DKO

11 Gibbons Street
Redfern

Design Excellence Report

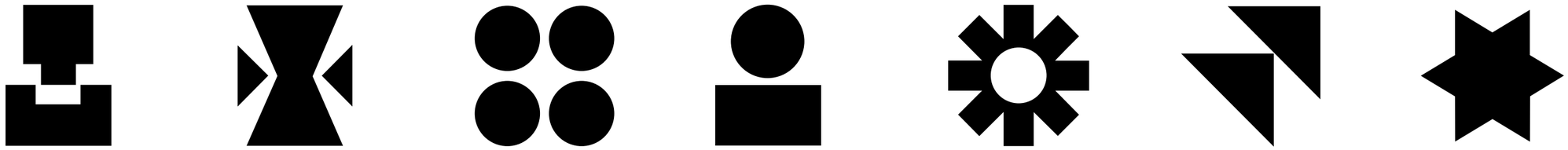
SGCH
DKO ARCHITECTURE

25.09.2018

DESIGN RESPONSE
DESIGN EXCELLENCE PRINCIPLES

GANSW states ‘Good design is not just how a place looks, but how it works and feels for people. Good design creates better places that in turn maximise public value and contribute to the wellbeing of individuals and the community’.

The proposed design seeks to address the 7 objectives of the “Better Places”. This document justifies and benchmarks the design against these objectives.



Objective 1
Better Fit

Contextual, local and of its place

Objective 2
Better Performance

Sustainable, adaptable and durable

Objective 3
Better for Community

Inclusive, Connected and Diverse

Objective 4
Better for People

Safe, Comfortable and livable

Objective 5
Better Working

Functional, efficient and fit for purpose

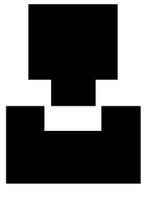
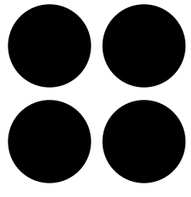
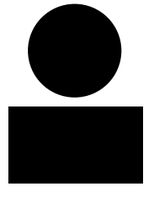
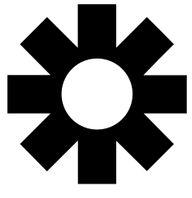
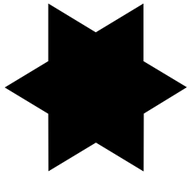
Objective 6
Better Value

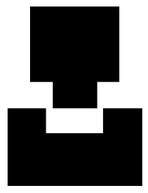
Creating and adding value

Objective 7
Better Look and Feel

Engaging, Inviting and attractive

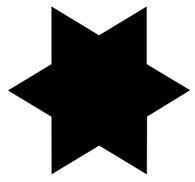
The following table links the requirements, or broad subject headings, outlined in the State Design Review Panel with the objectives of the "Better Places" document. Whilst the objectives are concise we do note that there are overlapping components.

	 **Objective 1 Better Fit**	 **Objective 2 Better Performance**	 **Objective 3 Better for Community**	 **Objective 4 Better for People**	 **Objective 5 Better Working**	 **Objective 6 Better Value**	 **Objective 7 Better Look and Feel**
Streetscape	✓		✓	✓	✓		✓
Communal Open Space			✓	✓			✓
Form & Mass	✓		✓		✓		✓
Architecture	✓	✓		✓	✓	✓	✓
Aboriginal Cultural Heritage	✓		✓				✓
Sustainability & Environmental Aspects	✓	✓		✓	✓	✓	✓



Objective 1. Better Fit
Contextual, local and of its place

Good design in the built environment is informed by and derived from its location, context and social setting. It is place-based and relevant to and resonant with local character, heritage and communal aspirations. It also contributes to evolving and future character and setting.



Objective 7. Better Look and Feel
Engaging, Inviting and attractive

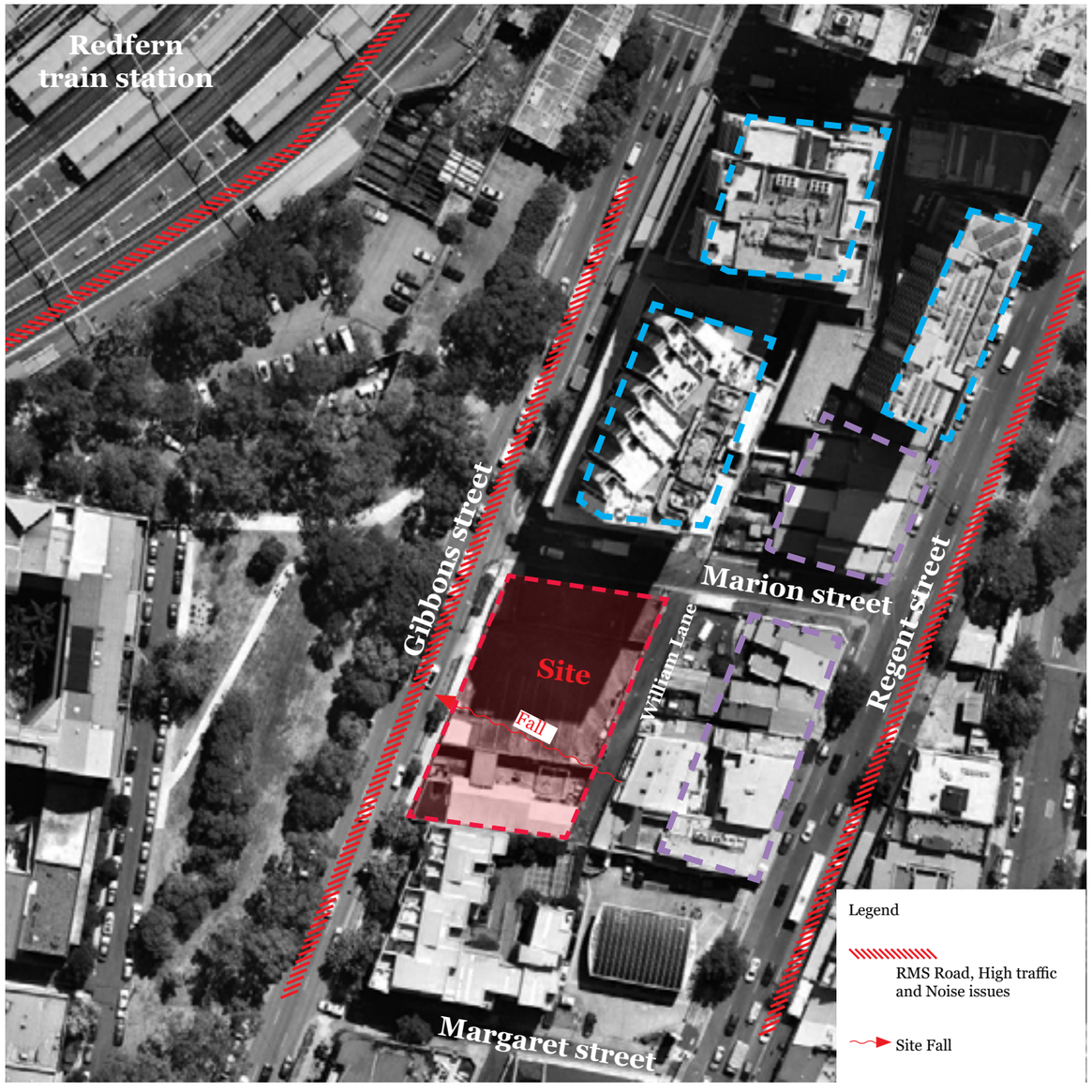
The built environment should be welcoming and aesthetically pleasing, encouraging communities to use and enjoy local places. The feel of a place, and how we use and relate to our environments is dependent upon the aesthetic quality of our places, spaces and buildings. The visual environment should contribute to its surroundings and promote positive engagement

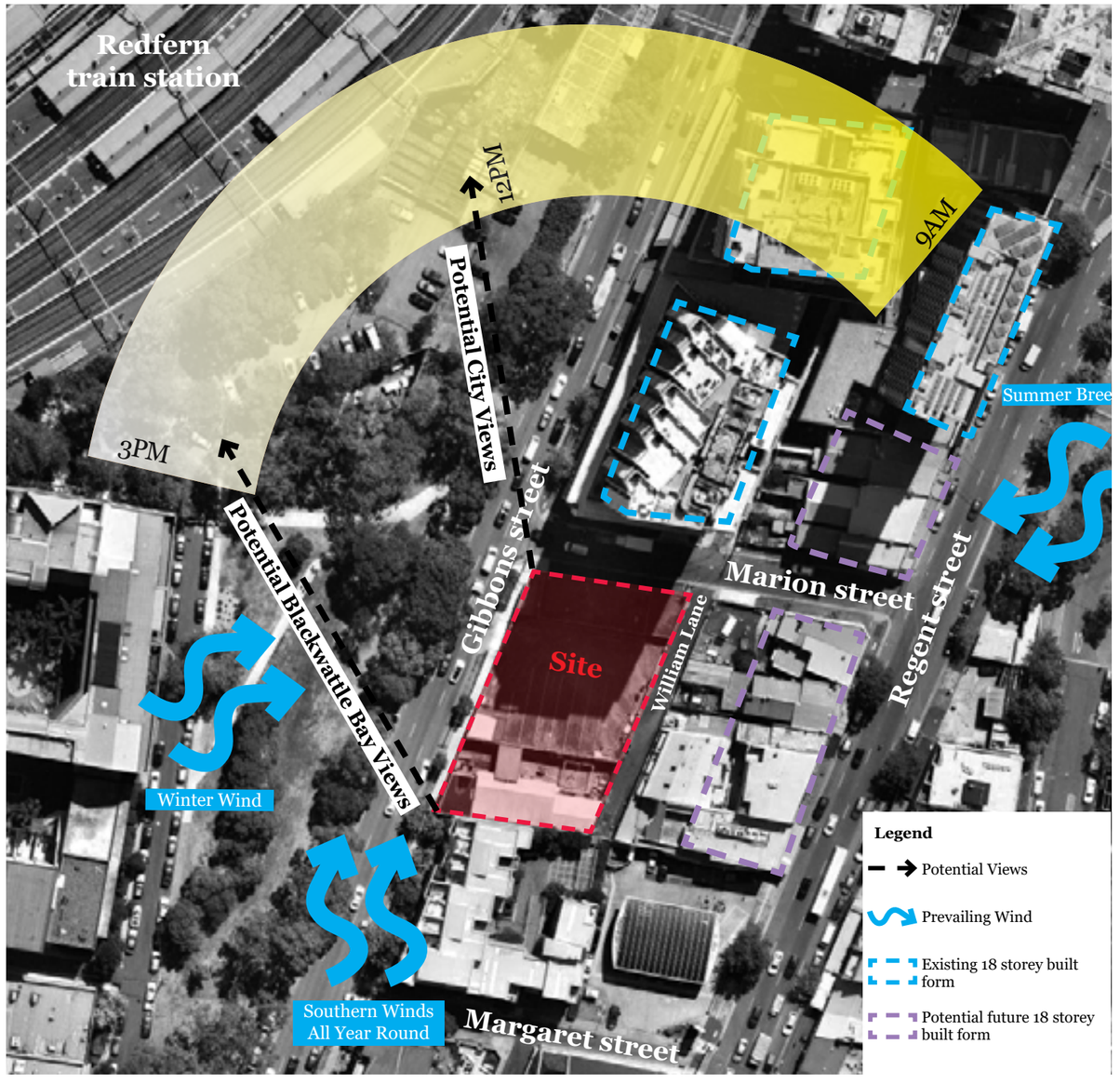
Key Points

- Understanding of site constraints and opportunities
- Understanding of the historical context
- Study of the Redfern context to draw inspiration and set framework for contextual design response
- Podium massing and articulation response
- Incorporation of Aboriginal Cultural Heritage
- Tower massing and articulation response

OBJECTIVE 1. BETTER FIT
SITE OPPORTUNITIES AND CONSTRAINTS

The Redfern context is rapidly changing with gentrification of older building and an increased density in the form taller multi residential building. The immediate context between Gibbons Street and Regent Street is also quickly changing with a number of new buildings recently completed and under construction. The site itself is constrained due to the adjacent built form with limited solar access available from the north and east. Solar access is available from the west but Gibbons street and the train line presents an acoustic challenge. The design seeks to address these constraints.





OBJECTIVE 1. BETTER FIT
HISTORICAL CONTEXT

As part of the contextual analysis we have sought to delve into the past. The site has an indigenous history as well as a post settlement history. The site has always been well connected to the rail network, since the first station opened in 1876. In more recent times there have been numerous social housing insertions into the broader Redfern context, these have mostly been poorly designed or executed.

The advent of the Waterloo station masterplan will again rapidly change the Redfern context. The design seeks to draw upon the Redfern context, pre-settlement, post settlement and also looks to the future locality.

Meeting Place
An area of wetlands with abundant resources on the edge of a great hunting ground and a central position between three main Aboriginal groups (Gadigal, Bidjigal and Wangal). Also an important corridor for indigenous communities for both trade and movement

Transport Hub
Integrated Transport

Connected Routes

Given the age and nature of the housing complexes within the surrounding context, there are challenges with amenity, safety and connectivity between residents.

Redfern Streetscape Study
The architectural language of the articulated podium is inspired by the Redfern context at street level.

The proposed development demonstrates that diverse and affordable housing will continue to be a part of the area, establishing a new benchmark for high rise social housing that priorities having a positive impact on the lives of residents and facilitating community living.

OBJECTIVE 1. BETTER FIT
CONTEXTUAL STUDY

The current built form context is eclectic and varied. As part of the design analysis we have sought to draw inspiration from the vast, diverse and varied built form.



Brick


Depth

Diversity











Clear Delineation of Form

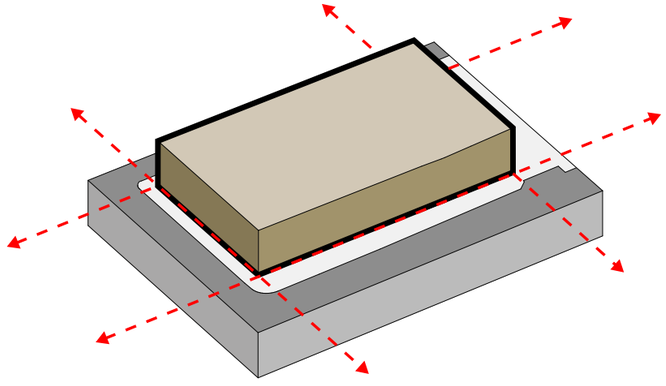

Variation in shopfronts



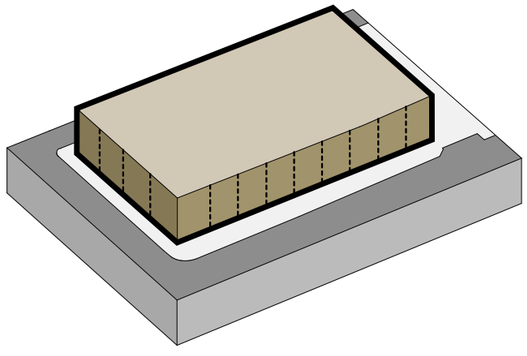
OBJECTIVE 1. BETTER FIT PODIUM RESPONSE

The built form approach to the podium draws inspiration from the immediate context by aligning with the street edges, not unlike the built form on Regent and Redfern streets. The podium is articulated in a series of vertically proportioned elements, reminiscent of the shop fronts in the immediate context.

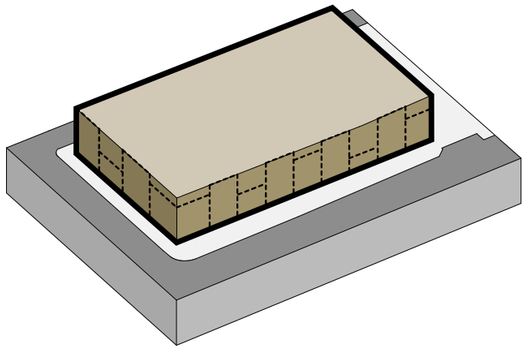
And finally the programme of the building is expressed in the façade. Elements such as the entrance, the community hub and the communal garden all expressed.



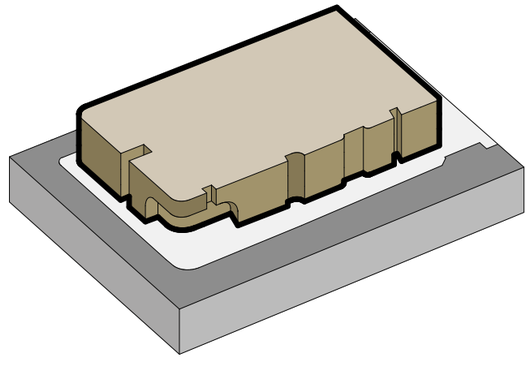
Podium Alignment with Street Edges
and further podium setback from William Lane



Delineation / Breakup of street wall



Varied Height Streetscape



Amenity / Program Driven Articulation

OBJECTIVE 1. BETTER FIT
GIBBONS ST STREETSCAPE

The programme of the building is expressed in the façade. The materials of the podium façade are robust. Brickwork, and its sculptural qualities are expressed in a contemporary manner in the façade.

OBJECTIVE 1. BETTER FIT ABORIGINAL CULTURAL HERITAGE

As part of the design excellence process SGCH have sought to incorporate the unique heritage and cultural values of the local Aboriginal community into the design of the building and its landscaping.

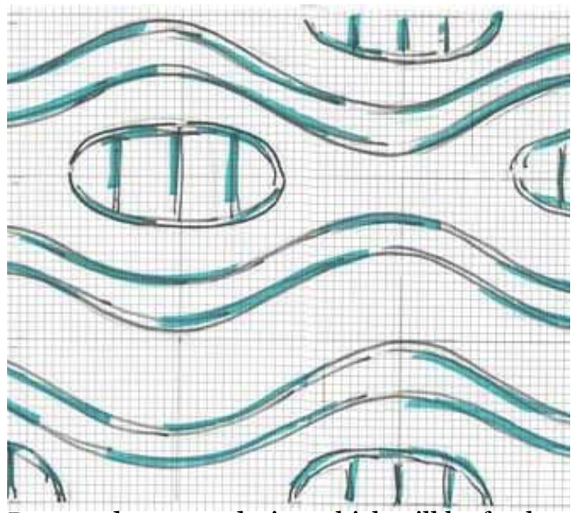
Our design objectives for this project are to incorporate:
- A response to local Aboriginal culture and heritage through the design of the development
- Architectural/built design elements on ground level, where people are interacting with the building
- External surfaces which are visible and welcoming, with the objective of achieving connectivity with the community.

During our stakeholder engagement the key stories and themes that resonated with our vision and purpose were:
- The area is in a key position between the lands of three main groups - the Gadigal, Bidjigal and Wangal
- The area borders both wetlands and woodlands with an abundance of resources and water sources – a true meeting place
- The opportunity for the local community to reconnect with Redfern.

The concept we have decided to progress to detailed design reflects the waterways and gathering activities of the past and this area as a meeting place. This concept resonates with our objective of connecting with the local community and providing great places for everyone.

Two integrated works are proposed based on the above concept to connect the development with its aboriginal cultural heritage and activate the locality, making interactions with the street and the public domain more enjoyable.

Boomali Aboriginal Artists Cooperative (Boomali). Artist Joe Hurst.

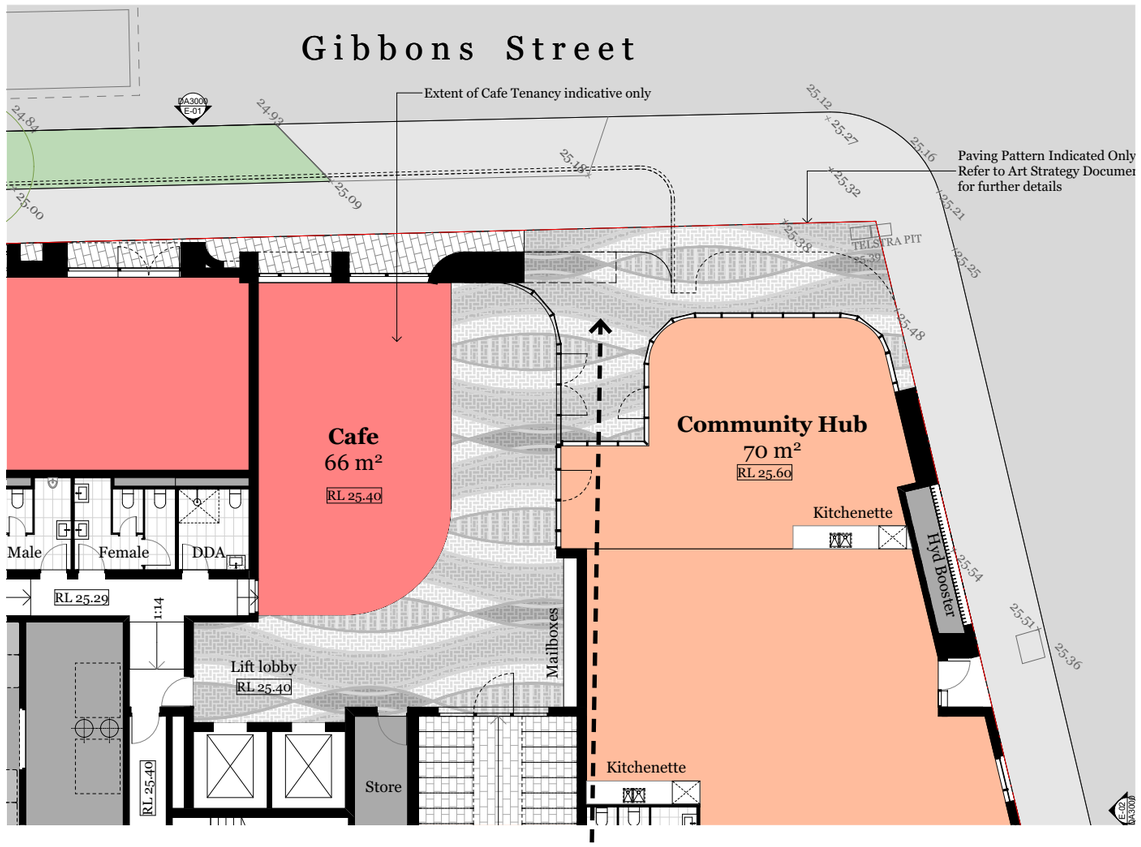


Proposed concept design which will be further progressed

OBJECTIVE 1. BETTER FIT
ABORIGINAL CULTURAL HERITAGE

Part of the indigenous study included broad principles about locations of potential public art. Location 1 will included a soffit mounted artwork, visible from the public domain and potentially illuminated. Location 2 will include a paved ground plane, helping tie the external forecourt to the internal lobby spaces.

Location 1
Designed panels fixed to the soffit of Level 3 communal open space.

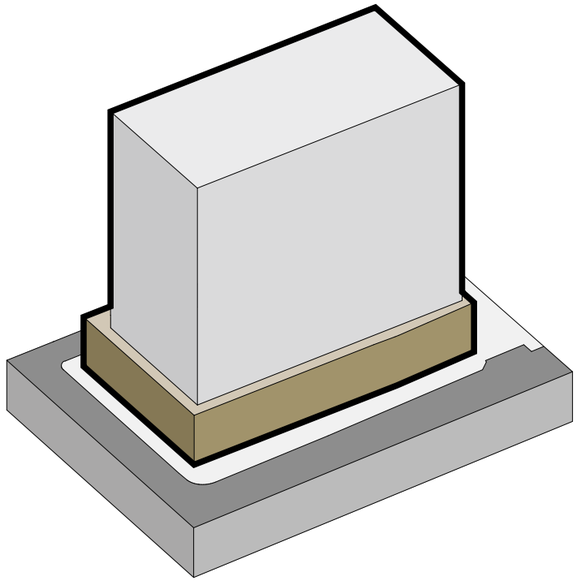


Location 2
Forecourt and lobby paving inlay linking the public domain and interior.

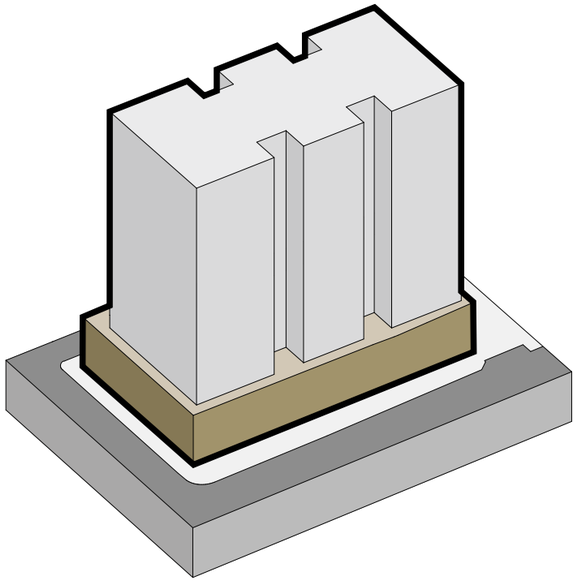
OBJECTIVE 1. BETTER FIT
TOWER MASSING & ARTICULATION RESPONSE

The built form approach to the tower component of the building seeks to address constraints imposed from surrounding development, wind and solar access.

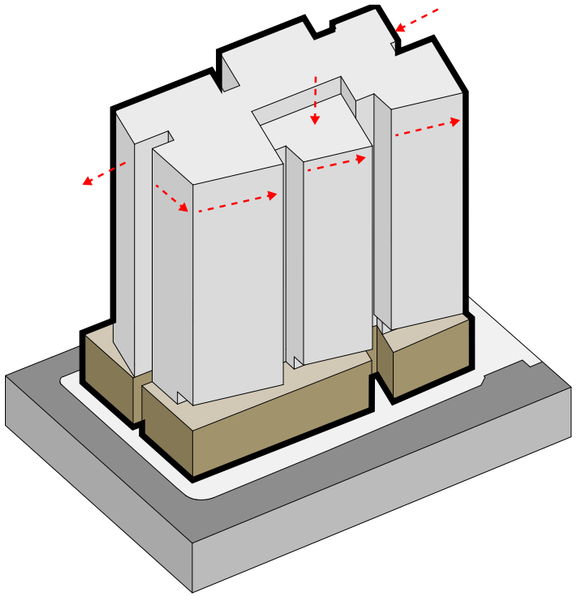
Initially the site was broken into three masses to deal with proportions dictated by site dimensions and planning controls. Furthermore the tower was sculpted to reduce wind velocity, to provide occupants within the building with greater comfort and amenity. Finally the balconies were cranked to obtain maximum solar access and views.



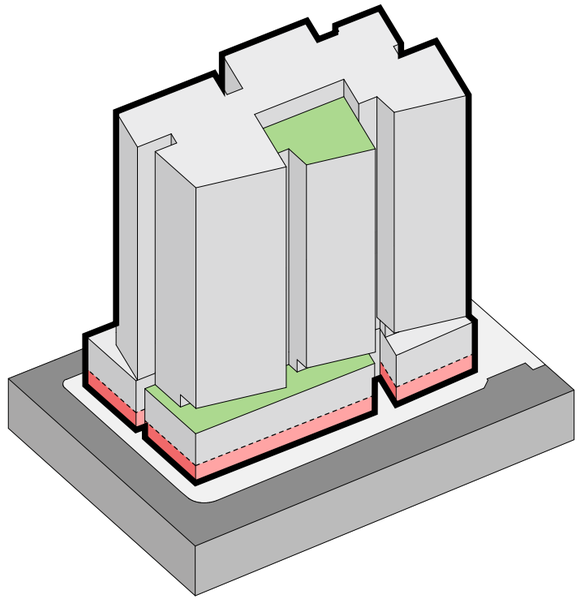
Maximum building envelope



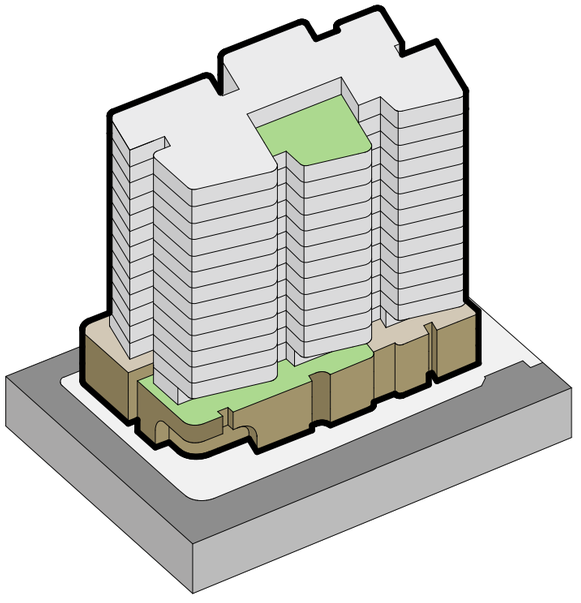
Building Mass Articulation



Chamfering corners for solar access
Aligning Tower Form to Site Angles



Defining program of building
Varied Height to Tower Silhouette
Level 17 COS located between units to provide wind protection

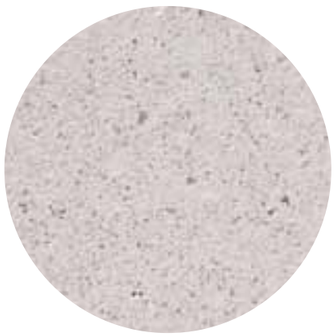


Final articulation to tower and podium

OBJECTIVE 7. BETTER LOOK AND FEEL
MATERIALITY

The selection of materials represents a desire for a contextual look for the project with the use of brick and concrete. The materials of the facade are inherently robust and durable and require minimal maintenace through its lifecycle.

The podium architecture presents a sense of tactility and fine grain at the human scale, and the geometries of the precast concrete towers are expressed in a pure, simple manner with facade articulation that is driven by function and amenity.



Objective 2. Better Performance
Sustainable, adaptable and durable

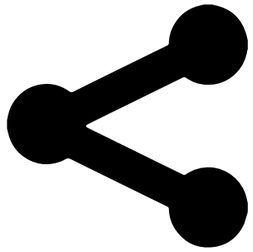
Environmental sustainability and responsiveness is essential to meet the highest performance standards for living and working. Sustainability is no longer an optional extra, but a fundamental aspect of functional, whole of life design.

Key Points
- No car parking in development
- NatHERS rating 8.3 stars
- 50kW peak rooftop solar PV system to serve common area power loads
- Embedded network
- Exceeding BASIX requirements
- 25kL Rainwater tank for reuse in irrigating landscaping with COS areas

OBJECTIVE 2. BETTER PERFORMANCE OVERVIEW

The design seeks to address Better Performance in a number of ways. Sustainable design is integral to the design approach.

Northrop were engaged to advise how ESD initiatives could be incorporated to achieve SGCH's commitment to creating sustainable affordable housing. The building has been designed to achieve an average of 8.3 star Nathers Rating across all dwellings.



On-Site Renewable Energy

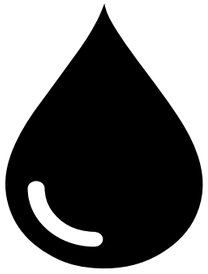
The development aims to reduce carbon emissions from the building's operational energy through the inclusion of an on-site solar PV system. On site renewable energy will be produced from a solar PV array of up to 50kW installed on the roof. With a predominately north orientation, a 50kW system is expected to have an average annual electricity production of 71.3 MWh, enough to power common areas of the building.

Embedded Electricity Network

An embedded electricity network will help to maximise the economic sustainability and security of energy use of the building. Embedded networks aggregate a building's energy consumption to a single metered grid connection, with sub-meters available to measure individual tenant's energy consumption.

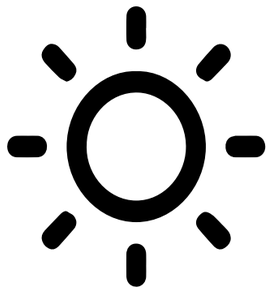
Improved NATHERs Rating

The development will provide an 8.3 Star average NatHERS rating across all dwellings. By targeting a higher NatHERS rating, heating and cooling loads for individual units will be lowered to result in improved thermal comfort, lower emissions and lower energy costs for tenants. These initiatives are estimated to save each dwelling $900 a year.



Water Efficiency

4 Star WELS ratings are used for taps and WCs. Separate mains potable water connections are provided to each dwelling and a 25 kL rainwater tank is provided to reuse root water and irrigate common area landscaping.



Passive Solar Design

Passive solar design principals have been incorporated into the development to further reduce heating and cooling loads on individual units without compromising on daylight levels. Large balcony overhangs create effective horizontal shading devices which exclude summer sun, while careful orientation still allows afternoon winter sun to penetrate the dwellings.

Sustainable Transport

Occupant transport is large contributor to a building's overall environmental footprint. The proximity of Redfern Train Station gives the site the highest Green Star Accessibility Rating, meaning more than 15% of the Greater Sydney population can reach the site within 45 minutes or less. The use of public transport is encouraged through no onsite parking and provision of bike parking.

Objective 3. Better for Community
Inclusive, Connected and Diverse

The design of the built environment must seek to address growing economic and social disparity and inequity, by creating inclusive, welcoming and equitable environments. Incorporating diverse uses, housing types and economic frameworks will support engaging places and resilient communities

Key Points
- Housing Solutions for people in need
- A balanced mix of social and affordable housing
- Inclusive, safe spaces that encourage community building actiivities

Target Social Housing Groups

- Homelessness
- Aboriginal and Torres Strait Islander People
- Older, Single Women
- Women with children experiencing domestic and family violence

Active Seniors

Families with Children

Homeless or At Risk of Homelessness

Target Affordable Housing Groups

- The Social Housing target groups identified above, where affordable housing is the most appropriate housing type
- People currently working in or with a connection to City of Sydney
- A sustainable mix of low and moderate income households.

Skilled Workers

Low Income Workers

Tenure Blind

Affordable/Social Integrated Living

SGCH will develop a local allocation strategy to guide housing allocations to create a sustainable and balanced mix of social and affordable housing tenants.

OBJECTIVE 3. BETTER FOR COMMUNITY
CONNECTED COMMUNITIES

The communal aspects of this building is the heart of this development. The building caters for a number of different users, from singles, key workers to small families. The community hub situated on the ground floor allows occupants to gather, learn and integrate with other residents. It has been designed to enable SGCH's tenant participation and support services and initiatives which include employment, training and wellness activities.

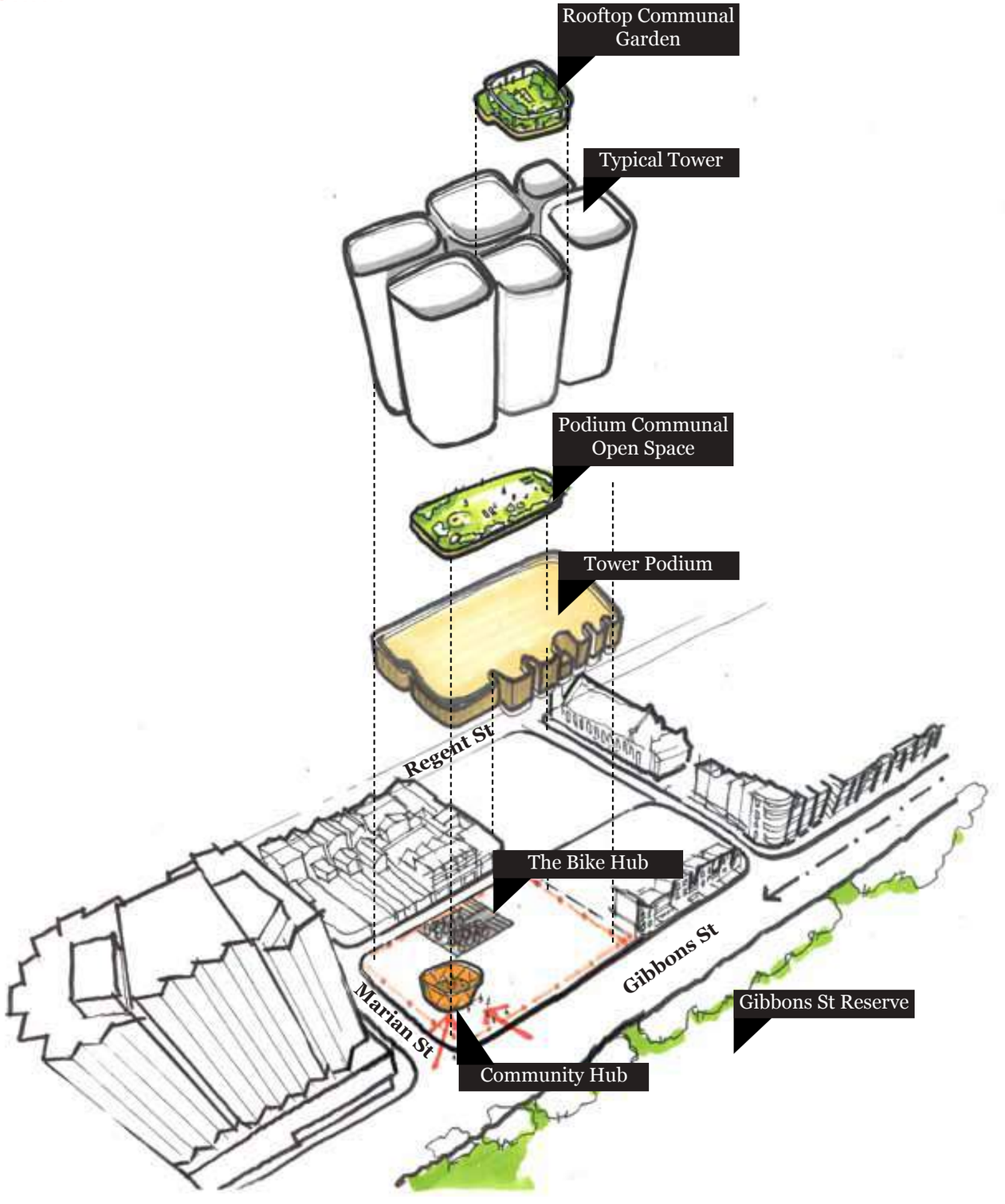
The residents common room and children's play area on Level 3 is an active zone that provides opportunities for residents to feel part of the community. Finally the rooftop garden is a passive zone designed to promote more intimate gatherings. The scheme even has a bike room located on the ground floor for use of the building occupants and opportunities to extend this to bike sharing for the broader public are being explored.

OBJECTIVE 3. BETTER FOR COMMUNITY
CONNECTED COMMUNITIES

The Bike Hub

Resident Common Room (Lvl 3)

Community Hub (Ground Lvl)



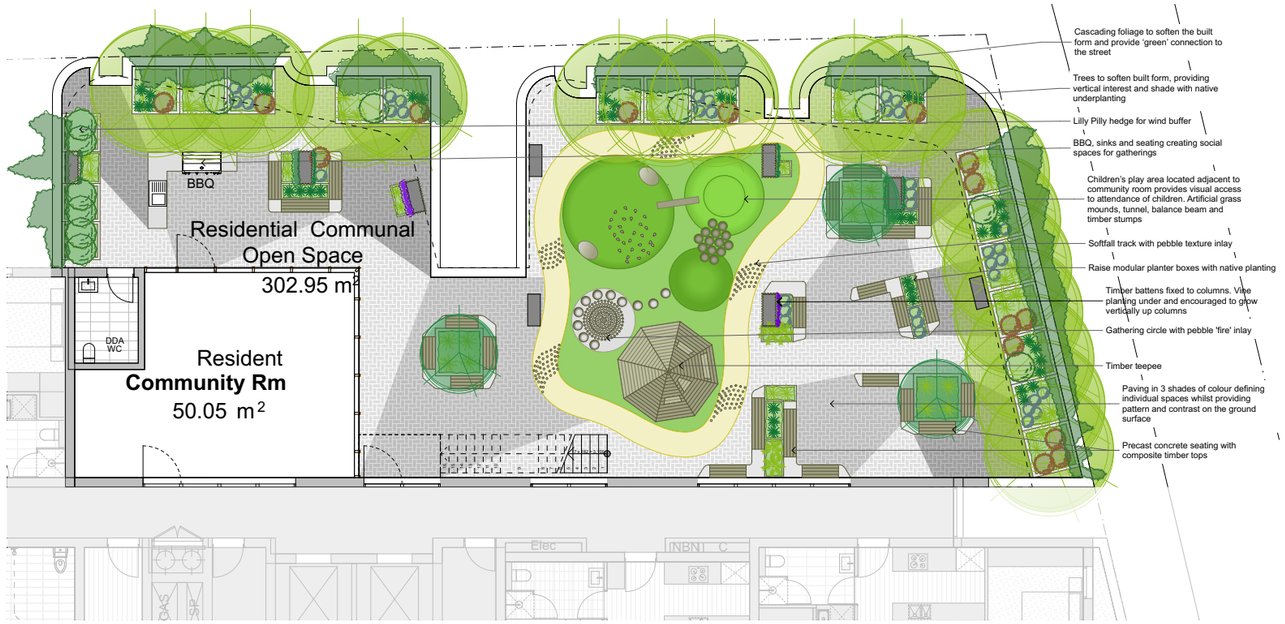
Rooftop Garden

Kid's Play Area (Lvl 3)

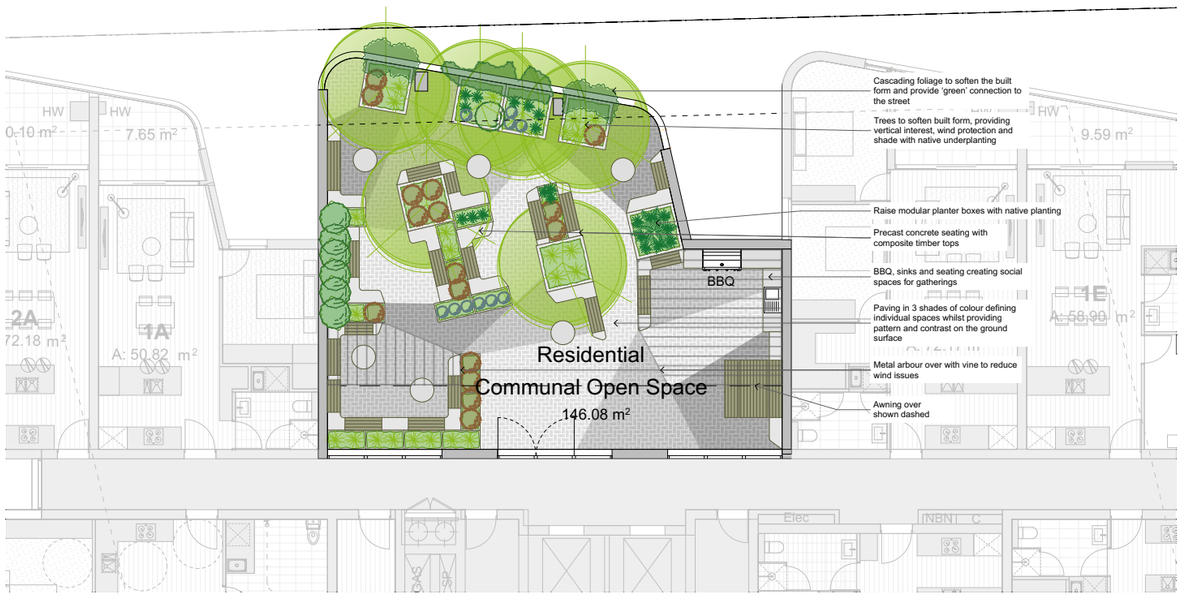
OBJECTIVE 3. BETTER FOR COMMUNITY
LANDSCAPE

The general principals cross both level 3 and level 17 are consistent. Trees to the perimeters of the outdoor space provide vertical interest, privacy, wind protection and shade whilst contributing a green connection to the street. This is further enhanced by the cascading foliage falling down the building facades, softening the built form. The space is further softened with climbing plants, encouraged to grown vertically up timber battens fixed to the columns. Precast concrete seating with composite timber tops are arranged in clusters to encourage group gatherings whilst individual seats allow areas for quiet reflection and a more passive use of the space. Use of primarily an indigenous and native palate of plants which reference the Aboriginal Cultural Heritage, will provide robust and hardy planting.

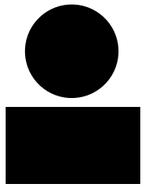
At ground level, and in line with Council's street planting requirements, we have provided an additional tree on Gibbon's street which is consistent with the existing planting to this street.



Landscape Plan - Level 3



Landscape Plan - Level 17



Objective 4. Better for People
Safe, Comfortable and livable

The built environment must be designed for people with a focus on safety, comfort and the basic requirement of using public spaces. The many aspects of human comfort which affect the usability of a place must be addressed to support good places for people.

Key Points

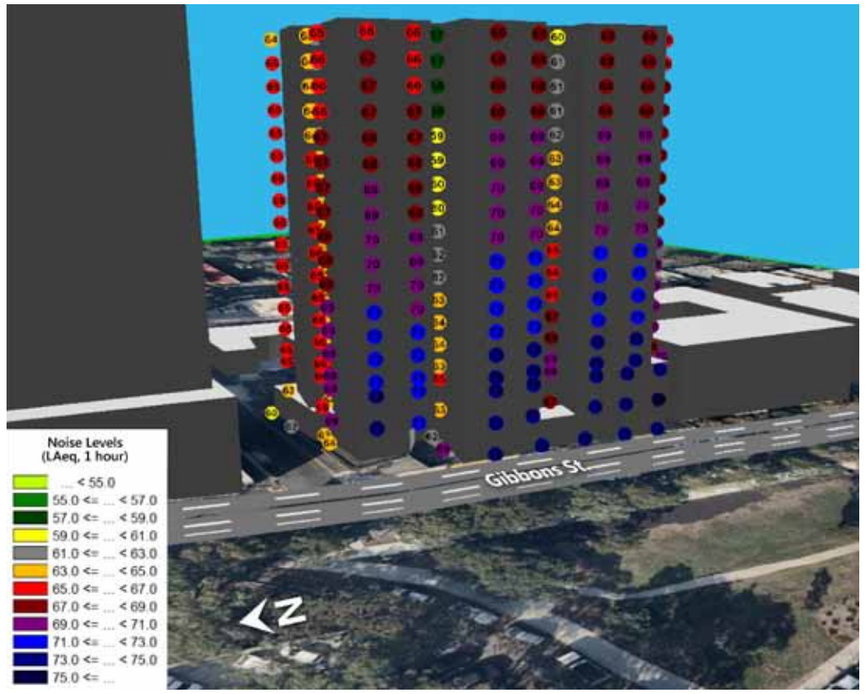
- Pedestrian amenity
- Scale of building at street interface that is designed to suit human scale
- Wind impacts addressed
- Variety of communal space offerings for residents
- Building designed with consideration for security and safety
- Building design that considers residents comfort

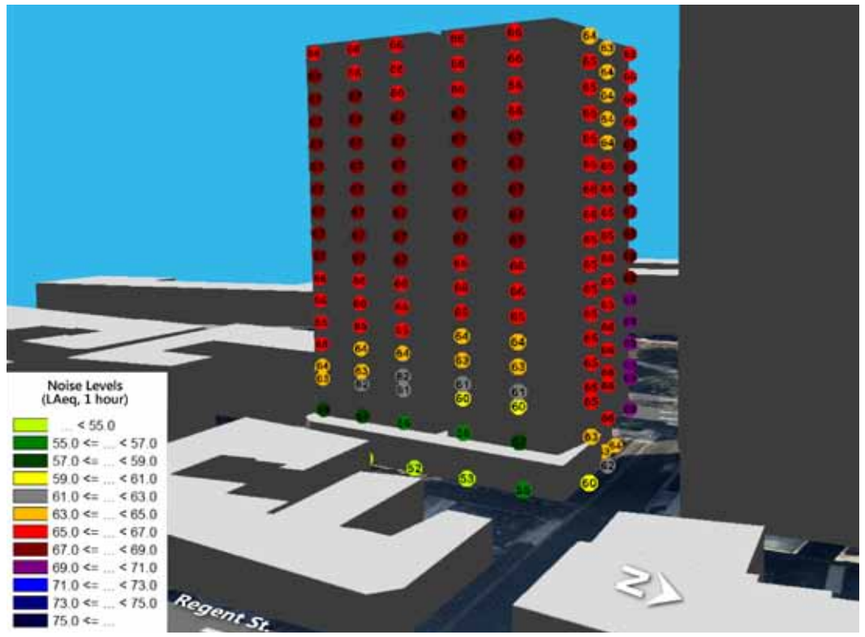
OBJECTIVE 4. BETTER FOR PEOPLE
ACOUSTICS

The site is constrained acoustically with significant road noise to the west from Gibbons Street and the rail network.

Noise impacts have been addressed in the design through the incorporation of additional solid elements and double glazing where required by the acoustic modelling.

The future built form to the east will substantially protect the Eastern façade from the road noise on Regent street. The western façade responds to the road noise by increasing the amount of solid façade, at the base of the building where the noise is most significant and opens up the façade at the top of the building where noise is less of an issue.





Upper Tower

Solid : Glazing to Bedrooms

600mm solid upturn balustrade to balconies

Lower Tower

Solid : Glazing to Bedrooms

1100mm solid upturn balustrade to balconies

Podium

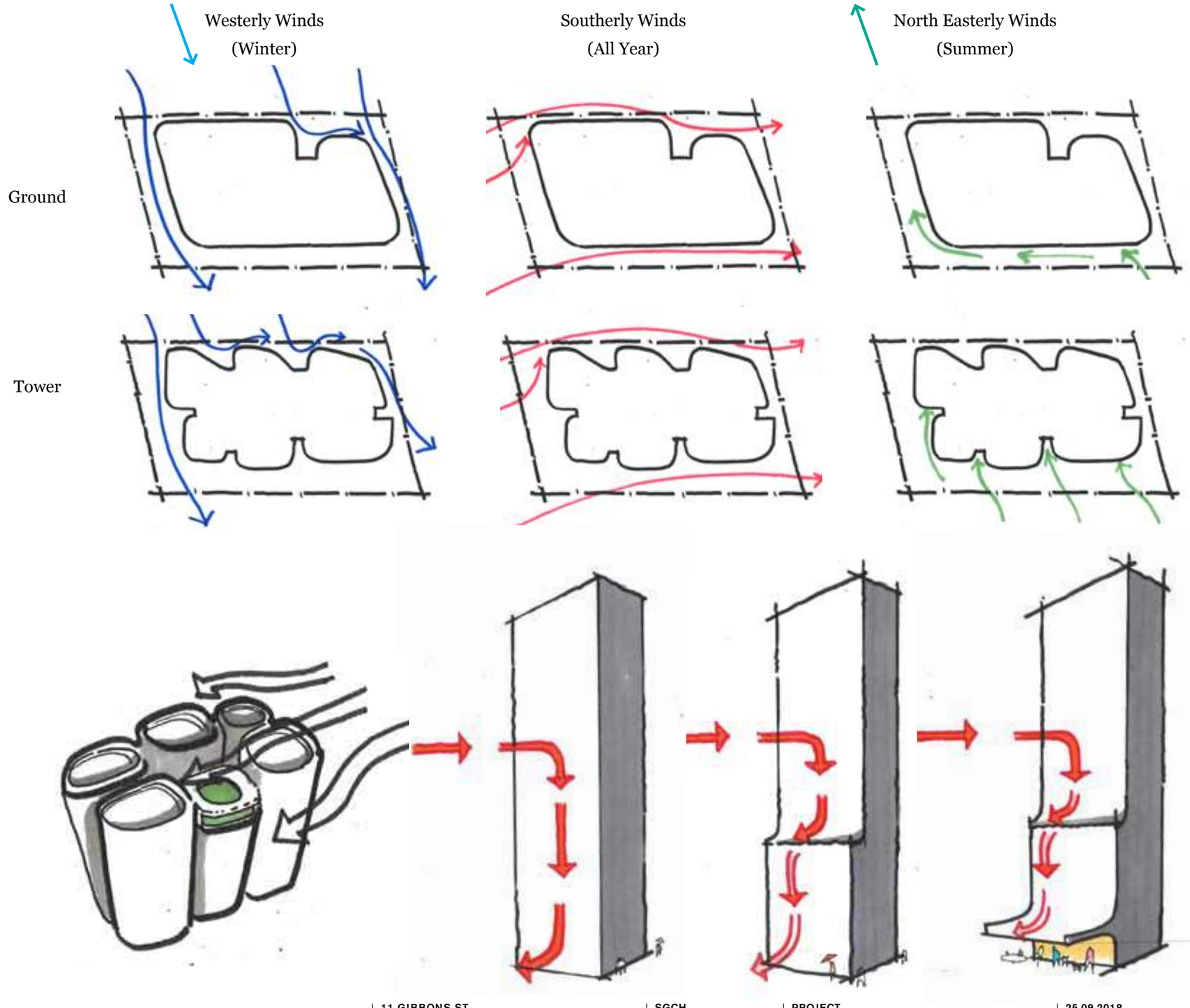
Solid/Glazing to Bedrooms

Solid brick frame around balconies to wintergardens

OBJECTIVE 4. BETTER FOR PEOPLE
WIND

Part of the design response included detailed wind modelling of the façade and built form. The outcome of the modelling drove the design outcome in a number of ways. A continuous awning along the Gibbons street façade is proposed to ensure safety and comfort levels are maintained to pedestrians.

The façade elements and balcony projections to the tower itself are curved to reduce wind velocity, again ensuring occupant and pedestrian comfort. The roof level communal open space has been cleverly positioned to ensure protection from the southerly winter winds. The design submission includes a detailed wind report outlining the findings.



OBJECTIVE 4. BETTER FOR PEOPLE
ADDITIONS TO REDUCE WIND IMPACT

A number of features have been implemented into the design to minimise wind impact on the building.

Some of these include extra awning at level 3 and roof additions on Communal Open Space areas.

- Curved edges to reduce velocity of wind

- Layout of apartments to sheild balconies from the southerly winds

- Podium and street level awning to reduce impacts of downdrafts from the tower

- Higher balustrades on level 3 and incorporation of dense landscaping to improve the comfort of the Communal Open Space areas.

Addition of Roof
on Level 17 COS

Addition of awning
on Level 3 COS

Extension of awning on
ground facing Gibbons St

OBJECTIVE 4. BETTER FOR PEOPLE
NATURAL VENTILATION STRATEGIES

There is a direct conflict between the acoustic constraint on Gibbons street and the need for natural ventilation. Essentially openable windows will negate the acoustic requirements of the ADG and Infrastructure SEPP. Part of the design approach was to examine a series of different strategies to deal with this constraint. In simple terms these all revolved around allowing openable windows in quieter parts of the building. All of these options have inherent issues with fire and noise compliance, occupant comfort or social ramifications.

In the process of resolving cross ventilation, we have tested all potential opportunities on natural ventilation strategies. However, these options have identified issues relating to options of inter-tenancy acoustic, fire compliance, social and cost issues.

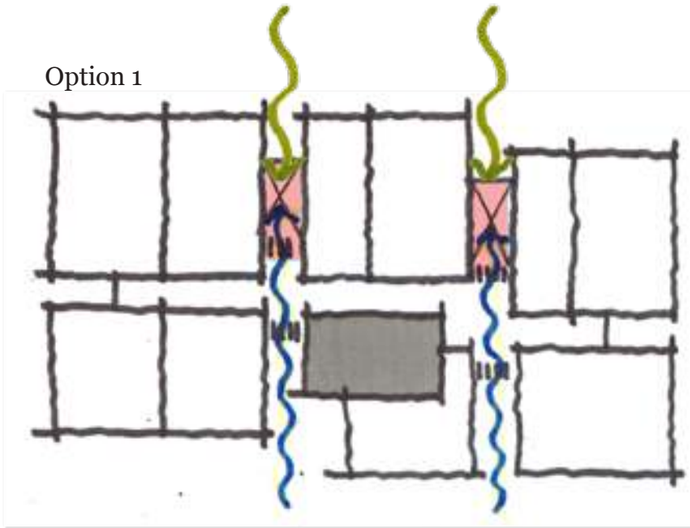
As a result, the proposal looks to address acoustic and pollutant air issues through a mechanically assisted system. Units will still have openable windows to allow in fresh air.

Option 1
Option 1 examined an external thermal chimney approach whereby windows opened onto vertically glazed atrium space. There were inherent issues with the compliance, from a fire engineering point of view, cost of such a large component of façade and noise between occupants within the atrium space.

Option 2
Option 2 looked at individual exhaust chimneys which essentially failed from a compliance point of view with the major issue being fire projection of the duct itself and the ongoing need for maintenance of fire dampers and the like.

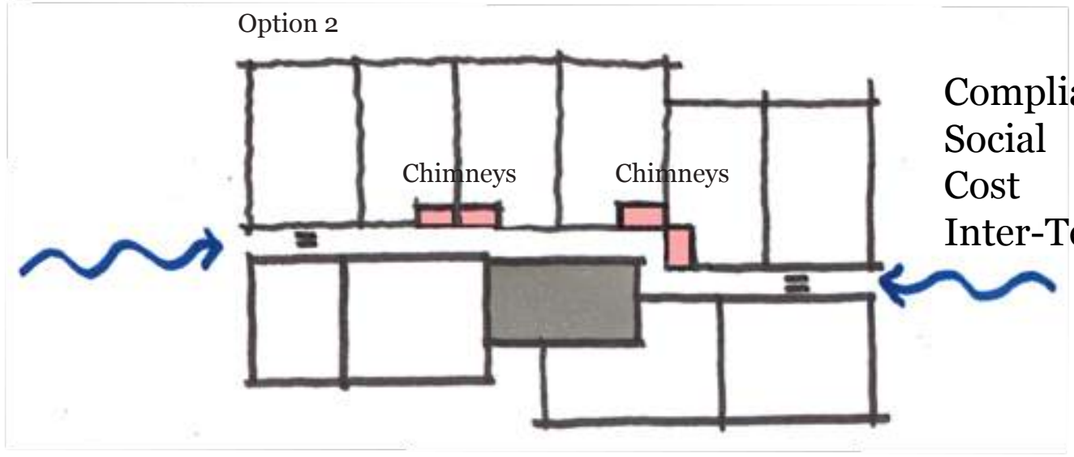
Option 3
Option 3 examined an open corridor scenario which overcame the compliance issue but had major cost and social implications. Essentially every wall in the building with this option would be required to be treated as an external wall, something which was incredibly cost inefficient. There were also perceived social issues with this option as it resulted in spaces where people could loiter, failing CPED requirements.

Option 1



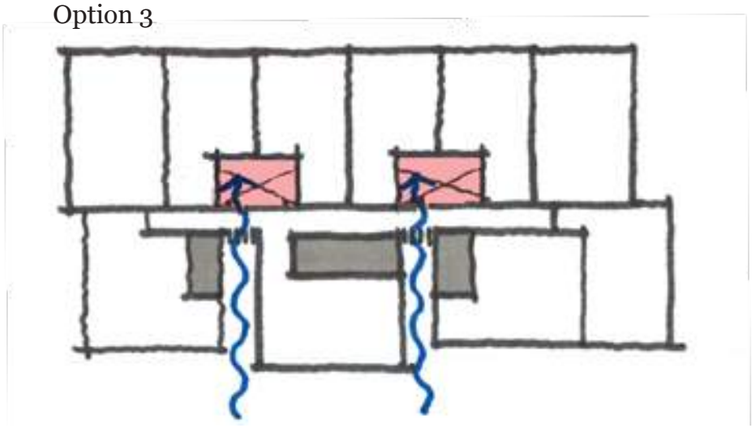
Compliance	X
Social	V
Cost	X
Inter-Tenancy Noise	X

Option 2



Compliance	X
Social	V
Cost	V
Inter-Tenancy Noise	V

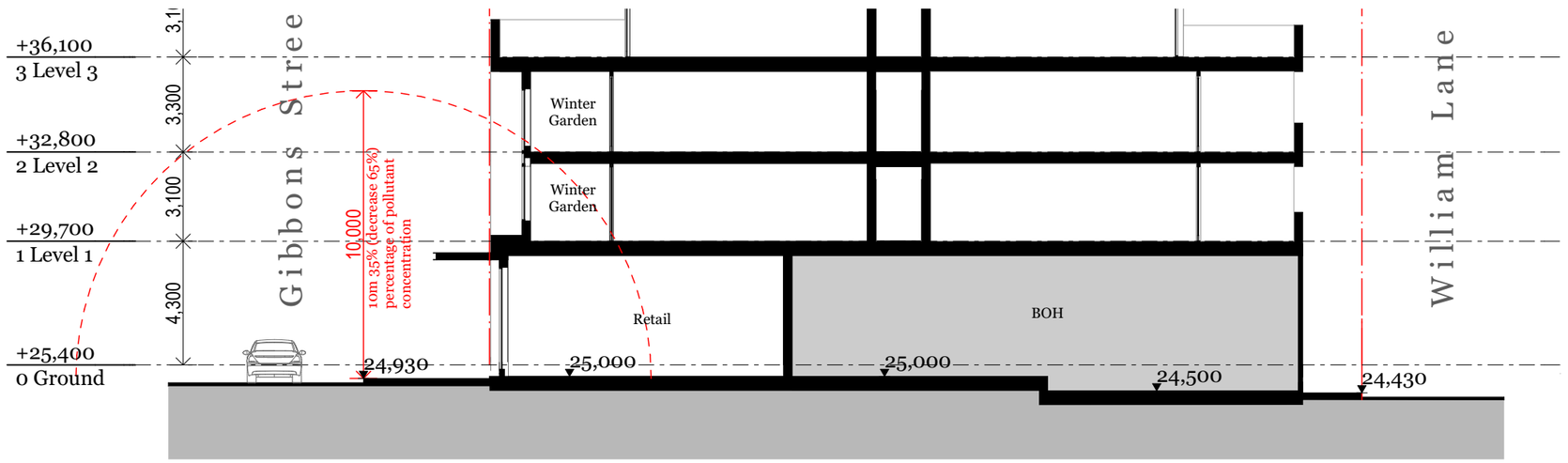
Option 3



Compliance	V
Social	X
Cost	X
Inter-Tenancy Noise	X

OBJECTIVE 4. BETTER FOR PEOPLE
PARTICULATE MATTER

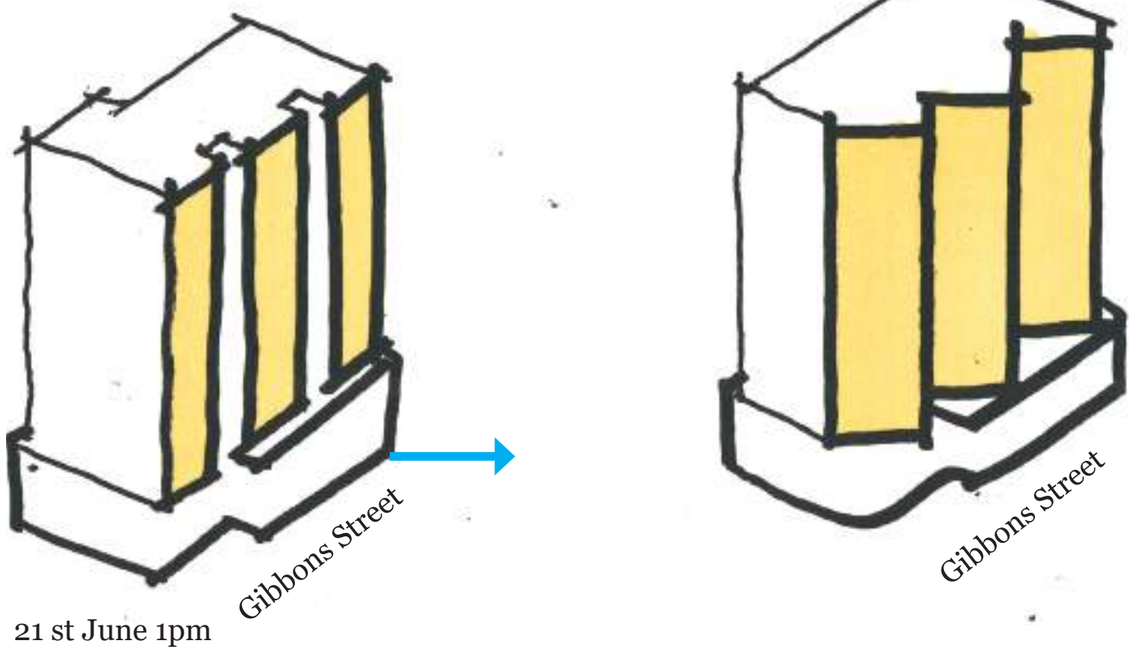
Part of the requirements of the Infrastructure SEPP was to deal with the pollutant levels, particularly along Gibbons street. With this in mind we have sought to include winter gardens to protect the lower two floors of the building. It is important to note that after 10m the pollutant levels substantially drop, and open balconies have been incorporated on the upper levels.



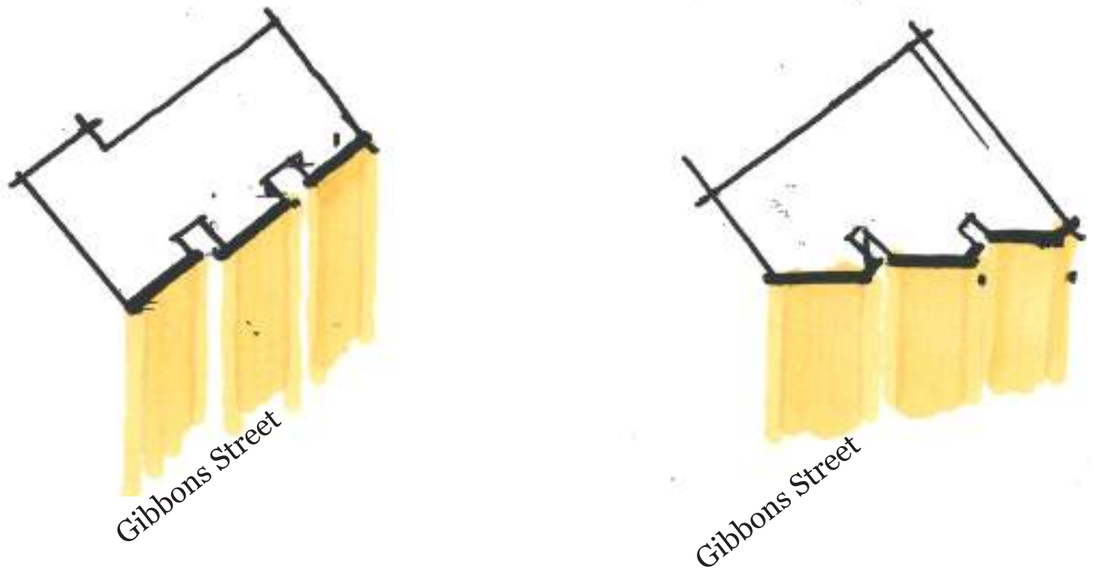
OBJECTIVE 4. BETTER FOR PEOPLE
SOLAR

As previously outlined the façade has been carefully crafted to maximise the solar access to the western façade, but has also sought to deal with the western sun from a solar protection point of view.

Opportunity - Winter Sun
Maximised through plan geometry and orientation



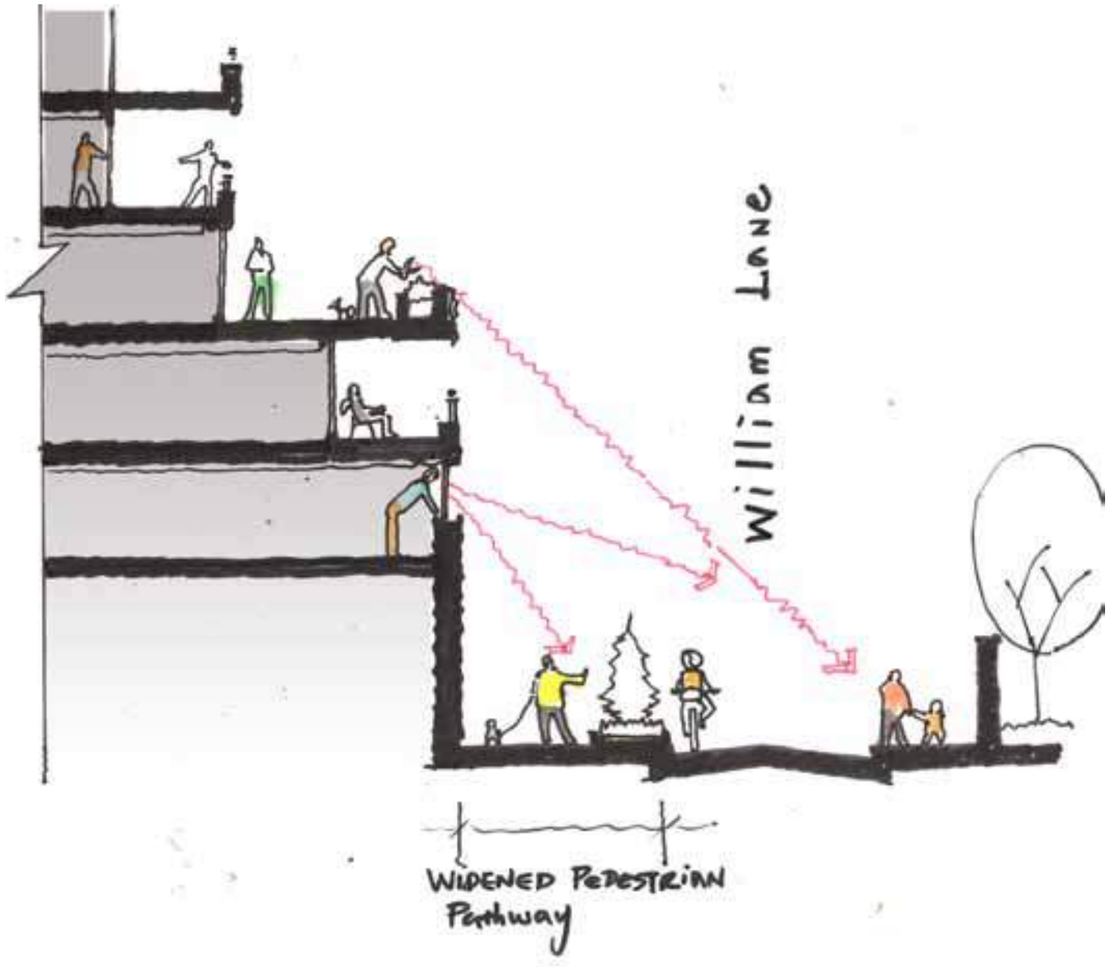
21 st June 1pm



OBJECTIVE 4. BETTER FOR PEOPLE
PASSIVE SURVEILLANCE

The broader context of the block between Regent Street and Gibbons Street seeks to ensure William Lane is an activated through link. The proposal activates William lane with a bike hub and wraps the commercial component which also fronts Marion street. The eastern alignment of William lane is also setback to allow for pedestrian activity, safety and greater passive surveillance of the laneway.

Passive Surveillance to William Lane



Objective 5. Better Working
Functional, efficient and fit for purpose

Having a considered, tailored response to the program or requirements of a building or place, allows for efficiency and usability with the potential to adapt to change. Buildings and spaces which work well for their proposed use will remain valuable and well-utilised.

Key Points

- Building designed to facilitate SGCH operations and vision and ensure we are a visible presence in the community
- Inclusion of a community hub in a prime, visible location of the site
- Openess at entry to be inviting and welcoming
- Variety of apartment typologies provided

Objective 6. Better Value
Creating and adding value

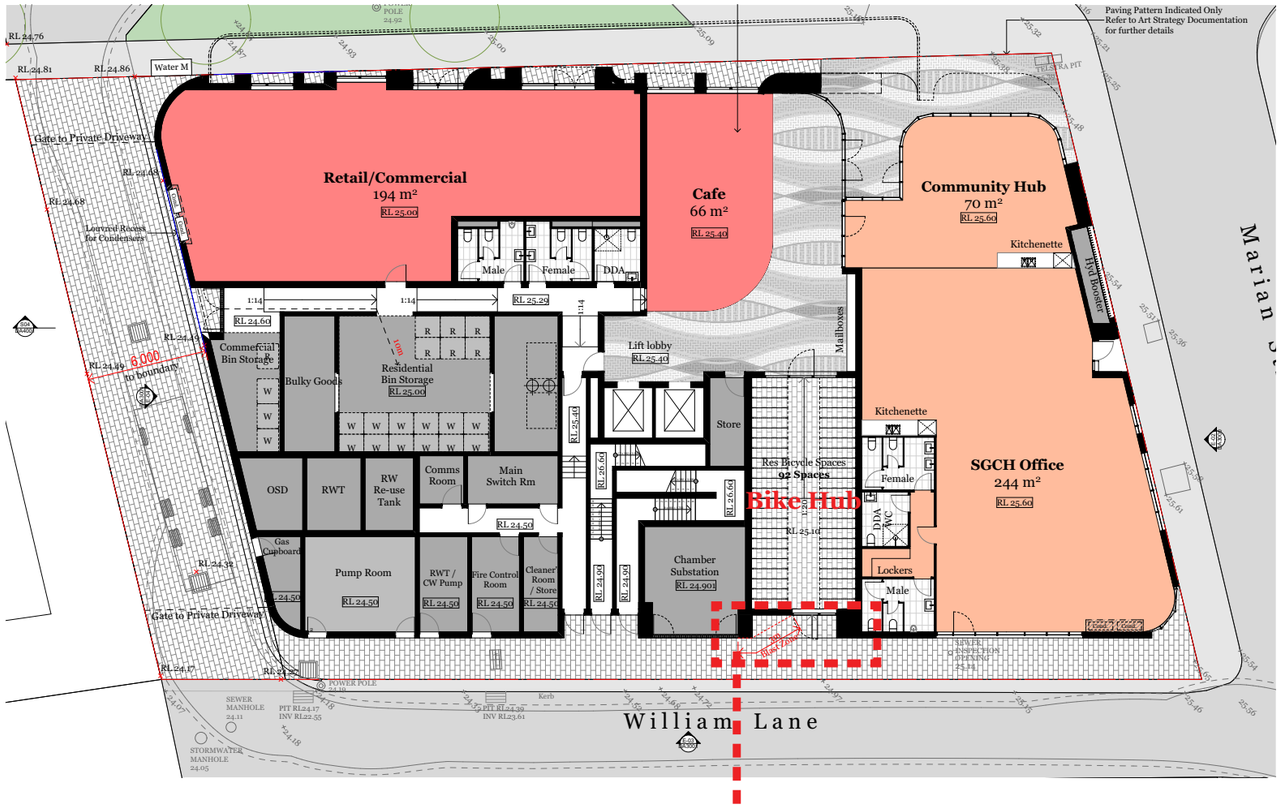
Good design generates ongoing value for people and communities and minimises costs over time. Creating shared value of place in the built environment raises standards and quality of life for users, as well as adding return on investment for industry

Key Points
- 8.3 Star NatHERS
- Combined ESD initiatives are estimated to provide significant cost savings for each dwelling
- Durable materials for external finishes which require low maintenance

OBJECTIVE 6. BETTER VALUE
SUSTAINABLE TRANSPORT & ESD INITIATIVES

- No on site parking is proposed given the proximity of the site to the train station and buses.

- SGCH will encourage cycling as a sustainable transport option and have been exploring opportunities to partner with a public bike share company or charity to ensure a high level of use of this area.



Potential location for public bicycle share

92 Residential Bicycle Spaces and dedicated bike workshop

No Car Spaces & No basement Level

Dedicated Bike Workshop Area

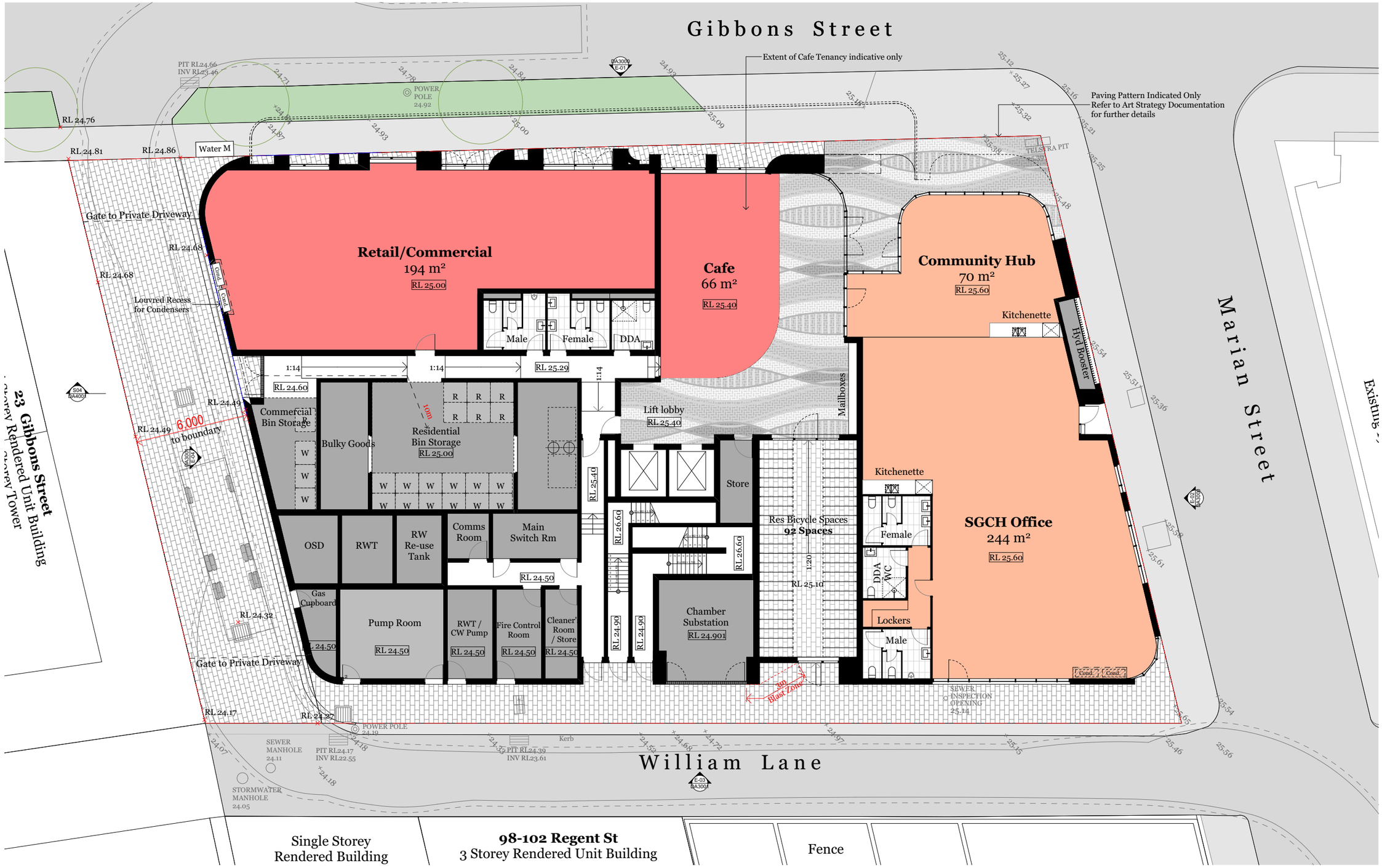
Potential opportunities for partnership with public bike share provider

The combination of these ESD initiatives is estimated to save each dwelling at 11 Gibbons Street approximately $900 per year in energy related expenses when compared to a typical 2 bedroom apartment in this area.

Appendix
Architectural Drawings

Architectural Plans
Elevations
Sections
Development Summary

ARCHITECTURAL PLANS
GROUND LEVEL 1:200



ARCHITECTURAL PLANS
LEVEL 1 PLAN 1:200

ARCHITECTURAL PLANS
LEVEL 2 PLAN 1:200

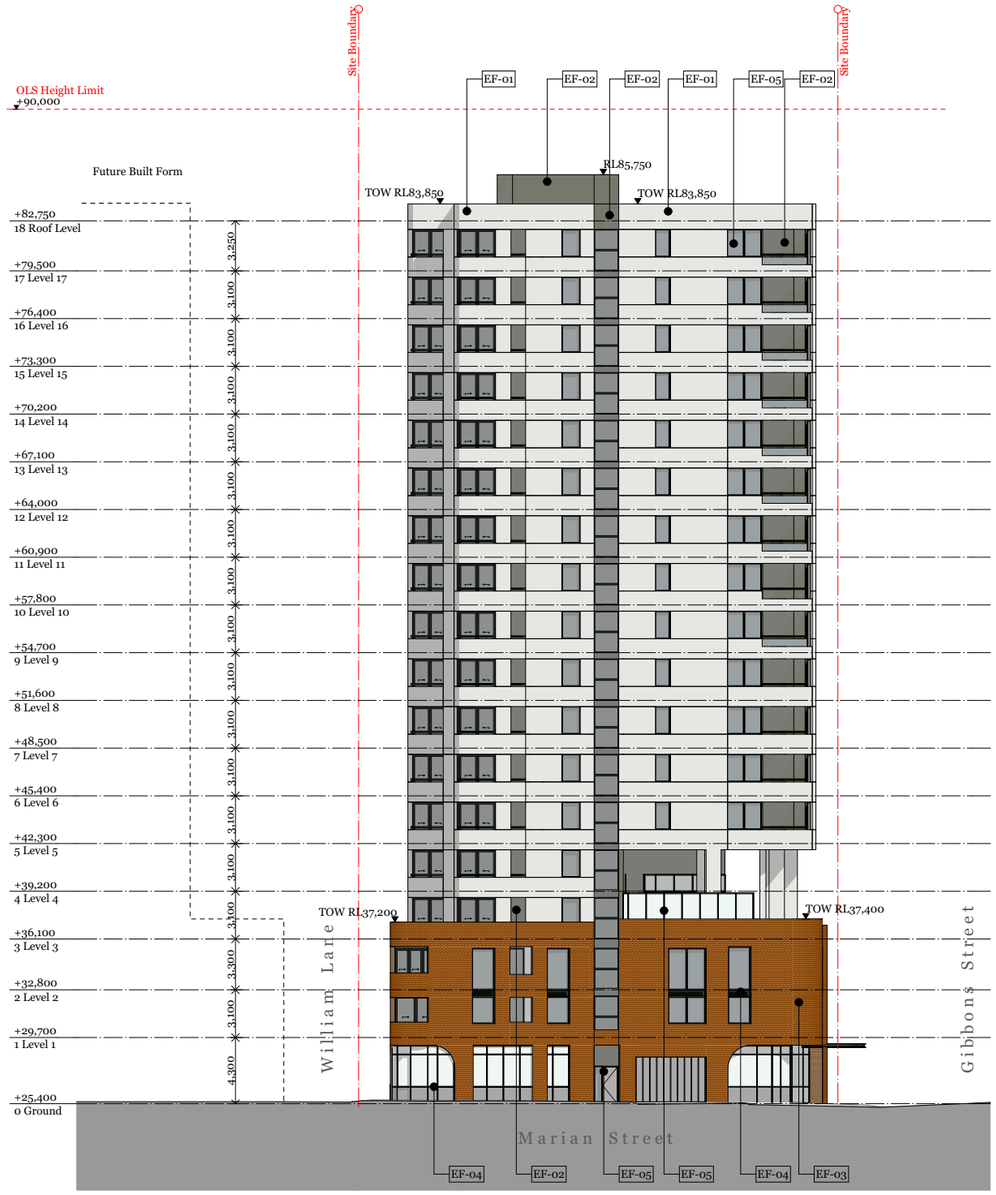
ARCHITECTURAL PLANS
LEVEL 3 PLAN 1:200

ARCHITECTURAL PLANS
LEVEL 4 PLAN 1:200

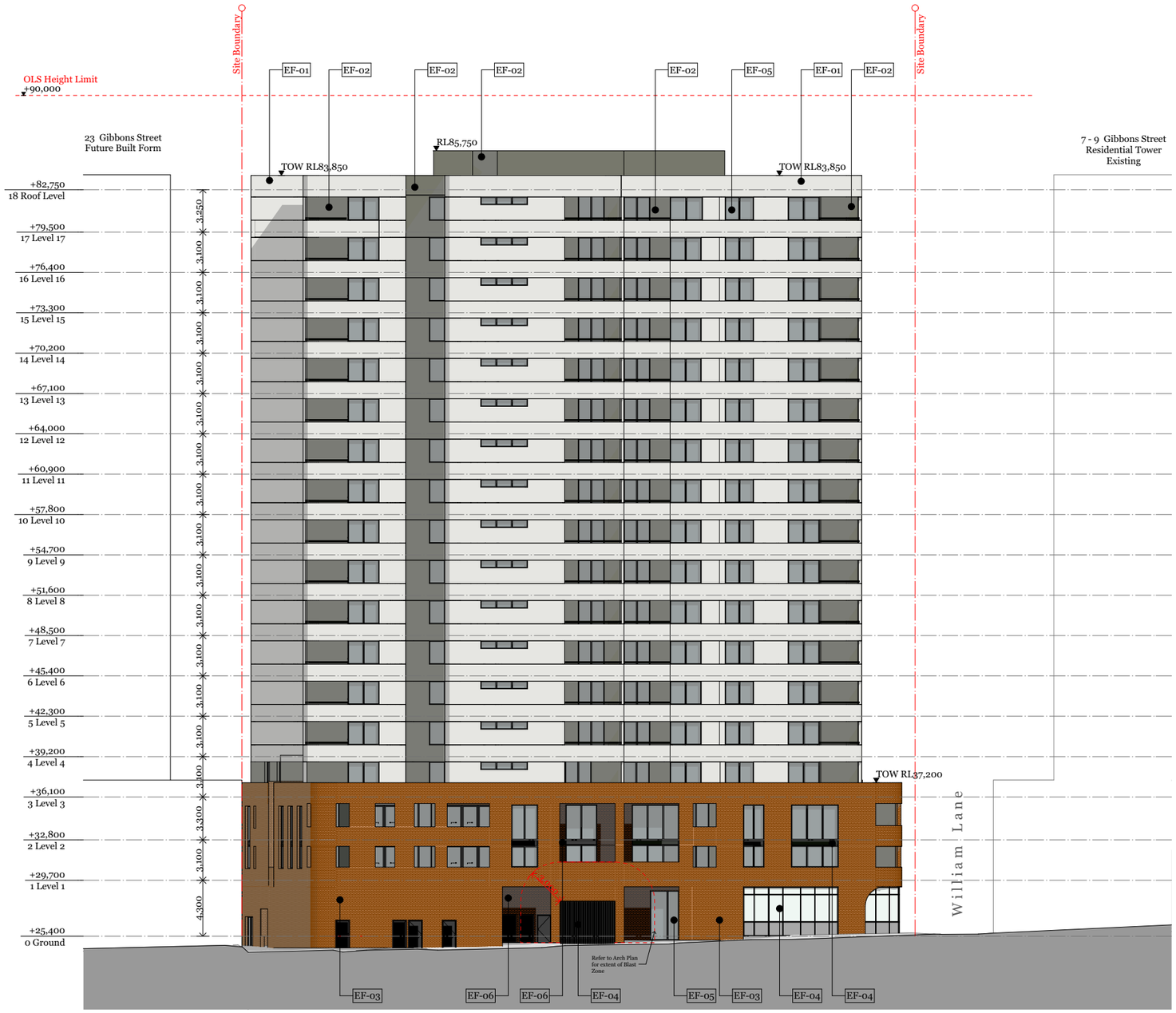
ARCHITECTURAL PLANS
LEVEL 5-16 PLAN 1:200

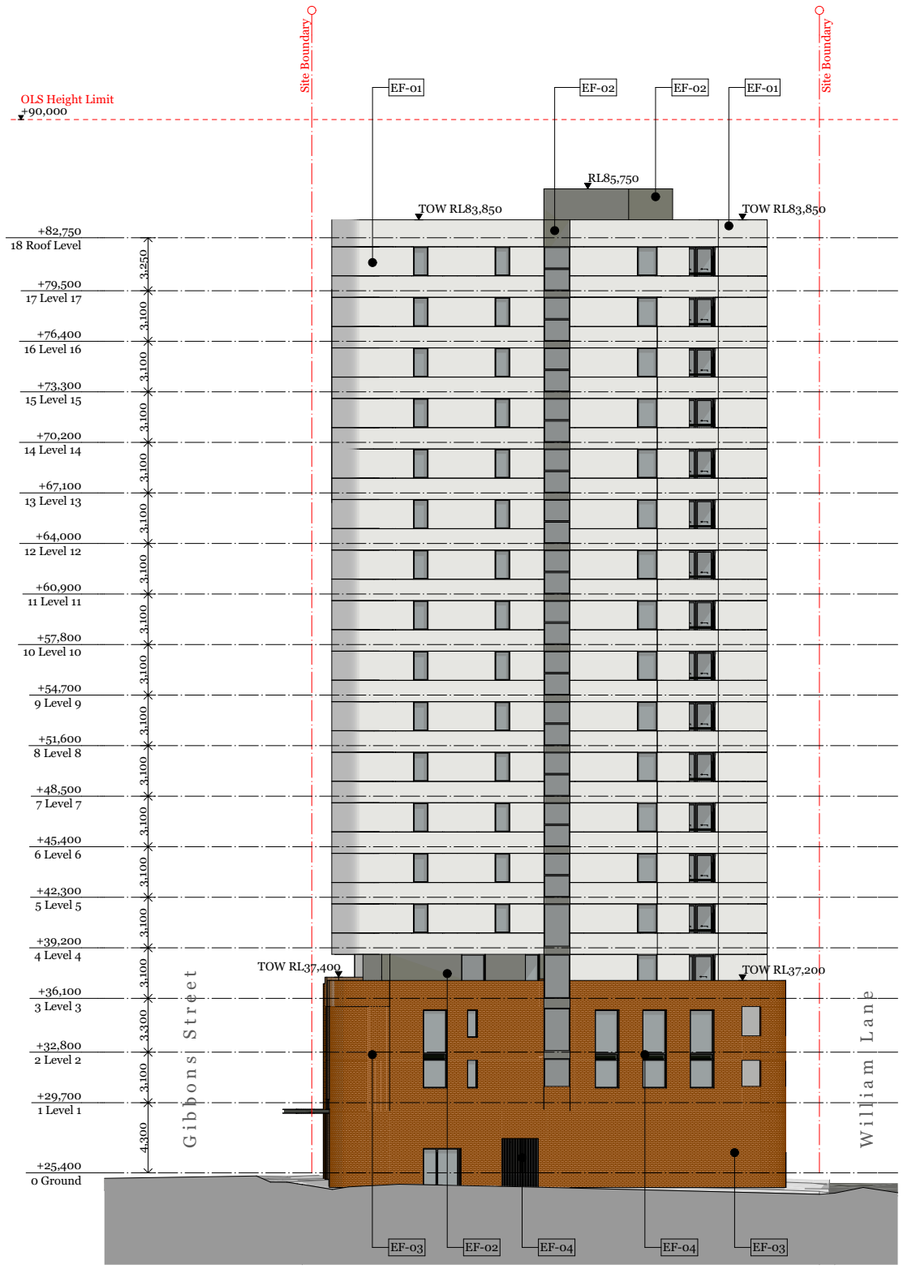
ARCHITECTURAL PLANS
LEVEL 17 PLAN 1:200

ELEVATIONS
WEST & NORTH ELEVATION 1:400

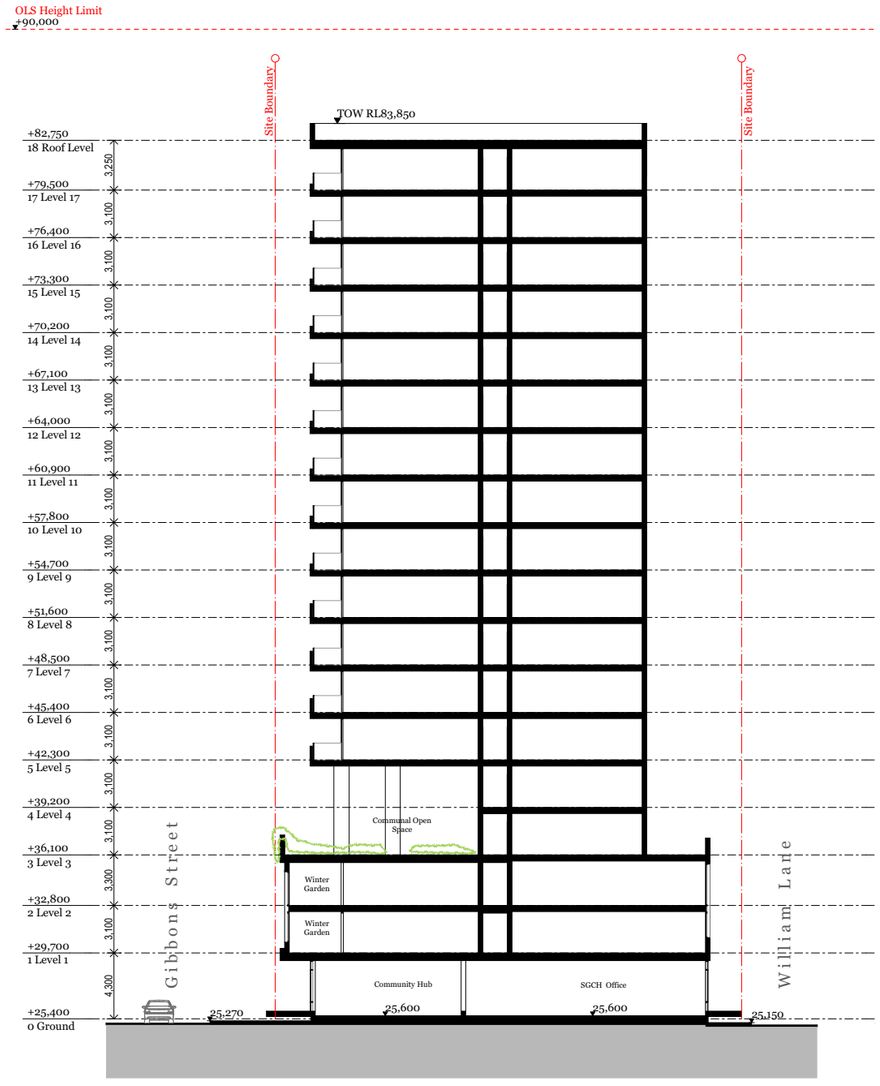


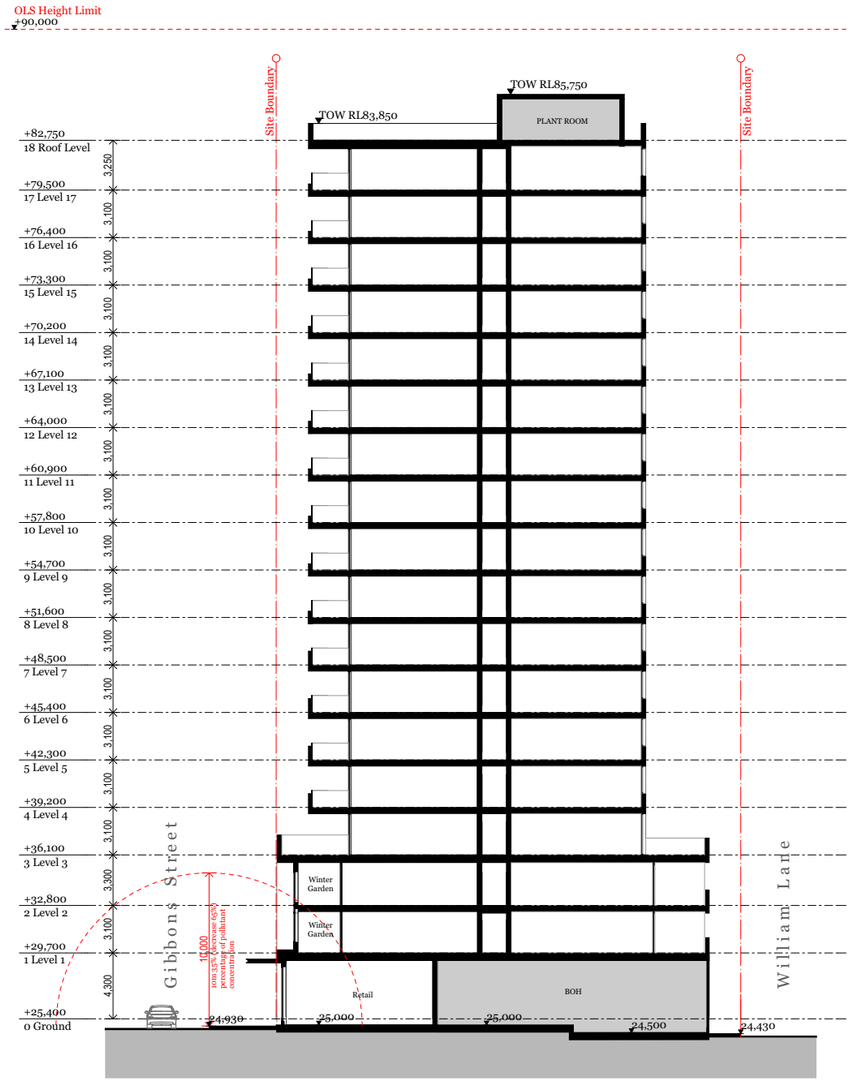
ELEVATIONS
EAST & SOUTH ELEVATION 1:400



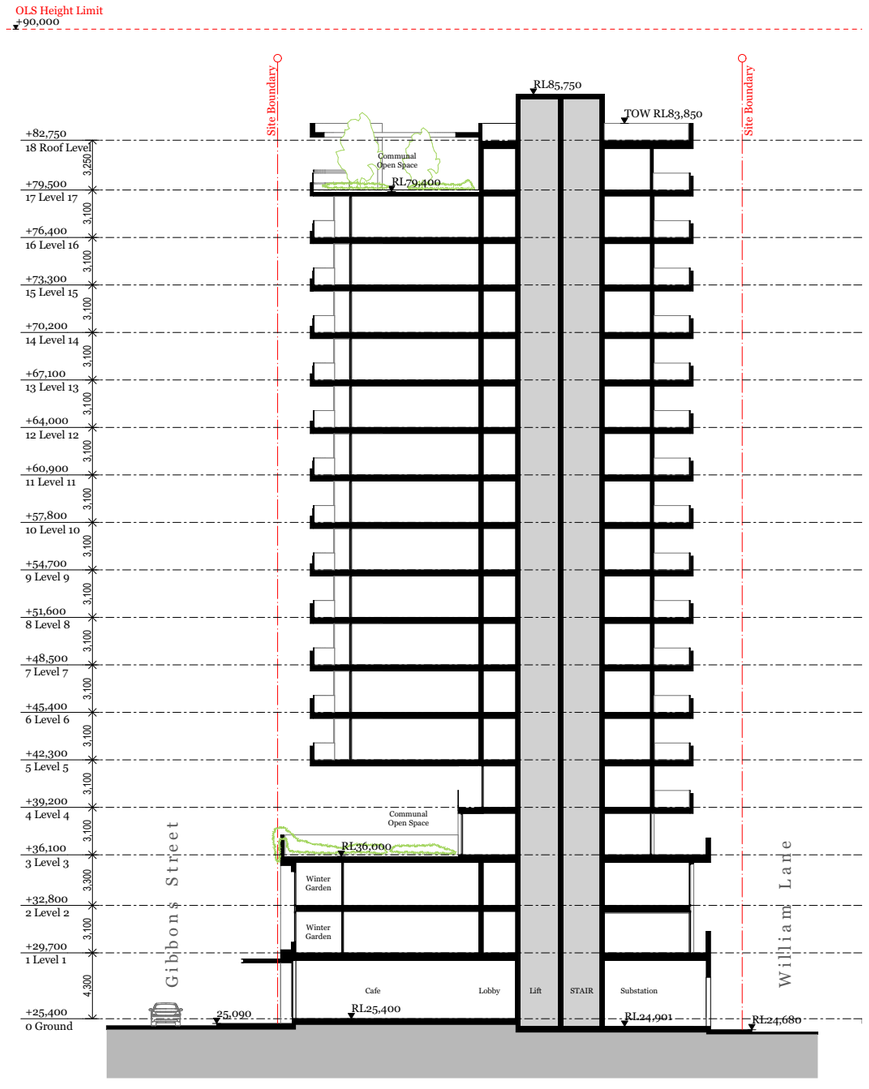


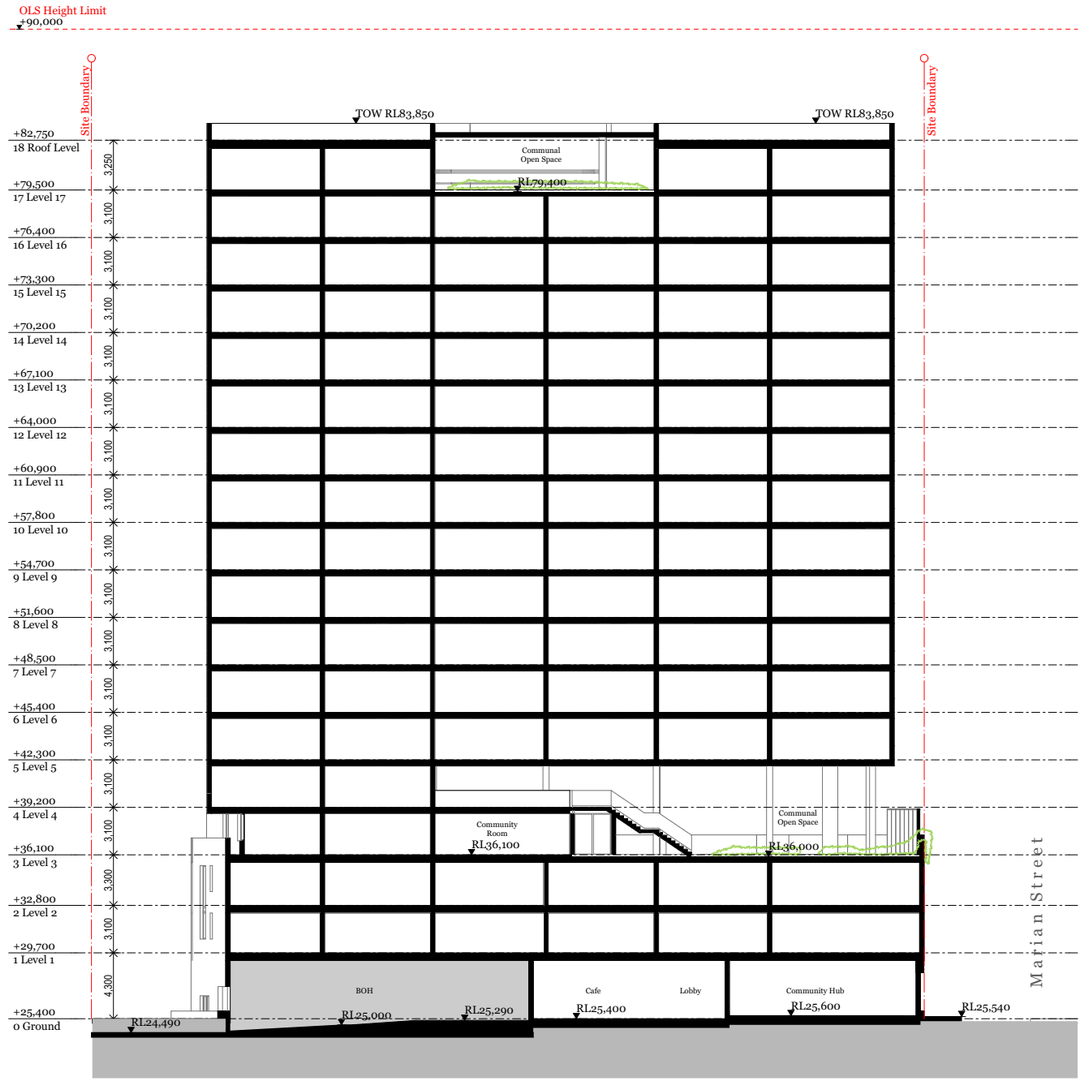
ARCHITECTURAL DRAWINGS
SECTIONS 1:400





ARCHITECTURAL DRAWINGS
SECTIONS 1:400





DEVELOPMENT SUMMARY
YIELD TABLE

	Controls	Proposed
Site Area	1578 m²	
FSR	7.00	
Max. Allowable GFA	11046 m²	
ARHSEPP 20% Bonus FSR	8.40	**8.39**
Max. Allowable GFA	13255 m²	**13238 m²**

Apartment Mix Breakdown

	Studio	1 Bed	1Bed+S	2 Bed	3 Bed	Dual Key	Subtotal	NLA	NSA	GFA	Solar Access	Cross Vent.
Ground Floor							0	574		760		
Level 1	0	2	0	6	1	1	10		803	992	7	4
Level 2	0	2	0	6	1	1	10		803	992	7	4
Level 3	0	3	0	3	0	0	6	50	380	521	3	4
Level 4	0	2	0	4	0	0	6		395	472	3	4
Level 5	0	3	1	6	0	0	10		649	741	7	7
Level 6	0	3	1	6	0	0	10		649	741	7	7
Level 7	0	3	1	6	0	0	10		649	741	7	7
Level 8	0	3	1	6	0	0	10		649	741	7	7
Level 9	0	3	1	6	0	0	10		649	741	7	
Level 10	0	3	1	6	0	0	10		649	741	7	
Level 11	0	3	1	6	0	0	10		649	741	7	
Level 12	0	3	1	6	0	0	10		649	741	7	
Level 13	0	3	1	6	0	0	10		649	741	7	
Level 14	0	3	1	6	0	0	10		649	741	7	
Level 15	0	3	1	6	0	0	10		649	741	7	
Level 16	0	3	1	6	0	0	10		649	741	7	
Level 17	0	2	1	5	0	0	8		526	609	6	
Subtotal	0	47	13	96	2	2	**160**	624	10695	13238	110	44
Percentage Mix	*0%*	*29%*	*8%*	*60%*	*1%*	*1%*	*100%*				70%	61%

1 Bed	47	*29%*
1Bed+S	13	*8%*
2 Bed	96	*60%*
3 Bed	2	1%
Dual Key	2	1%
Total Units	160	

DKD