

NARWEE PARKLANDS CARE COMMUNITY

State Significant Development Application
Design Report

Application Number: SSD-45024776

We acknowledge First Nations peoples and their continuing connection to land, waters and culture, because we strongly believe in reconciliation and collaborative engagement for a better future.

We pay our respects to Elders past, present and emerging, whose knowledge, traditions and stories guide custodianship on what will always be their ancestral lands.

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EXECUTIVE SUMMARY

This Design Report has been prepared on behalf of Opal Health Care to support a State Significant Development Application for a care community precinct at , 59 - 67 Karne Street North, Narwee.

The proposal seeks to provide 165 residential care beds with associated site service, facilities and public space that will address the rising demand for senior housing choice in Sydney's south. It will reflect the natural setting and cultural context of the neighbourhood and create a quality sanctuary for an inclusive community.

Document Purpose and Structure

The primary purpose of this document is to accompany a State Significant Development Application for the subject site. The report seeks to demonstrate how the proposal integrates key opportunities and constraints affecting the subject site including:

- The strategic ambitions of state and local planning efforts,
- The broad aims of state design guidelines,
- The site's location in its urban context,
- The physical site characteristics
- Designing with Country and Aboriginal Design Principles established with WSP

The report structure is intended to demonstrate understanding of the site, through both its physical and strategic context. We have a dedicated chapter to Designing with Country in order to articulate how our engagement process has informed the development of the design narrative

The report then steps through the communal area approach, identifying and defining the importance of the open space and key courtyard spaces. Following this, a chapter has been dedicated to guide the reader through the design and architectural approach for the development.

Overview of the Proposed Development

SSD-45024776 seeks approval for the following development:

- Demolition of all existing buildings and structures on the site;
- Site preparation works, excavation and trees removal;

The construction of a residential aged care facility development comprising:

- 165-bed within single building of 3 storeys and a basement carpark
- 7,067m² gross floor area at FSR 1:1;
- 2,056m² of communal open space;
- 30 spaces of basement car parking; and
- 2,854m² of landscape area.

- In accordance with Section 4.39 of the Environmental Planning & Assessment Act 1979 (EP&A Act), the Secretary's Environmental Assessment Requirements (SEARs) for SSD-45024776 were issued on 22 June 2022.







1.0 INTRODUCTION

01

1.1 PLANNING FRAMEWORK

Narwee Parkland Care Community is a development proposed by Opal Health Care which seeks to provide 165 residential care beds with associated onsite services and facilities.

Outlined adjacent are the planning framework and the requirements to be met for the project.

The project will take advantage for the newly gazetted Housing SEPP.

Industry Specific SEARs for Seniors Housing has been issued for proposed development.

Planning Systems SEPP 2021

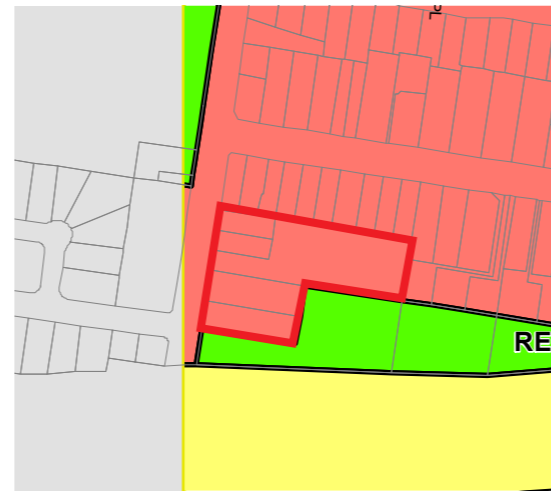
- Seniors housing with a CIV of more than \$30 million and with a RCF is SSD pursuant to clause 2.6. The proposed development has been estimated to have a CIV of \$38 million.
- Clause 2.10 of the Planning Systems SEPP provides that DCPs do not apply to State Significant Development.

Canterbury Local Environmental Plan 2012

- The site is zoned R3 Medium Density Residential. Seniors housing is permissible with consent.
- A floor space ratio of 0.5:1 and building height of 8.5m applies under the CLEP 2012.

Housing SEPP 2021

- Pursuant to the Housing SEPP, the site is afforded a floor space ratio of 1:1 and 9.5m building height.
- Servicing equipment may exceed the 9.5m height limit up to a maximum of 11.5m where it does not comprise more than 20% of the surface area.
- Upper most floor must be setback behind a 45 degree projection from side/rear boundaries.
- 15m² of landscaping per bed & 15% of site to be deep soil zone.
- A portion of the site is affected by the Biodiversity Values Map overlay and is excluded from the Housing SEPP. The land identified on the map is excluded from the calculation of site area under the Housing SEPP. This does not preclude the permissibility of seniors housing on the site.



Land Zoning

IN1	General Industrial
IN2	Light Industrial
R2	Low Density Residential
R3	Medium Density Residential
R4	High Density Residential
RE1	Public Recreation
RE2	Private Recreation
SP2	Infrastructure
W1	Natural Waterways

Floor Space Ratio

D	0.5	T1	2
I	0.75	T2	2.4
L	0.9	U1	2.5
N	1	U2	2.75
Q	1.3	V	3
R	1.4		
S1	1.5		
S2	1.6		
S3	1.8		

Height of Buildings

B	4	P	18
I	8.5	Q	20
J	9.5	R	21
K	10	T1	26
L1	11	T2	27
L2	11.5	U	30
M	12		
N1	13.5		
N2	14		

1.2 SITE LOCATION

The site is located in north Narwee in the City of Canterbury-Bankstown, 15km south-west of the Sydney CBD and 4.5km south-east of Bankstown.

Narwee comprises mostly residential uses with some commercial and light industrial development including Roselands Shopping Mall and the Riverwood Industrial area within walking distance to the subject site.

The S Western Motorway divides Narwee into two distinct neighbourhoods. A significant network of vegetation and open space runs in west-east orientation along both sides of the Motorway. This is comprised of several recreation reserves and parks including Richard Podmore Dog Park immediate south of the site.

Situated in north Narwee at the periphery of the suburb's residential neighbourhood, the site is afforded ample access to local open space, retail amenity, and community facilities.

The southern side of the Motorway comprises a similar development pattern of low to medium density residential buildings with local centre at the Narwee Train Station.



LEGEND		
■ Subject site	■ Riverwood Industrial Area	
■ Water Body	■ Narwee Local Centre	
T Train Line)) Overpass	

Scale 1:10,000 @ A3
0m 40 80 200 400

1.3 THE SITE

Under the SEPP (Housing) for Seniors, the site is afforded a greater maximum building height and additional FSR allowances.

The site constitutes four lots amalgamated into a single larger block over approximately 7,100m² in size, with its longest interface running along its northern boundary extent.

It is accessed via Karne Street N which culminates to the site's south-west, continuing onwards into Arilla Avenue. The S Western Motorway runs east-west to the site's south, dividing the suburb of Narwee in two.

The surrounding suburb's character consists of primarily single storey dwellings, with those newer developments to the site's east being up to two storeys.

Richard Podmore dog park defines the site's southern interface with which it is immediately accessible.

R3
Medium Density Residential

LAND ZONING

7,100
Approx. square metres

SITE AREA

1:1
SEPP (Housing) for Seniors allowance.

FSR

9.5m
SEPP (Housing) for Seniors allowance.

HEIGHT







2.0 ANALYSIS

02

2.1 COUNTRY

We acknowledge the traditional custodians of the land, the Bidjigal People of the Dharug Nation, upon which the site is located, their connection to Country, land, water, community, and spirit.

The name 'Narwee' derives from the Bidjigal word for 'Sun' which was adopted during the 1930s.

The Bidjigal people spoke a dialect of the Dharug language which was found throughout what is today the Greater Sydney Region.

Their traditional lands extended throughout the Sydney basin, from what is today the Hill's Shire in the north, to the Georges River in the south, which they knew as 'Guragurang'.

The area was once covered by a forest of Sydney blue gum, blackbutt, red mahogany and ironbark trees, growing on clay soils derived from Wianamatta shales.

These societies lived in a close symbiotic relationship with their environment. The land provided kangaroo, emu, possum, wild honey, plants and roots. The Cooks River and Georges River provided fish and shellfish.

Reminders of their lifestyle dating back thousands of years can still be found along the Georges River, including rock and overhang paintings, stone scrapers, middens and axe grinding grooves.

Signs of occupation are found in rock shelters, which were used as cooking and camping places, and middens, made up of shells discarded from shellfish meals over hundreds of years.

The southern lands of the Bidjigal people on the riverbanks of Salt Pan Creek have since European colonisation been an important place of resistance for the Eora people, the famed resistance leader Pemulwuy being a Bidjigal man from this region.

Throughout the 19th and 20th century, the area surrounding Salt Pan Creek now known as Narwee, Riverwood, and Padstow, would remain the last vestige of indigenous culture within the city of Sydney and an important site in the fight for indigenous rights.



Indigenous rock stencils of the Georges River depicting handprints, Source: Georges Riverkeeper

2.2 POST-SETTLEMENT

Sydney's south-west was first settled during the early years of the Sydney colony, today's suburbs of Punchbowl and Riverwood consisting initially of small land grants to free settlers.

The region surrounding Salt Pan Creek was originally known as Herne Bay and was primarily agricultural land, with poultry farms and market gardens being common until the mid 20th century.

While the area would remain mostly untouched in the years following settlement of the Sydney colony, soon opportunistic loggers would clear its thick ironbranch forests, leaving room for incoming settlers to establish grazings lands and farms on this fertile riverside soil.

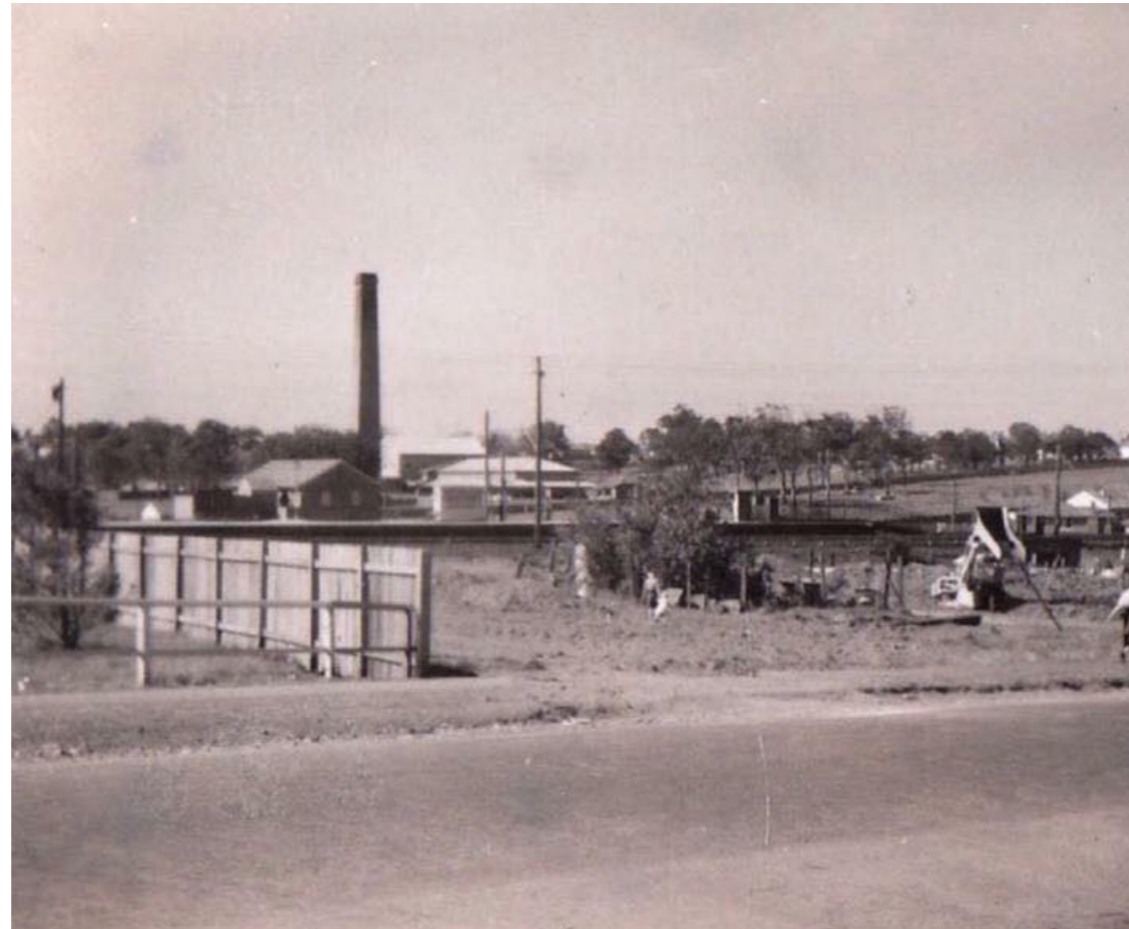
The land of today's Narwee was originally granted to two free settlers and ex-soldiers, Richard Podmore and Richard Tuckwell, who sold their grants to two ex-convicts.

It was Robert Gardner who gave the suburb its original name of Sunning Hill Farm established on the recently cleared land that he had acquired. Later this name would be adapted, as Sunning was translated to the Dharug word for Sun - "Narwee".

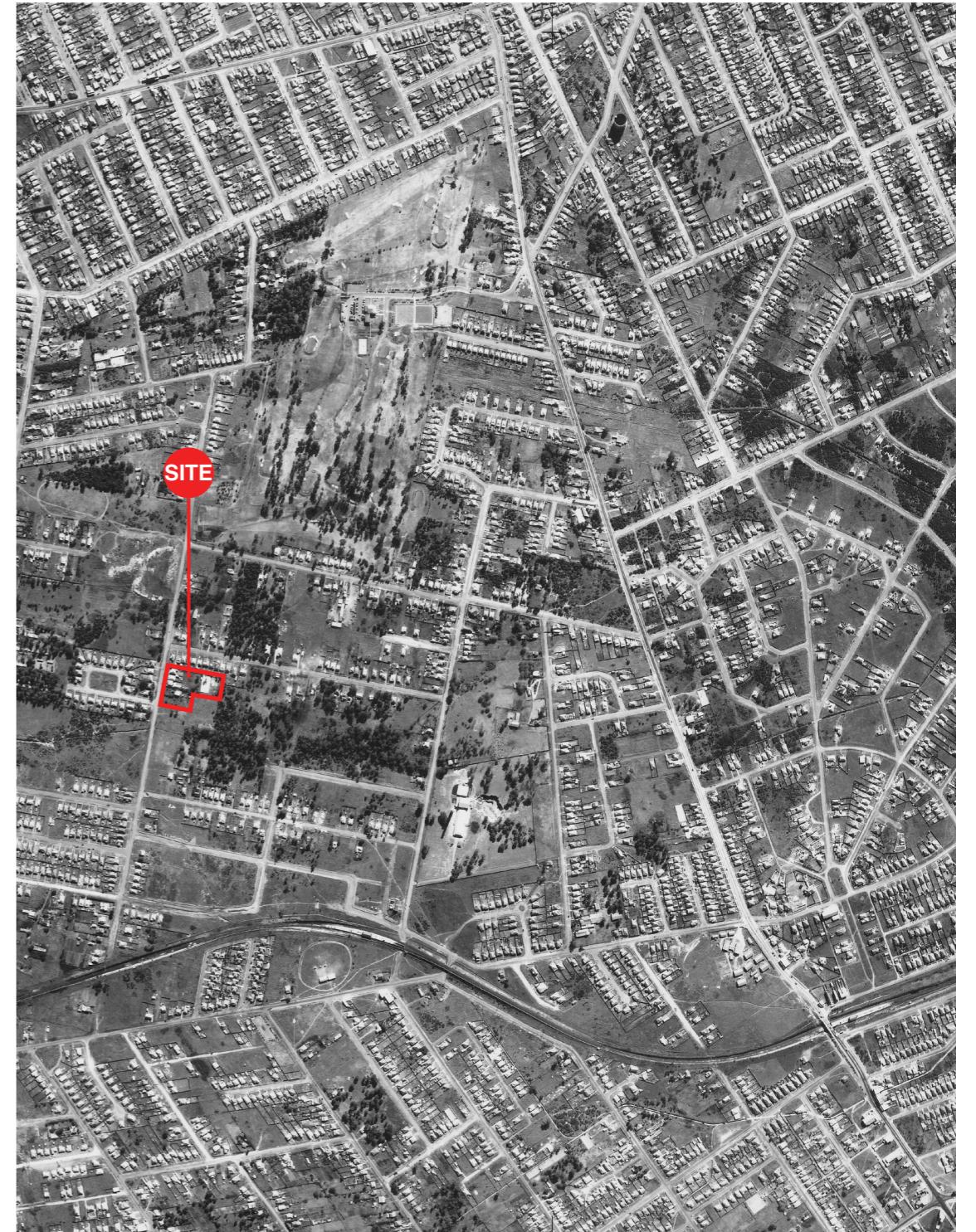
It wasn't until the early 20th century that Sunning Hill Farm was developed from a primary agricultural region into another one of Sydney's outer residential townships, as the introduction of the Narwee Train Station in 1931 brought subdivision and suburbanisation.

Major growth would not occur until after World War 2 and the Great Depression, as it was in the 1950s that Narwee and surrounding suburbs would see a considerable population increase, and the character of the region would change from rural to urban.

Growth has been steady since the suburb's establishment, and today Narwee remains a primarily residential neighbourhood, relying on the nearby centres of Roselands and Riverwood for commercial needs.



Narwee, Broadarrow Road, circa. 1950s, Source: Harry Willey



Beverly Hills and Narwee, circa. 1953, Source: Sydney Airophoto

2.3 ECOLOGY

The City of Canterbury-Bankstown lies within the basin of the Cooks River on the eastern edge of the great Cumberland Plain.

Extant native vegetation displays the region's natural environment prior to settlement, consisting of primarily open eucalyptus bushland.

Surrounding Salt Pan Creek and Wolli Creek, dense wetlands introduce a high ecological diversity to be found throughout the region, being home to a multitude of native flora and fauna, distinct ecological communities, and today's urban wildlife.

The site is located in close proximity to two such endangered ecological communities, a patch of Turpentine-Ironbark Forest situated in Wise Reserve, and a stretch of Castlereagh Ironbark Forest which runs along the S Western Highway and along the site's eastern extent.

These remnant ecological communities are rare throughout the metropolitan area and require significant protection to ensure the survival of Sydney's native ecosystems.

They are home to a diversity of native fauna including brush-tail possums and fruit bats, many species of birds, and some introduced species.

These are threatened primarily by continued development of their remnant extant range, but present opportunities for learning and engaging with Sydney's natural environment.

Cooks River/Castlereagh Ironbark Forest

Occurs in western Sydney, and the extent of intact remnants is now reduced to 1011 hectares.

Ranges from open forest to low woodland, with a canopy dominated by Broad-leaved Ironbark (*Eucalyptus fibrosa*) and Paperbark (*Melaleuca decora*). The canopy may also include other eucalyptus such as Woollybutt (*E. longifolia*).

The dense shrubby understorey consists of Prickly-leaved Paperbark (*Melaleuca nodosa*) and Peach Heath (*Lissanthe strigosa*), with a range of 'pea' flower shrubs, such as Dillwynia tenuifolia, Hairy Bush-pea (*Pultenaea villosa*) and Gorse Bitter Pea (*Daviesia ulicifolia*).

Richard Podmore Dog Park and much of the extant shrubbery which lines the South Western Motorway and the southern extent of the site consists of this endangered community.

Sydney Turpentine-Ironbark Forest

Occurs in Sydney and is heavily fragmented, with only 0.5 percent its original extent remaining intact.

Open forest, with dominant canopy trees including Turpentine *Syncarpia glomulifera*, Grey Gum *Eucalyptus punctata*, Grey Ironbark *E. paniculata* and Thin-leaved Stringybark *E. eugenoides*.

The shrub stratum is usually sparse and may contain mesic species such as Sweet Pittosporum *Pittosporum undulatum* and Elderberry *Panax Polyscias sambucifolia*.

May be found to the site's west in Wise Reserve and Baralga Crescent Reserve, where the Turpentine Tree is most dominant.



Windarra Reserve



Wise Reserve



LEGEND

- Subject site
- Lots
- Open Space

- Cooks River/Castlereagh Ironbark Forest
- Turpentine-Ironbark Forest

Scale 1:5,000 @ A3
0m 20 40 100 200



2.4 CONTEXT ANALYSIS

Situated in north Narwee at the periphery of the suburb's residential neighbourhood, the site is afforded ample access to open space, retail amenity, and community facilities.

Though Narwee's commercial local centre may be found on the southern side of the suburb's intersecting motorway, Roselands Shopping Mall and the Riverwood Industrial area are within walking distance.

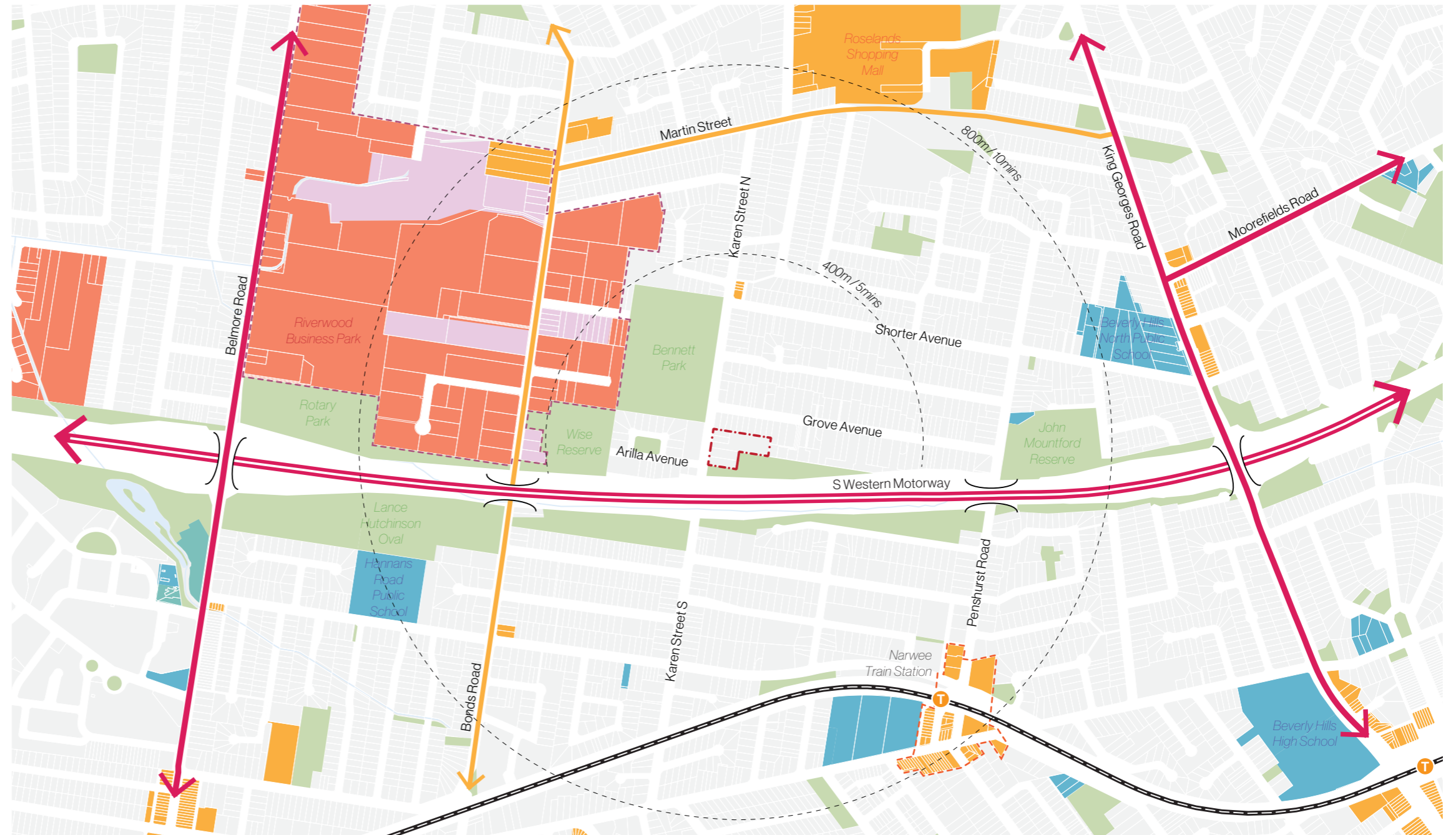
The S Western Motorway divides Narwee into two distinct neighbourhoods which are interconnected via Bonds Road and Penshurst Road. As a result, the site's immediately accessible context is concentrated to its north.

Though near to the culmination of Karne Street N, this road continues westwards into Arilla Avenue, linking to Wise Reserve and providing a pedestrian route to the nearby industrial area.

Roselands Shopping Mall and the Riverwood Industrial area provide necessary conveniences and are not distanced by any major thoroughfares.

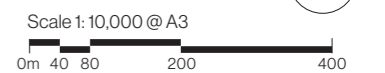
A network of recreational open space and extant native vegetation runs along the extent of the S Western Motorway, linking Rotary Park to John Mountford Reserve through the site and the adjacent dog park.

Although this provides a wildlife vegetation corridor, the entire extent of this network of not publically accessible, much of it east of the site functioning as a motorway buffer and maintenance access.



LEGEND

- Subject site
- Commercial
- Train Line
- Motorway
- Riverwood Industrial Area
- Lots
- Retail
- Arterial Road
- Narwee Local Centre
- Open Space
- Education
- Distributor Road
- Water Body
- Industrial
- Overpass



2.5 SITE ANALYSIS

Key to our urban design approach is a rigorous analysis of the site's relationship to its local context and present conditions.

This analysis guides the vision for the project specific to the immediate context and for the future character of the Narwee neighbourhood.

The site's local context has been analysed in reference to existing key planning and conditional assets which reveal its underlying urban structure including:

- Land Use
- Access and Connectivity
- Built Form
- Open Space Network

Land Use

The site is within a medium density residential neighbourhood in North Narwee.

The site constitutes four lots amalgamated into a single larger block. The majority of the site was previously occupied by medium density multi-dwellings for senior living.

Surrounding the site is predominantly residential uses, comprising single lot residential buildings, townhouses and multi-dwelling units.

A number of public open spaces are within close proximity of the site including Richard Podmore Dog Park, Bennett Park, Baralga Crescent Reserve and Wise Reserve.

Commercial areas of Roselands Shopping Mall and the Riverwood Business Park are within walking distance to the site's north and west.

There is an example of aged care community Leigh Place Aged Care comprising a group of single to two storey apartment buildings and supporting social facilities. The new extension of the Aged Care

Access and Connectivity

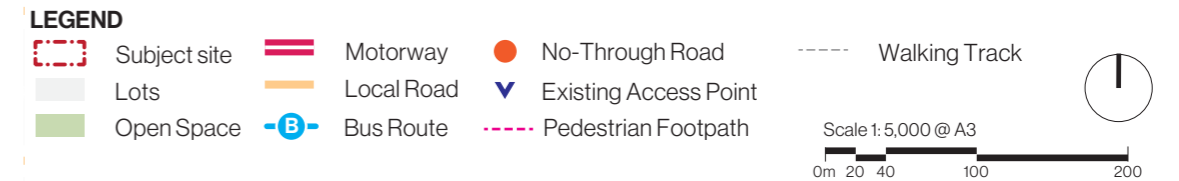
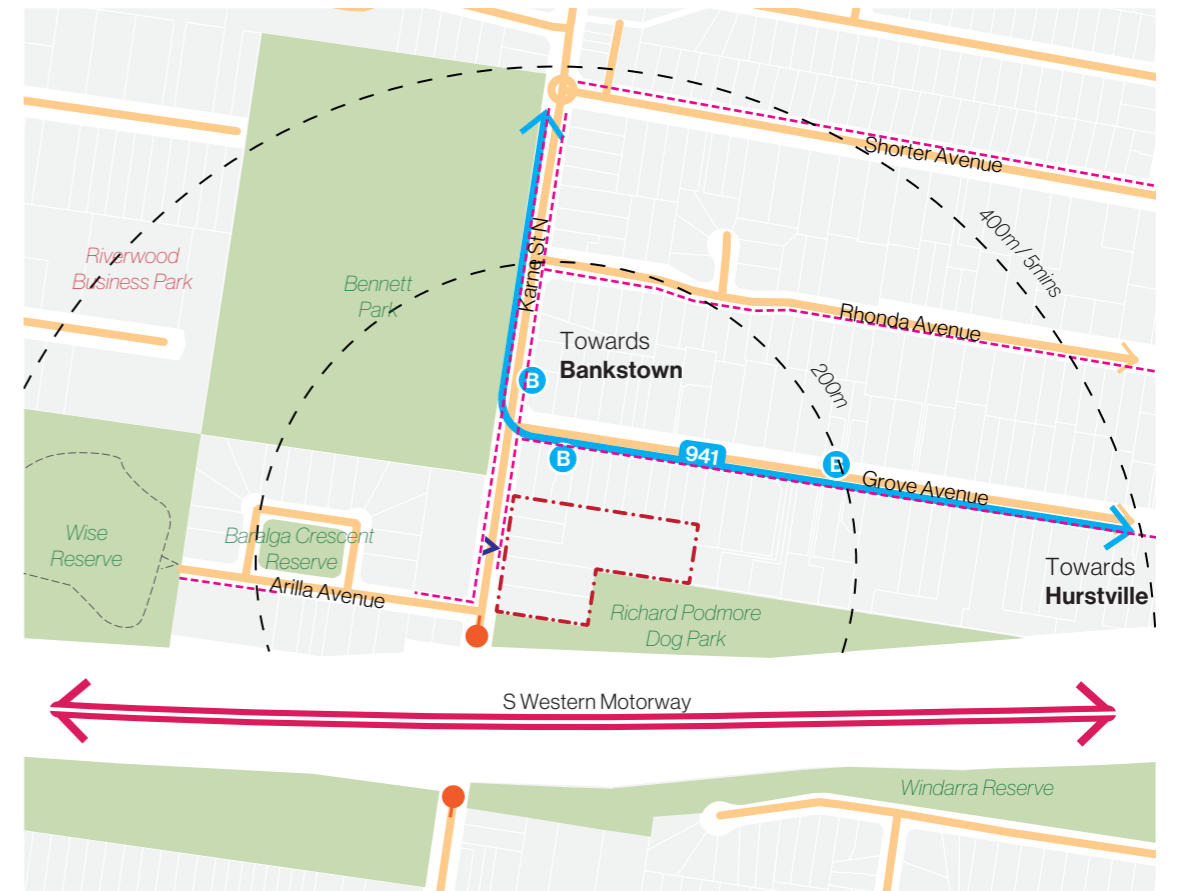
An extensive walking network connects the site to open space, retail amenity, and surrounding urban centres.

There is no direct access to the motorway from the site. As a result, the site's immediately accessible context is concentrated to its north.

Karne Street is a quiet, residential local road with little vehicular activity and a single intersection at its south. Much of the Narwee's residential streets are connected by a network of pedestrian links.

The site is accessed via Karne Street N which culminates to the site's south-west with pedestrian footpath linking Bennett Park, continuing onwards into Arilla Avenue linking Wise Reserve.

A few of bus stops are within the nearby residential areas on Grove Avenue and Karne Street N. The bus route 941 accessed by local residents provides services connecting Hurstville and Bankstown.



Built Form

The site is located at the periphery of the suburb's residential neighbourhood.

The majority of the built form surrounding the site ranges from low to medium density residential developments. The suburb's character consist of primarily single storey dwellings, with those newer developments being up to two storeys.

Across the road from the site, there are a number of newly developed medium density multi-dwelling units along Karne Street North.

Along the northern and eastern site interface, many of the dwellings are one to two storeys in height and are of the inter-war style, with rendered brick facades being prominent.

Open Space Network

There are a number of public open spaces within proximity of the site, which vary in their state of development, and lack a dedicated access network.

Bennett Park constitutes a large and easily accessible facility for residents, with ample facilities of sporting fields, play equipments and amenity blocks.

Wise Reserve and Baralga Crescent Reserve are passive open space. Ecological community of Turpentine-Ironbark Forest may be found to the site's west in Wise Reserve and Baralga Crescent Reserve, where the Turpentine Tree is most dominant.

Within immediate proximity of the site is the Richard Podmore Dog Park. It is a district park that is accessed from Karne Street N. No direct access is provided from the subject site.

Mature trees and ecological communities scattered along the site's western and eastern boundary form a landscape buffer and visual barrier to surrounding buildings.



LEGEND

- Subject site
- Lots
- Open Space
- 1 Storey
- 2 Storeys
- 3 Storeys
- Existing Built Form on-site

Scale 1:5,000 @ A3
0m 20 40 100 200



LEGEND

- Subject site
- Lots
- Existing Trees
- Cooks River/Castlereagh Ironbark Forest
- Turpentine-Ironbark Forest
- District Open Space
- Local Park

Scale 1:5,000 @ A3
0m 20 40 100 200

2.6 LOCAL CHARACTER

North Narwee is characterised by its leafy streets, low scale of developments, and proximity to public open space.

Many of the dwellings surrounding the site's northern interface are one to two storeys in height and are of the inter-war style, with rendered brick facades being prominent.

More recently developed dwellings are located on the southern end of Karne Street N and reflect more contemporary styles and a greater density of housing.

The site itself and its immediate surroundings are highly vegetated, consisting of mature native trees which continue eastwards into Richard Podmore dog park and along the S Western Motorway.

To the site's south, the S Western Highway noise barriers are visible on the other side of the adjacent dog park, with associated vehicular noise being especially prominent.



1. Karne Street is a quiet, residential local road with little vehicular activity and a single intersection at its south.



2. Residential development in the immediate proximity consists of single dwellings and medium-density multi-dwellings.



3. A tall canopy of mature eucalypts characterise the site's open space, especially prominent to its south-east.



4. The noise barriers lining the S Western Highway are visible from the site.

Due to the site's peripheral location it is subject to a range of interface conditions which vary to a great extent.

To the site's south, Richard Podmore dog park presents the opportunity to respond to this open and consistently active space.

Primarily single storey dwellings line its northern boundary, potentially limiting maximum building height due to overlooking views and privacy concerns, and density of the adjacent lots, many backing directly onto the mediating fence.

There is a considerable topographic decline towards the site's south-west creating a stepped two-tier morphology that opens up towards the southern dog park.



1. The site's northern interface with adjacent residential single dwellings is mediated by a tall fence and a canopy of mature trees.



2. The adjacent dog park is immediately accessible from the site, with little transition between the two.



3. A tall canopy of mature eucalypts characterise the site's open space, especially prominent to its south-east.



4. The noise barriers lining the S Western Highway are visible from the site.



2.7 OPPORTUNITIES

The site has potential to provide quality living for an inclusive community and enhance the green links to wider ecological communities.

Built Form and Character

- Multiple residential interfaces and street frontage offers a range of facade opportunities and the ability to create a space that is cohesive with the surrounding interfaces.
- Locate three storey built form in the site's south-west to take advantage of natural slope and provide additional buffer.
- Primarily two storey developments along the site's western extent suggests taller built form to respond to this interface.
- Orientation towards open spaces and the community courtyard to optimise views and encourage engagement and connectivity with the public realm.
- Enhance streetscape with the landscape setback along Karne Street N.

Connectivity

- Strengthen the pedestrian connection to surrounding public open space to promote a highly walkable neighbourhood.
- Direct pedestrian activity westwards through Arilla Avenue towards Wise Reserve and northwards to Bennett Park.
- Access to Richard Podmore Dog Park can be enhanced through providing direct access from the site along eastern interface.

Open Space

- Reinforce Castlereagh Ironbark Forest endangered ecological community with appropriate native planting and integration at south site extent.
- Extend green link through the site to further connect Wise Reserve to Richard Podmore Dog Park and Bennet Park.
- Locate private open space to site's southern extent to link to adjacent Dog Park and direct private open space away from surrounding residential dwellings.



LEGEND

- | | | | |
|--------------------|-------------|---------------------------------|------------------------|
| Subject site | Built Form | Green Link | Pedestrian Circulation |
| Lots | Bus Route | Endangered Ecological Community | Existing Access Point |
| Public Open Space | Bus Stop | Existing Tree | Visual Connection |
| Private Open Space | Contours 2m | Interface with Dog Park | |

Scale 1:1,250 @ A3
0m 20 40 100 200

2.8 CONSTRAINTS

The site experiences a variety of boundary interfaces which define its contextual response, providing a transitional space between single storey residential and the adjacent motorway.

Existing Characters

- Surrounding low-scale one to two storey developments along the site's northern extent may limit height allowance to reduce overlooking views.
- Potential noise intrusions originating from the S Western Highway may require southern buffer.
- A hard boundary interface adjoining adjacent residential dwellings limits boundary activation.
- Considerable flooding constraints require water management.
- Trees to be retained along the open space and frontage interfaces.
- Large mature tree and associated TPZ in centre.

Regulatory Constraints

- A portion of the site is affected by the Biodiversity Values Map overlay.
- Additional storeys more than two must be setback with planes that project at an angle of 45 degrees inwards from all side and rear boundaries, per the State Environmental Planning Policy (Housing) requirements.
- Achieving a 6m landscaped setback to Karne Street N and eastern boundary of residential interface, per the Development Control Plan requirements.

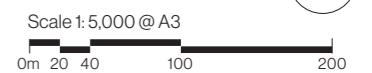
Access and Connectivity

- Lack of connectivity to south Narwee along the S Western Motorway restricts contextual activation to the site's north along Karne Street N.
- Single nearby bus route may require supplementary considerable on-site parking for employees and visitors.



LEGEND

Subject site	Existing Built Form on-site	Motorway	Endangered Ecological Community	Contours 2m
Lots	1 Storey	Hard Boundary Interface	Noise Intrusion	Site Slope
Public Open Space	2 Storeys	Setbacks	Flooding Risk (1% AEP)	Existing Tree
Private Open Space				Tree Protection Zone







3.0 DESIGNING WITH COUNTRY

03

3.1 INDIGENOUS DESIGN STATEMENT

“How are you going to leave my Country better than what it was before?”

Indigenous peoples and the built environment have had a problematic relationship as settlements, roads, and railways often cut through and disrupt the connection between people and Country.

Our projects change the environment in significant, and often positive ways, yet Aboriginal people often ask the following question::

How can we reconnect the relationship between Country and people? Projects offer an opportunity to acknowledge and celebrate the Aboriginal Country, Culture and people of the land on where the project is located.

Through the project's design elements and our place-based landscape interventions (architecture, infrastructure, art and the like), we can acknowledge Country and reveal the site's latent Aboriginal history.

This document describes the principles we use as a starting point to engage with the Dharawal people and Country. While more consultation and permission must be sought from the local elders, the ideas set out in this document should be seen as an introduction to the engagement process.



Georges River, close to Narwee site, painted by Joseph Lycett, c1790

3.2 DHARAWAL COUNTRY

Dharawal Country

People who spoke Dharawal as their first language live in the Country that stretches from the Kurnell peninsula in the north, to Campbelltown, Camden and Bowral in the west, and to Shoalhaven in the south.¹

The land of the Dharawal includes Georges River and its tributaries. These waterways provide water, food and shelter. Streams and wetlands offer a variety of food and the forest shelters possums, lizards, kangaroos and wallabies. There are also roots, berries and seeds to gather and birds provide meat and eggs.²

Along the Georges River, eroded sandstone, forms rock overhangs which provide shelters. The walls of these shelters were decorated with images and hand stencils outlined in red ochre, white clay or charcoal.²

Dharawal Language

The traditional language of the area is Dharawal which is the local word for the cabbage palm. The Dhargarigal, Gweagal, Goonamattagal, Goorungurragal, Murro-ore-dial, Noron-Geragal, Oaree, Ory-ang-ora, Tagarigal, Threawal, Wandeandegall and Wodi Wodi clans spoke Dharawal as their first language.¹

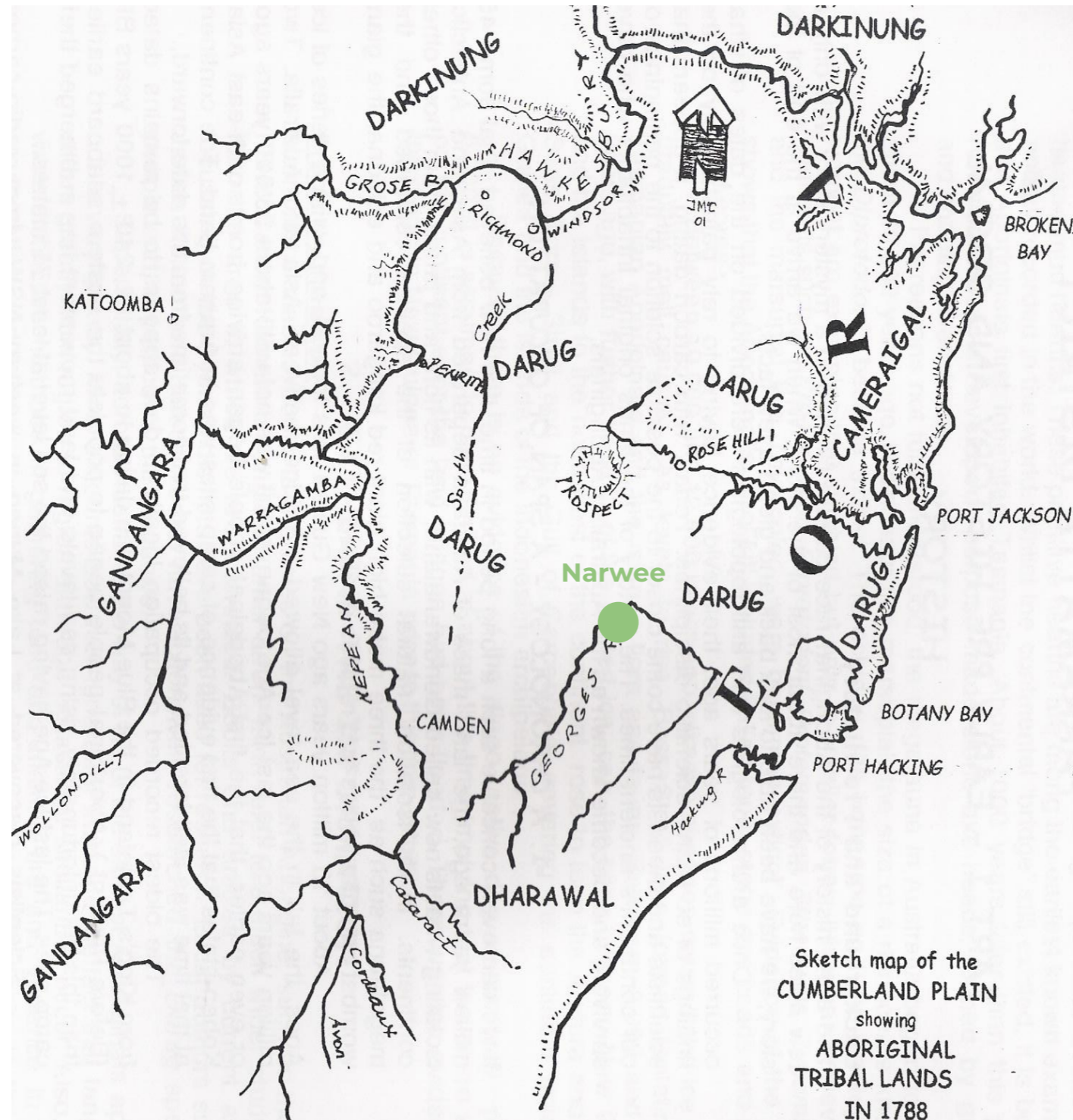
Dharawal People

Dharawal people traditionally moved between the areas now known as Campbelltown, Liverpool, Camden and Picton, and occasionally as far as Parramatta.²

Dharawal society was made up from distinct family groups and extended families. All members had specific responsibilities, based on age and gender. Clan boundaries were well defined and each clan was responsible for ensuring the well-being of their lands.

Dharawal people incorporated many different land management techniques, including the burning off of areas to clear the understory vegetation and promote growth of grasses suited for macropods. Traditional Dharawal people saw themselves as part of the land, not separate from it. Every aspect of traditional Aboriginal society was governed by strict law.²

Alternative spelling: Turuwal, Thurrawal, Thur'rawal,



Sketch map of the Cumberland Plain showing Aboriginal tribal lands in 1788. Unknown author.

3.3 DHARAWAL DREAMING + DESIGN

Dharawal Dreaming

The Dreamtime is sometimes represented as referring to past events or pure mythology, however it is a continuous phenomenon and therefore more appropriate to refer to it as 'the dreaming'. Dharawal people call their dreaming the Alcheringa. The main creator spirit is Biamie from which is derived the word Kiama.³

Biamie sent his two sons to the earth, one was Durumulun, the law-giver, who, during the dreaming, taught the local people traditional laws and customs related to kinship, totems, religion and social observances.³

Dreaming stories relating to all aspects of the local culture have survived, including those about the creation of the landscape, and other aspects of the environment such as the night sky and the weather.

Understanding Country

All the elements of the natural world, the earth, the sea and the sky are aspects of the unique relationship that all Aboriginal people have with the world. These parts all make up the idea of 'Country'.⁴

Aboriginal people believe that the Spirits that created the world as it is now, all descend from spirits who once lived in the sky. Every aspect of the world we see now was created in response to the needs of those spirits. All features of the natural earth represent parts of the spirit dreaming and are repeated in the dreamings of the people who now inhabit the earth.⁴

Just as rocks, trees, rivers, soil, the ocean have a connection to that dreaming so each also has a connection to the totems of the people. Each animal, snake, fish lizard or insect has its totem and they also have a direct connection to their ancestral origins in the sky. Those spirits live on in 'Country' right now. ⁴

Dharawal Design

We know from the vast array of art that has been found within the Dharawal area that there were four main techniques used over their 8500 years of occupation of this area; that is, after the last Ice Age. ⁴

They are– Paintings, Engravings, Drawings and Stencils. Along with songs and ceremonies, these techniques pass on important events or messages from one generation to another, just as Europeans use writing to pass on stories and ideas.⁴

We can trace the movement of people by the paintings and engravings they left behind as each clan had its own particular style. So for example we know that there were three styles of kangaroo, the oldest being stick ears, next came the pointy ears, and finally the round ears.⁴

Paintings and Drawings – Outline and Infill This is when the outline of the subject matter was first drawn, usually in charcoal, and then filled in or as we would now say 'coloured or painted in'. Most of these can be found in rock shelters or overhangs protected from the weather. They would be bi-chrome (two colours) or multi-chrome (many colours).

Stencils- were made by mixing clay and water together to make a slurry. They would put it in their mouth, then putting their hand on a rock surface they would purse their lips very tight and in a short, sharp spitting action spray the clay around their fingers, leaving an outline of their hand on the wall.⁴

Engraving – Pecked and Abraded, used for rock carvings. The men would first choose the rock because of the significance of the location, for example a rock carving of an orca (killer whale) overlooks the perfect location to sight the orcas as they come into the entrance of the river. Using rocks sharpened into a point, the men would pick (peck) out holes to create the outline, then abrade or rub lines between the pecks to create a deep grooved outline about 25 mm deep. The concept is not dissimilar to our dot-to-dot drawing.⁴

Geometric Designs- These are the most mysterious of all the graphic material found around Sydney. We know that designs of geometric type done as tree carvings were well known as individual and tribal markings, but there is a large body of circles, squares and elliptical shapes in stone carvings that remain unexplained.⁴



Engraving in Dharawal state conservation area.



Charcoal drawings of kangaroos in rock shelter along Myuna Creek, Heathcote National Park.

3.4 ABORIGINAL COUNTRY FEATURES

Waterways - Important Resource Areas

The area surrounding Narwee has many creek systems. These creeks have emerged as a key Aboriginal theme of the area. They are freshwater places which are associated with local learning and feature in local stories. The creek systems provide a wealth of resources, ranging from food and medicine through to construction materials.

A series of freshwater creeks, supported a large population which utilised abundant mullet, bass and other fish, eels, platypus, waterbirds and edible plants.

The area was known as a gathering place and an area where the Darug, D'harwahal and Gandangara people would visit. 6



www.wollondillyadvertiser.com.au/story/5475205/plan-to-protect-nepean-river/#slide=5

Tool Resource Areas

Red Silcrete tools are strongly associated with the Western Sydney region. There is a long history of tool making in this area with a tradition of heat-treating stone to stabilise and strengthen the material.

These tools are found in stone tool assemblages up and down the NSW coast and indicate that manufactured tools or raw material was traded amongst communities within the broader region.

Aboriginal knowledge holders propose that the distribution and trade of tools could be associated with local cultural groups coming together for initiation, education or ceremony.



<https://www.aboriginalheritage.org/sites/identification/>

Pathways and Viewpoints

Knowledge holders identified several traditional pathways in the area. These pathways link spiritual and ceremonial sites, as well as travel corridors throughout the landscape between the coast and mountains.

Spurs and ridgelines are important as routes for travel, and the large hill at Cecil Hills was an important vantage point.

Artefact scatters often occur along these pathways, as well as scarred trees which may be located at junctions, ceremonial sites or other significant points in the pathways.6



High points are valuable features of the landscape

Fire, Flora and Fauna

Fire is a powerful tool for management of the woodlands of the Sydney Basin. Selective burning reduces undergrowth, improves access, generates fresh pick to encourage kangaroos and other macropods, synchronises the flowering and fruiting of plants foods such as burrawangs and was used to smoke arboreal fauna from their hollows.

Many plants and animals are significant to Aboriginal people and are often mentioned in context with spiritual importance and resource collection.6



Cumberland Plain ecology is threatened by urbanisation and development.

3.5 KEY ISSUES

Ground Disturbance

For Aboriginal people the ground plane is important and should not be disturbed too much or else you change the ecosystem.

Any construction should have as minimal disturbance to the ground as possible.



Important Viewpoints

Elevated spaces provide a good place to look at Country.

How might the design cater for any important views points of Dharawal Country?



Celebrate Country

The project has the potential to celebrate Dharawal Country and culture.

Can individual projects provide a space to celebrate this important Country?



Tell our Stories

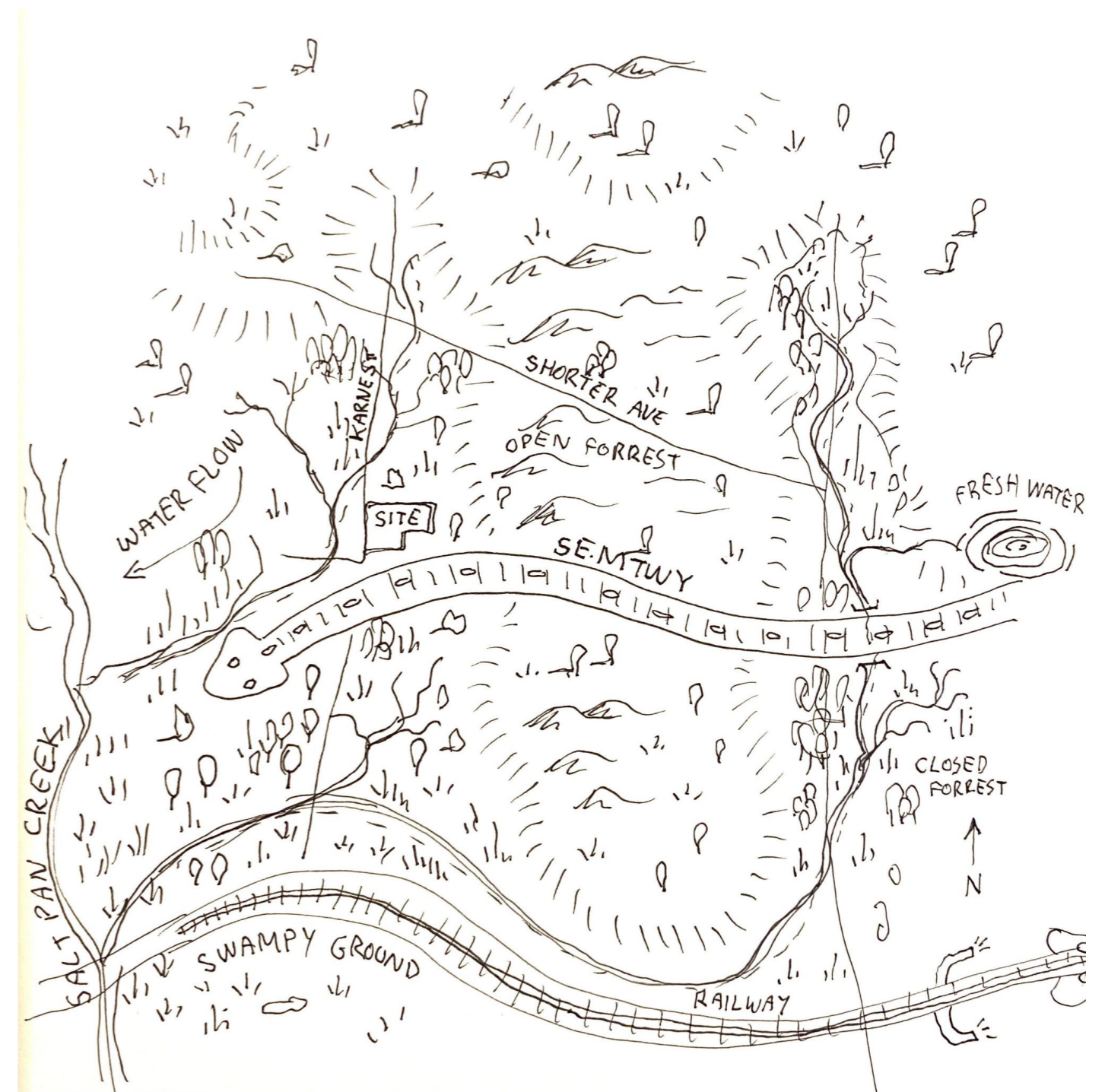
How might we tell the stories of this Country and it's first peoples?



3.6 CULTURAL MAPPING OF THE SITE



Birrarung William - metal etching along the Yarra River



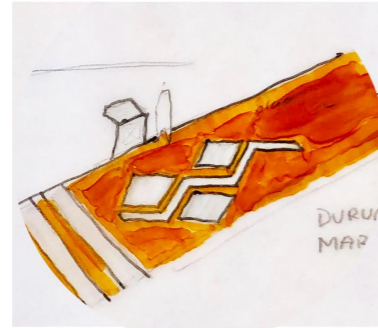
3.7 POTENTIAL USE OF ABORIGINAL DESIGN

Aims of the Project

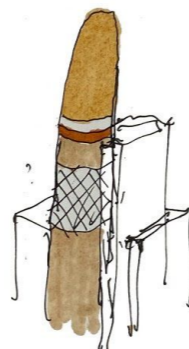
- Tell the story of the Narwee area, and of the Dharawal People.
- Incorporate native and endemic plant species through the space.
- Create opportunities for the installation of Aboriginal Art through the space.
- Establish a visual connection between the bedrooms and the outdoors.
- Explore the site-specific boundary conditions, that respond to the neighbouring residences, the dog park and the street.
- Every space to receive direct sunlight to ensure generosity and usability of space.
- Substantial landscaped pedestrian routes, to improve the pedestrian experience and view from building.
- Explore how the cultural mapping and Indigenous history can influence the organisation of the buildings and overall site.



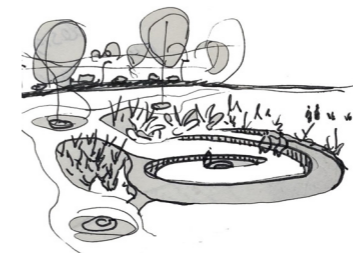
1. Acknowledgement of Country, referencing Dharawal Design.



2. The ground plane. Landscaping and pathways with local Aboriginal patterns in coloured asphalt.



3. Sculptural / landscape art, message sticks, landscape communicating stories and design.

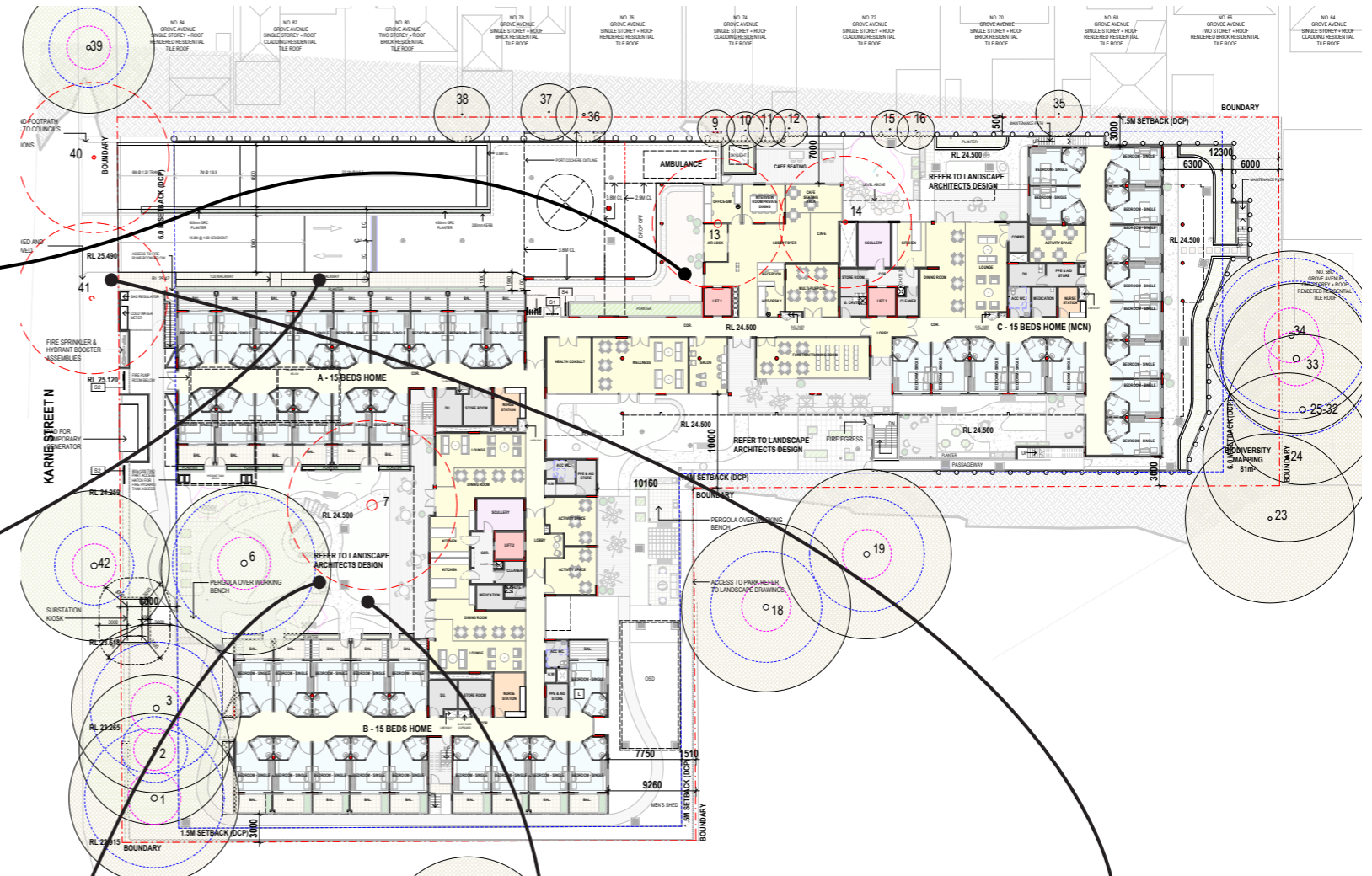


4. Resting / yarning place Dharawal design treatment in pavement, seating, landscape art.



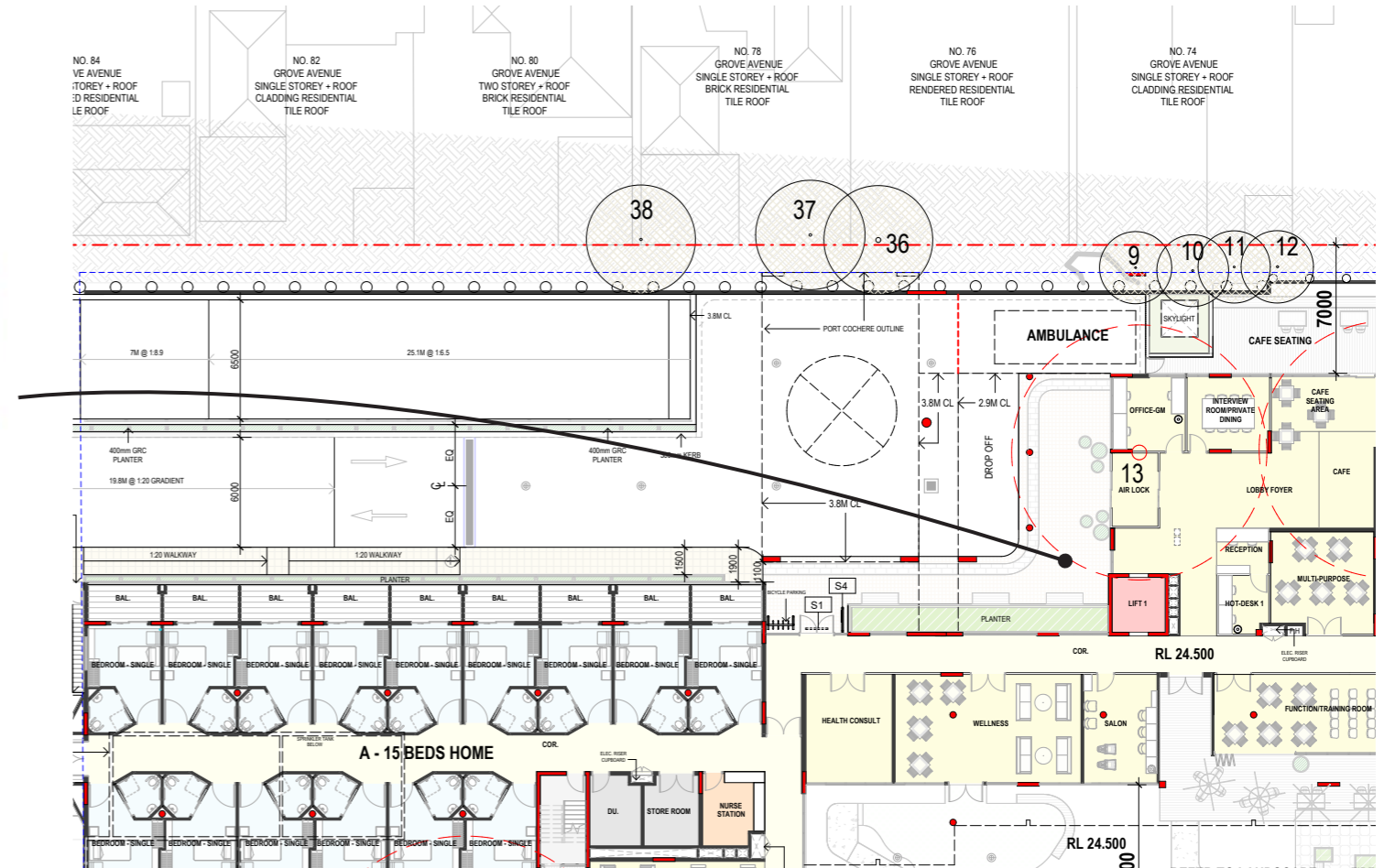
5. Language and naming

Can the building represent Dharawal culture through appropriate language shared through consultation?



1. Entry Statement

Storytelling and wayfinding devices help connect people and orientate them to Dharawal Country and the stories and history that came before.



2. Ground Plane

Thresholds can be celebrated with bold pavement design referencing Aboriginal language, colour and patterns.

A cultural Mapping of the site, revealing cultural flows and pressures on this site through high quality materials and design.



Education, interactive signage/buttons with speakers which residents/guests can interact with to learn something about the indigenous history of the place or importance of geographic features, flora, fauna.

Re-used sandstone from the site / coloured concrete / asphalt / bitumen

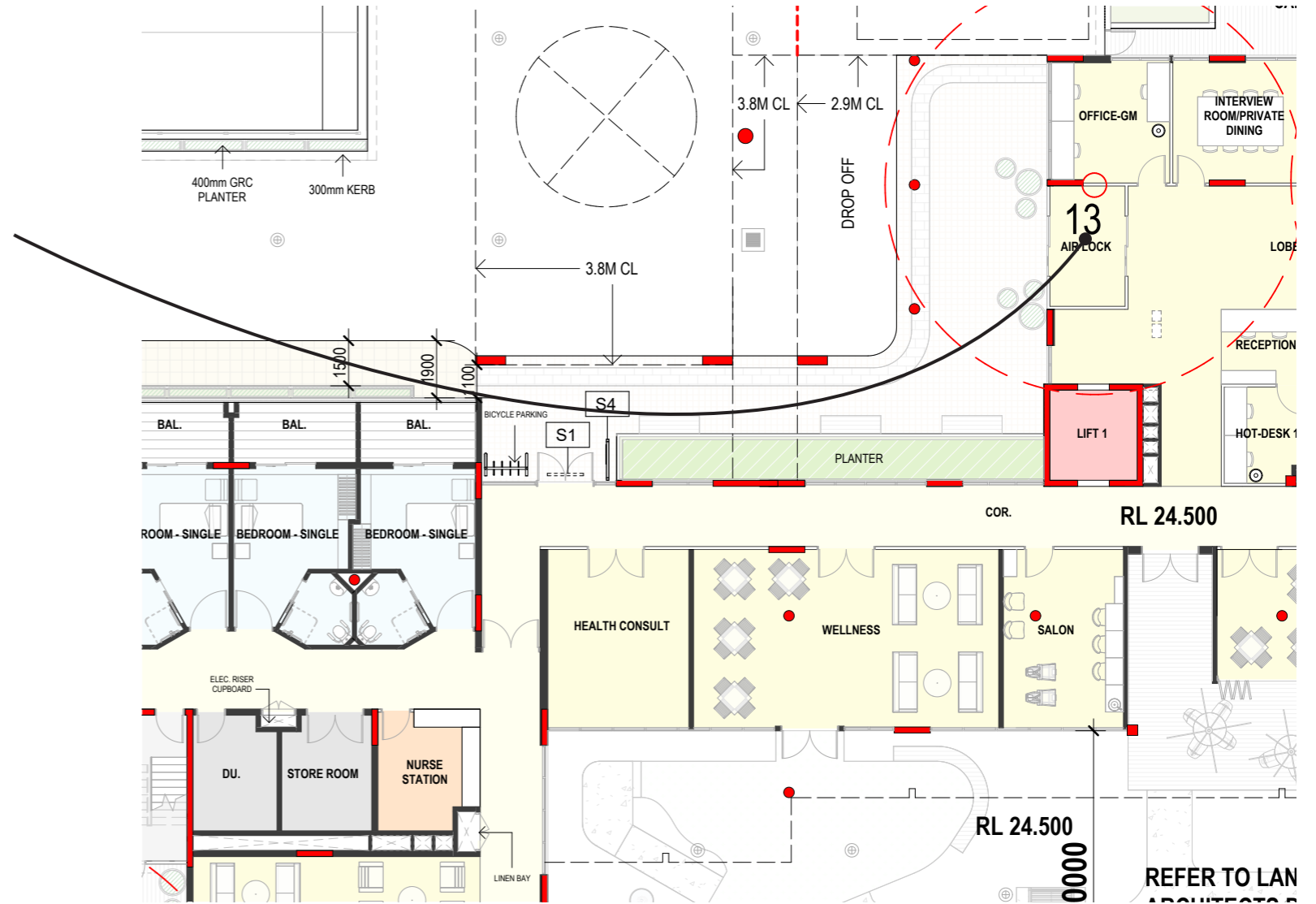
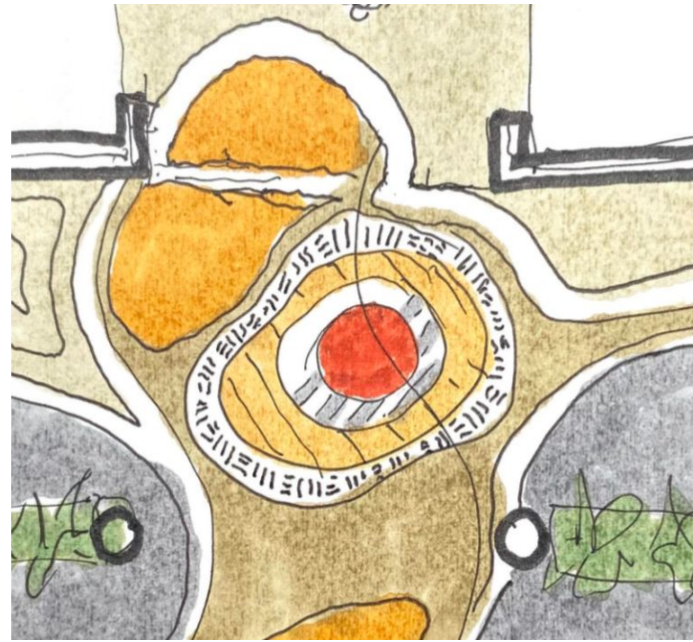
There is potential to re-use sandstone from the site which may lead to an opportunity to create Cultural designs, co-designed by local Aboriginal artists with the design team.

Use of endemic species will attract and enhance the biodiversity of this place. Curating into groves creates places of difference and diversity.



3. Ground Plane

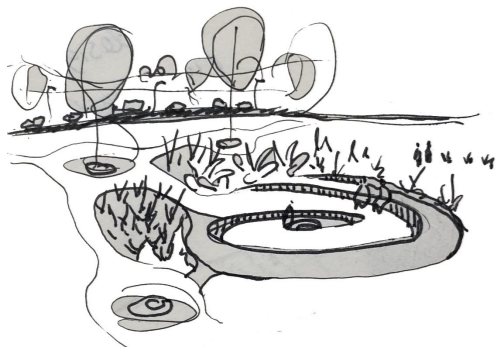
Carpet, concrete and colour can meet in weird ways to create artworks in key spaces where clients and staff enter and exit the buildings.



4. Resting / Yarning Places

The landscape can facilitate in cultural practices such as weaving or healing gardens, or spaces specific for Aboriginal people to celebrate their culture.

A physical space to celebrate design and culture - could be an accessible site to enhance certain cultural practices, such as healing or weaving gardens, a yarning circle etc.







4.0 URBAN DESIGN PRINCIPLES

04

4.1 URBAN DESIGN PRINCIPLES

The master plan concept is driven by a response to the site and its context.

Key to our methodology is the creation of a rigorous approach underpinned by urban design principles that enable a whole of precinct approach.

These underpin the identity and vision for the project and establish key objectives that respond to the site's policy context. Within these principles, built form typologies, staging, phasing and other development scenarios have been tested and confirmed in a robust way without altering the overall integrity of the project.

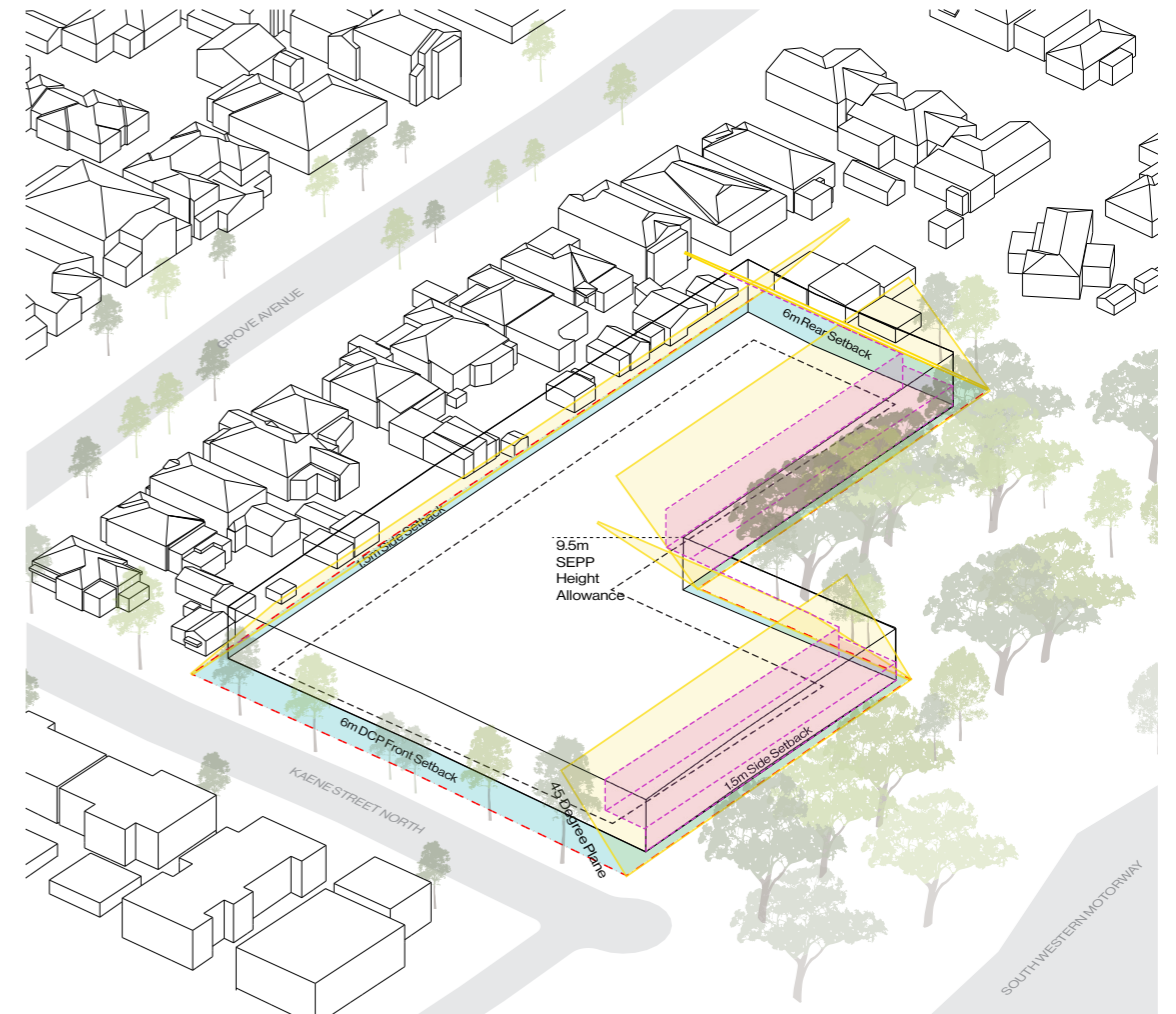
The urban design principles also articulate the urban logic for the precinct in the form of whole of site strategies.



Embrace the Natural Setting

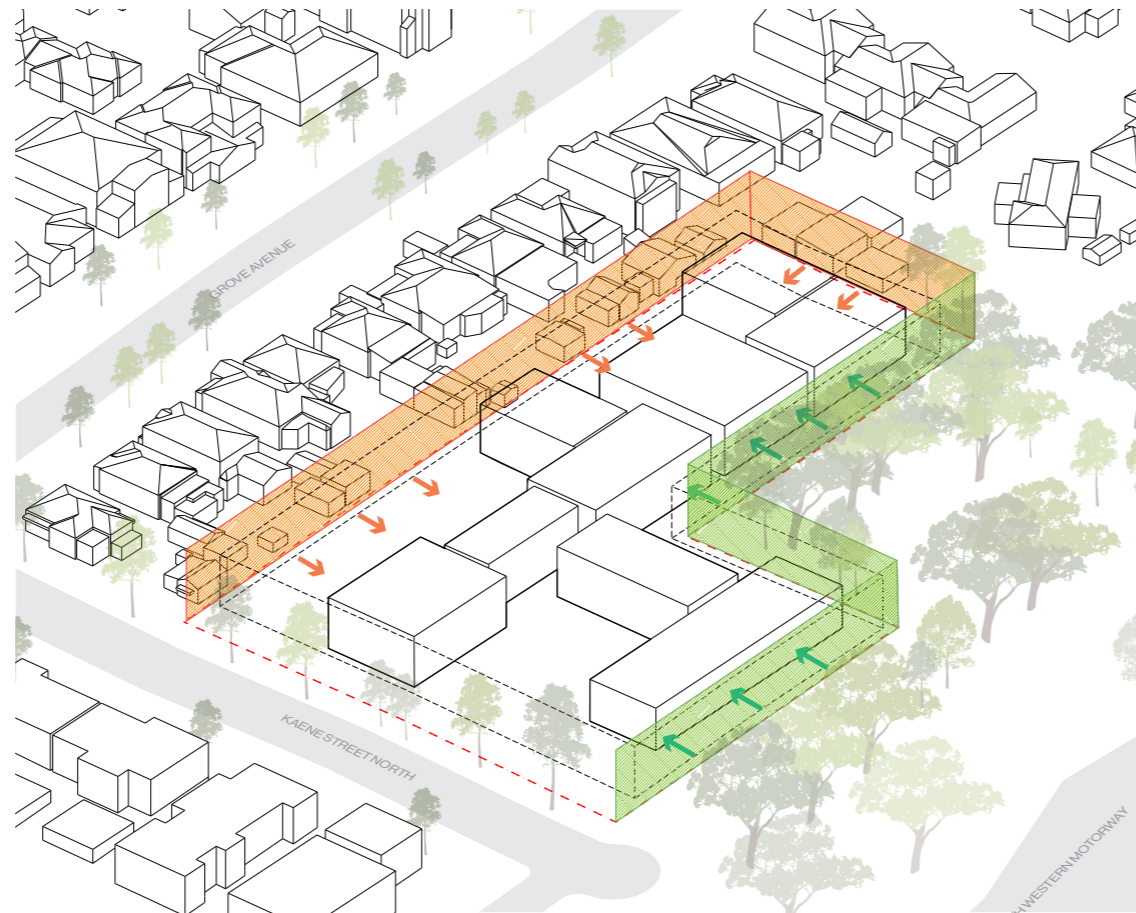
The design response will embrace the site's natural setting. It will embed a green network of both recreational and ecological spaces that will contribute to the visual quality of the precinct.

Future residents will also be afforded green amenity. Our approach to siting, open space and recreational cluster locations mean that residents outlook is supported with a natural interface.



Respond to the Building Envelope

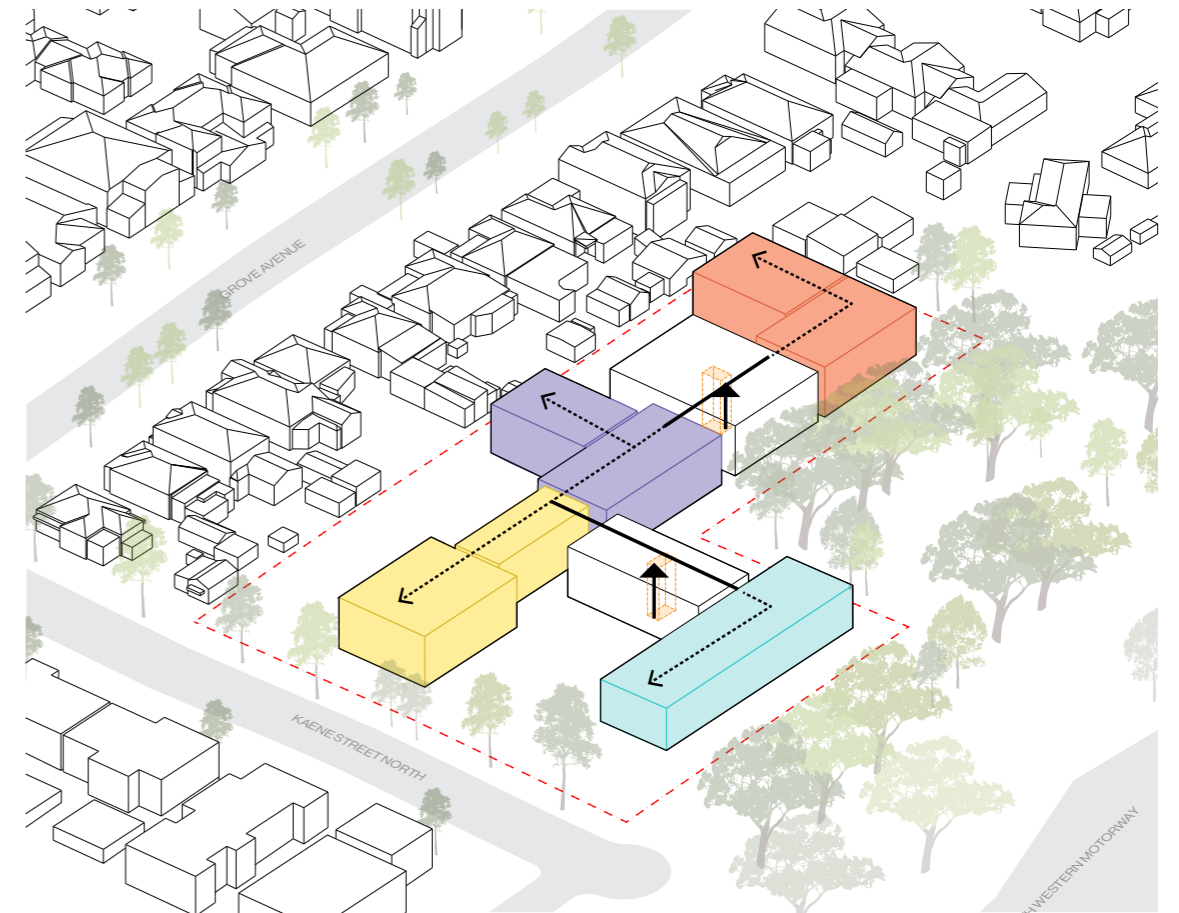
Respond to the statutory and strategic controls of the site. Utilise site setbacks and height allowances to integrate into the surroundings and ensure an appropriate contextual fit.



Respect sensitive interfaces

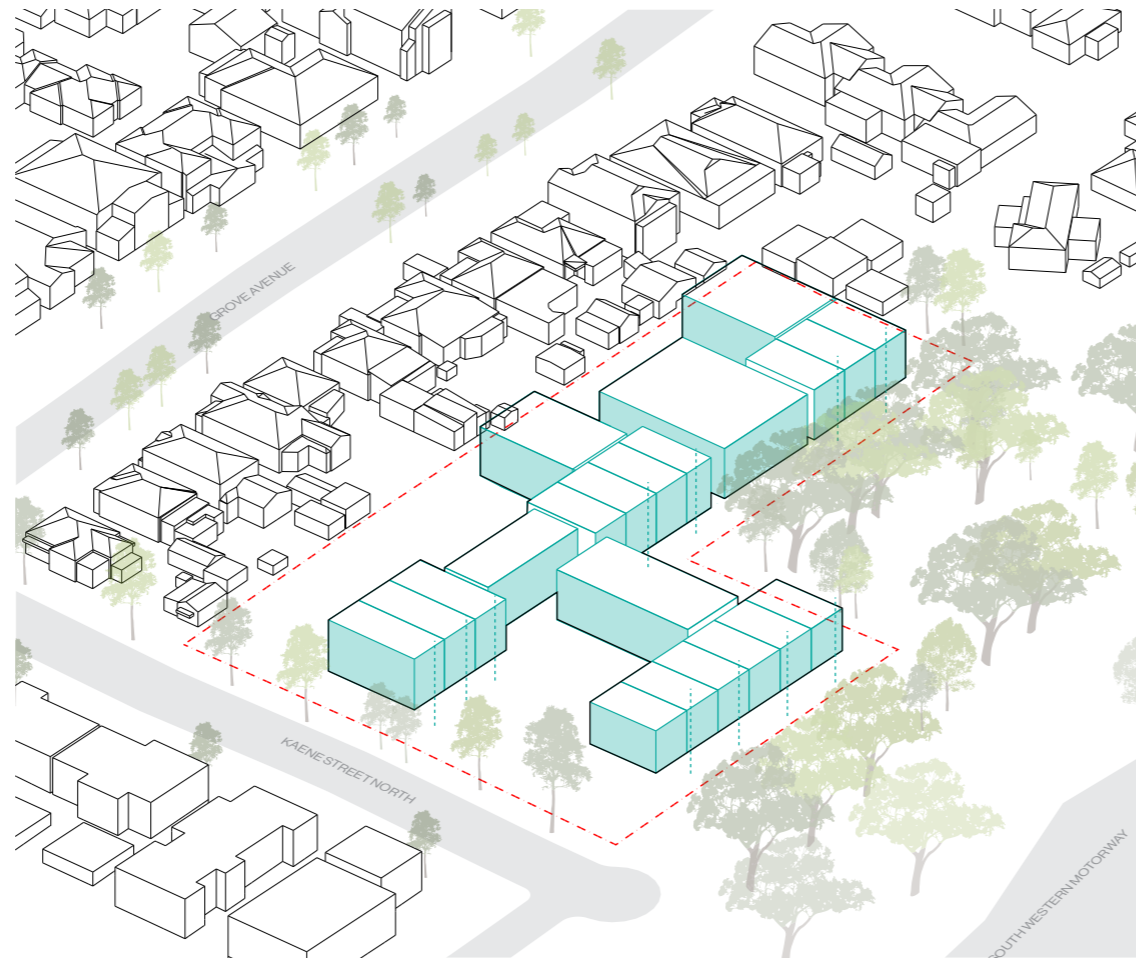
Increase the setback along the southern interface to mitigate noise to the adjacent park.

The design response respects the interface, and proposes a landscape buffer that will create a visual barrier for the public as well as a sanctuary for the residents.



Create Fine Grain Residential Homes

Introduce a fine grain residential character, breaking down the mass of the development into smaller clusters. This creates a more human scale, and is representative of the surrounding buildings bulk and mass.



Articulate buildings to complement local character

Break the residential clusters into smaller elements to articulate and reflect the existing local developments.

Ensure a characteristic of the design is aligned to the surrounding context, reinforced through material selection during the design development phase.



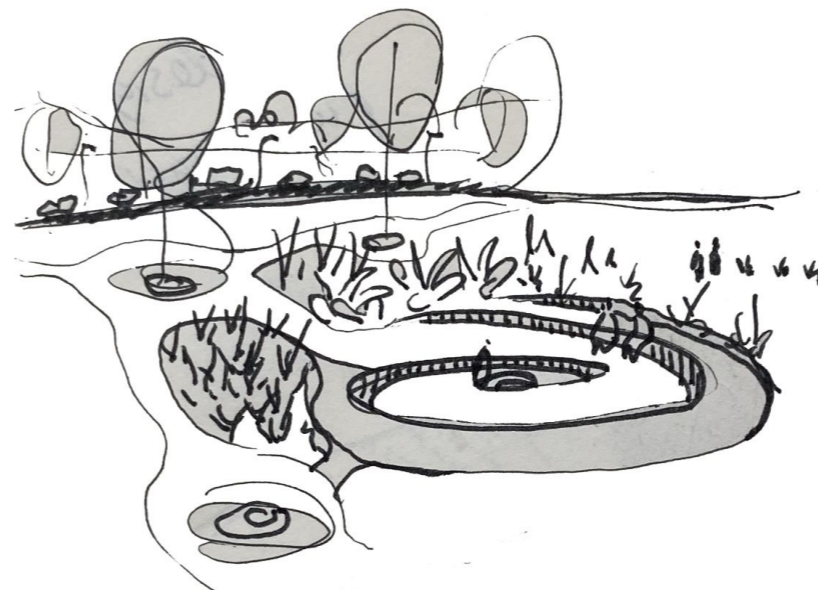
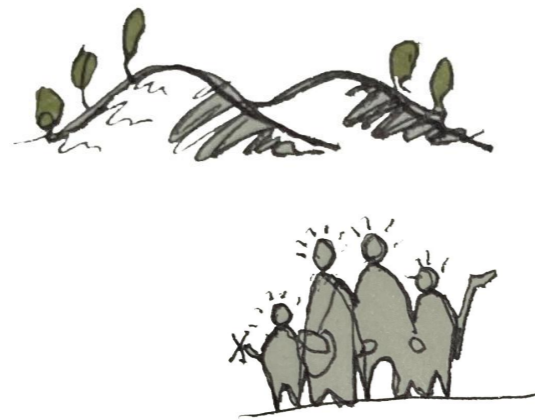
Connect the Green

Strengthen boundary setbacks with vegetation and public spaces, which contribute to and extend the existing canopy cover, benefitting immediate neighbours, increasing privacy and reducing noise from the Motorway.

Introduce large communal open spaces at central locations, linking habitable spaces and extending internal communal areas. Create a direct connection to Richard Podmore Dog park.

Storytelling and wayfinding devices help connect people and orientate them to Dharawal Country and the stories and history that came before. Signage, surface etching, sandblasting of language etc.

The landscape can facilitate in cultural practices such as weaving or healing gardens, or spaces specific for Aboriginal people to celebrate their culture.



4.2 PLANNING + LAYOUT ARRANGEMENT

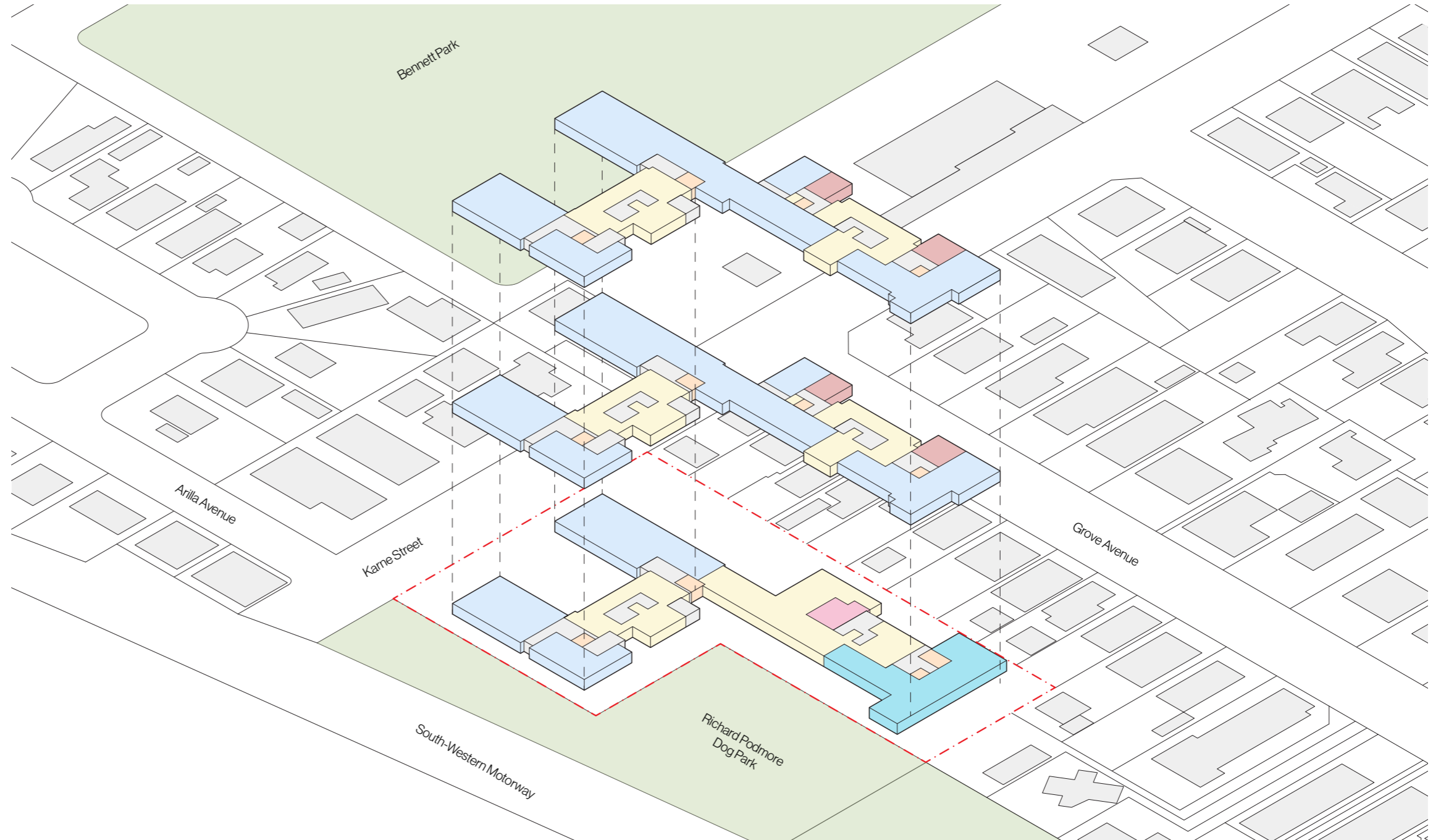
Metrics

165 Beds	
Site Area	7159.6m ²
External Communal Area	2056m ²
Permissible Area (Excluding Biodiversity)	7077.74m ²
Landscape (Excluding Biodiversity)	2854m ²

Gross Floor Area **7039m²**

Heights

Three Storeys (Ground +2)	
Ground Level	RL 24.500
Level 1	RL 27.800
Level 2	RL 30.900
Key RLs:	RL 35.500
Roof	RL 34.000
Lift Overrun	RL 35.500



LEGEND

■ Bedrooms	■ Administration
■ MCN	■ Front of House
■ Care	■ Back of House
■ Suites	







5.0 ARCHITECTURAL CONCEPT

05

5.1 INTEGRATION OF ABORIGINAL DESIGN PRINCIPLES

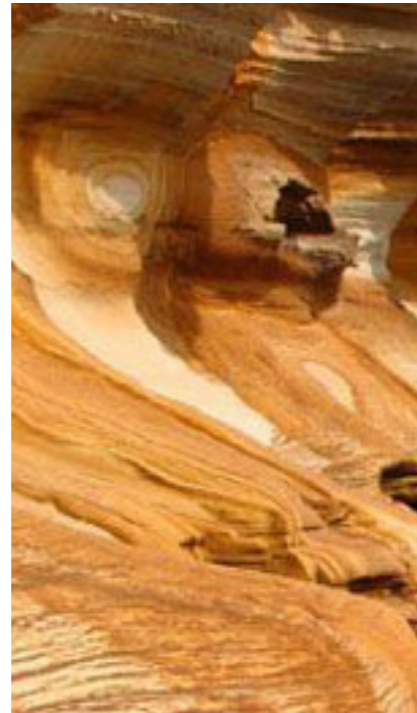
The native and endemic plant species of the local landscape is represented in the design of the project.

Form, expression and materiality seeks to connect the site to Country, and pay respect to the traditional significance of ground and sky in Dharawal lore.

This interpretive framework has provided a conceptual benchmark for developing the design, and has been refined through both consultation and design excellence processes.

The land of the Dharawal includes Georges River and its tributaries. The streams, wetlands and forests throughout this area, offer food and shelter to the native animals. The eroded sandstone, along the river, provide shelters that were decorated with images in red ochre, white clay or charcoal.

Dharawal people lived in harmony with the land. They used many different land management techniques, including the burning off of areas to clear the under story vegetation and promote growth of grasses suited for macropods. The land was also used to manufacture tools, such as Red Silcrete tools. These tools were traditionally made by heat-treating stone to stabilise and strengthen the material.



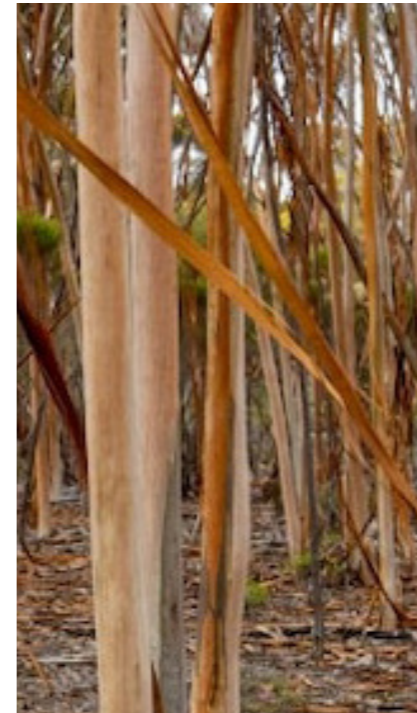
Eroded Sandstone



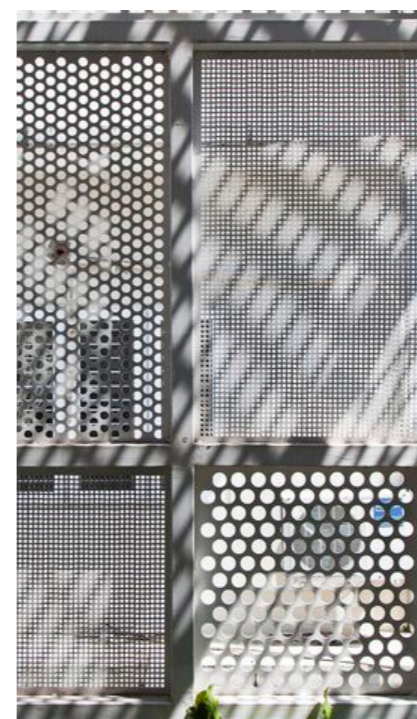
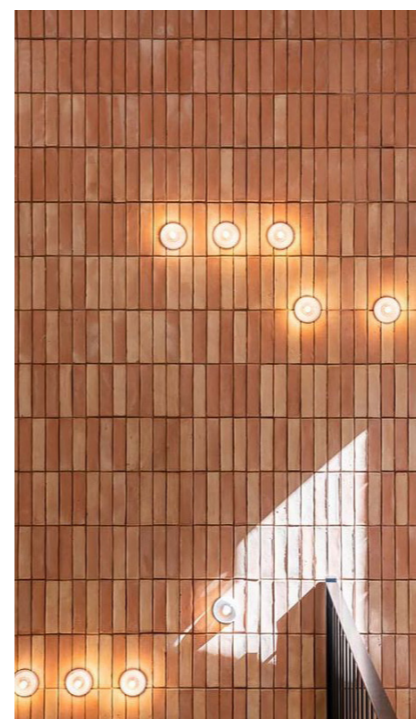
Endemic Tree, Eucalyptus



Red Clay Soil used to Manufacture Red Silcrete Tools



Earthy Toned Regrowth of Eucalyptus Gumtree after planned bushfire



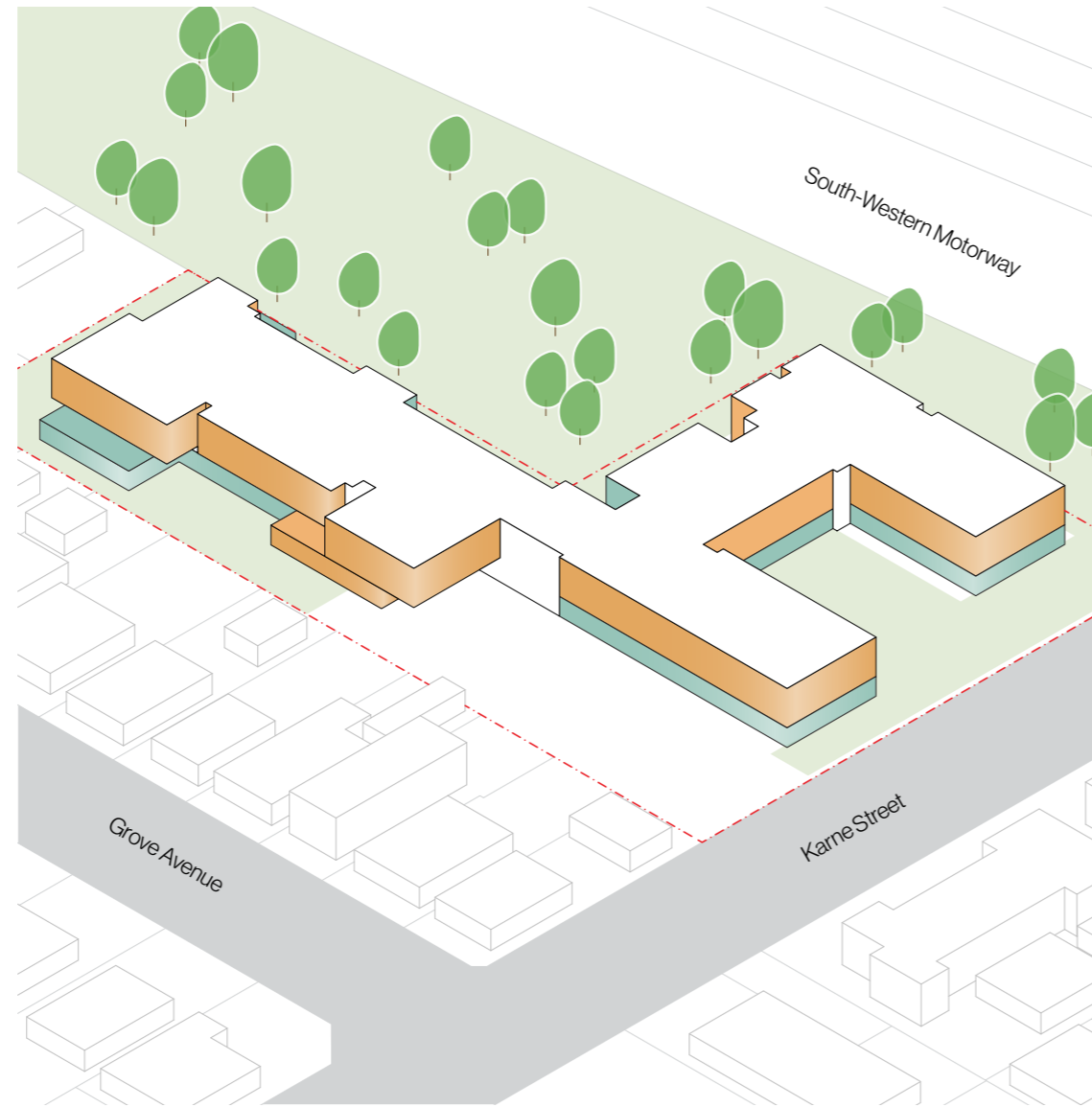
5.2 DESIGN VISION

Material Concept

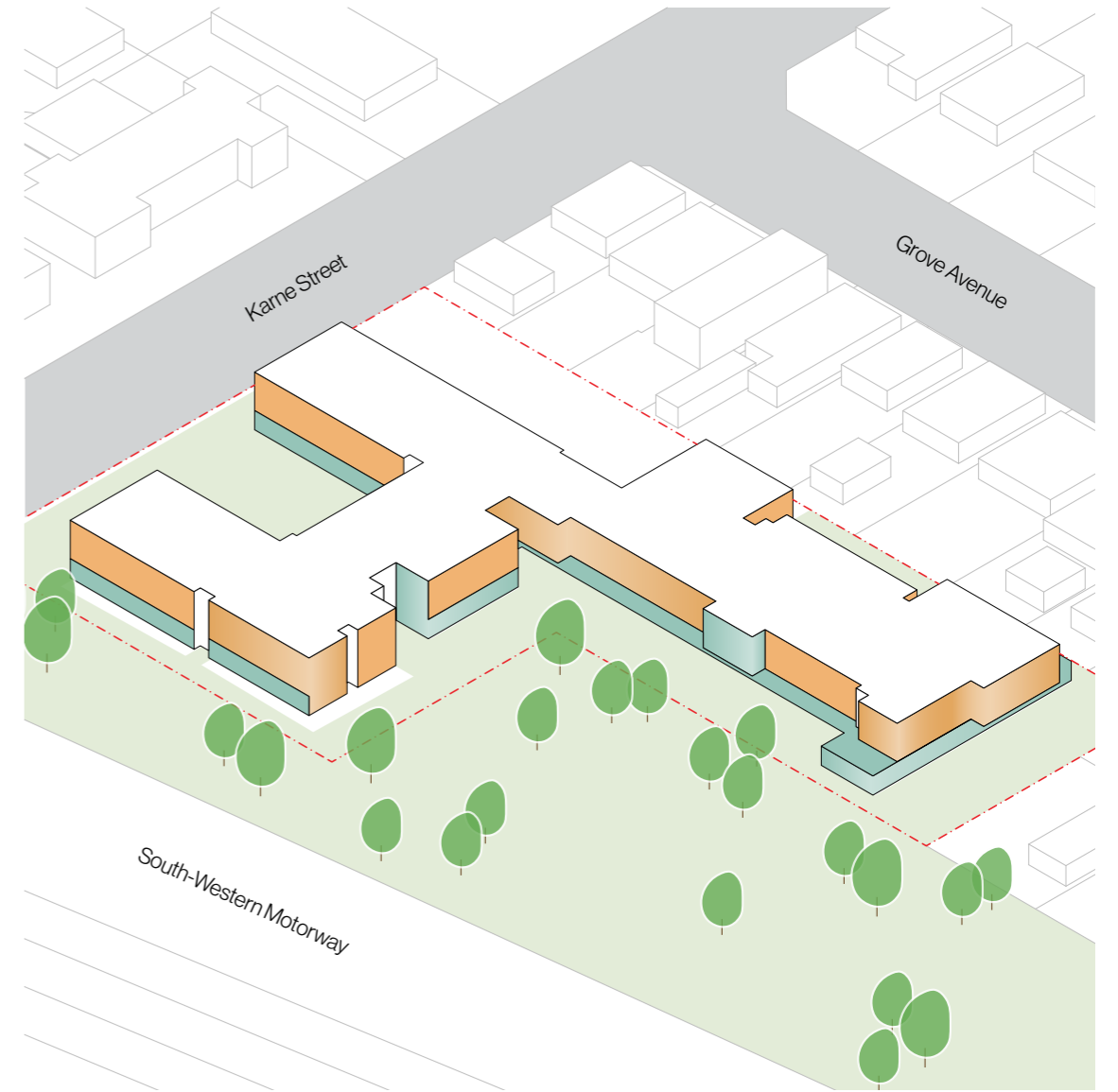
The design of the building has been guided by a material concept stemming from the interpretive approach to connecting with Country.

The design applies elements of the local landscape through an abstraction of their geomorphic patterns. By taking tones and textures from the eucalyptus tree, sandstone and red clay soil, the distinction between the built and the ground is blurred.

The design integrates dense planting into the facade to reinforce the connection to the park.



North - South View



East - West View

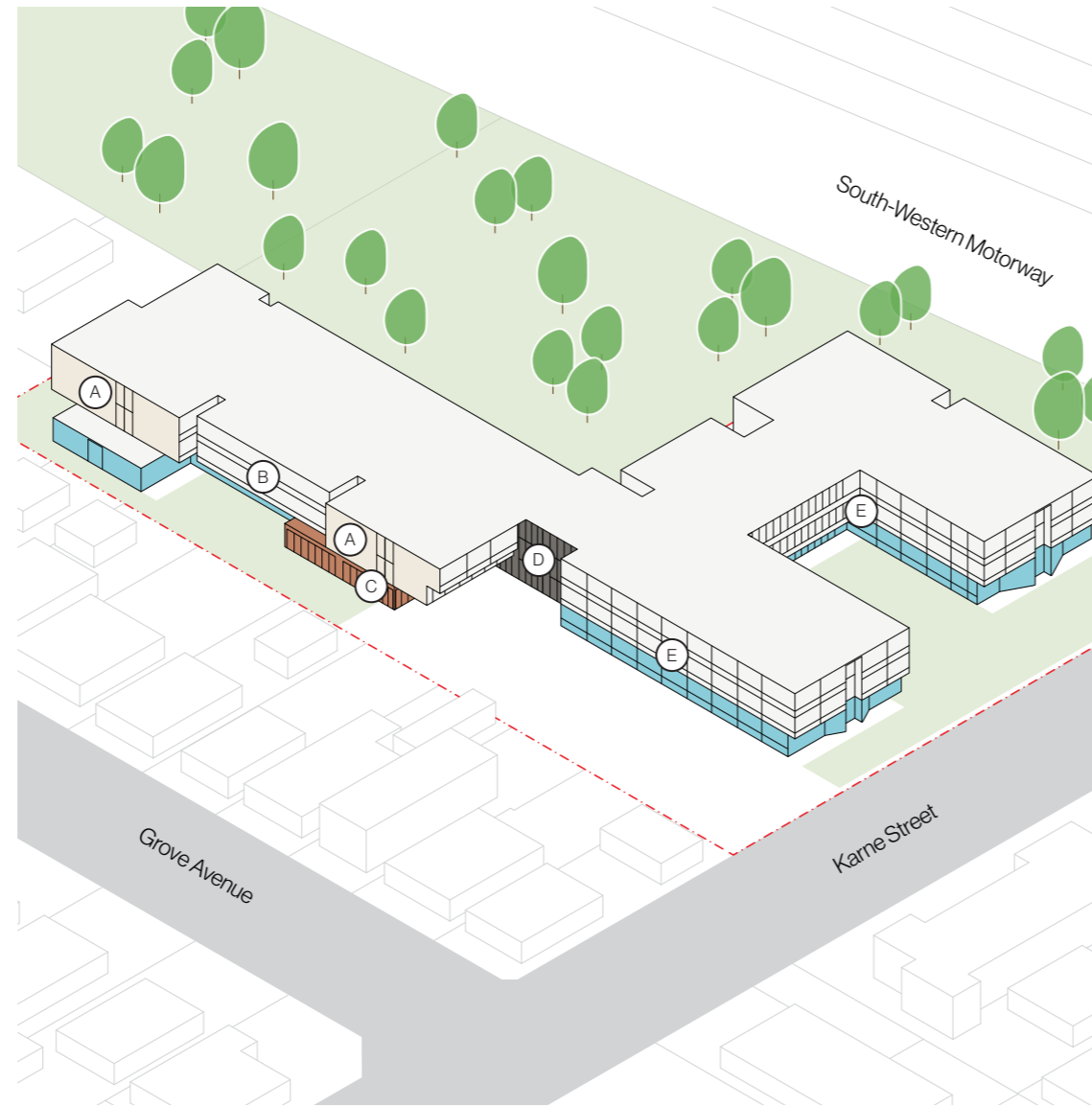


Expression

Variation in the architectural expression reinforces the unique identity of the building.

The base of the building is framed with a brick that is reminiscent of the different colours of the eucalyptus leaf. The upper levels embody the eroded sandstone, prevalent in the area - a way of celebrating Country's identity through formal similitude. Alternating louvres and screens up the facade will soften the regularity of the grid.

- A. Tile facade with clerestory windows into bedrooms, and floor to ceiling windows into hallway.
- B. Balcony across the facade of the dining, kitchen and lounge rooms, with floor to ceiling windows.
- C. Tile facade with floor to ceiling windows for front of house amenities.
- D. Curtain wall with black framing for front entrance.
- E. Blue brick and compressed concrete facade with balconies and louvres.
- F. Blue brick and compressed fibre cement facade with balconies, louvres and perforated screens.
- G. Blue brick and compressed fibre cement facade with floor to ceiling windows for front of house amenities.



North - South View



East - West View

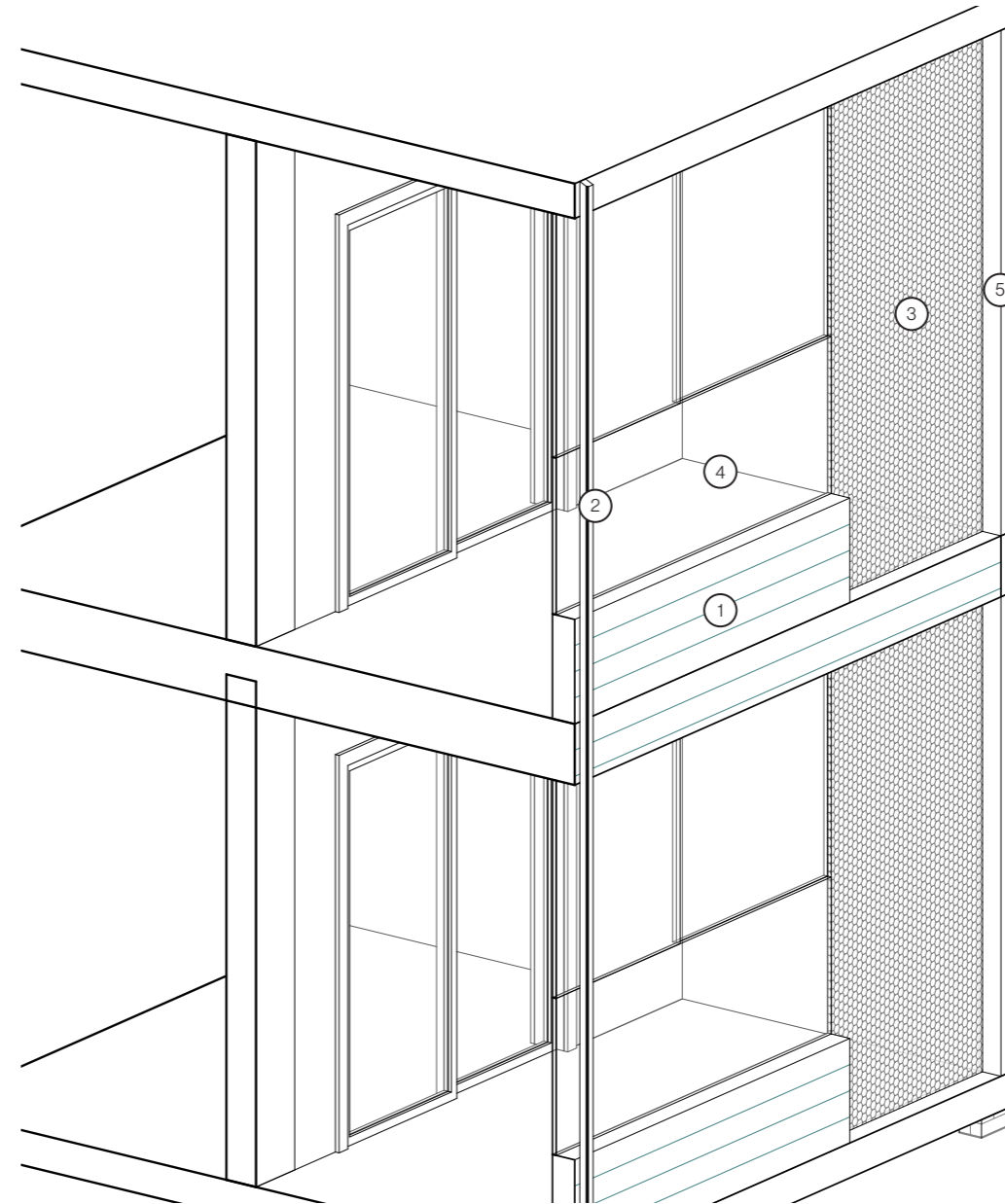
5.3 FACADE DESIGN

South Facing Facade

The facade is conceived of tiles and compressed fibre cement (CFC).

The earthy colours have been developed from the local landscape; sandstone and red clay soil.

Perforated screens, louvres and sliding windows have been incorporated into the South facing façade. The sliding windows and perforated screen visually shield the balconies from M5 motorway and adjacent public park. This will enclose and protect the balconies from prevailing wind and increase privacy from the park.

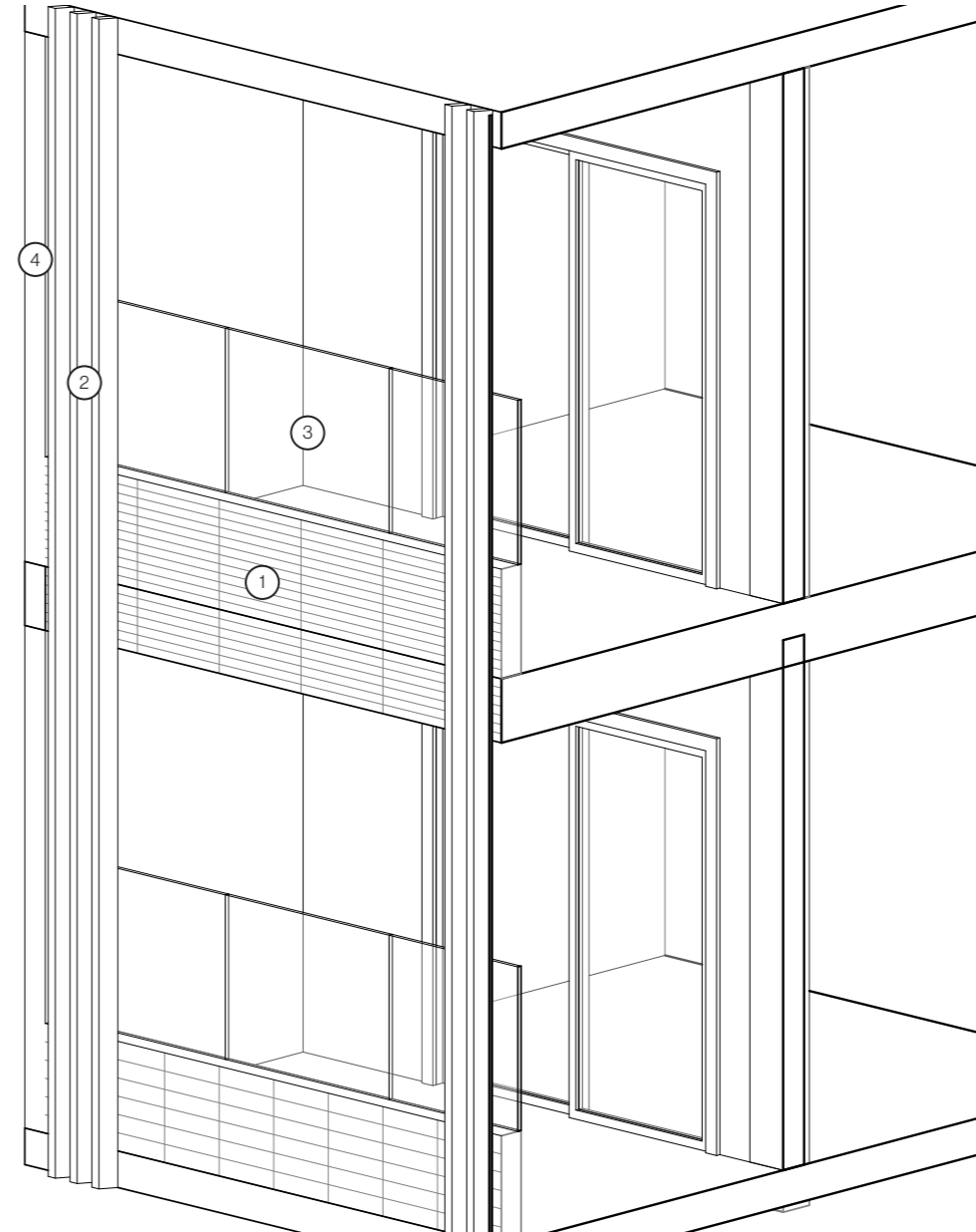
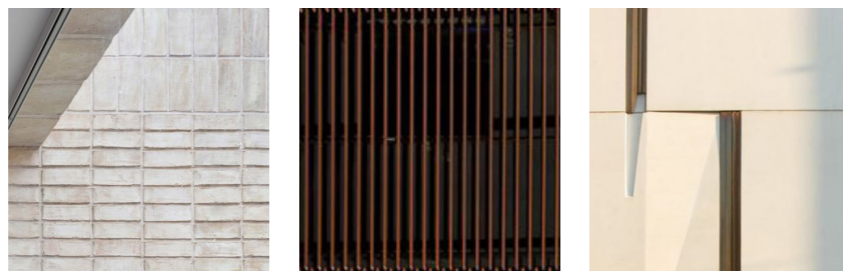


- ① Tiles
- ② Louvres
- ③ Perforated Screen
- ④ Glass Balustrade to Balcony
- ⑤ Compressed Fibre Cement

East Facing Facade

The compressed fibre cement (CFC) and tiled finish walls connects the expression of the building conceptually to the earth, while offering a high-quality finish.

Glass balustrades recede from the edge of the building to ensure that the tiled facade is the dominant feature. Deep balconies offer amenity while also mitigating heat gain in the middle of summer. The louvres are used as a shading device, whilst also allowing cool breezes to enter the space.



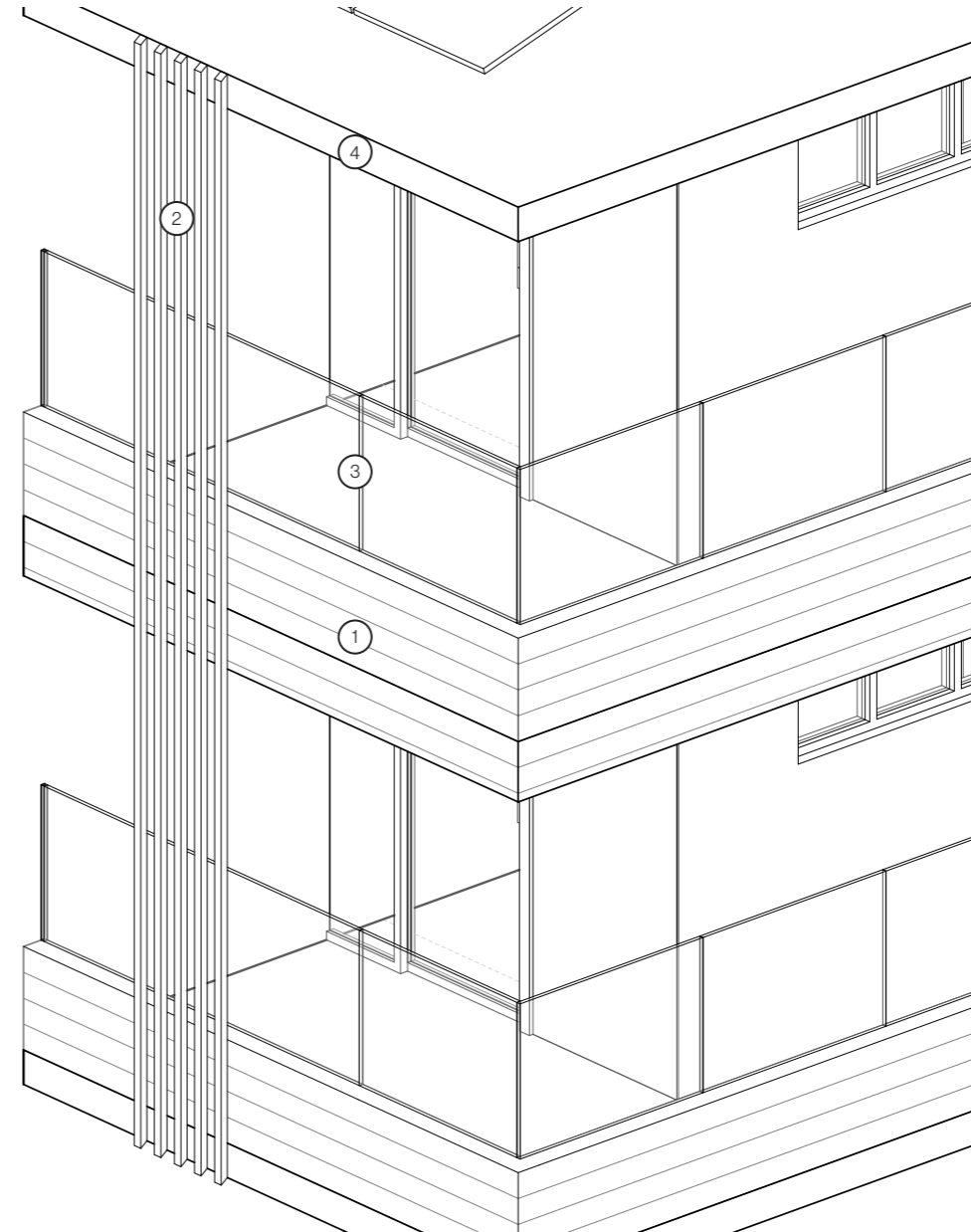
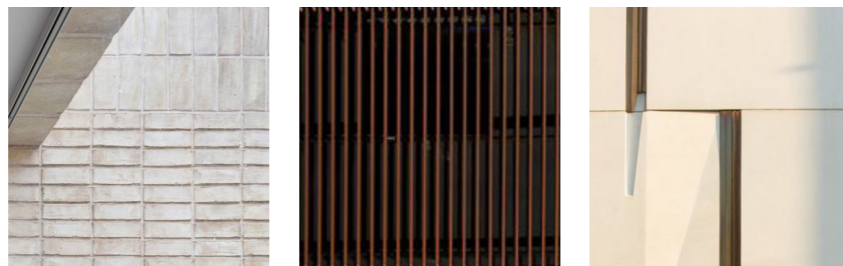
- ① Tiles
- ② Louvres
- ③ Glass Balustrade to Balcony
- ④ Compressed Fibre Cement

North-East Facing Facade

This facade follows a similar design to the south and east facing façades.

The repetition of the façades creates a grid of compressed fibre cement (CFC) and tiles that has been broken up with the alternating louvres and perforated screens.

While characterised by differing approaches to elemental articulation, the selected material palette unifies the design into a coherent composition with a unique identity.

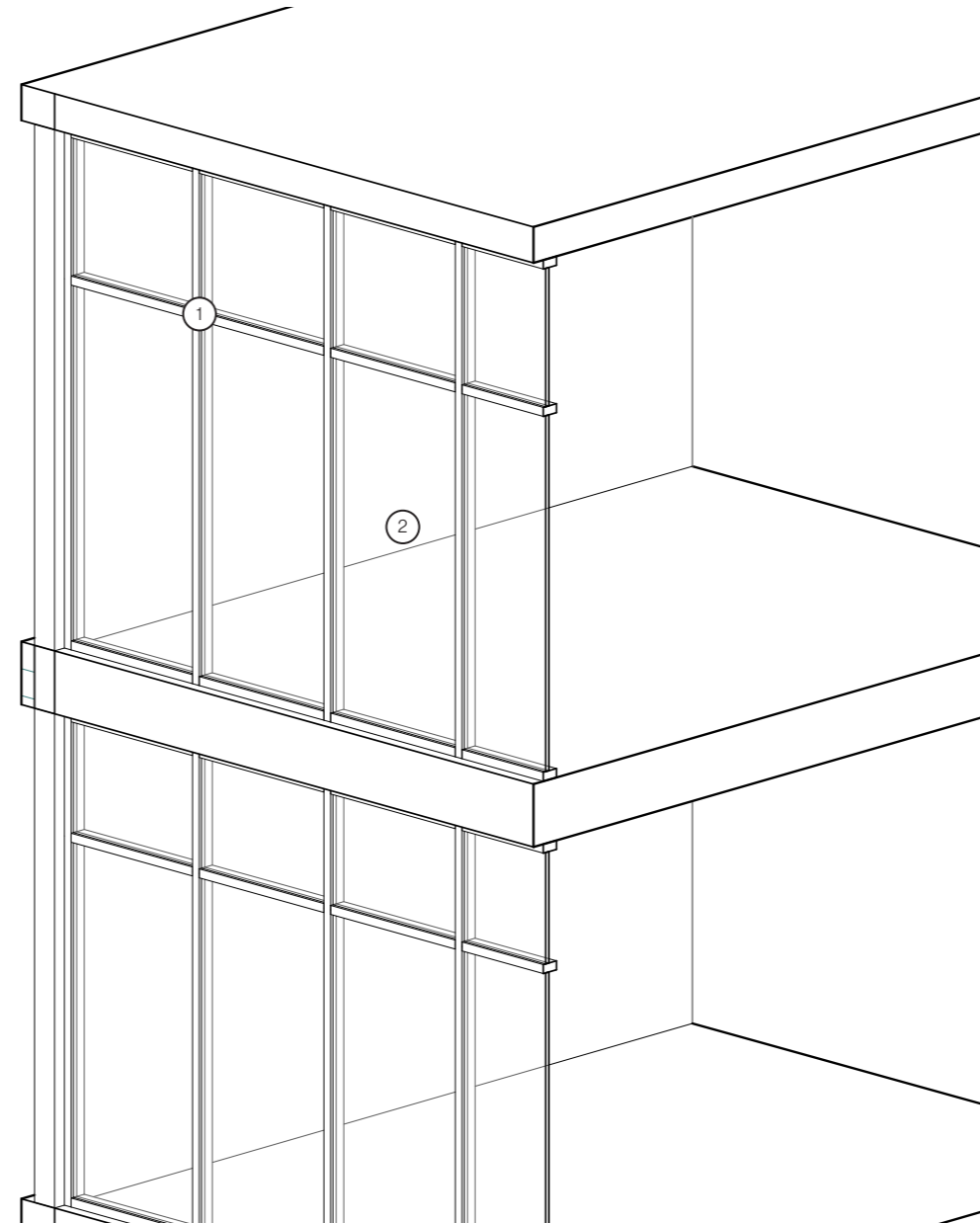
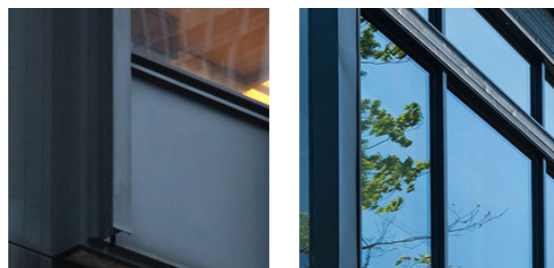


- ① Tiles
- ② Louvres
- ③ Glass Balustrade to Balcony
- ④ Compressed Fibre Cement

South Facing Facade

This facade is conceived of metal and glass form that is highly transparent and light.

The black window framing creates a sleek finish that contrasts the brown tones of the rest of the design. The vertical framing appears continuous, elongating the facade. The curtain wall also allows for the activity spaces to receive an abundance of natural light.



- ① Powdercoated Window Frame
- ② Reflective Tinted Glass

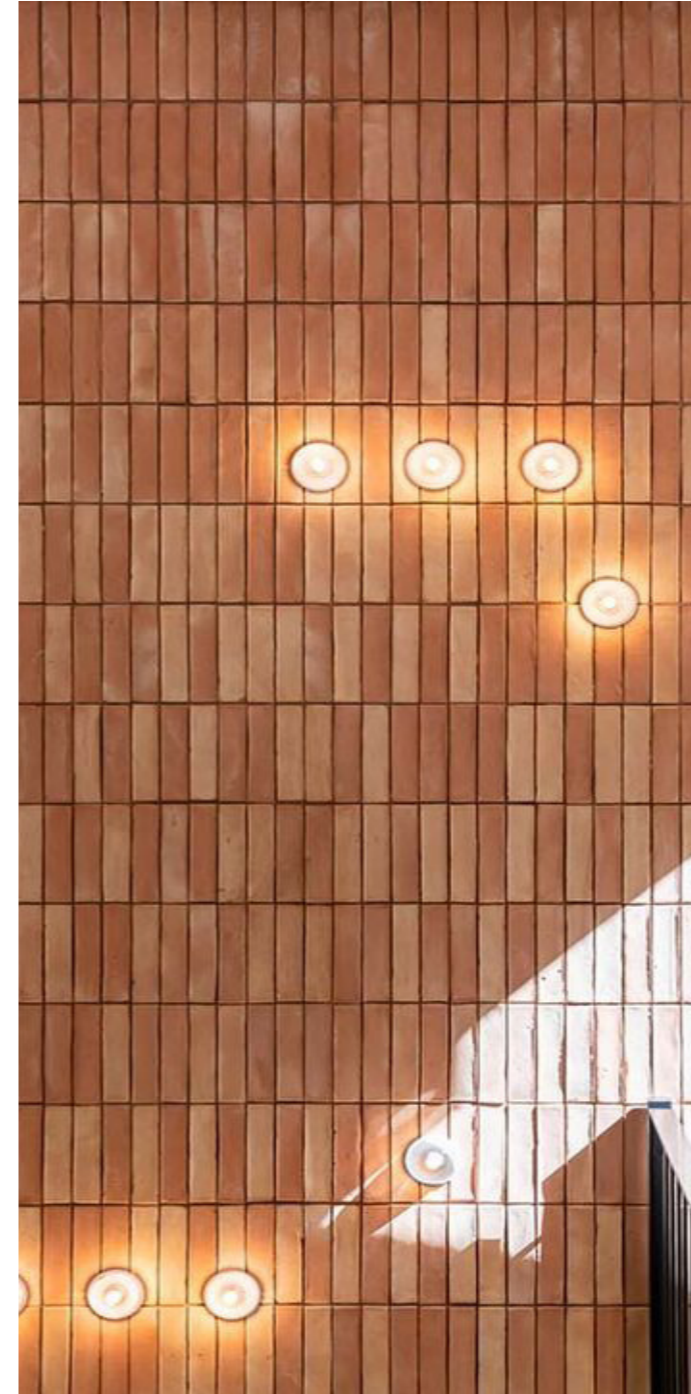
5.4 MATERIAL FINISHES



Expressive Architecture and Form



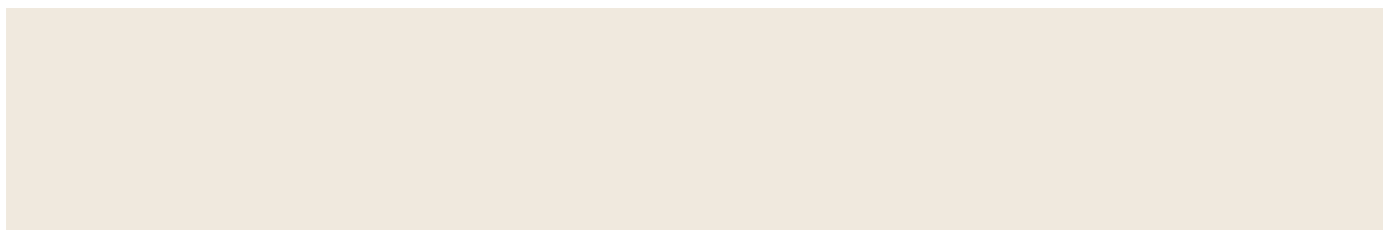
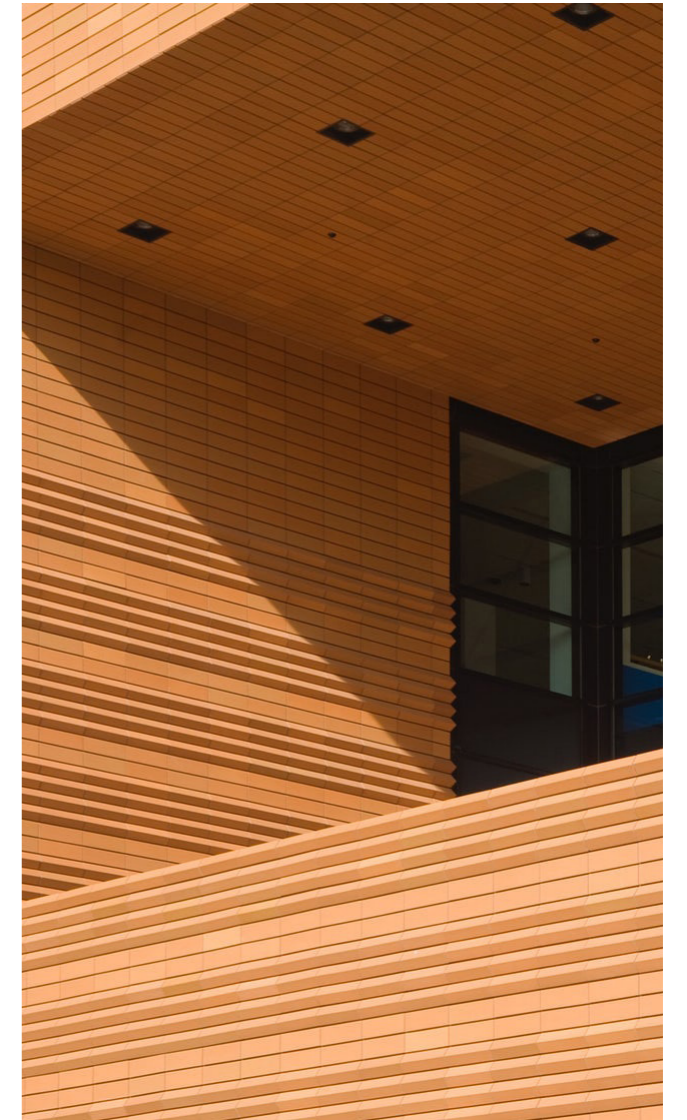
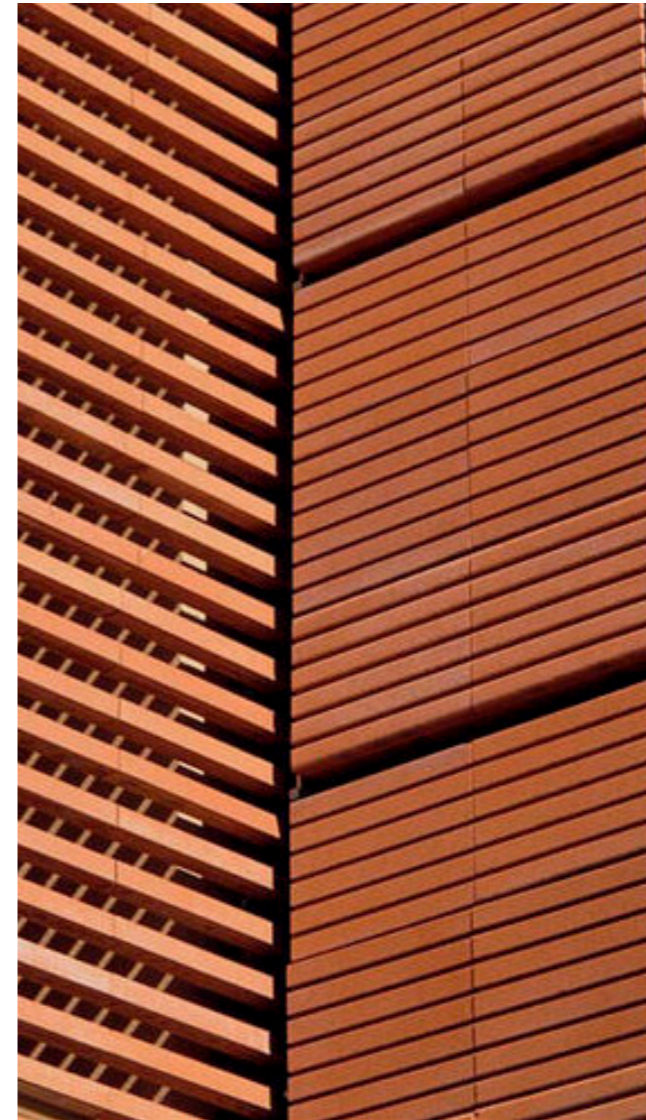
Opulent base - Mix Brick



Warm Tones



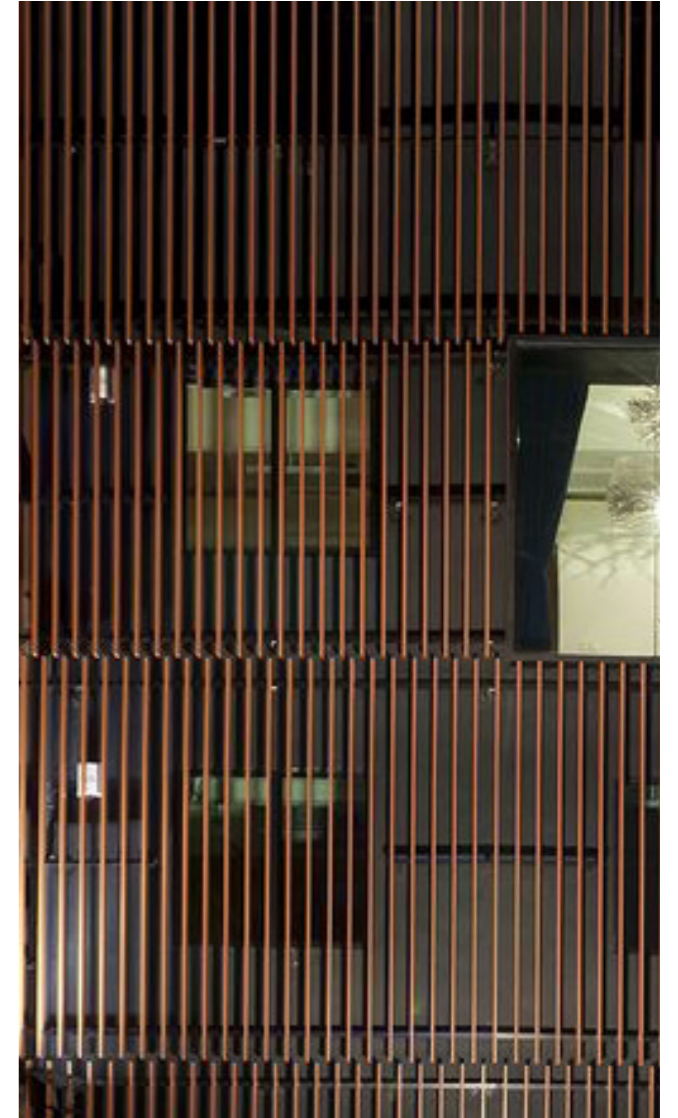
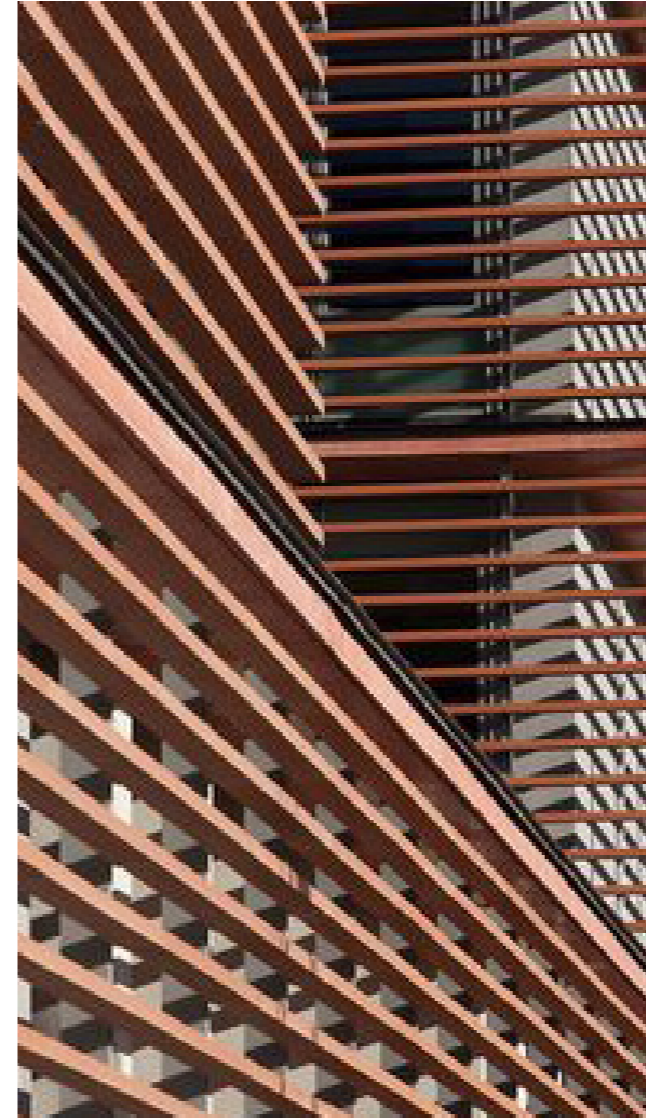
Screen treatment - Natural Setting



White



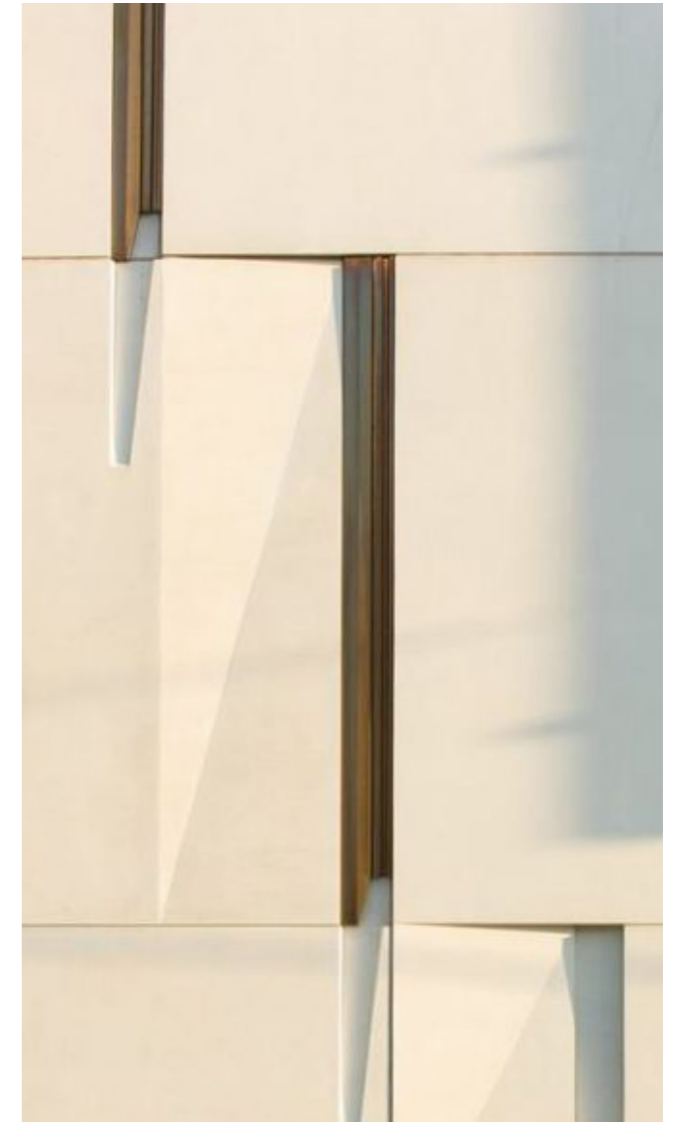
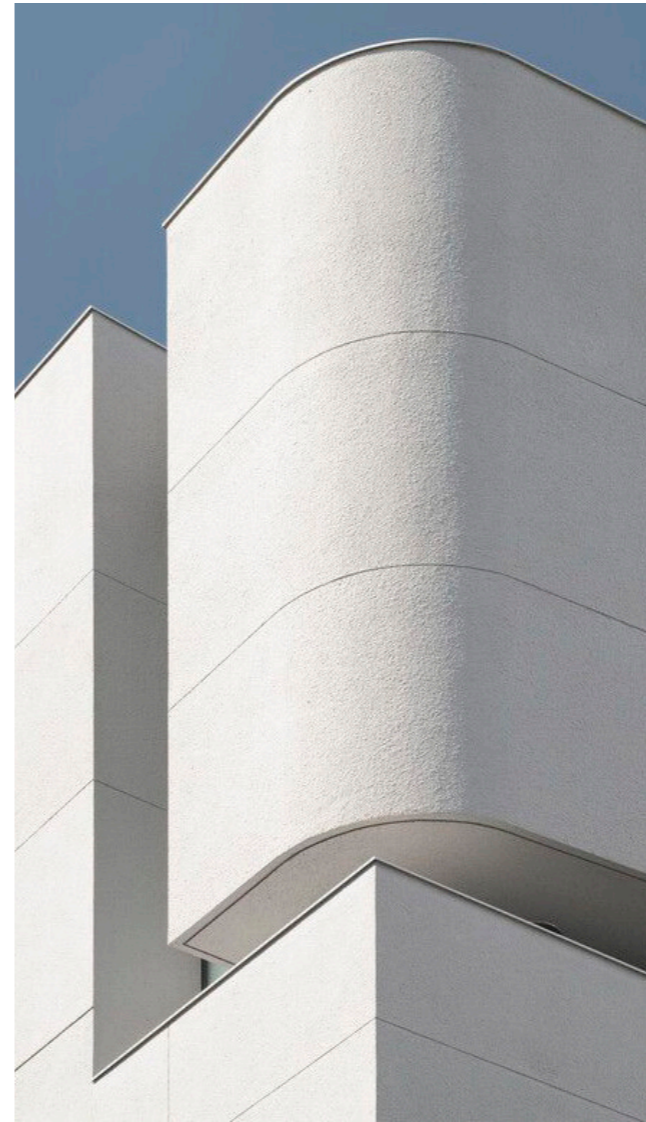
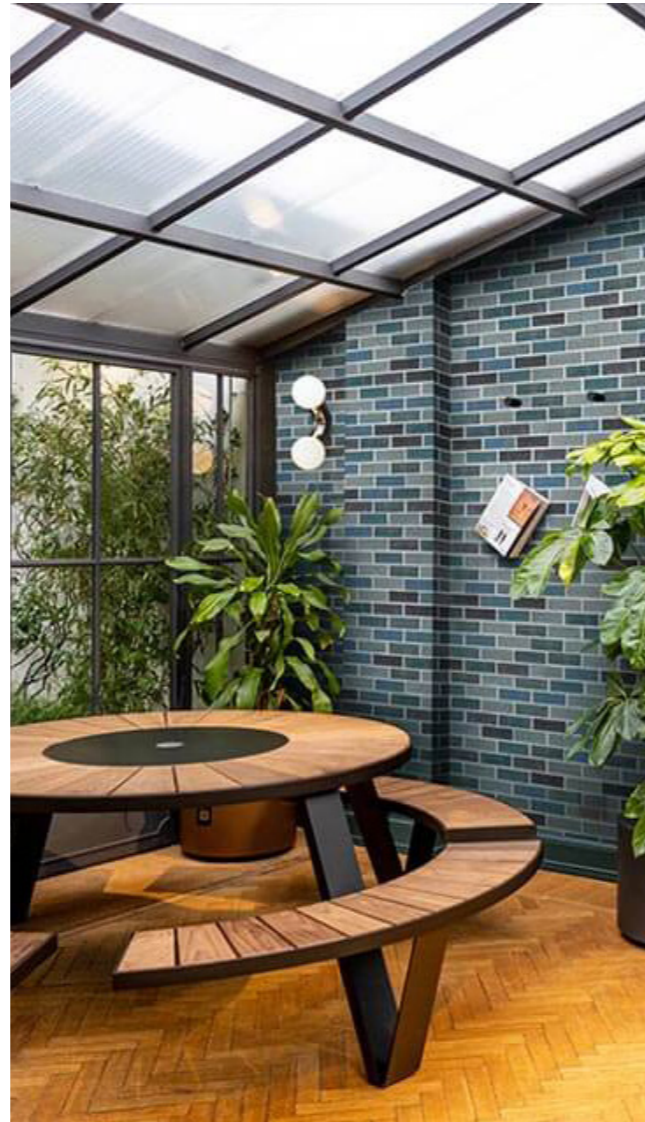
Warm Tones



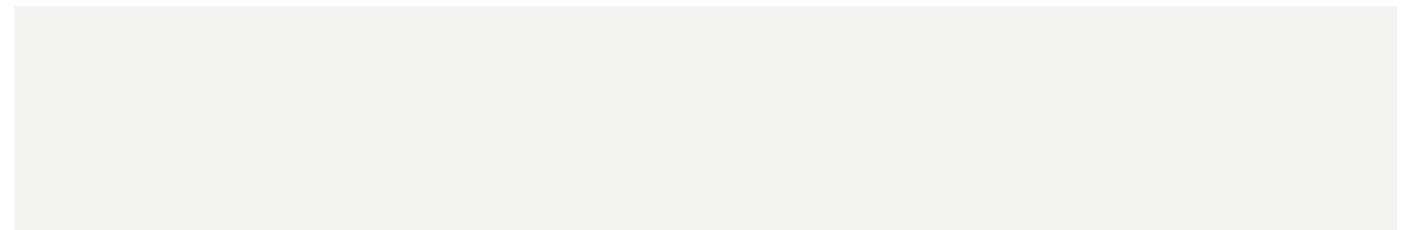
Perforated Screen



Louvres

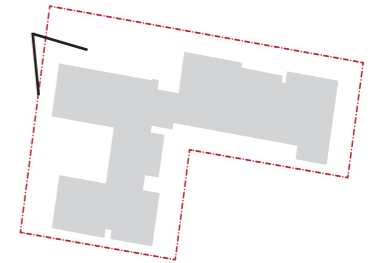


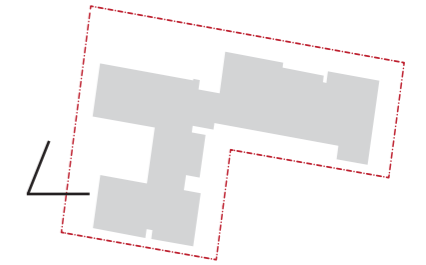
Opulent base - Mix Brick

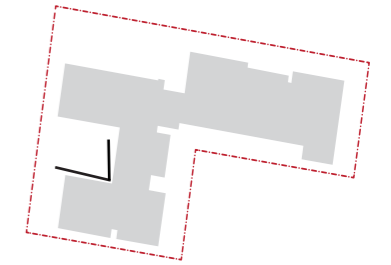


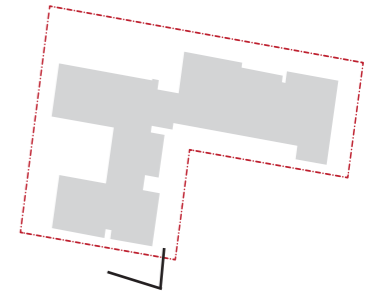
Compressed Fibre Cement - White

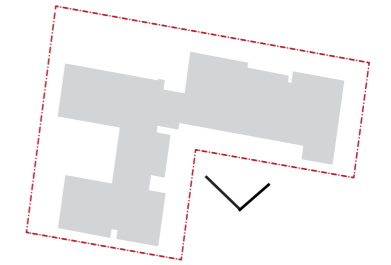
5.5 CONCEPT VISION

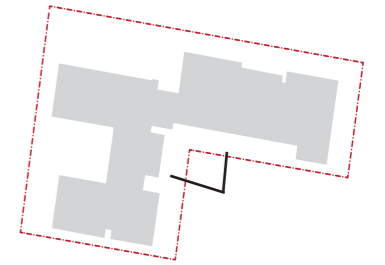


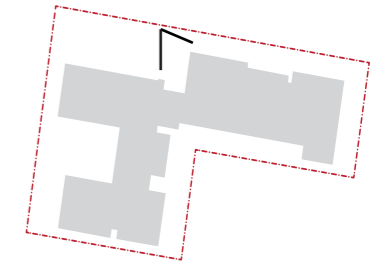










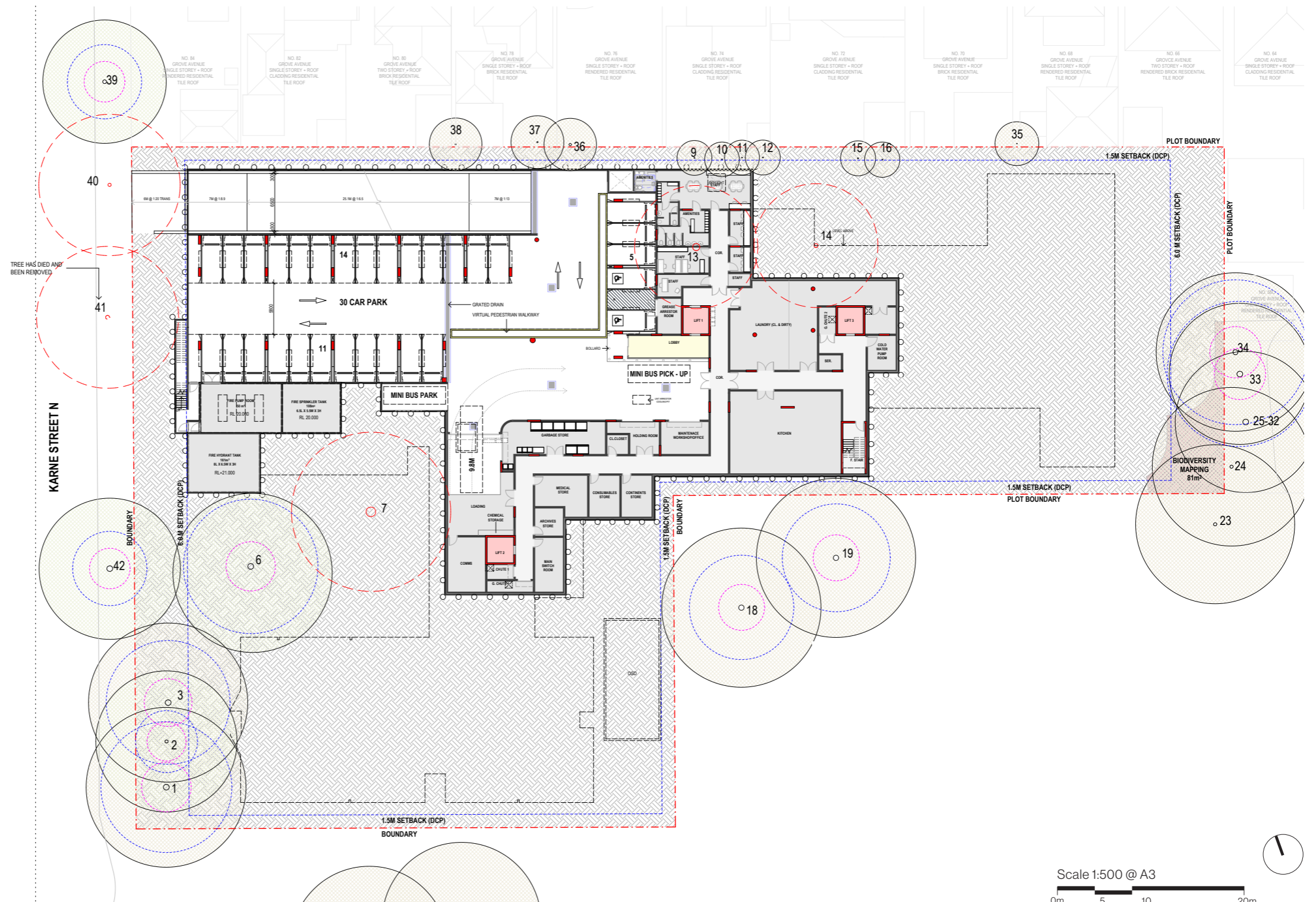


5.6 PLANS

Basement

LEGEND

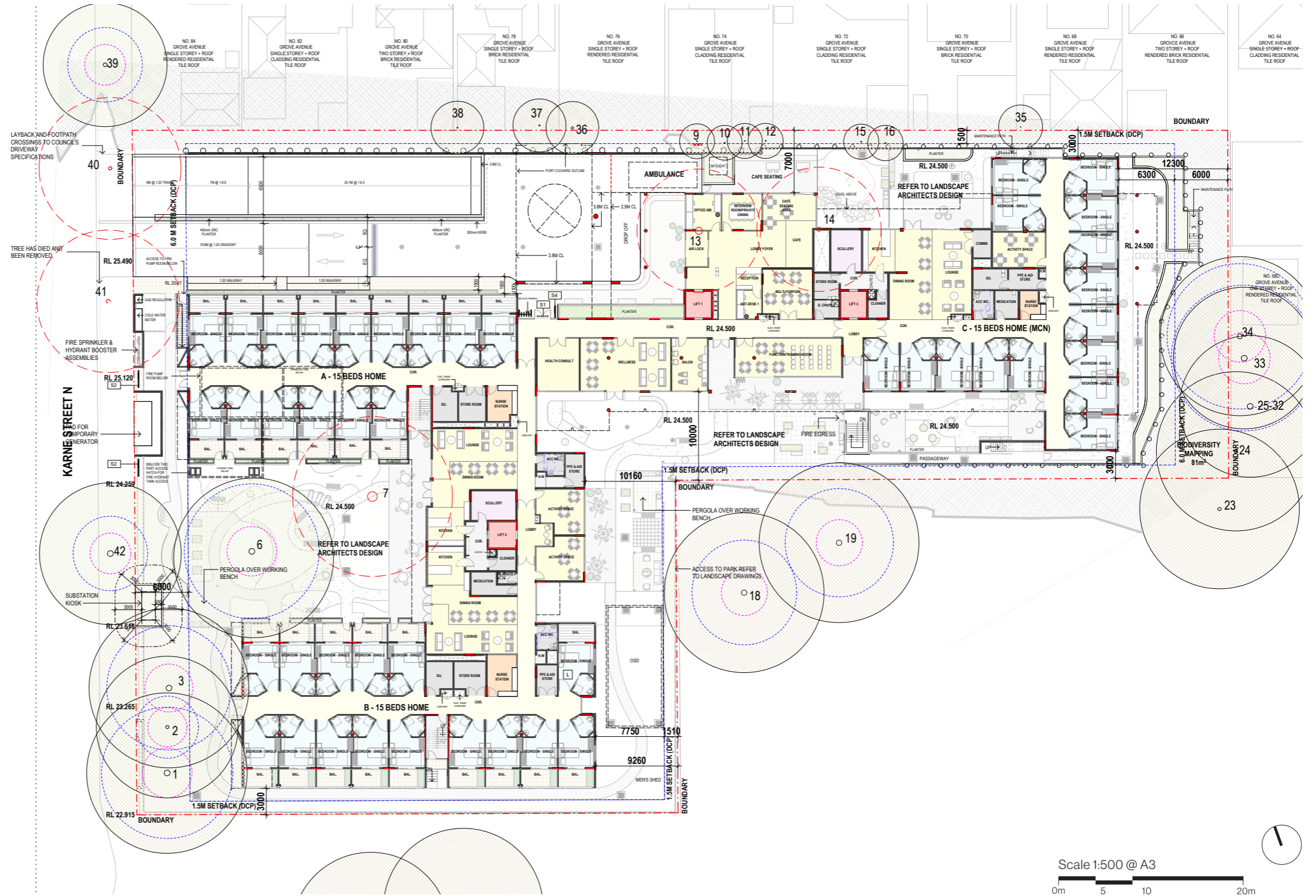
- Single Bedroom
- Companion Bedroom
- Suite Bedroom
- Scullery
- Care
- Front of House / Lobby / Amenity
- Back of House / Car Parking
- L Lifter - Ceiling Mounted Track
- Canopy - Ex. Medium Retention Value
- Canopy - Ex. High Retention Value
- TPZ - Ex. Tree
- SRZ - Ex. Tree
- Trees to be Removed



Ground Floor

LEGEND

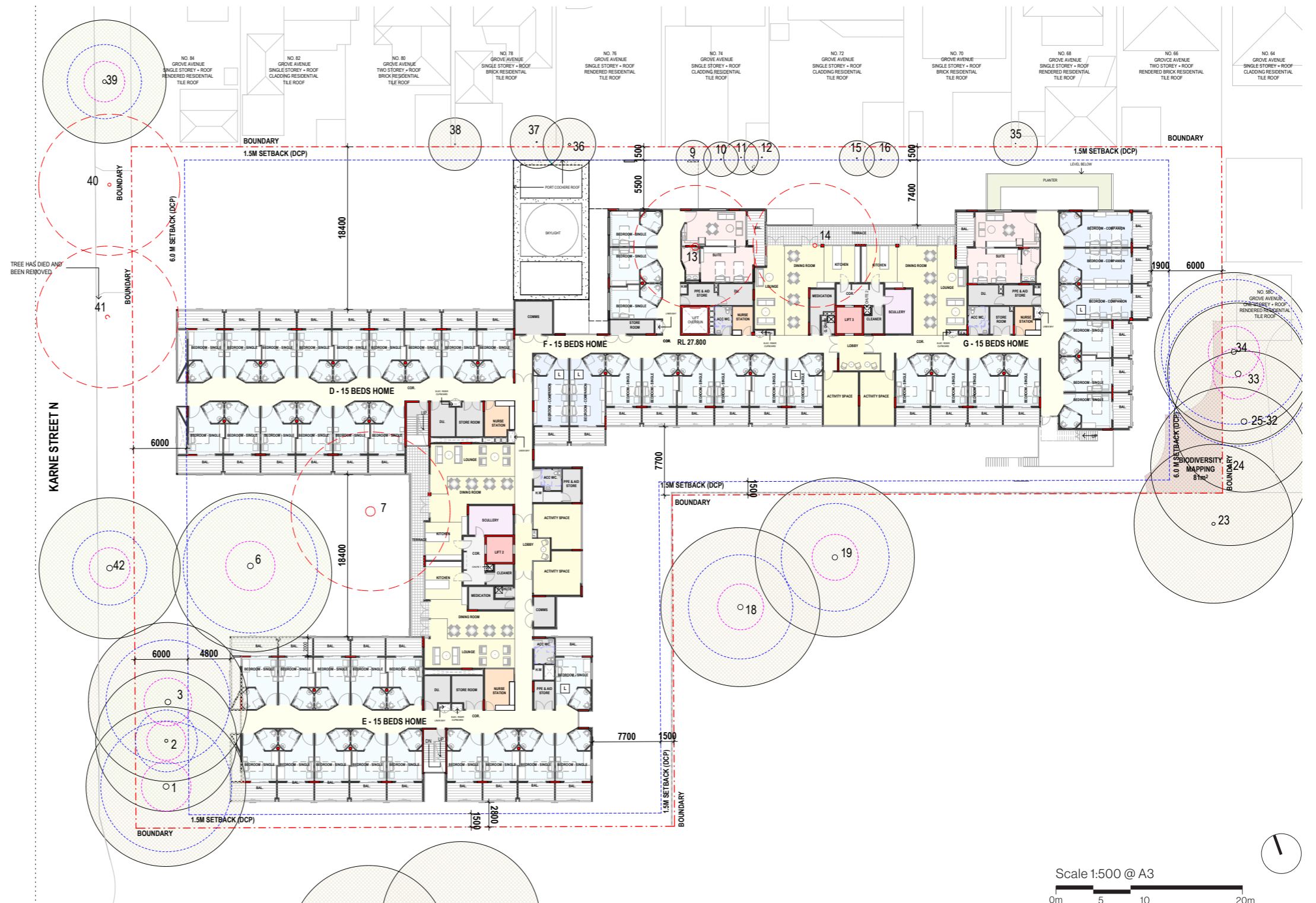
- Single Bedroom
- Companion Bedroom
- Suite Bedroom
- Scullery
- Care
- Front of House / Lobby / Amenity
- Back of House / Car Parking
- Lifter - Ceiling Mounted Track
- Canopy - Ex. Medium Retention Value
- Canopy - Ex. High Retention Value
- TPZ - Ex. Tree
- SRZ - Ex. Tree
- Trees to be Removed



Level 1

LEGEND

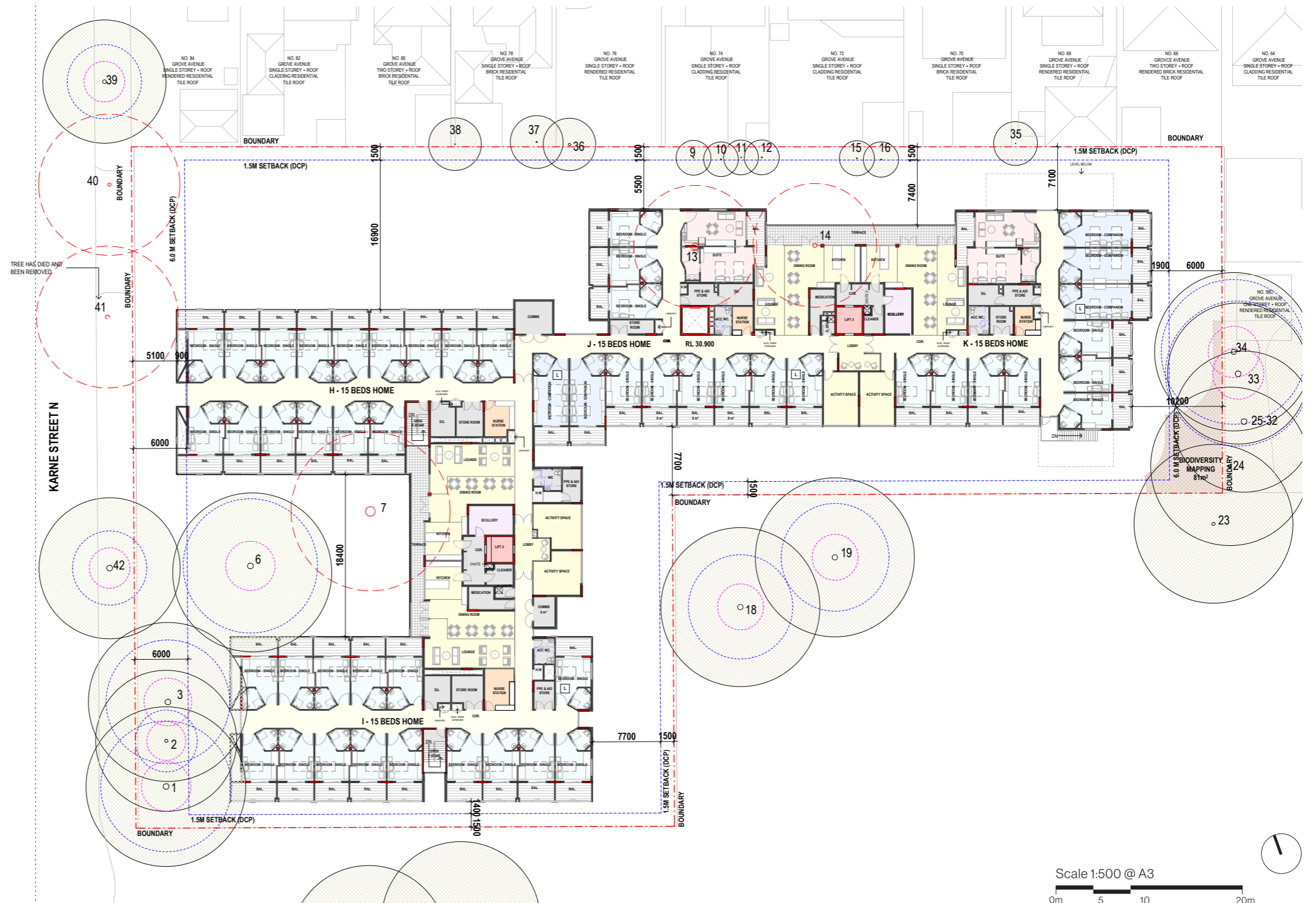
- Single Bedroom
- Companion Bedroom
- Suite Bedroom
- Scullery
- Care
- Front of House / Lobby / Amenity
- Back of House / Car Parking
- L Lifter - Ceiling Mounted Track
- Canopy - Ex. Medium Retention Value
- Canopy - Ex. High Retention Value
- TPZ - Ex. Tree
- SRZ - Ex. Tree
- Trees to be Removed



Level 2

LEGEND

- Single Bedroom
- Companion Bedroom
- Suite Bedroom
- Scullery
- Care
- Front of House / Lobby / Amenity
- Back of House / Car Parking
- L Lifter - Ceiling Mounted Track
- Canopy - Ex. Medium Retention Value
- Canopy - Ex. High Retention Value
- TPZ - Ex. Tree
- SRZ - Ex. Tree
- Trees to be Removed

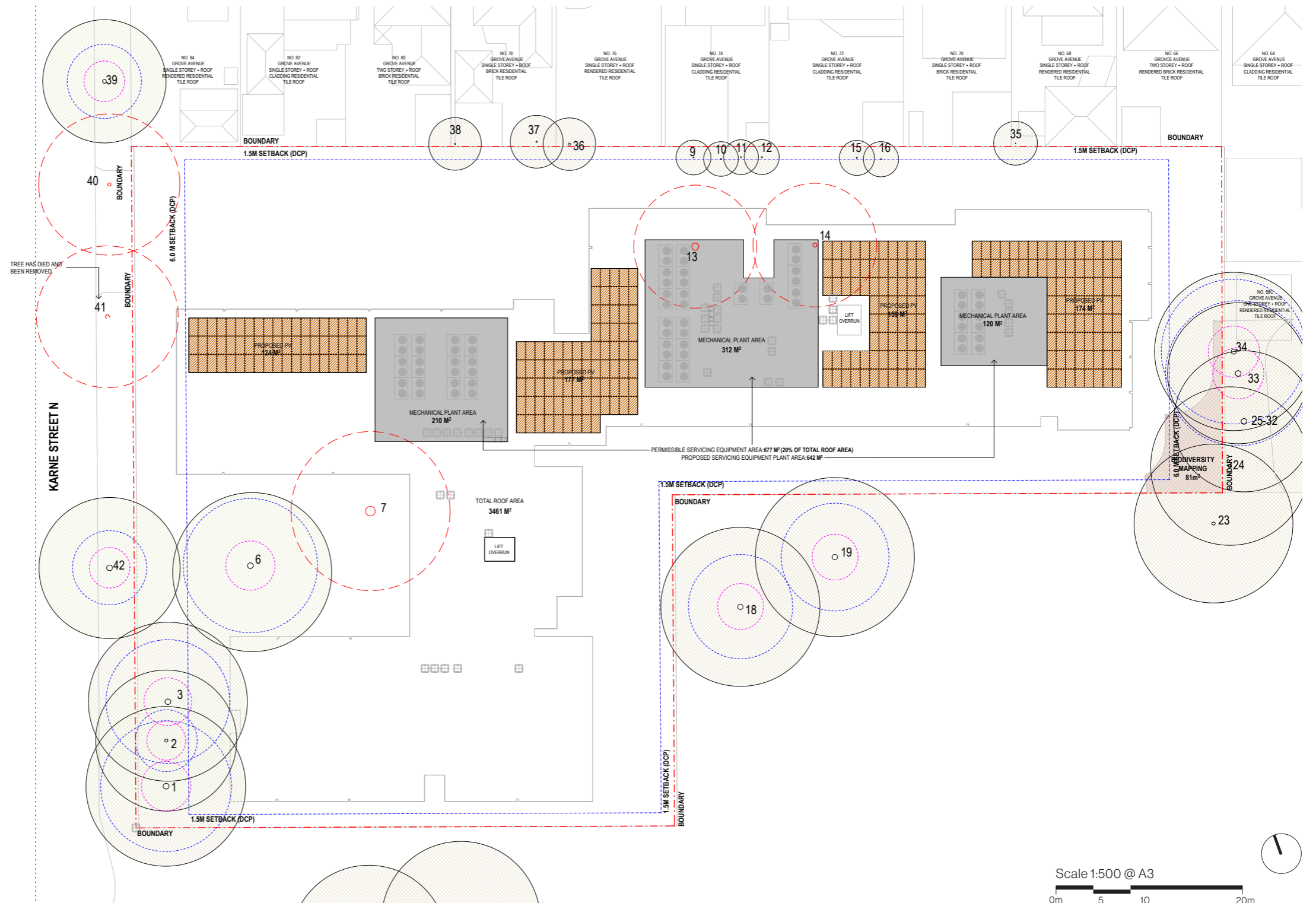


Scale 1:500 @ A3
0m 5 10 20m

Roof

LEGEND

- Single Bedroom
- Companion Bedroom
- Suite Bedroom
- Scullery
- Care
- Front of House / Lobby / Amenity
- Back of House / Car Parking
- Lifter - Ceiling Mounted Track
- Canopy - Ex. Medium Retention Value
- Canopy - Ex. High Retention Value
- TPZ - Ex. Tree
- SRZ - Ex. Tree
- Trees to be Removed



5.7 ELEVATIONS



Northern Elevation



Eastern Elevation



Southern Elevation

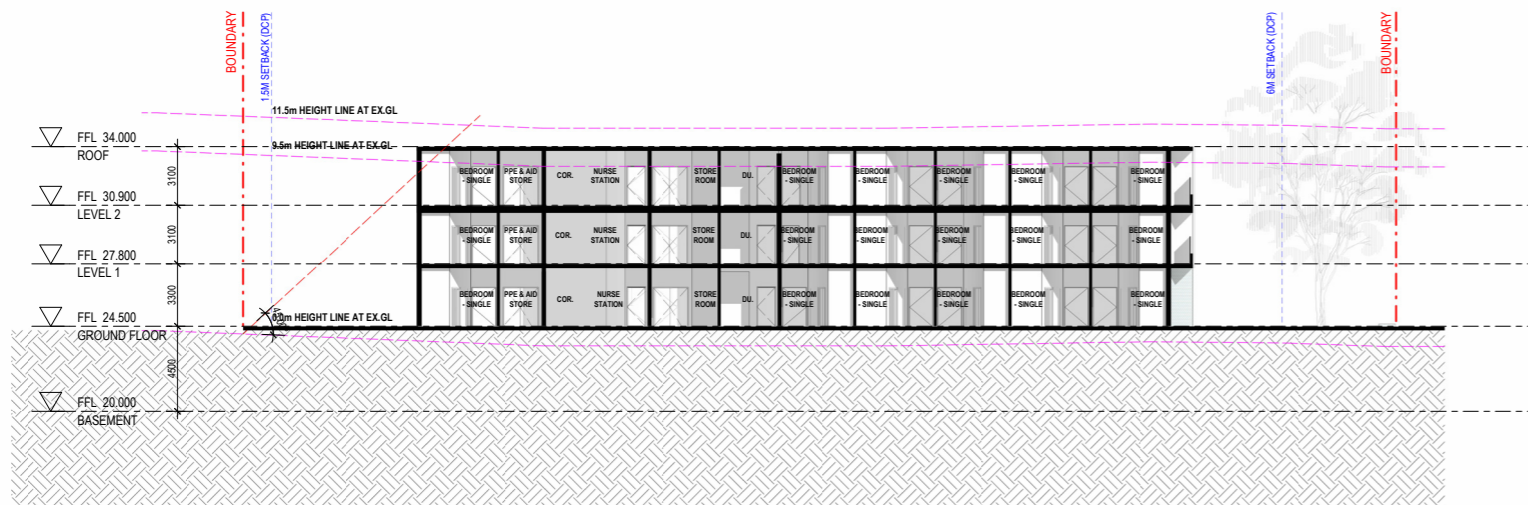


Western Elevation

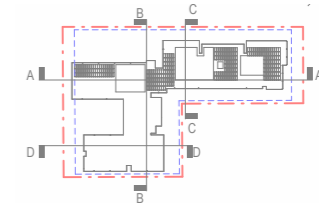
5.8 SECTIONS

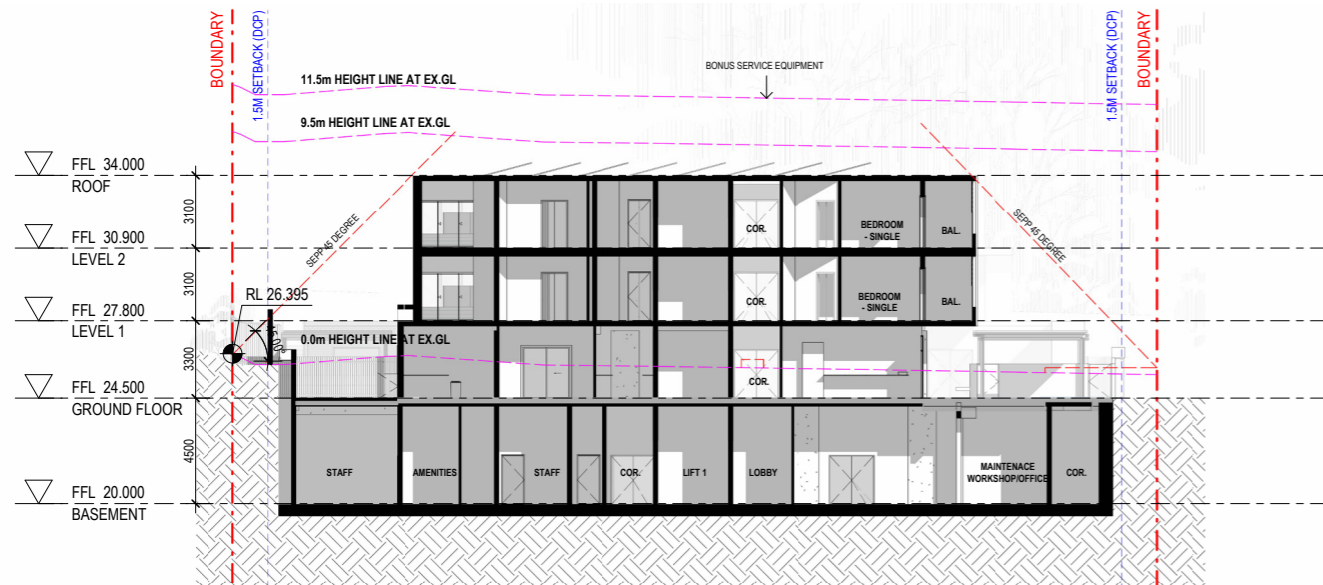


Section AA
Scale 1:200 @ A1

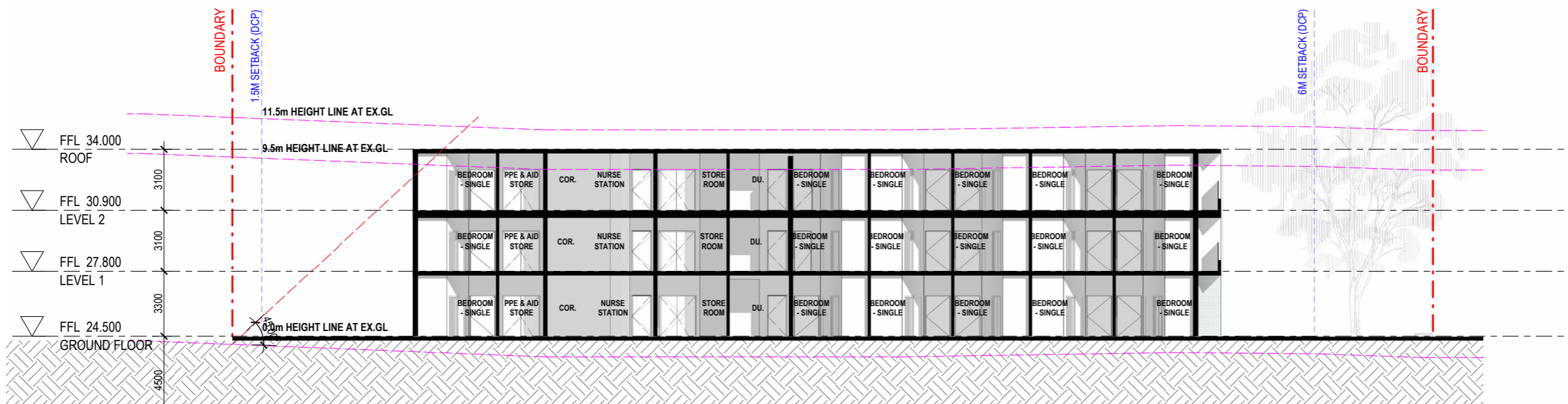


Section BB
Scale 1:200 @ A1

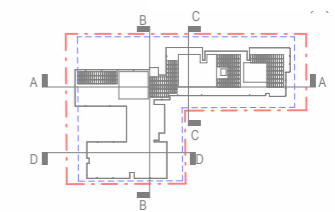




Section CC
Scale 1:200 @ A1



Section DD
Scale 1:200 @ A1



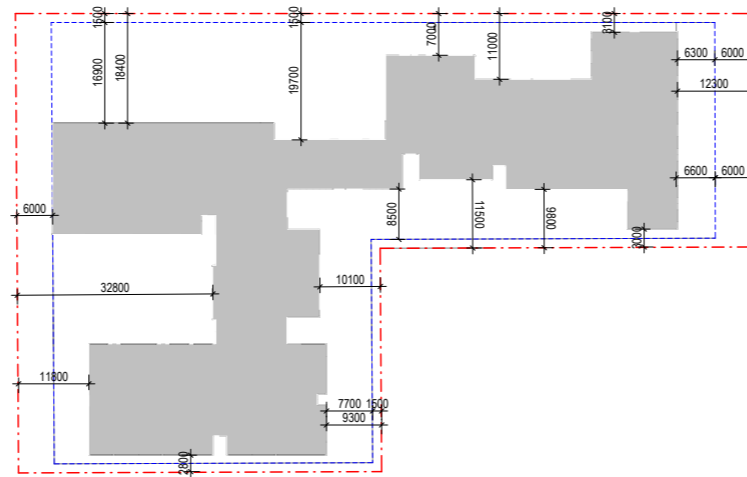




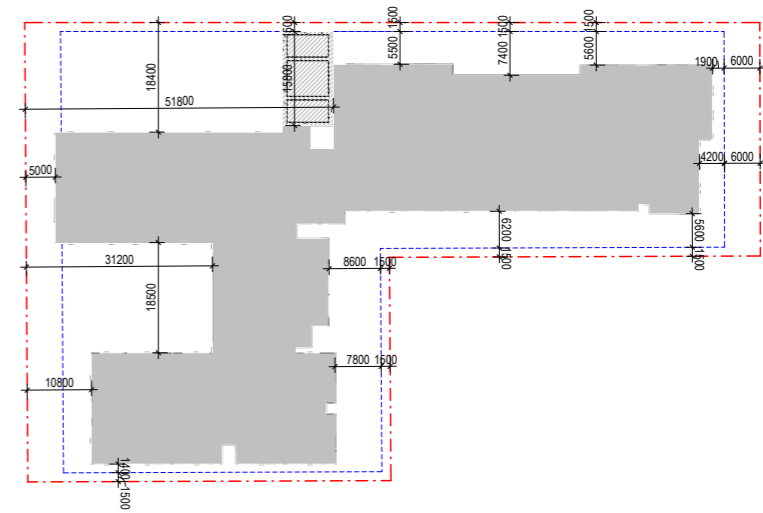
6.0 COMPLIANCE

06

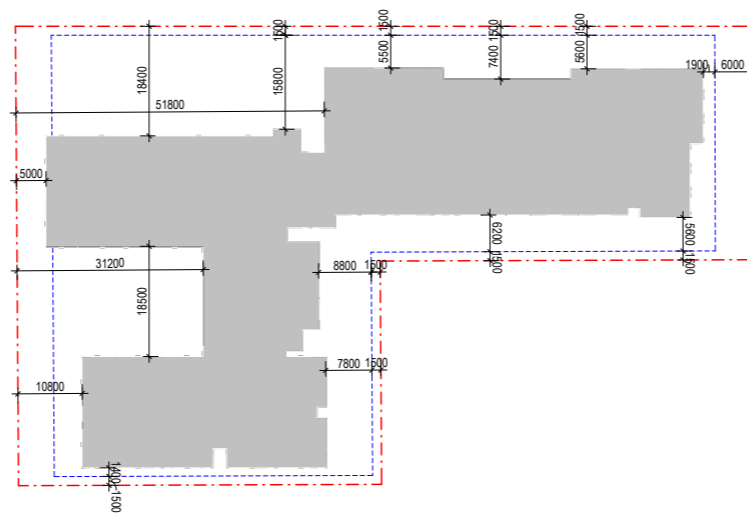
6.1 SITE SETBACK



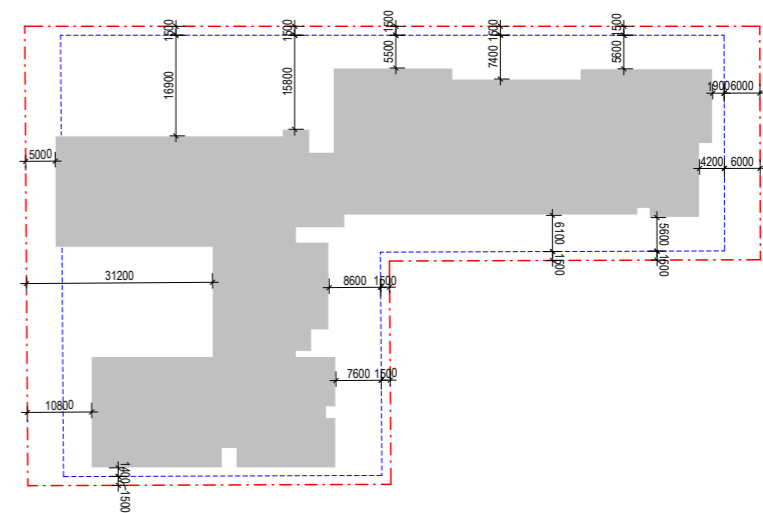
Ground Floor



Level 1



Level 2



Roof

6.2 GFA CALCULATION

GFA Calculation

Site Area:	7,159.6 sqm
Biodiversity Area:	81.86 sqm
Permissible Area:	7077.74 sqm
	(excluding biodiversity)
GF:	2,299 sqm
L1:	2,370 sqm
L2:	2,370 sqm
GFA:	7,039 sqm
FSR:	0.99 : 1
FSR:	0.99 : 1
	(excluding biodiversity)

Gross floor area means the sum of the areas of each floor of a building, where the area of each floor is

Taken to be the area within the inner face of the external enclosing walls, as measured at a height of 1.4m

Above each floor level—

(a) excluding columns, fin walls, sun control devices and elements, projections or works outside the general lines of the inner face of the external wall, and

(b) excluding cooling towers, machinery and plant rooms, ancillary storage space and vertical air conditioning ducts, and

(c) excluding—

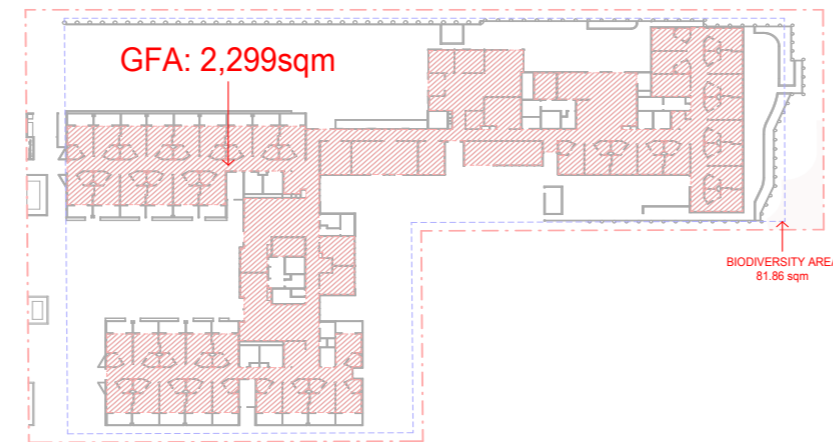
(i) car parking needed to meet the requirements of this Part or the council of the local government area in which the development is located, and

(ii) internal access to the car parking, and

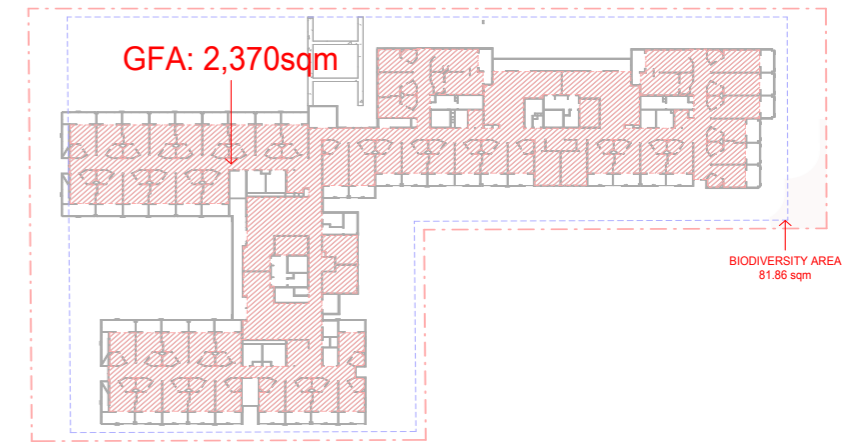
(d) excluding space for the loading and unloading of goods, including access to the space, and

(e) for in-fill self-care housing—including car parking provided at ground level, other than for visitors, in excess of 1 per dwelling, and

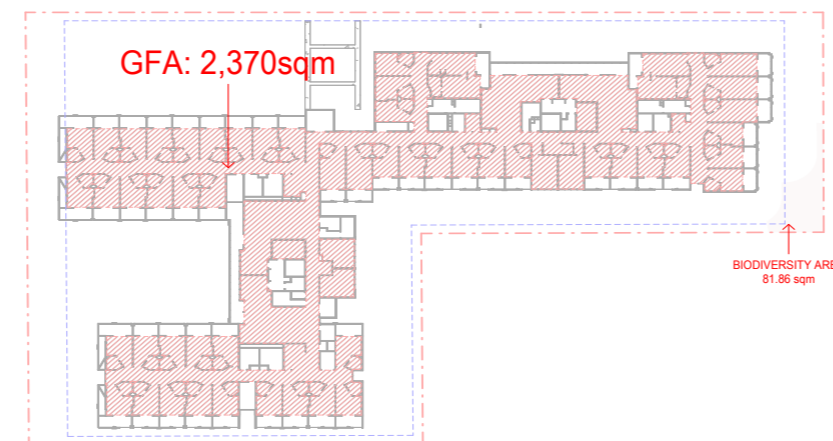
(f) for a residential care facility—excluding floor space used for service activities provided by the facility below ground level



Ground Floor



Level 1

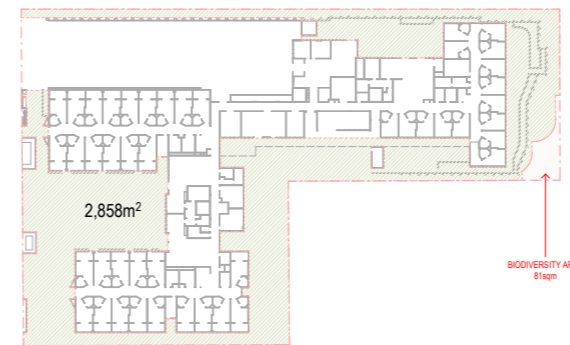
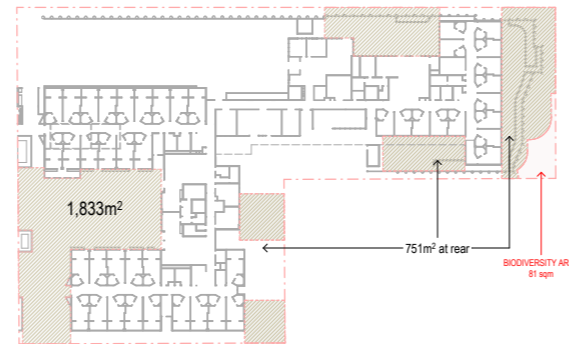


Level 2

6.3 HOUSING SEPP COMPLIANCE

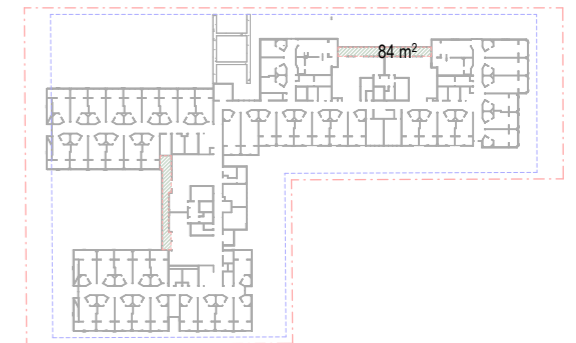
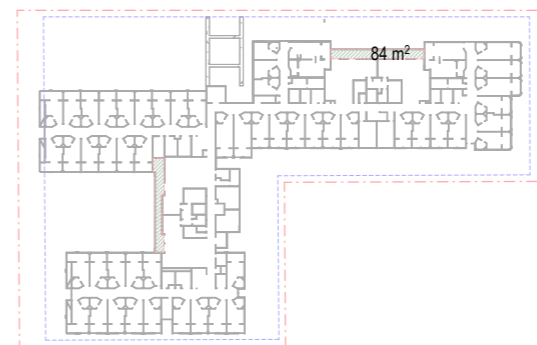
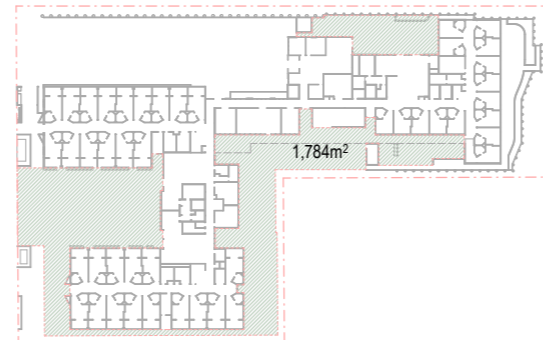
Excluding Biodiversity Area

Deep Soil:	1,833m ²
Required 1,061m ² (15% of the site area)	(PROVIDED 27% of site area)
Required 690m ² (65% of total deep soil area at rear of site)	751m ²
	(71% of total required deep soil area at rear of site)
Landscape:	2,858m ²
Required 2,475m ² (15m ² Per Bed)	(PROVIDED 17sqm per bed)
Communal Open Space:	2,056m ²
Required 1,650m ² (10m ² Per Bed)	(PROVIDED 12sqm per bed)



Deep Soil

Landscape



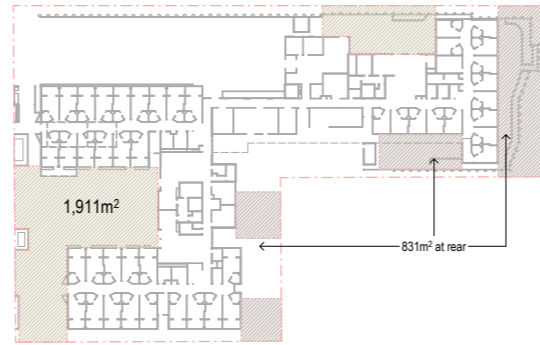
GF Communal Open Space

Level 1 Communal Open Space

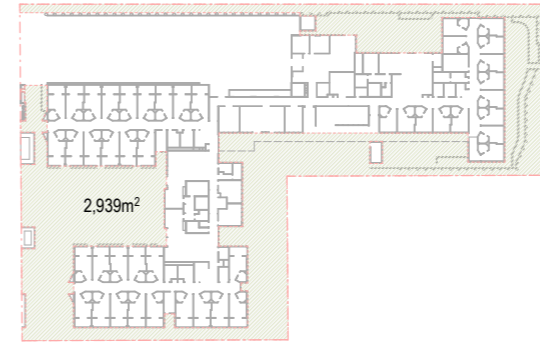
Level 2 Communal Open Space

Including Biodiversity Area

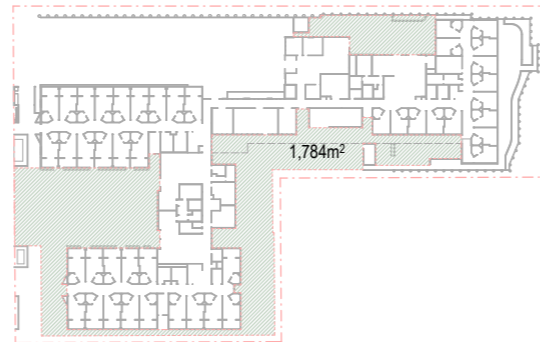
Deep Soil:	1,911m ²
Required 1,061m ² (15% of the site area)	(PROVIDED 27% of site area)
Required 690m ² (65% of total deep soil area at rear of site)	831m ²
	(78% of total required deep soil area at rear of site)
Landscape:	2,939m ²
Required 2,475m ² (15m ² Per Bed)	(PROVIDED 18sqm per bed)
Communal Open Space:	1,952m ²
Required 1,650m ² (10m ² Per Bed)	(PROVIDED 12sqm per bed)



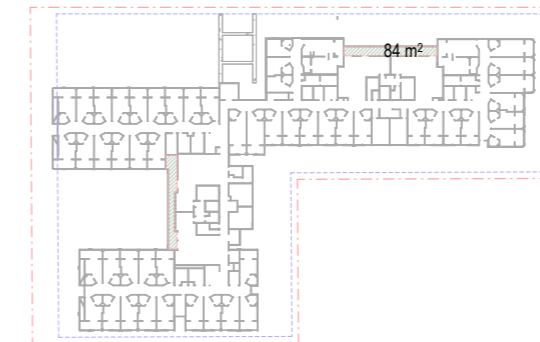
Deep Soil



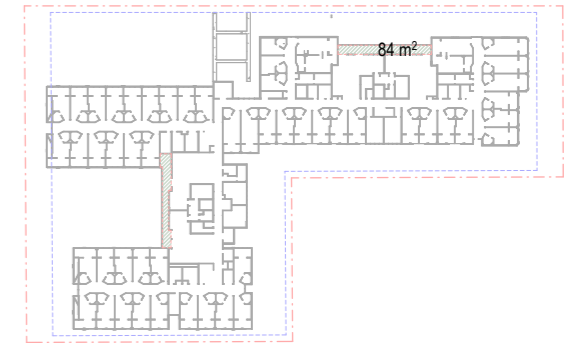
Landscape



GF Communal Open Space

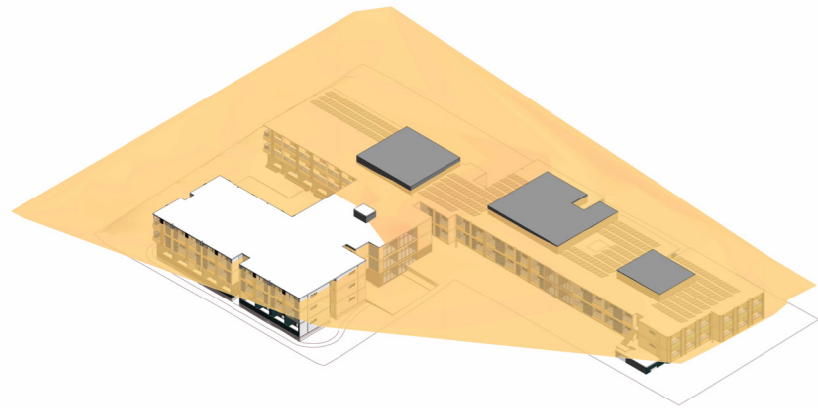


Level 1 Communal Open Space

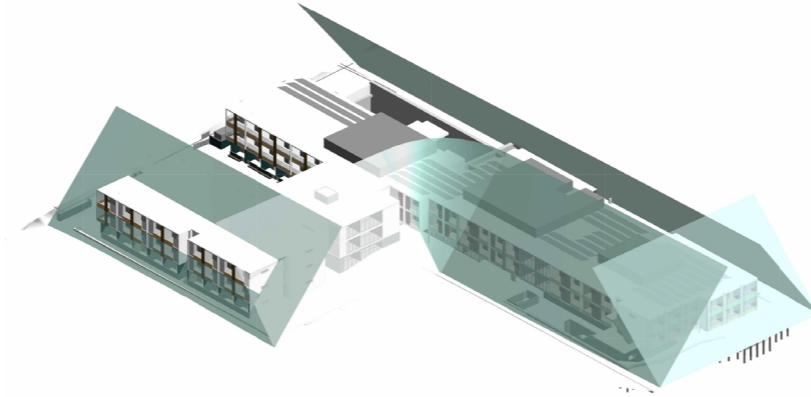


Level 2 Communal Open Space

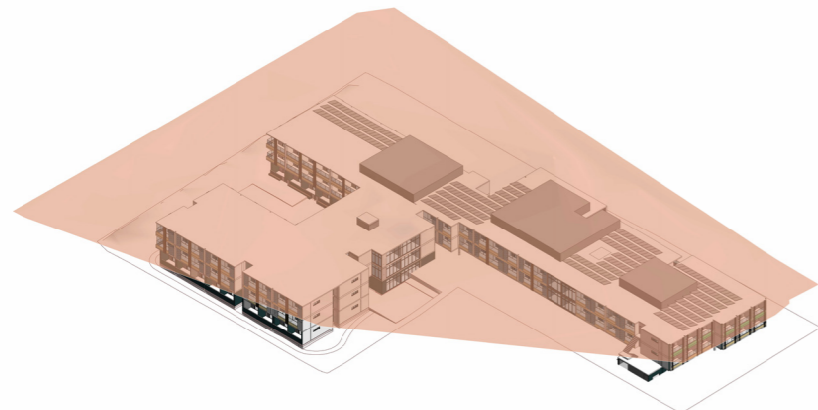
6.4 COMPLIANCE DIAGRAM



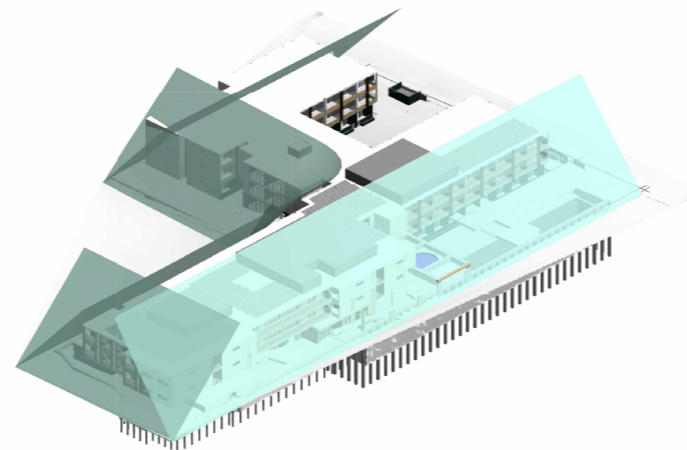
9.5m Housing SEPP Height Plane



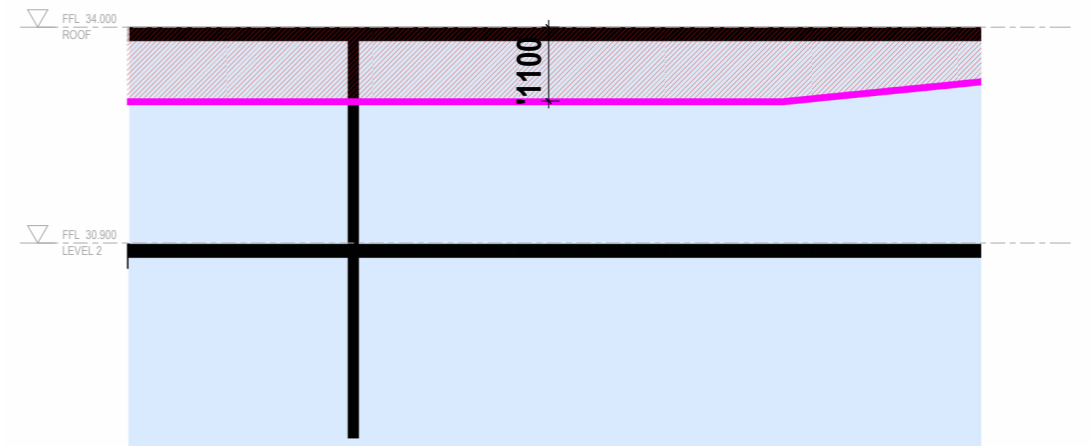
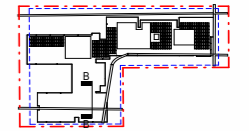
45 Degree SEPP Plane View 1



11.5m Housing SEPP Services Height Plane



45 Degree SEPP Plane View 2



6.5 COMPLIANCE

Key Characteristics

- Respond to existing context
- Met Client's brief for eleven equal 15-bed homes
- 1 x 3 storey built-form adjacent to low scale residential
- Tree T6 retained
- Complied with GFA
- Most top level building footprint within 45degree SEPP setback zone except
- South-western wing
- Minimal overshadowing of inactive part of Richard Podmore Dog Park
- South-western wing closer to boundary
- Workable Port Cochere



1. No. 80 Grove Avenue



2. No. 70 Grove Avenue



3. No. 70 and No. 72 Grove Avenue



Shadow Diagrams Comparison & Analysis

Overshadow % against Total Richard Podmore Dog Park area: 4262 sqm

March 21st Proposed Design

9am	5%
10am	5%
11am	5%
12pm	5%
1pm	5%
2pm	5%
3pm	6%

March 21st Pre-Existing

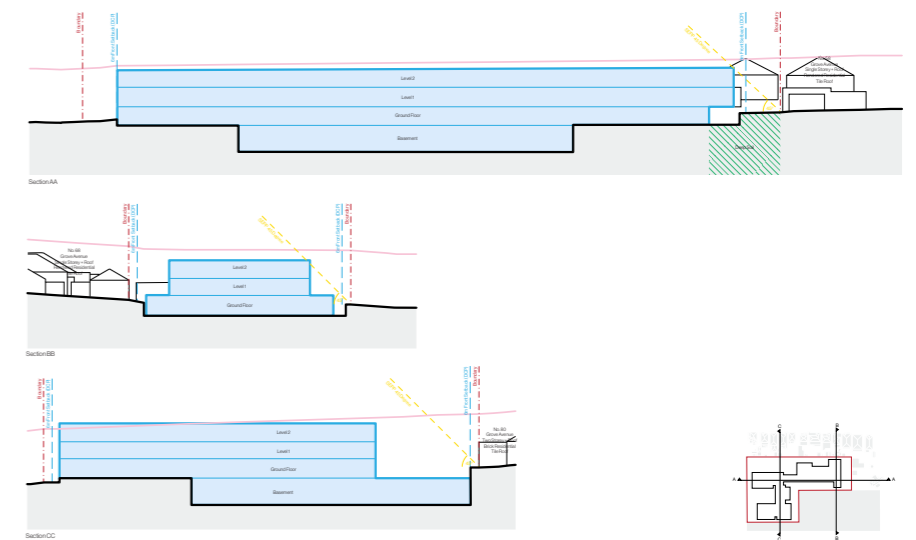
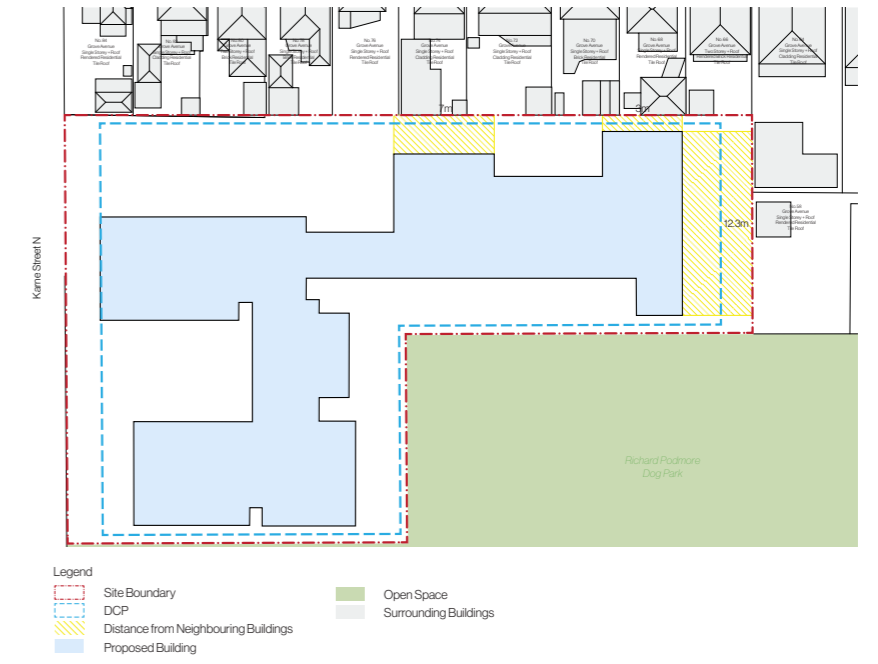
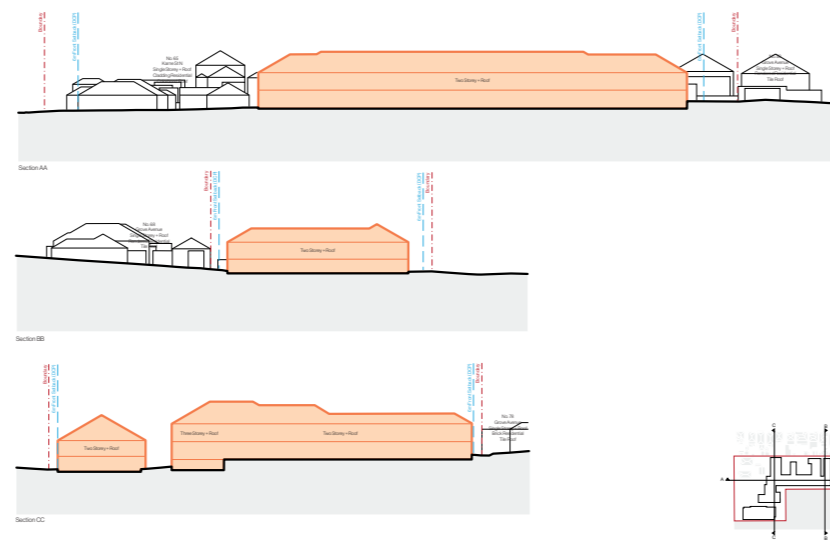
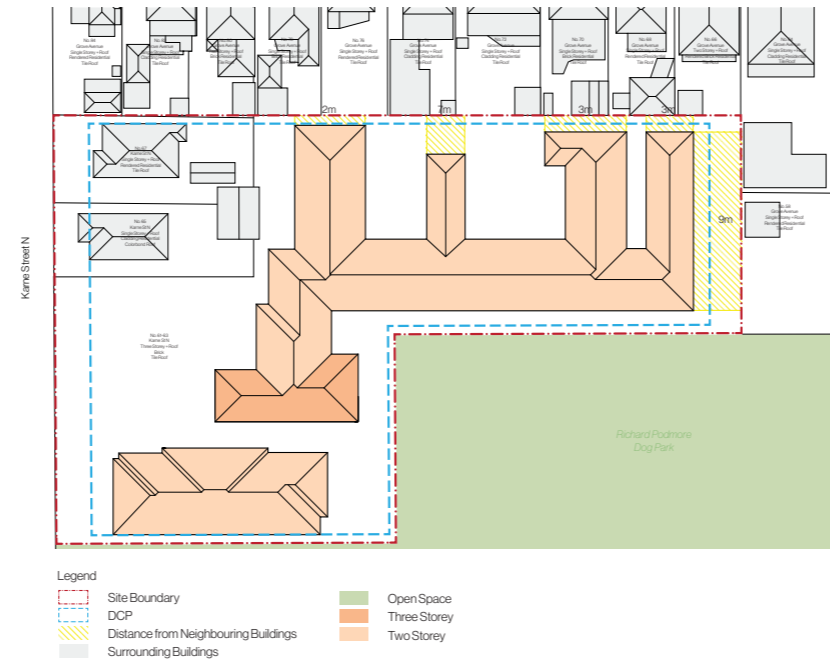
9am	2%
10am	2%
11am	2%
12pm	2%
1pm	2%
2pm	2%
3pm	3%

June 21st Proposed Design

9am	29%
10am	24%
11am	20%
12pm	18%
1pm	20%
2pm	26%
3pm	40%

June 21st Pre-Existing

9am	31%
10am	25%
11am	21%
12pm	20%
1pm	22%
2pm	27%
3pm	44%



6.6 RICHARD PODMORE DOG PARK

Shadow Diagrams Comparison & Analysis

Overshadow % against Total Richard Podmore Dog Park area: 4262 sqm

23rd September Proposed Design

9am	5%
10am	5%
11am	5%
12pm	5%
1pm	5%
2pm	5%
3pm	7%

23rd September Pre-Existing

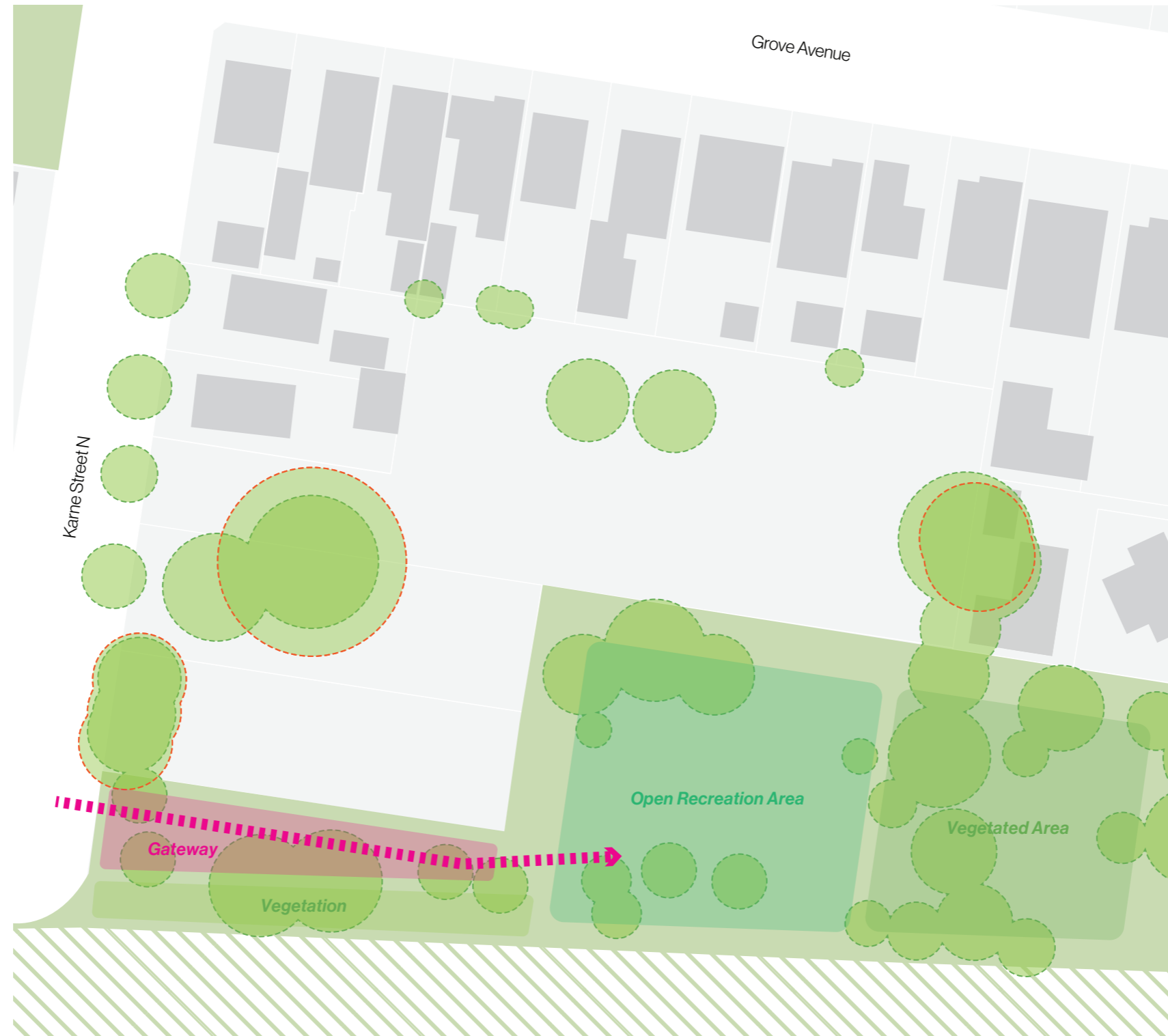
9am	2%
10am	2%
11am	2%
12pm	2%
1pm	2%
2pm	2%
3pm	2%

December 23rd Proposed Design

9am	29%
10am	24%
11am	20%
12pm	18%
1pm	20%
2pm	26%
3pm	40%

December 23rd Pre-Existing

9am	31%
10am	25%
11am	21%
12pm	20%
1pm	22%
2pm	27%
3pm	44%



June 2016: Pre-Existing Aged Care Facility



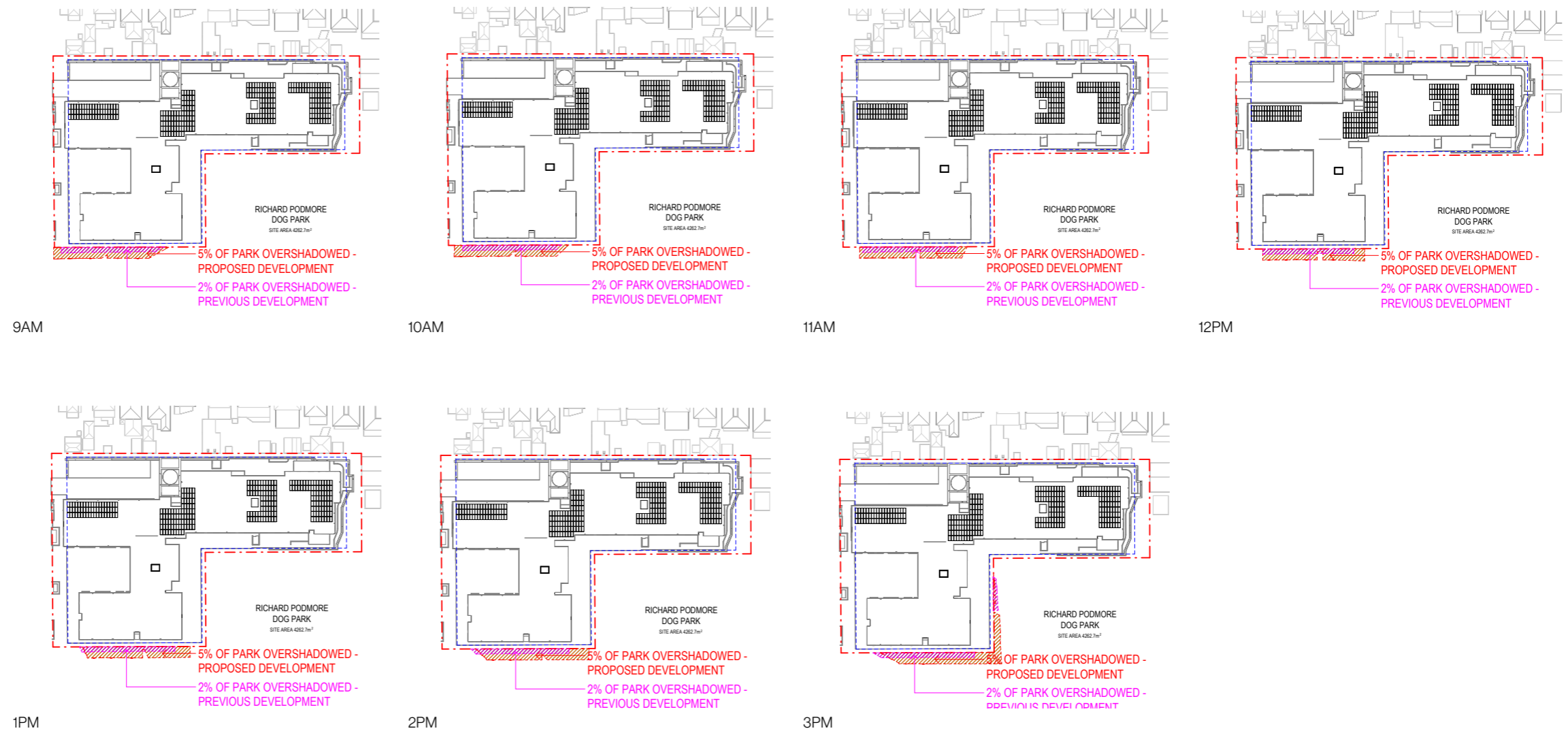
April 2022



April 2022

6.7 SHADOW ANALYSIS

21st of March



LEGEND

-  Proposed Design Recessed - Shadow
-  Pre-Existing Aged Care Design Recessed - Shadow

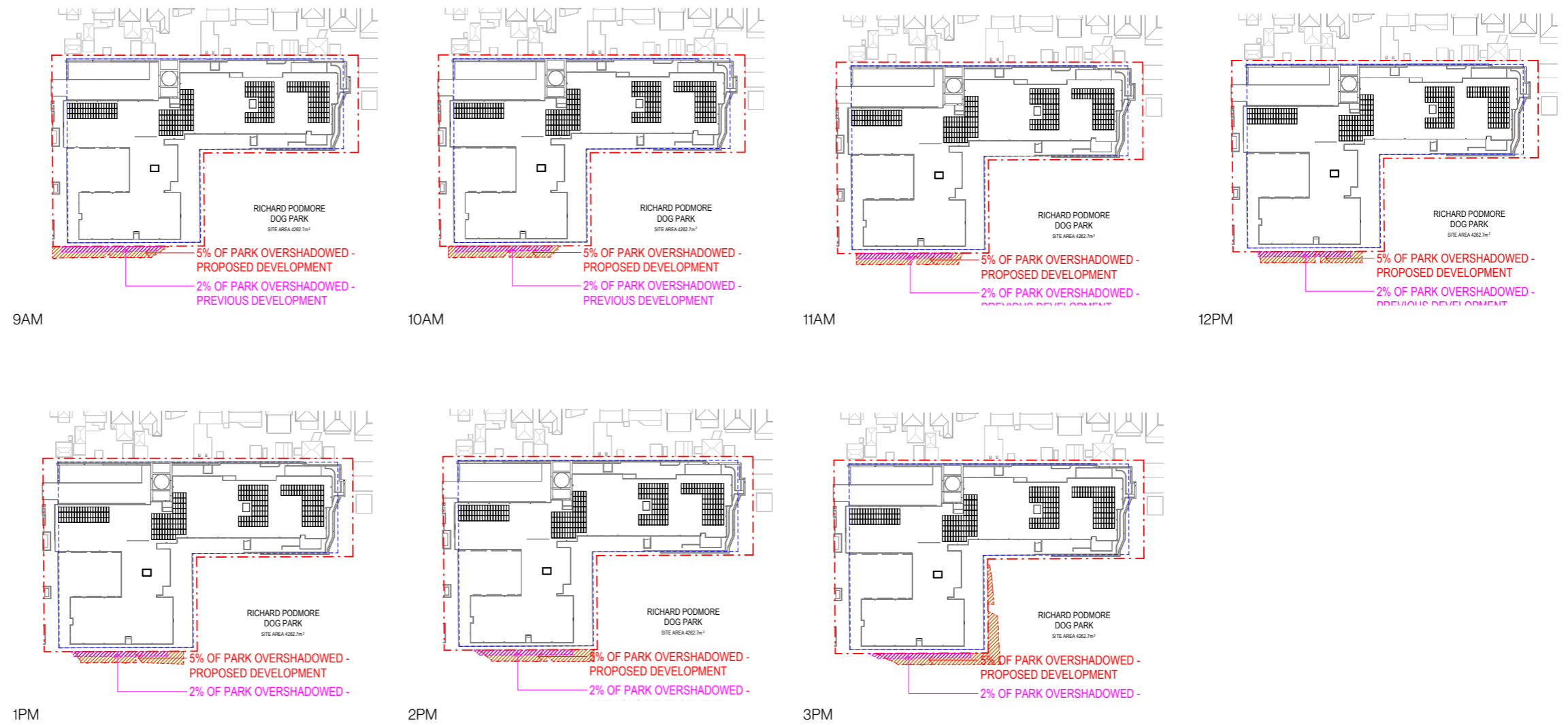
21st of June





LEGEND

- Proposed Design Recessed - Shadow
- Pre-Existing Aged Care Design Recessed - Shadow

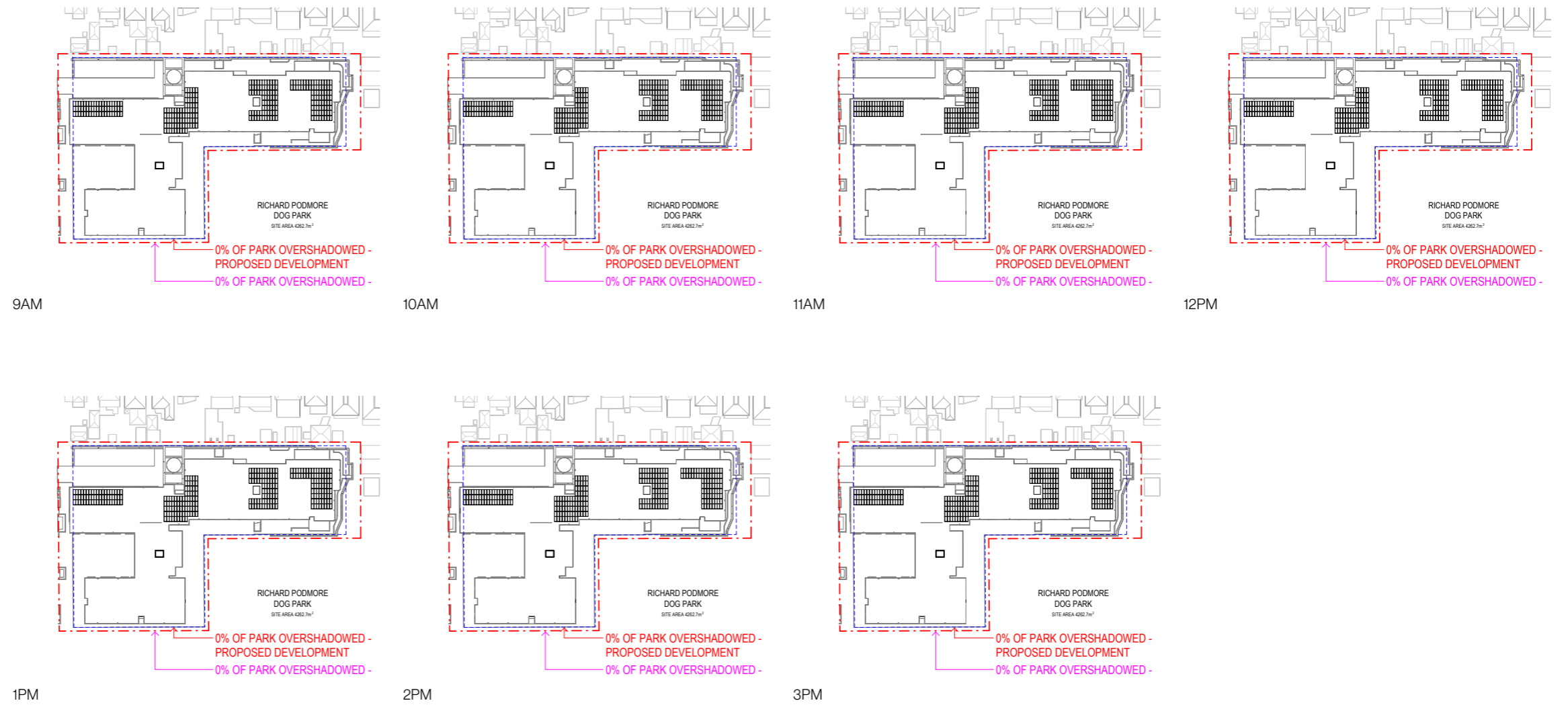
23rd of September



LEGEND

-  Proposed Design Recessed - Shadow
-  Pre-Existing Aged Care Design Recessed - Shadow

23rd of December

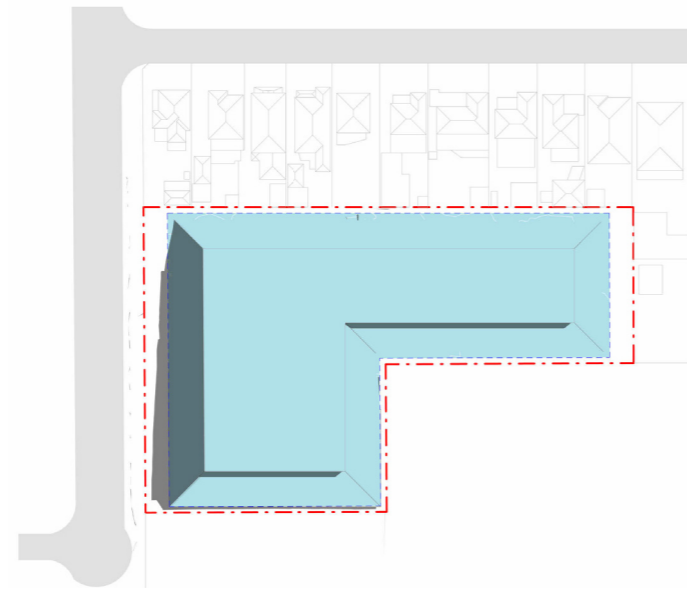


LEGEND

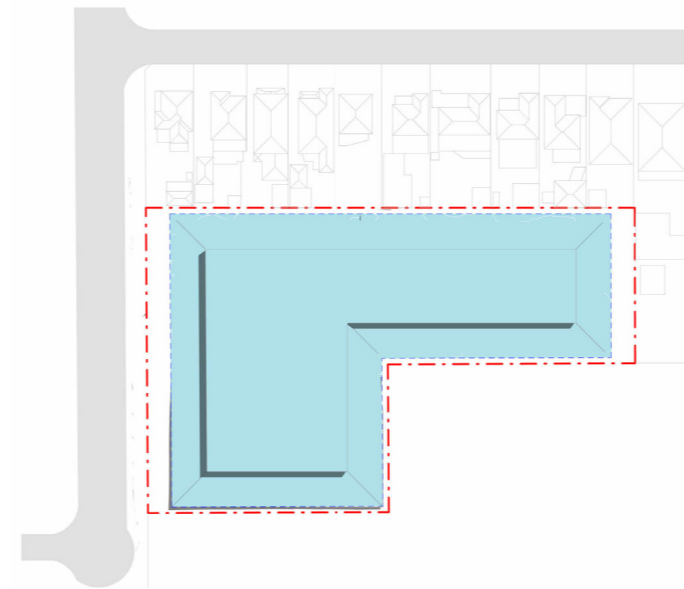
-  Proposed Design Recessed - Shadow
-  Pre-Existing Aged Care Design Recessed - Shadow

6.8 SHADOW STUDY

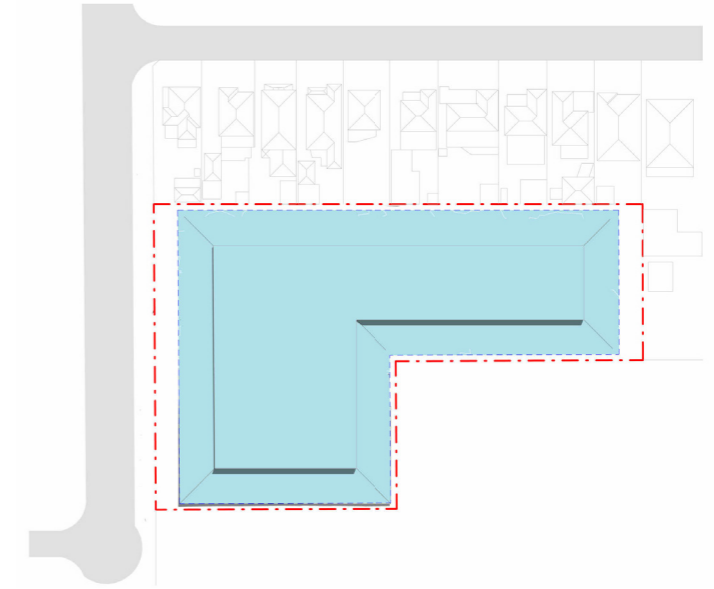
21st of March



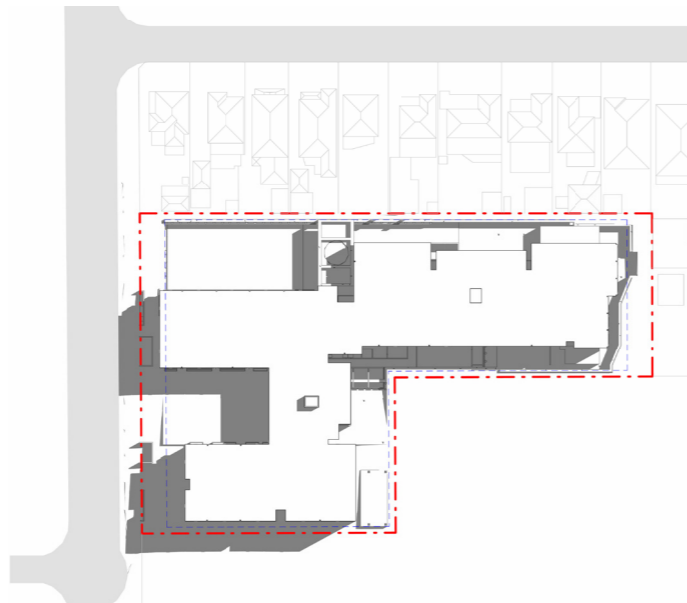
DCP Envelope



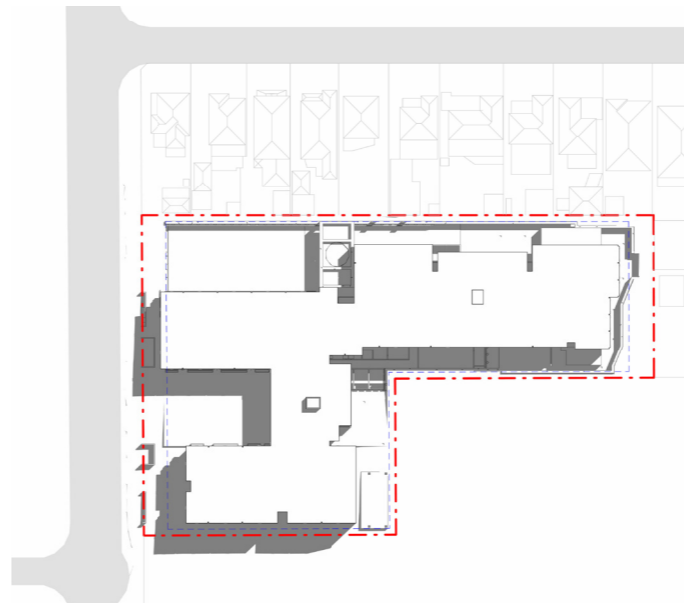
DCP Envelope



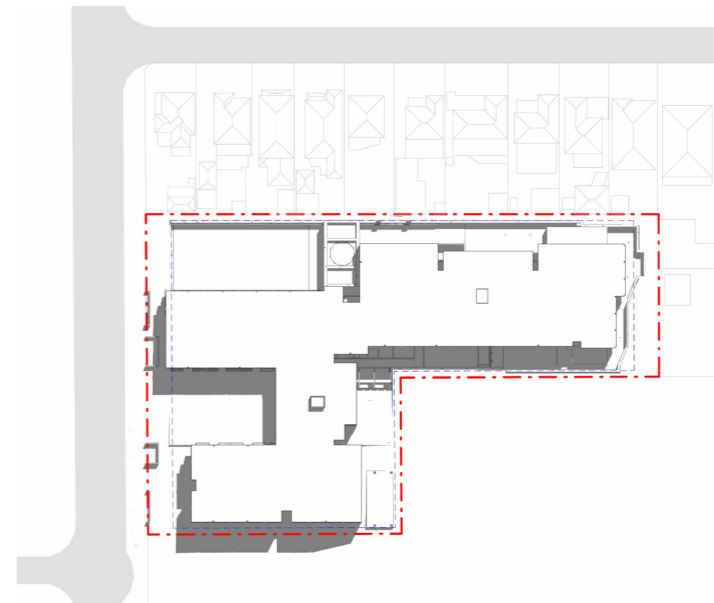
DCP Envelope



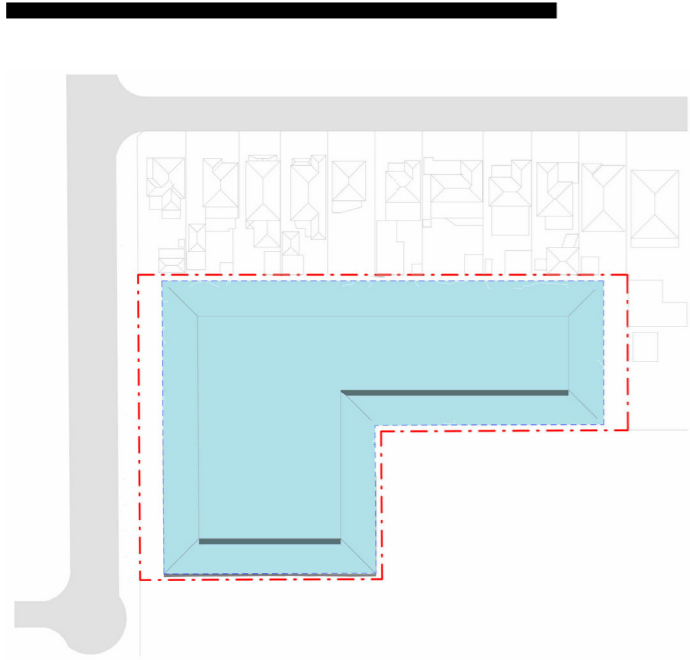
9AM



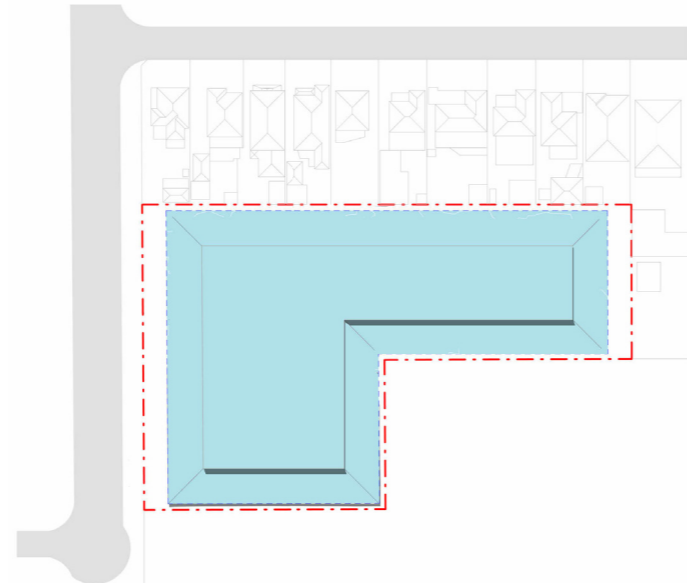
10AM



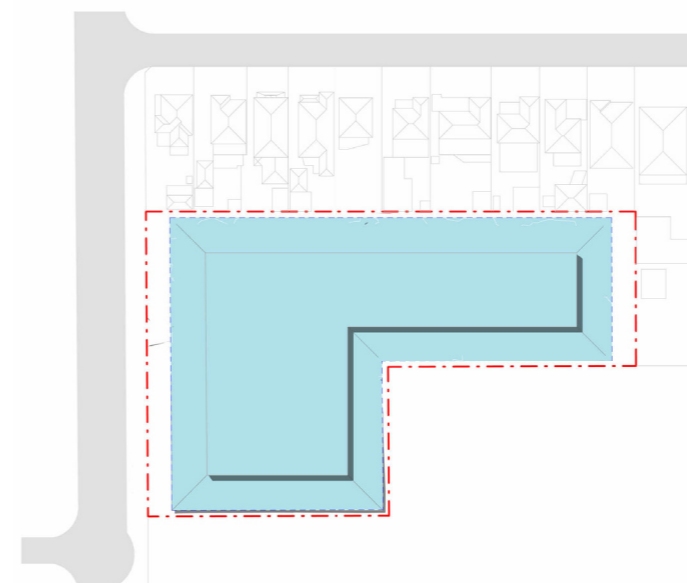
11AM



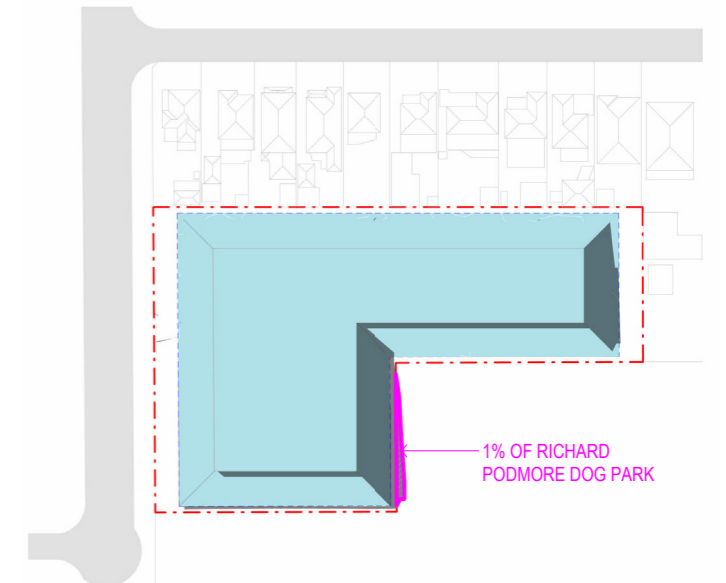
DCP Envelope



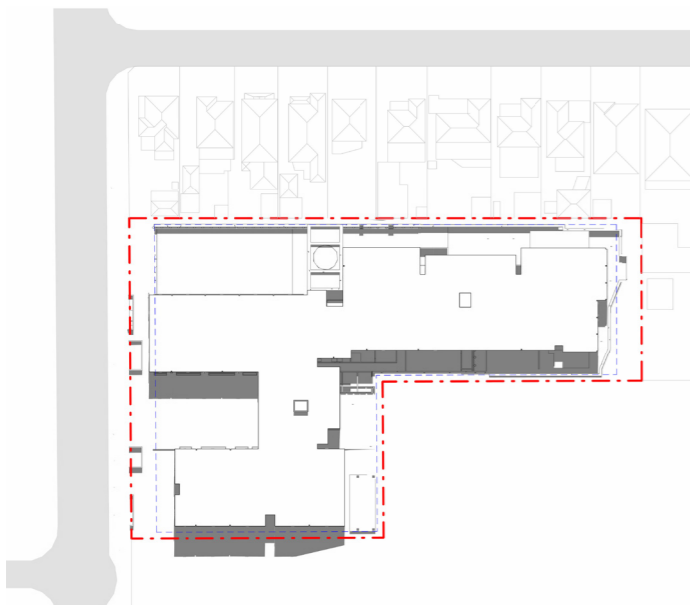
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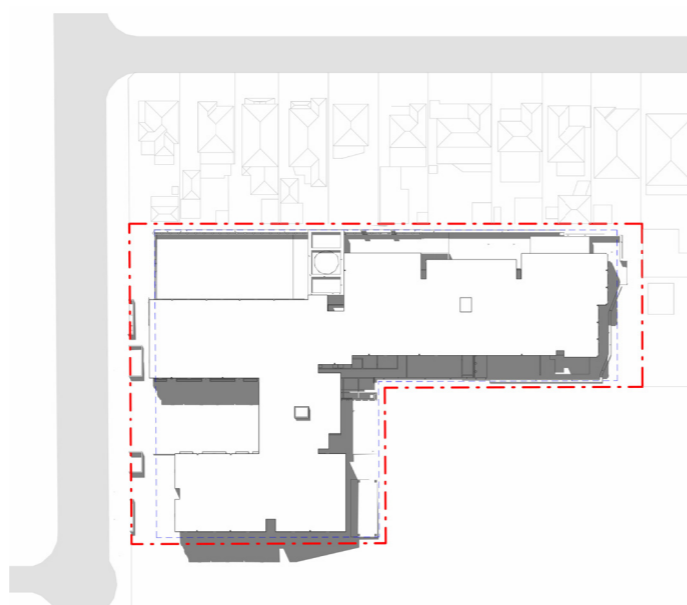
DCP Envelope



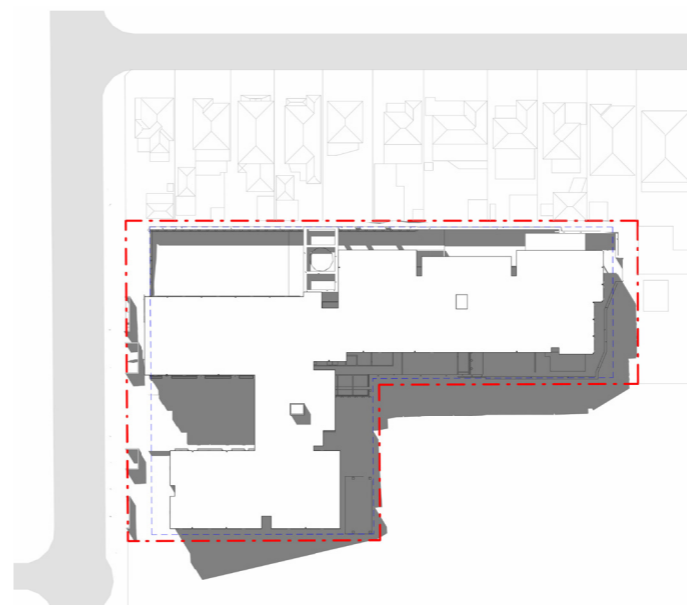
DCP Envelope



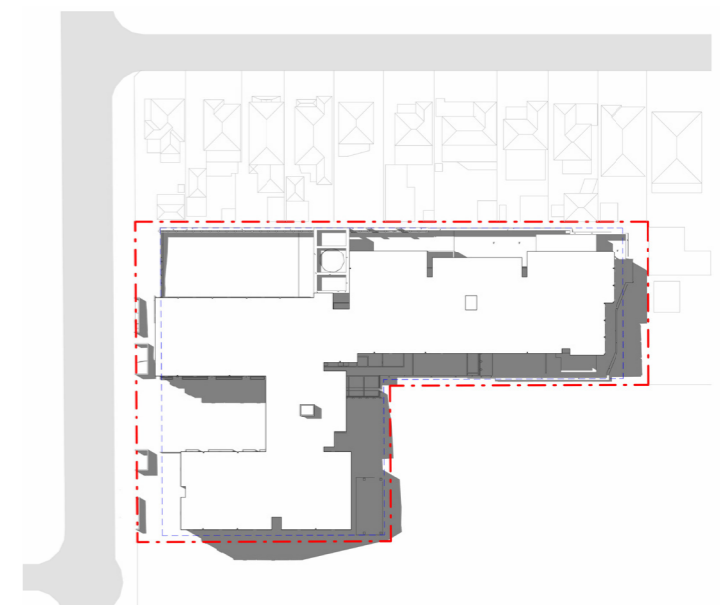
12PM



1PM



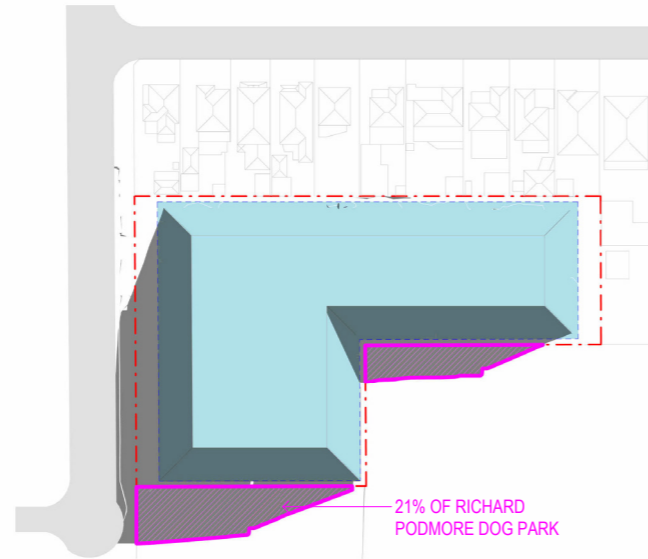
2PM



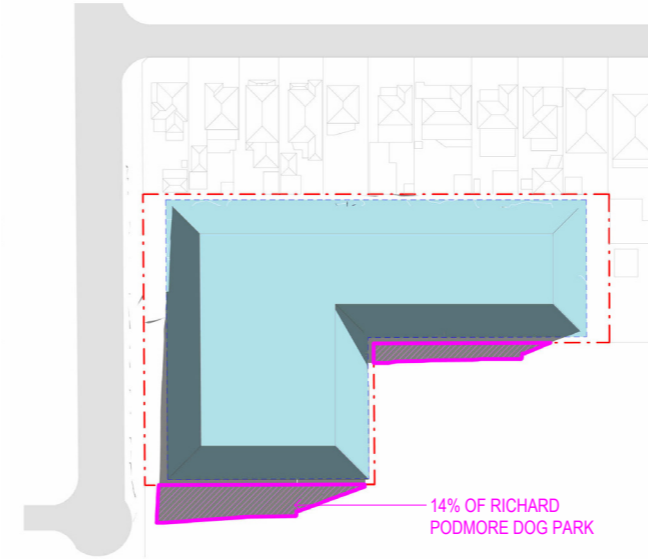
3PM

21st of June

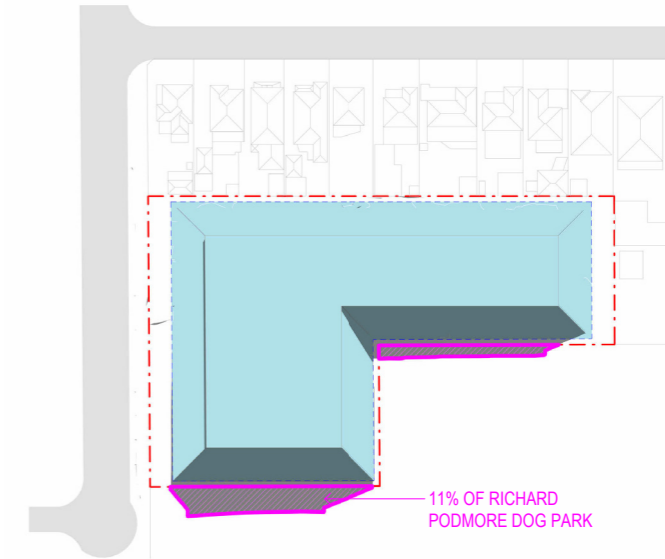
- Majority of shadow throughout the day is cast on the street and within the site.
- The neighbouring buildings are not shadowed by the proposed building.
- Increased separation to Southern boundary also creates relief from pre-existing shadow.



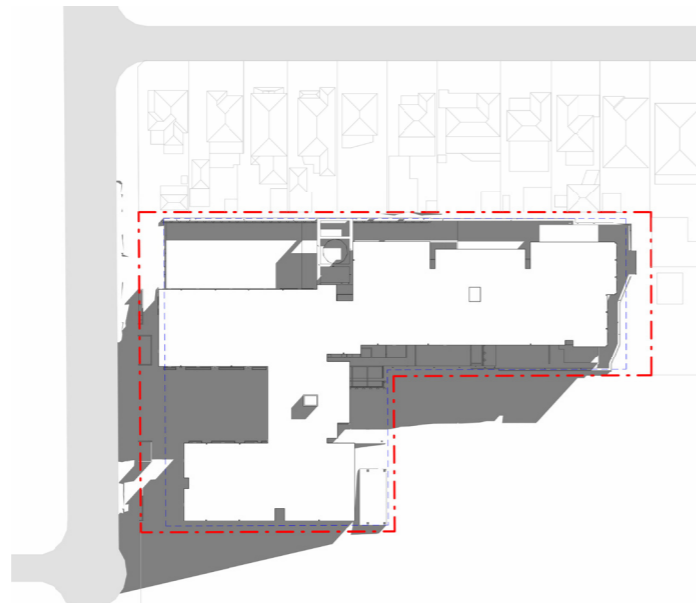
DCP Envelope



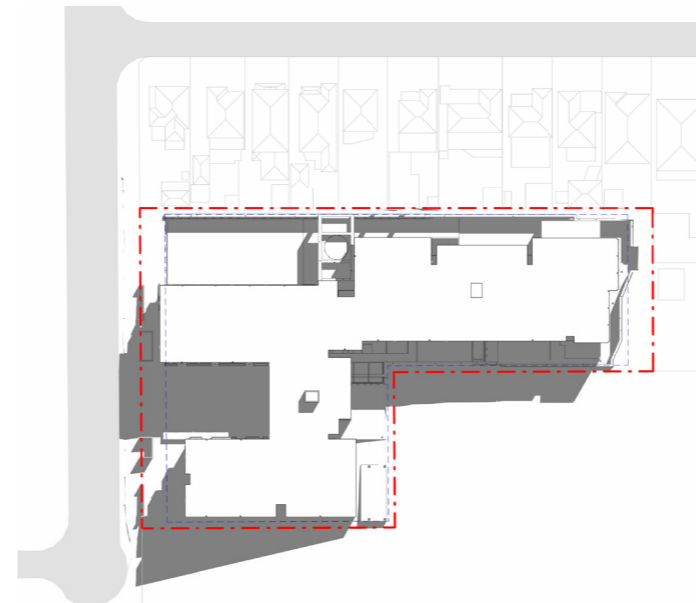
DCP Envelope



DCP Envelope



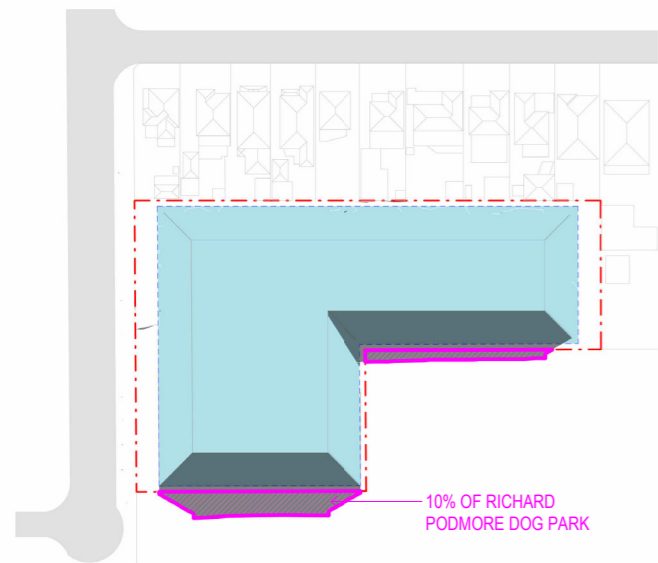
9AM



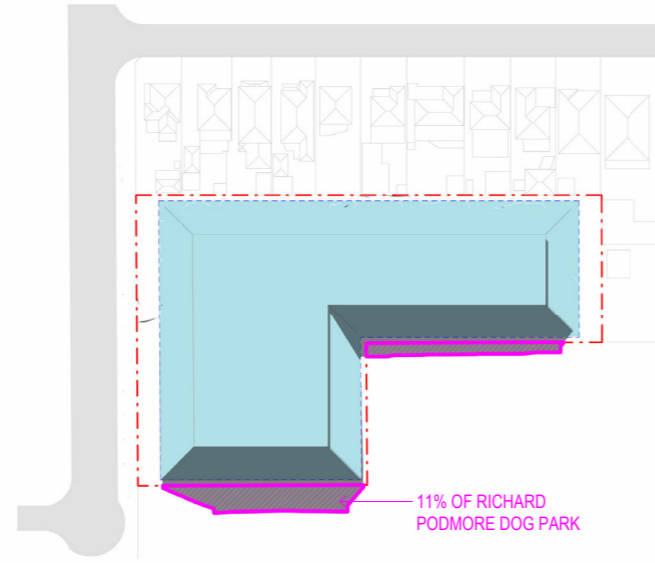
10AM



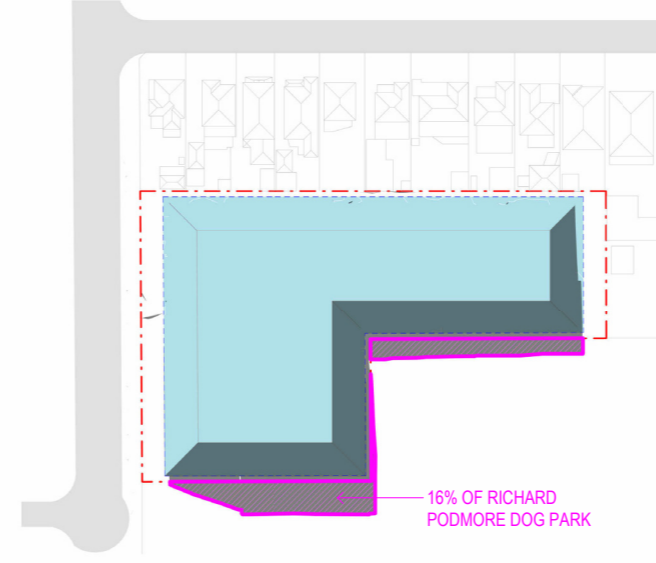
11AM



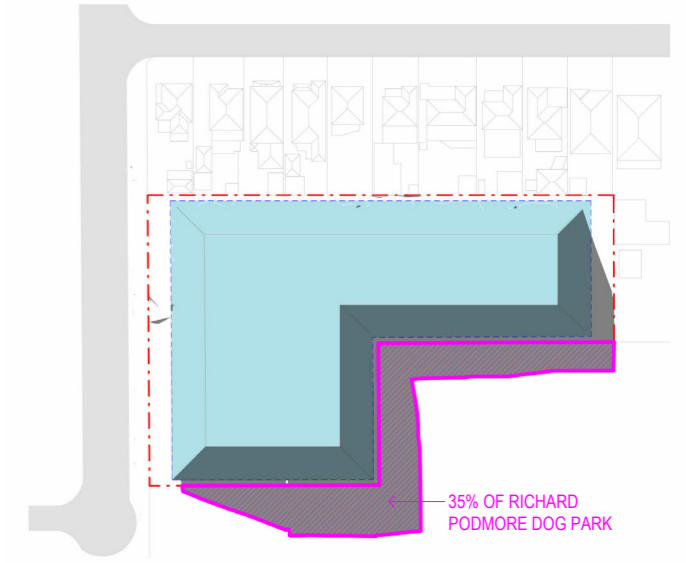
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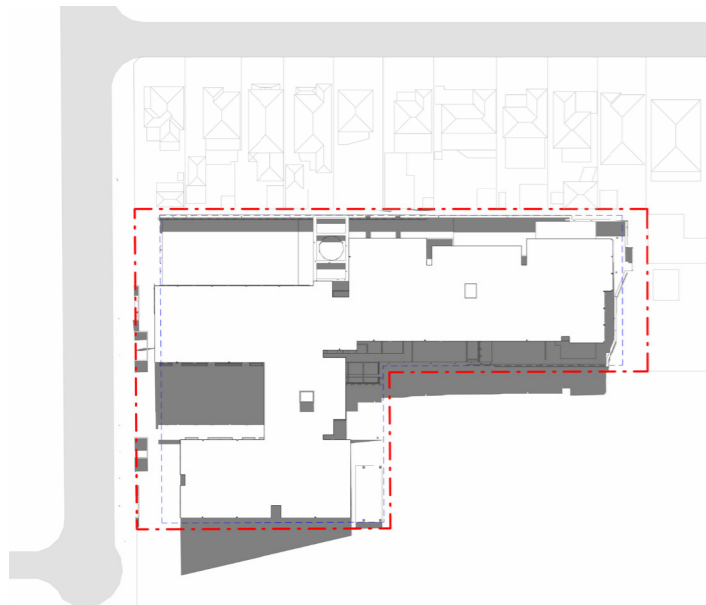
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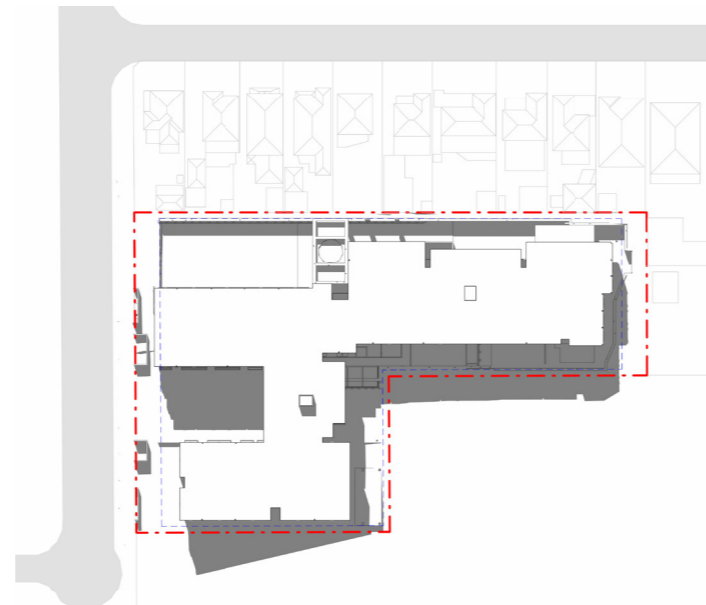
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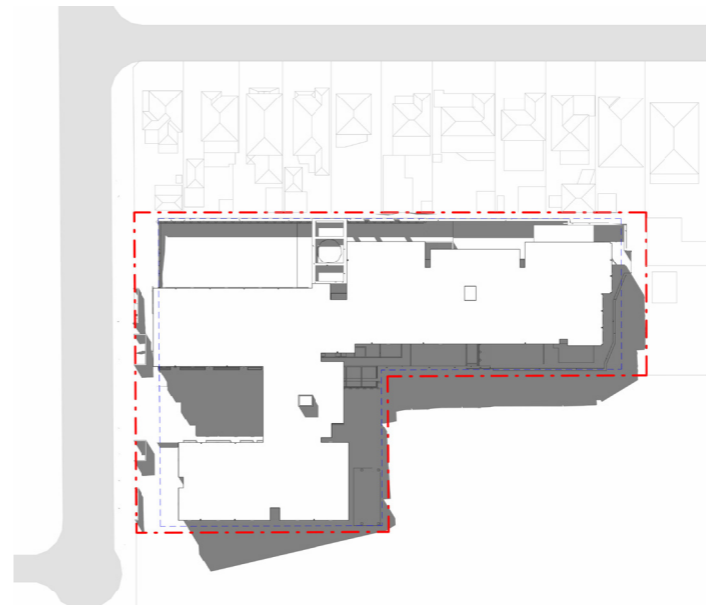
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12PM



1PM

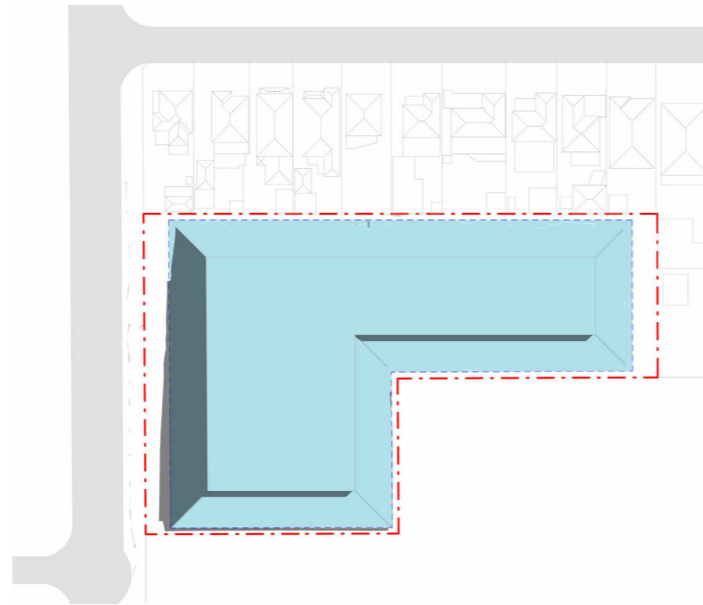


2PM

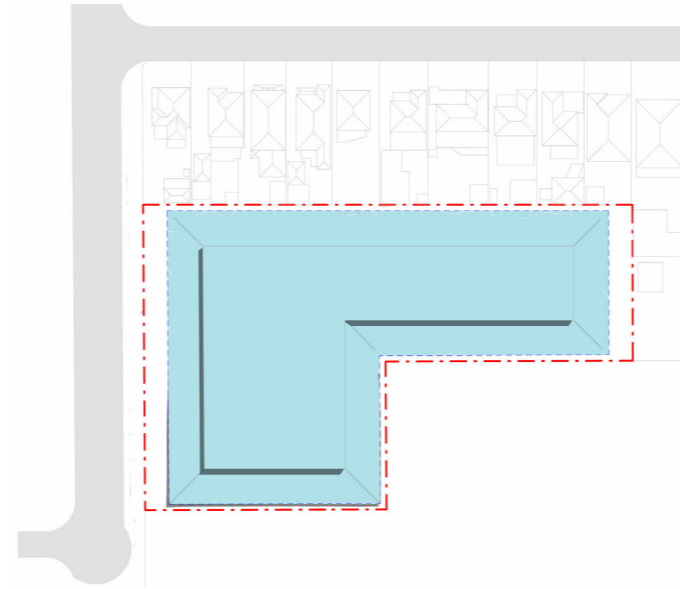


3PM

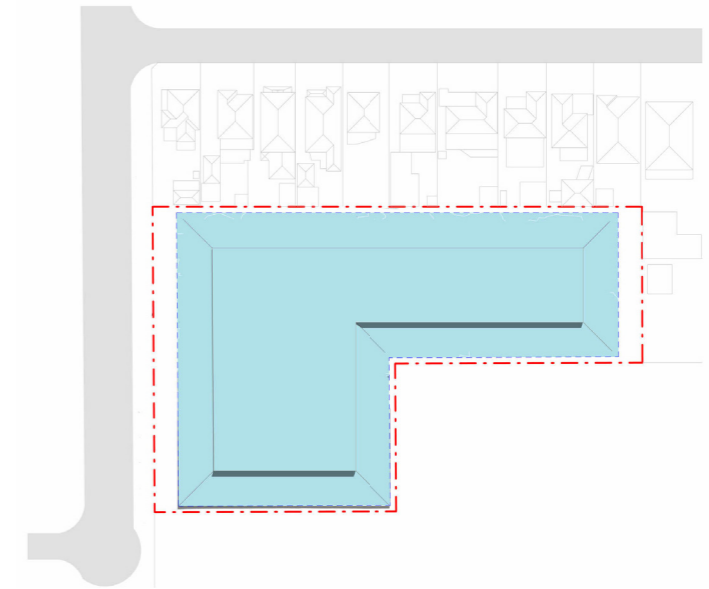
23rd of September



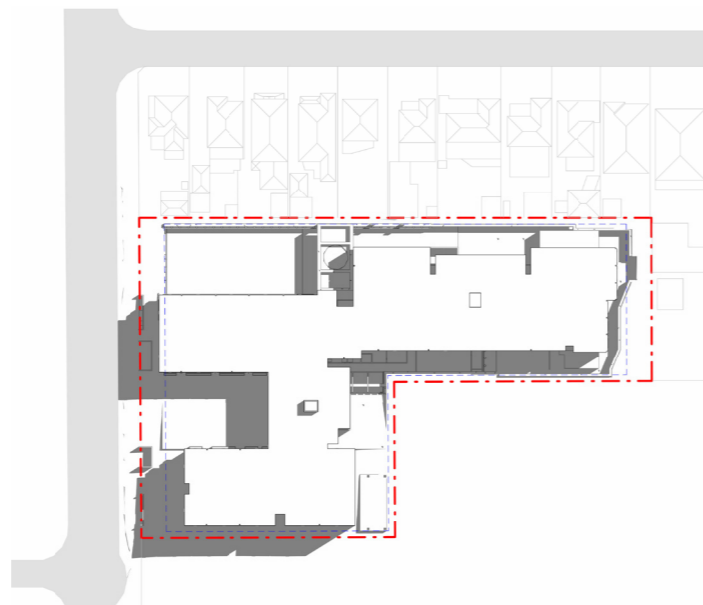
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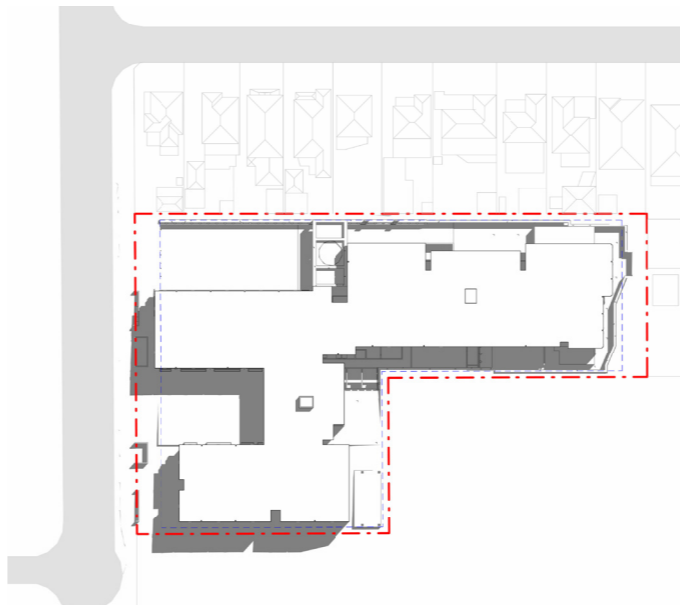
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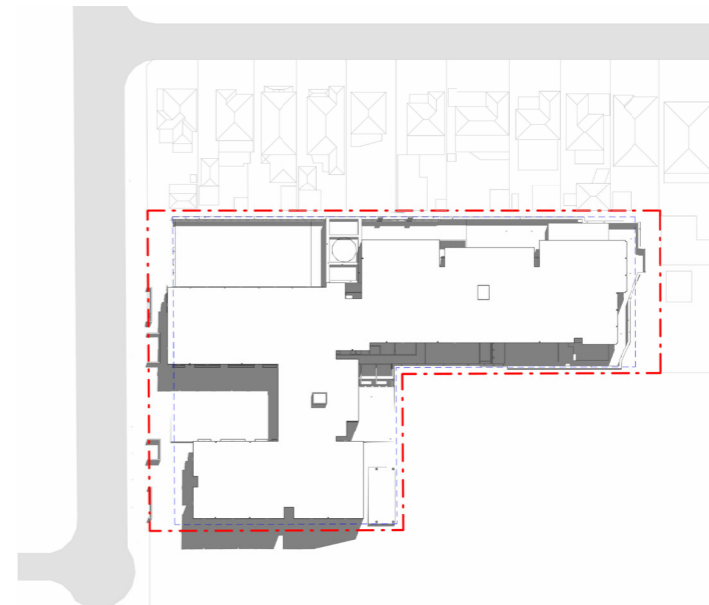
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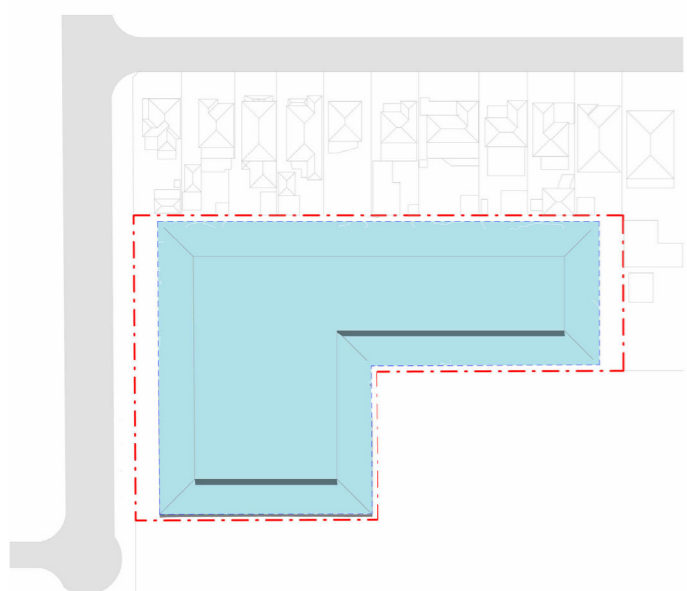
9AM



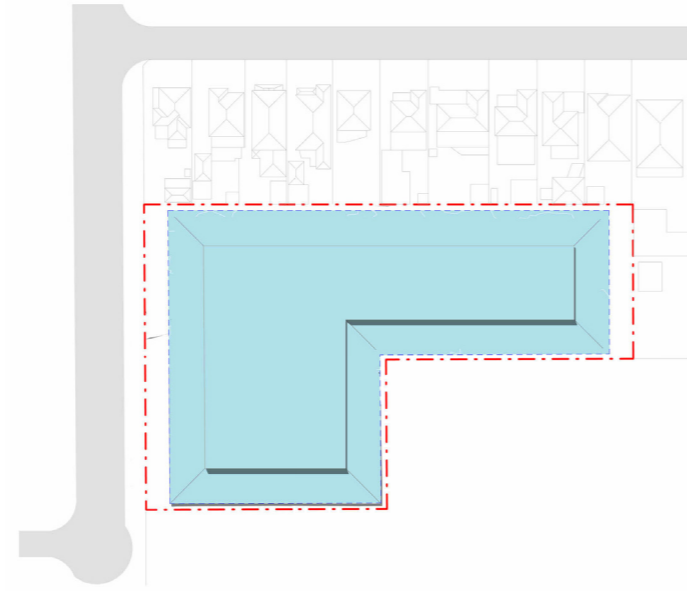
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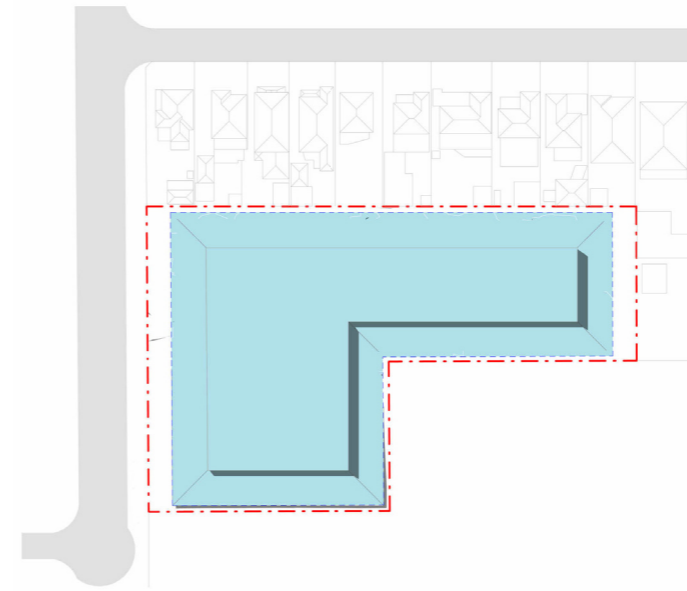
11AM



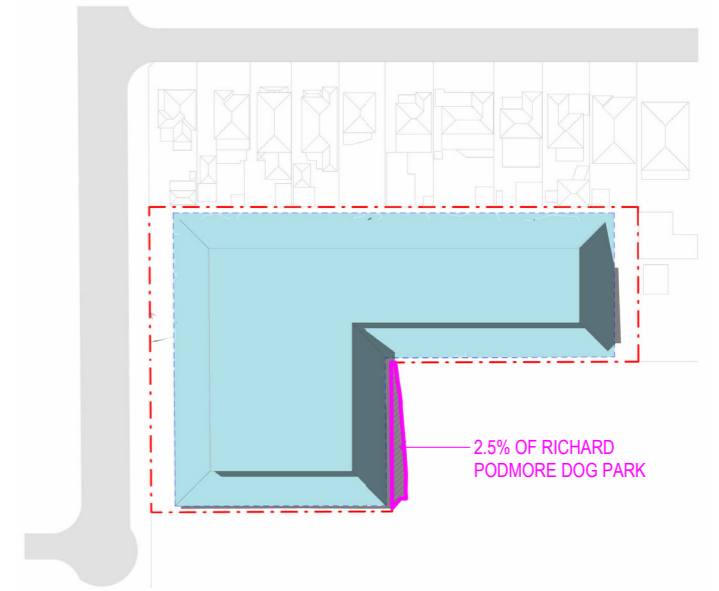
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DCP Envelope

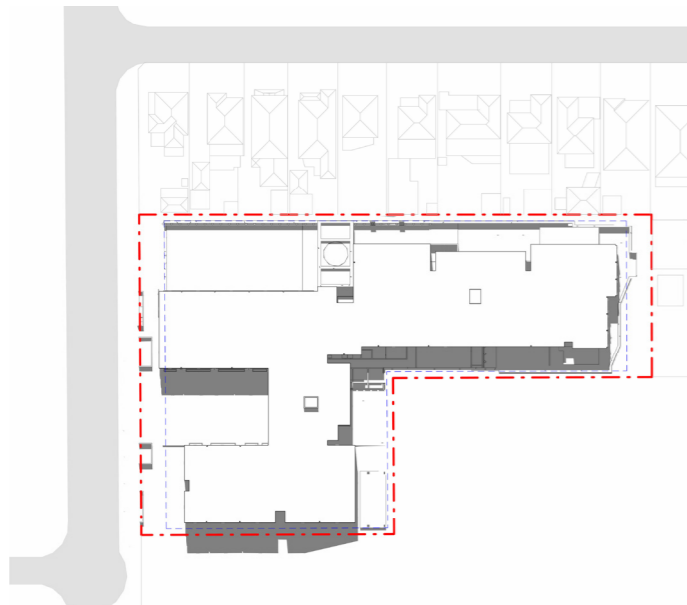


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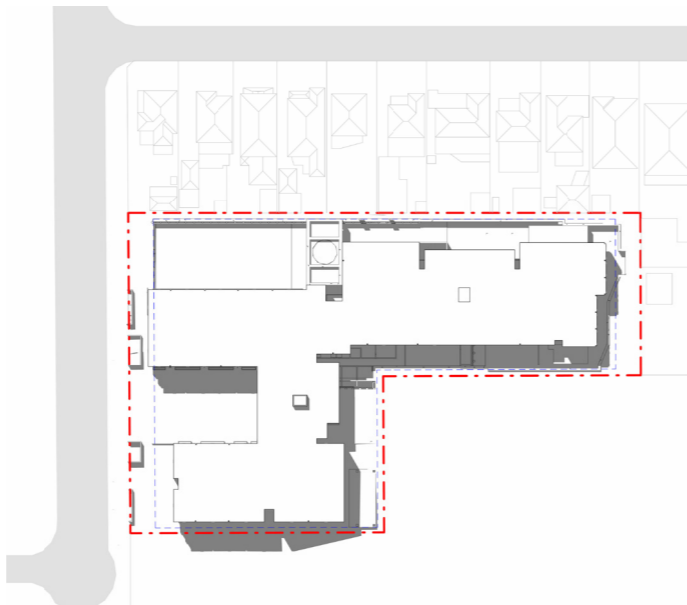


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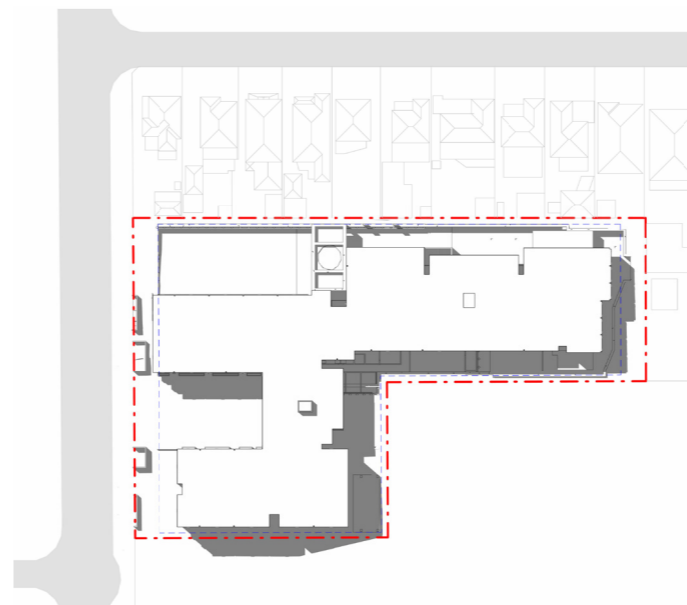
2.5% OF RICHARD
PODMORE DOG PARK



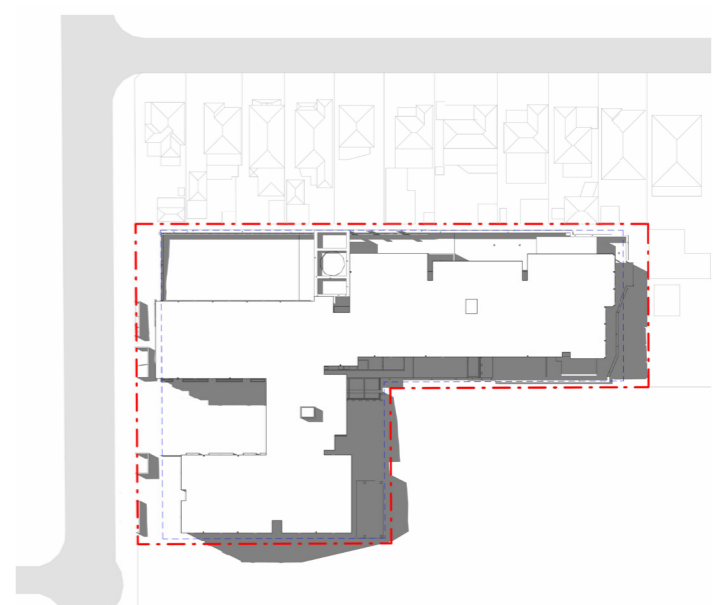
12PM



1PM

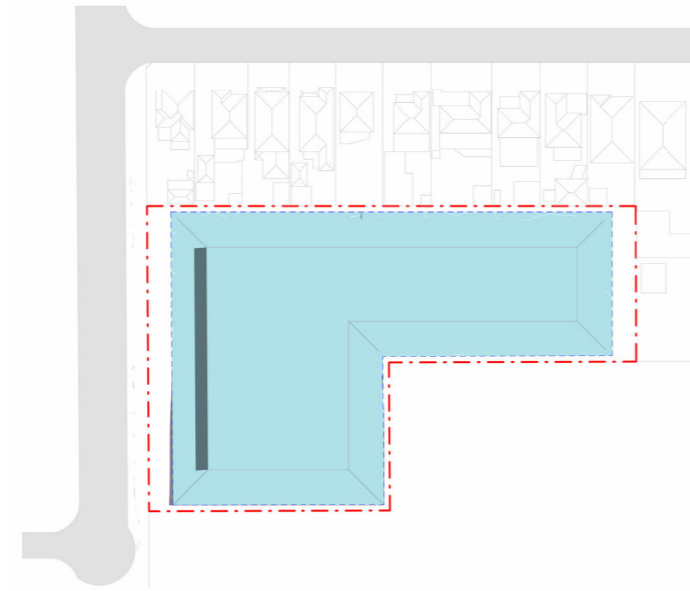


2PM

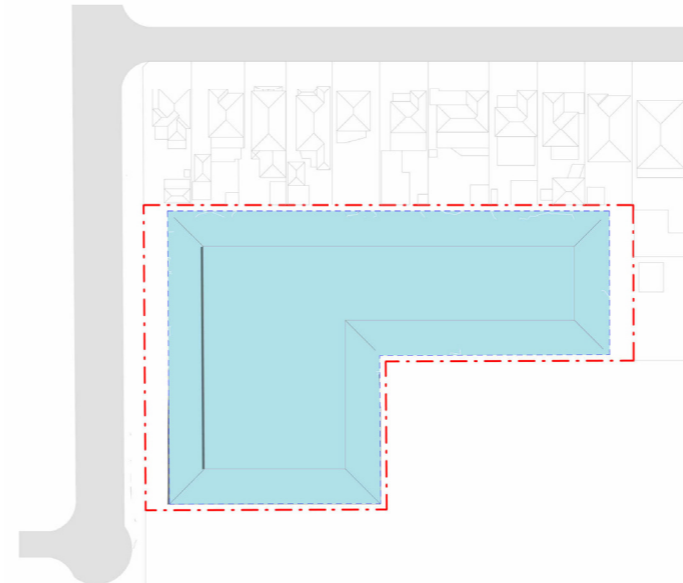


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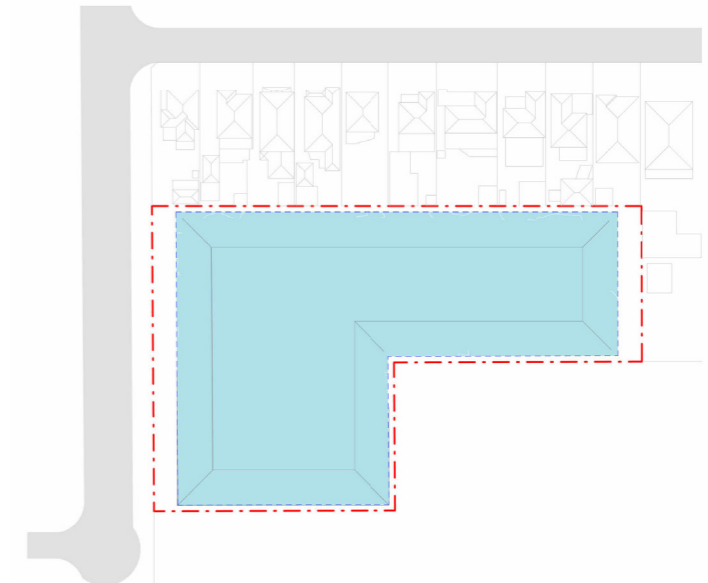
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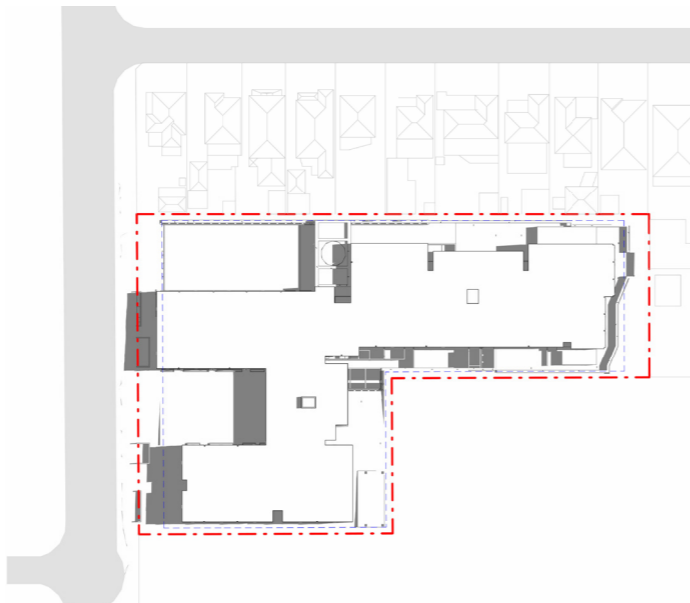
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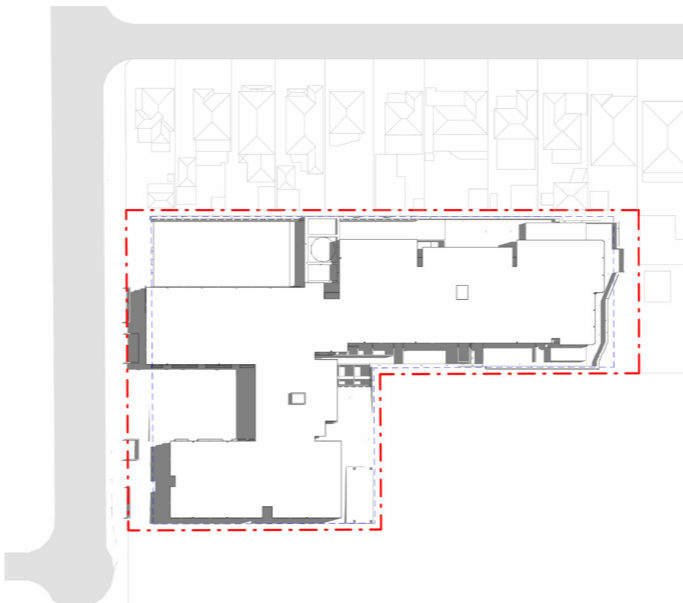
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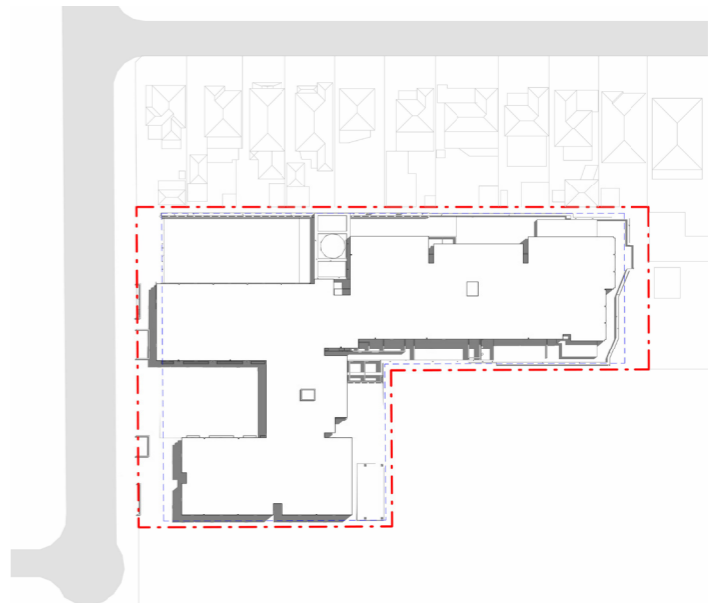
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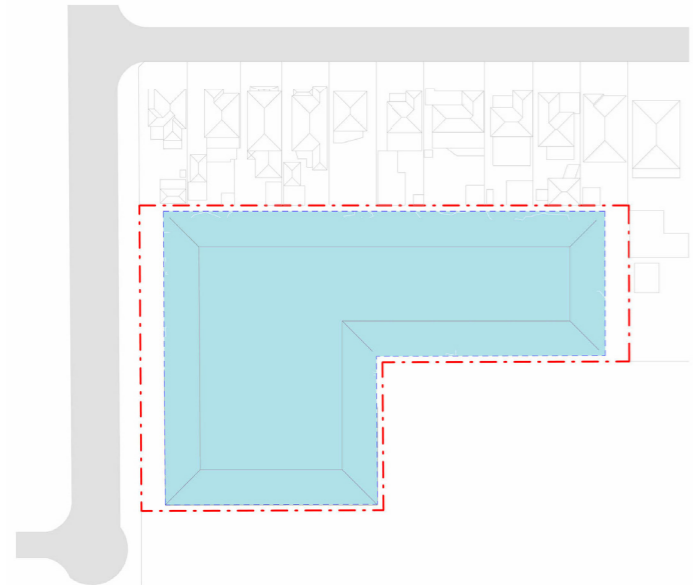
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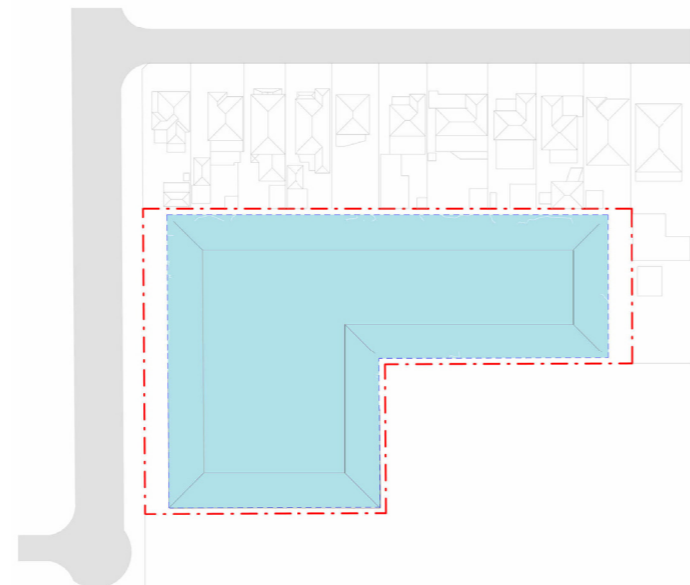
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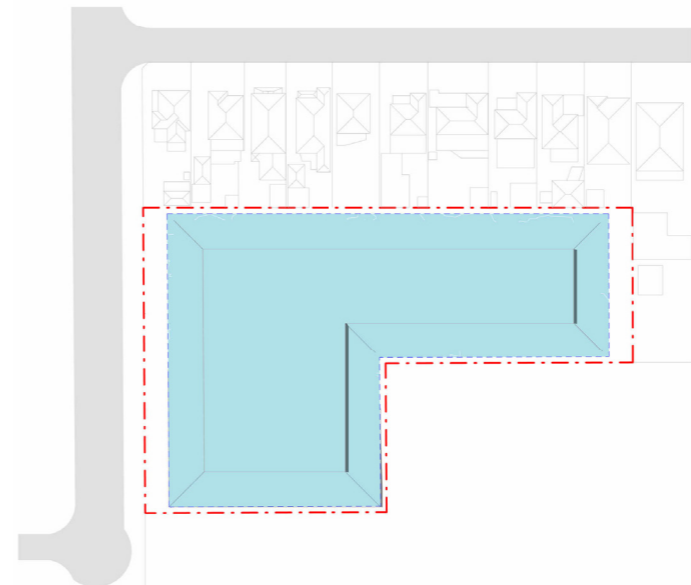
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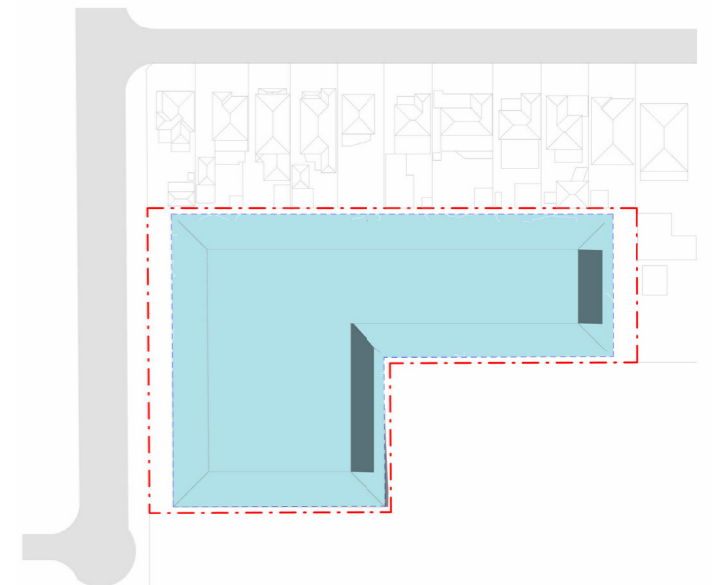
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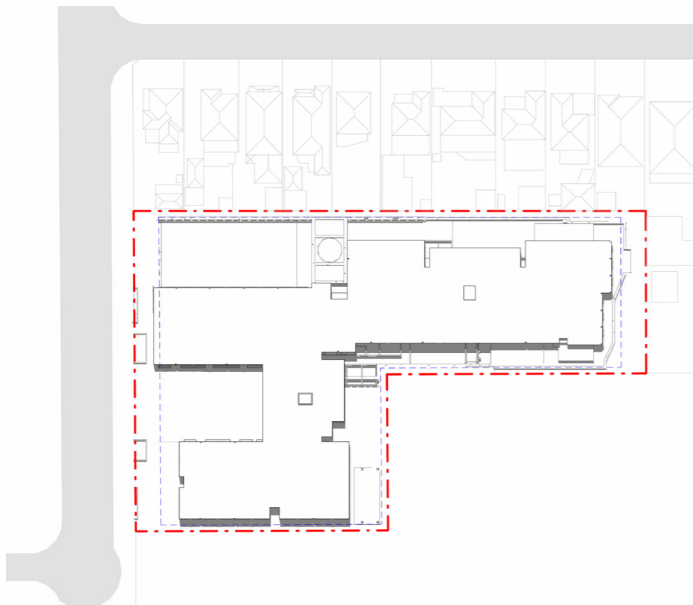
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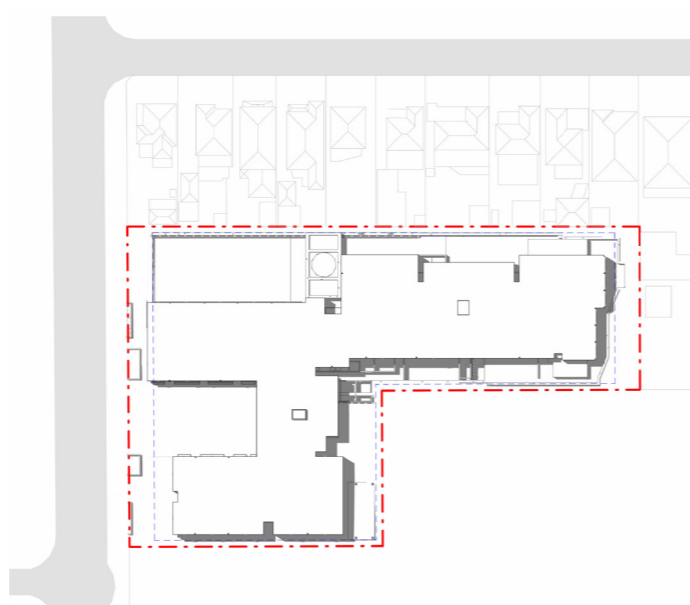
DCPEnvelope



DCPEnvelope



12PM



1PM



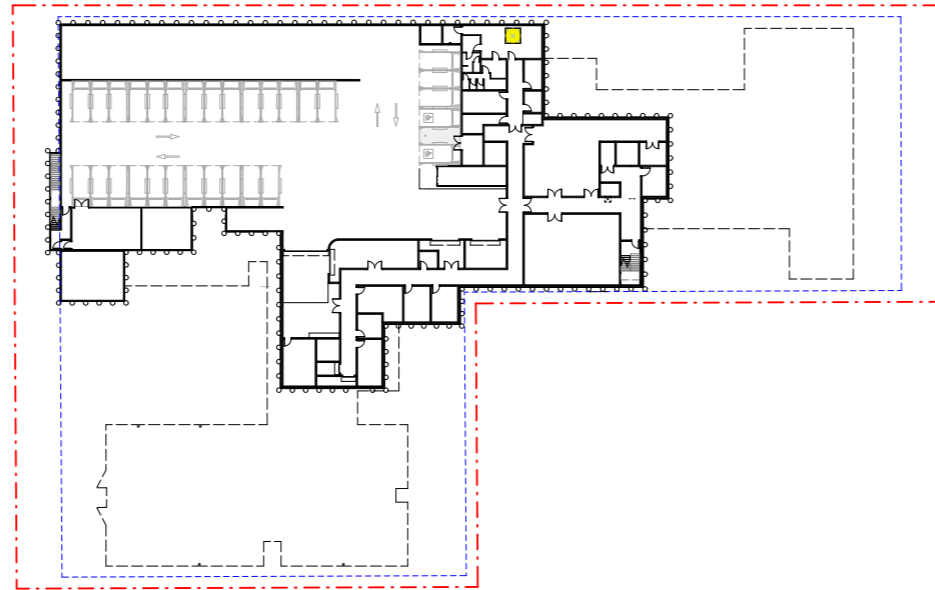
2PM



3PM

6.9 SOLAR ACCESS

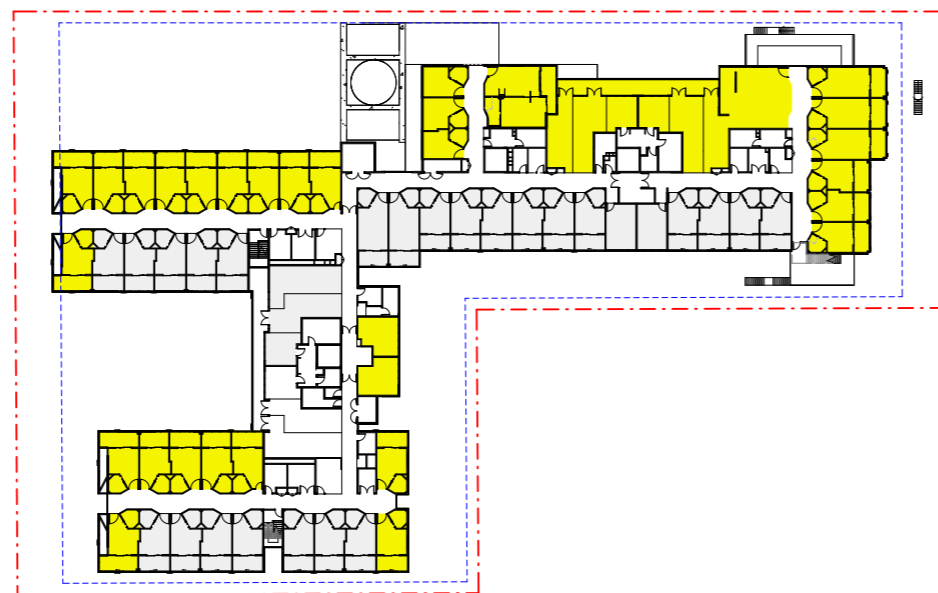
21st of June



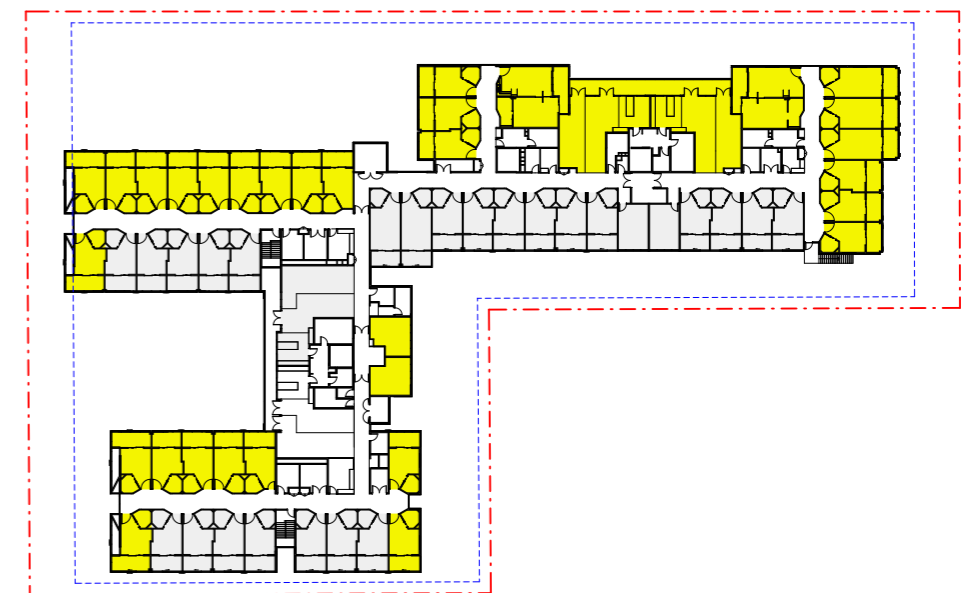
Basement Plan



Ground Floor Plan



Level 1 Plan



Level 2 Plan

LEGEND

- Minimum 2 Hours Sunlight
- Rooms Receiving No Direct Sunlight Between 9AM to 3PM at Mid Winter

6.10 COMMUNAL OPEN SPACE SHADOW STUDY

21st of June

Site Area: 7,159.6 m²

Communal Open Space Area: 1,952 m²

	Area Receiving Direct Sunlight (m ²)	Percentage Against Communal Open Space (%)
9:00 am	780 m ²	40%
10:00 am	1140 m ²	58%
11:00 am	1400 m ²	72%
12:00 pm	1648 m ²	84%
1:00 pm	1344 m ²	69%
2:00 pm	1013 m ²	52%
3:00 pm	856 m ²	44%



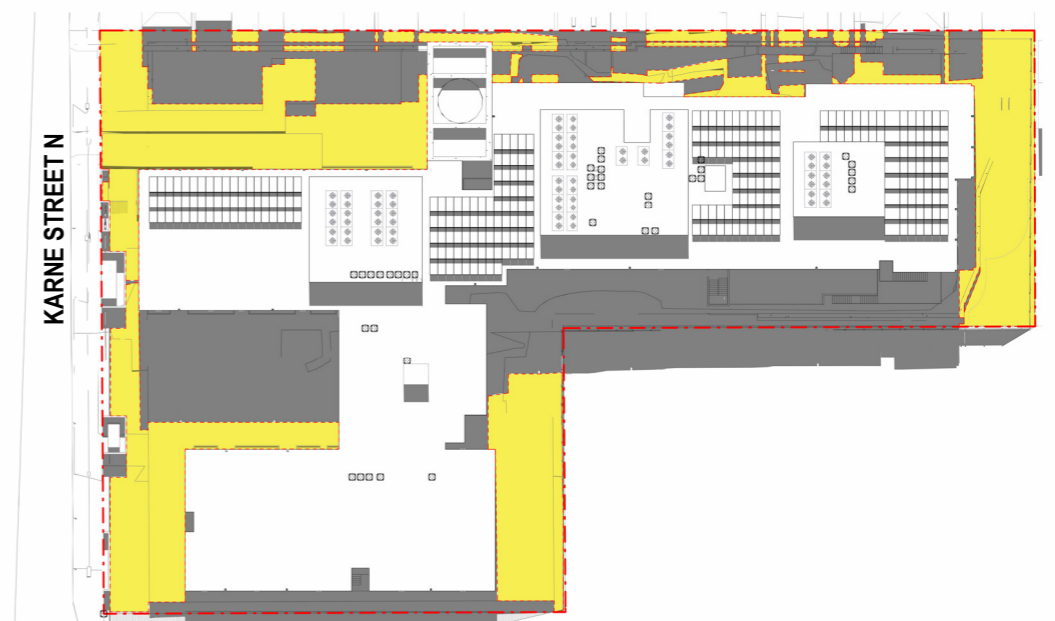
9AM



10AM



11AM



12PM

LEGEND

Cos Receiving Direct Sunlight in Mid-Winter

21st of June

Site Area: 7,159.6 m²

Communal Open Space Area: 1,952 m²

	Area Receiving Direct Sunlight (m ²)	Percentage Against Communal Open Space (%)
9:00 am	780 m ²	40%
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12:00 pm	1648 m ²	84%
1:00 pm	1344 m ²	69%
2:00 pm	1013 m ²	52%
3:00 pm	856 m ²	44%



1PM



2PM



3PM

LEGEND

Cos Receiving Direct Sunlight in Mid-Winter

SYDNEY

Level 7, 80 William Street
East Sydney NSW 2011
Australia

MELBOURNE

Level 4, 152 Elizabeth Street (by appointment only)
Melbourne VIC 3000
Australia

BRISBANE

Level 14, 100 Edward Street
Brisbane QLD 4000
Australia

HO CHI MINH CITY

19th Floor – Havana Tower, 132 Ham Nghi,
Ben Thanh Ward, District 1, Ho Chi Minh City
Vietnam

