



SSDA - LANDSCAPE - LANG WALKER AO MEDICAL RESEARCH BUILDING, MACARTHUR

DATE

14/10
2021

PREPARED BY

turf

ARCHITECTS

BVN

PREPARED FOR

WESTERN SYDNEY
UNIVERSITY

NSW
government
Health
South Western Sydney
Local Health District

Ingham Institute
Applied Medical Research

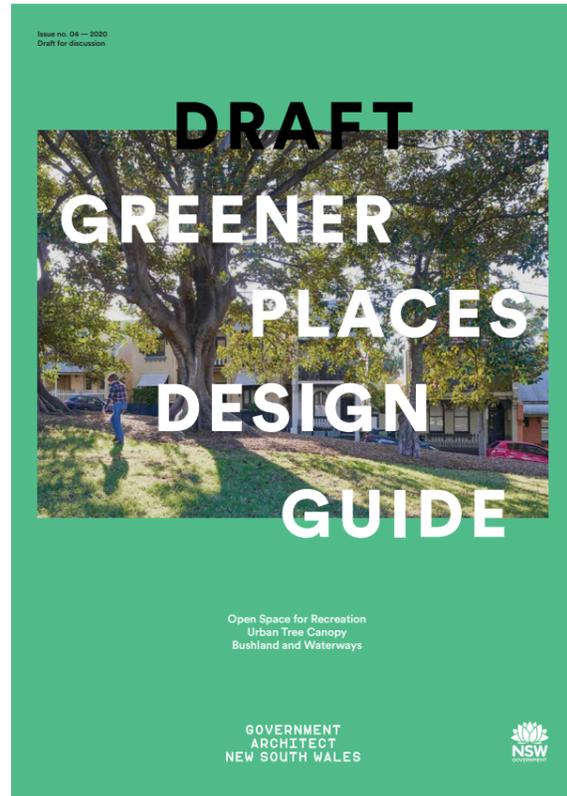
UNSW
SYDNEY

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STRATEGIC ALIGNMENT

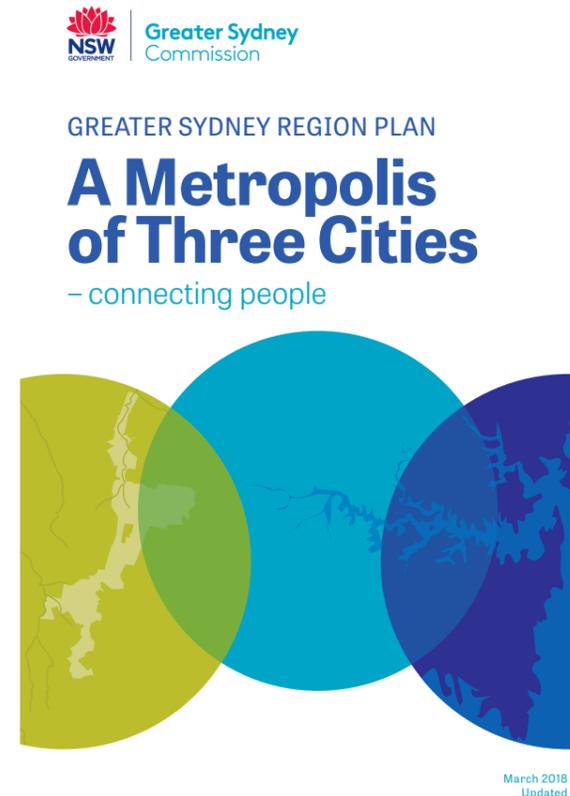
Draft Greener Places Design Guide



ALIGNMENT

- The design strives to adopt the 4 Design principles of the Draft Greener Places Design Guide to help deliver green infrastructure:
 1. Combine green infrastructure with urban development and grey infrastructure
 2. Create an interconnected network of open space
 3. Deliver multiple ecosystem services simultaneously
 4. Involve stakeholders in development and implementation
- The landscape design has incorporated green infrastructure by:
 1. Open green space for recreation ie. communal lawn
 2. Increased canopy coverage
 3. Endemic plant specie selection for habitat and ecological health

Objective 30 of The Greater Sydney Region Plan - A Metropolis of Three Cities.



ALIGNMENT

- Our design understands the need for 'Objective 30: Urban tree canopy cover is increased'. Increased canopy cover will help mitigate the urban heat island effect subsequently cooling and improving the amenity of Macarthur Medical Research Centre and surrounding public domain.
- As our existing site does not have any trees, we were able to significantly increase the percentage of canopy coverage. The information can be found on page 9.
- The selection of endemic / evergreen trees ensures solar coverage all year round.

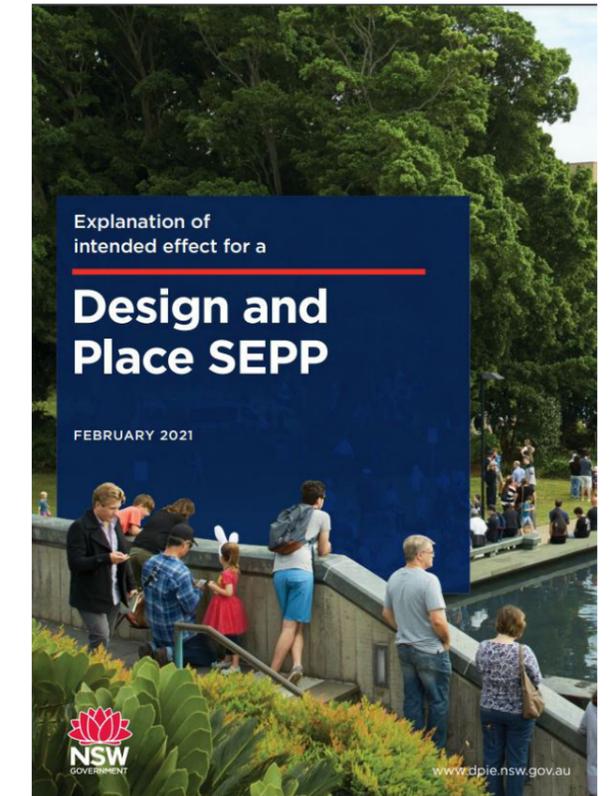
Technical Guidelines for Urban Green Cover in NSW (Office of Environment and Heritage (OEH), 2015)



ALIGNMENT

- The approaches Urban Green Cover Technical Guidelines undertakes to increase resilience has inspired the plant specie and materiality selection our design. These include:
 1. Increasing canopy coverage
 2. Selection of endemic and resilient plant species

Draft Design & Place SEPP



ALIGNMENT

- The design strives to adopt the 5 Key principles of the Designing with Place SEPP
 1. Design places with beauty and character
 2. Design inviting public spaces
 3. Develop productive and connected places
 4. Design sustainable and greener places
 5. Design resilient and diverse places
- The landscape design achieves the key principles through its unique design connecting to the natural geology of Macarthur used in the public domain materiality. The diverse selection of landscape species primarily consist of endemic species from the Macarthur region embracing the natural beauty and resilience of the region within the site.

LANDSCAPE VISION

A welcoming
**new Medical
Research Centre**
in the heart of
Campbelltown
hospital; an
Inspiring landscape
diverse in its
offerings.
Flexible spaces
For work
for learning,
for play,
or to just
simply, 'be'.



PLACE PRINCIPLES



WELCOMING

WELCOMING MEDICAL RESEARCH CENTRE

An iconic new destination. Seamless integration with the neighbourhood, improving connectivity.



CALMING

CALMING ON ARRIVAL

Integration of elements including planting, urban furniture, lighting & signage.



RESTFUL

RESTFUL POCKETS

Materiality and amenities connect with the local character and culture of Kensington.



NATURE INDOOR / OUTDOOR

NATURE INDOOR / OUTDOOR

The public domain has a strong base of permanent elements, arranged to ensure adaptability of the series of spaces for a range of temporary installations.



Connection to Country

CONNECTING TO COUNTRY

Strong planting connections to the Dharawal Six Seasons

LANDSCAPE DESIGN STATEMENT



PUBLIC DOMAIN

DESIGN STATEMENT

Macarthur Medical Research Centre is expected to become a welcoming place diverse in its offerings. Flexible spaces for work, learning, play or simply just 'be'. The landscape design ties in with the sites original geology and planting character. The wianamatta group which once featured sandstone outcrops and shale have been expressed through materiality and play space forms. Hues of colour from the two distinct microclimates play a large role in the landscape design reflected through foliage, flower and bark tones. The Dharawal six seasons has informed the plant character with a wide range of endemic flowering species that can be appreciated all year round.

PARKSIDE CRESCENT

In order to achieve consistency with the broader public domain, the streetscapes will tie in with existing materiality and form. This includes street trees, pavement, and wall treatments. A generous green setback of understorey planting is proposed along the streetscape to improve street amenity, reduce heat island effect, and ties in with the adjacent park (Marsden park).

The western entrance to Macarthur Medical Research Centre is accentuated with a gully landscape that follows the level change from Parkside Crescent to the western entrance. Cascading plants from the terrace above greet one as they enter the building.

The streetscape also includes new seating and bike rack opportunities.

EASTERN PLAZA

The eastern plaza experience combines indigenous practises and principles to create a social and inclusive public destination. A generous entrance unobstructed by trees leads one to the eastern entrance bypassing the yarning circle. The yarning circle includes a series of rough sandstone seating arranged in a circular geometry looking inward towards a ceremonial piece. The soft landscape that borders the perimeter can be explored by foot from one stepping stone to another to find endemic edible plants.

Similarly, the nature play space is a place for exploration and adventure. Elements include rope and net play, tree logs for balancing, sandstone outcrops and stepping stones.

Universal access has been incorporated into the public domain and play spaces, connecting walkways and building entries without compromising design quality. The gentle walkways leading to the eastern entrance follows the

storyline of Dharawal six seasons fauna and flora which is reflected in the seasonal flowering of plants and wildlife. The journey is further emphasised with line markings and engravings into the floor below.

INTERNAL TERRACES

Podium landscaping is focused to the building edges to maximise solar access and visual prominence from the surrounding public domain.

The planting palette for the podium areas has been developed to provide different experiences.

Terrace level 00 is made up of low succulent species that organically follow the outer edge of the terrace creating spaces for people to sit and relax. Flexible seating and pot plants with complimentary foliage, colour and textures have been selected to ensure visual harmony and seasonal variation, whilst ensuring hardiness and low maintenance.

Terrace level 02 is a lush and rich urban oasis providing staff and patients with a relaxing breakout space. It creates a green connection between two rooms that is open to the sky. The western terrace is a more intimate space for meetings or reading. It looks onto the gully landscape below and Marsden park beyond.

MATERIALITY & URBAN ELEMENTS

Proposed materiality for the project connects with the existing public domain palette and local character; combining concrete and sandstone in the ground plane. The application of these materials is proposed in a way that creates a unique sense of place for the site whilst complementing the surrounding urban context and contributing to the sense of public domain continuity.

Detailed design of elements such as paving, furniture, walling and lighting will be developed further during detailed design. In particular, opportunities for embedding site-specific narratives into concrete and sandstone will be further explored as a public art opportunity.

PROTECTION FROM THE ELEMENTS

Access to sun, shade, shelter and natural ventilation have been maximised by selecting a variety of tree species to suit varying requirements across the site. Where trees have been used, a mixture of light-canopied and shade trees have been chosen to create a diversity of spaces that ensure comfortable levels of protection in a range of conditions.

LANDSCAPE DESIGN STATEMENT



ACCESSIBILITY

Gently graded pathways will provide accessibility for all age groups and degrees of mobility, ensuring that users can access site amenities comfortably. Paths are rationally laid out into a clear and identifiable network, assisting orientation for visitors and access to and from building entries and service areas.

LIGHTING

Public domain lighting will ensure adequate levels of illumination to address CPTED, and will be delivered in an artful way to express key features of the design – architectural façade elements, landscape features, and wayfinding signage.

DRAINAGE & IRRIGATION

The detailed design will specify drainage cell to all soft landscape zones on structure.

Consideration has been given to the incorporation of low water demand and low maintenance plant species in all areas to reduce mains consumption and fertiliser contamination of drainage water.

Permanent Drip Irrigation and Moisture Sensors will be provided to all soft landscape areas.

SOIL

The planting comprises of a complementary mix of indigenous and exotic species. Therefore, soil requirements will differ according to varying soil chemistries enjoyed by individual species. For indigenous vegetation, soil profiles will be provided which have modest nutrient levels, particularly phosphorus. Suggested material would equal Australian Native Landscapes 'Low P' mixture. In areas where exotic species are to be planted, an industry standard organic soil mixture will be provided. Consideration will be given to the planting arrangement to ensure that species that are sensitive to nutrient will be grouped together.

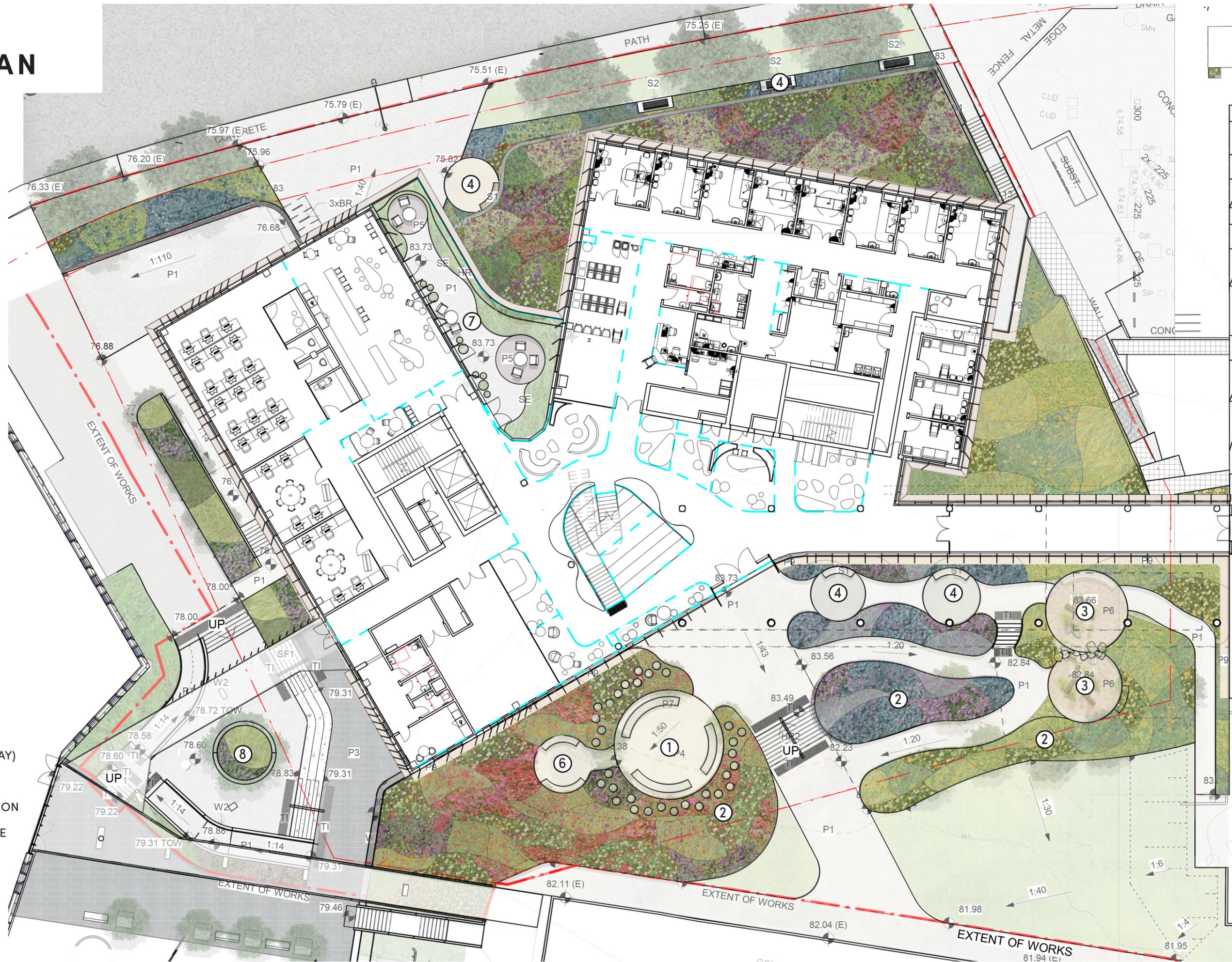
PLANT ESTABLISHMENT & MAINTENANCE

A landscape maintenance contractor will be engaged to keep all plant material in a state of health and vigour after practical completion. The appointed contractor must provide the Superintendent with a proposed maintenance works program for approval. The landscape contractor must keep a logbook of all maintenance works undertaken and include 'works to date' information with all progress payment invoices. Works will include, but not be limited to:

Monitoring the irrigation system on a weekly basis to ensure plants are not under or over irrigated,

Replacing dead plant material to achieve a complete cover of planting without obvious gaps in planting at final completion, Replenishment of mulch as required to provide cover to the soil surface minimising weed encroachment, Suppression of weed growth, Low phosphorus nutrient will be provided to indigenous plant groupings, and a broad spectrum fertilizer applied to exotic plant groupings to satisfy differing chemical requirements, Selective pruning / crown lifting / canopy shaping of trees to remove potential future structural defects, establish branching above head height, etc.

SITE PLAN



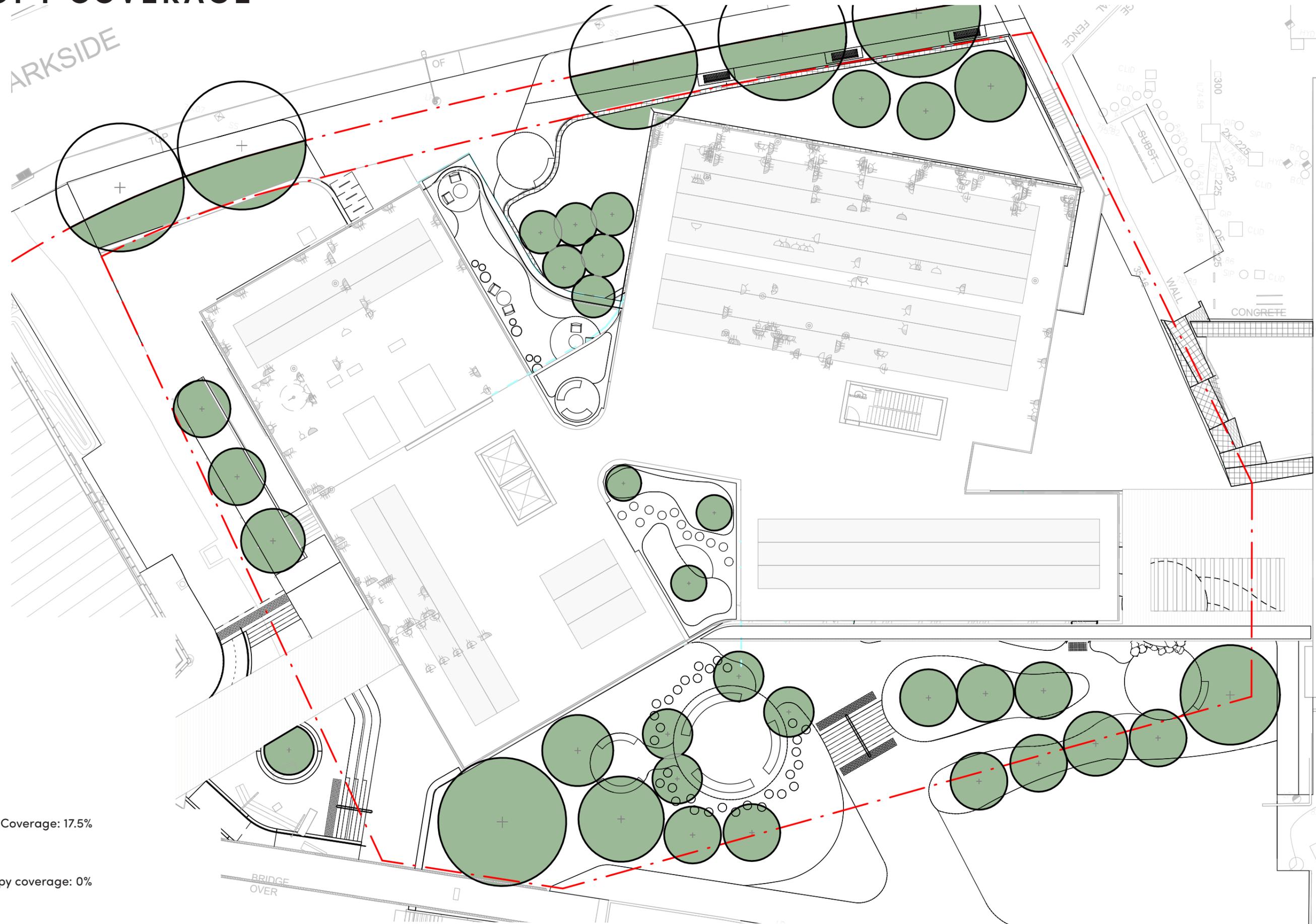
LEGEND

- ① YARNING CIRCLE
- ② CULTURAL GARDEN
- ③ PLAYSACE (NATURE PLAY)
- ④ SEATING ZONE
- ⑤ FUTURE GREEN EXTENSION
- ⑥ INTIMATE SEATING ZONE
- ⑦ LANDSCAPE TERRACE
- ⑧ LOWER PLAZA

0 4m
 SCALE - 1:250 @ A3



CANOPY COVERAGE

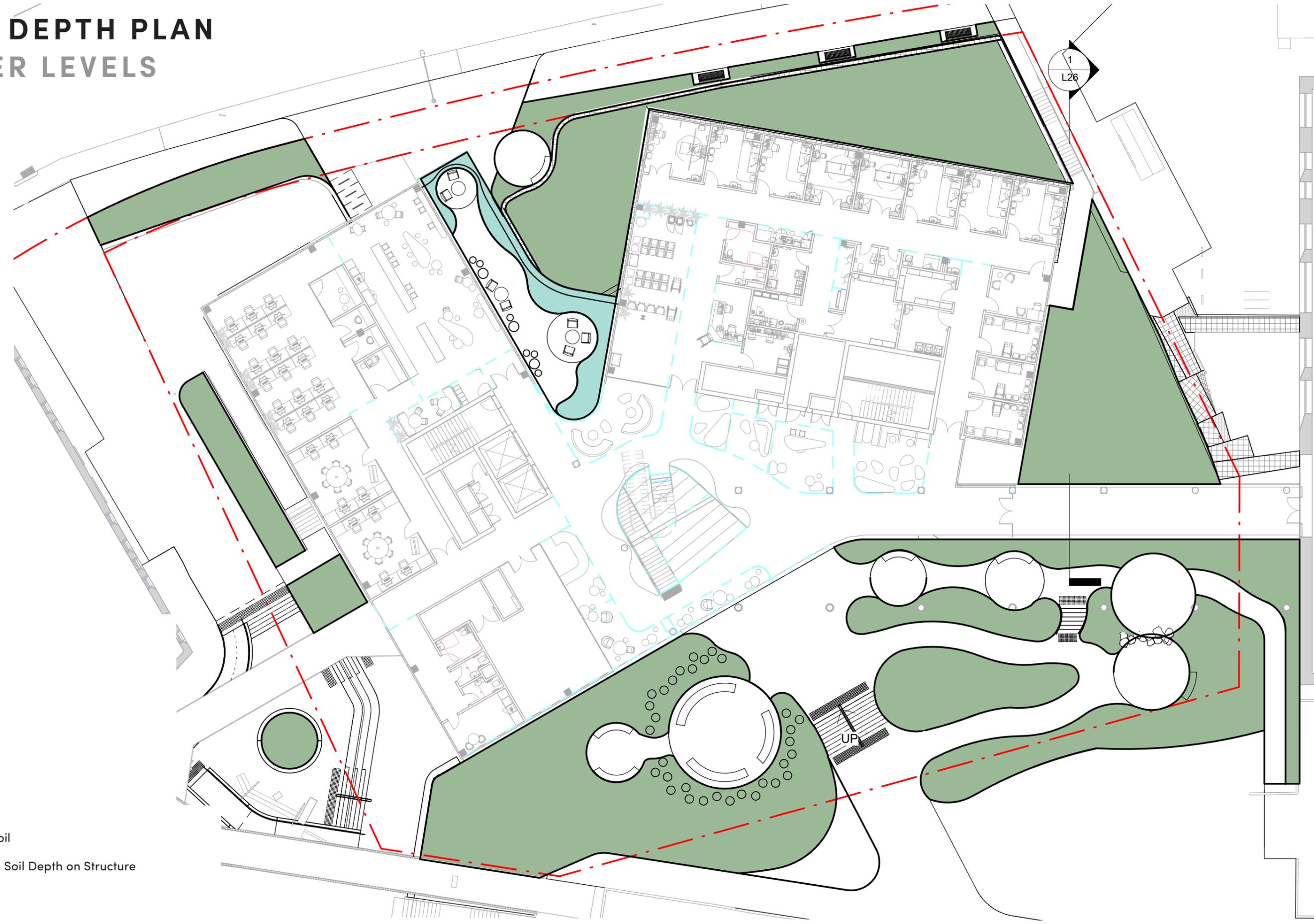


LEGEND

 Canopy Coverage: 17.5%

Note:
Existing site canopy coverage: 0%

SOIL DEPTH PLAN UPPER LEVELS



- LEGEND
- Deep soil
 - 350mm Soil Depth on Structure

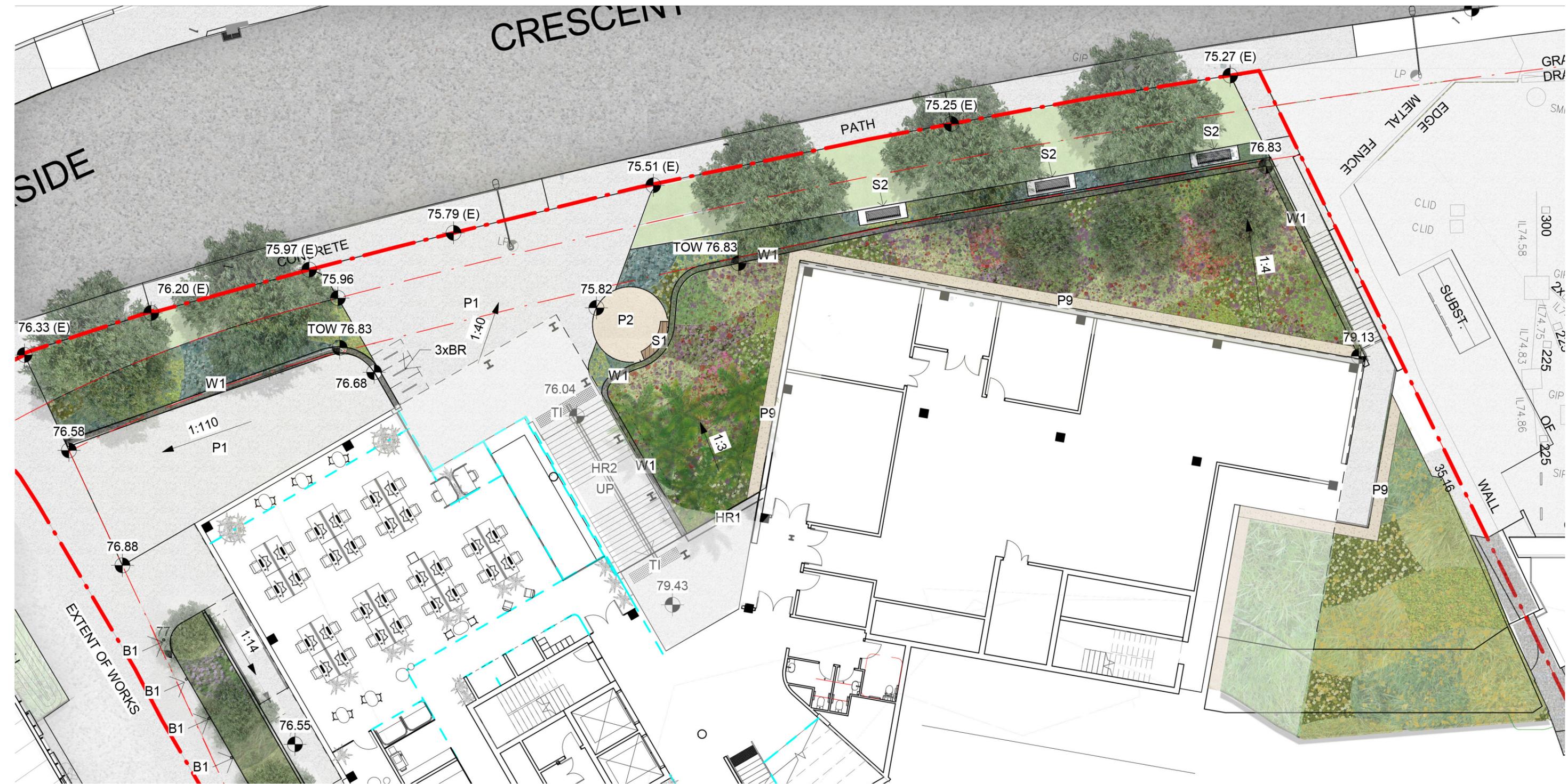
SOIL DEPTH PLAN UPPER LEVELS



LEGEND

-  350mm Soil Depth on Structure
-  600mm Soil Depth on Structure

GROUND: PARKSIDE CRESCENT LANDSCAPE PLAN

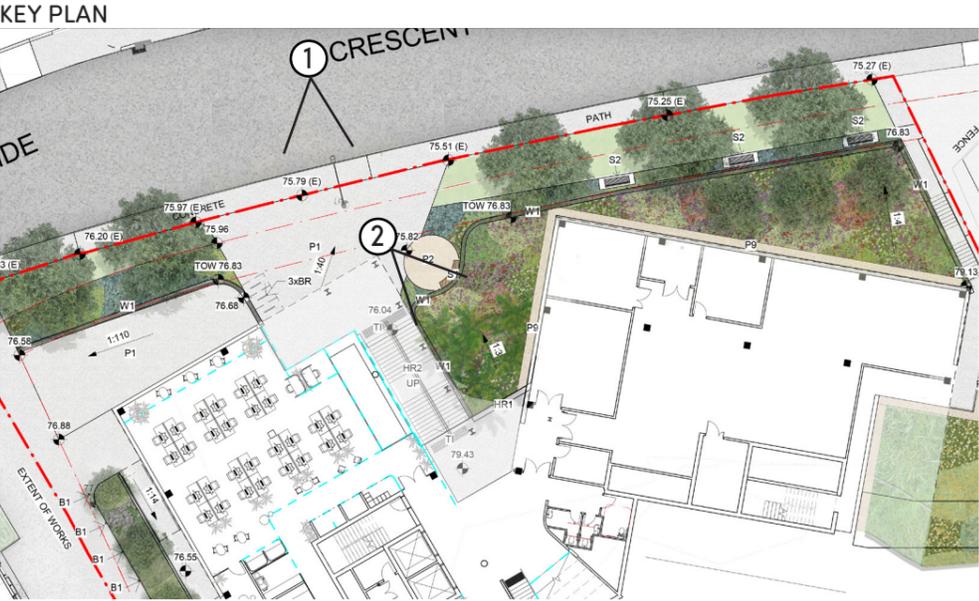


LEGEND

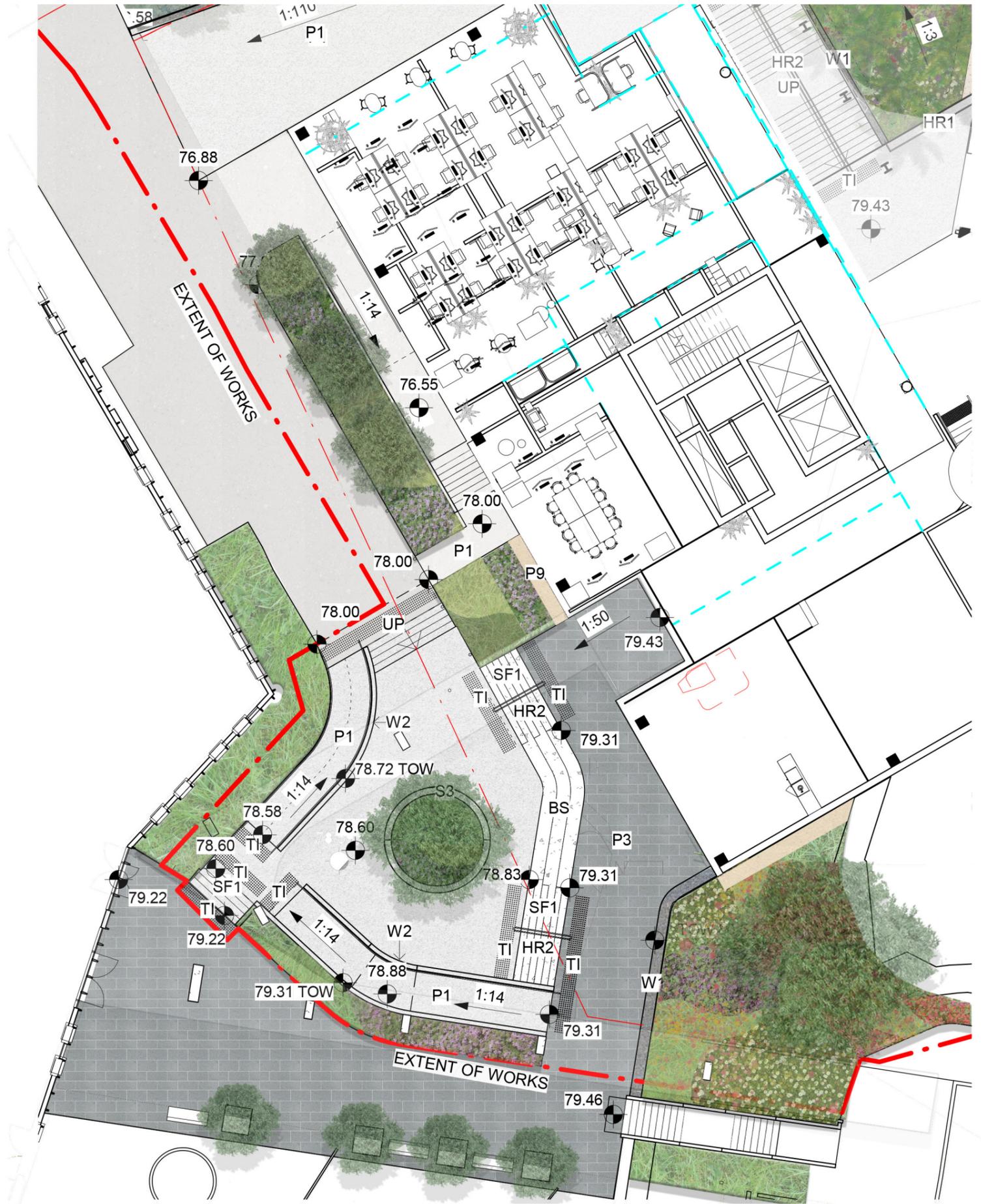
N	0 10m	P1 Honed concrete w/ special aggregate	S1 Seat	W1 Gabion wall	HR2 Double sided handrail	B1 Stainless steel bollard	Planting
SCALE - 1:200 @ A3		P2 Feature Paving	S2 Seating with back and arm rest	TI Tactile Indicators	BR Bike rack	P9 Gravel	Lawn

LANG WALKER AO MEDICAL RESEARCH BUILDING - MACARTHUR | LANDSCAPE SSDA
 PREPARED BY TURF DESIGN STUDIO
 ISSUE B - OCTOBER 2021 L-DA-12

GROUND: PARKSIDE CRESCENT LUMION



GROUND: DRIVEWAY & PLAZA LANDSCAPE PLAN

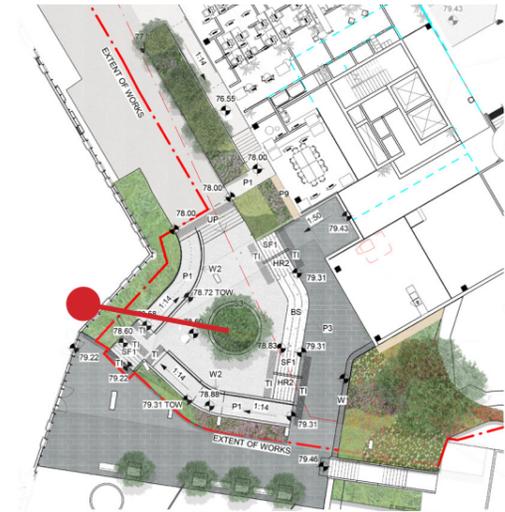


LEGEND

- P1 Honed concrete w/ special aggregate
- P3 unit pavers (to match existing)
- SF1 Concrete Stairs
- BS Concrete belachers
- W1 Gabion wall
- W2 Concrete Wall
- S3 Circular Sandtone seat
- HR1 Handrails
- HR2 Double sided nadrail
- TI Tactile
- P9 Gravel
-  Planting
-  Lawn



GROUND: DRIVEWAY & PLAZA SECTION 1



0 5m
SCALE - 1:100 @ A3

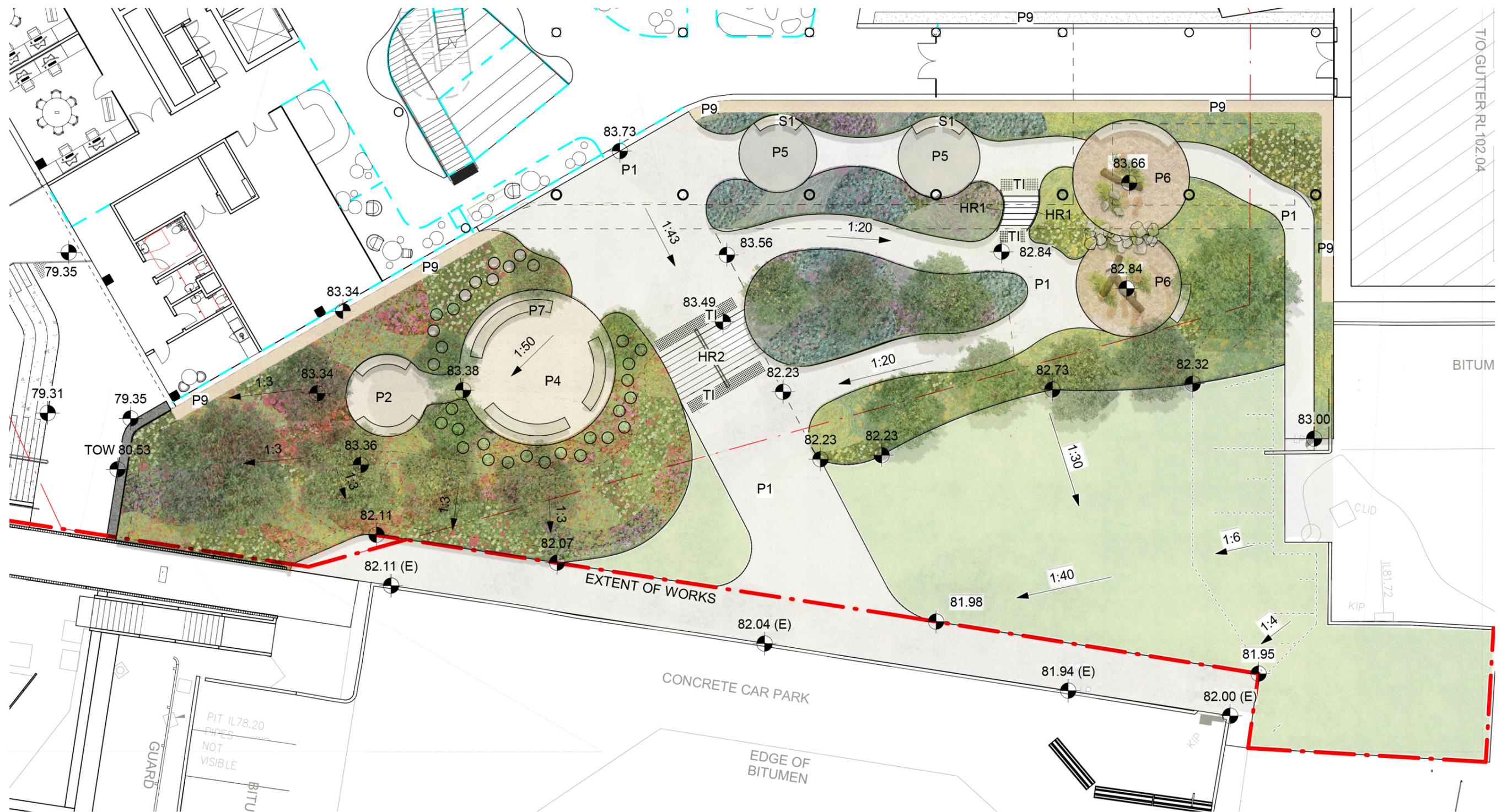
GROUND: SOUTHERN PLAZA LUMION



KEY PLAN



UPPER GROUND: WEST LANDSCAPE PLAN

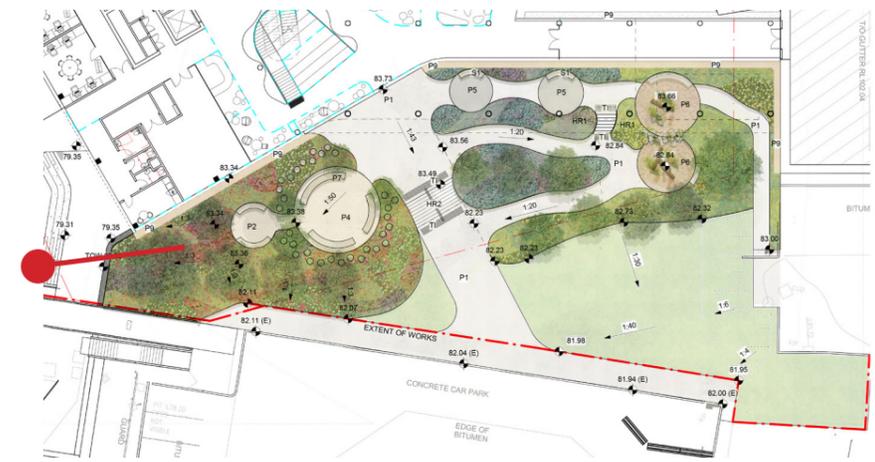


LEGEND

- | | | | | | | |
|--|------------------------|----------------------------|-----------------------------------|-----------------------|---------------------------|----------|
| P1 Honed concrete w/ special aggregate | P4 Resin bonded gravel | P6 Sofffall/Sofffall mulch | S1 Seat | W1 Gabion wall | HR1 Handrails | Planting |
| P2 Feature Paving | P5 Feature Paving | ○ Sandstone steppers | S2 Seating with back and arm rest | TI Tactile Indicators | HR2 Double sided handrail | Lawn |
| | P9 Gravel | | | | | |

0 10m
SCALE - 1:200 @ A3

UPPER GROUND: WEST SECTION 1



0 5m
 SCALE - 1:100 @ A3

UPPER GROUND: WEST SECTION 2



0 5m
 SCALE - 1:100 @ A3

UPPER GROUND: WEST LUMION



GROUND: PARKSIDE CRESCENT LUMION



UPPERGROUND: EAST TERRACE LANDSCAPE PLAN



LEGEND

- P1 Honed concrete w/ special aggregate or as specified by BVN
- P5 Feature Paving
- SE Steel edge
- BA Ballustrade

LEVEL 2: COURTYARDS LANDSCAPE PLAN



LEGEND

- P5 Feature Paving
- P7 Sandstone Paving
- P8 Pebbles

MATERIALITY STRATEGY

Re-Earthing

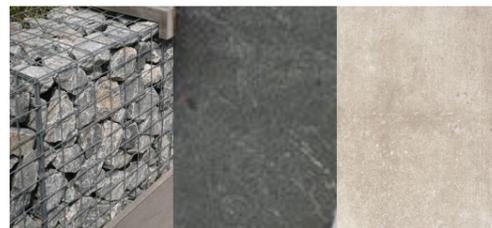
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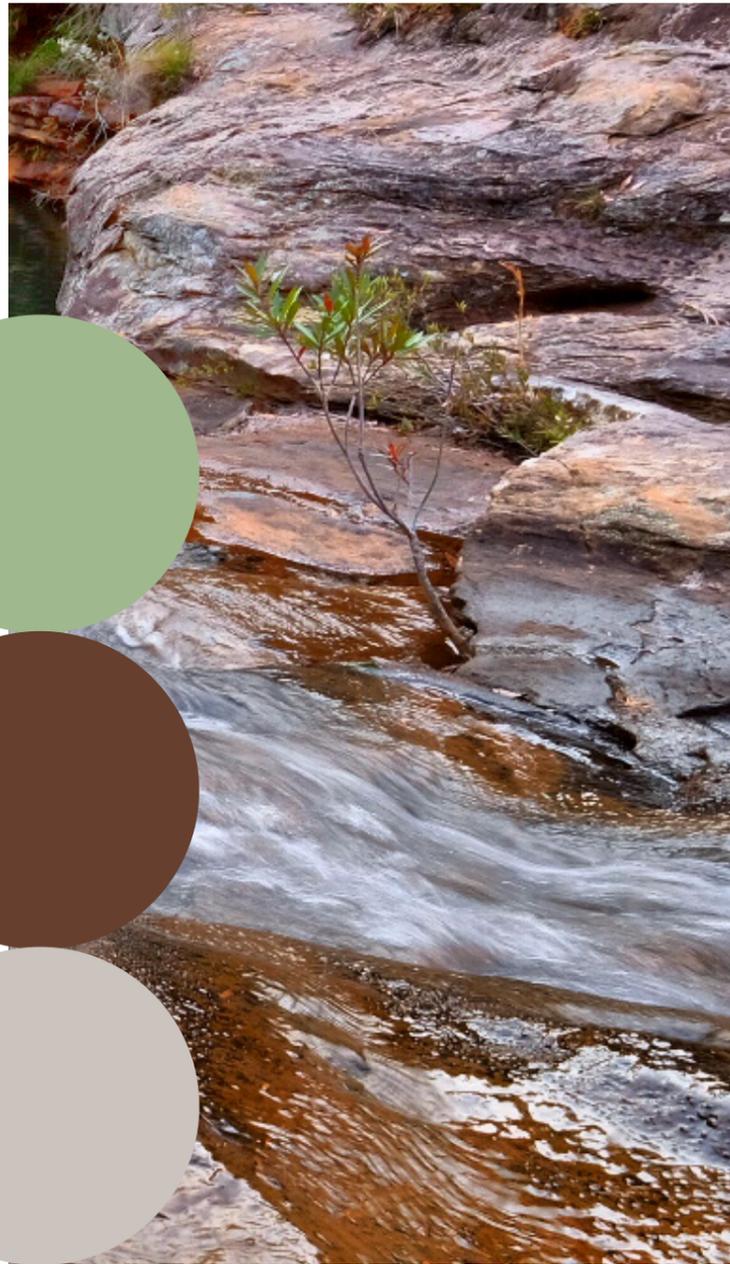
FLORA & FAUNA



SLATE ANGOPHORA BARK MULCH



GABION SLATE CONCRETE



FLORA & FAUNA



SANDSTONE PEBBLE CONCRETE



BANKSIA FLOWER GRAVEL SPECIAL AGGREGATE



MULCH ANGOPHORA SEED PODS EUCALYPTUS BARK



FEATURE ELEMENTS & MATERIALS PALETTE

PAVING



HONED CONCRETE W/ SPECIAL AGGREGATE



FEATURE HONED CONCRETE W/ SPECIAL AGGREGATE



RESIN BONDED GRAVEL



ROSEHILL TPV SOFTFALL



UNIT PAVER (TO MATCH EXISTING)

PAVING CONT.



SOFTFALL MULCH



SANDSTONE STEPPERS



GRAVEL

STAIRS & BLEACHERS



SF1 - CONCRETE STAIRS



CONCRETE BLEACHERS

WALLS



GABION WALLS



SANDSTONE SEATING WALL



Steel Edge planter wall

FEATURE ELEMENTS & MATERIALS PALETTE

FURNITURE & FIXTURES



S1 - FEATURE SANDSTONE



S2 TIMBER SEATING WITH BACK & ARM REST



NATURE PLAY SPACE



NATURE PLAY SPACE



POTS



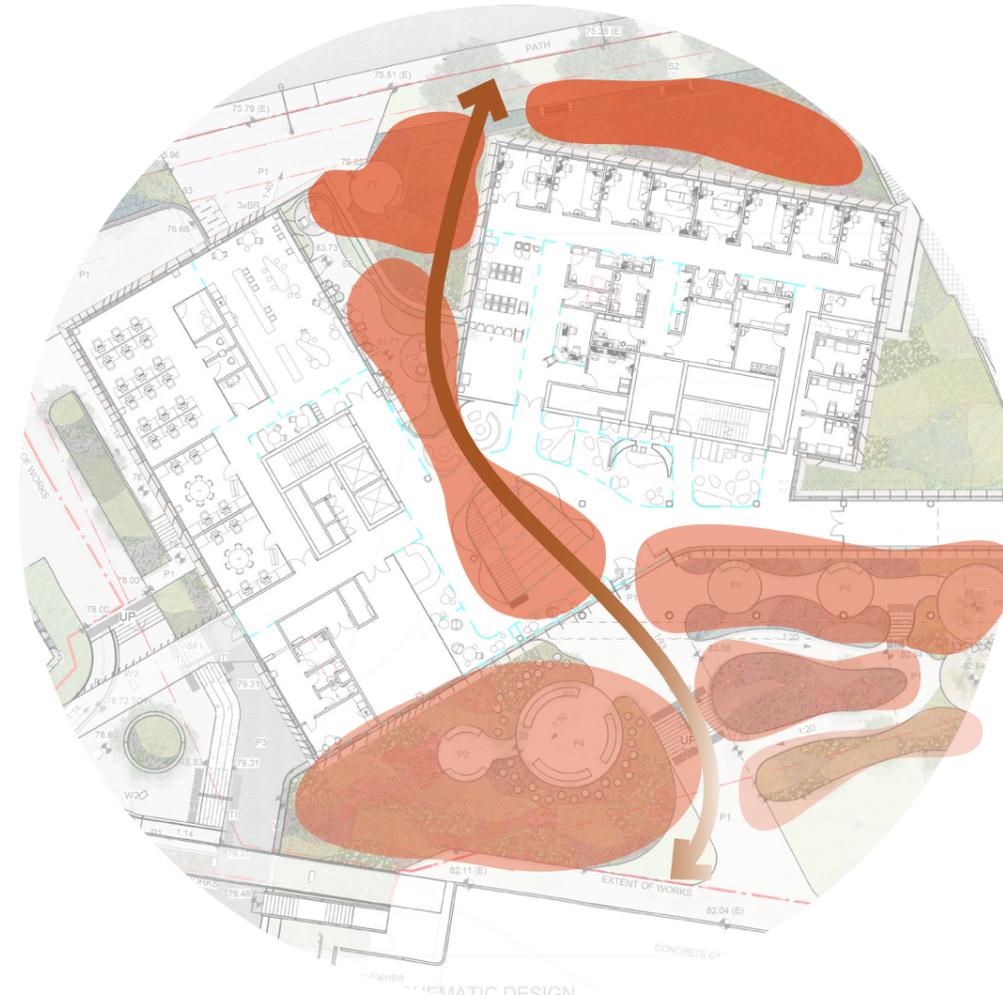
MOVEABLE FURNITURE

DHARAWAL SIX SEASONS PLANTING STRATEGY

DHARAWAL SIX SEASONS



PLANTING STRATEGY



TIME OF BURRAN
January-March | Gadalung Marool - hot and dry

The behaviour of the male kangaroos becomes quite aggressive in this season, and it is a sign that the eating of meat is forbidden during this time. This is a health factor; because of the heat of the day meat does not keep, and the likelihood of food poisoning is apparent. The blooming of the Weetjellan (*Acacia implexa*) is an important sign that fires must not be lit unless they are well away from bushland and on sand only, and that there will be violent storms and heavy rain, so camping near creeks and rivers is not recommended.



TIME OF MARRAI'GANG
April-June | Bana'murrai'yung - Wet and cool

The time of the year when the cries of the Marrai'gang (Quoll) seeking his mate can be heard through the forests and woodlands, and when the lilly pillys ripen on the trees. However, when the lilly pillys start to fall, it is time to mend the old warm cloaks from last cold season, or make new ones, and begin the yearly trek to the coastal areas.



TIME OF BURRUGIN
June-late July | Tugarah Tuli - cold, frosty, short days

This is the time when the male Burrugin (echidnas) form lines of up to ten as they follow the female through the woodlands in an effort to wear her down and mate with her. It is also the time when the Burringoa (*Eucalyptus tereticornis*) starts to produce flowers, indicating that it is time to collect the nectar of certain plants for the ceremonies which will begin to take place during the next season. It is also a warning not to eat shellfish again until the Boo'kerrikin blooms.



TIME OF WIRITJIRIBIN
August | Tugarah Gunya'marri - cold and windy

The lyrebirds' calls ring out through the bushland as he builds his dancing mounds to attract his potential mates. It is the time of the flowering of the Marrai'uo (*Acacia floribunda*) which is a sign that the fish are running in the rivers. At the end of this time the Boo'kerrikin (*Acacia decurrens*) flower, which indicates the end of the cold, windy weather, and the beginning of the gentle spring rains.



TIME OF NGOONUNGI
September-October | Murrai'yunggory - cool, getting warmer

The time of the gathering of the flying foxes. A magical time of the year when the flying foxes gather in the darkening skies over D'harawal Lands. They come in from the north-east, the north, the north-west and the west, and swirl over the Sydney area in a wonderful, sky-dancing display just after sunset, before setting off for the night-time feeding grounds to the south. But it is also a very important ceremonial time for the D'harawals, which begins with the appearance of the splashes of the bright red Miwa Gawaian (*Telopea speciosissima*) in the bushland.

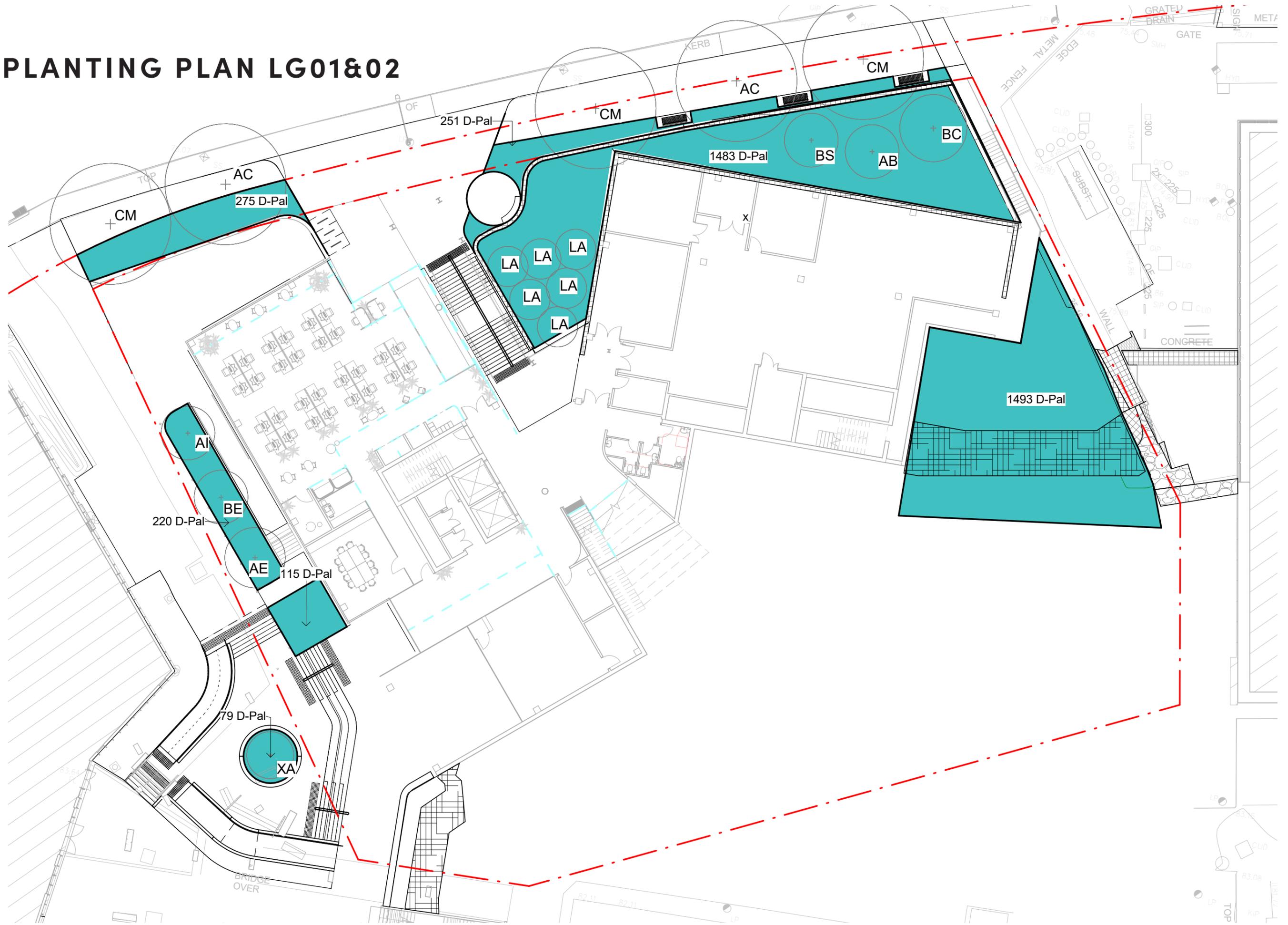


TIME OF PARRA'DOWEE
November-December | Goray'murrai - Warm and wet

This season begins with the Great Eel Spirit calling his children to him, and the eels which are ready to mate make their way down the rivers and creeks to the ocean. It is the time of the blooming of the Kai'arrewan (*Acacia binervia*) which announces the occurrence of fish in the bays and estuaries.

BUREAU OF METEOROLOGY 2016, INDIGENOUS WEATHER KNOWLEDGE, VIEWED 7 MAY 2021, <[HTTP://WWW.BOM.GOV.AU/IWK/CALENDARS/DHARAWAL.SHTML](http://www.bom.gov.au/iwk/calendars/dharawal.shtml)>

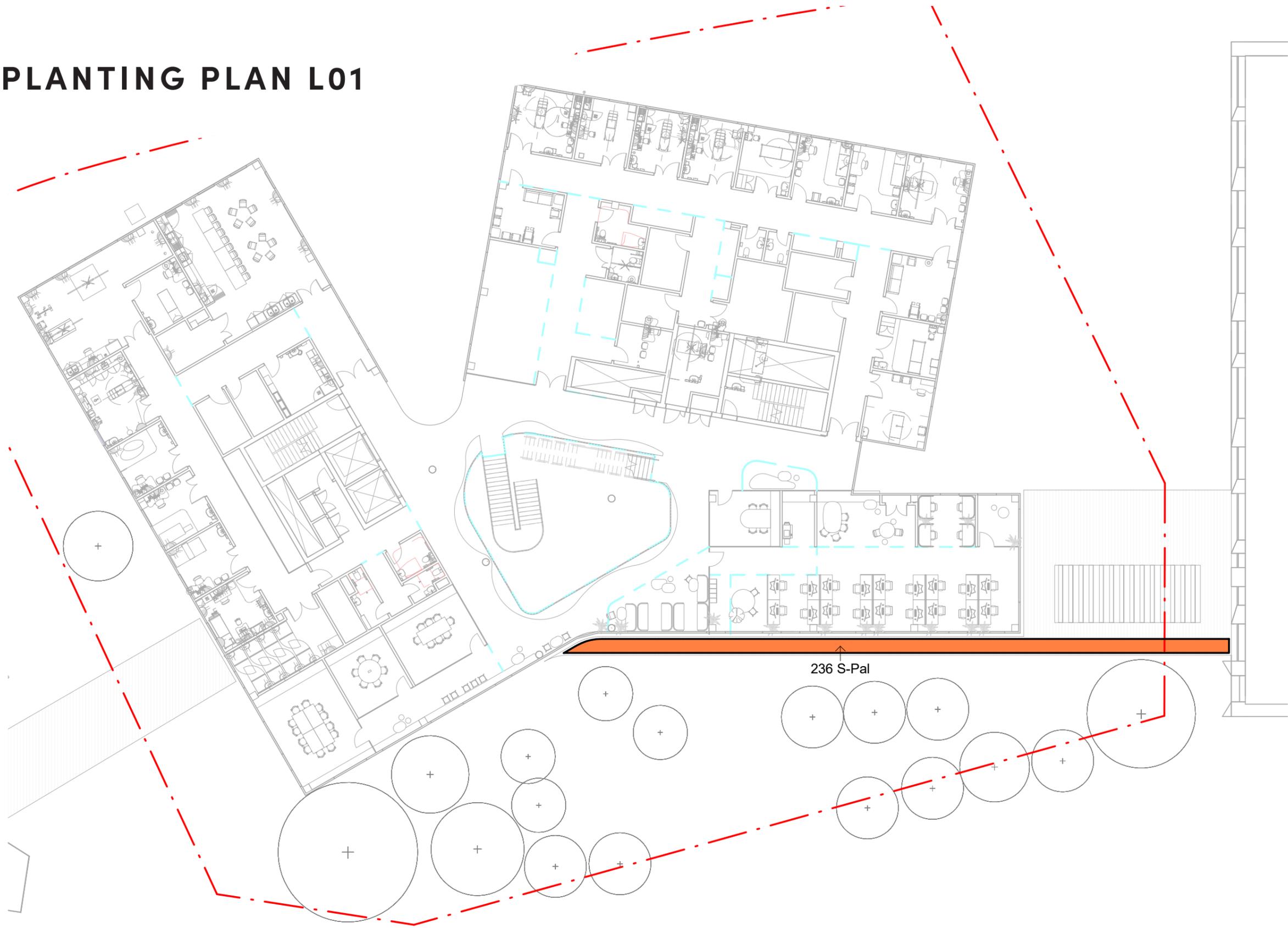
PLANTING PLAN LG01&02



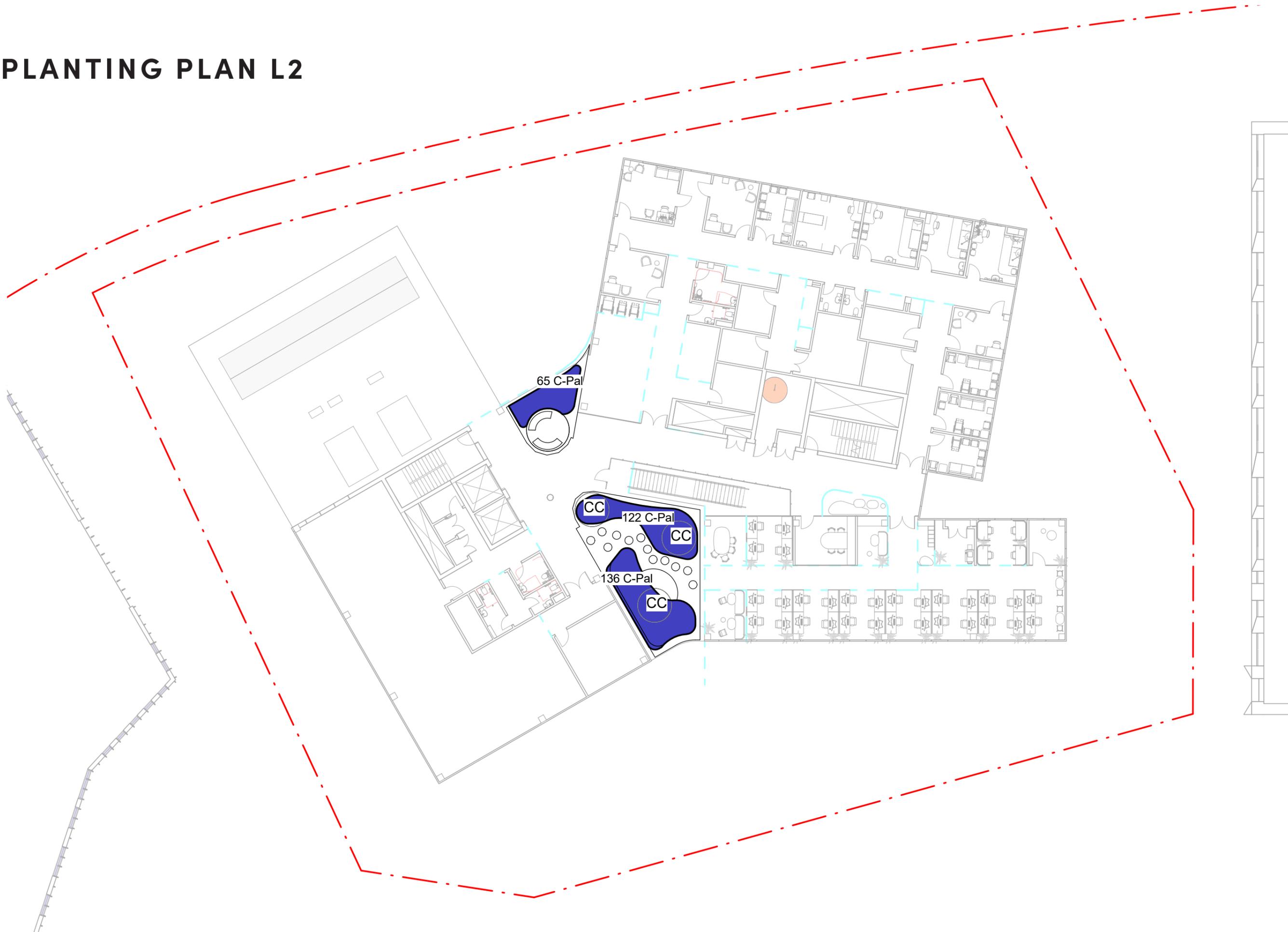
PLANTING PLAN L00



PLANTING PLAN L01



PLANTING PLAN L2



TREE PALETTE

CODE	BOTANICAL NAME	COMMON NAME	HEIGHT AT MATURITY	SPREAD AT MATURITY (DIAMETER)	QUANTITY
LARGE TREES					
GROUND LEVEL - EXTERNAL PLANTING					
AC	<i>Angophora costata</i>	Smooth-barked Apple	30.0	10.0	2
CM	<i>Corymbia maculata</i>	Spotted Gum	30.0	10.0	4
ET	<i>Eucalyptus tereticornis</i>	Forest Red Gum	40.0	8.0	1
LA	<i>Livistona australis</i>	Cabbage Tree Palm	20.0	5.0	6
SMALL TREES					
GROUND LEVEL - EXTERNAL PLANTING					
AI	<i>Acacia implexa</i>	Hickory Wattle	8.0	4.0	3
AB	<i>Acacia binervia</i>	Coast Myall	5.0	8.0	4
AE	<i>Acacia elata</i>	Cedar Wattle	10.0	5.0	2
BC	<i>Backhousia citrifolia</i>	Lemon Myrtle	8.0	5.0	2
BE	<i>Banksia ericifolia</i>	Heath Banksia	5.0	3.0	3
BS	<i>Banksia serrata</i>	Old Man Banksia	10.0	4.0	2
PU	<i>Pittosporum undulatum</i>	Victorian box	12.0	7.0	1
XA	<i>Xanthorrhoea Australis</i>	Grass Tree	4.0	1.8	5
TERRACE LEVEL 02					
CC	<i>Cyathea cooperi</i>	Tree Fern	5.0	3.0	3

TREES



SMALL TREES / LARGE SHRUBS



PLANTING PALETTE

CODE	BOTANICAL NAME	COMMON NAME	HEIGHT AT MATURITY	SPREAD AT MATURITY (DIAMETER)	QUANTITY
SHRUBS AND GROUNDCOVERS					
SIX SEASONS PLANTING - D-PAL					
TIME OF BURRAN - JANUARY TO MARCH. HOT AND DRY					
	<i>Austrostipa scabra</i>	Rough Spear-grass	0.3	/	
	<i>Callistemon subulatus</i>	Bottlebrush	1.5	2.5	
	<i>Microseris sp.</i>	Murnong	0.3	0.3	
TIME OF MARRA'GANG - APRIL TO JUNE. WET AND COOL					
	<i>Syzygium smithii</i>	Lilly Pilly	8.0	15.0	
	<i>Melaleuca thymifolia</i>	Honey Myrtle	1.0	2.0	
TIME OF BURRUGIN - JUNE TO LATE JULY. COLD AND FROSTY					
	<i>Ozothamnus diosmifolius</i>	Rice Flower	1.0	1.5	
	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark	3.0	2.5	
TIME OF WIRITJIRIBIN - AUGUST. COLD AND WINDY					
	<i>Acacia floribunda</i>	Gossamer Wattle	4.0	2.5	
	<i>Eriostemon australasius</i>	Wax Flower	2.0	1.0	
	<i>Scaevola aemula</i>	Fan Flower	0.5	1.0	
	<i>Wahlenbergia gracilis</i>	Australian Bluebell	0.8		
TIME OF NGOONUNGI - SEPTEMBER TO OCTOBER. COOL, GETTING WARMER					
	<i>Adenanthos cuneatus</i>	Coral Carpet	2.0	2.0	
	<i>Arthropodium strictum</i>	Chocolate Lily	0.5	0.3	
	<i>Austromyrtus dulcis</i>	Midjin Berry	1.0	1.5	
	<i>Chrysocephalum apiculatum</i>	Common Everlasting	0.6	0.5	
	<i>Dianella revoluta</i>	Blue Flax Lily	0.8	0.5	
	<i>Doryanthes excelsa</i>	Gynea Lily	4.0	3.0	
	<i>Lomandra sp.</i>	Mat-rush	1.0	1.5	
	<i>Microseris lanceolata</i>	Murnong	0.5	0.3	
	<i>Pultenaea pedunculata</i>	Matted Bush Pea	0.6	3.0	
	<i>Scaevola sp.</i>	Fan Flower	0.4	2.0	
	<i>Telopea speciosissima</i>	Waratah	3.0	3.0	
TIME OF PARRA'DOWE - NOVEMBER TO DECEMBER. WARM & WET					
	<i>Acacia terminalis</i>	Sunshine Wattle	4.0	1.5	
	<i>Callistemon citrinus</i>	Western Glory	4.0	3.0	
	<i>Eremophila debilis</i>	Winter Apple	0.5	2.0	
	<i>Persoonia nutans</i>	Nodding Geebung	0.9		
LEVEL 00 - TERRACE					
T-PAL	<i>Aloe Andreas Orange</i>	Aloe	0.3	0.3	232
	<i>Agave attenuata</i>	Century plant	1.5	2.4	
	<i>Carpobrotus glaucescens</i>	Pigface	0.2	2.0	
	<i>Crassula ovata 'Gollum'</i>	Shrek's ears	0.6	0.6	
	<i>Curio repens</i>	Blue Chalksticks	0.2	0.9	
	<i>Dichondra repens</i>	Kidney weed	0.15	2.0	
	<i>Dichondra argentea</i>	Dichondria silverfalls	0.1	1.2	
	<i>Myoporum parvifolium</i>	Creeping boobiolla	0.3	3.0	

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LEVEL 01 - AWNING					
S-PAL	<i>Casuarina glauca</i>	Cousin It	0.2	1.5	236
	<i>Hibbertia scandens</i>	Snake Vine	0.5	2.0	
	<i>Carpobrotus glaucescens</i>	Pigface	0.2	2.0	
LEVEL 02 - TERRACE					
C-PAL	<i>Adiantum aethiopicum</i>	Maidenhair fern	0.5	0.5	322
	<i>Blechnum cartilagineum</i>	Soft water fern	1.5	1.5	
	<i>Calochlaena dubia</i>	Soft bracken	2.0	1.5	
	<i>Dianella caerulea</i>	Native Flax	1.0	2.0	
	<i>Lomandra longifolia</i>	Basket grass	1.5	1.5	
	<i>Marsilea drummondii</i>	Nardoo	0.3	3.0	
	<i>Nephrolepis cordifolia</i>	Fishbone fern	0.9	0.9	
INTERNAL PLANTING					
N/A	<i>Alpinia purpurata</i>	Red Ginger	3.0	0.9	TO BE DEVELOPED IN DETAILED DESIGN PHASE
	<i>Calathea anulque</i>	Calathea	1.0	0.6	
	<i>Colocasia esculenta</i>	Taro	1.5	0.6	
	<i>Dichondra argentea</i>	Dichondria silverfalls	0.1	1.2	
	<i>Dracaena trifasciata</i>	Mother-In-Law's Tongue	2.0	0.3	
	<i>Lysimachia nummularia</i>	Golden creeping Jenny	0.15	0.45	

INDICTIVE SHRUBS AND GROUNDCOVERS



APPENDIX 1 - DRP 1 RESPONSES

	DRP 1 - COMMENT	Response
1	The Campbelltown Hospital masterplan creates challenges for navigating to the proposed MMRC due to the lack of pedestrian linkages. Entering the MMRC through Building D may confuse new visitors as they enter at ground level, go upstairs and travel through Building D. The primary access to the MMRC should be via the eastern future village green or Parkside Crescent. It should be possible to enter the building without using Building D's northern entrance and the sky bridge connection.	Clear entries to the building have been developed with equal access provided to the building from both Parkside Crescent from the LG002 entry with a grade of 1:40 to the door and from the village green through a short 1:20 walkway to the entry at L00.
2	The provision of public green space is key to realising the intentions of the MMRC concept design. Ideally, the hospital masterplan's future pedestrian common and village green would be realised, and car parking would be provided on the outer edge of the site with access via safe routes or a shuttle. However, to mitigate the potential of this not happening or happening at a much later date, consideration should be given to pushing the proposed building towards the park to create a village green within the bounds of the site.	A small village green has been provided on the eastern side of the building connecting into the landscape design within the sight boundary.
3	Additional site area which is not required for the building should be utilised to create outdoor spaces rather than leaving room for future development.	The eastern design has utilised the external space outside of the building with a small nature play space, yarning circle and outdoor breakout space.
4	Research existing and proposed transport routes (bicycle lanes, bus, pedestrian, and vehicle) to understand access and arrival locations and the user journey overall. Make alternative means of travel, such as cycling or walking, accessible to the building users to encourage a healthy lifestyle, particularly as one of the MMRC research themes is obesity. Additional consideration should be given to after-hours transport and access and any design implications given the likelihood for hours of operation to change over time in response to user needs and research topics.	Bike racks have been provided on the western side of our site outside the building entrance.
5	The proposed entry from Parkside Crescent is key to connecting to the park and integrating with the wider road network. This entry should be retained to allow easy access to adjacent parklands and local shops.	Parkside entry has been retained.
7	Plant large trees to increase the urban tree canopy coverage and shade outdoor areas. Planting large trees to the North and South will also improve the outlook toward the inactive facades of Building D and the Macarthur Clinical School building.	Large trees such as Angophora and eucalyptus trees have been used through the design to increase canopy coverage.
8	Review the outdoor learning and waiting spaces with the newly appointed landscape architect. Provide different sizes and quality of outdoor spaces to accommodate multiple users, including large groups and different demographics.	The landscape design has created a series of outdoor seating areas both within and out of the building that will have multiple purposes including learning, waiting and connecting to country and culture.
9	Confirm the plant species for the landscape and production garden. Consideration should be given to any impacts resulting from the site's proximity to bush fire prone land.	The species selected are primarily native with an emphasis on connecting to the Dharawal Six Season. The production gardens will be integrated into the gardens consisting of bush tucker species.
10	If gabions are used to manage the slope, they should be covered with planting.	The Gabon wall have climbing planting at the bases to soften the gabion walling.

APPENDIX 2 - DRP 2 RESPONSES

	DRP 2 - COMMENT	Response
1	The SDRP 01 presentation showed the building conceptually within the landscape. Currently, the building appears insular and lacks connection to the outdoors. Develop the design to feel open to the public and welcoming during the day, night and weekends.	The bleacher seating has been removed from Parkside Crescent which draws the landscape up through the building connecting the surrounding landscape context of Marsden park.
2	People naturally try to circulate between buildings and do not always feel comfortable entering a building. Consider circulation of all people using the Campbelltown Hospital precinct and how they might walk from Parkside Crescent to the village green without entering the building.	Due to the exiting building layout and 8m level change between Parkside Crescent and the village green the external circulation is quite difficult to achieve from park side Crescent. The design has improved the pedestrian connection and legibility to the south of the building creating a visible lower plaza extension/connecting the Macarthur clinical school forecourt which has external stair connections to the village green.
3	Consider the following to improve the Parkside Crescent entry: a. amendments to the loading dock, Parkside Crescent entry and bleachers seating steps to remove or reduce conflicts between uses b. greening this entry using landscape and planting to break up the extent of bleachers seating steps, and exploring the use of creepers on and above the gabion walls to develop the gully garden concept c. providing equitable and amenable access from the Parkside Crescent entry, noting the lift is currently only accessible from a dead-end corridor.	a. Bleacher seating has been removed and replaced with landscape which draws the landscape up through the building creating improving the gully landscape concept. b. Climbing plants will be planted along the base of the gabion wall.
4	Consider the following to further develop the village green: a. mitigating the potential for the meandering, sloped path to contribute to the stress of those visiting health facilities by providing straightforward navigation, legible wayfinding, and barrier free circulation b. exploring sociability, education value, play spaces and functionality, for example, providing options for comfortable seating (with a back and armrest) and for locations where carers can sit and supervise.	a. The Sloped pathways have been reduced to the minimum amount of grade to achieve equal access to the building. with a direct and clear pathway to the entry. b. Seating will be developed further in the detailed design these. The design will ensure that the seating will be comfortable and accommodate all users with back and arm rest.
5	Provide details of the ground plane and potential for landscaping between the northern and southern neighbouring buildings to understand their safety, legibility and use.	The southern Plaza has been developed as a lower plaza with visibility and sight lines from Parkside Crescent. The space between the neighboring building and the MMRC is a loading dock and shouldn't be accessible by the public.
6	Address crime prevention through environmental design via lighting and creating visibility through outdoor spaces.	The landscape design has a series of different areas of activation which will encourages activity and viability within the public realm throughout the operating hours of the facility. The design has been refined to create clear sight lines to all the landscape spaces. Lighting will be design and developed to comply with all the appropriate standard for public safety.
7	Install bike racks were possible as cyclists always try to park as close as possible to their destination. Encourage cycling through introducing end of trip facilities.	Cycle parking has been added to Parkside Crescent which connects with the broader cycle network.

APPENDIX 3 - SEARS RESPONSES

DELIVERABLES - SEARS REQUIREMENTS		Response
1	<ul style="list-style-type: none"> • Provide: Where relevant, an arboriculture impact assessment prepared by a Level 5 (Australian Qualifications Framework) Arborist, which details the number, location and condition of trees to be removed and retained, includes detailed justification for each tree to be removed and details the existing canopy coverage on-site. 	Arborist to provide report.
2	<ul style="list-style-type: none"> • Provide: A detailed site-wide landscape strategy, that: <ul style="list-style-type: none"> - details the proposed site planting, including location, number and species of plantings, heights of trees at maturity and proposed canopy coverage. - provides evidence that opportunities to retain significant trees have been explored and/or informs the plan. - demonstrates how the proposed development would: <ol style="list-style-type: none"> contribute to long term landscape setting in respect of the site and the streetscape. investigate the opportunity to incorporate locally endemic tree species that are complimentary to the surrounding environmental context. mitigate the urban heat island effect and ensure appropriate comfort levels on-site. incorporate WSUD elements. contribute to objectives to increase urban tree canopy cover. 	<ul style="list-style-type: none"> - Refer to pp. 29-34 for Planting Plans and information on species of plantings. Refer p. 9 for proposed canopy coverage. - There are only three trees within the extent of works which are all small trees which will be removed. <p>a & b. In order to achieve consistency with the broader public domain, the streetscapes will tie in with existing pavement, wall treatments, and planting. The Dharawal six seasons has informed the plant character with a wide range of endemic flowering species that contribute to a long term landscape setting through their resilient and robust nature. The landscape species compliments the broader Marsden Park landscape character. For further information on species selection of endemic plants refer to p. 28.</p> <p>c. Large trees have been appropriately placed with an abundance of planting within the site to help mitigate the urban heat island effect through increased canopy coverage and the reduction of hardscape elements and dark colours within the design.</p> <p>d. Refer to civil engineer's drawings.</p> <p>e. Refer p. 9 for proposed canopy coverage.</p>
3	<ul style="list-style-type: none"> • Provide: A detailed landscape plan prepared by a suitably qualified person. 	Refer pp. 8, 12, 15, 18, 23 & 24 for landscape plans.
DELIVERABLES - CAMPBELLTOWN CITY COUNCIL REQUIREMENTS		Response
4	Explore opportunities to integrate water elements/features into the landscape plans.	N/A
5	Encourage the use of tree and plant species native to the local area that help to tell Campbelltown's story and maintain the integrity of local landscape/ecosystems.	Refer to p. 28 for information on our selection of endemic plant species.
DELIVERABLES - RELEVANT POLICIES AND GUIDELINES		Response
6	<ul style="list-style-type: none"> • Australian Standard 4970 Protection of trees on development sites. • Draft Greener Places Design Guide (GANSW). • Objective 30 of The Greater Sydney Region Plan - A Metropolis of Three Cities. • Technical Guidelines for Urban Green Cover in NSW (Office of Environment and Heritage (OEH), 2015). 	Refer to p. 3 for our strategic alignment with relevant polices and guidelines.

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