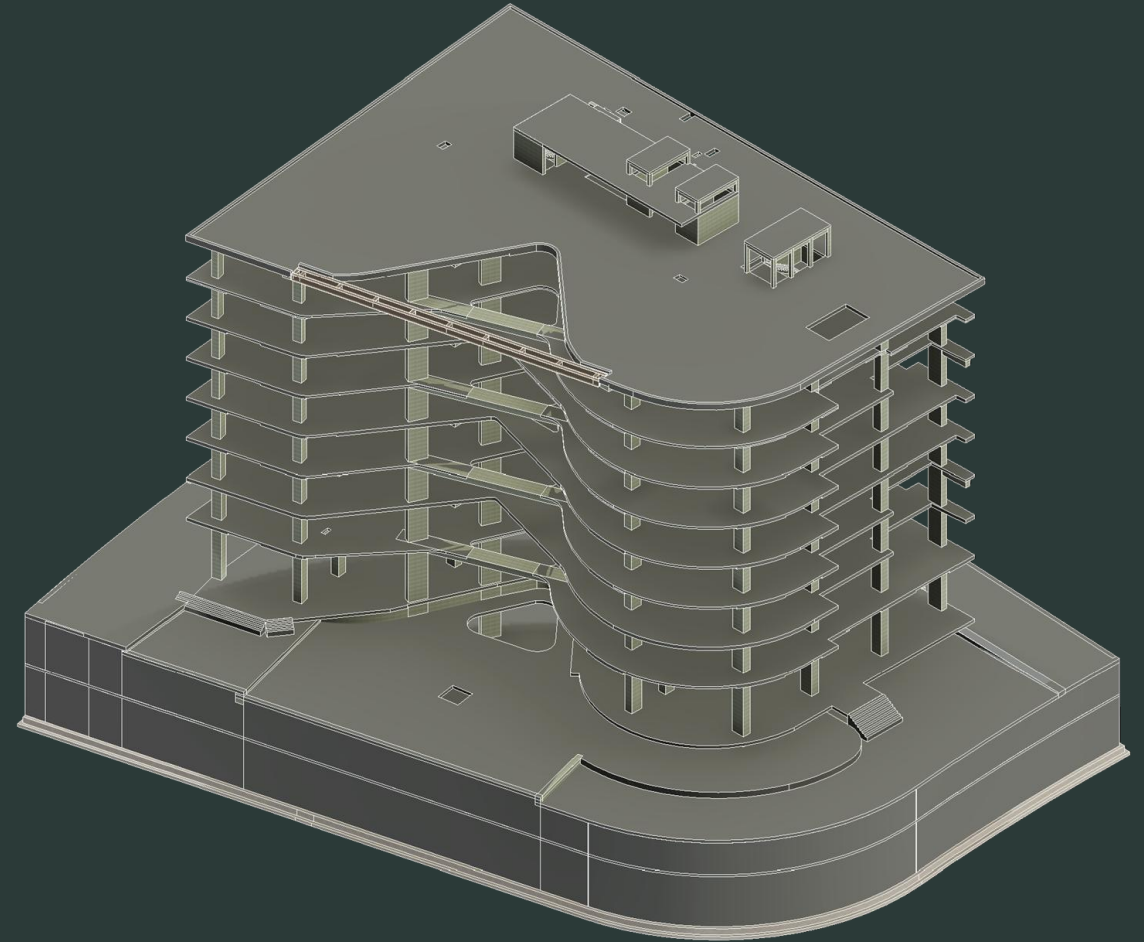


# **3D MODELING (STR)**

**1. Environment Setup**

**2. Modeling Process**



# 1. Environment Setup (Worksharing)

---

- Creating STR Central File using the STR Temp.
- Linking the Base File.
- Copy & Monitor (Levels - Grids – Scope Boxes).
- Creating different family types.

# Creating STR central file using the STR template

Autodesk Revit 2021.1.2 - E1925-KAI-ZZ-M3-S-3D\_ST\_MODELLENG\_DETACHED - 3D View: 3D View

Recent Files

MODELS

Open ...

New ...

FAMILIES

Open ...

New ...

Recent Files

BIM 360

What's new

Online help

Community forum

Customer support

Recent Files

MODELS

Levels & Grids (1)

E1925-KAI-ZZ-M3-Z-3D\_C...

E1925-KAI-ZZ-M3-S-3D\_S...

KT\_R5\_GP\_G7\_PLUMBING...

FAMILIES

Autodesk Revit 2021.1.2 - Project1 - Structural Plan: 101- Columns & Axis

FileArchitectureStructureSteelPrecastSystemsInsertAnnotateAnalyzeMassing & SiteCollaborateViewManageAdd-InsAlpha BIMEscape™AuginBIM Interoperability ToolsStrucSoft AppsModify

Link RevitLink IFCLink CADLink TopographyDWFMarkupLink

Properties

Structural Plan: 101- Column Edit Type

Graphics

View Scale 1: 100

Scale Value 1: 100

Display Model Normal

Detail Level Coarse

Parts Visibility Show Original

Visibility/Graphic... Edit...

Graphic Display ... Edit...

Orientation Project North

Wall Join Display Clean all wall joins

Discipline Coordination

Show Hidden Lines By Discipline

Color Scheme Lo... Background

Color Scheme <none>

System Color Sch... Edit...

Default Analysis ... None

Sun Path

Underlay

Range: Base Level None

Range: Top Level Unbounded

Underlay Orientat... Look down

Extents

Crop View

Properties help

Apply

Ready

Import/Link RVT

Look in: Downloads

File name: Levels & Grids.rvt

Files of type: RVT Files (\*.rvt)

Positioning: Auto - Internal Origin to Internal Origin

Open

Cancel

Project Browser - Project1

Views (STR)

S-100- Structural Plans (Overall Plans)

S-200- Structural Plans (Master Plans)

S-300- Structural Plans (RFT Plans)

S-400- 3D Views

S-500- Elevations

S-600- Sections

S-700- Drafting Views

Legends

Schedules/Quantities (all)

Sheets (all)

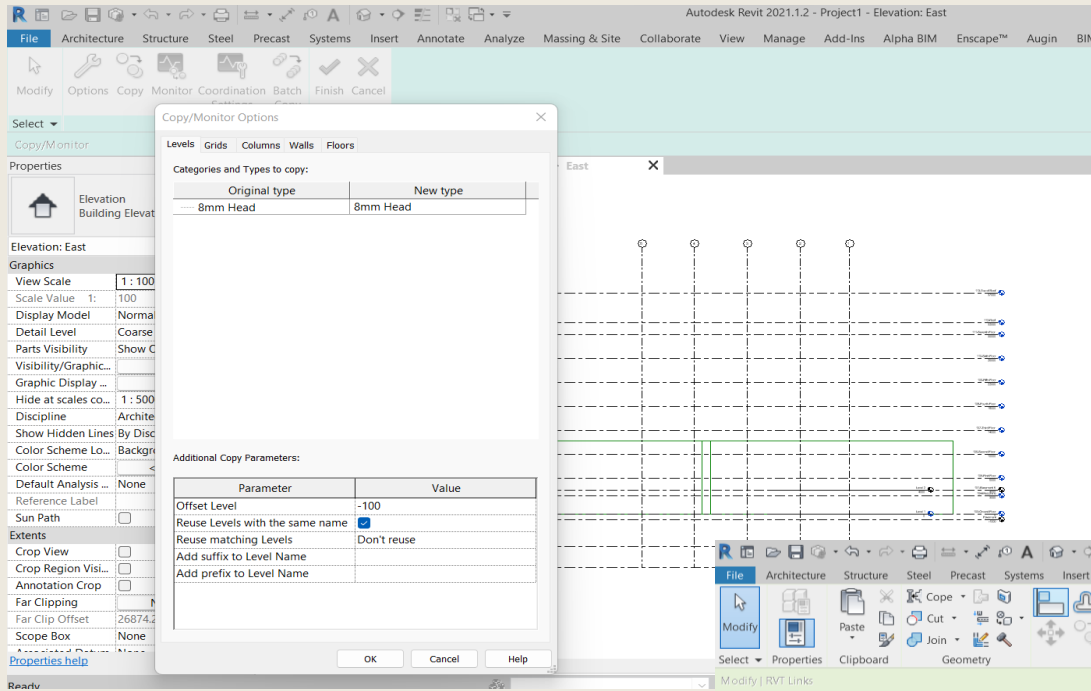
Families

Groups

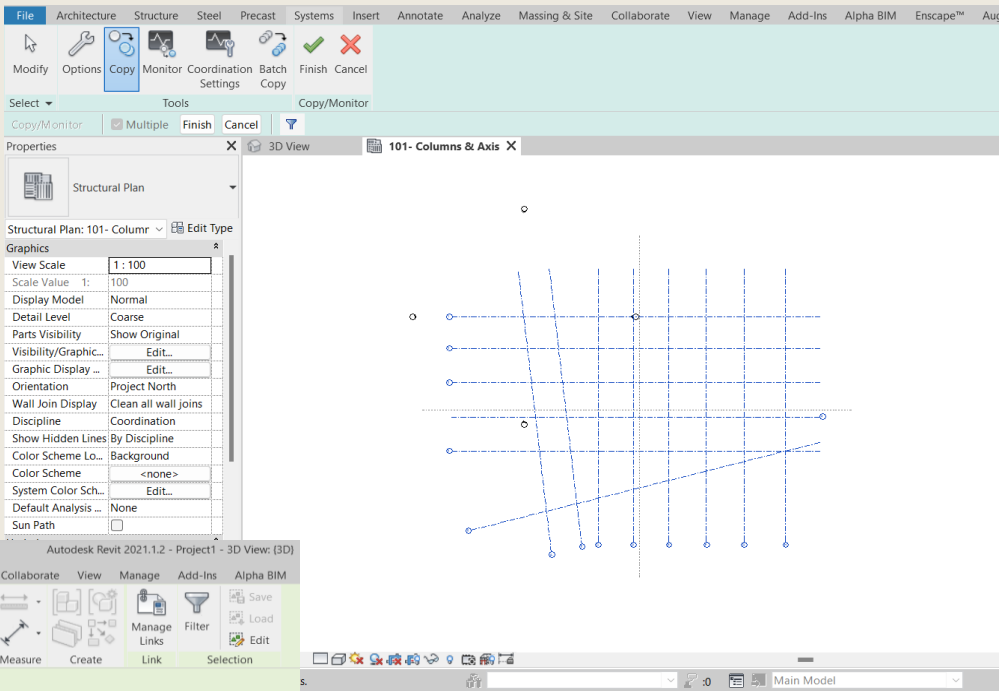
Revit Links

Linking the Base File

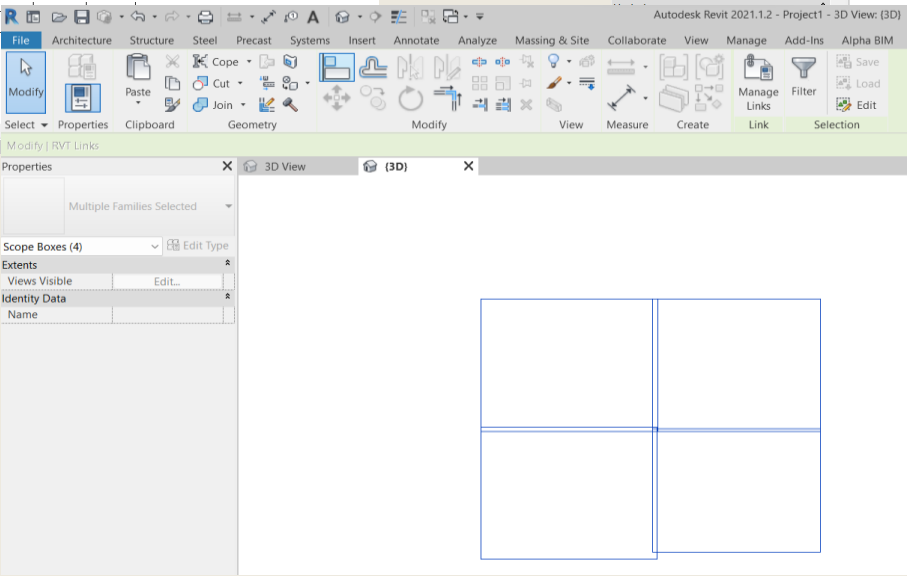
# Copy & monitor (Levels - Grids – Scope Boxes)



Levels



Grids



Scope Boxes

# Creating different family types (with Dynamo).

## Structural Columns

### M\_Concrete-Rectangular-Column

- 300 x 450mm
- 300x300
- 300x800
- 450 x 600mm
- 500x800
- 500x1300
- 500x1500
- 500x1700
- 600 x 750mm
- 600x800
- 600x1000
- 600x1100
- 600x1200
- 600x1300
- 600x1400
- 600x1500
- 700x800
- 700x1500
- 700x1700
- 800x600
- 800x700
- 800x800
- 800x900
- 800x1000
- 800x1100
- 800x1200
- 800x1300
- 800x1400

## M\_Concrete-Rectangular Beam

- B1-B1
- B1-B2
- B1-B3
- B1-B4
- B1-B5
- B1-B6
- B1-B7
- B1-B8
- B1-B9
- B1-B10
- B1-B11
- B1-B12
- B1-B13
- B1-B14
- B1-B15
- B1-B16
- B1-B17
- GB1
- GB2
- GB3
- GF-B1
- GF-B2
- GF-B3
- GF-B4
- GF-B5
- GF-B6
- GF-B8
- GF-B9
- GF-B10
- GF-B11 (600)

## Floors

### Floor

- 160mm Concrete With 50mm Metal Deck
- FLOOR 100mm
- FLOOR 130mm
- FLOOR 150mm
- FLOOR 200mm
- FLOOR 220mm
- FLOOR 230mm
- FLOOR 250mm
- FLOOR 280mm
- FLOOR 300mm
- FLOOR 350mm
- FLOOR 400mm
- FLOOR 450mm
- Generic 150mm

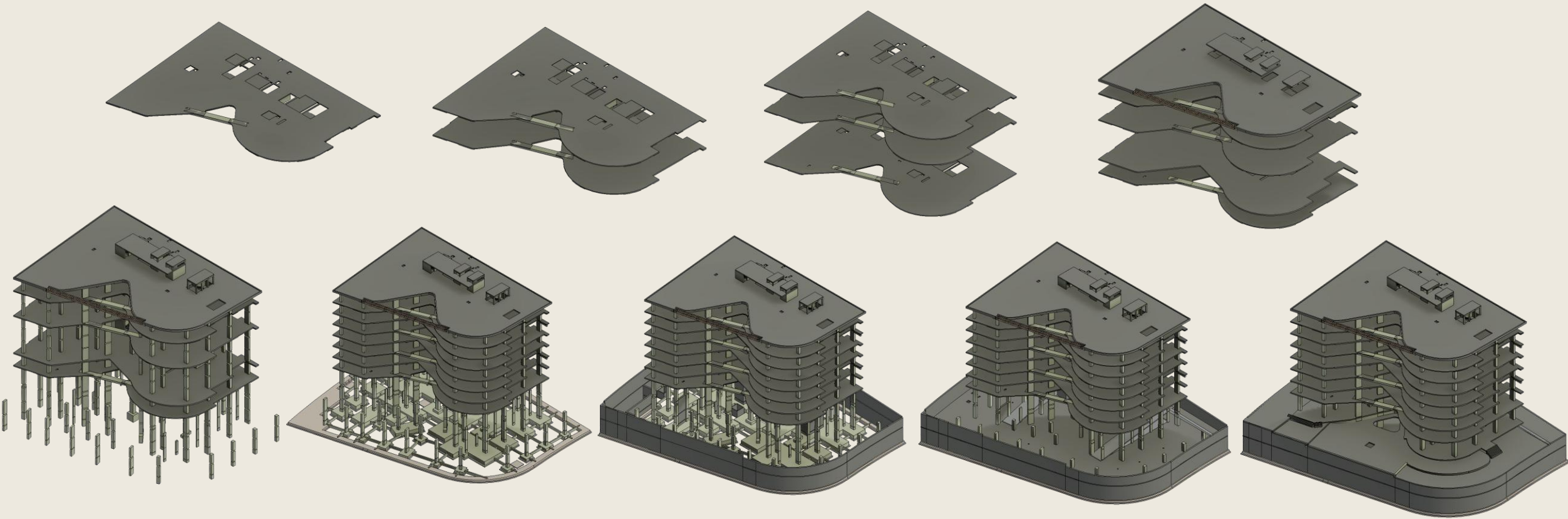
## Basic Wall

- C 300mm
- C 400mm
- Exterior - Brick on Mtl. Stud
- Exterior - Render on Brick on Block
- Foundation - 300mm Concrete
- Generic - 90mm Brick
- Generic - 140mm Masonry
- Generic - 200mm
- Generic - 200mm - Filled
- Generic - 225mm Masonry
- Generic - 300mm
- Interior - 79mm Partition (1-hr)
- Interior - 135mm Partition (2-hr)
- Interior - 138mm Partition (1-hr)

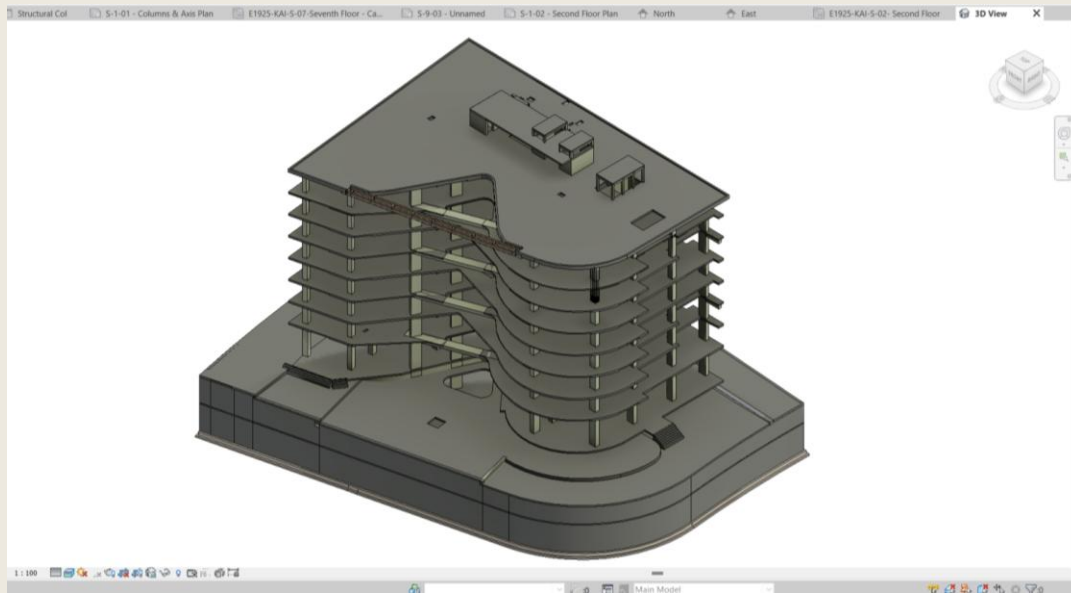
## 2. Modeling Process

---

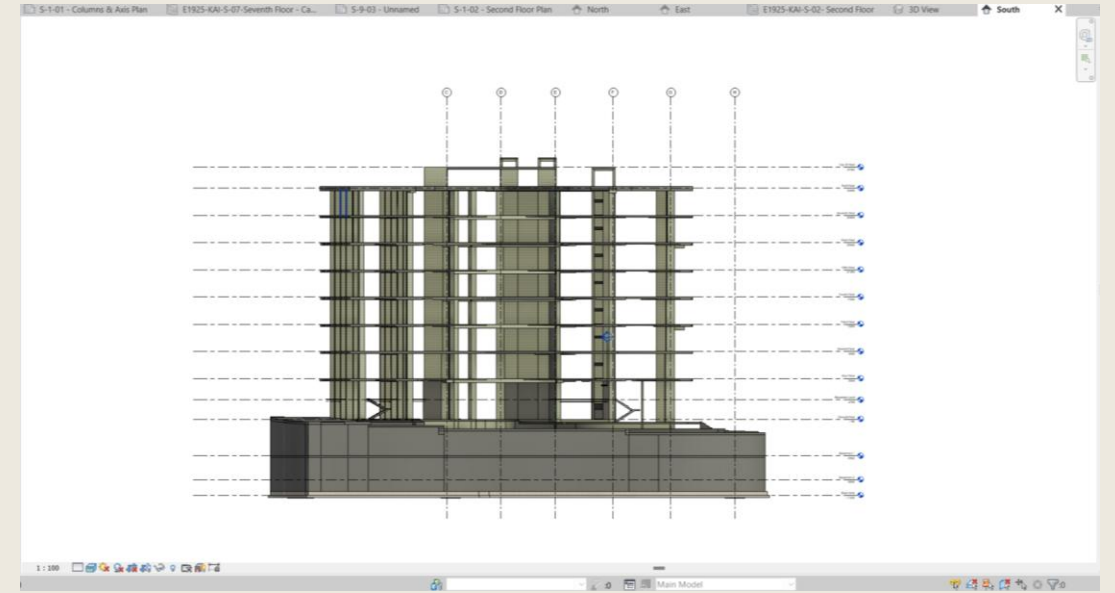
- To gain momentum, We started by the upper levels first.
- Then Columns & Shear Walls, Foundations, Basement, SOG, GF, and any other elements (Stairs, Ramps,..)



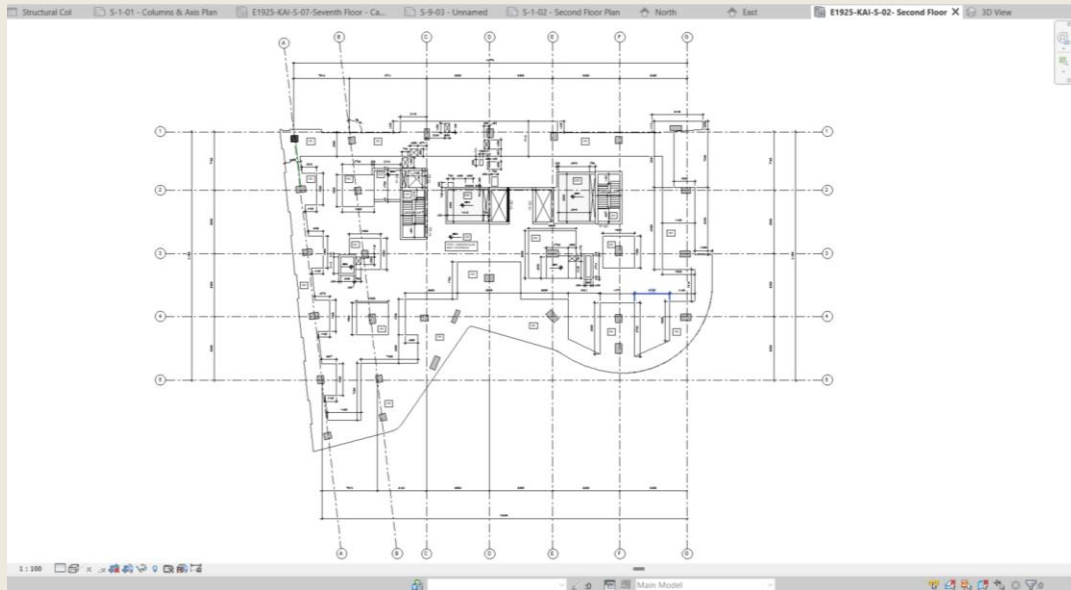




3D View



Elevation: South



Second Floor Structural Plan

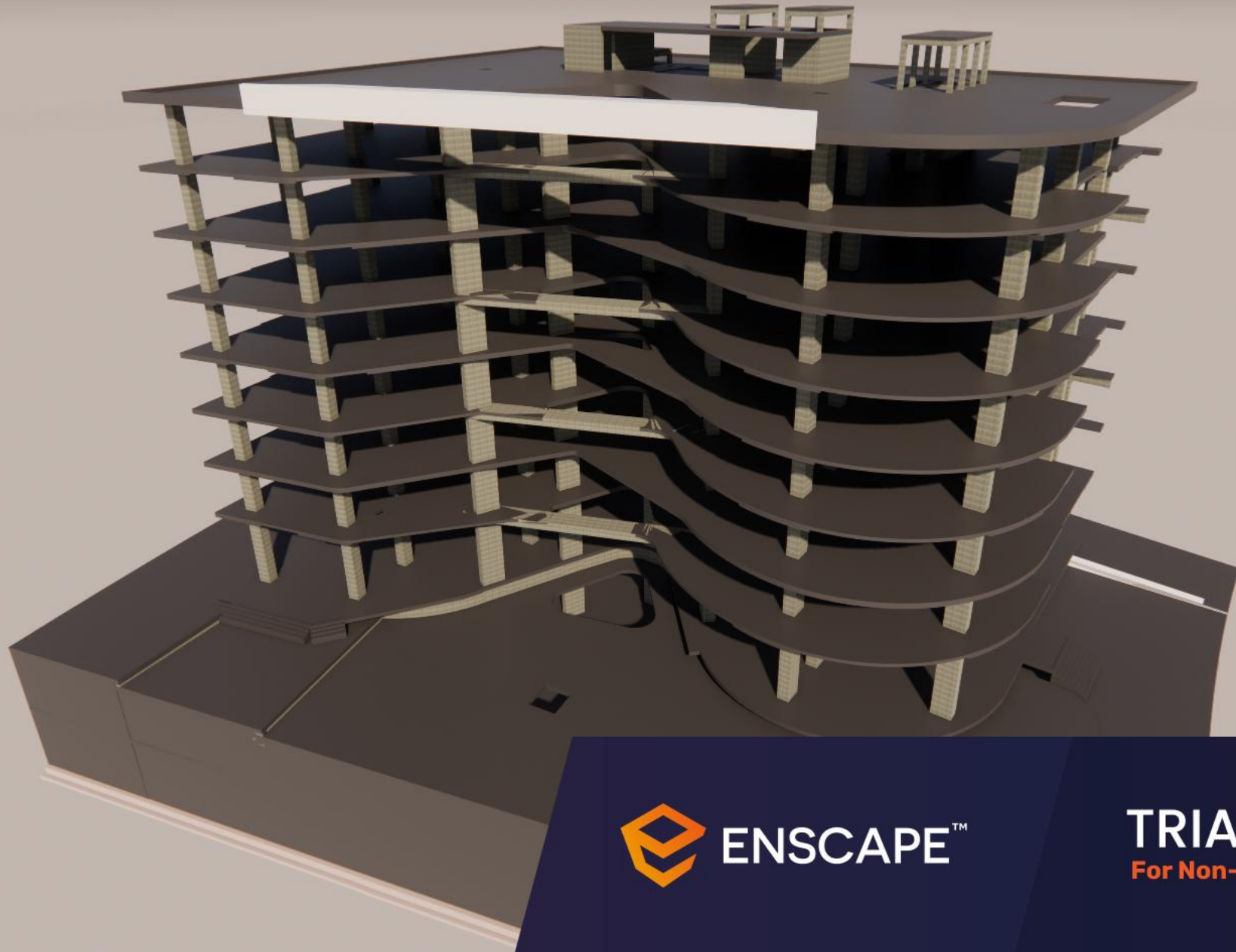
Structural Column Schedule					
Family	Base Level	Top Level	Type	b x h	Volume
M_Concrete-Rectangular-Column	First Floor	Second Floor	C1	900x1500	4.79 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C2	800x900	2.63 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C3	800x1000	2.92 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C4	500x1700	3.10 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C9	800x900	13.14 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C10	800x1200	7.01 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C11	800x1200	7.01 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C12	800x1000	5.84 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C14	800x1200	3.50 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C15	900x1200	3.94 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C16	900x1500	4.93 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C17	600x1500	3.29 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C18	700x1700	4.34 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C19	600x1400	3.07 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C21	800x1000	2.84 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C25	800x1200	3.50 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C26	800x1100	3.21 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C27	800x900	2.63 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C28	800x1300	7.59 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C29	800x1100	3.21 m³
M_Concrete-Rectangular-Column	First Floor	Second Floor	C34	800x1000	2.92 m³
Total					95.42 m³

Floor Schedule			
Family	Level	Type	Volume
Floor	Second Floor	Slab 130mm	2.08 m³
Floor	Second Floor	Slab 130mm	2.08 m³
Floor	Second Floor	Slab 130mm	2.08 m³
Floor	Second Floor	Slab 130mm	86.96 m³
Floor	Second Floor	Slab 200mm	0.54 m³
Floor	Second Floor	Slab 200mm	0.65 m³
Floor	Second Floor	Slab 200mm	0.72 m³
Floor	Second Floor	Slab 200mm	0.85 m³
Floor	Second Floor	Slab 200mm	1.23 m³
Floor	Second Floor	Slab 200mm	1.24 m³
Floor	Second Floor	Slab 200mm	1.34 m³
Floor	Second Floor	Slab 200mm	1.35 m³
Floor	Second Floor	Slab 220mm	0.55 m³
Floor	Second Floor	Slab 220mm	0.98 m³
Floor	Second Floor	Slab 220mm	2.89 m³
Floor	Second Floor	Slab 220mm	5.79 m³
Floor	Second Floor	Slab 220mm	326.18 m³
Floor	Second Floor	Slab 230mm	3.16 m³
Floor	Second Floor	Slab 230mm	6.39 m³
Floor	Second Floor	Slab 250mm	5.08 m³
Floor	Second Floor	Slab 350mm	2.63 m³
Total			454.86 m³

Structural Column Schedule

Structural Floor Schedule

Column/Floor Schedules



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