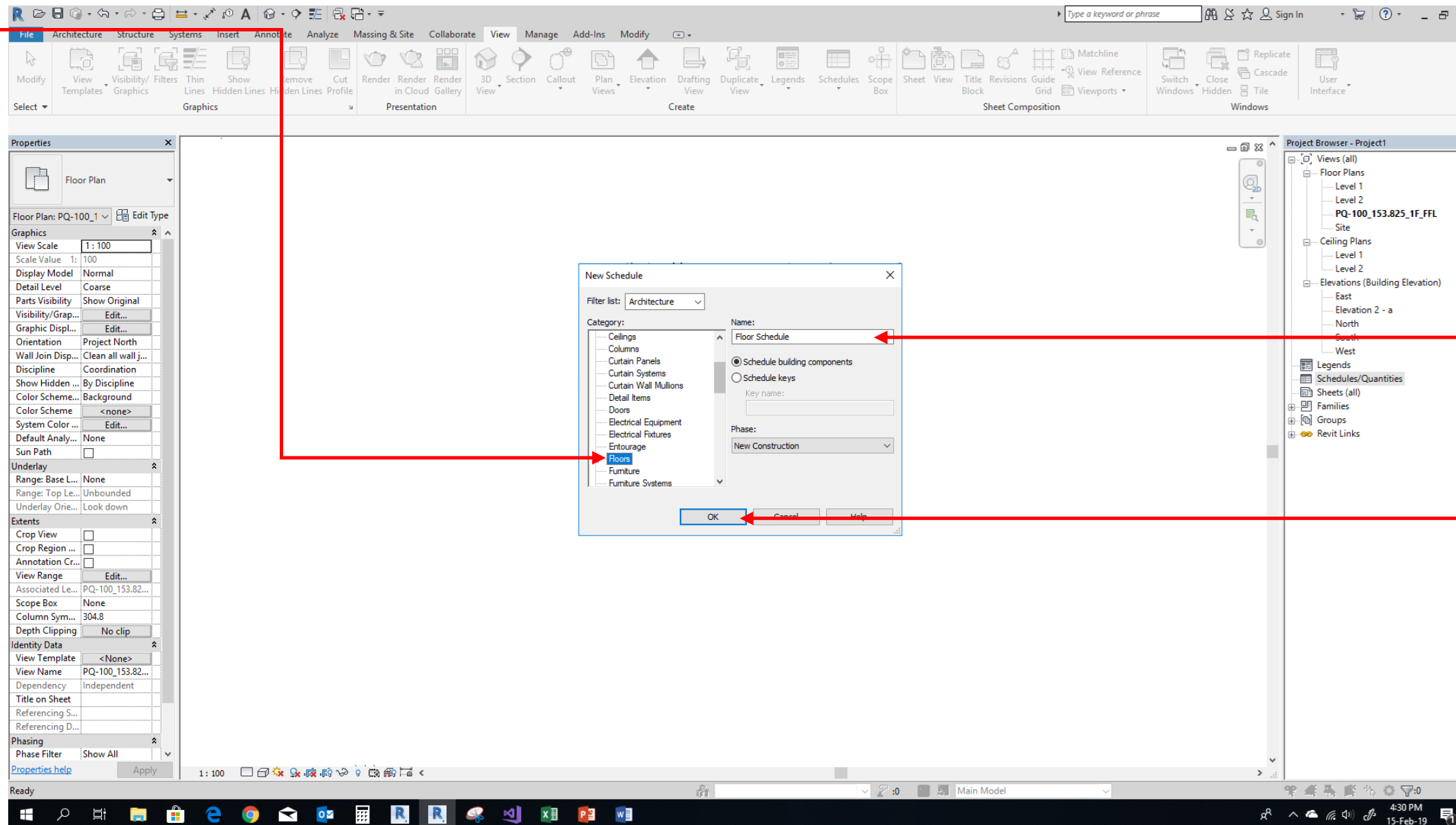


4 Note: you can use sheet list to create drawing list similar the way of creating a schedule.

# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.14 Create Schedule

1 Select category



2 Edit schedule name

3 Click "OK"

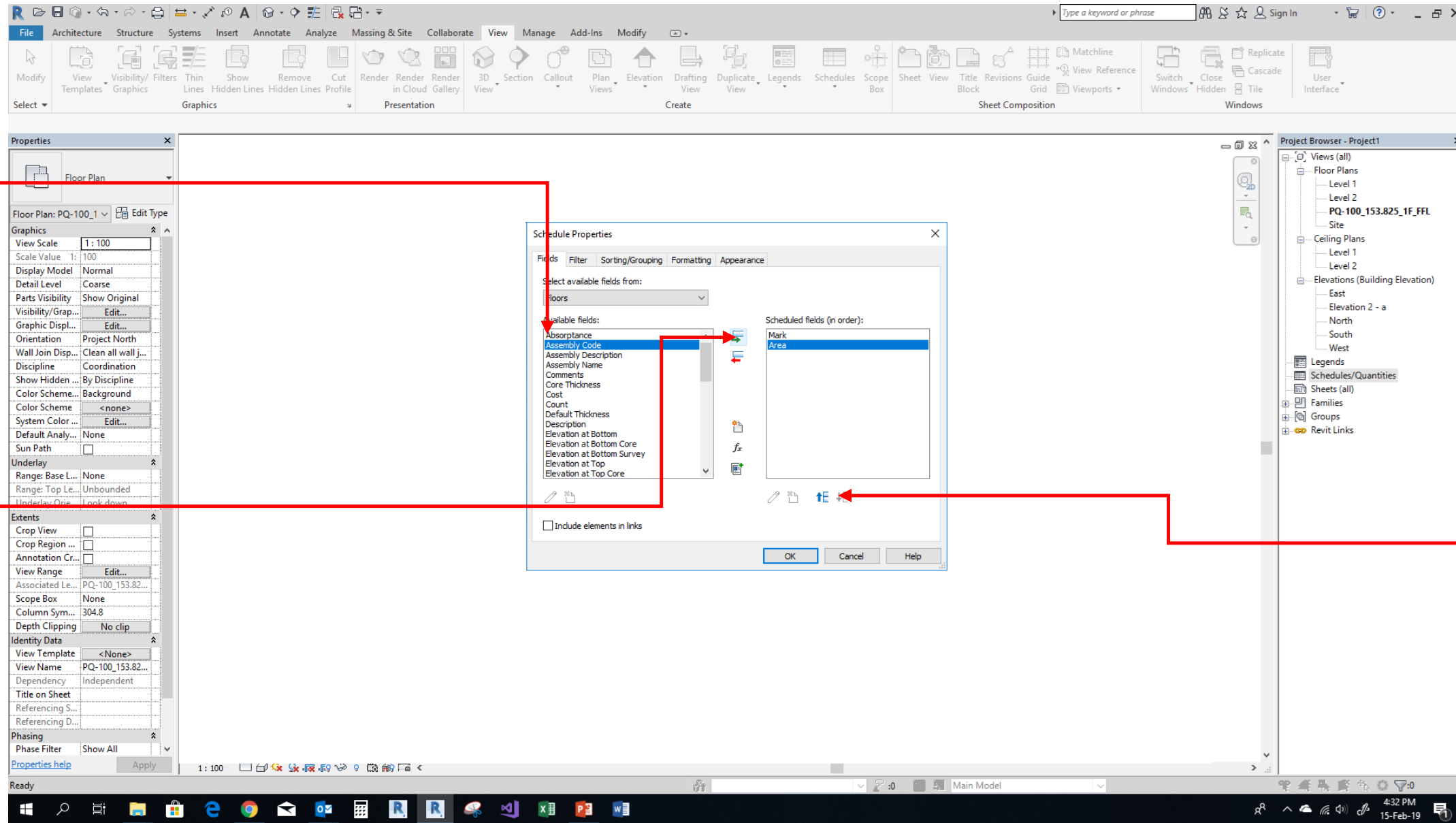
# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.14 Create Schedule

1 Select which parameters to be included, e.g. floor mark and area

2 Click “Add parameter(s)”

3 Use up down arrow to re-arrange parameter sequence





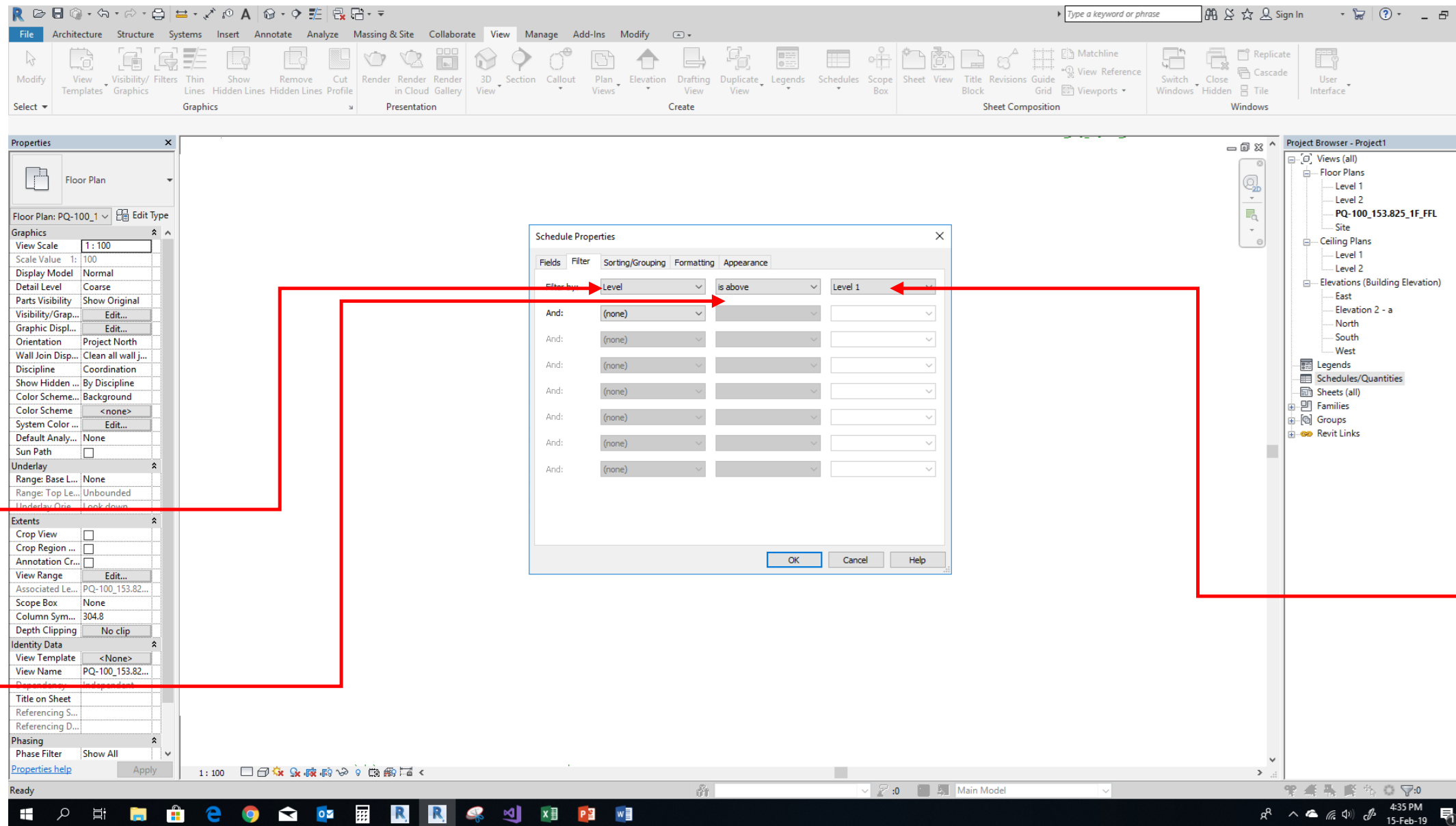
# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.14 Create Schedule

1 By default, Revit will display all elements in this file, use filter for partial display

2 Select parameter

3 Select condition statement



4 Select condition value, e.g. here only level above L1 will be shown

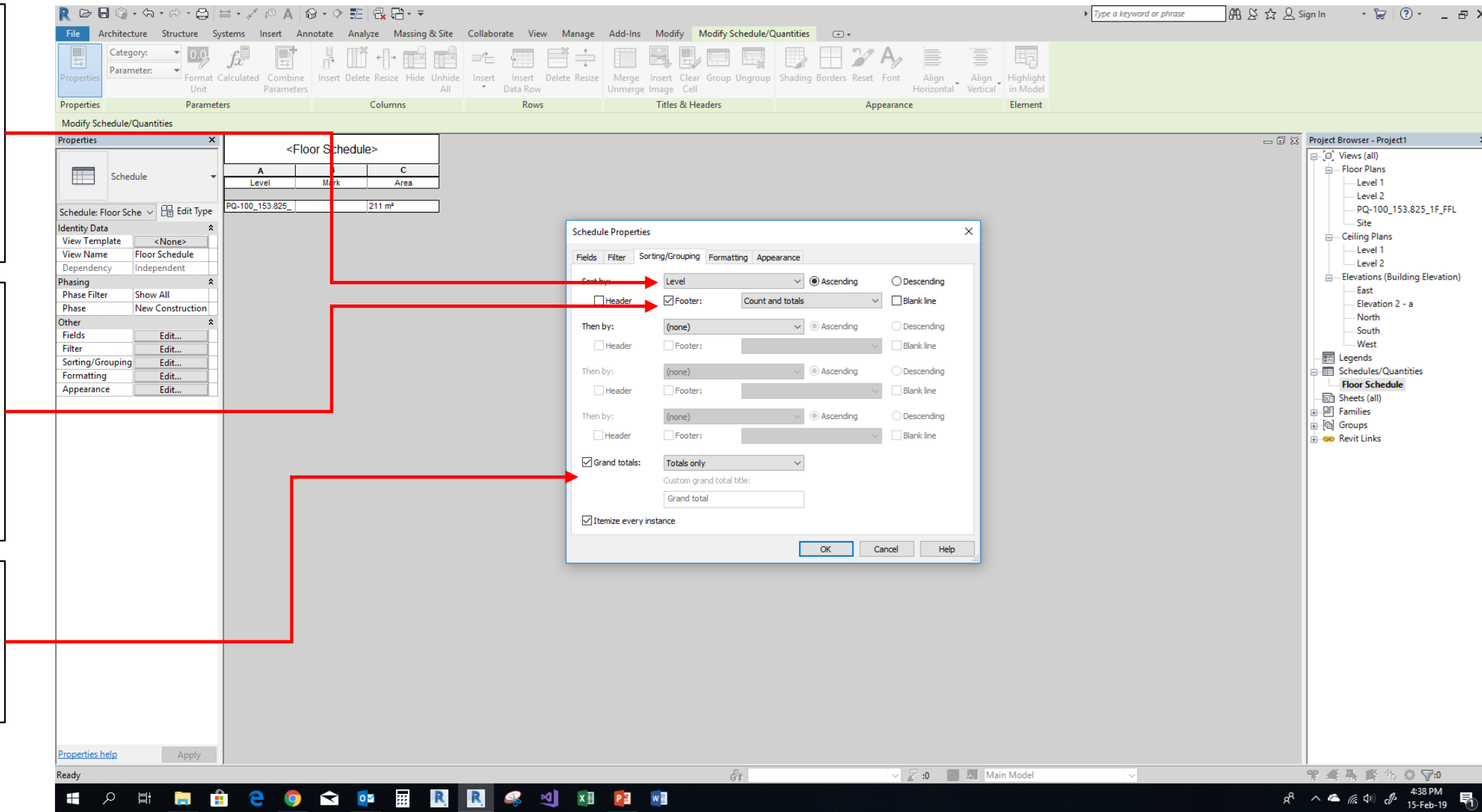
# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.14 Create Schedule

1 Sort schedule view for control of display

2 Use footer to show total or count per group

3 Show grand total if necessary



# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.14 Create Schedule

1 Select parameter then select calculate total if necessary

2 Control alignment.

3 Control display format, e.g. display decimal places and unit etc.

4 Click "OK"

A	B	C
Level	Mark	Area
PQ-100_153.825_		211 m²

Schedule Properties dialog box tabs: Fields, Filter, Sorting/Grouping, Formatting, Appearance.

Fields: Level, Mark, Area

Heading: Area

Heading orientation: Horizontal

Alignment: Left

Field formatting: Field Format..., Conditional Format...

Hidden field

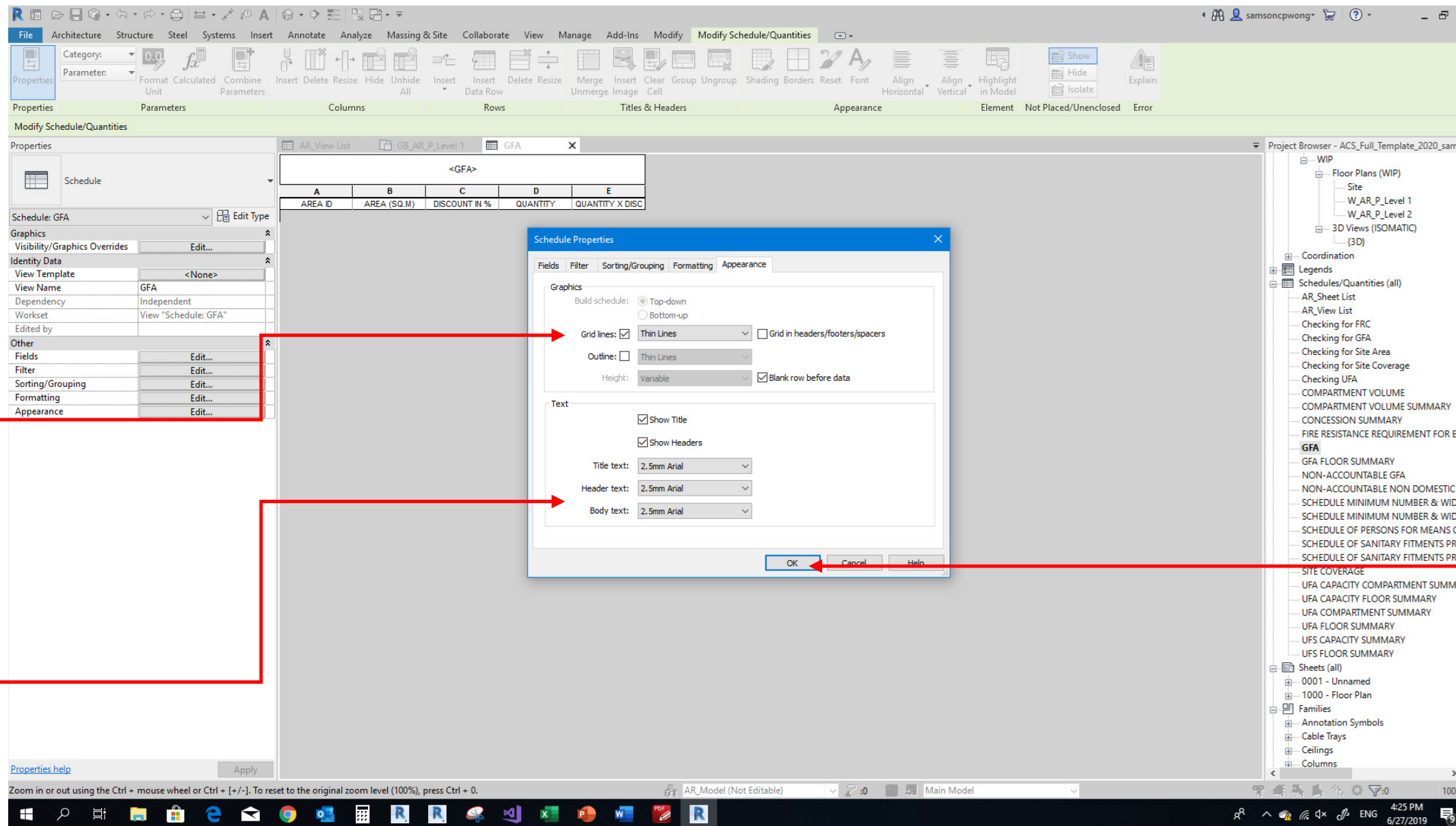
Show conditional format on sheets

Calculate totals

OK, Cancel, Help

# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.14 Create Schedule



1 Control display of grid line, outline, and line type etc.

2 Control display of title, header, font size etc.

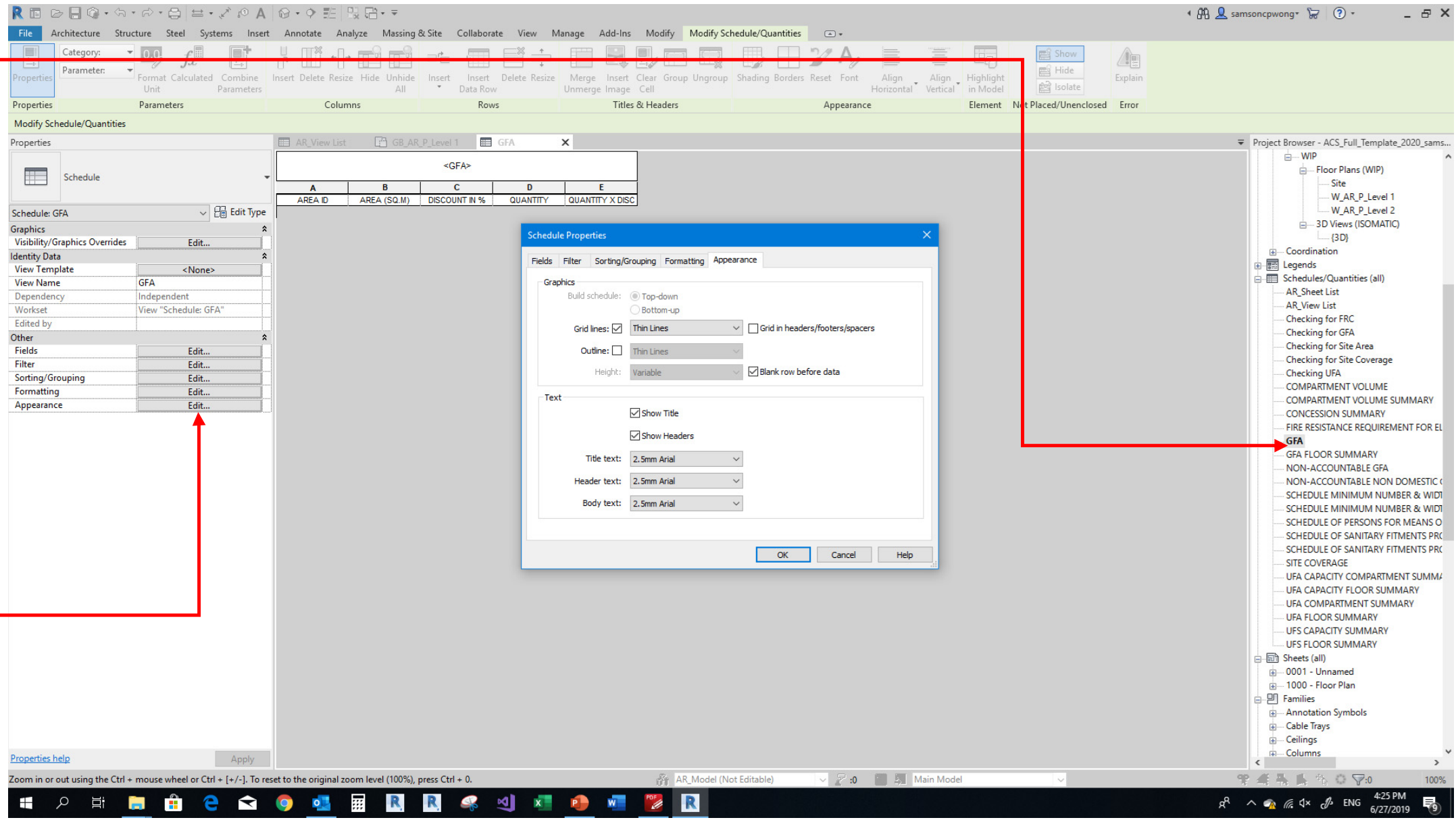
3 Click "OK"

# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.15 Modify Schedule

1 Select a schedule

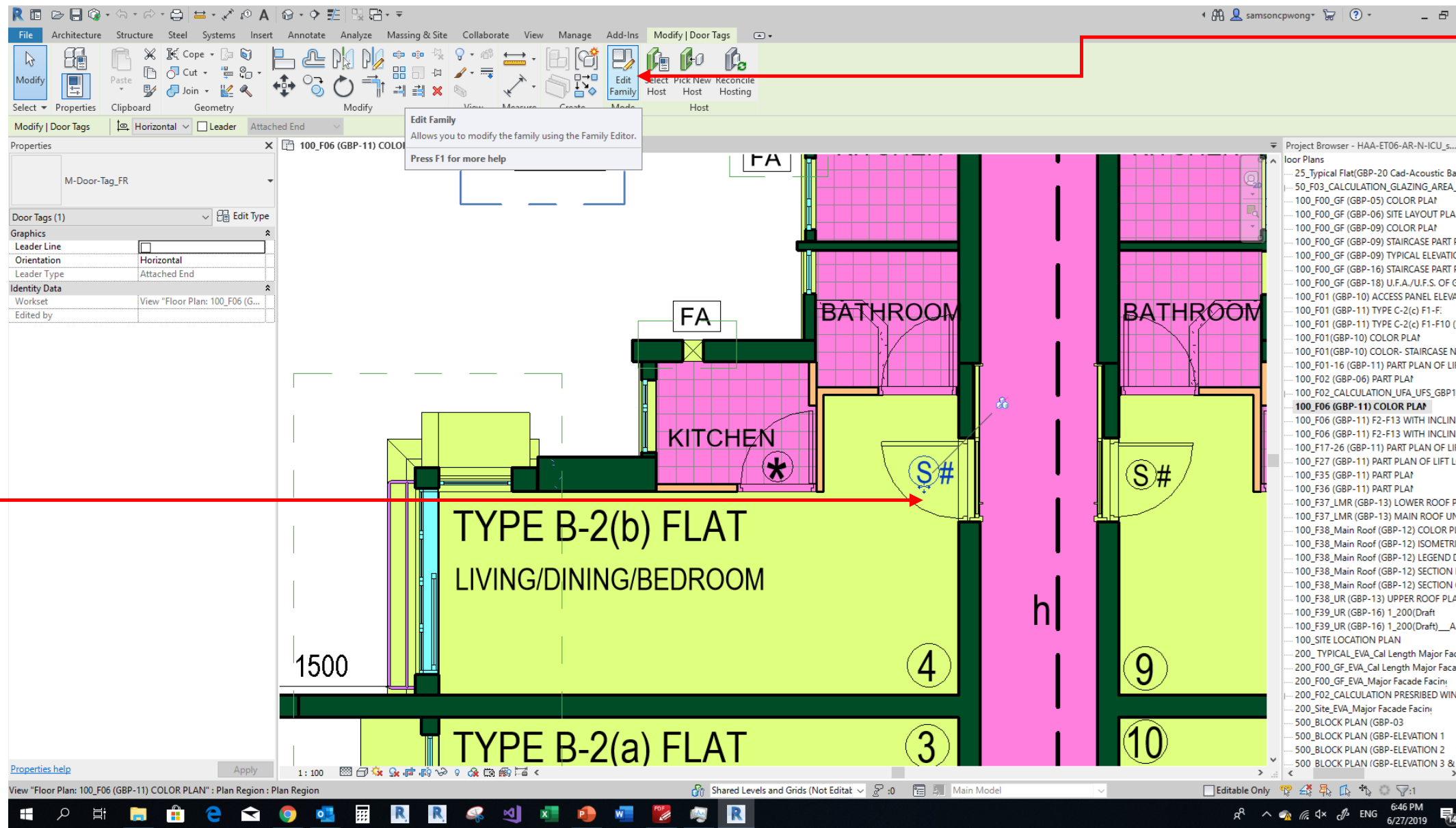
2 Modify fields, filter, sorting, formatting and appearance by clicking edit button





# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.16 Modify Graphic Setting for Tag



1 Select a tag

2 Edit Family

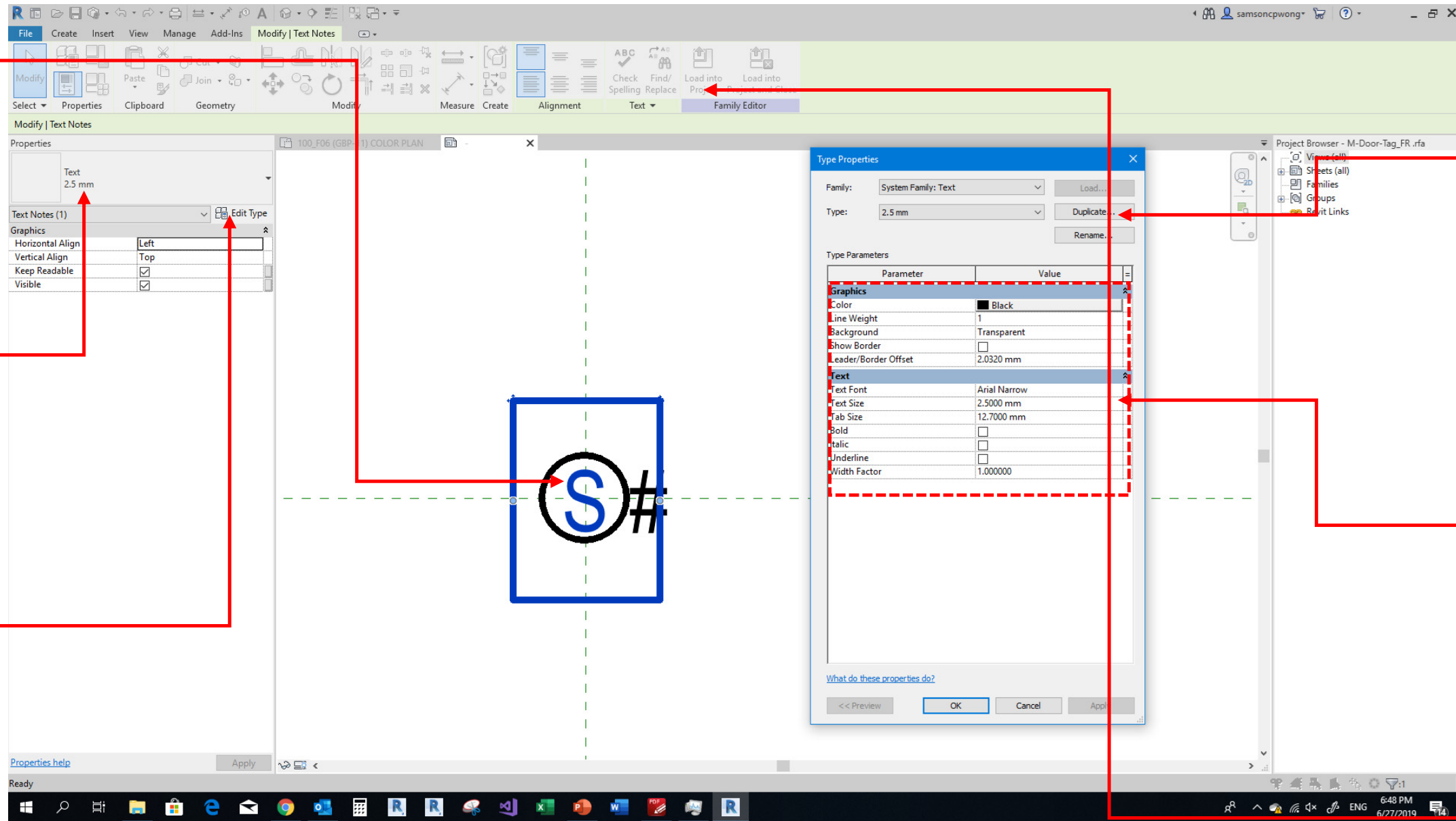
# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.16 Modify Graphic Setting for Tag

1 Select a text

2 Either change to another type of text

3 Or edit to modify / create a new type of text



4 Duplicate and provide name for new type of text if necessary

5 Amend text colour, line weight, background, font, size etc.

6 Click "Load into Project"

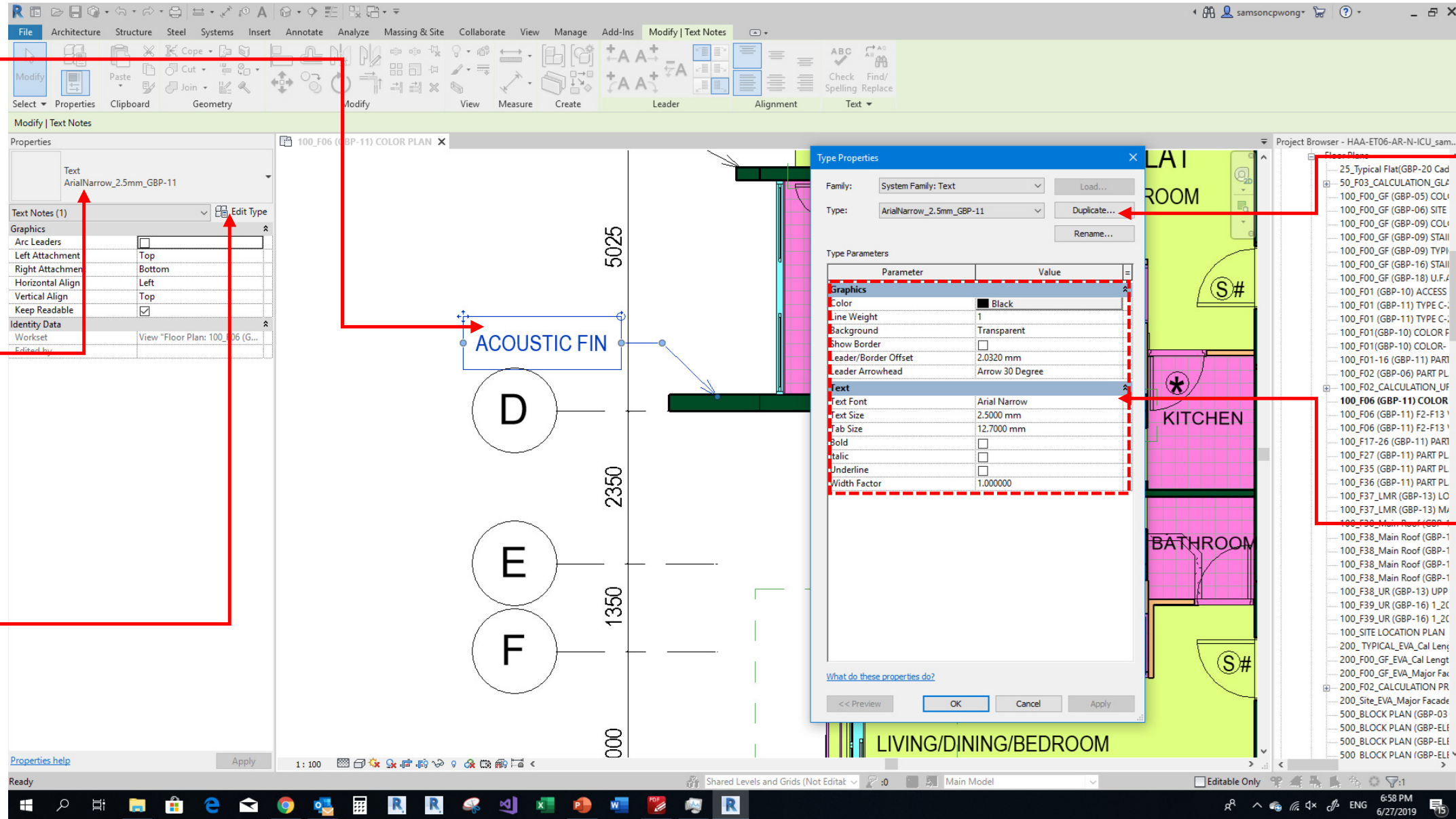
# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.17 Modify Graphic Setting for Text

1 Select a text

2 Either change to another type of text

3 Or edit to modify / create a new type of text



4 Duplicate and provide name for new type of text if necessary

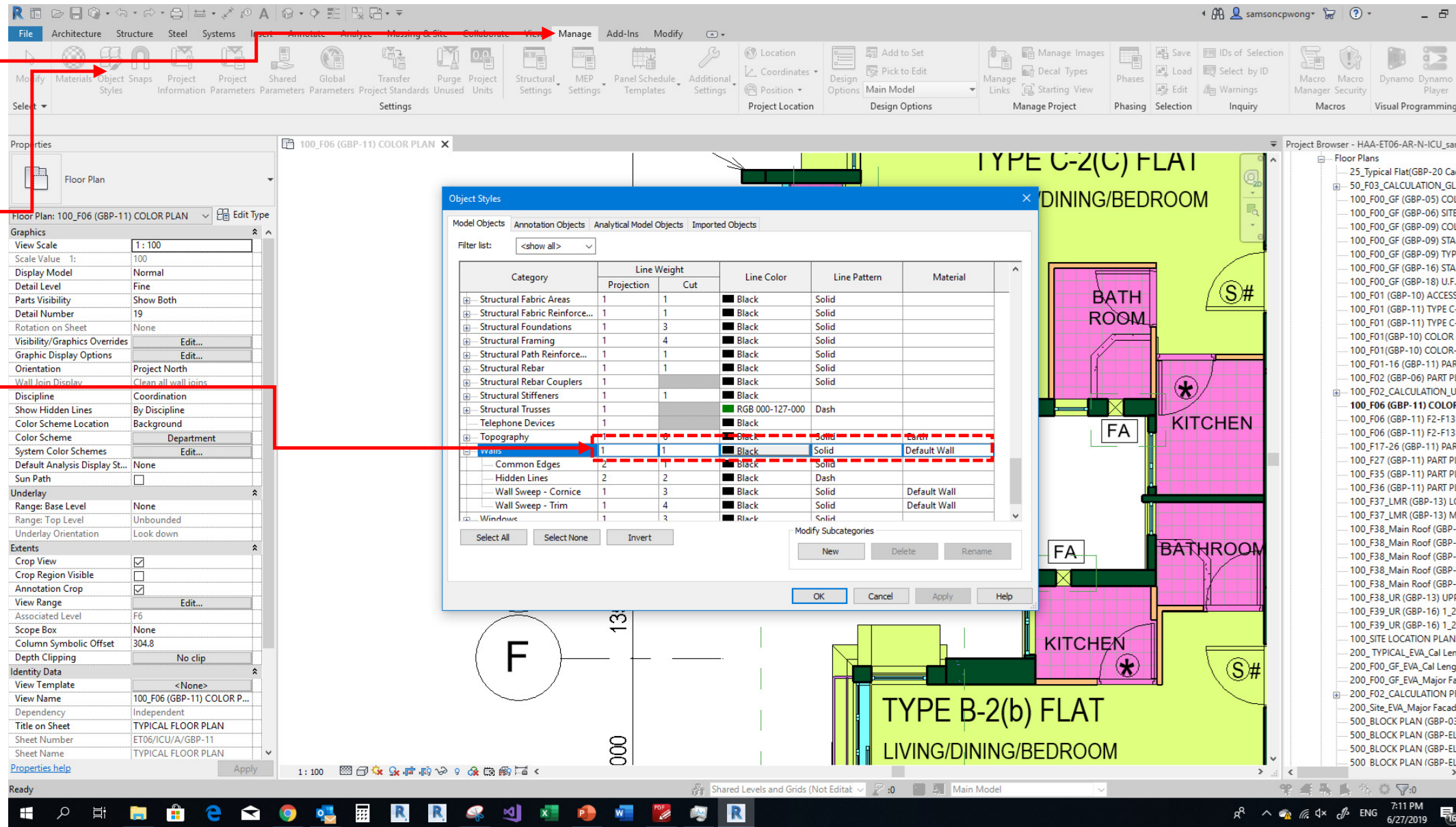
5 Amend text colour, line weight, background, font, size etc.



# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.18 Modify Graphic Setting for Line Styles

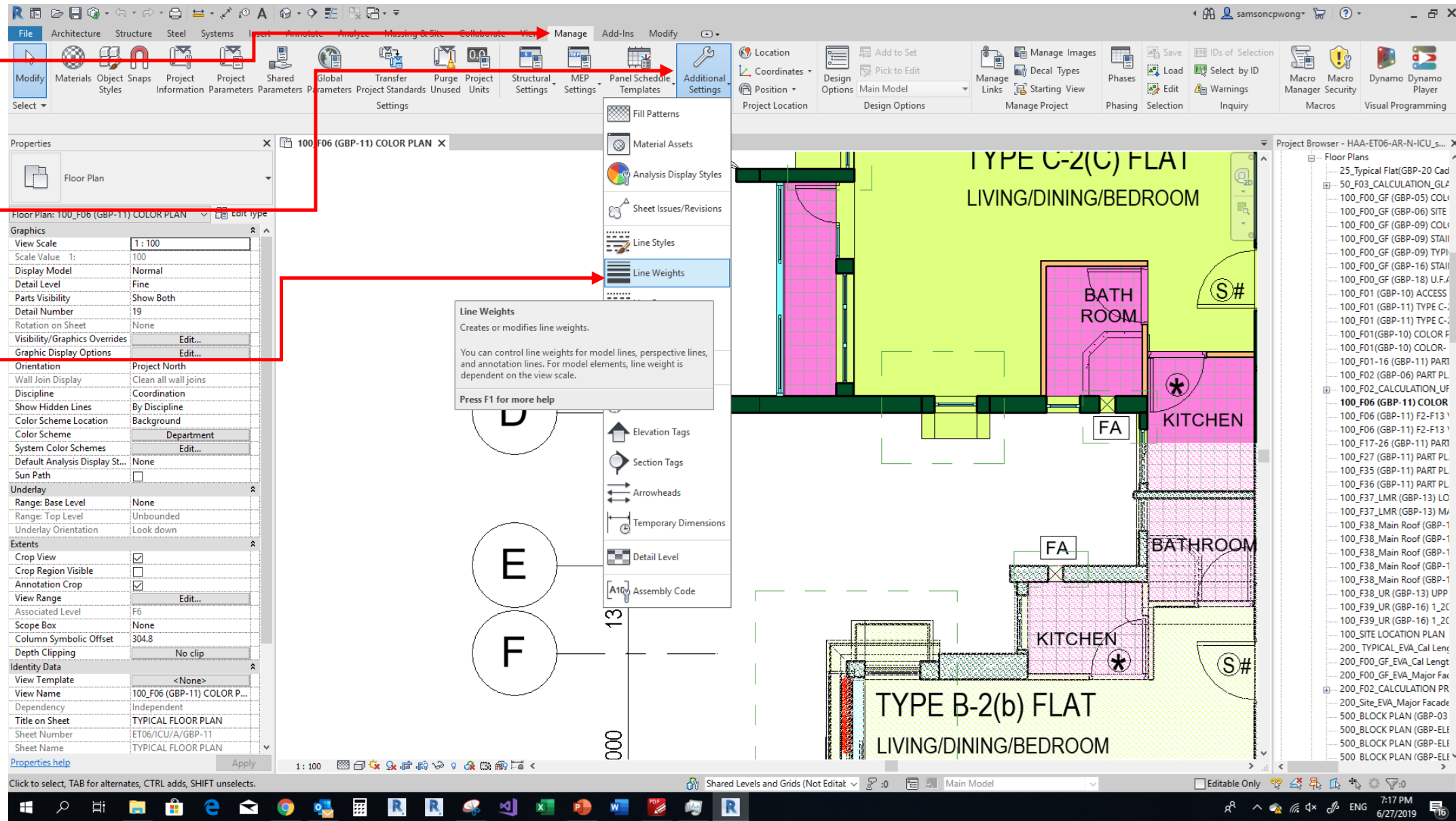
- 1 Click "Manage"
- 2 Click "Object Styles"
- 3 Amend when necessary



# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.18 Modify Graphic Setting for Line Styles

- 1 Click “Manage”
- 2 Click “Additional Settings”
- 3 Click “Line Weights”

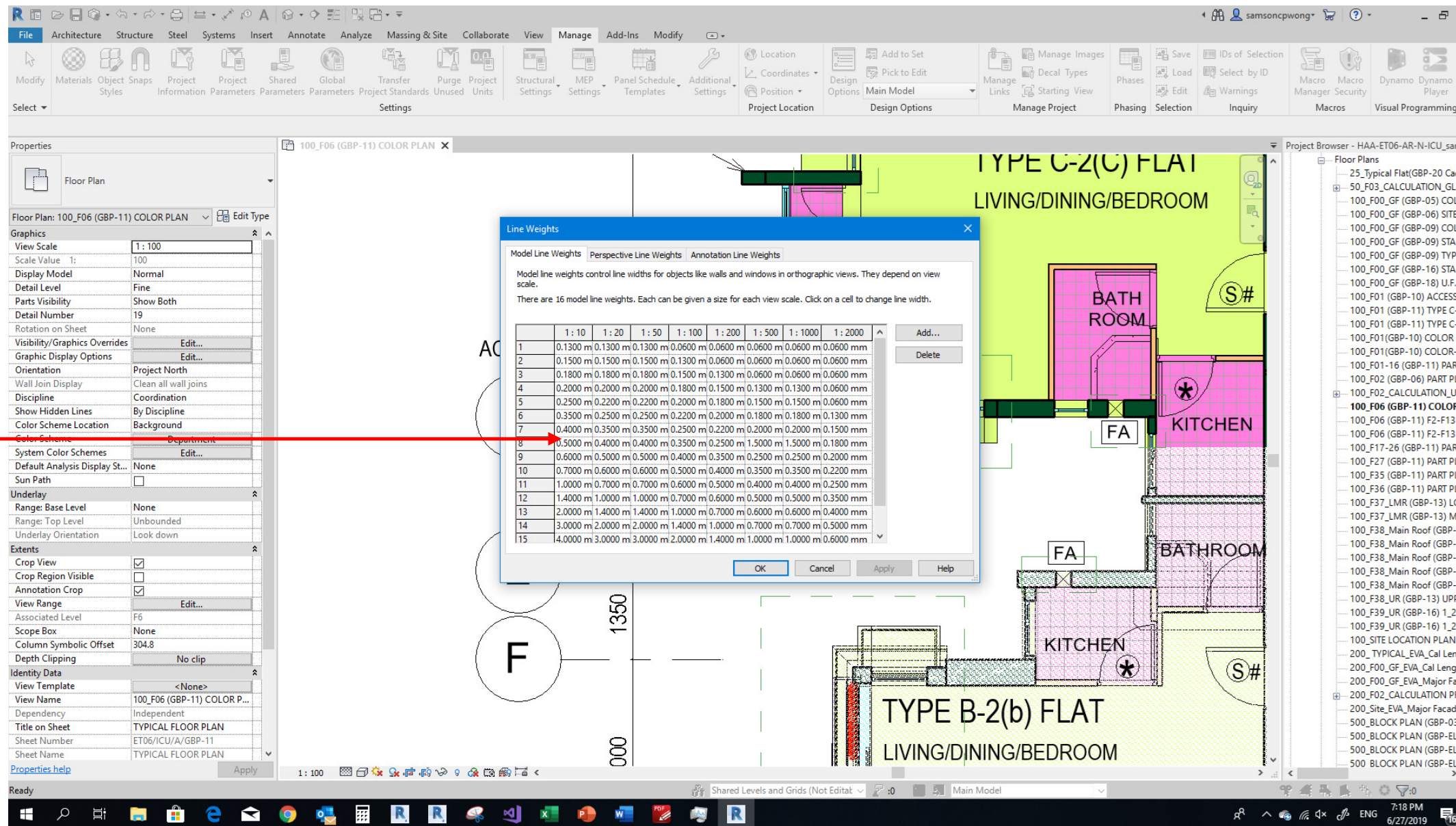




# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.18 Modify Graphic Setting for Line Styles

1 Amend line width under different scale when necessary



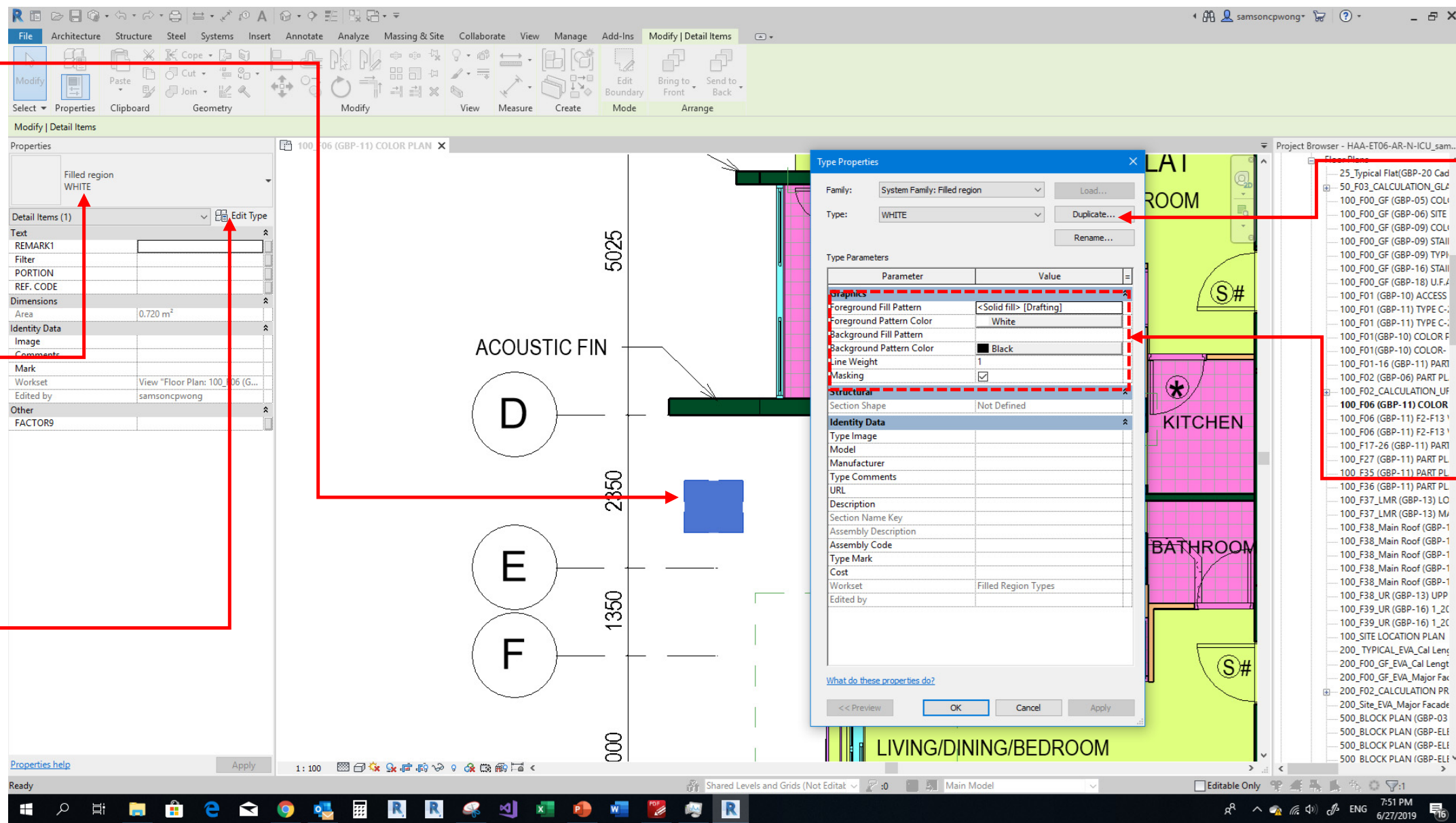
# 6.1 DRAWING PRODUCTION – GENERAL

## 6.1.19 Modify Graphic Setting for Filled Region

1 Select a filled region

2 Either change to another type

3 Or edit to modify / create a new type of pattern



4 Duplicate and provide name for new type of text if necessary

5 Amend hatch pattern and colour

## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

- This sections illustrates standards & guidelines for 2d drawing production.
- It covers aspects which are specific to architectural building professionals, in particular method to prepare GBP amendment submission.

## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

### 6.2.1 GBP – General

- When preparing GBP submission using BIM software, one should always refer to the “Guidelines for Using Building Information Modelling in General Building Plans submission” (the Guidelines) published by the Buildings Department, for the general statutory submission requirements. In order to demonstrate compliance with the BO and its regulations, relevant codes of practices, PNAPs and circular letters issued by the BA, the following list of plans, diagrams and schedules are prescribed in the Guidelines for inclusion into the submission, though they should not be regarded as being exhaustive.

## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

### 6.2.2 GBP – Essential Views for Composing the Prescribed Plans

General:			Revit element name
(A1)	General Notes	Refer Section 6.3.1 for available settings available in template file.	Schedule “GBP - GENERAL NOTES PART 1, GBP - GENERAL NOTES PART 2, GBP - GENERAL NOTES PART 3”
(A2)	FS Notes		Schedule “GBP – FIRE SERVICES NOTES”
(A3)	Key Plan		View Template “S_500_Block Plan” & “S_1500_Location Plan”
(A4)	Legend		Legend “GBP-LEGEND SAMPLE”



## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

### 6.2.2 GBP – Essential Views for Composing the Prescribed Plans

Core Drawings:			
(B1)	Floor plans	Refer Section 5.1 & 5.2 for modelling standards and guidelines. Refer Section 6.1 & 6.2 for drawing production standards and guidelines. Refer Section 6.3.2 – 6.3.4 to generate colour drawings for GBP Submission. Refer Section 6.3.5 for available tag. Refer Section 6.3.6 for travel distance measurement.	View Template “S_100_Plan”
(B2)	Sections		View Template “S_100_Section”
(B3)	Elevations		View Template “S_100_Elevation”

## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

### 6.2.2 GBP – Essential Views for Composing the Prescribed Plans

Core Drawings:			
(B4)	Typical details	2D drawings or standard details may be used to complement the BIM model for typical details.	Not applicable
(B5)	Emergency vehicular access (EVA) diagrams	Refer Section 6.3.7 for creation of EVA diagram.	View Template “S_400_EVA” Schedule “GBP - EVA - A01 - MAJOR FACADE”, “GBP - EVA - A02 - PERIMETER WALLS”, Tag “ANN-GMG-HAA-EVA”

## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

### 6.2.2 GBP – Essential Views for Composing the Prescribed Plans

Area Diagrams:		For below diagrams, which involve area measurement, refer Section 6.1.1 – 6.1.3 to create area plan, area boundaries and area.	
(C1)	Site area and site coverage (SC) diagrams	Refer Section 6.3.8	Area Plans “Site Area” & “Site Coverage” View Template “S_200_Generic Area Diagram”
(C2)	Gross Floor Area (GFA) diagrams	Refer Section 6.3.8	Area Plans “GFA”, View Template “S_300_GFA”

## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

### 6.2.2 GBP – Essential Views for Composing the Prescribed Plans

(C3)	Open space diagrams	Refer Section 6.3.10	Area Plans “Open Space”, View Template “S_200_Generic Area Diagram”
(C4)	Fire compartment diagrams	Refer Section 6.3.11	Area Plans “FRC”, View Template “S_300_FRC”
(C5)	Diagrams showing compliance with the Sustainable Building Design (SBD) Guidelines (incl. building separation, site coverage of greenery and building setback)	Refer Section 6.3.12	Area Plans “Greenery”, “Permeability - Street Canyon”, View Template “S_200_Greenery”, “S_200_Generic Area Diagram”

## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

### 6.2.2 GBP – Essential Views for Composing the Prescribed Plans

Area Diagrams:			
(D1)	Usable floor area (UFA) diagrams	Create “room” to for area measurement of UFA and UFS. Refer Section 6.1 & 6.2 for standards of drawing production. Refer Section 6.3.13 for settings available in the template file.	These diagrams are same as normal floor plan in black & white. No special setting is provided in template file.
(D2)	Usable floor space (UFS) diagrams		
(D3)	Assessment of prescribed windows	Refer Section 6.1 & 6.2 for standards of drawing production. Refer Section 6.3.14 for settings available in the template file.	These diagrams are same as normal floor plan & section in black & white. No special setting is provided in template file.



## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

### 6.2.3 GBP – Essential Schedules for Composing the Prescribed Plans

General:			
(E1)	List of drawings	Refer Section 6.3.1 for drawing list available in template file.	Schedule “GBP - DRAWING LIST”
(E2)	List of modifications		Schedule “GBP - MODIFICATIONS / EXEMPTIONS GRANTED and AMENDMENT TO LOCATION (if any) IN THE CURRENT SUBMISSION”
(E3)	List of coordinates	Drafting tools may be used to create list of coordinates. Refer Section 6.1 for details.	Not applicable

## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

### 6.2.3 GBP – Essential Schedules for Composing the Prescribed Plans

Development Data:			
(E4)	Development Schedule	Refer Section 6.3.8	Tag “ANN-AEG-HAA-GBP_Composite_HA” Schedule “GBP - GFA - A01 - ACCOUNTABLE DOMESTIC/NON-DOMESTIC GFA SCHEDULE”, “GBP - GFA - A02B - NET DOMESTIC/NON-DOMESTIC GFA SCHEDULE”, “GBP - GFA - A02C - NET DOMESTIC GFA PER PROJECT SCHEDULE”, “GBP - GFA - A03 - GFA FLOOR SUMMARY”
(E5)	Site area calculation	Refer Section 6.3.8	
(E6)	Site classification, a summary of Site Coverage (SC) and Plot Ratio (PR)	Refer Section 6.3.8	

## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

### 6.2.3 GBP – Essential Schedules for Composing the Prescribed Plans

Area Concessions:			
(E8)	Computation for GFA concession requirements	Refer Section 6.3.8	Schedule “GBP - GFA - A02A - DOMESTIC/NON-DOMESTIC CONCESSION SCHEDULE”
(E9)	List of GFA concessions	Refer Section 6.3.8	Schedule “GBP - GFA - A04 - CONCESSION SUMMARY”
(E10)	Lift shaft concession calculation	Refer Section 6.3.9	Tag “ANN-AEG-HAA-Lift_Shaft”
(E11)	Floor area calculation for Telecommunications and Broadcasting (TBE) Room	Refer Section 6.3.15	Tag “ANN-RMG-HAA-TBE_simplified_domestic” Schedule “GBP - UFS TBE FLOOR SUMMARY”, “GBP - UFS TBE PROJECT SUMMARY”

## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

### 6.2.3 GBP – Essential Schedules for Composing the Prescribed Plans

Means of Escape (MOE)			
(E12)	Schedule of min. number and width of exit doors and exit routes	Refer Section 6.3.16	Schedule “GBP - MOE - A04 - SCHEDULE MINIMUM NUMBER & WIDTH OF EXIT DOOR & EXIT ROUTE FROM EACH FLOOR”
(E13)	Schedule of discharge value	Refer Section 6.3.16	Schedule “GBP - PERMITTED DISCHARGE VALUE OF STAIRCASE”
(E14)	Table for occupant capacity of all rooms and storeys	Refer Section 6.3.16	Schedule “GBP - MOE - AU04 - UFA FLOOR CAPACITY SUMMARY - UNIT BASIS”

## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

### 6.2.3 GBP – Essential Schedules for Composing the Prescribed Plans

Fire Resisting Construction (FRC)			
(E15)	Schedule of fire resistance rating (FRR) / Compartment schedule	Refer Section 6.3.11	Schedule “GBP - FRC - A01 - COMPARTMENT VOLUME”, also use schedule “GBP - FRC - A02 - COMPARTMENT VOLUME SUMMARY” when there are more than 1 compartment area within a fire compartment
(E16)	Schedule of fire rating (FRR) of elements of construction	Refer Section 6.3.11	Schedule “GBP - FRC - A03 - FIRE RESISTANCE REQUIREMENT FOR ELEMENTS OF CONSTRUCTION”
(E17)	Calculation of net area of refuge against min. required area	Refer Section 6.3.17	Schedule “GBP - REFUGE AREA”



## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

### 6.2.3 GBP – Essential Schedules for Composing the Prescribed Plans

Lighting			
(E18)	Window area calculation	Refer Section 6.3.14	Schedule “GBP - WINDOW SCHEDULE” “GBP - PRESCRIBED WINDOW CALCULATION”
Sanitary			
(E19)	Schedule of sanitary fitment provisions	Refer Section 6.3.18	Schedule “GBP - SF - AU04 - UFA FLOOR CAPACITY SUMMARY - UNIT BASIS”, “GBP - SCHEDULE OF SANITARY FITMENTS PROVISIONS( FOR RESIDENTIAL)”
(E20)	Refuse storage and material recovery	Refer Section 6.3.19	Schedule “GBP - UFS REFUSE FLOOR SUMMARY”, “GBP -

## 6.2 DRAWING PRODUCTION – GENERAL BUILDING PLAN

### 6.2.3 GBP – Essential Schedules for Composing the Prescribed Plans

Others		
(E21)	UFA and UFS Schedule	Refer Section 6.3.13
		“GBP - UFA SCHEDULE” & “GBP - UFS SCHEDULE”

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

- This sections illustrates:
  - What and where are the template content
  - How to use the template
- It covers aspects which are specific to architectural building professionals. This includes:
  - View Templates. These are view settings which control automatic generation of 2D drawing from 3D model, including line type, line weight, line colour, colouring for floor plan, elevation, section & GFA diagram etc.
  - Tags. These are 2D annotation with its data dynamically linked to 3D object. Commonly used door, window, room, lift, stair tags etc. are provided in the template.
  - Schedules for presentation of all different kinds of statutory calculation.

## **6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN**

### **6.3.1 General Notes, FS Notes, Key Plan and Miscellaneous Information**

- Detail instruction of template setting will be provided.
- Please make cross reference to Section “Drawing Production – General“, in particular for operation of “Area“, “Area Plan“, “Schedule” & “Tag” etc.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.1 General Notes, FS Notes, Key Plan and Miscellaneous Information

Item	Revit Object Name	Object Type
General Notes	GBP - GENERAL NOTES PART 1	Schedule
	GBP - GENERAL NOTES PART 2	Schedule
	GBP - GENERAL NOTES PART 3	Schedule
Fire Service Notes	GBP - FIRE SERVICES NOTES	Schedule
Legend	GBP - LEGEND SAMPLE	Legend
Abbreviation	GBP - ABBREVIATION PART 1	Schedule
	GBP - ABBREVIATION PART 2	Schedule
Drawing List	GBP - DRAWING LIST	Schedule
BA16 Schedule	GBP - MODIFICATIONS / EXEMPTIONS GRANTED and AMENDMENT TO LOCATION (if any) IN THE CURRENT SUBMISSION	Schedule
	GBP - BA16 LEGEND	Schedule

1 Go to project browser, right click then search the item by providing Revit Object Name, e.g. General Notes. Then follow Section 6.1.4 to drag the information and set up a sheet.



## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.1 General Notes, FS Notes, Key Plan and Miscellaneous Information

View Template	Revit Object Name	Object Type
Car Parking Schedule	GBP - CARPARKING-S-OVERALL	Schedule
Lift Schedule	GBP - LIFT SCHEDULE PART 1	Schedule
	GBP - LIFT SCHEDULE PART 2	Schedule

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.1 General Notes, FS Notes, Key Plan and Miscellaneous Information

1 Unless otherwise stated, manual input is required for all cells of prepare schedule.

VLT-GLASS AND ER-GLASS UNDER PRACTICE NOTE APP-156  
(\* DENOTE STABILITY REQUIRED FOR LOAD BEARING ELEMENTS IN FRR REQUIREMENT)

ITEM	DESCRIPTION	CONDITION	LOCATION WITH MODIFICATION/ EXEMPTION GRANTED	DATE OF SUBMISSION	PERMIT NO.			
					DATE OF MODIFICATION GRANTED	MONTH	YEAR	REV.
1	BUILDING (CONSTRUCTION) REGULATION 35	THE LEVEL OF INTERNAL FLOOR TO BE LESS THAN 150MM ABOVE THE LEVEL OF THE ADJOINING EXTERNAL GROUND AT THE ENTRANCE TO THAT FLOOR.	(1) ALL ENTRANCE ON LEVEL 1					
2	BUILDING (PLANNING) REGULATION 23(3)A	EXEMPTION OF PIPE DUCTS FOR MANDATORY FEATURES OR ESSENTIAL PLANT ROOMS AT COMMON AREAS OF DOMESTIC BUILDING SHALL BE EXCLUDED FROM GFA CALCULATIONS						
3	BUILDING (PLANNING) REGULATION 30 & 31	TO PERMIT USE OF PERFORMANCE-BASED APPROACH ON THE PROVISION OF NATURAL LIGHTING AND VENTILATION IN BEDROOMS AND LIVING AREA OF DOMESTIC FLATS.						
4	BUILDING (PLANNING) REGULATION 30	OMISSION OR REDUCTION IN STANDARD OF NATURAL LIGHTING AND VENTILATION IN MAC ROOM OF THE DOMESTIC BUILDING.						
5	BUILDING (PLANNING) REGULATION 35A	TO MODIFY THE PROVISION OF GAS APERTURES LOCATED ON THE EXTERNAL WALL OF KITCHENS (INSTEAD OF BATHROOMS) FOR ALL NON-STANDARD TYPE A, ALL TYPE B AND NON-STANDARD TYPE B FLATS ON DOMESTIC FLOORS.						
6	BUILDING (REFUSE STORAGE AND MATERIAL RECOVERY CHAMBERS AND REFUSE CHUTES) REGULATIONS 6	ACCEPTANCE OF REFUSE STORAGE AND MATERIAL RECOVERY CHAMBER (RS&MRC) TO BE NOT FULLY ENCLOSED.						

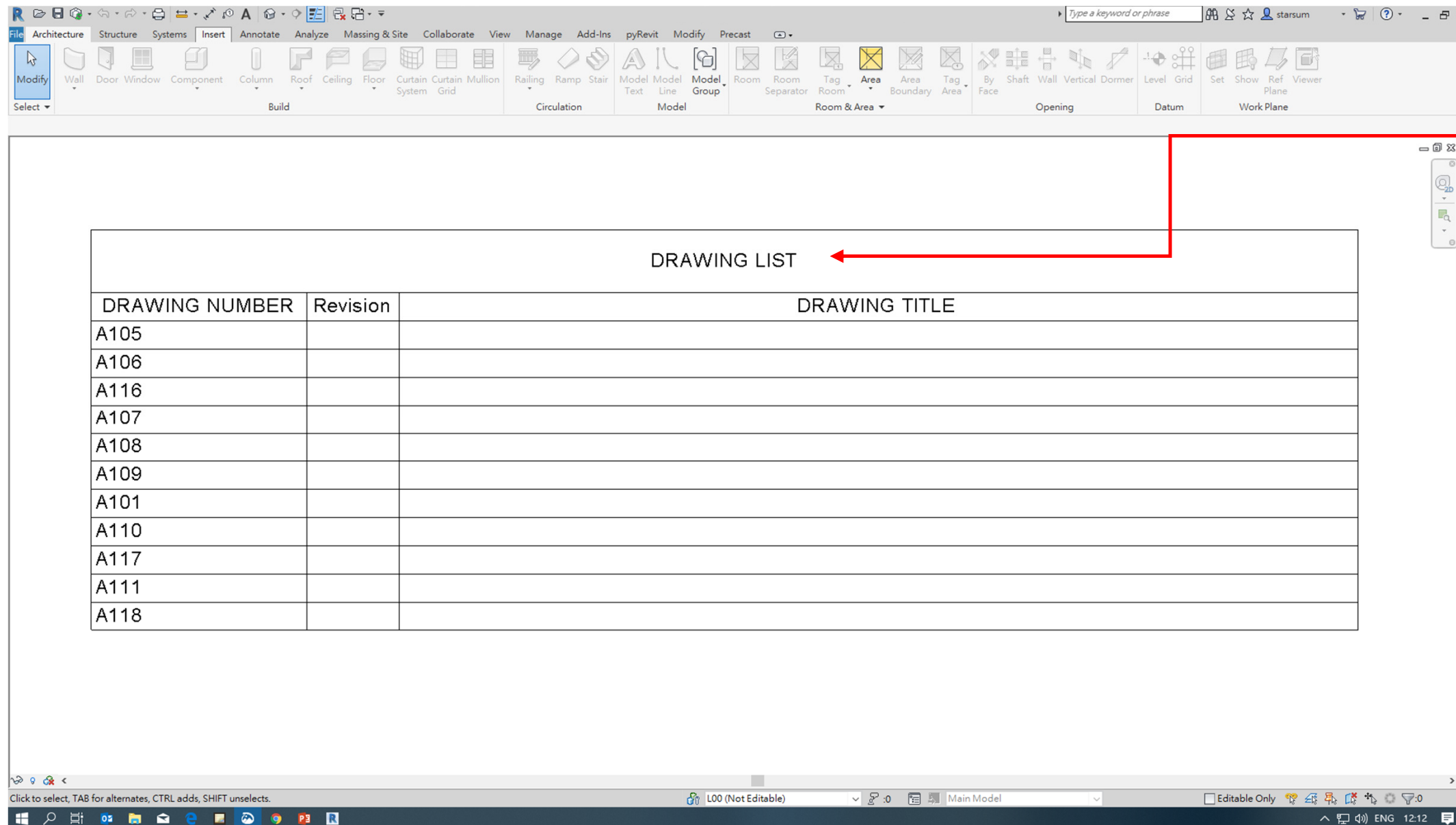
**LEGEND**  
 # FIRST GRANTED  
 ✓ STILL APPLICABLE  
 X NOT APPLICABLE  
 Δ AMENDMENT TO THE LOCATION OF THE EXEMPTION/ MODIFICATION PREVIOUSLY GRANTED. DEPENDING ON THE EXTENT OF THE AMENDMENT, NEW FORM BA16 AND BD106 MAY BE REQUIRED.

Block Plan  
1 : 500

2 Use Schedule “GBP - MODIFICATIONS / EXEMPTIONS GRANTED and AMENDMENT TO LOCATION (if any) IN THE CURRENT SUBMISSION”

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.1 General Notes, FS Notes, Key Plan and Miscellaneous Information



2 Use  
Schedule  
"GBP -  
DRAWING  
LIST"

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.1 General Notes, FS Notes, Key Plan and Miscellaneous Information

The screenshot shows the Revit software interface with a table titled "BOUNDARY COORDINATES & DIMENSIONS:". The table is divided into two sections: "LOT NO. XXX" and "CURVE DATA:".

**LOT NO. XXX**

POINT	DISTANCE (m)	BEARING ° ' "	NORTH (m)	EAST (m)
A			821 XXX.XXX	842 XXX.XXX
B	XX.XXX	XXX XX XX	821 XXX.XXX	842 XXX.XXX
Q	XX.XXX	XXX XX XX	821 XXX.XXX	842 XXX.XXX
C	XX.XXX	XXX XX XX	821 XXX.XXX	842 XXX.XXX
D	XX.XXX	XXX XX XX	821 XXX.XXX	842 XXX.XXX
E	XX.XXX	XXX XX XX	821 XXX.XXX	842 XXX.XXX
P	XX.XXX	XXX XX XX	821 XXX.XXX	842 XXX.XXX
F	XX.XXX	XXX XX XX	821 XXX.XXX	842 XXX.XXX
A	XX.XXX	XXX XX XX	821 XXX.XXX	842 XXX.XXX

**CURVE DATA:**

SIDE	ARC LENGTH (m)	RADIUS (m)	ANGLE ° ' "
CD	XX.XXX	XX.XXX	XX.XXX
DE	XX.XXX	XX.XXX	XX.XXX
FA	XX.XXX	XX.XXX	XX.XXX

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.1 General Notes, FS Notes, Key Plan and Miscellaneous Information

1 Schedule  
“GBP -  
CARPARKING-  
S-OVERALL”

2 Schedule  
“GBP - LIFT  
SCHEDULE  
PART 1 & 2”

The screenshot shows the Revit software interface with three data tables. Red arrows point from external text boxes to specific cells in these tables:

- Box 1 points to the 'DESCRIPTION' column of the first table.
- Box 2 points to the 'LIFT NO.' column of the second table.
- Box 3 points to the 'REQUIRED NOS.' column of the first table.

DESCRIPTION		PROPOSED SIZING		REQUIRED NOS.	PROPOSED NOS.
PRIVATE CAR PARKING SPACE		2.5m(W) X 5m(L) X 2.4m(H)		1	1
LOADING AND UNLOADING SPACE OF HEAVY GOODS VEHICLES		3.5m(W) X 12m(L) X 4.7m(H)		1	1

LIFT NO.	RATED LOAD (kg)	NO. OF PASSENGER S(Nos.)	RATED SPEED (m/s)	CAR INTERNAL SIZES						WALL DIMENSIONS				CLEAR ENTRANCE					
				WIDTH (Cw)		DEPTH (Cd)		MAX. AREA Ca		HEIGHT		WIDTH (Ww)		DEPTH (Wd)		WIDTH (Ew)		HEIGHT (Eh)	
				REQUIRED (mm)	PROVIDED (mm)	REQUIRED (mm)	PROVIDED (mm)	REQUIRED (m²)	PROVIDED (m²)	REQUIRED (mm)	PROVIDED (mm)	REQUIRED (mm)	PROVIDED (mm)	REQUIRED (mm)	PROVIDED (mm)	REQUIRED (mm)	PROVIDED (mm)		
1	900	12	1.6	1800	1500	1350	1400	2.200	2.100	2300	2600	2100	2165	2100	2265	900	900	2100	2100

LIFT NO.	DEPTH (Ph)		HEADROOM (Sh)		MACHINE ROOM MINIMUM DIMENSIONS (SEE NOTES ON LIFT INSTALLATION)						OVERALL HEADROOM (Uh)			
	REQUIRED (mm)	PROVIDED (mm)	REQUIRED (mm)	PROVIDED (mm)	AREA(Ra)		WIDTH(RW)		DEPTH(Rd)		HEIGHT(Rh)		REQUIRED (mm)	PROVIDED (mm)
					REQUIRED (m²)	PROVIDED (m²)	REQUIRED (mm)	PROVIDED (mm)	REQUIRED (mm)	PROVIDED (mm)	REQUIRED (mm)	PROVIDED (mm)		
1	1800	1800	4850	5300	15.000	87.800	2500	8683	3700	10619	2600	3800	7650	67875

3 All cells except  
“required nos.” are  
automatically  
generated.



## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.1 General Notes, FS Notes, Key Plan and Miscellaneous Information

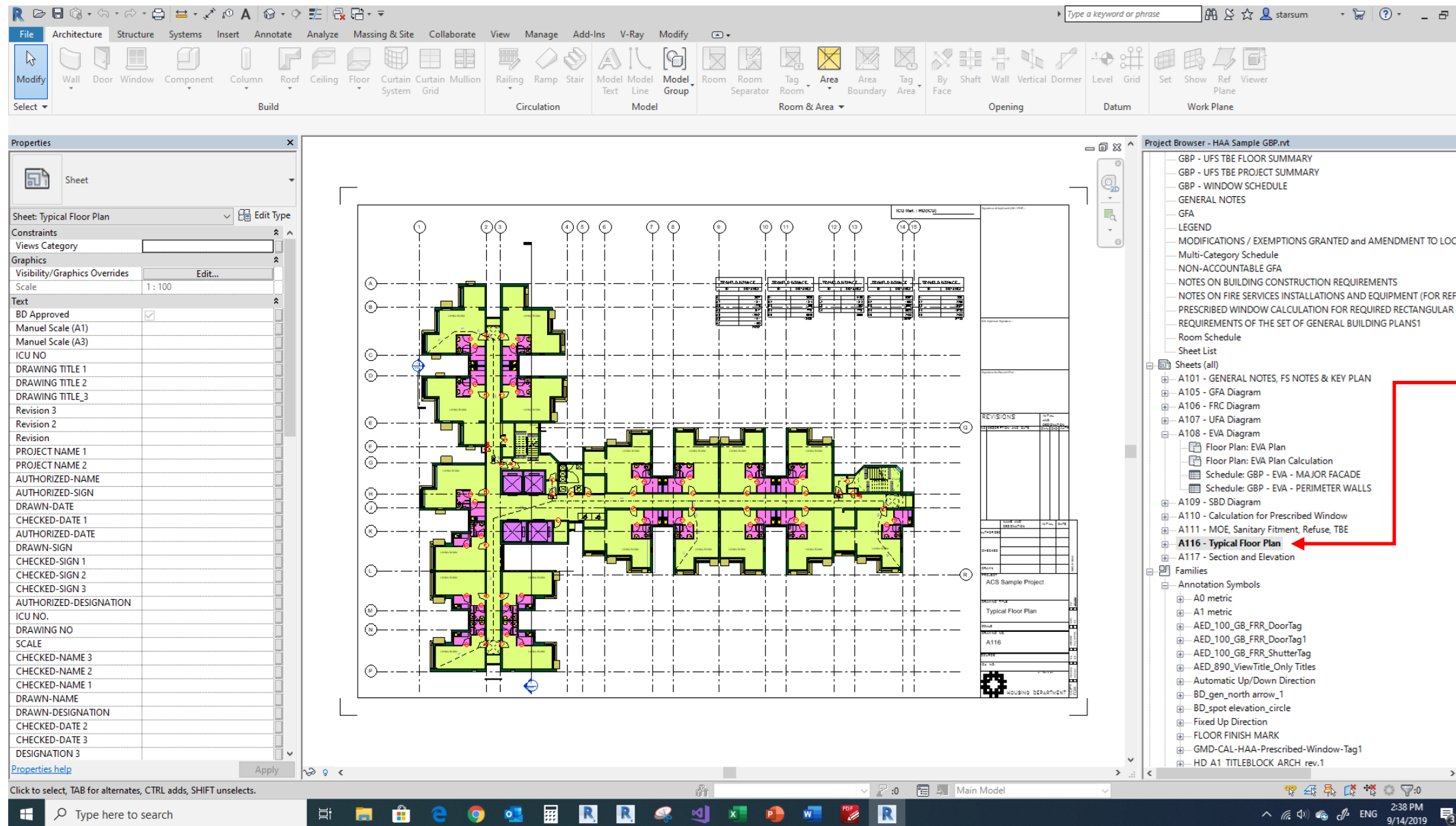
The screenshot displays the Revit interface with a legend table in the center. The table lists eight door types (D1-D8) with their corresponding descriptions. To the right, the Project Browser shows a tree view of the project structure, with a red arrow pointing to the 'GBP - FULL SET OF BD LEGEND' entry under the 'Legends' folder. The Properties panel on the left shows the 'Legend' properties for the selected entry.

Legend	Description
D1	-/60/60 F.R.R. SELF CLOSING DOOR
D2	-/60/60 F.R.R. AND SMOKE SEAL SELF CLOSING DOOR
D3	-/60/60 F.R.R. SELF CLOSING DOOR WITH F.R.R. TRANSPARENT GLASS UPPER PANEL
D4	-/60/60 F.R.R. AND SMOKE SEAL SELF CLOSING DOOR WITH F.R.R. TRANSPARENT GLASS UPPER PANEL
D5	-/60/60 F.R.R. AND SMOKE SEAL SELF CLOSING DOOR WITH F.R.R. TRANSPARENT GLASS UPPER PANEL
D6	-/120/120 F.R.R. SELF CLOSING DOOR WITH F.R.R. TRANSPARENT GLASS UPPER PANEL
D7	-/120/120 F.R.R. SELF CLOSING DOOR
D8	-/120/120 F.R.R. AND SMOKE SEAL SELF CLOSING DOOR

1 Full Set of BD Legend can be found under “GBP – FULL SET OF BD LEGEND”. Select appropriate door type as required.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

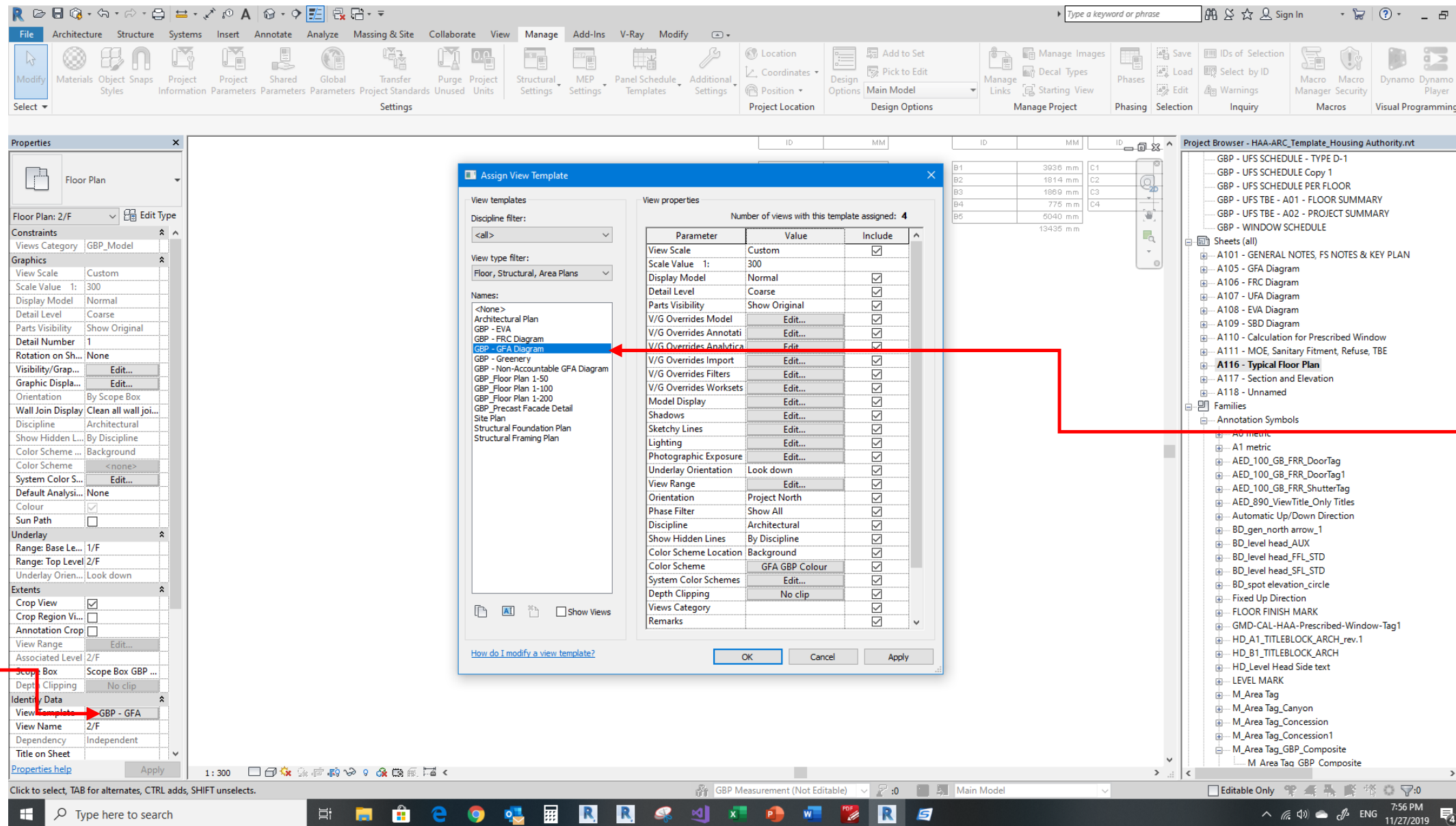
### 6.3.2 Floor Plan, Elevation & Section – General Introduction



1 View  
Template for  
Floor Plan,  
Elevation &  
Section, Room  
Tag, Stair Tag,  
Door/Window  
/Access Panel  
Tag, Lift Tag,  
Level Mark,  
Dimension,  
Grid, Travel  
Distance  
Measurement  
are provided.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.3 Floor Plan, Elevation & Section – Apply View Template



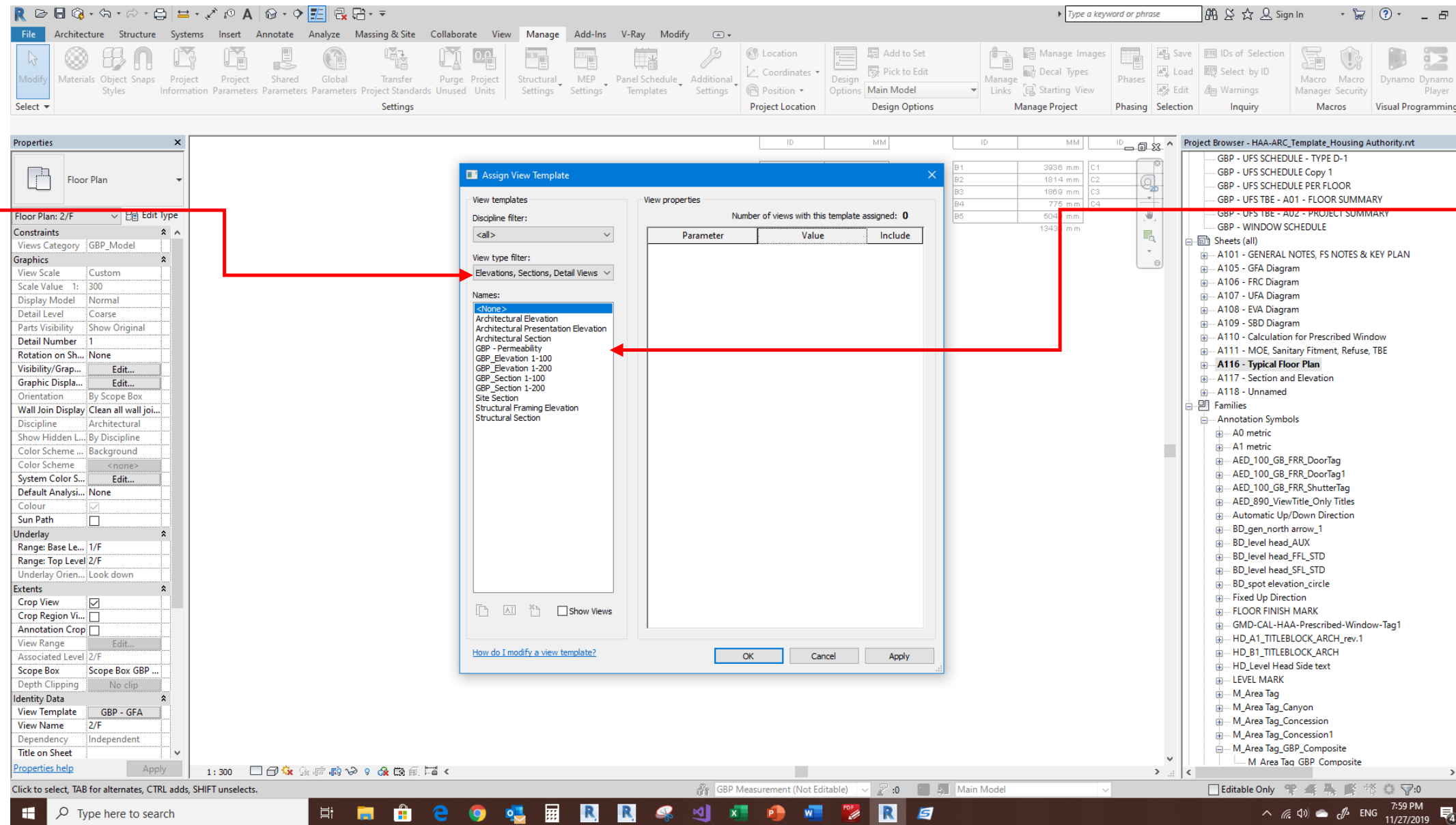
1 Pick this button to access available view template

2 Select view template with name starting with "S" for relevant plans & diagrams. Automatic generation of colour plan, elevation and sections are developed in the provided view template.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.3 Floor Plan, Elevation & Section – Apply View Template

1 Swap to elevation, section, detail view for other available view template



2 Select view template with name starting with "S" for relevant sections & elevations



## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.4 Floor Plan, Elevation & Section – Material Colour Reference Chart

1 view template use family / type name for automatic colouring. Please follow the naming standard for your own BIM objects.

Table A								
Revit Family Name / Type Name	Material / Description	Colour		Filter Rules to Trigger Colour format			Remark	
		Surface	Cut	Categories	by Parameters	contains		
Basic Wall / AWL-HAA-Brick-100mm	Brick	Wild Willow 204, 204, 102	Orange Red 255, 63, 0	Walls	Type Name	Brick		
Basic Wall / AWL-HAA-Concrete-100mm	Concrete with Plaster or Cement Rendering	Wild Willow 204, 204, 102	British Racing Green 0, 76, 38	Walls	Type Name	Concrete		
Basic Wall / AWL-HAA-Solid_Blocks-100mm	Solid Concrete Blocks	Wild Willow 204, 204, 102	Electric Blue 127, 223, 255	Walls	Type Name	Solid_Blocks		
Basic Wall / AWL-HAA-Hollow_Blocks-150mm	Hollow Concrete Blocks	Wild Willow 204, 204, 102	Purple 191, 127, 255	Walls	Type Name	Hollow_Blocks		
Basic Wall / AWL-HAA-Lightweight-100mm	Lightweight Partition (e.g. Plasterboard)	Wild Willow 204, 204, 102	Macaroni and Cheese 255,191,127	Walls	Type Name	Lightweight		
Basic Wall / AWL-HAA-Non-absorbent-200mm	Impermeable / Non-absorbent	Neon Pink 255, 127, 223	British Racing Green 0, 76, 38	Walls	Type Name	Non-absorbent		
Basic Wall / AWL-HAA-Glass-100mm	Glass	Electric Blue 127, 255, 255	Electric Blue 127, 255, 255	Walls	Type Name	Glass		
Basic Wall / AWF-HAA-Timber-25mm	Timber	Muesli 153, 133, 76	Muesli 153, 133, 76	Walls	Type Name	Timber		
Basic Wall / AWF-HAA-Metal-25mm	Metal Work or Steel	Heliotrope 223, 127, 255	Heliotrope 223, 127, 255	Walls	Type Name	Metal		
Basic Wall / AWF-HAA-Stone-70mm	Stone Finish	Dark Grey 173, 173, 173	Dark Grey 173, 173, 173	Walls	Type Name	Stone		
System Panel (Curtain Wall) / CTP-CTP-HAA-Glass	Glass	Electric Blue 127, 255, 255	Electric Blue 127, 255, 255	Curtain Panels	Type Name	Glass		
Rectangular Mullion (Curtain Wall) / CWM-HAA-Metal-50mm x 150mm	Metal Work or Steel	Heliotrope 223, 127, 255	Heliotrope 223, 127, 255	Curtain Wall Mullions	Type Name	Metal		
COL-RND-HAA / Concrete-650mm	Concrete with Plaster or Cement Rendering	Wild Willow 204, 204, 102	British Racing Green 0, 76, 38	Structural Columns	Type Name	Concrete		
DOR-SGL-HAA / Glass-900 x 2100mm	Glass	Electric Blue 127, 255, 255	Electric Blue 127, 255, 255	Doors	Type Name	Glass		
DOR-SGL-HAA / Timber-900 x 2100mm	Timber	Muesli 153, 133, 76	Muesli 153, 133, 76	Doors	Type Name	Timber		
DOR-SGL-HAA / Metal-900 x 2100mm	Metal Work or Steel	Heliotrope 223, 127, 255	Heliotrope 223, 127, 255	Doors	Type Name	Metal		
WDW-CSW-HAA / Glass-0900 x 1500mm	Glass	Electric Blue 127, 255, 255	Electric Blue 127, 255, 255	Windows	Type Name	Glass		
Assembled Stair / STR-HAA-Slab_Concrete-175mm max riser 275mm tread	Concrete Slab (Lighter Wash)	Witch Haze 223, 255, 127	British Racing Green 0, 76, 38	Stairs	Type Name	Slab_Concrete		
Railing / ARL-HAA-Metal-1100mm AFFL	Metal Work or Steel	Heliotrope 223, 127, 255	Heliotrope 223, 127, 255	Railing	Type Name	Metal		
Ramp / RAP-HAA-Slab_Concrete-1 to 12	Concrete Slab (Lighter Wash)	Witch Haze 223, 255, 127	British Racing Green 0, 76, 38	Ramps	Type Name	Slab_Concrete		
Floor / TOP-HAA-Slab_Hardcore-175mm	Hardcore or Dry Fill	Putty 204, 178, 102	Putty 204, 178, 102	Floors	Type Name	Slab_Hardcore		
Floor / SRS-HAA-Slab_Concrete-175mm	Concrete Slab (Lighter Wash)	Witch Haze 223, 255, 127	British Racing Green 0, 76, 38	Floors	Type Name	Slab_Concrete		
Floor / SRS-HAA-Concrete_Floor-150mm	Concrete Slab (Lighter Wash)	Witch Haze 223, 255, 127	British Racing Green 0, 76, 38	Floors	Type Name	Slab_Concrete		
Floor / AFF-HAA-Non-absorbent-50mm	Impermeable / Non-absorbent	Neon Pink 255, 127, 223	British Racing Green 0, 76, 38	Floors	Type Name	Non-absorbent		
Floor / AFF-HAA-Disable_Toilet-50mm	Provision for Disable	102, 204, 102		Floor	Type Name	Disable		
Basic Roof / RFS-HAA-Slab_Concrete-300mm	Concrete Slab (Lighter Wash)	Witch Haze 223, 255, 127	British Racing Green 0, 76, 38	Roofs	Type Name	Slab_Concrete		
PLM-WCS-HAA-SanFit_Cubicle-Line_Based / 1500mm Depth	Sanitary Fittings	Yellow 255, 255, 0	Yellow 255, 255, 0	Plumbing Fixtures	Family Name	Sanfit	Use Parameter "Min. Separation" to control fitment spacing	
PLM-SNK-HAA-Sanfit_Vanity-Lined_Based / 600mm Depth								
PLM-URN-HAA-SanFit_Wall_Hung-Lined_Based / General								
PLM-WCS-HAA-SanFit-Accessible / General								



## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.5 Floor Plan, Elevation & Section

Item	Revit Object Name	Object Type
Room Tag	ANN-RMG-HAA	Tag
Stair Tag	ANN-SIG-HAA	Tag
Door Tag	ANN-DAG-HAA-GBP	Tag
Window Tag	ANN-WDG-HAA-GBP	Tag
Access Panel Tag	ANN-DAG-HAA-GBP	Tag
Lift Tag	ANN-MQG-HAA	Tag
Level Mark	ANN-GNN-HAA	Tag
Dimension	ANN-LDS-HAA	Tag
Grid Symbol	ANN-GRH-HAA	Tag

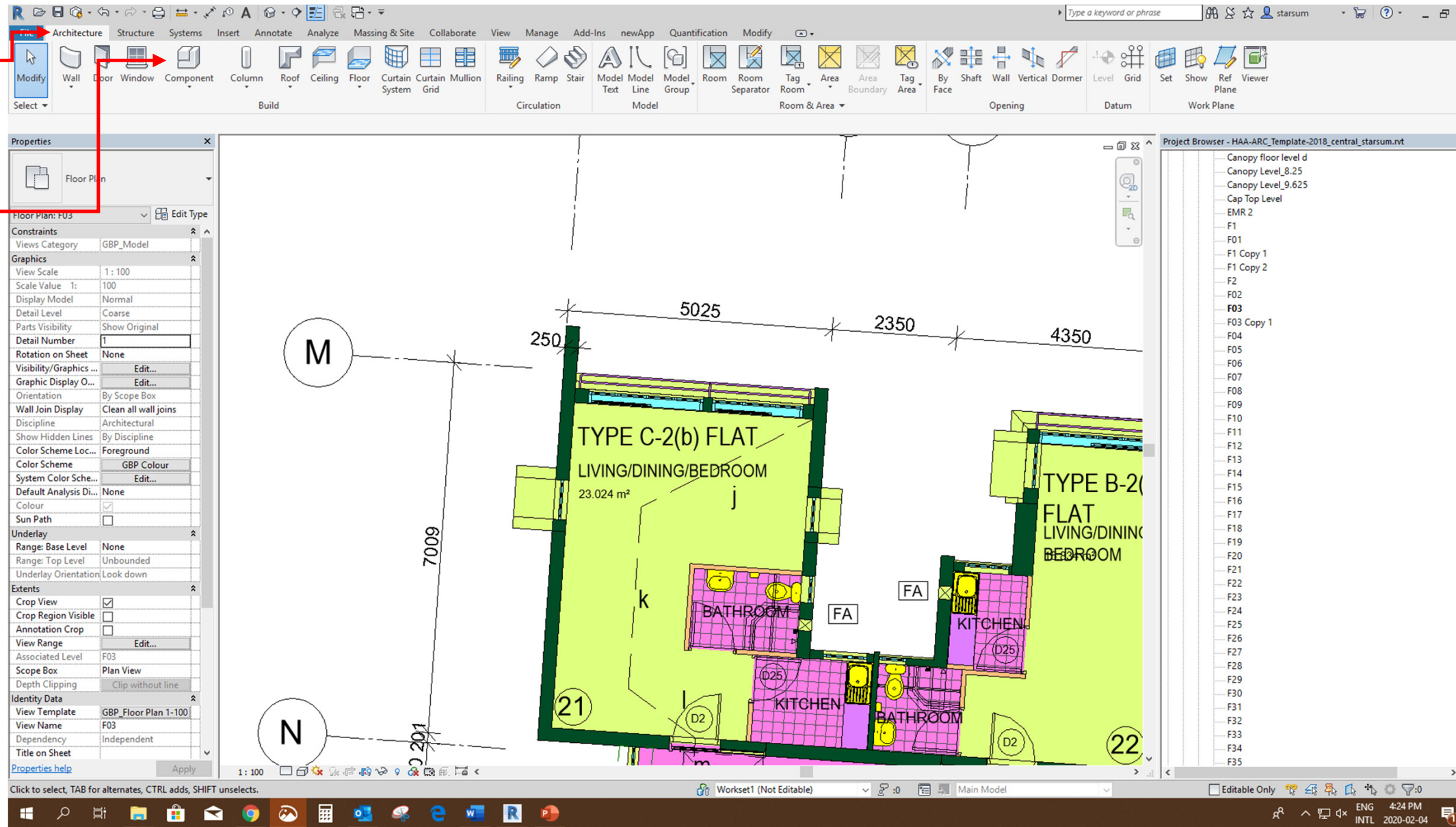
1 Go to project browser, right click then search the item by providing Revit Object Name. Then follow Section 6.1.4 to drag the information and set up a sheet.

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.6 Travel Distance Measurement

1 Click  
"Architecture"

1 Click  
"Component"



# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.6 Travel Distance Measurement

1 Select "GMD-CAL-HAA-Line\_Measurement\_Line"

2 Click "Place On Work Plane"

2 Click two points on plan

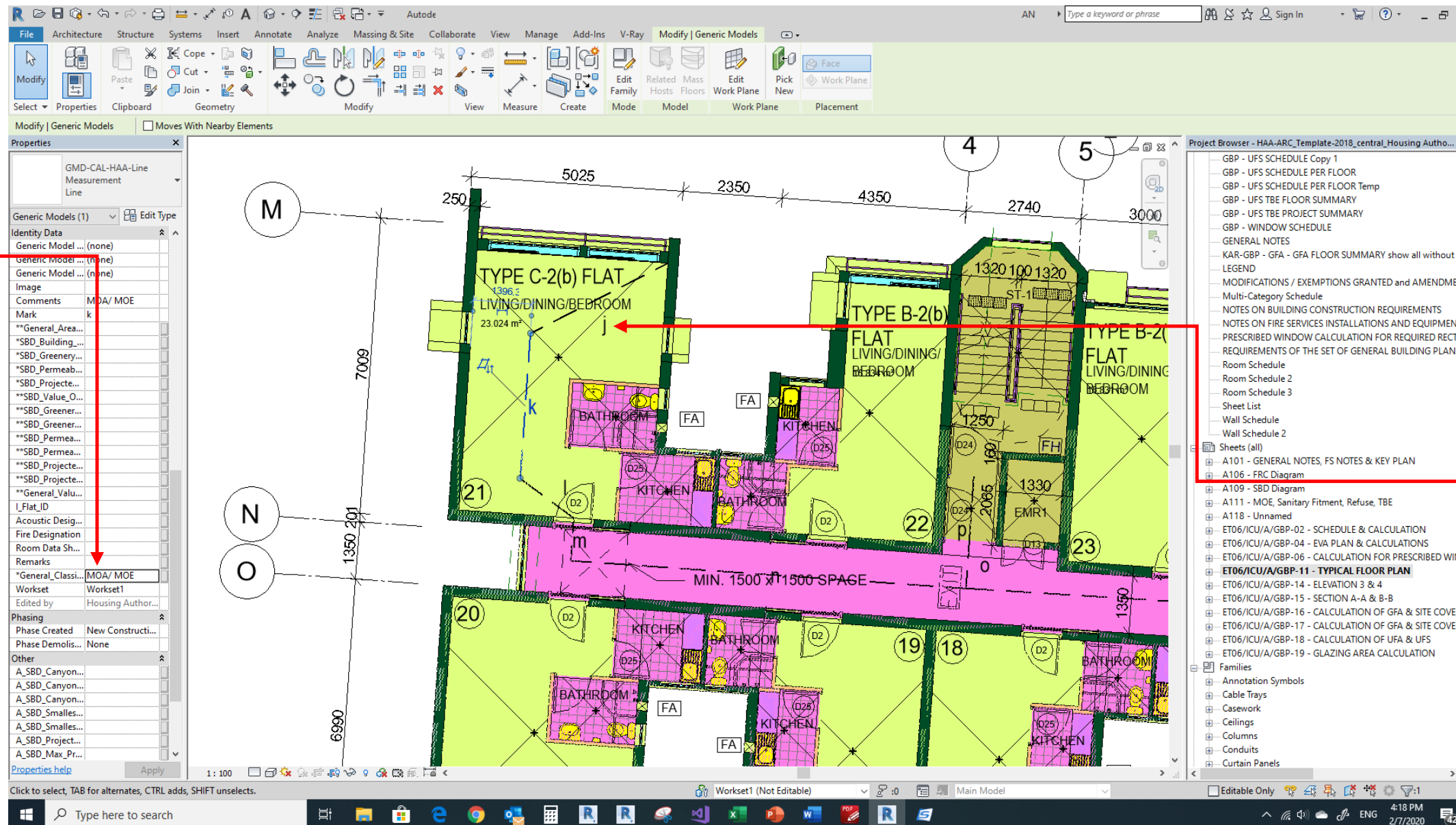
The screenshot shows the Revit software interface. The ribbon at the top has the 'Place' tab selected, with 'Place On Work Plane' highlighted. The Properties panel on the left shows the 'GMD-CAL-HAA-Line\_Measurement\_Line' selected. A search window is open, displaying a list of search results, with 'GMD-CAL-HAA-Line\_Measurement\_Line' selected. The main drawing area shows a floor plan with various rooms and dimensions. A red line is drawn across the plan, indicating the measurement path. The Project Browser on the right shows the current level as F03.



## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.6 Travel Distance Measurement

1 Select the family, enter “MOA/MOE” under parameter “\*General\_Classification”,



2 Use “M\_General Model Tag\_ID” to present ID of each family, then input the ID by clicking “?” of the tag. For each set of measurement, use same starting letter for ID, e.g set A by A1, A2, A3, set B by B1, B2 etc.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.6 Travel Distance Measurement

1 Measurement and summation of travel distance will be generated automatically on schedule "GBP - MOE TRAVEL DISTANCE".

The screenshot shows a Revit floor plan with five tables of travel distance data. Each table is titled "TRAVEL DISTANCE" and has two columns: "ID" and "DISTANCE IN MM".

ID	DISTANCE IN MM
A1	3927 mm
A2	1811 mm
A3	1776 mm
A4	917 mm
A5	12942 mm
A6	1411 mm
A7	1498 mm
	24282 mm

ID	DISTANCE IN MM
B1	3936 mm
B2	1814 mm
B3	1869 mm
B4	775 mm
B5	5040 mm
	13435 mm

ID	DISTANCE IN MM
C1	4109 mm
C2	1818 mm
C3	1858 mm
C4	775 mm
	8559 mm

ID	DISTANCE IN MM
D1	6307 mm
D2	1003 mm
D3	13592 mm
D4	6928 mm
D5	2438 mm
	30267 mm

ID	DISTANCE IN MM
S1	880 mm
S2	2250 mm
S3	16482 mm
S4	15738 mm
S5	2438 mm
	37788 mm

2 To get correct summation distance for each set of measurement, go to schedule filter, set rule to show if parameter "\*\*General\_A rea\_ID" contains "A". Then duplicate the schedule and set filter rule if parameter "\*\*General\_A rea\_ID" contains "B".



## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.7 EVA Diagram

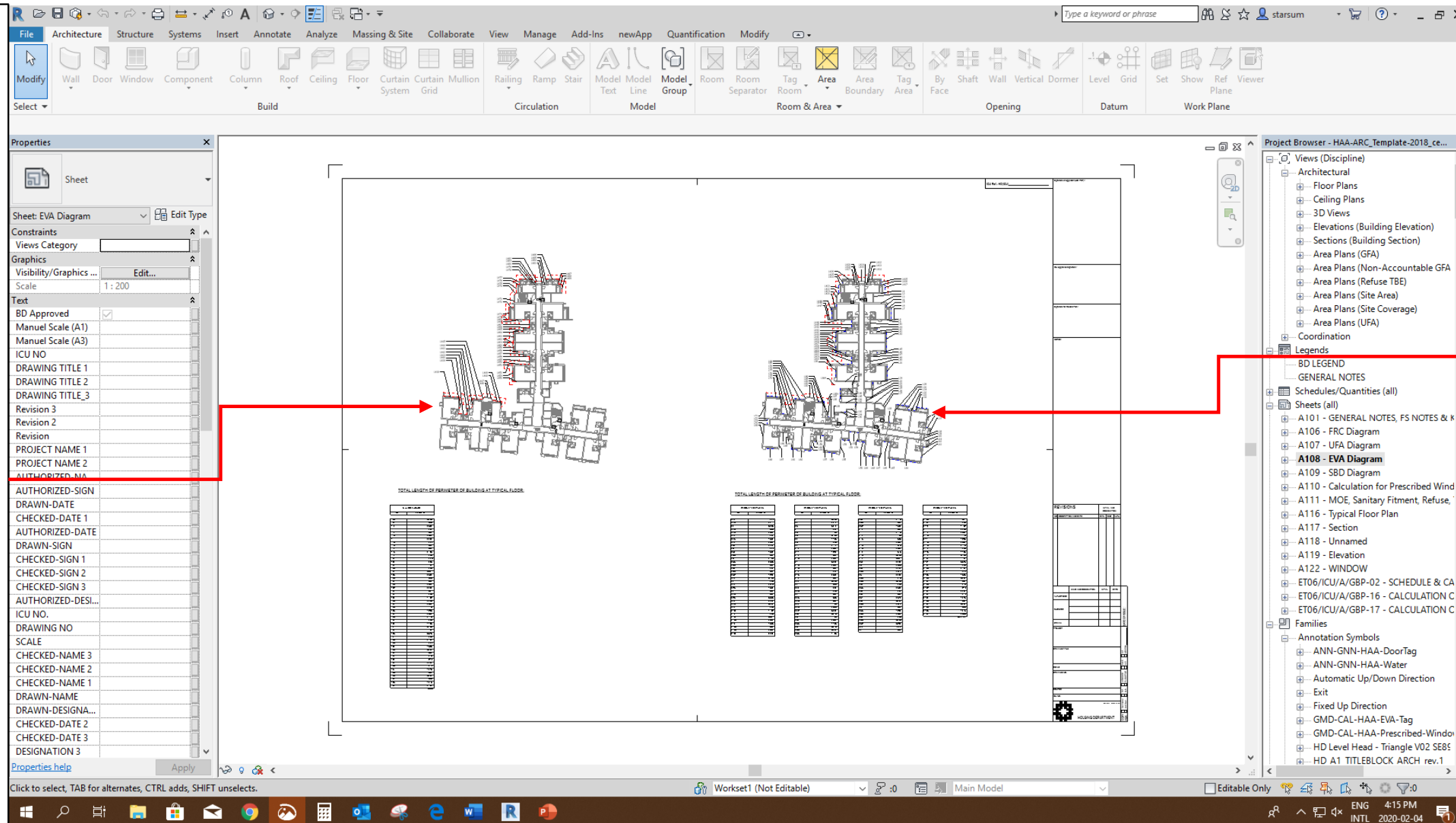
- 2 sets of families are provided for length measurement for EVA diagram. Their key differences are listed in below:

Set	Family Name	Remark
1	GMD-CAL-HAA-Line_Measurement-2D_Symbolic_Line	<ul style="list-style-type: none"><li>• Family is created by 2D symbolic line. It is visible on the view where the family is created. It is not visible for all other views. This visibility setting is normally appropriate for presentation of EVA diagram measurement.</li><li>• Family only support measurement for straight line.</li></ul>
2	GMD-CAL-HAA-Arc_Measurement-3D_Model_Line & GMD-CAL-HAA-Line_Measurement-3D_Model_Line	<ul style="list-style-type: none"><li>• Family is created by 3D model line. It is by default visible on all different kind of views. It is required to turn the family invisible for all view and only keep the family visible for the view representing EVA diagram. Use of workset can be considered to achieve this visibility setting systematically.</li><li>• Family support measurement for both straight line and arc.</li></ul>

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.7 EVA Diagram

1 Create floor plan view at appropriate level. Draw line / arc for façade served by EVA by using family as listed in previous page. These families are useful for length measurement. Under parameter “\*General\_Classification”, input “EVA\_Major Façade”



2 Repeat similar procedure for façade NOT served by EVA. Under parameter “\*General\_Classification”, input “EVA\_Other Perimeter Walls”

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.7 EVA Diagram

1 If set 2 families are adopted, change workset of previous line measurement to “GBP measurement”, families will then be visible in EVA diagram only.

The screenshot displays the Autodesk Revit 2018.3 interface. The main view shows an EVA Diagram of a building footprint with perimeter walls labeled P1, P2, P3, E1, and E2. To the right, two tables are shown: 'MAJOR FACADE' and 'PERIMETER WALLS'. A red dashed box highlights these tables, and a red arrow points from the Project Browser on the right to the 'PERIMETER WALLS' table.

MAJOR FACADE	
ID	LENGTH
E1	8975
E2	55660
E3	17375
	80010

PERIMETER WALLS	
ID	LENGTH
E1	8975
E2	55660
E3	17375
P1	38630
P2	55660
P3	26230
	198530

PERCENTAGE OF BUILDING PERIMETER LOCATION:

2 Use “ANN-GMG-HAA-ID” to present ID of each family, then input the ID by clicking “?” of the tag

3 Refer next page for detail of generated schedules.

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.7 EVA Diagram

1 Schedule  
“GBP - EVA -  
A01 - MAJOR  
FACADE”

2 Schedule  
“GBP - EVA -  
A02 -  
PERIMETER  
WALLS”

MAJOR FACADE	
ID	LENGTH
E1	6975
E2	55660
E3	17375
	80010

PERIMETER WALLS	
ID	LENGTH
E1	6975
E2	55660
E3	17375
P1	36630
P2	55660
P3	26230
	198530

PERCENTAGE OF BUILDING PERIMETER LOCATION:

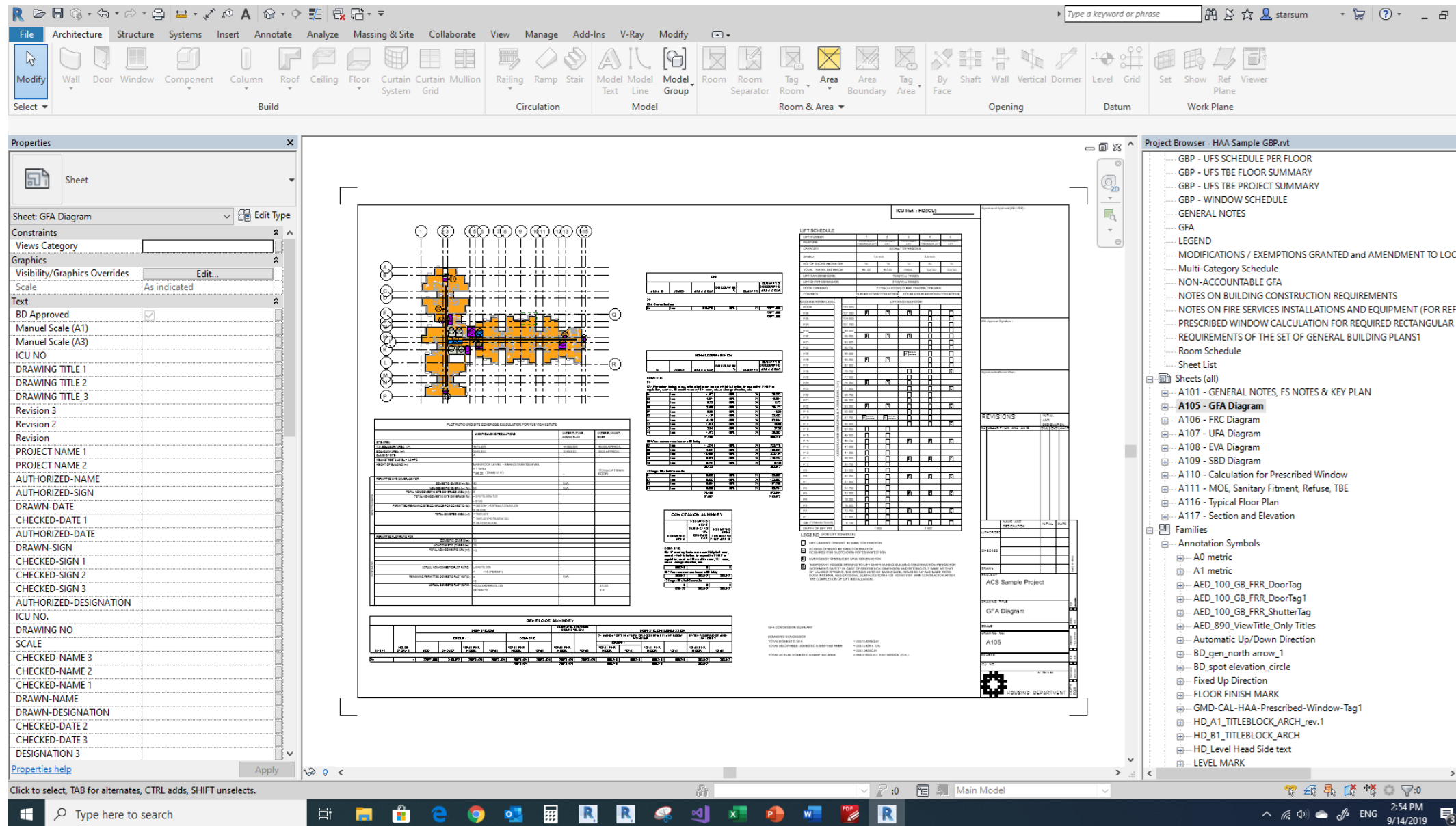
G/F	= 80
	= 40

3 Use “ANN-GMG-HAA-EVA” to EVA calculation. Edit content of tag by clicking the tag

4 “Length” is automatically generated.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.8 GFA & Site Coverage



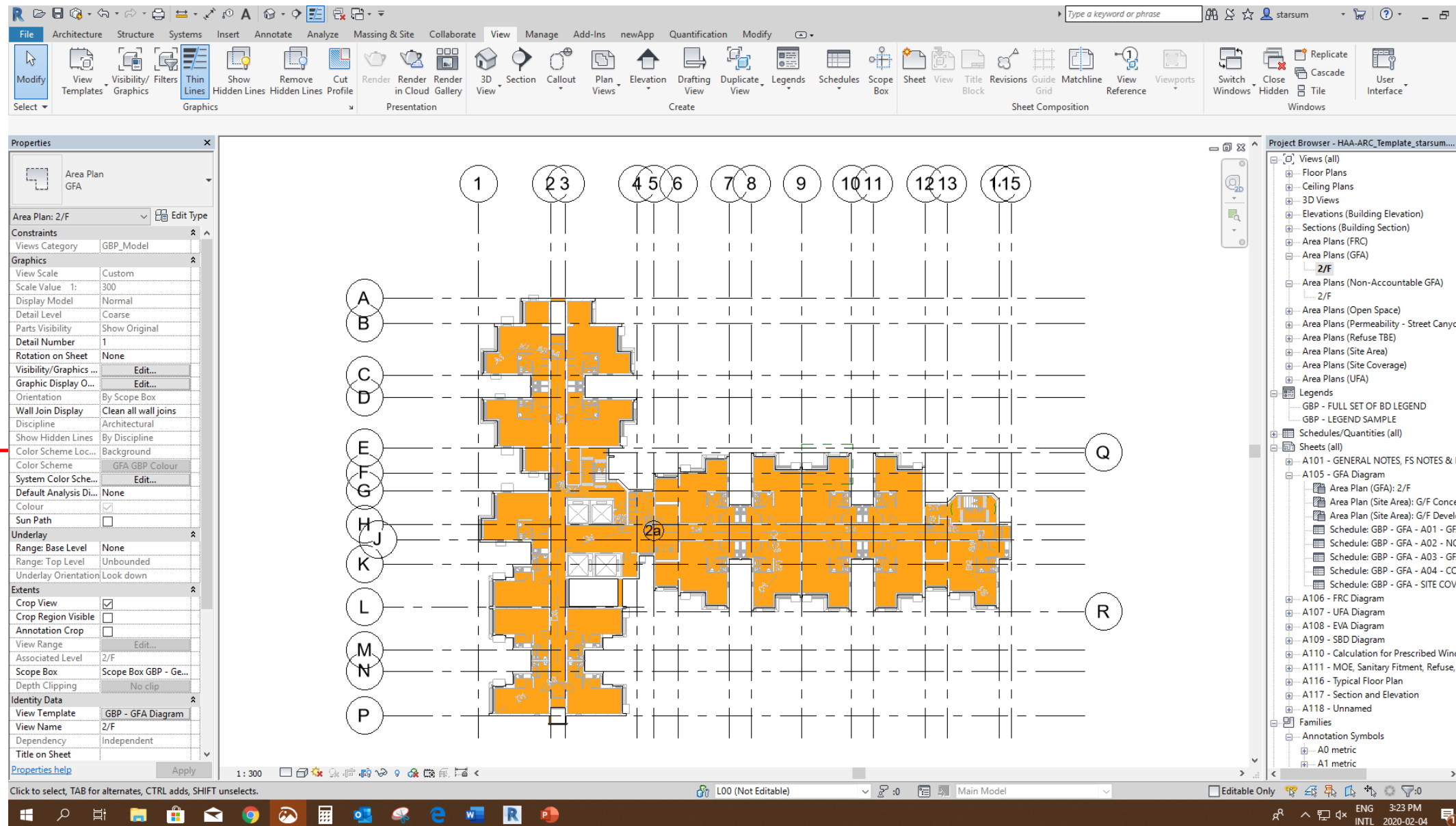
1 View Template for GFA Diagrams, calculation schedules and tag, sample lift schedule are provided. Colour of GFA diagram will be generated automatically when you adopt this view template and when appropriate parameter value is provided according to this manual.



# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.8 GFA & Site Coverage

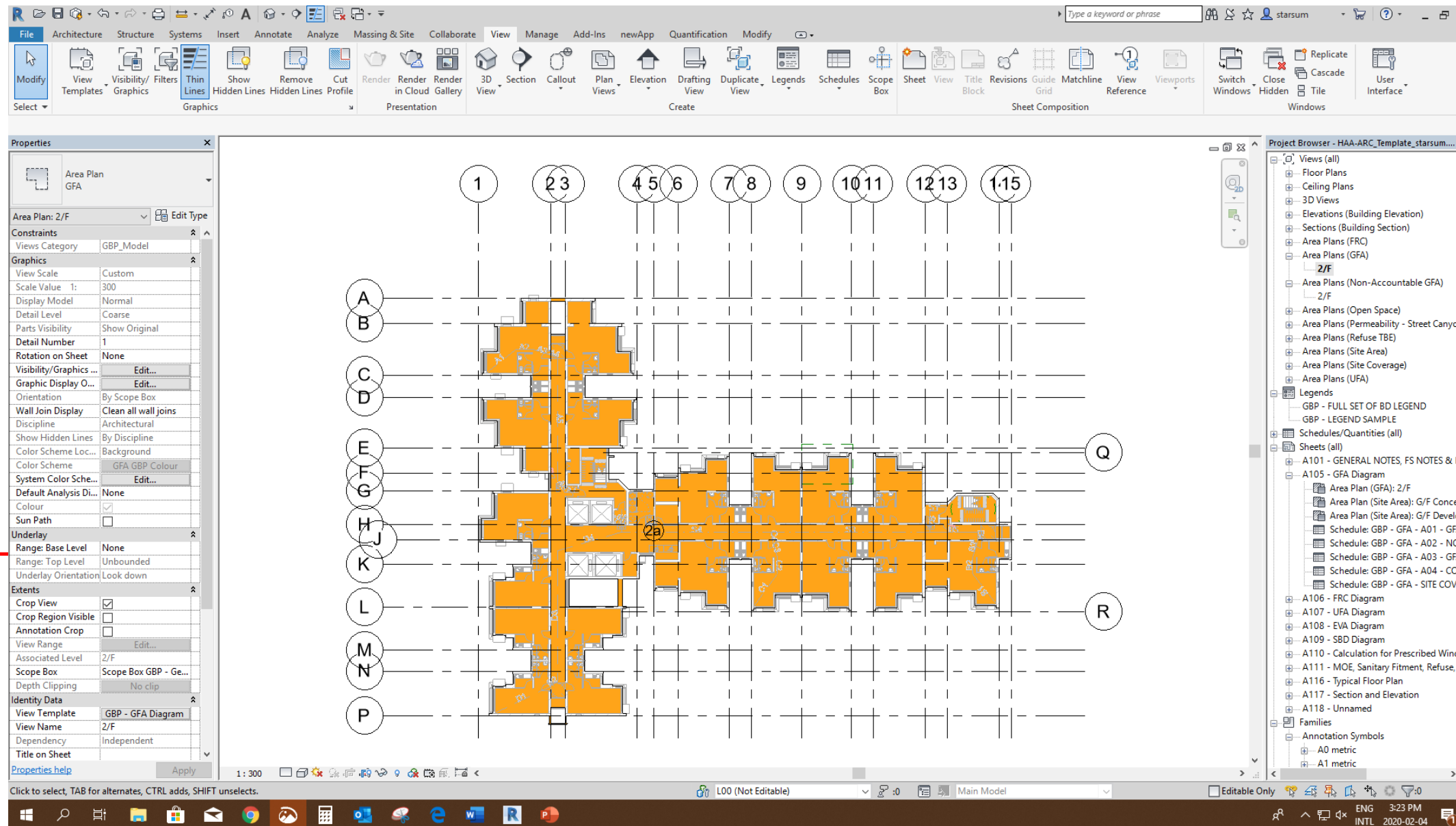
1 Refer Section 6.1.1 to setup area plan for GFA diagram & Section 6.5.2 to apply view template "S\_300\_GFA"



2 Under parameter "\*GFA\_Classification", input "GFA-Domestic Area", "GFA-Non-Domestic Area", "GFA-Non-Domestic Hotel Area", "GFA-Non-Domestic Office Area"

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.8 GFA & Site Coverage

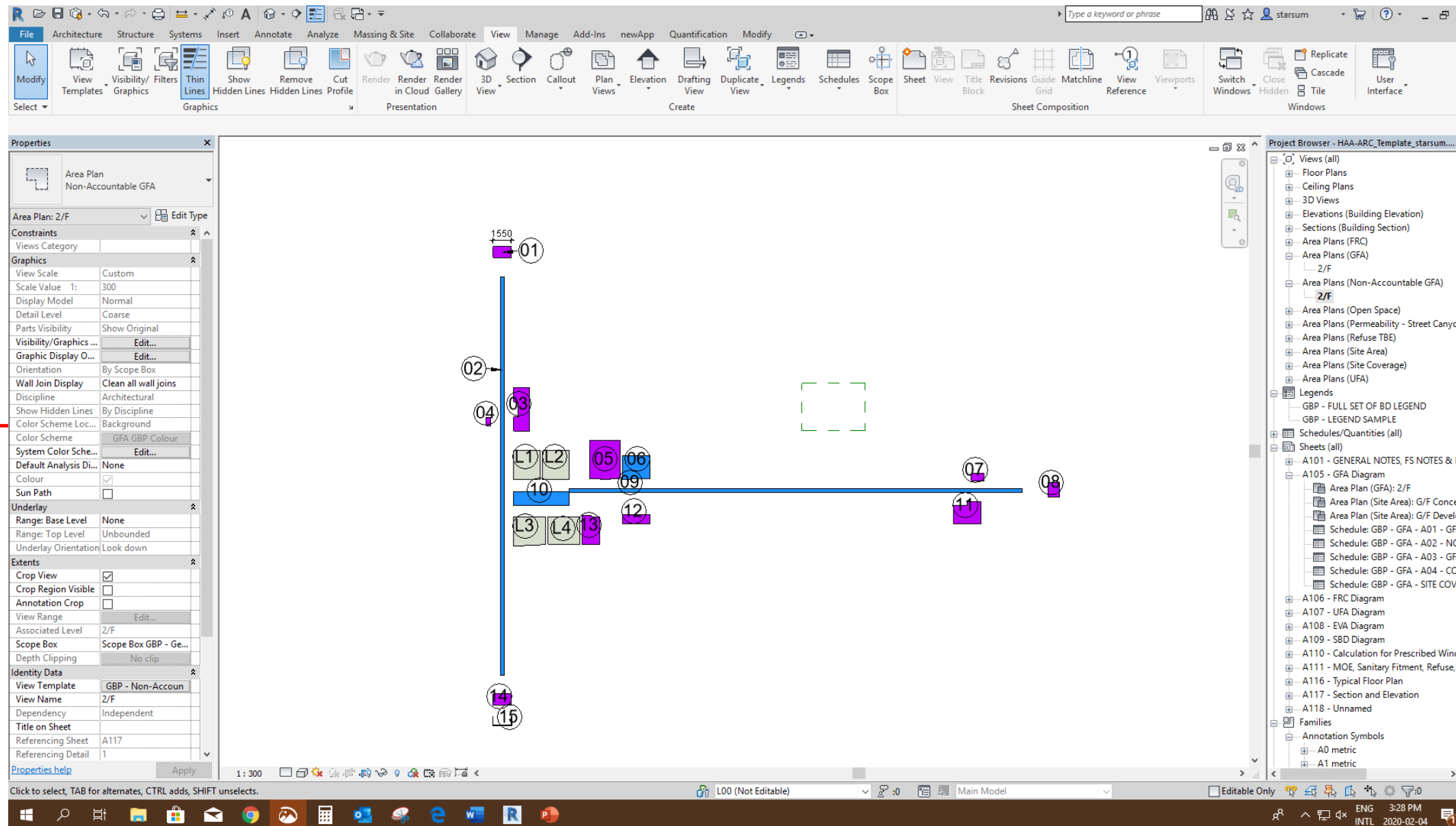


1 Refer Section 4.7.7 Scope Box to set up and apply the scope box.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.8 GFA & Site Coverage

1 Refer Section 6.1.1 to setup area plan for Non-accountable GFA diagram & Section 6.5.2 to apply view template “S\_300\_Non-Accountable GFA Diagram”



2 Under parameter “\*GFA\_Classification”, input “GFA-Domestic Area to be deducted”, “GFA-Non-Domestic Area to be deducted”, “GFA-Non-Domestic Hotel Area to be deducted”, “GFA-Non-Domestic Office Area to be deducted”

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.8 GFA & Site Coverage

Appendix A  
(PNAP APP- 151)

1 For non-accountable GFA schedule, under parameter “A\_GFA\_Concession\_ID\_Classification\_Group\_Name”, input index no. & description of GFA Concession. If the index is under single digit, add a “0” in front for proper sorting order. If sub-index is provided such as 2.1, 2.2 etc., use sub-index directly. Example of required data includes “01 Carpark and loading/unloading area excluding public transport terminus” and “02.1 Mandatory feature or essential plant room, area of which is limited by respective PNAP or regulation, such as lift machine room, TBE room, refuse storage chamber, etc.”

List of GFA Concessions

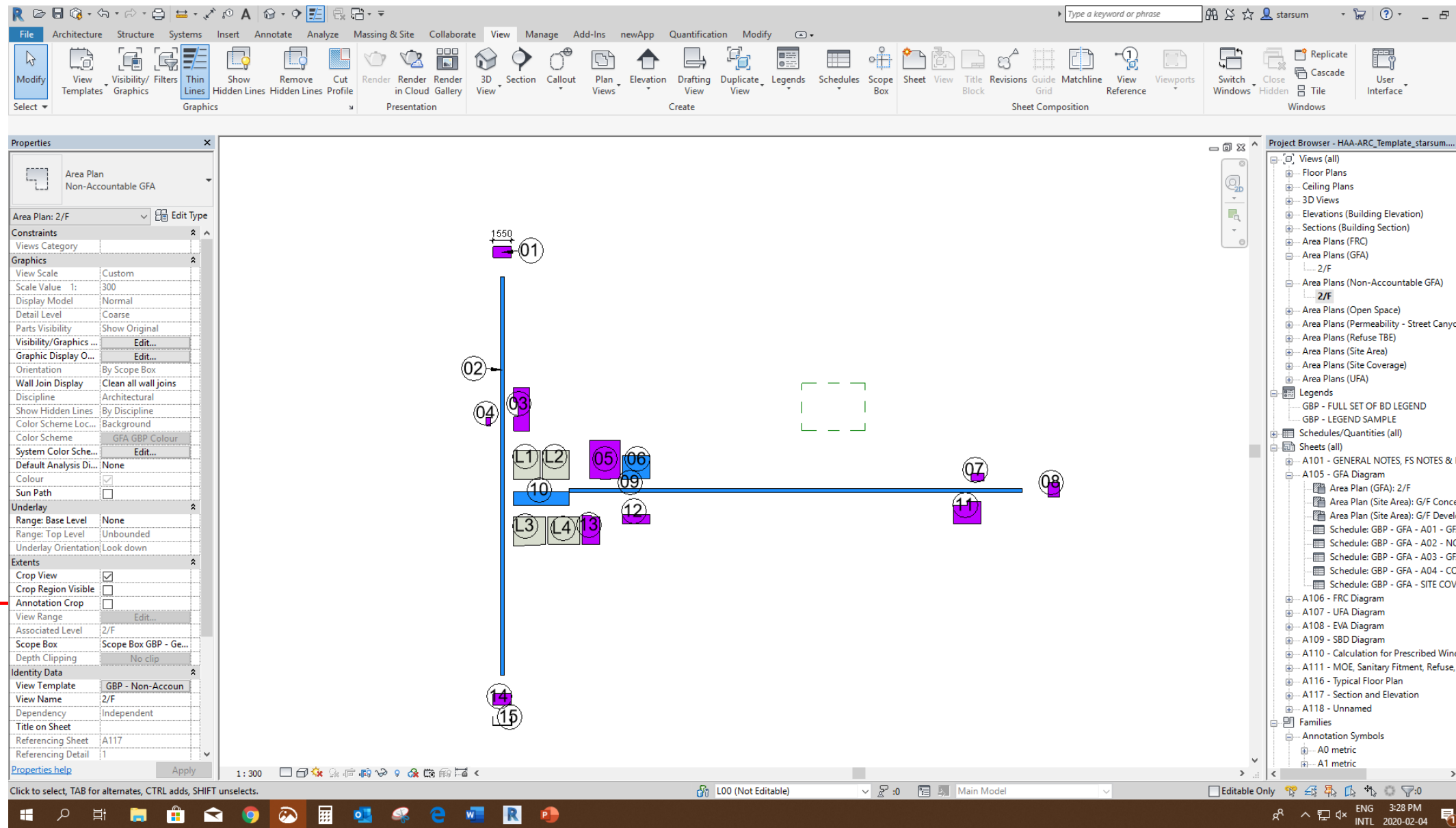
		Practice Notes	Features subject to compliance with the pre-requisites in para. 6 & 7 of PNAP APP-151	Features Subject to the Overall Cap of 10% in para.4 of PNAP APP-151
<b>Disregarded GFA under Regulation 23(3)(b) of the Building (Planning) Regulations (B(P)R)</b>				
1.	Carpark and loading/unloading area excluding public transport terminus	PNAP APP-2 and APP-111		
2.	<b>Plant rooms and similar services</b>			
2.1	Mandatory feature or essential plant room, area of which is limited by respective PNAP or regulation, such as lift machine room, TBE room, refuse storage chamber, etc. <sup>1</sup>	PNAP APP-35 & APP-84		
2.2	Mandatory feature or essential plant room, areas of which is NOT limited by any PNAP or regulation, such as room occupied solely by FSI and equipment, meter room, transformer room, potable and flushing water tank, etc. <sup>2</sup>	PNAP APP-2 and APP-42		
2.3	Non-mandatory or non-essential plant room, such as A/C plant room, AHU room, etc. <sup>3</sup>	PNAP APP-2 and APP-42	✓	✓
<b>Disregarded GFA under Regulation 23A(3) of the B(P)R</b>				
3.	Area for picking up and setting down persons departing from or arriving at the hotel by vehicle	PNAP APP-40		
4.	Supporting facilities for a hotel	PNAP APP-40		
<b>Green Features under Joint Practice Notes (JPNs)</b>				
5.	Balcony for residential buildings	JPN1	✓	✓
6.	Wider common corridor and lift lobby	JPN1	✓	✓
7.	Communal sky garden	JPN1 & 2 PNAP APP-122	✓	
8.	Communal podium garden for non-residential buildings	JPN1	✓	
9.	Acoustic fin	JPN1	✓	
10.	Wing wall, wind catcher and funnel	JPN1	✓	
11.	Non-structural prefabricated external wall	JPN2	✓	✓
12.	Utility platform	JPN2	✓	✓
13.	Noise barrier	JPN2	✓	



# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.8 GFA & Site Coverage

1 Refer Section 4.7.7 Scope Box to apply the same Scope Box as used in GFA Diagram





# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.8 GFA & Site Coverage

1 Drag the plan view of GFA diagram to Sheet

**GFA SCHEDULE**

AREA ID	USAGE	AREA (SQ. M)	DISCOUNT %	QUANTITY	QUANTITY X DISCOUNTED AREA (SQ. M)
2F GFA-Domestic Area		944.879	100%	24	22677.096
					22677.096

**NO N-ACCOUNTABLE GFA SCHEDULE**

ID	USAGE	AREA (SQ. M)	DISCOUNT %	QUANTITY	QUANTITY X DISCOUNTED AREA (SQ. M)
D01	Area	1.472	100%	24	36.328
D02	Area	4.621	100%	24	110.904
D04	Area	0.28	100%	24	6.72
D05	Area	8.405	100%	24	201.72
D07	Area	0.66	100%	24	16.84
D08	Area	1.187	100%	24	28.488
I1	Area	4.106	100%	24	98.544
I2	Area	1.915	100%	24	46.96
I3	Area	3.64	100%	24	87.36
I4	Area	1.473	100%	24	36.352
		27.759			666.216

**DOMESTIC**

D01 Mandible room or essential plan room, area of which is limited by respective P.N.A.P. or right of way, for lift machine room, TBE room, refuse storage chamber, etc.:

ID	USAGE	AREA (SQ. M)	DISCOUNT %	QUANTITY	QUANTITY X DISCOUNTED AREA (SQ. M)
D01	Area	11.824	100%	24	283.776
D02	Area	4.581	100%	24	109.944
D03	Area	13.466	100%	24	323.184
D04	Area	5.676	100%	24	136.224
D05	Area	0.241	100%	24	5.784
		36.788			869.912

**10 Larger lift shaft-0 covered:**

ID	USAGE	AREA (SQ. M)	DISCOUNT %	QUANTITY	QUANTITY X DISCOUNTED AREA (SQ. M)
L1	Area	5.583	100%	24	133.992
L2	Area	5.583	100%	24	133.992
L3	Area	6.554	100%	24	157.296
L4	Area	6.395	100%	24	153.264
		24.105			578.544
		87.652			2103.672

**SITE COVERAGE**

ID	USAGE	AREA (SQ. M)

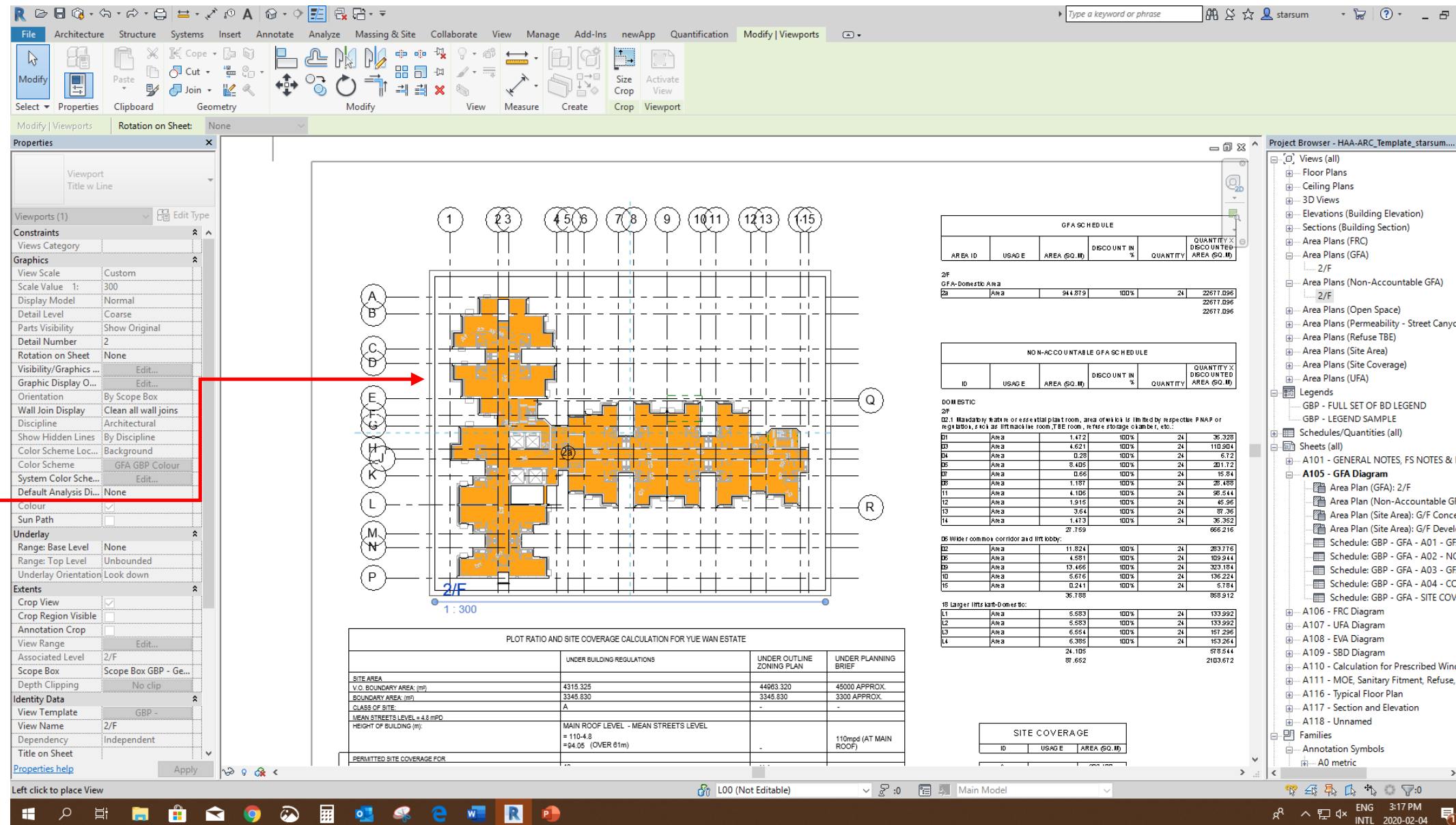
**PLOT RATIO AND SITE COVERAGE CALCULATION FOR YUE WAN ESTATE**

	UNDER BUILDING REGULATIONS	UNDER OUTLINE ZONING PLAN	UNDER PLANNING BRIEF
SITE AREA	4315.325	44963.320	45000 APPROX.
V.O. BOUNDARY AREA (m <sup>2</sup> )	3345.830	3345.830	3300 APPROX.
BOUNDARY AREA (m <sup>2</sup> )			
CLASS OF SITE	A	-	-
MEAN STREETS LEVEL = 4.8 mPD			
HEIGHT OF BUILDING (m)	MAIN ROOF LEVEL - MEAN STREETS LEVEL = 110.4.8 = 94.05 (OVER 81m)		110mpd (AT MAIN ROOF)
PERMITTED SITE COVERAGE FOR			

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.8 GFA & Site Coverage

1 Drag the plan view of Non-accountable GFA diagram to Sheet. When same scope box is applied to both GFA and non-accountable GFA diagrams, two diagrams can be positioned accurately by snapping centre points of each diagram.



# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.8 GFA & Site Coverage

1 Use schedule “GBP - GFA - A01 - ACCOUNTABLE DOMESTIC/NO N-DOMETIC GFA SCHEDULE” for presentation

2 “Area” is automatically generated.

The screenshot displays the Revit software interface with a table of Gross Floor Area (GFA) calculations and a concession schedule. A red arrow points from the 'ADD AREA' section to the concession details.

G/F NON-DOMESTIC GFA CALCULATIONS		
ADD AREA:		
3	GROSS FLOOR AREA	610.158 m <sup>2</sup>
4	GROSS FLOOR AREA	409.008 m <sup>2</sup>
		1019.166 m <sup>2</sup>

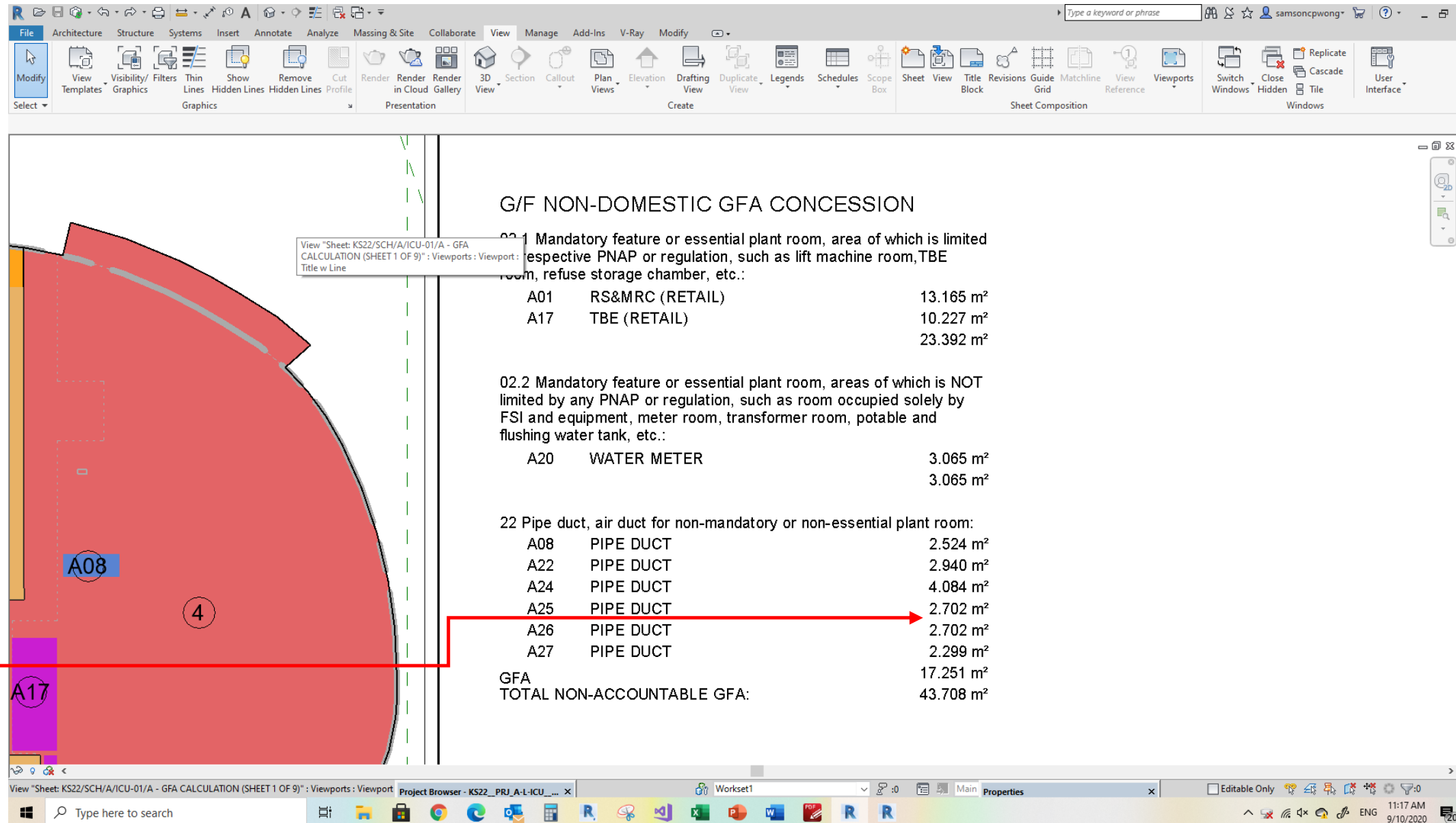
G/F NON-DOMESTIC GFA CONCESSION	
02.1	Mandatory feature or essential plant room, area of which is limited by respective DNAP or regulation, such as lift machine room, TRF room, refuse storage chamber

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.8 GFA & Site Coverage

1 Use schedule “GBP - GFA - A02A – DOMESTI/ NON-DOMESTIC CONCESSION SCHEDULE” for presentation

2 “Area” is automatically generated.



## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.8 GFA & Site Coverage

1 Use schedule “GBP - GFA - A02B - NET DOMESTIC/ NON-DOMESTIC GFA SCHEDULE” for presentation

2 Use schedule “GBP - GFA - A02C - NET DOMESTIC/ NON-DOMESTIC GFA PER PROJECT SCHEDULE” for presentation

		8.686 m <sup>2</sup>
22	Pipe duct, air duct for non-mandatory or non-essential plant room: E14 PIPE DUCT	2.989 m <sup>2</sup>
	TOTAL NON-ACCOUNTABLE GFA:	2.989 m <sup>2</sup>
	GFA	59.362 m <sup>2</sup>
	800.105 m <sup>2</sup> - 59.362 m <sup>2</sup> =	740.743 m <sup>2</sup>
	GFA	
	740.743 m <sup>2</sup> x 39 =	28888.977 m <sup>2</sup>
		28888.977 m <sup>2</sup>

3 It is required to list only 1 area per level in these schedules. This can be achieved by “schedule filter”. Temporarily turn off filter of this schedule, and unhide parameter “A\_GFA\_Floor\_Lowest\_ID”. Without this filter, all “areas” under “GFA” area plan will be listed. Pick one area with smallest “ID”, e.g. if there are area with ID “1, 2, 3”, pick area with ID “1”. Under parameter “A\_GFA\_Floor\_Lowest\_ID”, Set value to true. Hide parameter, revert filter setting. Then this schedule will only list one row for each level.



# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.8 GFA & Site Coverage

1 Use schedule "GBP - GFA - A03 - GFA FLOOR SUMMARY" for presentation

Level	Domestic GFA		Domestic GFA Concession														Non-Domestic GFA Concession				
	Total	Total	1	2.1	2.2	6	11	14	17	21	23	34	2.1	2.2	14	17	24	25			
			Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total		
Footbridge																					
G/F	0.000 m²	385.832 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	3.643 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²			
P/F	0.000 m²	108.825 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	3.643 m²	0.000 m²	165.352 m²	0.000 m²	0.000 m²			
L1/F	0.000 m²	221.213 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	3.643 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²			
MF1/F	0.000 m²	107.025 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	3.643 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²			
MF2/F	0.000 m²	109.024 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	3.643 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²			
L2/F	0.000 m²	130.831 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	3.643 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²			
Building																					
G/F	901.898 m²	994.821 m²	621.832 m²	175.381 m²	200.858 m²	0.000 m²	0.000 m²	0.000 m²	57.058 m²	2.145 m²	0.000 m²	0.000 m²	23.392 m²	3.085 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²			
M1/F	0.000 m²	95.133 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	197.885 m²	0.000 m²	0.000 m²	0.000 m²	23.181 m²			
L2/F	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²			
P/F	355.476 m²	893.504 m²	0.000 m²	2.835 m²	8.018 m²	0.000 m²	0.000 m²	14.196 m²	42.805 m²	20.588 m²	0.000 m²	0.000 m²	55.973 m²	171.937 m²	221.836 m²	0.000 m²	0.000 m²	0.000 m²			
F2/F - F39/F	28148.234 m²	0.000 m²	0.000 m²	476.254 m²	767.714 m²	681.720 m²	330.068 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²			
R/F	0.000 m²	0.000 m²	0.000 m²	0.000 m²	102.407 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	16.292 m²	6.257 m²	192.102 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²			
LMR/F	0.000 m²	0.000 m²	0.000 m²	101.941 m²	114.986 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	97.532 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²			
UR/F	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	19.799 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²	0.000 m²			
	29405.608 m²	3046.208 m²	621.832 m²	756.411 m²	1193.983 m²	681.720 m²	330.068 m²	14.196 m²	99.863 m²	39.025 m²	6.257 m²	309.433 m²	79.365 m²	394.745 m²	221.836 m²	165.352 m²	0.000 m²	23.181 m²			

2 Similar to previous schedules, use parameter "A\_GFA\_Floor\_Lowest\_ID" to show only list one row for each level.

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.8 GFA & Site Coverage

1 Insert tag “ANN-AEG-HAA-GBP\_Composite\_HA” to area representing site area. Input necessary data. Double click the tag to modify its format if necessary.

**PLOT RATIO AND SITE COVERAGE CALCULATION FOR YUE WAN ESTATE**

	UNDER BUILDING REGULATIONS	UNDER OUTLINE ZONING PLAN	UNDER PLANNING BRIEF
<b>SITE AREA</b>			
V.O. BOUNDARY AREA: (m²)	4315.325	44963.320	45000 APPROX.
BOUNDARY AREA: (m²)	3345.830	3345.830	3300 APPROX.
CLASS OF SITE:	A	-	-
MEAN STREETS LEVEL = 4.8 mPD	MAIN ROOF LEVEL - MEAN STREETS LEVEL		
HEIGHT OF BUILDING (m):	= 110-4.8 = 94.05 (OVER 61m)	-	110mpd (AT MAIN ROOF)
<b>SITE COVERAGE</b>			
PERMITTED SITE COVERAGE FOR			
DOMESTIC (OVER 61m) (%)	40	N.A.	
NON-DOMESTIC (OVER 61m) (%)	65	N.A.	
TOTAL NON-DOMESTIC SITE COVERAGE AREA (m²):	0		
TOTAL NON-DOMESTIC SITE COVERAGE (%):	= 0/4315.325x100 = 0<65		
PERMITTED REMAINING SITE COVERAGE FOR DOMESTIC (%):	= (62.5%-1.439%)x37.5%/62.5% = 36.636		
TOTAL COVERED AREA (m²):	= 1804.816 = 1804.816/4315.325x100 = 26.070<36.636		
<b>PLOT RATIO</b>			
PERMITTED PLOT RATIO FOR			
DOMESTIC (OVER 61m):	10		
NON-DOMESTIC (OVER 61m):	15		
TOTAL NON-DOMESTIC GFA (m²):	= 0		
ACTUAL NON-DOMESTIC PLOT RATIO:			
	= 0/4315.325 = <15 (PERMIT)		
REMAINING PERMITTED DOMESTIC PLOT RATIO:	= 0	N.A.	
ACTUAL DOMESTIC PLOT RATIO:	= 41146.848/4315.325 = 9.535<10		37000 3.4

**SITE COVERAGE**

ID	USAGE	AREA
A		902

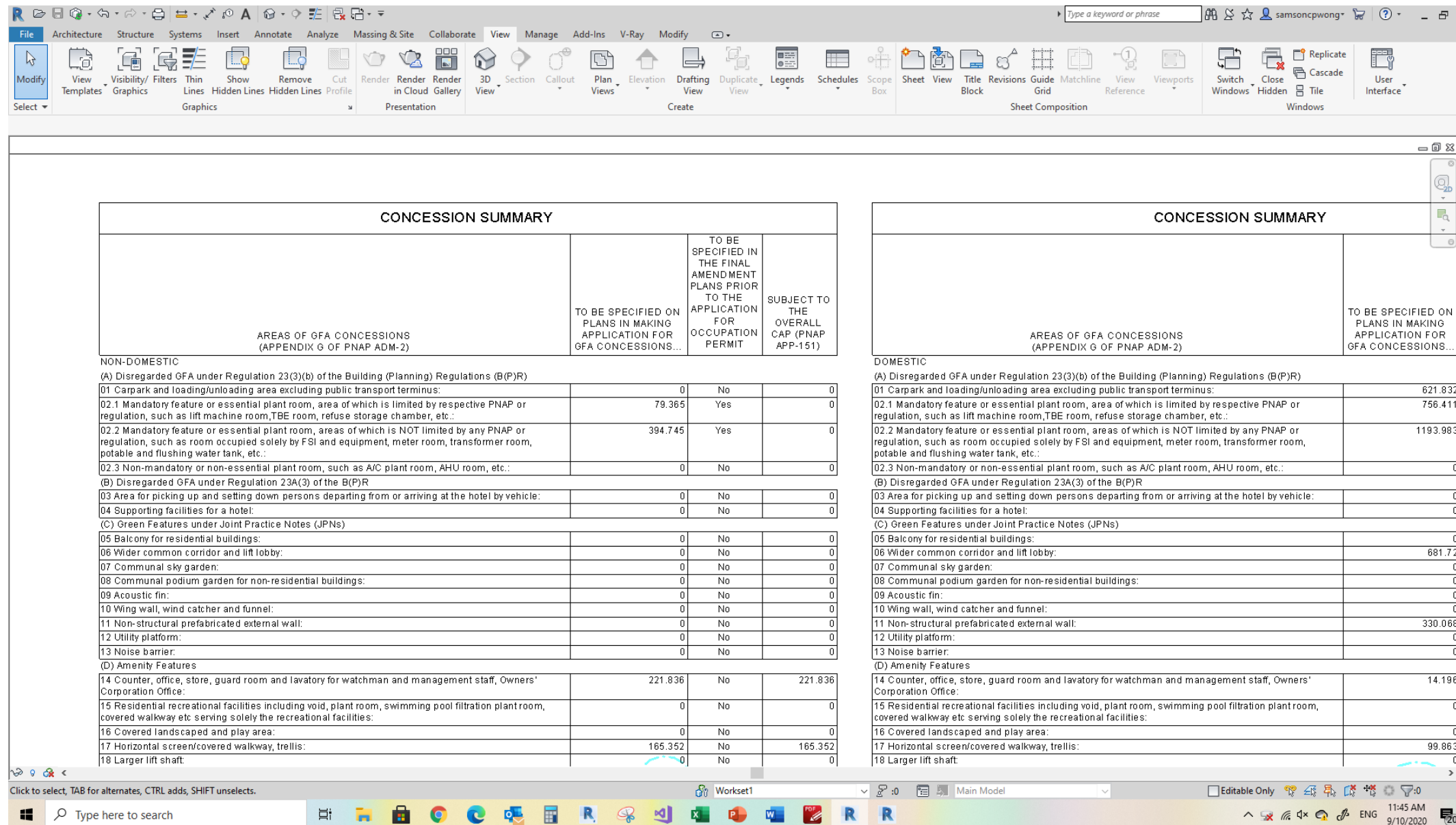
**CONCESSION SUMMARY**

EXEMPTED AREA	EXEMPTED AREA SUBJECT TO 10% OVERALL CAP	EXE SUBJ PNAP.
1332.432	0	
1717.824	1717.824	1
0	0	
3050.256	1717.824	1

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.8 GFA & Site Coverage

1 Use schedule "GBP - GFA - A04 - CONCESSION SUMMARY" for presentation



# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.8 GFA & Site Coverage

1 Use schedule "GBP - GFA - SITE COVERAGE" for presentation

2 "Area" is automatically generated.

The screenshot displays the Revit software interface with a GFA diagram. A table on the left lists various areas, with a red box highlighting the '110mpd (AT MAIN ROOF)' entry. A red arrow points from this entry to the 'SITE COVERAGE' table, which shows an area of 902.408 SQ.M. Another red arrow points from the '110mpd (AT MAIN ROOF)' entry to the 'CONCESSION SUMMARY' table, which details exempted areas and overall capacity. A third red arrow points from the '110mpd (AT MAIN ROOF)' entry to the 'LEGEND' section, which defines symbols for lift landing openings.

SITE COVERAGE		
ID	USAGE	AREA (SQ.M)
A		902.408

CONCESSION SUMMARY		
EXEMPTED AREA	EXEMPTED AREA SUBJECT TO 10% OVERALL CAP	EXEMPTED AREA SUBJECT TO PNAP APP151
1332.432	0	0
1717.824	1717.824	1717.824
0	0	0
3050.256	1717.824	1717.824

LEGEND (FOR LIFT SCHEDULE)	
<input type="checkbox"/>	LIFT LANDING OPENING BY
<input checked="" type="checkbox"/>	ACCESS OPENING BY MAIN REQUIRED FOR SUSPENSIO
<input type="checkbox"/>	EMERGENCY OPENING BY
<input type="checkbox"/>	TEMPORARY ACCESS OPEI WORKMEN'S SAFETY IN CA OF LANDING OPENING. THE BOTH INTERNAL AND EXTE THE COMPLETION OF LIFT

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.9 GFA – Lift Shaft Concession Calculation

1 Add Tag  
“ANN-AEG-  
HAA-  
Lift\_Shaft” to  
Site Area,  
then input  
necessary  
data.

The screenshot displays the Revit software interface with a GFA (Gross Floor Area) calculation table. A red box highlights the 'Tag' field in the Properties panel, with an arrow pointing to the 'LIFT SHAFT SUMMARY' row in the table.

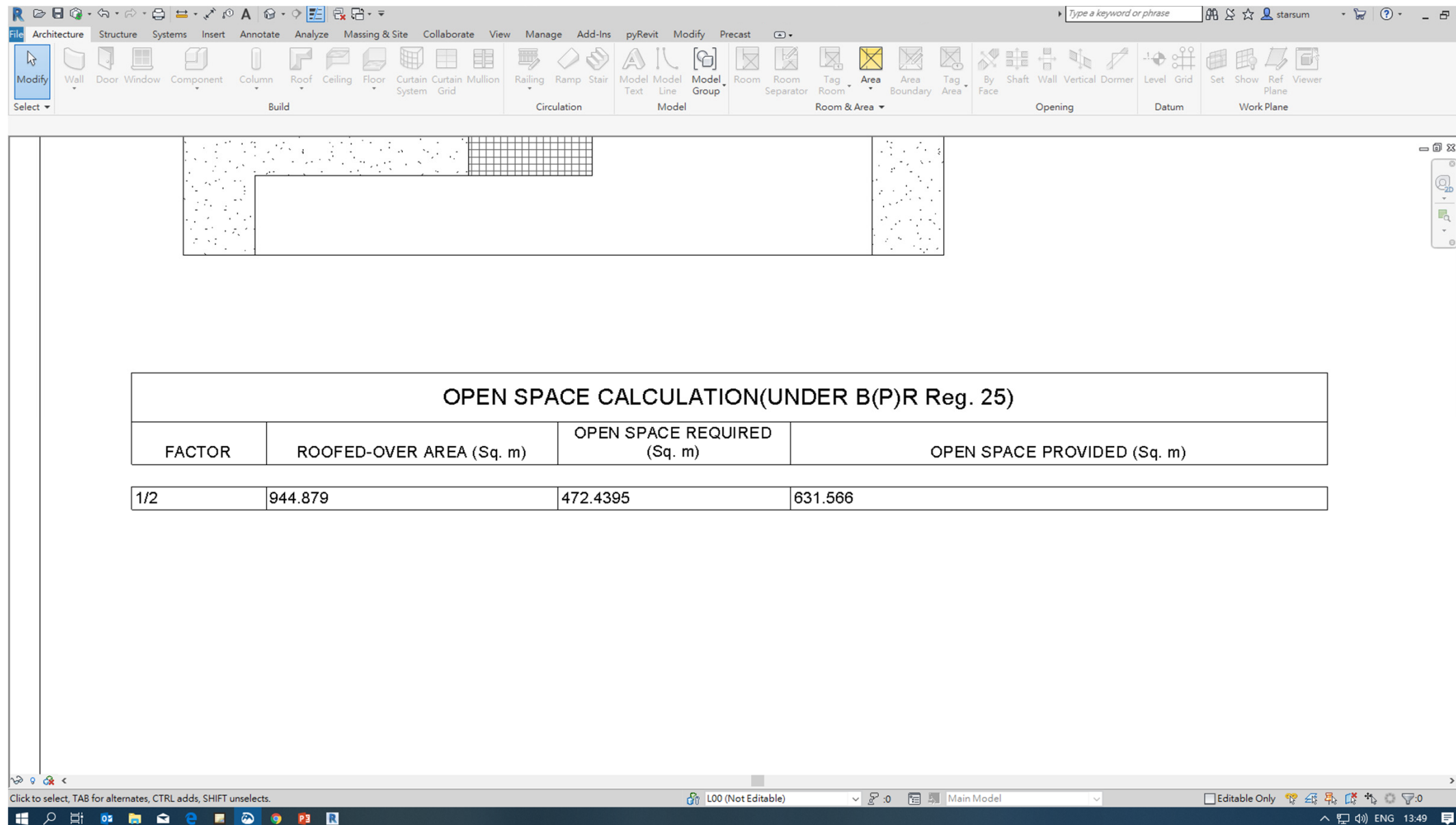
Category	Value
ACTUAL DOMESTIC GFA	7126.419
ACTUAL NON-DOMESTIC GFA	7126.419/1990.642
ACTUAL EXEMPTED GFA (SQ.M):	3.580<5.880
<b>LIFT SHAFT SUMMARY</b>	
DOMESTIC ACCOMMODATION	
OVERALL DOMESTIC GFA (SQ.M):	7218.945
DOMESTIC LIFT SHAFT AREA (SQ.M):	273
MAXIMUM EXEMPTED GFA (SQ.M):	7218.945x3.5%
	252.663
ACTUAL EXEMPTED GFA (SQ.M):	273-7218.945x2.5%
	92.526 (MAX.252.663)
ACTUAL DOMESTIC GFA (SQ.M):	7218.945-92.526
	7126.419
<b>GFA CONCESSION SUMMARY</b>	
NON-DOMESTIC CONCESSION	
TOTAL NON-DOMESTIC GFA	= 1982.312SQ.M
TOTAL ALLOWABLE NON-DOMESTIC EXEMPTED AREA	= 1082.312 x 100%



# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.10 Open Space

1 Use schedule "GBP - OPEN SPACE"



2 This schedule will only list area when parameter "A\_OpenSpace\_lowest\_ID" is set to "TRUE"

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.11 Fire Compartment

The screenshot displays the Revit software interface for a Fire Resistance Diagram (FRD). The main view shows a grid of rooms with fire resistance requirements. Below the grid is a table titled 'FIRE RESISTANCE REQUIREMENT FOR ELEMENTS OF CONSTRUCTION' and another table titled 'FIRE RESISTANCE RATING'. The Properties panel on the left shows the sheet name 'Sheet: FRC Diagram' and various constraints and graphics settings. The Project Browser on the right shows the project structure, including the 'A106 - FRC Diagram' sheet.

Element	Fire Resistance Rating
WALL	2
DOOR	2
WINDOW	2
CEILING	2
FLOOR	2
ROOF	2
STAIR	2
RAMP	2
RAILING	2
SHaft	2
VERTICAL DORMER	2
LEVEL GRID	2
DATEM	2
WORK PLANE	2

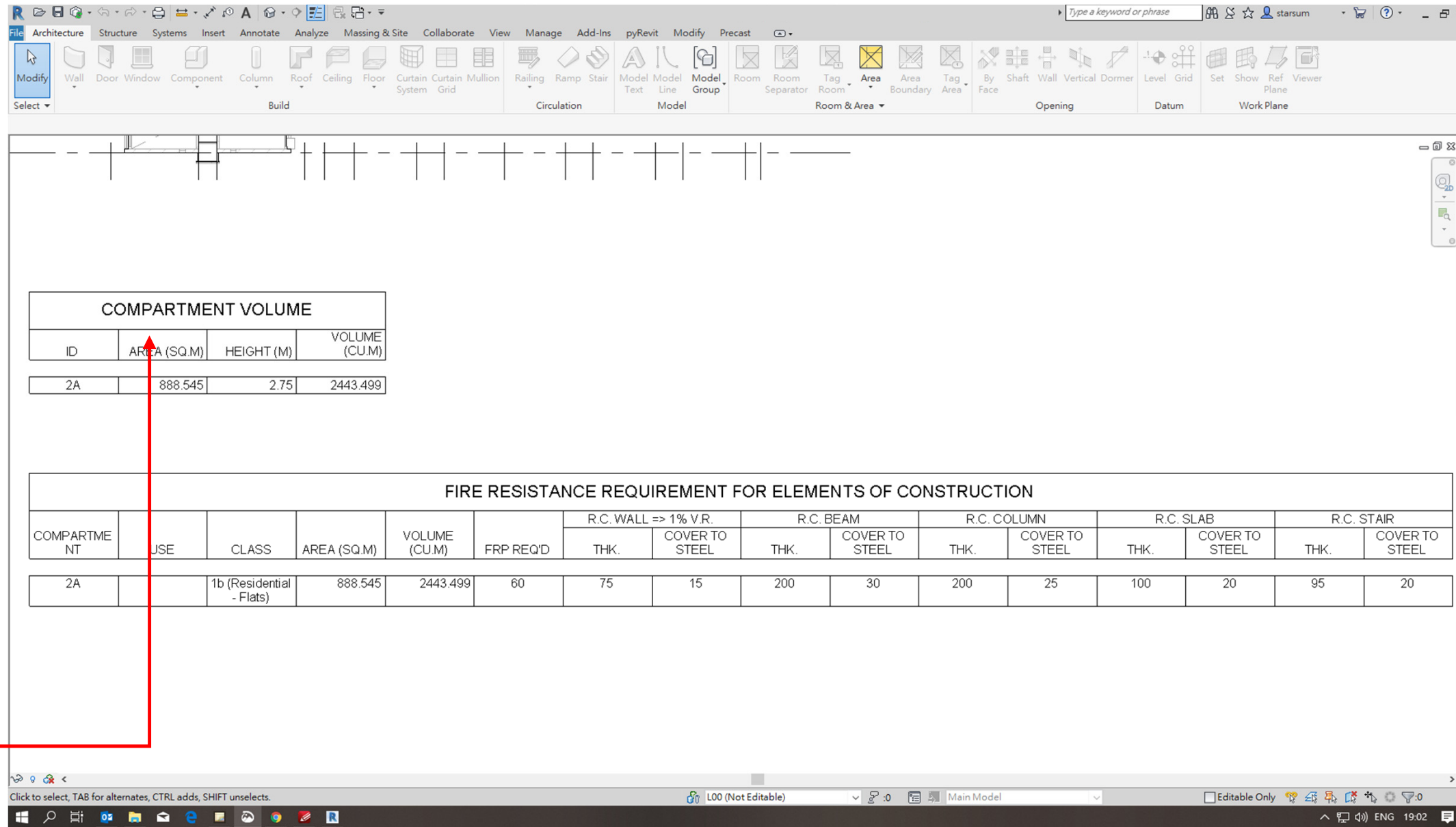
Element	Fire Resistance Rating
WALL	2
DOOR	2
WINDOW	2
CEILING	2
FLOOR	2
ROOF	2
STAIR	2
RAMP	2
RAILING	2
SHaft	2
VERTICAL DORMER	2
LEVEL GRID	2
DATEM	2
WORK PLANE	2

1 Fire Compartment Schedules are provided.

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.11 Fire Compartment

1 Use schedule “GBP - FRC - A01 - COMPARTMENT VOLUME” for presentation.



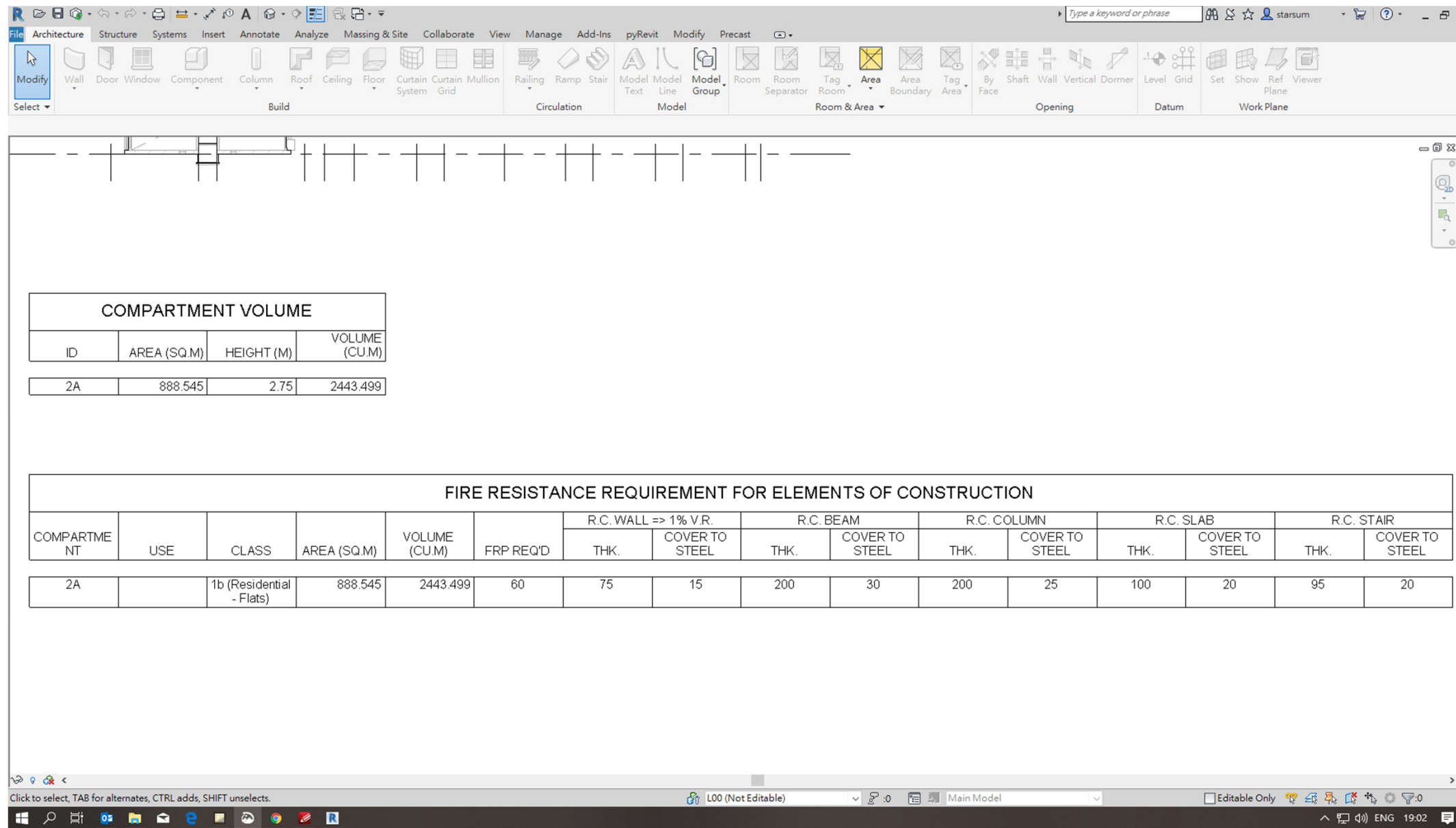
2 “Area” is automatically generated.

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.11 Fire Compartment

1 Use schedule “GBP - FRC - A03 - FIRE RESISTANCE REQUIRE-MENT FOR ELEMENTS OF CONSTRUCTION” for presentation.

2 Optional - Under parameter “A\_Group\_lowest\_level”, input a number for sorting

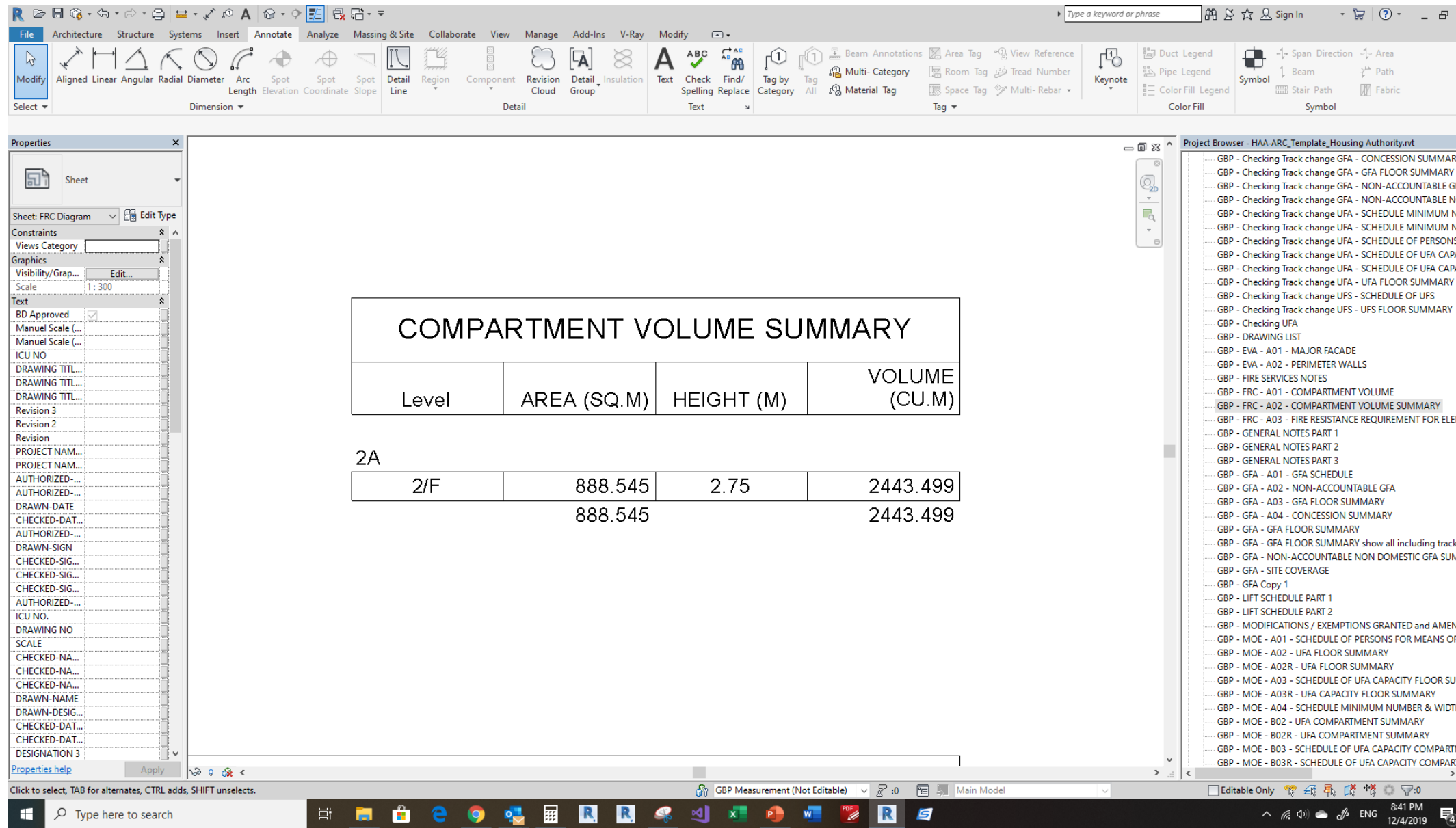


3 For each sorting group, pick 1 area, preferably the area with smallest ID, under “A\_FRC\_per\_group\_per\_class\_lowest\_ID” set to true. Then only 1 row will be presented for each sorting group.

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.11 Fire Compartment

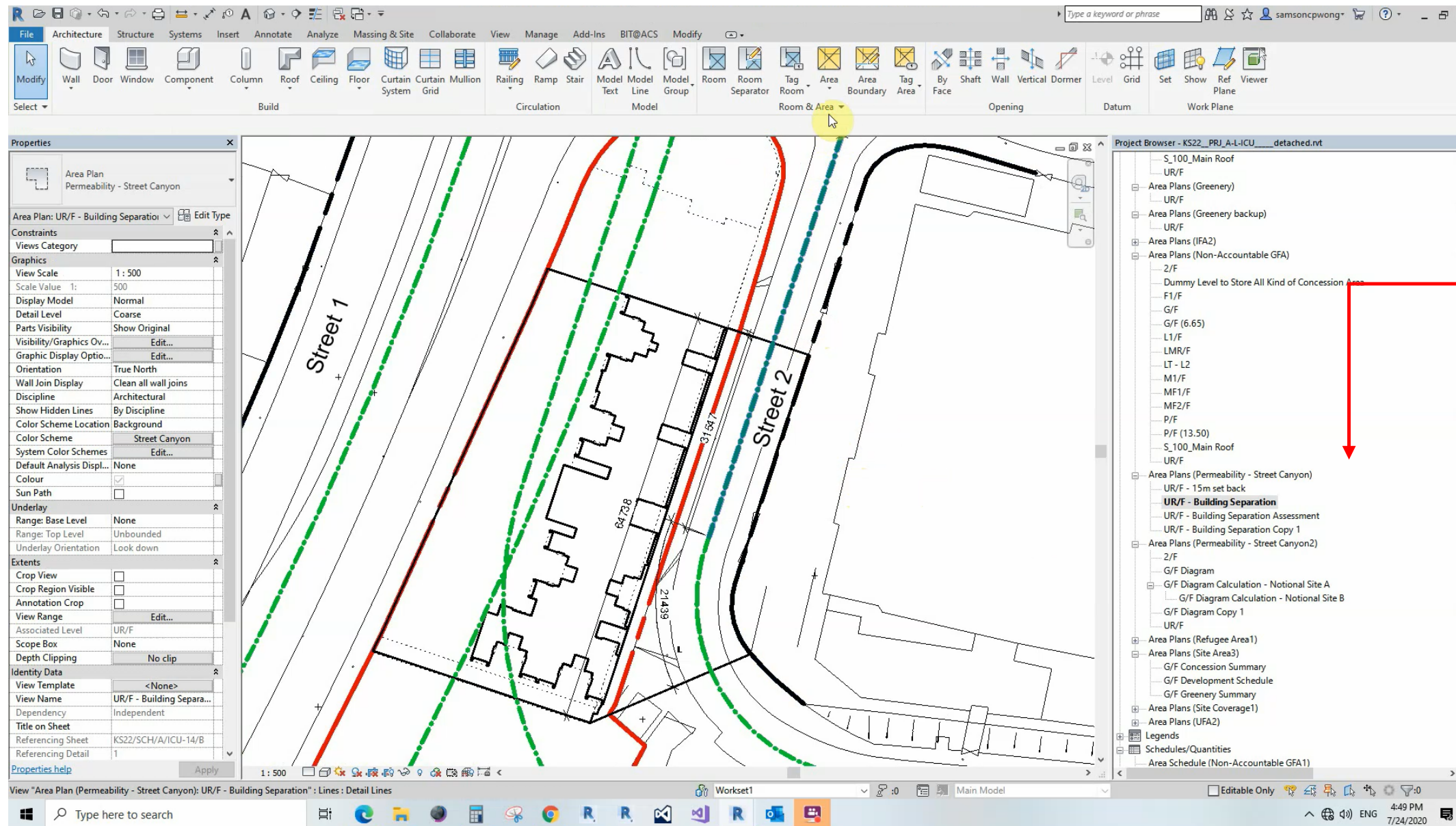
1 If you have more than 1 area within 1 fire compartment, use schedule “GBP - FRC - A02 - COMPARTMENT VOLUME SUMMARY” to present how total compartment area and volume is derived.





## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.12 Sustainable Building Design Guideline

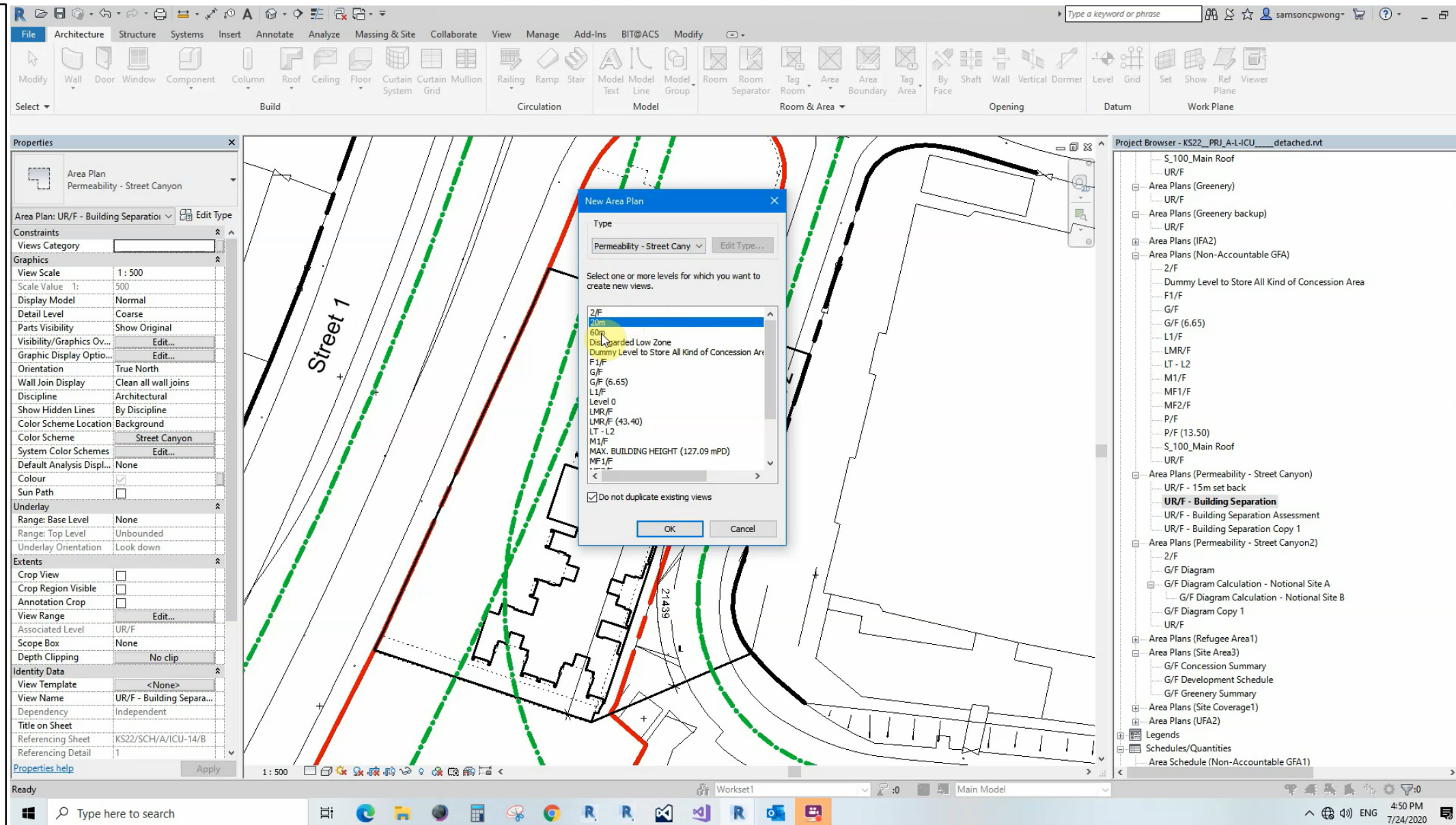


1 View Template for Projected Façade Length, Permeability and Greenery, Open Space Calculation are provided.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.12 Sustainable Building Design Guideline

1 Create area plan using type “Permeability - Street Canyon” at appropriate level. Level of area plan should be the one which can clearly show the street canyon and is subject to building design. In general, you can try using roof level. In some cases, you may need to select level representing low, middle, high zone of street canyon.



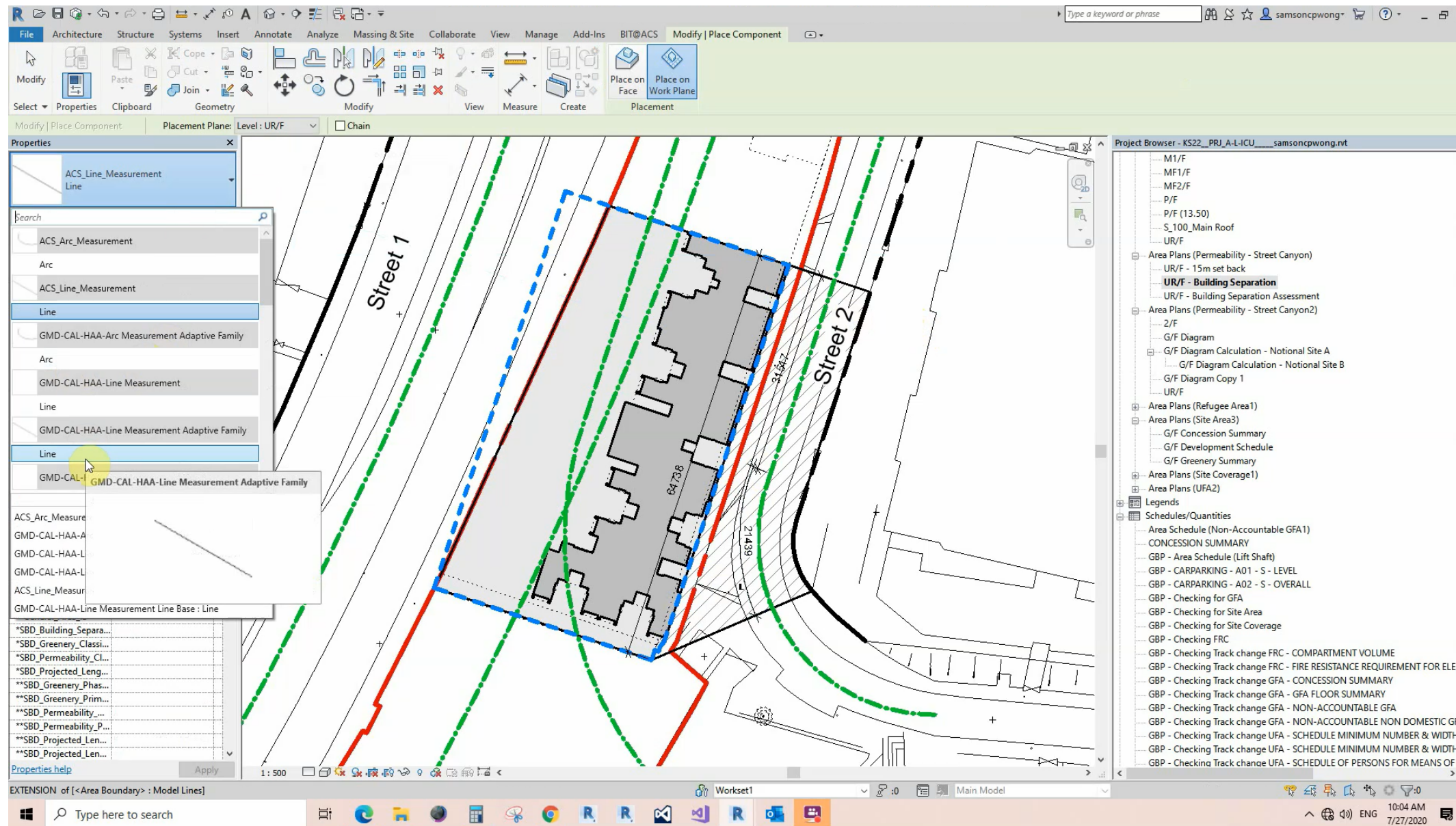
2 Draw line representing “Continuous Projected Facade Length” by using family “GMD-CAL-HAA-Line\_ Measurement-2D\_Symbolic\_Line”. Under parameter “\*\*SBD\_Projected\_Length\_Location”, input “Continuous Projected Facade Length”



## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.12 Sustainable Building Design Guideline

1 Repeat similar procedure, draw line representing "Width of Street Canyons" by using same family. Under parameter "\*\*SBD\_Projected\_Length\_Location", input "Width of Street Canyons"

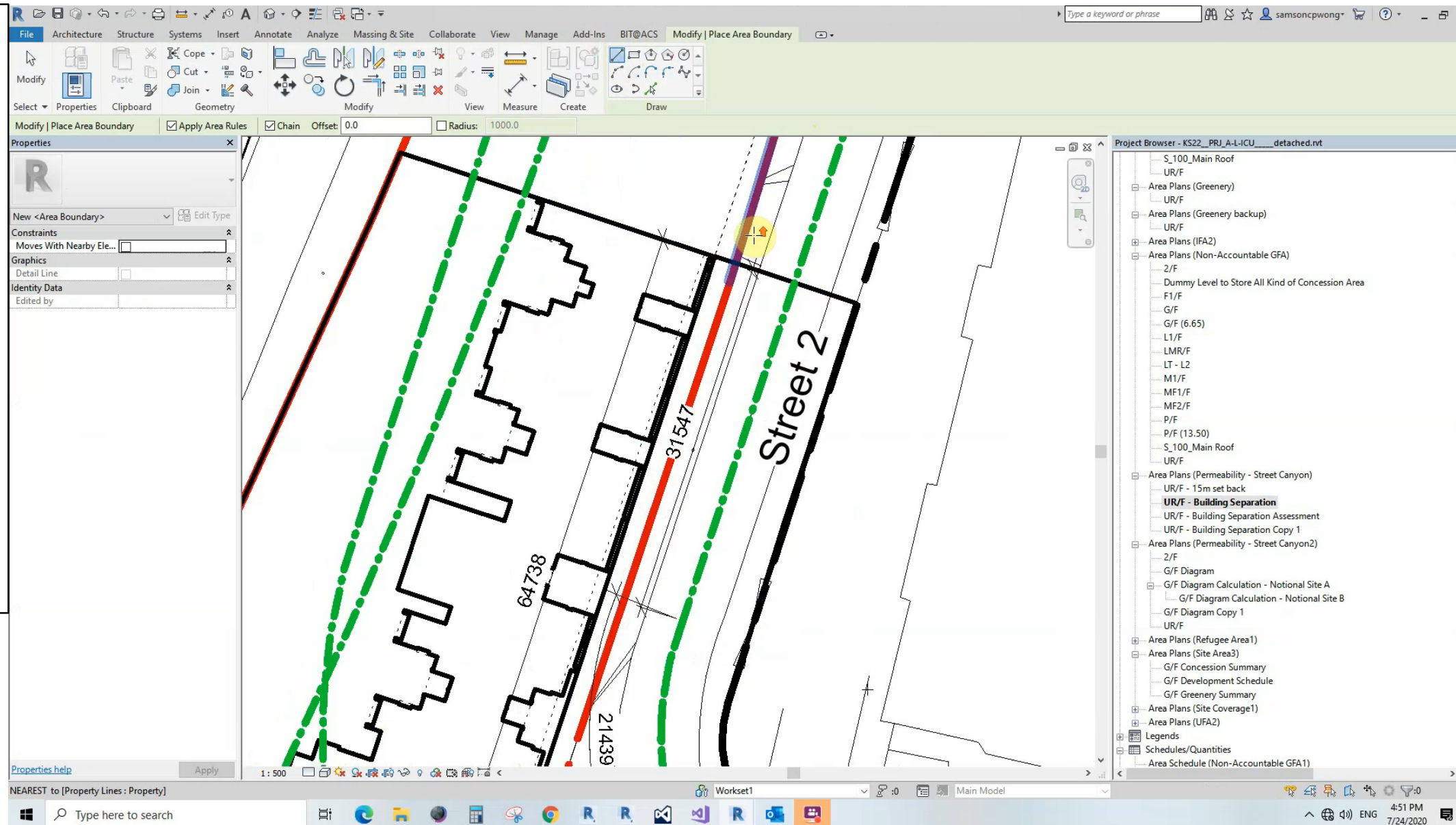


2 If the width of street canyon is derived by "area/length", you are then required to define "canyon area" & "canyon length".

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.12 Sustainable Building Design Guideline

1 On the created area plan, draw “area boundary” to represent extent of canyon area, add “area”. Select the “area”, under parameter “\*\*SBD\_Projected\_Length\_Location”, input “Area of Street Canyons”



2 Follow previous procedure to draw line representing “Length of Street Canyons” by using family “GMD-CAL-HAA-Line\_Measurement-2D\_Symbolic\_Line”. Under parameter “\*\*SBD\_Projected\_Length\_Location”, input “Length of Street Canyons”



## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.12 Sustainable Building Design Guideline

1 Value of façade and canyon can be found under GBP-SBD Street Canyon Schedules. There are two Canyon Schedules, one for presenting generic model which is always required, another for presenting area which is only required when canyon width is derived by area/length.

The screenshot displays two schedules in a software interface. The left schedule is titled 'STREET CANYON SCHEDULE 1' and has columns for 'CANYON ID' and 'VALUE'. It lists 'LOW ZONE Continuous Projected Facade Length' with a value of 79911 and 'Width of Street Canyons' with a value of 15000. The right schedule is titled 'PERMEABILITY SCHEDULE' and has columns for 'ID' and 'AREA (SQ.M)'. It lists 'LOW ZONE PLANE X Assessment Zone' with an area of 1072, 'Intervening Space' with an area of 313.5, and 'Permeable Element' with an area of 65. A red arrow points from the 'LOW ZONE PLANE X Assessment Zone' entry in the Permeability Schedule to the 'LOW ZONE Continuous Projected Facade Length' entry in the Street Canyon Schedule.

STREET CANYON SCHEDULE 1	
CANYON ID	VALUE
LOW ZONE Continuous Projected Facade Length	79911
Width of Street Canyons	15000

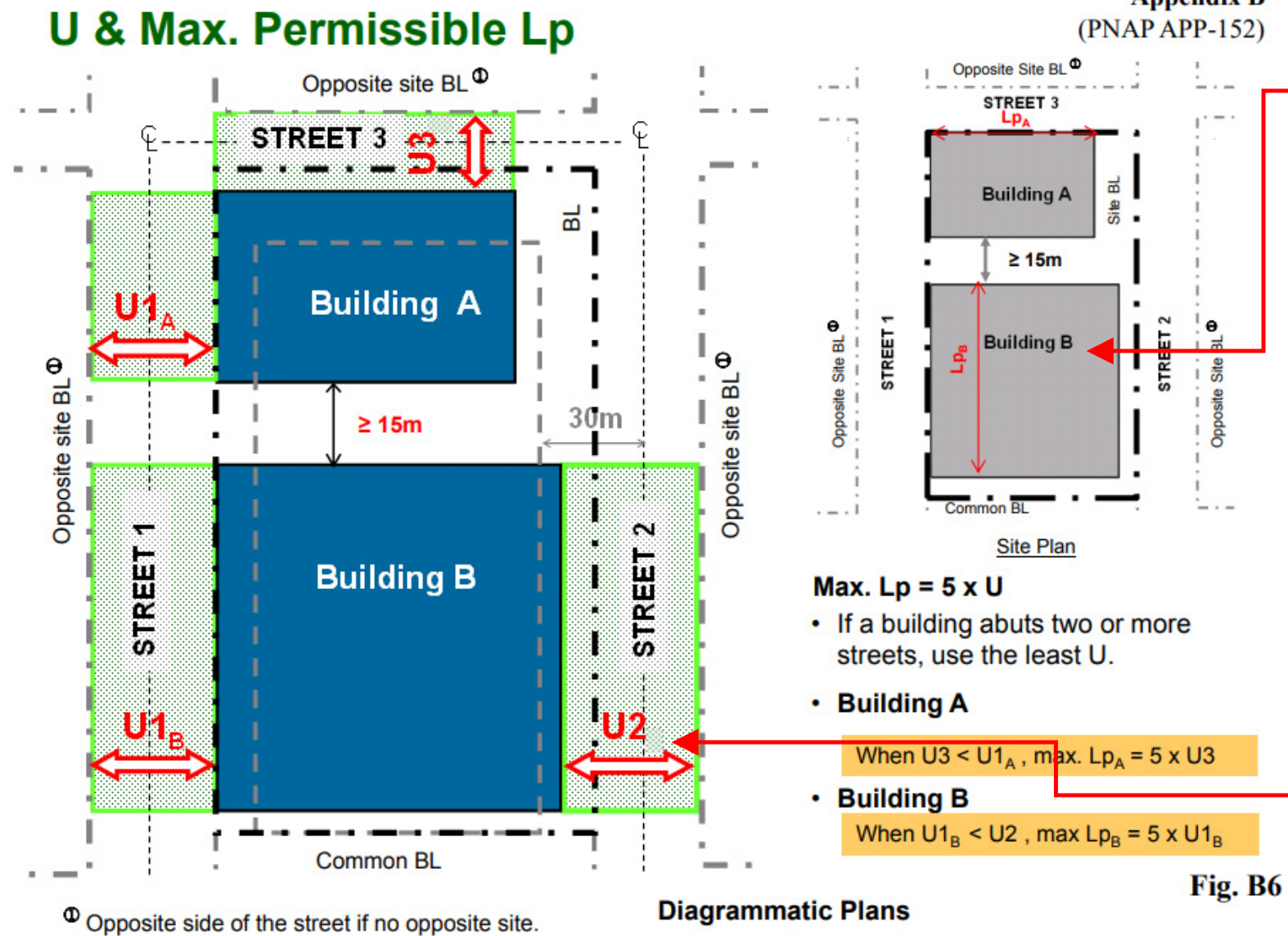
PERMEABILITY SCHEDULE	
ID	AREA (SQ.M)
LOW ZONE PLANE X Assessment Zone	1072
Intervening Space	313.5
Permeable Element	65

2 To ensure schedule is sorted properly, select created "family lines" and "areas". Under parameter "\*SBD\_Building\_Separation\_Assessment\_Zone", input "LOW ZONE", "MIDDLE ZONE", "HIGH ZONE"



## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.12 Sustainable Building Design Guideline



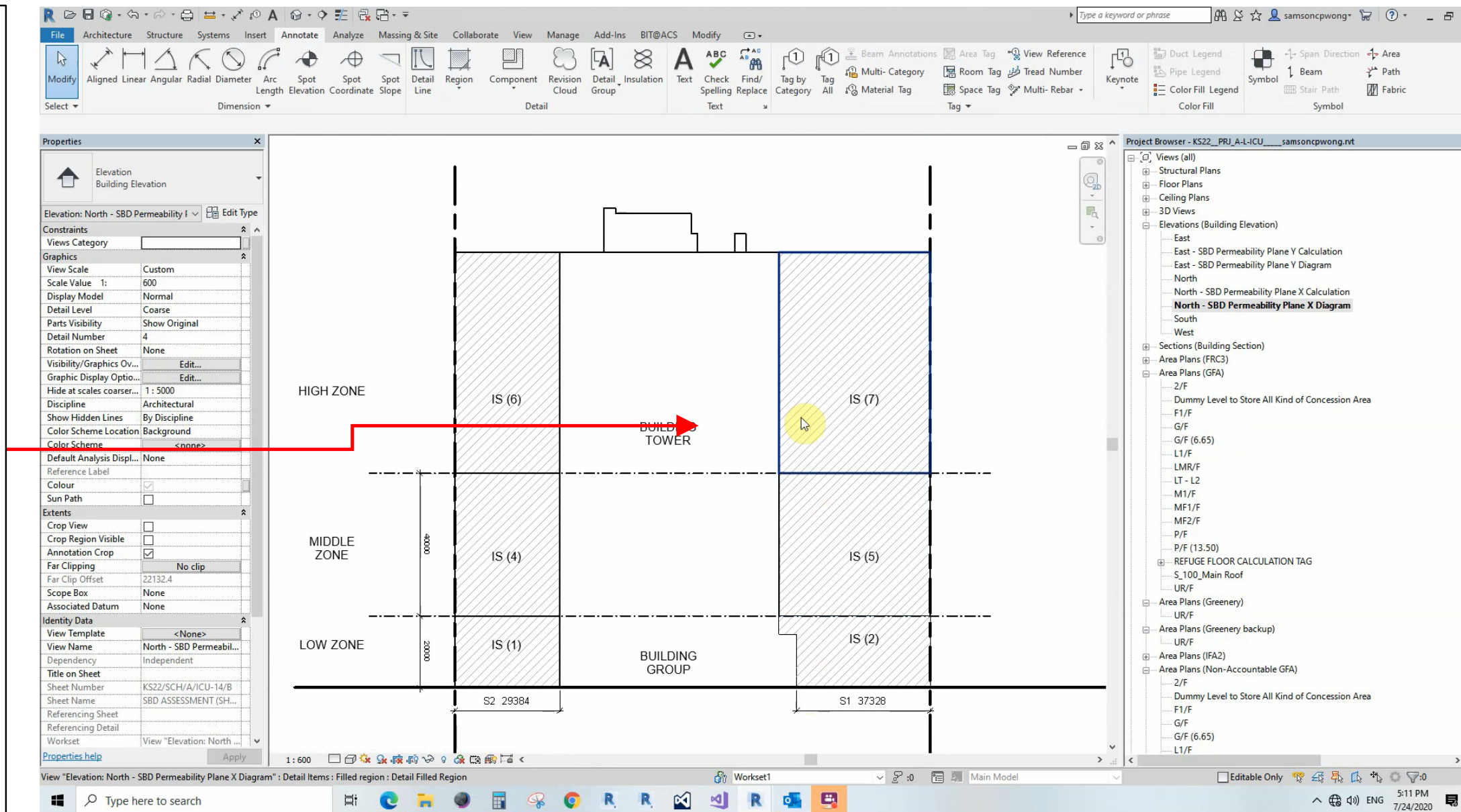
1 Optional – If there are more than 1 building, define “Location” of façade and street canyon under parameter “\*\*SBD\_Projected\_Length\_Location”. E.g. “Building A” & “Building B” in this example

2 Optional – define “Street Canyon ID” under parameter “\*\*SBD\_Projected\_Length\_Street\_Canyon\_ID” if building abuts two or more streets, e.g. “U2”

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.12 Sustainable Building Design Guideline

1 Create elevation(s) for required projection plane according to practice note, create filled region representing “Assessment Zone”, “Intervening Space”, “Permeable Element” for “low/middle/high zone”

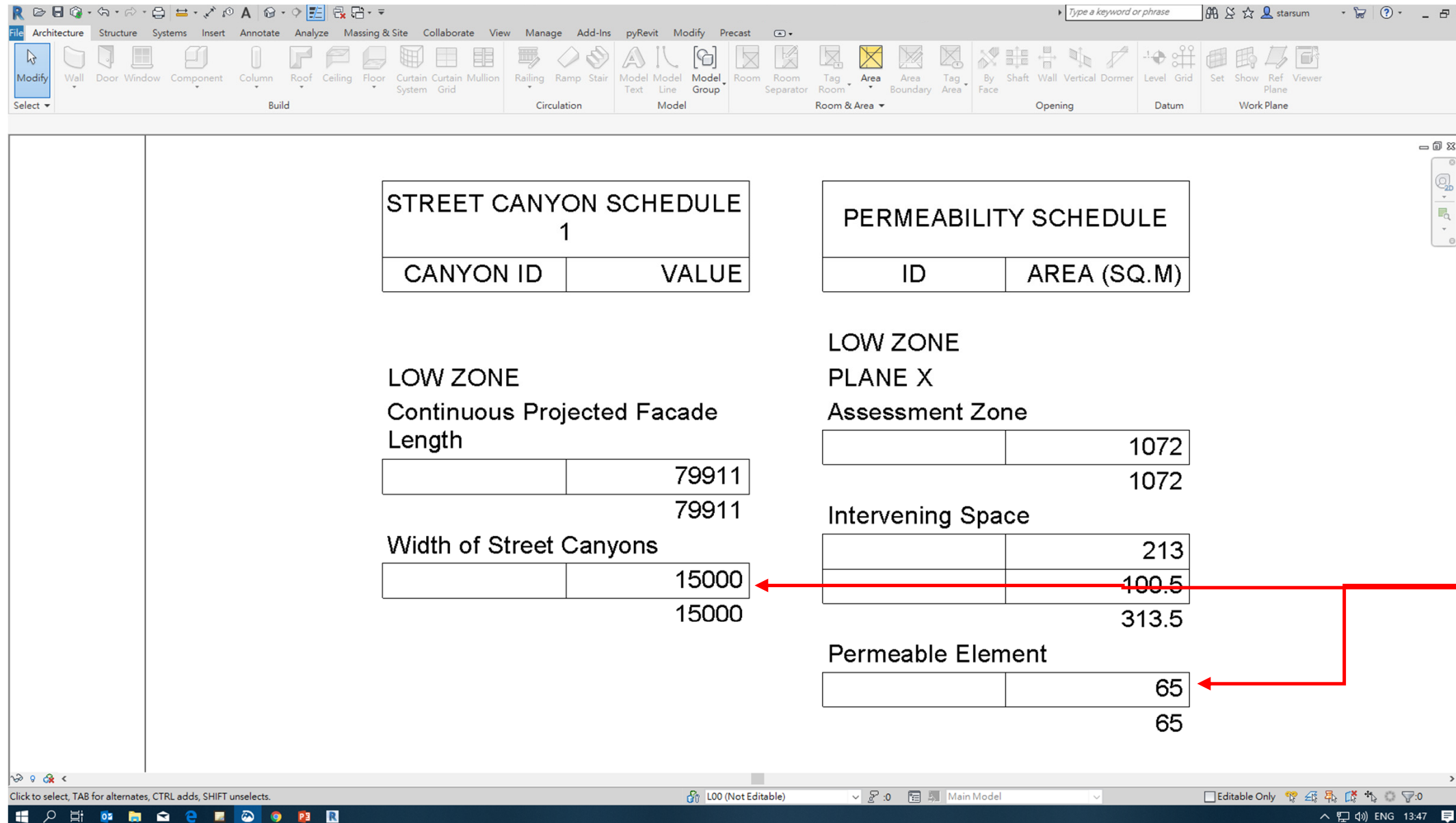


2 For created filled region, under parameter “\*SBD\_Permeability\_Classification”, input “Assessment Zone”, “Intervening Space”, “Permeable Element”

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.12 Sustainable Building Design Guideline

1 For selected filled region, under parameter “\*\*SBD\_Permeability\_Projection\_Plane”, input “PLANE X”, “PLANE Y”. Under parameter “\*SBD\_Building\_Separation\_Assessment\_Zone”, input “LOW ZONE”, “MIDDLE ZONE”, “HIGH ZONE”



2 Result can be found under schedule “GBP - SBD PERMEABILITY SCHEDULE”

3 “Value” & “Area (Sq.m)” are automatically generated.

## **6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN**

### **6.3.12 Sustainable Building Design Guideline**

- Create floor plan and create room for horizontal greenery. Alternatively, you can create area plan and create area boundary and area for same purpose
- Create elevations and filled region for vertical greenery

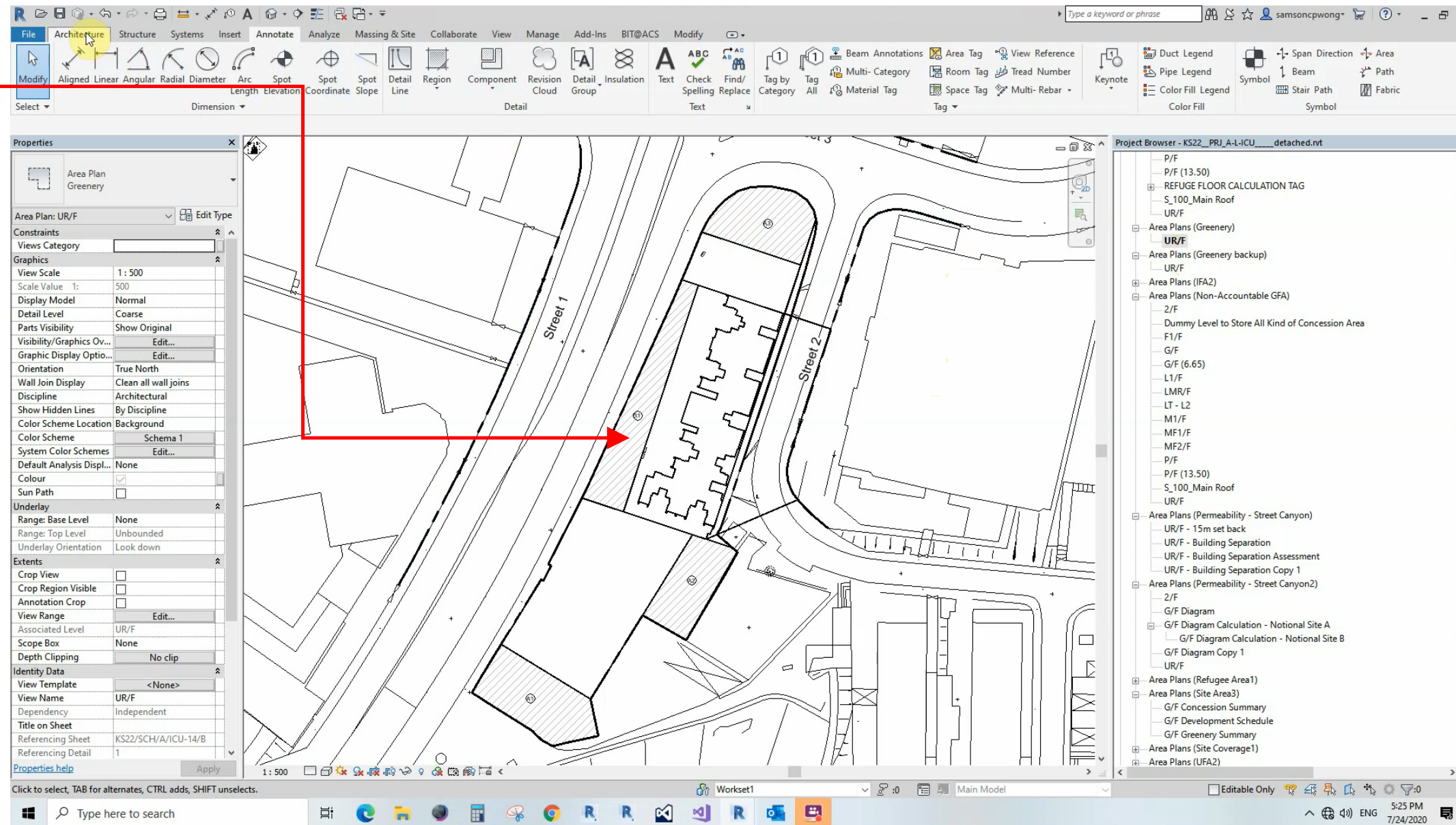


## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.12 Sustainable Building Design Guideline

1 select room/area/filled region

2 Under parameter **\*\*SBD\_Greenery\_Primary\_Zone**, input **"PRIMARY ZONE"**, **"NON PRIMARY ZONE"**



3 Under parameter **"\*SBD\_Greenery\_Classification"**, input **"Greenery Area"**, **"Covered Greenery Area"**, **"Water Features"**, **"Grass Paving"**, **"Planters along the perimeter of an Inaccessible Roof"**, **"Vertical Greening"**, **"Landscape-treated Greening on Slopes/Retaining Structures with Gradient steeper than 45 degree"**



# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.12 Sustainable Building Design Guideline

1 Under parameter "A\_SBD\_Greening\_Feature", input "Greening Features" or "Greenery Area"

2 "Area" is automatically generated.

GREENERY AREA SCHEDULE 1					
ID	AREA (SQ.M)	%	DISCOUNTED AREA (SQ.M)	QUANTITY	MULTIPLIED AREA
G/F Greenery Area					
1	356.85	100	356.85	2	356.85
			356.85		356.85
			356.85		356.85

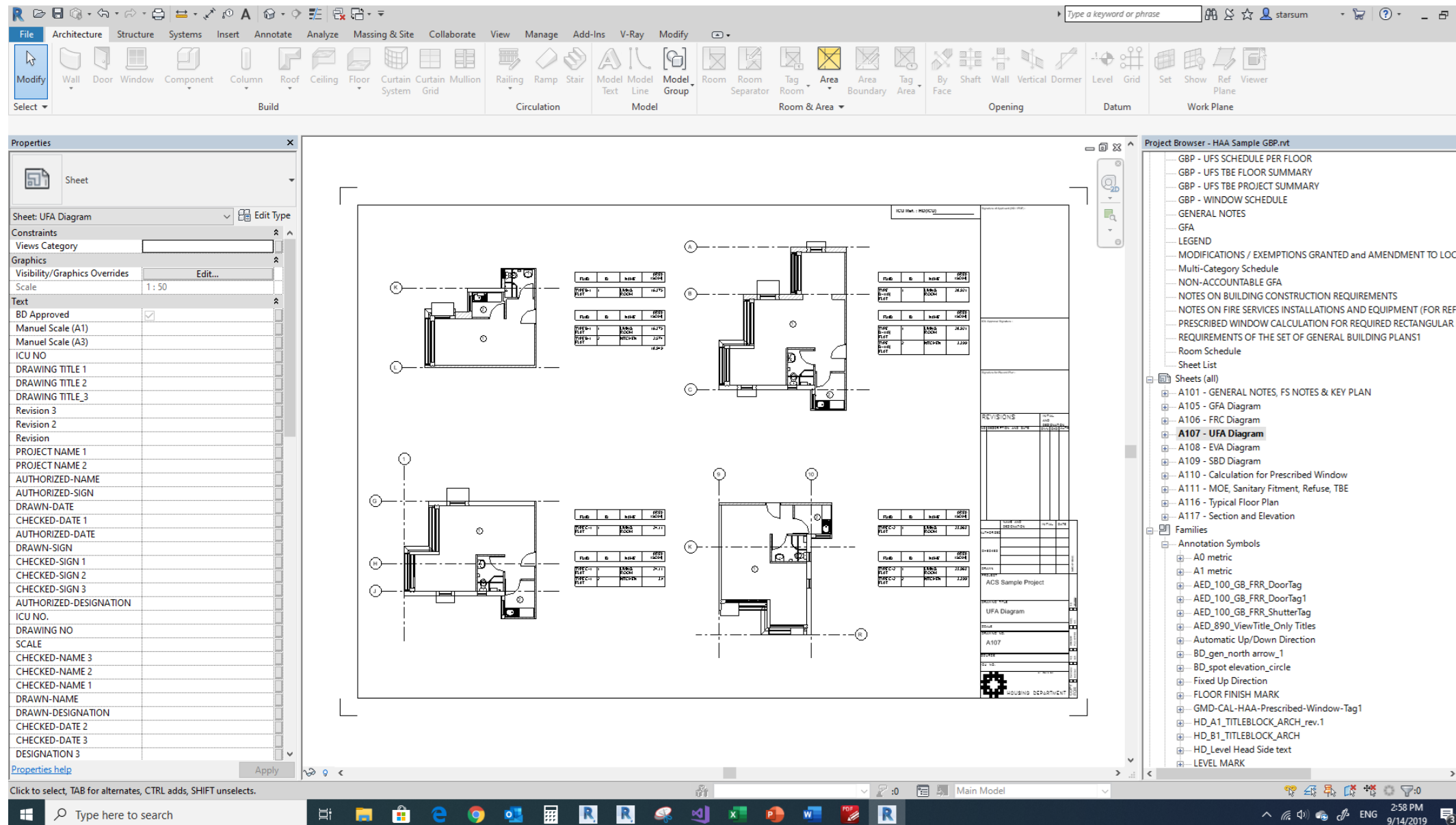
GREENING FEATURE SCHEDULE 1					
ID	AREA (SQ.M)	%	DISCOUNTED AREA (SQ.M)	QUANTITY	MULTIPLIED AREA
G/F Water Features					
2	181.554	50	90.777	1	90.777
			90.777		90.777
			90.777		90.777

3 Use Schedule "GBP - SBD GREENERY AREA SCHEDULE" & "GBP - SBD GREENING FEATURE SCHEDULE" for presentation. Above schedules support calling data from "room/area/filled region". Select the appropriate schedule to present the result

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.13 UFA & UFS

1 Use schedule “GBP - UFA SCHEDULE” & “GBP - UFS SCHEDULE” for presentation.



## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.13 UFA & UFS

1 For room such as kitchen in a residential building is defined as UFS and it is not defined as UFA. Set to true for parameter “\*\*UFS\_Excluded\_from\_MOE\_Calculation”

The screenshot shows the Revit interface with a floor plan on the left and two tables on the right. The floor plan has a living room labeled '1' and a kitchen labeled '2'. A red arrow points from the 'AREA (SQ.M)' column of the first table to the living room in the plan. The second table shows a filtered view of the living room and kitchen.

FlatID	ID	NAME	AREA (SQ.M)
TYPE B-1 FLAT	1	LIVING ROOM	16.375

FlatID	ID	NAME	AREA (SQ.M)
TYPE B-1 FLAT	1	LIVING ROOM	16.375
TYPE B-1 FLAT	2	KITCHEN	2.574
			18.949

2 “Area” is automatically generated.

3 If necessary, use filter to display specific flat only such as “Type B-1” in this illustration. Duplicate the schedule and change the filter for presentation of remaining flat.

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.13 UFA & UFS

1 Use schedule "GBP - UFS SCHEDULE PER FLOOR" for presentation.

2 "Area" is automatically generated.

The screenshot shows the Revit interface with two tables displayed. The first table, titled "GBP - UFS SCHEDULE PER FLOOR", lists various flat types with their respective areas, quantities, and total project UFS. The second table, titled "UFA PER FLAT (SQ.M)", shows the UFA per flat for the same types. A red arrow points from the "AREA (SQ.M)" column in the first table to the "UFA PER FLAT (SQ.M)" column in the second table.

GBP - UFS SCHEDULE PER FLOOR					
FlatID	AREA (SQ.M)	NOS. OF FLAT	UFS PER FLOOR	NOS. OF STOREY	UFS PER PROJECT
2/F					
TYPE B-1 FLAT	18.949	3	56.847	24	1364.328
TYPE B-2 FLAT	18.948	2	37.896	24	909.504
TYPE C-1 FLAT	27.51	1	27.51	24	660.24
TYPE C-2 FLAT	23.963	5	119.815	24	2875.56
TYPE C-2 FLAT	3.399	5	16.995	24	407.88
TYPE C-2(B) FLAT	27.362	1	27.362	24	656.688
TYPE C-(B) FLAT	27.362	1	27.362	24	656.688
TYPE D-1(A) FLAT	32.32	1	32.32	24	775.68
TYPE D-1(B) FLAT	32.235	1	32.235	24	773.64
TYPE D-2(A) FLAT	32.353	2	64.706	24	1552.944
TYPE D-2(B) FLAT	32.353	1	32.353	24	776.472
TYPE D-3 FLAT	32.321	1	32.321	24	775.704
	309.075		507.722		12185.328

FlatID	UFA PER FLAT (SQ.M)
2/F	
TYPE B-1 FLAT	16.37
TYPE B-2 FLAT	16.37
TYPE C-1 FLAT	24.1
TYPE C-2 FLAT	23.96
TYPE C-2(B) FLAT	23.96
TYPE C-(B) FLAT	23.96
TYPE D-1(A) FLAT	28.92
TYPE D-1(B) FLAT	28.83
TYPE D-2(A) FLAT	28.95
TYPE D-2(B) FLAT	28.95
TYPE D-3 FLAT	28.92

3 Filter out rooms not defined as UFS. Filter out same type of Flat.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.14 Prescribed Window

The screenshot displays the Revit interface with the 'Calculation for Prescribed Window' sheet open. The sheet contains a table with columns for 'FLOOR', 'AREA', 'PERCENT', 'TYPE', 'DATE', 'BY', 'CHKD', 'APPD', 'REV', 'DATE', 'BY', 'CHKD', 'APPD'. A red arrow points from the 'Calculation for Prescribed Window' entry in the Project Browser to the corresponding table on the sheet. The sheet also features a 'Precast Facade Layout' diagram and a table for 'RHP-3'.

2 Create a section, then use family “DTL-CAL-HAA-Prescribed-Window-Line” to check window projection



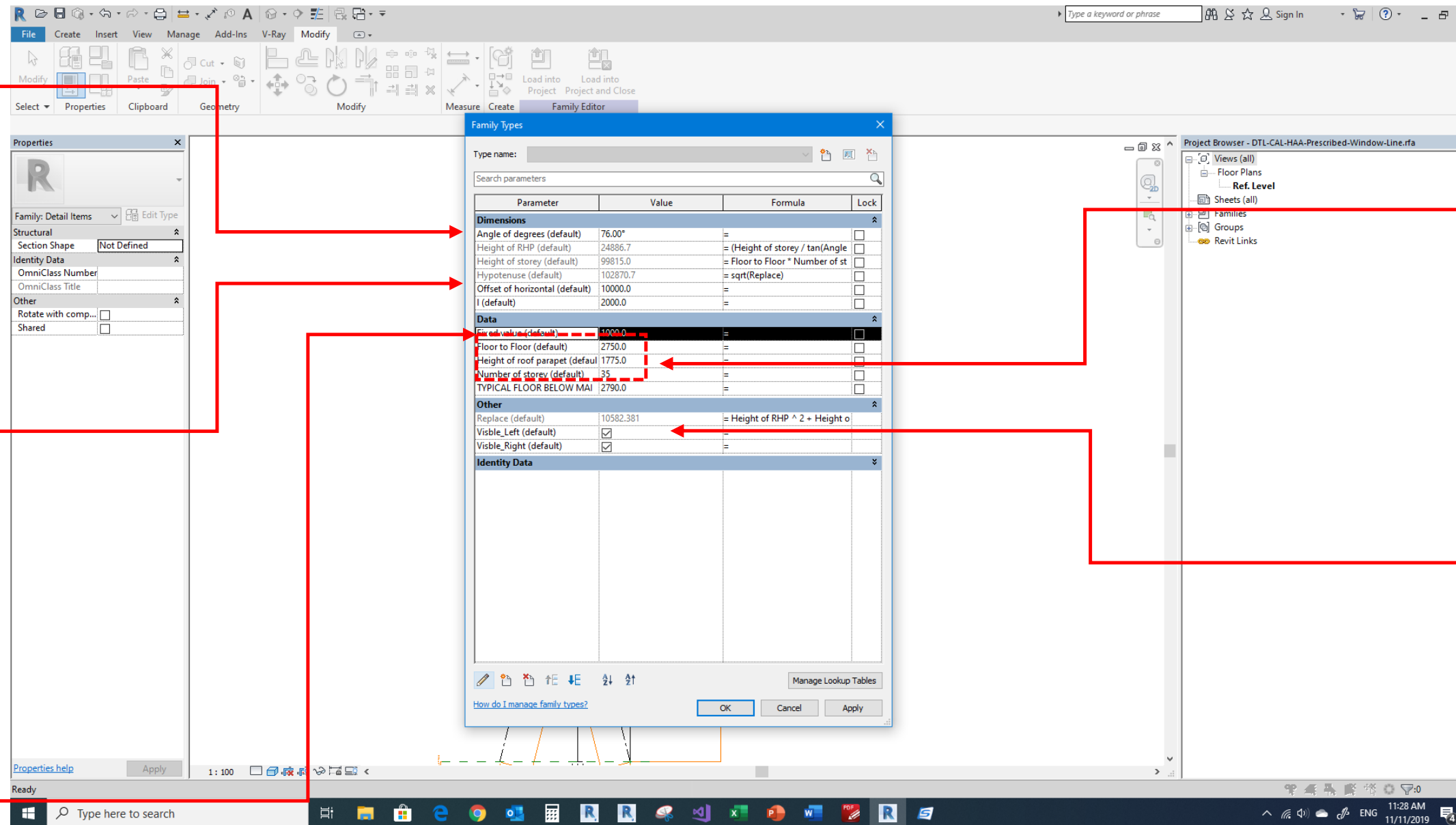
## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.14 Prescribed Window

1 Input  
“Angle of  
degrees”.

2 Input  
“Offset of  
horizontal”,  
length of  
sides of  
available  
rectangular  
horizontal  
plane

3 Input  
“Fixed value”,  
window sill  
height



4 Input these  
three  
parameters  
which will  
calculate  
building  
height  
automatically

5 Change the  
visibility  
setting if  
necessary

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.14 Prescribed Window

1 Use Schedule "GBP - PRESCRIBED WINDOW CALCULATION" FOR REQUIRED RECTANGULAR HORIZONTAL PLANE (RHP)"

The screenshot displays the Revit software interface. The main window shows a pink rectangular area labeled "RHP-3" with dimensions of 12256 mm in width and 2300 mm in height. Below this, a table titled "PRESCRIBED WINDOW CALCULATION FOR REQUIRED RECTANGULAR HORIZONTAL PLANE (RHP)" provides the following data:

LOCATION	MARK	HEIGHT(H) (mm)	ANGLE (°)	DISTANCE REQUIRED (mm) (HEIGHT(H) / TAN (ANGLE))
KITCHEN FACING SITE BOUNDARY	RHP-3	99815	83.0°	12256

A red arrow points from the text box on the left to the first row of the table.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.14 Prescribed Window

1 Use Schedule “GBP - WINDOW SCHEDULE”

2 “Area” is automatically generated

GBP - WINDOW SCHEDULE										
LOCATION	AREA (SQ.M)	WINDOW MARK	GLAZING AREA CALCULATION(Sq. m)				OPENABLE AREA CALCULATION(Sq. m)			
			REQUIRED		PROVIDED		REQUIRED		PROVIDED	
			FACTOR	AREA		AREA	FACTOR	AREA		AREA
LIVING ROOM	28.836	MPW-X193	0.1	2.824	1.850 x 1.450 x 3 Nos.	8.048	0.0625	1.765	0.63 x 1.450 x 3 Nos.	2.741

3 By default, Revit will show window schedule for all rooms, use filter to show related room only. You may filter by room name, or window mark.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.15 Telecommunications and Broadcasting Services

1 Use schedule "GBP - UFS TBE - A01 - FLOOR SUMMARY" for presentation.

2 Under parameter "A\_UFS\_TBE\_class\_per\_group\_per\_level\_per\_classification", input "Office/Commercial, Industrial Buildings and Shopping Arcades", "Residential Buildings", "Hotels"

UFS TBE FLOOR SUMMARY			
MOE CLASSIFICATION AND DENSITY FACTOR	AREA (SQ.) / NO. OF FLAT/ROOM*	QUANTITY	MULTIPLIED VALUE
2/F Residential Buildings			
Class 1b other flats:Density Factor=9sq.m/person	19	24	456
			456

2 For each sorting group, pick 1 area, preferably the area with smallest ID, under "A\_UFS\_TBE\_class\_per\_group\_per\_level\_per\_classification\_lowest\_ID" set to true. Then only 1 row will be presented for each sorting group.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.15 Telecommunications and Broadcasting Services

1 Use schedule “GBP - UFS TBE - A02 - PROJECT SUMMARY” for presentation.

The screenshot displays the Revit interface with a project summary table and a detailed schedule table. A red arrow points from the text box on the left to the project summary table.

UFS TBE PROJECT SUMMARY			
Level	Residential Buildings	Hotels	Office/Commercial Buildings and Shopping Arcades
2/F	456	0	0

RESIDENTIAL BUILDING	
TOTAL FLAT NO.:	456
REQUIRED MIN. AREA (SQ.M):	29
REQUIRED MAX. AREA (SQ.M):	37
PROVIDED AREA (SQ.M):	11.756 between 29 & 37 O.K.

2 For each sorting group, pick 1 area, preferably the area with smallest ID, under “A\_UFS\_TBE\_per\_group\_per\_level\_lowest\_ID” set to true. Then only 1 row will be presented for each sorting group.



## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.15 Telecommunications and Broadcasting Services

The screenshot displays the Revit software interface. The main view shows a table titled "UFS TBE PROJECT SUMMARY" with columns for Level, Residential Buildings, Hotels, and Office/Commercial, Industrial Buildings and Shopping Arcades. Below this is a detailed table for a residential building. A red arrow points from a text box on the left to the detailed table.

Level	Residential Buildings	Hotels	Office/Commercial, Industrial Buildings and Shopping Arcades
2/F	456	0	0

RESIDENTIAL BUILDING	
TOTAL FLAT NO.:	456
REQUIRED MIN. AREA (SQ.M):	29
REQUIRED MAX. AREA (SQ.M):	37
PROVIDED AREA (SQ.M):	11.756 between 29 & 37 O.K.

1 Use tag "ANN-RMG-HAA-TBE\_simplified\_domestic" to room representing TBE room for presentation. Input required data through the tag.

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.16 Means of Escape

1 Use schedule "GBP - MOE - AU04 - UFA FLOOR CAPACITY SUMMARY - UNIT BASIS" for presentation.

GBP - NO. OF PERSONS IN BUILDING							
FlatID	UFA PER FLAT (SQ.M)	OCCUPANCY FACTOR (UFA IN SQ.M PER PERSON)	NO. OF PERSON PER FLAT	NO. OF FLAT	NO. OF PERSON PER FLOOR	NO. OF STOREY	TOTAL NO. OF PERSON
2/F							
TYPE B-1 FLAT	16.375	9	2	3	6	24	144
TYPE B-2 FLAT	16.374	9	2	2	4	24	96
TYPE C-1 FLAT	24.11	9	3	1	3	24	72
TYPE C-2 FLAT	23.963	9	3	5	15	24	360
TYPE C-2(B) FLAT	23.963	9	3	1	3	24	72
TYPE C-(B) FLAT	23.963	9	3	1	3	24	72
TYPE D-1(A) FLAT	28.921	9	4	1	4	24	96
TYPE D-1(B) FLAT	28.836	9	4	1	4	24	96
TYPE D-2(A) FLAT	28.955	9	4	2	8	24	192
TYPE D-2(B) FLAT	28.954	9	4	1	4	24	96
TYPE D-3 FLAT	28.922	9	4	1	4	24	96
					58		1392

2 "Area" is automatically generated.

3 Optional - under parameter "\*\*MOE\_Compartment\_Name", input Compartment Name, and then the schedule will list total no. of person for each fire compartment

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.16 Means of Escape

GBP - NO. OF PERSONS IN BUILDING							
FlatID	UFA PER FLAT (SQ.M)	OCCUPANCY FACTOR (UFA IN SQ.M PER PERSON)	NO. OF PERSON PER FLAT	NO. OF FLAT	NO. OF PERSON PER FLOOR	NO. OF STOREY	TOTAL NO. OF PERSON
2/F							
TYPE B-1 FLAT	16.375	9	2	3	6	24	144
TYPE B-2 FLAT	16.374	9	2	2	4	24	96
TYPE C-1 FLAT	24.11	9	3	1	3	24	72
TYPE C-2 FLAT	23.963	9	3	5	15	24	360
TYPE C-2(B) FLAT	23.963	9	3	1	3	24	72
TYPE C-(B) FLAT	23.963	9	3	1	3	24	72
TYPE D-1(A) FLAT	28.921	9	4	1	4	24	96
TYPE D-1(B) FLAT	28.836	9	4	1	4	24	96
TYPE D-2(A) FLAT	28.955	9	4	2	8	24	192
TYPE D-2(B) FLAT	28.954	9	4	1	4	24	96
TYPE D-3 FLAT	28.922	9	4	1	4	24	96
					58		1392

1 For each sorting group, pick 1 area, preferably the area with smallest ID, under “A\_UFA\_per\_compartment\_per\_classification\_lowest\_ID” set to true. Then only 1 row will be presented for each sorting group.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.16 Means of Escape

1 Use schedule "GBP - MOE - A04 - SCHEDULE MINIMUM NUMBER & WIDTH OF EXIT DOOR & EXIT ROUTE FROM EACH FLOOR" for presentation.

**SCHEDULE MINIMUM NUMBER & WIDTH OF EXIT DOOR & EXIT ROUTE FROM EACH FLOOR**

LOCATION	USAGE	FLOOR CAPACITY	MIN. NO. OF EXIT ROUTE		MIN. TOTAL WIDTH OF				MIN. WIDTH OF EACH				
			REQ'D	PRO'D	EXIT DOORS		EXIT ROUTES		EXIT DOOR		EXIT ROUTE		
					REQ'D	PRO'D	REQ'D	PRO'D	REQ'D	PRO'D	REQ'D	PRO'D	
2/F		58	2		1750		2100		850		1050		

**PERMITTED DISCHARGE VALUE OF STAIRCASE**

STAIRCASE NO.	FLOOR	STOREY ABOVE GROUND	MIN. WIDTH OF EXIT PROVIDED (mm)	PERMITTED DISCHARGE VALUE (REFER TO FIRE SAFETY IN BUILDING 2011)	VALUE
ST-01	F1-F36	36	1200	= 582 + 38 x 26	1570
ST-02	F1-F36	36	1200	= 582 + 38 x 26	1570
ST-03	F1-F36	36	1200	= 582 + 38 x 26	1570
					4710 >1392 (ACTUAL)

2 For each sorting group, pick 1 area, preferably the area with smallest ID, under "A\_UFS\_per\_level\_lowest\_ID" set to true. Then only 1 row will be presented for each sorting group.

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.16 Means of Escape

1 Use schedule "GBP - PERMITTED DISCHARGE VALUE OF STAIRCASE" for presentation.

**SCHEDULE MINIMUM NUMBER & WIDTH OF EXIT DOOR & EXIT ROUTE FROM EACH FLOOR**

LOCATION	USAGE	FLOOR CAPACITY	MIN. NO. OF EXIT ROUTE		MIN. TOTAL WIDTH OF				MIN. WIDTH OF EACH				
			REQ'D	PRO'D	EXIT DOORS		EXIT ROUTES		EXIT DOOR		EXIT ROUTE		
					REQ'D	PRO'D	REQ'D	PRO'D	REQ'D	PRO'D	REQ'D	PRO'D	
2/F		58	2		1750		2100		850		1050		

**PERMITTED DISCHARGE VALUE OF STAIRCASE**

STAIRCASE NO.	FLOOR	STOREY ABOVE GROUND	MIN. WIDTH OF EXIT PROVIDED (mm)	PERMITTED DISCHARGE VALUE (REFER TO FIRE SAFETY IN BUILDING 2011)	VALUE
ST-01	F1-F36	36	1200	= 582 + 38 x 26	1570
ST-02	F1-F36	36	1200	= 582 + 38 x 26	1570
ST-03	F1-F36	36	1200	= 582 + 38 x 26	1570
					4710 >1392 (ACTUAL)



## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.17 Refuge Area

1 Use schedule "GBP - REFUGE AREA ROOM" for presentation.

GBP - SCHEDULE OF SANITARY FITMENTS PROVISIONS FOR RESIDENTIAL								
LOCATION	USE	CAPACITY TOTAL	W.C.		BASIN		BATH	
			REQ'D	PRO'D	REQ'D	PRO'D	REQ'D	PRO'D
TYPE D-2(A) FLAT	DOMESTIC (UNISEX TOILET)	4	1		1		1	

REFUGE AREA REQUIRED			
G.F.A. OF TYPICAL FLOOR (Sq. m)	FACTOR	G.F.A. OF TYPICAL FLOOR (Sq. m) x FACTOR = AREA REQUIRED (Sq. m)	AREA PROVIDED (Sq. m)
857.342	0.5	428.671	553.125

2 For each level with refuge area, pick a room representing refuge area, under "A\_Refuge\_per\_level\_per\_group\_lowest\_ID" set to true. Then only 1 row will be presented for each level with refuge area.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.18 Sanitary Fitment

1 Use schedule “GBP - SCHEDULE OF SANITARY FITMENTS PROVISIONS FOR RESIDENTIAL” for presentation.

GBP - SCHEDULE OF SANITARY FITMENTS PROVISIONS FOR RESIDENTIAL								
LOCATION	USE	CAPACITY	W.C.		BASIN		BATH	
		TOTAL	REQ'D	PRO'D	REQ'D	PRO'D	REQ'D	PRO'D
TYPE D-2(A) FLAT	DOMESTIC (UNISEX TOILET)	4	1		1		1	

REFUGE AREA REQUIRED			
G.F.A. OF TYPICAL FLOOR (Sq. m)	FACTOR	G.F.A. OF TYPICAL FLOOR (Sq. m) x FACTOR = AREA REQUIRED (Sq. m)	AREA PROVIDED (Sq. m)
857.342	0.5	428.671	553.125

2 Under parameter “\*UFA\_SanFit\_Group\_Name”, input name representing location of sanitary fitments, e.g. Flat Name as illustrated.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.18 Sanitary Fitment

1 Under parameter “A\_UFA\_SanFit\_Group\_Use” input the appropriate item as listed on the right

- CINEMA
- DOMESTIC (UNISEX TOILET)
- DOMESTIC (NO URINAL)
- DOMESTIC (WITH URINAL)
- OFFICE
- PLACE OF PUBLIC
- RESTAURANT
- WORKPLACE
- SHOP/DEPARTMENT STORE
- SCHOOL (WITH URINAL)
- SCHOOL (NO URINAL)
- BOARDING SCHOOL
- RELIGIOUS INSTITUTIONS
- FUNERAL PARLOURS
- SPORTS STADIA

2 For each sorting group, pick 1 area, preferably the area with smallest ID, under “A\_UFS\_per\_level\_lowest\_ID” set to true. Then only 1 row will be presented for each sorting group.

## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.19 Refuse Storage and Material Recovery Chamber

1 Use Schedule “GBP-UFS Refuse Floor Summary” to present breakdown of UFS.

FLOOR SPACE OF RS & MRC PROVIDED IN M<sup>2</sup>  
= 145.017 > 46.32 O.K. (PROVIDED)

TOTAL USABLE FLOOR SPACE (U.F.S.) PER FLOOR

Level	FLAT TYPE / USE	AREA IN SQ.M	NOS. OF FLAT	UFS PER FLOOR	NOS. OF STOREY	UFS PER PROJECT
<b>Domestic</b>						
2/F	1B	26.609	6	159.654	39	6226.506
2/F	A 2/3P	18.242	2	36.484	39	1422.876
2/F	B 2/3P	20.468	10	204.68	39	7982.52
						15631.902
<b>Non-domestic</b>						
G/F	USE 1	554.441	1	554.441	1	554.441
P/F	USE 2	621.441	1	621.441	1	621.441
						1175.882

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.19 Refuse Storage and Material Recovery Chamber

1 Use tag “ANN-RMG-HAA-GBP\_Refuse” to room representing refuse storage and material recovery chamber for presentation. Input data through the tag.

The screenshot displays the Revit interface with a floor plan of a refuse storage and material recovery chamber. A red arrow points from the text box on the left to the chamber's label in the drawing. The drawing includes a table of flat areas and a summary table for the UFS TBE floor.

FLAT	Area (SQ.M)	Quantity	Total Area (SQ.M)
FLAT TYPE D-2(B)	32.353	1	32.353
FLAT TYPE D-3	32.321	1	32.321
<b>Total</b>	<b>309.075</b>		<b>507.722</b>

REFUSE STORAGE AND MATERIAL RECOVERY CHAMBER	
REQUIRED AREA (SQ.M):	DOMESTIC UFS/347
	12185.16/347
	35.116
PROVIDED AREA (SQ.M):	27.562>35.116 O.K.

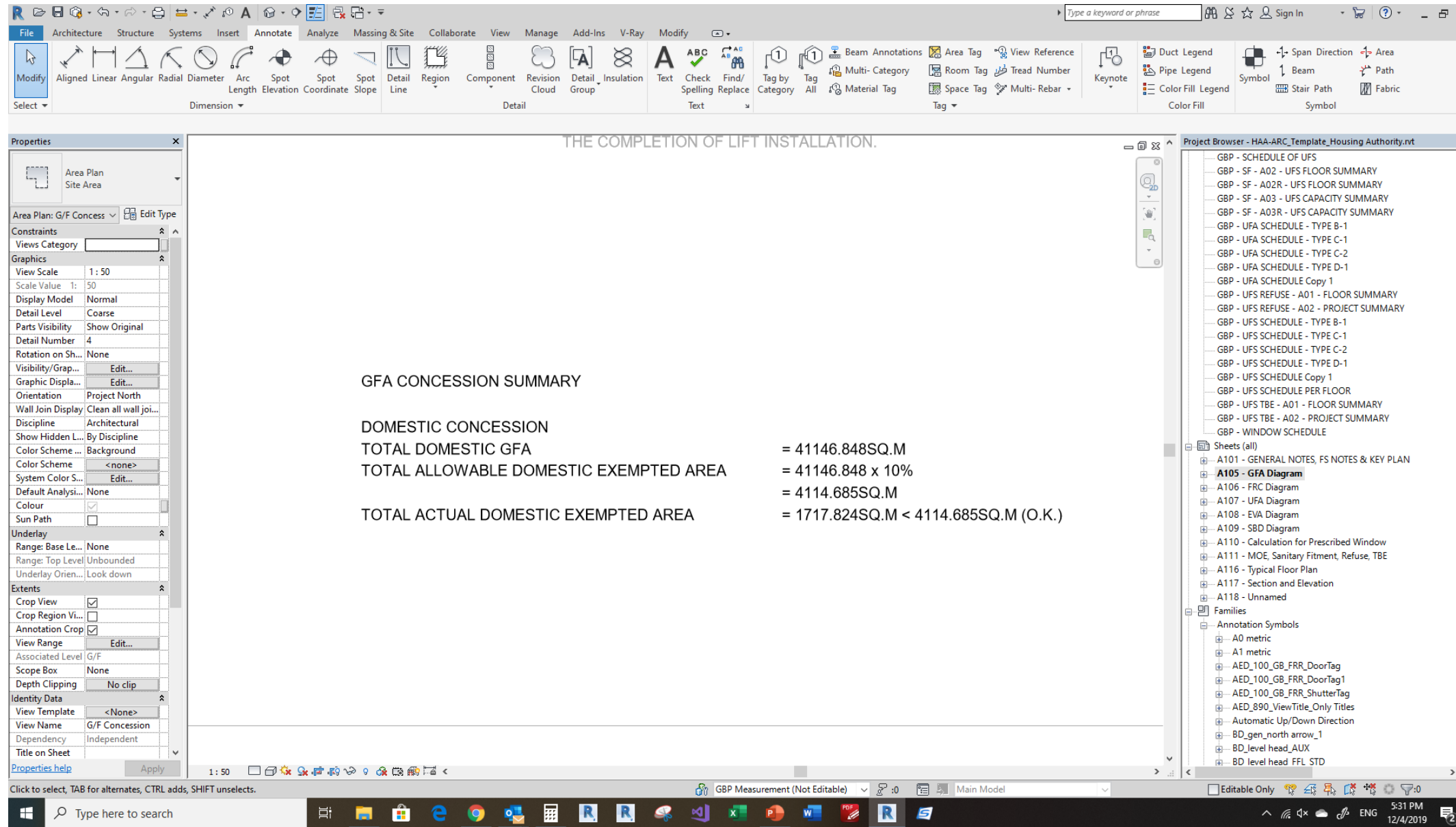
UFS TBE FLOOR SUMMARY			
MOE CLASSIFICATION AND DENSITY FACTOR	AREA (SQ.) / NO. OF FLAT/ROOM*	QUANTITY	MULTIPLIED VALUE
2/F Residential Buildings			



# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.20 Lift Schedule

1 Use tag “ANN-AEG-HAA-Concession” & “ANN-AEG-HAA-Lift\_Shaft” for presentation, tag these tags to area representing site area, input data through the tags.



# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.20 Lift Schedule

1 Click “Annotate”, “Detail Group”, “Place Detail Group” under ribbon, then select “LIFT SCHEDULE” and click on a view to insert. Modify details to suit your information.

The screenshot shows the Revit software interface with a 'LIFT SCHEDULE' table and a 'GFA' table. The software ribbon includes 'Annotate', 'Detail Group', and 'Place Detail Group' options.

LIFT NUMBER	1	2	3	4	5
FEATURE	PASSENGER/FIREMAN'S LIFT	PASSENGER LIFT	PASSENGER LIFT	PASSENGER/FIREMAN'S LIFT	PASSENGER LIFT
CAPACITY	900 kg / 12 PERSONS				
SPEED	1.6 m/s		2.5 m/s		
NO. OF STOPS ABOVE G/F	16	16	10	20	10
TOTAL TRAVEL DISTANCE	48100	48100	75600	103100	103100
LIFT CAR DIMENSION	1500(W) x 1400(D)				
LIFT SHAFT DIMENSION	2165(W) x 2265(D)				
DOOR OPENING	2100(H) x 900(W) CLEAR CENTRE OPENING				
CONTROL	DUPLIX DOWN COLLECTIVE		DOUBLE DUPLIX DOWN COLLECTIVE		

MACHINE ROOM LEVEL	-	LIFT MACHINE ROOM				
ROOF	110 000					
F36	107 250	T	T	T		
F35	104 500					
F34	101 750					
F33	99 000					
F32	96 250	T	T	T		
F31	93 500					
F30	90 750					
F29	88 000			M WORKING PLATFORM		
F28	85 250	T	T			
F27	82 500					
F26	79 750					E
F25	77 000					

DISCOUNT IN %	QUANTITY	QUANTITY X DISCOUNTED AREA (SQ.M)
100%	24	22677.096
		22677.096
		22677.096

DISCOUNT IN %	QUANTITY	QUANTITY X DISCOUNTED AREA (SQ.M)
100%	24	35.328
100%	24	110.904
100%	24	6.72
100%	24	201.72
100%	24	15.84
100%	24	28.488
100%	24	98.544
100%	24	45.96
100%	24	87.36
100%	24	35.352
		666.216

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.20 Lift Schedule

The screenshot displays the Revit software interface with a lift schedule table and a revisions table. The lift schedule table lists floor levels from F25 down to G/F (Terminal Floor) with columns for accumulated structural floor level (mm) and various status indicators (T, E, M). The revisions table is currently empty and includes columns for revision number, description and date, and initials/authorization.

666.216			F25	77 000									Signature for Record Plan				
100%	24	283.776	F24	74 250	T	T							REVISIONS				
100%	24	109.944	F23	71 500												INITIAL AND DESIGNATION	
100%	24	323.184	F22	68 750									NO	DESCRIPTION AND DATE	DWN	CKD	AUTH
100%	24	136.224	F21	66 000													
100%	24	5.784	F20	63 250	T	T											
858.912			F19	60 500													
100%	24	133.992	F18	57 750	M	WORKING PLATFORM	M	WORKING PLATFORM									
100%	24	133.992	F17	55 000													
100%	24	157.296	F16	52 250													
100%	24	153.264	F15	49 500													
578.544			F14	46 750				E	E	E							
2103.672			F13	44 000													
			F12	41 250													
			F11	38 500				E	E	E							
			F10	35 750													
			F9	33 000													
			F8	30 250				E	E	E							
			F7	27 500													
			F6	24 750													
			F5	22 000				E	E	E							
			F4	19 250													
			F3	16 500													
			F2	13 750				E	E	E							
			F1	11 000													
			G/F (TERMINAL FLOOR)	4 150													
			DEPTH OF NET PIT														

# 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

## 6.3.20 Lift Schedule

The screenshot displays the Revit software interface with a lift schedule table, a legend, and an approval table. The table lists floors from F15 to G/F (Terminal Floor) with accumulated square meters and opening types. The legend defines symbols for lift landing openings, access openings, emergency openings, and temporary access openings. The approval table includes fields for Authorised, Checked, and Drawn, with the project name 'ACS Sample Project'.

FLOOR	ACCUMULATED S	1	2	3	4	5
F15	49 500					
F14	46 750			E	E	E
F13	44 000					
F12	41 250					
F11	38 500			E	E	E
F10	35 750					
F9	33 000					
F8	30 250			E	E	E
F7	27 500					
F6	24 750					
F5	22 000			E	E	E
F4	19 250					
F3	16 500					
F2	13 750			E	E	E
F1	11 000					
G/F (TERMINAL FLOOR)	4 150					
DEPTH OF LIFT PIT		1 800		2 800		

**LEGEND (FOR LIFT SCHEDULE)**

- LIFT LANDING OPENING BY MAIN CONTRACTOR
- ACCESS OPENING BY MAIN CONTRACTOR REQUIRED FOR SUSPENSION ROPES INSPECTION
- EMERGENCY OPENING BY MAIN CONTRACTOR
- TEMPORARY ACCESS OPENING TO LIFT SHAFT DURING BUILDING CONSTRUCTION PERIOD FOR WORKMEN'S SAFETY IN CASE OF EMERGENCY, DIMENSION AND SETTING-OUT SAME AS THAT OF LANDING OPENING. THE OPENING IS TO BE BACK-FILLED, TOUCHED UP AND MADE GOOD BOTH INTERNAL AND EXTERNAL SURFACES TO MATCH VICINITY BY MAIN CONTRACTOR AFTER THE COMPLETION OF LIFT INSTALLATION.

	NAME AND DESIGNATION	INITIAL	DATE
AUTHORISED			
CHECKED			
DRAWN			

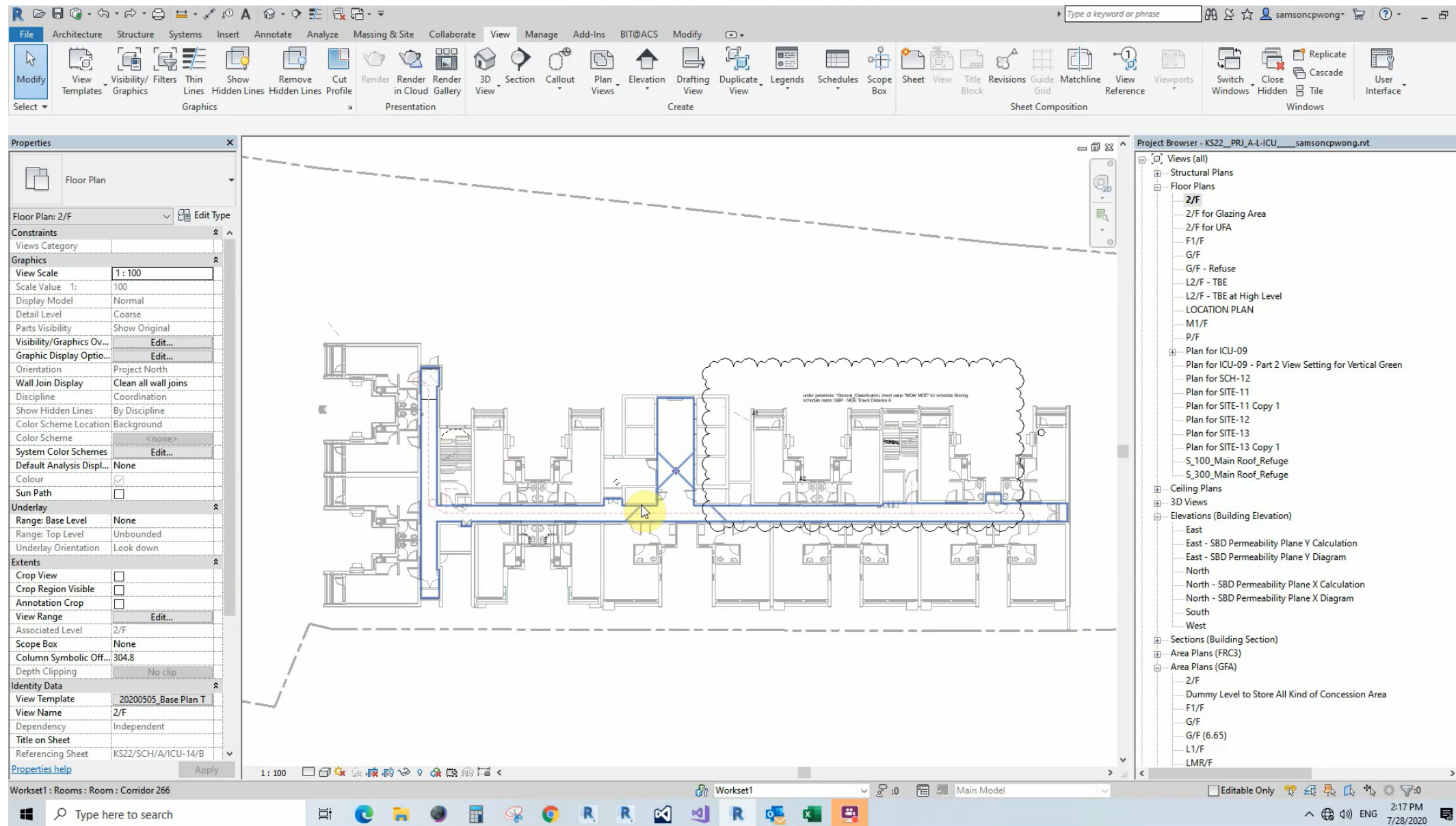
PROJECT: ACS Sample Project



## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.21 Opening Calculation for Wider Corridor

1 For presentation of opening calculation for wider corridor, use Schedule “GBP - WINDOW SCHEDULE” as a basis, duplicate and modify for presentation





## 6.3 TEMPLATE MANUAL – GENERAL BUILDING PLAN

### 6.3.21 Opening Calculation for Wider Corridor

1 Hide Column under “Glazing Area Calculation” then provide all required data accordingly.

The screenshot shows the Revit software interface with the 'Modify Schedule/Quantities' dialog box open. The 'Columns' tab is selected, and a table of data is displayed. A red arrow points to the 'Schedule' dropdown menu in the Properties panel on the left.

WINDOW MARK	LOCATION	PORTION	FLOOR AREA (m²)	FACTOR REQUIRE	OPENABLE AREA CALCULATION(m²)	
3 x MW1 + 1 x MW Corridor		1	127.964	0.05	AREA REQUIRED (	AREA PROVIDED
					6.398	7.523

## **6.4 DRAWING PRODUCTION – SUPERSTRUCTURE AND FOUNDATION PLAN**

### **6.4.1 Superstructure & Foundation Plan – General**

- This sections illustrates standards & guidelines for 2d drawing production.
- It covers aspects which are specific to structural building professionals, in particular method to prepare superstructure and foundation plan amendment submission.

## 6.4 DRAWING PRODUCTION – SUPERSTRUCTURE AND FOUNDATION PLAN

### 6.4.2 Superstructure & Foundation Plan – Essential Views for Composing the Prescribed Plans

General:			Revit element name
(A1)	General Notes & Legend	Refer Section 6.5.1 for available settings available in template file.	All Note under Drafting Views (Detail)
(A3)	Block Plan	Refer Section 6.5.2 for setup of view template	View Template “Structural Block Plan”

## 6.4 DRAWING PRODUCTION – SUPERSTRUCTURE AND FOUNDATION PLAN

### 6.4.2 Superstructure & Foundation Plan – Essential Views for Composing the Prescribed Plans

Core Drawings:			Revit element name
(B1)	Floor plans	Refer Section 5.1, 5.3 & 5.4 for modelling standards and guidelines. Refer Section 6.1 & 6.4 for drawing production standards and guidelines. Refer Section 6.5.2 for available view template & tag in Revit Template.	<p>For Superstructure Plan: Use View Template “S_100_Framing Plan” for Reinforced Concrete Structure &amp; View Template “S_100_Steel Framing Plan” for Steel Structure.</p> <p>For Foundation Plan: Use View Template “S_125_Foundation Plan” “S_125_Piling Layout Plan”</p>

## 6.4 DRAWING PRODUCTION – SUPERSTRUCTURE AND FOUNDATION PLAN

### 6.4.2 Superstructure & Foundation Plan – Essential Views for Composing the Prescribed Plans

Core Drawings:			Revit element name
(B2)	Sections	Refer Section 5.1, 5.3 & 5.4 for modelling standards and guidelines. Refer Section 6.1 & 6.4 for drawing production standards and guidelines. Refer Section 6.5.2 for available view template in Revit Template.	<p>For Superstructure Plan: Use View Template “S_100_Section” for Reinforced Concrete Structure &amp; View Template “S_50_Steel Section” for Steel Structure.</p> <p>For Foundation Plan: Use View Template “S_150_GI Section”, “S_125_Pile Cap Section”, “S_150_Piling Section”</p>



## 6.4 DRAWING PRODUCTION – SUPERSTRUCTURE AND FOUNDATION PLAN

### 6.4.2 Superstructure & Foundation Plan – Essential Views for Composing the Prescribed Plans

Core Drawings:			Revit element name
(B3)	Typical details	2D drawings or standard details may be used to complement the BIM model for typical details.	Not applicable
(B4)	Loading Key Plan	Refer Section 6.5.4 to 6.5.9 for creation of Loading Key Plan.	Area Plan Type “Loading Key Plan”, View Template “S_300_Loading Key Plan”, Color Fill Legend “Loading Key Plan Final”, Schedule “AREA SCHEDULE (LOADING KEY PLAN)”

## 6.4 DRAWING PRODUCTION – SUPERSTRUCTURE AND FOUNDATION PLAN

### 6.4.3 Superstructure & Foundation Plan – Essential Schedules for Composing the Prescribed Plans

General:			Revit element name
(C1)	Loading Schedule - Column	Refer Section 6.5.10 for detail.	Schedule “COLUMN LOADING SCHEDULE ABOVE PILE CAP (1/2 OF 2) & (2/2 OF 2)”
(C2)	Loading Schedule - Wall	Refer Section 6.5.11 for detail.	Schedule “WALL LOADING SCHEDULE ABOVE PILE CAP (1/2 OF 2) & (2/2 OF 2)”
(C3)	Beam Schedule	Refer Section 6.5.12 for detail.	Schedule “BEAM SCHEDULE”

## 6.4 DRAWING PRODUCTION – SUPERSTRUCTURE AND FOUNDATION PLAN

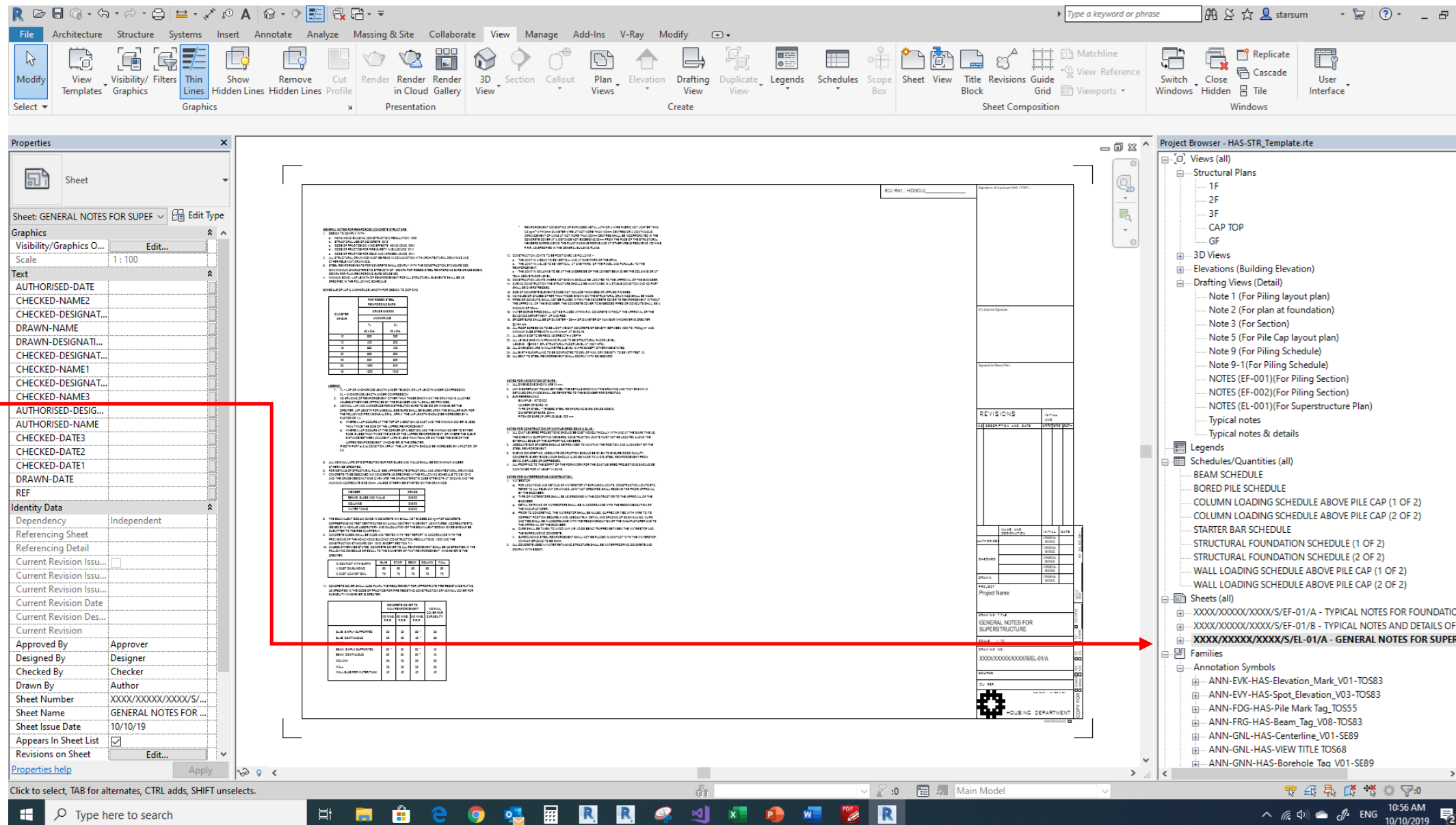
### 6.4.3 Superstructure & Foundation Plan – Essential Schedules for Composing the Prescribed Plans

General:			Revit element name
(C4)	Retaining Wall Schedule	Refer Section 6.5.14	Schedule “RETAINING WALL SCHEDULE (1 OF 2) & (2 OF 2)”
(C5)	H Pile Starter Bar Schedule	Refer Section 6.5.15	Schedule “STARTER BAR SCHEDULE”

# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.1 General Notes and Miscellaneous Information

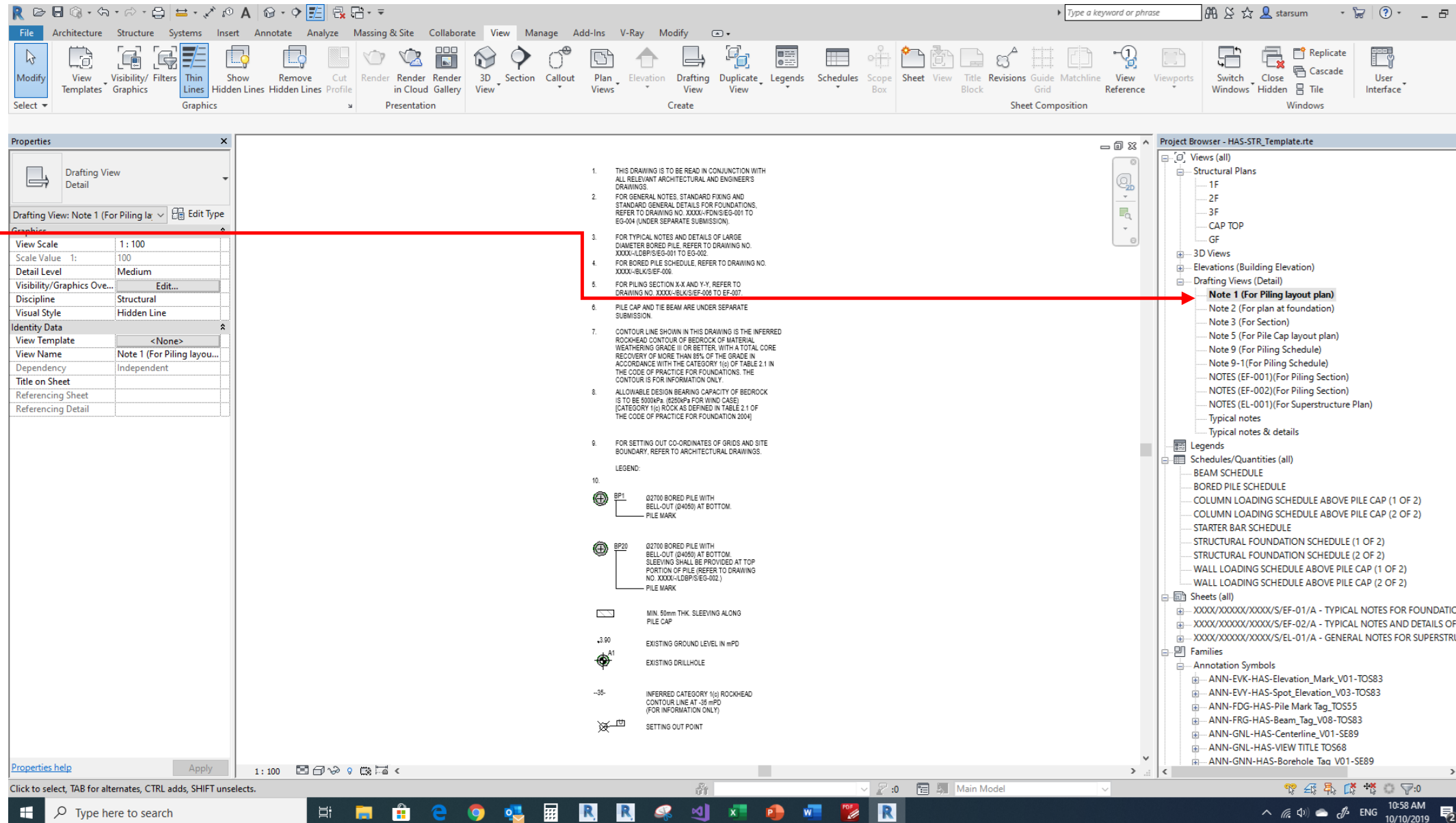
1 Sample General Notes for Foundation, Monitoring Plan, Superstructure are provided on sheet EF-01, EF-02, EL-01 respectively. Amend to suit the proposed project



# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.1 General Notes and Miscellaneous Information

1 Notes and Legend can be found under Drafting Views (Detail). Modify if necessary





# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.2 View Template Setting for Plan & Section

1 Click "View"

2 Click "View Templates"

3 Click "Manage View Templates"

4 Apply Structural Block Plan, Structural Framing Plan, Structural Section, Structural Steel Framing Plan, Structural Steel Section For super-structure submission

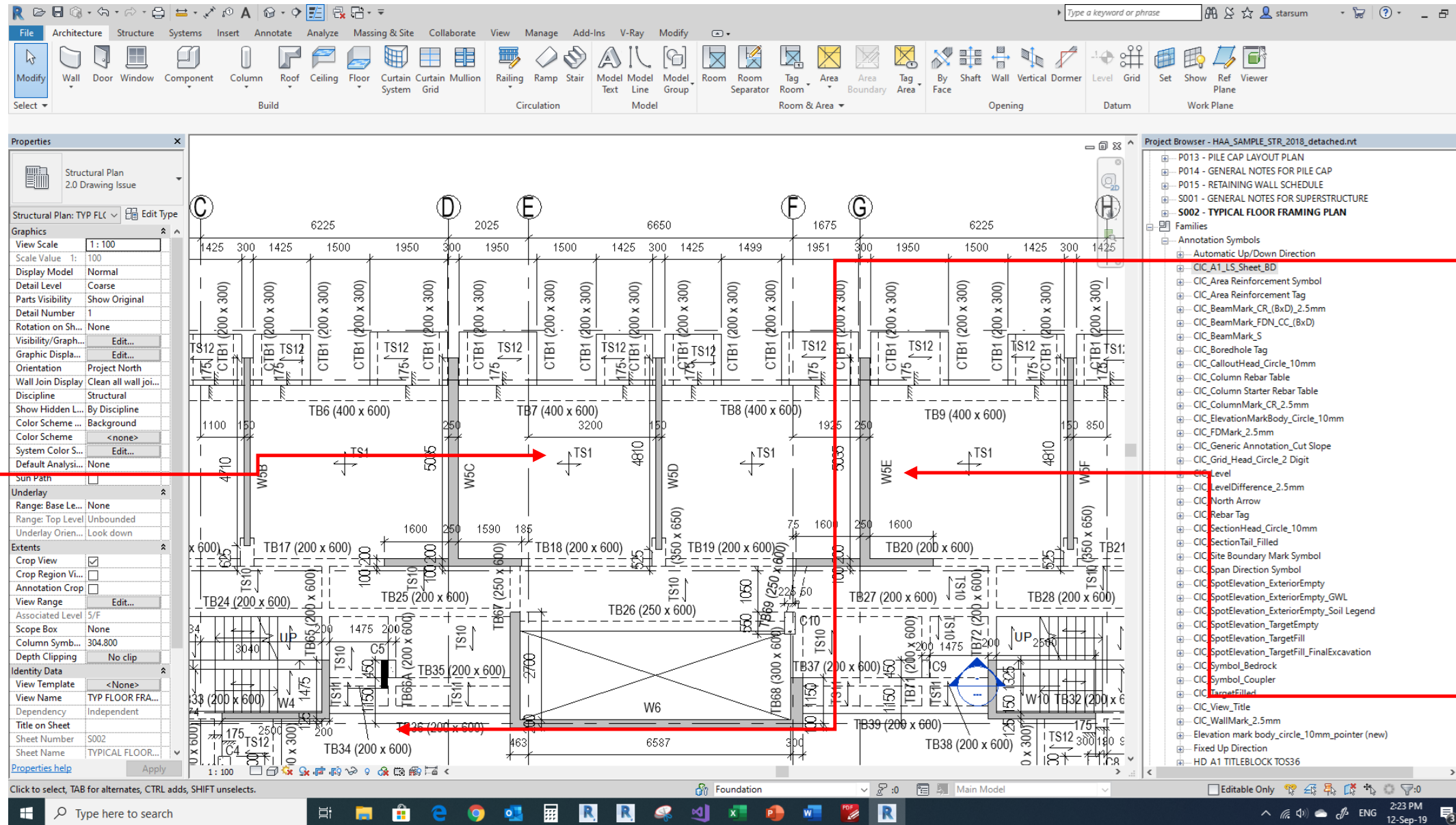
5 Apply Structural Block Plan, Structural Foundation Plan, Structural Piling Layout Plan, Structural GI Section, Structural Pile Cap Section, Structural Piling Section for Foundation Submission

Parameter	Value	Include
View Scale	1 : 100	<input checked="" type="checkbox"/>
Scale Value 1:	100	<input checked="" type="checkbox"/>
Detail Level	Medium	<input checked="" type="checkbox"/>
Parts Visibility	Show Original	<input checked="" type="checkbox"/>
V/G Overrides Model	Edit...	<input checked="" type="checkbox"/>
V/G Overrides Annotation	Edit...	<input checked="" type="checkbox"/>
V/G Overrides Analytical	Edit...	<input checked="" type="checkbox"/>
V/G Overrides Import	Edit...	<input checked="" type="checkbox"/>
V/G Overrides Filters	Edit...	<input checked="" type="checkbox"/>
Model Display	Edit...	<input checked="" type="checkbox"/>
Shadows	Edit...	<input checked="" type="checkbox"/>
Sketchy Lines	Edit...	<input checked="" type="checkbox"/>
Lighting	Edit...	<input checked="" type="checkbox"/>
Photographic Exposure	Edit...	<input checked="" type="checkbox"/>
Background	Edit...	<input checked="" type="checkbox"/>
Phase Filter	Show All	<input checked="" type="checkbox"/>
Discipline	Structural	<input checked="" type="checkbox"/>
Show Hidden Lines	By Discipline	<input checked="" type="checkbox"/>
Rendering Settings	Edit...	<input checked="" type="checkbox"/>

# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.2 View Template Setting for Plan & Section

1 Slab by Tag  
ANN-SPY-  
HAS-  
Span\_Mark\_  
01\_V03-SE89  
or ANN-SPY-  
HAS-  
Span\_Mark\_  
02\_V01-  
TOS68



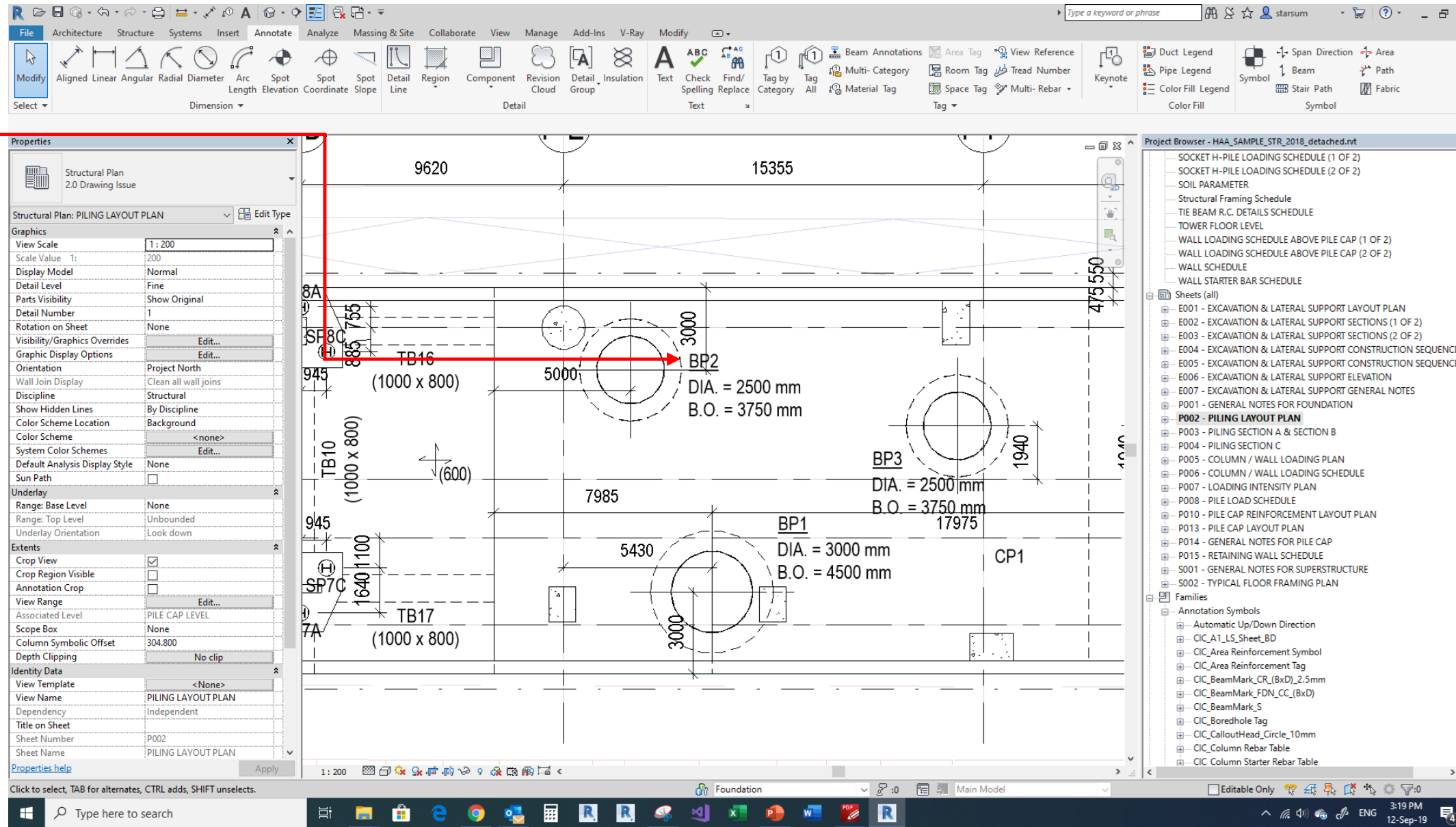
2 Beam by Tag  
ANN-  
FRG-HAS-  
Beam\_Tag\_V  
08-TOS83  
Column by  
ANN-SCG-  
HAS-  
Column\_Tag\_  
V01-SE89

3 Wall by Tag  
ANN-WLG-  
HAS-  
Wall\_Tag\_V0  
2-SE89

# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.3 Tag for Different Structural Elements

1 Pile by Tag  
ANN-FDG-  
HAS-Pile  
Mark  
Tag\_TOS55.





# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.4 Loading Key Plan – Create Area Plan

1 Click “Architecture”

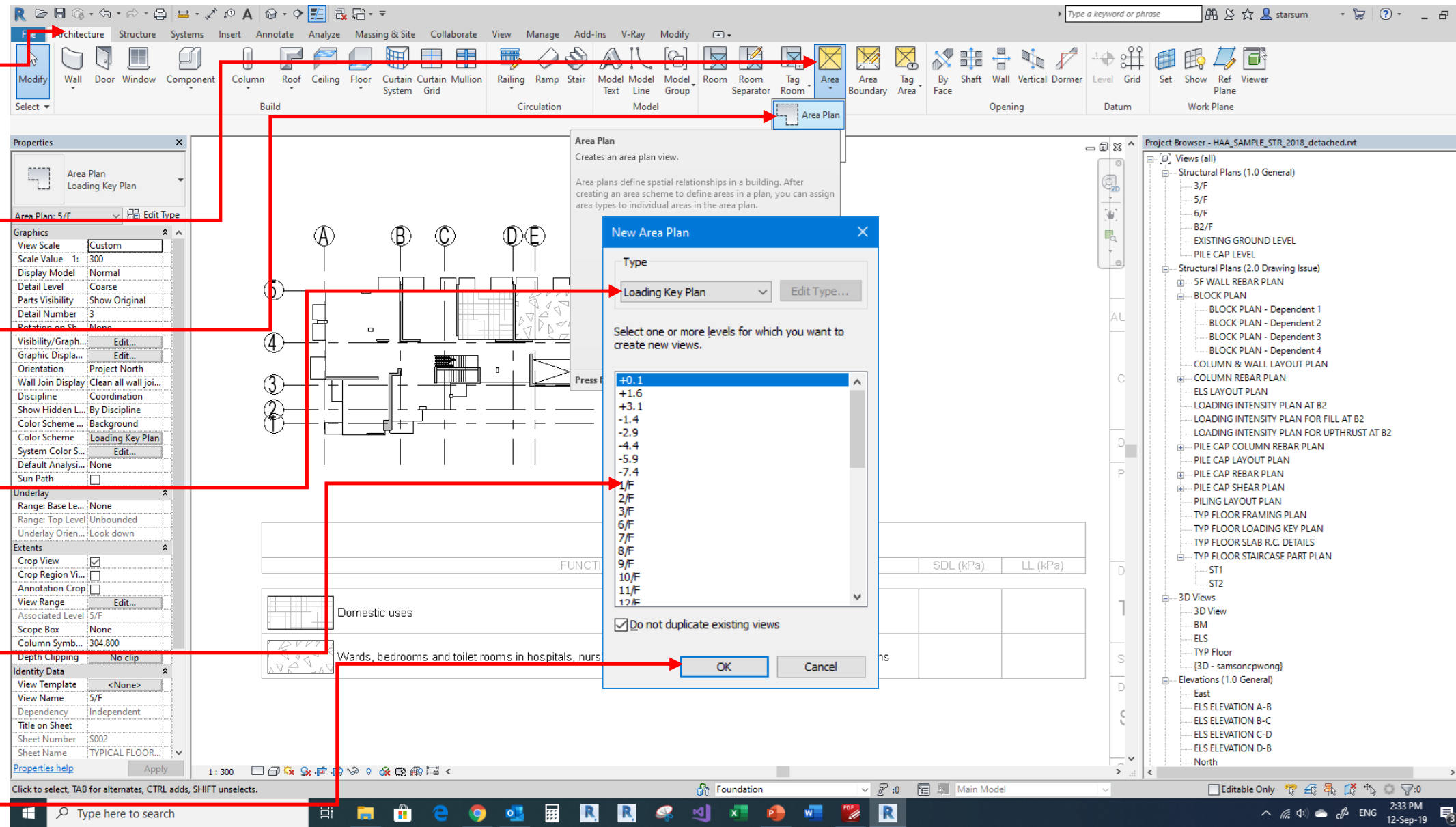
2 Click “Area”

3 Click “Area Plan”

4 Select Loading Key Plan

5 Select Level(s)

6 Click “OK”

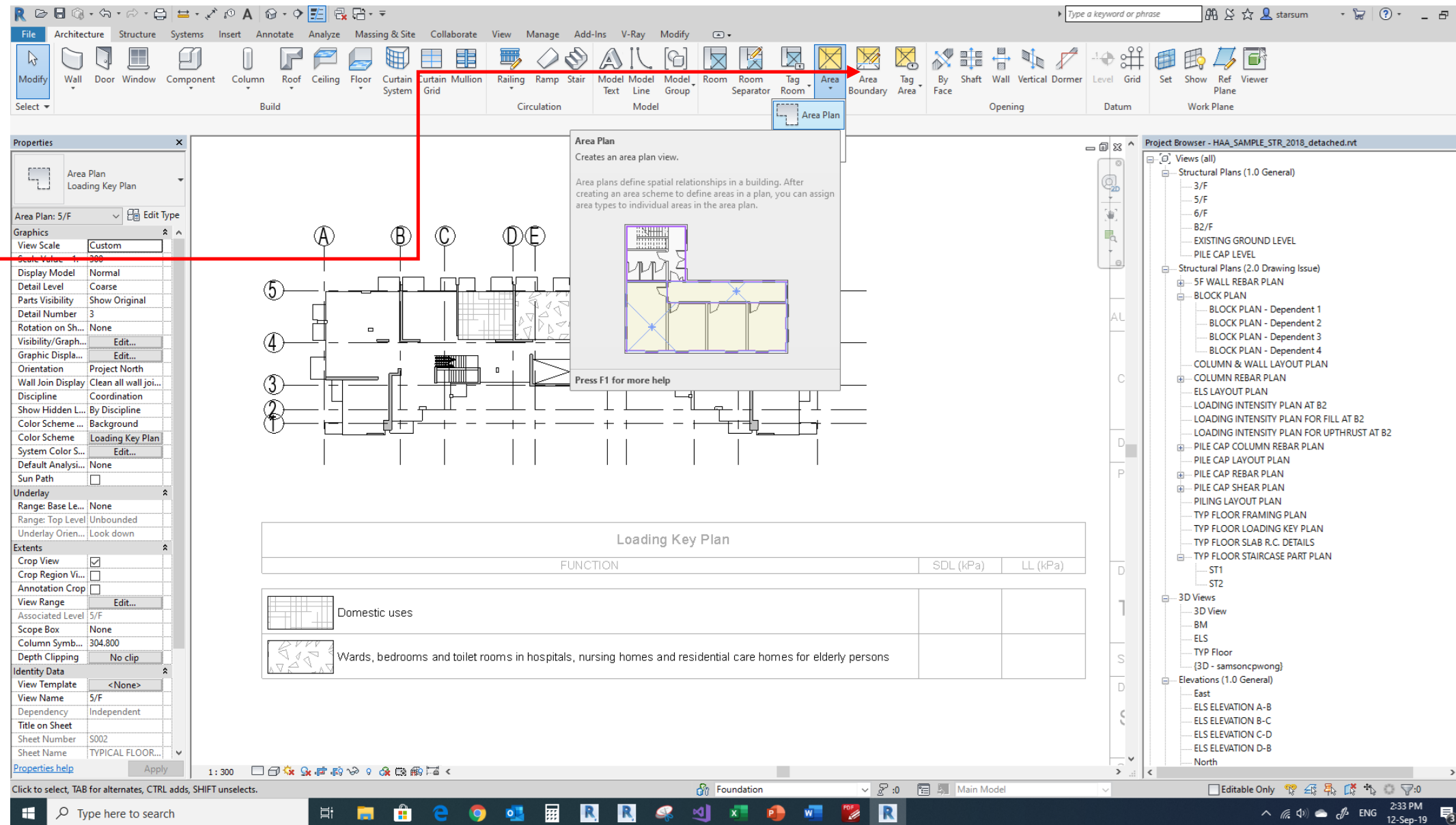


7 When you are asked to “Automatically create area boundary lines”, select “No”.

# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.5 Loading Key Plan – Create Area Boundary and Area

1 Create Closed Loop Area Boundaries and Insert Area. Please refer to Section 6.1.2 for detail procedure.



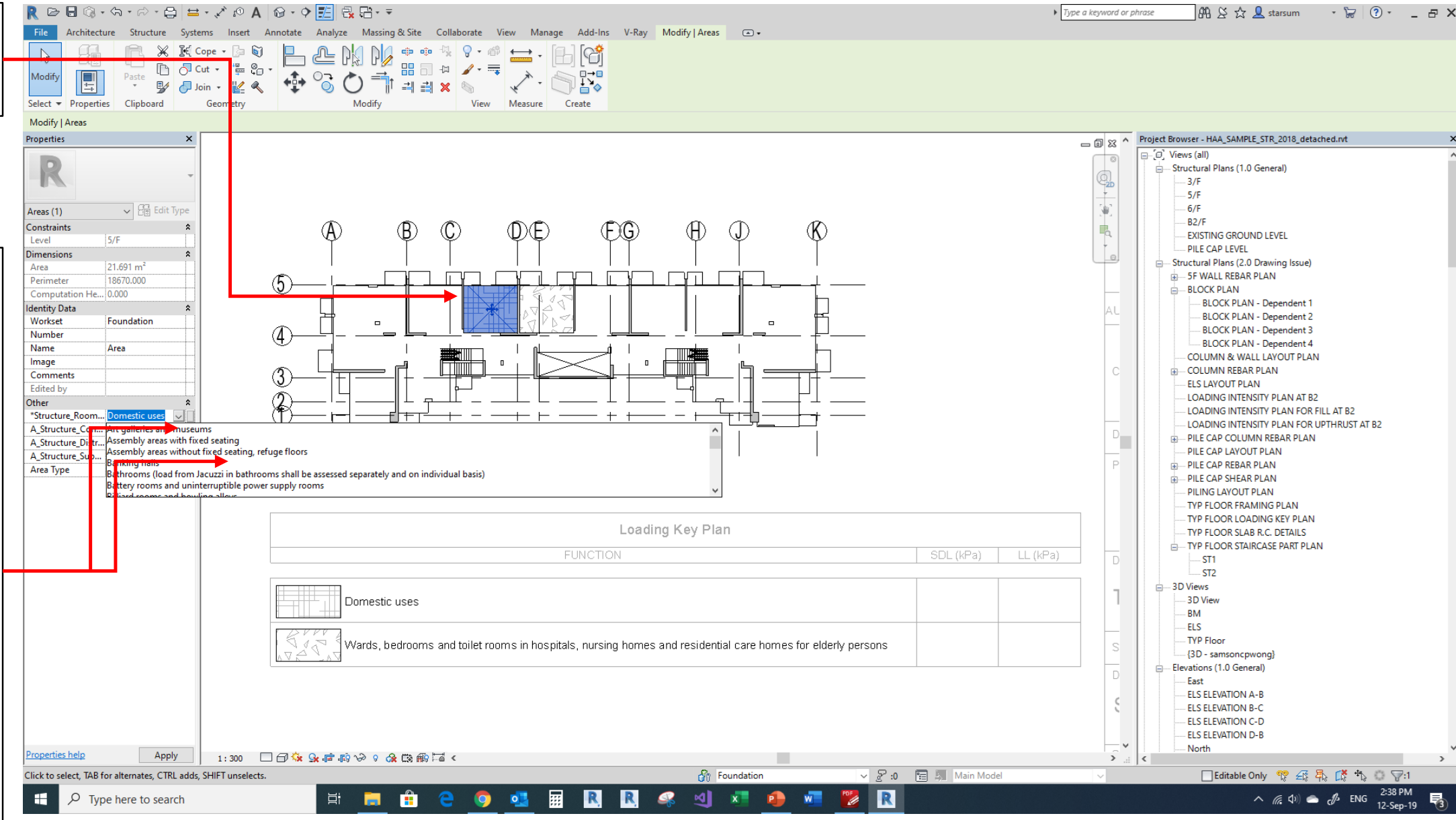


# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.6 Loading Key Plan – Assign Parameter Value to Area

1 Select Area(s)

2 Select value of parameter “Structure\_Room\_Use\_Classification”. Pick on arrow button. A list of available option will be shown. Select the appropriate item



# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.7 Loading Key Plan – Modify Preset Structural Use

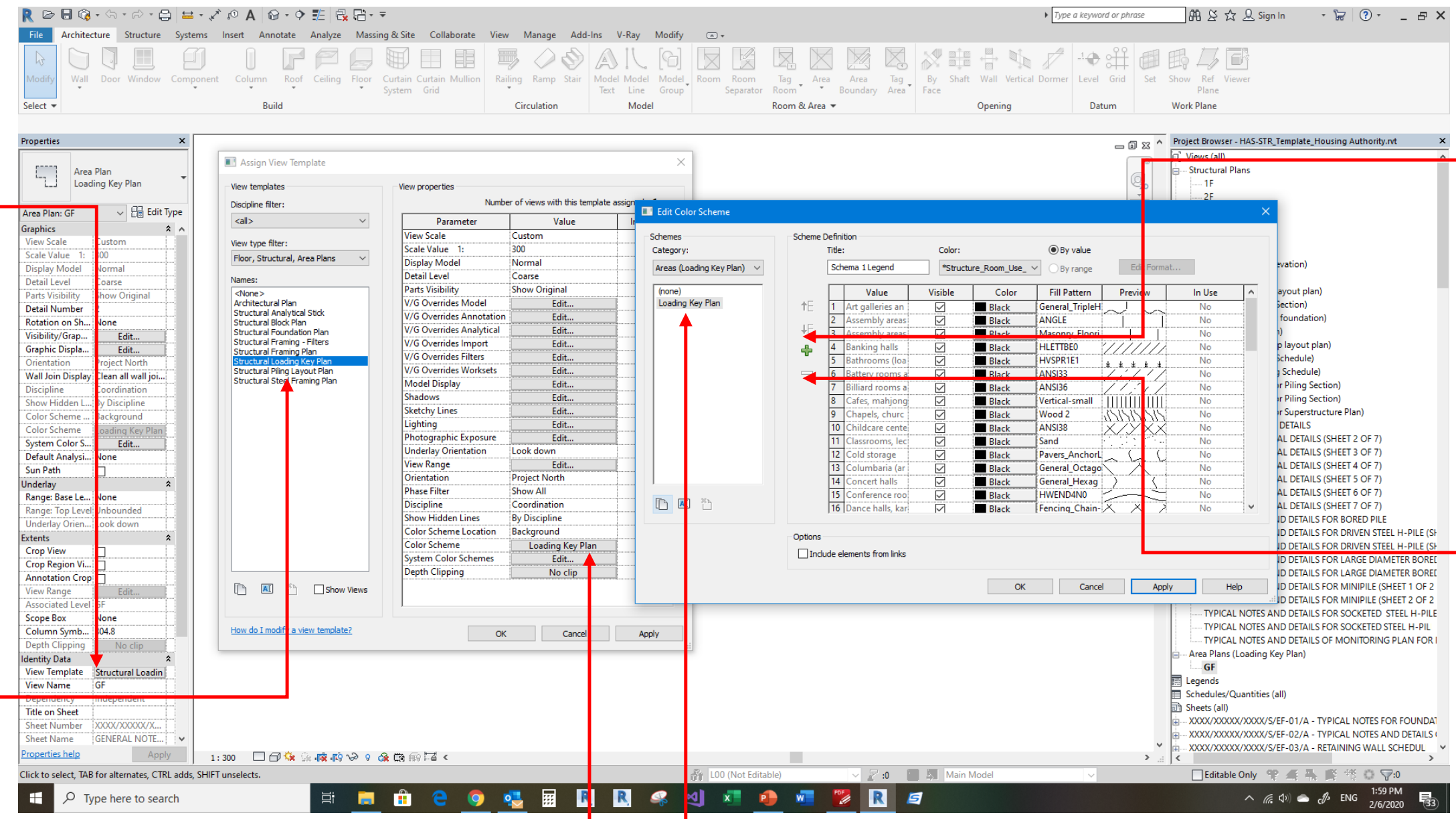
1 To add/modify preset structural use and its fill pattern. Click on view template.

2 select “Structural Loading Key Plan”

3 Click on “color scheme” and select loading key plan

3 select “+” to add structural use. Modify its fill pattern and color if necessary

4 select a use, select “-” to delete structural use if necessary.



SW2

Add the step about the selection of view template.

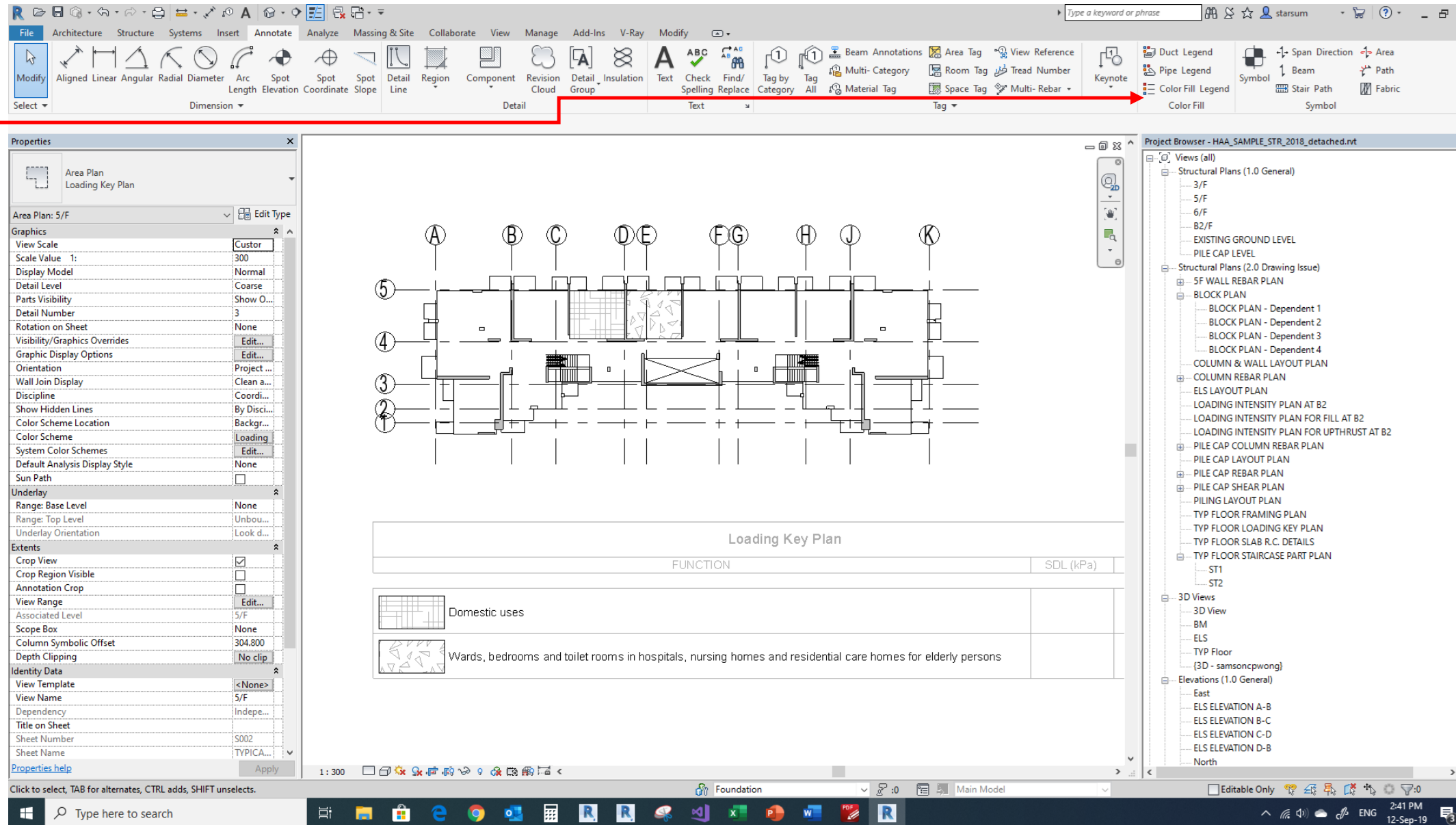
by Karson

Samson Wong, 30 Jun 2020

# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.8 Loading Key Plan – Create Legend for Loading Key Plan

1 Click on  
“Color Fill Legend”

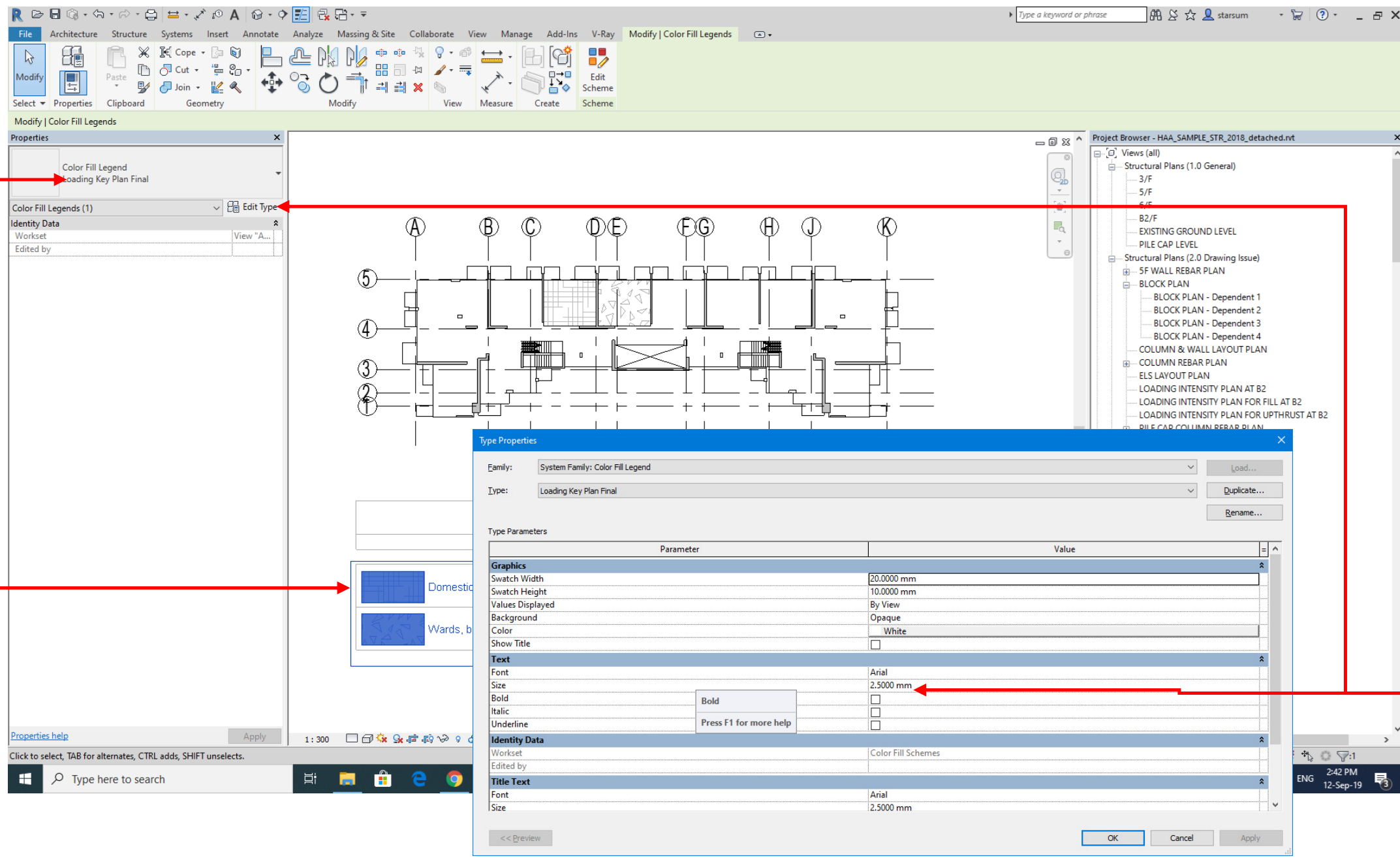


# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.8 Loading Key Plan – Create Legend for Loading Key Plan

1 Select Loading Key Plan Final

2 Click any point on plan view to insert legend.



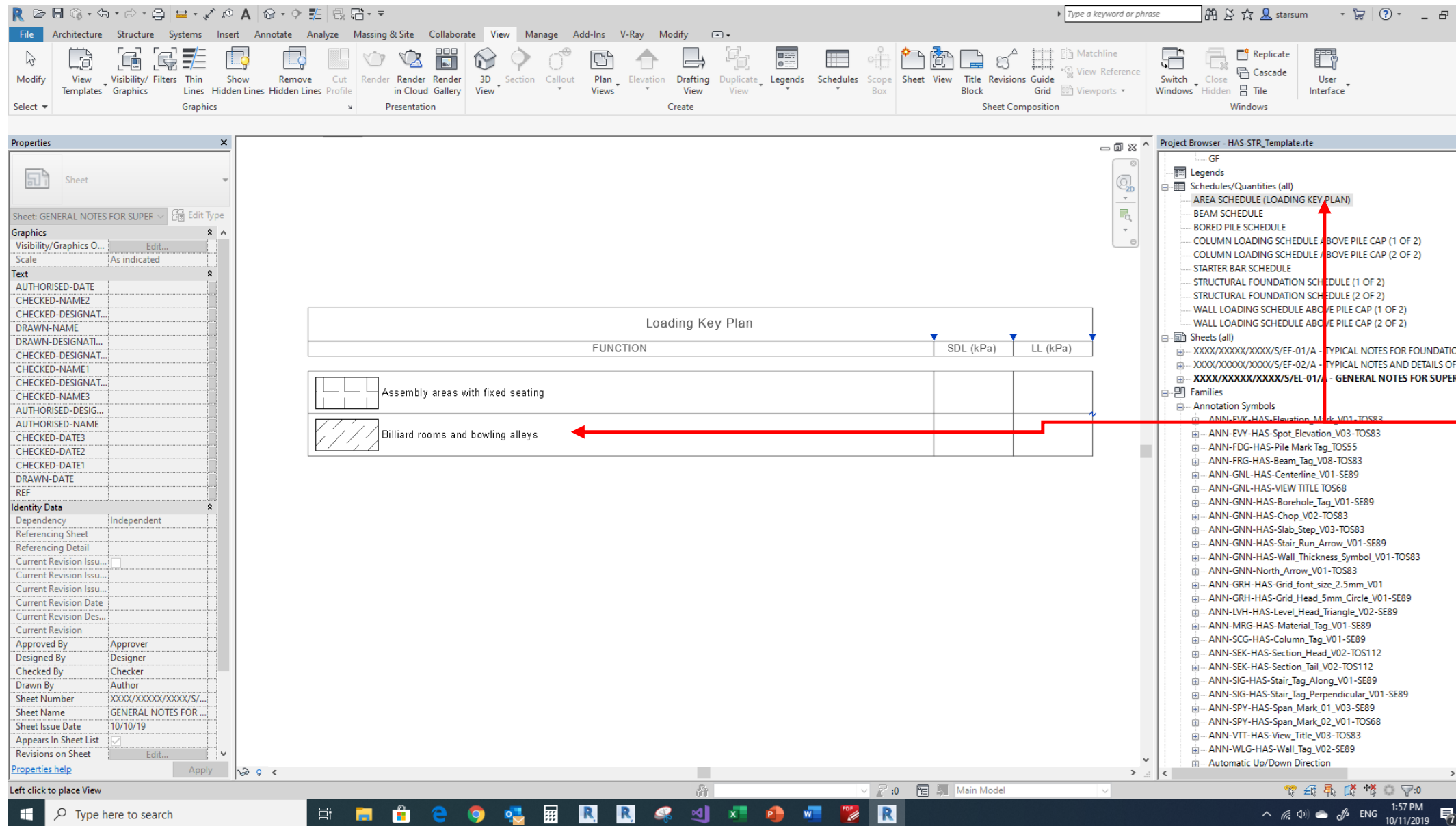
3 Select the Areas Type as “Loading Key Plan” and the color scheme as “Loading Key Plan”

4 To edit font size, select “Color Fill Legend” and select “Edit Type”. Then modify font size in the pop up window.



# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.8 Loading Key Plan – Create Legend for Loading Key Plan

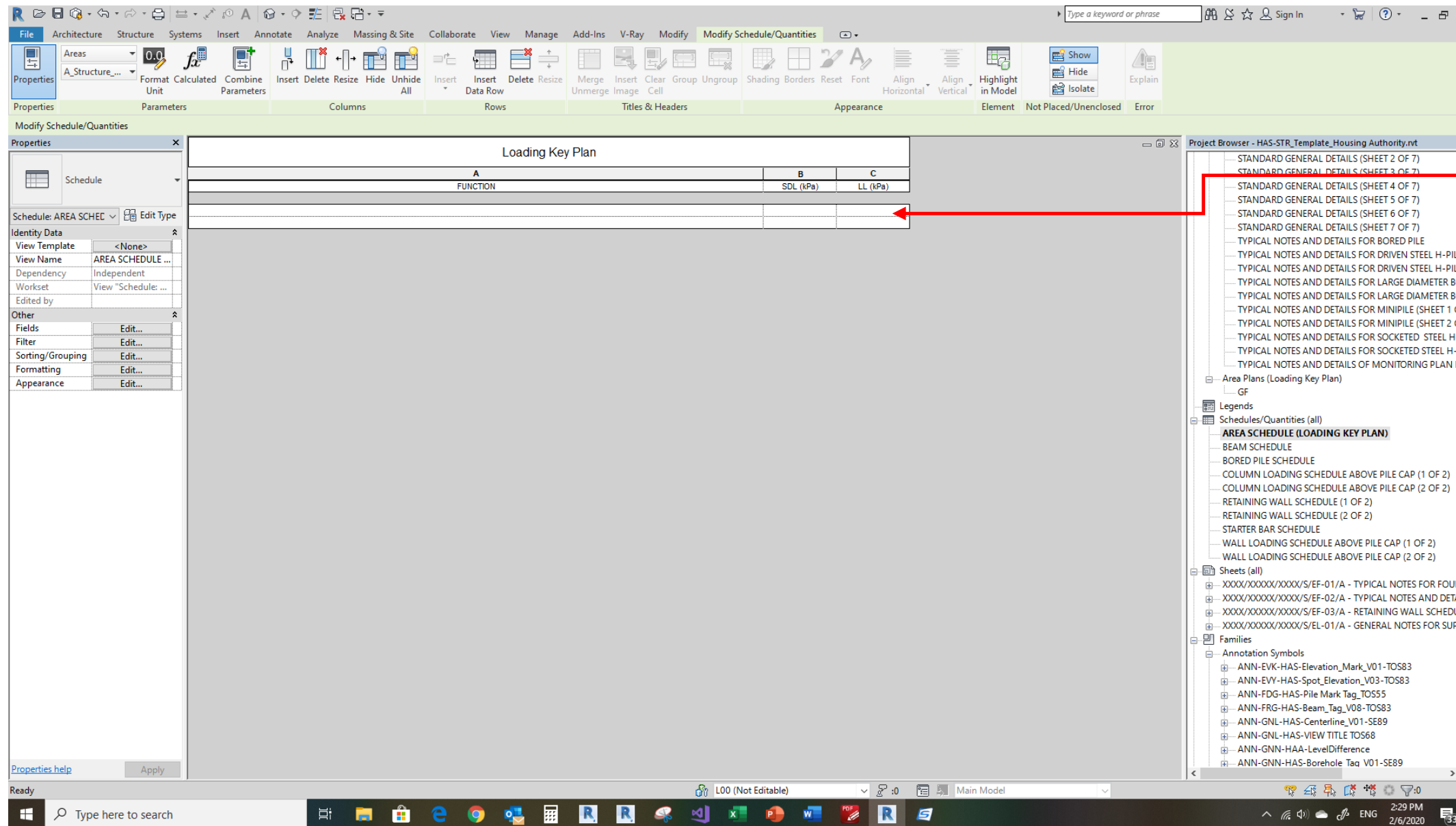


2 To edit font size of schedule, refer Section 6.1.14 Create Schedule.

1 Select and Drag “AREA SCHEDULE (LOADING KEY PLAN)” to sheet. Align cell of function to graphic legend. Input manually for SDL and LL. Double click the schedule.

# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.9 Loading Key Plan – Input Manually for SDL and LL



1 Click and Input manually for SDL and LL.

# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.10 Loading Schedule - Column

COLUMN MARK	COLUMN LOADING SCHEDULE ABOVE PILE CAP (1 OF 2)						COLUMN LOADING SCHEDULE ABOVE PILE CAP (2 OF 2)											
	DEAD LOAD (DL)			LIVE LOAD (LL)			W0			W90			WU			WV		
	AXIAL (kN)	Vx (kN)	Vy (kN)	AXIAL (kN)	Vx (kN)	Vy (kN)	AXIAL (kN)	Vx (kN)	Vy (kN)	AXIAL (kN)	Vx (kN)	Vy (kN)	P (kN)	Vx (kN)	Vy (kN)	P (kN)	Vx (kN)	Vy (kN)
C1	86.00 kN	-1.00 kN	1.00 kN	15.00 kN	0.00 kN	0.00 kN	13.00 kN	-8.00 kN	1.00 kN	-19.00 kN	10.00 kN	0.00 kN	7.00 kN	0.00 kN	-10.00 kN	0.00 kN	-1.00 kN	6.00 kN
C2	85.00 kN	1.00 kN	2.00 kN	17.00 kN	0.00 kN	0.00 kN	13.00 kN	-7.00 kN	3.00 kN	-15.00 kN	8.00 kN	-2.00 kN	-6.00 kN	2.00 kN	-8.00 kN	5.00 kN	-2.00 kN	6.00 kN
C3	96.00 kN	-1.00 kN	-1.00 kN	19.00 kN	0.00 kN	0.00 kN	16.00 kN	-6.00 kN	2.00 kN	-17.00 kN	7.00 kN	-1.00 kN	-19.00 kN	1.00 kN	-8.00 kN	20.00 kN	-3.00 kN	7.00 kN
C4	39.00 kN	0.00 kN	0.00 kN	6.00 kN	0.00 kN	0.00 kN	10.00 kN	-5.00 kN	1.00 kN	-11.00 kN	6.00 kN	0.00 kN	-14.00 kN	1.00 kN	-7.00 kN	13.00 kN	-2.00 kN	6.00 kN
C5	97.00 kN	1.00 kN	0.00 kN	19.00 kN	0.00 kN	0.00 kN	7.00 kN	-4.00 kN	0.00 kN	-7.00 kN	4.00 kN	1.00 kN	-10.00 kN	0.00 kN	-6.00 kN	9.00 kN	0.00 kN	5.00 kN
C6	93.00 kN	-1.00 kN	-1.00 kN	19.00 kN	0.00 kN	0.00 kN	8.00 kN	-4.00 kN	2.00 kN	-9.00 kN	5.00 kN	-2.00 kN	-31.00 kN	2.00 kN	-10.00 kN	33.00 kN	-2.00 kN	10.00 kN
Grand total: 6	496.00 kN	-1.00 kN	1.00 kN	95.00 kN	0.00 kN	0.00 kN	67.00 kN	-34.00 kN	9.00 kN	-78.00 kN	40.00 kN	-4.00 kN	-73.00 kN	6.00 kN	-49.00 kN	80.00 kN	-10.00 kN	40.00 kN

1 Loading Schedule can be found under schedule "COLUMN LOADING SCHEDULE ABOVE PILE CAP (1/2 OF 2)"

# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.11 Loading Schedule - Wall

WALL LOADING SCHEDULE ABOVE PILE CAP (1 OF 2)																		
WALL MARK	SIZE (mm x mm)	DEAD LOAD (DL = SW + SDL)					LIVE LOAD (LL)					W0					V	
		AXIAL LOAD (kN)	Mx (kNm)	My (kNm)	Vx (kNm)	Vy (kNm)	AXIAL (kN)	Mx (kNm)	My (kNm)	Vx (kNm)	Vy (kNm)	AXIAL LOAD (kN)	Vx (kN)	Vy (kN)	Mx (kNm)	My (kNm)		AXIAL LOAD (kN)
TW1	450 THK	224.00 kN	0.00 kN	355.00 kN	0.00 kN	0.00 kN	59.00 kN	82.00 kN	0.00 kN	0.00 kN	0.00 kN	10.00 kN	-8.00 kN	1.00 kN	-13.00 kN	-1.00 kN	-5.00 kN	6.
TW2	450 THK	105.00 kN	0.00 kN	0.00 kN	0.00 kN	0.00 kN	27.00 kN	0.00 kN	0.00 kN	0.00 kN	0.00 kN	-19.00 kN	71.00 kN	1.00 kN	91.00 kN	-1.00 kN	-26.00 kN	78
TW3	250 THK	660.00 kN	0.00 kN	439.00 kN	0.00 kN	0.00 kN	188.00 kN	148.00 kN	0.00 kN	0.00 kN	0.00 kN	10.00 kN	252.00 kN	1.00 kN	267.00 kN	-1.00 kN	-62.00 kN	30
TW4	250 THK	131.00 kN	0.00 kN	-52.00 kN	0.00 kN	0.00 kN	49.00 kN	-14.00 kN	0.00 kN	0.00 kN	0.00 kN	41.00 kN	121.00 kN	-1.00 kN	167.00 kN	1.00 kN	25.00 kN	17
TW5	250 THK	102.00 kN	0.00 kN	-2.00 kN	0.00 kN	0.00 kN	35.00 kN	-9.00 kN	0.00 kN	0.00 kN	0.00 kN	-52.00 kN	166.00 kN	1.00 kN	216.00 kN	-1.00 kN	-85.00 kN	13
TW6	250 THK	105.00 kN	0.00 kN	-9.00 kN	0.00 kN	0.00 kN	35.00 kN	-2.00 kN	0.00 kN	0.00 kN	0.00 kN	63.00 kN	164.00 kN	1.00 kN	203.00 kN	1.00 kN	15.00 kN	79

1 Loading Schedule can be found under schedule "WALL LOADING SCHEDULE ABOVE PILE CAP (1/2 OF 2)"

# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.11 Loading Schedule - Wall

WALL LOADING SCHEDULE ABOVE PILE CAP (2 OF 2)

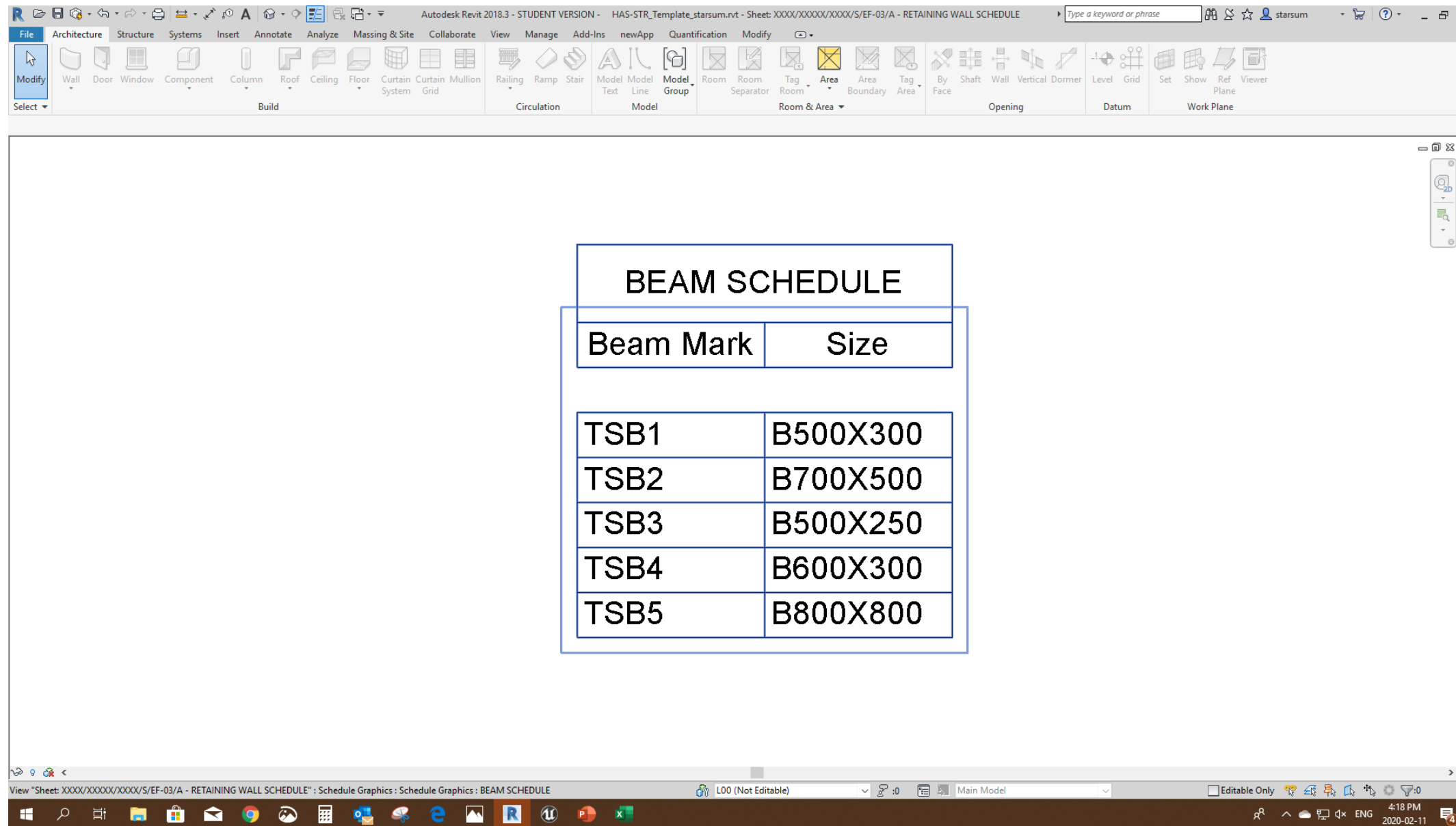
W0				W90					WD46					WD136				
(kN)	Vy (kN)	Mx (kNm)	My (kNm)	AXIAL LOAD (kN)	Vx (kN)	Vy (kN)	Mx (kNm)	My (kNm)	AXIAL LOAD (kN)	Vx (kN)	Vy (kN)	Mx (kNm)	My (kNm)	AXIAL LOAD (kN)	Vx (kN)	Vy (kN)	Mx (kNm)	My (kNm)
0.00	1.00	-13.00	-1.00	-5.00	6.00	-1.00	8.00	1.00	8.00	-4.00	-1.00	-7.00	1.00	-19.00	18.00	-1.00	28.00	1.00
0.00	1.00	91.00	-1.00	-26.00	78.00	2.00	102.00	-2.00	-43.00	150.00	2.00	194.00	-3.00	-7.00	-5.00	1.00	-5.00	-1.00
0.00	1.00	267.00	-1.00	-62.00	303.00	1.00	315.00	1.00	-53.00	564.00	1.00	592.00	-1.00	-46.00	-28.00	-1.00	-34.00	1.00
0.00	-1.00	167.00	1.00	25.00	176.00	-1.00	239.00	1.00	64.00	300.00	-1.00	410.00	1.00	-13.00	10.00	1.00	12.00	1.00
0.00	1.00	216.00	-1.00	-85.00	130.00	1.00	171.00	-1.00	-138.00	289.00	1.00	378.00	-1.00	-13.00	-24.00	1.00	-30.00	-1.00
0.00	1.00	203.00	1.00	15.00	79.00	-1.00	99.00	1.00	73.00	232.00	1.00	289.00	1.00	-24.00	15.00	1.00	-58.00	-1.00

1 Loading Schedule can be found under schedule "WALL LOADING SCHEDULE ABOVE PILE CAP (1/2 OF 2)"



# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

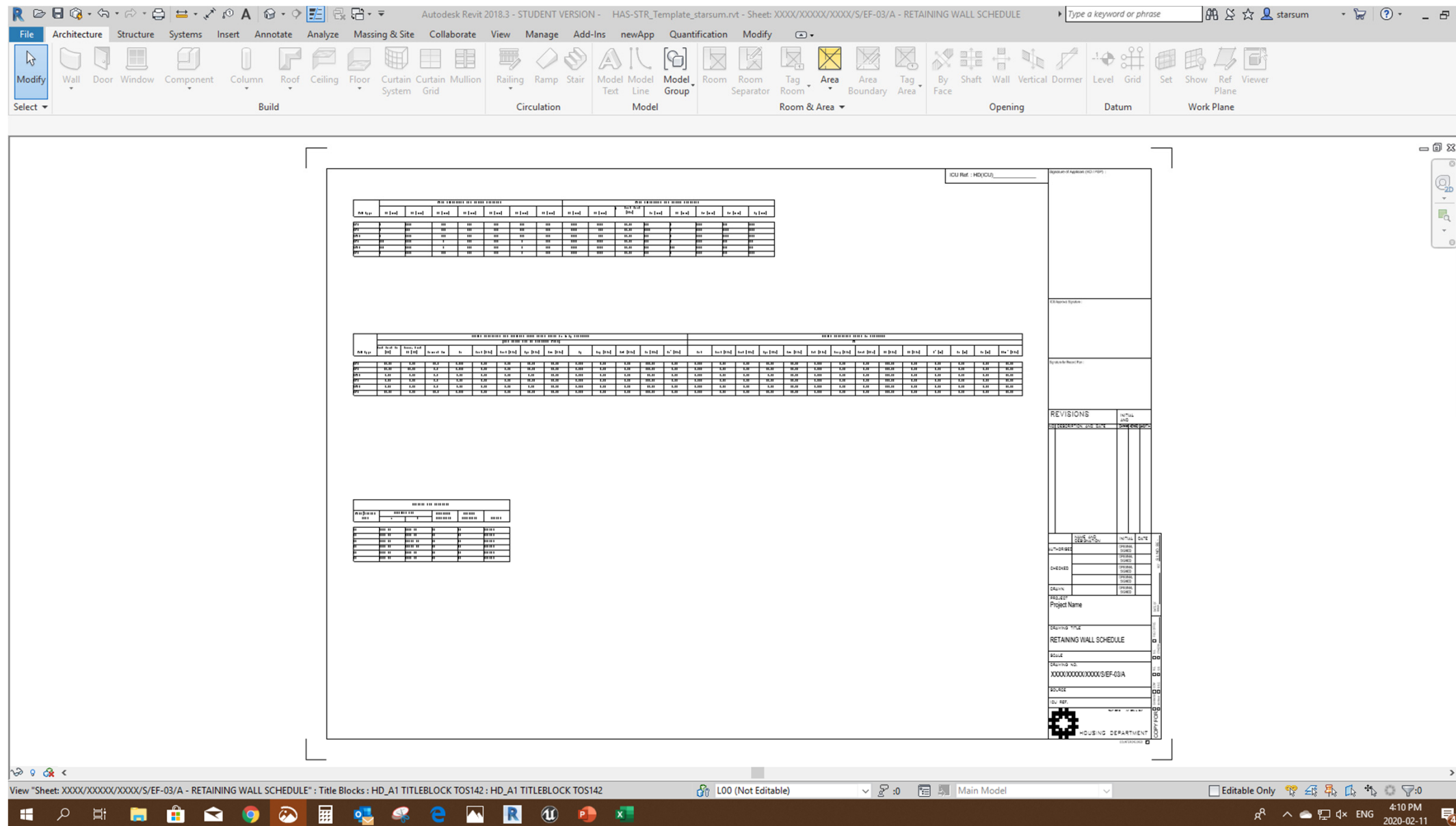
## 6.5.12 Beam Schedule



1 Schedule can be found under schedule "BEAM SCHEDULE"

# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.13 Retaining Wall & H Pile Starter Bar Schedule



1 Retaining Wall & H Pile Starter Bar Schedule are provided

# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.14 Retaining Wall Schedule

Wall Type	DESIGN PRESSURES FOR ULTIMATE LIMIT STATE UNDER Ka & Kp CONDITION (PER METER RUN OF RETAINING WALL)																		
	Dead Load P <sub>y</sub> (kN)	Horiz. Load P <sub>H</sub> (kN)	Moment P <sub>m</sub>	K <sub>a</sub>	P <sub>so1</sub> (kPa)	P <sub>so2</sub> (kPa)	P <sub>qa</sub> (kPa)	P <sub>wa</sub> (kPa)	K <sub>p</sub>	P <sub>sp</sub> (kPa)	P <sub>wb</sub> (kPa)	P <sub>u</sub> (kPa)	Bu <sup>1</sup> (kPa)	K <sub>o1</sub>	P <sub>so1</sub> (kPa)	P <sub>so2</sub> (kPa)	P <sub>qo</sub> (kPa)	P <sub>wo</sub> (kPa)	K <sub>o2</sub> (kPa)
RW1	26.55	8.60	14.5	0.239	5.43	5.53	11.58	22.24	2.816	0.00	0.00	121.90	2.18	0.318	7.21	7.34	10.26	22.24	0.41
RW2	50.27	33.95	0.0	0.239	2.23	5.33	11.58	21.42	2.816	0.00	0.00	109.60	3.16	0.318	2.97	7.07	10.26	21.42	0.41
RW2A	6.00	6.00	7.0	0.33	6.68	6.77	4.95	21.91	2.816	0.00	0.00	80.00	2.98	0.426	8.64	8.75	4.26	21.91	0.41
RW3	3.00	5.00	5.0	0.33	5.85	4.45	12.37	14.39	2.816	0.00	0.00	104.40	2.29	0.426	7.56	5.75	10.66	14.39	0.41
RW3A	3.00	5.00	5.0	0.33	6.68	4.65	4.95	15.04	2.816	0.00	0.00	86.70	2.16	0.426	8.64	6.01	4.26	15.04	0.41
RW4	26.55	8.60	14.5	0.239	5.43	5.53	11.58	22.24	2.816	0.00	0.00	142.60	2.62	0.318	7.21	7.34	10.26	22.24	0.41

1 Schedule can be found under schedule "RETAINING WALL SCHEDULE (1 OF 2)"

# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.14 Retaining Wall Schedule

DER K <sub>a</sub> & K <sub>p</sub> CONDITION						DESIGN PRESSURES UNDER K <sub>o</sub> CONDITION													
WALL)						WT													
w <sub>a</sub> (kPa)	K <sub>p</sub>	P <sub>sp</sub> (kPa)	P <sub>wb</sub> (kPa)	P <sub>u</sub> (kPa)	B <sub>u</sub> ' (kPa)	K <sub>o1</sub>	P <sub>so1</sub> (kPa)	P <sub>so2</sub> (kPa)	P <sub>qo</sub> (kPa)	P <sub>wo</sub> (kPa)	K <sub>o2</sub> (kPa)	P <sub>so p</sub> (kPa)	P <sub>wob</sub> (kPa)	P1 (kPa)	P2 (kPa)	B' (m)	Z <sub>c</sub> (m)	h <sub>c</sub> (m)	Phm' (kPa)
22.24	2.816	0.00	0.00	121.90	2.18	0.318	7.21	7.34	10.26	22.24	0.455	0.00	0.00	330.97	0.00	1.37	0.57	5.61	35.68
21.42	2.816	0.00	0.00	109.60	3.16	0.318	2.97	7.07	10.26	21.42	0.455	0.00	0.00	151.92	5.01	3.80	0.57	5.61	35.68
21.91	2.816	0.00	0.00	80.00	2.98	0.426	8.64	8.75	4.26	21.91	0.455	0.00	0.00	145.62	0.00	3.07	0.78	4.29	34.78
14.39	2.816	0.00	0.00	104.40	2.29	0.426	7.56	5.75	10.66	14.39	0.455	0.00	0.00	157.03	0.00	2.61	0.78	4.29	34.78
15.04	2.816	0.00	0.00	86.70	2.16	0.426	8.64	6.01	4.26	15.04	0.455	0.00	0.00	158.86	0.00	2.19	0.78	4.29	34.78
22.24	2.816	0.00	0.00	142.60	2.62	0.318	7.21	7.34	10.26	22.24	0.455	0.00	0.00	249.93	0.00	2.54	0.57	5.61	35.68

1 Schedule can be found under schedule "RETAINING WALL SCHEDULE (1 OF 2)"

# 6.5 TEMPLATE MANUAL – SUPERSTRUCTURE AND FOUNDATION PLAN

## 6.5.15 Starter Bar Schedule

STARTER BAR SCHEDULE					
WALL/COLUMN MARK	VERTICAL BAR		ELEVATION REFERENCE	SECTION REFERENCE	REMARK
	a	b			
C1	5T25 EF	5T25 EF	E2	S2	COLUMN
C2	5T25 EF	5T25 EF	E2	S2	COLUMN
C3	5T25 EF	10T25 EF	E2	S2	COLUMN
C4	5T25 EF	10T25 EF	E2	S2	COLUMN
C5	7T25 EF	9T25 EF	E2	S2	COLUMN
C6	5T32 EF	7T25 EF	E2	S2	COLUMN

1 Schedule can be found under schedule "STARTER BAR SCHEDULE"



## 6.6 DRAWING PRODUCTION – AMENDMENT SUBMISSION – GENERAL

- Guideline for two different approaches for preparing amendment submission are provided in this document.
- First approach is to use “revision cloud” to highlight changes. This approach can be used for both General Building Plans, Superstructure Plans and Foundation Plans. Refer Section 6.6.1 for details.
- Second approach is to highlight changes by colouring. Refer Section 6.7 for details.
- For General Building Plans, according to “Guidelines for Using Building Information Modelling in General Building Plans submission” (the Guidelines) version 2019 published by the Buildings Department section 5.4.1(a), *“The portion of floor layouts, sections, elevations with amendment should be shown, either by colouring or highlighting with annotation for easy identification.”* Guideline for both approaches are provided in this document accordingly.

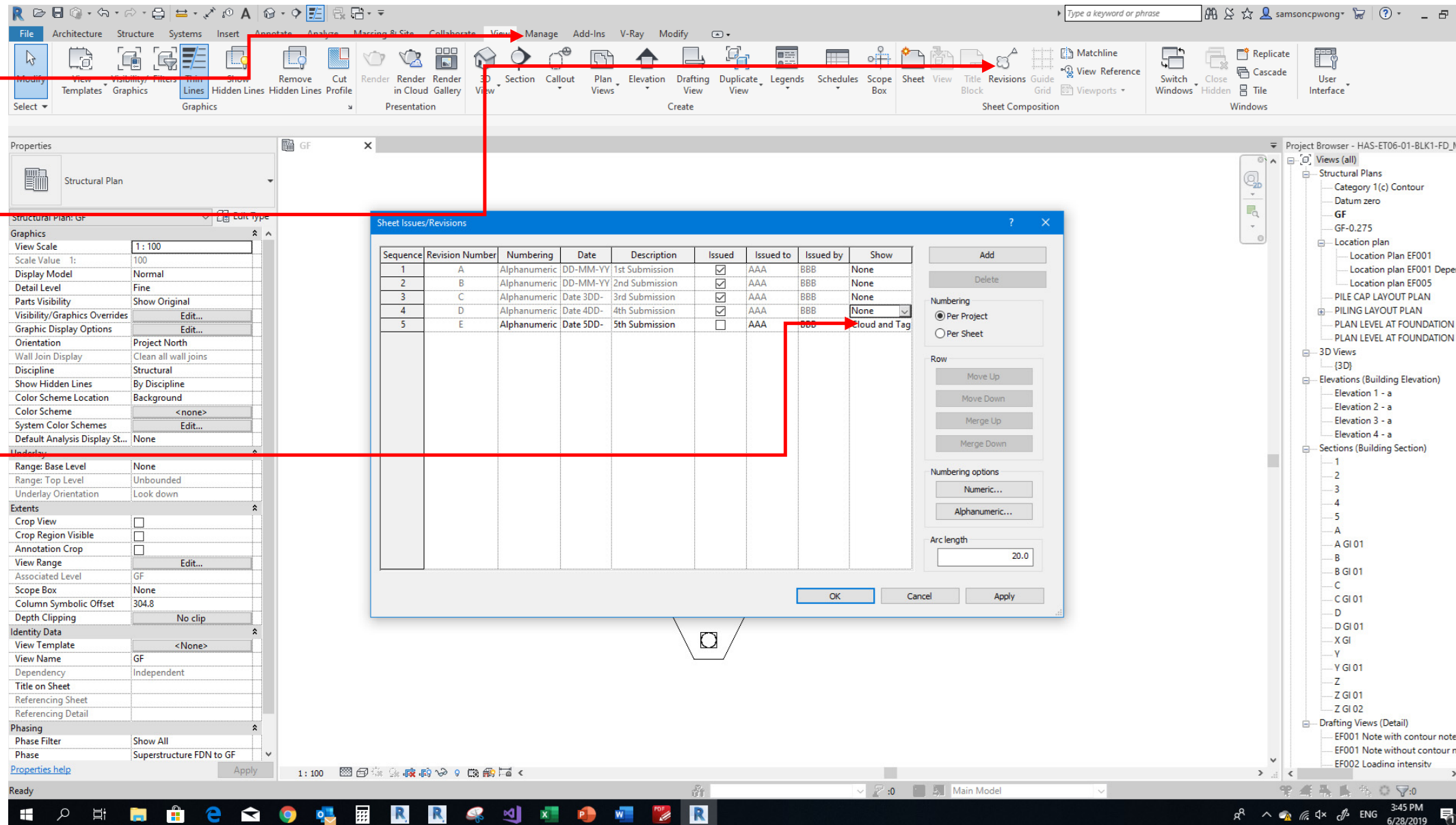
# 6.6 DRAWING PRODUCTION – AMENDMENT SUBMISSION – GENERAL

## 6.6.1 Revision Cloud

1 Click  
“View”

2 Click  
“Revisions”

3 Confirm  
cloud and tag  
will be shown  
in current  
Revision



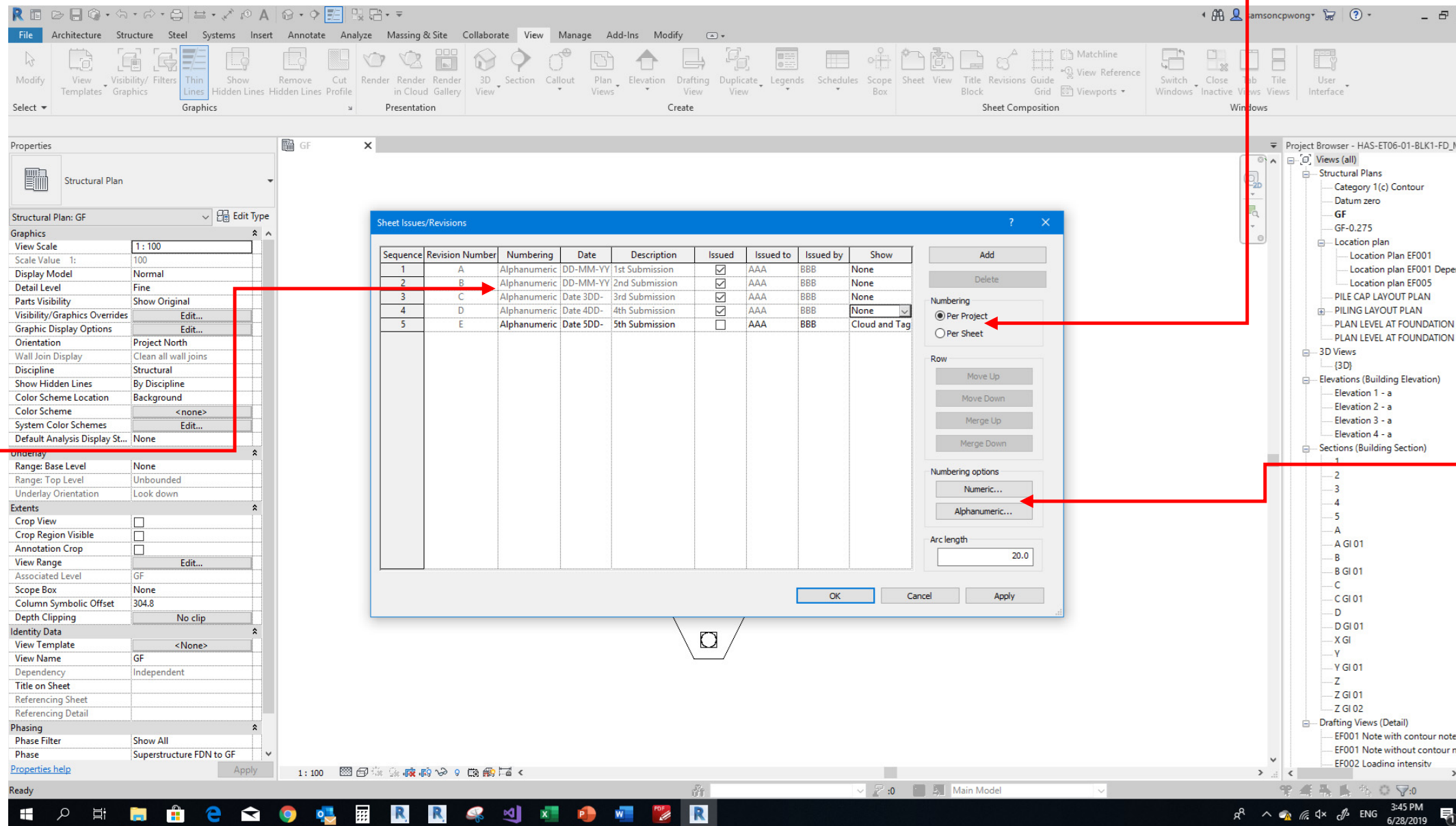
# 6.6 DRAWING PRODUCTION – AMENDMENT SUBMISSION – GENERAL

## 6.6.1 Revision Cloud

2 Select Per Sheet

3 Click to edit detail of numbering, e.g. for numeric numbering, you can set start no. as “0” instead of default value of “1”. For alphanumeric numbering, you can set start no. as “1” instead of default value of “A”.

1 the Numbering can be “numeric” or “alphanumeric”

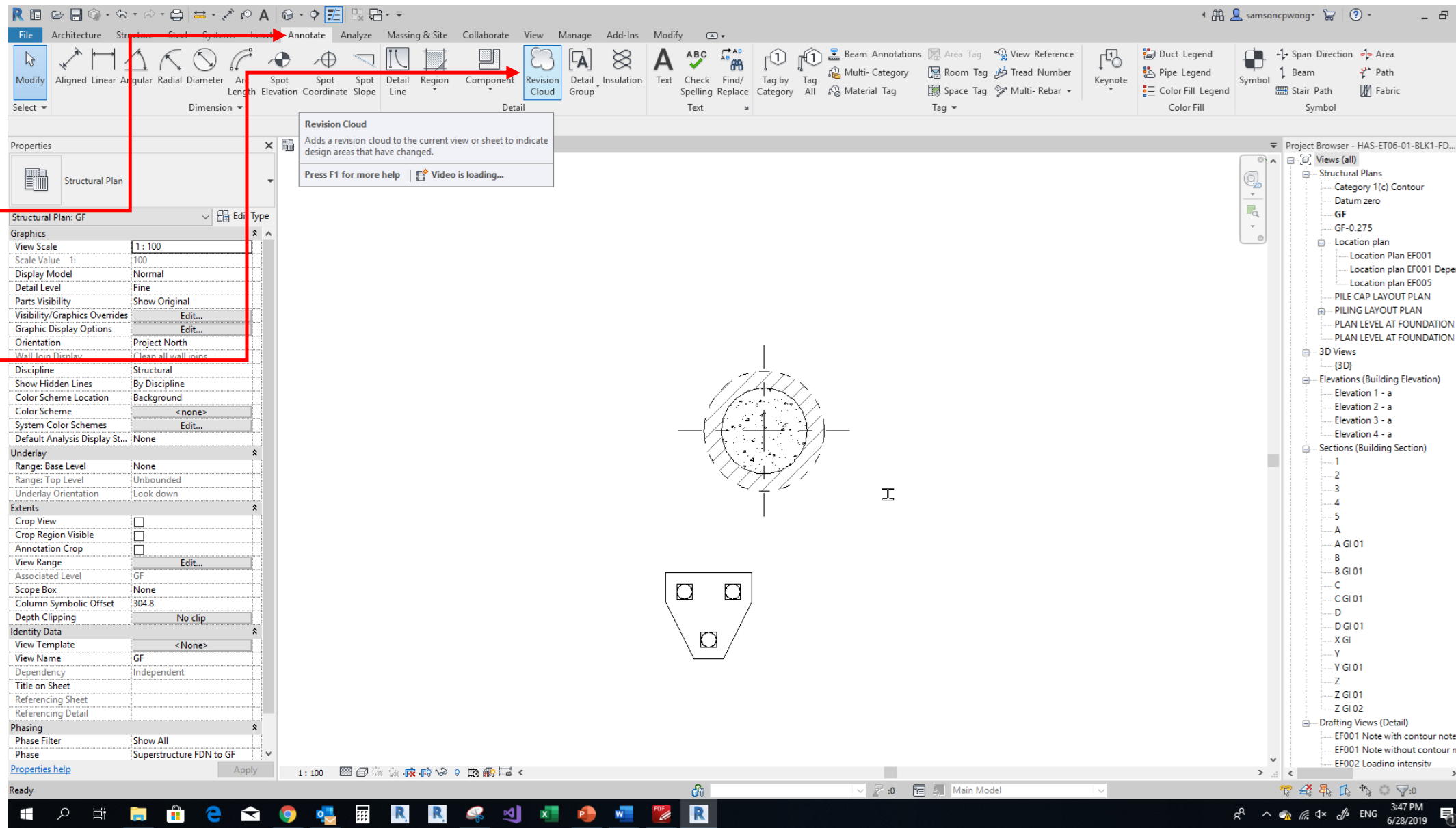


# 6.6 DRAWING PRODUCTION – AMENDMENT SUBMISSION – GENERAL

## 6.6.1 Revision Cloud

1 Click  
“Annotate”

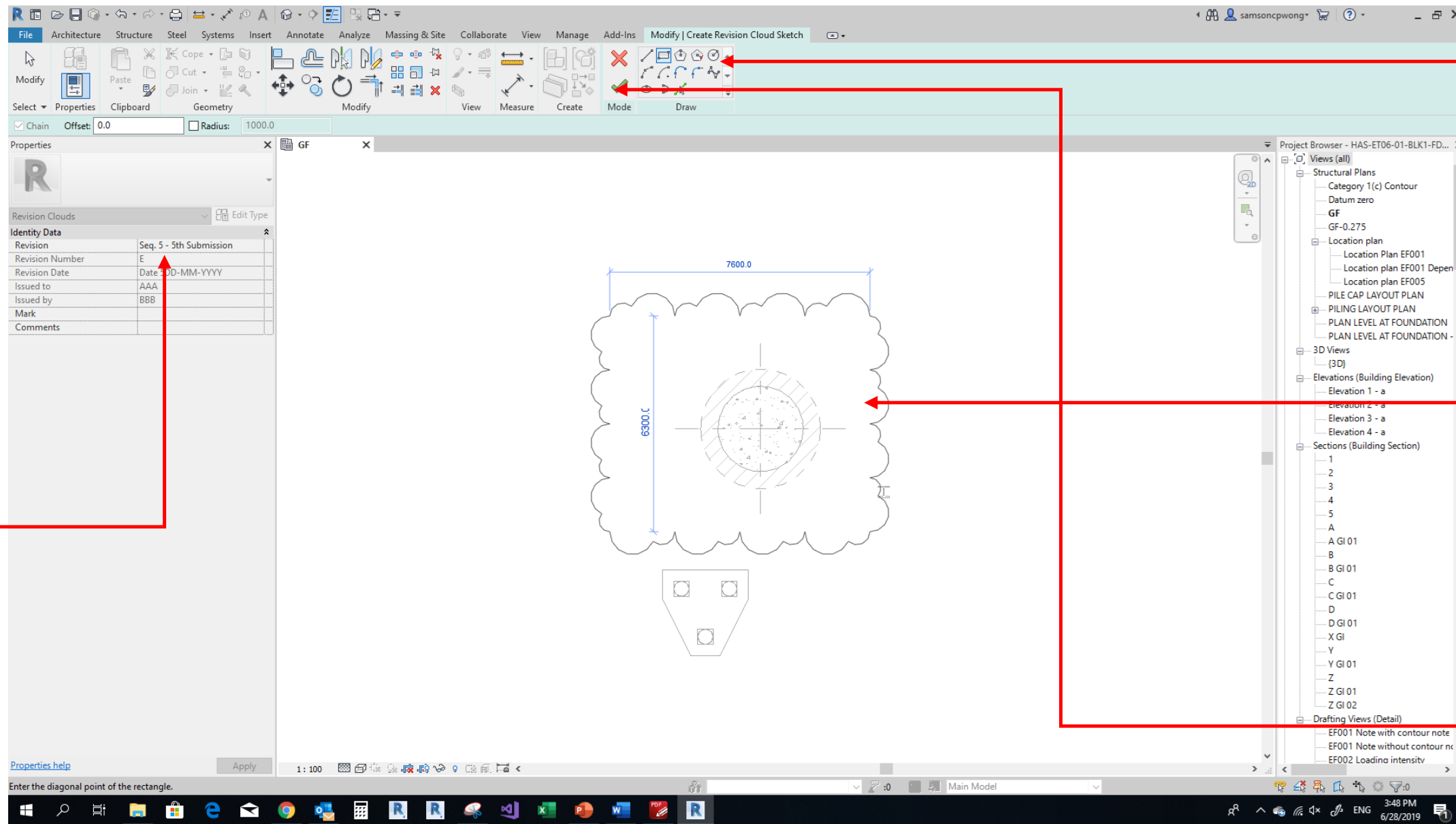
2 Click  
“Revision  
Cloud”



# 6.6 DRAWING PRODUCTION – AMENDMENT SUBMISSION – GENERAL

## 6.6.1 Revision Cloud

1 Confirm which revision is selected. Normally it should be the latest revision



2 Select draw line / pick line

3 Pick points on screen to define a loop of revision cloud

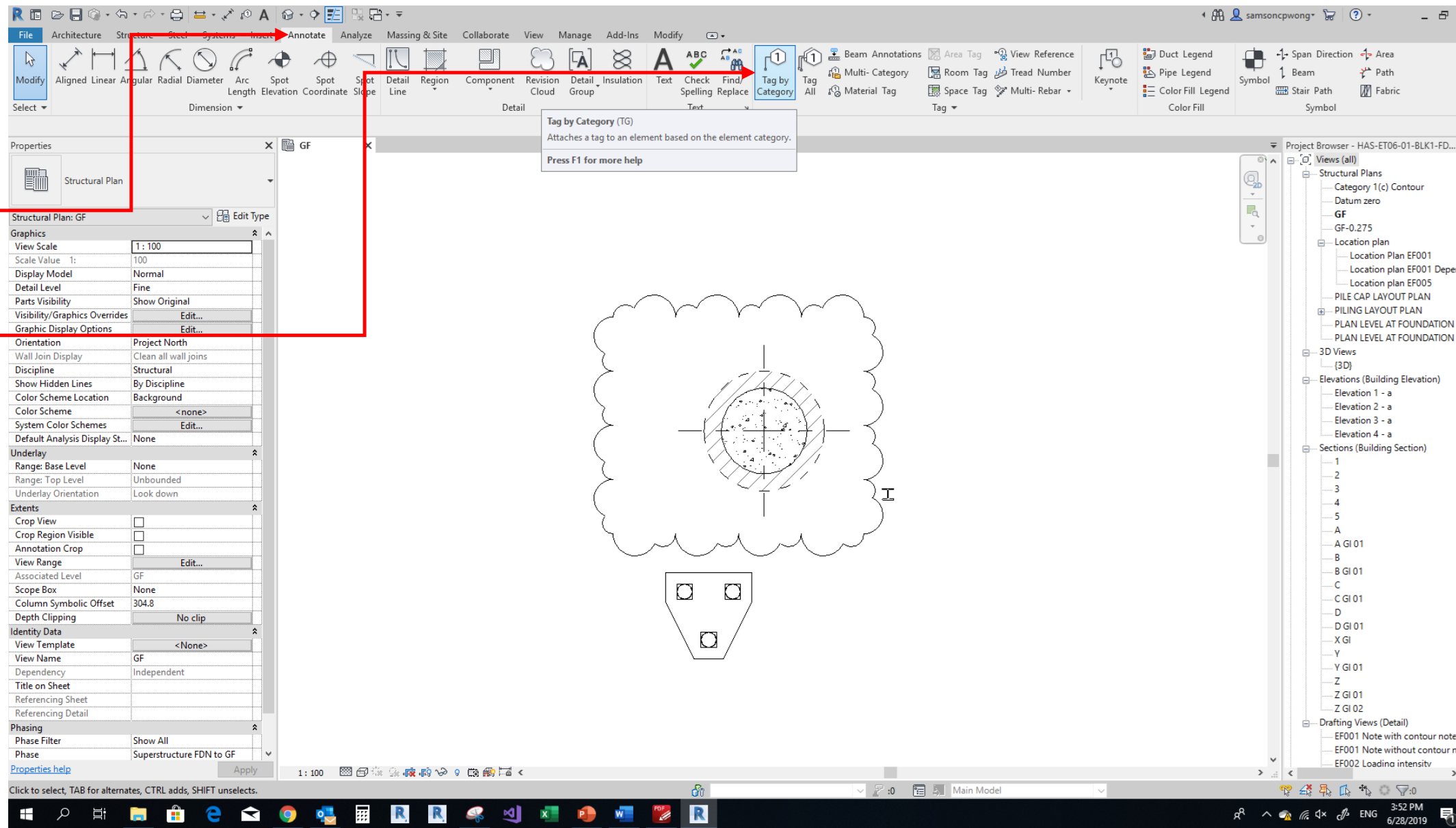
4 Select tick



# 6.6 DRAWING PRODUCTION – AMENDMENT SUBMISSION – GENERAL

## 6.6.1 Revision Cloud

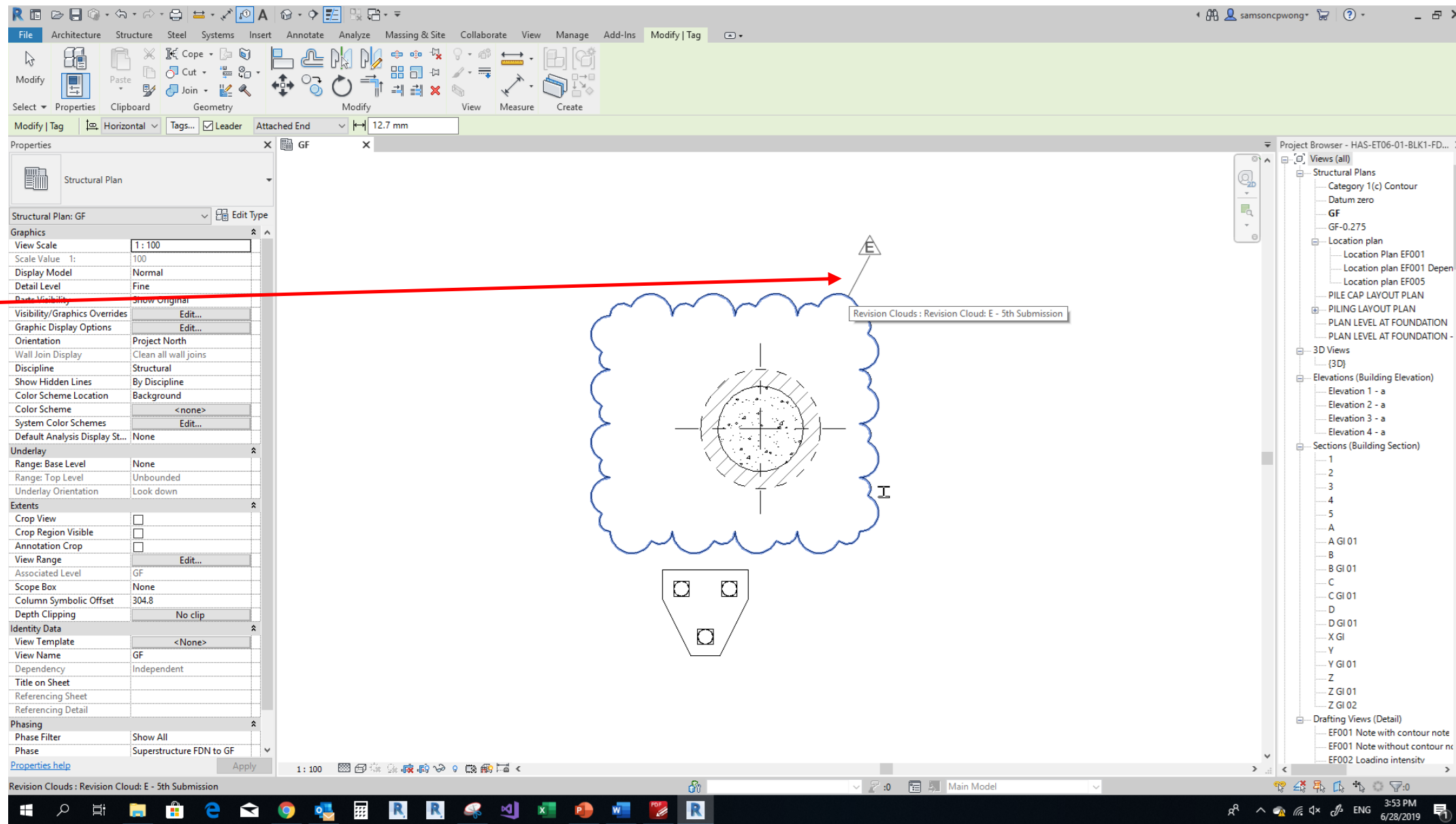
- 1 Click "Annotate"
- 2 Click "Tag by Category"



# 6.6 DRAWING PRODUCTION – AMENDMENT SUBMISSION – GENERAL

## 6.6.1 Revision Cloud

1 Click on  
“Revision  
Cloud”

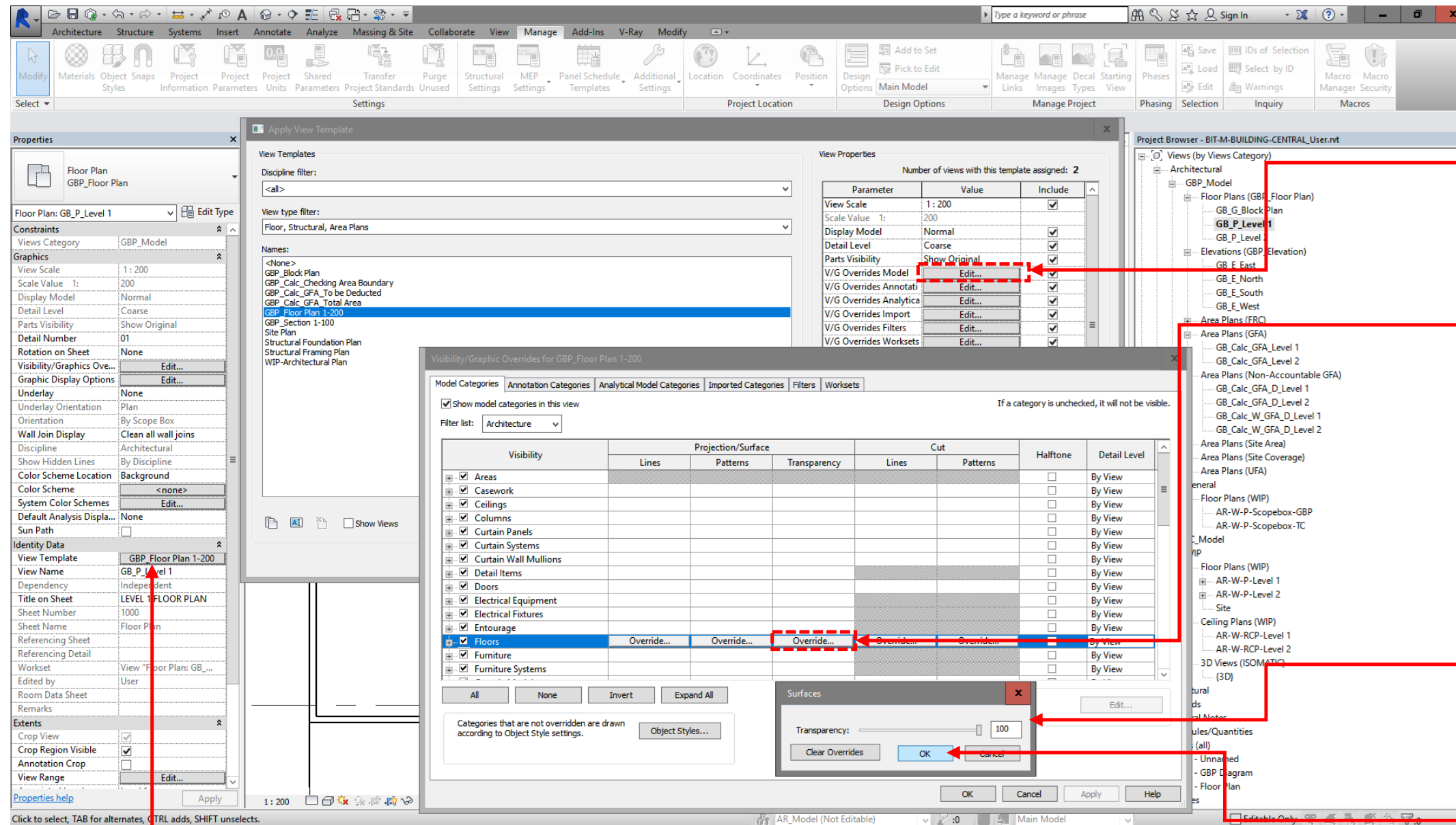


# 6.7 DRAWING PRODUCTION – AMENDMENT SUBMISSION – GENERAL BUILDING PLAN

## 6.7.1 GBP Amendment – Display Previous Approval Plan in Blue Dotted Lines

1 Setting for GBP amendment is included in amendment view template. Here is an illustration if it is required to set it without the view template

2 Click “Edit” under “View Template”



3 Click “Edit”

4 Click “Override”

5 Transparency =100

6 Click “OK”

# 6.7 DRAWING PRODUCTION – AMENDMENT SUBMISSION – GENERAL BUILDING PLAN

## 6.7.1 GBP Amendment – Display Previous Approval Plan in Blue Dotted Lines

1 Click “Insert”

2 Click “Link CAD”

3 DWG of previous GBP Approval plan

4 Check “Current view only”

5 Select “Auto – By Shared Coordinates”. If Shared Coordinate is not available in DWG, then it is required to move the previous approval plan manually.

6 Select “Open”

The screenshot shows the AutoCAD interface with the following elements highlighted by red arrows:

- 1:** The 'Insert' tab on the ribbon.
- 2:** The 'Link CAD' button in the 'Link' panel of the ribbon.
- 3:** A DWG file named 'FloorPlan-GB\_P\_Level1-E.dwg' in the 'Link CAD Formats' dialog box.
- 4:** The 'Current view only' checkbox in the 'Link CAD Formats' dialog box.
- 5:** The 'Auto - By Shared Coordinates' option in the 'Positioning' dropdown of the 'Link CAD Formats' dialog box.
- 6:** The 'Open' button in the 'Link CAD Formats' dialog box.

# 6.7 DRAWING PRODUCTION – AMENDMENT SUBMISSION – GENERAL BUILDING PLAN

## 6.7.1 GBP Amendment – Display Previous Approval Plan in Blue Dotted Lines

1 Select Linked Cad

2 Keep background

3 Click "Delete Layers"

4 Select no use layer to delete for underlay

5 Click "OK"

The screenshot shows the AutoCAD interface with a floor plan drawing. A 'Delete Layers' dialog box is open, listing various layers. The '025-Grid' layer is selected. The drawing area contains several rooms labeled 'Room' and 'PD'. Annotations include 'V1', 'S1', and 'S2'. The 'Properties' palette on the left shows the 'Background' property set to 'Internal'. The 'Project Browser' on the right shows the project structure, including 'Floor Plans (GBP\_Floor Plan)' and 'GB\_P\_Level 1'.



# 6.7 DRAWING PRODUCTION – AMENDMENT SUBMISSION – GENERAL BUILDING PLAN

## 6.7.1 GBP Amendment – Display Previous Approval Plan in Blue Dotted Lines

The screenshot shows the Revit software interface with a floor plan view. A context menu is open over a room boundary, with the 'Override Graphics in View' option selected. A 'View-Specific Element Graphics' dialog box is open, showing the 'Projection Lines' section with 'Color' set to 'RGB 000-128-255' and 'Pattern' set to 'Hidden 1.0mm 0,t'. Three text boxes with red arrows provide instructions: '1 Select Linked Cad' points to the 'Import Symbol' button in the Properties panel; '1 Select "By Element"' points to the 'By Element...' option in the context menu; and '3 Adjust colour to blue, pattern to hidden line' points to the 'Color' and 'Pattern' fields in the dialog box.

1 Select Linked Cad

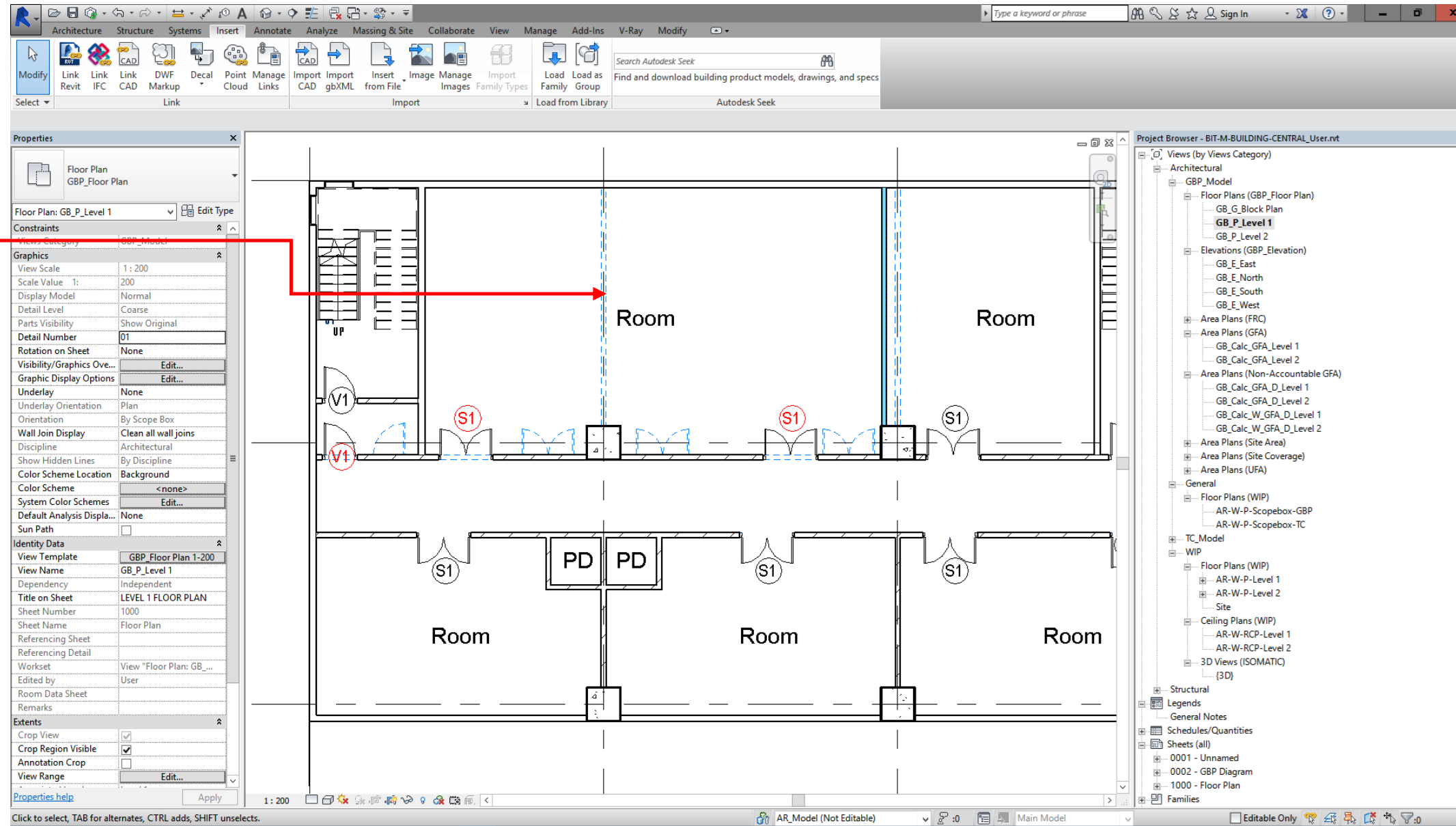
1 Select "By Element"

3 Adjust colour to blue, pattern to hidden line

# 6.7 DRAWING PRODUCTION – AMENDMENT SUBMISSION – GENERAL BUILDING PLAN

## 6.7.1 GBP Amendment – Display Previous Approval Plan in Blue Dotted Lines

1 Shows blue dotted line on GBP Amendment

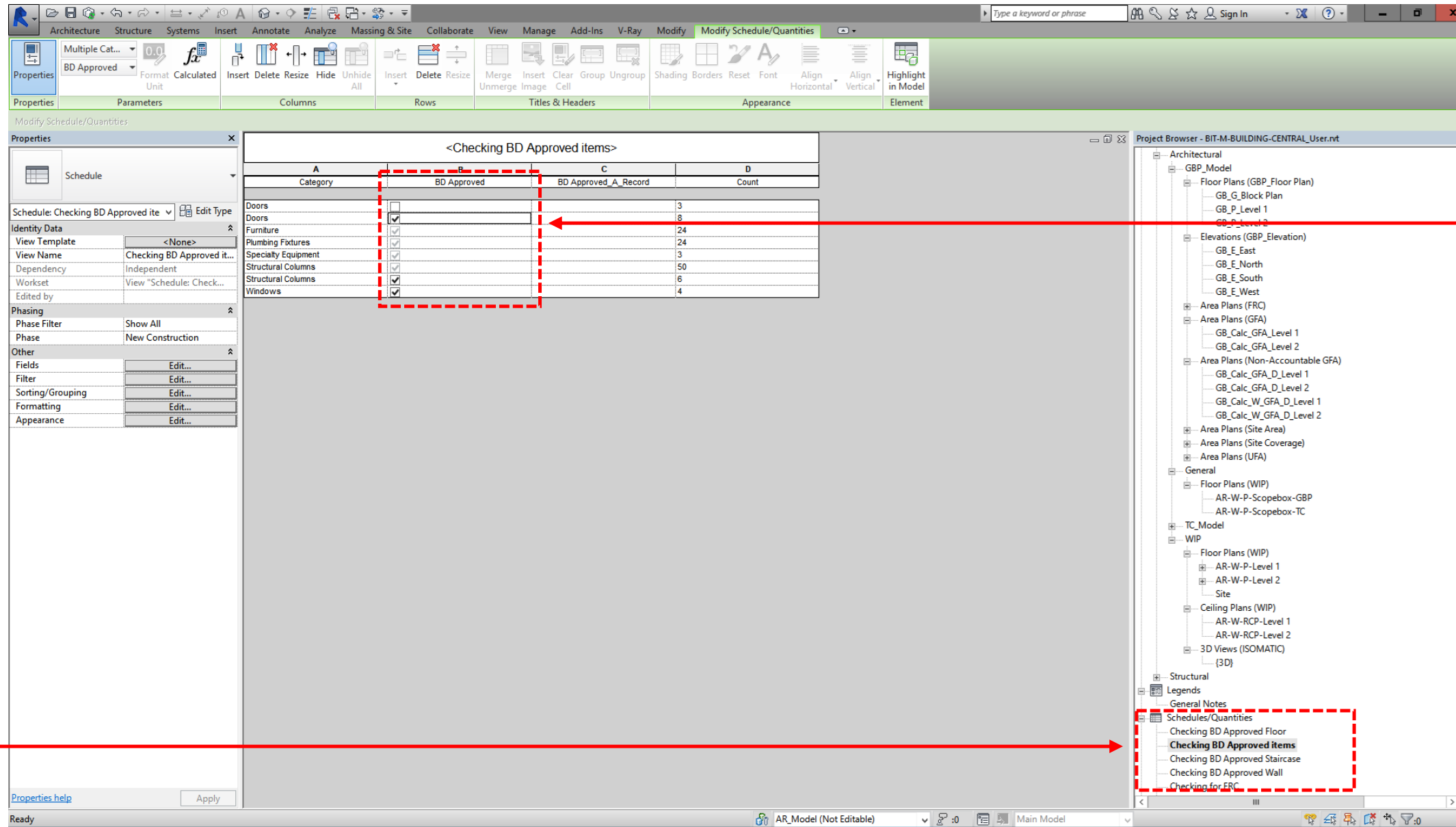


# 6.7 DRAWING PRODUCTION – AMENDMENT SUBMISSION – GENERAL BUILDING PLAN

## 6.7.2 GBP Amendment – Display Approved Elements in Black & White

1 Follow this procedures after a GBP submission is approved.

2 Select "Approved" schedules



3 Tick items as approved item, then colour will be removed

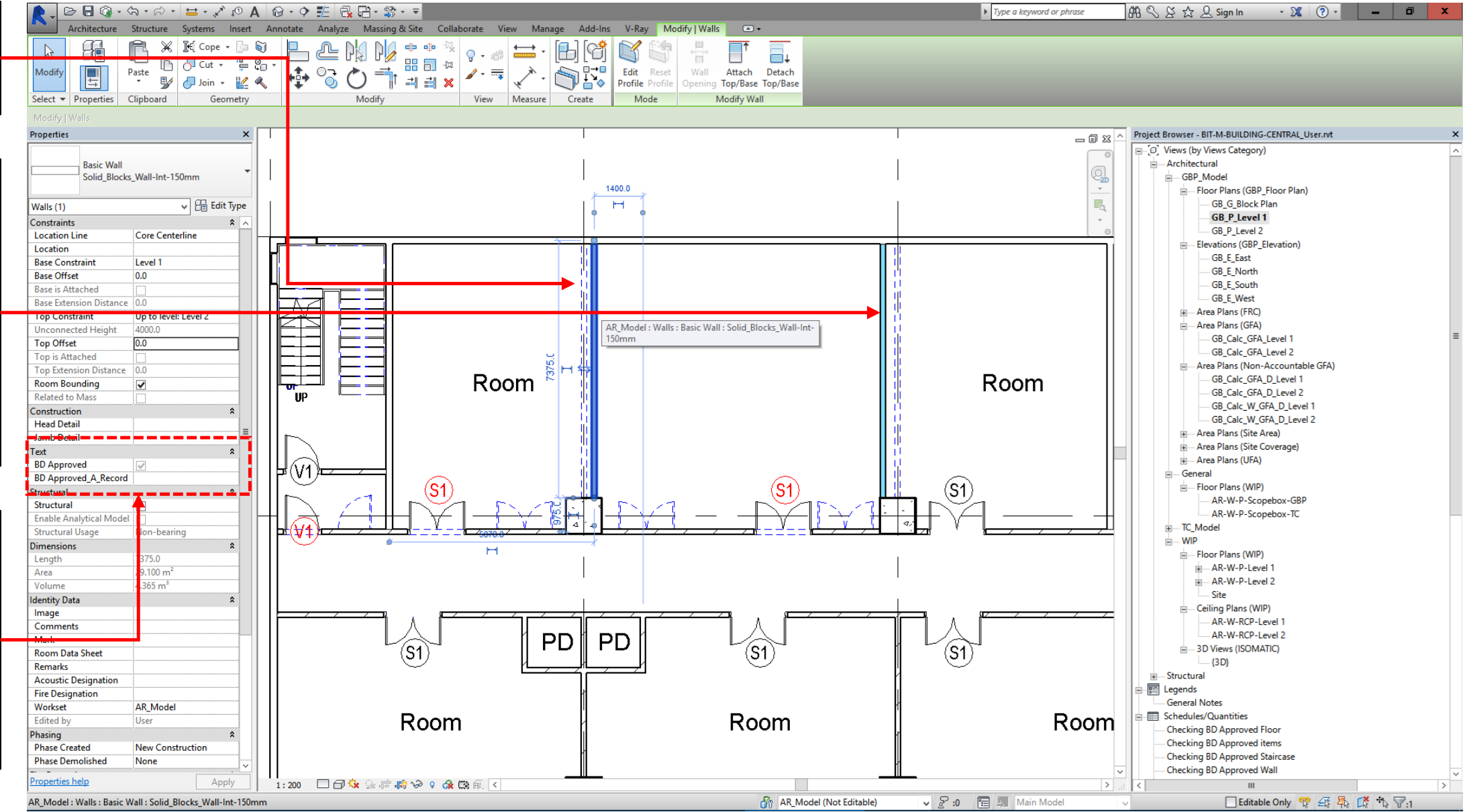
# 6.7 DRAWING PRODUCTION – AMENDMENT SUBMISSION – GENERAL BUILDING PLAN

## 6.7.2 GBP Amendment – Display Approved Elements in Black & White

1 Draw New item

2 By default, GBP colour will be applied for all newly created items

3 Checking 'BD Approved' To turn off colour when necessary



4 Constraint of this automatic method is that it can only colour whole object. If there is a need to colour an object partially, then it is required to use "filled region" for colouring

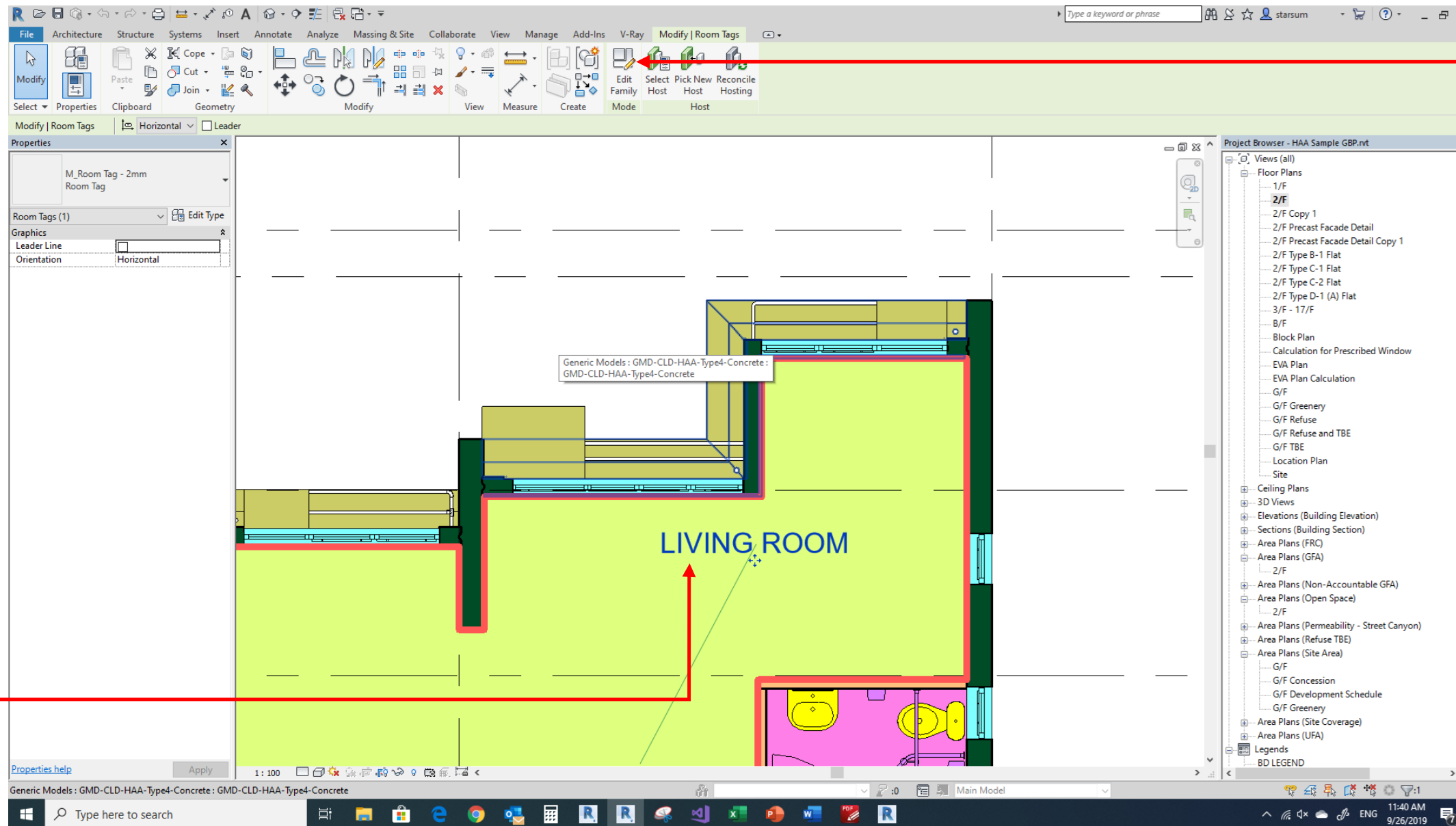
# APPENDIX A MISCELLANEOUS TECHNIQUES

## A.1 Identify Changes in Tag

1 This method can identify tag changes by comparing its setting between master template and a project

2 Open a project then select a tag

3 Click "Edit Family"

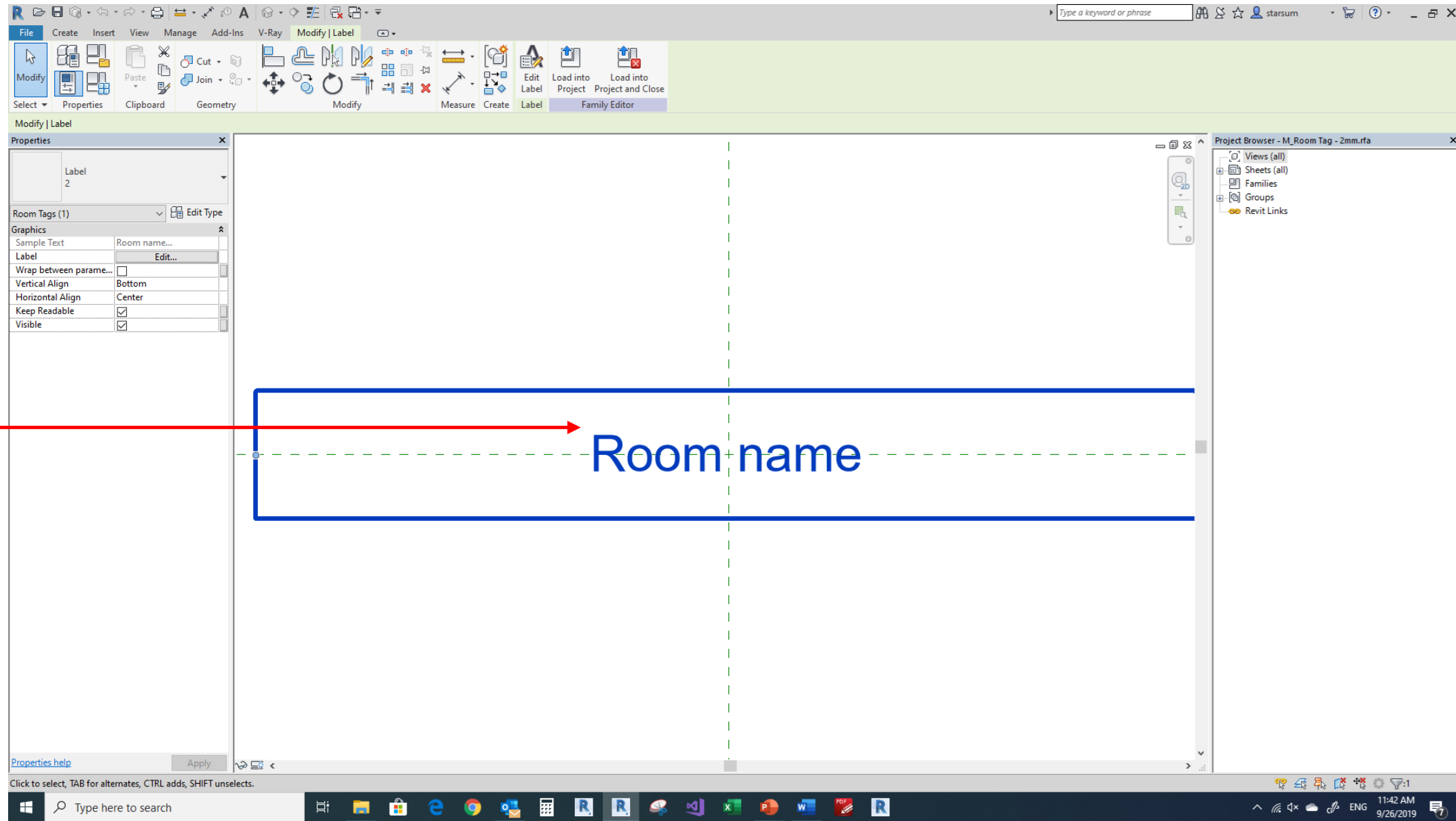




# APPENDIX A MISCELLANEOUS TECHNIQUES

## A.1 Identify Changes in Tag

1 Record “parameter name” used in this tag. Find the same tag under master template, check if the tag under master template is using the same parameter or not.

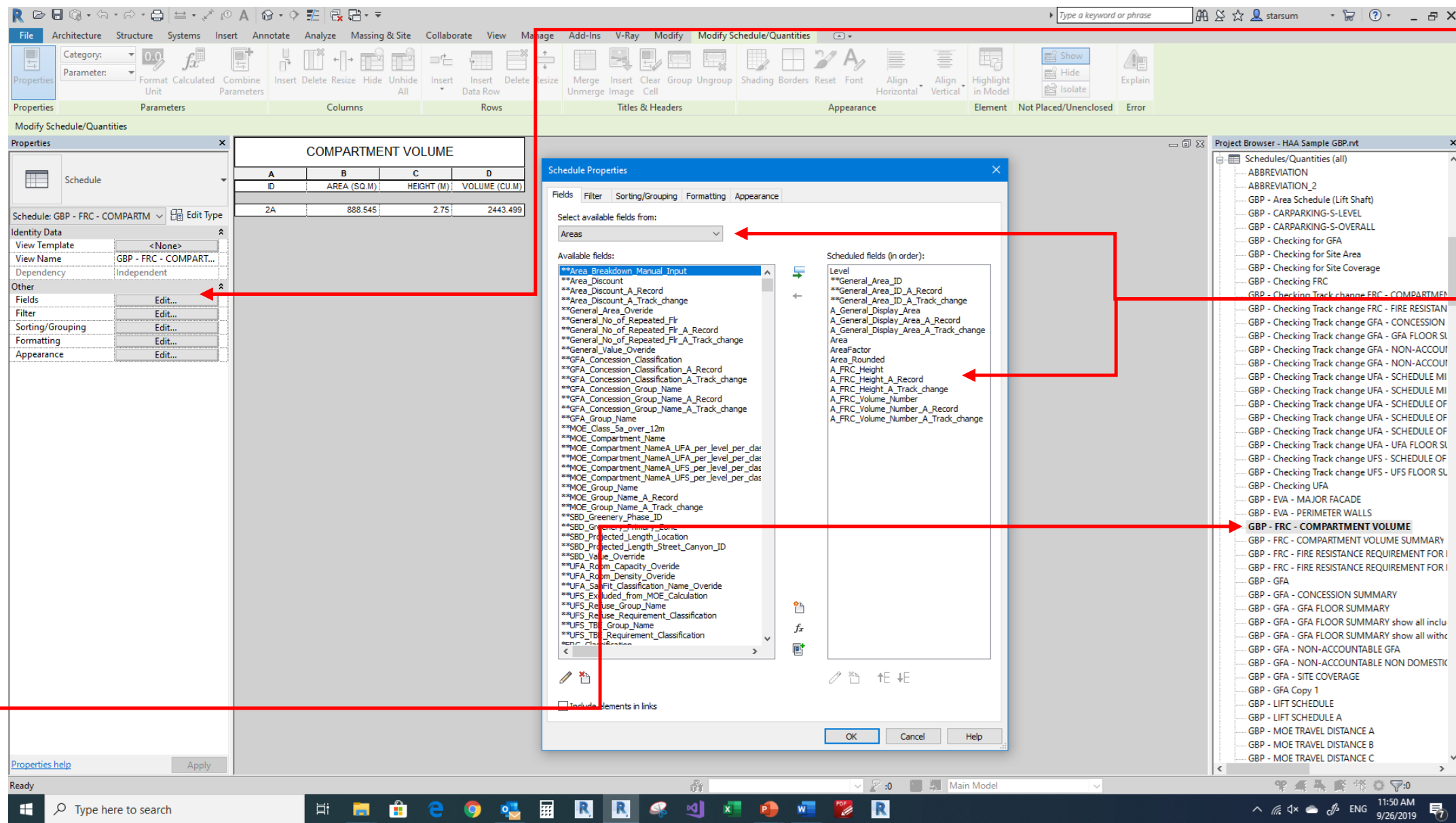


# APPENDIX A MISCELLANEOUS TECHNIQUES

## A.2 Identify Changes in Schedule

1 This method can identify schedule changes by comparing its setting between master template and a project

2 Select a schedule

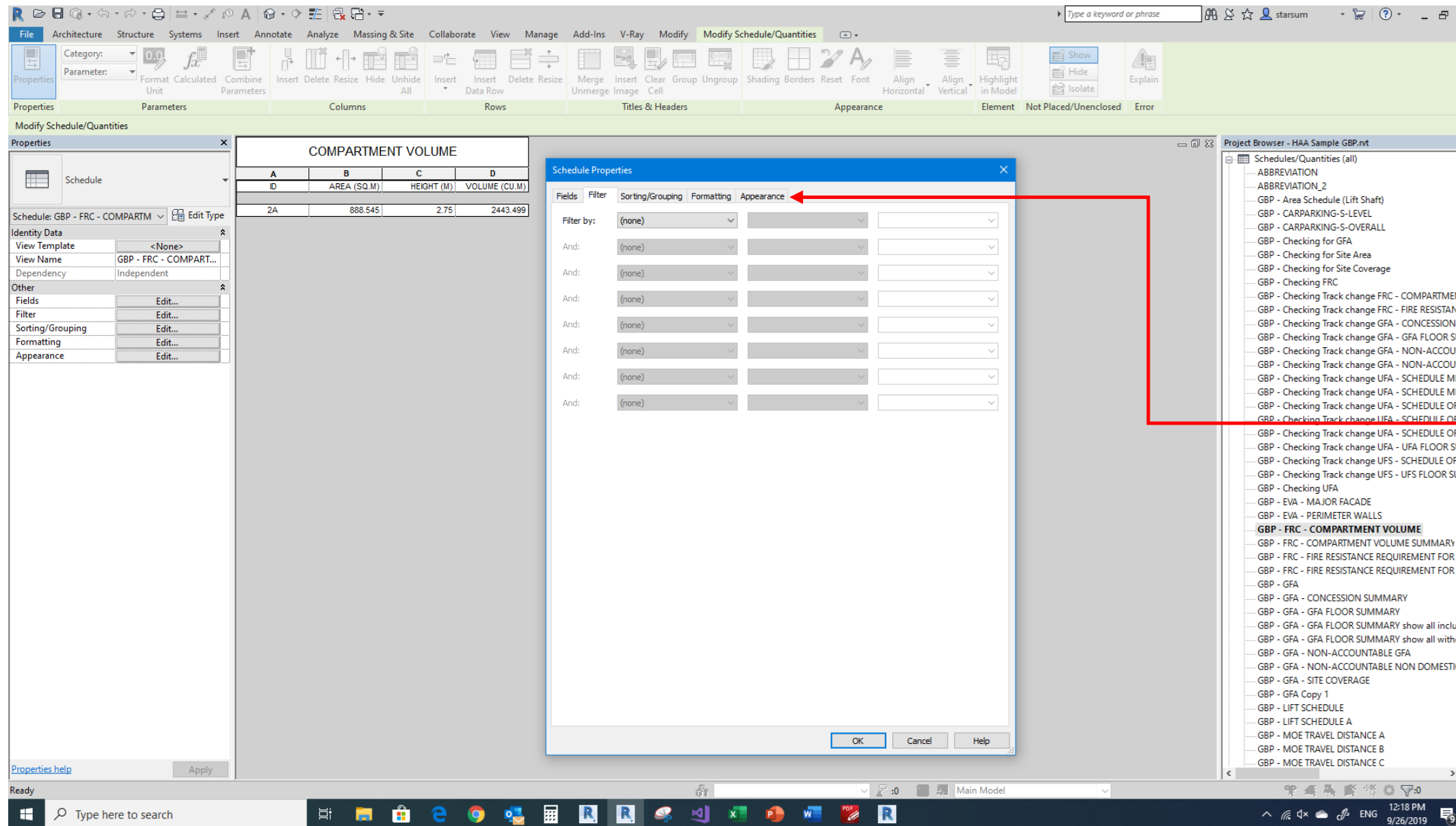


3 Click "Edit"

4 Check if category of schedule, and used parameter is same as master template file

# APPENDIX A MISCELLANEOUS TECHNIQUES

## A.2 Identify Changes in Schedule



1 Go through all settings under "Filter" "Sorting/ Grouping" "Formatting" "Appearance" tab and check if they are deviated from settings under master template

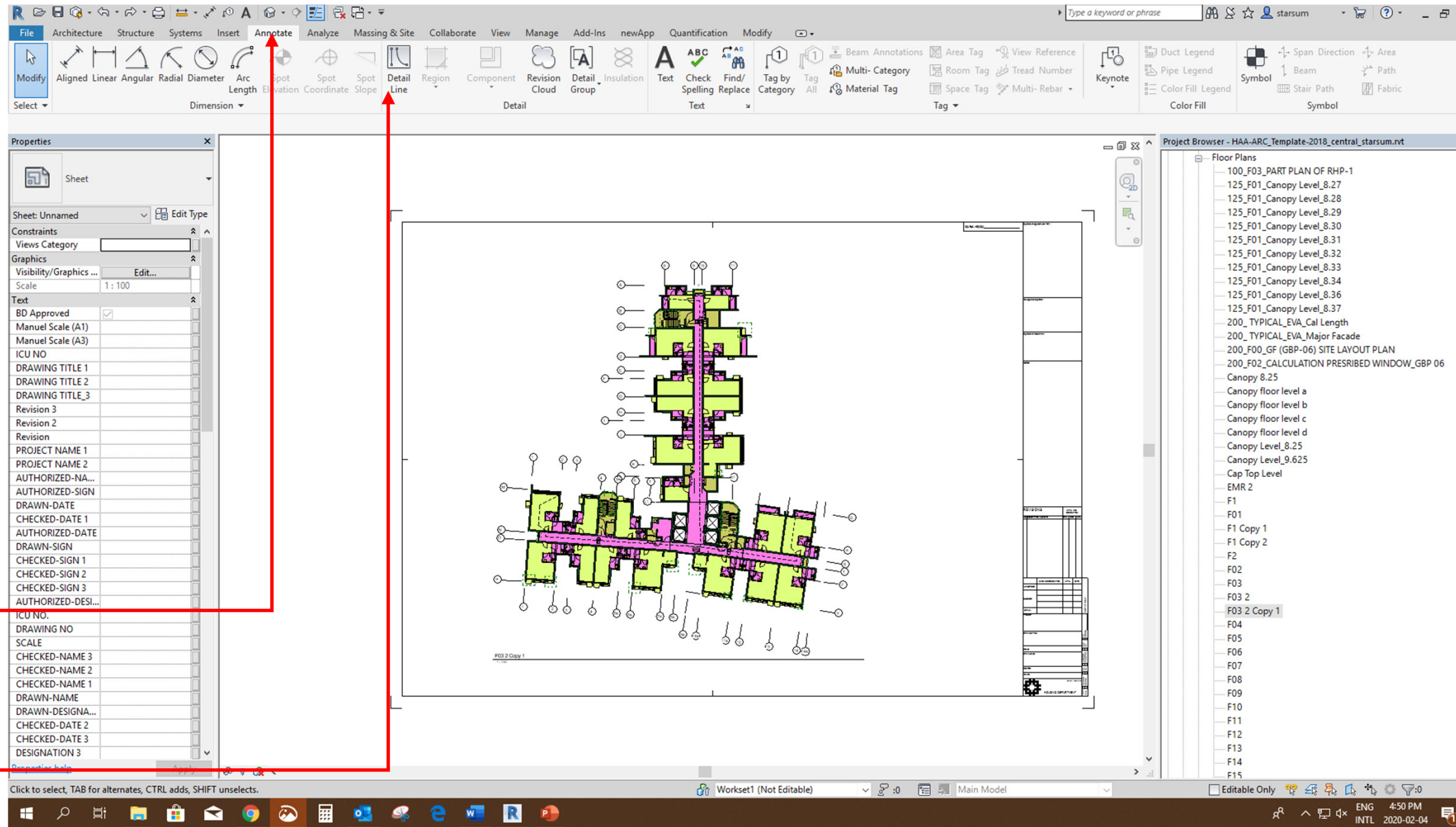
# APPENDIX A MISCELLANEOUS TECHNIQUES

## A.3 Accurate Positioning of View on Sheet

1 This technique ensures views such as floor plans added to different sheets are positioned accurately.

2 On a Sheet view Click "Annotate"

3 Click "Detail Line"

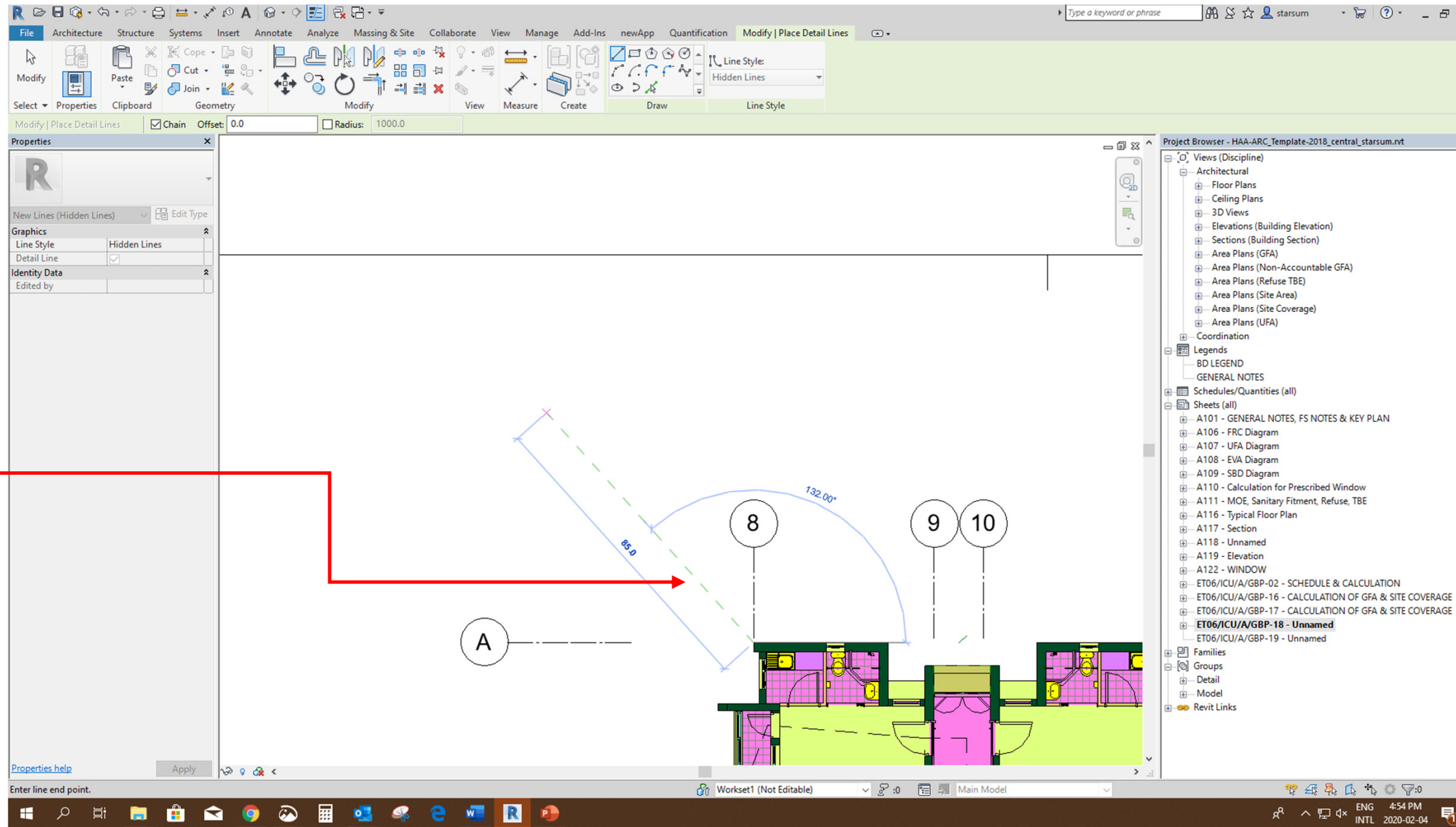




# APPENDIX A MISCELLANEOUS TECHNIQUES

## A.3 Accurate Positioning of View on Sheet

1 Draw a line, with one end point snapping to intersection point between grids and/or levels, and another point snapping to corner of title block. Copy this line.



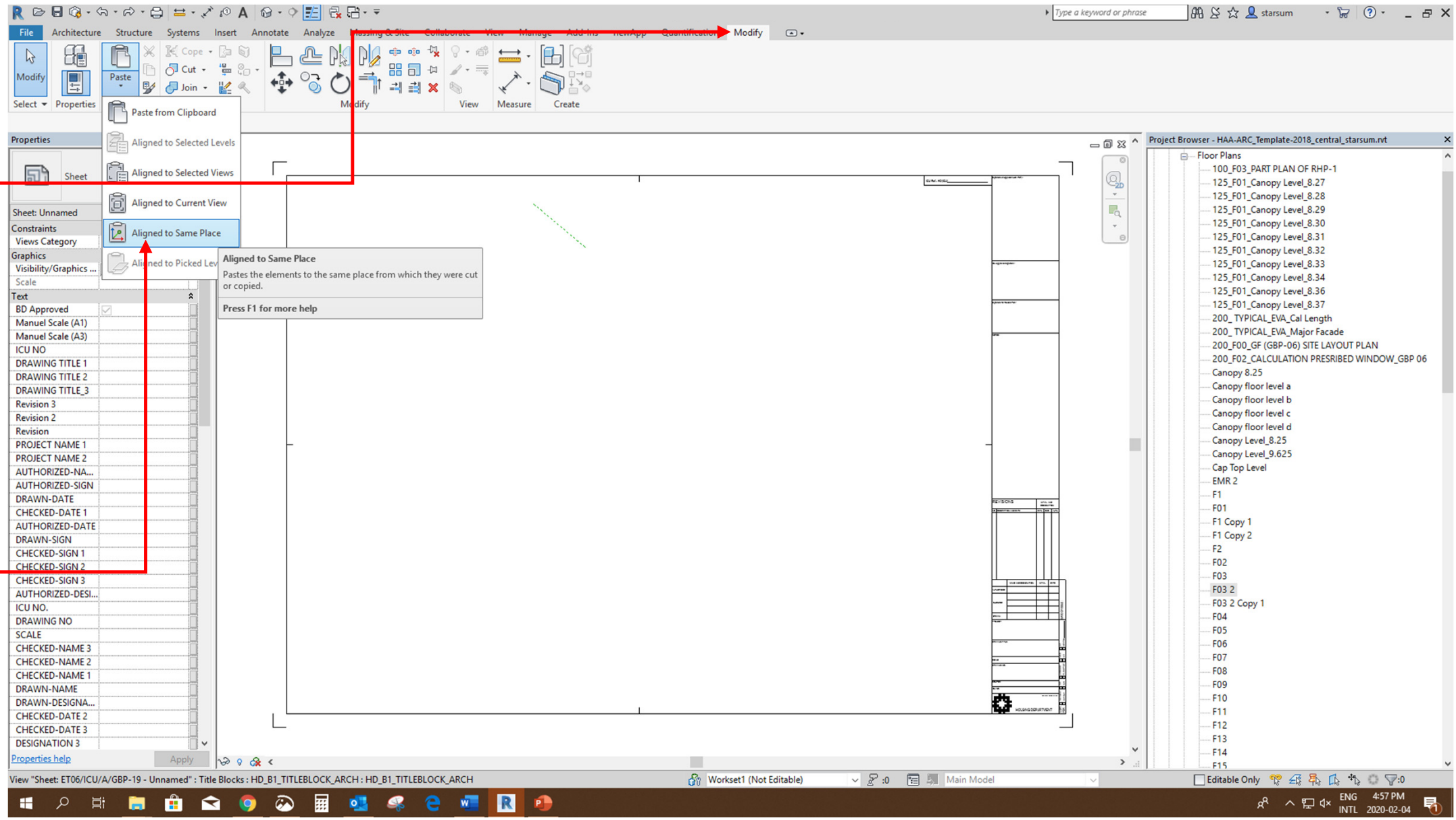


# APPENDIX A MISCELLANEOUS TECHNIQUES

## A.3 Accurate Positioning of View on Sheet

1 On another sheet, click "Modify"

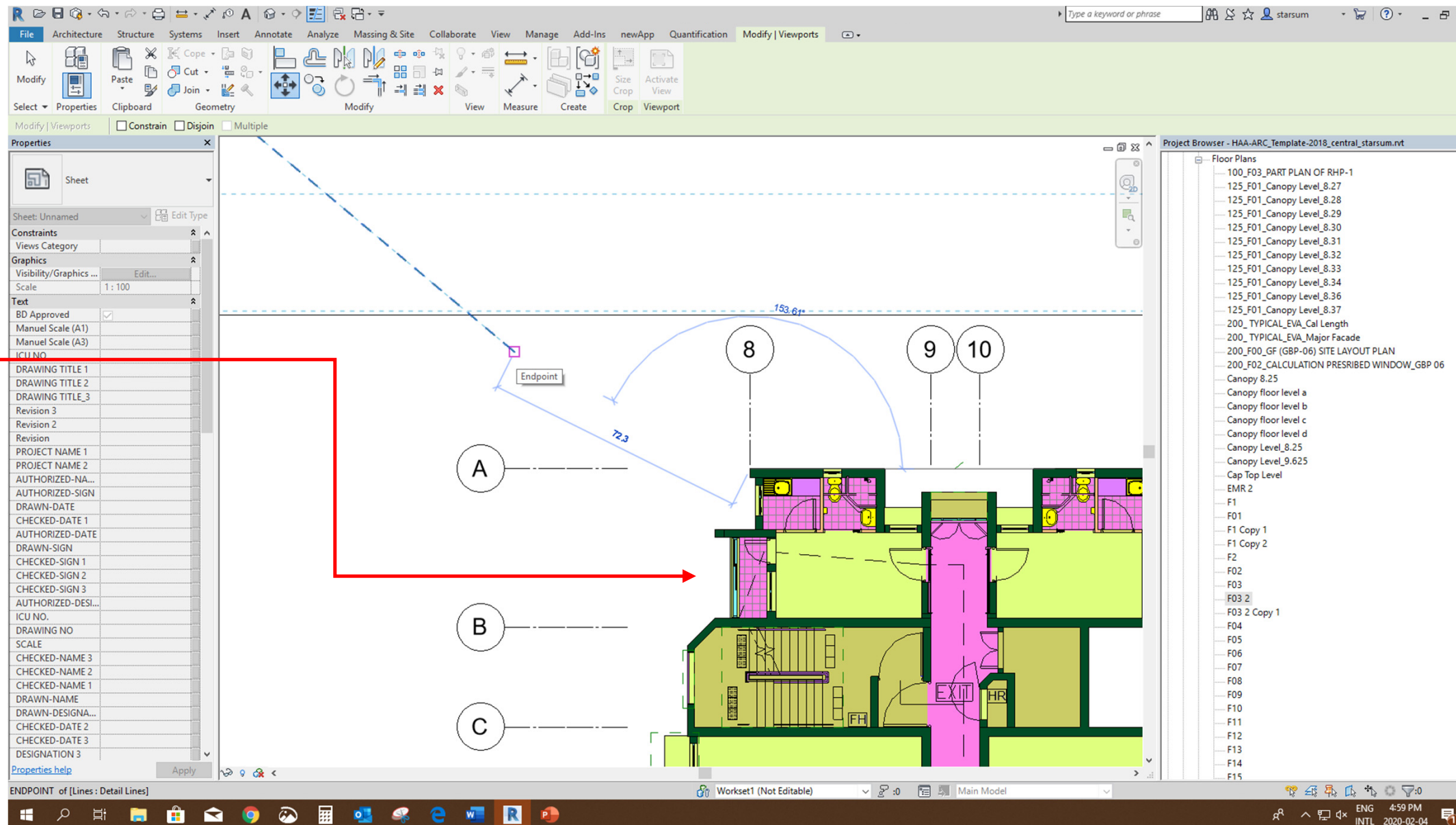
2 Select "Aligned to Same Place". Same line will be placed in same location on another sheet.



# APPENDIX A MISCELLANEOUS TECHNIQUES

## A.3 Accurate Positioning of View on Sheet

1 Drag and move a plan, so that intersection point of grids and/or levels can be snapped to the copied detail line.



# APPENDIX A MISCELLANEOUS TECHNIQUES

## A.4 Transfer Template Settings

1 open template file, then open your file

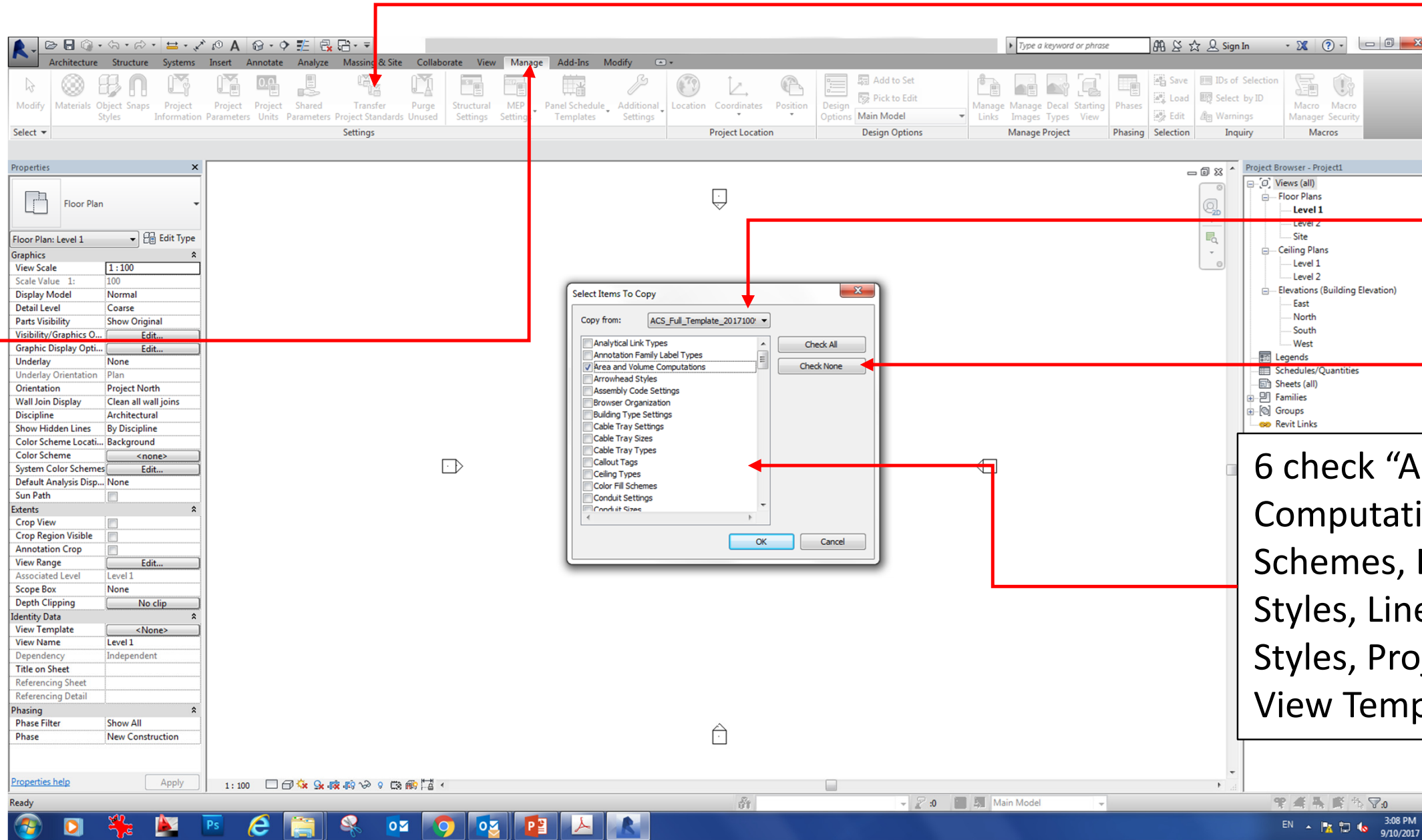
2 Click "Manage"

3 Click "Transfer Project Standards"

4 select template file

5 check none

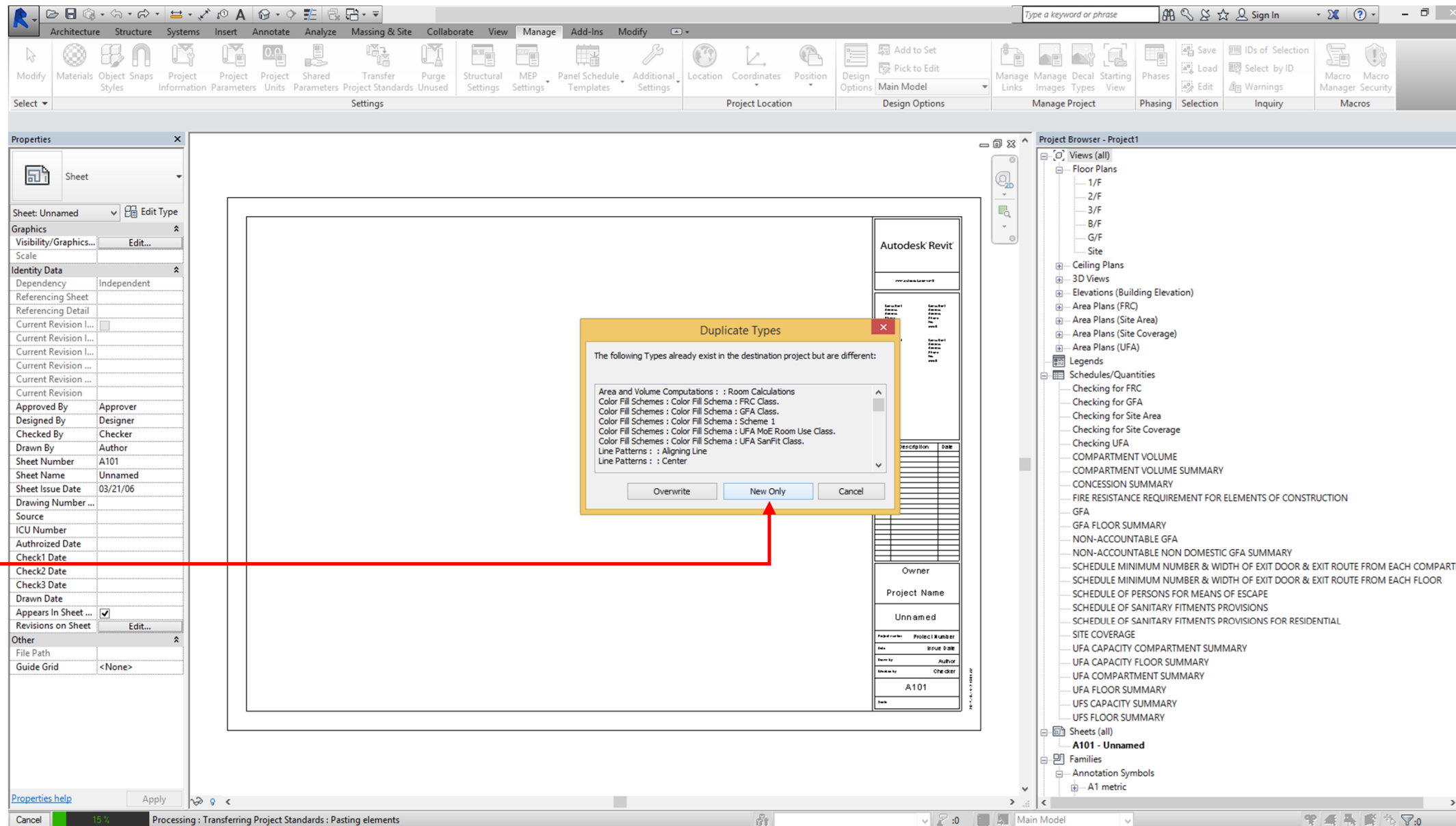
6 check "Area and Volume Computations, Colour Fill Schemes, Line Patterns, Line Styles, Line Weights, Object Styles, Project Parameter, View Template, Wall Types"





# APPENDIX A MISCELLANEOUS TECHNIQUES

## A.4 Transfer Template Settings



# APPENDIX A MISCELLANEOUS TECHNIQUES

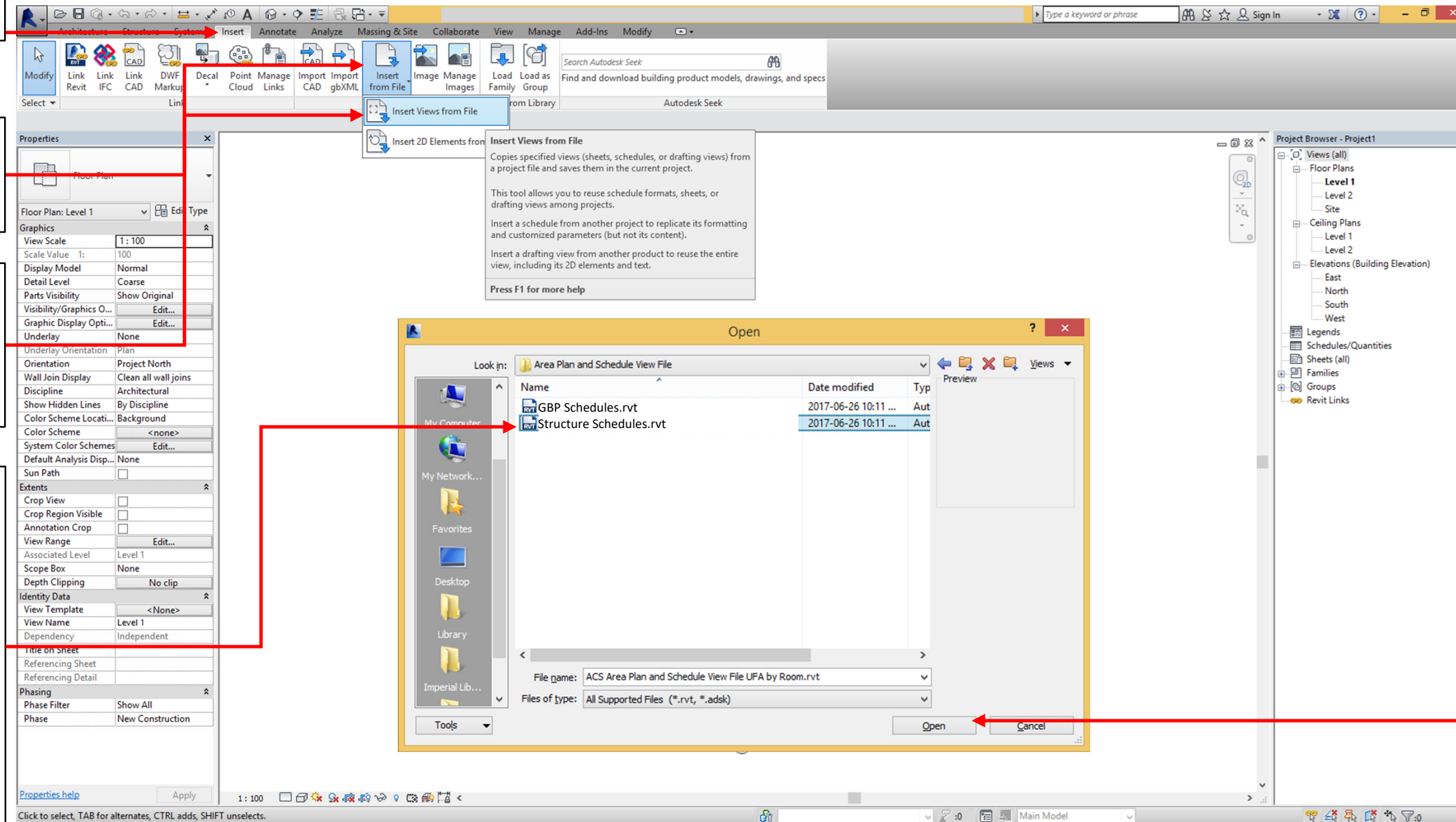
## A.4 Transfer Template Settings

1 Click “Insert”

2 Click “Insert from file”

3 Click “Insert Views from file”

4 Select “GBP/Structure Schedules” which can be downloaded together with the template.

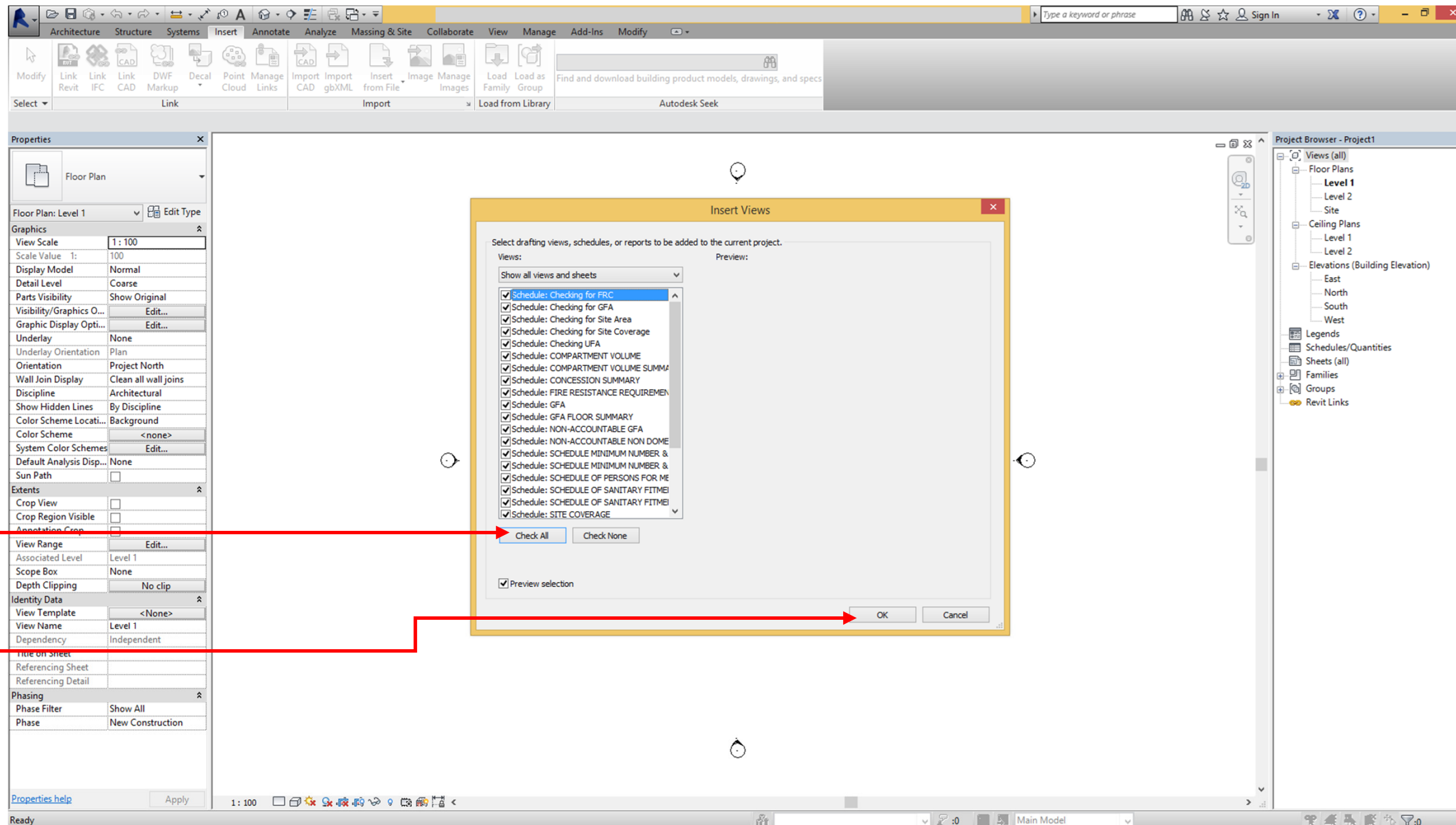


4 Click “Open”



# APPENDIX A MISCELLANEOUS TECHNIQUES

## A.4 Transfer Template Settings



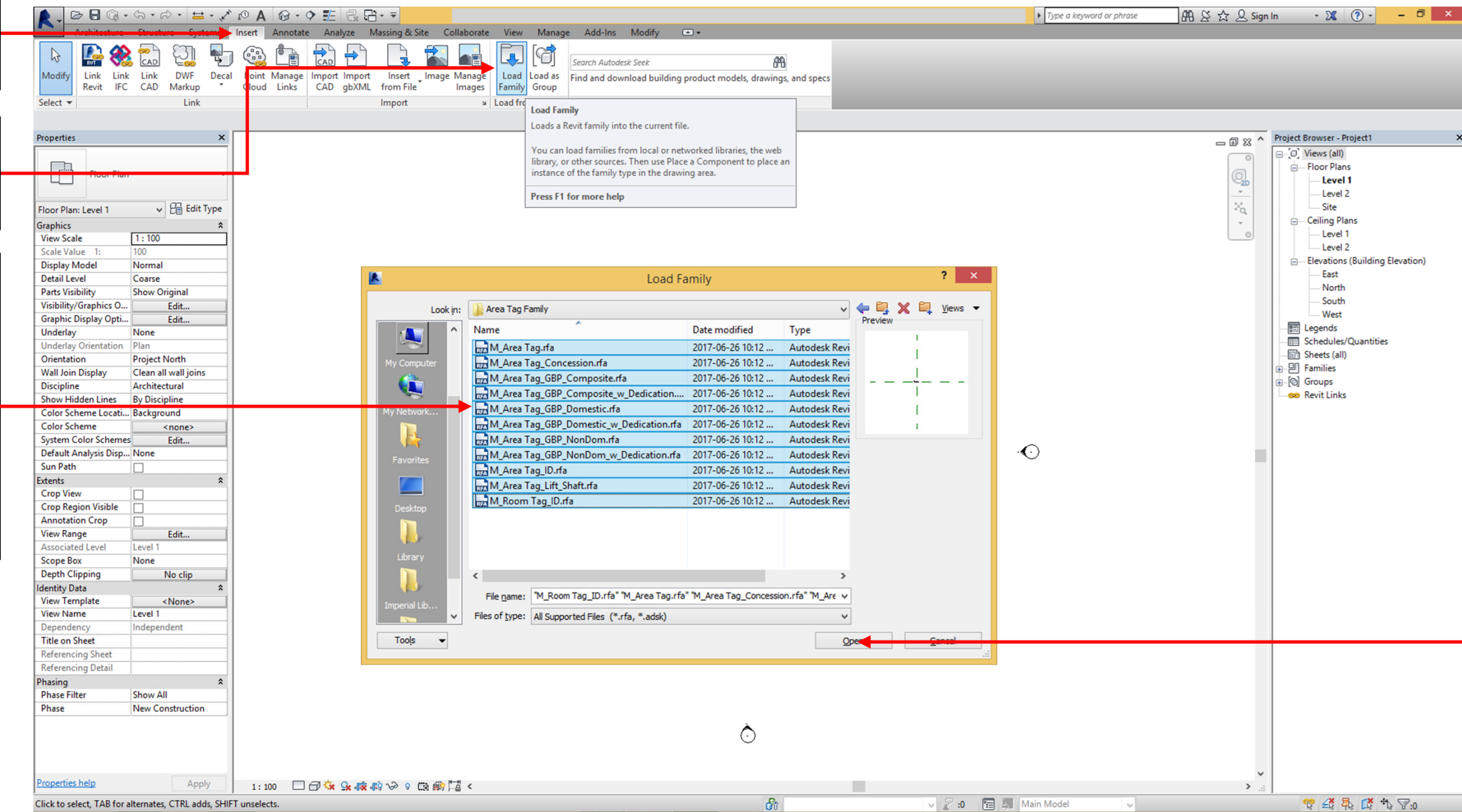
# APPENDIX A MISCELLANEOUS TECHNIQUES

## A.4 Transfer Template Settings

1 Click  
“Insert”

2 Click “Load  
Family”

3 Select All  
Tags  
downloaded  
together with  
the template  
file.



4 Click  
“Open”

# APPENDIX A MISCELLANEOUS TECHNIQUES

## A.4 Transfer Template Settings

1 Copy the “dummy areas” under Area plan “GFA” and “Non-Accountable GFA” to your project. Name of area plan should be aligned.

