

2-6 CAVILL AVENUE ASHFIELD



DEVELOPMENT APPLICATION
LANDSCAPE DESIGN REPORT

ISSUE C
PR146357-1

REVISION	[C]	DATE	13/05/2021	PREPARED BY	ZL	APPROVED BY	MD
	[B]		07/05/2021		ZL		MD
	[A]		30/11/2021		ZL		MD



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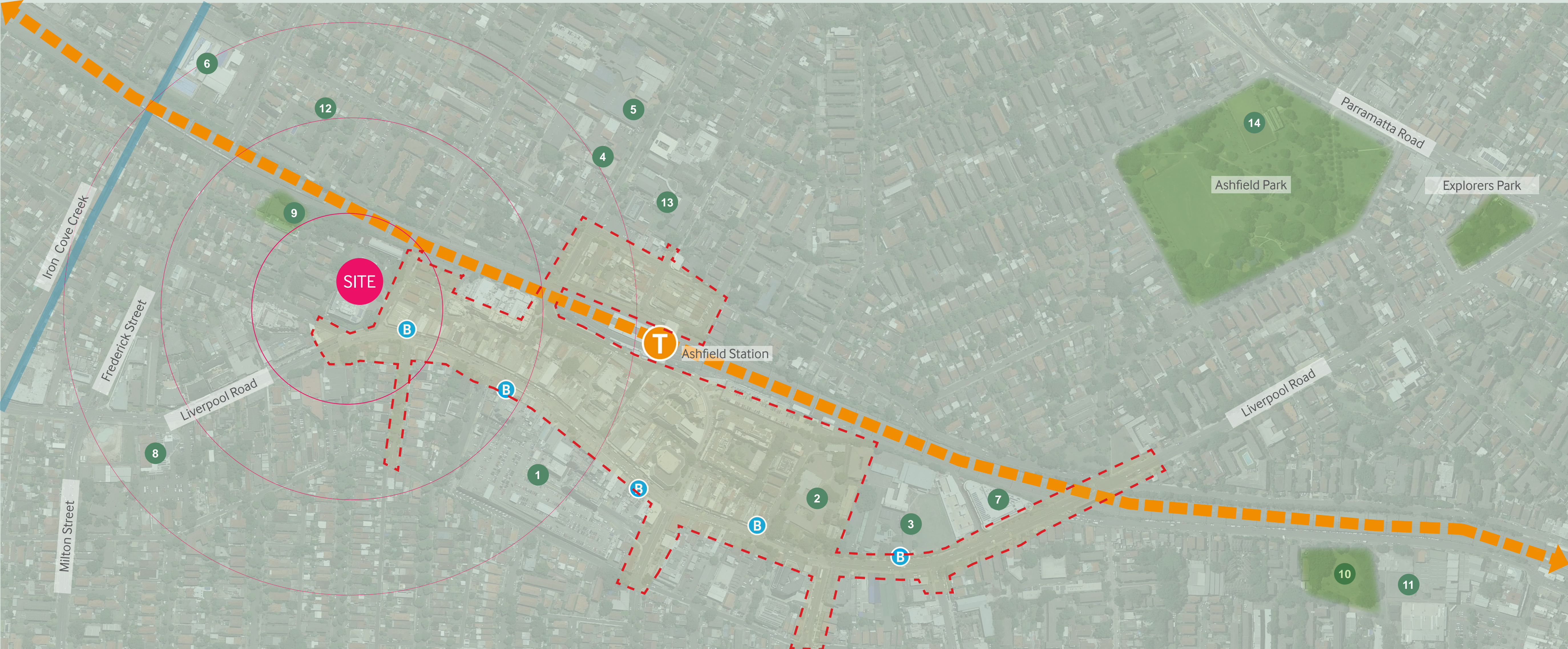
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1.0 SITE UNDERSTANDING

1.1 SITE CONTEXT



- Legend**
- Ashfield Town Centre Redevelopment Extent
- | | | |
|-------------------------------|--------------------------------|-----------------|
| 1 Ashfield Mall | 8 Ashfield RSL Club | B Bus Stop |
| 2 Ashfield Public School | 9 Bill Peters Reserve | T Train Station |
| 3 Ashfield Boys High School | 10 Darrell Jackson Gardens | |
| 4 Bethlehem College | 11 Summer Hill Tennis Courts | |
| 5 De La Salle College | 12 Elizabeth Street Playground | |
| 6 Ashfield Aquatic Centre | 13 St Vincent's Primary School | |
| 7 Wests Ashfield Leagues Club | 14 Ashfield Bowling Club | |

Ashfield is located between 6-9km west from the Sydney CBD within the Inner West Local Government Area, which includes the suburbs of Ashfield, Summer Hill, Haberfield and parts of Croydon, Hurlstone Park and Ashbury. It is bordered by Iron Cove to the north, and the now attenuated Hawthorne Canal and Iron Cove Creek to the east and Dobroyd Canal to the west (formerly known as Long Cove). It is mostly developed, predominantly with low density residential housing, but with numerous blocks of apartments now scattered throughout. The site is located on the edge of Ashfield Town Centre but strongly connected through existing through site links and the nearby railway station. The area has a strong leafy nature with mature vegetation communities made up of native *Lophostemon confertus*, gum trees and exotic phoenix *canariensis*, jacarandas, camphor laurels and london plane trees

1.2 EXISTING CHARACTER

The indigenous landscape of Ashfield was inhabited by the Wangal people. Wangal country was believed to be centred on modern-day Concord and stretched east to the swampland of Long Cove Creek (now known as Hawthorne Canal). The land was heavily wooded at the time with tall eucalypts covering the higher ground and a variety of swampy trees along Iron Cove Creek. The people hunted by killing native animals and fish. The arrival of the First Fleet in 1788 had a devastating effect on the local people, mainly from the introduction of smallpox, to which the indigenous people had little resistance.

The arrival of Europeans saw the clearing of the native forests after 1790 as the rough tracks, later to become known as Parramatta Road and Liverpool Road, were cleared. The area was soon used for crops, fruit growing and grazing, given the relatively fertile land and proximity to the fledgling Sydney.

In these early times it was an attractively undulating area with fine vistas leading to many grand residences being established. Many significant species of plants, both native and exotic, were introduced into these gardens including:

- Araucaria cunninghamii (Hoop Pine)
- Araucaria heterophylla (Norfolk Island Pine)
- Araucaria bidwillii (Bunya Pine)
- Cinnamomum camphora (Camphor Laurel)
- Quercus spp. (Oaks)
- Ficus spp. (Primarily Morton Bay, Port Jackson and Hill’s Weeping Figs)

The aesthetic appeal of the suburb was further enhanced by the homeowners careful landscaping, planting and the maintenance of the tree lined streets, which was an essential aspect of the ‘Garden Suburb’. Brush Box (Lophostemon confertus) was overwhelmingly the predominant species.

Sources:
Street Tree Strategy, Ashfield Council, 2015
Coupe, S&R: Speed the Plough, page 9-19, Ashfield Municipal Council, 1988 ISBN 0-9595234-1-3



Existing local vegetation Lophostemon confertus and Phoenix canerensis



Long Cove Viaduct in 1864, showing the then very rural nature of Ashfield and its surrounds (Source: Coupe, 1988)



Existing public realm Ashfield Town Centre



Exsiting through site link to Bill Peters Reserve, existing mature vegetation including Eucalyptus microcorys and Eucalyptus saligna



Existing Phoenix canerensis

1.3 UNDERSTANDING THE DCP

PROVIDE A GARDEN SETTING ALONG THE SITE FRONTAGE ALONG CAVILL AVE AND LIVERPOOL ROAD BY

- providing deep soil zones with a minimum 5m width along Cavill Ave in order to establish large trees and accommodate a widened footpath
- retaining existing trees along Cavill Ave and provide a 6m radius from trunk clear of any building structures
- ensure additional trees planted along Cavill Ave frontage achieve the height and scale of existing trees

PROVIDE A GARDEN SETTING ALONG THE SITE FRONTAGE ALONG OF THOMAS STREET BY

- providing deep soil zones with a minimum width of 5m in order to establish large trees and accommodate a widened footpath
- 3m wide deep soil planting zone to be provided along the boundary with The Avenue Street and the northern boundary to allow for screening trees to provide privacy to the adjacent properties.

PROTECTION OF EXISTING TREES

- in the laneway garden through design and construction

PEDESTRIAN LINKS TO BE PROVIDED

- between Thomas Street and Cavill Avenue. Public easement to be provided to enable this link.

PUBLIC VERGE/FOOTPATH AREAS SHALL BE DESIGNED TO ENHANCE

- the western entry into the town centre taking into consideration the concepts in the Ashfield Town Centre Public Domain Plan 2014
- this shall include consideration of new footpath pavements and street lighting, and having a wider footpath along Liverpool Road and Thomas Street to better accommodate pedestrian movements
- Council’s Ashfield Street Strategy shall also be adhered to including appropriate street tree species

MAJOR DEVELOPMENT SHALL ENSURE:

- there is no winter overshadowing of adjacent residential properties between 12 noon and 3pm in The Avenue in addition to that created by existing buildings
- no overshadowing of residential properties in Miller Avenue

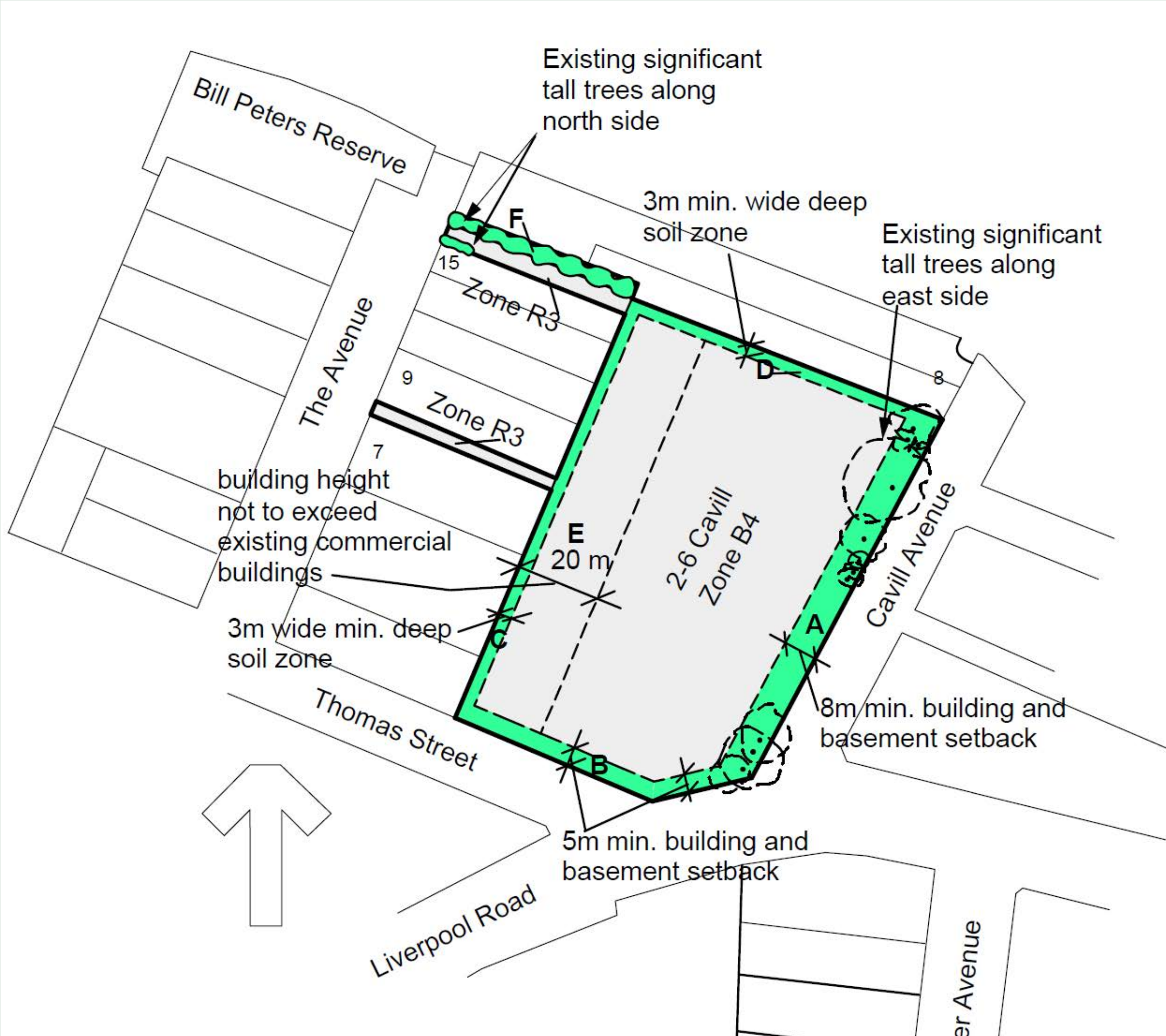
DEVELOPMENT TYPE 1 (EXISTING BUILDINGS AND ADDITIONS) AND TYPE 2 (NEW MIXED USE)

- shall ensure there is provision of communal open space that comply with the minimum areas stipulated in the Apartment Design Guide for the residential flat building component, including use of podium levels and roof top locations as required
- such locations shall have high amounts of tree canopy cover

(TYPE 3- COMMUNAL OPEN SPACE LOCATIONS AND AMOUNT)

- Development Type 3 (predominantly residential flat buildings) shall provide at a ground level location communal open space and deep soil areas that comply with the minimum areas stipulated in the Apartment Design Guide, (25 percent of site area for COS). Such locations shall have high amounts of tree canopy cover
- open space areas within the site shall have a landscape design which is holistic, provides a sense of place for residents, has a compositional relationship and connectivity with the front garden areas along the Cavill Avenue frontage of the site and pedestrian links through the site
- development Type 1 (existing buildings and additions) and Type 2 (new mixed use) shall ensure there is provision of communal open space that comply with the minimum areas stipulated in the Apartment Design Guide for the residential flat building component, including use of podium levels and roof top locations as required
- such locations shall have high amounts of tree canopy cover

Development Control Plan 2016





2.0 DESIGN VISIONING

2.1 LANDSCAPE STATEMENT

Celebrating Ashfield’s leafy suburb character, Cavill Avenue will embrace biophilic principals, connecting residents and the wider public through an efficient, verdant landscape.

CELEBRATING THE PAST LANDSCAPE

Prior to early development, Ashfield was a mixture of freshwater Melaleuca and sedge swamps, with a rich variety of native vegetation including the paperbark (Melaleuca quinquenervia) and the once common Cabbage Tree Palm (Livistona australis). The proposed landscape will re-establish these lost landscape communities within the public and private realm including sculptural artwork interpretations of the lost landscape.

EMBRACING THE GARDEN

The concept of the garden will connect the residents with the outdoors through the provision of a diverse range of outdoor rooms and lounges, these private and intimate spaces will vary in size, catering for a number of activities and uses.

INTERSECTING PUBLIC AND PRIVATE SPACES

The success of the development is achieved through a series of thriving and interesting cross block links which provides the public with a new piece of public realm that intersects seamlessly with the developments private courtyard. At the centre of the development will be a neighborhood pocket park activated through retail, seating areas, artwork and lush native planting

AN EFFICIENT AND SUSTAINABLE LANDSCAPE

The proposed landscape will be very efficient, needing minimal water consumption through the use of drought tolerant species that need minimal maintenance once established. The use of light weight materials and minimal soil depths and localised mounding will allow minimal weight impacts on the podium structure.

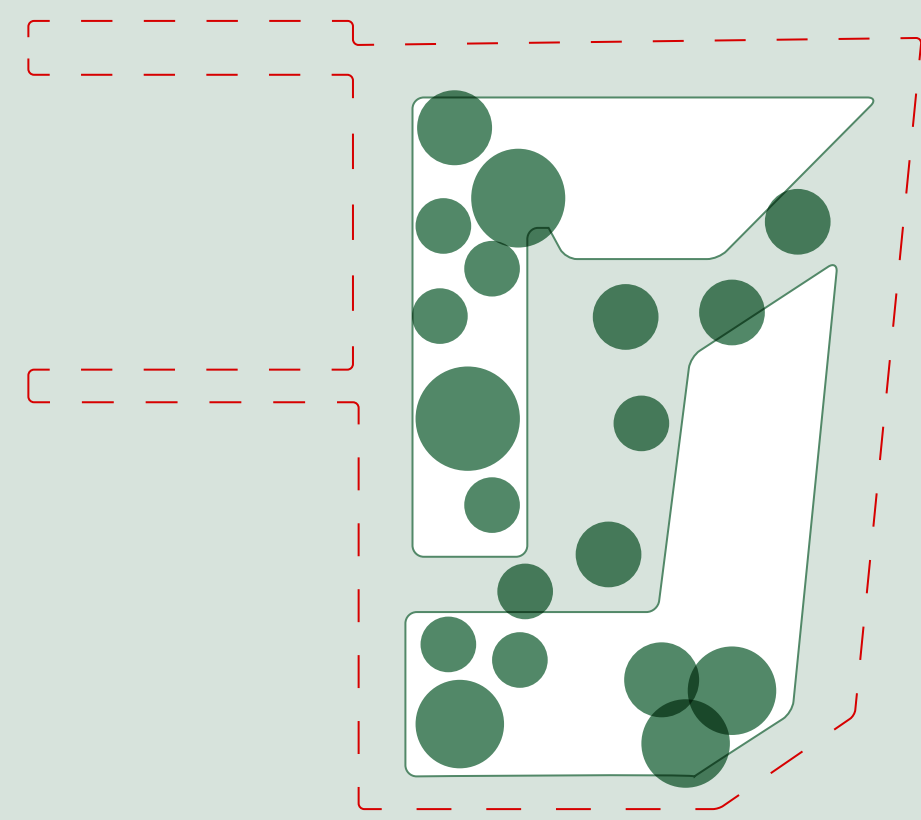
RESPECTING THE EXISTING LANDSCAPE

Large setbacks and deep soils zones will ensure the large and significant existing vegetation will be retained and protected during construction. These significant brushbox, plane trees and gum trees provide a large amount of canopy cover, helping reduce temperatures and increasing biodiversity in the area,

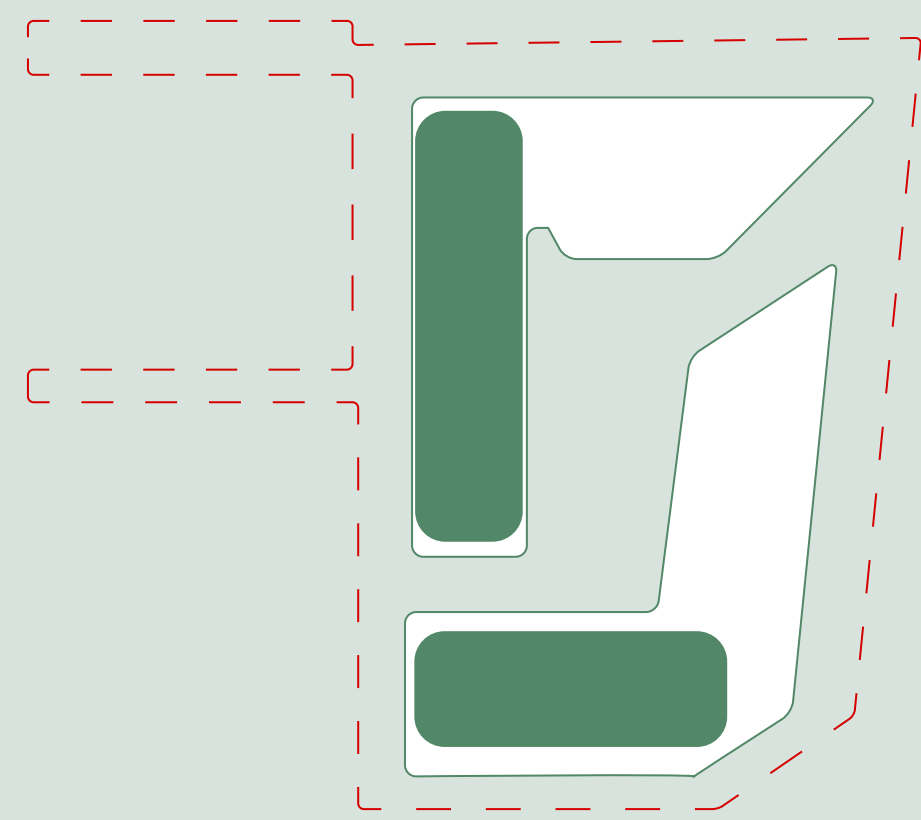


2.2 DESIGN DRIVERS

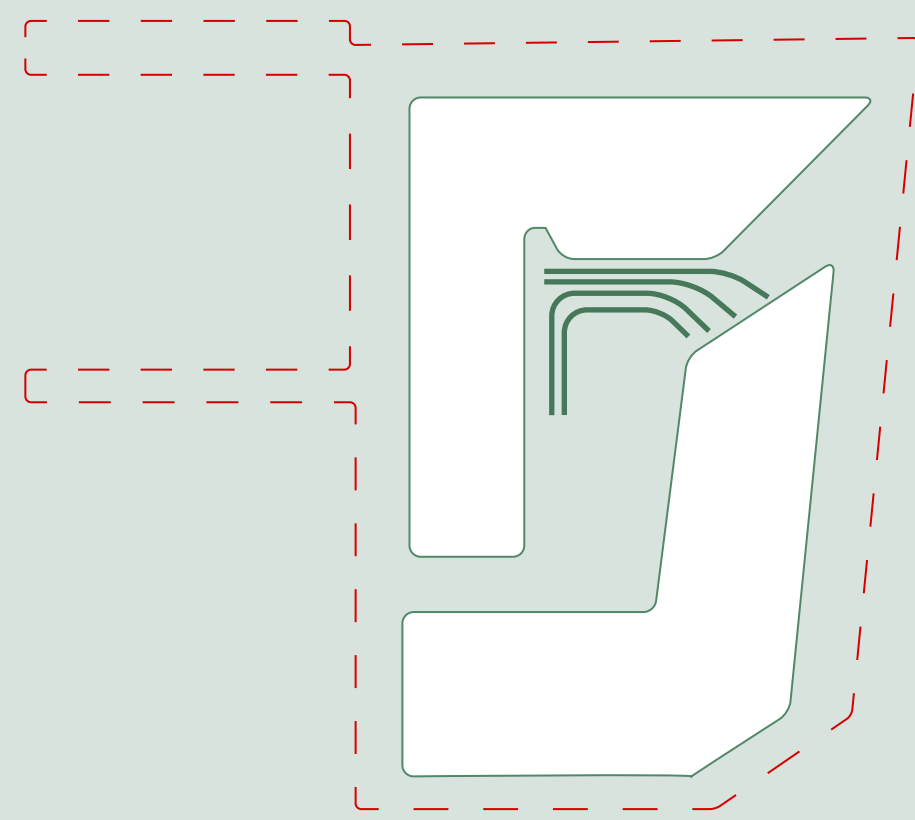
OUTDOOR GARDEN ROOMS



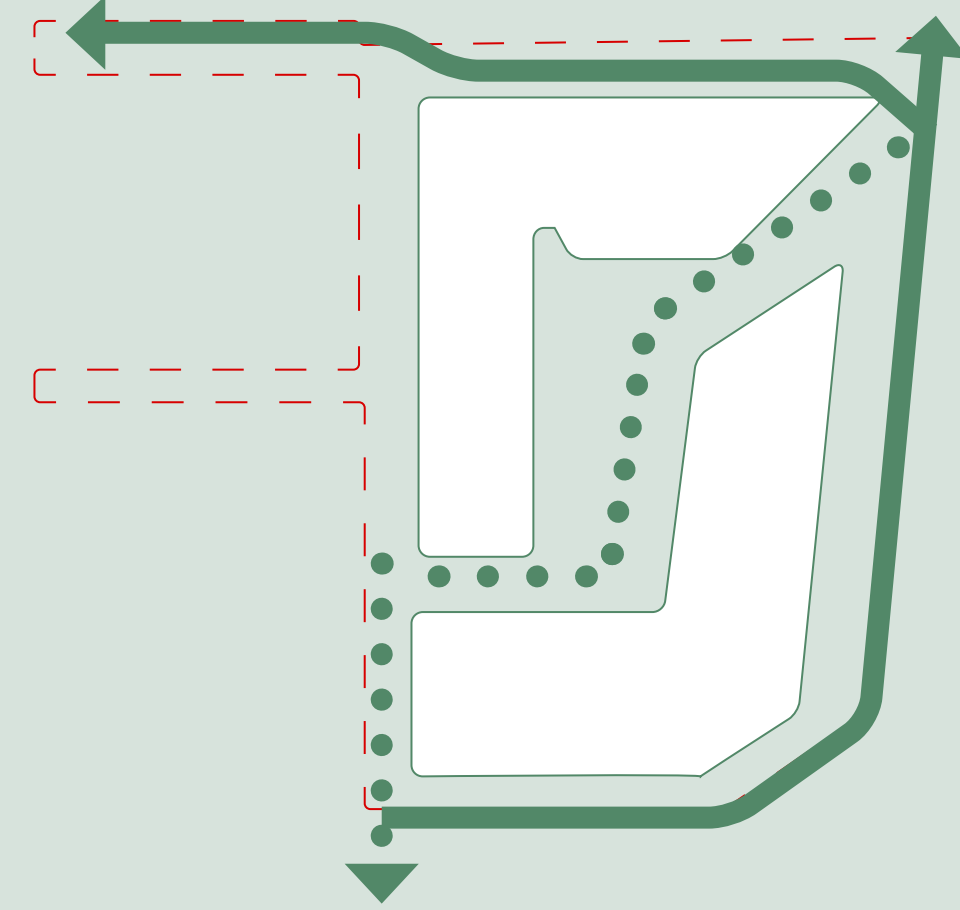
ACTIVE ROOFTOPS



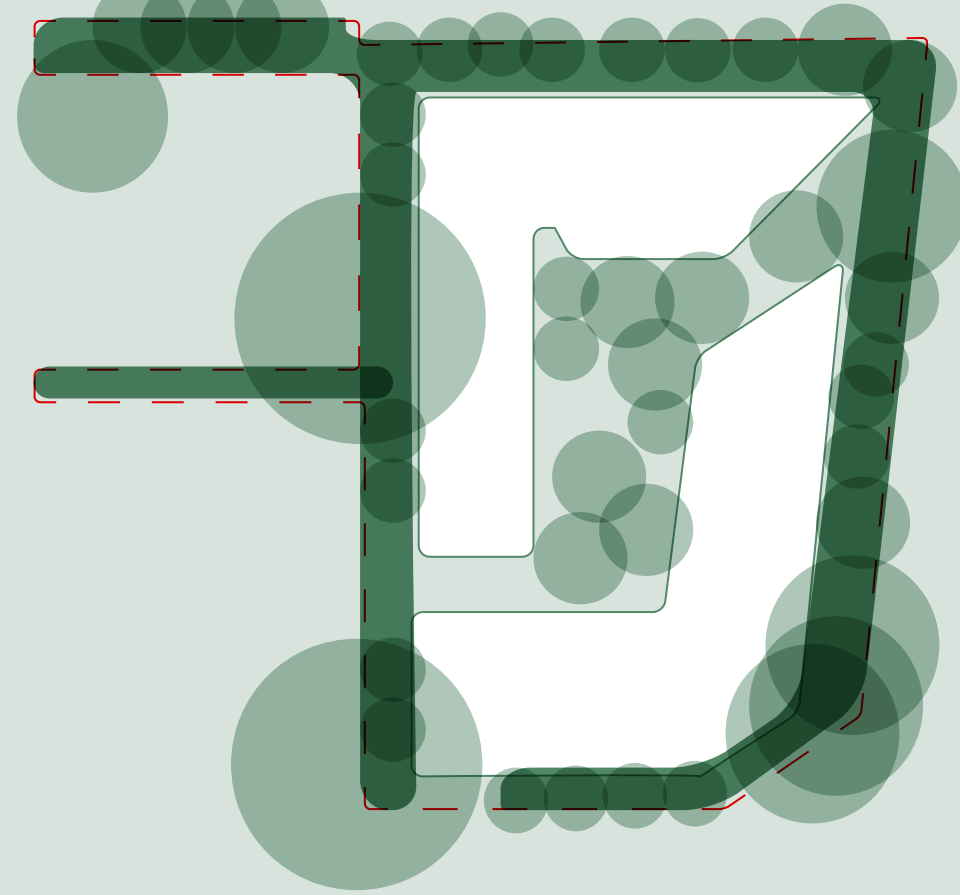
ENGAGING LEVEL CHANGES



BLURRING PUBLIC & PRIVATE



EMBRACING A LEAFY NEIGHBOURHOOD



A series of outdoor rooms will provide a range of spaces for residents to gather and interact with their neighbours in the lush landscape of the communal courtyards.



Inviting rooftops will reduce the heat of the building, increase biodiversity and foster community. A range of spaces and uses will cater for different demographics at different times of the day.



Level changes will be integrated into the landscape blurring the edges of hardscape and softscape and allowing for significant tree planting on podium.



Private spaces will provide amenity to the public realm with extensive planting and visual access to open greenspace. Pedestrian links to the outside of the site will provide public activation that links into the private central courtyard.



The landscape design will ensure that the current landscape character of the site is retained and enhanced. Dense planting will create lush and vibrant garden spaces, developing a rich local ecology and pleasant micro-climate within the site. Ensuring deep soil to setbacks and around existing trees to preserve the health and ensure future growth.

2.3 CHARACTER IMAGERY



Way-finding and iconic planting



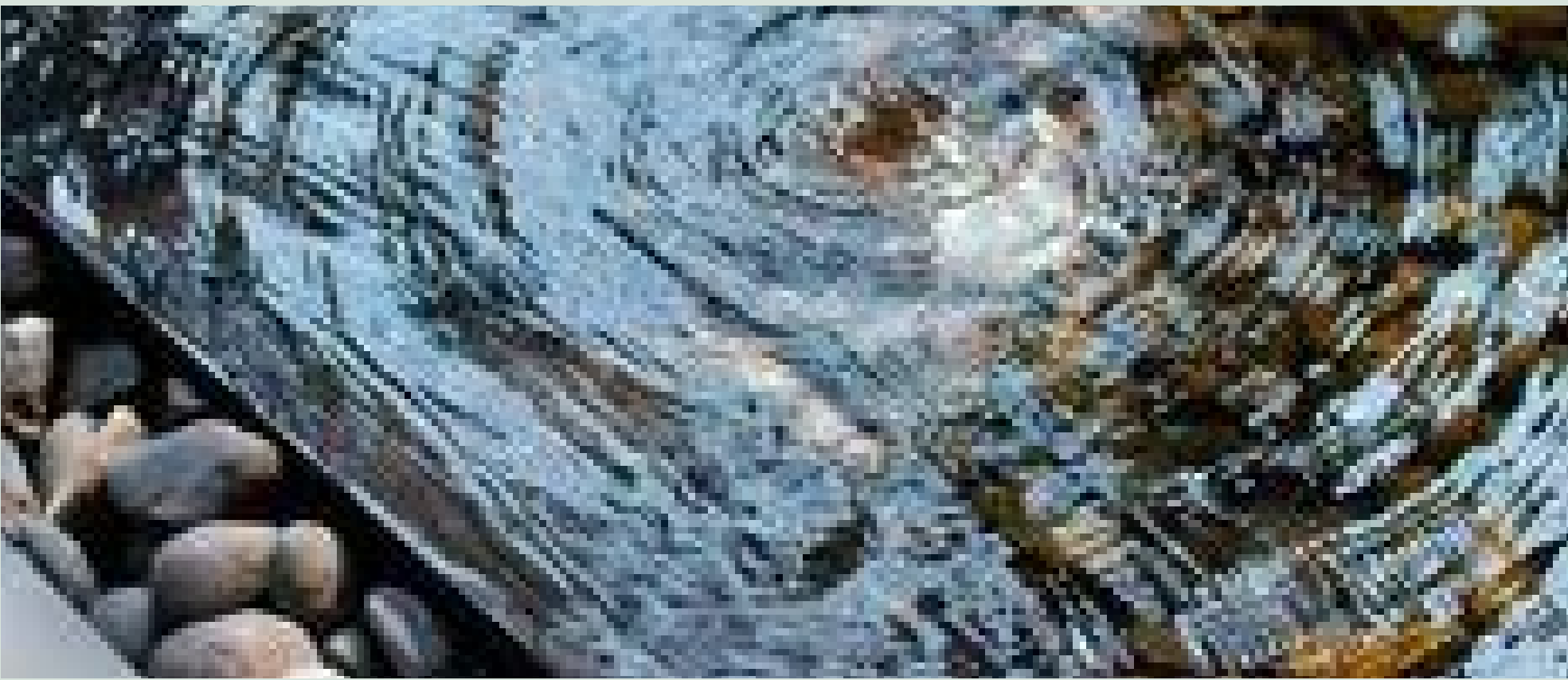
Secluded outdoor rooms



Relaxed forms



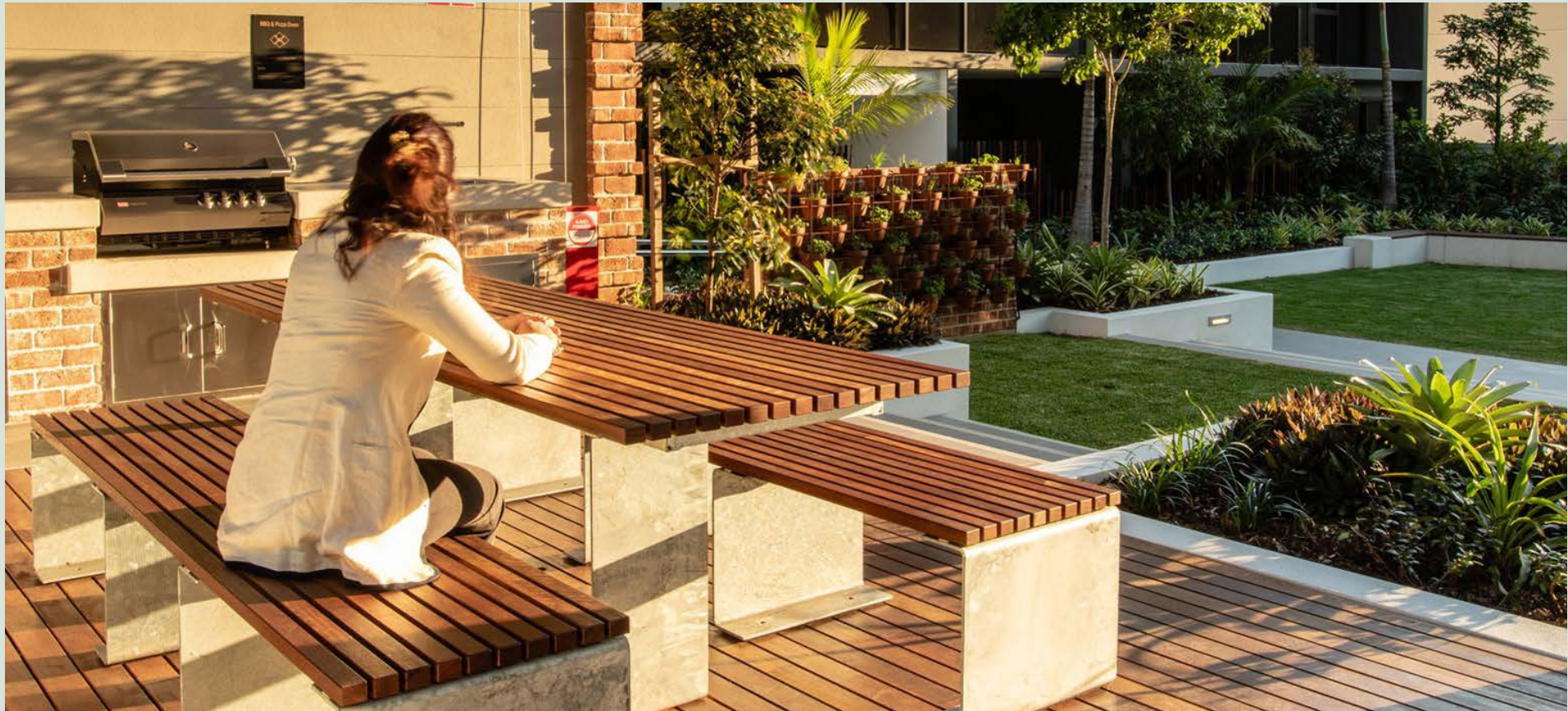
Inviting pedestrian laneways



Intergrated stormwater systems



Connection to nature



Inviting entertainment spaces



Rooftop amenity



Integrated play spaces



3.0

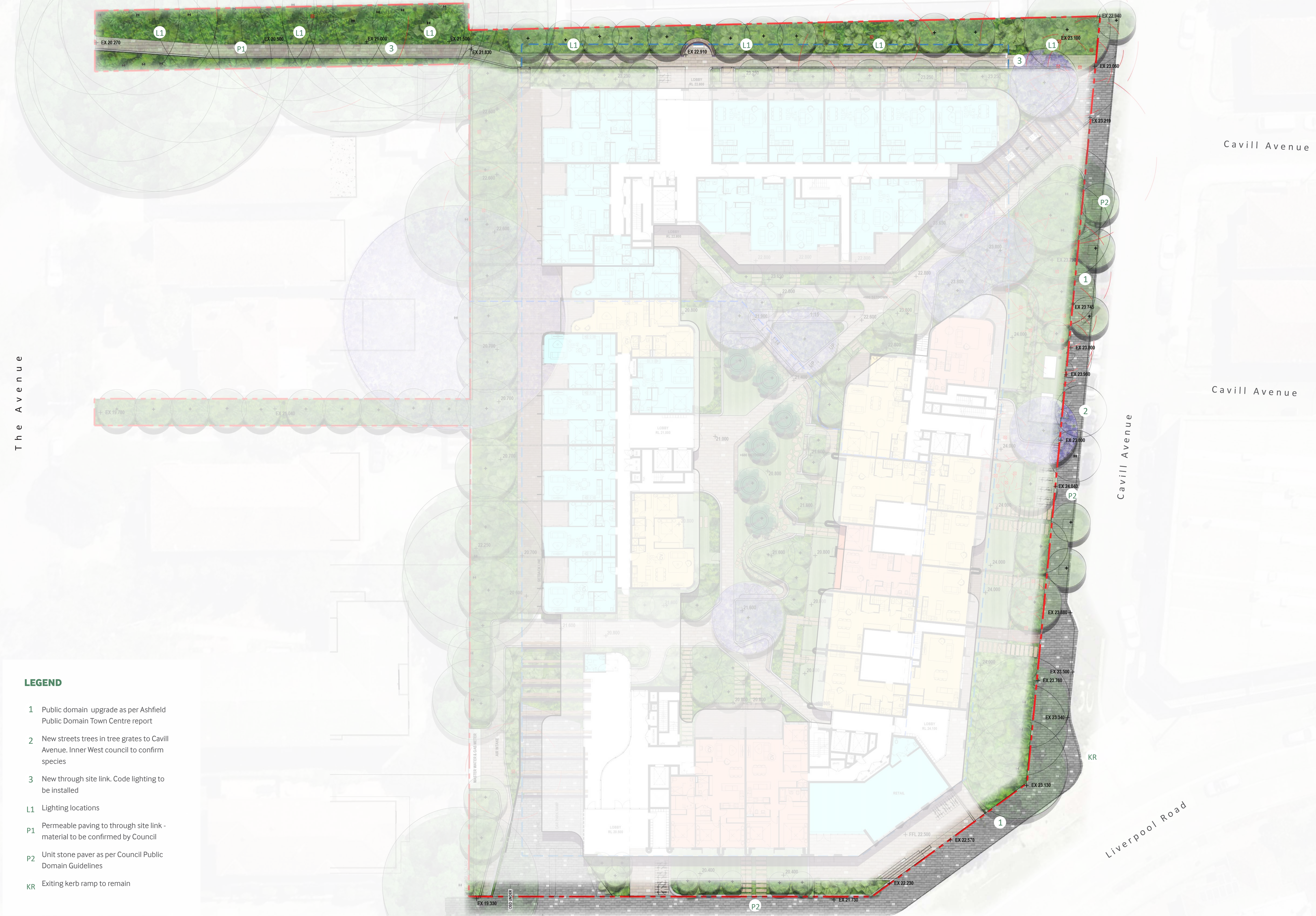
LANDSCAPE PLANS



3.2 VMP - scale 1:200Qa1

Tree Number	Species	Status	Tree Number	Species	Status
T1	Eucalyptus microcorys	Remove	T26	Angophora costata	Retain
T2	Sapium sebiferum	Remove	T27	Eriobotrya japonica	Remove
T3	Sapium sebiferum	Remove	T28	Sapium sebiferum	Retain
T4	Sapium sebiferum	Remove	T29	Sapium sebiferum	Retain
T5	Cinnamomum camphora	Remove	T30	Sapium sebiferum	Retain
T6	Castanospermum australe	Remove	T31	Sapium sebiferum	Retain
T7	Sapium sebiferum	Remove	T32	Cinnamomum camphora	Retain
T8	Phoenix canariensis	Remove	T33	Jacaranda mimosifolia	Retain
T9	Lophostemon confertus	Remove	T34	Phoenix canariensis	Remove
T10	Stenocarpus sinuatus	Retain	T35	Muraya paniculata	Remove
T11	Pittosporum undulatum	Retain	T36	Eucalyptus microcorys	Retain
T12	Lophostemon confertus	Remove	T37	Eucalyptus microcorys	Retain
T13	Cupressus sp.	Remove	T38	Eucalyptus microcorys	Retain
T14	Cupressus sp.	Remove	T39	Eucalyptus microcorys	Retain
T15	Cupressus sp.	Remove	T40	Eucalyptus microcorys	Retain
T16	Howea forsteriana	Remove	T41	Eucalyptus microcorys	Remove (dead)
T17	Howea forsteriana	Remove	T42	Eucalyptus microcorys	Retain
T18	Howea forsteriana	Remove	T43	Eucalyptus microcorys	Retain
T19	Howea forsteriana	Remove	T44	Eucalyptus saligna	Retain
T20	Howea forsteriana	Remove	T45	Eucalyptus microcorys	Retain
T21	Howea forsteriana	Remove	T46	Eucalyptus microcorys	Retain
T22	Callistemon sp	Remove	T47	Eucalyptus microcorys	Retain
T23	Platanus x hybrida	Retain	T48	Eucalyptus saligna	Retain
T24	Platanus x hybrida	Retain	T49	Eucalyptus microcorys	Retain
T25	Platanus x hybrida	Retain			





LEGEND

- 1 Public domain upgrade as per Ashfield Public Domain Town Centre report
- 2 New streets trees in tree grates to Cavill Avenue. Inner West council to confirm species
- 3 New through site link. Code lighting to be installed
- L1 Lighting locations
- P1 Permeable paving to through site link - material to be confirmed by Council
- P2 Unit stone paver as per Council Public Domain Guidelines
- KR Exiting kerb ramp to remain









- LEGEND**
- 1 Existing trees to be retained
 - 2 Private courtyard access
 - 3 Tranquil garden seating spaces
 - 4 Lawn space
 - 5 Retail space
 - 6 Security line
 - 7 Existing wall
 - 8 Feature jacaranda
 - 9 Cabbage palm grove
 - 10 Pedestrian walkway - permeable pavement
 - 11 Arbor structure with climbers
 - 12 Fire booster
 - 13 Unit paver footpath
 - 14 Adventure walkway
 - 15 OSD location
 - 16 Feature jacaranda tree in tree grate
 - 17 Deep soil buffer planting

pedestrian link

LEGEND

- 1 Lightweight 500m wide x 1000mm high -glass reinforced podium facade planters with built in irrigation and drainage.



Cavill Avenue

Cavill Avenue

Cavill Avenue

Liverpool Road

pedestrian link

DETAIL PLAN 03

DETAIL PLAN 04



Cavill Avenue

Cavill Avenue

Cavill Avenue

Liverpool Road





- ① Outdoor kitchen & dining
- ② Kitchen garden - community plots
- ③ Dining nook
- ④ Garden shed
- ⑤ Feature tree in podium planter 750 - 1000mm depth
- ⑥ Shade structure
- ⑦ Lift access
- ⑧ Lawn 250mm soil depth
- ⑨ Shade tree in podium planter 750 - 1000mm depth
- ⑩ Skylight

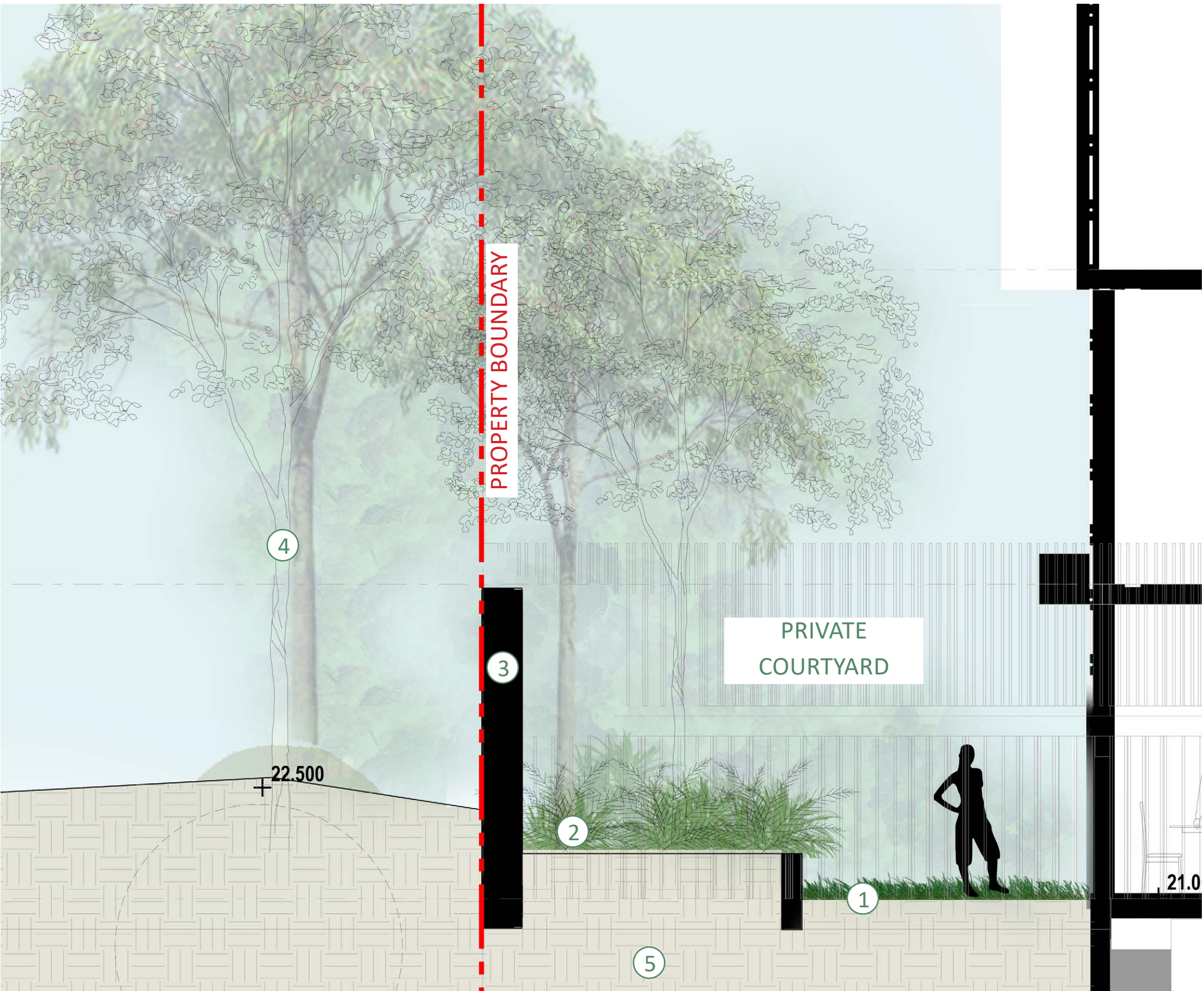




- ① Outdoor kitchen & dining
- ② Dining nook
- ③ Feature tree in podium planter 750 - 1000mm depth
- ④ Shade structure
- ⑤ Lawn 250mm soil depth
- ⑥ Shade tree in podium planter 750 - 1000mm depth
- ⑦ Private garden room
- ⑧ Skylight
- ⑨ Outdoor cinema



SECTION A



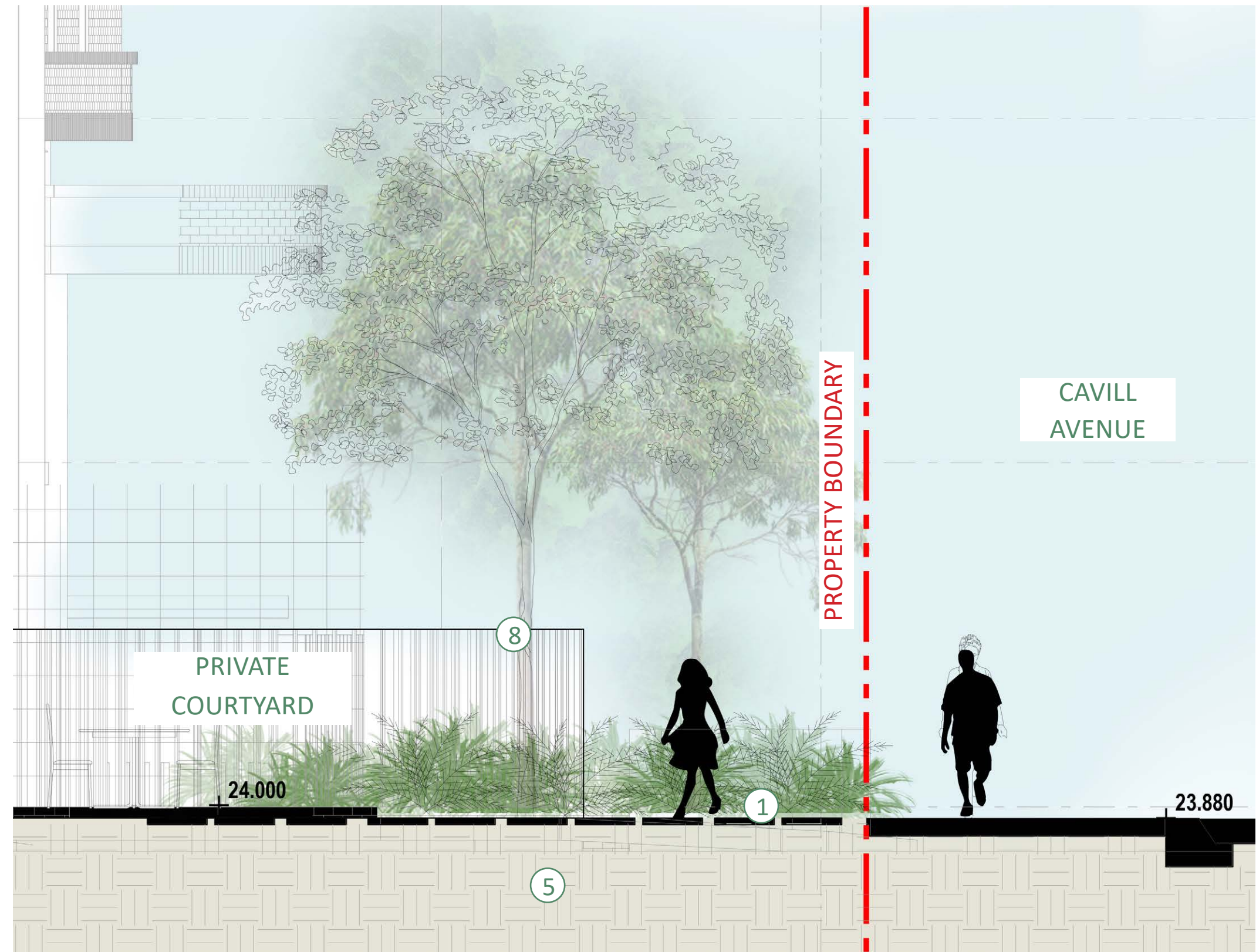
SECTION B



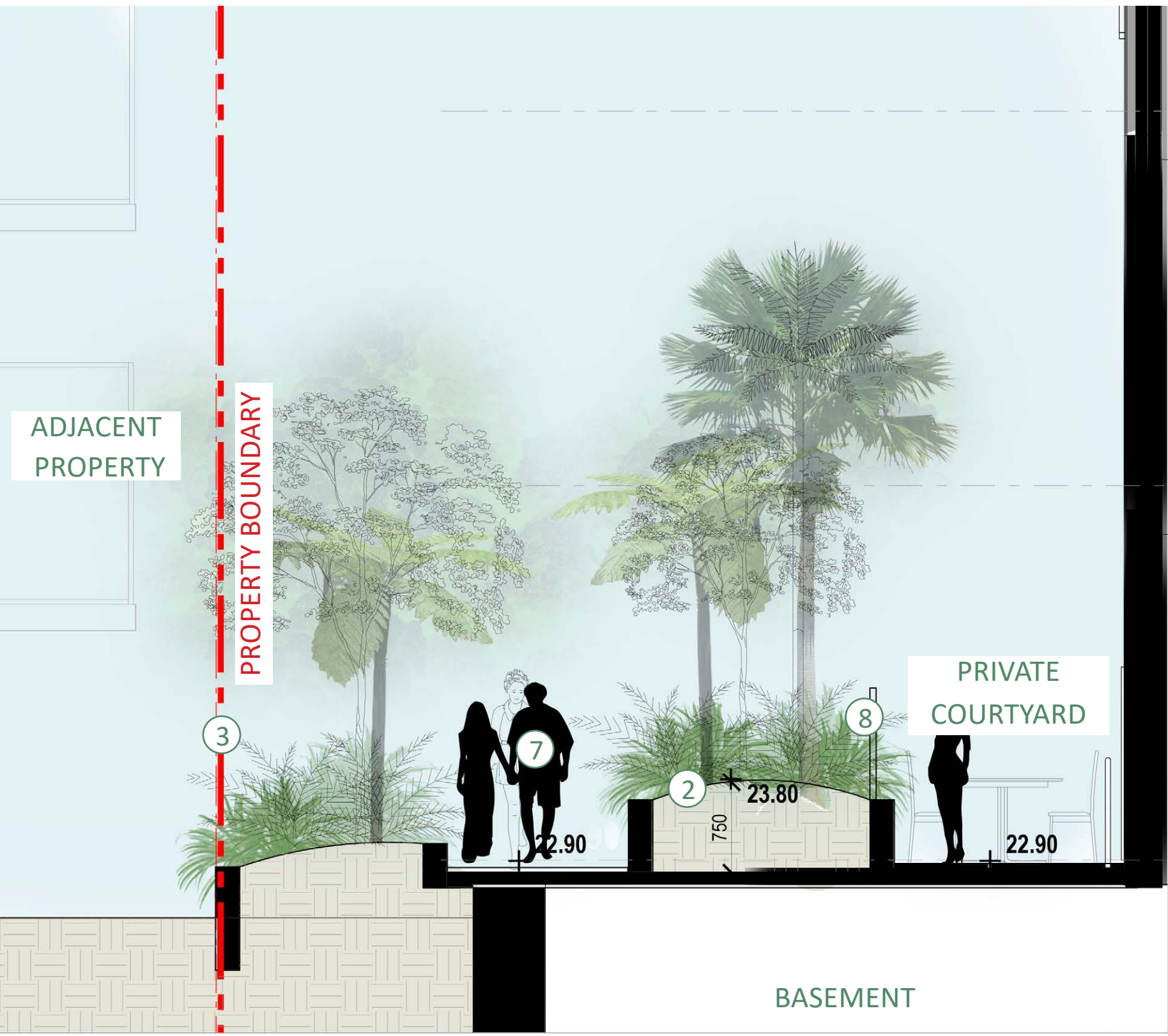
- ① Lawn area (250mm depth)
- ② Screen planting (750mm depth)
- ③ Property fence
- ④ Existing tree
- ⑤ Deep soil
- ⑥ Mature palms and trees (1000mm depth)
- ⑦ Seating edge
- ⑧ Privacy screen



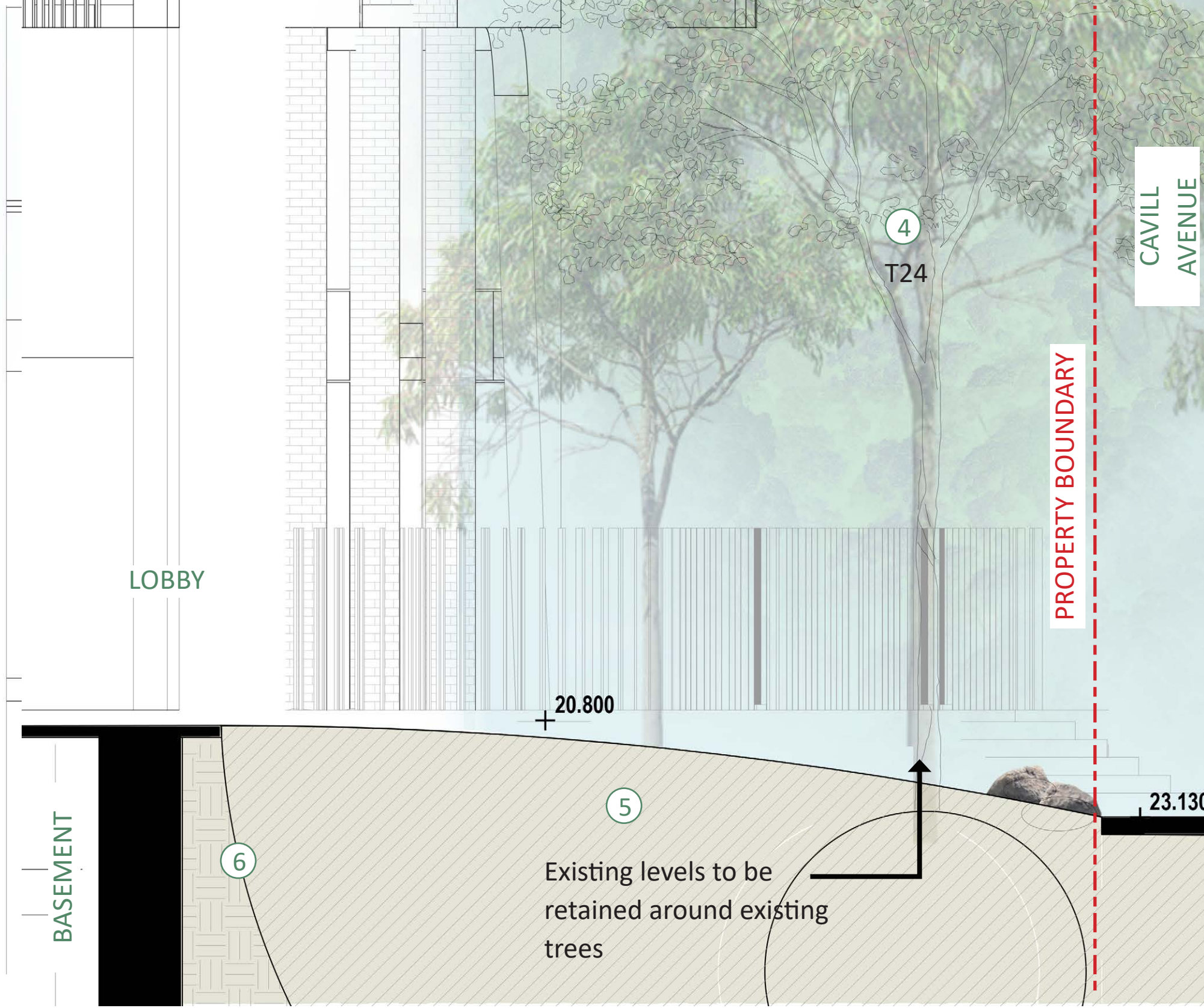
SECTION C



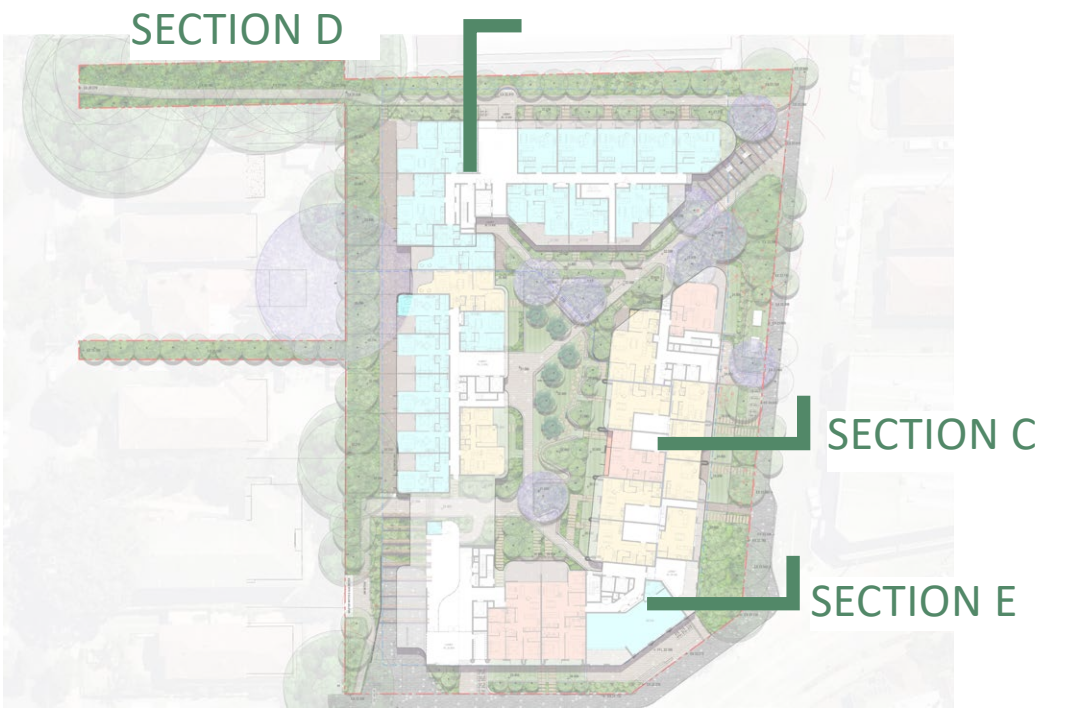
SECTION D



SECTION E



- ① Stepper pathway (private access)
- ② Screen planting (750mm depth)
- ③ Property fence
- ④ Existing tree
- ⑤ Deep soil
- ⑥ Tree Protect Zone
- ⑦ Pedestrian pathway
- ⑧ Privacy screen



3.6 INDICATIVE IMAGERY - COMMUNAL COURTYARD 01



INDICATIVE IMAGERY - PEDESTRIAN LINK EAST



INDICATIVE IMAGERY - PEDESTRIAN LINK WEST



INDICATIVE IMAGERY - COMMUNAL COURTYARD 02



INDICATIVE IMAGERY - ROOF COURTYARD





4.0

PLANTING STRATEGY

4.1 DEEP SOIL PLAN

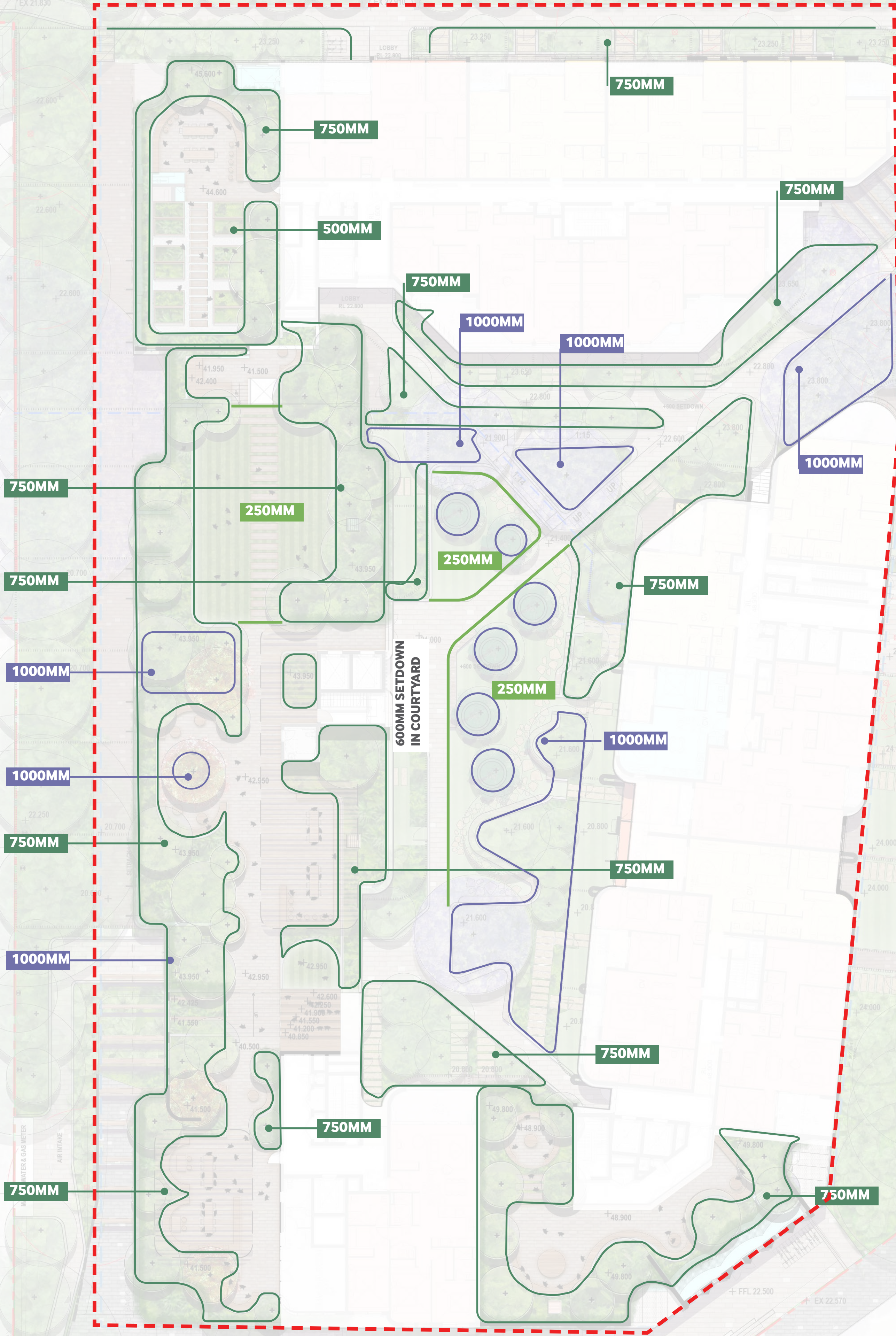
Site Area	8422m²
Compliant deep planting	1389.8m² or 16.5%



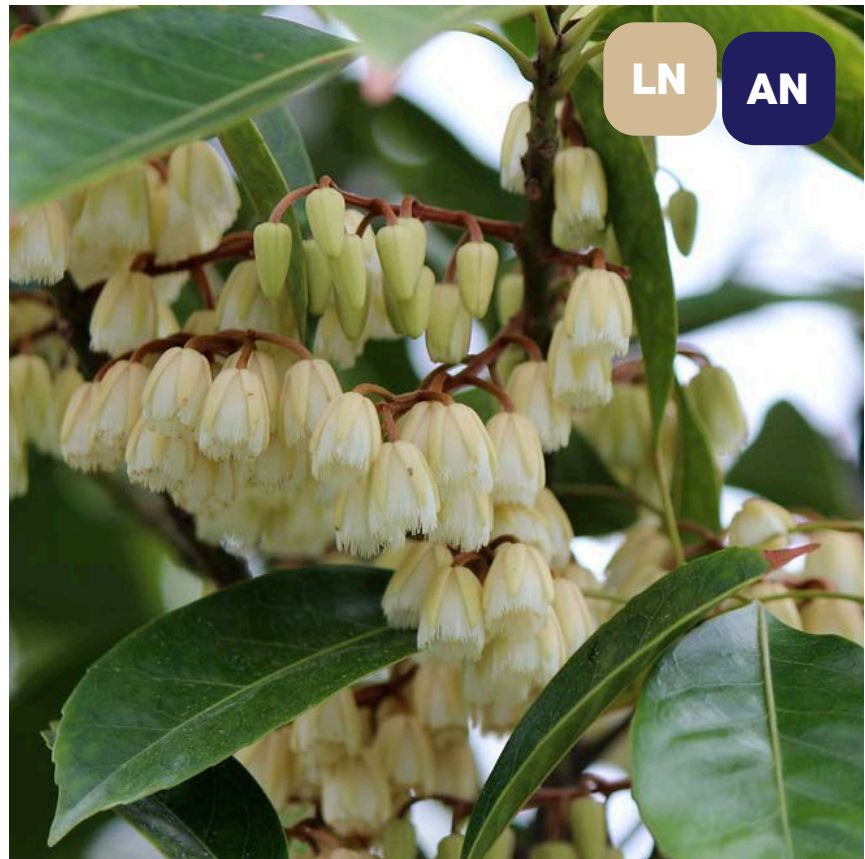
4.2 SOIL ON SLAB PLAN

DEPTH

250mm depth	Turf
450- 750mm depth	Groundcovers & Shrubs
750- 1000mm depth	Large Shrubs & Small - medium trees



4.3 PLANTING CHARACTER



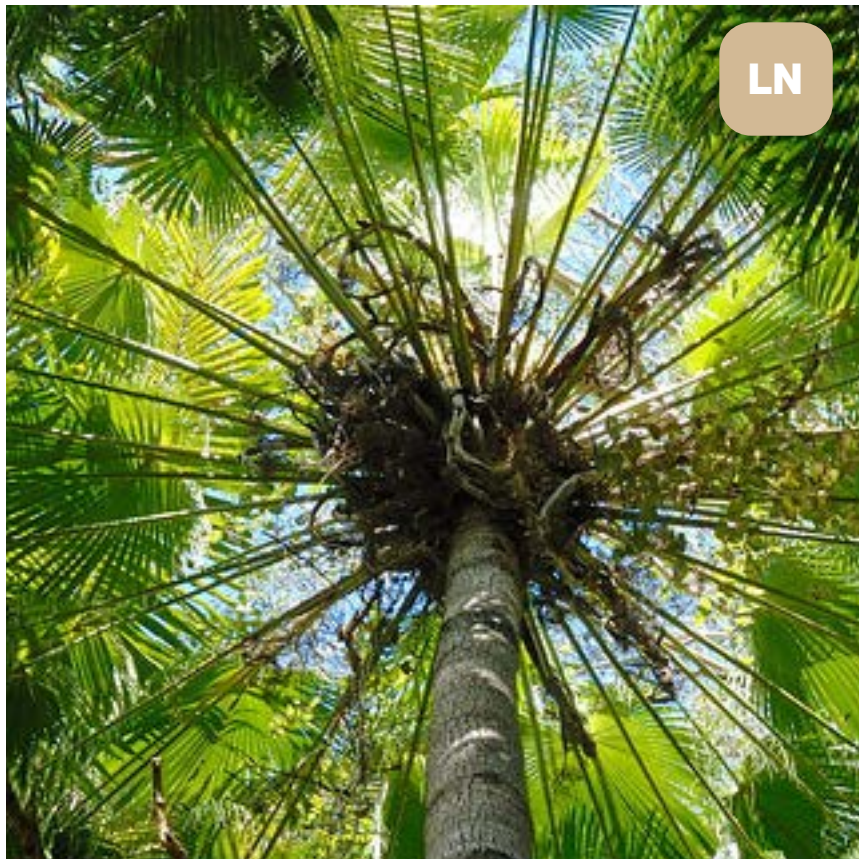
ELAEOCARPUS eumundi - Quandong



ALOCASIA macrorrhiza - Giant Taro



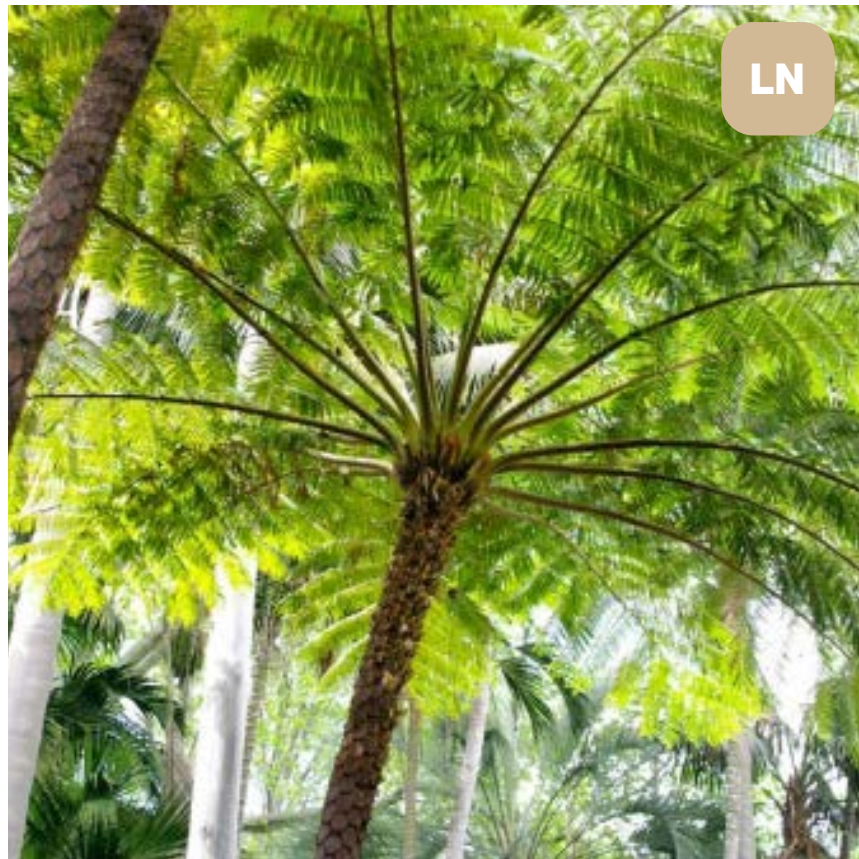
JACARANDA mimosifolia - Jacaranda



LIVISTONA australis - Cabbage Tree Palm



WATERHOUSEA floribunda - Weeping Lilly Pilly



CYATHEA cooperi - Tree Fern



AJUGA repens - Bugleherb



TRISTANIOPSIS laurina - Water Gum



BLECHNUM cartilagineum - Dwarf Tree Fern



ASPLENIUM australasicum - Birds Nest Fern



CTENANTHE setosa - Never Never Plant



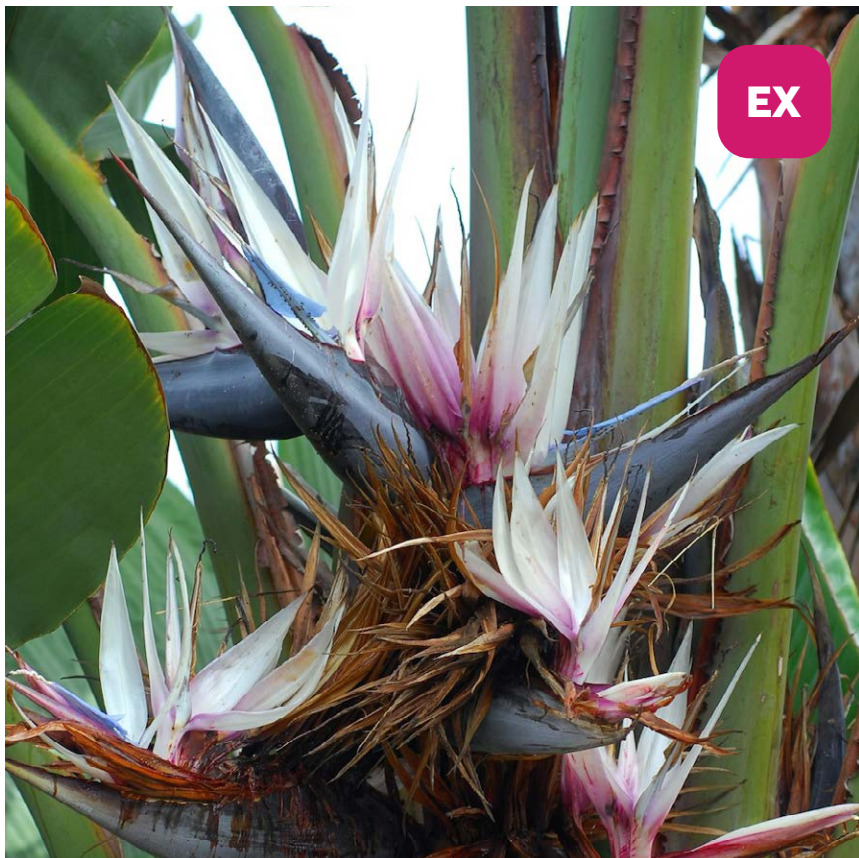
ALCANTAREA imperialis - Bromeliad



MOLINERIA capitulata - Palm Grass



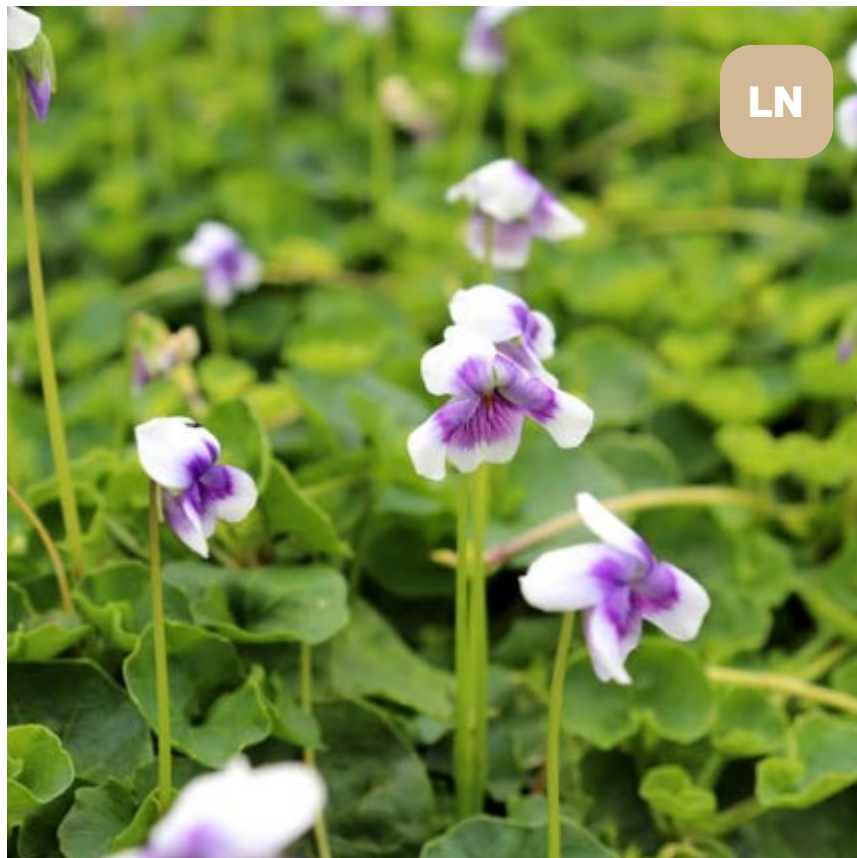
DIETES grandiflora - Wild Iris



STRELITZIA nicolai - Giant Bird of Paradise



PRATIA pedunculata - White Star Creeper



VIOLA hederacea - Native Violet



NEOMARICA gracilis - Walking Iris

AN Australian Native LN Local Native EX Exotic

4.4 PLANTING SCHEDULE - SHRUBS AND GROWDCOVERS

Code	Botanical Name	Common Name	Minimum Potsize	Minimum Install HeightxSpread	Estimated Mature HeightxSpread	% of Mix
Planting Mix A						Area (m²)
ADI aet	ADIANTUM aethiopicum	Common Maidenhair Fern	140mm	0.2m high	0.5m x 0.75m	20
DIC rep	DICHONDRA repens	Kidneyweed	140mm	0.15m high	0.15m x 2m	10
HYP mue	HYPOLEPIS muelleri	Harsh Ground Fern	200mm	0.4m high	1m x 0.4m	25
PTE esc	PTERIDIUM esculentum	Bracken Fern	140mm	0.15m high	1.5m x 2m	25
VIO hed	VIOLA hederacea	Native Violet	140mm	0.5m high	0.15m x 2m	10
WAH com	WAHLENBERGIA communis	Tufted Bluebell	140mm	0.25m high	0.75m x 0.3m	10
Planting Mix B						Area (m²)
LOM TA	LOMANDRA longifolia 'Tanika'	Mat Rush	140mm	0.15m high	0.6m x 0.65m	30
HAK ser	HAKEA sericea	Silky Hakea	200mm	0.3m high	3m x 3m	20
DAV uli	DAVIESIA ulicifolia	Gorse Bitter-pea	200mm	0.3m high	2m x 1m	20
IMP cyl	IMPERATA cylindrica	Baldy Grass	140mm	0.15m high	0.6m x 0.65m	30
Planting Mix C						Area (m²)
PRA pen	PRATIA purpurascens	White root	140mm	0.15m high	0.15m x 2m	50
VIO hed	VIOLA hederacea	Native Violet	140mm	0.5m high	0.15m x 2m	50
Planting Mix D						Area (m²)
DIA cae	DIANELLA caerulea	Blue Flax-Lily	140mm	0.15m high	0.5m x 1m	30
HAK ser	HAKEA sericea	Silky Hakea	200mm	0.3m high	3m x 3m	5
HAR vio	HARDENBERGIA violacea	False Sarsaparilla	140mm	0.15m high	0.15 x 2m	5
LOM TA	LOMANDRA longifolia 'Tanika'	Mat Rush	140mm	0.15m high	0.6m x 0.65m	30
PUL vil	PULTENAEA villosa	Hairy Pea Bush	200mm	0.3m high	2m x 3m	5
VIO hed	VIOLA hederacea	Native Violet	140mm	0.5m high	0.15m x 2m	25
Planting Mix E						Area (m²)
CAL lin	CALLISTEMON linearis	Narrow-leaved bottle-brush	200mm	0.2m high	3m x 3.5m	5
DIA cae	DIANELLA caerulea	Blue Flax-Lily	140mm	0.15m high	0.5m x 1m	35
LOM TA	LOMANDRA longifolia 'Tanika'	Mat Rush	140mm	0.15m high	0.6m x 0.65m	35
MEL thy	MELALEUCA thymifolia	Thyme Honey Myrtle	200mm	0.2m high	1.5m x 1.5m	5
WAH com	WAHLENBERGIA communis	Tufted Bluebell	140mm	0.25m high	0.75m x 0.3m	20
Planting Mix F						Area (m²)
DIA cae	DIANELLA caerulea	Blue Flax-Lily	140mm	0.15m high	0.5m x 1m	35
HAK ser	HAKEA sericea	Silky Hakea	200mm	0.3m high	3m x 3m	5
LOM TA	LOMANDRA longifolia 'Tanika'	Mat Rush	140mm	0.15m high	0.6m x 0.65m	35
PUL vil	PULTENAEA villosa	Hairy Pea Bush	200mm	0.3m high	2m x 3m	5
WAH com	WAHLENBERGIA communis	Tufted Bluebell	140mm	0.25m high	0.75m x 0.3m	20

Code	Botanical Name	Common Name	Minimum Potsize	Minimum Install HeightxSpread	Estimated Mature HeightxSpread
SHRUBS					
ALP zer	ALPINA zerumbet	Shell Ginger	45L	0.6m x 0.3m	1.5m x 1m
AZA MK	AZALEA 'Mrs Kint'	Mrs Kint Azalea	45L	0.6m x 0.3m	1.2m x 1.2m
BLE ind	BLECHNUM gibbon	Silverlady	300mm	0.6m x 0.3m	1m x 1m 1m x 1m
ASP nid	ASPLNIUM nidus	birds nest fern	300mm	0.6m x 0.3m	1m x 1m
ALO mar	ALOCASIA macrorrhiza	elephant ear	300mm	0.6m x 0.3m	2m x 1m
BAM gua	BAMBUSA guangxiensis	Chinese Dwarf Bamboo	45L	2m x 0.3m	8m x 1m
COR KA	CORDYLINE australis 'Kaspar'	Cabbage Palm	45L	0.6m x 0.3m	2m x 1m
LAV ang	LAVANDULA angustifolia	Lavander	140mm	0.25m high	1m x 1m
ROS off	ROSMARINUS officinalis	Rosemary	140mm	0.25m high	1m x 1m

4.5 TREE PLAN

The NSW Government has set a target to increase tree canopy cover across Greater Sydney to 40 per cent.

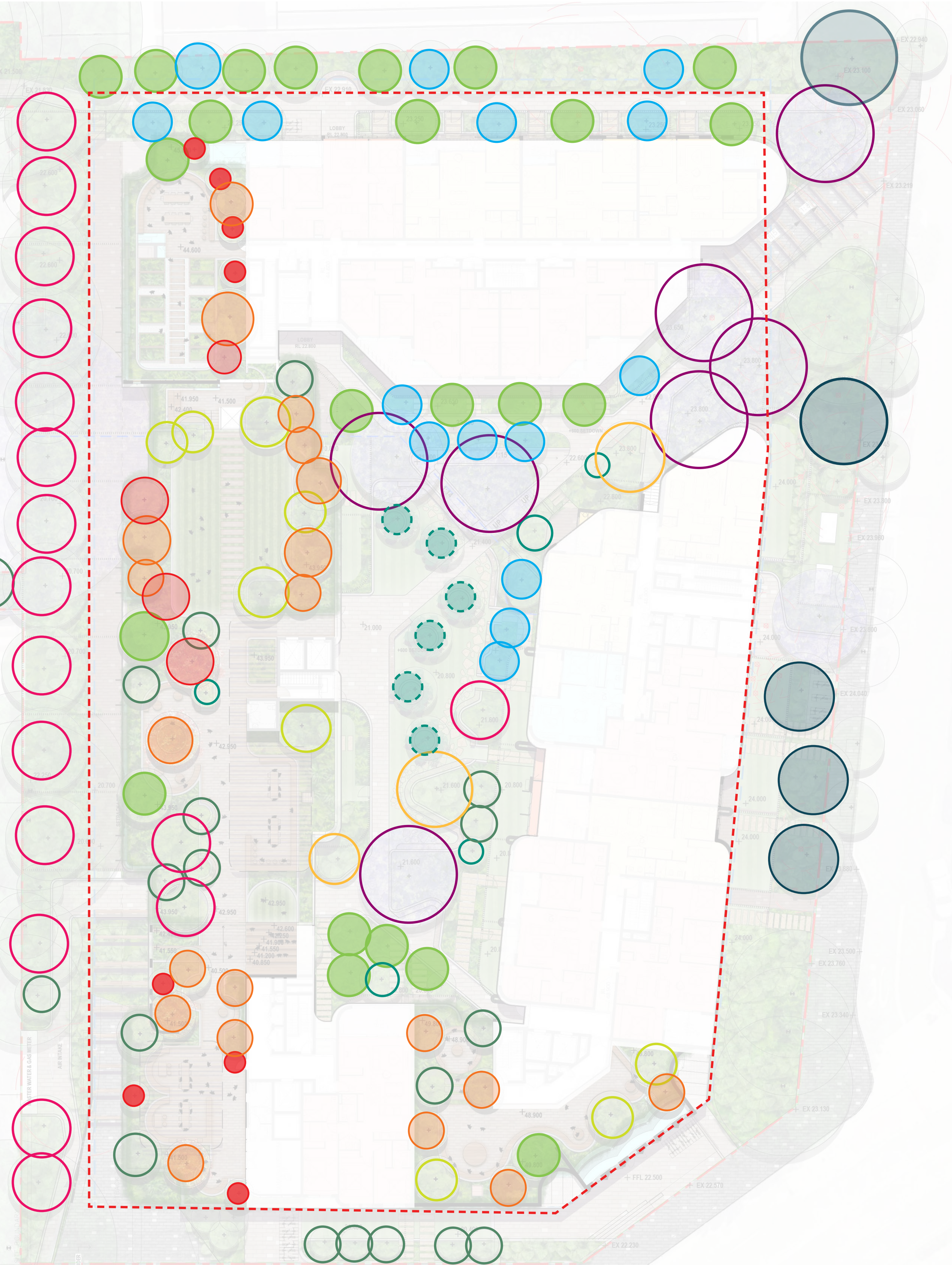
Trees are valued by residents and contribute to the streetscapes, character and amenity of Ashfield. As the area continues to grow and change, the urban tree canopy will come under pressure. This means that expanding the urban tree canopy in public places will become more important for supporting for sustainable and liveable neighbourhoods and enhancing Bio-diversity.

The tree canopy may be formed by a mix of native and exotic, deciduous or evergreen trees, which provide shade in summer while allowing sunlight into homes and onto roofs for solar power, particularly in winter.

The proposed linear park will enhance the amenity and activity within, and accessibility to, the Greater Sydney Green Grid will promote a healthier urban environment, improve community circulation to the Town Centre and encourage social interaction, support walking and cycling connections and improve resilience



Canopy (measured at mature canopy size)			
	Number	M ²	Percentage of Site (8422 sqm)
Large tree (90m2)	9	810	20.6%
Medium tree (40m2)	29	1160	16.6%
Small tree (10m2)	122	1220	2%
Total	90	3190	37.1%





5.0

MAINTENANCE GUIDELINES

5.1 IRRIGATION & MAINTENANCE STRATEGY



IRRIGATION

- Automatic irrigation system to be inspected monthly as per manufacturers specifications. The following are to be checked:
- Controller and soil moisture senor
 - Cabinets clean / clear
 - Wiring condition and electrical connections
 - Back flow prevention device
 - Battery replacement
 - Valve covers, valve boxes
 - Heads missing, clogged, leaking, broken, tilted or misdirected
 - Drip emitters connected to flex line, flex line connected to riser, micro adjustment nozzles connected
 - Service filter strainer
 - Automatic flush valves
 - Operational pressures
 - Frequency adjusted to maintain healthy plant growth.

Planting areas not covered by the irrigation system will be covered by the provision of hose cocks at regular intervals which will allow for hose watering as required during establishment and during particularly dry conditions to ensure healthy plant growth.



MAINTENANCE OF HARD LANDSCAPE ELEMENTS

- Sweep paved areas, particularly in high use ares monthly. Oil stains in any key areas to be removed using a mild dish wash-ing liquid and warm water solution.
- Inspect paving and walls for areas of moss or mold and remove if found using a mild ammonia solution.
- Weeds are to be removal from all landscape walls, paving and gravel areas monthly.
- Leaf Litter to be removed from all paving areas, paths and gravel areas monthly.
- Drainage pits are to be cleared of mulch and other material regularly so that all pits are cleared when observed at monthly intervals or after significant storm events.
- Inspect seats, benches, tables and other furniture monthly. Undertake any repairs or replacement as required.
- Inspect garden bed edges between soft surfaces annually. Repair any damage or replace as specified.
- Inspect all retaining and planter walls annually. Should any cracking, settling or displacement be observed notify Shayher and determine required rectification actions to be undertaken.
- Inspect all pergolas, mesh screens, climbing structures and shelters annually. Should any rust, damage or structural issues be identified notify Stockland and determine required rectification actions to be undertaken.



RECORD KEEPING

A log book will be required to be kept detailing the maintenance works undertaken. The records shall include details of ma-terials and procedures used as well as time and method of application. A record of inclement weather should also be kept to verify inability to carry out work within the specified time frames. Monthly and annual maintenance reports will be prepared to track the results of the maintenance and detail any



MINIMISING MAINTENANCE NEEDS

The maintenance of the landscape will be important to its success both in the crit-ical establishment phase (the first 12 months) and ongoing for its life span. The re-duction and practicality of ongoing maintenance requirements has been intrinsic in the design with key considerations as follows:

- Use of endemic and native species and those known to do well in the local area.
- Selection of species by their size and habit, which do not require frequent prun-ing to maintain their form as a hedge or to contain then within the desired plant-ing zone.
- Species selected for each area determined based on the micro-climatic condi-tions, particularly in respect to sun and shade conditions.
- Selection of low water plants to reduce the need for additional watering.
- Roof water to be collected for use in irrigation to reduce the need for the use of potable water for this purpose. Automatic irrigation provided throughout the landscape areas.



MAINTENANCE SCHEDULE

The maintenance of the landscape will be undertaken by the contractor for the first 12 months to ensure successful establishment. Following this the maintenance will be taken over by a maintenance contractor.

The maintenance to be undertaken will be detailed in the landscape specification in the form of a Landscape Maintenance Plan. The Landscape Maintenance Plan will ensure the necessary scope and level of maintenance is achieved to ensure the plants remain healthy and other landscape elements are maintained in a safe, functional and attractive condition and will include the following:



SHRUB PRUNING & TRIMMING

- Tip prune shrubs and ground covers to encourage density in spring and winter. Length removed depending on vigor of previous plant growth.
- Pruning should reflect the natural growth, flowering and regrowth habit of the individual species. Generally prune after flowering. Inspect for failed or dying plants requiring replacement monthly and record probable cause.
- All plants that have died or failed (lost more than 50% of their normal foliage cover) shall be replaced with the same species and commercially available size as the plant to be replaced.
- Generally plant material shall be uniformly high quality stock equal to best avail-able for 'retail sale'. The root systems shall be balanced in relation to the size of the plant.
- Plants shall be healthy well grown, hardened off specimens of good shape and free from pests and diseases and in accordance with 'Specifying Trees: a guide to assessment of tree quality' (Clark 2006). Should the contractor believe that alternative species should be utilised a proposal is to be put to Shayher for ap-proval. Inspect climbers, trailing plants monthly, train leaders onto supports as required. Prune long leaders which cannot be reattached to climbing frame or mesh supports in summer.



TREE MAINTENANCE

- Inspect trees monthly during the first 12 months and annually thereafter. En-sure trees are not showing any signs of stress, adjust watering as required to ensure good health and top up mulch to specified depths as required.
- Avoid unnecessary pruning during the first three years. Prune only critical branches and remove damaged or dead wood. Remove branches that limit pub-lic access or present a safety risk.
- Lift the crown of the trees to maintain clear site lines where required to a level of 2.5m.
- Structural tree work including the removal of large branches should be under-taken by a qualified arborist with appropriate applications for the works made to Council.



TURF MAINTENANCE

- Mow turf every 2 weeks in summer, 3 weeks in Spring / Autumn and 4 weeks in winter. Mow at heights of between 40 to-60mm & remove no more than 1/3 of the leaf blade at any one time. Do not mow under wet conditions.
- Apply fertiliser at rates as recommended by manufacturer in Spring and Autumn. Apply fertiliser at rates as recommended by manufacturer
- Inspect for compaction and thatching in Spring. Carry out aeration treatment if required using dethatching or verticutting equipment
- Inspect for failed turf requiring replacement and record probable cause in Win-ter. Remove failed turf, prepare surface & lay new turf in accordance with origi-nal turf specified.



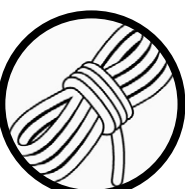
FERTILISING, SOIL IMPROVEMENT & PEST CONTROL

- Soil testing is to be undertaken at the commencement of the maintenance contract and shall include taking samples from a cross section of planting areas. Slow release fertiliser selected to take into account the soil testing results and the insitu plants should be applied annually in spring and in accordance with the manufacturer's recommended rate. Prior approval required for fertiliser use.
- Check for incidence of fungal and insect attack monthly.
- Apply appropriate treatment for fungal and insect attack if necessary subject to approval.
- Avoid use of chemical sprays. If chemical control is considered necessary, these should be mixed and applied in strict accordance with manufacturer's directions. Do not spray in windy or extreme weather. Prior approval required of chemical to be applied.
- Do not remove leaf litter from planted areas unless depth of litter is impacting on plant growth.



MULCHING & WEEDING

- Prevent reproduction of weeds by removal of seedlings and established weeds before seed set. This work should be carried out regularly so that the planted and mulched areas are weed free when observed at monthly intervals.
- Weed garden areas manually or with approved herbicide monthly. Prior approval required for Herbicide use. Approved Herbicide use to be in accordance with regulation rates and manufacturer's recommendation. Protect plants from overspray and avoid if rain is likely within 12 hour period
- Surface mulch is to be replenished as required, at least annually in spring, to maintain a consistent depth as specified at installation. Mulching materials to be consistent with those specified at installation.
- Plant and other litter to be removed from paths and garden areas where required.



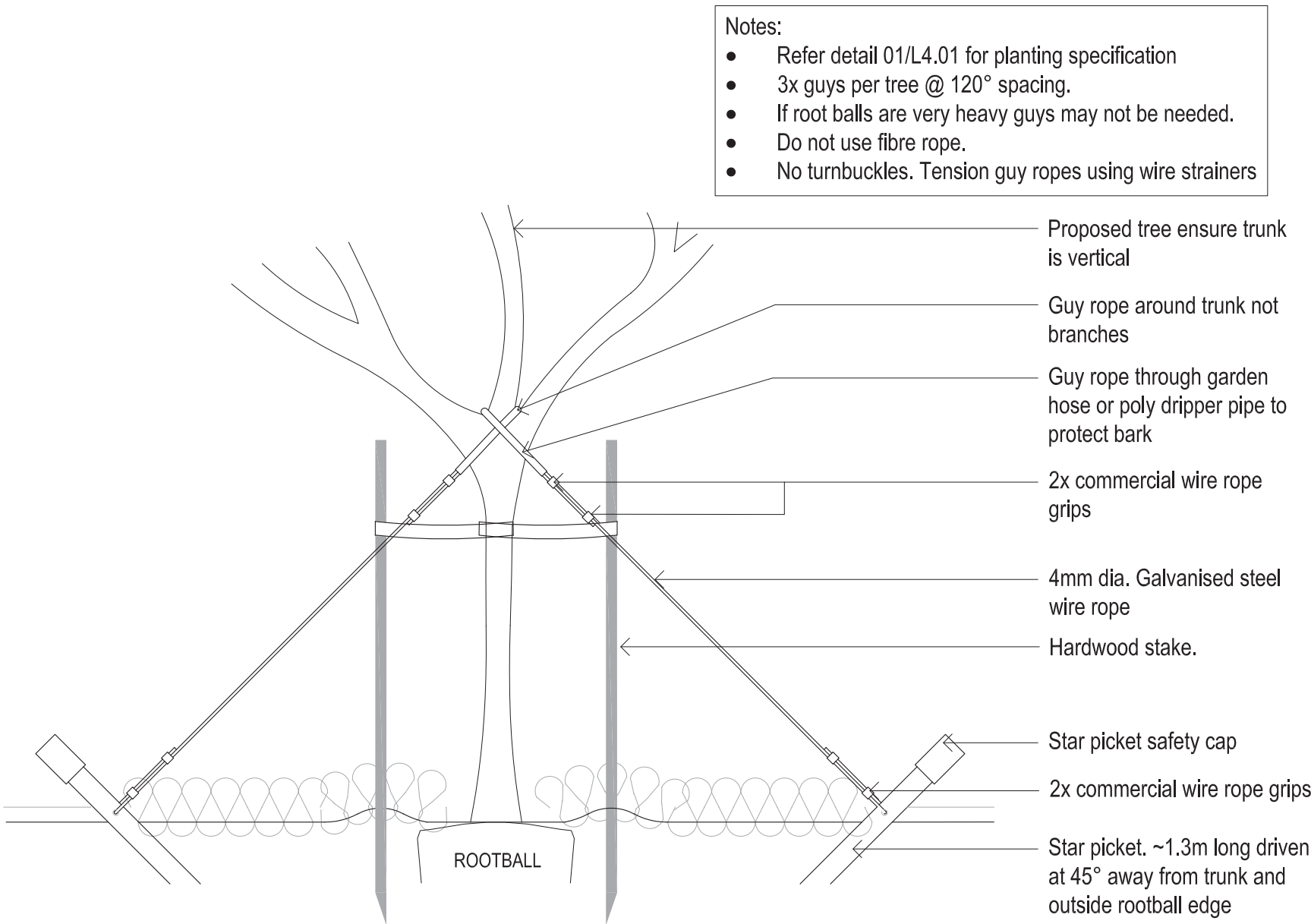
ADJUSTMENT OF TREE STAKES & TIES

- Inspect stakes and ties monthly, replace as required. Check the straps during spring and autumn, ensuring they are loose around the tree to prevent damage to the trunk.
- Remove all stakes and ties at the completion of the 12 month establishment period.

5.2 PLANTER DETAIL & WIND PROTECTION

LANDSCAPE STRATEGY - WIND PROTECTION

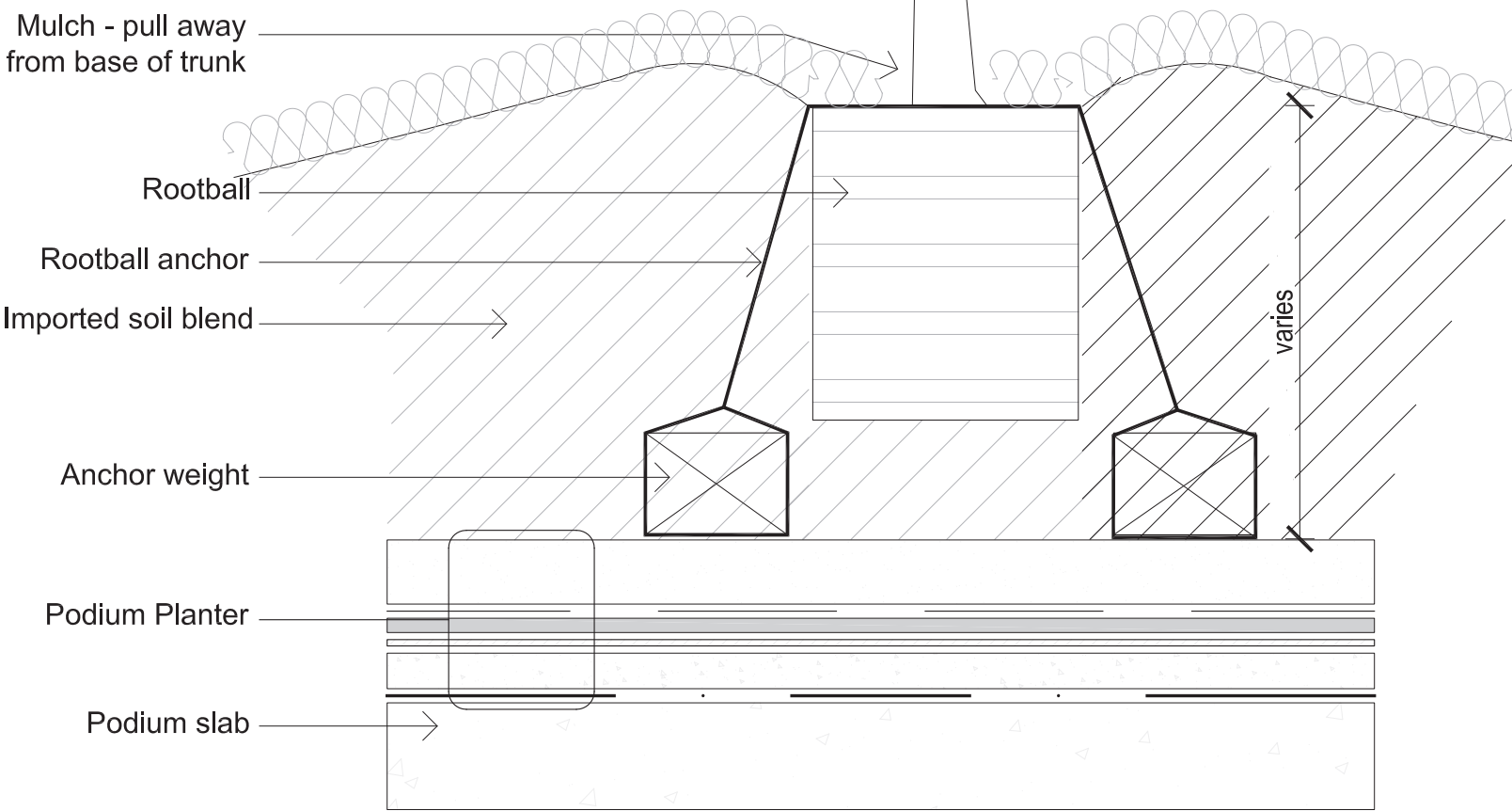
Canopy cover is extremely important for areas like Penrith in helping reduce temperatures and helping increase biodiversity. New developments often create wind tunnels that effect landscapes on podium spaces which can damage tree species in storm conditions. A series of details including guying, rootball anchoring and deep soil podium planters can help provide trees the infrastructure and stability during early establishment periods and ensuring mature vegetation will not be damaged in high wind conditions.



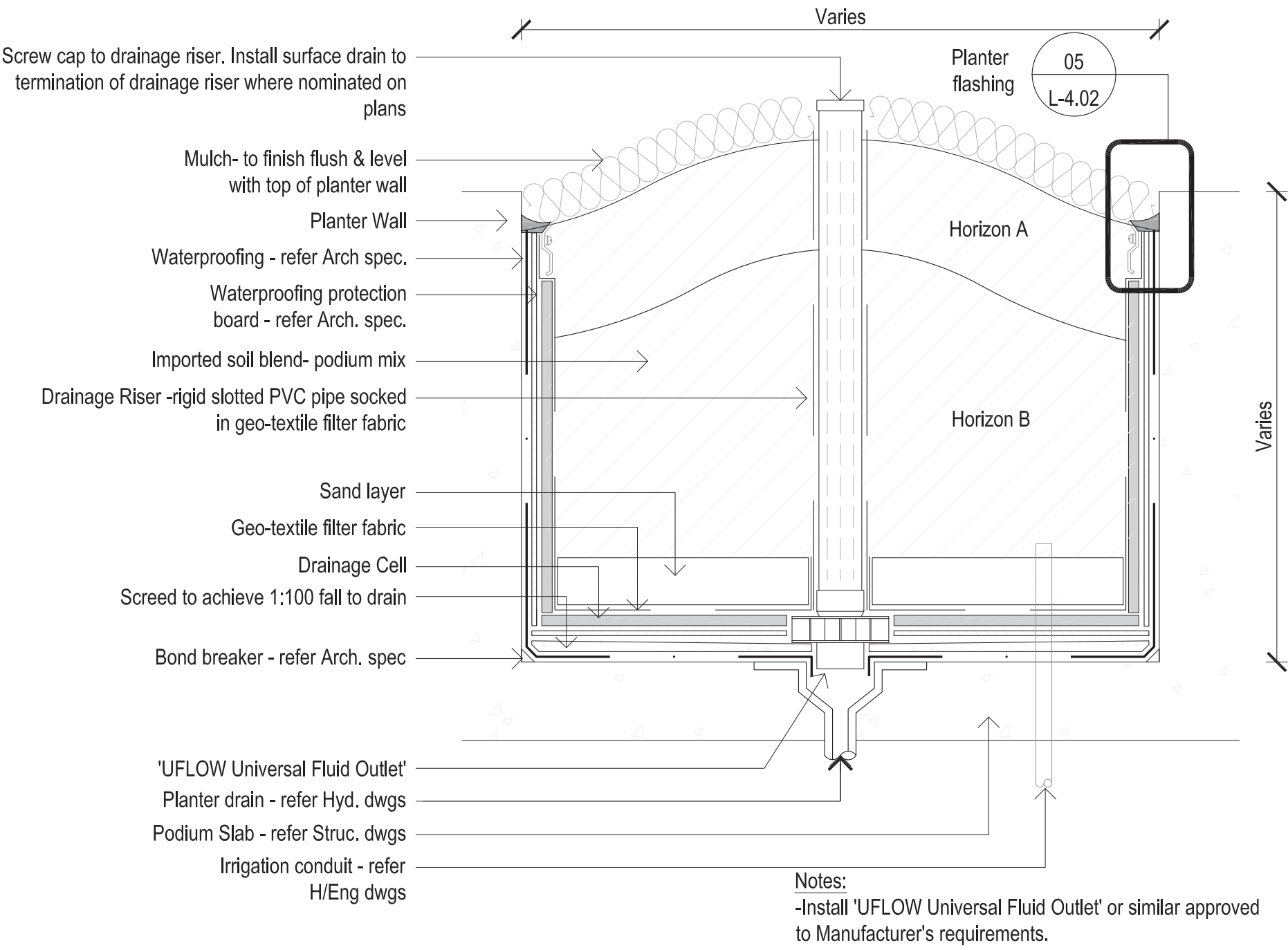
TREE GUYING DETAIL -SCALE 1: 20@A1

Notes:

- Place rootball on firmed imported soil to achieve FSL.
- All rootball fixings are to be 'PLATIPUS Tree Anchoring System' or approved equivalent, and to be installed as per manufacturer's instruction.
- Thoroughly water the root ball immediately after planting.



ROOT BALL ANCHOR TYPICAL -SCALE 1:10 @A1



TYPICAL PODIUM PLANTER DETAIL -SCALE 1:10

