
AREAS 1, 2 AND 4 ST LEONARDS SOUTH

4-8 MARSHALL, 1-5 CANBERRA, 2-8 HOLDSWORTH AVE, ST LEONARDS

rothelowman

Brisbane, Melbourne, Sydney, Gold Coast
rothelowman.com.au

© Rothe Lowman Property Pty. Ltd.

Rothe Lowman Property Pty. Ltd. retains all common law, statutory law and other rights including copyright and intellectual property rights in respect of this document. The recipient indemnifies Rothe Lowman Property Pty. Ltd. against all claims resulting from use of this document for any purpose other than its intended use, unauthorised changes or reuse of the document on other projects without the permission of Rothe Lowman Property Pty. Ltd. Under no circumstance shall transfer of this document be deemed a sale or constitute a transfer of the license to use this document.

TABLE OF CONTENTS

1.0	Context & Neighbourhood Character	5	5.05	Access & Levels	41
1.01	Regional	6	5.06	Proposed Tree Strategy	42
1.02	Networks	7	5.07	The Green Spine	46
1.03	Country	8	5.08	WSUD Detail	47
1.04	proposed connection to Country process	9	5.09	Open Space Amenity	49
1.05	connection to Country strategies	10	5.10	Deep Soil	50
1.06	Planning Overlay	11			
1.07	Master Plan Principles	12	6.0	Amenity	51
1.08	Street Views	13	6.01	Solar Access Strategy	53
1.09	Character Sheet	14	6.02	Solar access Winter	54
1.10	Opportunities & Constraints	15	6.03	Solar access Summer	55
1.11	Topography & Hydrology	16	6.04	Residential Amenity	57
1.12	Existing Tree Strategy	17			
1.13	Site Composition	18	7.0	Safety	68
			7.01	Security Line	69
			7.02	Proposed Fencing Strategy	70
2.0	Built form & scale	19			
2.01	Built form Strategy	20			
2.02	Overall Massing strategy	21	8.0	HOUSING DIVERSITY & INTERACTION	76
2.03	Heights	22	8.01	Community Facilities	78
2.04	Open space	23	8.02	Communal Space Areas	82
3.0	Density	24	9.0	Aesthetics	84
3.01	Key development statistics	25	9.01	Three Streets	85
			9.02	Three Characters	86
			9.03	Three Addresses	88
4.0	Sustainability ESD	26	9.04	Three podiums	89
4.01	ESD Principles	27	9.05	Character 1	90
4.02	Passive solar shading	28	9.06	Character 2	91
4.03	Northern Facade	29	9.07	Character 3	92
4.04	Western Facade	30	9.08	Three Towers	94
4.05	ESD Summary	31			
4.06	ESD Solar Radiation Models	32			
4.07	ESD	33	10.0	Benchmarks	95
4.08	ESD	34	10.01	Benchmark 1	96
4.09	ESD	35			
5.0	Landscape	36			
5.01	Masterplan	37	11.0	Appendix 1 - Materials & Finishes	97
5.02	Communal Space Strategy	38			
5.03	Landscape Strategy	39	12.0	Appendix 2 - Development Application Drawings	104
5.04	Zones & Typologies	40			

WE ACKNOWLEDGE THE GADIGAL PEOPLE OF THE EORA NATION AS THE TRADITIONAL CUSTODIANS OF THE COUNTRY ON WHICH WE STAND TODAY AND THE CAMMERAYGAL AS THE TRADITIONAL CUSTODIANS OF THE COUNTRY WHERE THIS PROJECT WILL RESIDE.

WE RECOGNISE THEIR CONTINUING CONNECTION TO THE LAND AND WATERS, AND THANK THEM FOR PROTECTING THIS COASTLINE AND ITS' ECOSYSTEMS SINCE TIME IMMEMORIAL. WE PAY OUR RESPECTS TO ELDERS PAST, PRESENT AND EMERGING AND EXTEND THAT RESPECT TO ALL FIRST NATIONS PEOPLE.

Our design begins with the experience of the individual dwelling, informed by nature and a generous eye for life.

Understanding that synergy here, brings harmony.

An experience of place, begins with an experience of home.

THE VISION

Sydney harbour and its foreshores have been shaped by water, and weather over several millennia. The sunken river valley that results, is characterized by smooth and eroded sandstone rock shelf's running from the waters edge to the ridge lines. Dense tree canopies of bluegum and native forest create a green backdrop to the deep blue of the harbour. These colours and textures epitomize the Sydney idyll.

Our concept builds on the extraordinary landscape character of St Leonards, to amplify these natural aspects, referencing and interpreting them into a contemporary residential development.

The concept results in high-quality living spaces both within and above the landscape. Cascading rock shelves, with planting for verdant ground cover to large trees sets the tone for the generous terrace style dwellings that address the landscape link.

These fluid stone shelves, meander through the podium levels to create a strong visual presence at the ground plane and tonally capture the landscape.

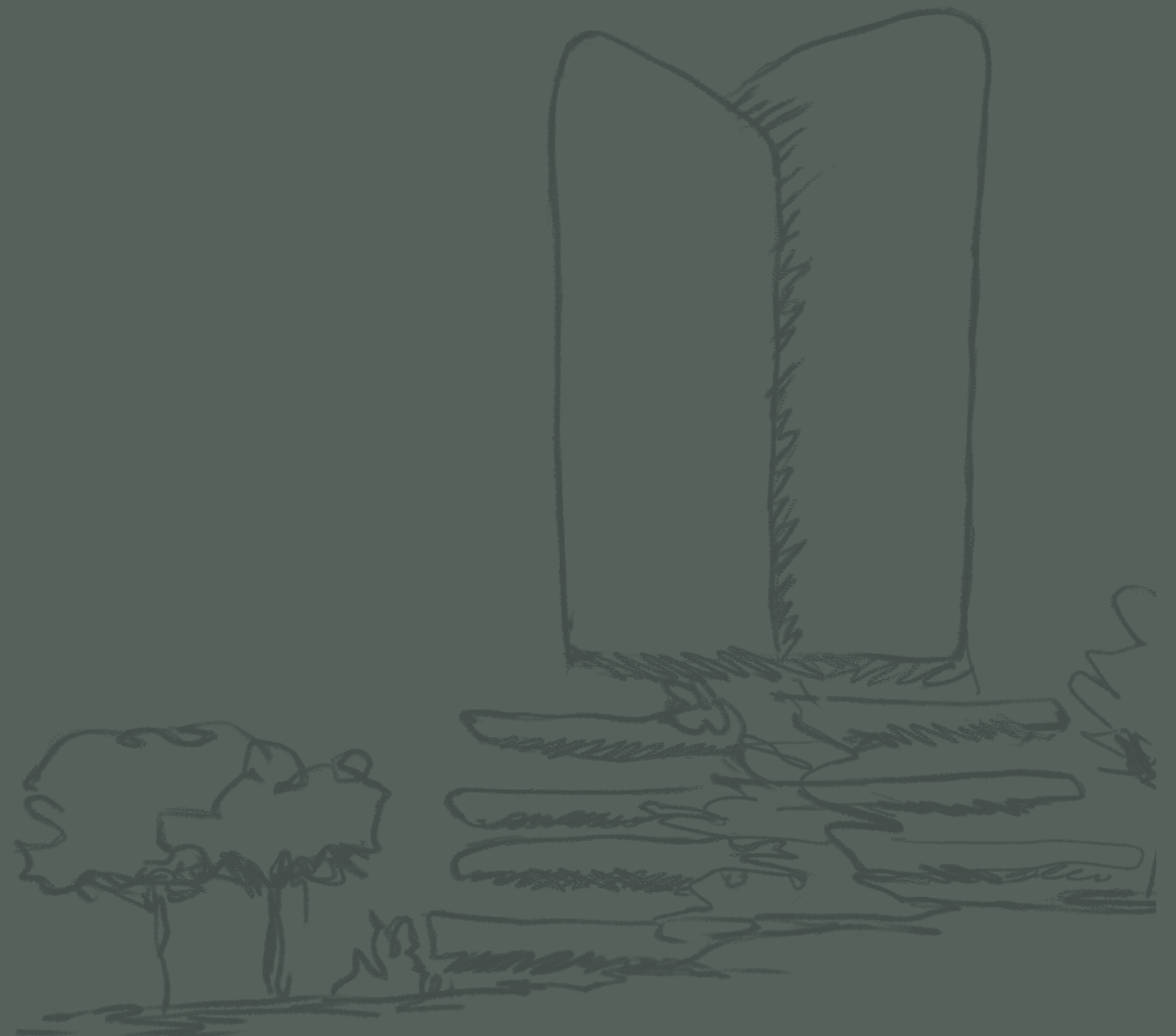
Living in the tree canopy creates a different type of view – a shaped and captured one – where vistas between the trees create an element of surprise in the everyday, revealing distant vistas of the harbour city, framed by the tree canopy.

Above the sandstone shelf, highly sculpted and polished tower forms float in the sky – each one expressing the unique aspect for the apartment contained within, pivoting and rearranging themselves to capture views, whilst visually separate this development from all its neighbours.

The tower façades are smooth, and elegant, with a more polished finish to help reflecting blue skies.

Just as the traditional owners of the Gamaragal land established their gathering places at the junction between the water and land, so too does the elevated communal terrace create a dynamic communal space between the towers and rock shelf's.

St Leonards South will establish a new type of urban community, where living in harmony with the landscape is celebrated.



1.0

1.0	Context & Neighbourhood Character	8
1.01	Regional	9
1.02	Networks	10
1.03	Country	11
1.04	Planning Overlay	12
1.05	Master Plan Principles	13
1.06	Street Views	14
1.07	Character Sheet	15
1.08	Opportunities & Constraints	16
1.09	Topography & Hydrology	17
1.10	Existing Tree Strategy	18
1.11	Site Composition	19

CONTEXT & NEIGHBOURHOOD CHARACTER

1.01 REGIONAL

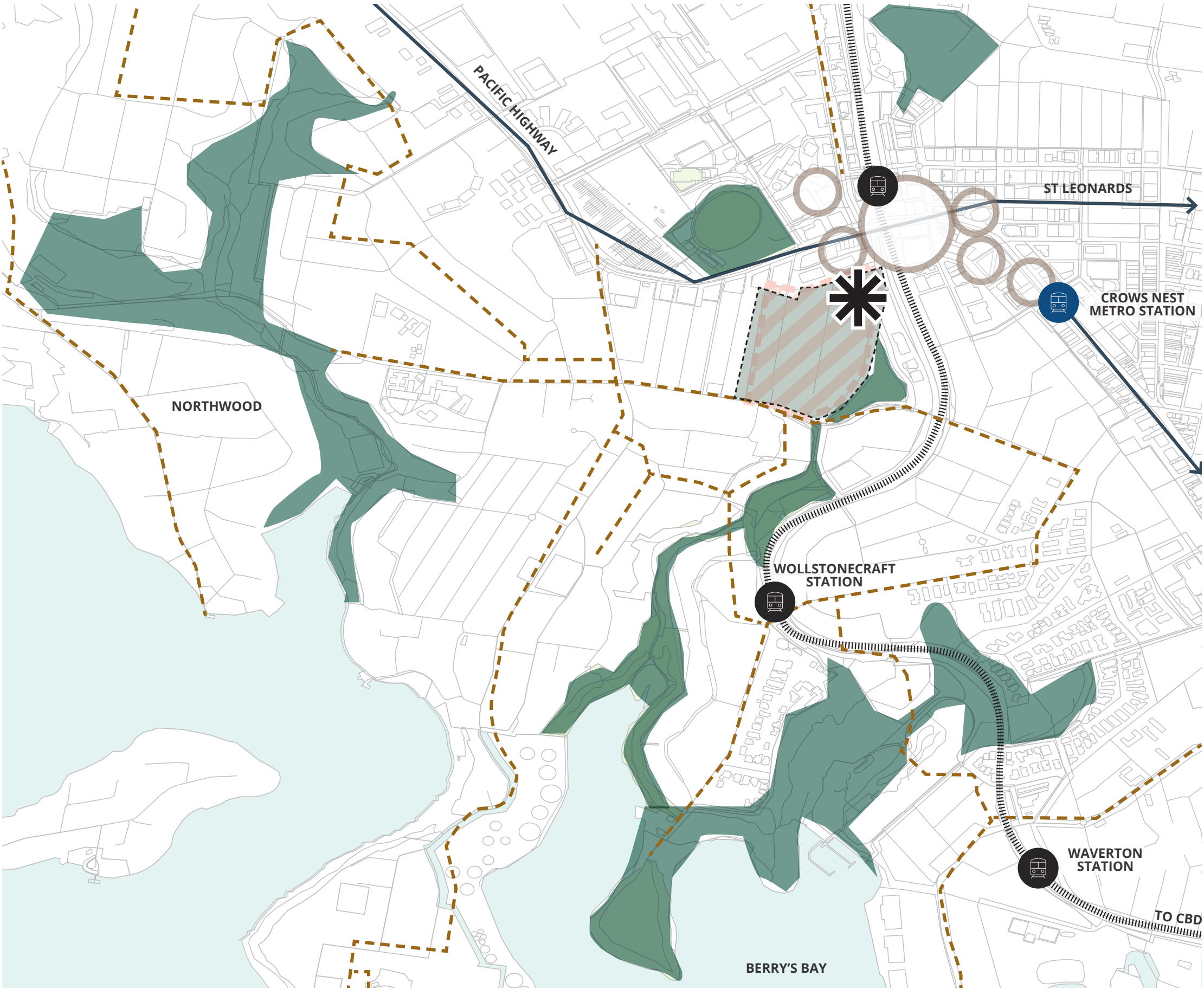
Located in the heart of the Eastern economic corridor and identified as a strategic urban centre by NSW and greater Sydney planning departments, the inner North Shore suburb of St Leonards is undergoing a period of rapid growth and development.

With the town centre undergoing urban renewal and the new Crows Nest Metro station being developed in close proximity to the project site, the site has recently been rezoned from low density residential to higher density as part of St Leonards South precinct.

With the St Leonards Crows Nest 2036 plan identifying a total of over 6,680 new homes to be built in the area, the landscape areas - both private and public - will need to be multifunctional and flexible in order to accommodate the growing community's needs.

Legend

	St Leonards South Precinct
	Site
	Stations
	CBD Core
	Key Development Sites
	Bicycle Connection



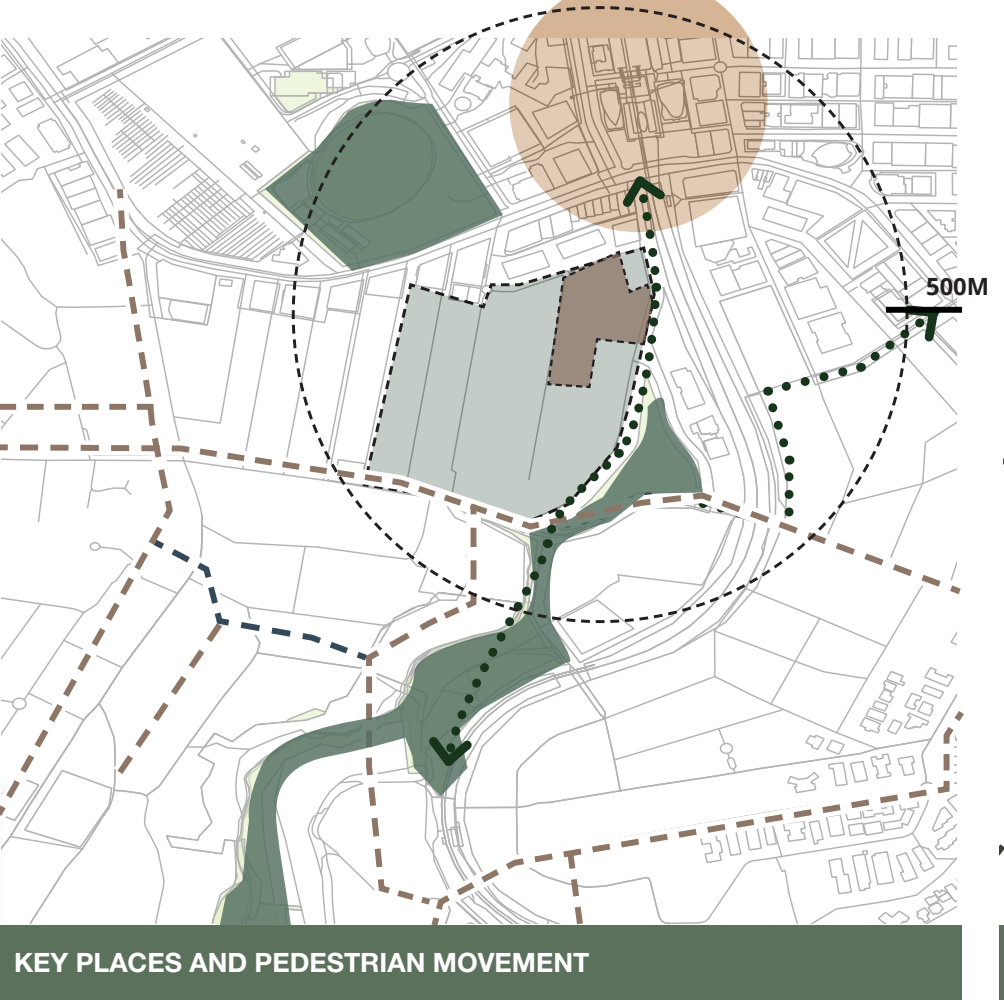
1.02

NETWORKS



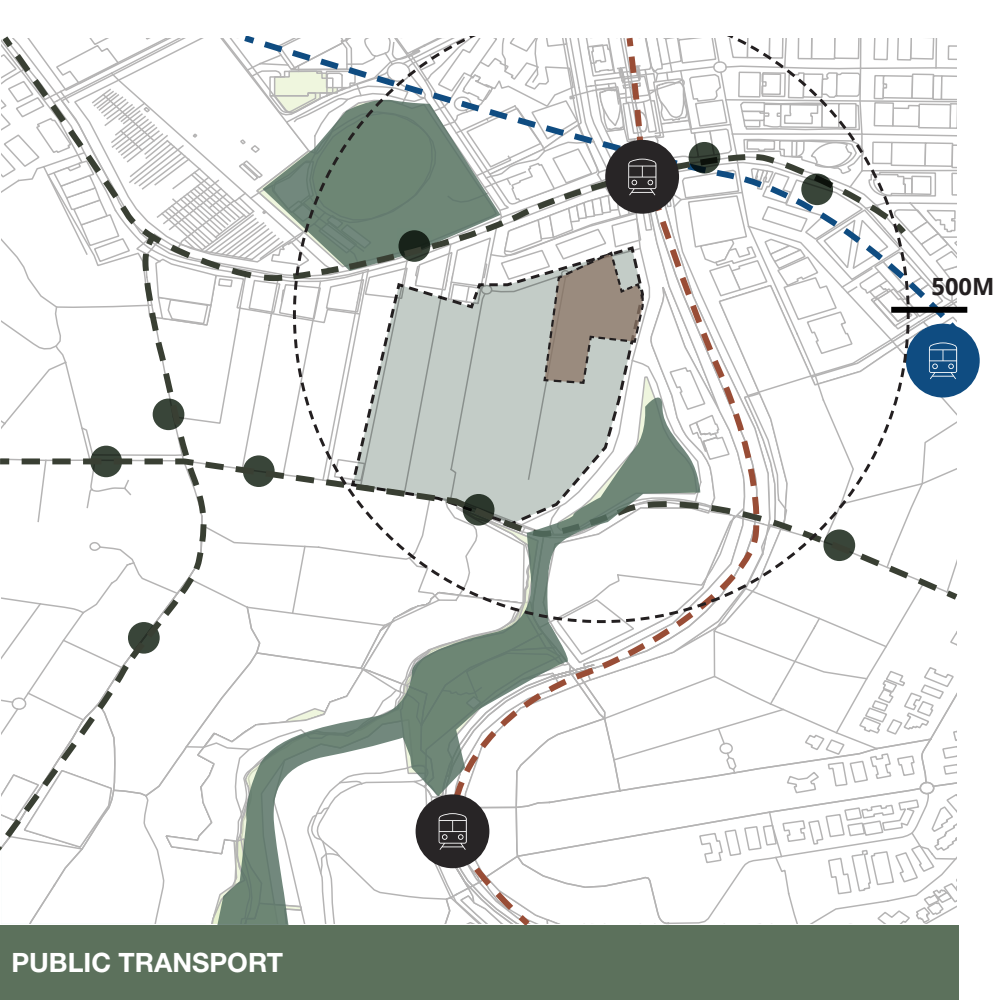
Green open space analysis reveals that the site is found along a key green vein from the ridgetop at St Leonards down to the harbour.

Legend	
	Project site
	Green open space
	Proposed green space
	Proposed green corridors
	Green vein



Movement and key places reveals that the site is located less than 500 metres from the town centre, providing convenient access to shops and employment.

Legend	
	Project site
	St Leonards South Precinct
	Town centre
	Circulation routes
	Bicycle routes



The project site is conveniently located within 5 minutes walk from mass transit stations including rail and the proposed metro station.

Legend	
	Rail and stops
	Metro and stops
	Bus network and stops

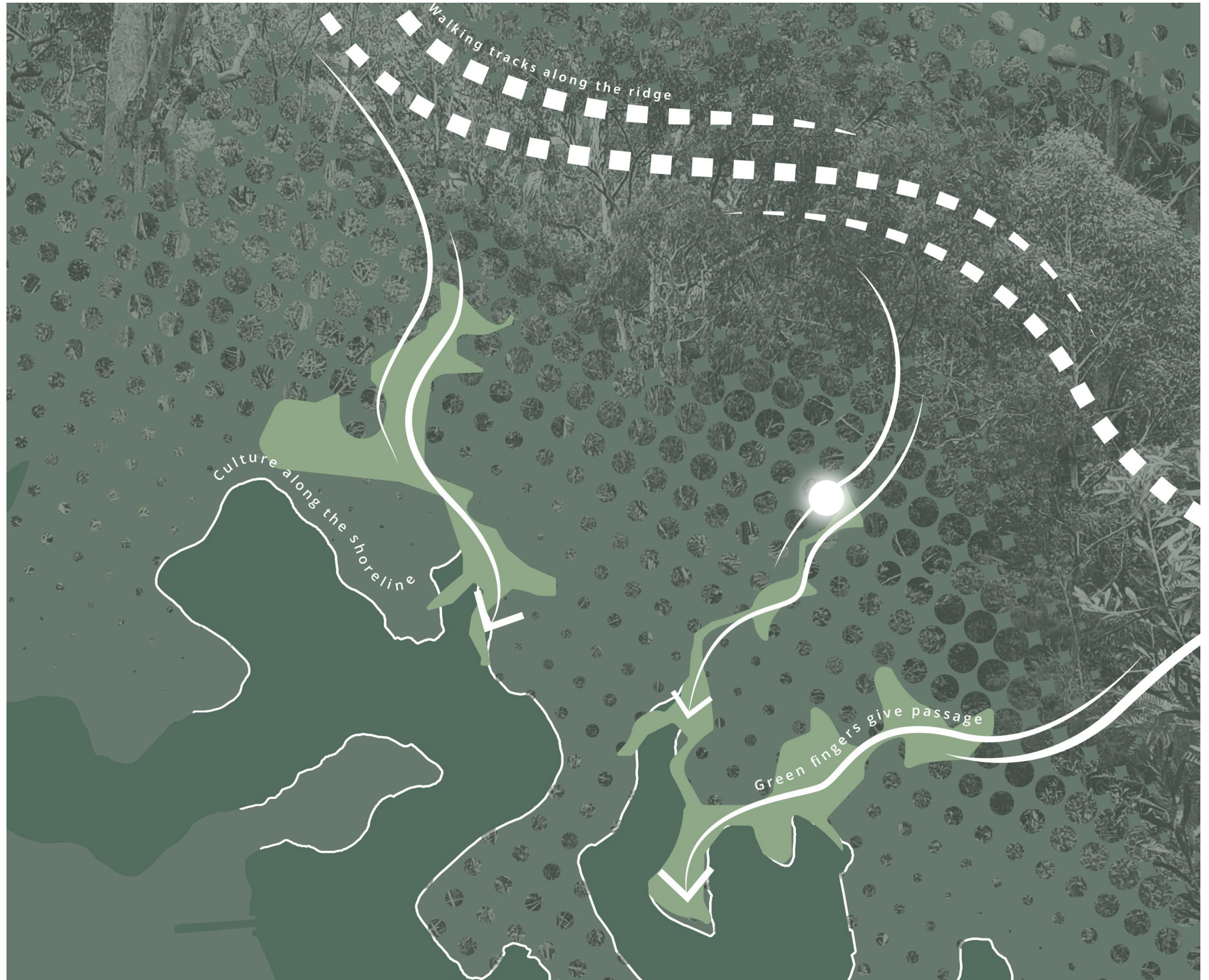
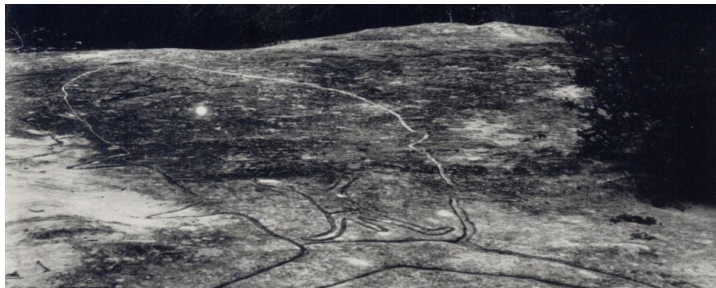
1.03 COUNTRY

As part of the project detail design phase, the consultant team will be party to workshops with a local elder. The landscape design strategy draws from this knowledge.

Worami, you are on Cammeray land, a sacred place along the Burramatta.

The land we now call St Leonards lies within the sacred lands of the Cammeraygal of the Gai-Mariagal Nation. Located along a green vein following a freshwater creek that leads to Sydney Harbour at Berry Island, there are opportunities to connect to dreaming stories and Cammeraygal heritage and culture.

St Leonards falls along an important ride line that was used to traverse country and the act of walking along them allows you to experience the native vegetation communities. There are a series of green corridors that allows for the Cammeray to get to the foreshore to continue culture. The scope of engagement also includes interaction with the Public Art team (UAP) and potential theming / artist selection as the project progresses.

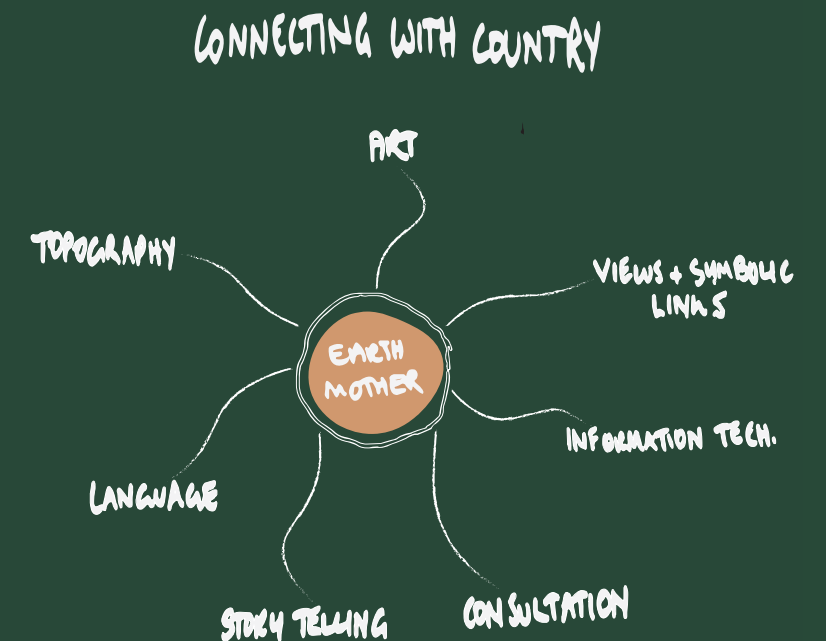
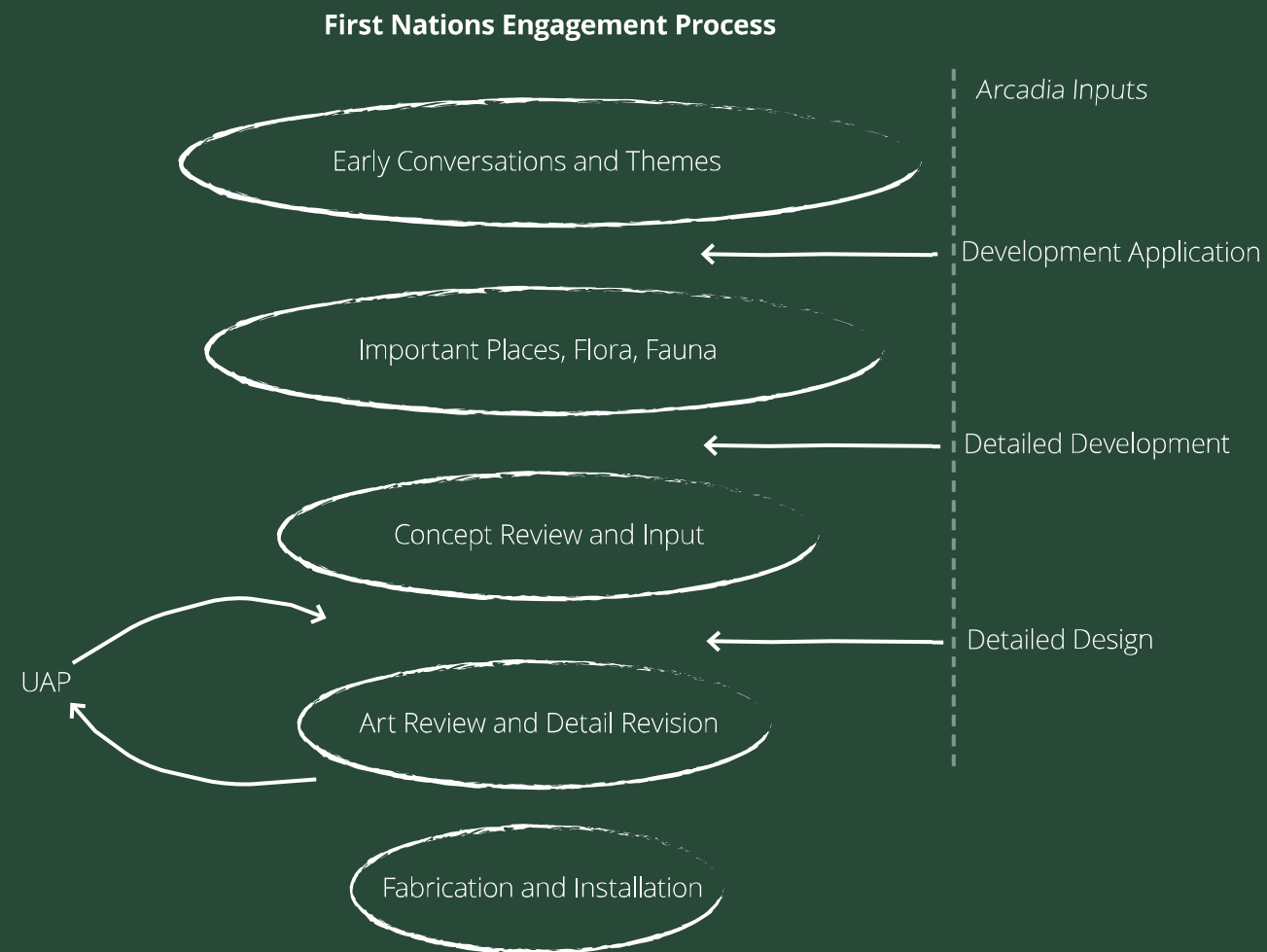


1.04 PROPOSED CONNECTION TO COUNTRY PROCESS

The land we now call St Leonards lies within the sacred lands of the Cammeraygal of the Gai-Mariagal Nation. As such, St Leonards South must cater to and allow for First Nations ongoing engagement and custodianship of site. It is essential that First Nations people have design input through dedicated processes and are provided with spaces that allow for the non-performance practice of culture to share stories, meet and comfortably occupy the site.

Uncle Professor Dennis Foley is a Cammeraygal man and has extensive First Nations knowledge of the St Leonards area, Arcadia has had conversations with Uncle Foley in the design process to date and intend for this dialogue to be ongoing throughout future design stages.

The diagrams aim to provide a possible process for First Nations engagement and design development going forward.



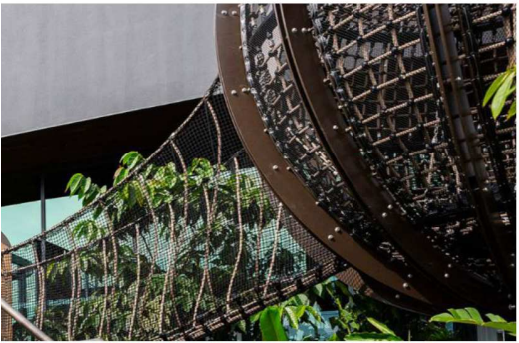
1.05

CONNECTION TO COUNTRY STRATEGIES

Connection to Country strategies will be imbued throughout site in many forms relating to materiality, colour, texture, art, signage and planting.

Key

- A** Furniture provides opportunity for design interpretation on surface faces
- B** Overhead shelter structures provides an opportunity for interpretative design and subtle light play
- C** Sandstone excavated on site may be recycled and used as features amongst planting within the public and private domains
- D** Play structures and elements provide opportunity to creatively interpret Country through colour and textural choices, play forms and levels
- E** The swale allows for overland flows to remain relatively in tact across site as a means of prioritising the natural processes of the land which allows Country to function
- F** There is opportunity to integrate technologies such as QR codes across site as a means of educating users about Cammeraygal Country to form part of an educational site journey
- G** Interpretive ground signage that indicates towards various sites and places of significance in the area

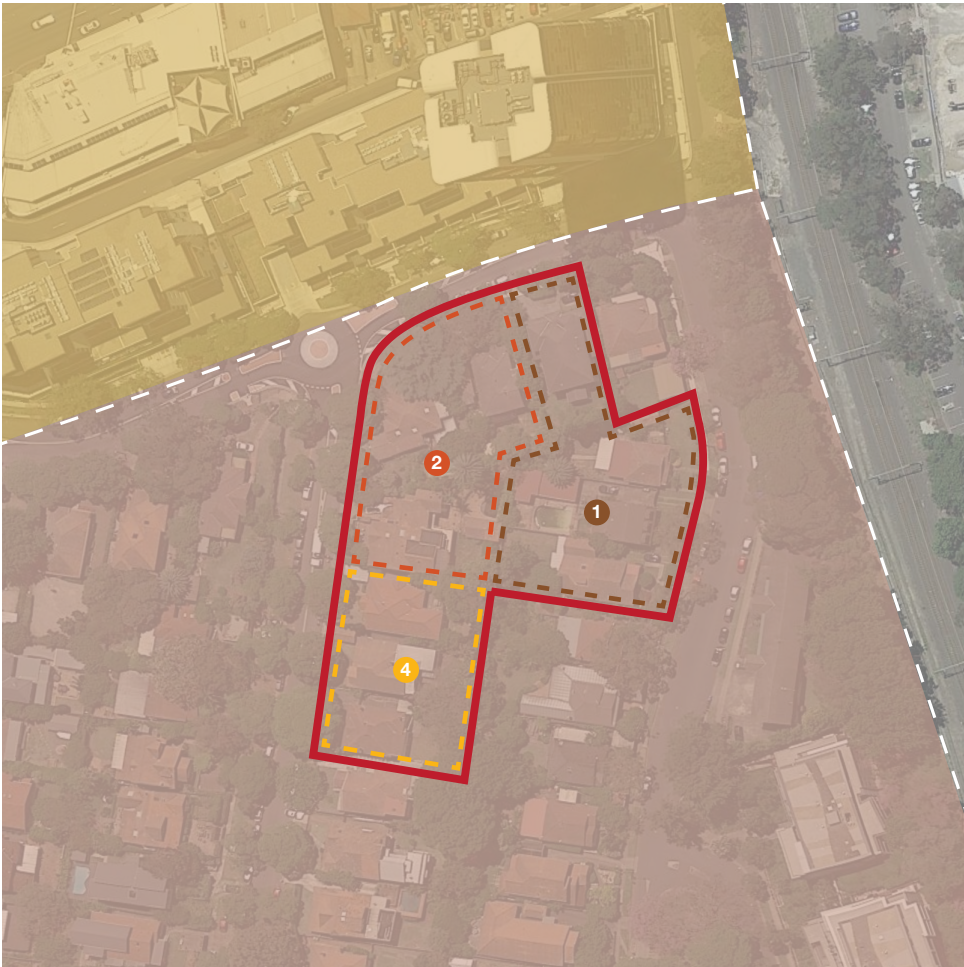


1.06

PLANNING OVERLAY

The subject sites are identified within the St Leonards South Master plan to be consolidated into specific Areas, each with their own determined building envelopes and controls.

2 Marshall Avenue forms part of Area 1, but this site is unable to be consolidated as part of the development.



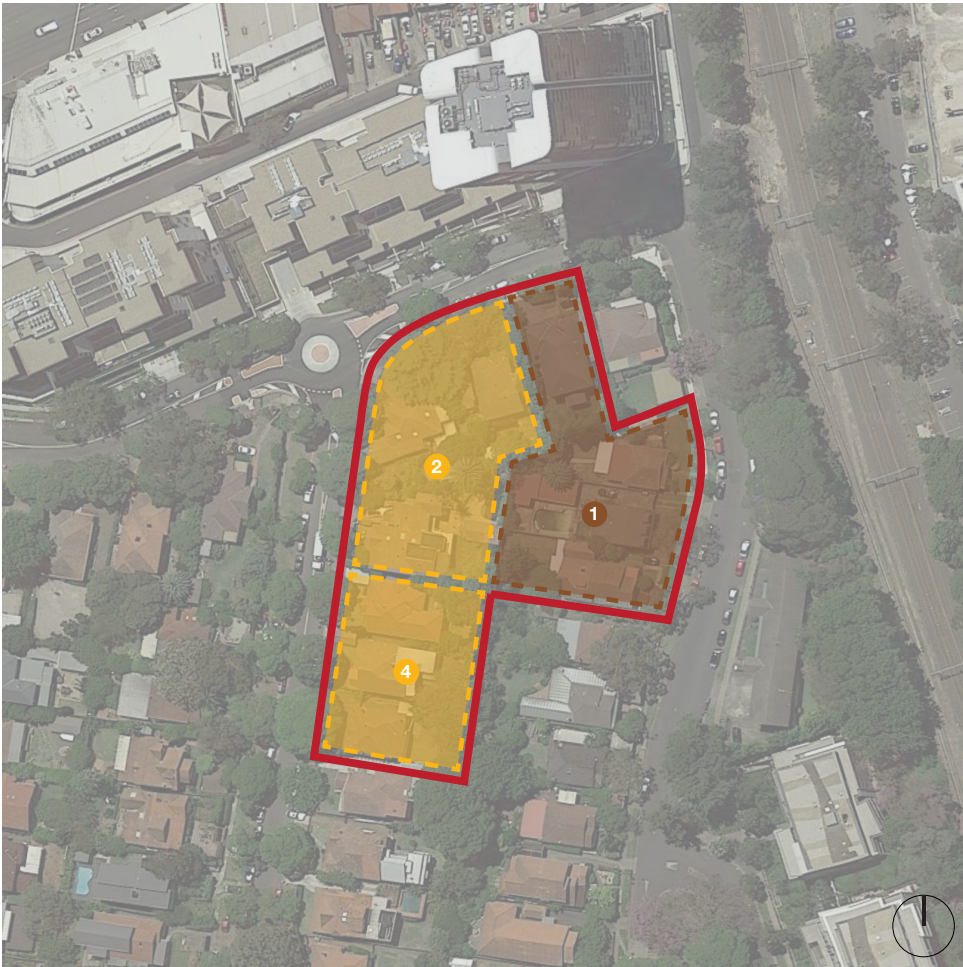
Zoning

■	High Density Residential Zone
■	Mixed Use Zone



Heights

■	65m 19 Storey
■	53m 15 Storey
■	44m 12 Storey



Floor Space Ratio

■	3.85 : 1
■	3.55 : 1

1.07

MASTER PLAN PRINCIPLES

The St Leonards South DCP and landscape master plan sets out the intended redevelopment pattern for the area, inclusive of locations of public open space, through site links and indicative built form.

The subject site incorporates areas 1, 2 and 4.



Landscape and Landforms

	Subject Site
	Road Reserve / Public Domain Tree
	Private Property Tree
	Topography
	Fall
	St Leonards South Landscape Masterplan



Connectivity and Community

	Area 1 (19 storeys)
	Area 2 (15 storeys)
	Area 4 (12 storeys)
	Pedestrian Link
	Green Spine
	Future Plaza / Station Connection



Urban Movement

	Secure Entry Point
	Community Amenity
	Stairs / Ramps
	Public Park
	Green spine
	Possible Canberra Ave Closure

1.08

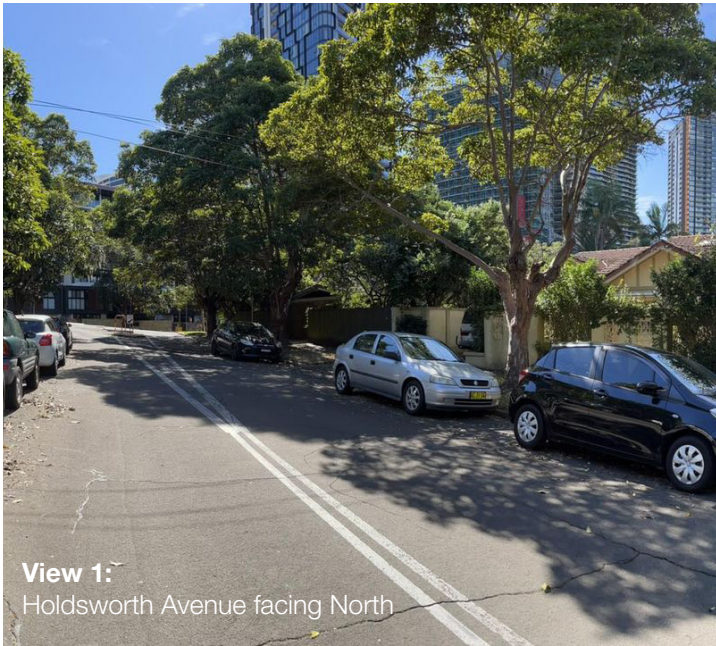
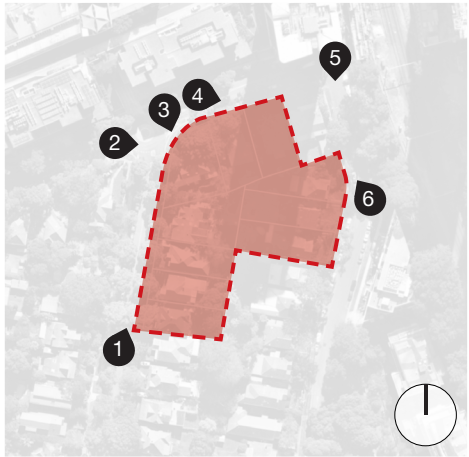
STREET VIEWS

As an area undergoing transition, the existing character of the area is of one and two storey dwelling houses, with relatively shallow front yard setbacks. The land form slopes steeply from North to South, with a relatively dense tree canopy to each street frontage.

To the north the recently completed Embassy apartments form a more urban interface, as that the site transitions from the St Leonards CBD core.

The St Leonards south precinct extends to the south of the site which is ultimately anticipated to redevelop from low to high density residential in line with the council's masterplan for the area.

To the south of the site are further low density residential housing, with similar zoning to the subject site and anticipated to redevelop in line with the St Leonards Landscape Masterplan.



1.09

CHARACTER SHEET

The subject site interfaces with three distinct street frontages. The character of each is determined by the existing built form, varying from low scale domestic architecture, to recent higher density developments. The streets themselves are characterised by three distinct species of trees. Currently, the existing residential street character is under transition to a higher density residential scale as part of the St Leonards Precinct.

Holdsworth Ave Character

The frontage to Holdsworth is dominated by the existing large sandstone retaining wall on the opposite side of the street. This runs for the length of the frontage of the subject site. The existing brushbox (*lophostemon confertus*) street trees cover the street on both sides, creating a strong avenue expression.

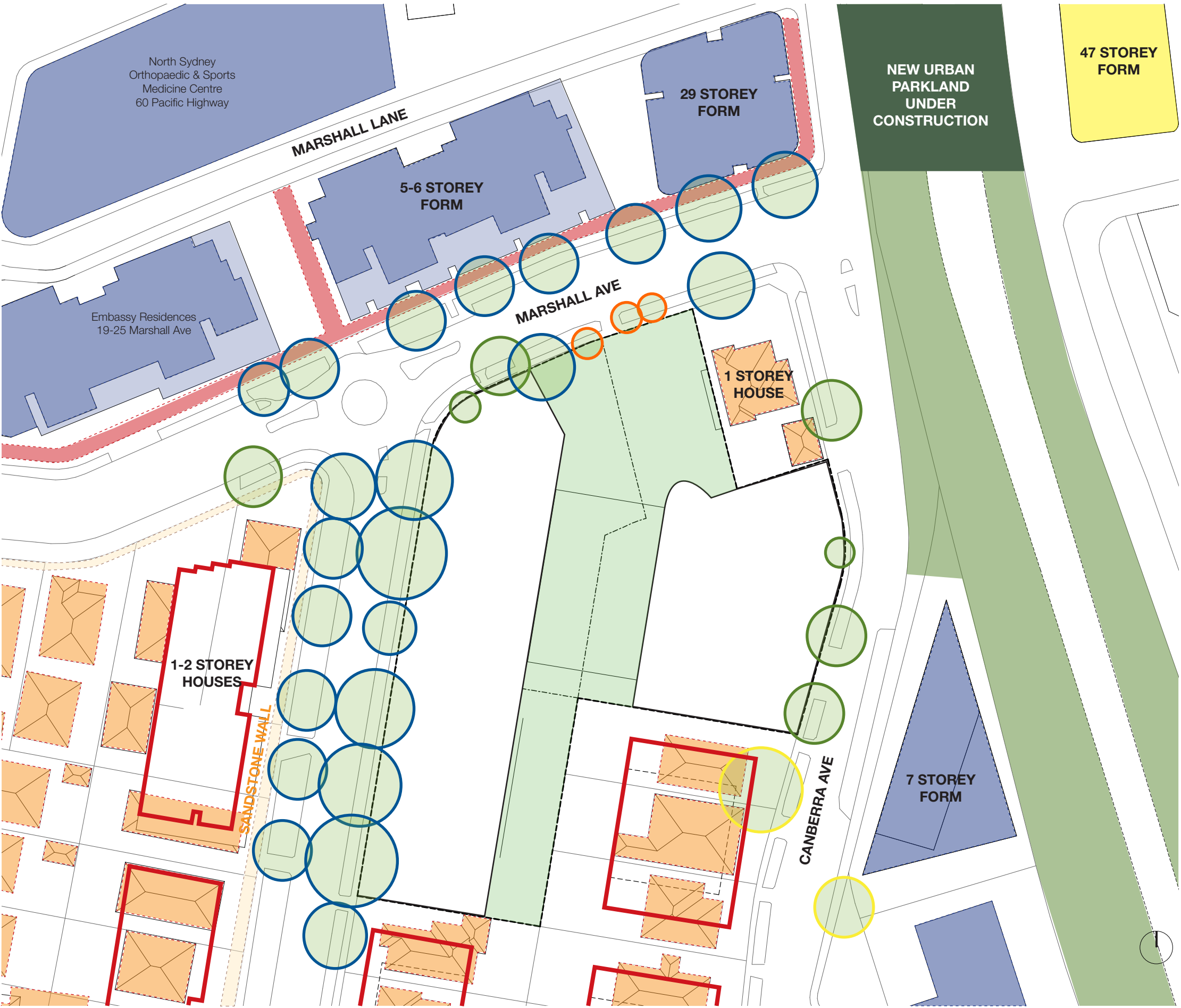
Marshall Ave Character

This street condition is defined by the wider road apron and taller building forms to the West. These have limited setback to the street, with a strongly defined address to the public domain. The water gum (*tristanopsis laurina*) street trees are more limited in scale, and canopy spread with greater daylight to the public footpath.

Canberra Ave Character

This frontage is dominated by the elevated railway line and its densely vegetated embankment. The wallangarra white gum (*eucalyptus scoparia*) street trees here are larger in scale and widely spaced. Towards the east the street character changes again opening up to the public parks beyond.

	Existing Tree - Brushbox
	Existing Tree - Water Gum
	Existing Tree - Wallangarra White Gum
	Existing Tree - Other
	Elevated sandstone wall
	Urban edge streetscape
	Green spine
	Existing high density built form
	Existing housing within renewal area
	Precinct DCP building envelopes



1.10 OPPORTUNITIES & CONSTRAINTS

Whilst the masterplan heavily informs our design response, several key existing site elements have naturally influenced, and created a site specific response. Existing tree species on site have been investigated, and where possible retained, with the sites existing slope, and existing hydrology reviewed for opportunities to integrate into the design outcome.

Opportunities

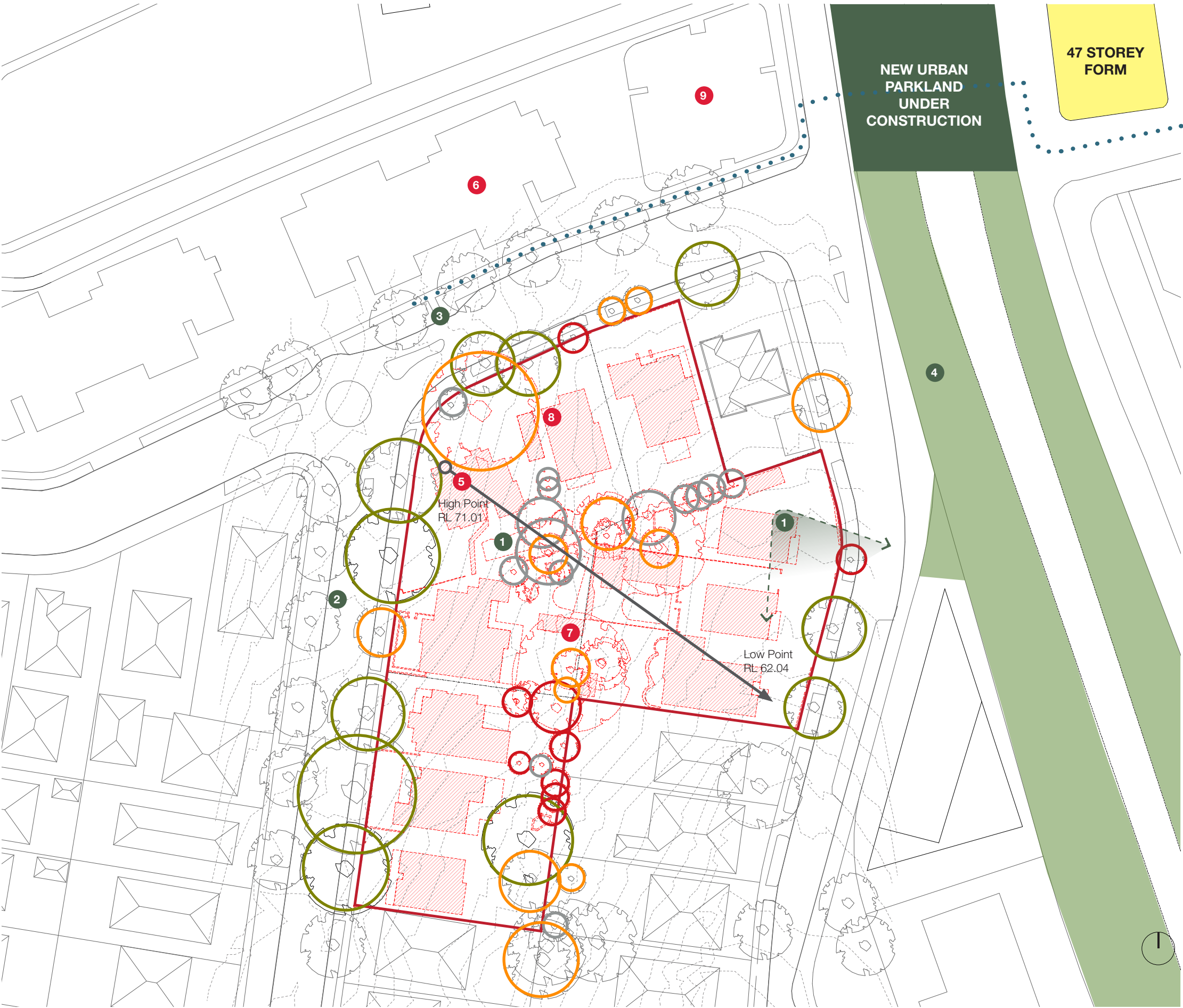
- 1 Opportunity to engage with views Towards Sydney Harbour
- 2 Enhance street frontage to Holdsworth Avenue, Marshall Avenue & Canberra Avenue
- 3 Close proximity to St. Leonards train Station and bus routes
- 4 Retention of significant trees on and around subject site

Constraints

- 5 Steep fall of site from North-West to South East
- 6 Six storey building to North-side of Marshall Avenue
- 7 Adequate sunlight to be provided to green space/open space amenity
- 8 Building height limits to the subject site
- 9 Tall Building directly to North

Legend

- Subject Site
- Existing Tree - Exempt Species
- Existing Tree - Low Importance
- Existing Tree - Medium Importance
- Existing Tree - High Importance
- Pedestrian Link
- Topography



1.11

TOPOGRAPHY & HYDROLOGY

The sites existing topography falls from North-West to South-East, with cross falls of up to 10m from top of site to bottom.






The masterplan determines the position of the central green spine and this area will act as the heavily vegetated zone to slow surface water movement across the site.

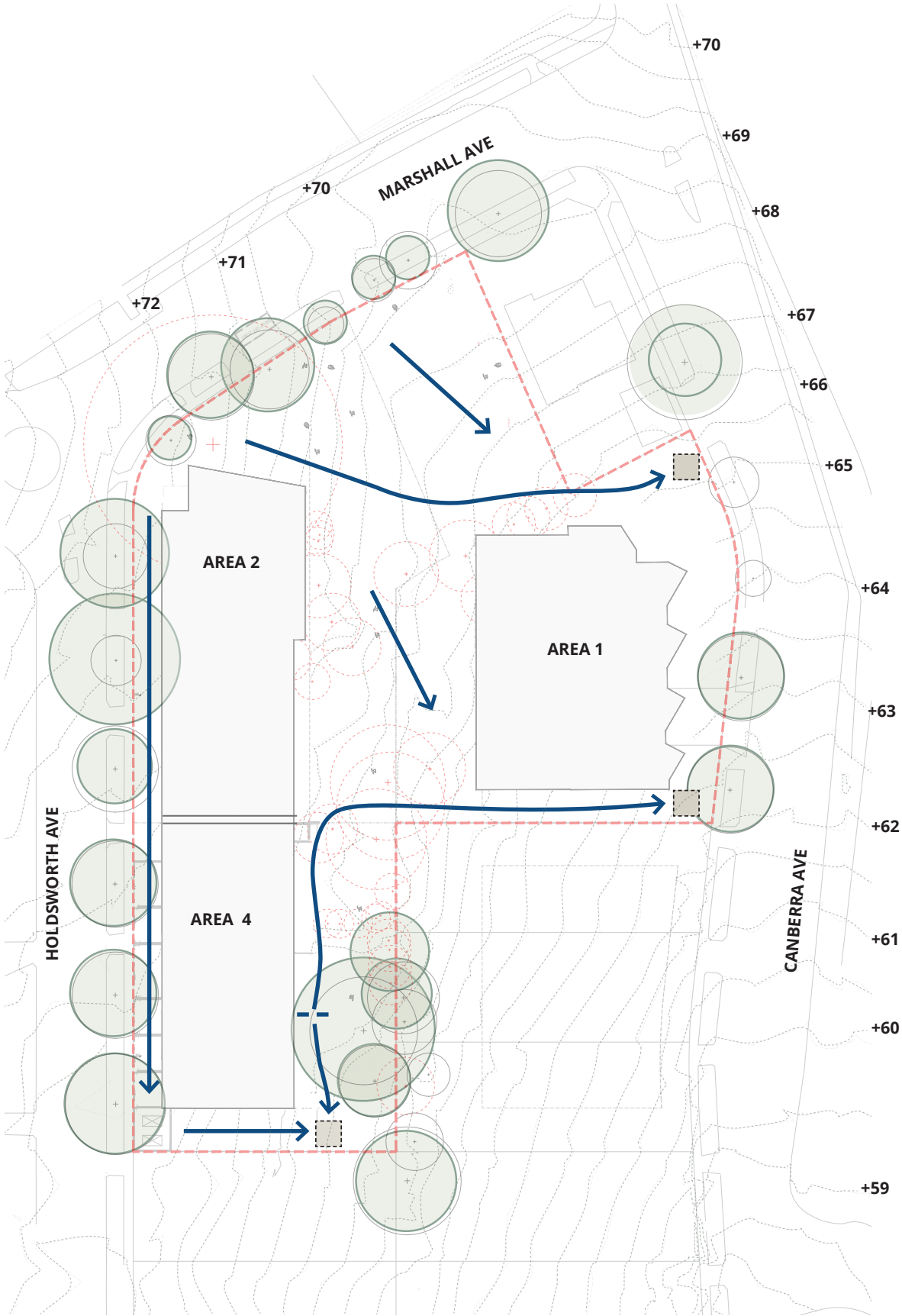
Areas 2 and 4 are located on the high Holdsworth Avenue side of the site, and due to the falls have no ability for their site stormwater to be transferred to the public roads. Water movement paths across the site are channelled through area 1 to the Eastern edges of the site to be channelled to the edges of the site and captured at two key points on Canberra avenue.

The opportunity presented by the landscape terrain of the development is for these hydrological movement pathways to be expressed and visible as a part of the landscape design, such that natural water movements can be an observable event within the development.

This opportunity for residents to connect to the natural conditions on the site is an important part of the overall strategy for connecting with country.

NOTE: Refer to landscape report for further information.

Legend	
	Subject Site
	Trees to be retained
	Trees to be removed
	Topography
	Stormwater flow paths
	Pit location



1.12

EXISTING TREE STRATEGY

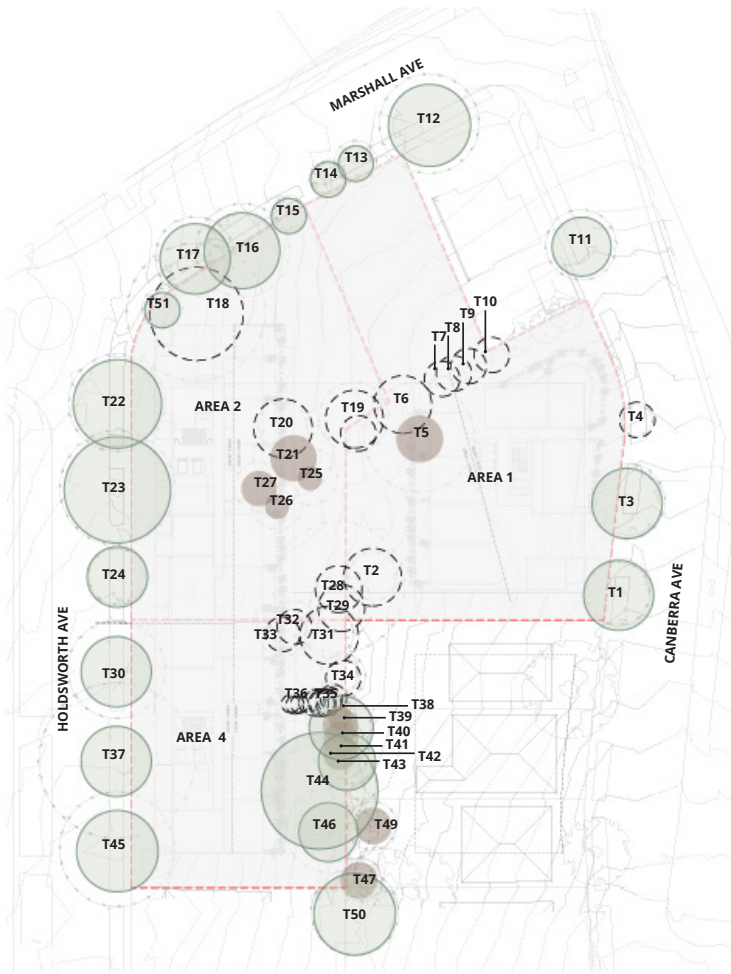
A detailed tree retention and removal strategy has been developed in conjunction with the site arborist, landscape architect and engineering team in order to maximise existing tree retention.

Tree removals have been focused on trees that are exempt species and/or of low significance and only in locations where improvements to the public domain can be created through their removal such as the consolidation of carparking entrances requiring a connection across the green spine, and the boundary tree removals to enable the effective management of stormwater flows across the site in particular the South Eastern corner.

NOTE: Refer to landscape report for further information.



Legend	
	Tree Protection Zones
	High Significance Tree
	Medium Significance Tree
	Low Significance Tree



Legend	
	Trees to be retained
	Trees to be removed
	Trees potential for transplant

1.13

SITE COMPOSITION






The subject sites are identified within the St Leonards South Masterplan to be consolidated into areas 1, 2 and 4, each with determined building envelopes and controls.

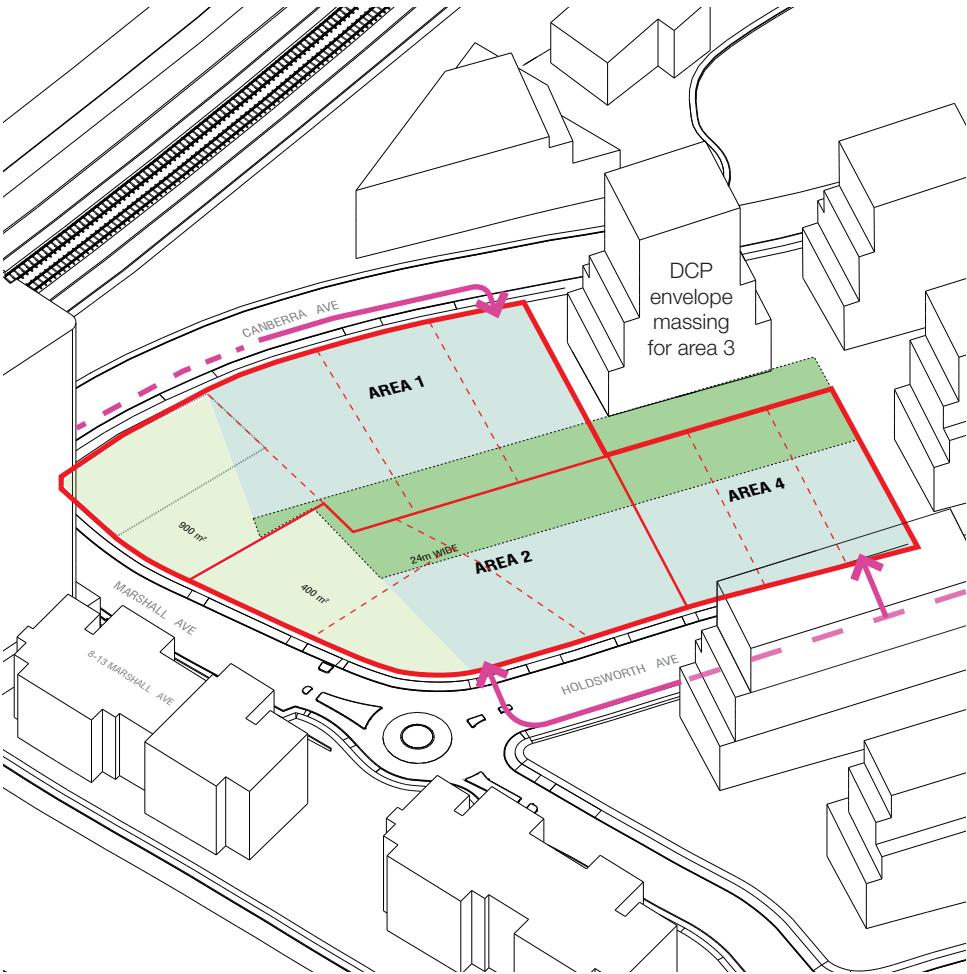
2 Marshall Avenue forms part of Area 1, but this site is unable to be consolidated as part of the development.

The Masterplan nominates 3 key conditions, with two public open spaces to be dedicated at the northern end of the precinct, and a 24m wide green spine connecting the three areas, and the remaining area available for building footprints.

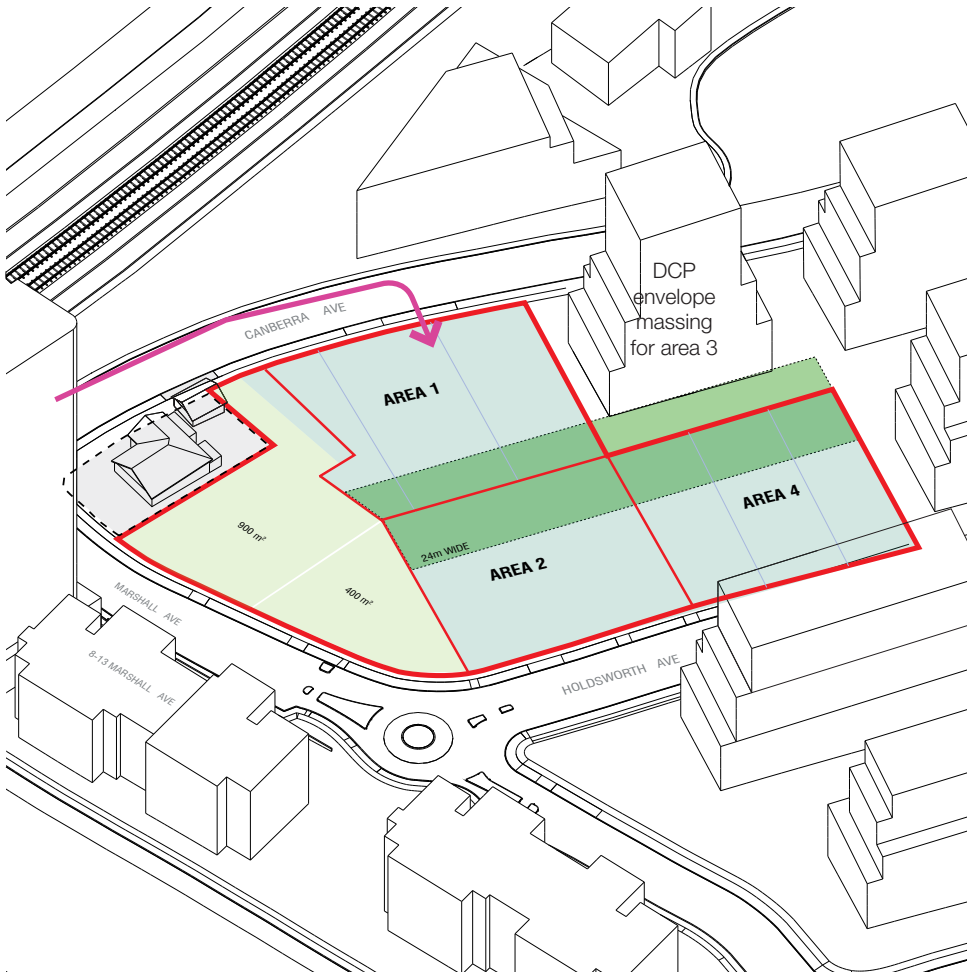
The 3 sites consolidation enables the removal of vehicular crossovers on Holdsworth avenue, enhancing its dense tree lined character.

Legend

	Subject Site
	Site Divisions
	Public Open Space
	Green Spine
	Vehicular Access



DCP & LMP
Original masterplan



Site Proposal
Reconfiguration whilst maintaining core elements

2.0

2.0	Built Form & Scale	20
2.01	Built form Strategy	21
2.02	Overall Massing strategy	22
2.03	Heights	23
2.04	Open space	24

BUILT FORM & SCALE

2.01

BUILT FORM STRATEGY



DCP Masterplan Vision

The masterplan establishes a hierarchy of linear landscaped spaces that follow the established subdivision pattern. The ridge line down to the water. Existing planting in the street and rear gardens is to be capitalised upon through the creation of a “Green Spine”.

Enhancing the communal

To visually connect the linear landscapes, the lower levels of the buildings are opened up to create lines of sight across the precinct.

Elevated gardens are created on roof tops to seek vistas to the harbour beyond.

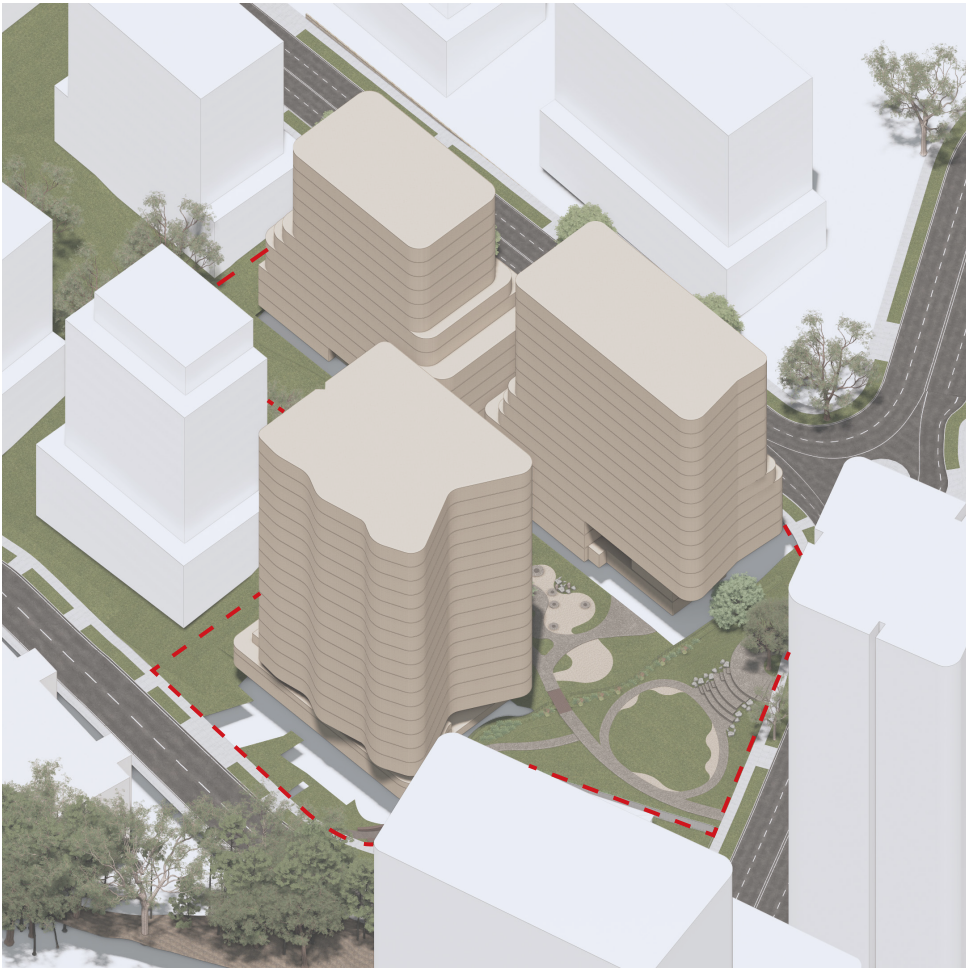
Embracing the green context

Under the protection of the towers above, vertical gardens, and outdoor spaces are created that overlook the tree canopy and visually extend the landscape spaces across each tower.

2.02

OVERALL MASSING STRATEGY

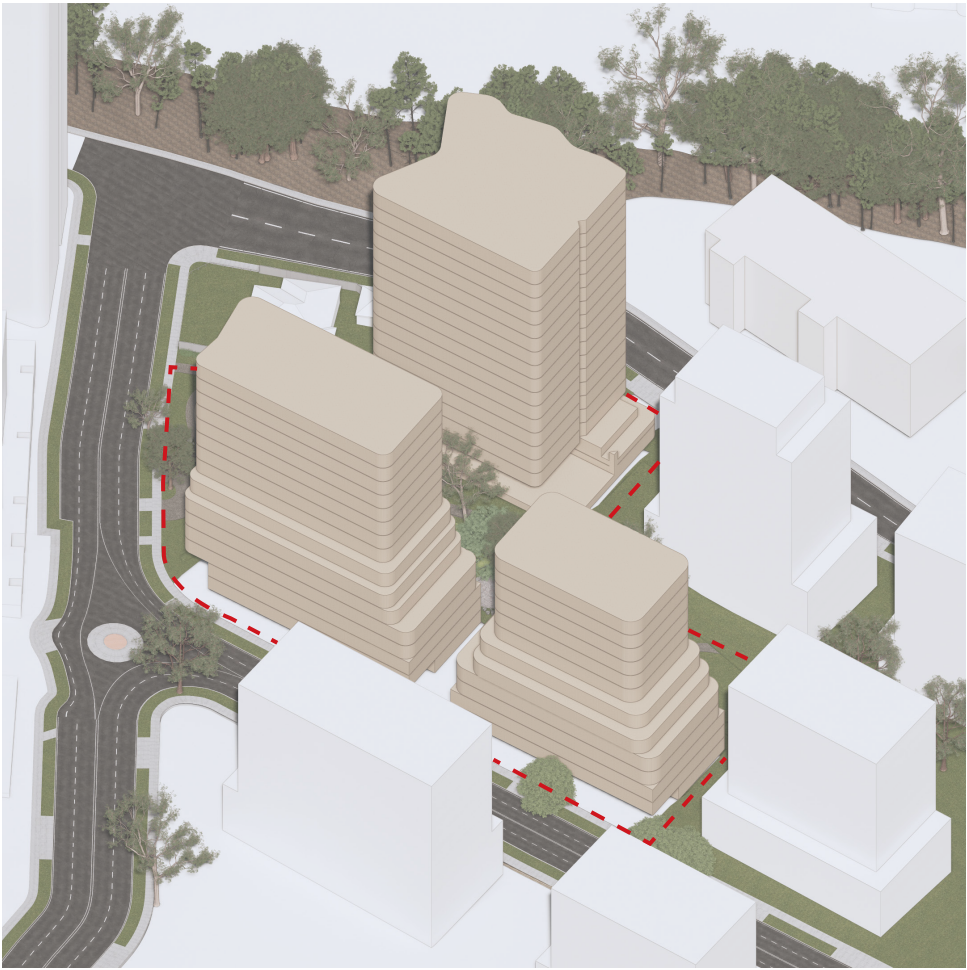
The composition of the design proposal seeks to draw from the existing masterplan intent of individual building forms sitting within a densely landscaped context. The overview below shows each building being shaped and formed by the surrounding context, aspect for views, and access to natural light.



Overview 1
North-East Axonometric



Overview 2
South-West Axonometric



Overview 3
North-East Axonometric

2.03 HEIGHTS

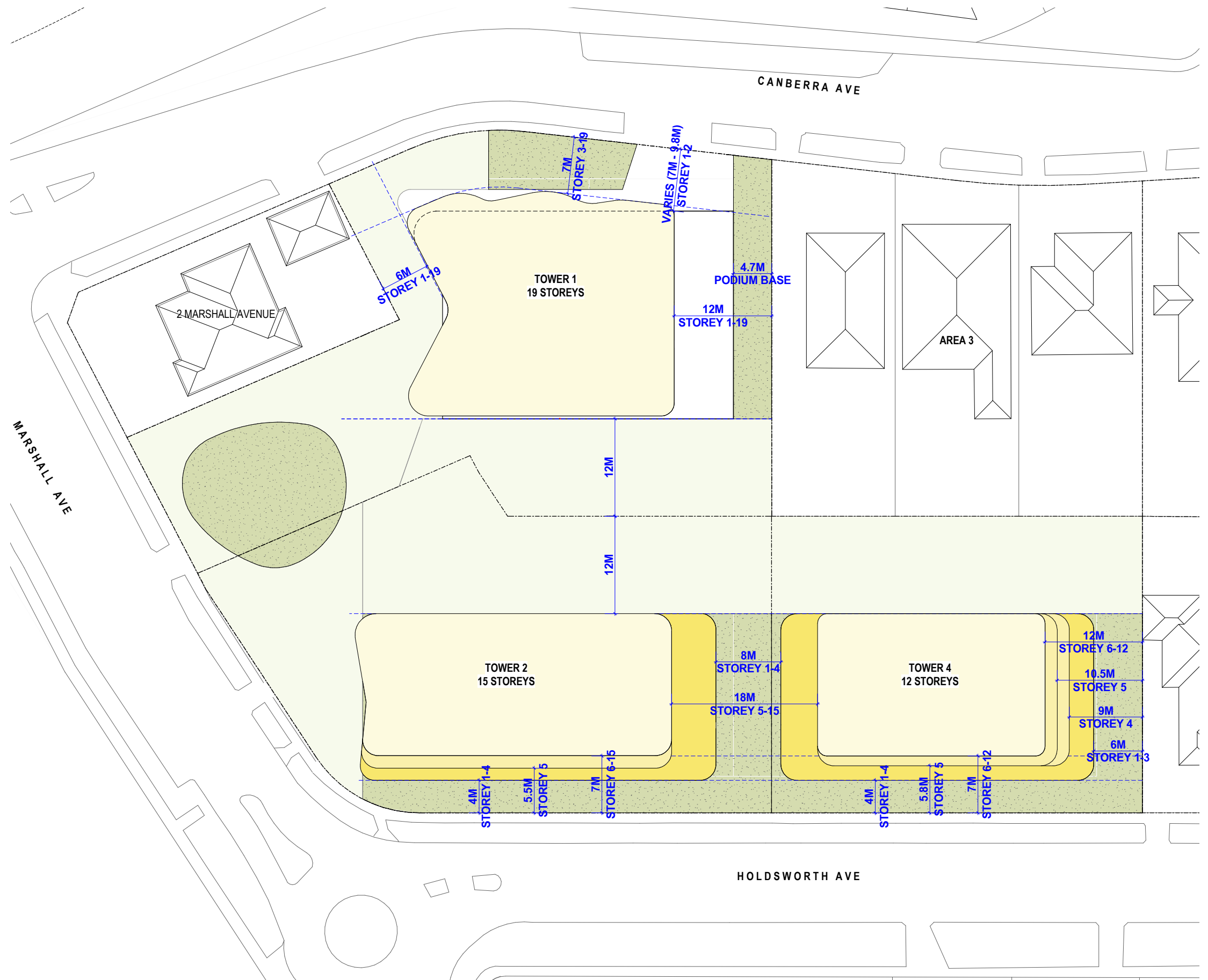
The built form and heights have been developed and iterated in response to feedback from council, Design excellence panel and the St Leonards South Masterplan.

The design proposes subtle variation to the DCP envelopes in order to maximise opportunities for solar access to apartments and open spaces through verigation of the street façades of each building.

The proposed scheme sits within the DCP envelope controls of the street wall controls with lower podium heights proposed on each tower to provide a more responsive residential character creating neighbourhood scale.

Side boundary setbacks to adjacent sites are at or greater than a habitable to habitable setback required under the ADG

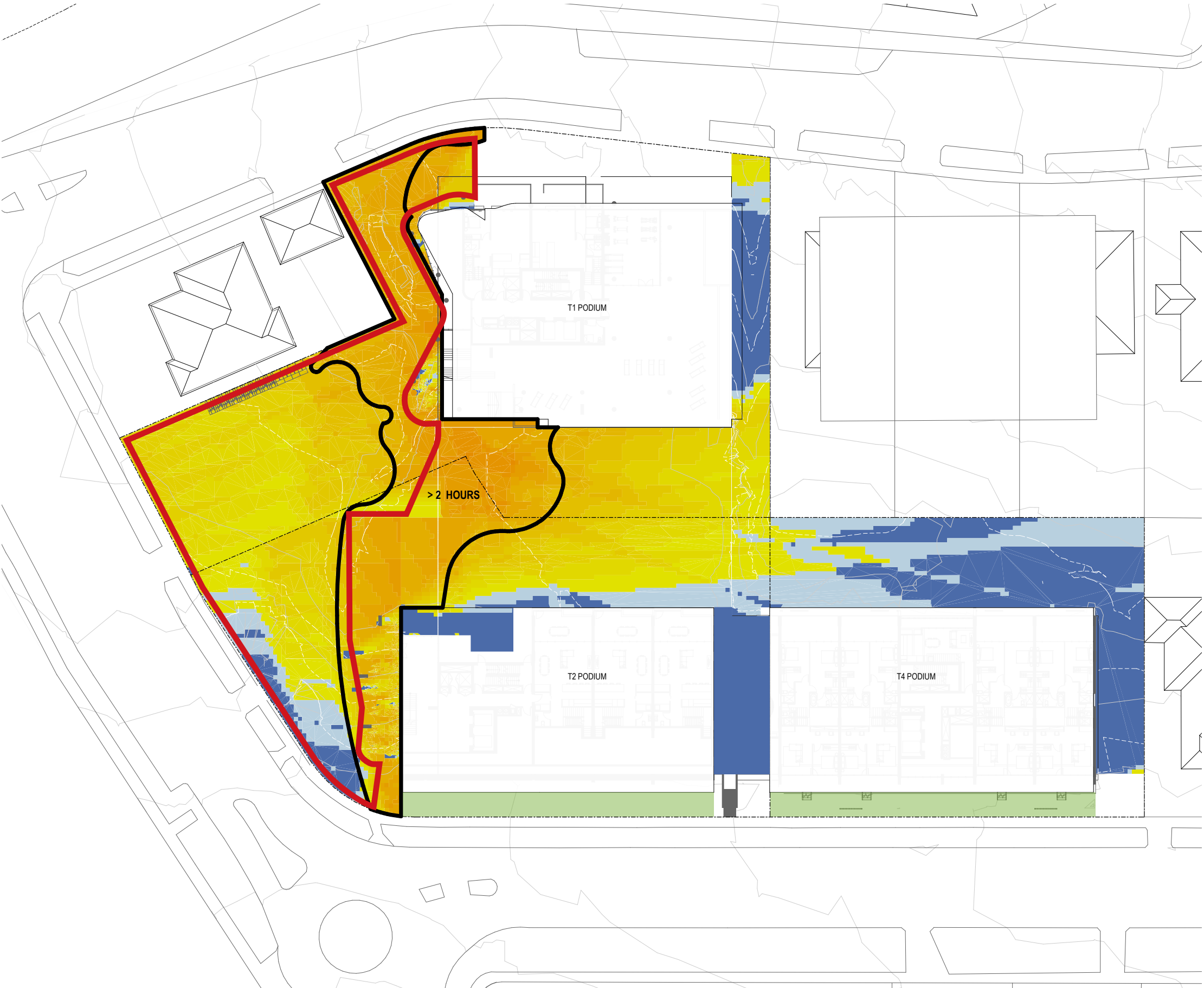
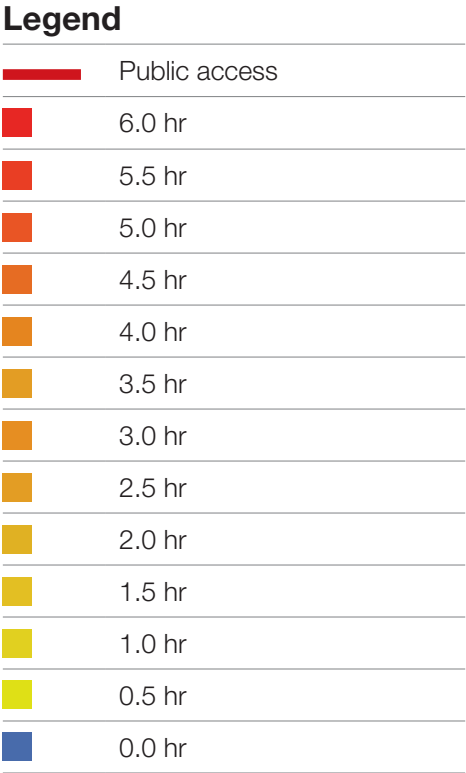
Internal separation between Tower 2 and Tower 4 meets the requirements of a habitable to non-habitable separation, with apartment layouts and orientation of windows enabling this configuration.



2.04 OPEN SPACE

The position and location of the key open spaces both public and private on the site, were defined predominantly by the Landscape Masterplan, and the Development Control Plan.

Detailed analysis of the solar access to these zones was carried out to ascertain access to daylight during the winter equinox, and appropriate zoning and uses of each area.



3.0

3.0	Density	25
3.01	Key development statistics	26

DENSITY

3.01

KEY DEVELOPMENT STATISTICS

TOWER 1

- SITE AREA = 2736.5 M²
- 3.85:1 FSR CONTROL
- 10535.5 M² GFA
- 100 TOTAL UNITS INC. 14 AFFORDABLES
- 19 STOREYS

TOWER 2

- SITE AREA = 2320.5 M²
- 3.55:1 FSR CONTROL
- 8525.8 M² GFA (PROPOSED FSR 3.7:1)
- 79 TOTAL UNITS INC. 7 AFFORDABLES
- 15 STOREYS

TOWER 4

- SITE AREA = 1670.5 M²
- 3.55:1 FSR CONTROL
- 5642.3 M² GFA (PROPOSED FSR 3.37:1)
- 53 TOTAL UNITS INC. 7 AFFORDABLES
- 12 STOREYS

SEPP 65 COMPLIANCE

- 64% SOLAR
- 68.5% CROSS VENT

PARKING PROVISIONS

- 308 TOTAL CAR SPACES
- 3 REMOVALIST CAR SPACES
- 6 CAR WASH SPACES
- 23 MOTORBIKE SPACES
- 82 BICYCLE SPACES

DEEP SOIL PROVISIONS

- OVERALL DEEP SOIL: 25% of SITE AREA (less Pocket Park Area)
- GREEN SPINE DEEP SOIL: 50% of GREEN SPINE

LANDSCAPE AREA PROVISIONS

- PUBLIC OPEN SPACE (POCKET PARK): 1300 M²
- GREEN SPINE: 1680 M²
- PLANTED ZONE: 840 M²

COMMUNAL OPEN SPACE PROVISIONS

- 3403.3 M²

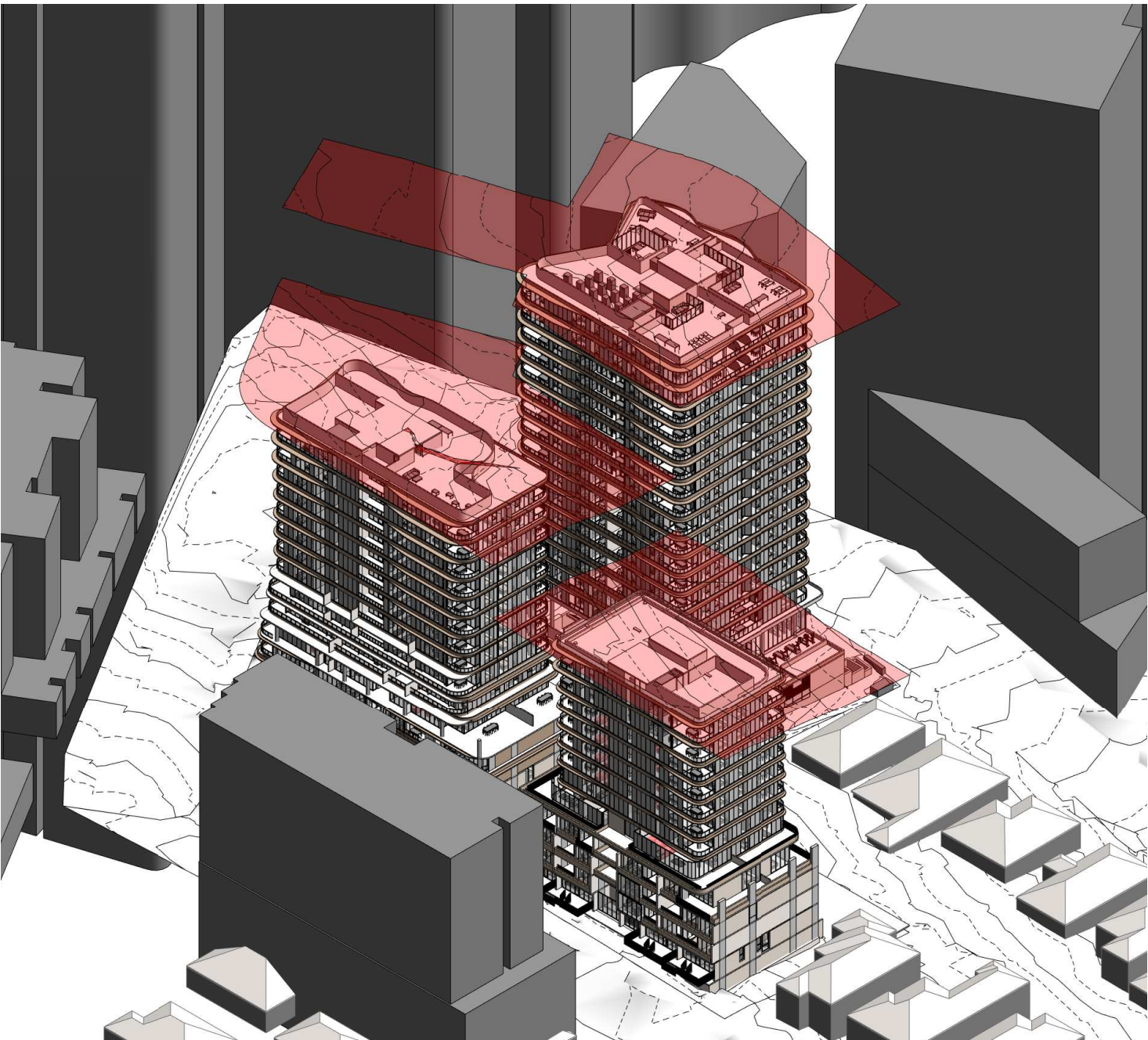
The development has been designed to provide strict compliance with the overall building height planes for each Area.

Similarly, the requirements of the DCP Storey height controls above existing ground level are being met with:

Tower 1 - 19 Stories

Tower 2 - 15 Stories

Tower 4 - 12 Stories



4.0

4.0	Sustainability ESD	27
4.01	ESD Principles	28
4.02	Passive Solar Shading	29
4.03	Northern Facade	30
4.04	Western Facade	31
4.05	ESD Summary	32
4.06	ESD Solar Radiation Models	33
4.07	ESD	34
4.08	ESD	35
4.09	ESD	36
4.10	ESD	37

SUSTAINABILITY ESD

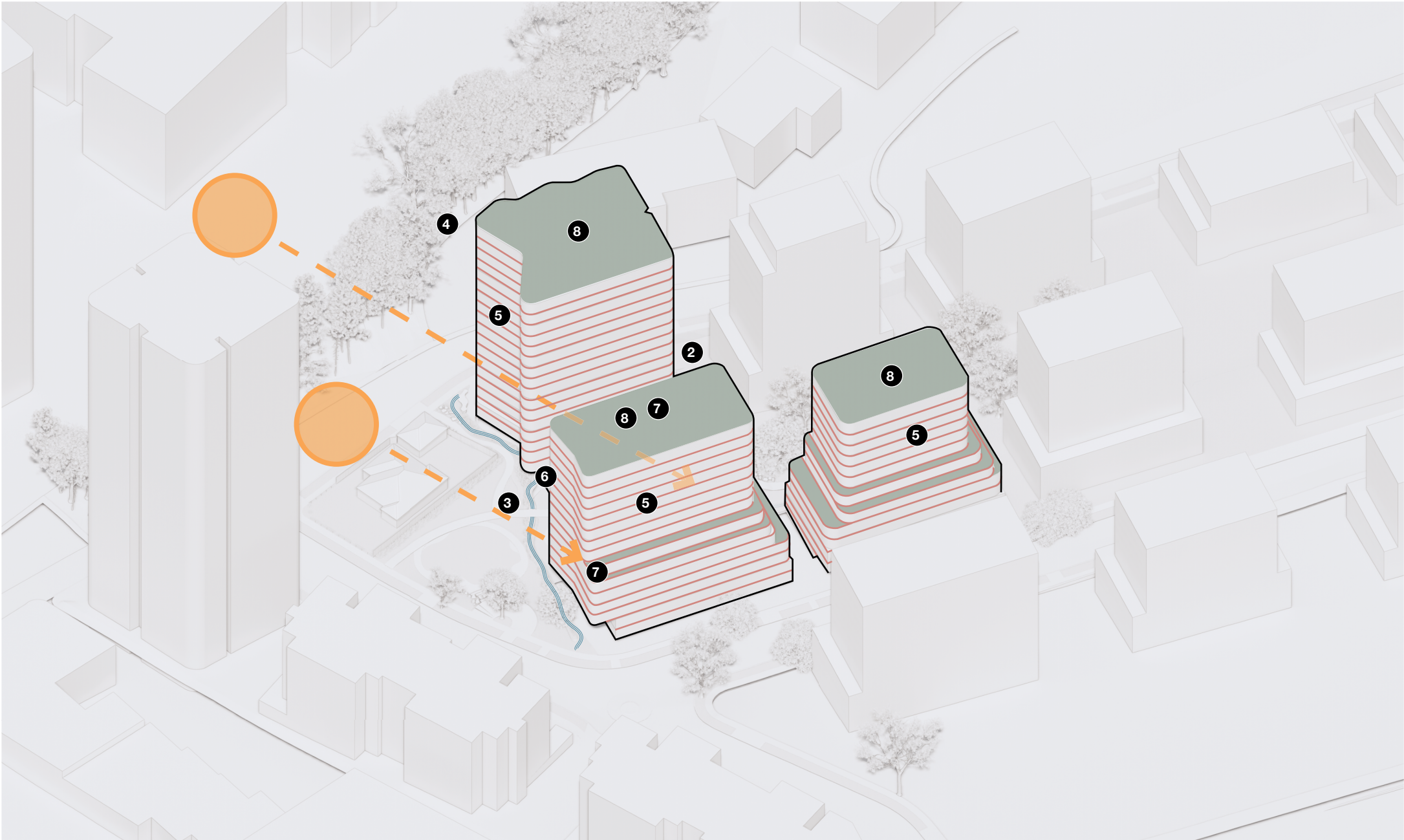
4.01

ESD PRINCIPLES

Significant sustainability measures are being incorporated into the project as part of a large masterplan strategy. These measures are described in detail in the accompanying ESD report. Key measures are as annotated below:

ACTIVE COMMITMENTS

1	Power supply – Origin renewable
2	EV charging infrastructure in basement
3	WSUD in green spine
4	NatHERS 4.5 star required for BASIX and 6 Star under design excellence for DCP performance achieved through high performance façade design including DGU throughout
5	Architectural shading and facade strategy to minimise heat load.
6	Year round communal spaces with solar access through diverse locations and arrangements.
7	Amplified site landscaping strategy to increase green cover on development. Approx 55% of the subject site will be green scape due to large public, private and elevated landscaping
8	Photovoltaic panels to all rooftop spaces



4.02

PASSIVE SOLAR SHADING

The masterplan for the site creates a series of podiums with towers above across the precinct. Lower level dwellings within each of the buildings are typically protected from the heat of summer sun through existing street trees, or existing and future dense development in the neighbouring sites.

The requirement therefore was to create a design language for the external expression of each of the towers that would create the maximum opportunity for internal amenity of each apartment.

A deep projecting sun shade has been sculpted across the face of each of the towers that projects to its maximum extent on the most exposed corners, and tapers back in to be flush with the external wall where it is not required.

These zones where the wall becomes flush, enable the facade solidity to increase whereby the external glass area is reduced to improve thermal performance of the building.

The orientation is therefore critical to the way the facade appears, with south facing façades being more smooth edged, to west and northern orientations provided with deep shade projections, or increased building solidity for protection from the western sun.

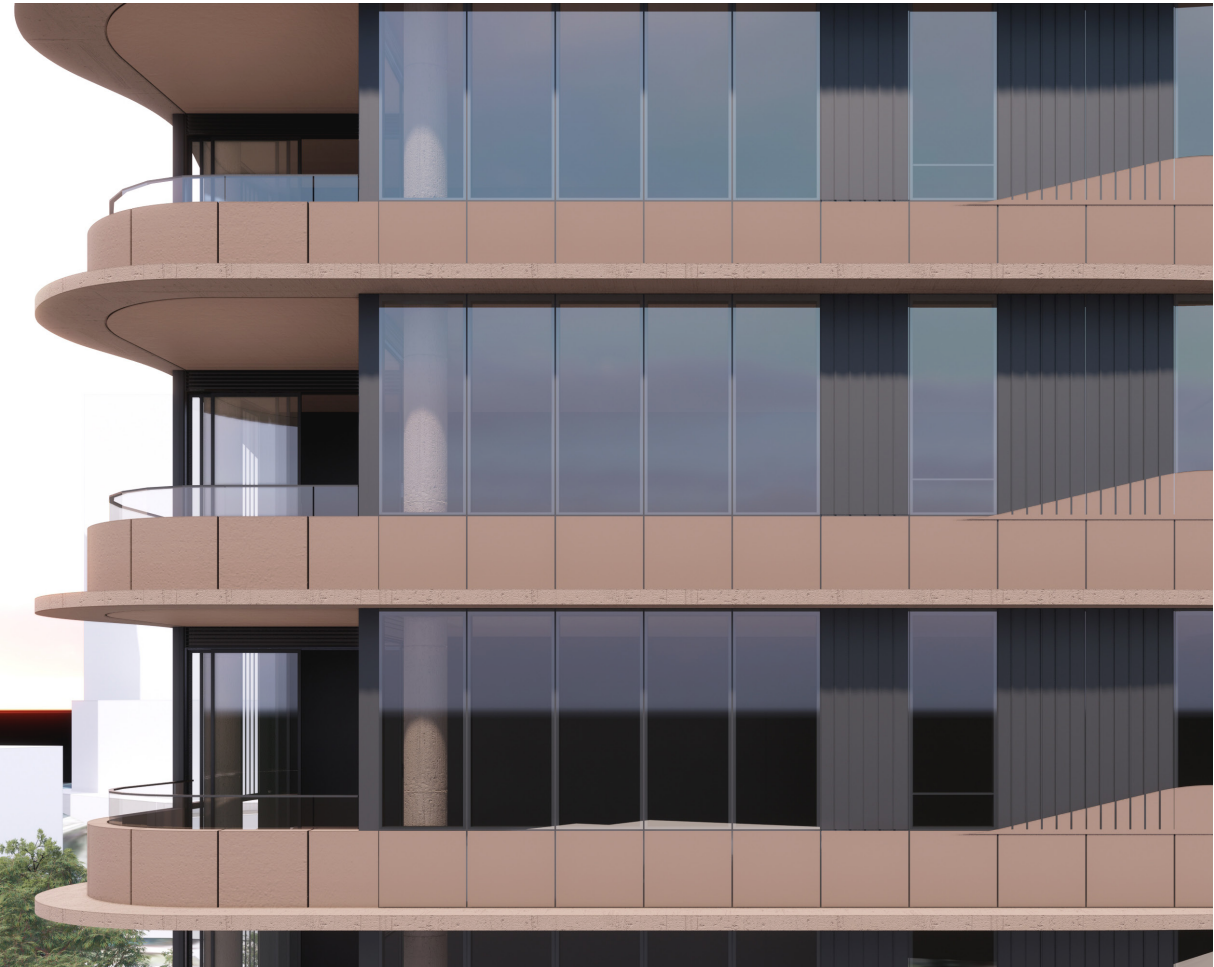
A dynamic expression is created across the whole precinct with this deliberate engineered approach to the building façades, whereby each and every apartment is able to exceed the 6-star energy efficiency rating set out by the St Leonards South DCP and achieve a min 7-star rating.

This passive design approach enables the building to provide solar shelter and protection in summer months, without the compromise to internal spatial quality that external screens and deep tinted glass would create.

NOTE: Refer to ESD report for further information.



Exterior Perspective
Northern Facade



Exterior Perspective
Western Facade

4.03

NORTHERN FACADE

Typical Balustrade

The use of precast concrete in the balustrade ensures a factory finish of high surface quality and low maintenance. The upper glazing element fixed to the precast allows for wind protection while also allowing natural light to hit the floor and terrace beyond. The height of precast is designed to ensure views out from the apartment are still achieved when seated at the lounge or dining table. The size of precast pieces are designed to be installed from the slab to limit crane use.

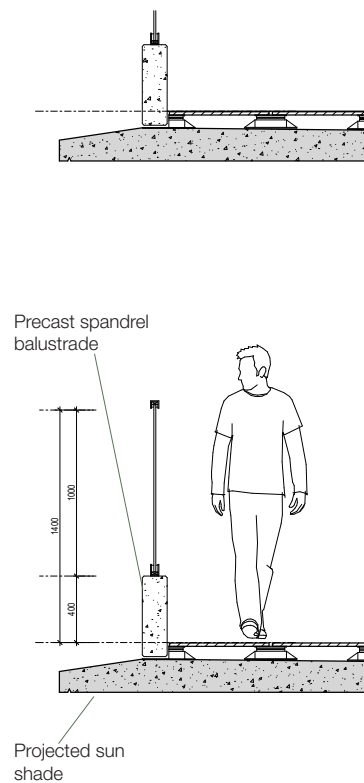
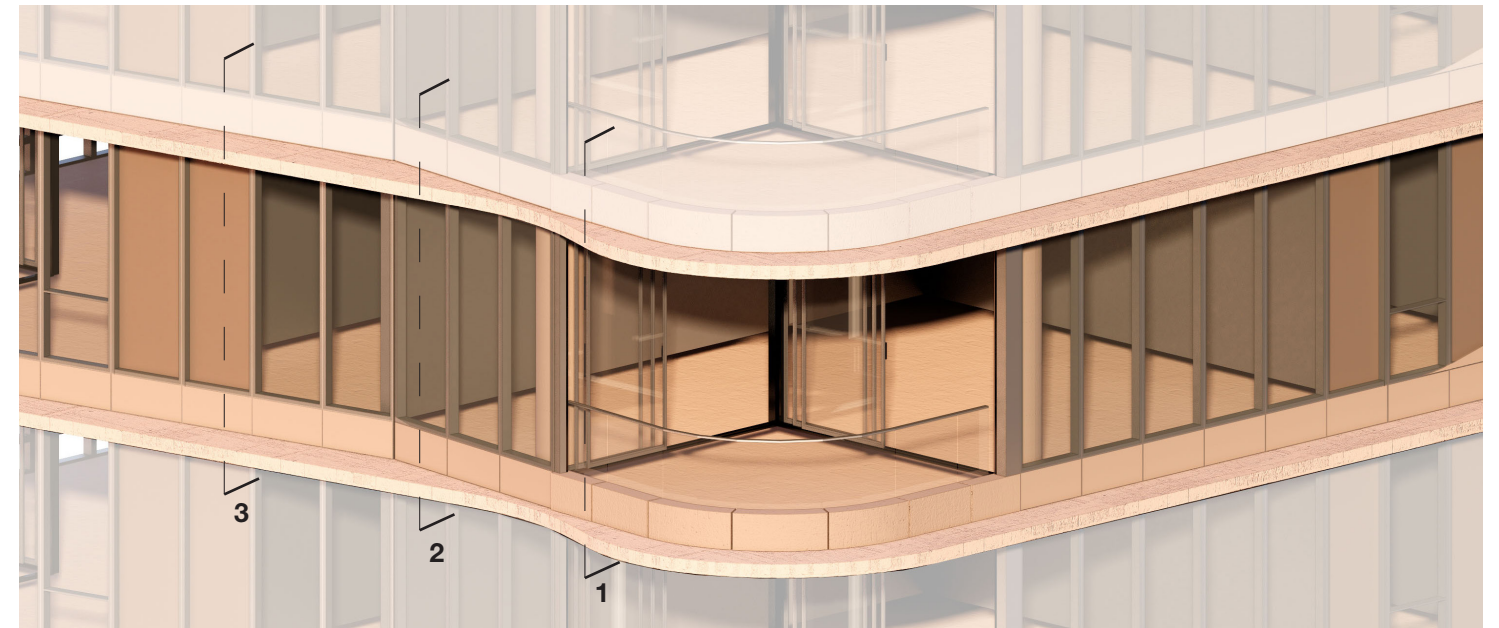
Typical Window with Spandrel

The use of a full height window system ensures a performance tested envelope and high quality factory finish. The lower spandrels panel is a pre-finished metal pan panel with installation beyond. The panel is key to reducing the glass to wall ratio within the overall apartment. The sun shade projection distance shades the facade and is balanced with the solid to glass wall ratio to meet the higher star ratings/ ESD principles for design excellence. The solid being within the window wall ensures the colour and appearance can be control within all towers with very low maintenance required.

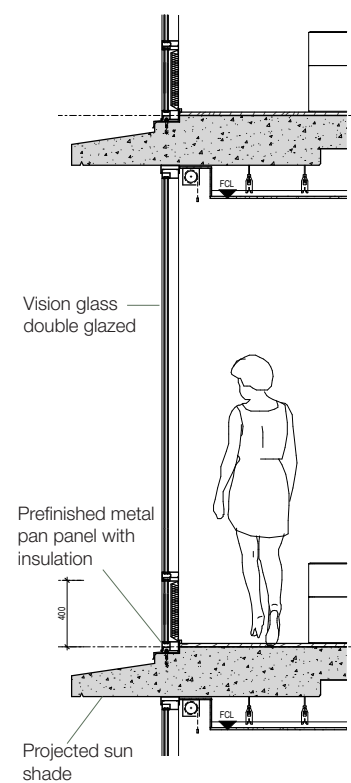
Solid Window Wall

The use of a full height window system ensures a performance tested envelope and high quality factory finish. The Upper Window panel is a solid wall with glazing to the outside ensuring the reflectivity of the facade is uniform to the vision glass adjacent while have a painted match recessed panel know as a shadow box. This with the projected sun shade increased the glass to wall ratio to meet higher star/ ESD principles for design excellence. This unlike colourback glass ensure a depth of shadow and reflectivity similar to clear glazing as seen close up and from distance. The Lower panel will be as per the adjacent window so the banding of the lower section of the facade is uniform in all towers

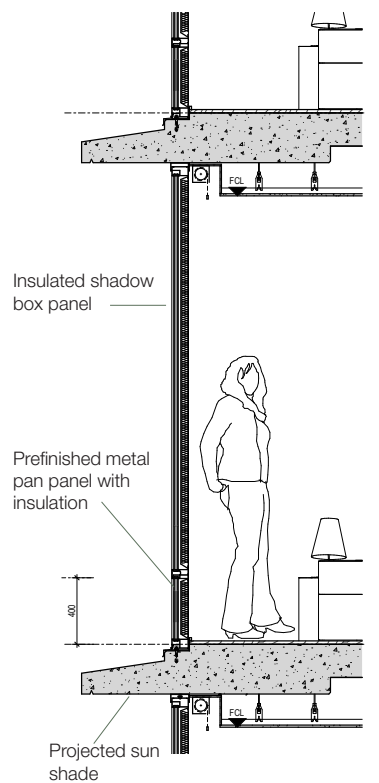
Indicative details subject to technical design development with specialist contractor input.



Section 1
Typical balustrade with spandrel



Section 2
Typical window with spandrel



Section 3
Solid window wall

4.04

WESTERN FACADE

Typical Balustrade

The use of precast concrete in the balustrade ensures a factory finish of high surface quality and low maintenance. The upper glazing element fixed to the precast allows for wind protection while also allowing natural light to hit the floor and terrace beyond. The height of precast is designed to ensure views out from the apartment are still achieved when seated at the lounge or dining table. The size of precast pieces are designed to be installed from the slab to limit crane use.

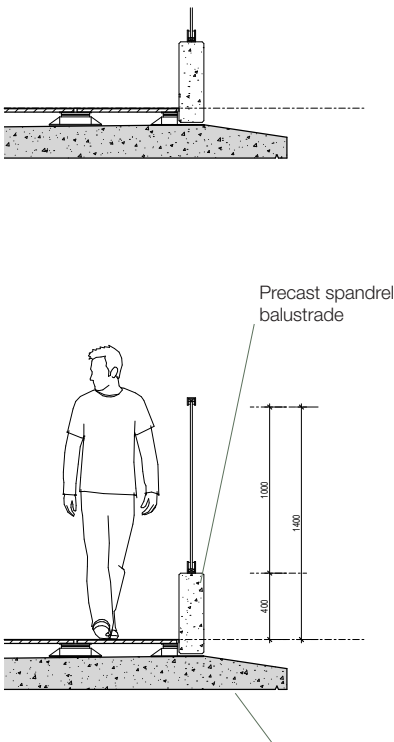
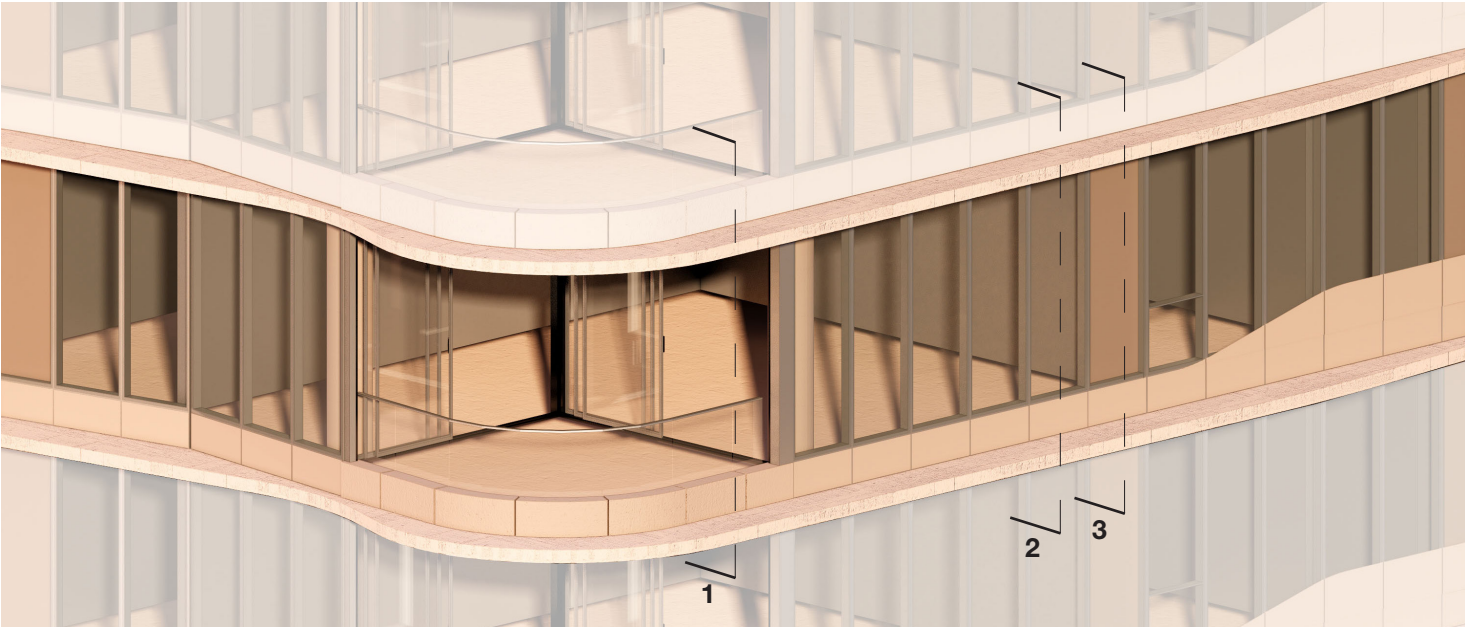
Western Window with Spandrel

The use of a full height window system ensures a performance tested envelope and high quality factory finish. The lower spandrels panel is a pre-finished metal pan panel with installation beyond. The panel is key to reducing the glass to wall ratio within the overall apartment, in all western bedrooms and secondary spaces the window sill is increased in height. The additional solid wall adds protection from the hotter summer days while maintaining the clear DGU glazing does not required body tinted or performance coatings. The glass VLT will be consistent in each room. The sun shade projection distance shades the facade and is balanced with the solid to glass wall ratio to meet the higher star ratings/ ESD principles for design excellence. The solid being within the window wall ensures the colour and appearance can be control within all towers with very low maintenance required.

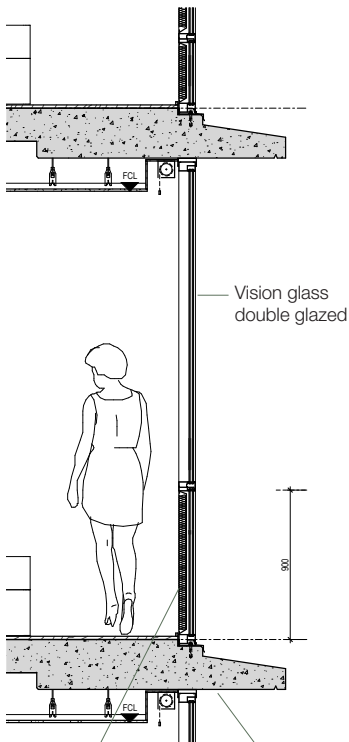
Western Window Wall

The use of a full height window system ensures a performance tested envelope and high quality factory finish. The Upper Window panel is a solid wall with glazing to the outside ensuring the reflectivity of the facade is uniform to the vision glass adjacent while have a painted match recessed panel know as a shadow box. This with the projected sun shade increased the glass to wall ratio to meet higher star/ ESD principles for design excellence. This unlike colourback glass ensure a depth of shadow and reflectivity similar to clear glazing as seen close up and from distance. The Lower spanel will be as per the adjacent window so the banding of the lower section of the facade is uniform in all towers

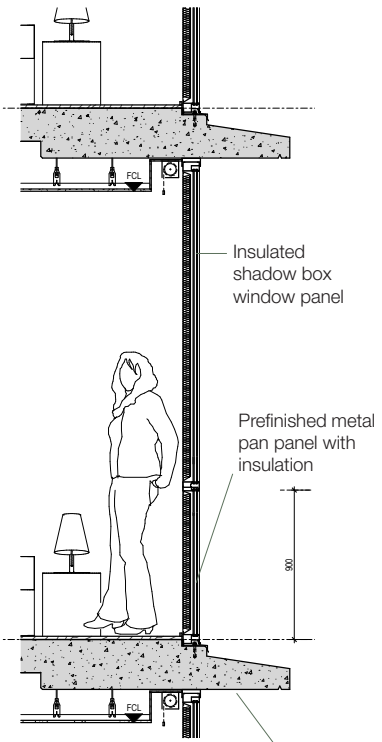
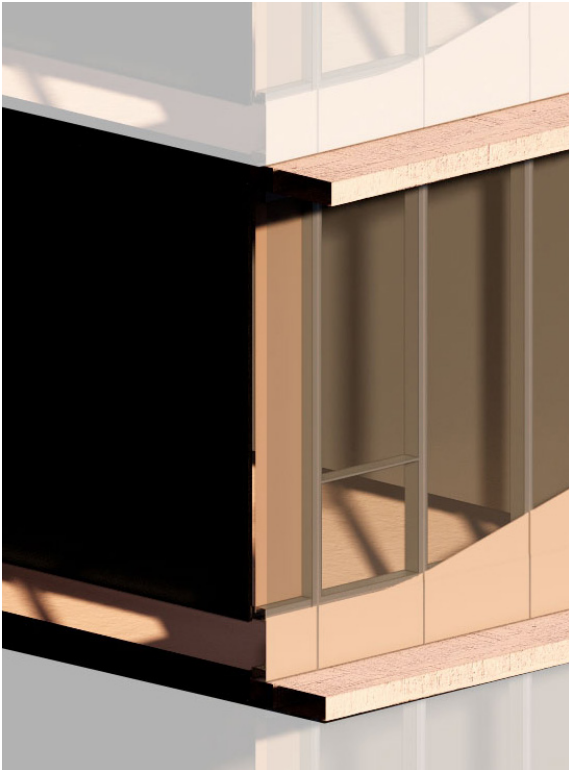
Indicative details subject to technical design development with specialist contractor input.



Section 1
Typical balustrade with spandrel



Section 2
Typical window with spandrel



Section 3
Solid window wall

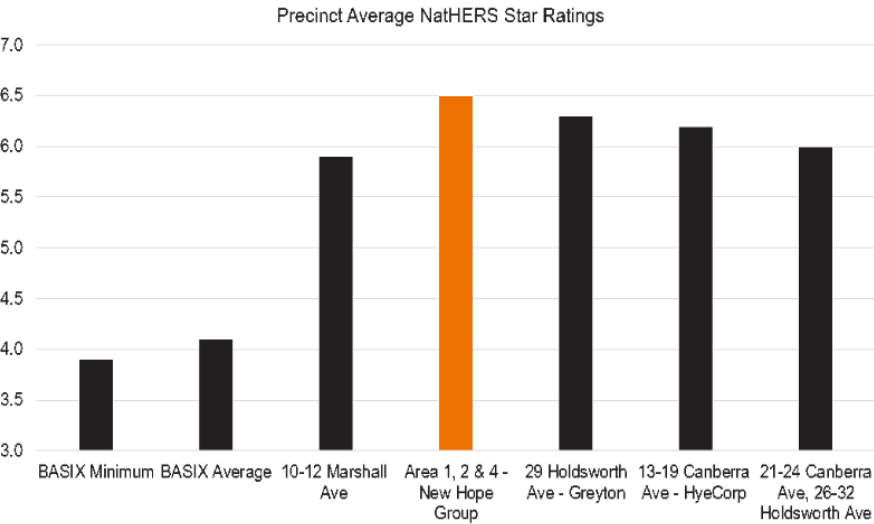
4.05

ESD SUMMARY

BASIX Comparison to DCP 6 Stars

Minimum compliance for BASIX Protocols in the St Leonards climate zone is a heating load of 40, cooling load of 26, and a NatHERS Star rating of 4.1. The development achieves a NatHERS 6.3 average, with more than 25% of apartments above 7 Star.

- The design provides for high quality daylight access deep into the apartments. Glazing without body tint or coatings is proposed to ensure clear views and colour rendering, creating high quality residential amenity
- Double glazed windows are proposed, shaded by deep overhangs and paired with solid spandrels and opaque wall components to ensure a high degree of thermal comfort and energy efficiency.
- Solid areas including a spandrel and solid wall components have been tuned to meet a development wide average NatHERS score of 6.3.
- Climate Change risks have been addressed through a Green Spine microclimate with mature trees and shading of buildings remains cool passively. Light coloured roofing materials reduce Urban Heat Island effect.
- Water sensitive design elements include water saving fixtures, a 30kL rainwater tank used for irrigation and basement washdown, and low irrigation landscaping with predominantly native, drought tolerant species. A dry riverbed concept for site water retention and filtration has been developed as a Green Spine feature.
- All car parking spaces are available for EV charging with conduit provided for 'crimp ready' connection to privately installed chargers
- Roofs spaces are a prized, high quality communal amenity space for occupants and enable equitable access to views. Introducing solar photovoltaics reduces the area available for common amenity or exceeding the height plan constraints of the site, so has not been prioritised in this development. Renewable electricity is to be procured in a Power Purchase Agreement for a fixed term.



St Leonards South - Design Excellence DCP - Precedents

Area 5, DA162/2021 –NatHERS **6.2 Star** Average

Stantec Review: This development does not provide external shading devices or protection from solar gains. The glazing will require high performance reflective coatings to achieve this average NatHERS score.

Area 12, DA187, 2021 NatHERS **5.9 Star** Average

Stantec Review: Development contains eggcrate type external shading which is effective in reducing solar gains in both north, and east/west orientations. This type of shading introduces substantially higher materials with associated carbon impacts and cost uplift. This, in combination with glazing proportions suggest a single glazing specification will be pursued, which has impacts on thermal comfort and apartment quality.

Areas 9, 10, 12 , DA99/2021– NatHERS **6 Star** Average

Stantec Review: This is achieved with Single Glazing and a low-e performance coat. This type of glazing reduces visual clarity, and dramatically reduces thermal comfort to occupants near the glass. There is also a significantly increased risk of condensation forming on the glazing.

Areas 1, 2 & 4 – NatHERS **6.3 Star** Average

Overheating is managed through strategically limiting areas with western exposure by locating cores against the western façade, and providing deep shading overhangs to protect from high summer sun. Lower sun angles are managed through a combination of opaque spandrels, vertical solids, and blinds. This is achieved through Double Glazed Units, which dramatically improve the thermal comfort of occupants by minimising the radiant exchange between people and the exterior glazing pane. Condensation on the glazing is dramatically reduced.

NOTE: Refer to ESD report for further information.

STAR Rating St Leonards South DA Submission

Building	No. of Apartments	Average NatHERS Star Rating	
T1	100	6.6	
T2	87	6.3	
T4	55	6.3	
Overall Development	242	6.5	

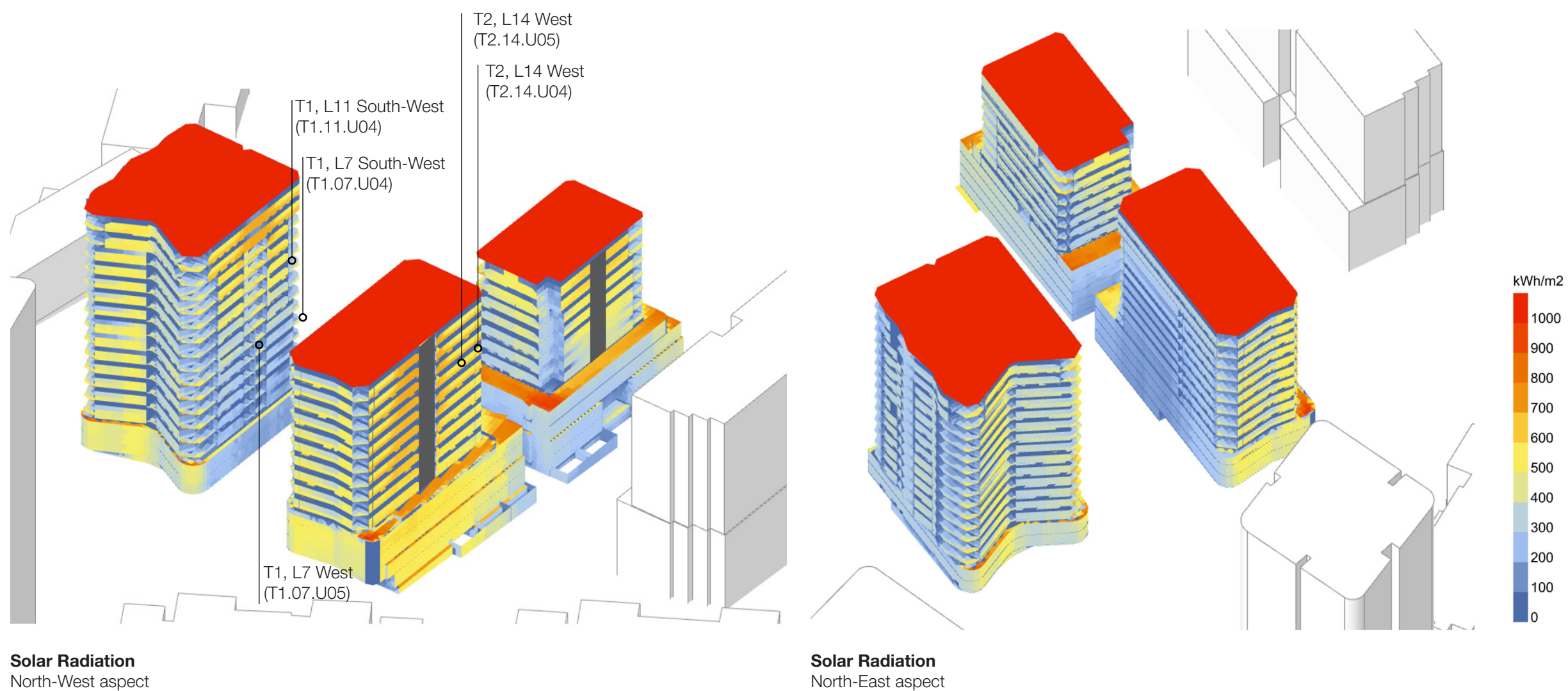
BASIX Thermal Comfort Caps	Heating (MJ/m2)	Cooling (MJ/m2)	NatHERS Star
Minimum	45.4	29.5	3.9
Average	40	26	4.1

4.06

ESD SOLAR RADIATION MODELS

Solar Radiation

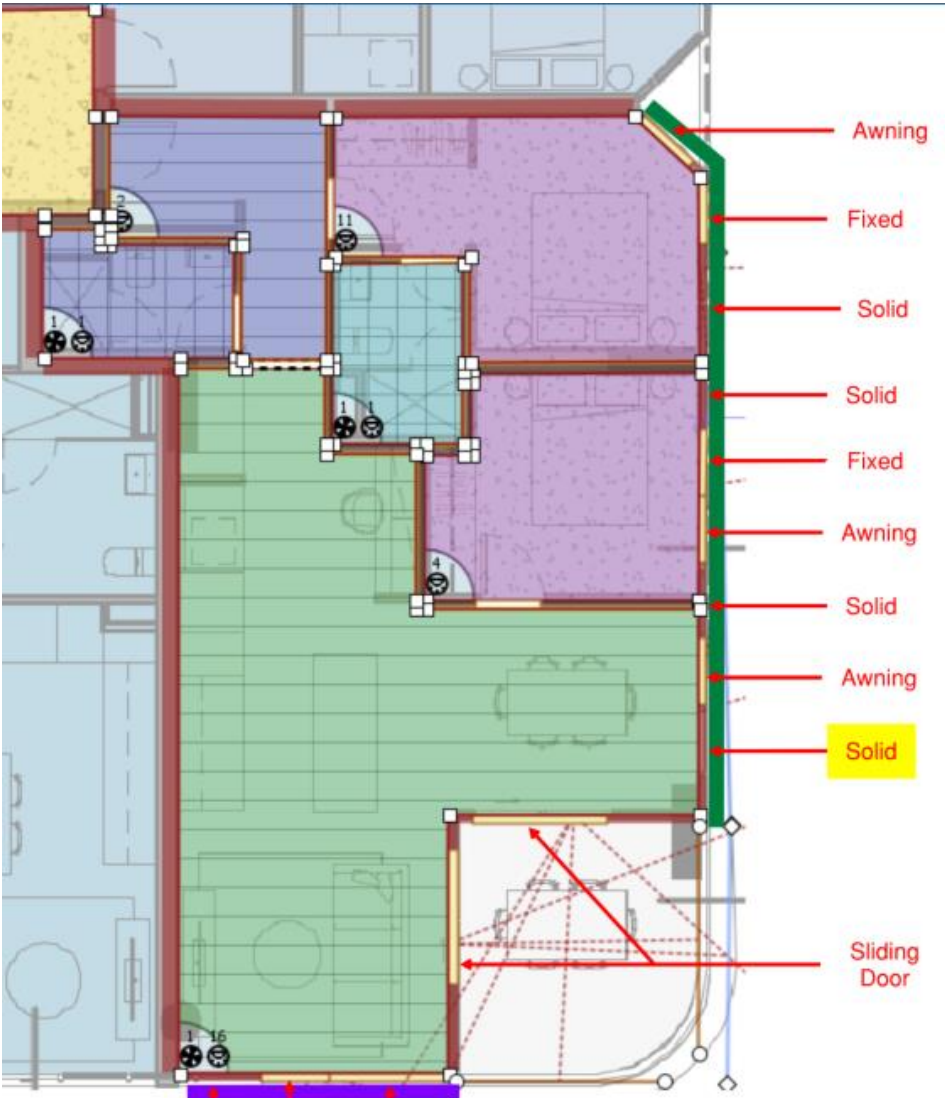
This is a representation of solar gains on façades during hours where cooling is likely to be required. Solar gains during winter, or beneficial radiation, has been subtracted from this mapping.



4.07
ESD

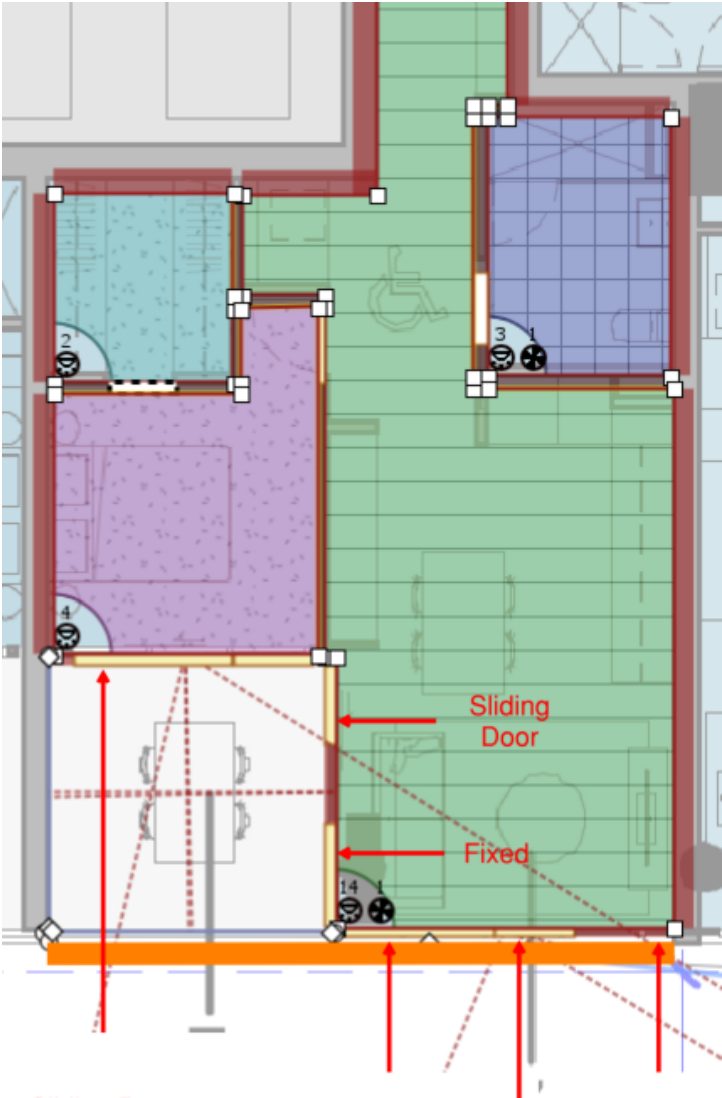
T1, L7: South West
(T1.01.U04)

Glazing	Star Rating (BLDG Avg >6 STAR)	Heating Load (MAX 45.4MJ/sqm/yr)	Cooling Load (MAX 29.5MJ/sqm/yr)
Double glazed clear window (U Value 4.8, SHGC 0.51)	5.9	40.0	13.0



T1, L1-2: West
(T1.01.U05)

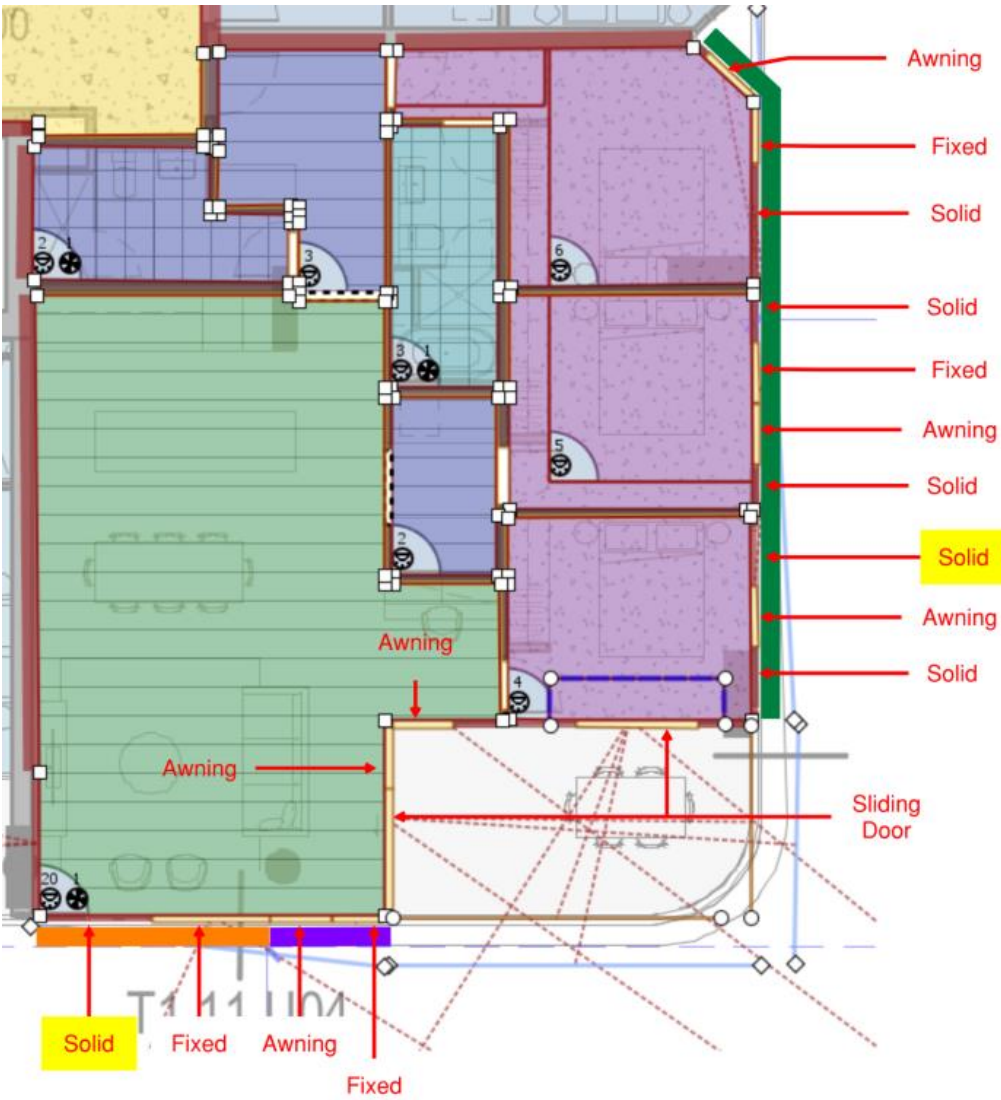
Glazing	Star Rating (BLDG Avg >6 STAR)	Heating Load (MAX 45.4MJ/sqm/yr)	Cooling Load (MAX 29.5MJ/sqm/yr)
Double glazed clear window (U Value 4.8, SHGC 0.51)	7.5	16.8	14.6



4.08
ESD

T1, L11: South West
(T1.11.U04)

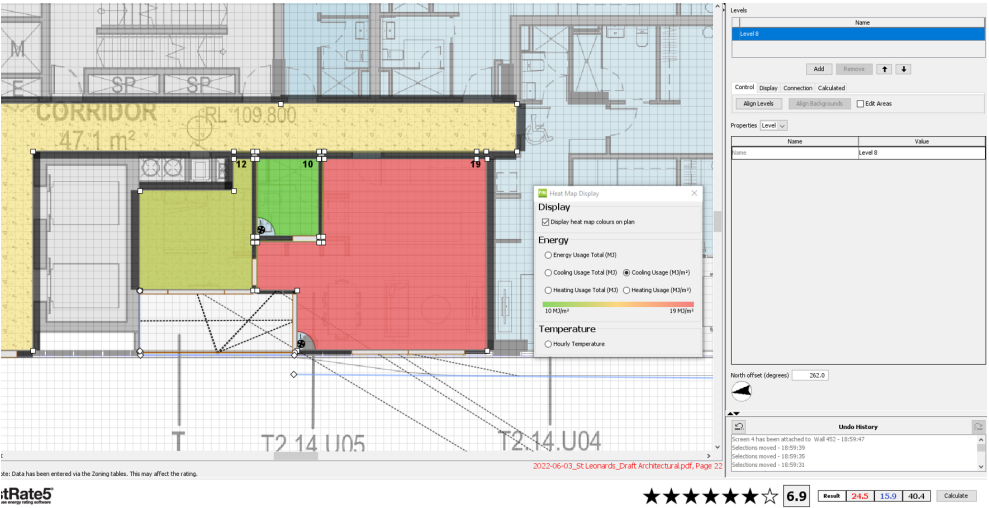
Glazing	Star Rating (BLDG Avg >6 STAR)	Heating Load (MAX 45.4MJ/sqm/yr)	Cooling Load (MAX 29.5MJ/sqm/yr)
Double glazed clear window (U Value 4.8, SHGC 0.51)	6.8	25.7	18.2



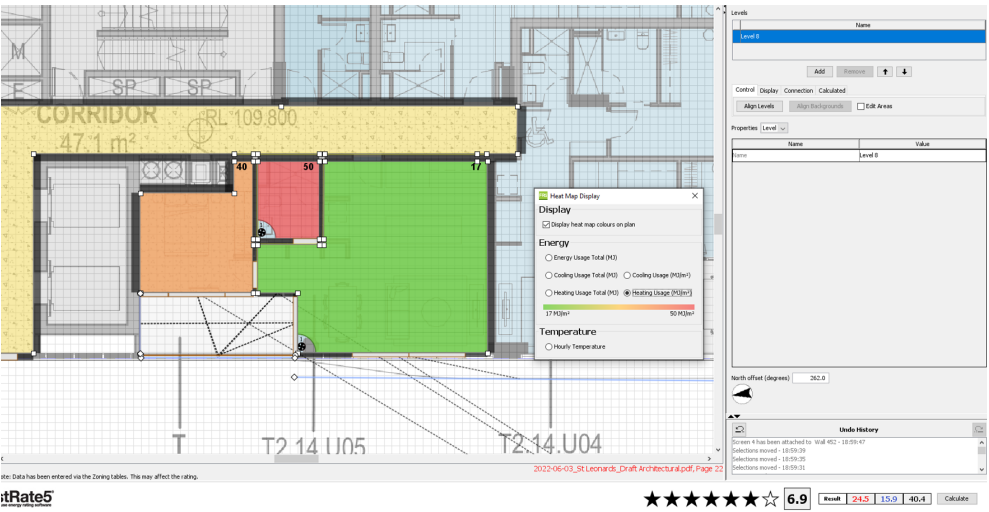
T2, L14: West
(T2.14.U05)

Glazing	Star Rating (BLDG Avg >6 STAR)	Heating Load (MAX 45.4MJ/sqm/yr)	Cooling Load (MAX 29.5MJ/sqm/yr)
Double glazed clear window (U Value 4.8, SHGC 0.51)	6.9	24.5	15.9

Cooling Load Heatmap



Heating Load Heatmap

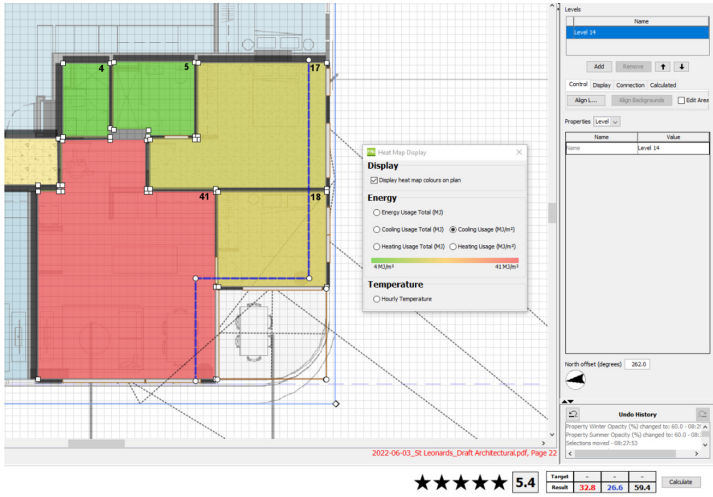


4.09
ESD

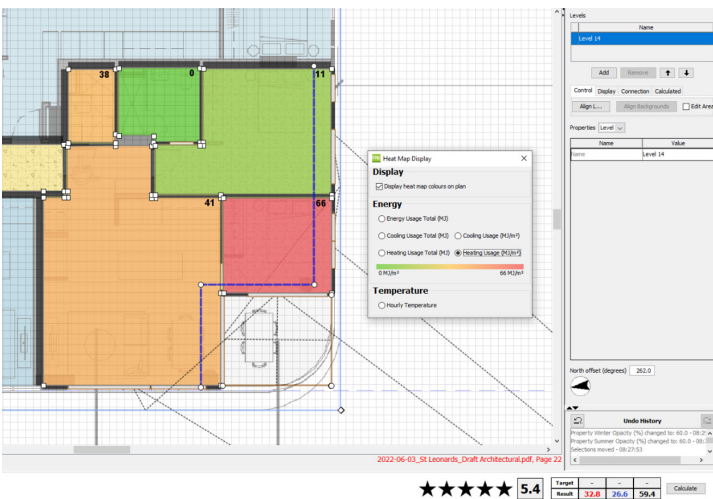
T2, L14: West
(T2.14.U04)

Glazing	Star Rating (BLDG Avg >6 STAR)	Heating Load (MAX 45.4MJ/sqm/yr)	Cooling Load (MAX 29.5MJ/sqm/yr)
Double glazed clear window (U Value 4.8, SHGC 0.51)	5.0	38.6	27.3

Cooling Load Heatmap



Heating Load Heatmap



5.0

5.0	Landscape	38
5.01	Masterplan	39
5.02	Communal Space Strategy	40
5.03	Landscape Strategy	41
5.04	Zones & Typologies	42
5.05	Access & Levels	43
5.06	Proposed Tree Strategy	44
5.07	The Green Spine	48
5.08	WSUD Detail	49
5.09	Open Space Amenity	51
5.10	Deep Soil	52

LANDSCAPE

5.01

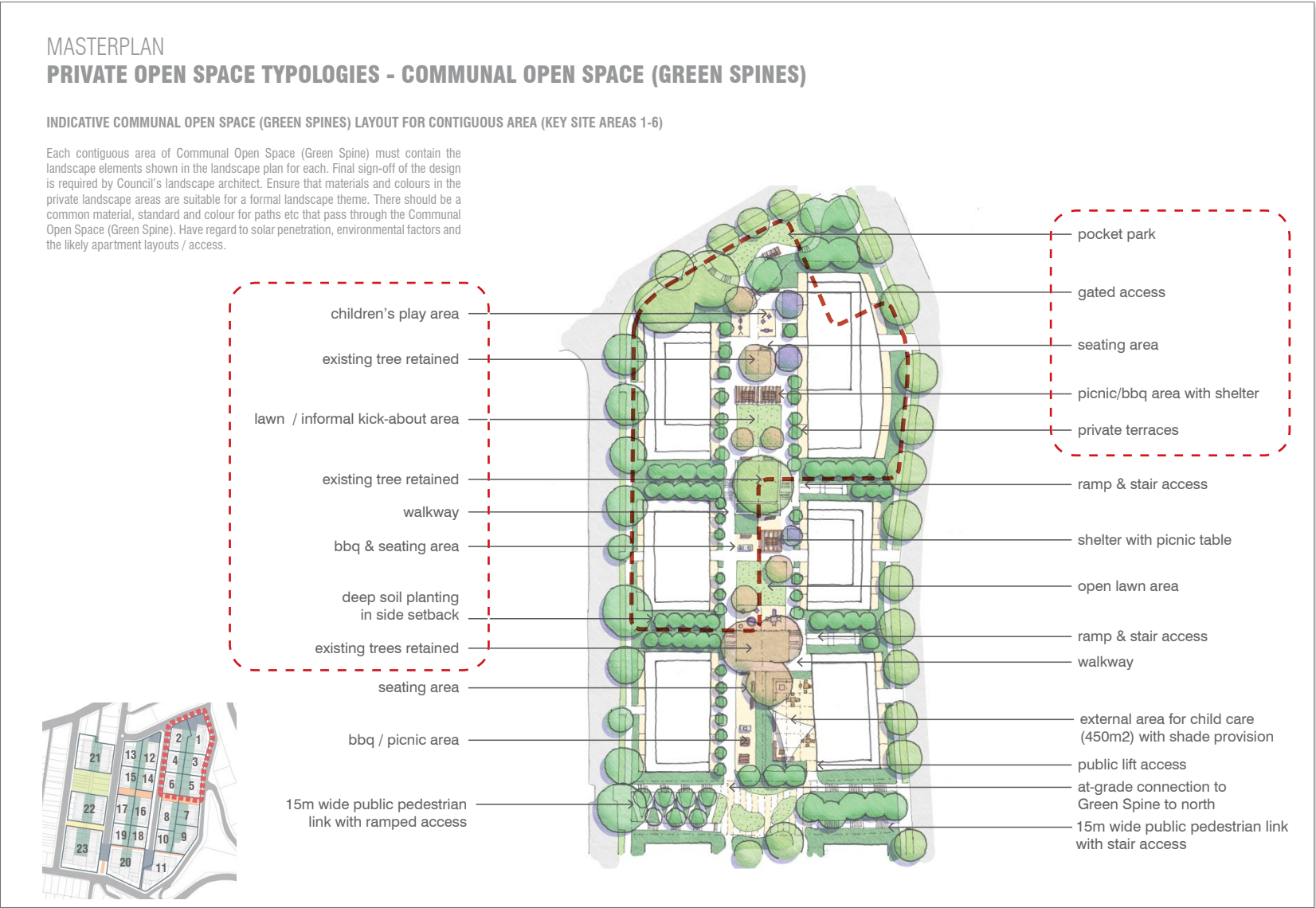
MASTERPLAN

Finalised in August 2020, the St Leonards South masterplan produced by Oculus provides a great scope of work for a new, green high density precinct.

Guiding design principles and requirements:

- Topography + accessibility
- Connectivity - maximising via through site links
- Street enhancement
- Open space network - via network of private communal green spines, public parks, links and pocket parks
- Street trees - canopy coverage and character
- Public/private separation and CPTED
- Setbacks and deep soil
- Sustainability - material and planting selection, WSUD, active transport and energy considerations
- Public art integration in each development

The subject site lies across several key areas, with each of the individual components identified as part of the masterplan being included within the proposal.



Acanthus mollis



Anemone x hybrida



Arthropodium cirratum



Aspidistra elatior



Asplenium australasicum



Calathea zebrinus



Ctenanthe 'Silver-Maroon'



Clivia miniata



Cissus antarctica



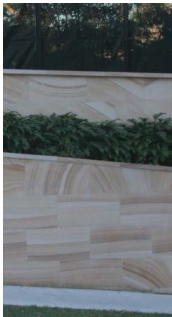
Dichondra argentea Silver Falls



Hydrangea quercifolia



Phormium cookianum



5.02 COMMUNAL SPACE STRATEGY

The sites location at the northernmost, and highest elevation for the precinct sets out an important relationship between the buildings and the ground plane.

This ground plane provides amenity to the occupants through private gardens and the green spine while also delivering generous public open space for the wider community.

The proposal seeks to visually connect these spaces, without compromising security and definition of the public and private domain. Undulations in the terrain, reminiscent of the existing land form, and that of the valleys of Lane Cove are reconstructed at ground level.

Each of the three buildings lobbies connect through from the public streets visually to the private communal spaces beyond. This dual address brings the landscape character to the interiors of the building.

The public park at the northern end of the site is characterised by large gathering spaces, contrasted with smaller, more intimate areas for the local community.

This approach then sets the narrative to continue the provision of communal spaces and landscape vertically through the three buildings creating multiple opportunities to be part of the tree canopy.



5.03

LANDSCAPE

STRATEGY

The landscape strategy enhances the existing landform and trees on the site, whilst providing new public and private recreation areas. Activities are proposed that build upon the minimum requirements of the St Leonards South Landscape Masterplan and provide amenity for the wider community, and residents alike.

A curatorial vision for public art based on the cultural context of the First Nations has been developed in collaboration with UAP (Public Art Strategy March 2022). 'The Curatorial Vision, titled 'Coalescence', pivots on the notion of intersections, between the natural and urban landscape and between people and place.' Artwork sited in the locations below contribute to place-making through eye catching work which engages both residents and visitors creating a welcoming focal point and natural meeting point.

- 1 Pocket park lawn with track
- 2 Entry deck with bleachers
- 3 Retained existing trees
- 4 Interpretive art / signage and seating
- 5 BBQ area with shelter
- 6 Raised lookout point
- 7 Bridge element over
- 8 Kids cycle + scooter obstacle loop
- 9 Nature play
- 10 WSUD / Swale
- 11 Native buffer
- 12 Communal veggie gardens
- 13 Turf area
- 14 Access into building lobbies
- 15 Palm tree grove
- 16 Hammocks
- 17 Play elements (table tennis)
- 18 Picnic table area
- 19 OSD tank below
- 20 Flexible deck area with seating
- Artwork form: Sculpture singular small
Medium Element

NOTE: Refer to landscape report for further information.



5.04

ZONES & TYPOLOGIES

The landscape spaces are broken into a series of distinct and different zones. Each one is positioned regarding aspect, access to daylight, and adjacent residential and communal uses.

The Park

A generous public park is proposed at the northern end of the site, offering a generous, flat public turf area with playful loop path, generous lounge seating and a picnic shelter to its perimeter.

The Garden

As an extension of the main park, The Garden offers community garden amenity, flexible turf space with seating opportunities as part of a welcoming entry experience to the Tower1 lobby.

The Deck

'The Deck' offers a lookout point over the park and integrates seating in a playful manner. Interpretive art and signage is integrated in lush native planting to the edge of Tower 2.

Bluegum Play

Once crossing the bridge and entering through a gated access point, residents arrive at the 'The Bluegum Play' area within the Green Spine. Organic and natural play elements are nestled within lush planting.

The Palms

The Palms is a relaxing extension of this play area, offering relaxing hammock furniture and a tennis table.

The Clearing

The central area of the communal space is called 'The Clearing', which provides flexible open turf area and several resident amenities such as BBQ and dining spaces, shade structures and seating areas.

The Nature Walk

The most southern end of the green spine is called 'The Nature Walk'. The informal walkway provides an opportunity to connect both developments into a unified green spine.

NOTE: Refer to landscape report for further information.



5.05

ACCESS & LEVELS

The site is provided with three main address points that transition use and intensity along with the almost 10m cross fall to the site.

Canberra avenue is provided with the main access point for vehicles due to its lowest point on the site. Pedestrians enter Tower 1 adjacent the extension of the public park from Marshall Avenue. The two town-homes are provided with individual street access gates.

The northern edge of the site is predominantly addressing the new public park that runs up to the corner of Marshall and Holdsworth avenue. The existing terrain is utilised to provide screening and to locate a private/public threshold across the northern edge of the green spine. This creates a second access point into the development that connects the communal open spaces of the green spine to the three individual buildings.

Tower 2 is provided with a through lobby space that transitions the full storey from Holdsworth Avenue, down to the green spine within a secure space.

A residents only site access point is provided at the break between Towers 2 and 4 with stairs transitioning the levels.

Tower 4 has its own separate lift lobby and access point from the street. A second lower lobby is provided to enable access to the rear communal open spaces, and across to Tower 1 communal areas.

- KEY
- +00.00

EXISTING LEVEL
- +00.00

PROPOSED LEVEL
- <---

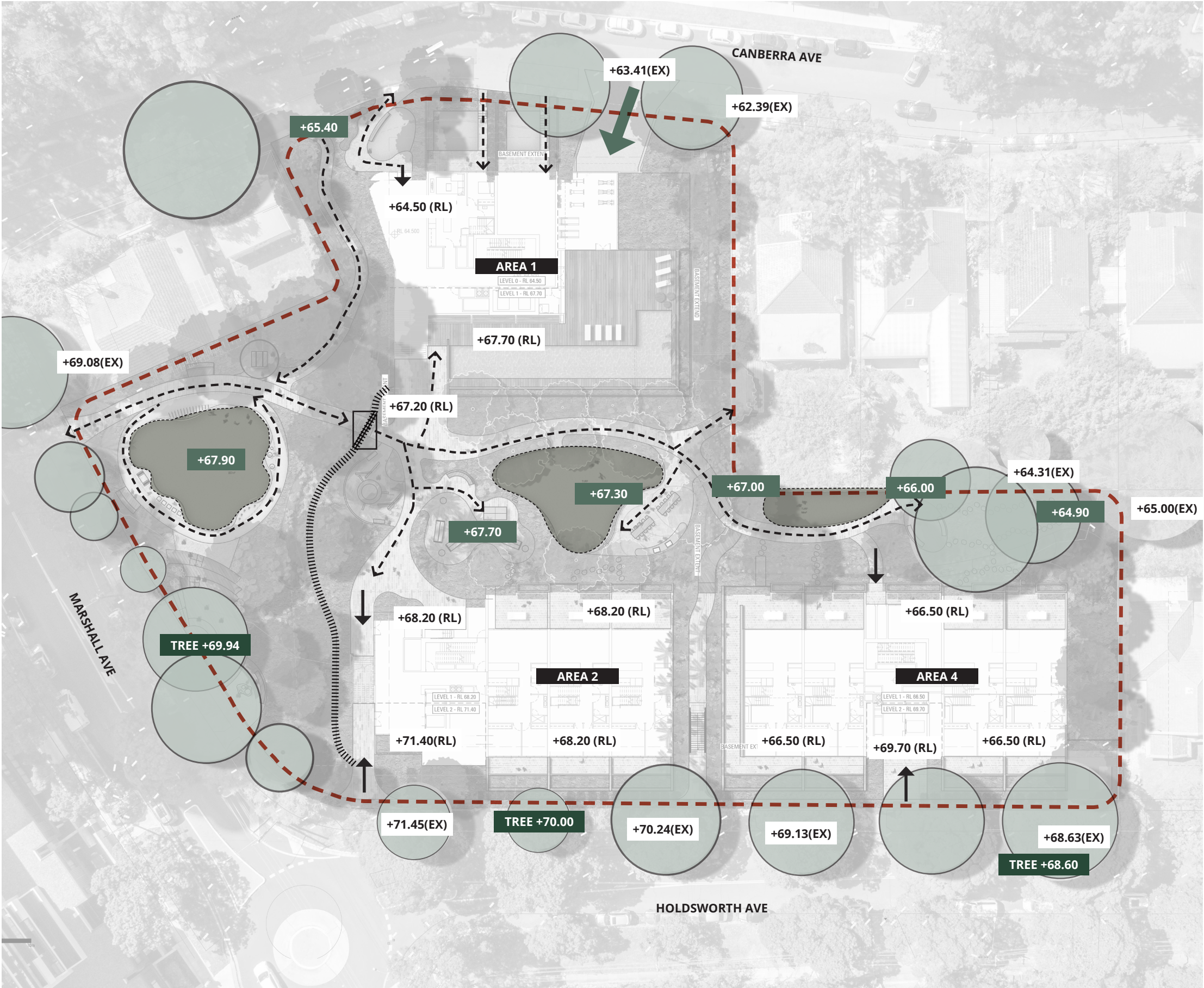
DDA ACCESSIBLE ROUTE
- ←

LOBBY ENTRY
- DRIVEWAY
- ⌂

GATE
- |||||

FENCE
- EXISTING TREES TO BE RETAINED

NOTE: Refer to landscape report for further information.



5.06

PROPOSED TREE STRATEGY

The street tree masterplan within the St Leonards South Landscape masterplan aims to build upon the existing character of the precinct by retaining existing street trees where well established and of suitable species, and supplementing these to help maintain and enhance the existing leafy character.

Priority will be given to those sides of the streets where trees have been adversely affected by pruning to clear overhead power lines (e.g. east side of Park Rd), in conjunction with a program to underground power lines, and to streets where trees are less well established (e.g. Berry Road) or are absent/ in poor condition (west side of Canberra Ave). It is proposed to continue to plant street trees predominantly within the verges to maintain/create a symmetrical avenue affect.

The Green Plan of the St Leonards/Crows Nest 2036 Plan identifies this suburban area as already having 40% tree canopy cover (in private and public domain) - this target is to be maintained and enhanced where possible.

The unique species prevalent on the three streets creates the opportunity to create individual characters for the three buildings, whilst still enabling a stylistic and visual connection across the development.

Legend	
<div></div>	<i>Eucalyptus scoparia</i> (Wallangarra White Gum)
<div></div>	<i>Tristaniopsis laurina</i> (Water Gum)
<div></div>	<i>Lophostemon confertus</i> (Brushbox)





THE PARK

AREAS 1, 2 AND 4 ST LEONARDS SOUTH



BLUEGUM PLAY

DEVELOPMENT APPLICATION

rothelowman

AREAS 1, 2 AND 4 ST LEONARDS SOUTH



THE GARDEN

DEVELOPMENT APPLICATION

rothelowman

5.07

THE GREEN SPINE

The Green spine forms the landscaped heart of the development. This new green communal open space extends the visual greenery from the new northern public open space to the south and future extension through Area 3 and beyond.

Within the developable portion of the site, the Green spine is to be minimum 50% as deep soil landscaping, with the remainder to be soft landscaped over basement below.













Existing significant trees on the site were identified, and the basement carparking placed to avoid the majority of these.








The area of the Green spine through the subject developable areas is to 1680m², with 840m² being deep soil area. This zone is located at the interface to the future development at Area 3, and where currently there are significant existing trees.

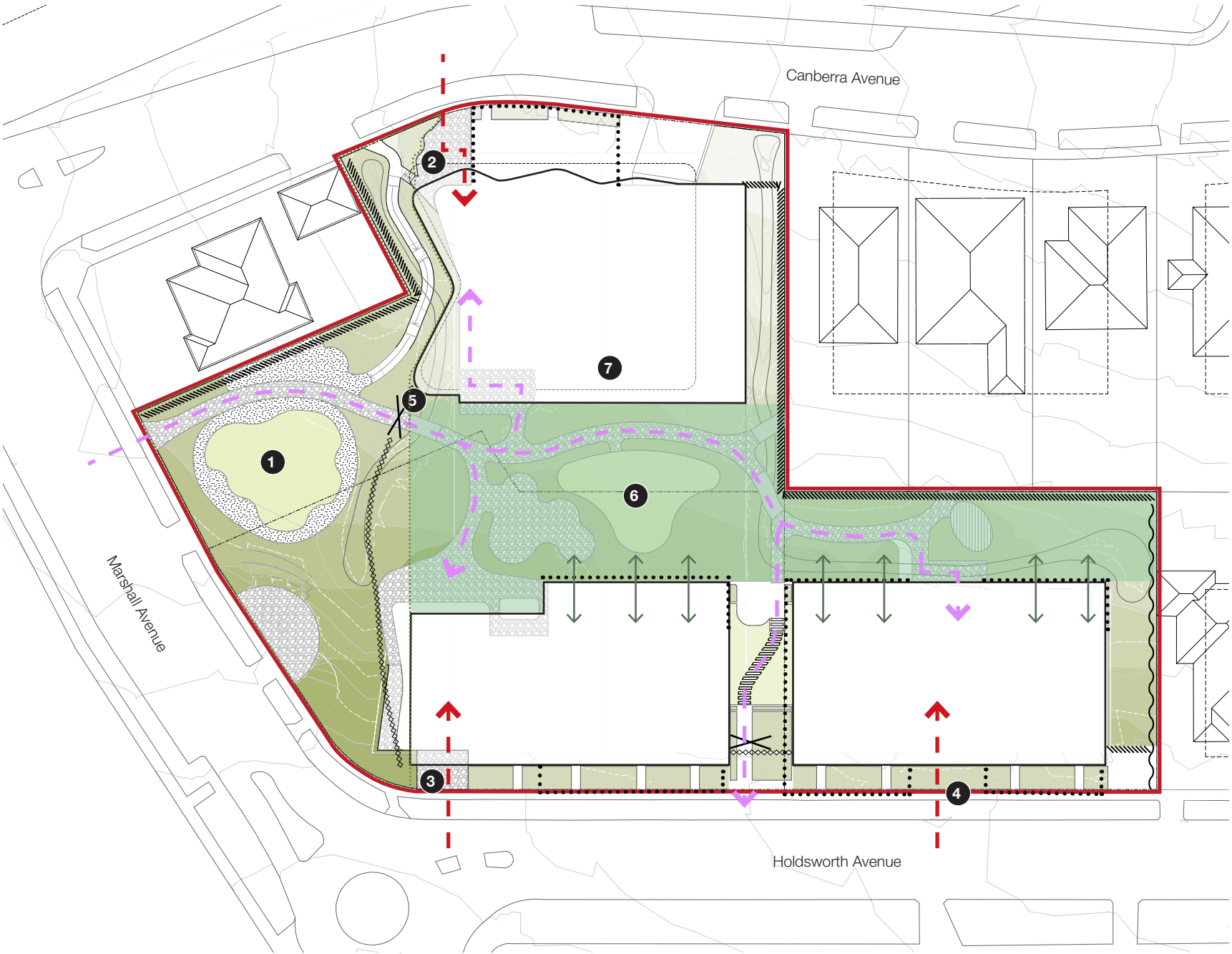
Where the green spine will extend over basement, the minimum soil depth of 1.5m is to be established, to allow for both the Water Sensitive Urban design swale to continue across as well as establish tree planting opportunities.

Beyond the private boundary, the green spine extends into a newly dedicated public open space. This area of total 1300m² is to be entirely deep soil landscaping, with the proposed design drawing from the sites existing hydrology, and existing significant trees.

Legend

	Subject Site
	Green Spine
	Park
	Entry Point Circulation
	General Circulation Paths
	Public Park
	Townhouse Green Spine Interface
	Fence to Green Spine
	Security Gate
	Fence to Private Courtyards
	Permanent boundary fence
	Temporary boundary fence pending development of adjacent areas

	Public Park Access
	T1 Lobby Entry
	T2 Lobby Entry
	T4 Lobby Entry
	Public Park Green Spine access
	Green Spine
	Pool Deck

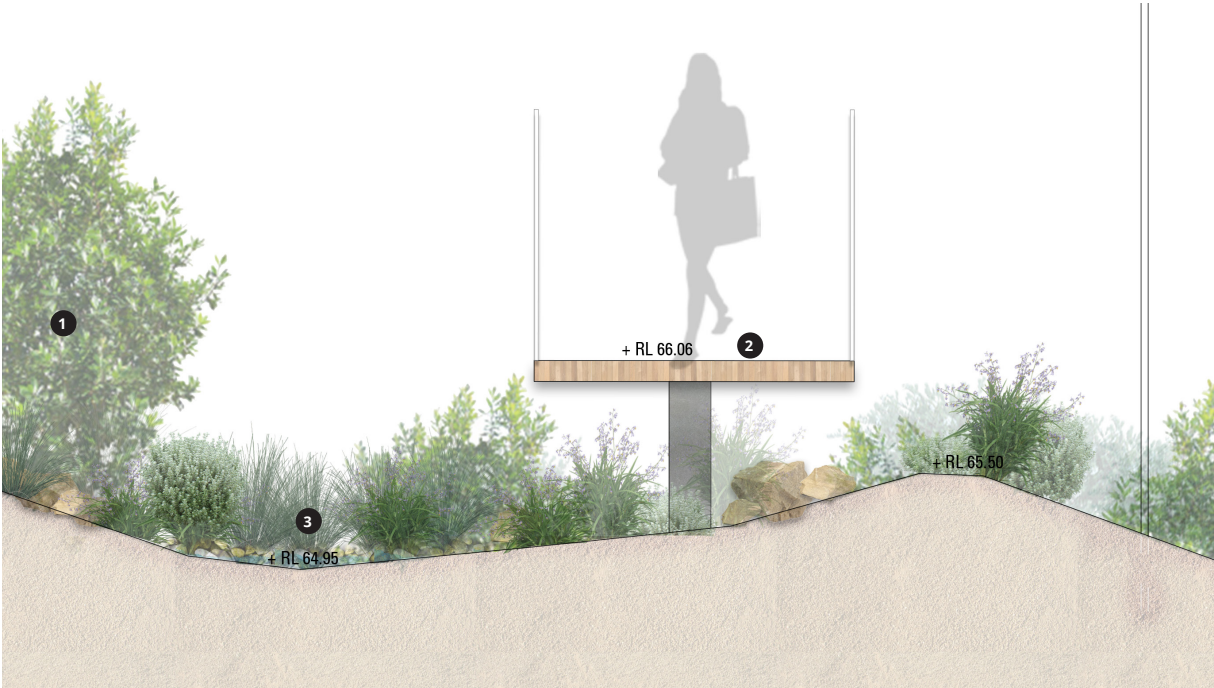


5.08

WSUD DETAIL

As part of the sites sustainability strategy, and to enhance the ability of residents to understand the sites hydrology, the water management systems for the precinct are made visible through the creation of a series of open landscape swales across the site.

These swales whilst dry typically, carry water during rain events, with a series of pathways and bridges meandering across their path through the site.



Legend

- | | |
|---|---|
| 1 | Native buffer planting |
| 2 | Raised bridge connection to Canberra Avenue |
| 3 | Stormwater retention swale with plantings and rock beds |
| 4 | Lobby entry to Tower 1 beyond |

NOTE: Refer to landscape report for further information.



GREEN LINK
T2 & T4



5.09

OPEN SPACE

AMENITY

As part of the application, two new recreation spaces of 900m² in Area 1, and 400m² in Area 2, totalling 1,300m² are to be created at the sites northern edge. This will create a new pocket park, and cross block link between Holdsworth Avenue and Canberra Avenue.

The areas nominated in the LEP are being achieved through the careful placement and integration of the proposed designs.

2 Marshall avenue is not included in the development proposal, however the area of public open space is still being achieved through the delivery of a new Water Sensitive Urban Design Swale that captures water runoff from the new public park down to Canberra avenue. This new area will be accessible to the public with elevated walkways connecting the three streets.

Legend	
---	Rooftop open space footprint
■	Tower 1 pool & recreation area
■	Tower 2 recreation area



5.10

DEEP SOIL

To enable the protection of existing significant trees, and the establishment of new ones, a large area of deep soil in both public and private areas is to be created.

In addition to the 1,300m² of recreation open space, deep soil zones are established in the green spine and to the site's perimeters.

The green spine running between each of the towers is a total of 1,680m² with more than 50% of this space being natural deep soil with no underlying structure.

Existing hydrology on the site requires the establishment of large storm water detention systems which are located in the existing overland flow path between Area 1 and Area 3.

These limit the width of deep soil potential in these zones due to in-ground pipework and infrastructure. Over these zones will be Swale planting and landscape areas.

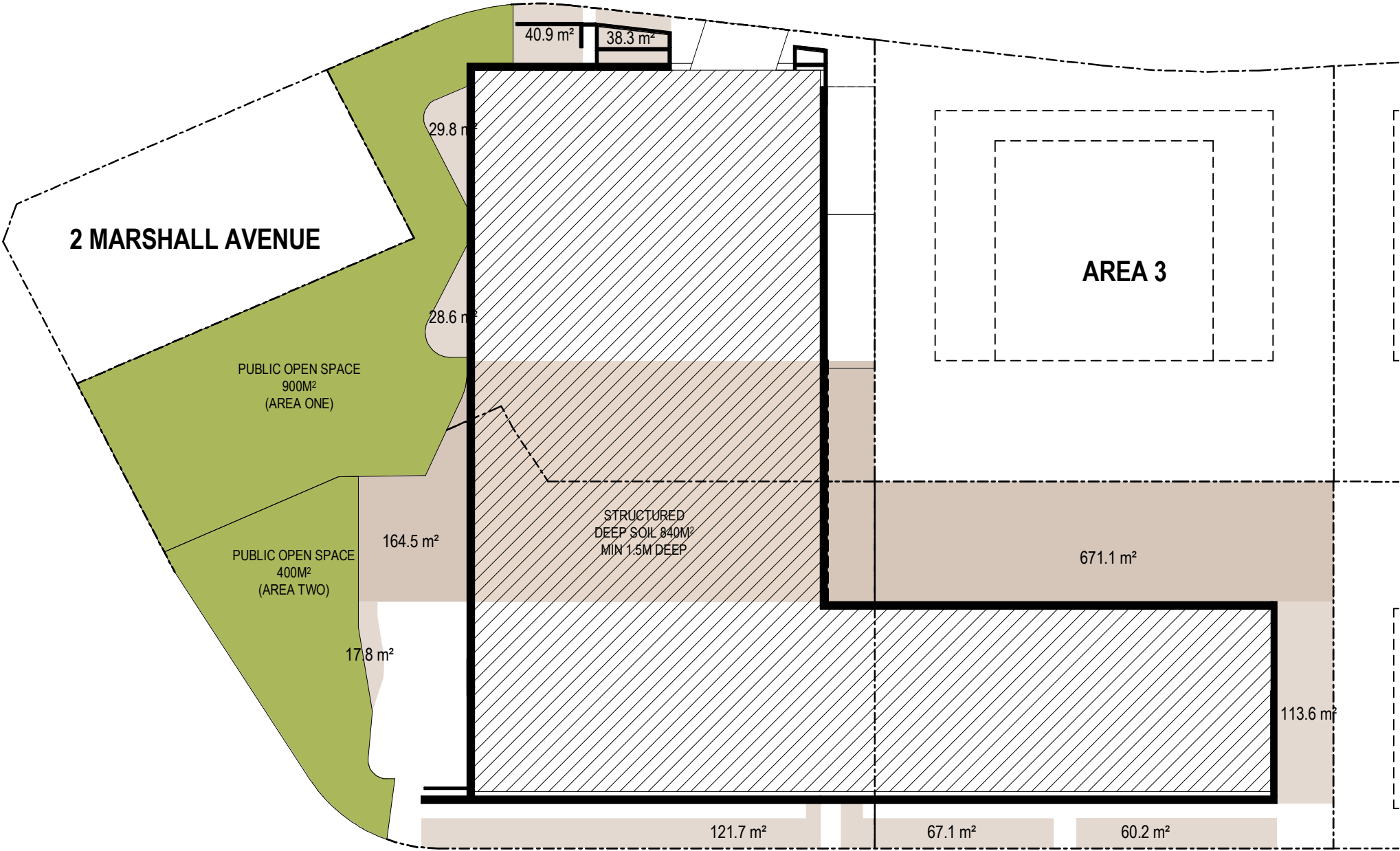
The overall Deep Soil zones provided to the precinct total 2653.5m² of the existing site area of 6727.5m², being 39% (inclusive of pocket park).

Within the 5427.5m² developable portions of the site, the Deep soil provisions of 1353.5m², provide 25% of the site area as landscaped deep soil.

An additional 840m², which is 50% of the green spine area (15.4% of the developable site area) is provided as structured deep soil for additional planting.

Once the rooftop areas (393.9m²) and planted zones are included, along with the public park dedication, a total of 2915.3m² of the subject site will be soft landscaped representing 43% of the combined total site area (6727.5m²).

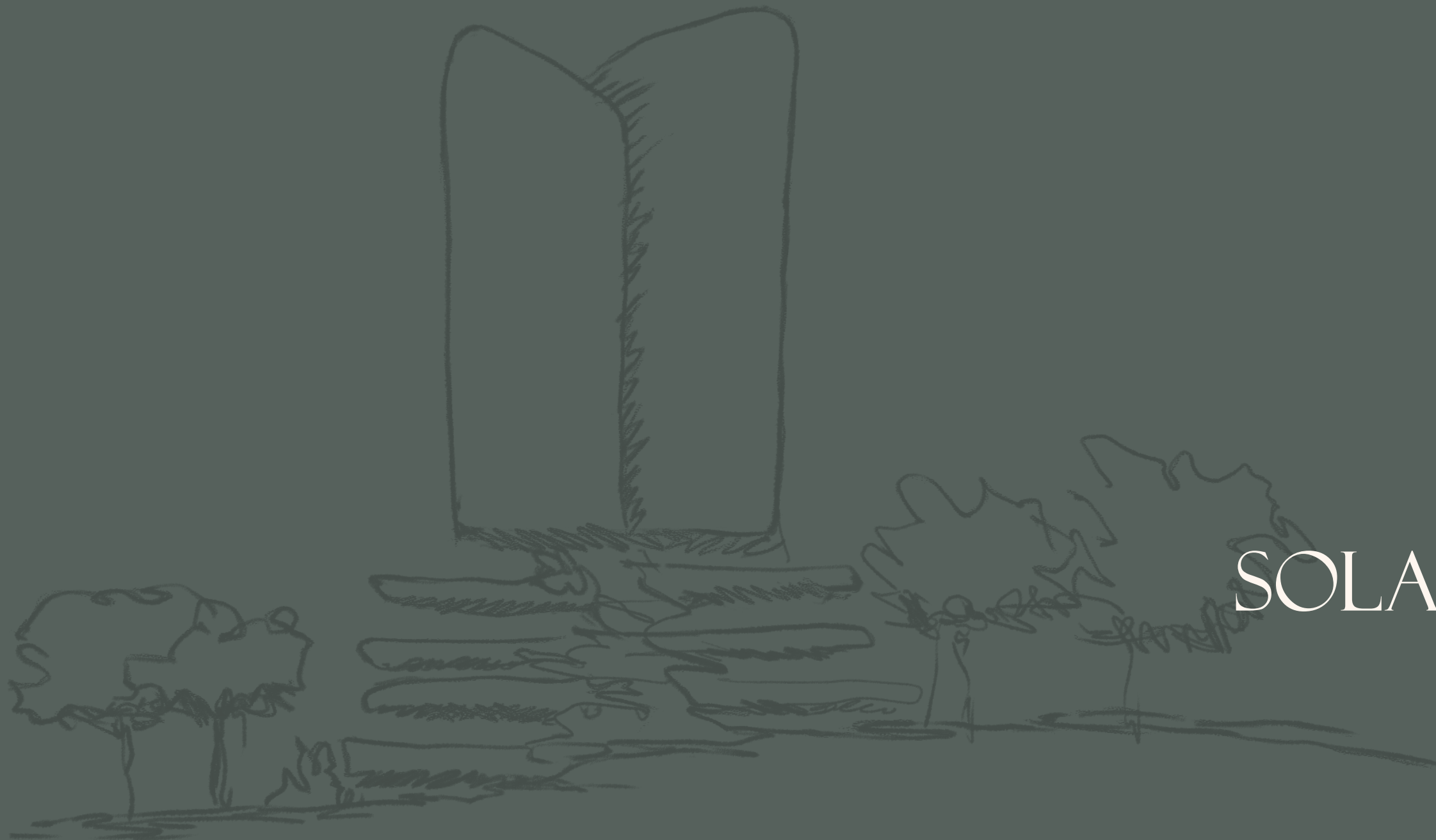
SITE AREA			DEEP SOIL	
AREA	%	M ²	%	M ²
Developable	80%	5427.5m ²	25%	1353.5m ²
Public	20%	1300m ²	100%	1300m ²
Gross Site Area	100%	6727.5m ²		2653.5m ²



6.0

6.0	Amenity	53
6.01	Solar Access Strategy	55
6.02	Solar Access Winter	56
6.03	Solar Access Summer	57
6.04	Residential Amenity	59

AMENITY



SOLAR AMENITY

6.01

SOLAR ACCESS

STRATEGY

Below is a high level summary of the overshadowing impacts to the subject site, and the design response to them. Over several iterations with councils design excellence panel, and council officers, an optimised solution that seeks to maximise solar access to all dwellings, whilst taking advantage of significant views to the south has been created.

OVERVIEW

The subject site is positioned directly to the south of the St Leonards train station precinct. This area has several tall towers either recently completed, or under construction that place overshadowing onto the subject site.

The placement of the towers on the subject site is restricted to the linear, ridgeline bands of built form that run parallel to Canberra and Holdsworth avenues, with the Northern public open space, and green spine having protected solar access.

The combination of these two requirements, causes limitations to be created in the ability of any development on the 3 subject sites to achieve a minimum of 2hrs Solar Access in mid winter.

The accompanying Solar Point of view Diagrams in the architectural drawings, along with the Solar heat maps overleaf show where particular orientations of the building - particularly the eastern facade of all three towers, is constrained from achieving 2hrs of solar access due to the significant eastern overshadowing from the Towers that run along the Pacific Hwy as shown in the diagram opposite.

DESIGN RESPONSE

The apartment design guide makes provision for sites that have restricted solar access, and significant views and vistas in a southerly direction. This provision notes that some sites may not be able to achieve 70% of dwellings achieving 2hrs at the winter solstice.

The proposed design solution has shaped the Eastern orientation of Tower 1 to seek to improve the quantum of solar access received on the restricted facade.

The internal layouts of all 3 towers have been positioned to maximise solar access to the primary orientation that receives greater than 2hrs which is only the Western facade. Unfortunately, the northern orientation of each tower is restricted by neighbouring buildings, but layouts have been configured to achieve solar access where possible.

As a result of the intensive work on the layouts of the development, only 2 apartments out of the entire development proposal receive no sun in mid-winter (less than 0.5%) and 64% of apartments in the development are able to achieve 2hrs of solar access and 70% of apartments can receive 1.5hrs of solar access in mid-winter.



6.02

SOLAR ACCESS

WINTER

From the detailed solar analysis of the precinct, the facade language and internal orientation of apartments was developed.

The Apartment Design Guide sets out the provision that 70% of apartments in a building receive a minimum of 2 hrs direct sunlight from 9am to 3pm at the winter solstice.

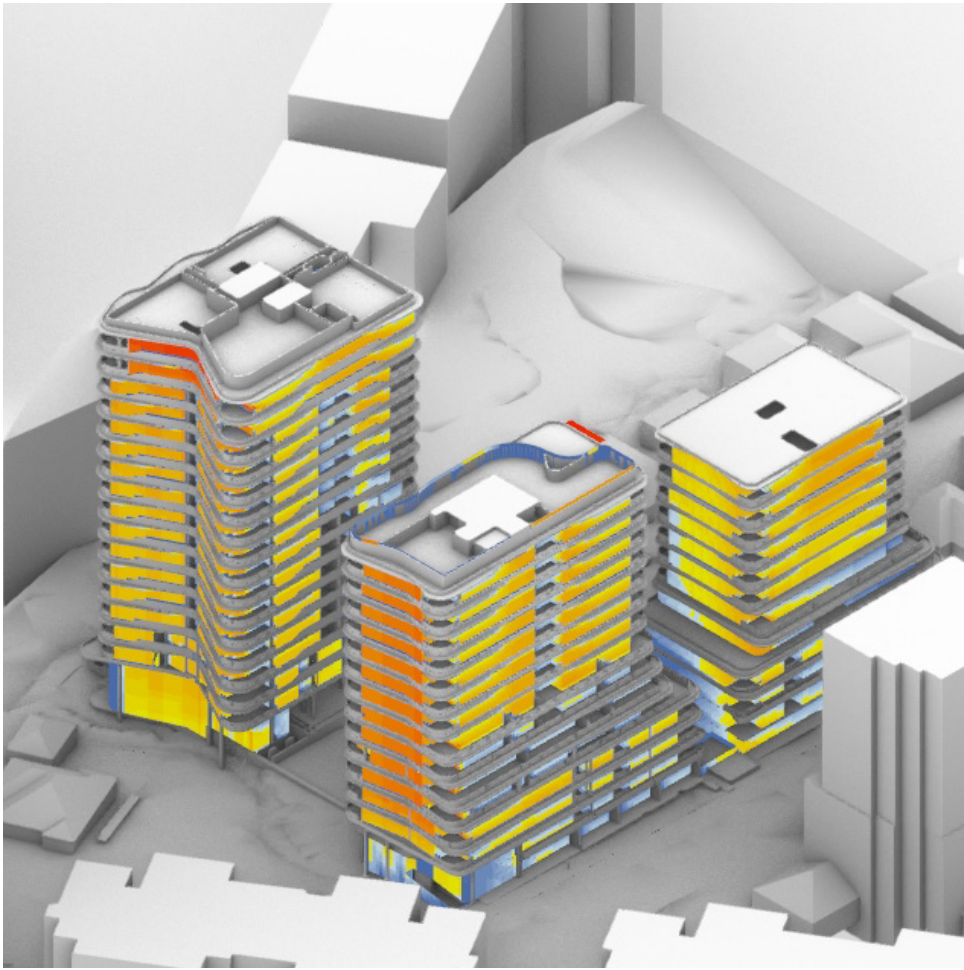
The subject site as described is significantly constrained by the position and orientation of the buildings within the masterplan envelope, and much larger buildings to the North.

Similarly the ADG allows for greater flexibility on south facing, sloping sites where significant views are orientated away from the desired aspect for direct sunlight.

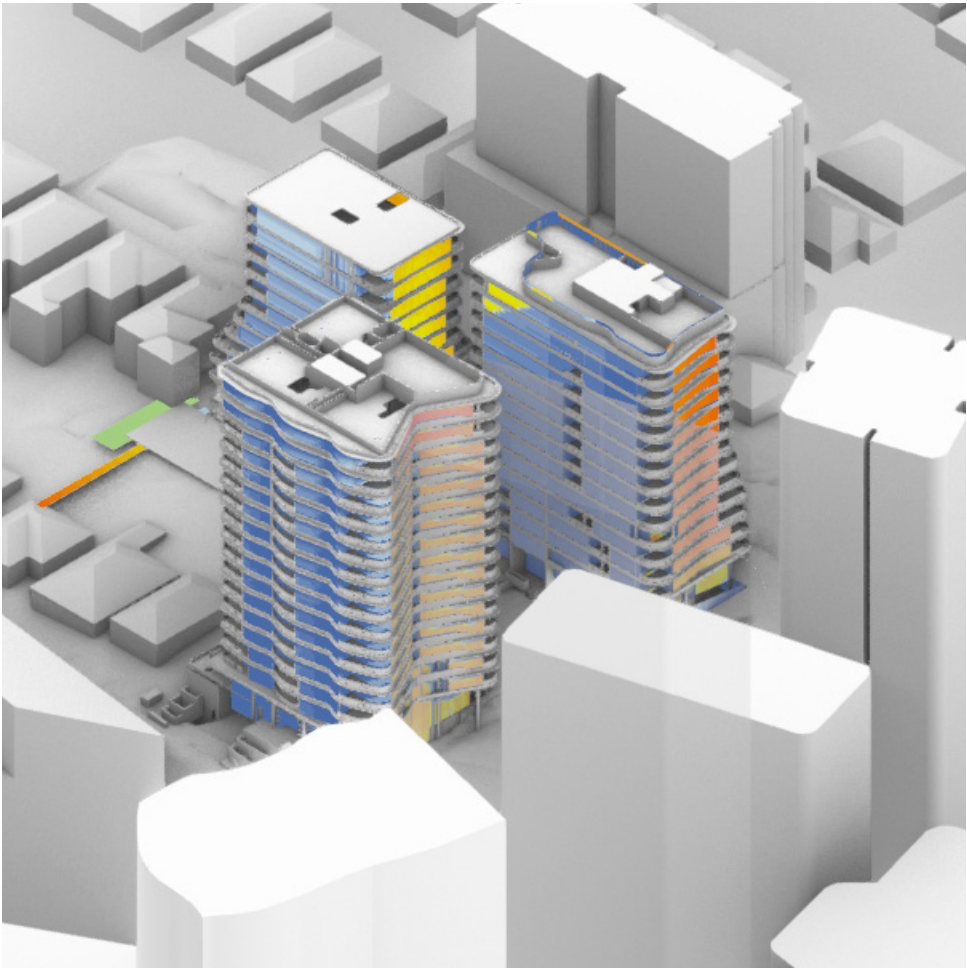
The adjacent solar mapping diagrams demonstrate the high degree of optimisation that has taken place to maximise the solar access into each apartment, and how the overall towers themselves are constrained.

The areas across the north, and Western façades of the towers that receive just under 2hrs (Yellow colour)

Legend	
<div></div>	0 hours of Sun
<div></div>	1-2 hours of Sun
<div></div>	2 hours of Sun
<div></div>	6 hours of Sun



North West Perspective:
Winter Solstice

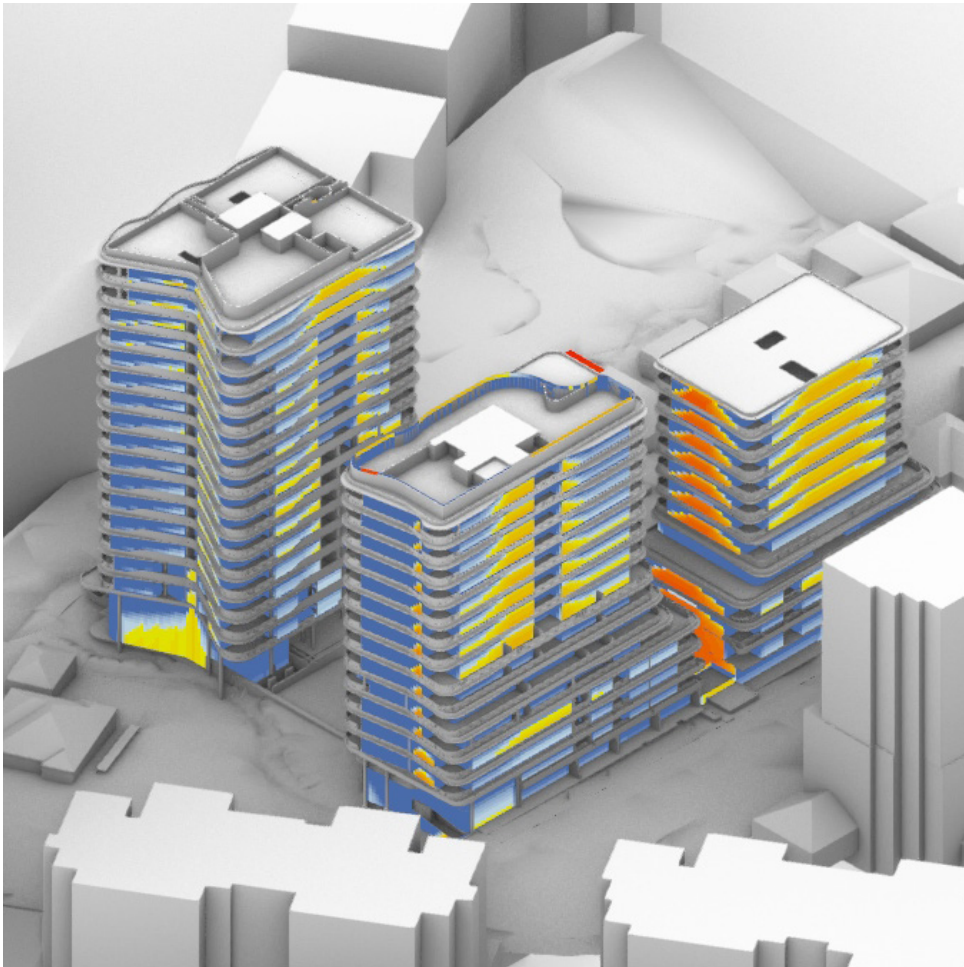


North East Perspective:
Winter Solstice

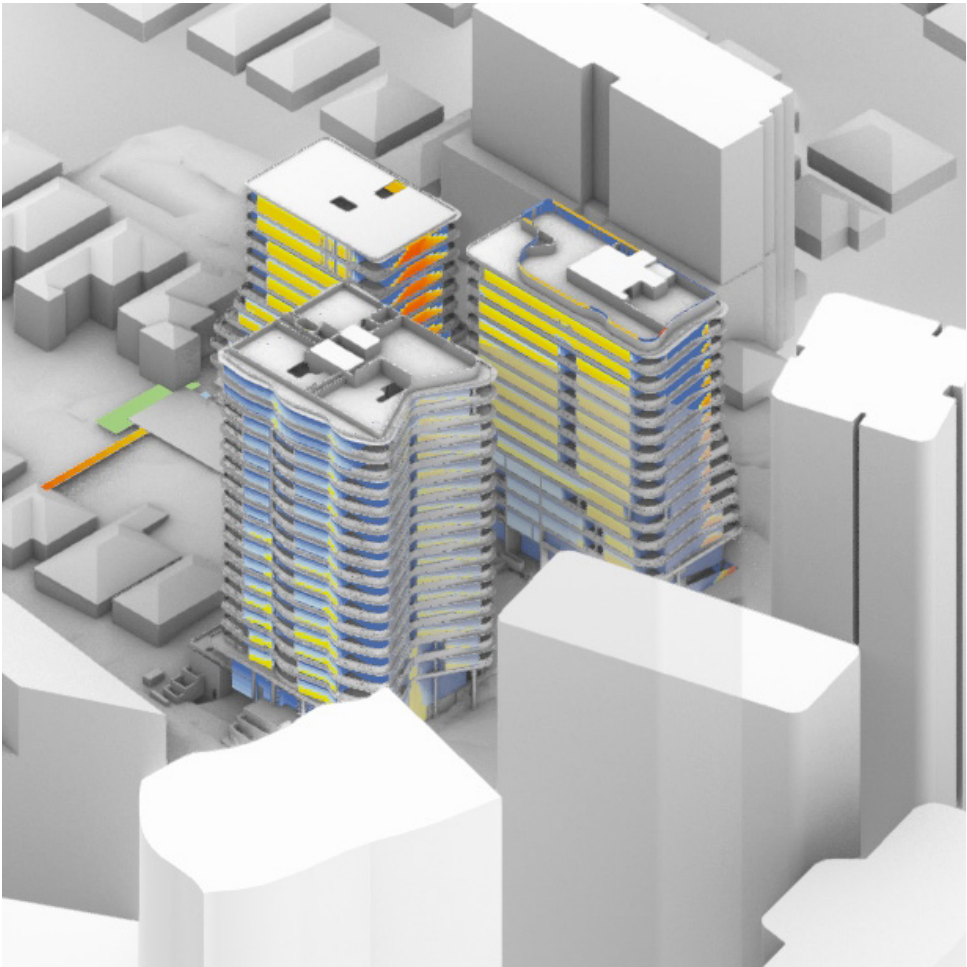
6.03
SOLAR ACCESS
SUMMER

Legend

0 hours of Sun
1-2 hours of Sun
2 hours of Sun
6 hours of Sun



North West Perspective:
Summer Solstice



North East Perspective:
Summer Solstice



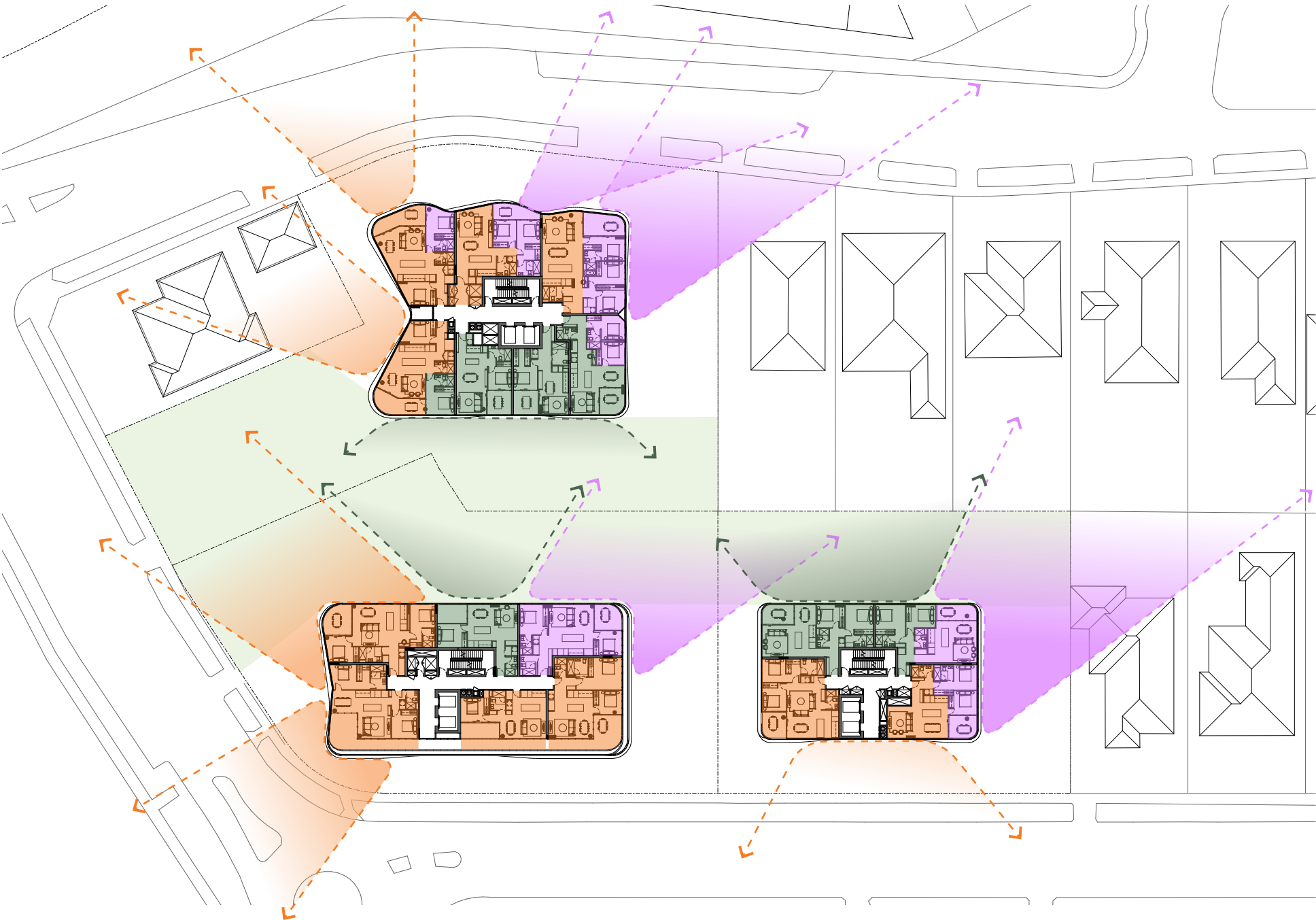
RESIDENTIAL AMENITY

6.04 RESIDENTIAL AMENITY

Each individual residence has been laid out to respond to its orientation and aspect for visual and environmental amenity. Careful shaping of the form, and placement of living areas and balconies allows for generous views beyond the site, without compromising on the privacy of direct neighbours, or of future development to the south of the site.



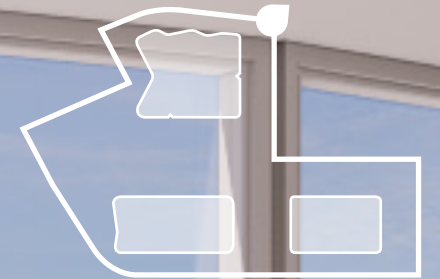
Legend	
	Harbour views
	Green spine views
	St Leonards views



AREAS 1, 2 AND 4 ST LEONARDS SOUTH

GENEROSITY OF VIEWS

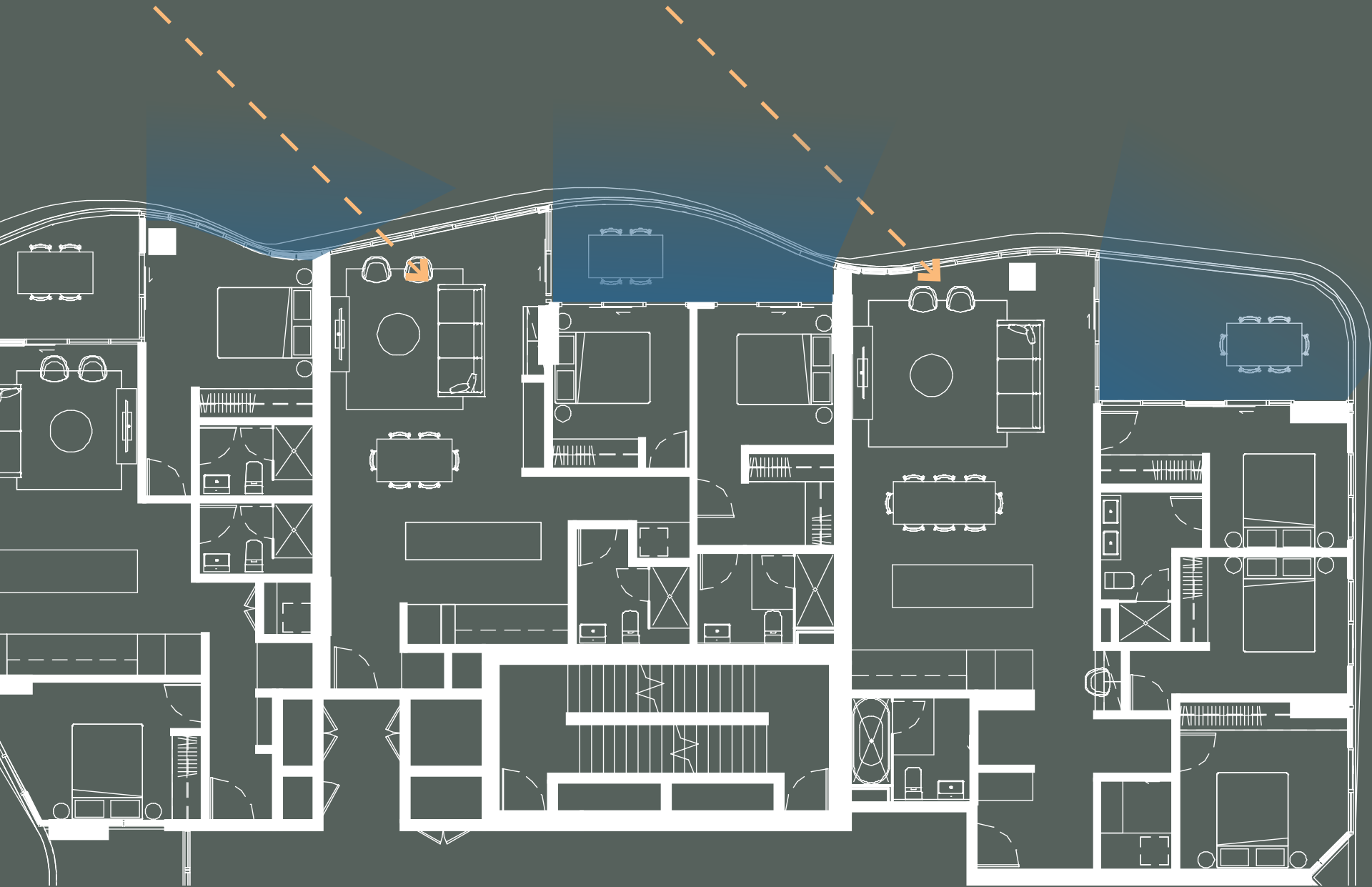
The sculpting and shaping of the tower forms has been created to maximise access to significant views to the south, without compromising access to solar amenity.



CITY VIEWS

TOWER 1

Facade line shifts and folds to maximise views to south and sun from north



AREAS 1, 2 AND 4 ST LEONARDS SOUTH



DEVELOPMENT APPLICATION

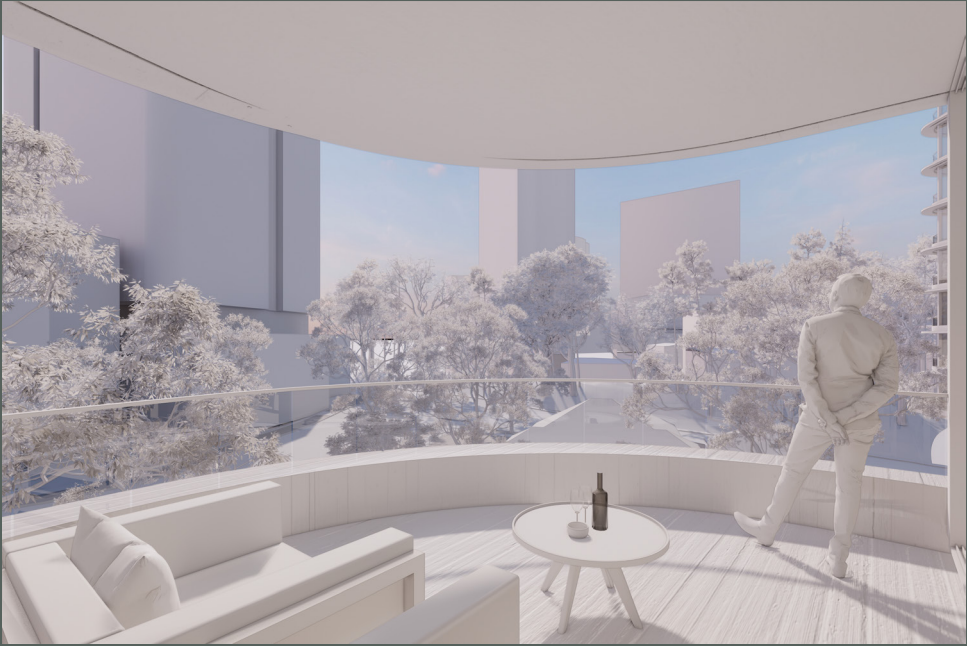
PARK VIEWS

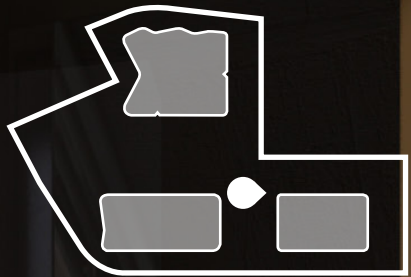
Maximised views to green space, sun shades reach out to north



TOWER 2

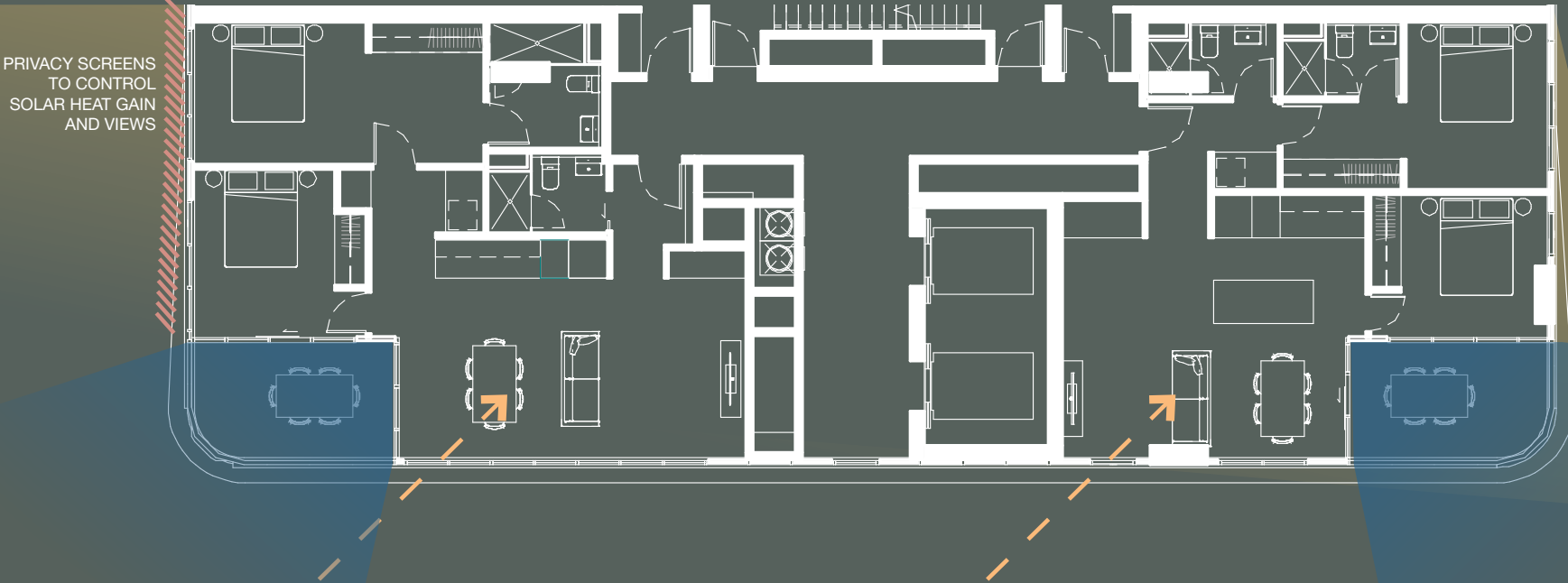
PARK VIEW OPPORTUNITIES
ALONG WESTERN AND
NORTHERN EDGE





DISTRICT VIEWS

Balance district amenity views with western sun



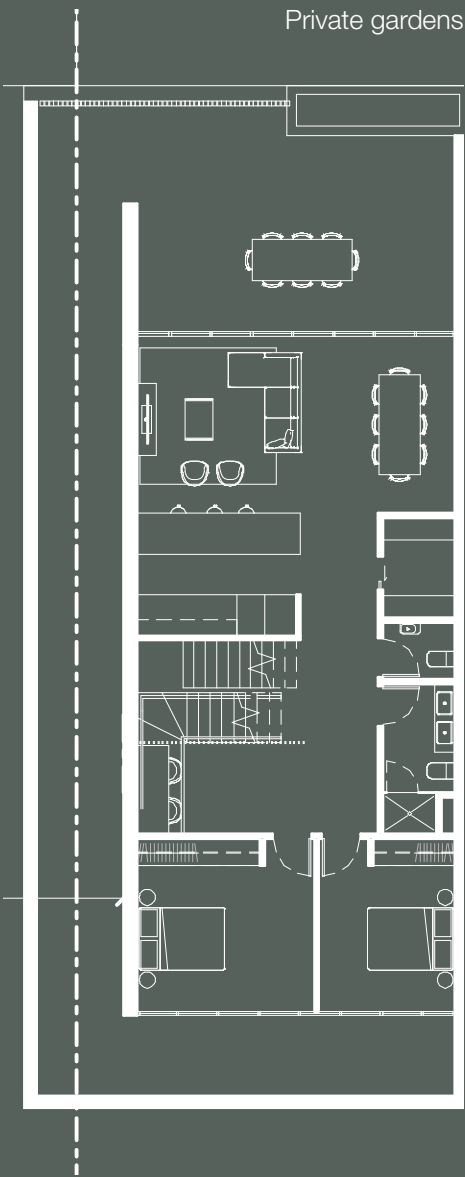
TOWER 4

AREAS 1, 2 AND 4 ST LEONARDS SOUTH

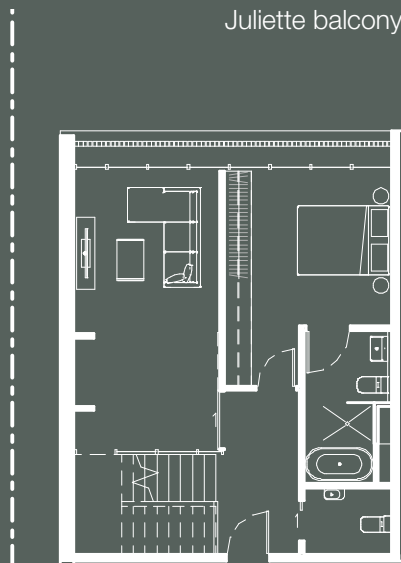


PODIUM

Terrace style housing to create housing diversity

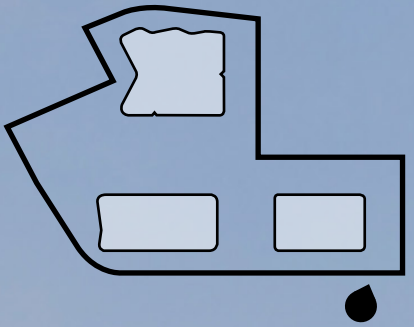


Terrace



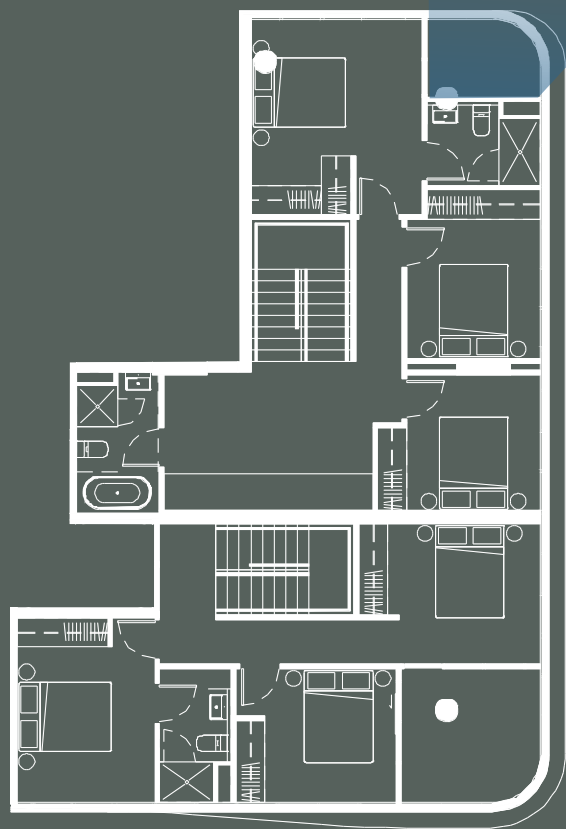
Terrace upper





SKY TERRACES

Terrace style housing to create housing diversity



Terrace upper



Terrace



7.0

7.0	Safety	70
7.01	Security Line	71
7.02	Proposed Fencing Strategy	72

SAFETY

7.01

SECURITY LINE

The subject site addresses 3 distinct and unique frontages. The design of the public and private entry areas, along with services have been tuned to the terrain, landscape and orientation to maximise passive surveillance and legibility of address from the public domain.

Canberra Avenue

The primary entry to Tower 1 is located on the Northern end of the street frontage, with an elevated, double height glazed lobby is placed to be visible as pedestrians approach on foot from the train station further to the north. As the site falls down Canberra avenue, individual terrace style apartments are established with individual gates and access to activate the streetscape. At the lowest point on the site, the driveway access is created which ramps quickly from the street to minimise its visual impact. The location of the communal open space and gym above counters the lack of activation of the driveway, with enhanced passive surveillance to the street.

Public Open Space

The new public park provides a unique second address for both Tower 1 and Tower 2, along with a communal access to the green spine in the centre. Both lobbies to the towers are designed as thru spaces, enhancing visual connectivity and permeability through the site.

An integrated fence design is proposed that meanders through the landscape design, reducing its visual appearance and creating a more softly framed edge between public and private areas, whilst still establishing a definition to each.

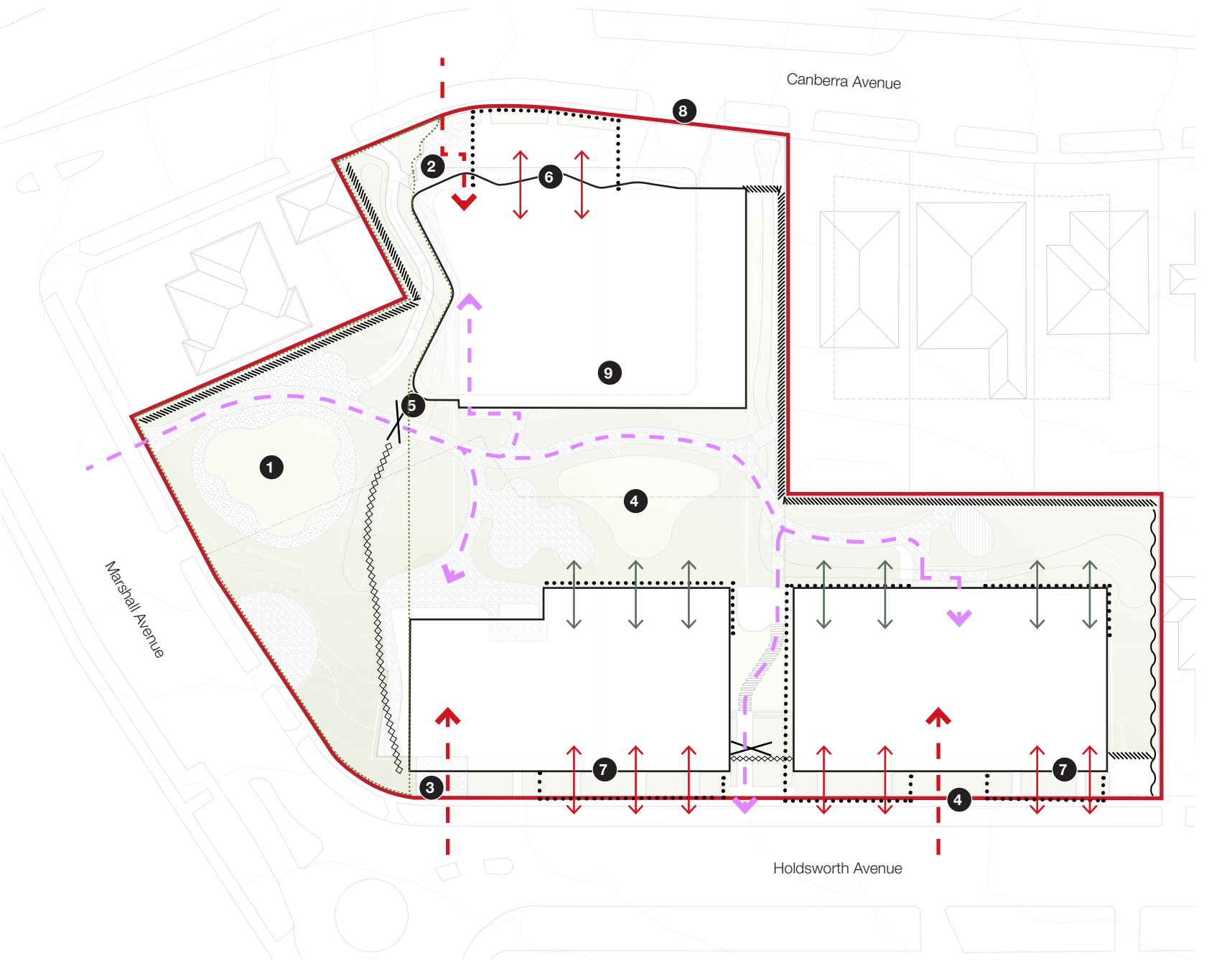
Holdsworth Avenue

The design of both Tower 2 and Tower 4 is enhanced through the consolidation of all vehicle movements to underneath Tower 1. This allows for the enhancement of what is already a quiet residential street, through a regular rhythm of private terrace home access gates and yards, through to each buildings individual building lobby.

An additional residents only access point to the communal landscape is created in the break between the two buildings, with a meandering pathway created to connect to the green spine below the street.

Legend

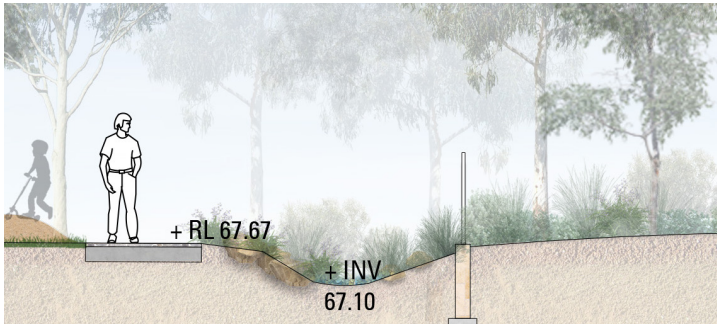
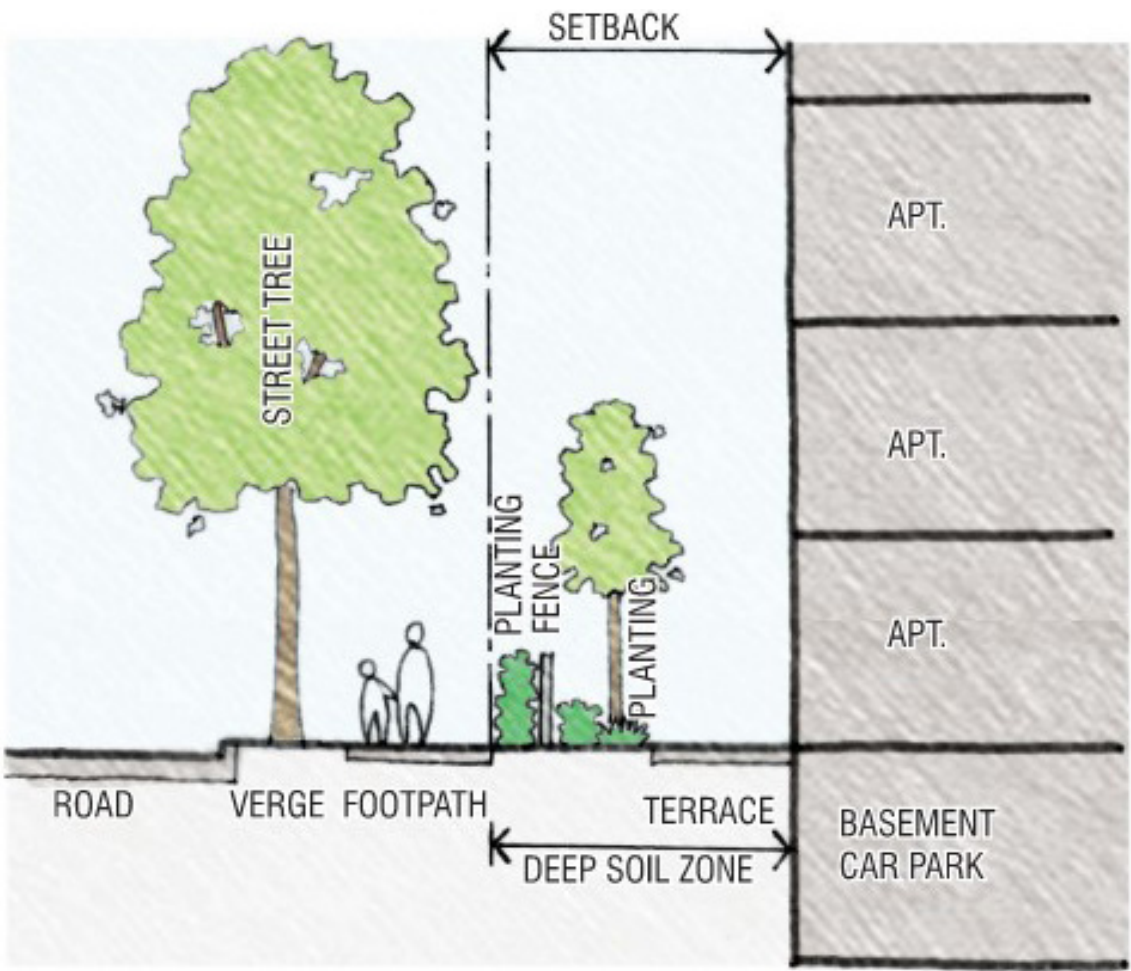
	Subject Site		Fence to Green Spine	1	Public Park Access
	Entry Point Circulation		Security Gate	2	T1 Lobby Entry
	General Circulation Paths		Fence to Private Courtyards	3	T2 Lobby Entry
	Public Park		Permanent boundary fence	4	T4 Lobby Entry
	Townhouse Entry/Exit Points		Temporary boundary fence pending development of adjacent areas	5	Public Park Green Spine access
	Townhouse Green Interface			6	Townhouse Holdsworth Ave Interface
				7	Townhouse Canberra Ave Interface
				8	Basement Access



7.02

PROPOSED FENCING STRATEGY

Legend	
	Fence to Green Spine
	Security Gate
	Fence to Private Courtyards
	Permanent boundary fence





TOWER 1



THE PARK

AREAS 1, 2 AND 4 ST LEONARDS SOUTH



TOWER 2

DEVELOPMENT APPLICATION

rothelowman



HOLDSWORTH LINK

AREAS 1, 2 AND 4 ST LEONARDS SOUTH



TOWER 4

DEVELOPMENT APPLICATION

rothelowman

8.0

8.0	Housing Diversity & Interaction	78
8.01	Community Facilities	80
8.02	Communal Space Areas	84

HOUSING DIVERSITY & INTERACTION



COMMUNAL SPACES

8.01 COMMUNITY FACILITIES

Living in higher density shouldn't require compromise on lifestyle. A significant landscape contribution is made by the development through the new public park, and green spine. In addition to these outdoor open spaces, a variety of other communal facilities are being proposed.

In the basement car parking areas, communal bicycle storage, and maintenance spaces are provided. Directly adjacent a community workshop space, with areas to maintain and service items is provided, where similar trade and swap meetings between residents can take place to reduce waste creation.

Above ground level, communal terrace areas are proposed on Tower 2, to allow for solar access, and separation from the ground plane.

Tower 1 provides a significant outdoor wellness component, with a lap pool placed with a wet edge to the green spine, and creating a central active point.

On the lower levels of T2 and roofs of T2 and T4, a significant outdoor space is provided, with a mix of uses and users of the roof top entrainment and dining areas, along with communal spa area.





THE POOL

DEVELOPMENT APPLICATION



THE POOL DECK

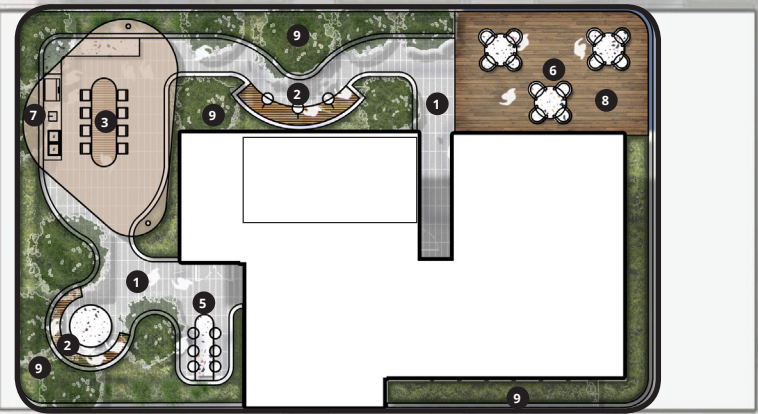
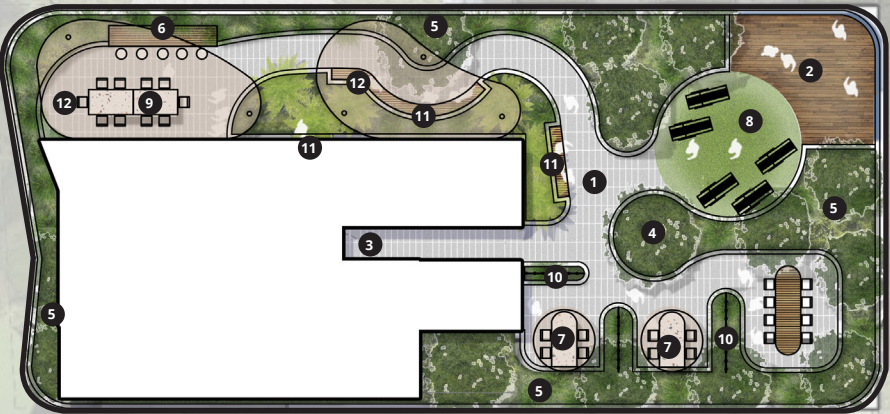
ROOFTOP LANDSCAPE PLAN



- 1 Unit paving
- 2 Outdoor kitchen
- 3 Lounge
- 4 Lounge chairs
- 5 Privacy buffer planting
- 6 Pergola
- 7 Peripheral planting
- 8 Outdoor dining

- 1 Unit paving
- 2 Integrated seating
- 3 Dining tables
- 4 Pergola
- 5 Outdoor working space
- 6 Flexible seating
- 7 Kitchen
- 8 Deck with views
- 9 Raised planting

- 1 Unit paving
- 2 Timber decking
- 3 Entry / exit
- 4 Feature tree
- 5 Peripheral planting
- 6 Bar seating with district views
- 7 Outdoor working space
- 8 Astroturf
- 9 Dining table
- 10 Screen with climbing plants
- 11 Integrated seating
- 12 Pergola



8.02

COMMUNAL SPACE AREAS

As part of the proposal, a significant amount of communal space is provided, both internal and external.

Once the Public park is dedicated, the developable area of the subject site is 5427m². The ADG would suggest a minimum communal open space of 1353.5m².

The minimum requirements under the ADG for a site of this size would be 1681.4m² (1353.5m² if only calculating developable area being 5427.5m²).

Within the development a series of Communal open spaces are provided.

These are:

- Green Spine - 1680m²
- Ground level soft landscaped areas - 2521.3m² (including pocket park)
- Tower 1 Pool Recreation area - 498.4m²
- Tower 1 Gym - 85.1m²
- Tower 2 Communal Recreation area (Level 3) - 155.7m²
- Tower 2 Rooftop Communal space (including amenities & soft landscaping) - 412.1m²
- Tower 4 Rooftop Communal space (including amenities & soft landscaping) - 272.8m²

These areas total 2863.2m², which is well in excess of the 1681.4m² (25% of total site area) required under the Apartment Design Guide.

Once the areas of passive landscape areas of 900m² are included, the total area of all communal spaces, landscape spaces and planting is 3763m² or 56% of the total gross site area.





ROOF TERRACE

9.0

10.0 Aesthetics	86
10.01 Three Streets	87
10.02 Three Characters	88
10.03 Character 1	89
10.04 Character 2	90
10.05 Character 3	91
10.06 Three Addresses	92

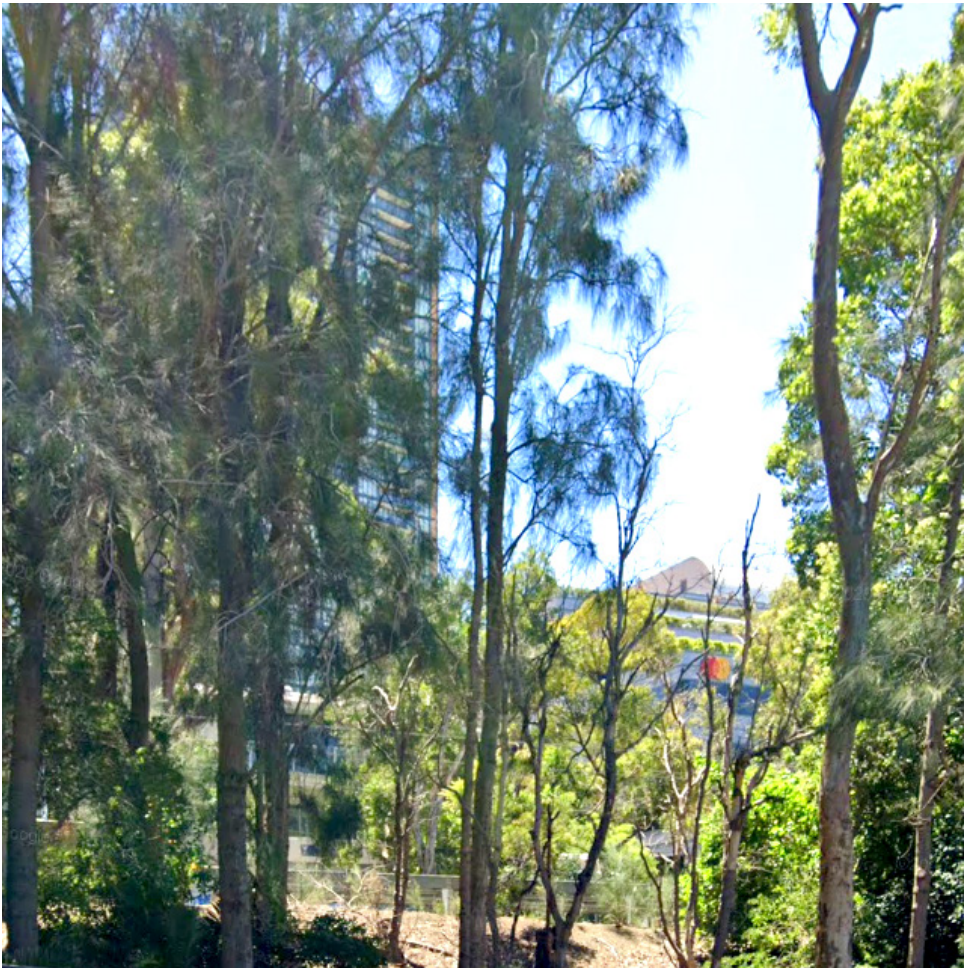
AESTHETICS

9.01

THREE STREETS

The site is edged by three unique street characters that are evolving and changing as part of the St Leonards South Masterplan.

These three unique characters, and the existing and proposed buildings along each enable a specific design response and separate character for each building on the site.



Canberra Avenue

- Large, widely spaced Eucalyptus street trees to the west.
- Elevated railway line and densely vegetated embankment on the opposite side of the street.



Marshall Avenue

- Consistent lower scale Water Gum street trees with greater canopy spread.
- Dominant existing sandstone retaining wall on the opposite side of the street.
- Wider road apron and taller building forms to the West with limited setback strongly defining address.
- New public park to run along entire northern edge



Holdsworth Avenue

- Dominant existing sandstone retaining wall on the opposite side of the street, setback by wide verges.
- Dense and mature Brushbox trees lining the length of the frontage of the subject site.

9.02

THREE CHARACTERS

The landscaped character of the street frontages is defined by the three unique species on each.

The colour and tone of the trees on each street - from the textured bark and deep colour of the brushbox, to the light greys and muted greens of the Eucalyptus enable a tonally consistent, but diverse colour and material palette to be introduced to the architecture.



Canberra Avenue

- Adjacent to Newlands Park
 - Scattered Eucalyptus street trees
- Dominant existing large sandstone retaining wall on the opposite side of the street.



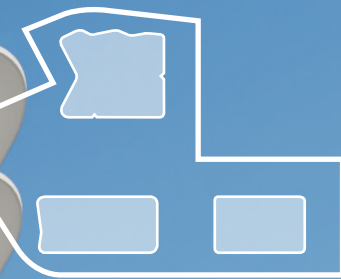
Marshall Avenue

- Consistent mature street trees:
- Lophostemon confertus (Brushbox)
 - Tristaniopsis laurina (Water Gum)



Holdsworth Avenue

- Dense mature Brushbox street trees
- Wide verges



9.03

THREE ADDRESSES

Along with the colour and material palette being subtly different across each building, the shape and form.



Canberra Avenue

Vertical articulation of the lobby creates a visual marker and allows for the draw of the public park under the building and into the site



Marshall Avenue (Holdsworth Corner)

A long lobby and integrated communal area activate both the public street, and form a visually active backdrop to the public park.



Holdsworth Avenue

Located within the finer grain of terrace style home addresses, A finer scale domestic address is established.

9.04

THREE PODIUMS

Subtle variation across the podium responds to the local context, tuned to address each streetscapes character and the opportunities afforded.



Canberra Avenue

In order to respond to the densely planted landscape berm across the road, the podium is expressed as two storeys upon a landscaped shelf.



Marshall Avenue (Holdsworth Corner)

The street interface seeks to continue the scale of the mid-rise developments to the north through a two storey datum to the street frontage. Low sandstone walls which anchor the podium and speak to the existing sandstone retaining walls to the north of Marshall Avenue and east of Holdsworth Avenue.



Holdsworth Ave

Located within the finer grain of home addresses, a domestic scale is maintained through the rhythm of expressed facade columns, palisade balustrades, and lowered sandstone landscape walls.

9.05

CHARACTER 1



Canberra Avenue

Elevation view

Tower 1 sits adjacent the two most divergent contexts. The densely landscaped planting against the rail corridor, contrasts directly with the high density urban context just beyond to the north.

As the tallest tower in the precinct, the role of the podium is to mediate between the lower scale existing buildings, and the high density urban centre to the north. Through conceiving the podium as a landscaped shelf, the scale of the built form underneath is enabled to better fit with the prevailing two storey character.

An intensely landscaped, and cascading ground plane of sandstone walls and shelves anchors the building into the terrain, and enables visual concealment of services and vehicular access.

9.06

CHARACTER 2



Marshall Avenue (Holdsworth Corner)

Elevation view

Tower 2 forms a transitional role in the precinct. Lying at the edge of the high rise portions of St Leonards South, and the mid-rise developments, the street interface seeks to mediate this change in scale, through a two storey datum for the entire street frontage.

This speaks to the existing sandstone retaining wall on the opposite side of Holdsworth, and existing built form. Rather than a sheer 6 storey podium, levels 2-5 cascade, and step back both from the street, and Tower 4 to the south to create a visual transition in height and scale.

9.07

CHARACTER 3



Holdsworth Avenue
Elevation view

Tower 4 continues the two storey podium and terrace style language along Holdsworth Avenue. Stepping terrace walls in sandstone evoke the materiality of existing buildings, and the natural rock shelves nearby. Finer scale detailing is proposed in these lower levels to talk to the craft of making small scale residential dwellings.

Above the podium line, deeper balcony projections are created as the building steps back from the street and the side boundaries. The visual affect creates shadow across the building facade with these floors being treated with painted metal infill cladding to add ornament to the composition of spandrel, solar slab shading and glazing.

AREAS 1, 2 AND 4 ST LEONARDS SOUTH



DEVELOPMENT APPLICATION

rothelowman

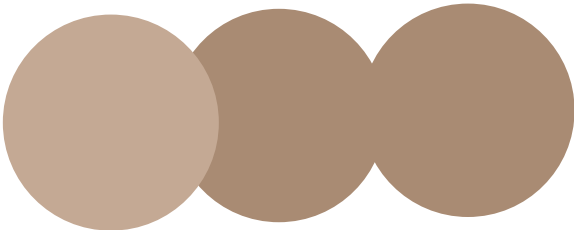
9.08

THREE TOWERS

Each tower sympathizes with it's context through materiality and colours that are drawn from the tonality of local existing street trees.



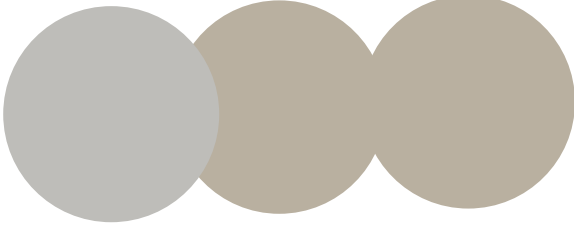
Canberra Avenue



EUCALYPTUS HAEMASTOMA (SCRIBBLY GUM)



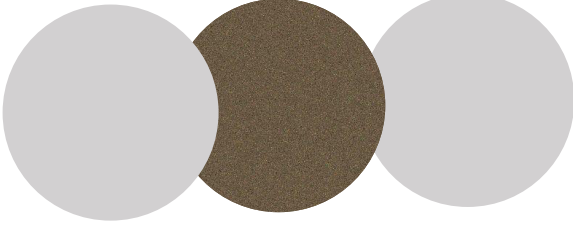
Marshall Avenue (Holdsworth Corner)



TRISTANIOPSIS LAURINA (WATER GUM)



Holdsworth Ave



LOPHOSTEMON CONFERTUS (BRUSHBOX)

CF02
Finish
Colour
Location

Concrete Finish
Equivalent to Dulux Elm Branch
Slabs, Tower Soffits & Parapet

CF03
Finish
Colour
Location

Concrete - Nawkaw style finish
Equivalent to Dulux Baton
Precast Spandrel Balustrades

CS02
Finish
Colour
Location

Composite Finish
Equivalent to Dulux Baton
Prefinished Metal Pan Panels

CF04
Finish
Colour
Location

Concrete Finish
Equivalent to Porters Double
Smoke Wood
Slabs, Tower Soffits & Parapet

CF05
Finish
Colour
Location

Concrete - Nawkaw style finish
Equivalent to Porters Chipmunk
Precast Spandrel Balustrades

CS04
Finish
Colour
Location

Composite Finish
Equivalent to Porters Chipmunk
Prefinished Metal Pan Panels

CF06
Finish
Colour
Location

Concrete Finish
Equivalent to Dulux Picador
Slabs, Tower Soffits & Parapet

CS05
Finish
Colour
Location

Composite Finish
Equivalent to Dulux Rich Loam
Tower Infill Panels

CS06
Finish
Colour
Location

Composite Finish
Equivalent to Dulux Rich Loam
Prefinished Metal Pan Panels

10.0

10.0

Benchmarks

10.01 Benchmark 1

105

106

BENCHMARKS

10.01

BENCHMARK 1



Concrete Details and Finishes

Slab Edges (Solar Shading)

The project anticipates a high quality concrete ‘penetrative stain’ finish - creating consistency of colour and finish whilst not covering the material quality of the concrete. These products are highly durable and do not suffer from the negative maintenance considerations of painted concrete (which can chip, fade or peel). Products such as Nawkaw offer long warranties (e.g. 25 years), with extremely low to zero maintenance / re-application requirements.

APPENDIX 1 MATERIALS & FINISHES

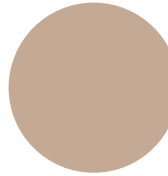
TOWER 1 EXTERIOR FINISHES



CF01
Finish Concrete Finish - Off-form
Colour Grey
Location Podium Slabs & Columns



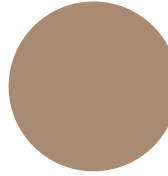
CS08
Finish Composite Finish
Colour Equivalent to Dulux Venerable Silver
Location Tower Cladding System



CF02
Finish Concrete - Nawkaw style finish
Colour Equivalent to Dulux Elm Branch
Location Tower Soffits, Slabs & Parapet



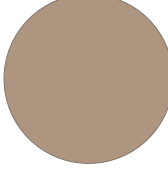
GT01
Finish Glazing
Colour Clear
Location Glazing
Substrate Glass



CF03
Finish Concrete - Nawkaw style finish
Colour Equivalent to Dulux Baton
Location Precast Spandrel Balustrades



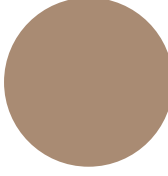
MF01
Finish Metal Finish
Colour Equivalent to Dulux Brilliance
Location Tower Balustrades, Mullions & Trims



CS01
Finish Composite Finish
Colour Equivalent to Porters Putty
Location Tower Infill Panels



MF02
Finish Metal Finish
Colour Equivalent to Dulux Brilliance
Location Tower Solar Shades



CS02
Finish Composite Finish
Colour Equivalent to Dulux Baton
Location Tower Spandrel Panels



MF03
Finish Metal Finish
Colour Equivalent to Dulux Medium Bronze
Location Podium Balustrades, Mullions & Trims



CS07
Finish Composite Finish
Colour Equivalent to Dulux Venerable Silver
Location Terrace Infill Panels



ST01
Finish Stone Finish
Colour Sandstone
Location Townhouse Planters

Tower 1

TOWER 2 EXTERIOR FINISHES



MF05
MF04
GT01
CF04
MF01
CF05
CF04
GT01
CF01
MF06
MF06
MF06
GT01
ST01



CF01
Finish Concrete Finish - Off-form
Colour Grey
Location Podium Slabs & Columns



GT01
Finish Glazing
Colour Clear
Location Glazing
Substrate Glass



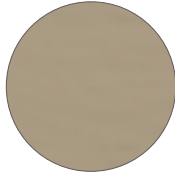
CF04
Finish Concrete - Nawkaw style finish
Colour Equivalent to Porters Double Wood Smoke
Location Tower Soffits, Slabs & Parapet



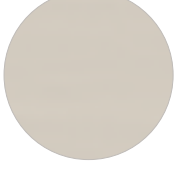
MF04
Finish Metal Finish
Colour Equivalent to Dulux Brilliance
Location Tower Balustrades, Mullions & Trims



CF05
Finish Concrete - Nawkaw style finish
Colour Equivalent to Porters Chipmunk
Location Precast Spandrel Balustrades



MF05
Finish Metal Finish
Colour Equivalent to Porters Putty
Location Tower Solar Shades



CS03
Finish Composite Finish
Colour Equivalent to Porters Putty
Location Tower Infill Panels



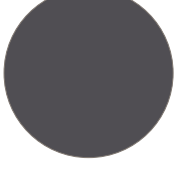
MF06
Finish Metal Finish
Colour Equivalent to Dulux Medium Bronze
Location Podium Balustrades, Mullions & Trims



CS04
Finish Composite Finish
Colour Equivalent to Porters Chipmunk
Location Tower Spandrel Panels



ST01
Finish Stone Finish
Colour Sandstone
Location Townhouse Planters

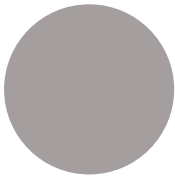

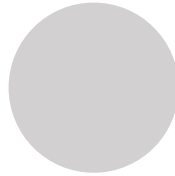



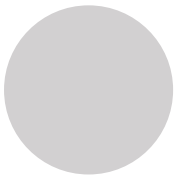





CS07
Finish Composite Finish
Colour Equivalent to Dulux Venerable Silver
Location Terrace Infill Panels

Tower 2

TOWER 4 EXTERIOR FINISHES


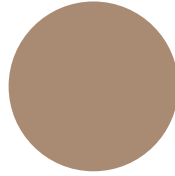




	CF06 Finish Colour Location	Concrete - Nawkaw style finish Medium Grey Slabs & Columns		GT01 Finish Colour Location Substrate	Glazing Clear Glazing Glass
	CF07 Finish Colour Location	Concrete - Nawkaw style finish Light Grey Precast Spandrel Balustrades		MF07 Finish Colour Location	Metal Finish Equivalent to Dulux Brilliance Tower Balustrades, Mullions & Trims
	CS05 Finish Colour Location	Composite Finish Equivalent to Dulux Brilliance Tower Infill Panels		MF08 Finish Colour Location	Metal Finish Equivalent to Dulux Brilliance Tower Solar Shades
	CS06 Finish Colour Location	Composite Finish Light Grey Tower Spandrel Panels		MF09 Finish Colour Location	Metal Finish Equivalent to Dulux Brilliance Podium Balustrades, Mullions & Trims
	CS07 Finish Colour Location	Composite Finish Equivalent to Dulux Venerable Silver Terrace Infill Panels		ST01 Finish Colour Location	Stone Finish Sandstone Townhouse Planters

Tower 3

TOWER 1 EXTERIOR FINISHES



	CF01 Finish Colour Location	Concrete Finish - Off-form Grey Podium Slabs & Columns		CS08 Finish Colour Location	Composite Finish Equivalent to Dulux Venerable Silver Tower Cladding System
	CF02 Finish Colour Location	Concrete - Nawkaw style finish Equivalent to Dulux Elm Branch Tower Soffits, Slabs & Parapet		GT01 Finish Colour Location Substrate	Glazing Clear Glazing Glass
	CF03 Finish Colour Location	Concrete - Nawkaw style finish Equivalent to Dulux Baton Precast Spandrel Balustrades		MF01 Finish Colour Location	Metal Finish Equivalent to Dulux Brilliance Tower Balustrades, Mullions & Trims
	CS01 Finish Colour Location	Composite Finish Equivalent to Porters Putty Tower Infill Panels		MF02 Finish Colour Location	Metal Finish Equivalent to Dulux Brilliance Tower Solar Shades
	CS02 Finish Colour Location	Composite Finish Equivalent to Dulux Baton Tower Spandrel Panels		MF03 Finish Colour Location	Metal Finish Equivalent to Dulux Medium Bronze Podium Balustrades, Mullions & Trims
	CS07 Finish Colour Location	Composite Finish Equivalent to Dulux Venerable Silver Tower Cladding System		ST01 Finish Colour Location	Stone Finish Sandstone Townhouse Planters












NOTE: Refer to architecture elevations for spandrel panel locations.

Tower 1

TOWER 2 EXTERIOR FINISHES



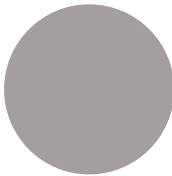

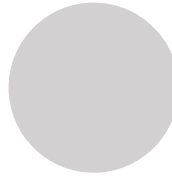







Tower 2

	CF01 Finish Colour Location	Concrete Finish - Off-form Grey Podium Slabs & Columns		GT01 Finish Colour Location Substrate	Glazing Clear Glazing Glass
	CF04 Finish Colour Location	Concrete - Nawkaw style finish Equivalent to Porters Double Wood Smoke Tower Soffits, Slabs & Parapet		MF04 Finish Colour Location	Metal Finish Equivalent to Dulux Brilliance Tower Balustrades, Mullions & Trims
	CF05 Finish Colour Location	Concrete - Nawkaw style finish Equivalent to Porters Chipmunk Precast Spandrel Balustrades		MF05 Finish Colour Location	Metal Finish Equivalent to Porters Putty Tower Solar Shades
	CS03 Finish Colour Location	Composite Finish Equivalent to Porters Putty Tower Infill Panels		MF06 Finish Colour Location	Metal Finish Equivalent to Dulux Medium Bronze Podium Balustrades, Mullions & Trims
	CS04 Finish Colour Location	Composite Finish Equivalent to Porters Chipmunk Tower Spandrel Panels		ST01 Finish Colour Location	Stone Finish Sandstone Townhouse Planters
	CS07 Finish Colour Location	Composite Finish Equivalent to Dulux Venerable Silver Terrace Infill Panels			

NOTE: Refer to architecture
elevations for spandrel panel
locations.

TOWER 4 EXTERIOR FINISHES



	CF06 Finish Concrete - Nawkaw style finish Colour Medium Grey Location Slabs & Columns		GT01 Finish Glazing Colour Clear Location Glazing Substrate Glass
	CF07 Finish Concrete - Nawkaw style finish Colour Light Grey Location Precast Spandrel Balustrades		MF07 Finish Metal Finish Colour Equivalent to Dulux Brilliance Location Tower Balustrades, Mullions & Trims
	CS05 Finish Composite Finish Colour Equivalent to Dulux Brilliance Location Tower Infill Panels		MF08 Finish Metal Finish Colour Equivalent to Dulux Brilliance Location Tower Solar Shades
	CS06 Finish Composite Finish Colour Light Grey Location Tower Spandrel Panels		MF09 Finish Metal Finish Colour Equivalent to Dulux Brilliance Location Podium Balustrades, Mullions & Trims
	CS07 Finish Composite Finish Colour Equivalent to Dulux Venerable Silver Location Terrace Infill Panels		ST01 Finish Stone Finish Colour Sandstone Location Townhouse Planters

NOTE: Refer to architecture elevations for spandrel panel locations.

APPENDIX 2 DEVELOPMENT APPLICATION DRAWINGS