WARRNAMBOOL
CITY COUNCIL

Albert Park Revegetation Plan

OCTOBER 2022

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ACKNOWLEDGEMENTS

A number of groups and individuals have contributed to the information contained in this document, including staff of Warrnambool City Council, Department of Environment, Land, Water and Planning and representatives of Warrnambool Field Naturalists and Albert Park user groups.

Council acknowledges the Eastern Maar Nation as the original custodians of the lands of this general area. Council also acknowledges the descendants of the ancestors of Aboriginal nations within the lands forming the Great South Coast and particularly the elders of the indigenous communities within both Warrnambool and this region.

PREPARED BY:

ACRONYMS

DELWP	Department Environment, Land, Water and Planning
EVC	Ecological Vegetation Class
EVCs	Ecological Vegetation Classes
PPRZ	Public Park and Recreation Zone
WCC	Warrnambool City Council
WSUD	Water Sensitive Urban Design

1. INTRODUCTION

The Albert Park Precinct is approximately 57 hectares of public land located one kilometre north-east of the Warrnambool town centre. The Precinct includes Warrnambool College, Wannon Water facilities, Grieve Street Park, Warrnambool Community Garden, Warrnambool Japanese Garden and the Albert Park Reserve.

Albert Park Reserve makes up approximately 41 hectares of the Precinct and contains facilities for a range of sporting groups and clubs. Facilities within the Reserve include the RW Mack Oval, Reid Oval, Walter Oval, Warrnambool Hockey Fields, City Memorial Bowls Club and infrastructure for the Warrnambool Pony Club. The location of Albert Park is shown in Figure 1.

In 2019, the Albert Park Integrated Water Management Plan was prepared. This Plan identified a range of improvements for Albert Park, including increasing native vegetation within the park and possible future biodiversity link (biolink) between the park and Russells Creek. The benefits of increasing native vegetation with the park include:

- *Increase cooling*
- *Mitigate the urban heat island effect*
- *Improve amenity*
- *Improve air quality*
- *Provide refuge for wildlife to move safely within an urban environment*
- *Create wildlife habitat, and*
- *Intercept stormwater runoff*

(WCC, 2019, p. 15)

The extension of native revegetation works east of Grafton Road does not form part of the scope of this revegetation project. At a later date, a biolink extending between Albert Park and Russells Creek may be considered by Council. This link would be subject to further consultation and design.

Revegetation works within the park also provide the opportunity to provide future biolinks south to the foreshore. The Warrnambool Coastcare Landcare Group and the Warrnambool Community Garden have requested that Albert Park form part of a future Blue Wren biolink.

Any future biolinks would complement works already being undertaken across the municipality outlined in Council plans such as the South of Merri Open Space Precinct Plan 2020 (WCC) and Warrnambool Coast Vegetation Management Plan 2012 (WCC). Providing a biolink, north to south, across much of the municipality linking the Merri River, Russells Creek, Hopkins River and the foreshore.

The Integrated Water Management Plan highlighted increasing vegetation in the following areas:

- *East of Mack Oval*
- *At the corner of Grafton Road and Cramer Street, as Warrnambool College has expressed interest in increasing vegetation in this area.*
- *The middle of Albert Park, creating a link from the existing established vegetation and the native Kangaroo Grass closer to Russells Creek.*

  (WCC, 2019, p. 15)

Revegetation within Albert Park will form '*an essential action in supporting the IWM and improving the environmental and biodiversity values of the park* (WCC, 2019, p, 15).'

The Existing Conditions Plan (Appendix 1) and Site Analysis Plan (Appendix 2) show the location and existing conditions in Albert Park. Opportunities for revegetation works and general improvements to enhance biodiversity and public use of the Park are identified on these plans.

1.1 WHAT INFORMED THE REVEGETATION PLAN?

The Albert Park Revegetation Plan draws on the site analysis, discussions with stakeholders and existing strategies, frameworks and policies relating to revegetation and 'greening' of Warrnambool.

Relevant plans, policies, strategies and frameworks applicable to landscaping and revegetation of Albert Park include:

- *Warrnambool Planning Scheme, Warrnambool City Council*
- *Warrnambool Council Plan 2021-2025, Warrnambool City Council*
- *Warrnambool Open Space Strategy 2014, Warrnambool City Council*
- *Green Warrnambool 2018, Warrnambool City Council*
- *Warrnambool City Council Revegetation Policy and Guidelines 2021,* and
- *Albert Park Integrated Water Management Plan 2019, Warrnambool City Council*

FIGURE 1: ALBERT PARK SITE LOCATION

1.2 WHAT IS THE PURPOSE OF THE REVEGETATION PLAN?

The purpose of the Albert Park Revegetation Plan is to define areas suitable for revegetation zones, taking into consideration all users of the park, and to make recommendations for planting within these zones. The Plan seeks to provide improved ecological outcomes for the park whilst maintaining and enhancing social and recreational outcomes for park users.

Through discussion with stakeholders, it was suggested that this site would present an excellent opportunity to provide habitat that focusses on bird and insect pollinators, including larvae of pollinating insects. Pollinators have not been a key focus of many revegetation projects in the Warrnambool area.

The objectives of revegetating areas of Albert Park are to:

- *Increase biodiversity through the planting of native plant species.*
- *Create an ecosystem that supports the establishment of pollinator species, particularly focusing on pollinator species for insects.*
- *Incorporate a range of local indigenous species, including from the local ecological vegetation class.*
- *Assist in achieving goals for Warrnambool 2040, Green Warrnambool and other adopted plans.*
- *Ensure safety of park users, by maintaining passive surveillance and providing adequate clearance alongside the path network.*

The Albert Park Revegetation Plan is provided at Appendix 3. This plan identifies areas or zones for future planting and the recommended vegetation categories.

2. PLANT ECOLOGY

The Warrnambool Plain Bioregion covers most of Warrnambool City. According to the State Government's modelled data (DELWP, 2020), the ecological vegetation class (EVC) that was likely to have been present prior to the 1750s in Albert Park was Damp Sands Herb-rich Woodland (EVC 3).

Figure 2 shows the modelled location of Ecological Vegetation Classes EVCs prior to the 1750s. (DELWP, 2020) (DELWP[1], 2020).

2.1 DAMP SANDS HERB-RICH WOODLAND (EVC 3)

Damp Sands Herb-rich Woodland (EVC 3) is dominated by Eucalypt forest or open woodland up to 15 m tall with a large shrub and ground layer. This EVC grows on moderately fertile, relatively well-drained sand or loamy topsoils over heavier subsoils. EVC 3 is located close to the coastline, separating the Coastal Dune Scrub and Swamp Scrub/Aquatic Herbland from the inland Plains Grassy Woodland.

In EVC 3, tree cover is approximately 15% and consists of Manna Gum (*Eucalyptus viminalis*), Swamp Gum (*Eucalyptus ovata*) and Blackwood (*Acacia melanoxylon*).

In EVC3 Understorey is a diverse range of shrubs, herbs and graminoids including Prickly Tea-tree (*Leptospermum continentale),* Silver Banksia (*Banksia marginata*), Common Heath (*Epacris impressa*), Running Postman (*Kennedia prostrata*), Tall Rush (*Juncus procerus*), Velvet Tussock-grass (*Poa rodwayi*), Tasman Flax-lily (*Dianella tasmanica*), Kangaroo Grass (*Themeda triandra*) and others. (DELWP1, 2020)

There are 29 typical species found in EVC 3. But not all of these 29 species are suitable for revegetation projects, due to difficulty in propagation and establishment. For this reason, it is considered appropriate to broaden the species selection to those from nearby EVCs, including EVC 53 Swamp Scrub, EVC 55 Plains Grassy Woodland and EVC 160 Coastal Dune Scrub as well as some native species outside of these EVCs.

2.2 EXISTING VEGETATION

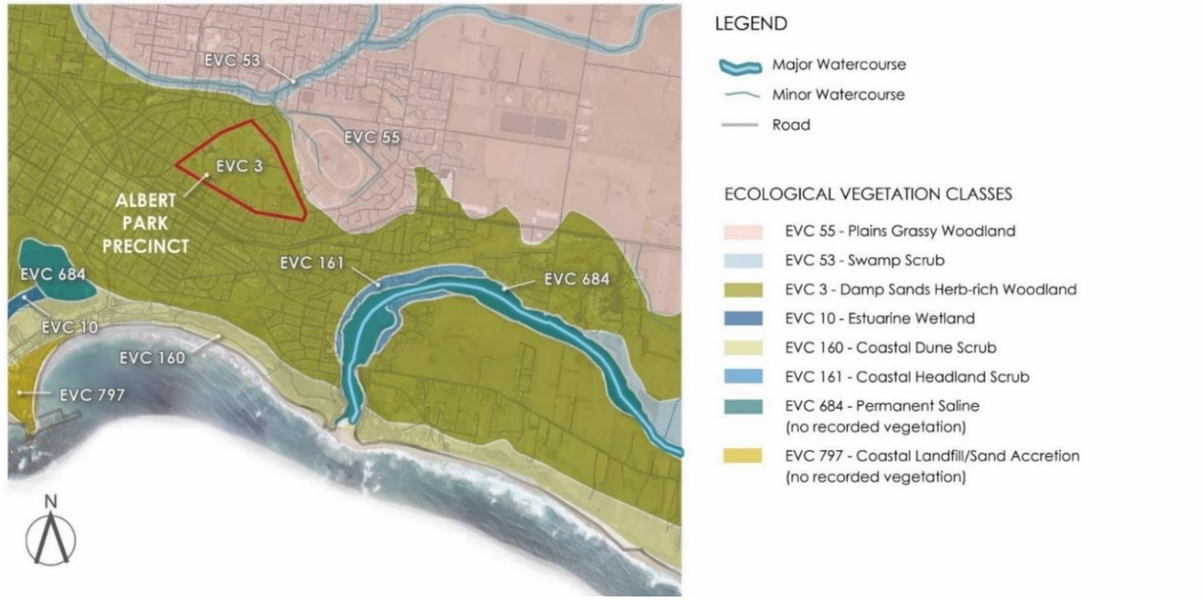
A mixed assortment of species have been planted in Albert Park. Most are native species, including Coast Banksia (*Banksia integrifolia*), Willow Myrtle (*Agonis flexuosa*), Stringybark (*Eucalyptus baxteri*), Seaberry Saltbush *(Rhagodia candolleana),* Wattles *(Acacia spp.)* and Casuarinas *(Allocasuarina spp.).* Some exotic species, including Aleppo Pine (*Pinus halepensis*) and Radiata Pine (*Pinus radiata*) have also been planted. The Aleppo Pines were planted as a windrow next to Mack Oval and as feature trees through the Park. Radiata Pine has self-seeded through vegetation patches. The intent is to gradually transition to native species.

A significant portion of the site are perennial grass areas that are mown on a regular basis. There is a small area of Kangaroo Grass (*Themeda triandra*) between Reid Oval and Walter Oval, which has previously been fenced off for management purposes. It is likely there are numerous locations across the Park that contain native grasses.

2.3 WEEDS

A declared noxious weed, Chilean Needle Grass (*Nassella neesiana*), has been identified in Albert Park. It is important that control of this weed is undertaken as a priority to prevent further spread within the park or to other sites. A carefully implemented weed control program needs to be in place prior to any new revegetation plantings occurring.

FIGURE 2: ECOLOGICAL VEGETATION MAP



2.4 PLANTS FOR POLLINATORS

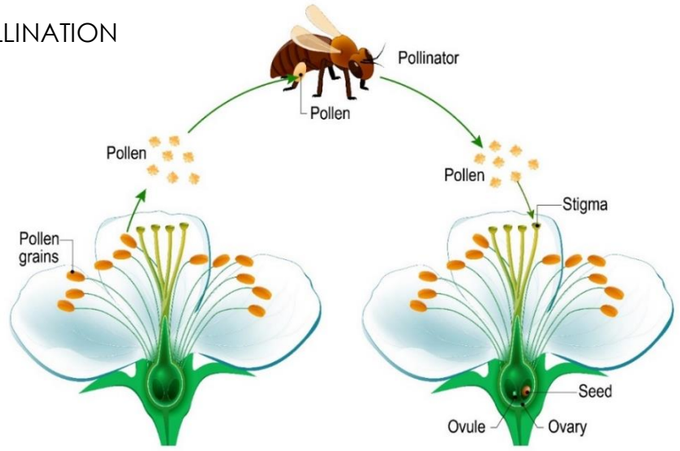
Many animals, including insects, birds and mammals, play a role as pollinators, transferring pollen between flowering plants.

Insect pollinators help pollinator-dependent flowering plants and crops to survive and thrive. A range of insects, including native and honey bees, hoverflies, beetles, wasps, thrips, moths and butterflies, provide pollination services. (Wheen Bee Foundation, 2020)

Insects visit flowers to eat nectar or pollen. Whilst feeding, the pollen becomes stuck to their bodies. When these insects visit other flowers looking for more nectar or pollen to eat, the pollen falls or rubs off onto the flower. If the pollen is from the same species as the flower being visited, pollination is likely to occur. If conditions and timing are right, fertilisation of the flower may occur following pollination. Refer to Figure 3.

'*Plants attract pollinators in various ways, by offering pollen or nectar meals and by guideline them to the flower using scent and visual cues.* (Australian Museum, 2022)' Ensuring diversity in plant species and flowering time is important so that pollinator reward, either pollen or nectar, is available all year round to meet the needs of the various insects.

FIGURE 3: INSECT POLLINATION



2.5 REVEGETATION SPECIES SELECTION

There are varying views from individuals, organisations and groups regarding the range of species that should be planted in public open space reserves in Warrnambool. For this project, a large percentage of species indigenous to the Warrnambool Plains Bioregion (aprx. 65%) have been selected. In addition to these, a selection of native Victorian species, mostly from nearby Victorian bioregions, that are known to attract pollinators and/or small birds or provide food for pollinator insect larvae, have also been included. A total of 79 native species have been selected for planting in Albert Park. These 79 species will provide good diversity in plant forms and heights and food and habitat for various invertebrates and vertebrates.

It is recognised that many exotic species such as Buddleja, Convolvulus, Lavender and others, as well as many native species from other parts of Australia have high visitation from pollinators and birds. Exotic species have not been included in Albert Park as the aim is to transition to native species. Plant selection also focuses on native species from Victorian. The vegetation species mix and planting densities should be monitored over the life of the project to determine if, and when any alterations are required.

2.6 SITE CONDITIONS AND SPECIES SELECTION

Due to topography and location, Albert Park is relatively exposed. The sparsely planted open areas are subject to strong winds. This makes establishing plants, and particularly trees, challenging. Choosing the right plants for the right place is essential if they are to grow and perform well. Plants must not only be selected for their ability to tolerate the site conditions, including strong winds, they must also have other desirable characteristics that encourage insect pollinators and be suited to the surrounding recreation uses.

Manna Gum, Swamp Gum and Blackwood which are commonly found in EVC 3 Damp Sands Herb-rich Woodland are large trees, which are well-suited to moist conditions in valleys and lower lying areas. One of the features of Albert Park is that it is located on a rise in an exposed position, so many of the tree and shrub species found in EVC 3 may not establish easily in the park. These three tree species from EVC 3 have been included in the revegetation species list, but the list has been broadened to include species outside of this EVC which may perform better in the exposed locations.

2.7 REVEGETATION CATEGORIES

For the purposes of the revegetation plan, the following categories have been used to define the vegetation on the revegetation plan:

CATEGORY A – WOODLAND

'The term woodland is generally used in Australia to describe ecosystems which contain widely spaced trees, the crowns of which do not touch (Yates & Hobbs 1997). In temperate Australia, woodlands are mainly dominated by Eucalyptus species. Temperate woodlands occur predominantly in regions with a mean annual rainfall of between 250-800mm, forming a transitional zone between the higher rainfall forested margins of the continent and the shrub and grasslands of the arid interior (Beadle 1981) (DCCEEW, 2022).'

The understorey species selected for the woodland should be of an appropriate height/form so that good passive surveillance can be achieved throughout the park, particularly adjacent paths.

CATEGORY B – SCRUB

'Scrub' typically consists of woody plants up to 8m tall, frequently with many stems arising at or near the base. In the Albert Park setting, 'scrub' is useful in providing wind breaks for exposed sites to enhance the comfort of park users, but it can also provide the necessary wind protection to help adjacent species to establish. The planting of scrub through the park is limited, as scrub limits sightlines.

CATEGORY C – MIXED GRAMINOIDS/HERBS/LOW SHRUBS

This category is based on a typical 'grassland' dominated by grasses and herbs with few shrubs or trees. This category includes a range of low growing species, <1.2m in height to maintain good viewlines. In some locations adjacent roads or near intersections lower growing species <0.5m in height should be selected to maintain viewlines for vehicle drivers.

CATEGORY D – SUPPLEMENTARY PLANTING

Plant selection in existing vegetated areas is informed by the site-specific vegetation present in the existing vegetation zone. Supplementary planting may include a mix of Categories A, B and/or C.

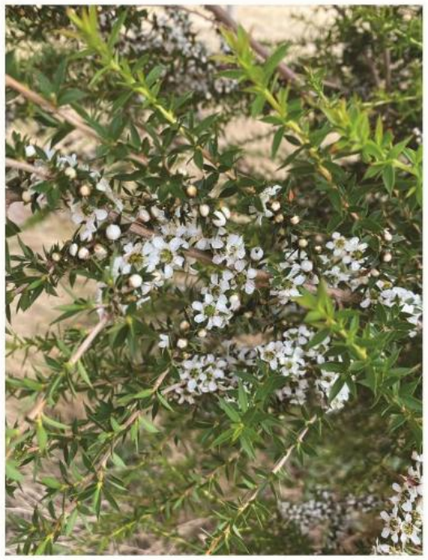
2.7 ALBERT PARK REVEGETATION SPECIES LIST

There are a variety of native species considered suitable for planting in Albert Park. Table 1 includes a full list of recommended species. The plant images at Figure 4, show some examples of the species included in Table 1.

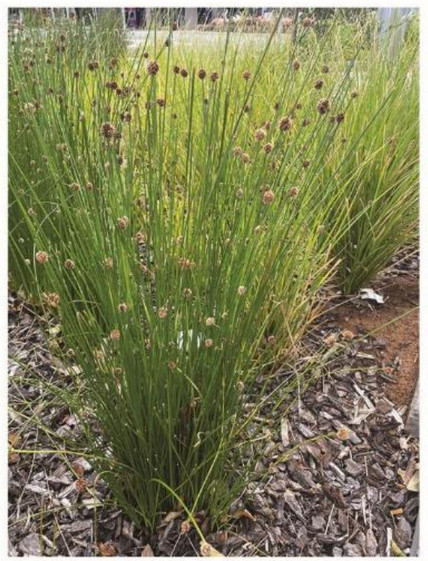
FIGURE 4: EXAMPLES OF SPECIES SUITABLE FOR PLANTING IN ALBERT PARK

Allocasuarina verticillata
Drooping Sheoak

Banksia marginata
Silver Banksia



Leptospermum continentale
Prickly Tea-tree



Ficinia nodosa
Knobby Club-rush

Dianella tasmanica
Tasman Flax Lily

Ozothamnus ferrugineus
Tree Everlasting

Melaleuca lanceolata
Moonah

Acacia melanoxylon
Blackwood

Acaena novae-zelandiae
Bidgee-Widgee

Bursaria spinosa
Sweet Bursaria

TABLE 1: ALBERT PARK REVEGETATION SPECIES LIST

		ECOLOGICAL VEGETATION CLASS				REVEGETATION ZONE				POLLINATOR	
SCIENTIFIC NAME	**COMMON NAME**	**Damp Sands Herb-rich Woodland**	**Swamp Scrub**	**Plains Grassy Woodland**	**Coastal Dune Scrub**	**Woodland**	**Scrub**	**Mixed Graminoids/Herbs/Small Shrubs**	**Supplementary Planting**	**Known Pollinator Reward (Nectar and/or Pollen)**	**Known Larval Food for Butterflies**
MEDIUM TO LARGE TREES (TYPICALLY >8M)		**EVC3**	**EVC53**	**EVC55**	**EVC160**	**W**	**S**	**MG**	**SP**	**POLLINATOR**	**LARVAL FOOD**
Acacia mearnsii	Black Wattle			✓		✓				✓	
Acacia melanoxylon	Blackwood	✓	✓	✓		✓				✓	✓
**Allocasuarina verticillata*	Drooping Sheoak					✓				✓	
**Eucalyptus baxteri*	Brown Stringybark					✓				✓	
***Eucalyptus obliqua*	Messmate Stringybark					✓				✓	
Eucalyptus ovata	Swamp Gum	✓	✓			✓				✓	
Eucalyptus viminalis	Manna Gum	✓				✓				✓	
LARGE SHRUBS AND SMALL TREES (2-8M)		**EVC3**	**EVC53**	**EVC55**	**EVC160**	**W**	**S**	**MG**	**SP**	**POLLINATOR**	**LARVAL FOOD**
Acacia pycnantha	Golden Wattle			✓		✓	✓		✓	✓	✓
Acacia verticillate	Prickly Moses	✓		✓		✓	✓		✓	✓	
**Apophyllum anomalum*	Currant Bush					✓	✓		✓	✓	
Banksia marginata	Silver Banksia	✓				✓	✓		✓	✓	
**Bursaria spinosa*	Sweet Bursaria					✓	✓		✓	✓	
**Melaleuca lanceolata*	Moonah					✓	✓		✓	✓	
Melaleuca squarrosa	Scented Paperbark		✓			✓	✓		✓	✓	
Myoporum insulare	Common Boobialla	✓	✓		✓	✓	✓		✓		
Ozothamnus ferrugineus	Tree Everlasting			✓		✓	✓		✓	✓	

MEDIUM SHRUBS (TYPICALLY 1-2M)		EVC3	EVC53	EVC55	EVC160	W	S	MG	SP	POLLINATOR	LARVAL FOOD
Acacia myrtifolia	Myrtle Wattle		✓	✓		✓	✓		✓	✓	
**Correa alba*	Coast Correa					✓	✓		✓	✓	
**Daviesia latifolia*	Hop Bitter-Pea					✓	✓		✓	✓	
Epacris impressa	Common Heath	✓				✓	✓		✓	✓	
**Goodenia ovata*	Hop Goodenia					✓	✓		✓	✓	
[d]*Hakea rostrata*	Beaked Hakea					✓	✓		✓	✓	
[c]*Hakea sericea*	Silky Hakea					✓	✓		✓	✓	
Leptospermum continentale	Prickly Tea-tree	✓				✓	✓		✓	✓	
Leptospermum scoparium	Manuka		✓			✓	✓		✓	✓	
Leucopogon parviflorus	Coast Beard Heath				✓	✓	✓		✓		
Olearia axillaris	Coast Daisy Bush				✓	✓	✓		✓		
Rhagodia candolleana ssp. *Candolleana*	Seaberry Saltbush				✓	✓	✓		✓		✓
**Senna artemisioides*	Silver Cassia					✓	✓		✓		✓
SMALL SHRUBS AND PROSTRATE SHRUBS (TYPICALLY <1M)		**EVC3**	**EVC53**	**EVC55**	**EVC160**	**W**	**S**	**MG**	**SP**	**POLLINATOR**	**LARVAL FOOD**
Astroloma humifusum	Cranberry Heath	✓		✓		✓		✓	✓	✓	
Acrotriche serrulate	Honey-pots	✓				✓		✓	✓		
Bossiaea prostrata	Creeping Bossiaea			✓		✓		✓	✓		
**Correa reflexa* var. *reflexa* 'Granny's Grave'	Granny's Grave Correa					✓		✓	✓	✓	
[c]*Hakea rubosa*	Dwarf Hakea					✓		✓	✓	✓	
Hibbertia stricta s.l.	Upright Guinea-flower	✓				✓		✓	✓		
**Leucophyta brownie*	Cushion Bush							✓	✓	✓	
Pimelea humilis	Common Rice-flower		✓	✓		✓		✓	✓		
MEDIUM HERBS (TYPICALLY 0.4-1M)		**EVC3**	**EVC53**	**EVC55**	**EVC160**	**W**	**S**	**MG**	**SP**	**POLLINATOR**	**LARVAL FOOD**
Acaena echinate	Sheep's Burr			✓		✓		✓	✓		
Acaena novae-zelandiae	Bidgee Widgee			✓		✓		✓	✓	✓	
Gonocarpus tetragynus	Common Raspwort	✓		✓		✓		✓	✓		
Hypericum gramineum	Small St John's Wort	✓				✓		✓	✓		
Lagenophora stipitata	Common Bottle-daisy	✓				✓		✓	✓		
Oxalis perennans	Grassland Wood-sorrel			✓		✓		✓	✓		
Stackhousia spathulata	Coast Stackhousia				✓						
Wahlenbergia gymnoclada	Naked Bluebell	✓				✓		✓	✓		
**Xerochrysum viscosum*	Shiny Everlasting					✓		✓	✓		✓

SMALL HERBS (TYPICALLY <0.4M)		EVC3	EVC53	EVC55	EVC160	W	S	MG	SP	POLLINATOR	LARVAL FOOD
**Cullen tenax*	Emu Foot					✓		✓	✓		✓
Dichondra repens	Kidney-weed		✓	✓		✓		✓	✓		
Hydrocotyle laxiflora	Stinking Pennywort	✓		✓		✓		✓	✓		
Kennedia prostrata	Running Postman	✓				✓		✓	✓		
Oxalis exilis	Shady Wood-sorrel	✓				✓		✓	✓		
Solenogyne dominii	Smooth Solenogyne	✓				✓		✓	✓		
LARGE GRAMINOIDS (TYPICALLY 0.7-2.0M)		**EVC3**	**EVC53**	**EVC55**	**EVC160**	**W**	**S**	**MG**	**SP**	**POLLINATOR**	**LARVAL FOOD**
Austrostipa bigeniculata	Kneed Spear-grass			✓		✓		✓	✓		
Austrostipa mollis	Supple Spear-grass			✓		✓		✓	✓		
Baumea rubiginosa s.l.	Soft Twig-rush	✓				✓		✓	✓		
Carex appressa	Tall Sedge		✓			✓		✓	✓		✓
Deyeuxia quadriseta	Reed Bent-grass	✓				✓		✓	✓		
Gahnia sieberiana	Red-fruit Saw-sedge		✓			✓		✓	✓		✓
Juncus procerus	Tall Rush	✓				✓		✓	✓		
Lepidosperma longitudinale	Pithy Sword-sedge	✓				✓		✓	✓		
**Lomandra longifolia*	Spiny Headed Mat Rush					✓		✓	✓	✓	✓
**Lomandra spicata*	Jungle Mat Rush					✓		✓	✓	✓	✓
MEDIUM GRAMINOIDS (TYPICALLY 0.4-0.7M)		**EVC3**	**EVC53**	**EVC55**	**EVC160**	**W**	**S**	**MG**	**SP**	**POLLINATOR**	**LARVAL FOOD**
**Dianella brevicaulis*	Coast Flax-lily					✓		✓	✓		✓
**Dianella longifolia*	Pale Flax-lily					✓		✓	✓		✓
**Dianella revoluta*	Black Anther Flax-lily					✓		✓	✓		✓
**Dianella tasmanica*	Tasman Flax-lily					✓		✓	✓		✓
Elymus scaber var. *scaber*	Common Wheat-grass			✓		✓		✓	✓		
Ficinia nodosa	Knobby Club-rush				✓			✓	✓	✓	
Lomandra filiformis	Wattle Mat-rush	✓				✓		✓	✓		✓
Microlaena stipoides var. *stipoides*	Weeping Grass	✓		✓		✓		✓	✓		✓
**Patersonia occidentalis*	Long Purple Flag					✓		✓	✓		
**Poa labillardierei*	Common Tussock-grass			✓		✓		✓	✓		✓
Poa rodwayi	Velvet Tussock-grass	✓		✓		✓		✓	✓		✓
**Poa tenera*	Slender Tussock-grass					✓		✓	✓		✓
Rytidosperma caespitosum	Bristly Wallaby-grass			✓		✓		✓	✓		✓
Rytidosperma racemosum var. *racemosum*	Striped Wallaby-grass			✓		✓		✓	✓		✓
Themeda triandra	Kangaroo Grass	✓		✓		✓		✓	✓		✓

CLIMBERS		EVC3	EVC53	EVC55	EVC160	W	S	MG	SP	POLLINATOR	LARVAL FOOD
Clematis microphylla var. *microphylla*	Small-leaved Clematis				✓	✓		✓	✓		
Comesperma volubile	Love Creeper	✓				✓		✓	✓		

NOTES:
*Native species indigenous to Warrnambool Plain Bioregion, but not commonly found in EVC3, 53, 55 or 160. Known pollinator species suitable for site conditions with low risk of naturalisation and weediness.
**Native species but non-indigenous to Warrnambool Plain Bioregion. Known pollinator species suitable for site conditions with low risk of naturalisation and weediness.
***Native species indigenous to Warrnambool Plain Bioregion, but not commonly found in EVC3, 53, 55 or 160. Known Koala habitat species suitable for site conditions with low risk of naturalisation and weediness.
[c]Native species indigenous to Central Victorian Uplands. Known pollinator species suitable for site conditions with low risk of naturalisation and weediness.
[d]Native species indigenous to Dundas Tablelands. Known pollinator species suitable for site conditions with low risk of naturalisation and weediness.

Pollinator information obtained from: Flora of South Australia - http://www.flora.sa.gov.au/, Wheen Bee Foundation - www.wheenbeefoundation.org.au, Warrnambool Field Naturalists – list of larval food species provided to Council

3. CONSULTATION SUMMARY

3.1 CONSULTATION FEEDBACK

Consultation with the community and stakeholders was undertaken in September 2022. This Consultation sought feedback on the draft Albert Park Revegetation Plan. A total of 9 submissions were received. There were submissions from 4 organisations and 5 individuals. A summary of submissions is provided at Appendix 5.

Requests for changes included:

- Weed threats to be further discussed.
- Add more large trees for habitat and shade.
- Create biolinks through the park and to Russells Creek and the foreshore.
- Concern that species list has too many 'non-indigenous' species.
- Concern that species list will create homogenous parkland.
- Request for additional *Eucalyptus spp*. to be included for Koala habitat.
- Request for *Correa reflexa* var. *reflexa* 'Granny's Grave' to be planted in this park and to help secure the future population of this species in Warrnambool.
- Request for additional species to be added for small bird habitat, including Blue Wrens.

RESPONSES/CHANGES AS A RESULT OF CONSULTATION

A common theme raised in the submissions was the importance of improving biodiversity and providing habitat within Albert Park.

Balancing the needs of existing park users and enhancing habitat for wildlife within public open space can be challenging for park managers and there is a need to ensure that Albert Park remains a safe and functional space for existing recreation users. Continued monitoring of park usage and the revegetation works within the park is required to ensure this balance is right. As stakeholder needs and usage of the Park changes over time, or new projects such as biolinks occur, the plan should be updated to reflect these changes.

This Plan focuses on revegetation works within Albert Park. Some of the suggestions in the submissions relate to biolinks on adjoining land that are outside the scope of works for this project. However, the revegetation zones within the Park have been designed to extend to the park edges at Coulstock Street and Grafton Road, which will allow for continuation of biolinks to and from the Park in the future.

Suggestions that have been incorporated into this final version of the Revegetation Plan include:

- Weed threats and weed management have been discussed in more detail.
- Additional *Eucalyptus spp*. have been included on the revegetation species list to provide for additional Koala habitat.
- *Correa reflexa* var. *reflexa* 'Granny's Grave' has been included on the revegetation species list.
- Additional shrubs have been added along revegetation zones closest to Coulstock Street to provide additional habitat for small birds and possible future biolink for Blue Wrens.
- The revegetation species list has been broadened to include three *Hakea spp.* from Victoria for additional bird habitat.

FIGURE 5: A HONEY BEE VISITING A NATIVE TEA-TREE FLOWER

4. IMPLEMENTATION

4.1 STAGED IMPLEMENTATION

This Revegetation Plan is intended to be implemented over a number of years. The timing for delivery of revegetation works may be dependent on:

- Council priorities and budget allocations.
- Availability of funding programs and grant opportunities.
- Community support and involvement from community groups.
- Timing of park projects, such as the construction of integrated water management infrastructure, including wetland and raingarden.

The following Implementation Plan at Table 2 provides a suggested approach to planting of Areas 1 to 23.

4.2 CULTURAL HERITAGE

Warrnambool has been home to Traditional Owners for thousands of years. This site at Albert Park is in an area of Cultural Heritage Sensitivity.

Eastern Maar Aboriginal Corporation (EMAC) will need to be actively engaged and involved early in the planning phase for any new infrastructure requiring Cultural Heritage Management Plans (CHMP) under the Aboriginal Heritage Act 2006. Any permit approvals for new infrastructure must align with the recommendations of the relevant Cultural Heritage Management Plan, following its approval.

4.3 PARK FEATURES

Additional features that could be incorporated into Albert Park include:

- 'Insect hotels' to encourage pollinators (example shown at Figure 6).
- Seating for park users.
- Signage and information about pollination and insect pollinators.
- Art or sculptures for added visual interest.

4.4 THREATS

Weed species pose significant threats to native fauna and flora and biodiversity.

In addition to Chilean Needle Grass (*Nassella neesiana*), mentioned at Section 2.3, there are other weeds which will need to be controlled pre- and post-planting to ensure newly planted native vegetation does not become out-competed. Weed species that are dispersed by seed, such as Cocksfoot (*Dactylis glomerata*), Cat's Ear (*Hypochaeris radicata*) and Capeweed (*Arctotheca calendula*) present challenges when revegetating areas. Seeds of some species may be dormant in the ground or new seeds may be spread in the area by birds, animals, machinery or other means even after weed control preparation works have taken place.

In order for the revegetation works to be successful, weed control will need to be a key focus and priority within the park. A concerted weed control program is required in all newly planted areas to help ensure the success of revegetation planting occurs.

4.5 MONITORING

The project outcomes, maintenance and monitoring should be reported on in accordance with Warrnambool City Council's Revegetation Guidelines. Reporting on project outcomes and success of each revegetation zone will assist in ensuring future plantings avoid any past mistakes.

Monitoring of revegetation sites involves the recording and analysis of observations over time and is an important aspect of any project. Monitoring allows project managers to:

- See what is happening at the site
- Identify the need for any further maintenance, such as weed control or any replanting requirements in relation to plant losses
- Provides continued learning to improve current or future projects, and
- Assists in determining the success of the project

It is essential that monitoring begins at the start of the project, during the planning stages, as this allows for the collection of baseline data. It is also important to ensure the monitoring program is not subjective and easily repeatable so it can be carried out by different people over the life of the project.

One of the simplest ways to monitor a project is through photographs. A fixed location must be set up to ensure the same area is photographed over time. These photographs can then provide a record of changes in the vegetation. The photo monitoring point must be recorded and marked, along with the camera settings used. When selecting a photo monitoring point, the future growth of vegetation must be considered, this is particularly important when planting trees as the revegetated area should not be blocked by future tree growth.

Observations at the time of photographic monitoring should also be recorded. This information combined with the photographs can build a more effective picture of the site and assist in determining the success and/or failure of species, allowing the modification of practices for future projects.

FIGURE 6: AN ‘INSECT HOTEL’ PROVIDES ADDITIONAL HABITAT FOR INSECTS

TABLE 2: IMPLEMENTATION PLAN

STAGE 1 - YEARS 1 TO 3				
SITE PREPARATION	**DESCRIPTION OF WORKS**		**COMMENTS/ADDITIONAL INFORMATION**	
N/A	Grass identification		• Prior to any weed removal or revegetation work occurring within the Park, it is recommended that a contractor with excellent grass identification skills be employed to locate native grasses and invasive exotic grasses, including Chilean Needle Grass (*Nassella neesiana)* across the Park. The contractor should also be engaged to provide recommendations for future management of both native grasses and exotic grass weed species in the Park.	
N/A	Weed Control for entire site.		• Commence containment and reduction of Chilean Needle Grass (*Nassella neesiana)* which has been found in various locations throughout park. Chemical application required. Prioritise contractors with excellent grass identification skills to ensure correct identification of Chilean Needle Grass. • Undertake removal of Radiata Pine (*Pinus radiata*) and other woody weeds.	
VEGETATION ZONE NUMBER	**DESCRIPTION OF WORKS**	**ZONE AREA (APRX. SQUARE METRES)**	**COMMENTS/ADDITIONAL INFORMATION**	**REVEGETATION AREA (APRX. SQUARE METRES)**
7	Revegetation Category A – Woodland located in centre of park	4,020m^2.		4,020m^2
8	Revegetation Category D – Supplementary Planting located on north side of Mack Oval	3,455m^2	• There is existing established vegetation scattered in this area.	1,728m^2 (aprx. 50% of area)
11	Revegetation Category B – Scrub located near Mack Oval on west side of existing row of Aleppo Pines	1,760m^2	• Planting of Zone 11 with scrub will provide a windbreak to help protect new tree plantings when Aleppo Pines are eventually replaced with native species in the future.	1,760m^2
20	Revegetation Category C - Mixed Graminoids/Herbs and Low Shrubs around raingarden and swale located near Coulstock Street	705m^2	• Planting to occur at same time as raingarden and swale construction.	705m^2
22	Revegetation Category C - Mixed Graminoids/Herbs and Low Shrubs located around proposed wetland near Coulstock Street and Revegetation Category D – Supplementary Planting along park edge adjoining Coulstock Street and next to wetland (between Kelp Street and vehicle east of Japan Street)	3,030m^2 4,385m^2	• Planting to occur at same time as wetland construction. • Planting to occur at same time as wetland construction.	3,030m^2 3,070m^2 (aprx. 70% of area)
			TOTAL REVEGETATION AREA	**14,313m^2 (1.431 hectares)**

STAGE 2 - YEARS 3 TO 5				
VEGETATION ZONE NUMBER	**DESCRIPTION OF WORKS**	**ZONE AREA (APRX. SQUARE METRES)**	**COMMENTS/ADDITIONAL INFORMATION**	**REVEGETATION AREA (SQUARE METRES)**
1	Revegetation Category D – Supplementary Planting north of entry closest to Japan Street	3,100m²		1,550m² (aprx. 50% of area)
2	Revegetation Category C - Mixed Graminoids/Herbs and Low Shrubs near existing grassland and Revegetation Category D – Supplementary Planting near existing grassland	820m² 630m²	• Undertake inspection of existing drainage swale with engineering input, to ensure future revegetation works provide additional water quality improvements without restricting water flows through swale. • Undertake inspection of existing drainage swale (same as above)	820m² 315m² (aprx. 50% of area)
3	Revegetation Category D – Supplementary Planting	1,240m²		620m² (aprx. 50% of area)
4	Revegetation Category A – Woodland and Revegetation Category D – Supplementary Planting	1,780m² 880m²		1,780m² 440m² (aprx. 50% of area)
5	Revegetation Category C - Mixed Graminoids/Herbs and Low Shrubs and Revegetation Category D – Supplementary Planting	390m² 1,030m²		390m² 515m² (aprx. 50% of area)
6	Revegetation Category A – Woodland located in centre of park	3,030m²		3,030m²
			TOTAL REVEGETATION AREA	**9,460m² (0.946 hectares)**

STAGE 3 - 6 TO 8 YEARS				
VEGETATION ZONE NUMBER	**DESCRIPTION OF WORKS**	**ZONE AREA (APRX. SQUARE METRES)**	**COMMENTS/ADDITIONAL INFORMATION**	**REVEGETATION AREA (SQUARE METRES)**
10	Revegetation Category B – Scrub located along park edge to Grafton Road and Revegetation Category A – Woodland	750m² 2,550m²	• Planting of scrub along the edge of Zone 10 will provide a windbreak to help protect revegetation in Zone 10.	750m² 2,550m²
13	Revegetation Category C - Mixed Graminoids/Herbs and Low Shrubs along norther edge of zone and Revegetation Category D – Supplementary Planting	535m² 2,200m²	• Removal any woody weeds regrowth prior to planting.	535m² 1,100m² (aprx. 50% of area)
14	Revegetation Category D – Supplementary Planting	970m²		485m² (aprx. 50% of area)
15	Revegetation Category D – Supplementary Planting	5,700m²		2,850m² (aprx. 50% of area)
16	Revegetation Category C - Mixed Graminoids/Herbs and Low Shrubs along norther edge of zone and Revegetation Category D – Supplementary Planting along Wannon Water boundary	1,480m² 4,600m²	• Existing planting includes array of medium and large shrubs and trees.	1,480m² 2,300m² (aprx. 50% of area)
			TOTAL REVEGETATION AREA	**12,050m² (1.205 hectares)**

STAGE 4 - 8+ YEARS

SITE PREPARATION	DESCRIPTION OF WORKS	COMMENTS/ADDITIONAL INFORMATION
N/A	Removal of Aleppo Pines on western side of Mack Oval.	• Stump removal/grinding may be required.
N/A	Conduct review of Stage 1 planting around Zones 20 and 22 water sensitive urban design features.	• Review water flows through WSUD treatments and revegetation works surrounding the WSUD treatments. Conduct new/supplementary planting and altered species selection, where required, to ensure optimal functioning of WUD assets.

VEGETATION ZONE NUMBER	DESCRIPTION OF WORKS	ZONE AREA (APRX. SQUARE METRES)	COMMENTS/ADDITIONAL INFORMATION	REVEGETATION AREA (SQUARE METRES)
9	Revegetation Category A – Woodland near Warrnambool College	672m²		672m²
12	Revegetation Category A – Woodland located on western side of Mack Oval	3,200m²	• Stump removal of Aleppo Pines may be required prior to commencement of revegetation planting.	3,200m²
17	Revegetation Category D – Supplementary Planting along park edge adjoining Coulstock Street east of Craig Street	1,740m²		1,218m² (aprx. 70% of area)
18	Revegetation Category D – Supplementary Planting along park edge adjoining Coulstock Street west of Craig Street to pedestrian entry	1,180m²		826m² (aprx. 70% of area)
19	Revegetation Category D – Supplementary Planting along park edge adjoining Coulstock Street east of Foster Street to pedestrian entry	1,540m²		1078m² (aprx. 70% of area)
21	Revegetation Category D – Supplementary Planting along park edge adjoining Coulstock Street west of Foster Street between vehicle entry points	1,870m²		1,309m² (aprx. 70% of area)
23	Revegetation Category D – Supplementary Planting along park edge adjoining Coulstock Street between Cramer Street and Kelp Street	1,340m²		938m² (aprx. 70% of area)
			TOTAL REVEGETATION AREA	**9,241m² (0.924 hectares)**

IMPLEMENTATION NOTES:

- Ensure edge of revegetation maintains a suitable distance from the pony club trail and shared paths to maintain safe clearance zones and sightlines.
- Ensure species growing to <0.5m in height are selected adjacent vehicle access road to maintain viewlines for vehicle drivers
- Site preparation works will be required prior to planting of each vegetation zone. Preparation will require:
  - marking out of revegetation site
  - calculation of revegetation area
  - removal of weeds and grass
  - addition of mulch

5. REFERENCES

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FIGURE 7: A BUTTERFLY VISITING A PAPER DAISY FLOWER

APPENDIX 1 – ALBERT PARK EXISTING CONDITIONS PLAN

LEGEND

- Albert Park Precinct Boundary
- Fence
- Vehicle access
- Maintenance access (informal track)
- Pedestrian path/shared trail
- Access Point
- Playground
- Contours (0.5m)
- High Point
- Approximate location of Pony Club Jump Circuit feature (currently in use)
- Kangaroo Grass (*Themeda triandra*) protection area
- Trees/shrubs
- Existing drainage line (swale)
- Photograph reference point (Refer to photographs below)
- Public mulch collection area

Note: Chilean Needle Grass (*Nassella neesiana*) has been found within the Park. The locations and extent of this noxious weed is to be confirmed through onsite inspection and plant identification.

REVISION	DATE	REVISION DESCRIPTION	DESIGNED
A	24/11/2021	FOR DISCUSSION PURPOSES	E.MARSLEN
B	02/12/2021	PLAN AMENDED TO INCLUDE MULCH COLLECTION AREA	E.MARSLEN
C	03/02/2022	FOR REVIEW. ADDITIONAL ITEMS ADDED TO PLAN.	E.MARSLEN
D	04/05/2022	REVISIONS IN RESPONSE TO STAKEHOLDER FEEDBACK	E.MARSLEN
E	23/10/2022	REVISIONS IN RESPONSE TO CONSULTATION FEEDBACK	E.MARSLEN

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Project Title: REVEGETATION PROJECT ALBERT PARK WARRNAMBOOL

Drawing Title: EXISTING CONDITIONS PLAN

Project Number	File/Drawing Number	Drawing Status	Sheet	Revision
2021072	072-EC1	FINAL	1/1	E

APPENDIX 2 - ALBERT PARK SITE ANALYSIS PLAN

LEGEND

- Albert Park Precinct Boundary
- Fence
- Vehicle access
- Maintenance access (informal track)
- Pedestrian path/shared trail
- Access Point
- Playground
- Contours (0.5m)
- High Point
- Approximate location of Pony Club Jump Circuit feature (currently in use)
- Kangaroo Grass (*Themeda triandra*) protection area
- Trees/shrubs
- Existing drainage line (swale)
- Site identified for future Water Sensitive Urban Design feature
- Public mulch collection area

OPPORTUNITIES

(A) Improve the environmental and biodiversity values of the park with additional planting. Opportunity to focus on providing varied habitat for a range of local pollinator species, including bees, butterflies, moths, beetles and birds.

(B) Enhance social and recreational values of the park by improving the appearance of planted areas, providing additional shade for visitors and attracting new visitors by incorporating interactive play/learning features to complement the new plantings for pollinators.

(C) Support integrated water management improvements by planting areas surrounding water sensitive urban design features and drainage lines. This will help improve water quality through additional stormwater filtration.

(D) Replace ageing Pine trees with native vegetation.

(E) Potential to improve path netwwork throughout park particularly in well-trafficked grass areas and south-west corner, possibly connecting to the Japanese Garden.

(F) Enhance existing patches of vegetation and minimise the need for mowing under existing trees and shrubs by providing additional understorey planting.

(G) Reduce risk of Chilean Needle Grass spreading further through park or to other sites by carrying out a carefully implemented weed control program prior to any new plantings.

REVISION	DATE	REVISION DESCRIPTION	DESIGNED
A	24/11/2021	FOR DISCUSSION PURPOSES	E.MARSLEN
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C	03/02/2022	FOR REVIEW. ADDITIONAL ITEMS ADDED TO PLAN.	E.MARSLEN
D	04/05/2022	REVISIONS IN RESPONSE TO STAKEHOLDER FEEDBACK	E.MARSLEN
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Project Title
REVEGETATION PROJECT
ALBERT PARK WARRNAMBOOL

Drawing Title
SITE ANALYSIS PLAN

Project Number	File/Drawing Number	Drawing Status	Sheet	Revision
2021072	072-SA1	FINAL	1/1	E

APPENDIX 3 – ALBERT PARK REVEGETATION PLAN

LEGEND

- Albert Park Precinct Boundary
- Fence
- Vehicle access
- Maintenance access (informal track)
- Pedestrian path/shared trail
- Possible future path extension
- Access Point
- Playground
- Kangaroo Grass protection area to be retained
- (1) Proposed Revegetation Area with zone identification number
- Revegetation Category A Woodland
- Revegetation Category B Scrub
- Revegetation Category C Mixed Graminoids/Herbs/Low Shrubs
- Revegetation Category D Supplementary Planting Proposed revegetation under existing shrubs and trees (combination of Categories A, B and C)
- Existing Pony Club Jump Circuit Feature to be retained
- Existing Pony Club Jump Circuit Feature to be relocated
- Existing Pony Club Jump Circuit Feature to be removed
- Site identified for future Water Sensitive Urban Design feature
- Public mulch collection area
- Future Yarning Circle (approximate location, as identified in the Albert Park Integrated Water Management Plan)

REVISION	DATE	REVISION DESCRIPTION	DESIGNED
A	24/11/2021	FOR DISCUSSION PURPOSES	E.MARSLEN
B	02/12/2021	PLAN AMENDED TO INCLUDE MULCH COLLECTION AREA	E.MARSLEN
C	03/02/2022	FOR REVIEW. ADDITIONAL ITEMS ADDED TO PLAN.	E.MARSLEN
D	04/05/2022	REVISIONS IN RESPONSE TO STAKEHOLDER FEEDBACK	E.MARSLEN
E	25/10/2022	REVISIONS IN RESPONSE TO CONSULTATION FEEDBACK	E.MARSLEN

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Scale
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Notes
Revision B - Modifications to proposed revegetation areas following site visits and discussion with stakeholders
Revision C - Modifications to proposed revegetation areas following review by client and stakeholders

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1:5000@A3

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Project Title
REVEGETATION PROJECT
ALBERT PARK WARRNAMBOOL

Drawing Title
REVEGETATION PLAN - CONCEPT

Project Number	File/Drawing Number	Drawing Status	Sheet	Revision
2021072	072-RP1	FINAL	1/1	E

APPENDIX 4 –ZONE REVEGETATION PLANTING GUIDE

ZONE 1 – 0.3100Ha

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 3,100 square metres **Total Revegetation Area = 1,550 square metres or 0.155 hectares (aprx. 50% of area)**	**% Cover**	**Total area x % cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	1,550sqm	8/Ha	2
Small Trees, Large Shrubs	15%	232.5sqm	1 plant per 3 square metres	78
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	15%	232.5sqm	1 plant per square metre	233
Medium Herbs	20%	310.0sqm	4 plants per square metre	1240
Small Herbs and Prostrate Herbs	10%	155.0sqm	6 plants per square metre	930
Large graminoids	20%	310.0sqm	2 plants per square metre	620
Medium graminoids	20%	310.0sqm	4 plants per square metre	1240
Total	**100%**	**1,550sqm**	**Total Number of Plants**	**4,343**

ZONE 2 – 0.1450Ha

MIXED HERBS, GRAMINOIDS AND LOW SHRUBS - REVEGETATION CATEGORY C

Total Area = 820 square metres **Total Revegetation Area = 820 square metres or 0.082 Hectares (100% of area)**	**% Cover**	**Total area x** **% cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	0sqm	0/Ha	0
Small Trees, Large Shrubs	0%	0sqm	0/Ha	0
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	18%	147.6sqm	1 plant per square metre	148
Medium Herbs	23%	188.6sqm	4 plants per square metre	755
Small Herbs and Prostrate Herbs	13%	106.6sqm	6 plants per square metre	640
Large graminoids	23%	188.6sqm	2 plants per square metre	378
Medium graminoids	23%	188.6sqm	4 plants per square metre	756
Total	**100%**	**820sqm**	**Total Number of Plants**	**2,677**

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 630 square metres **Total Revegetation Area = 315 square metres or 0.0315 hectares (aprx. 50% of area)**	**% Cover**	**Total area x** **% cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	315sqm	8/Ha	2
Small Trees, Large Shrubs	15%	47.3sqm	1 plant per 3 square metres	16
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	15%	47.3sqm	1 plant per square metre	48
Medium Herbs	20%	63.0sqm	4 plants per square metre	252
Small Herbs and Prostrate Herbs	10%	31.5sqm	6 plants per square metre	189
Large graminoids	20%	63.0sqm	2 plants per square metre	126
Medium graminoids	20%	63.0sqm	4 plants per square metre	252
Total	**100%**	**315sqm**	**Total Number of Plants**	**885**

ZONE 3 – 0.124Ha

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 1,240 square metres Total Revegetation Area = 620 square metres or 0.062 hectares (aprx. 50% of area)	% Cover	Total area x % cover applied	Planting Density	Number of Plants for Area
*Medium and Large Trees	N/A	620sqm	8/Ha	2
Small Trees, Large Shrubs	15%	93.0sqm	1 plant per 3 square metres	31
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	15%	93.0sqm	1 plant per square metre	93
Medium Herbs	20%	124.0sqm	4 plants per square metre	496
Small Herbs and Prostrate Herbs	10%	62sqm	6 plants per square metre	372
Large graminoids	20%	124sqm	2 plants per square metre	248
Medium graminoids	20%	124sqm	4 plants per square metre	248
Total	**100%**	**620sqm**	**Total Number of Plants**	**1,490**

ZONE 4 – 0.266Ha

WOODLAND – REVEGETATION CATEGORY A

Total Area = 1,780 square metres **Total Revegetation Area = 1,780 square metres 0.178 hectares (100% of area)**	**% Cover**	**Total area x** **% cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	1,780sqm	15/Ha	4
Small Trees, Large Shrubs	0%	N/A	1 plant per 3 square metres	0
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	18%	320.0sqm	1 plant per square metre	320
Medium Herbs	23%	409.4sqm	4 plants per square metre	1638
Small Herbs and Prostrate Herbs	13%	231.4sqm	6 plants per square metre	1389
Large graminoids	23%	409.4sqm	2 plants per square metre	819
Medium graminoids	23%	409.4sqm	4 plants per square metre	1638
Total	**100%**	**1,780sqm**	**Total Number of Plants**	**5,804**

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 880 square metres **Total Revegetation Area = 440 square metres or 0.044 hectares (aprx. 50% of area)**	**% Cover**	**Total area x** **% cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	440sqm	8/Ha	2
Small Trees, Large Shrubs	15%	66sqm	1 plant per 3 square metres	22
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	15%	66sqm	1 plant per square metre	66
Medium Herbs	20%	88sqm	4 plants per square metre	352
Small Herbs and Prostrate Herbs	10%	44sqm	6 plants per square metre	264
Large graminoids	20%	88sqm	2 plants per square metre	176
Medium graminoids	20%	88sqm	4 plants per square metre	352
Total	**100%**	**440sqm**	**Total Number of Plants**	**1,234**

ZONE 5 – 0.1420Ha

MIXED HERBS, GRAMINOIDS AND LOW SHRUBS - REVEGETATION CATEGORY C

Total Area = 390 square metres **Total Revegetation Area = 390 square metres or 0.039 Hectares (100% of area)**	**% Cover**	**Total area x** **% cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	0sqm	0/Ha	0
Small Trees, Large Shrubs	0%	0sqm	0/Ha	0
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	18%	70.2sqm	1 plant per square metre	71
Medium Herbs	23%	89.7sqm	4 plants per square metre	359
Small Herbs and Prostrate Herbs	13%	50.7sqm	6 plants per square metre	305
Large graminoids	23%	89.7sqm	2 plants per square metre	180
Medium graminoids	23%	89.7sqm	4 plants per square metre	359
Total	**100%**	**390sqm**	**Total Number of Plants**	**1,274**

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 1,030 square metres **Total Revegetation Area = 515 square metres or 0.0515 hectares (aprx. 50% of area)**	**% Cover**	**Total area x** **% cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	515sqm	8/Ha	2
Small Trees, Large Shrubs	15%	77.3sqm	1 plant per 3 square metres	26
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	15%	77.3sqm	1 plant per square metre	78
Medium Herbs	20%	103.0sqm	4 plants per square metre	412
Small Herbs and Prostrate Herbs	10%	51.5sqm	6 plants per square metre	309
Large graminoids	20%	103.0sqm	2 plants per square metre	206
Medium graminoids	20%	103.0sqm	4 plants per square metre	412
Total	**100%**	**515sqm**	**Total Number of Plants**	**1,445**

ZONE 6 – 0.303Ha

WOODLAND – REVEGETATION CATEGORY A

Total Area = 3,030 square metres Total Revegetation Area = 3,030 square metres or 0.303 Hectares (100% of area)	% Cover	Total area x % cover applied	Planting Density	Number of Plants for Area
*Medium and Large Trees	N/A	3,030sqm	15/Ha	6
Small Trees, Large Shrubs	0%	N/A	1 plant per 3 square metres	0
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	18%	545.4sqm	1 plant per square metre	546
Medium Herbs	23%	696.9sqm	4 plants per square metre	2,788
Small Herbs and Prostrate Herbs	13%	393.9sqm	6 plants per square metre	2,364
Large graminoids	23%	696.9sqm	2 plants per square metre	1,394
Medium graminoids	23%	696.9sqm	4 plants per square metre	2,788
Total	**100%**	**3,030.0sqm**	**Total Number of Plants**	**9,880**

ZONE 7 – 0.402Ha

WOODLAND – REVEGETATION CATEGORY A

Total Area = 4,020 square metres Total Revegetation Area = 4,020 square metres or 0.402 Hectares (100% of area)	% Cover	Total area x % cover applied	Planting Density	Number of Plants for Area
*Medium and Large Trees	N/A	4,020 sqm	15/Ha	8
Small Trees, Large Shrubs	0%	N/A	1 plant per 3 square metres	0
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	18%	723.6sqm	1 plant per square metre	724
Medium Herbs	23%	924.6sqm	4 plants per square metre	3,699
Small Herbs and Prostrate Herbs	13%	522.6sqm	6 plants per square metre	3,136
Large graminoids	23%	924.6sqm	2 plants per square metre	1,849
Medium graminoids	23%	924.6sqm	4 plants per square metre	3,699
Total	**100%**	**4,020sqm**	**Total Number of Plants**	**13,115**

ZONE 8 – 0.3455Ha

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 3,455 sqm **Total Revegetation Area = 1,728 sqm or 0.1728 hectares (aprx. 50% of area)**	**% Cover**	**Total area x** **% cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	1,728sqm	8/Ha	3
Small Trees, Large Shrubs	15%	259.2sqm	1 plant per 3 square metres	87
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	15%	259.2sqm	1 plant per square metre	260
Medium Herbs	20%	345.6sqm	4 plants per square metre	1,383
Small Herbs and Prostrate Herbs	10%	172.8sqm	6 plants per square metre	1,037
Large graminoids	20%	345.6sqm	2 plants per square metre	692
Medium graminoids	20%	345.6sqm	4 plants per square metre	1,383
Total	**100%**	**1,728sqm**	**Total Number of Plants**	**4,845**

ZONE 9 – 0.0672Ha

WOODLAND – REVEGETATION CATEGORY A

Total Area = 672 sqm **Total Revegetation Area = 672 sqm or 0.0672 Hectares (100% of area)**	**% Cover**	**Total area x** **% cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	672sqm	15/Ha	2
Small Trees, Large Shrubs	0%	N/A	1 plant per 3 square metres	0
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	18%	121.0sqm	1 plant per square metre	121
Medium Herbs	23%	154.6sqm	4 plants per square metre	619
Small Herbs and Prostrate Herbs	13%	87.4sqm	6 plants per square metre	525
Large graminoids	23%	154.6sqm	2 plants per square metre	310
Medium graminoids	23%	154.6sqm	4 plants per square metre	619
Total	**100%**	**672sqm**	**Total Number of Plants**	**2,196**

ZONE 10 – 0.330Ha

SCRUB – REVEGETATION CATEGORY B

Total Area = 750sqm Total Area = 750 square metres or 0.075 hectares	% Cover	Total area x % cover applied	Planting Density	Number of Plants for Area
*Medium and Large Trees	0%	0sqm	0/Ha	0
Small Trees, Large Shrubs	50%	375sqm	1 plant per 3 square metres	125
Medium Shrubs	50%	375sqm	1 plant per 2 square metres	188
Small Shrubs and Prostrate Shrubs	0%	0sqm	1 plant per square metre	0
Medium Herbs	0%	0sqm	4 plants per square metre	0
Small Herbs and Prostrate Herbs	0%	0sqm	6 plants per square metre	0
Large graminoids	0%	0sqm	2 plants per square metre	0
Medium graminoids	0%	0sqm	4 plants per square metre	0
Total	**100%**	**750sqm**	**Total Number of Plants**	**313**

WOODLAND – REVEGETATION CATEGORY A

Total Area = 2,550sqm Total Revegetation Area = 2,550sqm or 0.2550 Hectares (100% of area)	% Cover	Total area x % cover applied	Planting Density	Number of Plants for Area
*Medium and Large Trees	N/A	2,550sqm	15/Ha	5
Small Trees, Large Shrubs	0%	N/A	1 plant per 3 square metres	0
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	18%	459.0sqm	1 plant per square metre	459
Medium Herbs	23%	586.5sqm	4 plants per square metre	2,346
Small Herbs and Prostrate Herbs	13%	331.5sqm	6 plants per square metre	1,989
Large graminoids	23%	586.5sqm	2 plants per square metre	1,173
Medium graminoids	23%	586.5sqm	4 plants per square metre	2,346
Total	**100%**	**2,550sqm**	**Total Number of Plants**	**8,318**

ZONE 11 - 0.176Ha

SCRUB – REVEGETATION CATEGORY B

Total Area = 1,760 sqm Total Area = 1,760 sqm or 0.1760 hectares	% Cover	Total area x % cover applied	Planting Density	Number of Plants for Area
*Medium and Large Trees	0%	0sqm	0/Ha	0
Small Trees, Large Shrubs	50%	880sqm	1 plant per 3 square metres	293
Medium Shrubs	50%	880sqm	1 plant per 2 square metres	440
Small Shrubs and Prostrate Shrubs	0%	sqm	1 plant per square metre	0
Medium Herbs	0%	sqm	4 plants per square metre	0
Small Herbs and Prostrate Herbs	0%	sqm	6 plants per square metre	0
Large graminoids	0%	sqm	2 plants per square metre	0
Medium graminoids	0%	sqm	4 plants per square metre	0
Total	**100%**	**1,760sqm**	**Total Number of Plants**	**733**

ZONE 12 – 0.320Ha

WOODLAND – REVEGETATION CATEGORY A

Total Area = 3,200sqm Total Revegetation Area = 3,200sqm or 0.320 Hectares (100% of area)	% Cover	Total area x % cover applied	Planting Density	Number of Plants for Area
*Medium and Large Trees	N/A	3,200sqm	15/Ha	7
Small Trees, Large Shrubs	0%	N/A	1 plant per 3 square metres	0
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	18%	576.0sqm	1 plant per square metre	576
Medium Herbs	23%	736.0sqm	4 plants per square metre	2,944
Small Herbs and Prostrate Herbs	13%	416.0sqm	6 plants per square metre	2,496
Large graminoids	23%	736.0sqm	2 plants per square metre	1,472
Medium graminoids	23%	736.0sqm	4 plants per square metre	2,944

Total	**100%**	**3,200sqm**	**Total Number of Plants**	**10,439**

ZONE 13 – 0.2735Ha

MIXED HERBS, GRAMINOIDS AND LOW SHRUBS - REVEGETATION CATEGORY C

Total Area = 535 sqms **Total Revegetation Area = 535sqm or 0.0535 Hectares (100% of area)**	**% Cover**	**Total area x** **% cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	0sqm	0/Ha	0
Small Trees, Large Shrubs	0%	0sqm	0/Ha	0
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	18%	96.3sqm	1 plant per square metre	97
Medium Herbs	23%	123.1sqm	4 plants per square metre	493
Small Herbs and Prostrate Herbs	13%	69.6sqm	6 plants per square metre	420
Large graminoids	23%	123.1sqm	2 plants per square metre	246
Medium graminoids	23%	123.1sqm	4 plants per square metre	493
Total	**100%**	**535sqm**	**Total Number of Plants**	**1,749**

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 2,200sqm **Total Revegetation Area = 1,100sqm or 0.110 hectares (aprx. 50% of area)**	**% Cover**	**Total area x** **% cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	1,100sqm	8/Ha	2
Small Trees, Large Shrubs	15%	165.0sqm	1 plant per 3 square metres	55
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	15%	165.0sqm	1 plant per square metre	165
Medium Herbs	20%	220.0sqm	4 plants per square metre	880
Small Herbs and Prostrate Herbs	10%	110.0sqm	6 plants per square metre	660
Large graminoids	20%	220.0sqm	2 plants per square metre	440
Medium graminoids	20%	220.0sqm	4 plants per square metre	880
Total	**100%**	**1,100sqm**	**Total Number of Plants**	**3,082**

ZONE 14– 0.097Ha

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 970 sqm Total Revegetation Area = 485sqm or 0.0485 hectares (aprx. 50% of area)	% Cover	Total area x % cover applied	Planting Density	Number of Plants for Area
*Medium and Large Trees	N/A	485sqm	8/Ha	2
Small Trees, Large Shrubs	15%	72.8sqm	1 plant per 3 square metres	25
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	15%	72.8sqm	1 plant per square metre	73
Medium Herbs	20%	97.0sqm	4 plants per square metre	388
Small Herbs and Prostrate Herbs	10%	48.5sqm	6 plants per square metre	291
Large graminoids	20%	97.0sqm	2 plants per square metre	194
Medium graminoids	20%	97.0sqm	4 plants per square metre	388
Total	**100%**	**485sqm**	**Total Number of Plants**	**1,361**

ZONE 15– 0.570Ha

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 5,700sqm Total Revegetation Area = 2,850sqm or 0.285 hectares (aprx. 50% of area)	% Cover	Total area x % cover applied	Planting Density	Number of Plants for Area
*Medium and Large Trees	N/A	2,850sqm	8/Ha	3
Small Trees, Large Shrubs	15%	427.5sqm	1 plant per 3 square metres	143
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	15%	427.5sqm	1 plant per square metre	428
Medium Herbs	20%	516.0sqm	4 plants per square metre	2,064
Small Herbs and Prostrate Herbs	10%	285.0sqm	6 plants per square metre	1,710
Large graminoids	20%	516.0sqm	2 plants per square metre	1,032

Medium graminoids	20%	516.0sqm	4 plants per square metre	2,064
Total	**100%**	**2,850sqm**	**Total Number of Plants**	**7,444**

ZONE 16 – 0.608Ha

MIXED HERBS, GRAMINOIDS AND LOW SHRUBS - REVEGETATION CATEGORY C

Total Area = 1,480sqm **Total Revegetation Area = 1,480sqm or 0.148 hectares (100% of area)**	**% Cover**	**Total area x % cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	0sqm	0/Ha	0
Small Trees, Large Shrubs	0%	0sqm	0/Ha	0
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	18%	266.4sqm	1 plant per square metre	267
Medium Herbs	23%	340.4sqm	4 plants per square metre	1,361
Small Herbs and Prostrate Herbs	13%	192.4sqm	6 plants per square metre	1,155
Large graminoids	23%	340.4sqm	2 plants per square metre	681
Medium graminoids	23%	340.4sqm	4 plants per square metre	1,362
Total	**100%**	**1,480sqm**	**Total Number of Plants**	**4,826**

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 4,600sqm **Total Revegetation Area = 2,300sqm or 0.230 hectares (aprx. 50% of area)**	**% Cover**	**Total area x % cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	2,300sqm	8/Ha	3
Small Trees, Large Shrubs	15%	345.0sqm	1 plant per 3 square metres	115
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	15%	345.0sqm	1 plant per square metre	345
Medium Herbs	20%	460.0sqm	4 plants per square metre	1,840
Small Herbs and Prostrate Herbs	10%	230.0sqm	6 plants per square metre	1,380
Large graminoids	20%	460.0sqm	2 plants per square metre	920
Medium graminoids	20%	460.0sqm	4 plants per square metre	1,840

Total	**100%**	**2,300sqm**	**Total Number of Plants**	**6,443**

ZONE 17 – 0.174Ha

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 1,740 square metres **Total Revegetation Area = 1,218 sqm or 0.1218 hectares (aprx. 70% of area)**	**% Cover**	**Total area x** **% cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	1,218sqm	8/Ha	2
Small Trees, Large Shrubs	15%	182.7sqm	1 plant per 3 square metres	61
Medium Shrubs	10%	121.8sqm	1 plant per 2 square metres	61
Small Shrubs and Prostrate Shrubs	15%	182.7sqm	1 plant per square metre	183
Medium Herbs	10%	121.8sqm	4 plants per square metre	488
Small Herbs and Prostrate Herbs	10%	121.8sqm	6 plants per square metre	731
Large graminoids	20%	243.6sqm	2 plants per square metre	488
Medium graminoids	20%	243.6sqm	4 plants per square metre	975
Total	**100%**	**1,218sqm**	**Total Number of Plants**	**2,989**

ZONE 18 – 0.118Ha

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 1,180 square metres **Total Revegetation Area = 826sqm or 0.0826 hectares (aprx. 70% of area)**	**% Cover**	**Total area x** **% cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	826sqm	8/Ha	2
Small Trees, Large Shrubs	15%	123.9sqm	1 plant per 3 square metres	42
Medium Shrubs	10%	82.6sqm	1 plant per 2 square metres	42
Small Shrubs and Prostrate Shrubs	15%	123.9sqm	1 plant per square metre	124
Medium Herbs	10%	82.6sqm	4 plants per square metre	331
Small Herbs and Prostrate Herbs	10%	82.6sqm	6 plants per square metre	496

Large graminoids	20%	165.2sqm	2 plants per square metre	331
Medium graminoids	20%	165.2sqm	4 plants per square metre	661
Total	**100%**	**826sqm**	**Total Number of Plants**	**2,029**

ZONE 19 – 0.154Ha

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 1,540 square metres **Total Revegetation Area = 1,078sqm or 0.1078 hectares (aprx. 70% of area)**	**% Cover**	**Total area x % cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	1,078sqm	8/Ha	2
Small Trees, Large Shrubs	15%	161.7sqm	1 plant per 3 square metres	54
Medium Shrubs	10%	107.8sqm	1 plant per 2 square metres	54
Small Shrubs and Prostrate Shrubs	15%	161.7sqm	1 plant per square metre	162
Medium Herbs	10%	107.8sqm	4 plants per square metre	432
Small Herbs and Prostrate Herbs	10%	107.8sqm	6 plants per square metre	647
Large graminoids	20%	215.6sqm	2 plants per square metre	432
Medium graminoids	20%	215.6sqm	4 plants per square metre	863
Total	**100%**	**1,078sqm**	**Total Number of Plants**	**2,646**

ZONE 20 – 0.0705Ha

MIXED HERBS, GRAMINOIDS AND LOW SHRUBS - REVEGETATION CATEGORY C

Total Area = 750sqm **Total Revegetation Area = 750 sqm or 0.075 Hectares (100% of area)**	**% Cover**	**Total area x % cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	0sqm	0/Ha	0
Small Trees, Large Shrubs	0%	0sqm	0/Ha	0
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	18%	135sqm	1 plant per square metre	135
Medium Herbs	23%	172.5sqm	4 plants per square metre	690

Small Herbs and Prostrate Herbs	13%	97.5sqm	6 plants per square metre	585
Large graminoids	23%	172.5sqm	2 plants per square metre	345
Medium graminoids	23%	172.5sqm	4 plants per square metre	690
Total	**100%**	**750sqm**	**Total Number of Plants**	**2,445**

ZONE 21 – 0.187Ha

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 1,870 sqm **Total Revegetation Area = 1,309sqm or 0.1309 hectares (aprx. 70% of area)**	**% Cover**	**Total area x % cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	1,309sqm	8/Ha	2
Small Trees, Large Shrubs	15%	196.4sqm	1 plant per 3 square metres	66
Medium Shrubs	10%	130.9sqm	1 plant per 2 square metres	66
Small Shrubs and Prostrate Shrubs	15%	196.4sqm	1 plant per square metre	197
Medium Herbs	10%	130.9sqm	4 plants per square metre	524
Small Herbs and Prostrate Herbs	10%	130.9sqm	6 plants per square metre	786
Large graminoids	20%	261.8sqm	2 plants per square metre	524
Medium graminoids	20%	261.8sqm	4 plants per square metre	1,048
Total	**100%**	**1,309sqm**	**Total Number of Plants**	**3,213**

ZONE 22 – 0.7415Ha

MIXED HERBS, GRAMINOIDS AND LOW SHRUBS - REVEGETATION CATEGORY C

Total Area = 3,030sqm **Total Revegetation Area = 3,030sqm or 0.303 hectares (100% of area)**	**% Cover**	**Total area x** **% cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	0sqm	0/Ha	0
Small Trees, Large Shrubs	0%	0sqm	0/Ha	0
Medium Shrubs	0%	0sqm	1 plant per 2 square metres	0
Small Shrubs and Prostrate Shrubs	18%	545.4sqm	1 plant per square metre	546
Medium Herbs	23%	696.9sqm	4 plants per square metre	2,788
Small Herbs and Prostrate Herbs	13%	393.9sqm	6 plants per square metre	2,364
Large graminoids	23%	696.9sqm	2 plants per square metre	1,394
Medium graminoids	23%	696.9sqm	4 plants per square metre	2,788
Total	**100%**	**3,030sqm**	**Total Number of Plants**	**9,880**

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 4,385sqm **Total Revegetation Area = 3,070sqm or 0.307 hectares (aprx. 70% of area)**	**% Cover**	**Total area x** **% cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	3,070sqm	8/Ha	4
Small Trees, Large Shrubs	15%	460.5sqm	1 plant per 3 square metres	154
Medium Shrubs	10%	307.0sqm	1 plant per 2 square metres	154
Small Shrubs and Prostrate Shrubs	15%	460.5sqm	1 plant per square metre	461
Medium Herbs	10%	307.0sqm	4 plants per square metre	1,228
Small Herbs and Prostrate Herbs	10%	307.0sqm	6 plants per square metre	1,842
Large graminoids	20%	614.0sqm	2 plants per square metre	1,228

Medium graminoids	20%	614.0sqm	4 plants per square metre	2,456
Total	**100%**	**3,070sqm**	**Total Number of Plants**	**7,527**

ZONE 23 – 0.134Ha

SUPPLEMENTARY PLANTING – REVEGETATION CATEGORY D (SITE-SPECIFIC DEPENDING ON EXISTING VEGETATION)

Total Area = 1,340 sqm **Total Revegetation Area = 938sqm or 0.0938 hectares (aprx. 70% of area)**	**% Cover**	**Total area x % cover applied**	**Planting Density**	**Number of Plants for Area**
*Medium and Large Trees	N/A	938sqm	8/Ha	2
Small Trees, Large Shrubs	15%	140.7sqm	1 plant per 3 square metres	47
Medium Shrubs	10%	93.8sqm	1 plant per 2 square metres	47
Small Shrubs and Prostrate Shrubs	15%	140.7sqm	1 plant per square metre	141
Medium Herbs	10%	93.8sqm	4 plants per square metre	376
Small Herbs and Prostrate Herbs	10%	93.8sqm	6 plants per square metre	563
Large graminoids	20%	187.6sqm	2 plants per square metre	376
Medium graminoids	20%	187.6sqm	4 plants per square metre	751
Total	**100%**	**938sqm**	**Total Number of Plants**	**2,303**

REVEGETATION NOTES

Note 1 - Ground ferns, bryophytes and lichens typical of local EVCs are not included. These species would be difficult to establish in revegetation areas. Ground ferns can be added once shrub and overstorey layers establish. The % coverage of other species has been increased to account for the absence of ground ferns, bryophytes and lichens.

Note 2 - All planting density figures per square metre for trees, shrubs, herbs and graminoids have been calculated to account for 30% stock loss, anticipated for new revegetation sites in Warrnambool

Note 3 - *30% increase in number of canopy trees has been added to the total number of plants to account for stock losses.

APPENDIX 5 –SUMMARY OF SUBMISSIONS

Submission Number	Main Points Raised in Submission	Response
#1	Support the native approach to the revegetation of the Park, acknowledging wildlife within the city, providing refuge and habitat for wildlife and allowing wildlife to move more safely in the urban environment. . The plan has a lack of habitat for koalas whose population is dwindling quickly due to tree removal largely for development. Critical that areas are set aside for large canopy koala food trees. As these trees are disappearing from private gardens and completely removed from development sites, they must be planted on Council owned land. Koalas are absent on the species list in the Green Warrnambool plan. Blue Gums providing Koala habitat and food were removed at Russells Creek Reserve. These trees were removed during flood mitigation works and have not been replaced. Koalas only eat specific species of Eucalypts including: *E. viminalis* (Manna Gum), *E. ovata* (Swamp Gum), *E. camaldulensis* (Red Gum), *E. nicholii* (Narrow Leaved Black Peppermint), *E. globulus* (Blue Gum), *E. obliqua* (Messmate) Larger trees provide much larger areas of shade assisting with cooling and mitigating heat islands. If these species are not included in the plantings then koalas will continue to struggle to survive in Warrnambool. The creation of a corridor between Albert Park and Russells Creek would be a great benefit for the safe movements of wildlife including Wallabies. It would also assist mitigate vehicle collision when wildlife are using the road to move around. The draft states that the exposed site would result in some of the listed species struggling to grow. Manna Gums grow in extremely exposed sites.	This plan focuses primarily on the proposed revegetation zones identified in the Albert Park Integrated Water Management Plan. The Plan includes approximately 67 new medium to large trees within these revegetation zones, including a number of Eucalyptus species. The draft Albert Park Revegetation Species List list included *Eucalyptus viminalis* (Manna Gum) and *Eucalyptus ovata* (Swamp Gum). The Revegetation Species List now has been expanded to include *Eucalyptus obliqua* (Messmate Stringybark) for additional Koala food source. *Eucalyptus obliqua* is found in the Warrnambool Plain Bioregion, and is considered appropriate for inclusion in the revegetation species list. Future planning of the Park could include a landscape plan that focuses on larger shade trees, feature trees and habitat for Koalas. One of the recommendations of the Albert Park Integrated Water Management Plan is to encourage a corridor between Albert Park and Russells Creek. This biolink is supported by this Revegetation Plan but is outside the scope of works for this project.
#2	The document is well researched and presented. Based on local plant records held by Warrnambool Field Naturalists Club, the local species list could be added to. Cocksfoot Grass has the ability to overpower new planting and revegetation areas. Concerned about the number of non-local native plants listed. Coast beard heath is a hardy local, Seaberry Saltbush occurs naturally in the park, Bower Spinach and Small Leaf Clematis are great colonisers.	Additional comments have been added under Section 4 noting weeds species such as Cocksfoot Grass as a threat to the success of revegetation works. The Albert Park revegetation species list contains approximately 65% of species that are indigenous to the Warrnambool Plains Bioregion. The remaining species that are non-indigenous to the Warrnambool Plains Bioregion, have been added as they are known pollinator species suited to the site conditions with low risk of naturalisation and weediness. Three medium shrubs, including Coast Beard Heath and Seaberry Saltbush are found in local EVC 160. These were accidentally omitted from the species list and have now been added.

#3	**Comments** - Urban parklands tend to be homogenous. - The plan will not likely contribute significantly to Warrnambool's 2040 canopy coverage goal. - The existing 'island' planting on the east side of the park have become room for people, possibly students to hang out in and are a dumping ground of rubbish. - Plantings in Warrnambool are dominated by small plant species, there is an absence of true 'canopy' in which abut. This would provide much better habitat for species such as ring-tailed possums, sugar gliders, koalas and numerous canopy feeding birds such as Golden Whistlers and Crested Shrike Tits. - Pruning and care for trees in W.C.C. seems to be focused on creating 'parkland' or 'feature' trees. This shape may bring with it higher costs and higher risks as it encourages more lateral growth. - Albert Park is one of the rare sites in the municipality that may be a little more conducive to growing trees of a reasonable size. - Adhering to EVCs in our area is very problematic, it is limited and not ground tested. **Suggestions** - To plant trees in a plantation style typically used for timber production. This means: - Selection of species for tall, straight growth. These can be local species such as *Eucalyptus obliqua* and *Eucalyptus baxteri* or native species such as *Eucalyptus maculata* and *Eucalyptus saligna*. - Uniform spacing. - Care, such as high pruning, to develop an uninterrupted trunk up to at least 6 meters in height. **Benefits** - People will be able to see through the trees. - People will be able to walk under the trees. - A complete canopy will lead to weed suppression and less maintenance. - Continuous canopy has great habitat values. - Aesthetically pleasing. - Maximise carbon sequestration. - Temper the immediate environment. - Council will be managing an asset which will continue to appreciate. - In maturity trees could be harvested and given to the local men's shed or auctioned one by one annual as a charity event. - The greater the area the more effective the plantation in achieving all of the above.	The plan seeks to create a park that has a heterogenous species mix to provide for pollinators and other animal species. The plan does not adhere rigorously to the EVCs and provides an expanded native vegetation species list. The plan will contribute significantly to Warrnambool's 2040 canopy coverage goal. There are a total of approximately 1200 large shrubs, small trees, medium trees and large trees. A substantial number of trees are proposed in the revegetation zones.

#4	Vegetation plantings should link in to any future streetside plantings along Kelp, Japan and Foster Streets to provide a biolink to vegetation along the coast and Lake Pertobe for wildlife, birds in particular, to safely travel along. It would be great to see Blue Wrens in Albert Park. It is noted that proposed plantings are very small meaning they are would be fragmented and highly subject to invasion from introduced grass species along the edges from outside reducing habitat benefits. Maintenance of this would be high and should be minimised if possible. Request to include Correa reflexa 'Granny's Grave' in the mix of understory species to secure additional populations away from the dune area where it is under extreme threat from introduced species. If native species that aren't indigenous to the bioregion are included, then why not include for example, other banksia and hakea species, that would also provide food sources for Yellow-tailed Black Cockatoos. This could also enhance the amenity component mentioned in the introduction.	Revegetation zones 17 to 23 will provide a link between the Park and Kelp, Japan and Foster Streets. A number of species proposed for planting in these zones will provide habitat for small birds. Species include, *Themeda triandra* (Kangaroo grass), *Poa labillardierei* (Tussock Grass), *Acacia verticillata* (Prickly moses), *Clematis microphylla* (Small-leaved clematis), *Sweet bursaria* (Bursaria spinosa), *Scented paper-bark* (Melaleuca squarrosa) and *Correa spp*. In response to this submission, the species list for revegetation zones 17, 18, 19, 21, 22 and 23 has been altered to reduce medium herb cover by 10% and increase medium shrub cover by 10% to provide additional small bird habitat. Shrubs and small trees now comprises 25% cover in these revegetation zones near Coulstock Street, and will provide good habitat, whilst retaining sufficient passive surveillance into and out of park for recreation users. *Correa reflexa* var. *reflexa* 'Granny's Grave' has now been added to the species list. The possibility of fragmentation was considered in the preparation of the plan. Up to 30-35% of some revegetation zones include small to medium herbs and graminoids. These plants were included to provide increased biodviersity and many were listed as larval food sources by the Warrnambool Field Naturalists Club. It is important each revegetation zone is monitored and analysed following planting and establishment to determine planting success rate. If fragmentation following establishment is high, the species list should be modified prior to planting of the next zone to reflect these findings and reduce fragmentation. Three Hakea species indigenous to Victoria have been added to the Revegetation Species List. They include: - *Hakea rostrata* (Beaked Hakea) from the Dundas Tableands Bioregion - *Hakea sericea* (Silky Hakea) from the Central Victorian Uplands Bioregion, and - *Hakea rubosa* (Dwarf Hakea) from the Central Victorian Uplands Bioregion
#5	As well as a future biolink from Albert Park to Russells Creek, the plan should refer to future biolinks from the park to the foreshore. These biolinks have been discussed in the community for many years and at Council's previous environment and Planning Advisory Committee and other Council committees. It should be a core principle underlying the plan that the distance between plantings of shrub / scrub is not more than some of our small birds are prepared to fly. For example, Superb Fairy Wrens and White Browed Scrub Wrens prefer to be in or near scrub and will not fly far over open areas. So, in planning plantings of shrubs / scrub, there should be clear 'pathways' for these small birds from one side of Albert Park to the other and in the future, onwards to Russells Creek and the foreshore. All pedestrian paths should have spaced shade trees along them (on the north side where possible). Most paths are very exposed to the sun and the revegetation plan does not adequately address this. Perhaps Eucalypts, providing dappled shade, would be appropriate rather than more dense Sheoaks or Moonahs? Disappointed that Warrnambool Coastcare Landcare Network was not engaged in consultation in the development of the draft revegetation plan.	The plan refers to the potential future biolink to Russel's Creek and has now been amended to include reference to potential future biolinks to the foreshore. The primary purpose of the plan was looking at the revegetation areas proposed in the Integrated Water Management Plan and to develop a revegetation guide for these proposed areas of revegetation as well as existing clumps of vegetaion along Coulstock Street. The scope of the project was not an overall landscape master plan for the park. There are opportunities to provide additional shade, particularly along path edges as part of a broader park landscape plan in the future. Moonah and Sheoaks were included in the revegetation list as they attract a range of pollinators. Moonah have pollen and nectar for native bees, honey bees, wasps, butterflies, moths, beetles and flies. Sheoaks have pollen for native bees, honey bees and hoverflies. The initial consultation primarily involved direct liaison with active park user groups. The purpose of this round of consultation was to reach the broader community and stakeholders, including Landcare and other organisations interested in revegetation projects.

#6	Please note that it is the Warrnambool Community Garden NOT Gardens. Request for a priority on clearing weeds in the areas near to and bordering the community garden. Request for assistance to clear weeds that have jumped the fence into the garden including Chilean Needle Grass. Security concerns. Several break-ins via Albert Park (block 15 area) into the Community Garden – we suggest that the planting lists for our shared fence could be dense and prickly rather than the open woodland that is proposed for block 15. **General feedback:** - The plan is difficult to read when printed. - It would be great to see the proposed biolink from Albert Park to Russells Creek given priority. - Council should consider a biolink from Albert Park to the foreshore using nature strip planting as has been talked about for many years in the community and on various Council Committees (the Blue Wren biolink concept). - The Community Garden partnered with Council on a nature strip revegetation pilot project three years ago and would be happy to discuss possible involvement in the future and the various ways that we could do this.	Warrnambol Community Gardens has been changed to 'Warrnambool Community Garden' in the document text. Clearing of weeds is a priority in the plan and is included in Stage 1 of the implementation plan. The implementation of the revegetation plan is intended to create a park environment that is better maintained and utilised, including the area nearest the Community Garden. The revegetation area at Zone 15 will include removal of woody weeds, with new mulch and planting. It is important that pedestrian access is promoted to/from and throughout the park to increase usage of all areas, enhance passive surveillance and assist in reducing anti-social behaviour. The plan within this report has been created for printing at A3 size. A high resolution file can be requested from Council for printing at a larger size. The biolink from Albert Park to Russells Creek and is referred to within this document as a potential future project, but is outside the scope of works for this revegetation project in Albert Park. The biolink from Albert Park to the foreshore is now referred to in the introduction.
#7	Commend the plan for its willingness to embrace replanting with local, native and appropriate plants to be used as a complex and varying framework for the habitats of the area to support a wide range of fauna. Applaud the plans concentration on "pollinator species" planting with its implied emphasis on the invertebrate species which are at the bottom of the food web and thus the basis for other groups of species that will use the area. Pleased to see the *Themeda* area set aside for specific management and I like the idea of extending the area through the planned low-profile grasses, herbs and other suitable plants. I'd urge fostering continued contact with community groups to help involve their interests, expertise and enthusiasm. Regarding planting for pollinators, the plan needs to recognise that at least some groups of pollinators, e.g. butterflies and moths, need larval food plants as well as, but often quite different to, the adult food plants which are much more general involving mainly nectar sources. I'd urge that the plan contains reference to larval food plants and it will be a simple process to add in any missing plants. Museum Victoria has information for butterflies, also Field, R 2013 Butterflies: Identification and Life Histories, Museum Victoria. The Entomological Society of Victoria will also have expertise with moth and other insects' larval needs. Over time, thought should be given to blending an optimal proportion of gene stock from warmer areas further north to allow for better survival with climate change.	A column has been added in the revegetation species list to show which of the species are known larval foods for pollinators. Provenance mixing for climate change adaptation is something that could be discussed with local nurseries when plant orders are placed for each revegetation zone. The scope of this project is to provide guidance on planting of revegetation areas that were identified through the Albert Park Integrated Water Management Plan with added emphasis on attracting pollinator species. It would be ideal if there was enough interest garnered through these revegetation planting works in Albert Park to encourage a group or individual to carry out scientific-based monitoring of the invertebrates. Each revegetation area should be monitored and analysed at regular intervals following planting to determine what species are growing well, what species are outcompeting others and what species have poor success. Monitoring and analysis will help to determine future plant schedules and mix of species. The plant species should be modified to reflect these findings. Additional details have been added in the report in the implementation section regarding the importance and requirements around monitoring for the project.

#7 (cont'd)	Finally, and perhaps most importantly, there is little mention of the role of monitoring in allowing the council to respond to changes in the new communities being formed. The plan provides a chance to set up a simple but scientifically-based monitoring of the invertebrates' (and also larger species') presence in and use of the park. If monitoring prior to the project sets up a baseline of data for the area, scientifically valid monitoring survey design can be set up to answer important questions about the effects and changes caused by the revegetation. This may then guide future development, not only at Albert Park but at other reserves around the city. This can be the start of a long-running set of data which teases out long term changes. This may be important in a changing climate and is something which has done more successfully perhaps in Europe than Australia. Well-done for considering the important role of invertebrates in the system and best wishes for a successful project.	
#8	Recommend replacing the word "Patch" with Revegetation Area or zone throughout the document. The term "Patch" of native vegetation has a very specific meaning and definition in Victoria. Consistent use of *italics* when using Latin names of plants. Section 2.2 they are but in 2.1 they are not. Warrnambool City Council is undertaking flood treatment works in the form of a sub-surface retention cell for Japan Street, this indicates the future Water Sensitive Urban Design/Wetland area identified in both the revegetation plan and IWM plan may have a reduced capacity. However, it is recommended to re-visit the proposed species list for areas 18, 19, 21 and 22 (all Stage 4 and 8+ years away) with the Water Sensitive Urban Design/Wetland works. Species selection may need to be altered if there are increased water flows through the area as proposed in the IWM plan to facilitate stormwater from Coulstock Street to the wetland. Suggestion that local alternative *Dianella* species be considered rather than the widely planted *D. tasmanica*, who's natural range doesn't appear to cover areas this far west. Recommended alternative options are *D. longifolia*, *D. brevicaulis* and *D. revoluta*. Support the planting of *Bursaria spinosa*, it is a local native species and it offers food for pollinators at times of the year when there is little else on offer. When hiring contractors to conduct the Chilean Needle Grass control, WCC should prioritise contractors with excellent grass ID skills. It can be hard to recognise amongst other grasses when not in flower. The remnant *Themeda triandra* area needs to be prioritised. This plant community is incredibly rare locally. We would strongly recommend that this percentage coverage be increased through improved management practices and this be incorporated in the reserves management plan.	Reference to 'Patch' has been changed to 'Zone'. All Latin names are now in *italics* in Section 2.1 The revegetation works of areas 20 and 22 for the WSUD areas are proposed in Years 1 to 3. The implementation plan has been amended for Stage 4 to include a review of water flows through WSUD treatments and revegetation works surrounding the WSUD treatments. A recommendation that new/supplementary planting and altered species selection occur, where required, to ensure optimal functioning of WSUD assets. The draft plan included *Dianella tasmanica* and *Dianella revoluta*. *Dianella tasmanica* is a species noted as being of local origin and found within EVC 3: Damp Sands Herb-rich Woodland - Warrnambool Plain Bioregion. In response to this submission, the revegetation species list has been expanded to include both *Dianella brevicaulis* and *Dianella longifolia.* The implementation plan now includes mention of the importance of prioritising contractors with excellent grass identification skills to identify both native grass species and noxious grass weeds including Chilean Needle Grass. The percentage coverage of *Themeda triandra* is proposed to be increased throughout the park.
#9	Warrnambool is becoming less attractive because of all the trees that are being cut down for housing. Concerning that Warrnambool is becoming more like Melbourne with more rooftops and less trees.	Tree planting is proposed within the Plan. A total of approximately 63 new Medium to Large trees are included on the draft plan. A total of approximately 1139 large shrubs and small trees are proposed for

	The Plan is important for both the Warrnambool residents and the wildlife that live here. Disappointing that there has not been any consideration in the planning for planting of trees for the native wildlife that live in and around Warrnambool. More trees need to be planted to form a corridor for habitat and food. Consulting with the experts at the local Wildlife Shelter (Mosswood Wildlife) and working together can ensure that the trees planted are the correct ones and working out where to plant so that these corridors for the wildlife to move through are met.	planting in the Park. Tree species to be planted will include various species of Eucalyptus, Acacia, Banksia, Melaleuca and Allocasuarina. Mosswood Wildlife have provided comment on the draft plan.