

THE CHILDREN'S HOSPITAL AT WESTMEAD
Multi-Storey Car Park

CHW LANDSCAPE SSDA- MSCP

2020 - HEALTH INFRASTRUCTURE NSW

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

Revision:	Status:	Date:	by:	Checked:
1	Draft SSDA submission	30/11/20	MK/AM	MR
2	Draft SSDA submission	16/12/20	MK	MR
3	Draft SSDA submission	20/01/21	MK	MR
4	Draft SSDA submission	22/01/21	MK	MR
5	Final SSDA submission	29/01/21	MK	MR
6	SSDA Response to Submissions	18/06/21	MK	MR

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1.0 Project Scope & Site Context

PROJECT SCOPE

The proposed development under this SSDA is a Multi Storey Car Park (MSCP) accommodating both staff and visitor car parking to be located on Labyrinth Way, on the site of The Lodge.

The scope of proposed works includes:

- Demolition of The Lodge
- Construction of a new MSCP, approximately 8 car parking storeys, which is equivalent to the height of 5 storeys of the hospital.
- Facilitating approximately 1000 car parking spaces for staff and visitors
- Vehicular access from Labyrinth Way and / or Redbank Road
- A split-level approach to the MSCP to respond to the natural ground level
- Ancillary retail facilities
- Road works
- Realignment of Redbank Road with vehicular access connection to MSCP
- Tree removal
- Associated landscape works

The MSCP is being designed to be constructed in a single stage yet car parking will be staged operationally to come on-line with parking demand across the Precinct:

The first stage of car parking operation would provide replacement car parking for the demolished P17 car park. There would be no net increase of parking on site under this stage.

The second stage of car parking operation to serve the growth in hospital activity associated with the future PSB (subject to a separate SSDA) would only come on-line operationally with the PSB SSDA consent becoming operational, specifically at occupation. This would provide growth of around 280 additional spaces in line with hospital activity projections until 2031.

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 Multi-Storey Car Park (MSCP), 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 and education 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 design of the CHW's surroundings are critical to ensure the legibility of the visitor and patient experience and the precinct as a whole. This legibility can be achieved by strengthening the site's connections and engagement with its immediate context, including existing indigenous heritage sites and historical sites such as Phillips Landing. The adjacent Toongabbie Creek provides an opportunity for visitors and patients to connect with nature in an urban environment and creates a strong identity tied to the existing site features.



- 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

- - - Westmead Precinct boundary
- - - Project sites
- Existing green space
- Existing heritage areas
- Toongabbie Creek



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.



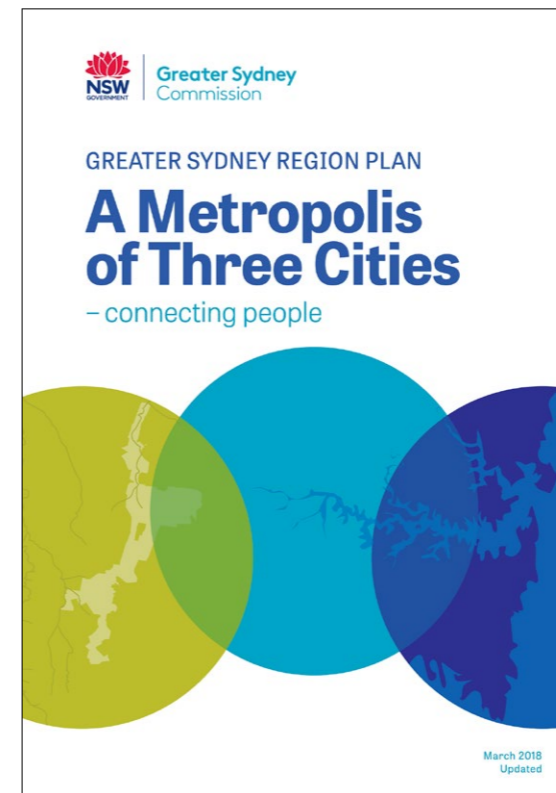
DRAFT GREENER PLACES, GANSW 2020

'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 MSCP proposal supports the outcomes established and developed in Draft Greener Places 2020. The design aims to contribute towards continuous pedestrian connections between the existing Children's Hospital to Ronald Macdonald House.

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 MSCP proposal expands the urban tree canopy in the public realm by redefining the green character of the surrounding gardens and pedestrian connections, 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 MSCP 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, native tree planting, landform mounting, green pavements and other green urban design features. This will assist in providing an 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.

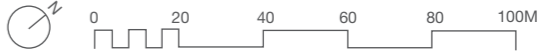
The MSCP proposal enhances the network of indoor and outdoor open spaces that supports and connects the Hospital buildings, supporting social and environmental resilience and sustainability within the site.

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 through 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 Public Domain Area

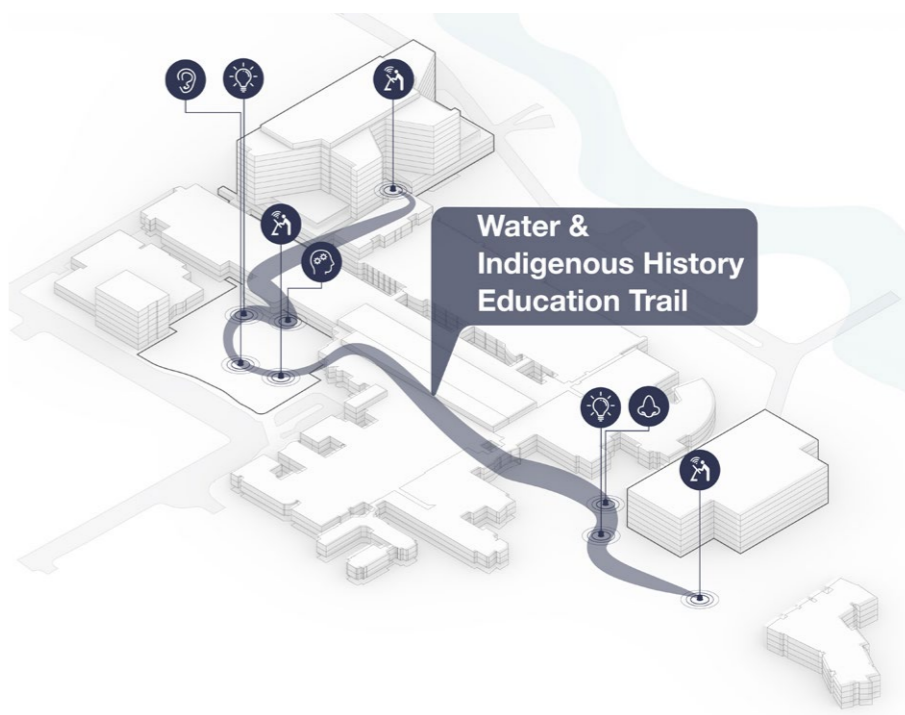
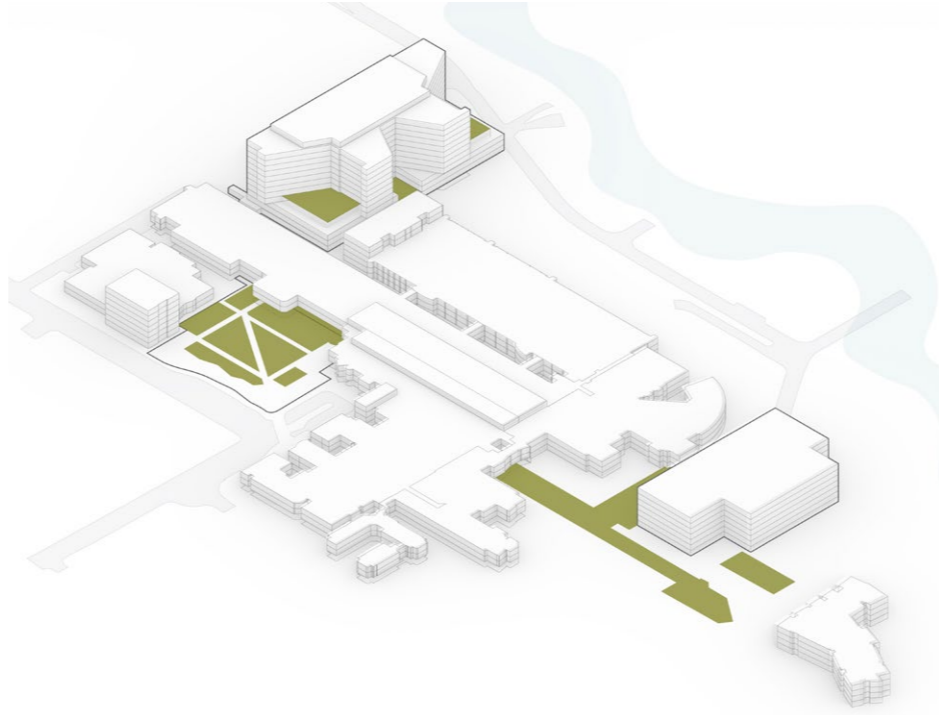
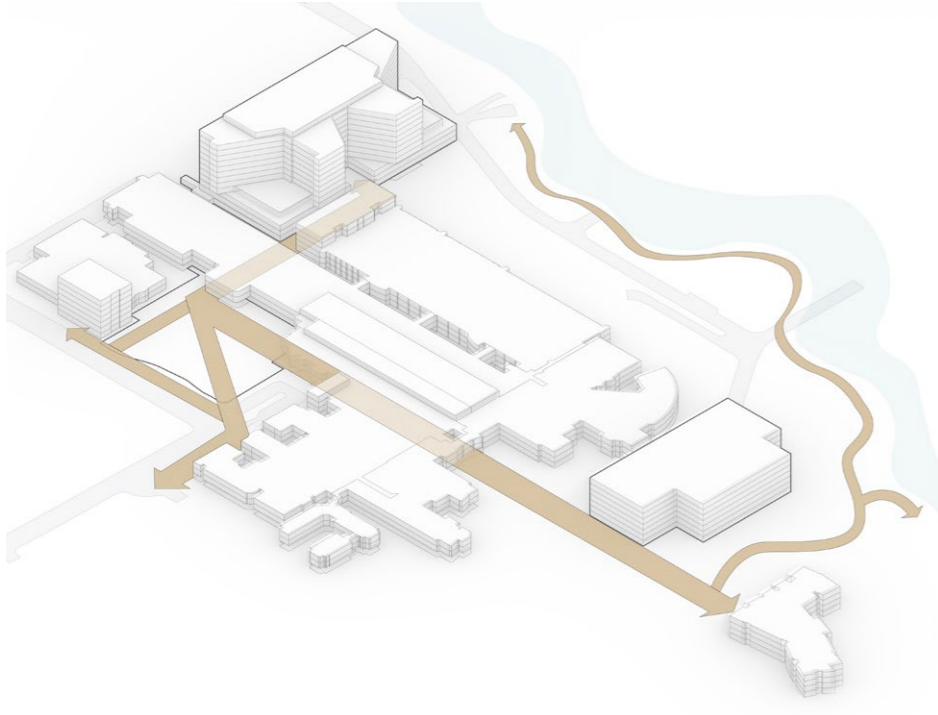
The public domain area included within the site area is:

MSCP, upgraded external extension of Galleria providing continuous pedestrian connection between the existing Children’s Hospital to Ronald Macdonald House. This area includes passive and active landscape areas accomodating a diversity of users.

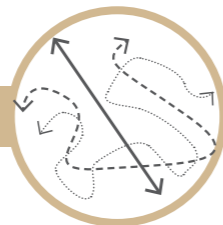


4.0 Design Principles

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

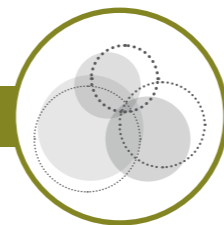


RIVER LIFE



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

RIVER PLACES



Places of gathering, play and healing.

RIVER STORY

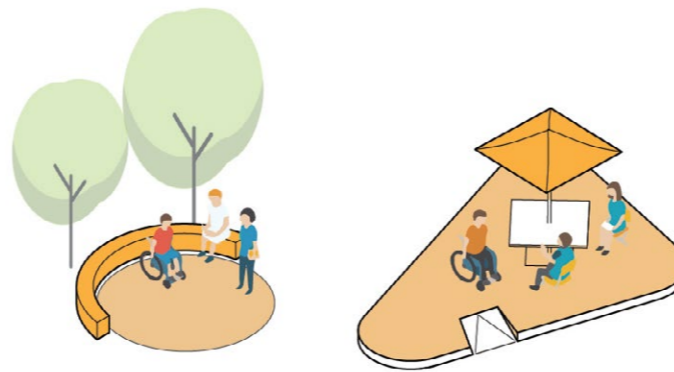


Connect with the dynamic story of water through indigenous history and public art.

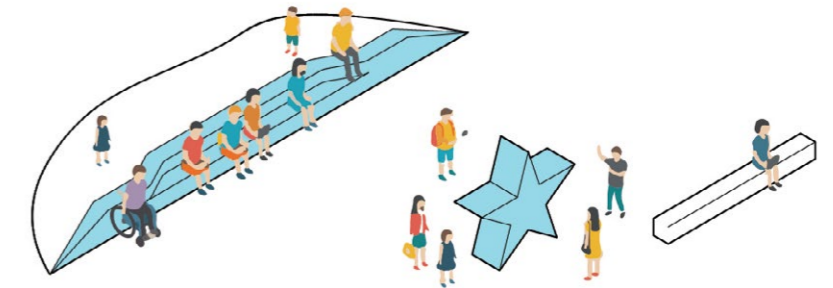
5.0 Design Objectives



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



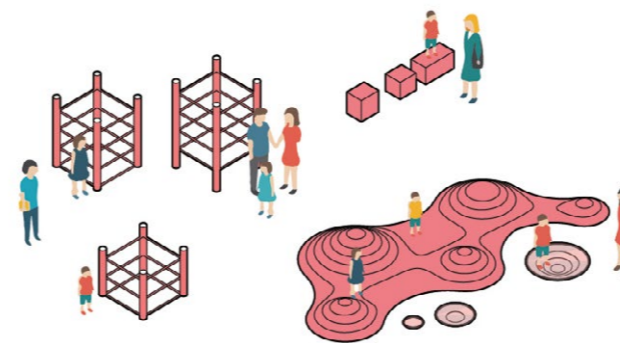
Provide intimate space for families and carers.



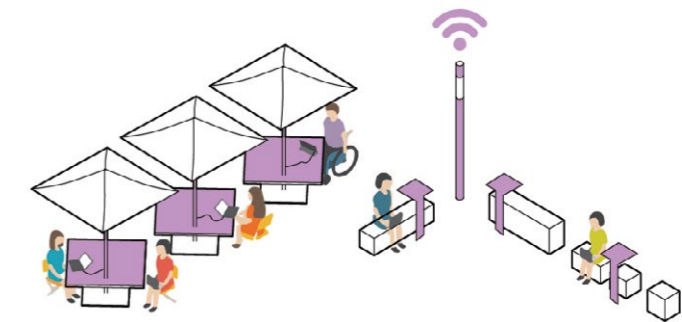
Spark interest and engagement through the use of interactive elements.



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.



6.0 Landscape Plan

The landscape design for the MSCP extends the Galleria to the RMH, strengthening the connection between the MSCP and the main hospital building, and facilitating access to the Toongabbie Creek riverbank walk.

As the space for various future development works and staging, the design retains existing elements such as the Galleria, Aboriginal Garden, Remembrance Garden.

The playground is ideally positioned between the main building and the RMH to accommodate a broad range of users, whilst also capitalising on the abundance of shade from the proposed MSCP building. The proposed playground will match the size of the existing playground set for demolition, with some existing equipment to be retained and relocated (note not part of SSDA but Exempt Development).

The healing garden, located between the MSCP and the main hospital building, will provide indoor hospital patients an vital visual connection to nature. A variety of open and intimate outdoor areas provide patients and carers with passive recreation opportunities and space to gather and relax.

The Toongabbie Creek riparian corridor is enhanced and expanded through the use of native bushland species along the eastern side of the MSCP, retaining existing trees where possible. A temporary lawn area accommodates flexible programming and future built works.

The proposed planting palette features a vibrant, colourful and textured palette of native and exotic species adding variety and amusement to the various meeting, heading and play areas. The use of predominantly native tree species reference the existing character of the site, whilst the introduction of exotic deciduous trees ensure the space is light and warm throughout winter.



- 1. External Extension of Galleria
- 2. Existing Remembrance Garden
- 3. Existing Aboriginal Children's Memorial Garden
- 4. Healing Garden
- 5. Lawn
- 6. Upgrade Existing Playground
- 7. New Playground - note not part of SSDA but Exempt Development
- 8. Native Bushland



7.0 Materials Palette

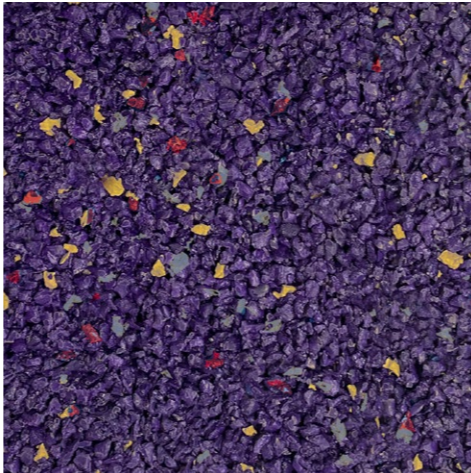
The preliminary materials selection for the materials palette is aimed at creating a warm look and feel, avoiding typical grey hues to establish welcoming and inviting journey through to the hospital and landscaping.



Decomposed Granite



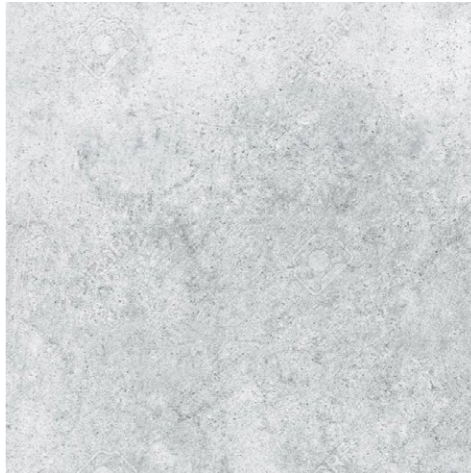
Steel



Rubber Softfall (Colour TBC)



Refurbish Stone blocks



Concrete

8.0 Planting Palette



Cupaniopsis anacardioides



Tristaniopsis luscious



Zelkova serrata



Alpinia caerulea



Arthropodium milleflorum



Asplenium australasicum



Blechnum gibbum



Dianella longifolia



Dichelachne crinita



Dichondra repens



Doryanthes excelsa



Ficinia nodosa



Hardenbergia violacea



Hibbertia scandens



Lomandra multiflora



Themeda australis



Myoporum parvifolium



Plectranthus parviflorus



Poa labillardieri



Viola hederacea



Imperata cylindrica

*Refer Appendix for detail planting palette

Appendix













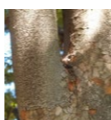
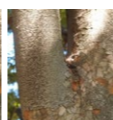
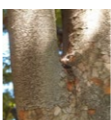



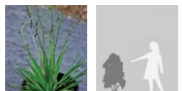





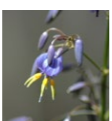
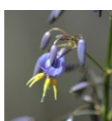
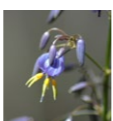
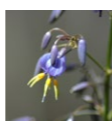




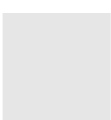
MSCP QS

- 0000 - General
 - Site Boundary
 - Easement
- 1000 - Preparation, Groundworks & Drainage
 - Native Garden Soil - 2,347 sqm
 - Lawn Soil - 837 sqm
- 2000 - Walls & Edges
 - 150mm concrete edge - 142 lm
 - H350mm x W150mm concrete wall - 45 lm
 - H450mm x W500mm stone block seat wall - 22 lm
 - Steel edge - 124 lm
 - Dia. 150-200mm sandstone boulder strip - 320 sqm
- 3000 - Pavements
 - Rubber Softfall - 515 sqm
 - Decomposed granite - 179 sqm
 - Concrete in-situ - 277 sqm
- 4000 - Site Structures - N/A
- 5000 - Rails & Fencing
 - Steel Handrail - 116 lm
- 6000 - Pools & Water Elements - N/A
- 7000 - Furniture & Fittings
 - Arc seat - 9 no.
 - Sandstone boulder (dia. 750-850mm) - 6 no.
- NOTE: All proposed playground equipment & shading sail are not part of this SSD
- 8000 - Planting
 - Existing tree to be retained
 - Proposed trees - native (100L) - 38 no.
 - Proposed trees - exotic (100L) - 1 no.
 - Native grass mix D1 (140mm, 6p/sqm) - 1,482 sqm
 - Native grass mix D2 (140mm, 6p/sqm) - 567 sqm
 - Native grass mix D3 (140mm, 6p/sqm) - 190 sqm
 - Dry Creekbed mix (140mm, 5p/sqm) - 108 sqm
 - Lawn - Turf Sod 837 sqm











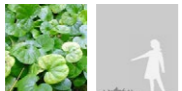












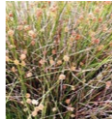

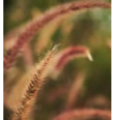








Appendix

Detail planting palette (1 of 3)

Name	SPRING			SUMMER			AUTUMN			WINTER			Fauna/feature
	early	mid	late	early	mid	late	early	mid	late	early	mid	late	
Tree													
<p><i>Cupaniopsis anacardioides</i> Tuckeroo</p> <p>Height 10 - 15m Spread 3.5 - 6m</p>  <p>Broad Domed</p>													
<p><i>Elaeocarpus reticulatus</i> Blueberry Ash</p> <p>Height 5 - 10m Spread 3.5 - 6m</p>  <p>Pendulous</p>													
<p><i>Tristaniopsis laurina</i> Kanooka, Water Gum</p> <p>Height 5 - 10m Spread 3.5 - 6m</p>  <p>Branches Vase Shaped</p>													
<p><i>Zelkova serrata</i> Japanese Zelkova</p> <p>Height 10 - 15m Spread 6 - 10m</p>  <p>Deliquescent</p>													
Shrub													
<p><i>Alpinia caerulea</i> Native Ginger</p> <p>Height 0.90 - 1.50m Spread 0.9 - 1.2m</p>  <p>Large Leaf</p>													
<p><i>Arthropodium milleflorum</i> Pale Vanilla-lily</p> <p>Height 0.90 - 1.50m Spread 0.3 - 0.6m</p>  <p>Small-Medium</p>													
<p><i>Dianella longifolia</i> Blueberry Lily, Blue Flax Lily</p> <p>Height 0.75 - 0.9m Spread 0.0 - 0.3m</p>  <p>Erect</p>													
<p><i>Doryanthes excelsa</i> Gynea Lily, Giant Lily</p> <p>Height 1.5 - 3m Spread 1.2 - 2.0m</p>  <p>Lily Large</p>													






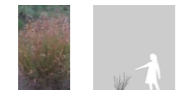



Appendix

Detail planting palette (2 of 3)

Name	SPRING			SUMMER			AUTUMN			WINTER			Fauna/ feature
	early	mid	late	early	mid	late	early	mid	late	early	mid	late	
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													
Ground Cover													
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 multiflora Many-flowered Mat-rush Height 0.30 - 0.45m Spread 0.0 - 0.3m  Tufted													

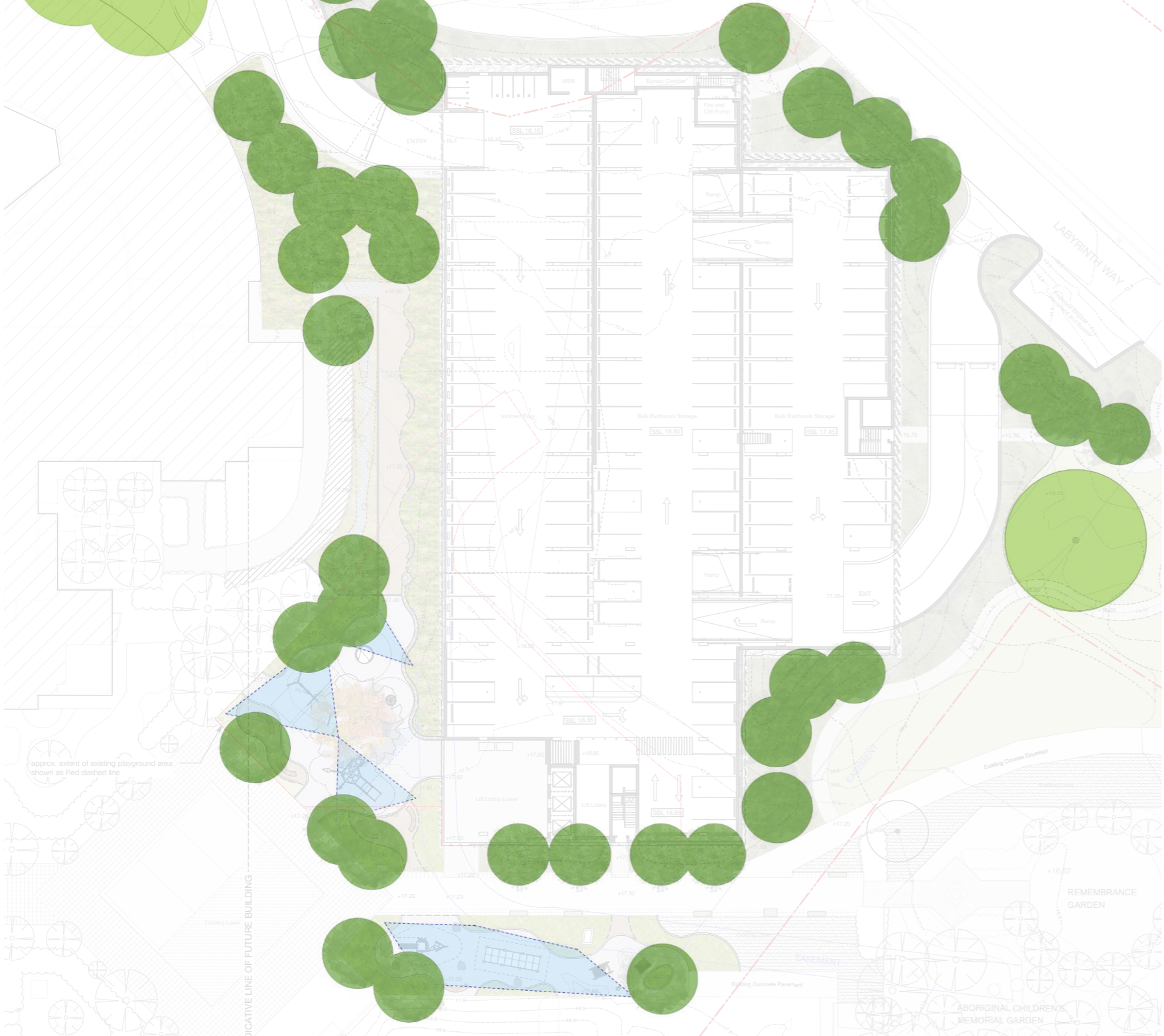
Appendix

Detail planting palette (3 of 3)

Name	SPRING			SUMMER			AUTUMN			WINTER			Fauna/ feature
	early	mid	late	early	mid	late	early	mid	late	early	mid	late	
Plectranthus parviflorus Cocksbur 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													
Themeda australis/triandra Kangaroo Grass Height 0.45 - 0.60m Spread 0.3 - 0.6m  Tufted													
Fern													
Asplenium australasicum Bird's Nest Fern Height 0.90 - 1.50m Spread 2.0 - 3.5m  Medium													
Blechnum gibbum Silver Lady Fern Height 0.90 - 1.50m Spread 0.9 - 1.2m  Small													

Appendix

Tree Canopy Cover



LEGEND

- Existing tree cover area
- Proposed tree cover area
- Shade structure cover area

	MSCP
Site Area (sqm) (excl building footprint)	10,080
Tree canopy cover existing (sqm)	2,837
Tree canopy cover removal (sqm)	1,943
Tree canopy cover remain (sqm)	894
Proposed Tree canopy cover (sqm)	1,720
Total Tree canopy cover (sqm)	2,614
Tree canopy coverage	26%
Shade structure cover (sqm)	290
Structure canopy coverage	3%
Total canopy coverage	29%

