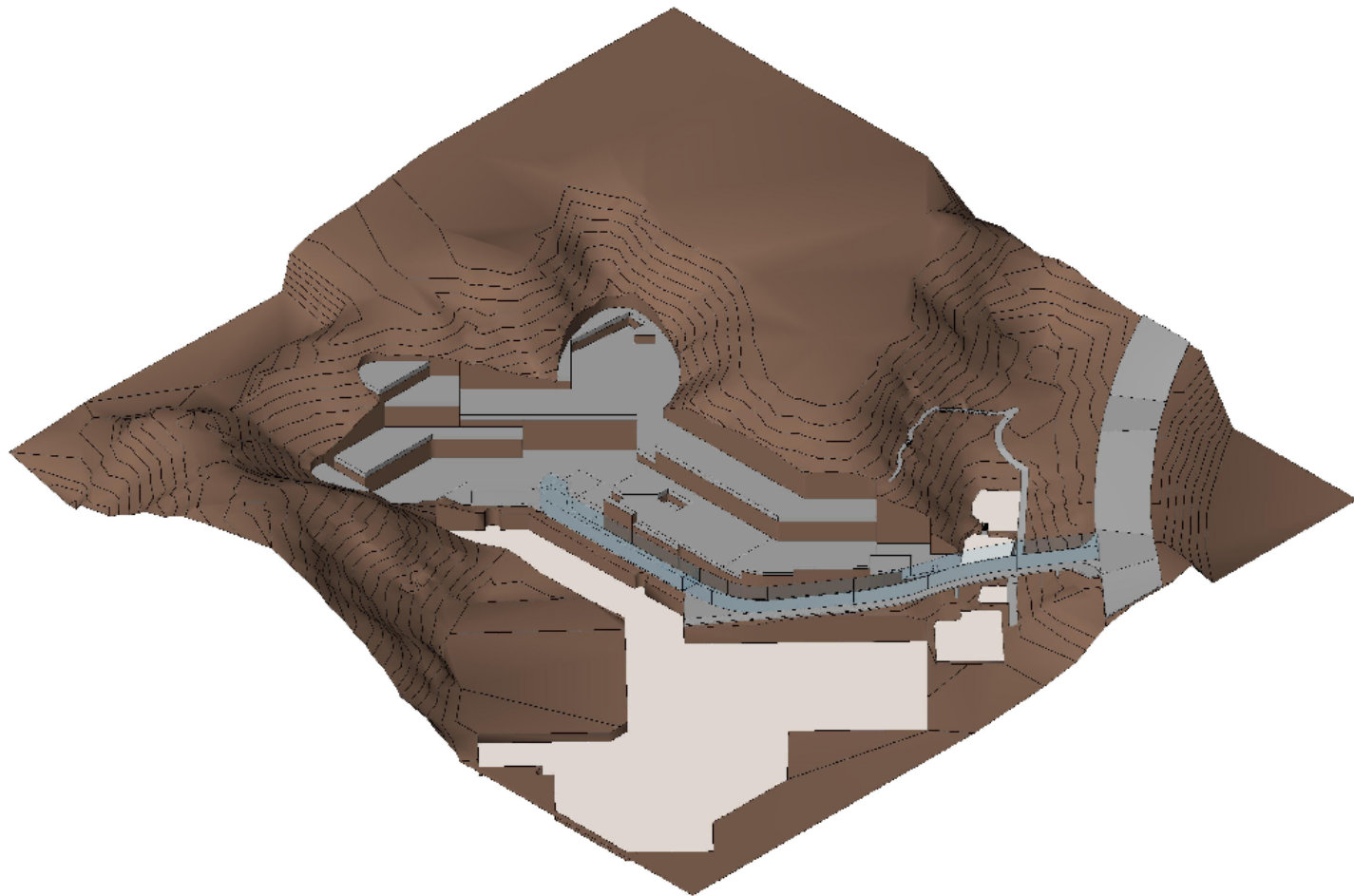




BIM Applications in Hong Kong Context

SITE HANDLING



① (3D)

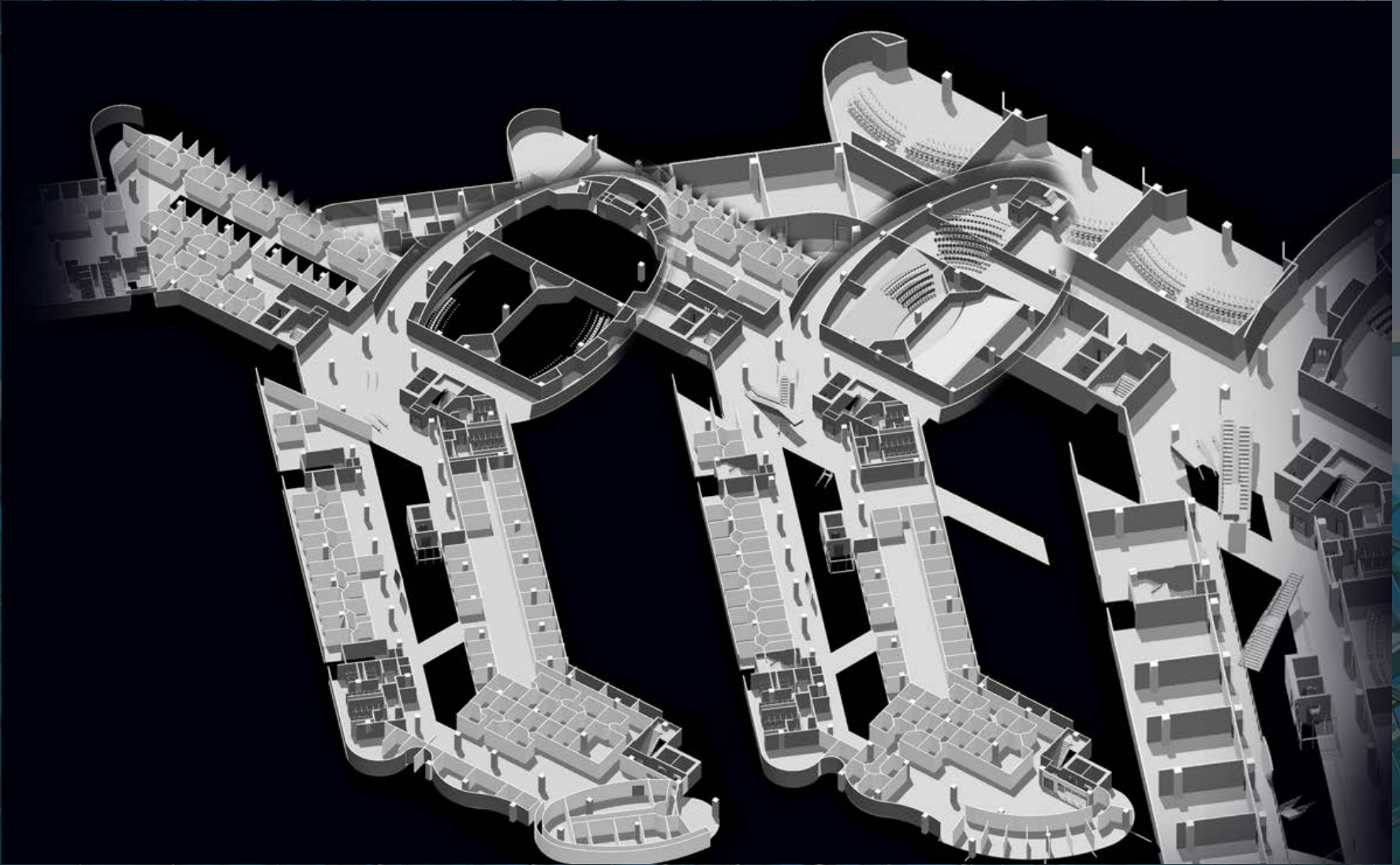


Community College of City University Building 595KE01 Option_1

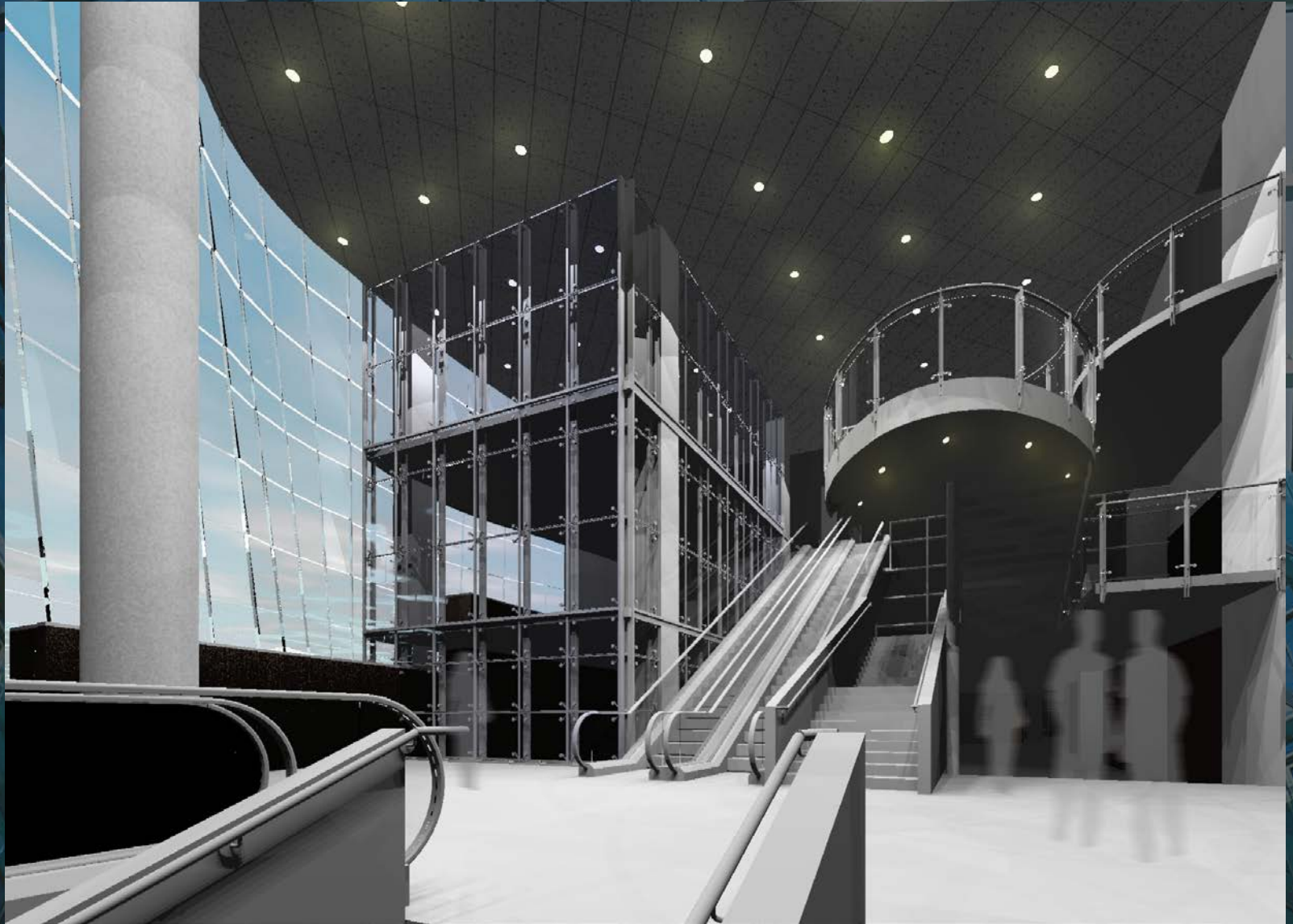
MARCH 2006



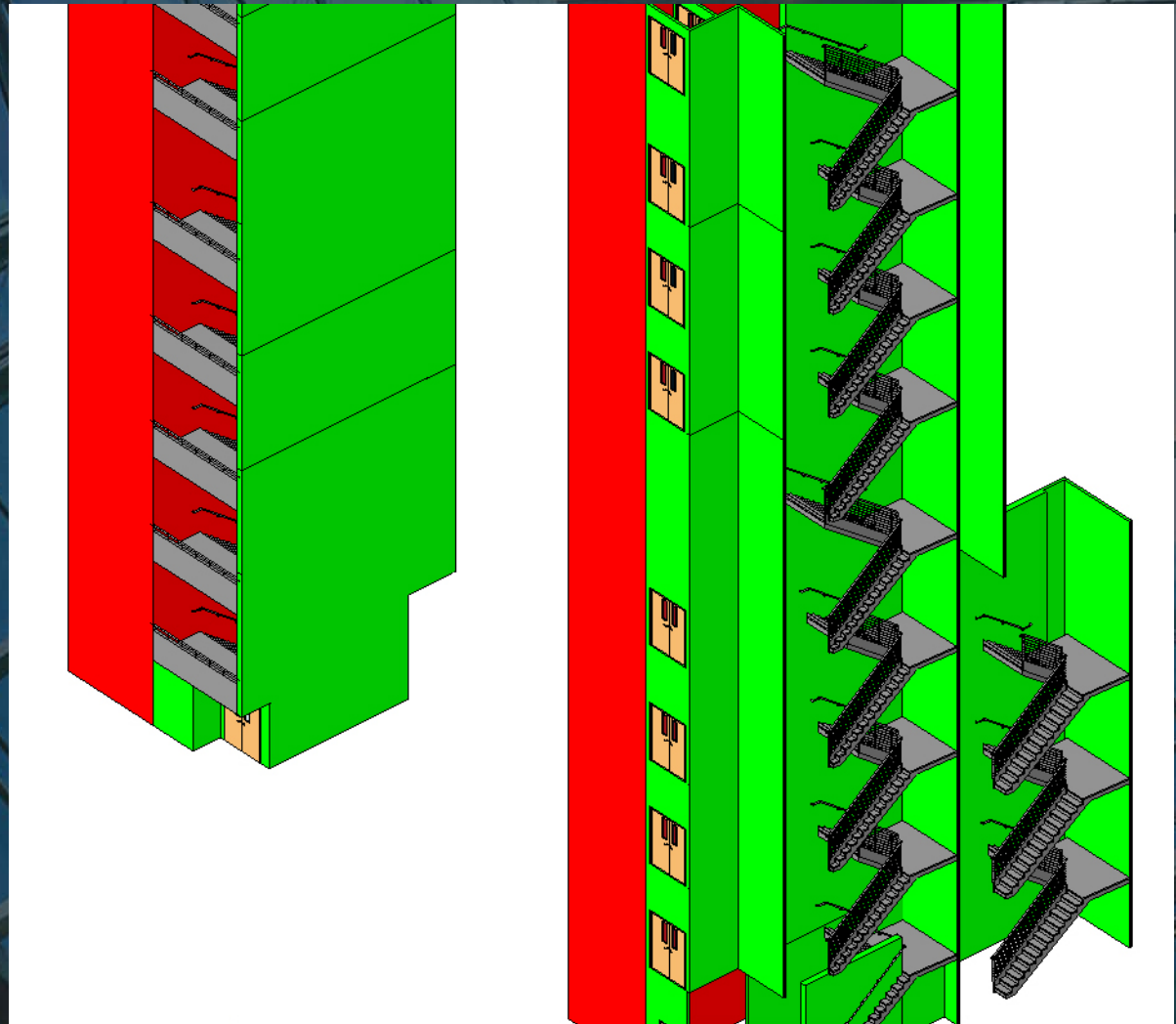
DIFFERENT DESIGN APPROACH



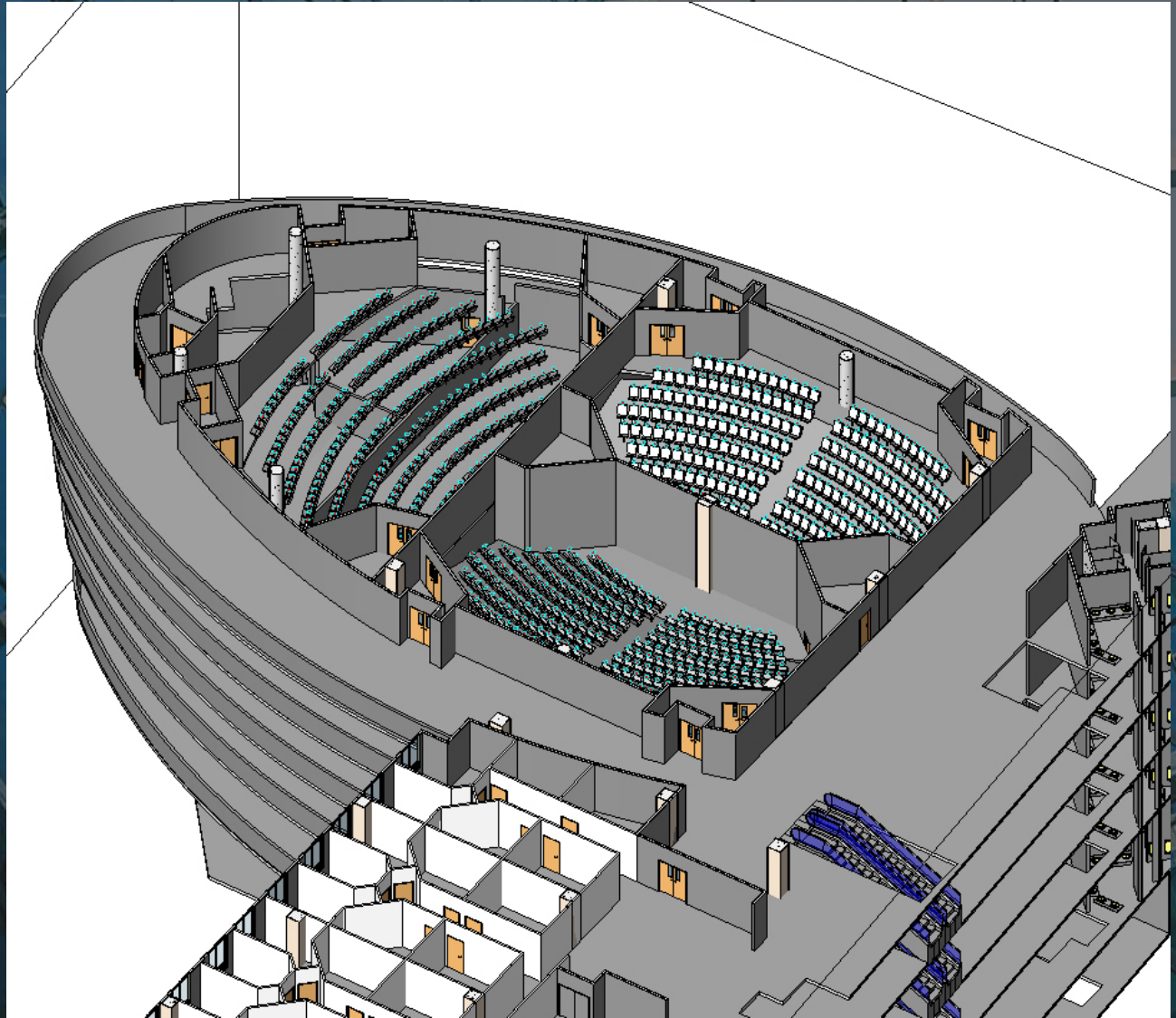
DIFFERENT DESIGN APPROACH – BETTER ONE!!!

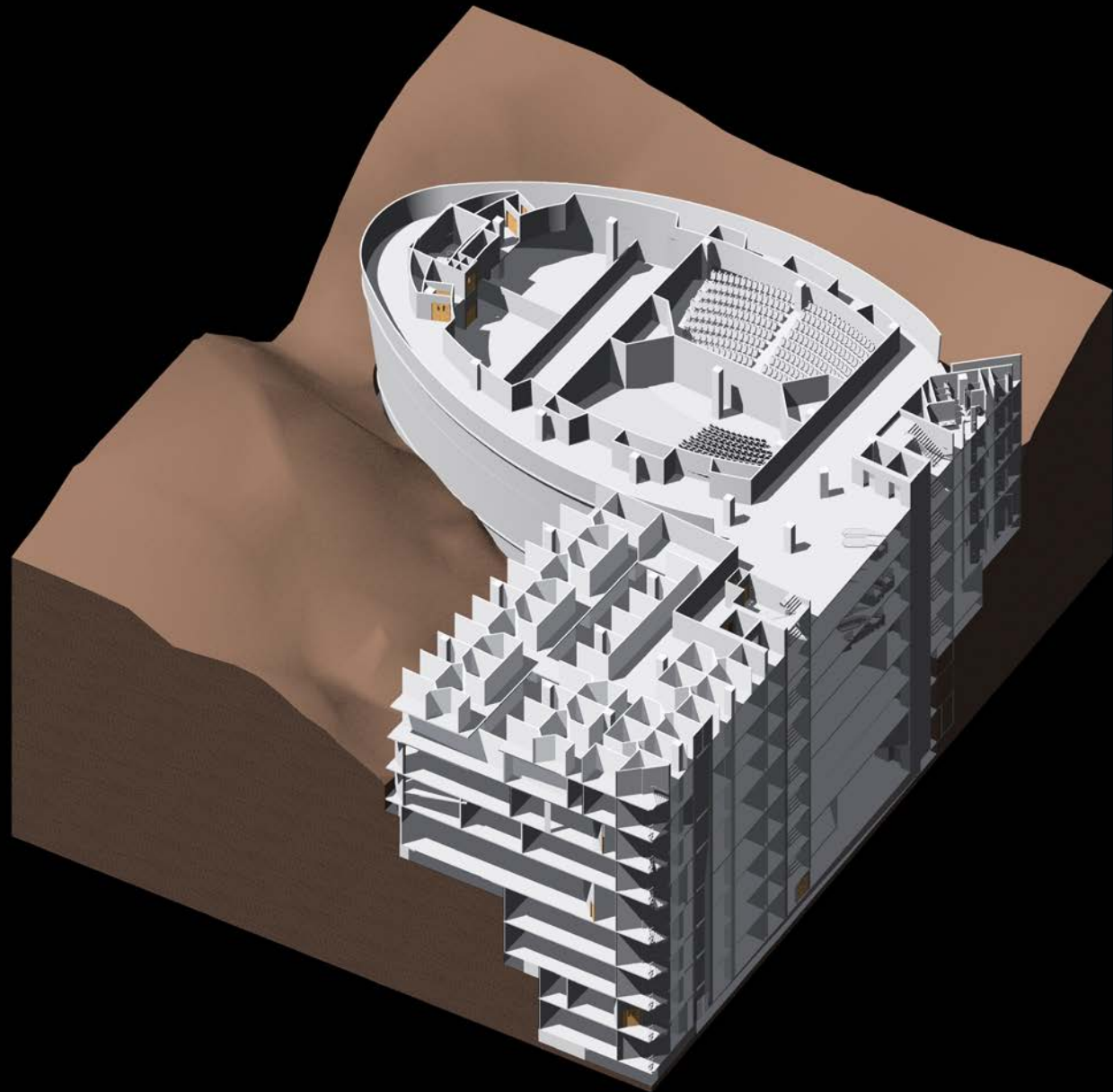


DIFFERENT DESIGN APPROACH



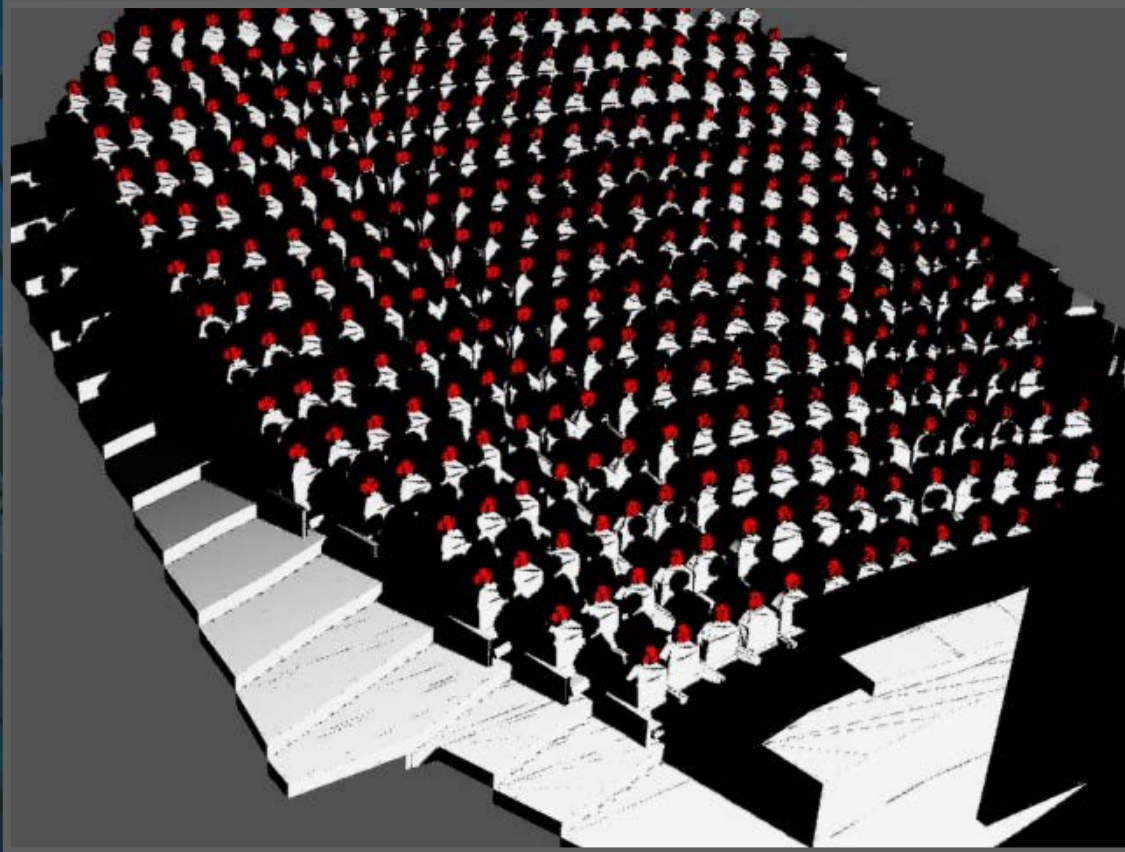
CREATIVE DESIGN TOOLS



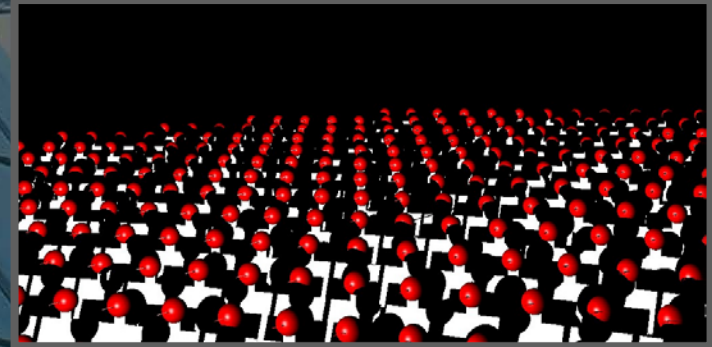


BIM Application in Hong Kong Context

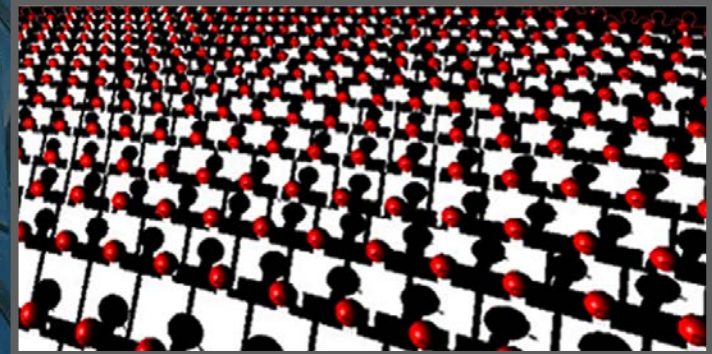
CREATIVE DESIGN TOOLS



Radiating Light Method

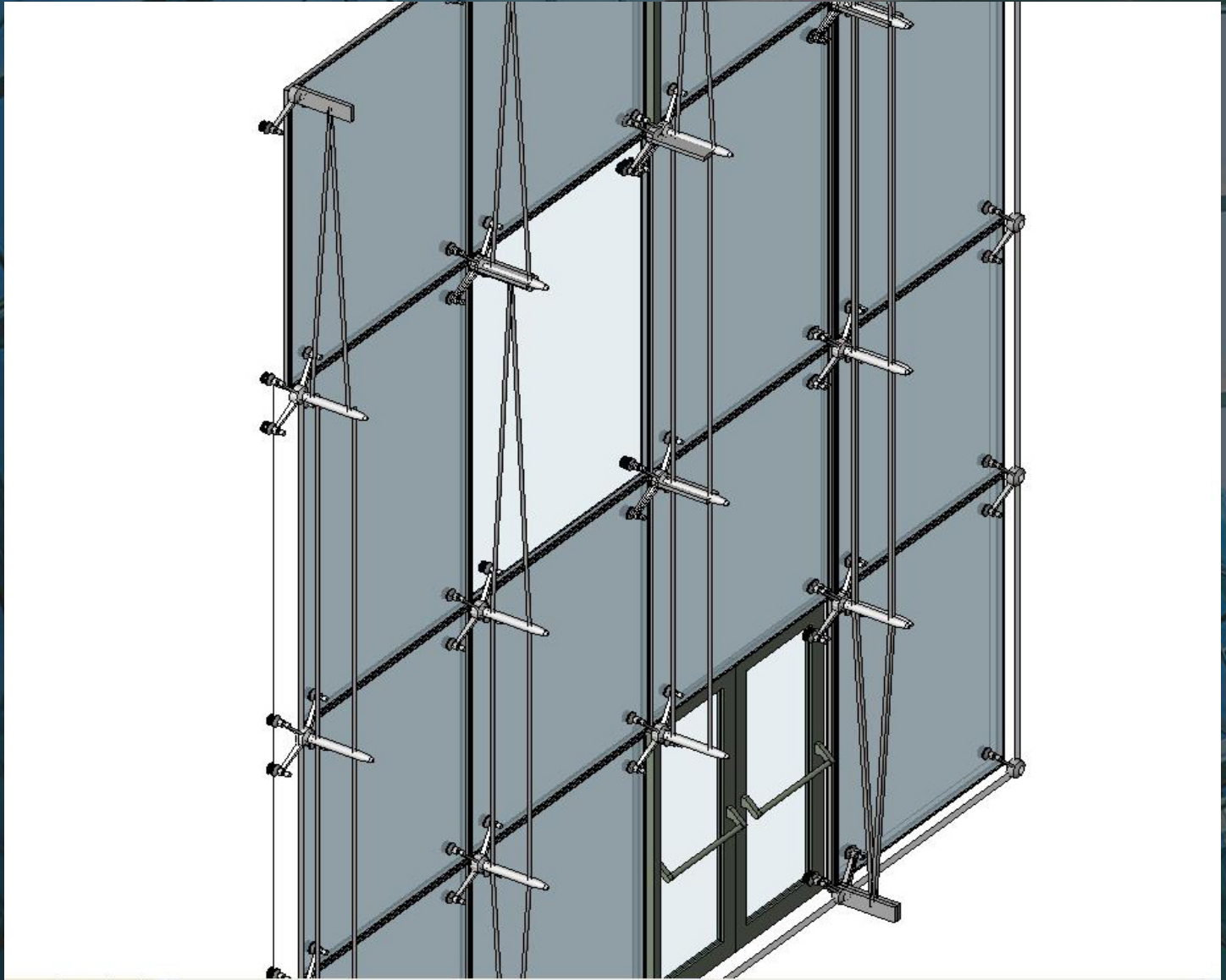


Unsatisfactory sightlines

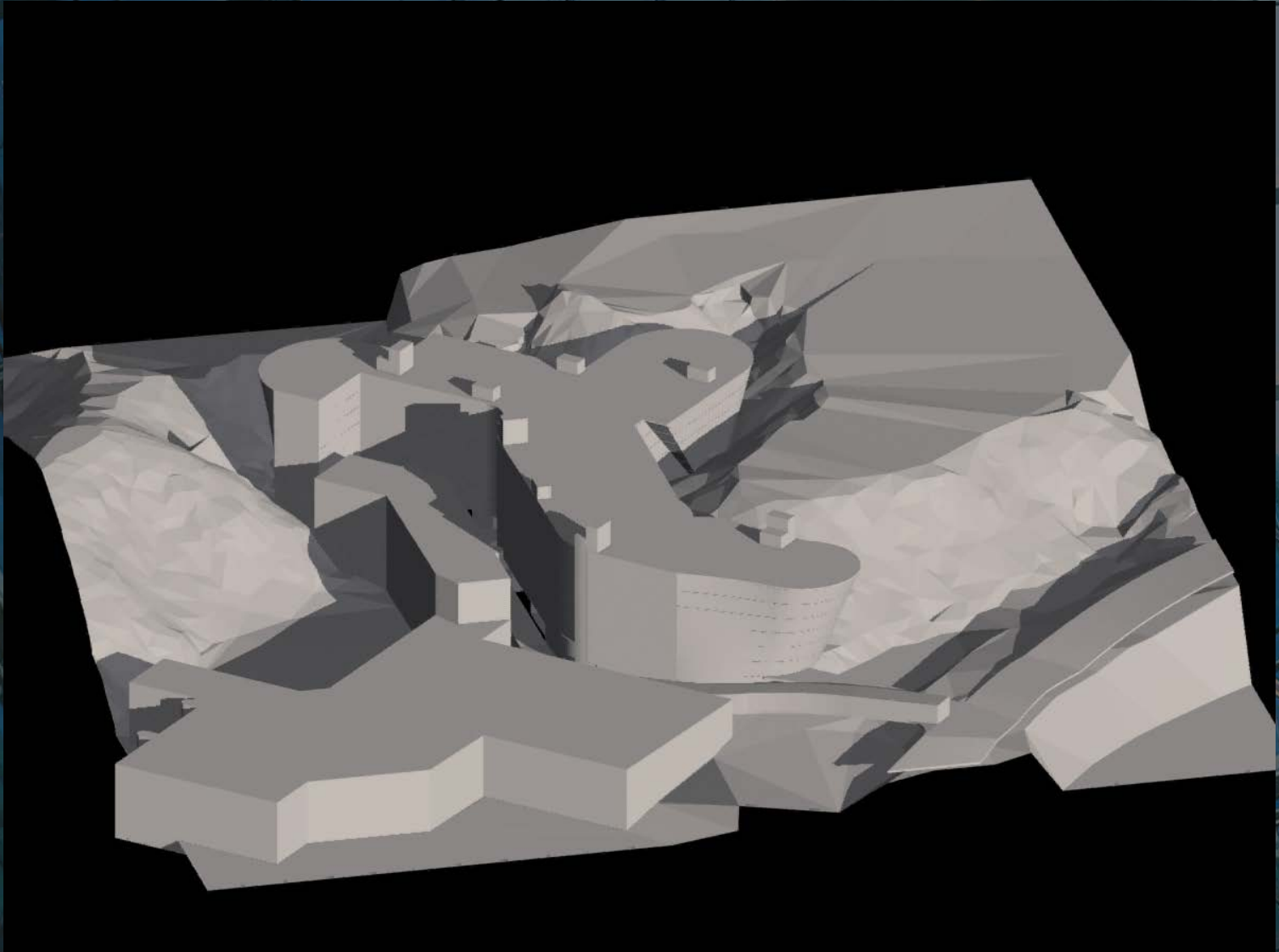


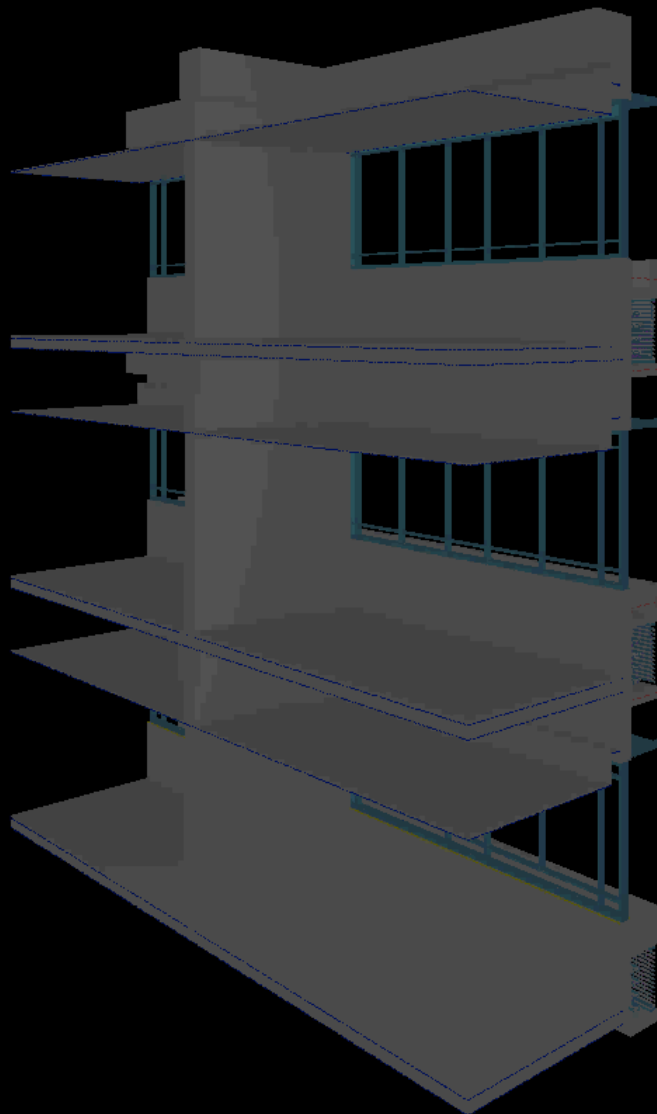
Satisfactory sightlines

CREATIVE DESIGN TOOLS

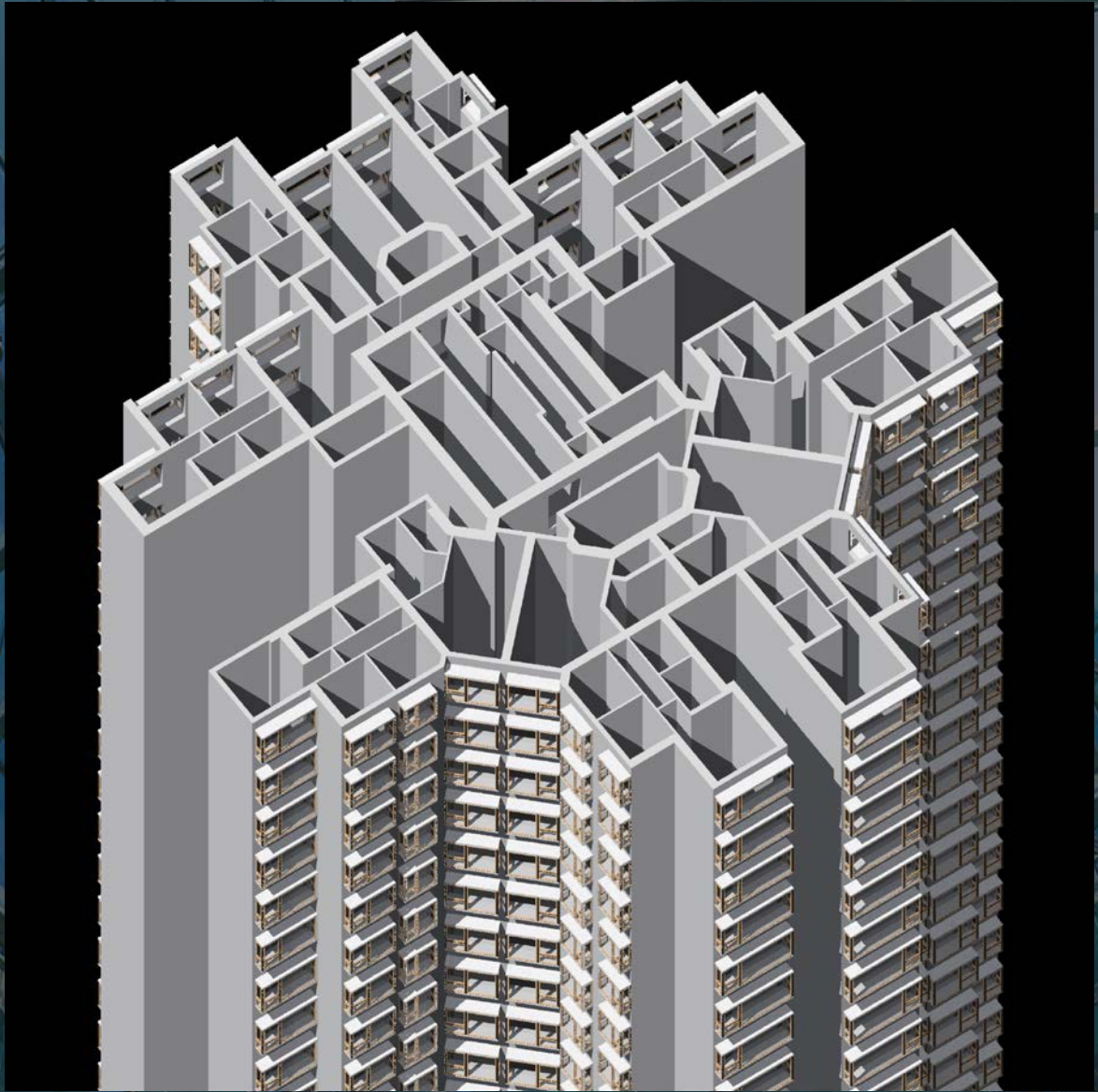


SUN STUDY





PARAMETRIC MODELLING

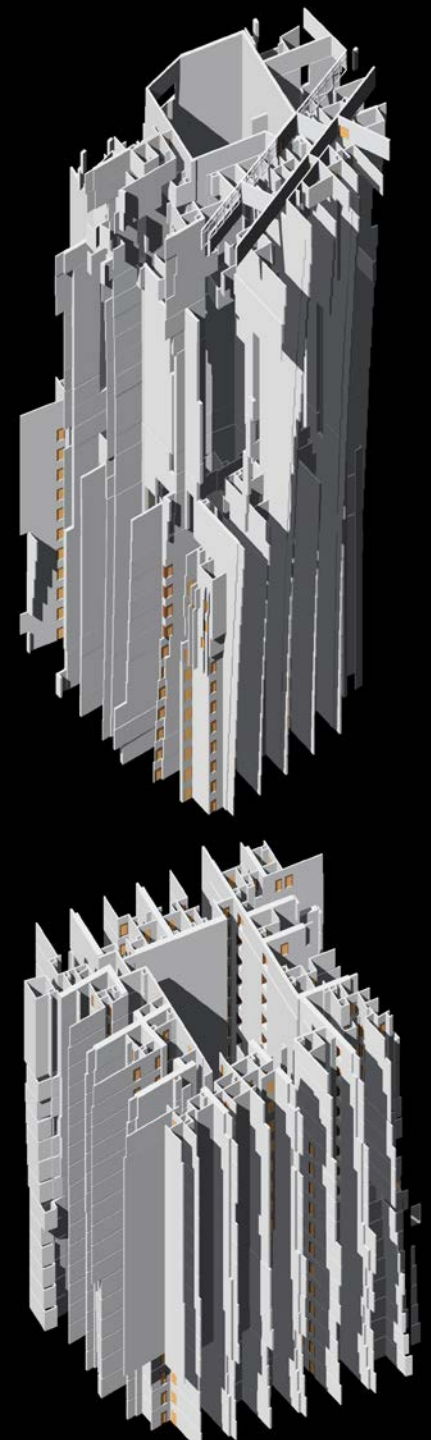
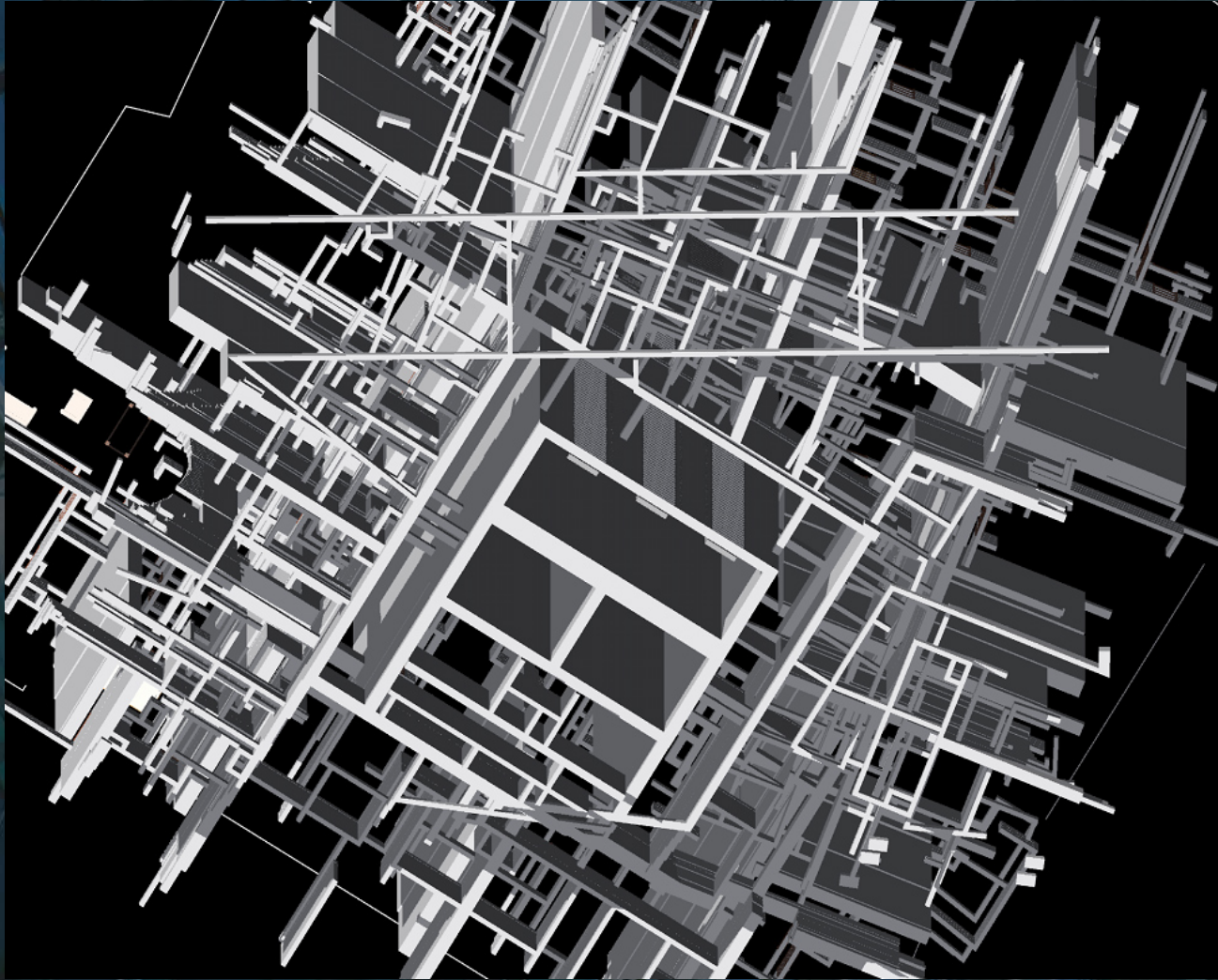


BIM Application in Hong Kong Context

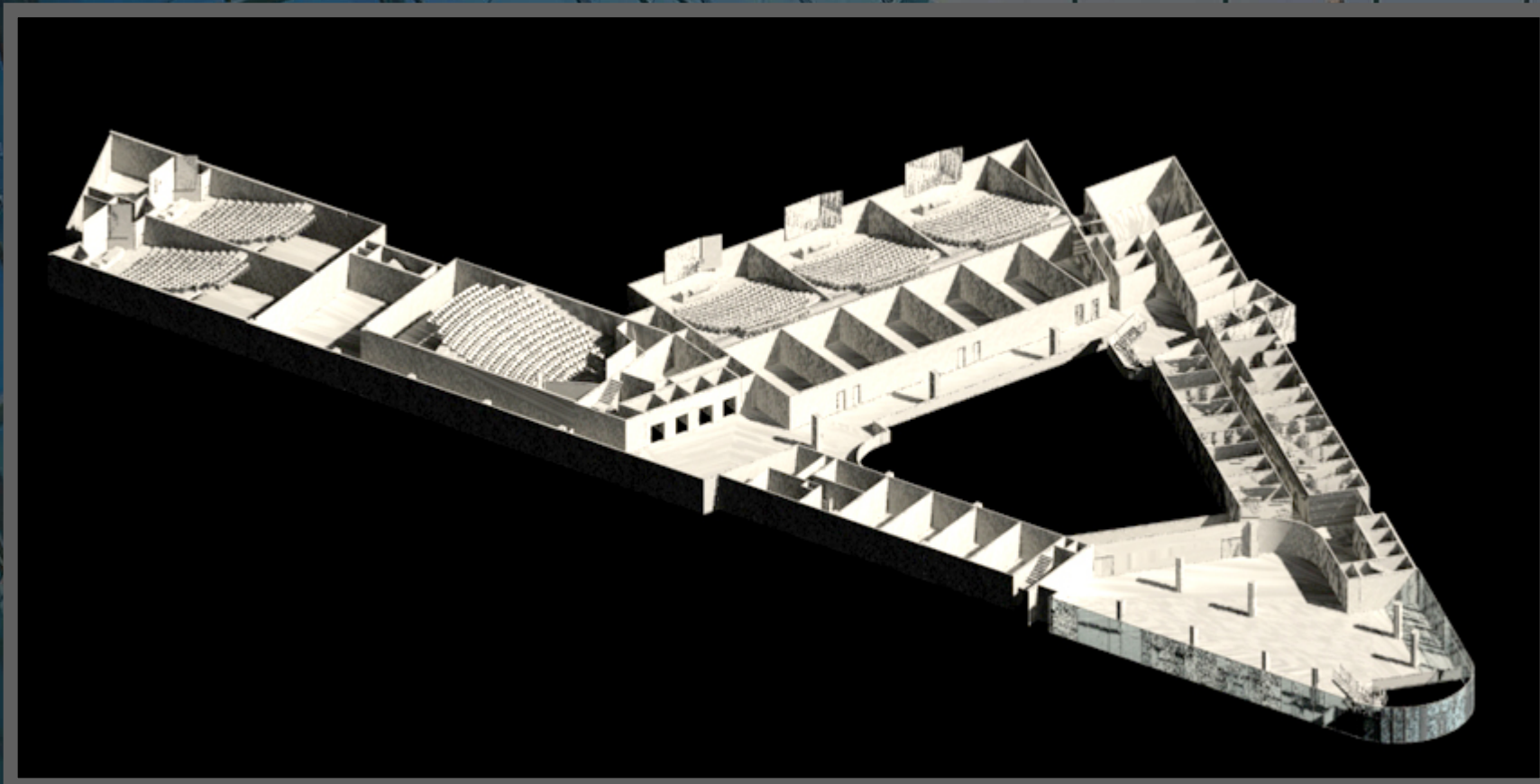
API APPLICATION – COMPLEX GEOMETRY

BIM Application in Hong Kong Context



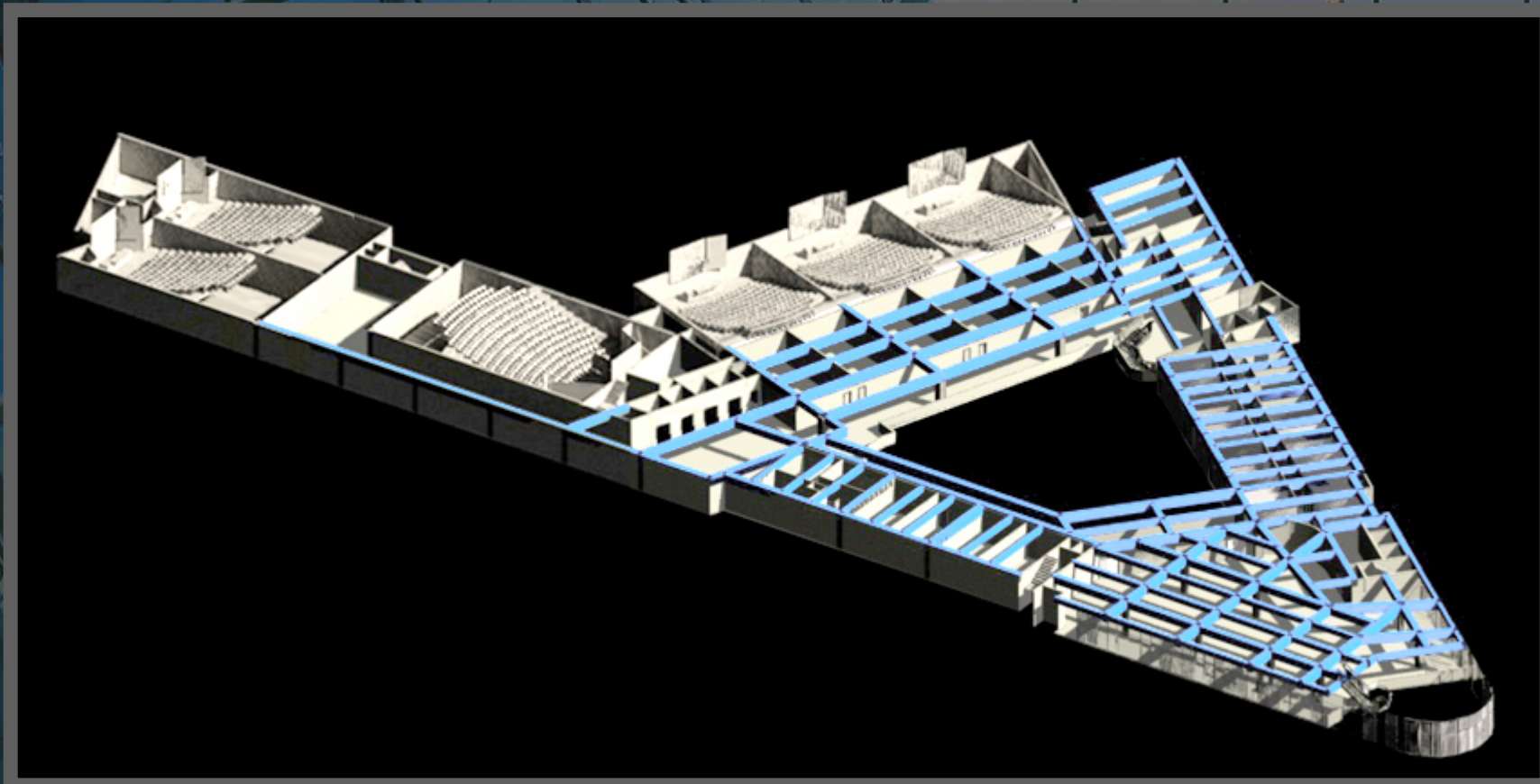


BIM Application in Hong Kong Context



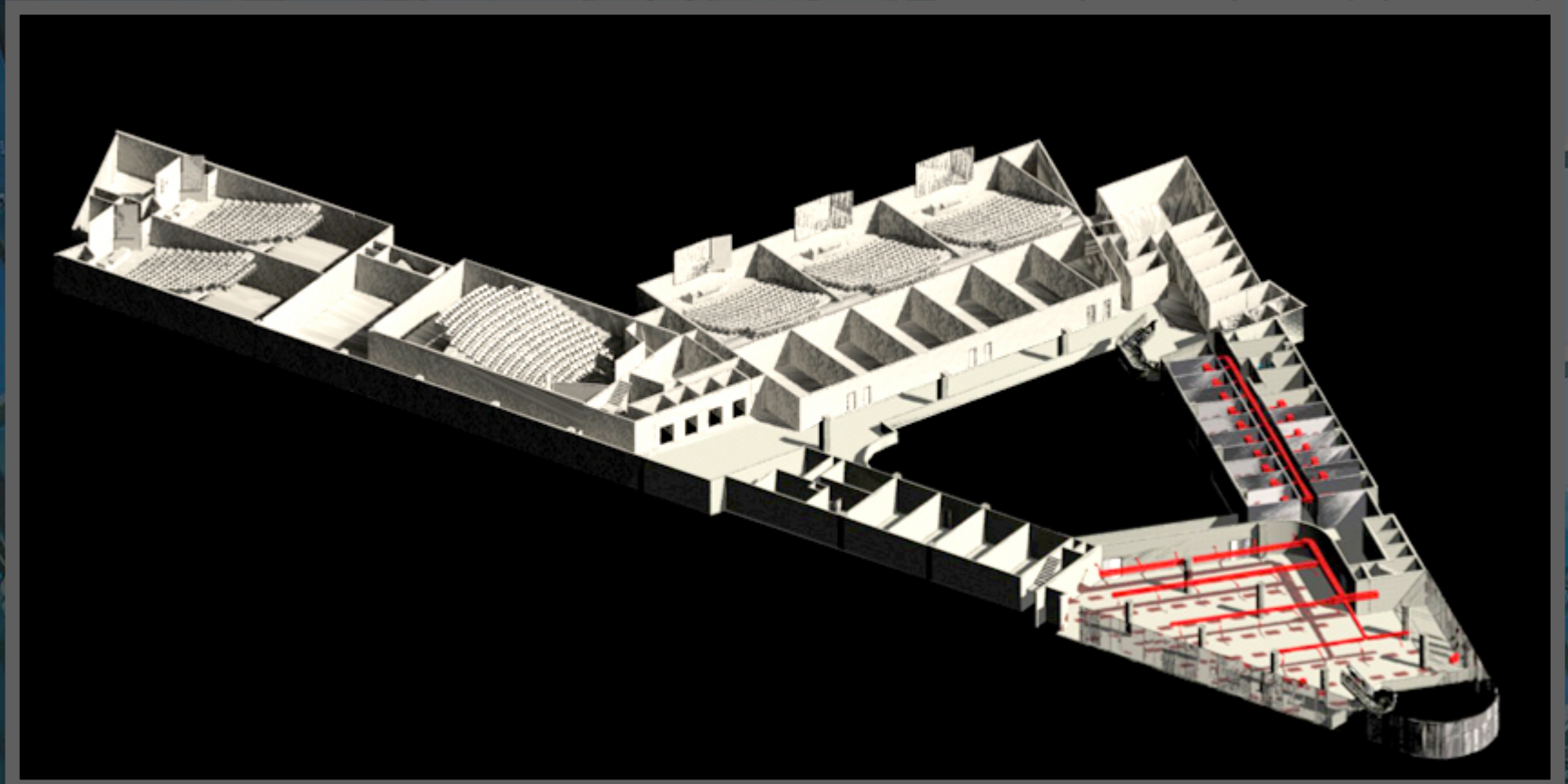
Architecture

BIM Application in Hong Kong Context



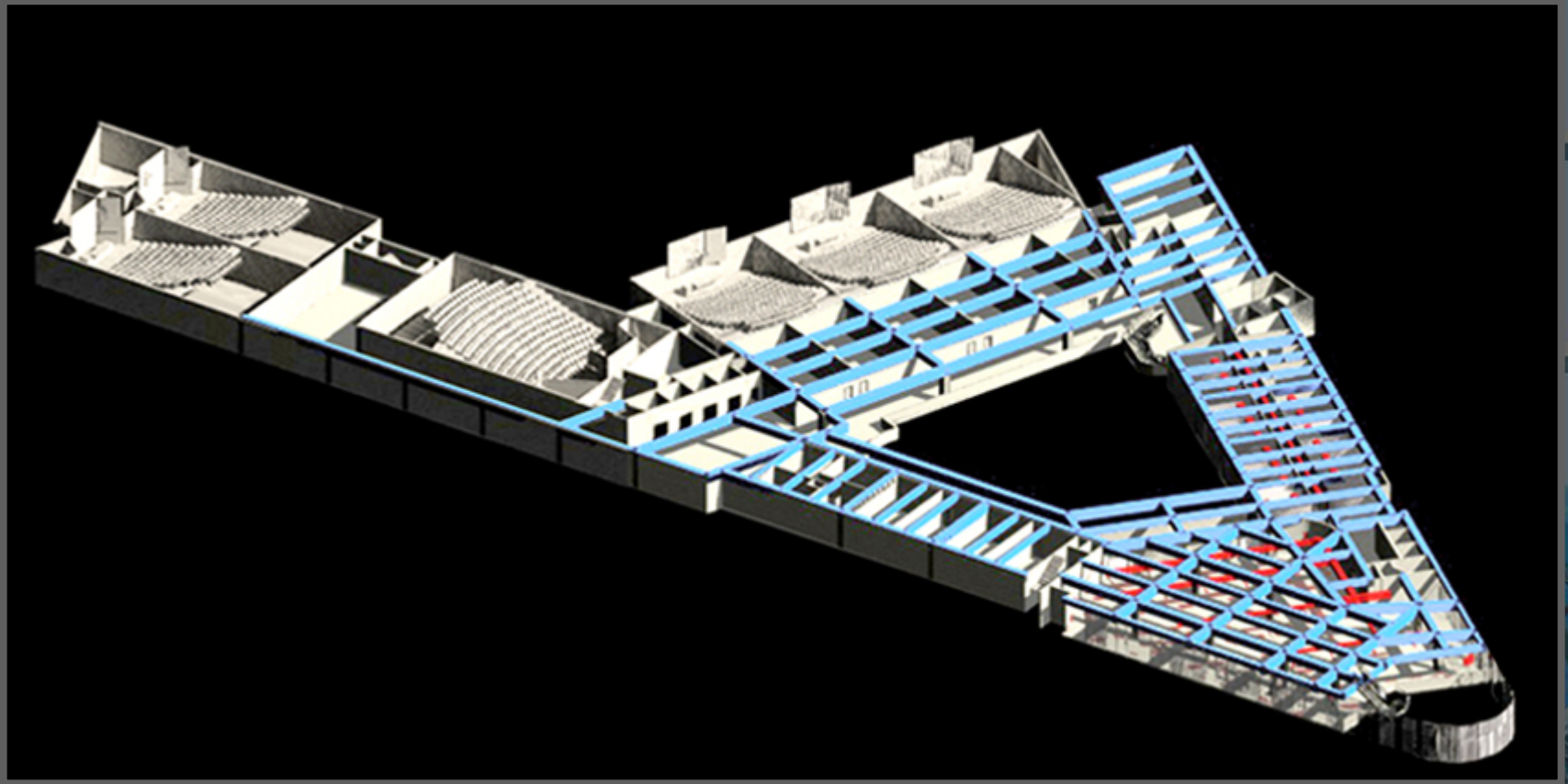
Architecture + Structure

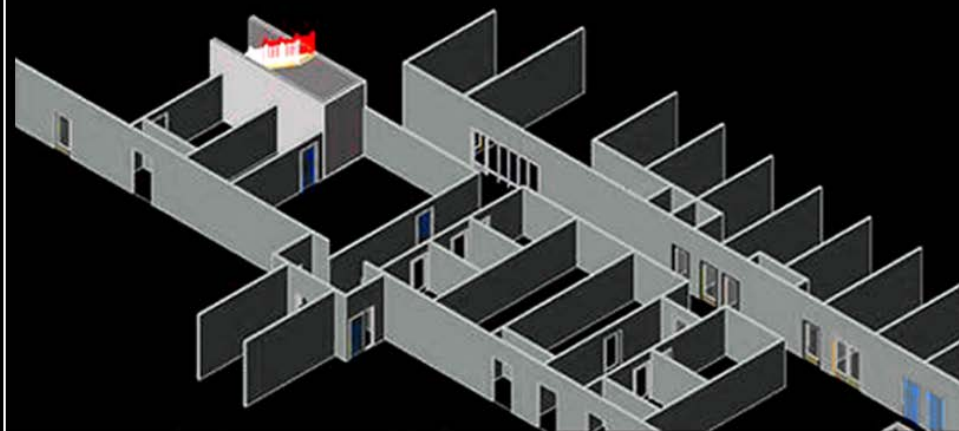
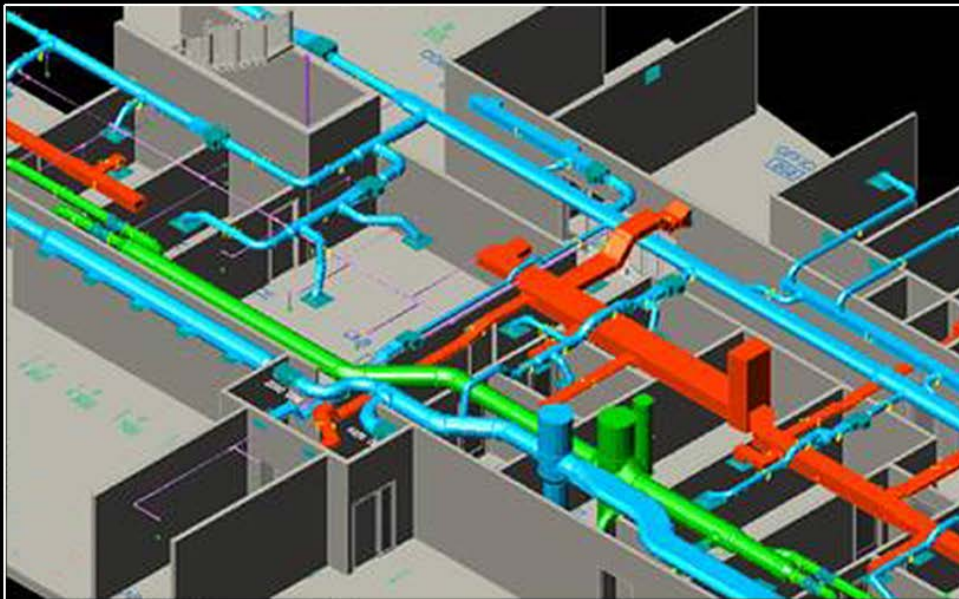
BIM Application in Hong Kong Context



Architecture + E&M

BIM Application in Hong Kong Context





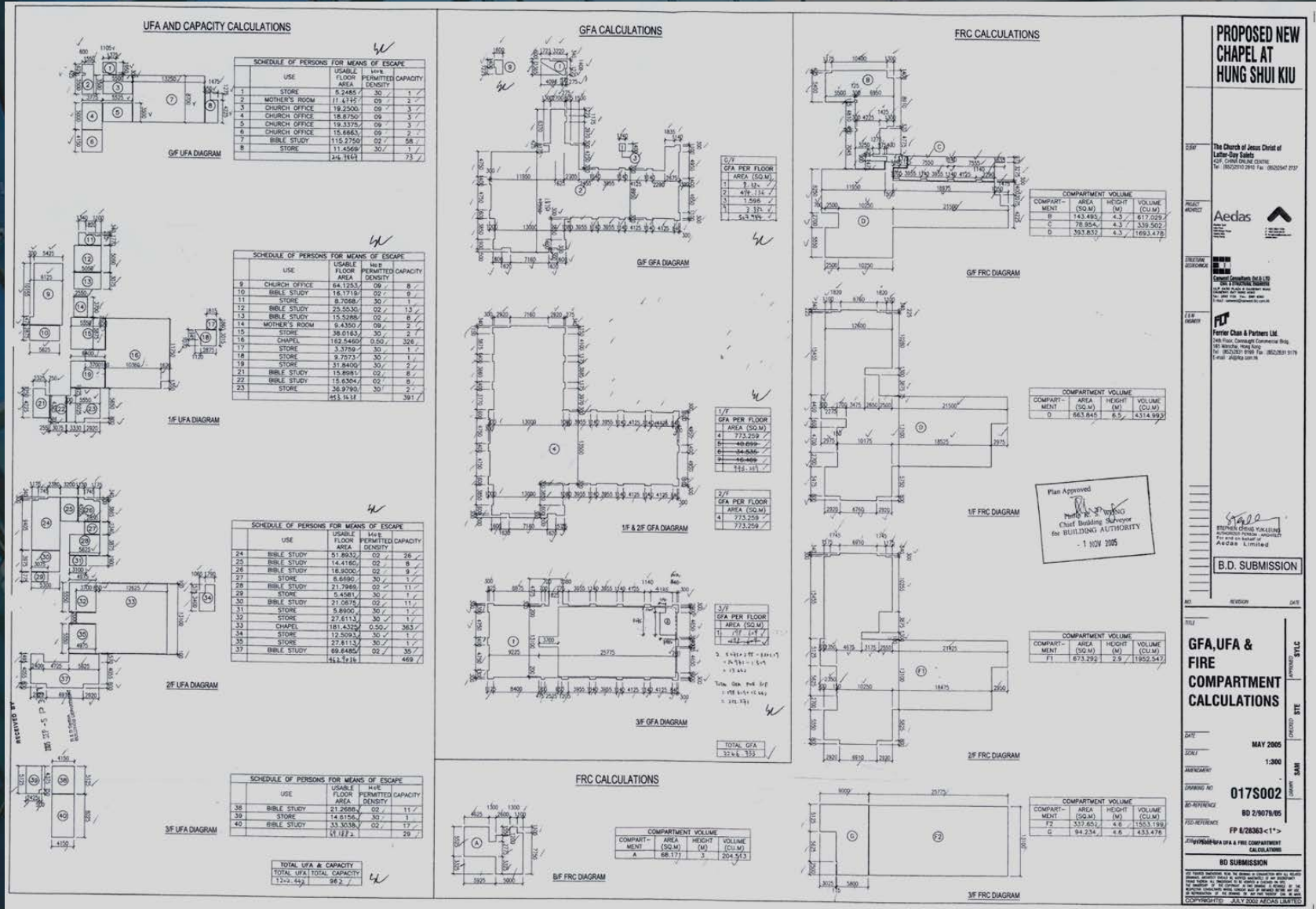
Clash Analysis

**Full set of construction
Combined Services Drawings
produced**

Close-up collaboration

3D DESIGN COLLABORATION

BIM Application in Hong Kong Context

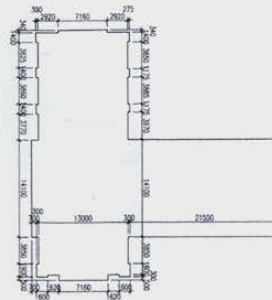


API APPLICATION – STATUTORY SUBMISSION

SITE COVERAGE & PLOT RATIO CALCULATION

1. UNDER BUILDING REGULATION

- A. CLASS OF SITE = A
- B. AREA OF SITE (FROM LEASE) = 1990.6 s.m.
 PROPOSED USE OF SITE = NON-DOMESTIC
 MEAN STREET LEVEL = 12.000
 BUILDING TOP LEVEL = 33.000
 PROPOSED HEIGHT OF BUILDING = 24.0 m n.s.
 NON-DOMESTIC PERMITTED PERCENTAGE SITE COVERAGE = 95 %
 NON-DOMESTIC PERMITTED PLOT RATIO = 6.7
- C. SITE COVERAGE = 788.919 s.m.
 THEREFORE SITE COVERAGE = 39.63 % < 95 %
- D. PLOT RATIO = 2.46 / 3.17 s.m.
 PROPOSED NON-DOMESTIC GROSS FLOOR AREA = 1.41 < 6.7 (O.K.)
 PROPOSED NON-DOMESTIC PLOT RATIO = 2338.567 s.m. / 1990.6 s.m.



SITE COVERAGE DIAGRAM

2. UNDER LEASE CONDITION

- A. PERMITTED USE OF SITE = CHURCH TOGETHER WITH ANCILLARY CHURCH FACILITIES
 PROPOSED USE OF SITE = AS ABOVE
- B. GROSS FLOOR AREA = 2,520 s.m.
 MAXIMUM PERMISSIBLE GFA UNDER LEASE TOTAL GFA OF PROPOSED DEVELOPMENT = 2,144.717 s.m.
- C. BUILDING HEIGHT = 12.000
 MEAN FORMATION LEVEL OF SITE = 88.000 s.m.
 BUILDING TOP LEVEL = 89.000 s.m.
 BUILDING HEIGHT = 1.000 m n.s.
- D. SITE COVERAGE = 40%
 MAXIMUM PERMISSIBLE SITE COVERAGE = 39.63% < 40% (O.K.)
 PROPOSED SITE COVERAGE = 39.63%
- E. PARKING SPACE = 14 CARPARKING SPACES AND 1 U/LAL BAY
 PROPOSED PARKING PROVISION = SAME AS ABOVE

STAIR WIDTH	DISCHARGE VALUE	NO. OF STOREY SERVED ABOVE GROUND	DISCHARGE VALUE	ACTUAL NO. OF PERSON
ST-A	1300	3	586	586
ST-B	1000	3	484	484
ST-C	1175	3	484	484
			1524	1524

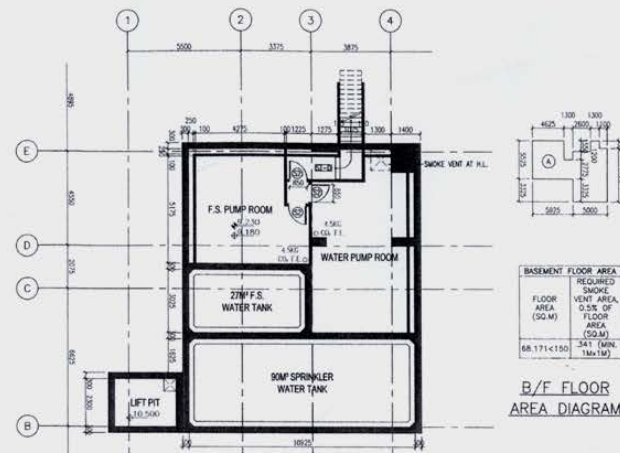
SCHEDULE MINIMUM NUMBER & WIDTH OF EXIT DOOR & EXIT ROUTE FROM EACH FLOOR											
FLOOR	CAPACITY OF ROOM OR STOREY	MIN. NO. OF EXIT DOORS (FROM ROOMS) OR EXIT ROUTES (FROM STOREY)	MIN. TOTAL WIDTH OF				MIN. WIDTH OF EACH				
			REQUIRED		PROVIDED		REQUIRED		PROVIDED		
			EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES	EXIT DOOR	EXIT ROUTE	
		<u>Min</u>	<u>Max</u>								
1/F	391	2	3	3000	3000	3550	3575	1050	1050	1050	1050
2/F	469	2	3	3000	3000	3550	3575	1050	1050	1050	1050
3/F	29	1	3	-	-	1700	2350	750	1050	850	1050

SCHEDULE OF SANITARY FITMENTS PROVISIONS														
LOCATION	USE	CAPACITY		W.C.				BASIN				URINAL		
				M		F.		M		F.		M		
		TOTAL	M	F	REQ'D	PRO'D	REQ'D	PRO'D	REQ'D	PRO'D	REQ'D	PRO'D	REQ'D	PRO'D
G/F-2/F	OFFICE	19	13	6	1	1	1	1	1	1	1	1	1	1
G/F-3/F	PLACE OF PUBLIC	943	472	471	5	3+30	7	10	5	7+30	5	8	10	11

FIRE RESISTANCE REQUIREMENT FOR ELEMENTS OF CONSTRUCTION													
COMPARTMENT	GLASS	COMPARTMENT VOLUME	FRP REQ'D	R.C. WALL		R.C. SLAB		R.C. COLUMN		R.C. BEAM		R.C. STAIR	
				THK.	COVER TO STEEL	THK.	COVER TO STEEL	THK.	COVER TO STEEL	THK.	COVER TO STEEL	THK.	COVER TO STEEL
A	(BASEMENT)	204.513	4	180	25	170	450	280	170	25	170	25	
B	8 (CARPARKING)	617.029	1	75	15	100	20	25	200	200	30	95	
C	8 (CARPARKING)	338.502	1	75	15	100	20	25	200	200	30	95	
D	7 (PLACE OF ASSEMBLY)	1693.476	1	75	15	100	20	25	200	200	30	95	
E	7 (PLACE OF ASSEMBLY)	4314.993	1	75	15	100	20	25	200	200	30	95	
F	7 (PLACE OF ASSEMBLY)	3605.746	1	75	15	100	20	25	200	200	30	95	
G	7 (PLACE OF ASSEMBLY)	433.476	1	75	15	100	20	25	200	200	30	95	
H	WALL/SLAB BETWEEN DIFFERENT USES/CLASS	-	2	100	25	125	25	35	300	200	40	125	

REFUSE STORAGE CALCULATION

UPS = 1241.442 s.m. < 3.960 s.m.
 THEREFORE, STORAGE CHAMBER IS NOT REQUIRED ACCORDING TO B(9)(C)(ii), S(3)



B/F PLAN, 1:100

FLOOR AREA (SQ. M)	REQUIRED SMOKE VENT AREA, 0.5% OF FLOOR AREA (SQ. M)
68.171 x 150	5.41 (MIN. 1m x 1m)

B/F FLOOR AREA DIAGRAM

G/F	USE	CAPACITY OF EXIT DOOR	MIN. TOTAL WIDTH OF				MIN. WIDTH OF EACH			
			EXIT DOORS		EXIT ROUTES		EXIT DOORS		EXIT ROUTES	
			EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES		
1	STORE	1	-	-	750	1050	-	-	750	1050
2	OFFICE	1	-	-	750	1050	-	-	750	1050
3	OFFICE	1	-	-	750	1050	-	-	750	1050
4	OFFICE	1	-	-	750	1050	-	-	750	1050
5	OFFICE	1	-	-	750	1050	-	-	750	1050
6	OFFICE	1	-	-	750	1050	-	-	750	1050
7	OFFICE	1	-	-	750	1050	-	-	750	1050
8	OFFICE	1	-	-	750	1050	-	-	750	1050
9	OFFICE	1	-	-	750	1050	-	-	750	1050
10	OFFICE	1	-	-	750	1050	-	-	750	1050
11	OFFICE	1	-	-	750	1050	-	-	750	1050
12	OFFICE	1	-	-	750	1050	-	-	750	1050
13	OFFICE	1	-	-	750	1050	-	-	750	1050
14	OFFICE	1	-	-	750	1050	-	-	750	1050
15	OFFICE	1	-	-	750	1050	-	-	750	1050
16	OFFICE	1	-	-	750	1050	-	-	750	1050
17	OFFICE	1	-	-	750	1050	-	-	750	1050
18	OFFICE	1	-	-	750	1050	-	-	750	1050
19	OFFICE	1	-	-	750	1050	-	-	750	1050
20	OFFICE	1	-	-	750	1050	-	-	750	1050
21	OFFICE	1	-	-	750	1050	-	-	750	1050
22	OFFICE	1	-	-	750	1050	-	-	750	1050
23	OFFICE	1	-	-	750	1050	-	-	750	1050
24	OFFICE	1	-	-	750	1050	-	-	750	1050
25	OFFICE	1	-	-	750	1050	-	-	750	1050
26	OFFICE	1	-	-	750	1050	-	-	750	1050
27	OFFICE	1	-	-	750	1050	-	-	750	1050
28	OFFICE	1	-	-	750	1050	-	-	750	1050
29	OFFICE	1	-	-	750	1050	-	-	750	1050
30	OFFICE	1	-	-	750	1050	-	-	750	1050
31	OFFICE	1	-	-	750	1050	-	-	750	1050
32	OFFICE	1	-	-	750	1050	-	-	750	1050
33	OFFICE	1	-	-	750	1050	-	-	750	1050
34	OFFICE	1	-	-	750	1050	-	-	750	1050
35	OFFICE	1	-	-	750	1050	-	-	750	1050
36	OFFICE	1	-	-	750	1050	-	-	750	1050
37	OFFICE	1	-	-	750	1050	-	-	750	1050
38	OFFICE	1	-	-	750	1050	-	-	750	1050
39	OFFICE	1	-	-	750	1050	-	-	750	1050
40	OFFICE	1	-	-	750	1050	-	-	750	1050
41	OFFICE	1	-	-	750	1050	-	-	750	1050
42	OFFICE	1	-	-	750	1050	-	-	750	1050
43	OFFICE	1	-	-	750	1050	-	-	750	1050
44	OFFICE	1	-	-	750	1050	-	-	750	1050
45	OFFICE	1	-	-	750	1050	-	-	750	1050
46	OFFICE	1	-	-	750	1050	-	-	750	1050
47	OFFICE	1	-	-	750	1050	-	-	750	1050
48	OFFICE	1	-	-	750	1050	-	-	750	1050
49	OFFICE	1	-	-	750	1050	-	-	750	1050
50	OFFICE	1	-	-	750	1050	-	-	750	1050

JOURNAL OF PERSONNEL RECORDS OF ESCAPE										
1/F	USE	CAPACITY	MIN. TOTAL WIDTH OF		REQUIRED		PROVIDED		MIN. WIDTH OF EACH	
			EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES		
1	OFFICE	1	-	-	750	1050	750	1050	750	1050
2	OFFICE	1	-	-	750	1050	750	1050	750	1050
3	OFFICE	1	-	-	750	1050	750	1050	750	1050
4	OFFICE	1	-	-	750	1050	750	1050	750	1050
5	OFFICE	1	-	-	750	1050	750	1050	750	1050
6	OFFICE	1	-	-	750	1050	750	1050	750	1050
7	OFFICE	1	-	-	750	1050	750	1050	750	1050
8	OFFICE	1	-	-	750	1050	750	1050	750	1050
9	OFFICE	1	-	-	750	1050	750	1050	750	1050
10	OFFICE	1	-	-	750	1050	750	1050	750	1050
11	OFFICE	1	-	-	750	1050	750	1050	750	1050
12	OFFICE	1	-	-	750	1050	750	1050	750	1050
13	OFFICE	1	-	-	750	1050	750	1050	750	1050
14	OFFICE	1	-	-	750	1050	750	1050	750	1050
15	OFFICE	1	-	-	750	1050	750	1050	750	1050
16	OFFICE	1	-	-	750	1050	750	1050	750	1050
17	OFFICE	1	-	-	750	1050	750	1050	750	1050
18	OFFICE	1	-	-	750	1050	750	1050	750	1050
19	OFFICE	1	-	-	750	1050	750	1050	750	1050
20	OFFICE	1	-	-	750	1050	750	1050	750	1050
21	OFFICE	1	-	-	750	1050	750	1050	750	1050
22	OFFICE	1	-	-	750	1050	750	1050	750	1050
23	OFFICE	1	-	-	750	1050	750	1050	750	1050
24	OFFICE	1	-	-	750	1050	750	1050	750	1050
25	OFFICE	1	-	-	750	1050	750	1050	750	1050
26	OFFICE	1	-	-	750	1050	750	1050	750	1050
27	OFFICE	1	-	-	750	1050	750	1050	750	1050
28	OFFICE	1	-	-	750	1050	750	1050	750	1050
29	OFFICE	1	-	-	750	1050	750	1050	750	1050
30	OFFICE	1	-	-	750	1050	750	1050	750	1050
31	OFFICE	1	-	-	750	1050	750	1050	750	1050
32	OFFICE	1	-	-	750	1050	750	1050	750	1050
33	OFFICE	1	-	-	750	1050	750	1050	750	1050
34	OFFICE	1	-	-	750	1050	750	1050	750	1050
35	OFFICE	1	-	-	750	1050	750	1050	750	1050
36	OFFICE	1	-	-	750	1050	750	1050	750	1050
37	OFFICE	1	-	-	750	1050	750	1050	750	1050
38	OFFICE	1	-	-	750	1050	750	1050	750	1050
39	OFFICE	1	-	-	750	1050	750	1050	750	1050
40	OFFICE	1	-	-	750	1050	750	1050	750	1050
41	OFFICE	1	-	-	750	1050	750	1050	750	1050
42	OFFICE	1	-	-	750	1050	750	1050	750	1050
43	OFFICE	1	-	-	750	1050	750	1050	750	1050
44	OFFICE	1	-	-	750	1050	750	1050	750	1050
45	OFFICE	1	-	-	750	1050	750	1050	750	1050
46	OFFICE	1	-	-	750	1050	750	1050	750	1050
47	OFFICE	1	-	-	750	1050	750	1050	750	1050
48	OFFICE	1	-	-	750	1050	750	1050	750	1050
49	OFFICE	1	-	-	750	1050	750	1050	750	1050
50	OFFICE	1	-	-	750	1050	750	1050	750	1050

2/F	USE	CAPACITY	SCHEDULE OF PERSONS FOR MEANS OF ESCAPE				MIN. WIDTH OF EACH			
			REQUIREMENT		PROVIDED		REQUIREMENT		PROVIDED	
			EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES	EXIT DOORS	EXIT ROUTES
24	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
25	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
26	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
27	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
28	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
29	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
30	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
31	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
32	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
33	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
34	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
35	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
36	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
37	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
38	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
39	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
40	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
41	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
42	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
43	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
44	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
45	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
46	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
47	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
48	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
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51	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
52	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
53	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
54	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
55	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
56	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
57	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
58	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
59	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
60	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
61	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
62	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
63	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
64	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
65	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
66	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
67	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
68	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
69	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
70	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
71	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
72	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
73	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
74	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
75	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
76	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
77	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
78	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
79	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
80	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
81	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
82	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
83	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
84	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
85	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
86	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
87	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
88	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
89	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
90	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
91	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
92	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
93	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
94	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
95	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
96	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
97	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
98	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
99	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050
100	OFFICE STORY	1	-	-	750	1050	750	1050	750	1050

DATA SYNCHRONIZATION SYSTEM

PRESENTATION

BD SUBMISSION

DATA SYNCHRONIZATION

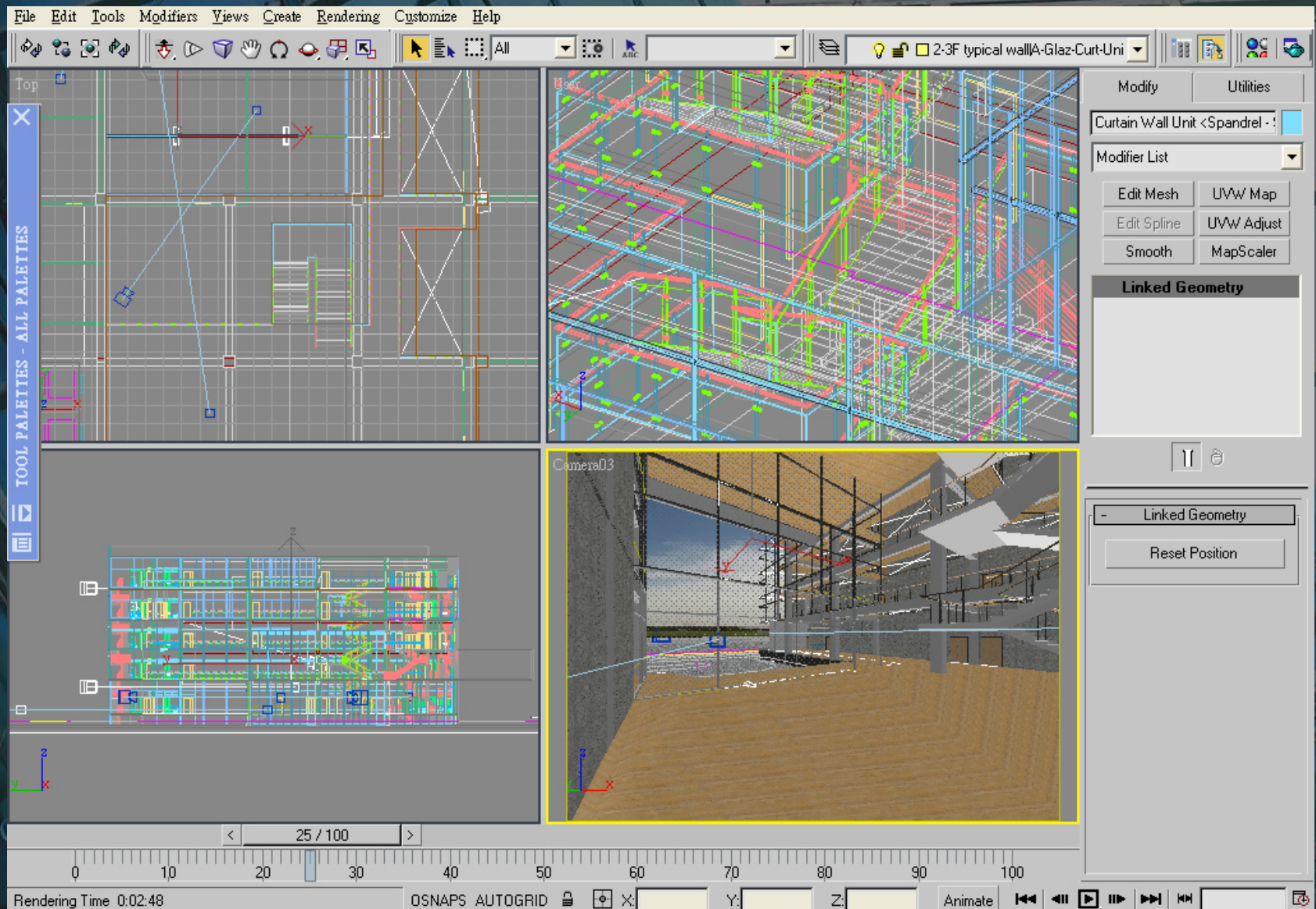
DETAIL

SPECIFICATION

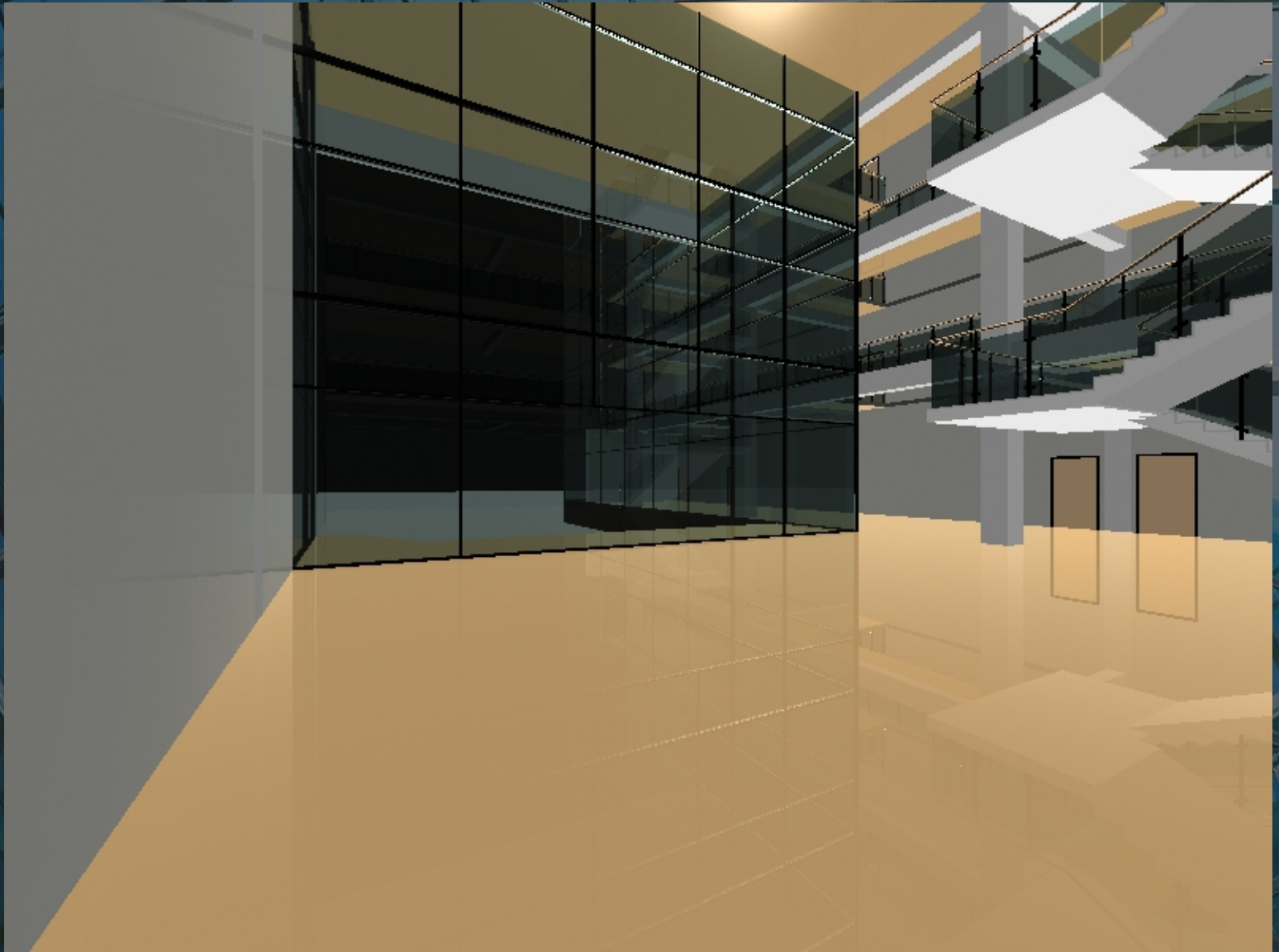


BIM Application in Hong Kong Context

VISUALIZATION

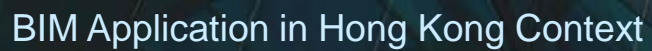


VISUALIZATION



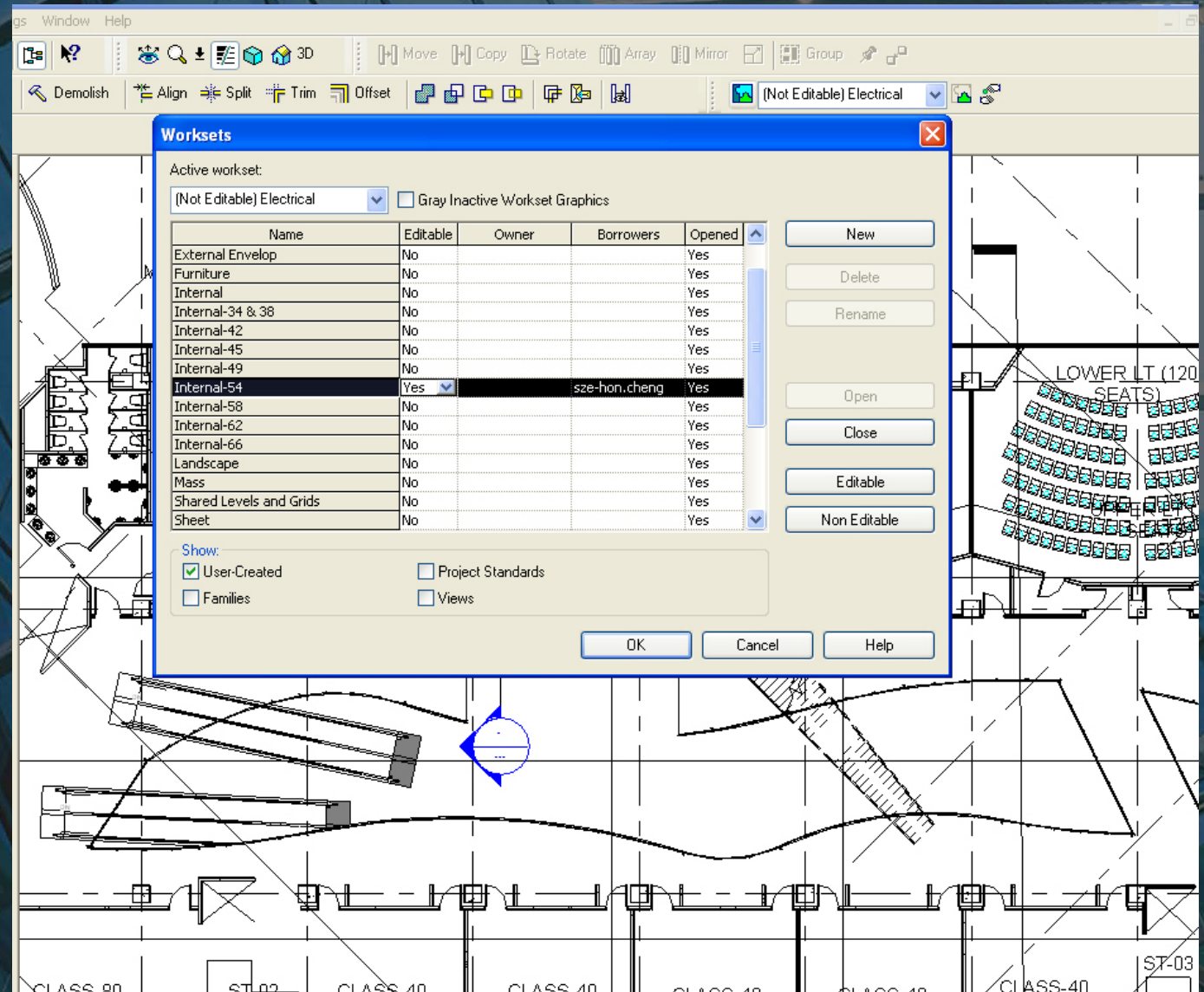
VISUALIZATION







WORK SETS – TEAM WORKING ENVIRONMENT



WORKING ENVIRONMENT



BIM Application in Hong Kong Context



Thank You...