

Health Infrastructure
C/o
CBRE | Project Management
Level 21, 363 George Street | Sydney
NSW 2000, Australia

Attention: Adrian Thompson

26th May 2022

Dear Adrian,

NEPEAN HOSPITAL AND INTEGRATED AMBULATORY SERVICES REDEVELOPMENT STAGE 2

REF: SSDA (SSD-16928008)

This letter has been prepared to summarise the amendments to the landscape architectural drawing set in relation to the Nepean Hospital Redevelopment Stage Two - State Significant Development Application (SSDA), which has been previously issued.

PROJECT

The Stage 2 Redevelopment seeks to deliver significantly enhanced acute services, as well as a new campus main entry and drop-off area. It complements the recent Stage 1 Redevelopment (SSD 8766) approved in February 2019. The Stage 2 Redevelopment's SEARs was issued by the Department of Planning, Industry and Environment on 22 April 2021, followed by the SSDA submission in January 2022.

RESPONSE

The DPIE key issues and Agency and Council submissions included in the DPIE letter dated 21st of February 2022, identified a number of areas that would benefit from further development.

The points below provide an overview of the feedback received:

1. The proposed courtyard located on the south-eastern side of the proposed development (known as "southern courtyard") will be significantly shadowed during the winter solstice. Given the height of the surrounding and proposed buildings, the landscaping documentation should be amended to demonstrate that these solar access conditions have been considered in the selection of plant species and the landscape design.
2. Provide details on the extent of existing and proposed total 'soft' landscaped area for the development site.
3. Provide justification for the species of vegetation selected to serve as a suitable replacement for the removed Cumberland Plain Woodland on the site.

The revised SSDA documents capture these changes. The relevant landscape architectural response, reference and location etc is provided below.

SOUTHERN COURTYARD

The planting strategy has been more clearly detailed to illustrate the species and distribution across the space. Species selected are suitable for the various microclimatic zones created by the new building works.

In places, the microclimate will reflect that of the deep shaded valleys of the Blue Mountains as a reference point. A range of shade loving ferns, shrubs and groundcovers will provide a lush outlook from the many vantage points around the courtyard.

Refer attached **LAN_01**.

In the areas of the courtyard that will receive more consistent sunlight, we have placed taller Cumberland Plain Eucalypt canopy trees. These plantings complement and expand the Stage One planting character and strategy already installed.

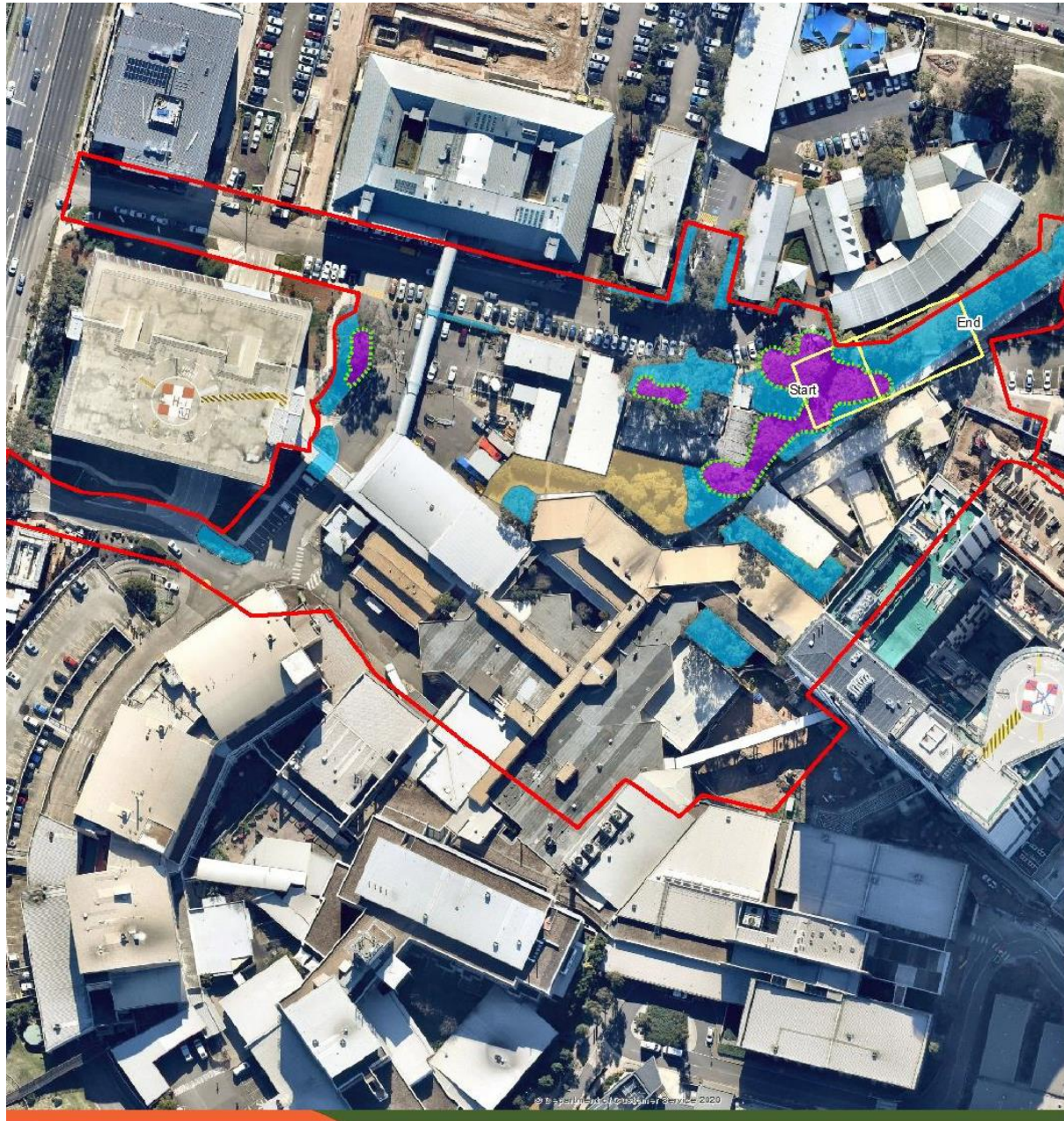
Given their mature heights, the canopies of these specimens will have access to far more sunlight than the understorey plants, particularly during the late morning / early afternoon.



LANDSCAPING EXTENTS

Stage Two 'soft' landscape areas on site were previously limited to the residual areas around the buildings, roads and carparks.

The areas of significant existing landscaping across the Stage Two area can be seen below in an excerpt from the Biodiversity Development Assessment Report (BDAR) report.



- | | |
|---|--|
| Subject land | Native vegetation |
| Extent of Vegetation Zone 1 & Patch 1 | PCT 849 - Cumberland shale plains woodland (CEEC) |
| BAM Plot 1 | Planted native vegetation |
| | Nepean Hospital campus boundary |
| | Non-native vegetation |
| | Non-native vegetation |

Vegetation mapping and zones

Client: Health Infrastructure
Site: Nepean Hospital NSW
Job: J9507



Data Source: NearMap
Author: K Raines Date: 14/04/2022 Coordinate System: GDA 1994 MGA Zone 56

Proposed 'soft' areas will exceed existing 'soft' areas with several large, connected, usable spaces providing not only landscaping, but also amenity for users. Wherever possible the existing landscape areas have been maintained and trees within protected. Canopy cover across the site is also improved through the proposed works.

Refer proposed Stage Two 'soft' landscape area diagram below, illustrating deepsoil landscape planting areas.



Impervious area is captured in the Civil Documentation plans and report, prepared by Acor.

CPW REPLACEMENT

Arcadia has reviewed the Total Earth Care BDAR and has aligned the revised SSDA proposal with the findings and directions of this report.

We confirm that the species chosen are suitable and aligned with the BDAR.

The highlighted species below are Indigenous and identified as key species in the Upper to Mid-Canopy of the Cumberland Plain Woodland Vegetation Community, as captured in the BDAR:

PLANTING SCHEDULE								
TREES								
M	A	Bc	<i>Backhousia citriodora</i>	Lemon Scented Myrtle	10 x 5	200L	3	3
		Cc	<i>Corymbia citriodora</i> 'Scentuous'	Lemon Scented Gum	7 x 4.5	200L	6	6
		CBO	<i>Corymbia ficifolia</i> 'Baby Orange'	Flowering Gum	3 x 2-3	200L	25	6
A		Cm	<i>Corymbia maculata</i>	Spotted Gum	10-25 x 4-10	200L	64	64
		Cc	<i>Cyathea cooperi</i>	Tree Fern	5 x 2	1.2-2m high	54	54
		Da	<i>Dicksonia antarctica</i>	Soft Tree Fern	1.5-15 x 1-2	1.2-2m high	71	71
A		Ee	<i>Eucalyptus amplifolia</i>	Cabbage Gum	30 x 10	100L	4	4
A		Ecr	<i>Eucalyptus crebra</i>	Narrow Leaved Ironbark	25 x 15	200L	3	3
A		Efi	<i>Eucalyptus fibrosa</i>	Red Ironbark	25 x 15	200L	2	2
		EED	<i>Eucalyptus leucoxylon</i> 'Euky Dwarf'	Dwarf SA Blue Gum	6 x 5	200L	13	13
		Em	<i>Eucalyptus microcorys</i>	Tallow Wood	45 x 25	400L	7	7
A		Emo	<i>Eucalyptus moluccana</i>	Grey Box	25 x 15	200L	9	9
		Es	<i>Eucalyptus saligna</i>	Sydney Blue Gum	30 x 10	400L	12	12
A		Ete	<i>Eucalyptus tereticornis</i>	Forest Red Gum	25 x 15	200L	5	5
M		Tf	<i>Terminalia ferdinandiana</i>	Kakadu Plum	4 x 3	100L	9	9
		Wf	<i>Waterhousia floribunda</i> 'Green Avenue'	Weeping Lily Pilly	8 x 5	200L	16	16

A list of recommendations in the BDAR is included in **Table 6-1. Mitigation and management measures.**

Of specific consideration for the landscape documentation are Clauses B1 and B11.

Clause B1 identifies the need for Offsetting the loss of PCT 849 (Cumberland Plain Woodland) across the site. This has been achieved with a large increase in CPW canopy and groundcover proposed. Removal of non-indigenous planting has also contributed to this and will provide a more consistent habitat and character across the campus.

Clause B11 requests that Landscape planning includes the use of local provenance species consistent with PCT 849 and in accordance with the Master Plan. This has been proposed and goes one step further to identify species that are currently propagated by local Indigenous Plant / Seed Collection and Nursery provider – Muru Mittigar (www.murumittigar.com.au). A Please review attached planting schedule – **LAN_02**.

Kind regards,

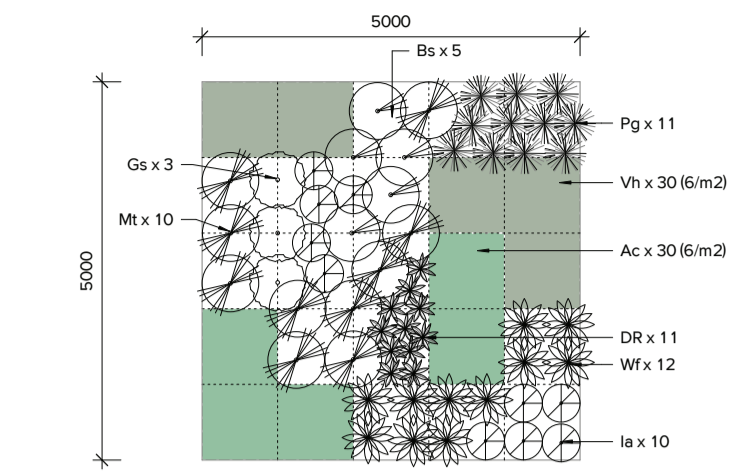


Michael Barnett

Principal

BLArch (Hons) AILA

DESIGN DEVELOPMENT | PLANTING



3 GB-401 NATIVE SHRUB MATRIX
1 : 50



Asperula conferta

Bursaria spinosa

Grevillea sericea



Indigofera australis

Melaleuca thymifolia

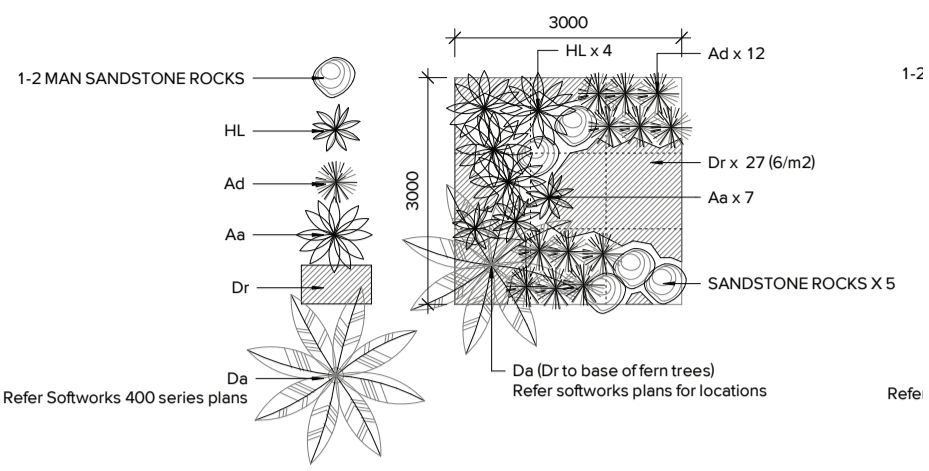
Viola hederacea



Westringia fruticosa

Dianella revoluta 'Revelation'

Pycnosorus globosus



4 GB-501 SOUTHERN COURTYARD MATRIX 1
1 : 50



Dichondra repens

Adiantum aethiopicum

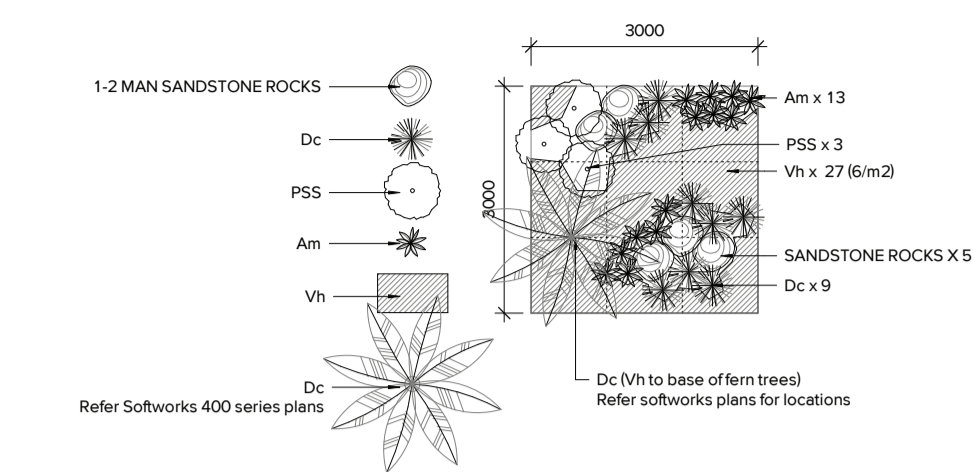
Hymenosporum flavum 'Lushious'



Asplenium australasicum

Dicksonia antarctica

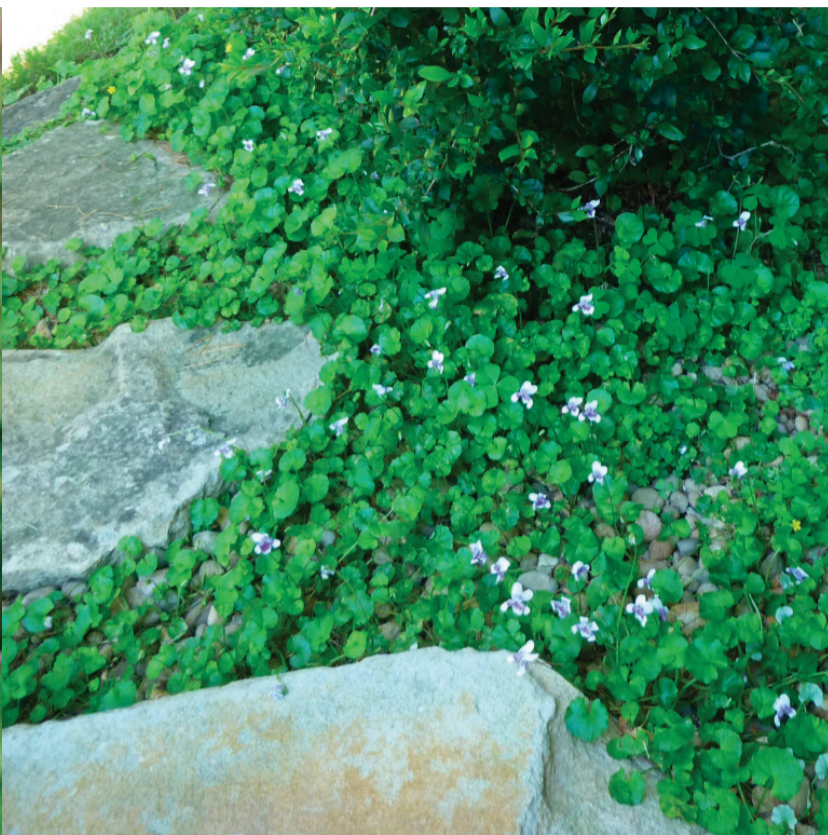
DESIGN DEVELOPMENT | PLANTING



5 GB-502 SOUTHERN COURTYARD MATRIX 2
1 : 50



Dianella caerulea



Viola hederacea



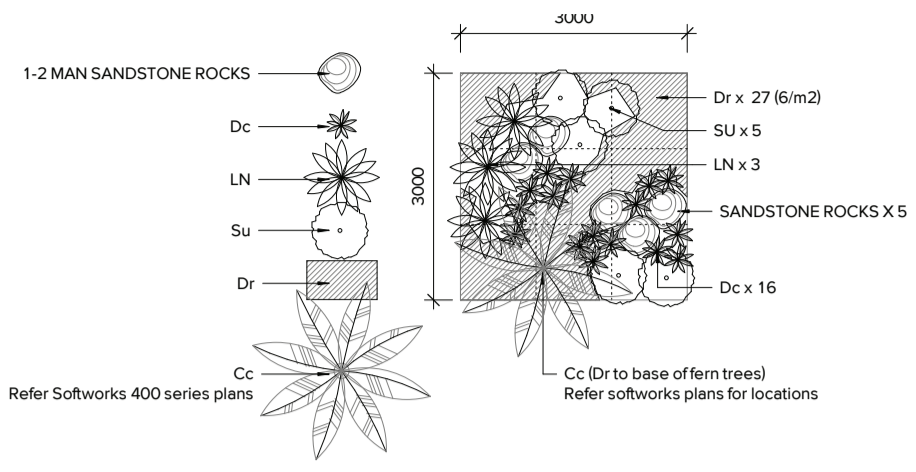
Plectranthus argentatus 'Silver Shield'



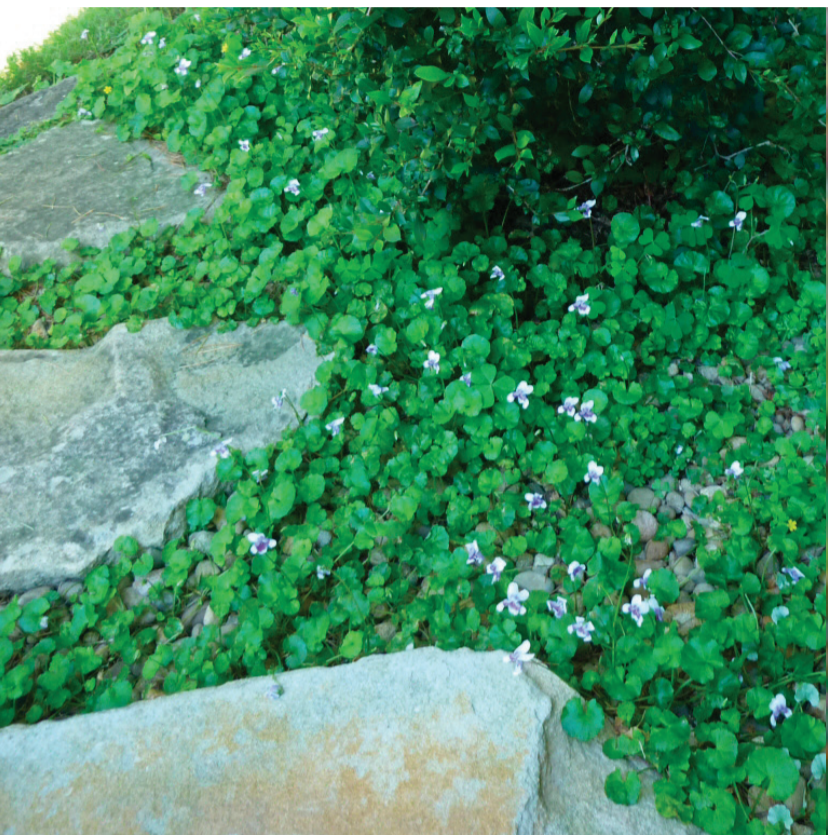
Arthropodium milleflorum



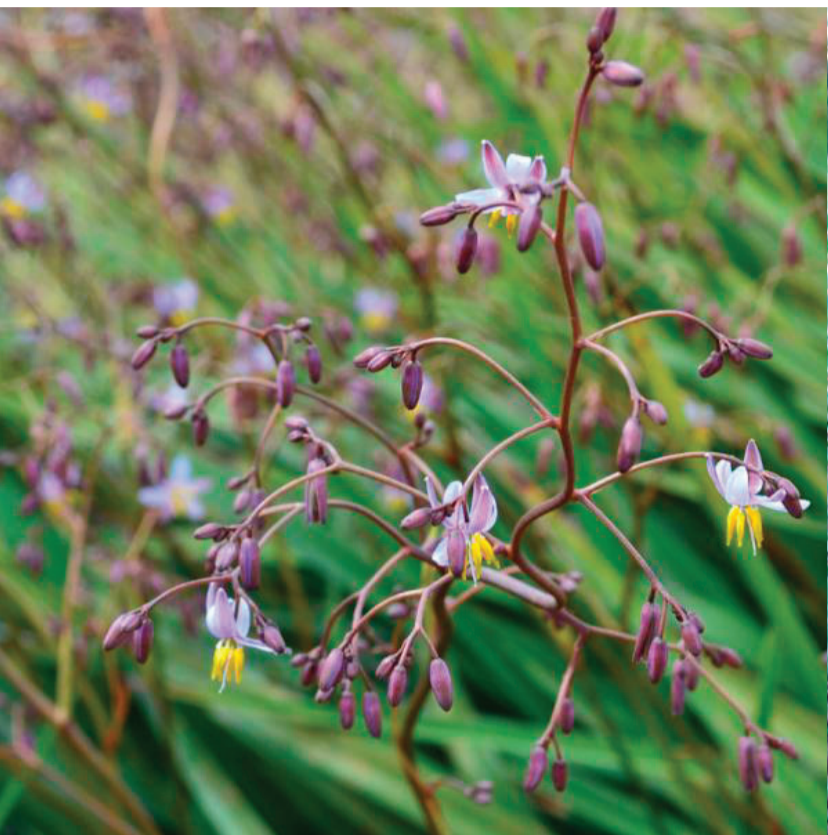
Cyathea cooperi



6 GB-503 SOUTHERN COURTYARD MATRIX 3
1 : 50



Dichondra repens



Dianella caerulea



Lomandra longifolia 'Nyalla'

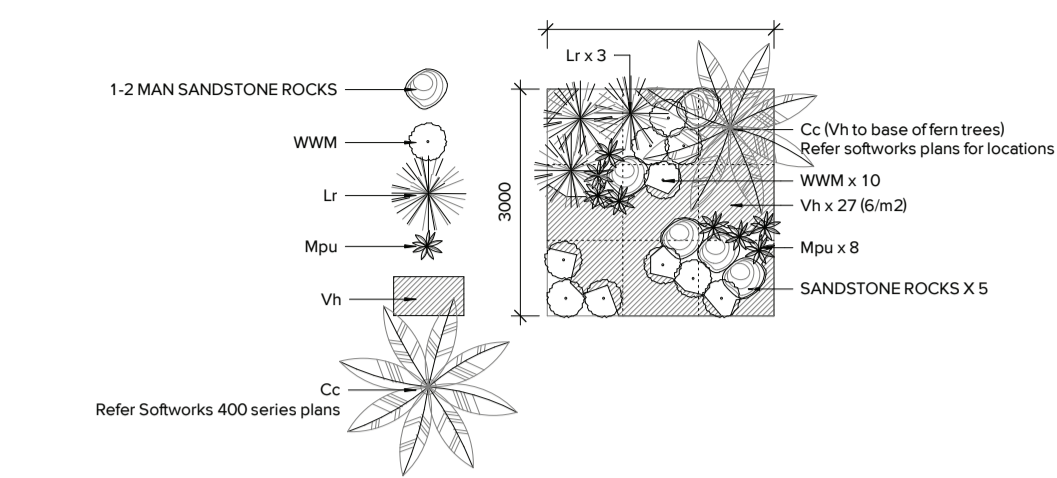


Scleranthus Uniflorus



Cyathea cooperi

DESIGN DEVELOPMENT | PLANTING



7 GB-504 SOUTHERN COURTYARD MATRIX 4
1 : 50



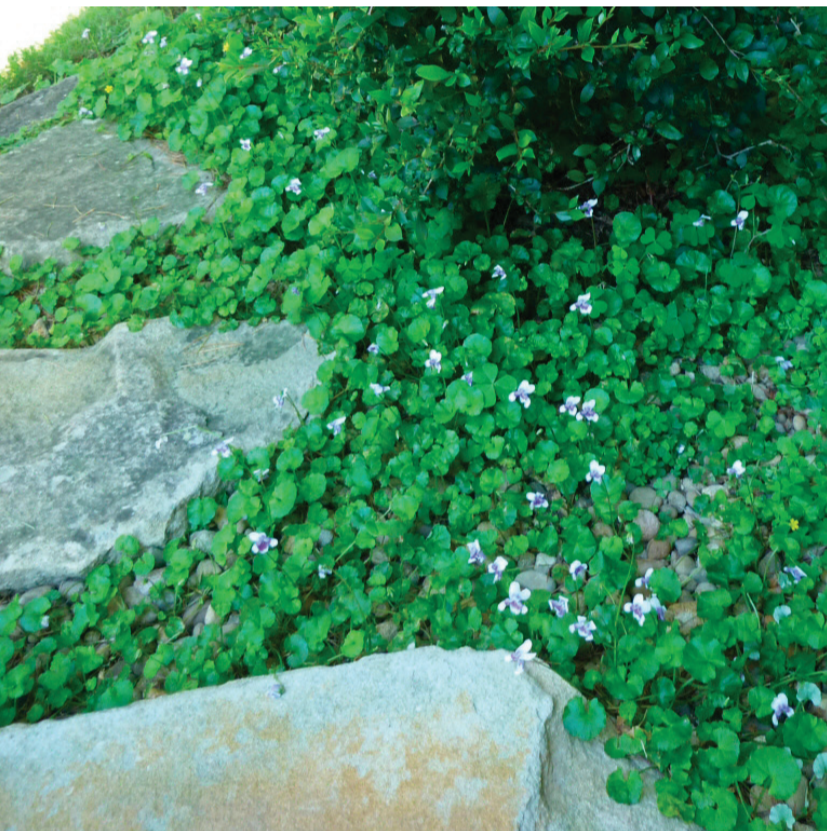
Ligularia reniformis



Microsorium pustulatum



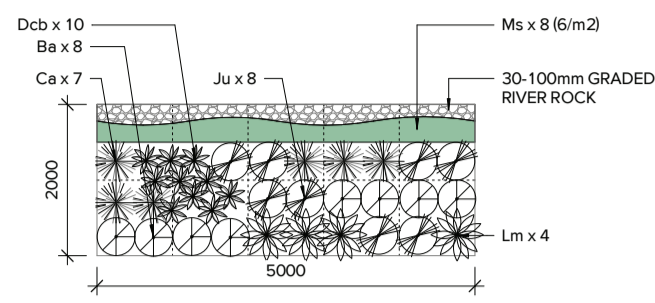
Wahlenbergia stricta 'White Mist'



Viola hederacea



Dicksonia antarctica



8 GB-601 SWALE MATRIX
1 : 50



Carex appressa



Baumea articulata



Juncus usitatus



Dianella caerulea 'Breeze'



Lomandra multiflora



Microlaena stipoides

NOTE
CONTRACTOR TO CHECK AND VERIFY ALL
DIMENSIONS ON SITE PRIOR TO
COMMENCEMENT OF WORK OR
PREPARATION OF SHOP DRAWINGS. DO
NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
1	24.02.2022	DRAFT B01 TENDER
2	06.04.2022	MAIN WORKS TENDER

NOTE:
ALL DRAWINGS TO BE READ IN
CONJUNCTION WITH THE TRADE
PACKAGE COVER SHEET AND
NOTES

NOT FOR CONSTRUCTION

PLANTING SCHEDULE				
CODE	NAME	DETAIL	Assembly Code	Area
GB-101	TURF	05/671	Refer Landscape Detail and Specification	806 m ²
GB-201	NATIVE GROUND COVER MATRIX	01/672	Refer Landscape Detail and Specification	1051 m ²
GB-301	NATIVE GRASS MATRIX	02/672	Refer Landscape Detail and Specification	2981 m ²
GB-401	NATIVE SHRUB MATRIX	03/672	Refer Landscape Detail and Specification	534 m ²
GB-501	SOUTHERN COURTYARD MIX 1	04/672	Refer Landscape Detail and Specification, Southern courtyard	244 m ²
GB-502	SOUTHERN COURTYARD MIX 2	05/672	Refer Landscape Detail and Specification, Southern courtyard	171 m ²
GB-503	SOUTHERN COURTYARD MIX 3	06/672	Refer Landscape Detail and Specification, Southern courtyard	188 m ²
GB-504	SOUTHERN COURTYARD MIX 4	07/672	Refer Landscape Detail and Specification, Southern courtyard	271 m ²
GB-601	NATIVE SWALE MATRIX	08/672	Refer Landscape Detail and Specification	564 m ²
GB-701	NATIVE BUSH TUCKER MATRIX	09/672	Refer Landscape Detail and Specification	265 m ²
GB-801	Eg - Eremophila glabra	03/672	Refer Landscape Detail and Specification	44 m ²
GB-802	Mp - Myoporum parvifolium	03/672	Refer Landscape Detail and Specification	16 m ²

16-396 NEPEAN HOSPITAL STAGE 2 - PLANT SCHEDULE							
CODE	BOTANIC NAME	COMMON NAME	MATURE SIZE (h x w) (m)	PROPOSED POT SIZE	TOTAL	GROUND	LEVEL 06
PLANTING SCHEDULE							
TREES							
Bc	Backhousia citriodora	Lemon Scented Myrtle	10 x 5	200L	3	3	19
Cc	Corymbia citriodora 'Scentious'	Lemon Scented Gum	7 x 4.5	200L	6	6	
CBO	Corymbia ficifolia 'Baby Orange	Flowering Gum	3 x 2.3	200L	25	6	
Cm	Corymbia maculata	Spotted Gum	10-25 x 4-10	200L	64	64	
Cc	Cyathea cooperi	Tree Fern	5 x 2	1.2-2m high	54	54	
Dc	Dicksonia antarctica	Soft Tree Fern	1.5-15 x 1-2	1.2-2m high	71	71	
Ee	Eucalyptus amplifolia	Cabbage Gum	30 x 10	100L	4	4	
Ecr	Eucalyptus crebra	Narrow Leaved Ironbark	25 x 15	200L	3	3	
Eli	Eucalyptus fibrosa	Red Ironbark	25 x 15	200L	2	2	
EED	Eucalyptus leucoxylen 'Euky Dwarf'	Dwarf SA Blue Gum	6 x 5	200L	13	13	
Em	Eucalyptus microcorys	Tallow Wood	45 x 25	400L	7	7	
Emo	Eucalyptus moluccana	Grey Box	25 x 15	200L	9	9	
Es	Eucalyptus saligna	Sydney Blue Gum	30 x 10	400L	12	12	
Ele	Eucalyptus tereticornis	Forest Red Gum	25 x 15	200L	5	5	
Ti	Terminalia ferdinandiana	Kakadu Plum	4 x 3	100L	9	9	
Wi	Waterhousea floribunda 'Green Avenue'	Weeping LilyPilly	8 x 5	200L	16	16	
SHRUBS & ACCENTS							
Ac	Alpinia caerulea	Native Ginger	2 x 2	150mm	16	16	16
Af	Acacia fabata	Sickle Wattle	3 x 1.5	200mm	26	26	
Ag	Anigozanthos yellow gem	Kangaroo Paw	1 x 1	200mm	26	26	
Bs	Banksia spinulosa 'Birthday Candles'	Hairpin Banksia	0.5 x 2	200mm	13	13	
Etm	Enchyloena tomentosa	Ruby Saltbush	1 x 1	200mm	3	3	
Cam	Cymbopogon ambiguus	Native Lemongrass	1 x 1	200mm	3	3	
Cg	Craspedia globosa	Billy Buttons	0.3 x 0.3	200mm	70	70	
Cs	Rhagodia spinescens 'Silver Border'	Creeping Saltbush	1 x 2	200mm	5	5	
Px	Philodendron xanadu	Xanadu	1 x 1	200mm	2	2	
Ph	Phormium Tenax	Flax	3 x 1.5	200mm	27	27	
Pi	Prostanthera incisa	Native Thyme	2 x 1	200mm	3	3	
GROUNDCOVERS							
Eg	Eremophila glabra	Kalbarri carpet	0.2 x spreading	150mm	352	352	128
Mp	Myoporum parvifolium	Creeping Boobialla	0.2 x spreading	150mm	128	128	
GB-101 TURF						806	
GB-201 NATIVE GROUNDCOVERS MATRIX						993	58
Ac	Asperula conferta	Common Woodruff	0.5 x spreading	150mm	3036	2989	168
Gbr	Grevillea 'Bronze Rambler	Grevillea	0.25 x 1	150mm	3036	2989	168
Dr	Dichondra repens	Kidney Weed	0.1 x spreading	150mm	3036	2989	168
Sa	Scaevola alba	White fan-flower	0.3 x 2	150mm	3036	2989	168
Vh	Viola hederacea	Native Violet	0.2 x 0.5	150mm	3036	2989	168
GB-301 NATIVE GRASS MATRIX						2981	
Dm	Dichelachne micrantha	Plume Grass	0.75 x 0.75	tubestock	3643	3643	
Ti	Themeda triandra	Kangaroo Grass	1 x 1	tubestock	3643	3643	
Lm	Lomandra multiflora	Many Flowered Mat Rush	1 x 1	tubestock	3643	3643	
Ar	Aristida ramosa	Purple Wiregrass	1 x 1	tubestock	3643	3643	
Li	Lomandra filiformis	Wattle Mat Rush	1 x 1	tubestock	3643	3643	
Ms	Microloena stipoides	Weeping Grass	0.3 x 0.5	tubestock	3643	3643	
Di	Dianella longifolia	Blue Flax Lily	0.75 x 0.75	tubestock	3643	3643	

GB-401 NATIVE SHRUB MATRIX							534		m2
A	Ac	Asperula conferta	Common Woodruff	0.5 x spreading	150mm	3204	3204		
	Bs	Bursaria spinosa	Blackthorn	1.5 - 4 x 1.5 - 4	150mm	107	107		
M	Gs	Grevillea sericea	Pink Spider Flower	2 x 2	150mm	64	64		
	Ia	Indigofera australis	Native Indigo	1.5 x 1.5	150mm	214	214		
A	Mt	Melaleuca thymifolia	Thyme Honey Myrtle	1.5 x 2	150mm	214	214		
A	Vh	Viola hederacea	Native Violet	0.1 x spreading	tubestock	3204	3204		
A	Wf	Westringia frutescens	Coastal Rosemary	1.5 x 1.5	150mm	256	256		
DR	Dianella revoluta 'Revelation	Spreading Flax Lily	0.5 x 0.5	150mm	235	235	235		
	Pg	Pycnosorus globosus	Billy Buttons	1 x 0.5	150mm	235	235		
GB-501 SOUTHERN COURTYARD MATRIX 1							244		m2
A	Dr	Dichondra repens	Kidney Weed	0.1 x spreading	tubestock	1464	1464		
	Ad	Adiantum aethiopicum	Maidenhair Fern	0.5 x 0.5	200mm	325	325		
	HL	Hymenosporum flavum 'Lushious'	Native Frangipani	0.6 x 1.5	200mm	108	108		
	Ac	Asplenium australasicum	Birds Nest Fern	1.5 x 1.5	150mm	190	190		
GB-502 SOUTHERN COURTYARD MATRIX 2							171		m2
M	PSS	Plectranthus argentatus 'Silver Shield	Silver Spurflower	1 x 1.5	200mm	57	57		
	Dc	Dianella caerulea	Blue Flax Lily	0.3 x 0.3	150mm	171	171		
	Vh	Viola hederacea	Native Violet	0.1 x spreading	tubestock	1026	1026		
	Am	Arthropodium milleflorum	Pale Vanilla Lily	1 x 0.4	200mm	247	247		
GB-503 SOUTHERN COURTYARD MATRIX 3							189		m2
M	Dr	Dichondra repens	Kidney Weed	0.1 x spreading	tubestock	1128	1128		
	Dc	Dianella caerulea	Blue Flax Lily	0.3 x 0.3	150mm	334	334		
	LN	Lomandra longifolia 'Nyalka'	Lomandra	0.9 x 0.9	150mm	63	63		
	Su	Scleranthus uniflorus	Cushion Bush	0.1 x 1	150mm	104	104		
GB-504 SOUTHERN COURTYARD MATRIX 4							271		m2
A	WWM	Wahlenbergia stricta 'White Mist'	Wahlenbergia	0.6 x 0.4	200mm	301	301		
	Lr	Ligularia reniformis	Tractor Seat	0.8 x 0.8	150mm	90	90		
	Vh	Viola hederacea	Native Violet	0.1 x spreading	tubestock	1626	1626		
	Mpu	Microsorium pustulatum	Kangaroo Fern	0.3 x 0.6	150mm	241	241		
GB-601 SWALE PLANTING MATRIX							564		m2
A	Ca	Carex appressa	Knob Sedge	1 x 1	Tubestock	395	395		
	Ba	Baumea articulata	Jointed Twig-rush	2.5 x 1	Tubestock	451	451		
A	Ju	Juncus ustulatus	Common Rush	1 x 1	Tubestock	451	451		
	Dcb	Dianella caerulea 'Breeze'	Flax Lily	0.6 x 0.6	Tubestock	564	564		
	Lm	Lomandra multiflora	Many-flowered Mat-rush	1 x 1	Tubestock	226	226		
	Ms	Microloena stipoides	Meadow Ricegrass	0.3 x 0.3	Tubestock	3394	3394		
GB-701 BUSH TUCKER MATRIX							265		m2
M	Ac	Alpinia caerulea	Native Ginger	2 x 2	150mm	31.8	32		
	Li	Leptospermum laevigatum	Tea Tree	1.5 x 1	150mm	53	53		
	Cc	Centipeda cunninghamii	Common sneezeweed	0.2 x 0.2	150mm	1590	1590		
	Et	Enchyloena tomentosa	Ruby Saltbush	1 x 1	150mm	63.6	64		
	Ds	Dichopogon strictus	Chocolate lily	0.3 x 0.3	150mm	1590	1590		
	Di	Dianella longifolia	Blue Flax Lily	0.75 x 0.75	tubestock	159	159		
	Lf	Lomandra filiformis	Wattle Mat Rush	1 x 1	tubestock	63.6	64		
	Dc	Dianella caerulea	Blue Flax Lily	0.3 x 0.3	tubestock	84.8	85		

* Tree numbers correspond with the arborist report composed by Moore Trees Arboricultural Services December 2017

* Not all trees have been captured in the arborist report

*1 Information sourced from Native Plant Species July 2016 by Penrith City Council

*2 Information sourced from Cumberland Plain Shale Woodlands and Shale-Gravel

A Available from Murr Mittigar

M Bush Tucker Species

LANDSCAPE KEY PLAN