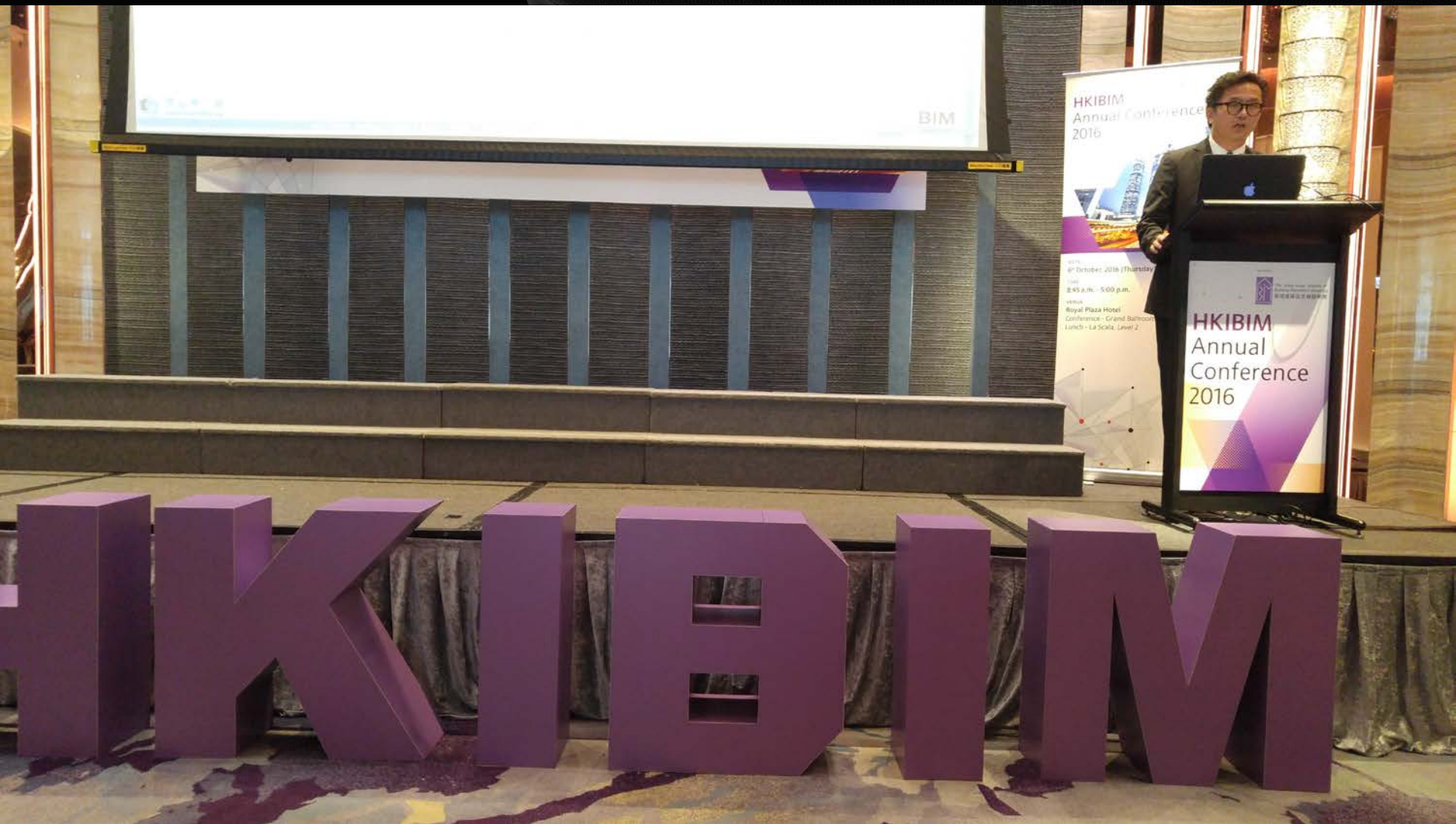




BIM in Construction



BIM Journey Started in New World

6 Oct 2016

HKIBIM
BIM

HKIBIM
Annual Conference
2016



10th
6th October, 2016 (Thursday)
Time:
9:45 a.m. - 5:00 p.m.
Venue:
Royal Plaza Hotel
Conference - Grand Ballroom
Lunch - La Scala, Level 2

HKIBIM
Annual
Conference
2016

BIM Journey Started in **New World**

6 Oct 2016



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Knowledge Portal

KNOWLEDGE PORTAL

Multi-source of
Information

Diversification

Specialisation

Designers
Consultants
Suppliers
Fabricators
Operators

Consolidation

Coordination

Collaboration

Project Managers
Designers
Consultants
NWCON

Visualisation

Top Mgt
VOC
Project Managers
Designers
Consultants
NWCON

Comment

Approval

Endorsement

Top Mgt
VOC

Construction
Information

NWCON
Procurement
Subletting
Sub-con

STAKEHOLDERS ENGAGEMENT

BIM Applications

Virtual Visual Mock-Up 虛擬樣板房

Information Hub 信息樞紐

Drawing Coordination 圖紙協調 (夾圖)

CSD / CBWD 綜合管線

Quantities Take-off 工料測量

Construction Drawings 施工圖

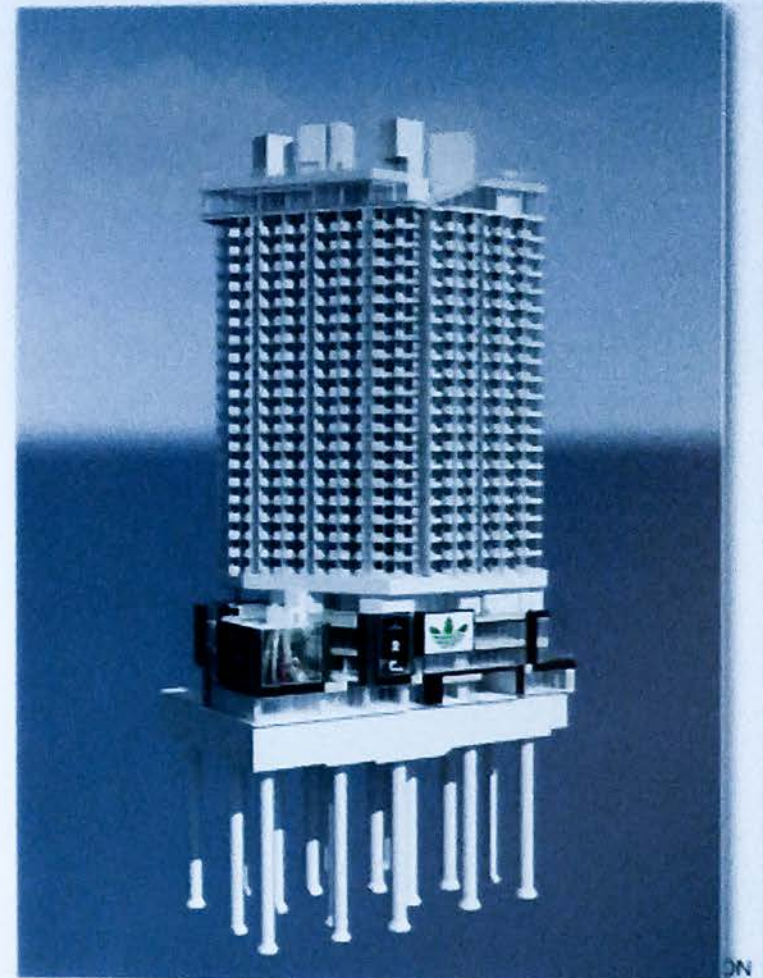
Area (GFA / Site Coverage / UFA) Checking 面積計算複查

Virtual Visual Mock-up (V VMU)



Information Hub

- Permanent Works
 - Architectural
 - Structural / Civil
 - MEP
 - Interior Design
- Construction Planning / Temporary Works
 - Site Layout
 - Excavation & Lateral Support
 - Plant & Machinery
- Existing Conditions
 - Underground Utilities
 - Geological Profiles
 - Surrounding Buildings



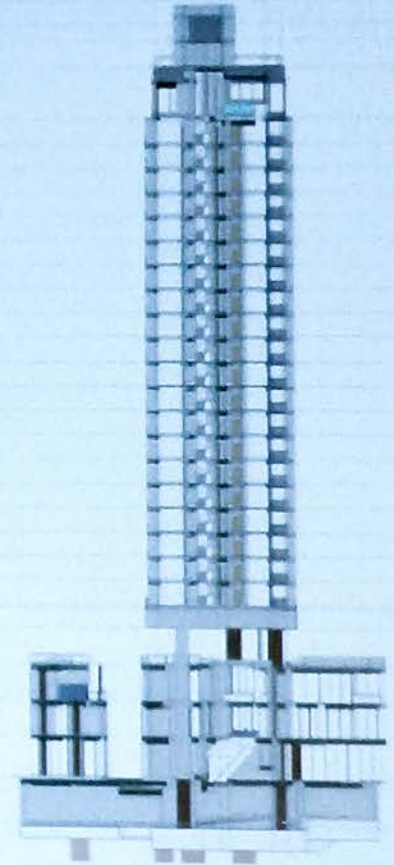
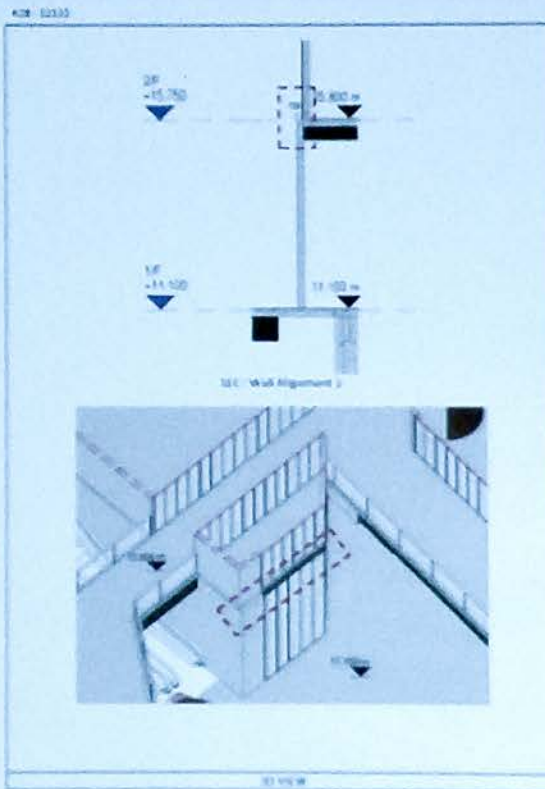
Drawing Coordination

Order No.	to	Level	S/P & D/P
Order	10 to 10' 100 to 100'	Zone	100 to 100'
Order	Wall & Wall Floor	Zone	100 to 100'

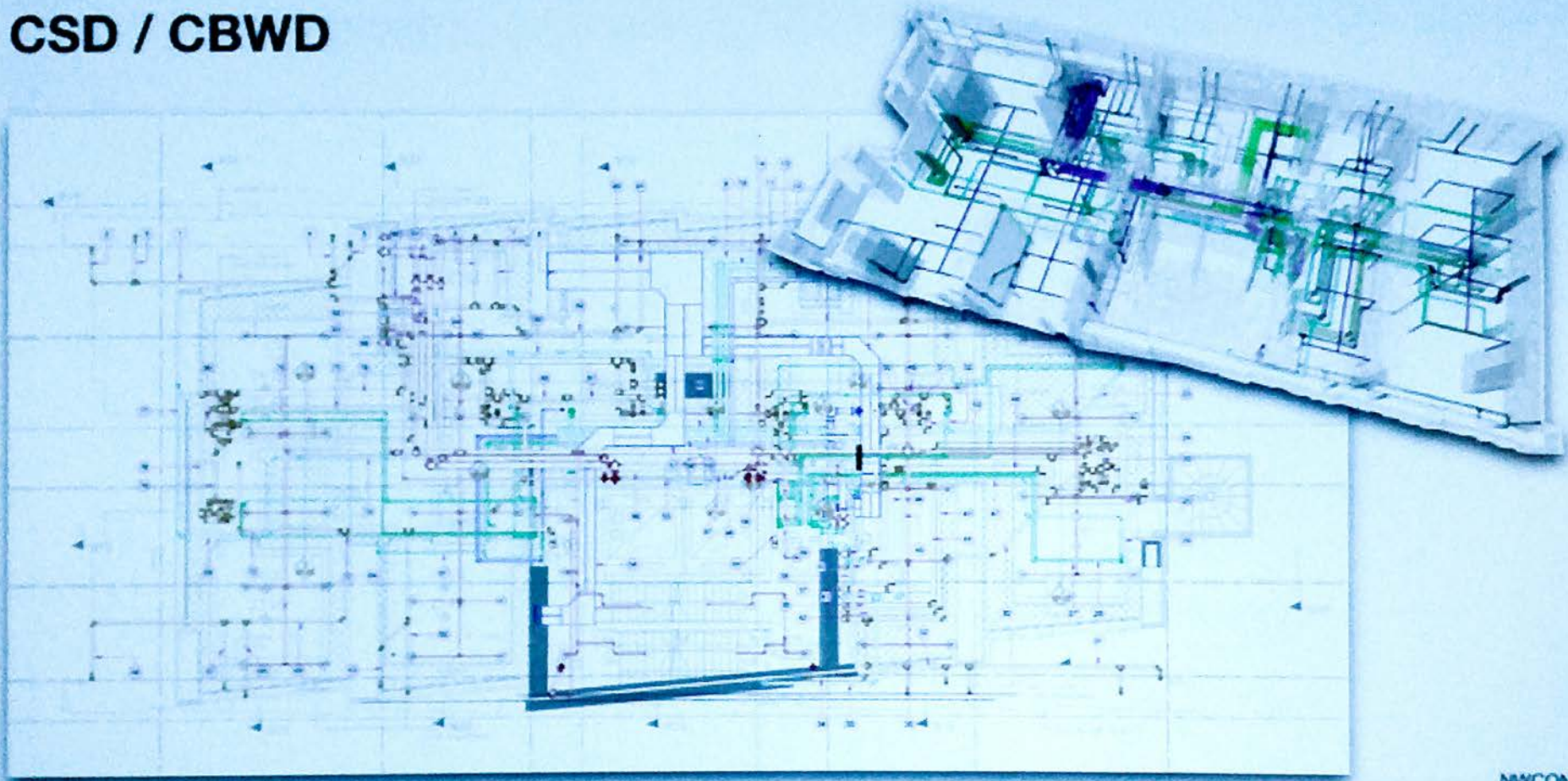
Description
Wall and Slab Floor to 10' and 10' are not aligned. Please Check.

Wall Not Aligned

Wall Not Aligned



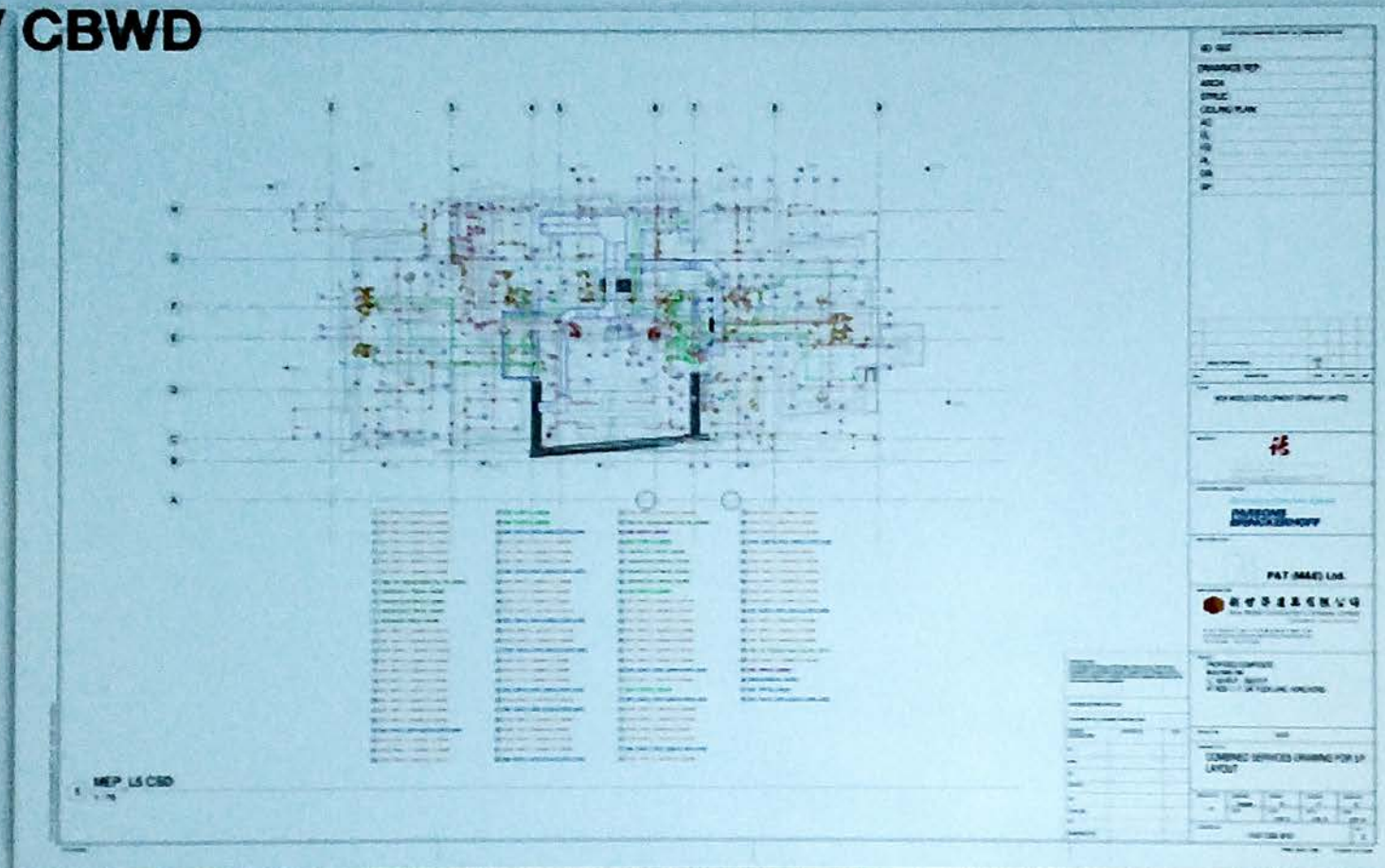
CSD / CBWD



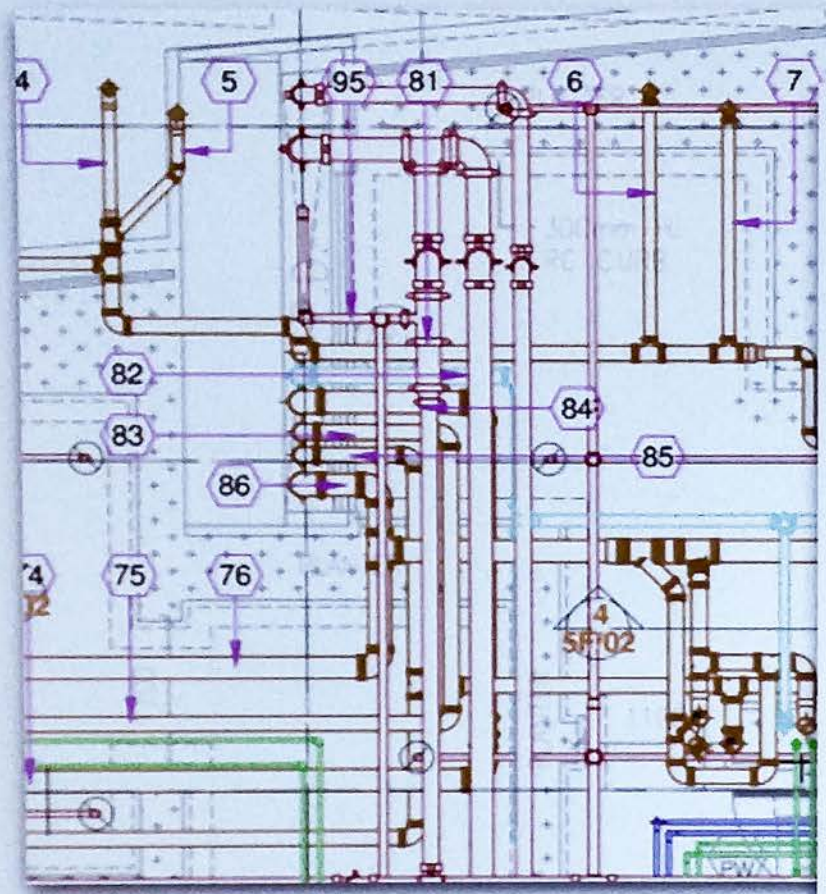
建筑工程施工管理 · 成本管理 · 质量管理 · 安全管理 · 进度管理 · 合同管理 · 风险管理 · 信息管理 · 协同管理 · 决策支持

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SINCE 2002

CSD / CBWD



CSD



- 27 Ø35 FLWP CL:+29.050
- 28 Ø25 FLWP CL:+29.050
- 29 Ø50 CDP IL1 AFFL+5300 IL2 AFFL+5325
- 30 Ø75 RWP IL1:+28.755 IL2:+28.840
- 31 Ø75 RWP IL1:+28.885 IL2:+28.980
- 32 Ø75 RWP IL1:+28.840 IL2:+28.865
- 33 Ø80 CDP IL1 AFFL+5300 IL2 AFFL+5370
- 34 Ø75 RWP IL1:+28.825 IL2:+28.860
- 35 Ø100 VP IL1:+28.685 IL2:+28.685
- 36 Ø100 VP IL1:+28.685 IL2:+28.685
- 37 Ø150 RWP IL1:+28.720 IL2:+28.735
- 38 Ø75 CDP IL1 AFFL+4760 IL2 AFFL+4740



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A tall, dark, rectangular building with a grid-like facade of windows, standing on a base of stacked blocks. The building is composed of many small, dark, rectangular units arranged in a grid. The base is made of several layers of stacked blocks, creating a stepped effect. The building is set against a light blue background.

The screenshot displays a Microsoft Access database window. At the top, there is a menu bar with options like File, Edit, View, and Database. Below the menu bar is a toolbar with icons for various database operations. The main area shows a table with a grid of data. The table has columns for various attributes, and the data is organized into rows. The interface includes a status bar at the bottom.

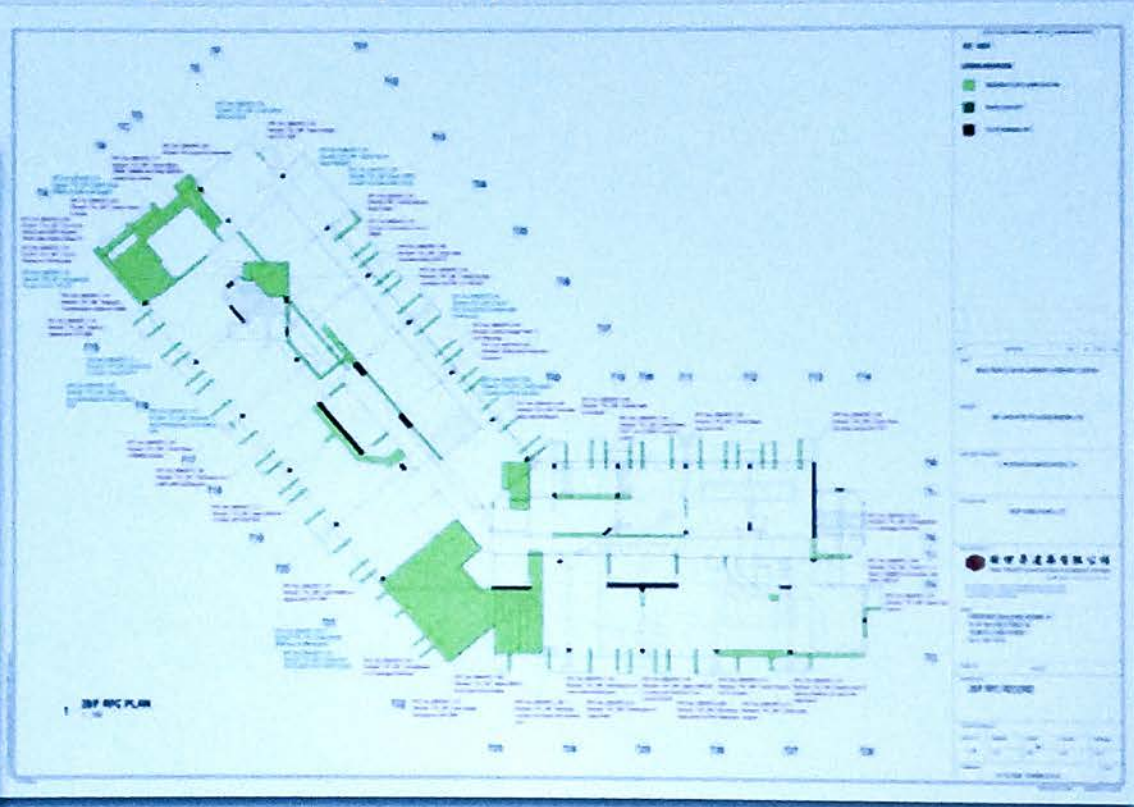
Web Based Knowledge Portal

-

[illegible]

Construction Information Anywhere (CIA)

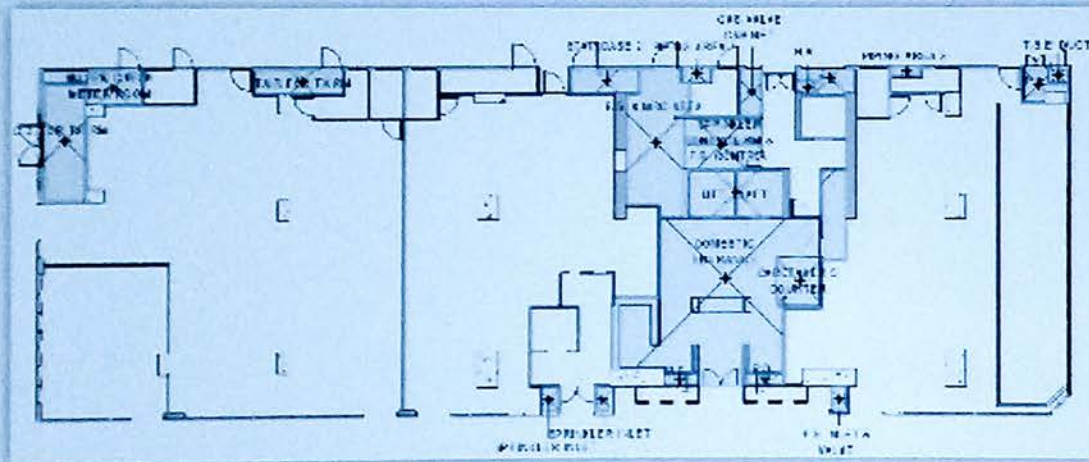
- RFC Plans (紅綠燈)



Area (GFA / Site Coverage / UFA) Checking

G.F.A. Calculations Workflow

- Define Room for concession calculations



廣心建築
KAYBARCH

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BIM

廣心建築
KAYBARCH

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BIM

Area (GFA / Site Coverage / UFA) Checking

G.F.A. Calculations Workflow

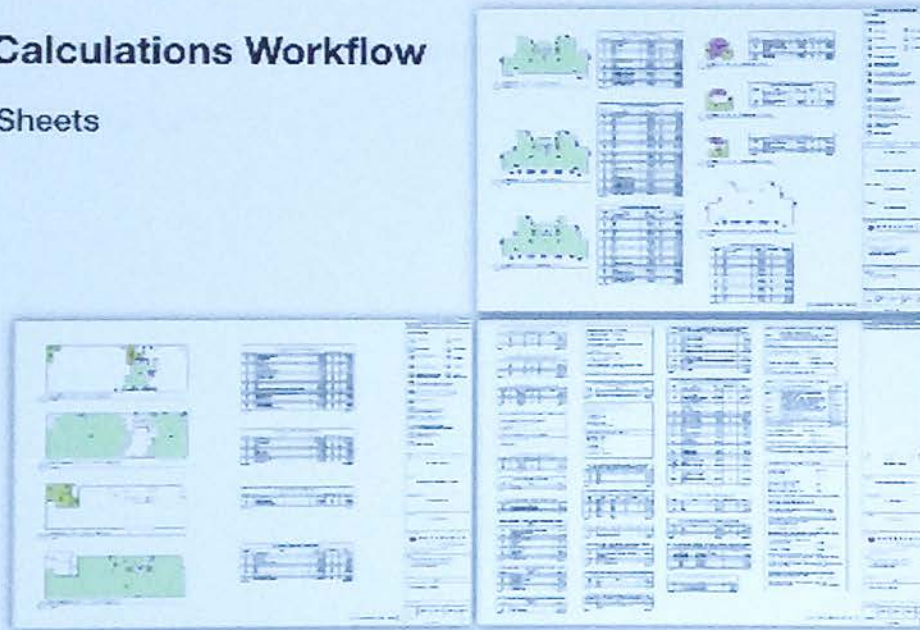
- **Setup Schedules**

[illegible]

Area (GFA / Site Coverage / UFA) Checking

G.F.A. Calculations Workflow

- Setup Sheets



開心樓宇圖
KAPPAHUTS

NWCON
BIM

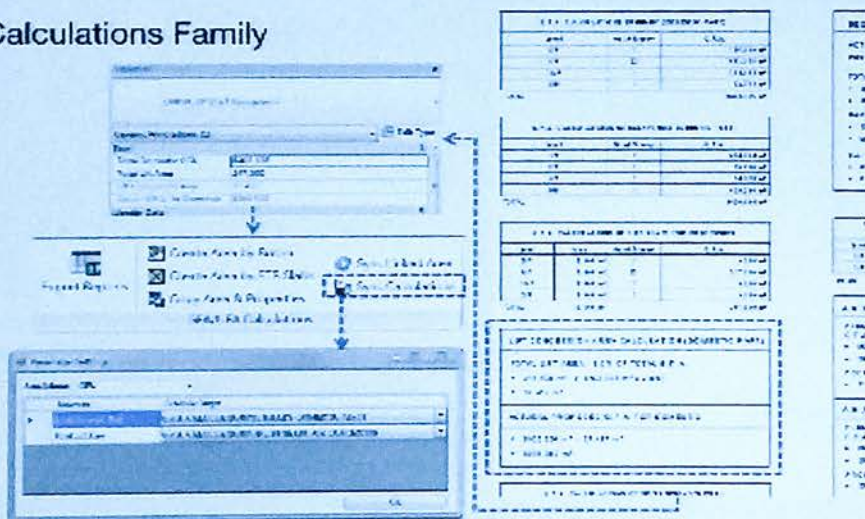
開心樓宇圖
KAPPAHUTS

NWCON
BIM
SINCE 2012

Area (GFA / Site Coverage / UFA) Checking

G.F.A. Calculations Workflow

- Update Calculations Family



16 定心樓 BIM

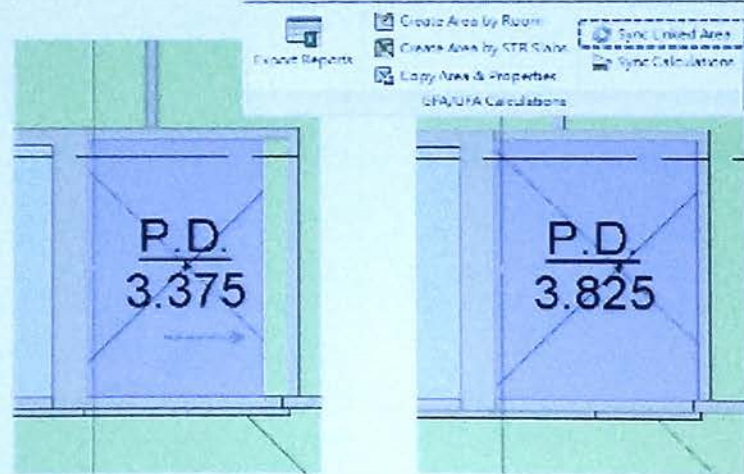
NWCON
BIM

NWCON
BIM

Area (GFA / Site Coverage / UFA) Checking

G.F.A. Calculations Workflow

- **Reload Area Boundary**
 - (Note: The area should be created using 'Create Area by Room Addin')



Area (GFA / Site Coverage / UFA) Checking

Site Coverage & Plot Ratio Calculations Workflow

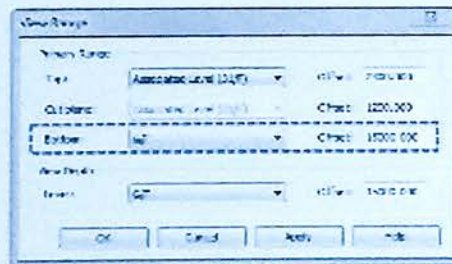
**NATIONAL
BIM**

NWCON
BIM

Area (GFA / Site Coverage / UFA) Checking

Site Coverage & Plot Ratio Calculations Workflow

- Using the floor plan in the highest level (ie. 31/F)
- Set the bottom offset in "View Range" to the elevation 15m above ground level.



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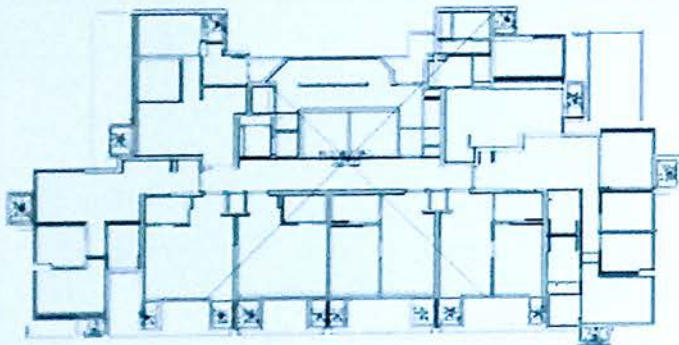


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Area (GFA / Site Coverage / UFA) Checking

Site Coverage & Plot Ratio Calculations Workflow

- Draw area boundary lines to fully outline the Covered area of the building
- Setup plans & schedules



DOMESTIC COVERED AREA DIAGRAM

NO.	FLR	AREA	UNIT	COVERED AREA	COVERED AREA
1	FLR	1000.00	m ²	1000.00	1000.00
2	FLR	1000.00	m ²	1000.00	1000.00
3	FLR	1000.00	m ²	1000.00	1000.00
4	FLR	1000.00	m ²	1000.00	1000.00
5	FLR	1000.00	m ²	1000.00	1000.00
6	FLR	1000.00	m ²	1000.00	1000.00
7	FLR	1000.00	m ²	1000.00	1000.00
8	FLR	1000.00	m ²	1000.00	1000.00
9	FLR	1000.00	m ²	1000.00	1000.00
10	FLR	1000.00	m ²	1000.00	1000.00
11	FLR	1000.00	m ²	1000.00	1000.00
12	FLR	1000.00	m ²	1000.00	1000.00
13	FLR	1000.00	m ²	1000.00	1000.00
14	FLR	1000.00	m ²	1000.00	1000.00
15	FLR	1000.00	m ²	1000.00	1000.00
16	FLR	1000.00	m ²	1000.00	1000.00
17	FLR	1000.00	m ²	1000.00	1000.00
18	FLR	1000.00	m ²	1000.00	1000.00
19	FLR	1000.00	m ²	1000.00	1000.00
20	FLR	1000.00	m ²	1000.00	1000.00
21	FLR	1000.00	m ²	1000.00	1000.00
22	FLR	1000.00	m ²	1000.00	1000.00
23	FLR	1000.00	m ²	1000.00	1000.00
24	FLR	1000.00	m ²	1000.00	1000.00
25	FLR	1000.00	m ²	1000.00	1000.00
26	FLR	1000.00	m ²	1000.00	1000.00
27	FLR	1000.00	m ²	1000.00	1000.00
28	FLR	1000.00	m ²	1000.00	1000.00
29	FLR	1000.00	m ²	1000.00	1000.00
30	FLR	1000.00	m ²	1000.00	1000.00
31	FLR	1000.00	m ²	1000.00	1000.00
32	FLR	1000.00	m ²	1000.00	1000.00
33	FLR	1000.00	m ²	1000.00	1000.00
34	FLR	1000.00	m ²	1000.00	1000.00
35	FLR	1000.00	m ²	1000.00	1000.00
36	FLR	1000.00	m ²	1000.00	1000.00
37	FLR	1000.00	m ²	1000.00	1000.00
38	FLR	1000.00	m ²	1000.00	1000.00
39	FLR	1000.00	m ²	1000.00	1000.00
40	FLR	1000.00	m ²	1000.00	1000.00
41	FLR	1000.00	m ²	1000.00	1000.00
42	FLR	1000.00	m ²	1000.00	1000.00
43	FLR	1000.00	m ²	1000.00	1000.00
44	FLR	1000.00	m ²	1000.00	1000.00
45	FLR	1000.00	m ²	1000.00	1000.00
46	FLR	1000.00	m ²	1000.00	1000.00
47	FLR	1000.00	m ²	1000.00	1000.00
48	FLR	1000.00	m ²	1000.00	1000.00
49	FLR	1000.00	m ²	1000.00	1000.00
50	FLR	1000.00	m ²	1000.00	1000.00
51	FLR	1000.00	m ²	1000.00	1000.00
52	FLR	1000.00	m ²	1000.00	1000.00
53	FLR	1000.00	m ²	1000.00	1000.00
54	FLR	1000.00	m ²	1000.00	1000.00
55	FLR	1000.00	m ²	1000.00	1000.00
56	FLR	1000.00	m ²	1000.00	1000.00
57	FLR	1000.00	m ²	1000.00	1000.00
58	FLR	1000.00	m ²	1000.00	1000.00
59	FLR	1000.00	m ²	1000.00	1000.00
60	FLR	1000.00	m ²	1000.00	1000.00
61	FLR	1000.00	m ²	1000.00	1000.00
62	FLR	1000.00	m ²	1000.00	1000.00
63	FLR	1000.00	m ²	1000.00	1000.00
64	FLR	1000.00	m ²	1000.00	1000.00
65	FLR	1000.00	m ²	1000.00	1000.00
66	FLR	1000.00	m ²	1000.00	1000.00
67	FLR	1000.00	m ²	1000.00	1000.00
68	FLR	1000.00	m ²	1000.00	1000.00
69	FLR	1000.00	m ²	1000.00	1000.00
70	FLR	1000.00	m ²	1000.00	1000.00
71	FLR	1000.00	m ²	1000.00	1000.00
72	FLR	1000.00	m ²	1000.00	1000.00
73	FLR	1000.00	m ²	1000.00	1000.00
74	FLR	1000.00	m ²	1000.00	1000.00
75	FLR	1000.00	m ²	1000.00	1000.00
76	FLR	1000.00	m ²	1000.00	1000.00
77	FLR	1000.00	m ²	1000.00	1000.00
78	FLR	1000.00	m ²	1000.00	1000.00
79	FLR	1000.00	m ²	1000.00	1000.00
80	FLR	1000.00	m ²	1000.00	1000.00
81	FLR	1000.00	m ²	1000.00	1000.00
82	FLR	1000.00	m ²	1000.00	1000.00
83	FLR	1000.00	m ²	1000.00	1000.00
84	FLR	1000.00	m ²	1000.00	1000.00
85	FLR	1000.00	m ²	1000.00	1000.00
86	FLR	1000.00	m ²	1000.00	1000.00
87	FLR	1000.00	m ²	1000.00	1000.00
88	FLR	1000.00	m ²	1000.00	1000.00
89	FLR	1000.00	m ²	1000.00	1000.00
90	FLR	1000.00	m ²	1000.00	1000.00
91	FLR	1000.00	m ²	1000.00	1000.00
92	FLR	1000.00	m ²	1000.00	1000.00
93	FLR	1000.00	m ²	1000.00	1000.00
94	FLR	1000.00	m ²	1000.00	1000.00
95	FLR	1000.00	m ²	1000.00	1000.00
96	FLR	1000.00	m ²	1000.00	1000.00
97	FLR	1000.00	m ²	1000.00	1000.00
98	FLR	1000.00	m ²	1000.00	1000.00
99	FLR	1000.00	m ²	1000.00	1000.00
100	FLR	1000.00	m ²	1000.00	1000.00

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U.F.A Calculations Workflow

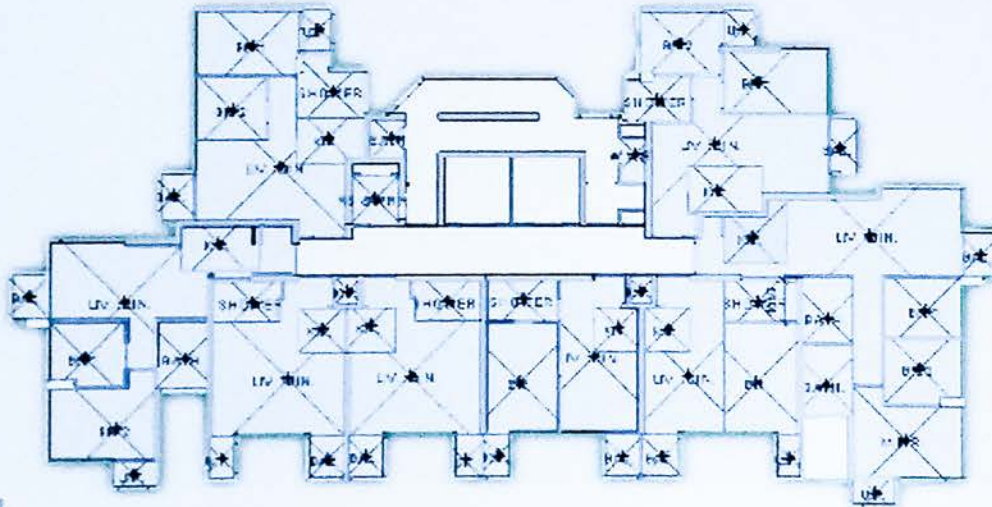

 北京理工大学出版社
 地址：北京市海淀区中关村大街58号
 电话：(010) 62770175
 邮编：100081

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Area (GFA / Site Coverage / UFA) Checking

U.F.A Calculations Workflow

- Define Room for U.F.A.



10 愛心建築集團
CONSTRUCTION

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10 愛心建築集團
CONSTRUCTION

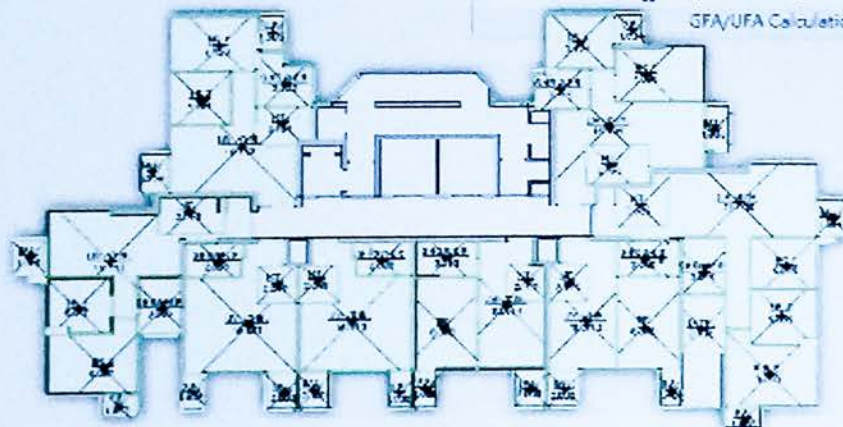
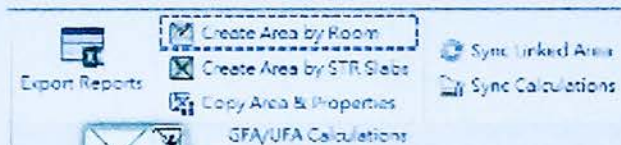
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Area (GFA / Site Coverage / UFA) Checking

U.F.A Calculations Workflow

- Create Area

- Create Area by Room for deduct/ concession area



開心樓宇圖
L&S EXPRESS

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Area (GFA / Site Coverage / UFA) Checking

U.F.A Calculations Workflow

- Define UFA Factor Type, Number of Storey, Non-Domestic Usage for Area

[illegible]

Key Schedule for UFA Factor Type:

[illegible]

Area (GFA / Site Coverage / UFA) Checking

U.F.A Calculations Workflow

- Setup Schedules

- ☐ Schedules/Quantities

- BALCONY CALCULATIONS (5/F)
 - BALCONY CALCULATIONS (6/F-30/F)
 - BALCONY CALCULATIONS (31/F)
 - U.F.A. CALCULATIONS (5/F)
 - U.F.A. CALCULATIONS (6/F-30/F)
 - U.F.A. CALCULATIONS (31/F)
 - U.F.A. Key Schedule (UFA Factor Type)
 - U.F.S. CALCULATIONS (5/F)
 - U.F.S. CALCULATIONS (6/F-30/F)
 - U.F.S. CALCULATIONS (31/F)
 - U.F.S. CALCULATIONS SUMMARY
 - UTILITY PLATFORM CALCULATIONS (5/F)
 - UTILITY PLATFORM CALCULATIONS (6/F-30/F)
 - UTILITY PLATFORM CALCULATIONS (31/F)



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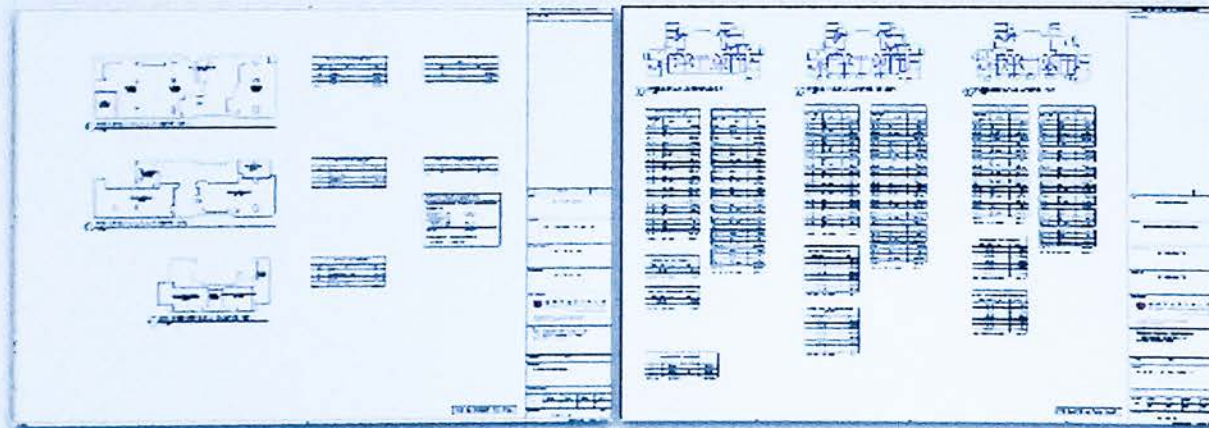


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Area (GFA / Site Coverage / UFA) Checking

U.F.A Calculations Workflow

- Setup Sheets



10 廣心建築
GRAPHIC

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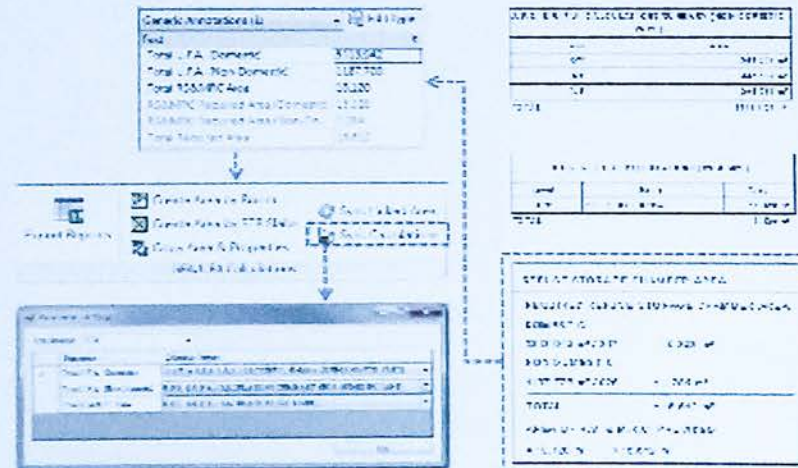
廣心建築
GRAPHIC

NWCON
BIM

Area (GFA / Site Coverage / UFA) Checking

U.F.A Calculations Workflow

- Update Calculations Family



Area (GFA / Site Coverage / UFA) Checking

Export Reports


 中国教育学会
 中国教育学会教育史分会

BIM

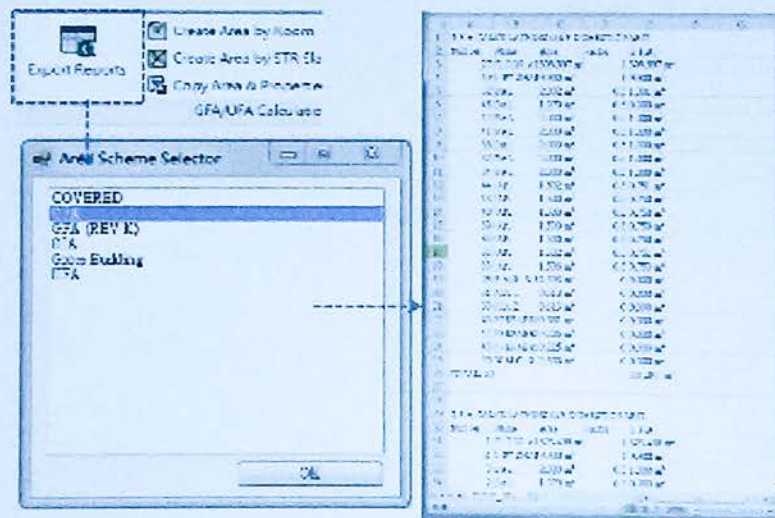
愛·心·建·市·圖
廣州世界風情都市生活

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Area (GFA / Site Coverage / UFA) Checking

Export Schedule Reports

- Export all area schedules and calculations to an excel format



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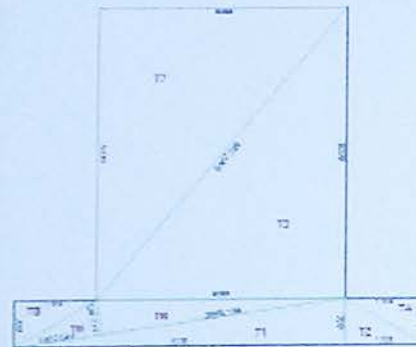


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Area (GFA / Site Coverage / UFA) Checking

Export Area Reports

- Generate a detailed report that describes the calculations for the areas



	Calculation	Area
Triangles		
1	$\frac{1}{2} \times 800 \times 5300$	2.120
2	$\frac{1}{2} \times 800 \times 1300$	0.520
3	$\frac{1}{2} \times 5005 \times 4000$	10.010
4	$\frac{1}{2} \times 1300 \times 800$	0.520
5	$\frac{1}{2} \times 597.011 \times 1404.841$	0.419
6	$\frac{1}{2} \times 597.011 \times 3925.196$	1.191
7	$\frac{1}{2} \times 5005 \times 4000$	10.010
8	$\frac{1}{2} \times 800 \times 1300$	0.520
Gross area is 25.300.		

100m
100m

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Area (GFA / Site Coverage / UFA) Checking

Thank you



BIM



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BIM Standards



STANDARD METHOD
OF MODELLING

STANDARD BIM
WORKFLOW



STANDARD OF
BIM OUTPUT

BIM Mission

- **BIM** will be a game changer which bridges the gaps in the life cycle of buildings to address the growing demand for **building energy efficiency** and **user engagement**
- **BIM** is more than a construction model; it is a **sustainability decision-making tool** that helps property development professionals and the public visualise our future products and services and allows us to deliver **bespoke facilities management services** at an optimal resource efficiency
- **BIM** will connect visionary talents and resources within and outside the Group and empower us to build with insights.



■ Thank you !