A DVANCED
C ONSTRUCTION
I NFORMATION
D EVELOPMENT

BIM for GPB Statutory Submission using Revit & ACS

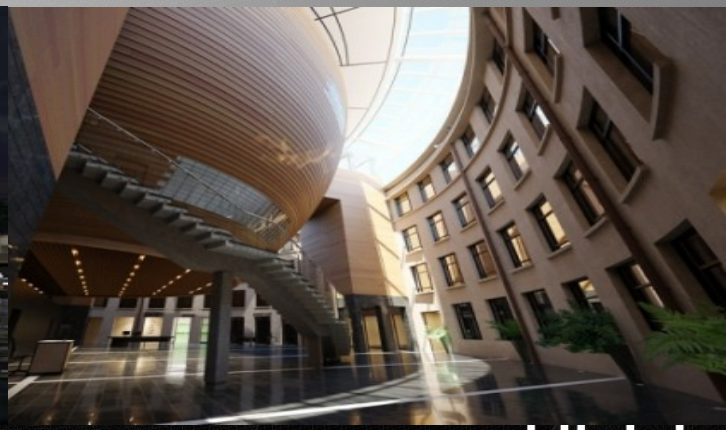
B	**= Building**	建築
I	**= Information**	資訊
M	**= Modelling**	模型/ 模擬

Fake BIM

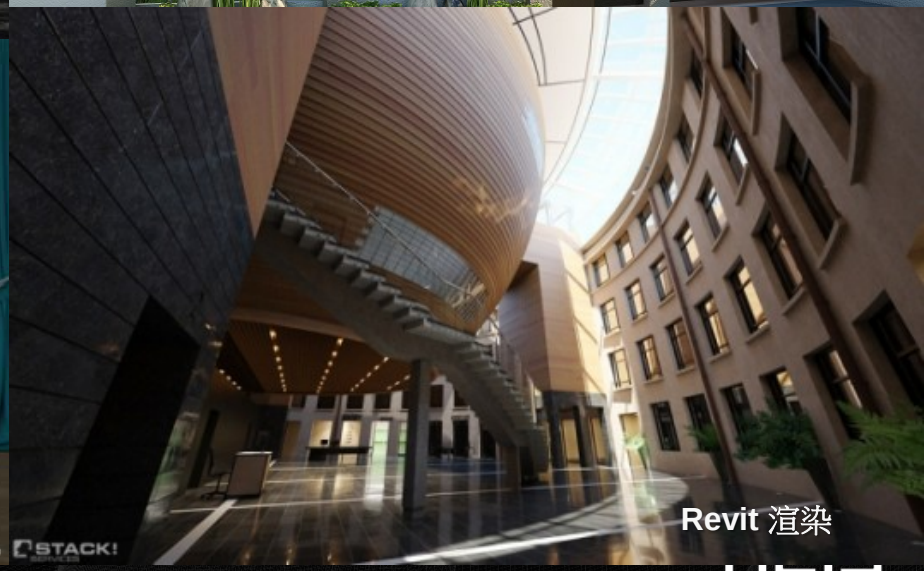
M + ?

JUST 3D MODEL – NOT BIM





Fake BIM



Fake BIM

- Rendering
- CG (Computer Graphic)
- Animations
- Interactive Gaming

Use BIM tools not necessarily means BIM!

HALF-BIM

I <> M

3D MODEL >> QTO , CLASH ANALYSIS

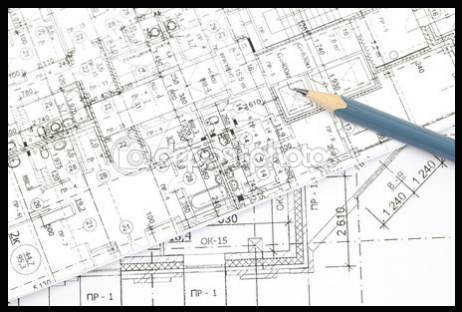
HALF BIM

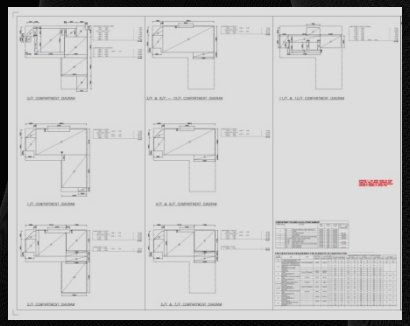
DESIGN

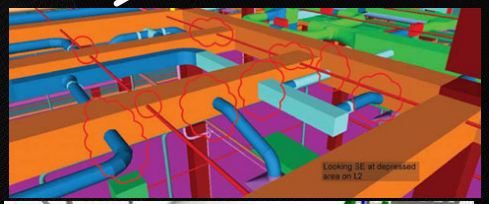
CAD

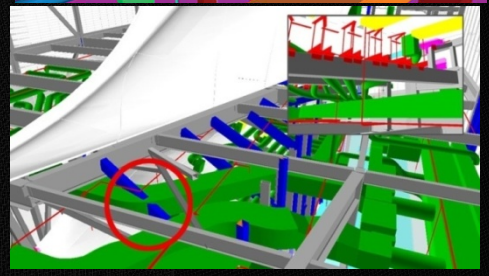
CAD

BIM







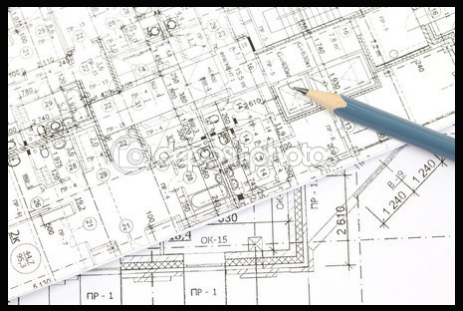


CONSTRUCTION INFORMATION

STATUTORY SUBMISSION

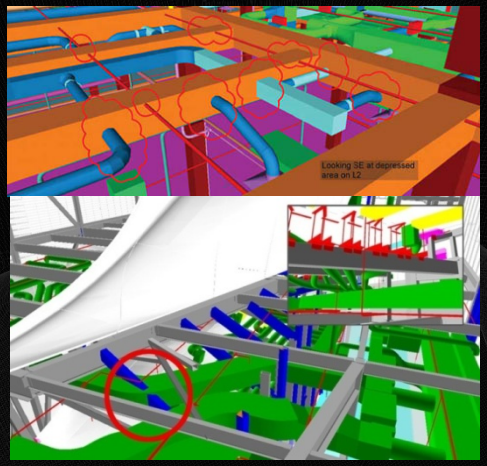
CLASH DETECTION

REAL BIM

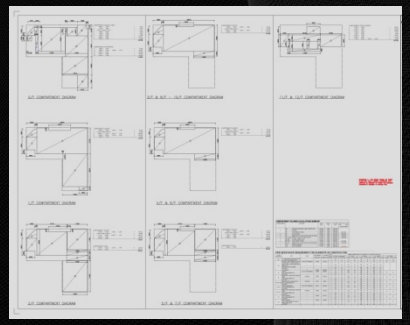


CONSTRUCTION
INFORMATOIN

DESIGN
in
BIM
Single Source Database



CLASH
DETECTION



STATUTORY
SUBMISSION

REAL BIM

I = M

I > M

INFORMATION FROM MODEL,

INFORMATION MORE IMPORTANT

GBP Submission

Purpose:

To demonstrate a development complies with statutory requirement and seek government approval

Applicable Development:

Applied to new building & alteration and addition works in Hong Kong

Content of Submission:

Plans, sections, elevations, calculations and other relevant documents

GBP Submission

Drawing - Presentation Style	General Notes/ FS Notes
	EVA
	Building Separation
	Plan/ Elevation/ Section
	Curtain Wall detail
	Colouring
	Existing/ New Works etc
Area based calculation	Plot ratio
	Site coverage
	Room capacity
	Width of escape route
	Fire compartment
	Fire resisting period
	Sanitary fitment provision etc.

COMMON WAY:

STEP 1: CALCULATE AREA

Outline area

COMMON WAY:

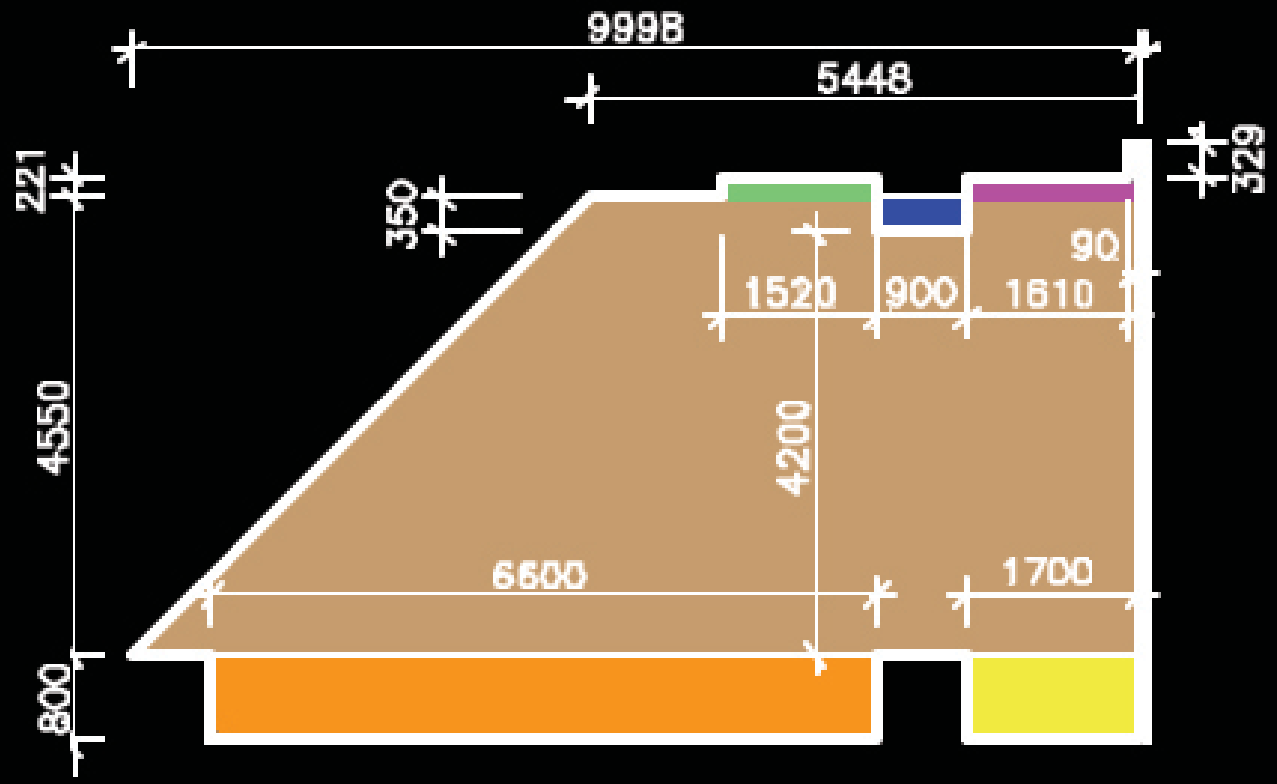
STEP 1: CALCULATE AREA

Subdivide area into simple geometry such as rectangle, triangle, circle, etc.

COMMON WAY:

STEP 1: CALCULATE AREA

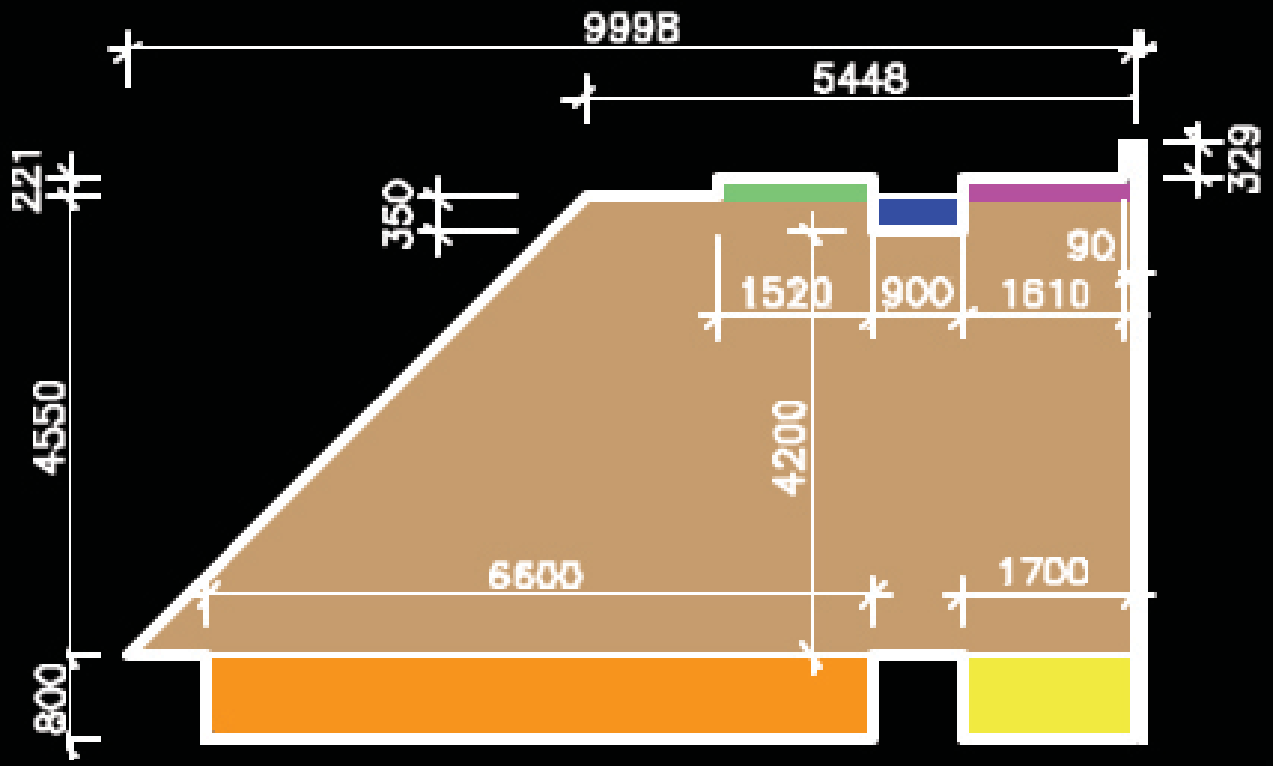
Measure dimension



COMMON WAY:

STEP 1: CALCULATE AREA

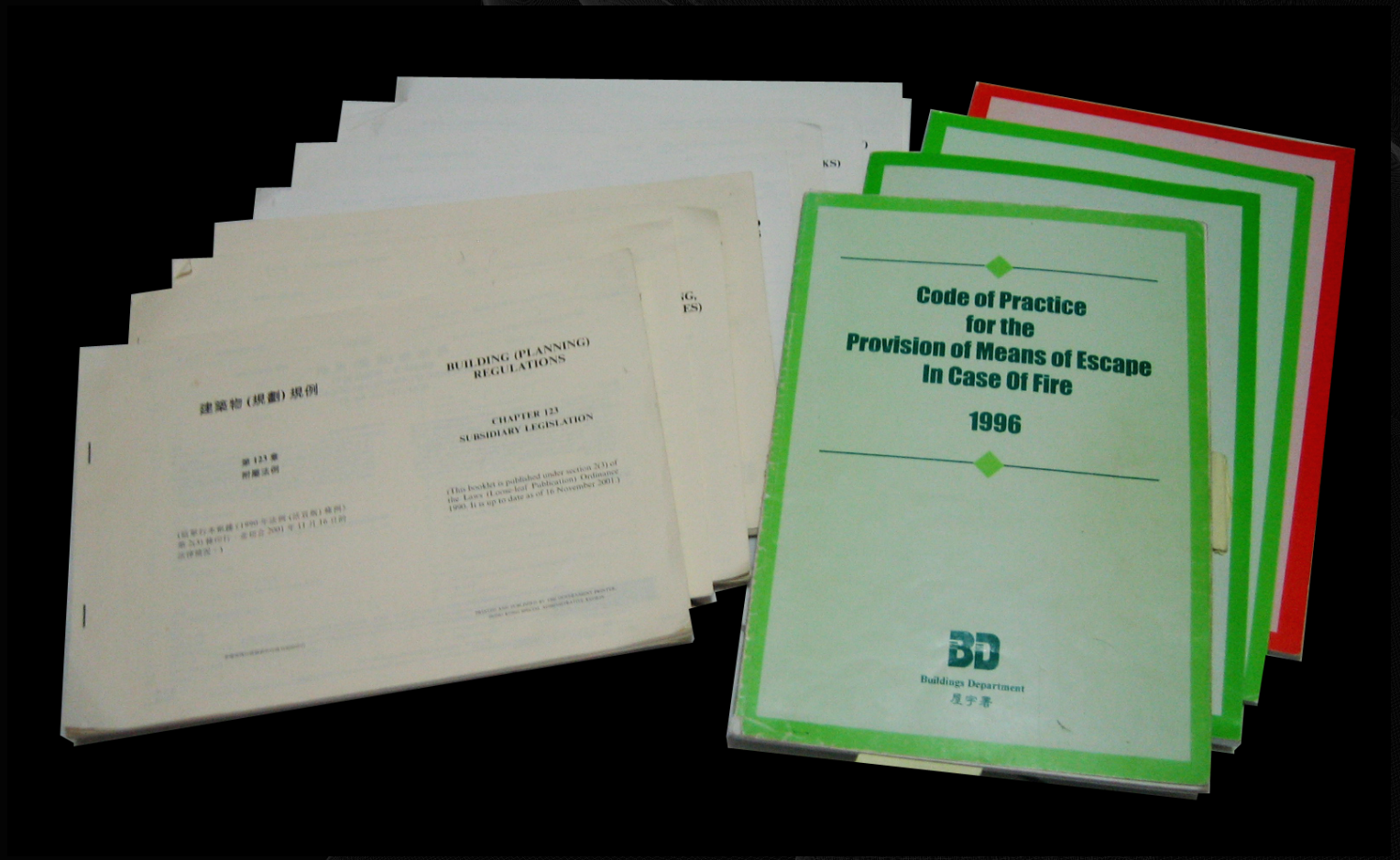
Calculate area by applying geometric formula



$$(5.448+9.998)x4.550/2 + 6.600x0.800 + 1.700x0.800 + 0.221x1.520 - 0.350x0.900 + 0.221x1.610 + 0.329x0.090 = 42.186$$

COMMON WAY:

STEP 2: CHECKING OF REGULATIONS & CODES



COMMON WAY:

STEP 2: CHECKING OF REGULATIONS & CODES

Height of building in metres	Domestic buildings						Non-domestic buildings					
	Percentage site coverage			Plot ratio			Percentage site coverage			Plot ratio		
	Class A site	Class B site	Class C site	Class A site	Class B site	Class C site	Class A site	Class B site	Class C site	Class A site	Class B site	Class C site
Not exceeding 15 m	66.6	75	80	3.3	3.75	4.0	100	100	100	5	5	5
Over 15 m but not exceeding 18 m	60	67	72	3.6	4.0	4.3	97.5	97.5	97.5	5.8	5.8	5.8
Over 18 m but not exceeding 21 m	56	62	67	3.9	4.3	4.7	95	95	95	6.7	6.7	6.7
Over 21 m but not exceeding 24 m	52	58	63	4.2	4.6	5.0	92	92	92	7.4	7.4	7.4
Over 24 m but not exceeding 27 m	49	55	59	4.4	4.9	5.3	89	90	90	8.0	8.1	8.1
Over 27 m but not exceeding 30 m	46	52	55	4.6	5.2	5.5	85	87	88	8.5	8.7	8.8
Over 30 m but not exceeding 36 m	42	47.5	50	5.0	5.7	6.0	80	82.5	85	9.5	9.9	10.2
Over 36 m but not exceeding 43 m	39	44	47	5.4	6.1	6.5	75	77.5	80	10.5	10.8	11.2
Over 43 m but not exceeding 49 m	37	41	44	5.9	6.5	7.0	69	72.5	75	11.0	11.6	12.0
Over 49 m but not exceeding 55 m	35	39	42	6.3	7.0	7.5	64	67.5	70	11.5	12.1	12.6
Over 55 m but not exceeding 61 m	34	38	41	6.8	7.6	8.0	60	62.5	65	12.2	12.5	13.0
Over 61 m	33.33	37.5	40	8.0	9.0	10.0	60	62.5	65	15	15	15

(L.N. 294 of 1976)

Table 1

Intended use of storey	Factor representing usable floor area in m^2 per person
(a) Assembly halls, auditoria and stadia without seating or with movable seating	0.5
(b) Areas accessible to the public in viewing galleries, banking halls, betting centres and places where public service counters are provided	0.5
(c) Dance halls (calculated on dancing area), disco and reception area for restaurant.	0.75
(d) Restaurants(calculated on dining area), dining area, lounges, committee rooms, conference rooms, meeting rooms, common rooms, function room and waiting rooms	1
(e) Kitchens attached to restaurants	4.5
(f) Museums, exhibition halls, trademarts and display areas	2
(g) Supermarkets, showrooms, jewellery and goldsmith shops, pawn shops and money changers.	2
(h) Shopping arcades, department stores and shopping areas	
- basement, G/F, 1/F & 2/F	3
- 3/F & above	4.5
(i) Offices	9
(j) Tenement houses, barracks, dormitories, and self-contained flats comprising a single room or having the main living area subdivided by rooms	3
(k) Self-contained flats with corridor or balcony access having five or more flats on each floor served by each staircase	4.5
(l) Flats not covered by (j) or (k)	9
(m) Flatted factories	4.5
(n) Warehouses, godowns and storage areas	30
(o) Classrooms of school not covered by Education Ordinance and other lecture rooms, library, and study rooms	2

Table 2

Table showing minimum number of exit doors from a room, or exit routes from a storey, and required minimum width thereof

Capacity of room or storey	Min. No. of exit doors (from room) or exit routes (from storey)	Min. Total Width of		Min. Width of each	
		exit doors	exit routes	exit door	exit route
4 - 30	1			750 mm	1050 mm
31 - 200	2	1750 mm	2100 mm	850 mm	1050 mm
201 - 300	2	2500 mm	2500 mm	1050 mm	1050 mm
301 - 500	2	3000 mm	3000 mm	1050 mm	1050 mm
501 - 750	3	4500 mm	4500 mm	1200 mm	1200 mm
751 - 1000	4	6000 mm	6000 mm	1200 mm	1200 mm
1001 - 1250	5	7500 mm	7500 mm	1350 mm	1350 mm
1251 - 1500	6	9000 mm	9000 mm	1350 mm	1350 mm
over 1500	7 or such greater number as the Building Authority may require	to be calculated at the rate of 300mm per 50 persons		1500 mm	1500 mm

-22-

Table 5 : Discharge Value of a Staircase in a Non-sprinklered Building

No. of Storey served	Width of Staircase						
	1050mm but under 1200mm	1200mm but under 1350mm	1350mm but under 1500mm	1500mm but under 1600mm	1600mm but under 1700mm	1700mm but under 1800mm	1800mm but under 1900mm
1	210	240	270	300	320	340	360
2	242	278	315	351	377	402	428
3	274	316	360	402	434	464	496
4	306	354	405	453	491	526	564
5	338	392	450	504	548	588	632
6	370	430	495	555	605	650	700
7	402	468	540	606	662	712	768
8	434	506	585	657	719	774	836
9	466	544	630	708	776	836	904
10	498	582	675	759	833	898	972
Each additional storey add	32	38	45	51	57	62	68

TABLE A

WALLS CONSTRUCTED WHOLLY OF NON-COMBUSTIBLE MATERIALS

Construction and Materials	Minimum thickness in mm (excluding plaster) for period of		
	4 hrs.	2 hrs.	1 hr.
SOLID CONSTRUCTION			
Solid bricks of clay, concrete or sand lime without plaster	225	225*	100
Reinforced concrete -			
(a) containing not less than 1 per cent of vertical reinforcement	180	100	75
Concrete cover to main reinforcement	25	25	15
(b) containing less than 1 per cent of vertical reinforcement	240	160	120
Concrete cover to main reinforcement	25	25	25
HOLLOW BLOCK CONSTRUCTION			
Clay blocks (outer web not less than 13 mm thick) of 2 cells not less than 50 per cent solid finished with 13 mm gypsum plaster on each side		100	100
Concrete blocks of one cell in wall thickness not less than 50 per cent solid finished with 13 mm gypsum plaster on each side			190

* Where finished with 13 mm gypsum plaster on each side, the thickness may be reduced to 100 mm.

COMMON WAY:
HOW LONG DOES IT TAKE?

Previous Submission Involves

~1200 dimensions

~1700 mathematical operations

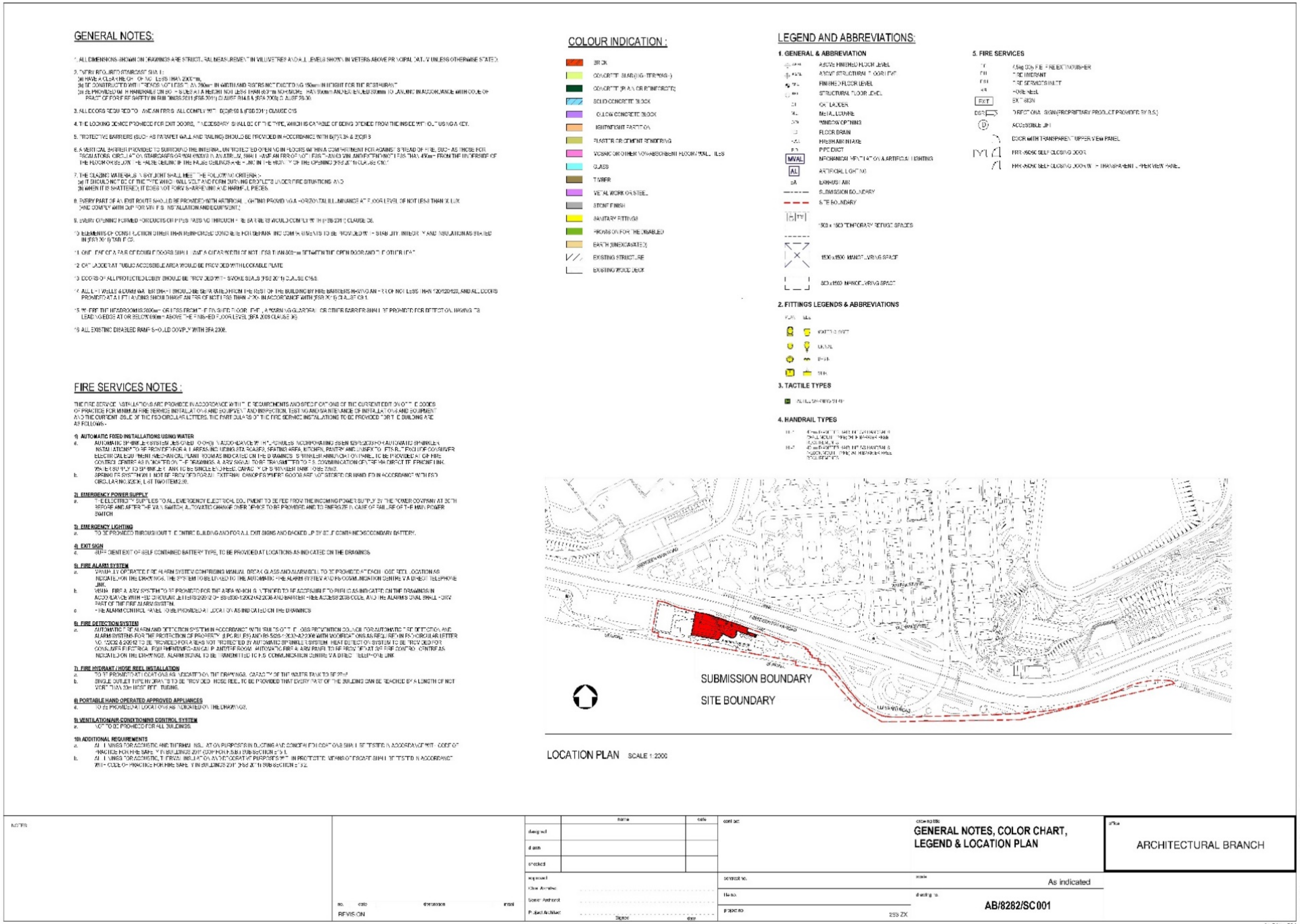
~1000 statutory checking

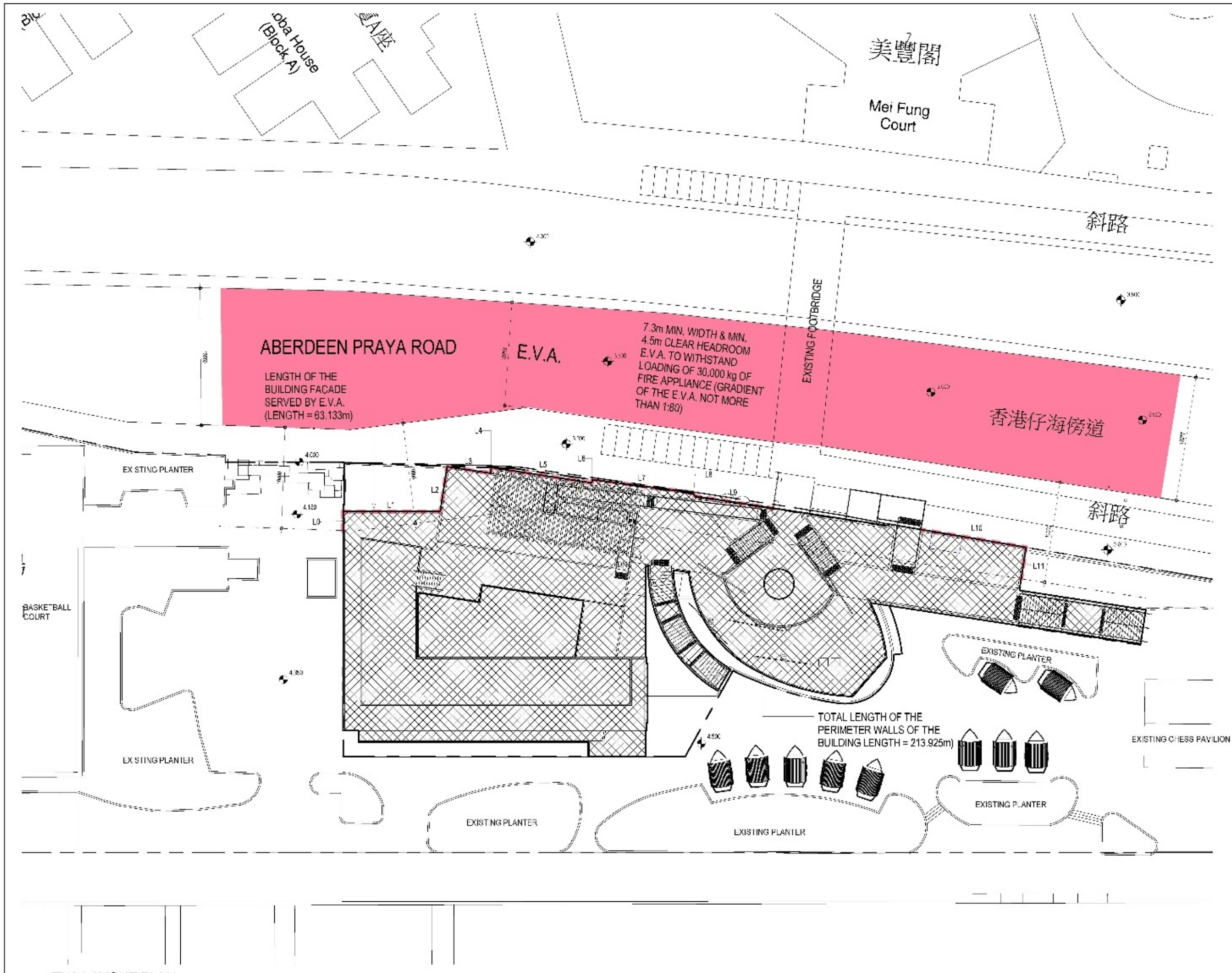
~5000 data input

Require 2 weeks to complete

a step by step calculation: any change in layout will affect the calculation significantly

Takes another 1 week in average for every amendment submission

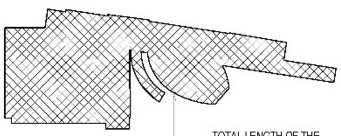

GENERAL NOTES:
1. ALL DIMENSIONS SHOWN ON DRAWINGS ARE STRUCTURAL MEASUREMENT IN MILLIMETRES AND ALL LEVELS SHOWN IN METERS ABOVE PRINCIPAL DATUM UNLESS OTHERWISE STATED.
4. THE LOCKING DEVICE PROVIDED FOR EXIT DOORS, IF NECESSARY, SHALL BE OF THE TYPE, WHICH IS CAPABLE OF BEING OPENED FROM THE INSIDE WITHOUT USING A KEY.
7. THE GLAZING MATERIALS IN SKYLIGHT SHALL MEET THE FOLLOWING CRITERIA :-
12. CAT LADDER AT PUBLIC ACCESSIBLE AREA WOULD BE PROVIDED WITH LOCKABLE PLATE
FIRE SERVICES NOTES :
COLOUR INDICATION :
LEGEND AND ABBREVIATIONS:
1. GENERAL & ABBREVIATION
5. FIRE SERVICES
2. FITTINGS LEGENDS & ABBREVIATIONS
3. TACTILE TYPES
4. HANDRAIL TYPES
SUBMISSION BOUNDARY
SITE BOUNDARY
LOCATION PLAN SCALE 1:2200
GENERAL NOTES, COLOR CHART, LEGEND & LOCATION PLAN
ARCHITECTURAL BRANCH
As indicated
AB/8282/SC001
REVISION



EVA LAYOUT PLAN

1 : 200

TOTAL LENGTH OF THE PERIMETER OF THE BUILDING LENGTH



TOTAL LENGTH OF THE PERIMETER OF THE BUILDING LENGTH = 213.925m

LENGTH OF MAJOR BUILDING FACADE SEVRED BY E.V.A.	
BUILDING FACADE LENGTH NO.	BUILDING FACADE LENGTH (mm)
L0	1877
L1	9608
L2	4515
L3	4336
L4	576
L5	10044
L6	340
L7	9990
L8	425
L9	7811
L10	10544
L11	3067
TOTAL	63133

CALCULATION OF MAJOR FACADE SERVED BY EVA

TOTAL LENGTH OF PERIMETER OF THE BUILDING (BY COMPUTER)
= 213.925m

TOTAL LENGTH OF THE BUILDING FACADE SERVED BY EVA
= 63.133m

PERCENTAGE OF PERIMETER WALL OF BUILDING SERVED BY THE EVA
(63.133 / 213.925) x 100% = 29.51% > 25%

NOTES:

- SUBMISSION BOUNDARY
- LENGTH OF THE BUILDING FACADE SERVED BY E.V.A.
- LINE OFFSET 10m FROM E.V.A.
- ROAD FOR EMERGENCY VEHICULAR ACCESS (E.V.A.)

REVISION

EVA PLAN

ARCHITECTURAL BRANCH

scale: As indicated

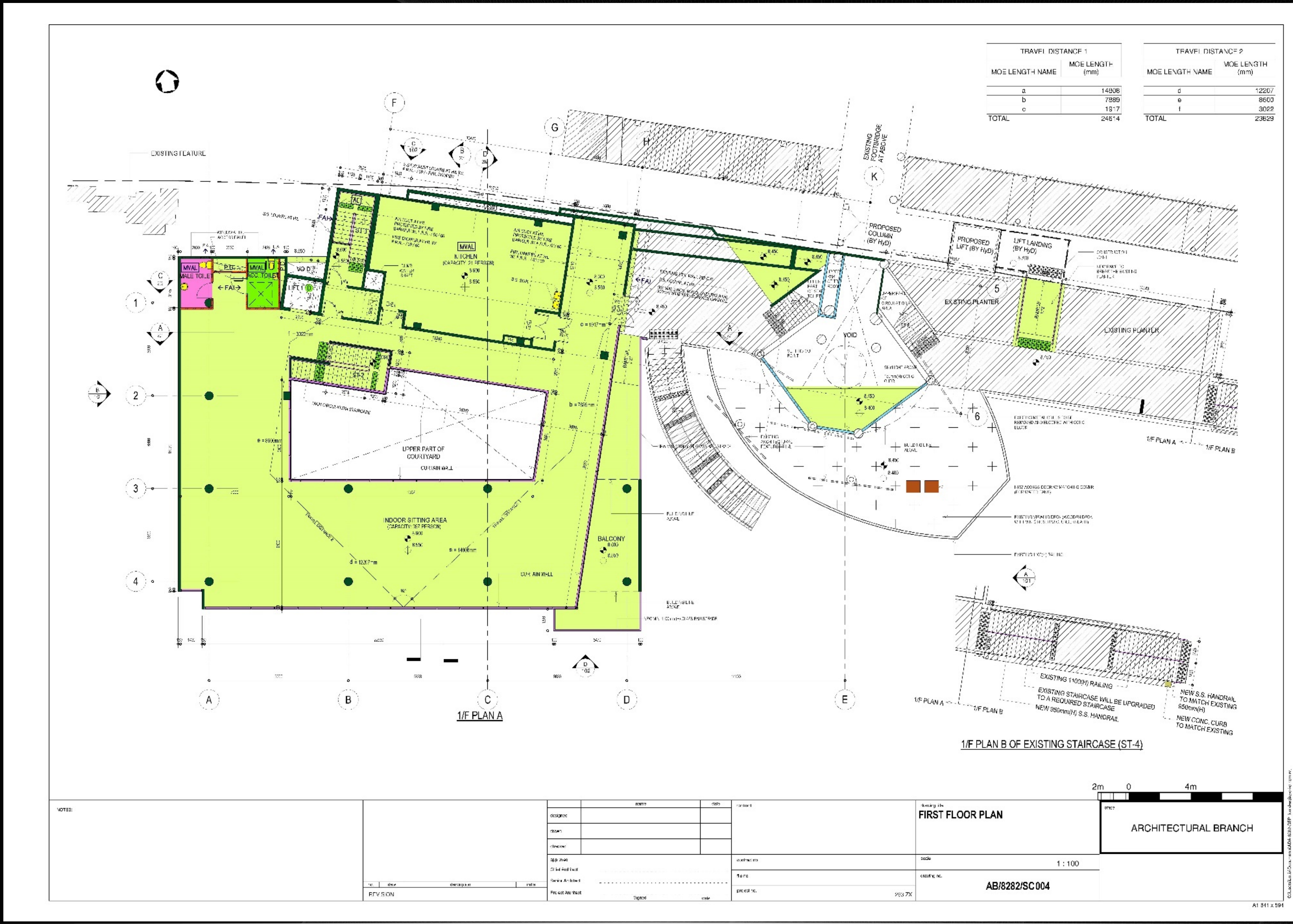
drawing no.: AB/8282/SC002

A1 841 x 594

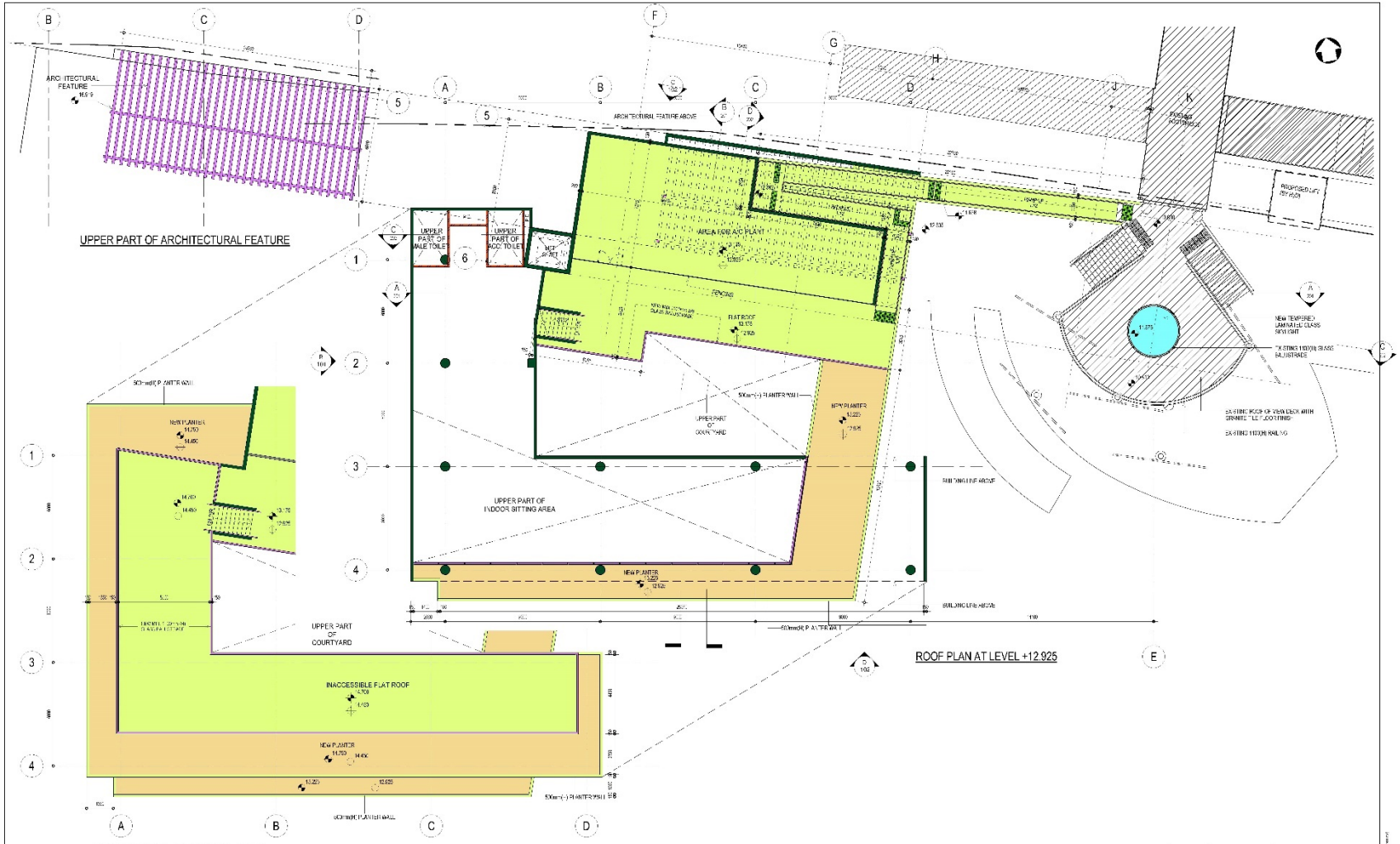
		drawing title: GROUND FLOOR PLAN	client: ARCHITECTURAL BRANCH
		scale: 1 : 100	
		drawing no.: AB/8282/SC003	

REVISION

A1 841 x 594



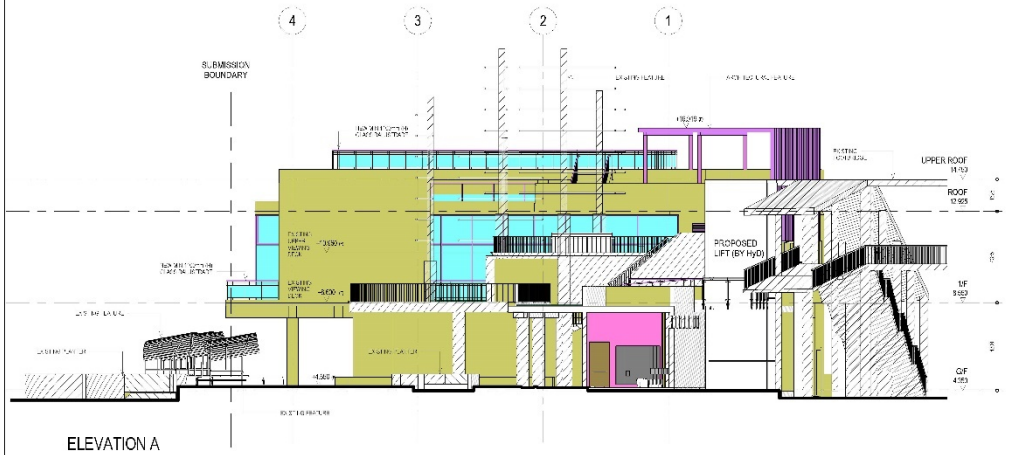
TRAVEL DISTANCE 1
MOE LENGTH NAME | MOE LENGTH (mm)
a 14808
b 7889
c 1917
TOTAL 24614
TRAVEL DISTANCE 2
MOE LENGTH NAME | MOE LENGTH (mm)
d 12207
e 8600
f 3022
TOTAL 23829
EXISTING FEATURE
EXISTING FOOTBRIDGE AT ABOVE
PROPOSED COLUMN (BY HyD)
PROPOSED LIFT (BY HyD)
LIFT LANDING (BY HyD)
EXISTING PLANTER
MVAL
MALE TOILET
ACC. TOILET
LIFT 1
KITCHEN (CAPACITY: 21 PERSON)
ST-1
ST-2
ST-3
ST-4
VOID
UPPER PART OF COURTYARD
CURTAIN WALL
INDOOR SITTING AREA (CAPACITY: 397 PERSON)
BALCONY
e = 8600mm
d = 12207mm
a = 14808mm
b = 7889mm
c = 1917mm
f = 3022mm
1/F PLAN A
1/F PLAN B
EXISTING 1100(H) RAILING
EXISTING STAIRCASE WILL BE UPGRADED TO A REQUIRED STAIRCASE
NEW 950mm(H) S.S. HANDRAIL
NEW S.S. HANDRAIL TO MATCH EXISTING 850mm(H)
NEW CONC. CURB TO MATCH EXISTING
1/F PLAN B OF EXISTING STAIRCASE (ST-4)
2m 0 4m
NOTES:
REVISION
designed
drawn
checked
approved
Chief Architect
Senior Architect
Project Architect
contract no.
drawing title
FIRST FLOOR PLAN
scale
1 : 100
drawing no.
AB/8282/SC004
ARCHITECTURAL BRANCH
A1 841 x 594



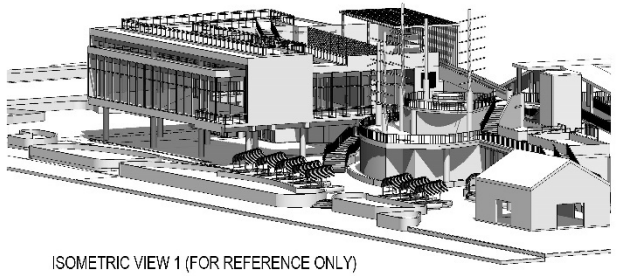
drawing title: ROOF AND UPPER ROOF FLOOR PLAN		client: ARCHITECTURAL BRANCH	
designed			
drawn			
checked			
approved		scale: 1 : 100	
drawing no.: AB/8282/SC005			

REVISION

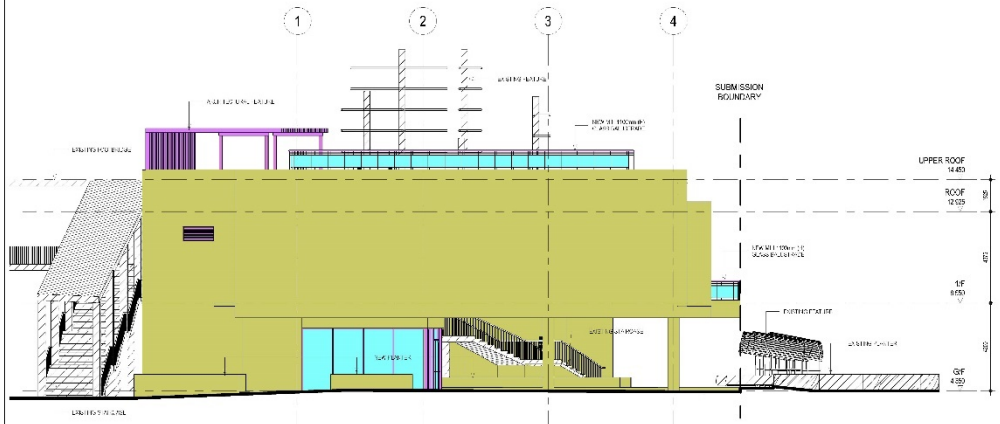
A1 841 x 594



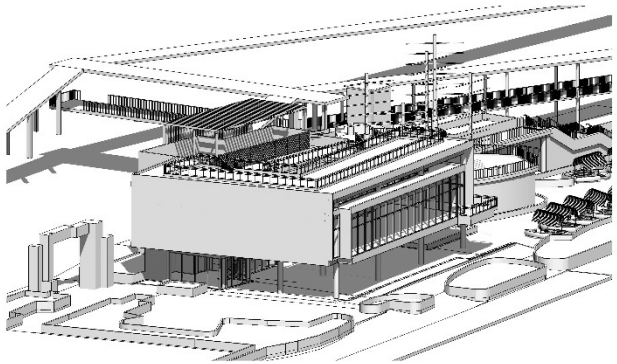
ELEVATION A
1 : 100



ISOMETRIC VIEW 1 (FOR REFERENCE ONLY)



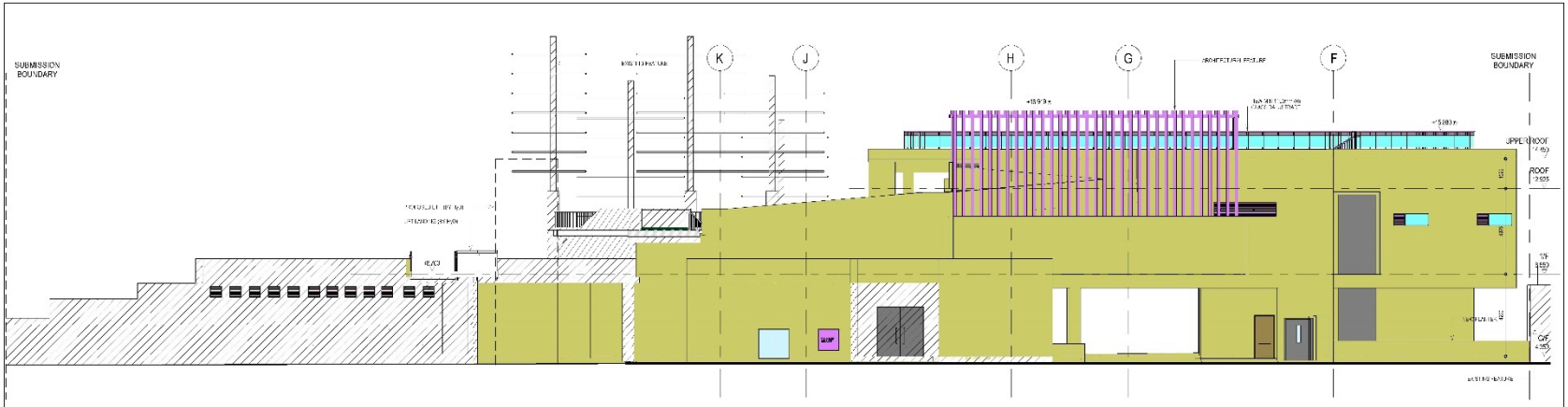
ELEVATION B
1 : 100



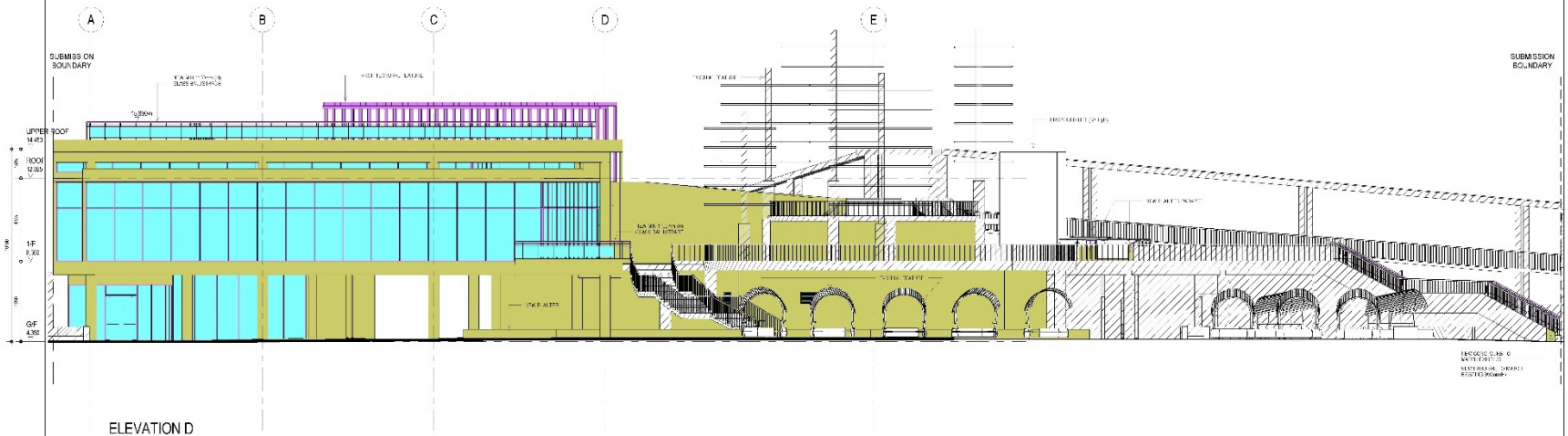
ISOMETRIC VIEW 2 (FOR REFERENCE ONLY)

		drawing title: ELEVATIONS (SHEET 1 OF 2)	client: ARCHITECTURAL BRANCH
		scale: 1 : 100	
		drawing no.: AB/8282/SC101	

A1 841 x 594



ELEVATION C
1 : 100



ELEVATION D
1 : 100

NOTES

REVISION

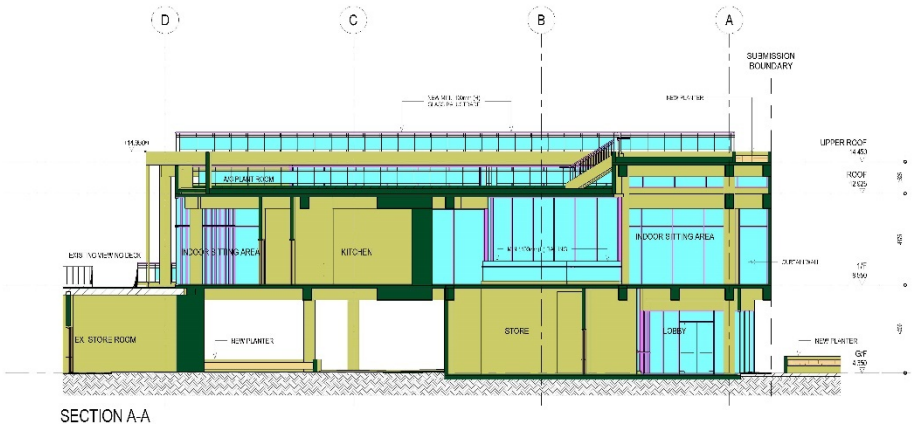
ELEVATIONS (SHEET 2 OF 2)

ARCHITECTURAL BRANCH

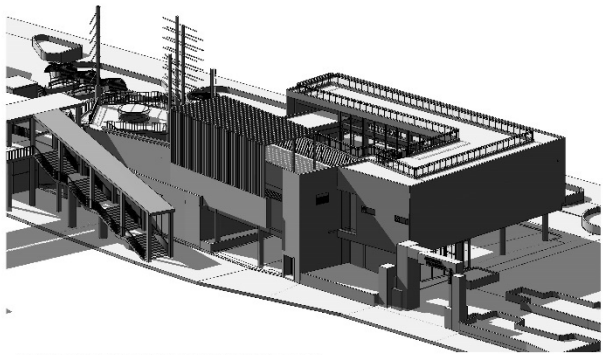
1 : 100

AB/8282/SC102

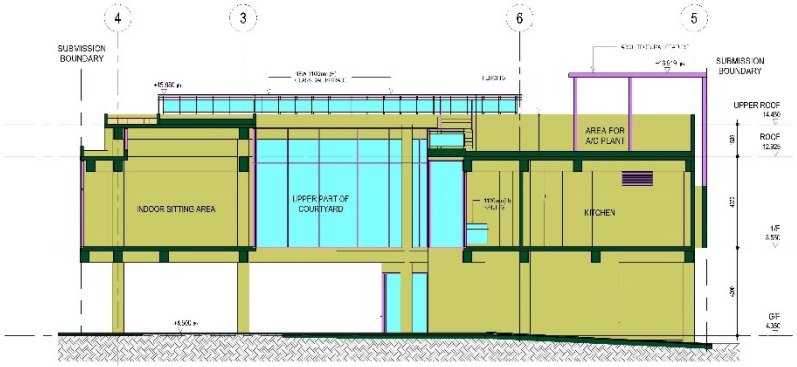
A1 841 x 594



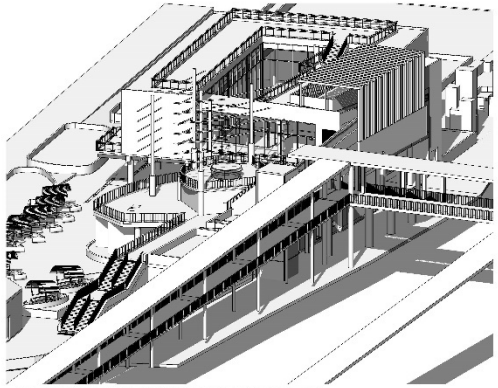
SECTION A-A
1 : 100



ISOMETRIC VIEW 3 (FOR REFERENCE ONLY)



CROSS SECTION B-B
1 : 100



ISOMETRIC VIEW 4 (FOR REFERENCE ONLY)

NOTES:
1. ISOMETRIC VIEW FOR REFERENCE ONLY.

REVISION

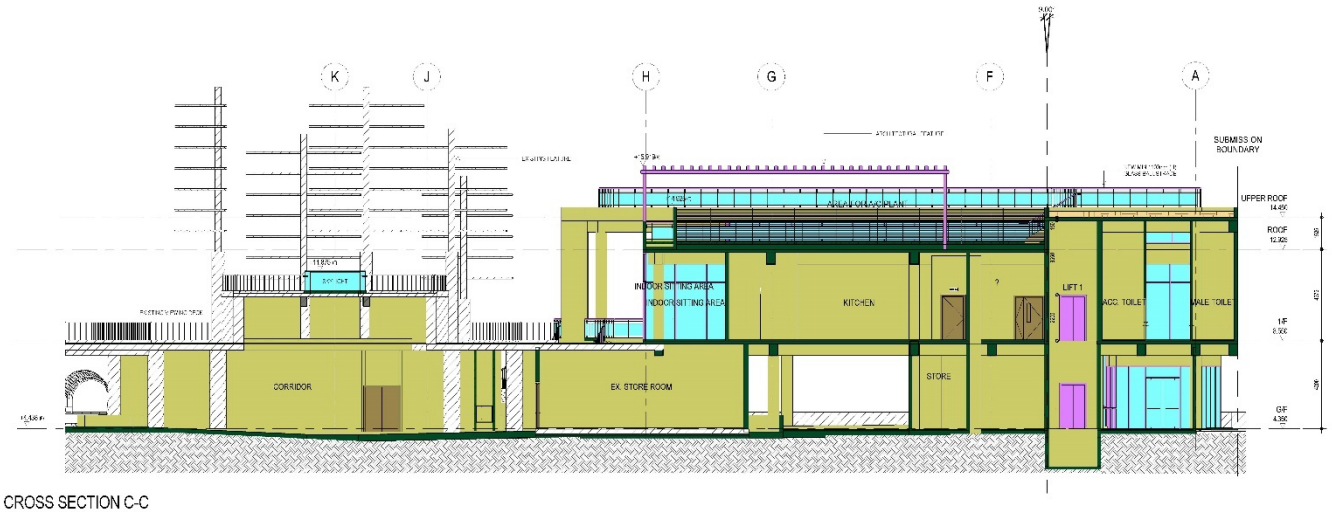
SECTIONS (SHEET 1 OF 2)

ARCHITECTURAL BRANCH

1 : 100

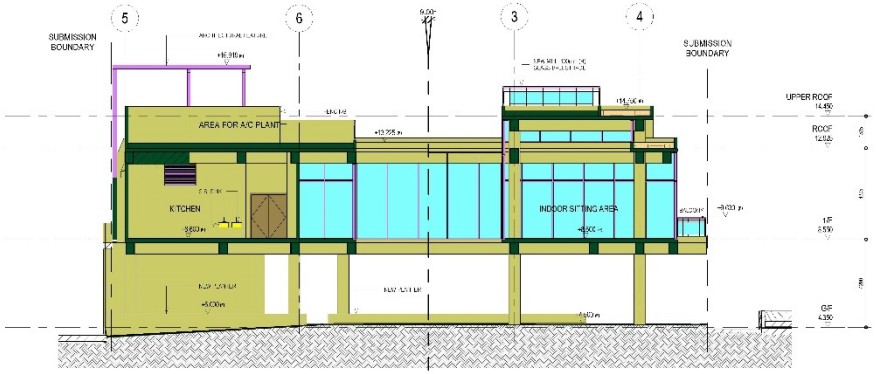
AB/8282/SC201

A1 841 x 594



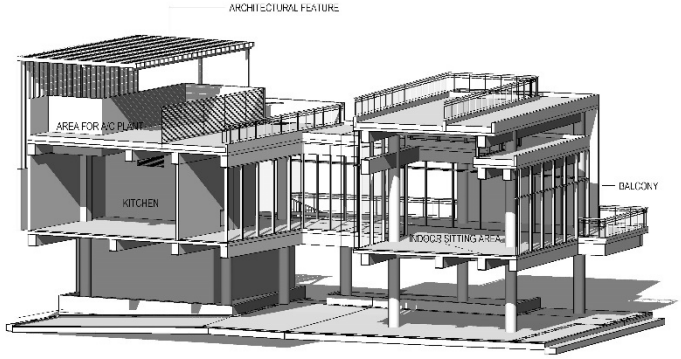
CROSS SECTION C-C

1 : 100



CROSS SECTION D-D

1 : 100

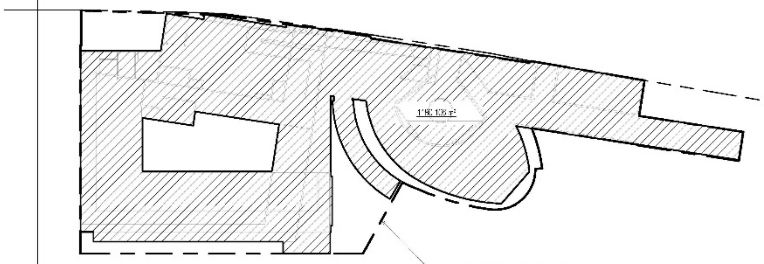


CROSS SECTION D-D WITH ISOMETRIC VIEW (FOR REFERENCE ONLY)

drawing title: SECTIONS (SHEET 2 OF 2)	client: ARCHITECTURAL BRANCH		
scale: 1 : 100	drawing no.: AB/8282/SC202		

A1 841 x 594

SITE COVERAGE DIAGRAM (FOR SUBMISSION BOUNDARY)

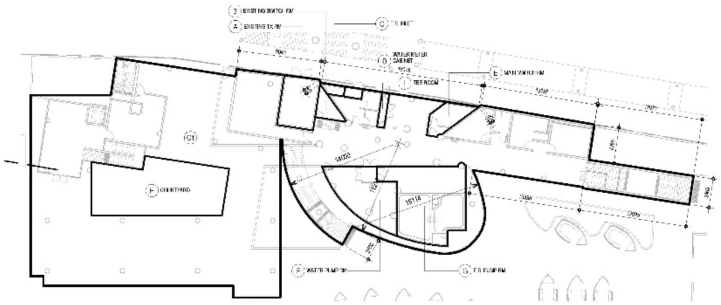


PLOT RATIO AND PERSENTAGE OF SITE COVERAGE

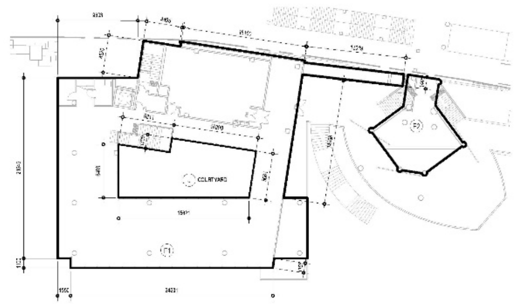
CLASS OF SITE	=A
SITE AREA (SQ.M)	=1471.200
MEAN STREET LEVEL:	= (3.800 + 3.600) / 2 = 3.700mPD
ROOF LEVEL:	= (+14.450mPD)
BUILDING HEIGHT (M):	=10.75 mPD
PERMITTED NON-DOMESTIC SITE COVERAGE (%)	=100
PERMITTED NON-DOMESTIC PLOT RATIO	=5
PROPOSED SITE COVERAGE (SQ.M)	=1180.108
PROPOSED SITE COVERAGE IN %	=1180.108/1471.200x100 =80.214<100 (PROVIDED) < (PERMITTED)
PROPOSED NON-DOMESTIC GFA (SQ.M):	=2131.173
PROPOSED NON-DOMESTIC PLOT RATIO	=2131.173/1471.200 =1.449<5 (PROVIDED) < (PERMITTED)

GROSS FLOOR AREA CALCULATION

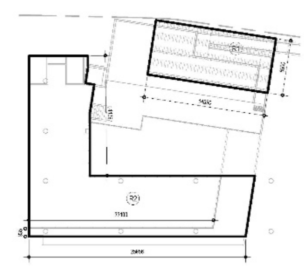
GROSS FLOOR AREA DIAGRAM OF GROUND FLOOR



GROSS FLOOR AREA DIAGRAM OF FIRST FLOOR



GROSS FLOOR AREA DIAGRAM OF ROOF FLOOR



GFA

ID	AREA (SQ.M)	TOTAL AREA (SQ.M)
G/F		
G1	1309.052	1309.052
		1309.052
1/F		
F1	735.243	735.243
F2	73.024	73.024
		808.257
ROOF		
R1	96.03	96.03
R2	297.212	297.212
		393.242
TOTAL		2510.551

SCHEDULE OF AREA TO BE DEDUCTED FROM GFA

ID	Name	AREA (SQ.M)	TOTAL AREA (SQ.M)
G/F			
A	EXISTING TX RM	26.747	26.747
B	EXISTING SWITCH RM	7.513	7.513
C	F.S. INLET	3.104	3.104
D	WATER METER CABINET	2.58	2.58
E	MAIN SWITCH RM	13.414	13.414
F	WATER PUMP RM	45.618	45.618
G	F.S. PUMP RM	77.046	77.046
H	COURTYARD	99.855	99.855
L	TBE ROOM	3.557	3.557
		SUB-TOTAL	279.553
1/F			
J	COURTYARD	99.855	99.855
		SUB-TOTAL	99.855
TOTAL			379.358

PROPOSED GFA = 2510.581 - 379.358
= 2131.173(SQ.M)

NOTES

no.	date	description	initial

REVISION

	name	date
designed		
drawn		
checked		

approved
Chief Architect
Senior Architect
Project Architect
signed date

contract
contract no.
file no.
project no. 293 ZX

drawing title
GFA CALCULATION, PLOT RETIO & SITE COVERAGE

scale 1 : 250

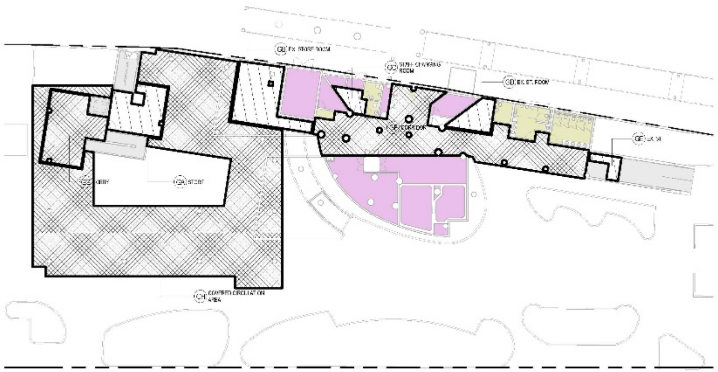
drawing no. **AB/8282/SC 301**

office
ARCHITECTURAL BRANCH

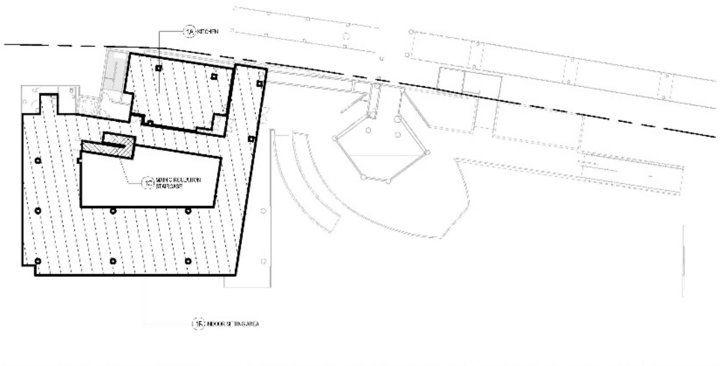
A1 841 x 594

U.F.A. CALCULATION FOR EXIT DOORS & EXIT ROUTES

G/F UFA DIAGRAM



1/F UFA DIAGRAM



UFA

- Circulation
- CIRCULATION AREA
- COUNTABLE UFA

U.F.A. CALCULATION FOR GROUND AND FIRST FLOOR

SCHEDULE OF UFA

ID	ROOM NAME	AREA (SQ.M)
GA	STORE	32.910
GB	EX. STORE ROOM	44.168
GC	STAFF CHANGING ROOM	7.693
GD	EX. ST. ROOM	14.499
GE	EX. ST.	6.229
	SUB-TOTAL:	105.519
1A	KITCHEN	90.505
1B	INDOOR SITTING AREA	396.831
	SUB-TOTAL:	487.336
TOTAL		592.855

U.F.S. CALCULATION FOR GROUND AND FIRST FLOOR

SCHEDULE OF UFS

ID	ROOM NAME	AREA (SQ.M)
GA	STORE	32.91
GB	EX. STORE ROOM	44.108
GC	STAFF CHANGING ROOM	7.693
GD	EX. ST. ROOM	14.499
GE	EX. ST.	6.229
GF	CORRIDOR	147.26
GG	LOBBY	48.145
GH	COVERED CIRCULATION AREA	485.535
	SUB-TOTAL	786.45
1A	KITCHEN	90.505
1B	INDOOR SITTING AREA	396.831
1C	MAIN CIRCULATION STAIRCASE	13.834
	SUB-TOTAL	501.17
TOTAL		1287.65

THE TOTAL AREA OF U.F.S. IS 1287.827 SQ.M LESS THAN 3960 SQ.M FOR NON-DOMESTIC BUILDING. HENCE, THE REFUSE CHAMBER CAN BE UNPROVIDED.

SCHEDULE OF EXIT DOORS AND EXIT ROUTES

ID	LOCATION (ROOM / AREA)	USABLE FLOOR AREA (SQ.M)	OCCUPANCY DENSITY	OCCUPANCY CAPACITY OF ROOM / STOREY	MIN. NO. OF EXIT ROUTES / DOORS REQ'D	MIN. NO. OF EXIT ROUTES / DOORS PRO'D	MIN. TOTAL (mm) WIDTH OF EXIT DOORS REQ'D	MIN. TOTAL (mm) WIDTH OF EXIT DOORS PRO'D	MIN. TOTAL (mm) WIDTH OF EXIT ROUTES REQ'D	MIN. TOTAL (mm) WIDTH OF EXIT ROUTES PRO'D	MIN. WIDTH OF EACH EXIT DOOR REQ'D	MIN. WIDTH OF EACH EXIT DOOR PRO'D	MIN. WIDTH OF EACH EXIT ROUTE REQ'D	MIN. WIDTH OF EACH EXIT ROUTE PRO'D
G/F														
GA	STORE	32.91	30	2	1	1	-	900	-	TO OPEN SPACE	-	900	-	TO OPEN SPACE
GB	EX. STORE ROOM	44.188	30	2	1	1		900	-	TO OPEN SPACE	-	900	-	TO OPEN SPACE
GC	STAFF CHANGING ROOM	7.693	9	1	1	1	-	900	-	TO OPEN SPACE	-	900	-	TO OPEN SPACE
GD	EX. ST. ROOM	14.499	30	1	1	1	-	900	-	TO OPEN SPACE	-	900	-	TO OPEN SPACE
GE	EX. ST.	6.229	30	1	1	1		900	-	TO OPEN SPACE	-	900	-	TO OPEN SPACE
	SUB-TOTAL:	105.519		7										
1/F														
1A	KITCHEN	90.505	4.5	21	1	2	-	2550	-	2550	750	1050 / 1575	1050	STAIR NO.3 - 1050mm WIDE
1B	INDOOR SITTING AREA	396.831	1	397	2	2	3000	3000	3000	3000	1050	1200 / 1800	1050	STAIR NO.4 - 1575mm WIDE
	SUB-TOTAL:	487.336		418										
TOTAL		592.855		425										

SCHEDULE OF DISCHARGE VALUE

STAIR NO.	DISCHARGE VALUE OF STAIRCASE IN A SPRINKLERED BUILDING: WIDTH OF STAIRCASE (mm)	PERMITTED	TOTAL NO. OF FLOOR SERVED ABOVE G/F
ST-1	1125	420	1
ST-4	1680	640	1

TOTAL PERMITTED DISCHARGE VALUE = 420 + 640 = 1060

TOTAL ACTUAL DISCHARGE VALUE = 425

TOTAL : 1060 > 425

SCHEDULE OF SANITARY FITMENTS PROVISIONS FOR PUBLIC / FOR STAFF

LOCATION	ROOM / AREA	USE OF CLASSIFICATION	AREA (SQ.M)	FACTOR	MALE / FEMALE RATIO	Capacity of Room (Person)	CAPACITY: CAPACITY OF ROOM (PERSON)	CAPACITY: M.	CAPACITY: F.	W.C. M. REQ'D	W.C. M. PRO'D	W.C. F. REQ'D	W.C. F. PRO'D	BASIN M. REQ'D	BASIN M. PRO'D	BASIN F. REQ'D	BASIN F. PRO'D	URINAL REQ'D	URINAL PRO'D	ACCESSIBLE UNISEX TOILET
1/F	INDOOR SITTING AREA	Class 4c restaurants	396.831	1.5	1:1	265	400	200	200	2	2	4	6	4	5	4	5	4	5	1
1/F	KITCHEN	Class 4c restaurants	90.505	4.5	1:1	21	61	31	30	1	1	2	0	1	1	1	0	1	0	1
TOTAL											3		6		5		5		5	2

NOTES

	name	date
designed		
drawn		
checked		

approved: Chief Architect / Senior Architect / Project Architect — signed — date

no. | date | description | initial

REVISION

contract

contract no.

file no.

project no. 263 ZX

drawing title: UFA FOR EXITS CALCULATION, PLOT RATIO, SITE COVERAGE & SCHEUDEL OF EXIT DOORS & ROUTES & SANITARY FITMENTS

scale: 1 : 250

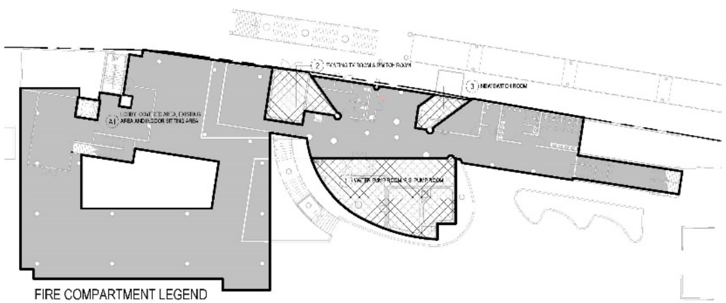
drawing no.: AB/8282/SC302

office: ARCHITECTURAL BRANCH

A1 841 x 594

FIRE COMPARTMENT CALCULATION

FIRE COMPARTMENT AREA DIAGRAM OF GROUND FLOOR



FIRE COMPARTMENT LEGEND

- A
- SPECIAL HAZARDS

FIRE RESISTANCE REQUIREMENT FOR ELEMENTS OF CONSTRUCTION

COMPARTMENT (GROUP)	NAME	CLASS	AREA (m²)	FRR REQ'D (mins)	R.C. WALL => 1% V.R. THK.(mm)	R.C. WALL CONCRETE COVER (mm)	R.C. BEAM THK.(mm)	R.C. BEAM CONCRETE COVER (mm)	R.C. COLUMN THK.(mm)	R.C. COLUMN CONCRETE COVER (mm)	R.C. SLAB THK.(mm)	R.C. SLAB CONCRETE COVER (mm)	R.C. STAIR THK.(mm)	R.C. STAIR CONCRETE COVER (mm)
A														
A	LOBBY, COVERED AREA, EXISTING AREA AND INDOOR SITTING AREA	4b (Commercial - Mercantile facilities)	1370.88	60	75	15	200	30	200	25	100	20	95	20
			1370.88 < 2500											
B														
B	KITCHEN	4b (Commercial - Mercantile facilities)	98.141	60	75	15	200	30	200	25	100	20	95	20
			98.141											
TOTAL			1469.031											

NOTE: 1) R.C. SLAB, WALL, COLUMN & BEAM :
* REINFORCEMENT CONSISTING OF EXPANDED METAL LATH OR A WIRE FABRIC NOT LIGHTER THAN 0.5 kg/sq m W/ 2 mm DIAMETER WIRE AT NOT MORE THAN 100mm CENTRES OR A CONTINUOUS ARRANGEMENT OF LINKS AT NOT MORE THAN 200mm CENTRES SHOULD BE INCORPORATED IN THE CONCRETE COVER AT A DISTANCE NOT EXCEEDING 20mm FROM THE FACE.
FOR WALL: SOLID CONSTRUCTION OF REINFORCED CONCRETE WALL IS CONTAINING NOT LESS THAN 1% OF VERTICAL REINFORCEMENT.
** FINISHED WITH 13mm GYPSUM PLASTER ON EACH SIDE, THE THICKNESS MAY BE REDUCED TO 100mm.
2) SWITCH ROOMS OTHER THAN MAIN SWITCH ROOM AT G/F ARE NOT IDENTIFIED AS SPECIAL HAZARDS AREA.
3) IF THE SPECIAL HAZARD AREA IS CONNECTED DIRECTLY TO A PROTECTED EXIT OR REQUIRED STAIRCASE, THE FIRE BARRIERS SHOULD HAVE AN FRR OF NOT LESS THAN -/240/240.
4) ALL STEEL COLUMNS AND ALL STEEL BEAMS TO BE PAINTED WITH RECOMMENDED FINISHING COAT ON INTUMESCENT COATING ON RECOMMENDED PRIMER, TO PROVIDE AN FRR OF 60/-/-.
5) FOR AREAS OF SPECIAL HAZARD SHALL BE SEPARATED FROM THE REST OF THE BUILDING BY FIRE BARRIERS HAVING AN F.R.R. OF NOT LESS THAN -/120/120.

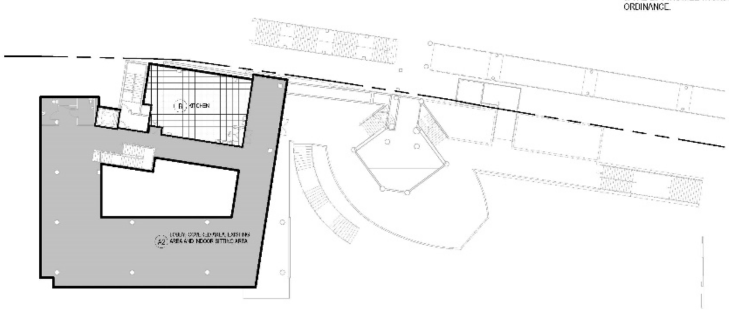
DIMENSIONS FOR LIFT INSTALLATIONS #

LIFT NO.	RATED LOAD (kg)	NO. OF PASSENGERS	RATED SPEED (m/s)	CAR INTERNAL SIZES WIDTH (mm) REQUIRED	CAR INTERNAL SIZES WIDTH (mm) PROVIDED	CAR INTERNAL SIZES DEPTH (mm) REQUIRED	CAR INTERNAL SIZES DEPTH (mm) PROVIDED	CAR INTERNAL SIZES MAX AREA (sq.m) REQUIRED	CAR INTERNAL SIZES MAX AREA (sq.m) PROVIDED	CAR INTERNAL SIZES HEIGHT (mm) REQUIRED	CAR INTERNAL SIZES HEIGHT (mm) PROVIDED	WELL MIN. DIMENSIONS WIDTH REQUIRED	WELL MIN. DIMENSIONS WIDTH PROVIDED	WELL MIN. DIMENSIONS DEPTH REQUIRED	WELL MIN. DIMENSIONS DEPTH PROVIDED	CLEAR ENTRANCE WIDTH (mm) REQUIRED	CLEAR ENTRANCE WIDTH (mm) PROVIDED	CLEAR ENTRANCE HEIGHT (mm) REQUIRED	CLEAR ENTRANCE HEIGHT (mm) PROVIDED	LIFT PIT DEPTH (mm) REQUIRED	LIFT PIT DEPTH (mm) PROVIDED	HEADROOM (mm) REQUIRED	HEADROOM (mm) PROVIDED	MACHINE ROOM MINIMUM AREA	MACHINE ROOM MINIMUM WIDTH	MACHINE ROOM MINIMUM DEPTH	MACHINE ROOM MINIMUM HEIGHT	OVERALL HEADROOM
1	800	10	1.5	1400	1400	1300	1350	2	1.890 m²	2300	2300	1900	1950	2300	2300	800	1100	2100	2100	1700	1800	4050	5600	✓	✓	✓	✓	✓

\# "MACHINE ROOM LESS" DESIGN

NOTE:
1. THE INSTALLATIONS CAN BE ACCOMMODATED IN THE PROPOSED LIFTWELLS AND MACHINE ROOMS;
2. ANY FUTURE MAINTENANCE, REPAIR, MAJOR ALTERATION, REPLACEMENT, EXAMINATION AND TESTING OF THE LIFTS CAN BE CARRIED OUT IN THE PROPOSED LIFT WELLS SAFELY AND WITHOUT DIFFICULTY.
3. THE LIFT INSTALLATIONS ARE IN FULL COMPLIANCE WITH THE CODE OF PRACTICE ON THE DESIGN AND CONSTRUCTION OF LIFTS ANDESCALATORS (COPLE) ISSUED UNDER THE LIFTS AND ESCALATORS (SAFETY) ORDINANCE.

FIRE COMPARTMENT AREA DIAGRAM OF FIRST FLOOR



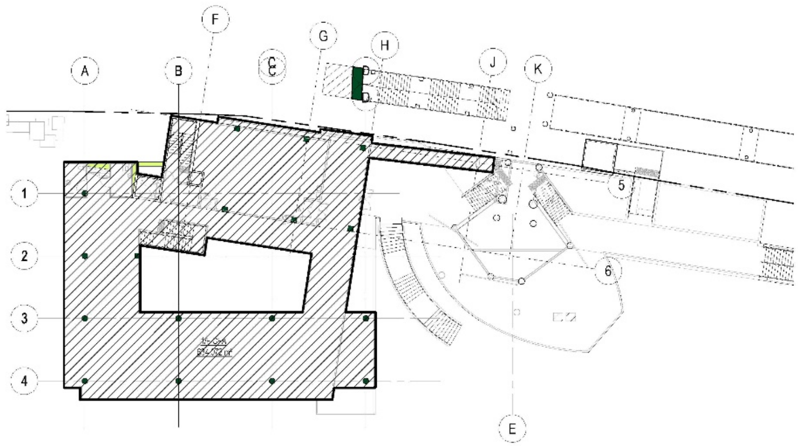
FIRE COMPARTMENT LEGEND

- A
- B

NOTES:	drawing title: FIRE COMPARTMENT CALCULATION, SCHEDULE OF FIRE RESISTANCE REQ'T FOR ELEMENTS OF CONSTRUCTION	office: ARCHITECTURAL BRANCH
designed / drawn / checked (name, date)	scale: 1 : 250	
approved: Chief Architect / Senior Architect / Project Architect (signature, date)	drawing no.: AB/8282/SC 303	
no. / date / description / initial — REVISION	contract / contract no. / file no. / project no. 263 ZX	

A1 841 x 594

G/F - CFA DIAGRAM



1/F - CFA DIAGRAM

CFA SCHEDULE		
LEVEL	AREA NAME	AREA
G/F	G/F CFA	610.258 m²
G/F	CFA RENOVATION AREA	332.413 m²
G/F	CFA RENOVATION AREA (TOILET)	50.271 m²
G/F: 3		992.942 m²
1/F	1/F CFA	634.072 m²
1/F: 1		634.072 m²
Grand total: 4		1627.014 m²

NOTES

no. | date | description | initial

REVISION

	name	date
designed		
drawn		
checked		

approved
Chief Architect
Senior Architect
Project Architect
signed date

contract
contract no.
file no.
project no. 263 ZX

drawing title
CFA CALCULATION

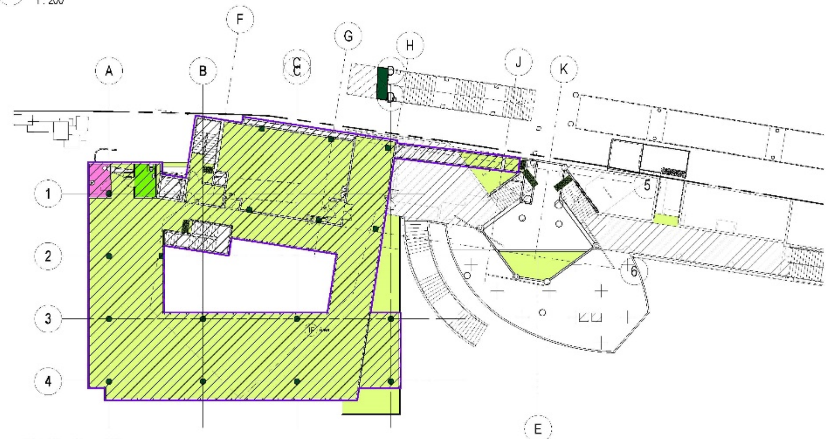
scale 1 : 200

drawing no. AB/8282/SC SK01

office
ARCHITECTURAL BRANCH

A1 841 x 594

1 G/F (For Section 16)
1 : 200



2 1/F (Section 16)
1 : 200

GFA Schedule (SECTION 16)		
Level	**General_Area_ID	Area
G/F	RENOVATION AREA	281.919 m²
G/F	GF	553.345 m²
1/F	1F	632.208 m²
		1467.472 m²

NOTES

drawing title
GFA FOR SECTION 16 SUBMISSION

office
ARCHITECTURAL BRANCH

scale 1 : 200

drawing no. AB/8282/SCSK02

project no. 263 ZX

A1 841 x 594

SUMMARY:
WHAT IS THE DIFFERENCE?

Efficiency:	2 weeks vs few hours
Consistency:	update automatically according to any change in layout, minimize error and mistakes

BIM for Statutory Submissions

SSCU - GBP Submission
FSD Submission
Lands Submission
Planning Submission
CFA Calculation

In progress -

SSCU - Structural Submission
SSCU – Draining Submission

CHALLENGES?

1. SSCI Acceptance – Another way (Better way) than CAD - AutoCAD / Microstation

   PNAP ADM19 Appendix F only accepts AutoCAD / Microstation, not BIM

2. Paradigm Shift – alternative way (more efficient way) of submission. Automatic calculation & Checking

3. Co-operation of other disciplines – all government/ consultants adopt similar system, a BIM Standard?

4. Future – automatic submission/ checking system e.g. Singapore ?

- Thank you !