

MOS LANE 130 WELLINGTON STREET MOSMAN PARK



AUSTRALIAN DEVELOPMENT CAPITAL
DEVELOPMENT APPLICATION
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Contents



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00. Introduction

The landscape design for the 130 Wellington project in Mosman Park, has been prepared by ASPECT Studios in collaboration with NH Architects and Hatch | RobertsDay. The design responds to the scale, form and function of the architecture and local context.

With the garden suburbs of Mosman Park as the developments backdrop, the landscape design will showcase a mix of natives, exotic, and sensory plant species to support the proposed new streetscapes and amenity spaces. The landscape concept responds to the site's aspect and relationship to the Swan River, celebrating the vibrant, textured tones and layered vegetation.

As part of the development of the project the design team has undertaken a context analysis reviewing the significant natural and cultural features of the site surrounds. This research has provided the foundation for the development of the landscape design and grounded the design in its local context.

The following general principles form the landscape approach to the site:

- Use high quality landscape design to integrate the proposed development with the surrounding streets and neighbourhood;
- Develop a legible network of spaces that fully integrate with and connect to the surrounding context;
- Create spaces with varying characters and identities.
- Design spaces that will become activated and vital.
- Create a robust landscape made from elegant materials, proven planting and bold forms that can be managed and maintained.
- Selection of local and native plant species that benefit surrounding ecologies.
- Ensure screening elements read as an extension of the architectural material palette and are integrated with the planting compositions.

The design of landscape considers the architectural design in both concept and materiality, with the intention of knitting the building into the existing local context.



01. Site Appreciation

Swan River Character



Swan River Precinct 3 - Landscape Character

- A dense heath on shallow limestone soils ranging to open eucalyptus woodlands. Limestone landforms in which the suburb has been built, made interesting by the varied landform and cliffs along the foreshore.
- Geology - Pleistocene Tamala Limestone
- Topography - relatively gently sloping terrain to cliffed foreshores
- Vegetation - Cottesloe vegetation complex including tuart (*Eucalyptus gomphocephala*), jarrah (*Eucalyptus marginata*), marri (*Eucalyptus calophylla*) with *Juncus* and *Halosarcia* communities.
- Karrakatta Complex in the eastern side of the complex predominately tuart (*Eucalyptus gomphocephala*), jarrah (*Eucalyptus marginata*), marri (*Eucalyptus calophylla*), in addition sheoak (*Allocasuarina fraseriana*) and peppermint (*Agonis flexuosa*) are found.

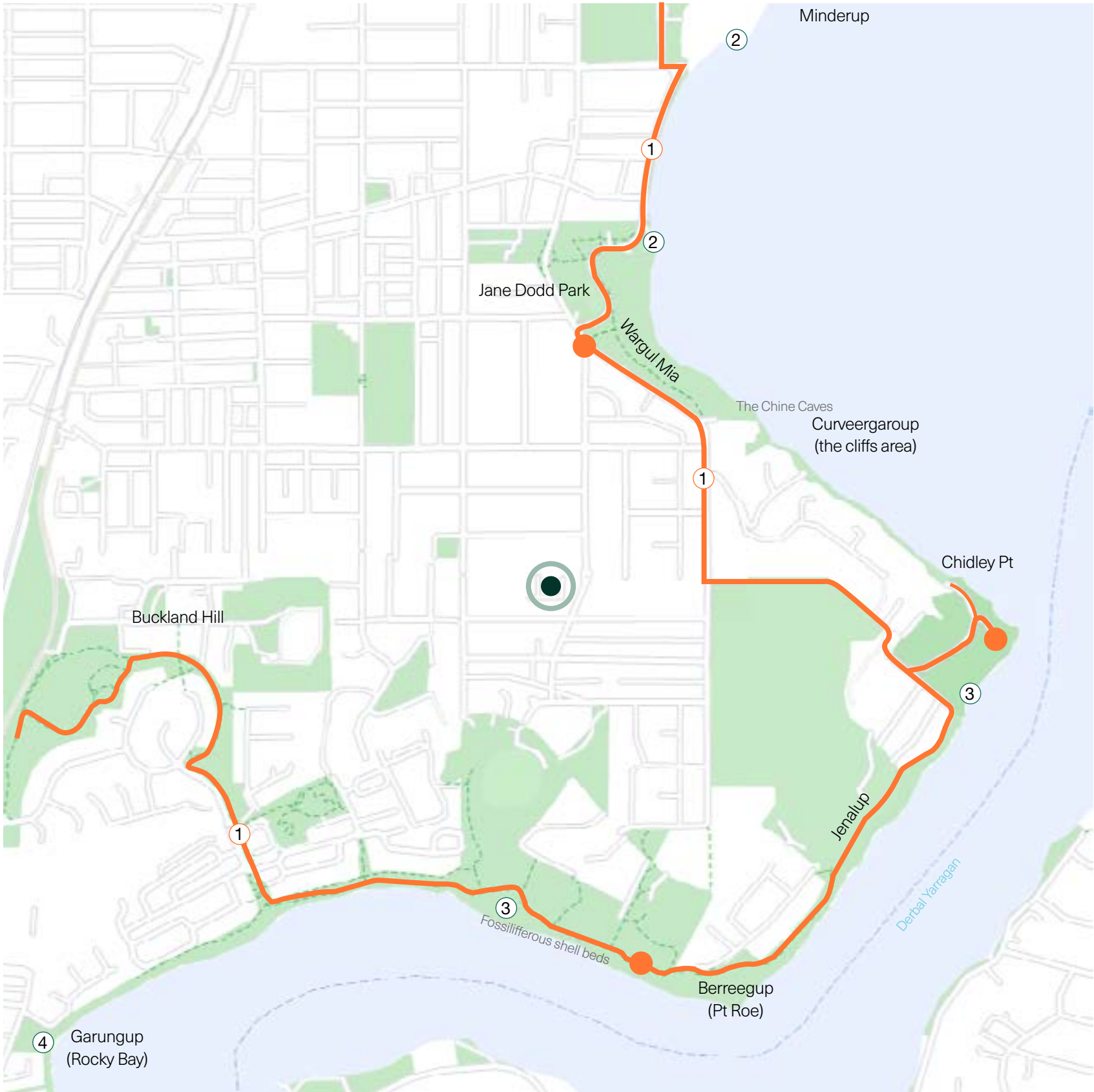
Swan River Precinct 2 - Landscape Character

- The most dominant natural features along the foreshore are the limestone cliff faces, which are exposed along much of the precinct
- Geology - underlying Tamala Limestone
- Topography - steep limestone escarpment
- River bed consists of light coloured sands, shell material, with quartz grains around foreshore areas.
- Vegetation - Cottesloe vegetation complex including tuart (*Eucalyptus gomphocephala*), jarrah (*Eucalyptus marginata*), marri (*Eucalyptus calophylla*) with *Juncus* and *Halosarcia* communities.



01. Site Appreciation

Indigenous Context



Indigenous Significance

- The is located along the Wardun Beelie Bidi trail that runs from Cottesloe Beach, towards the river, traverses the land of the Nyungar people in the Whadjuk Country. The significant sites of the trail include Mudurup Rocks in Cottesloe and numerous viewpoints to Madjemup (Rottnest Island) which is believed to be Nyungar Heaven.
- In the northern part of the precinct, there were freshwater springs that ran along the foreshore, there were campsites nearby that used this as their main source for water. Curveergaroup refers to the cliffs area which now is the Coombe and due to the steep cliffs was not a popular spot as it was difficult for hunting and gathering.
- The southern area would have been a camping ground and fishing site for those who lived in the area waiting for low tide to cross the river. At Minim Cove, a smooth granite stone was found that was carried from the Darling Ranges, suggesting that the area is a Nyungar site of much significance.
- Garungup, in indigenous storytelling is highly significant, as it was believed to be the final resting place of the Rainbow-serpent Waugal, who created the Nyungar and their world.

reference: Swan River System Landscape Description Swan River Trust



Bay View Park



The Chine Caves



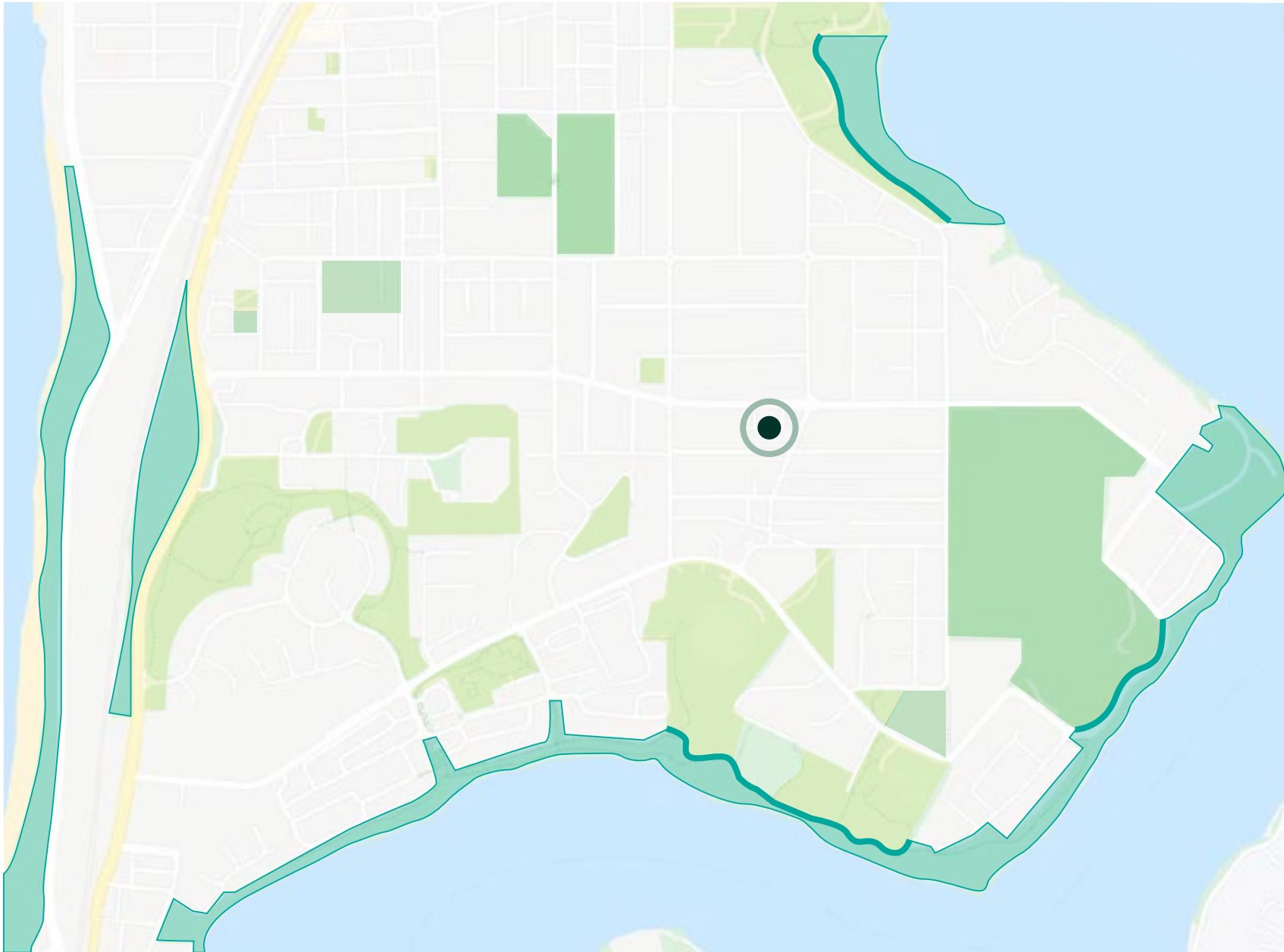
Garungup



Hinemoa Rock

01. Site Appreciation

Public Space Character



Public Space

The cultural character of the sites locality is defined by the intersection of varying land uses. Immediately surrounding the project site is a cohesive residential community with access to a range of public open spaces. Further to the west, the area has traditionally included industrial functions that is changing over time with an increase in higher density developments emerging. The area is uniquely located at the closest point between the river and the ocean with natural assets along the southern end of the peninsula. With its close proximity to Fremantle and abundance of open space, parklands, beaches and foreshores it presents as an increasingly desirable location to live.

- Natural Reserves
- Sport Facilities
- Parks
- Thresholds



Conservation Areas
native vegetation
passive recreation
hiking routes
biodiversity



Recreation and Sport
community
sports and activities
high points
activity offers

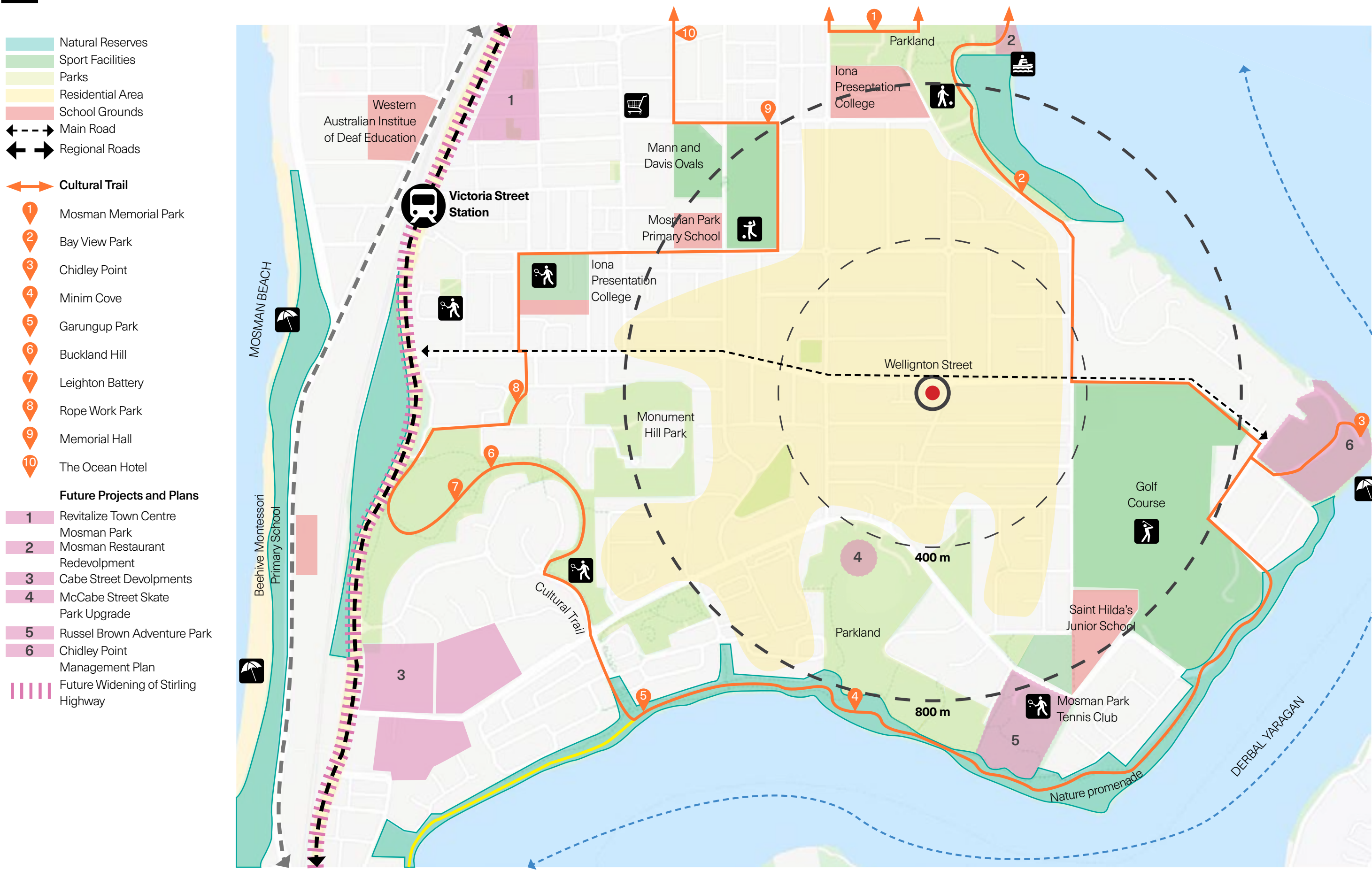


**Thresholds between
Naturalised and Manicured**
native vegetation
desire paths
contrast



Local Park
lawn
solitary trees
separated amenities

01. Site Appreciation



01. Site Appreciation

Mosman Park Context

With such a diverse residential mix, in turn comes a eclectic landscape character that is further reflected within the area. The landscape character of the suburb is defined by the council trees, parks and verge treatments that are visible at the street level. The character is then enhanced by the individual gardens, which are often exotic or a mix with native. This layering from the street level to the building edge creates distinction within the suburb.

Urban



In contrast to the large houses and intimate bungalows, the area has several apartment complexes throughout the suburb, of which along with monument hill are visual landmarks of Mosman Park. These complexes contribute to the diversity of the community, making the area accessible to lower income families and people of different cultures.

Heritage



The Coombe

With a high degree of urban pride, most of the houses within the area have replaced native vegetation with exotic private gardens with high aesthetic appeal. Behind the houses are highly maintained gardens which have been transformed into formal English enclaves, whilst smaller houses have neat eclectic gardens. Each house being an isolated entity in architectural and garden design.

Contemporary



With its proximity to the river, the suburb attracts high income residents seeking luxury houses. Despite councils encouragement of native planting on verges, as a waterwise substitute for grass, native planting is often absent from many garden arrangements. Newer homes and some of formalised grassed gardens do not have large trees to soften the edges of the built form, making them more prominent.



The unique limestone cliffs that define the landform of the suburb, are interesting references to the history of Mosman Park. Caves along the river, would be used by adventurous holiday makers as camping grounds.

A quarryman etched into a boulder in Greek with the words “dip your nose in”, which the cave was occupied by a draftsman who travelled by canoe for part of his commute.



01. Site Appreciation

Site Context

The immediate context surrounding the site, is largely residential consisting of single to two storey dwellings of varying age and style. The dominant typologies feature smaller, heritage bungalows and houses of high character and varying quality. The other is a combination of largely modern and older late century houses.

The landscape character that defines these streets is predominantly native trees with a combination of exotic and native plant species within a front garden. Whilst there are examples of verges, planted with native plants and ground covers these are uncommon relative to more typical grassed verges.

Streetscape



The streetscape is largely dominated by native and endemic species. Peppermints, Paperbarks & Bottlebrushes define the verge trees, with scatterings of Norfolk Pines and various exotic species.

Heritage



The landscape character that defines the heritage homes and bungalows is defined by the large native trees and plants that are on the property. Typically, these houses would have grassed verges, front fences and well maintained gardens in the front yard. However many of the older properties feature newly planted out verges with native species that add depth from the street.

Modern



Newer properties value feature planting arrangement that are often non-native as a design element, in preference to native arrangements. With newer subdivided blocks, having small distances from the building edge and the verge, resulting in more visual impact from the street level. Other modern houses adopt more native planting arrangements in their yards. This wide mix of built form style creates a highly eclectic mix of native and exotic planting at varying scales.



Viewpoints



01. Site Appreciation

Existing Streetscape



- Gardenbeds
- Verge/Lawn
- Alfresco Area
- Street Parking
- Existing Trees
- Broader Connection
- Local Street
- Barriers



Wellington Street

- Opportunities:
- + alfresco areas with movable furniture
 - + active facade with glass front and small businesses
 - + mature existing street trees
 - + good connectivity and access
- Constraints:
- lack of shade
 - road dominates spatial experience
 - lack of human scale and sense of intimacy



Manning Street

- Opportunities:
- + local street feel
 - + existing trees and vegetation
- Constraints:
- narrow foot path
 - no activation of street
 - carpark dominates street scape
 - built form set back from street edge



Turnbull Way

- Opportunities:
- + Active and vibrant laneway
 - + potential for street art
 - + good access for cars
- Constraints:
- neglected, fenced off and feeling of insecurity
 - no activation
 - car dominated



Samson Street

- Opportunities:
- + local street feel
 - + existing trees and vegetation
 - + planted verge
- Constraints:
- narrow foot path
 - no activation of street
 - carpark dominates street scape

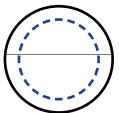
01. Site Appreciation

Existing Tree Survey

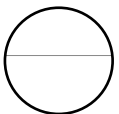
A feature of the existing site is a green frame of trees along Samson and Manning Streets. Detrimental pruning, limited maintenance and drought stress have impacted on the health and vitality of a number of the existing trees, however, there is an opportunity to retain quality existing trees and enhance and extend the green frame around the site. This will assist in improving the quality of the streetscapes, shading public open spaces and parking spaces and integrating the development into the local street network.



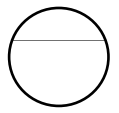
1 Existing site tree to be retained



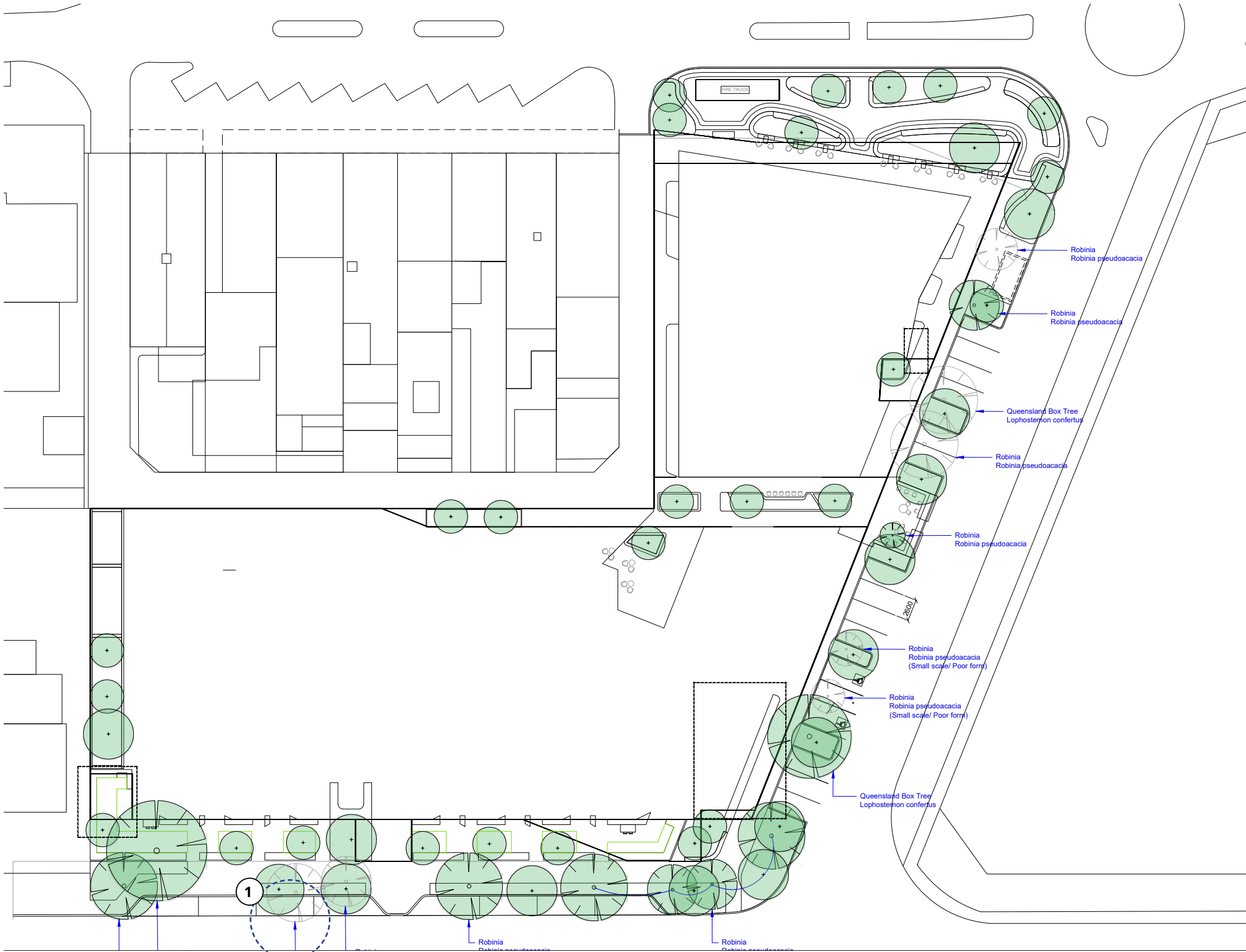
Existing site tree to be retained



Existing street tree to be retained



Existing tree to be removed



WELLINGTON STREET
FUTURE ON-STREET BI-DIRECTIONAL CYCLE LANE 2012-2032

TURNBULL WAY

MANNING STREET

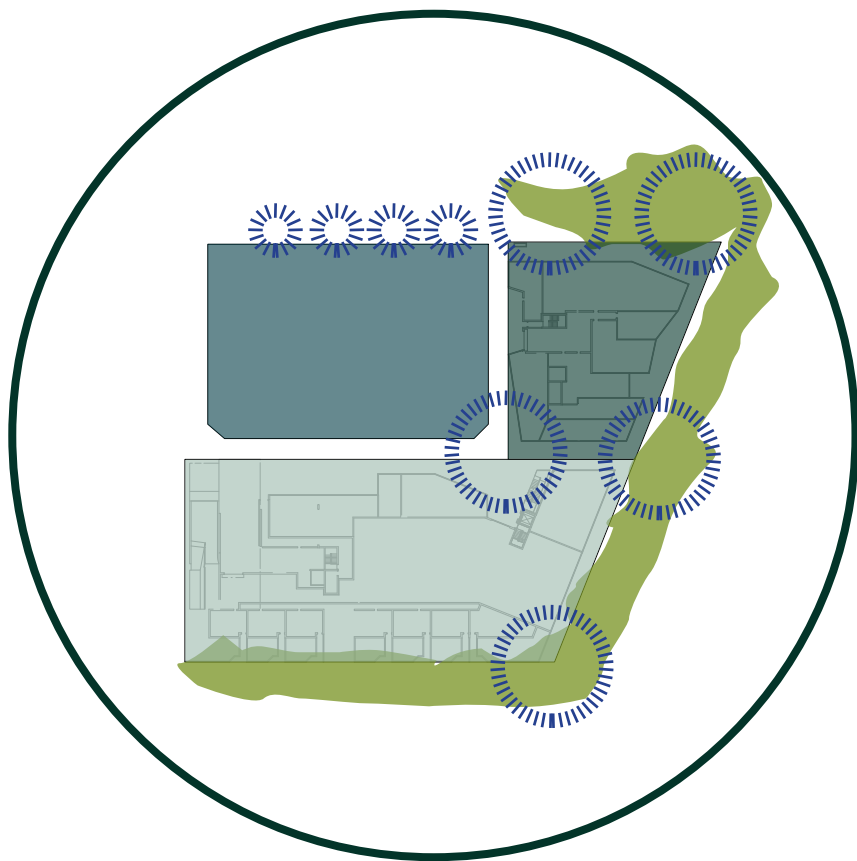
SAMSON STREET

Legend:
 - Pedestrian Crossing (dashed line with arrows)
 - Existing Footpath (solid black line)
 - Future Cycle Lane (pink arrow)
 - Vehicle Crossovers (circles)

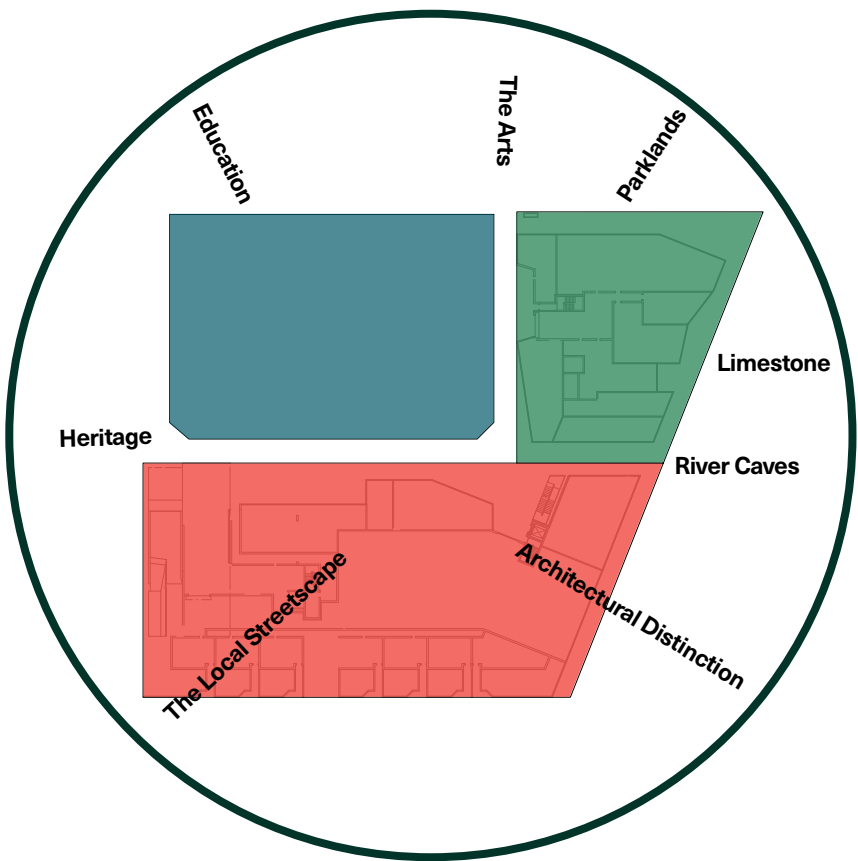
North Arrow (N)

02. Landscape Approach

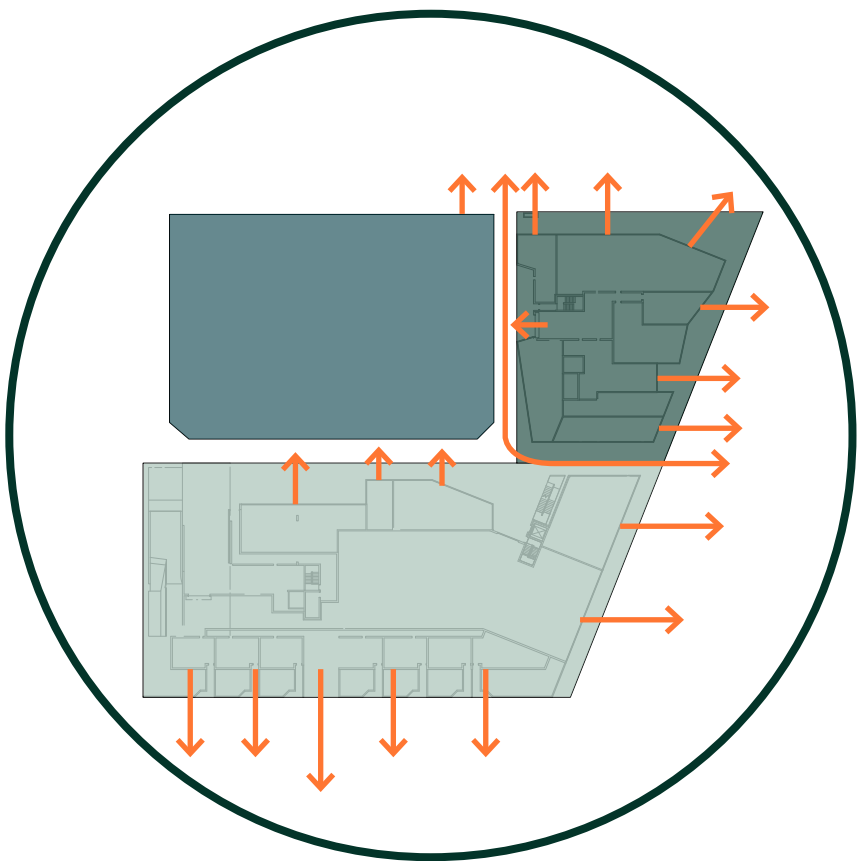
Landscape Principles



Create an active, green & vital community hub



Celebrate the character of Mosman Park



Create a unique town centre with active edges to support day and night activity

02. Landscape Approach

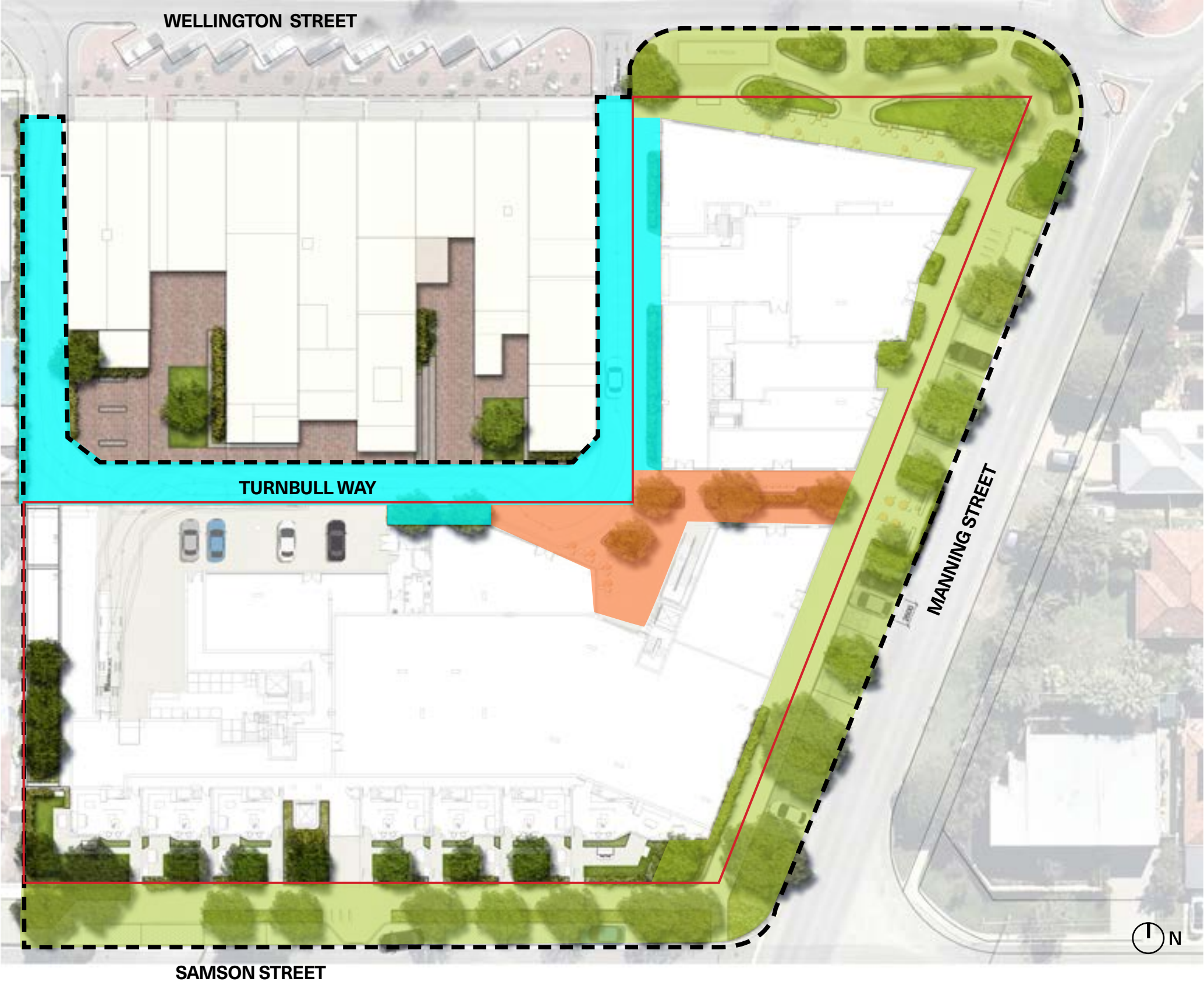
Ground Floor

The ground floor has been designed to respond to the existing urban conditions and four distinct frontages (Wellington, Manning and Samson Streets and Turnbull Way). The Green Frame provides a consistent language around the north, east and southern street frontages, by retaining existing trees and introducing additional trees to enhance the quality of the streetscapes, shading public open spaces and parking spaces and integrating the development into the local street network. Within the Green Frame each street responds has a unique character that responds to the existing streetscape and proposed built form:

- Samson Street – includes a series of terrace gardens and verge treatments that respond to the residential character of Samson Street. New street parking is integrated within the existing retained trees and a new tree is introduced in the south-east corner of the site to anchor the interstation between Samson and Manning Streets.
- Manning Street – responds to the proposed active retail frontages and street parking. The parking has been arranged between the existing retained trees and new trees are introduced to enhance the quality of the street. A new community parklet has been included in the middle of the street to provide activation and local amenity.
- Wellington Street – has been designed to support a new community plaza that connects to the existing Wellington Street alfresco areas and extends the Green Frame along the northern edge of the site.

In addition to the streetscape upgrades, Turnbull Way has been enhanced with new paving treatments and planting to support the new laneway retail frontages and to provide pedestrian and vehicle circulation. The laneway is also extend as a pedestrian arcade through to Manning Street to create a midblock link and sheltered public open space.

- Green Frame
- Laneway
- Arcade
- Scope of Work
- Site Boundary



02. Landscape Approach

Ground Floor Character



1. Community Plaza



2. Parklet



3. Arcade



4. Turnbull Way

ASPECT Studios



02. Landscape Approach

Community Plaza



Key

1	Feature Paving Area
2	Seating Edges
3	Raised Lawn Area
4	Alfresco Dining
5	Perimeter Planting
6	Bus Stop
7	Fire Truck Hardstand
8	Landmark Tree
9	Art / Sculpture
10	Bike Racks (4)



Reference Images

02. Landscape Approach

Manning Street



Key

1	Bus Stop
2	Covered footpath
3	Parking Bays
4	Street Tree to be Retained
5	New Street Tree
6	Parklet
7	Bike Racks (2)

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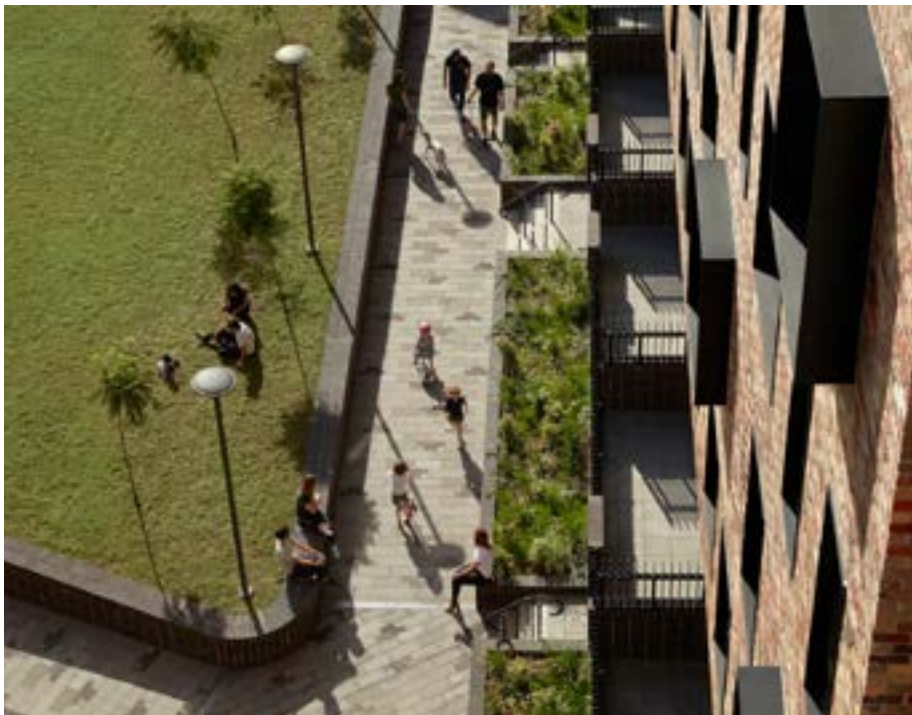
02. Landscape Approach

Samson Street



Key

1	Terrace Gardens
2	Retained Tree
3	Street Parking
4	Landmark Tree
5	Bike Racks (3)



02. Landscape Approach

Turnbull Way



Key

1	Activated Courtyards (Adjacent property by others)
2	Resurfaced Alley
3	Screen Planting
4	Seating / Alfresco
5	Turf (Adjacent property by others)
6	Entry
7	Public Art Opportunities



02. Landscape Approach

Turnbull Way

Event Overlay

Turnbull Way has been designed to support a range of events including the successful Neighbourhood Nights that have been held regularly within the laneway over the last two years. The configuration of the laneway allows for a range of events to be hosted together with the proposed retail shops.



Events

- **Flexible Spaces** - Utilize spaces that can be converted to accommodate event program.
- **Maintain Laneway** - Be able to host events in laneway area, however maintaining the vehicular access during events in a safe manner
- **F+B** - Food trucks & beverage vendors

Events

- **Music** - Areas for bands to be able to perform
- **Constant Vibrancy** - Event spaces to remain active and interesting when no events run to establish them as social incubators.
- **Shade** - Various spaces to be able to function with poor weather conditions

02. Landscape Approach

Turnbull Way

Pedestrian and Vehicle Access

Turnball Way has been designed as a pedestrian friendly environment based on slow traffic speeds and Safe Active Street principles. To achieve this out come the design of the laneway includes:

- Narrowing of traffic lanes
- Change of surface treatments.
- Introduction of low level and podium level planting (hanging)
- Reflective bollards and streetscape furniture.
- Active shop frontages frontage
- Alfresco seating areas

The design of the laneway allows for out of hours deliveries and collections and 24hr private vehicle movements. Traffic management can be implemented to support events such as 'Neighbourhood Nights' when required.





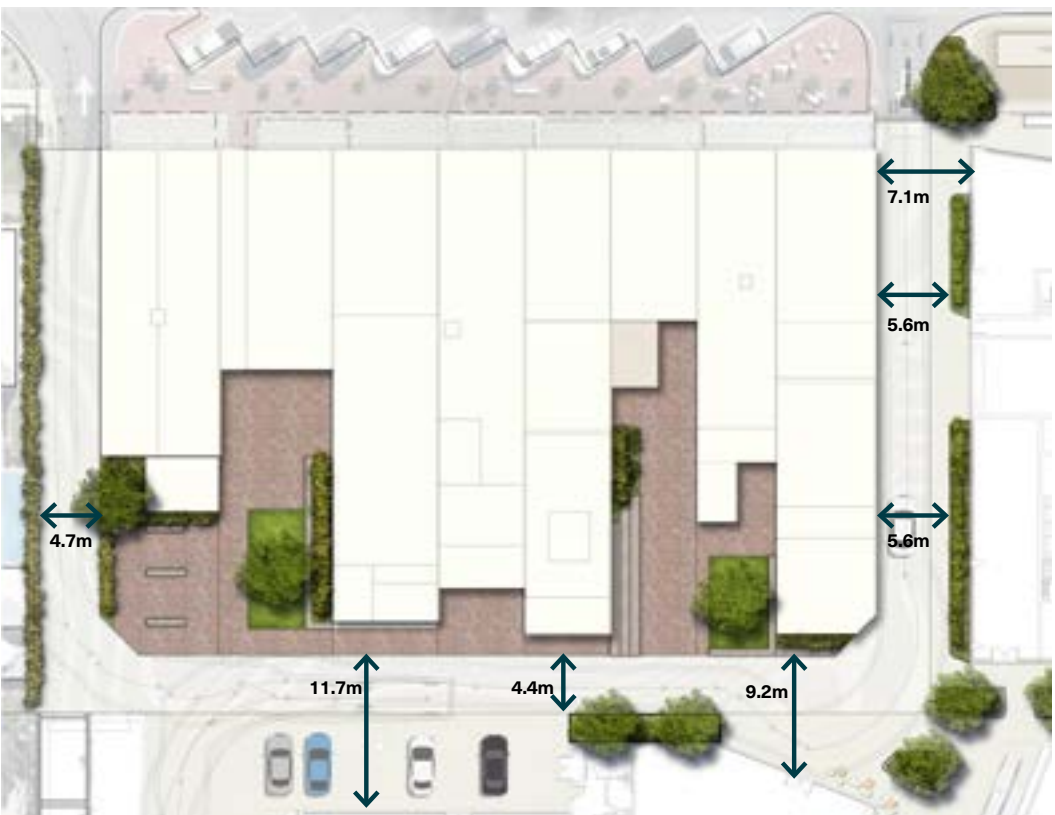
Service Vehicle Traffic

 Service Vehicle Turning Boundary



Regular Residential Traffic

 Pedestrian Zone (min 1m)
 Vehicular Zone (min 3m)



Dimensions

02. Landscape Approach

Turnbull Way



02. Landscape Approach

Turnbull Arcade



Key

1	Raised Planter
2	Seating area
3	Stair access to podium level



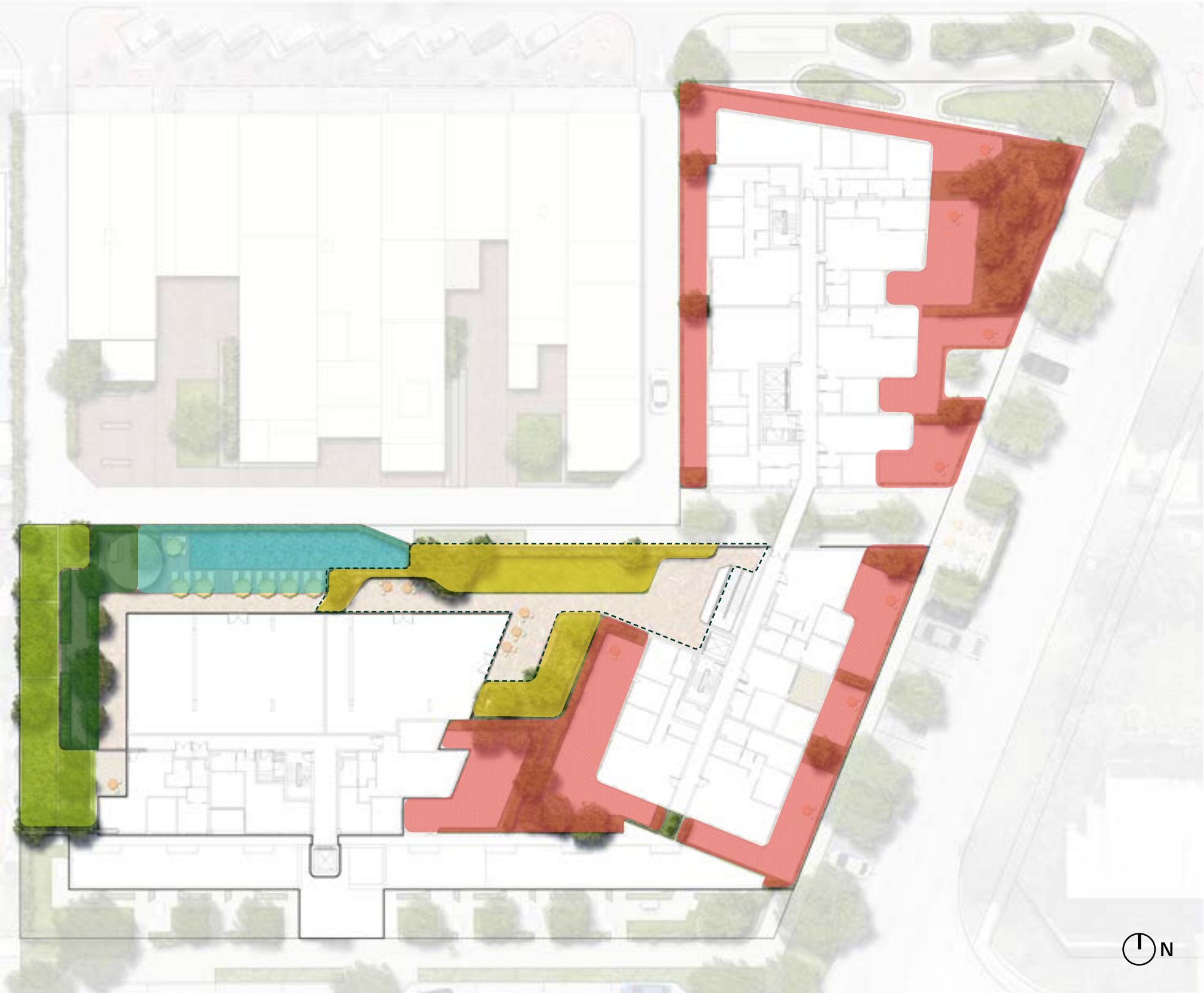
02. Landscape Approach

Podium

The Podium has been designed to support a range of public, private and communal amenity spaces that include:

- Public access will be provided to Health and Wellbeing facilities that will include an open lawn area to support classes and gathering and high-quality plaza and landscape to provide a lush green outlook to the facility.
- Communal Facilities which provide opportunities for residents to gather, socialise and recreate. This is supported through the provision of an all ages pool, lounging nodes, and private entertainment areas. Screen planting to the edge of the pool area and feature planting within this area, will create a high quality, private and attractive landscape aesthetic.
- An orchard and community garden will offer a citrus orchard, rose and sensory garden to support the health and wellbeing of residents, including the promotion of an active lifestyle. Residents can tend to the garden and/or use it for respite and relaxation. Seating nodes and associated amenities ensure the garden is comfortable and functional.
- A series of large private terraces and planting areas are also included at the podium level to provide amenity to residents and deep soil zones to support generous planting areas throughout the podium.
- General landscape is provided around the podium, across the facade and on the western boundary to soften the builtform and provide buffers to adjacent properties.

- General Landscaping
- Private Terraces
- Orchard + Community Garden
- Pool Area
- Health + Wellness
- Publicly Accessible



02. Landscape Approach

Podium



1. Orchard and Community Garden



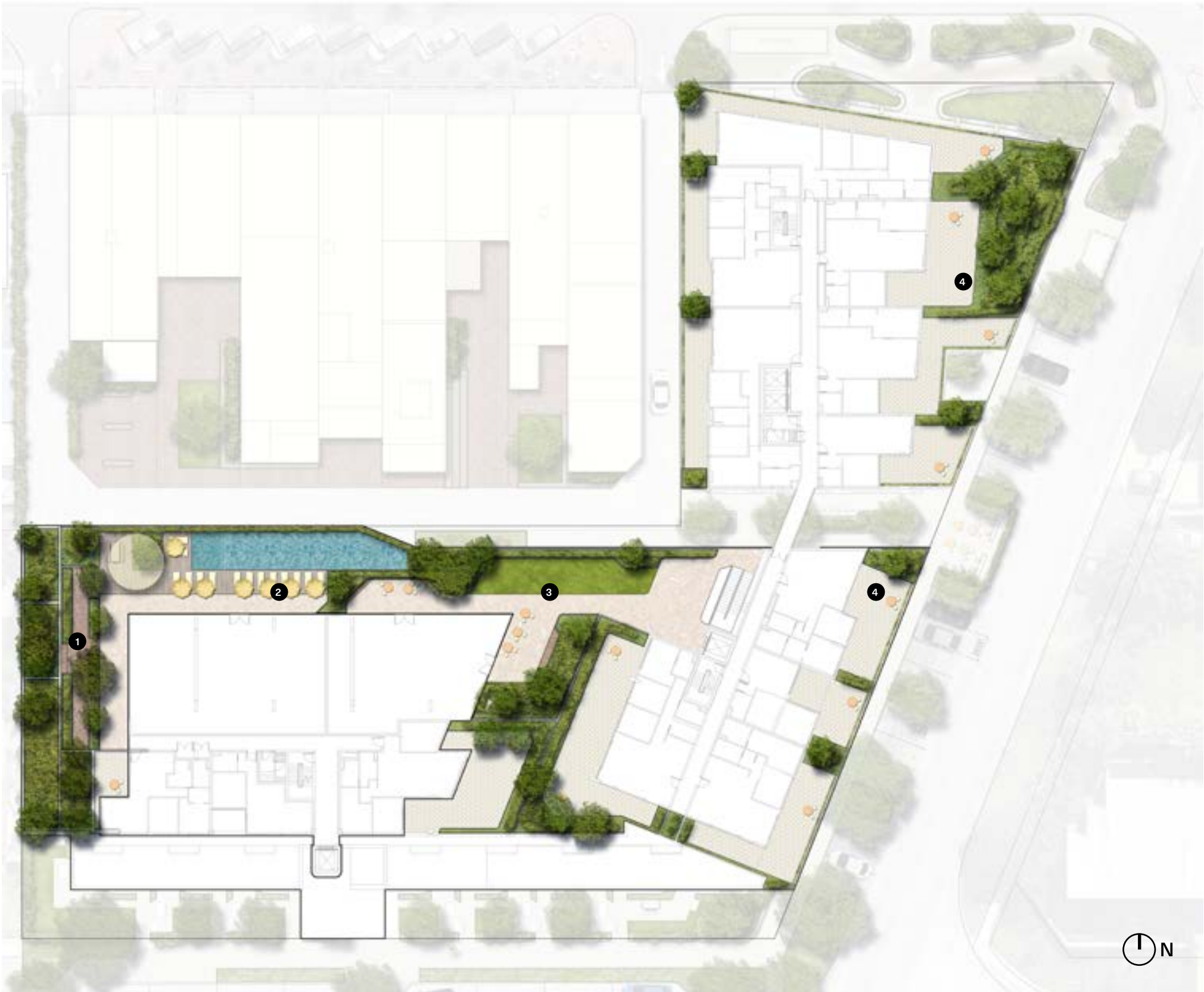
2. Pool Area



3. Health and Wellbeing

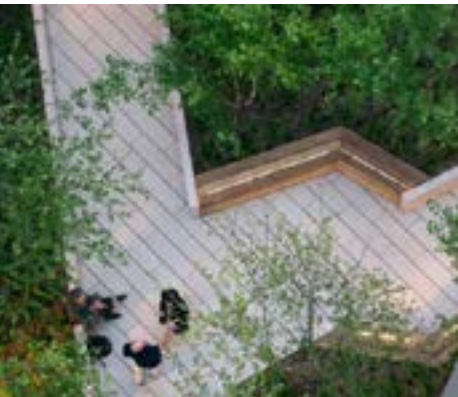


4. Private Terraces

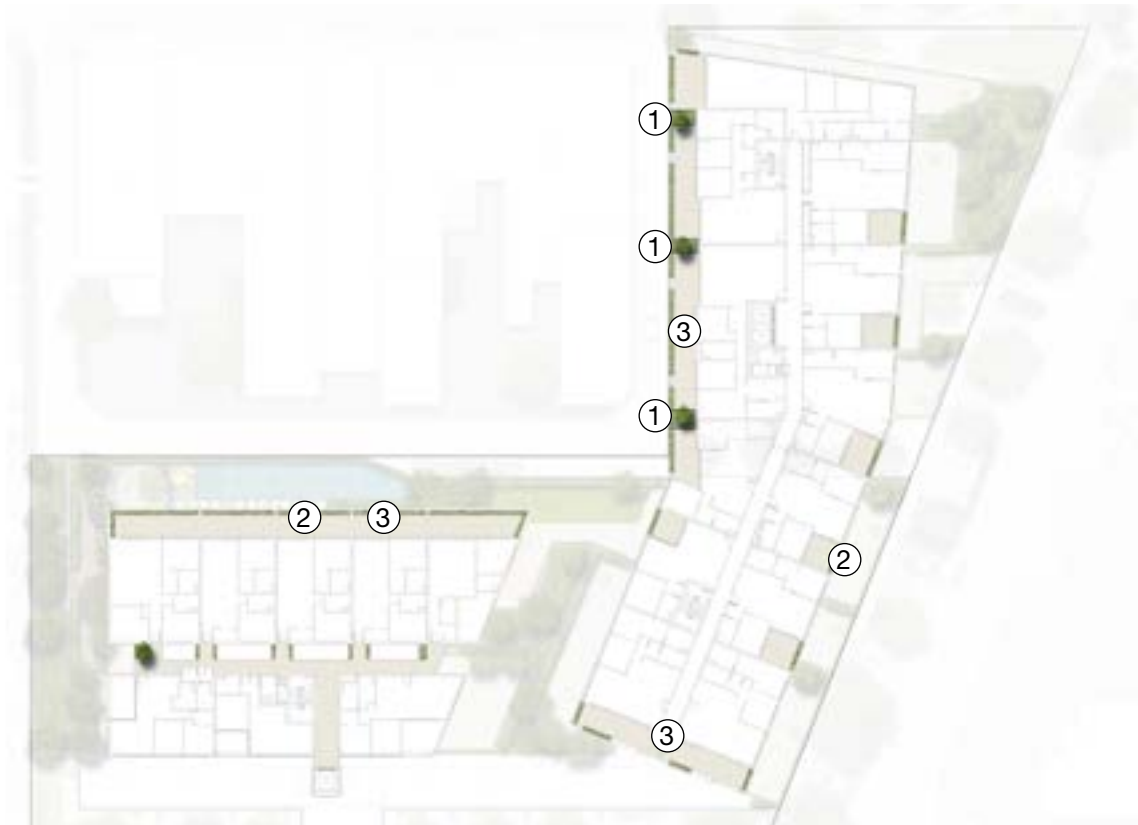


02. Landscape Approach

Upper Levels



Level 2



Level 3



Level 4



Level 5

KEY	
①	Deep planters for trees
②	Hanging + Trailing Plants
③	Private Terraces

03. Landscape Quality

Materials Strategy

A refined palette of robust and low maintenance materials are proposed that are in keeping with the project context and Architecture. The proposed landscape scheme will use a palette of high quality materials, selected to reinforce the identity of the spaces.

Materials have been selected that are sympathetic to the local context and are appropriate to their location and use. The materials detailed here form a structured palette that are coordinated to create visual unity and integrity within the landscape and with the adjoining local suburbs.

The Material strategy will:

- Use materials that are sympathetic to the local context and are appropriate to their location and use.
- Form a structured palette that is coordinated to create visual unity and integrity within the landscape but allow for variations in texture and colour that can be used to define function and character.
- Give consideration to long-term performance, durability and maintenance requirements.
- Consider impact on the environment and sourcing, cost and project sustainability.



Cobbles



Unit Pavers



Brick & Metal



Concrete

Furniture Strategy

The fixed furniture elements are designed and organised to work with the loose alfresco furniture and encourage a broad range of social interactions. A series of generously dimensioned furniture elements are placed strategically at key locations to distinguish the site as a welcoming and social place.

The furniture strategy will:

- Reinforce the overall design concept and relationship to the architecture.
- Provide a range of fix and loose furniture that caters to large and small groups.
- Share a common material language and robust detailing.
- Locate furniture in favourable climatic zones. i.e. wind protected areas with suitable solar access
- Restrained selection of materials to be robust, vandal resistant and durable.



04. Planting Approach

Planting Strategy

The planting scheme for the project is designed to add a strong well-vegetated character to the site. Landscape will be used to create identity through a series of 'garden rooms' and maximise amenity for the building occupants and the broader neighbourhood.

The ground floor will feature lush native and endemic planting that a represent an eclectic mix of local species together with robust plant species selected to meet the requirements of the public realm design. Planting with perimeter feature trees will structure and define the green edge of the public space, creating seasonal colour and managing solar access. A diverse selection of sun tolerant endemic, native and exotic species, have been proposed that will be robust and water-wise and well suited to this aspect.

Low to mid-level planting to the perimeter of the balconies on upper levels will provide a lush green outlook. Plant selection include local and native species that can tolerate the exposure and micro-climatic conditions of the upper levels.

The planting is intended to:

- Use plants representative of the Cottesloe and Karrakatta Vegetation Complexes.
- Use water wise design principles and implement hydro-zoning.
- Use plants that can adapt to as well as create pleasant micro-climates.
- Create attractive high-quality planting compositions to promote comfortable, enjoyable environments.
- On upper levels, clearly define and frame each terrace, while maintaining the outlook to greater coastal area
- Enhance ecological diversity.
- Incorporate soil volume and profile to promote good plant growth within the constraints of the site.
- Reduced temperatures of external areas.
- Have low maintenance requirements and longevity.

Water Efficient Irrigation System

Trees and plants will be irrigated by a water efficient irrigation system. The irrigation water demand volumes will not be excessive, however, a constant and uninterrupted supply must be maintained especially during dry and hot periods.

Where possible, plants will be hydro- zoned according to water requirements. This allows the reticulation to the endemic plantings to be separately controlled and greatly reduced following their establishment period.

The automated irrigation system can be designed to include monitors to detect malfunctions so that rapid response rectification can be programmed before the planting is detrimentally affected by a disruption to water supply.

A holistic irrigation strategy will be prepared for the project that aims to include the following initiatives:

- Aqua monitoring to record and display water usage
- Hydro-zoning of plants
- Waterwise planting and use of local species
- High quality and improved soils with good moisture and nutrient holding capacity
- Organic mulch
- Rain sensors
- Soil Moisture Sensors
- Evapotranspiration Sensors

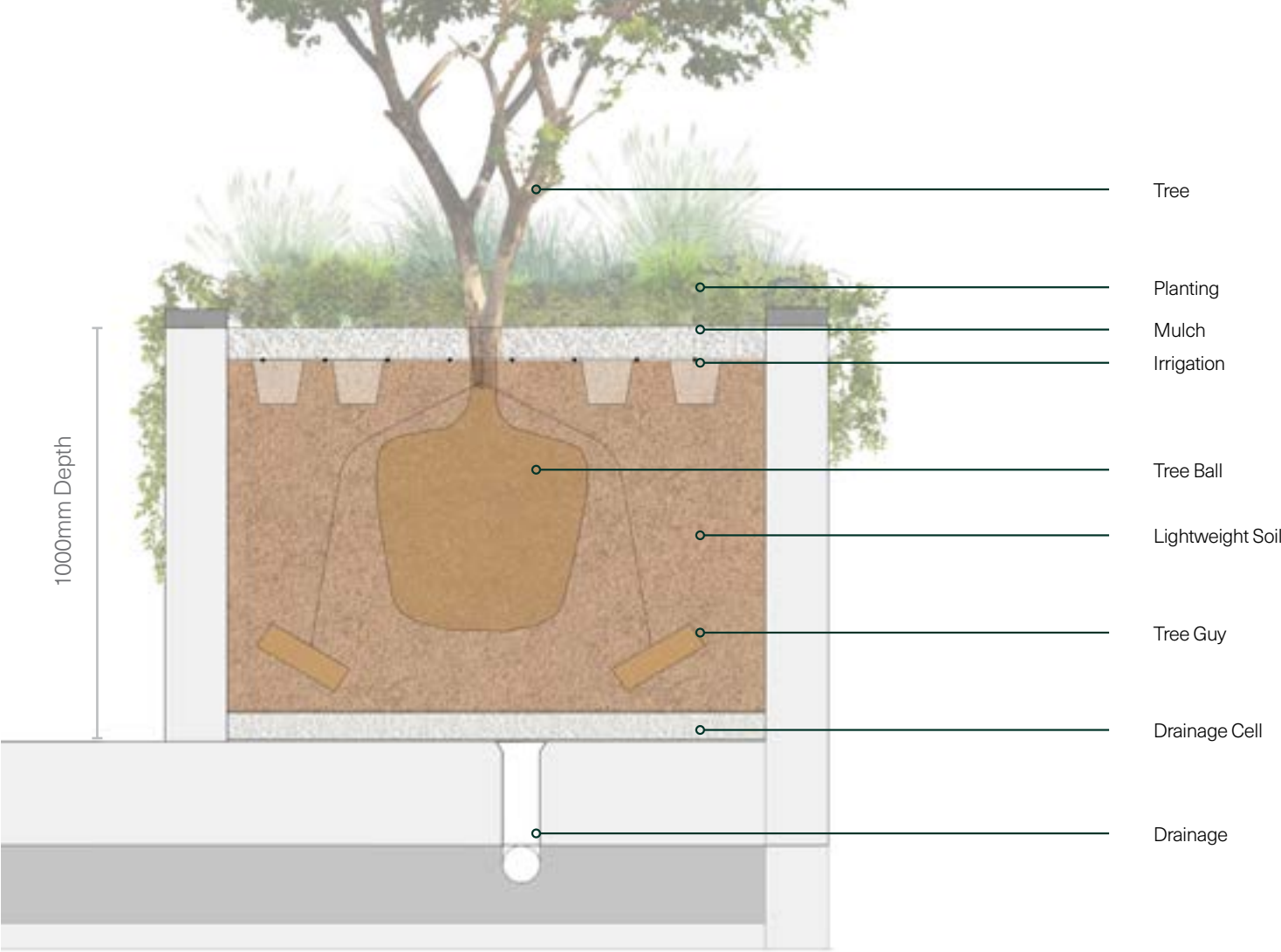


04. Planting Approach

On Structure Planting Strategy

The planting scheme for the project is designed to add a strong well-vegetated character to the site. Landscape will be used to create identity through a series of ‘garden rooms’ and maximise amenity for the building occupants and the broader neighbourhood.

This will include planting on structure at one metre depths to meet the requirements of Design WA. The planting areas will include engineered drainage, irrigation and soil systems to support healthy tree and shrub planting.



Indicative planting on structure detail



04. Planting Approach

Indicative Species List



- Agonis flexuosa* (2)
- Bauhinia blakeana*
- Banksia attenuata* (1)
- Banksia menziesii* (5)
- Cupaniopsis anacardioides* (8)
- Conostylis acuteata* (3)
- Dianella revoluta* (4)
- Eucalyptus gomphocephala* (6)
- Corymbia maculata* (11)
- Eucalyptus sideroxylon* (12)
- Grevillea obtusifolia* - Gingn Gem (10)
- Hemiandra pungens*
- Hibbertia scandens* (9)
- Isolepis cernua* (7)



- Acacia cognata* 'Waterfall' (7)
- Agonis flexuosa*
- Banksia blenchifolia*(5)
- Correa alba* (4)
- Cycas revoluta* (8)
- Grevillea crithmifolia prostrate* (10)
- Hibiscus tilliace*
- Magnolia Grandiflora* (1)
- Melaleuca quinquenervia* (2)
- Phormium tenax* (3)
- Rhaphiolepis* 'Oriental Pearl' (10)
- Westringia dampieri* (9)
- Zamia furfuracea* (6)

05. Tree Canopy and Deep Soil

Deep Soil

Given the highly urban context of the development a 'hybrid' approach has been taken to achieving the provision of landscape amenity. The landscape design consists of deep soil zones and planting on structure (As defined in DesignWA) to create a landscape approach which is respectful of the surrounding urban context and architectural form.

The table below summaries the extent of landscaping provided across the various levels of the building.

Lot Area: 5213 m²				
Deep Soil Requirement (7%): 365 m²				
Level	Deep Soil Planting [m²]	Planting on structure [m²] Ground Floor	Planting on structure [m²] Upper Levels	TOTAL [m²]
Ground Floor	269	193		
Podium			510	
Level 2			46	
Level 3			14	
Level 4			47	
Level 5			120	
Outside Boundary	344			
Sub total	269	193	736	1,102
Sub total (at 50%)*		97		

* Deep Soil on structure in lieu of deep soil. Counted at 50%

DSA Requirement	365 (7% Site)
DSA Provided	269
DSA Shortfall	96
POS Requirement	193 (2x DSA Shortfall)
Additional POS	736m2
Compliance Achieved	YES

- Deep Soil Zone
- Planting on Structure (Ground Floor)
- Planting on Structure
- Existing Tree Retained
- Basement Outline
- Lot Boundary
- Extent of Works



05. Tree Canopy and Deep Soil

Tree Canopy Calculations

Canopy Caluclations

As per the DesignWA objectives the project seeks to improve tree canopy coverage of the site. In addition trees are included within the development to to:

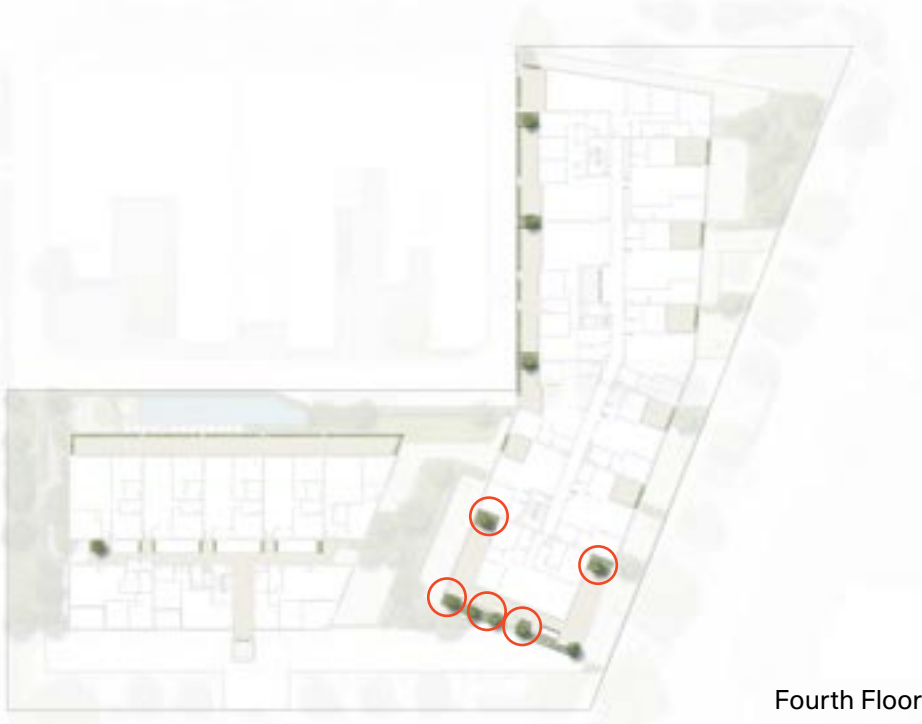
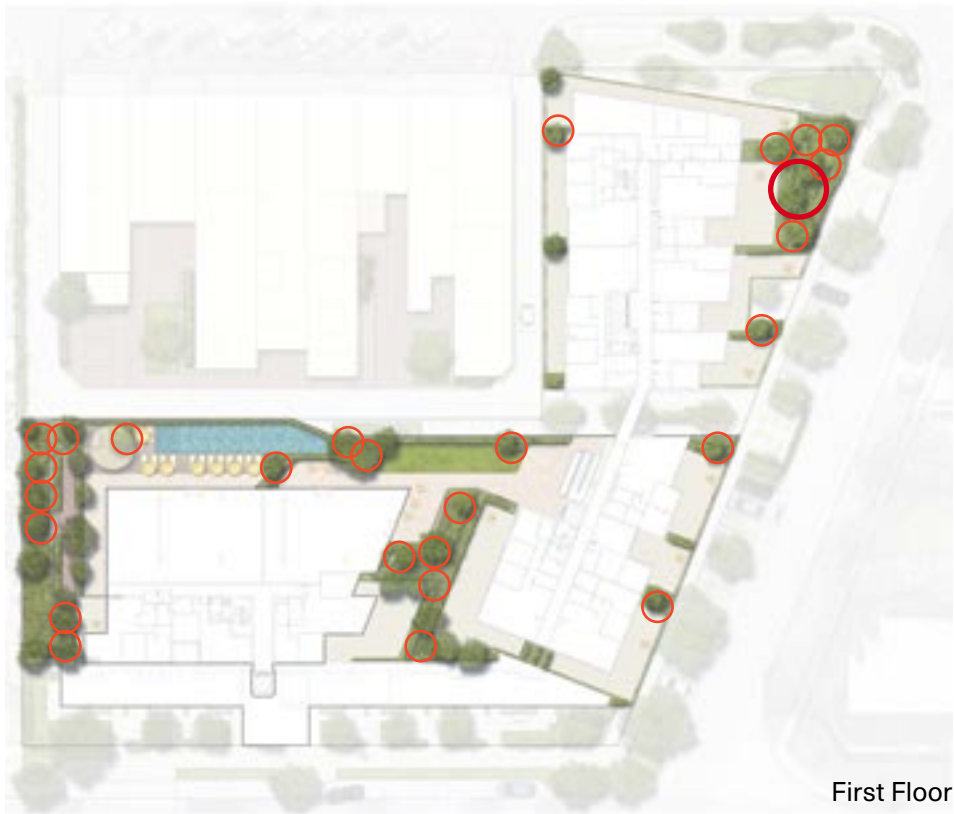
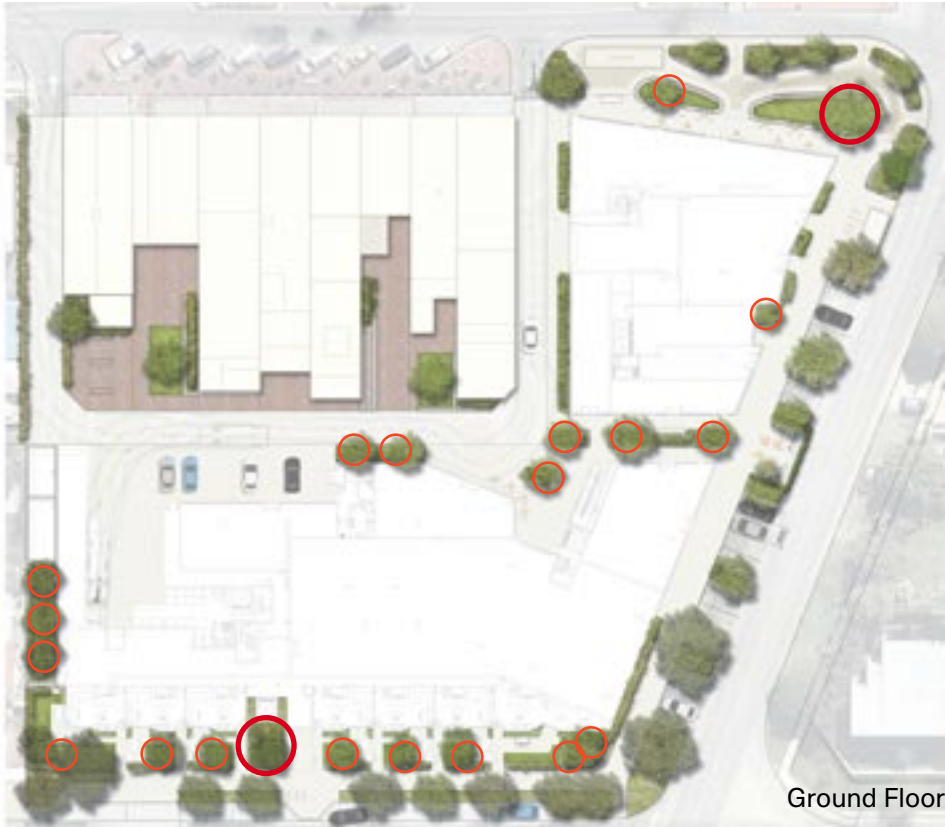
- Provide shade to amenity areas
- Reduced temperatures of external areas through evapotranspiration
- Mitigation wind within the development
- Noise Mitigation & Habitat Creation



As per State Planning Policy 7.3 Volume 2 - Element Objective 3.3.2 the tree canopy requirement are as follows:

Lot Area	5,128 m2	Min. Requirement	Min. Requirement
WAPC Tree Canopy requirements	>1,000m2	1 large tree and 1 medium tree for each additional 400m2 in excess of 1000m2	4 large trees (63m2) or 256m2 of Canopy
		OR	=
		1 large tree for each additional 900m2 in excess of 1000m2 and small trees to suit area	3 Medium - 114m2 8 Small - 152m2

The table below summaries the extent of landscaping provided across the various levels of the building.

Tree Size	Small Trees 4-6m	Medium Trees 6-9m	Large Trees >9m	Total Canopy (m2)
Canopy Area	19m2	38m2	63m2	
Ground Floor	19	2	-	437
Level 1	28	1	-	570
Level 2	-	-	-	-
Level 3	-	-	-	-
Level 4	5	-	-	95
Level 5	10	-	-	190
TOTAL	62	3	-	1292
Compliance Achieved	YES			



Small Tree 
Medium Trees 


05. Tree Canopy and Deep Soil


Verge Enhancements

A series of verge enhancements are proposed to the north, east and southern boundaries to improve the street character and amenity through the introduction of shrub and tree planting. The proposed street-based landscaping integrates more successfully with the existing suburb and become a long-term community asset.



Indicative Street Tree Species List
(1) *Melaleuca quinquenervia* (12-18m)
(2) *Corymbia maculata* 'Spotted Gum' (15-20m)
(Selected off Mosman Park Stret Tree Master Plan)

Existing Tree Retained 

Proposed Medium Trees 



06. Operation, Irrigation & Maintenance

Appropriate landscape management and maintenance is vital to the success of the landscape design and as such consideration has been given easy operation and ongoing maintenance.

Maintenance Considerations

Repair and Maintenance

The need for repair and replacement of planting and finishes will be mitigated by the use of appropriate and durable species and materials. Nevertheless, in the long term a degree of maintenance and replacement is unavoidable. In order to ensure that the landscape design remains safe and in good condition, design of the public domain elements on the ground floor will be guided by the City’s landscape guidelines

Landscape treatments on the upper levels will be designed to be robust and resilient with easy reinstatement procedures if required. Where bespoke elements such as planters, furniture, play and art features are proposed, detailing will ensure longevity and easy long term maintenance. Once the landscape is established the frequency of maintenance is envisaged to be consistent, however, the solutions for fall protection will be designed with consideration for the ongoing maintenance of these spaces.

Working at Heights

All landscape areas above ground floor will requires scheduled maintenance at some point near a potential fall zone and as such fall arrest infrastructure will be provided to allow safe access to areas with a risk of falling. Maintenance contractors will need to certified with relevant legislative guidelines and procedures implemented to ensure safety during all landscape maintenance operations. The majority of landscape areas can easily be accessed from adjacent hardstand areas for maintenance purposes. Maintenance activity associated with the balcony planters will need to be undertaken via vertical high access, managed and programmed by the body corporate.

Irrigation

Irrigation will need to be operated via an automated system controlled by the facility manager. Water consumption should be managed by the body corporate and metered. The automated irrigation system can be monitored to detect malfunctions so that rapid response rectification can be programmed before the planting is detrimentally affected by a disruption to water supply.

Podium & Balcony Planters - Indicative inspection and maintenance matrix				
Area of Attention	Inspection Item	Inspection Frequency	Inspection Procedure	Necessary Action
General gardening and review of growing medium & attachment structures	Check for loss of integrity of growing medium/planters/mulch and any related adverse plant growth problems	4 Visits per annum total with detailed and general inspections conducted between above-mentioned visits,	Inspect each planter box and mulch layer at close range for signs of loss of integrity as applicable to visit type	
	Check moisture levels of growing medium		The medium should neither be saturated or dry, rather uniformly moist	
	Check general plant growth condition – are all or only some healthy		General / detailed inspection of all plant species growing in panels as appropriate to visit	
	Check for weeds growing	General Inspection required	As Above	
	Check for signs of disease or pest damage to plants and growing medium	6 times year / from within the building on each respective floor	As Above	
	Check for uncontrolled or over-growth		General / detailed inspection of all plant species growing.	Prune and remove excess plant material. Appropriate adjustments to manage soil chemistry will be made, as required
	Monitor plant nutrient requirements		Check fertilising regime report, to ensure nutrients are maintained at appropriate levels. Observe condition of plants, in terms of nutrient availability symptoms	Apply controlled release fertilizer in Spring.

Drainage & Irrigation - Indicative inspection and maintenance matrix				
Area of Attention	Inspection Item	Inspection Frequency	Inspection Procedure	Necessary Action
Automated Irrigation and System Generally	Check all drainage points (where accessible)	Detailed Inspection required 4 times a year	Check all drainage points for accumulation of fallen debris, leaves and weeds at all drainage points throughout the green facade system	Remove and clean drainage points
	Irrigation drip line	Visits to be spread evenly over the 12 month period	Check for blockages or irregularities in dripper apertures	Repair or replace drainage drip lines if damaged or faulty
	Irrigation drip-line supply line in spoon drain		Check for blocks or breaks in the irrigation pipes by conducting general irrigation test	Repair or replace faulty hose sections

Irrigation System - Indicative inspection and maintenance matrix				
Area of Attention	Inspection Item	Inspection Frequency	Inspection Procedure	Necessary Action
Automated Irrigation individual components	Irrigation Controllor	2 Visits in total with alternate detailed and general inspections	Check power / operation and run self diagnostic test	Service / Repair / Replace as required if faulty; Call the Manufacturer for Technical support
	Solenoid valve with Flow Control		Check that the solenoid valve is regulating flow, (Listen for clicks sounding) open on actuation	Service / Repair / Replace as required faulty valve/component
	Pressure Reducing valve		Check static / operational pressuring	Inspect / clean / replace as per manufactures Instructions
	Ball valves		As above	As above
	Techfilter		Unscrew, check port, check filter, should appear in clean condition	As above
	Pulse water meter		Check that the meter is recording to the controller, so flow alarms are functioning	Inspect / clean / replace as per manufactures Instructions



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