



# IMAGINE YOU COULD SEE YOUR BUILDING BEFORE IT'S BUILT

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Chairman, BIM Task Force, Board of Practice, HKIA;  
Vice Chairman, HKIBIM;  
Chairman of AIAB



# The Hong Kong Polytechnic University

Campus in the Shenzhen Virtual University Science Park

Location

Shenzhen

Building Type

Institutional – Theatre, laboratories, classrooms,  
library, offices and administration

GFA

12,500 sq.m + 4,000 sq.m basement

Completion

End of 2009

Client

Hong Kong Polytechnic University

Architect

Aedas Ltd

Structural Engineer

Scott Wilson (Benaim (China) Ltd.)

E/M Engineer

JRP



# LOCATION





SITE

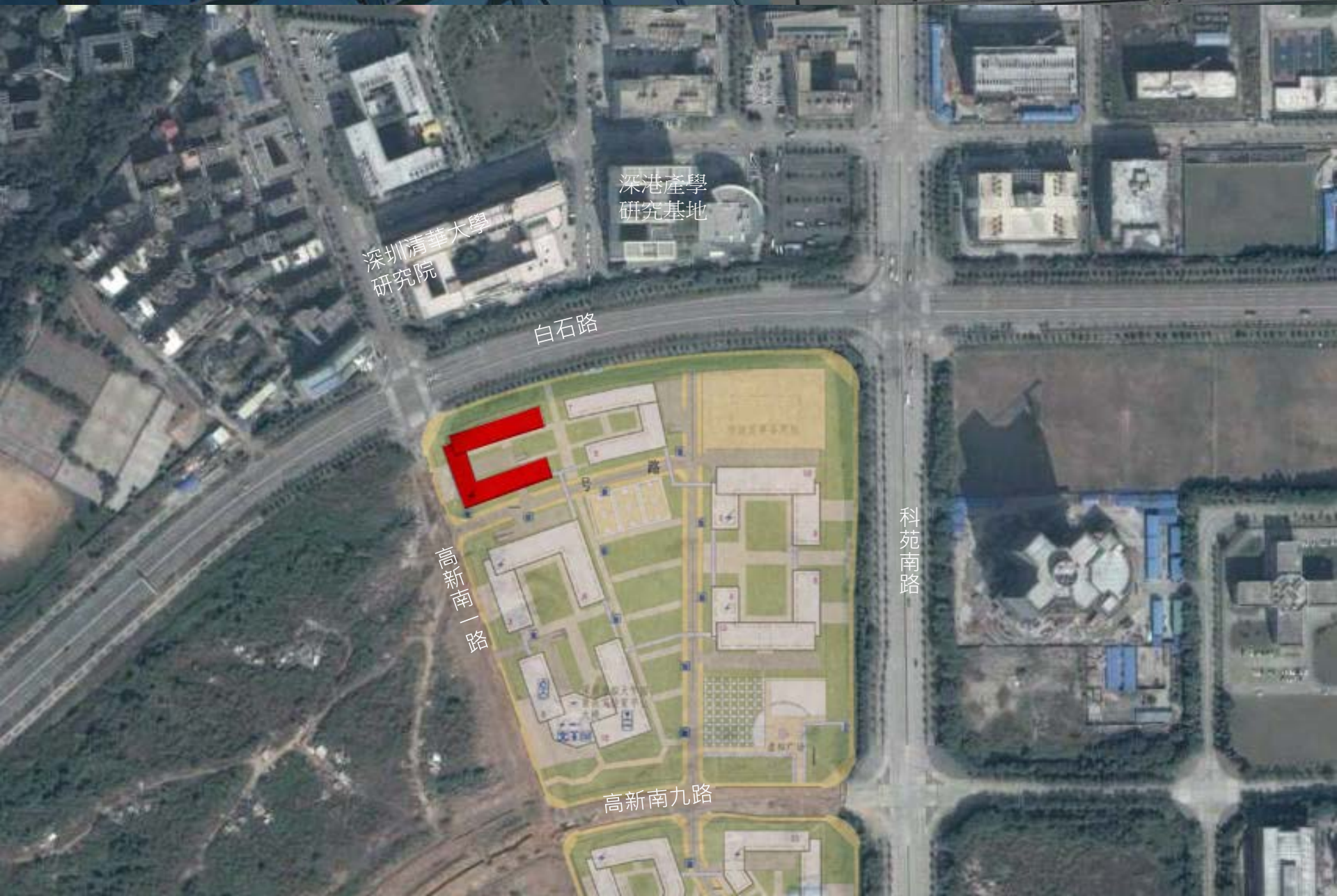


基地

深圳虛擬大學園  
國家大學科技園



# SITE



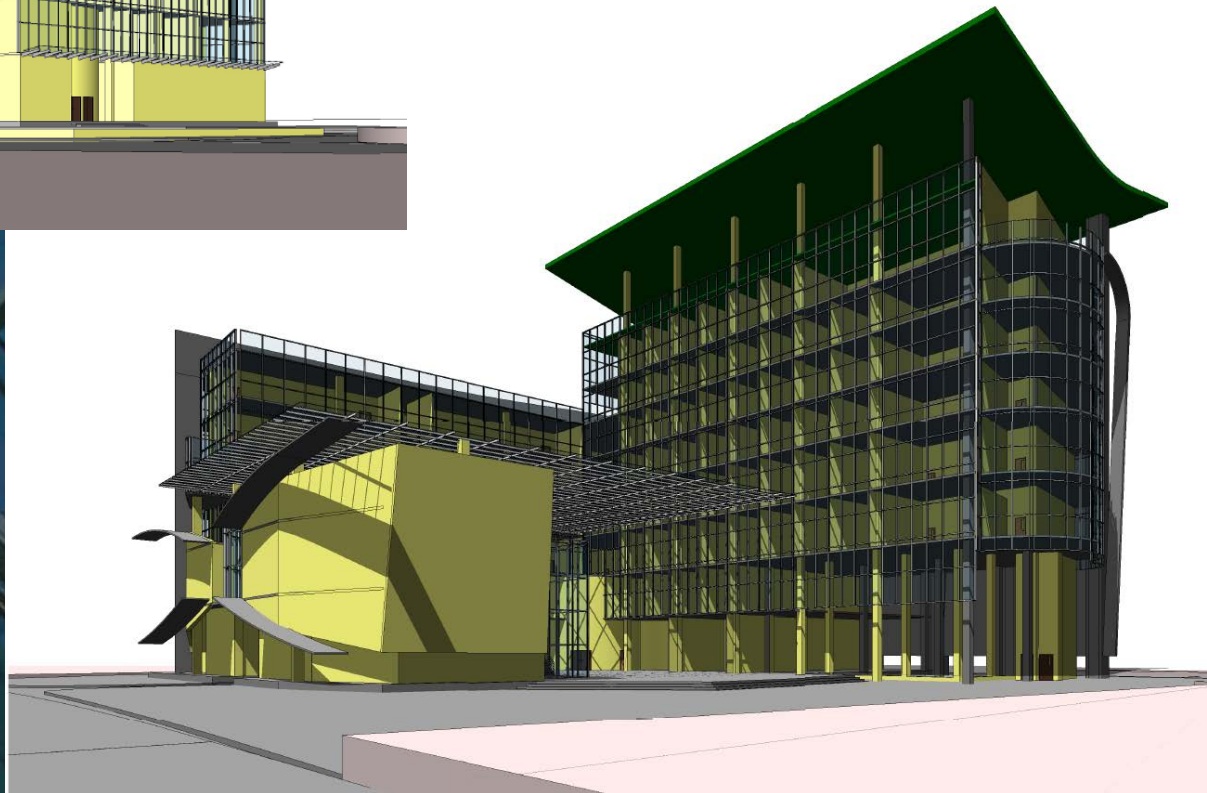
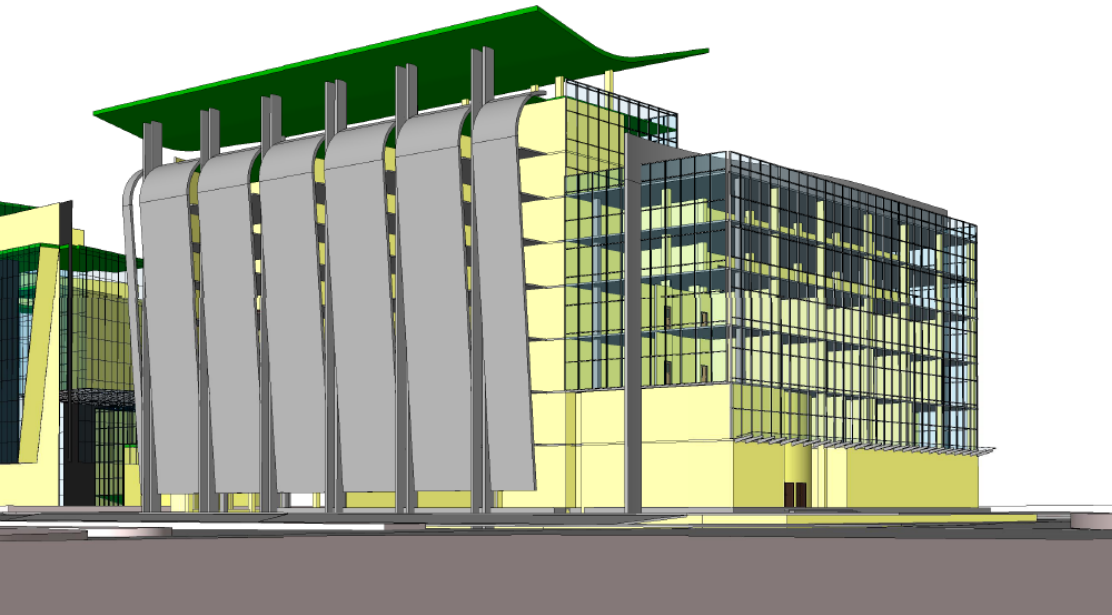


# **Use of Building Information Modeling (BIM) for the PolyU project**

- 1 Design Ideas**
- 2 Visualization & Presentation**
- 2 Co-ordination/ Collaboration**
- 3 Drawing Production**
- 4 Construction**



# EARLY DESIGN IDEAS



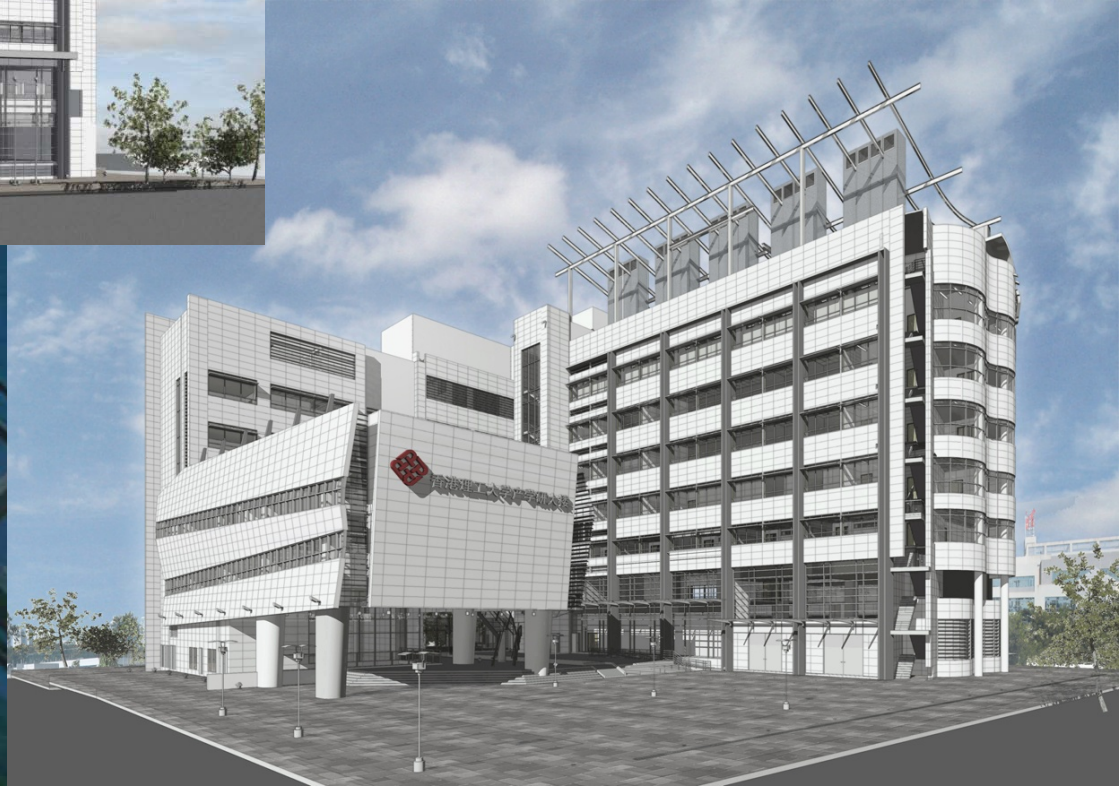


# DEVELOPING DESIGN IDEAS





# DEVELOPED DESIGN IDEAS



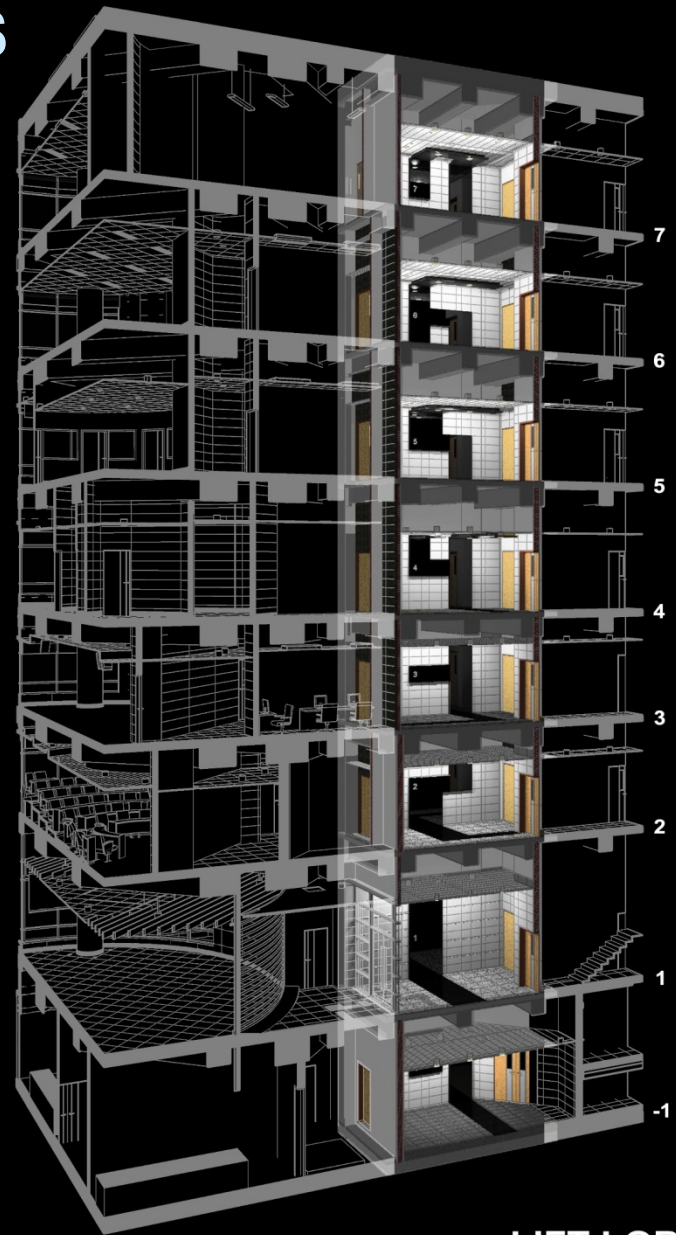
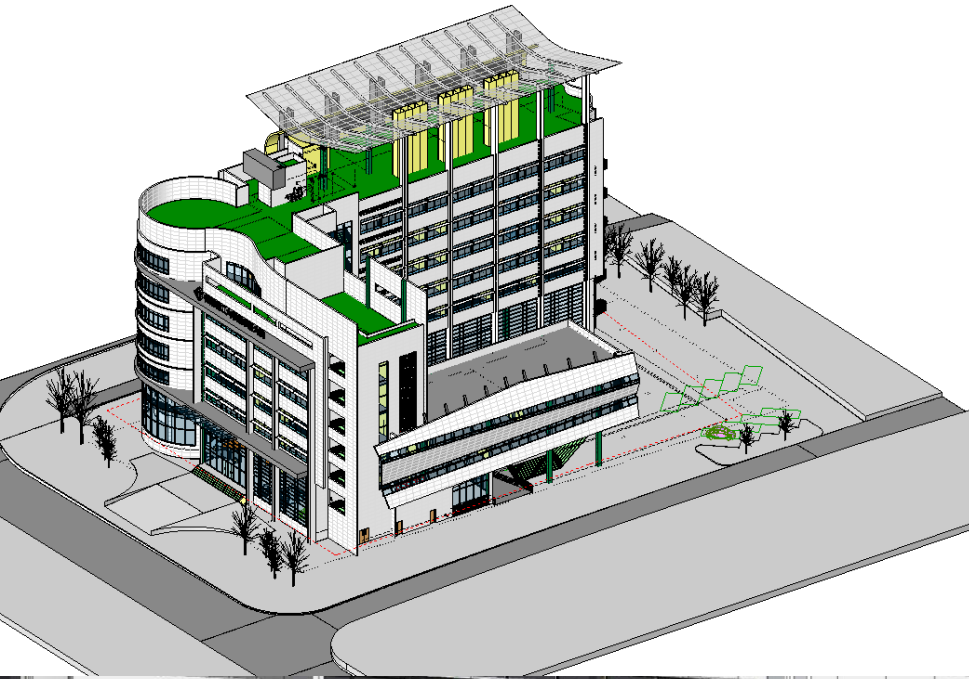


# TESTING MASSING IN GOOGLE EARTH





# PRESENTING DESIGN IDEAS



**LIFT LOBBY**  
DESIGN CONCEPT

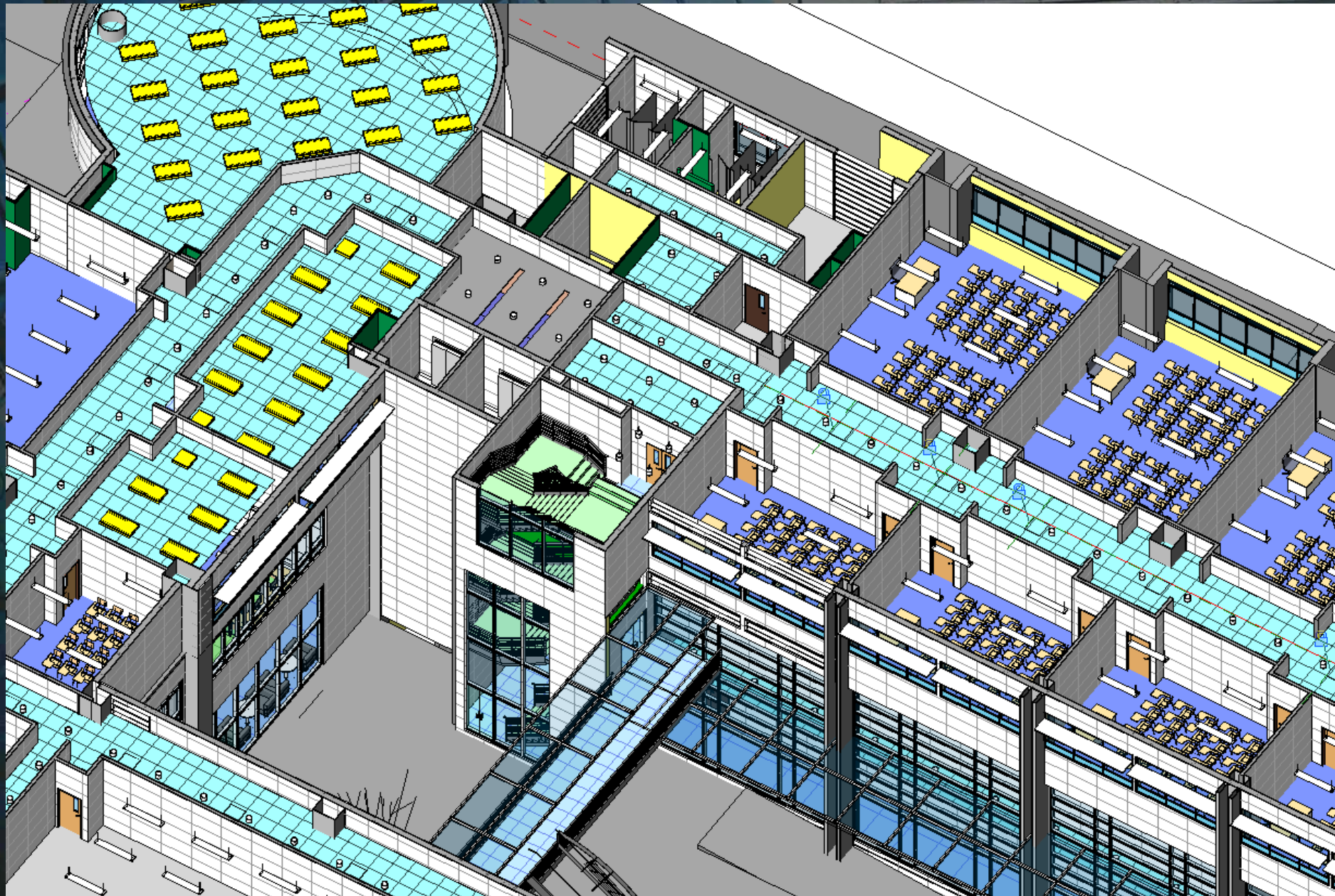


# DETAILED DESIGN



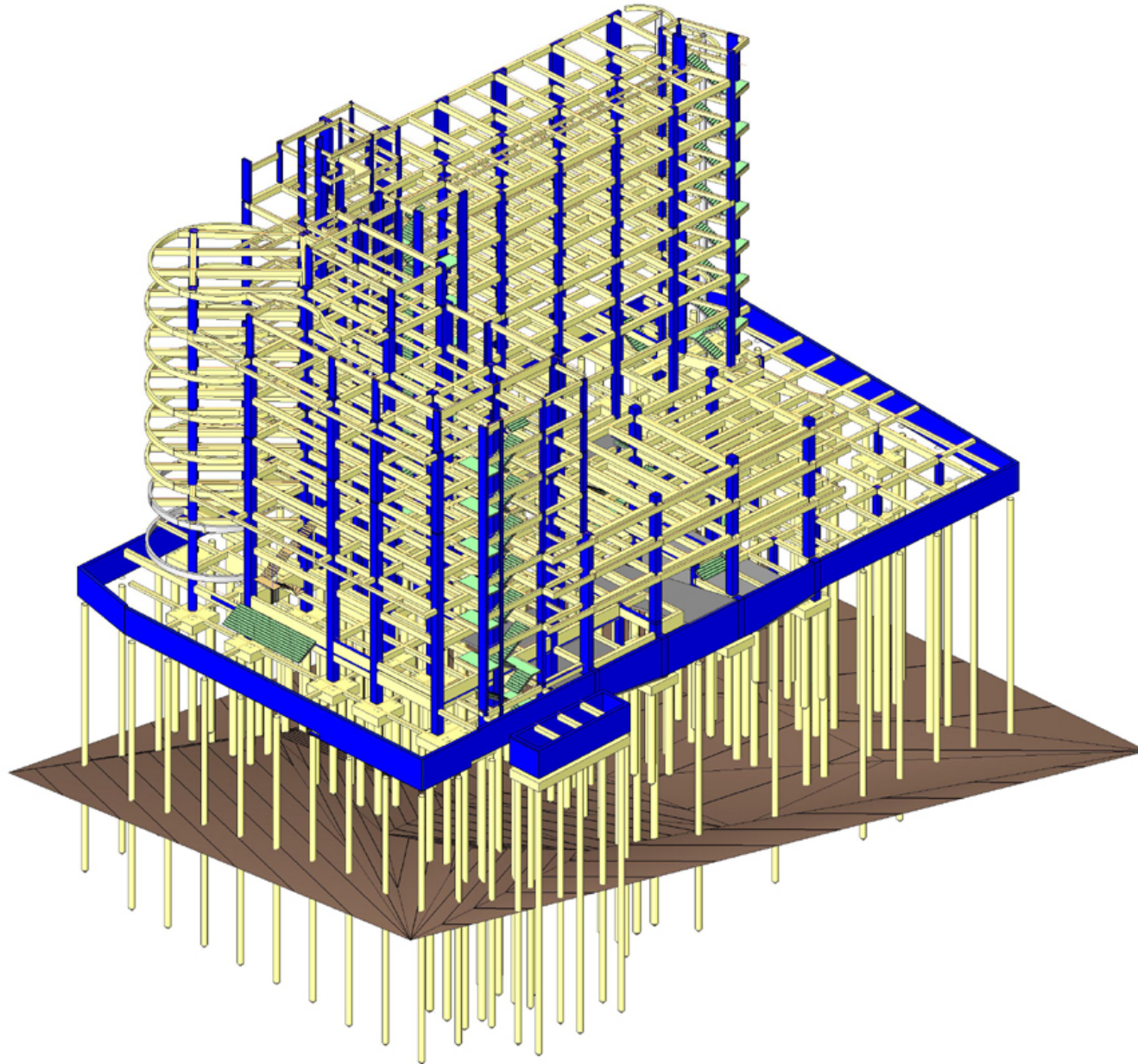


# ARCHITECTURAL CO-ORDINATION





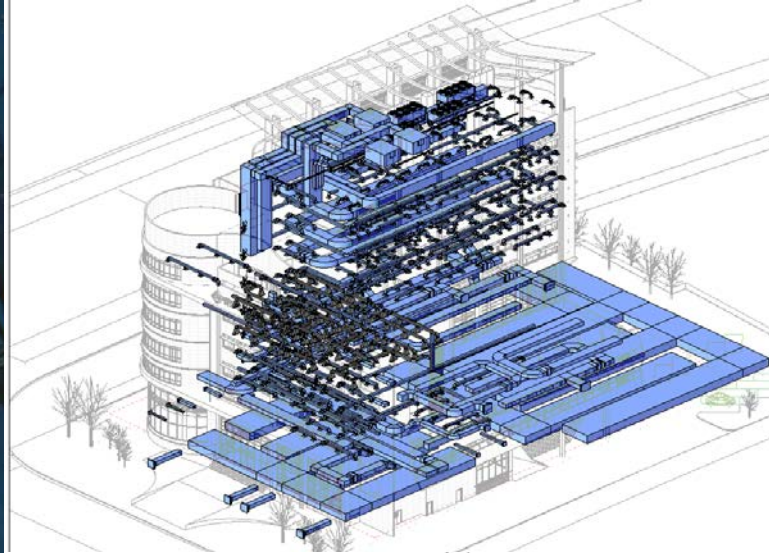
# STRUCTURAL DESIGN MODEL



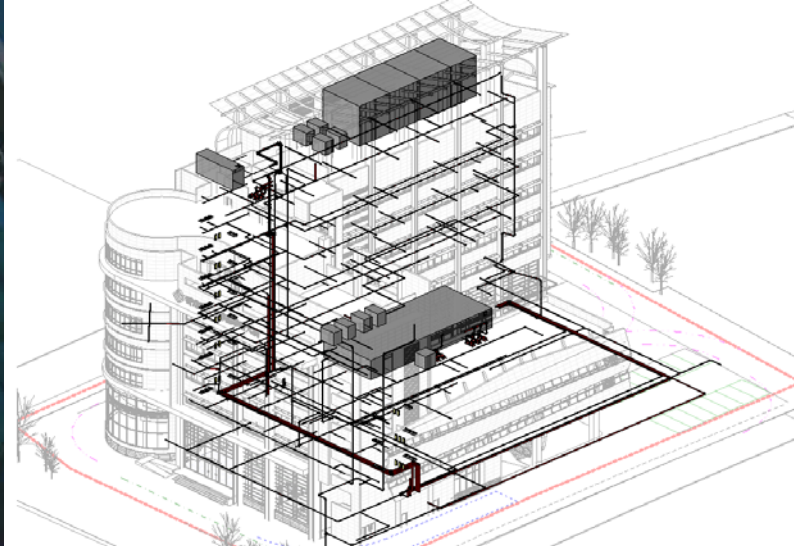
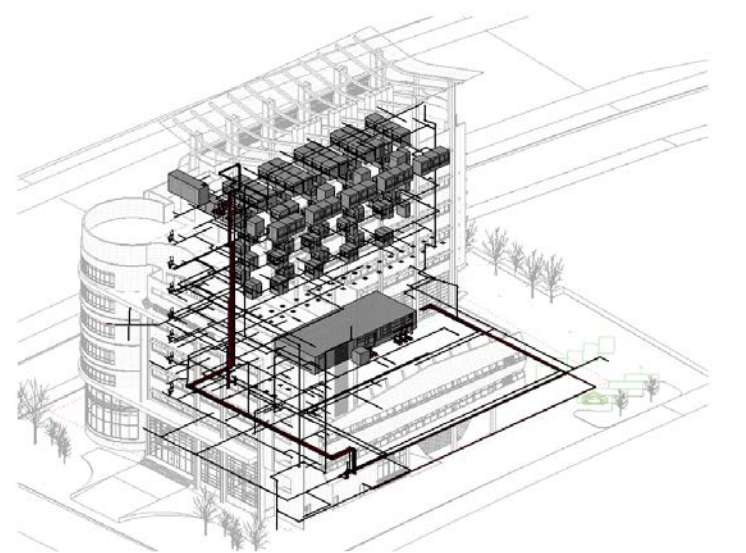


# BUILDING SERVICES CO-ORDINATION

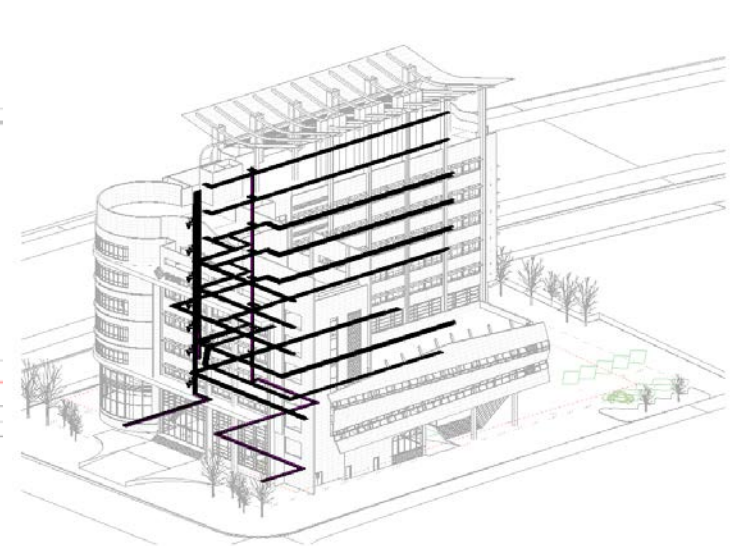
## HVAC Installation



## Fire Services Installation



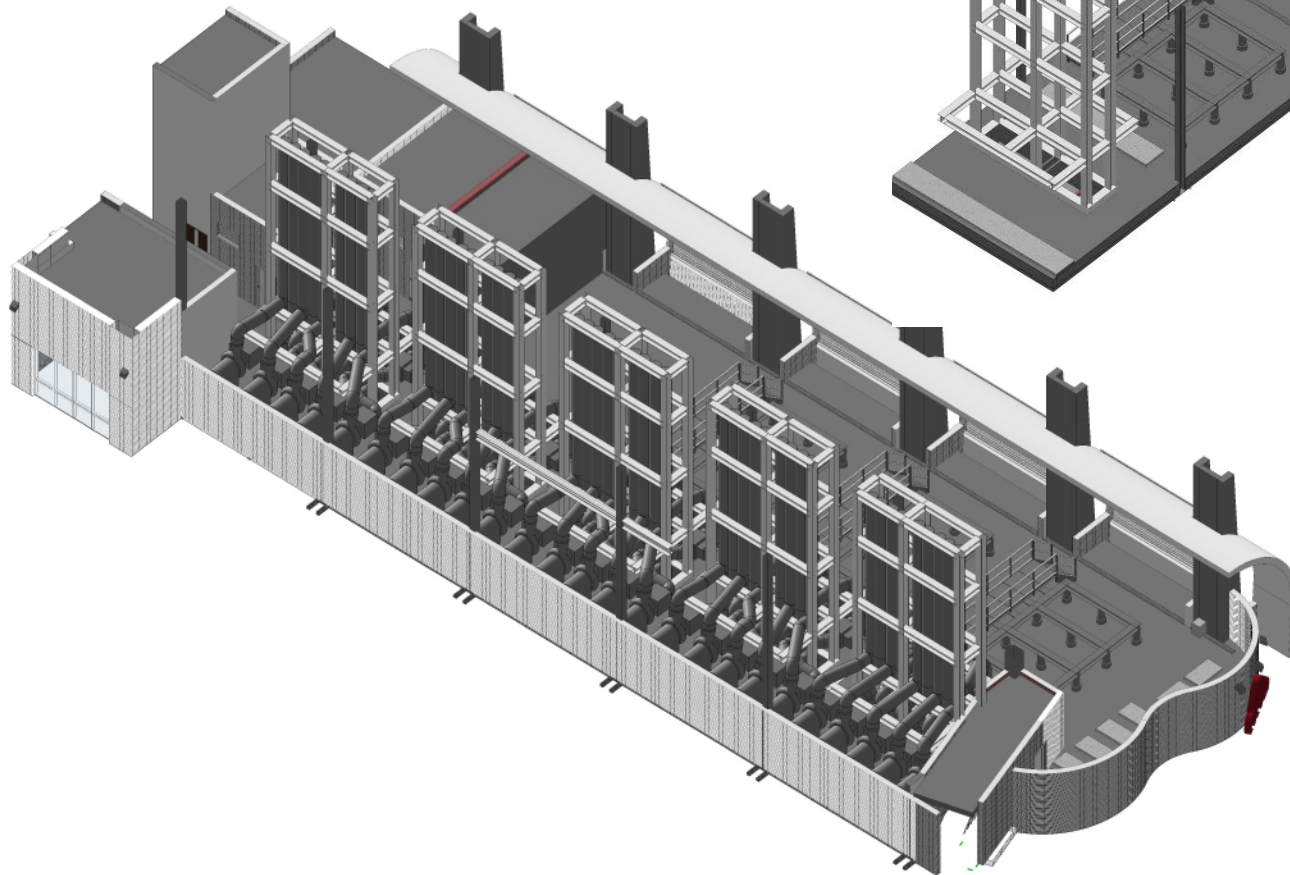
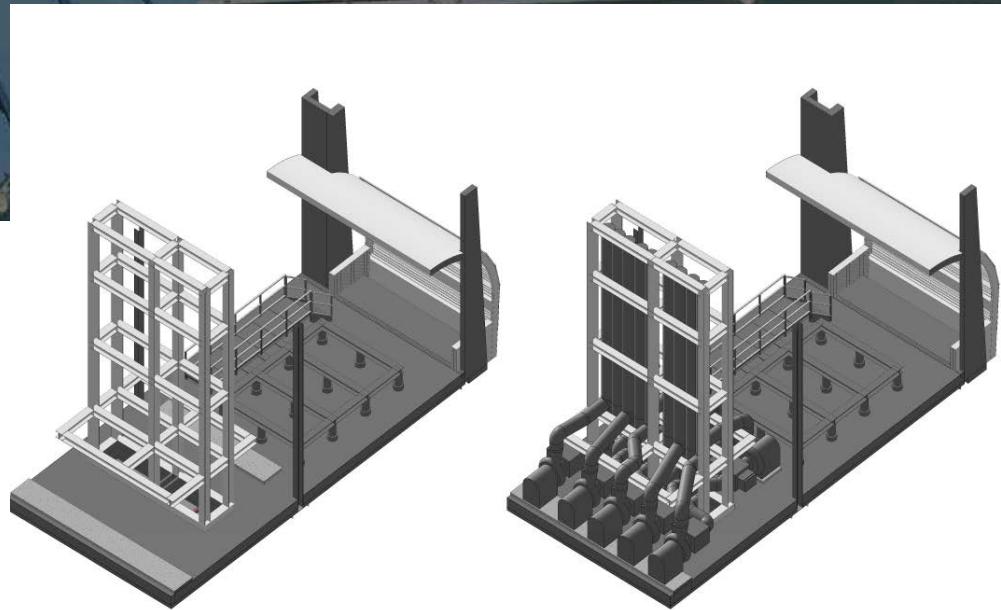
## P/D Installation



## Electricity Installation



# SPECIAL CO-ORDINATION - LABORATORIES



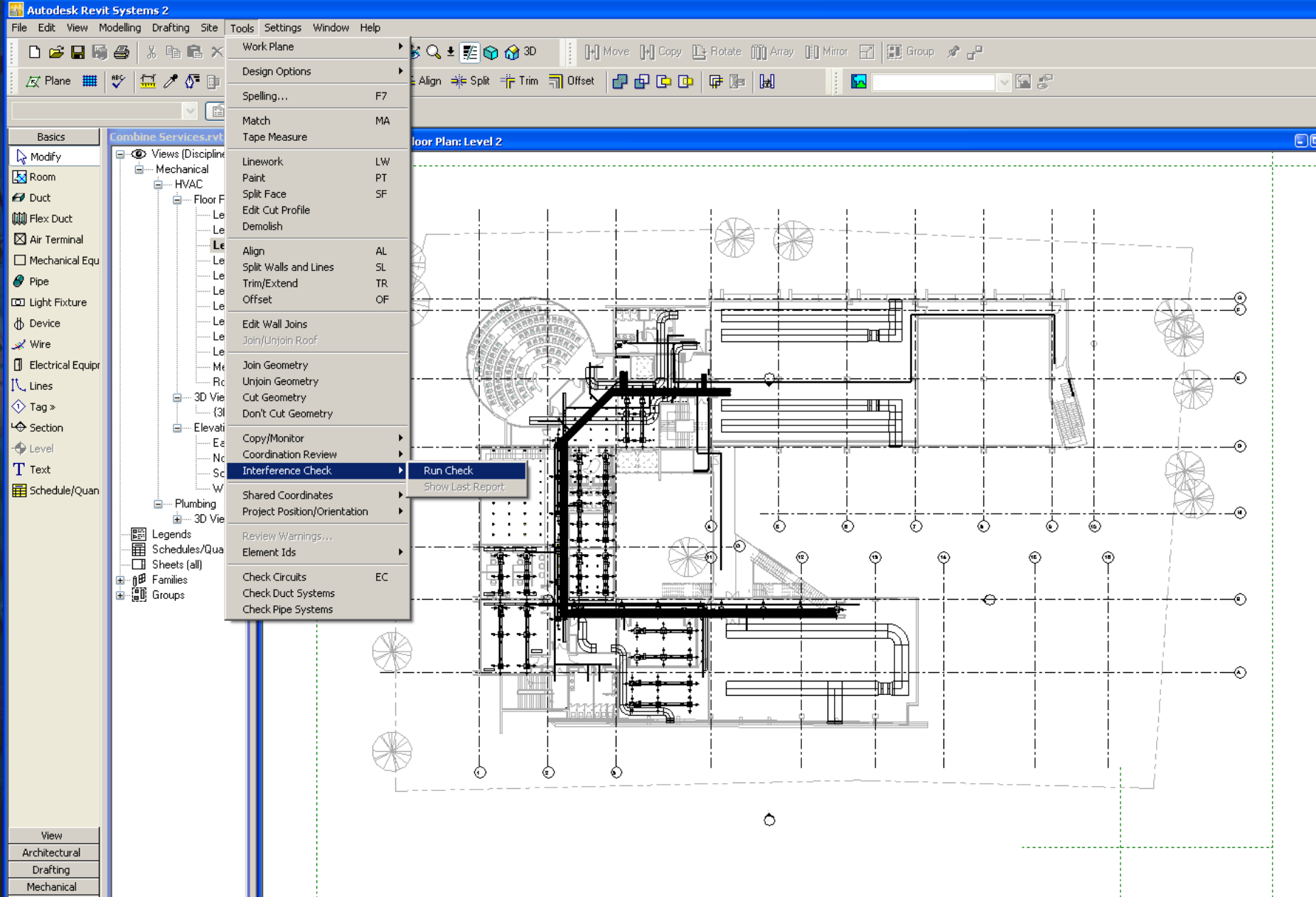


# CO-ORDINATED DETAILED DESIGN





# CLASH ANALYSIS

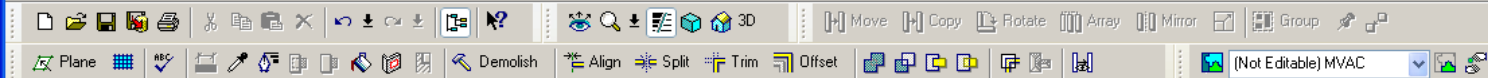




# CLASH ANALYSIS

Autodesk Revit Systems 2

File Edit View Modelling Drafting Site Tools Settings Window Help



☒ Press + Drag ☐ Editable Only

Basics  
Modify  
Room  
Duct  
Flex Duct  
Air Terminal  
Mechanical Equ  
Pipe  
Light Fixture  
Device  
Wire  
Electrical Equip  
Lines  
Tag >  
Section  
Level  
Text  
Schedule/Quan

PolyU ShenZhen Cam... PolyU ShenZhen Campus AC\_andy.rvt - 3D View: {3D}

## Interference Report

Group by:

Category 1, Category 2

Message

- Pipes
- Pipes
- Pipes
- Pipes
- Pipes
- Pipes
- Pipes
- Pipes
- Pipes
- Pipes
- Pipes
- Pipes

Created: Tuesday, May 29, 2007 6:13:54 PM

Last Update:

Note: Refresh updates interferences listed above.

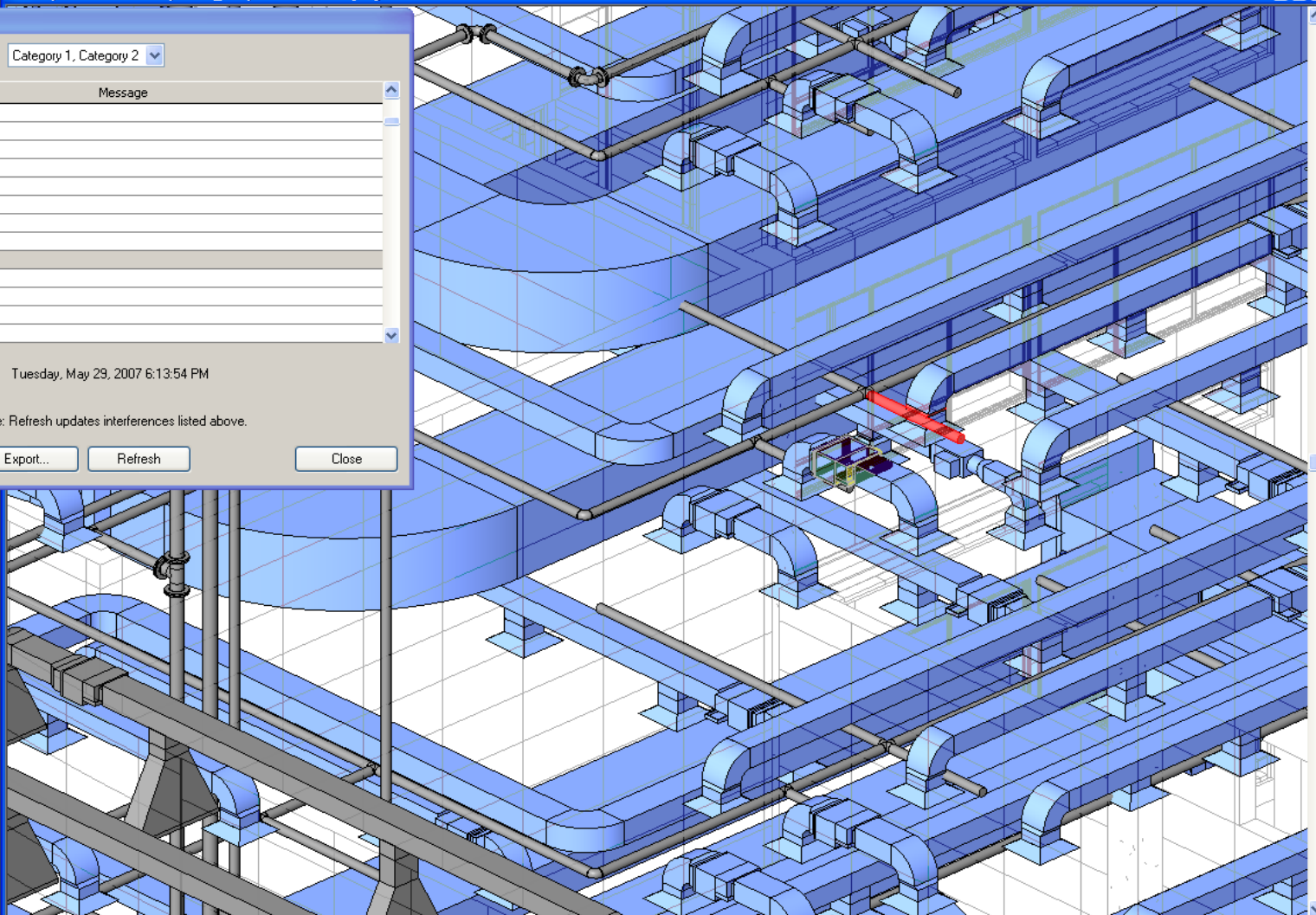
Show

Export...

Refresh

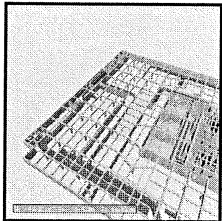
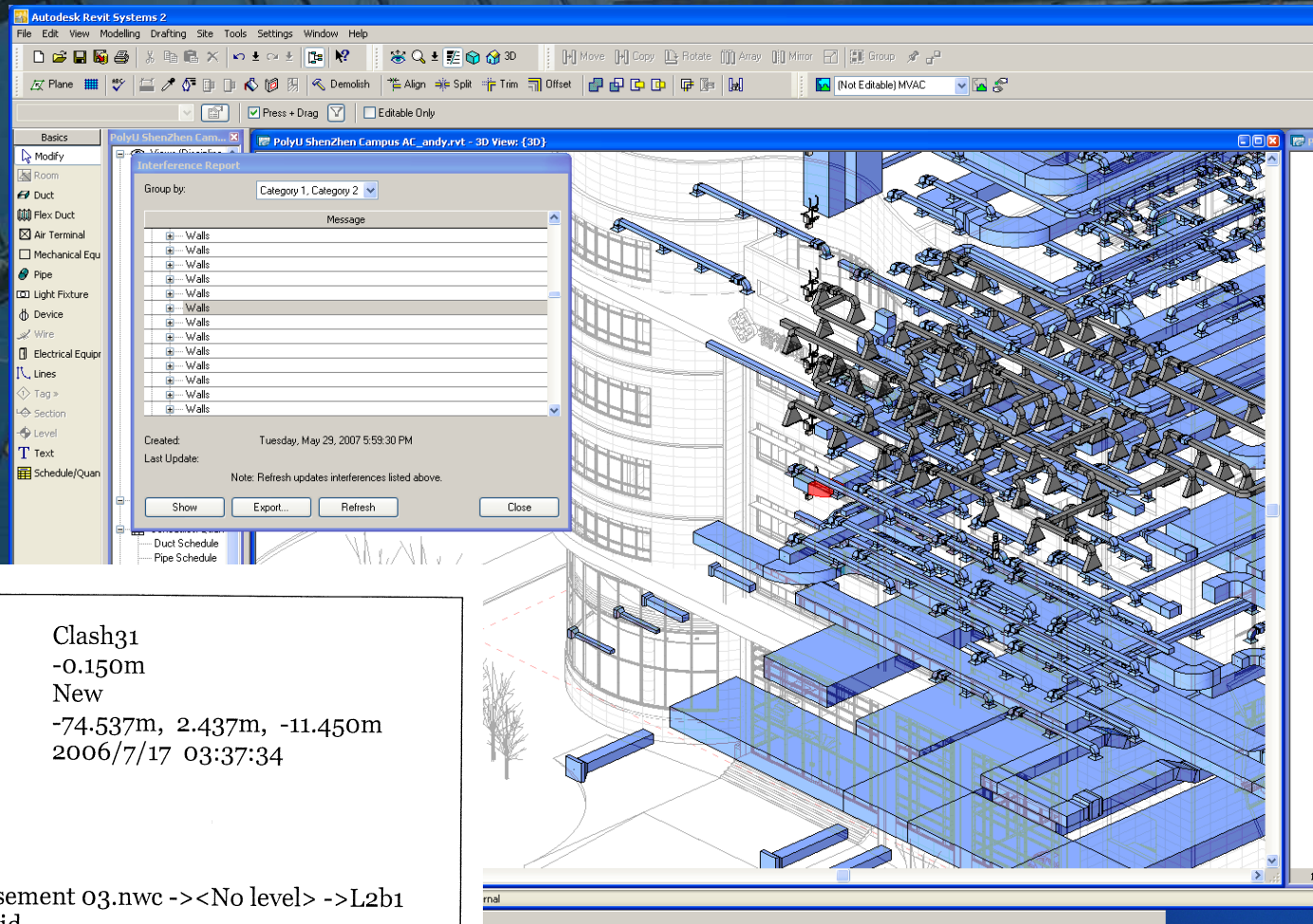
Close

Duct Schedule  
Pipe Schedule  
Room Schedule  
Wall Schedule  
Sheets (all)  
E&M-1 - Baseme  
E&M-2 - Level 1.  
E&M-3 - Level 2.  
E&M-4 - Level 3.  
E&M-5 - Level 4.  
E&M-6 - Level 5.  
E&M-7 - Level 6.  
E&M-8 - Level 7.  
E&M-9 - Level 8.  
E&M-10 - ROOF  
E&M-11 - A/C Se  
Families  
Air Terminals  
Annotation Synt  
Ceilings  
Basic Ceilin  
Generic  
Plaster E





# CLASH ANALYSIS 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

Path File ->File ->Basement 03.nwc -><No level> ->L2b1  
 500 x 700 ->L2b1 500 x 700 ->Solid

## Item 2

Entity Handle 2AD6  
 Path File ->File ->B3HVAC\_Duct.nwd ->H-Ductwork-G ->Duct



A 3D perspective view of a classroom layout. The room features a blue floor, yellow walls, and a whiteboard. A teacher's desk is positioned at the front, and rows of student desks are arranged in the center. A blue partition wall is visible on the left side.

A 3D perspective view of a lecture hall. The room features a stage area at the front with a yellow wall and a wooden podium. The seating area is filled with rows of blue chairs and light blue tables, arranged in a semi-circular fashion. A blue carpet covers the floor, and a white railing separates the stage from the audience.

[illegible][illegible]

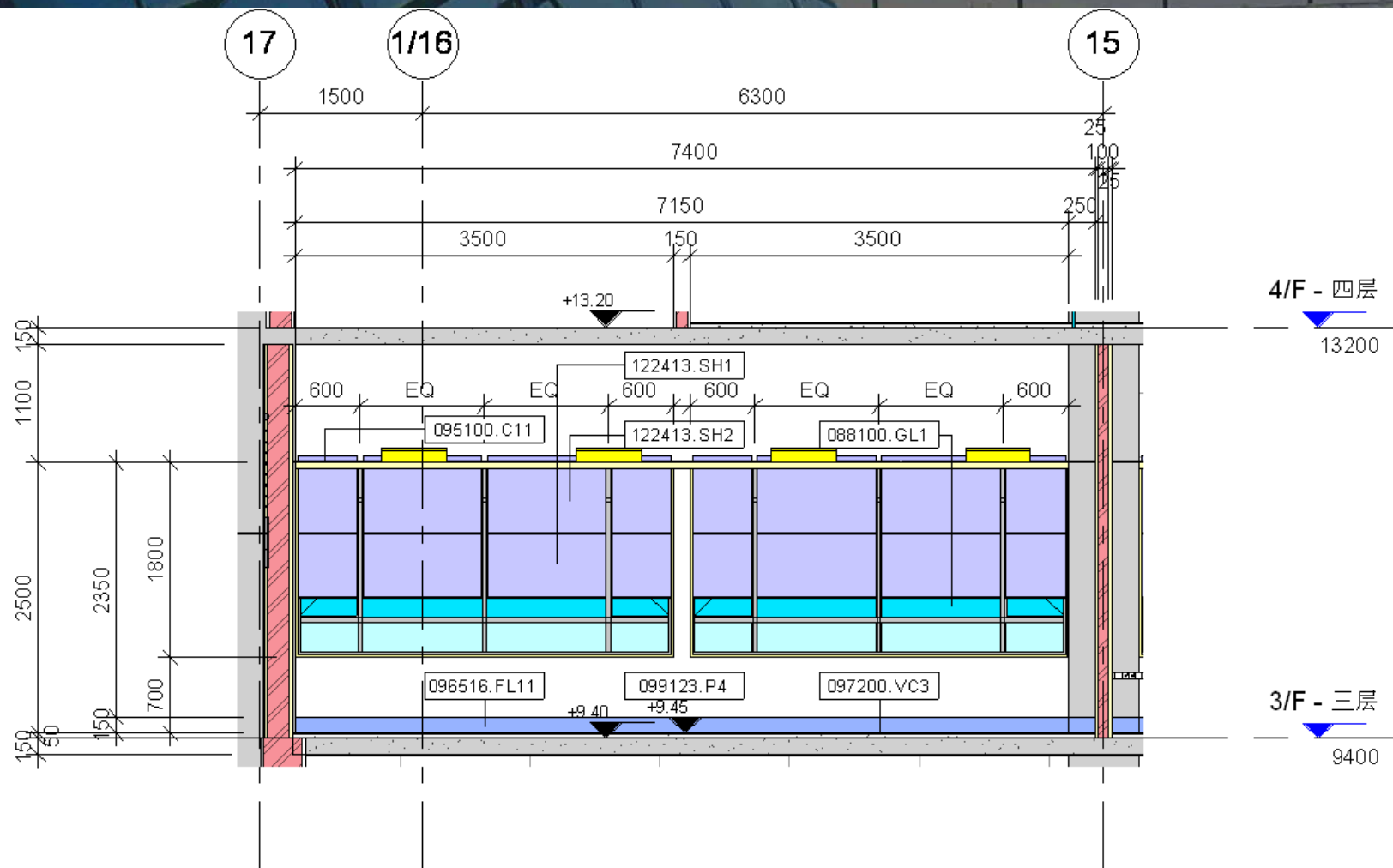


① 走廊平面图(低楼三至四层)

[illegible]



# PRODUCTION OF DRAWINGS



2

行政人员培训室立面图(高楼三层)6

1:50



# CONSTRUCTION



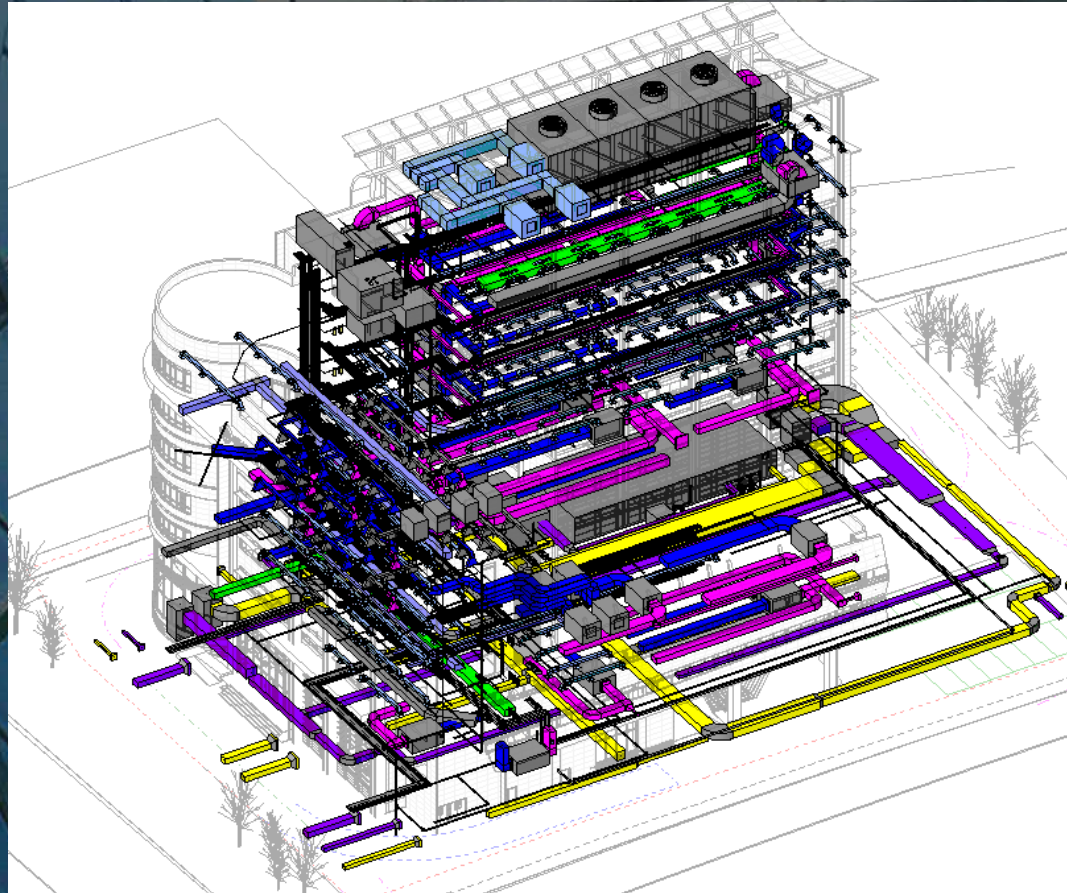


# CONSTRUCTION





# BUILDING SERVICES CONSTRUCTION





# CONSTRUCTION













# DEVELOPMENT







IF CLIENT WANTS A BIM – PROJECT  
WHAT DO THEY EXPECT?



# Challenges from the Technology to the Industry

(Questions I posted during HKIA BIM Seminar Jan 2007)

- Participation of all participants
- Redefinition of roles of all Building Industry Participants
- Project Delivery Time
- Fee Structure
- Standard Contract Provision – position of BIM model
- Contractual Relationship
- Other supports – Government, Professional Bodies, Education
- BIM Authorities – Standards and Certification
- .....





**THANK YOU**