

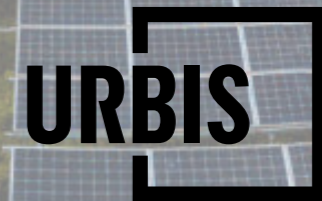
BARWON SOLAR FARM

VICTORIA LANDSCAPE STRATEGY

ADVERTISED
PLAN

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INTRODUCTION

Elgin Energy plans to submit a Planning Application for the development of the Barwon Solar Project (the Project) at Little River-Ripley Road, Balliang. The Project is located approximately 30 kilometres (km) north of Geelong and approximately 45 km west of Melbourne.

This design report has been prepared by Urbis Pty Ltd (Urbis) to support the amelioration recommendations of a preliminary Landscape Visual Impact Assessment (LVIA) and for inclusion in the Planning Application.

SITE CONTEXT

The Project is located between the northern foothills of the You Yangs and the Little River and will be situated on both the north and south sides of Little River-Ripley Road (refer to Figure 1).

Werribee is located approximately 20 km to the east and the township of Little River approximately 9 km to the southeast.

The northernmost boundary of the You Yangs Regional Park is located 3.3 km to the south of the Project, while the sinuous course of the Little River forms the projects northern boundary.

The Ford Proving Ground abuts the south-central part of the Project and the Mount Rothwell Biodiversity Conservation Centre, the south-eastern boundary of the Project.

The land use of the Project site and surrounding area is highly varied and, in addition to the Proving Ground and conservation area, includes grazing and cropping to the north and west, and extractive industries to the southwest.

DEVELOPMENT PROPOSAL

The Project involves the erection of 512,490 individual solar panels on the approximately 735 ha site, as well as the installation of inverters, transformers and the construction of a substation and battery energy storage system (BESS).

An agricultural type stockproof fence will be installed around the boundary of the site, with a 2.3 m high security fence set 5 metres to the inside of it. The 5 m space between the fences will enable the establishment of a buffer planting zone to screen the Proposal from surrounding sensitive viewpoints.

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2 View from Mt Rothwell Residence



3 View from Little River-Ripley Road



4 View from Little River-Ripley Road



DESIGN RESPONSE

METHODOLOGY

Screen Planting

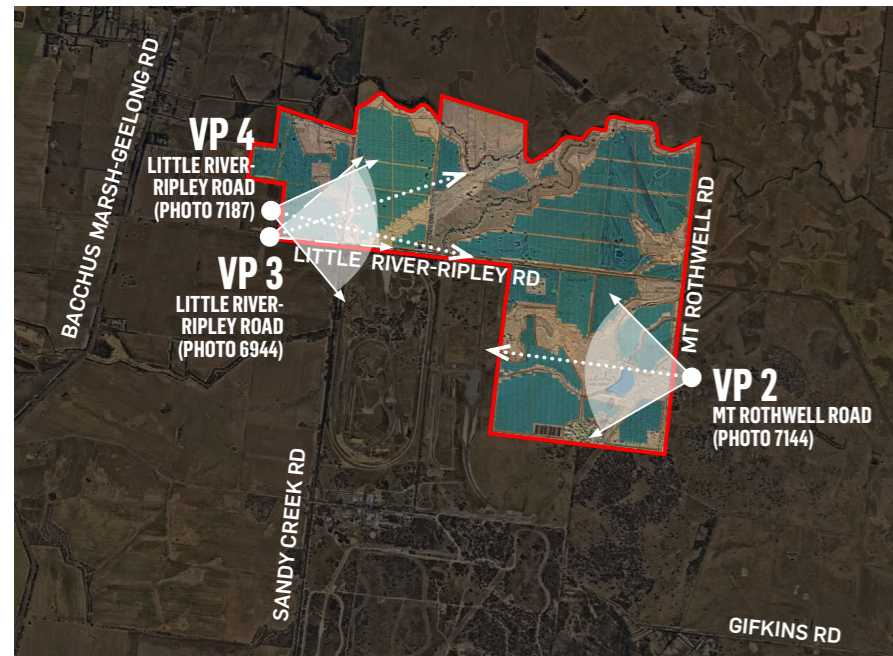
The Landscape and Visual Impact Assessment report (LVIA) has identified viewpoints surrounding the Project subject to highest visual impacts. The most effective way to ameliorate views is to establish screen planting around the perimeter of the Project. The Project has exposed boundaries to the east, south and west which will be planted with screening species. The northern boundary is well screened by vegetation lining the Little River, with few proximate sensitive viewpoints.

Planting along the western and eastern boundaries, as well sections of the boundaries adjacent to Little River-Ripley Road, will mitigate impacts to VP2, VP3 and VP4, receptors with the highest levels of visual impact (refer to Figure 2).

The Project has been set back from VP2. Additionally, the planting has also been set back from the property boundary to allow for foreground views and with species selected to ensure that the Project is screened, while maintaining views over the Project to the distant Brisbane ranges.

The Project and screen planting have been set back from VP4 to allow for foreground views.

The low-profile form of the majority of the Project, primarily the solar array, which is approximately 2.4 m in height at full tilt, will ensure that planting will be able to provide screening within a relatively short period of time.



PLANT ESTABLISHMENT MAINTENANCE

Maintenance Notes:

General

- Maintain a minimum 3 metre height of screening shrubs.
- Maintain 100mm maximum height of grassland within property boundary.
- Planting maintenance period: the planting maintenance period will be 52 weeks and will commence from the date of practical completion of each phase of planting works (hereby specified to be a separable part of the works). It is anticipated that planting works will be undertaken in one phase.
- Planting maintenance program: 2 weeks prior to practical completion, furnish a proposed planting establishment program, and amend it as required. Such proposal should contain details of the types and frequency of maintenance activities involved with the establishment of plants and grassed areas. Comply with the approved program.
- Planting maintenance log book: keep a log book recording when and what maintenance work has been done and what materials, including approved toxic materials, have been used. Log book must be signed off by the client's representative after each maintenance visit. Maintain log book in location nominated by superintendent. All entries are to be initialled by person nominated by superintendent. Log book to contain a copy of the approved planting establishment program.
- Product warranty: submit the supplier's written statement certifying that plants are true to the required species and type, and are free from diseases, pests and weeds.
- Insurance: the contractor is to ensure suitable insurance cover and / or bank guarantee is in place for the theft and / or damage of all works executed under this contract for the plant maintenance period.

Solar Panels

Urbis understand the following:

- Solar panels will be surrounded by existing pasture grass for easy maintenance. Grass to be maintained to maximum 100mm height through grazing or slashing.
- Existing pasture grass to continue underneath solar panels extent.
- Gravel maintenance paths provided for vehicular maintenance circulation.

Watering

If the watering regime is intended to be amended the contractor must seek written approval from the superintendent immediately prior to the deferment of watering.

Watering permits: the contractor is responsible for obtaining the necessary watering permits required to carry out the watering as specified.

Watering Strategy

- Low water demand planting is proposed.
- Passive irrigation is proposed on site.
- Water truck watering to be utilised during establishment/maintenance period.

Planting Maintenance

Protection of works: provide any fencing or barriers necessary to protect the planting from damage throughout the planting establishment period.

Recurrent works: throughout the planting maintenance period, continue to carry out recurrent works of a maintenance nature all to the extent required to ensure that the plants are in the best possible condition at the end of the planting maintenance period. These activities are including but not limited to:

- weeding,
- rubbish removal,
- fertilizing,
- pest and disease control,
- adjusting / replacing stakes and ties
- topping up locally sourced mulch,
- cultivating,
- pruning,
- keeping the site neat and tidy.

Replacements: the contractor is responsible for the replacement of failed, damaged or stolen trees, shrubs and groundcovers throughout the planting establishment period.

Weeding

Generally: regularly remove, by hand, rubbish and weed growth that may occur or recur throughout turfed, planted and mulched areas. Continue eradication throughout the course of the works and during the planting establishment periods.

Weed eradication: the contractor must make allowance for a higher level of maintenance during establishment to ensure that weeds are controlled.

Herbicide use: re-application of herbicide such as Ronstar or equivalent if required.

Compliance

- Requirement: plant maintenance shall be deemed complete subject to the following compliance with the criteria:
- repairs to planting media completed,
- ground surfaces are covered with the specified treatment to the specified depths,
- pests, disease, or nutrient deficiencies or toxicities are not evident.

- organic and rock mulched surfaces have been maintained in a weed free and tidy condition and to the specified depth
- vegetation is established and well formed
- plants have healthy root systems that have penetrated into the surrounding, undisturbed ground and not able to be lifted out of its planting hole
- vegetation is not restricting essential sight lines and signage
- collection and removal of litter
- all non-conformance reports and defects notifications have been closed out.
- plant maintenance compliance schedule.

Pruning

- Generally: tree plantings shall be left to grow in a form consistent with the growth habit of the species.
- Pruning: cut back tree canopies and groundcovers to road verges, and light poles and signs as required achieving clear sight lines when viewed along roadway.

Requirement: pruning to be undertaken by a qualified tree surgeon / arborist

Completion

- Cleaning: remove temporary protective fences and tree stakes at the end of the planting maintenance period.

Safety and Security

An integrated approach to safety will improve actual and perceived personal security in pedestrian public domain areas. Signage will be provided across the precinct to assist with wayfinding and navigation through the site.

VEGETATION RETENTION STRATEGY

- Refer to Ecological Consultants 'Biodiversity Assessment' for detailed fauna and flora reports and species
- Existing vegetation will be retained where possible.
- Dead trees with habitat value will be relocated. Refer to Ecological Consultants report for more information.

PROPOSED PLANT SPECIES

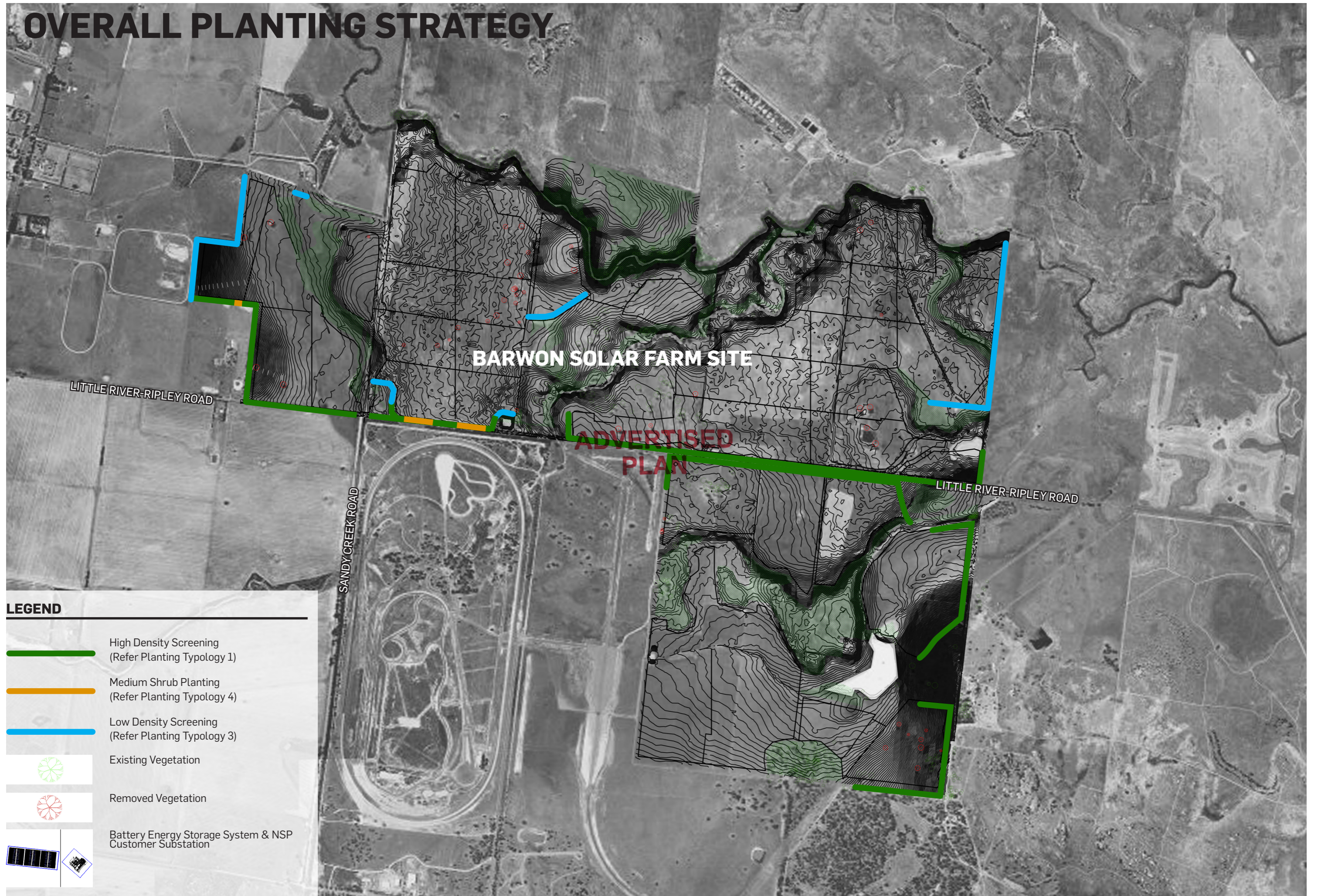
- Given the location of the Project between the foothills of the You Yangs and the Little River, the plant species have been drawn from a number of EVC's and Council plant lists:
 - EVC 55 Plains Grassy Woodland;
 - EVC 72 Granitic Hills Woodland;
 - EVC 71 vHills Herb Rich Woodland; and
 - COGG Meredith and Steiglitz indigenous plants.

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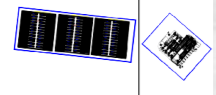
LANDSCAPE STRATEGY

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OVERALL PLANTING STRATEGY



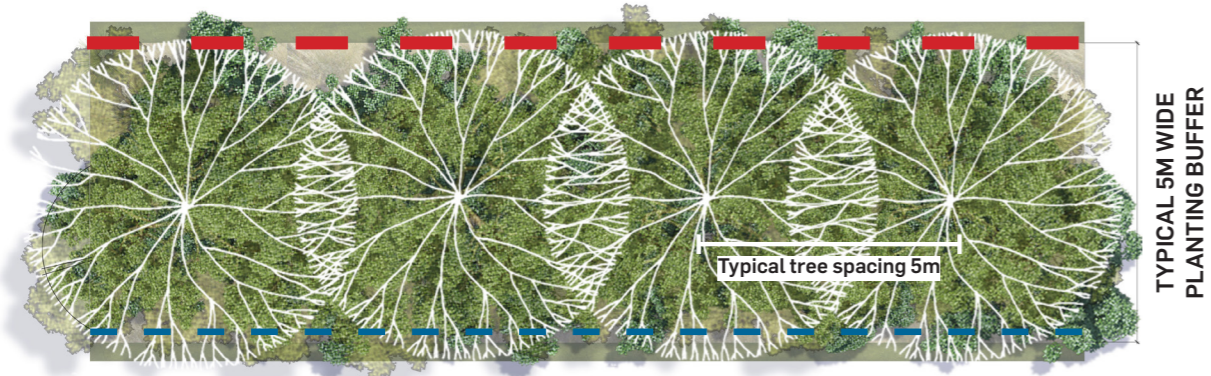
LEGEND

-  High Density Screening (Refer Planting Typology 1)
-  Medium Shrub Planting (Refer Planting Typology 4)
-  Low Density Screening (Refer Planting Typology 3)
-  Existing Vegetation
-  Removed Vegetation
-  Battery Energy Storage System & NSP Customer Substation

PLANTING TYPOLOGIES

BUFFER PLANTING TYPE 1

HIGH DENSITY SCREEN PLANTING



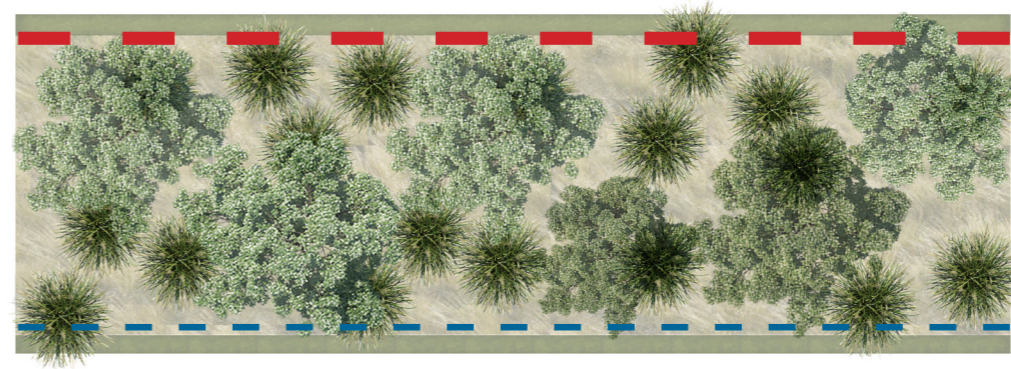
TYPICAL 5M WIDE PLANTING BUFFER

Typical tree spacing 5m

TREES			
COMMON NAME	SCIENTIFIC NAME	MATURE SIZE (H X W)	POT SIZE
Buloke	<i>Allocasuarina luehmannii</i>	15m x 6m	5L
Drooping Sheoak	<i>Allocasuarina verticillata</i>	10m x 5m	5L
Yellow Box	<i>Eucalyptus melliodora</i>	10-30m x 8-25m	5L
Grey Box	<i>Eucalyptus microcarpa</i>	25m x 15m	5L
Yellow Gum	<i>Eucalyptus leucoxylon</i>	15m x 10m	5L
Red Stringybark	<i>Eucalyptus macrorhyncha</i>	30m x 15m	5L
Bundy	<i>Eucalyptus goniocalyx</i>	20m x 15m	5L
Moonah	<i>Melaleuca lanceolata</i>	7m x 5m	5L
SHRUBS			
COMMON NAME	SCIENTIFIC NAME	MATURE SIZE (H X W)	POT SIZE
Varnish Wattle	<i>Acacia verniciflua</i>	4m x 5m	Tube
Woolly Tea-tree	<i>Leptospermum lanigerum</i>	3m x 3m	Tube
Heath Tea-tree	<i>Leptospermum myrsinoides</i>	3m x 4m	Tube
Prickly Geebung	<i>Persoonia juniperina</i>	2m x 1m	Tube
TUFTING PLANTS			
COMMON NAME	SCIENTIFIC NAME	MATURE SIZE (H X W)	POT SIZE
Berry Saltbush	<i>Atriplex semibaccata</i>	0.4m x 1.5m	Tube
Kangaroo Grass	<i>Themeda triandra</i>	1.5m x 0.5m	Tube

BUFFER PLANTING TYPE 2

MEDIUM SHRUB PLANTING





TYPICAL 5M WIDE PLANTING BUFFER

SHRUBS			
COMMON NAME	SCIENTIFIC NAME	MATURE SIZE (H X W)	POT SIZE
Gold Dust Wattle	<i>Acacia acinacea</i>	2m x 2m	Tube
Hedge Wattle	<i>Acacia paradoxa</i>	4m x 5m	Tube
Sweet Bursaria	<i>Bursaria spinosa</i>	5m x 7m	Tube
Bushy Needlewood	<i>Hakea sericea</i>	4m x 2m	Tube
Shrub Violet	<i>Hymenanthera dentata</i>	3m x 1.5m	Tube

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LEGEND

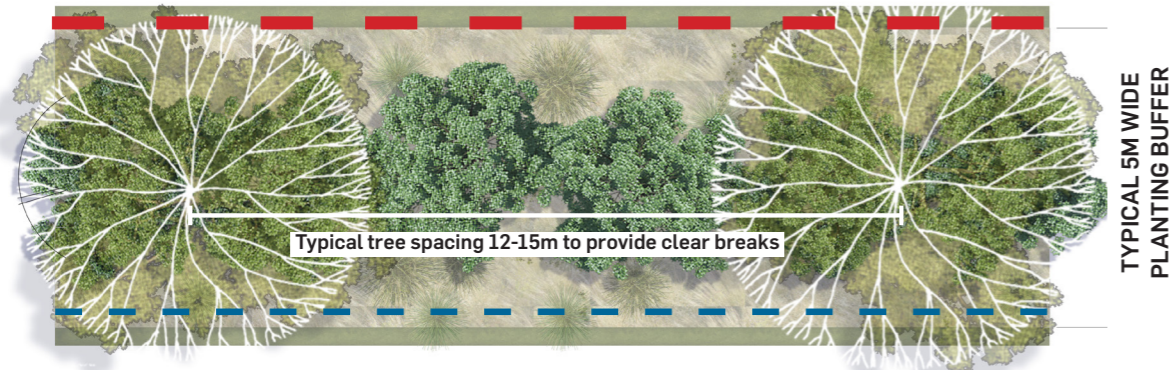
-  Shrub \ Screen Planting*
-  Tufting Planting*
-  Existing Grass
-  Security Mesh Fence
-  Property Boundary Line

*Plants to be selected from Proposed Planting List

PLANTING TYPOLOGIES

BUFFER PLANTING TYPE 3



LOW DENSITY SCREEN PLANTING



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TREES			
COMMON NAME	SCIENTIFIC NAME	MATURE SIZE (H X W)	POT SIZE
Buloke	<i>Allocasuarina luehmannii</i>	15m x 6m	5L
Drooping Sheoak	<i>Allocasuarina verticillata</i>	10m x 5m	5L
Yellow Box	<i>Eucalyptus melliodora</i>	10-30m x 8-25m	5L
Grey Box	<i>Eucalyptus microcarpa</i>	25m x 15m	5L
Yellow Gum	<i>Eucalyptus leucoxylon</i>	15m x 10m	5L
Red Stringybark	<i>Eucalyptus macrorhyncha</i>	30m x 15m	5L
Bundy	<i>Eucalyptus goniocalyx</i>	20m x 15m	5L
Moonah	<i>Melaleuca lanceolata</i>	7m x 5m	5L
SHRUBS			
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Woolly Tea-tree	<i>Leptospermum lanigerum</i>	3m x 3m	Tube
Heath Tea-tree	<i>Leptospermum myrsinoides</i>	3m x 4m	Tube
Prickly Geebung	<i>Persoonia juniperina</i>	2m x 1m	Tube
TUFTING PLANTS			
COMMON NAME	SCIENTIFIC NAME	MATURE SIZE (H X W)	POT SIZE
Black Anther Flax Lilly	<i>Dianella revoluta</i>	1m x 1m	Tube
Grey Tussock-grass	<i>Poa sieberiana</i>	0.6m x 0.2	Tube
Common Wallaby-Grass	<i>Rytidosperma caespitosum</i>	0.2-0.4m x 0.4m	Tube
Bristly Wallaby-grass	<i>Rytidosperma seaceum</i>	0.6m x 0.4m	Tube
Rough Speargrass	<i>Auustrospira scabra</i>	0.3-0.8m x 0.5m	Tube

LEGEND

-  Shrub \ Screen Planting*
-  Tufting Planting*
-  Existing Grass
-  Security Mesh Fence
-  Property Boundary Line

*Plants to be selected from Proposed Planting List

PLANTING PALETTE

EXAMPLE SHRUBS



Acacia acinacea



Acacia paradoxa



Bursaria spinosa



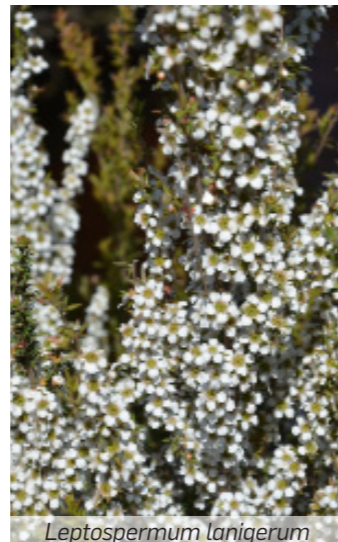
Hakea sericea



Hymenanthera dentata



Persoonia juniperina



Leptospermum lanigerum

EXAMPLE TUFTING



Atriplex semibaccata



Poa sieberiana



Dianella revoluta



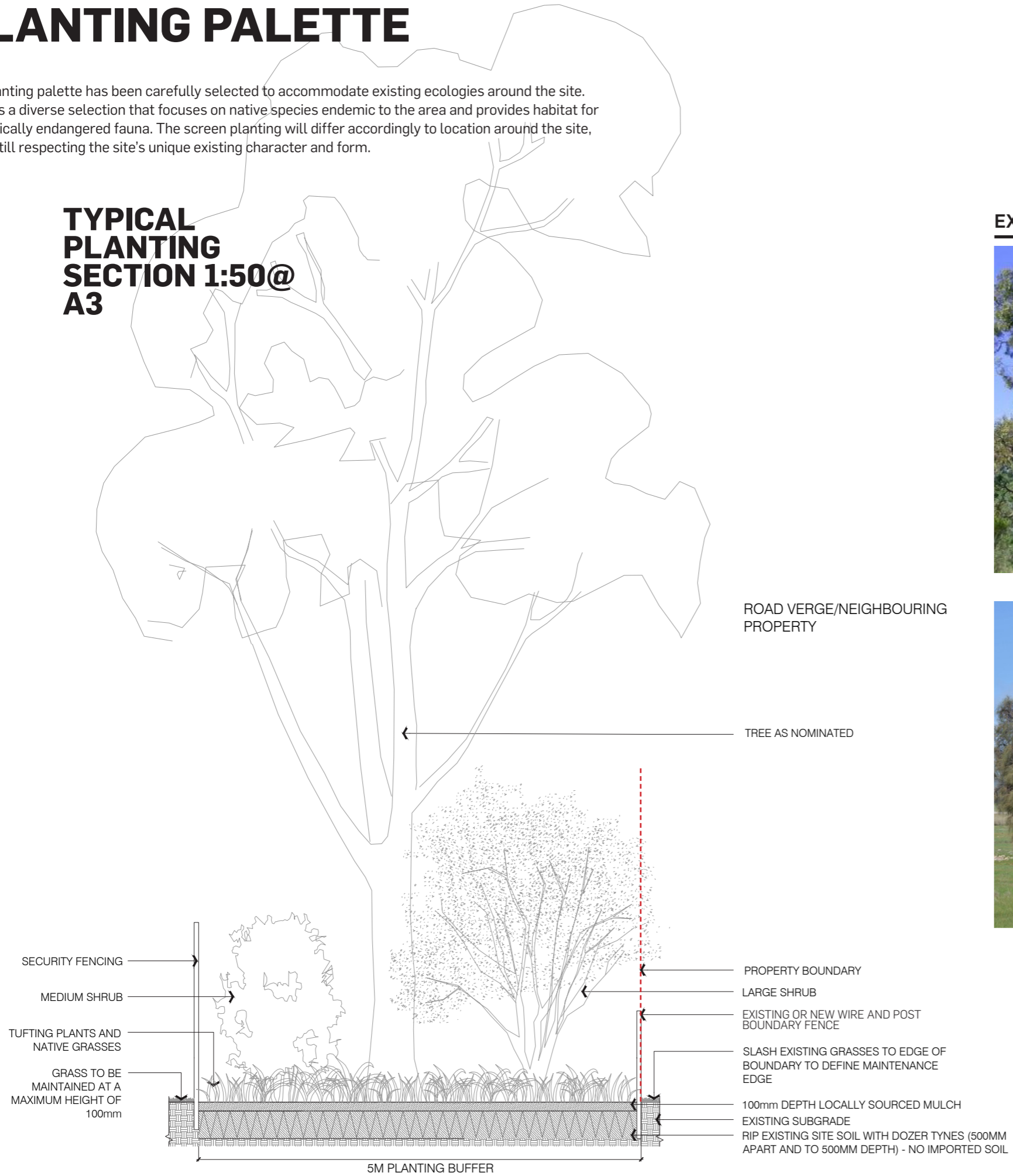
Themeda triandra

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PLANTING PALETTE

The planting palette has been carefully selected to accommodate existing ecologies around the site. There is a diverse selection that focuses on native species endemic to the area and provides habitat for the critically endangered fauna. The screen planting will differ accordingly to location around the site, while still respecting the site's unique existing character and form.

TYPICAL PLANTING SECTION 1:50@ A3



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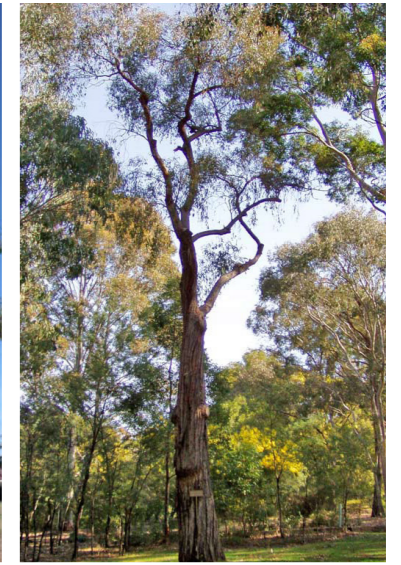
EXAMPLE TREES



Eucalyptus goniocalyx



Eucalyptus melliodora



Eucalyptus macrorhyncha



Allocasuarina verticillata



Eucalyptus microcarpa



Allocasuarina luehmannii

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