



**Mt Weld Mining Pty Limited  
Flora and Vegetation Management Plan**

Plan

MTW-EN-PLA-0015\_1

June 2023



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## Version History

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Version	Description	Author	Approved by	Date
9	Project EMP	KASA Consulting	OEPA (AC05-2015-0044)	15/09/16
MTW-EN-PLA-0015_1	Updated to current EPA Guidance	Carmel Sullivan Jade Pitman	Adam Cargill	19/06/23

# Executive Summary

Mt Weld Mining Pty Limited (MWM), a wholly owned subsidiary of Lynas made a referral for its Life of Mine Expansion under Section 38 of the Environmental Protection Act, 1986 (EP Act), 16 August 2022. The EPA determined the level of assessment for the Proposal would be “Assessment on Referral Information – with Additional Information Requested”, and issued a Notice Requiring Information for Assessment, under Section 40(2)(a) of the EP Act, dated 14 November 2022.

This Flora and Vegetation Management Plan (FVMP) forms part of additional information requested by EPA Services to progress assessment of the proposal. The purpose of this FVMP plan is to provide a framework which describes how MWM will address, manage, monitor and mitigate potential impacts to flora and vegetation and receiving environments during construction and operations, with a primary focus on key environmental factors of relevance to the EPA’s assessment of the Project.

**Table 1: Management Plan Summary**

<b>Project Name:</b>	Mt Weld Rare Earths Project – Life of Mine Proposal
<b>Proponent Name:</b>	Mt Weld Mining Pty Limited
<b>Ministerial Statement No.:</b>	MS 476
<b>EPA Assessment Number:</b>	2350 ( <i>Life of Mine Expansion</i> )
<b>Purpose of Management Plan:</b>	To provide a framework which describes how MWM will manage, monitor, and mitigate potential impacts to flora and vegetation values during the construction, operation phases of the Project.
<b>Key Environmental Factor:</b>	Primary: Flora and Vegetation Secondary: Inland Waters – Surface Water
<b>Key Environmental Objectives:</b>	To protect flora and vegetation so that biological diversity and ecological integrity are maintained <sup>1</sup> . Specifically: <ul style="list-style-type: none"> <li>• Minimising ground disturbance and other direct and indirect potential environmental impacts on significant vegetation.</li> <li>• Minimising alteration of local and regional hydrology.</li> <li>• Minimising erosion and sediment loss from the Project.</li> </ul>
<b>Key Components in the Management Plan:</b>	<ul style="list-style-type: none"> <li>• Project description.</li> <li>• Receiving Environment and Assessment of Potential Impacts.</li> <li>• Management Plan Objectives and Actions.</li> <li>• Monitoring and Reporting.</li> <li>• Adaptive Management and Review of this Plan.</li> </ul>
<b>Proposed Construction Date:</b>	July 2023
<b>Required Pre-Construction:</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

<sup>1</sup> Ecological integrity is the composition, structure, function and processes of ecosystems, and the natural range of variation of these elements.

# Glossary

Term	Definition
AER	Annual Environmental Report
DMP	Department of Mines and Petroleum
EMP	Environmental Management Programme
EMS	Environmental Management System
EP Act	<i>Environmental Protection Act, 1986</i>
EPA	Environmental Protection Authority
Ha	Hectares
HDPE	High Density Polyethylene
Km	kilometres
LOM	Life of Mine
Lynas	Lynas Rare Earths Limited
Mining Act	<i>Mining Act, 1978</i>
MWM	Mt Weld Mining Pty Ltd
OEPA	Office of the Environmental Protection Authority
RE	Rare Earth
ROM	Run of Mine
SRE	Short-range Endemic
the Project	Mt Weld Rare Earths Project
TSF	Tailings Storage Facility

# 1. Context, Scope and Rationale

Lynas Rare Earths Limited (Lynas) is a publicly listed company incorporated in Australia and headquartered in Perth, Western Australia. Lynas was established as an ethical and environmentally responsible producer of rare earth (RE) materials, and today, the company is the world's only significant producer of separated RE materials outside of China.

The materials Lynas produces are essential inputs to future-facing technologies designed to lower carbon emissions and reduce energy consumption, as well as improve the efficiency, performance, speed, durability, and thermal stability of these emerging technologies. This includes permanent magnet motors for technologies such as electric vehicles and wind turbines.

Mt Weld Mining Pty Limited (MWM) is a wholly owned subsidiary of Lynas, and currently operates the Mt Weld Rare Earths Project (the Project).

The Project was originally assessed, approved and currently operates under the:

- WA Environmental Protection Act 1986 (EP Act) (Part IV and Part V); and
- WA Mining Act 1978 (Mining Act).

MWM referred its Life of Mine Expansion Project (the Proposal) under Section 38 of *the Environmental Protection Act, 1986 (EP Act)* on 16 August 2022. The Environmental Protection Authority (EPA) determined the level of assessment for the Proposal would be "Assessment on Referral Information – with Additional Information Requested", and issued a Notice Requiring Information for Assessment, under Section 40(2)(a) of the EP Act, dated 14 November 2022. Additional Information requests received from the EPA Services Division on 15 June 2023 included a request for an updated Flora and Vegetation Management Plan in order to progress assessment of the proposal.

## 1.1 Purpose of Flora and Vegetation Management Plan

The purpose of this FVMP plan is to provide a framework which describes how the Proposal will address, manage, monitor and mitigate impacts to flora and vegetation and receiving environment during construction and operations and incorporates previous management actions approved by EPA in the 2015 Mt Weld Environmental Management Programme Version 9 (KASA, 2015).

## 1.2 Project Description

### 1.2.1 Current project

MWM operates the Mt Weld Rare Earths Project (the Project), which is located 35 kilometres (km) south-east of Laverton in the Northern Goldfields Region of Western Australia. The beneficiation plant has been operating for over ten years with four mining campaigns completed in that period.

Major components of Mt Weld Rare Earths Project are:

- A Rare Earths (RE) open pit mine;
- Groundwater extraction bores;
- Beneficiation plant, including power generation and water treatment;
- Tailings Storage Facilities (TSFs);
- Evaporation ponds; and
- Waste / low grade ore stockpiles.

The location of the Project is shown in Figure 1.

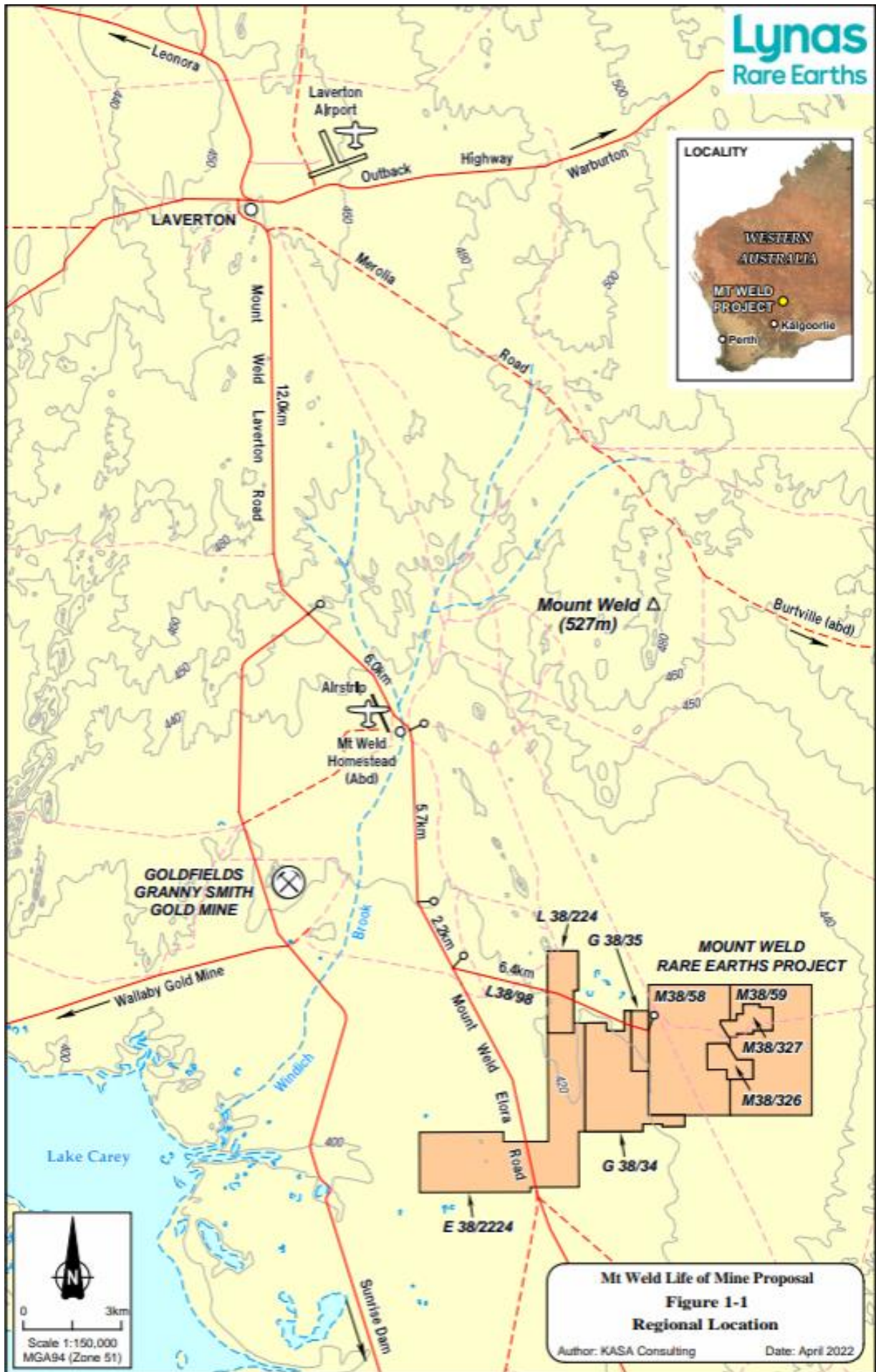


Figure 1: Regional Location of Mt Weld Rare Earths Project.

### 1.2.2 Proposed Life of Mine Expansion

MWM proposes to increase production to meet the growing global demand for RE products. This will entail expansion of its West Australian operations with the construction of the Rare Earth Processing Facility (REPF) in Kalgoorlie and expansion of the Mt Weld operations (mining, processing and ancillary activities) to a life of mine (LOM) extent.

The expansion relates to the proposed increase to the Development Envelope for the LOM from the currently approved 505 ha to 2,802 ha, to allow for expansion of sustainable infrastructure and activities including:

- A staged transition from diesel-fuelled power generation to gas hybrid renewable power generation, including solar and battery energy storage system, and future wind generation;
- A worker accommodation village;
- Additional borefield and tailings water recycling infrastructure to increase recycling rates from 50% to >90%;
- Tailings, residue and by-product storage facilities designed to allow reclaim and future re-processing of unrecovered REs;
- Larger mine, waste rock and by-product and landforms designed for progressive rehabilitation;
- An expansion of the existing ROM Pad; and
- Surface water management to capture seasonal rain events and to divert surface water into managed aquifer / ground water recharge that also acts as flood protection infrastructure for climate change resilience.

At this stage of project development, the footprints for proposed activities and infrastructure have been generally defined. Additional detailed design will be completed in order to define their specific location and area within the 2,802 ha Proposal's Development Envelope. It is anticipated that proposed activities and infrastructure will be limited to a combined total Area of Disturbance extent of no more than 2,241.6 ha (which represents approximately 80% of proposed Development Envelope) (Figure 2).



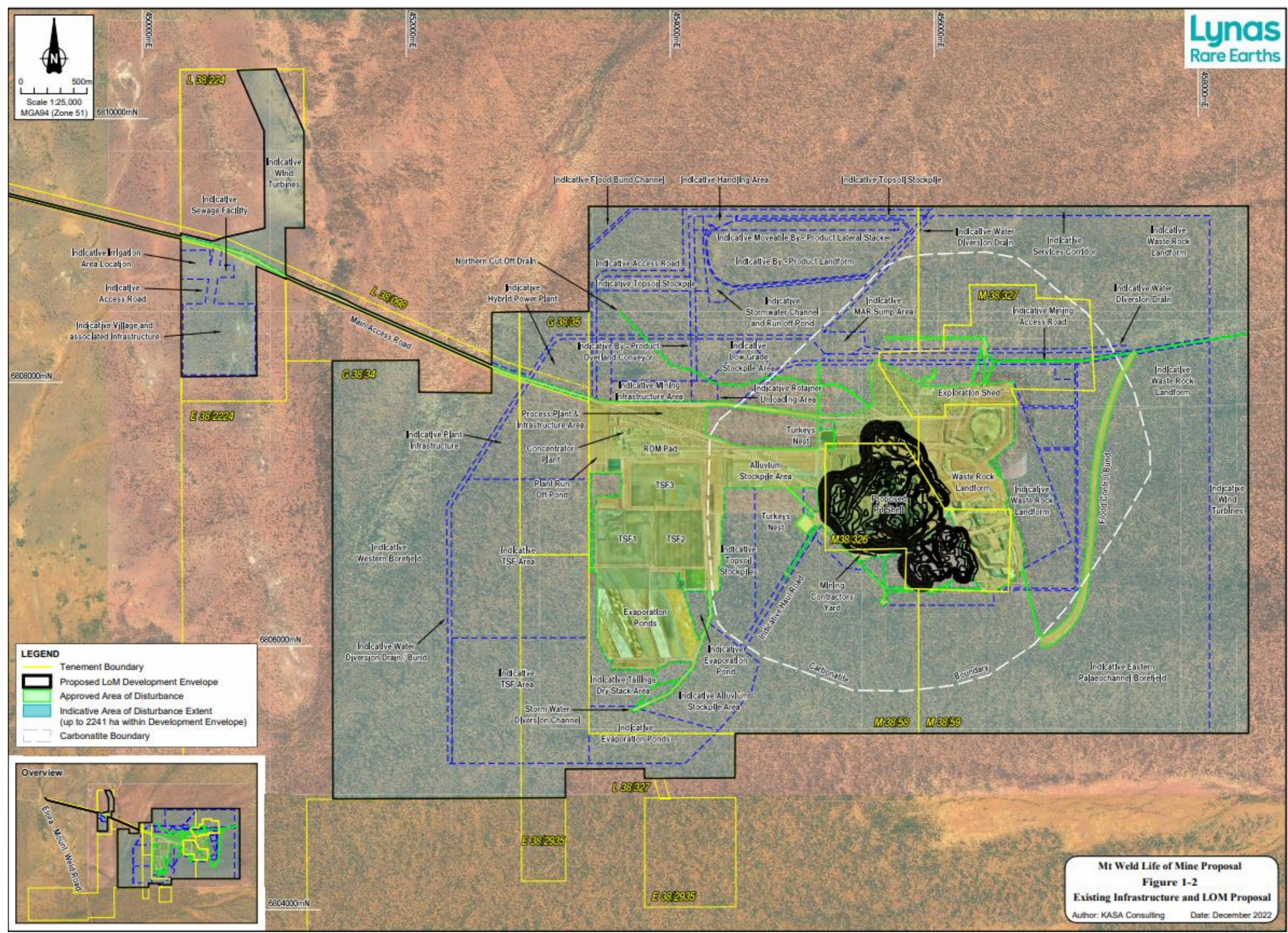


Figure 2: Existing Infrastructure and LOM Proposal

## 1.3 Key Environmental Factor – Flora and Vegetation

The key environmental factor to which this Management Plan relates is Flora and Vegetation.

The EPA's objective (EPA, 2022) for flora and vegetation is:

*"To protect flora and vegetation so that biological diversity and ecological integrity are maintained".*

Further guidance is contained in Environmental Factor Guideline: Flora and Vegetation EPA, 2022.

EPA define ecological integrity as "the composition, structure, function and processes of ecosystems, and the natural range of variation of these elements".

In the context of the Mt Weld LOM Proposal, the intended outcome is to minimise flora and vegetation impacts as far as reasonably practicable over the life of the Proposal.

### 1.3.1 Environmental Objectives

Consistent with the EPA's environmental objectives for Flora and Vegetation, this FVMP has the following objectives to protect flora and vegetation:

- Minimise disturbance and other environmental impacts on significant flora and vegetation; and
- Measures to be implemented to protect flora and vegetation for life of Project;

## 1.4 Rationale and Approach

As previously stated, this is a revision of the approved Version 9, EMP (KASA, 2015) relevant to MS476 Conditions. This revision is intended to:

- Address the additional information request received from EPA/s on 15 June 2023, in relation to description and scale of the habitat and distribution of conservation significant species relevant to the proposal;
- Address guidance contained in *Environmental Factor Guideline: Flora and Vegetation* EPA, 2022;
- Address Flora and Vegetation Environmental Factor identified by the EPA as one of the preliminary environmental factors requiring assessment into management during the construction and operation of the Project;
- Reflect the scale of LOM expansion proposed;
- Define management and monitoring measures that are informed by detailed flora and vegetation surveys; and
- Align the form and structure of the FVMP to be consistent with EPA Instructions on how to prepare *Environmental Protection Act 1986 Part IV Environmental Management Plans* (EPA, 2021).

This FVMP applies to the construction and operating phases of Mt Weld Rare Earths Project.

## 1.5 Receiving Environment

### 1.5.1 Regional Setting

The Mt Weld Project is located within the Northern Goldfields Region of Western Australia, approximately 23 km south-west of the township of Laverton (Figure 1). The landscape of the Northern Goldfields is generally low relief with undulating areas of sandplain and granite outcrops, and north-trending ridges influenced by the strike of greenstone belts. The local topography is generally below 500m AHD and is dominated by mulga and mixed eucalypt shrub.

### 1.5.2 Survey and Study Findings

Mt Weld commissioned detailed flora and vegetation survey and detailed terrestrial fauna survey work in 2020 over a total area of 3,254.81 ha within the vicinity of the Mt Weld Rare Earths Project (herein referred to as the 'Survey Area'). The baseline surveys were undertaken to determine flora, vegetation, vertebrate fauna and short-range endemic (SRE) invertebrate fauna values, to inform environmental approvals for the Project.

Mt Weld have defined a 2,801.70 ha development area within which future expansion activities will be located (herein referred to as the 'Development Envelope'). Within the proposed Development Envelope 403 ha has previously been cleared.

### 1.5.3 Flora and Vegetation

The flora and vegetation of Mt Weld are typical of the region and are dominated by a mulga woodland with some localised mallee and spinifex communities. The area has historically suffered from overgrazing, primarily by cattle, rabbits, camels, horses, and disturbance by some exploration activities.

In 2020, MWM commissioned Stantec Australia Pty Ltd (Stantec), to undertake a two-phase detailed flora and vegetation survey within tenements associated with, and adjacent to, the Mt Weld mine site within a 3,254.6 ha survey area (Stantec, 2021). Eight vegetation types were described and mapped within the survey area. None of the eight vegetation types recorded in the survey area represent a Threatened Ecological Community (TEC) or Priority Ecological Community (PEC), noting there are no known TECs within the Murchison bioregion. Vegetation within the survey area was determined to be well represented at all levels (state-wide, bioregional and local), with >99% of the pre-European extent, as mapped by Beard (1975), remaining intact.

No significant flora was recorded during the 2020 survey. One Priority 3 species, *Goodenia lyrata* has previously been recorded within the survey area in 2011, in a location that has since been cleared (e.g. TSF3 footprint). There is potential for *Goodenia lyrata* to occur following good seasonal rainfall given that this taxon is an opportunistic annual life form. However, given the extensive representation of the associated vegetation type and known occurrence of *Goodenia lyrata* within multiple bioregions across Western Australia, the potential for any impact on this taxon within the proposed development footprint is considered to be low. No other threatened or priority listed flora species are considered likely to occur within the survey area.

A total of 205 vascular flora taxa (including subspecies, varieties and forms), have been recorded within the Survey Area since 2011. There were 89 species fully identified during this detailed Survey, with another 16 recordings that could not be confirmed to species level, yet are considered likely to represent additional taxa to the suite of fully-identified species.

A total of 41 families and 100 genera have been recorded within the Survey Area since 2011, of which 31 families and 52 genera recorded during this Survey. The most represented family in this Survey was Fabaceae, while more diversity within the Chenopodiaceae family occurs when all records since 2011 are taken into account. The most represented genera during this Survey were *Eremophila* 12 taxa and *Acacia* with 11 confirmed taxa.

Eight vegetation types were described and delineated within the Survey Area (Appendix 2). Vegetation type mapping is presented in Figure 3. The most dominant and widespread vegetation type was AiAcaArrAtEma (1,762 ha; 54%), largely occurring surrounding the existing mine infrastructure areas.

The Survey Area broadly consists of clay-loam plains supporting mulga woodlands, with the smaller northwestern component of the Survey Area also containing occasional rocky outcrops and stony rises interspersed with low chenopod shrublands. These features are considered to be represented beyond the Survey Area in the East Murchison subregion and do not represent Commonwealth or State listed TECS or PECs, nor are they considered to be either locally or regionally significant. Broad sheet-flow drainage is a feature of the mulga dominated woodlands of the Survey Area. The landscape exhibits some small low-lying depressions, representing the upper reaches of drainage to Lake Carey, which is situated approximately 12 km south-west of the Survey Area. There was no indication of natural permanent surface water within the Survey Area.

Three introduced flora species were recorded within the 2020 survey area, *Rumex vesicarius* (Ruby Dock), *Sonchus oleraceus* (Common Sowthistle), and *Malvastrum americanum* (Spiked Malvastrum). Ruby Dock was represented at two spot locations within the proposed Development Envelope.

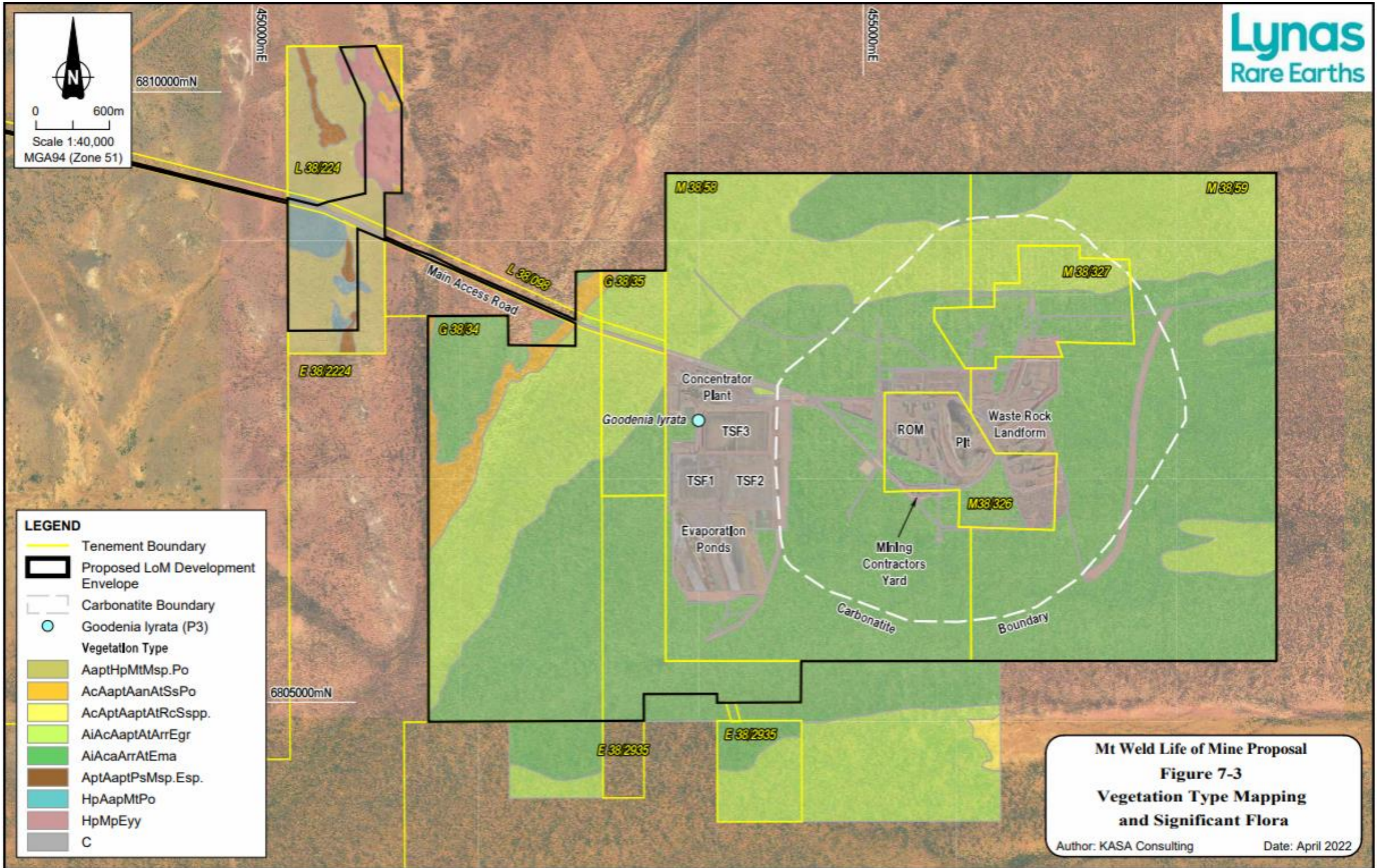


Figure 3: Vegetation Type Mapping and Significant Flora.

### 1.5.4 Summary of Vegetation Health Monitoring and Drainage Shadow Impacts

MWM has conducted qualitative assessments of vegetation health since 2007 using photographic monitoring at 17 locations facing north, east, south and west to create a 360° panoramic image. Monitoring locations are depicted in Figure 4. These images are used to provide a visual assessment of vegetation health using vegetation cover and foliage percentage to determine if Project operations are impacting on the local vegetation including as a result of potential drainage shadow effects caused by alterations in surface water hydrology.

A review of vegetation health monitoring data was undertaken for comparison against baseline conditions from 2007. The assessment confirms that despite the installation of various Project infrastructure as approved by EPA, DWER and DMIRS, no detrimental impact to the health of surrounding vegetation has been observed when compared to initial baseline images. Specifically, the monitoring confirms that since installation of the eastern Flood Control Drain, the Northern Cut-off Drain, the Stormwater Diversion Drain or the Managed Aquifer Recharge (MAR) project, no evidence of impact to the downstream mulga vegetation communities has been observed.

The 2020 Level 2 terrestrial flora and vegetation survey (Stantec, 2021) determined that over vegetation condition across the 3,254.8 ha, 90.15% of the survey area was mapped as 'Very Good'. For the proposed Development Envelope that intersects the survey area, 100% was rated as being in very good condition, 0.01 ha (<0.01%) was rated as completely degraded owing previous vegetation clearance and land disturbance for approved mining activities.

The survey coupled with the photographic monitoring results strongly supports the likelihood that vegetation health of existing vegetation is a function of localised meteorological conditions, incident rainfall and/or direct impacts.

Notwithstanding the above, it is anticipated that proposed activities and infrastructure will be limited to a combined total Area of Disturbance extent of no more than 2,241.6 ha (which represents approximately 80% of proposed Development Envelope).

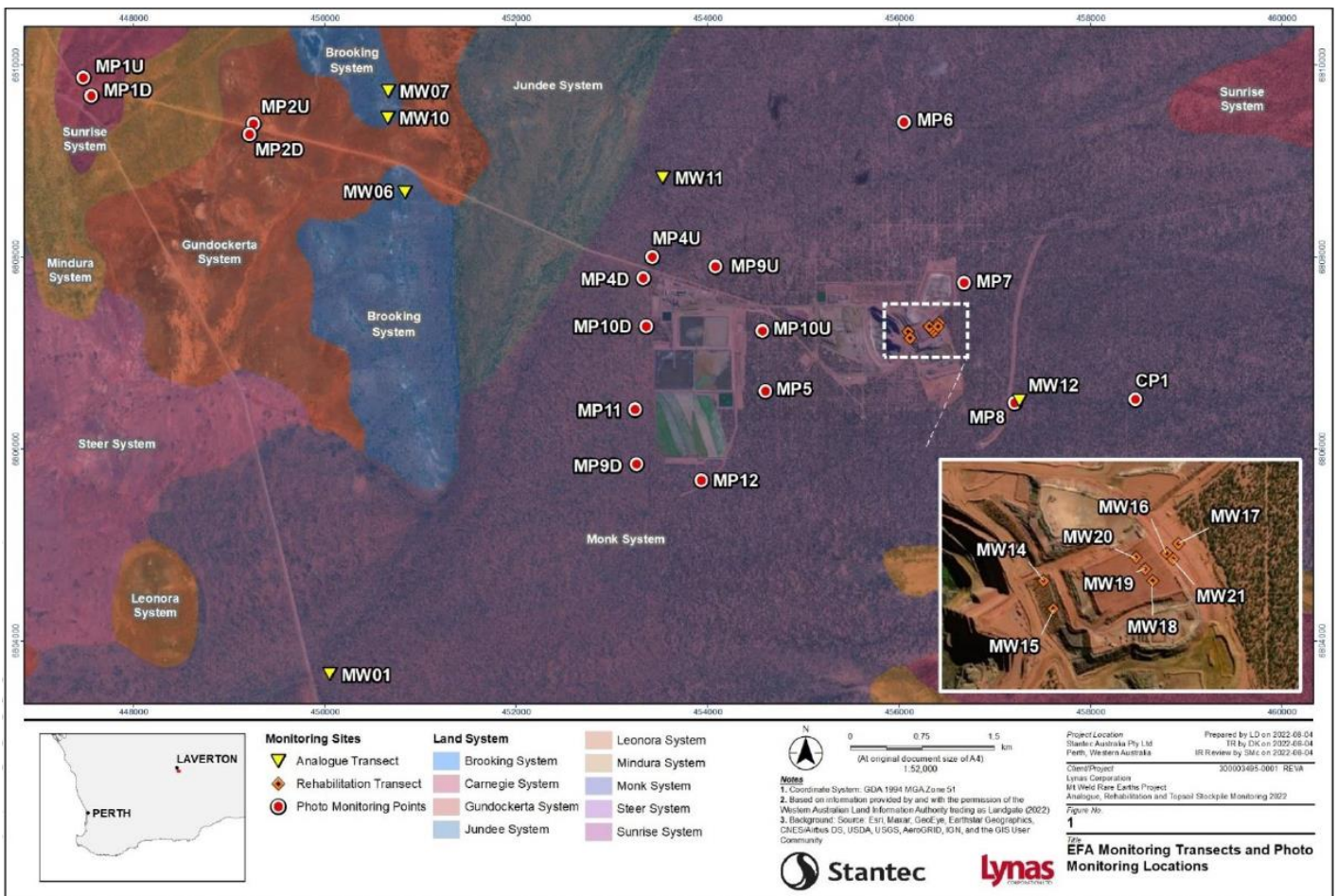


Figure 4. Vegetation Health Monitoring Points.

### 1.5.5 Conservation Reserves and Environmentally Sensitive Areas

No conservation reserves or Environmentally Sensitive Areas (ESA) intersect the Proposal area. There are two National Parks within 150 km of the survey area. These are the De La Poer Nature Reserve, approximately 147 km to the north, and Goongarrie National Park, 135 km to the south-west. The De La Poer Range Nature Reserve (74,935 ha) was gazetted in 1974 (Barton and Cowan, 2001) and Goongarrie National Park (60,397 ha) in 1995; both are characterised by a range of woodlands and mulga shrubland.

In addition to Lake Marmion, Lake Ballard is 140 km south-east of the survey area and is listed as a Proposed Ramsar addition. Several other nature reserves, timber reserves and important wetlands occur within 250 km of the survey area.

## 1.6 Key Assumptions and Uncertainties

This FVMP has been prepared on the basis of information provided in the environmental surveys completed in 2020 (Stantec, 2020) and 2021 (Stantec, 2021) and based upon knowledge gained through 12 years of operating Mt Weld. The key assumptions and uncertainties relevant to the LOM Proposal are:

- The relevant studies and surveys have been undertaken in accordance with the latest technical guidance issued by the EPA and accurately recorded the terrestrial environment within the Proposal Area:
  - Technical Guidance Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016a);
  - Environmental Factor Guideline Flora and Vegetation (EPA, 2016b);
  - Environmental Factor Guideline Terrestrial Fauna (EPA, 2016c);
  - Technical Guidance Sampling Methods for Terrestrial Vertebrate Fauna (EPA, 2016d);
  - Technical Guidance Terrestrial Fauna Surveys (EPA, 2016i); and
  - Technical Guidance Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (EPA, 2020) (November 2020)
- Environmental survey reports have been independently verified. These surveys were undertaken by suitably qualified individuals experienced in terrestrial ecology and habitat identification and are therefore assumed to have accurately recorded the presence and locations of habitat;
- Existing cleared areas within the Proposal Area contain only one known conservation significant flora species which has since been cleared;
- If any conservation significant species assumed not to occur in the Proposal Area are subsequently recorded, the proposed management actions would ensure there are no additional impacts.

## 1.7 Assessment of Potential Flora and Vegetation Related Impacts

The Proposal includes a total disturbance area of up to 2,241.6 ha with all areas except some access roads, mine void and other agreed infrastructure to be rehabilitated over the life of mine.

In addition to direct habitat disturbance, flora and vegetation may be impacted by:

- Spread of significant environmental weeds;
- Altered surface hydrology;
  - Changing local surface water flow patterns;
  - Affecting surface water runoff volumes and quality;
  - Increasing the risk of erosion and sedimentation; or
  - Contamination from chemicals/hydrocarbons.

## 2. Management Plan Components

### 2.1 Objective-based Management Plan

The key objectives of the FVMP are to:

- Define measures to manage potential impacts from project activities;
- Design management actions that are implementable and easily understood by site personnel;
- Develop mechanisms that enable adaptive management and continuous improvement throughout the life of the Proposal; and
- Facilitate evidence-based review and auditing to demonstrate compliance.

### 2.2 Flora and Vegetation Management Requirements

Flora and vegetation management is a key consideration to protect biodiversity. MWM has developed this FVMP to minimise potential impacts to flora and vegetation associated with activities at the Mt Weld Rare Earths Project by:

- Identifying significant flora for conservation species and defining proposed management strategies that can be implemented to mitigate associated impacts; and
- Identifying potential activities that will impact on significant vegetation communities and species that require appropriate controls.

### 2.3 Roles and Responsibilities

During construction and operation, responsibility for implementing the Flora and Vegetation Management Plan will lie with Mt Weld Mining' personnel, whose roles have the potential to impact on flora and vegetation in the Project area.

Ultimate responsibility for implementing day to day inspections, demonstrating compliance with the Flora and Vegetation Management Plan and reporting will lie with the Senior Site Executive or delegate.

### 3. Management Provisions

Table 2 summarises the Objective based Management Actions to be implemented in order to meet the EPA's objectives for the Flora and Vegetation key environmental factor, prepared in line with the EPA's *Instructions on how to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans* (EPA, 2021).

Despite the presence of infrastructure including existing and proposed Proposal infrastructure, the area affected by drainage shadows are minimal with limited impact on downstream hydrological regimes as is evident from vegetation health monitoring to date, and predicted surface water flows modelled for the Proposal. Vegetated areas closer to the Project that are likely to be affected by drainage shadow effects are located within the Development Envelope and disturbance extent of the Proposal within which clearing of vegetation will be conducted in order to develop the Proposal.

This FVMP should be read in conjunction with Surface Water Management Plan (MTW-EN-PLA-0009).



Table 2: Objective-based Management Plan Provisions

<p>EPA factor and objective:                  Flora and Vegetation –To protect flora and vegetation so that biological diversity and ecological integrity are maintained                  Outcome: To –</p> <ul style="list-style-type: none"> <li>• Minimising ground disturbance and other direct and indirect potential environmental impacts on significant vegetation.</li> <li>• Minimising alteration of local and regional hydrology.</li> <li>• Minimising erosion and sediment loss from the Project.</li> </ul> <p>Key environmental value: Protection of an ecosystem health condition (s.3(1) EP Act).                  Key impacts and risks: Direct or indirect impacts on flora and vegetation as a result of deviation from this Management Plan</p>					
Management Objective	Risk	Management Action	Monitoring	Frequency of Monitoring	Reporting
To protect flora and vegetation so that biological diversity and ecological integrity are maintained.					
<p><b>Minimise ground disturbance and other environmental impacts on significant vegetation.</b></p>	<p>Clearing of vegetation can lead to direct loss of flora, vegetation and habitat fragmentation.</p>	<p><b>Clearing</b></p> <ul style="list-style-type: none"> <li>• No clearing is to be undertaken unless it complies with the Proposal’s approval conditions.</li> <li>• All clearing shall be minimised through design, and only be undertaken to the extent required to safely and efficiently complete the works.</li> <li>• All clearing shall follow the Mt Weld Clearing and Disturbance Procedure (MTW-EN-PRO-0017) controls and be limited to the battery limits defined in the relevant Clearing and Disturbance Certificate (CDC) issued for works to which it applies.</li> <li>• Undertake post-clearing inspections to verify clearing within internal and external approval conditions.</li> <li>• Extend the existing photographic monitoring of vegetation health condition to continue to monitor potential changes in vegetation health as a result of drainage shadow impacts.</li> </ul> <p><b>Avoid</b></p> <ul style="list-style-type: none"> <li>• Clearing of vegetation within watercourses on G38/34 where possible.</li> </ul> <p><b>Minimise</b></p> <ul style="list-style-type: none"> <li>• Design clearing to retain vegetation where possible, such as around stockpiles, landforms, infrastructure, and landscaped areas.</li> <li>• Where practicable retain vegetation between Project components during construction to reduce erosion and undertake clearing on a staged basis and incrementally to minimise the amount of exposed land area.</li> <li>• Land clearing will be undertaken progressively and incrementally during operations.</li> <li>• Prior to any clearing, a CDC is required to be approved by the Mt Weld Environmental Advisor.</li> <li>• Minimise the introduction and spread of invasive weeds through the use of approved herbicides and by maintaining vehicle hygiene via controls detailed within the Mt Weld Weed Management Plan (MTW-EN-PLA-0003).</li> <li>• Ensure areas to be cleared are clearly demarcated.</li> <li>• Park vehicles and machinery only in designated locations.</li> <li>• Use existing tracks where possible and minimise off-road driving unless necessary (e.g., for exploration work).</li> <li>• Control dust during construction and mining operations and along roads with water sprays. Ensure that dust suppression activities do not result in any additional adverse impacts on vegetation (e.g., through prevention of overspray and runoff of saline water onto vegetated areas).</li> </ul> <p><b>Rehabilitate</b></p> <ul style="list-style-type: none"> <li>• Progressive rehabilitation of disturbed areas that are of areas no longer utilised for ongoing operations.</li> <li>• Collect viable native seed for future potential rehabilitation. Where practicable, seed should be collected within the Project footprint prior to clearing, if viable seed is present.</li> <li>• Topsoil, rootstock, log debris and leaf litter should be removed for future use in rehabilitation programmes. If possible, stockpiled topsoil should be directly replaced on disturbed areas as this increases the success of seedling establishment and propagule regeneration.</li> <li>• Stored topsoil stockpiles should not exceed 3 m in height, if practicable. Handling and stockpiling of moist (or wet) topsoil should be avoided where practicable.</li> </ul>	<p>Area of vegetation cleared and under rehabilitation via Area of Disturbance Table.</p> <p>Extension of existing visual monitoring of vegetation health condition.</p>	<p>Prior to any disturbance.</p> <p>Annually.</p>	<p>Incident Register.                  Monthly Environmental Report.                  Annual Environmental Report.</p>

Management Objective	Risk	Management Action	Monitoring	Frequency of Monitoring	Reporting
		<ul style="list-style-type: none"> <li>Undertake rehabilitation trials to research appropriate soil preparation, drainage works, seed mixes and any other methods used to promote revegetation.</li> <li>Waste landforms will be shaped so that the slope does not exceed 20° unless justified by rehabilitation trials. The waste rock landform will be capped with a 100 mm layer of topsoil or friable material and deep ripped (on the contour) to break any compaction, enhance infiltration and graft the growth media with the underlying waste material.</li> <li>Inspect disturbed and rehabilitated areas for significant environmental weeds (particularly after rainfall events) and treat infested areas.</li> <li>Implement feral animal control measures prior to commencement of rehabilitation to promote vegetation establishment.</li> </ul>			
<p><b>Minimising alteration of local and regional hydrology.</b></p>	<p>Clearing of vegetation can lead to increase erosion and sedimentation downstream.</p> <p>Construction of overland flow bunds and drains changes hydrological regimes for vegetation within development envelope.</p>	<p><b>Clearing</b></p> <ul style="list-style-type: none"> <li>No clearing is to be undertaken unless it complies with the Proposal's approval conditions.</li> <li>All clearing shall be minimised through design, and only be undertaken to the extent required to safely and efficiently complete the works.</li> <li>All clearing shall follow the Mt Weld Clearing and Disturbance Procedure (MTW-EN-PRO-0017) controls and be limited to the battery limits defined in the relevant Clearing and Disturbance Certificate (CDC) issued for works to which it applies.</li> <li>Undertake post-clearing inspections to verify clearing within internal and external approval conditions.</li> <li>Extend the existing photographic monitoring of vegetation health condition to continue to monitor potential changes in vegetation health as a result of drainage shadow impacts.</li> </ul> <p><b>Avoid</b></p> <ul style="list-style-type: none"> <li>Clearing of vegetation within watercourses on G38/34 where possible.</li> </ul> <p><b>Minimise</b></p> <ul style="list-style-type: none"> <li>Design overland flow bunds to divert surface water flows around the project to maintain safe and dry operations.</li> <li>Design clearing to retain vegetation where possible, such as around stockpiles, landforms, infrastructure, and landscaped areas.</li> <li>Prior to any clearing, a CDC is required to be approved by the Mt Weld Environmental Advisor.</li> <li>Where practicable retain vegetation between Project components during construction to reduce erosion and undertake clearing on a staged basis and incrementally to minimise the amount of exposed land area.</li> <li>Land clearing will be undertaken progressively and incrementally during operations.</li> <li>Ensure areas to be cleared are clearly demarcated.</li> <li>Park vehicles and machinery only in designated locations.</li> <li>Ensure spills are promptly contained, cleaned up and spill waste appropriately disposed of.</li> <li>Dispose of solid or liquid wastes in one of the designated waste disposal areas (e.g., overburden waste landforms, general landfill). Hazardous wastes such as waste oils and spent liquid chemicals taken offsite by a licensed contractor.</li> <li>Use existing tracks where possible and minimise off-road driving unless necessary (e.g., for exploration work).</li> </ul> <p><b>Rehabilitate</b></p> <ul style="list-style-type: none"> <li>Attempt to reinstate valuable vegetation habitat elements to the landscape via progressive rehabilitation of area no longer suitable for ongoings operations.</li> <li>Progressive rehabilitation of disturbed areas to encourage the return of vegetation.</li> <li>Topsoil, rootstock, log debris and leaf litter should be removed for future use in rehabilitation programmes. If possible, stockpiled topsoil should be directly replaced on disturbed areas as this increases the success of seedling establishment and propagule regeneration.</li> <li>Undertake rehabilitation trials to research appropriate soil preparation, drainage works, seed mixes and any other methods used to promote revegetation.</li> </ul>	<p>Area of vegetation cleared and under rehabilitation via Area of Disturbance Table.</p> <p>Vegetation health photo monitoring at various locations within the project to assess potential drainage shadow impacts.</p>	<p>Prior to any disturbance.</p> <p>Annually.</p>	<p>Incident Register.</p> <p>Monthly Environmental Report.</p> <p>Annual Environmental Report.</p>

Management Objective	Risk	Management Action	Monitoring	Frequency of Monitoring	Reporting
<b>Prevent erosion and sediment loss from the project</b>	Sedimentation from erosion has potential to impact on vegetation health and environmental values.	<p>Mt Weld have implemented an Erosion and Sediment management Plan (MTW-EN-PLA-0012) provides erosion and sediment control strategies for approved activities to be undertaken throughout the life of the Project (ie. construction and operations). The primary objectives of these strategies are to control the movement of sediment from areas disturbed by mining and construction activities.</p> <p><b>Avoid</b></p> <ul style="list-style-type: none"> <li>Any disturbance of watercourses during wet periods. Disturbance should be completed during dry, non-flow periods.</li> </ul> <p><b>Minimise</b></p> <ul style="list-style-type: none"> <li>Maintain existing drainage patterns as far as practicable.</li> <li>Design overland flow bunds to divert surface water flows around the project.</li> <li>Land clearing will be undertaken progressively and incrementally during operations.</li> <li>Surface water run-off ponds will be added to drainage lines as necessary. Ponds will be designed relative to the catchment and likely flow levels for higher rainfall events.</li> <li>External water flows entering the Project's battery limits will be diverted around the construction footprint, using surface water structures such as drains and bunds.</li> <li>Surface water diversion structures will be designed, installed and managed to enable uncontaminated water to be directed around disturbed and construction areas. Dispersion systems at discharge points of diversion drains will be designed to reintroduce sheet flow minimising the impact on the downstream environment.</li> <li>Regularly inspect stormwater surface water and sediment control structures to ensure hydraulic integrity and erosion and pollution control effectiveness.</li> <li>Stockpiles including overburden, clean fill and topsoil are to be established to minimise erosion and prevent movement of material outside the stockpile footprint.</li> <li>Establish access routes for site vehicles and deliveries to minimise disturbance of cleared areas.</li> <li>All run off ponds will be regularly inspected so that their effective volume is maintained.</li> <li>Cleaning of drains and the Run-Off Ponds to remove excessive silt sediment build-up.</li> <li>To minimise the potential for soil erosion, rehabilitation of disturbed areas will be progressively undertaken, or as soon as practicable, following completion of specific works.</li> <li>Areas of localised erosion will be assessed for significance and if necessary, remediated as soon as practicable to prevent further erosion or sediment deposition in offsite areas.</li> <li>Retain areas of vegetation between Project components (mine and concentration plant) wherever possible to reduce scouring and soil erosion.</li> <li>Use existing tracks where possible and minimise off-road driving unless necessary (e.g., for exploration work).</li> </ul> <p><b>Rehabilitate</b></p> <ul style="list-style-type: none"> <li>Attempt to reinstate valuable vegetation habitat elements to the landscape via progressive rehabilitation of area no longer suitable for ongoing operations.</li> <li>Undertake rehabilitation trials to research appropriate soil preparation, drainage works, seed mixes and any other methods used to promote revegetation.</li> </ul>	Inspections to observe and record any scouring/erosion, any sediment transfer beyond the disturbance envelope.	Quarterly or after significant rainfall event ( <i>defined as 50mm of rain in a 24 hour period or 100mm of rain in a 72 hour period</i> )	<p>Inspection findings and any actions will be recorded in the sites online management system.</p> <p>Annual Environmental Report.</p>

### **3.1 Incidents and Corrective Actions**

Environmental incidents are defined as non-adherences to objectives and procedures applied to the Project and described in this FVMP. Consistent with Mt Weld's Environmental Management System, environmental incidents are to be reported to the Environmental Department by the person responsible for the incident or the first person at the site of the incident following the Mt Weld Incident Reporting and Investigation Procedure (MTW-SH-PRO-0021).

The Environmental Department will assess the type and severity of the incident, in accordance with the Mt Weld's EMS procedures.

### **3.2 Monitoring**

Regular inspections and audits are required to assure the environmental protection outcomes outlined in this FVMP. Site inspections will assess the effectiveness of all flora and vegetation management controls and will raise corrective actions where required.

Vegetation health observations within the Project area will be recorded and, where required, corrective actions will be implemented should any adverse flora and vegetation impact be likely.

Vegetation Health Monitoring will continue and be expanded to the Development Envelope.

### **3.3 Reporting**

A Consolidated Annual Environmental Report will be prepared in accordance with project regulatory instrument compliance obligations. The Consolidated AER will include general conformance, new risks and hazards identified, corrective actions implemented, sampling results and incident and investigation reports.

## **4. Adaptive Management and Review**

### **4.1 Review**

Revision of this FVMP will be undertaken on an as-needs basis following the annual review and reporting process.

### **4.2 Continuous Improvement**

This FVMP will be subject to internal reviews annually or as part of any major Project modification that could impact on the Management Plan provisions. The internal review will consider the effectiveness of proposed measures and maintain relevance to current works or operations. Should performance controls be deemed inadequate then the measures will be updated to achieve performance objectives. The need to submit any update to this Management Plan to the WA EPA will be subject to MWM's consideration of the significance of the changes conducted to flora and vegetation management and residual risks.

### **4.3 Change Management**

MWM have implemented a Management of Change Procedure (MTW-SH-PRO-0008) to identify and communicate and consult proposed changes to all potentially affected areas; and mitigate potential threats to operational objectives associated with implementing the change with appropriate departmental area involvement.

### **4.4 Training and Induction**

Mt Weld will ensure that all personnel undertaking works, including visitors, have undertaken a site induction training program, or are escorted to the site. Mt Weld will evaluate all personnel undertaking the site induction training program through a written test to ensure that all personnel have an understanding of the environmental requirements for the Proposal. Where it is identified that personnel have not undertaken the works in accordance with the environmental requirements for the Proposal, Mt Weld will require such personnel to repeat the site induction training program including flora and vegetation management provisions.

## 5. Stakeholder Consultation

MWM is committed to an open, transparent and comprehensive engagement programme for the Mt Weld Rare Earths Project and LOM Proposal at all key stages. MWM's process for stakeholder engagement includes the identification of key stakeholders that MWM would engage with from Federal, State and Local Government, key agencies and regulatory authorities, and the community and of interest groups.

The scope and scale of the stakeholder engagement to date has considered the nature and significance of potential environmental factors for the Project, particularly any real or perceived community concerns about activities specific to Mt Weld's operations to date. In light of this, MWM considers that the focus of engagement associated with the proposed LOM should be commensurate with that view and should be at local community level and with key DMAs.

Additional details on the range and content and outcomes of stakeholder engagement conducted to date on the Proposal is presented in the ERD for the LoM Expansion (KASA Consulting, 2023).

Specific to this FVMP, this updated plan has been developed to address regulatory stakeholder feedback on the ERD as discussed in Section 1.1.

During the assessment process for the Proposal, Mt Weld will continue to engage with, and build support from, stakeholders in the Laverton surrounds and liaise with members of Nyalpa Pirniku to ensure objectives within the Social Cultural Heritage Management Plan can be achieved.

## 6. Document Revision History

The review, revision and change control of this Management Plan is recorded in Table 3 below.

**Table 3: Management Plan Change Control**

<b>Complexity of changes</b>	<input type="checkbox"/> Minor revisions	<input checked="" type="checkbox"/> Moderate revisions	<input type="checkbox"/> Major revisions
<b>Number of key environmental factors:</b>	<input checked="" type="checkbox"/> One	<input type="checkbox"/> 2 to 3	<input type="checkbox"/> > more than 3
<b>Date revision submitted to EPA:</b>	[Publish Date]	<revision brief description>	
<b>Proponent's operational requirement timeframe for approval of revision:</b>	<input type="checkbox"/> < one month	<input type="checkbox"/> < six months	<input type="checkbox"/> > six months
<b>Reason for timeframe:</b>	<input checked="" type="checkbox"/> None		
<b>Reason for timeframe:</b>	Existing EMP v9 (KASA, 2015) covers approved site activities. Timeframe tied to EPA Assessment under Part IV.		

Item	Section	Page	Summary of Change	Reason for Change
Whole of Document Update			FMP within EMP v9 (KASA, 2015) amended to align with EPA, 2022.	Supplied as additional information for Mt Weld LOM Assessment, Environmental Review Document.

## 7. References

- EPA. (2016a). *Technical Guidance Flora and Vegetation Surveys for Environmental Impact Assessment*.
- EPA. (2016b). *Environmental Factor Guideline Flora and Vegetation*, EPA, Western Australia.
- EPA. (2016c). *Environmental Factor Guideline Terrestrial Fauna*.
- EPA. (2016d). *Technical Guidance Sampling Methods for Terrestrial Vertebrate Fauna*.
- EPA. (2016i). *Technical Guidance Terrestrial Fauna Surveys*.
- EPA. (2021). *Instructions on how to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans*. Environmental Protection Authority, Western Australia, October 2021.
- REE. (2023). *Mt Weld TSF4 Detailed Design Report – Appendix F - Stormwater Management Plan*. Perth: Red Earth Engineering.
- Stantec. (2020). *Mt Weld Rare Earth Project Level 2 and Targeted Terrestrial Fauna Survey*. Prepared for Mt Weld.
- Stantec. (2021). *Mt Weld Rare Earths Project: Detailed Flora and Vegetation Survey – Phase 2*.
- Stantec. (November 2020). *Mt Weld Rare Earth Project Level 2 and Targeted Terrestrial Fauna Survey*. Prepared for Mt Weld.



An aerial photograph of a large-scale earthmoving or mining operation. The site is characterized by deep, terraced earthen walls in shades of orange and red. A wide, light-colored dirt road or path curves through the site. In the center, a blue semi-trailer truck is parked, its bed filled with dark material. The overall scene depicts a massive excavation project.




# Appendices




**Table A1: Dominant families and genera recorded since 2011.**



<b>Family</b>	<b>Total number of native species recorded within the Survey Area (all surveys)</b>
Fabaceae	23
Chenopodiaceae	29
Scrophulariaceae	17
Poaceae	23

<b>Genus</b>	<b>Total number of native species recorded within the Survey Area (all surveys)</b>
<i>Eremophila</i>	17
<i>Acacia</i>	13
<i>Senna</i>	9
<i>Ptilotus</i>	9

Table A2: Summary of Vegetation Types Described Within the Project Area

Vegetation Type Code	Vegetation Type Description and Associated Species	Vegetation Condition	Representative Photograph
Clay loam plains supporting Mulga			
<ul style="list-style-type: none"> <li>AiAcaArrAtEma</li> </ul>	<p><i>Acacia incurvaneura</i> and <i>Acacia caesaneura</i> low woodland over <i>Acacia ramulosa</i> subsp. <i>ramulosa</i> and <i>Acacia tetragonophylla</i> tall open shrubland over <i>Eremophila margarethae</i> open shrubland to low open shrubland.</p> <p><b>Associated species:</b>  <i>Acacia mulganeura</i>, <i>Eragrostis pergracilis</i>,  <i>Eremophila latrobei</i> subsp. <i>filiformis</i></p>	Very Good	
<ul style="list-style-type: none"> <li>AiAcAaptAtArrEgr</li> </ul>	<p><i>Acacia incurvaneura</i>, <i>Acacia caesaneura</i> and <i>Acacia aptaneura</i> low open forest to low woodland over <i>Acacia tetragonophylla</i> and <i>Acacia ramulosa</i> subsp. <i>ramulosa</i> tall open shrubland over <i>Eremophila granitica</i> low open shrubland.</p> <p><b>Associated species:</b>  <i>Eragrostis pergracilis</i>, <i>Ptilotus obovatus</i>, <i>Eremophila margarethae</i></p>	Excellent - Very Good	
Low stony rise			
<ul style="list-style-type: none"> <li>AaptHpMtMsp.Po</li> </ul>	<p><i>Acacia ?aptaneura</i> and <i>Hakea preissii</i> low open woodland over <i>Maireana triptera</i>, <i>Maireana</i> sp. And <i>Ptilotus obovatus</i> low shrubland to low open shrubland</p> <p><b>Associated species:</b>  <i>Acacia caesaneura</i>, <i>Maireana pyramidata</i>,  <i>Maireanageorgei</i></p>	Excellent - Very Good	

Vegetation Type Code	Vegetation Type Description and Associated Species	Vegetation Condition	Representative Photograph
Minor, broad drainage supporting Mulga			
<ul style="list-style-type: none"> <li>AcAaptAanAtSsP 0</li> </ul>	<p><i>Acacia caesaneura</i>, <i>Acacia aptaneura</i> and <i>Acacia aneura</i> low open forest over <i>Acacia tetragonophylla</i> and <i>Santalum spicatum</i> tall open shrubland over <i>Ptilotus obovatus</i> scattered low shrubs</p> <p><b>Associated species:</b> <i>Eremophila youngii</i> subsp. <i>youngii</i>, <i>Rhodanthe charsleyae</i>, <i>Ptilotus obovatus</i>, <i>Eragrostis pergracilis</i></p>	Very Good	
Chenopod-dominated clay plain			
<ul style="list-style-type: none"> <li>HpMpEyy</li> </ul>	<p><i>Hakea preissii</i> scattered tall shrubs to tall open shrubland over <i>Maireana pyramidata</i> and <i>Eremophila youngii</i> subsp. <i>youngii</i> open shrubland to low open shrubland</p> <p><b>Associated species:</b> <i>Maireana</i> sp., <i>Eremophila</i> sp., <i>Tecticornia</i> sp.</p>	Very Good	
Stony plain supporting Mulga			
<ul style="list-style-type: none"> <li>HpAapMtPo</li> </ul>	<p><i>Hakea preissii</i> and <i>Acacia ?aptaneura</i> low open woodland over <i>Maireana triptera</i> and <i>Ptilotus obovatus</i> low shrubland</p> <p><b>Associated species:</b> <i>Acacia pteraneura</i>, <i>Acacia incurvaneura</i>, <i>Senna Cardiosperma</i></p>	Very Good	

Vegetation Type Code	Vegetation Type Description and Associated Species	Vegetation Condition	Representative Photograph
Rocky ridge and outcropping			
<ul style="list-style-type: none"> <li>AptAaptPsMsp.EsP.</li> </ul>	<p><i>Acacia pteraneura</i> and <i>Acacia aptaneura</i> low woodland over <i>Ptilotus schwartzii</i>, <i>Maireana</i> sp. And <i>Eremophila</i> sp. low open shrubland</p> <p><b>Associated species:</b>  <i>Acacia ayersiana</i> <i>Acacia minyura</i>, <i>Acacia incurvaneura</i> <i>Acacia ?quadrimarginea</i>, <i>Santalum lanceolatum</i>, <i>Eremophila latrobei</i> subsp. <i>latrobei</i>, <i>Ptilotus obovatus</i> <i>Senna</i> sp. <i>Meekatharra</i> (<i>E. Bailey</i> 1- 26)and <i>Senna artemisioides</i> subsp. <i>?helmsii</i></p>	Very Good	
Minor, broad depression of clay soils supporting Mulga			
<ul style="list-style-type: none"> <li>AcAptAaptAtRcSsPP.</li> </ul>	<p><i>Acacia craspedocarpa</i> and/or <i>Acacia pteraneura</i>/<i>Acacia aptaneura</i> low open woodland over <i>Acacia tetragonophylla</i> scattered shrubs over <i>Rhodanthe charsleyae</i> and <i>Sclerolaena</i> spp. Open herbland</p> <p><b>Associated species:</b>  <i>Eremophila serrulata</i>, <i>Senna charlesiana</i>, <i>Senna artemisioides</i> subsp. <i>xartemisioides</i></p>	Excellent - Very Good	

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