RE-ZONING PROPOSAL AND MANAGEMENT RECOMMENDATIONS FOR CENTRAL CREEK AREA - RESERVOIR

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RE-ZONING PROPOSAL AND MANAGEMENT RECOMMENDATIONS FOR CENTRAL CREEK AREA - RESERVOIR

1.0 Introduction

It is proposed that two areas of vacant land adjacent to Central Creek (a tributary to the Merri Creek) and south of Mahoneys Road (Melways - map 8 B12) be developed. The F2 Freeway Reserve passes through this area.

The first area is bounded by Bartrop Street to the south and Davidson Street to the north (refer Appendix 1 - Area A). The second area is between Davidson Street and Mahoneys Road (refer Appendix 1 - Area B). Residential housing dominates to the east of these sites. Together the areas cover approximately 12.5 Ha.

The majority of the area is dominated by *Themeda* grasslands. Given the significance of the native grasslands in Victoria, it is proposed that the area be re-zoned to protect the important native grassland areas as well as provide opportunities for public open space. Until recently the whole of the F2 freeway reserve and adjacent land south from Mahoneys Road to the Merri Creek contained high quality remnant Kangaroo Grass grassland. The creation of a golf driving range (refer Appendix 1) adjacent to Mahoneys Road has destroyed the grassland vegetation within the driving range fence, and various disturbances have allowed weeds to invade parts of the remainder. Nonetheless, the remaining areas still contain some very high quality native grassland.

Grasslands are now extremely rare in Victoria and especially in the Melbourne region. Area B has been identified as being of regional significance and possibly state significance depending on further botanical survey work (Department of Conservation and Environment Report 1990).

1.1 Objectives of the Study

The objectives of the study are to:

(i) survey, describe and assess the vegetation;

(ii) make recommendations for land use; and

(iii) make recommendations for management of the site.

1.2 Importance of Native Grasslands

In Victoria Kangaroo Grass grassland (or grassy savannah woodlands) used to cover one fifth of the state - most of the Western Basalt Plains which extend west from Melbourne to the South Australian border. The grasslands of the Victorian basalt plains are poorly conserved with less than 1% remaining (McDougall 1989). The remaining grasslands are being destroyed at an alarming rate. These grasslands are now confined to small reserves. Great pressures are placed upon these grasslands by urban development. Other pressures include inappropriate management, rubbish dumping and weed invasion. As a consequence, native grasslands are now perilously close to extinction.

Of all the native plant communities, native grasslands have always been discriminated against in terms of reservation because of their value for grazing and because they do not have many trees.

In fact the majority of the diversity of species in most plant communities (except rainforest) is in the ground layer, and of the 214 indigenous species known to have occurred along the Merri Creek (there certainly were more), at least 180 are ground storey plants.

Around Melbourne very little Kangaroo Grass grassland has been reserved, and none as yet within the Merri Creek Catchment. Some of the 72 ha of Kangaroo Grass grassland at Cooper Street, Campbellfield may be purchased by the State Government if commitments made in 1991 are met (1988 commitments to purchase the whole site have not been met). The proposed reduced purchase has many drawbacks, not the least being that the narrow strip of grassland reserved as a result of the reduced purchase would be less likely to survive in the long term. As mentioned previously, edge effects - including dumping and weed invasion - progressively destroy the vegetation, unless it is very carefully managed.

1.3 Native Grasslands in the City of Preston

Two significant grassland remnants are known within the City of Preston; the remnants north and south of Davidson St Reservoir and the remnants within Bundoora Park adjacent to the Darebin Creek.

The Bundoora Park remnant is different floristically from the grassland at Davidson St. This probably reflects differences in the underlying soil type - Davidson St is on soils derived from relatively recent olivine basalts, whereas Bundoora park is based on Silurian mudstones. Both remnants are highly worthy of preservation, and should be managed to preserve the vegetation intact.

1.4 Importance of Remnants

All communities of this (the Melbourne) region must be considered to be of conservation interest, as relict vegetation is disappearing so rapidly. Some of particularly high interest are remnants of the western plains vegetation types, woodlands of more fertile alluvial soils, the Sandringham - Frankston Heathlands, and heathy-grassy foothill forests in the east (including those with Silver-leaf Stringybark). Pressures to alienate or develop remaining examples of bushland can be high, and construction of firebreaks and mowing for fire prevention (or just plain tidiness) can destroy most of what is left in small relics.

2.0 Study Methods

The site was assessed by representatives from the Merri Creek Management Committee and Melbourne Water. The flora survey conducted was based on observations and previous botanical records prepared by Faithfull (1990). Determining the distribution of the native grasslands was the initial objective of the study. Areas of vegetation were given a rating depending on their differences in composition between indigenous species and exotic species. This enabled the vegetation to be mapped under the following types (refer Appendix 1).

> 75% indigenous

50% indigenous

> 75% exotic

> 75% exotic but contains some indigenous trees and shrubs.

Development options are provided in section 4 (page 4).

2.1 Study Limitations

The accuracy of the field survey was limited by the season of year. The winter period is when most species have finished flowering and seeding which complicates identification. This is particularly important for the following:

* accurate identification of grasses and sedges; and

* location and identification of geophytes. Indigenous species in this category are likely to include members of the Fabaceae, Liliaceae and Orchidaceae. It is presumed that many of these species would be absent from the site due to management and other disturbance factors.

Furthermore, slashing and rubbish dumping may severely affect the composition and density of the indigenous vegetation.

Vascular plants that require further identification include:

Crassula spp. - a spreading aquatic plant of which several species are indigenous to the Melbourne Region;

Gonocarpus sp. - the absence of flowering material prevented identification of this species;

Oxalis spp. - the absence of flowering material prevented identification of this species;

Plantago sp. - the absence of flowering material prevented identification of this species;

Rumex spp. - the absence of flowering material made species identification impossible with this species;

**Rubus fruticosus* spp. agg. - no attempt was made to distinguish between the species of this group; and

Wahlenbergia spp. - 3 forms of Wahlenbergia have been recorded at this site.

Plant species were identified with the help **The Flora of Melbourne** (Society for Growing Australian Plants, Maroondah, Inc. 1991), staff from the Merri Creek Management Committee (MCMC) and the National Herbarium. Taxonomical nomenclature followed that of Forbes and Ross (1990). Weed species are marked with an asterisk throughout the report.

3.0 Results

The flora survey found 118 species of which 52 (or 61.36%) were introduced. Area A has already been classified as of regional significance and possible state (Department of Conservation and Environment 1990). Area B is more extensive than A and just as diverse - thus this area can be considered of regional significance. These areas both warrant botanical surveys during the spring-summer periods. Both areas contain regionally-significant species including *Amphibromous nervosus* and *Eryngium vesiculosum* (Cheal 1988). Locally-significant species are those that are rare or restricted to the Merri Creek catchment and were determined by staff from the MCMC. These included *Burchardia umbellata*, *Caesia calliantha*, *Cheilanthes sieberi*, *Eryngiun ovinum*, *Leptorhynchos squamatus*, *Microtis unifolia* and *Rumex dumosus* which is considered uncommon to the Melbourne Region (Cheal 1988). In addition, the communities of *Themeda* Grassland and Grassy wetland have regional significance.

Species are recorded in Appendix 3.

4.0 Development Options

Area A is considered to be of regional significance as stated in the Remnant Native Grasslands and Grassy Woodlands of the Melbourne Area - An Action Plan for Conservation Based on Biological Values (Department of Conservation and Environment 1990). The current study showed that both area A and area B are just as botanically diverse and therefore area B is probably of regional significance as well. Any development decision should take into account that both areas have the same botanical value.

The following options are provided to guide the decision process for land re-zoning. The options will help ensure the protection of the remnant grasslands. Following these options general recommendations are provided.

Option 1

Retain all native grass areas and identify site as a flora reserve which is contiguous with the Merri Creek Parklands (refer Appendix 2 - Option 1).

Importantly, any development should ensure that an open space link is established between the Bartrop Street Site (Area A) and the reserved land west of this site. This will allow for an open space network to the Merri Creek Parklands which will enhance the visitor-experience, provide landscape interest and add value to the surrounding real estate.

Advantages

* Improves the viability of the remnants and restricts degradation processes. Increased edge effects exposes remnants to further disturbance pressures eg maintenance buffers which predispose remnants to weed invasion. It also provides a stepping stone for faunal movement through to other remnants.

* Allows sites to be managed more effectively as buffer zones have already been established.

* Conserves valuable resources - an important educational resource and a reference point and seed source for revegetation occurring along the Merri Creek.

* Provides landscape interest and value to the surrounding real estate.

Dis-advantages

* Prevents the development of the land for development.

Option 2

Retain site but allow for area east of Dawson Street and lot 2602 to be zoned Residential (refer Appendix 2 - Option 2). This would allow for the continuation of Dawson Street into Davidson Street.

Advantages

* As for option 1 and allows for some development.

Dis-advantages

* Limited areas for development.

* Increased pressures on adjacent grasslands ie through the need for maintenance buffers.

Option 3

Allow development of lot 2602 and west side of Dawson Street but ensure grassy wetland community is reserved (refer Appendix 1) and that there is a corridor of vegetation to the southern and northern parts of the site. The housing allotments should be restructured to ensure that only Dawson Street is developed and that Greig Street is not constructed (refer Appendix 2 - Option 3).

Advantages

* Increases land available for development.

* Provides a linking corridor between northern and southern open space areas.

Dis-advantages

* Compromises the continuity of the grassland and its impact in terms of size and views.

* Reduces diversity of the vegetation. This is the only site that *Leptorhynchos squamatus* has been recorded on.

5.0 General Recommendations

General recommendations have been listed under the following subheadings: re-zoning, development/construction and management. The possibility of swapping parcels of land which are more suited to development eg golf driving range with land more suited to conservation and reservation ie native grass remnants (refer Appendix 1) should be carefully considered.

Re-zoning

* Site residential allotments to ensure the maximum amount of grassland is retained.

* Restructure allotments in golf driving range to accommodate adequate buffer for remnant grassland areas.

Development/construction

* Provide on-site guidance using MCMC representatives to ensure reservation of grassland during site survey for allotments and during construction periods.

* Retain golf driving range fence during construction to limit damage to other native grass areas (refer Photograph 1).

* Ensure that soil and refuse is not dumped on site during and after housing construction. Dumping would endanger grassland remnants.

Photograph 1

Rubbish dumping and vehicular access quickly degrade the site by encouraging opportunistic weed species. Management should be most intensive on these sites to prevent invasion of weed species into remnant grassland areas.

Management

* Ensure liaison with Preston City Council so that site is managed positively as described in the management guidelines. Liaison with local residents will be an important part of the management process as well.

* Ensure buffer to remnant grassland areas - this area should be identified as requiring more active management to prevent degradation of the native grassland and to provide a fire break.

* Fence or bollard areas to prevent illegal vehicle access.

* Provide a slashed buffer track between the back of the housing allotments and the reserve for fire control but manage to favour native grasses and reintroduce native grasses as recommended in management guidelines.

* One management agency should be allocated the task of managing the site.

* Adopt management guidelines described below.

6.0 Management Guidelines

The remaining native grasslands must be managed in a positive way. Past management practices have shown that if native grasslands are not carefully managed they will degrade (refer Photograph 2). The management regime should aim to achieve the following long term gaols.

* Maintain the site as a viable grassland reserve for conservation of species *in situ*, for a seed source for revegetation, and for educational purposes. Importantly, native grasslands are cheaper to maintain than exotic grasslands.

* Change the attitude of local residents to the reserve to a positive one (refer section 6.2.8 Improving public image of the site).

* Satisfy the recreation needs of local residents in a way that minimizes impact on the conservation values of the reserve.

Photograph 2

The zone between native grassland (light brown) and exotic grassland (bright green) is most obvious in this photograph. The exotic grassland area has been encouraged through disturbance of the creek bank. These areas now have to be intensively maintained through slashing. The native grassland areas do not require this frequent slashing and it is recommended that this does not occur.

6.1 Management Problems

6.1.1 Protecting residents from fire

Residents, local government and Merri Creek Management Committee recognise that there is some risk of a fire on the site causing some damage to adjoining properties. The level of fuel on the site, especially in the areas of Kangaroo Grass, is not high enough for a major conflagration. The exotic grasses, which because of the history of disturbance of the site, are concentrated on the edges closest to the houses and the Creek, could potentially present more of a fire hazard. Conservation management of the site would be aiming to replace exotic species with the less-flammable indigenous grasses. Other strategies which should be adopted include:

1. Fire breaks:

Mowed fire breaks should be maintained between the houses and the reserve. The firebreaks should be no wider than 10m, so as not to encroach on the native grassland areas. They should be mown in September, October, and December.

2. Mowing of the reserve proper:

Mowing of the reserve is would damage the conservation values of the reserve because:

* mowing introduces and spreads weed seed;

* mowing in the wetter months causes soil disturbance, removing vegetation and encouraging weeds. Mowing in late spring and early summer compromises flowering and seed setting of indigenous plant species. Thus mowing should be avoided where possible, and restricted to late January.

3. Management burning:

Ecological burns (burns that favour regeneration of indigenous herbs and grasses) discussed below should be carried out in such a way as to also minimize the chance of uncontrolled fires causing property damage. This implies the following:

* a frequent burning regime; perhaps more so in the areas closest to the houses; and

* lighting ecological burns from the east side of the reserve to burn west.

6.1.2 Preventing rubbish dumping

Dumped rubbish damages both the conservation values of the reserve by smothering indigenous plants and introducing weed propagules and also damages the public's image of the reserve (refer photograph 2). Dumping can be best controlled by:

* fencing the reserve to prevent illegal vehicle access;

* signposting the reserve as a reserve;

* changing local residents' image of the reserve so that they value it, and do not dump; and

* promptly remove dumped rubbish.

6.1.3 Preventing soil disturbance

Soil disturbance in native grasslands almost always is detrimental to the survival of the indigenous species present and favours the weed species present. The main form of soil disturbance which is occurring at the site is caused by vehicles, including 4WDs, trailbikes, and tractors (refer photograph 3). It is best controlled by:

* fencing the reserve to prevent illegal vehicle access; and

* avoiding mowing, or any other management vehicle access when the soil is moist, and minimizing management vehicle access at all times.

Photograph 3

Unrestricted vehicular access encourages an unintentional vandalism of the grassland. Wheel ruts from these activities as well as from tractors slashing the site only encourage the sites for weed invasion. This highlights the need to fence or bollard the area.

6.1.4 Preventing weed invasion

Weed invasion is the major threat to the long-term survival of the indigenous species present on the site. Restricting weed invasion is best achieved on the site by:

* minimizing soil disturbance;
* actively controlling weed species which are present on the site and attempt to eradicate them, or at least keep them under control and stop them from seeding. Particular species which should be controlled include *Nasella* ***neesiana, Phalaris*** *aquatica,* ***Paspalum dilatatum, Rosa rubiginosa, Foeniculum vulgare,*** *Picris echioides,* ***Rubus*** *fruticosus* spp agg, and ***Cynara cardunculus***;
* minimizing the introduction of weed seed on mowing equipment;
* minimizing the dumping of rubbish - especially garden waste;
* maintaining healthy competition for the weeds from indigenous species; and
* manipulating the fire regime on the site to suppress weeds and enhance indigenous species.

6.1.5 Maintaining and enhancing species diversity on the site

The main value of the site is the plant community present, together with the individual species present. Management should aim to preserve the community and ensure that a balance of individual species persists. For example *Themeda triandra* itself is prone to out-compete the indigenous herb species unless it is burnt every three years, or disturbed in some other way. The site could also be used to reintroduce indigenous species which would probably have been present on the site but now are restricted. In this way conservation of the species is ensured. Management to maintain and enhance species diversity on the site should include:

* control of weeds, especially the highly competitive ones;

* deliberate burning of the reserve in Autumn to remove excess *Themeda* growth at least once every three years, followed up by selective spot spraying of weed species;

* collection of seed from the site for increase populations of less common species and to direct seed areas which have been bared by weed eradication or by removal of rubbish;

* active management to control weeds on the site; and

* minimizing direct destruction of indigenous species by soil disturbance or rubbish dumping on the site.

6.1.6 Utilizing the seed resource

The native grassland species present on the site represent a rare resource for collection of seed for revegetation projects. The opportunity should be utilized to collect this seed, however it is important that seed collection does not jeopardise the survival of species at the site through over-collection. Seed collection should follow the guidelines published in Flora of Melbourne (1990).

6.1.7 Enhancing landscape values

At present most of the site is devoid of any shrub or tree growth. This would not have been the natural situation pre-settlement. The banks of Central Creek would have carried scattered Redgums, and dense growth of reeds and shrubs. The flat areas would have carried widely scattered Redgums, and widely scattered wattles and shrubs. Revegetating with these species would be an important step towards improving the landscape values of the site. This can best be achieved by:

* stopping mowing of regenerating indigenous tree species like *Acacia melanoxylon*; and

* planting of tubestock of other indigenous species in densities likely to mimic the natural situation.

6.1.8 Improving the public image of the site

At present the site appears to be considered by the residents to be no more than waste land. Most are unaware of the indigenous vegetation present on the site despite being leafleted in English in 1991. Many of the local residents are of non-English speaking background and will need information in non-English languages. The public image of the site can be improved by:

* preparing leaflets in the local community languages for circulation to residents explaining the situation;

* inviting local residents should be invited to a site information session with interpreters who can speak the languages; and

* signposting the site as a reserve - the signs should be in the community languages.

6.1.9 Management Agency

The indigenous vegetation on the site has survived mainly because there was no clear management agency who would manage the site for other purposes. Weed invasion, rubbish dumping, illegal vehicle access etc. have reached the stage where appropriate and sensitive management is required to preserve the conservation values of the site. In order to optimize this management:

* one management agency should be allocated the task of managing the site;

* the personnel involved in management should be trained, skilled and experienced in native grassland management; and

* adequate resources should be provided to allow on-going management of the site.

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Appendix 1

Distribution of Native Grasslands and Exotic Grasslands in the Central Creek Area - Reservoir


(Blackwood) are common
LEGEND
> 75% INDIGENOUS
Dominants:
Native grasses, herbs and forbs.
SCATTERED BUT SIGNIFICANT PATCHES OF NATIVE GRASS
Dominants:
Native grasses, herbs, forbs and exotic grasses.
50% INDIGENOUS
Dominants:
Native and exotic herbs, forbs and grasses.
> 75% EXOTIC
Dominants:
Exotic herbs and grasses.
> 75% EXOTIC BUT CONTAINS INDIGENOUS TREES AND SHRUBS
Dominants:
Exotic grasses and stands of Acacia melanoxylon.
Area B
Area A
Golf driving range
Scale 1:2500
Hymenanthera dentata (Tree Violet) occurs occasionally here
Grassy wetland
Regenerating Acacia melanoxylon - subject to slashing
DAWSON
DAVIDSON
BRAY
LOCKTON
Central Creek
Res
Sewerage
CAB 13466
LP 8653
834

Appendix 2
- Decision Options

Option 1

Maintain area as a flora reserve.

LEGEND

AREAS FOR DEVELOPMENT

RESERVED AREAS

Option 2

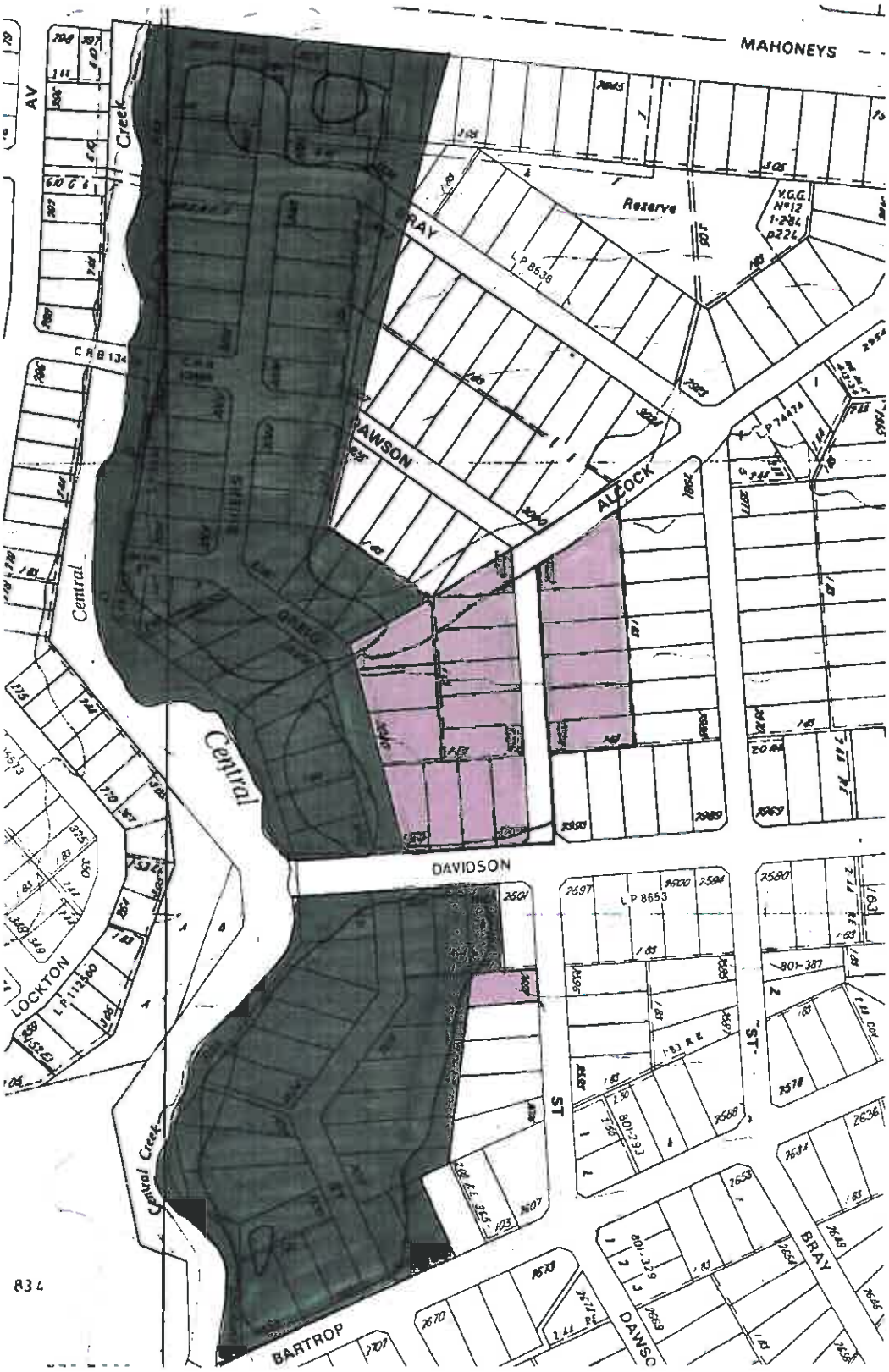
Allow for some development along Dawson Street and to lot 2602.

LEGEND

AREAS FOR DEVELOPMENT

RESERVED AREAS

Not to scale



Option 3

Allow for development along Dawson Street on east and west sides. Ensure road services are restructured to access to western allotments via Dawson Street. Develop lot 2602.

LEGEND

AREAS FOR DEVELOPMENT

RESERVED AREAS

Not to scale

Appendix 3

Species List for Central Creek Area - Reservoir

Species name	Common name
* Acacia longifolia	Sallow Wattle
Acacia mearnsii	Black Wattle
Acacia melanoxylon	Blackwood
Acaena agnipila	Hairy Sheep's Burr
Acaena echinata	Sheep's Burr
Agrostis aemula	Blown-grass
* Aira caryophyllea	Silvery Hair-grass
Alisma plantago-aquatica	Water Plantain
Amphibromus nervosus	Veined Swamp Wallaby-grass
* Anthoxanthum odoratum	Sweet Vernal-grass
* Arctotheca calendula	Cape Weed
Asperula conferta	Common Woodruff
Bolboschoenus caldwellii	Sea Club-sedge
Bossiaea prostrata	Creeping Bossiaea
* Briza maxima	Large Quaking-grass
* Briza minor	Lesser Quaking-grass
* Bromus hordeaceus	Soft Brome
Burchardia umbellata	Milkmaids
Bursaria spinosa	Sweet Bursaria
Caesia calliantha	Blue Grass-lily
* Callitriche stagnalis	Water Starwort
Calocephalus lacteus	Milky Beauty-heads
Carex inversa	Common Sedge
Carex tereticaulis	Rush Sedge
* Centaurium tenuiflorum	Centaury
* Cerastium glomeratum	Common Mouse-eared Chickweed
Cheilanthes sieberi	Narrow Rock Fern
* Cicendia quadrangularis	Square Cicendia
Convolvulus erubescens	Pink Bindweed
* Cortaderia selloana	Pampas Grass
* Cotula coronopifolia	Water Buttons
Crassula sp.	
* Cuscuta epithymum	Common Dodder
* Cynara cardunculus	Spanish Artichoke
* Cyperus eragrostis	Drain Flat-sedge
* Dactylis glomerata	Cocksfoot
Danthonia duttoniana	Brown-back Wallaby grass
Danthonia penicillata	Slender Wallaby-grass
Dianella longifolia	Pale Flax-lily
Dianella revoluta	Black-anther Flax-lily
Dichelachne crinita	Long-hair Plume-grass
Dichondra repens	Kidney-weed
Dichopogon strictus	Chocolate-lily
* Echium plantagineum	Paterson's Curse
Eleocharis acuta	Common Spike-sedge
Eleocharis sphacelata	Tall Spike-sedge
Elymus scabrus	Common Wheat-grass
* Epilobium ciliatum	Glandular Willow-herb
Epilobium hirtigerum	Hairy Willow-herb
Eryngium ovinum	Blue Devil
Eryngium vesiculosum	Prickfoot
Eucalyptus camaldulensis	River Red Gum

* Euphorbia lathyrus	Caper Spurge
* Festuca arundinacea	Tall Fescue
* Foeniculum vulgare	Fennel
Geranium potentilloides	Cinquefoil
Gnaphalium involucratum sensu lato	Cudweed
Gonocarpus sp.	
Haloragis heterophylla	Varied Raspwort
* Holcus lanatus	Yorkshire Fog
Hymenanthera dentata	Tree Violet
Hypericum gramineum	Small St. John's Wort
* Hypochoeris radicata	Cat's Ear
* Juncus articulatus	Jointed Rush
Juncus bufonius	Toad Rush
* Juncus capitatus	Dwarf Rush
Juncus flavidus	Yellow Rush
Kunzea ericoides	Burgan
Leptorhynchos squamatus	Scaly Buttons
Leptorhynchos tenuifolius	Wiry Buttons
* Linum trigynum	French Flax
Lobelia pratioides	Poison Lobelia
Lomandra filiformis	Wattle Mat-lily
Lythrum hyssopifolia	Small Loosestrife
* Mentha X piperita	Lemon Mint
Microlaena stipoides	Weeping Grass
Microtis unifolia	Common Onion-orchid
Muellerina eucalyptoides	Creeping Mistletoe
* Nassella neesiana	Chilean Needle-grass
Oxalis sp.	
* Paspalum dilatatum	Paspalum
Pentapogon quadrifidus	Five-awned Spear-grass
* Picris echioides	Ox-tongue
Pimelea curviflora	Curved Rice-flower
* Piptatherum miliaceum	Rice Millet
* Plantago coronopus	Buck's-horn Plantain
* Plantago lanceolata	Ribwort
Plantago sp.	
Poa labillardieri	Common Tussock-grass
Poa morrisii	Soft Tussock-grass
* Ranunculus muricatus	Sharp Buttercup
* Rapistrum rugosum	Giant Mustard
* Romulea rosea	Common Onion-grass
* Rorippa nasturtiumaquaticum	Two-row Bitter-cress
* Rosa rubiginosa	Sweet Briar
* Rubus fruticosus spp. agg.	Blackberry
Rumex dumosus	Wiry Dock
* Rumex sp.	
* Salix X rubens	Willow
Schoenus apogon	Common Bog-sedge
Schoenoplectus validus	River Club-sedge
Senecio quadridentatus	Cotton Fireweed
* Silybum marianum	Variegated Thistle
* Sisyrinchium iridifolium	Striped Rush-leaf
* Sonchus oleraceus	Milk Thistle
Stipa curticoma	Short-crown Spear-grass
Themeda triandra	Kangaroo Grass
* Tragopogon porrifolius	Salsify
Tricoryne elatior	Yellow Rush-lily
* Trifolium campestre	Hop Clover

* Trifolium dubium	Suckling Clover
* Trifolium repens	White Clover
Typha domingensis	Cumbungi
* Ulex europaeus	Furze
Veronica gracilis	Slender Speedwell
* Vicia sativa	Common Vetch
* Vulpia bromoides	Squirrel-tail Fescue
Wahlenbergia spp.	