

THORNTON CENTRAL VILLAGE

LANDSCAPE DESIGN REPORT

DEVELOPMENT APPLICATION FOR DA02 - STAGE 2, LOTS 3003, 3004 AND 3005 DP1184498

184, 192 AND 41 LORD SHEFFIELD CIRCUIT PENRITH

CLIENT: THORNTON OPERATIONS PTY LTD

ARCHITECT: CRONE

ISSUE: B

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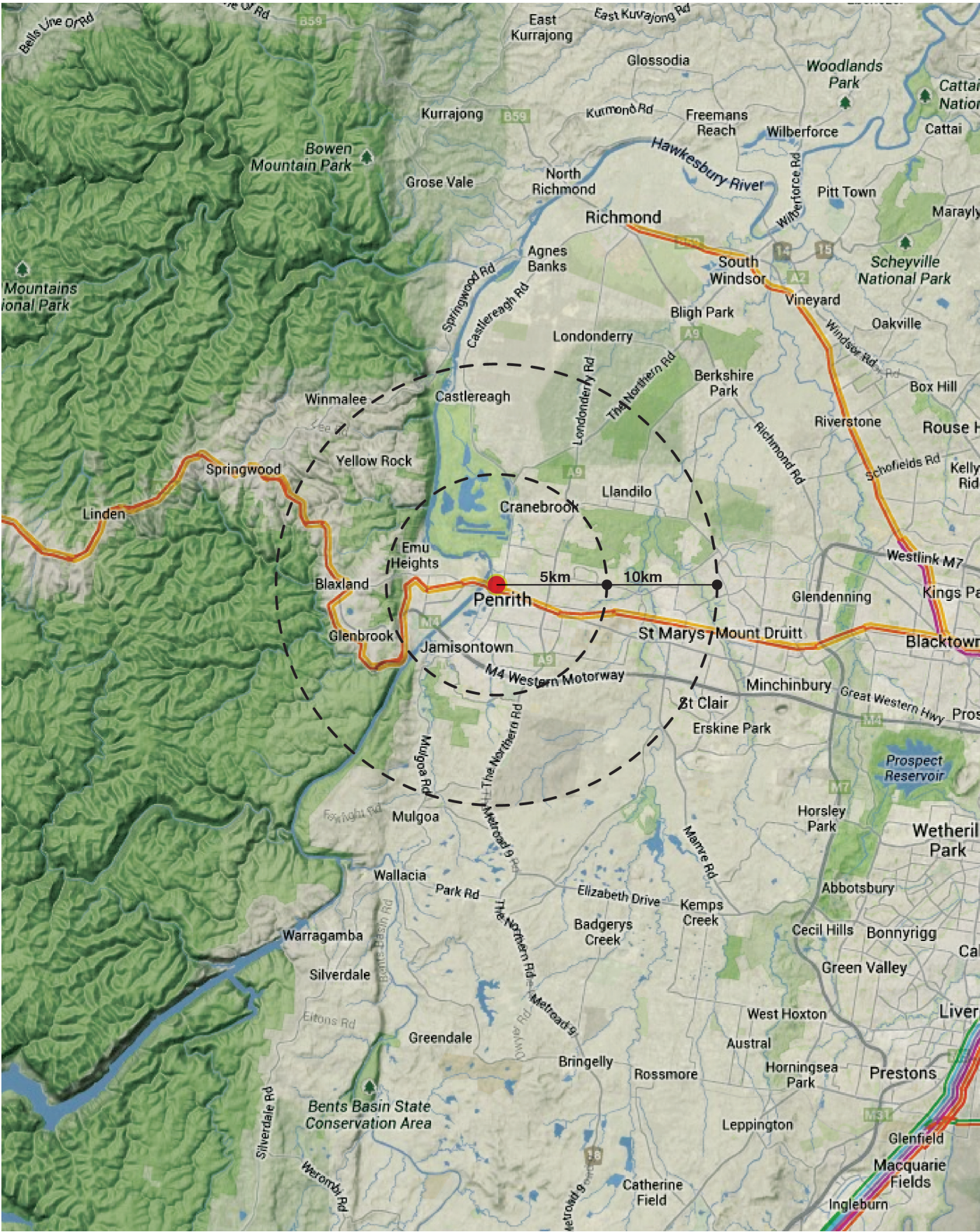
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Development Application 02 (DA02)

This Thornton Central Village Landscape Design Report -DA02 Stage 2 has been prepared to support a development application (DA) which seeks consent for the following development at 41, (part) 184, and 192 Lord Sheffield Circuit Penrith (Part Lot 3003, Lot 3004, and Lot 3005 in DP1184498):

- Demolition of all existing site features and improvements;
- Construction and operation of a new mixed use development, comprising:
 - One storey basement, containing a total of 95 x residential car parking spaces, 2 x car wash bays, waste rooms, plant rooms, and other ancillary back-of-house areas;
 - Five-storey commercial podium comprising:
 - Retail tenancies, residential and commercial lobby entries, a loading dock, vehicle access, and back-of-house areas at Ground Level;
 - A commercial tenancy at Level 01;
 - Shared car parking at Ground Level – 04 (providing a total of 161 x residential car parking spaces and 22 x retail car parking spaces);
 - A residential building (referred to as Tower C), with a maximum rise of 13 storeys (Ground Level – Level 12) containing a total of 74 x residential apartments;
 - A residential building (referred to as Tower D), with a maximum rise of 26 storeys (Ground Level – Level 25) containing a total of 163 x residential apartments;
 - New landscaping works and other public domain works; and
 - Ancillary works, including site services and connections and stormwater infrastructure.



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THORNTON LANDSCAPE MASTERPLAN STRATEGY

INTRODUCTION

The public domain for Thornton Central will be largely formed by a rich network of public spaces at ground level, bounded by the railway line and station to the south, Lord Sheffield Circuit to the north and the proposed retail/commercial buildings to the eastern and western edges of Station Plaza.

VISION

There is a tremendous opportunity for the development to contribute meaningfully to the local community through a new integrated urban design footprint. The Station Plaza and adjacent pedestrian plaza links can contribute substantially to the social, economic and cultural fabric of the surrounding neighbourhood and those communities beyond, in the greater Penrith area.

This design theme will:

- Create an optimistic public open space for the people of Thornton and surrounding neighbourhoods with distinct landscape themes – Central Station Plaza, Pedestrian Plaza Links, Café Terraces and Promenades, pedestrian priority streetscapes and Podium Residential Gardens.
- Facilitate opportunities for passive, active, programmed and un programmed activities.
- Generate a strong sense of 'place' – that befits the location
- Promote ecological corridors – creating 'Urban Lungs' to improve the value of the natural environment through water re-use and filtration and promoting green links.
- Integrate a public transport corridor with pedestrian and cycleway connections to provide a truly multi-modal transport hub.

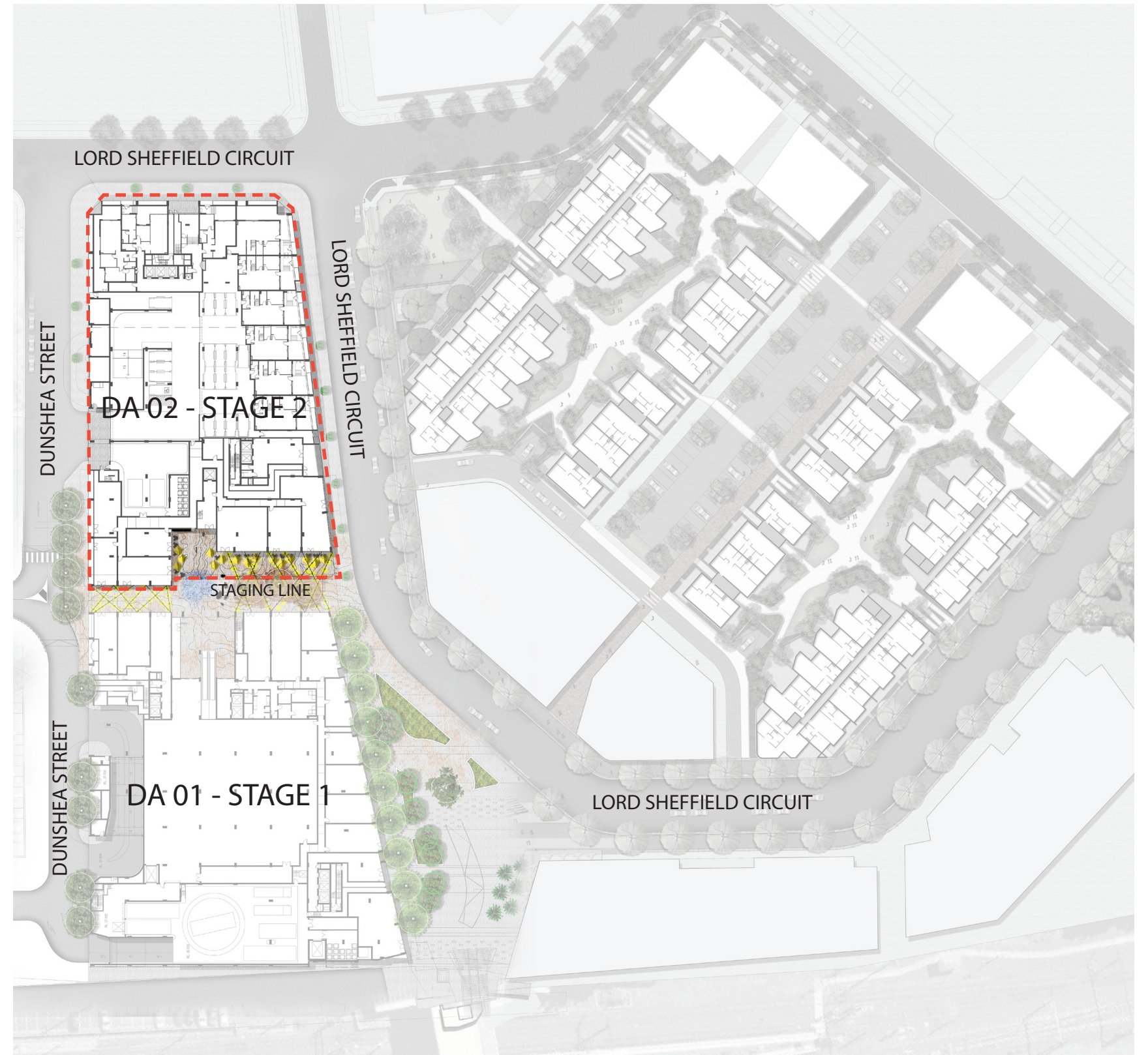
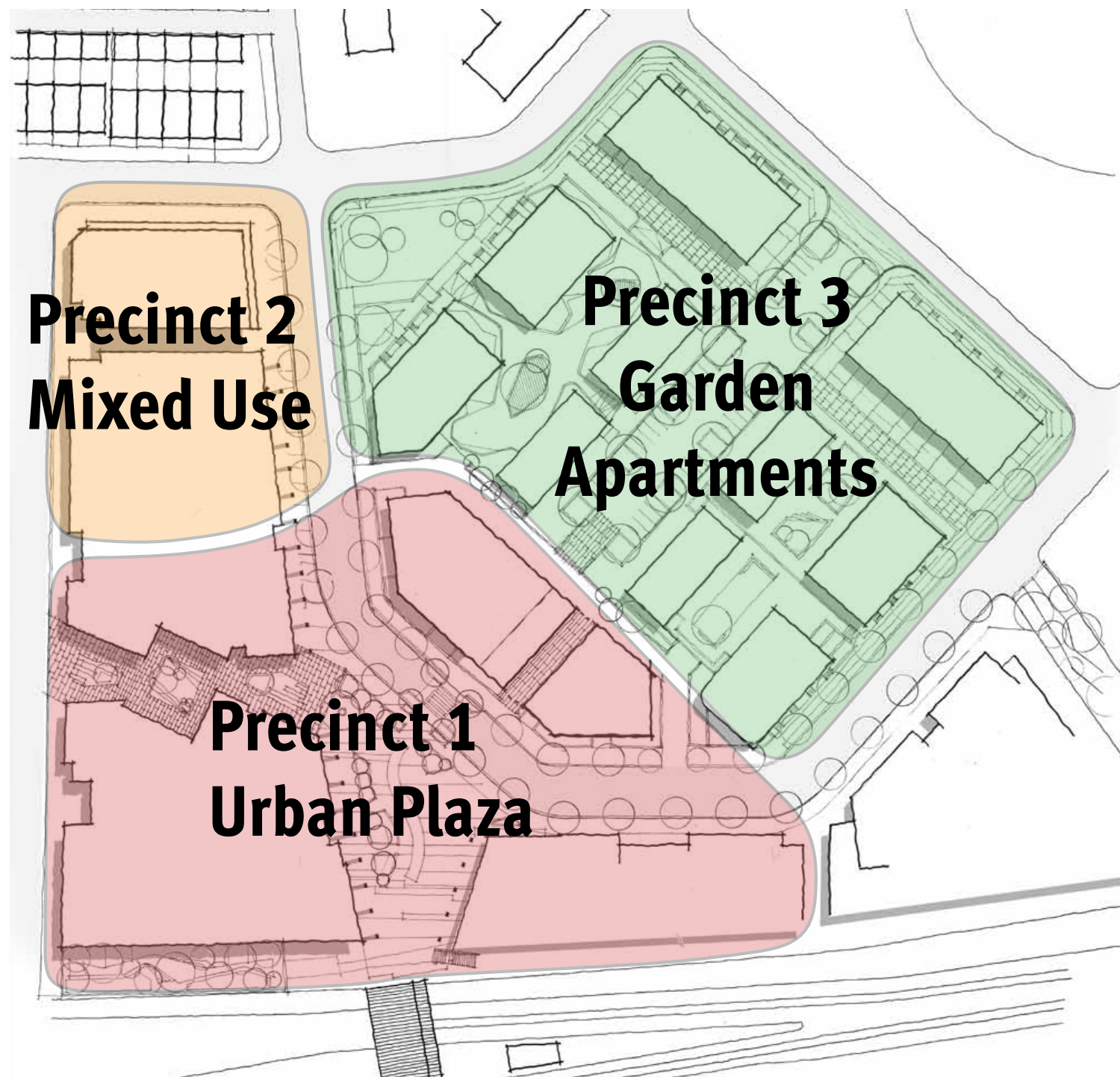


Image: Draft Masterplan, August 2014

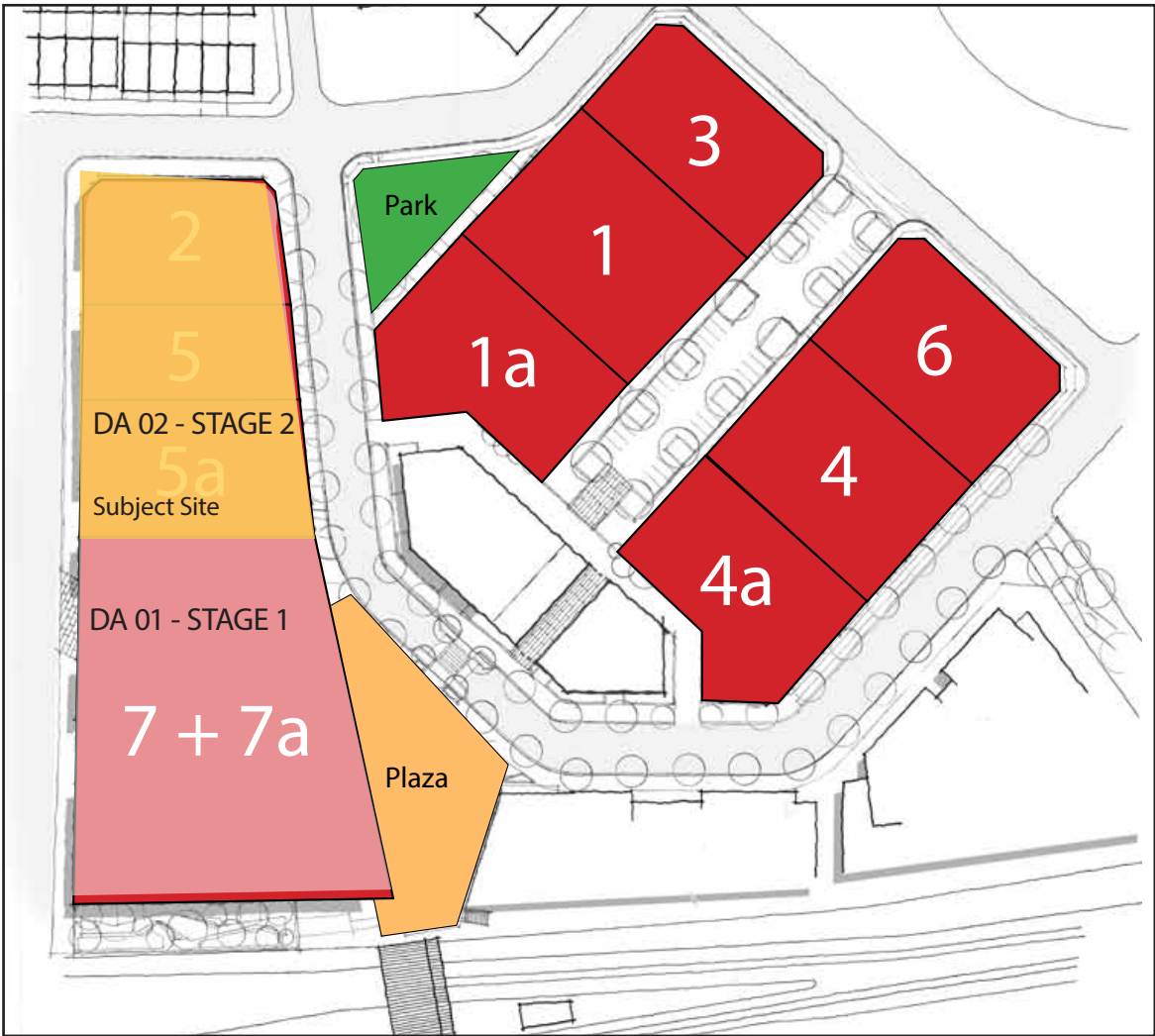
PRECINCT AND STAGING PLAN



The overall masterplan is comprised of three distinctly identifiable precincts as illustrated in the image on the left.

- Precinct 1 - Urban Plaza
- Precinct 2 - Mixed Use
- Precinct 3 - Garden Apartments

The implementation of the master plan comprises stages 1 to 7A as illustrated in the image below. The subject site referred to in this report involves DA 02 - Stage 2.



PUBLIC DOMAIN & LANDSCAPE VISION

BIG IDEAS



Celebrate the Past
Re-connection to Darug country



Look to the Future
A contextually specific sustainable design response



Diversity of Place
An activated inviting place for all

VISION



Place
Celebrate our indigenous and local heritage. Ensure urban spaces contribute to the value and understanding of the place



Connectivity
Provide green space networks across the precinct and enhance streetscapes by planting alongside footpath locations



Diversity
Create a flexible public domain with a variety of experiences



Sustainability
Integration of proposed green space within urban development and promote urban ecology

DESIGNING WITH COUNTRY - LANDSCAPE DESIGN RESPONSE

The project team have been engaging with the Deerubbin Local Aboriginal Land Council (DLALC) over the last 2 months.

DLALC have provided assistance with Connecting with Country. This assistance was in two parts:

- Provide an initial response to the issue of Connecting with Country, and;
- Provide a pathway for us to integrate Connection with Country into our development process.

DLALC invited Graham Davis-King to participate in further discussions with us about Aboriginal cultural values and design. The themes of connection to the Nepean River and Blue Mountains are key elements which emerged.

Graham prepared a report which suggested a number of big ideas which have informed the landscape design response which “will be a strong narrative thread linking the proposal to place, culture and heritage”. We are excited to be on this journey with DLALC and Graham and will continue to work with Graham through the design and documentation stages of the project.

Public Domain Big Ideas:

1. The Rock and the Tree Project, Thornton, Penrith LGA

“The Rock and the Tree project is a celebration of the achievements of Aboriginal people in Western Sydney and Community building in Western Sydney.

The project will begin with a gift of a Port Jackson Fig cutting to Thornton North Penrith from the DLALC as a symbol of working and walking together. Demonstrating caring for the community who will live at the Thornton North Penrith site. This acknowledges a common Interest both the DLALC and Thornton North Penrith share, that is, the wellbeing of communities and people in Western Sydney.

The project is about Country and connecting to Country in the area of the DLALC. The project goal will be to install a large Bonsai of a Port Jackson Figtree holding onto a large Hawkesbury River rock.

There would be interpretive signage about The Deerubbin Local Aboriginal Land Council and Thornton North Penrith. And;

- Signage About the successful Land Claim Process.
- Signage of the Story of the Rock and Tree.
- Signage about family Education and the Importance of Community.



2. The Fountain/Pond

The Figtree-Rock large Bonsai is proposed to be located in the Station Plaza and a Fountain will be at the heart of the site in the centre of the Through Site Link. The Rock and the Tree on the eastern side and the fountain/pond to the plaza.

The pool/fountain and the Figtree-Rock large Bonsai sculptural feature will connect to each other in an East/West alignment.

The pool/fountain is proposed to be an interactive water feature that can be turned off for temporary events such as performances and markets.

The water feature and paving will also respond to the geology and topography of the Blue Mountains, the contour lines on the landscape plan have been traced from the Nepean River near ‘The Rock Lockout’ at Mulgoa representing the valley between two hills.

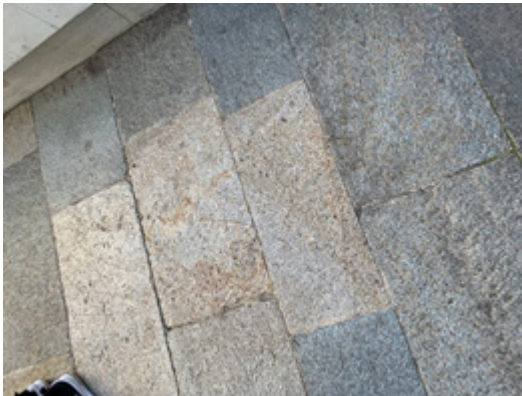


3. The Figtree-Rock and Fountain/Pond

The Figtree-Rock large Bonsai sculptural feature and fountain/pond will be connect to each other in an East/West alignment.

Proposed elements in between the Figtree-Rock large Bonsai sculptural feature and fountain/pond are:

- A catenary lighting artwork that will reflect the positioning of Venus the Moon and the Sun in the sky. Also, the seasons: in winter The Milky Way, and summer Orion and Pleiades. These elements will map the movements east and west of these planets and constellations;
- Stone paving referencing the Blue Mountains ridgelines and river valleys that connect the two elements and unify the through site ground plane, and
- Public seating elements.



4. The Eagle Painting

The Deerubbin LALC have provided an artwork that reflects the Aboriginal context for your development site. “The artwork is a painting by Graham Davis-King that creates a cultural context for what you are creating on the landscape of North Penrith. The artwork represents a direct and powerful bridge between the Aboriginal cultural values of the landscape and the physical forms you will create.

You may use the artwork in your development, as you consider appropriate. It is a gift of cultural knowledge from the DLALC to you.”

The artwork is proposed to be incorporated into the architectural façade overlooking the central plaza and water feature. Please refer to The Crone Architectural Report for further detail.



An image of the artwork in progress, Aug 2021

5. Podium Gardens

The landscape design proposal has integrated a series of ideas and opportunities which have been discussed and endorsed by the Deerubbin Local Aboriginal Landscape Council (DLALC) and will continue to be developed during the design and documentation stages.

Initial feedback has been that the landscape podium design will provide a series of “flowing spaces” which will create “a journey around the garden pods where families can come together”.

The intention is to incorporate endemic plant material across all levels of the Communal Open Space podium gardens. DLALC have provided us with a flora survey in the Penrith LGA, we have incorporated species from the Western Sydney Vegetation Communities including Threatened Flora into our plant schedule for the DA submission as per the table below.

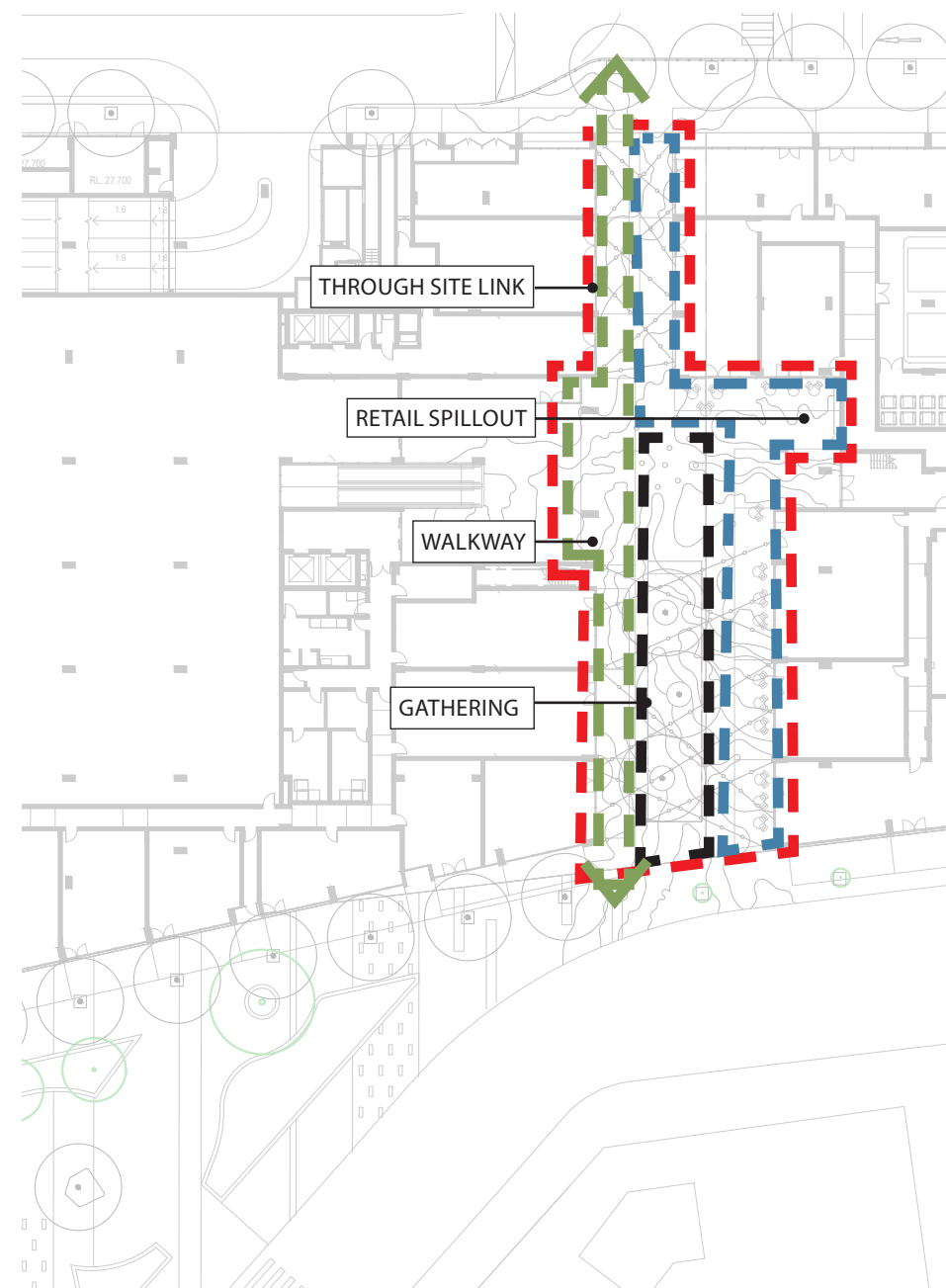
WESTERN SYDNEY VEGETATION COMMUNITY	BVT	PCT	THREATENED FLORA		UNIT OF MEASUREMENT
Vegetation Community			Acacia bynoeana	Endangered	Area
Shale Plains Woodland	HN528	849	Allocasuarina glareicola	Endangered	Area
Shale/Gravel Transition Forest	HN512	724	Dillwynia tenuifolia	Vulnerable	Area
Cooks River Castlereagh Ironba	HN513	725	Grevillea juniperina	Vulnerable	Area
Alluvial Woodland	HN526	835	Marsdenia viridiflora	Endangered	Area
Castlereagh Swamp Woodland	HN562	1067	Micromyrtus minutiflora	Vulnerable	Area
Castlereagh Scribbly Gum Woodland	HN542	883	Pultenaea parviflora	Vulnerable	Area
Phragmites - Typha Freshwater Wetland	HN630	1071	Persoonia nutans	Endangered	Area
TOTAL			Total		

Local materials such as sandstone benches and crushed sandstone to the meeting places on the podium are proposed which responds to the geology of the place.

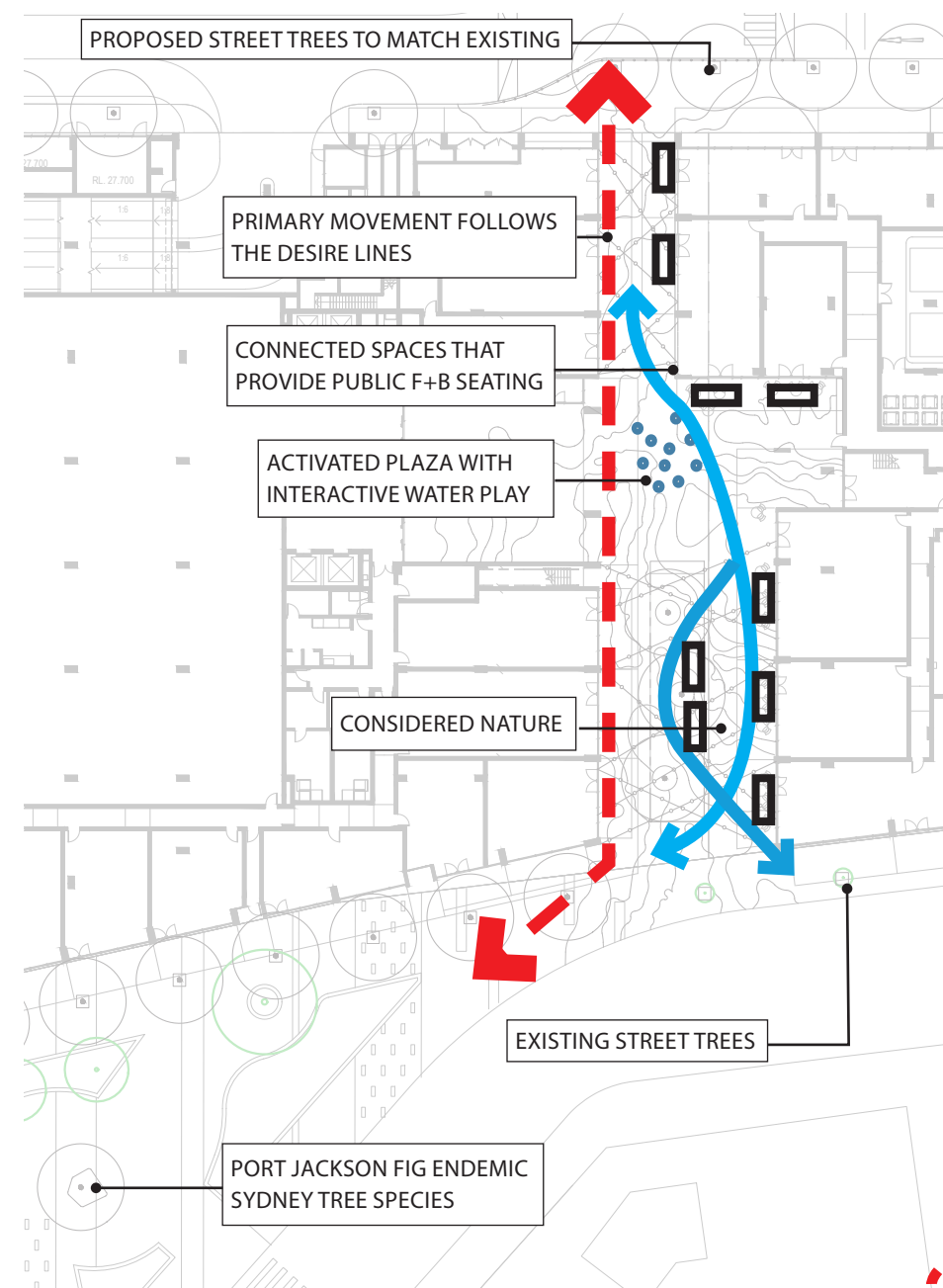
We are continuing to liaise with Graham on further developing opportunities to incorporate an indigenous narrative, program, and activation to the podium landscape design.

LANDSCAPE DESIGN PRINCIPLES - GROUND PLANE

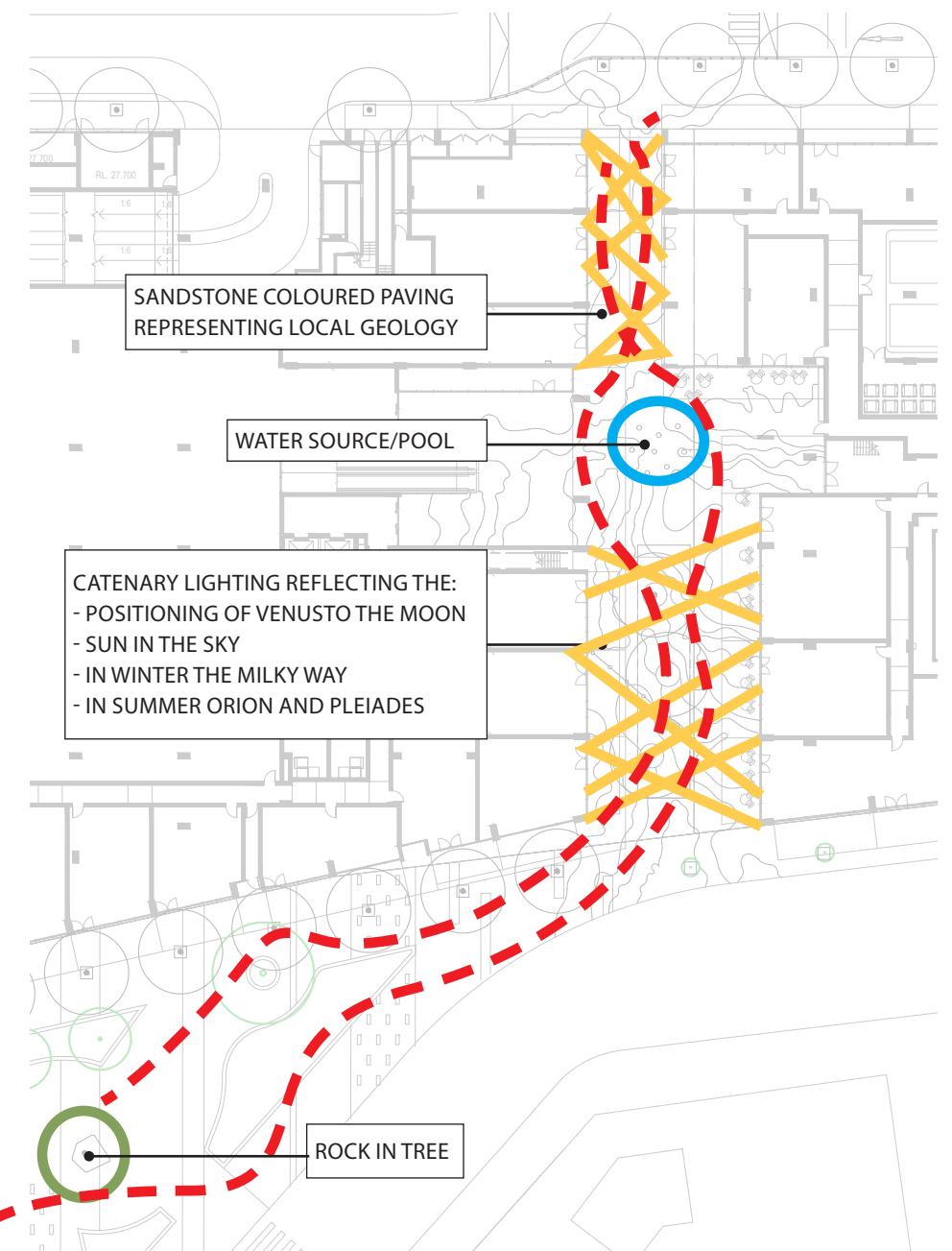
1. OPEN SPACE TYPOLOGIES



2. PUBLIC OPEN SPACE PRINCIPLES

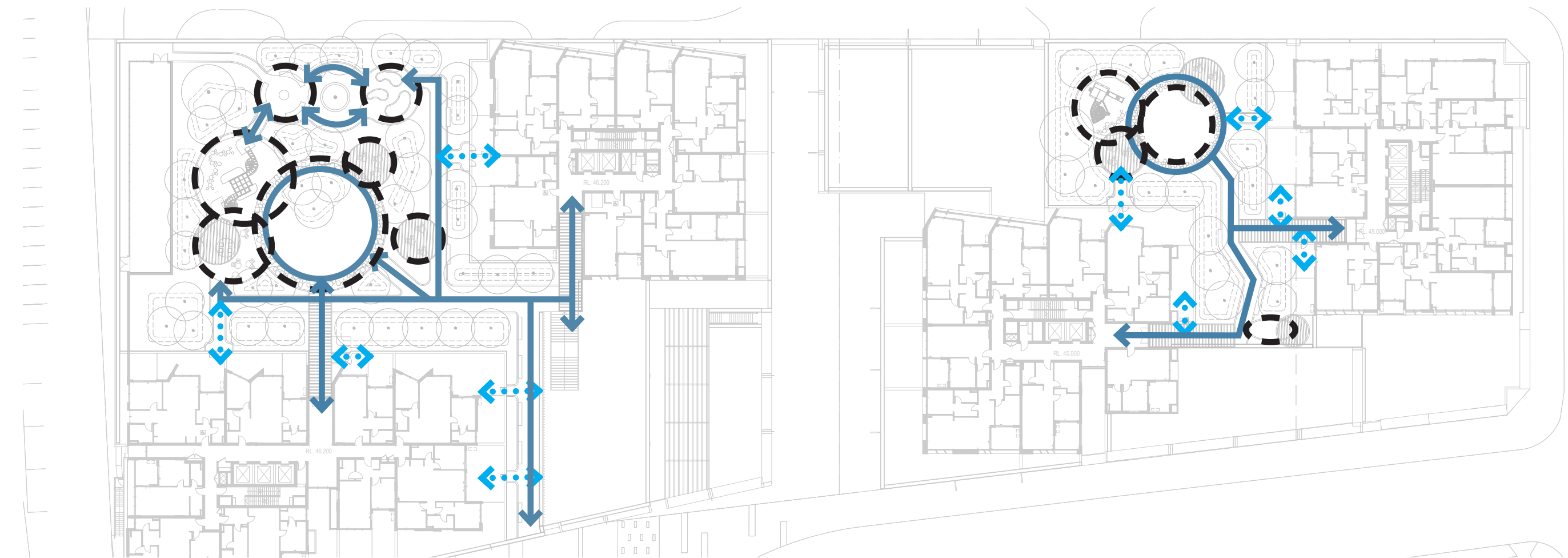


3. CREATE SPACES FOR CONNECTING TO COUNTRY



LANDSCAPE DESIGN PRINCIPLES - PODIUM

COMMUNAL OPEN SPACE PRINCIPLES



1. CONNECTED OPEN SPACE THAT ENCOURAGES GATHERINGS AND SENSE OF PLACE
2. DIVERSITY OF PROGRAMS AND SMALL, MEDIUM AND LARGE DESTINATIONS
3. CREATE A SERIES OF OPPORTUNITIES FOR CONNECTION TO COUNTRY

1. DEERUBBIN LOCAL ABORIGINAL LAND COUNCIL FLORA SURVEY:

- SHALE PLAINS WOODLAND
- CASTLECREAGH SWAMP WOODLAND
- CASTKECREAGH SCRIBBLY GUM WOODLAND AND THREATENED FLORA

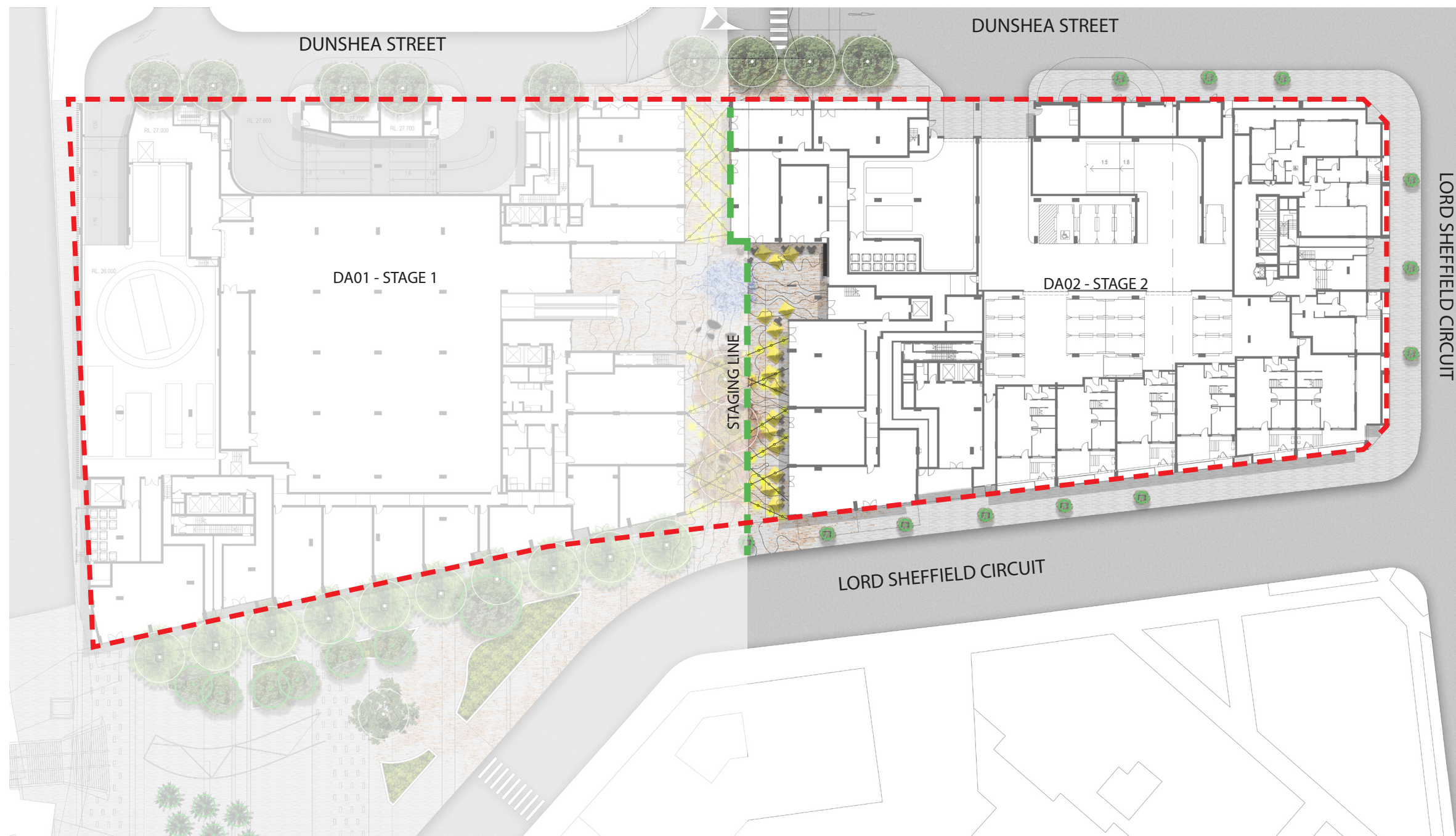
2. MATERIALITY INCLUDING CRUSHED SANDSTONE AND FEATURE SANDSTONE

3. SUGGEST PROGRAMS CURRENTLY BEING EXPLORED WITH DEERUBBIN LOCAL ABORIGINAL LAND COUNCIL INCLUDEING MEETING PLACES AND PRODUCTIVE GARDENS

LANDSCAPE DESIGN OBJECTIVES

The landscape design responds to Council Landscape Objectives which are to:

- Ensure that landscape design reinforces the principles of Ecologically Sustainable Development;
- Promote landscape design and planning as part of a fully integrated approach to site development;
- Ensure landscape design takes into account the site's context, landscape and visual character, existing landscape features and amenity, both at the local and regional scale;
- Encourage the development of quality landscape design associated with new development that is consistent with industry best-practice;
- Encourage the retention of existing trees and vegetation to enhance landscape character;
- Ensure landscape design adequately complements the proposed built form and minimises the impacts of scale, mass and bulk of the development in its context;
- Encourage landscape design that can be effectively maintained to a high standard for the life of that development; and
- Establish a framework for allowing "Controlled Private Certification" of the landscape design components of new developments



Site Context

The site subject to this report is located within the heart of Penrith, adjacent to the train station and across from Penrith Town Centre. Thornton is a rapidly developing area, with several nearby developments currently under construction. The site will form a key hub within this new development.

The site provides an opportunity for an active connection between the station and the northern side of Penrith as it filters residents and commuters through it. This connection will be transformed to an area of bustling activity that enhances the sense of place.

The development will respond to the current streetscape along Lord Sheffield Circuit described as:

"a predominant focus on the appropriate mix of formal and native plant species used through out the site. Overall, a leafy, deciduous character to the streetscapes will aid in the enforcement of a European styled village character'. (UrbanGrowth, 2014)

Development Proposal

The development for DA 02 - Stage 2, consists of the following:

- Ground level through link
- Residential Communal Gardens

Landscape Character

The underlying principles from which the landscape concept has been developed are set out below and are divided into two key areas:

Ground level through link

- Create an inviting streetscape that embraces a vibrant lifestyle.
- Create edges which define the public realm and seamlessly blend with ground level amenities
- Provide a platform of multi functional spaces that are inclusive of all users
- Encourage uninhibited movements through the site to key locations
- Define a lush tree canopy to minimise the effects of wind and heat.

Residential Communal Gardens

- Provide a garden setting that is integrated with the surrounding built and natural environments
- Provide high quality residential amenity to the development to help facilitate a strong sense of ownership and community
- Establish an understory level of planting that achieves a level of screening that is lush and green in appearance.
- Provide spaces that capture the expansive views beyond the site.

Landscape Masterplan

Design Response:

- To generate a strong sense of 'place' by providing a passive, active, programmed and unprogrammed spaces.
- Green interweaving into the urban fabric from residential apartments;
- Common landscape spaces are linked into a network of spaces (destinations)
- To align with the overarching concept of city living combined with suburban lifestyle equating to Penrith City Gardens.

- Landscape edges provide contrasting materials, defining level transitions and private spaces
- Shade trees, seating benches and lighting define the paths through the site. These elements will be developed during the detail design stages;
- All paving materials and furniture would be subject to relevant Australian Standards.

Lighting

The proposed lighting will:

- Provide appropriate levels of lighting of public spaces such as driveways, gardens and through site links;
- Provide appropriate lighting and visibility of entries to dwellings;
- Be developed to provide maximum nocturnal programming opportunities
- Be designed to meet relevant Australian Lighting Standards. Integrated landscape lighting is proposed to all the landscape elements (benches, feature trees), the pathways will be lit by low level bollards and directional in-ground lights.



Water Management

Water Sensitive Urban Design (WSUD) principals have been realised into the landscape design in a way that celebrates a sustainable water cycle.

- Water sourced from the onsite rainwater collection will be used for the landscape irrigation, all irrigation systems will comprise of subsurface drip systems and automatic timers.
- Where possible storm water runoff will be directed to the lawn and garden beds on the residential podium gardens;
- Irrigation will be provided to all soft landscape areas and will be specified within the tender package;
- Low water demand shrub planting is proposed.

Water feature

The proposed interactive water feature will be designed to the following water quality requirements:

- A holding tank to store the water body for a water chemical balance;
- An individual water recirculation system that can guarantee the water body going through the filtration and sanitizing system within 30 minutes;
- Maintain a minimum of 3ppm of chlorine residual in the water body;
- Implementation within the water recirculation system of a sanitizing UV light
- An automatic system that can switch off the water effects in the event the water quality parameter are not meeting the standards and send an alarm to the Fountain Operator and
- An operational and maintenance manual with the required parameter and programmed visits as per public health recommendations.

Plant Establishment Maintenance

Maintenance works includes but is not limited to:

- Inspection of soil moisture levels and replenishment as necessary.
- Inspection for and control of soil and insect pests, diseases and other such infestations
- Pruning and repair of all branches and foliage, removal of debris and soil surface and addition of soil and / or mulch to soil surface.
- Maintenance of proper growing medium nutrient levels to ensure maximum vegetation health. A suitable list of health characteristics is to be provided by an agreed specialist and testing is to be maintained on a minimum yearly basis.
- Lawn to be mowed to maintain a leaf blade height of no greater than 50mm.
- Replacement of plants that fall below plant presentation standards for any cause.
- Monitoring and maintenance of efficiency and effectiveness of irrigation system.
- Control of pests and diseases infestation shall be in strict accordance with all regulations and manufactures recommendations. Supply documentation of such compliance upon request by responsible authority.

Safety and Security

An integrated approach to safety will improve actual and perceived personal security in pedestrian public domain areas:

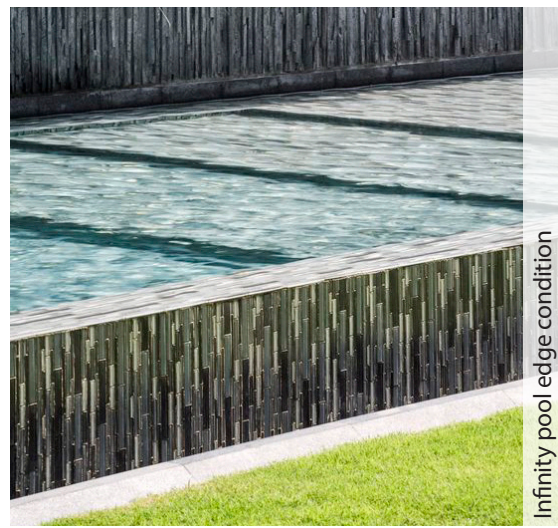
- Pedestrian routes will be continuous and without dead ends;
- All paths are overlooked from adjoining buildings and adjacent streets which will provide a high level of passive surveillance;
- All external spaces will have multiple clear sight lines without obstacles, proposed shrub planting is low level which will prevent places to hide;
- All paths will be well lit at night time and designed to meet relevant Australian Lighting Standards;

- Low-level lighting shall be provided to common areas of the development and be in accordance with AS 4282 to ensure external light does not spill onto adjoining properties.
- Signage will be provided across the precinct to assist with wayfinding and navigation through the site.
- Irrigation will be provided to all soft landscape areas.

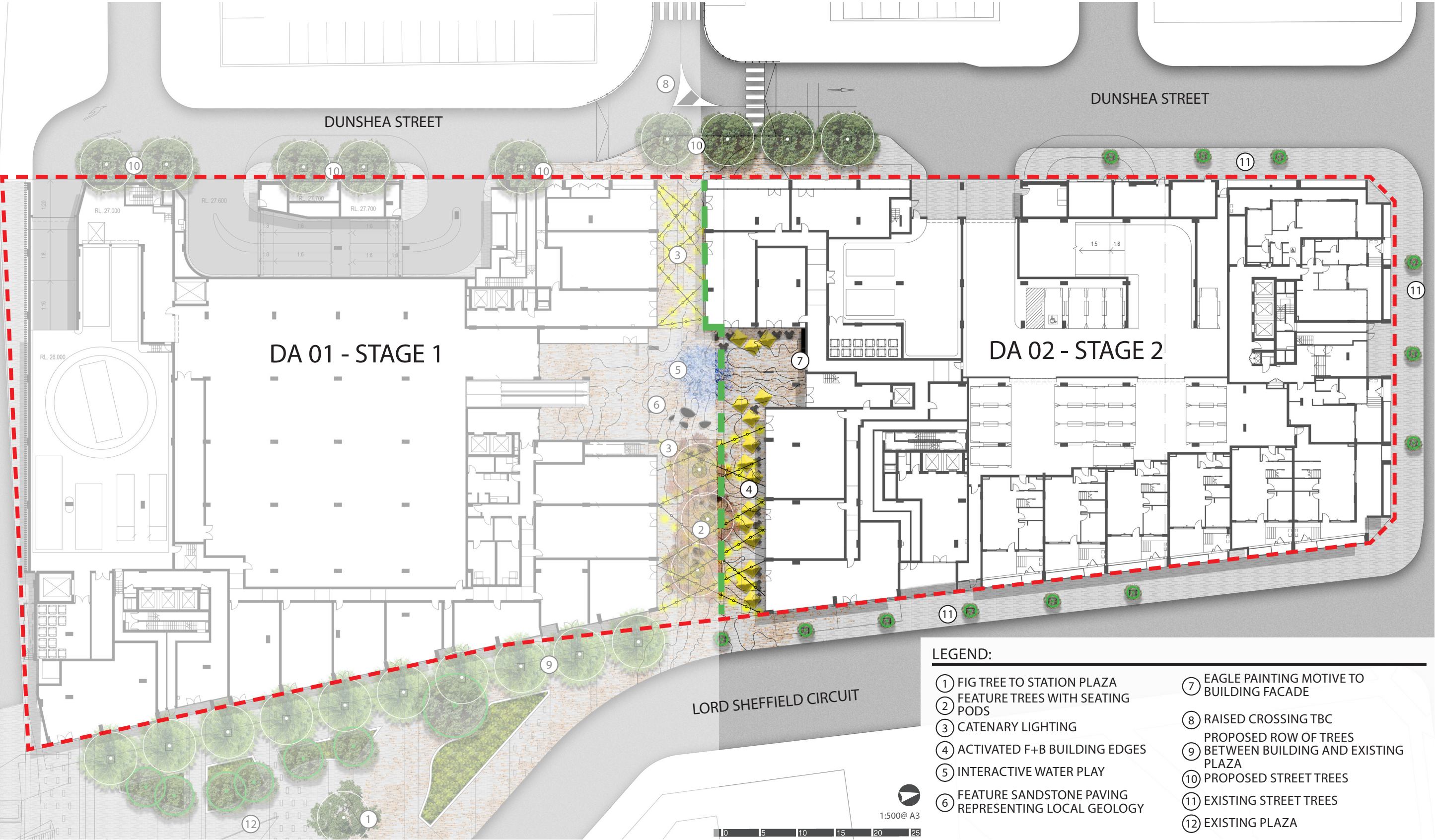
Accesibility

The landscape design will comply in accordance with the Federal Disabilities Discrimination Act 1992, the NSW Anti Discrimination Act 1977, the Disability (Access to Premises - Buildings) Standards 2010, and all relevant Australian Standards. The following design elements have been considered in the landscape proposal to ensure equal access for people with disabilities:

- Pedestrian routes;
- Tactile warning strips with a strong contrast to adjoining paving;
- Stairways/steps;
- Landings;
- Ramps;
- Handrails;
- Seating;
- Lighting; and
- Signage.



LANDSCAPE CONCEPT DESIGN - GROUND LEVEL



LANDSCAPE CONCEPT DESIGN - GROUND LEVEL SATGE 2 DETAIL PLAN



- LEGEND:
- ① EXISTING STREET TREES
 - ② FEATURE TREES IN DEEP SOIL WITH SEATING PODS
 - ③ CATENARY LIGHTING
 - ④ ACTIVATED F+B BUILDING EDGES
 - ⑤ INTERACTIVE WATER PLAY
 - ⑥ FEATURE SANDSTONE PAVING REPRESENTING LOCAL GEOLOGY
 - ⑦ EAGLE PAINTING MOTIVE TO BUILDING FACADE
 - ⑧ RAISED CROSSING TBC
 - ⑨ PROPOSED ROW OF TREES BETWEEN BUILDING AND EXISTING PLAZA
 - ⑩ PROPOSED STREET TREES
 - STAGING LINE



GROUND LEVEL - PRECEDENT IMAGES



MAGNOLIA
GRANDIFLORA
'EXMOUTH'



LAGERSTROEMIA INDICA



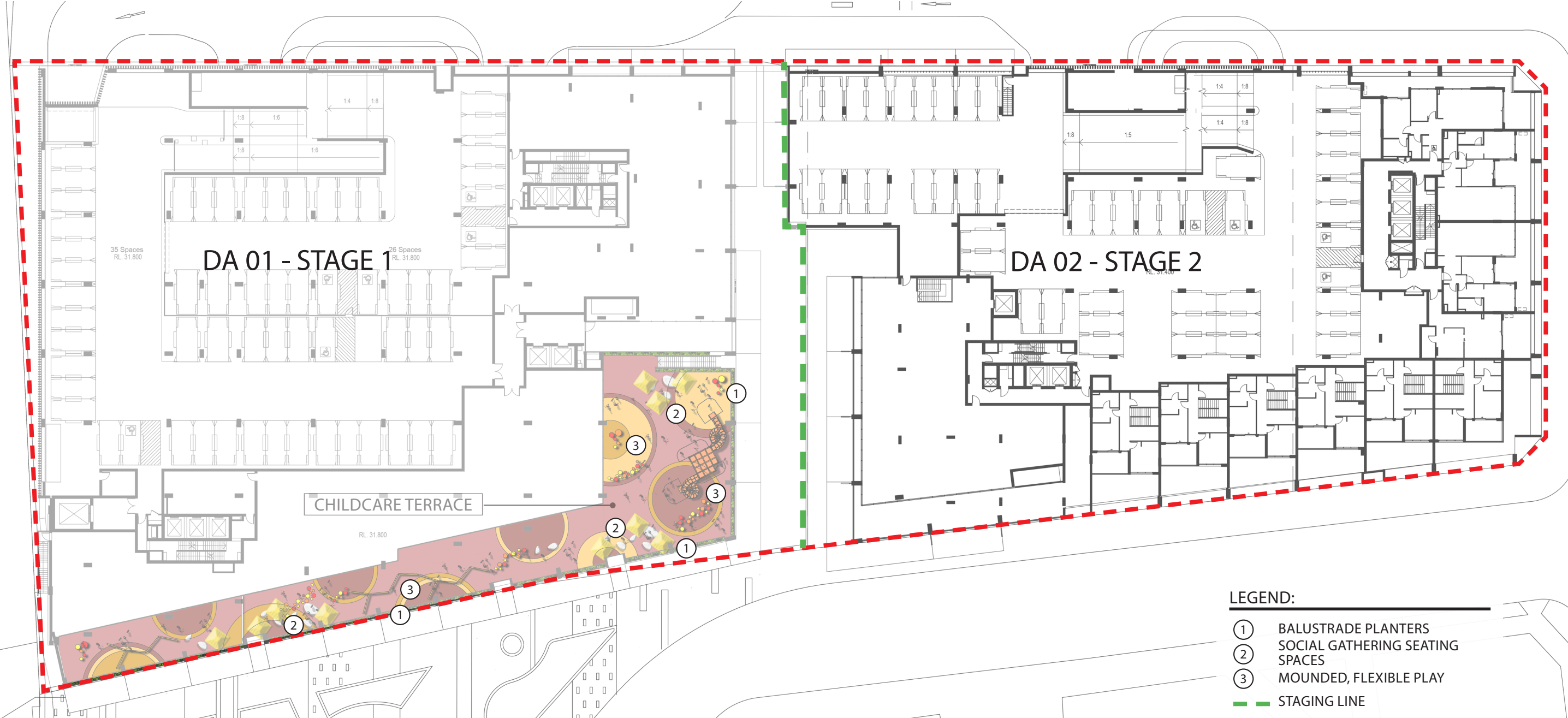
LIRIODENDRON
TULIPIFERA



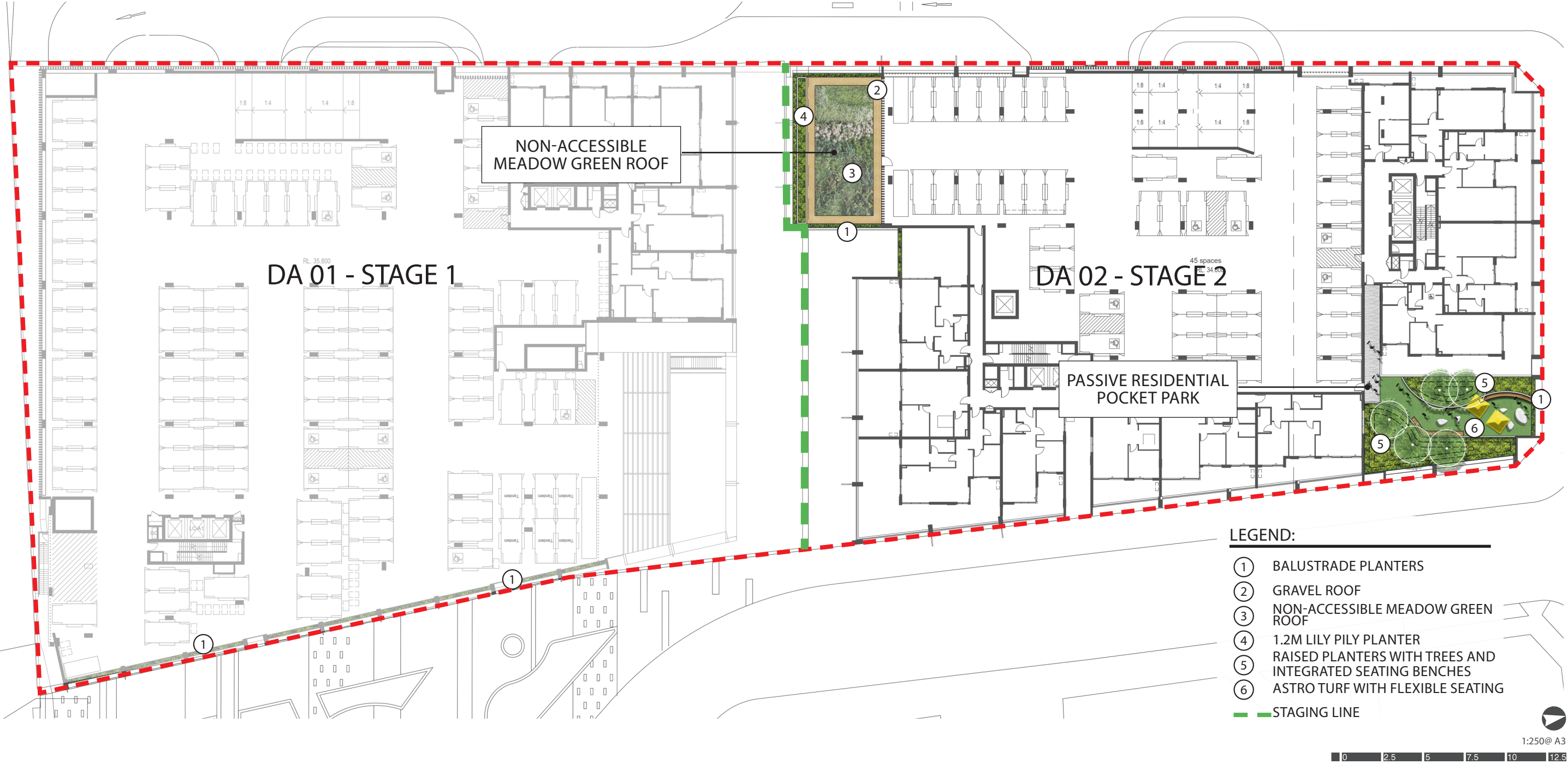
TRISTANIOPSIS LAURINA
'LUSCIOUS'



LANDSCAPE CONCEPT PLAN - LEVEL 1



LANDSCAPE CONCEPT PLAN - LEVEL 2

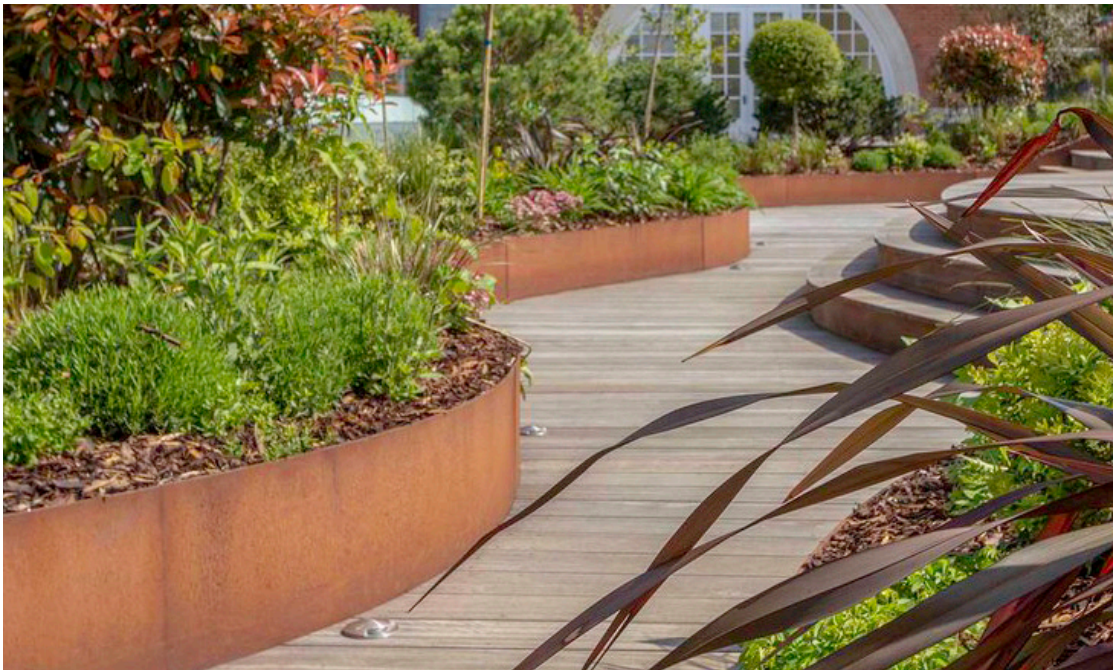
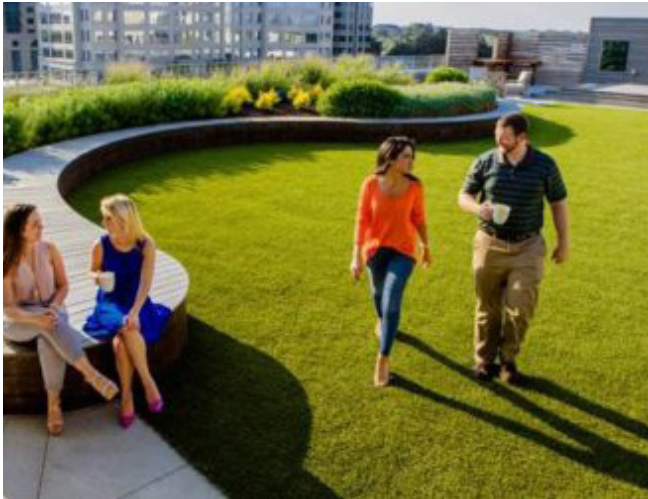
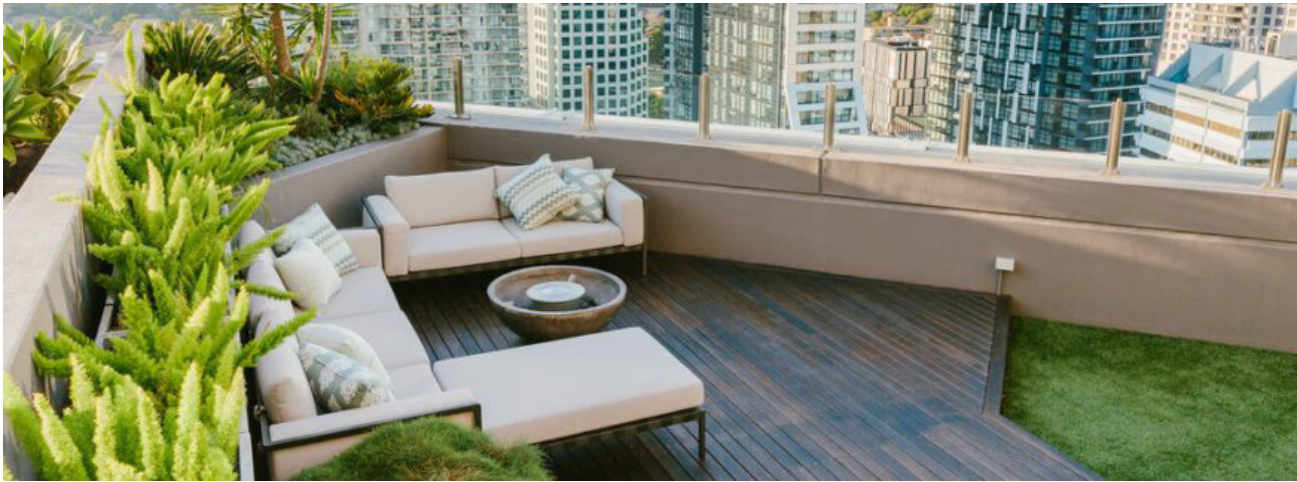


LANDSCAPE CONCEPT PLAN - LEVEL 2 STAGE 2 DETAIL PLAN

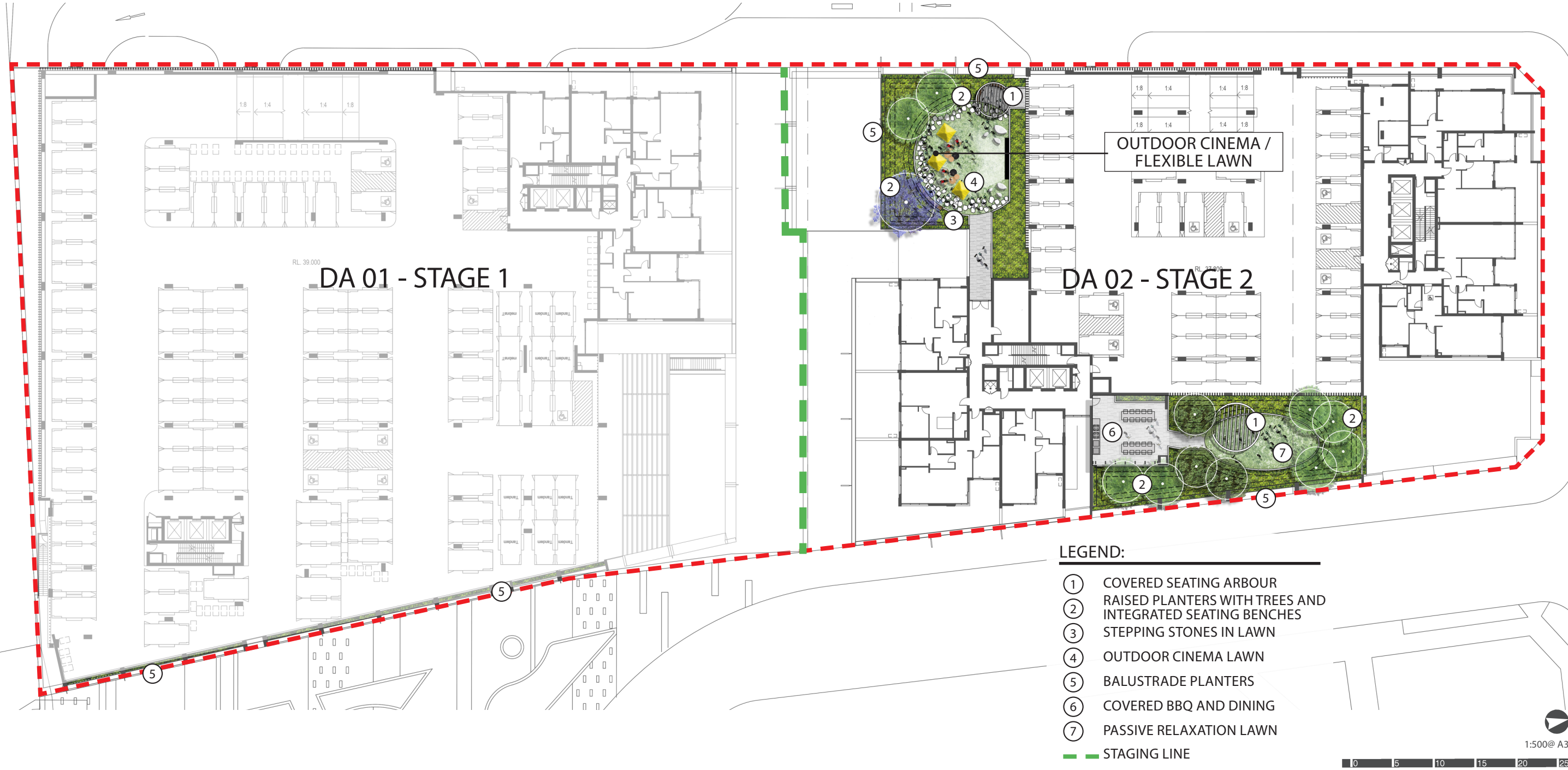


- LEGEND:
- ① BALUSTRADE PLANTERS
 - ② RAISED PLANTERS WITH TREES AND INTEGRATED SEATING BENCHES
 - ③ ASTRO TURF WITH FLEXIBLE SEATING

LEVEL 2 PRECEDENT IMAGES



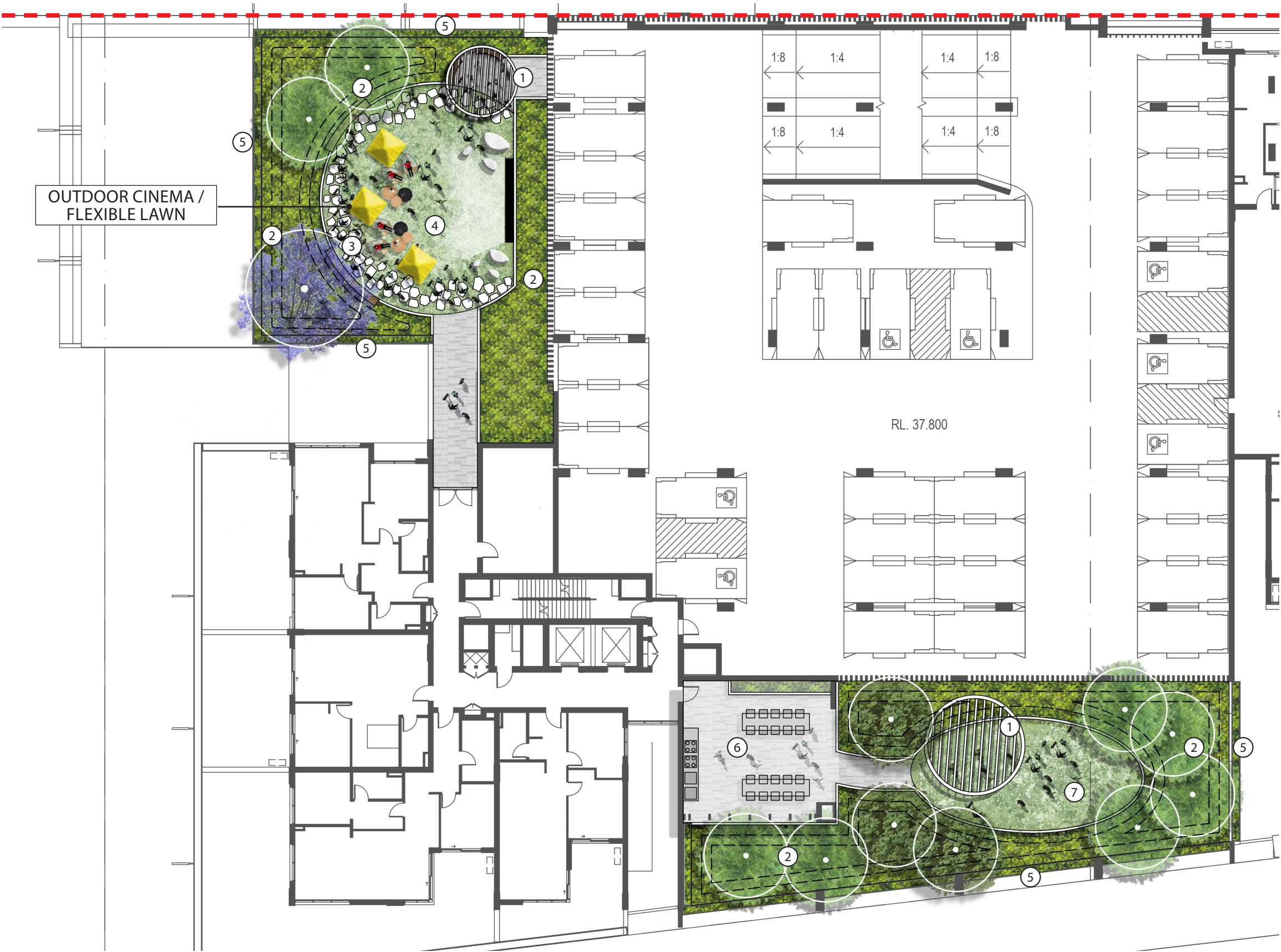
LANDSCAPE CONCEPT PLAN - LEVEL 3



LANDSCAPE CONCEPT PLAN - LEVEL 4



LANDSCAPE CONCEPT PLAN - LEVEL 3 STAGE 2 DETAIL PLAN



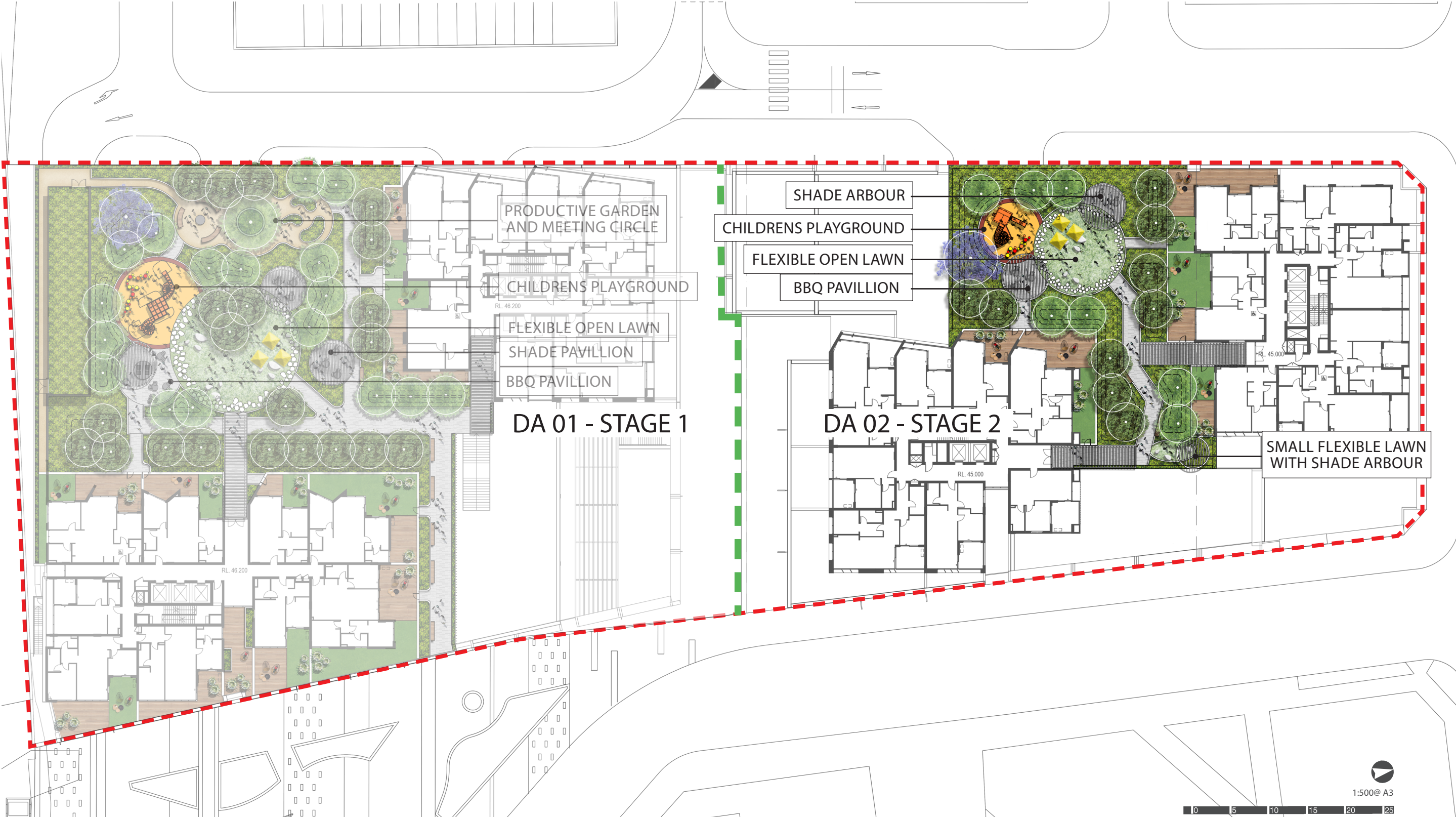
- LEGEND:
- ① COVERED SEATING ARBOUR
 - ② RAISED PLANTERS WITH TREES AND INTEGRATED SEATING BENCHES
 - ③ STEPPING STONES IN LAWN
 - ④ OUTDOOR CINEMA LAWN
 - ⑤ BALUSTRADE PLANTERS
 - ⑥ COVERED BBQ AND DINING
 - ⑦ PASSIVE RELAXATION LAWN
 - STAGING LINE



LEVEL 3 - PRECEDENT IMAGES

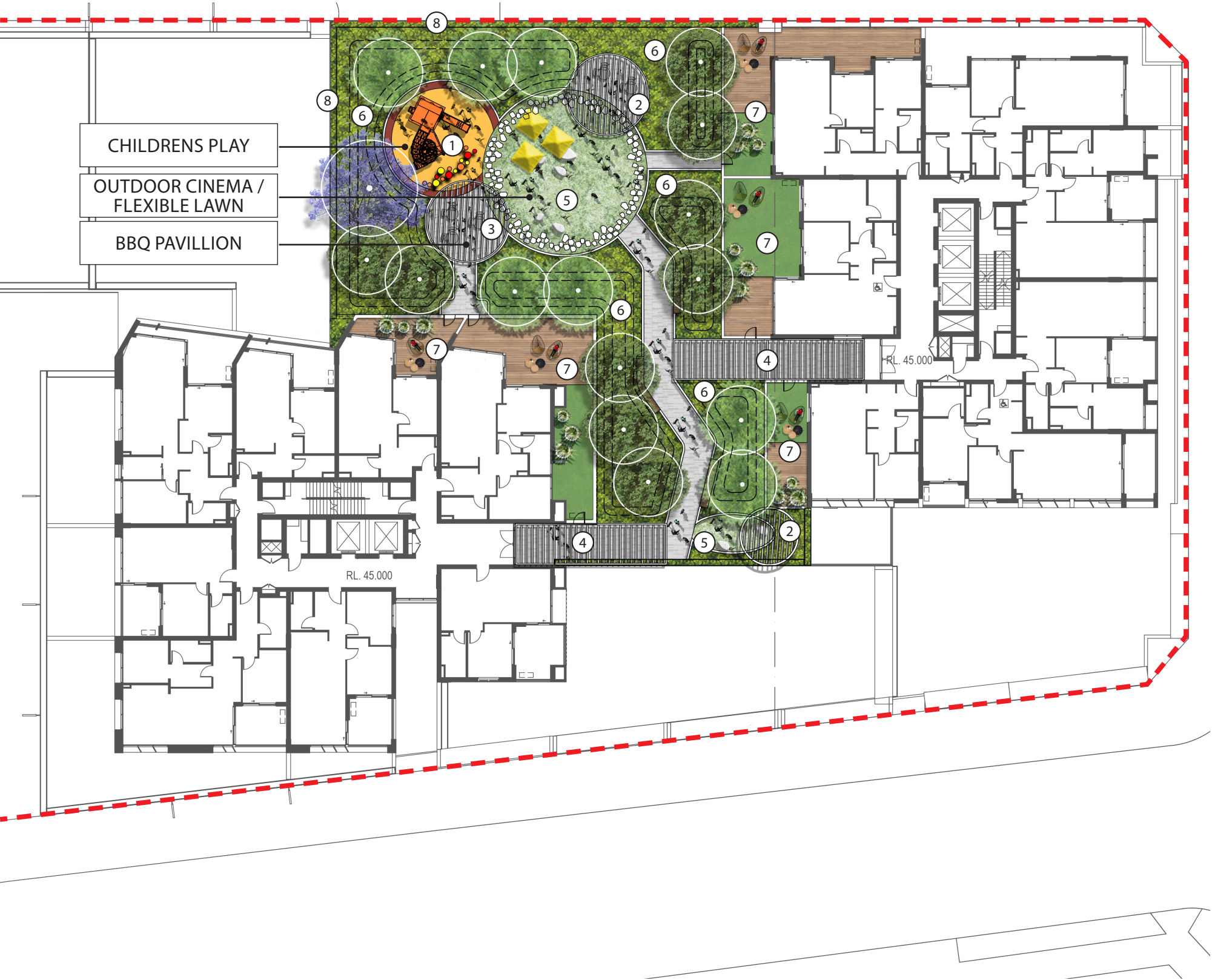


LANDSCAPE CONCEPT PLAN - LEVEL 5



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LANDSCAPE CONCEPT PLAN - LEVEL 5 STAGE 2 DETAIL PLAN



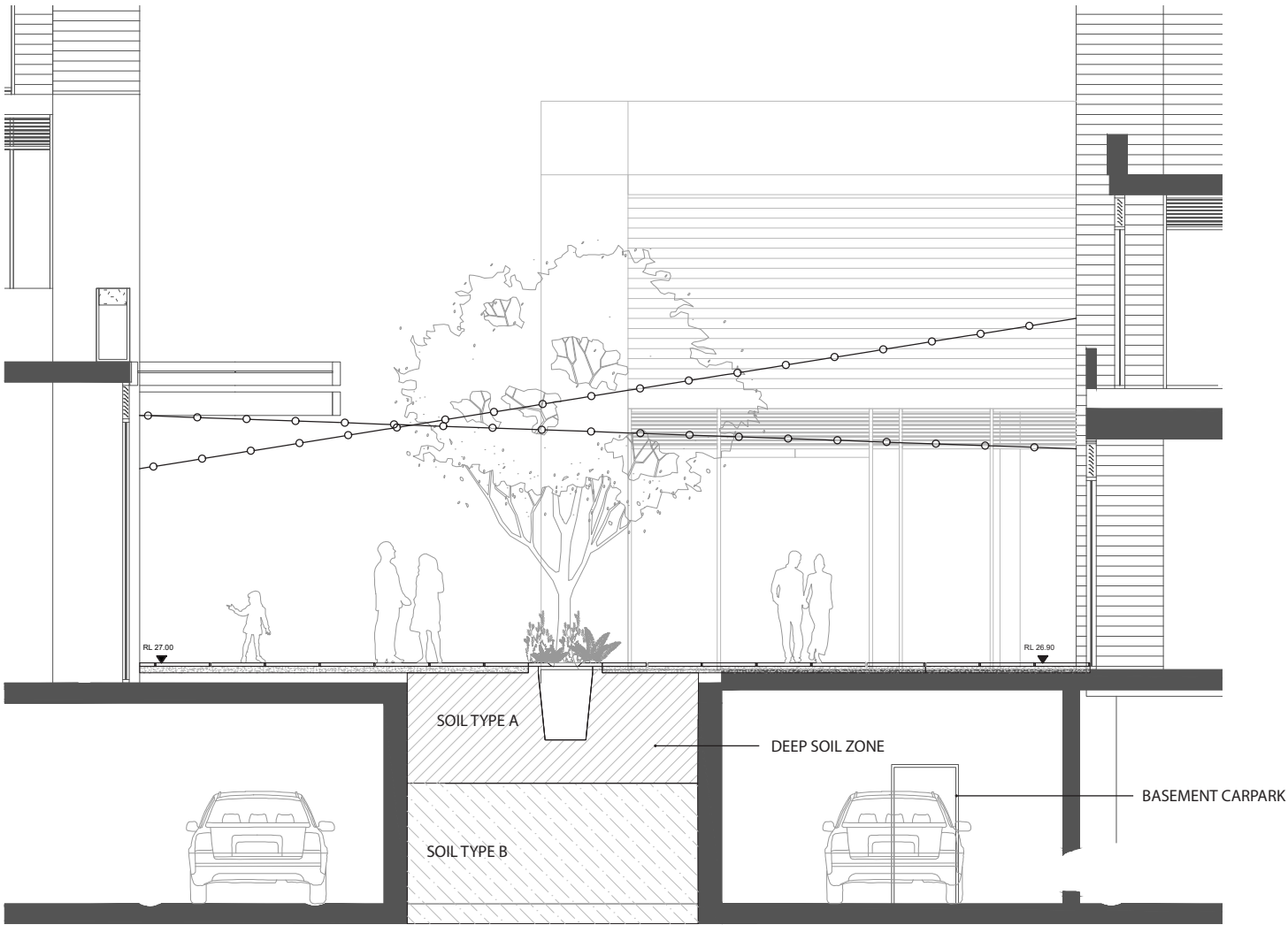
- LEGEND:
- ① CHILDREN'S SCULPTURAL PLAY
 - ② SEATING ARBOURS
 - ③ BBQ ARBOUR
 - ④ PLANTED ARBOURS
 - ⑤ FLEXIBLE LAWN
 - ⑥ RAISED PLANTERS WITH TREES AND INTEGRATED SEATING BENCHES
 - ⑦ PRIVATE TERRACES
 - ⑧ BALUSTRADE PLANTERS

LEVEL 5 - PRECEDENT IMAGES



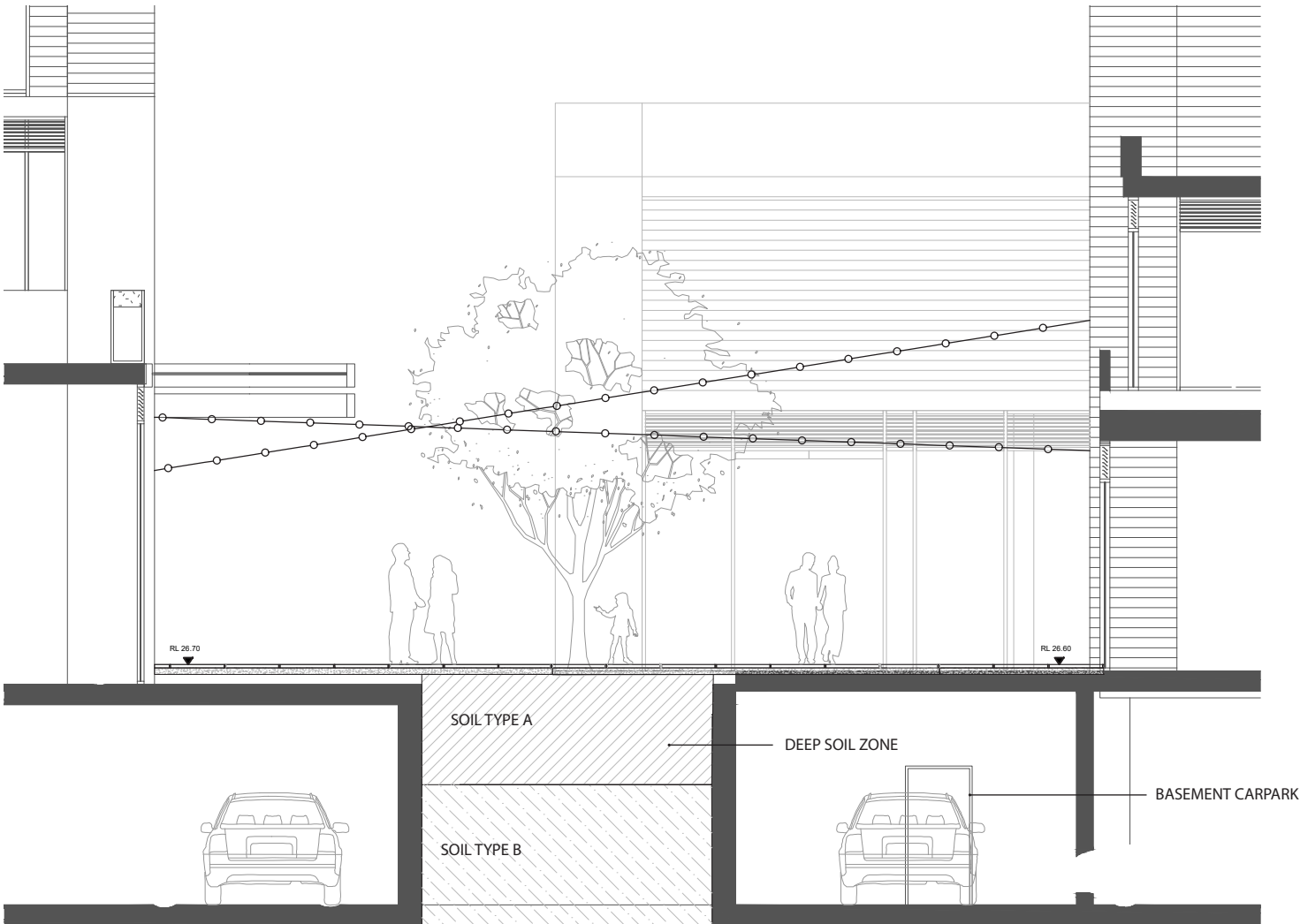
TYPICAL LANDSCAPE SECTIONS

GROUND LEVEL



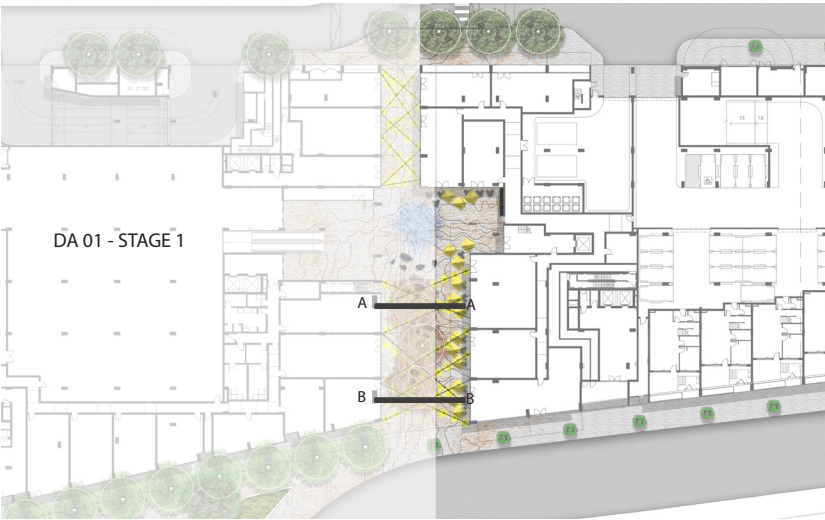
SECTION AA - PUBLIC DOMAIN FLUSH TREES WITH PLANTING

SCALE 1:100



SECTION BB - PUBLIC DOMAIN FLUSH TREES WITH PAVING

SCALE 1:100

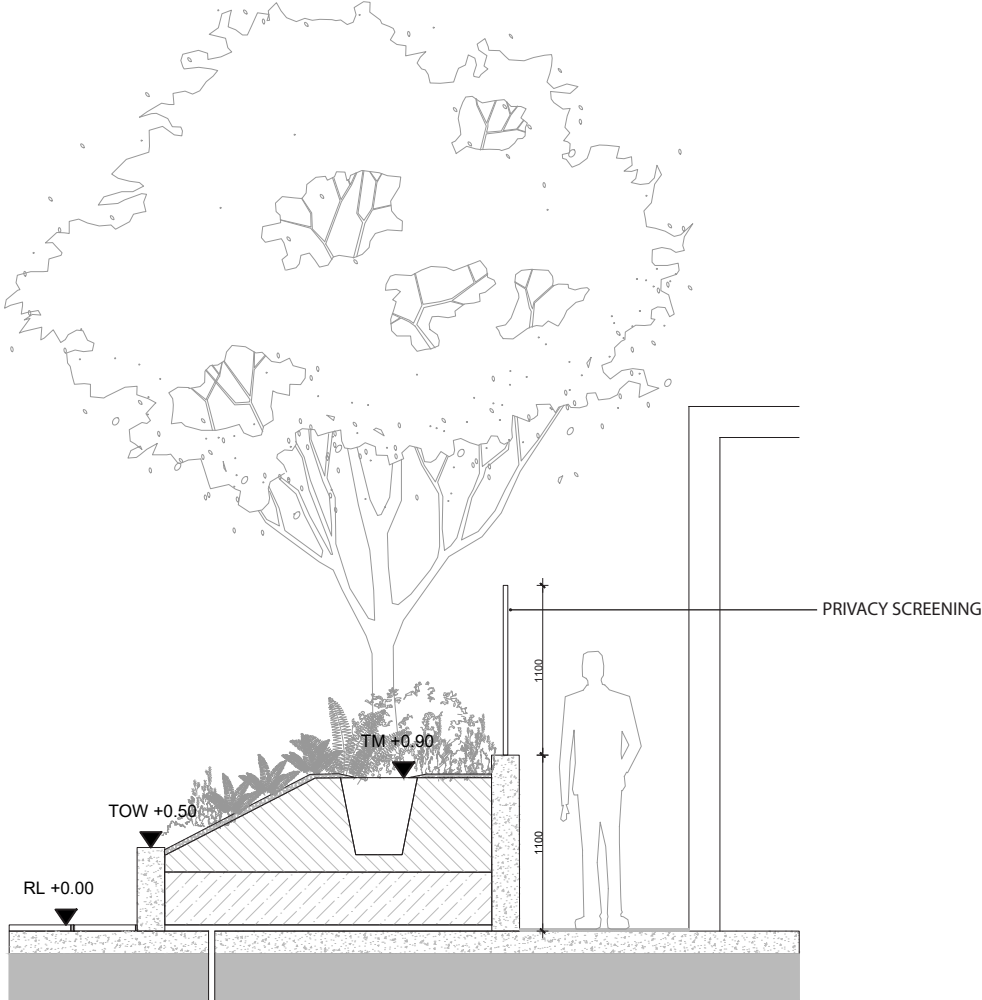


TYPICAL LANDSCAPE SECTIONS

LEVEL 5



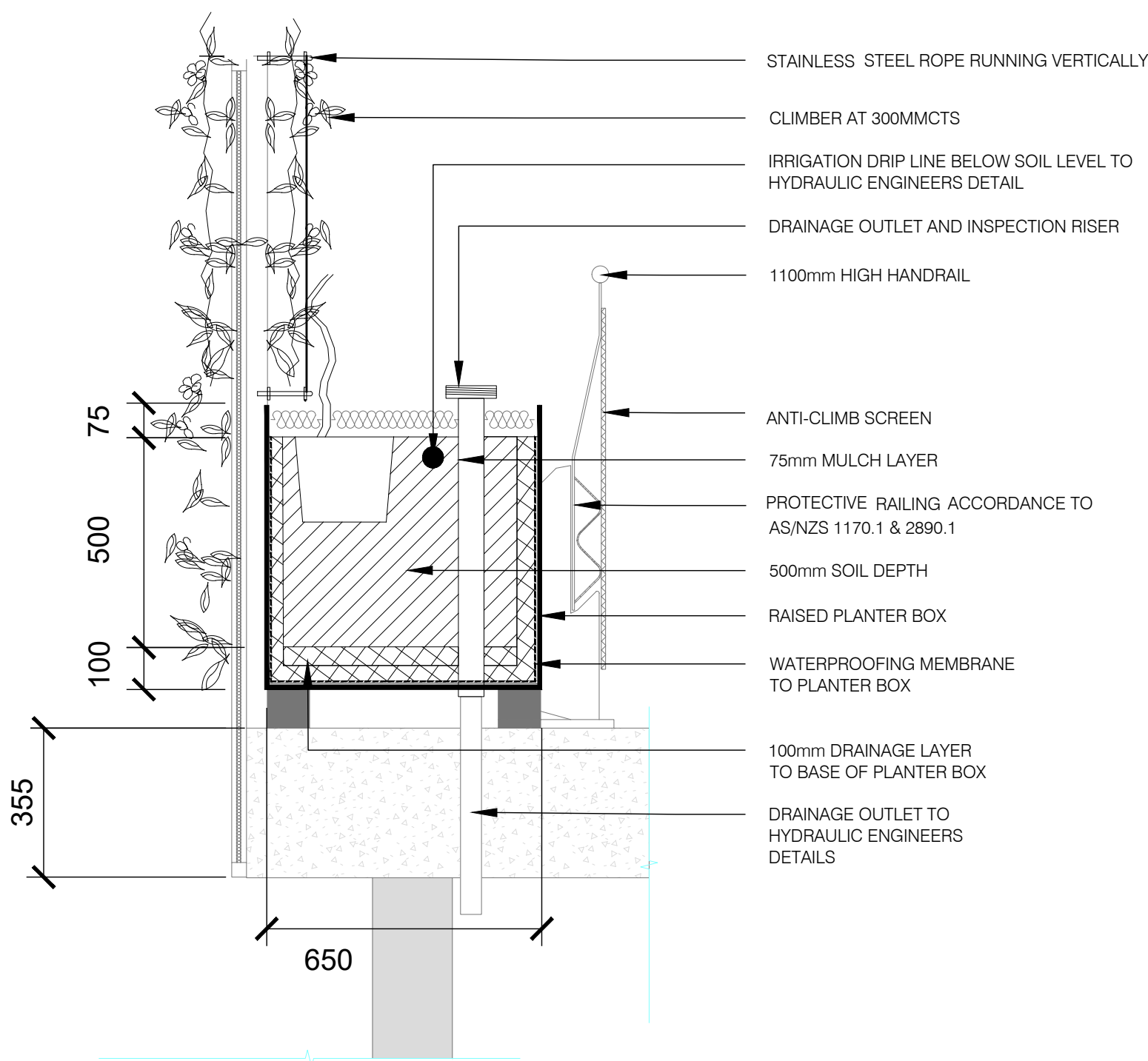
SECTION AA - GRASS AND RAISED GARDEN
SCALE 1:50



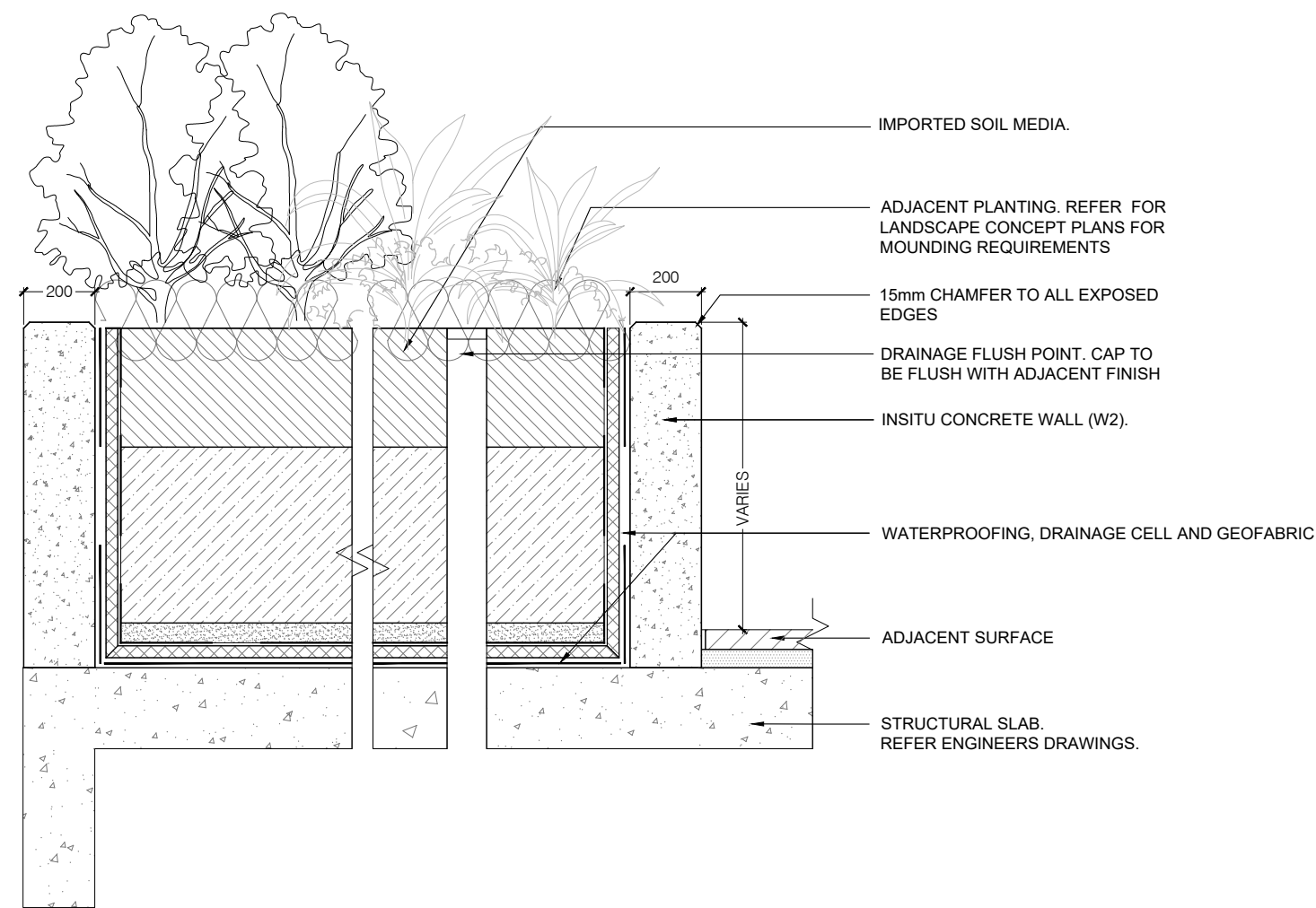
SECTION BB - PRIVATE COURTYARD AND RAISED GARDEN
SCALE 1:50



CARPARK - GREEN SCREEN PRECEDENT IMAGES



BALUSTRADE PLANTER BOX - PRECEDENT IMAGES



INDICATIVE PLANT SCHEDULES

ADDITIONAL INDICATIVE NATIVE PLANT SCHEDULE

The landscape design proposal has integrated a series of ideas and opportunities which have been discussed and endorsed by the Deerubbin Local Aboriginal Landscape Council (DLALC) and will continue to be developed during the design and documentation stages.

The intention is to incorporate endemic plant material across all levels of the Communal Open Space podium gardens. DLALC have provided us with a flora survey in the Penrith LGA, we have incorporated species from the Western Sydney Vegetation Communities including Threatened Flora into our plant schedule for the DA submission as per the table below.

WESTERN SYDNEY VEGETATION COMMUNITY	BVT	PCT
Vegetation Community		
Shale Plains Woodland	HN528	849
Shale/Gravel Transition Forest	HN512	724
Cooks River Castlereagh Ironba	HN513	725
Alluvial Woodland	HN526	835
Castlereagh Swamp Woodland	HN562	1067
Castlereagh Scribbly Gum Woodland	HN542	883
Phragmites - Typha Freshwater Wetland	HN630	1071
TOTAL		

THREATENED FLORA		UNIT OF MEASUREMENT
Acacia bynoeana	Endangered	Area
Allocasuarina glareicola	Endangered	Area
Dillwynia tenuifolia	Vulnerable	Area
Grevillea juniperina	Vulnerable	Area
Marsdenia viridiflora	Endangered	Area
Micromyrtus minutiflora	Vulnerable	Area
Pultenaea parviflora	Vulnerable	Area
Persoonia nutans	Endangered	Area
Total		

Botanical Name	Common Name	Height & Spread at Maturity (m)	Comments
PUBLIC DOMAIN + PODIUM ENDEMIC TREE SPECIES			
Allocasuarina glareicola (Endangered)	Allocasuarina glareicola	10.0 x 6.0	(Endangered)
Exocarpos cupressiformis	Native Cherry	6.0 x 3.0	(Shale Plains Woodland and Shale/Gravel Transition Forest)
Melaleuca decora	Paperbark	6.0 x 4.0	(Shale Plains Woodland and Shale/Gravel Transition Forest)
Glochidion ferdinandi	Cheese Tree	10.0 x 5.0	(Phragmites - Typha Freshwater Wetland)
Melaleuca ericifolia	Swamp Paperbark	9.0 x 2.0	(Phragmites - Typha Freshwater Wetland)
Eucalyptus parramattensis subsp. parramattensis	Parramatta Red Gum	10.0 x 6.0	(Castlereagh Swamp Woodland)
Eucalyptus fibrosa	Broad-leaved Ironbark	20.0 x 10.0	(Cooks River/Castlereagh Ironbark Forest)
PUBLIC DOMAIN + PODIUM ENDEMIC SHRUB SPECIES			
Daviesia ulicifolia	Gorse Bitter Pea	2.0 x 1.5	(Shale Plains Woodland and Shale/Gravel Transition Forest)
Indigofera australis	Native Indigo	2.0 x 2.0	(Shale Plains Woodland and Shale/Gravel Transition Forest)
Breynia oblongifolia	Coffee Bush	3.0 x 2.0	(Shale Plains Woodland and Shale/Gravel Transition Forest)
Micromyrtus minutiflora (Endangered)		2.0 x 1.0	(Castlereagh Scribbly Gum Woodland)
Pultenaea parviflora (Endangered)	Sydney Bush Pea	1.0 x 1.0	(Castlereagh Scribbly Gum Woodland)
Persoonia nutans (Endangered)	Nodding Geebung	1.0 x 1.0	(Castlereagh Scribbly Gum Woodland)
Acacia bynoeana (Endangered)	Byone's Wattle	0.5m x 0.30	(Castlereagh Scribbly Gum Woodland)
Dillwynia tenuifolia (Endangered)		1.0 x 0.80	(Castlereagh Scribbly Gum Woodland)
Grevillea juniperina (Endangered)	Juniper-Leaf Grevillea	4.0 x 6.0	(Castlereagh Scribbly Gum Woodland)
Banksia spinulosa var. spinulosa	Hairpin Banksia	0.45 x 1.0	(Castlereagh Scribbly Gum Woodland)
Pultenaea villosa	Hairy Bush-Pea	2.0 x 3.0	(Cooks River/Castlereagh Ironbark Forest)

Botanical Name	Common Name	Height & Spread at Maturity (m)	Comments
PUBLIC DOMAIN + PODIUM ENDEMIC GRASSES SPECIES			
Themeda triandra	Kangaroo grass	1.5 x 0.5	(Shale Plains Woodland and Shale/Gravel Transition Forest)
Lomandra filiformis subsp. filiformis	Wattle mat-rush	0.50 x 0.20	(Shale Plains Woodland and Shale/Gravel Transition Forest)
Dianella longifolia	Blue Flax Lilly	1.0 x 0.5	(Shale Plains Woodland and Shale/Gravel Transition Forest)
Juncus usitatus	Common Rush	1.0 x 0.40	(Phragmites - Typha Freshwater Wetland)
Lomandra longifolia	Spiny-headed mat-rush	1.0 x 0.6	(Phragmites - Typha Freshwater Wetland)
Carex appressa	Tussock Sedge	1.0 x 0.80	(Phragmites - Typha Freshwater Wetland)
Dianella revoluta subsp. revoluta		0.40 x 0.40	(Castlereagh Scribbly Gum Woodland)
PUBLIC DOMAIN + PODIUM ENDEMIC GROUND COVERS AND CLIMBERS SPECIES			
Wahlenbergia gracilis	Australian Bluebell	0.50 x 1.0	(Shale Plains Woodland and Shale/Gravel Transition Forest)
Brunoniella australis	Blue Trumpet	0.50 x 0.20	(Shale Plains Woodland and Shale/Gravel Transition Forest)
Parsonsia straminea	Common Silkpod	0.50 x 1.0	(Phragmites - Typha Freshwater Wetland)
Goodenia paniculata	Branched Goodenia	0.50 x 0.40	(Castlereagh Swamp Woodland)
Viola hederacea	Ivy-leaved violet	0.20 x 1.0	(Phragmites - Typha Freshwater Wetland)
Marsdenia viridiflora (Endangered)	Marsdenia viridiflora	0.50 x 1.0	(Endangered)

ORIGINAL DA PLANT SCHEDULE

Botanical Name	Common Name	Height & Spread at Maturity (m)
PUBLIC DOMAIN + PODIUM TREES		
<i>Acacia elata</i>	Cedar Wattle	20.0 x 10.0
<i>Acacia fimbriata</i>	Fringed Wattle	15 x 10.0
<i>Eucalyptus fibrosa</i>	Broad-leaved Red-Ironbark	20.0 x 15.0
<i>Eucalyptus maculata</i>	Spotted Gum	20.0 x 15.0
<i>Eucalyptus microcarpa</i>	Grey Box	20.0 x 15.0
<i>Eucalyptus sclerophylla</i>	Hard-leaved Scribbly Gum	20.0 x 15.0
<i>Fraxinus griffithii</i>	Flowering Ash	6.0 x 4.0
<i>Magnolia grandiflora</i>	Magnolia 'little gem'	5.0 x 2.5
<i>Melaleuca linariifolia</i>	Snow-in-Summer	10.0 x 6.0
<i>Melaleuca styphelioides</i>	Prickly Paperbark	12.0 x 6.0
<i>Melia azedarach</i>	White Cedar	10.0 x 10.0
<i>Prunus x blireana</i>	Double-pink Flowering Plum	4.0 x 4.0
<i>Robinia x ambigua</i> 'Decaisneana'	Pink robinia	8.0 x 5.0
<i>Syzygium australe</i>	Bush Cherry	10.0 x 8.0
<i>Tristaniopsis laurina</i>	Water Gum	12.0 x 8.0
SHRUBS AND HEDGES		
<i>Callistemon</i> 'Captain Cook'	Bottlebrush	4.0 x 3.0
<i>Callistemon</i> 'Hannah Ray'	Bottlebrush	2.5 x 2.0
<i>Callistemon</i> 'Harkness'	Gawler Hybrid / Bottlebrush	6.0 x 4.0
<i>Gardenia augusta</i>	Gardenia	2.0 x 1.0
<i>Grevillea</i> 'Coconut Ice'	Grevillea	2.0 x 2.0
<i>Grevillea</i> 'Honey Gem'	Grevillea	1.0 x 0.75
<i>Grevillea</i> 'Ivanhoe'	Grevillea	5.0 x 3.0
<i>Grevillea</i> 'Superb'	Grevillea	1.5 x 2.0
<i>Grevillea juniperina</i>	Grevillea	1.5 x 0.5
<i>Grevillea</i> 'Pink Surprise'	Grevillea	2.0 x 3.0
<i>Grevillea linearifolia</i>	Grevillea	2.0 x 2.0
<i>Grevillea rosmarinifolia</i>	Grevillea	0.5 x 2.0
<i>Leptospermum petersonii</i>	Lemon Scented Tea Tree	4.0 x 2.0
<i>Leptospermum flavescens</i>	Tea Tree	2.0 x 2.0
<i>Westringia fruticosa</i>	Coastal Rosemary	1.5 x 1.5

Botanical Name	Common Name	Height & Spread at Maturity (m)
PODIUM LANDSCAPE ONLY		
<i>Camellia sasanqua</i>	Camellia	2.0 x 1.0
<i>Daphne odora</i>	Winter Daphne	3.0 x 1.5
<i>Gardenia augusta</i>	Gardenia	2.0 x 1.0
<i>Leucadendron</i> 'Sundance'	Conebushes	1.5 x 1.5
<i>Nandina domestica</i>	Sacred Bamboo	1.8 x 1.5
<i>Nandina domestica</i> 'Nana'	Dwarf Sacred Bamboo	1.2 x 1.0
<i>Syzygium paniculatum</i> 'Nana'	Dwarf Bush Cherry	3.0 x 1.5
<i>Viburnum tinus</i>	Laurustinus	2.5 x 2.0
TREE FERNS + ACCENT PLANTS TO COURTYARDS		
<i>Lobelia gibberoa</i>	Lobelia	3.5 x 4.0
<i>Agave Americana Marginata M Variegated</i>	Varigated Octopus Agave	1.8 x 1.8
<i>Cyathea australis</i>	Black / rough Tree Fern	12.0 x 3.5
<i>Dicksonia antarctica</i>	Brown / Soft Tree Fern	15.0 x 6.0
GROUND COVERS, BULBS, CLIMBERS AND GRASSES		
<i>Agapanthus africanus</i>	Blue African Lily	0.6 x 0.6
<i>Helichrysum citrispinum</i>		0.3 x 0.4
<i>Iris pseudacorus</i>	Yellow Flag	1.0 x 0.5
<i>Narcissus</i> 'King Alfred'	Daffodil	0.6 x 0.2
<i>Jonquil erlicheer</i>	Jonquil	0.4 x 0.2
<i>Stachys byzantina</i>	Lambs' Ears	2.5 x 4.0
<i>Wisteria floribunda</i>	Japanese Wisteria	6.0 x 3.0
<i>Hedera helix</i>	European Ivy	Varies
<i>Eragrostis leptostachya</i>	Paddock Lovegrass	0.9 x 0.2
<i>Leucophyta brownii</i>	Cushion Bush	1.0 x 0.5
<i>Poa labillardierei</i>	Tussock Grass	1.0 x 1.0
<i>Asperula conferta</i>	Common Woodruff	Varies
<i>Xerochrysum viscosum</i>	Sticky Paper Daisy	0.5 x 0.7

Botanical Name	Common Name	Height & Spread at Maturity (m)
ADDITIONAL GROUND LEVEL TREE SPECIES		
<i>Magnolia grandiflora</i> 'Exmouth'	Bull Bay Magnolia	12.0 x 5.0
<i>Liriodendron tulipifera</i>	Tulip tree	13.0 x 8.0
<i>Tristaniopsis laurina</i>	Water Gum	15.0 x 6.0
<i>Lagerstroemia indica</i> 'Natchez'	Crepe Myrtle	9.0 x 3.0w
ADDITIONAL CAR PARK SPECIES		
<i>Trachelospermum jasminoides</i>	Star Jasmine	3m x 1-2m
<i>Pyrostegia venustav</i>	Orange Trumpet	5m x 1m
<i>Parthenocissus tricuspidata</i>	Boston Ivy	9-15m tall

INDICATIVE PLANTING PALETTE

TREES (AUSTRALIAN NATIVE OR ENDEMIC TO PENRITH)



Acacia elata



Acacia elata



Acacia fimbriata



Eucalyptus fibrosa



Melaleuca linariifolia



Eucalyptus microcarpa



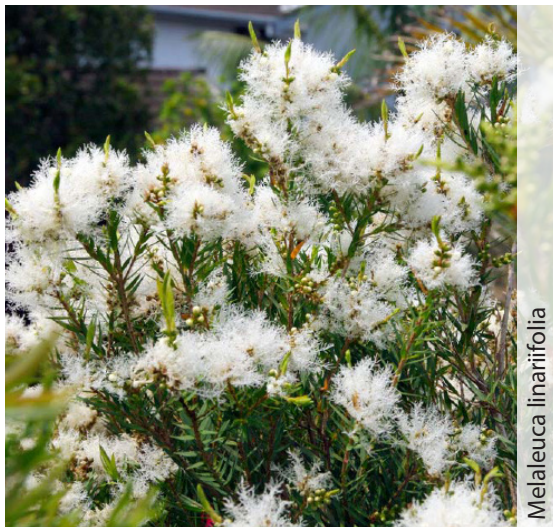
Eucalyptus microcarpa



Eucalyptus maculata



Eucalyptus maculata



Melaleuca linariifolia



Melaleuca decora



Melaleuca decora



Melaleuca decora



Melaleuca decora



Glochidion ferdinandi

TREES (EXOTIC SPECIES)



Fraxinus griffithii



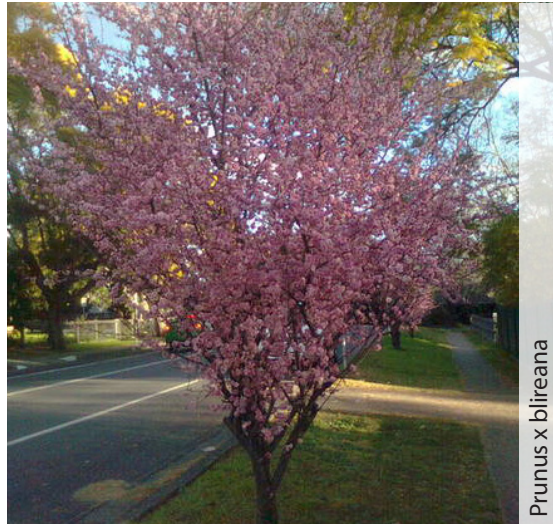
Fraxinus griffithii



Melia azedarach



Magnolia grandiflora



Prunus x bireana

SHRUBS



Callistemon 'Captain Cook'



Callistemon 'Hannah Ray'



Westringia fruticosa



Gardenia augusta



Grevillea 'Coconut Ice'



Grevillea 'Honey Gem'



Grevillea 'Ivanhoe'



Grevillea linearifolia



Grevillea rosmarinifolia



Leptospermum flavesces

ACCENT + TREE FERNS



GROUNDCOVERS



MEADOW GRASSES



MATERIALS STRATEGY

All paving materials and street furniture would be subject to relevant Australian Standards and comply with Council's guidelines.

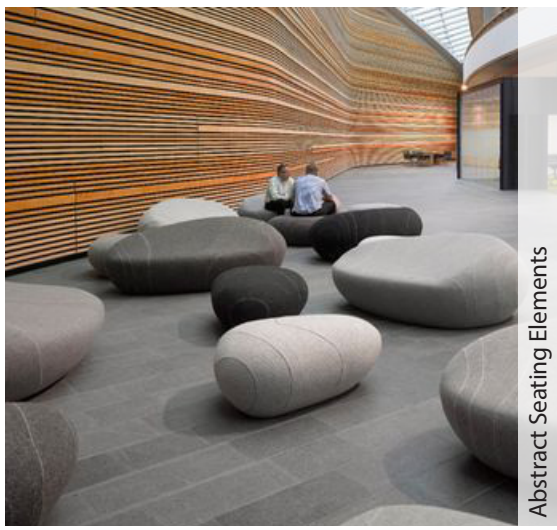
Paving will consist of contrasting finishes, textures and materials (concrete and stone). The public domain will provide seamless connections into the existing landscape and between the lower ground uses.

Raised garden beds will sit on the podium in order to provide the required soil depth, seating will be integrated into these structures. Flush trees will create an unobstructed landscape to allow pedestrians to move freely.

Seating benches have been provided in the public domain and on the podium along pathways, tables and chairs can also be accommodated in spaces



Integrate Landscape Lighting



Abstract Seating Elements



Moveable seating



Decking



PavingPattern



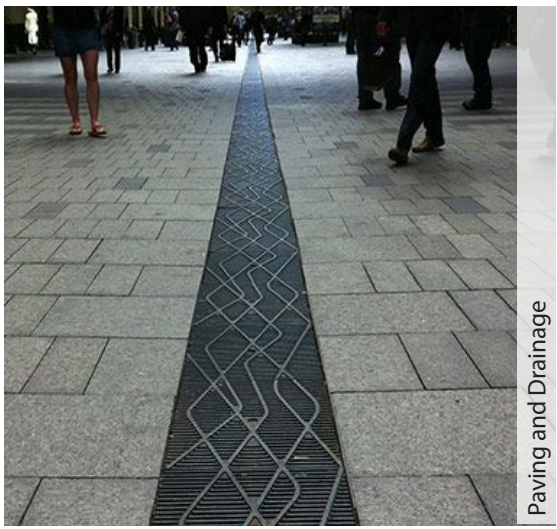
Raised Planter Bed'



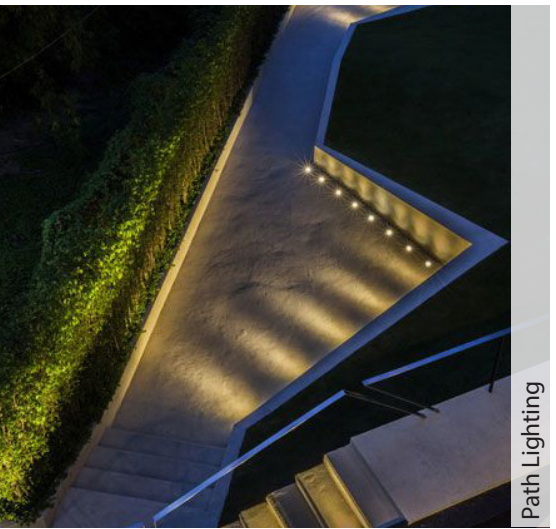
Paving Pattern



Tree Grate



Paving and Drainage



Path Lighting

