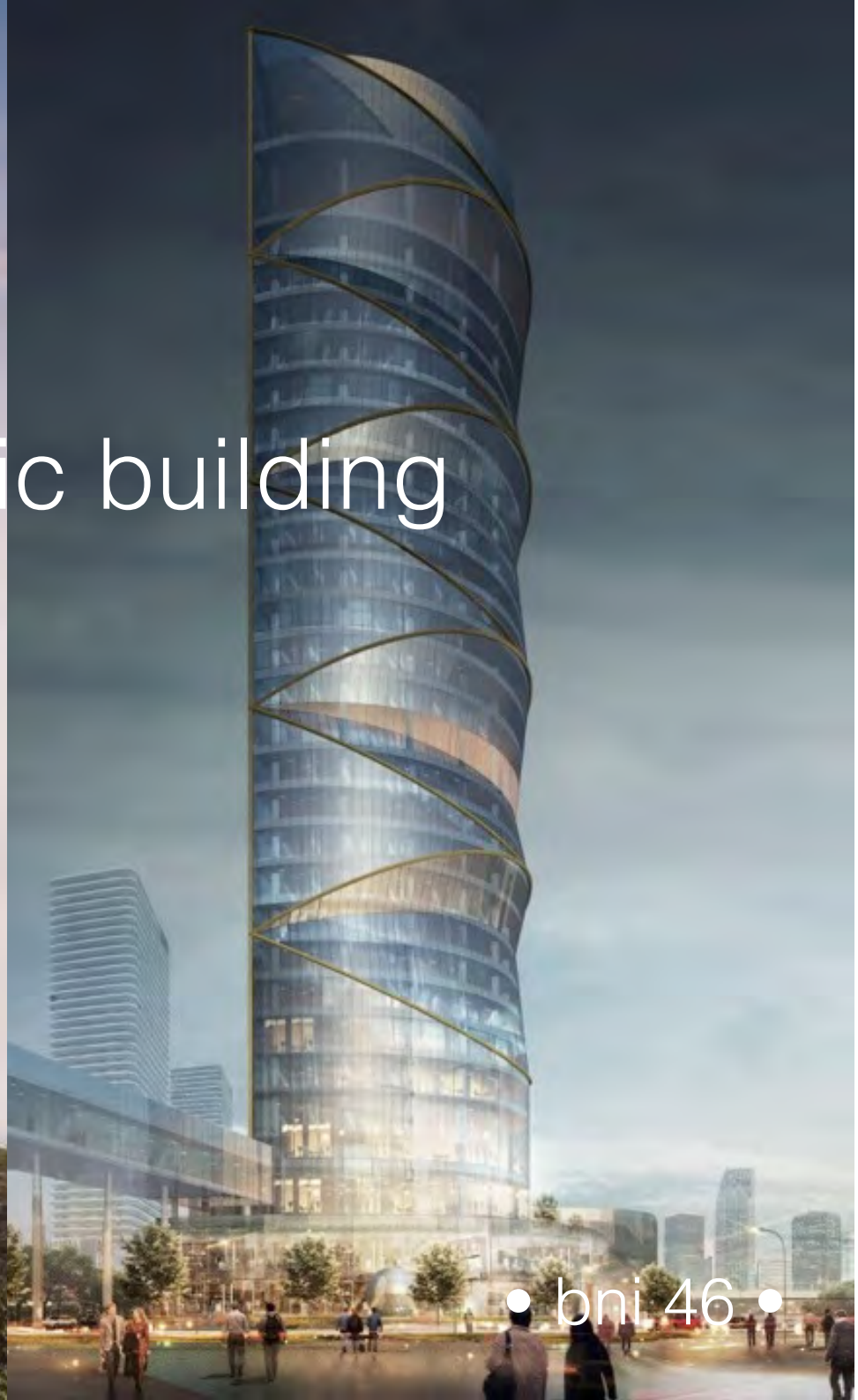
designing public building
• high rise • low rise •

high rise public building

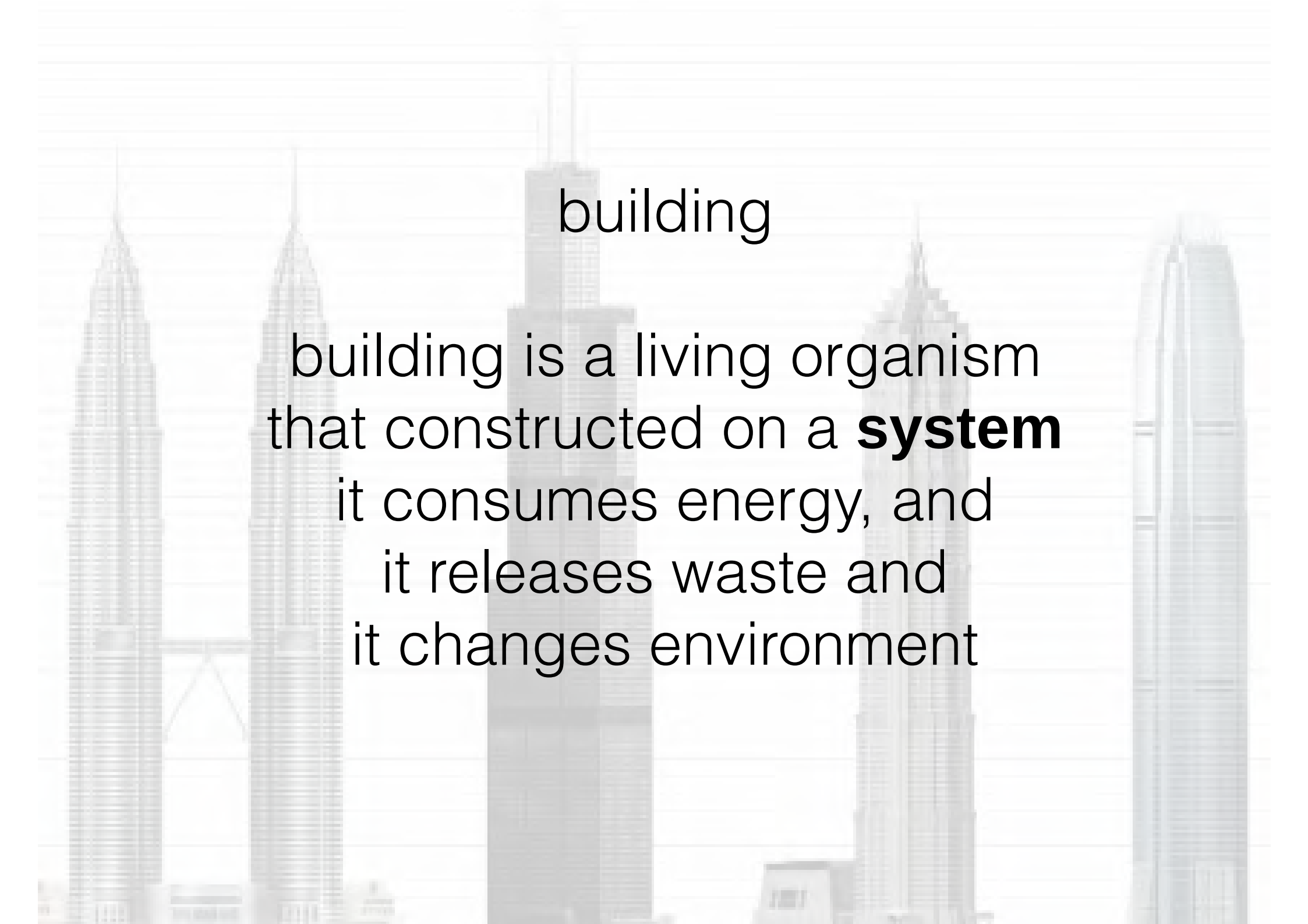
• mandiri •



• bni 46 •

A **public** space is a **place** that is generally open and accessible to people. Roads (including the pavement), **public** squares, parks and beaches are typically considered **public** space.

The Czech Republic, defines **public** as; all **buildings** that are not apartments or are non-residential. Finland; those **buildings** which provide **public** services. France; a **building** that is occupied by a governmental body.



building

building is a living organism
that constructed on a **system**
it consumes energy, and
it releases waste and
it changes environment

building capacity with 20.000 sqm gfa and 20% efficiency rate (typical block size)

	OFFICE			APARTMENT		
STRATA	A	B	C	PREMIUM	MEDIUM	AFFORD
UNIT	> 25 SQM / PAX	20-25	10-15	80 - 100	150 - 180	500 - 600
RESIDENT	500 - 600	600 - 800	1100 - 1600	320 - 400	600 - 720	2000 - 2400
CLEAN WATER	60000 L	80000 L	160000 L	50000 L	72000 L	240000 L
GREY WATER	60000 L	80000 L	160000 L	50000 L	72000 L	240000 L
ELECTRICITY				500.000 ++	540.000 ++	180.000 ++
FACILTIES				COMMERCIAL	DAY CARE	SCHOOL

1 RT (banjar) : Terdiri dari 250 enduduk.
1 RW (beberapa banjar) : 10 RT
1 Lingkungan (kelurahan, desa) : 12 RW
1 Kecamatan : 4 Lingkungan
1 Wilayah : 4 Kecamatan
1 Kota : 4 Wilayah

Pemkab Sleman Keluarkan Moratorium Hingga 2021 Tak Boleh Ada Hotel dan Apartemen Baru

Kamis, 10 Desember 2015 21:16

Krisis Air Akibat Pembangunan Hotel dan Apartemen tak Terkendali

Oleh: Wilujeng Kharisma 23 Februari, 2016 - 21:12

NASIONAL

YOGYAKARTA, (PRLM).- Tidak terkendalinya pembangunan hotel dan apartemen di wilayah perkotaan Yogyakarta dan Kabupaten Sleman menimbulkan ancaman krisis air bersih di wilayah setempat dan wilayah hilir. Demikian dikata Direktur Eksekutif Wahana Lingkungan Hidup Indonesia (Walhi) Yogyakarta, Halik Sandera, Selasa (23/2/2016).

"Krisis air ini tidak hanya akan dirasakan warga yang tinggal di sekitar lingkungan hotel, tapi juga pengguna jasa perusahaan daerah air minum (PDAM) secara umum," ucapnya.

Menurut Halik, investasi hotel maupun apartemen mayoritas menggunakan sumber air dari PDAM, padahal perusahaan yang dikelola pemerintah daerah itu belum bisa optimal melayani kebutuhan masyarakat.

"Justru akan timbul semacam kompetisi antara warga dengan investor. Ujung-ujungnya, masyarakat yang dirugikan karena pasokan air lebih banyak tersedot untuk kebutuhan hotel," katanya.

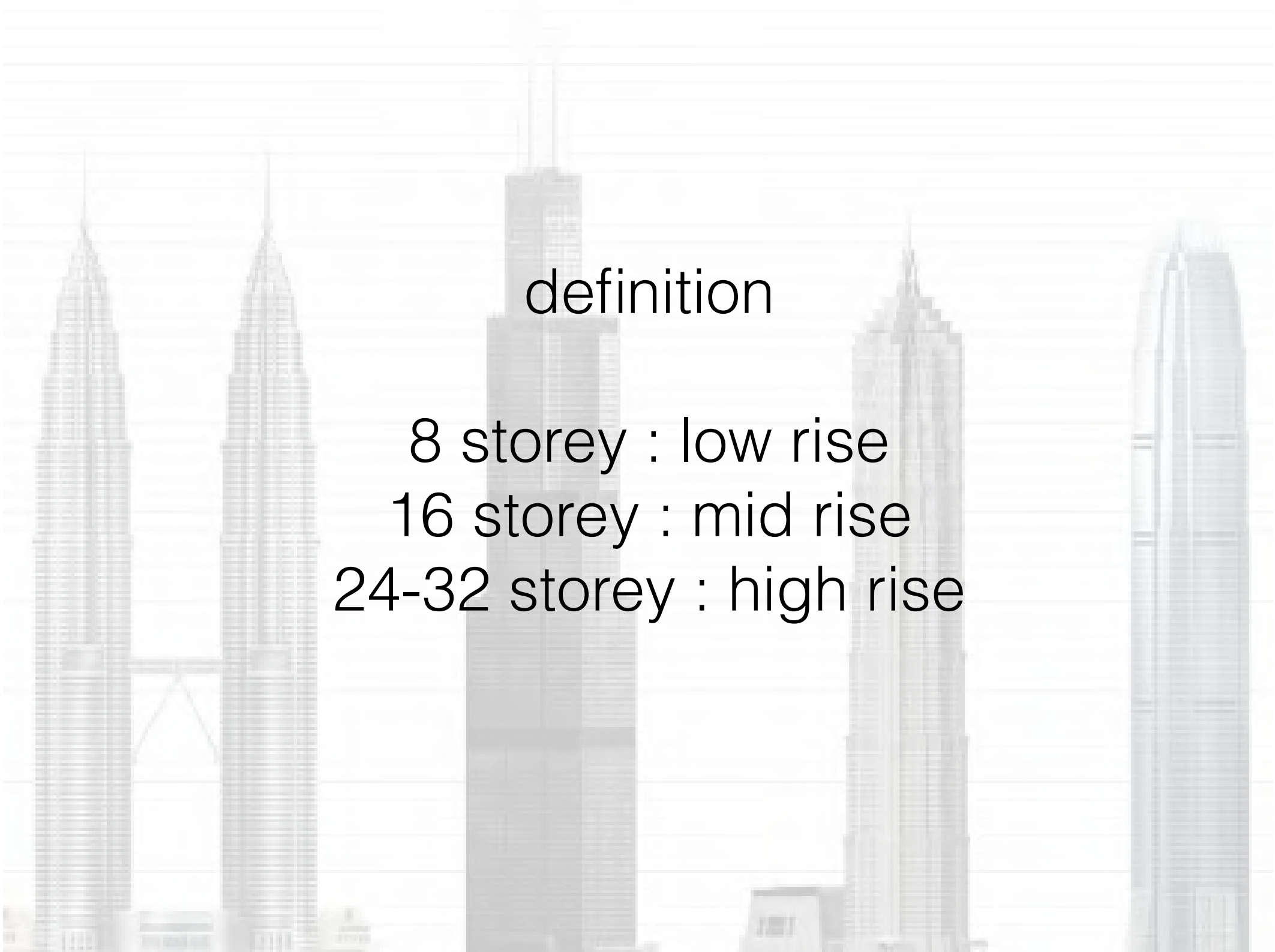
Halik mengatakan, semestinya PDAM lebih mengutamakan kepentingan warga terlebih dulu. Jika ada sisa, baru digunakan untuk keperluan dunia usaha

TERBARU

Nurul Arifin Ditemani Acil Bimbo di Dago, Mereka Bicara Kembang

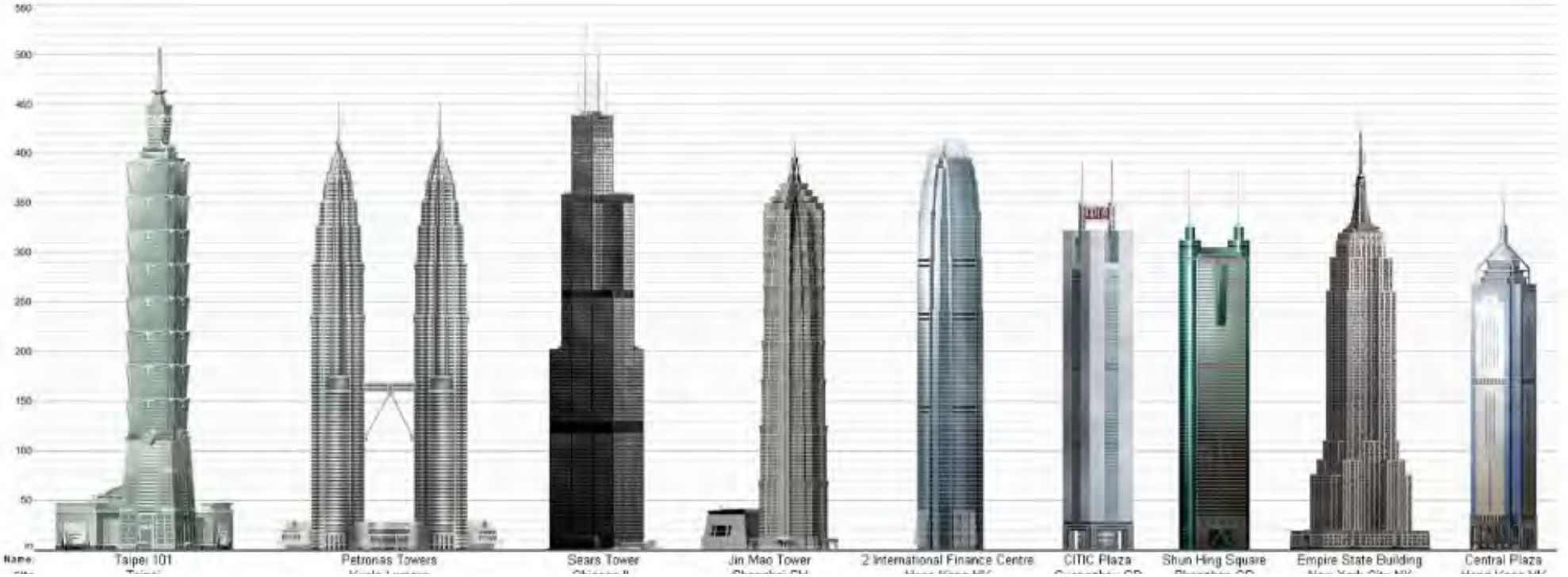
23 Februari, 2018 - 01:30

Belanja Masalah ala Ridwan Kamil di Pasar Pamanukan Subang



definition

8 storey : low rise
16 storey : mid rise
24-32 storey : high rise


550
500
450
400
350
300
250
200
150
100
50
m
Name:
Taipei 101
Petronas Towers
Sears Tower
Jin Mao Tower
2 International Finance Centre
CITIC Plaza
Shun Hing Square
Empire State Building
Central Plaza

highrise

(mostly) single building form
driven by the understanding of
structure principles and the
availability of technology

© Shelbourne Development Santiago Calatrava via CTBUH

highrise

structure will drive the layout
based on the form.
dynamic form creates
permutation and additional cost

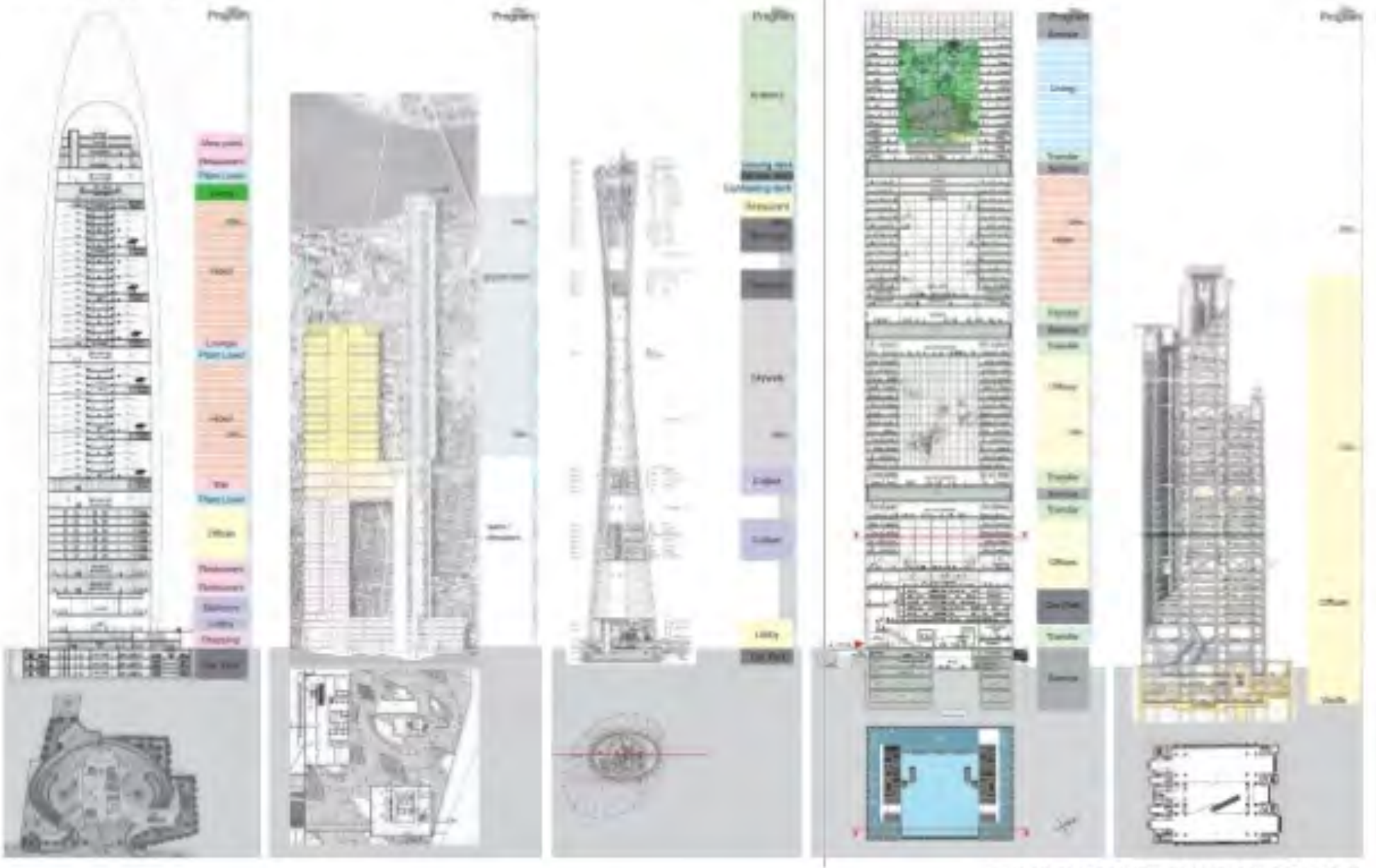
highrise

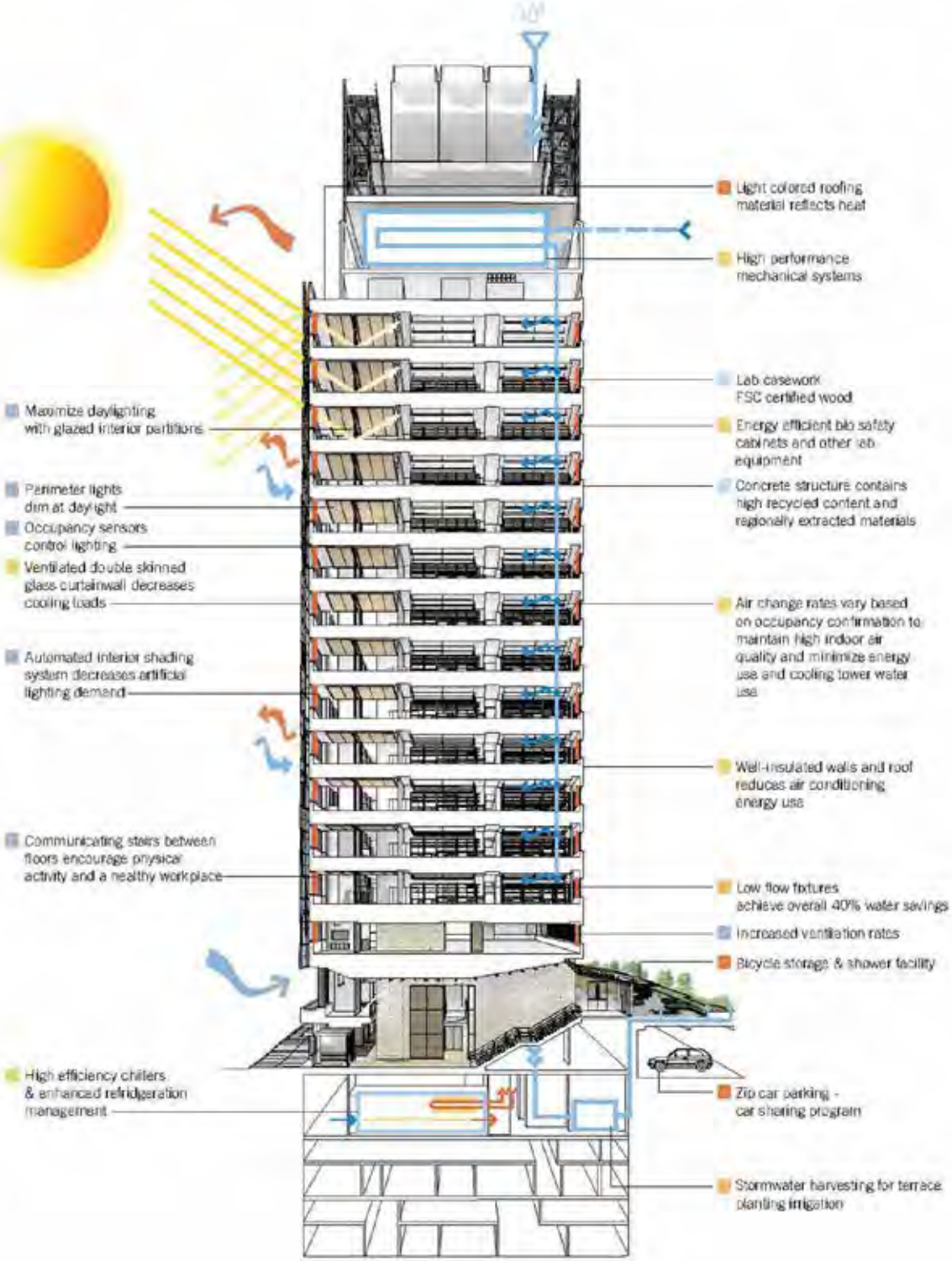
the better the understanding of the designer on multi disciplines principle, the better the building response

tectonic force
wind / weather

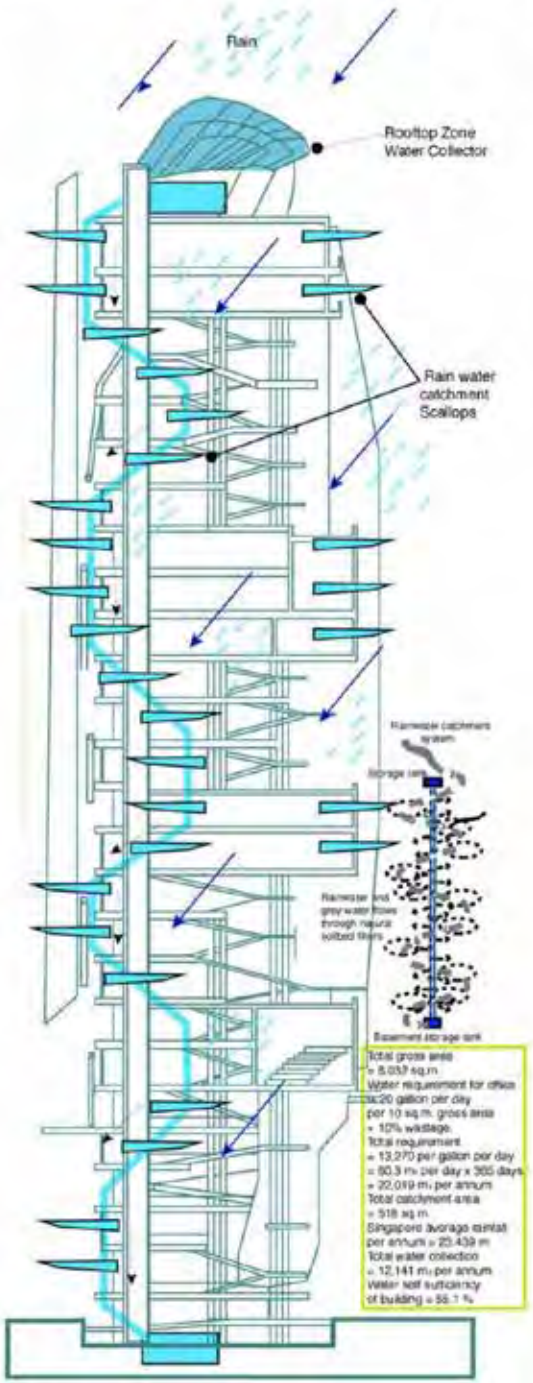
NICHOLAS SOCRATES

High-Rise Iconic Buildings



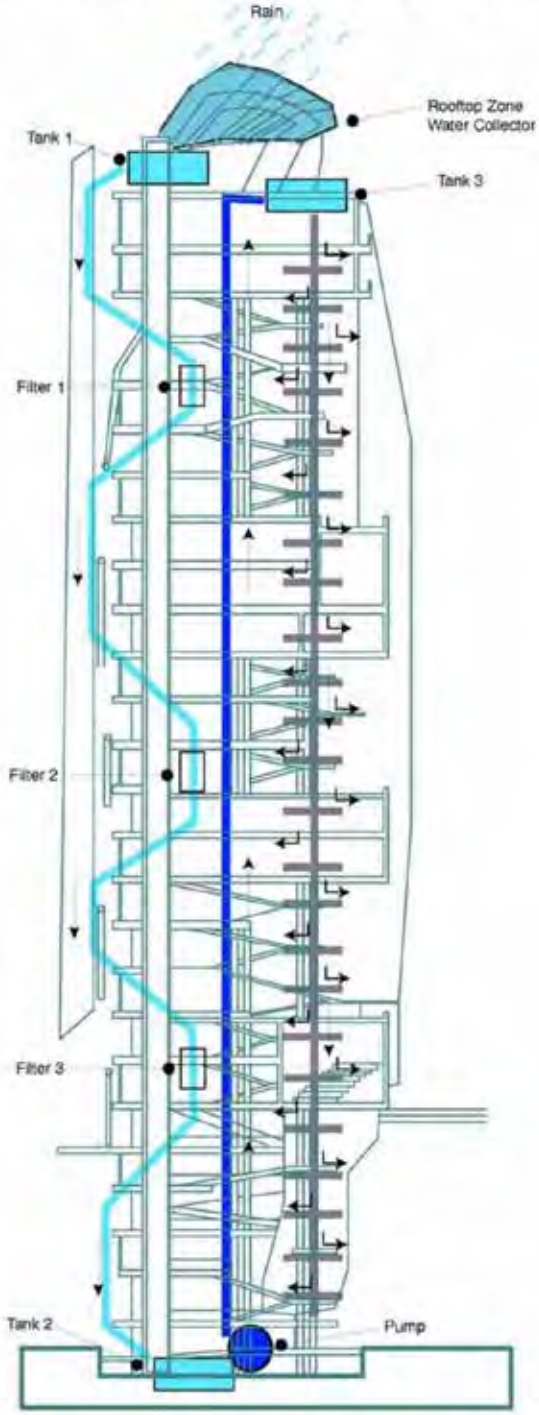

Light colored roofing material reflects heat
High performance mechanical systems
Lab casework FSC certified wood
Energy efficient bio safety cabinets and other lab equipment
Concrete structure contains high recycled content and regionally extracted materials
Air change rates vary based on occupancy confirmation to maintain high indoor air quality and minimize energy use and cooling tower water use
Well-insulated walls and roof reduces air conditioning energy use
Low flow fixtures achieve overall 40% water savings
Increased ventilation rates
Bicycle storage & shower facility
Zip car parking - car sharing program
Stormwater harvesting for terrace planting irrigation
Maximize daylighting with glazed interior partitions
Perimeter lights dim at daylight
Occupancy sensors control lighting
Ventilated double skinned glass curtainwall decreases cooling loads
Automated interior shading system decreases artificial lighting demand
Communicating stairs between floors encourage physical activity and a healthy workplace
High efficiency chillers & enhanced refridgeration management

Rainwater Collection & Recycling

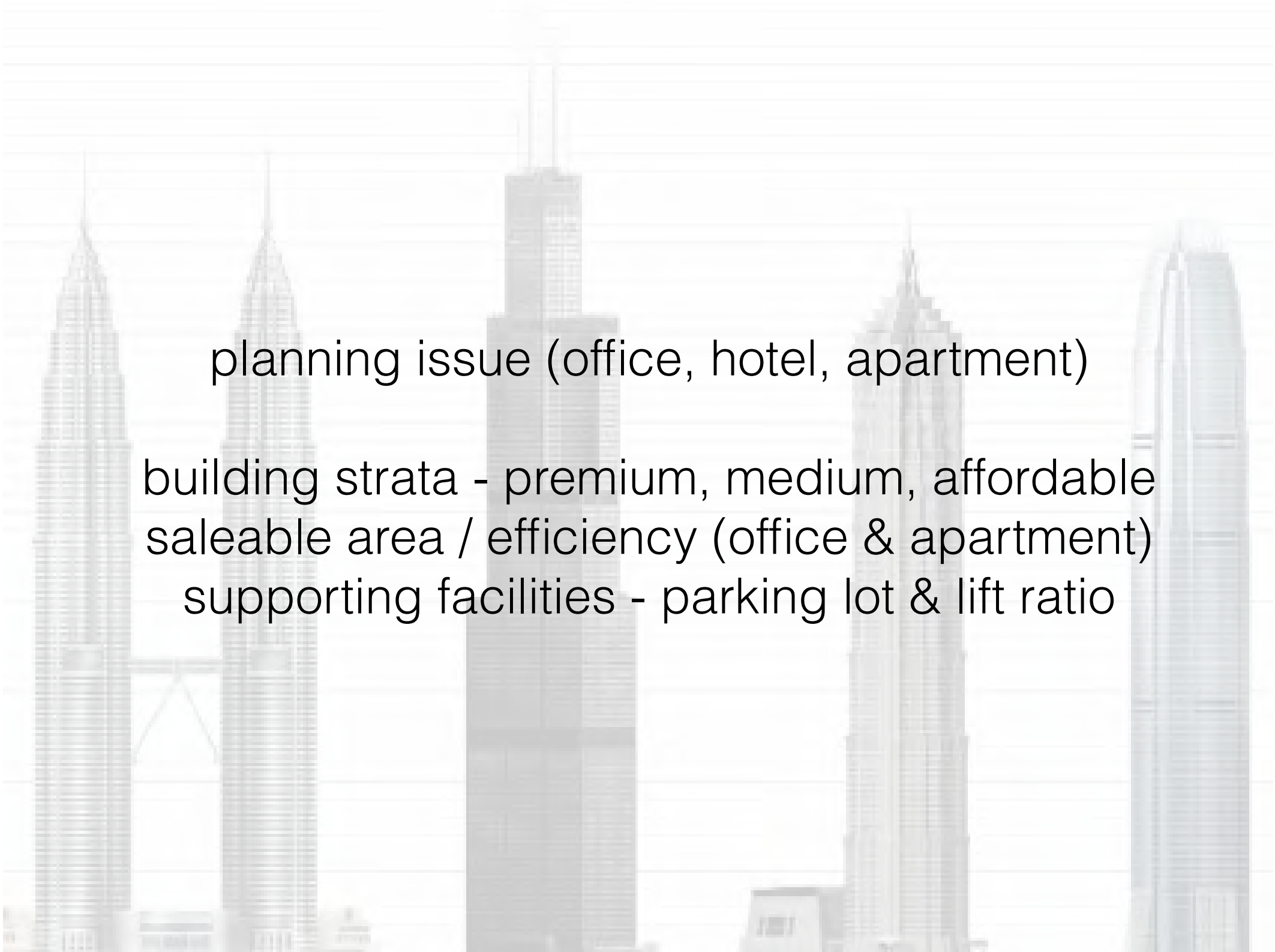


Rainwater Collection and Recycling System

Rainwater Gravity Filtration System



Rainwater Purification System



planning issue (office, hotel, apartment)

building strata - premium, medium, affordable
saleable area / efficiency (office & apartment)
supporting facilities - parking lot & lift ratio

saleable area (comm office & apartment)

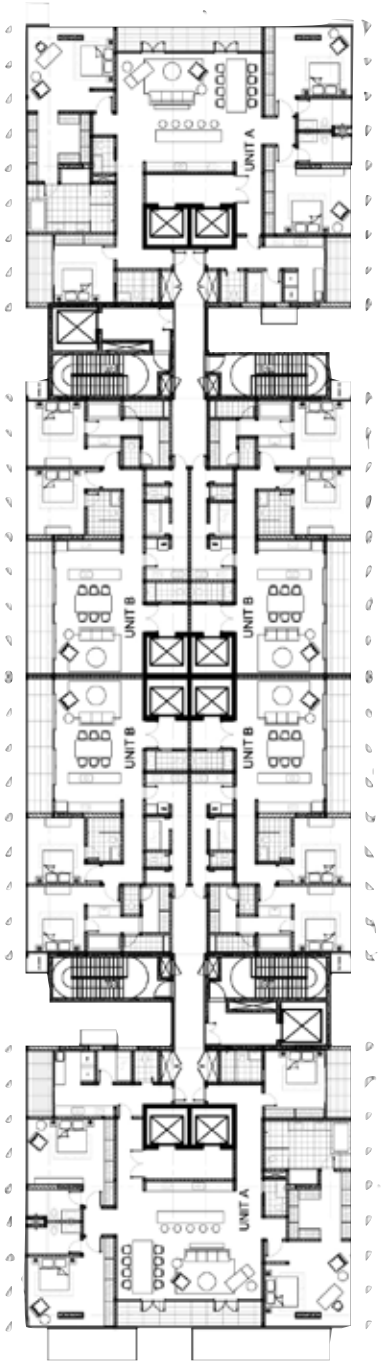
is the first information that justify whether the building constructed or need design adjustment
minimum number of efficiency is 75% of total GFA
some developer use nett area : gross area should be > 52%

MENTENG 37

double single tower
to form slab tower

premium apartment

efficiency : 77%

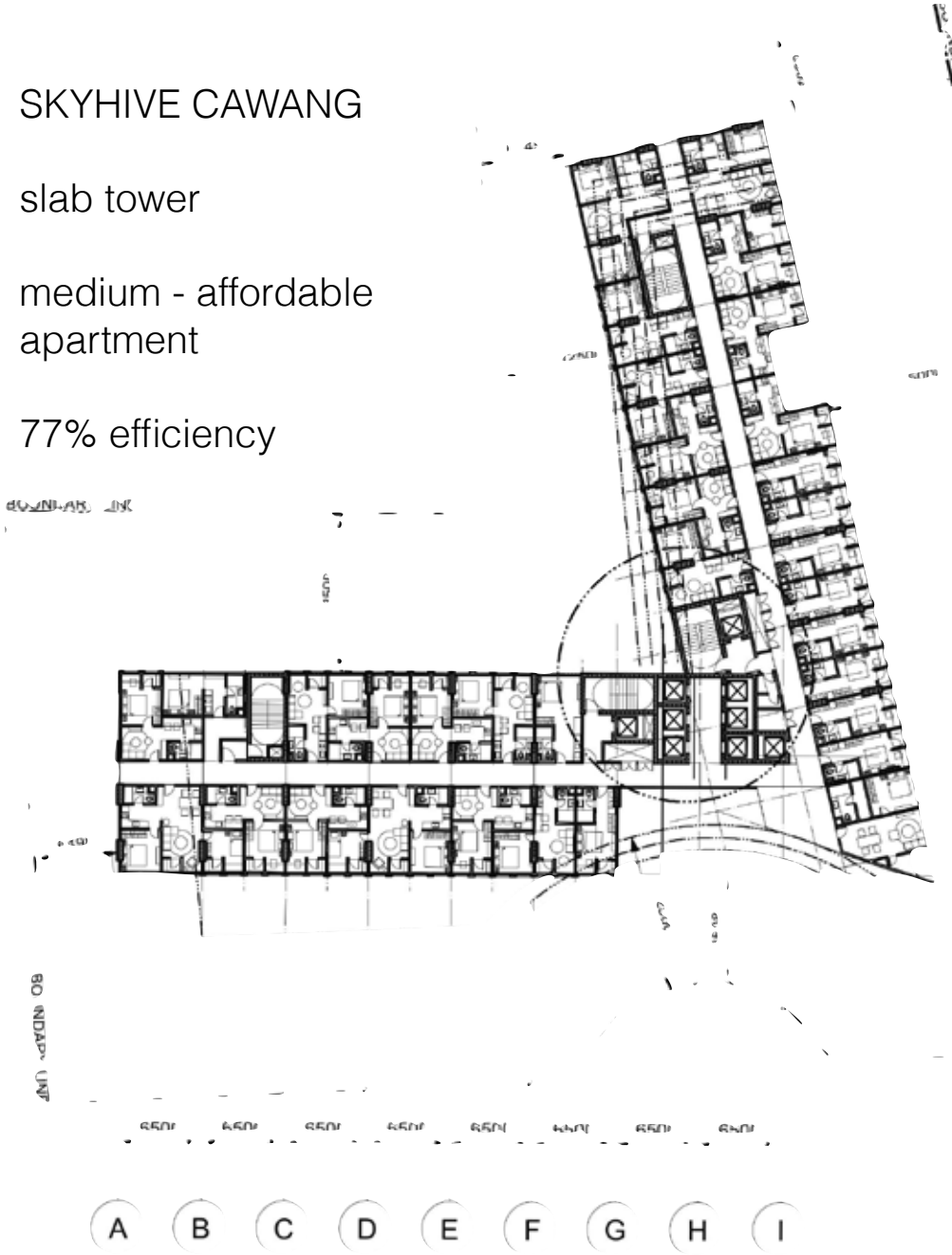


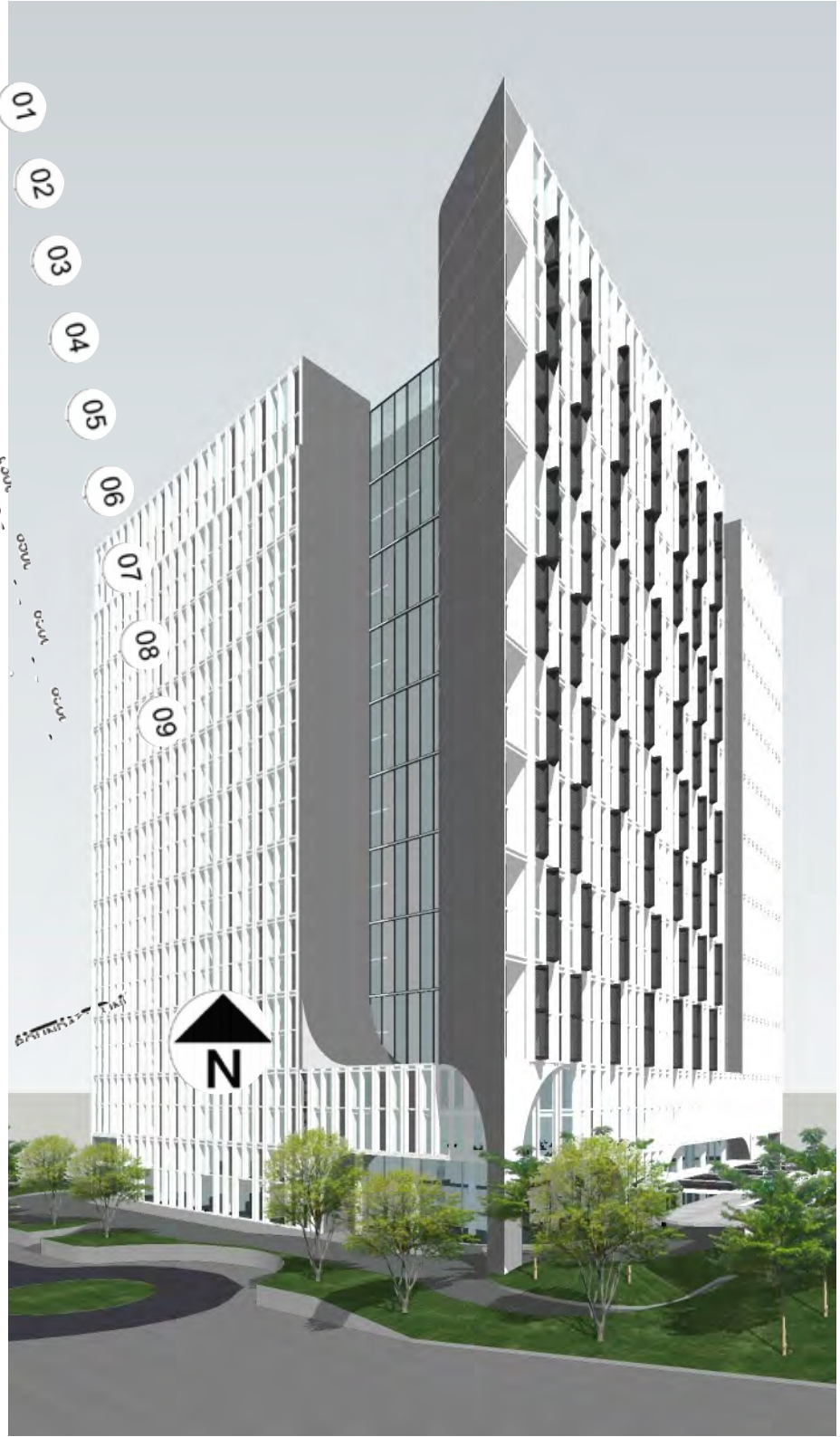
SKYHIVE CAWANG

slab tower

medium - affordable apartment

77% efficiency



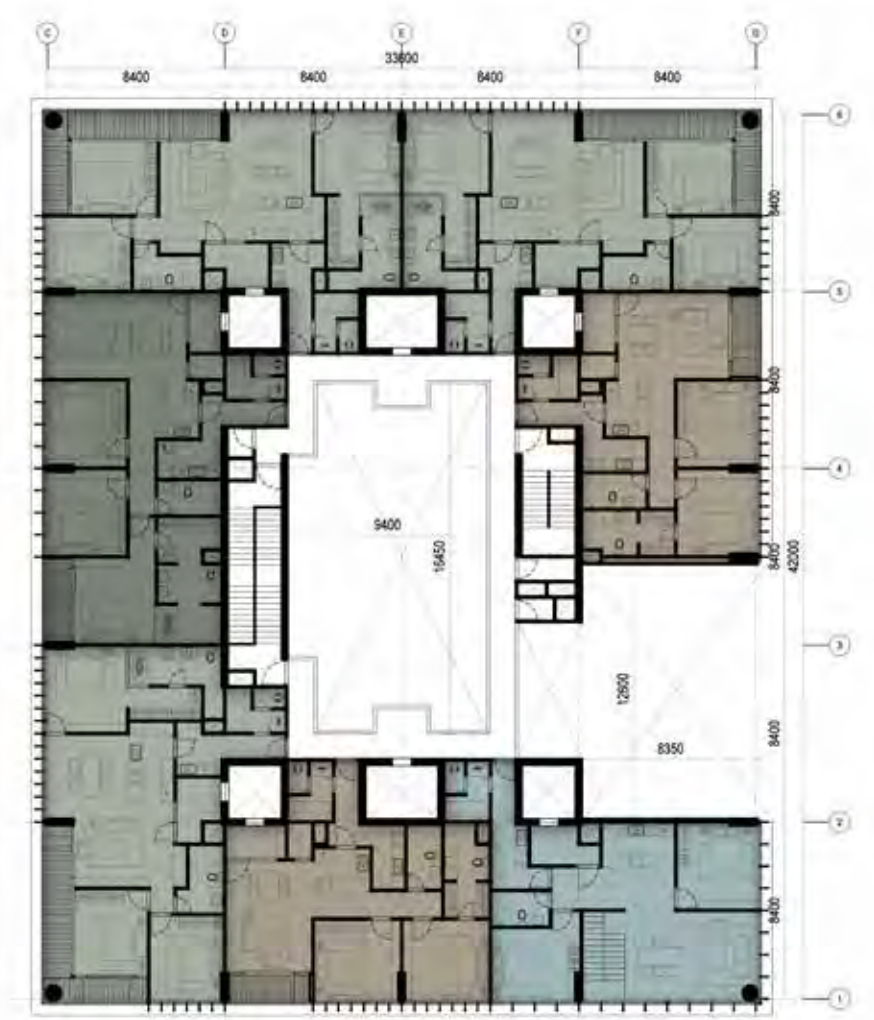


SAUMATA

tower

premium
apartment

74% efficiency



parking lot

- basement footprint max at 30% GFA ratio else counted as additional GFA

- developer & engineers prefer to keep basement at 3 layers, and the rest go surface parking / podium parking

- parking ratio & density facing challenging situation with higher plot ratio (KLB) and affordable class strata

other technical issue :

quake zone
mep vertical zoning
maintenance accessibility
skin building - wind pressure - wind map
fire fighting & escape route

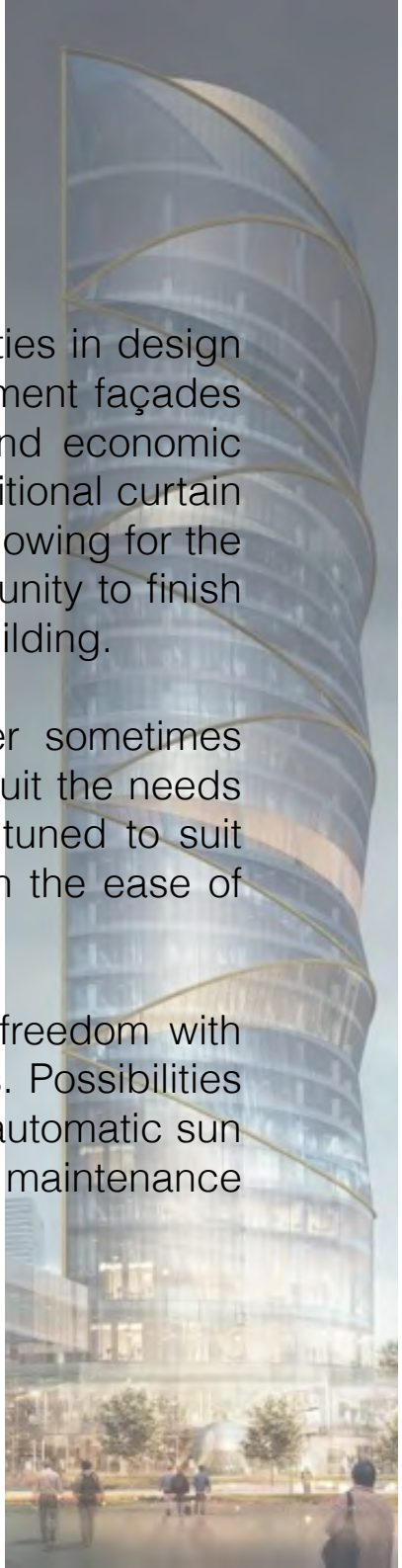
High-rise buildings require that **special attention be paid to the working pressure limitations of all equipment,** coils, piping systems, and supports. Pipe expansion control techniques are also more critical. Decoupling working pressures more than once in a 70-story tower is not uncommon. Designing for proper air balancing of the tower toilet and clothes dryer exhaust risers to minimize short-circuiting air at the upper floors is also necessary.

This attention is not as critical in low-rise buildings. Smoke evacuation systems are code required for buildings more than 75 ft high. With a high-rise tower, this is a more critical task that requires commissioning. Architects will say that managing wind loads is also just as important as aesthetic considerations. Safety and life safety concerns also remain a paramount concern as do security and communication systems.

The concept of an element, or unitized façade is inspiring due to endless possibilities in design freedom whilst keeping a high quality finished product due to pre-fabrication. Element façades are composed out of individual pre-fabricated elements. This results in a fast and economic installation with limited use of resources in manpower and tooling compared to traditional curtain walls. This construction principle is extremely suitable for high rise constructions, allowing for the necessary tolerances with regard to the building movement, and giving the opportunity to finish the building construction floor by floor allowing for parallel construction inside the building.

Element façades are available in a wide range of standard solutions, however sometimes standard isn't good enough. Sometimes your projects need a specific solution to suit the needs and requirements of that particular construction. Element façades can be easily tuned to suit those requirements which will enable you to get the required result combined with the ease of installation typical to element façades.

Element façades will also provide the architect with an almost unlimited design freedom with regard to integration of different finishing and by incorporating different techniques. Possibilities going from high insulated structures, ventilated façades, double skin façades with automatic sun shading, automatic opening windows, to linking the techniques with building maintenance systems.

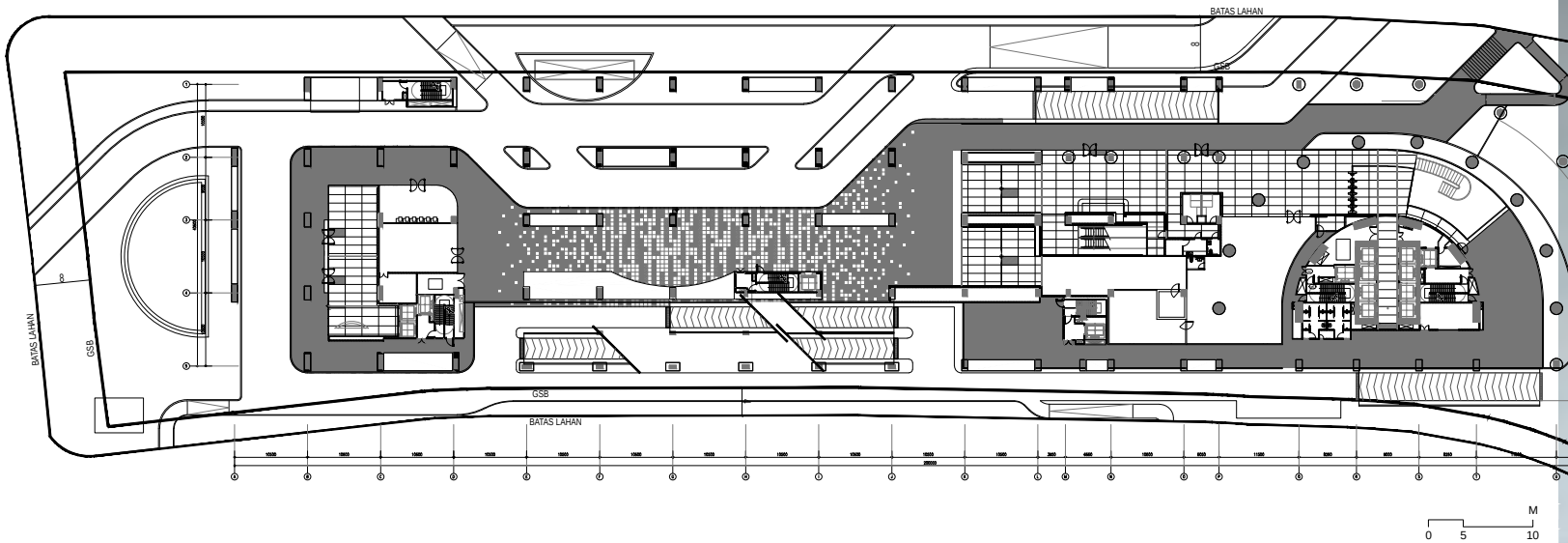


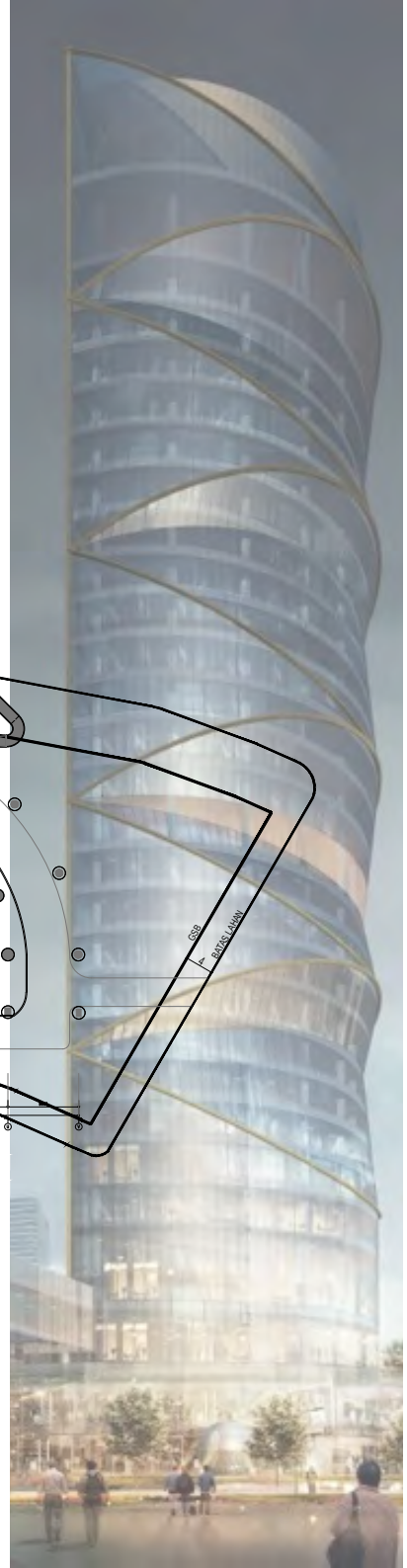
BNI 46 PEJOMPONGAN

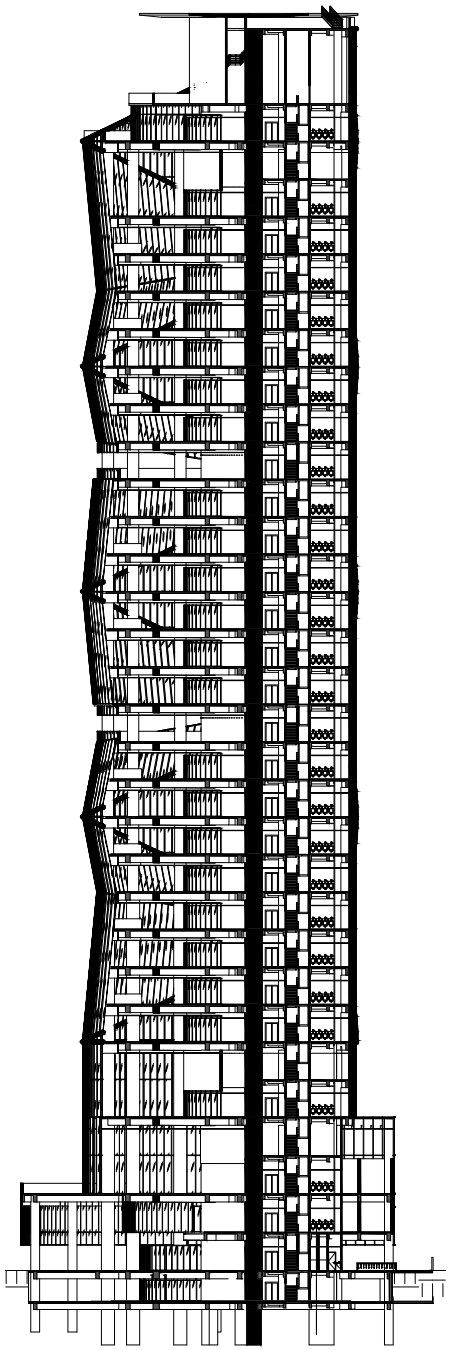
tower

premium office

74% efficiency



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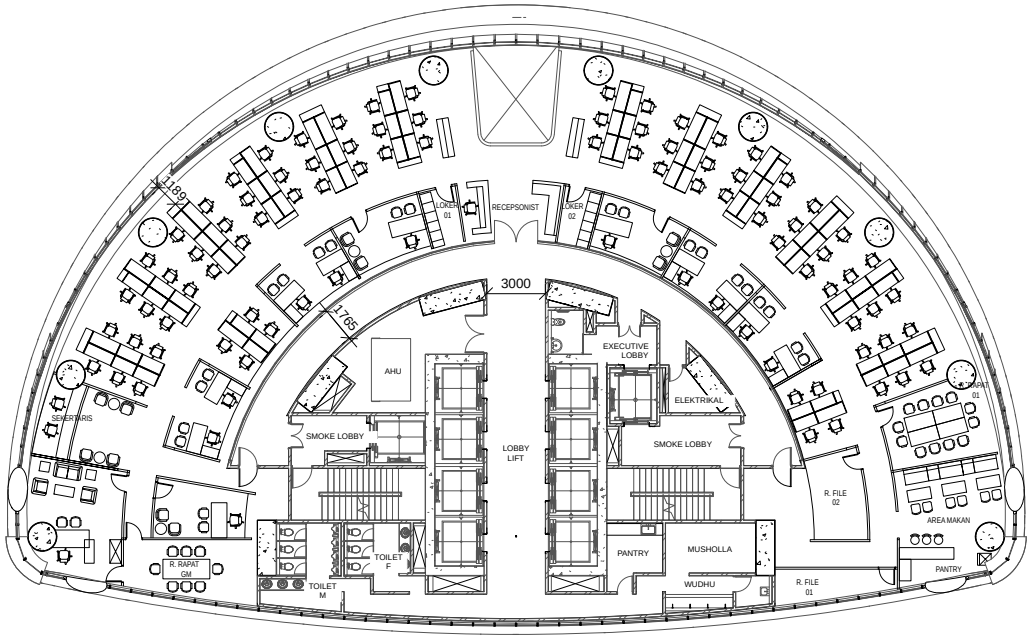
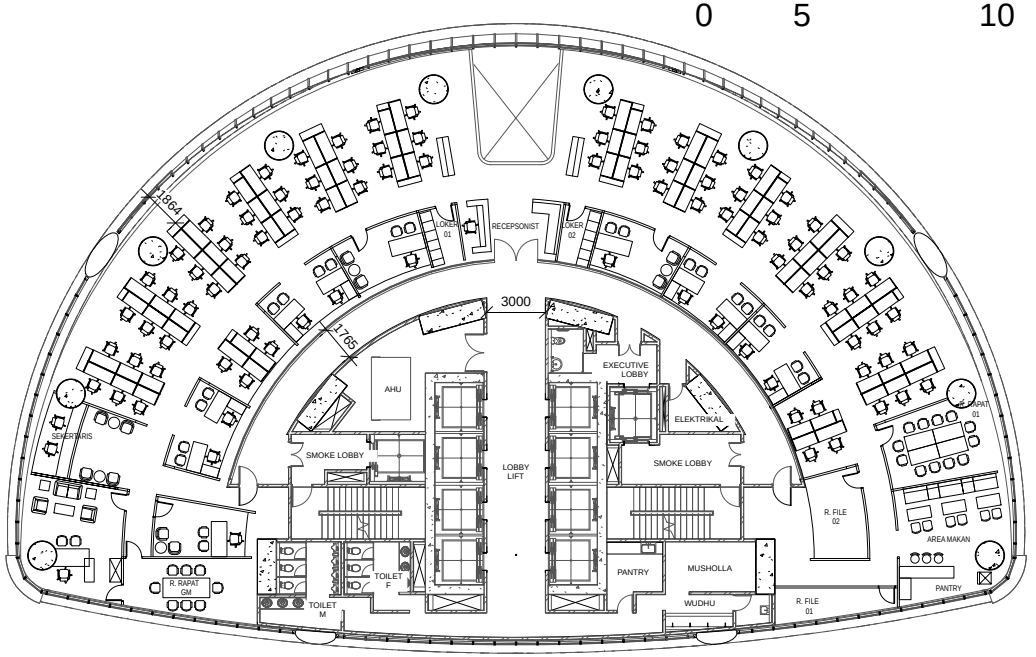
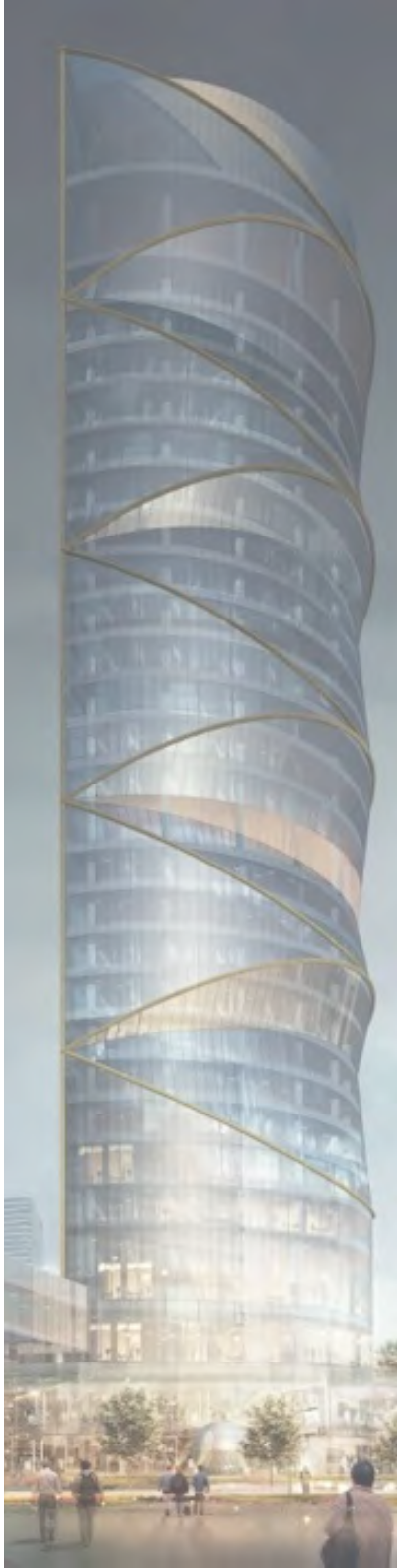
0 5 10


1189
3000
1765
RECEPSONIST
LOKER 01
LOKER 02
EXECUTIVE LOBBY
AHU
ELEKTRIKAL
SEKER PARIS
SMOKE LOBBY
LOBBY LIFT
SMOKE LOBBY
R. FILE 02
AREA MAKAN
R. RAPAT GM
TOILET F
TOILET M
PANTRY
MUSHOLLA
WUDHU
PANTRY
R. FILE 01


1864
3000
1765
RECEPSONIST
LOKER 01
LOKER 02
EXECUTIVE LOBBY
AHU
ELEKTRIKAL
SEKER PARIS
SMOKE LOBBY
LOBBY LIFT
SMOKE LOBBY
R. FILE 02
AREA MAKAN
R. RAPAT GM
TOILET F
TOILET M
PANTRY
MUSHOLLA
WUDHU
PANTRY
R. FILE 01

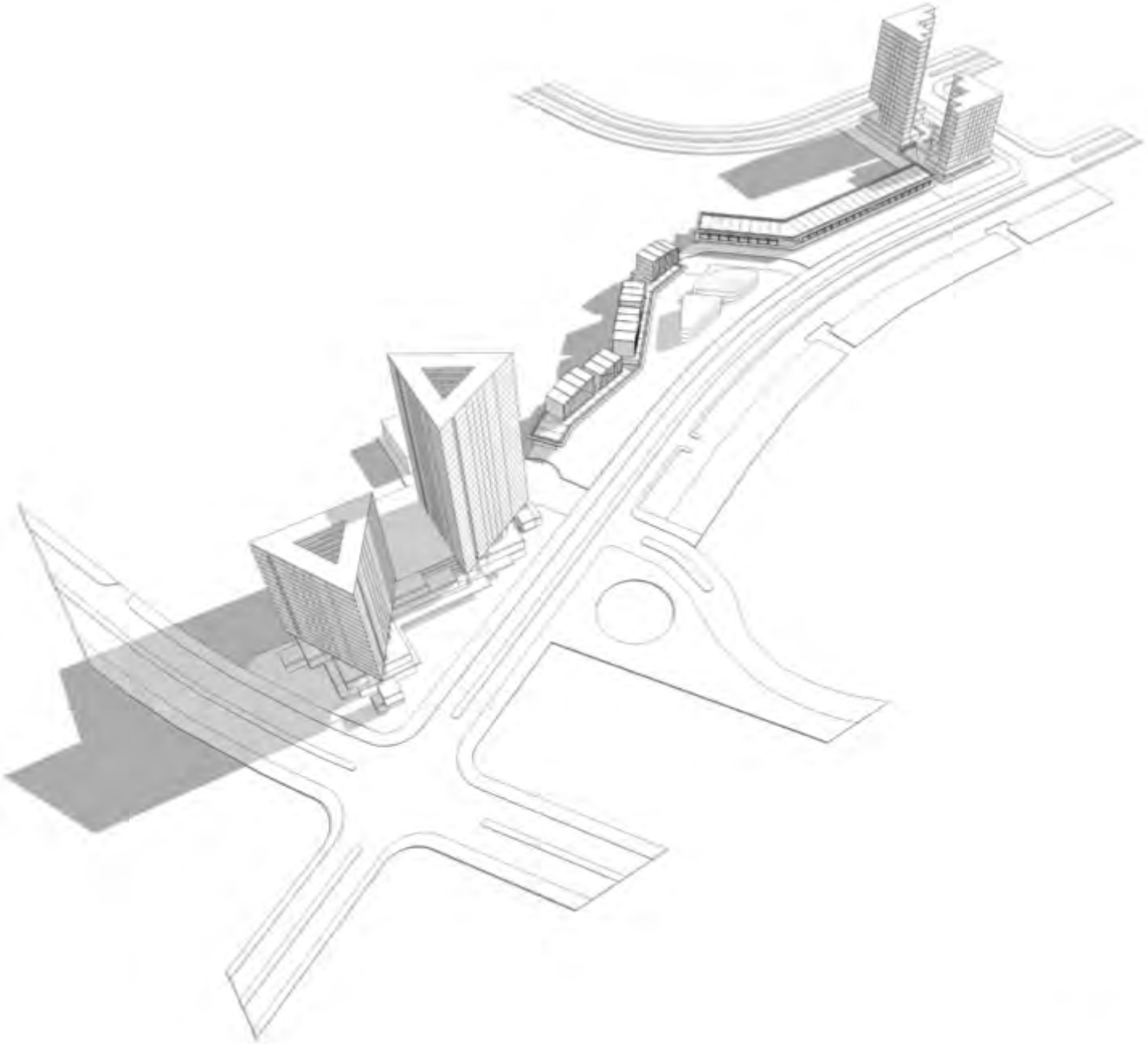
M
0 5 10

M
0 5 10



Agar Selamat d
Pakailah Alat Pe

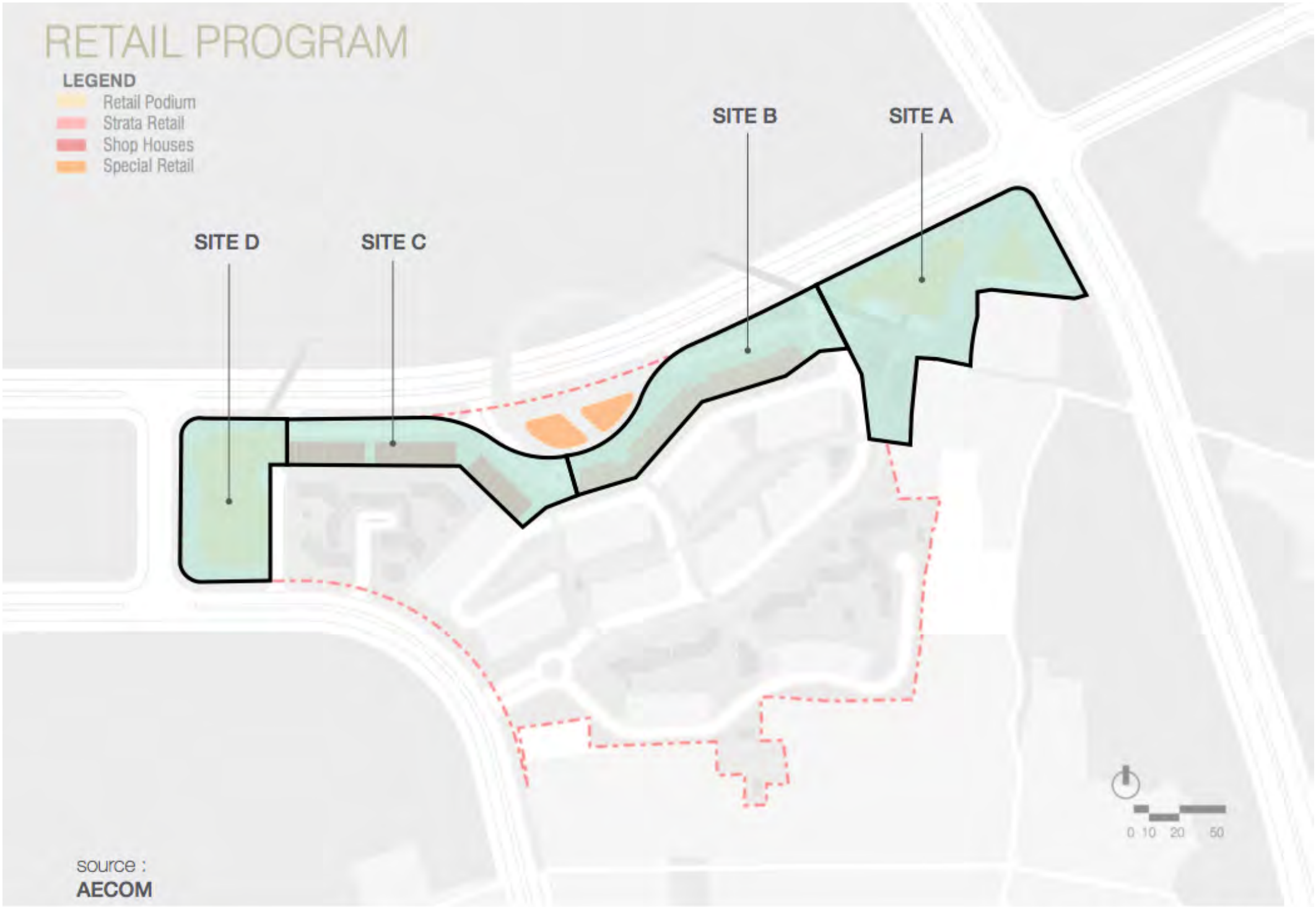
case study : d3 mix use



concept

ABODAY

RETAIL PROGRAM



source :
AECOM

design area

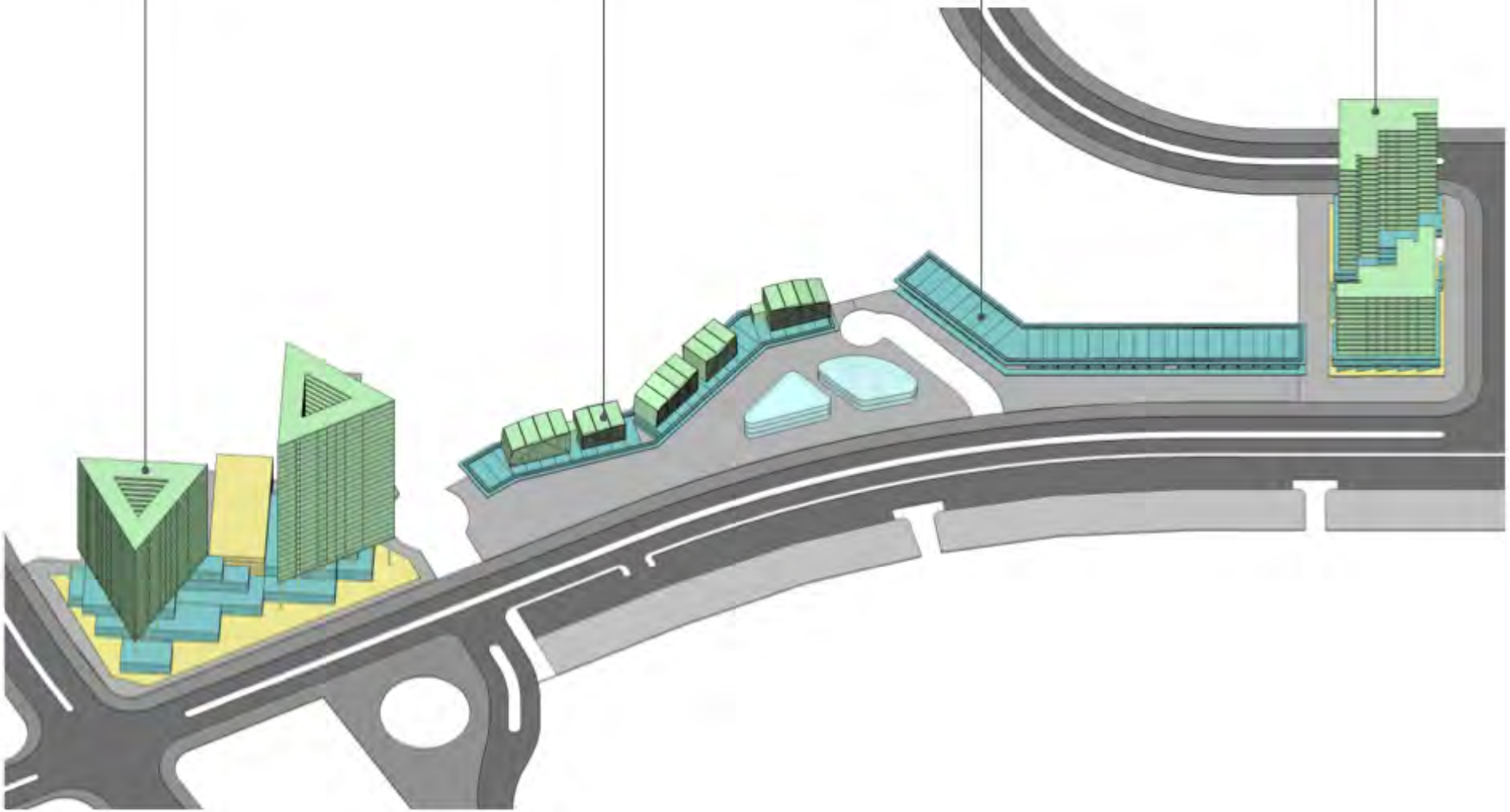
ABODAY

SITE A
APARTMENT + COMMERCIAL
GFA 55.108 SQM

SITE B
SOHO + COMMERCIAL
GFA 8.400 SQM

SITE C
COMMERCIAL
GFA 6.450 SQM

SITE D
APARTMENT + COMMERCIAL
GFA 31.900 SQM

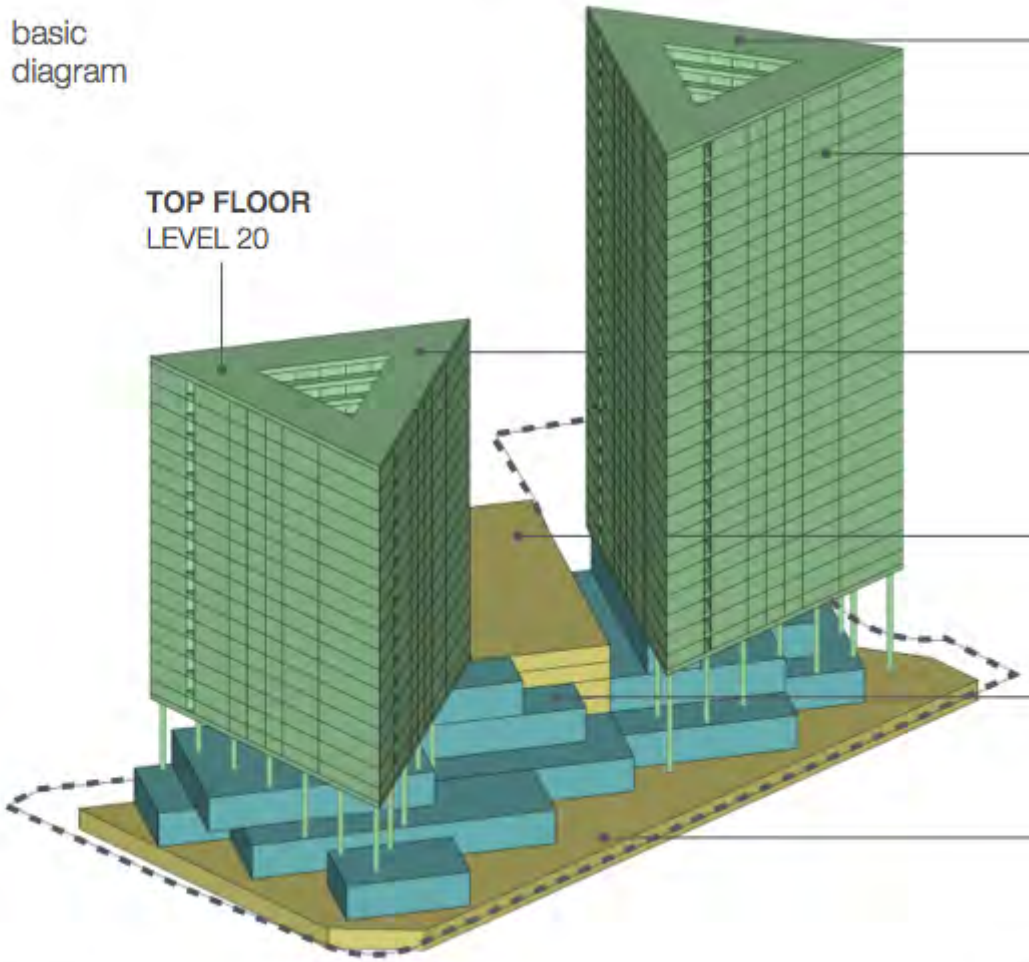


TOTAL GFA
101.858 SQM

basic diagram

ABODAY

basic
diagram



TOP FLOOR
LEVEL 28

APARTMENT TOWER 1
25 FLOORS
450 UNITS
18 UNIT/FLOOR

APARTMENT TOWER 2
17 FLOORS
306 UNITS
18 UNIT/FLOOR

PARKING BUILDING
6 - 10 FLOORS
216 - 360 LOTS

COMMERCIAL AREA
2 FLOORS
3.000 SQM

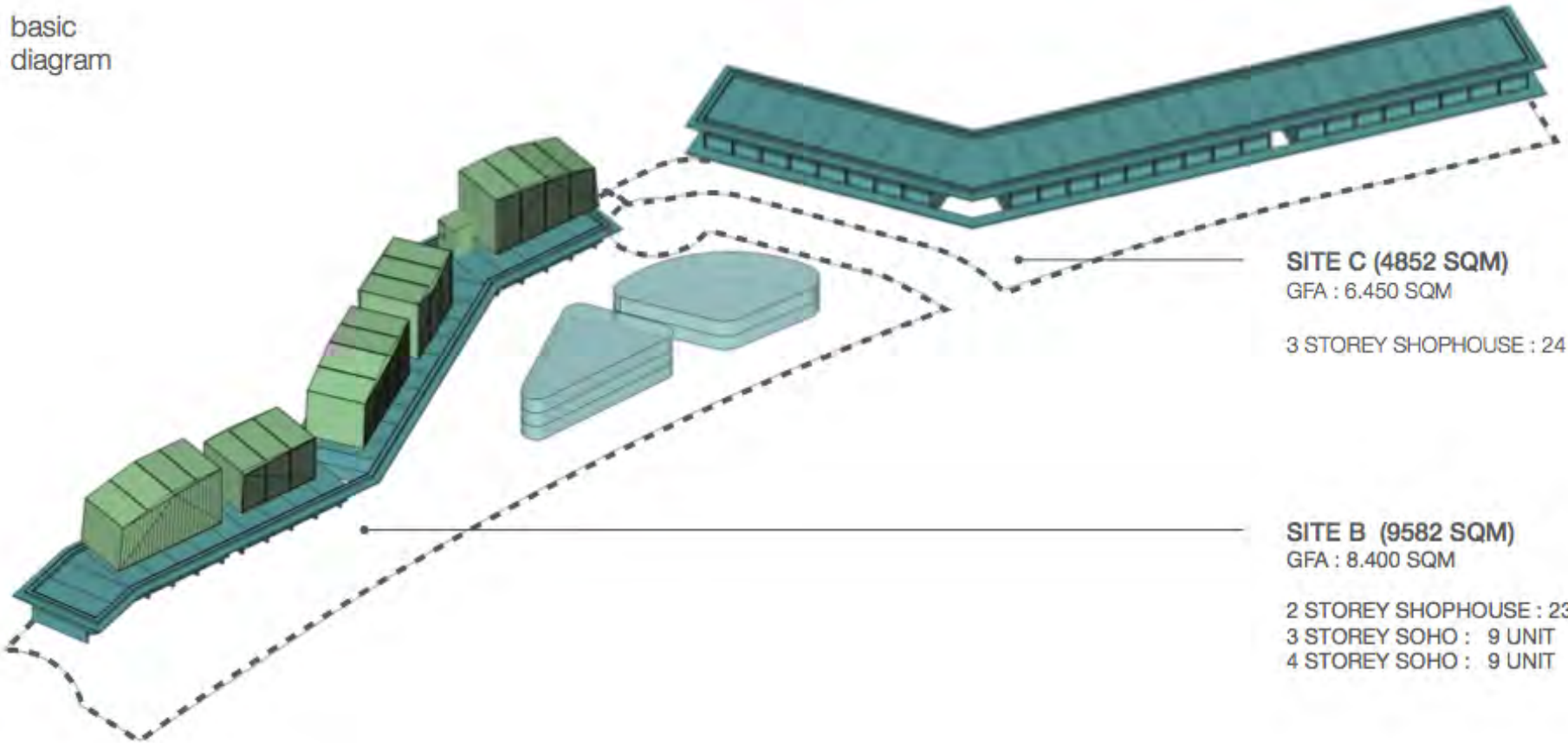
BASEMENT AREA
1 - 2 FLOORS
222 - 444 LOTS

SITE AREA	**11.022 SQM**	*traced from sketch by AECOM
GFA TOTAL (5)	**55.108 SQM**	
TOTAL LETTABLE AREA (COMMERCIAL)	**3.000 SQM**	
TOTAL NETT SALEABLE UNIT (18 UNIT/FLOOR)	**756 UNIT**	
- STUDIO (28 SQM)	37 %	
- 1 BR (56 SQM)	45 %	
- 2 BR (84 SQM)	18 %	
PARKING NEEDS (60 % TOTAL UNIT + 1 LOT/100 SQM COMMERCIAL)	**560 UNIT**	
PARKING STRATEGY (KTB 80 %)	**8818 SQM**	*estimation
- 1 BASEMENT + 10 STOREY PARKING BUILDING	582 LOT	
- 2 BASEMENT + 4 STOREY PARKING BUILDING	588 LOT	

site A

ABODAY

basic
diagram



SITE C (4852 SQM)
GFA : 6.450 SQM

3 STOREY SHOPHOUSE : 24 UNIT

SITE B (9582 SQM)
GFA : 8.400 SQM

2 STOREY SHOPHOUSE : 23 UNIT
3 STOREY SOHO : 9 UNIT
4 STOREY SOHO : 9 UNIT

SITE AREA	**14.434 SQM**	*traced from sketch by AECOM
GFA TOTAL	**14.850 SQM**	
TOTAL UNIT SOHO	**18 UNIT**	
- 3 STOREY (216 SQM)	9 UNIT	
- 4 STOREY (288 SQM)	9 UNIT	
TOTAL UNIT SHOPHOUSE	**47 UNIT**	
- 2 STOREY (168 SQM)	23 UNIT	
- 3 STOREY (258 SQM)	24 UNIT	
PARKING NEEDS (4 LOT OWNER + 2 LOT VISITOR/UNIT)	**255 LOT**	
PARKING STRATEGY (KTB 80 %)	**10.104 SQM**	*estimation
- 1 BASEMENT	260 LOT	

site B.C

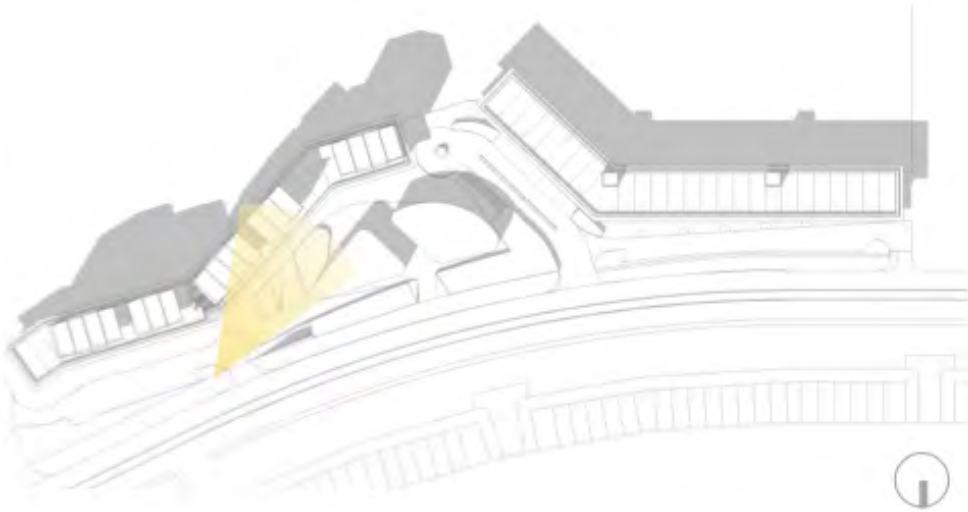
ABODAY

massing study
progress

site B.C

ABODAY

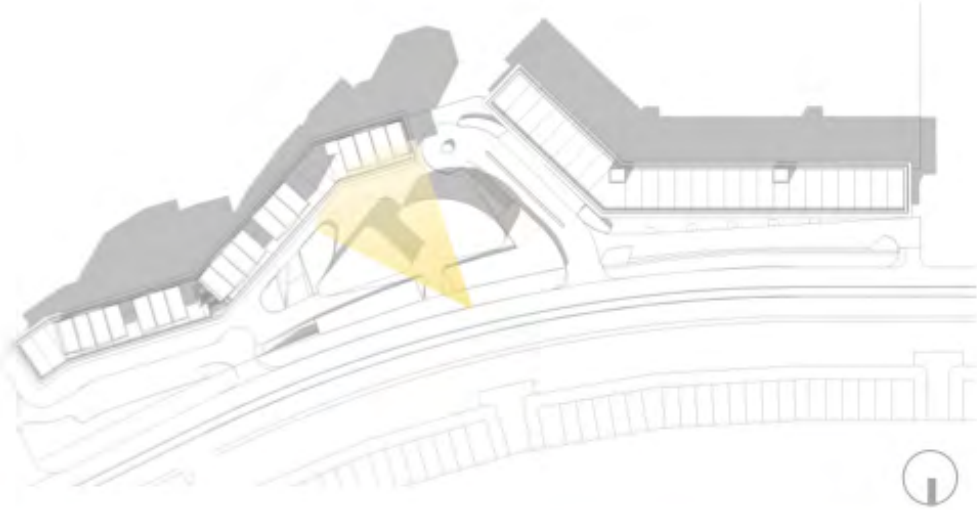
massing study
progress



site B.C

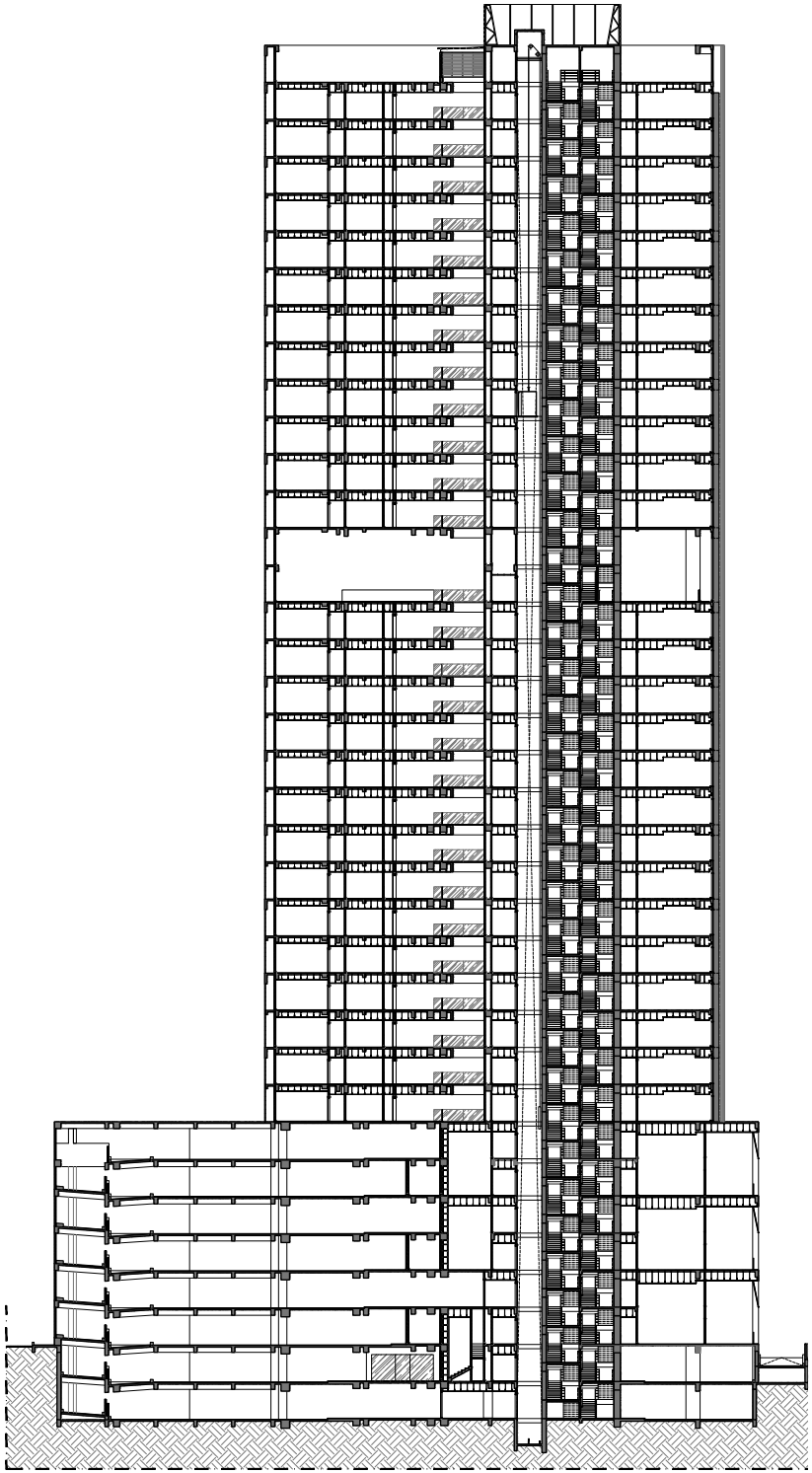
ABODAY

massing study
progress



site B.C

ABODAY



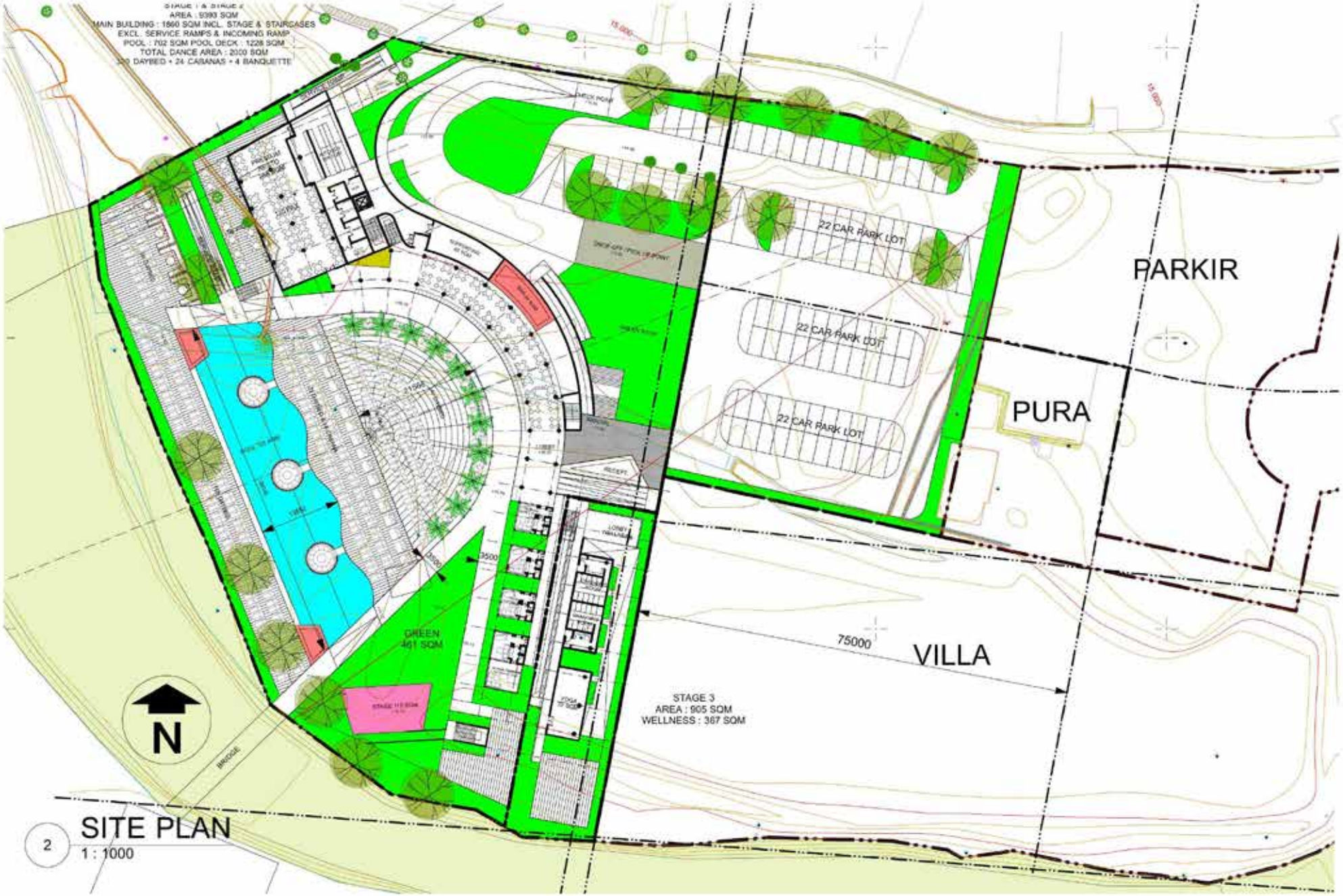
THE SERPENTINE WALK

low rise public building

•beach club•

lowrise public space

function and experience driven
and less demand on the
technical support



2 SITE PLAN
1 : 1000

ABODAY

• beach club canggu •

lowrise public space

the building required to response more to the site and local context

lowrise public space

landscape approach and strategic zoning lead to better experience

- BLOCK PLAN-

BANQUET HALL
COMMERCIAL
INNER LANDSCAPE
SPORTS HALL
SUPERMARKET
CHILDREN DAY CARE
MARKETING GALLERY
COMMERCIAL
LOBBY
RESTAURANT
MAIN DRAIN
ROW 10
ROW 12

• club house eminent BSD •

CLUBHOUSE THE EMINENT

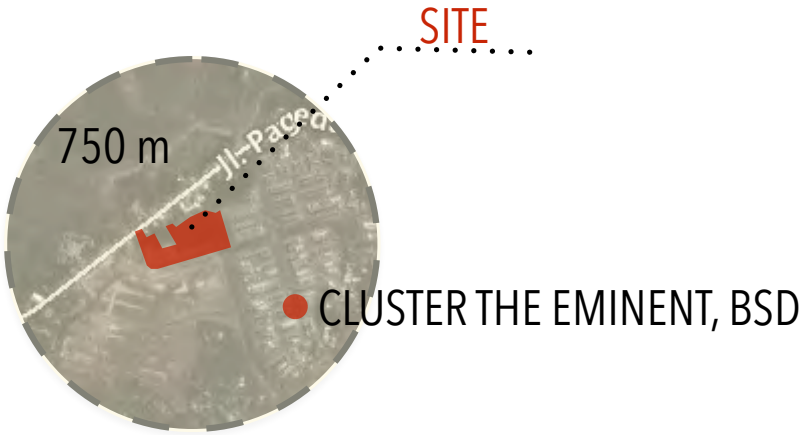
2016/09/06

ABODAY

- PROLOGUE -

- SITE ANALYSIS -

RADIUS 750 M

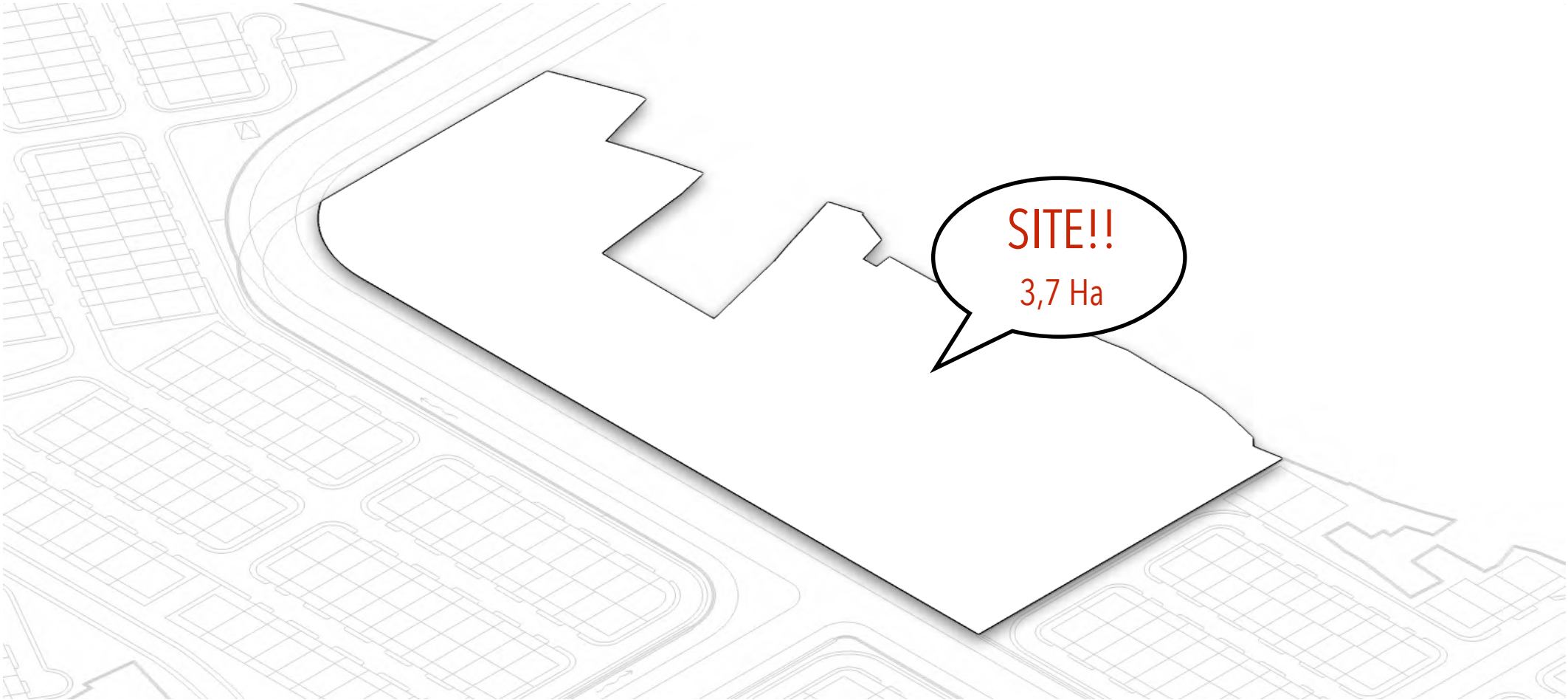


- SITE ANALYSIS -

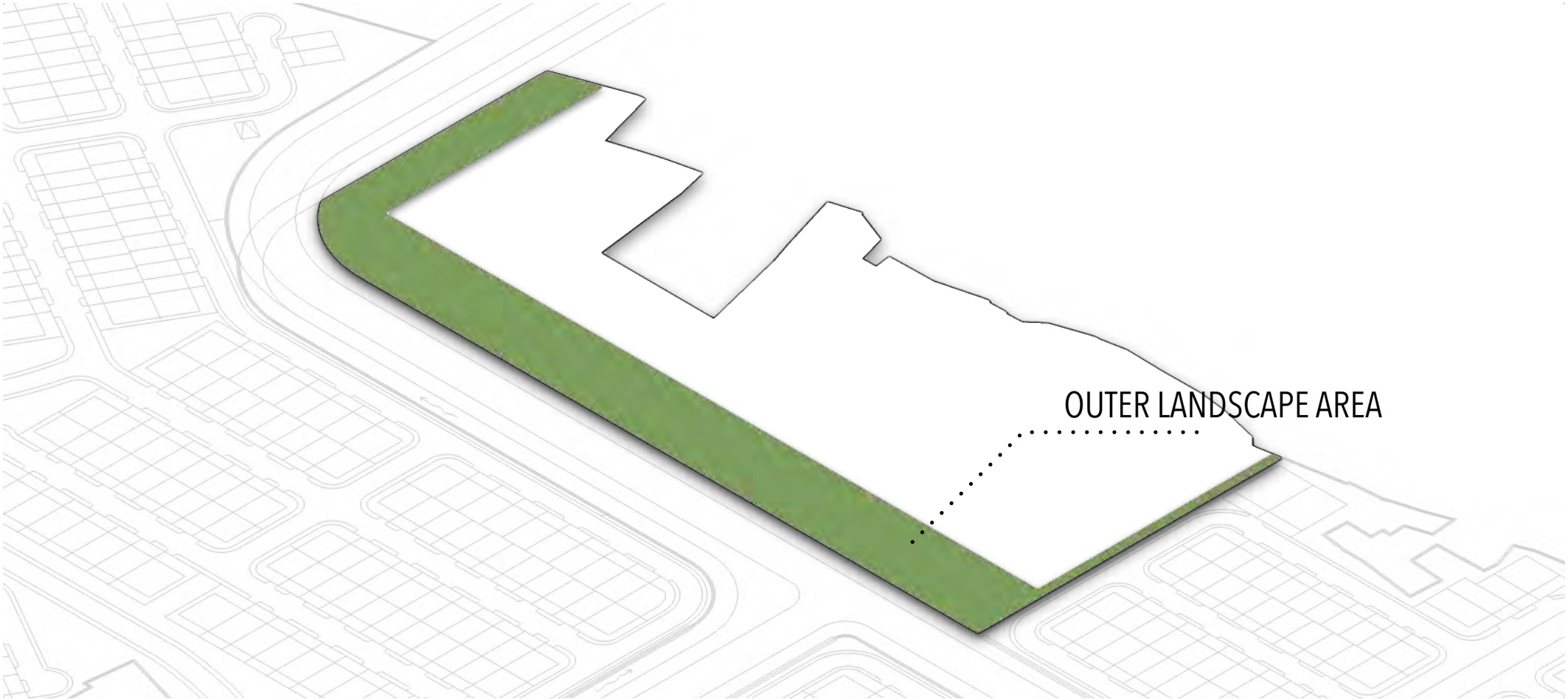
RADIUS 1500 M

- SITE ANALYSIS -
RADIUS 3000 M
3000 m
1500 m
750 m
THE SPRINGS CLUB, SERPONG
DAMAI INDAH GOLF &
COUNTRY CLUB, BSD
Jalan BSD Boulevard Utara
Jl. Pacedangan
CLUSTER THE EMINENT, BSD
Jalan Boulevard BSD Timur
THE BREEZE, BSD
The Breeze BSD
ICE, BSD
AEON MALL, BSD
CLUBHOUSE THE EMINENT
ABODAY

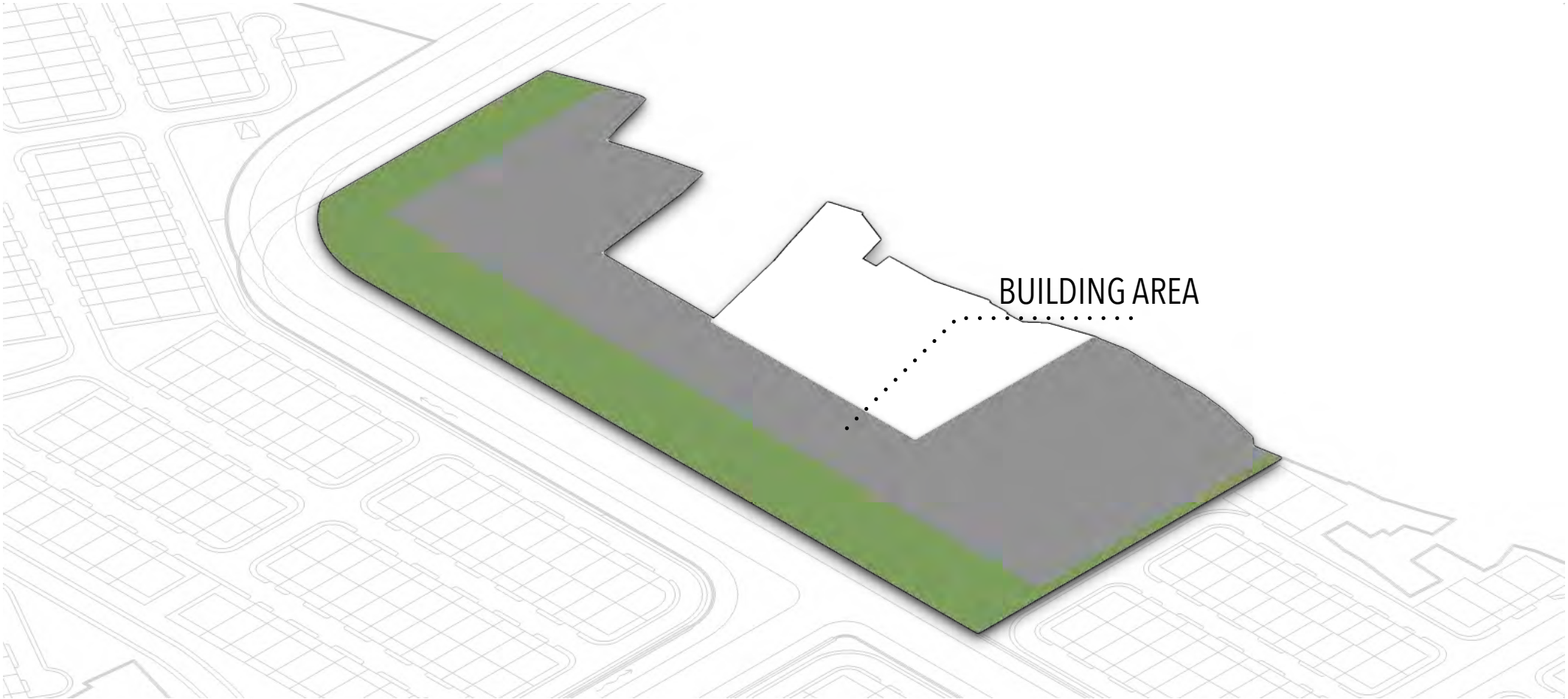
- MASSING -


SITE!!
3,7 Ha

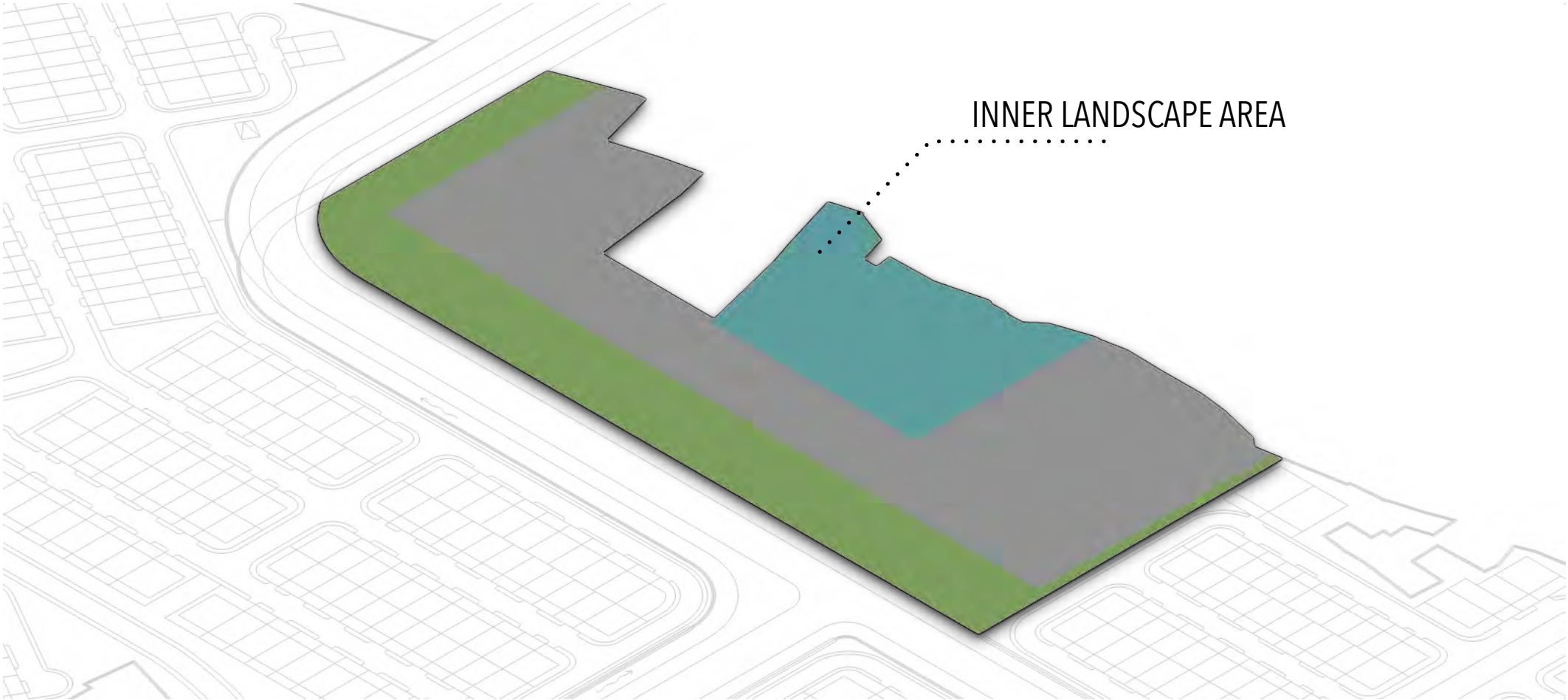
- ZONING - LANDSCAPE AREA



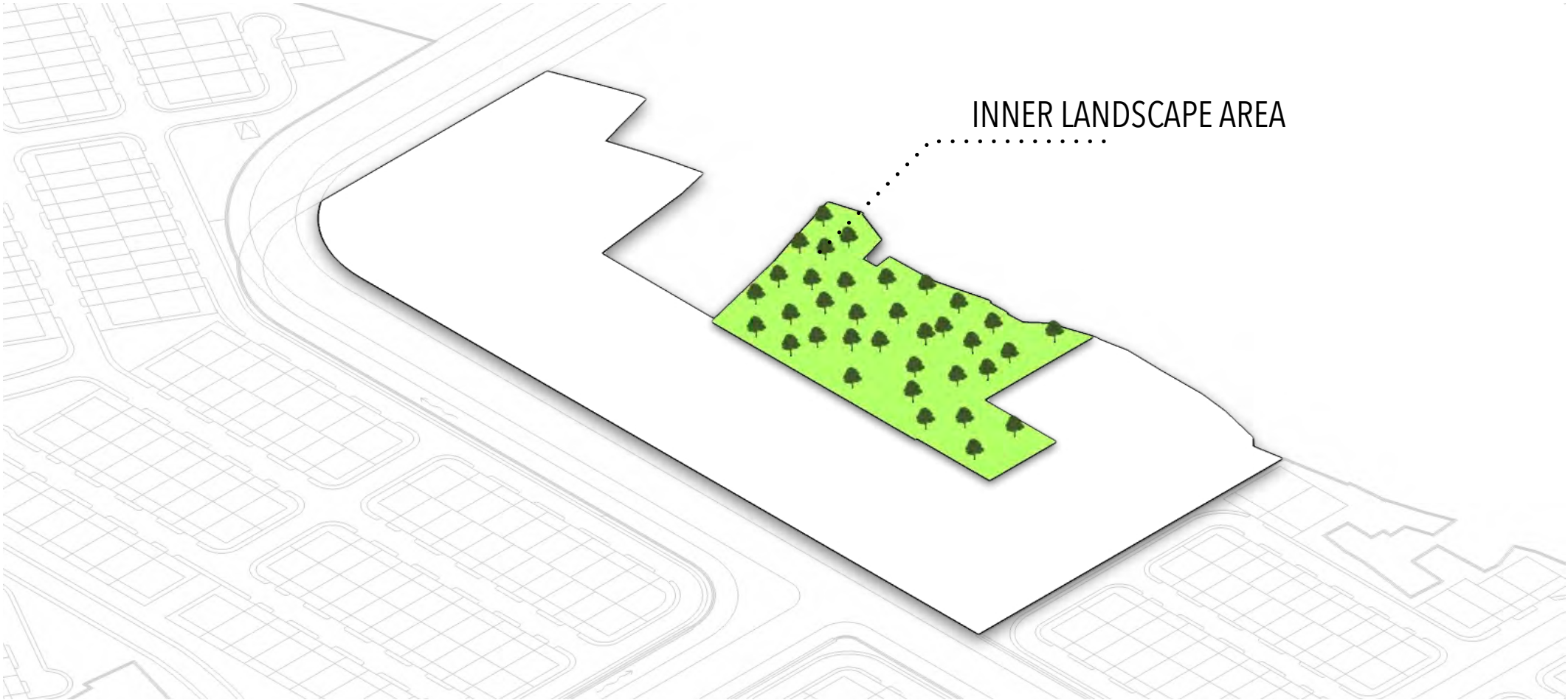
- ZONING - BUILDING AREA



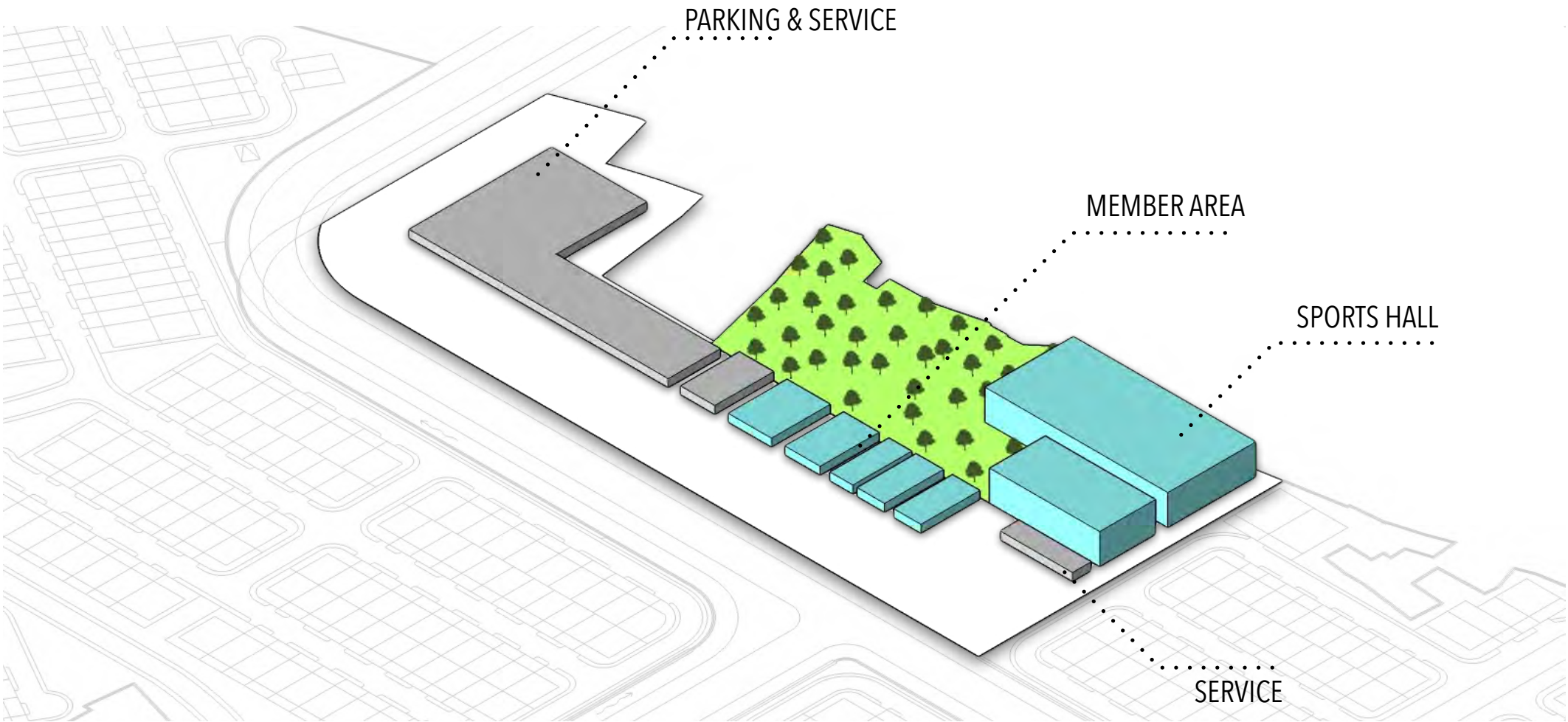
- ZONING - INNER LANDSCAPE AREA



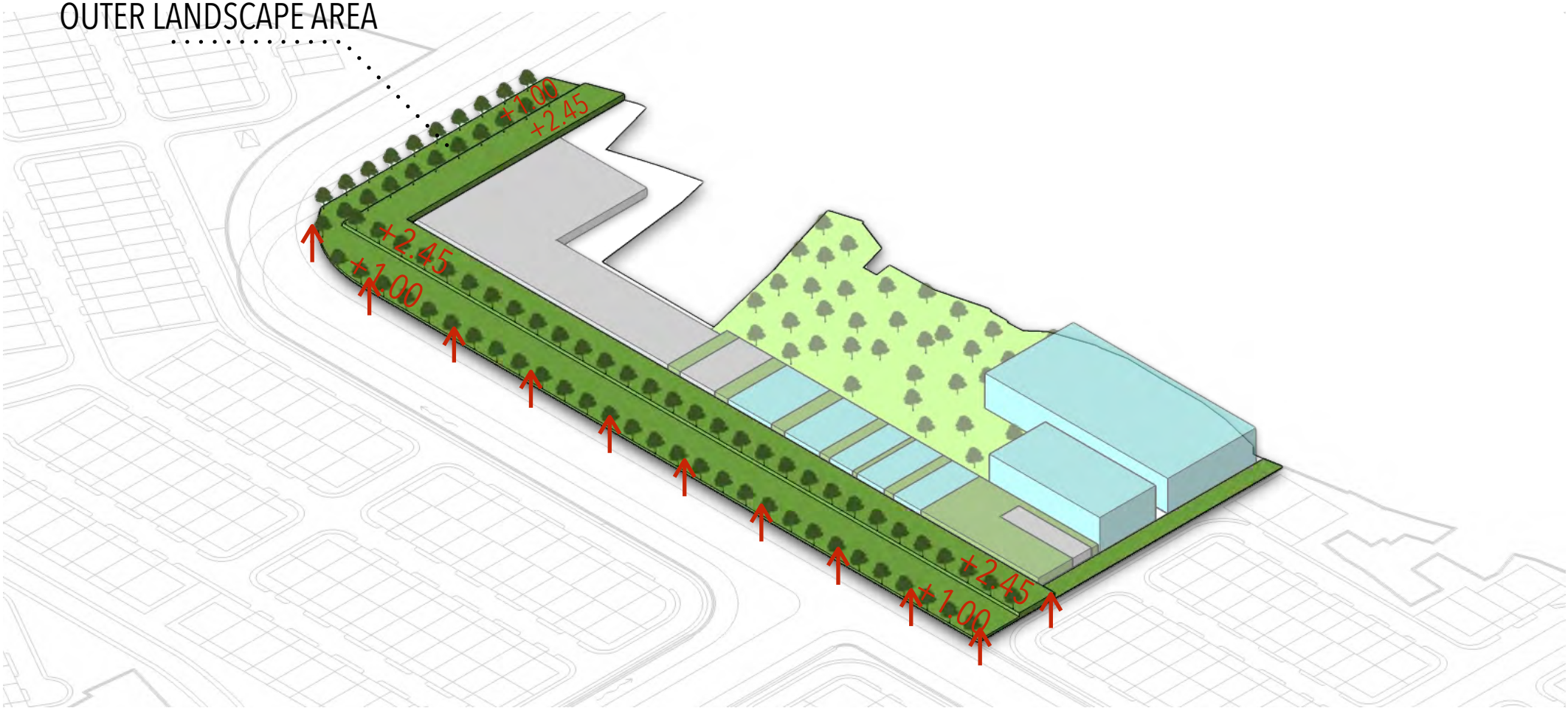
- ZONING - INNER LANDSCAPE AREA (±0.00)



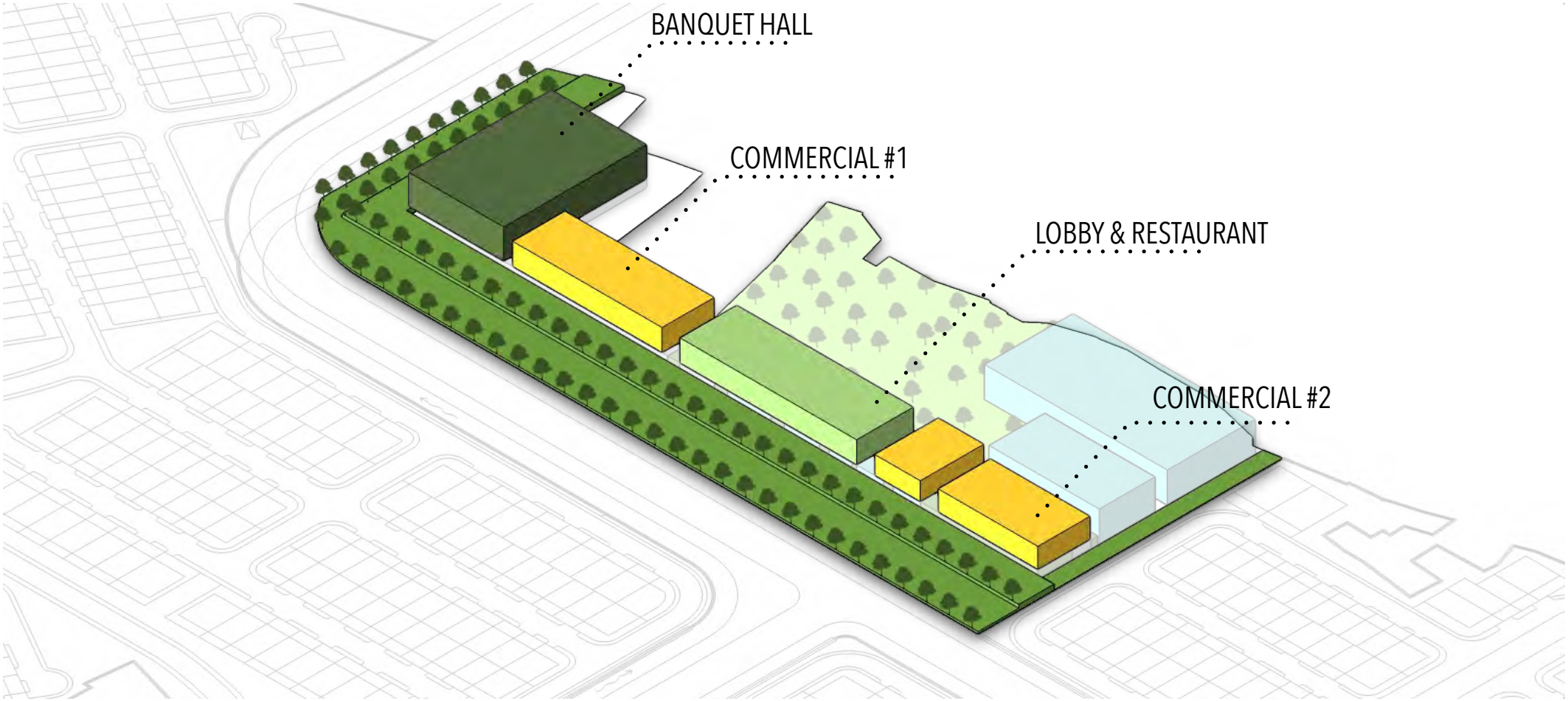
- ZONING - LOWER GROUND FLOOR (±0.00)



- ZONING - OUTER LANDSCAPE AREA (+1.00 & +2.45)



- ZONING - UPPER GROUND FLOOR (+3.50)



- PLAN -

- BLOCK PLAN-

BANQUET HALL
COMMERCIAL
INNER LANDSCAPE
SPORTS HALL
SUPERMARKET
CHILDREN DAY CARE
MARKETING GALLERY
COMMERCIAL
LOBBY
RESTAURANT
MAIN DRAIN
ROW 10
ROW 12

- LOWER GROUND FLOOR -

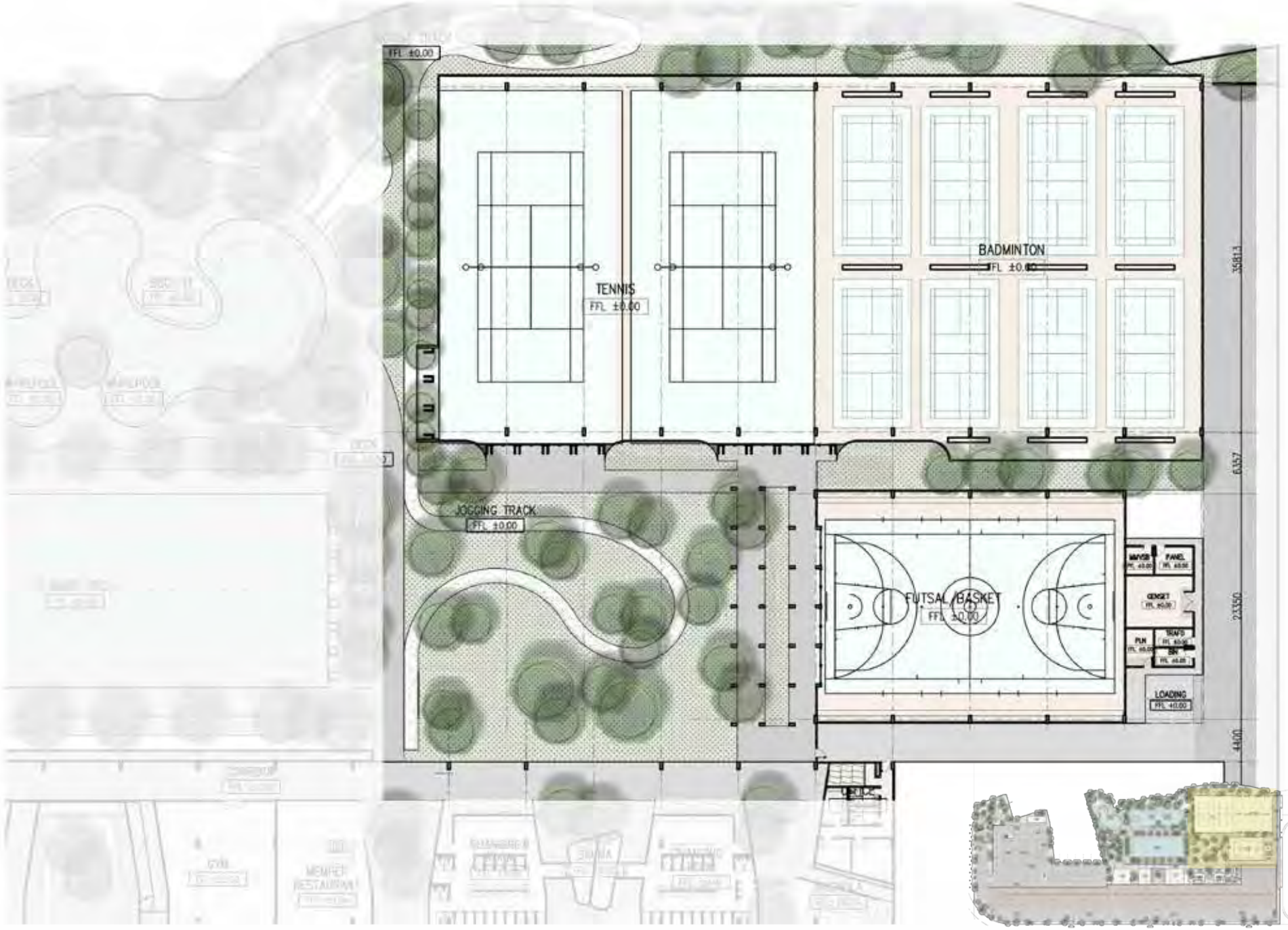
- LOWER GROUND FLOOR - PARKING AREA & SERVICE

- LOWER GROUND FLOOR - MEMBER FACILITY

CLUBHOUSE THE EMINENT

ABODAY

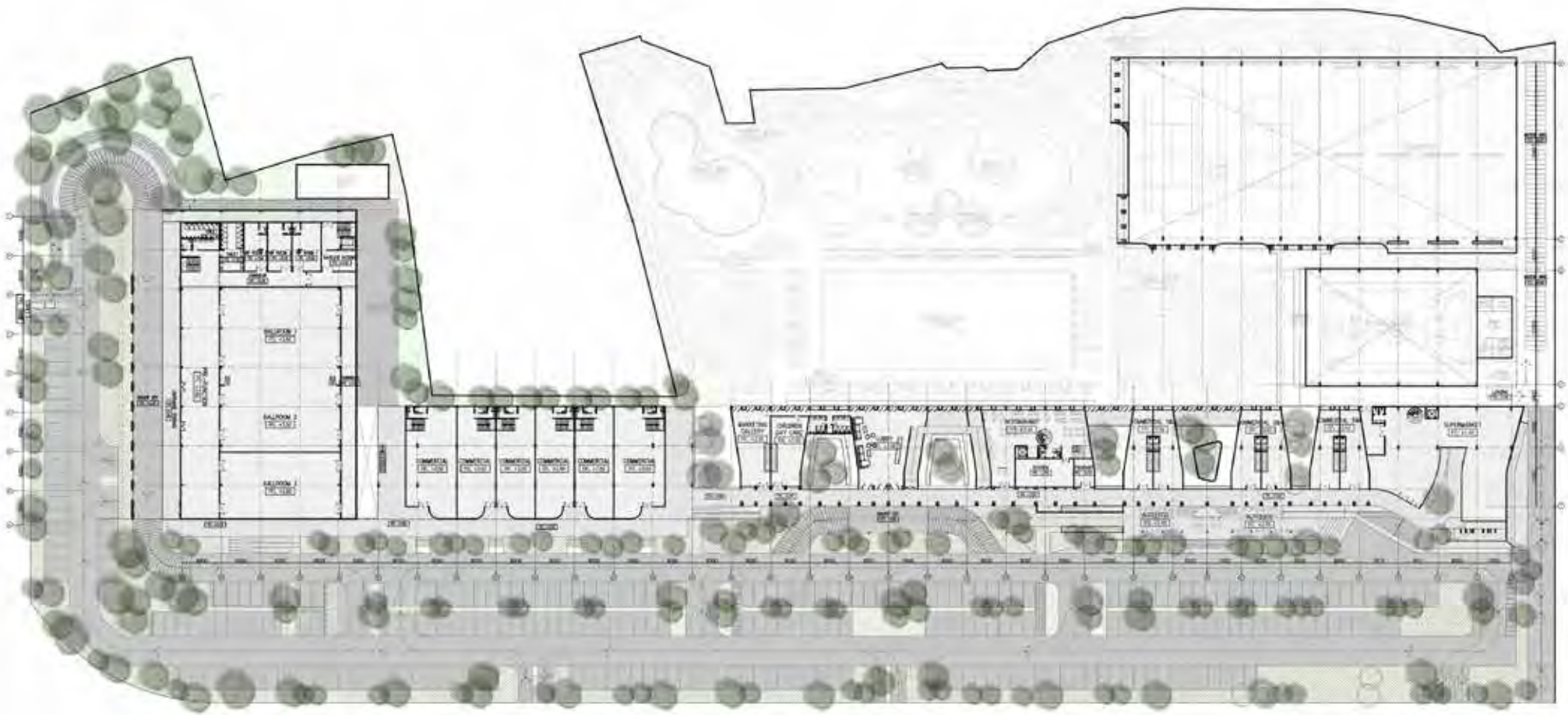
- LOWER GROUND FLOOR - SPORTS HALL AREA



ABODAY

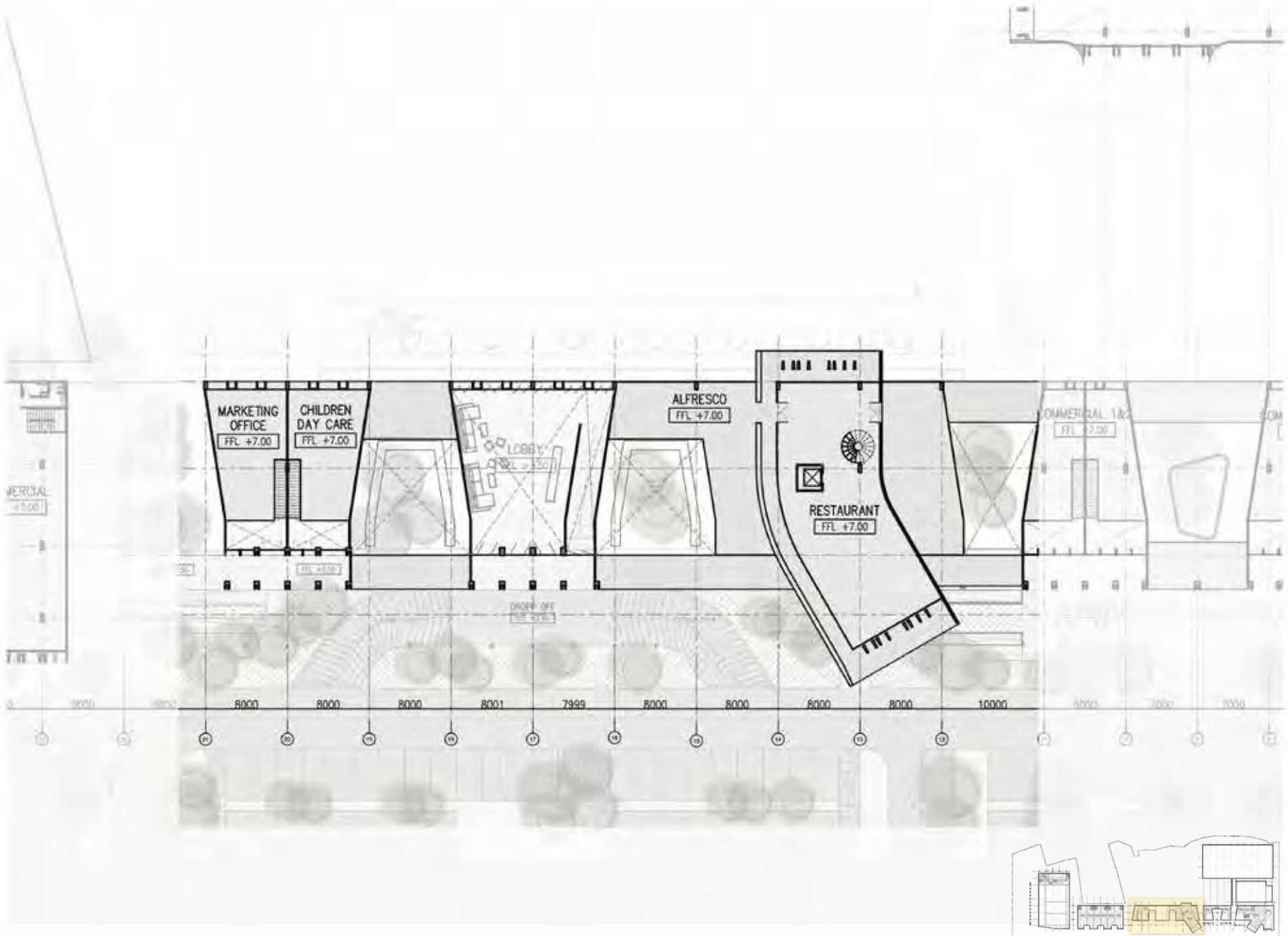
- LOWER GROUND FLOOR - INNER LANDSCAPE AREA

- UPPER GROUND FLOOR -

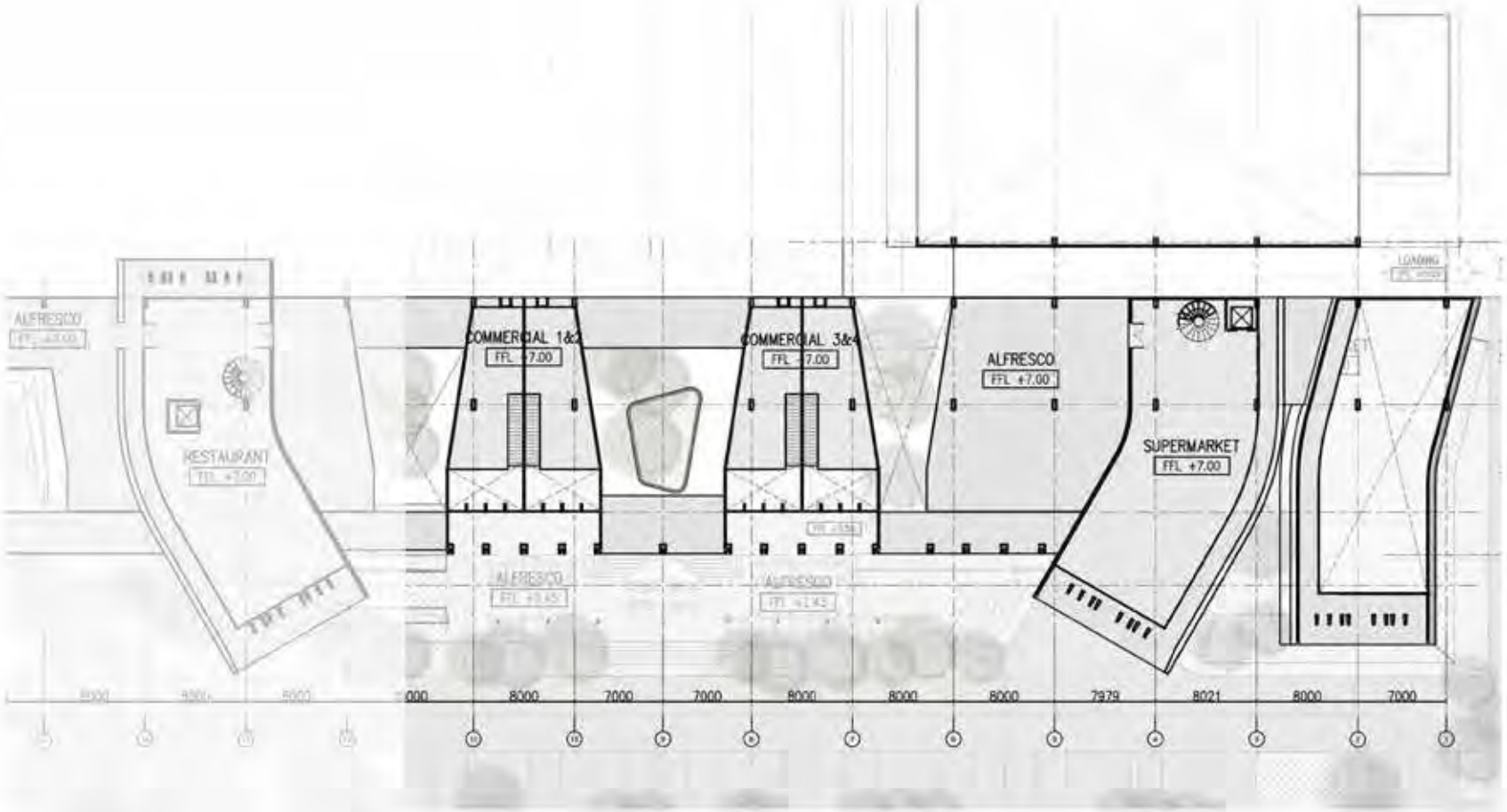


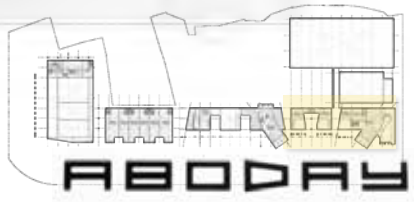
02 GROUND FLOOR

- 2ND FLOOR - CHILDREN DAY CARE, MARKETING GALLERY, LOBBY, RESTAURANT



- 2ND FLOOR - COMMERCIAL AREA F&B





- EXTERIOR VIEW, FRONT AREA -

- EXTERIOR VIEW, POOL AREA -

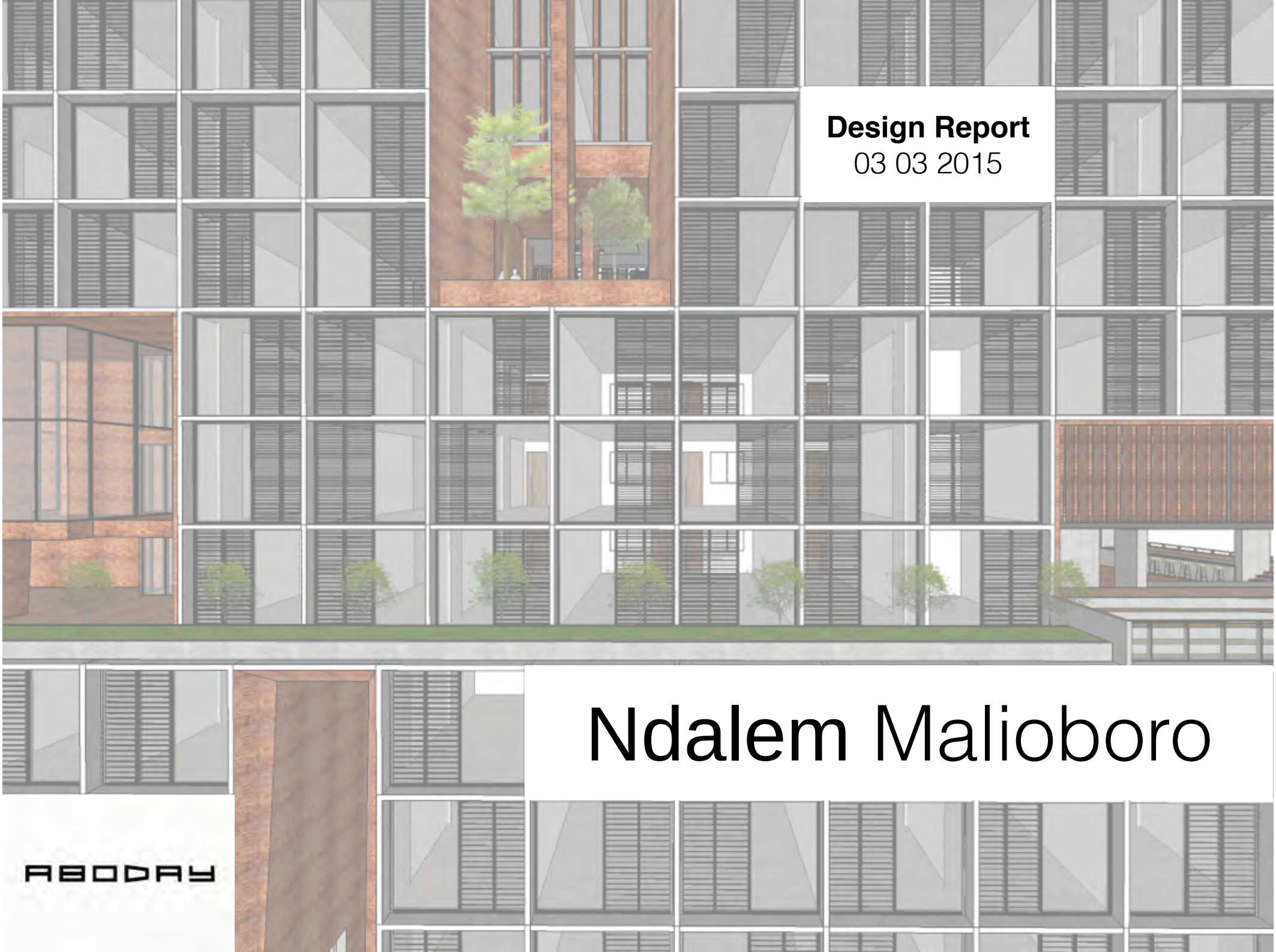
CLUBHOUSE THE EMINENT

ABODAY

- EXTERIOR VIEW, SUPERMARKET -

- EXTERIOR VIEW, ALFRESCO AREA -

- EXTERIOR VIEW, DROP OFF & RESTAURANT AREA -



Design Report
03 03 2015

Ndalem Malioboro

ABODAY

ABODAY

FACTS

ABODAY
Stasiun Tugu
354 m
4 minutes walk
500 m
1000 m
1500 m
SITE
Malioboro mall
545 m
7 minutes walk
Pasar Beringharjo
905 m
11 minutes walk
Benteng Vredeburg
1.105 m
13 minutes walk
Alun-Alun
1.340 m
16 minutes walk
Keraton
1.880 m
22 minutes walk
Location Analysis

Program

Condotel
250 unit
@ 32 sqm
Area 9.600 sqm

Apartment
1 Bedroom
150 unit
@ 48 sqm
2 Bedroom
75 unit
@80 sqm
Area 15.840 sqm

Commercial
Area 5000 sqm

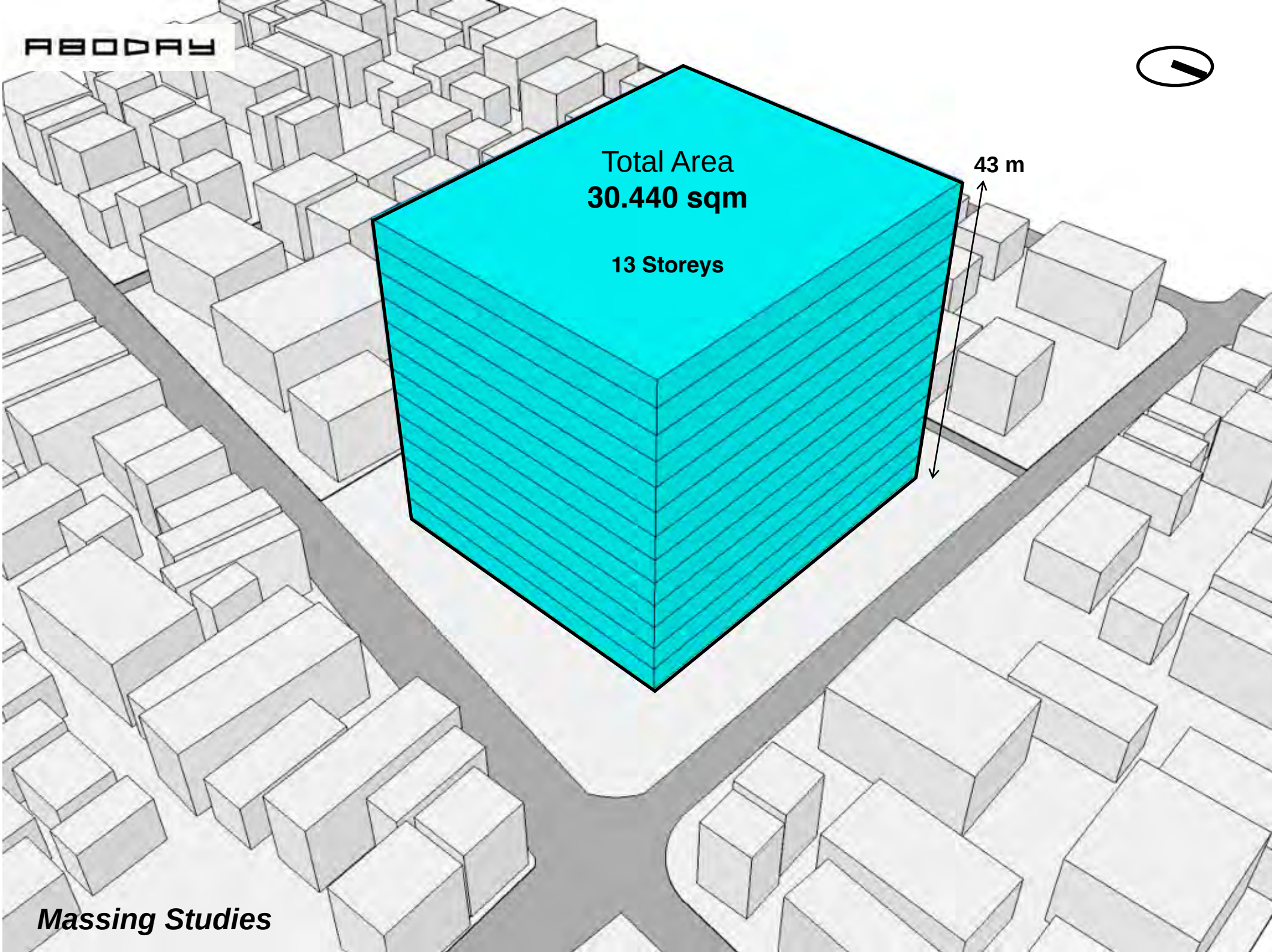
Parking
350 cars
Area 8750 sqm

Total Area
30.440 sqm
+
8.750 sqm

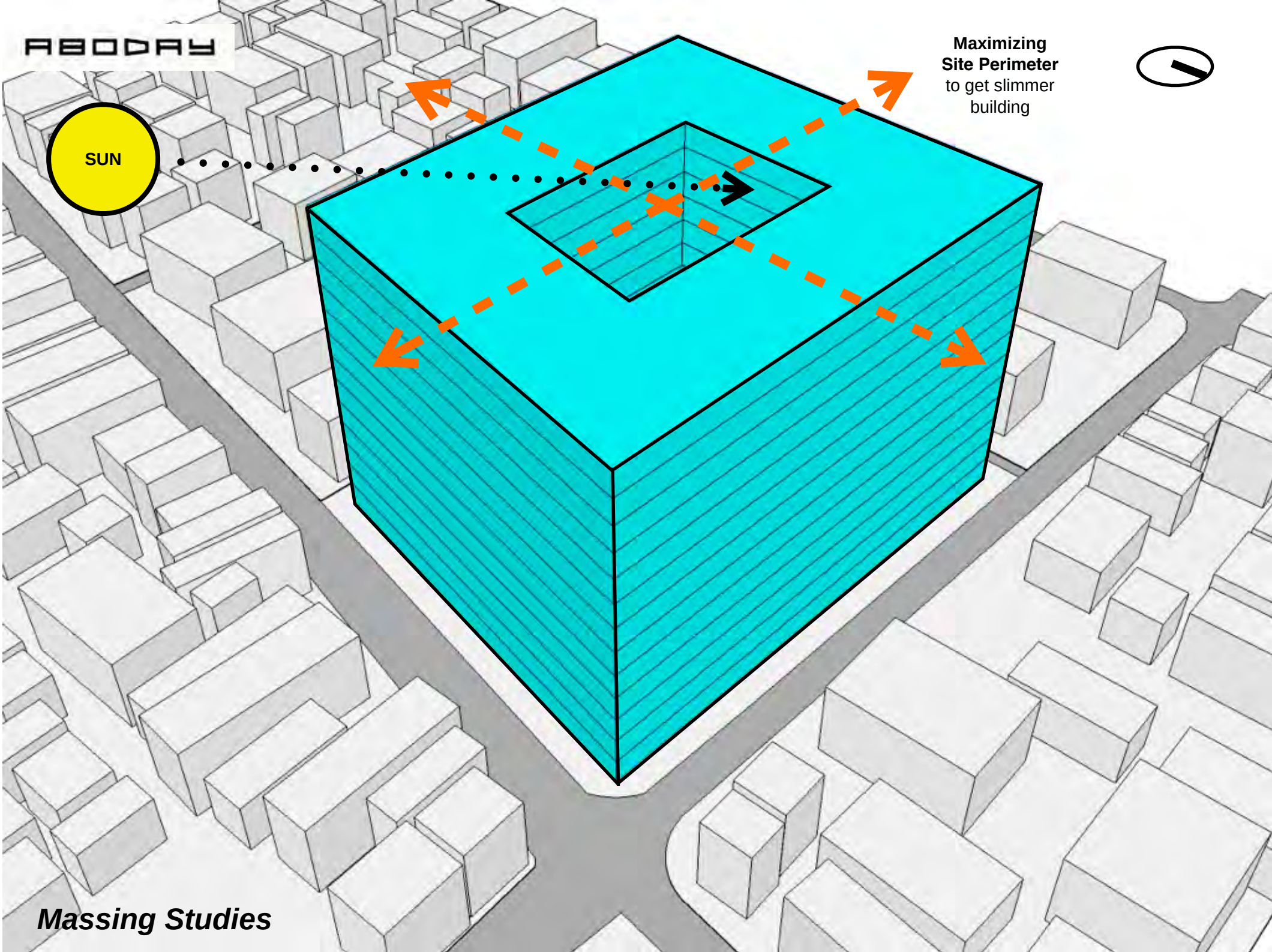
ABODAY

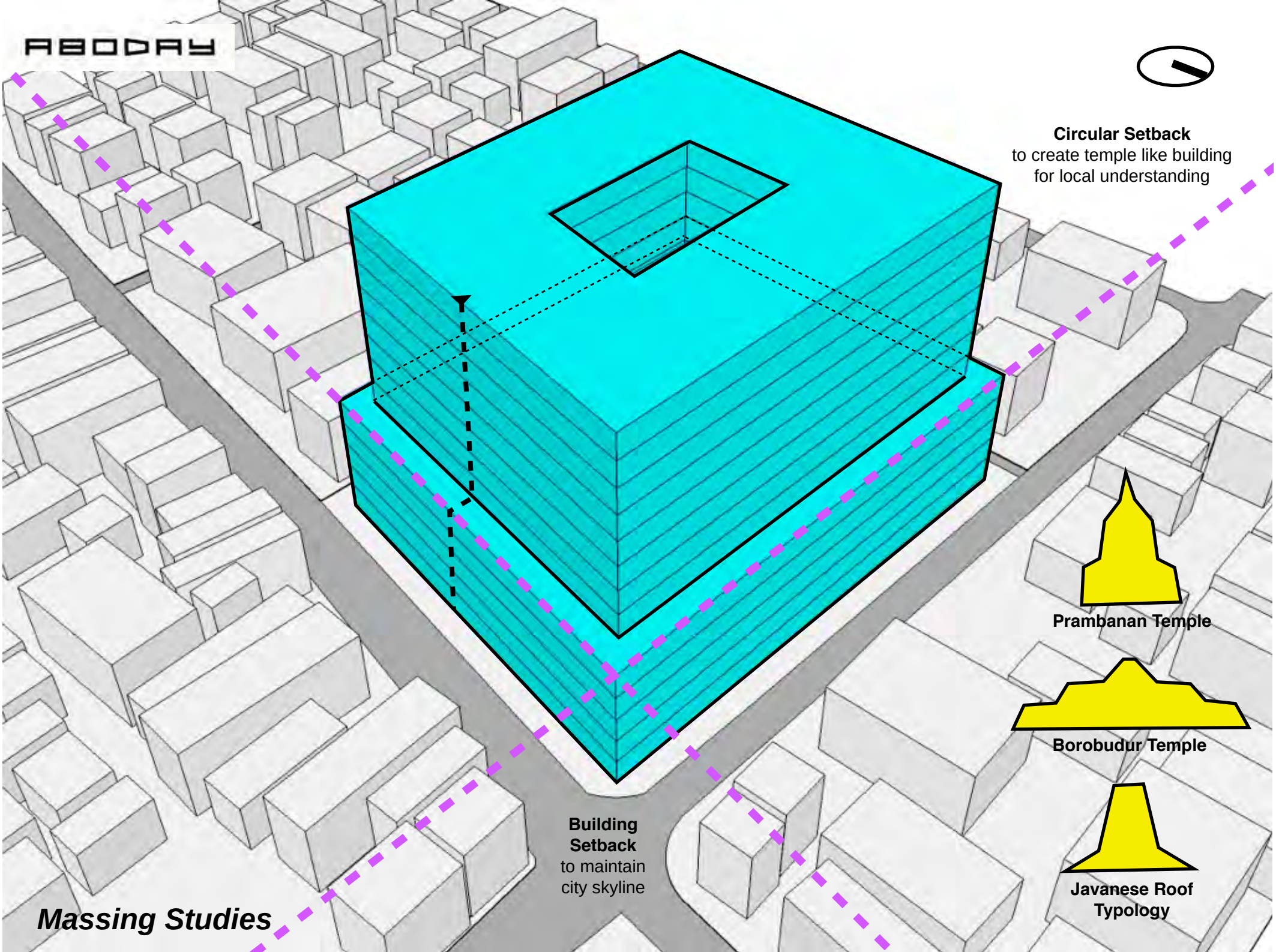
MACRO
CONCEPT

ABODAY



Massing Studies


ABODAY
SUN
Maximizing
Site Perimeter
to get slimmer
building
Massing Studies


ABODAY
Circular Setback
to create temple like building
for local understanding
Prambanan Temple
Borobudur Temple
Javanese Roof
Typology
Building
Setback
to maintain
city skyline
Massing Studies

ABODAY

Prambanan Temple

Javanese Roof

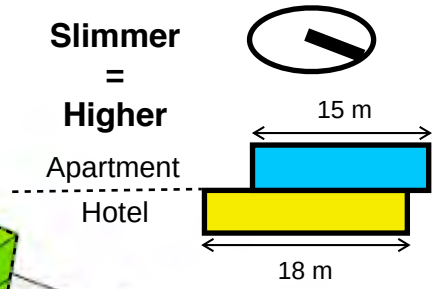
Borobudur Temple

Massing Studies

ABODAY

360 City View
for Hotel & Apartment

Slimmer
=
Higher

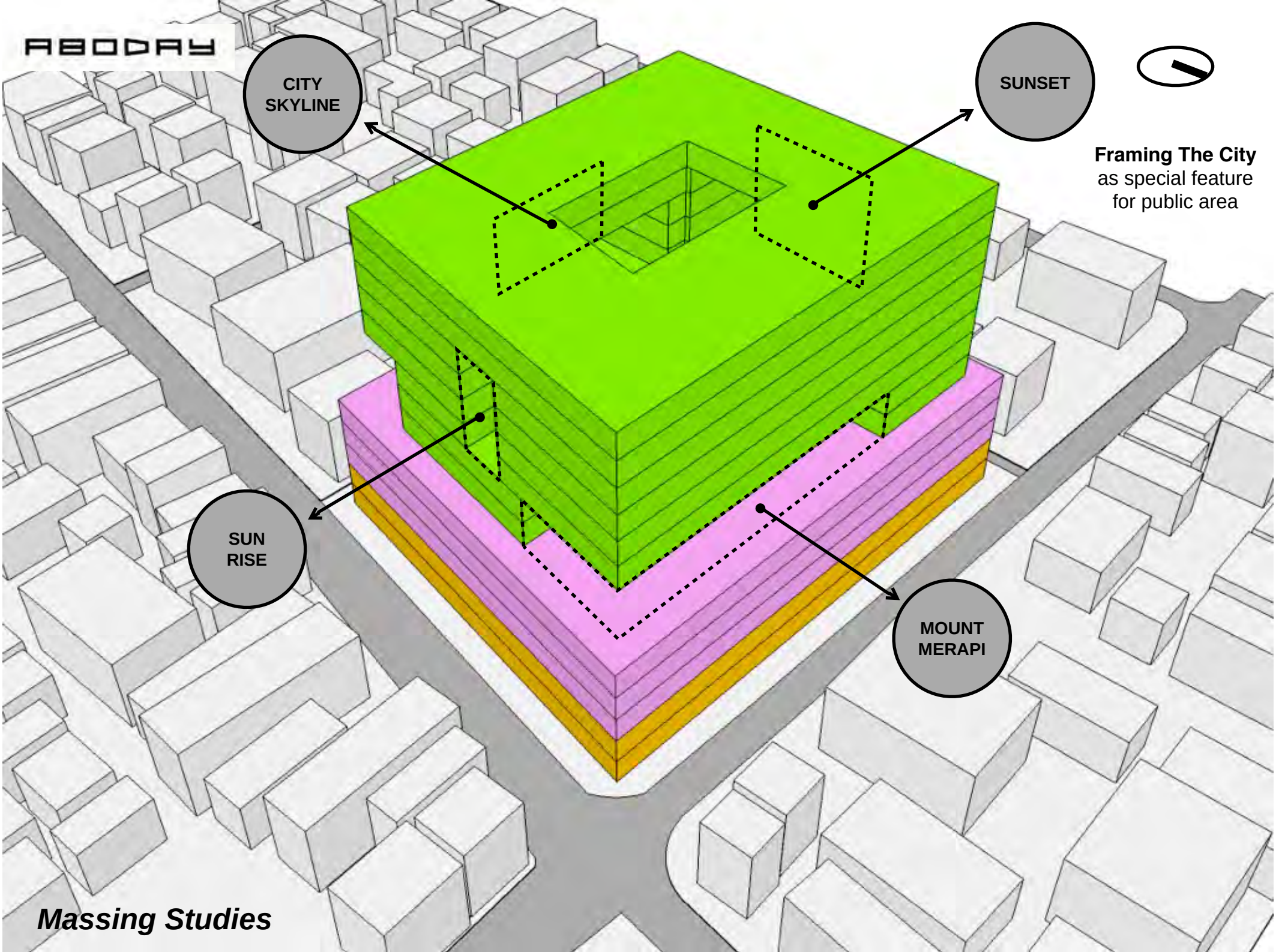


Apartment

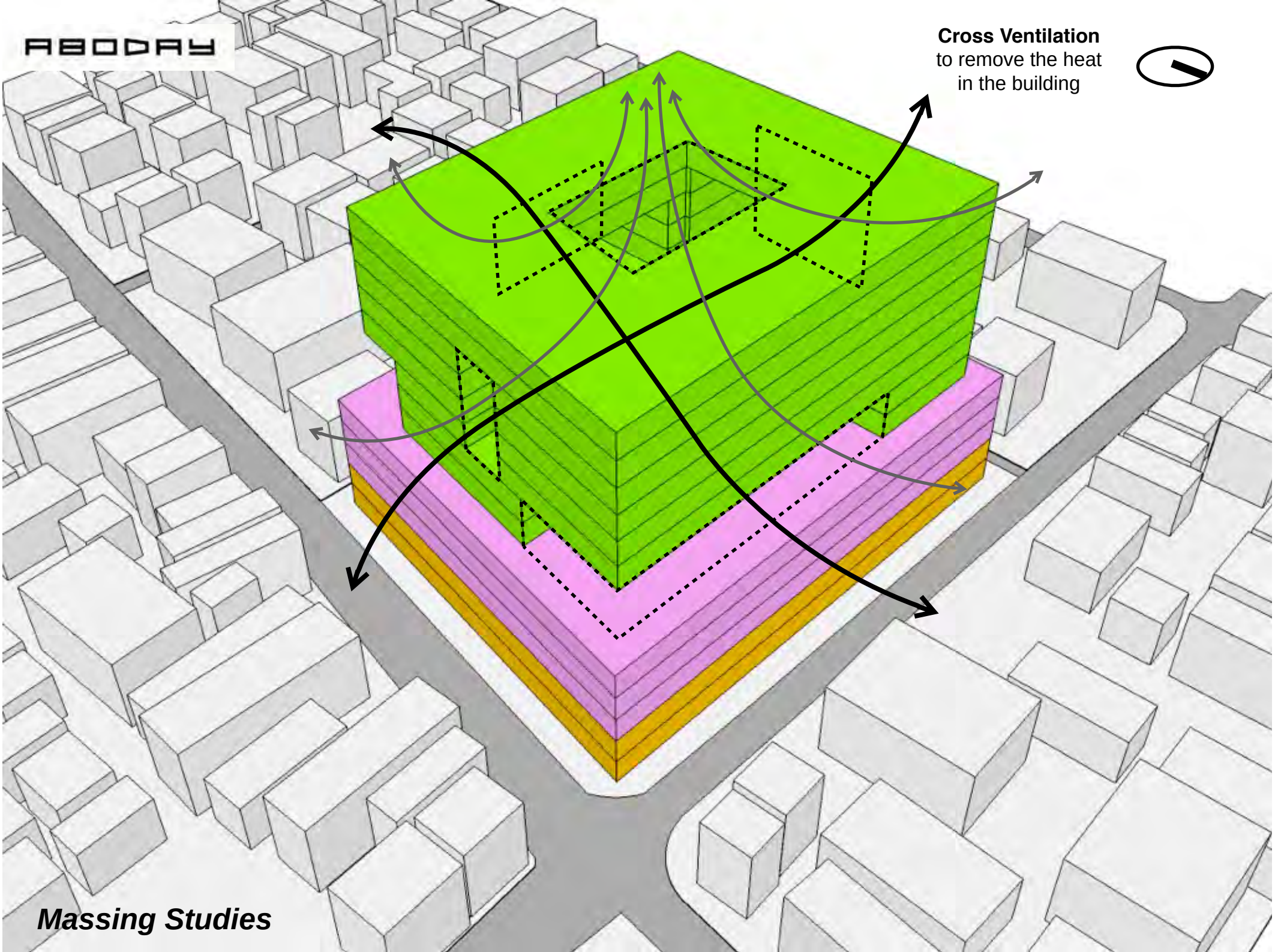
Condotel

Commercial

Massing Studies


ABODAY
CITY SKYLINE
SUNSET
SUN RISE
MOUNT MERAPI
Framing The City
as special feature
for public area
Massing Studies

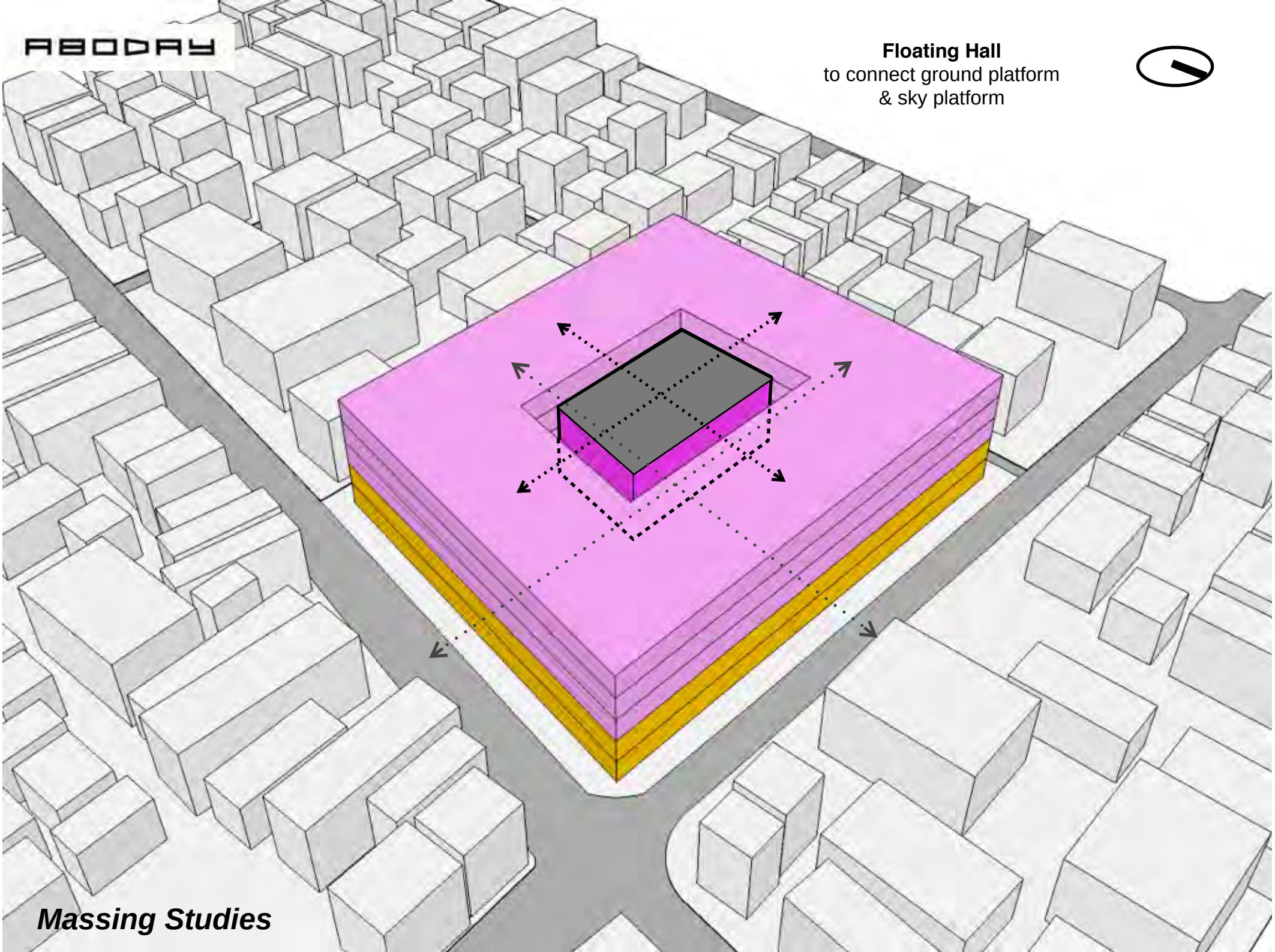
ABODAY



Massing Studies

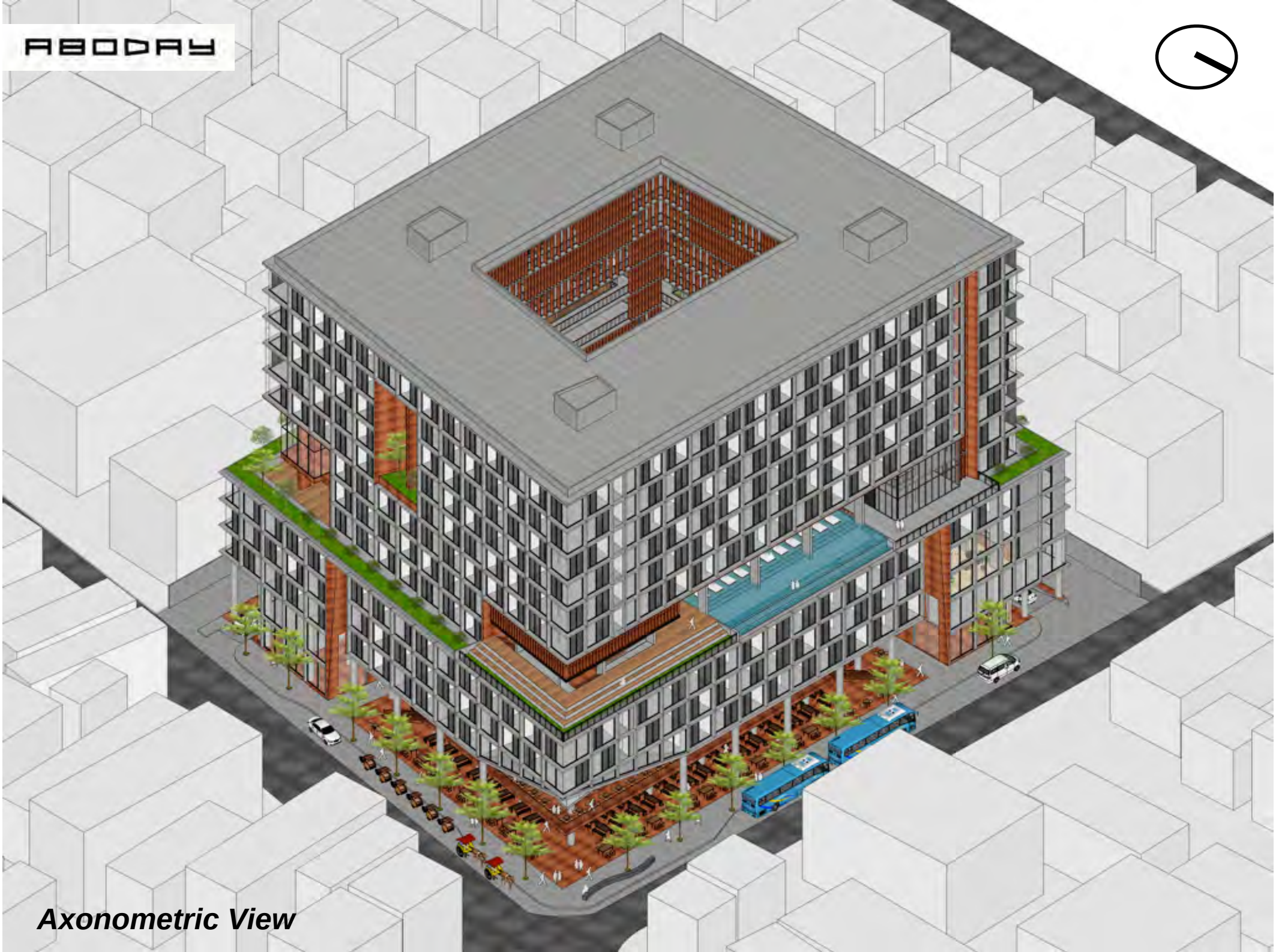
ABODAY

Floating Hall
to connect ground platform
& sky platform



Massing Studies

ABODAY



Axonometric View

ABODAY

Axonometric View

Axonometric View

ABODAY

Axonometric View

ABODAY

Perspective View

ABODAY

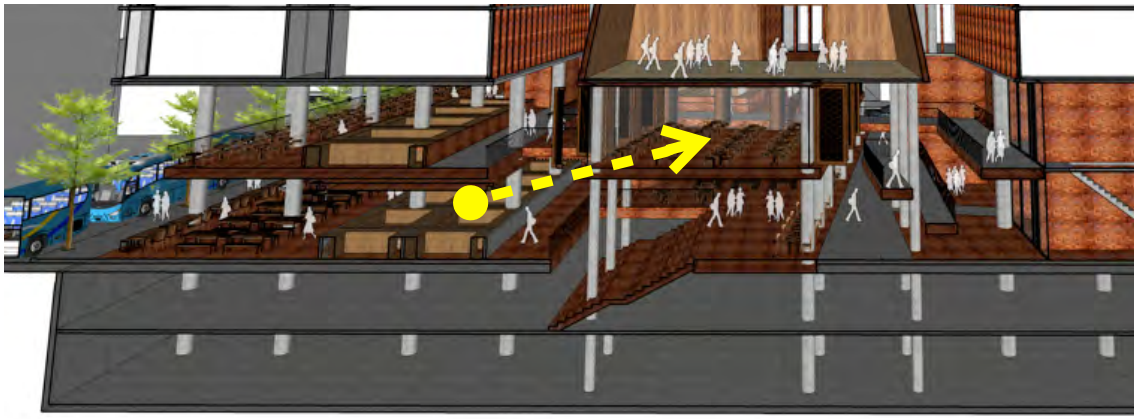
Perspective View

ABODAY

MICRO
CONCEPT

ABODAY

Corridor



Grand Stair
view to commercial area

Basement Area

Bring The Street Scene
Into The Building
to diminish the boundary between
outside and inside the buidling
to bring the people in

*Image : **Google Image***

Commercial Area

ABODAY

Total Area
4163 sqm

Commercial Area
2988 sqm

Total Seat
496

Pedestrian

Entrance

Commercial Area

Reception Area

Service Area

Lift for **Hotel**

Lift for **Apartment**

Commercial Area

Ground Floor Plan
Zoning

ABODAY

Total Area
4163 sqm

Commercial Area
2988 sqm

Main Circulation

Lay By

Basement

On Street Parking

Drop Off

Commercial Area

Ground Floor Plan
Vehicle Circulation

ABODAY

Total Area
4163 sqm

Commercial Area
2988 sqm

Pedestrian

Entrance

Commercial Area

Ground Floor Plan
Pedestrian Circulation

ABODAY

Total Area
2439 sqm

Commercial Area
1779 sqm

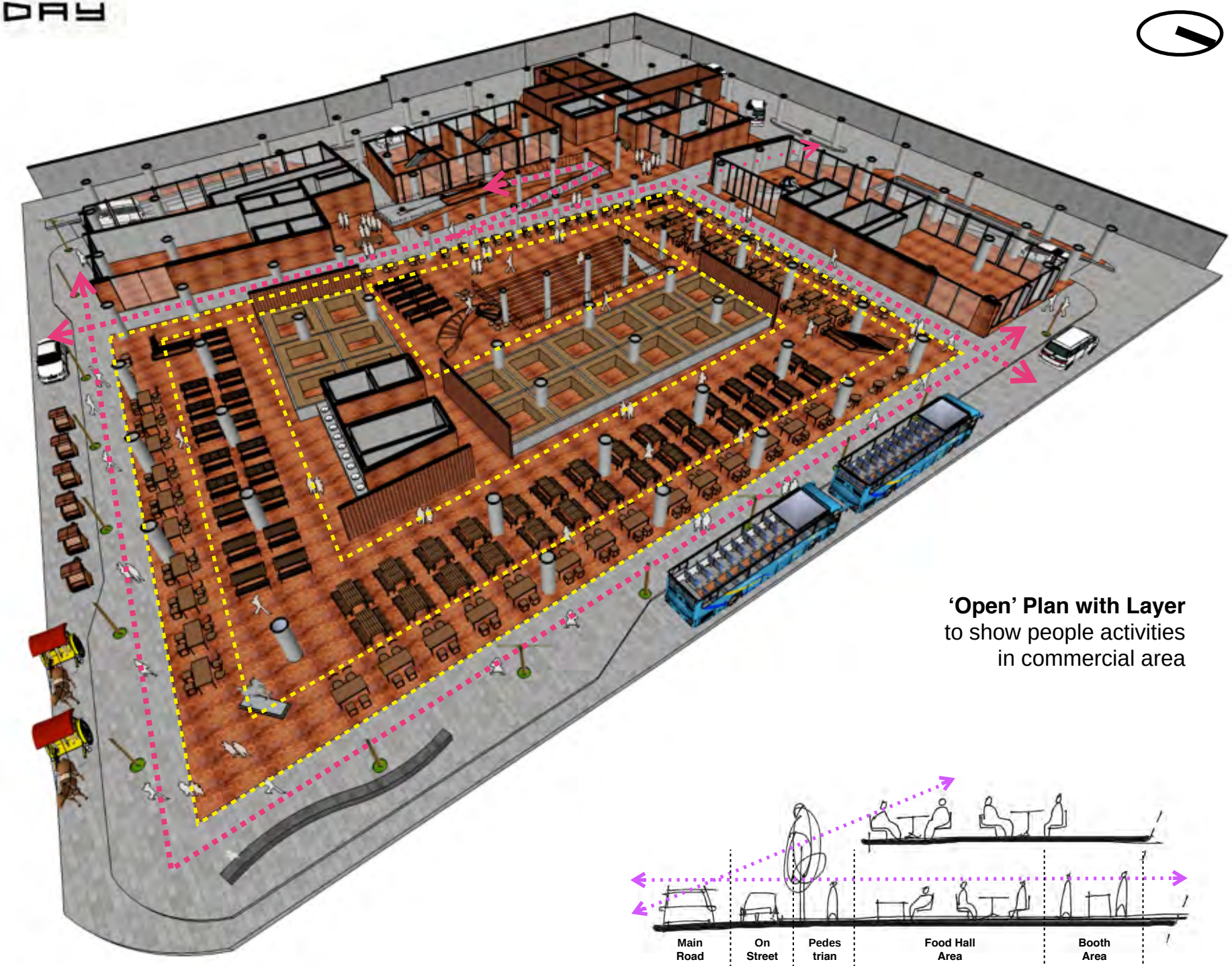
Service

Access

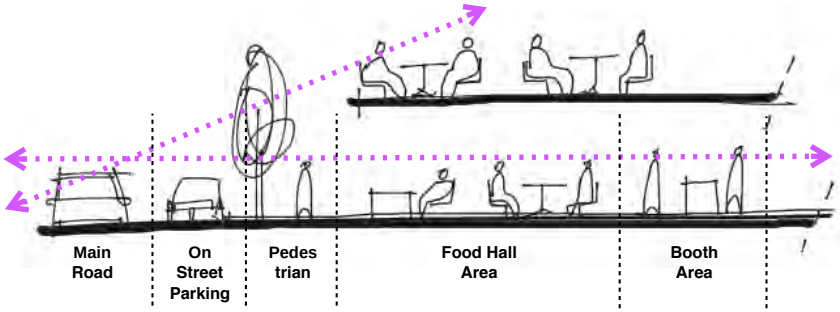
Commercial Area

2nd Floor Plan

ABODAY

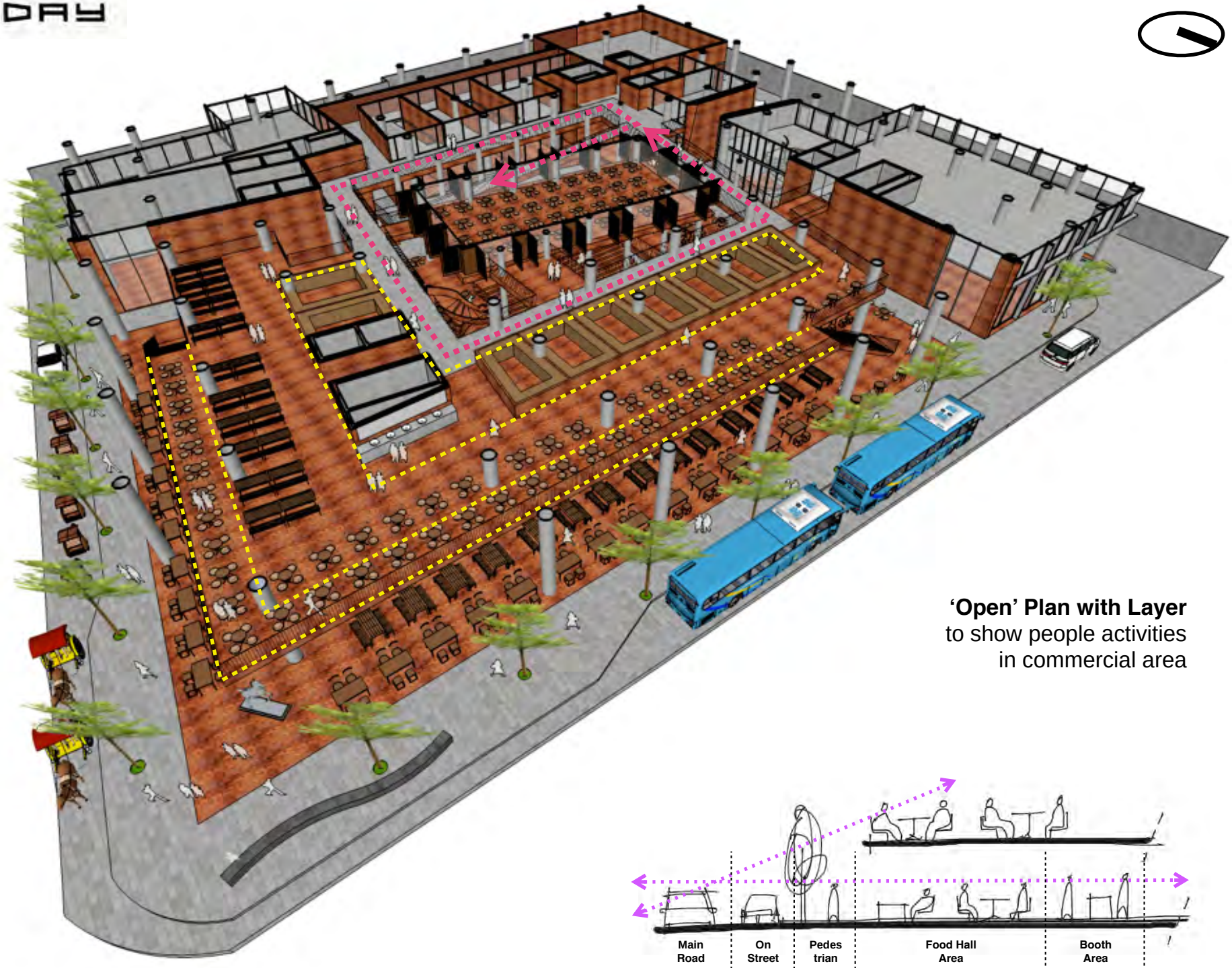


‘Open’ Plan with Layer
to show people activities
in commercial area

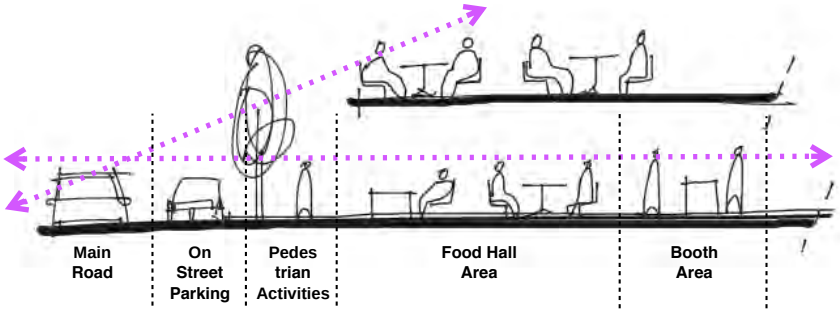


Commercial Area

ABODAY



‘Open’ Plan with Layer
to show people activities
in commercial area



Commercial Area

ABODAY

Exterior View

Exterior View

Inner Court View

Inner Court View