PROPOSED INDUSTRIAL DEVELOPMENT

LOT 1 - BRINGELLY ROAD BUSINESS HUB, NSW

LANDSCAPE CONCEPT PLAN
ISSUED FOR SSDA
18.05.2022
ISSUE B

Canopy Tree Offset Commitment

When this symbol appears on the drawing, Habit8 with our selected nursery partner will donate 5 x 300mm pot size endemic canopy trees to the local Landcare group in the LGA. This initiative is a joint commitment with landscape architect and client in providing local tree canopy cover to help mitigate the urban heat island effect while increasing local biodiversity values.

DRAWING LIST:

ARCHITECT:

SBA ARCHITECTS

CLIENT:

ESR

LANDSCAPE ARCHITECT:

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REGIONAL CONTEXT

PROJECT	DRAWING TITLE	PROJECT NO.	PURPOSE	SCALE	REVISION	DATE	DRAWN	CHECKED	PAGE	CLIENT
PROPOSED INDUSTRIAL DEVELOPMENT **LOT 1 - BRINGELLY ROAD BUSINESS HUB, NSW**	SITE CONTEXT	H8-21027	FOR COORDINATION	NTS	B	18.05.2022	KM	DV	L02	ESR

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SITE CONTEXT

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PROPOSED INDUSTRIAL DEVELOPMENT **LOT 1 - BRINGELLY ROAD BUSINESS HUB, NSW**	SITE CONTEXT: AERIAL PHOTO	H8-21027	FOR COORDINATION	NTS	B	18.05.2022	KM	DV	L03	ESR

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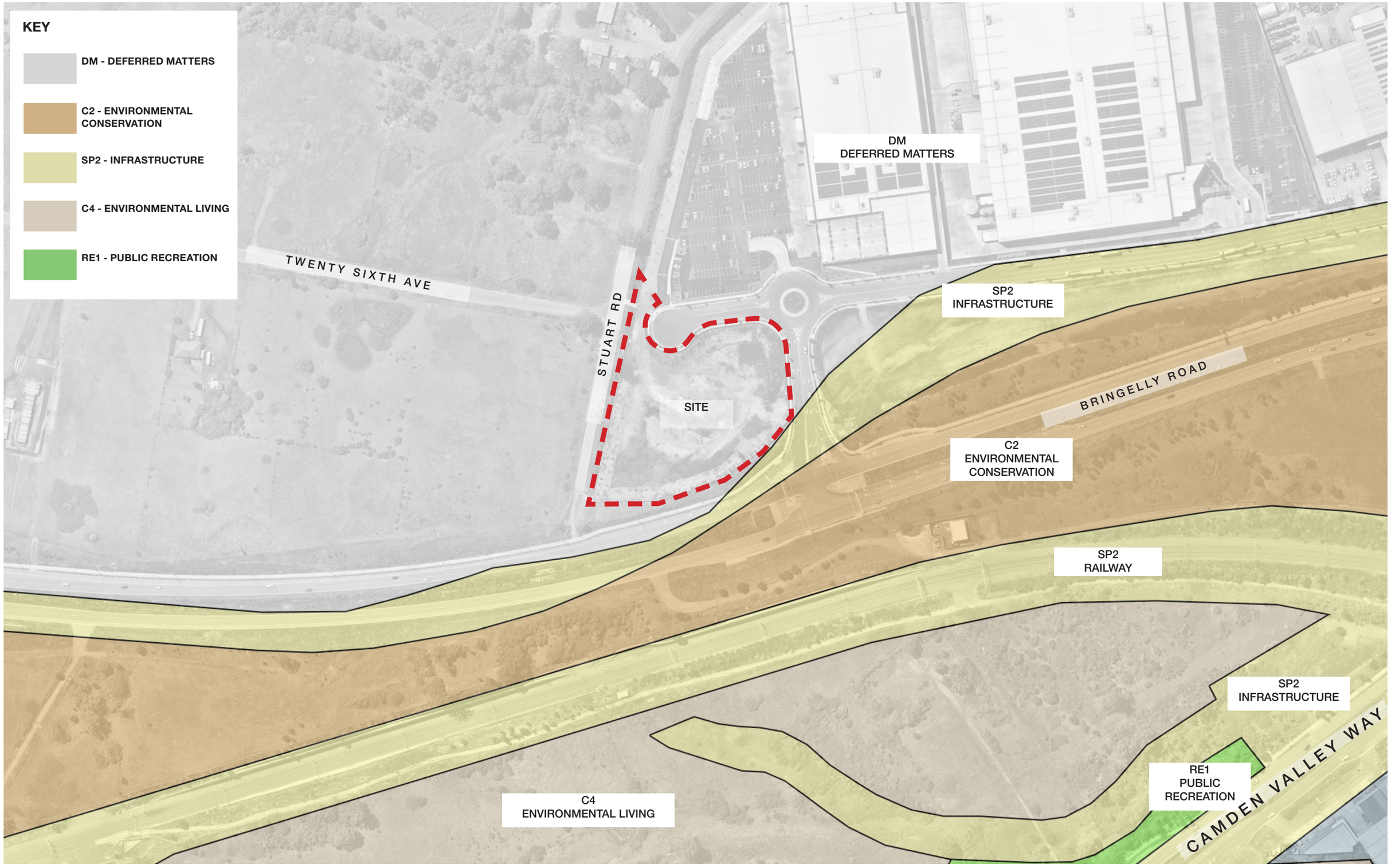
SITE ZONING



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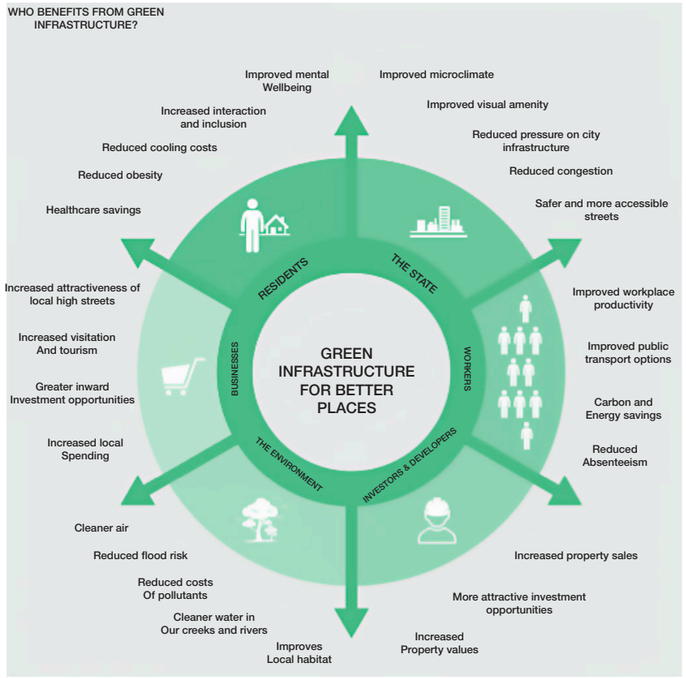
LANDSCAPE DESIGN PHILOSOPHY

Green Infrastructure is the network of green spaces, natural systems and semi-natural systems including parks, rivers, bushland and private gardens that are strategically planned, designed and managed to support a good quality of life in an urban environment.

Green Infrastructure should be envisioned as a three-dimensional envelope that surrounds and connects buildings, streets and utilities. The concept of landscape as Green Infrastructure provides a framework for integrating the work of designers, planners, developers and policy makers, and leveraging this collaboration to achieve larger local or state goals.



NSW GAO - Greener Places Policy 2020

Green Infrastructure is as crucial to the city as transport, cultural and communications infrastructure. It delivers a range of benefits including:

- Healthy living
- Mitigating flooding
- Improving air and water quality
- Cooling the urban environment
- Encouraging walking and cycling
- Enhancing biodiversity and ecological resilience
- Absorbing and transforming waste.

The four main principles associated with the draft NSW Greener Places Policy prepared by the Government Architect NSW (2017) are:

a) ***Principle 1: Integration:*** We propose a multi-purpose infrastructure strategy that mimics nature, provides critical ecosystem services and promotes healthy and active living. We propose to combine green space with urban development and WSD infrastructure.

b) ***Principle 2: Connectivity:*** We aim to create a network of high quality open streetscape and spaces that connect with each warehouse and office, public transport hubs. The network includes physical and functional connections that benefit people, wildlife and the logistics nature of the estate.

c) ***Principle 3: Multifunctionality:*** Our proposed green space infrastructure is designed to be high quality and high performing, producing ecological, social, environmental and economic benefits. The multifunctionality of our design proposal allows the sites green infrastructure to deliver multiple ecosystem, environmental and other services simultaneously.

d) ***Principle 4: Participation:*** We have followed a planning process that has been open to all, transparent and incorporates the knowledge and needs of all interested and diverse parties. The process has involved stakeholders in development, Government Bringelly Council and the industrial open market through tenants and the companies they represent. The process has incorporated local and state Green Infrastructure policies and actions.

The following design features reflect the project outcomes:

PROJECT OUTCOMES:

1. Conservation of the natural environment.

- This project will lead to the future enhancement of the increasing endemic canopy tree planting
- promotion of social, cultural, recreational, and educational opportunities within natural landscapes.

2. Increased access to open space

- quantity, quality, distribution, and accessibility of Industrial office green spaces enables the delivery of multifunctional spaces that promote healthy work environments

3. Improved connectivity to promote active living

- improvements to the office communal areas and frontages that promote exercise and alternative modes of transport such as walking and cycling.

4. Increase urban greening to ameliorate climate extremes

- design of green cover strategies including street trees, front setback canopy trees, cooler pavement materials and WSUD.
- Provide benefits such as improved amenity, comfort, health, reduced stormwater run-off, improved air and water quality, and energy and resource efficiency

a) RE-VEGETATION STRATEGY

The strategy for re-vegetating the site focuses on canopy tree planting to reduce the “urban heat island effect”. We have proposed a mix of local endemic, native and exotic trees to strengthen the urban design principles and to comply with current sustainability guidelines. Street verges, buffer tree planting to boundaries and all road setbacks are densely planted with canopy trees ranging from 6m to 15m+ in height and canopy spread. Car parks hard surfaces are shaded by tree planting between car parking spaces. Cycleways and path systems are also shaded by canopy tree planting. WSUD principles including soft engineering through bio-swales, detention basins and grey water re-use (co-ordinated with the civil engineer) shall help in maintaining and managing the re-vegetation areas.

b) COMPLETE STREETS

All streets have been designed to be multifunctional and provide connectivity throughout the Estate for vehicles, pedestrians and cyclists. The streets form the main “green spines” throughout development. The street has been designed in accordance with Bringelly City Council’s Public Domain. The main features of the public domain street design are to:

1. Provide tree canopy cover and reduce the “urban heat island effect”;
2. Provide safe and comfortable transit for pedestrians and cyclists;
3. Strengthen canopy connectivity through the Estate;
4. Allow multi-functionality through the revisions of various transit lanes such as heavy vehicle, cars, pedestrian footpaths and cycleways;
5. Soften and screen the bulk of the warehouses;
6. Help create a cooler microclimate around buildings and along pedestrian routes;
7. Provide multiple opportunities to create an address for each warehouse project;
8. Integrate lighting for safety;
9. Allow safe passage for visitors and workers
10. Strengthen the connection from Bringelly Road through the whole Business Hub
11. Incorporate WSUD principles into the streetscape including water quality bio-swales and vegetated detention basins.

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LANDSCAPE PLANTING STRATEGY: BUSHFIRE PRONE AREA

LAYOUT OF GARDEN IN ASSET PROTECTION ZONE

In creating and maintaining a garden that is part of an APZ, the following should be considered:

- Sparse planting in the APZ is acceptable provided that they are well spread out and do not form a continuous path to the warehouse facilities. It should also not retain dead material or deposit quantities of ground fuel in a short or dangerous period. It must also be located far enough from the building so that plants will not ignite the building by direct flame contact or radiant heat emission.
- Plant or clear vegetation into clumps rather than in continuous rows in areas of risk. To prevent ground fire from spreading into trees, pruning of low branches two metres from ground is advised.
- Plant selection should preferably include local endemic species. Remove flammable species especially those with rough, flaky or stringy barks. Remove all noxious and environmental weeds as well.
- Ensure that planting is not positioned directly adjoining built structure. Where this does occur, gardens should contain low-flammability plants and non-flammable ground cover such as pebbles and crushed tile.
- Remove or locate away from the structure items like woodpiles, wooden sheds, combustible material, storage areas, large quantities of garden mulch, stacked flammable building materials etc. These items should have no direct contact with bush fire hazard vegetation.
- Take advantage of existing or proposed protective features as part of the property's APZ. These features are as follows: turf areas, fire trails, gravel paths, rows of trees, dams, creeks, swimming pools, tennis courts, vegetable gardens.
- Rows of trees can serve as wind break that will trap embers and flying debris that could otherwise reach the structure. These trees should be planted the same distance away from the structure as their maximum height.

PLANTS FOR BUSH FIRE PRONE GARDENS

In designing the landscape garden, it is essential to consider the type of plant species and their flammability aside from their arrangement and placement in the garden. In general, all plants will eventually burn, however there are plants that are less flammable than others.

Trees with loose, fibrous or stringy barks are flammable. These can easily ignite and encourage the ground fire to spread up to the crown of trees, thus should be avoided. When choosing less flammable plants, be sure not to introduce noxious or environmental weed species into the garden as it will cause greater long-term environmental damage.

Features of a less flammable plant:

- high moisture content
- high levels of salt
- low volatile oil content of leaves
- smooth barks without "ribbons" hanging from branches or trunks; and
- dense crown and elevated branches.

INNER PROTECTION AREAS (IPAS)

The area closest to the building that acts as a defendable space is called the IPA. Vegetation within this area should be kept to a minimum level and litter fuels should be discontinuous and kept below 1cm in height. The IPA consists of a mown lawn and well-maintained gardens.

Tree requirements within IPA:

- Tree canopy cover should be less than 15% at maturity and should not touch or overhang the building.
- Should be pruned to a height of 2m above the ground
- Tree canopies should be 2m to 5m apart
- Smooth barked and evergreen trees are preferred.

Shrubs requirements within IPA:

- Should have large gaps in the vegetation to slow down the threat of fire towards the building.
- Should not be located under trees and not form more than 10% of ground cover
- Should be away from exposed windows and doors at least twice the maturity height of the vegatation.

Grass requirements within IPA:

- Should be kept mown and not be more than 100mm in height.
- Should be clean of leaves and vegetation debris.

OUTER PROTECTION AREAS (OPAS)

Located between the IPA and unmanaged vegetation is the OPA and only applicable in forest vegetation. Understories are managed in this area, with some separation in the canopies. It aims to decrease the intensity of an approaching fire on the IPA.

Tree requirements within OPA:

- Tree canopy cover should be less than 30% at maturity
- Tree canopies should be 2m to 5m apart.

Shrubs requirements within OPA:

- Should have large gaps in the vegetation to slow down the threat of fire towards the IPA.
- Should not form more than 20% of ground cover.

Grass requirements within OPA:

- Should be kept mown and not be more than 100mm in height.
- Should be clean of leaves and vegetation debris.

An APZ should be maintained at all times to ensure ongoing protection from the impact of bush fires.Maintenance of the IPA and OPA as described above should be undertaken regularly, particularly in advance of the bush fire season.

NOTE:
Reference from:

- *NSW Rural Fire Service (RFS). Planning for Bush Fire Protection: A Guide for Councils, Planners, Fire Authorities, and Developers 2019*
- *NSW Rural Fire Service (RFS). Standards for Asset Protection Zone*

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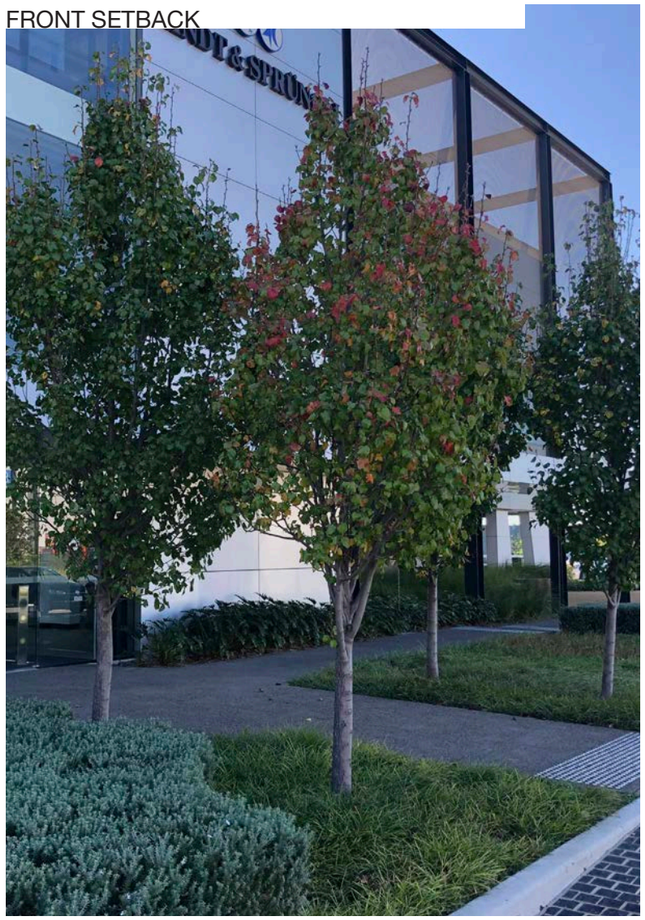
DESIGN PRECEDENT IMAGES

FRONT SETBACK



PARKING AND LANDSCAPE BUFFER

PARKING AREA

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PROPOSED INDUSTRIAL DEVELOPMENT **LOT 1 - BRINGELLY ROAD BUSINESS HUB, NSW**	DESIGN PRECEDENT IMAGES	H8-21027	FOR COORDINATION	NTS	B	18.05.2022	KM	DV	L07	ESR

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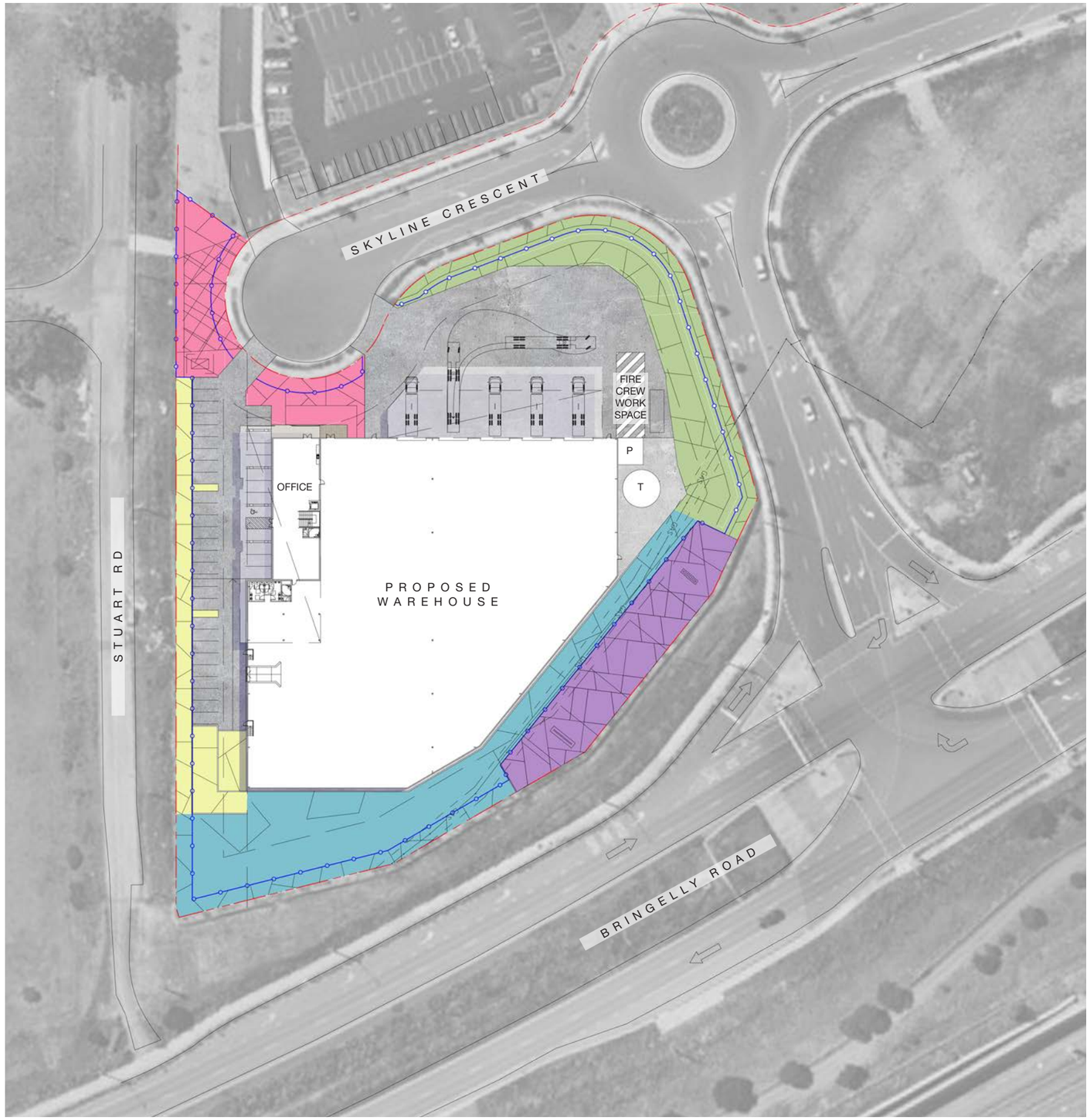
TREE PLANTING STRATEGY



KEY

ENTRY PLANTING
- *Brachychiton acerifolium*
- *Callistemon citrinus*
- *Leptospermum petersonii*
- *Acacia floribunda*

BOUNDARY BUFFER PLANTING
- *Melaleuca decora*
- *Eucalyptus molucanna*
- *Eucalyptus crebra*

BRINGELLY SETBACK PLANTING
- *Elaeocarpus reticulatus*
- *Eucalyptus crebra*
- *Eucalyptus tereticornis*

CARPARK AND OFFICE PLANTING
- *Elaeocarpus reticulatus*
- *Casuarina cunninghamiana*
- *Melaleuca bracteata*

FEATURE PLANTING
- *Callistemon citrinus*
- *Tristaniopsis laurina*
- *Elaeocarpus reticulatus*

NOTE:

REFER TO PLANT LIST ON DWG L12-L13 FOR DETAILED SCHEDULES

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PROPOSED INDUSTRIAL DEVELOPMENT **LOT 1 - BRINGELLY ROAD BUSINESS HUB, NSW**	TREE PLANTING STRATEGY	H8-21027	FOR COORDINATION	1:2000 @A3	B	18.05.2022	KM	DV	L08	ESR

0 10 20 30 40 50m

SCALE 1:1000 AT A3

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LANDSCAPE MASTERPLAN

CONTEXT PLAN

KEY

- SITE BOUNDARY
- 2700mm HT METAL PALISADE SECURITY FENCE LOCATION TO ARCHITECT'S DETAILS
- PROPOSED TREE PLANTING REFER TO PLANT SCHEDULE
- MASS PLANTING BEDS REFER TO PLANT SCHEDULE
- PAVED / TILED SURFACE TO FUTURE DETAIL
- CONCRETE SURFACE TO FUTURE DETAIL
- CONCRETE EDGING
- RETAINING WALL TO ENGINEER'S DETAILS
- APZ (ASSET PROTECTION ZONE) 10M
- DECOMPOSED GRANITE TO FUTURE DETAIL
- ALTERNATING GRAVEL TO FUTURE DETAIL

DESIGN NOTES

1. SITE ENTRY FEATURE
- Feature trees (@5m OC) and shrub planting, min 2m clear trunk
- Entry feature walls and signage (To future detail)
- Pylon sign (To future detail)

2. CARPARK
- Shade tree planting at carpark entry points, , min 2m clear trunk
- Canopy trees (6m ht + @10m OC), , min 2m clear trunk
- Mix of low groundcover and screening shrubs at perimeter
- Feature trees around office and carpark entries, min 2m clear trunk

3. ROAD SETBACK
- Canopy trees (15m ht-20m ht + @10m OC), min 2m clear trunk
- Rows of screening shrubs on both sides of fence (3-4m HT), , min 2m clear trunk

4. FEATURE PLANTING AND GRAVEL BAND

5. TRUCK ENTRY / EXIT

6. CAR ENTRY / EXIT

7.FUTURE EASEMENT

8. 900mm MULCH ZONE

9. PYLON SIGNS TO FUTURE ARCHITECTURAL DETAIL AND APPROVAL

TREE CANOPY COVER

TREE NO.	TREE CANOPY	CANOPY AREA (m^2)	TOTAL CANOPY COVER (m^2)
9	3m	7	63
13	5m	20	260
31	6m	30	930
37	8m	50	1850

TOTAL TREE NO.	90
TOTAL SQM CANOPY COVER	3,103
TOTAL LANDSCAPE AREA	4,627.97
BRINGELLY TOTAL AREA	12,892
TOTAL CANOPY PERCENTAGE	**24.06%**

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PROPOSED INDUSTRIAL DEVELOPMENT **LOT 1 - BRINGELLY ROAD BUSINESS HUB, NSW**	LANDSCAPE MASTERPLAN	H8-21027	FOR COORDINATION	1:1000 @A3	B	18.05.2022	KM	DV	L09	ESR

0 10 20 30 40 50m

SCALE 1:1000 AT A3

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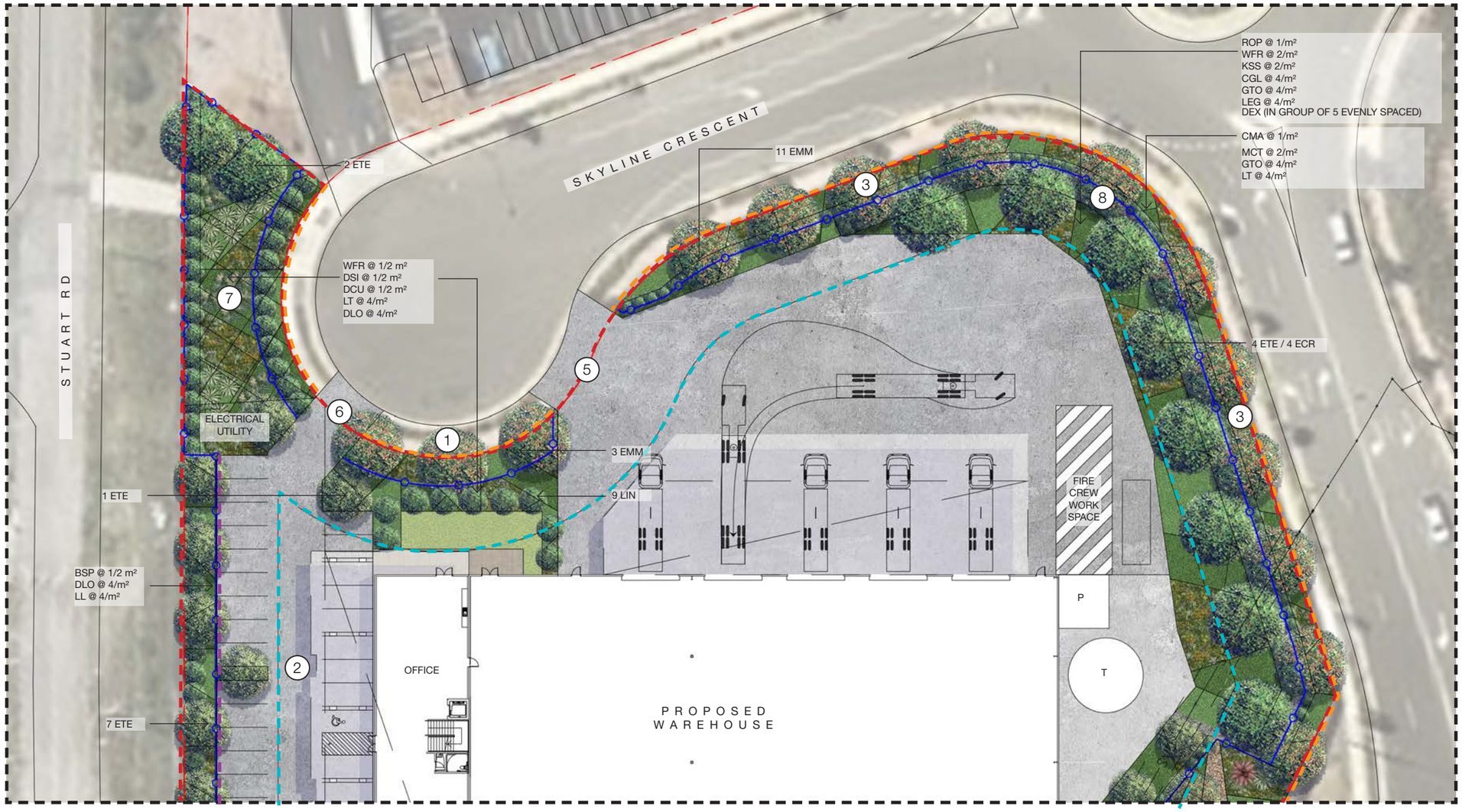
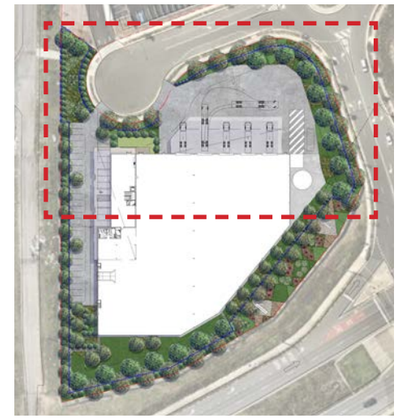
LANDSCAPE PLAN 01





KEYPLAN

KEY

- SITE BOUNDARY
- 2700mm HT METAL PALISADE SECURITY FENCE LOCATION TO ARCHITECT'S DETAILS
- CONCRETE EDGING
- RETAINING WALL TO ENGINEER'S DETAILS
- APZ (ASSET PROTECTION ZONE) 10M
- PROPOSED TREE PLANTING REFER TO PLANT SCHEDULE
- MASS PLANTING BEDS REFER TO PLANT SCHEDULE
- PAVED / TILED SURFACE TO FUTURE DETAIL
- CONCRETE SURFACE TO FUTURE DETAIL
- DECOMPOSED GRANITE TO FUTURE DETAIL
- ALTERNATING GRAVEL TO FUTURE DETAIL

DESIGN NOTES

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3. ROAD SETBACK
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- Rows of screening shrubs on both sides of fence (3-4m HT), , min 2m clear trunk

4. FEATURE PLANTING AND GRAVEL BAND

5. TRUCK ENTRY / EXIT

6. CAR ENTRY / EXIT

7.FUTURE EASEMENT

8. 900mm MULCH ZONE

9. PYLON SIGNS TO FUTURE ARCHITECTURAL AND APPROVAL

PROJECT	DRAWING TITLE	PROJECT NO.	PURPOSE	SCALE	REVISION	DATE	DRAWN	CHECKED	PAGE	CLIENT
PROPOSED INDUSTRIAL DEVELOPMENT **LOT 1 - BRINGELLY ROAD BUSINESS HUB, NSW**	LANDSCAPE PLAN 01	H8-21027	FOR COORDINATION	1:500 @A3	B	18.05.2022	KM	DV	L 10	ESR

0 5 10 15 20 25m

SCALE 1:500 AT A3

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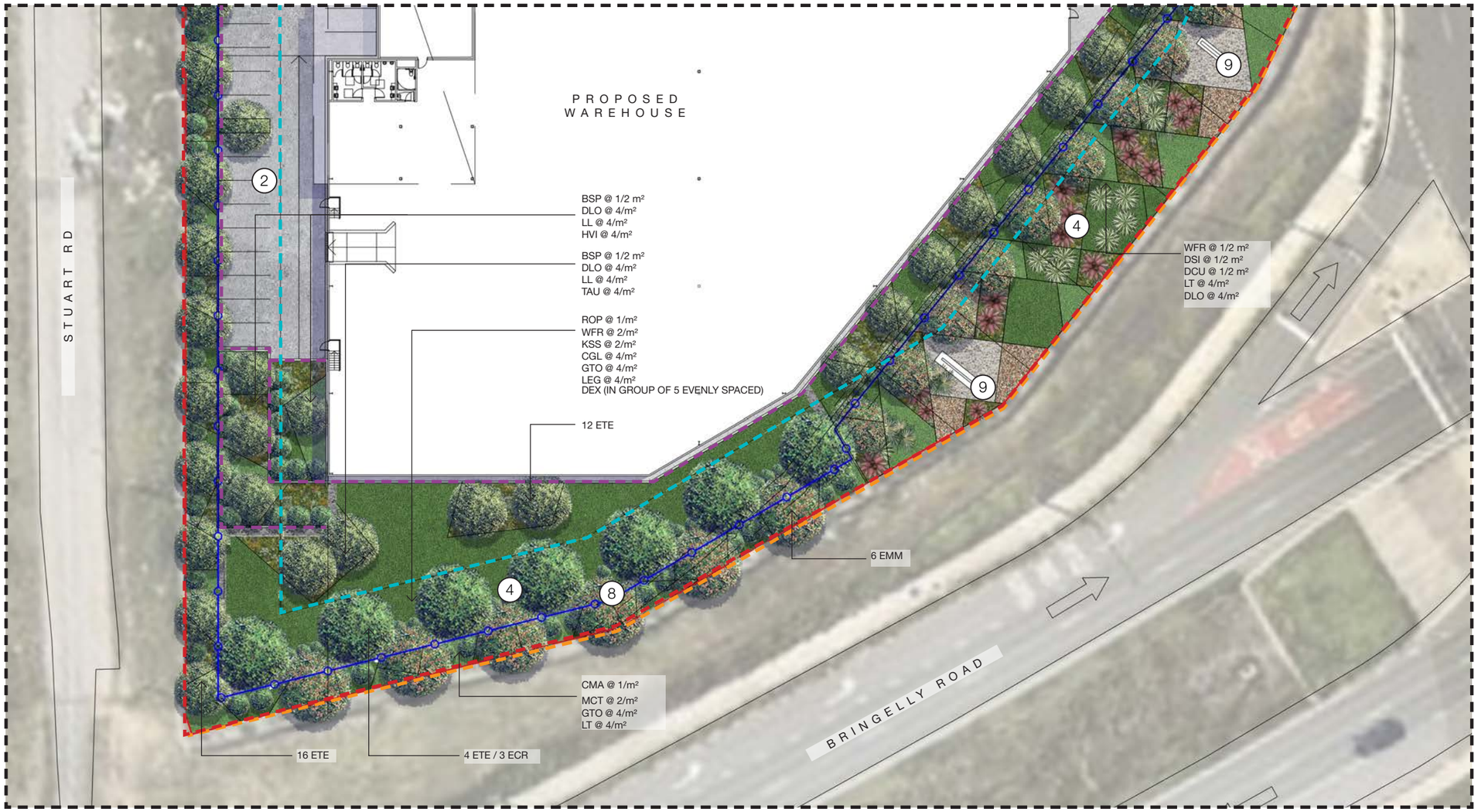
LANDSCAPE PLAN 02



KEYPLAN

KEY

- SITE BOUNDARY
- 2700mm HT METAL PALISADE SECURITY FENCE LOCATION TO ARCHITECT'S DETAILS
- CONCRETE EDGING
- RETAINING WALL TO ENGINEER'S DETAILS
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4. FEATURE PLANTING AND GRAVEL BAND

5. TRUCK ENTRY / EXIT

6. CAR ENTRY / EXIT

7.FUTURE EASEMENT

8. 900mm MULCH ZONE

9. PYLON SIGNS TO FUTURE ARCHITECTURAL AND APPROVAL

PROJECT	DRAWING TITLE	PROJECT NO.	PURPOSE	SCALE	REVISION	DATE	DRAWN	CHECKED	PAGE	CLIENT
PROPOSED INDUSTRIAL DEVELOPMENT **LOT 1 - BRINGELLY ROAD BUSINESS HUB, NSW**	LANDSCAPE PLAN 02	H8-21027	FOR COORDINATION	1:500 @A3	B	18.05.2022	KM	DV	L 11	ESR

0 5 10 15 20 25m

SCALE 1:500 AT A3

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INDICATIVE PLANT SCHEDULE (ESR GUIDELINES)

CODE	BOTANICAL NAME	COMMON NAME
	TREES	
ETE	Eucalyptus tereticornis	
ECR	Eucalyptus crebra	
EMM	Eucalyptus molucanna	Grey Box
LIN	Lagerstroemia indica	Crepe Myrtle
MLG	Magnolia 'Little Gem'	
MDE	Melaleuca decora	Feather Honeymyrtle
MST	Melaleuca styphelioides	Prickly Paperbark
	SHRUBS	
CMA	Carissa macrocarpa 'Desert Star'	Natal Plum
CAL	Correa alba	White Correa
LPG	Loropetalum 'Plum Gorgeous'	
MCT	Melaleuca 'Claret Tops'	Honey Myrtle
ROP	Raphiolepis 'Oriental Pearl'	Indian Hawthrone
WFR	Westringia sp	Coastal Rosemary
KSS	Kalanchoe 'Silver Spoons'	
	GROUNDCOVERS + GRASSES	
ACC	Adenanthos cuneatus 'Coral Carpet'	Jug Flower
CGL	Carpobrotus glaucescens	Pigface
FGL	Festuca glauca	Blue Fescue
GTO	Gazania tomentosa	Silver Leaf Gazania
GPR	Grevillea 'Poorinda Royal Mantle'	
HVI	Hardenbergia violacea	Purple Coral Pea
HSC	Hibbertia scandens	
LEG	Liriope 'Evergreen Giant'	
LT	Lomandra 'Tanika'	Tanika Mat-Rush
MP	Myoporum parvifolium	Creeping Boobialla
PR	Pennisetum rubrum	Fountain Grass
TV	Tulbaghia violacea	Society Garlic

NOTE:
Plant list sourced from ESR Landscape Design Guidelines

PROJECT	DRAWING TITLE	PROJECT NO.	PURPOSE	SCALE	REVISION	DATE	DRAWN	CHECKED	PAGE	CLIENT
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INDICATIVE PLANT LIST

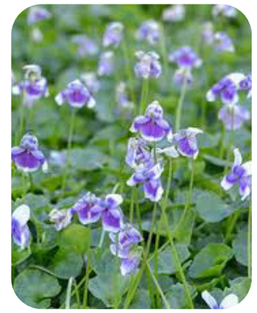
CODE	BOTANICAL NAME	COMMON NAME
	TREES	
AEL	Acacia elata	Cedar Wattle
CGA	Casuarina glauca	Swamp She Oak
CLI	Casuarina littoralis	Black She Oak
CV	Callistemon viminalis	Weeping Bottlebrush
EMM	Eucalyptus molucanna	Grey Box
ECR	Eucalyptus crebra	Narrow Leaved Ironbark
EFI	Eucalyptus fibrosa	Broad Leaved Ironbark
ESC	Eucalyptus sclerophylla	Hard Leaved Scribbly
EHA	Eucalyptus haemastoma	Scribbly Gum
EMI	Eucalyptus microcorys	Tallow-wood
EBO	Eucalyptus botryoides	Bangalay Tree
ETE	Eucalyptus tereticornis	River Red Gum
ESI	Eucalyptus sideroxylon	Red Ironbark
SGL	Syncarpia glomulifera	Turpentine
CCU	Casuarina cunninghamiana	River She Oak
MBR	Melaleuca bracteata	Melaleuca bracteata
MDE	Melaleuca decora	White Cloud Tree
MAZ	Melia azedarch	White Cedar
BAC	Brachychiton acerifolium	Illawarra Flame Tree
HFL	Hymenosporum flavum	Native Frangipani
MQU	Melaleuca quinquenervia	Broad-leaved Paper bark
ESC	Eucalyptus scoparia	Willow Gum
ABA	Angophora bakeri	Narrow leaved Apple
BPO	Brachychiton populneus	Kurrajong
CHR	Callistemon hannah ray	Hannah Ray Bottlebrush
CCI	Callistemon citrinus	Lemon Scented Bottlebrush
CSA	Callistemon salignus	Willow Bottlebrush
LPE	Leptospermum petersonii	Lemon-scented Tea tree
AFL	Acacia floribunda	Gossamer Wattle
ABI	Acacia baileyana	Cootamundra Wattle
CGU	Ceratopelum gummiferum	NSW Christmas Bush
ER	Elaeocarpus reticulatus	Blueberry Ash
BI	Banksia integrifolia	Coast Banksia
TL	Tristaniopsis laurina	Water Gum
BM	Backhousia myrtifolia	Grey Myrtle

CODE	BOTANICAL NAME	COMMON NAME
	SHRUBS	
WFR	Westringia fruticosa	Coast Rosemary
WLO	Westringia longifolia	Westringia
GRG	Grevillea ‘Robyn Gordon’	Grevillea ‘Robyn Gordon’
GRO	Grevillea rosmarinifolia	Rosemary Gevillea
MHY	Melaleuca hypericifolia	Hillock Bush
CCC	Callistemon ‘Captain Cook’	Bottlebrush
GSG	Grevillea ‘Sandra Gordon’	Grevillea ‘Sandra Gordon’
BER	Banksia ericifolia	Heath Banksia
LLA	Leptospermum laevigatum	Coast Tea Tree
MER	Melaleuca ericifolia	Melaleuca ericifolia
MNE	Melaleuca nesophyla	Melaleuca nesophyla
HSA	Hakea salicifolia	Silky Hakea
DEX	Doryanthes excelsa	Gymea Lily
LSP	Leptospermum spp.	Tea tree
BSP	Baekea spp.	Heath Myrtle
PTE	Pittosporum tenuifolium	New Zealand Pittosporum
MFI	Michelia figo	Port Wine Magnolia
PRE	Pittosporum revolutum	Rough Fruited Pittosporum
MTH	Melaleuca thymifolia	Thyme Honey-myrtle
IAU	Indigofera australis	Native Indigo
DVC	Dodonaea viscosa ssp.Cuneata	Wedge-leaf Hop Bush
BSS	Bursaria spinosa var spinosa	Blackthorn, Boxthorn
AIM	Acacia implexa	Hickory
	CLIMBERS	
PPA	Pandorea pandorana	Wonga Wonga Vine
HVI	Hardenbergia violacea	Purple Twining Pea
CAR	Clematis aristata	Traveller’s Joy
	GROUNDCOVERS + GRASSES	
TAU	Themeda australis	Kangaroo Grass
DLO	Dianella longifolia	Pale Flax Lily
VHE	Viola hederacea	Ivy-leafed Violet
LL	Lomandra longifolia	Spiny-headed Mat-rush
EDE	Eremophila debilis	Winter Apple
DRE	Dichondra repens	Kidney Weed













NOTE:
Plant list sourced from Liverpool Native Garden Factsheet and Liverpool DCP 2008

PROJECT	DRAWING TITLE	PROJECT NO.	PURPOSE	SCALE	REVISION	DATE	DRAWN	CHECKED	PAGE	CLIENT
PROPOSED INDUSTRIAL DEVELOPMENT **LOT 1 - BRINGELLY ROAD BUSINESS HUB, NSW**	INDICATIVE PLANT LIST	H8-21027	FOR COORDINATION	NTS	B	18.05.2022	KM	DV	L 13	ESR

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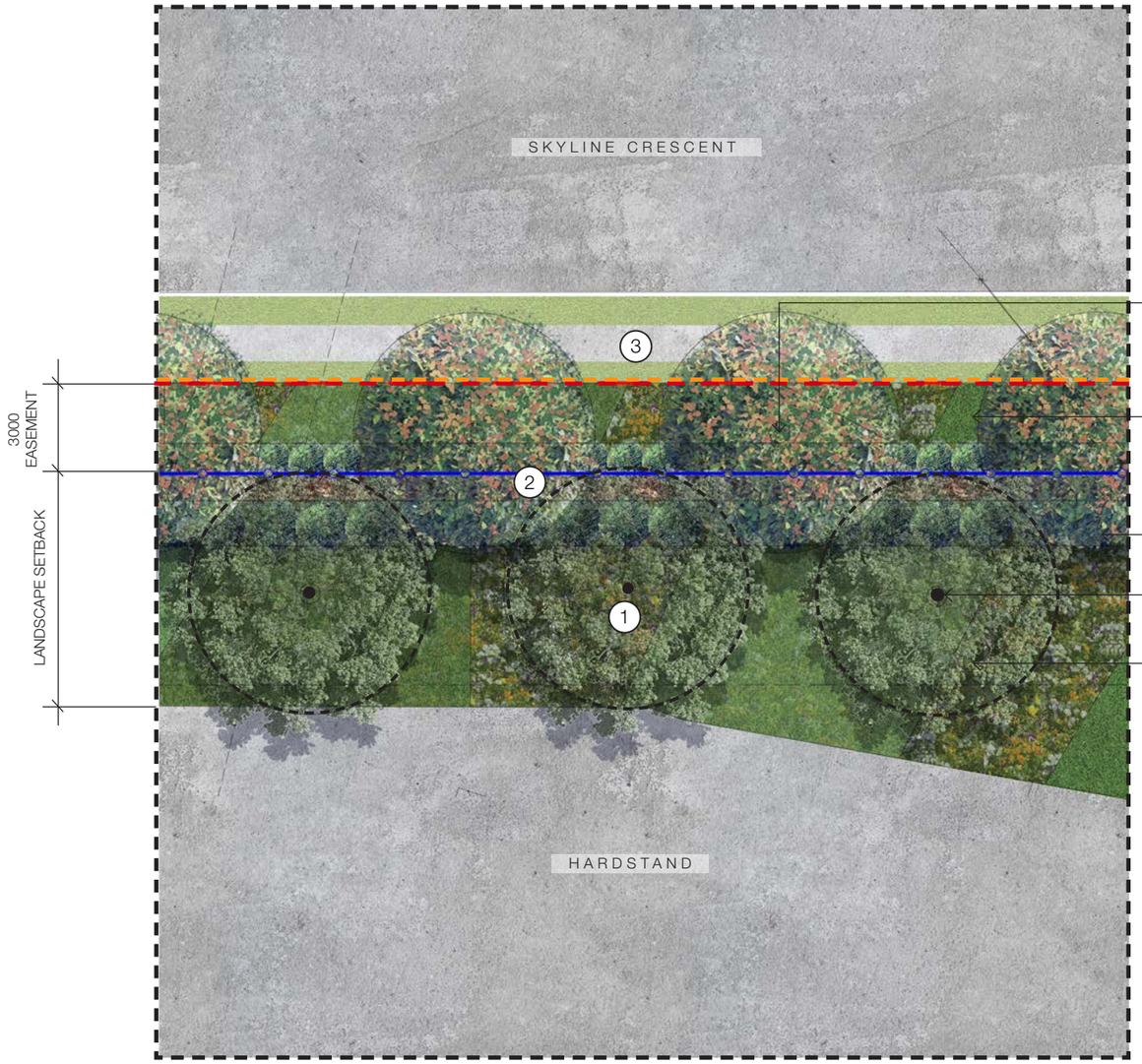
DETAIL PLAN: TYPICAL SETBACK PLANTING



KEY

- SITE BOUNDARY
- 2700mm HT METAL PALISADE SECURITY FENCE LOCATION TO ARCHITECT'S DETAILS
- CONCRETE EDGING
- PROPOSED TREE PLANTING REFER TO PLANT SCHEDULE
- MASS PLANTING BEDS REFER TO PLANT SCHEDULE
- CONCRETE SURFACE TO FUTURE DETAIL

DESIGN NOTES

1. SKYLINE CRESCENT SETBACK
2. 900mm MULCH ZONE (FOR MAINTENANCE)
3. EXISTING STREETSCAPE

PROJECT	DRAWING TITLE	PROJECT NO.	PURPOSE	SCALE	REVISION	DATE	DRAWN	CHECKED	PAGE	CLIENT
PROPOSED INDUSTRIAL DEVELOPMENT **LOT 1 - BRINGELLY ROAD BUSINESS HUB, NSW**	DETAIL PLAN: TYPICAL SETBACK PLANTING	H8-21027	FOR COORDINATION	1:200 @A3	B	18.05.2022	KM	DV	L 14	ESR

0 2 4 6 8 10m

SCALE 1:200 AT A3

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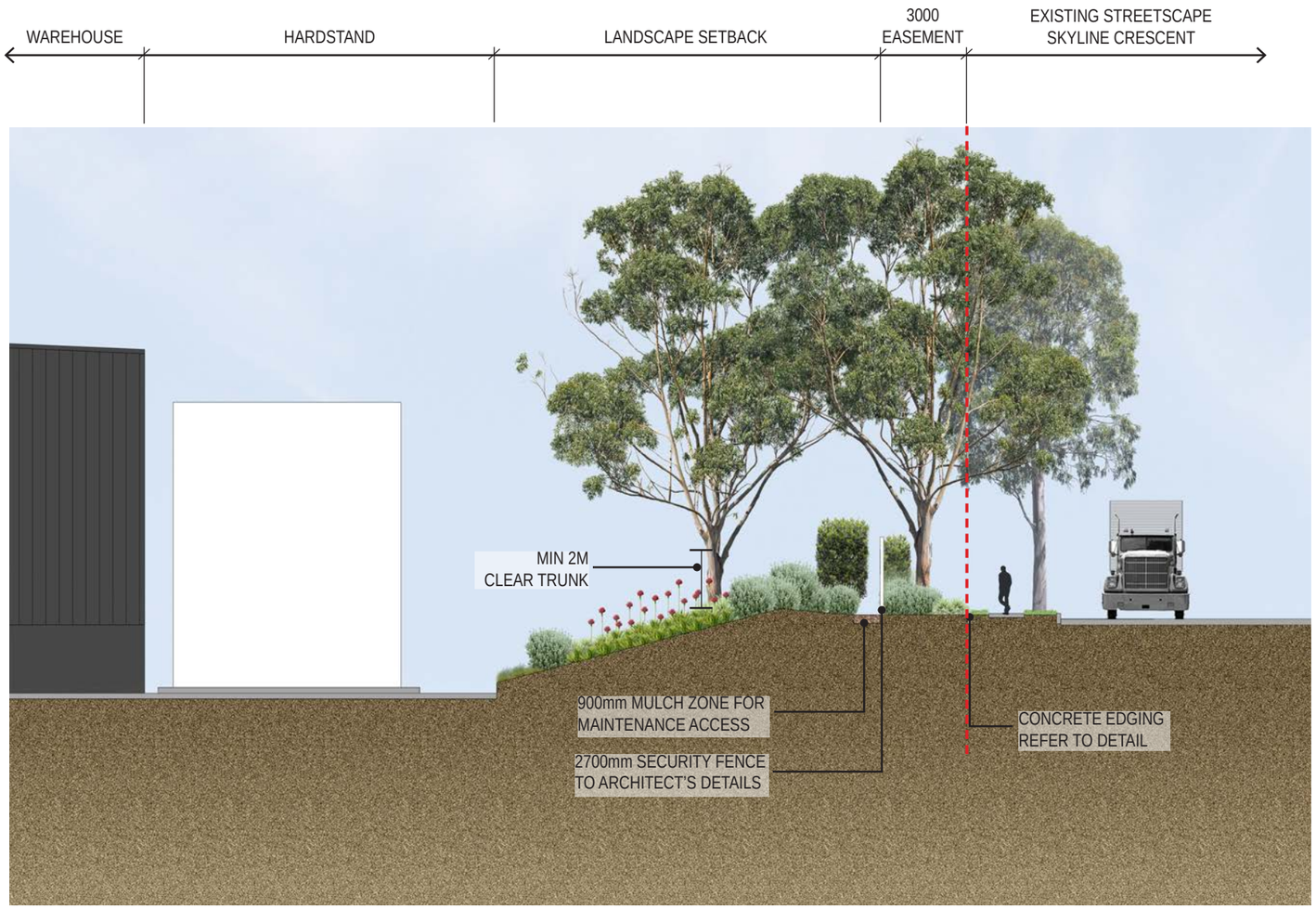
LANDSCAPE SECTION A-A

KEYPLAN



01 SECTION A-A
Scale 1:200@A3 / 1:100@A1

PROJECT	DRAWING TITLE	PROJECT NO.	PURPOSE	SCALE	REVISION	DATE	DRAWN	CHECKED	PAGE	CLIENT
PROPOSED INDUSTRIAL DEVELOPMENT **LOT 1 - BRINGELLY ROAD BUSINESS HUB, NSW**	LANDSCAPE SECTION A-A	H8-21027	FOR COORDINATION	1:200 @A3	B	18.05.2022	KM	DV	L 15	ESR

0 2 4 6 8 10m
SCALE 1:200 AT A3

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TYPICAL SPECIFICATION + MAINTENANCE NOTES

SERVICES
Before landscape work is commenced the Landscape Contractor is to establish the position of all service lines and ensure tree planting is carried out at least 3 metres away from these services. Service lids, vents and hydrants shall be left exposed and not covered by any landscape finishes (turfing, paving, garden beds etc.) Finish adjoining surfaces flush with pit lids.

PLANTING MIXTURE - (300mm DEPTH)
Imported Garden Mix.
Type: Premium
Available: Australian Native Landscapes (ANL)

TURF SOIL MIX (150mm DEPTH)
Type: Turf underlay
Available: Australian Native Landscapes (ANL)

MULCH
Unless noted otherwise, mulch shall be approved proprietary recycled wood fibre or pine bark material. Place mulch in all garden beds to a depth of 75mm after all specified plants are installed. Keep mulch clear of all plant stems and rake to an even plane, flush with the surrounding surfaces evenly graded between design surface levels. Over fill to allow mulch to settle to the specified depth.

COMPOST
Provide, in accordance with AS 4454, well rotted vegetative material or animal manure, free from harmful chemicals, inorganic matter, grass, weeds and the reproductive parts of unwanted plants.

PLANT MATERIAL
All plants supplied are to conform with those species listed in the Plant Schedule on the drawings. Generally plants shall be vigorous, well established, hardened off, of good form consistent with species or variety, not soft or forced, free from disease or insect pests with large healthy root systems and no evidence of having been restricted or damaged. Trees shall have a leading shoot. Immediately reject dried out, damaged or unhealthy plant material before planting. All stock is to be container grown for a minimum of six (6) months
prior to delivery to site.

FERTILISER
Provide proprietary fertilisers, delivered to the site in sealed containers marked to show manufacturer or vendor, weight, fertiliser type, N:P:K ratio, recommended uses, application rates and safety procedures. Apply appropriate fertiliser suited to the provenance of plants (indigenous or exotic) included in the design.

PLANTS
Supply plants in accordance with the landscape design drawings and schedules, which have the following characteristics:
• Large healthy root systems, with no evidence of root curl, restriction or damage;
• Vigorous, well established, free from disease and pests, of good form consistent with the species/ variety;
• Hardened off, not soft or forced, and suitable for planting in the natural climatic conditions prevailing at the site in full sun, partial shade or full shade conditions;
• Grown in final containers for not less than twelve weeks;
• Trees, unless required to be multi-stemmed, shall have a single leading shoot; and
• Containers shall be free from weeds and of appropriate size in relation to the specified plant size.

PLANT INSTALLATION
Following excavation of the planting hole, place and spread 15gms of wetting agent pre-mixed with one (1) litre of water. Place the plant correctly orientated to north or for best presentation. Backfill the planting holes with specified topsoil mixture. Lightly tamp and water to eliminate air pockets. Ensure that the backfill soil is not placed over the top of the root ball and that the root ball is not higher than the soil in which it is planted. Apply fertiliser, as specified around the plants in the soil at the time of planting.

EMBANKMENT STABILISATION
Where necessary and shown on the drawings prevent soil erosion or soil movement by stabilising embankments as follows. As a minimum, this should be on slopes steeper than or equal to 1:3 gradient. Stabilise embankments using biodegradable fibre reinforced heavy weight jute fabric. Lay fabric from top to bottom of slope. Install in accordance with manufacturer's specification, including 300 x 300mm anchor trench at top and bottom of slope, backfilled with soil over the fabric and compacted into the trenches. Using U-shaped galvanised steel pegs at 1000 mm centres generally and 250mm centres at edge overlaps, secure the fabric to the prepared soil surface. Plant through the fabric after it is installed.

ROOT BARRIER
Supply and install root control barriers to all new tree plantings adjacent to walls, paths, kerbs and all service trenches, where their proximity poses a threat to the stability of the built infrastructure. Install in accordance with manufacturer's recommendations.

STAKING AND TYING
Stakes shall be durable hardwood, straight, free of knots and twists, pointed at one end, in the following quantities
and sizes for each of the various plant pot sizes:
• Plants >25 lt: 1 off 38 x 38 x 1200mm;
• Semi-advanced plants >75 lt: 2 off 50x50x 1800mm;
• Advanced plants >100 lt: 3 off 50 x 50 x 2400mm.

TURF
Turf shall be delivered to site as 25mm minimum thick cut rolls. Obtain turf from a specialist grower of cultivated turf. Turf shall have an even thickness, free from weeds and other foreign matter. Deliver turf to the site within 24 hours of being cut and lay it within 24 hours of delivery. Prevent it form drying out between cutting and laying. Lay the turf in the following manner:
• In stretcher pattern, joints staggered and close butted;
• Parallel long sides of level areas, with contours on slopes; and
• To finish flush, after lightly tamping, with adjacent finished surfaces and design levels.
Species: Stenotaphrum secundatum Sir Walter Soft-leaf Buffalo.

LANDSCAPE MAINTENANCE PROGRAM

Maintenance shall mean the care and maintenance of the landscape works by accepted horticultural practice as rectifying any defects that become apparent in the landscape works under normal use. This shall include, but shall not be limited to, watering, mowing, fertilising, re-seeding, returfing, weeding, pest and disease control, staking and tying, replanting, cultivation, pruning, aerating, renovating, top dressing, maintaining the site in a neat and tidy condition as follows:-

GENERAL
The Landscape Contractor shall rectify defects during installation and that become apparent in the works under normal use for the duration of the contract Defects Liability Period. Unless contracted otherwise, the Landscape Contractor shall maintain the contract areas by the implementation of industry accepted horticultural practices for 52 weeks from Practical Completion of the works. The landscape maintenance works shall include, but not be limited to:
• Replacing failed plants;
• Pruning;
• Insect and pest control;
• Fertilising;
• Maintaining and removing stakes and ties;
• Maintaining mulch;
• Mowing and top dressing;
• Irrigation and watering;
• Erosion control; and
• Weeding and rubbish removal.

MAINTENANCE LOG BOOK
Implement and keep a maintenance log book recording when and what maintenance work has been undertaken and what materials, actions and decisions have been used, implemented and concluded to keep the landscape always looking its best. Enter data daily and review information every 2 weeks. Observe trends and develop a maintenance regime around seasonal and observed event occurrences.

MAINTENANCE ACTIVITIES
During the defects maintenance period schedule the following activities to occur on a timely basis.

• Plant replacement - Replace plants that have failed to mature, die or are damaged. Replacement plants shall be in a similar size and quality and identical species or variety to the plant that has failed. Replacement of plants shall be at the cost of the landscape contractor unless advised otherwise. If the cause of the failure is due to a controllable situation then correct the situation prior to replacing plants. Observe and replace failed plants within 2 weeks of observation.

• Pruning – Prune dead wood, broken limbs, dead or infected foliage and as needed to develop strong, healthy plants to achieve the shape and form expected of the plant type. Observe daily and prune plants on a needs basis.

• Insect, disease and pest control - Avoid spraying:
o if ever possible;
o in wet weather or if wet weather is imminent;
o if target plants are still wet after rain;
o in windy weather; and
o if non-target species are too close.
Immediately report to the Project Manager any evidence of intensive weed infestation, insect attack or disease amongst plant material. Submit all proposals to apply chemicals and obtain approval before starting this work. When approved, spray with herbicide, insecticide, fungicide as appropriate in accordance with the manufacturers' recommendations. Observe daily and act as necessary to control any infestation or disease. Record in the logbook all relevant details of spraying activities including:
o Product brand / manufacturer's name,
o Chemical / product name,
o Chemical contents,
o Application quantity and rate,
o Date of application and location,
o Results of application, and
o Use approval authority.

• Fertilising - Fertilise gardens with a proprietary slow release fertiliser applied in accordance with the manufacturer's directions and recommendations. Apply 6-12 monthly. Record in the logbook all relevant details of fertilising including:
o Product brand / manufacturer's name,
o Fertiliser / product name,
o Application quantity and rate, and
o Date of application and location.

• Stakes and ties - Adjust and replace as required to ensure plants remain correctly staked. Remove those not required at the end of the planting establishment period (Defects Liability Period). Inspect and act at least every 2 weeks.

• Maintaining mulch - Maintain the surface in a clean, tidy and weed free condition and reinstate the mulch as necessary to ensure correct depth as specified. Observe weekly and replenish mulch as required.

• Mowing and top dressing - Mow the turf to maintain a grass height of between 30-50mm. Do not remove more than one third of the grass height at any one time. Remove grass clippings from the site after each mowing. Top dress to a maximum of 10mm to fill depressions and hollows in the surface. Mow weekly/fortnightly in warmer months. Mow monthly or as required in cooler months. Top dress at approximately 6 monthly intervals.

• Irrigation and watering - Maintain the irrigation system to sure that each individual plant receives the required amount of water to maintain healthy and vigorous growth. Adjust and calibrate as required. Provide additional watering, if necessary but inspect irrigation weekly and make repairs as necessary.

• Erosion control - Where necessary, maintain the erosion control fabric in a tidy and weed free condition and reinstate as necessary to ensure control measures are effective where deemed necessary. Inspect every 2 weeks and act to repair any damage as soon as possible.

• Weeding and rubbish removal - During the plant establishment period remove by hand, rubbish and weed growth that may occur or re-occur throughout all planted, mulched and paved areas. The contractor shall target weeds that are capable of producing a major infestation of unwanted plants by seed distribution. Whenever possible, time weed removal to precede flowering and seed set. Constant observation and removal of weeds is essential,

IRRIGATION

Scope: Unless otherwise noted or instructed irrigate all planted areas shown on plans including planters, tubs, gardens, turf and the like. The irrigation system shall be an automatic permanent system, with an irrigation controller self operated via a soil moisture sensor. The system shall be calibrated to deliver the optimum rate and volume of water appropriate to the type of plants in the design. The system shall be adjustable and fully serviceable. The layout of the entire irrigation system shall focus on delivering the required amount of water to maintain healthy and vigorous growth. The irrigation system shall be such that, component theft, vandalism, over-spray and wetting of paths shall be reduced to a minimum or eliminated with the use of drip, pop-up sprinklers and judiciously placed fixed spray emitters. Generally, do not use fine mist emitters that provide a drifting mist that may wet paths and the buildings unless specifically required by the design.

The Landscape Contractor shall engage a qualitied irrigation consultant to design the system, document all components, accessories and materials for approval be the Landscape Architect prior to starting landscape works generally.

RELEVANT AUSTRALIAN STANDARDS

Soil: AS4419, AS3743, AS4454.
Mulch: AS4454.
Tree Stock: AS2303.
Pruning: AS4373.
Tree Protection: AS4970.
Contractors to comply with the above Australian Standards.

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PROPOSED INDUSTRIAL DEVELOPMENT **LOT 1 - BRINGELLY ROAD BUSINESS HUB, NSW**	TYPICAL SPECIFICATION + MAINTENANCE NOTES	H8-21027	FOR COORDINATION	NTS	B	18.05.2022	KM	DV	L 16	ESR

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