

3 Legislative Context

3.1 Environmental Impact Assessment

Part IV Division 1 of the EP Act provides for the referral and assessment of proposals which may have a significant impact on the environment. The Proposal is being referred to determine whether assessment is required under Part IV of the EP Act. This RSD has been prepared to provide sufficient information for the EPA to determine whether to assess the Proposal and summarises the potential environmental impacts of the Proposal. The RSD has been prepared in accordance with *Instructions: Referral of a proposal under section 38 of the Environmental Protection Act 1986* (EPA 2024)

A proposed action that may have a significant impact on a Matter of National Significance (MNES) requires approval from the Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). An independent EPBC self-assessment was commissioned to evaluate the potential for significant impacts on any MNES from the implementation of the Proposal. This assessment determined that the Proposal is not likely to have a significant impact on any MNES and consequently referral under the EPBC Act is not warranted. This is detailed further in Section 12 (CDM Smith 2025).

3.2 Other Approvals and Decision-Making Authorities

The Proponent acknowledges that additional regulatory approvals are required prior to implementing the Proposal. Other environmental approvals and relevant decision-making authorities (DMA) have been identified for the Proposal:

- Department of Biodiversity, Conservation and Attractions (DBCA)
- Department of Climate Change, Energy, the Environment and Water (DCCEEW)
- Department of Mines, Petroleum and Exploration (DMPE)
- Department of Local Government, Industry Regulation and Safety (LGIRS)
- Department of Health (DoH)
- Department of Water and Environmental Regulation (DWER)
- City of Kalgoorlie-Boulder (CKB)
- Main Roads Western Australia (MRWA)

Other approvals are summarised in Table 3-1.

Table 3-1: Other Approvals

DMA	Legislation / Regulation	Approval	Proposal Elements
CKB	<i>Planning and Development Act 2005</i>	Development Approval	Not required Infrastructure is proposed on mining tenure where no development approval is required. Where the mining tenements overlie reserves managed by CKB, tenement conditions require authorisation to be obtained from the local government authority.
DBCA	<i>Biodiversity Conservation Act 2016</i>	Section 40 Permit	Not required No disturbance to Threatened flora, fauna or ecological communities will occur from implementing the Proposal.
DCCEEW	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act)	Approval under the EPBC Act for potentially significant impacts to matters of national environmental significance (MNES)	Not required An EPBC Act self-assessment has been completed by an independent consultant, which determined that there are unlikely to be any significant impacts to any MNES and therefore EPBC Act referral is not warranted. Discussed in Section 12.

DMA	Legislation / Regulation	Approval	Proposal Elements
DMPE	EP Act and EP Regulations 1987 (Part V - Clearing)	Native Vegetation Clearing Permit (NVCP)	<p>May be required</p> <p>If the Proposal does not require assessment under Part IV of the EP Act, a NVCP will be required to authorise clearing of native vegetation.</p> <p>A small proportion of clearing (up to 21.5 ha) may be conducted under exemption (Regulation 5, Item 20) for pending tenements associated with site access and transmission line, as pending tenements cannot be included in a NVCP application. This will depend on timing of tenure conversion and permitting timeframes.</p>
DMPE	Mining Act 1978	Mining Development and Closure Proposal (MDCP)	<p>Required</p> <p>The Proposal is located on mining tenure. A MDCP is required for activities on mining tenure. The MDCP must identify and assess potential environmental impacts and include measures for closure and rehabilitation. The EMP and BBAMP will also be submitted as supporting documents to the MDCP and can be conditioned under the Approvals Statement granted under the Mining Act.</p>
		Mine Closure Plan (MCP)	<p>Required</p> <p>An MCP is required under the Mining Act and will be conditioned in the Approvals Statement.</p>
DPLH	Aboriginal Heritage Act 1972 (AH Act)	Section 18 Approval	<p>Not required</p> <p>The Proposal has been designed to avoid impacts to Aboriginal cultural heritage sites and hence no approval is required under the AH Act.</p>
DoH	Health Act 1911	Approval to construct or install an apparatus	<p>Required</p> <p>Approval for onsite sewage / septic system will be required prior to construction, which will be sought from CKB / DoH.</p>
DWER	EP Act (Part V) and Environmental Protection Regulations 1987 (EP Regulations)	Works Approval and Operating Licence	<p>Required</p> <p>A works approval and subsequent operating licence will be required to enable crushing and screening of up to 360,000 tonnes of excavated material from borrow pits required for construction activities (EP Regulations Schedule 1 Category 12).</p> <p>Concrete batching onsite will be conducted in accordance with the <i>Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998</i>.</p>
	Environmental Protection (Noise) Regulations 1997	Construction noise management plan (CNMP)	<p>Required</p> <p>Out of hours construction works will be required (Sunday, public holidays, works outside of 7 am to 7 pm). A CNMP will be required particularly for works in the transmission line closer to noise sensitive receptors. Prior to out of hours construction work planned to occur within proximity to receptors a CNMP approval will be sought from CKB.</p>
	Rights in Water and Irrigation Act 1914 (RIWI Act)	Section 5C Licence (groundwater licence)	<p>Not required</p> <p>Non-potable water will be sourced from existing KCGM groundwater licences for approximate 570,000 kL construction water requirements.</p>
		Section 26D Licence (construct or alter a well)	<p>Not required</p> <p>No groundwater bores installed as part of this Proposal. Any groundwater extracted from existing KCGM bore fields.</p>
MRWA	Main Roads Act 1930	Oversize Overmass Transport Management Plan (OOTMP)	<p>Required</p> <p>Will be required to transport WTGs from Port of Geraldton to the DE. To be submitted to MRWA for approval prior to transportation.</p>
LGIRS	Dangerous Goods Safety Act 2004	Dangerous Good Licence	<p>May be required</p> <p>A dangerous goods licence may be required for storage and/or transport of dangerous goods and hazardous chemicals (e.g. diesel) if volumes exceed manifest quantities.</p>

4 Stakeholder Engagement

Stakeholder identification was undertaken at the early feasibility stages of the Proposal and identified key stakeholders across various stakeholder groups including:

- Adjacent Landholders
- Local Government
- Interest Groups
- Kalgoorlie-Boulder Community
- Non-Government Organisations
- State Government
- Traditional Owners

Based upon the stakeholder identification, stakeholder engagement for the Proposal commenced in late 2024 and has been guided by Northern Star’s Stakeholder Policy (NSR-COR-004-POL) which commits to open, honest and regular engagement with communities and stakeholders. Stakeholder engagement for the Proposal has included targeted engagement with key stakeholders and broader community consultation. Further targeted engagement is planned to be undertaken prior to commencement of the Proposal, as well as ongoing through the life of the Proposal.

4.1 Targeted Engagement

Targeted early engagement of key stakeholders to the Proposal has been undertaken to understand key interests and consider any concerns that could be addressed in the design phase. This targeted engagement has been summarised in Table 4-1, which has resulted in design optimisation (notably the excision of cultural heritage values from the DE). Full details of engagement have been maintained in a stakeholder engagement register.

Table 4-1: Targeted Engagement Summary

Stakeholder	Date(s)	Summary of Consultation
Community	29 July 2025	<ul style="list-style-type: none"> • Community town hall (discussed further in Section 4.2).
CKB	19 June 2025	<ul style="list-style-type: none"> • Proposal briefing with focus on workforce requirements (accommodation, air travel etc.) and local economic opportunities. • Discussion on directional drilling under Bulong Road with acceptance of construction methodology as favourable.
CME	29 July 2025	<ul style="list-style-type: none"> • Proposal briefing with focus on mining industry benefits
DMPE	3 June 2025	<ul style="list-style-type: none"> • Project pre-referral meeting to discuss key aspects and consider DMPE feedback for preparation of MDCP (following submission of EPA referral) and consider feedback from DMPE
EPA Services	23 May 2025	<ul style="list-style-type: none"> • Project pre-referral meeting to discuss key aspects and consider EPA feedback for preparation of RSD • Discussion that an EMP and BBAMP can be conditioned under Mining Act
Goldfields Esperance Development Commission	29 July 2025	<ul style="list-style-type: none"> • Proposal briefing with focus on local economic opportunities
KBCCI	9 July 2025	<ul style="list-style-type: none"> • Proposal briefing with focus on local economic opportunities
Traditional Knowledge Holders	8 - 9 July 2025 9 - 10 August 2025	<ul style="list-style-type: none"> • Heritage surveys
Marlinyu Ghoorlie Native Title Claimant Group	September 2024 - July 2025 (regular ongoing engagement)	<ul style="list-style-type: none"> • Proposal briefing and relationship committee meetings • Archaeological and ethnographic heritage surveys over DE

Stakeholder	Date(s)	Summary of Consultation
		<ul style="list-style-type: none"> Heritage survey report with recommendations prepared, Exclusion Zones utilised to protect cultural heritage values identified CHMP to be developed for the Proposal Heritage monitors to oversee clearing activities
Member for Kalgoorlie, Ali Kent MLA	5 June 2025	<ul style="list-style-type: none"> Proposal briefing
Williamstown Resident Committee	4 March 2025 24 July 2025	<ul style="list-style-type: none"> Proposal briefing and invite to community town hall event

4.2 Community Consultation

A community town hall event was held in Kalgoorlie-Boulder on 29 July 2025 to brief the local community on the Proposal and potential impacts. The event was advertised in a full-page advert in the Kalgoorlie Miner, on social media, a dedicated radio advert for a week, and emailed to key stakeholder, with the flyer shown in Plate 4-1. All members of the local Kalgoorlie-Boulder community were able to attend the community town hall event.

The town hall included delivery of a presentation which broadly covered the following information:

- Project overview and benefits
- Project infrastructure and layout
- Environmental studies summary
- Visual impact assessment detailed summary
- Indicative timing
- Procurement and participation opportunities

The town hall event concluded with a question-and-answer session with overall positive sentiment for the Proposal received by attendees.



**JOIN US FOR A
COMMUNITY MEETING**

To hear about the Kalgoorlie
Regional Renewable Energy Project

5pm-6pm
Tuesday 29 July 2025
The Hannans Club, Brookman Street
Kalgoorlie

Northern Star is making conscious choices toward a cleaner, more sustainable future.

To reduce our reliance on carbon-intensive energy sources, Northern Star is seeking to develop renewable energy generation facilities alongside a new multi-fuel thermal power station at our KCGM Operations.

Our ongoing and future growth projects support long-term, sustainable operations, while creating lasting opportunities for both our KCGM Operations and the Kalgoorlie-Boulder community.

Plate 4-1: Community Town Hall Flyer

5 Object and Principles of the EP Act

The Object of the EP Act as defined in Section 4A is to protect the environment of the State of WA, with regards to the five Principles. The object and principles guide the overall application of the powers of the Act, including the EPA's assessment of proposals. Table 5-1 summarises these Principles alongside their specific considerations in relation to the Proposal

Table 5-1: Principles of Ecologically Sustainable Development

Principle	Consideration
<p>1. The precautionary principle</p> <p><i>Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, decision should be guided by:</i></p> <p><i>(a) careful evaluation to avoid, where practicable, serious or irreversible damage to the environment; and</i></p> <p><i>(b) an assessment of the risk-weighted consequences of various options.</i></p>	<p>A comprehensive suite of studies have been undertaken to understand the environmental and social values within the DE and surrounding area. Studies have been conducted in accordance with EPA and other relevant guidelines where applicable.</p> <p>The Proposal has prioritised the avoidance of impacts as a first principle, aligning with a precautionary approach that reduces the need for mitigation, rehabilitation, or offsets. Application of the precautionary principle is evident in the following measures:</p> <ul style="list-style-type: none"> • Relocation of infrastructure to avoid areas containing conservation significant flora and fauna habitat, and protection with exclusion zones and protective buffers. • The use of an Indicative Footprint allows for flexibility in the layout of the infrastructure to avoid impacts to conservation significant fauna and their habitat, whilst also incorporating protective buffers. • Development of BBAMP to address indirect and direct impacts on avifauna. • Siting of infrastructure outside areas identified as containing ACH values.
<p>2. The principle of intergenerational equity</p> <p><i>The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.</i></p>	<p>Northern Star has identified and implemented measures to avoid and minimise environmental impacts through extensive studies and field surveys. These mitigation strategies help preserve ecological functions for the benefit of future generations.</p> <p>As a renewable energy project, the Proposal supports intergenerational equity by reducing reliance on fossil fuels, thereby lowering greenhouse gas emissions and contributing to long-term climate change mitigation.</p> <p>In addition, the Proposal will generate employment and enable power diversification for Northern Star operations and the wider region, providing a stable foundation for future economic growth.</p>
<p>3. The principle of the conservation of biological diversity and ecological integrity</p> <p><i>Conservation of biological diversity and ecological integrity should be a fundamental consideration.</i></p>	<p>The Proposal addresses this principle through careful site selection and design, informed by detailed environmental studies conducted in line with EPA guidelines. These assessments identified key biodiversity values.</p> <p>As a result, areas of higher ecological significance have been actively avoided to conserve biological diversity and maintain ecological integrity.</p>
<p>4. Principles relating to improved valuation, pricing, and incentive mechanisms</p> <p>a) <i>Environmental factors should be included in the valuation of assets and services</i></p> <p>b) <i>The polluter pays principle - those who generate pollution and waste should bear the cost of containment, avoidance or abatement</i></p> <p>c) <i>The users of goods and services should pay prices based on the full life cycle costs of providing goods and services including the use of</i></p>	<p>The Proponent will be responsible for all costs associated with developing the Proposal. These costs include the implementation of environmental management measures and monitoring activities.</p> <p>To minimise environmental impacts and protect biodiversity, the Proposal was redesigned through repeated iterations to avoid significant flora, fauna habitat and cultural values, as further studies were completed. Additionally, the proximity of the Proposal to Kalgoorlie-Boulder provides opportunity for a potential connection to the regional power grid, subject to the relevant authorisations.</p>

Principle	Consideration
<p><i>natural resources and assets and the ultimate disposal of any wastes</i></p> <p>d) <i>Environmental goals, having been established, should be pursued in the most cost-effective way, by establishing incentive structures including market mechanisms, which enable those best placed to maximise benefits and/or minimise costs to develop their own solutions and responses to environmental problems.</i></p>	
<p>5. The principle of waste minimisation</p> <p><i>All reasonable and practicable measures should be taken to minimise the generation of waste and its discharge into the environment.</i></p>	<p>The Proposal will generate waste during construction, operational and decommissioning stages. The principle of waste minimisation and associated waste hierarchy will be applied across each stage, including:</p> <ul style="list-style-type: none"> • Installing appropriate waste segregation infrastructure for construction and operational stages • Preparing a decommissioning plan which will determine reuse and recycling opportunities for infrastructure

6 Environmental Factors and Objectives

This section identifies the environmental factors relevant to the Proposal, outlines the overall assessment methodology, and details the environmental impact assessments conducted for each preliminary relevant environmental factor. Table 6-1 summarises the relevance of each factor to the Proposal. Sections 6 to 8 provide detailed assessments of significant environmental factors requiring further consideration and management. Environmental factors listed in Table 5 1 that are relevant but unlikely to be significant are briefly described in Section 9, with a rationale for why they are not considered further.

Table 6-1: Environmental Factors

EPA Factor	EPA Objective	Consideration	Factor Type	RSD Section
Theme: Air				
Air Quality	To maintain air quality and minimise emissions so that environmental values are protected.	Limited to fugitive dust emissions during construction phase of Proposal which are not considerable.	Other environmental factor.	Section 10
Greenhouse Gas Emissions	To minimise the risk of environmental harm associated with climate change by reducing greenhouse gas emissions as far as practicable	The Proposal will cause Scope 1 and Scope 3 GHG emissions, however these are offset by the net GHG emission reductions. Maximum Scope 1 emissions in first year are 55,507 tCO ₂ -e.	Other environmental factor.	Section 10
Theme: Land				
Flora and Vegetation	To protect flora and vegetation so that biological diversity and ecological integrity are maintained.	Clearing of native vegetation is required, impacts on well represented flora and vegetation will occur. No direct or indirect impacts to Threatened or Priority flora species or ecological communities are proposed.	Preliminary key environmental factor.	Section 7
Landforms	To maintain the variety and integrity of significant physical landforms so that environmental values are protected.	No distinctive natural landforms are located within or surrounding the DE.	Not relevant to Proposal.	N/A.
Subterranean Fauna	To protect subterranean fauna so that biological diversity and ecological integrity are maintained.	No dewatering activities or groundwater drawdown associated with the Proposal, excavation unlikely to impact groundwater table.	Not relevant to Proposal.	N/A.
Terrestrial Environmental Quality	To maintain the quality of land and soils so that environmental values are protected.	The Proposal is unlikely to result in significant soil contamination. Rehabilitation and remediation will be implemented in accordance mine closure obligations.	Other environmental factor.	Section 10
Terrestrial Fauna	To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.	Clearing of well represented fauna habitats will occur. Potential impacts to fauna from interactions with turbines may occur but can be mitigated through implementation of a BBAMP.	Preliminary key environmental factor.	Section 8
Theme: Water				
Inland Waters	To maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected	Minor impacts to ephemeral drainage lines will occur, no downstream impacts to hydrological regimes. No groundwater abstraction within the DE.	Other environmental factor.	Section 10

EPA Factor	EPA Objective	Consideration	Factor Type	RSD Section
Theme: People				
Social Surroundings	To protect social surroundings from significant harm.	Potential impacts to social surroundings on ACH, visual landscape and amenity, which can be managed via an EMP and CHMP.	Preliminary key environmental factor.	Section 9
Human Health	To protect human health from significant harm.	No radioactive substances or emissions or associated impacts to human health arising from the Proposal activities.	Not relevant to Proposal.	N/A
Theme: Sea				
Benthic Communities and Habitats	To protect benthic communities and habitats so that biological diversity and ecological integrity are maintained.	Proposal is not located in proximity to coastal areas.	Not relevant to Proposal.	N/A
Coastal Processes	To maintain the geophysical processes that shape coastal morphology so that the environmental values of the coast are protected.	Proposal is not located in proximity to coastal areas.	Not relevant to Proposal.	N/A
Marine Environmental Quality	To maintain the quality of water, sediment and biota so that environmental values are protected.	Proposal is not located in proximity to coastal areas.	Not relevant to Proposal.	N/A
Marine Fauna	To protect marine fauna so that biological diversity and ecological integrity are maintained.	Proposal is not located in proximity to coastal areas.	Not relevant to Proposal.	N/A

7 Flora and Vegetation

7.1 EPA Objective

The EPA's objective for flora and vegetation is 'To protect flora and vegetation so that biological diversity and ecological integrity are maintained' (EPA, 2023b). The EPA defines flora as native vascular plants and vegetation as groupings of different flora patterned across the landscape that occur in response to environmental conditions (EPA, 2016a). Significant flora and vegetation are defined as any flora species or vegetation community protected under legislation, listed as a Priority by DBCA or otherwise important locally (EPA, 2016a).

7.2 EPA Policy and Guidance

Relevant policy and guidance to Flora and Vegetation are detailed in Table 7-1

Table 7-1: Flora and Vegetation Policy and Guidance

Reference	Title
EPA	
EPA 2023a	Statement of Environmental Principles, Factors, Objectives and Aims for EIA
EPA, 2016a	Environmental Factor Guideline: Flora and Vegetation
EPA, 2016b	EPA Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment
EPA 2006	Guidance for the Assessment of Environmental Factors Rehabilitation of Terrestrial Ecosystems No. 6
EPA 2000	Environmental Protection of Native Vegetation in Western Australia. Clearing of Native Vegetation, with Particular Reference to the Agricultural Area. Position Statement No. 2
Other	
DotE 2013	Matters of National Environmental Significance: Significant Impact Guidelines 1.1

7.3 Receiving Environment

7.3.1 Studies

Studies have been conducted in accordance with EPA technical guidance (EPA 2016b) to understand the Flora and Vegetation within the DE (2,313 ha) and broader Study Area (13,193 ha). The Proposal is situated on the boundary of botanical provinces which have different recommended primary survey timing according to the EPA technical guidance:

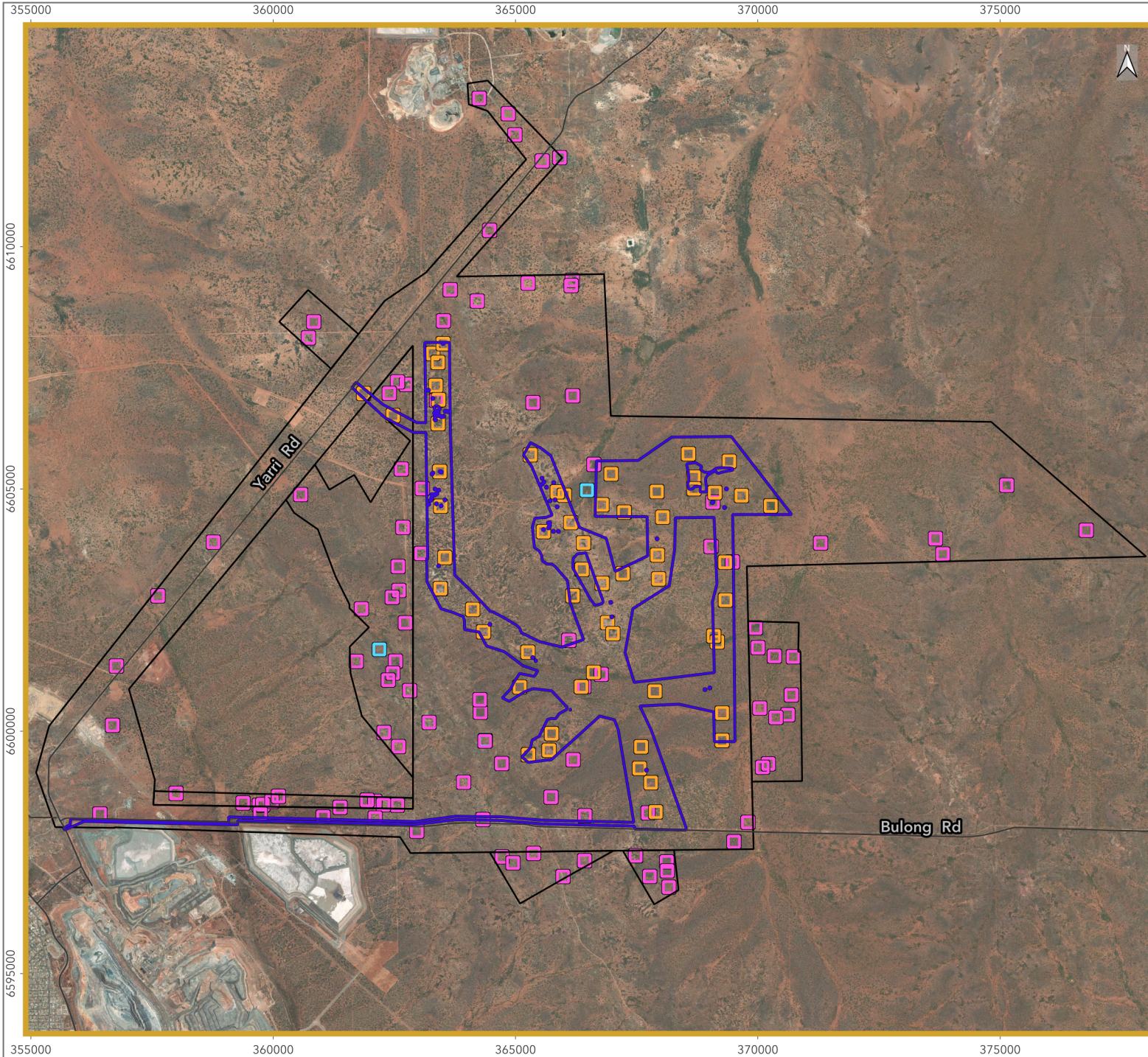
- Eremaean: 6-8 weeks post wet season (march June)
- South-West Interzone: (September-November)

Given the Goldfields' low and unpredictable rainfall, surveys were undertaken across multiple seasons, including spring and autumn to ensure adequate seasonal coverage and capture of ephemeral species. Overall, the combined survey effort, including the detailed, reconnaissance, and regional assessments across multiple seasons, provides a robust and adequate dataset to support the impact assessment for the Proposal. All Flora and Vegetation studies are attached as appendices, have been submitted to the Index of Biodiversity Surveys for Assessments (IBSA) and are summarised in Table 7-2.

Further regional context of flora and vegetation is also provided by flora and vegetation surveys conducted by KCGM to support planning and approvals for Fimiston Operations (Phoenix 2020; Phoenix 2023c) which have been considered as useful for regional context but are not discussed in detail.

Table 7-2: Flora and Vegetation Studies

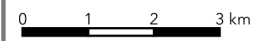
Study	Survey Area	Survey Type	Fieldwork Season	Limitations	IBSA Number
Phoenix 2025a Appendix A	DE excluding transmission line (2,295 ha)	Detailed flora and vegetation survey including: <ul style="list-style-type: none"> • Surveying of 58 quadrats (20 m x 20 m) across representative vegetation types • Targeted flora searches for significant flora, declared pests and weeds of national significance • Vegetation type and condition mapping at 1:10,000 scale • Significant vegetation assessment including threatened, priority and locally significant vegetation 	March 2025 (Primary Eremaean)	Very minor limitations associated with vehicle access (areas traversed on foot)	IBSA-2025-0476
Phoenix 2024a Appendix B	SA (partial) (1,776 ha)	Reconnaissance flora and vegetation survey including: <ul style="list-style-type: none"> • Surveying of 51 relevés across representative vegetation types • Targeted flora searches for significant flora, declared pests and weeds of national significance • Vegetation type and condition mapping at 1:10,000 scale 	March 2024 (Primary Eremaean)	No limitations identified	IBSA-2025-0475
Phoenix 2022 Appendix C	SA (partial) (11,413 ha)	Reconnaissance flora and vegetation survey including: <ul style="list-style-type: none"> • Surveying of 52 relevés across representative vegetation types • Targeted flora searches for significant flora, declared pests and weeds of national significance • Vegetation type and condition mapping at 1:10,000 scale 	September 2022 (Primary South-West Interzone)	No limitations identified	IBSA-2025-0492



Flora and Vegetation Study Effort

Figure 7-1

- Development Envelope
 - Roads
 - Combined Survey Area
- Sample Type**
- Mapping note
 - Relevé
 - Botany site



Scale: 115000
 Date: 31/10/2025
 Author: McDonald, Lachlan R.
 Coordinate System:
 GDA2020 / MGA zone 51



7.3.2 Vegetation

7.3.2.1 *Regional Vegetation*

Broad scale vegetation mapping of WA conducted by J.S. Beard as vegetation associations, of which three are located within the DE:

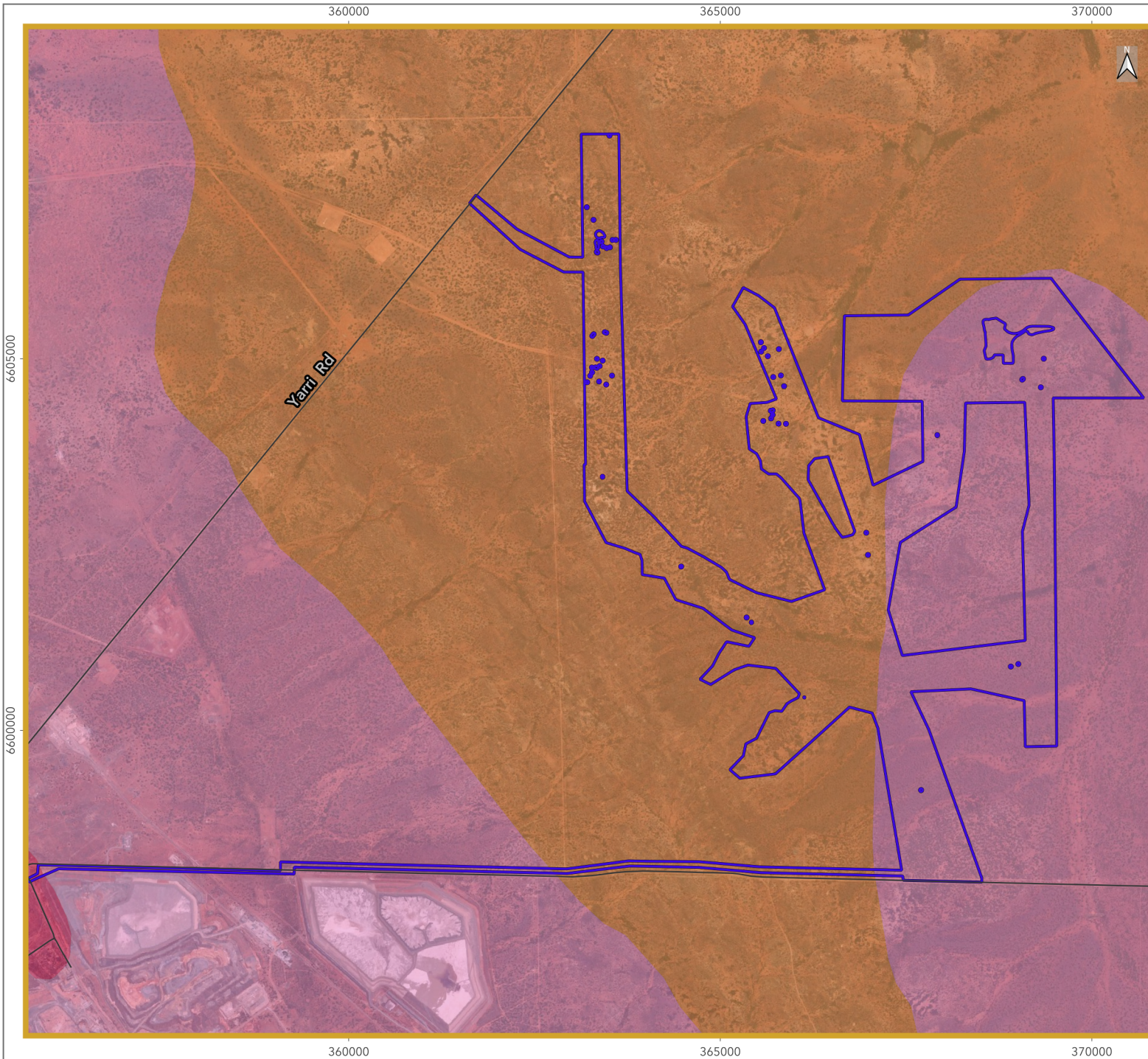
- Association 20 - Low woodland, open low woodland or sparse woodland. Mulga *Acacia aneura* and associated species.
- Association 468 - Woodland other. Gimlet, redwood etc. *E. salubris*, *E. oleosa*
- Association 1294 - Low Woodland; Mulga mixed with *Allocasuarina cristata* & *Eucalyptus* sp.

Areas retaining less than 30% of their pre-European vegetation extent show accelerated species loss, whilst areas with less than 10% are considered “endangered” (EPA, 2000). Clearing which would put the threat level into the 30% “threshold level” should be avoided (EPA 2000). All mapped associations are largely intact with over 96% of pre-European vegetation remaining according to the 2018 Statewide Vegetation Statistics (DBCA 2019), and accordingly clearing is not inconsistent with the EPA position statement.

Regional vegetation systems and their descriptions are detailed in Table 7-3 and are shown in Figure 7-2.

Table 7-3: Regional Vegetation Systems

Vegetation Association	Extent Remaining	DBCA Managed	Extent within DE
20	1,292,474 ha (99.8%)	250,985 ha (19.4%)	1,266 ha (<0.1%)
468	583,902 ha (98.6%)	135,197 ha (23.1%)	1,045 ha (0.2%)
1294	6,047 ha (96.0%)	115 ha (1.9%)	2 ha (<0.1%)
Total	1,882,423	264,297 (14.0%)	2,312 (0.1%)



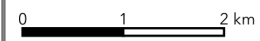
Regional Vegetation Systems

Figure 7-2

- Development Envelope
- Roads

Vegetation Associations

- (20) Mulga *Acacia aneura* and associated species.
- (468) Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba*, *E. salmonophloia*. Goldfields; gimlet, redwood etc. *E. salubris*, *E. oleosa*. Riverine; rivergum *E. camaldulensis*. Tropical; messmate
- (1294) Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba*, *E. salmonophloia*. Goldfields; gimlet, redwood etc. *E. salubris*, *E. oleosa*. Riverine; rivergum *E. camaldulensis*. Tropical; messmate



Scale: 75000
 Date: 31/10/2025
 Author: McDonald, Lachlan R.

Coordinate System:
 GDA2020 / MGA zone 51

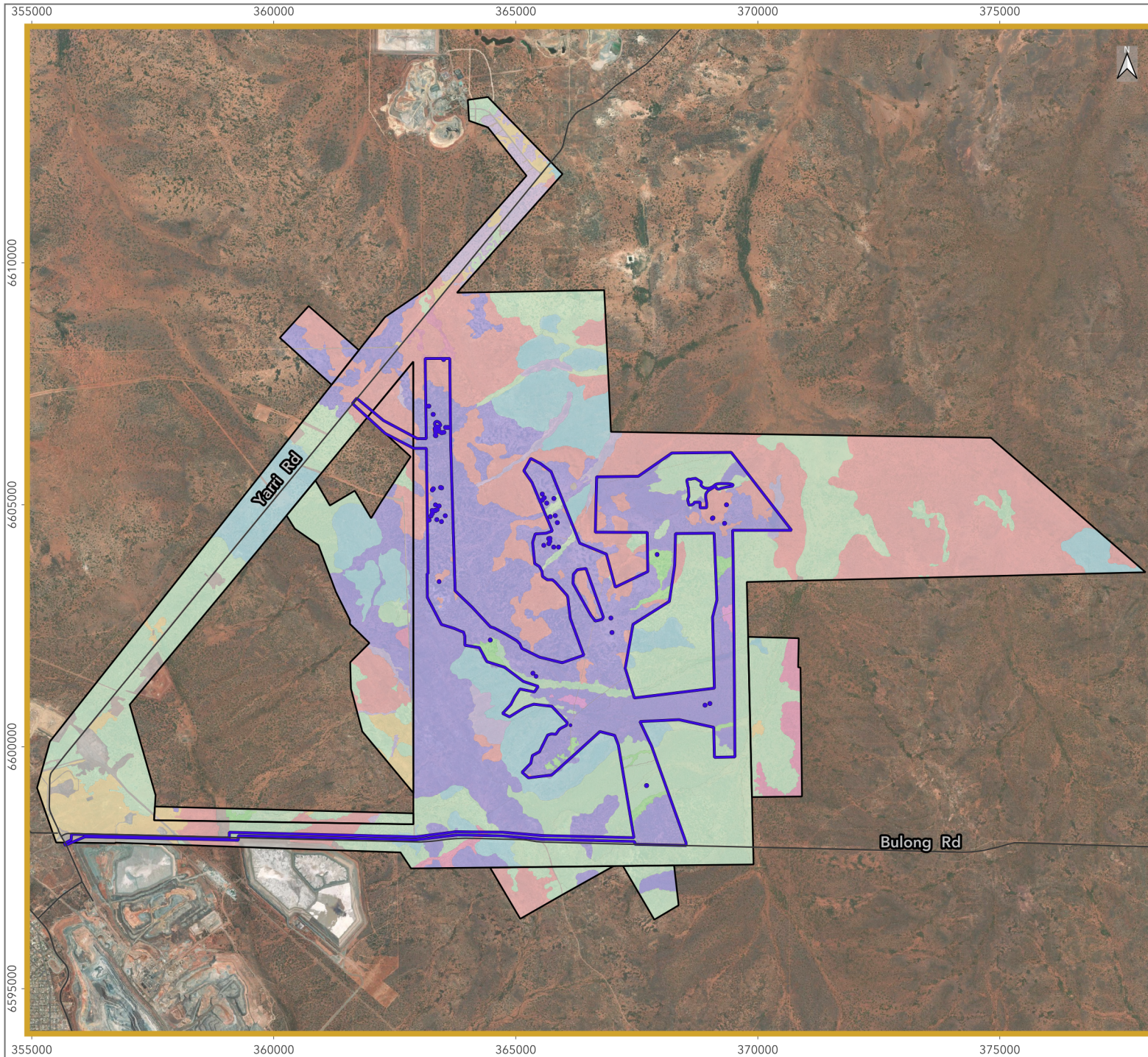


7.3.2.2 Local Vegetation

Across the three vegetation surveys conducted over the Study Area (13,193 ha), a total of 43 vegetation types were identified and mapped. Within the DE (2,312 ha) a total of 15 vegetation types were mapped (including cleared areas). Table 7-4 provides a summary of vegetation types, consolidating descriptions across studies to enable comparison of similar vegetation communities as shown in Figure 7-3.

Table 7-4: Vegetation Condition

Broad Description	Vegetation Communities			SA (ha)	DE (ha)	IF (ha)
	Phoenix 2025a	Phoenix 2024a	Phoenix 2022			
Low <i>Casuarina</i> woodlands	CpSafMs, CpSsAe, CpAbEgPo	CEP	CDP, CEP	3263.7	230.3	59.0
Low <i>Eucalyptus</i> woodlands	ErEpMt, ElSsMt, EsaluTdAv, EsaluEiiMsMt, EspAbSafPo	EEA, EES	EES	3466.9	1597.6	449.2
Mid <i>Eucalyptus</i> woodlands	EsalmAnsMt, EsalmMsMt, EivSc, EsaluAhPo	EA, EAE, EEE, EM	EA, EAE, EEE, EM, ET	3767.7	337.8	107.1
Low <i>Melaleuca</i> woodland	MsMsEpa	-	-	18.3	18.3	0.5
<i>Eremophila</i> shrubland	EsAvSd	MS, EP	-	107.2	96.6	14.6
Tall <i>Acacia</i> shrubland	-	AE, AEP, AS	AEP	159.2	1.6	1.3
<i>Marieana</i> shrubland	-	Ma	MS	363.5	0.8	0.7
Low mixed woodland	-	ECAE		1354.1	8.9	7.5
Mid <i>Eucalyptus</i> mallee	-	EmA, EmAE	EMA, EmAE	327.6	0.0	0.0
Cleared	Cleared	Disturbed	Disturbed	362.8	20.1	12.1
Total				13,191	2,312	652



Vegetation Types

Figure 7-3

- Development Envelope
- Roads
- Combined Suvery Area
- Casuarina woodland
- Eremophila shrubland
- Low Eucalyptus woodland
- Low mixed woodland
- Marieana shrubland
- Melaleuca woodland
- Mid Eucalyptus mallee
- Mid Eucalyptus woodland
- Tall Acacia shrubland
- Cleared

0 1 2 3 km

Scale: 115000
 Date: 31/10/2025
 Author: McDonald, Lachlan R.

Coordinate System:
 GDA2020 / MGA zone 51

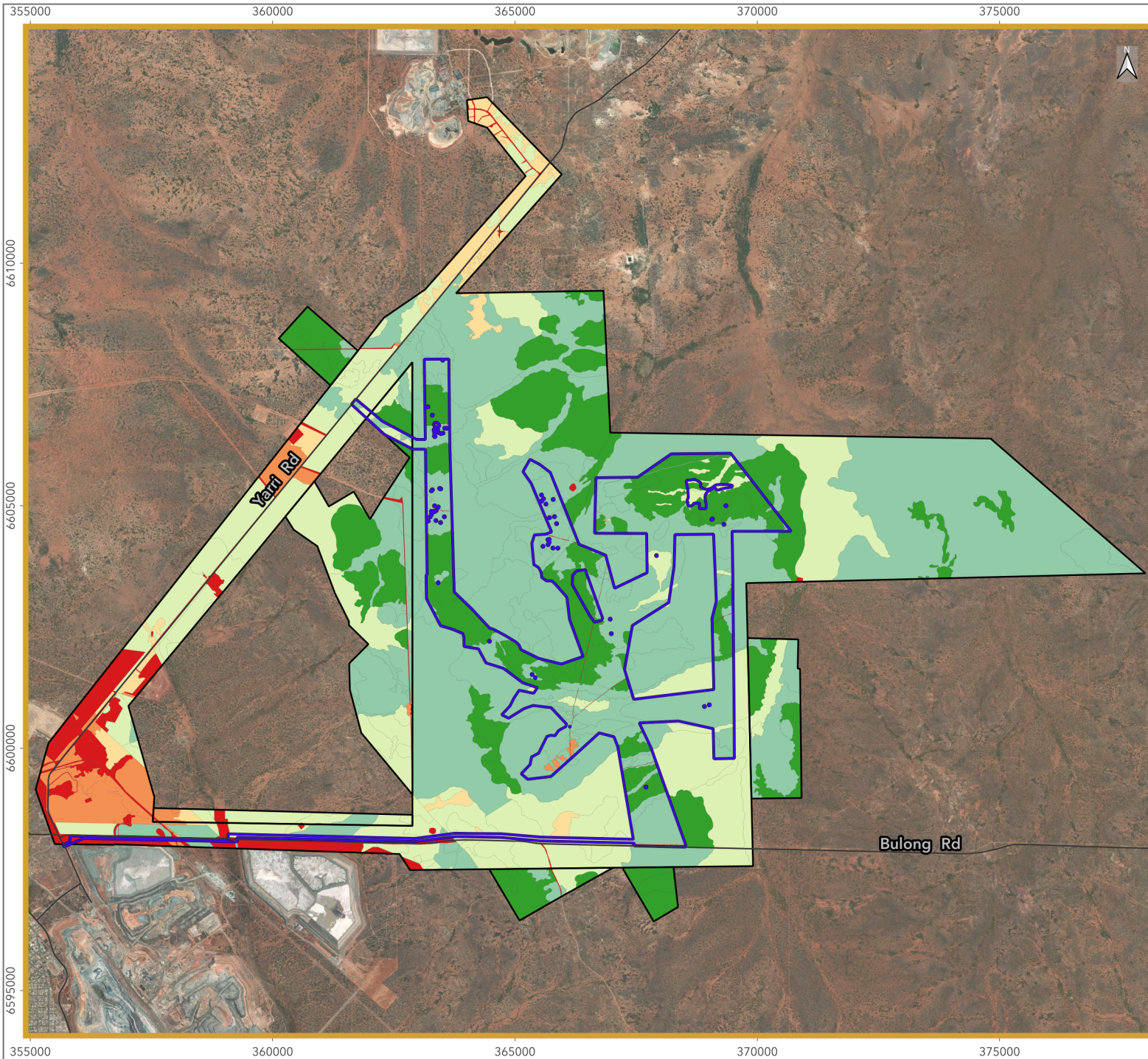


7.3.2.3 Vegetation Condition

Vegetation condition within the DE has been assessed in accordance with EPA Guidance (EPA 2016b) including a rating from excellent to completely degraded. The majority of vegetation within the SA ranges between good to excellent condition (90.7%) with both the DE (98.1%) and Indicative Footprint having similar (96.9%) condition. Clearing the Indicative Footprint would result in a minor decrease to vegetation of good or higher condition in the Study Area (decrease of 0.4%). Vegetation condition is summarised in Table 7-5 and presented in Figure 7-4.

Table 7-5: Vegetation Condition

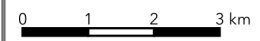
Condition Rating	SA	DE	IF	SA - IF
Excellent	2,359 ha (17.9%)	851 ha (36.8%)	252 ha (38.7%)	2,107 ha (16.8%)
Very Good	6,573 ha (49.8%)	1,270 ha (54.9%)	325 ha (49.8%)	6,248 ha (49.8%)
Good	3,032 ha (23.0%)	149 ha (6.4%)	55 ha (8.4%)	2,977 ha (23.7%)
Poor	349 ha (2.6%)	6 ha (0.3%)	5 ha (0.8%)	344 ha (2.7%)
Degraded	350 ha (2.7%)	14 ha (0.6%)	1 ha (0.2%)	349 ha (2.8%)
Completely Degraded	527 ha (4.0%)	23 ha (1.0%)	14 ha (2.1%)	513 ha (4.1%)
Total	13,191 ha	2,312 ha	652 ha	12,539 ha



Vegetation Condition

Figure 7-4

- Development Envelope
 - Roads
 - Combined Survey Area
- Vegetation Condition**
- Excellent
 - Very Good
 - Good
 - Poor
 - Degraded
 - Completely Degraded



Scale: 115000
 Date: 31/10/2025
 Author: McDonald, Lachlan R.

Coordinate System:
 GDA2020 / MGA zone 51



7.3.2.4 Significant Vegetation

Desktop searches of Threatened Ecological Communities (TEC) and Priority Ecological Communities (PEC) identified no TECs and one PEC within the desktop search area. This was the Emu Land System (P3) and is located 16.5 km outside the Study Area. None of the vegetation types mapped across surveys are analogous to TECs or PECs (Phoenix 2025a), and consequently there is very low risk of any being present within the DE.

Within the DE, five vegetation types are considered to potentially have some local significance, based on their restricted extent or potential suitable habitat for Priority flora species. These vegetation types are not formally listed under State or Commonwealth legislation but may be considered significant in the context of the local landscape (Phoenix 2025a):

- MsMsEpa (18.3 ha): spatially restricted within the DE representing less than 1% of DE.
- CpSafMs (43.0 ha), CpSsAe (109.7 ha), EISsMt (424.3 ha), ErEpMt (493.2 ha): Potential suitable habitat for Priority flora.

There were no groundwater dependent ecosystems identified during the field survey (Phoenix 2025a). Based upon the depth to groundwater, hypersaline nature of groundwater, and lack of identified vegetation associations, it can be concluded that no groundwater dependent ecosystems are located within the DE.

7.3.3 Flora

A total of 131 flora taxa across 27 families and 62 genera were recorded in the DE including 124 native species, six introduced species and one unidentified species (Phoenix 2025b). The most prominent families recorded were Chenopodiaceae (24 spp.), Scrophulariaceae (18 spp.), Poaceae (15 spp.), Fabaceae (13 spp.), Asteraceae (11 spp.) and Myrtaceae (10 spp.).

7.3.3.1 Significant Flora

No Threatened flora were recorded within the Study Area or DE. Three Priority flora were identified in the Study Area including *Eremophila praecox* (Priority 2), *Allocasurina eriochlamys* subsp. *grossa* (Priority 3), *Notisia intonsa* (Priority 3). Two records of *Streptoglossa cylindriceps* (non-listed) were also identified within the DE which represents a range extension of 80 km and are potentially locally significant, despite the species having an expansive range across Australia. The DE has been designed to excise Priority flora and protect these plants within exclusion zones with protective buffers.

The only Priority flora species within 500 m of the DE is *Eremophila praecox* (P2). *E. praecox* is a small, broom-like shrub growing 1.5 – 3 m tall with purple flowers typically in October or December. *E. praecox* is distributed over an area of approximately 140 km north-south by 110 km east-west around Kalgoorlie. Suitable habitat is also likely to occur outside its currently known range (Phoenix, 2019). Targeted surveys undertaken across multiple years have confirmed that *E. praecox* is more widely distributed, more abundant, and occupies a greater variety of habitats than previously recorded in databases such as FloraBase or NatureMap.

This species typically occurs at low densities in Eucalyptus and/or Casuarina woodlands with an understorey of Acacia, *Eremophila*, Senna, and *Maireana* species. Soils are generally red clay loam on flat to gently undulating plains (Phoenix 2024b). These habitat types are common both within the DE and the surrounding Study Area and broader landscape.

A targeted regional survey (Phoenix 2025c) recorded 93 plants across eight different land systems (BB5, Campsite, Doney, Gumland, Kanowna, Moriarty, Mx43, Yilgangi) (Phoenix 2025c). Some of these land systems are present within or near the current DE. In addition, *E. praecox* has also been recorded in disturbed areas and rehabilitated sites, suggesting a broader ecological tolerance than many conservation-listed flora.

Additional populations of *E. praecox* were recorded by Phoenix during 2023 and 2024 surveys, adding a further 30 individuals, primarily in Eucalyptus and Casuarina woodlands. The current total number of known

records for this species is 785 individuals across the Goldfields region (Phoenix 2025c) as shown in Figure 7-6.

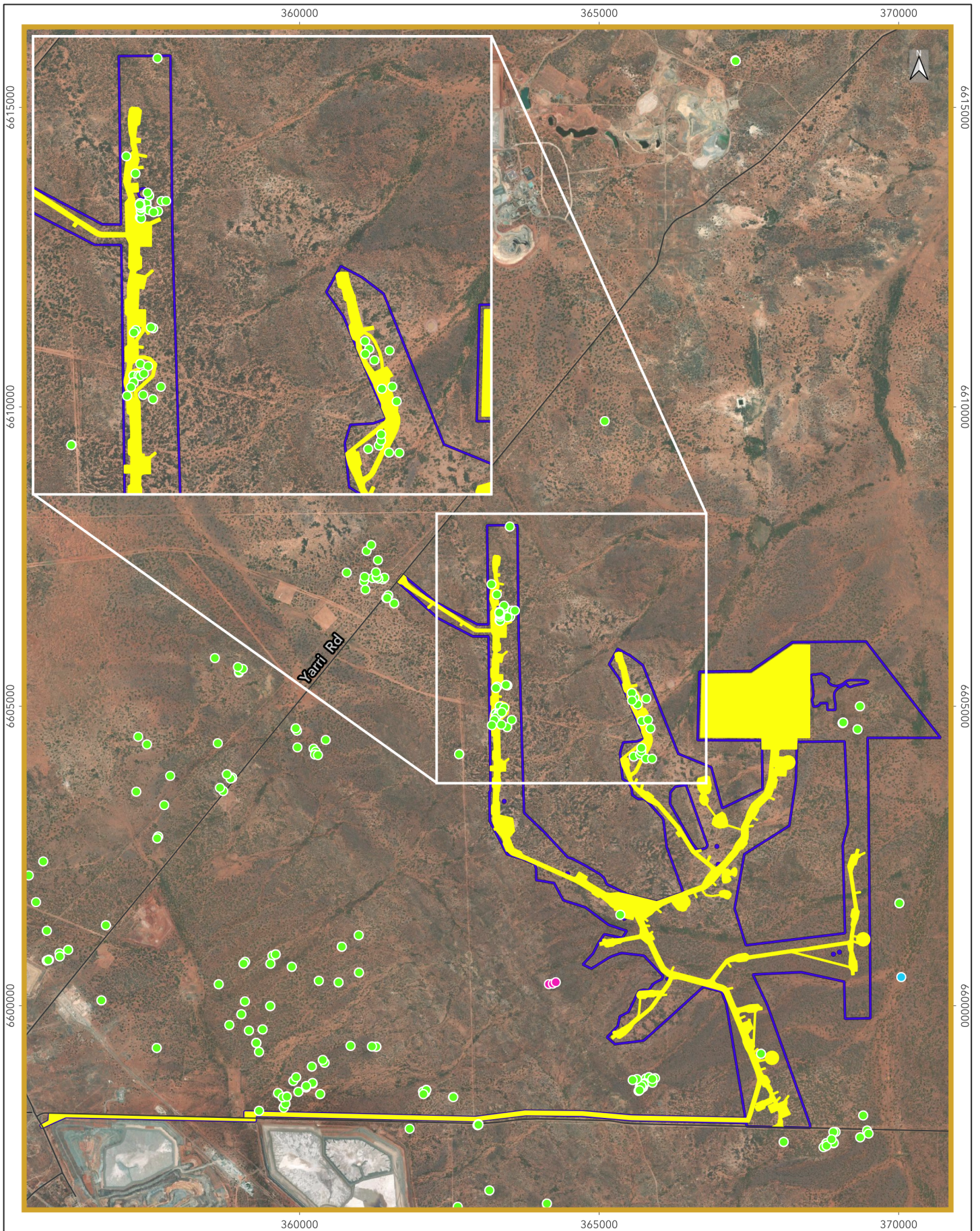
Of these, over 28% occur within conservation reserves, including Karrawang Nature Reserve and Bullock Holes Timber Reserve (Phoenix 2025c; WA Herbarium, 1998).

7.3.3.2 *Introduced Flora*

Six introduced flora species were recorded in the DE by Phoenix (2025c):

- *Mesembryanthemum nodiflorum* (Slender Iceplant)
- *Centaurea melitensis* (Maltese Star-thistle)
- *Carrichtera annua* (Ward's Weed)
- *Salvia verbenaca* (Wild Clary)
- *Pentameris airoides subsp. airoides* (False Hairgrass)
- *Lysimachia arvensis* (Scarlet Pimpernel)

None of these introduced flora species are classified as Declared Pests or Weeds of National Significance (WoNS). The nearest known WoNS is African Boxthorn (*Lycium ferocissimum*), which has been recorded in two locations, 343 m and 114 m north of the DE.



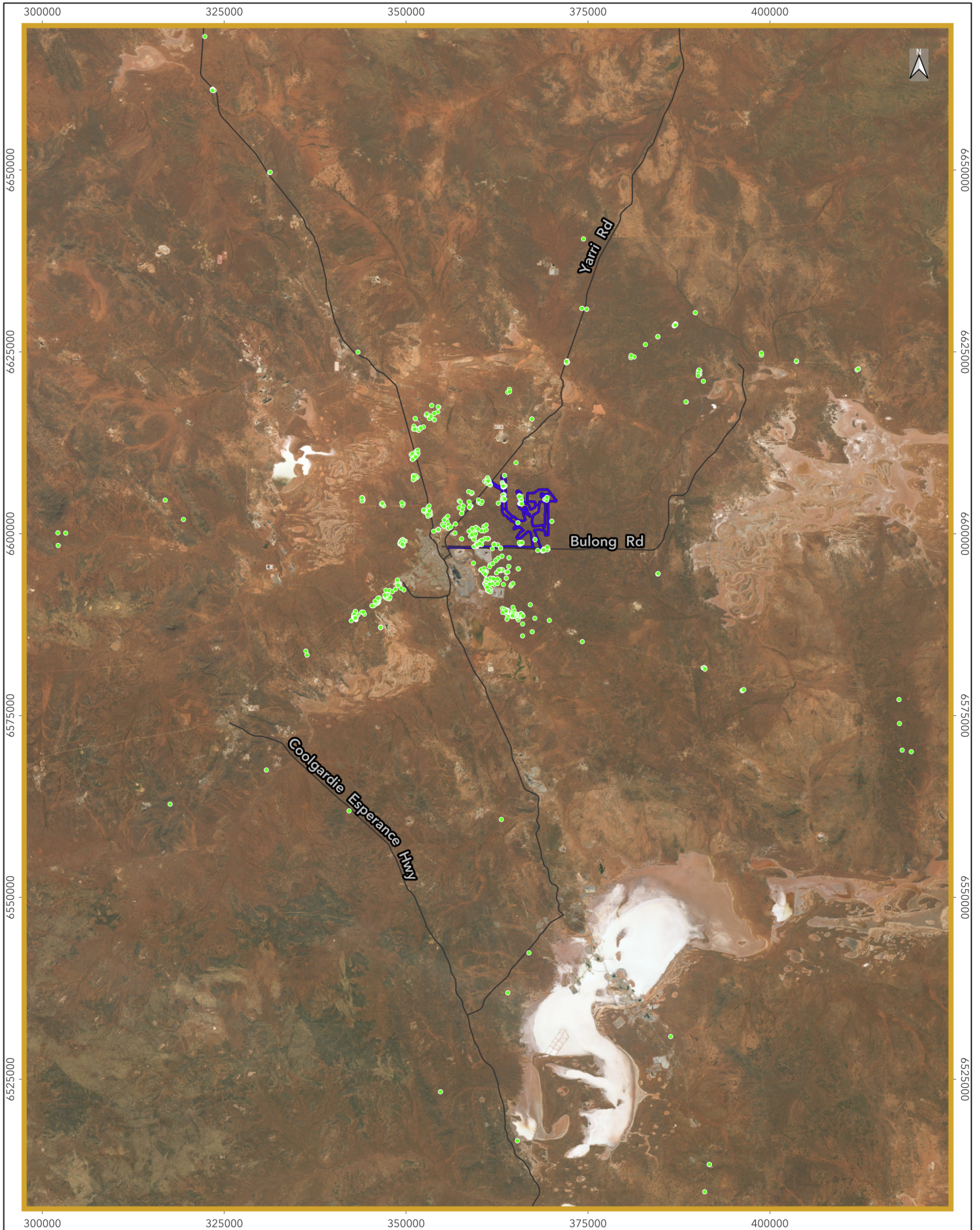
Conservation Significant Flora

Figure 7-5

- ▭ Development Envelope
- Roads
- ▭ Indicative Footprint
- *Allocasuarina eriochlamys* subsp. *grossa* (P3)
- *Eremophila praecox* (P2)
- *Notisia intonsa* (P3)



NORTHERN STAR
RESOURCES LTD



E.praecox Regional Extent

- Development Envelope
- Roads
- *Eremophila praecox* (P2)



NORTHERN STAR
RESOURCES LTD

Figure 7-6

7.4 Potential Environmental Impacts

7.4.1 Direct Impacts

Potential direct impacts to flora and vegetation resulting from implementation of the Proposal are primarily related to clearing of native vegetation in the construction stage. Very minimal risks of clearing (i.e. vehicle inadvertently driving off road) are applicable during the operational stage of the Proposal. Direct impacts during the construction stage are anticipated to include:

- Clearing of up to 652 ha of native vegetation in predominantly good to excellent condition, including 305.4 ha of vegetation that may be locally significant due to having a limited extent in the DE or providing suitable habitat for Priority flora.
- Loss of up to two individuals of *S. cylindriceps* (unlisted - potential range extension) within the DE.
- Unauthorised clearing of Priority Flora outside the DE.

While the DE contains 1,129 ha of vegetation types that may be locally significant due to having a limited extent in the DE or for providing suitable habitat for Priority flora species, due to the nature of the Proposal being primarily linear infrastructure, clearing of these vegetation types will be limited.

Of these vegetation types, clearing the Indicative Footprint is anticipated to remove:

- 0.5 ha of vegetation unit MsMsEpa (2.7% of the 18.3 ha within the DE).
- 304.9 ha of vegetation types that may provide habitat to *E. praecox*, including:
 - CpSafMs - 9.2 ha
 - CpSsAe - 10.4 ha
 - EISsMt - 155.1 ha
 - ErEpMt - 130.2 ha

7.4.2 Indirect Impacts

Potential indirect impacts on flora and vegetation resulting from implementation of the Proposal are also primarily related to the construction stage where activity and subsequent likelihood of risk is greater. Once construction transitions to operations the risk drops substantially. Indirect impacts are anticipated to include:

- Fragmentation of vegetation impacting on ability for flora to disperse and potentially isolating populations. *E. praecox* individuals that have been protected via Exclusion Zones and have been recorded in both intact and disturbed environments.
- Potential introduction and / or spread of introduced flora within the DE.
- Fugitive dust emissions potentially affecting proximal flora and vegetation causing decline in health.
- Altered fire regimes due to hot works and vehicle movements during construction activities which may increase bushfire risk.
- Altered hydrological flows resulting from earthworks impacting on flora and vegetation (i.e. starvation or flooding).

7.4.3 Cumulative Impacts

The remaining extent of the three vegetation associations within the DE is over 96% of the Statewide pre-European vegetation representation, with the DE making up between <0.1 - 0.2% of the extents. The Proposal is therefore unlikely to result in significant cumulative impacts on flora and vegetation. Cumulative impacts are discussed further in Section 14.

7.5 Mitigation Hierarchy

The Proposal has been developed in accordance with the mitigation hierarchy: avoid, minimise, and rehabilitate, to reduce potential impacts on flora and vegetation. Specific measures to avoid, minimise and rehabilitate potential impacts from the Proposal are outlined in the sections below. The detailed design for the Proposal has been developed concurrently with the flora and vegetation surveys undertaken for the Proposal. This has enabled an iterative approach, where the detailed design of the Proposal has been

modified to avoid potential impacts flora and vegetation, as well as other environmental aspects. Application of the mitigation hierarchy is detailed in Table 7-6.

Table 7-6: Flora and Vegetation: Mitigation Hierarchy

Mitigation Hierarchy	Aspect	Adopted Mitigation Measures	Efficacy of Controls
Avoid	Vegetation clearing	<ul style="list-style-type: none"> Iterative design optimisation with consideration of environmental impacts (15 revisions) have resulted in avoiding unnecessary vegetation clearing where possible. 	<p>Best Practice Design optimisation to avoid clearing of vegetation is the most effective control to ensure that potential impacts are managed ALARP.</p>
	Significant flora	<ul style="list-style-type: none"> Excision of all known individuals of <i>E. praecox</i> from the DE in designated Exclusion Zones. Implementation of the Land Disturbance Procedure (NSR-ENV-001-PRO) and Disturbance Permit Process (NSR-ENV-001-SWI), which are well established across Northern Star to manage clearing activities. 	<p>Best Practice Design optimisation to avoid all direct impacts to listed significant flora is the most effective control to ensure that potential impacts are managed ALARP.</p>
Minimise	Vegetation clearing	<ul style="list-style-type: none"> Clearing limited to the extent necessary for develop of the Proposal. Indicative Footprint designed to minimise clearing of MsMsEpa, which although unlisted may be locally significant due to limited extent. 	<p>Standard Industry Practice Controls will minimise impacts to Flora and Vegetation will be implemented via the EMP (Appendix D). Specified controls are consistent with industry practise and widely utilised as effective mitigation measures.</p>
	Significant flora	<ul style="list-style-type: none"> Indicative Footprint has been optimised to avoid <i>E. praecox</i>. Protective buffers have been applied to ensure no direct disturbance. 	
	Dust	<ul style="list-style-type: none"> Clearing conducted progressively where practicable, to minimise potential dust emissions. Dust suppression during all clearing and earthworks activities. Visual dust monitoring and cessation of clearing during extreme winds. 	
	Weeds	<ul style="list-style-type: none"> Mobile plant hygiene inspections before entering site. Weekly environmental inspections including weed observations. Weed control implemented as required (i.e. weed infestation). 	
	Fire	<ul style="list-style-type: none"> Development of a Proposal Emergency Response Plan. Provision of firefighting equipment and onsite water supply. 	
	Hydrological Regimes	<ul style="list-style-type: none"> Construction of drains and culverts to maintain hydrological flows. Topsoils and subsoils stripped and stockpiled away from drainage flows to prevent erosion. 	
Rehabilitate	Progressive rehabilitation	<ul style="list-style-type: none"> All topsoil harvested and stockpiled for rehabilitation. Rehabilitation of temporary disturbances commencing following conclusion of construction activities. Remaining operational disturbances will be rehabilitated following decommissioning of the Proposal. 	<p>Standard Industry Practice Progressive rehabilitation will be conducted in accordance with the MCP following approval by DMPE.</p>
Offset	Provision of environmental offsets	The Proposal will not result in any significant residual impacts to Flora and Vegetation and therefore no environmental offset is required.	N/A - not required.

7.6 Significance of Residual Impacts

Based on the consideration of adopted mitigation measures, an assessment of residual impacts to Flora and Vegetation has been undertaken by the Proponent. The assessment has determined whether the residual impact is expected to be significant based upon the environmental values associated with the residual impact. The assessment of significance of residual impacts to Flora and Vegetation is detailed in Table 7-7.

Table 7-7: Flora and Vegetation: Assessment and Significance of Residual Impacts

Impact	Impact	Residual Impact	Significance
Direct	Loss of up to 652 ha of good to excellent condition vegetation.	12,538 ha (95%) of vegetation within the Study Area will be retained with over 90% of this vegetation in good to excellent condition.	Not significant
	Loss of about 304.9 ha that may provide habitat to <i>E. praecox</i> (P2).	4,093 ha (93%) of habitat suitable for <i>E. praecox</i> will be retained within the Study Area. While vegetation types CpSafMs, CpSsAe, EISsMt and ErEpMt may provide suitable habitat for <i>E. praecox</i> , this species occurs in a variety of vegetation types and land units throughout the region and vegetation types within the DE are not critical for conservation of the species.	Not significant
	Loss of an estimated 0.5 ha of vegetation community type MsMsEpa that has a limited extent in DE.	While only 18.3 ha of MsMsEpa has been mapped within the DE, the Indicative Footprint would only require clearing 0.5 ha (2.7%) of this vegetation type (>97% retained).	Not significant
	Loss of up to two individuals of <i>S. cylindriceps</i> (non-listed) but potential range extension.	This species widely distributed across Western Australia, Northern Territory and South Australia and clearing these plants is unlikely to have a significant impact on this species. Based on the Indicative footprint, clearing of these plants may be avoided.	Not significant
Indirect	Fragmentation of vegetation within DE.	Fragmentation will be localised to DE and temporary, as cleared areas will be revegetated following decommissioning. Fragmentation is unlikely to have a significant impact on dispersal of <i>E. praecox</i> considering this species has been recorded in a variety of intact and disturbed landscapes. Fragmentation would be temporary, with rehabilitation to be implemented to reinstate vegetation progressively and at closure.	Not significant
	Minor changes to localised drainage patterns.	Surface water drainage will be maintained with suitable drainage infrastructure such as drains and culverts. No downstream impacts to drainage and water quality is anticipated.	Not significant
	Potential for introduction or proliferation of introduced flora.	Unlikely with mitigation measures adopted (weed hygiene measures and weed control).	Not significant
	Dust impacts on flora and vegetation.	Unlikely with mitigation measures adopted (progressive clearing and dust suppression).	Not significant
	Bushfire impacts on flora and vegetation.	Unlikely with mitigation measures adopted (emergency response).	Not significant
Cumulative	Loss of <0.1% - 0.2% of each regional vegetation association.	Vegetation associations are well represented and will retain over 96% of their extent following implementation.	Not significant

7.7 Environmental Outcomes

With consideration of the adopted mitigation measures and residual environmental impacts, the anticipated environmental outcomes for the Proposal meet the EPA's objective of Flora and Vegetation. The Proposal is not expected to significantly impact biological diversity and ecological integrity, and proposed environmental outcomes can be managed under other approvals as outlined in Table 7-6.

Table 7-8: Flora and Vegetation Environmental Outcomes

Environmental Outcome	Manageable under Other Approval	Monitoring and Reporting
Clearing limited to maximum of 652 ha of native vegetation.	Yes - NVCP and MDCP Clearing can be managed under NVCP and Mining Act Approval Statement conditions following grant (pending the Proposal not being assessed by the EPA).	<ul style="list-style-type: none"> • Internal Disturbance Permit • Post-clearing survey. • GIS database recording of clearing disturbances. • NVCP Annual Compliance Reports. • AER and MRF reporting (DMPE)
No clearing beyond the DE.	Yes - MDCP Impacts can be managed under Approvals Statement conditions, specifically DMPE standard environmental outcome F1: <i>Mining activities undertaken in a manner that avoids detrimental impacts to native vegetation outside of the activity envelope</i>	<ul style="list-style-type: none"> • Weekly environmental compliance inspections during construction. • Internal Disturbance Permit • Post-clearing survey. • GIS database recording of clearing disturbances. • AER and MRF reporting (DMPE).
Implementation of EMP to mitigate impacts to Flora and Vegetation.	Yes - MDCP Impacts can be managed under Approvals Statement conditions, specifically a nonstandard condition can be requested to ensure the EMP is a statutory requirement of approval.	<ul style="list-style-type: none"> • Monitoring in accordance with EMP. • AER (DMPE).
No clearing of Priority Flora individuals without approval.	Yes - NVCP Clearing can be managed under NVCP conditions following grant (pending the Proposal not being assessed by the EPA).	<ul style="list-style-type: none"> • Internal Disturbance Permit • Post-clearing survey. • GIS database recording of clearing disturbances. • NVCP Annual Compliance Reports.
Progressive rehabilitation of 229 ha temporary disturbances	Yes - MCP Impacts can be managed under MCP conditions, specifically DMPE standard closure outcome C9: <i>Rehabilitated land is consistent with agreed reference vegetation communities and/or with the post-mining land use.</i>	<ul style="list-style-type: none"> • Monitoring in accordance with MCP. • GIS database recording of rehabilitation status • AER and MRF reporting (DMPE).