MODEINA ESTATE, BURNSIDE

GRASSLAND RESERVE MANAGEMENT PLAN

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Report No. 7045 (43.4)

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APPENDICES

1. INTRODUCTION

This Grassland Reserve Management Plan has been prepared for an area of native grassland at Modeina Precinct 2 in Burnside, which is to be retained and managed for its biodiversity values. The area of grassland, herein referred to as the 'grassland reserve', comprises high quality native grassland vegetation and supports a significant population of the critically endangered Spiny Rice-flower.

Since 2012 the reserve has been managed by Dennis Family Corporation (DFC) in collaboration Victoria University. The reserve will be managed by DFC during development of the adjacent residential areas until it is vested to Melton City Council post-completion, who will assume management responsibility until the expiry of this Plan.

The Plan documents the environmental values of the reserve and prescribes management actions for a 10-year period. It is divided into the following sections:

Section 2 describes the environmental values of the reserve and risks to these values.

Section 3 provides various management prescriptions for the reserve, including:

- Construction environmental mitigation measures to ensure protection of the environmental values within the reserve during construction works for the development of the adjacent residential estate;
- Conservation management actions including weed control, pest control and biomass reduction to be undertaken in parallel with the development of adjacent residential areas, and for a period following completion of development (post-occupancy).

This Plan was prepared by a team at Brett Lane and Associates including Justin Sullivan (Senior Ecologist) and Mal Wright (Senior Ecologist and Project Manager).

1.1. Site assessments

An onsite assessment of the area to be set aside for the grassland reserve at Modeina was undertaken by BL&A on 6th January 2017. This assessment was aimed at documenting current environmental values and management issues in the reserve, so as to inform the preparation of this Plan. (*Note:* all photos provided in this plan were taken on the 6th Jan 2017 with the aim of demonstrating the status of the environment in the reserve at that time.)

An additional baseline assessment is required at the commencement of this Plan, once approved (Section 3.4.1).

2. ENVIRONMENTAL VALUES & THREATS

2.1. Existing conditions

The reserve comprises a 0.675–hectare area in the eastern section of the proposed Modeina development, within 50 metres of Kororoit Creek and contiguous with open space and Growling Grass Frog habitat associated with the creek. Vegetation in the grassland reserve is mostly made up of *Heavier-soils* Plains Grassland (EVC 132_61). A section near the eastern boundary is dominated by introduced weeds, with a dirt track dissecting the southeast corner associated with the area of highest weed cover.

The grassland reserve supports volcanic–derived basalt soils. This is evident as large basalt rocks embedded in the soil in the southern half of the reserve.

Native flora

The grassland reserve is dominated by Kangaroo Grass, with other native grass species, namely Rough Spear-grass and wallaby grass, also present. Native flora species diversity is generally low; however, the area supports a significant population of the critically endangered Spiny Rice-flower (Figure 1). Other notable native flora species recorded include Arching Flax-lily (Figure 1), Cotton Fireweed, Pink Bindweed and Ruby Saltbush.

Figure 1: Spiny Rice-flower (left) and Arching Flax-lily (right) in the reserve (2017)

Since 2012, the grassland reserve has been managed in collaboration with Victoria University. Management actions have included biomass reduction by way of ecological burning and slashing.

All Spiny Rice-flower plants in the grassland reserve have been tagged by BL&A with stainless steel plant tags as part of a 2016 detailed survey exercise, including locations of plants identified by a surveyor. This data can be supplied on request.

Figure 2: Grassland reserve showing area subject to ecological burning

Figure 3: Grassland reserve showing area subject to slashing

Figure 4: Grassland reserve area with no biomass management

Weed cover

The cover of weeds in the grassland reserve is high overall, though varies greatly throughout the site due to the various management treatments that are being undertaken. Namely, areas that have been exposed to recent ecological burning and/or slashing have resulted in the death/removal of introduced species.

The most prolific and problem weed species that occur in the grassland reserve are Artichoke Thistle and Serrated Tussock, discussed further below.

Artichoke Thistle is a large perennial herb that generally flowers from December to February and seeds shortly thereafter (from January to March). Artichoke Thistle recorded in the grassland reserve as at early January 2017 was in peak flowering, especially along the southern and eastern boundaries of the reserve (Figure 5a). Some Artichoke Thistle plants in the northern section of the grassland reserve have been recently subject to ecological burning and as a result have evidently died back, reducing the likelihood for seed set (Figure 5b).

Serrated Tussock occurs throughout the grassland reserve. In the areas that have been recently subject to ecological burning and/or slashing, Serrated Tussock cover has been significantly reduced (Figure 6a). However, in areas not subject to recent biomass management, Serrated Tussock appears large and spreading (Figure 6a). The majority of the Serrated Tussock recorded in the grassland reserve was noted as already having dropped its seed this season.

Figure 5: Artichoke Thistle at the grassland reserve – in flower (a) and dead after being exposed to ecological burn (b)

Figure 6: Serrated Tussock at the grassland reserve – after being mown (a) and in high cover in untreated areas (b)

Other introduced flora species occur at relatively low cover levels, with the exception of African Box-thorn, Fennel and Toowoomba Canary-grass which occur at high covers in the south east of the site, and mainly to the east of the existing dirt track that dissects the grassland reserve boundary.

2.2. Environmental values of the grassland reserve

The grassland reserve supports the following sensitive environmental values that will be retained and managed for conservation:

- 0.613 hectares of *Heavier-soils* Plains Grassland (EVC 132_61) within the Victorian Volcanic Plain bioregion – also conforming to *Natural Temperate Grassland of the Victorian Volcanic Plain*, listed under the Commonwealth EPBC Act and *Western (Basalt) Plains Grassland Community*, listed under the state FFG Act;
- Approximately 180 Spiny Rice-flower plants, listed under the EPBC Act and the FFG Act; and
- Habitat for Striped Legless Lizard, listed under the EPBC Act and the FFG Act.

2.3. Management issues (threats)

The following sections outline current threats to environmental values in the grassland reserve. The management strategy designed to respond to these threats is outlined in Section 3.

2.3.1. Pest plants and animals

High threat weeds in and adjacent to the grassland reserve pose a significant risk to the native vegetation in the reserve. These species can out-compete indigenous grassland plants if left un-treated. As discussed in Section 2.1 the weed species that pose the highest risk within the grassland reserve include Serrated Tussock and Artichoke Thistle.

Rabbits pose a risk to the indigenous forbs within the grassland reserve as they can over-graze forb species (non-grassy herbs), resulting in the eventual loss of these species.

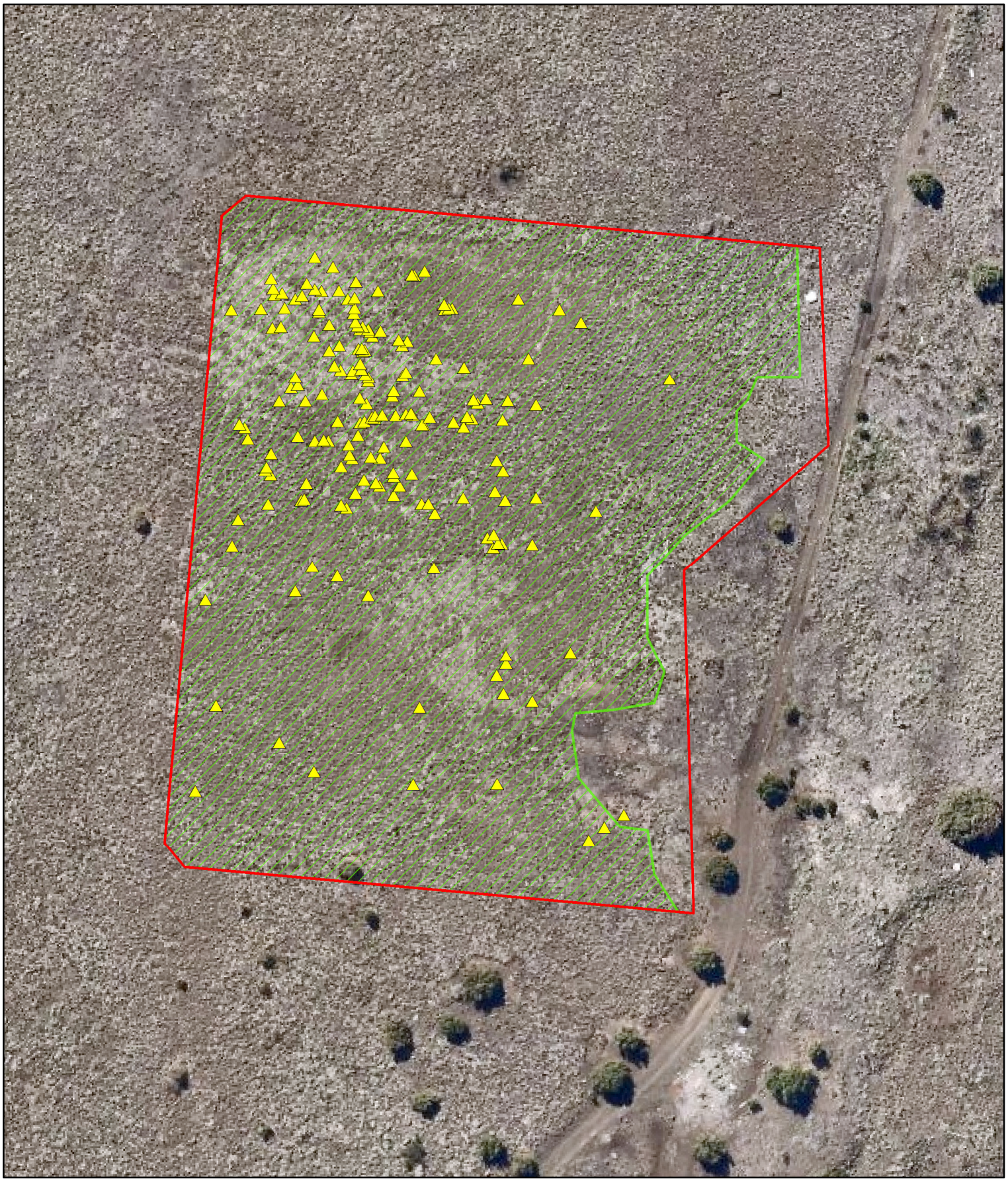
2.3.2. Inappropriate biomass management

Native tussock grasslands such as that occurring in the grassland reserve require periodic intervention to reduce the 'biomass' – i.e. the percentage cover of grasses. This is necessary to ensure inter-tussock spaces are created to facilitate recruitment of herb species which provide a level of diversity to the ecosystem. Biomass reduction is usually undertaken through either: ecological burning; grazing or slashing combined with thatch removal. When grasslands support Spiny Rice-flower, burning is the preferred method of biomass management.

2.3.3. Unauthorised/inappropriate access

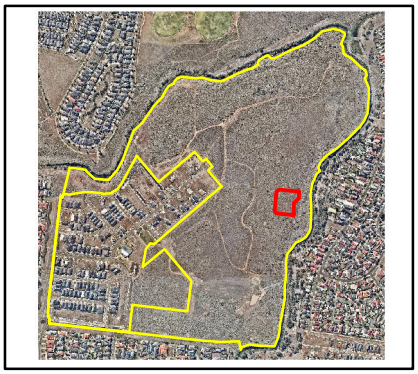
Unauthorised vehicular access to the grassland reserve poses a risk to the conservation values, both during the construction phase of future residential development (i.e. by construction work personnel) and during the post-occupancy phase. Inappropriate levels of access during the post-occupancy phase also pose a risk (i.e. excessive trampling through a lack of public education). Unauthorised or inappropriate access may lead to:

- Habitat destruction and soil compaction;
- Destruction or degradation of health of environmental values (i.e. grassland and Spiny Rice-flower);
- Weed invasion; and
- Introduction of pests and diseases.



Legend

- Grassland Reserve
- Spiny Rice-flower
- NTGVVP/EVC 132_61



0 10 20 40 Metres

Figure 7: Grassland Reserve

Project: Modeina Estate Precinct 2

Client: Dennis Family Corporation

Project No.: 7045	Date: 25/06/2018	Created By: N. May / M. Wright

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3. GRASSLAND RESERVE MANAGEMENT STRATEGY

3.1. Management Plan period

The following management strategy has been devised to facilitate the appropriate management of the reserve for a 10-year period following approval of this Plan, including the construction phase of the adjacent residential estate.

3.2. Security and management responsibility

The grassland reserve will be managed in the lead up to, and during, construction of the adjacent residential estate.

It is anticipated that the transfer of ownership and management responsibility to Council will occur within the first four (4) years of this Plan.

3.3. Construction environmental management measures

The following mitigation measures will be put in place to ensure no adverse impacts occur to the environmental values in the grassland reserve from construction works in the adjacent residential development.

Detailed construction environmental management actions are provided in Appendix 2. Compliance indicators are provided to enable monitoring of the success or failure of these actions. Management actions are to be reviewed and adapted if the associated compliance indicators are not being achieved.

All construction contractors must be inducted into the content of this Plan prior to accessing the site for the first time.

3.3.1. Fencing

Prior to any construction works associated with the adjacent residential development, the reserve will be entirely fenced with mesh farm fencing and only one farm gate installed to allow entry for management. Fencing will have 'NO GO ZONE' signs affixed at 30-metre intervals.

This fencing and farm gate will remain in place around the entire boundary until the reserve is integrated into open space adjacent to Kororoit Creek and a less aesthetically intrusive permanent post-and-wire fencing installed on the boundary.

Stockpiling, equipment lay down and personnel rest areas will be located to prevent any detrimental impact on the grassland reserve

3.3.2. Sediment and surface water control

Appropriate sediment control measures will be used on the northern and western (upslope) boundaries of the grassland reserve to prevent sediment or polluted runoff from entering the reserve.

3.3.3. Weed control in construction zones

Construction zones within 20 metres of the grassland reserve will be monitored for weed outbreaks. Any such outbreaks will be controlled prior to setting seed through manual removal or spot-spraying with appropriate herbicide.

3.4. 10-year management actions

The following sections outline the management strategy to be undertaken for the 10-year period commencing on approval of this Plan. A summary of management actions is provided in Appendix 4. These actions are discussed in more detail below.

3.4.1. Baseline survey

A baseline survey was undertaken by an ecologist at BL&A as part of the preparation for this plan. This survey determined the status of the environmental values of the grassland reserve as at the 6th January 2017, as well as documenting the management issues relevant to the area.

Weed cover estimates (overall and for each high-threat species) will also be undertaken at the commencement of this Plan, on approval.

3.4.2. Weed control

High threat woody weeds

High threat woody weeds within the grassland reserve are to be eliminated – i.e. foliage cover reduced to less than 1%. One high threat woody weed was recorded within the grassland reserve:

- African Box-thorn – Several large individuals occur within the southeast boundary of the reserve, as shown in Figure 7. Control by applying the cut and paint method and removing all plant material offsite.

High threat herbaceous weeds

The covers of all other non-woody (herbaceous) high threat weeds will be reduced to less than 5%. The following high threat herbaceous weeds are of particular concern in the grassland reserve:

- Artichoke Thistle – common throughout the Modeina property and the grassland reserve. Control by removing flowers before they go to seed, and spot spraying with an appropriate herbicide. As detailed in Section 2.1, some Artichoke Thistle in the northern section of the reserve has died back due to recent ecological burning. These plants do not require herbicide application but rather should be slashed and all plant material removed.
- Serrated Tussock – occurs at moderate levels within the reserve. Control by spot-spraying using appropriate herbicide.
- Fennel – A large swathe of Fennel occurs immediately to the east of the reserve boundary, on the eastern side of the existing dirt track. Control by applying the cut and paint method to ensure this species does not spread into the reserve.

Control methods for all high threat weed species recorded within the grassland reserve are provided in Appendix 5. Weed control will be undertaken by an experienced bushland contractor at least twice (up to four times) each year for the life of the Plan.

The application of appropriate herbicide is to be undertaken as required to control weed species. Any spot spraying would be undertaken on days with minimal wind to prevent spray drift into residential areas, with appropriate signage erected to notify users of the reserve of the recent use of herbicide.

Care must be taken to ensure that there are no impacts to any rare or threatened flora and/or fauna species when using herbicides.

All other weeds

All other weeds will be controlled such that their cover does not exceed the benchmark cover determined at the commencement of this Plan.

3.4.3. Pest animal control

While the level of pest animal infestation in the grassland reserve is considered low, evidence of the presence of rabbits (i.e. droppings) was observed during the baseline survey.

All pest animals are to be monitored and controlled as required within the reserve for the life of the plan. Regular monitoring will be required throughout the year to inform the control methods used.

Suitable methods for the control of pest animals include:

- Fumigating and hand collapsing of warrens; and
- Removal of harbour (except for native vegetation).

Fumigating when combined with hand collapsing of warrens is an effective control method. Warrens will be destroyed manually as required using a shovel, mattock or pick to avoid damage to native vegetation. Ripping of warrens using machinery is not permitted within the reserve.

The removal of harbour such as rubbish and woody weeds will also reduce the habitat for pest animals and assist in their control; however, care must be taken to retain leaf litter, rocks and indigenous grass tussocks that provide habitat for native species.

3.4.4. Biomass management

In 'high rainfall' grasslands, the absence of periodic biomass removal increases the risk of the native grasses becoming dominant over time leading to a loss of the inter-tussock spaces that are important as habitat for a range of flora and fauna. If biomass is not removed then there can be a dramatic decline in overall vegetation quality over time. As such, for high rainfall grassland EVCs, avoiding a decline in site condition requires some form of active biomass management.

Since 2012, particular areas of the grassland reserve have been exposed to regular biomass management via two means: ecological burning and slashing. The grassland reserve will continue to be managed for biomass through ecological burning to occur at least every 2-3 years.

Ecological burning

Ecological burning for biomass control will be undertaken by an experienced bushland contractor at least every 2-3 years. Grasslands may be burnt in autumn or spring as the weather is cooler and will result in a low intensity burn. Autumn burns must be undertaken in March only, prior to flowering; spring burns are considered to be the most beneficial for Spiny Rice-flower (D. Reynolds pers. comms).

Patch burns should be conducted, with no more than one-third of the area burnt in any one year. This will ensure the vegetation has different age structures and the unburnt

areas will provide areas of refuge for any fauna present, including a potential Striped Legless Lizard population.

As well as promoting regeneration of native species, a burn may also result in the growth of non-indigenous species. To combat this, ecological burns will be followed by targeted control of weeds (spot spraying) in the reserve.

Prior to any ecological burn, appropriate warning will be given to local residents through a letterbox drop and fire authorities will be notified. Firebreaks will be slashed within grassland on the edges of the reserve in the lead up to burns, with slashing to no less than 10 centimetres to avoid damage to the EPBC Act listed Spiny Rice-flower.

Burns will be undertaken on days with only light wind (to assist with the 'run' of the fire), with sufficient numbers of suitably experienced bushland contractor personnel on hand within firebreaks with portable water supplies to halt the fire at the boundaries. Bushland contractors would remain at the site of the burn until an appointed team leader confirms that all fire has been extinguished.

3.4.5. Landscape Plan and access

Fencing

The boundary of the reserve will be marked by permanent fencing to prevent pedestrian access to the reserve. Access gates will be installed to facilitate management personnel entry.

Management buffers

An internal 3-metre-wide buffer within native grassland in the reserve will be regularly slashed to provide for the following:

- Biomass management firebreaks during ecological burning; and
- Opportunity to identify weed encroachment on the edges of the grassland and apply early-intervention weed management.

Tree planting

Trees will not be planted around the grassland where they could shade the grassland – a 10-metre buffer will be applied for planting of trees adjacent to grassland areas (except the southern boundary).

These and other features of the Grassland Reserve are shown in a Grassland Reserve Landscape Concept (Appendix 3).

3.5. Monitoring and reporting

From commencement and up until the expiry of the 10-year Management Plan, monitoring is to be undertaken by a suitably qualified ecologist or environment officer in October-December, at least six weeks following a spring burn (if undertaken), according to the schedule in Appendix 4. The responsible landowner will coordinate this monitoring, which will include:

- Weed cover estimates to be recorded for each weed species that occurs in the grassland reserve;
- An overall weed cover estimate for the grassland reserve;

- Checking the presence of Spiny Rice-flower plants in relation to in-situ stainless steel tags, and notes taken on additional recruits;
- Assessment of biomass level in sections of the reserve not burnt that year;
- Monitoring of pest animals to determine the need for pest animal control; and
- Visual checks to determine any grassland reserve maintenance that may be required (i.e. fence repairs, etc).

Findings recorded during this periodic monitoring will be documented in a report, which will include:

- A summary of works completed since the last monitoring event;
- Current condition of the site: extent and quality of native vegetation and percentage cover of declared noxious weeds and high threat weeds;
- Identification of any new and emerging weeds, including extent of infestation;
- Status of any revegetation works; and
- Recommendations for future management of the site.

The responsible landowner will provide the periodic reporting to the Commonwealth Department of the Environment and Energy within three months of the anniversary of the commencement this Plan each year that a report is required (Appendix 4).

3.6. Ongoing management

The grassland reserve will be managed for conservation beyond the 10-year period of this Plan by the responsible landowner.

3.7. Adaptive management

By monitoring the outcomes of actions, management may be adapted to ensure the stated commitments in the Plan are upheld. For example, new techniques for controlling high threat weeds may become available, or further information on the ecology and status of vegetation communities may necessitate adjustment to management actions.

Appendix 1: Flora species recorded in grassland reserve

Origin	Common name	Species name	Status
*	African Box-thorn	*Lycium ferocissimum*	
	Arching Flax-lily	*Dianella* sp aff *longifolia (*Benambra*)*	
*	Artichoke Thistle	*Cynara cardunculus* subsp. *flavescens*	
*	Clover	*Trifolium* spp.	
*	Common Centaury	*Centaurium erythraea*	
	Cotton Fireweed	*Senecio quadridentatus*	
*	Fennel	*Foeniculum vulgare*	
*	Galenia	*Galenia pubescens* var. *pubescens*	
	Grassland Wood-sorrel	*Oxalis perennans*	
*	Hair Grass	*Aira* spp.	
	Hairy Panic	*Panicum effusum*	
*	Horehound	*Marrubium vulgare*	
	Kangaroo Grass	*Themeda triandra*	
*	Large Quaking-grass	*Briza maxima*	
	Nodding Saltbush	*Einadia nutans*	
*	Onion Grass	*Romulea rosea*	
*	Ox-tongue	*Helminthotheca echioides*	
	Pink Bindweed	*Convolvulus erubescens* spp. agg.	
*	Prickly Lettuce	*Lactuca serriola*	
*	Ribwort	*Plantago lanceolata*	
	Rough Spear-grass	*Austrostipa scabra*	
	Ruby Saltbush	*Enchylaena tomentosa* var. *tomentosa*	
*	Saffron Thistle	*Carthamus lanatus*	
*	Scarlet Pimpernel	*Lysimachia arvensis* (Red-flowered variant)	
*	Serrated Tussock	*Nassella trichotoma*	
	Smooth Rice-flower	*Pimelea glauca*	
	Spear Grass	*Austrostipa* spp.	
*	Spear Thistle	*Cirsium vulgare*	
	Spiny Rice-flower	*Pimelea spinescens* subsp. *spinescens*	CR L en
*	Squirrel-tail Fescue	*Vulpia bromoides*	
*	Toowoomba Canary Grass	*Phalaris aquatica*	
*	Turnip	*Brassica* spp.	
	Wallaby Grass	*Rytidosperma* spp.	

^ Status: CR= Critically Endangered under EPBC Act; L = Listed as threatened under FFG Act; en = Endangered on DELWP's advisory list of rare and threatened flora

Appendix 2: Construction environmental management actions

Management actions	Responsibility	Monitoring frequency
Fence the grassland reserve with post-and-wire fencing prior to the commencement of construction. Affix **NO GO ZONE** (or similar) signage at 30 metre intervals. One farm gate entry to be provided to allow entry for management. NO GO ZONES strictly enforced to exclude pedestrian or vehicle access, material storage or equipment laydown. Ensure that fencing and signage is maintained and effective until integration of the grassland reserve with adjacent Kororoit Creek open space and vehicle access is excluded.	Responsible landowner/ Construction Contractor	Ongoing
Control all weed outbreaks in disturbed areas within 20 metres of the grassland reserve to prevent spread into the grassland reserve and/or adjacent Kororoit Creek reserve to the east (see also Appendix 3).	Responsible landowner/ Construction Contractor	Monthly
All vehicle washdown, equipment lay down and personnel rest areas are to be clearly defined (fenced and/or signed) and located to prevent any detrimental impact on the grassland reserve.	Construction Contractor	Daily
Control measures will be used on the northern and western (upslope) boundaries of the grassland reserve to prevent sediment or polluted runoff from entering the reserve.	Construction Contractor	Weekly
Manage surface runoff from stormwater or construction works (e.g. hosing down or clean-up) so that no excess runoff is directed towards the grassland reserve.	Construction Contractor	Weekly and after any rain
Stockpile soil/fill outside at least 20 metres from the grassland reserve. Bund all soil/fill stockpiles.	Construction Contractor	Daily during earthworks

Appendix 3: Grassland Reserve Landscape Concept

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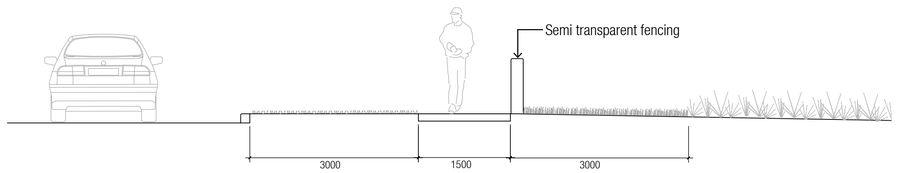
AREA OUTSIDE OF GRASSLANDS RESERVE SUBJECT TO FUTURE COUNCIL APPROVAL

example fencing types
(T.B.C. with relevant authorities during detailed design)

Section AA



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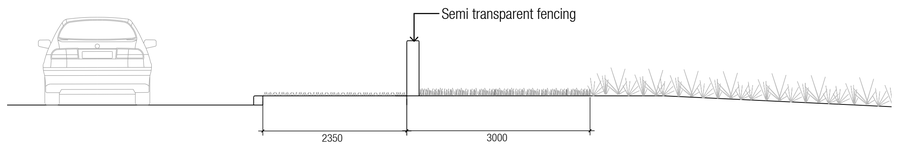

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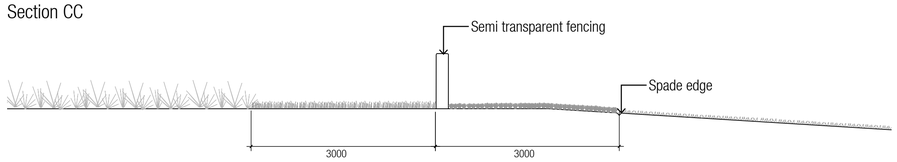

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LEGEND

- P1 — in-situ concrete footpath
- lawn area
- proposed fencing to reserve
- proposed tree (to include indigenous species)
- native grassland
- spiny rice flower
- revegetation area
- F — feature fence
- cultural heritage artefact to be retained in accordance with Tardis CHMP

MODEINA

Grassland Reserve Landscape Concept

Rev. 0 July 2018 1330Q

J:\1330 DFC Burnside\1330Q Precinct 2 Master Plan\5. Design\Drawings\InDesign

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Appendix 4: 10-year management actions

The following table identifies specific management actions and targets for the grassland reserve for the 10-year period following approval of this Plan.

Management Action	Target to be achieved	Responsible person	Timing	Year 0*	Year 1	Year 2	Year 3	Year 4#	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Estimate the following conditions: ▪ Overall weed cover ▪ Cover of each weed species	Overall weed cover benchmark^ documented Weed cover benchmark^ for each species documented	Suitably qualified ecologist	Commencement of plan	X										
Construct fencing around reserve	Inadvertent access restricted	Landowner/fencing contractor	Commencement of plan	X										
Monitor fencing and carry out fence maintenance as *required*	Inadvertent access restricted	Landowner/fencing contractor	As required		X	X	X	X	X	X	X	X	X	X
Monitor for rabbits; fumigate and collapse burrows *if required*	<5% survival of target	Landowner/bushland contractor	Autumn		X	X	X	X	X	X	X	X	X	X
Weed control: ▪ Treat *high threat* woody weeds ▪ Treat other weeds species *if required*	Cover of each *high threat* woody weeds reduced to <1% Cover of high threat herbaceous weeds reduced to < 5% Cover of other weeds does not exceed benchmark level	Landowner/ bushland contractor	As per Appendix 5		X	X	X	X	X	X	X	X	X	X
Monitor biomass and undertake biomass reduction *if required* every 2-3 years by burning no more than half the grassland reserve in any one year	Inter-tussock spaces maintained at 20% to achieve maximum ecological function, with total vegetation cover not falling below 70%	Landowner/bushland contractor	March or Spring (no one area burned less than 2 years prior)		X	X		X	X		X	X		X
onitoring: ▪ Estimate overall weed cover and cover of each weed species ▪ Assess integrity of site fencing ▪ Monitor compliance with land-use commitments and other management commitments	Monitoring results to be documented and provided to esults should also inform management approaches and techniques.	cologist	October-December, three weeks following a spring burn (if undertaken)		X	X	X	X			X			X
Reporting to be prepared documenting management actions undertaken and photographs of results	Report delivered to the Department no later than three months after the anniversary of the commencement of this Plan	Landowner	No later than three months after the anniversary of the commencement of this Plan		X	X	X	X			X			X

*At the commencement of the Plan; ^ Weed cover benchmark is an estimate of the cover of weeds at the commencement of the Plan; # Anticipated vesting to Council at the end of Year 4

Appendix 5: High threat weeds, control methods and timing

Weed type	Common Name	Scientific name	Extent (June 2017)	Control method	Optimal timing	2 years post completion target	Control undertaken (include date_/_/_)
High threat woody weed (CaLP controlled noxious, WONS)	African Box-thorn	*Lycium ferocissimum*	Extensive number of large individuals, particularly along northern and eastern boundaries of site	Cut and paint mature plants using an appropriate herbicide. Spray seedlings with appropriate herbicide	Autumn and Spring	<1% cover	
High threat weed (CaLP controlled noxious)	Artichoke Thistle	*Cynara cardunculus*	Dominant throughout site	Remove any flowers before they go to seed. Spray with an appropriate herbicide.	Late Spring (early Summer)	<5% cover	
High threat weed (CaLP restricted noxious, WONS)	Bridal Creeper	*Asparagus asparagoides*	Less than 10 individuals recorded	Spot-spray seedlings with appropriate herbicide. Dig out established plants.	Seedlings in Autumn; established plants in Winter	<1% cover	
High threat weed	Capeweed	*Arctotheca calendula*	Small infestations observed in areas of exposed/disturbed soil in northern part of the site	Spot spray prior to flowering. Annual lifecycle - heavy control in early outbreak can reduce spread quickly.	Spring	<5% cover	
High threat weed	Century Plant	*Agave americana*	Less than 10 large plants and recruits recorded in close proximity to Kororoit Creek in the north of site	Cut and paint mature plants using an appropriate herbicide. Spray seedlings with appropriate herbicide.	Prior to flowering where possible	<1% cover	
High threat weed (CaLP restricted noxious, WONS)	Chilean Needle-grass	*Nassella neesiana*	Small patch of Chilean Needle-grass recorded on track in eastern section of site	Remove seed heads prior to flowering. This can be achieved by slashing/thatch mulching or spraying with appropriate herbicide	Late Spring	<5% cover	
High threat weed (CaLP restricted noxious)	Fennel	*Foeniculum vulgare*	Large swathe of tall Fennel plants in eastern section of site, near Kororoit Creek	Manually remove isolated plants (a hand mattock that cuts the root below the surface is often used); Spot-spray with an appropriate herbicide.	Spring/Autumn	<1% cover	
High threat weed	Galenia	*Galenia pubescens var. pubescens*	Recorded in a few distinct areas on disturbed soil in east and north of site	Sever main tap root, invert plant and leave in place. Spot-spray seedlings using an appropriate herbicide.	Autumn and spring	<5% cover	
High threat weed (CaLP controlled noxious)	Horehound	*Marrubium vulgare*	Less than 10 individuals recorded in east of site	Chip out or burn mature plants; spot-spray seedlings with an appropriate herbicide.	Spring (before flowers mature)	<5% cover	
High threat weed (CaLP controlled noxious)	Paterson's Curse	*Echium plantagineum*	Less than 10 individuals recorded on access track in north of site	Spot-spray with an appropriate herbicide.	Spring (before flowers mature)	<5% cover	
High threat weed (WONS)	Prickly Pear	*Opuntia spp.*	Less than 10 individuals recorded in east of site near Kororoit Creek	Thoroughly wet the plant with a foliar spray using an appropriate herbicide.	Spring to early summer	<1% cover	

Weed type	Common Name	Scientific name	Extent (June 2017)	Control method	Optimal timing	2 years post completion target	Control undertaken (include date_/_/_)
High threat weed (CaLP controlled noxious, WONS)	Serrated Tussock	*Nassella trichotoma*	Dominant throughout site	Spray using an appropriate herbicide	Autumn and spring	<5% cover	
High threat weed (CaLP controlled noxious)	Spear Thistle	*Cirsium vulgare*	Less than 10 individual plants recorded in site	Remove any flower heads before they go to seed. Spray using an appropriate herbicide	Spring	<5% cover	
High threat woody weed (CaLP controlled noxious)	Sweet Briar	*Rosa rubiginosa*	Scattered individuals recorded throughout site, particularly in the southern section	Cut and paint with appropriate herbicide or hand remove immature plants	Autumn and spring	<1% cover	
High threat weed	Toowoomba Canary-grass	*Phalaris aquatica*	Common throughout site, at varying cover levels	Spray using an appropriate herbicide	Autumn and Spring	<5% cover	