



Henderson BIM Presentation

What does BIM mean to Developers

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HKIA Registered Architect*

BIM Practices

1. BIM office infrastructure
2. In-house Setup - Local Office > International Office
3. External Collaboration Setup
4. Cloud Base Project Collaboration Setup



B

= Building

建築

I

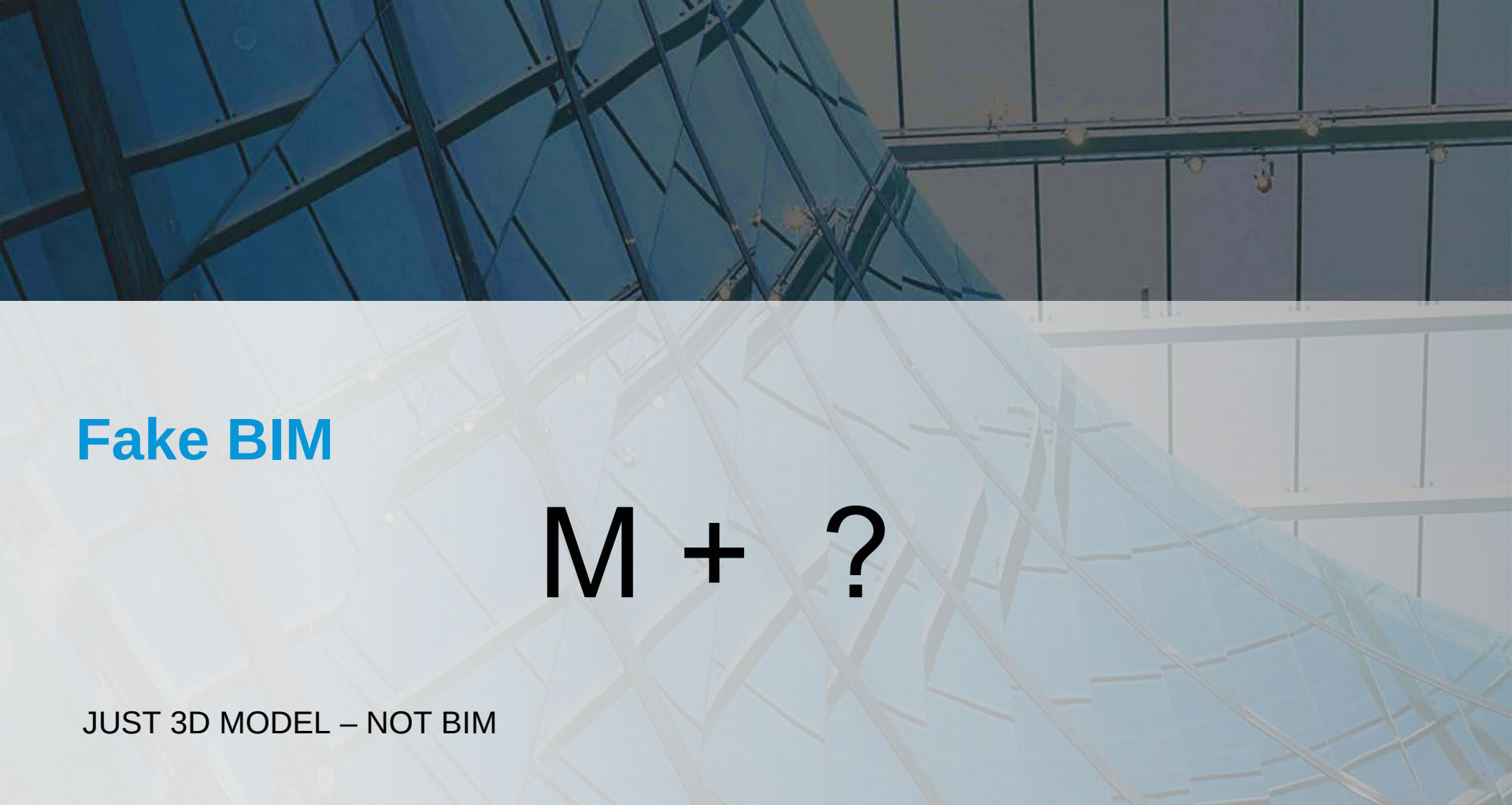
= Information

資訊

M

= Modelling

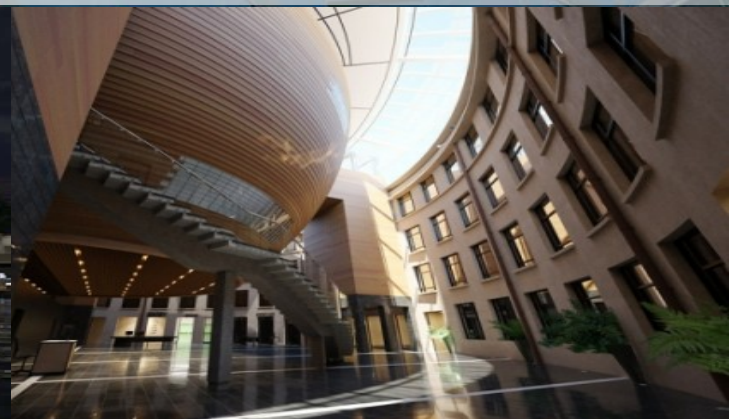
模型/ 模擬



Fake BIM

M + ?

JUST 3D MODEL – NOT BIM

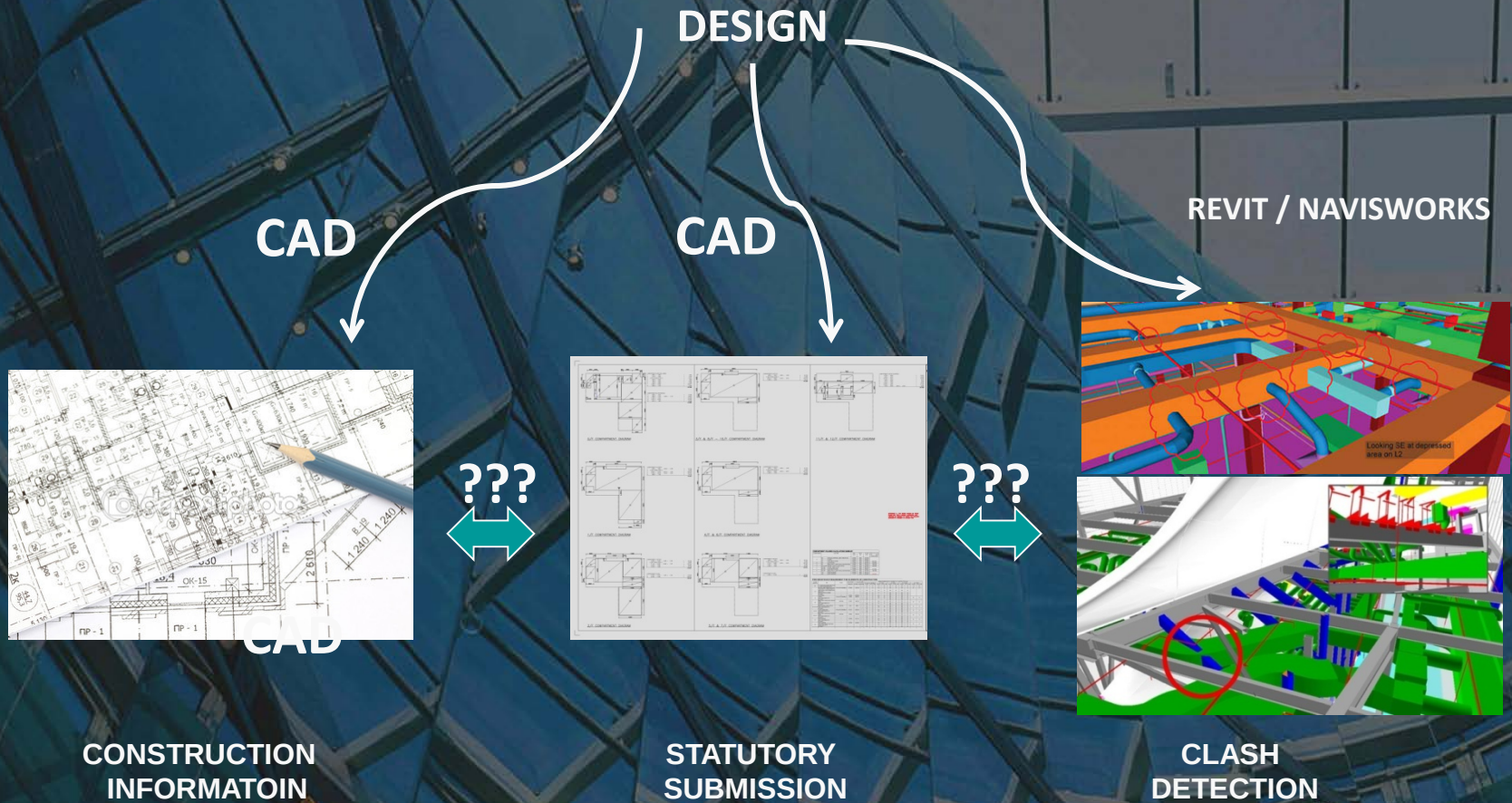


HALF-BIM

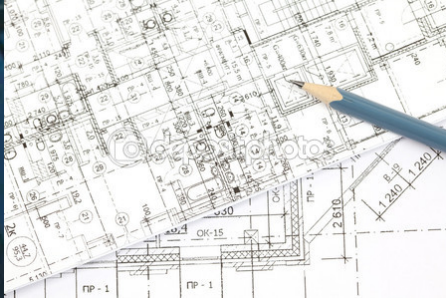
I <> M

3D MODEL >> QTO , CLASH ANALYSIS

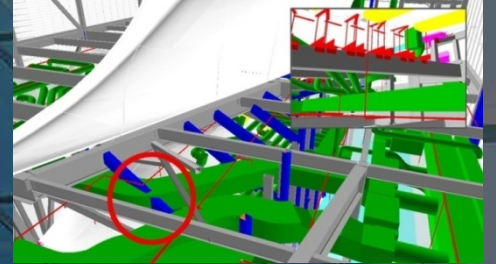
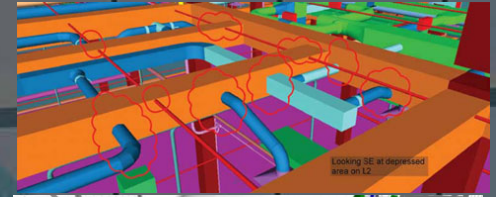
HALF BIM



REAL BIM

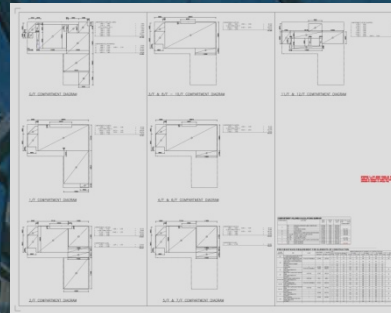


CONSTRUCTION
INFORMATOIN



CLASH
DETECTION

DESIGN
in
BIM



STATUTORY
SUBMISSION



REAL BIM

I = M

I > M

INFORMATION FROM MODEL,
INFORMATION MORE IMPORTANT

B I M



Modelling Information **Business**

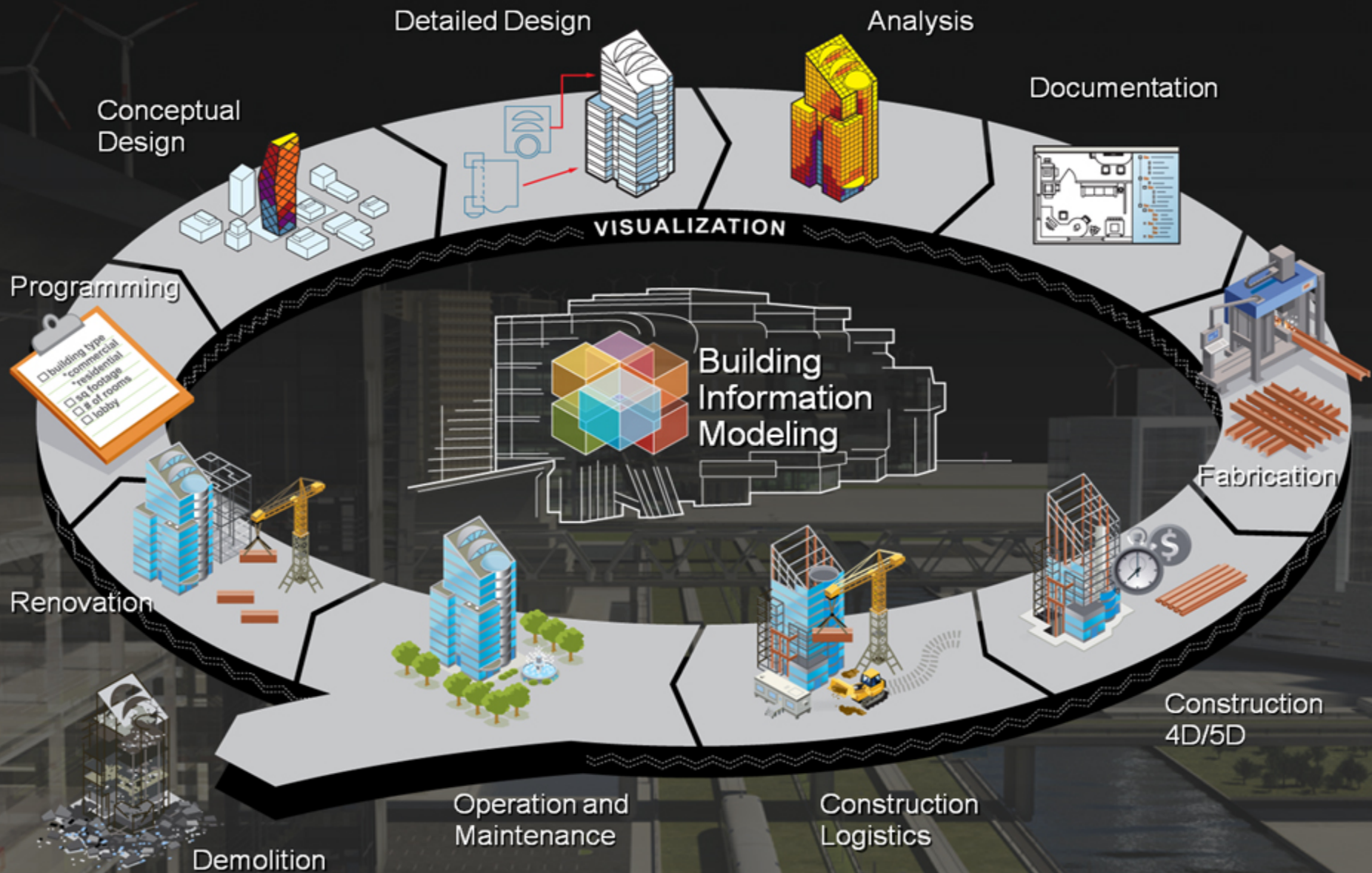


REAL BIM

M + I = B

BIM is a process, Business is the objective

Use of Building Information Modeling (BIM)



Building Projects

Modelling

Plan
Section
Elevation
Area Diagrams
Schematic Designs
General Building Plan
Structural Plans
E/M Drawings
Schematics
Details
Other Diagrams...

Information

Area Schedule
Finishing Schedules
Door/Window/Louvre
Schedules
Beam/ Column Schedule
Equipment Schedule...

Program

Cost Estimate
Quantity Take Off
Bills of Quantities
Variation Assessments

As a result.....

Inefficiencies (低生産性), mistakes(エラー) and delays (工期延長) account for \$200 billion of the \$650 billion spent on construction in America every year.

New wiring, The Economist, January 13th, 2000

In the UK alone, the annual cost of rectifying construction defects(デフエク) caused by poorly detailed drawings and operatives being given incorrect instructions has been put at £1bn (≈\$1.66bn).

IT Construction Best Practice service, <http://www.itcbp.org.uk>

The process of construction is itself repeated in its essentials from project to project. Indeed, research suggests that up to 80% of inputs into buildings are repeated.

M4i, <http://www.m4i.org.uk>

Modelling

CAD SYSTEMs

e.g. AutoCAD,
Microstation

- Plan
- Section
- Elevation
- Area Diagrams
- Schematic Designs
- General Building Plan
- Structural Plans
- E/M Drawings
- Schematics
- Other Diagrams

Information

- Area Schedule
- Word Schedules
- Door/Window/Louvre Sch
- Excel (spreadsheet)
- Beam/Column Schedule
- Access (Data Base)
- MS Project
- BQ Softwares
- Quantity Take Off
- Bills of Materials
- Variations

Building Projects

Modelling

Information

BIM

Building Information Modeling

信息化建筑模型

- Plan

- Section

- Elevation

- Area Diagrams

- Schematic Designs

- General Building Plan

- Structural Plans

- E/M Drawings

- Schematics

- Other Diagrams

- Area Schedule

- Finishing Schedules

- Door/Window/Louvre Sch

- Beam/Column Schedule

- Equipment Schedule

- Material

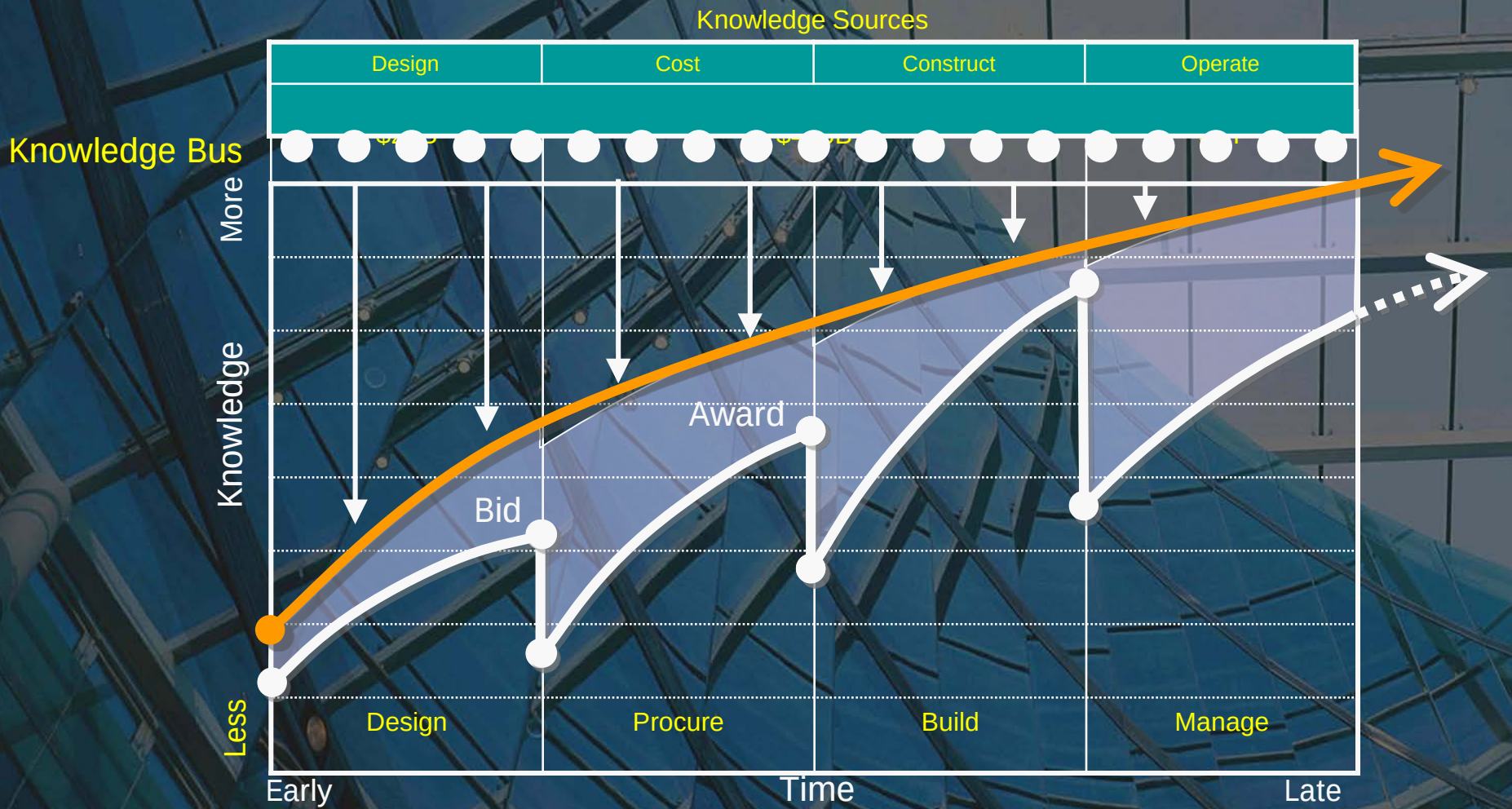
- Quantity

- Cost Estimate

- Quantity Take Off

- Bills of Quantities

- Variations



INFORMATION “BACKFLOW”

What is BIM (Building Information Model)

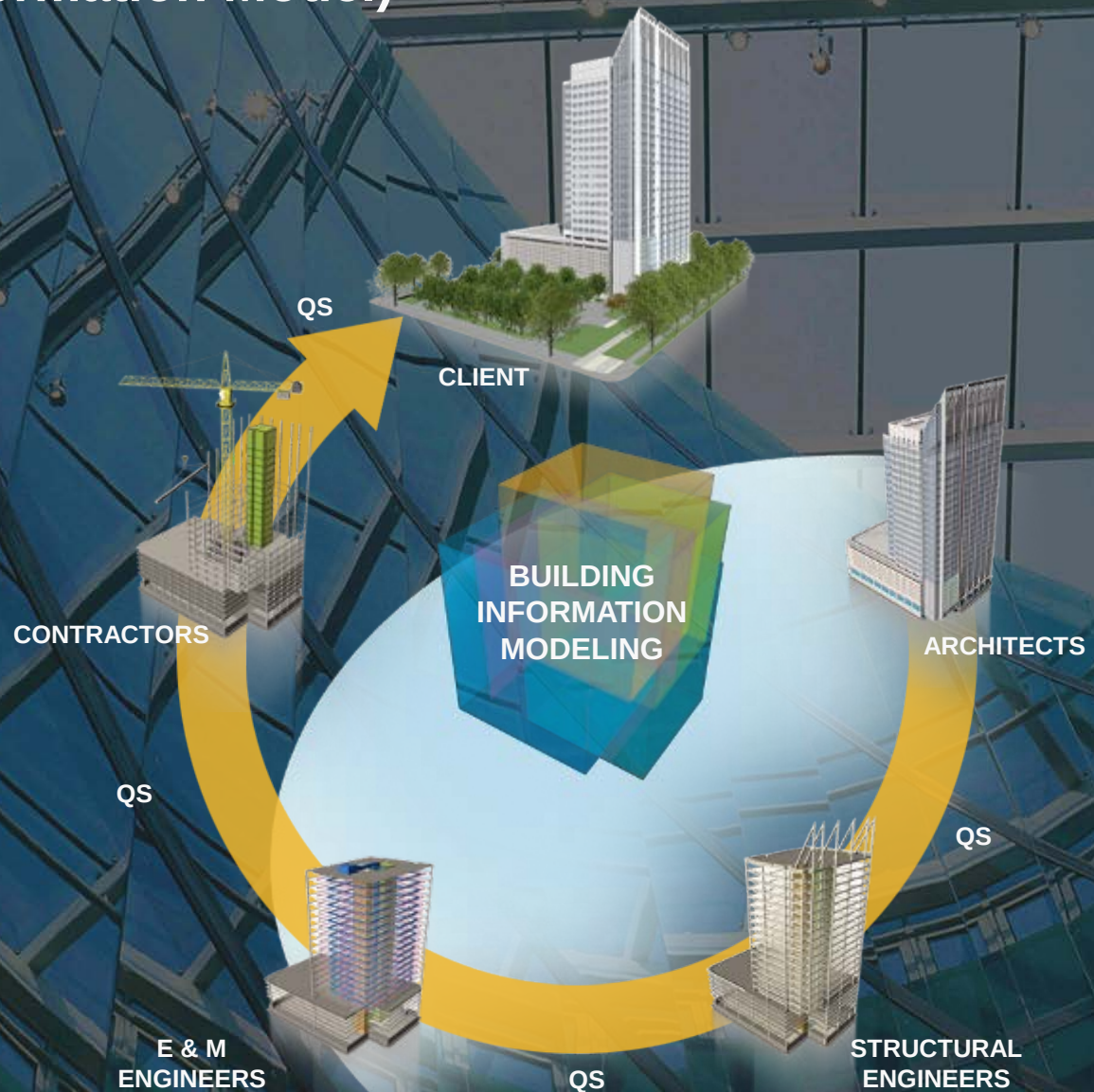
Graphical Data

+

Non-Graphical
Data

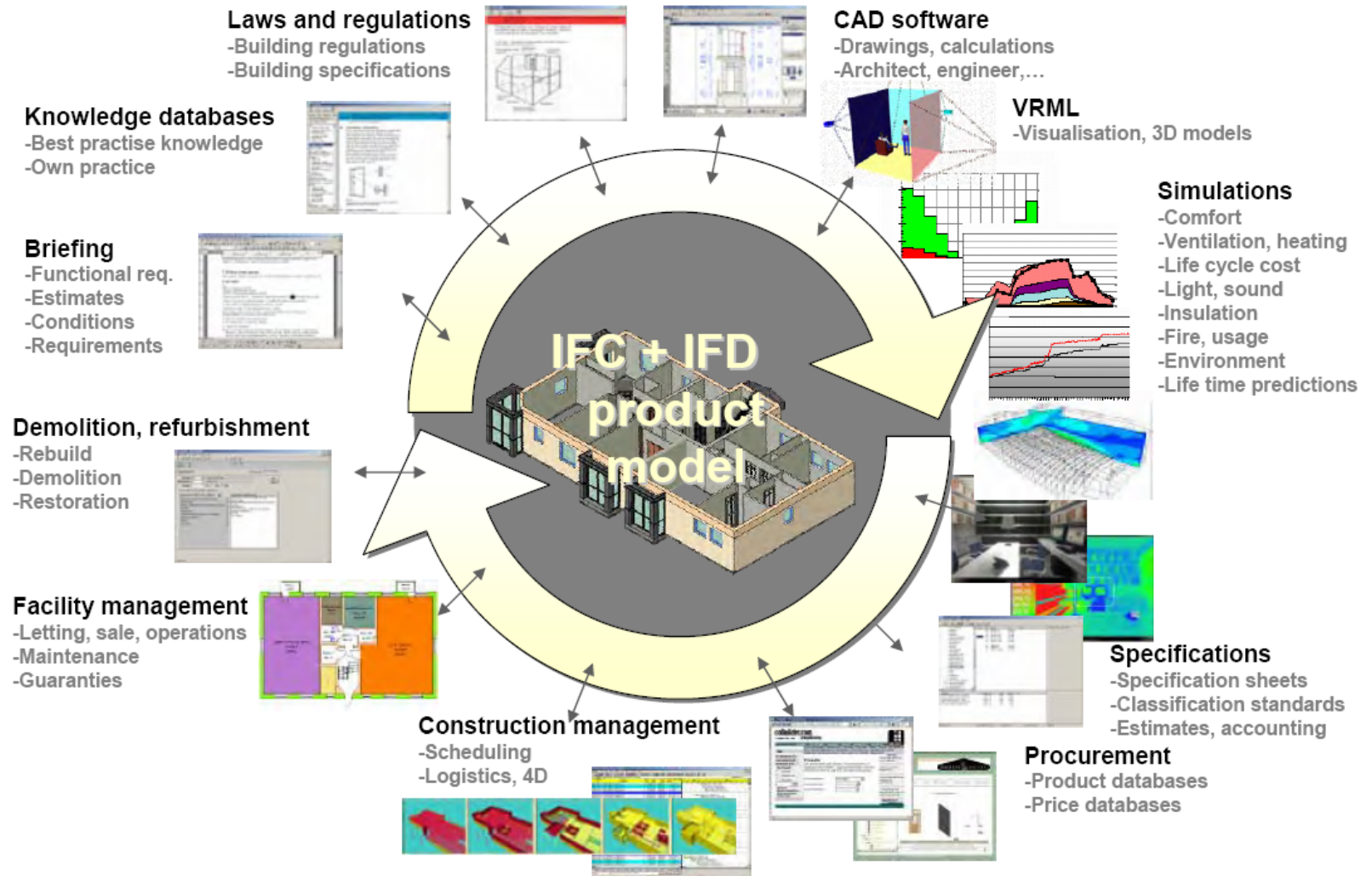
+

New workflow



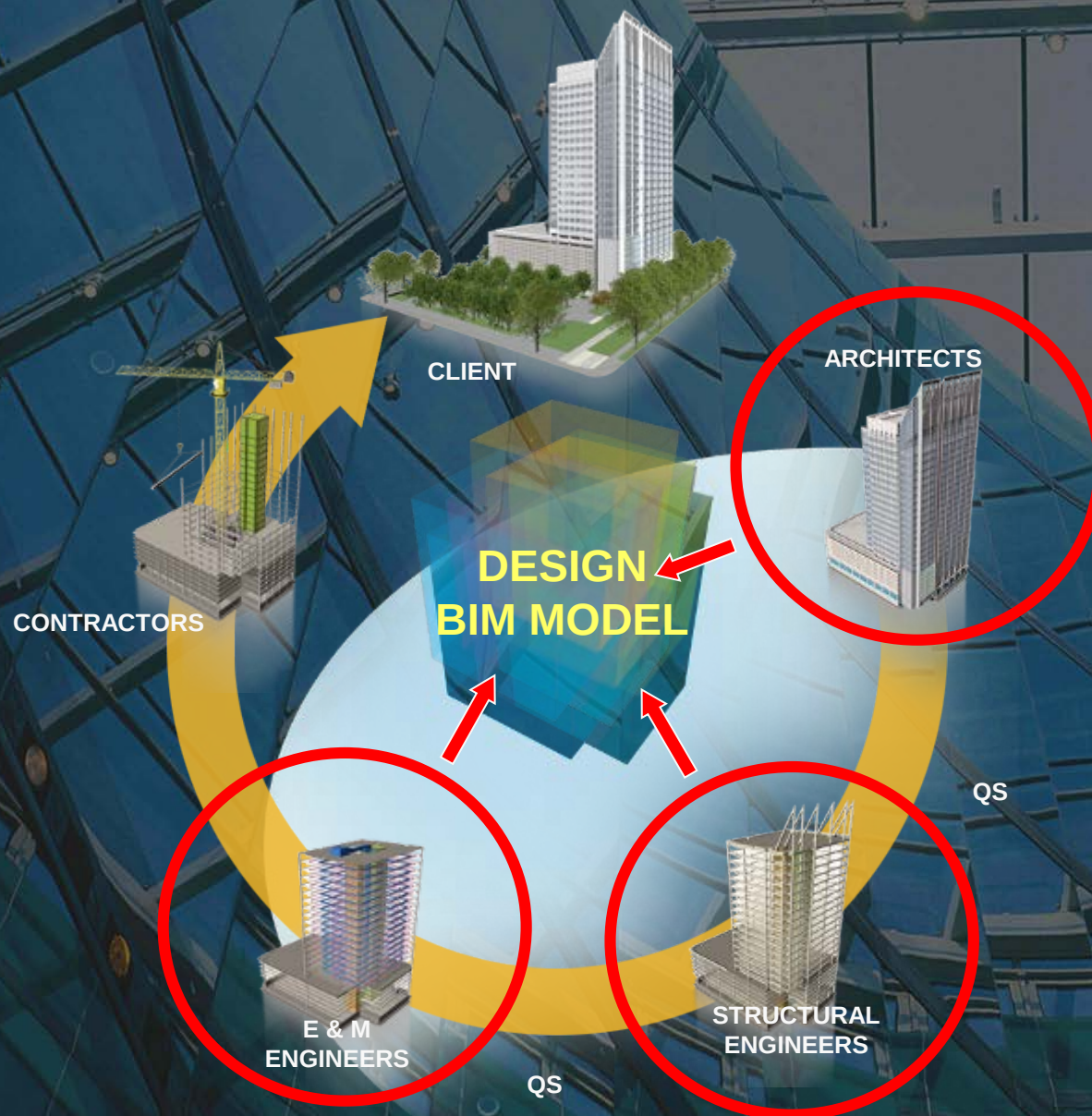


Tier 3 – Derived Lifecycle View

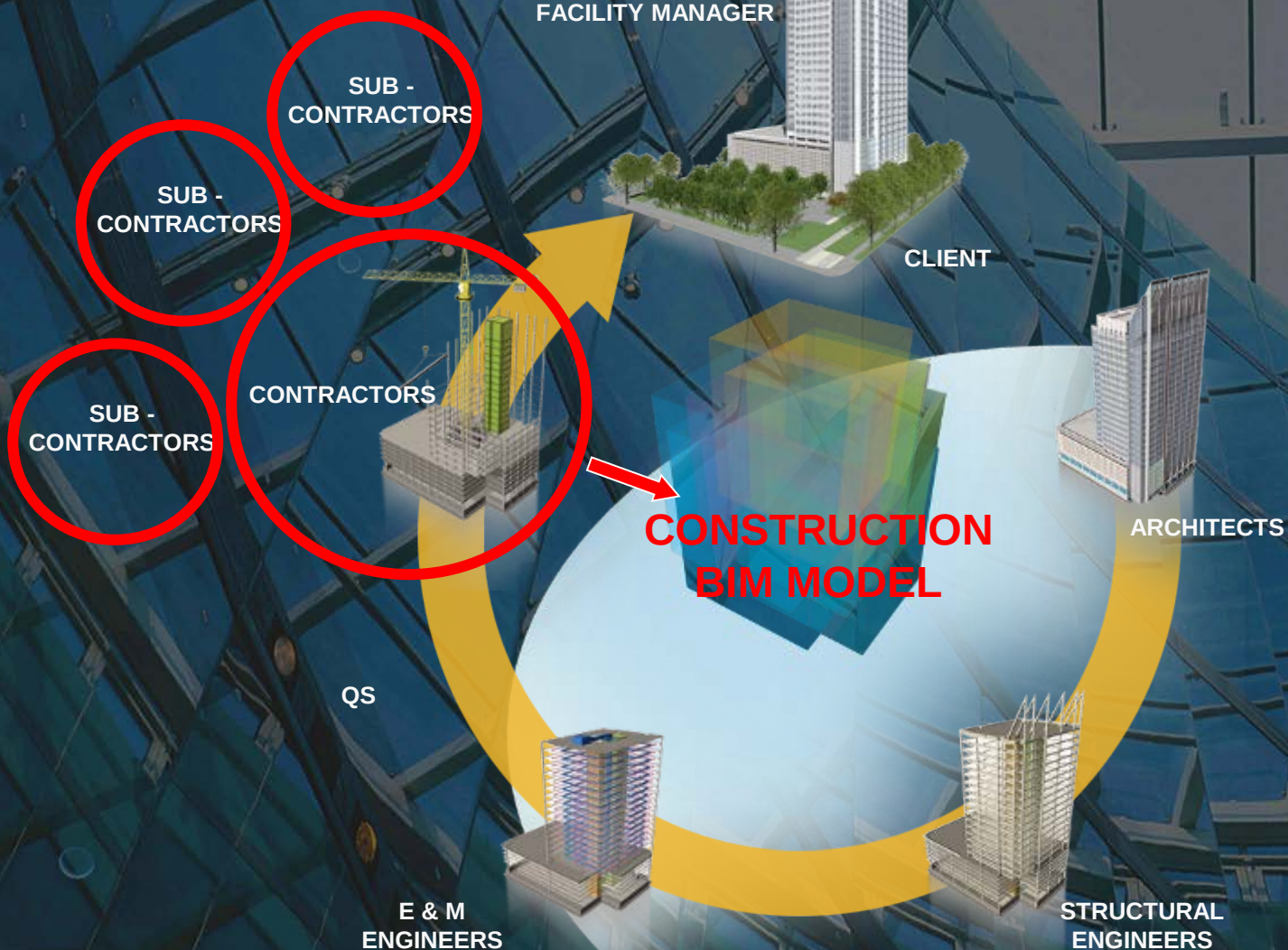




HOW BIM WORKS?

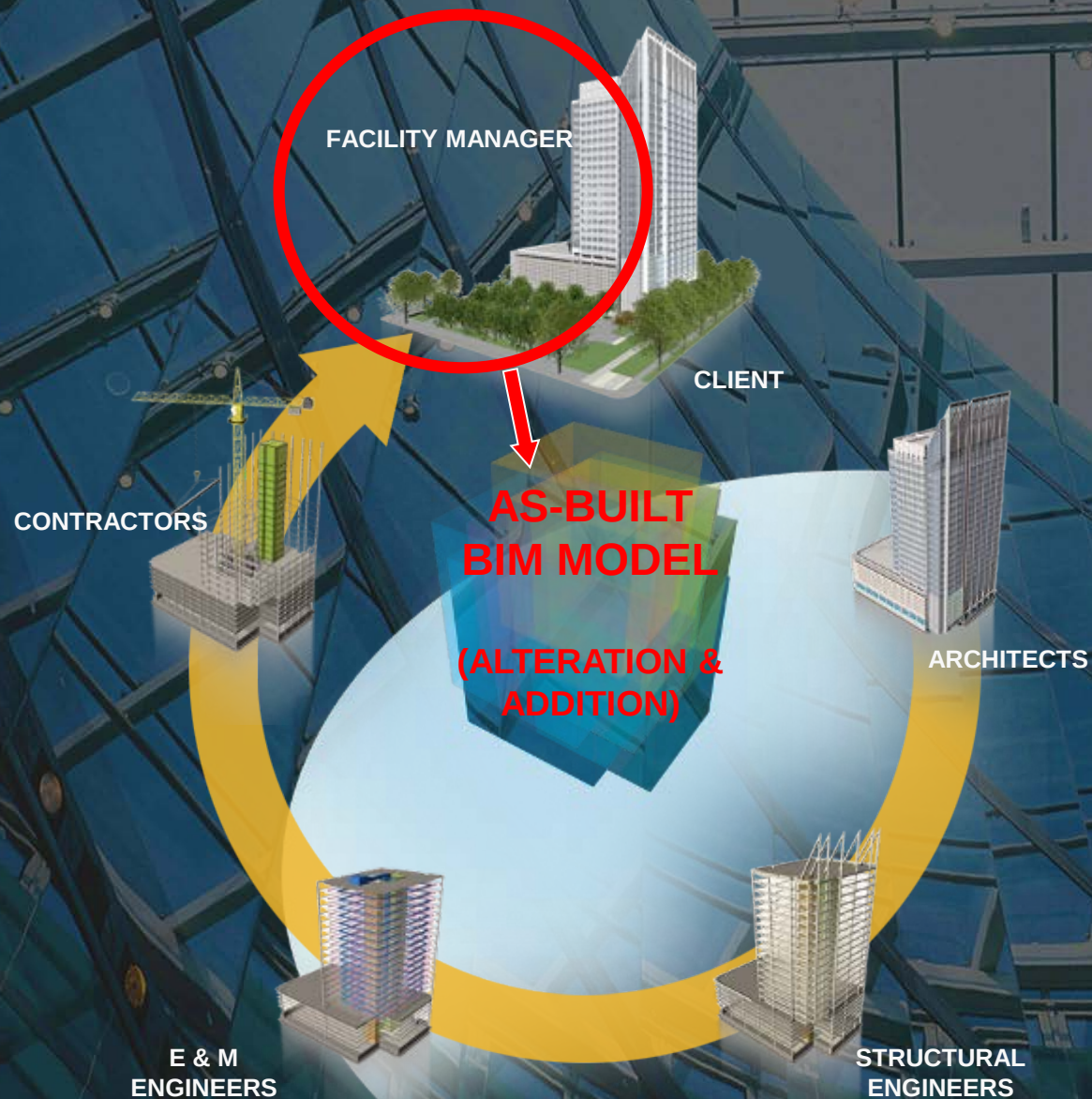


CONSTRUCTION BIM MODEL





AS BUILT BIM MODEL



Use of Building Information Modeling (BIM)

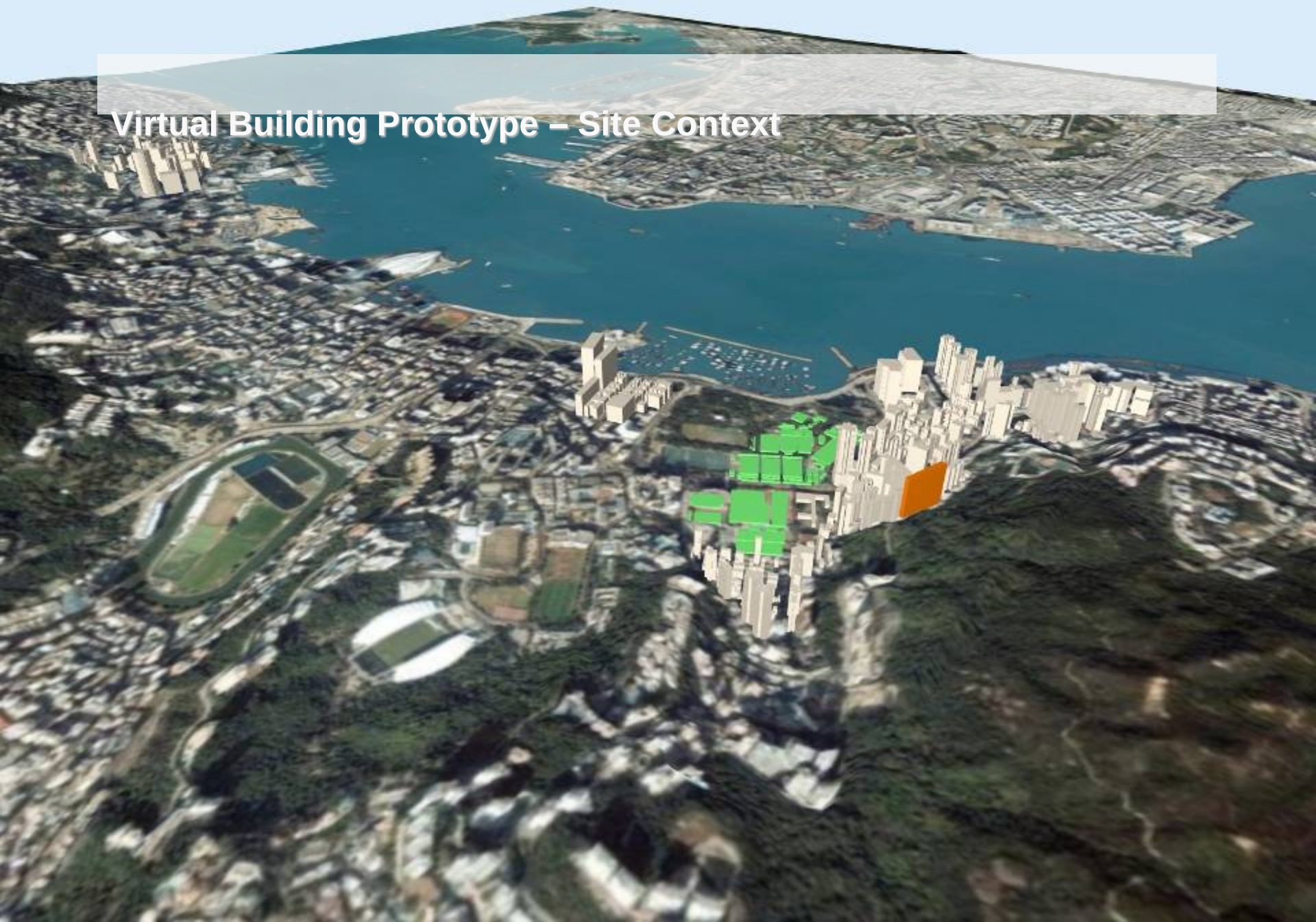
BIMの活用

1. **Design visualization** 設計の可視化
2. **Drawing Productions** 図面製作
3. **Services Co-ordination and Clash detection with other disciplines** 多部門との連携と干渉チェック
4. **Quantity taking and preparation of Tender Document** 数量拾い及び入札書類の作成
5. **Automated Statutory Submission** 確認申請図書作成の自動化
6. **Scientific analysis of different environmental aspects** 様々な環境解析
7. **Supply Chain Integration with the manufacturing and production** サプライヤとの連携
8. **Complex Geometry** 複雑な形状を実現可能

Use of Building Information Modeling (BIM)

1. **Design visualization** 設計の可視化
2. Drawing Productions
3. Services Co-ordination and Clash detection with other disciplines
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Virtual Building Prototype – Site Context



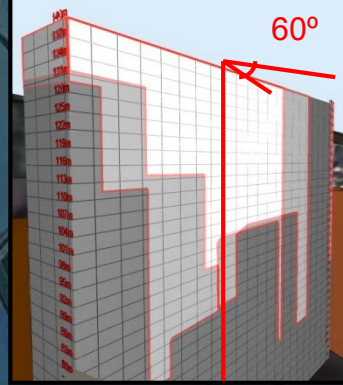
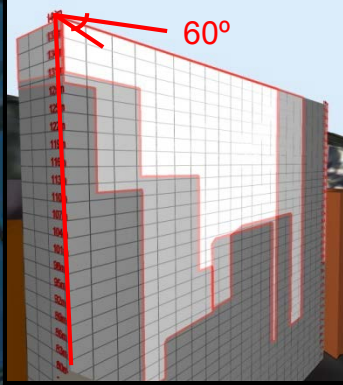
Views from: 140m

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

140m



140m

135m

130m

125m

120m

115m

110m

105m

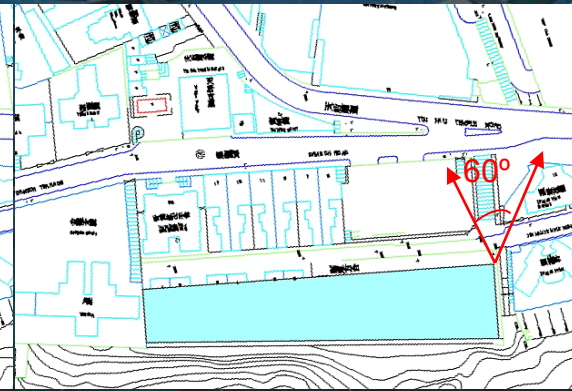
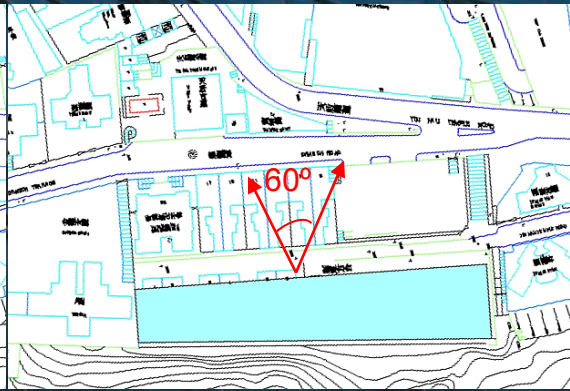
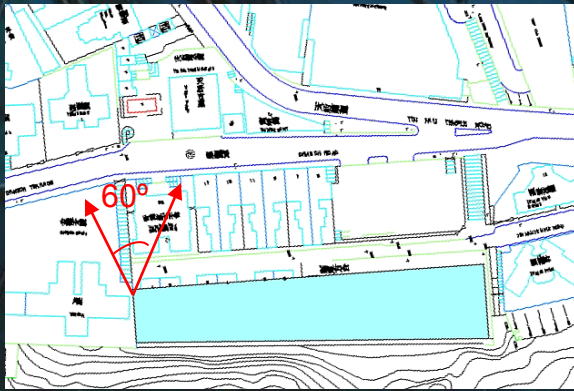
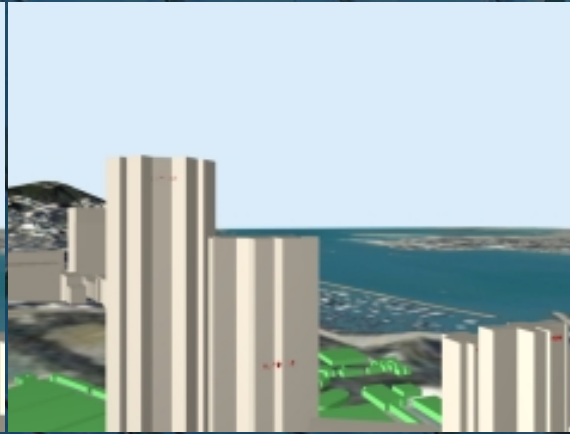
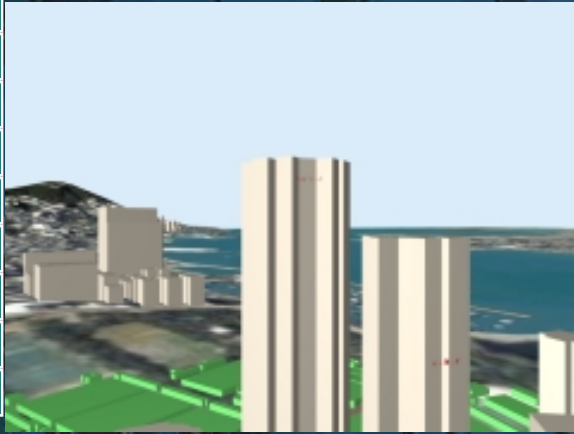
100m

95m

90m

85m

80m



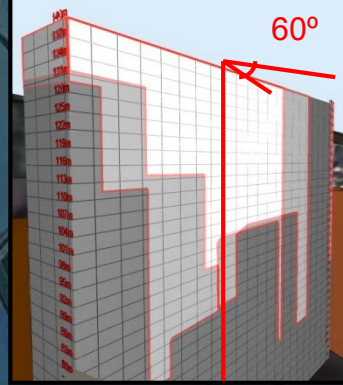
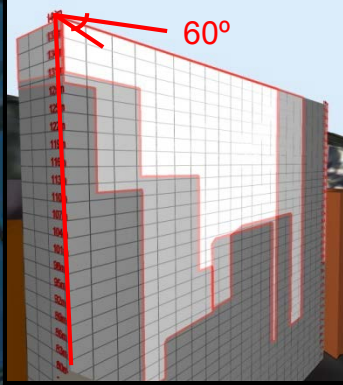
Views from: 135m

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

135m



140m

135m

130m

125m

120m

115m

110m

105m

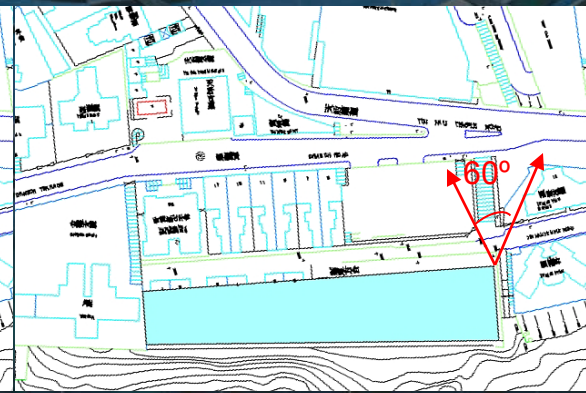
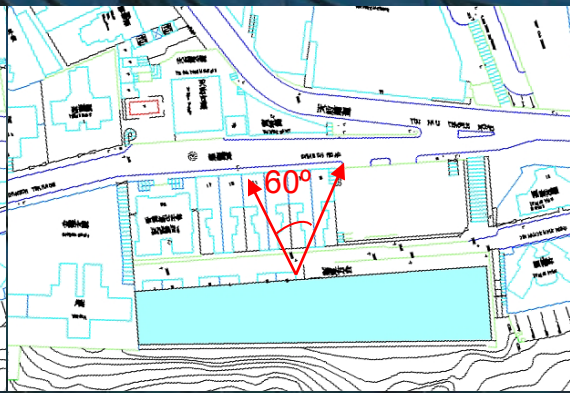
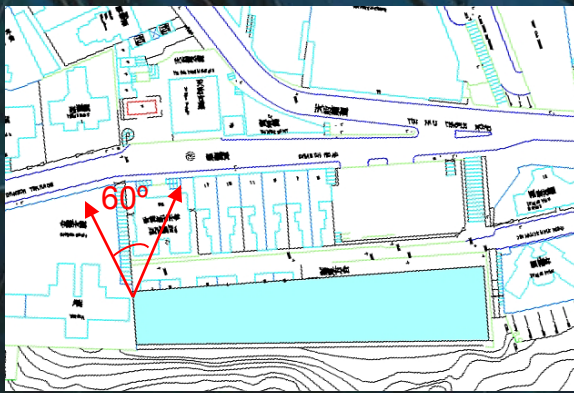
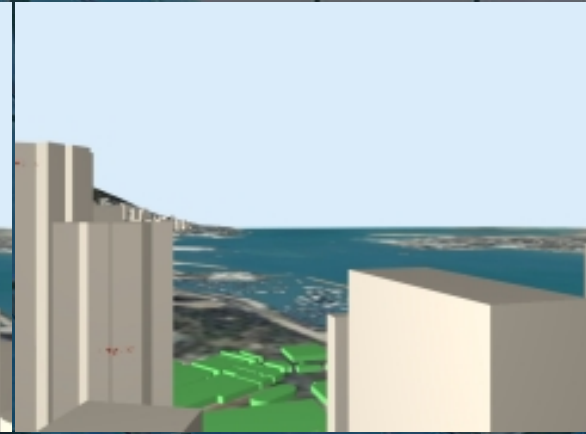
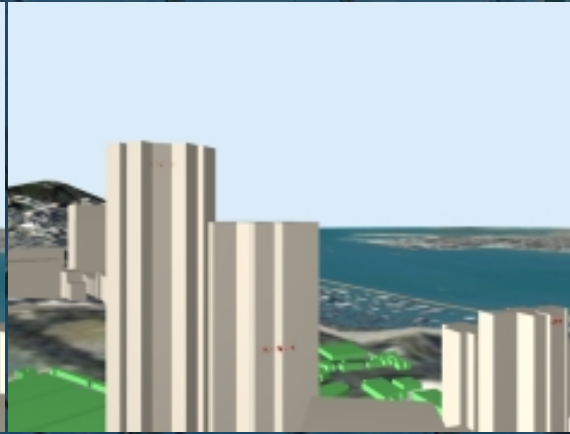
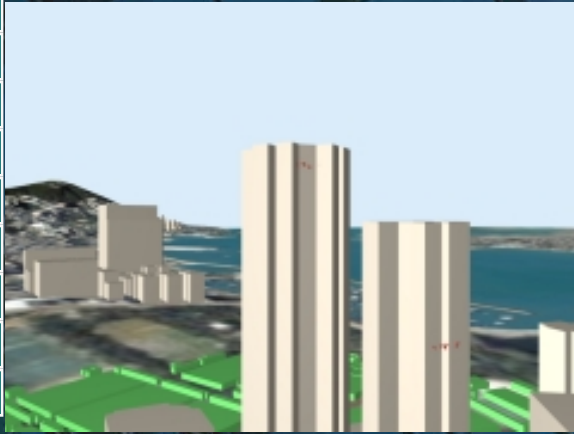
100m

95m

90m

85m

80m



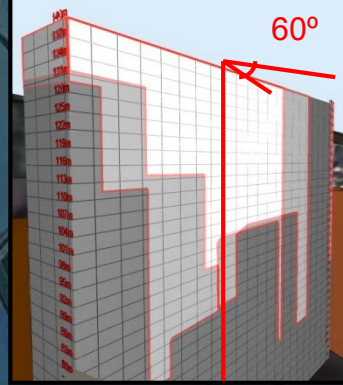
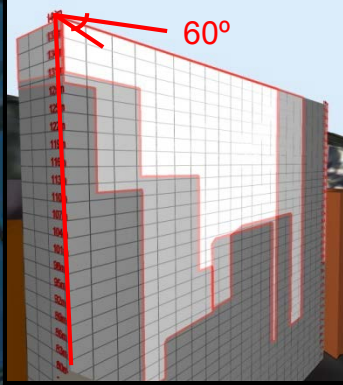
Views from: 130m

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

130m



140m

135m

130m

125m

120m

115m

110m

105m

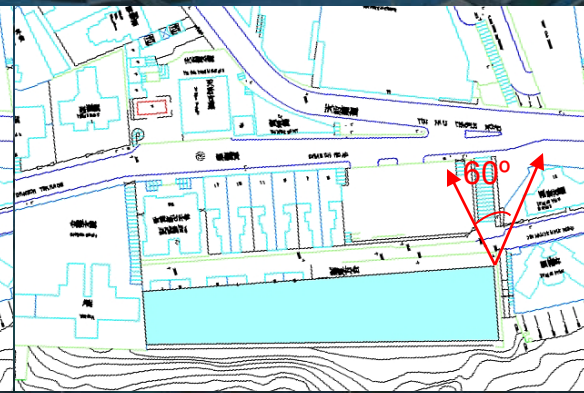
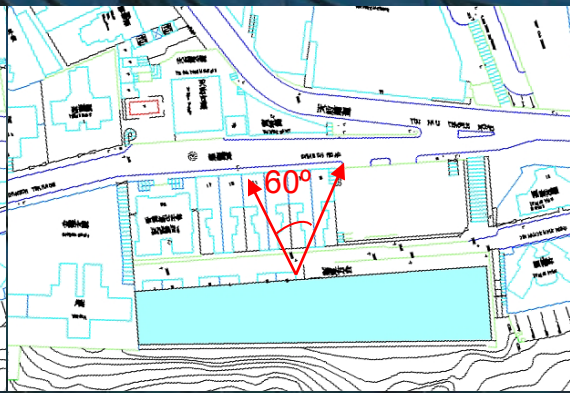
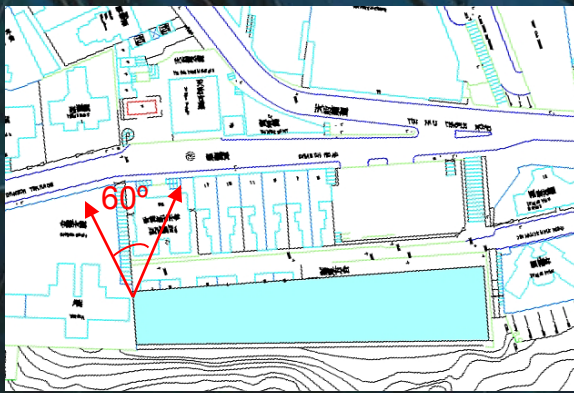
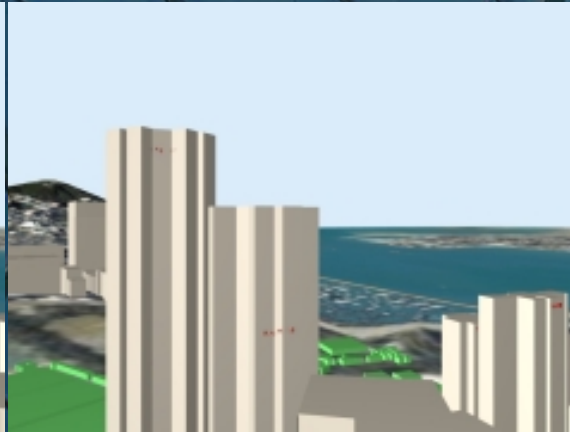
100m

95m

90m

85m

80m



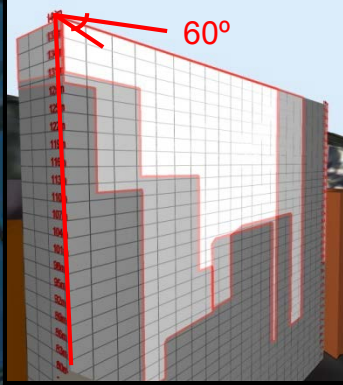
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Tin Hau Temple Road No.1

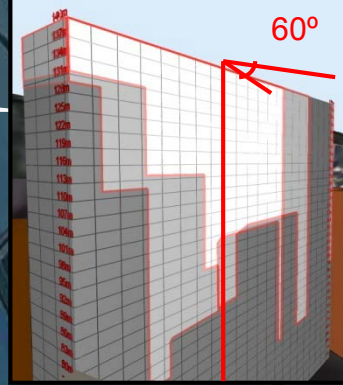
Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

125m



1



140m

135m

130m

125m

120m

115m

110m

105m

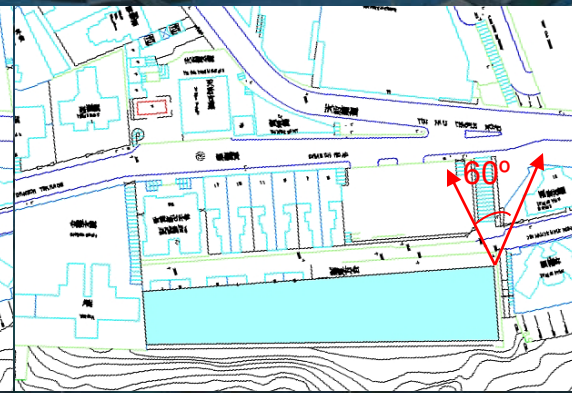
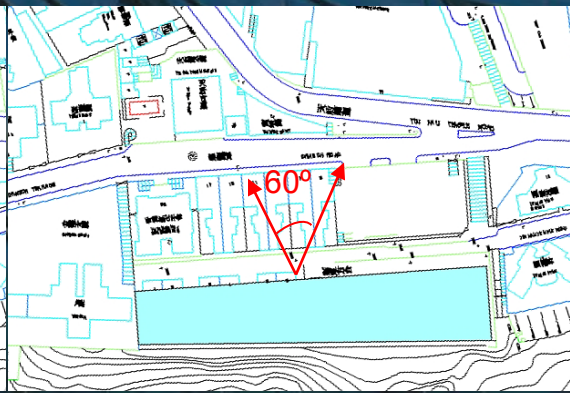
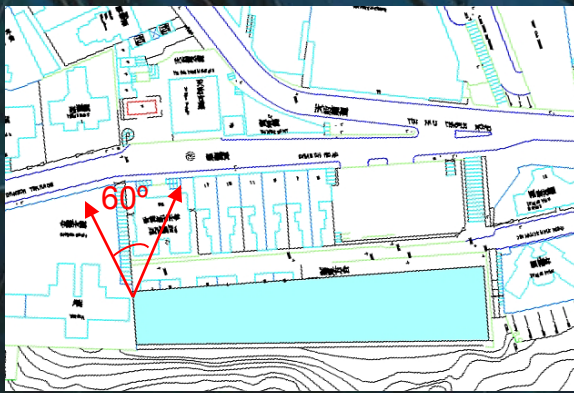
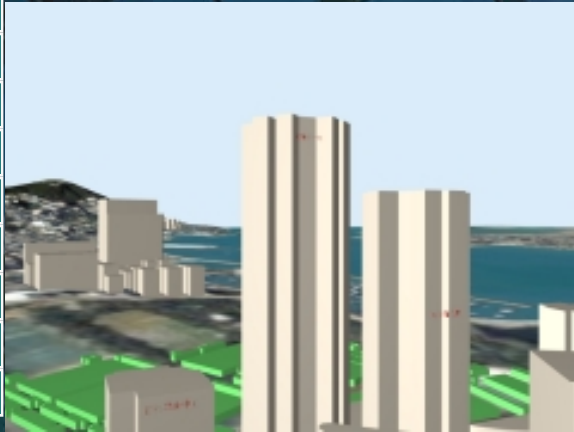
100m

95m

90m

85m

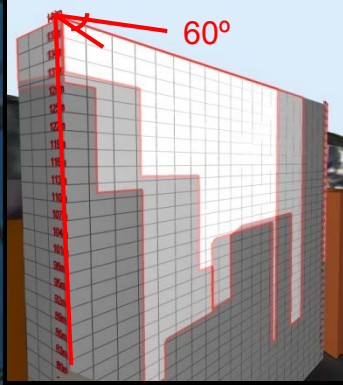
80m



Views from: 120m

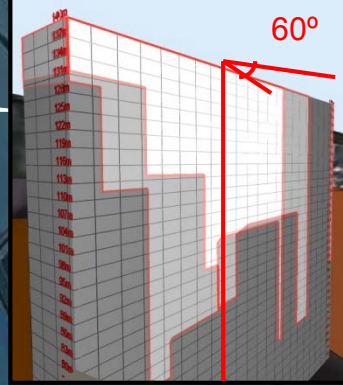
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120m



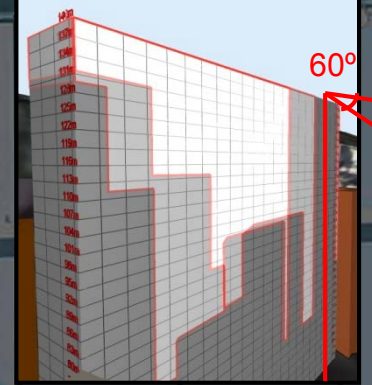
Tin Hau Temple Road No.1

1



Tin Hau Temple Road No.1

60°



140m

135m

130m

125m

120m

115m

110m

105m

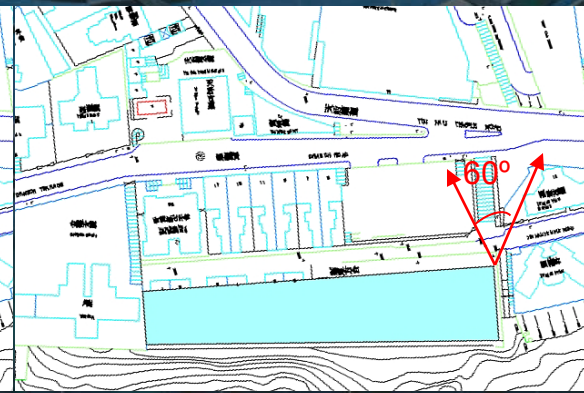
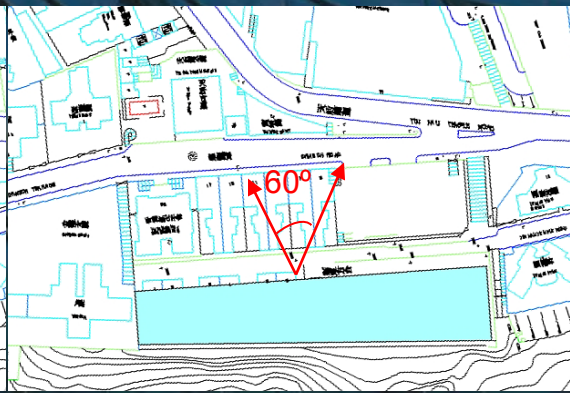
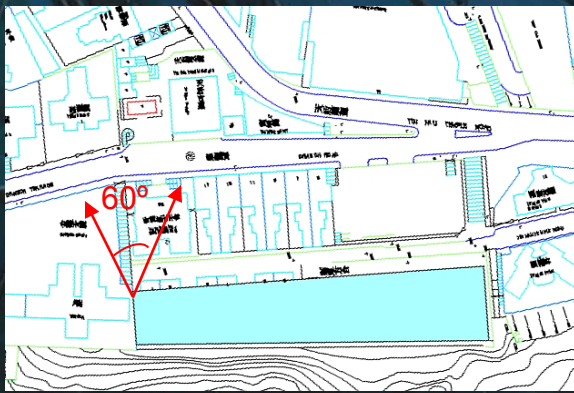
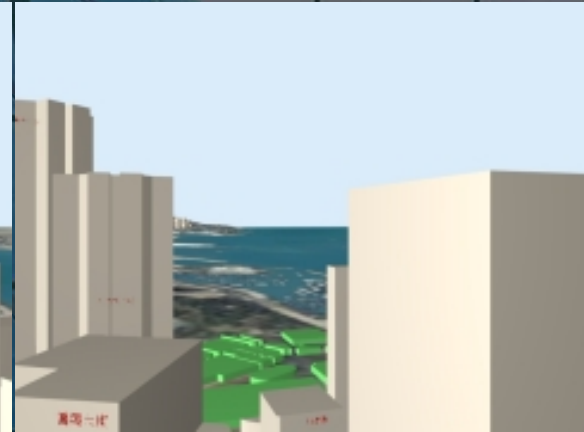
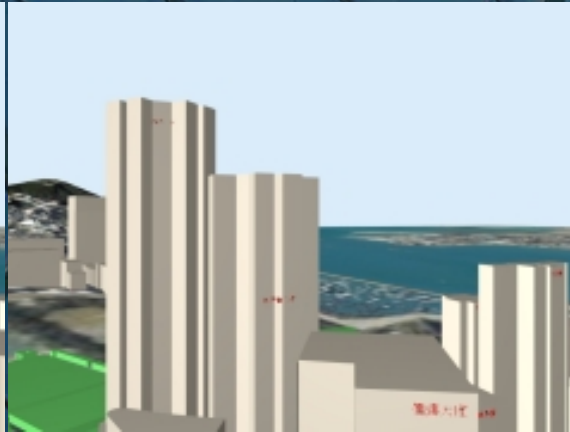
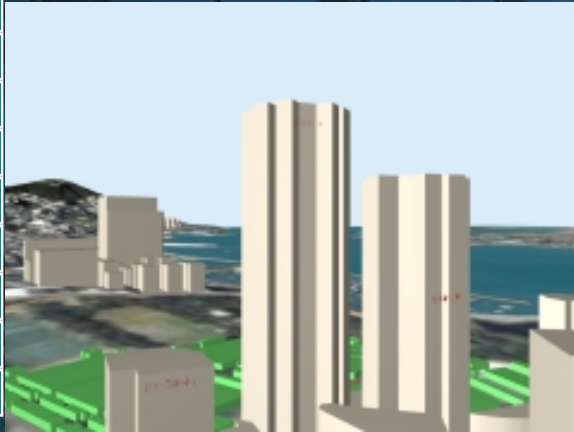
100m

95m

90m

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80m



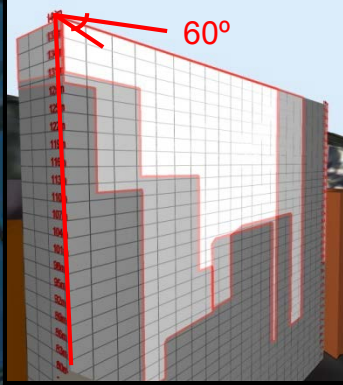
Views from: 115m

Tin Hau Temple Road No.1

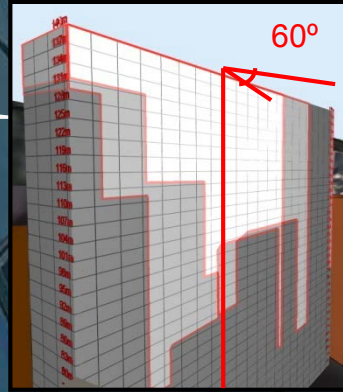
Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

115m



1



140m

135m

130m

125m

120m

115m

110m

105m

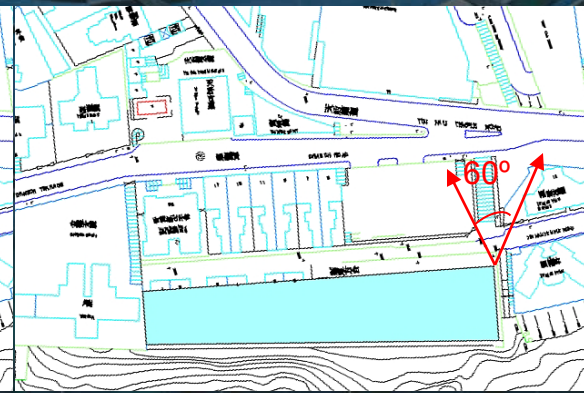
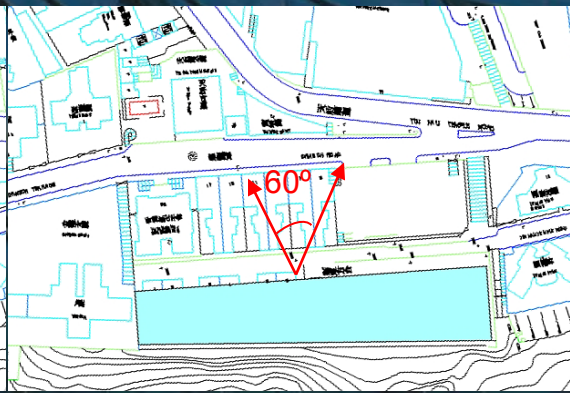
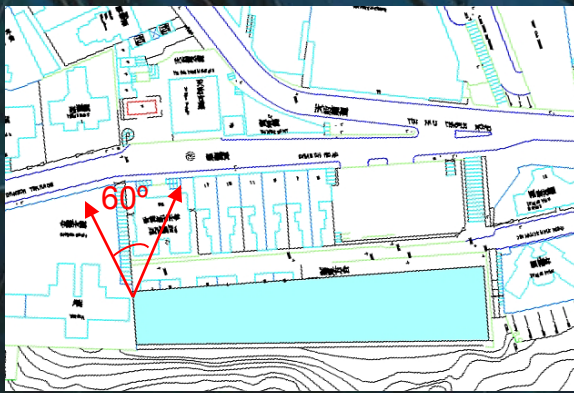
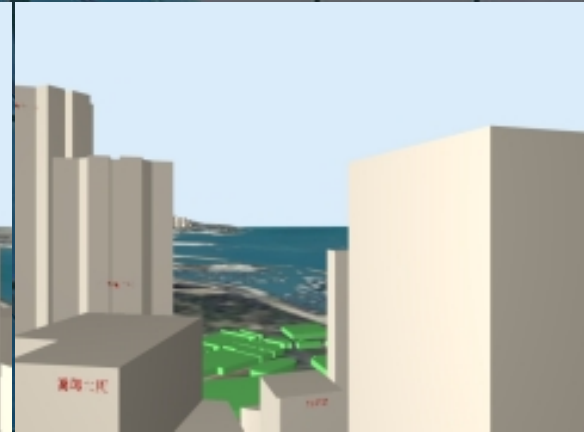
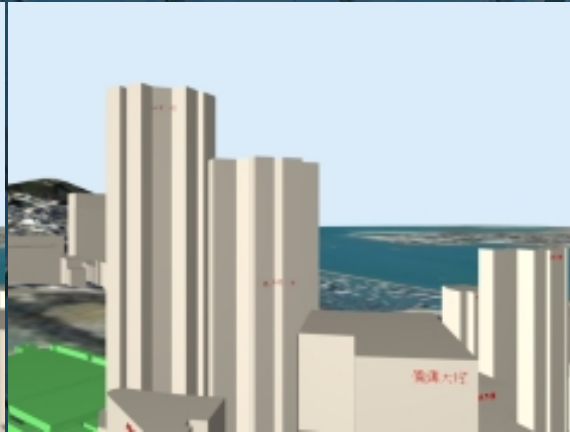
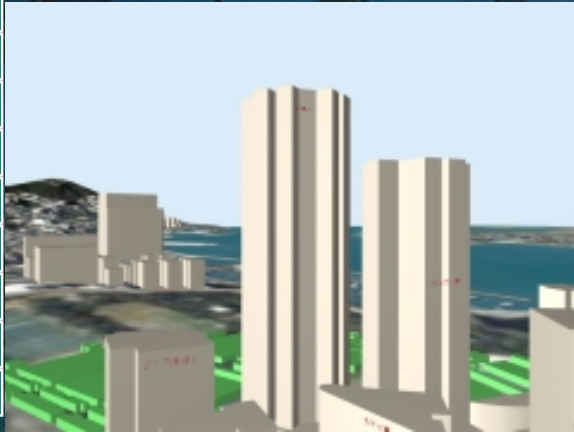
100m

95m

90m

85m

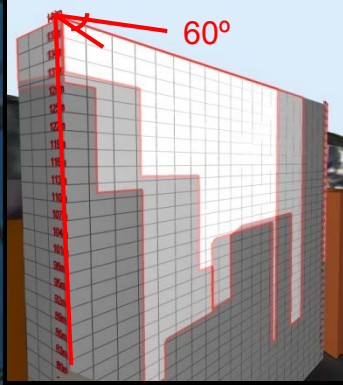
80m



Views from: 110m

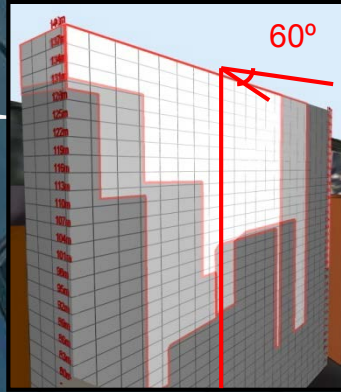
Tin Hau Temple Road No.1

110m



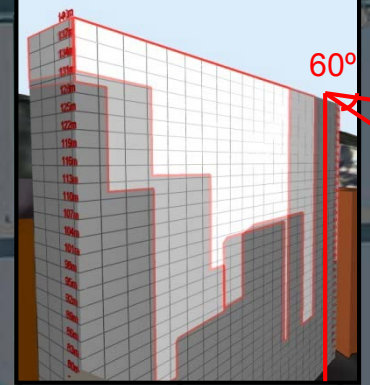
Tin Hau Temple Road No.1

1



Tin Hau Temple Road No.1

60°



140m

135m

130m

125m

120m

115m

110m

105m

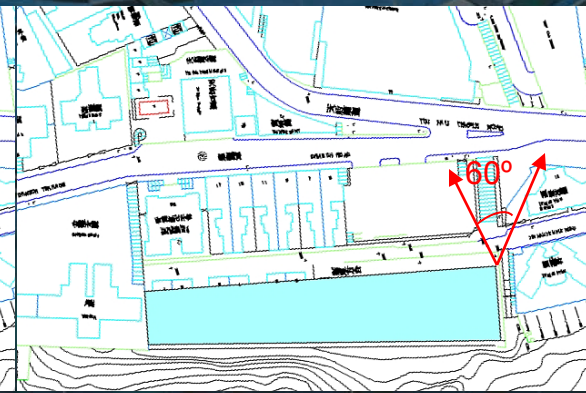
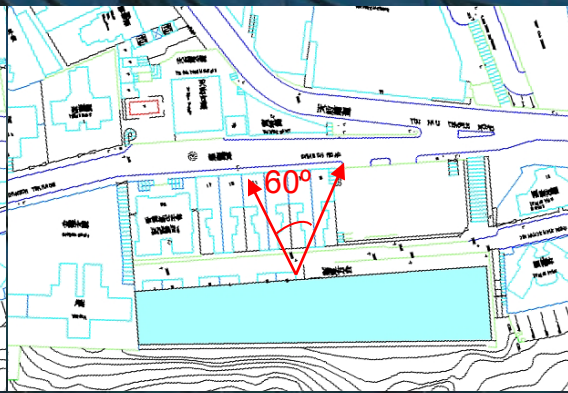
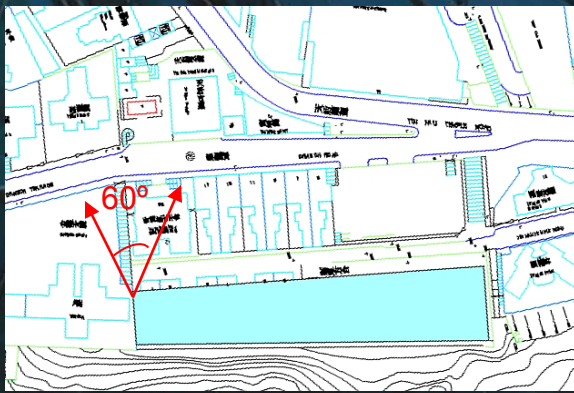
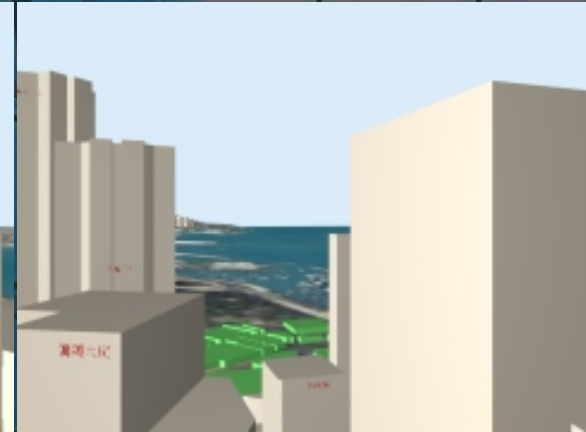
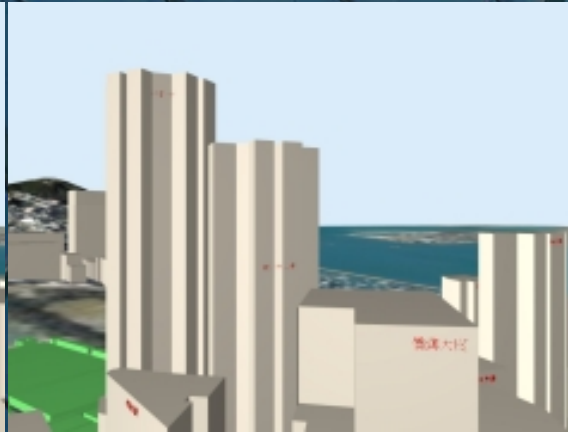
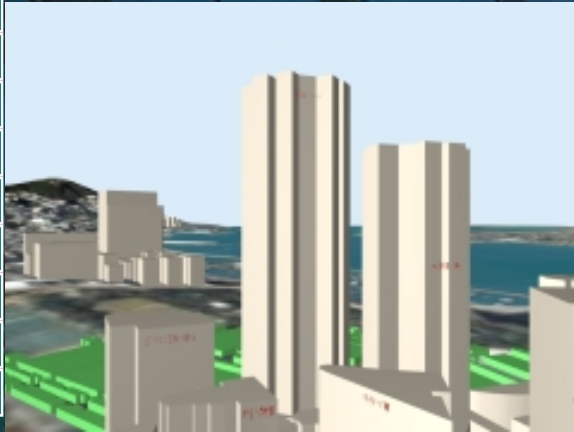
100m

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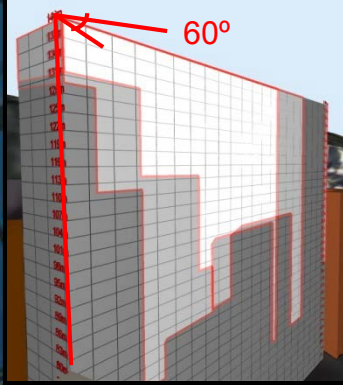
80m



Views from: 105m

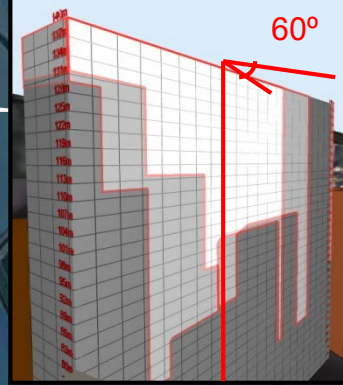
Tin Hau Temple Road No.1

105m



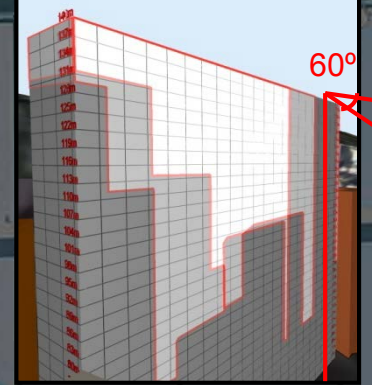
Tin Hau Temple Road No.1

1



Tin Hau Temple Road No.1

60°



140m

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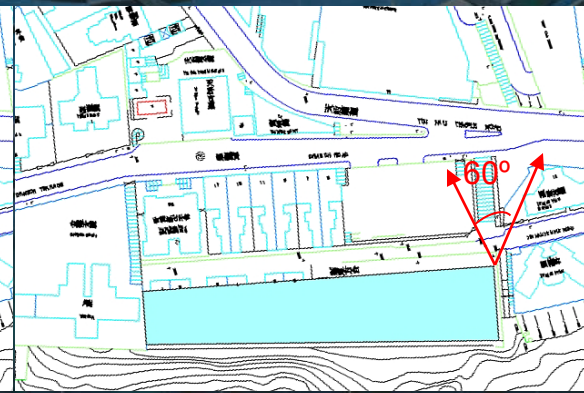
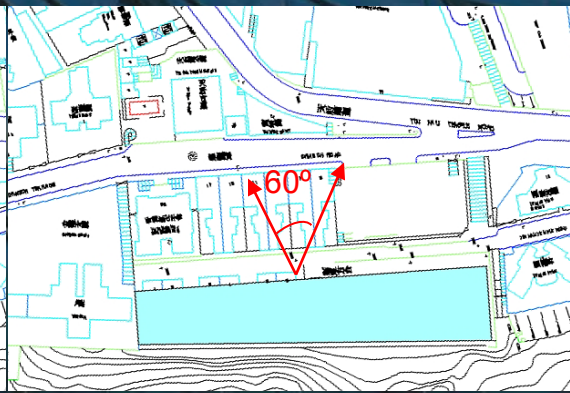
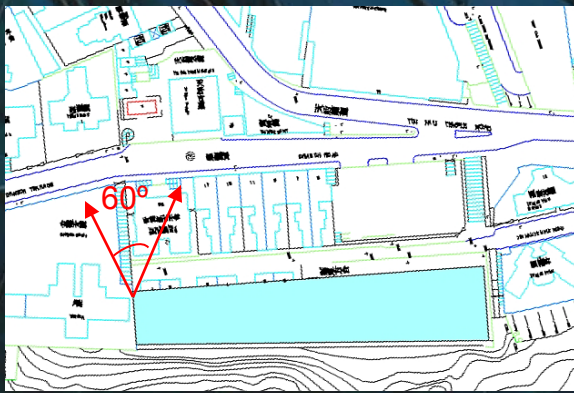
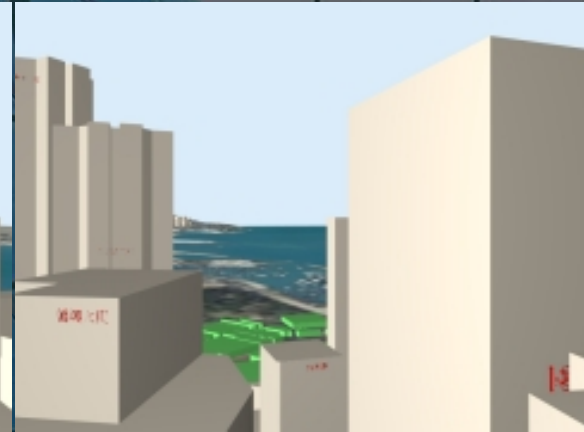
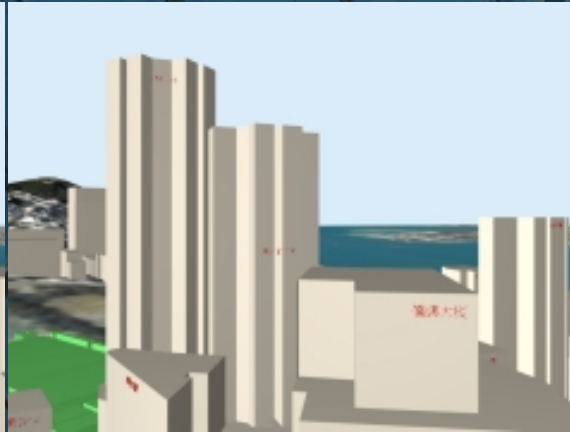
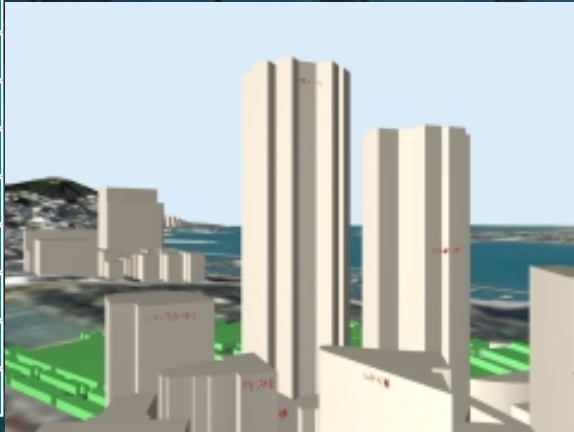
100m

95m

90m

85m

80m



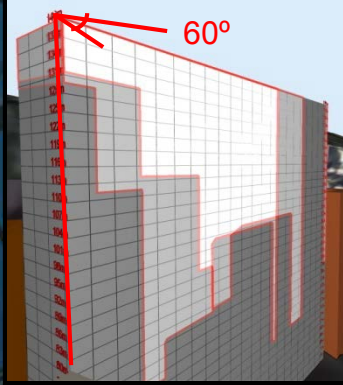
Views from: 100m

Tin Hau Temple Road No.1

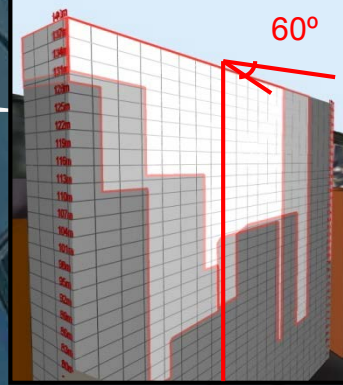
Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

100m



1



140m

135m

130m

125m

120m

115m

110m

105m

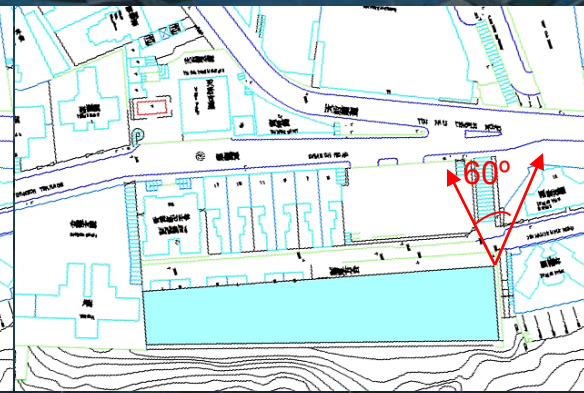
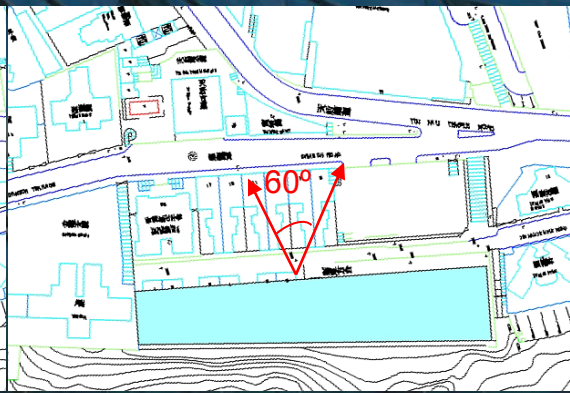
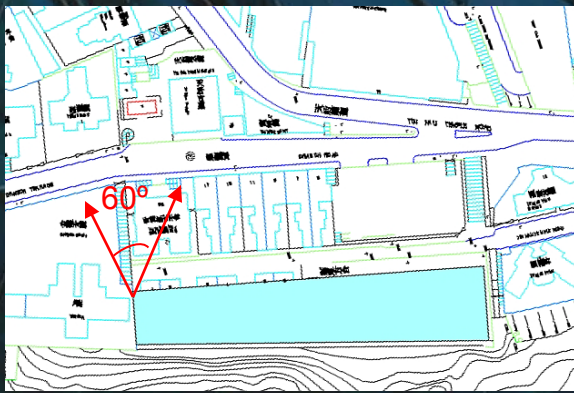
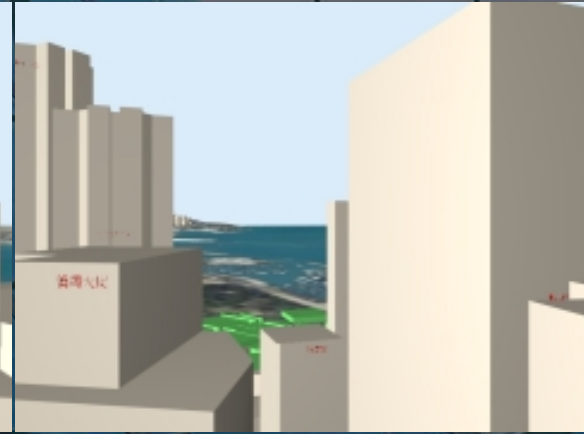
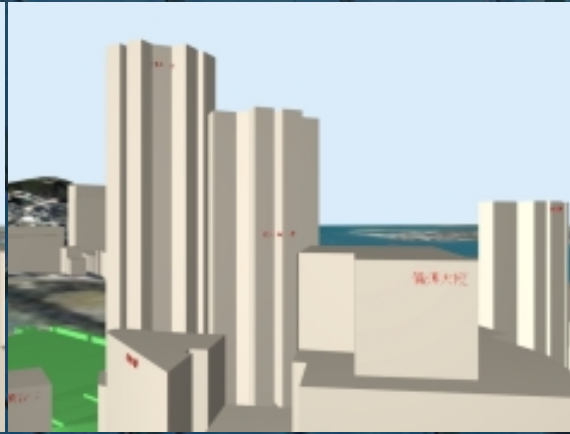
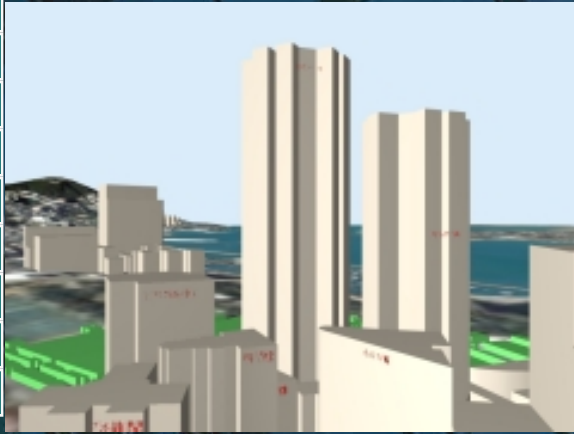
100m

95m

90m

85m

80m



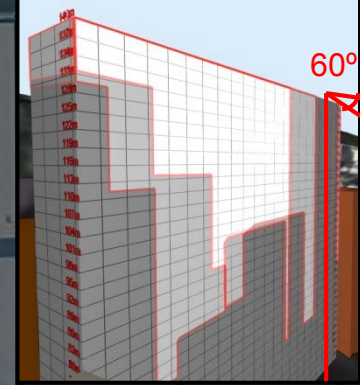
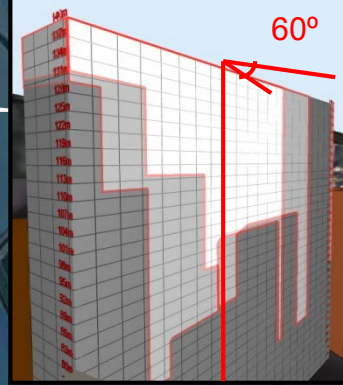
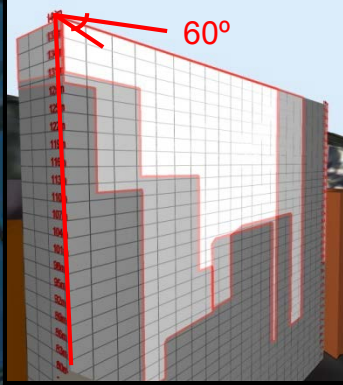
Views from: 95m

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

95m



140m

135m

130m

125m

120m

115m

110m

105m

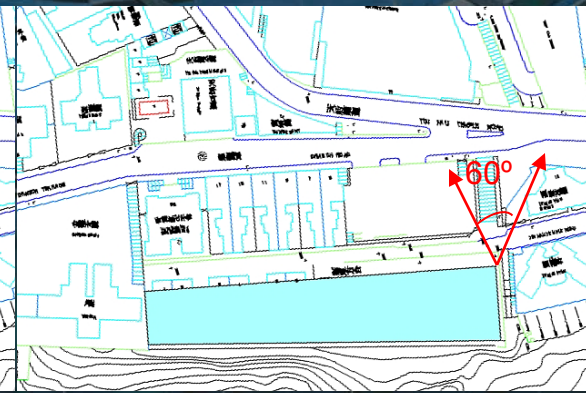
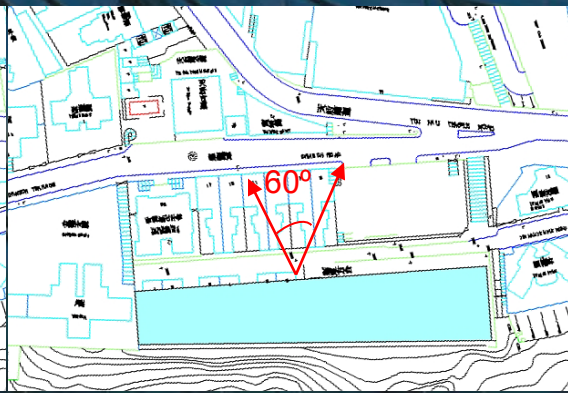
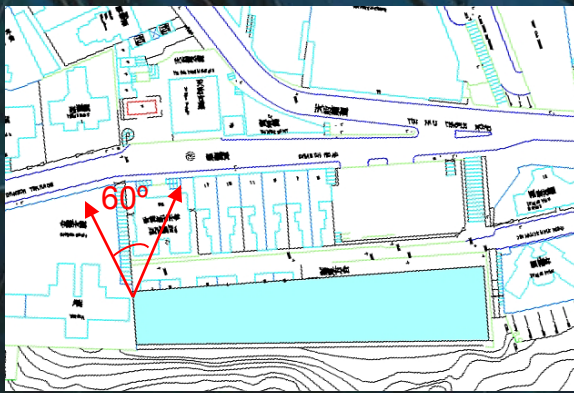
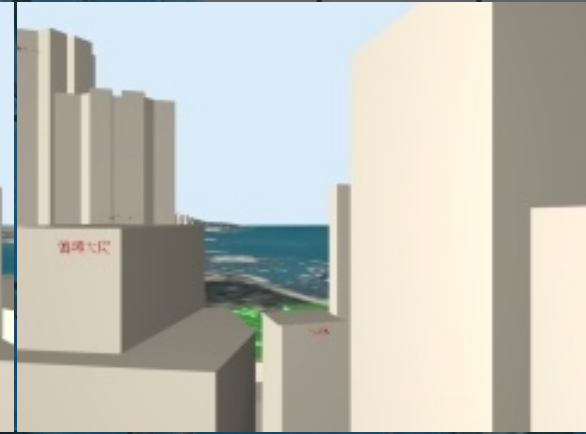
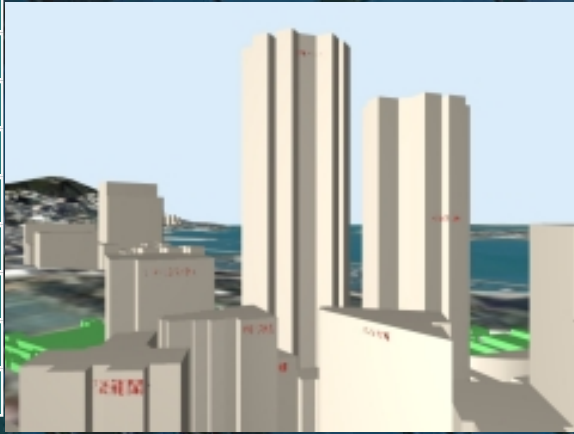
100m

95m

90m

85m

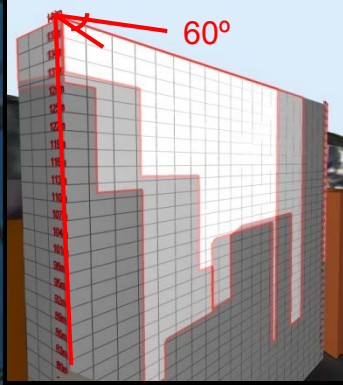
80m



Views from: 90m

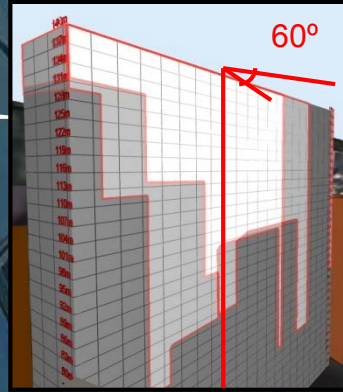
Tin Hau Temple Road No.1

90m



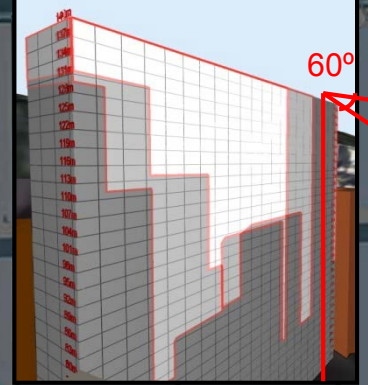
Tin Hau Temple Road No.1

1



Tin Hau Temple Road No.1

60°



140m

135m

130m

125m

120m

115m

110m

105m

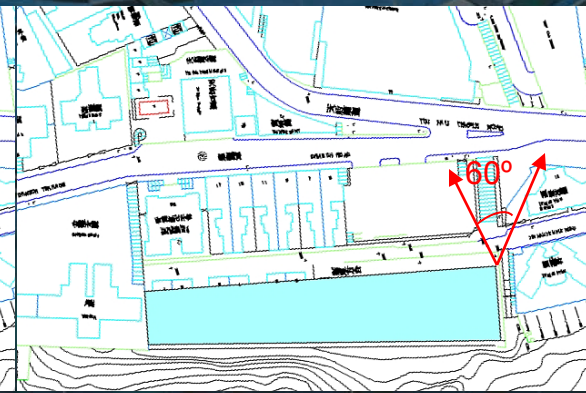
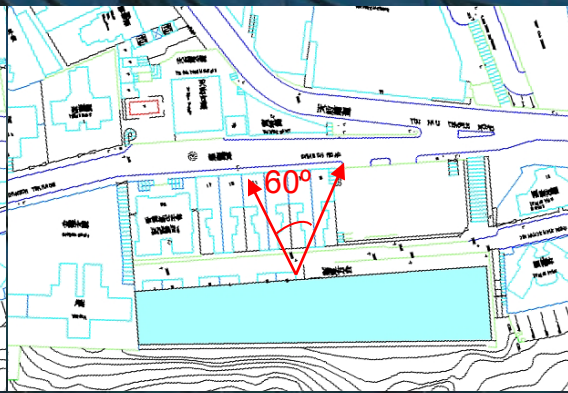
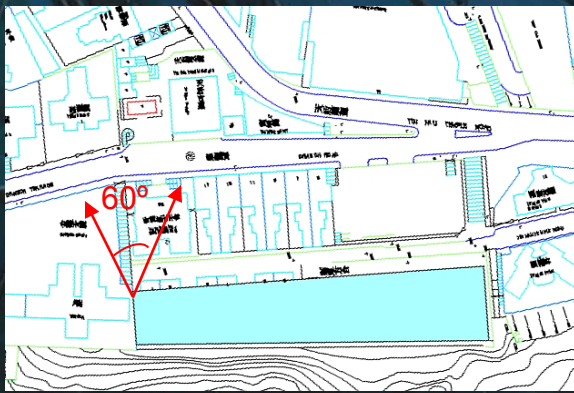
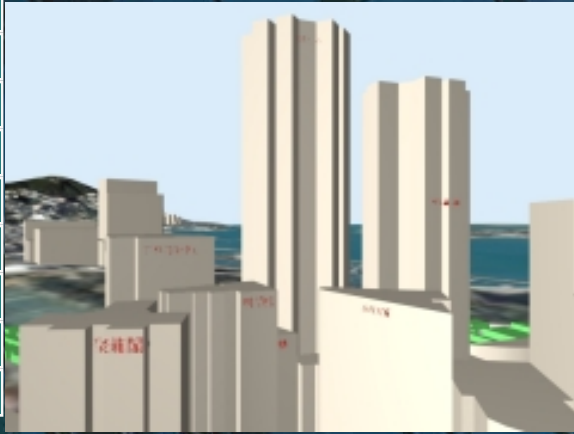
100m

95m

90m

85m

80m



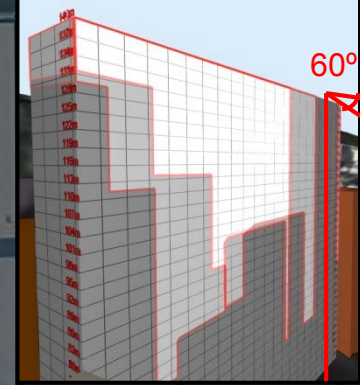
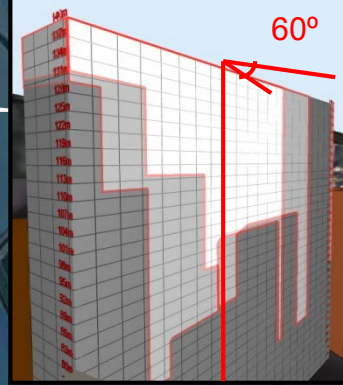
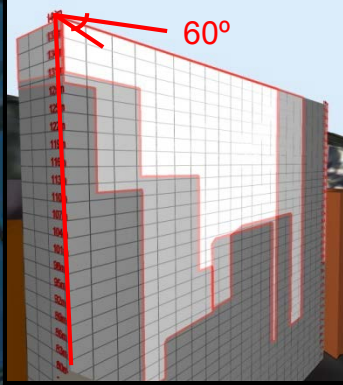
Views from: 85m

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

85m



140m

135m

130m

125m

120m

115m

110m

105m

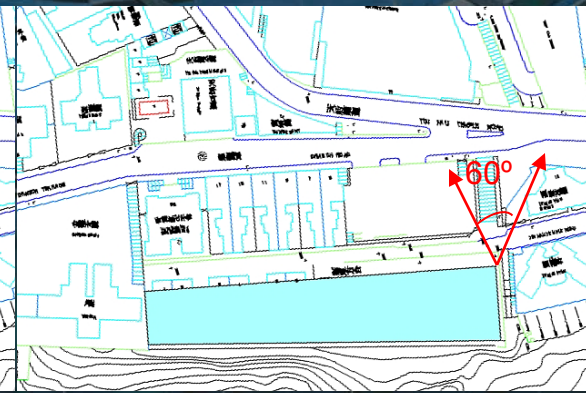
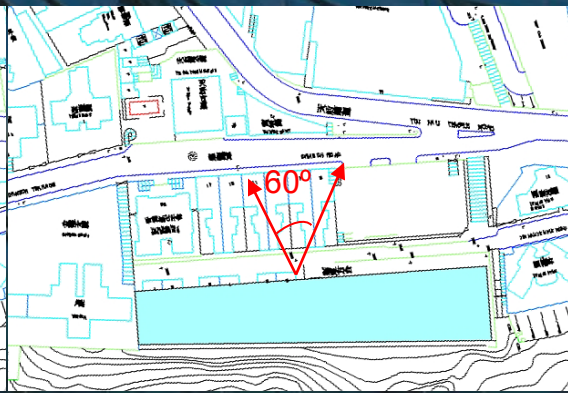
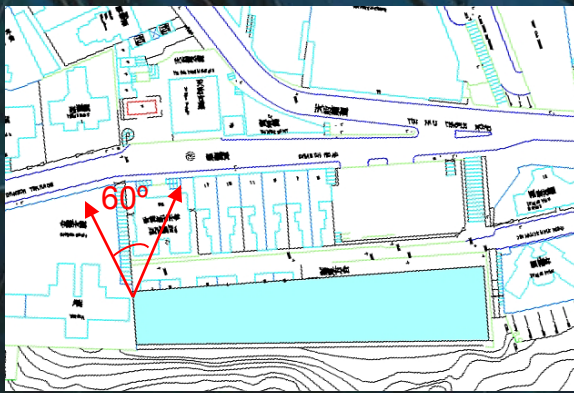
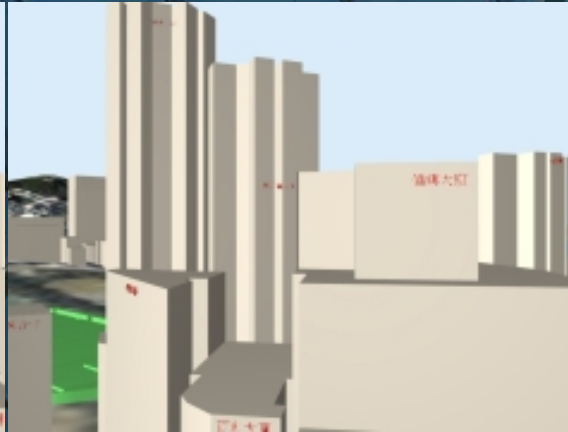
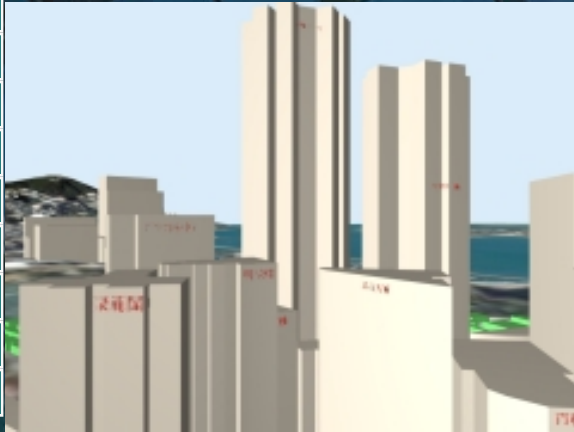
100m

95m

90m

85m

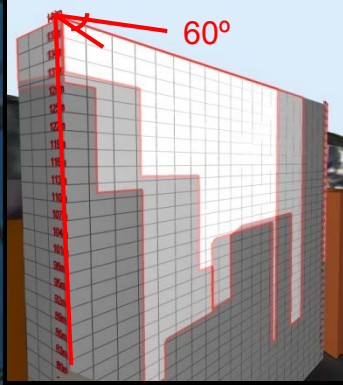
80m



Views from: 80m

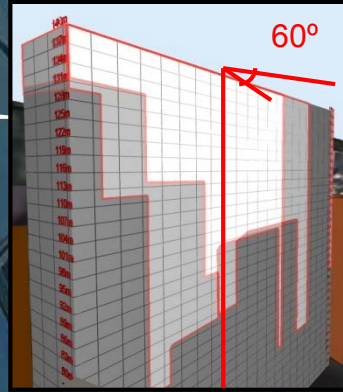
Tin Hau Temple Road No.1

80m



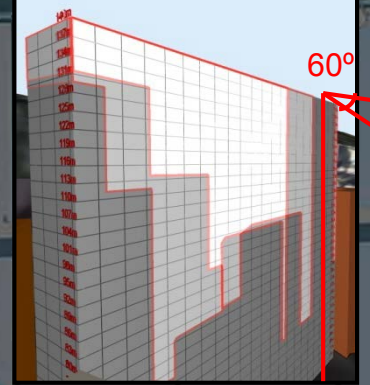
Tin Hau Temple Road No.1

1



Tin Hau Temple Road No.1

60°



140m

135m

130m

125m

120m

115m

110m

105m

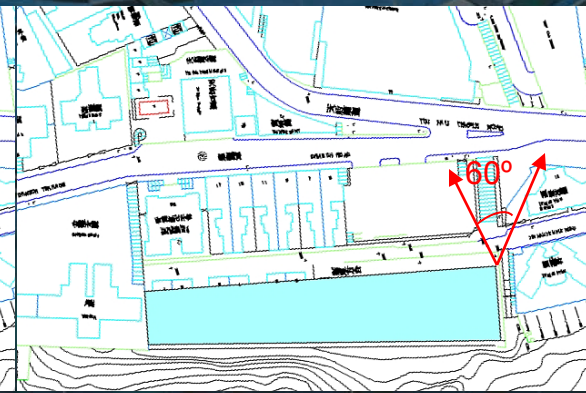
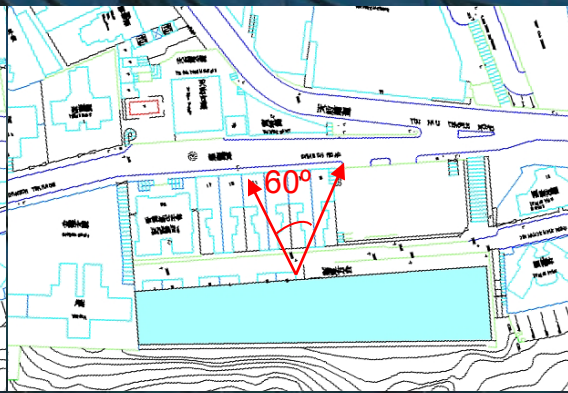
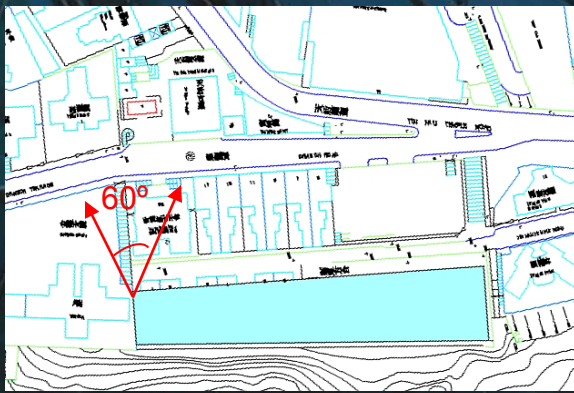
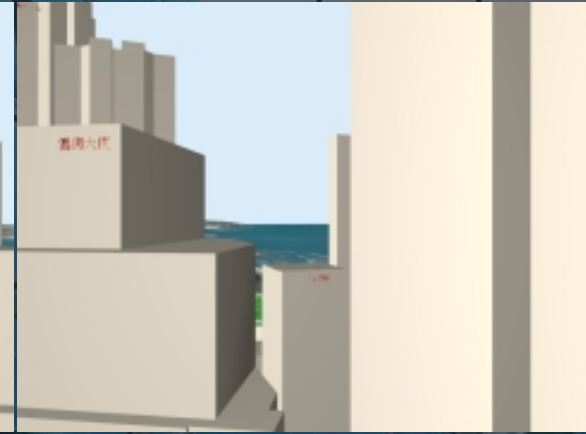
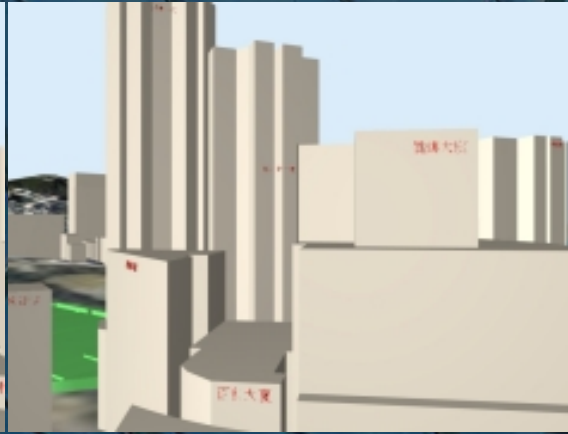
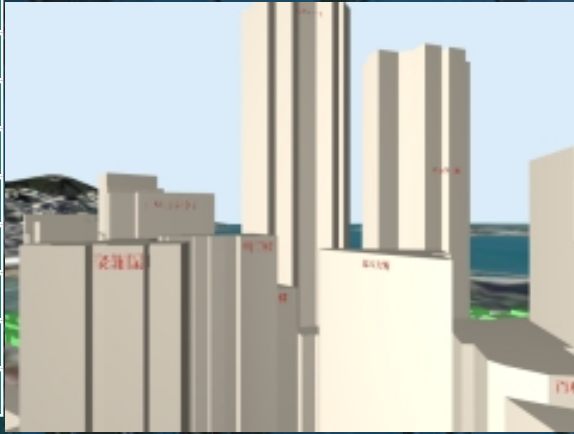
100m

95m

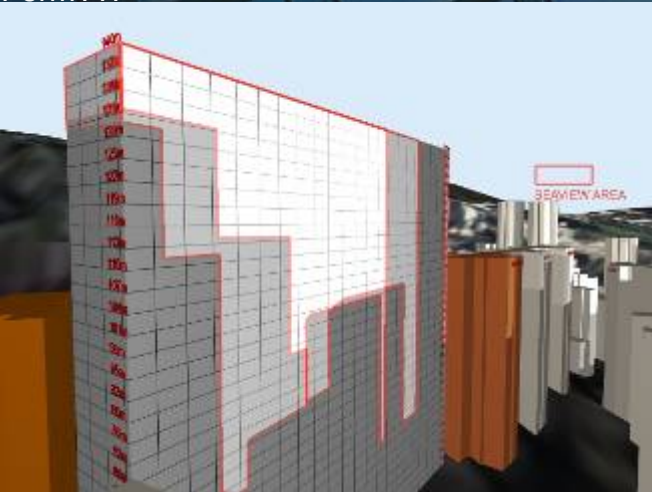
90m

85m

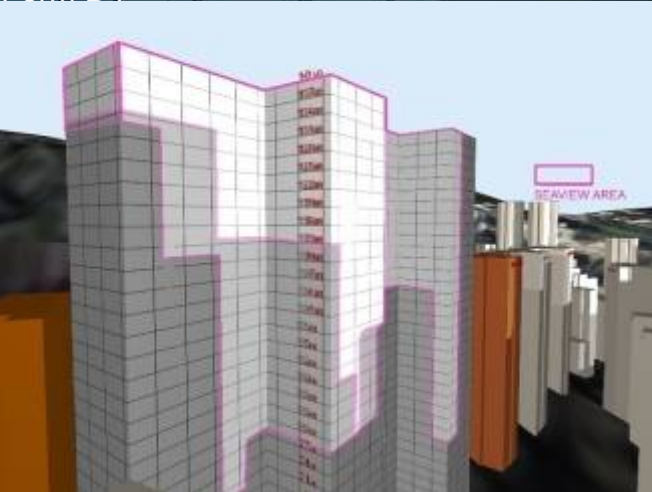
80m



Form A :



Form B :

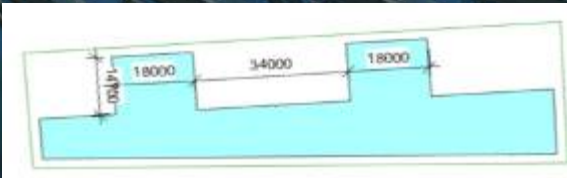
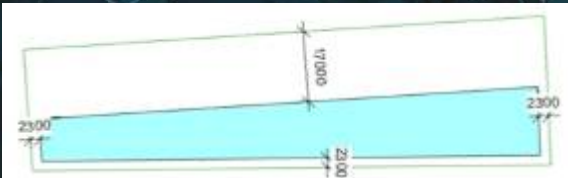
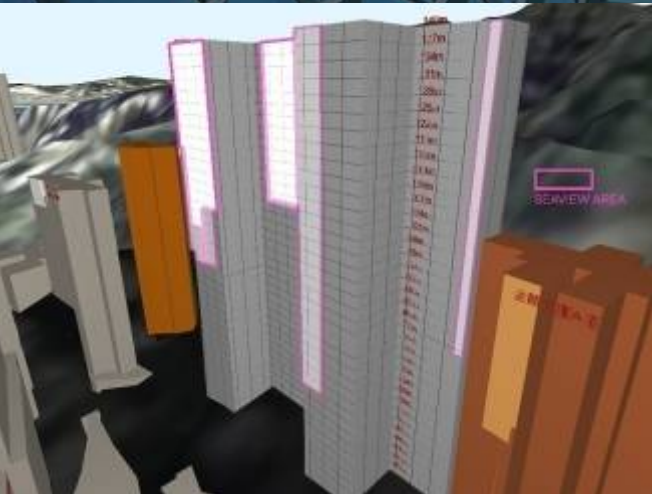
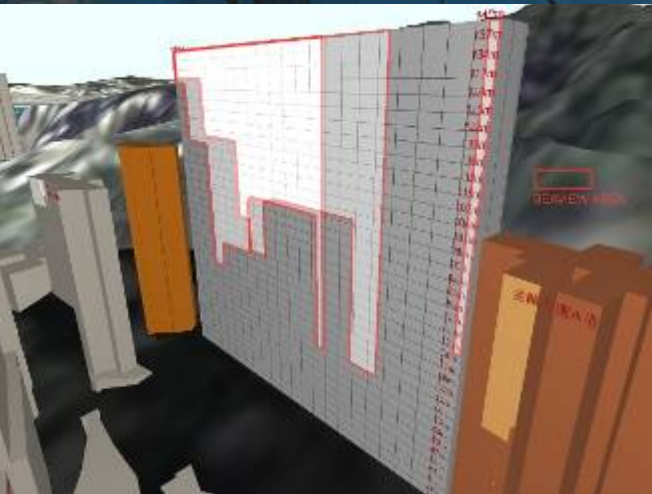


Form A

Sea View Area

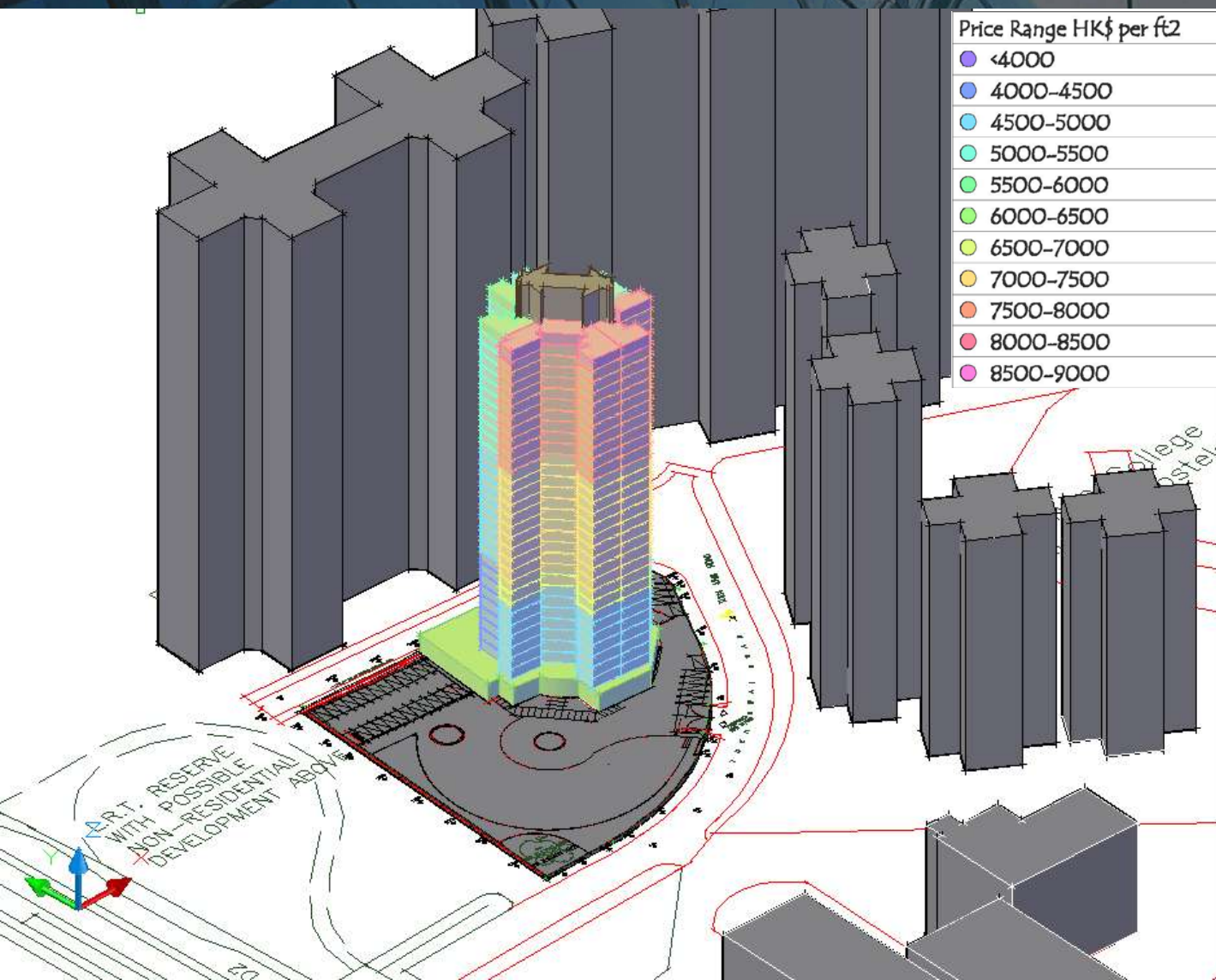
Form B

Sea View Area



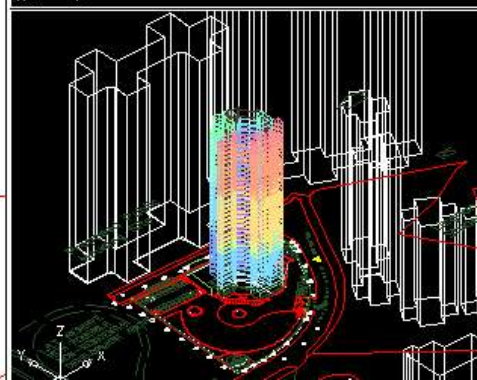
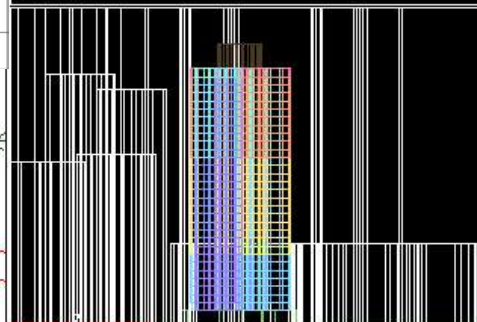
可研通設計平台

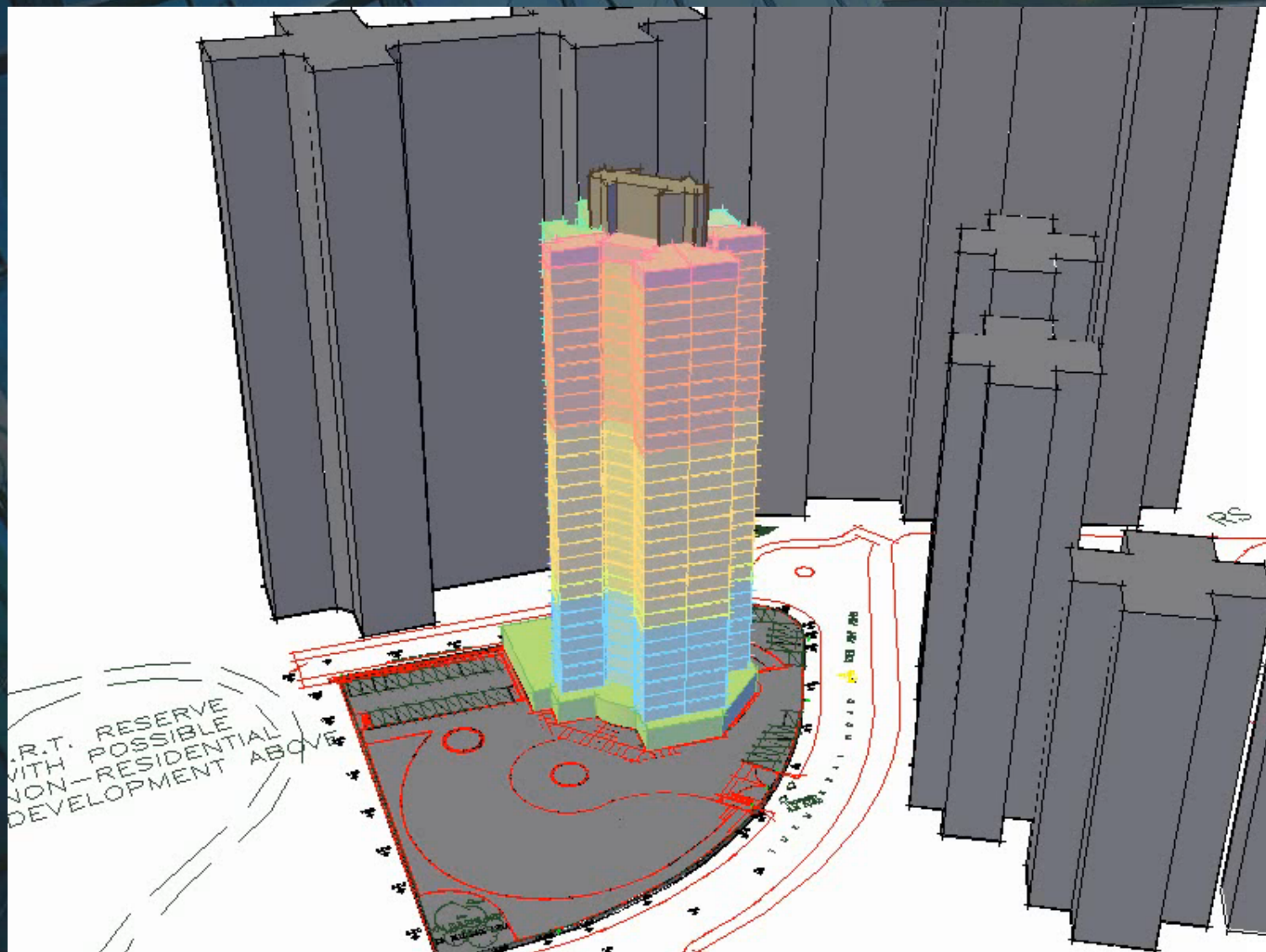
網上整合佈置,收益,景觀,成本,等等數據



Analysis

Area	Price / Flat
66	\$3,256,000
50	\$2,198,000
15780	\$967,386,000

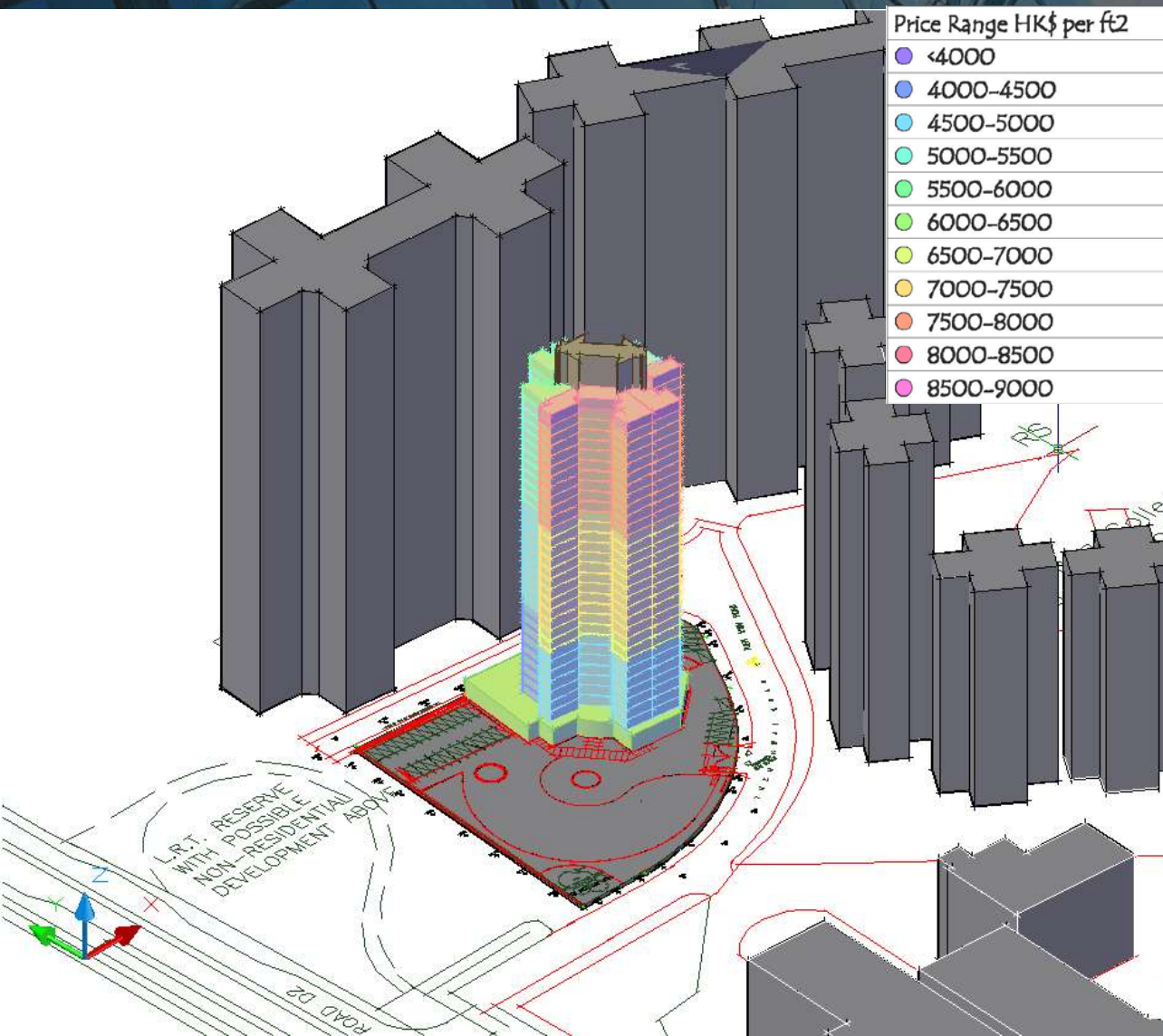




Price Range HK\$ per ft2	
●	<4000
●	4000-4500
●	4500-5000
●	5000-5500
●	5500-6000
●	6000-6500
●	6500-7000
●	7000-7500
●	7500-8000
●	8000-8500
●	8500-9000

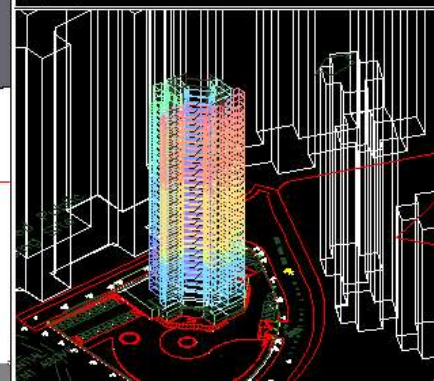
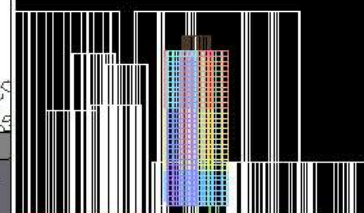
可研通設計平台

網上整合佈置,收益,景觀,成本,等等數據

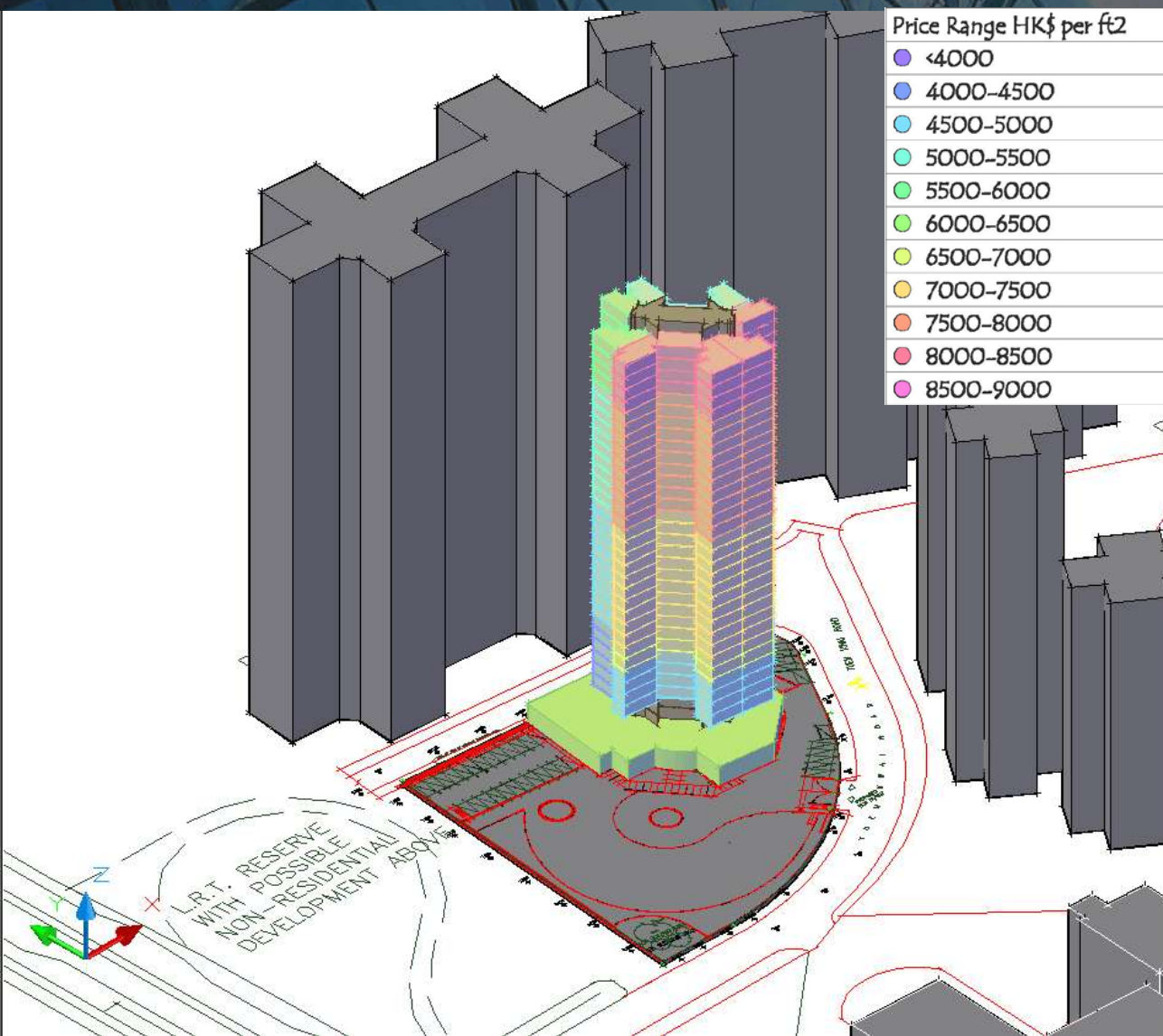


Analysis

Area	Price / Flat
66	\$3,256,000
50	\$2,198,000
15780	\$967,386,000

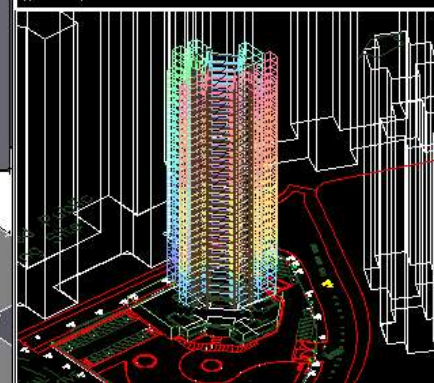
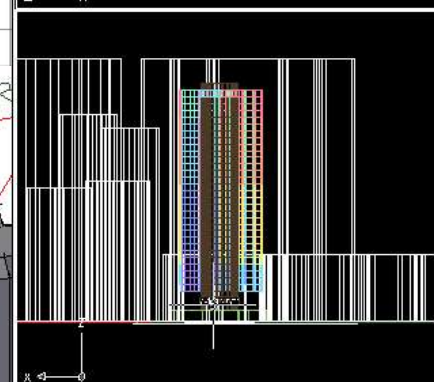


可研通設計平台 網上整合佈置,收益,景觀,成本,等等數據

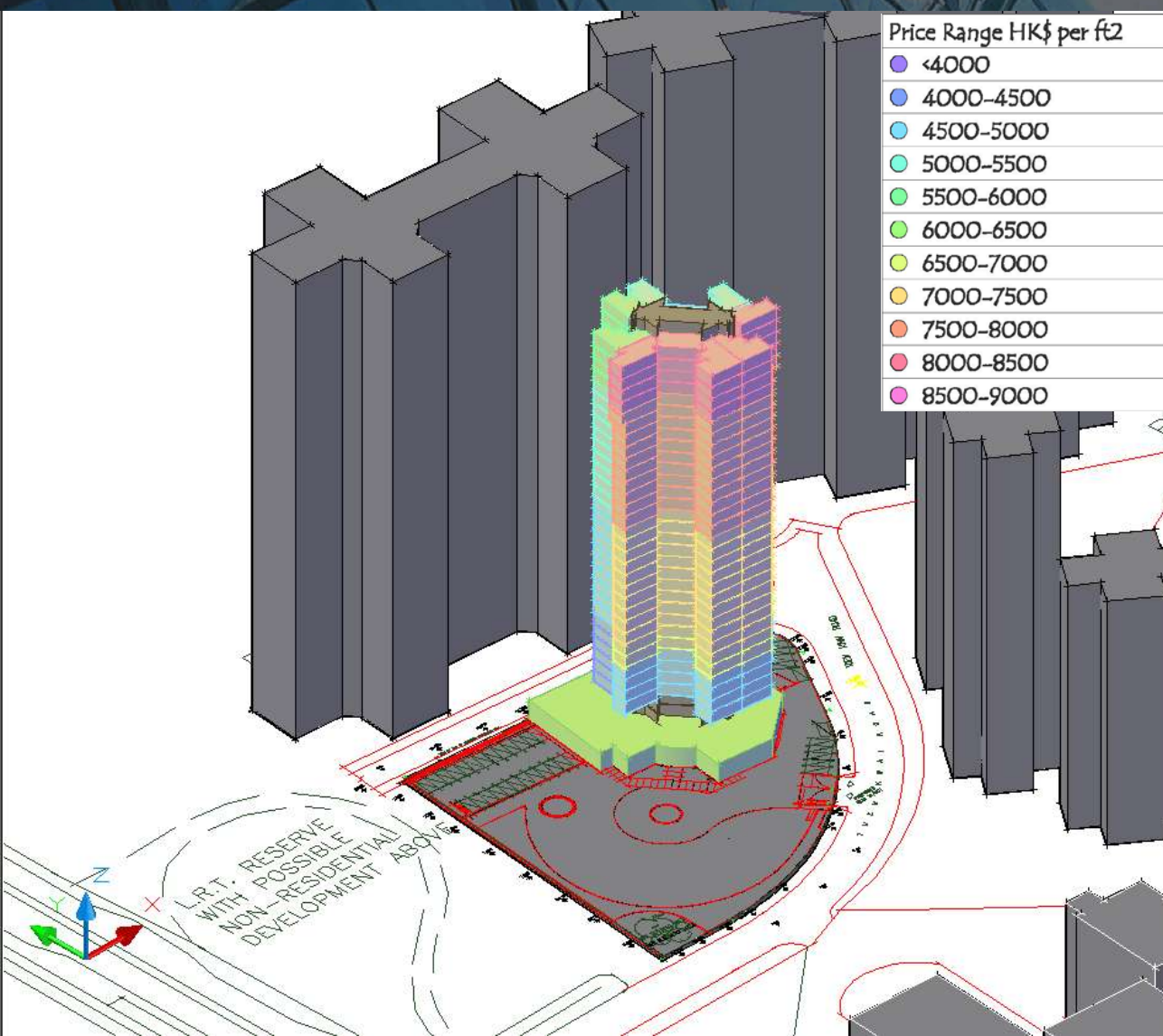


Value Analysis

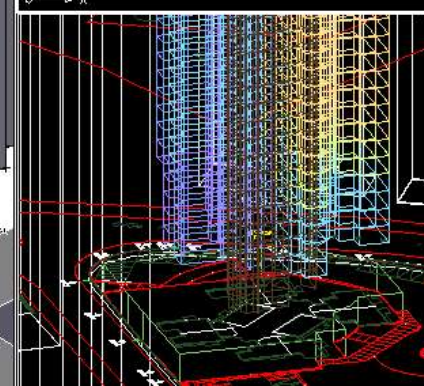
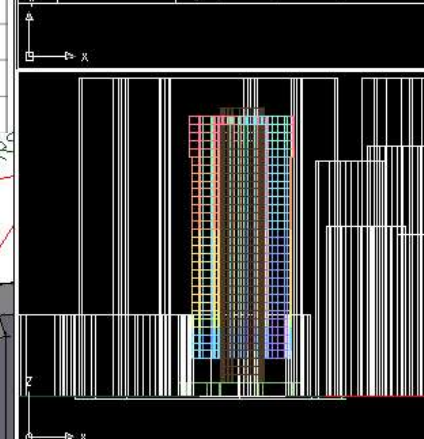
ft2	Area	Price / Flat
3	66	\$3,363,000
3	50	\$2,279,000
	15780	\$1,010,820,000

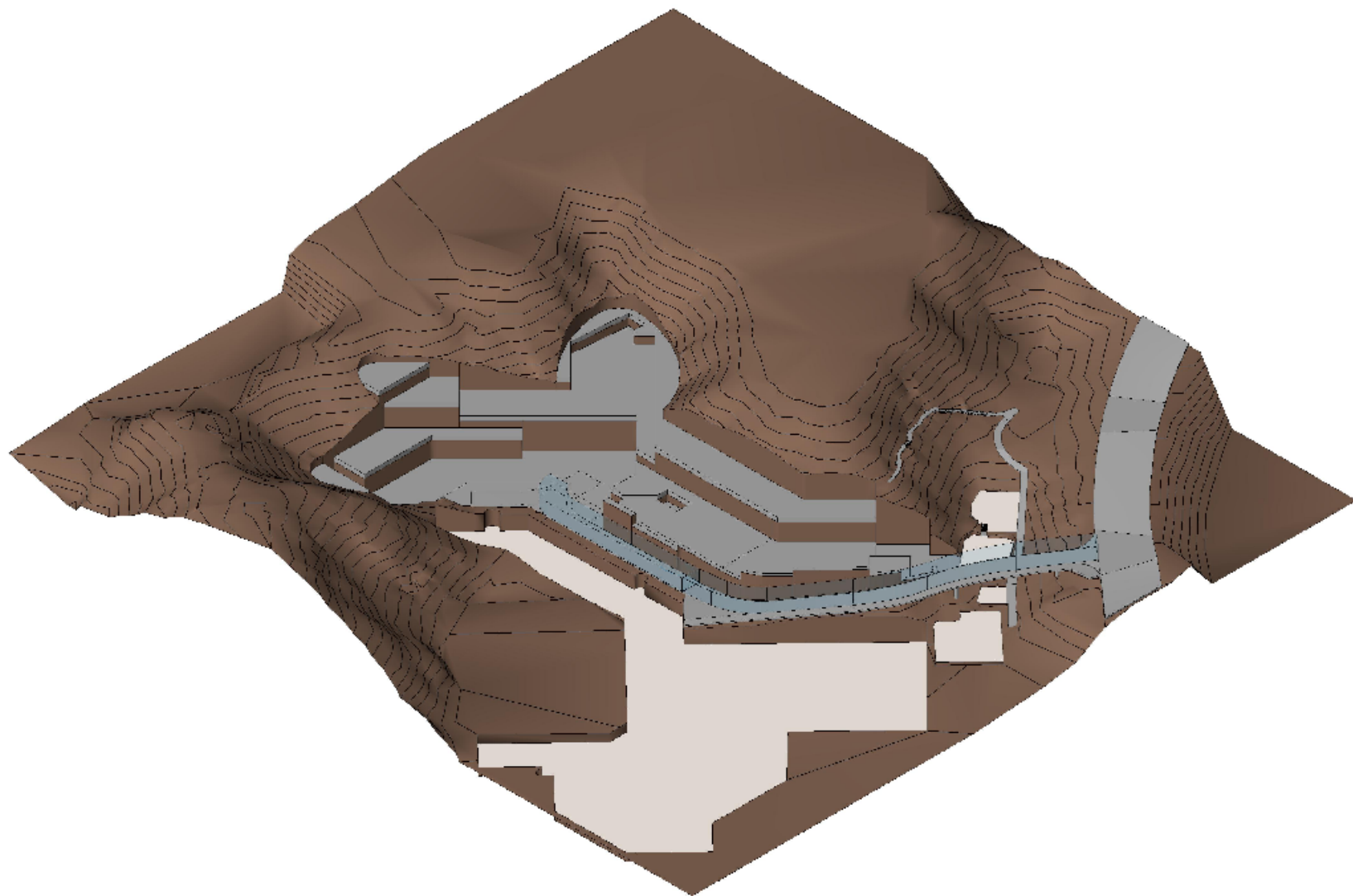


可研通設計平台 網上整合佈置,收益,景觀,成本,等等數據

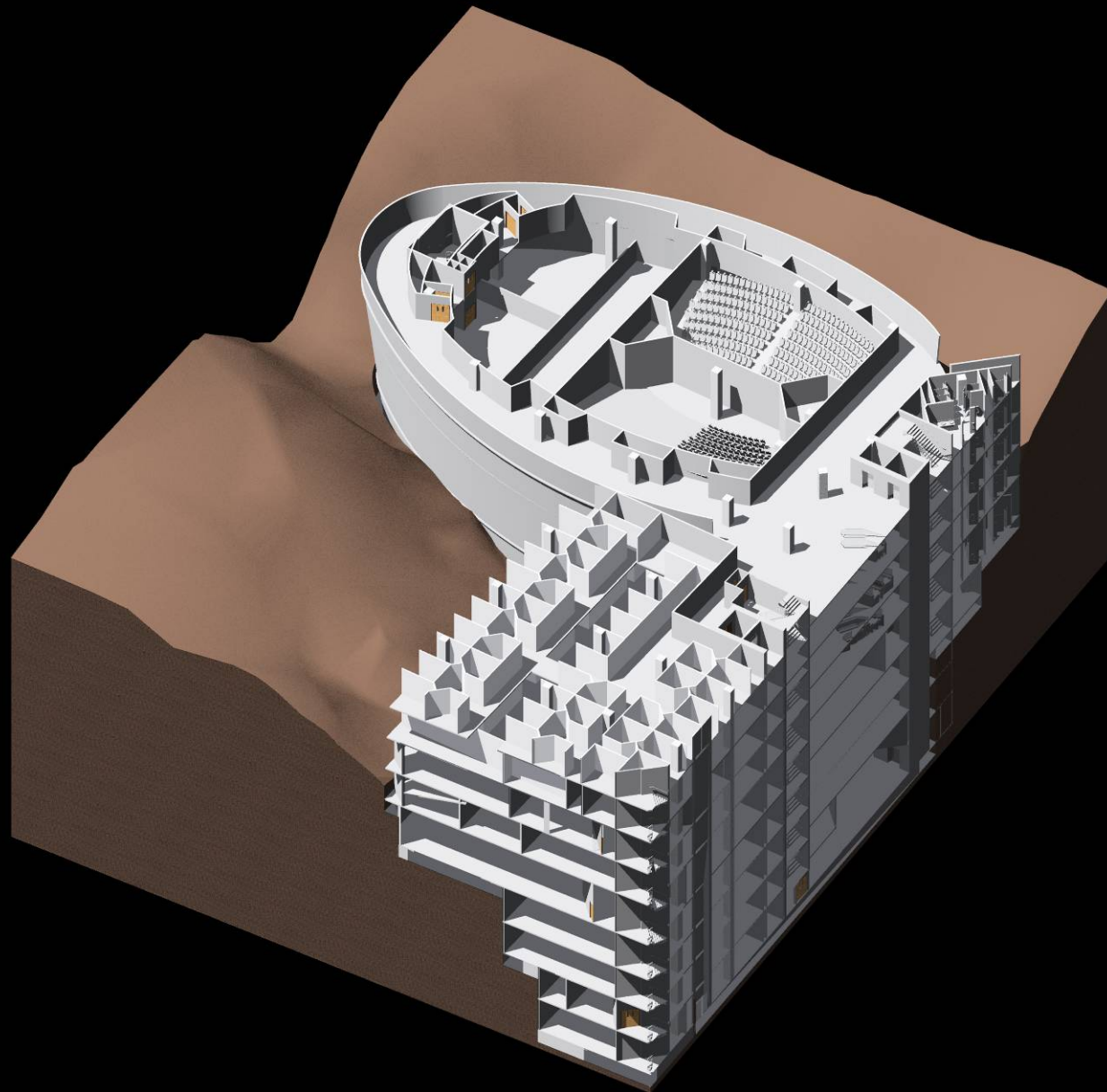


45	\$2,051,000
50	\$2,010,000
65	\$3,312,000
66	\$3,363,000
46	\$1,849,000
50	\$2,279,000
15780	\$1,012,542,000





TOPOGRAPHY HANDLING



BUILDING IN SITE CONTEXT

VISUALIZATION & DRAWING PRODUCTION



VISUALIZATION & PRODUCTION





PERSPECTIVE

VISUALIZATION & PRODUCTION

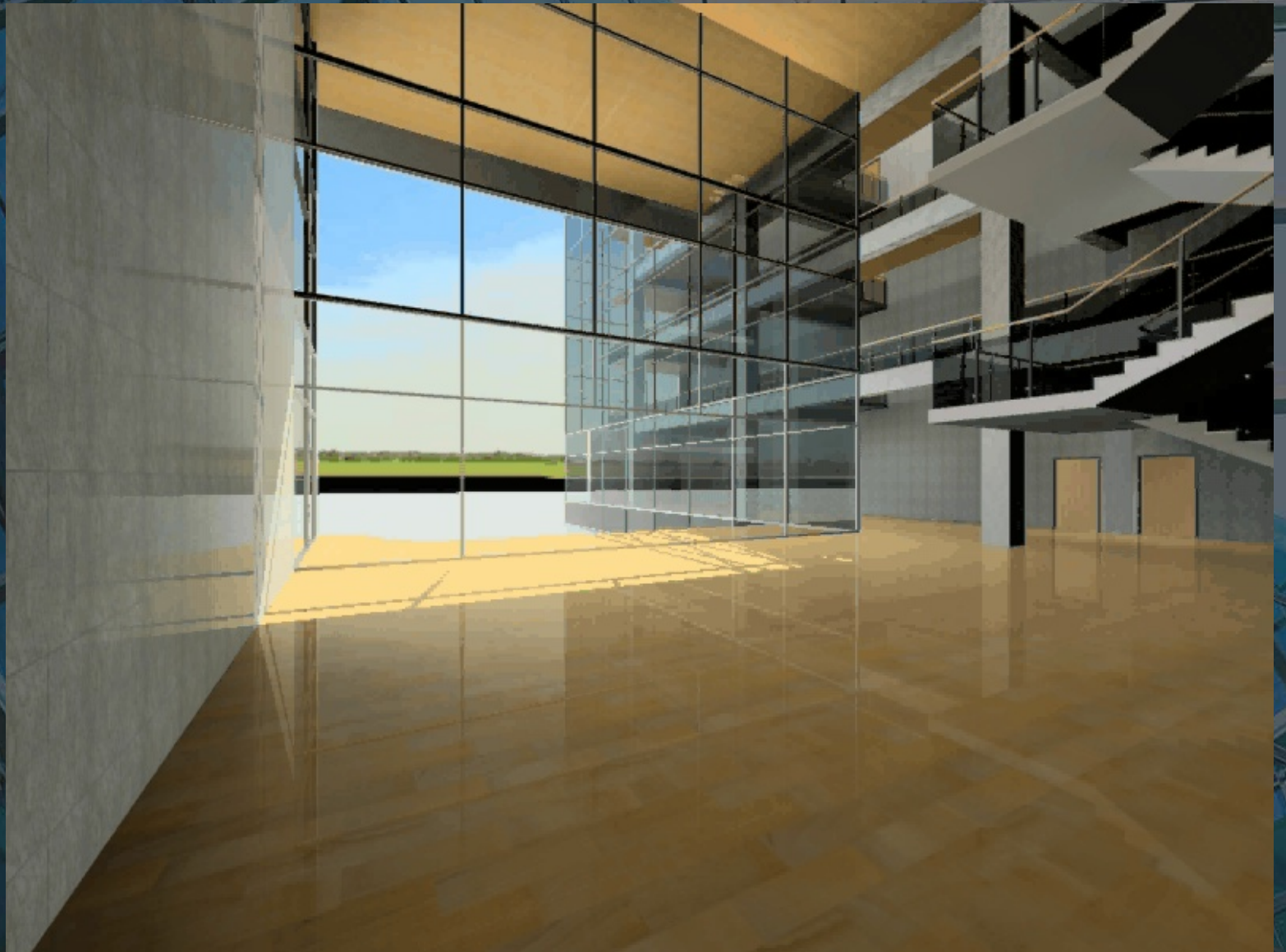


VISUALIZATION & PRODUCTION



VISUALIZATION & PRODUCTION

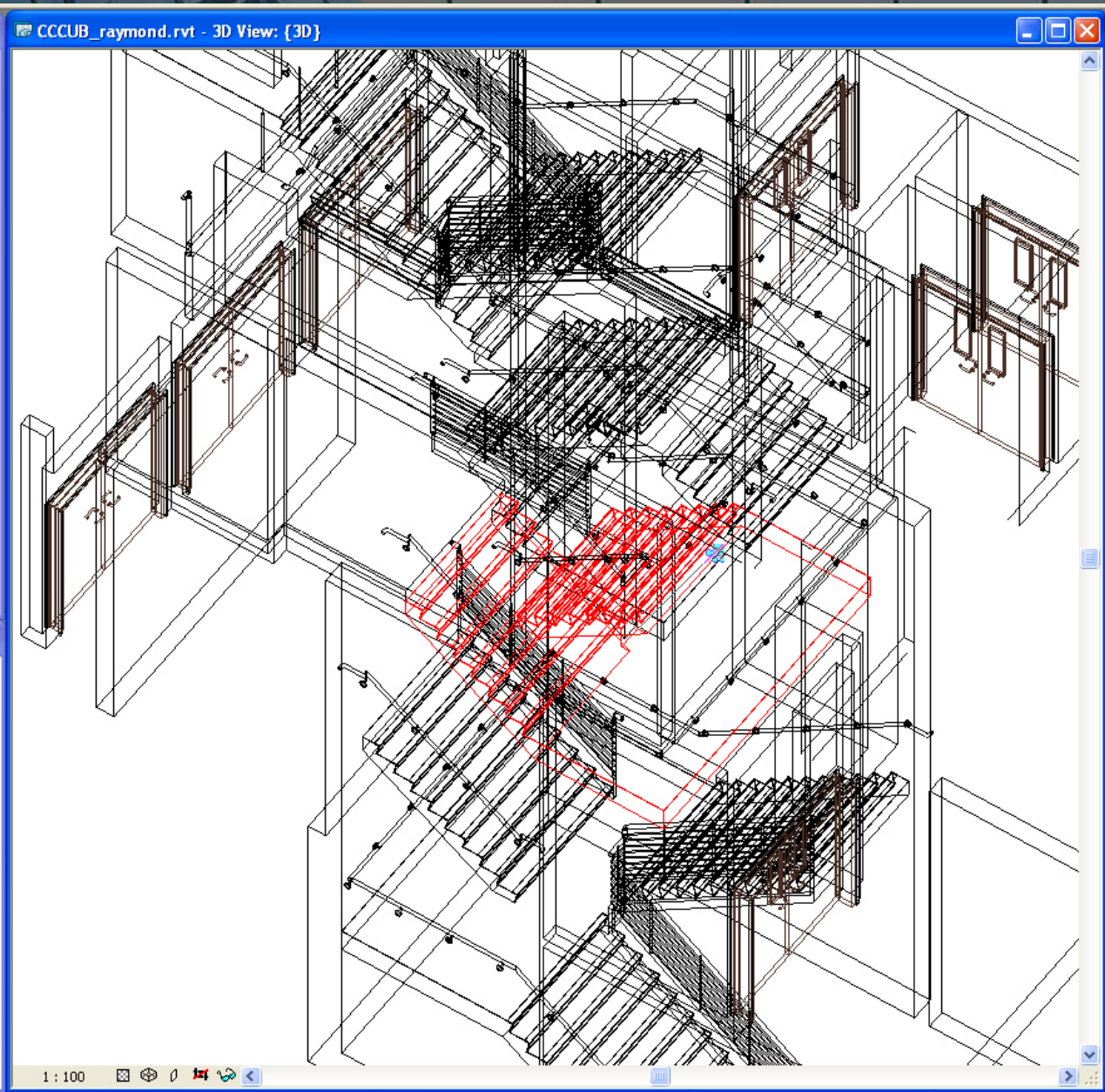
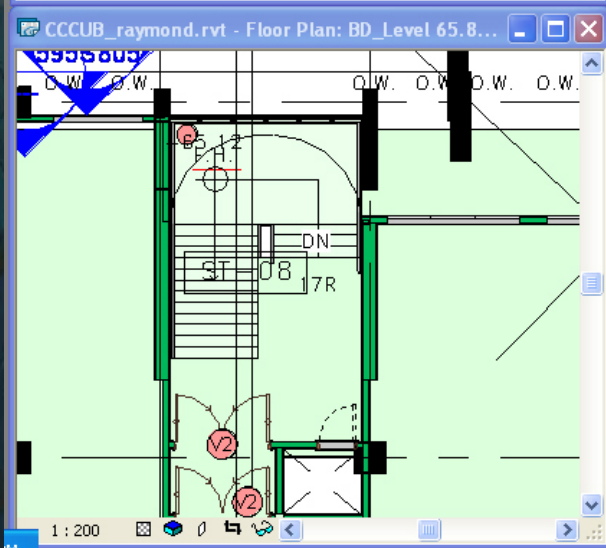
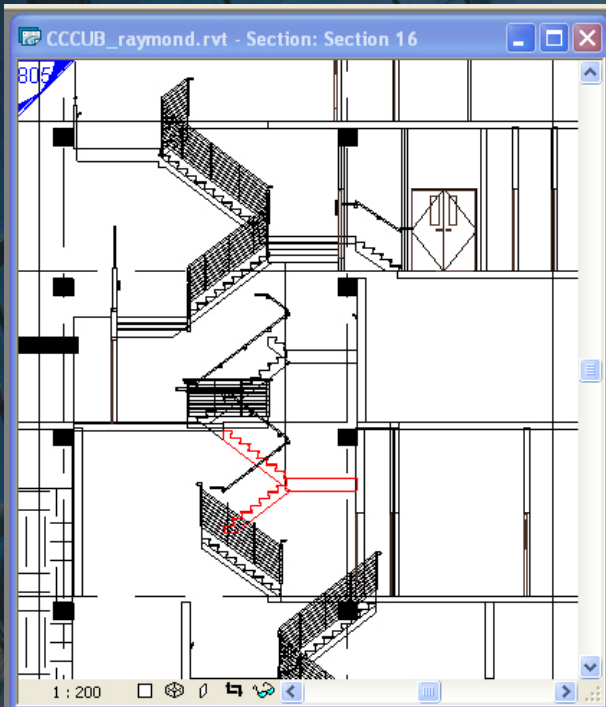




VISUALIZATION



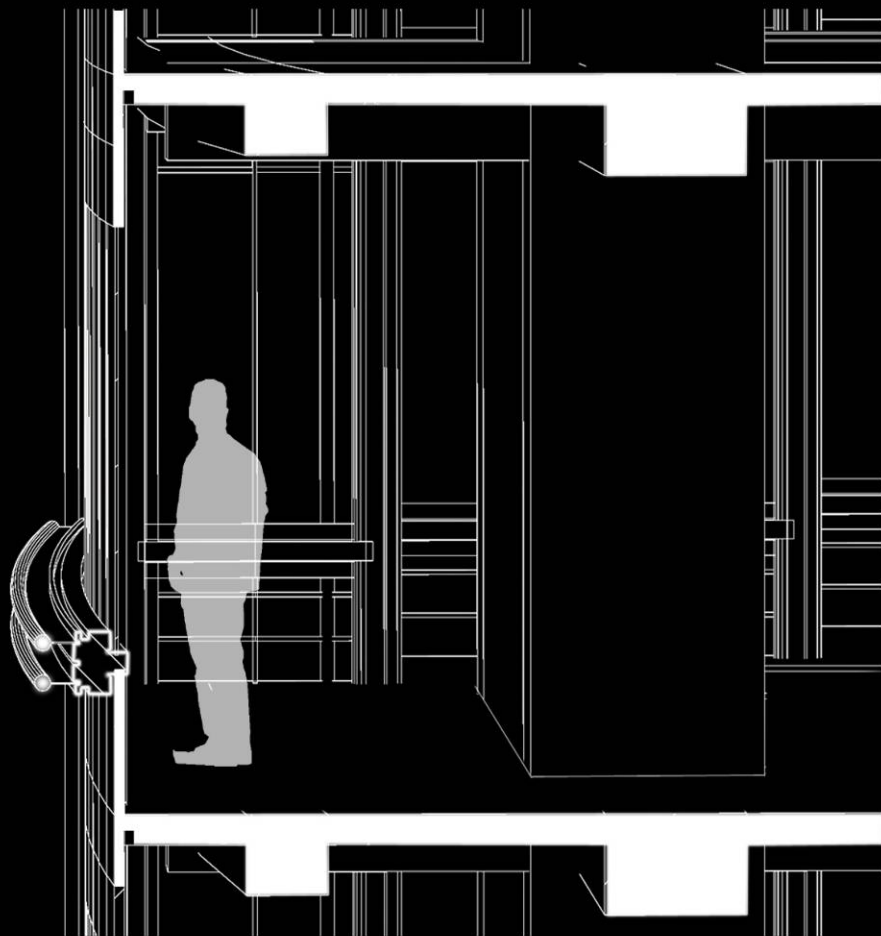
FAÇADE PANEL DESIGN



VERTICAL CO-ORDINATION



FAÇADE DESIGN and CO-ORDINATION

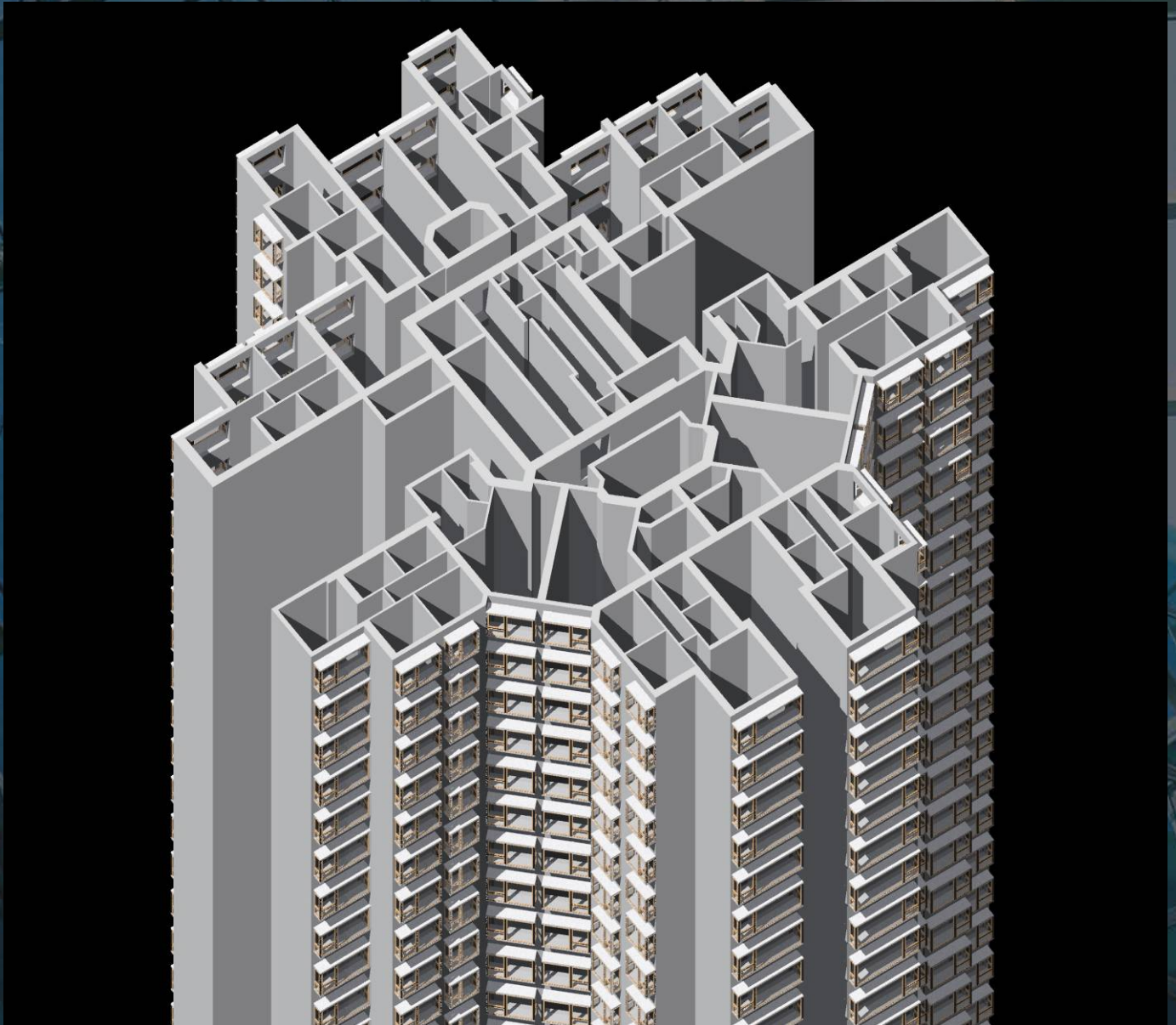


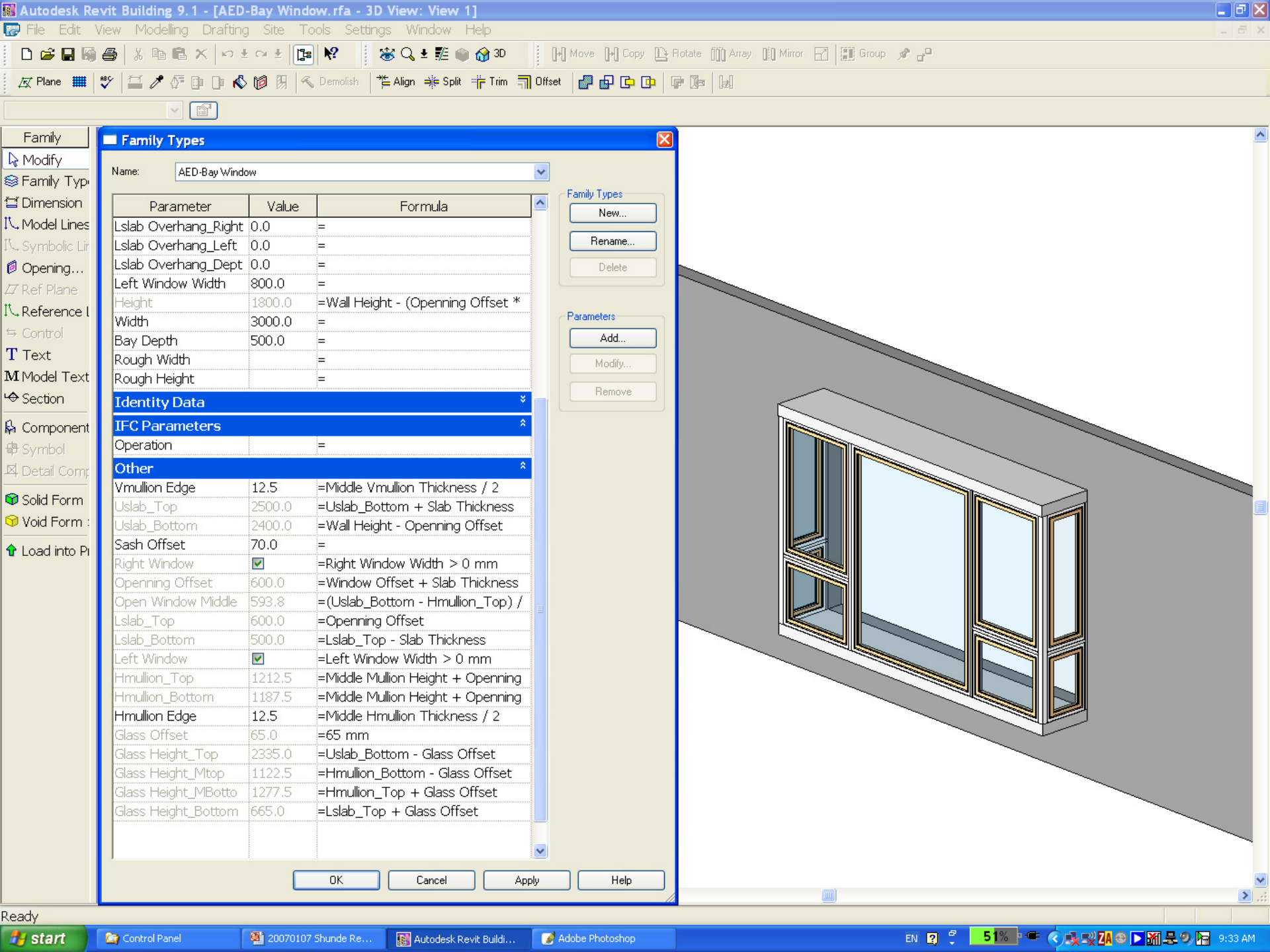
FAÇADE DESIGN and CO-ORDINATION



REPETITIONS vs VARIATIONS

PARAMETRIC MODELLING





- Modify
- Family Type
- Dimension
- Model Lines
- Symbolic Link
- Opening...
- Ref Plane
- Reference Line
- Control
- Text
- Model Text
- Section
- Component
- Symbol
- Detail Component
- Solid Form
- Void Form
- Load into Project

Name: AED-Bay Window

Name: AED-Bay Window

Parameter	Value	Formula
Lslab Overhang_Right	0.0	=
Lslab Overhang_Left	0.0	=
Lslab Overhang_Dept	0.0	=
Left Window Width	800.0	=
Height	1800.0	=Wall Height - (Opening Offset *
Width	4500.0	=
Bay Depth	500.0	=
Rough Width		=
Rough Height		=

Identity Data

IFC Parameters

Operation	=
-----------	---

Other

Vmullion Edge	12.5	=Middle Vmullion Thickness / 2
Uslab_Top	2500.0	=Uslab_Bottom + Slab Thickness
Uslab_Bottom	2400.0	=Wall Height - Opening Offset
Sash Offset	70.0	=
Right Window	☒	=Right Window Width > 0 mm
Opening Offset	600.0	=Window Offset + Slab Thickness
Open Window Middle	593.8	=(Uslab_Bottom - Hmullion_Top) /
Lslab_Top	600.0	=Opening Offset
Lslab_Bottom	500.0	=Lslab_Top - Slab Thickness
Left Window	☒	=Left Window Width > 0 mm
Hmullion_Top	1212.5	=Middle Mullion Height + Opening
Hmullion_Bottom	1187.5	=Middle Mullion Height + Opening
Hmullion Edge	12.5	=Middle Hmullion Thickness / 2
Glass Offset	65.0	=65 mm
Glass Height_Top	2335.0	=Uslab_Bottom - Glass Offset
Glass Height_Mtop	1122.5	=Hmullion_Bottom - Glass Offset
Glass Height_MBotto	1277.5	=Hmullion_Top + Glass Offset
Glass Height_Bottom	665.0	=Lslab_Top + Glass Offset

OK

Cancel

Apply

[Help](#)

Family Types

New...

Rename...

Delete

Parameters

Add...

Modify...

Remove



Use of Building Information Modeling (BIM)

1. Design visualization

2. Drawing Productions 図面製作

3. Services Co-ordination and Clash detection with other disciplines

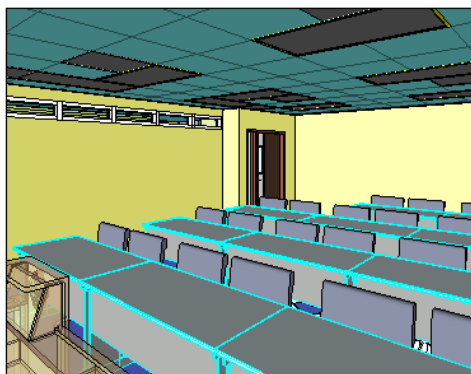
4. Quantity taking and preparation of Tender Document

5. Automated Statutory Submission

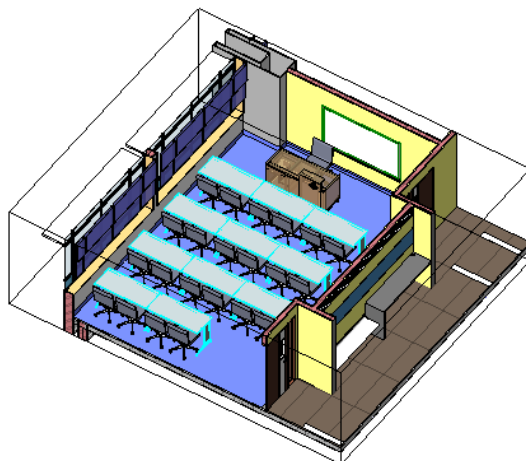
6. Scientific analysis of different environmental aspects

7. Supply Chain Integration with the manufacturing and production

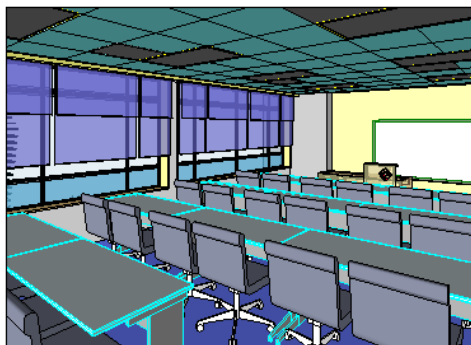
8. Complex Geometry



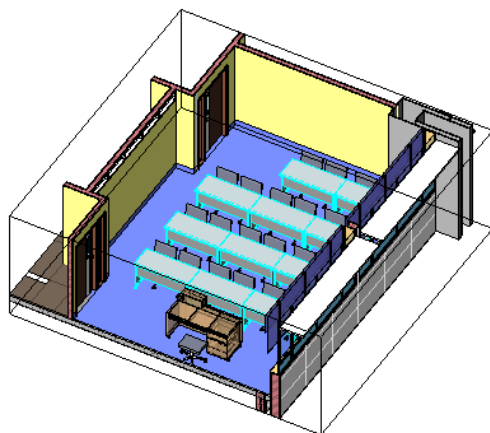
6 行政人员培训室立体示意图2



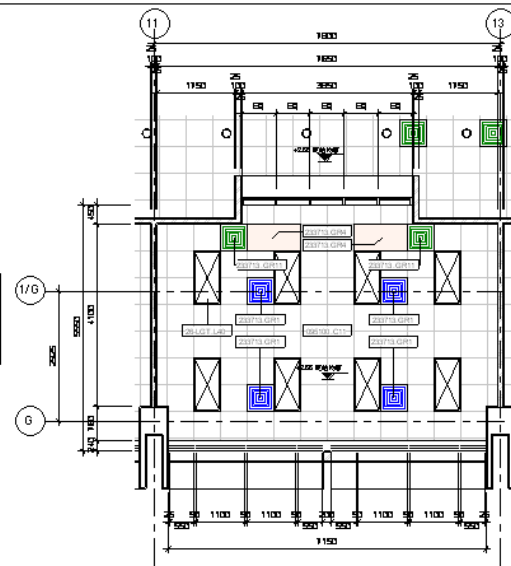
4 行政人员培训室立体剖面示意图2



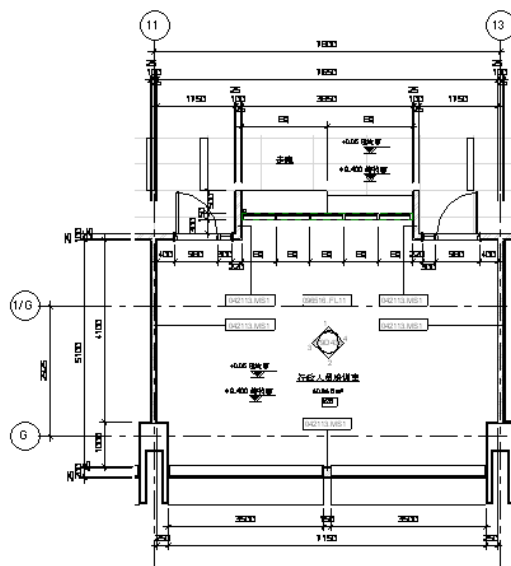
5 行政人员培训室立体示意图1



3 行政人员培训室立体剖面示意图1

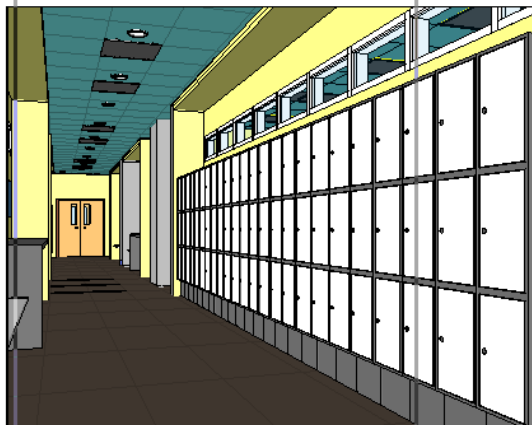


2 行政人员培训室天花平面图(高楼三层) 1:50

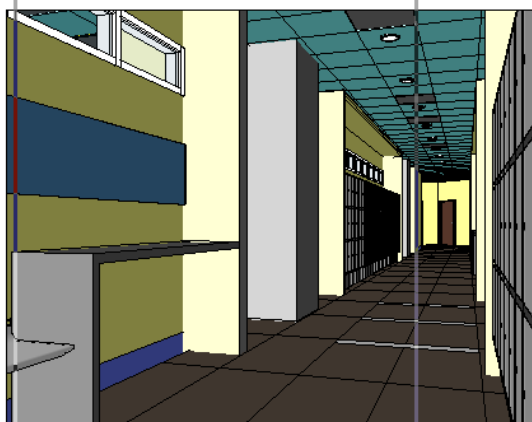


1 行政人员培训室平面图(高楼三层) 1:50

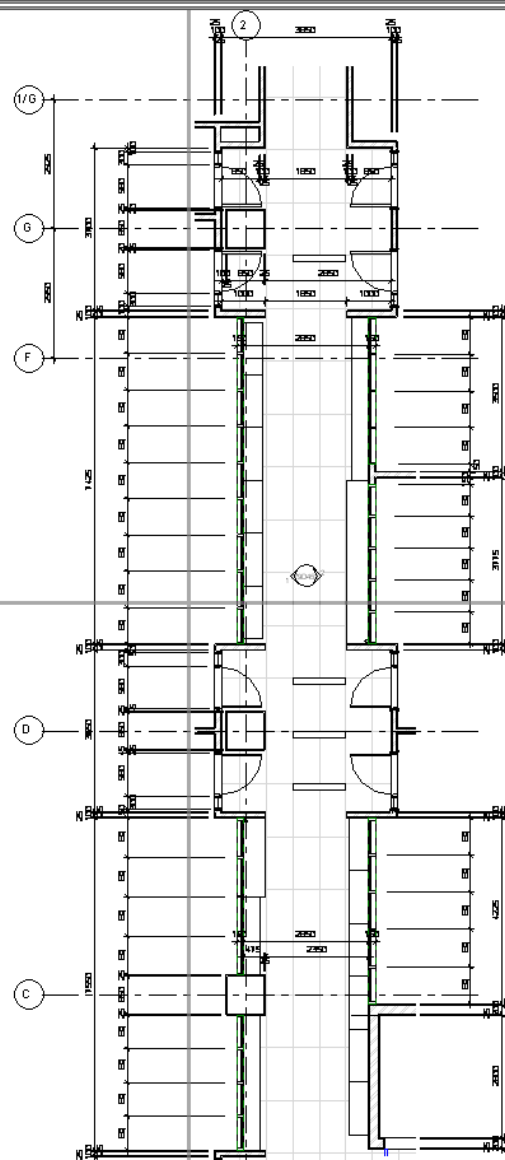
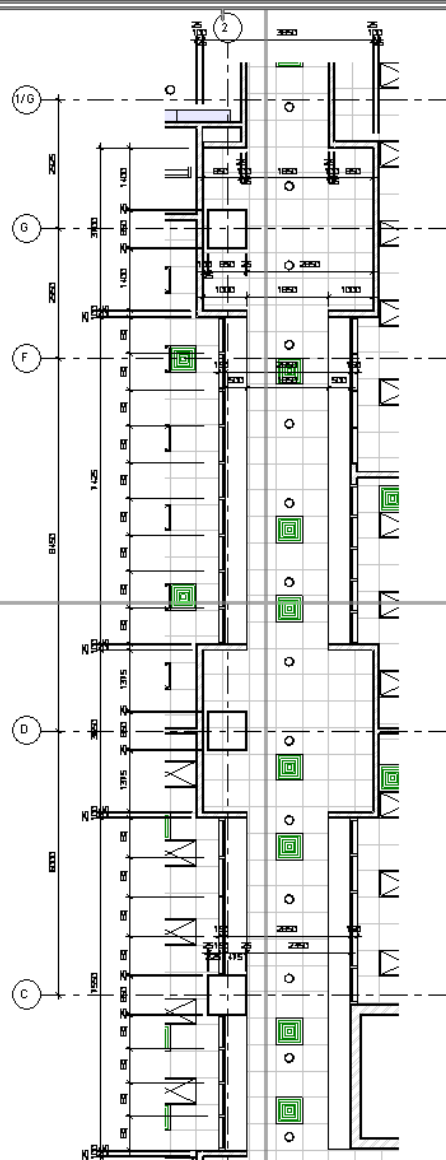
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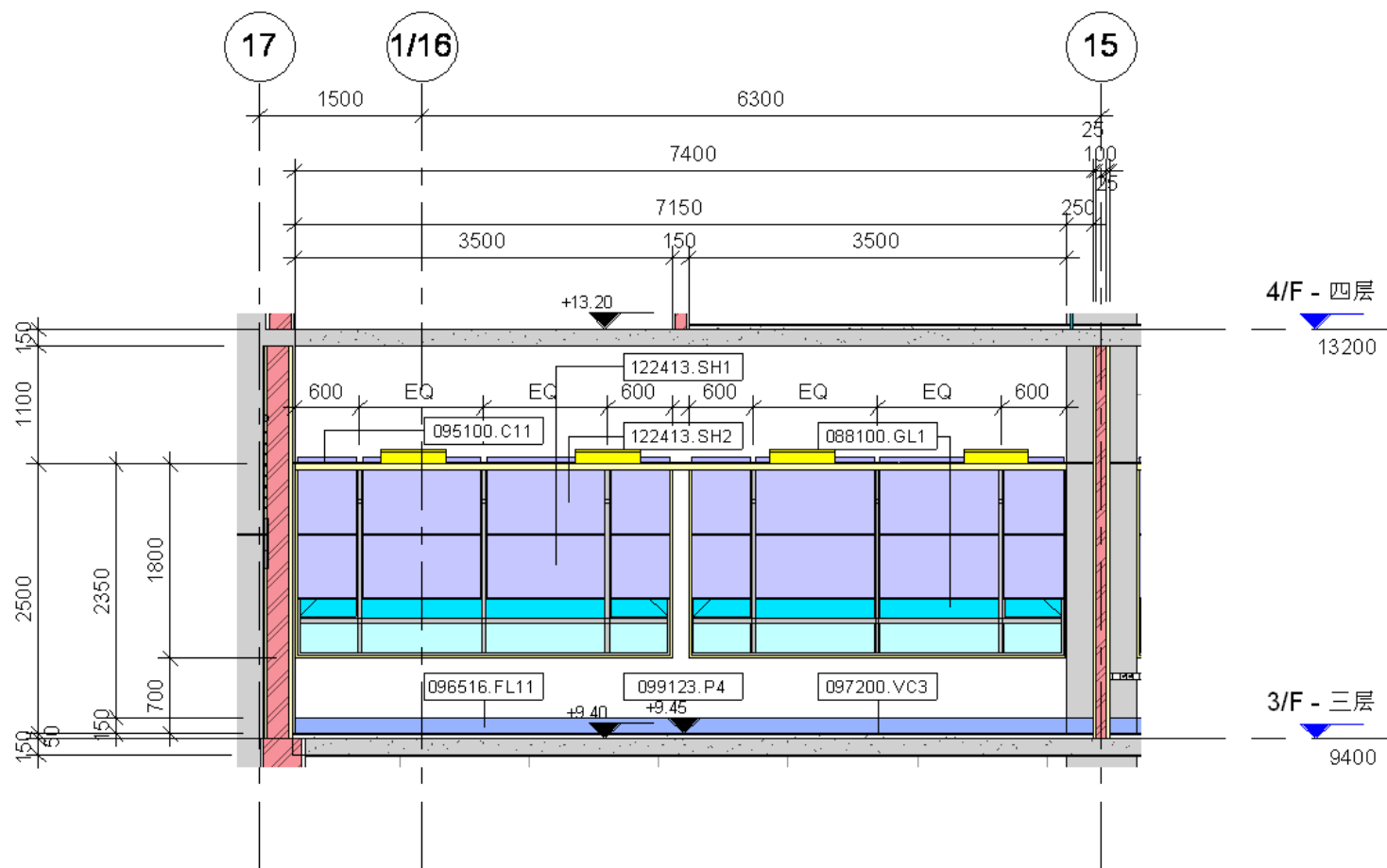
4 走廊立体示意图(低楼三至四层)2



3 走廊立体示意图(低楼三至四层)1



A vertical strip of various logos and brand names, including Aedas, The Hong Kong Polytechnic University, and others.



2

行政人员培训室立面图(高楼三层)6

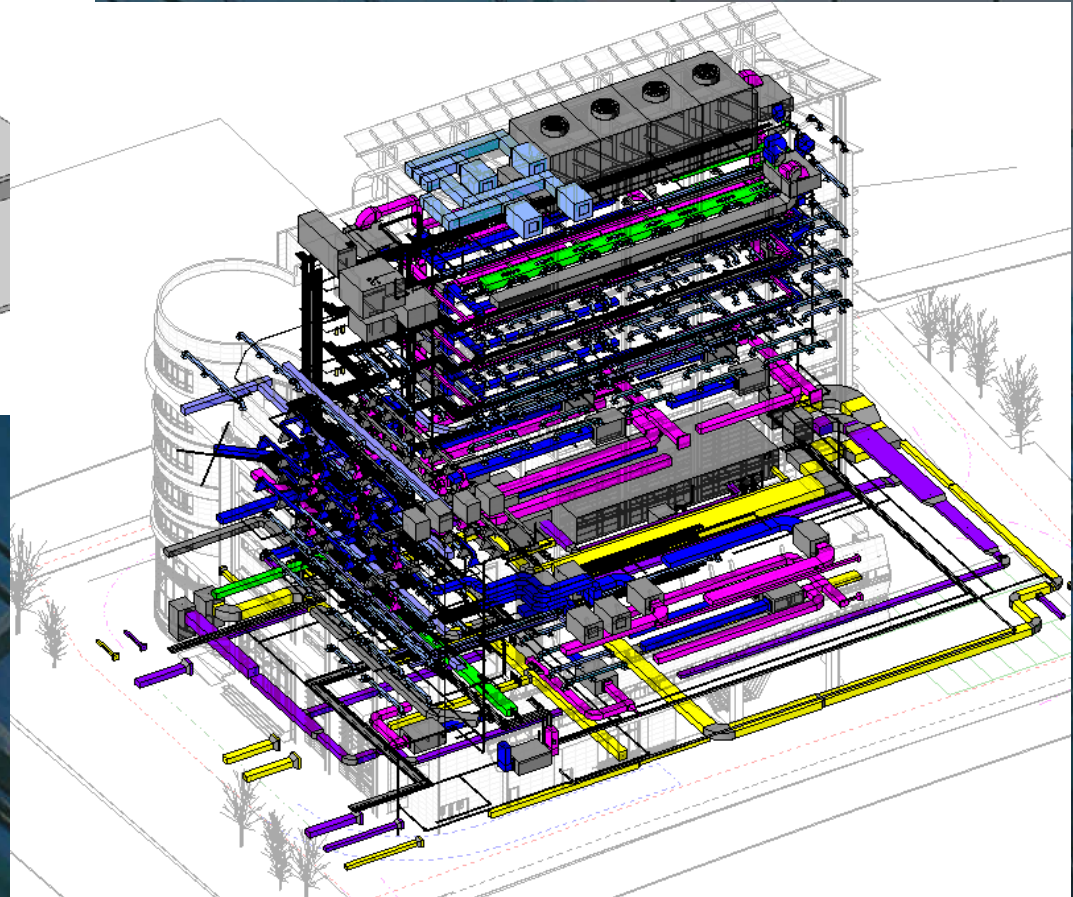
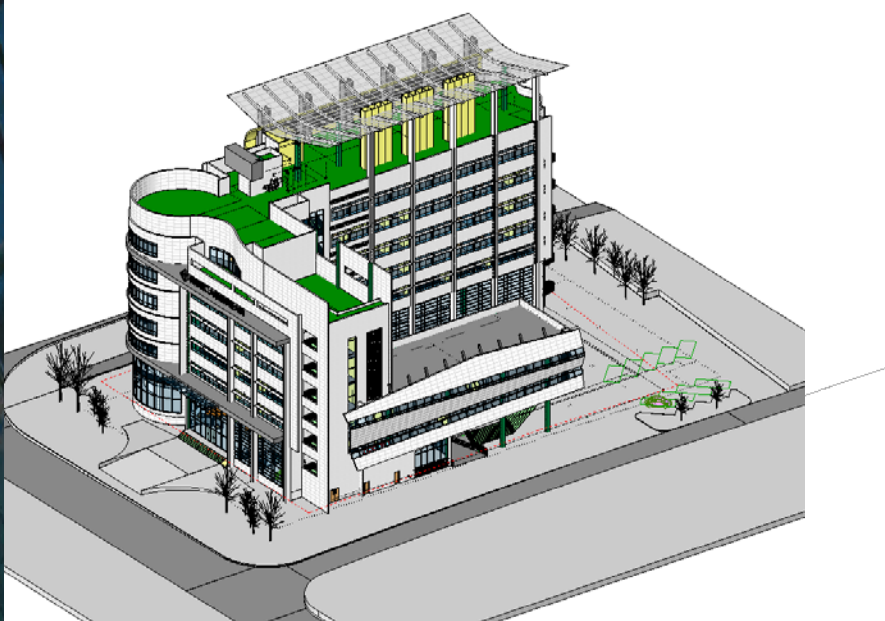
1:50

Use of Building Information Modeling (BIM)

1. Design visualization
2. Drawing Productions
- 3. Services Co-ordination and Clash detection with other disciplines**
多部門との連携と干渉チェック
4. Quantity taking and preparation of Tender Document
5. Automated Statutory Submission
6. Scientific analysis of different environmental aspects
7. Supply Chain Integration with the manufacturing and production
8. Complex Geometry

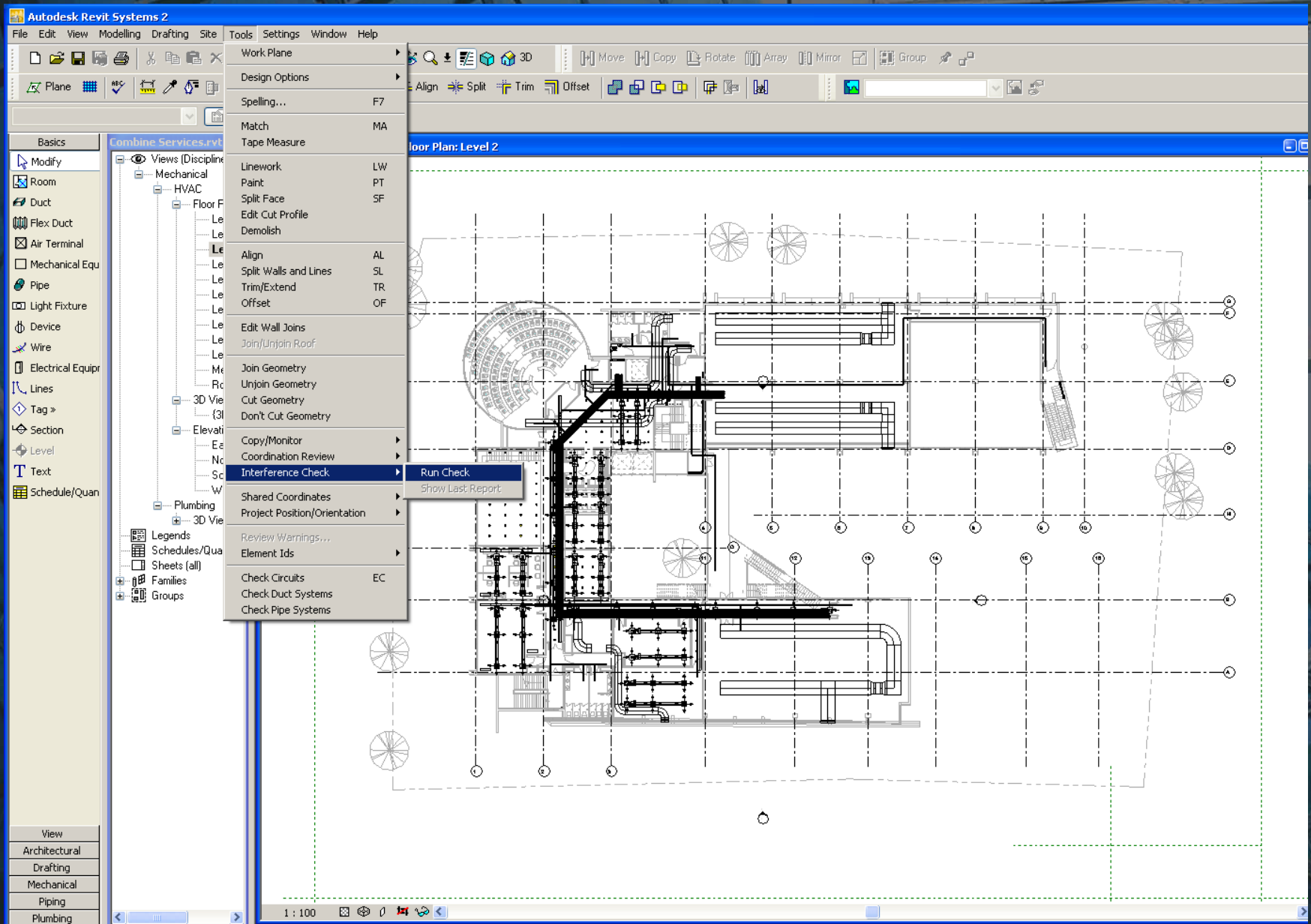
CO-ORDINATION / COLLABORATION

Work Flow – Establish BIM Models





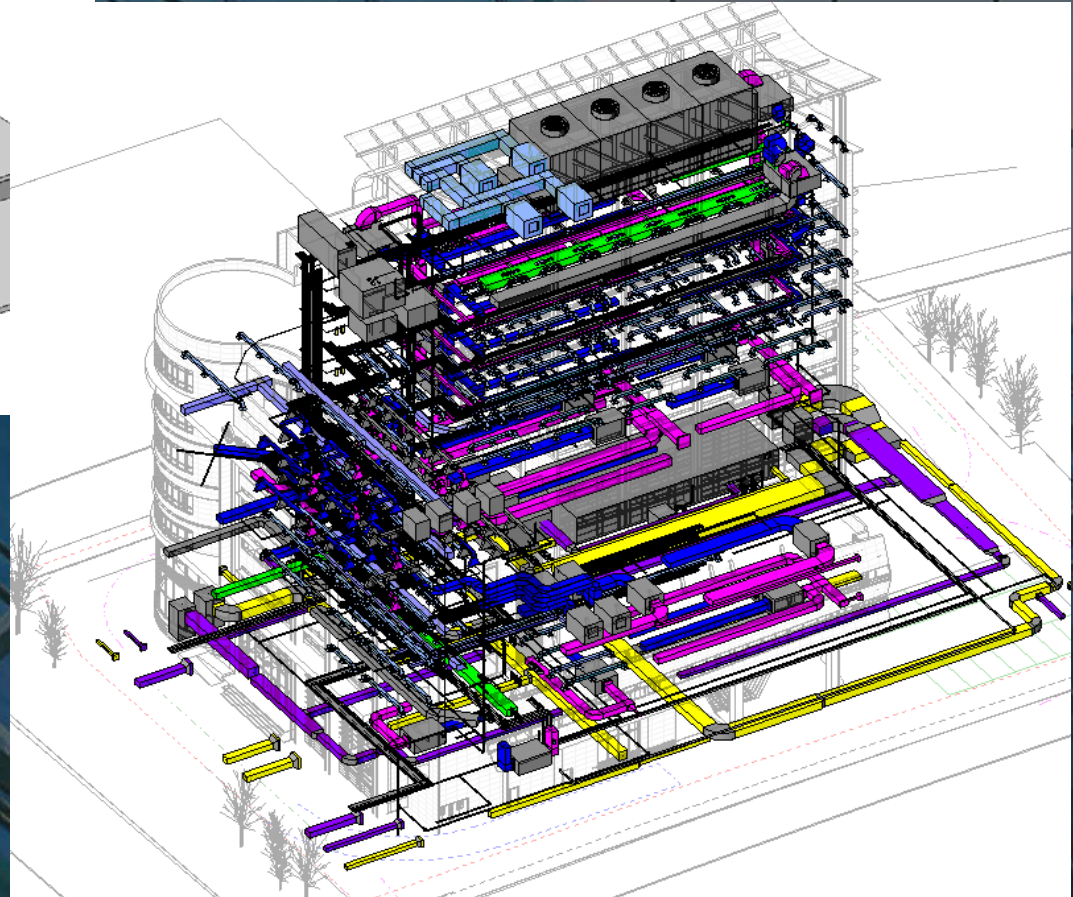
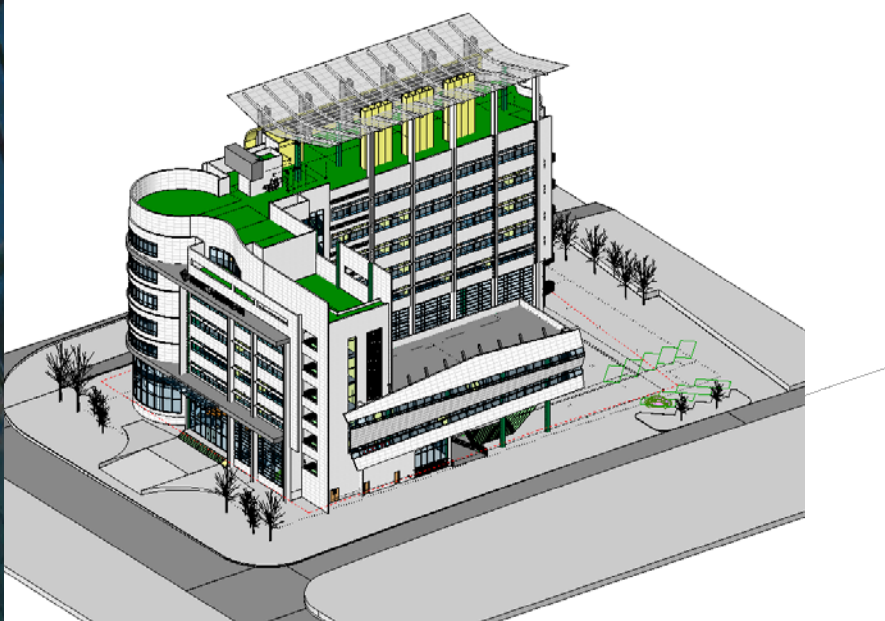
Work Flow – Clashes Report

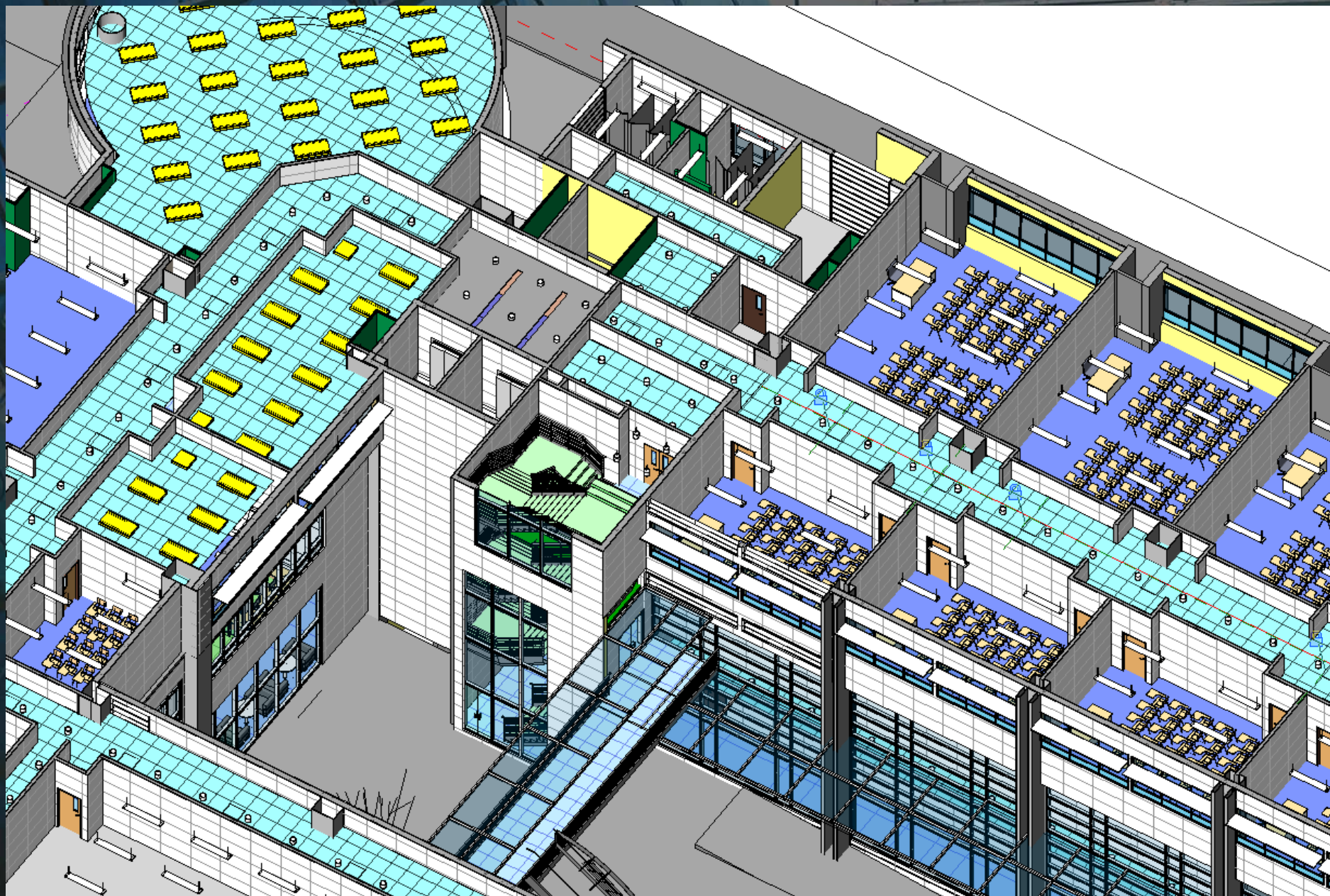


Run Interference Check on the current project, a selection, or a linked project.

CO-ORDINATION / COLLABORATION

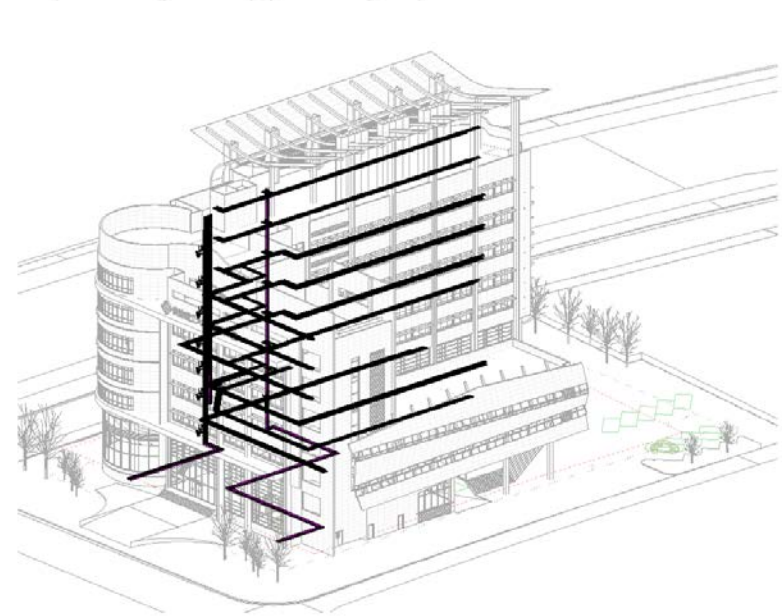
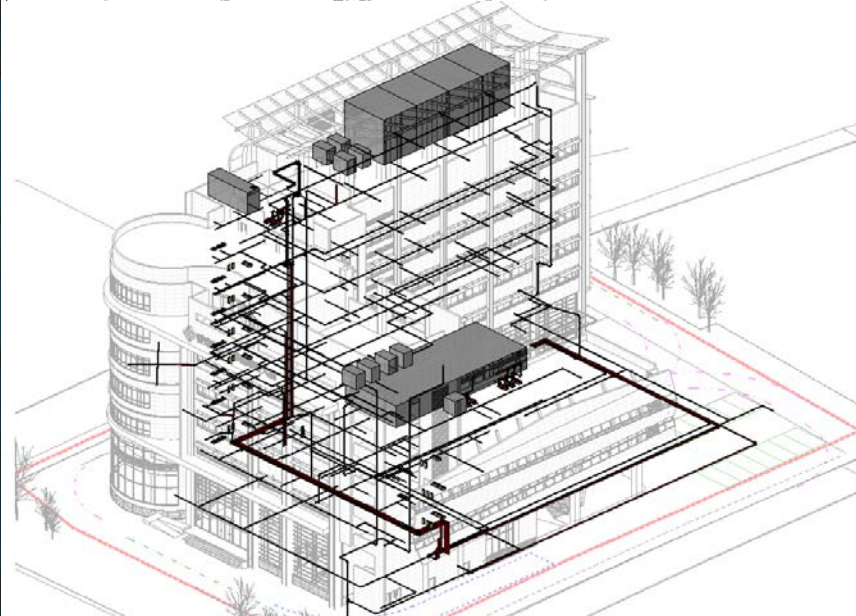
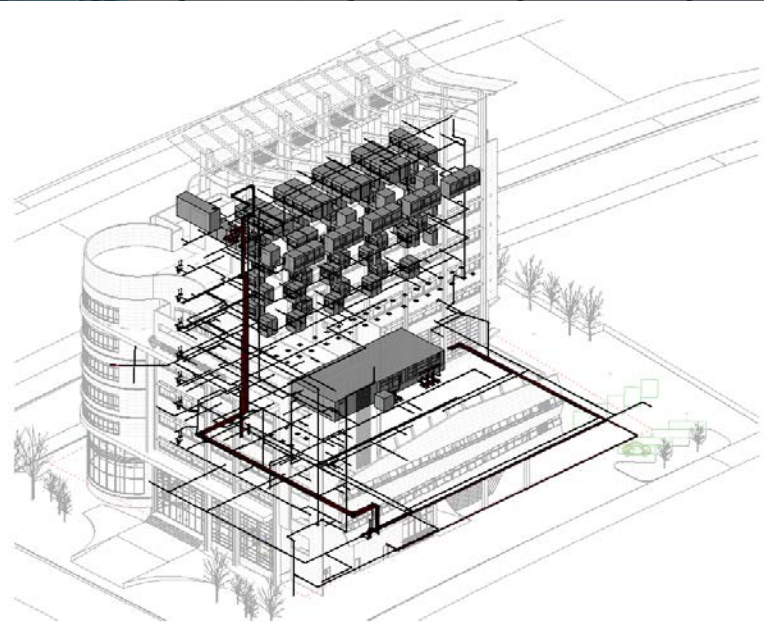
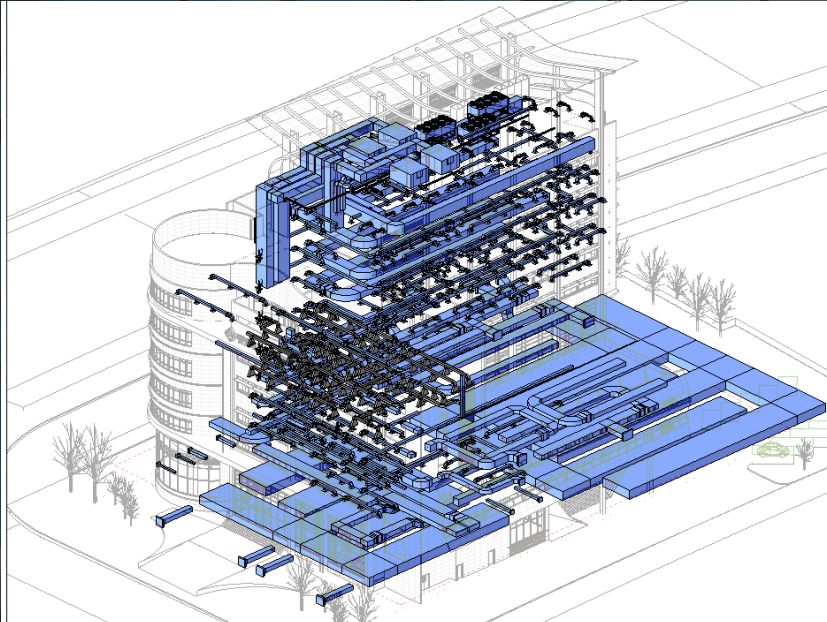
Work Flow – Establish BIM Models





HVAC Installation

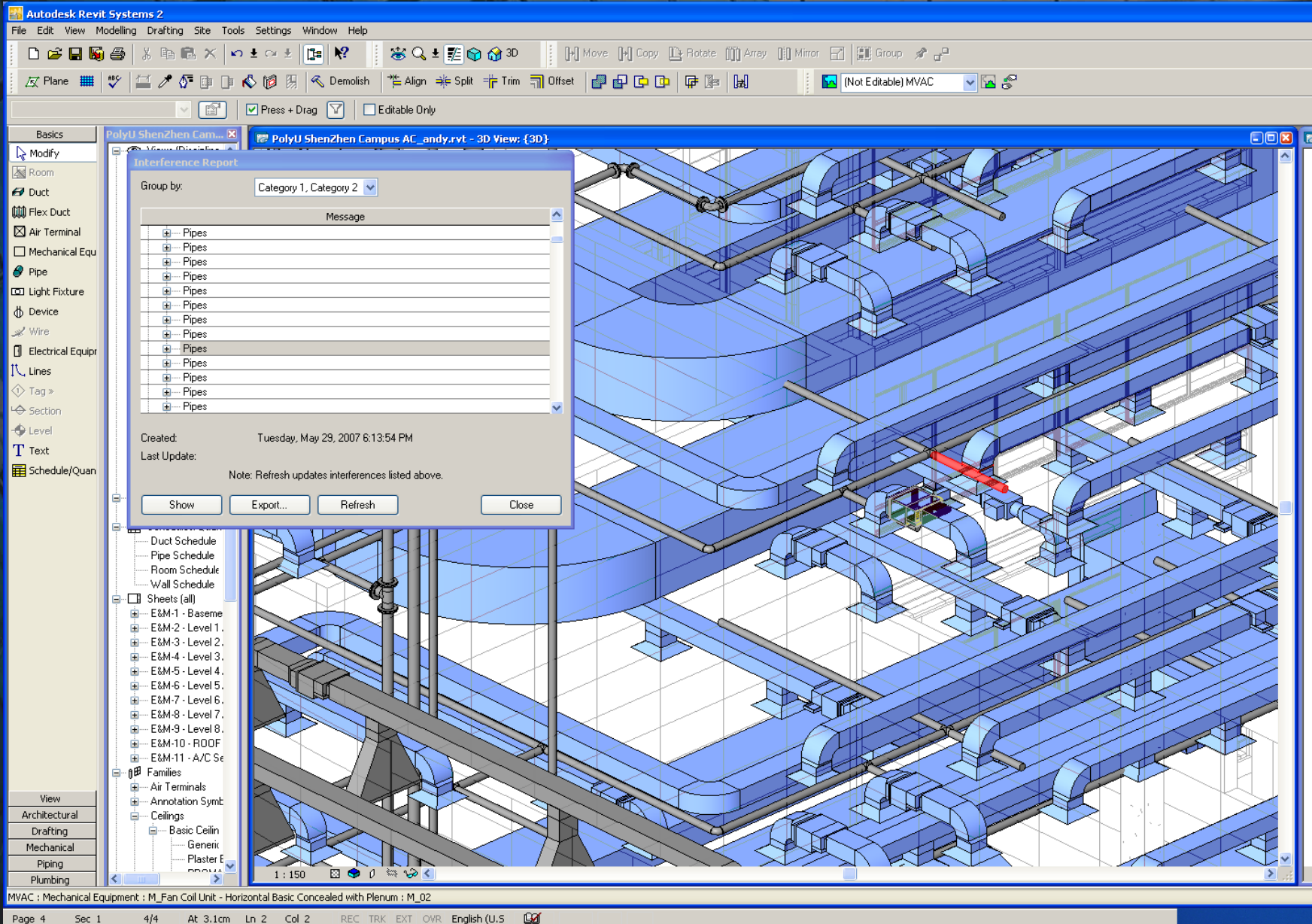
Fire Services Installation



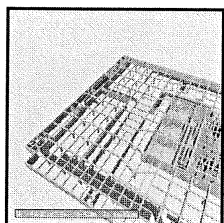
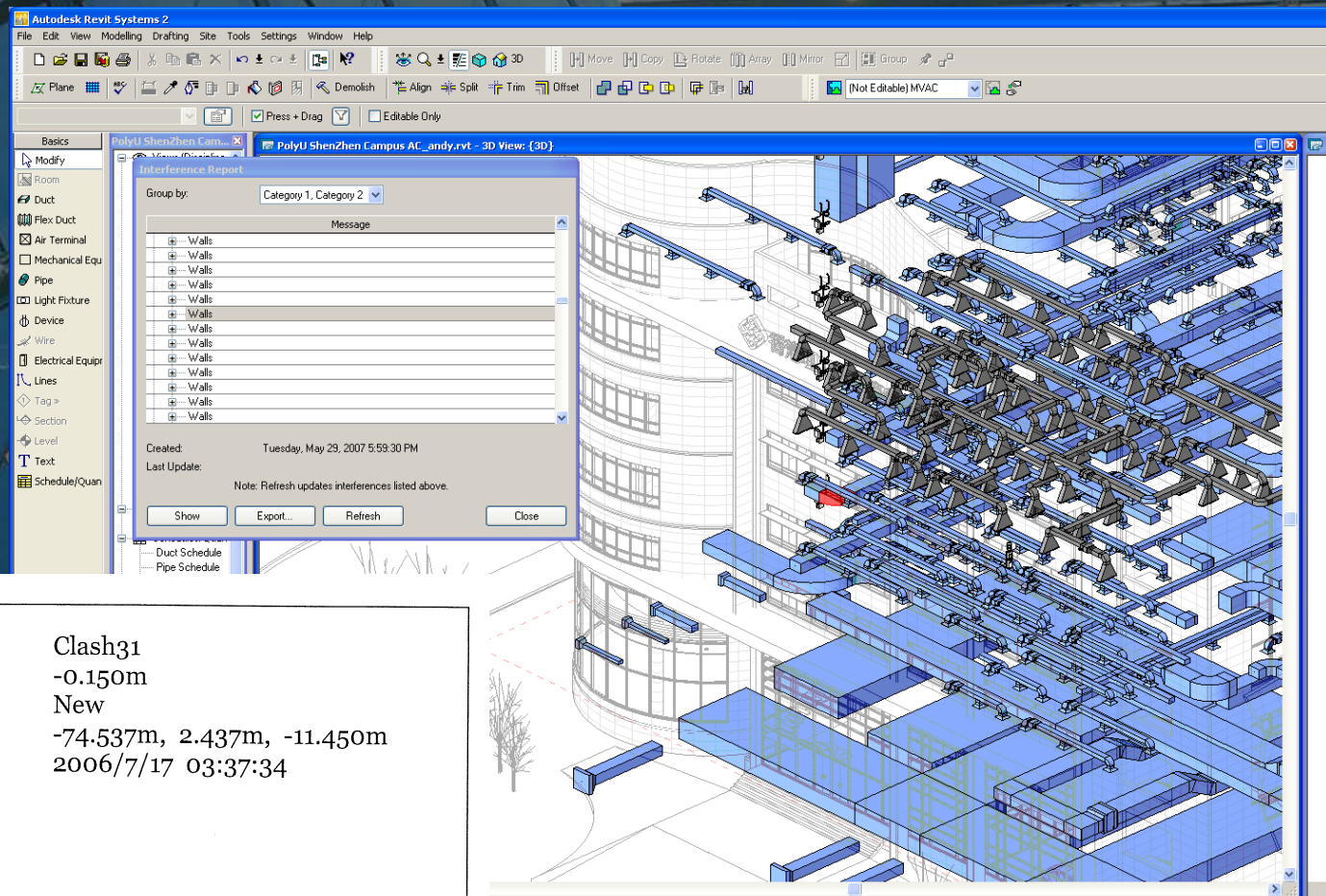
P/D Installation

Electricity Installation

Work Flow – Clashes Report



Work Flow – Clashes Report



Name Clash31
Distance -0.150m
Status New
Clash Point -74.537m, 2.437m, -11.450m
Date Created 2006/7/17 03:37:34
Approved By

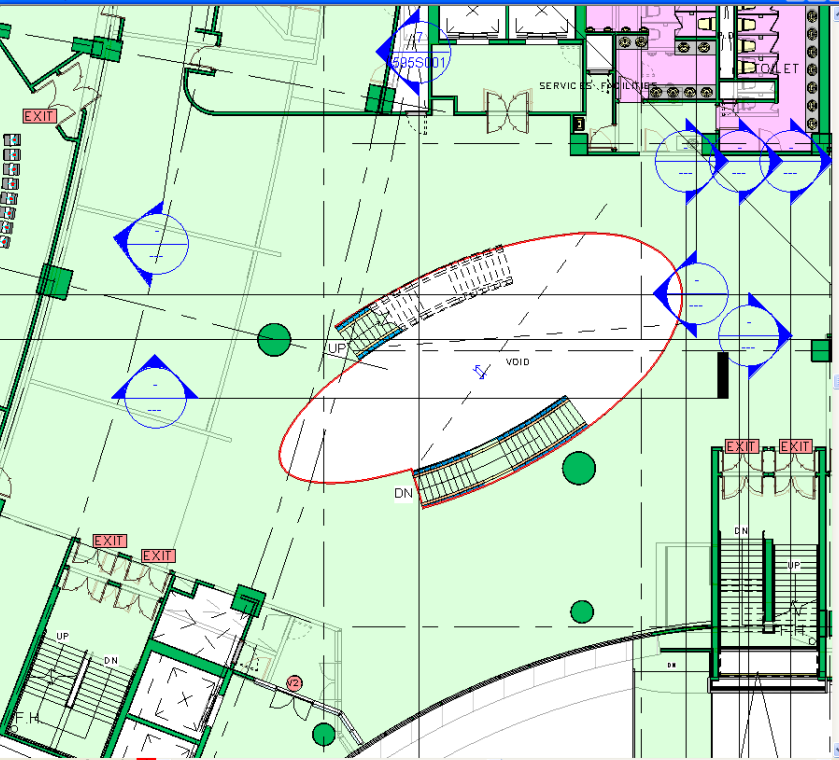
Item 1

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 500 x 700 ->L2b1 500 x 700 ->Solid

Item 2

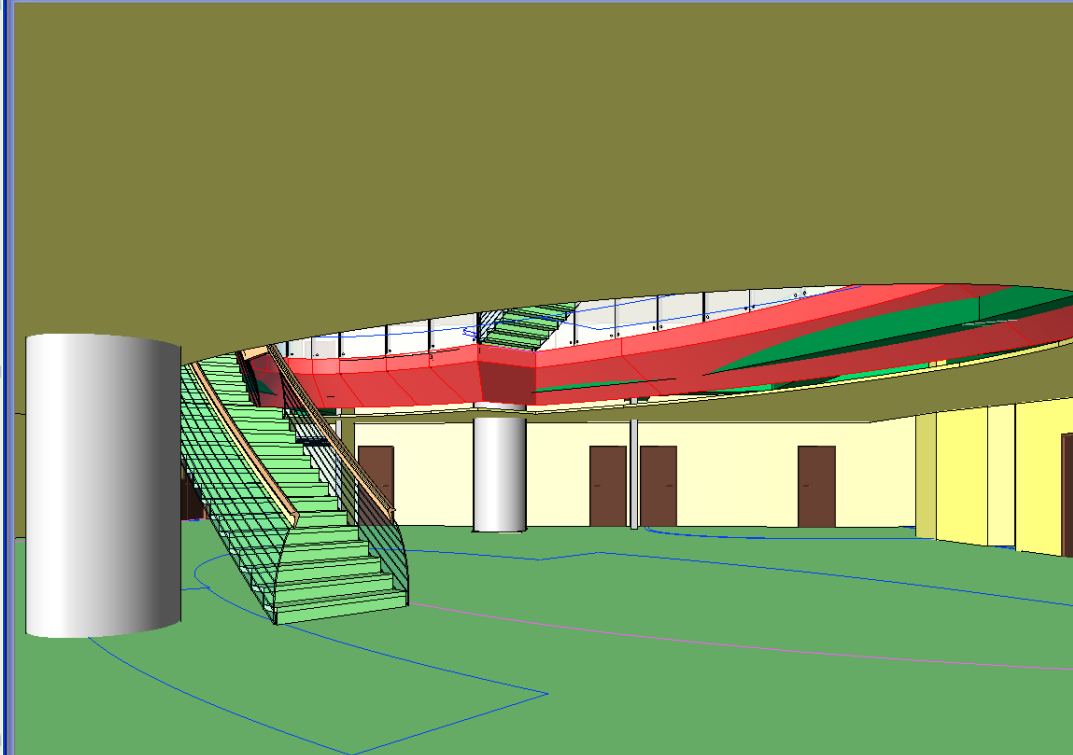
Entity Handle 2AD6
Path File ->File ->B3HVAC_Duct.nwd ->H-Ductwork-G ->Duct

CCCUB_raymond.rvt - Floor Plan: Level 45.60_1/F



1:200 0 16:22

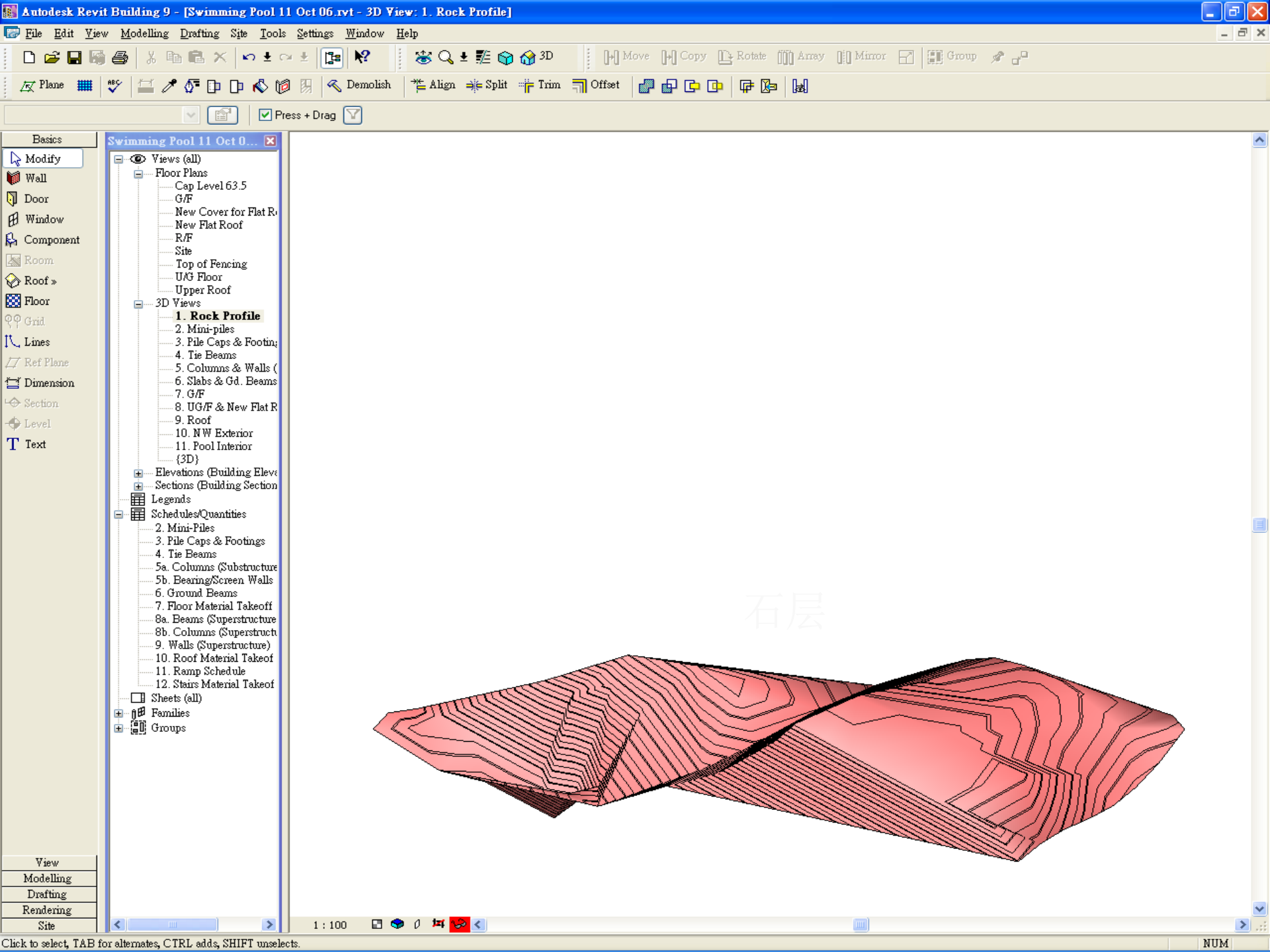
CCCUB_raymond.rvt - 3D View: Interior void area G/F

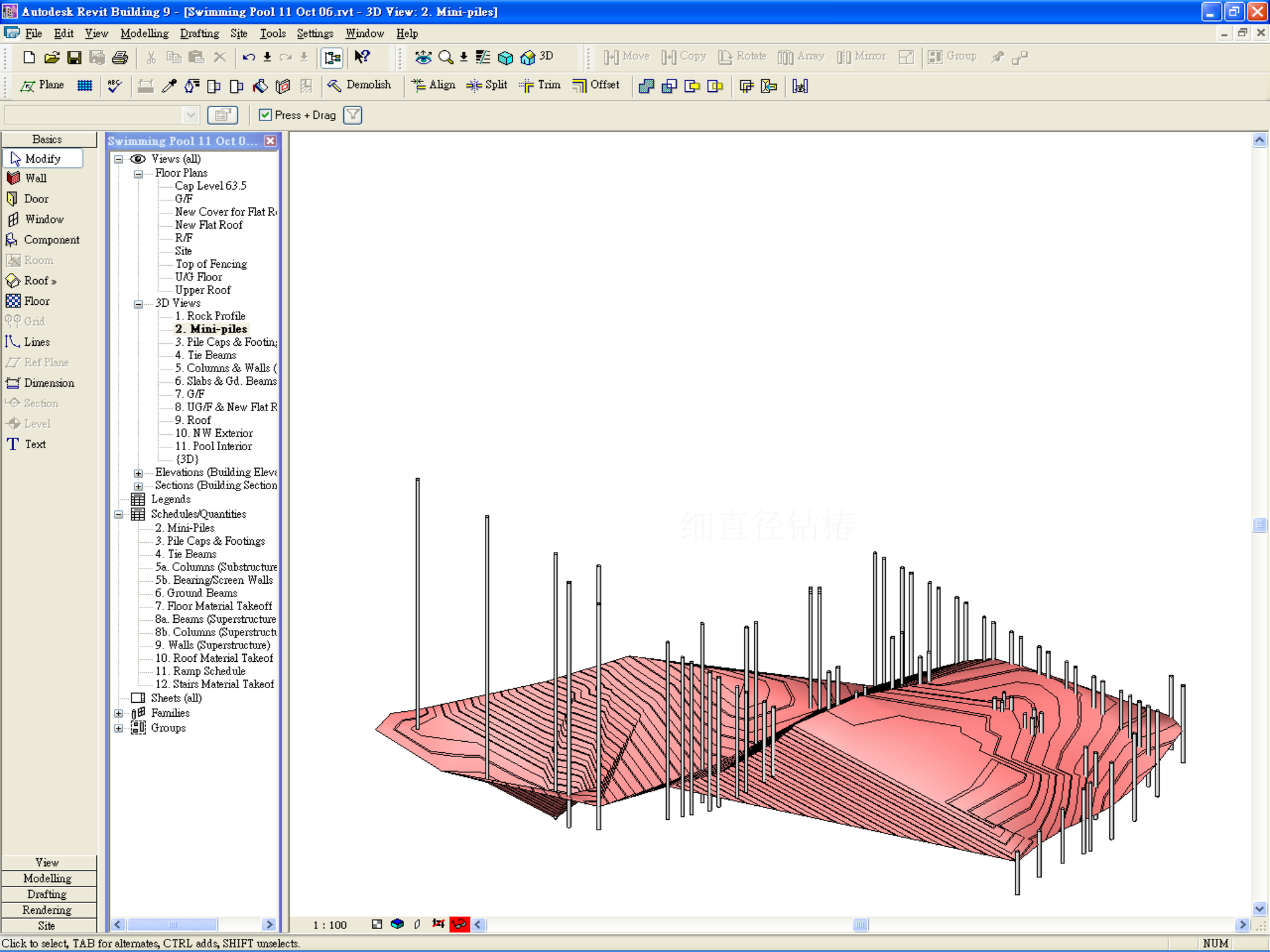


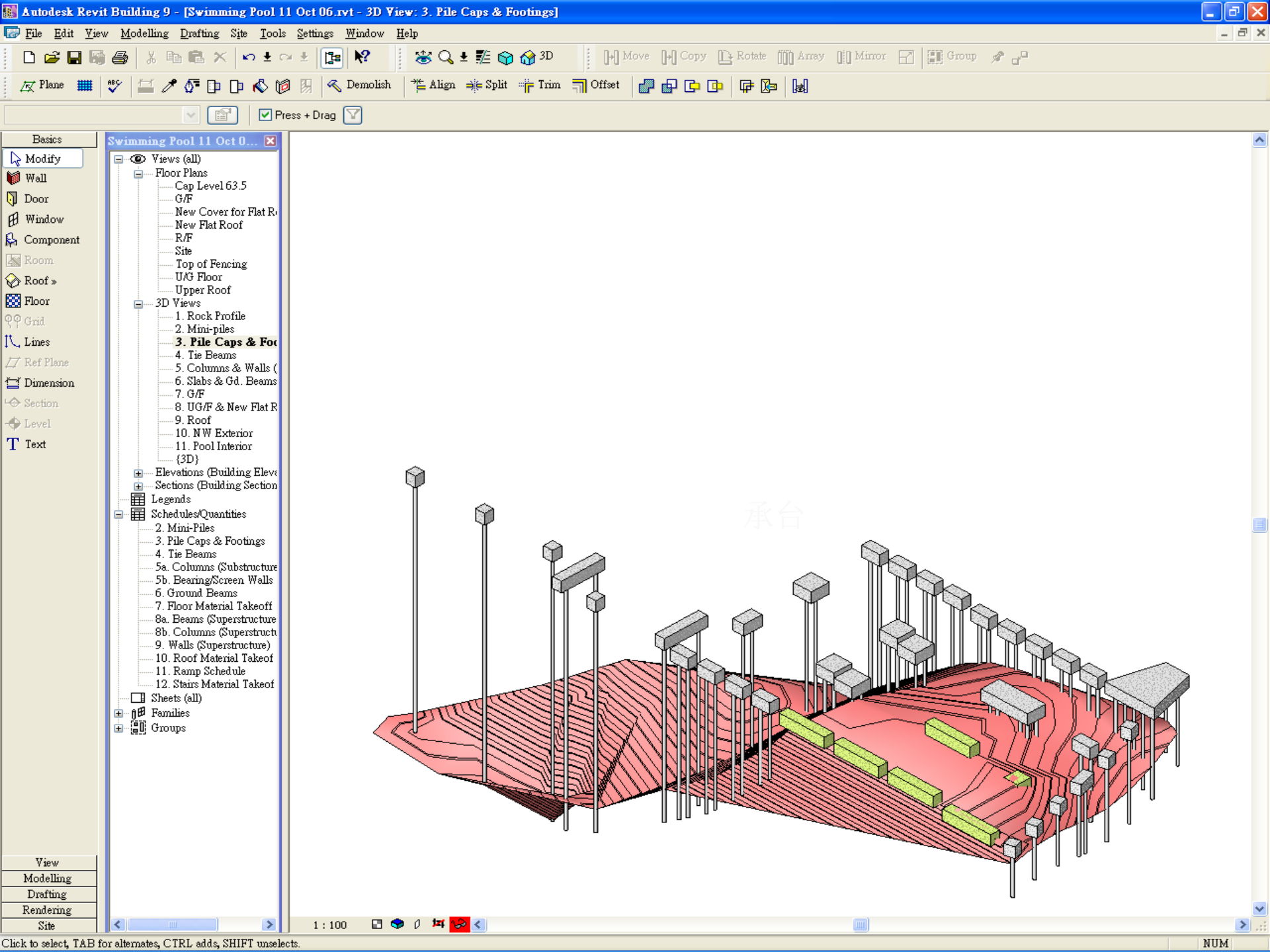
Perspective

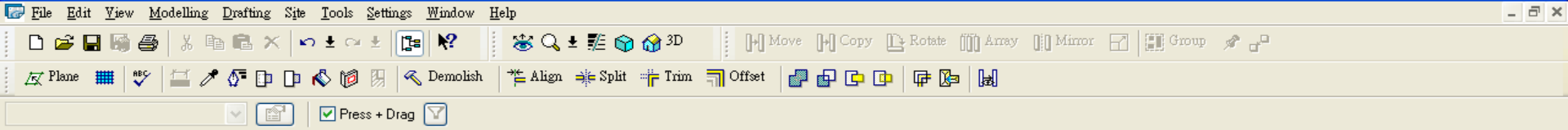
Use of Building Information Modeling (BIM)

1. Design visualization
2. Drawing Productions
3. Services Co-ordination and Clash detection with other disciplines
- 4. Quantity taking and preparation of Tender Document** 数量拾い及び入札書類の作成
5. Automated Statutory Submission
6. Scientific analysis of different environmental aspects
7. Supply Chain Integration with the manufacturing and production
8. Complex Geometry









Basics

Modify

Wall

Door

Window

Component

Room

Roof »

Floor

Grid

Lines

Ref Plane

Dimension

Section

Level

Text

View

Modelling

Drafting

Rendering

Site

Swimming Pool 11 Oct 0...

Views (all)

Floor Plans

- Cap Level 63.5
- G/F
- New Cover for Flat R
- New Flat Roof
- R/F
- Site
- Top of Fencing
- UG Floor
- Upper Roof

3D Views

- 1. Rock Profile
- 2. Mini-piles
- 3. Pile Caps & Footings
- 4. Tie Beams**
- 5. Columns & Walls (
- 6. Slabs & Gd. Beams
- 7. G/F
- 8. UG/F & New Flat R
- 9. Roof
- 10. NW Exterior
- 11. Pool Interior
- (3D)

Elevations (Building Eleva

Sections (Building Section

Legends

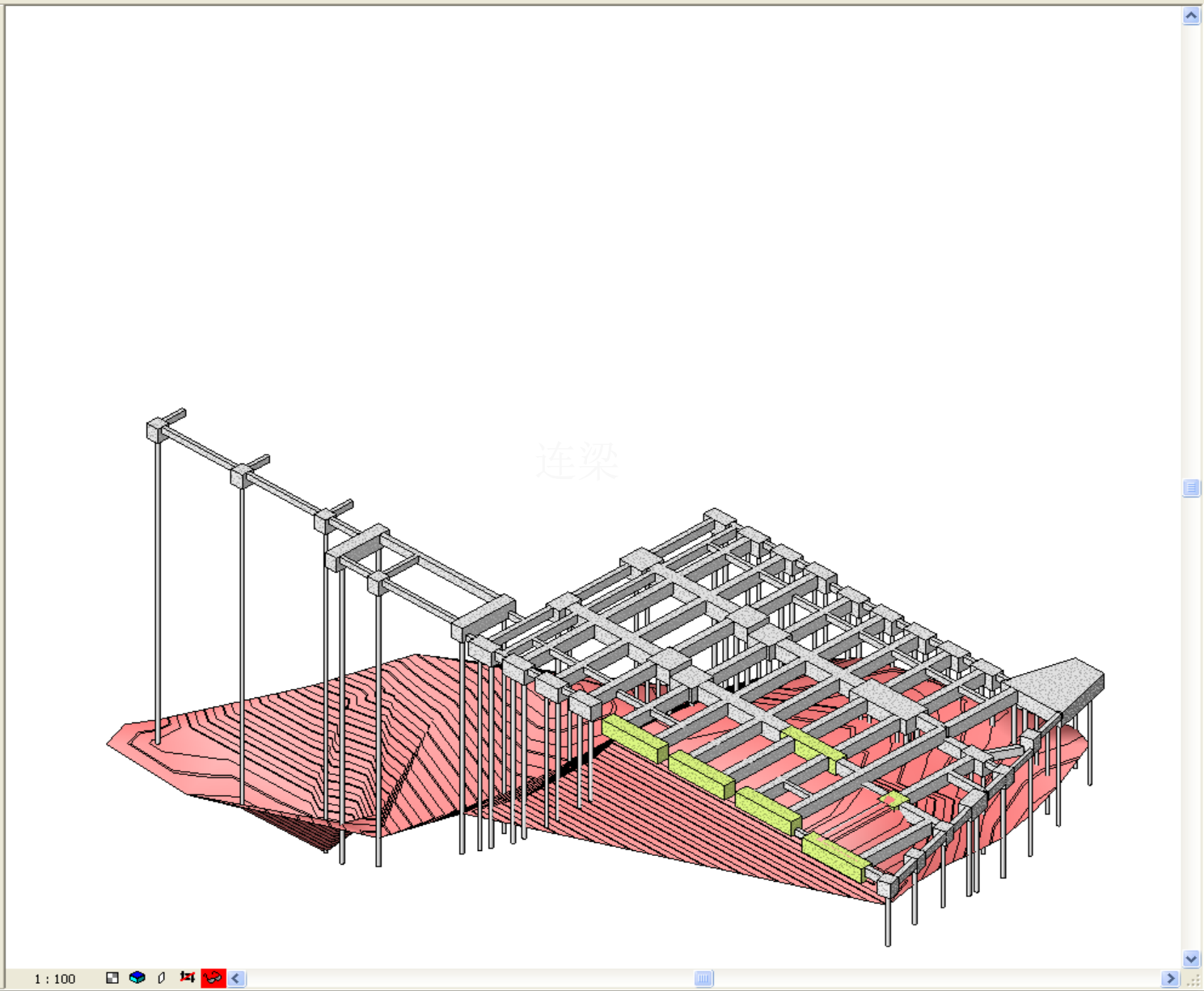
Schedules/Quantities

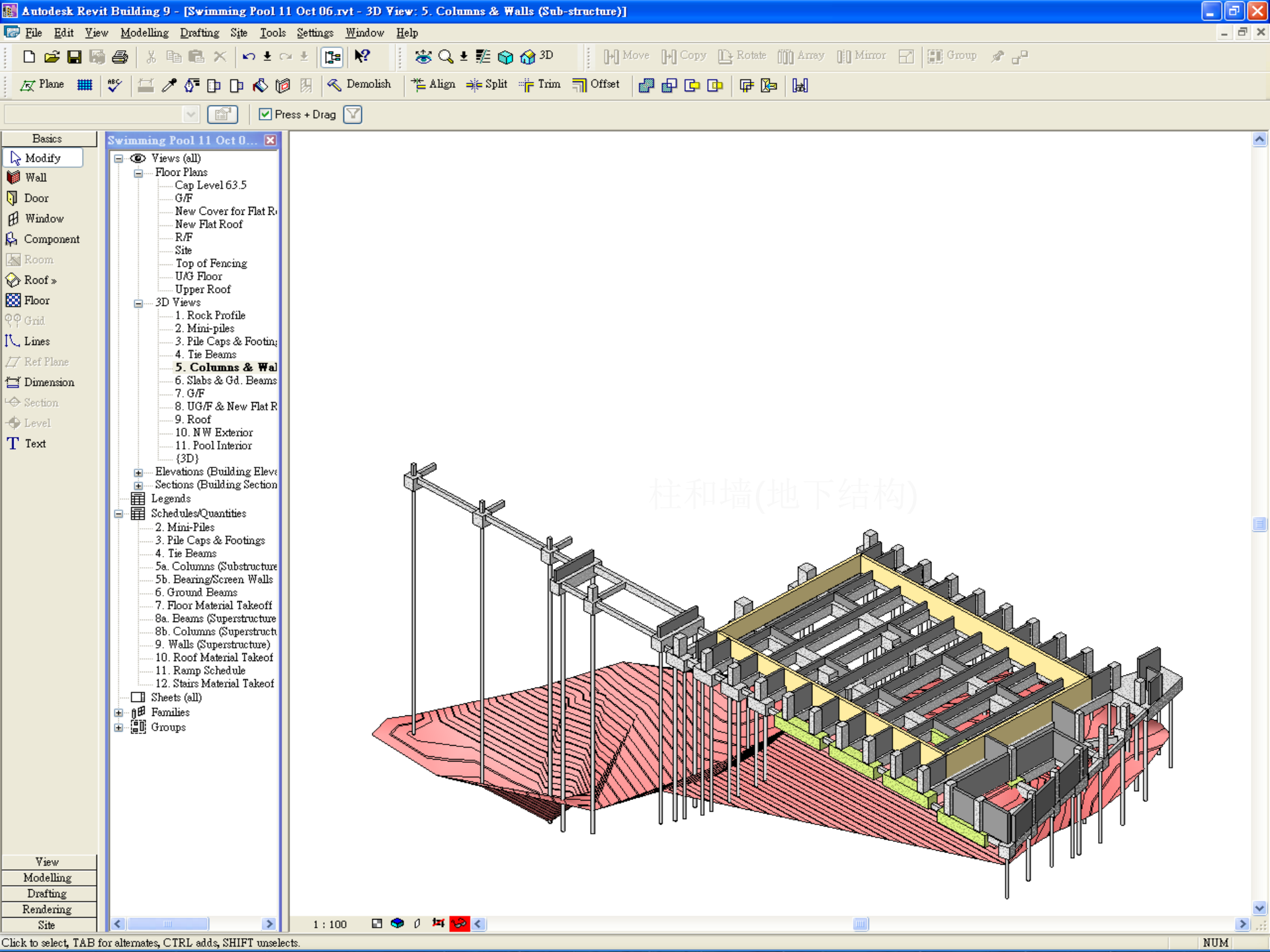
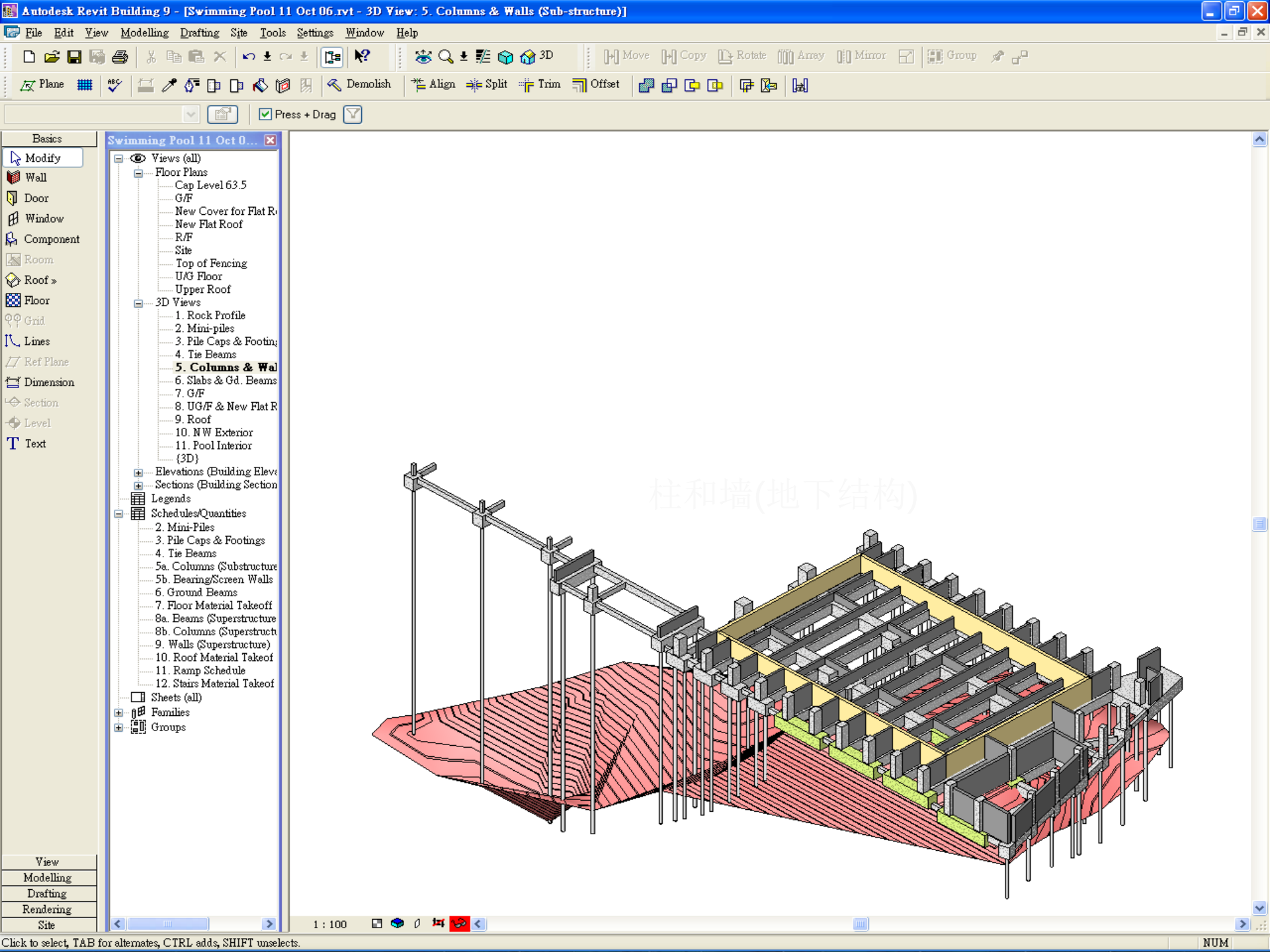
- 2. Mini-Piles
- 3. Pile Caps & Footings
- 4. Tie Beams
- 5a. Columns (Substructure
- 5b. Bearing/Screen Walls
- 6. Ground Beams
- 7. Floor Material Takeoff
- 8a. Beams (Superstructure
- 8b. Columns (Superstruct
- 9. Walls (Superstructure)
- 10. Roof Material Takeof
- 11. Ramp Schedule
- 12. Stairs Material Takeof

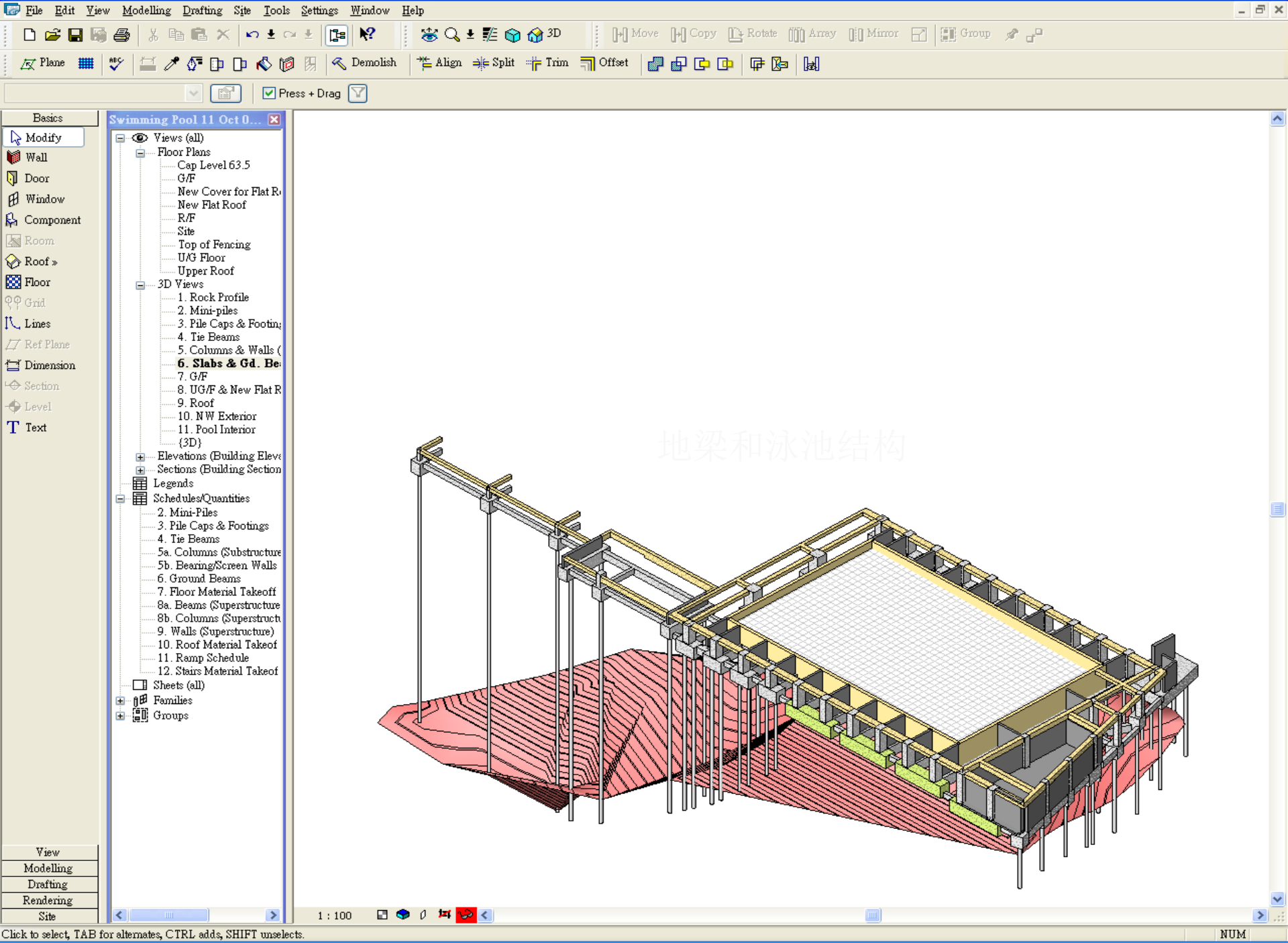
Sheets (all)

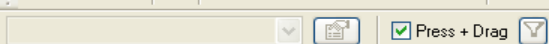
Families

Groups









Basics

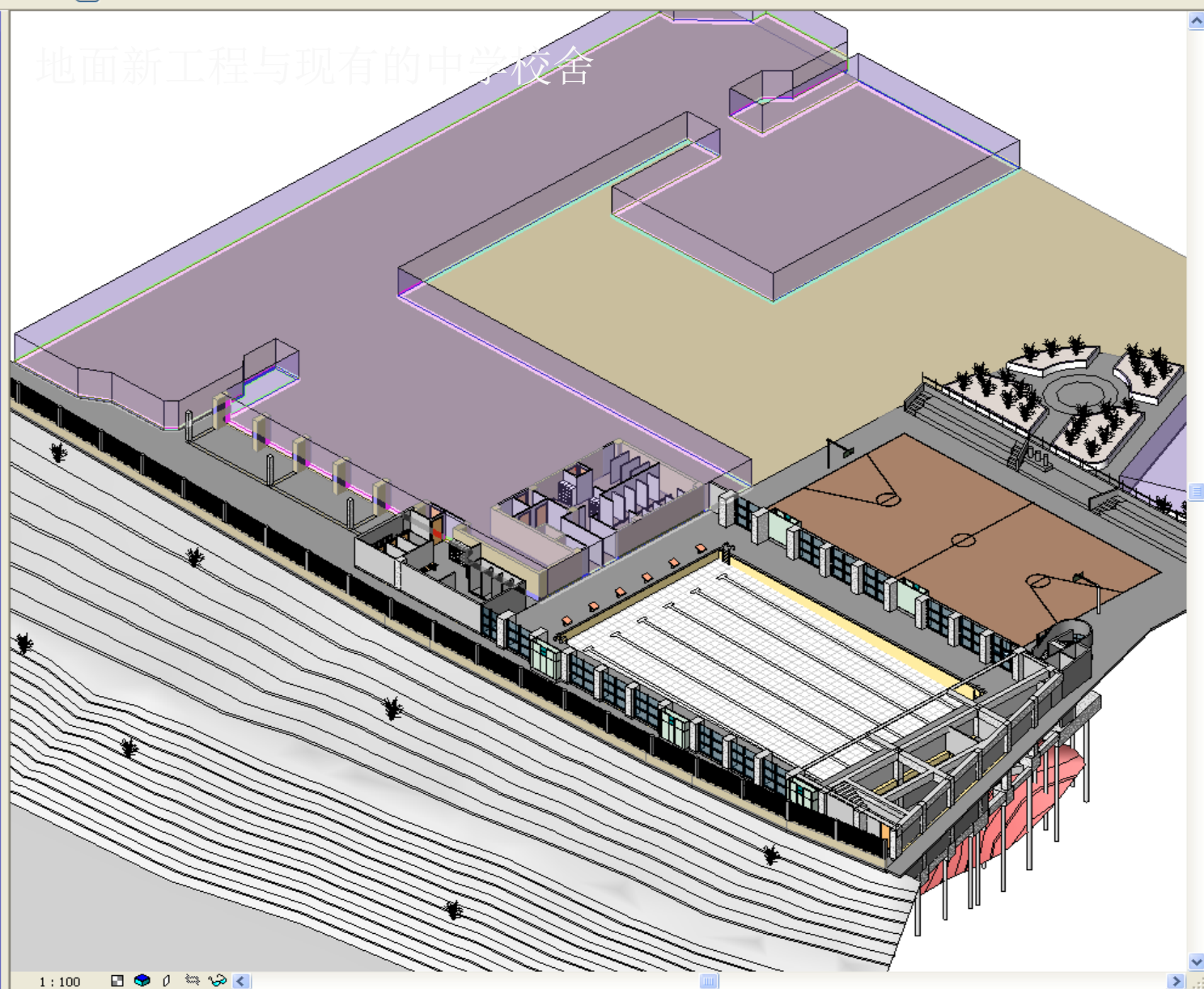
- Modify
- Wall
- Door
- Window
- Component
- Room
- Roof
- Floor
- Grid
- Lines
- Ref Plane
- Dimension
- Section
- Level
- Text

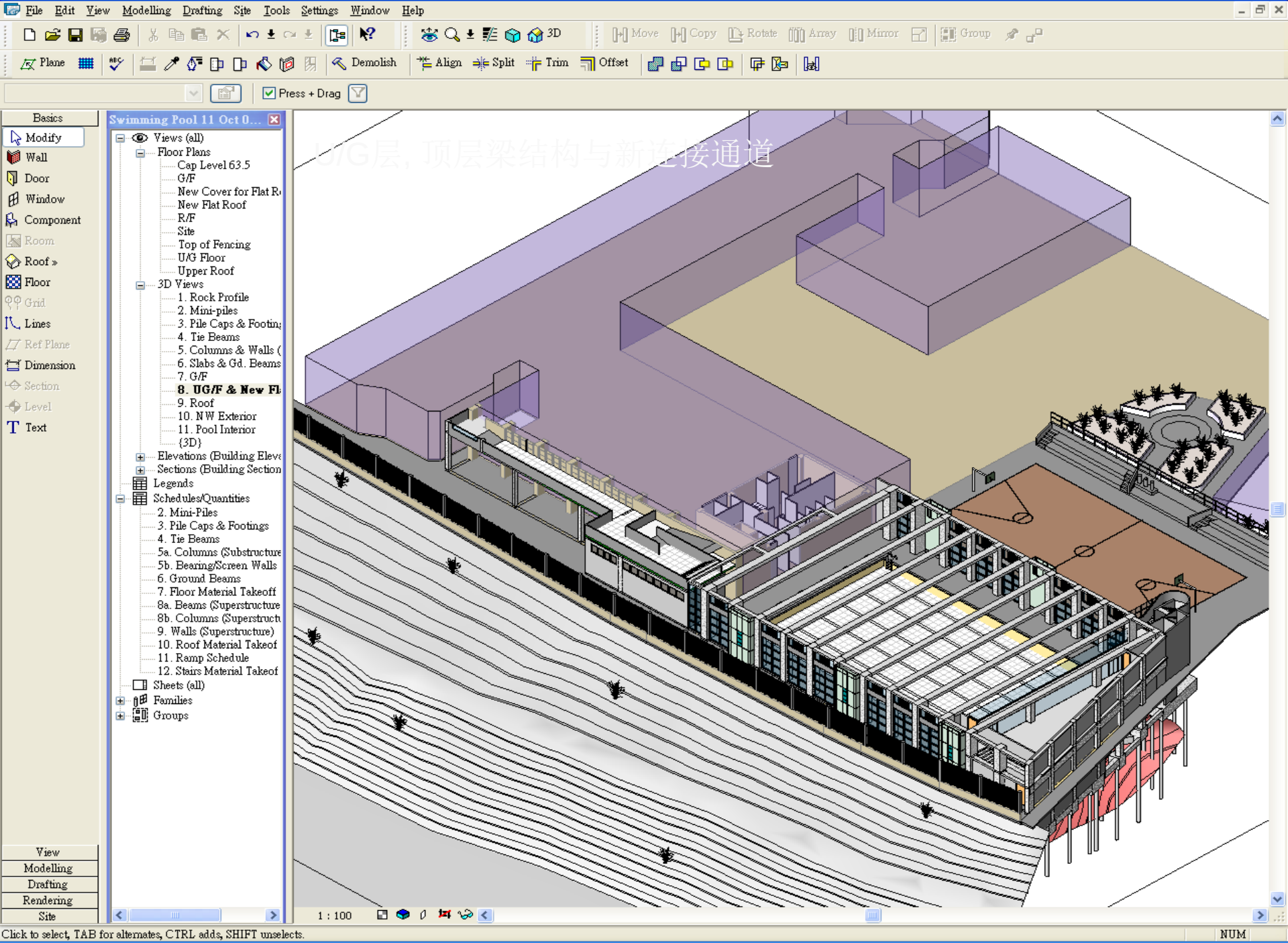
Swimming Pool 11 Oct 06.rvt - 3D View: 7. G/F

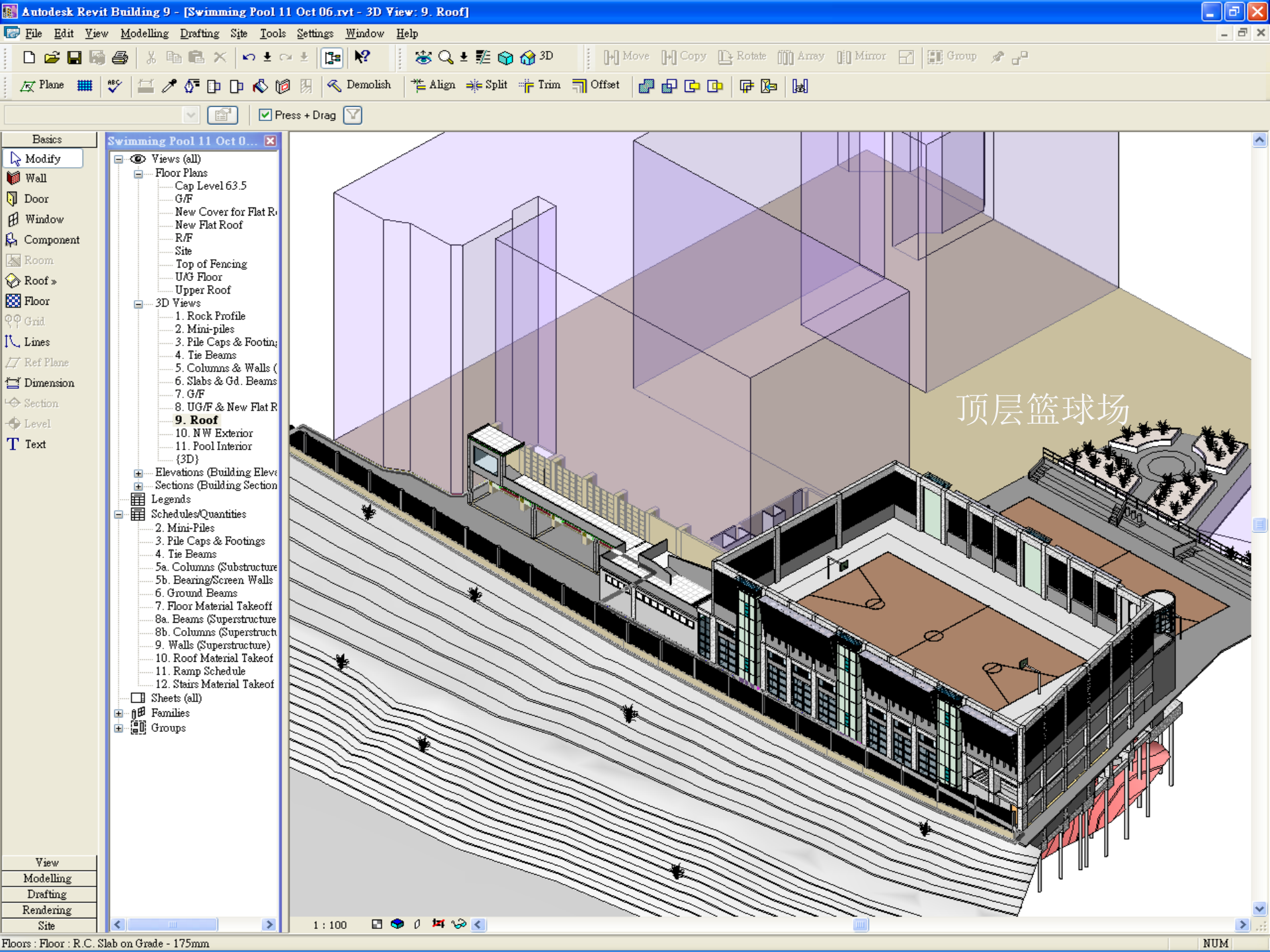
- Views (all)
 - Floor Plans
 - Cap Level 63.5
 - G/F
 - New Cover for Flat R
 - New Flat Roof
 - R/F
 - Site
 - Top of Fencing
 - UG Floor
 - Upper Roof
 - 3D Views
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 - 3. Pile Caps & Footings
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 - 5. Columns & Walls (
 - 6. Slabs & Gd. Beams
 - 7. G/F**
 - 8. UG/F & New Flat R
 - 9. Roof
 - 10. NW Exterior
 - 11. Pool Interior (3D)
 - Elevations (Building Elev
 - Sections (Building Section
 - Legends
 - Schedules/Quantities
 - 2. Mini-Piles
 - 3. Pile Caps & Footings
 - 4. Tie Beams
 - 5a. Columns (Substructure
 - 5b. Bearing/Screen Walls
 - 6. Ground Beams
 - 7. Floor Material Takeoff
 - 8a. Beams (Superstructure
 - 8b. Columns (Superstruct
 - 9. Walls (Superstructure)
 - 10. Roof Material Takeof
 - 11. Ramp Schedule
 - 12. Stairs Material Takeof
 - Sheets (all)
 - Families
 - Groups

View

- Modelling
- Drafting
- Rendering
- Site







Basics

Modify

Wall

Door

Window

Component

Room

Roof

Floor

Grid

Lines

Ref Plane

Dimension

Section

Level

Text

Swimming Pool 11 Oct 06.rvt - 3D View: 10. NW Exterior

Views (all)

Floor Plans

Cap Level 63.5

G/F

New Cover for Flat R

New Flat Roof

R/F

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9. Roof

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5b. Bearing/Screen Walls

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7. Floor Material Takeoff

8a. Beams (Superstructure)

8b. Columns (Superstructure)

9. Walls (Superstructure)

10. Roof Material Takeoff

11. Ramp Schedule

12. Stairs Material Takeoff

Sheets (all)

Families

Groups

View

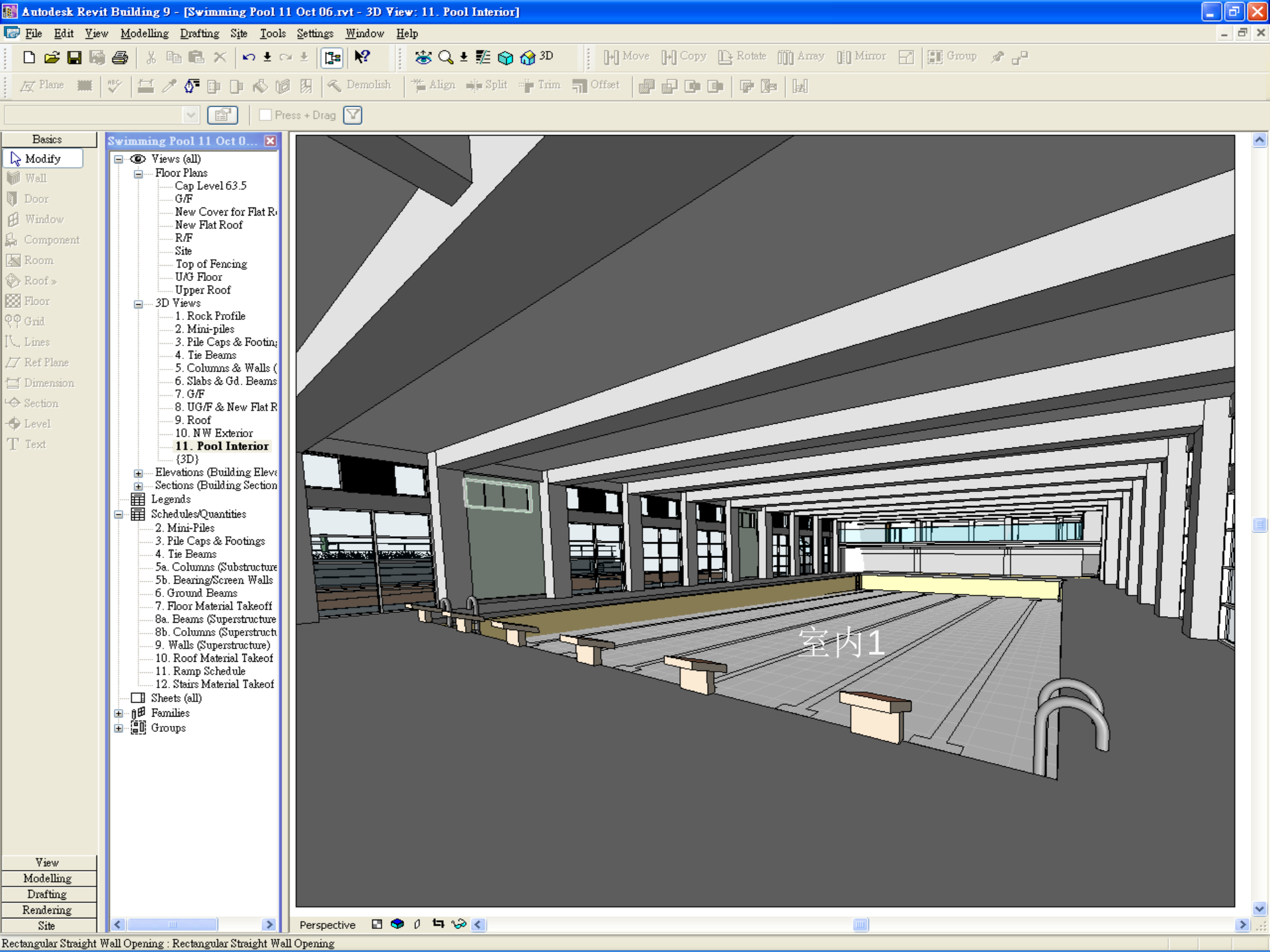
Modelling

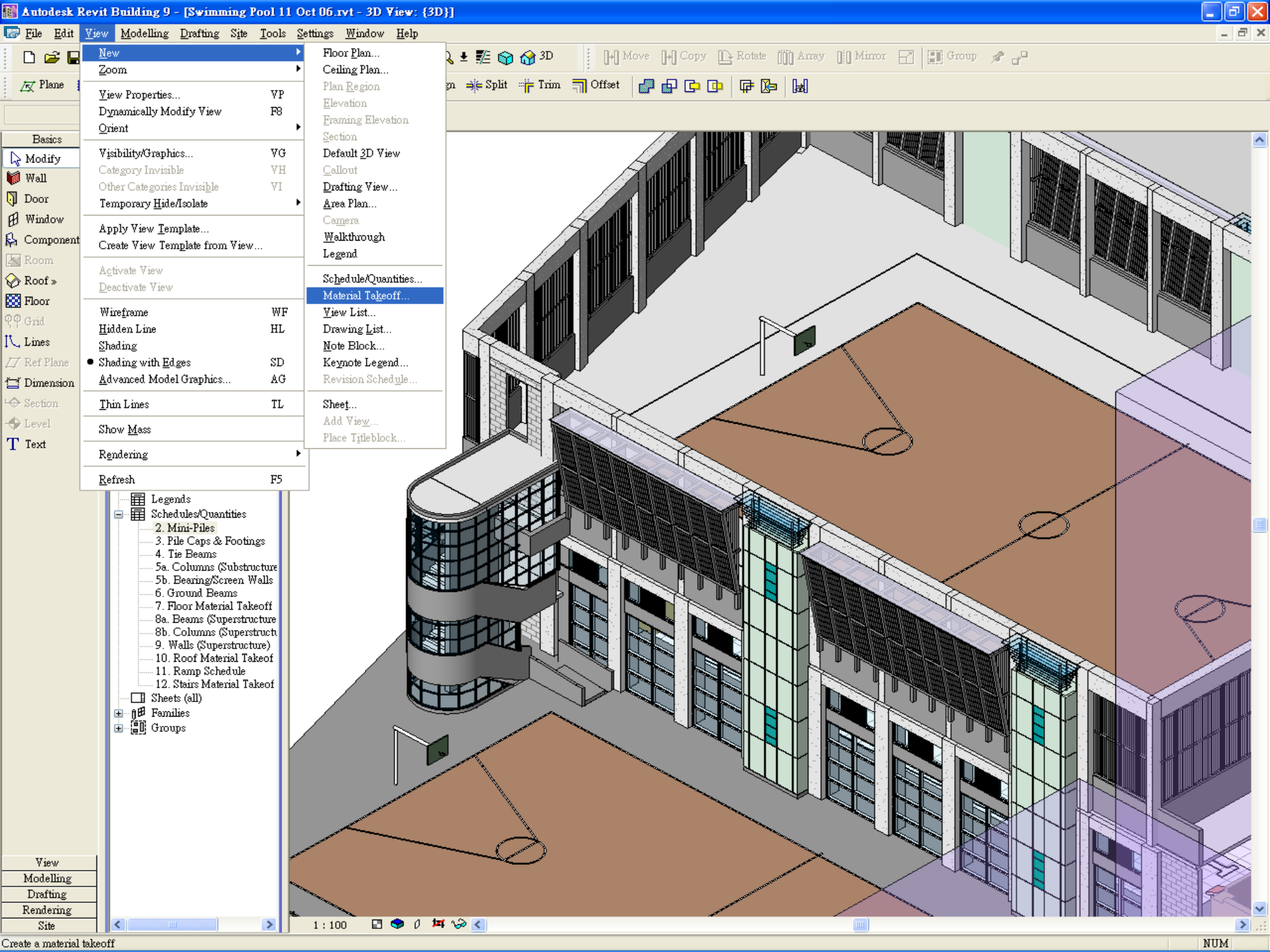
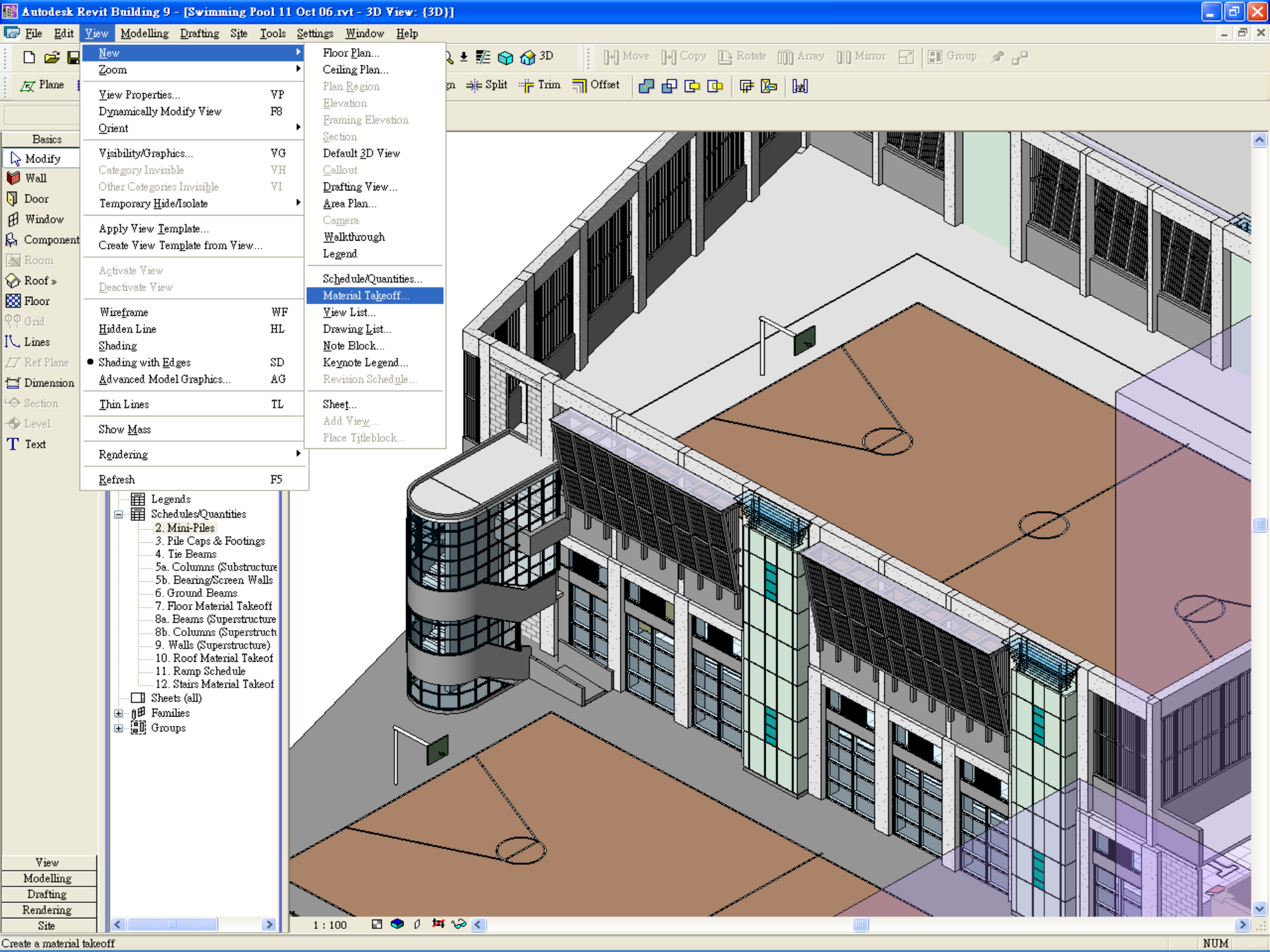
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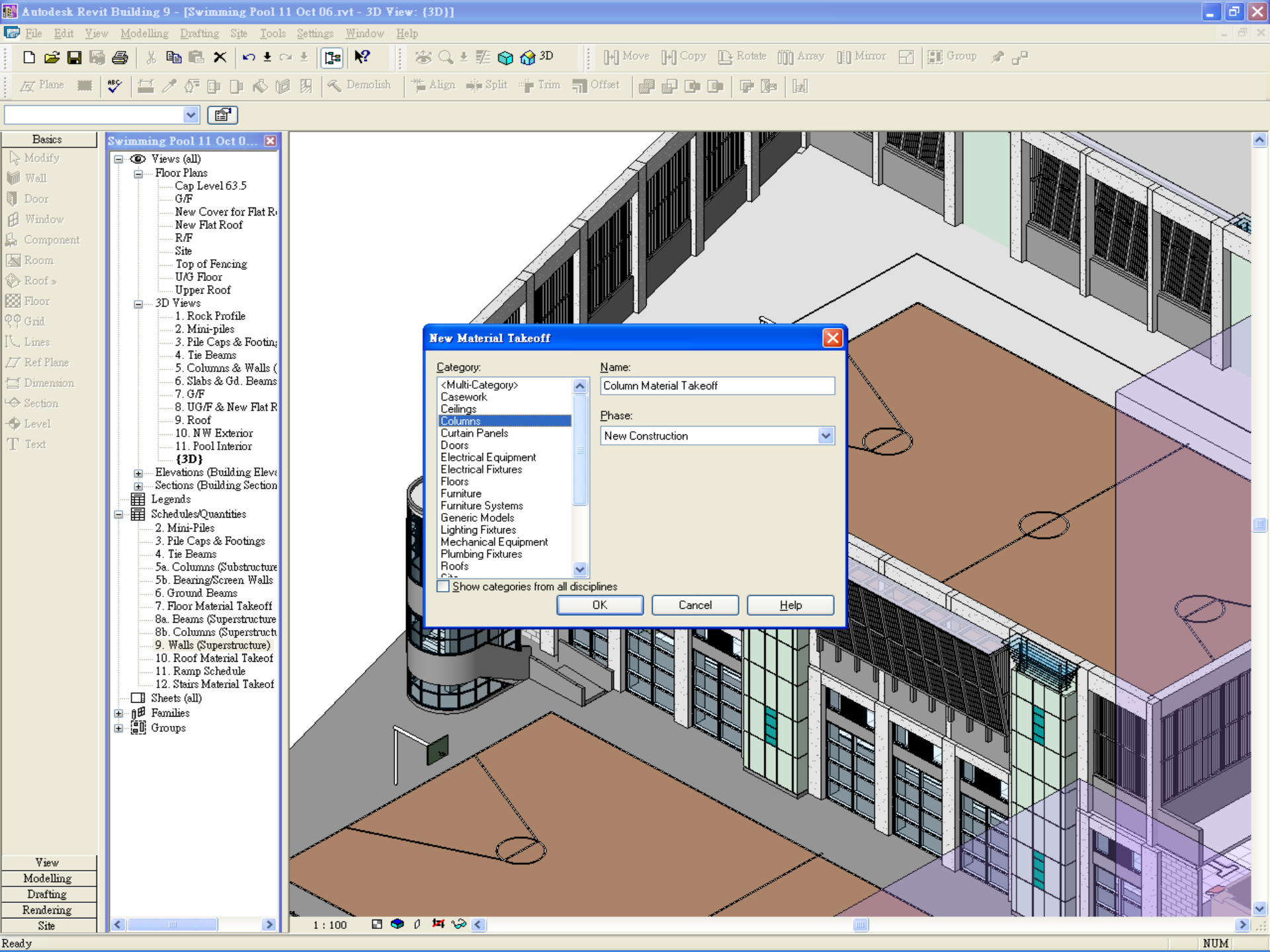
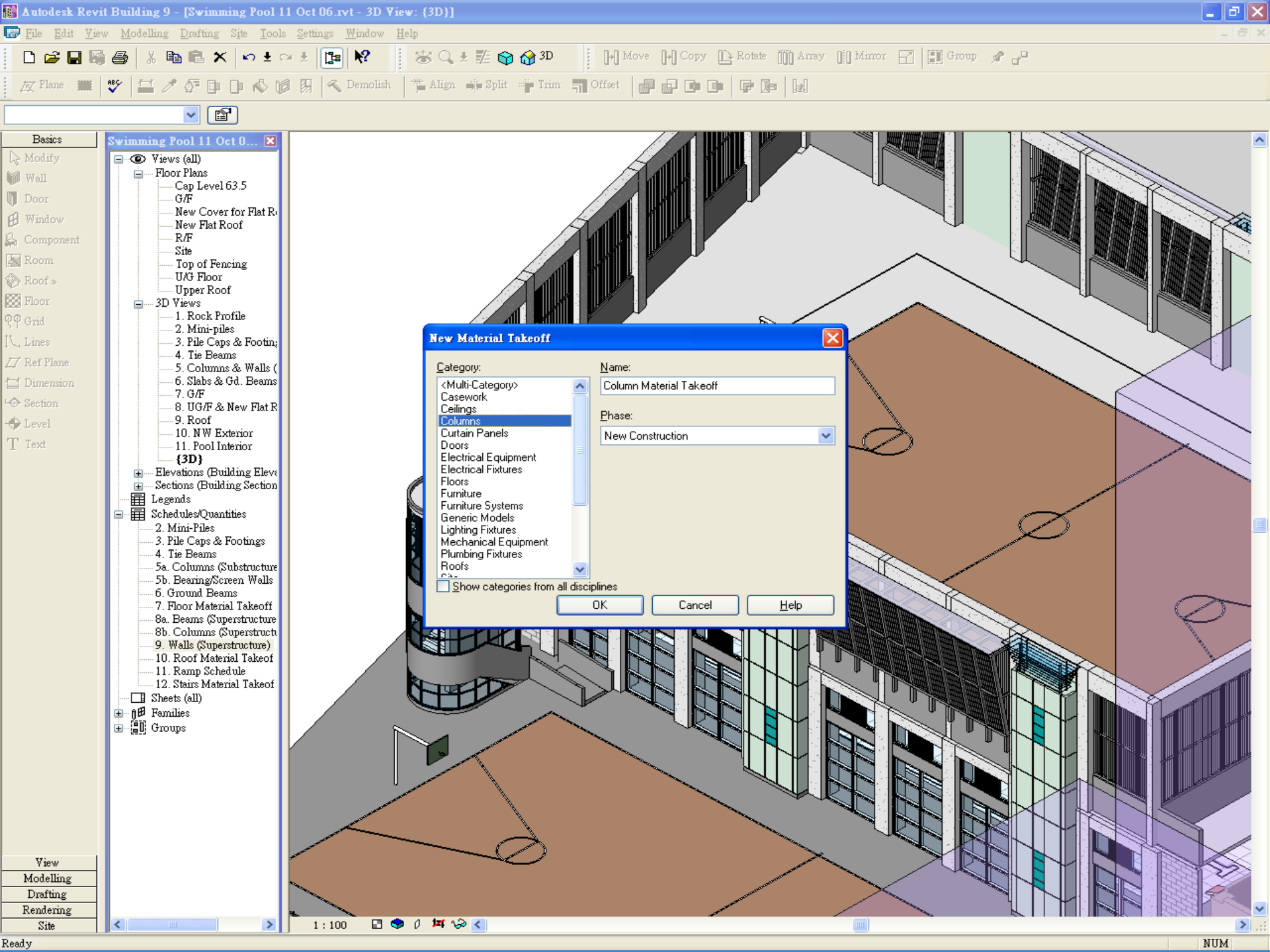
Rendering

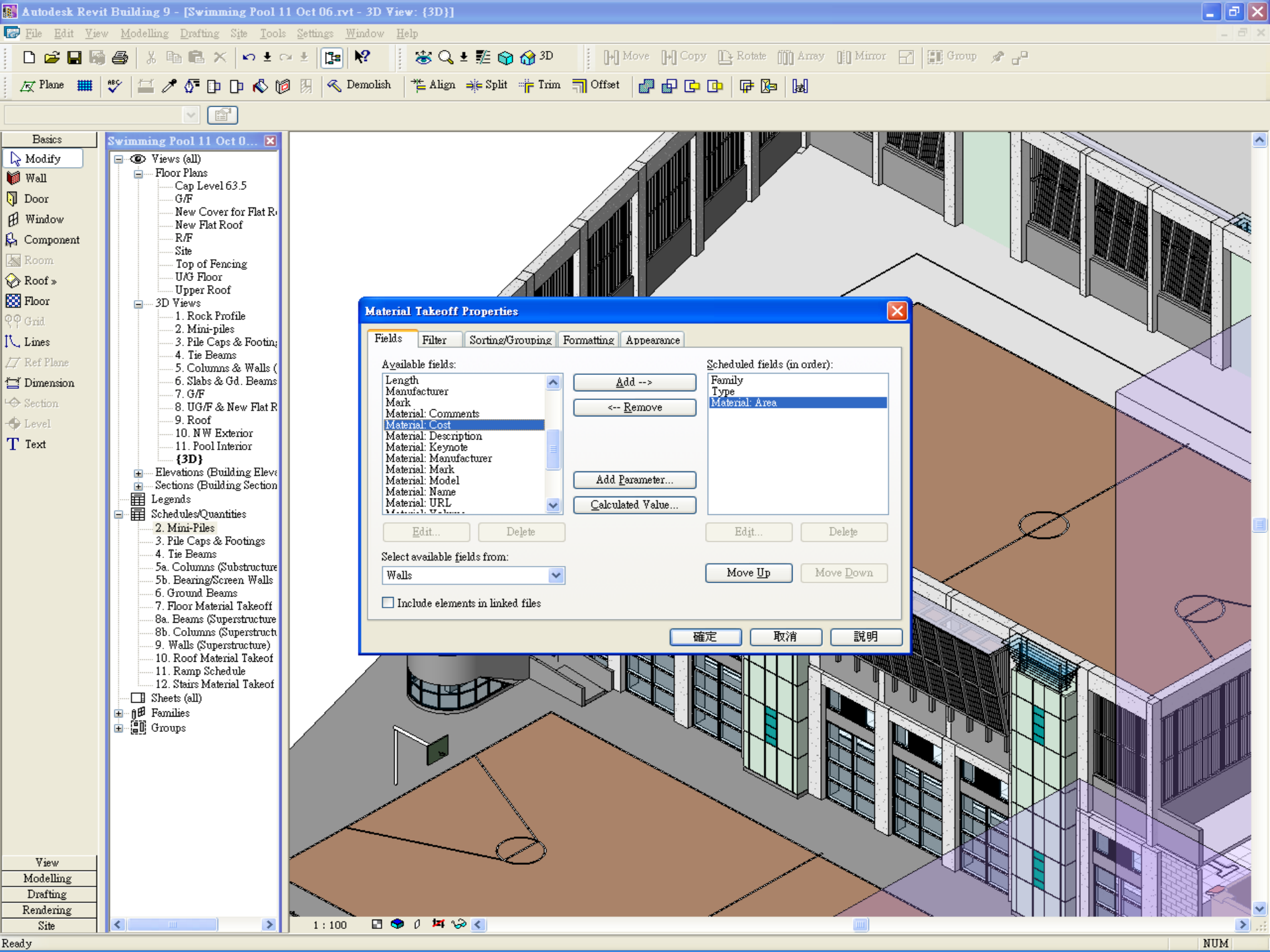
Site











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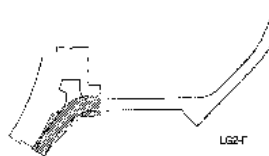
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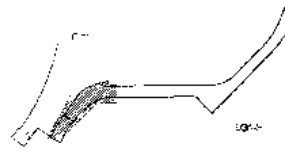
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4. Quantity taking and preparation of Tender Document
5. **Automated Statutory Submission** 確認申請図書作成の自動化
6. Scientific analysis of different environmental aspects
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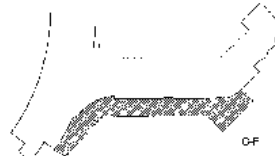
STATUTORY SUBMISSION



① EVA of Level 34.00_LG2/F
1:1000



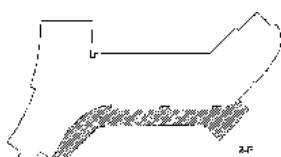
② EVA of Level 37.80, LG1/F
1:1000



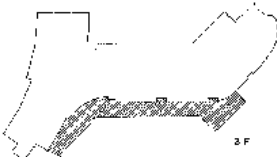
3 - EVA of Level 41.60_GIF
1:1000



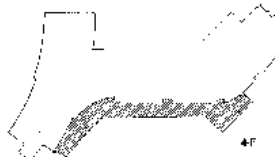
④ EVA of Level 45.60... 1/F
1:1000



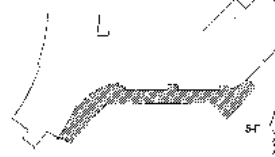
⑤ EVA of Level 49.80 2/F
1:1300



⑥ EVA of Level 53.80_3/F
1:1000

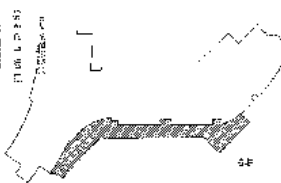


7 EVA of Level 5B.2D_4/F
1:1000



⑧ EVA of Level 62.00 5/F
1:1000

B D SUBMISSION



9) EVA of Level 65.80_6/F

*Hatch area represents the total length of the building facade served by the EVA

CALCULATION OF TOTAL LENGTH OF BUILDING FACADE TO BE SERVED BY EVA AND HENGCHUAN SIZE OF SUCH LENGTH OVER THE TOTAL LENGTH OF ALL THE PERIMETER WALLS OF THE BUILDING

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Date	Time	Lat		Long		Alt		Speed		Heading		Roll		Pitch		Yaw		Status			
Day	Month	Year	Hour	Min	Sec	North	East	Feet	Meters	Knots	Mph	Deg	Deg	Deg	Deg	Deg	Deg	Deg	OK		
1	1	2000	12	00	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
2	1	2000	12	01	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
3	1	2000	12	02	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
4	1	2000	12	03	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
5	1	2000	12	04	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
6	1	2000	12	05	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
7	1	2000	12	06	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
8	1	2000	12	07	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
9	1	2000	12	08	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
10	1	2000	12	09	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
11	1	2000	12	10	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
12	1	2000	12	11	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
13	1	2000	12	12	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
14	1	2000	12	13	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
15	1	2000	12	14	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
16	1	2000	12	15	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
17	1	2000	12	16	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
18	1	2000	12	17	00	37.5000	-122.5000	100	30.48	10	19	000	000	000	000	000	000	000	OK		
19	1	2000	12	18	00	37.5000	-122.5000	10	3.05	10	19	000	000	000	000	000	000	000	OK		

Sl. No.	Name of the Candidate	Roll No.	Grade	Subject	Score	Remarks
1	ABHIRAM K	101	10	Maths	95	
2	ADARSH K	102	10	Maths	90	
3	ADITHYAN K	103	10	Maths	85	
4	ADITHYAN K	104	10	Maths	80	
5	ADITHYAN K	105	10	Maths	75	
6	ADITHYAN K	106	10	Maths	70	
7	ADITHYAN K	107	10	Maths	65	
8	ADITHYAN K	108	10	Maths	60	
9	ADITHYAN K	109	10	Maths	55	
10	ADITHYAN K	110	10	Maths	50	
11	ADITHYAN K	111	10	Maths	45	
12	ADITHYAN K	112	10	Maths	40	
13	ADITHYAN K	113	10	Maths	35	
14	ADITHYAN K	114	10	Maths	30	
15	ADITHYAN K	115	10	Maths	25	
16	ADITHYAN K	116	10	Maths	20	
17	ADITHYAN K	117	10	Maths	15	
18	ADITHYAN K	118	10	Maths	10	
19	ADITHYAN K	119	10	Maths	5	
20	ADITHYAN K	120	10	Maths	0	

Year	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	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7000 Agnew
 CTDP/Kingsdale
 Chief Building Surveyor
 for SULLY'S ALTIMETRY
 1 / OCT 1988

 ÖZEL YATIRIMCILARIN YATIRIMININ BULUNUR	 ÖZEL YATIRIMCILARIN YATIRIMININ BULUNUR	ÖZEL YATIRIMCILARIN YATIRIMININ BULUNUR	ÖZEL YATIRIMCILARIN YATIRIMININ BULUNUR	ÖZEL YATIRIMCILARIN YATIRIMININ BULUNUR	ÖZEL YATIRIMCILARIN YATIRIMININ BULUNUR	ÖZEL YATIRIMCILARIN YATIRIMININ BULUNUR
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STATUTORY SUBMISSION

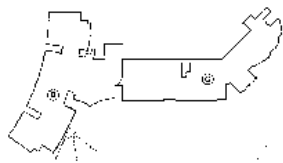
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3/F (+53.80) COMPARTMENT CALCULATION



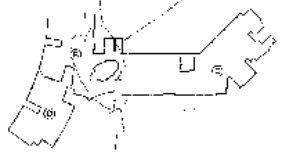
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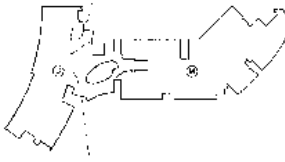
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1/F (+45.80) COMPARTMENT CALCULATION



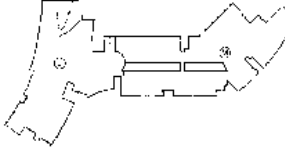
5/F (+52.00) COMPARTMENT CALCULATION



2/F (+49.80) COMPARTMENT CALCULATION



6/F (+55.50) COMPARTMENT CALCULATION



COMPARTMENT OF FLOOR				
FLOOR	AREA	PERIMETER	PERIMETER	PERIMETER
FLOOR	AREA	PERIMETER	PERIMETER	PERIMETER
LG/F	146.40	146.40	146.40	146.40
3/F	146.40	146.40	146.40	146.40
G/F	146.40	146.40	146.40	146.40
4/F	146.40	146.40	146.40	146.40
1/F	146.40	146.40	146.40	146.40
5/F	146.40	146.40	146.40	146.40
2/F	146.40	146.40	146.40	146.40
6/F	146.40	146.40	146.40	146.40

Total Capacity of COQUE				
Location	Use	Area	Factor	Total Capacity
LG/F	Office	275.442	9	31
G/F	Shop	54.208	3	19
G/F	Office	412.213	9	41
3/F	Restaurant	146.40	1	146
3/F	Kitchen	481.136	4.5	107
5/F	Office	212.144	9	294
6/F	Office	2031.235	9	226
6/F	Restaurant	176.557	1	177
6/F	Kitchen	166.561	4.5	42
6/F	Exhibition hall	704.211	2	353
Total number of students				6000
Total				814

SCHEDULE 1: MINIMUM NUMBER & WIDTH OF EXIT ROUTES FROM EACH FLOOR

LOCATION	FLOOR	AREA	MIN. NO. OF EXIT ROUTES		MIN. WIDTH OF EACH EXIT ROUTE		MIN. TOTAL WIDTH OF EXIT ROUTES	
			REQD.	PHAS.	REQD.	PHAS.	REQD.	PHAS.
LG/F	1	146.40	1	1	1.00	1.00	1.00	1.00
3/F	1	146.40	1	1	1.00	1.00	1.00	1.00
G/F	1	146.40	1	1	1.00	1.00	1.00	1.00
4/F	1	146.40	1	1	1.00	1.00	1.00	1.00
1/F	1	146.40	1	1	1.00	1.00	1.00	1.00
5/F	1	146.40	1	1	1.00	1.00	1.00	1.00
2/F	1	146.40	1	1	1.00	1.00	1.00	1.00
6/F	1	146.40	1	1	1.00	1.00	1.00	1.00

THE RESISTANCE REQUIREMENTS FOR SUBSISTENCE OF CONSTRUCTION											
COMPARTMENT	AREA	TOTAL	PERIMETER	THK.	CONCRETE	THK.	CONCRETE	THK.	CONCRETE	THK.	CONCRETE
LG/F	146.40	146.40	146.40	100	100	100	100	100	100	100	100
3/F	146.40	146.40	146.40	100	100	100	100	100	100	100	100
G/F	146.40	146.40	146.40	100	100	100	100	100	100	100	100
4/F	146.40	146.40	146.40	100	100	100	100	100	100	100	100
1/F	146.40	146.40	146.40	100	100	100	100	100	100	100	100
5/F	146.40	146.40	146.40	100	100	100	100	100	100	100	100
2/F	146.40	146.40	146.40	100	100	100	100	100	100	100	100
6/F	146.40	146.40	146.40	100	100	100	100	100	100	100	100

It is approved by the Council of the University of Hong Kong that the above information is true and correct.

B D SUBMISSION



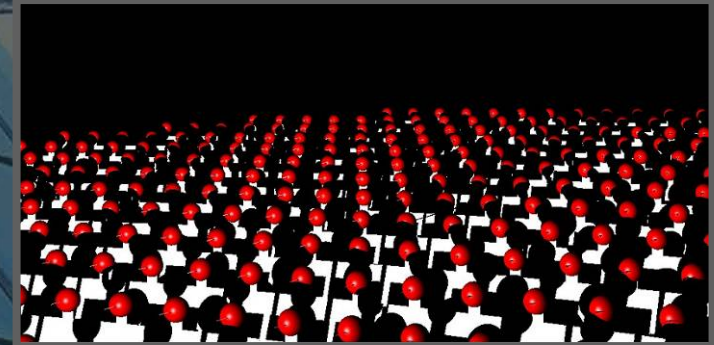
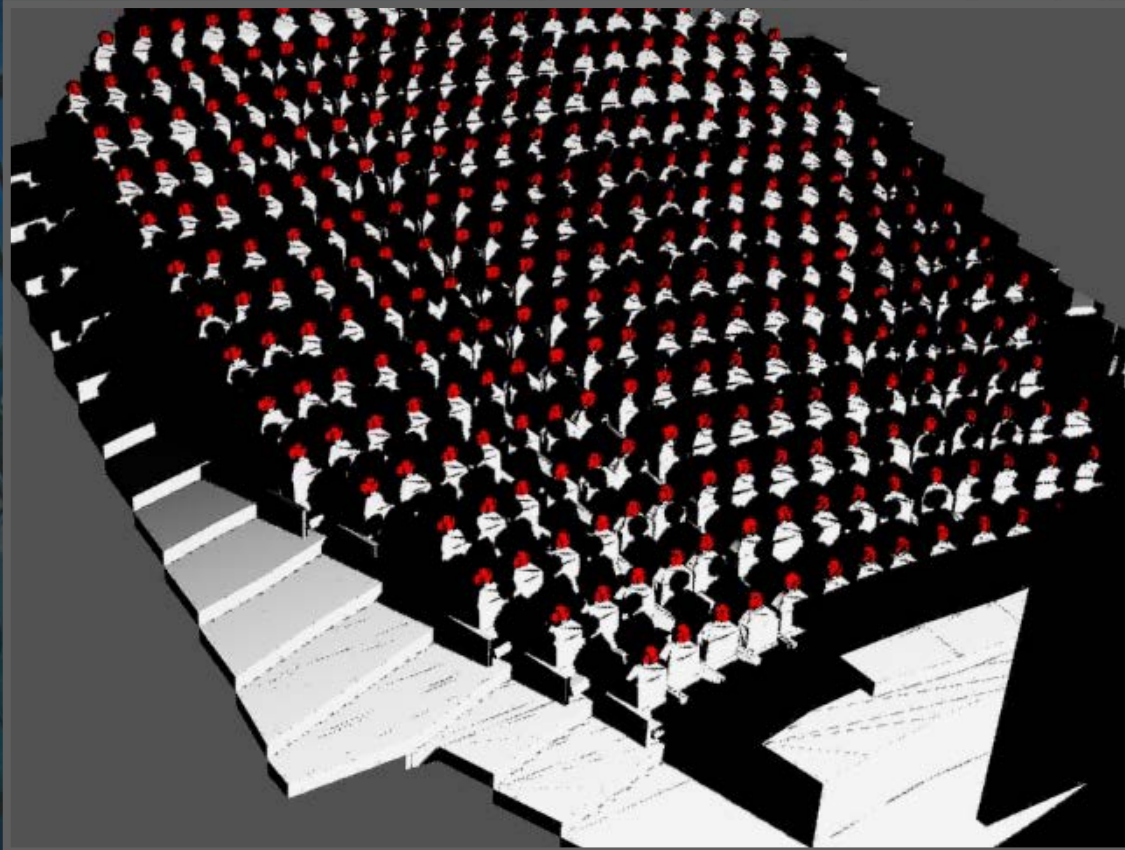
CITY UNIVERSITY OF HONG KONG



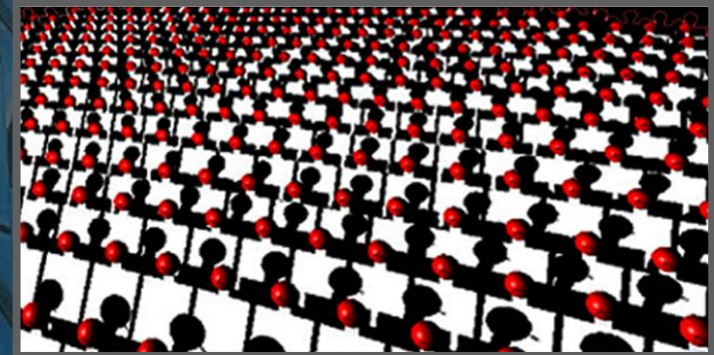
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P 944-567-890
E info@mycompany.com

Use of Building Information Modeling (BIM)

1. Design visualization
2. Drawing Productions
3. Services Co-ordination and Clash detection with other disciplines
4. Quantity taking and preparation of Tender Document
5. Automated Statutory Submission
6. **Scientific analysis of different environmental aspects** 様々な環境
解析
7. Supply Chain Integration with the manufacturing and production
8. Complex Geometry



Unsatisfactory sightlines

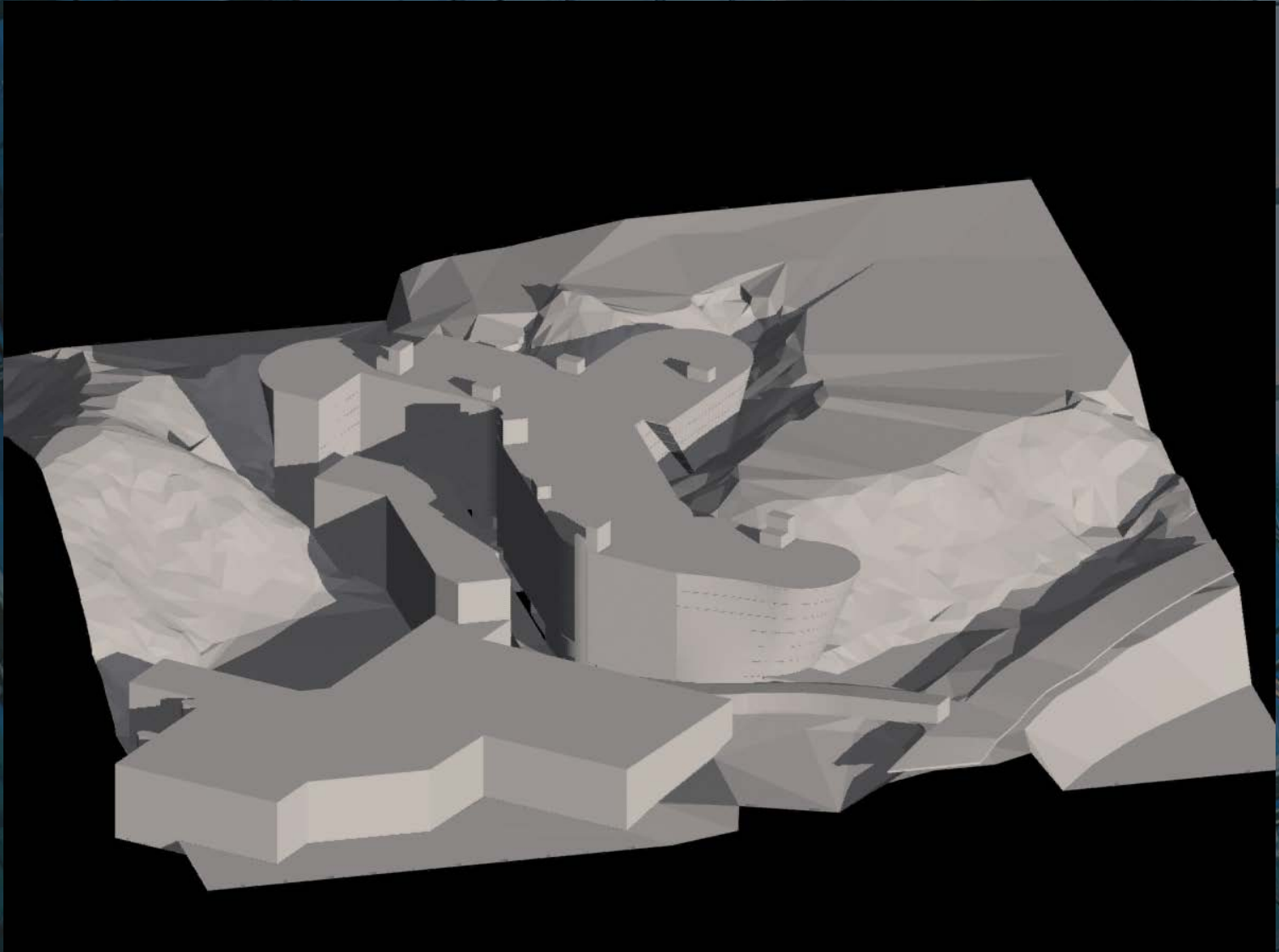


Satisfactory sightlines

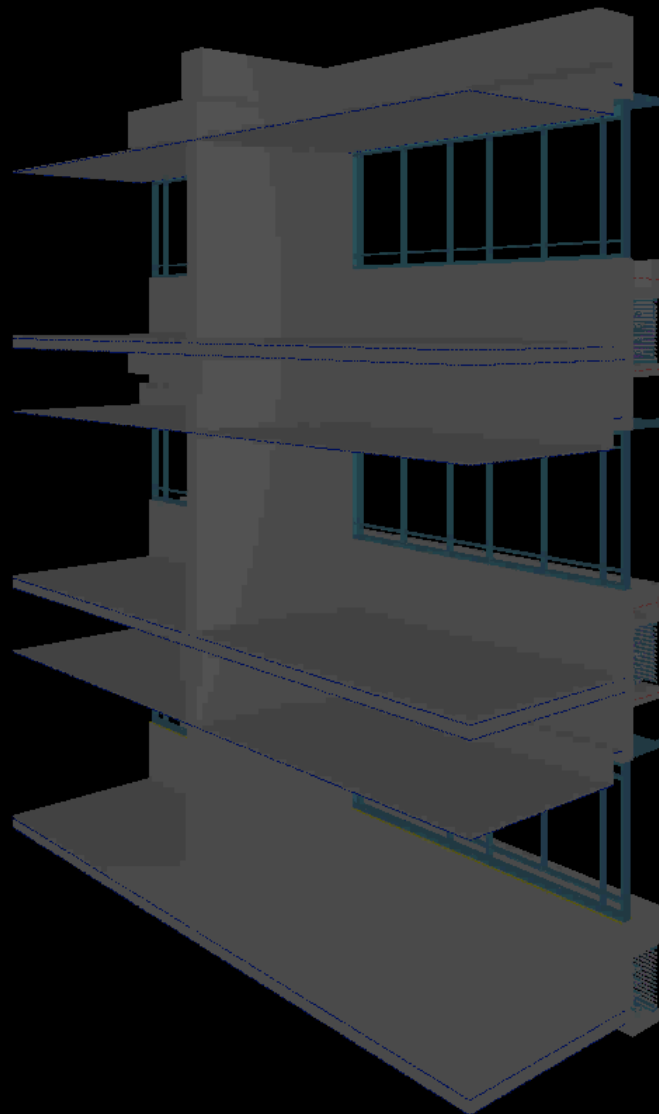
Radiating Light Method

SIGHTLINE STUDIES

ANALYSIS



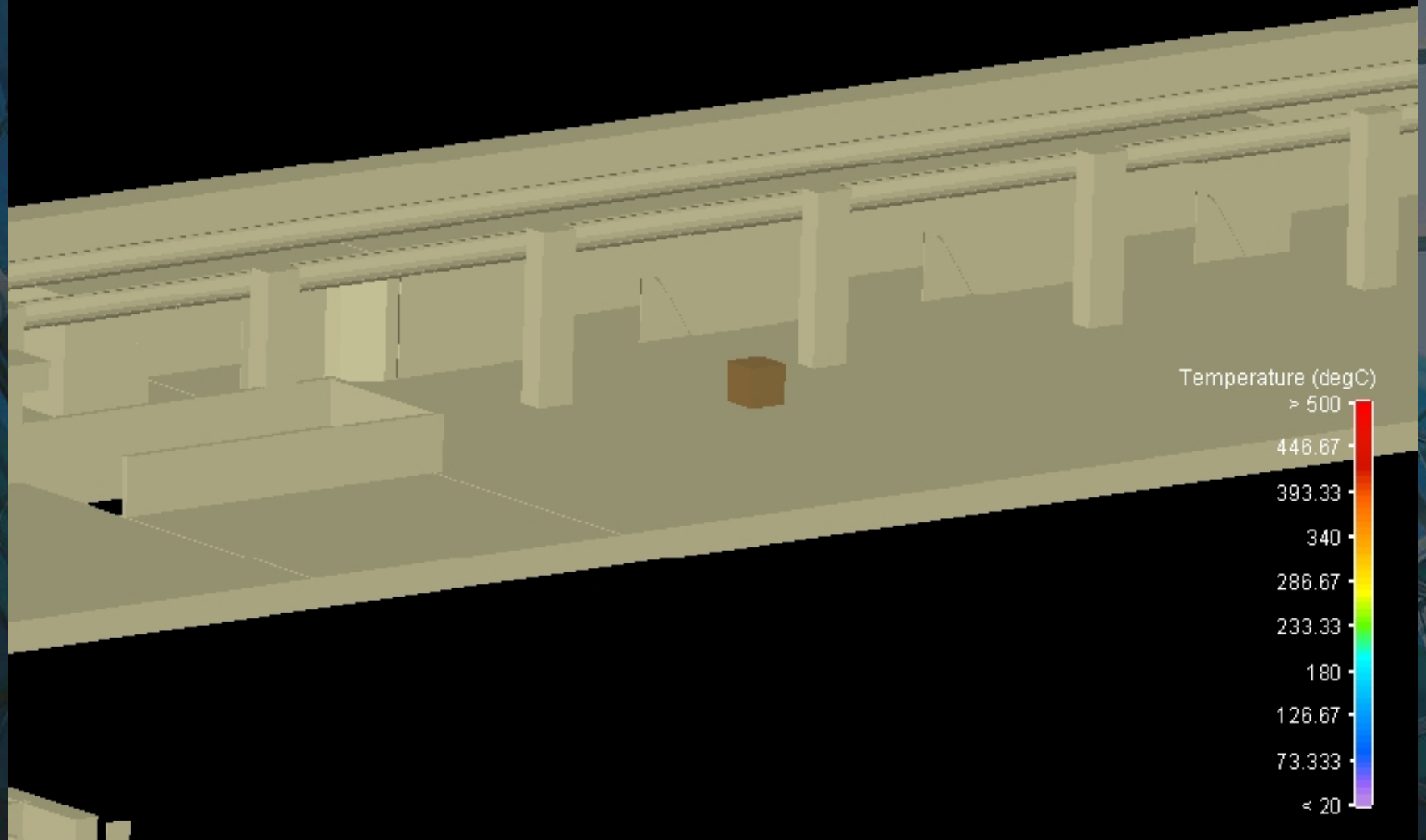
SUN STUDY



FAÇADE SOLAR STUDY
21/12/2006 7:00am – 6:00pm

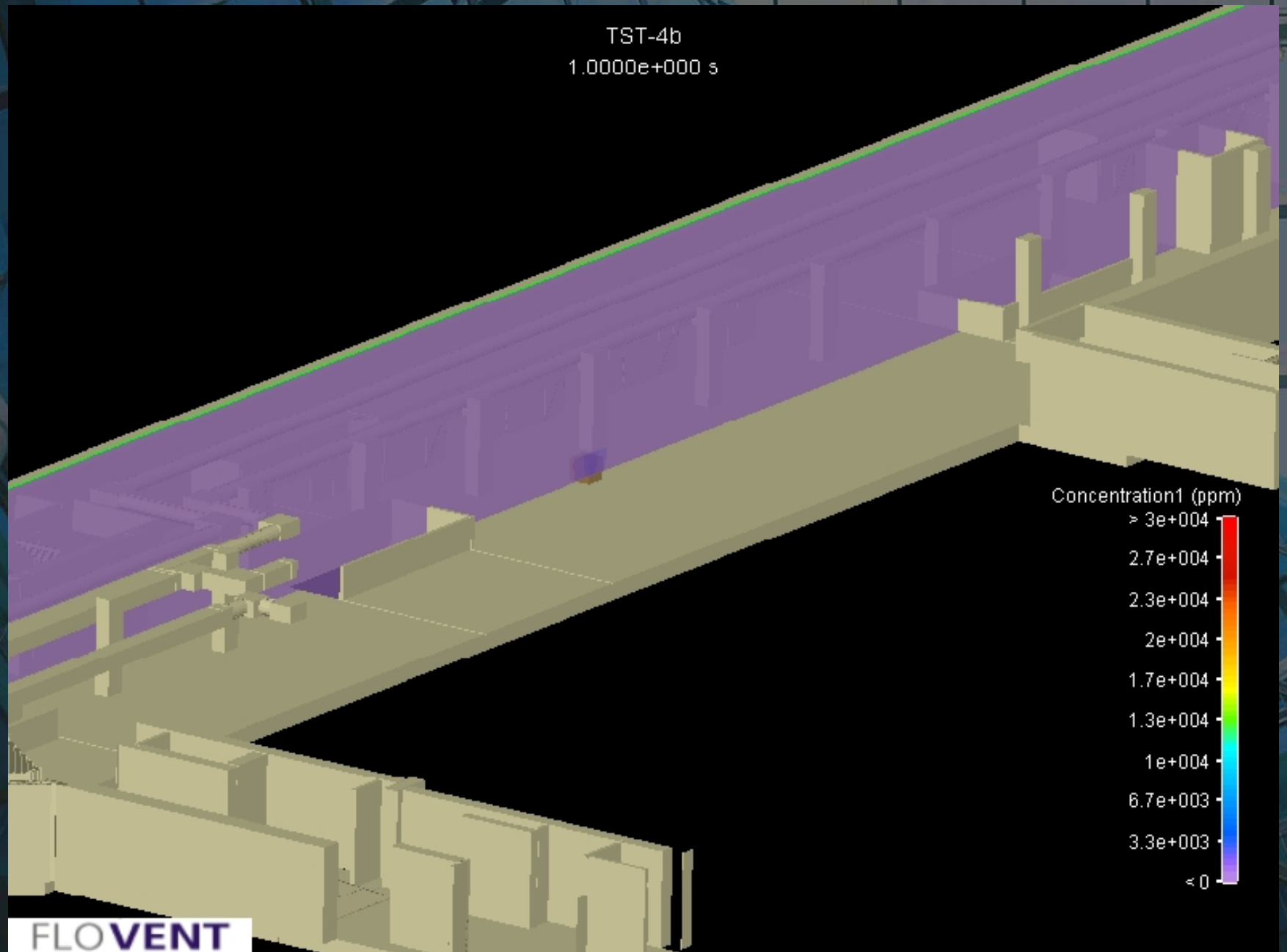
ANALYSIS

TST-4c
1.0000e+000 s

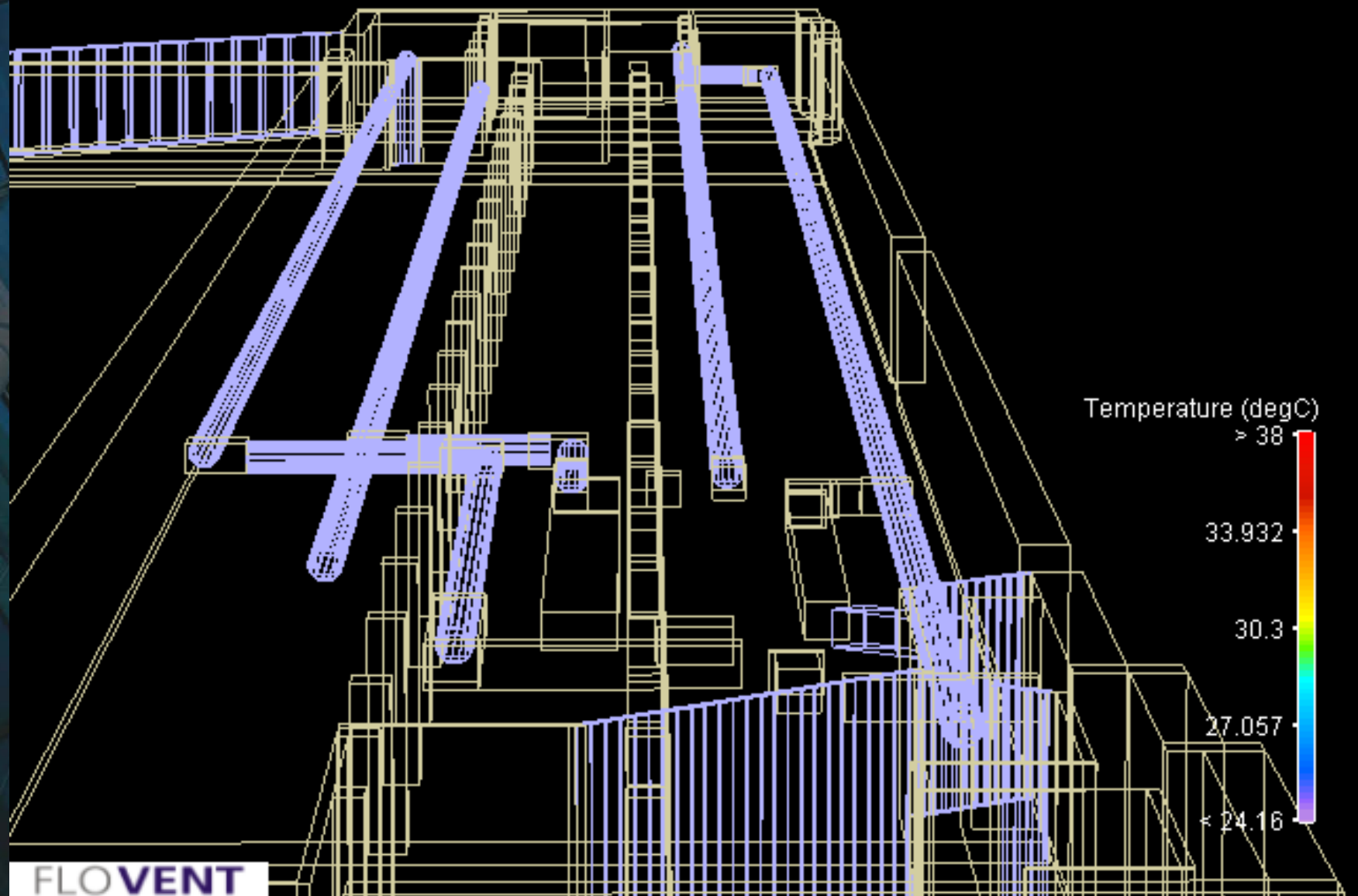


ANALYSIS

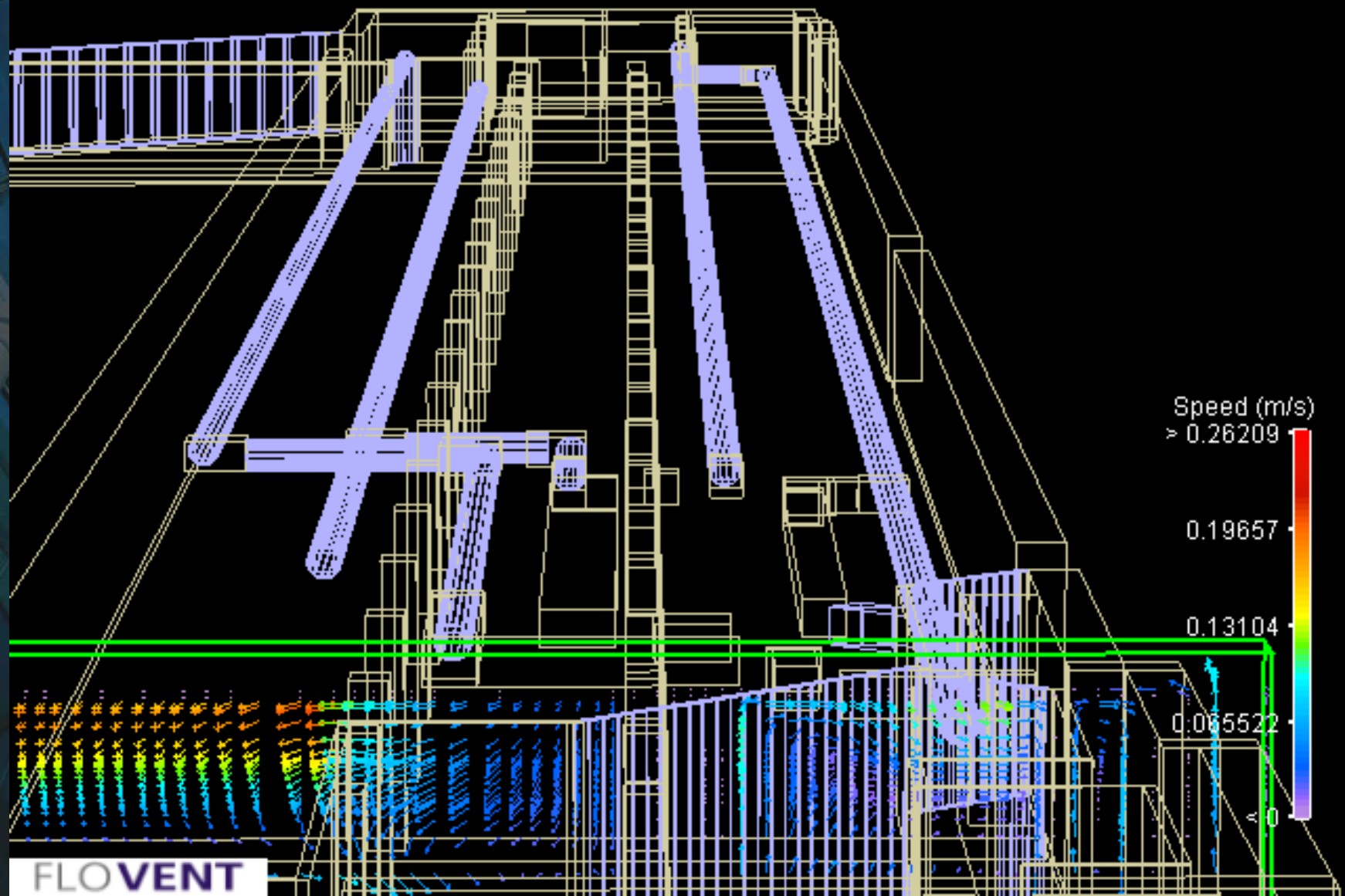
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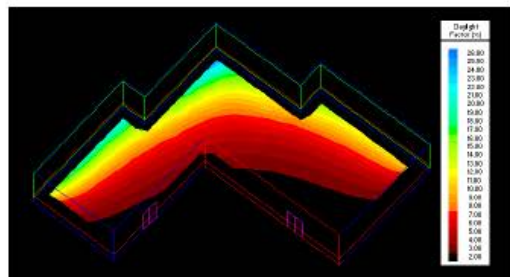


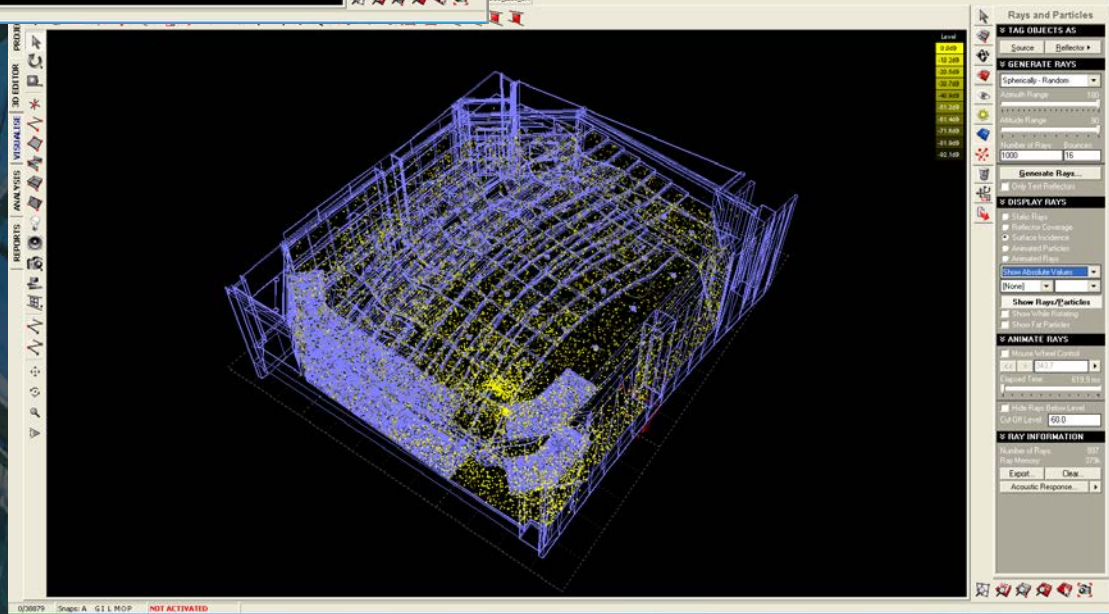
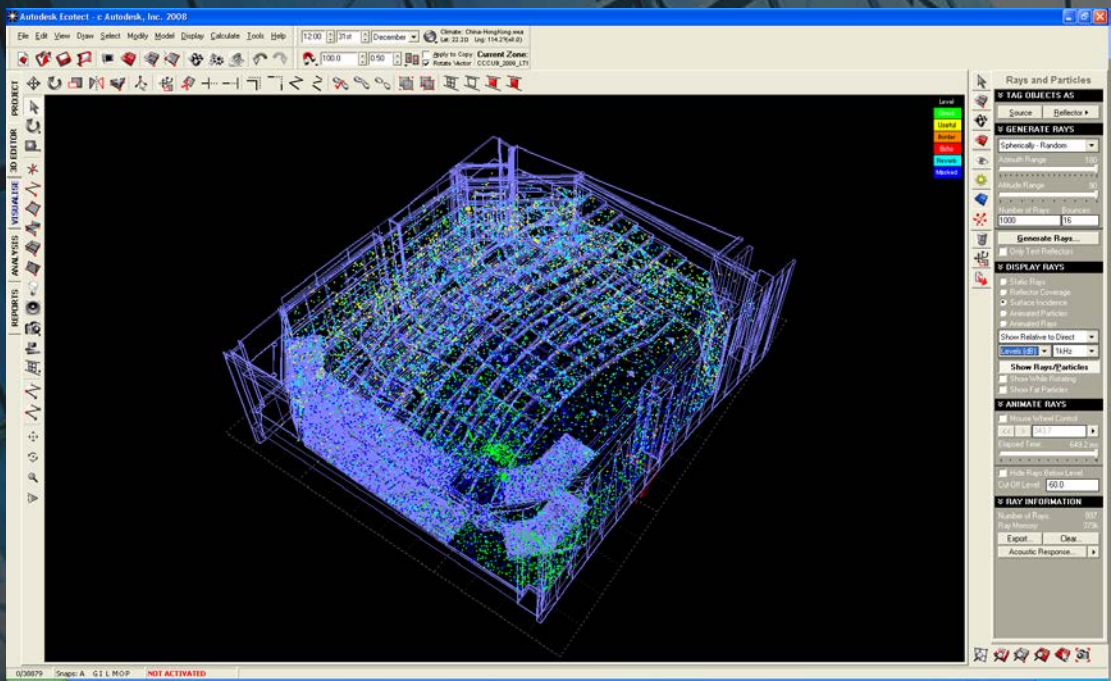
ANALYSIS



ANALYSIS





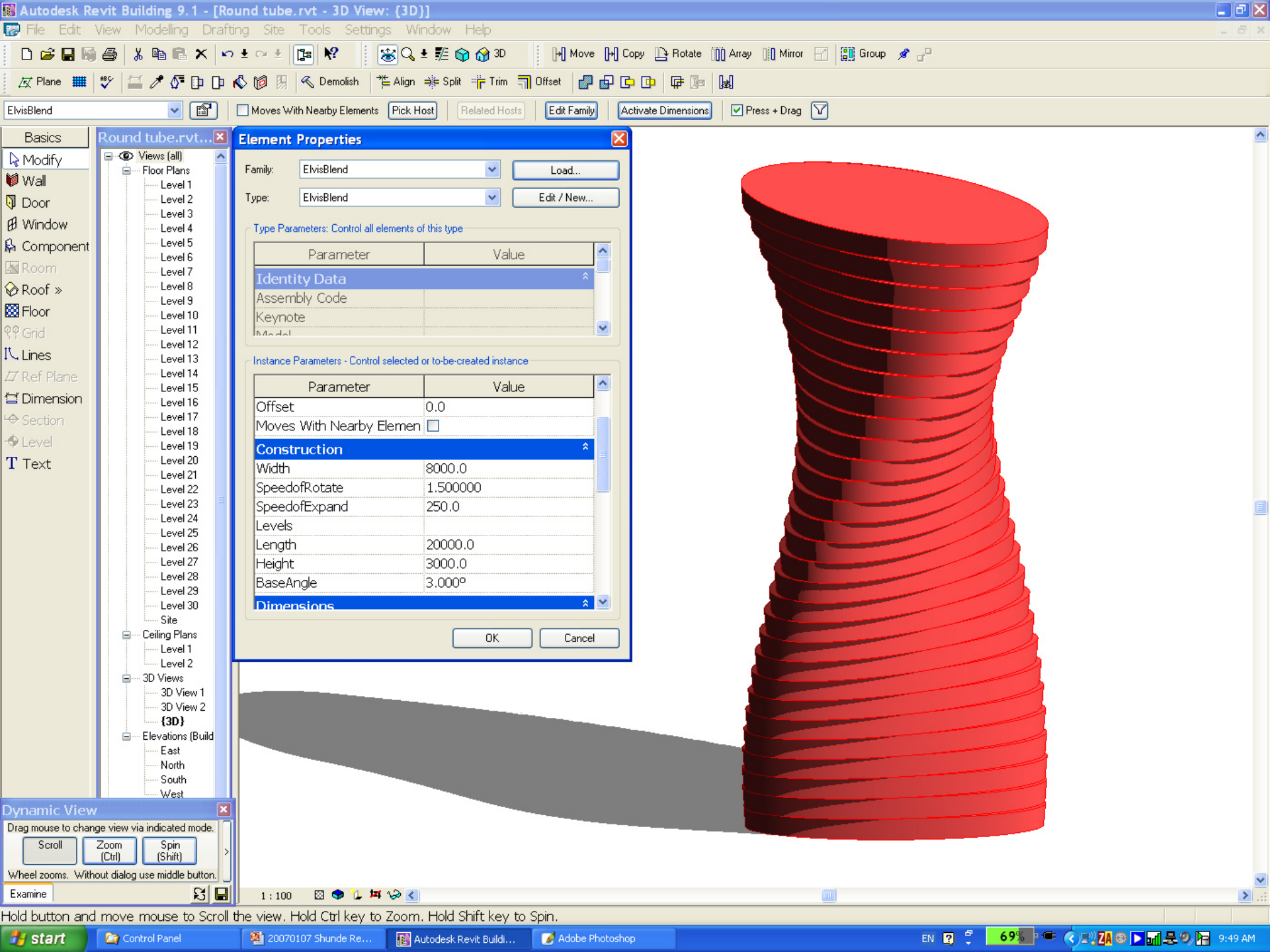


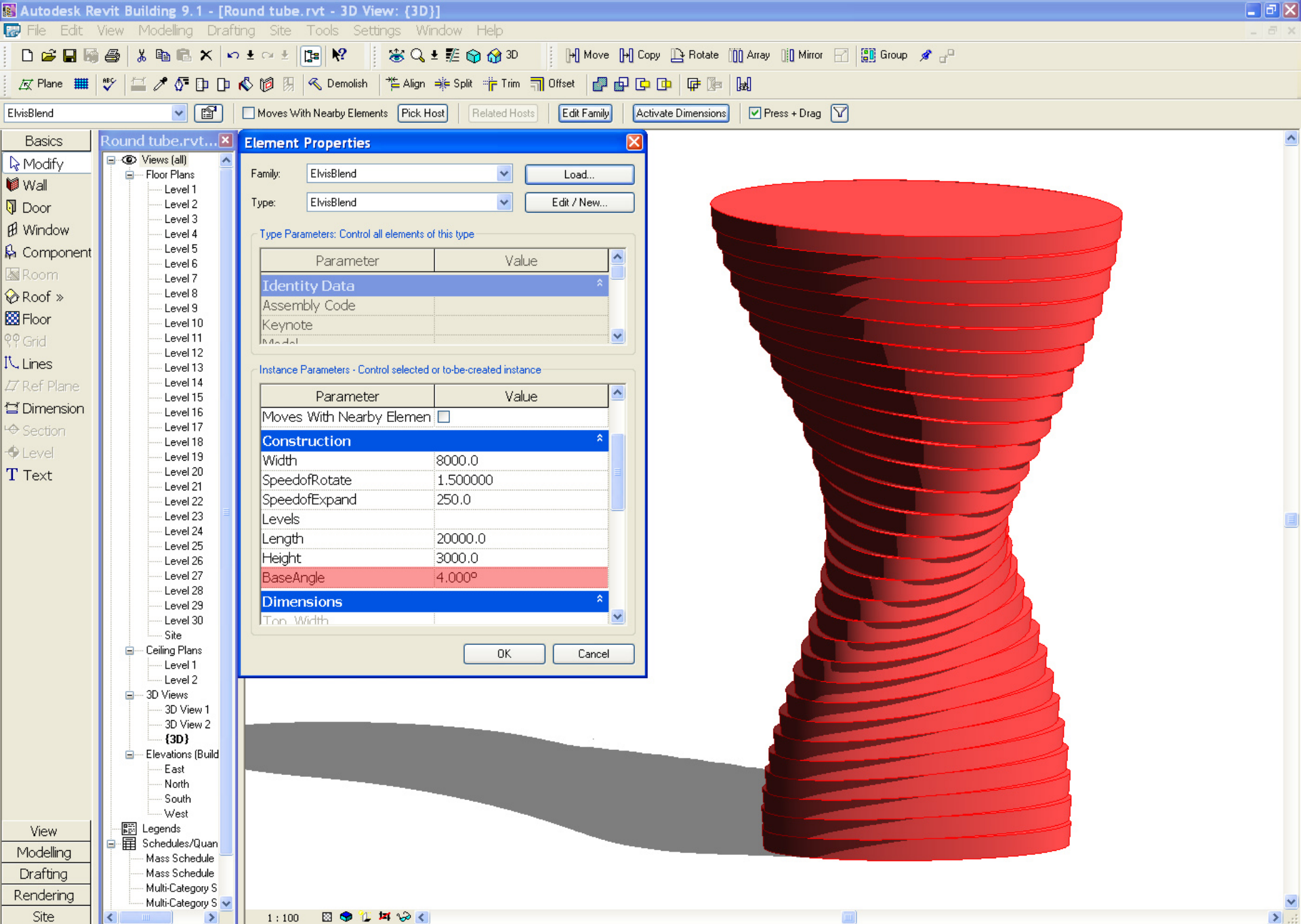
Use of Building Information Modeling (BIM)

1. Design visualization
2. Drawing Productions
3. Services Co-ordination and Clash detection with other disciplines
4. Quantity taking and preparation of Tender Document
5. Automated Statutory Submission
6. Scientific analysis of different environmental aspects
7. **Supply Chain Integration with the manufacturing and production**
サプライヤとの連携
8. Complex Geometry

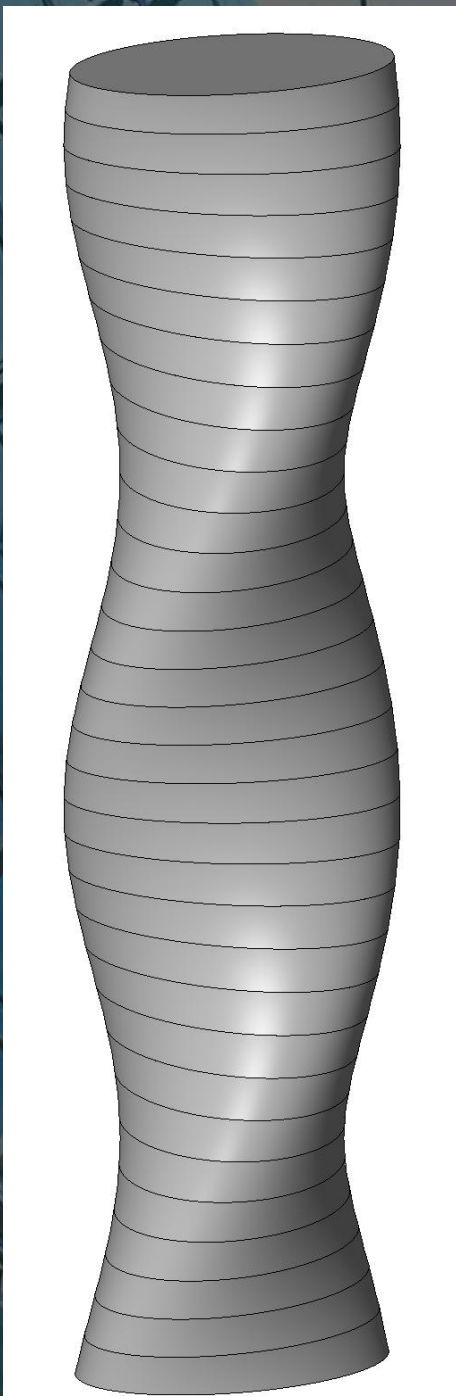
Use of Building Information Modeling (BIM)

1. Design visualization
2. Drawing Productions
3. Services Co-ordination and Clash detection with other disciplines
4. Quantity taking and preparation of Tender Document
5. Automated Statutory Submission
6. Scientific analysis of different environmental aspects
7. Supply Chain Integration with the manufacturing and production
8. **Complex Geometry** 複雑な形状を実現可能





Click to select, TAB for alternates, CTRL adds, SHIFT unselects.





absoluteworld BUILDING 2

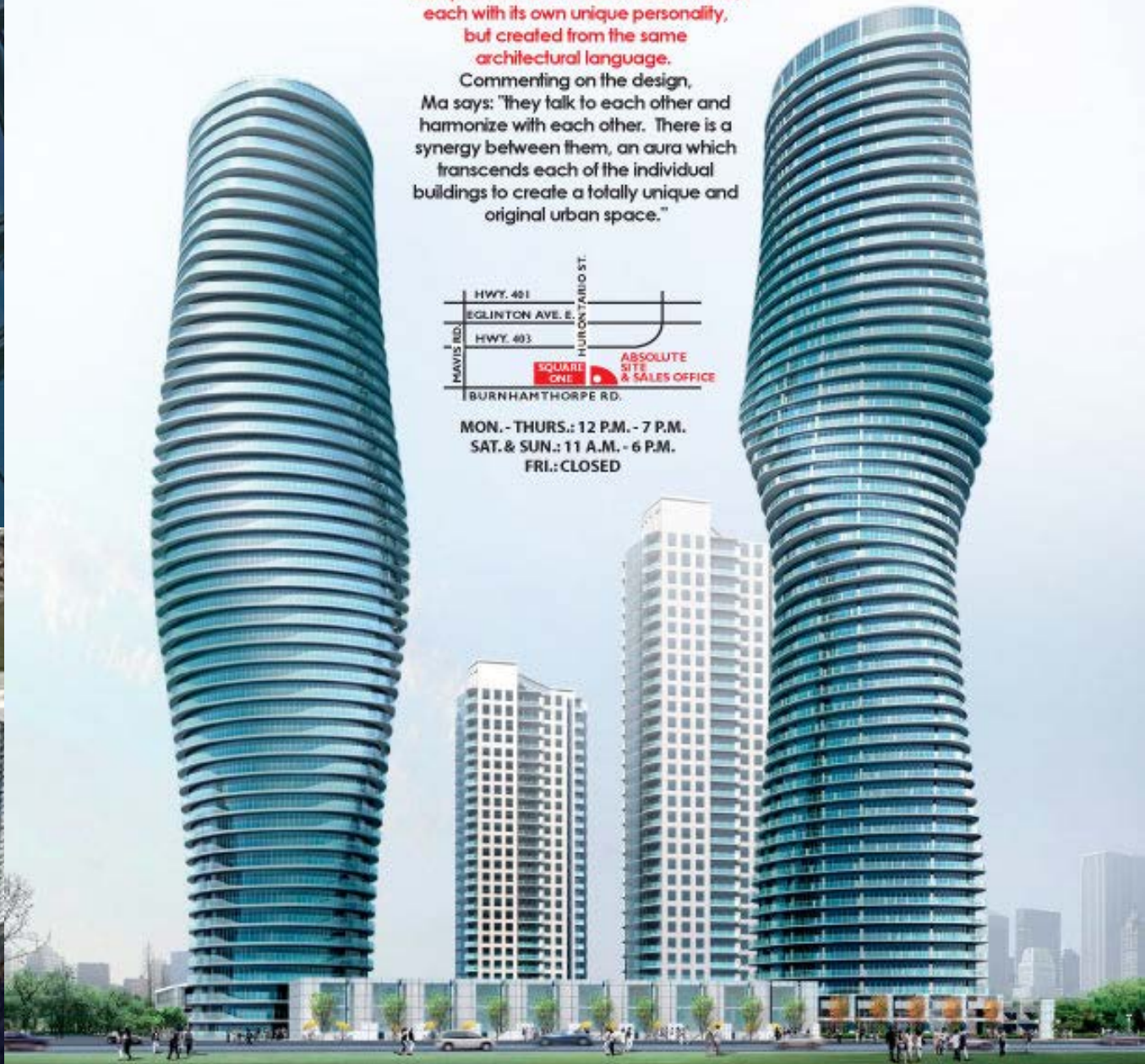
AbsoluteWorld's two buildings, as envisioned by their creator, Yansong Ma. The buildings were designed to complement and enhance each other, each with its own unique personality, but created from the same architectural language.

Commenting on the design, Ma says: "They talk to each other and harmonize with each other. There is a synergy between them, an aura which transcends each of the individual buildings to create a totally unique and original urban space."

absoluteworld BUILDING 1

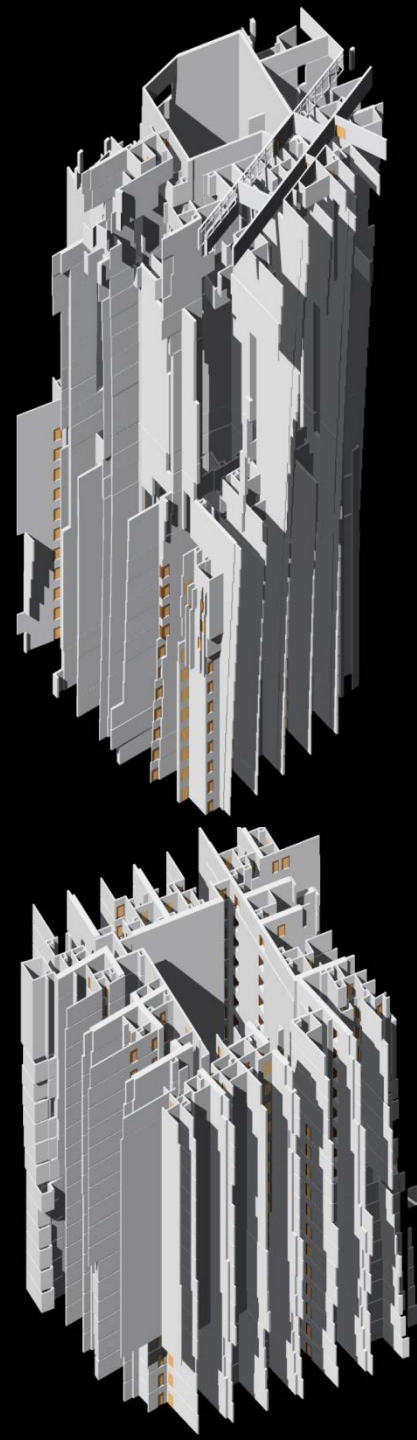


MON. - THURS.: 12 P.M. - 7 P.M.
SAT. & SUN.: 11 A.M. - 6 P.M.
FRI.: CLOSED

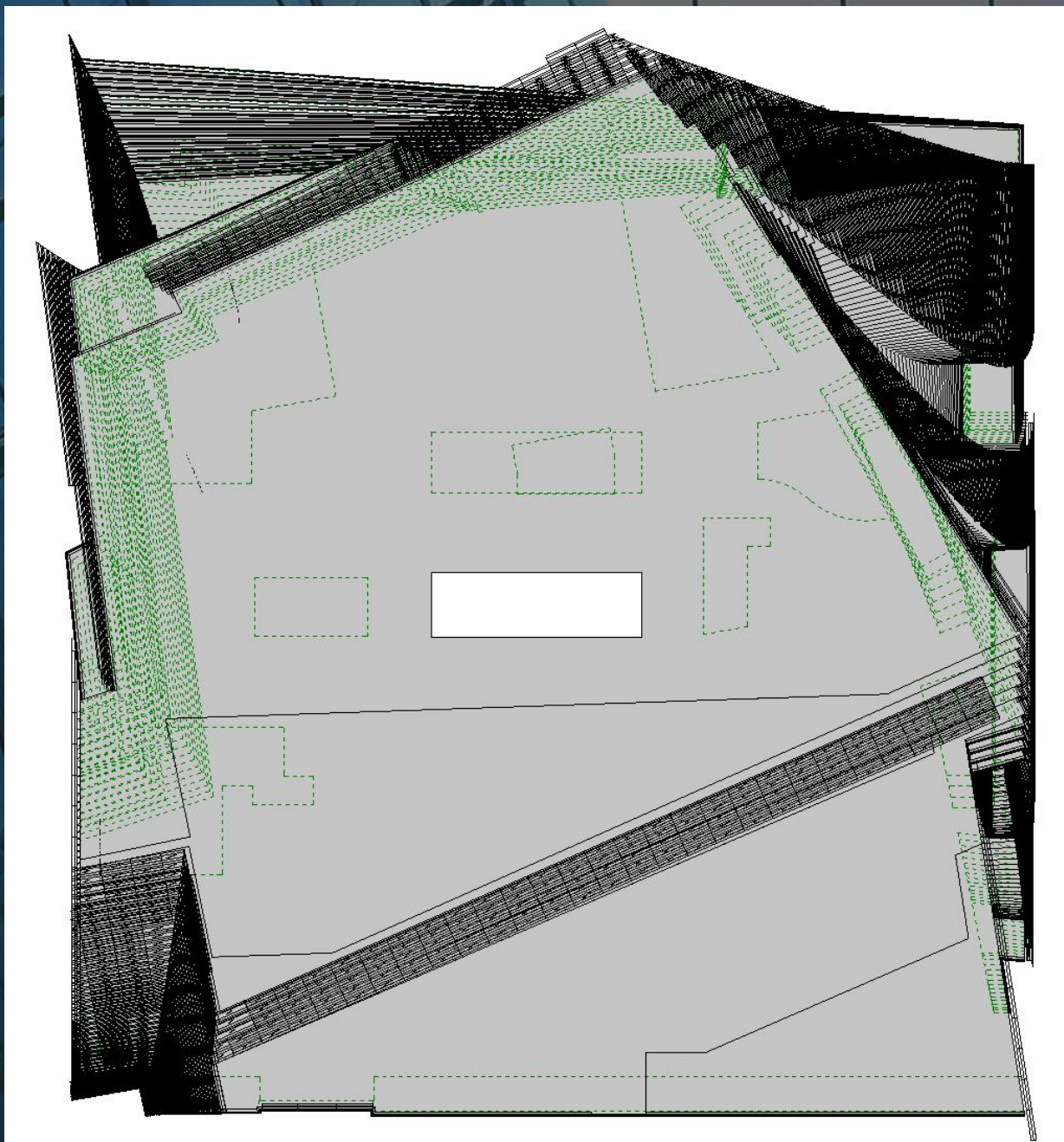


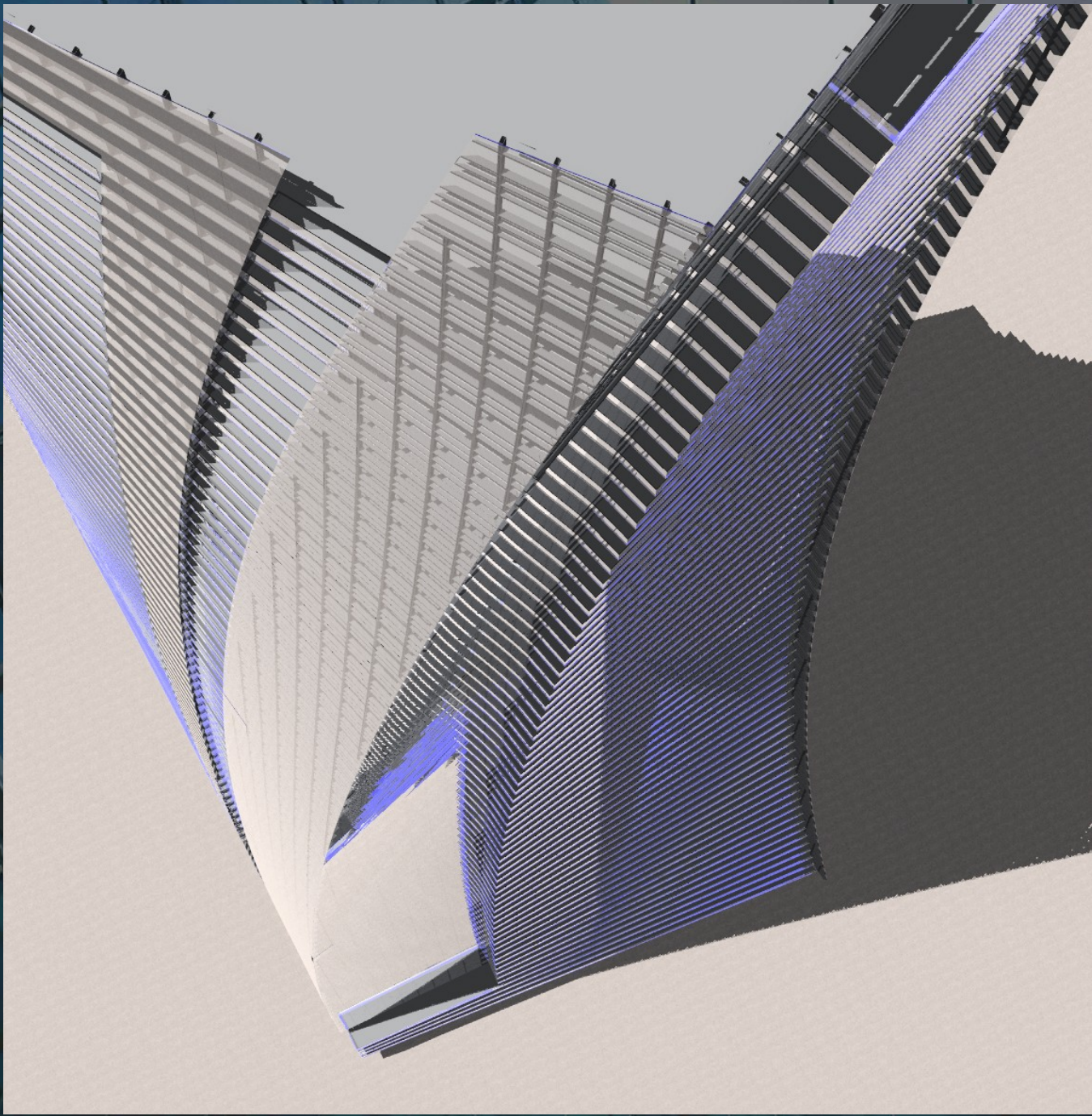
Program: Residential Site Area: 3,746 sqm
Floor Area: 659,659 sqm Building Height: 345 m

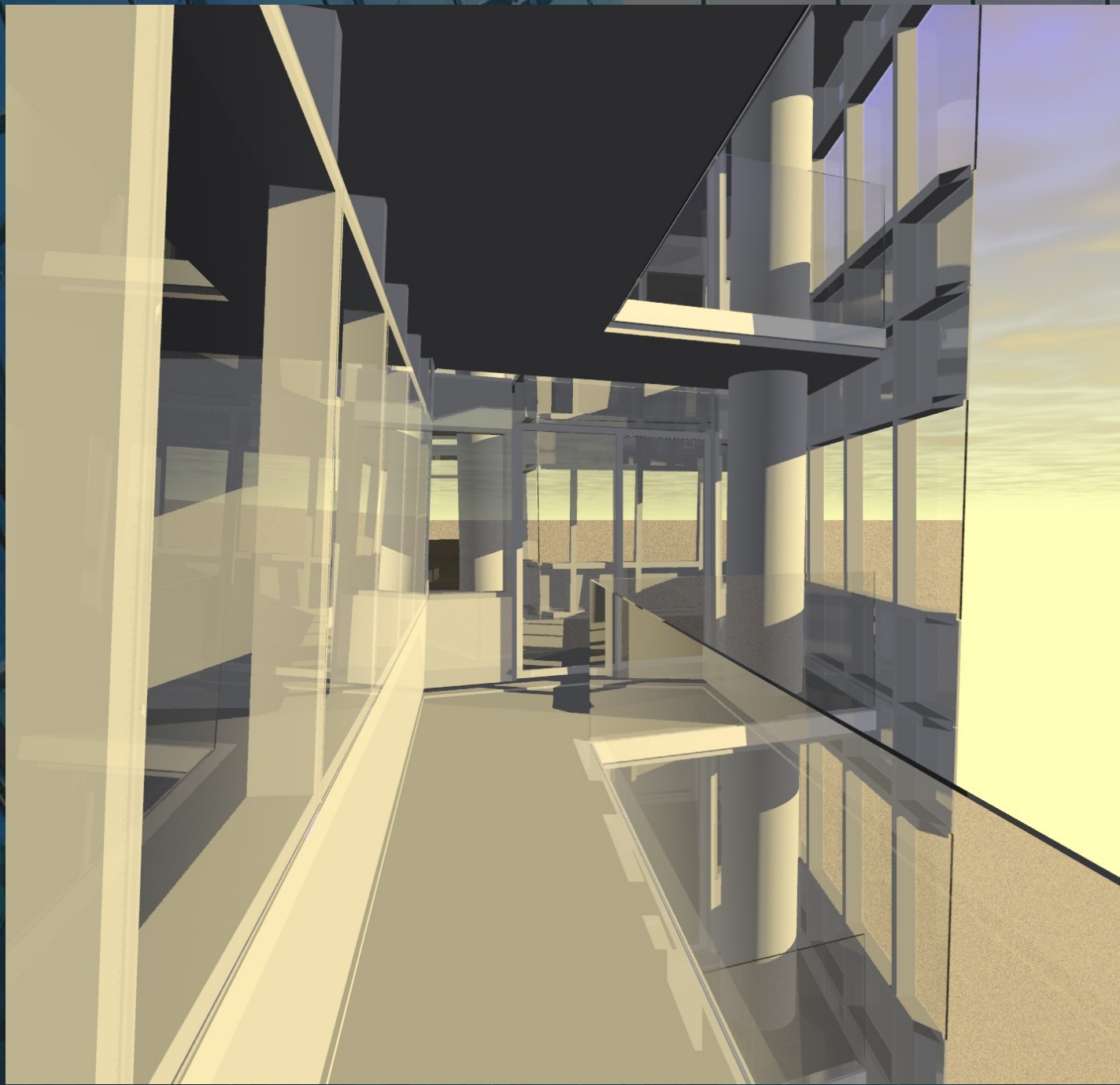
Dubai **Ocean Heights One**

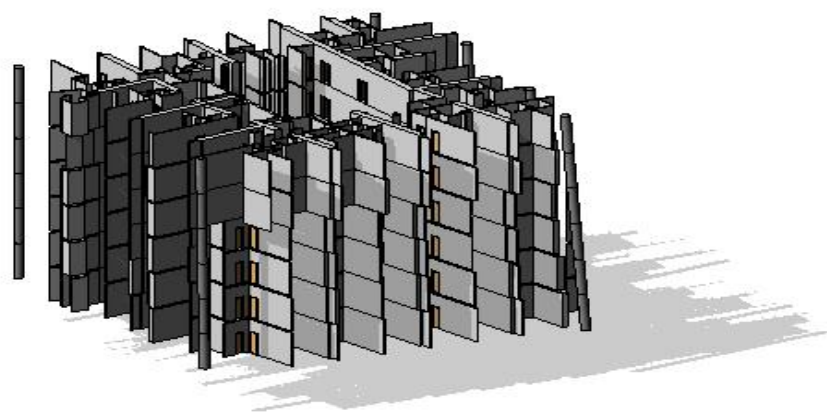


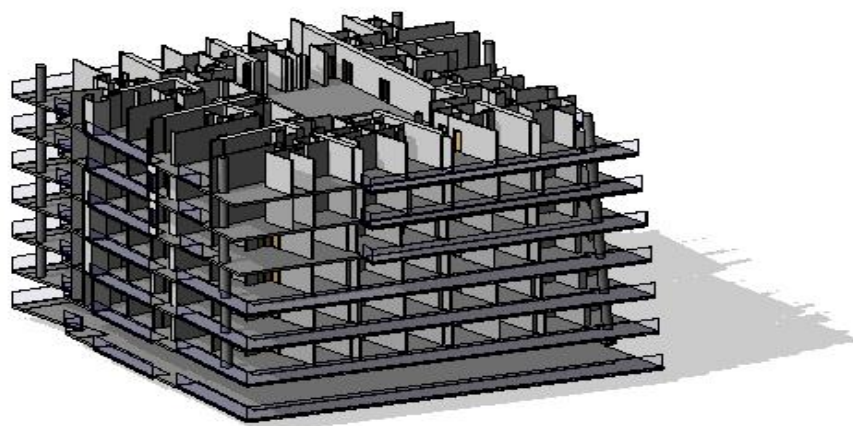
COMPLEX GEOMETRY





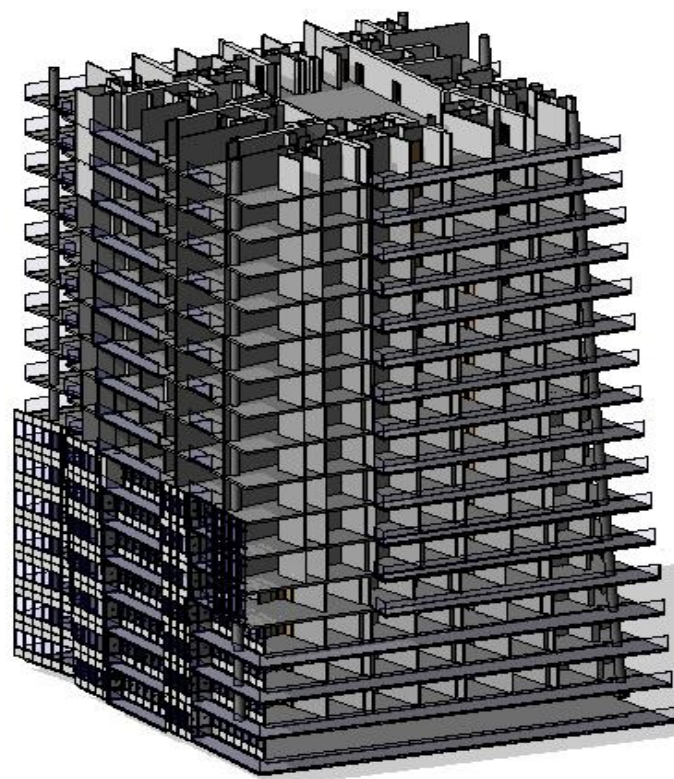




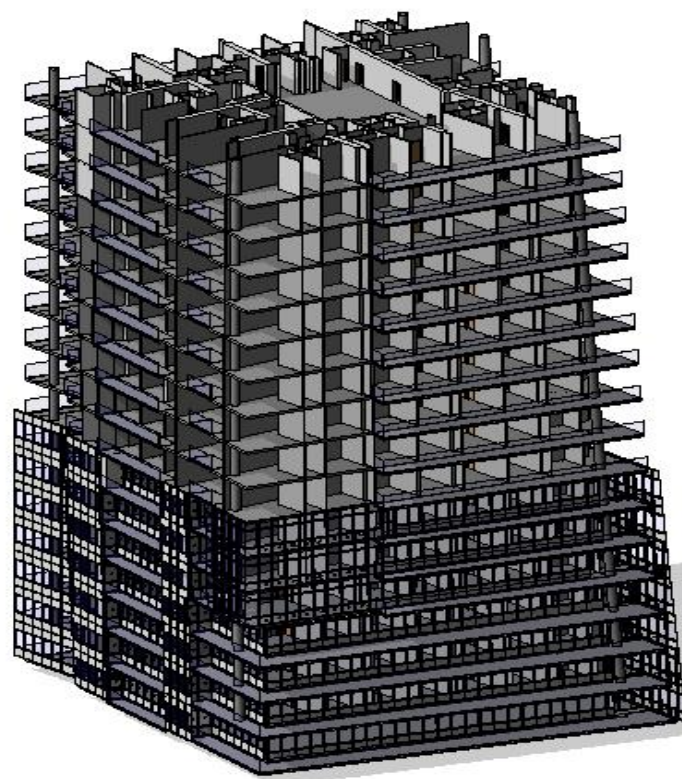






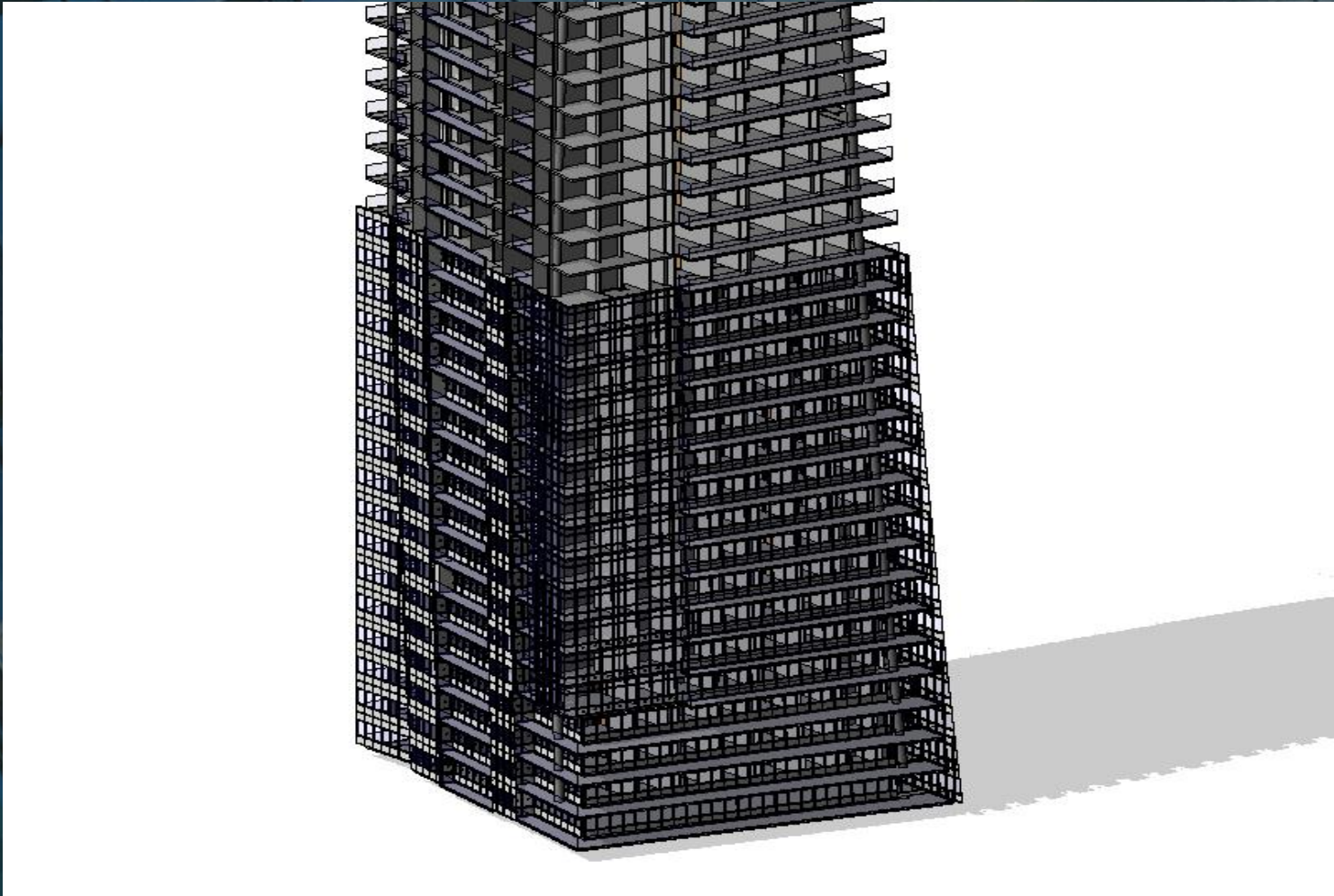




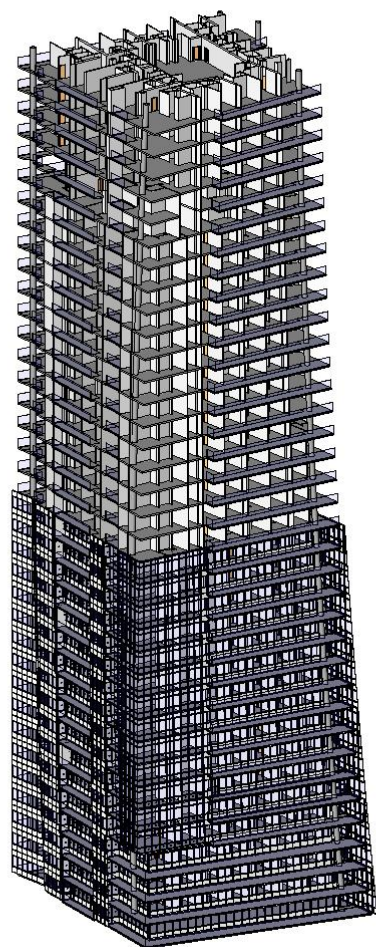


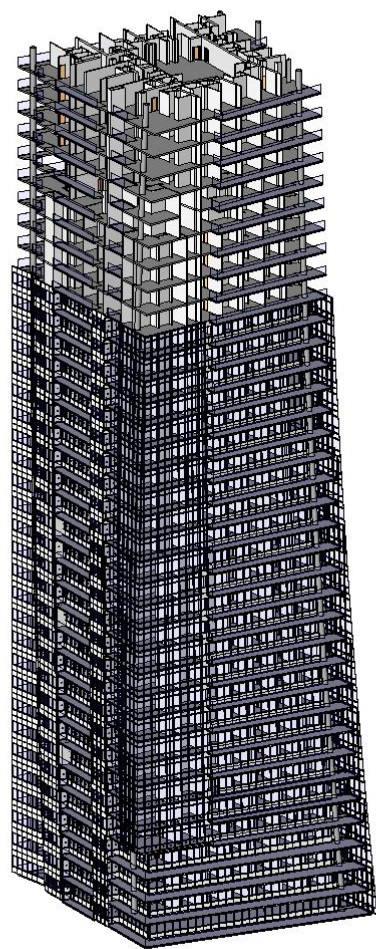


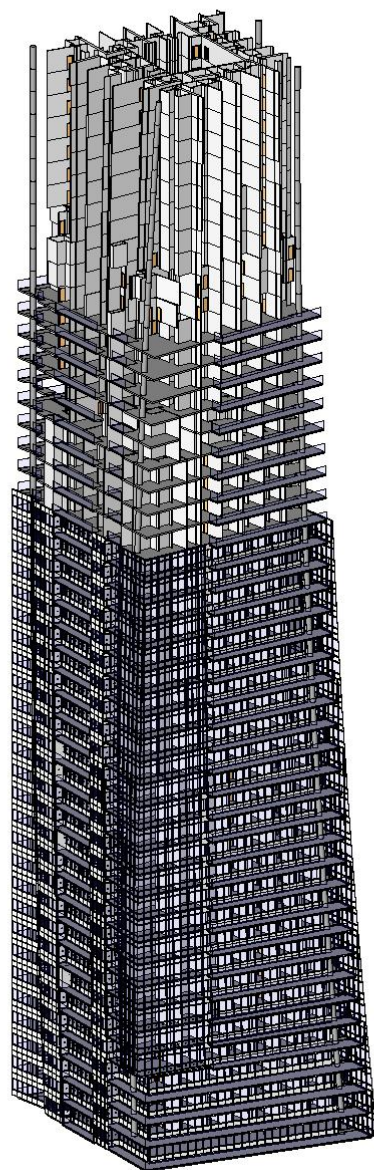


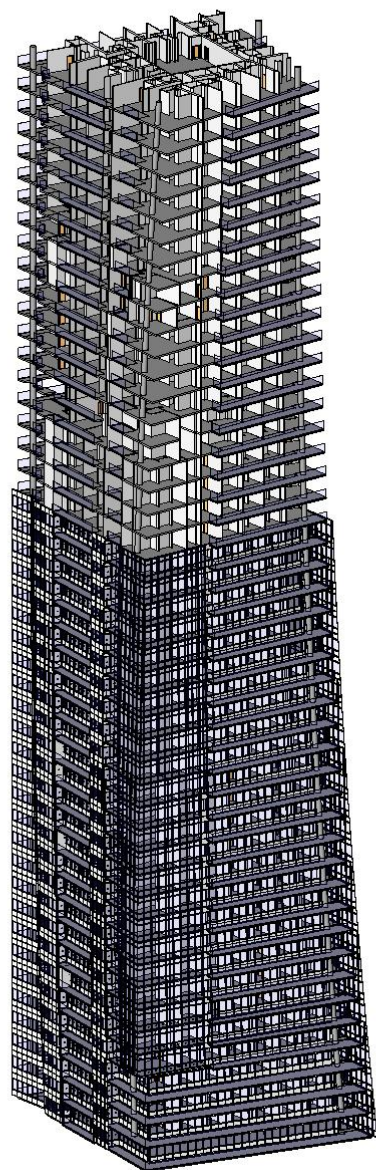


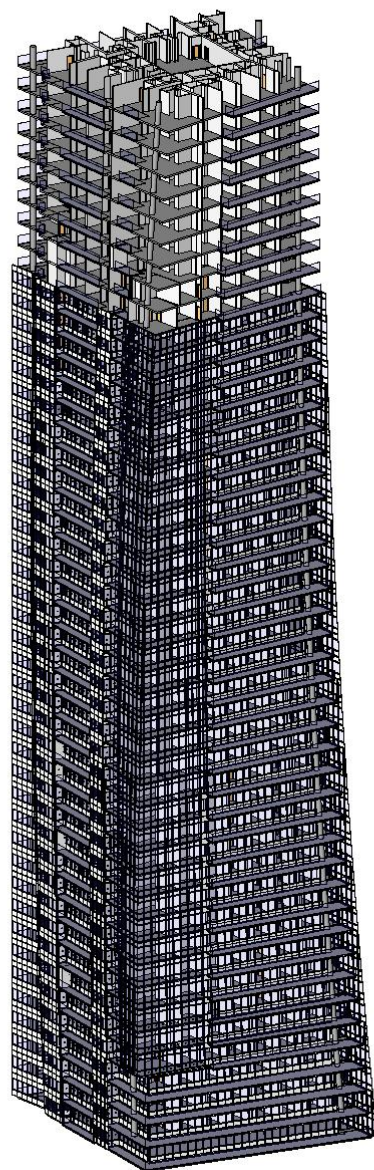


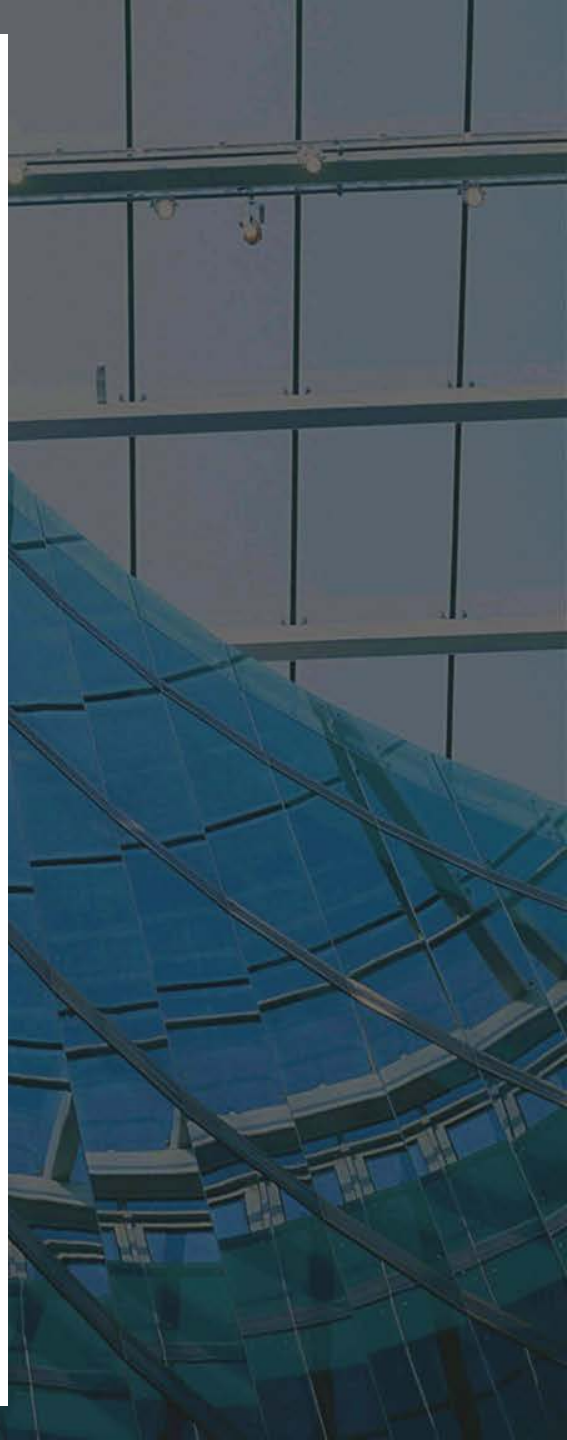
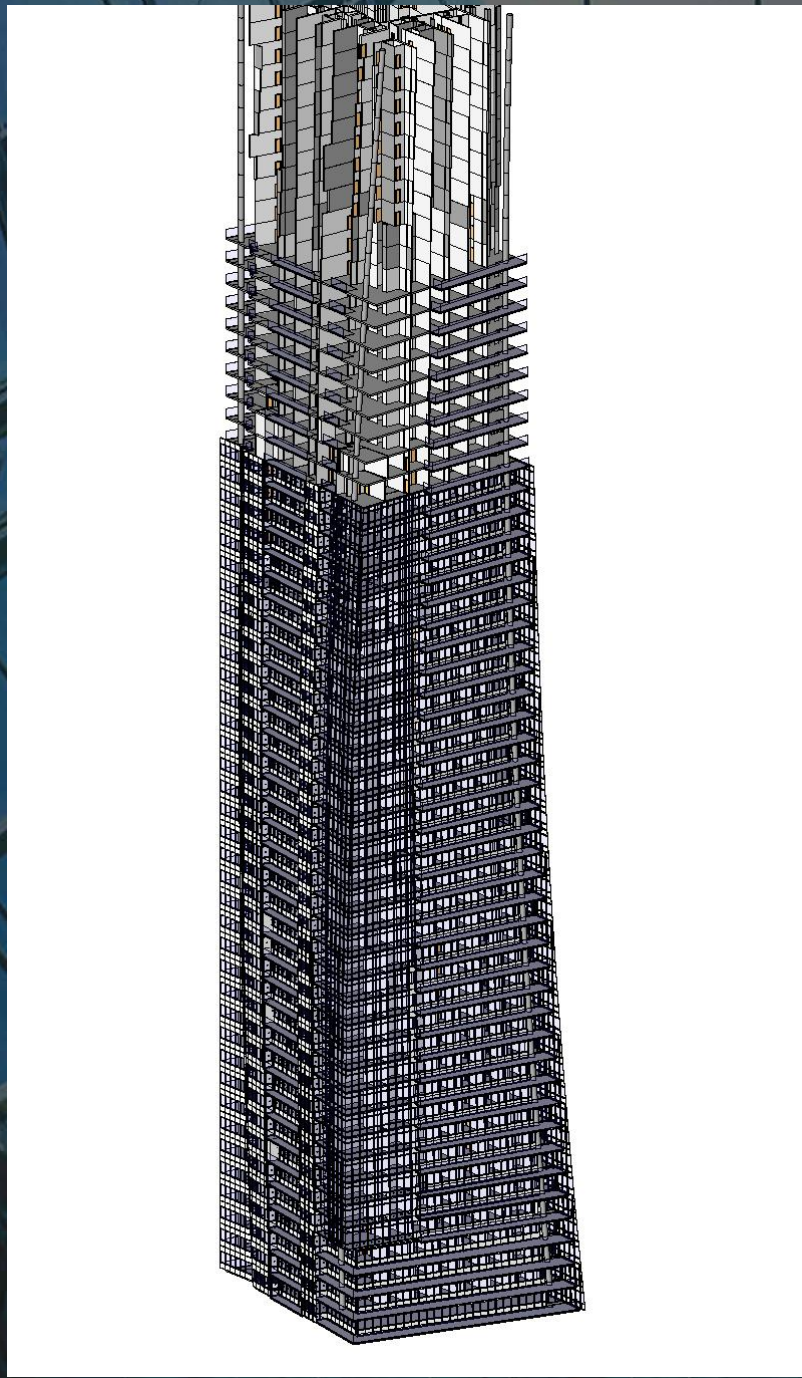


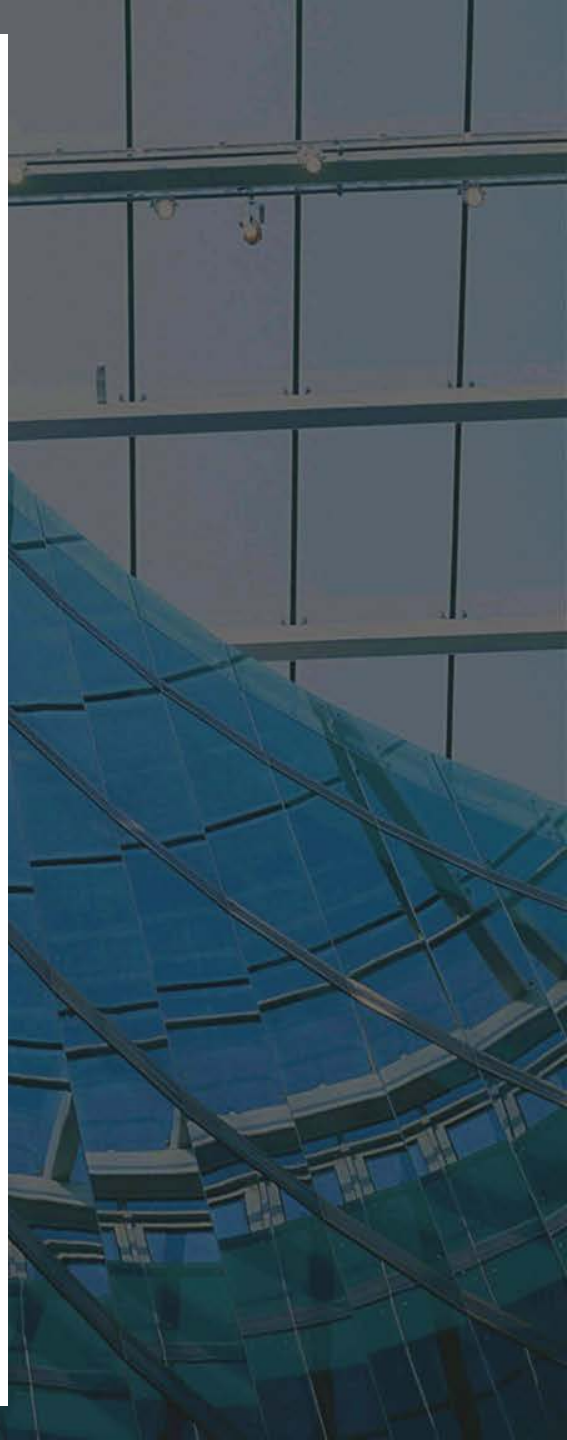
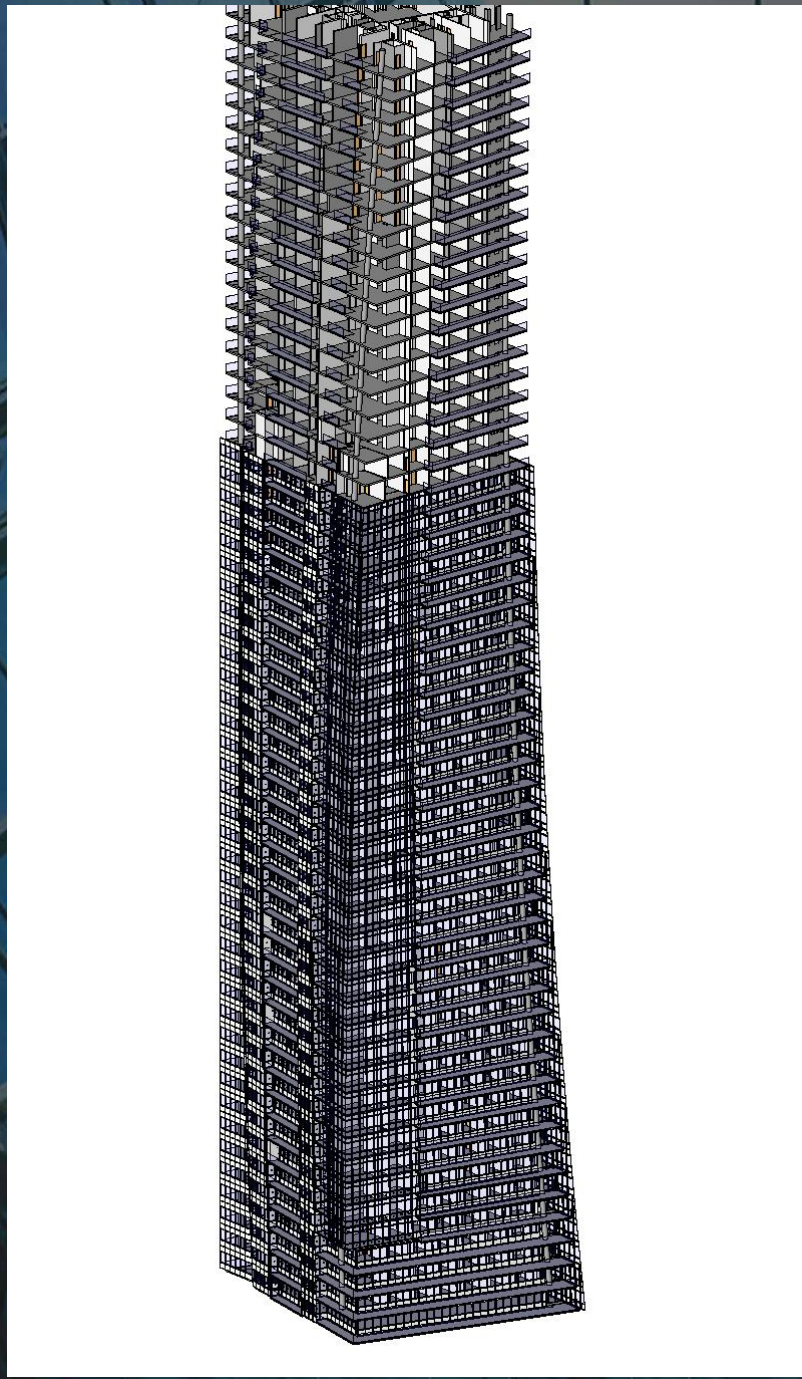


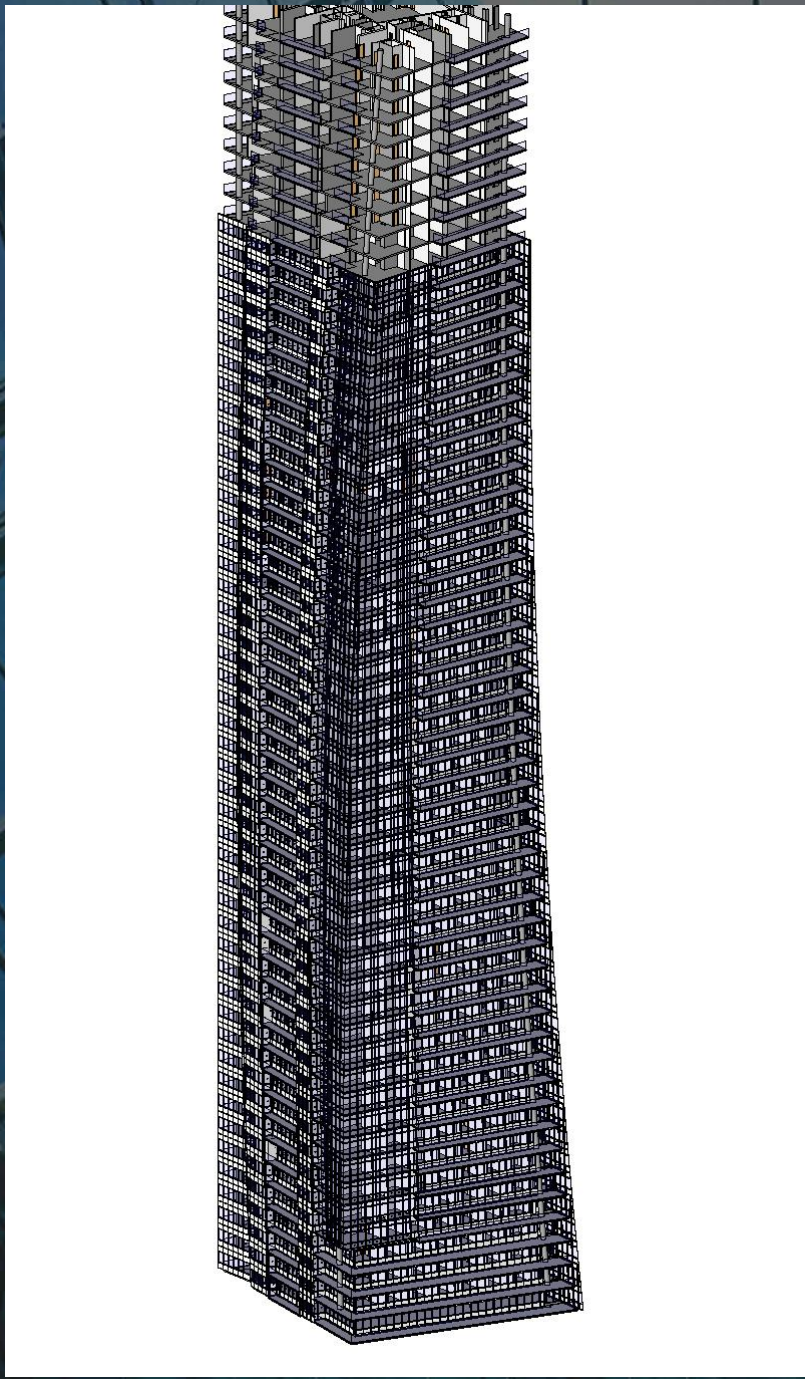






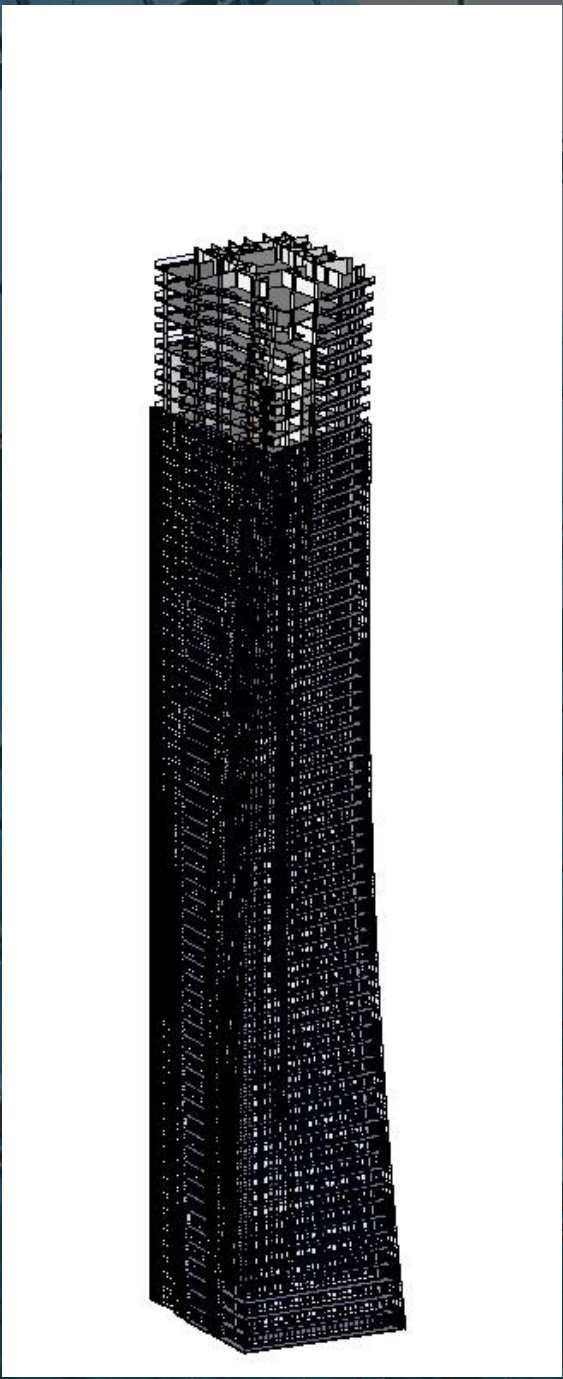




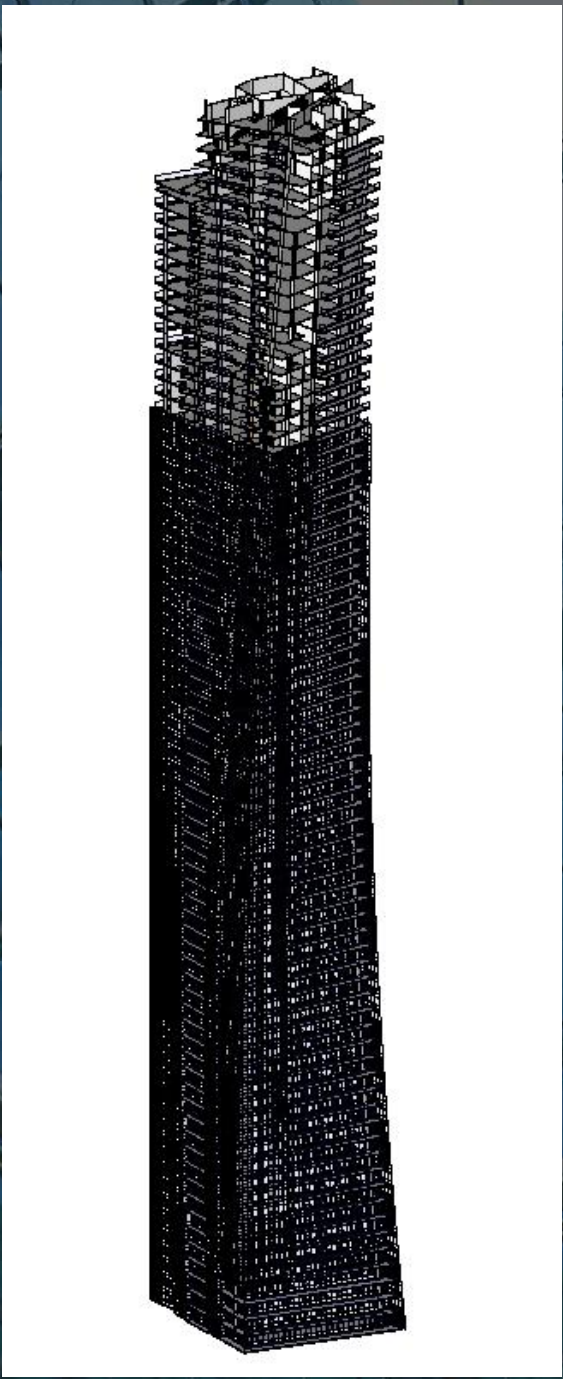






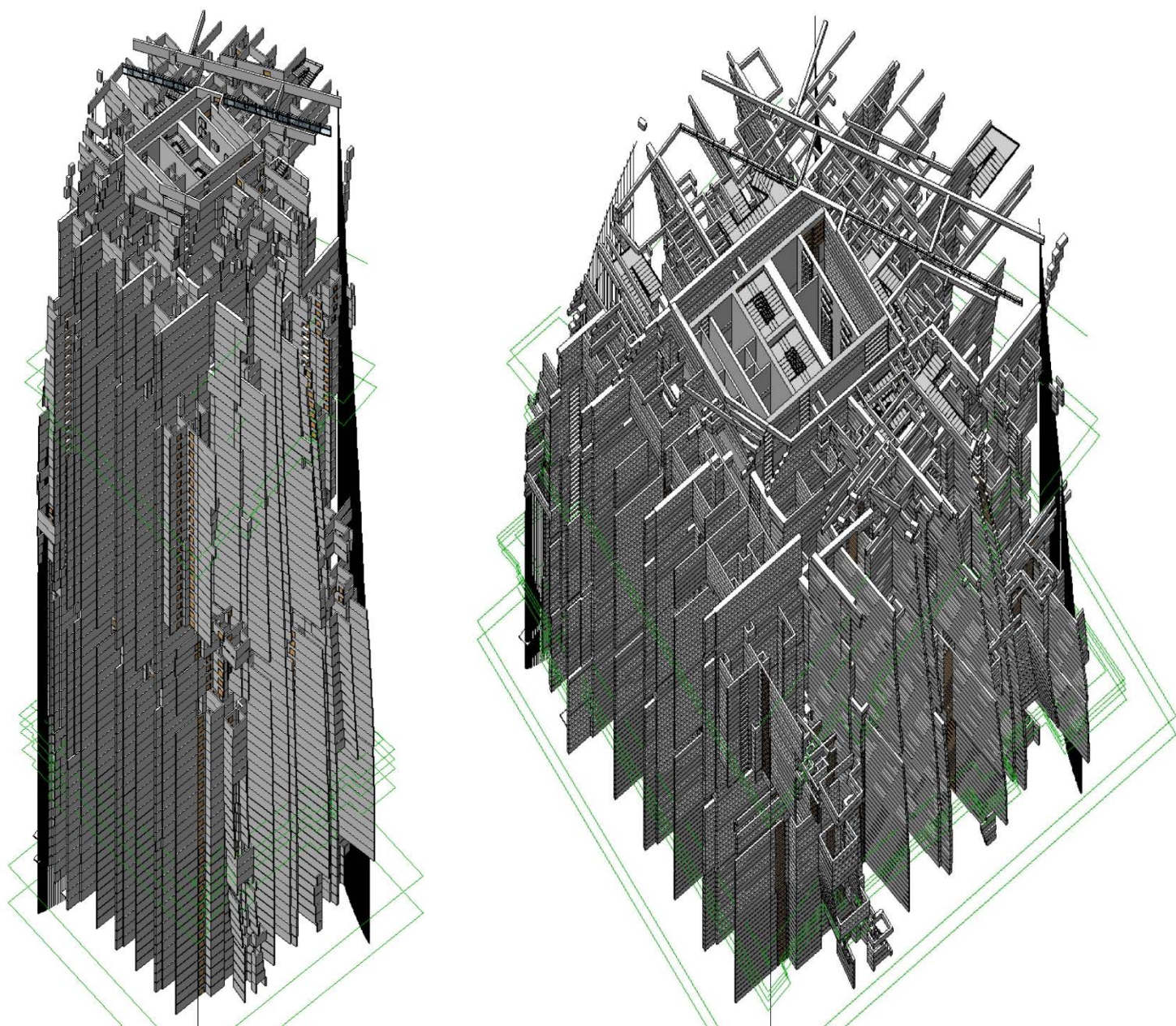




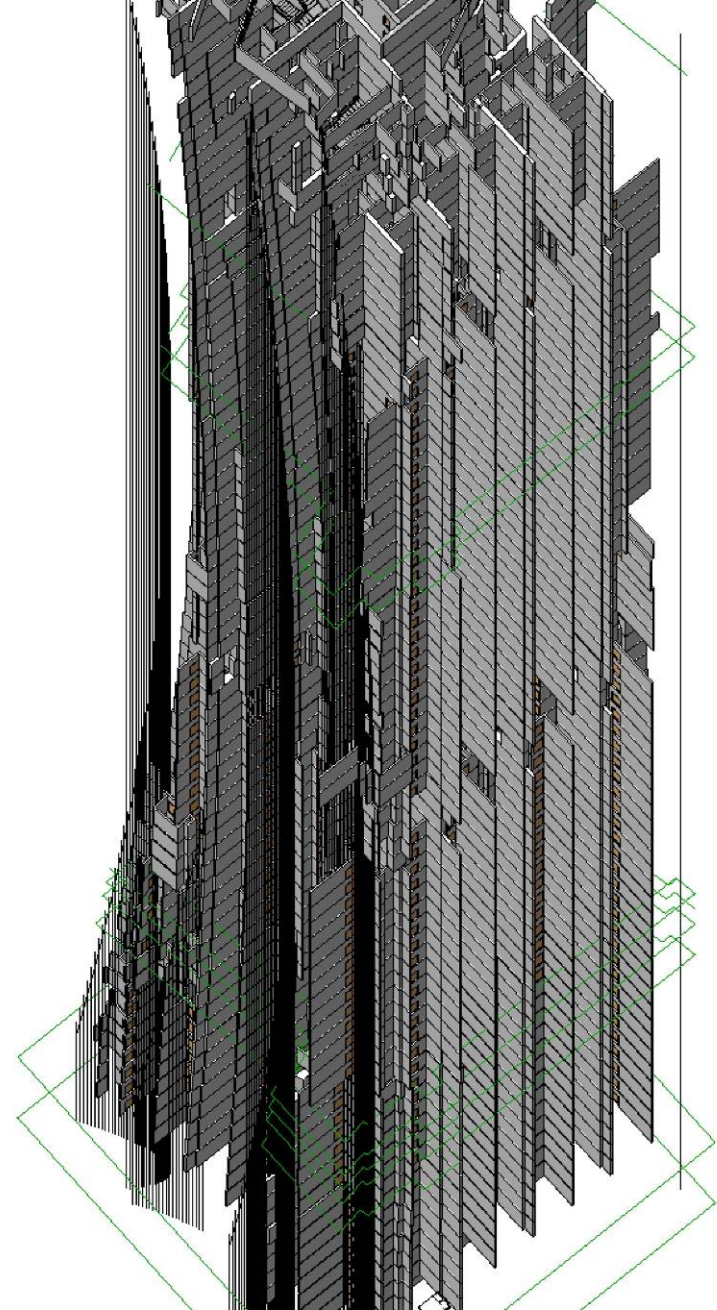
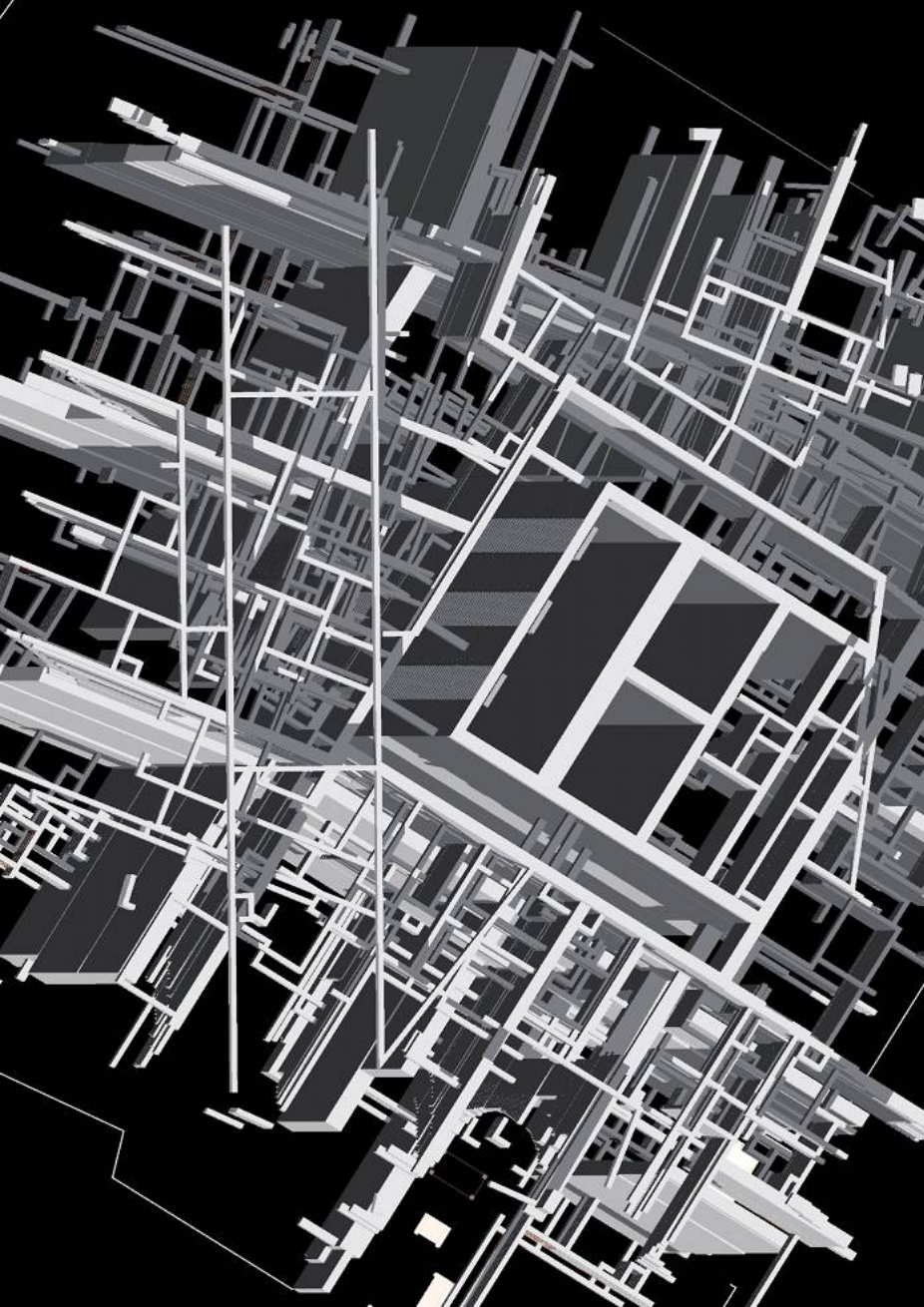




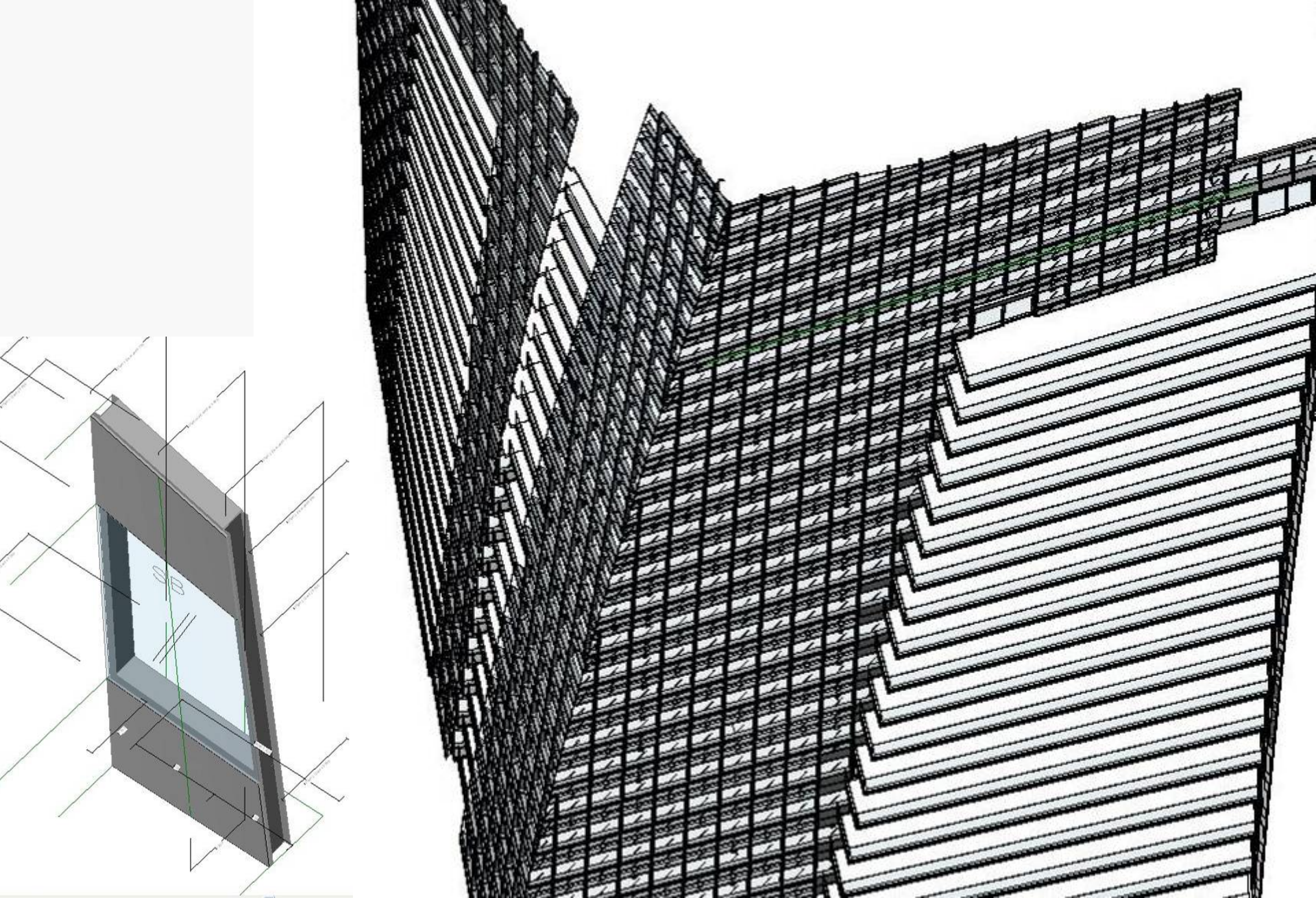




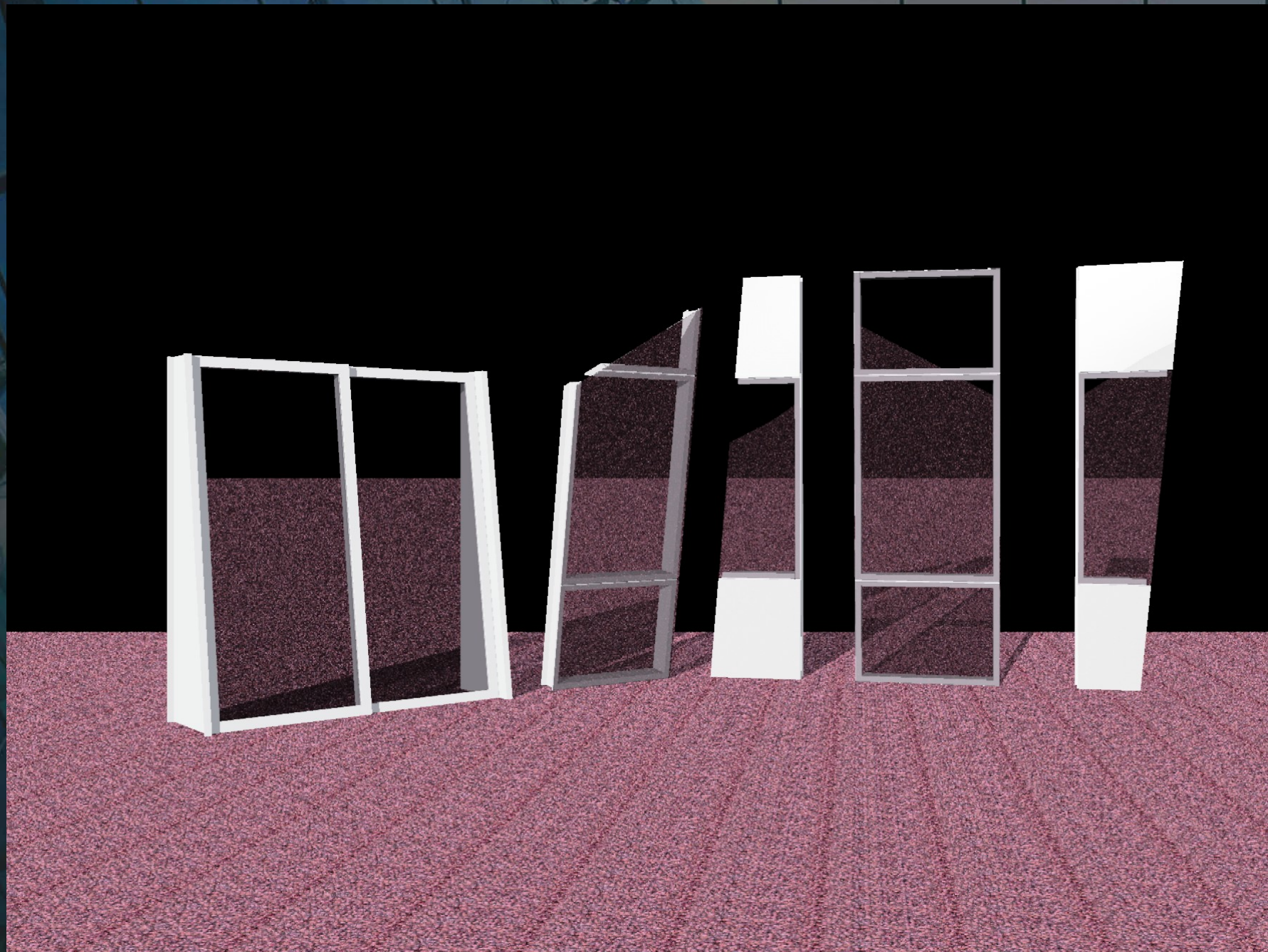
VERTICAL CO-ORDINATION



INTERNAL vs EXTERNAL



COMPLICATED CURTAIN WALL



Autodesk Revit Structure 4 - [Ocean Heights 1 R4 Local 2.rvt - Schedule: Multi-Category Schedule]

File Edit View Modelling Drafting Site Tools Settings Window Help

Plane

Demolish

Align

Split

Trim

Offset

Move

Copy

Rotate

Array

Mirror

Group

[Not Editable] Level 31 to

Headers: Group Ungroup Rows: New Delete Show

Basics

Ocean Heights 1 R4 Local 2.rvt

Views (all)

Structural Plans

CAD REFERENCE

Level 1

Level 1 - An

Level 2

Level 2 - An

Level 4

Level 10

Level 20

Level 30

Level 40

Level 50

Level 60

Level 65

Level 70

Level 75

3D Views

3D View 1

3D View 2

3D View 3

3D View 4

3D View 5

3D View 6

Copy of 3D View 1 - An

(3D)

Elevations (Building)

East

North

South

West

Sections (Building)

Section 1

Section 2

Section 3

Legends

Schedules/Quantities

Multi-Category Schedule

Multi-Category Schedule

Sheets (all)

Families

Annotation Symbols

Ceilings

Curtain Panels

Curtain Systems

Curtain Wall Multi

Detail Items

Doors

Floors

Furniture

View

Architectural

Drafting

Rendering

Site

Massing

Modelling

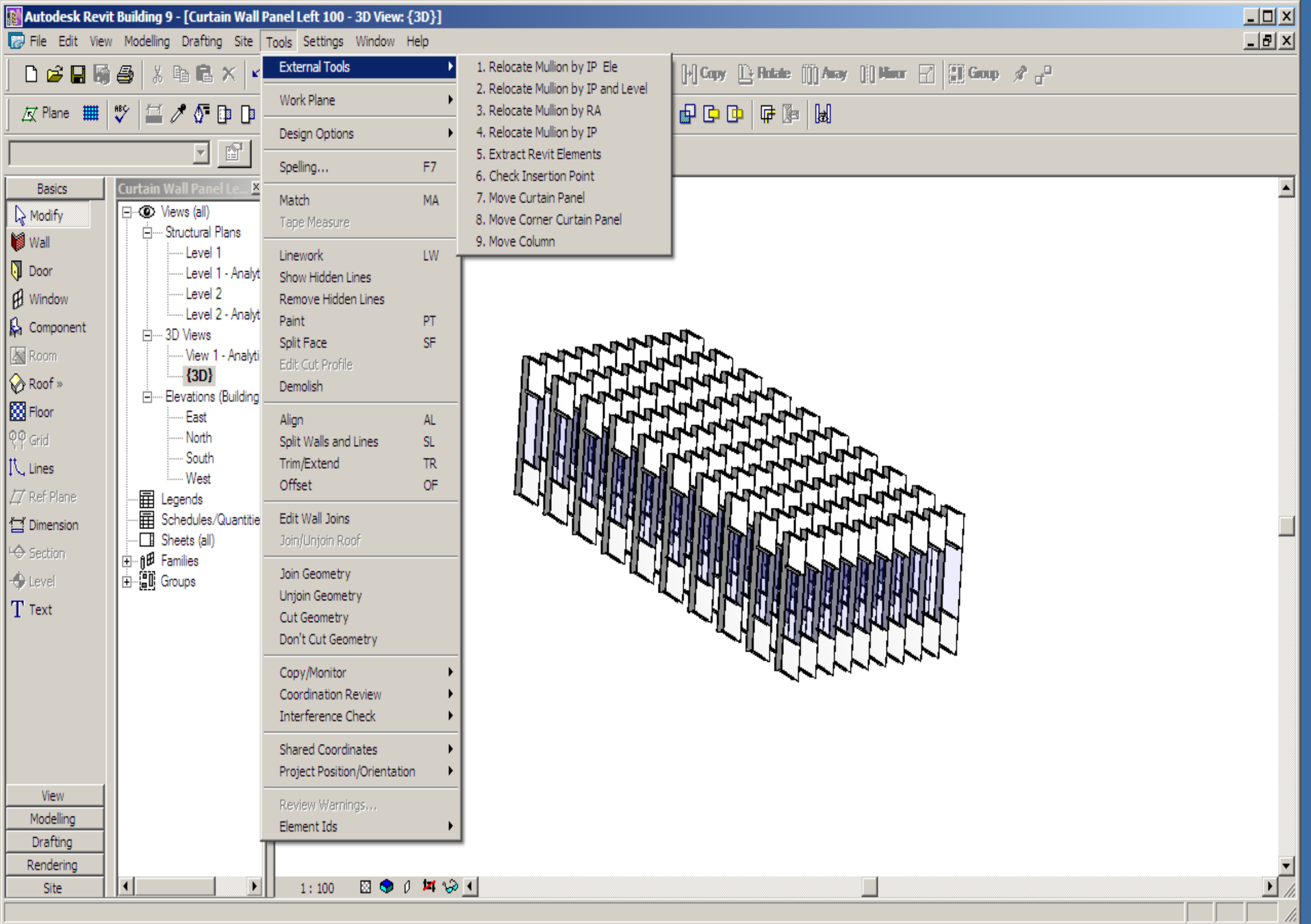
Construction

Multi-Category Schedule

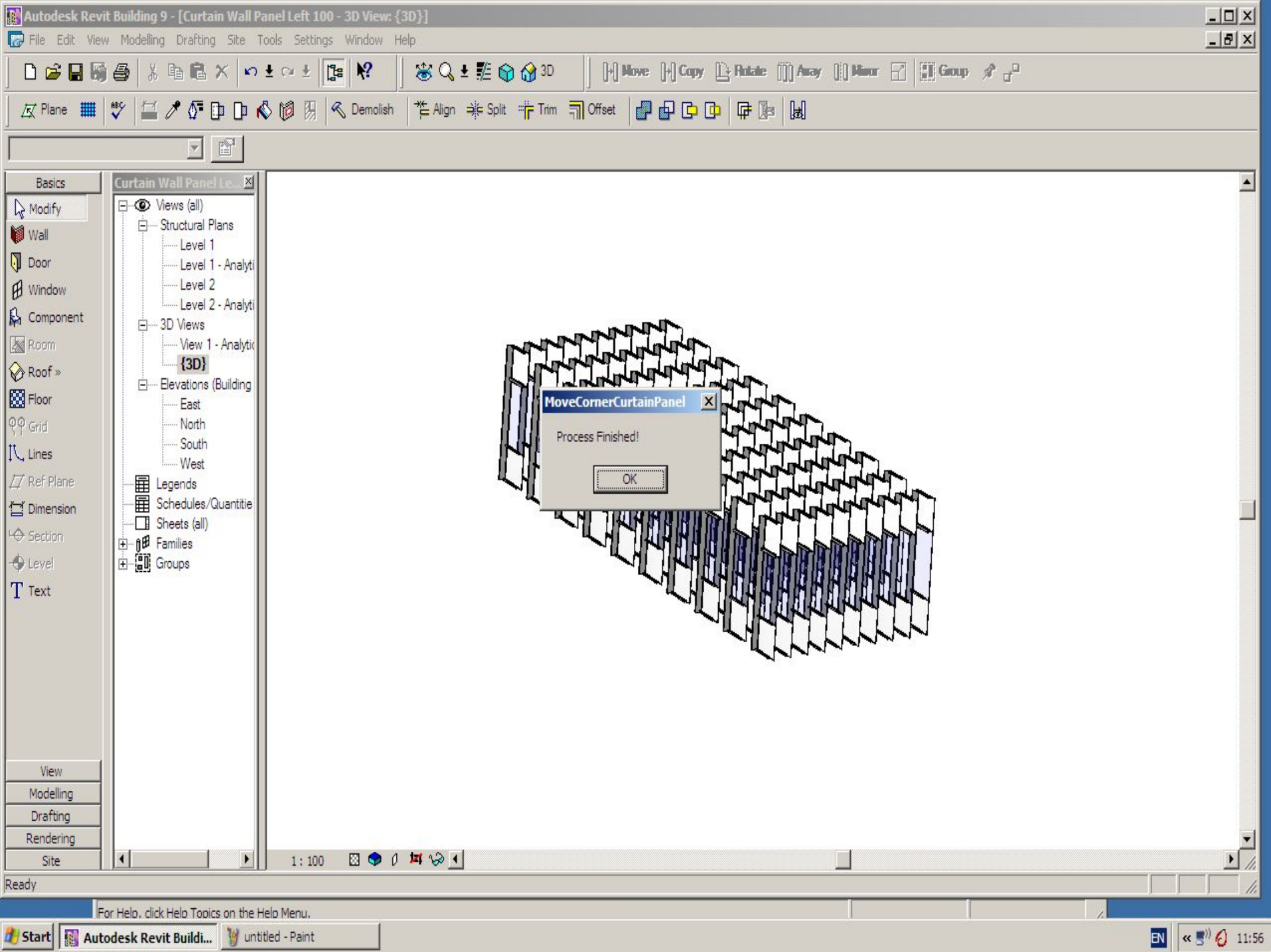
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Curtain Wall Panel 2	L08F01N02	Level 8	1255.67			-41.89	-52.71
Curtain Wall Panel 2	L08F01N03	Level 8	1255.67			-52.71	-63.53
Curtain Wall Panel 2	L08F01N04	Level 8	1255.67			-63.53	-74.34
Curtain Wall Panel 2	L08F01N05	Level 8	1255.67			-74.34	-85.16
Curtain Wall Panel 2	L08F01N06	Level 8	1255.67			-85.16	-95.97
Curtain Wall Panel 2	L08F01N07	Level 8	1255.67			-95.97	-106.79
Curtain Wall Panel 2	L08F01N08	Level 8	1255.67			-106.79	-117.60
Curtain Wall Panel 2	L08F01N09	Level 8	1255.67			-117.60	-117.60
Curtain Wall Panel 2	L08F03N09	Level 8	1224.13			5.31	5.66
Curtain Wall Panel 2	L08F03N10	Level 8	1224.13			5.66	6.01
Curtain Wall Panel 2	L08F03N11	Level 8	1224.13			6.01	6.36
Curtain Wall Panel 2	L09F01N01	Level 9	1255.72			-29.00	-39.77
Curtain Wall Panel 2	L09F01N02	Level 9	1255.72			-39.77	-50.54
Curtain Wall Panel 2	L09F01N03	Level 9	1255.72			-50.54	-61.31
Curtain Wall Panel 2	L09F01N04	Level 9	1255.72			-61.31	-72.07
Curtain Wall Panel 2	L09F01N05	Level 9	1255.72			-72.07	-82.84
Curtain Wall Panel 2	L09F01N06	Level 9	1255.72			-82.84	-93.61
Curtain Wall Panel 2	L09F01N07	Level 9	1255.72			-93.61	-104.38
Curtain Wall Panel 2	L09F01N08	Level 9	1255.72			-104.38	-115.15
Curtain Wall Panel 2	L09F03N09	Level 9	1224.13			0.64	0.74
Curtain Wall Panel 2	L09F03N10	Level 9	1224.13			0.74	0.84
Curtain Wall Panel 2	L09F03N11	Level 9	1224.13			0.84	0.94
Curtain Wall Panel 2	L10F01N01	Level 10	1255.77			-26.77	-37.49
Curtain Wall Panel 2	L10F01N02	Level 10	1255.77			-37.49	-48.21
Curtain Wall Panel 2	L10F01N03	Level 10	1255.77			-48.21	-58.93
Curtain Wall Panel 2	L10F01N04	Level 10	1255.77			-58.93	-69.64
Curtain Wall Panel 2	L10F01N05	Level 10	1255.77			-69.64	-80.36
Curtain Wall Panel 2	L10F01N06	Level 10	1255.77			-80.36	-91.08
Curtain Wall Panel 2	L10F01N07	Level 10	1255.77			-91.08	-101.80
Curtain Wall Panel 2	L10F01N08	Level 10	1255.77			-101.80	-112.52
Curtain Wall Panel 2	L10F03N09	Level 10	1224.13			-4.06	-4.21
Curtain Wall Panel 2	L10F03N10	Level 10	1224.13			-4.21	-4.35
Curtain Wall Panel 2	L10F03N11	Level 10	1224.13			-4.35	-4.50
Curtain Wall Panel 2	L81B1RN01	Level 81	1224.10			0.00	0.00
Curtain Wall Panel 2	L82B1RN01	Level 82	1224.10			0.00	0.00
Curtain Wall Panel 2	L83B1RN01	Level 83	1224.10			0.00	0.00
Curtain Wall Panel 2	L84B1RN01	Level 84	1224.10			0.00	0.00
Curtain Wall Panel 2: 38							
Curtain Wall Panel 3	L04F03N01	Level 4	1224.13			-1.53	-0.38
Curtain Wall Panel 3	L04F03N02	Level 4	1224.13			-0.38	0.76
Curtain Wall Panel 3	L04F03N03	Level 4	1224.13			0.76	1.91
Curtain Wall Panel 3	L04F03N05	Level 4	1224.13			12.20	13.34
Curtain Wall Panel 3	L04F03N06	Level 4	1224.13			12.20	13.34
Curtain Wall Panel 3	L04F04N01	Level 4	1200.00			-137.36	-137.36
Curtain Wall Panel 3	L04F04N02	Level 4	1200.00			-137.36	-137.38
Curtain Wall Panel 3	L04F04N03	Level 4	1200.00			-137.38	-137.40
Curtain Wall Panel 3	L04F04N04	Level 4	1200.00			-137.40	-137.42
Curtain Wall Panel 3	L04F04N05	Level 4	1200.00			-137.42	-137.45
Curtain Wall Panel 3	L04F04N06	Level 4	1200.00			-137.45	-137.47
Curtain Wall Panel 3	L04F04N07	Level 4	1200.00			-137.47	-137.49

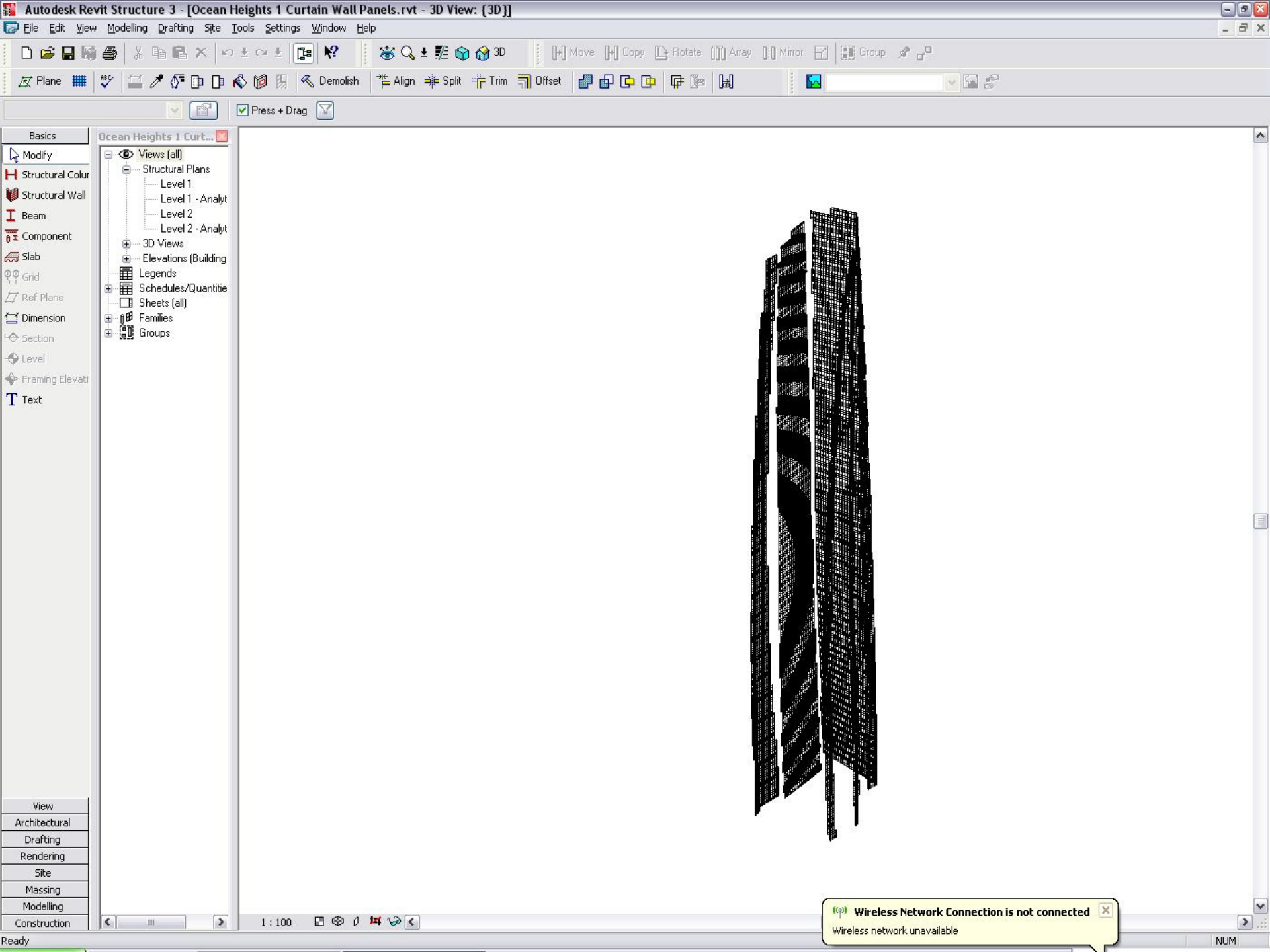
Ready

Ref Plane	Level 20	Sliding Door	L71B05D12	Level 71	2550.00		0.00
Dimension	Level 30	Sliding Door	L71B05D15	Level 71	2550.00		0.00
Section	Level 40	Sliding Door	L72B01D02	Level 72	2400.00		0.00
Level	Level 50	Sliding Door	L72B02D02	Level 72	2500.00		0.00
Framing Elevati	Level 60	Sliding Door	L72B04D01	Level 72	1800.00		0.00
Text	Level 65	Sliding Door	L72B05D03	Level 72	2550.00		0.00
	Level 70	Sliding Door	L72B05D05	Level 72	2550.00		0.00
	Level 75	Sliding Door	L72B05D08	Level 72	2550.00		0.00
	3D Views	Sliding Door	L72B05D10	Level 72	2550.00		0.00
	3D View 1	Sliding Door	L72B05D12	Level 72	2550.00		0.00
	3D View 2	Sliding Door	L72B05D15	Level 72	2550.00		0.00
	3D View 3	Sliding Door	L73B01D02	Level 73	2400.00		0.00
	3D View 4	Sliding Door	L73B02D02	Level 73	2500.00		0.00
	3D View 5	Sliding Door	L73B04D01	Level 73	1700.00		0.00
	3D View 6	Sliding Door	L73B05D03	Level 73	2550.00		0.00
	Copy of 3D V	Sliding Door	L73B05D05	Level 73	2550.00		0.00
	View 1 - Ana	Sliding Door	L73B05D08	Level 73	2550.00		0.00
	{3D}	Sliding Door	L73B05D10	Level 73	2550.00		0.00
	Elevations (Build	Sliding Door	L73B05D12	Level 73	2550.00		0.00
	East	Sliding Door	L73B05D15	Level 73	2550.00		0.00
	North	Sliding Door	L74B01D02	Level 74	2400.00		0.00
	South	Sliding Door	L74B02D02	Level 74	2500.00		0.00
	West	Sliding Door	L74B04D01	Level 74	1600.00		0.00
	Sections (Building	Sliding Door	L74B05D03	Level 74	2550.00		0.00
	Section 1	Sliding Door	L74B05D05	Level 74	2550.00		0.00
	Section 2	Sliding Door	L74B05D08	Level 74	2550.00		0.00
	Section 3	Sliding Door	L74B05D10	Level 74	2550.00		0.00
	Legends	Sliding Door	L74B05D12	Level 74	2550.00		0.00
	Schedules/Quan	Sliding Door	L74B05D15	Level 74	2550.00		0.00
	Multi-Category S	Sliding Door	L75B01D02	Level 75	2400.00		0.00
	Multi-Category S	Sliding Door	L75B02D02	Level 75	2500.00		0.00
	Sheets (all)	Sliding Door	L76B01D02	Level 76	2400.00		0.00
	Families	Sliding Door	L76B02D02	Level 76	2500.00		0.00
	Annotation Symb	Sliding Door	L77B01D02	Level 77	2400.00		0.00
	Ceilings	Sliding Door	L77B02D01	Level 77	2426.17		0.00
	Curtain Panels	Sliding Door	L78B01D02	Level 78	2400.00		0.00
	Curtain Systems	Sliding Door	L78B02D01	Level 78	2203.01		0.00
	Curtain Wall Mul	Sliding Door	L79B01D02	Level 79	2400.00		0.00
	Detail Items	Sliding Door	L79B02D01	Level 79	1974.15		0.00
	Doors	Sliding Door: 649					
	Floors	Sliding Door to Replace CW Pan	L10F01N10	Level 10	1255.77		-123.24
	Furniture	Sliding Door to Replace CW Panel: 1					
		Grand total: 9740					

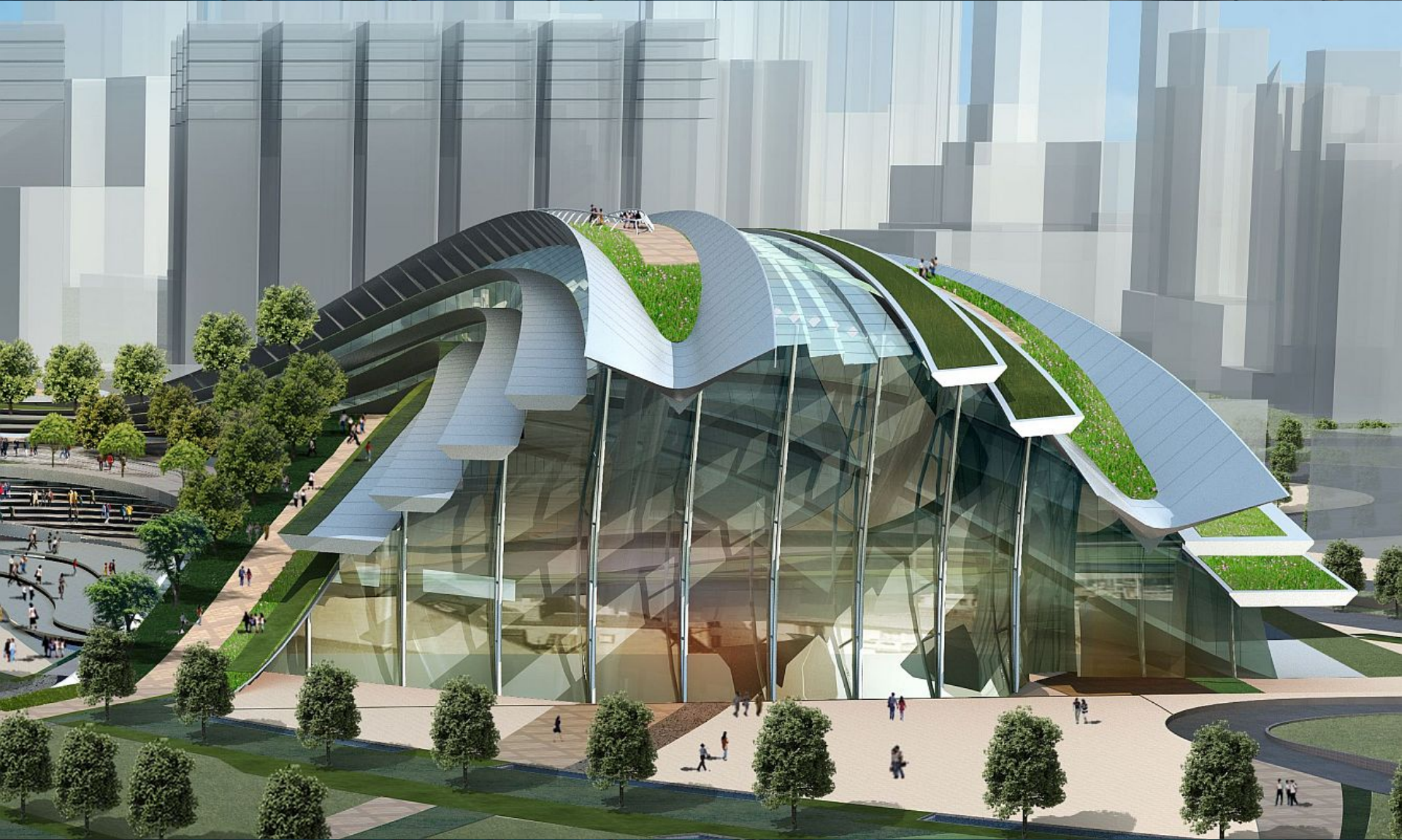


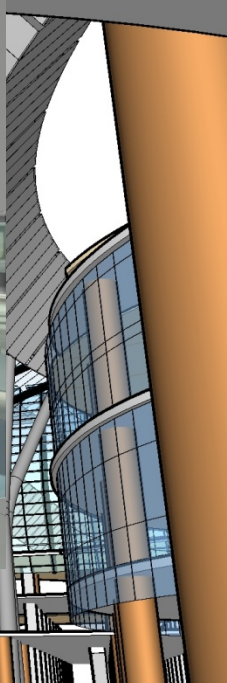
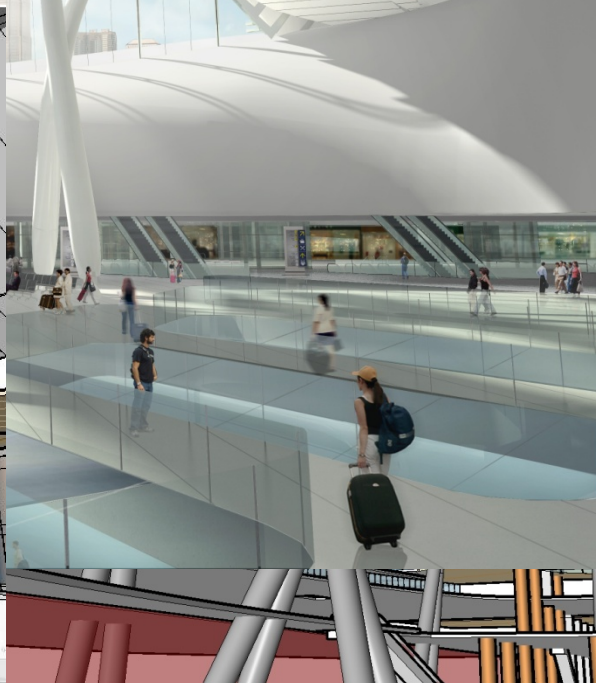
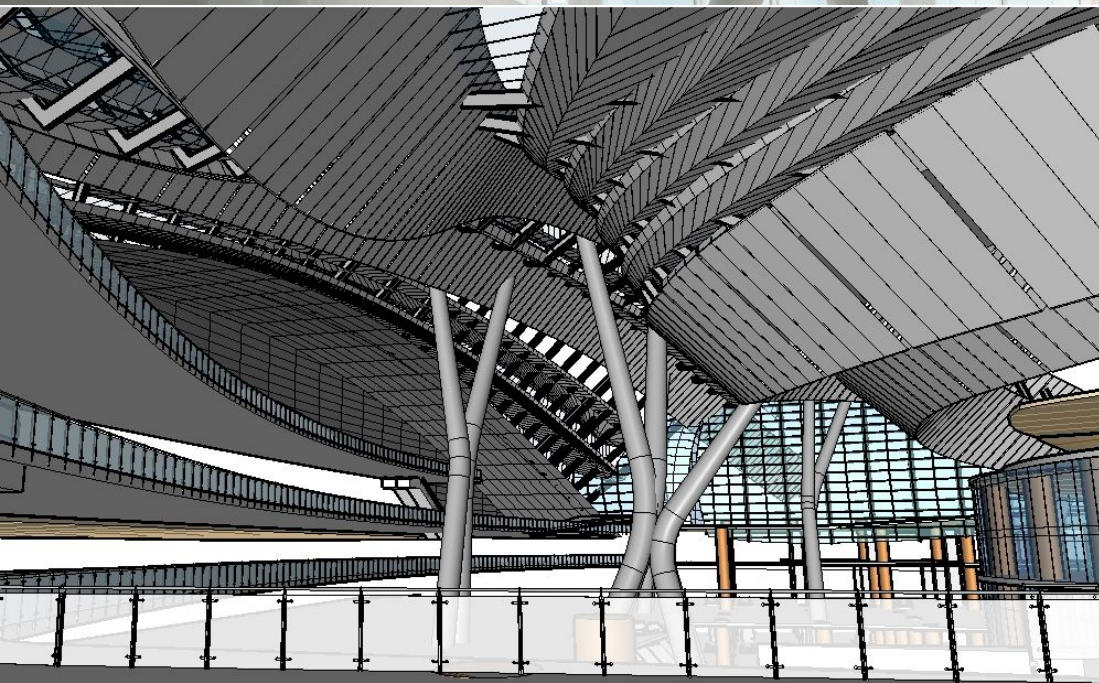
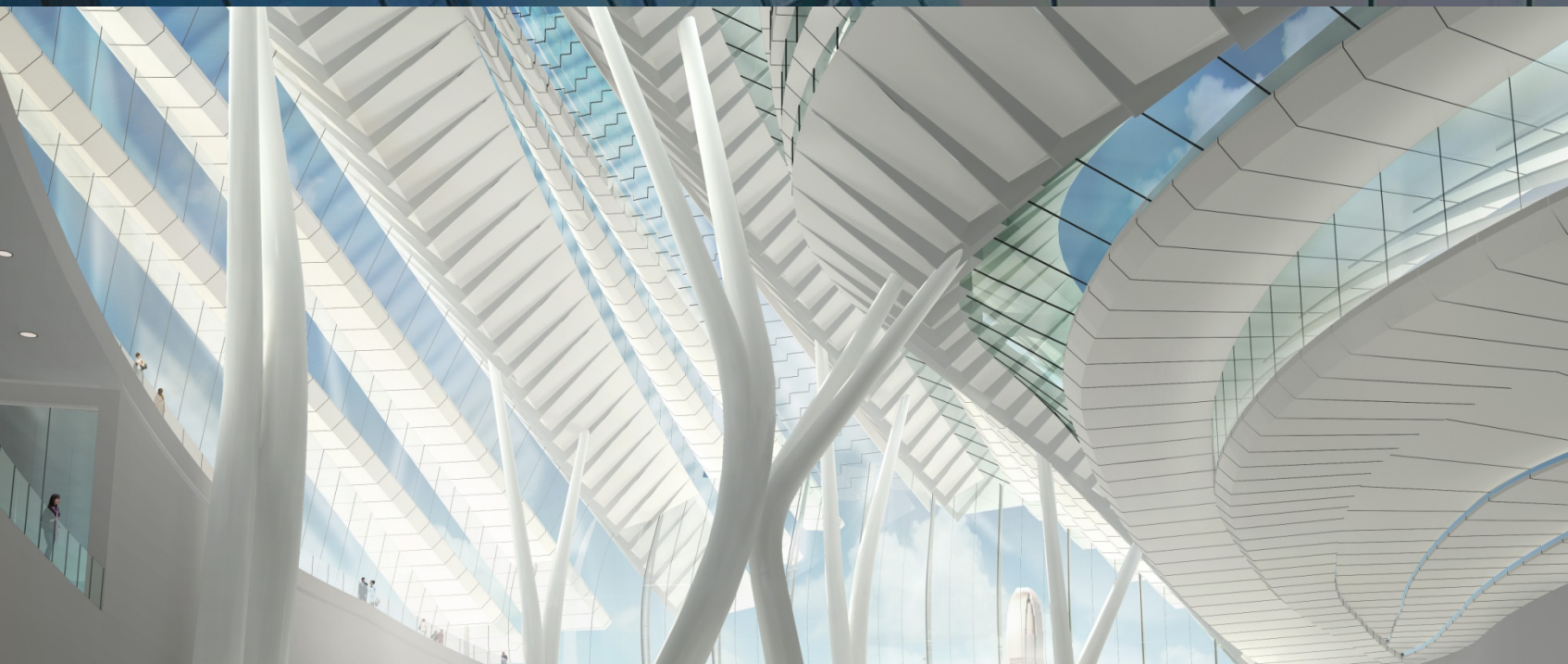


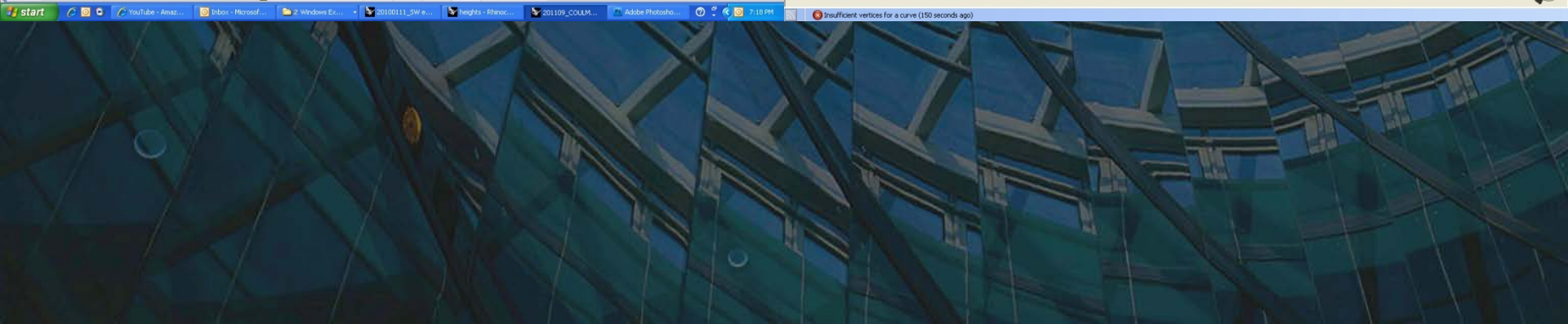
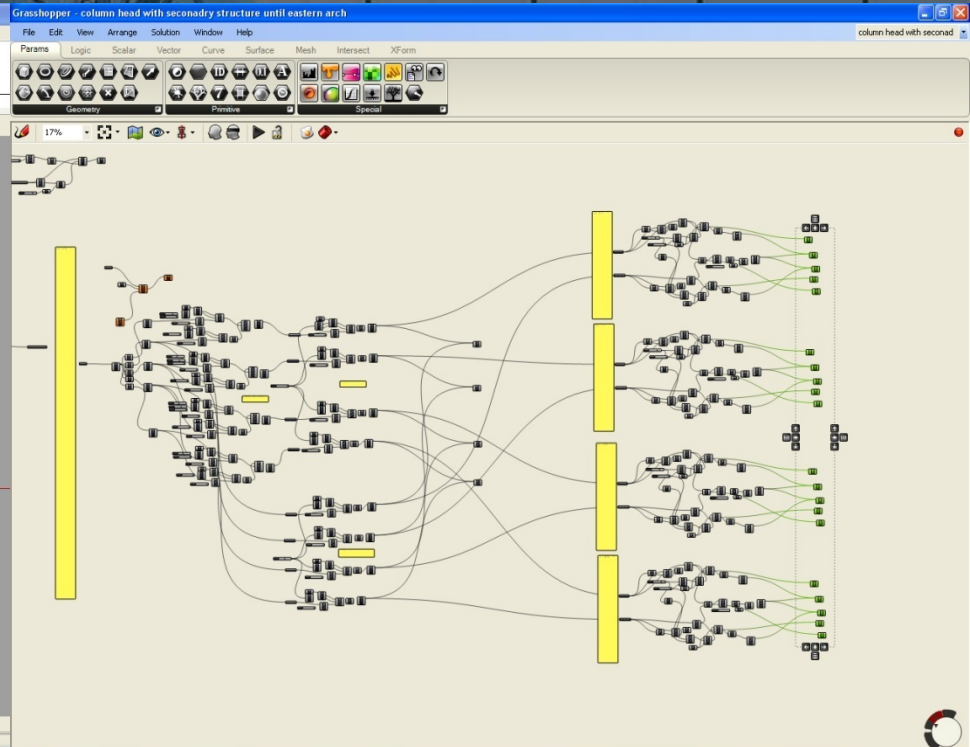
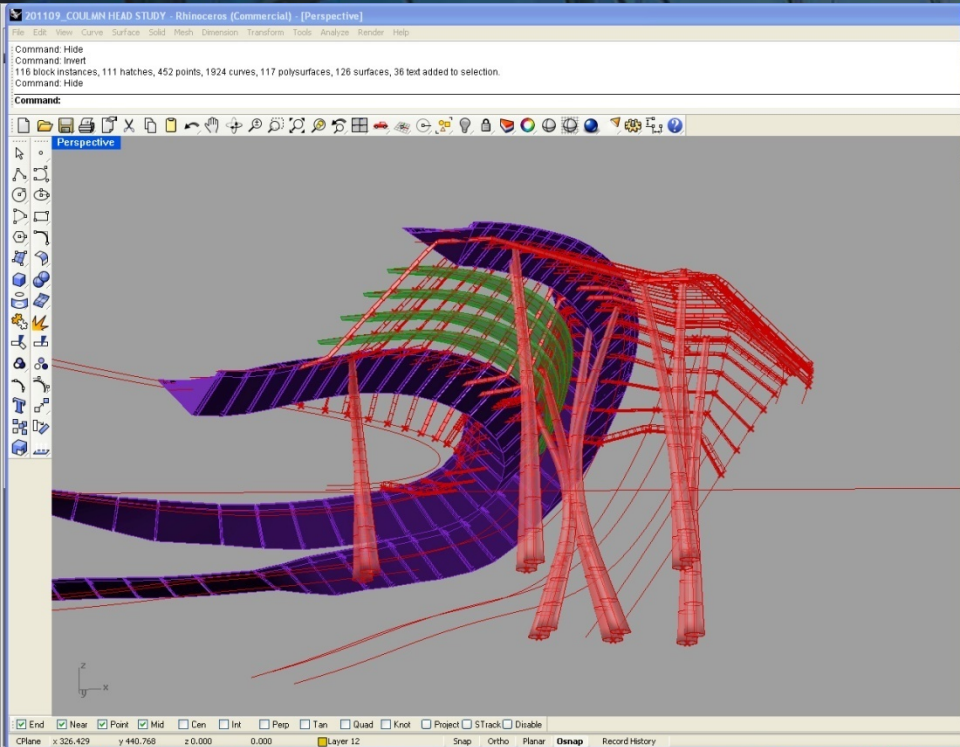


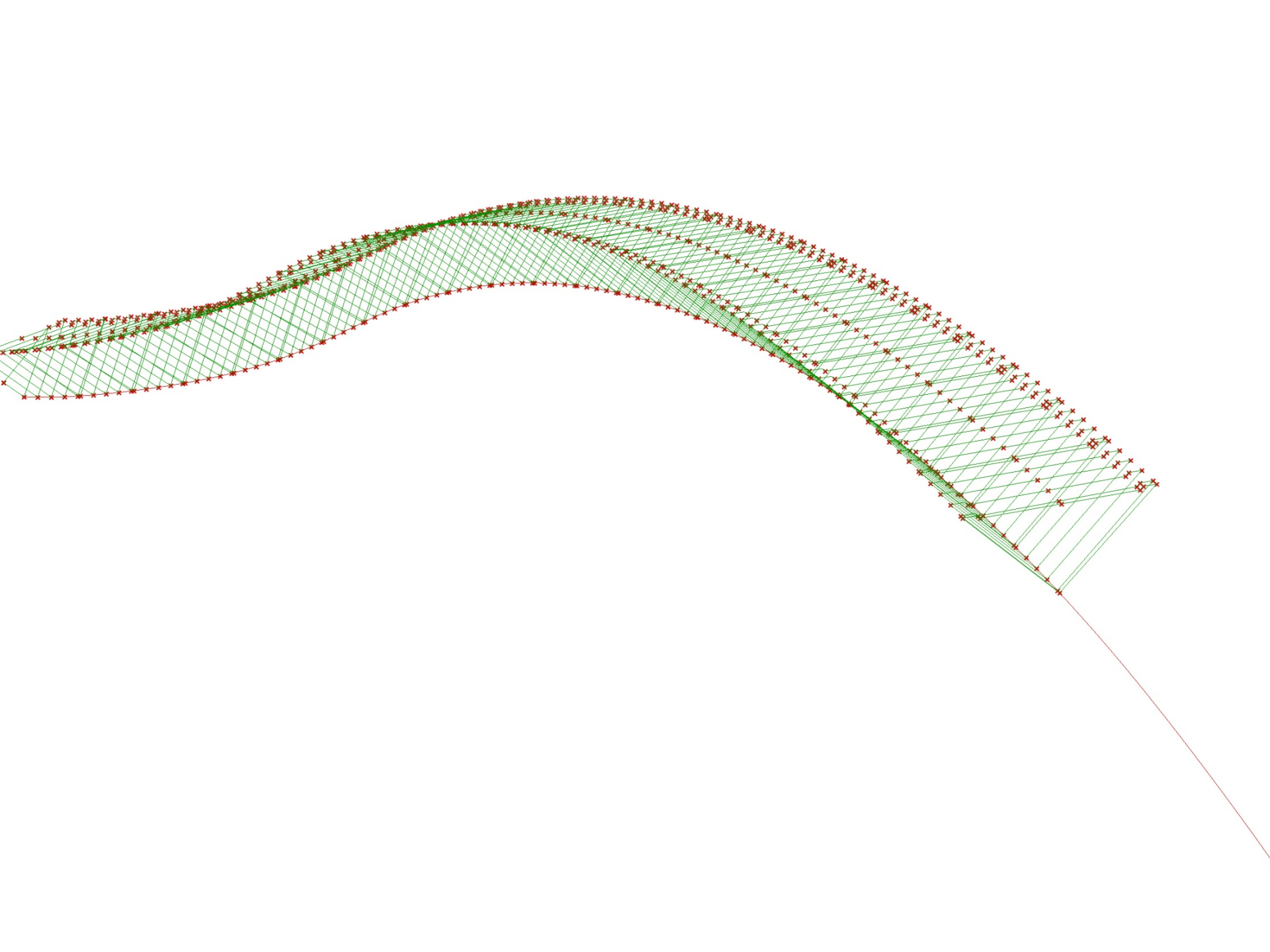


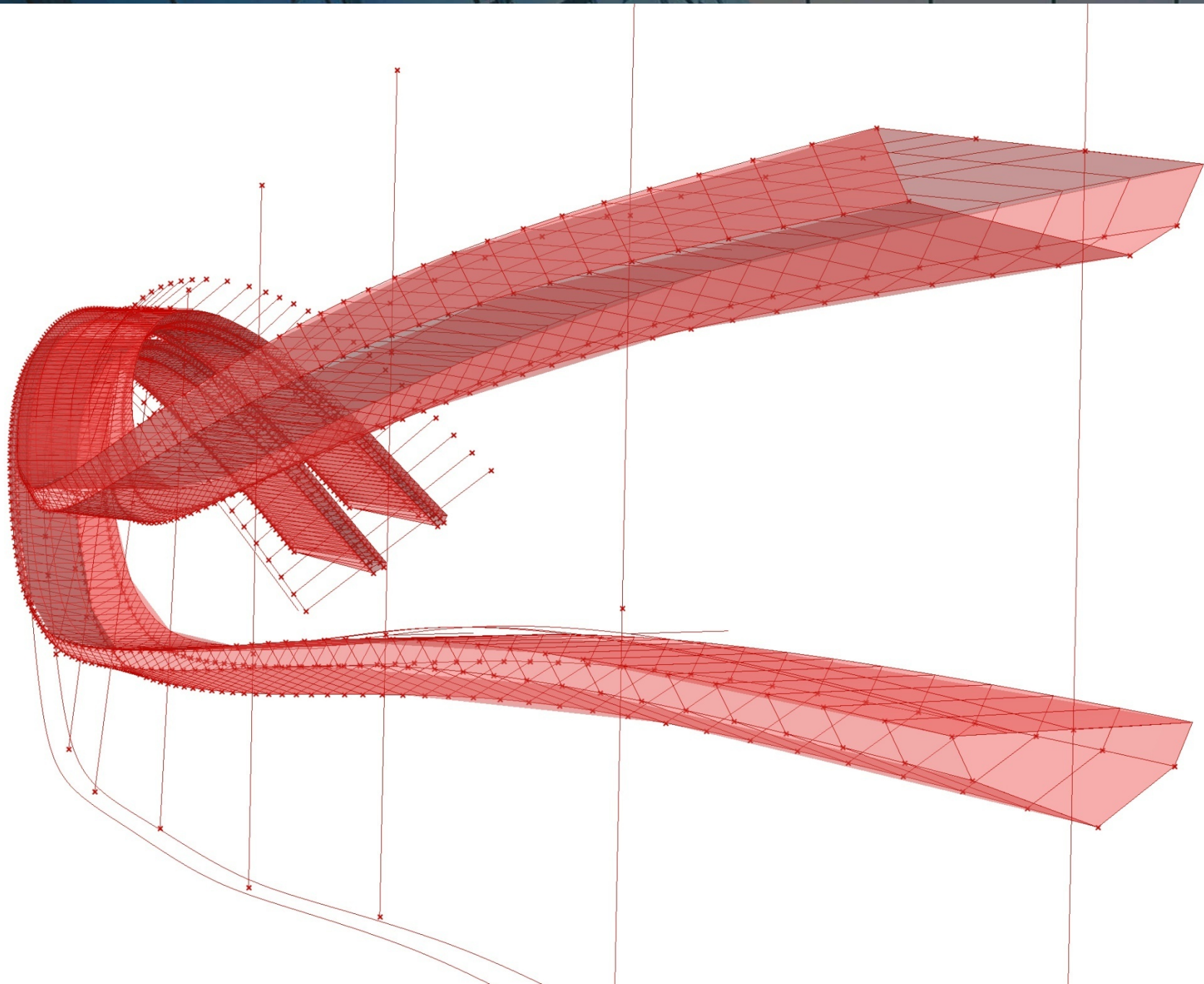













```

    {
        case 'x':
            p[index].x = System.Convert.ToDouble(para.AsValueString());
            break;
        case 'y':
            p[index].y = System.Convert.ToDouble(para.AsValueString());
            break;
        case 'z':
            p[index].z = System.Convert.ToDouble(para.AsValueString());
            break;
        default:
            MessageBox.Show("Wrong format of parameter name");
            break;
    }
}

CladdingPanel c1 = new CladdingPanel(p, PanelCounter); // new panel created from list of points.
double Area_m2 = c1.PanelArea / 1000000; // division by 1000000 to get area in m2 from mm2

//current family type parameter is updated with value of Area_m2 ;
document.BeginTransaction();
if( symbol.ParametersMap["Area"].Set(Area_m2) == false )
{
    MessageBox.Show("Wrong parameter type");
}
document.EndTransaction();

ArrayOfPanels.Add(c1); // new panel inserted into the array of panels

output += c1.UniqueNumber + " " + Area_m2 + " " + c1.T_edge[0] + " " + c1.T_edge[1] + " " + c1.T_edge[2] + " " + c1.T_edge[3]

// creating panel objects in space
document.BeginTransaction();
FamilyInstance instance = document.Create.NewFamilyInstance(location, symbol, StructuralType.NonStructural);
document.EndTransaction();
}
//MessageBox.Show(output);

```



C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
## length	P01z## length	P02x## length	P02y## length	P02z## length	P03x## length	P03y## length	P03z## length	P04x## length	P04y## length	P04z## length	Panel Type	##	Other##	
24.1138	30997.4089	150034.096	44497.0923	31201.1007	151479.165	44220.6936	29756.4955	151017.994	42846.0425	29553.4116	P3S06P001			
97.0923	31201.1007	150490.205	45872.5015	31400.2904	151935	45597.7674	29955.086	151479.165	44220.6936	29756.4955	P3S06P002			
72.5015	31400.2904	150940.93	47250.3052	31594.9821	152385.473	46977.2334	30149.1841	151935	45597.7674	29955.086	P3S06P003			
50.3052	31594.9821	151386.267	48630.4698	31785.1616	152830.57	48359.0618	30338.7828	152385.473	46977.2334	30149.1841	P3S06P004			
30.4698	31785.1616	151474.689	48906.7825	31822.6539	152918.944	48635.7079	30376.1616	152830.57	48359.0618	30338.7828	P3S06P005			
06.7825	31822.6539	151913.575	50289.7323	32007.3872	153357.585	50020.3276	30560.3477	152918.944	48635.7079	30376.1616	P3S06P006			
89.7323	32007.3872	152347.08	51674.9657	32187.576	153790.836	51407.2369	30740.0246	153357.585	50020.3276	30560.3477	P3S06P007			
74.9657	32187.576	152775.147	53062.4739	32363.2813	154218.667	52796.4316	30915.2314	153790.836	51407.2369	30740.0246	P3S06P008			
62.4739	32363.2813	153197.744	54452.3272	32534.6167	154641.09	54188.0429	31086.0665	154218.667	52796.4316	30915.2314	P3S06P009			
52.3272	32534.6167	153281.603	54730.5766	32568.3694	154724.924	54466.654	31119.7184	154641.09	54188.0429	31086.0665	P3S06P010			
30.5766	32568.3694	153697.624	56123.188	32734.5715	155140.841	55861.1282	31285.4274	154724.924	54466.654	31119.7184	P3S06P011			
123.188	32734.5715	154108.128	57517.7498	32896.4211	155551.199	57257.4509	31446.8027	155140.841	55861.1282	31285.4274	P3S06P012			
17.7498	32896.4211	154513.02	58914.0007	33053.6684	155955.863	58655.1793	31603.5689	155551.199	57257.4509	31446.8027	P3S06P013			
14.0007	33053.6684	154912.275	60311.9726	33206.0604	156354.833	60054.3601	31755.4605	155955.863	58655.1793	31603.5689	P3S06P014			
11.9726	33206.0604	154991.455	60591.8003	33235.9403	156433.956	60334.4167	31785.2395	156354.833	60054.3601	31755.4605	P3S06P015			
91.8003	33235.9403	155384.039	61992.164	33382.3144	156826.258	61735.9125	31931.1206	156433.956	60334.4167	31785.2395	P3S06P016			
992.164	33382.3144	155771.104	63394.5402	33523.6095	157213.036	63139.4019	32071.9532	156826.258	61735.9125	31931.1206	P3S06P017			
94.5402	33523.6095	156152.641	64799.0536	33659.8994	157594.329	64545.1147	32207.8035	157213.036	63139.4019	32071.9532	P3S06P018			
99.0536	33659.8994	156528.665	66205.8406	33791.3989	157970.193	65953.318	32338.8909	157594.329	64545.1147	32207.8035	P3S06P019			
05.8406	33791.3989	156603.207	66487.4657	33817.1437	158044.711	66235.2527	32364.5566	157970.193	65953.318	32338.8909	P3S06P020			
87.4657	33817.1437	156972.591	67896.8372	33943.1573	158414.002	67646.2548	32490.1972	158044.711	66235.2527	32364.5566	P3S06P021			
96.8372	33943.1573	157336.329	69307.9002	34064.607	158777.619	69058.83	32611.2857	158414.002	67646.2548	32490.1972	P3S06P022			
07.9002	34064.607	157694.338	70720.5482	34181.3772	159135.5	70472.822	32727.6793	158777.619	69058.83	32611.2857	P3S06P023			
20.5482	34181.3772	158046.558	72134.4265	34293.1711	159487.514	71887.6646	32839.0806	159135.5	70472.822	32727.6793	P3S06P024			
34.4265	34293.1711	158116.297	72417.2914	34314.8748	159557.191	72170.6364	32860.703	159487.514	71887.6646	32839.0806	P3S06P025			
17.2914	34314.8748	158461.474	73832.0687	34419.7934	159901.955	73585.5129	32965.2043	159557.191	72170.6364	32860.703	P3S06P026			
32.0687	34419.7934	158800.798	75247.6674	34518.1928	160240.723	75000.5299	33063.172	159901.955	73585.5129	32965.2043	P3S06P027			
47.6674	34518.1928	159134.34	76664.522	34609.6099	160573.676	76416.4942	33154.1589	160240.723	75000.5299	33063.172	P3S06P028			
664.522	34609.6099	159462.105	78082.6818	34693.7628	160900.837	77833.534	33237.8995	160573.676	76416.4942	33154.1589	P3S06P029			
82.6818	34693.7628	159526.964	78366.4655	34709.6976	160965.574	78117.0662	33253.7554	160900.837	77833.534	33237.8995	P3S06P030			
66.4655	34709.6976	159847.917	79786.6698	34784.8936	161285.941	79536.0393	33328.5833	160965.574	78117.0662	33253.7554	P3S06P031			
86.6698	34784.8936	160163.369	81209.1412	34852.7734	161600.864	80957.3769	33396.1369	161285.941	79536.0393	33328.5833	P3S06P032			
99.1412	34852.7734	160473.329	82633.6703	34913.5237	161910.348	82380.8678	33456.9588	161600.864	80957.3769	33396.1369	P3S06P033			


```

public bool CompareEdgesWith(EdgeGroup otherPanel, double tolerance)
{
    if
    (
        Math.Abs(nextPanel.G_edge[0] - G_edge[0]) <= tolerance
        &&
        Math.Abs(nextPanel.G_edge[1] - G_edge[1]) <= tolerance
        &&
        Math.Abs(nextPanel.G_edge[2] - G_edge[2]) <= tolerance
        &&
        Math.Abs(nextPanel.G_edge[3] - G_edge[3]) <= tolerance
        &&
        Math.Abs(nextPanel.G_diagonal_1 - G_diagonal_1) <= tolerance * Math.Sqrt(2)
    )
    { return true; }
    else
    { return false; }

}

}

#endregion

public class Group
{
    public int GroupNumber;
    public double[] Edge; //array of lengths of groups's edges.
    public double Diagonal; //length of group's diagonal.
    public double Area; //area of a grouped panel;
}

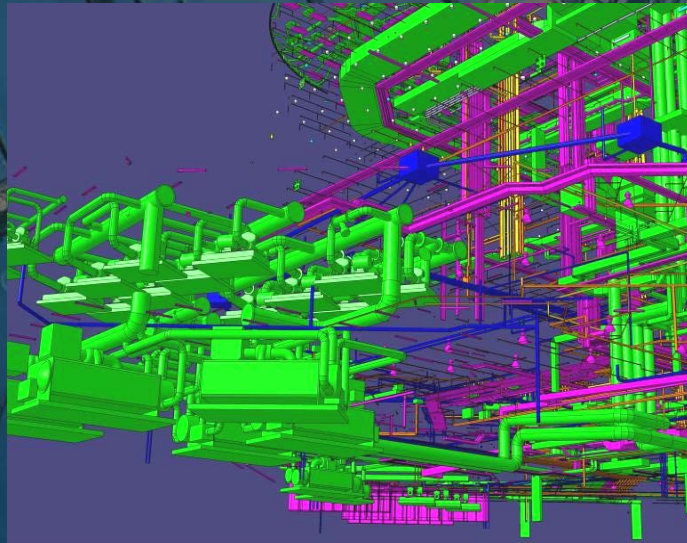
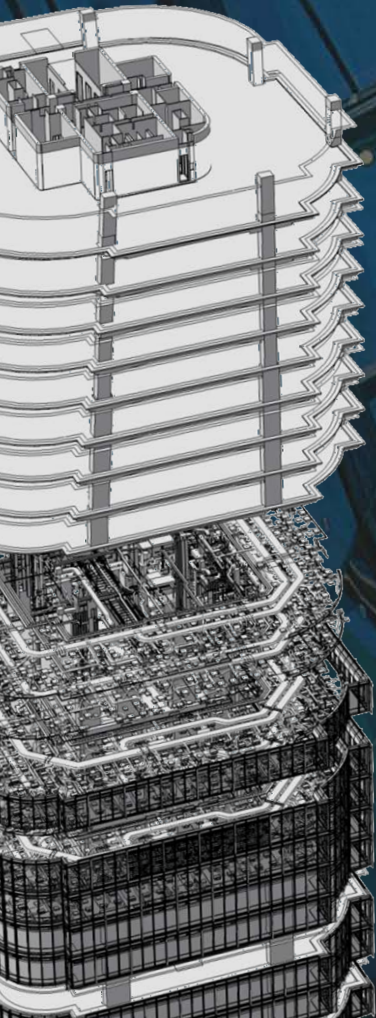
double toFeet(double value) //conversion of linear sizes for family instances
{
    return value * FACTOR_MMtoFT;
}

double toSqFeet(double value) //conversion of areal sizes for family instances
{

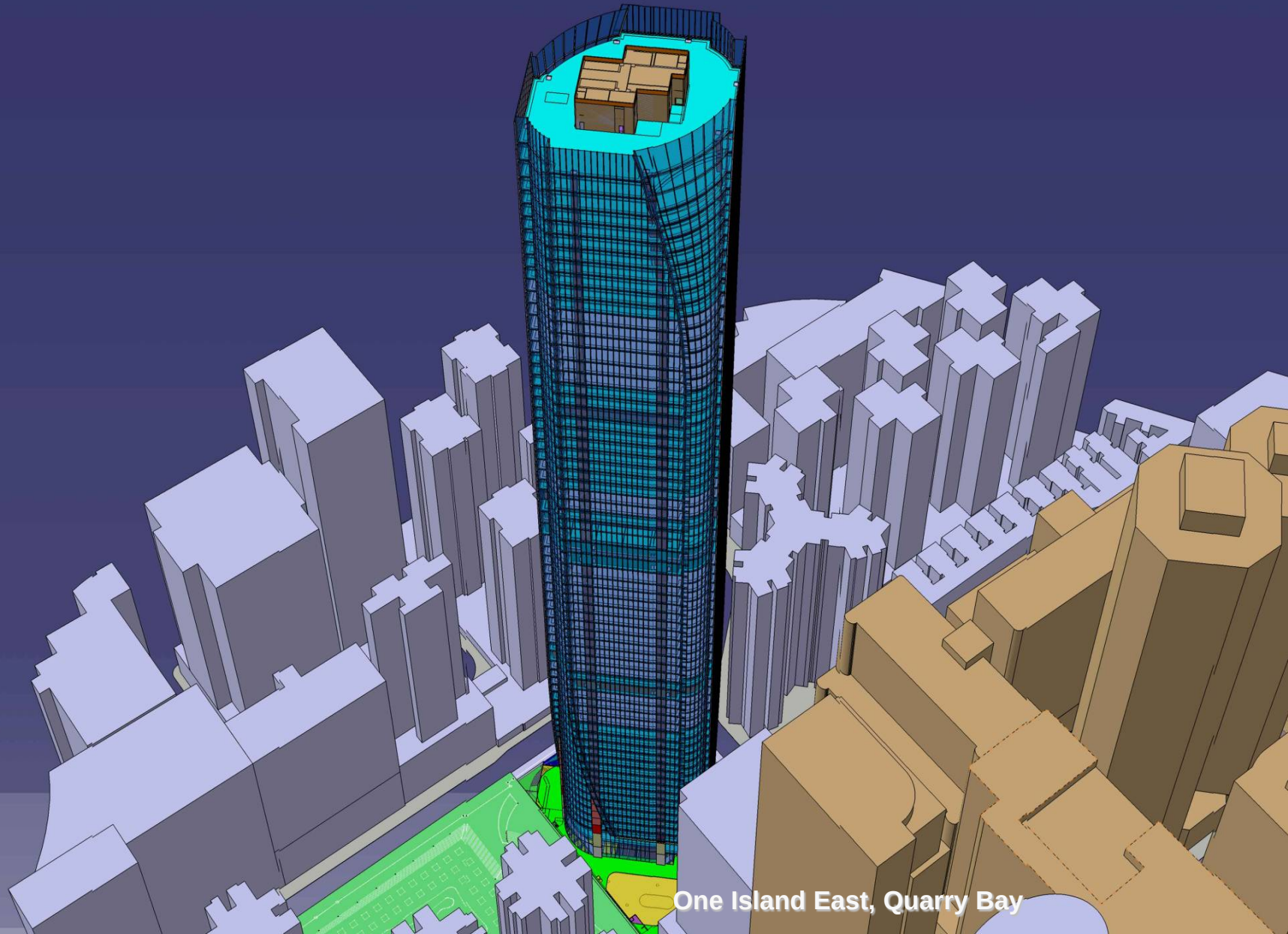
```

Construction

- One Island East

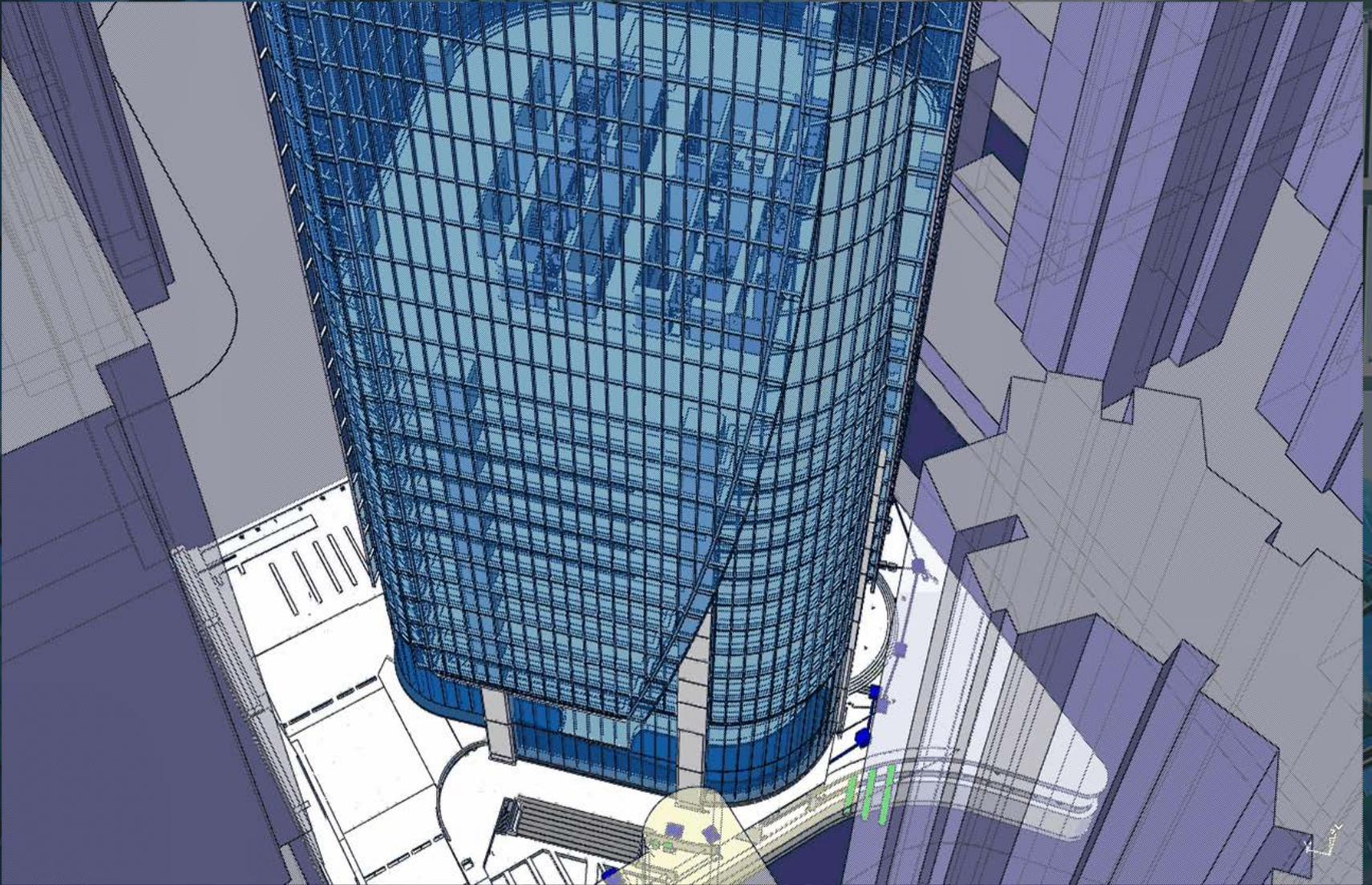


Tender Model by Consultants



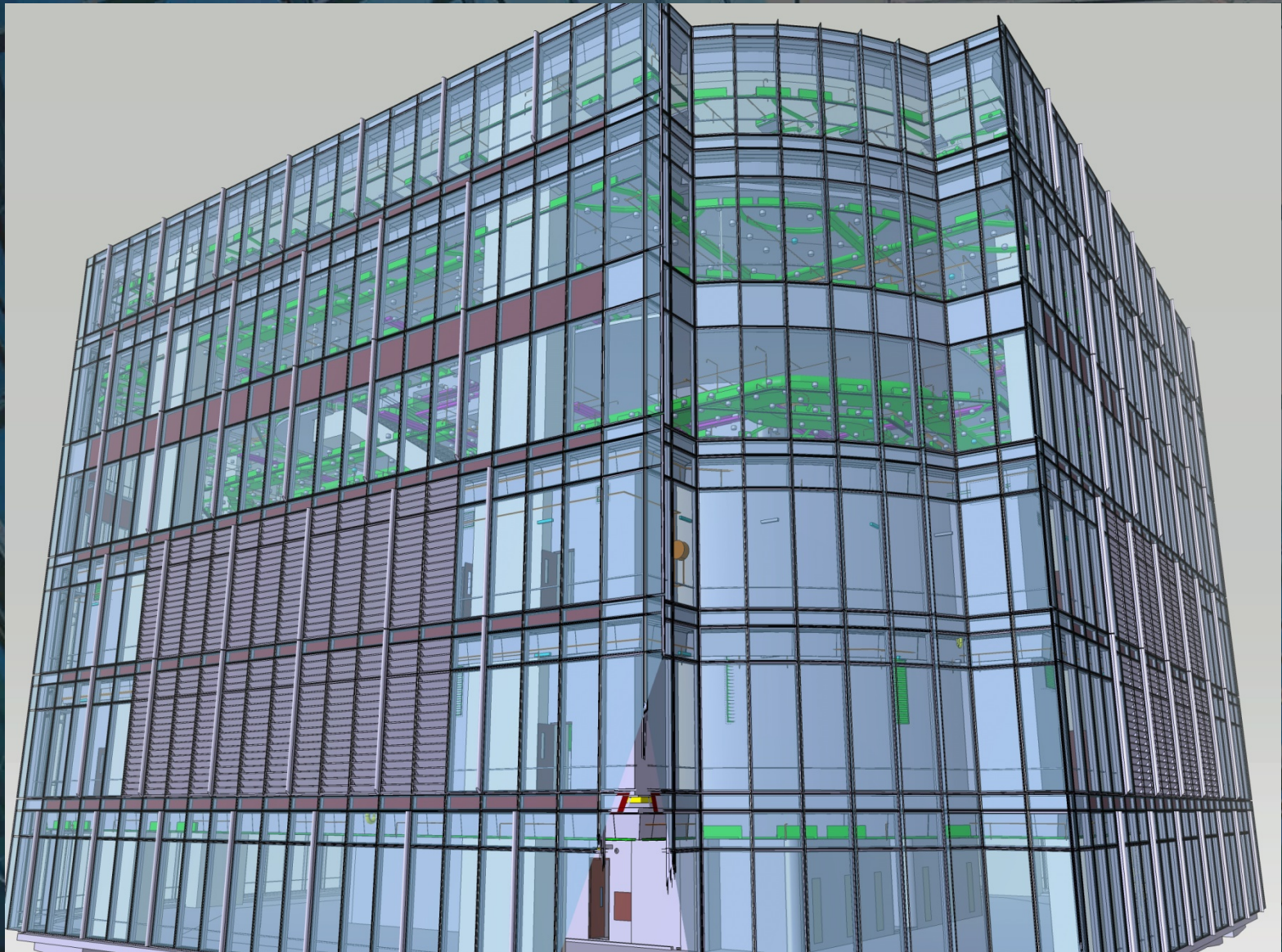
One Island East, Quarry Bay

One Island East

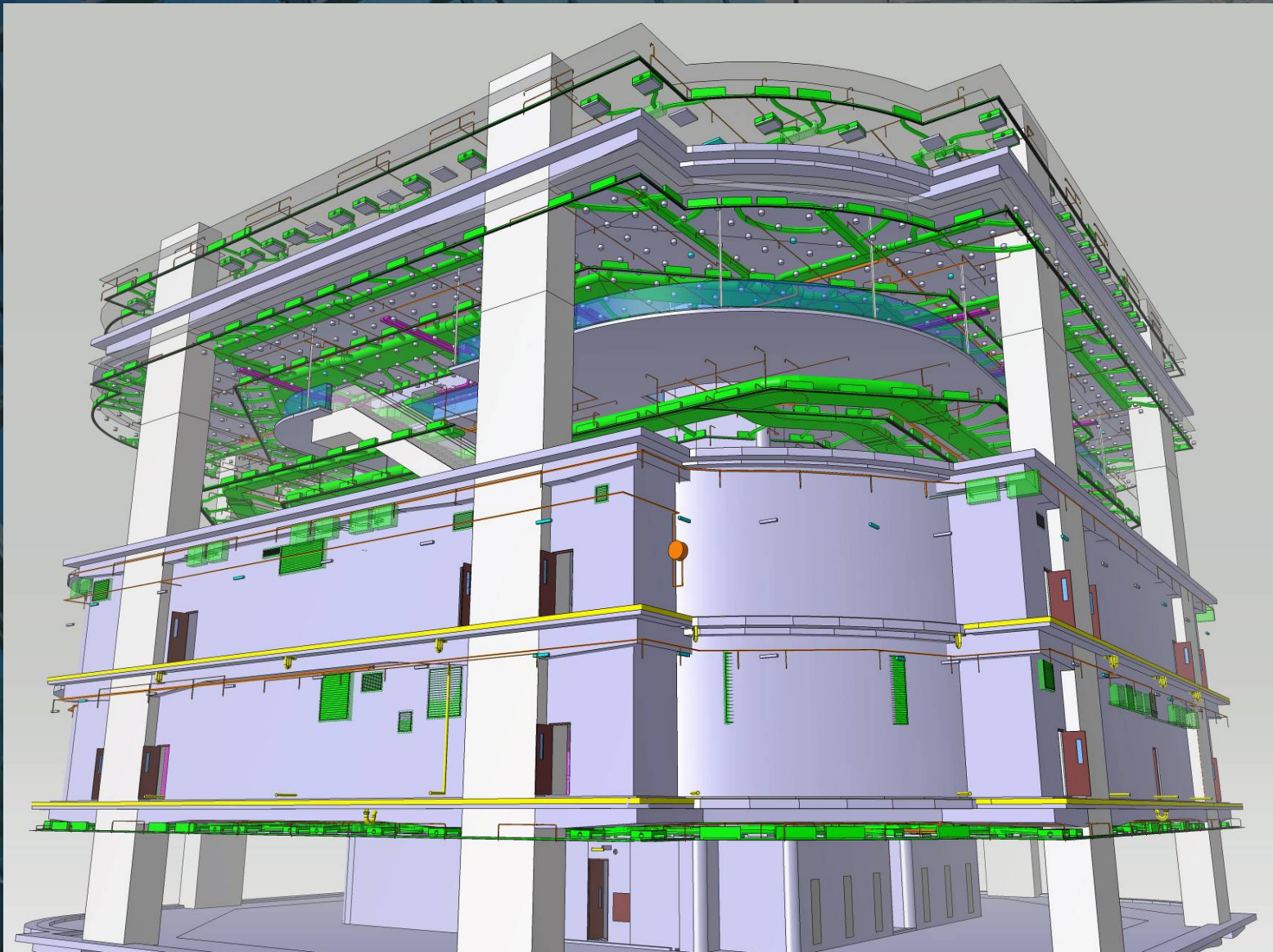


BIM Architectural Configuration

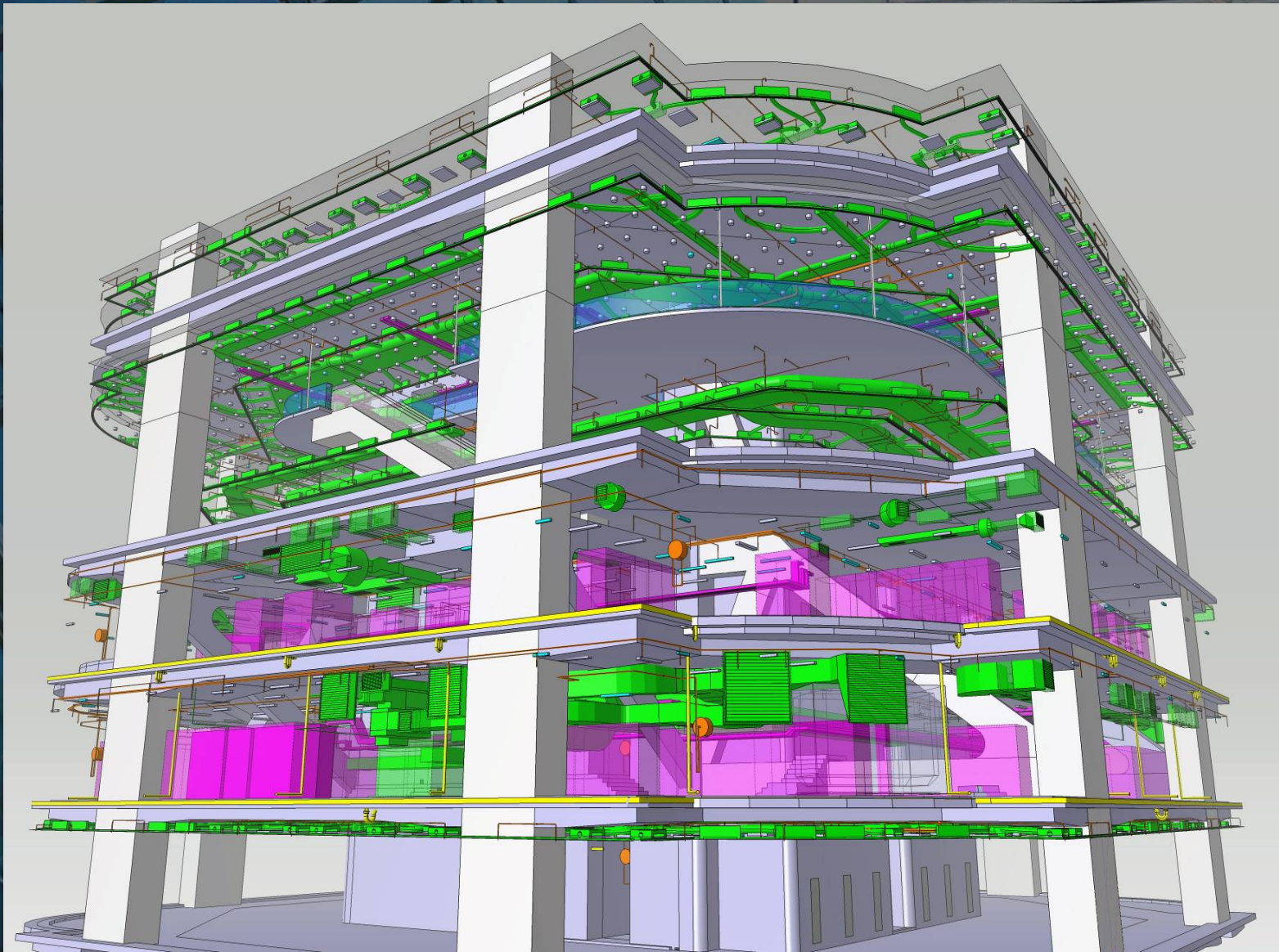
One Island East



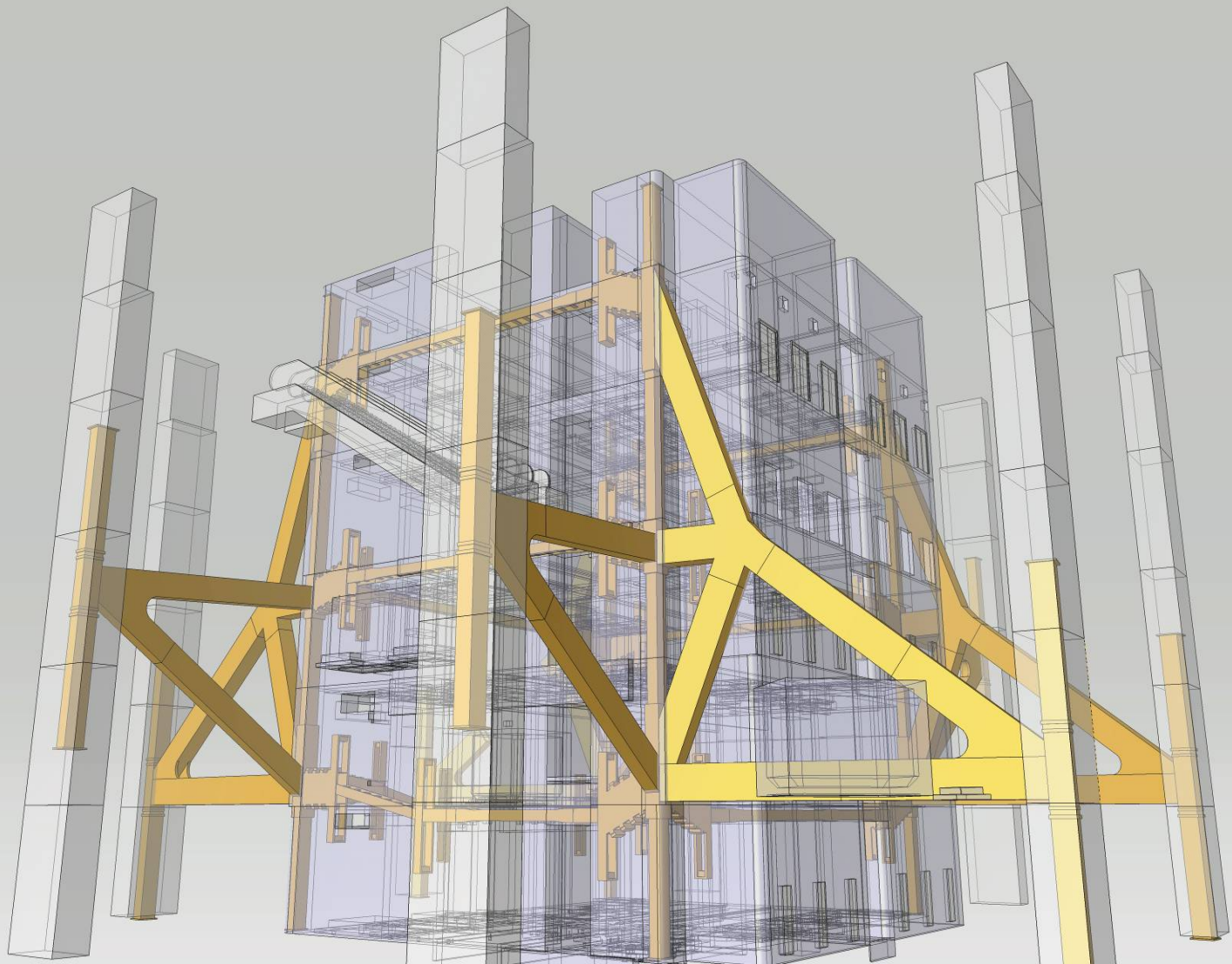
One Island East



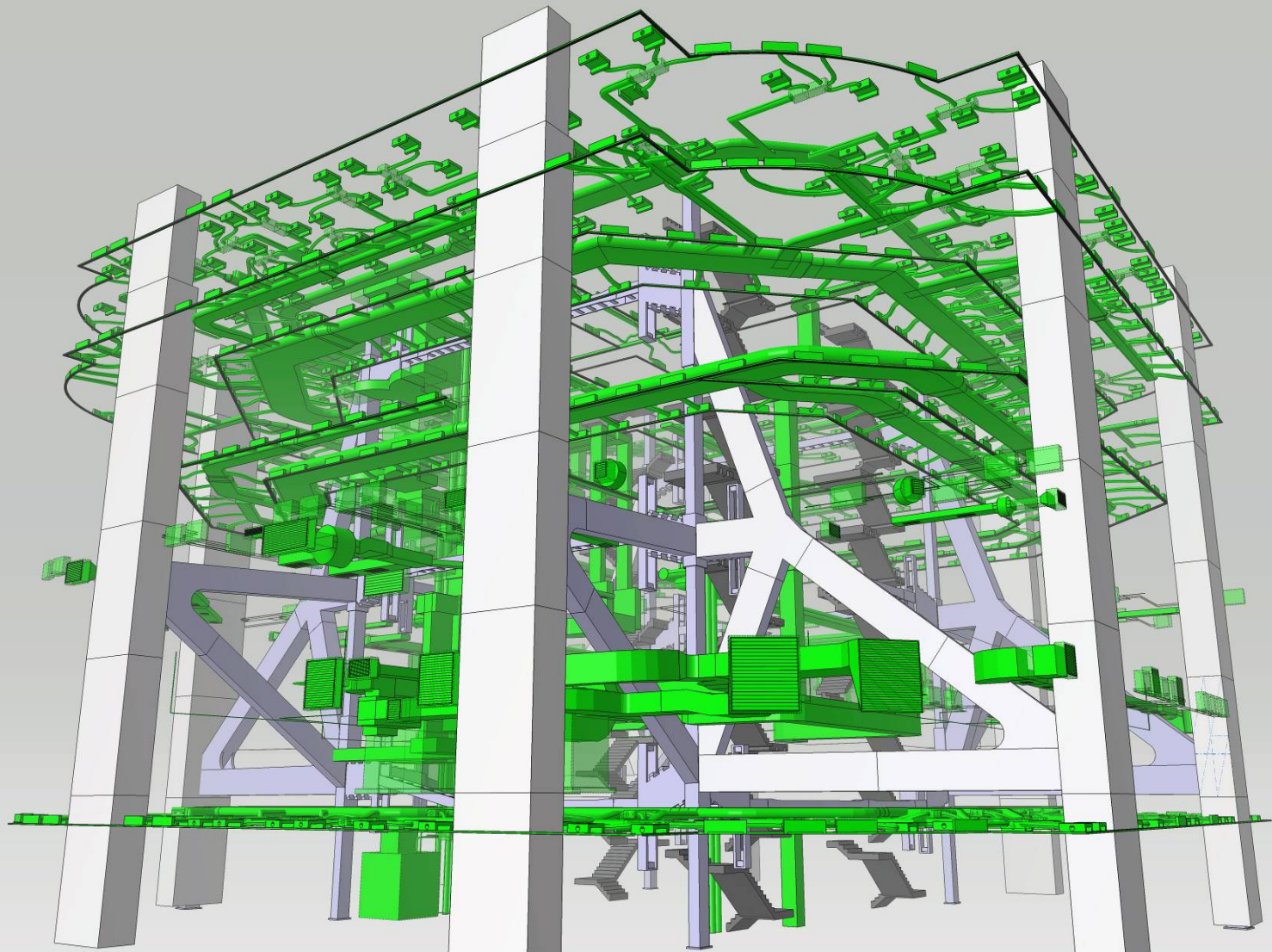
One Island East



One Island East

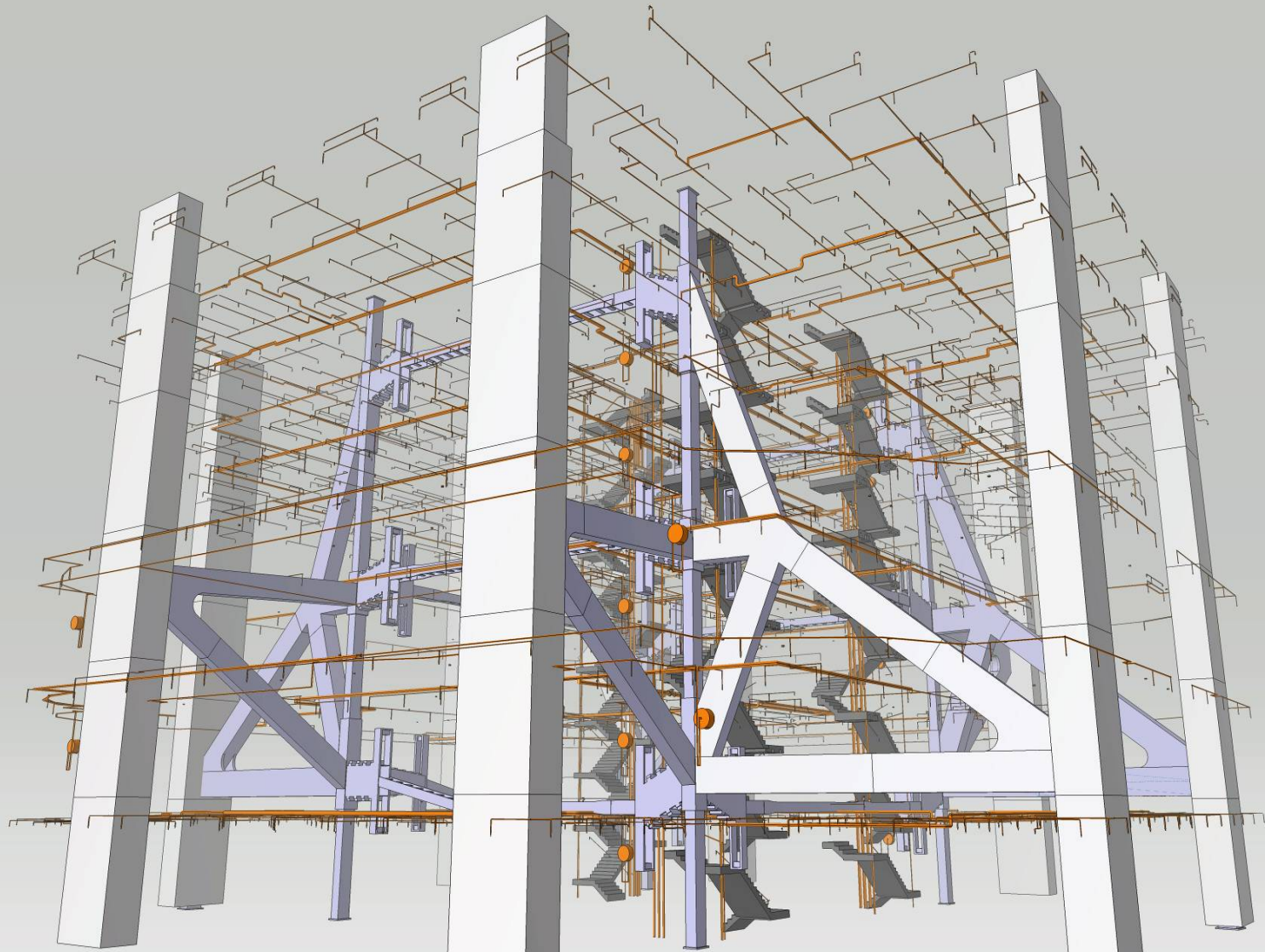


One Island East



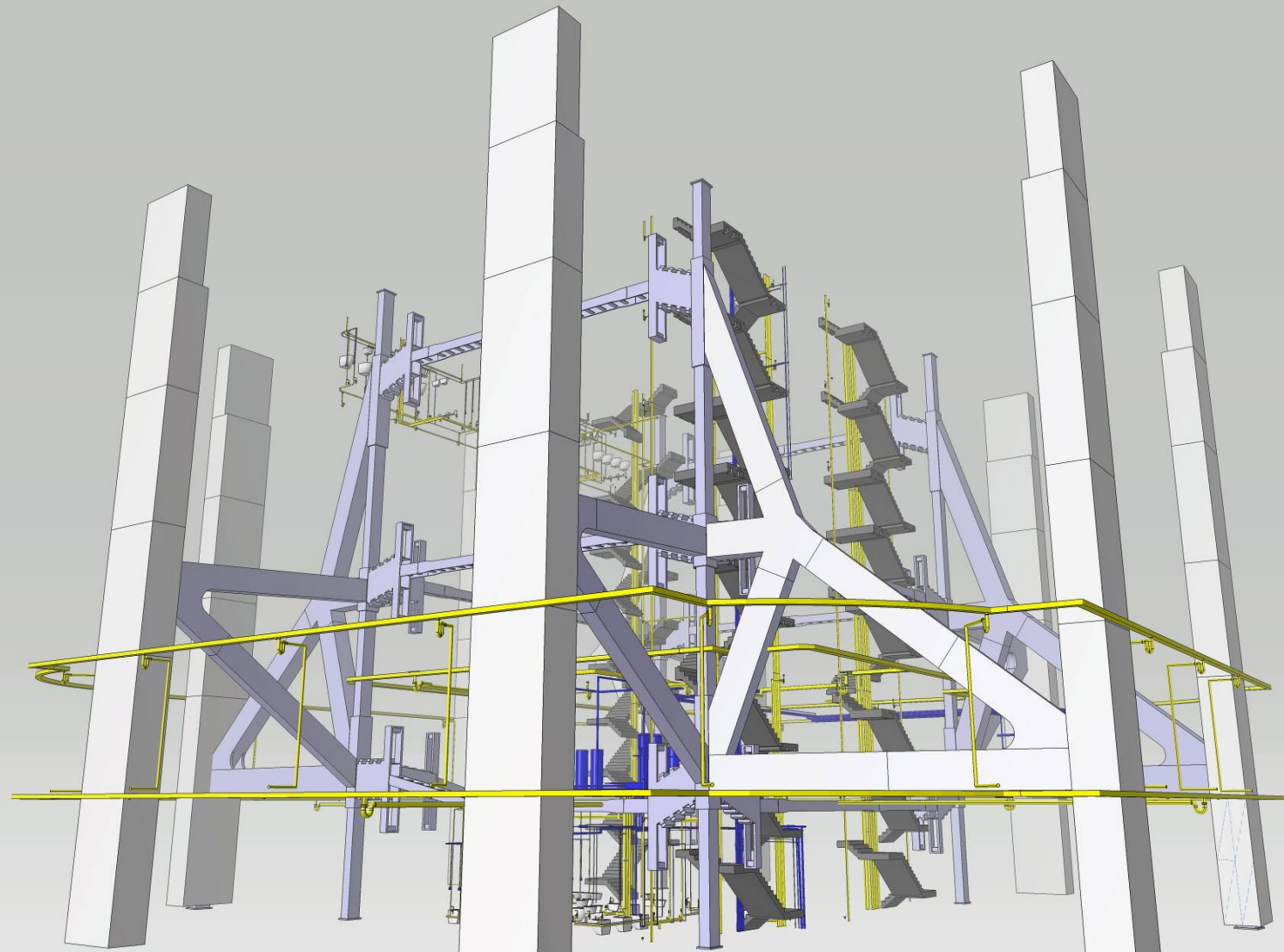
BIM HVAC Configuration

One Island East



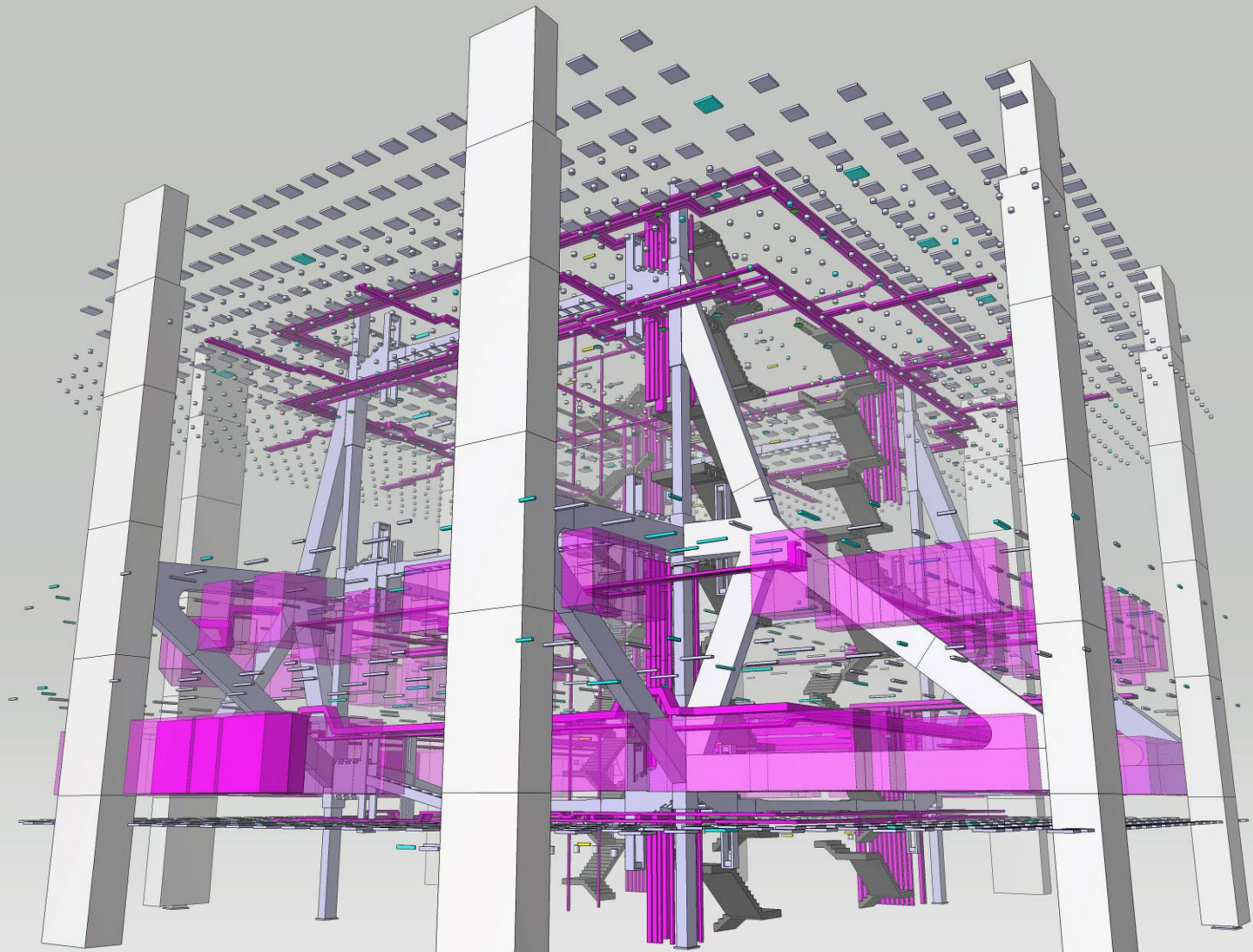
BIM FS Configuration

One Island East



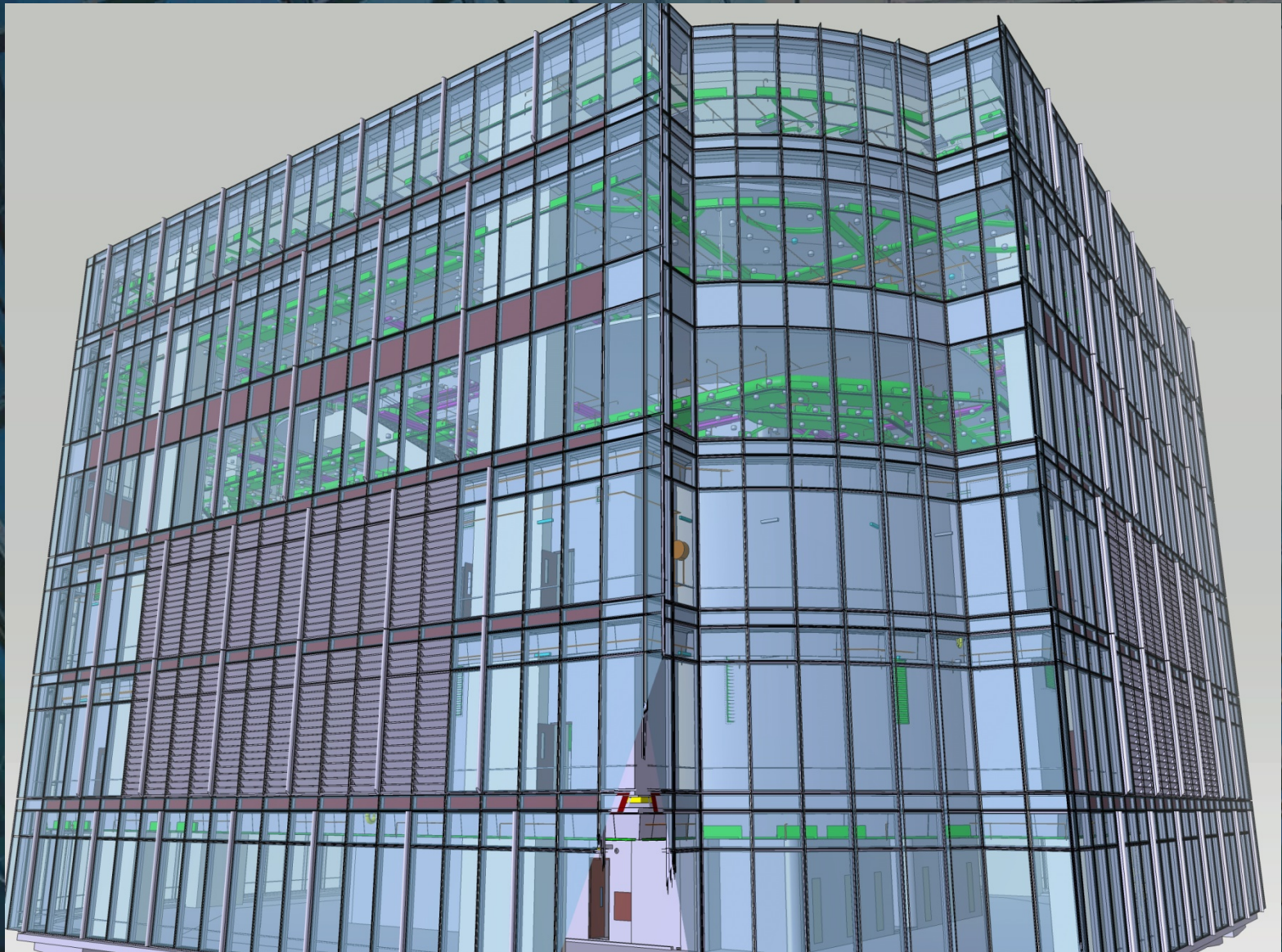
BIM Plumb & Drainage Configuration

One Island East

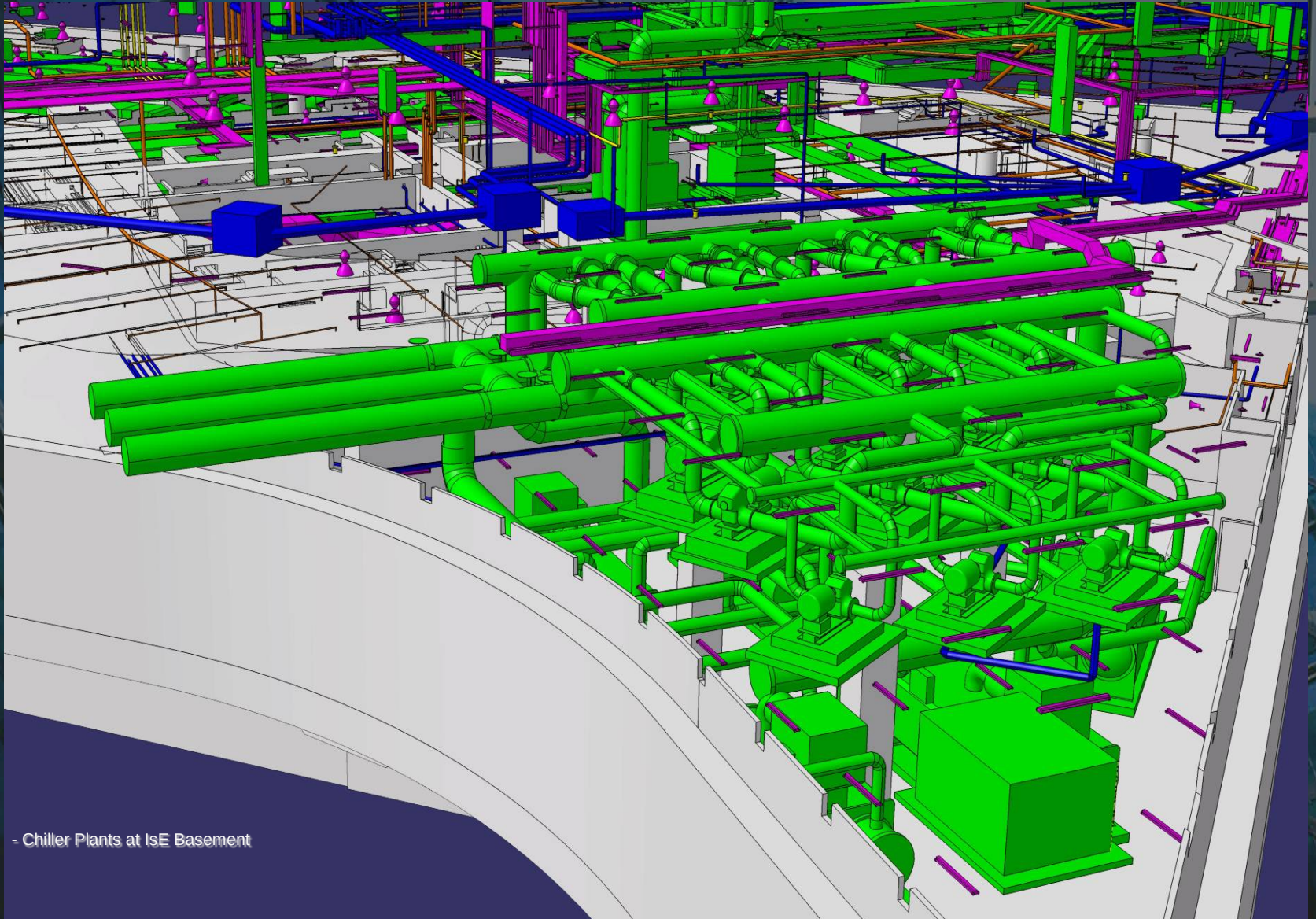


BIM ELEC Configuration

One Island East

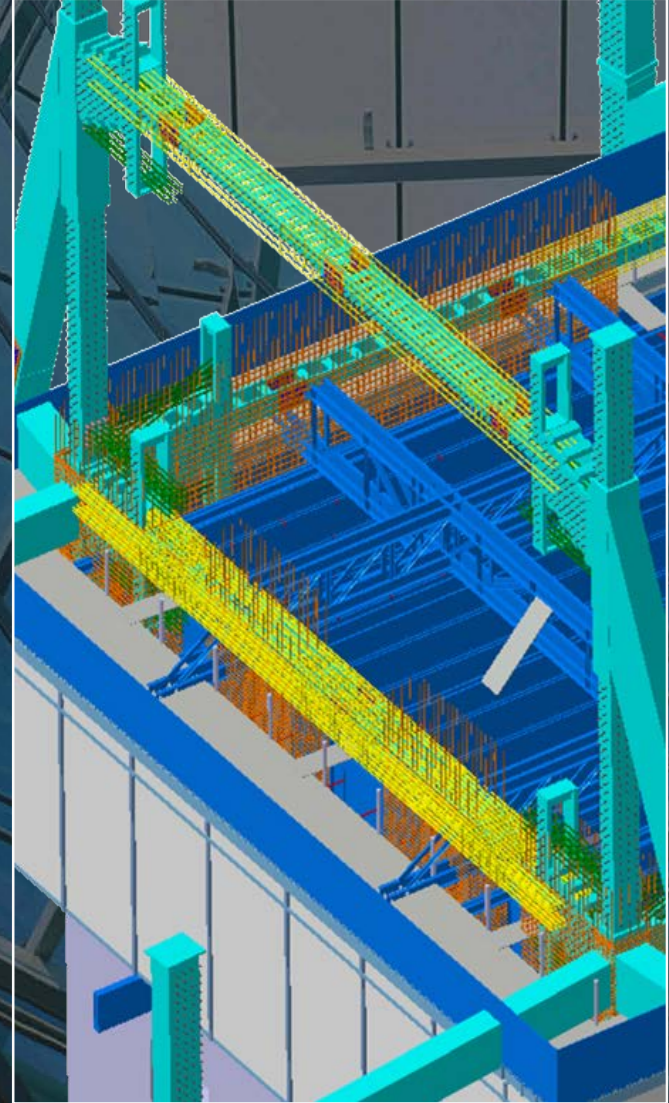
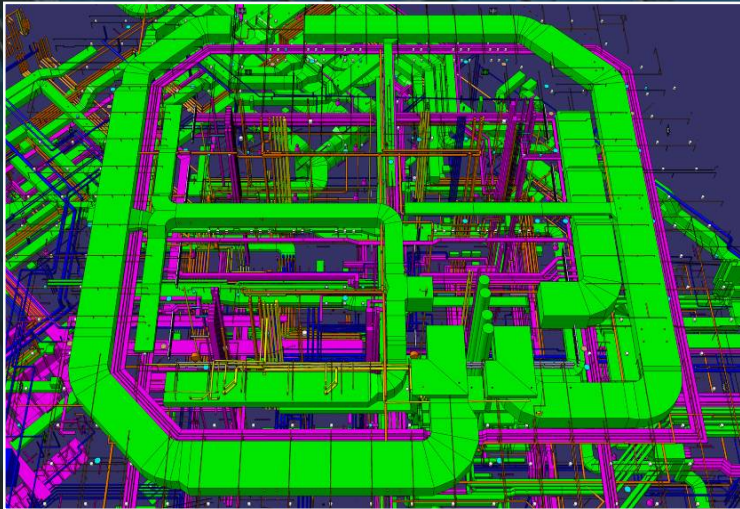
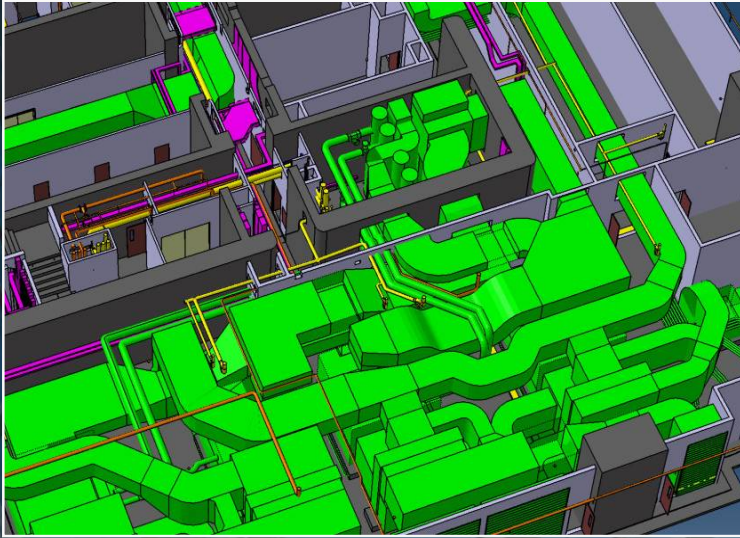


Detail Design and Coordination



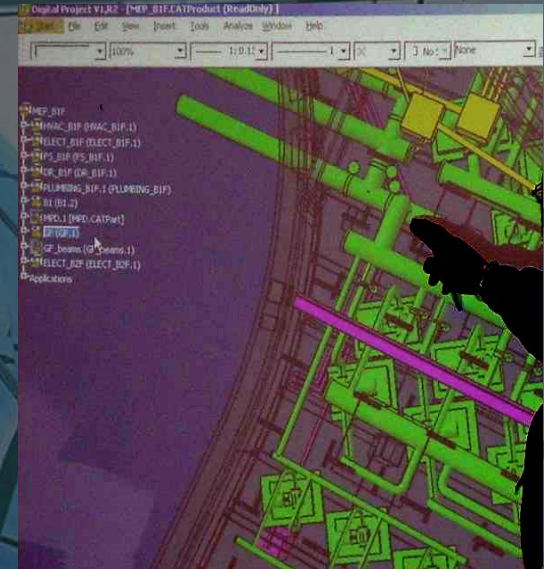
- Chiller Plants at IsE Basement

Detail Design and Coordination



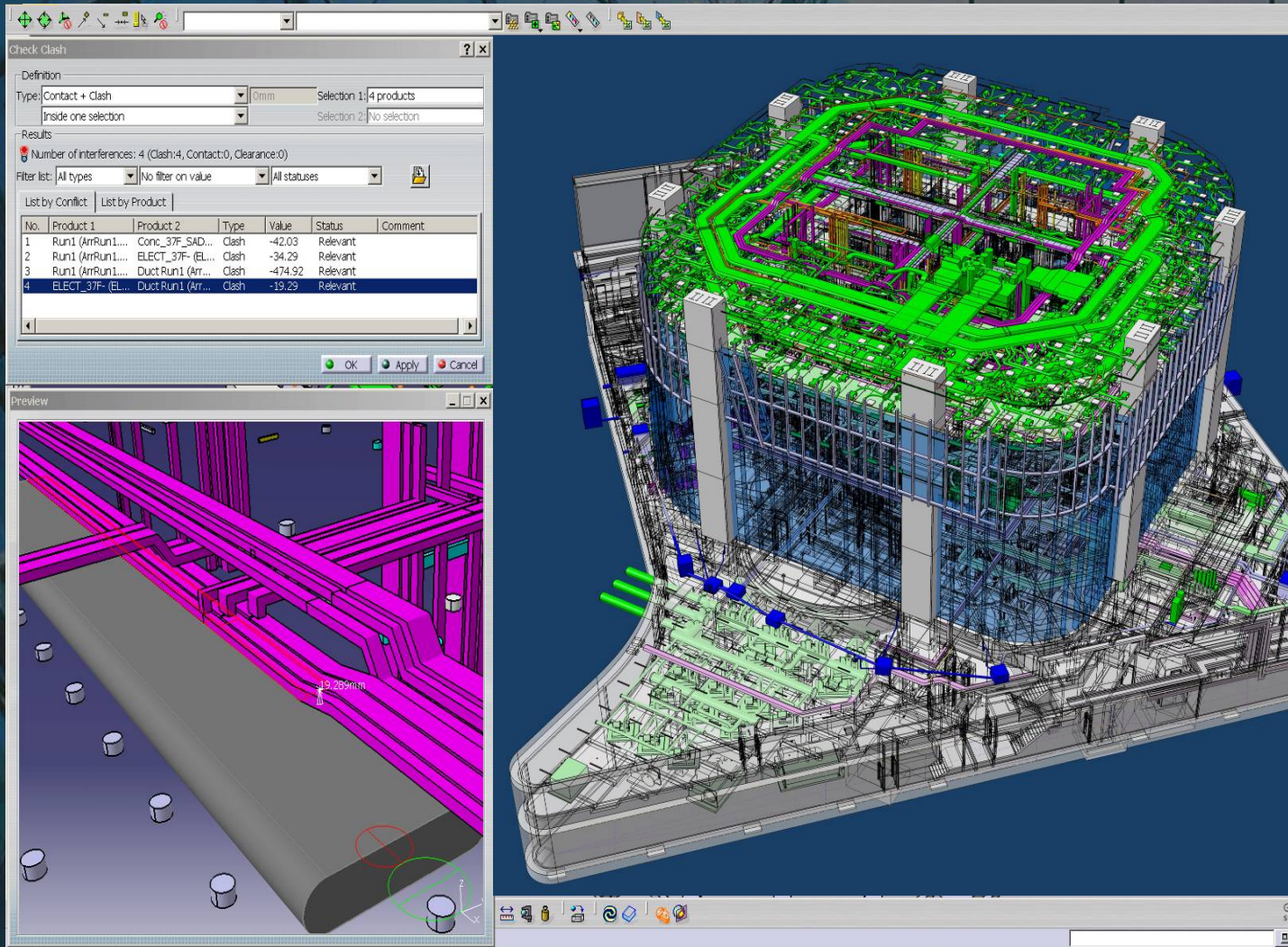
Project-wide multi-discipline design coordination

Detail Design and Coordination



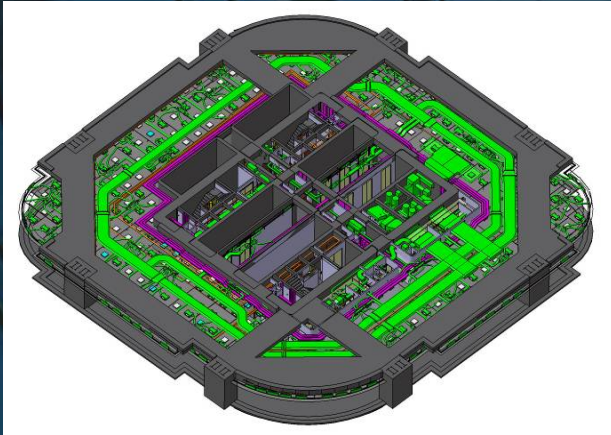
Owner, Architect, Structural, MEP, QS working in the same room on the same Contract 3D Building Information Model

Detail Design and Coordination

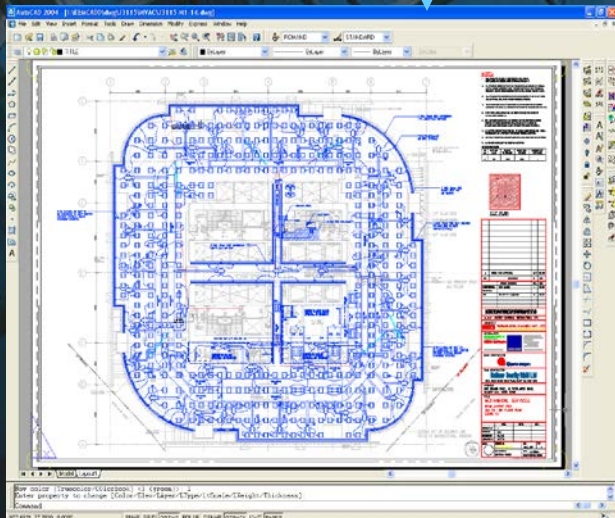


Automatic Clash Identification and Management

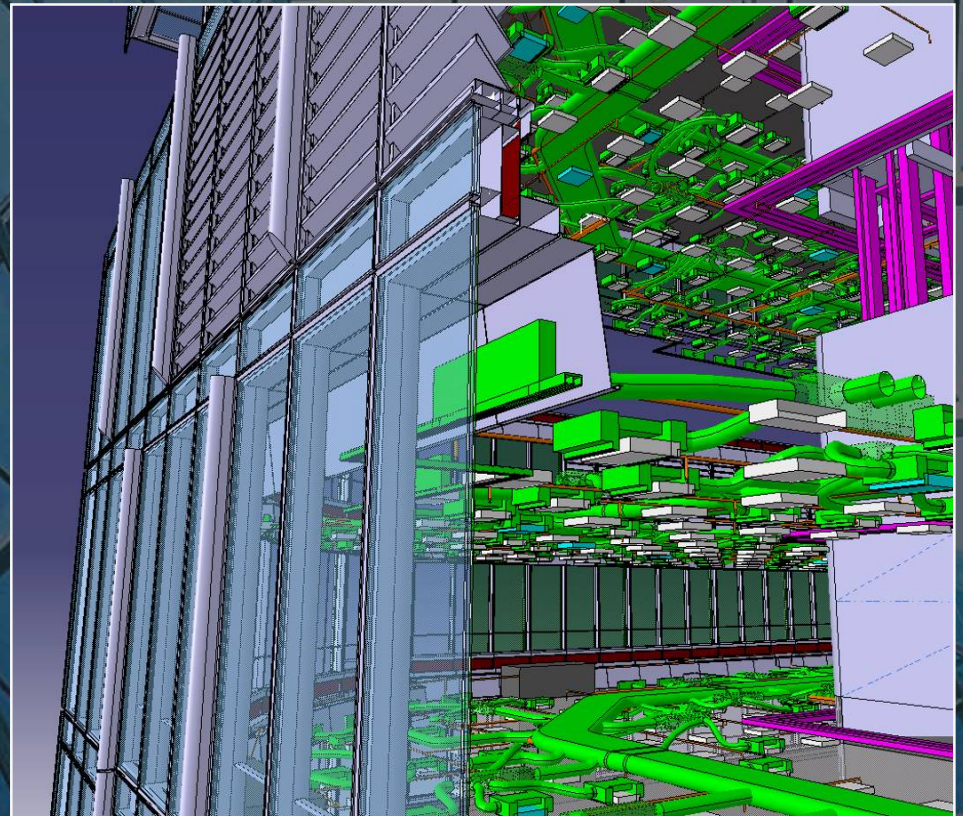
Work Document Coordination



Coordinated 3D geometries



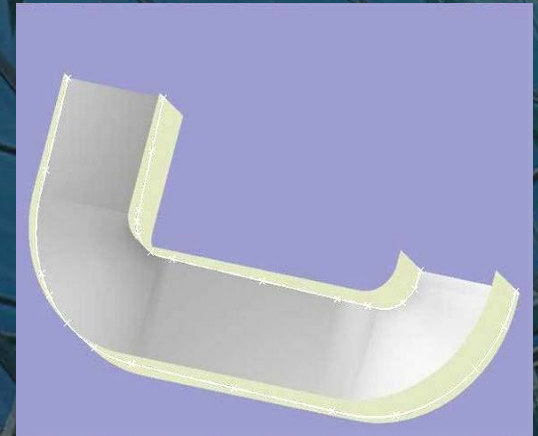
2D geometries output to ACAD for further coordination



Live Sectioning

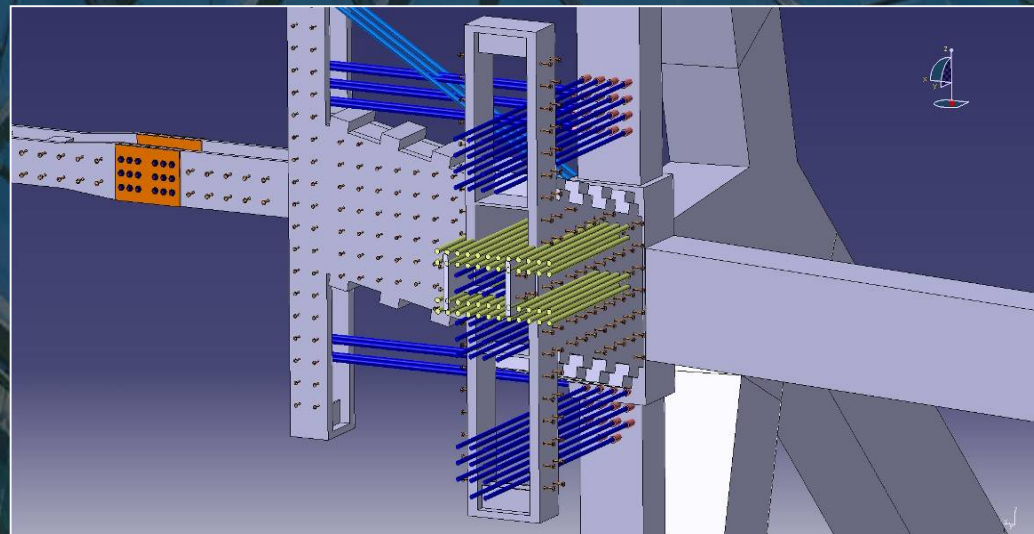
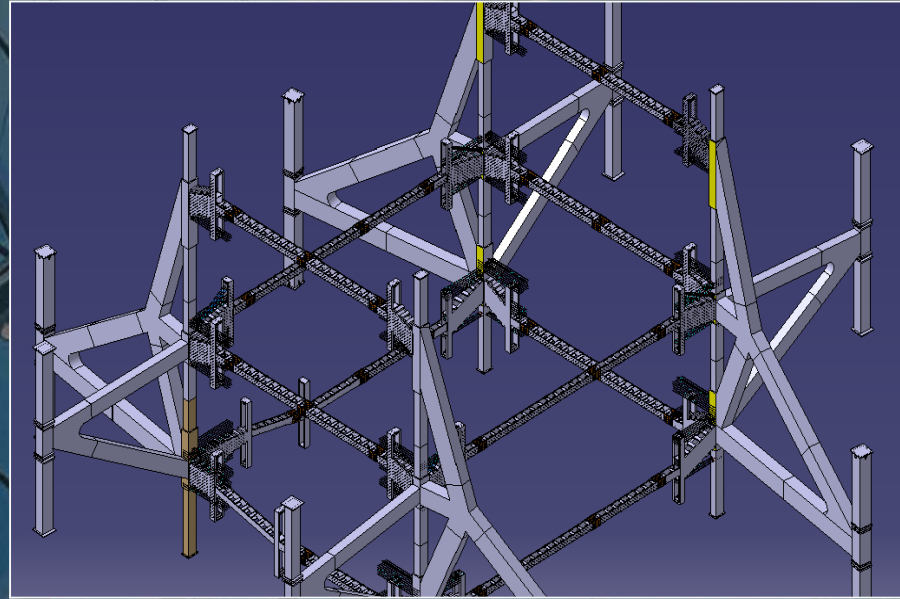
A 3D architectural rendering of the proposed stadium design for the 2016 Rio Olympics. The stadium features a large, curved, light blue seating bowl with a red running track and a blue track lane. The central field area is a large, rectangular, light blue structure with a blue roof. The stadium is surrounded by a green landscape with trees and a blue sky with a small sailboat icon in the top right corner.

A 3D perspective rendering of a curved, multi-layered structure, likely a pipe or duct. The structure is composed of several concentric layers, with the outermost layer being a light yellowish-green and the inner layers being a lighter, almost white color. The structure is curved, forming a U-shape, and has a central channel or void. The rendering is set against a solid blue background.



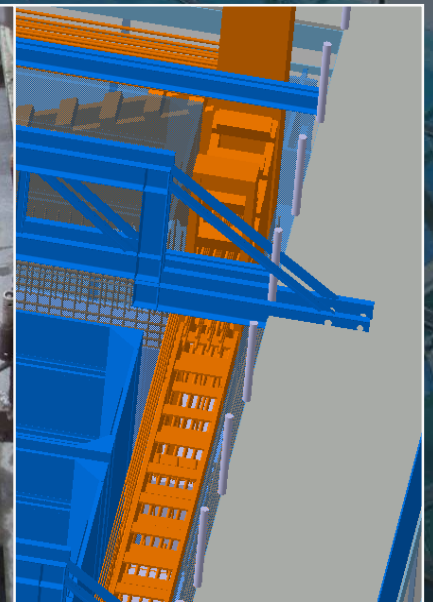
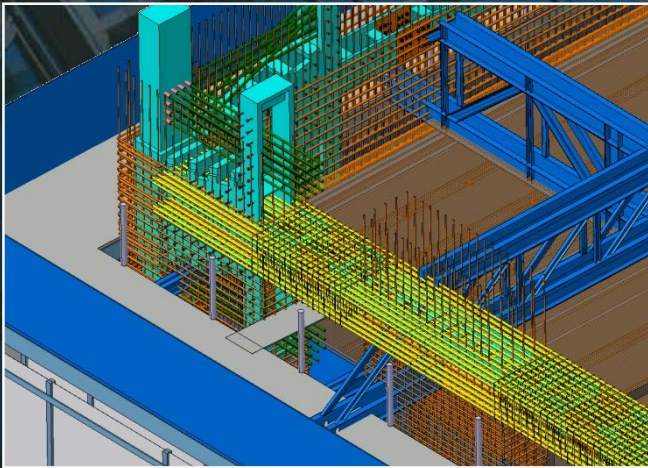
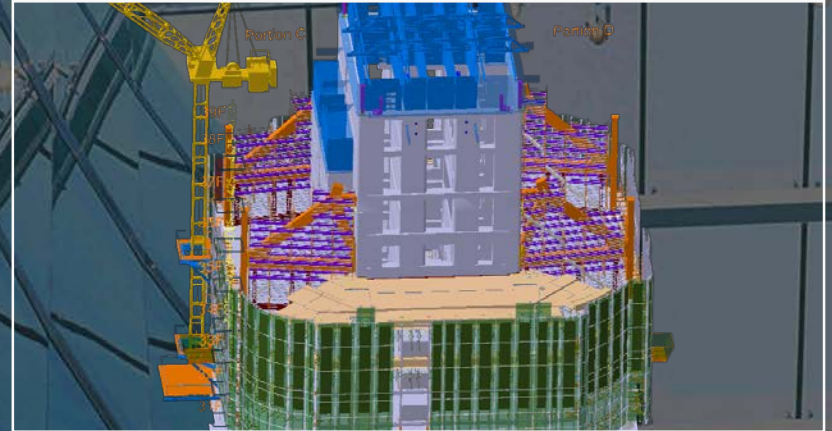
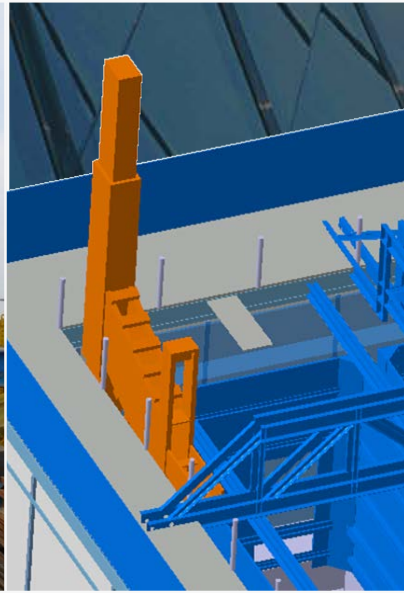
Car-ramp Design Review

Critical Structural Detail Checking



Steel Outrigger and Rebars

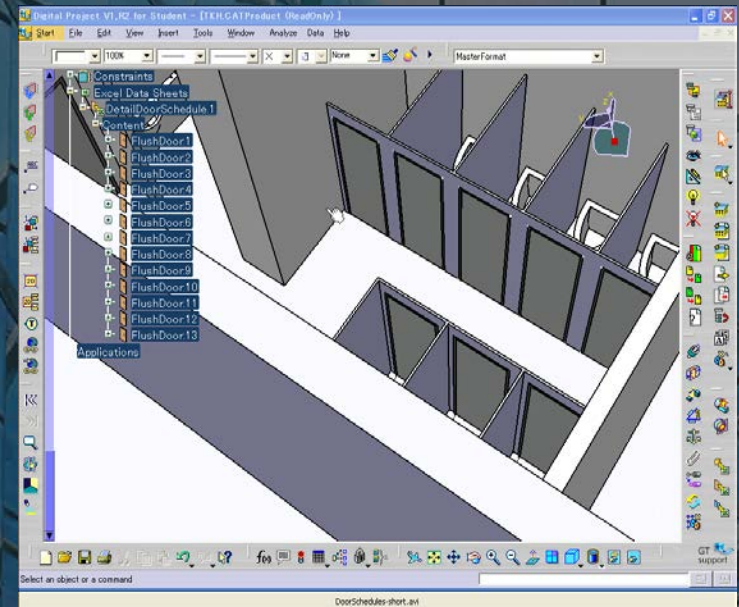
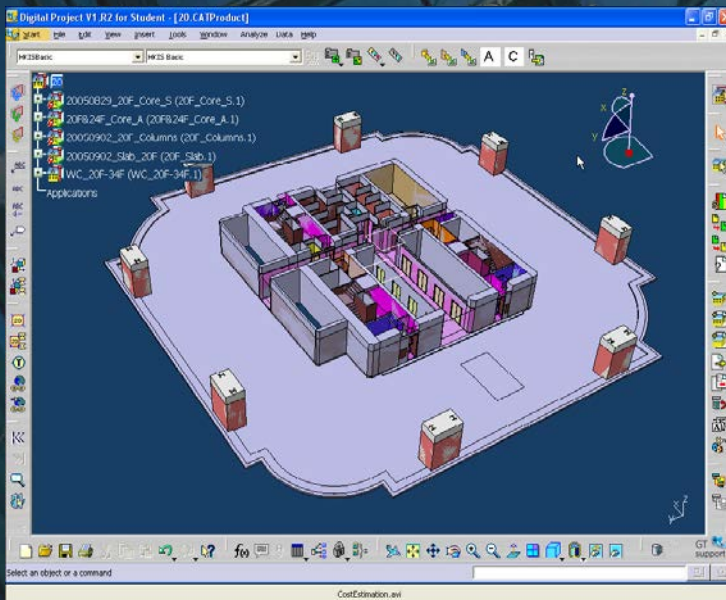
Critical Structural Detail Checking



Steel Outrigger

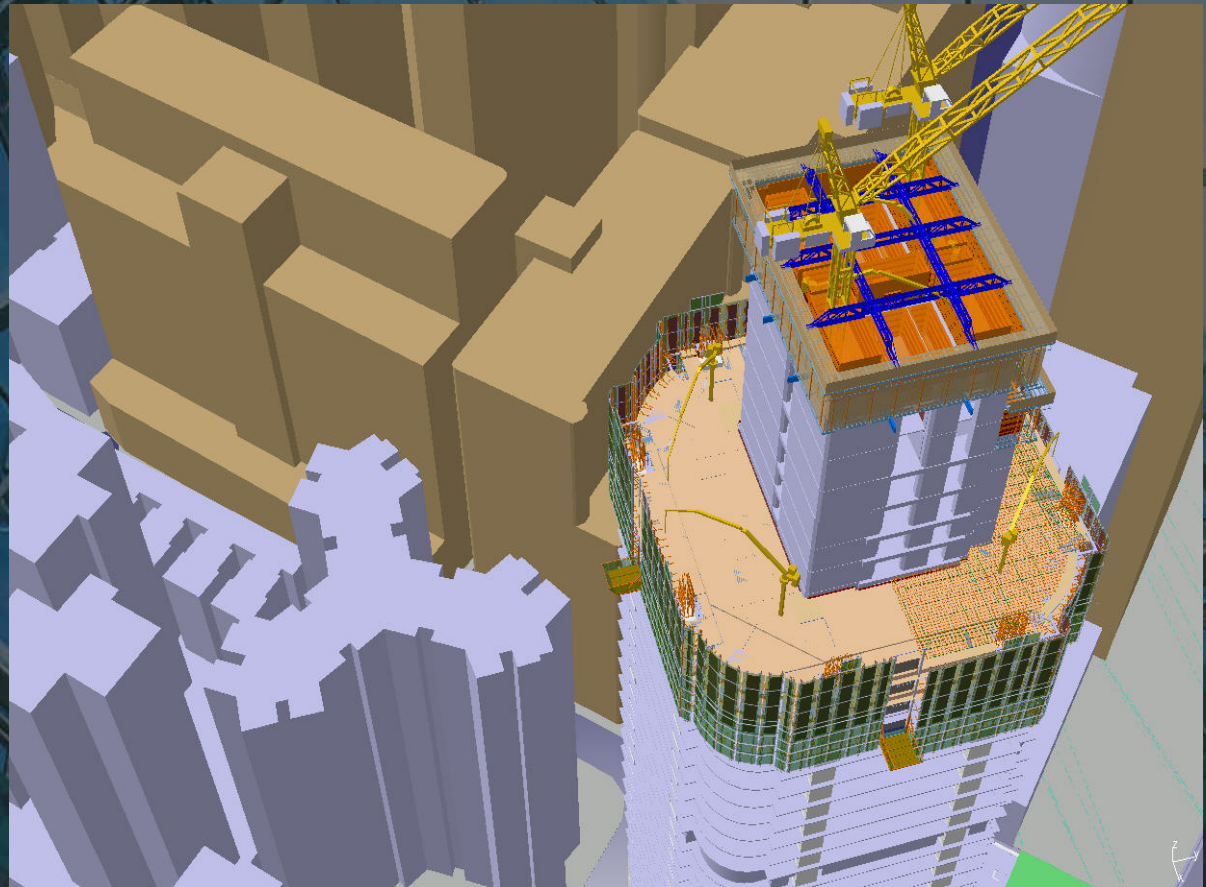
Scheduling and Data Extraction

- Quantity Extraction from BIM
- Work Scheduling utilizing BIM



Virtual Prototyping (4D Model)

- Detail study on the critical process
 - 4-day floor cycle



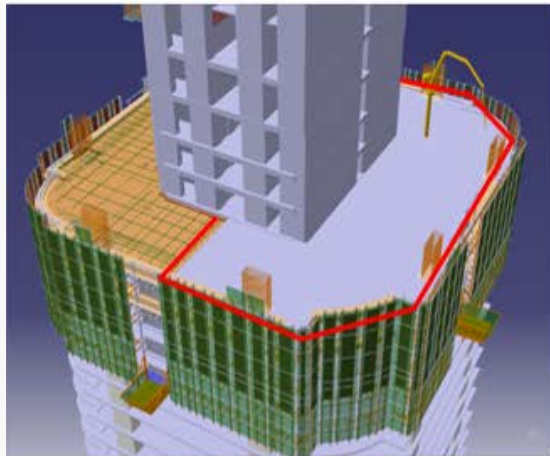
Morning



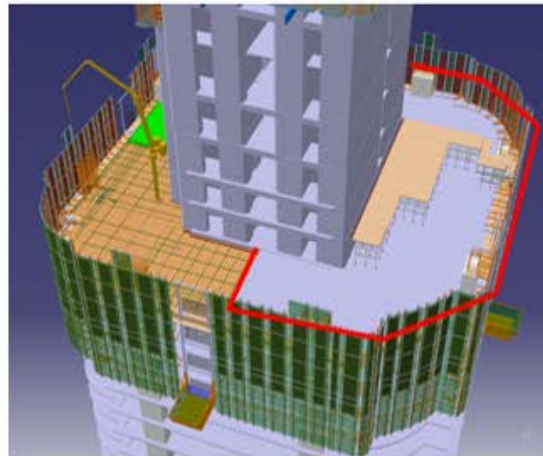
Afternoon



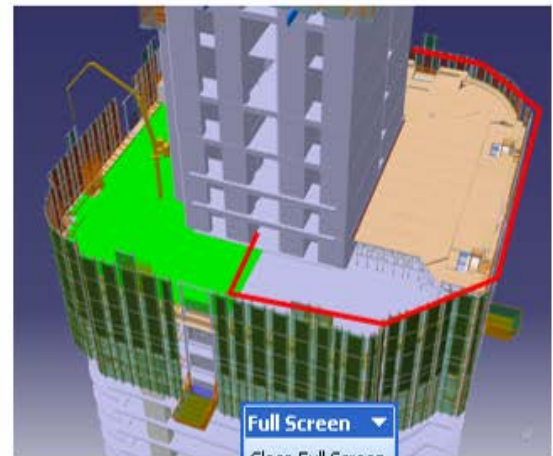
Evening



1. Set Up Table Form
2. Lift Safety Screen
3. Fixing Column Form



1. Set Up Table Form
2. Lift Safety Screen
3. Fixing Column Form

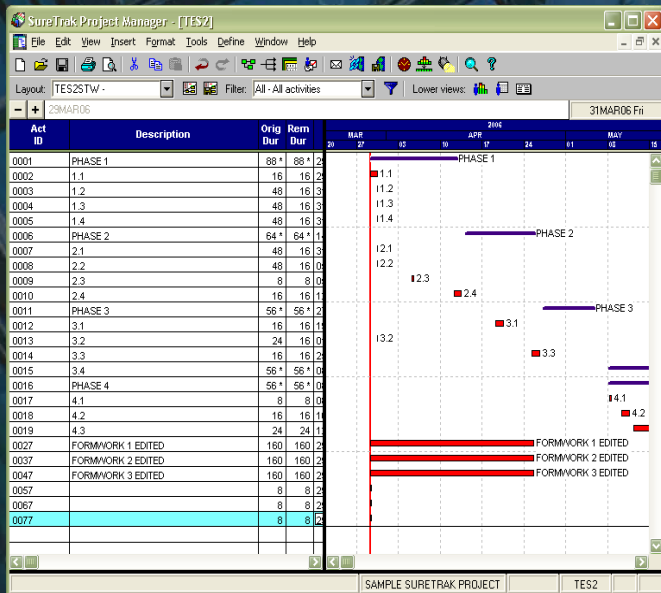


1. Set Up Table

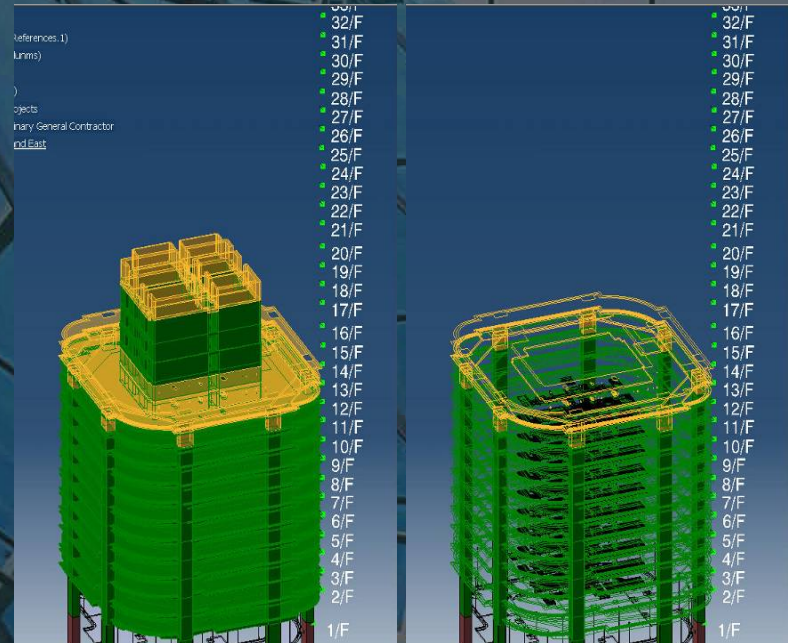
Full Screen
Close Full Screen

Visualize Master Progress with 4D Model

Data exchanging between Primavera and Digital Project



Primavera



Digital Project

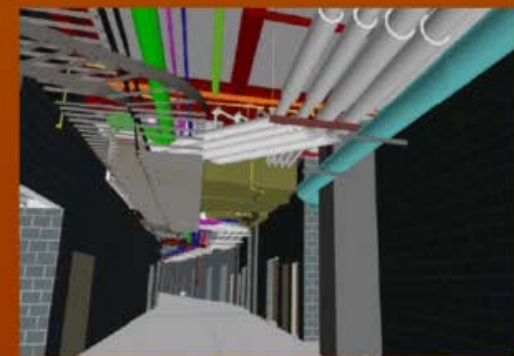
Erweiterte Realität
zur Visualisierung
von Planungsdaten
vor Ort

The Real Estate Cash Flow-25 years



**Building Entire Life-Cycle Management
(3D Information Technology and Platform)**

❑ Setting realistic expectations of BIM from the facility maintenance operation team's perspectives.



Virtual Asset



Physical Asset



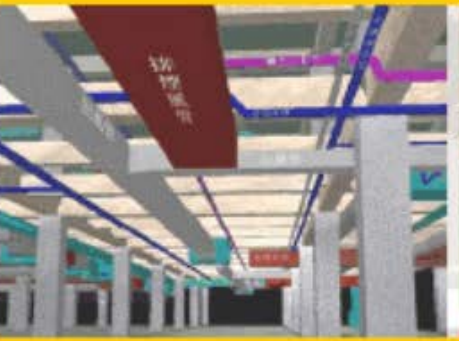
Physical Asset



Virtual Asset



As-built BIM Field Checking



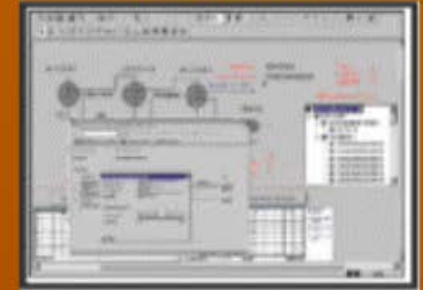
As-Built Data



Inspection Data



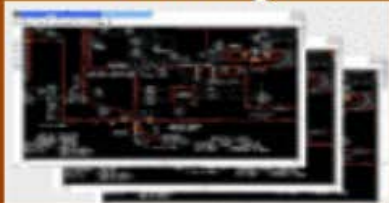
Operation
(DCS/PI)



Virtual Asset
Portal



Engineering
Drawings



Intelligent P&ID



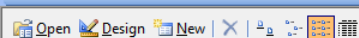
Operation Safety
Procedures



FI HR CRM KM

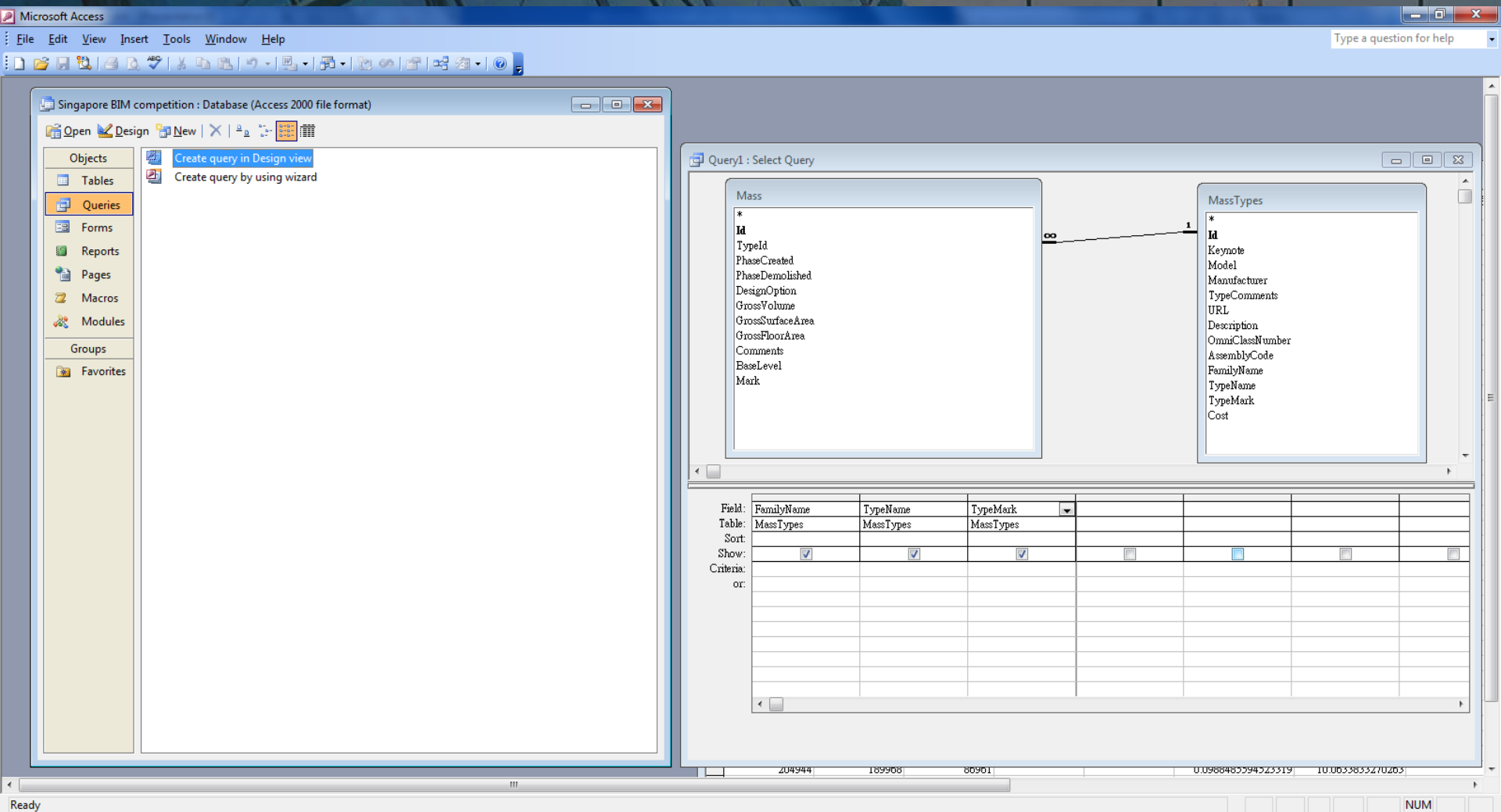
Maintenance





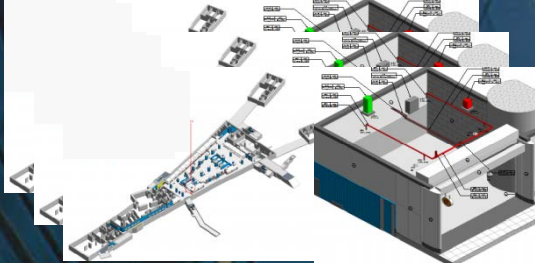
- Objects
- Tables**
- Queries
- Forms
- Reports
- Pages
- Macros
- Modules
- Groups
- Favorites

Create table in Design view	CurtainWallMullionTypes	FlexPipes	MaterialQuantities	ProjectInformation	Stru
Create table by using wizard	DataDevices	FlexPipeTypes	Materials	PropertyLines	Stru
Create table by entering data	DataDeviceTypes	Floors	MechanicalEquipment	PropertyLineTypes	Stru
AirTerminals	DemandFactors	FloorTypes	MechanicalEquipmentTypes	Railings	Swit
AirTerminalTypes	DemandFactorTypes	Fluids	NurseCallDevices	RailingTypes	Tele
AreaLoads	DesignOptions	FluidTypes	NurseCallDeviceTypes	Ramps	Tele
Areas	DesignOptionSets	Furniture	OmniClassNumbers	RampTypes	Top
AreaSchemes	DistributionSystem	FurnitureSystems	PanelScheduleTemplates-BranchPanel	Roofs	Top
Assemblies	DistributionSystems	FurnitureSystemTypes	PanelScheduleTemplates-DataPanel	RoofTypes	Volt
AssemblyCodes	Doors	FurnitureTypes	PanelScheduleTemplates-Switchboard	RoomAssociations	Volt
AssemblyTypes	DoorTypes	GenericModels	Parking	RoomFromToAssociations	Wall
BuildingTypeSettings	DuctAccessories	GenericModelTypes	ParkingTypes	Rooms	Wall
CableTrayFittings	DuctAccessoryTypes	Gutters	Phases	SecurityDevices	Wall
CableTrayFittingType	DuctFittings	GutterTypes	PipeAccessories	SecurityDeviceTypes	Wall
CableTrays	DuctFittingTypes	HVACLoadSchedules	PipeAccessoryTypes	Site	Win
CableTrayTypes	DuctPlaceholders	HVACZones	PipeConnections	SiteTypes	Win
Casework	Ducts	InternalAreaLoads	PipeConnectionTypes	SlabEdges	Wire
CaseworkTypes	DuctSystems	InternalLineLoads	PipeFittings	SlabEdgeTypes	Wire
Ceilings	DuctSystemTypes	InternalPointLoads	PipeFittingTypes	Spaces	Wire
CeilingTypes	DuctTypes	Levels	PipeMaterials	SpaceTypeSettings	Wire
Columns	DuctTypes1	LevelTypes	PipeMaterialTypes	SpecialtyEquipment	Wire
ColumnTypes	ElectricalCircuits	LightingDevices	PipePlaceholders	SpecialtyEquipmentTypes	Wire
CommunicationDevices	ElectricalDemandFactorDefinitions	LightingDeviceTypes	Pipes	Sprinklers	Wire
CommunicationDeviceTypes	ElectricalEquipment	LightingFixtures	PipeSchedules	SprinklerTypes	Wire
ConduitFittings	ElectricalEquipmentTypes	LightingFixtureTypes	PipeScheduleTypes	Stairs	
ConduitFittingType	ElectricalFixtures	LineLoads	PipeTypes	StairTypes	
Conduits	ElectricalFixtureTypes	Mass	PipeTypes1	StructuralColumns	
ConduitTypes	ElectricalLoadClassificationParameterElement	MassExteriorWall	PipingSystems	StructuralColumnTypes	
Constructions	ElectricalLoadClassifications	MassFloor	PipingSystemTypes	StructuralFoundations	
ConstructionTypes	Fascias	MassGlazing	Planting	StructuralFoundationTypes	
CurtainPanels	FasciaTypes	MassInteriorWall	PlantingTypes	StructuralFraming	
CurtainPanelTypes	FireAlarmDevices	MassOpening	PlumbingFixtures	StructuralFramingTypes	
CurtainSystems	FireAlarmDeviceTypes	MassRoof	PlumbingFixtureTypes	StructuralRebar	
CurtainSystemTypes	FlexDucts	MassSkylight	PointLoads	StructuralRebarTypes	
CurtainWallMullions	FlexDuctTypes	MassTypes	Profiles	StructuralStiffeners	

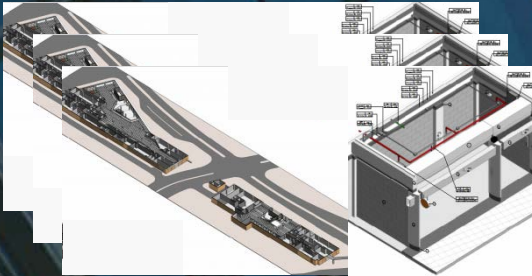


MODELLING + INDIVIDUAL DATABASE

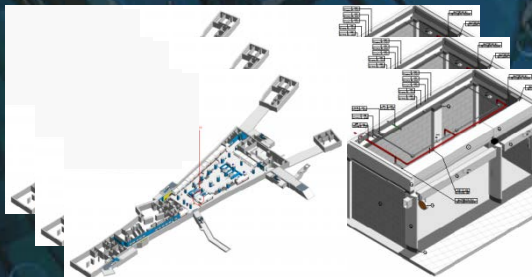
S1



S2



S3



⋮

FLEET WIDE DATABASE

MEGA
DATABASE

OTHER
DATABASES

APPLICATIONS

APP 1

E.G. CCTV
MONITORING

APP 2

E.G. RETAIL

APP 3

⋮

Query1 : Select Query

	FamilyName	TypeName
▶	SAT Tower Mullion	SAT Tower Mullion
	SAT Tower Surface Ref	SAT Tower Surface Ref
	Tower Panel	S01-P001
	Tower Panel	S01-P002
	Tower Panel	S01-P003
	Tower Panel	S01-P004
	Tower Panel	S01-P005
	Tower Panel	S01-P006
	Tower Panel	S01-P007
	Tower Panel	S01-P008
	Tower Panel	S01-P009
	Tower Panel	S01-P010
	Tower Panel	S01-P011
	Tower Panel	S01-P012
	Tower Panel	S01-P013
	Tower Panel	S01-P014
	Tower Panel	S01-P015
	Tower Panel	S01-P016
	Tower Panel	S01-P017
	Tower Panel	S01-P018
	Tower Panel	S01-P019
	Tower Panel	S01-P020
	Tower Panel	S01-P021
	Tower Panel	S01-P022
	Tower Panel	S01-P023
	Tower Panel	S01-P024
	Tower Panel	S01-P025
	Tower Panel	S01-P026
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	Tower Panel	S01-P035
	Tower Panel	S01-P036
	Tower Panel	S01-P037
	Tower Panel	S01-P038
	Tower Panel	S01-P039
	Tower Panel	S01-P040



http://hkibim.org/ - Windows Internet Explorer

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The Hong Kong Institute of Building Information Modelling
香港建築信息模擬學會

HKIBIM Launch on 8th Jan 2010

Hong Kong Institute of Building Information Modelling (HKIBIM) was established in Jan 2009. After one year's preparation, it is proud to announce the launch of HKIBIM. On 8 Jan, 2010, the Launch was successfully held at the Hong Kong Club Building.

After opening speech by Ir Francis Leung, the Chairman of HKIBIM, the first fellow member of HKIBIM, Ms Ada Fung, made her speech followed by Architect Mr David Fung, Vice Chairman, sharing the membership application method and further direction of HKIBIM.

The launch ended with cocktail and networking until late night.



Click [here](#) to view the event photos.

Search for:

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HKIBIM Launch on 8th Jan 2010
Official Launch of The Hong Kong Institute of Building Information Modelling (HKIBIM)

Useful Links

Membership Application Form:



PDF format

INSTITUTIONS



The University of Hong Kong
Knowledge Exchange



HKUSPACE *Community*
College 香港大學附屬學院



香港中文大學
The Chinese University of Hong Kong



CUSCS

香港中文大學專業進修學院
School of Continuing and Professional Studies
The Chinese University of Hong Kong



珠海學院

CHU HAI COLLEGE
OF HIGHER EDUCATION



THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

School of Professional Education
and Executive Development
專業進修學院

SPEED 

HK BIM Awards

AECOM

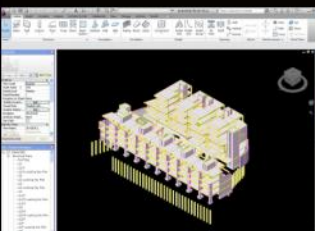
恒基兆業地產有限公司
HENDERSON LAND DEVELOPMENT COMPANY LIMITED

HOK

Hong Kong Housing Authority

MTR

瑞安建築有限公司
SHUI ON CONSTRUCTION COMPANY LIMITED



AECOM

Projects:

- Proposed Commercial Development at No. 123-125, Hoi Bun Road
- Proposed Residential Development at 55-57 Binney Road, Pokfulam

Location:

- Kwai Tong
- Pokfulam

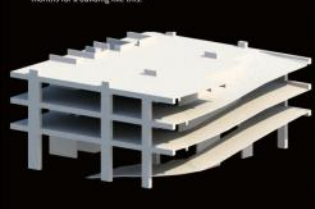
Type:

- Commercial Development
- Residential Redevelopment

Scheduled Time of Completion:

- Hoi Bun Road - March 2013
- Binney Road - September 2013

"The concept took around two months to develop, compared to perhaps three to six months with the traditional approach," says Ir. Alan Yuen, Principal Engineer, Building Engineering (Structural), AECOM. "And we completed the structural design in under two months - when we would usually expect this to take three to four months for a building like this."



Henderson Land Development Co Ltd.

Projects:

- The Gloucester
- A Luxurious Boutique Hotel at 388 jaffe Road

Location:

- 388 Gloucester Road, Wanchai
- 388 jaffe Road, Wanchai

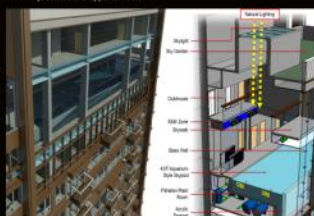
Type:

- Residential Development
- Hotel

Scheduled Time of Completion:

- 2012

"BIM is a catalyst for project innovation and a tool for speedier design development," says Kevin Ng, Deputy General Manager, Project Management (2) Department, Henderson Land. "We couldn't effectively and efficiently visualize 2D combined services drawings, for complicated projects, but with BIM we can realistically appraise problems and opportunities."



HOK International (Asia/Pacific) Ltd.

Project: Bengaluru International Airport Terminal 3 Expansion

Location: Bangalore, India

Type: Airport

Scheduled Time of Completion: 2013 & 2015

"The client can get a better understanding of the design via Revit's inherent 3D environment, and therefore become more engaged with the design process," says Mr. Benjamin Thomas, Senior Design Architect, Associate with HOK.

"The BIM model was a massive help in the design process," says Ir. Andrew Mole, Associate Director of Arup. "There is only so much information you can show in 2D drawings, since they must be interpreted to understand the full spatial information. 3D models communicate better. The BIM model allowed creation of multiple views of the airport design, with minimum additional effort."



Hong Kong Housing Authority

Projects:

- Tai Pak Tin Street Public Housing Development
- Redevelopment of Lower Agau Tau Kok Estate
- Redevelopment of So Uk Estate

Location:

- Tai Pak Tin Street
- Lower Agau Tau Kok Estate
- So Uk Estate

Type:

- Public Housing

Having worked on projects with BIM in standard ways - such as reducing clashes during construction, Hong Kong Housing Authority has recently progressed to helping accelerate a construction project in Tai Pak Tin Street, and even demolished old buildings using BIM in Lower Agau Tau Kok and So Uk.



MTR Corporation Limited

Project: Re-Development of Inspection Registry System

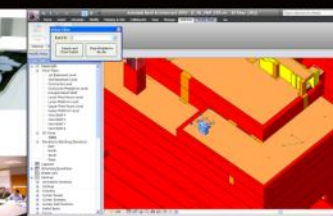
Location: Hong Kong

Type: System Development

Scheduled Time of Completion: 2011

"One BIM model is for all, so inspectors can work efficiently," notes Mr. Dorian Leung, Structural Inspection and Investigation Manager, MTR Corporation.

"I think BIM will become more popular in the long term," says Mr. Dickson Luk, System Analyst, MTR Corporation. "Now, it is mainly used by BIM professionals. In future, inspectors, engineers and managers will gain more and more access to BIM models - which will enhance our expertise in managing the Corporation's railway assets."



Shui On Construction Co. Ltd.

Project: The Innovation Tower, The School of Design

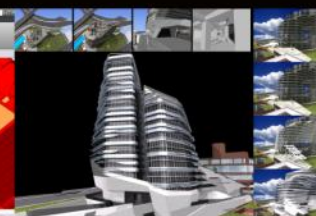
Location: The Hong Kong Polytechnic University, Hung Hom

Type: Academic Building

Scheduled Time of Completion: 2012

With BIM, correlations between various disciplines would be far clearer than with 2D drawings and sections, and Shui On could construct Innovation Tower as envisaged by the architect.

Mr. Chan Tsang Shing, Senior Engineer of Shui On Construction Co. Ltd, says Shui On is now training staff to use BIM, and they find that Revit helps them easily visualize construction projects in 3D. "Most colleagues find it very useful, and know there's a trend to use BIM," he adds.



BIM USER GROUPS

A I A B - Windows Internet Explorer

http://www.aiab.org/

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Autodesk Industry Advisory Board

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Good Building Started From Beautiful Design

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科學園建水立方? (769.2 KiB, 241 hits)

WELCOME TO AIAB!

Written by admin
June 1st, 2009

AIAB (Autodesk Industry Advisory Board) is formed by a group of expertise who are willing to share their valuable experience in BIM (Building Information Modeling) to the public. We currently have members from Hong Kong and Macau region.

Chairman's Message | Comments Off

SING TAO DAILY ARTICLES – 綠色建築新思路 – 23 JUN 2010

Written by admin
June 24th, 2010



綠色建築新思路

(逢星期三刊登)

李煥明

- Autodesk香港及澳門區域總監
- 香港建築信息模擬學會義務秘書
- 英國電腦學會(香港分會)義務秘書
- 電郵: wendy.lee@autodesk.com

Link: www.aiab.org



BIM RESOURCES

RevitCity.com - Windows Internet Explorer

http://www.revitcity.com/index.php

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Revit Radio

A light-hearted way to get your Revit questions answered and learn new techniques from award-winning instructors!

Free!

XCAD-1

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Welcome!

55 Users Online (26 Members): Show Users Online - Most ever was 428 - Mon, Nov 12, 2007 at 5:48:43 PM





[Commercial Design Using Revit Architecture 2010](#)

Daniel John Stine

[Best Price \\$37.80](#)
or Buy New \$53.95

RevitCity.com News

2010-03-02 **Sorry to the Users**
I, Jeremy Jacobs apologize to all the users of RevitCity.com I made a mistake with the server on Monday morning, knocking out the server for about 34 hours. Everything should be back up and running . . .

2009-07-08 **Upgrade Complete**
We've moved the site over to newer hardware. In case you're curious about the new hardware, here it is:
2 - 2.53 Ghz Quad Core Nehalem Xeon processors
8 GB of RAM
4 - Intel X25-E . . .

2009-07-02 **Coming Upgrades**
We're in the process of setting up a new server over the next couple of days. Please bear with us if you notice glitches as we make the transition over to some faster hardware.

2009-02-24 **PLEASE READ: Note To Members About RevitCity**
Hi Everybody,
Thank you all for making RevitCity what it is. For those of you who don't know RevitCity is a part-time volunteer effort by my brother, me, and our fantastic moderators (c . . .

Industry News

2009-11-09 Latest AUGI Edge is now available.

2009-07-07 Update 1 for Autodesk Revit Architecture 2010 is now available

2009-04-07 Revit Technology Conference 2009

2009-03-13 Autodesk publishes Revit 2010 User Interface Tour to YouTube

2007-05-24 Revit, AutoCAD Architecture Get Full IFC 2x3 Certification

Site Stats

Members: 155306

Objects: 9799

Forum Posts: 78343

Job Listings: 3

Revit® Content

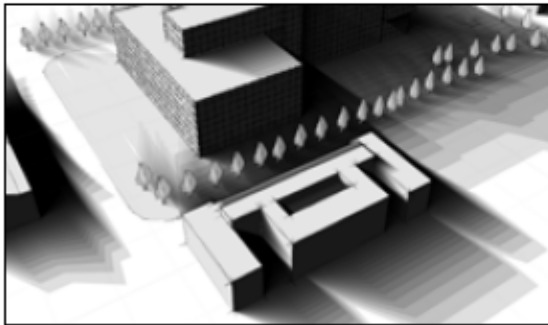


Link: www.revitcity.com

BIM DEVELOPMENTS – SUSTAINABILITY DESIGN

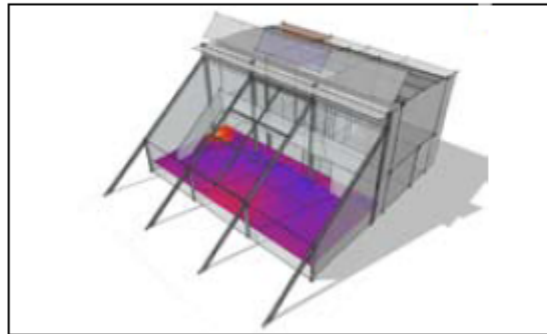
Shadows and Reflections

Display the sun's position and path relative to the model at any date, time, and location using this simulation tool. View how sunlight enters through windows and moves around within a space.



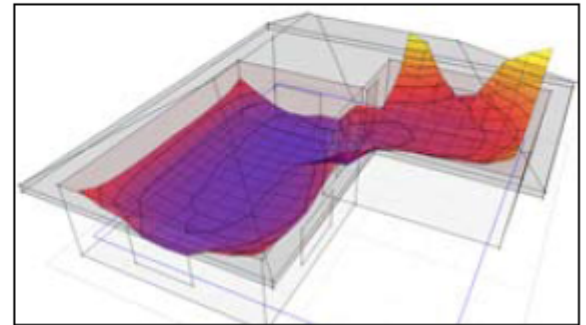
Daylighting

Calculate daylight factors and illuminance levels at any point in the model or over the analysis grid. This tool helps determine potential savings due to daylight-linked lighting design.



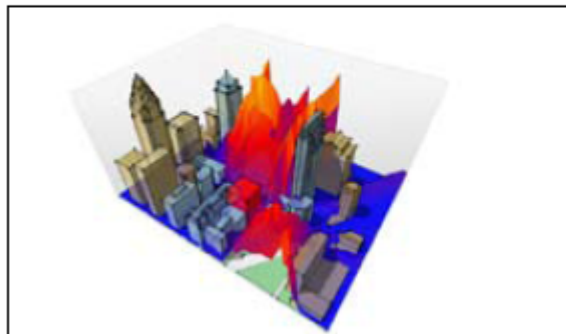
Thermal Performance

Calculate heating and sensible cooling loads for models with any number of zones or types of geometry. Analyze effects of occupancy, internal gains, infiltration, and equipment items.



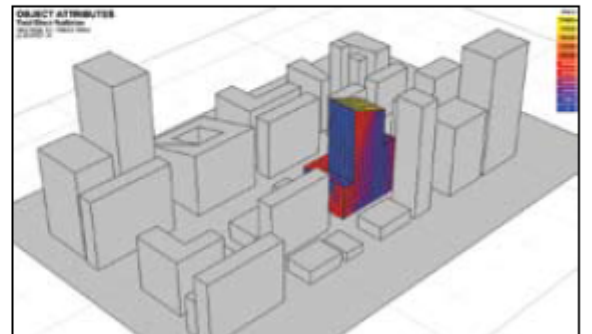
Visual Impact

Analyze site projection angles, assess obstructions, calculate vertical sky components for any point or surface, and visualize the no-sky line in any space.

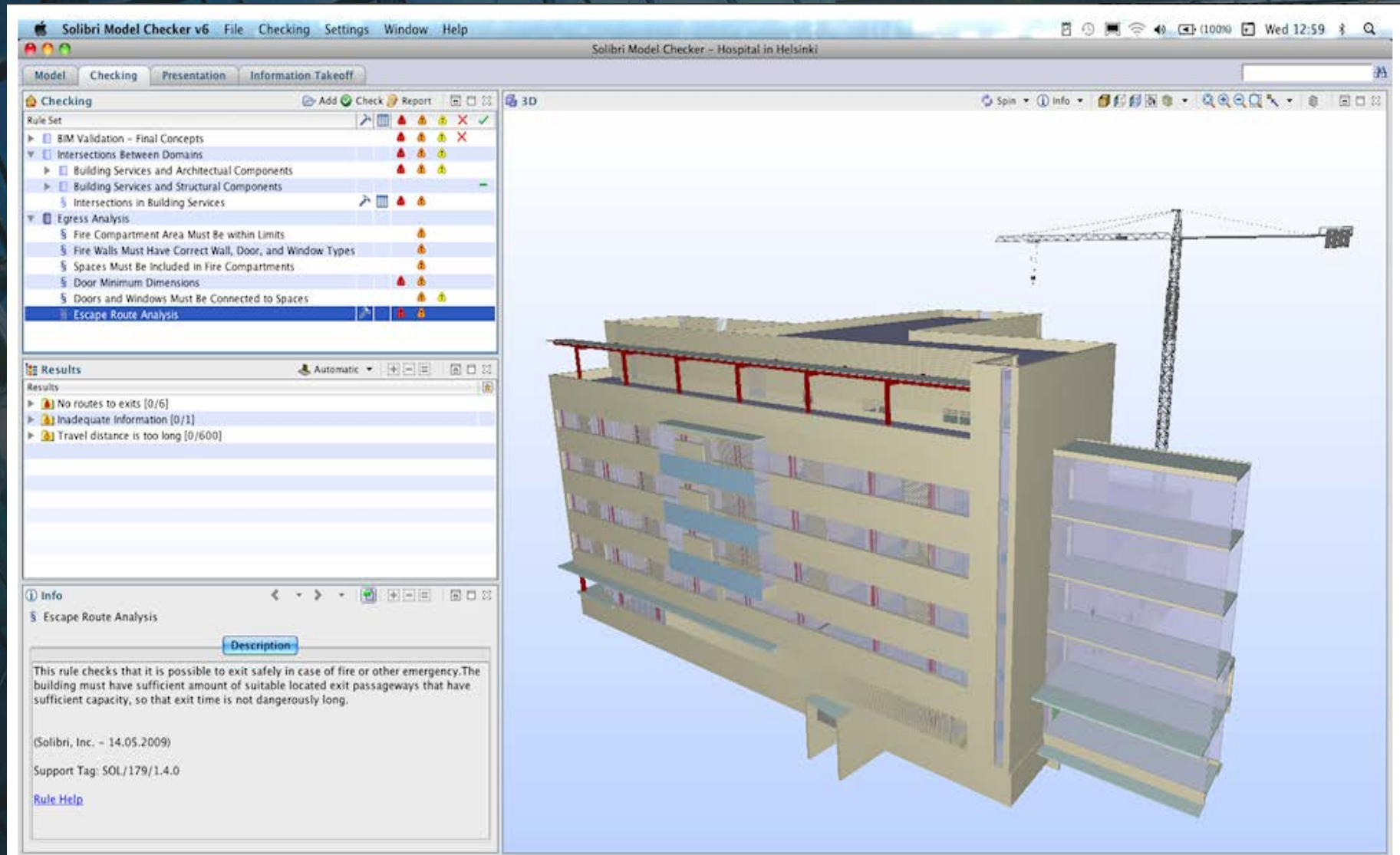


Solar Radiation

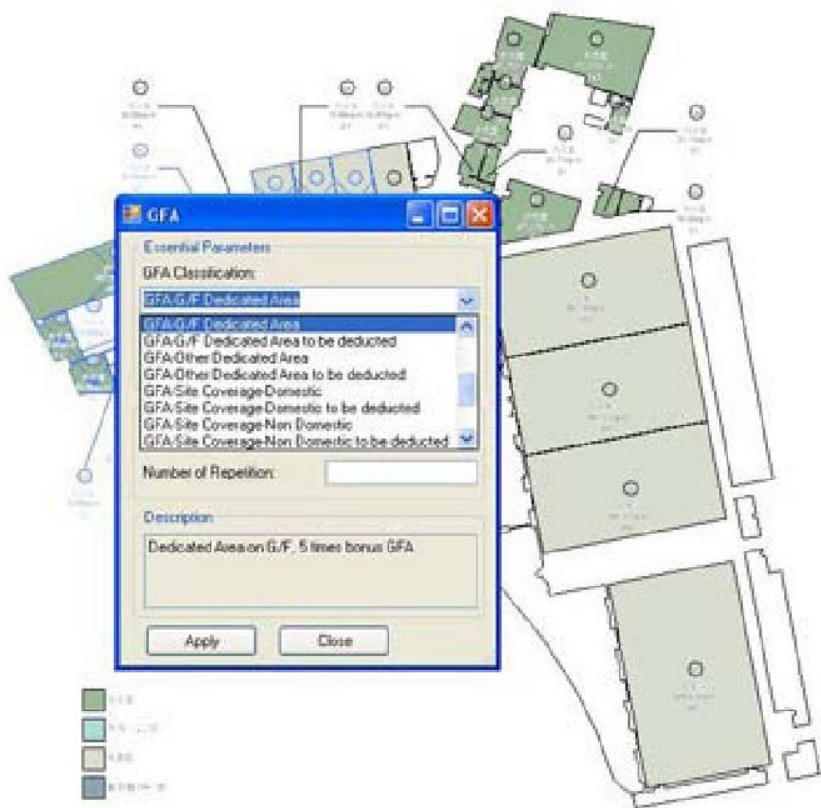
Visualize incident solar radiation on windows and surfaces, showing differential incident solar radiation calculated over any period.



BIM DEVELOPMENTS – STATUTORY CHECKING



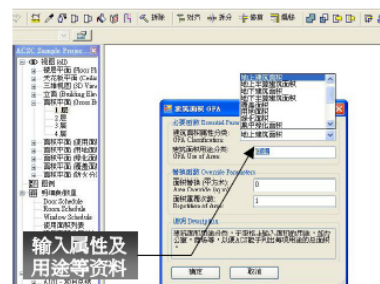
BIM DEVELOPMENTS STATUTORY SUBMISSIONS



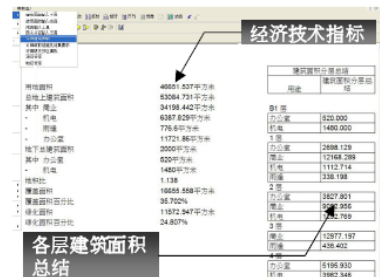
Link: www.bit-world.com

ACS · C@REVIT 产品说明

ACS · C@REVIT 是为中国建筑设计而开发的一套自动规范检算系统，系统专门为 Autodesk Revit 而设。只要简单勾出各类面积，输入属性及用途等资料，程式便能自动完成规范检算。相比传统做法能大幅提升其效率达数倍以上。



支援各类建筑面积运算、经济技术指标、使用面积人数换算、疏散走道要求、洁具要求、及防火分区面积结算。

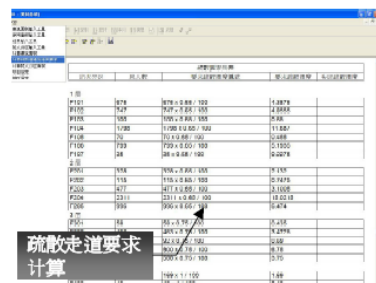


1. 经济技术指标运算包括：
 - 用地面积
 - 地上、地下及不同功能性质的建筑面积结算及容积率
 - 绿地总面积及绿地率
 - 建筑密度

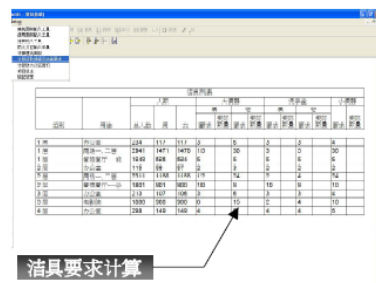
2. 使用面积运算包括：



• 根据使用面积用途计算人数



• 根据不同楼层或防火分区的总人数及其建筑物功能性质计算疏散走道要求



• 根据不同楼层或区域的总人数及其用途，计算男女人数分布，及

United States

NATIONAL BUILDING INFORMATION MODELING STANDARD

Version 1 - Part 1:
Overview, Principles, and Methodologies

Transforming the Building Supply Chain
Through Open and Interoperable Information Exchanges



National Institute of
BUILDING SCIENCES

Facilities Information Council
National BIM Standard



GSA

BIM Guide For Spatial Program Validation

GSA BIM Guide Series 02

www.gsa.gov/bim



AEC (UK) BIM Standard

A practical & pragmatic BIM standard for the Architectural, Engineering and Construction industry in the UK.

Version 1.0

November 2009

First release



AEC (UK) BIM Standard for Autodesk Revit

A workable implementation of the AEC (UK) BIM Standard for the Architectural, Engineering and Construction industry in the UK.

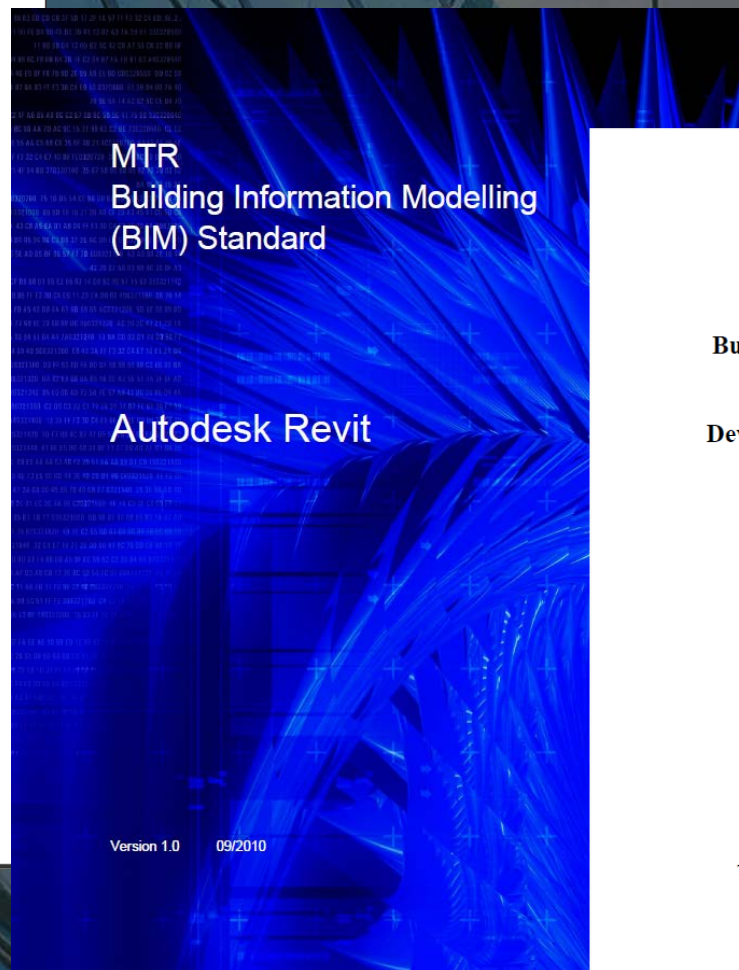
Version 1.0

April 2010

First Issue

Hong Kong Institute of
Building Information Modelling

BIM Project Specification



**Building Information Modelling (BIM)
Standards Manual
for
Development and Construction Division
of
Hong Kong Housing Authority**



(Version 1.0)
November 2009

Prepared by Business Information Technology Unit
Development & Construction Division
Housing Department

©Hong Kong Housing Authority
The Government of the Hong Kong Special Administrative Region

Singapore BCA visit to HK



TARGET



**Singapore Construction
Industry to Use BIM
Widely by 2015**

PHASED MANDATORY BIM E-SUBMISSION

2013

Mandatory Architecture BIM e-Submissions for all new building projects > 20,000 m²

2014

Mandatory Engineering BIM e-Submissions for all new building projects > 20,000 m²

2015

Mandatory Architecture & Engineering BIM e-Submissions for all new building projects > 5,000 m²

**** will be calibrated in a gradual manner by taking into consideration the readiness of the industry practitioners and technology**

“十二五” 建筑业信息化发展纲要

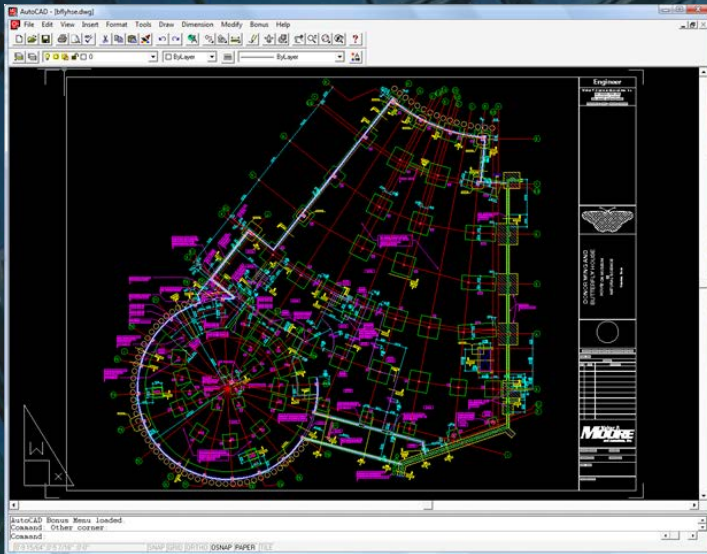
（一）总体目标

“十二五”期间，基本实现建筑企业信息系统的普及应用，加快建筑信息模型（BIM）、基于网络的协同工作等新技术在工程中的应用，推动信息化标准建设，促进具有自主知识产权软件的产业化，形成一批信息技术应用达到国际先进水平的建筑企业。

住房和城乡建设部 10/5/2011

<http://www.c-bm.com/news/2011/5-19/B16543600.shtml>

Design / Approved Information = As built Information?

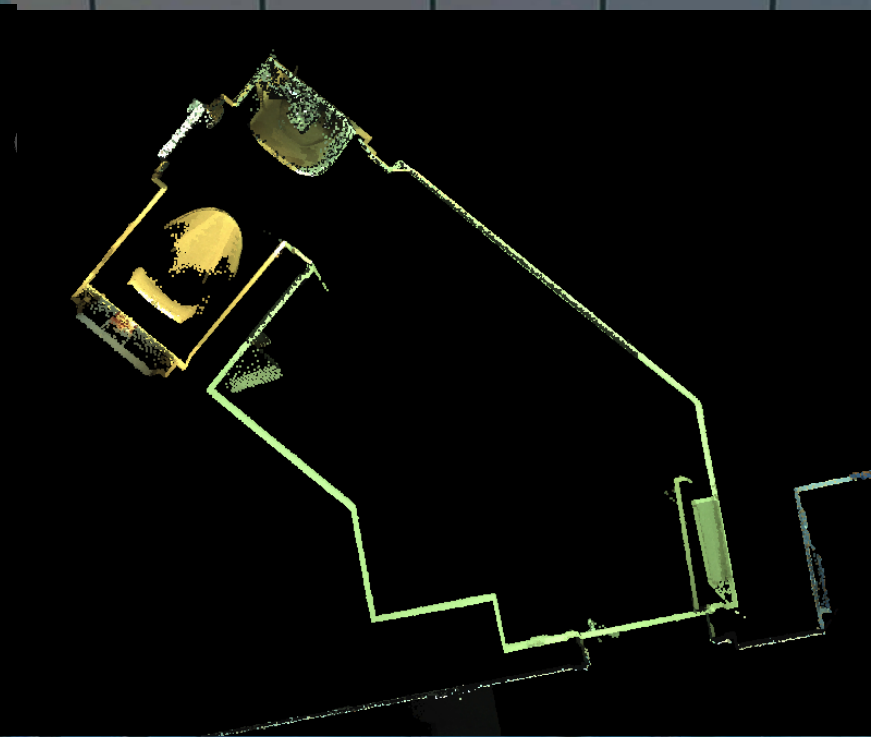
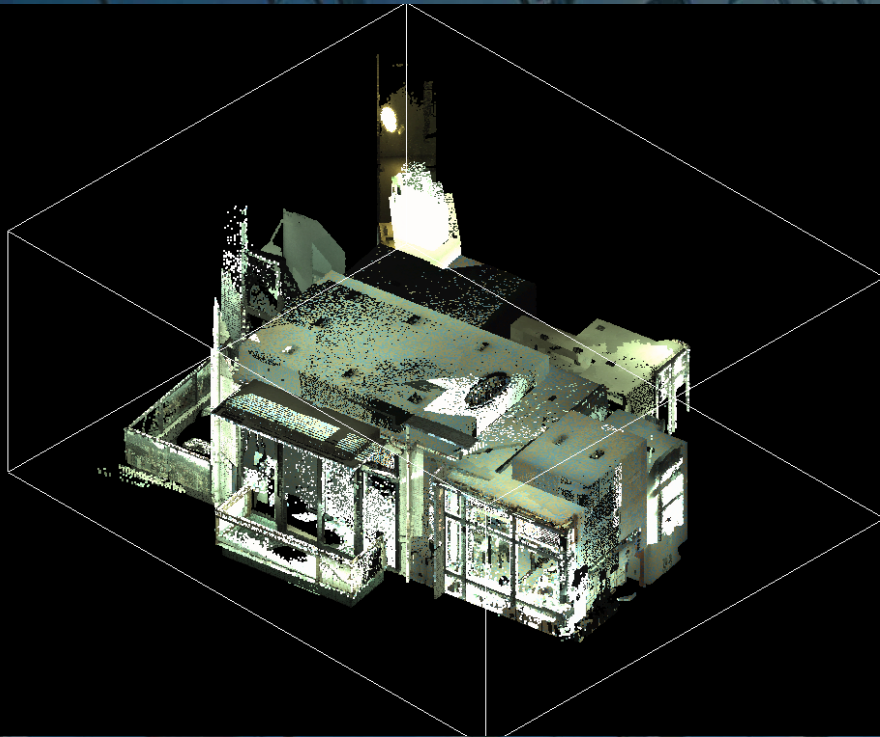




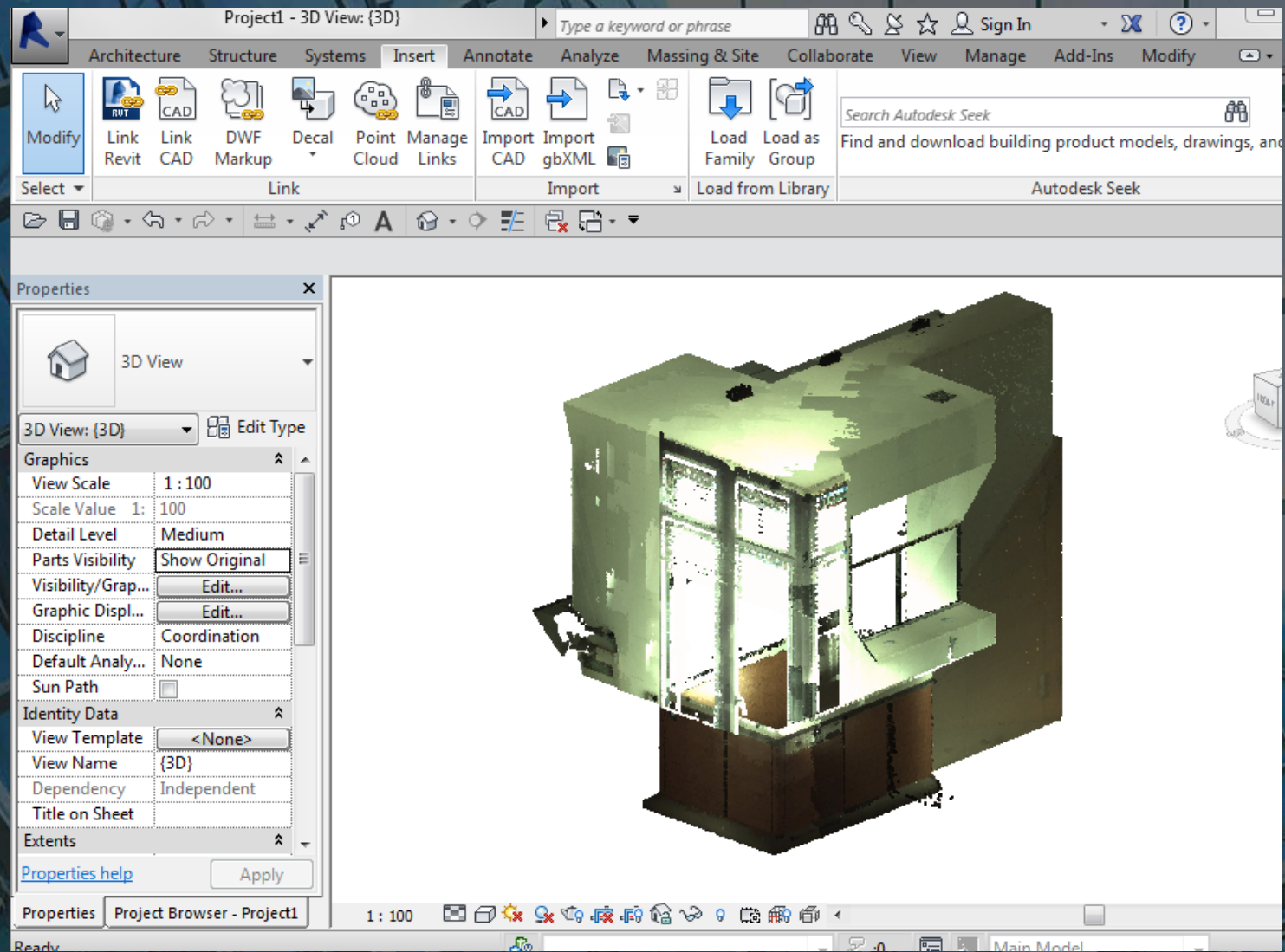
Laser Scanner - 50,000 pts /s; Range: 300m; Accuracy 6mm



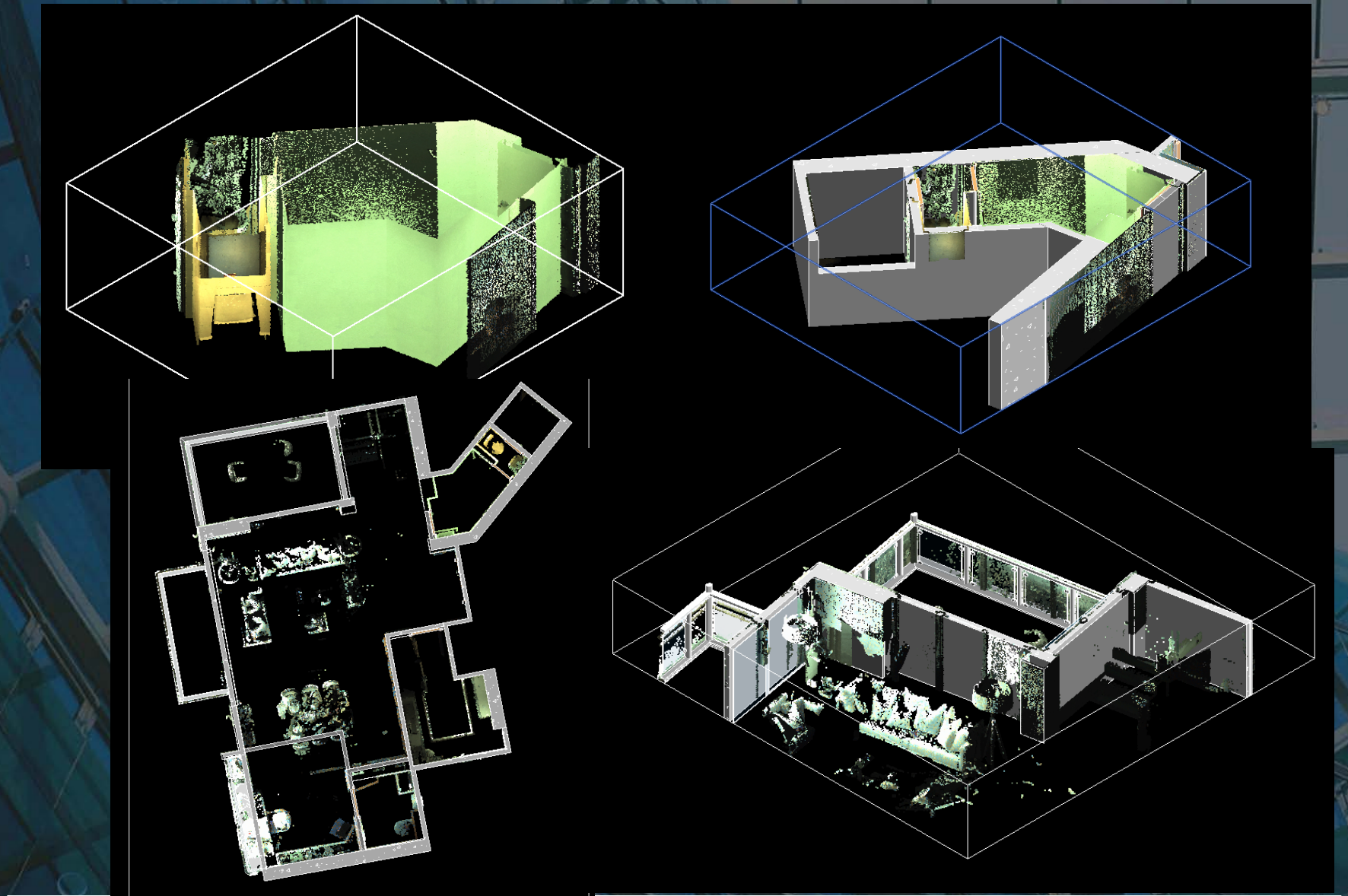
Point



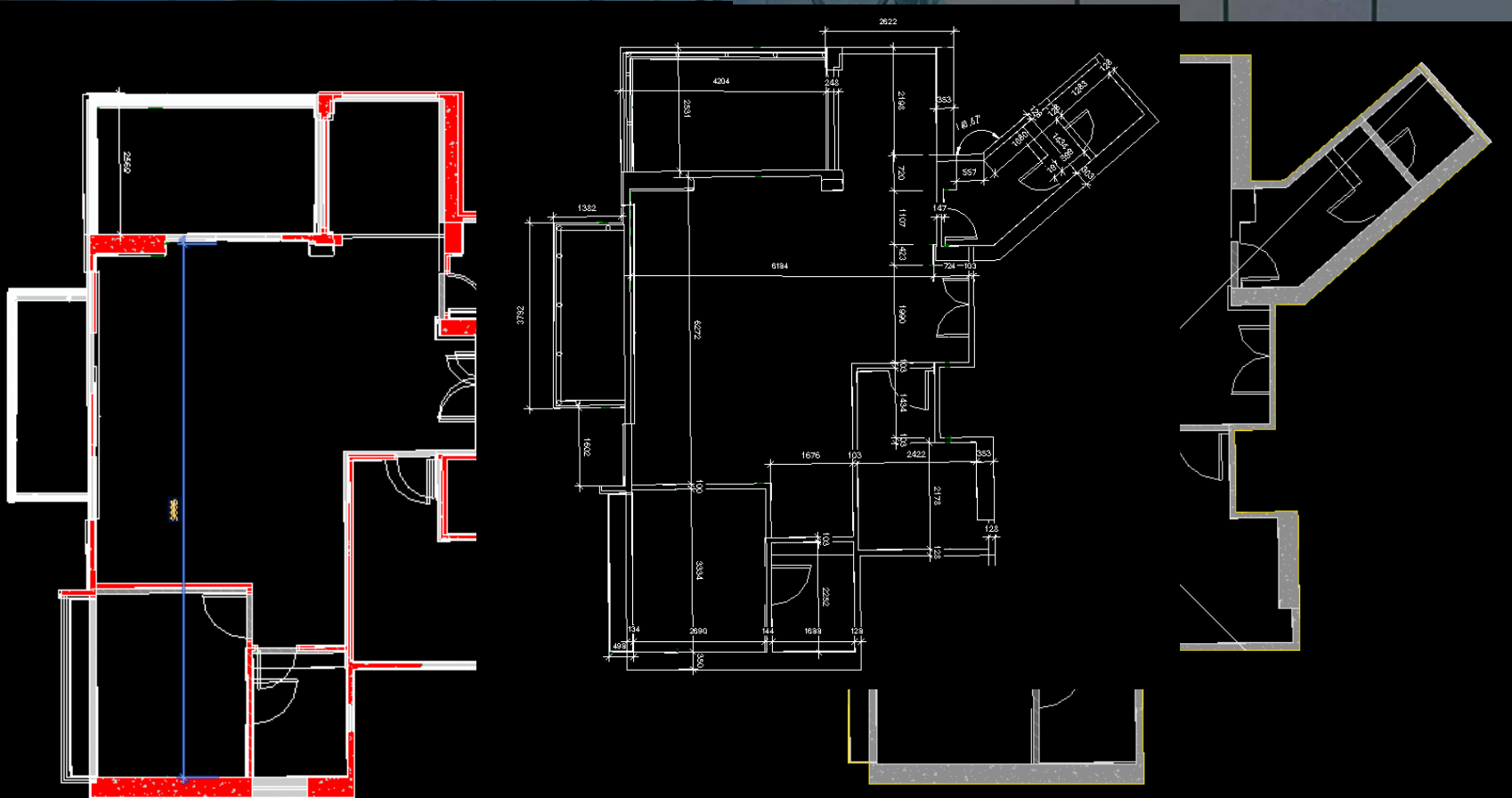
Point Cloud Data



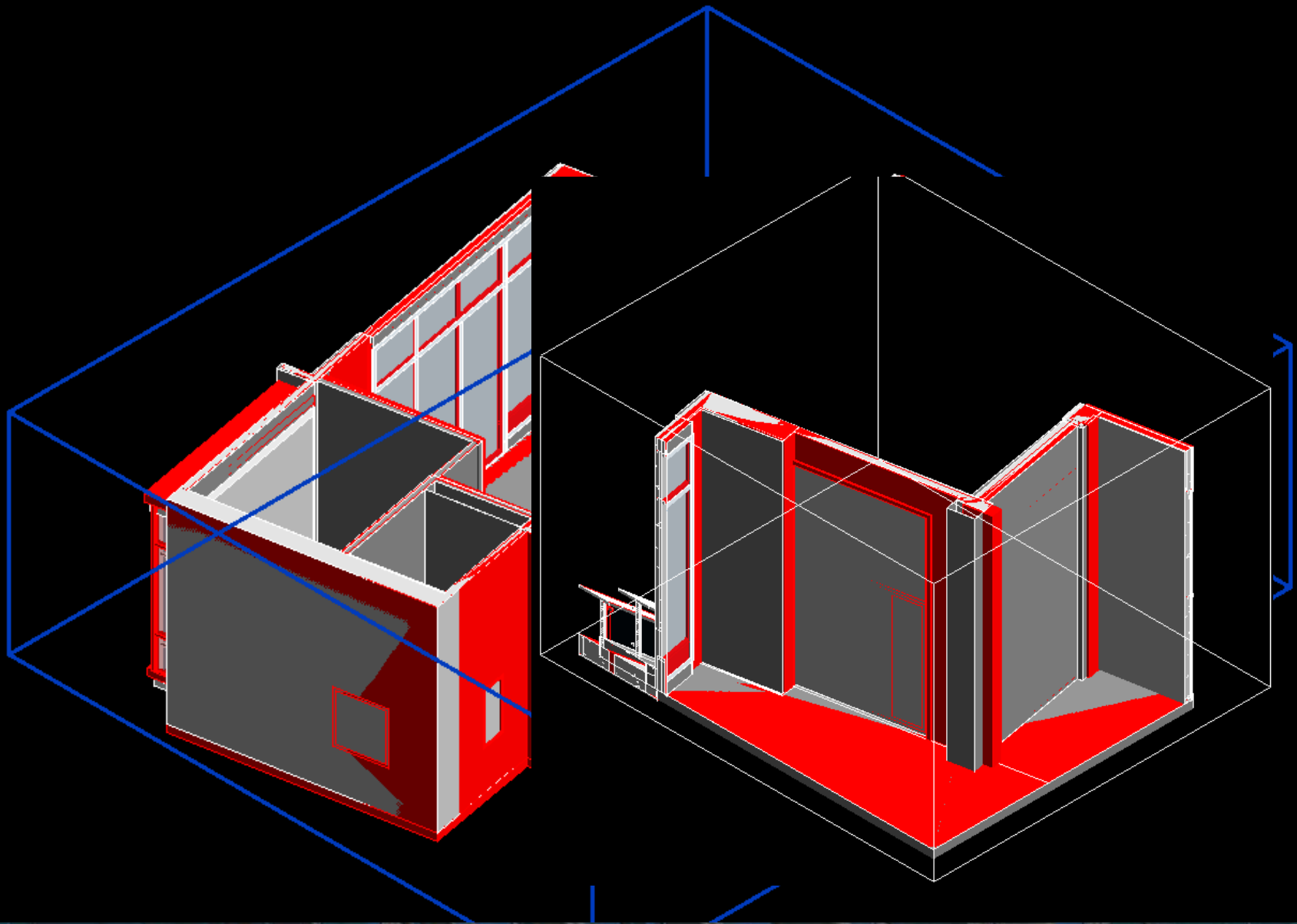
Point Cloud to BIM Model



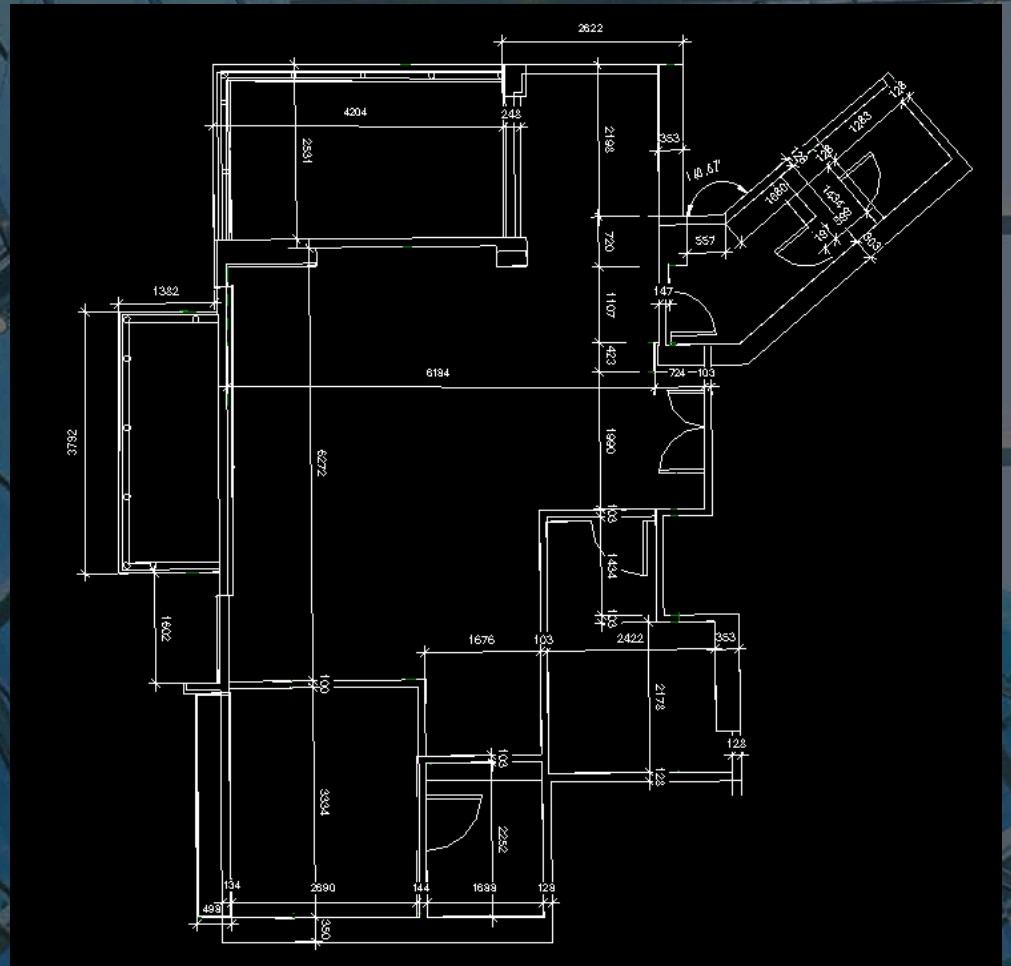
Point Cloud to BIM Model



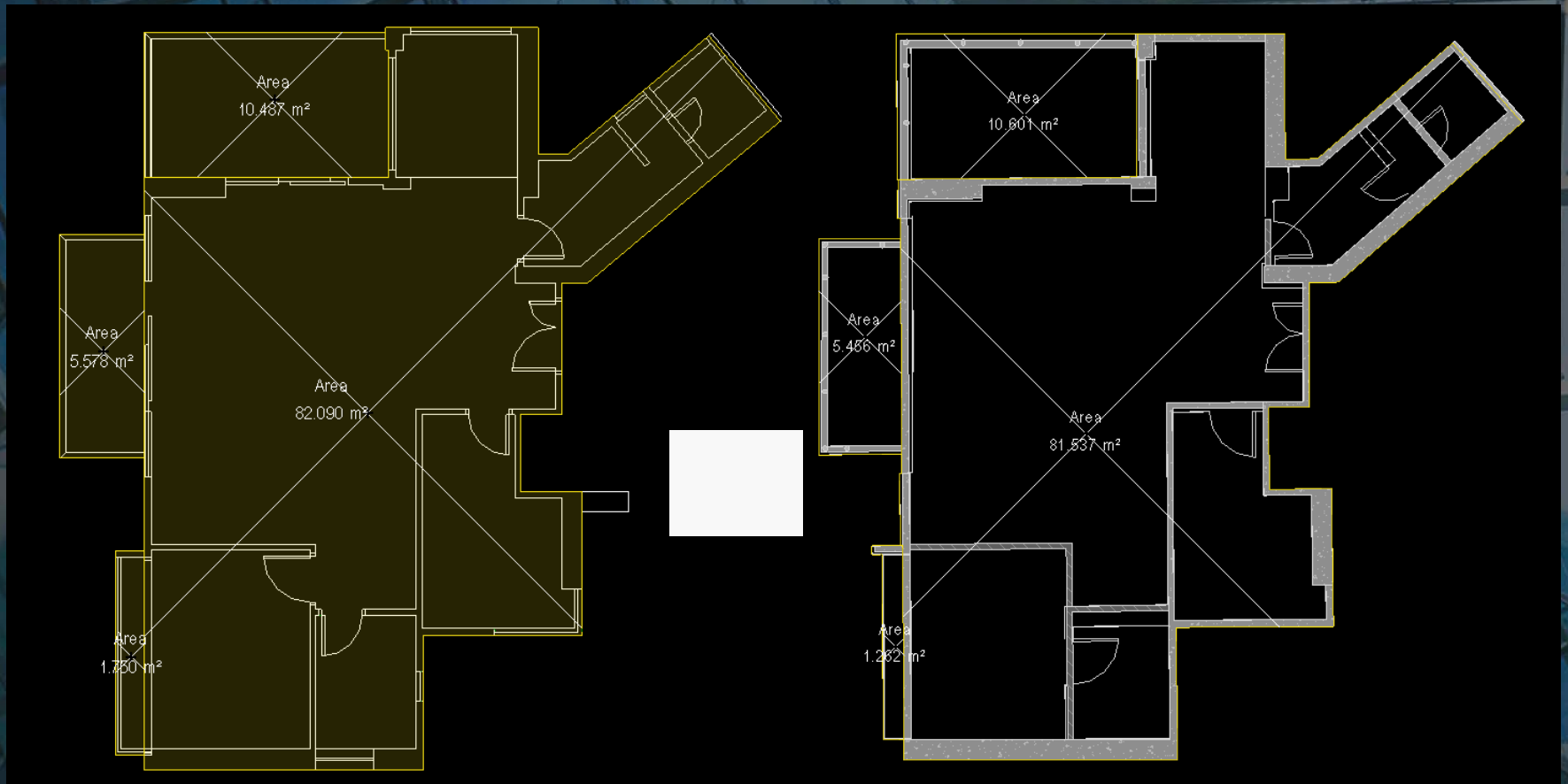
Design / Approved Model + As-built Model



Building Information Modelling



As-built Model > As-built Plan



Area Comparison As-built Model > As-built Plan

Design CAD



**Design
BIM
Model**

Comparison
(GFA, Salable Area)



**Sales
Informat
ion**

As built



Point Cloud



**As Built
BIM
Model**



Difference is -0.9 % (As-Built is less than Approved Information)

Assuming an average unit in HK is 700 sq.ft, and say \$8000/ sq ft

Less 0.9% = $700 \times \$8000 \times 0.9 = \$50,400$

Assuming HK has 45,000 new units/ year

Then $\$50,400 \times 45,000 = \text{HK\$}2.3 \text{ Billion}$ (23億)

Design / Approved Information <> As built Information?

Unknown



Known

Implications

As owner – sales information vs actual as-built, legal liability?

As buyer – has ability to tell the actual area, any legal implications?
“rescission of agreement” 踢契 during down times?

As A.P., rethink about the certified area?

As Contractor, any process to arrive better precision?

As legislative body, is there a benchmark for tolerance? 0.4%, 0.5%, 0.6%....?

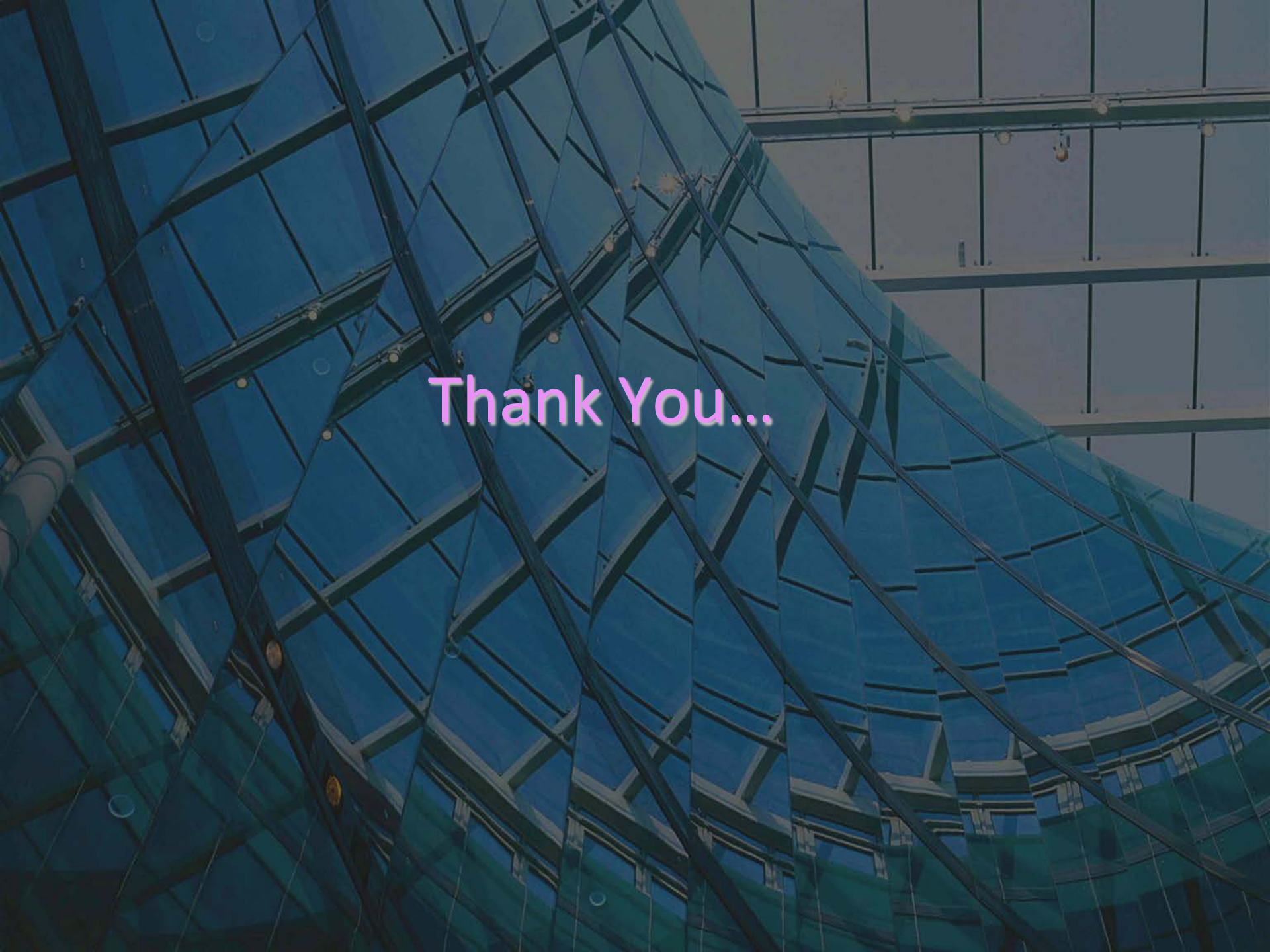
As Inspection Authority, is the current practice sufficient to safeguard deviation?

As professionals... New opportunities... Point Cloud scanning, BIM Process?

BIM Technology



Change in Practices



Thank You...