THE CHILDREN'S HOSPITAL AT WESTMEAD

Paediatric Services Building

AMENDED LANDSCAPE REPORT

JULY, 2021 - HEALTH INFRASTRUCTURE NSW

MCGREGOR COXALL

Project Client:	Billard Leece Partnership
Project Name:	CHW Planning
Project Number:	0785SYD

Revision:	Status:	Date:	by:	Checked:
1	DRAFT SSDA Report	19/11/20	MK/AM	MR
2	DRAFT SSDA Report	16/12/20	MK	MR
3	FINAL SSDA Report	12/01/21	MK	MR
4	FINAL SSDA Report	22/01/21	MK	MR
5	Draft SSDA RtS Report	09/07/21	MK	MR
6	Draft SSDA RtS Report	16/07/21	MK	MR
7	Final SSDA RtS Report	20/07/21	MK	MR
8	Tree Canopy Cover Clarification	20/09/21	MK	MR

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Contents

Introduction

Response to Submssion - Landscape Design

SSDA Submission Comments	Response
DPIE	
Updated landscape plans are to be submitted providing:	
Further detail of the aboriginal garden and its integration with the Kidsway	The Aboriginal garden is located adjacent the main entrance to the PSB and adjacent the internal meeting room for the Aboriginal community. The detailed design of the garden will be undertaken in collaboration with Aboriginal stakeholders. Refer updated Kidspark concept plans in section 6.0 for revised location.
Details of the outdoor levels and enclosed outdoor level landscaped areas and their treatment and access arrangements.	A range of updates have been made to the enclosed and outdoor landscaped areas across the floors of the PSB. Please refer to plans and descriptions provided in section 6.0 of this report.
Confirmation of the maintenance measures in place for the landscaped levels within the PSB, particularly, if they are enclosed and for viewing purposes only.	Access for maintenance will be provided to all landscaped areas from the adjacent internal spaces to avoid the need for complex maintenance regimes that require abeiling etc. Balustrades are provided to all landscaped areas where required by BCA.
Due to the scale of the proposed trees on Level 03 (as depicted on the landscape plans), further information of the trees species is requested to determine the growth of the tree can be accommodated within the proposed planter and whether the trees will cause damage or amenity/ safety issues	The redesign of level 03 terrace has led to the removal of the majority of the trees indicated on the SSDA plans. This is described further on the opposite page. A single small Acer sp. tree is now proposed, with a max mature height of 6-7m. A soil depth of 800mm is to be provided. Root barrier will be used to protect structural and furniture elements adjacent tree plantings. Refer updated plans in section 6.0.

Amendments to Proposal

Amendment to SSDA design	Reason / Details / Driver
KIDSPARK	
Overall layout changes	The overall changes to the layout of Kidspark has been driven by several factors including; 1. Feedback from a range of internal and external stakeholders to review the design to be more playful and engaging, particularly for children and to create memorable journeys across the site. This has led to be central lawn taking on an oval type form and adjacent soft landscaping areas taking on organic forms. 2. Retention of existing grove of Eucalyptus sp. trees on western edge of the park which were previously identified for removal. 3. Introduction of additional retail opportunities along Hawkesbury Road frontag 4. Response to flood levels which involved the need to raise retail floor levels.
Retain existing grove of Eucalyptus	The revised geometry of the village green has responded to the location of existing mature trees which will be retained to maximise benefits of shade and cooling for the park. The trees will provide a strong backdrop to the park and define the western most entry point.
Retain access to CMRI service rooms and emergency generator	Stakeholder feedback confirmed existing access arrangements to CMRI service rooms and an emergency generator located adjacent the north western corner of the park needed to be maintained. This, along with the retention of the existing Eucalyptus trees as outlined above necessitated redesign of the western edge of the park including the access from Hawkesbury Road.
Relocated retail pods	Retail pods have been relocated to the Hawkesbury Road frontage to maximise activation of the park and provide amenity for patients and their families, staff, visitors and the local community. The retail pods incorporate outdoor dining opportunities.
Consolidation of formal play areas to northern edge of the park	The playspace has been consolidated to maximise engagement along the Galleria walkway and the main pathway from the new PLR stop. Safety concerns were also raised by stakeholders of having play opportunities in close proximity to Hawkesbury Road, as included in the SSDA design.
Removal of raingardens along Hawkesbury Road frontage	Safety concerns regarding standing water, for up to 48 hours after rain events, in an area that has a high concentration of children.
Increased size of Aboriginal Garden	The area allocated to the Aboriginal garden has been increased to ensure it can function appropriately.
Parramatta Light Rail interface	Where the park interfaces with the PLR works in the south eastern entry on Hawkesbury Road it is proposed to feather the pavements to create a seamless transition between the two projects.
PSB	
Kidsway landscape	Structural loading investigations concluded the existing slab which forms park of the kidsway external landscape space would not support the level of loading proposed in the SSDA concept. The space has been reconsidered to include outdoor access with seating opportunities creating a space that ties the internal and external spaces together. Limtied planting is provided along the eastern edge of the space.
Level 3 terrace	Changes to the floorplates have led to the western half of the terrace being located undercover which has neccessitated the removal of tree planting. A range of outdoor seating spaces are being provided along with soft landscaping. Two small trees are proposed within large planters.
Upper levels	A range of updates have been included in the revised plans responding to updated architectural floor plans. The updated patient, staff and visual terraces are described in detail in section 6.0

1.0 Project Scope & Site Context

PROJECT SCOPE

The proposal seeks consent for the construction of a new Paediatric Services Building (PSB) to be located adjacent to the CASB, and on the site of the decommissioned P17 car park, including development of the Hawkesbury Road forecourt and access links. This includes works associated with CHW forecourt on Hawkesbury Road to provide improved community amenity in the form of a new front entry, improved street frontage and enable a more cohesive main entrance connecting existing CHW, adjoining research facilities, and the PSB.

The scope of proposed works includes:

- Construction of the main PSB:

The main PSB may contain the following uses:

- perioperative and interventional services, neonatal and paediatric intensive care units, cancer centre, acute inpatient beds, back of house and parent facilities; and
- Alterations and additions to existing CHW KR and CASB buildings adjoining PSB site area to accommodate floor realignment and movement corridors
- Construction of a new pedestrian canopy link through KR, connecting the main PSB with the CHW forecourt and existing hospital entrance
- The canopy link is to be lifted 2 storeys above the CHW forecourt
- A new ground plane / forecourt landscaped area extending from Hawkesbury Road to the proposed PSB
- Tree removal to accommodate the construction of the PSB

SITE CONTEXT

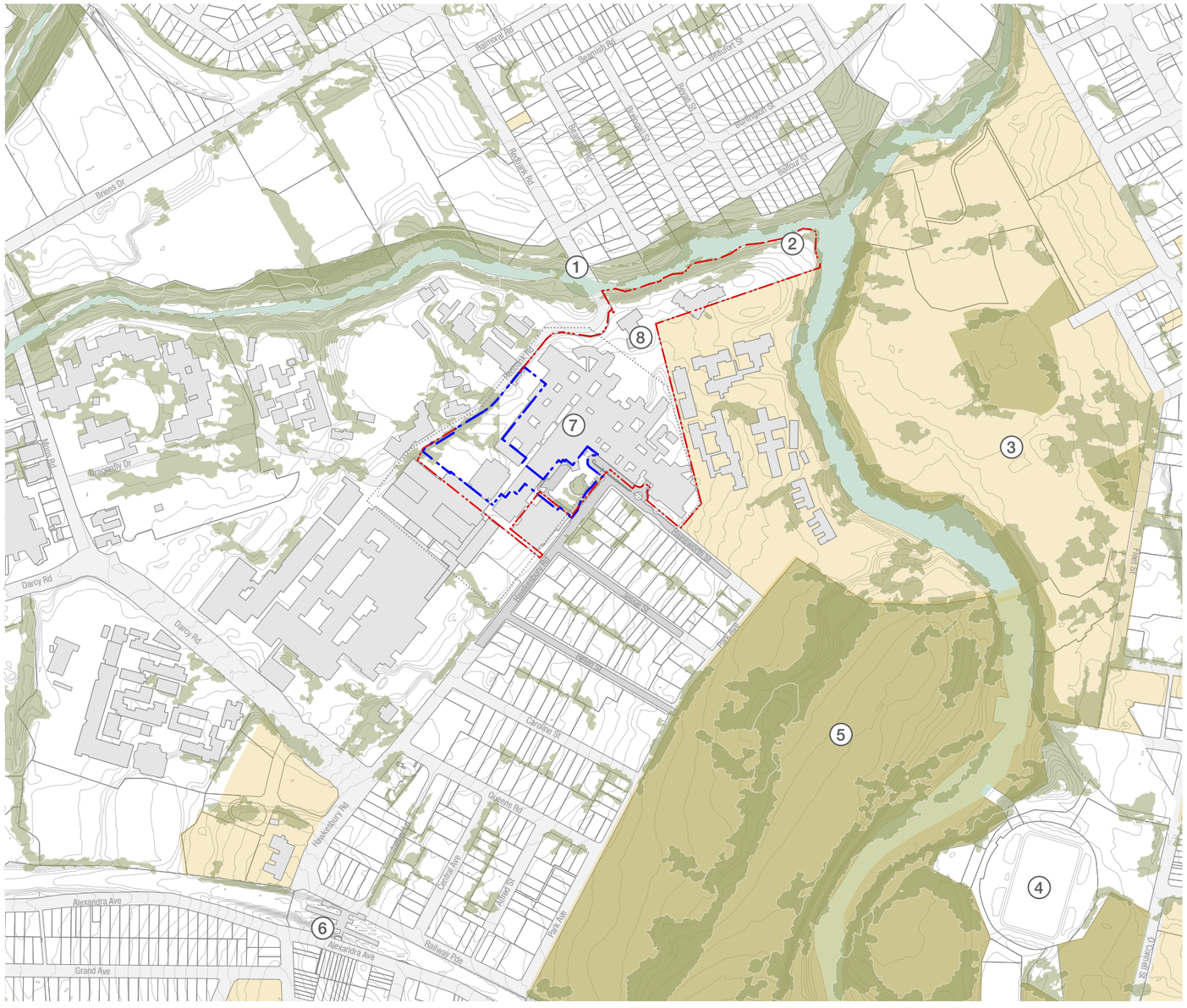
Ideally located approximately 3km from the Parramatta CBD, the Westmead Health Precinct is one of the largest health, education, research and training precincts in Australia and a key provider of jobs for the greater Parramatta and western Sydney region.

The proposed proposed Paediatric Services Building , of which the Children Hospital Westmead (CHW) is a major stakeholder and initiator, forms a unique opportunity to transform Westmead into a world-class health city and grow the Westmead Health Precinct as a world-class innovation district.

Westmead Children's Hospital is located close to Redbank Road and Darcy Road. The main entry to the hospital is from Darcy Road, which is a busy, four-lane road. Redbank Road is a two lane residential stretch of road which connects the hospital to James Ruse Drive. Car parking is available on the site.

The opportunity is now to create a holistic integrated and permeable urban precinct capitalising on the existing situation, the landscape and future infrastructure upgrades.

The KIDSPARK design and surrounding landscape interfaces of the CHW will be an important component to ensure the legibility of the entry, as well as the precinct as a whole. Key to the success of this design is strengthening the site's connections and engagement with its surrounds. These include existing indigenous heritage sites, historical sites such as Phillips Landing, as well as current and proposed public transport infrastructure.



1. Vehicular and active transport bridge
2. Phillips Landing
3. Cumberland Hospital
4. Bankwest Stadium
5. Parramatta Park
6. Westmead Train Station
7. Westmead Health Precinct
8. The Lodge

CHW Site Boundary
Proposed Extent of Works
Existing green space
Existing heritage areas
Toongabbie Creek

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0 50 100 150 200 250

2.0 Planning Context

Within the context of Sydney, a number of planning and policy documents seek to promote the greening of our urban areas in order to maintain liveability, a healthy population, and resilience within a changing climate. A primary and reoccurring focus throughout these documents is the implementation of a variety of green infrastructure typologies throughout the public domain, with the broader goal of mitigating Urban Heat Island (UHI) effects. In supporting the greening of our urban environments, these documents therefore become crucial drivers towards this change, with valuable goals and strategies that should be embedded within all new urban development projects.

The Urban Heat Island (UHI) effect is a phenomenon affecting man-made and built urban environments, caused primarily by the excessive use of hard and dark-coloured materials combined with intense solar exposure and little shade cover. As a result, local ambient temperatures can be significantly higher than in equivalent vegetated landscapes, reducing the liveability and outdoor comfort of these harsh urban environments.

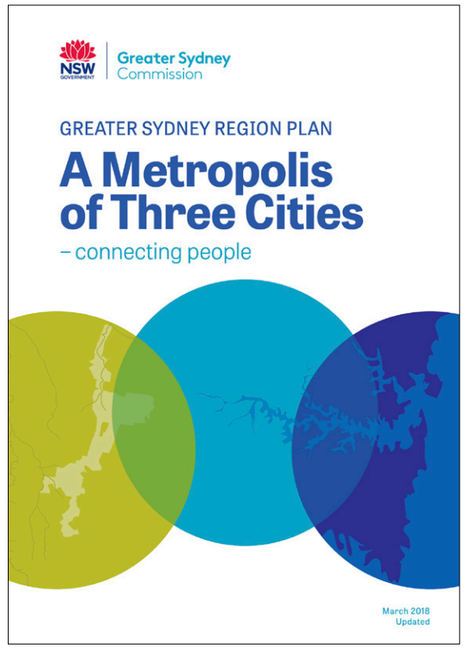
DRAFT GREENER PLACES,
GANSW 2020

‘Draft Greener Places’ is a framework and policy-influencing document advocating for the significance of green infrastructure in retaining distinctive, liveable cities. Building upon the GANSW Sydney Green Grid strategy, ‘Greener Places’ seeks to promote a networked urban ecosystem that encompasses parks and open spaces, urban trees, streets, squares, and waterways to help create a healthier, more liveable, and resilient place to live.

The KIDSPARK and PSB supports the outcomes established and developed in Draft Greener Places 2020. The design aims to contribute towards a network of indoor and outdoor landscaped areas including rebranding and strengthening the green character of the Hospital Forecourt.

The four principles of Draft Greener Places 2020–integration, connectivity, multifunctionally and participation–aims to combine green infrastructure such as WSUD elements, open space and planting, with an integrated network of green ecosystems that delivers multiple services simultaneously.

The proposal has a unique opportunity to connect to the surrounding green places and spaces within the wider Westmead precinct, including Toongabbie Creek. It also has the opportunity to mitigate the UHI effect by creating greener places, throughout the site, thereby creating a comfortable and liveable environment for hospital and patients alike.



GSRP – A METROPOLIS OF THREE CITIES,
GSC 2018

The ‘Greater Sydney Region Plan’ is a broad polycentric vision for Sydney, positioning the Harbour CBD, Greater Parramatta, and the Western Parkland City each as one of three distinct centres, to benefit liveability, productivity and sustainability by spreading the benefits of growth. Green Infrastructure is a main focus within the document, valuing urban tree canopy, green ground cover, bushland, waterways, parks and open spaces for their economic, social and environmental benefits, whilst supporting the Sydney Green Grid.

Objective 30 of the GSRP outlines the potential for urban tree canopy, in particular, for the mitigation of UHI effects within areas of hard and dark-coloured surfaces. As cities become dense and more developed, the urban tree canopy will play a significant role in mitigating the UHI effect, including the prioritisation of expanding the urban tree canopy in the public realm.

The KIDSPARK and PSB proposal expands the urban tree canopy in the public realm by redefining the green character of the Hospital forecourt, creating an interconnected green environment contributing towards future climate resilience.

A target has been set to increase tree canopy coverage to 40% in Greater Sydney. This proposal contributes to this target and assists Health Infrastructure in supporting the expansion of the urban tree canopy in Westmead.

2.0 Planning Context

URBAN HEAT ISLAND MANAGEMENT

A number of landscape strategies can be implemented within these spaces to mitigate UHI effects, by introducing shade cover and vegetation through green infrastructure implementations, reducing the amount of dark and impermeable man-made surfaces, and maintaining air flow and circulation.

Establishing a continuous urban tree canopy within the public domain can provide this much needed shade for civic urban spaces, with ability to link in with the street tree network to extend these benefits along roadways, and provide greater ecological value. Further to this, the use of endemic groundcover planting can be used to break up large areas of hard, man-made materials and increase the percentage of softer horizontal surfaces. Planting within vegetated rooftops and terraces can have the same benefit for elevated horizontal surfaces, with this greenery significantly reducing the amount of heat absorbed and radiated back into the local environment, and therefore reducing both ambient air temperatures and internal building temperatures with a reduced the need for artificial cooling.

The process of evapotranspiration through the planted areas furthermore has an active cooling effect, creating a cooler breeze through urban spaces and making use of water retained on-site through passively irrigated WSUD planting.

TECHNICAL GUIDELINES FOR URBAN GREEN COVER IN NSW, OEH 2015

The 'Technical Guidelines for Urban Green Cover in NSW' provides practical guidance on a range of green infrastructure typologies that can be implemented throughout buildings and public spaces, in order to mitigate UHI effects. These typologies range from green walls and rooftops, to cool and permeable pavements, and other green, open space implementations, each achieving a reduction in UHI through unique ways functions. Overall, adoption of the green infrastructures presented will contribute to an increased resilience to future extreme events and natural hazards, in preparation for a changing climate.

The KIDSPARK and PSB proposal has considered the practical guidance provided in the 'Technical Guidelines for Urban Green Cover in NSW' by considering the inclusion of green open spaces, WSUD rain garden elements, native tree planting, landform mounting, green pavements and other green urban design features. This will assist in providing a environmentally sustainable site that will mitigate the Urban Heat Island Effect and increasing comfort levels within the site.

DRAFT WESTMEAD PLACE STRATEGY, NSW GOVT. 2020

The 'Draft Westmead Draft Place Strategy' is a key guiding document that outlines future planning needs of the Westmead Health precinct to meet its relevance as Australia's premier health and innovation district, providing new jobs in health, education and innovation.

The Plan outlines the importance of providing opportunities for increased open space, active transport, tree planting and sustainability in the design of spaces and places within the precinct, connecting it to its surrounding unique landscape character. Action D10.A2 aims to deliver a range of diverse, new and enhanced open spaces, parks and playgrounds to support social connections through localised place-based planning.

The CHW KIDSPARK and PSB proposal creates a network of indoor and outdoor open spaces that supports and connects the Hospital buildings, supporting social and environmental resilience and sustainability within the site.

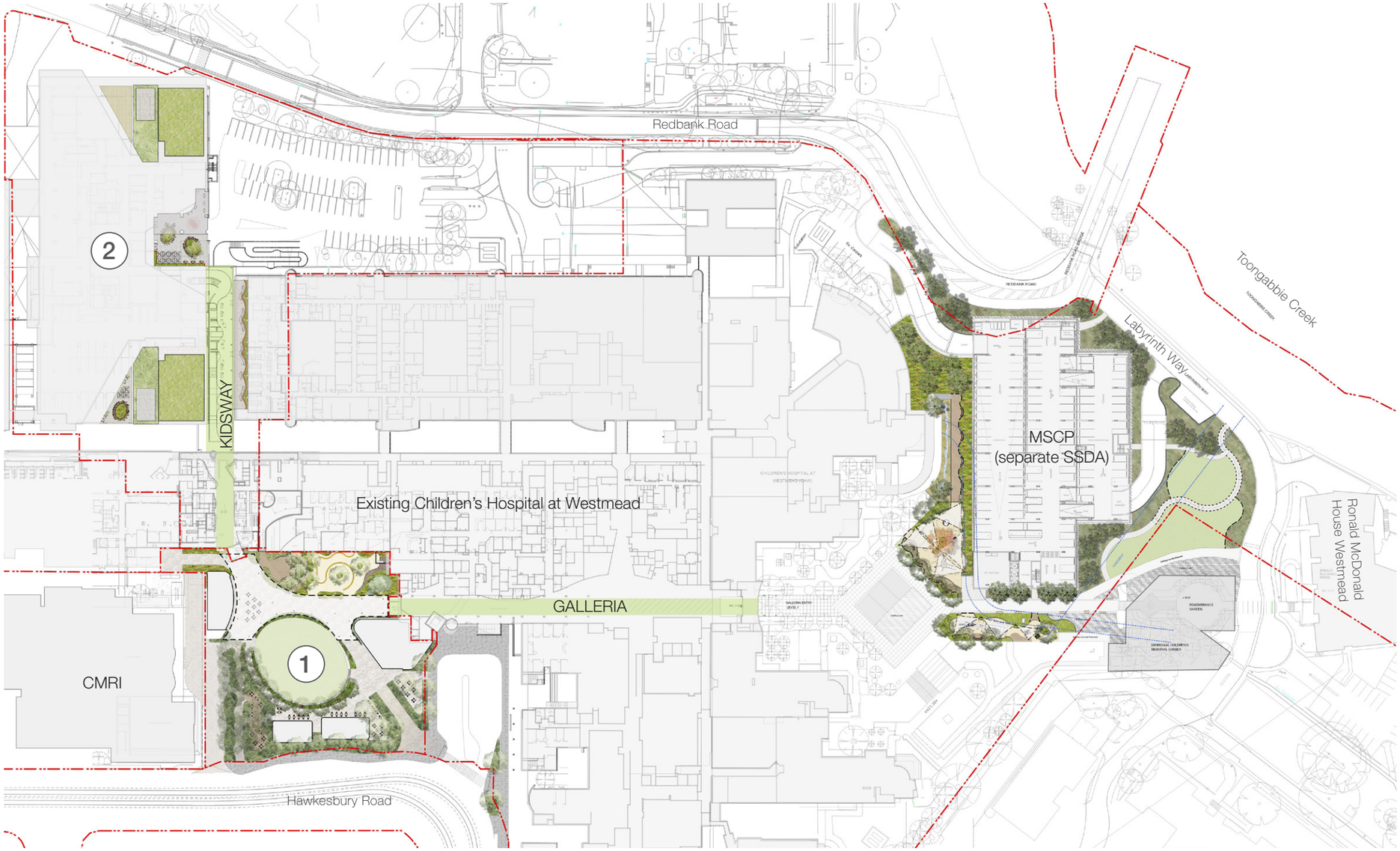
The proposal has a unique opportunity to create an interconnected and high quality blue-green grid through the PSB, integrating the proposal into the wider Westmead Green Grid though a network of green open spaces. Embracing the green grid through design principles will further contribute to the natural landscape character of the precinct.

3.0 Key Public Domain Areas

The public domain area included within the site area are:

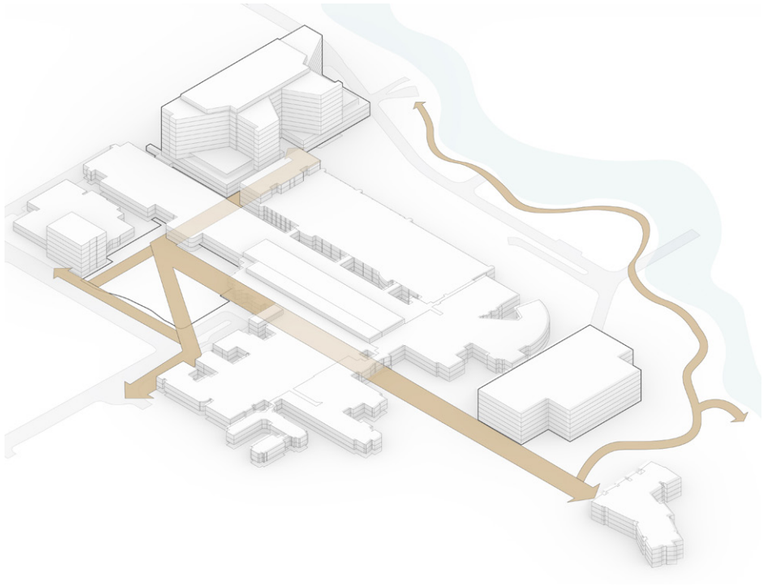
1. KIDSPARK, a rebranded forecourt clearly articulated as the main point of entry for the Paediatric Services Building and current CHW that provides a variety of spaces for the campus and surrounding community;

2. PSB, indoor and outdoor landscape areas that support the users within the building by providing visual and physical access to the landscape.

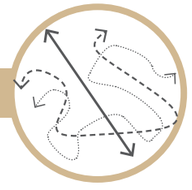


4.0 Design Principles

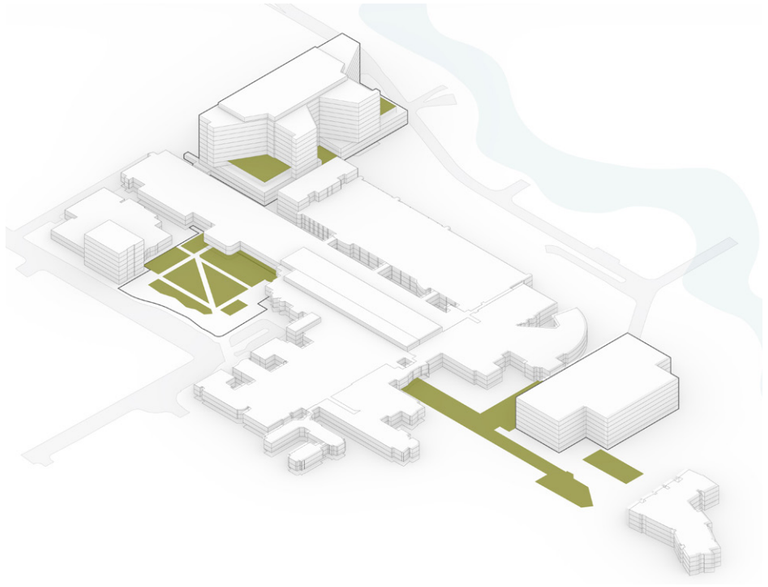
The design principles embody the overarching theme of the ‘river’ to transform the Children’s Hospital into a fluid, dynamic and enlightening experience.



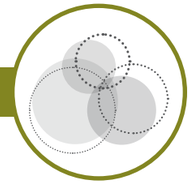
RIVER LIFE



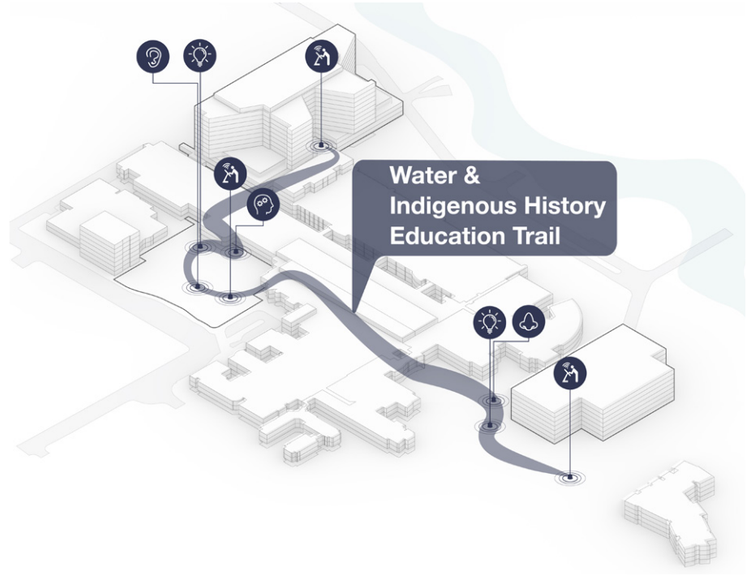
Connecting the life of the river with the life of the Children’s hospital.



RIVER PLACES



Places of gathering, play and healing.



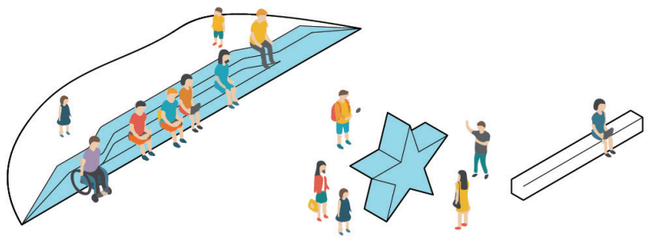
RIVER STORY

Connect with the dynamic story of water through indigenous history and public art.

5.0 Design Objectives

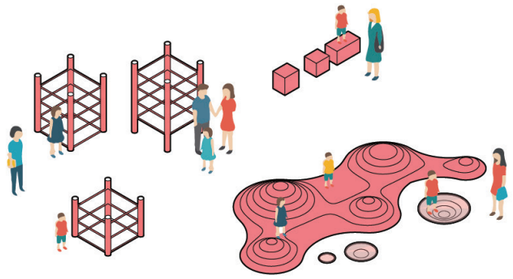
Create an interconnected green environment enhancing both mental and physical health.

Provide intimate space for families and carers.

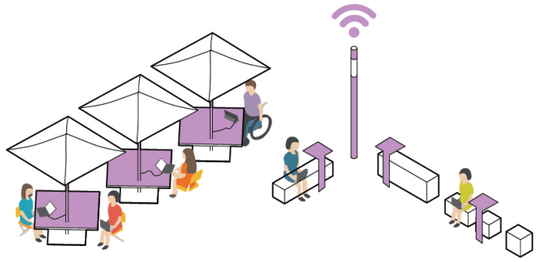


Spark interest and engagement through the use of interactive elements.

Provide safe and inclusive open spaces catering to the needs of the diverse audiences.

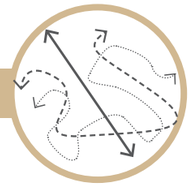


Provide age appropriate and diverse play spaces.

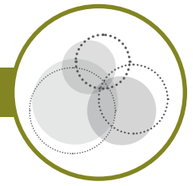


Create Smart, multi functional spaces to bring the life of the hospital outside.

RIVER LIFE



RIVER PLACES



RIVER STORY

6.0 Landscape Design

KIDSPARK PLAN

KIDSPARK will become a vibrant and active hub and forecourt to the new Paediatric Services Building. The park will provide a variety of opportunities for patients and their families, staff, visitors and the local community to escape the clincial environment of the hospital and engage with green spaces, fresh air and sunshine.

The park facilitates access from a variety of points including via the Galleria and the Multi-storey Carpark to the east, from the new Parramatta Light Rail stop on Hawkesbury Road to the south east, as well as secondary access from Hawkesbury Road in the south western cornder of the site.

A range of retail opportunities will be provided across the park which will provide activation and amenity for patients and their families, staff, visitors and the local community.

The site is also impacted by flooding and as such the retail spaces have been raised above the flood impact levels. This has influenced levels across the site however as far as possible the levels changes are integrated into the overall design to ensure seamless and inclusive access to all parts of the site.

The proposed planting features a vibrant, colourful and textured palette of native and exotic species. The native tree species selected reference the character of the existing site whilst exotic decidous species ensure the space is light and warm during winter. A landscape buffer along Hawkesbury Road will create a physical and visual separation from the park.

Each of the elements of the park are described in further detail on the following pages.

1. Village Green
2. Aboriginal Garden (Pending consultation)
3. Playground
4. Pet Visiting Area
5. Eucalyptus Grove
6. Retail pods outdoor seating
7. Retail pod outdoor seating
8. Reconfigured CMRI maintenance access
9. Hawkesbury Road Entry
10. Reconfigured drop-off

KIDSPARK ELEMENTS

KIDSPARK is made up of a range of spaces which provide a wide range of opportunities. These include;

1. The **Village Green** is located at the heart of the park and will become a focal point for activities in the space. Designed as a multi-functional space it will enable passive recreation, markets and events. A raised seating edge wraps the southern part of the lawn providing flexible seating while also acting as a physical barrier to help contain the kids.

2 The **Aboriginal Garden** is located directly adjacent the internal Aboriginal meeting room adjacent the main entry to the PSB. The design shown here is indicative only and will be finalised after collaboration with Aboriginal stakeholders.

3. The **Playground** is located along the main access from the Galleria and will offer a moment of respite and escape on the journey into the hospital. Integrated into a green, landscape zone the playground will offer a range of inclusive play opportunities and is being designed in line with the principles of Everyone Can Play.

4. The **pet visiting area** will offer an opportunity for family pets to be bought to the hospital to visit patients.

5. The existing **Eucalyptus grove** along the western boundary of the site is being retained to provide a significant area of shade and opportunities for relaxation beneath the generous canopy.

6. The **retail area** will incorporate outdoor dining opportunities beneath the canopy of new trees plantings.

7. A second **outdoor seating area** is provided adjacent the proposed retail pod on the eastern edge of the park.

8. The **existing access** will be maintained for maintenance upgrades but will be upgraded to become part of the park. It will also offer opportunities for temporary activation.

9. The **Hawkesbury Road entry** will provide a primary access into the site and will be integrated with the public domain being delivered by the Parramatta Light Rail through detailed paving treatments that merge the two projects.

10. The existing **drop off area** is being reconfigured to provide better access to the site. This area is part of a separate planning approval.

KIDSPARK VIEWS

View 01 | The entry from Hawkesbury Road and the Light Rail stop on the southeastern corner of the site provides direct visual connection to the architecutral canopy in the foreground and the PSB beyond. The entry is flanked with locally native planting with outdoor dining and seating areas beneath deciduous canopy trees to each side.

View 02 | The exisitng Eucalytpus grove on the western edge of the site will provide impact from day one. Drifts of native grasses are interspersed with flexible seating areas to provide opportunities for quiet discussions or peaceful reflection.

View 03 | The Village Green will provide a flexible space for passive recreation while also hosting market days and other events for patients and their families.

View 04 | The playspace on the northern edge of the park will be a major drawcard. Providing a range of types of play to stimulate all senses it will engage a wide range of ages and abilities. The canopy that connects the Galleria to the PSB entry integrates a range of playful colours which will be complimented in the playspace.


VIEW 01


VIEW 02

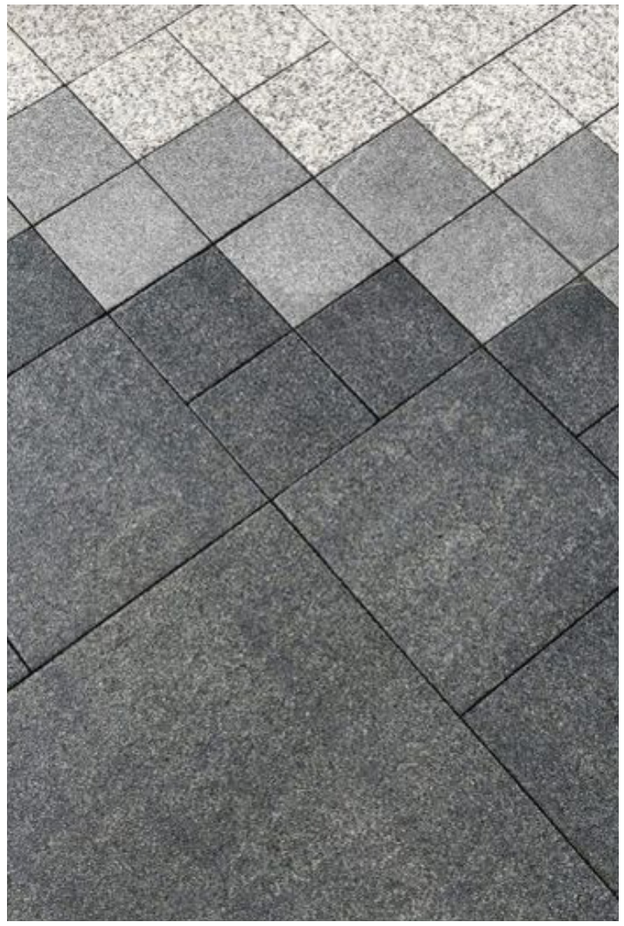

VIEW 03


VIEW 04

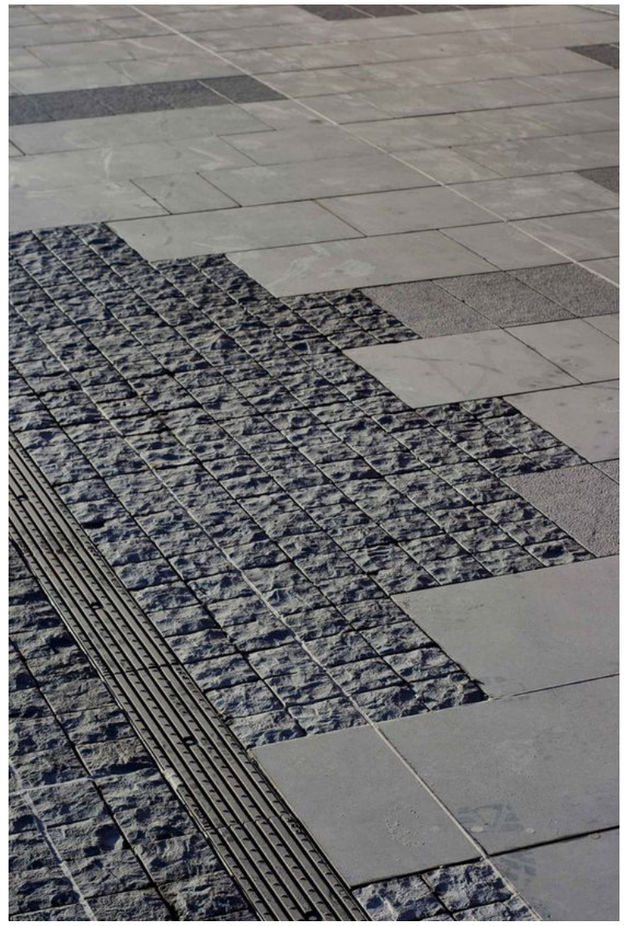
KIDSPARK PAVEMENT STRATEGY

The proposed paving palette for the park will provide a high quality and durable surface utilising natural stone. It is intended to use larger format paving to the centre of the pathways which will be reduced in size and as the pavement reaches the adjoining materials. This is intended to represent the water flowing along the river in the areas of movement with the edges representing the more textured and varied banks of the river as stones, rock and vegetation begins to break the surface.

COLOUR



SIZE



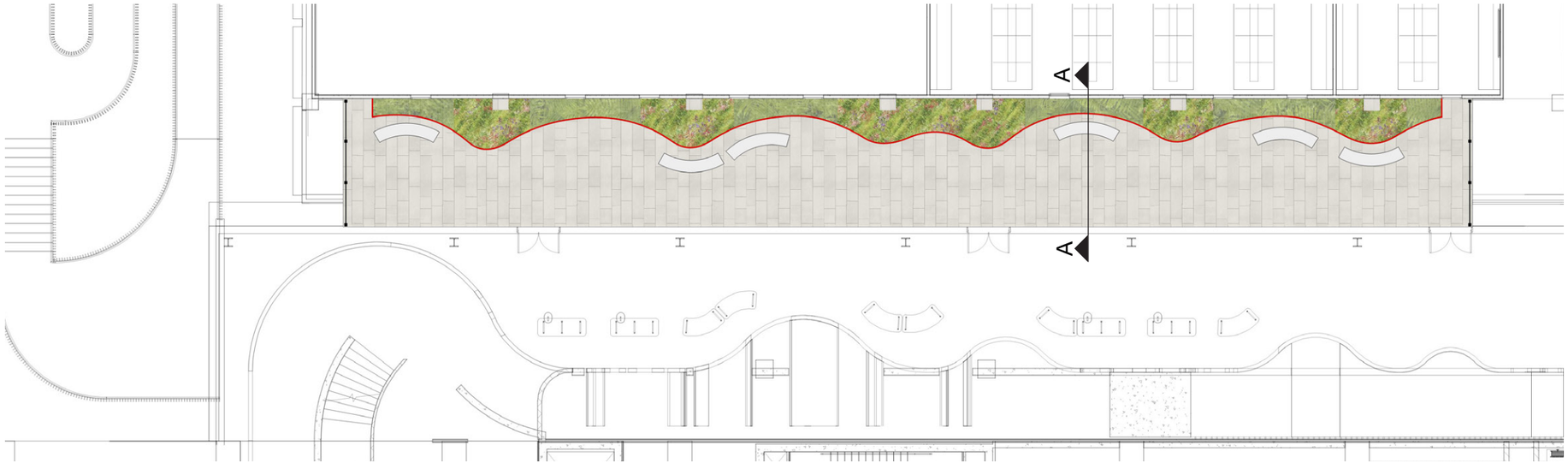
TEXTURE

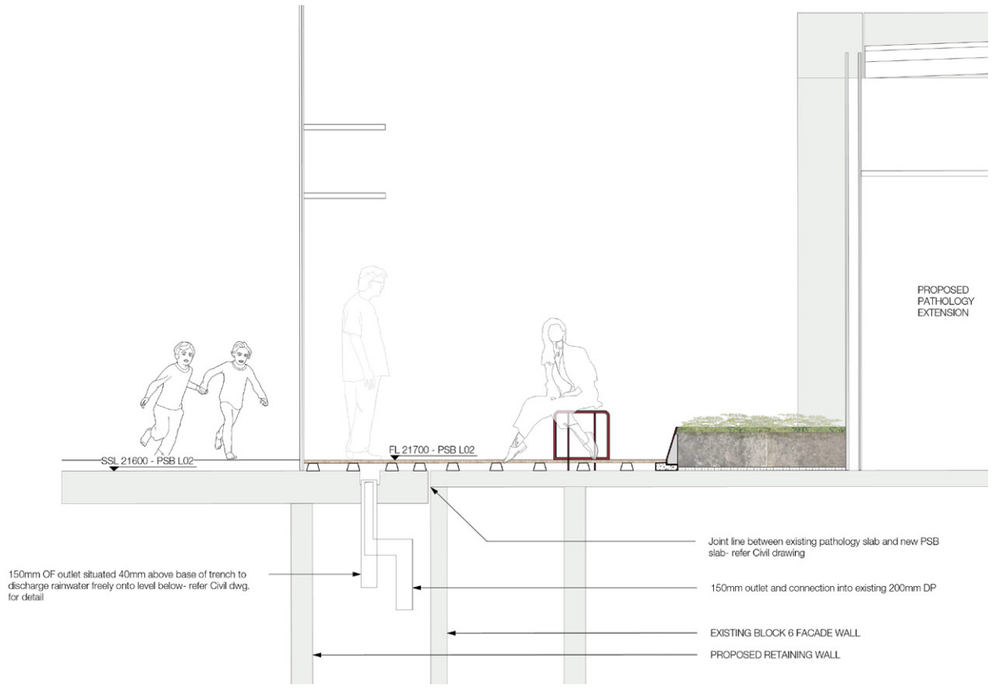
PSB Lv 02 PLAN

Level 2 Kidsway is intended to become a space that blurs the boundary between inside and out. A continuous glazing line runs the length of the space however the pavement will continue from inside to out [with appropriate surface treatment to meet slip reseistance requirements] to create a sense of unity.

The space is located over an existing slab that has loading limitations, so the extent of planting and greening is limited by reduced soil depths, however hardy species will be utilised to green the space as much as practical .

Seating is also proposed to complement the interal seating provided in kidsway and opportunities for integrating interactive elements within the garden areas will also be explored.





PSB Lv 03 PLAN & VIEWS

The terrace on level 03 is the main outdoor terrace for the PSB building and will provide outdoor dining and seating opportunities for patients, their families, staff and visitors with views towards Toongabbie Creek and the wider district.

A cafe is proposed on the northern side of the terrace with an area of covered outdoor dining wrapping two sides.

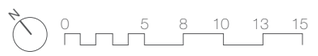
A range of seating and gathering areas are proposed to enable a wide range of uses, whether for a quick lunch, a long conversation or a bit of sunshine.

Minor opportunities for play are incorporated into the space to keep the kids amused, however the primary function of the space is to provide access to the outdoors, fresh air and sunshine to relax and heal.

A single small tree, Acer spp. max 6-7m height, will be provided in the large planter at the northern end of the terrace. This tree species has been selected as it does not bear flowers of any significance hence minimising maintenance and possible allergic reactions to bees. It is deciduous so will provide winter solar access to the terrace while providing some localised shade in summer.

PSB Lv 05 PLAN

The level 5 exterior roof consists of two extensive green roofs. Using green roofs in built environments with limited vegetation can moderate the heat island effect, particularly during the day. Green roof temperatures can be 1–4°C lower than those of conventional roofs.[1,2] In addition, green roofs can reduce building energy use by 0.7% compared to conventional roofs, reducing peak electricity demand.[1,3]



[1] General Services Administration. 2011. “The Benefits and Challenges of Green Roofs on Public and Commercial Buildings.”Carmona M (2018) Street appeal. UCL for Transport for London

[2] Santamouris, M. 2014. “Cooling the cities – A review of reflective and green roof mitigation technologies to fight heat island and improve comfort in urban environments,” Solar Energy 103:682–703.

[3] Sailor, D.J., T.B. Elley, and M. Gibson. 2011. “Exploring the building energy impacts of green roof design decisions – A modeling study of buildings in four distinct climates,” Journal of Building Physics 35(4):372–391.

PSB Lv 06 PLAN

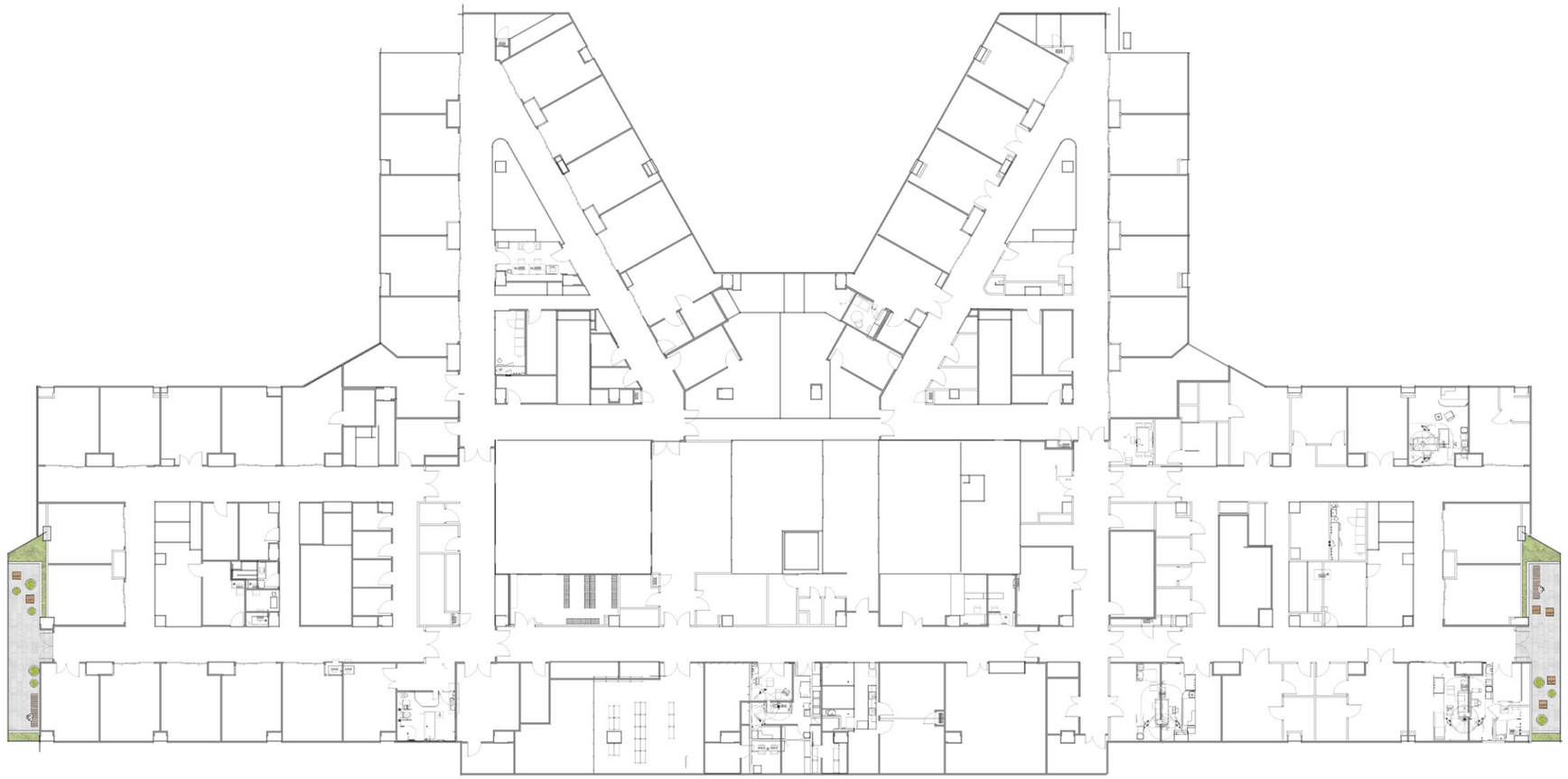
Level 6 is a cold shelled floor however provision for future landscape areas is provided. A small north facing terrace for patients to access fresh air and sunshine in their bed with views to Toongabbie Creek and across the district. Bench seats are also provided to enable small groups, eg patients and families/visitors, to use the space when visiting.

Two planters at the corner of the terrace will accomodate climbers with wires which can provide a green screen to increase privacy to the adjacent room whilst providing green veiws from the internal spaces.

There are opportunities for two future accessible landscape exterior terraces and two future winter garden for patients.

PSB Lv 07 PLAN

There are two winter gardens on Level 7. These areas will provide interior planting and hang out space for patients on this level with views out across the district within a climate controlled space.



PSB Lv 08 PLAN

Level 8 provides a similar north facing accessible terrace as found on level 6 for patients and their families at the center of the floor plan.

A staff terrace is provided at the eastern end adjacent to the staff kitchen. A large central circular planter with integrated seating, similar to the planters on level 3, will provide flexible seating options with one half of the planter featuring a bar style bench with views to the north and east across the disctrict.

There is also one winter garden provided on this level similar to level 7.

PSB Lv 09 PLAN

There are two semi-outdoor terraces at the eastern end of level 9.

The larger terrace closest to the building core will be a parents terrace which is located next to a kitchen. This terrace will have a glass screen to secure views to the outside whilst maximizing green with planters, and pots. A variety of furniture configurations will be provided with small tables for individulas or couples, longer tables with wheelchair access and a table for groups.

At the eastern end, a staff terrace is also provided and at the western end a wintergarden similar to levels 7 and 8 is found.

PSB Lv 10 PLAN

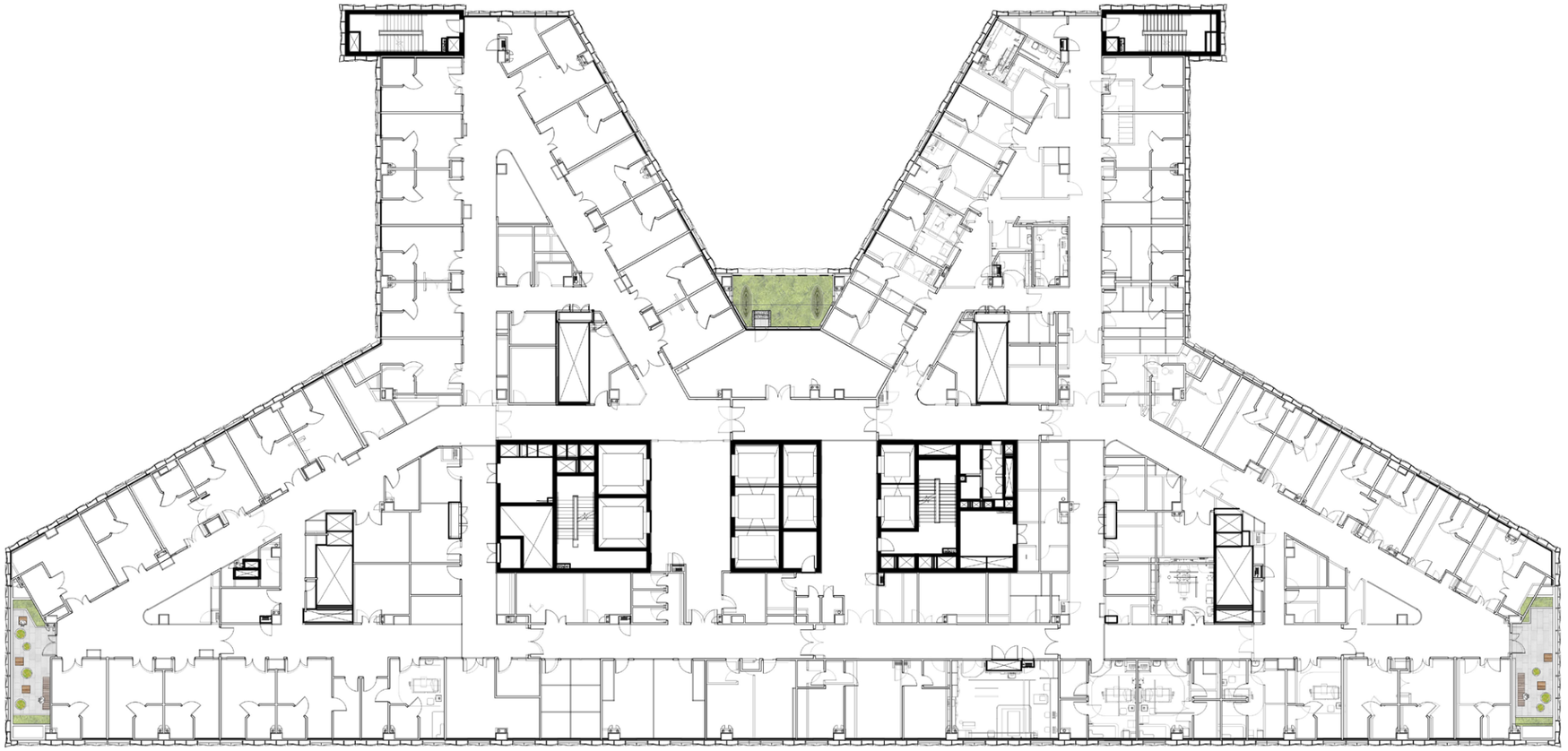
Located at the centre of level 10 a double height ‘visual’ garden is provided to improve amenity of the surrounding rooms and also continue greening up the northern facade of the building when viewed from the surround precinct. This garden will not be accessible to the public with maintenance access only.

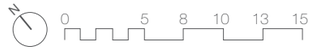
Climbing wires to each side of the garden will stretch from level 10 to level 12 enabling greening to extend between the floors as well as providing screening to improve privacy for adjacent rooms. Climbing wires will be positioned to maintain views out of the rooms.

PSB Lv 12 PLAN

Similar to Level 10 a double height visual garden is provided that stretches up to level 14. The landscape treatment will be consistent with level 10 to extend greening up the building.

There are also two winter gardens on this level providing similar amenity to those located on lower levels.





7.0 Materials Palette

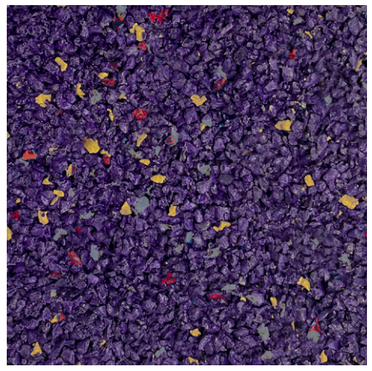
The materials palette for the project have a focus on warmth and texture to encourage interaction and engagement. The palette is also robust and durable to ensure it can widthstand the heavy use and love it will endure.

Where possible timber will be used for seating elements to create a sense of warmth, natural stone will be used for main pavement areas, compacted gravel will be used in lower traffic areas to provide variation and different aural qualities. Concrete will be used sparingly but is a robust and durable material. Rubber softfall will be used to surface the playspaces in colours that compliment the wider colour palette of the PSB.

Granite Pavement Pattern

Compacted gravel

Steel



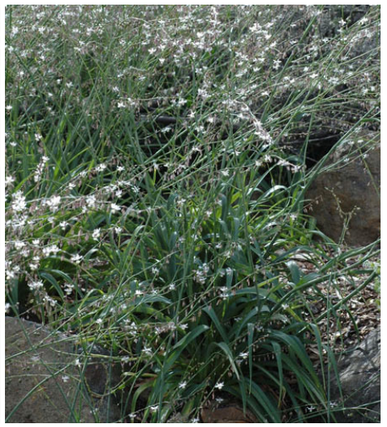
Rubber Softfall (Colour TBC)

Concrete

Timber Batten

8.0 Planting Palette_ Shrub, Groundcover, Fern


Alpinia caerulea


Arthropodium milleflorum


Asplenium australasicum


Blechnum gibbum


Dianella longifolia


Dichelachne crinita


Dichondra repens


Doryanthes excelsa


Ficinia nodosa


Hardenbergia violacea


Hibbertia scandens


Imperata cylindrica


Lomandra multiflora


Themeda australis


Myoporum parvifolium

Plectranthus parviflorus


Poa labillardieri


Viola hederacea

* Refer appendix for detail planting palette

8.0 Planting Palette_ Tree

Existing *Corymbia citriodora* at Forecourt

Tristaniopsis luscious

Elaeocarpus reticulatus

Fraxinus pennsylvanica 'Cimmaron'

Appendix

KIDSPARK QS

LEGEND

0000 - General
- Site Boundary

1000 - Preparation, Groundworks & Drainage
- Native Garden Soil - 310 sqm
- Lawn Soil - 130 cum
- Allowance for site drainage system - 1 item

2000 - Walls & Edges
- 150mm concrete edge - 60 lm
- H450mm x Width varies concrete seat wall - 1 item
- Steel edge - 150 lm

3000 - Pavements
- Stone paver (various sizes and finishes) - 1,550 sqm
- Decomposed granite - 190 sqm
- Rubber Softfall - 250 sqm
- Exposed aggregate concrete (for vehiaccess) - 270 sqm
- Concrete staircase (3 risers) - 1 no.
- Stone cladding staircase (4 rises) - 1 no.
- Precase concrete pad steppers - 1 no.

4000 - Site Structures
- Allowance for playground - 1 item
- Allowance for aboriginal garden - 1 item
- Allowance for pet visiting area - 1 item

5000 - Rails & Fencing
- Allowance for fencing at Pet visiting area - 1 item

6000 - Pools & Water Elements - N/A

7000 - Furniture & Fittings
- Table & Bench Type 01 - 22 no.
- Table & Bench Type 02 - 24 no.
- Allowance for Lighting system - 1 item
- Allowance for other public amenities (e.g Benches, Bins, Bollards, Bubblers - 1item)

8000 - Planting
- Existing tree to be retained
- Proposed trees - native & exotic (100L) - 38 no.
- Village Green mix (140mm, 6p/sqm) - 124 sqm
- Eucalptus Grove mix (140mm, 6p/sqm)- 230 sqm
- Hawkesbury Edge mix (140mm, 6p/sqm)- 352 sqm
- Playground mix (140mm, 6p/sqm)- 217 sqm
- Aboriginal Garden mix (140mm, 6p/sqm)- 90 sqm
- Lawn - 655 sqm

Appendix

PSB QS

LV02

LEGEND

1000 - Preparation, Groundworks & Drainage
Native Garden Soil- 12.66 cum

2000 - Walls & Edges
Steel edge (H 300-500mm) - 43 lm

3000 - Pavements
Stone paver on structure - 157 sqm

4000 - Site Structures - N/A
5000 - Rails & Fencing - N/A
6000 - Pools & Water Elements - N/A

7000 - Furniture & Fittings
outdoor long bench- 6 no

8000 - Planting
Planting mix 01 (6p/sqm) - 26 sqm
Planting mix 02 (6p/sqm) - 17 sqm

LV03

LEGEND

1000 - Preparation, Groundworks & Drainage
Native Garden Soil - 12.6 cum

2000 - Walls & Edges - N/A
3000 - Pavements
Stone paver on structure - 291 sqm

4000 - Site Structures - N/A
5000 - Rails & Fencing - N/A
6000 - Pools & Water Elements - N/A

7000 - Furniture & Fittings
Timber organic seating and tall table - 1 no.
Stool seat high - 9 no.
Table and bench type B- 9 no.
Low table and seats - 3 set
Table and bench type A - 6 no.
Pot plant (dia. 600mm) - 4 no.
Pot plant (dia. 800mm) - 7 no.

8000 - Planting
Proposed tree - 1no.

LV04

LEGEND

1000 - Preparation, Groundworks & Drainage
Native Garden Soil - 192 cum

2000 - Walls & Edges
Aluminium edge - 110 lm

3000 - Pavements - N/A
4000 - Site Structures - N/A
5000 - Rails & Fencing - N/A
6000 - Pools & Water Elements - N/A
7000 - Furniture & Fittings - N/A

8000 - Planting
Planting mix 01 (6p/sqm) - 640.4 sqm

LV06

LEGEND

1000 - Preparation, Groundworks & Drainage
Native Garden Soil - 1.2 cum

2000 - Walls & Edges
3000 - Pavements
Stone paver on structure - 18.35 sqm
4000 - Site Structures - N/A
5000 - Rails & Fencing - N/A
6000 - Pools & Water Elements - N/A
7000 - Furniture & Fittings
Timber seat on wall - 2 no.
Climber cable - 2 no.

8000 - Planting
Planting mix 01 (6p/sqm) - 4 sqm

LV07

LEGEND

1000 - Preparation, Groundworks & Drainage
Native Garden Soil - 3.9 cum

2000 - Walls & Edges
Insitu concrete wall - 35 m

3000 - Pavements
Stone paving on tiles - 61.5 sqm

4000 - Site Structures - N/A
5000 - Rails & Fencing - N/A
6000 - Pools & Water Elements - N/A

7000 - Furniture & Fittings
Table and bench type B - 6 no.
Timber bench seat - 2 no.
Pot plant (dia. 600mm) - 4 no.
Pot plant (dia. 800mm) - 4 no.

8000 - Planting
Planting mix 03 WG (6p/sqm) - 13 sqm

LV08

LEGEND

1000 - Preparation, Groundworks & Drainage
Native Garden Soil - 6.3 cum
Native Garden Soil WG - 1.8 cum

2000 - Walls & Edges
Insitu concrete wall - 16 m

3000 - Pavements
Stone paver on structure - 126 sqm
Pebble Ballast - 100 sqm
Stone paver on tiles - 26 sqm
4000 - Site Structures - N/A
5000 - Rails & Fencing - N/A
6000 - Pools & Water Elements - N/A

7000 - Furniture & Fittings
Timber seating and tall table - 1 no.
Timber seat on wall - 2 no.
Table and bench type B - 3 no.
Low table and seats - 2 no.
Timber bench seat - 1 no.
Stool seat high - 18 no.
Table and bench type A - 3 no.
Pot plant (dia. 600mm) - 4 no.
Pot plant (dia. 800mm) - 5 no.
Climber cable - 2 no.

8000 - Planting
Planting mix 01 (6p/sqm) - 21 sqm
Planting mix 03 WG(6p/sqm) - 6 sqm

LV09

LEGEND

1000 - Preparation, Groundworks & Drainage
Native Garden Soil - 3.9 cum
Native Garden Soil WG - 1.5 cum

2000 - Walls & Edges
Insitu concrete wall - 20 m

3000 - Pavements
Stone paver on tiles - 130 sqm

4000 - Site Structures - N/A
5000 - Rails & Fencing - N/A
6000 - Pools & Water Elements - N/A

7000 - Furniture & Fittings
Low table and seats - 2 no.
Table and bench type B - 10 no.
Timber seat on wall - 3 no.
Timber bench seat - 1 no.
Timber bench table - 2 no.
Timber bbq area - 1 no.
Pot plant (dia. 600mm) - 8 no.
Pot plant (dia. 800mm) - 6 no.

8000 - Planting
Planting mix 01 (6p/sqm) - 13 sqm
Planting mix 03 WG (6p/sqm) - 5 sqm

LV10

LEGEND

1000 - Preparation, Groundworks & Drainage
Native Garden Soil - 7.8 cum

2000 - Walls & Edges - N/A
3000 - Pavements - N/A
Stone paver on tiles - 0.5 sqm

4000 - Site Structures - N/A
5000 - Rails & Fencing - N/A
6000 - Pools & Water Elements - N/A

7000 - Furniture & Fittings
Maintnance access stair case - 1 no.

Climber cable - 2 no.

8000 - Planting
Planting mix 01 (6p/sqm) - 26 sqm
Planting mix 04 (6p/sqm) - 4 sqm

LV12

LEGEND

1000 - Preparation, Groundworks & Drainage
Native Garden Soil - 7.8 cum
Native Garden Soil WG - 2.4 cum

2000 - Walls & Edges - N/A
Insitu concrete wall - 25.3 m
3000 - Pavements - N/A
Stone paver on tiles - 43.5 sqm

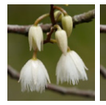
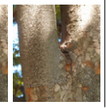
4000 - Site Structures - N/A
5000 - Rails & Fencing - N/A
6000 - Pools & Water Elements - N/A

7000 - Furniture & Fittings
Table and bench type B - 5 no.
Timber bench seat - 2 no.
Pot plant (dia. 600mm) - 3 no.
Pot plant (dia. 800mm) - 4 no.
Maintnance access stair case - 1 no.
Climber cable - 2 no.

8000 - Planting
Planting mix 01 (6p/sqm) - 26 sqm
Planting mix 03 WG (6p/sqm) - 8 sqm
Planting mix 04 (6p/sqm) - 4 sqm

Appendix

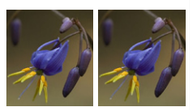
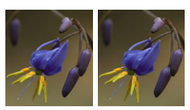
Detail planting palette (1 of 4)

Name	SPRING			SUMMER			AUTUMN			WINTER			Fauna/ feature
	early	mid	late	early	mid	late	early	mid	late	early	mid	late	
Tree													
Brachychiton acerifolius Bottle Tree; Illawarra Flame Tree Height 25 - 30m Spread 3.5 - 6m Narrow Domed													
Cupaniopsis anacardioides Tuckeroo Height 10 - 15m Spread 3.5 - 6m Broad Domed													
Elaeocarpus eumundii Smoothed leaved Quandong Height 5 - 10m Spread 2.0 - 3.5m Columnar													
Elaeocarpus reticulatus Blueberry Ash Height 5 - 10m Spread 3.5 - 6m Pendulous													
Tristaniopsis laurina Kanooka, Water Gum Height 5 - 10m Spread 3.5 - 6m Branches Vase Shaped													
Zelkova serrata Japanese Zelkova Height 10 - 15m Spread 6 - 10m Deliquescent													
Shrub													
Alpinia caerulea Native Ginger Height 0.90 - 1.50m Spread 0.9 - 1.2m Large Leaf													
Arthropodium milleflorum Pale Vanilla-lily Height 0.90 - 1.50m Spread 0.3 - 0.6m Small-Medium													

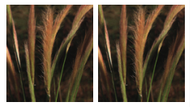
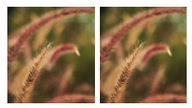
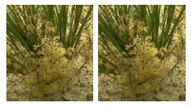
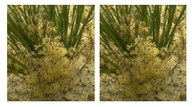
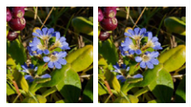
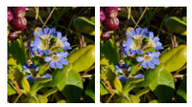
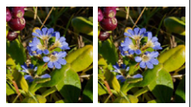
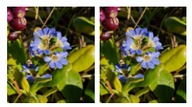
Note:

Planting palette to be further developed after collaboration work with aborigianl garden design consultant.

Detail planting palette (2 of 4)

Name		SPRING			SUMMER			AUTUMN			WINTER			Fauna/ feature
		early	mid	late	early	mid	late	early	mid	late	early	mid	late	
Dianella longifolia Blueberry Lily, Blue Flax Lily Height 0.75 - 0.9m Spread 0.0 - 0.3m	Erect													
Doryanthes excelsa Gymea Lily, Giant Lily Height 1.5 - 3m Spread 1.2 - 2.0m	Lily Large													
Hibbertia obtusifolia Hoary Guinea Flower, Grey Guinea Flower Height 0.45 - 0.60m Spread 0.3 - 0.6m	Small-Medium													
Myoporum parvifolium Creeping Boobialla Height 0.45 - 0.60m Spread 0.9 - 1.2m	Small-Medium													
Westringia fruticosa Coastal Rosemary Height 0.9 - 1.5m Spread 0.9 - 1.2m	Small-Medium													
Herb														
Dichondra repens Kidney Weed Height 0.0 - 0.3m Spread 0.9 - 1.2m	Cover													
Viola hederacea Native Violet, Ivy-leaf violet Height 0.30 - 0.45m Spread 1.2 - 2.0m	Cover													
Ground Cover														
Dianella caerulea Paroo Lily, Blue Flax-lily Height 0.45 - 0.60m Spread 0.3 - 0.6m	Tussock													

Detail planting palette (3 of 4)

Name	SPRING			SUMMER			AUTUMN			WINTER			Fauna/ feature
	early	mid	late	early	mid	late	early	mid	late	early	mid	late	
Dichelachne crinita Longhair Plume Grass Height 0.75 - 0.90m Spread 0.3 - 0.6m Tufted													
Ficinia nodosa Knobby Club-rush Height 0.75 - 0.90m Spread 0.0 - 0.3m Tufted													
Imperata cylindrica Blady Grass Height 0.9 - 1.5m Spread 0.3 - 0.6m Tussock													
Lomandra longifolia Spiny-headed Mat-Rush Height 0.60 - 0.75m Spread 0.9 - 1.2m Tufted													
Lomandra multiflora Many-flowered Mat-rush Height 0.30 - 0.45m Spread 0.0 - 0.3m Tufted													
Plectranthus parviflorus Cockspur Flower Height 0.75 - 0.90m Spread 0.6 - 0.9m Erect													
Poa labillardieri Tussock Grass, River Tussock Height 0.75 - 0.90m Spread 0.6 - 0.9m Tussock													
Scaevola calendulacea Dune Fan Flower, Scented Fan Flower Height 0.0 - 0.30m Spread 0.9 - 1.2m Cover													
Tetragonia implexicoma Bower Spinach Height 1.50 - 3m Spread 0.0 - 0.3m Cover													

Detail planting palette (4 of 4)

Name	SPRING			SUMMER			AUTUMN			WINTER			Fauna/ feature
	early	mid	late	early	mid	late	early	mid	late	early	mid	late	
Themeda australis/triandra Kangaroo Grass Height 0.45 - 0.60m Spread 0.3 - 0.6m													
Fern													
Asplenium australasicum Bird's Nest Fern Height 0.90 - 1.50m Spread 2.0 - 3.5m													
Blechnum gibbum Silver Lady Fern Height 0.90 - 1.50m Spread 0.9 - 1.2m													
Climber													
Hardenbergia violacea Purple Twining-pea, False Sarsaparilla Height 0.90 - 1.50m Spread 2.0 - 3.5m													
Enchylaena tomentosa Ruby Saltbush Height 0.90 - 1.50m Spread													

Tufted

Medium

Small

Erect

Appendix

Tree Canopy Cover

	PSB
Site Area (sqm) (excl building footprint)	15,340
Tree canopy cover existing (sqm)	5,562
Tree canopy cover removal (sqm)	3,837
Tree canopy cover remain (sqm)	1,725
Proposed Tree canopy cover (sqm)	1,166
Total Tree canopy cover (sqm)	2,891
Tree canopy coverage	18.8%
Shade structure cover (sqm)	654
Structure canopy coverage	4.2%
Total canopy coverage	**23.2%**

MCGREGOR COXALL