Edna May Project Conservation Management Plan for Exploration (M77/88, M77/124 and E77/2443)

Covering the Eucalypt Woodlands of the Westonia Common

APRIL 2020

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EXECUTIVE SUMMARY

Ramelius Resources Limited (**Ramelius** or the **Company**) propose to conduct exploration activities within tenements M77/88, M77/124 and E77/2443 (referred to as the 'Edna May Exploration Programme') located adjacent to the town of Westonia, and 280 km east-northeast of Perth in Western Australia. The Edna May Exploration Programme is located adjacent to the existing Edna May Gold Mine within the Westonia Common (R14983) which contains the Threatened Ecological Community (**TEC**) "Eucalypt woodlands of the Western Australian Wheatbelt', which is listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**) and managed by the Department of Biodiversity, Conservation and Attractions (**DBCA**). Additionally, the 'Eucalypt woodlands of the Western Australian Wheatbelt is also listed by the DBCA as a Priority 3 Ecological Community (**PEC**) and the 'Red Morel Woodland of the Wheatbelt' (a component of the TEC) is also listed by DBCA as a Priority 1 PEC. The tenements also contain populations of the Threatened Flora taxon; Eremophila resinosa which is listed as Endangered under the Commonwealth EPBC Act and State *Biodiversity Conservation Act 2016* (**BC Act**).

This Conservation Management Plan (**CMP**) provides a description of the proposed activities, the existing environment, potential impacts and risks, communication strategy and the management measures that will be implemented. The plan also outlines results from flora and fauna studies conducted within the Edna May Exploration Programme. All exploration activities conducted by Ramelius (and associated contractors) within the TEC of the Westonia Common, will be managed in accordance with the measures outlined in this CMP.

1. INTRODUCTION

1.1 PROJECT LOCATION

The Edna May Gold Mine is operated by Edna May Operations Pty Ltd (EMO) which is a wholly-owned subsidiary of Ramelius. The Project is located adjacent to the town of Westonia, and 280 km east-northeast of Perth in Western Australia (Figure 1-1).

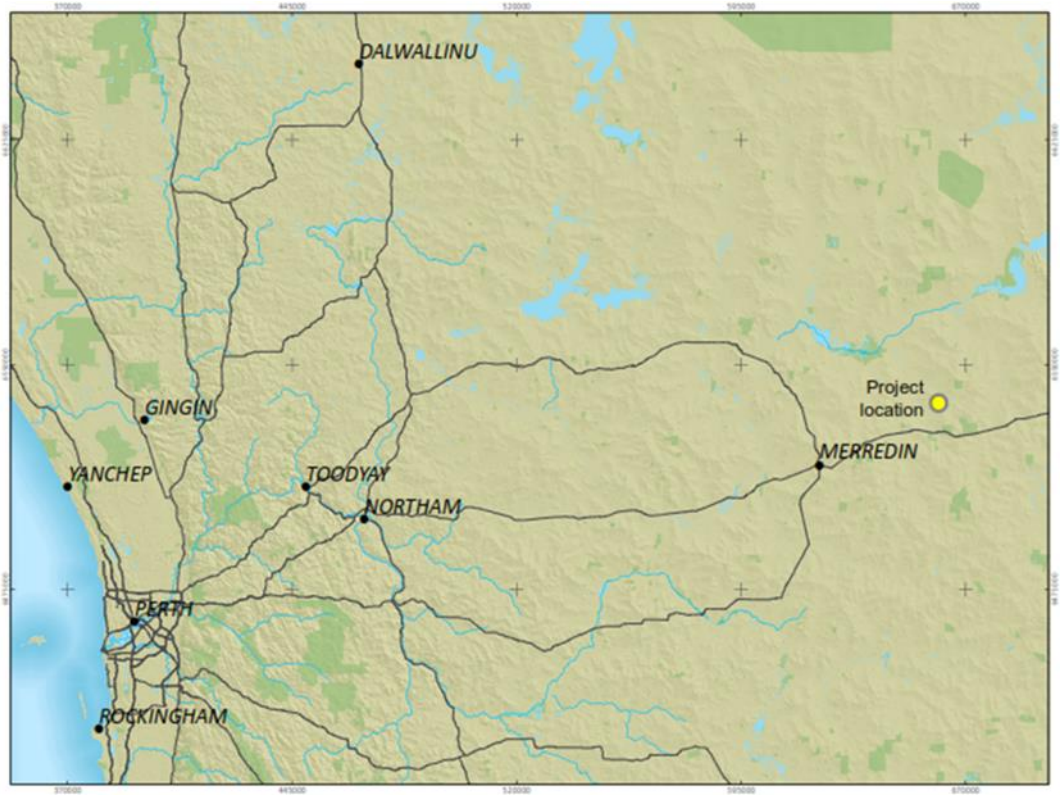

Figure 1-1: Location Map of the Edna May Project

The proposed exploration programme on mining tenement E77/2443, M77/88 and M77/124 (Table 1) is located within the Westonia Common north of the Westonia township, which is the administrative centre for the Shire of Westonia and has a town population of approximately 60 people (Figure 1-2). Land surrounding the Edna May mine is dominated by dryland agriculture and grazing on improved pastures, with lesser areas of Unallocated Crown Land (UCL) and Crown Reserves, rural residential land and mining. The Westonia Common, covers an area of approximately 2,500 ha and consists of Crown Reserves and UCL vested in the Shire of Westonia. The vested land use purposes of the reserves include: 'commonage' (pasturing of livestock), an old racetrack, timber harvesting, gravel/sand extraction, and an airstrip (EcoLogical Australia, 2016).

Table 1: Tenements within the Westonia Exploration Programme

Tenement	Holder	Application Date	Grant Date	Expiry Date	Area (ha)
E77/2443	Edna May Operations Pty Ltd	21/03/2017	14/06/2018	13/06/2023	42 BL
M77/88	Edna May Operations Pty Ltd	21/11/1985	28/01/1987	27/01/2029	235.4
M77/124	Edna May Operations Pty Ltd	24/10/1986	21/07/1987	20/07/2029	140.95

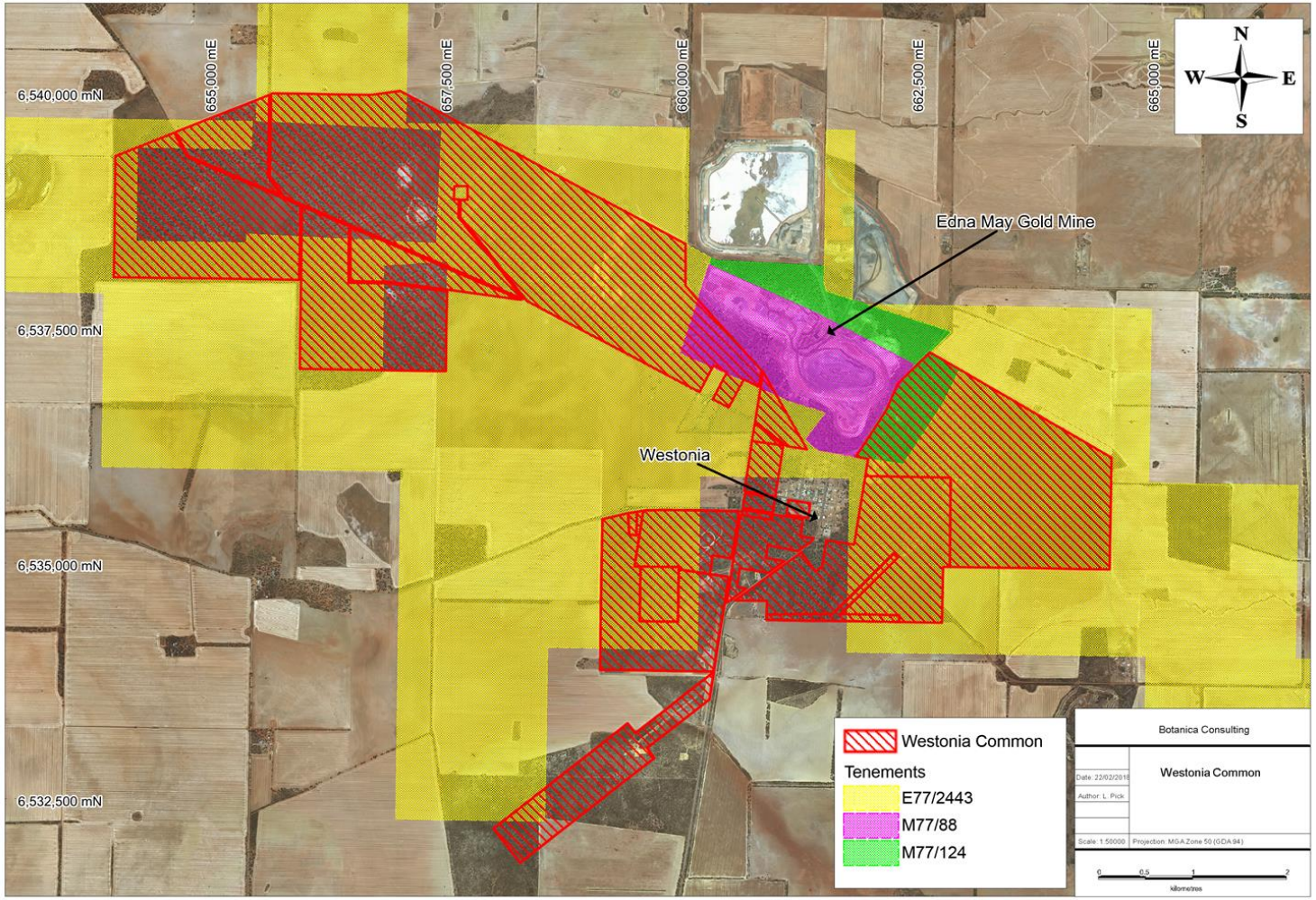

Figure 1-2: Location Map of the Edna May Exploration Programme tenements in the Westonia Common

1.2 PURPOSE OF THIS CMP

Ramelius propose to undertake Reverse Circulation (RC), Air Core (AC) and diamond (DD) drilling, targeting gold, within tenements surrounding the Edna May Gold Mine. The tenements are located within the indicative boundary of the "Eucalypt woodlands of the Western Australian Wheatbelt', which is listed as Critically Endangered TEC under the EPBC Act and managed by DBCA. Additionally, the 'Eucalypt woodlands of the Western Australian Wheatbelt is also listed by the DBCA as a Priority 3 PEC and the 'Red Morel Woodland of the Wheatbelt' (a component of the TEC) is also listed by DBCA as a Priority 1 PEC (Figure 1-3). The tenements also contain populations of the Threatened Flora taxon; *Eremophila resinosa* which is listed as Endangered under the Commonwealth EPBC Act and State BC Act (Figure 1-4).

With regard to working within and around TEC, PEC and a conservation significant species, Ramelius consulted with DBCA to understand what management actions would be required to gain access to these areas by avoiding potential impacts to conservation values including remnant native vegetation.

The purpose of this CMP outlines the existing environmental values, details the proposed exploration activities, documents the potential environmental risks and impacts of the activities and provides the management measures (including communication strategy) to minimise the possible impacts. This strategic CMP will be periodically updated and reissued to both DBCA and the Department of Mines, Industry Regulation and Safety (DMIRS) prior to commencing each new stage of exploration proposed within the Westonia Common. Where additional flora and fauna studies are required, bridging documentation will be supplied in conjunction with the strategic CMP. It is intended that the management measures outlined in this plan will be applicable to all exploration activities conducted within the Westonia Common.

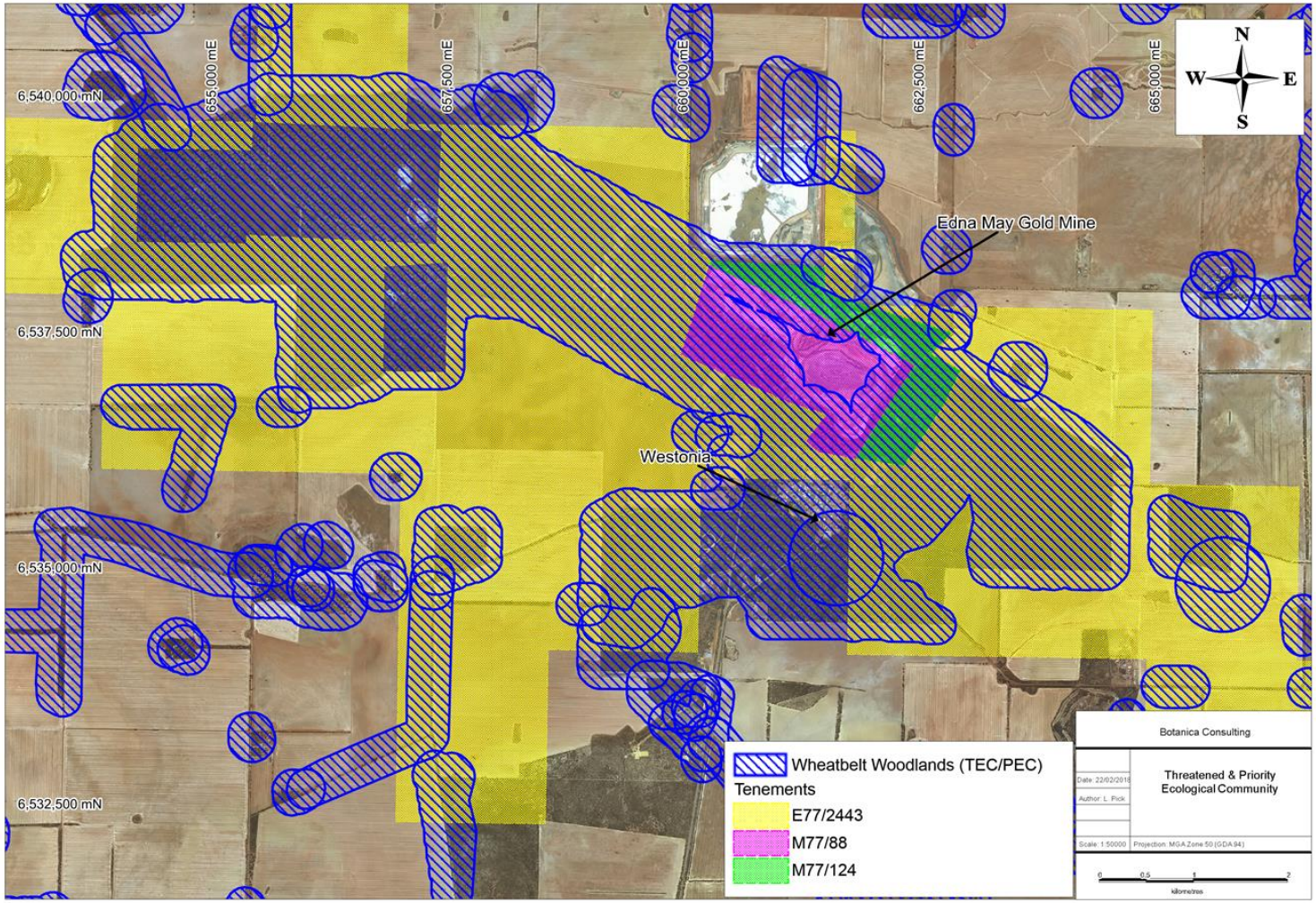

Figure 1-3: Location Map of the Edna May Exploration Programme tenements in the indicative boundary of the Eucalypt woodlands of Western Australian Wheatbelt TEC (DBCA, 2018b)

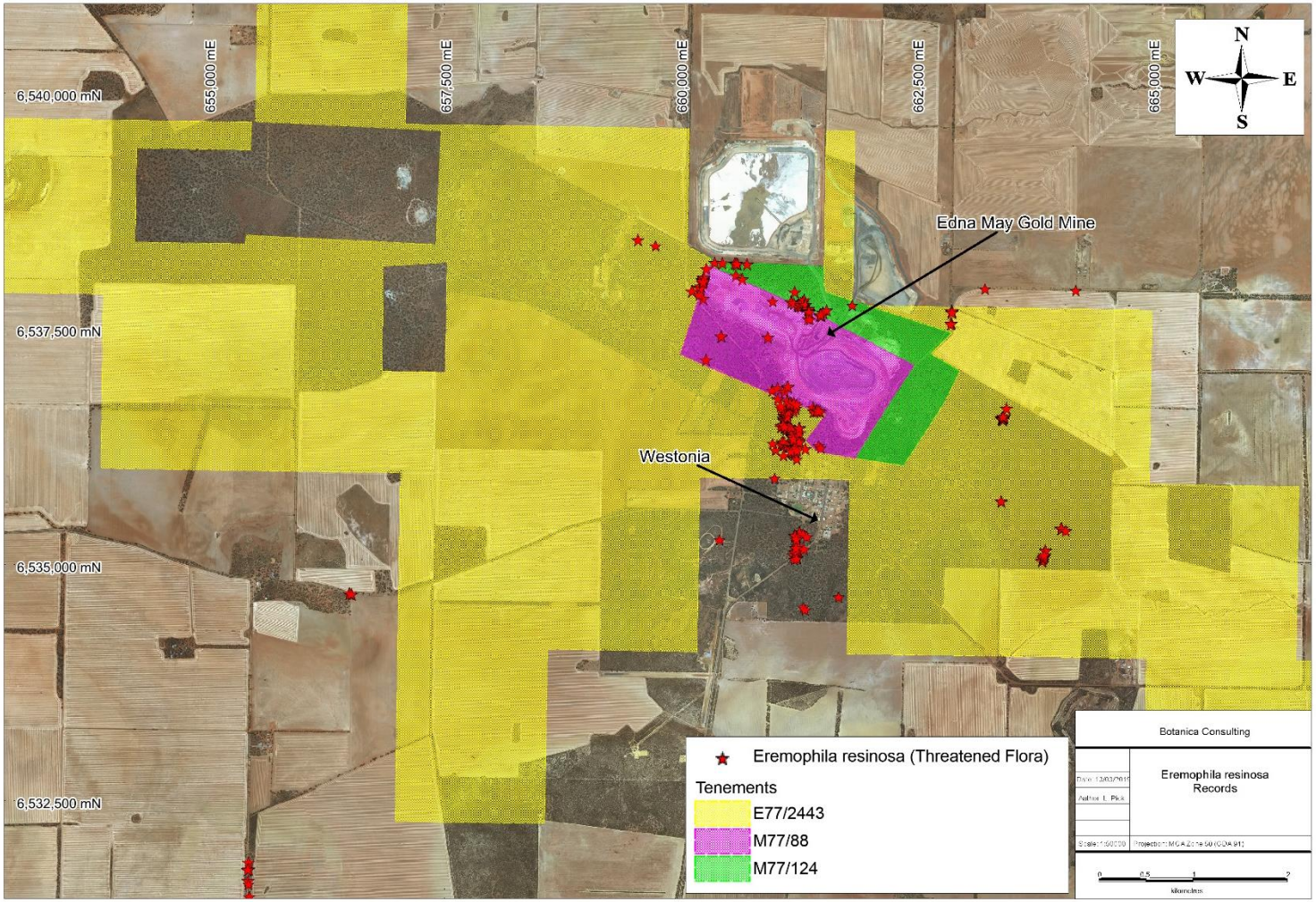

Figure 1-4: Location Map of the Edna May Exploration Programme tenements in relation to Eremophila resinosa (includes current and historic records)

2. ENVIRONMENTAL VALUES

The Edna May mining area has been extensively surveyed flora, vegetation, fauna, soils, hydrology and heritage values; both Aboriginal and European. Of these the key values relevant to this CMP and the proposed exploration programme are vegetation and threatened/priority flora species, introduced flora, threatened/priority fauna species and Aboriginal heritage sites.

2.1 VEGETATION OF CONSERVATION SIGNIFICANCE

The Edna May Exploration Programme tenements are located within the indicative boundary of the "Eucalypt woodlands of the Western Australian Wheatbelt', which is listed as Critically Endangered TEC under the EPBC Act and managed by DBCA. Additionally, the 'Eucalypt woodlands of the Western Australian Wheatbelt is also listed by the DBCA as a Priority 3 Ecological Community and the 'Red Morel Woodland of the Wheatbelt' (a component of the TEC) is also listed by DBCA as a Priority 1 Ecological Community. A map showing the total potential extent of the TEC in relation to the Edna May Exploration Programme is provided in Figure 2-1.

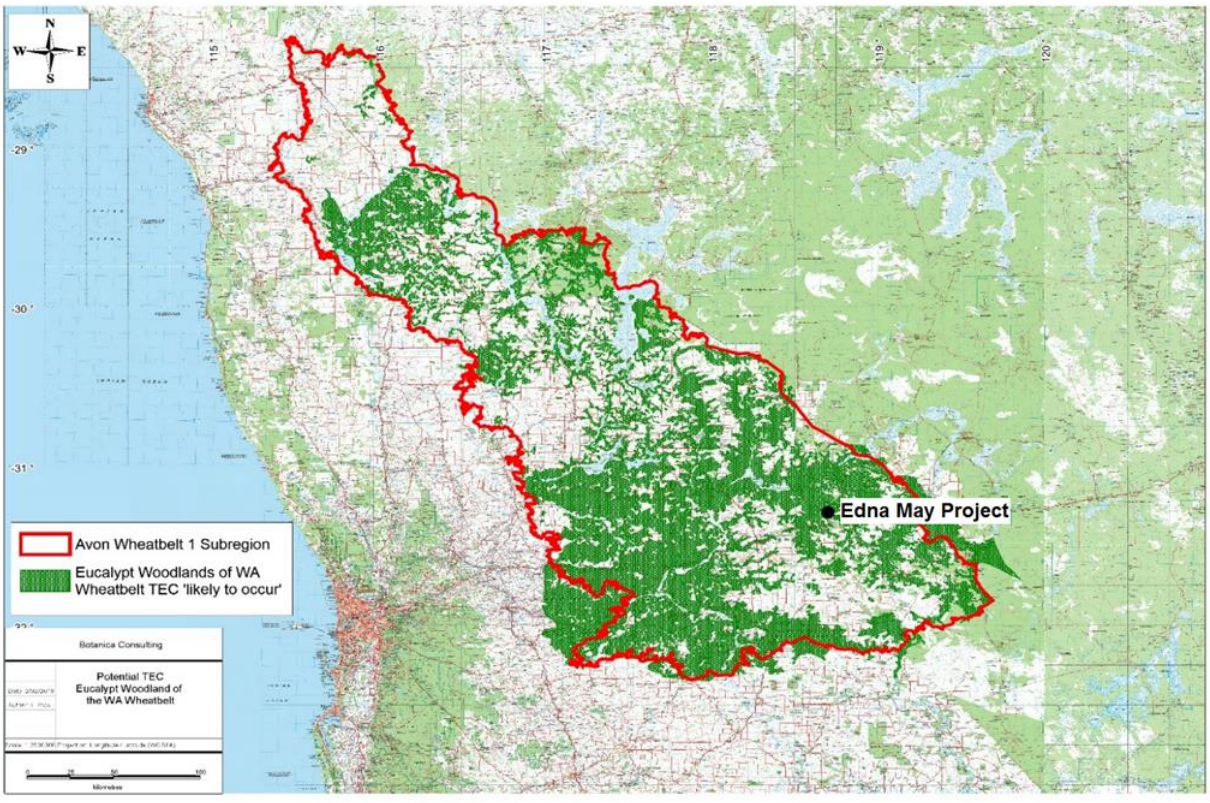

Figure 2-1: Regional map of 'Eucalypt woodlands of the Western Australian Wheatbelt' TEC

The Edna May Exploration Programme tenements are also located within the Avon Wheatbelt which has been extensively cleared for agriculture and grazed by stock. Remnant vegetation, riparian systems, populations of threatened native flora and fauna species and ecosystems are in poor condition, with the trend expected to decline (McKenzie, May and McKenna, 2002). Extensive clearing of native vegetation has led to salinity problems being experienced throughout the bioregion. Vegetation may be considered regionally significant if it is classified as 'under-represented' (that is, there is less than 30% of its original distribution remaining). The Edna May Exploration Programme is located within Beard vegetation association 536 (Medium woodland; Morrel (*Eucalyptus longicornis*) and Rough-fruited Mallee (*Eucalyptus corrugata*) which still occupies over 30% of its pre-European extent in Western Australia and in the Merredin subregion (35.5% and 41.2% respectively).

2.2 FLORA OF CONSERVATION SIGNIFICANCE

The results of the literature review, combined search of the DBCA Flora of Conservation Significance databases (DBCA, 2018a), NatureMap search (DBCA, 2020) and DAWE Protected Matters search (DAWE, 2020) recorded 11 Threatened Flora and 12 Priority Flora within a 10 km radius of the Edna May Exploration Programme (Table 2 and Figure 2-2). One location of the Threatened taxon, *Eremophila resinosa* (T) was identified within the Edna May Exploration Programme (Westonia West). No Priority Flora taxa were identified within the Edna May Exploration Programme.

Table 2: Potential Flora of Conservation Significance

Taxon	EPBC Act	BC Act	DBCA Priority Rating	Description (WAHERB, 2020)
Acacia lobulata	T (EN)	T (EN)		Erect, open, often spindly shrub, 1-2 m high. Fl. yellow, Jul. Gritty loam or sand. Low granitic breakaways.
Boronia adamsiana	T (VU)	T (VU)		Erect shrub, 0.3-1.0 m high, flowers pink-white between July and October. Yellow sand/loam over laterite on flats and road verges.
Dasymalla axillaris	T (CR)	T (CR)		Shrub. Flowering time July, September, October, November or December
Eremophila resinosa	T (EN)	T (EN)		Spreading shrub, 0.4-0.8 m high, and flowers blue-purple-white in April or October to November. Clay loam gravelly sandy clay on road verges.
Eremophila virens	T (EN)	T (EN)		Erect, slender shrub, 1.5-5 m high. Fl. green, Aug to Oct. Red/brown sand. Granite hillsides.
Eremophila viscida	T (EN)	T (EN)		Shrub with 1.2-4 m high, flowers green-white-yellow between September to November. Granitic soils, sandy loam on stony gullies and sand plains.
Eucalyptus crucis subsp. crucis	T (VU)	T (EN)		Mallee 2-8 m high, bark rough, 'minni-ritchi' with white flowers in October, December or January to March. Sand, loam on granite outcrops.
Gastrolobium diabolophyllum	T (CR)	T (CR)		Erect, open robust shrub to 1.5 m high. Orange, yellow, red and pink flowers in September. Yellow –brown sand over laterite on broadly undulating dunes.

Taxon	EPBC Act	BC Act	DBCA Priority Rating	Description (WAHERB, 2020)
Grevillea dryandroides subsp. *hirsuta*	T (EN)	T (VU)		Prostrate, vigorously suckering shrub, 0.05-0.3 m high. Fl. red/pink-red, May or Sep to Nov. White or yellow sand, laterite.
Roycea pycnophylloides	T (EN)	T (VU)		Perennial, herb, forming densely branched, silvery mats to 1 m wide. Fl. Sep. Sandy soils, clay. Saline flats.
Symonanthus bancroftii	T (EN)	T (CR)		Shrub, 0.15-0.25 m high. Fl. white, Sep.
Glossostigma trichodes			P1	Aquatic annual, herb. Pools in granite.
Vittadinia cervicularis var. *oldfieldii*			P1	Annual, herb, 0.1-0.3 m high. Fl. white-purple-blue, Aug to Sep. Alluvium.
Goodenia granitica			P2	Annual herb, 0.05-0.35 m high. Brown sandy clay or loam over granite on bases of outcrops near water sources and valley floors.
Acacia ancistrophylla var. *perarcuata*			P3	Rounded or obconic shrub 0.6-1.6 m high and 6 m wide. Flowers yellow between August and September. Red sand, clay loam, loam on undulating plains.
Acacia crenulata			P3	Bushy shrub or tree, 0.7-3 m high. Yellow flowers. Clay, sandy clay, yellow sand on rocky rises, granite outcrops and breakaways.
Acacia filifolia			P3	Wispy, spindly single-stemmed shrub or tree, 1.2-3 m high. Flowers yellow between May and September. Yellow sand, gravelly lateritic sand on sand plains.
Austrostipa blackii			P3	Tufted perennial, grass-like or herb, 1 m high. Fl. Sep to Nov.
Dicrastylis reticulata			P3	Woolly shrub, (0.15)0.6-1.2(-1.5) m high with white flowers between September and December. Sandy soils, often over granite amongst granite rock, hills and flats.
Verticordia mitodes			P3	Spreading shrub 0.15-0.7 m high with pink-purple flowers between October to December or January in yellow sand on undulating plains.
Banksia shanklandiorum			P4	Upright, lignotuberous shrub 0.4-2.5 m high to 3 m wide. Flowers June to August in white/yellow sand with lateritic gravel.
Eucalyptus caesia			P4	(Mallee), 1.8-14 m high, bark 'minni-ritchi'. Fl. pink-red, May to Sep. Loam. Granite outcrops.
Myriophyllum petraeum			P4	Aquatic annual, herb, stems 0.15-0.3 m long. Fl. white, Aug to Dec. Strictly confined to ephemeral rock pools on granite outcrops.

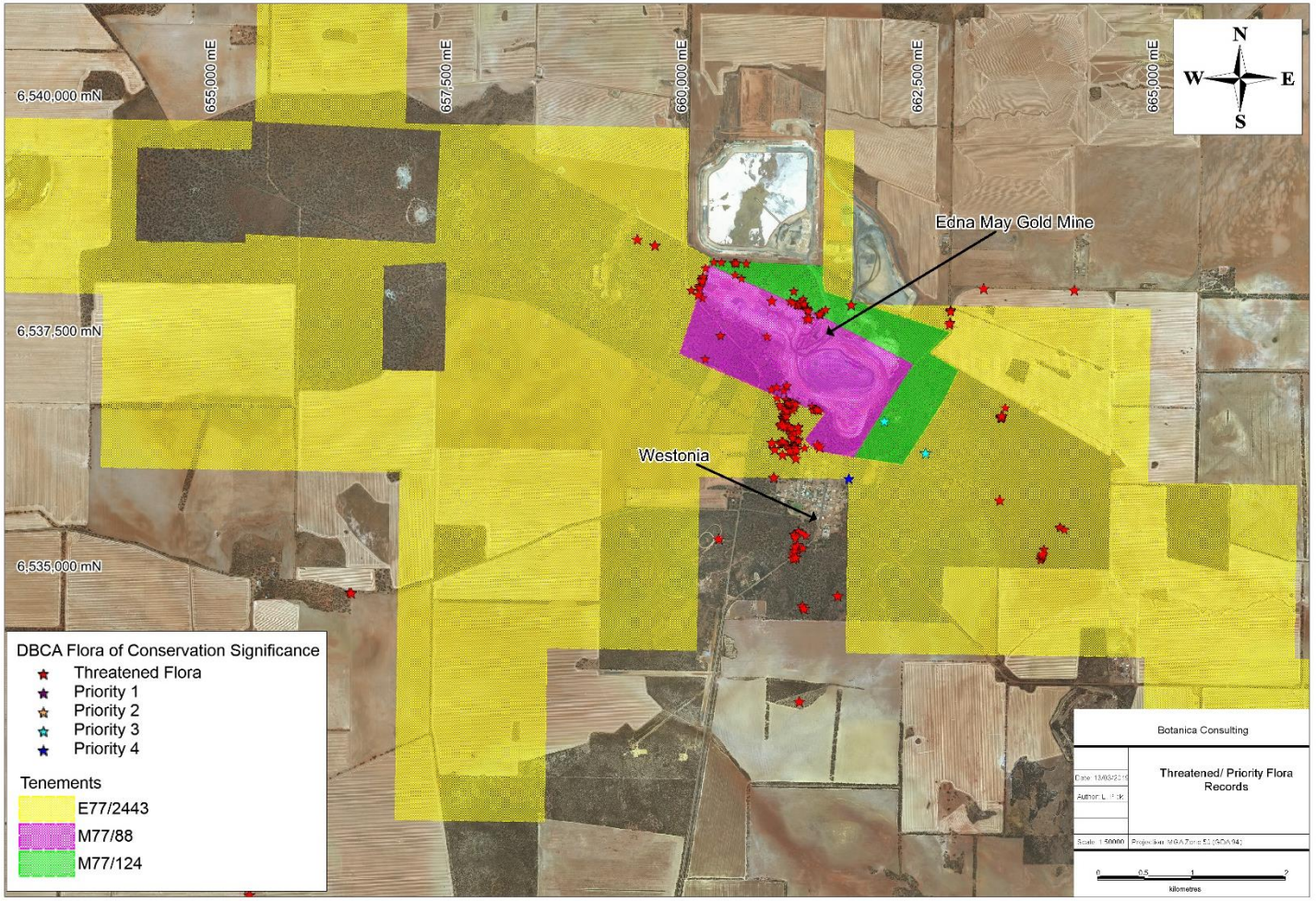

Figure 2-2: Locations of Flora of Conservation Significance within the Edna May Project tenements (includes current and historic records)

Eremophila resinosa is a spreading shrub which grows between 40 to 80 cm tall by 60 to 100 cm wide with branches that are densely covered in short white woolly hairs and sprinkled with resinous wart-like projections (Plate 2-1). The flowers are blue or purple with white spots inside. There are four stamens not exceeding the length of the corolla (Bentham 1870; Ewart et al. 1908; Brown 2005). This taxon occurs on a variety of soil types from sandy loams to loams and clays in open mallee woodland with a mixed Acacia scrub understorey. Habitat critical to the survival of *E. resinosa* includes the area of occupancy of extant populations, areas of similar habitat (i.e. sandy loams, clays, and loams supporting open mallee woodland with mixed Acacia scrub understorey) surrounding important populations (this is necessary to allow access for pollinators and population expansion) and additional occurrences of similar habitat that may contain the species or be suitable for future translocations (DEC, 2008).

Plate 2-1: *Eremophila resinosa* (T)

2.3 FAUNA OF CONSERVATION SIGNIFICANCE

The results of the literature review, NatureMap search (DBCA, 2020b) and DAWE Protected Matters search (DAWE, 2020) recorded four Threatened Fauna and one Priority Fauna as potentially occurring within a 10 km radius of the Edna May Exploration Programme (Table 3). No Threatened/ Priority Fauna taxa were identified within the Edna May Exploration Programme or have been recorded during previous fauna surveys of the Edna May Project.

A targeted Carnaby's black cockatoo habitat assessment was carried out over the Greenfinch area in April 2018 (Harewood 2018). The results of the Carnaby's black cockatoo habitat assessment suggest that the survey area is unlikely to represent an area of specific significance to the species.

The survey area contains only a small number of potential breeding habitat trees, none of which were observed to contain hollows of a size likely to be suitable for Carnaby's black cockatoo for nesting purposes. The potential foraging habitat present appears to be limited in quality and extent with little variety in species composition. No evidence of roosting activity was observed. It should also be noted that the survey area is located at the extreme eastern boundary of Carnaby's black cockatoos modelled distribution (Commonwealth of Australia 2012) and their frequency of occurrence would therefore be very low.

Table 3: Potential Fauna of Conservation Significance

Common name (species name)	Conservation Status			Habitat Preference	Likely presence
	EPBC Act	BC Act	DBCA Priority		
Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*)	EN	EN		Eucalypt Woodlands with suitable hollows	Possibly occurs but probably only rarely. Unlikely to breed in the area
Chuditch (*Dasyurus geoffroii*)	VU	VU		Eucalypt Woodlands with suitable hollows	Possibly occurs but probably only rarely. Unlikely to breed in the area
Malleefowl (*Leipoa ocellata*)	VU	VU		Dense vegetation (Mallee/Mulga woodlands)	Possibly occurs but probably only rarely. Habitat very marginal/unsuitable.
Shield-backed Trapdoor Spider (*Idiosoma nigrum*)	VU	VU		Open York gum (*Eucalyptus loxophleba*), Salmon gum (*E. salmonophloia*) and Wheatbelt Wandoo (*E. capillosa*) woodland, with *Acacia acuminata* understorey in heavy clay soils	Possibly occurs but probably only rarely. Habitat very marginal/unsuitable.
Tree-stem Trapdoor Spider (*Aganippe castellum*)			P4	Flood-prone depressions and flats that support myrtaceous shrub communities.	Possibly occurs but probably only rarely. Habitat very marginal/unsuitable.
Arid bronze azure butterfly (*Ogyris subterrestris petrina*)	CR	CR		The arid bronze azure is reported as being restricted to mallee vegetation on	Unlikely to occur. Favoured habitat of the host ant (*Camponotus terebrans*) is

Common name (species name)	Conservation Status			Habitat Preference	Likely presence
	EPBC Act	BC Act	DBCA Priority		
				sandy soil, often near flood plains, in which nests of the associated ant are established at the base of eucalypts.	absent (i.e. sandy soils with smooth barked eucalypts).

2.4 INTRODUCED FLORA

The results of the literature review, NatureMap search (DBCA, 2020b) and DAWE Protected Matters search (DAWE, 2020) identified twenty-eight introduced taxa as potentially occurring within a 10 km radius of the Edna May Exploration Programme:

1. *Arctotheca calendula* (Cape Weed)
2. *Brassica tournefortii* (Mediterranean Turnip)
3. *Bromus rubens* (Red Brome)
4. *Carrichtera annua* (Ward's Weed)
5. *Cenchrus ciliaris* (Buffel Grass)
6. *Centaurea calcitrapa* (Star Thistle)
7. *Centaurea melitensis* (Maltese cockspur)
8. *Chondrilla juncea* (Skeleton Weed)
9. *Chrysanthemoides monilifera* (Boneseed)
10. *Cleretum papulosum*
11. *Crassula natans* var. *minus*
12. *Echium plantagineum* (Paterson's Curse)
13. *Ehrharta longiflora*
14. *Erodium aureum*
15. *Erodium cicutarium* (Common Storksbill)
16. *Freesia alba x leichtlinii*
17. *Hordeum glaucum* (Northern Barley Grass)
18. *Hypochaeris glabra* (Smooth Catsear)
19. *Lepidium africanum* (Rubble Peppercress)
20. *Medicago minima* (Small Burr Medic)
21. *Mesembryanthemum nodiflorum* (Ice Plant)
22. *Pentameris airoides* (False Hairgrass)
23. *Rostraria pumila*
24. *Rumex vesicarius* (Ruby Dock)
25. *Schismus barbatus* (Kelch Grass)
26. *Sisymbrium irio* (London Rocket)
27. *Sisymbrium runcinatum*
28. *Sonchus oleraceus* (Common Sowthistle)

The Westonia Common has been subject to numerous previous disturbances and as a result weeds are widespread throughout the area.

2.5 DIEBACK

Dieback is a plant disease caused by the growth of fungus around and through the roots, which kills a wide variety of plants in moist parts of Western Australia. The dieback fungus belongs to the genus Phytophthora and lives in susceptible plant tissue and soil and migrates and reproduces in warm, moist conditions. The fungus thrives in the south-west of WA in areas that receive more than 450 mm of rain per year. The dieback fungus spreads by moving within open water and through the movement of water within soil. People also spread the disease by transporting infected soil and root material primarily through material or machinery movement.

The Edna May Exploration Programme does not lie within the dieback risk area as identified by DBCA (2015) and as such there is no significant risk of introducing dieback into these areas.

2.6 ABORIGINAL HERITAGE

According the Department of Planning, Lands and Heritage (DPLH) Aboriginal Heritage Enquiry System database there are no Registered Aboriginal sites within the Edna May Exploration Programme. Three 'Other Heritage Places' are located in tenement E77/2443 (Figure 2-3). No drilling will be conducted within these other heritage places.

In December 2002, Evolution commissioned an archaeological survey which included mining leases M77/88 and M77/124. Results of the field survey confirm that no Aboriginal archaeological material or sites were identified within the boundaries of this Project.

A Native Title Claim has been lodged with the Federal Government by the Marlinyu Ghoorrlie claimants (WAD647/2017) as of the 22nd December 2017. A determination of this claim has not been completed. The grant of mining tenure pre-dates the claim.

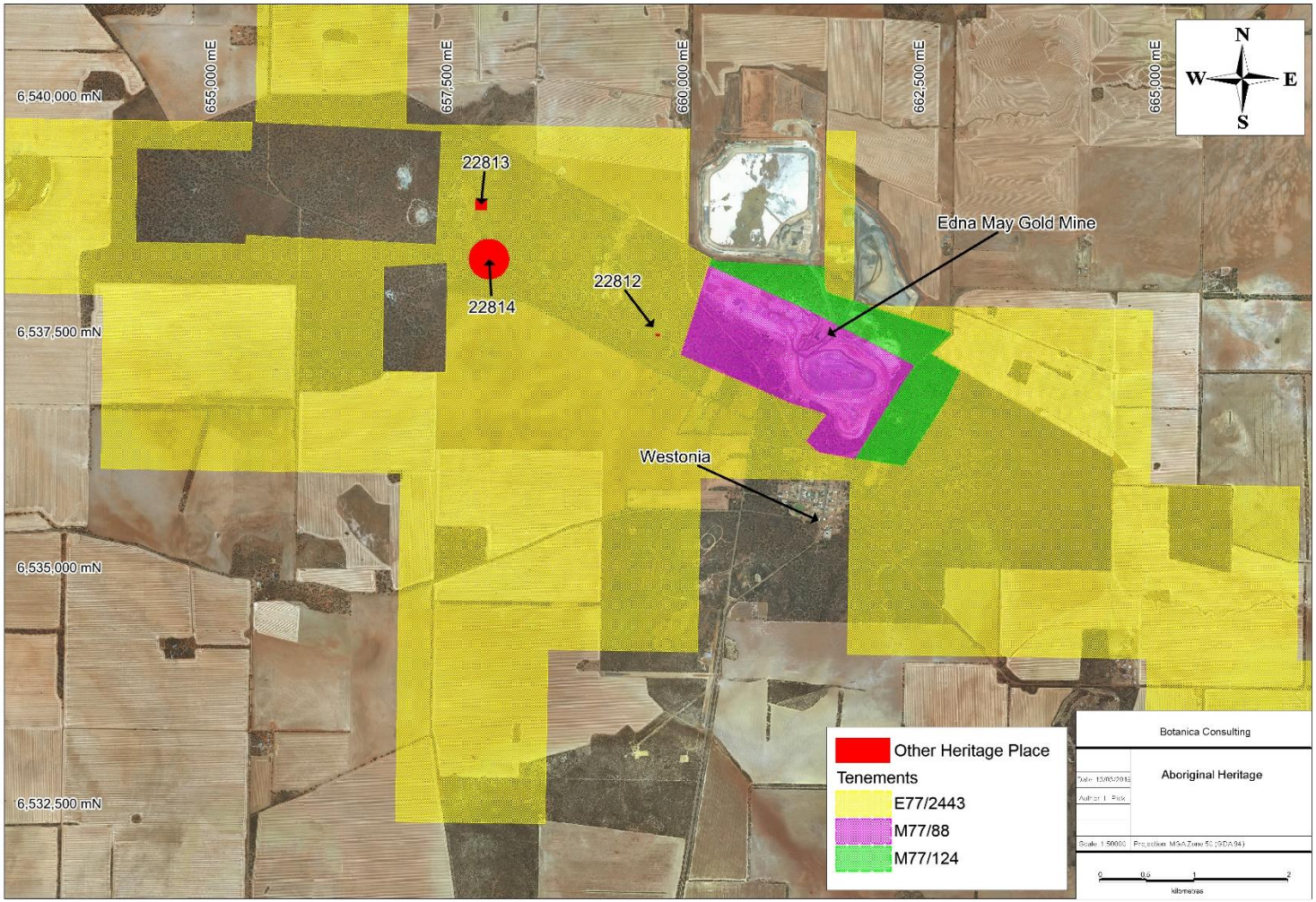

Figure 2-3: Aboriginal Heritage sites in relation to the Edna May Project tenements

3. EXPLORATION ACTIVITES

3.1 EXPLORATION PHASES

Typically, exploration begins with minimal impact activities such as soil sampling and rock chip sampling through to resource definition drilling that requires a degree of vegetation clearing, depending on the location. This CMP covers all phases of exploration. A description of each phase of exploration undertaken by Ramelius (and its contractors) of increased intensity are:

Phase	Description
PHASE 1:	LV Assisted Regional Exploration - minimal or no impact investigations. This type of work involves light vehicle assisted activities where no vegetation clearing is required. This includes geological mapping, surface sampling using hand tools, a vehicle mounted auger or hand auger and regional geophysical studies.
PHASE 2:	Regional Exploration and Prospect Identification - low impact drilling with no or very low levels of clearing required. This type of work is typically undertaken using either quad bikes or light vehicles and may include small track mounted AC, RC or rotary air blast (RAB) rigs
PHASE 3:	Prospect Confirmation - drilling via moderately spaced drill sites (20-100 m spacing) with a low to moderate level of clearing required. This work is generally conducted utilising larger RC and diamond drill rigs. Due to the size and nature of the rig, there is a requirement to clear vegetation for the establishment of drill pads and sometimes sumps for the collection and management of groundwater. Other non-ground disturbing activities undertaken during this phase might include detailed geological mapping, grid-based sampling programmes and detailed geophysical surveys.
PHASE 4:	Resource Definition - drilling via closely spaced drill sites (~20 m spacing) with moderate to intensive clearing activities. As with prospect confirmation this requires the establishment of drill pads and the excavation of sumps to ensure that a safe work area is provided and to manage any saline water generated during drilling. Activities involve detailed grid-based drilling programme sometimes down to 20 m x 20 m spacing.

Descriptions of the typical exploration drilling and sampling techniques to be used by Ramelius is outlined in the Table below.

Geology Type	Activity Type	Description	Typical Area of disturbance
Transportable Regolith (weathered rock)/ Fresh Rock	Track Mounted Drilling 	Use of track mounted drill rig. The drill rig is supported by a land cruiser/ light truck. All water is contained and recycled by using solid removal equipment. This equipment is mounted on a light truck which follows the drill rig. A small water truck will also access the site to replenish water that has been lost to drilling.	Disturbance is low with no physical clearing required and no sumps required. The vehicles drive around or over vegetation where necessary.
Surface Soil	Auger sampling 	Auger sampling uses a helical screw which is driven into the ground with rotation; the earth is lifted up the borehole by the blade of the screw. Small augers can be mounted on the back of a light vehicle. It is a cheap and fast method of drilling.	Disturbance is generally low with no pads or sumps required. Provided vegetation is not dense no clearing for access tracks is required. For areas of dense vegetation raised blade/bucket touch clearing may be required for access tracks. Tracks are typically 3-4 m wide. Existing tracks are utilised where possible. Drilling occurs on tracks.
Transportable Regolith (weathered rock)	Rotary Air Blast (RAB)	RAB drilling uses either a drag bit (blade) or a down-hole hammer driven by compressed air to	Disturbance is generally low level as raised blade clearing for access tracks and pads. In

Geology Type	Activity Type	Description	Typical Area of disturbance
		energetically drive a heavy drill bit into the rock. Air or a combination of air and foam are used to lift the cuttings. The cuttings are blown up the outside of the rods and collected at surface. The blade bit is the most common method utilised	dense vegetation bucket touch clearing may be required. Tracks are typically 3-4 m wide. Existing tracks are utilised where possible. Pads are typically 8 m x 20 m. Sumps are not required.
Transportable Regolith (weathered rock)	Air Core (AC) 	AC drilling uses hardened steel or tungsten blades to bore a hole into unconsolidated ground. The drill cuttings are removed by injection of compressed air. The cuttings are then blown back to surface. AC rigs usually have 4WD capabilities and are relatively manoeuvrable. Where possible, air core drilling is preferred over RAB drilling as it provides a more representative sample.	Disturbance is generally low level as raised blade clearing for access tracks and pads is used where possible. In dense vegetation bucket touch clearing may however be required. Existing tracks are utilised where possible. Tracks are typically 3-4 m wide and pad not required (pad located within track width). Sumps are not required.
Fresh Rock	Reverse Circulation (RC)	RC drilling is similar to AC drilling, in that the drill cuttings are returned to the surface inside the rods. The drilling mechanism is a hammer driven tungsten-steel drill	Bucket touch clearing is typically required for RC rigs. Cleared tracks are typically 3-4 m wide. Existing tracks are utilised where possible. Pads are typically 15 m x 20

Geology Type	Activity Type	Description	Typical Area of disturbance
		bit. RC is achieved by blowing air down the rods, the differential pressure creating air lift of water and cuttings up the inner tube inside each rod. Larger rigs and machinery are used. A "mud" or "super foam" is mixed with the water to help bring the samples to the surface by making the sand stick together. RC rigs usually consist of a support vehicle, an auxiliary vehicle, as well as the rig itself.	m wide. Sumps are typically 3 m x 3 m.
Fresh Rock	Diamond drilling (DD) 	Diamond core drilling utilises an annular diamond-impregnated drill bit attached to the end of hollow drill rods to cut a cylindrical core of solid rock.	Bucket touch cleared access tracks are typically 3-4 m wide. Existing tracks are utilised where possible. The cleared drill pad is 15 m x 20 m. Sumps are typically 3 m x 3 m.

3.2 EXPLORATION PROJECT AREAS

Exploration activities at Edna May Exploration Project is proposed at three main prospects, namely (Figure 3-1):

1. Golden Point (M77/124 and E77/2443)
2. Greenfinch (M77/88 and E77/2443)
3. Westonia West (E77/2443)

Maps showing the exploration project sites in relation to flora/ vegetation, Threatened Flora and aboriginal heritage sites are provided in Figure 3-2 to Figure 3-4. As shown in the below figures, within each prospect area are numerous existing access tracks/ drill lines which are preferentially used for conducting exploration. Drilling programs are designed to avoid clearing of Eucalypt woodland vegetation (shown in Figure 3-2), Threatened Flora locations including within a 50m radius of each plant (shown in Figure 3-3) and aboriginal heritage places (Figure 3-4).

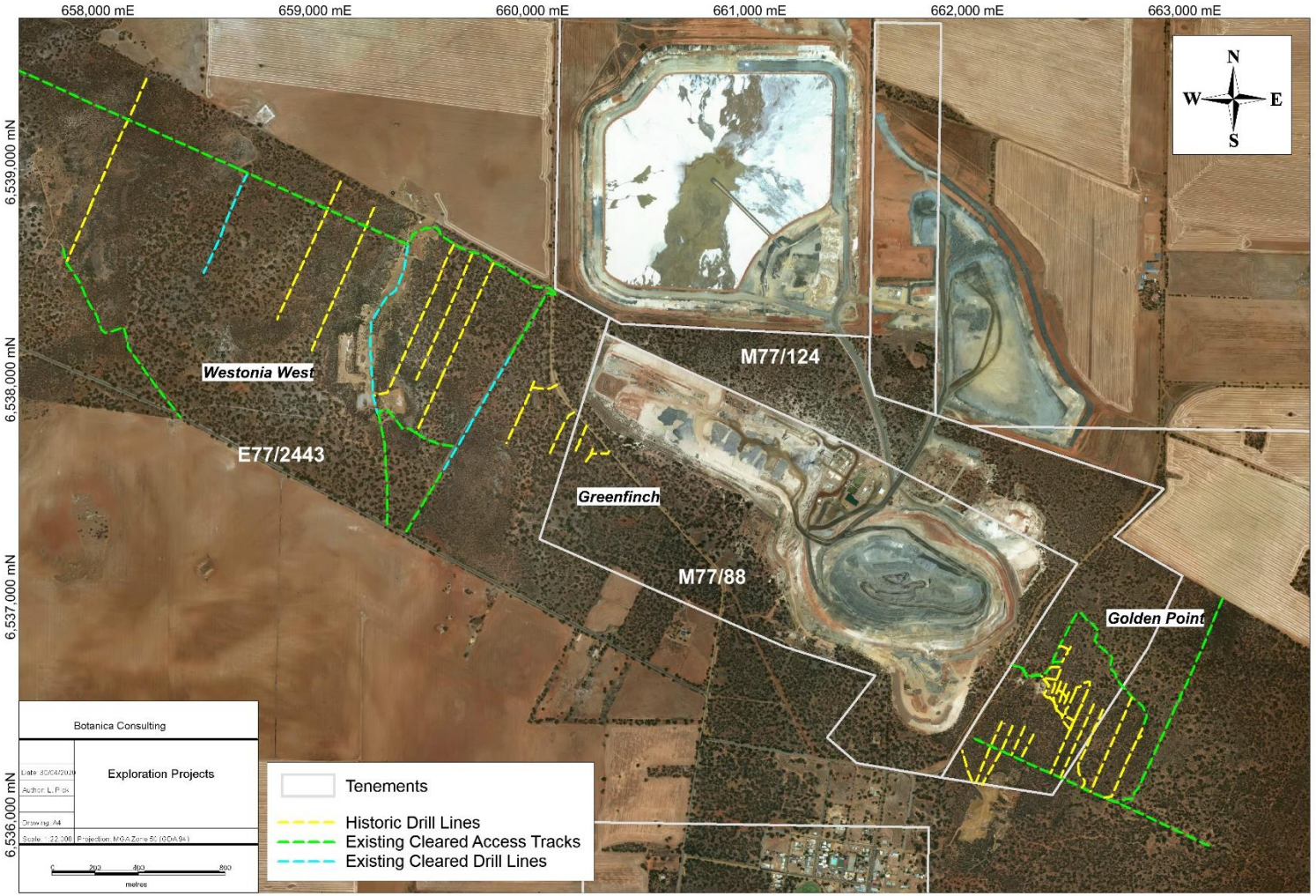

Figure 3-1: Edna May Exploration Projects

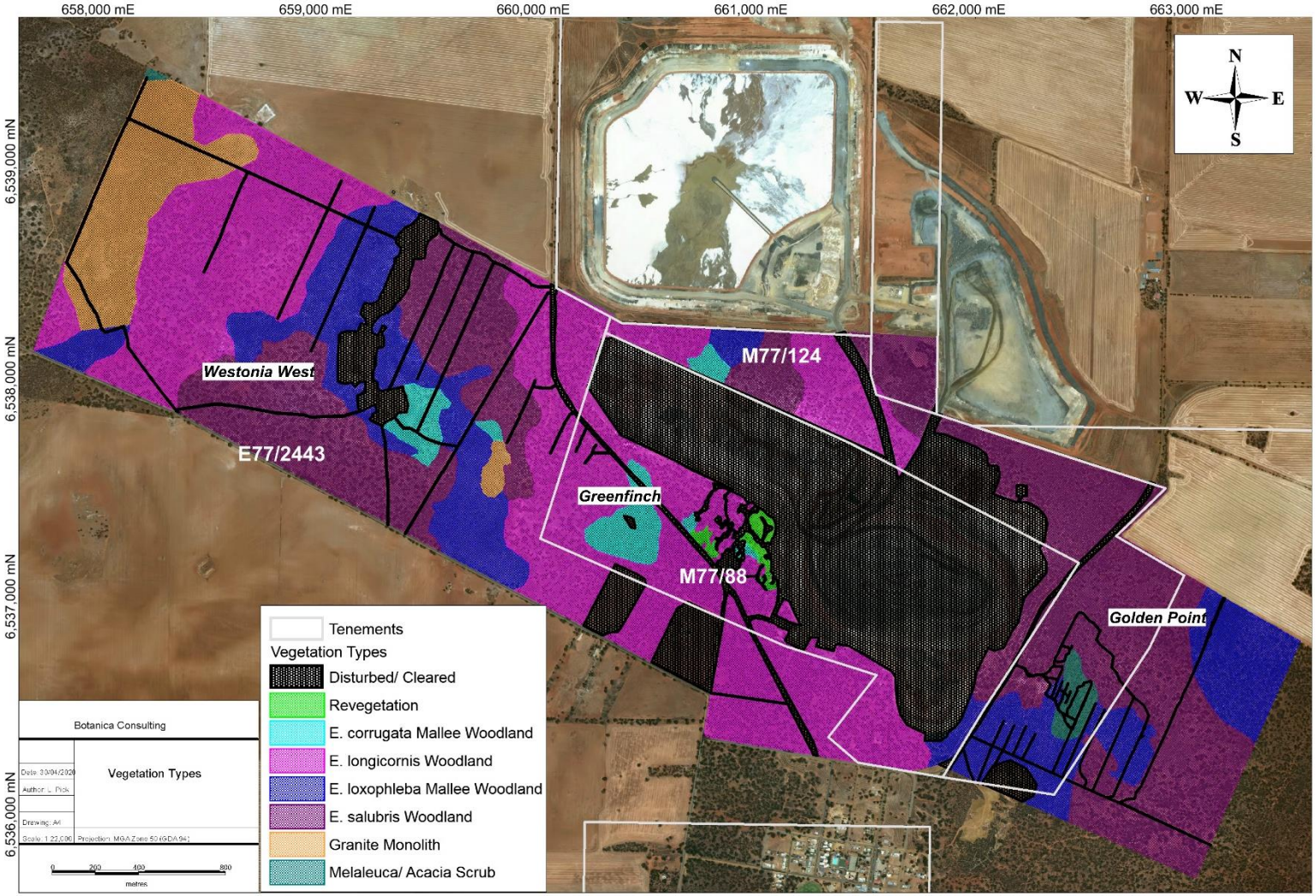

Figure 3-2: Vegetation Types in relation to the Edna May Exploration Projects

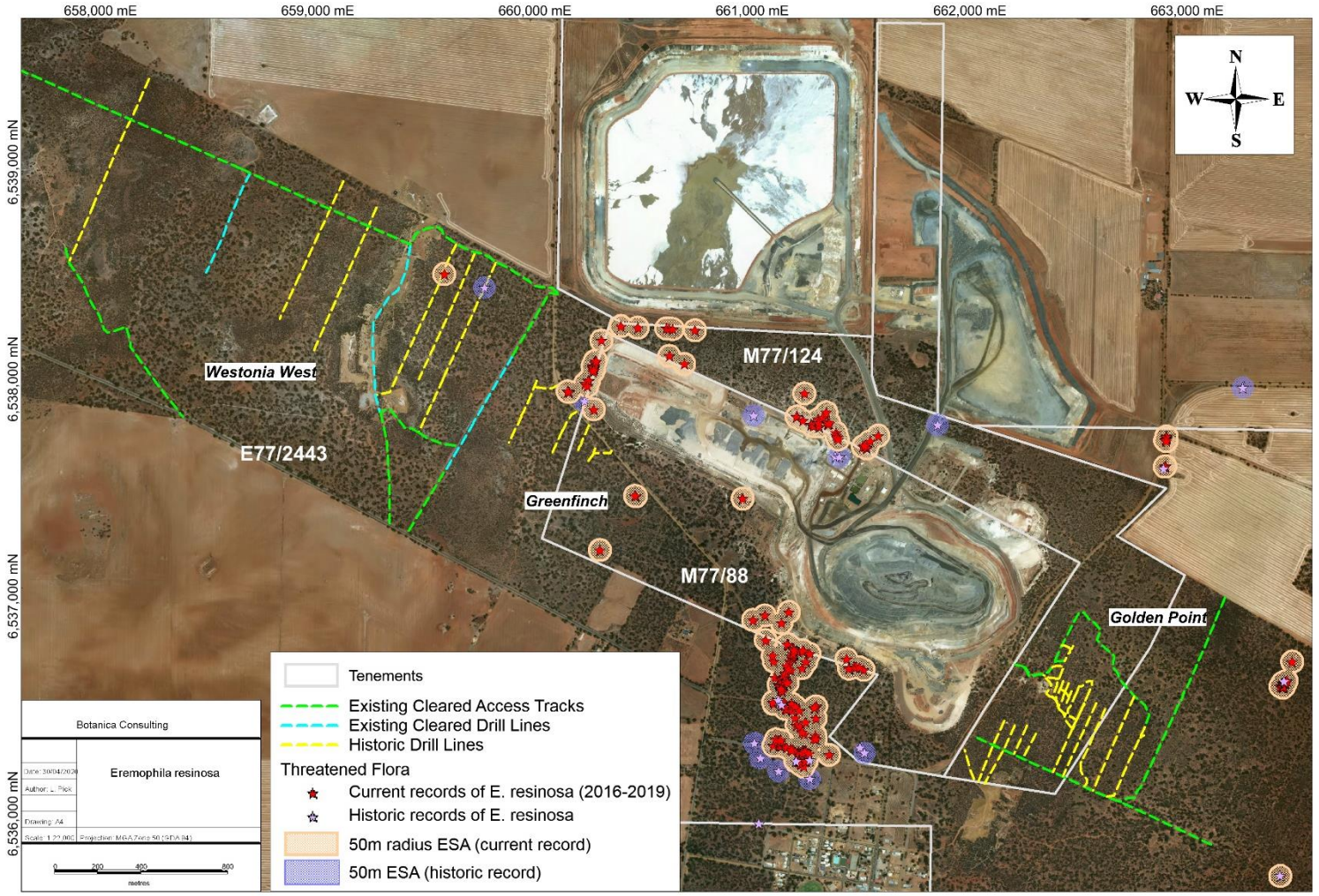

Figure 3-3: Threatened Flora in relation to the Edna May Exploration Projects (includes current and historic records of *E. resinosa* and associated ESA)

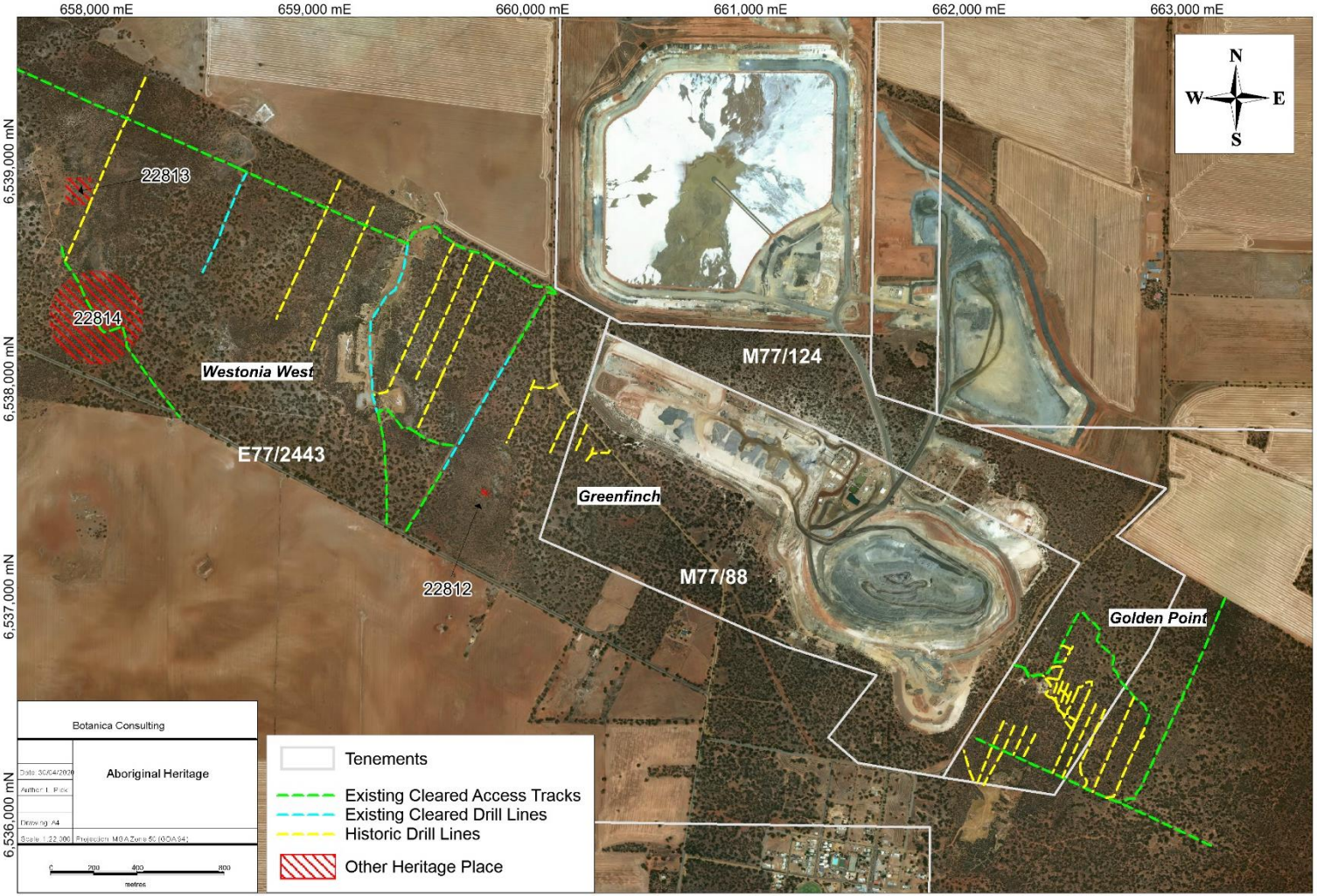

Figure 3-4: Aboriginal Heritage sites in relation to the Edna May Exploration Projects

4. ENVIRONMENTAL RISK ASSESSMENT

The potential environmental risks associated with the exploration activities are summarised below. Activities that may impact the natural environment include:

- Clearing native vegetation; and
- Inappropriate hydrocarbon and waste disposal including sample bags, damaged equipment, food and beverage containers.

Potential impacts from these activities include:

- Vegetation disturbance from vehicles accessing the area;
- Damage to flora and fauna of conservation significance from drilling/clearing activities;
- Fauna habitat disturbance or destruction from drilling/clearing activities;
- Rutting and degradation of existing road access from vehicle and machinery movement;
- Destabilizing soil profile leading to erosion from soil test pits and soil sampling;
- Compacting soils from vehicles;
- Spreading weed seed from unwashed vehicles (weed management);
- Potential to increase fire risk from vehicles or inappropriate disposal of waste such as cigarette butts or glass containers;
- Access tracks allowing easy passage for feral animals into the area;
- Inappropriate waste disposal attracting feral animals or causing local pollution;
- Minor hydrocarbon spills from vehicles, refuelling and drill rig use;
- Fauna injury or death from falling into test pits, sumps or drill holes;
- Disturbing heritage sites from vehicles or human activity; and
- Cumulative impacts from other drill programmes/exploration activity by both Ramelius and others.

A risk assessment conducted for the potential impacts of exploration activities on the surrounding environment is provided in Table 4. These risks were assessed using the matrix provided below. More detailed information on the operational procedures that will be implemented to manage the potential impacts associated with exploration activities are provided in Section 6.

		RISK ASSESSMENT				
		CONSEQUENCE				
LIKELIHOOD		INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC
		1	2	3	4	5
ALMOST CERTAIN	A	Medium	High	High	High	High
LIKELY	B	Medium	Medium	High	High	High
POSSIBLE	C	Low	Medium	Medium	High	High
UNLIKELY	D	Low	Low	Medium	Medium	High
RARE	E	Low	Low	Low	Medium	Medium

The basic principle of environmental management for exploration is to minimise disturbance and to return the disturbed areas to near original condition or to a condition which will allow rehabilitation to continue naturally. This can be achieved by incorporating the following measures:

- Maximising the use of non-intrusive exploration techniques.
- Minimising intrusive exploration by:
    - minimising or avoiding, where possible, the clearing of vegetation;
    - retaining and restoring the original ground contours, where appropriate;
    - preparing the ground for rehabilitation; and
    - preventing erosive water flow on disturbed ground.
- Dust suppression.
- Preventing contamination of soil, surface and groundwater and plants and animals.
- Protecting animals from human-made obstacles such as drill holes and costeans and destruction of their habitats.
- Having an awareness of the threats to plants and animals from accidental introduction of exotic diseases and feral species.

Table 4: Assessment of potential impacts from exploration activities and management measures to reduce the level of risk from potential impacts

Event	Impact	Likelihood	Consequence	Risk Ranking	Management Strategy	Residual Risk
Off Road Driving	Damage to tracks from erosion	Likely	Minor	Medium	Implementation of off road driving procedures Driving in wet areas and conditions prohibited	Low
	Sediment run off damaging vegetation	Possible	Insignificant	Low	Implementation of off road driving procedures Driving in wet areas and conditions prohibited	Low
	Spread of weeds	Possible	Minor	Medium	Strict wash down procedures implemented whilst working in the Common Adherence to weed management plan	Low
	Spread of dieback	Unlikely	Minor	Low	Conducting exploration under dry soil conditions Strict wash down procedures implemented whilst working in the Common	Low
Hydrocarbon Spills	Soil Contamination	Likely	Minor	Medium	Use of absorbent matting and drip trays Servicing of equipment to be done offsite (at Edna May Gold Mine) Contaminated soil to be removed from the Common for remediation at the Edna May Gold Mine	Low
	Water Contamination	Unlikely	Insignificant	Low	Use of absorbent matting and drip trays Servicing of equipment to be done offsite (at Edna May Gold Mine) Contaminated soil to be removed from the Common for remediation at the Edna May Gold Mine	Low
Fire	Damage to vegetation	Rare	Major	Medium	Mobile fire suppression on drilling equipment on site Fire extinguishers on all mechanised equipment No open fires in Westonia Common	Low

Event	Impact	Likelihood	Consequence	Risk Ranking	Management Strategy	Residual Risk
	Loss of fauna habitat	Rare	Major	Medium	Mobile fire suppression on drilling equipment on site Fire extinguishers on all mechanised equipment No open fires in Westonia Common	Low
Saline water spillage	Damage to vegetation	Unlikely	Minor	Low	All water encountered during drilling operations to be store in a lined sump	Low
	Contamination of waterways	Unlikely	Minor	Low	No drilling to occur within defined waterways All water encountered during drilling operations to be store in a lined sump	Low
Dust	Damage to vegetation	Unlikely	Insignificant	Low	Dust Suppression systems on drill rigs Maintenance of access tracks	Low
Clearing of tracks and drill sites	Damage to conservation significant flora and vegetation	Possible	Major	High	Vegetation surveys/ targeted searches by qualified botanist prior to any clearing (see Appendix 7) Preferential use of cleared tracks and gridlines where possible Maintaining vehicle travel to cleared access tracks/ drill lines Avoidance of clearing mature trees Avoidance of clearing within a 50m radius of Threatened Flora populations Avoidance of clearing within a 10m radius of Priority Flora populations unless advise is provided by DBCA Species and Communities Program Use of track mounted drill rigs where possible in TEC areas to minimise disturbance Priority/Threatened flora flagged and position recorded Induction and training on presence of significant flora/vegetation to staff and contractors Application to impact/accidental	Low

Event	Impact	Likelihood	Consequence	Risk Ranking	Management Strategy	Residual Risk
					destruction of Threatened Flora	
	Damage to fauna habitats and displacement of fauna from habitats	Possible	Moderate	Medium	Targeted searches for significant fauna habitat by suitably qualified personnel prior to any clearing Preferential use of cleared tracks and gridlines where possible Induction and training on threatened and priority fauna species potentially in the area to staff and contractors. Avoidance of clearing mature trees Avoidance of clearing within a 200m radius of any active Malleefowl mounds and 50m radius of any inactive Malleefowl mounds Maintaining vehicle travel to cleared access tracks/ drill lines Recording/reporting of fauna sightings/mortality to Project Manager and DBCA	Low
	Visual impact	Likely	Minor	Medium	Work to be carried out in a manner that minimises the clearing of vegetation required. Rehabilitation of cleared areas	Low
	Erosion of cleared areas	Possible	Insignificant	Low	Use of excavator to clear tracks and drill sites Clearing will be kept to a minimum as per procedures Rapid rehabilitation after completion of drilling programme (within 6 months of drilling)	Low
Disposal of rubbish/ human waste	Pollution of environment including waterways	Unlikely	Minor	Low	All rubbish transported off site to appropriate facilities Rapid rehabilitation of drill sites to remove all plastic bags and old consumable products (within 6 months of drilling)	Low

Event	Impact	Likelihood	Consequence	Risk Ranking	Management Strategy	Residual Risk
Sumps/ costeans and Un rehabilitated drill sites	Fauna trapped in sumps/ costeans and drill holes	Likely	Minor	Medium	All drill holes either capped or covered immediately after drilling Rehabilitation of any historic uncapped holes or un rehabilitated sumps as encountered Fauna ramps/ egress matting installed in sumps/ costeans to allow fauna escape (at a 1 in 3 incline).	Low

4.1 CONSERVATION SIGNIFICANT FLORA/VEGETATION

In order to minimise impacts on significant flora/ vegetation the following measures will be implemented:

- Conduct a desktop assessment to identify potential significant flora/ vegetation occurring within the area (see Appendix 7 for details of assessment process/ requirements);
- Conduct a field assessment to identify significant flora/ vegetation within the area (see Appendix 7 for details of assessment process/ requirements);
- For Threatened Flora populations identified, adherence to a 50 m buffer zone around the extent of Threatened Flora populations within target areas (which will be ascertained by a suitable qualified botanist);
- For Priority Flora populations identified, adherence to a 10 m buffer zone around the extent of Priority Flora populations within target areas (which will be ascertained by a suitable qualified botanist);
- All potential significant flora not able to be fully identified during field assessments to be avoided until identification has been confirmed;
- All feasible alternatives to removal of significant flora/vegetation to be investigated;
- Avoidance of clearing mature Eucalypts and use of existing tracks/ drill lines to minimise vegetation disturbance;
- If destruction of any individual Priority Flora plants, populations or Priority Ecological Communities is unavoidable, consultation with the DBCA Species and Communities Programme regarding destruction permits will be required;
- If the proposed clearing will impact Threatened Flora (including accidental destruction), authorisation to take threatened flora under the BC Act is required; and

- If clearing is proposed within a Threatened Ecological Community, a Clearing Permit application under the *Environmental Protection Act 1986* and authority from DBCA/DAWE is required.

4.2 CONSERVATION SIGNIFICANT FAUNA

In order to minimise impacts on significant fauna/ habitat the following measures will be implemented:

- Conduct a desktop assessment to identify potential significant fauna/ habitat occurring within the area;
- Conduct a field assessment to identify significant fauna/ habitat within the area;
- For any active Malleefowl mounds identified, adherence to a 200 m buffer zone around the mound;
- For any in-active Malleefowl mounds identified, adherence to a 50 m buffer zone around the mound;
- Avoidance of clearing mature Eucalypts and use of existing tracks/ drill lines to minimise fauna habitat disturbance; and
- All feasible alternatives to removal of fauna habitat to be investigated.

5. PROJECT MANAGEMENT

Ramelius will implement a series of management measures to reduce and manage the level of risk associated with the Edna May exploration activities as outlined in this section. This section is structured to identify the key steps and the responsibility for implementing each step, in accordance with this CMP.

5.1 POW APPLICATIONS

Responsibility: Project Geologist

The Project Geologist will develop a detailed plan showing the proposed drilling programme along with the tracks, drill holes and flora/vegetation of conservation significance to be submitted with PoW applications to the DMIRS for approval.

5.2 APPLICATION FOR REHABILITATION EXTENSION

Responsibility: Project Geologist

In accordance with DMIRS guidelines and state legislation, rehabilitation of exploration must be completed within six months of the end of the drilling programme. Should Ramelius require any areas of exploration disturbance to remain open for future exploration activities (i.e., maintain access tracks, drill pads etc.) an application will be made to the DMIRS for an extension to rehabilitation activities within three months of drilling completion. The application will include:

- Update of current status of exploration activities/rehabilitation activities undertaken.
- Areas of exploration required to remain open (including spatial map of areas to remain open).
- Details regarding the required rehabilitation extension.
- Copies of any relevant approvals (separate from PoW application) relating to the further exploration.
- Timeframe for which rehabilitation is required to be extended and commitment regarding expected completion of rehabilitation.

5.3 EXPLORATION ACTIVITIES

Responsibility: Project Geologist

During the exploration activities, an assigned company representative will be present to supervise and co-ordinate movement of personnel and equipment and to ensure that all relevant procedures are followed.

Prior to the commencement of any drill programme the assigned company representative will ensure that:

- The PoW has been lodged and approved by DMIRS;

- The documentation, plans and the relevant approval (PoW) has been gained from the DMIRS; and
- All other relevant approvals (i.e., applications to impact Threatened Flora) have been granted.

During the drilling programme the Project Geologist in charge will ensure that:

- Any alterations or expansions of the programmes beyond approved activities must be approved by the DMIRS Environmental Officer and;
- The programme is in compliance with the WA DMP (2007) guideline entitled "Guidelines for Mineral Exploration/Rehabilitation Activities", the Mining Act 1978 and associated Regulations.

5.4 CONTRACTOR MANAGEMENT

Responsibility: Project Geologist / Field Supervisor

A site induction and reconnaissance of the drill sites will be conducted prior to work commencing. The Project Geologist / Field Supervisor will supply the contractor with a copy of the drilling request, a detailed map of the area showing the pre-defined tracks and drill pads and PoW conditions and take them to the drill sites.

The Project Geologist / Field Supervisor should ensure that the contractor is completely aware of their obligations and commitment to follow the CMP.

6. OPERATIONAL PROCEDURES

The following section outlines the areas that will be considered during operation of the exploration programme to provide adequate protection to the environment and comply with legal obligations.

6.1 ENVIRONMENTAL TRAINING

Responsibility: Project Geologist/ Senior Field Supervisor

A site-specific induction will be undertaken as a condition of site entry and these are provided to all employees and contractors prior to commencing work. As part of this process, all employees are made aware of and directed to this CMP. The Threatened Flora locations will be highlighted in the induction and the importance of the exclusion zones stressed.

Environmental induction training of the workforce includes:

- Overview of the legislation and responsibilities;
- Overview of environmental issues and management procedures including:

- Inspections;
- Incident Reporting;
- Flora;
- Fauna;
- Heritage Values;
- Ground Disturbance;
- Vegetation Clearance;
- Access Tracks and Drill Pads;
- Drilling Operations;
- Post Drilling Site Clean-up;
- Surface Water;
- Rehabilitation;
- Vehicle and Equipment Servicing;
- Hydrocarbon and Chemical Management and Transport; and
- Hydrocarbon and Chemical Spills.

6.2 MANAGEMENT PROCEDURES

Good vehicle hygiene management will be implemented by Ramelius to ensure all vehicles, machinery, footwear etc. must be clean and free of soil or vegetation prior to entry into the Westonia Common to prevent further spread (in accordance with the Weed Management Procedure provided in Appendix 5).

6.3 VEGETATION CLEARING

The objective is to minimise the area to be disturbed and to ensure the disturbed area is rehabilitated as soon as practicable.

Responsibility: Project Geologist/ Senior Field Supervisor

The following points outline the minimum measures that will be undertaken to manage vegetation clearing and habitat disturbance:

- Existing tracks will be used wherever possible in preference to creating new ones and to minimise the potential for soil erosion, soil compaction and fire.
- Where tracks are to be re-opened, threatened species inspections will be undertaken.
- Large trees will be avoided to minimise disturbance.
- Low lying vegetation will be pushed down by light vehicles gaining access to sample sites, but will not be cleared or removed from site.
- Vegetation clearing for all other phases of exploration will be conducted where possible using a raised blade technique. Bucket touch clearing may be required for thicker vegetated areas.
- Vegetation clearing required for pad and sump locations for RC/DD drilling will be conducted in accordance with approvals.
- All vehicles will be thoroughly washed before entering the Common. The washing of vehicles is paramount to reduce the risk of the spread of weeds and dieback.
- Washing of contractor vehicles is to be done prior to entry to the project area and inspected to ensure they are free of any soil and plant material by the Project Geologist. In the event that material is observed, additional cleaning must be undertaken at the Edna May Gold Mine.

6.3.1 Construction of Access Tracks/Gridlines

The objective is to minimise the impact of the construction and use of access tracks and gridlines to allow successful rehabilitation of the disturbed areas on completion of their use.

Responsibility: Project Geologist/ Senior Field Supervisor

The procedures for constructing access tracks and gridlines include the following:

- Existing tracks, fence lines and fire breaks should be used, wherever possible.
- Gridlines should be positioned using a GPS, wherever possible.
- Consultation with landholders and relevant stakeholders should be undertaken and their views and opinions considered in the planning phase.
- Construction design for access tracks to drill pad locations should consider the weight and design of the drill rigs to be used.
- Bulldozers should only be used to clear a line for access tracks if suitable and safe access cannot be achieved by less destructive methods.
- Tracks should be aligned to avoid larger trees and shrubs and their near-surface root zones. Overhanging trees and vegetation should also be avoided. Low vegetation should be left or rolled in preference to grading or bulldozing.

- Where clearing of the track or gridline is required, bulldozing with the blade above the ground or back-blading should be undertaken to ensure that shrubs are only flattened, and soil disturbance is minimised. This procedure will reduce erosion and enhance rehabilitation.

- Vehicle routes should avoid sensitive areas, such as wetlands, dunes, stream banks, drainage lines and areas subject to bogging and erosion wherever possible. Drill lines should not be cleared through to main roads and access points to gridlines should be disguised to discourage unauthorised access.

- Vehicle movements should be minimised during wet conditions to avoid erosion, soil compaction, creation of wheel ruts and the spread of noxious weeds. The movement of heavy machinery should be banned during wet weather and minimised on all other occasions.

- Speed limits should be set to conserve tracks and vehicles and to increase the safety of people and animals.

- Clearing and other disturbance to stream banks and drainage lines should be minimised. Stream crossings should be at locations where natural conditions provide for minimal disturbance and low erosion potential.

- Rock holes should be avoided when constructing a track across a creek.

- Where gridlines cross creeks, vegetation should not be cleared.

- In some instances, the topsoil should be removed and stockpiled at a location near the road from where it can be sourced for use in rehabilitation of the road.

- Where possible, roads should be aligned along steep slopes (not down the slope) in order to minimise the potential for erosion. When necessary, roads should include the construction of spur drains to control run-off and speed bumps (contour banks) to control erosion.

- Where drainage channelling is required, water should be directed into existing water courses or areas where infiltration will occur.

- Wherever possible, tracks should not be located in highly visible locations.

- When a semi-permanent track is being constructed, topsoil must be removed and stockpiled for rehabilitation.

- When constructing tracks and gridlines, windrows should not be formed. Any windrows which are formed should be pulled back over the gridline at the time of rehabilitation.

6.3.2 Construction of Drill Sites and Management of Drilling Programmes

The objective is to plan and conduct drilling activities so that environmental impacts are minimised, and current best practice is adopted.

Responsibility: Project Geologist and Field Supervisor.

The general principles for environmental management for ground disturbance activities also apply for drill sites. In addition, the following procedures will be implemented:

- Access to a drill site should be via existing access tracks, wherever possible, and then via the path of least resistance.
- The clearing of vegetation to gain access to a drill site location should be avoided, wherever possible, as should the clearing of trees at a drill site. If necessary, vegetation should be rolled or cleared by a bulldozer with the blade above the ground so as to minimise soil disturbance and avoid the loss of vegetative root stock.
- Where clearing is required, ground disturbance should be minimised and the area of disturbance should only be big enough to allow for the safe and efficient operation of the drill.
- The size of the drill pad should be determined through consultation between the contractor and the site supervisor. A minimum footprint will be applied.
- Extensive ground compaction should be avoided, wherever possible.
- Drill pads should be constructed to minimise disturbance to drainage patterns.
- Topsoil and any cleared vegetative material should be stockpiled for future rehabilitation.
- Drill sites should be positioned to create minimal disturbance to landform and vegetation and should be located on flat ground, wherever possible.
- Sumps should be constructed at the drill site to contain runoff and spillage. Alternatives to digging of sumps, *e.g.*, above ground trailer, will be considered where practicable and safe to operate.
- Topsoil and subsoil should be stripped from the sump area and stockpiled for use in rehabilitation.
- The sumps should be located away from trees so as to avoid contamination or damage of tree roots.
- Saline water encountered in the drilling process should be directed into the drill sump, or alternative collection device.
- Drilling mud and slurries will be contained as much as possible to avoid contamination of the site.
- Waste oils, drilling fluids and rubbish will be disposed into appropriate containers and disposed of at an approved site. Oils and rubbish are not to be disposed in the drill sump.
- Sample bags will be used to contain drill spoil.
- Any spillage of oils or fuels will be contained. Any significant spillage of drilling fluid will be cleaned up and any contaminated soil disposed of in an approved manner.

- Drilling equipment should be serviced at designated service areas (Edna May Gold Mine). If any refuelling or emergency servicing is required at the drill site, then any spillage of oils or fuels should be contained.

6.4 HYDROCARBON MANAGEMENT

The objective is to ensure that hydrocarbons (i.e., fuels, oils etc.) are transported, stored and used in an environmentally acceptable manner.

Responsibility: Project Geologist/ Senior Field Supervisor

The procedures for hydrocarbon management include the following:

- Transport of hydrocarbons must be in accordance with the appropriate licence and regulations.
- Hydrocarbons stored at site should be at a safe distance (to be designated) from accommodation facilities and water courses.
- Fuel and oils should be contained within appropriately bunded areas.
- Safety precautions should be implemented near hydrocarbon storage areas in order to minimise fire risk. Flammable vegetation should be cleared from an area of approximately three metres around the storage areas.
- Areas used for servicing equipment should be bunded appropriately.
- Any spillages should be cleaned up immediately and any soils contaminated with hydrocarbons should be treated or removed.
- Hydrocarbon management procedures should be implemented for all drill sites.
- All empty fuel and oil drums should be removed from site on completion of the exploration programme.
- All waste fuels and oils should be disposed of at an approved disposal site.
- Emergency spill procedures should be developed, documented and implemented in accordance with the Ramelius Safety Management Plan.

6.5 WASTE MANAGEMENT

The objective is to implement waste management procedures to ensure that any impacts on the environment are minimised.

Responsibility: Project Geologist/ Senior Field Supervisor

Waste management is vital for all operations as waste is not only unsightly but can also cause physical, chemical and biological impact on the environment. Best practice procedures should always be adopted for waste management.

Many of the procedures have already been addressed in other sections and some are repeated in this section.

- All waste generated at a drill site must be removed and disposed of at an approved site.
- Hydrocarbon management measures discussed in Section 6.4 to be implemented.
- Waste oils are to be placed in drums and stored in a bunded area prior to removal off site for disposal at an approved facility.
- Waste materials should be recycled, wherever possible.

6.6 REHABILITATION

Responsibility: Project Geologist/ Senior Field Supervisor

Rehabilitation will be undertaken in accordance with DMIRS Exploration Rehabilitation Guidelines (2007) with a copy of the complete Rehabilitation procedure provided in Appendix 7. It should be noted that auger sampling does not require vegetation clearing and therefore no rehabilitation is currently proposed. The auger sampling holes will be backfilled through a combination of the hole naturally collapsing following the removal of the auger bit and excess material being returned to the hole.

In the case of AC drilling, the drill hole will be plugged below ground (as per Appendix 7) and backfilled using spoil piles to above ground level and vegetation will be re-spread to promote germination. All rubbish will be removed from site and track entrances will be blocked to prevent third party access.

When RC drilling is completed drill holes will be capped with a plastic plug to prevent animals from getting trapped in the drill holes while they are still active. Upon rehabilitation phase, drill hole collar will be cut below ground, PVC collar removed, drill hole backfilled to above ground level and vegetation will be re-spread to promote germination.

The following information has been provided for further clarification of rehabilitation approaches. Where disturbed areas and drill holes are not required for ongoing exploration programmes, completion of rehabilitation will occur within six months of the end of the drilling programme. If Ramelius requires the area to remain open (un-rehabilitated) for future developments an extension application will be made to the DMIRS within three months of drilling completion (refer to Section 5.2). Rehabilitation will be conducted using the sequence and methods outlined in Table 5.

At the completion of exploration, the rehabilitation will involve disguising track entrances by placing branches/debris/rocks over the entrance and/or brushing over vehicle tracks to prevent/discourage tourists detouring from the main access routes.

Prior to the preparation of a works completion report, as required by the PoW approval process, Ramelius will conduct a completion inspection to ensure all rehabilitation requirements have been

implemented. Officers from DBCA and DMIRS will be invited to attend the completion inspection. In conducting the inspection, the following completion criteria will be considered:

- Only pre-existing access tracks remain (unless agreed upon with DMIRS/DBCA);
- All tracks no longer required for the exploration activity have been appropriately disguised, closed, rehabilitated (where required) so they are no longer obvious or apparent;
- All drill pads and sumps have been appropriately covered and ripped where required;
- All auger sampling and drill holes have been backfilled and/or capped and covered;
- No permanent markers (flagging tape, posts, drill collars etc.) are apparent (unless agreed upon with DMIRS to remain till end of PoW);
- All RC spoil has been buried or blended into soil surface;
- All hostile spoil has been buried/collected for storage;
- All non-hostile spoil (RAB) remains at site
- All rubbish has been removed;
- No hydrocarbon contaminated soil occurs at drill sites; and
- No declared weed growth observed along tracks or within the rehabilitated areas.

Table 5: Typical Rehabilitation Approach

Time Period	Procedure
Immediately after drilling	Cap the drill hole below surface immediately after drilling has been completed to prevent animals from entering or becoming trapped in the holes. Use black cap (smaller diameter) for RAB and AC holes. Use orange cap for Diamond holes (larger diameter) 
	Remove rubbish, wastes and equipment
	Remove/remediate any hydrocarbon spills
One Month after drilling	Remove non-permanent markers (excluding those agreed to remain)
Six Months after drilling	Remove AC, RC and diamond spoil piles by either disposing down the hole/burying in sump (for hostile materials). For non-hostile RAB spoil to remain.
	Dig down approximately 400mm from the surface of the collar, exposing the top section of the collar pipe. Cut the top 400mm section of the collar pipe off with a collar cutter. If smaller PVC pipe has been left in the hole after geophysical surveys, this will also need to be cut. Seat the plug firmly into the top of the casing. Backfill the drill hole to the surface with low permeability material (e.g. clay/oxide drill cuttings).

Time Period	Procedure
	Mound over the backfilled hole to facilitate water shedding away from the hole with low permeability material (approximately 200mm by 800mm wide) and cover with topsoil.
	Backfill sumps once dry with removed subsoil
	Windrows higher than 100mm should be back bladed onto the adjacent area prior to ripping.
	Scarify tracks and drill pads along the contour, respread vegetation to promote germination and plant growth and block track entrances to prevent third party access. Rehabilitation should be planned to take best advantage of seasons. This may include completion of rehabilitation works in time for the rains. 

6.6.1 Rehabilitation Tracking

Rehabilitation of drilling programmes will be tracked by the Project Geologist or Company Environmental Representative. The tracking will ensure that Ramelius is consistently rehabbing explored areas according to the requirements stated in the PoW and this CMP, and that the disturbed area is correctly captured for end of year reporting.

6.6.2 Regular Auditing

The Field Supervisor or the Project Geologist will audit active drill sites at appropriate intervals. Any non-conformances will be entered into the database for tracking purposes. Weekly checks of all rigs will be undertaken by the Field Supervisor.

A final audit will be audited by the Project Geologist and Company Environmental Representative. The auditing will be recorded in the Rehabilitation database. It should be noted that it is the responsibility of the Field Supervisor and Project Geologist to ensure 100% of programmes are managed and audited.

7. COMMUNICATION STRATEGY

At the completion of each phase of the approved exploration activities within the Westonia Common, Ramelius will provide a report to DMIRS which outlines the exploration and any rehabilitation activities that have been undertaken. It is envisaged that as a minimum this report will be developed on an annual basis, for a calendar year, with the report submitted within 60 working days from the year's end. The report will include:

- Tenement number/s;
- Area of disturbance (ha);
- Maps showing the location of all ground disturbance;

- Locations of all rehabilitation works and their progress (i.e., what is still outstanding and why);
- A description of the rehabilitation techniques that were used;
- Map showing access tracks that remain open;
- A description of any incidents or emergencies that occurred, if any;
- Copies of any flora or fauna studies conducted;
- Copies of any audits conducted;
- Relevant photos;
- Future plans; and
- Copies or a description of all DBCA communication conducted over the relevant period.

8. CONTACT DETAILS

The Ramelius personnel responsible for this initial work programme and to whom all correspondence should be sent are:

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9. BIBLIOGRAPHY

ASRIS (2014), Atlas of Australian Soils Database. Australian Soil Resource Information System Bamford Consulting Ecologists (2002). Vertebrate Fauna of the Westonia Mine Lease.

Beard, J.S., (1990), Plant Life of Western Australia, Kangaroo Press Pty Ltd, NSW.

Beecham (2001), A Biodiversity Audit of Western Australia's 53 Biogeographical Region in 2001- Avon Wheatbelt Region (AW1 Merredin Subregion), Department of Conservation and Land Management.

BoM (2018a). Climate Data online Westonia station. Bureau of Meteorology Available: http://www.bom.gov.au/climate/averages/tables/cw_010092.shtml

Botanica Consulting (2018a), Reconnaissance Flora and Vegetation Survey Greenfinch Project. Prepared for Ramelius Resources Limited.

Botanica Consulting (2018b), RE: Targeted search for conservation significant flora/vegetation-Westonia West exploration programme. Prepared for Ramelius Resources Limited.

Botanica Consulting (2020), RE: Targeted search for conservation significant flora/vegetation-Golden Point West exploration programme. Prepared for Ramelius Resources Limited.

Bush, B., Maryan, B., Browne-Cooper, R. and Robinson, D. (2007), Reptiles and Frogs in the Bush: Southwestern Australia. UWA Press, Nedlands.

Christidis, L. and Boles, W.E. (2008), Systematics and Taxonomy of Australian Birds. CSIRO Publishing, Melbourne

Churchill, S. (2008), Australian Bats. Second Edition, Allen and Unwin.

Cogger, H.G. (2014), Reptiles and Amphibians of Australia. 7th Edition. CSIRO Publishing.

DAFWA (2014), Soil Landscape System of Western Australia, Department of Agriculture and Food Western Australia

DAWE (2020), Protected Matters Search Tool, Environment Protection and Biodiversity Conservation Act 1999, Department of Agriculture, Water and Environment

DBCA (2019). 2018 Statewide Vegetation Statistics. Department of Biodiversity, Conservation and Attractions

DBCA (2020), Nature Map Database search, Department of Biodiversity, Conservation and Attractions. Accessed 1st February 2020.

DBCA (2018b), Threatened and Priority Flora Database search, Department of Biodiversity, Conservation and Attractions. Obtained 13th November 2018.

DBCA (2018c), TEC and PEC search, Department of Biodiversity, Conservation and Attractions. Obtained 13th November 2018.

Duncan, Anne. and Baker, G. B. and Montgomery, Narelle. and Natural Heritage Trust (Australia) (1999), The action plan for Australian bats / edited by Anne Duncan, G. Barry Baker and Narelle Montgomery; with assistance from Lindy Lumsden et al. Natural Heritage Trust, Canberra.

DMP, (2007a). Guidelines for Conservation Management Plans relating to mineral exploration on lands managed by the Department of Parks and Wildlife. Department of Mining and Petroleum.

DMP (2007b). Guidelines for Mineral Exploration/Rehabilitation Activities in Western Australia. Department of Mining and Petroleum.

DMP (2012a), Draft Guidelines for Environmentally Responsible Mineral Exploration and Prospecting in Western Australia, March 2012. Department of Mining and Petroleum.

DMP (2012b), Fauna Egress Matting and Ramps, Environmental Notes on Mining, updated March 2012. Department of Mining and Petroleum.

DotEE, (2012), Interim Biogeographic Regionalisation for Australia (IBRA), Version 7, Department of the Environment and Energy.

DotEE (2015). Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) Approved Conservation Advice (including listing advice) for the Eucalypt Woodlands of the Western Australian Wheatbelt. Department of the Environment and Energy Available:https://www.environment.gov.au/cgibin/sprat/public/publicshowcommunity.pl?id=128.

DotEE (2016). Map of Eucalypt Woodlands of the Western Australian Wheatbelt ecological community. Produced by ERIN (Environmental Resources Information Network). Department of the Environment and Energy (January 2016)

DotEE (2017), National Vegetation Information System (NVIS) Version 7, Department of the Environment and Energy

DPIRD (2018), Pre-European Vegetation - Western Australia (NVIS Compliant Version GIS file), Department of Primary Industries and Regional Development

DWER (2018), Clearing Regulations - Environmentally Sensitive Areas (DWER-046) GIS file

EcoLogical Australia (2016). Westonia Common Conservation Management Plan 2016 – 2021, prepared for Shire of Westonia, 12 February 2016.

EPA, (2004), Guidance for the Assessment of Environmental Factors (in accordance with the Environmental Protection Act 1986), Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia (No. 56), Environmental Protection Authority

EPA, (2016), Technical Guide - Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment – December 2016. Department of Biodiversity, Conservation and Attractions and Environmental Protection Authority

Government of Western Australia (2018), Wildlife Conservation Act 1950. Wildlife Conservation (Rare Flora) Notice 2017. Government Gazette, WA. 16 January 2018.

Greening Australia (2009). Westonia Ecoscape Landscape Audit. Report prepared for the Westonia Ecoscapes project 2008-09.

Hart, R.P. and Kitchener, D.J., (1986), First Record of Sminthopsis psammophila (Marsupialia: Dasyuridae) from Western Australia. Records of the Western Australian Museum 13(1): 139-144.

Harvey, M. S. (2002). Short-range endemism among the Australian fauna: some examples from non-marine environments. Invertebrate Systematics 16: 555-570.

How, R., Cooper, N.K. and Bannister, J.L. (2001), Checklist of the mammals of Western Australia, Records of the Western Australian Museum Supplement No. 63, 91-98.

Jackson, S. and Groves, C. (2015), Taxonomy of Australian mammals. CSIRO Publishing.

Johnstone, R.E. (2001), Checklist of the birds of Western Australia, Records of the Western Australian Museum Supplement No. 63, 75-90.

Johnstone, R.E. and Storr, G.M. (1998), Handbook of Western Australian Birds: Volume 1 – Non-passerines (Emu to Dollarbird). Western Australian Museum, Perth Western Australia.

Johnstone, R.E. and Storr, G.M. (2004), Handbook of Western Australian Birds: Volume 2 – Passerines (Blue-winged Pitta to Goldfinch). Western Australian Museum, Perth Western Australia.

Keighery, B. J., (1994), Bushland Plant Survey: A guide to plant community survey for the community. Wildflower Society of Western Australia (Inc.), Nedlands.

Menkhorst, P. and Knight, F. (2011), A Field Guide to the Mammals of Australia. Third Edition, Oxford University Press, Melbourne.

Mitchell, A. and Wilcox, D. G. (1988), Arid Shrubland Plants of Western Australia, University of Western Australia Press, Nedlands, WA.

Morcombe, M. (2004), Field Guide to Australian Birds. Steve Parish Publishing, Archerfield, Queensland.

MWH Australia Pty Ltd (2014). Evolution Mining Edna May and Greenfinch Project: Level 2 Flora and Vegetation Assessment

National Committee on Soil and Terrain (2009), Australian soil and land survey field handbook (3rd edn). CSIRO Publishing: Melbourne

Outback Ecology (2007). Westonia Mines Limited Exploration – DRF and Priority Flora Surveys, September 2007.

Outback Ecology (2012). Edna May Gold Mine. Annual survey in spring 2012 of the Threatened flora species Eremophila resinosa surrounding the Edna May Gold Project. Outback Ecology Services Pty Ltd, Jolimont, WA. Unpublished report prepared for Evolution Mining Ltd.

Phoenix (2016). Flora and vegetation survey for the Edna May Greenfinch Project Phoenix Environmental Sciences Pt Ltd, Balcatta, WA. Unpublished report prepared for Evolution Mining Ltd.

Phoenix. (2016). Flora and vegetation survey for the Edna May Greenfinch Project Phoenix Environmental Sciences Pt Ltd, Balcatta, WA. Unpublished report prepared for Evolution Mining Ltd.

Phoenix (2017). Targeted Eremophila resinosa survey of the Edna May Gold Project. Phoenix Environmental Sciences Pty Ltd, Balcatta, WA. Unpublished report prepared for Evolution Mining Ltd.

Phoenix (2018), Targeted flora and vegetation survey of the Golden Point exploration area. Unpublished report prepared for Ramelius Resources Limited.

Phoenix (2019). Targeted Eremophila resinosa survey of the Edna May Gold Project. Phoenix Environmental Sciences Pty Ltd, Balcatta, WA. Unpublished report prepared for Evolution Mining Ltd.

Simmons, T. (2002). Avian Fauna of the Westonia Commons and Waste Rock Dumps.

Simpson, K. and Day, N. (2010), Field Guide to the Birds of Australia. Penguin Books, Ringwood.

Storr, G.M., Smith, L.A. and Johnstone R.E. (1983). Lizards of Western Australia II: Dragons and Monitors. WA Museum, Perth.

Storr, G.M., Smith, L.A. and Johnstone R.E. (1990), Lizards of Western Australia III: Geckos and Pygopods. WA Museum, Perth.

Storr, G.M., Smith, L.A. and Johnstone R.E. (1999), Lizards of Western Australia I: Skinks. Revised Edition, WA Museum, Perth.

Storr, G.M., Smith, L.A. and Johnstone R.E. (2002), Snakes of Western Australia. Revised Edition, WA Museum, Perth.

Tille, P. (2006), Soil Landscapes of Western Australia's Rangelands and Arid Interior, Department of Agriculture and Food Western Australia

Tyler M.J. and Doughty P. (2009), Field Guide to Frogs of Western Australia, Fourth Edition, WA Museum, Perth.

Van Dyck, S. and Strahan, R. Eds (2008), The Mammals of Australia. Third edition Queensland Museum.

Van Dyck, S., Gynther, I. and Baker, A. Eds (2013), Field Companion to The Mammals of Australia. Queensland Museum.

WAHERB, (2020), Florabase – Information on the Western Australian Flora, Department of Biodiversity, Conservation and Attractions.

Wilson, S. and Swan, G. (2013), A Complete Guide to Reptiles of Australia. Third Edition, Reed, New Holland, Sydney

Appendix 1: Applicable Legislation

Legislation applicable to environmental management for the Edna May exploration programme is summarised below:

Legislation	Purpose	Responsible Authority
Mining Act 1978 (WA)	Principal Act that governs mining operations in Western Australia	Department of Mines, Industry, Regulation and Safety
Environmental Protection Act 1986 (WA)	Provides a framework by which the environment is protected and the activities that have the potential to impact upon the environment are regulated. A License to Operate is issued under this legislation.	Department of Water and Environmental Regulation
Biodiversity Conservation Act 2016 (WA)	The purpose of this Act is for the conservation and protection of biodiversity and biodiversity components in Western Australia and to promote the ecologically sustainable use of biodiversity components in the State.	Department of Biodiversity, Conservation and Attractions
Conservation and Land Management Act 1984 (WA)	An Act for the use, protection and management of certain public lands and waters, flora and fauna and heritage values	Department of Biodiversity, Conservation and Attractions
Bush Fires Act 1954 (WA)	Establishes organisational framework for the control and management of bushfires.	Department of Fire and Emergency Services
Local Government Act 1995 (WA)	Establishes local government authorities to administer local government matters effecting the environment by way of inspection and the issuing of permits to carry out work.	Department of Primary Industries and Regional Development
Soil and Land Conservation Act 1945 (WA)	An Act relating to the conservation of soil and land resources, and to the mitigation of the effects of erosion, salinity and flooding.	Department of Primary Industries and Regional Development
Biosecurity and Agriculture Management (BAM) Act 2007 (WA)	This Act is designed to preserve soil and agricultural values. Weed and vermin control is also managed under this Act.	Department of Primary Industries and Regional Development
Contaminated Sites Act 2003 (WA)	Provides for the identification, recording, management and remediation of contaminated sites.	Department of Water and Environmental Regulation
Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)	Principle Commonwealth Act designed to protect Australia's environment by way of impact assessment and conservation of biodiversity.	Department of the Environment and Energy

The principal legislation that will affect environmental management at the Edna May Project is the Mining Act 1978 and the Environmental Protection Act 1986, which are discussed in more detail below.

Mining Act 1978

In Western Australia, mineral exploration and mining operations are managed under the Mining Act 1978 and Mining Regulations 1981. Under the Mining Act 1978, environmental management of exploration activities is controlled primarily through Programme of Works (PoW) applications and the enforcement of tenement conditions.

Programme of Works

When a mining company or prospector wants to explore for minerals in Western Australia, they are required by the Mining Act 1978 to submit a PoW application to the DMIRS. These applications provide a quick assessment of the proposed exploration activities and any associated environmental/heritage issues to determine whether formal assessment via a clearing permit application is required under the Environmental Protection Act.

Tenement Conditions

Conditions can be applied initially when the tenement is granted or be subsequently imposed at the discretion of the DMIRS. As the tenement is pending no conditions have been currently set.

Environmental Protection Act 1986

The Environmental Protection Act 1986 provides for the prevention, control and abatement of pollution and environmental harm, for the conservation, preservation, protection, enhancement and management of the environment. The Act is administered by the Department of Water and Environment Regulation (DWER), which is the State Government's environmental regulatory agency.

Under Section 51C of the EP Act and the Environmental Protection (Clearing of Native Vegetation) Regulations WA 2004 (Clearing Regulations) any clearing of native vegetation in Western Australia that is not eligible for exemption under Schedule 6 of the EP Act or under the Clearing Regulations requires a clearing permit from DWER or DMIRS. Under Section 51A of the EP Act native vegetation includes aquatic and terrestrial vegetation indigenous to Western Australia, and intentionally planted vegetation declared by regulation to be native vegetation, but not vegetation planted in a plantation or planted with commercial intent. Section 51A of the EP Act defines clearing as "the killing or destruction of; the removal of; the severing or ringbarking of trunks or stems of; or the doing of substantial damage to some or all of the native vegetation in an area, including the flooding of land, the burning of vegetation, the grazing of stock or an act or activity that results in the above".

Exemptions under Schedule 6 of the EP Act 1986 and the Clearing Regulations do not apply in ESA's as declared under Section 51B of the EP Act or TEC's listed under State and Commonwealth legislation.

The EPBC listed TEC 'Eucalypt Woodlands of Western Australian Wheatbelt' occurs within the Edna May exploration programme. ESA's (surrounding Threatened Flora populations) are also

known to occur within the area. Confirmation with the Project Geologist and Company Environmental Representative is required when planning exploration activities to determine whether a Clearing Permit is required prior to any developments.

Biodiversity Conservation Act 2016

This Act is used by the Western Australian DBCA for the conservation and protection of biodiversity and biodiversity components in Western Australia and to promote the ecologically sustainable use of biodiversity components in the State. Taxa are classified as 'Threatened" when their populations are geographically restricted or are threatened by local processes (see following sections for Threatened definitions). Under this Act all native flora and fauna are protected throughout the State. Financial penalties are enforced under this Act if threatened species are collected without an appropriate licence.

Threatened Species

See Table below for threatened species and specially protected species definitions listed under the BC Act. Disturbance to Threatened species listed under the BC Act requires formal approval from the DBCA.

Threatened & Specially Protected Species Categories- Biodiversity Conservation Act 2016

State categories of threatened species	
Code	**Category**
Threatened Species (T) Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the Biodiversity Conservation Act 2016 (BC Act).	
CR	**Critically Endangered** Threatened species considered to be "facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines". Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice 2018 for critically endangered fauna or the Wildlife Conservation (Rare Flora) Notice 2018 for critically endangered flora.
EN	**Endangered** Threatened species considered to be "facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines". Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice 2018 for endangered fauna or the Wildlife Conservation (Rare Flora) Notice 2018 for endangered flora.
VU	**Vulnerable** Threatened species considered to be "facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines".

State categories of threatened species	
Code	**Category**
	Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice 2018 for vulnerable fauna or the Wildlife Conservation (Rare Flora) Notice 2018 for vulnerable flora.
Specially protected species Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection. Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.	
IA	**International Agreement/ Migratory** Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act). Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species. Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.
CD	**Species of special conservation interest** Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act). Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.
OS	**Other specially protected species** Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act). Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

Threatened Ecological Communities

See Table below for Threatened Ecological Communities (TEC) listed under the BC Act. Disturbance to TECs listed under the BC Act requires formal approval from the DBCA.

Threatened Ecological Community Categories- Biodiversity Conservation Act 2016

Category Code	Category
State categories of Threatened Ecological Communities (TEC)	
PD	**Presumed Totally Destroyed** An ecological community will be listed as Presumed Totally Destroyed if there are no recent records of the community being extant and either of the following applies: • records within the last 50 years have not been confirmed despite thorough searches or known likely habitats or; • all occurrences recorded within the last 50 years have since been destroyed.
CR	**Critically Endangered** An ecological community will be listed as Critically Endangered when it has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future, meeting any one of the following criteria: The estimated geographic range and distribution has been reduced by at least 90% and is either continuing to decline with total destruction imminent, or is unlikely to be substantially rehabilitated in the immediate future due to modification; The current distribution is limited i.e. highly restricted, having very few small or isolated occurrences, or covering a small area; The ecological community is highly modified with potential of being rehabilitated in the immediate future.
EN	**Endangered** An ecological community will be listed as Endangered when it has been adequately surveyed and is not Critically Endangered but is facing a very high risk of total destruction in the near future. The ecological community must meet any one of the following criteria: The estimated geographic range and distribution has been reduced by at least 70% and is either continuing to decline with total destruction imminent in the short-term future, or is unlikely to be substantially rehabilitated in the short-term future due to modification; The current distribution is limited i.e. highly restricted, having very few small or isolated occurrences, or covering a small area; The ecological community is highly modified with potential of being rehabilitated in the short-term future.
VU	**Vulnerable** An ecological community will be listed as Vulnerable when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing high risk of total destruction in the medium to long term future. The ecological community must meet any one of the following criteria: The ecological community exists largely as modified occurrences that are likely to be able to be substantially restored or rehabilitated; The ecological community may already be modified and would be vulnerable to threatening process, and restricted in range or distribution; The ecological community may be widespread but has potential to move to a higher threat category due to existing or impending threatening processes.

Critical Habitat

Under Section 54(1) of the BC Act, habitat is eligible for listing as critical habitat if:

(a) it is critical to the survival of a threatened species or a threatened ecological community; and

(b) its listing is otherwise in accordance with the ministerial guidelines.

Environment Protection and Biodiversity Conservation Act 1999

The aim of this Act is to protect matters of national environmental significance, and is used by the Commonwealth Department of the Environment and Energy (DotEE). The Act provides a national environmental assessment and approval system for proposed developments and enforces strict penalties for unauthorised actions that may affect matters of national environmental significance. There are nine matters of national environmental significance protected under this act including:

- World heritage properties;
- National heritage places;
- Wetlands of international importance (often called 'Ramsar' wetlands after the international treaty under which such wetlands are listed);
- Nationally threatened species and ecological communities;
- Migratory species;
- Commonwealth marine areas;
- The great barrier reef marine park;
- Nuclear actions (including uranium mining); and
- A water resource, in relation to coal seam gas development and large coal mining development.

Under the EPBC Act, specific flora, fauna and ecological communities are protected as 'Threatened' as specified in the following sections.

Threatened Flora and Fauna

The Table below lists the threatened species definitions under the EPBC Act. Disturbance to Threatened Flora and Fauna listed under the EPBC Act requires formal approval from the DotEE.

Commonwealth categories of threatened species

Commonwealth categories of threatened species	
Code	**Category**
EX	**Extinct** Taxa where there is no reasonable doubt that the last member of the species has died.
EW	**Extinct in the Wild** Taxa where it is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
CR	**Critically Endangered** Taxa that are facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
EN	**Endangered** Taxa which are not critically endangered and is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
VU	**Vulnerable** Taxa which are not critically endangered or endangered and is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
CD	**Conservation Dependent** Taxa which are the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered; or (b) the following subparagraphs are satisfied: (i) the species is a species of fish; (ii) the species is the focus of a plan of management that provides for actions necessary to stop the decline of, and support the recovery of, the species so that its chances of long term survival in nature are maximised; (iii) the plan of management is in force under a law of the Commonwealth or of a State or Territory; (iv) cessation of the plan of management would adversely affect the conservation status of the species.

Threatened Ecological Communities

The Table below lists the TEC definitions under the EPBC Act. Disturbance to TECs listed under the EPBC Act requires formal approval from the DotEE.

Commonwealth categories of Threatened Ecological Communities (TEC)

Commonwealth categories of Threatened Ecological Communities (TEC)	
Code	**Category**
CE	**Critically Endangered** If, at that time, an ecological community is facing an extremely high risk of extinction in the wild in the immediate future (indicative timeframe being the next 10 years).
EN	**Endangered** If, at that time, an ecological community is not critically endangered but is facing a very high risk of extinction in the wild in the near future (indicative timeframe being the next 20 years).
VU	**Vulnerable** If, at that time, an ecological community is not critically endangered or endangered, but is facing a high risk of extinction in the wild in the medium–term future (indicative timeframe being the next 50 years).

Other areas of Conservation Significance

Priority Flora/ Fauna

The DBCA lists 'Priority' species which are under consideration for declaration as Threatened Flora or Fauna. These priority species have no formal legal protection until they are endorsed by the Minister as being Threatened. See the table below for Priority species categories listed by DBCA. Disturbance to any Priority species requires consultation with DBCA (Species and Communities Program).

State categories of priority species

State categories of priority species	
Code	**Category**
Priority species Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora. Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring. Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.	
P1	**Priority 1: Poorly-known species** Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or

State categories of priority species	
Code	**Category**
	more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.
P2	**Priority 2: Poorly-known species** Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.
P3	**Priority 3: Poorly-known species** Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.
P4	**Priority 4: Rare, Near Threatened and other species in need of monitoring** (a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands. (b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent. (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Priority Ecological Communities

The DBCA also lists Priority Ecological Communities (PECs), which identifies those communities that may need monitoring before possible nomination for TEC status. These communities have no formal legal protection until they are endorsed by the Minister as being Threatened. The Table below lists the PEC by DBCA. Disturbance to PECs requires approval from DBCA.

State categories of priority ecological communities

Priority Ecological Communities (PEC)	
Code	**Category**
P1	**Poorly-known ecological communities** Ecological communities with apparently few, small occurrences, all or most not actively managed for conservation (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) and for which current threats exist.
P2	**Poorly-known ecological communities** Communities that are known from few small occurrences, all or most of which are actively managed for conservation (e.g. within national parks, conservation parks, nature reserves, State forest, un-allocated Crown land, water reserves, etc.) and not under imminent threat of destruction or degradation.
P3	**Poorly known ecological communities**

Priority Ecological Communities (PEC)	
Code	**Category**
	Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or: • Communities known from a few widespread occurrences, which are either large or within significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat, or; • Communities made up of large, and/or widespread occurrences, that may or not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing and inappropriate fire regimes.
P4	**Ecological communities that are adequately known, rare but not threatened** or meet criteria for near threatened, or that have been recently removed from the threatened list. These communities require regular monitoring.
P5	**Conservation Dependent ecological communities** Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

Appendix 2: Golden Point Gneiss Targeted Flora Survey (Phoenix, 2018)

Appendix 3: Greenfinch Expansion and Westonia West Targeted Flora Survey (Botanica, 2018)

Appendix 4: Golden Point West Targeted Flora Survey (Botanica, 2020)

Appendix 5: Weed Management Procedure

Introduction

The intent of this procedure is to ensure compliance with the legal obligations associated with the management of waste products and provide management controls for the storage, transport and disposal of controlled waste associated with Ramelius' exploration activities.

Project Geologists and supervisors shall ensure that all staff and contractors are aware of and comply with and implement the waste management procedures.

Waste can be divided into; general waste, putrescible waste, hydrocarbon waste, and controlled waste. Controlled waste is any waste that is a product of an industrial or commercial activity that can have significant impact on the environment or to people. In terms of Ramelius' exploration activities, controlled waste produced includes, but is not limited to:

- Used oil and oily water.
- Used vehicle batteries.
- Used vehicle tyres.
- Cooking fat (and grease trap waste).
- Medical waste.
- Sewerage effluent (from septic tanks or pit/drop toilets).
- Asbestiform waste.

Waste Management

General Rubbish

All waste, except for controlled waste, is to be disposed of at an approved landfill. It is an offence to bury waste on land held under an Exploration or Prospecting Licence. It is also an offence to deposit litter or cause litter to be deposited.

- All rubbish and rubbish receptacles shall be securely contained and removed from site.
- Drilling contractors are to remove all rubbish and waste from each drill site before moving to the next hole.
- Any waste that can practically be recycled or reused, such as drill rods, aluminium cans and other scrap metal should be segregated from normal waste.

Putrescible Waste

For all exploration activities, the following measures will apply:

- To reduce the risk of increased local populations of dingoes and feral animals such as dogs, foxes and cats, putrescible wastes will be placed in secure containers before being removed from site.
- Rubbish will be appropriately disposed of in a designated off-site facility.
- It is the responsibility of each employee/contactor to ensure all rubbish and rubbish receptacles are removed from site.

Hydrocarbon Waste

- Vehicles entering the site will contain suitable spill clean-up kits and occupants of the vehicle are trained in their appropriate use.
- No drilling wastes such as oil, drill steels or other materials are to be disposed of on site.
- It is the responsibility of each employee/contractor to clean up any hydrocarbon spills they cause or observe and dispose of at an appropriate facility.

Sewage Effluent

- Pit toilets and septic systems are to comply with the Department of Water - Water Quality Protection Note No 70 Waste Water Treatment – onsite domestic systems guidelines.
- Should be located in areas already cleared of vegetation;
- Should not be located within 30m of any water body, bore or seasonal water body.
- Should not be located to a depth of less than 6m from groundwater.

Asbestiform materials

- On discovery, isolate and securely close sample bags. Bury bags in a specific sump in a non-prospective area following Ramelius' Fibrous Minerals Procedure.
- Other forms of asbestiform materials or asbestiform contaminated wastes are to be wrapped up or contained, clearly labelled and disposed of in an authorised landfill site.

Medical / Clinical Waste

- All wastes are to be handled using appropriate PPE such as gloves and safety glasses.
- The waste must be placed into sealed containers and clearly marked as Medical Wastes.
- Where possible, these wastes must be taken to an appropriate landfill for disposal or transported to a registered facility as soon as possible.

Storage and Containment of Controlled Waste

Waste Oils and Oily Water

- All waste oils (and oily water) shall be contained in drums. Other empty containers (including food and drink containers) shall not be used to contain these materials.
- Drums shall not be double stacked.
- Any quantity of hydrocarbon greater than 20 L shall be stored in a bunded or contained area.
- Bunding requirements are described in Ramelius' Hydrocarbon and Chemical Procedure.

Hydrocarbon contaminated soils

- All hydrocarbon contaminated material and soils are removed from site as soon as practicable.
- All vehicles will contain suitable spill clean-up kits and occupants of the vehicle are trained in their appropriate use.
- All recovered material is to be placed in a secure container for transportation.

Disposal of Controlled Waste

The Project Geologist for the site is to ensure that all controlled wastes are transported to the appropriate waste disposal site, or recycling facility.

Appendix 6: Rehabilitation Procedure

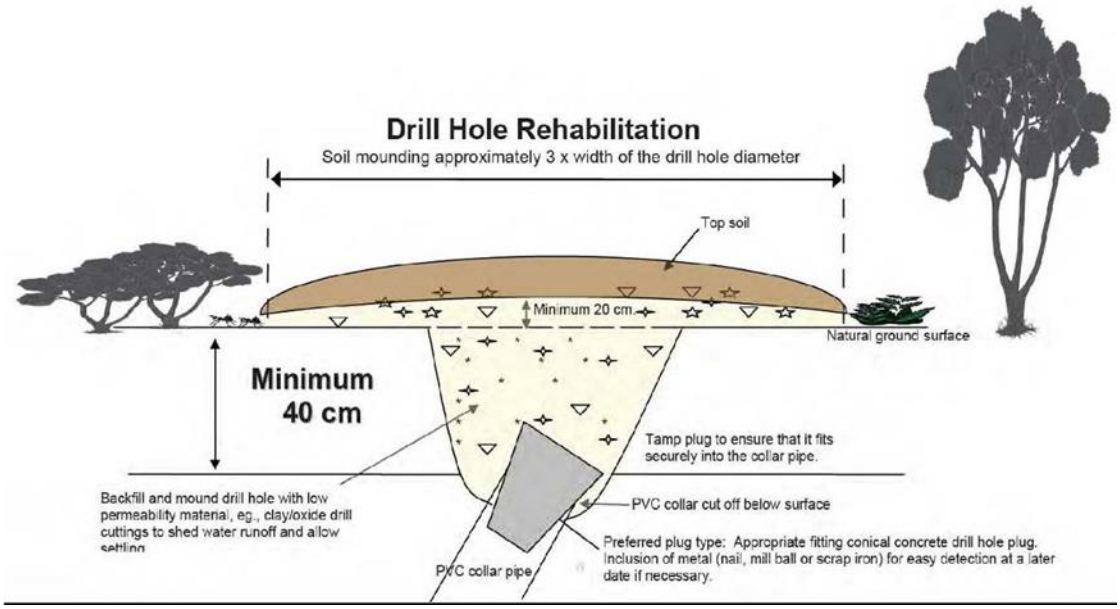
Introduction

The intent of this procedure is to minimise the long-term environmental impact of exploration activities and ensure compliance requirements are achieved.

The Project Geologist is responsible for ensuring that all rehabilitation activities associated with their exploration activities is completed to acceptable standards within the approved Exploration approval timeframes. Field personnel shall have a comprehensive understanding of rehabilitation requirements documented in this procedure. Effective rehabilitation significantly reduces the potential negative impacts of exploration on the environment.

Procedures

Where disturbed areas and drill holes are not required for ongoing exploration programmes, PoW approvals generally require completion of rehabilitation within six months of programme completion. Rehabilitation shall occur as outlined in the Figure below and in the sequence outlined in the Table below.



Drill Hole Rehabilitation Requirements

Drill Hole Rehabilitation Procedures

RAB / AC Rehabilitation	RC / Diamond Rehabilitation
1. Asbestiform material: On discovery, isolate and securely close sample bags. Bury bags in a specific sump in a non-prospective area.	1. Cap the drill hole immediately after drilling has been completed to prevent animals from entering or becoming trapped in the holes. All capping is to be secure, with minimal chance of caps coming loose or dropping off.
2. Plug the drill hole at least 40 cm below surface immediately after drilling has been completed to prevent animals from entering or becoming trapped in the holes.	2. Remove samples and rubbish.
3. Backfill drill hole collars with sample material and soil to 20cm above the surface.	3. After receipt of assay results, remove spoil piles by either disposing down the hole, infilling the sump or raking out on the drill pad.
4. Remove rubbish from site and appropriately dispose in a suitable waste disposal facility.	4. Backfill sumps once dry with removed subsoil.
5. After receipt of assay results, disperse spoil piles by either disposing into sumps or raking out on the drill pad.	5. Respread topsoil and scarify sump and pads as appropriate.
6. Respread stockpiled topsoil (if appropriate)	6. Cut drill hole collars approximately 40cm below ground level. Backfill drill holes with drill cuttings and soil to approximately 20cm above surface level to allow for material settlement
7. If required, scarify tracks along the contour, respread vegetation to promote germination and plant growth and block track entrances to prevent third party access. Rehabilitation should be planned to take best advantage of seasons. This may include completion of rehabilitation works in time for the rains.	7. If required, scarify tracks along the contour, respread vegetation to promote germination and plant growth and block track entrances to prevent third party access. Rehabilitation should be planned to take best advantage of seasons. This may include completion of rehabilitation works in time for the rains.
	

The Project Geologist retains overall responsibility to ensure the work is completed.

A series of photographic monitoring points will be established for each rehabilitation area and will include the prospect name, monitoring point ID, GPS coordinates, direction of the photo and the date established.

Completed rehabilitation shall be inspected with DBCA and/or DMIRS staff prior to relinquishment or divestment of the tenement. Inspections including photographic records will be used as a means of monitoring and improving rehabilitation performance.

Appendix 7: Significant Flora/ Vegetation Assessment Procedure

OBJECTIVES

The objectives of the targeted flora and vegetation survey are to:

- gather background information on flora and vegetation of conservation significance in the local area (literature review, database and map-based searches);
- Based on results of the desktop assessment, identify vegetation types within the survey area that have the potential to contain flora/vegetation of conservation significance;
- Based on results of the desktop assessment, identify Threatened/Priority flora locations within or near the survey area;
- conduct a field survey to identify flora/vegetation of conservation significance within the survey area;
- Provide GPS record and spatial map showing the distribution of flora/vegetation of conservation significance within the survey area.
- Determine the need for additional flora and vegetation surveys.

METHODOLOGY

Field Assessment

Prior to the commencement of field work, database searches and literature review will be conducted to determine the potential flora/vegetation of conservation significance within the survey area. Paid searches of the DBCA database will be conducted to obtain GPS records of Threatened and Priority flora/ vegetation communities within a 20km radius of the survey area.

Flora Search

DBCA locations of Threatened/Priority Flora within the survey area (and literature review records if available) will be visited to verify their location. Those vegetation types identified during the desktop assessment as potentially containing flora/vegetation of conservation significance will be targeted. The proposed disturbance footprint will be traversed systematically on foot along parallel traverses (between 10 to 50m apart depending on density of vegetation).

Each plant of conservation significance will be recorded using handheld GPS and a sample of the plant will be taken for lodgement with WAHERB. A photographic record of the plant will be taken. The total number of plants will be recorded. For areas of high density, the boundary of the population will be walked and recorded using hand held GPS to determine the extent of the population.

Unknown specimens collected during the survey will be identified with the aid of samples housed at the BC Herbarium and WAHERB or by a taxonomic consultant.

Vegetation Search

Each vegetation community will be recorded using handheld GPS. A photographic record of the vegetation will be taken. An assessment on whether vegetation within the disturbance footprint meets the diagnostic criteria specified in the *Approved Conservation Advice (including listing advice) for the Eucalypt Woodlands of the Western Australian Wheatbelt* (DotEE, 2015) will be conducted (diagnostic criteria specified in Attachment 1). Photographic examples of vegetation in the Westonia area that is representative/ not-representative of the *Eucalypt Woodlands of the Western Australian Wheatbelt* Threatened/ Priority Ecological community are provided in Attachment 2 & 3.

Data Analysis

Following field assessments, GPS records of flora/vegetation of conservation significance will be compiled and the distribution will be mapped using the GIS program Map Info. Spatial maps illustrating the location of flora//vegetation of conservation significance will be generated using Map Info.

Attachment 1: Eucalypt Woodlands of the Western Australian Wheatbelt Diagnostic Criteria (DotEE, 2015)

TEC Diagnostic Criteria	Description
Diagnostic 1 Location	Survey located within one of the following three regions: 1. Avon Wheatbelt bioregion - subregions AVW01 Merredin and AVW02 Katanning 2. Mallee bioregion - MAL02 Western Mallee only 3. Jarrah Forest bioregion **If within any of the above regions continue to Diagnostic 2**
Diagnostic 2 Minimum crown canopy	1. The structure of the ecological community is a woodland in which the minimum crown cover of the tree canopy in a mature eucalypt woodland is 10% 2. Crown cover of trees less than 10% but area recently disturbed (e.g. fire), presence of seedlings and/or saplings. **If vegetation meets any one of the structure description above continue to Diagnostic 3** Crown cover of trees less than 10%, no evidence of recent disturbance, no presence of seedlings or saplings-**NOT TEC**
Diagnostic 3 Dominant *Eucalyptus* tree canopy	1. One or more of the key tree species in Table 1 are dominant or co-dominant, the trees are predominantly single trunked, not mallee (multi-stemmed). 2. Other species are present in the tree canopy (e.g. species in Table 2 or other taxa) but these collectively do not occur as dominants in the tree canopy. 3. Dominant woodlands with a mallee subcanopy (lower tree layer of mallee or non-eucalypt tree species). Upper eucalypt tree canopy must be present dominated by key woodland species in Table 2 and have cover of 10% or more. **If dominant vegetation meets any one of the descriptions above continue to Diagnostic 4** Other species are present in the tree canopy (e.g. species in Table 2 or other taxa) and these collectively do occur as dominants in the tree canopy-**NOT TEC**
Diagnostic 4 Native understorey	1. A native understorey is present but is of variable composition, being a combination of grasses, other herbs and shrubs. A list of key species is summarised in Table 3. Any one of the structural understorey categories may or may not be present. Bare to sparse understorey (e.g. under some mallet woodlands). 2. Herbaceous understorey – a ground layer of forbs and/or graminoids though a few, scattered shrubs may be present. 3. Scrub or heath understorey – comprises a mixture of diverse shrubs of variable height and cover. A ground layer of herbs and grasses is present to variable extent. 4. Chenopod-dominated understorey – a subset of the scrub category in which the prominent species present are saltbushes, bluebushes and related taxa (e.g. Atriplex, Enchylaena, Maireana, Rhagodia and Sclerolaena). 5. Thickets of taller shrub species understorey (e.g. Melaleuca pauperiflora, M. acuminata, M. uncinata, M. lanceolata, M. sheathiana, M. adnata, M. cucullata and/or M. lateriflora, Allocasuarina campestris with Melaleuca hamata or M. scalena). A range of other shrub and ground layer species may occur among or below the thickets. 6. Salt tolerant species understorey (e.g. samphire, Tecticornia spp.). **If native understorey meets meets any one of the descriptions above continue to Diagnostic 5** Shrublands or herblands in which the tree canopy layer is very sparse to absent, either naturally or maintained so through long-term disturbance. Native vegetation where a tree canopy was formerly present is often referred to as 'derived' or 'secondary' vegetation. These sites would fall below the 10 per cent minimum canopy cover threshold for a woodland-**NOT TEC**

<table>
<tr><th>TEC Diagnostic Criteria</th><th>Description</th></tr>
<tr><td>Diagnostic 5 Vegetation condition</td><td>
<table>
<tr><th>Cover of exotic plants (weeds) AND</th><th>Mature trees[1] AND</th><th>Minimum patch size (non-roadside patches)[2] OR</th><th>Minimum patch width (roadsides only)[3]</th></tr>
<tr><td colspan="4">Category A: Patches likely to correspond to a condition of Pristine / Excellent / Very good (Keighery, 1994) or a High RCV (RCC, 2014).</td></tr>
<tr><td>Exotic plant species account for 0 to 30% of total vegetation cover in the understorey layers (i.e. below the tree canopy).</td><td>Mature trees may be present or absent.</td><td>2 hectares or more</td><td>5 metres or more</td></tr>
<tr><td colspan="4">Category B: Patches likely to correspond to a condition of Good (Keighery, 1994) or a Medium-High RCV (RCC, 2014), AND retains important habitat features.</td></tr>
<tr><td>Exotic plant species account for more than 30, to 50% of total vegetation cover in the understorey layers (i.e. below the tree canopy)</td><td>Mature trees are present with at least 5 trees per 0.5 ha.</td><td>2 hectares or more</td><td>5 metres or more</td></tr>
<tr><td colspan="4">Category C: Patches likely to correspond to a condition of Good (Keighery, 1994) or a Medium-High RCV (RCC, 2014).</td></tr>
<tr><td>Exotic plant species account for more than 30, to 50% of total vegetation cover in the understorey layers (i.e. below the tree canopy).</td><td>Mature trees either absent or less than 5 trees per 0.5 ha are present.</td><td>5 hectares or more</td><td>5 metres or more</td></tr>
<tr><td colspan="4">Category D: Patches likely to correspond to a condition of Degraded to Good (Keighery, 1994) or a Medium-Low to Medium-High RCV (RCC, 2014) BUT retains important habitat features.</td></tr>
<tr><td>Exotic plant species account for more than 50 to 70% of total vegetation cover in the understorey layers (i.e. below the tree canopy).</td><td>Mature trees are present with at least 5 trees per 0.5 ha.</td><td>5 hectares or more</td><td>5 metres or more</td></tr>
</table>
[1] Mature trees have a diameter at breast height (dbh) of 30 cm or above. Trunk diameter varies among eucalypt species, for instance gimlet and mallets tend to have slender trunks (Gosper et al., 2013b).The dbh for mature trees aligns with the EPBC referral guidelines for the breeding habitat of threatened black cockatoo species (DSEWPaC, 2012). These note that, for salmon gum and wandoo trees, suitable nest hollows can develop in trees with a dbh of 30 cm or more. Note that larger trees may be killed by factors such as intense fire or flood but the patch may still be in reasonable condition if there are immature trees regenerating.
[2] The minimum patch size thresholds apply to native vegetation remnants that do not occur along roadsides.
[3] Minimum patch width applies only to vegetation remnants along roadsides and tend to be long but narrow. This criterion recognises the importance of native vegetation remnants along road verges, e.g their value as wildlife corridors particularly if linking to other non-roadside remnants, habitat for threatened species and other reasons as detailed by Jackson (2002) and RCC (2015). The width here is based on the native understorey component rather than width of the tree canopy. Some allowance must be made for small breaks or variations in native species cover along linear patches. Given the generally open nature of the tree canopy and some understorey structures, a break in the continuity of native vegetation cover of 50 metres or more, is likely to indicate that separate patches are present. An exception is for main, often bitumen-covered, roads that bisect otherwise continuous vegetation; most local government roads in the wheatbelt have a road reserve of 20 metres. In these cases, native vegetation along either side of the road is considered to be a separate patch.
</td></tr>
</table>

Table 1: Key eucalypt species. One or more of these species are dominant or co-dominant within a given patch of the ecological community

Scientific name	Common name/s
Eucalyptus accedens	powder-bark; powder-bark wandoo
Eucalyptus aequioperta	Welcome Hill gum
Eucalyptus alipes	Hyden mallet
Eucalyptus astringens subsp. *astringens*	brown mallet
Eucalyptus capillosa	wheatbelt wandoo
Eucalyptus densa subsp. *densa*	narrow-leaved blue mallet
Eucalyptus extensa	yellow mallet
Eucalyptus falcata	silver mallet
Eucalyptus gardneri subsp. *gardneri*	blue mallet
Eucalyptus goniocarpa	Lake King mallet
Eucalyptus kondininensis	Kondinin blackbutt
Eucalyptus longicornis	red morrel
Eucalyptus loxophleba subsp. *loxophleba*	York gum
Eucalyptus melanoxylon	black morrel
Eucalyptus mimica subsp. *continens*	hooded mallet
Eucalyptus mimica subsp. *mimica*	Newdegate mallet
Eucalyptus myriadena	small-fruited gum; blackbutt
Eucalyptus occidentalis	flat-topped yate
Eucalyptus ornata	ornamental silver mallet; ornate mallet
Eucalyptus recta	Mt Yule silver mallet; Cadoux mallet
Eucalyptus rudis subsp. *rudis*	flooded gum
Eucalyptus salicola	salt gum; salt salmon gum
Eucalyptus salmonophloia	salmon gum
Eucalyptus salubris	gimlet
Eucalyptus sargentii subsp. *sargentii*	salt river gum
Eucalyptus singularis	ridge-top mallet
Eucalyptus spathulata subsp. *spathulata*	swamp mallet
Eucalyptus spathulata subsp. *salina*	Salt River mallet
Eucalyptus urna	merrit
Eucalyptus wandoo subsp. *pulverea*	wandoo
Eucalyptus wandoo subsp. *wandoo*	wandoo

Table 2 Associated canopy species that may be present within the ecological community but are not dominant or co-dominant

Scientific name	Common name/s
Acacia acuminata	jam
Allocasuarina huegeliana	rock sheoak
Corymbia calophylla	marri
Eucalyptus annulata	prickly-fruited mallee
Eucalyptus arachnaea subsp. *arachnaea*	black-stemmed mallee
Eucalyptus arachnaea subsp. *arrecta*	black-stemmed mallet
Eucalyptus armillata	flanged mallee
Eucalyptus calycogona subsp. *calycogona*	square-fruited mallee
Eucalyptus camaldulensis subsp. *arida*	river red gum
Eucalyptus celastroides subsp. *virella*	wheatbelt mallee
Eucalyptus cylindriflora	Goldfields white mallee
Eucalyptus decipiens	redheart; moit
Eucalyptus drummondii	Drummond's mallee
Eucalyptus eremophila	sand mallee
Eucalyptus erythronema subsp. *erythronema*	red-flowered mallee
Eucalyptus erythronema subsp. *inornata*	yellow-flowered mallee
Eucalyptus eudesmioides	Kalbarri mallee
Eucalyptus flocktoniae subsp. *flocktoniae*	Flockton's mallee
Eucalyptus gittinsii subsp. *illucida*	northern sandplain mallee
Eucalyptus incrassata	ridge-fruited mallee
Eucalyptus kochii subsp. *plenissima*	Trayning mallee
Eucalyptus leptopoda subsp. *leptopoda*	Merredin mallee; Tammin mallee
Eucalyptus loxophleba subsp. *gratiae*	Lake Grace mallee
Eucalyptus loxophleba subsp. *lissophloia*	smooth-barked York gum
Eucalyptus loxophleba subsp. *supralaevis*	blackbutt York gum
Eucalyptus macrocarpa	mottlecah
Eucalyptus marginata	jarrah
Eucalyptus moderata	redwood mallee
Eucalyptus obtusiflora	Dongara mallee
Eucalyptus olivina	olive-leaved mallee
Eucalyptus orthostemon	diverse mallee
Eucalyptus perangusta	fine-leaved mallee
Eucalyptus phaenophylla	common southern mallee
Eucalyptus phenax subsp. *phenax*	white mallee
Eucalyptus pileata	capped mallee
Eucalyptus platypus subsp. *platypus*	moort

Scientific name	Common name/s
Eucalyptus polita	Parker Range mallet
Eucalyptus sheathiana	ribbon-barked mallee
Eucalyptus sporadica	Burngup mallee
Eucalyptus subangusta subsp. *subangusta*	grey mallee

Table 3: Understorey species

Scientific name	Common name/s
	Shrubs
Acacia acuaria	
Acacia colletioides	wait-a-while
Acacia erinacea	
Acacia hemiteles	
Acacia lasiocalyx	silver wattle
Acacia lasiocarpa	panjang
Acacia leptospermoides	
Acacia mackeyana	
Acacia merrallii	
Acacia microbotrya.	manna wattle
Acacia pulchella	prickly moses
Allocasuarina acutivalvis	
Allocasuarina campestris	
Allocasuarina humilis	dwarf sheoak
Allocasuarina lehmanniana	dune sheoak
Allocasuarina microstachya	
Argyroglottis turbinata	
Astroloma epacridis	
Banksia armata	prickly dryandra
Banksia sessilis	parrot bush
Beyeria brevifolia	
Bossiaea divaricata	
Bossiaea eriocarpa	common brown pea
Bossiaea halophila	
Callistemon phoeniceus	lesser bottlebrush
Calothamnus quadrifidus	one-sided bottlebrush
Calothamnus quadrifidus subsp. asper	one-sided bottlebrush
Comesperma integerrimum	
Conostylis setigera	
Dampiera lavandulacea	
Darwinia sp. Karonie	

Scientific name	Common name/s
Daviesia nematophylla	
Daviesia triflora	
Dodonaea bursariifolia	
Dodonaea inaequifolia	
Dodonaea pinifolia	
Dodonaea viscosa	sticky hopbush
Eremophila decipiens	slender fuchsia
Eremophila ionantha	violet-flowered eremophila
Eremophila oppositifolia	weeooka
Eremophila scoparia	broom bush
Exocarpos aphyllus	leafless ballart
Gastrolobium microcarpum	sandplain poison
Gastrolobium parviflorum	
Gastrolobium spinosum	prickly poison
Gastrolobium tricuspidatum	
Gastrolobium trilobum	bullock poison
Grevillea acuaria	
Grevillea huegelii	
Grevillea tenuiflora	tassel grevillea
Hakea laurina	pincushion hakea
Hakea lissocarpha	honey bush
Hakea multilineata	grass-leaf hakea
Hakea petiolaris	sea urchin hakea
Hakea preissii	needle tree
Hakea varia	variable-leaved hakea
Hibbertia commutata	
Hibbertia exasperata	
Hibbertia hypericoides	yellow buttercups
Hovea chorizemifolia	holly-leaved hovea
Hypocalymma angustifolium	white myrtle
Leptomeria preissiana	
Leptospermum erubescens	roadside teatree
Lycium australe	
Australian boxthorn	
Melaleuca acuminata	
Melaleuca adnata	
Melaleuca atroviridis	
Melaleuca brophyi	
Melaleuca cucullata	
Melaleuca cuticularis	saltwater paperbark

Scientific name	Common name/s
Melaleuca halmaturorum	
Melaleuca hamata	
Melaleuca hamulosa	
Melaleuca lanceolata	
Rottnest teatree	
Melaleuca lateriflora	gorada
Melaleuca marginata	
Melaleuca pauperiflora	boree
Melaleuca radula	graceful honeymyrtle
Melaleuca rhaphiophylla	swamp paperbark
Melaleuca scalena	
Melaleuca strobophylla	
Melaleuca teuthidoides	
Melaleuca thyoides	
Melaleuca uncinata group	broom bush
Melaleuca viminea	mohan
Olearia muelleri	
Goldfields daisy	
Olearia sp. Kennedy Range	
Petrophile divaricata	
Petrophile shuttleworthiana	
Petrophile squamata	
Petrophile striata	
Phebalium filifolium	slender phebalium
Phebalium lepidotum	
Phebalium microphyllum	
Phebalium tuberculosum	
Pimelea argentea	silvery-leaved pimelea
Pittosporum angustifolium	
Platysace maxwellii	karno
Rhadinothamnus rudis	
Santalum acuminata	quandong
Santalum spicatum	sandalwood
Scaevola spinescens	currant bush
Senna artemisioides	
Styphelia tenuiflora	common pinheath
Templetonia sulcata	centipede bush
Trymalium elachophyllum	
Trymalium ledifolium	
Westringia cephalantha	

Scientific name	Common name/s
Xanthorrhoea drummondii	
Chenopods	
Atriplex acutibractea	toothed saltbush
Atriplex paludosa	marsh saltbush
Atriplex semibaccata	berry saltbush
Atriplex stipitata	mallee saltbush
Atriplex vesicaria	bladder saltbush
Enchylaena lanata / tomentosa complex	barrier saltbush
Maireana brevifolia	small-leaf bluebush
Maireana erioclada	
Maireana marginata	
Maireana trichoptera	downy bluebush
Rhagodia drummondii	
Rhagodia preissii	
Sclerolaena diacantha	grey copperburr
Tecticornia spp.	samphire
Threlkeldia diffusa	coast bonefruit
Forbs	
Actinobole uliginosum	flannel cudweed
Asteridea athrixioides	
Blennospora drummondii	
Borya nitida	pincushions
Borya sphaerocephala	pincushions
Brachyscome ciliaris	
Brachyscome lineariloba	
Caesia micrantha	pale fringe-lily
Caladenia flava	cowslip orchid
Calandrinia calyptrata	pink purslane
Calandrinia eremaea	twining purslane
Calotis hispidula	bindy eye
Carpobrotus modestus	inland pigface
Centipeda crateriformis subsp. crateriformis	
Chamaescilla corymbosa	blue squill
Chamaexeros serra	little fringe-leaf
Cotula coronopifolia	waterbuttons
Crassula colorata	dense stonecrop
Crassula exserta	
Dampiera juncea	rush-like dampiera
Dampiera lindleyi	
Daucus glochidiatus	Australian carrot

Scientific name	Common name/s
Dianella brevicaulis	
Dichopogon capillipes	
Disphyma crassifolium	round-leaved pigface
Drosera macrantha	bridal rainbow
Erodium cygnorum	blue heronsbill
Gilberta tenuifolia	
Gnephosis drummondii	
Gnephosis tenuissima	
Gnephosis tridens	
Gonocarpus nodulosus	
Goodenia berardiana	
Helichrysum leucopsideum	
Helichrysum luteoalbum	Jersey cudweed
Lagenophora huegelii	
Lawrencella rosea	
Lepidium rotundum	veined peppercress
Podolepis capillaris	wiry podolepis
Podolepis lessonii	
Podotheca angustifolia	sticky longheads
Poranthera microphylla	small poranthera
Pterostylis sanguinea	
Ptilotus spathulatus	
Rhodanthe laevis	
Senecio glossanthus	slender groundsel
Spergularia marina	
Stylidium calcaratum	book triggerplant
Thysanotus patersonii	
Trachymene cyanopetala	
Trachymene ornata	spongefruit
Trachymene pilosa	native parsnip
Velleia cycnopotamica	
Waitzia acuminata	orange immortelle
Zygophyllum ovatum	dwarf twinleaf
Graminoids	
Amphipogon caricinus - strictus complex	greybeard grass
Austrostipa elegantissima	
Austrostipa hemipogon	
Austrostipa nitida	
Austrostipa trichophylla	
Centrolepis polygyna	wiry centrolepis

Scientific name	Common name/s
Desmocladus asper	
Desmocladus flexuosus	
Gahnia ancistrophylla	hook-leaf saw sedge
Gahnia australis	
Harperia lateriflora	
Juncus bufonius	toad rush
Lachnagrostis filiformis	blowngrass
Lepidosperma leptostachyum	
Lepidosperma resinosum	
Lepidosperma sp. aff. tenue	
Lepidosperma tenue	
Lepidosperma viscidum	sticky sword sedge
Lomandra effusa	scented matrush
Lomandra micrantha subsp. *micrantha*	small-flower matrush
Lomandra nutans	
Meeboldina coangustata	
Mesomelaena preissii	
Neurachne alopecuroides	foxtail mulga grass
Rytidosperma caespitosum	
Rytidosperma setaceum group	
Schoenus nanus	tiny bog-rush
Schoenus sculptus	gimlet bog-rush
Schoenus subfascicularis	

Attachment 2: Photographic examples of vegetation representative of the "Eucalypt woodlands of the Western Australian Wheatbelt' Threatened and Priority Ecological Community vegetation at Westonia

***Eucalyptus longicornis* woodland**

***Eucalyptus salubris* woodland**

Attachment 3: Photographic examples of vegetation not-representative of the "Eucalypt woodlands of the Western Australian Wheatbelt' Threatened and Priority Ecological Community vegetation at Westonia

Granite Monolith

Acacia/ Melaleuca Scrub

***Eucalyptus corrugata* Mallee Woodland**