

THE CHILDREN'S HOSPITAL AT WESTMEAD

Multi-Storey Car Park

CHW LANDSCAPE SSDA- MSCP

2020 - HEALTH INFRASTRUCTURE NSW

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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.

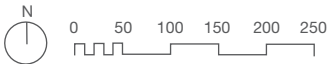
The design of the CHW’s surroundings are critical to ensure the legibility of the visitor and patient experience and the precinct as a whole. This legibility can be achieved by strengthening the site’s connections and engagement with its immediate context, including existing indigenous heritage sites 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.



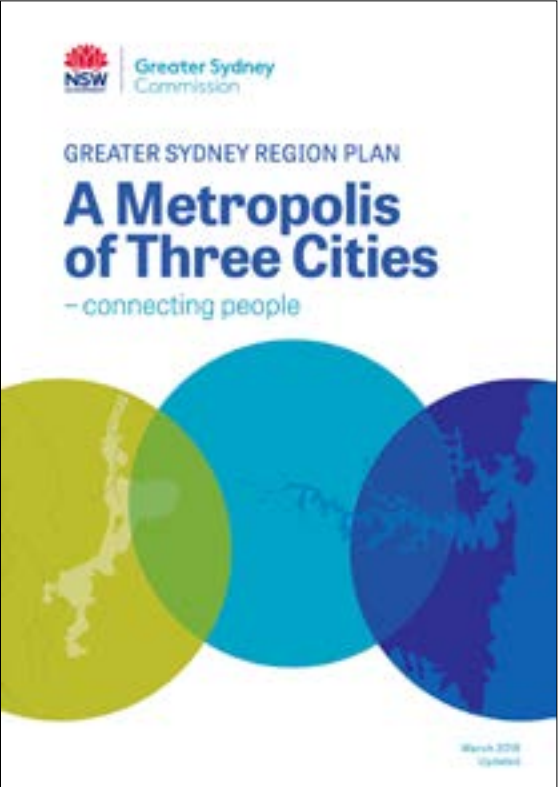
DRAFT GREENER PLACES, GANSW 2020

‘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

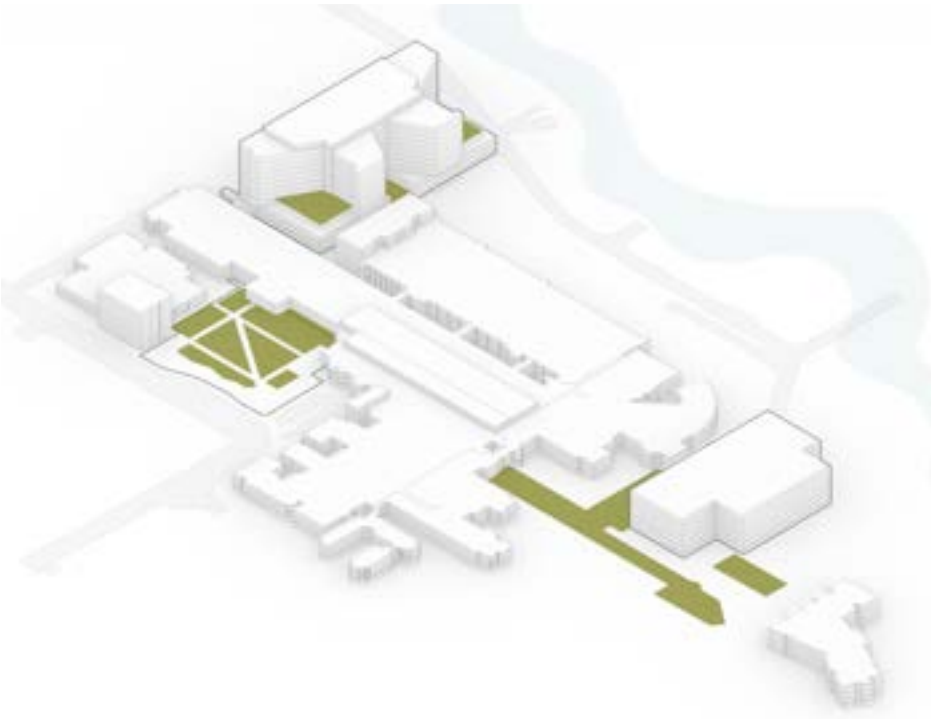
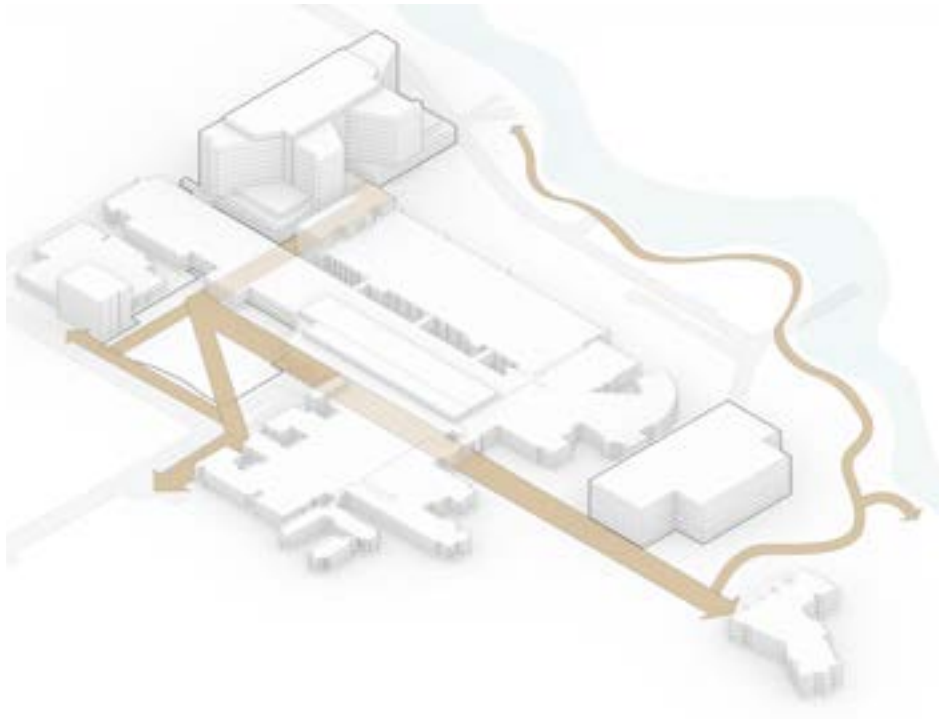
The public domain area included within the site area is:

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.

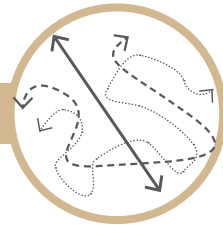


Provide age appropriate and diverse play spaces.



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

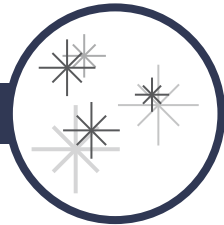
RIVER LIFE



RIVER PLACES



RIVER STORY



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.

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, headling 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.



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.



Porphyry flagstone



Decomposed Granite



Rubber Softfall



Porphyry stone setts



Timber Decking

8.0 Planting Palette



Corymbia citriodora 'Dwarf Pink'

Small Trees



Cupaniopsis anacardioides

Medium Trees



Elaeocarpus eumundii



Angophora floribunda

Tall Trees



Brachychiton acerifolius



Jacaranda mimosifolia



Viola hederacea

Groundcovers



Dichondra repens



Pandorea pandorana

Vines/Climbers



Hardenbergia violacea



Blechnum cartilagineum

Ferns



Calochlaena dubia



Dianella caerulea

Tussocks



Lomandra longifolia



Leptospermum polygalifolium

Shrubs



Callistemon citrinus



Carex appressa

WSUD



Ficinia nodosa

* Refer appendix for detail planting palette

Appendix

MSCP QS















































LEGEND

- 0000 - General**
- Site Boundary
 - Indicative Line of Proposed Works
- 1000 - Preparation, Groundworks & Drainage**
- Native Garden Soil (200mm thk) - 963.6 cum
 - Lawn Soil (200mm thk) - 97 cum
- 2000 - Walls & Edges**
- 150mm concrete edge - 90 lm
 - Steel edge - 370 lm
- 3000 - Pavements**
- Rubber Softfall - 1030 sqm
 - Stabilised Crushed Sandstone - 273 sqm
 - Concrete block paver (to match existing) - 21 sqm
- 4000 - Site Structures - TBC**
- 5000 - Rails & Fencing - N/A**
- 6000 - Pools & Water Elements - N/A**
- 7000 - Furniture & Fittings - TBC**
- Timber covered steel arc seat - 5 no.
 - Sandstone boulder pla. rso-econeq - 5 no.
 - Sun lounge - 2 no.
- 8000 - Planting**
- Existing tree to be retained
 - Proposed trees (100L) - 30 no.
 - Native grass mix 01 (5p/sqm) - 2020 sqm
 - Native grass mix 02 (5p/sqm) - 751 sqm
 - Native grass mix 03 (5p/sqm) - 992 sqm
 - Native grass mix 04 (5p/sqm) - 1156 sqm
 - Lawn - Turf Sod 430 sqm






















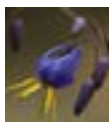



























Appendix

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													
<div>Angophora floribunda</div> <div>Rough-barked Apple</div> <div><div></div><div></div><div>Rough Flaky Bark</div></div> <div>Height 10 - 15m</div> <div>Spread 6 - 10m</div>													
<div>Brachychiton acerifolius</div> <div>Bottle Tree; Illawarra Flame Tree</div> <div><div></div><div></div><div>Narrow Domed</div></div> <div>Height 25 - 30m</div> <div>Spread 3.5 - 6m</div>													
<div>Corymbia citriodora 'Scentuous'</div> <div>Dwarf Lemon-scented gum</div> <div><div></div><div></div><div>Miscellaneous</div></div> <div>Height 5 - 10m</div> <div>Spread 2.0 - 3.5m</div>													
<div>Cupaniopsis anacardioides</div> <div>Tuckeroo</div> <div><div></div><div></div><div>Broad Domed</div></div> <div>Height 10 - 15m</div> <div>Spread 3.5 - 6m</div>													
<div>Elaeocarpus eumundii</div> <div>Smoothed leaved Quandong</div> <div><div></div><div></div><div>Columnar</div></div> <div>Height 5 - 10m</div> <div>Spread 2.0 - 3.5m</div>													
<div>Jacaranda mimosifolia</div> <div>Blue Jacaranda, Black Poui, Fern Tree, Green</div> <div><div></div><div></div><div>Branches Vase</div></div> <div>Height 10 - 15m</div> <div>Spread 6 - 10m</div>													
Shrub													
<div>Callistemon citrinus</div> <div>Crimson Bottlebrush</div> <div><div></div><div></div><div>Small-Medium</div></div> <div>Height 1.50 - 3m</div> <div>Spread 1.2 - 2.0m</div>													
<div>Leptospermum polygalifolium</div> <div>Tantoon, Lemon-Scented Tea Tree</div> <div><div></div><div></div><div>Tall</div></div> <div>Height 1.50 - 3m</div> <div>Spread 3.5 - 6m</div>													













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	
Herb													
Dichondra repens Kidney Weed	 	Cover	 	 									
Height													0.0 - 0.3m
Spread													0.9 - 1.2m
Viola hederacea Native Violet, Ivy-leaf violet	 	Cover	 										
Height													0.30 -
Spread													1.2 - 2.0m
Ground Cover													
Carex appressa Tall Sedge	 	Tussock	 										
Height													0.60 -
Spread													0.3 - 0.6m
Dianella caerulea Paroo Lily, Blue Flax-lily	 	Tussock	 	 									
Height													0.45 -
Spread													0.3 - 0.6m
Ficinia nodosa Knobby Club-rush	 	Tufted	 										
Height													0.75 -
Spread													0.0 - 0.3m
Lomandra longifolia Spiny-headed Mat-Rush	 	Tufted	 										
Height													0.60 -
Spread													0.9 - 1.2m
Fern													
Blechnum cartilagineum Gristle Fern, Water Fern	 	Medium	 	 			 		 				
Height													0.90 -
Spread													0.6 - 0.9m
Calochlaena dubia False Bracken Fern	 	Medium											
Height													0.90 -
Spread													-

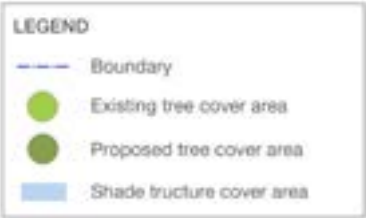
Appendix

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	
Climber													
<div><div><div>Hardenbergia violacea</div><div>Purple Twining-pea, False Sarsaparilla</div></div><div><div>Height 0.90 -</div><div>Spread 2.0 - 3.5m</div></div><div></div></div>													
<div><div><div>Pandorea pandorana</div><div>Wonga Wonga Vine</div></div><div><div>Height 3 - 5m</div><div>Spread 0.6 - 0.9m</div></div><div></div></div>													

Appendix

Tree Canopy Cover



	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)	1,180
Total Tree canopy cover (sqm)	2,074
Tree canopy coverage	21%
Shade structure cover (sqm)	168 (existing shade structure)
Structure canopy coverage	2%
Total canopy coverage	23%

