



mainroads
WESTERN AUSTRALIA

Lamb Creek Iron Ore Project – Great Northern Highway Intersection

Environmental Impact Assessment (EIA)

January 2025

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Amendments

Report Compilation & Reviews	Name and Position	Document Revision	Date
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Reviewer:	Linda Kirchner Technical Director - Environment	Rev B	22 April 2022
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Author:	James Pederick Principal Environmental Scientist	Rev 0	9 August 2022
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Reviewer:	Kate Thomson Technical Director - Environment	Rev 1	8 September 2022
Author:	James Pederick Principal Environmental Scientist	Rev 2	01 November 2022
Reviewer:	Alix Chinnery Principal Environmental Scientist	Rev 2	01 November 2022
Author:	Gefen Juran Graduate Environmental Scientist	Rev 3	27 May 2024
Reviewer:	Margaret Dunlop Principal Environmental Scientist	Rev 3	31 May 2024
Reviewer following client comments:	Margaret Dunlop Principal Environmental Scientist	Rev 4	5 July 2024
Reviewer:	Alix Chinnery Associate Director - Project Management, Environment WA	Rev 00	20 January 2025

1 SUMMARY

1.1 Project Information

Project Title: Lamb Creek Iron Ore Project – Great Northern Highway Intersection

Project location(s): The project area is located on the Great Northern Highway (GNH), between SLK 1293 and 1295 in the Shire of East Pilbara as shown in Figure 1.

Project purpose / components: Process Minerals International (ACN 063 988 894), a wholly owned subsidiary of Mineral Resources Limited (ACN 118 549 910), herein MinRes, is progressing development of the Lamb Creek Iron Ore Project (LCIOP), a new iron ore mine situated approximately 130 kilometres by road north-west of Newman. Development of the LCIOP will involve construction of an intersection linking the proposed mine access road with the GNH. In addition to the intersection, MinRes requires the installation of acceleration and turning lanes to provide access into and out of the LCIOP from the GNH, and upgrade of associated existing surface water drainage features. There will also be a construction compound south of the GNH intersection for material stockpiling and other construction support services.

This application is only relevant to the southern disturbance area of the greater Lamb Creek Iron Ore Project at the intersection with the GNH (as shown in Figure 1) as clearing for the main access road and mine site activities is being sought (submitted 8 January 2025, APP-0026940) through Part IV of the *Environmental Protection Act 1986* (EP Act). The majority of the GNH intersection and associated clearing is located within Main Roads WA (MRWA) road reserve. Up to 8.6 ha of vegetation clearing within the road reserve is proposed for construction of the Project and is the subject of this clearing permit application.

Area proposed to be cleared: 8.6 ha of native vegetation within a 13.2 ha Development Envelope.

Temporary clearing required: None.

A project specific clearing permit is required to clear native vegetation as part of the project activities. Details regarding native vegetation clearing and an assessment against the clearing principles are addressed separately in the Clearing Assessment Report (CAR).

This Environmental Impact Assessment (EIA) has been undertaken to assess activities associated with the Project and the potential impacts upon the environment.

1.2 Impacts to Key Environmental Aspects

The effect of the Project on environmental aspects can be summarised as follows:

- **Wetlands** – No wetland systems or waterways of significance are present within 1 km of the Development Envelope.
- **Flora and vegetation** - Clearing of up to 8.6 ha of native vegetation, ranging from Very Good to Poor condition.
- **Flora and vegetation** – A total of 22 *Aristida lazaridis* (DBCA Priority 2) occurrences within the proposed Development Envelope. One record of *Aristida jerichoensis* var. *subspinulifera* (P3) was recorded in the Development Envelope but outside the Indicative Footprint. One record of *Seringia exastia* (EPBC Act Critically Endangered) was found within the Indicative Footprint. This species has been delisted at a State level because of its' common nature in the Pilbara and is anticipated to be delisted at a Commonwealth level in the near future.
- **Flora and vegetation** – No TECs or PECs occur within the Development Envelope.
- **Flora and vegetation** – No Threatened flora occur within the Development Envelope.
- **Fauna** – No fauna species of conservation significance have been identified within the Development Envelope.

- **Fauna** – No Short-Range Endemic (SRE) species have been identified within the Development Envelope.

The impacts associated with the Project activities are not likely to be significant and therefore referral to the Western Australian (WA) Environmental Protection Authority (EPA) is not considered necessary.

The Project will not have a significant impact on Matters of National Environmental Significance (MNES) and for this reason; the Project does not warrant referral to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW).

1.3 Key Environmental Management Actions

The Construction Environmental Management Plan (CEMP) (see Appendix B) refers to Principal Environmental Management Requirements (PEMR) and contain Main Roads' standard environmental management actions. Where specific environmental management requirements have been identified (from approvals or by the MRWA Environmental Officer), these shall also be added to the PEMR and noted as a specific management requirement in the CEMP.

1.4 Approvals Strategy

The approvals strategy for this Project is provided in Table 1.

Table 1 Approvals Strategy

Approval Type	Tick Yes if Applicable	Approval/Ref Number
Statewide CPS 818	N/A	
Statewide CPS817	N/A	
Project Specific Clearing Permit	☞	
Exemption	N/A	
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	N/A	
<i>Environmental Protection Act 1986 – Part IV: Referral of Proposals to the Environmental Protection Authority (EPA) (Section 38)</i>	N/A	
<i>Environmental Protection Act 1986 – Part V; Works Approval & Licences.</i>	N/A	
Bed and Banks Permit under the <i>Rights in Water and Irrigation Act (1999)</i>	N/A	
Section 18 under the <i>Aboriginal Heritage Act 1972</i>	N/A	
Other:	N/A	

2 INTRODUCTION

Process Minerals International (PMI), a wholly owned subsidiary of Mineral Resources Limited (MinRes) propose a road intersection, tying into the GNH as part of the construction of the LCIOP.

Following consultation by MinRes with Department of Water and Environmental Regulation (DWER), agreement has been reached on obtaining a Native Vegetation Clearing Permit (NVCP) through a combined approval process with a DWER purpose permit application to be submitted together with MRWA's consent and supporting documents that are consistent with an application to MRWA to utilise their State-wide clearing permit CPS 818/15. The Project will require the targeted clearing of approximately 8.6 ha of native vegetation (Indicative Footprint) within a 13.2 ha Development Envelope. MRWA (2023) have provided written authorisation for MinRes to submit this NVCP application for vegetation removal within the road reserve.

3 PROJECT DESCRIPTION

The proposed GNH intersection is required to support MinRes' proposed LCIOIP, connecting the proposed LCIOIP access road with the GNH.

The GNH intersection indicative footprint for this NVCP is provided in Figure 1 Project Area. The indicative footprint excludes the proposed access road to the LCIOIP, as disturbance associated with the LCIOIP development will be sought under Part IV of the EP Act.

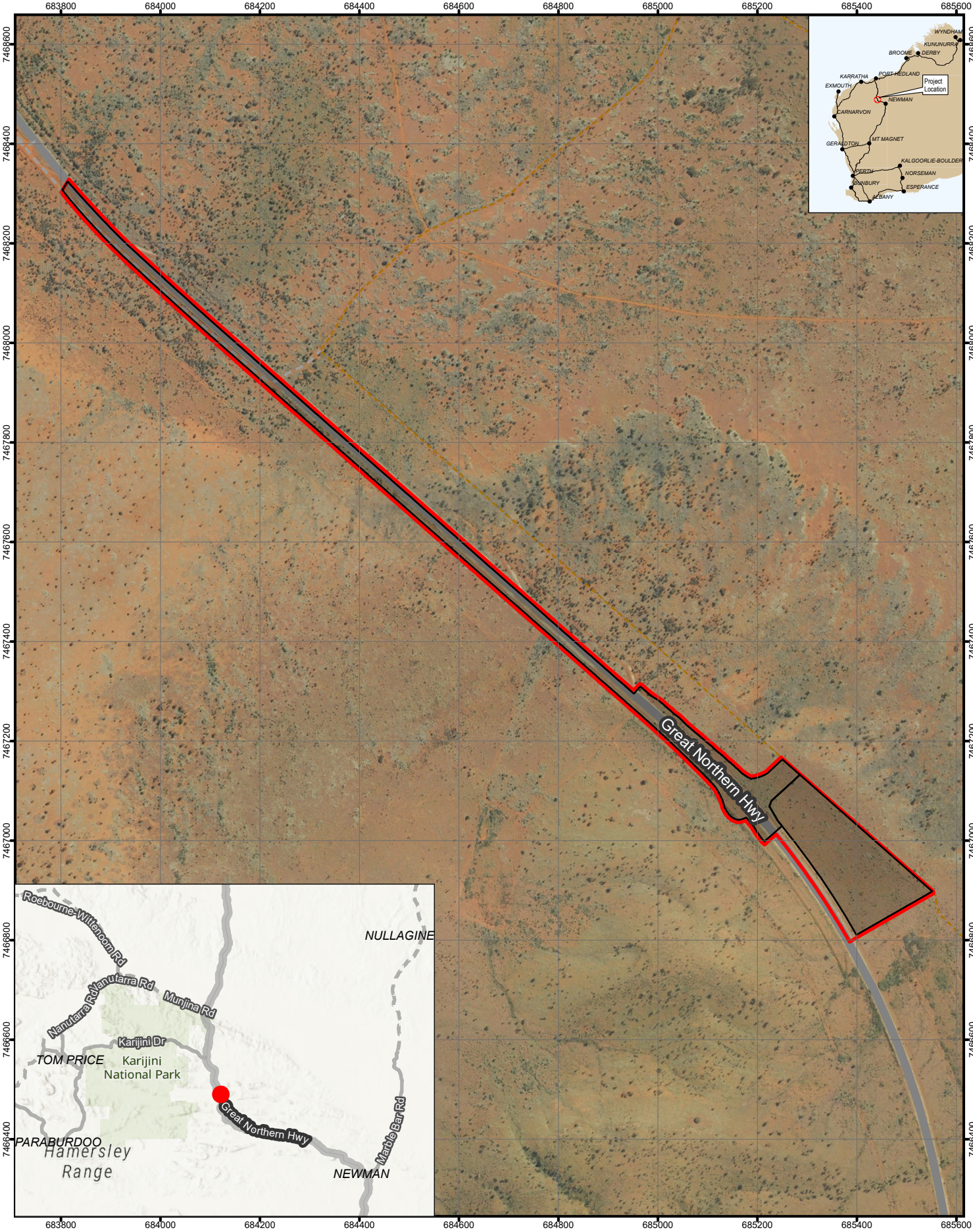
The works involve installation of an intersection, including acceleration and turning lanes to provide access into and out of the LCIOIP from GNH, and upgrade of associated existing surface water drainage features. There will also be a construction compound south of the GNH intersection for material stockpiling, equipment park up and other construction support services. To support this development and the larger access road corridor, MinRes have obtained tenure for L47/1008 to expand the overall LCIOIP Project footprint area.

Construction is expected to commence once the NVCP and *Mining Act 1978* approvals are granted.

3.1 Project Location

The Project lies within the GNH road reserve between SLK 1293 and 1295, located 130 km by road north-east of Newman in the Shire of East Pilbara.

The location and boundaries of the study area (5 km radius) for the project are shown in Figure 2.



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APPROVED BY J. PEDERICK
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Datum: GDA2020 MGA Zone 50
0 50 100 150 200
metres

Data sources:
Base Data: (c) Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2010).
Service Layer Credits: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS
WMS:
World Hillshade: Esri, USGS

LEGEND
 Development Envelope (DE)
 Indicative Footprint (IF)

Project Area

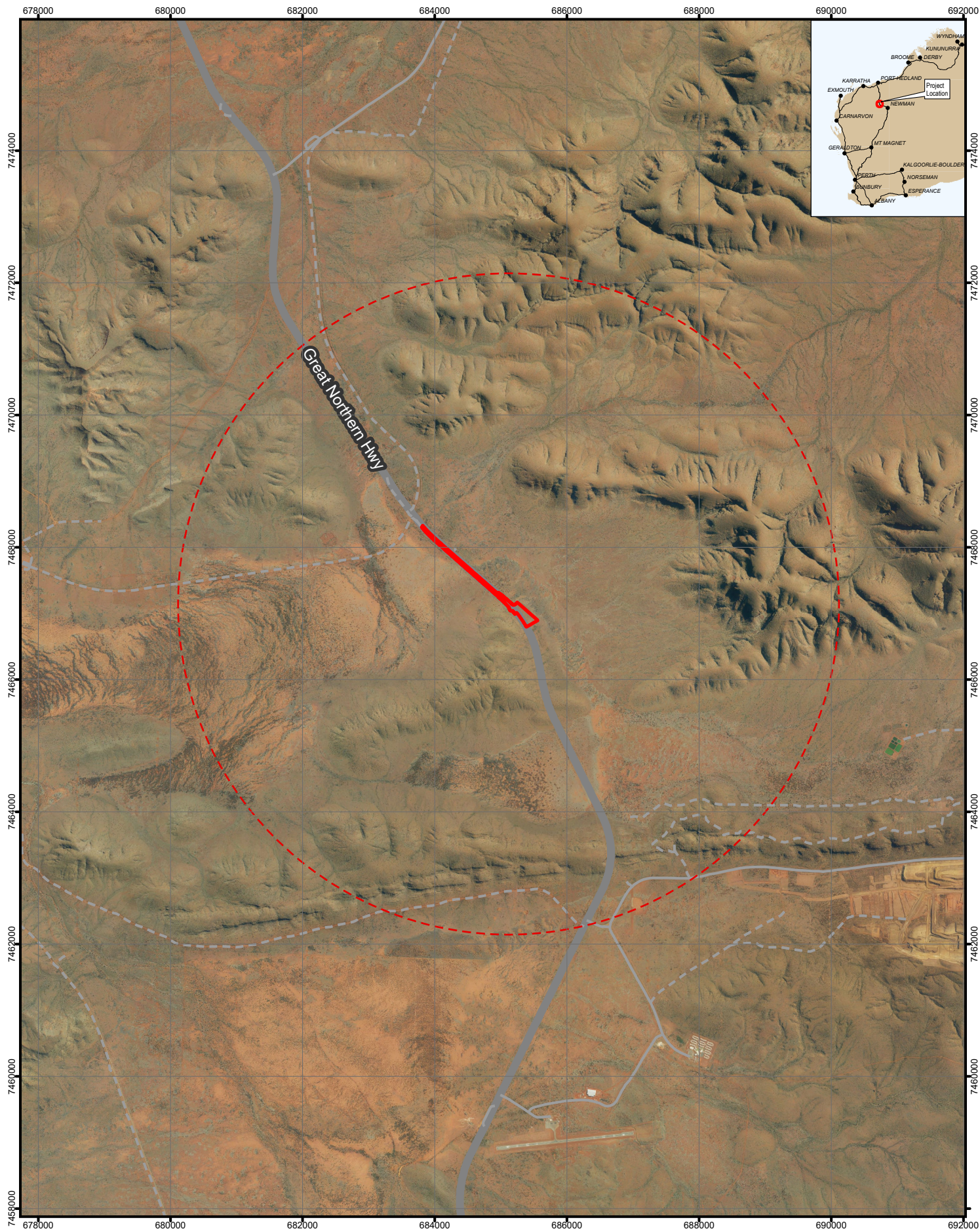
MINERAL RESOURCES LIMITED (MINRES)

LAMB CREEK IRON ORE PROJECT – GREAT NORTH HIGHWAY INTERSECTION, ENVIRONMENTAL IMPACT ASSESSMENT

Figure 1

Project: \\na.aecomnet.com\ifs\APAC\Perth-AUPER1\Legacy\Projects\606X\60650191\900_CAD_GIS\920_GIS\02_MXD\15_Lamb Creek\61650191_LambCreek_v2.aprx (rob.mcgregor),
Layout: EIA_61650191_Fig1_SurveyArea_A4P_v1, Last exported: 8/08/2022 2:19 PM

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LEGEND

- Development Envelope (DE) 5km Buffer
- Development Envelope (DE)

Datum: GDA2020 MGA Zone 50
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Data sources:
Base Data: (c) Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2010).
Service Layer Credits: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS
Landgate, Subscription Imagery/WANow:
World Hillshade: Esri, USGS

Project Location and Study Area

MINERAL RESOURCES LIMITED (MINRES)

LAMB CREEK IRON ORE PROJECT –
GREAT NORTH HIGHWAY
INTERSECTION

Figure
2

4 METHODOLOGY

4.1 Preliminary Desktop Study

A preliminary assessment of the Development Envelope and the potential constraints of the proposal were undertaken by viewing Main Roads Integrated Mapping System (IMS), viewing ArcGIS shapefiles, reviewing government agency managed databases and consulting with relevant stakeholders where necessary.

A detailed and targeted flora, vegetation and fauna assessment was conducted by Rapallo Environmental in two phases in April 2020 and May 2021 covering the Project Development Envelope (Appendix A). An additional vegetation survey of the Development Envelope was undertaken by Umwelt in August 2022. The desktop assessment and biological surveys will be used to determine whether there are any potential constraints associated with the Project activities. Key stakeholders were also consulted to engage and inform them of the proposed activities. Information from stakeholders was considered and incorporated in this report where practicable.

Further detail regarding the outcome of the assessment is provided in Section 5.

4.1.1 Commonwealth Referral

The decision whether to refer the project to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) considered whether the project may have a significant impact upon MNES, which are protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). These include: World Heritage properties, National Heritage places, wetlands of international importance (listed under the Ramsar convention), Commonwealth land or marine areas, migratory species protected under international agreements, nuclear actions, nationally threatened species and ecological communities and water resources.

The DAWE Protected Matters Search Tool (PMST) was used to determine whether the project would have a significant impact upon MNES, followed by an AECOM review of the DCCEEW Protected Matters Search Tool (PMST) (Appendix C). Section 8 details the outcome of the search and a discussion on the report findings and potential significance of the project's impact.

4.1.2 State Referral

The decision to refer the project to the WA EPA was based on whether the project would impact on environmental factors significantly enough to require referral under Section 38 of the EP Act. While a referral for the Lamb Creek Iron Ore Project has been submitted by MinRes (submitted 8 January 2025, APP-0026940), the GNH Intersection project is not included in the referral and will seek approval through Part V of the EP Act.

5 ASSESSMENT OF ASPECTS AND IMPACTS

5.1 Aspects and Impacts

Table 2 is an evaluation of the potential impacts that the Project may have on key environmental aspects. Methodology for each aspect evaluation is contained in the Main Roads Guide to Preliminary Environmental Impact Assessment and a Preliminary Clearing Impact Assessment. The site investigations including biological surveys were conducted over an area greater than the Project footprint to allow for some flexibility in final design and construction footprint where necessary.

Table 2 Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
Aboriginal Heritage	A search of the Aboriginal Cultural Heritage Inquiry System (ACHIS) database confirms the proposed work area inside the MRWA Road Reserve does not intersect with any DPLH Registered Sites or Lodged Places. Furthermore, as part of the consultation and engagement with the Banjima People MinRes has conducted archaeological and ethnographic surveys of the proposed GNH intersection and greater LCIOP areas. No archaeological or ethnographic constraints were identified within the GNH intersection Project Development Envelope. The public boundary for DPLH Registered Site 7607, Whispering Trees Shelter is 1.8 km to the south of the proposed work area. The Great Northern Highway Road Reserve runs through the public boundary. DPLH Lodged Place ID 30213, Gaguna is located over 800 m to the north.
Acid Sulphate Soils	The Australian Soil Resource Information System (ASRIS) database indicates that the area is classified as Extremely Low Probability of Occurrence of Acid Sulphate Soils (ASS). As no dewatering or excavation below the water table is planned, no further investigations are required.
Air quality	Air quality is not relevant to the proposed project activities.
Contamination	Project activities are located within the road reserve and no known previous land use activities on or adjacent to the Development Envelope have had the potential to create contamination. A search of IMS/ArcGIS shapefiles/DWER's contaminated sites database indicates there are no identified contaminated sites within the Development Envelope.
Declared plants (weeds)	<p>Rapallo Environmental (2021) recorded nine introduced species across their survey area (for the greater LCIOP), these species include:</p> <ul style="list-style-type: none"> • <i>Aerva javanica</i> • <i>Bidens bipinnata</i> • <i>Stylosanthes hamata</i> • <i>Malvastrum americanum</i> • <i>Cenchrus ciliaris</i> • <i>Cenchrus setiger</i> • <i>Melinis repens</i> • <i>Portulaca oleracea</i> • <i>Solanum lasiophyllum</i>. <p>Only <i>Melinis repens</i> was identified within the GNH intersection Project Development Envelope during the 2020 and 2021 flora surveys (Rapallo 2021, 2022a).</p> <p>None of the weed species are listed as a Declared Pest under the <i>Biosecurity and Agriculture Management Act 2007</i> (Australian Government 2012, DAFWA 2021).</p>
Dieback	Dieback is not considered to be an issue as the project is located above the 26 th parallel and / or is an area that receives less than 400 mm of annual rainfall per year.
Dust	Dust is likely to be a minor issue during clearing and construction works. The closest sensitive receiver (Juna Downs Station homestead) is located 9 kilometres from the Development Envelope and will not be impacted by the proposed works.
Groundwater	The project is located in the Pilbara Proclaimed Groundwater Area. Groundwater extraction including dewatering will not be required for this Project.

Aspect	Evaluation of Potential Impacts
Hazardous substances	Hazardous substances are limited to the asphalt and fuel required for the works. Refuelling will occur in designated areas and spill kits will be available at all times. Asphalt and fuel spills will be cleaned up at the time of the spill and any affected (i.e. stained or odorous) soil will be removed and disposed of at an appropriate facility.
Heritage (non-indigenous)	<p>The State Heritage Register (inHerit database) and the Shire of East Pilbara Municipal Inventory has indicated that there are no known sites of heritage significance within the vicinity of the project area. A search of these databases using a 40 km buffer has indicated one heritage site:</p> <ul style="list-style-type: none"> Place number 14244 Weeli Wolli Pool (State Heritage Register and Shire of East Pilbara) ~ 40 km distance <p>No impacts to non-indigenous heritage sites are expected as part of the project activities.</p>
Land Vesting	The entire Development Envelope is located within the road reserve managed by Main Roads.
Noise and vibration	No major sensitive local receivers. Construction work is not expected to contribute to noise levels at the nearest sensitive receivers (9 km to the west), provided works are limited to normal working hours. The requirements of Shire East Pilbara must be met in respect of noise management and construction working hours.
Reserves / Conservation areas	A search of publicly available spatial data (SLIP portal) indicates no reserves or conservation areas are located within the vicinity of the project area. Karijini National Park is located to the west of the survey area, approximately 18 kilometres west of the proposed GNH intersection. Mungaroona Range Nature Reserve is approximately 100 kilometres north-west of the survey area.
Surface water/drainage	The project is located in the Pilbara Proclaimed Surface Water Area. The works will be undertaken in areas where drainage lines cross the road, but drainage infrastructure has been designed such that existing flow regimes will not be modified or changed. Water will not be taken from a watercourse or wetland.
Visual amenity	The proposed works will result in minor and short-term visual impacts during construction.
Wetlands	A search of publicly available spatial data (SLIP portal) indicates no wetlands (RAMSAR, geomorphic, etc.) are located within the vicinity of the project area. The nearest Nationally Important Wetland is the Fortescue Marsh located 52 km north of the biological survey area (DAWE 2022).

Vegetation

Up to 8.6 ha of native vegetation within a 13.2 ha Development Envelope is expected to be cleared (65.1 % of the total Development Envelope).

The native vegetation is represented by two vegetation associations:

- 18: Mulga *Acacia aneura* and associated species.
- 82: Hummock grassland with scattered bloodwoods & snappy gum *Triodia* spp., *Corymbia dichromophloia*, *Eucalyptus leucophloia*

The condition of the native vegetation to be cleared varies from Very Good to Degraded. A total of 2.9 ha of the Development Envelope is already cleared. Refer to Section 5.2 for further details.

Umwelt (2022) describes four native vegetation units within the Development Envelope. See Figure 4 also showing the extent of each vegetation type in the Development Envelope.

Code	Vegetation Type Description	Extent Within Area to be Cleared (ha)	% of Area to be Cleared
3	Isolated trees of <i>Corymbia hamersleyana</i> , <i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i> and <i>E. gamophylla</i> over low sparse shrubland of mixed <i>Acacia</i> species over low hummock grassland of <i>Triodia pungens</i> and <i>T. wiseana</i> on red-brown sandy clay loam on mid to lowerslopes with ironstone pebbles	6.2	72.1
7	Isolated trees of <i>Corymbia hamersleyana</i> , <i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i> and <i>Eucalyptus xerothermica</i> over low open to sparse shrubland dominated by <i>Acacia aptaneura</i> , <i>A. aneura</i> and <i>A. pruinocarpa</i> over low tussock grassland to sparse tussock grassland dominated by <i>Themeda</i> sp. Mt Barricade (M.E. Trudgen 2471), <i>Enneapogon polyphyllus</i> , <i>Chrysopogon fallax</i> and <i>Aristida</i> spp. With occasional <i>Triodia pungens</i> on red brown clay loam with some ironstone pebbles on plains	1.2	14.0
8	Isolated trees of <i>Eucalyptus xerothermica</i> over tall open to sparse shrubland of <i>Hakea lorea</i> subsp. <i>lorea</i> and <i>Acacia aptaneura</i> over low open tussock grassland of <i>Aristida contorta</i> , <i>A. inaequiglumis</i> and <i>Themeda triandra</i> on red-brown sandy clay to clay on plains	0.7	8.1
9	Low open woodland of <i>Corymbia hamersleyana</i> , <i>C. deserticola</i> subsp. <i>deserticola</i> , <i>Eucalyptus gamophylla</i> and <i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i> over tall sparse shrubland of <i>Acacia atkinsoniana</i> and occasional <i>A. ancistrocarpa</i> and <i>A. aptaneura</i> over low hummock grassland dominated by <i>Triodia pungens</i> and occasional <i>T. wiseana</i> with <i>Paraneurachne muelleri</i> also dominant on red-brown clay loam with ironstone pebbles on plains	0.5	5.8
Total		8.6	100%

The amount of clearing of vegetation types 3, 7, 8 and 9 as noted above, is unlikely to be significant as this vegetation type is broadly representative of the vegetation from the surrounding area (Development Envelope and surrounds).

Aspect	Evaluation of Potential Impacts
Biodiversity	<p>No Threatened Flora listed under the EPBC Act or WA <i>Biodiversity Conservation Act 2016</i> (BC Act) were identified within the Development Envelope (see Figure 5). Two species of Priority Flora (DBCA) and 1 threatened species listed by EPBC (see Figure 8) was identified in the Development Envelope including:</p> <ul style="list-style-type: none"> • 22 occurrences of <i>Aristida lazardis</i> (Priority 2). • 1 occurrence of <i>Aristida jerichoensis</i> var. <i>subspinulifera</i> (P3). • 1 occurrence of <i>Seringia exastia</i> (EPBC Act CE). <p>Two potentially undescribed taxon, <i>Euphorbia</i> aff. <i>ferdinandi</i> and <i>Corchorus</i> sp. were recorded from the Great Northern Highway intersection area (outside the Development Envelope) in Rapallo 2021 and Umwelt 2022 respectively. These taxa may represent new species. No vegetation recorded during the biological survey within the Development Envelope resembles any known TEC or PEC communities (Rapallo, 2021).</p> <p>A total of 97 individuals of <i>Aristida jerichoensis</i> var. <i>subspinulifera</i> (P3) were recorded at eight locations within the Study Area in Umwelt 2022 within vegetation type 8 one of these locations was recorded in the Development Envelope.</p> <p>The targeted conservation significant flora survey of the greater LCIOF area (2022a) recorded one Threatened flora species, <i>Seringia exastia</i>, listed as Critically Endangered under the EPBC Act. Previously <i>S. exastia</i> was also classed as Critically Endangered under the WA BC Act, however, as a result of taxonomic revision this species, <i>Seringia exastia</i>, has been merged from a common and a restricted species and is considered common and widespread based on review of Florabase (DBCA 2024), which shows the species occurring throughout the Pilbara. This species is anticipated to be delisted under the EPBC Act in the future. The occurrences of <i>S. exastia</i> identified in Umwelt (2022) was within the Indicative Footprint.</p> <p>Five species of vertebrate fauna listed as conservation significant under either the BC Act, the EPBC Act or ranked as a priority species by the DBCA have been recorded from or proximal to the greater Lamb Creek project area to date (see Figure 6). These are listed below:</p> <ul style="list-style-type: none"> • Northern quoll (<i>Dasyurus hallucatus</i>) listed Endangered under both the EPBC Act and BC Act – Confirmed, recorded in 2012. • Ghost bat (<i>Macroderma gigas</i>) listed Vulnerable under both the EPBC Act and the BC Act – Confirmed, recorded in 2012, 2020 and 2021. • Western pebble-mound mouse (<i>Pseudomys chapmani</i>) DBCA Priority 4 – Confirmed, mounds recorded throughout the Lamb Creek survey area in 2012 and 2020. • Fork-tailed Swift (<i>Apus pacificus</i>) listed migratory and marine under the EPBC Act – Confirmed, recorded in 2012. • Pilbara olive python (<i>Liasis olivaceus barroni</i>) listed Vulnerable under both the EPBC Act and the BC Act – Confirmed, recorded in 2012. <p>A further three species of conservation significance were considered likely to occur within the survey area. These were peregrine falcon (<i>Falco peregrinus</i> – listed Other Specially Protected Fauna under the BC Act), Gane's blind snake (<i>Anilius ganei</i> – DBCA Priority 1), and Pilbara barking gecko (<i>Underwoodisaurus seorsus</i> – DBCA Priority 2).</p>

Aspect	Evaluation of Potential Impacts
	<p>The habitat found within the Development Envelope is unlikely to be significant to these species due to the level of previous disturbance and proximity of the GNH. Also, due to the availability of habitat adjacent to the areas being cleared it is considered unlikely that these species will be significantly impacted (see Figure 7).</p> <p>Seven broad fauna habitat types were identified within the fauna survey area. These were, in decreasing order of extent; stony plain, hillcrest/hillslope, Mulga/Corymbia plain, minor drainage, Tussock grassland plain, medium drainage and gorge, gully and rocky breakaway. Additionally, a small portion of the fauna survey area comprised cleared areas.</p> <p>Rapallo (2022c) desktop assessment identified 30 potential SRE species (all arachnids) as previously recorded in the region. The Development Envelope does not contain typical habitat for restricted terrestrial invertebrate fauna species such as rocky gorges and springs and the species are unlikely to occur in the Development Envelope.</p>

5.2 Assessment of Vegetation Clearing

The Development Envelope lies within the Pilbara Bioregion in the Hamersley subregion. The Hamersley subregion comprises the southern section of the Pilbara Craton. It is a mountainous area of Proterozoic sedimentary ranges and plateaux, dissected by gorges (basalt, shale and dolerite). Geographically it is synonymous with the Hamersley vegetation system as described by Beard (1990). The dominant vegetation is mulga low woodland over bunch grasses on fine textured soils in valley floors, and *Eucalyptus leucophloia* (snappy gum) over *Triodia brizoides* on skeletal soils of the ranges. Drainage runs into either the Fortescue River to the north, or the Ashburton River to the south, or the Robe River to the west (Kendrick 2001).

The Project will require the targeted clearing of approximately 8.6 ha of native vegetation within a 13.2 ha Development Envelope. Project activities will be completed upon receipt of a Clearing Permit issued by Department of Water and Environmental Regulation (DWER) to undertake native vegetation clearing and a Mining Proposal issued by Department of Energy, Mines, Industry Regulation and Safety (DEMIRS). Details regarding native vegetation clearing and an assessment against the clearing principles are addressed separately in the Lamb Creek GNH Intersection project Clearing Assessment Report (CAR).

5.2.1 Measures to Avoid and Minimise Clearing

The design and management measures implemented to avoid and minimise the project clearing impacts are provided in Table 3.

Further details on how the clearing impacts have been avoided and minimised include:

- Demarcate clearing boundaries prior to clearing;
- Clearing activities completed to ensure machinery stays within the approved clearing area;
- Pre-Starts to detail the approved clearing areas and what environmental values they contain;
- Infrastructure used to maintain surface drainage patterns, if required (e.g. culverts, diversions);
- Construction during rainfall avoided where practicable;
- Prior to clearing, Priority Flora in the immediate surrounds of the Development Envelope to be retained shall be flagged with a 5 m exclusion zone, where practicable;
- Topsoil to be retained for rehabilitation in nearby stockpiles, where practicable;
- Inspections will be conducted to assess compliance with the CEMP during operations;
- Hygiene inspections conducted for all vehicles and ground-engaging machinery, prior to entry and exit to site;
- A hygiene inspection checklist will be used to record the results of hygiene inspections;
- A practical completion inspection will be conducted to assess compliance completion of clearing; and
- Results of CEMP inspections will be recorded using an inspection checklist.

5.2.2 Vegetation Details

5.2.2.1 Project Site Vegetation Description

Beard (1976) mapping is used to determine the current extent of remnant vegetation remaining when compared to pre-European vegetation extent. The EPA's objective is to retain at least 30% of all pre-European ecological communities, which is consistent with recognised retention levels (EPA, 2016b).

The Development Envelope is located within two vegetation associations 82 and 18 and both have greater than 98.9% remaining in Western Australia. Table 3 and Figure 3 provide details of the Pre-European Vegetation Associations within the Development Envelope and the remaining extents of these associations. For a full description of the existing vegetation, refer to Appendix A.

Table 3 Summary of Project Area's Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 82 described as hummock grasslands, low tree steppe; snappy gum over <i>Triodia wiseana</i>	Clearing up to 6.3 ha	Native vegetation considered to be in Good condition (Rapallo Environmental 2021)	Vegetation description determined by the 2018 Statewide Vegetation Statistics (Government of Western Australia, 2019) and condition determined from the biological survey undertaken by Rapallo Environmental in 2021 (Rapallo Environmental, 2021).
Vegetation Association 18 described as low woodland with mulga (<i>Acacia aneura</i>)	Clearing of up to 6.9 ha	Native vegetation considered to be in Good condition (Rapallo Environmental 2021)	Vegetation description determined by the 2018 Statewide Vegetation Statistics (Government of Western Australia, 2019) and condition determined from the biological survey undertaken by Rapallo Environmental in 2021 (Rapallo Environmental, 2021).

Table 4 Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 18	Statewide	19,892,306.5	19,843,148.1	99.7	6.6
	IBRA Bioregion Pilbara	676,556.7	671,843.3	99.3	25.2
	IBRA Sub-region Hammersley	581,246.1	576,541.7	99.2	29.3
	Local Government Authority Shire of East Pilbara	359,372.1	355,446.5	98.9	1.5
Veg Assoc No. 82	Statewide	2,565,901.3	2,553,206.2	99.5	11.5
	IBRA Bioregion Pilbara	2,563,583.2	2,550,888.1	99.5	11.5
	IBRA Sub-region Hammersley	2,177,573.9	2,165,224.2	99.4	13.5
	Local Government Authority Shire of East Pilbara	927,709.8	919,072.2	99.1	0.5

5.2.3 Assessment against the Ten Clearing Principles

Details regarding native vegetation clearing and an assessment against the 10 Clearing Principles (EP Act, Schedule 5) are addressed separately in the Lamb Creek GNH Intersection Clearing Assessment Report (CAR).

6 ADDITIONAL ACTION REQUIRED

The proposed GNH intersection has been included as part of a Mining Proposal application (ID 500084) for the greater Lamb Creek Iron Ore Project, submitted to the DEMIRS on 20 December 2024.

Approval of the proposed design for the intersection has been provided by MRWA and authority for commencing construction in the road reserve will also be required from MRWA subject to meeting conditions of the design agreement reached with MinRes (e.g. Traffic Management Plan).

7 ENVIRONMENTAL MANAGEMENT

A Construction Environmental Management Plan (CEMP) has been developed to manage environmental impacts associated with the project. The CEMP is provided in Appendix B.

8 COMMONWEALTH ASPECTS AND IMPACTS

A preliminary assessment involving a desktop analysis of MNES was undertaken. The assessment was used to determine whether the project significantly impacts on a MNES and would require referral to the Commonwealth DAWE.

The existing environment, nature and extent of impact or potential impact to the following MNES were assessed with regard to the project (Table 5).

Table 5 Assessment of Existing Environment, Matters of National Environmental Significance and Likely Impact

MNES	EXISTING ENVIRONMENT AND LIKELY IMPACT
<p><i>Nationally listed threatened species or ecological communities</i></p>	<p>There are no Threatened Ecological Communities (TECs) identified in the EPBC PMST (Appendix C) considered likely to occur within the Project Area, nor were any TECs recorded within the Project Area during the biological assessments (Rapallo, 2021, Umwelt, 2022).</p> <p>The following Threatened fauna species are considered likely to occur within a 5 km radius of the Project area:</p> <ul style="list-style-type: none"> • Northern Quoll (<i>Dasyurus hallucatus</i>) – Endangered • Pilbara Leaf-nosed Bat (<i>Rhinioncteris aurantia</i> (Pilbara Form)) -Vulnerable • Ghost Bat (<i>Macroderma gigas</i>) – Vulnerable • Australian Painted Snipe (<i>Rostratula australis</i>) – Endangered • Grey Falcon (<i>Falco hypoleucos</i>) – Vulnerable • Night Parrot (<i>Pezoporus occidentalis</i>) – Endangered • Pilbara Olive Python (<i>Liasis olivaceus</i> subsp. <i>Barroni</i>) – Vulnerable • Grey Falcon (<i>Falco hypoleucos</i>) – Vulnerable. <p>None of these were recorded in the Development Envelope.</p> <p>One record of <i>Seringia exastia</i> (EPBC Act CE) was found within the Indicative Footprint. This species has been delisted at a State level because of its' common nature in the Pilbara (DBCA, 2024) and is anticipated to be delisted at a Commonwealth level in the near future. The removal of one individual of this species is consequently not considered to have a significant impact on the species. Thus, the proposed clearing is not likely to have a potentially significant impact on Nationally listed threatened species or ecological communities.</p>
<p><i>Justification of likely impact</i></p>	<p>The Project works involve construction of new road surfaces and installation of additional surface water management infrastructure. Construction of the new road surface will occur within the existing road reserve where 24% of the vegetation within the road reserve has already been cleared. The Northern Quoll, Ghost Bat, Pilbara Leaf-nosed Bat and Night Parrot all have a very low to low chance of occurring in the development envelope. The remaining species listed above are likely to use the vegetation for foraging and not breeding due to the effects of disturbance being adjacent to Great Northern Highway.</p> <p>It is therefore unlikely that the Project construction and operational activities will lead to a long-term decrease in the size of a population, reduce the area of occupancy of the species, fragment an existing population into two or more populations, adversely affect habitat critical to the survival of a species, disrupt the breeding cycle of a population, modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline or interfere with the recovery of the species. Up to 8.6 ha of native vegetation may be cleared as part of the Project.</p>

MNES	EXISTING ENVIRONMENT AND LIKELY IMPACT
	<p>The native vegetation that is proposed to be removed along the existing roadside is unlikely to provide quality habitat for these conservation significant species and the area to be removed is small in the context of the regionally available habitat. The vegetation to be removed is a long thin strip and has already been subject to edge effects from the existing road. The proposed Project works are expected to have minor impacts on the fauna species identified within the EPBC PMST database search and the field survey.</p> <p>The habitat present was considered suitable for transitory purposes only (Rapallo, 2021). Comparable fauna habitat is also likely to occur immediately adjacent to the proposed works.</p> <p>One record of <i>S. exastia</i> (EPBC Act CE) was found within the Indicative Footprint. This species has been delisted at a State level because of its' common nature in the Pilbara (DBCA, 2024) and is anticipated to be delisted in the near future. The removal of one individual of this species is unlikely to lead to a long-term decrease in the size of a population, reduce the area of occupancy of the species, fragment an existing population into two or more populations, adversely affect habitat critical to the survival of a species, disrupt the breeding cycle of a population, modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline or interfere with the recovery of the species.</p> <p>Given the linear shape of the Development Envelope and that the surrounding landscape is extensively vegetated with vegetation including <i>S. exastia</i>, the proposed clearing is not likely to impact on significant habitat for Threatened fauna or flora.</p>
<i>Methodology</i>	<p>DAWE PMST Report.</p> <p>Targeted conservation significant flora survey of the Lamb Creek Project Area (Rapallo, 2022a)</p> <p>Detailed flora and vegetation survey of the Great Northern Highway intersection (Rapallo, 2021)</p> <p>Detailed vertebrate fauna survey of the Lamb Creek project (Rapallo, 2022b)</p> <p>Lamb Creek Project Detailed and Targeted Flora and Vegetation Survey (Umwelt 2022)</p>
<i>Migratory species</i>	<p>Forty-eight migratory species were identified as potentially occurring within 5 km of the Project Area, including:</p> <ul style="list-style-type: none"> • Oriental Plover (<i>Charadrius veredus</i>) • Sharp-tailed Sandpiper (<i>Calidris acuminata</i>) • Curlew Sandpiper (<i>Calidris ferruginea</i>) – also listed as Critically Endangered • Pectoral Sandpiper (<i>Calidris melanotos</i>) • Common Sandpiper (<i>Actitis hypoleucos</i>) • Barn Swallow (<i>Hirundo rustica</i>) • Yellow wagtail (<i>Motacilla flava</i>) • Grey Wagtail (<i>Motacilla cinerea</i>) • Fork-tailed swift (<i>Apus pacificus</i>)

MNES	EXISTING ENVIRONMENT AND LIKELY IMPACT
<i>Justification of likely impact</i>	<p>Many of the migratory species identified as potentially occurring within the 5 km search area are unlikely to occur within the Development Envelope. One species of conservation significant fauna were recorded during a survey in 2012 (Rapallo 2012a) – Fork-tailed Swift (<i>Apus pacificus</i>). The Fork-tailed Swift is an extremely aerial species that is highly unlikely to land in the Development Envelope and would not be affected by developments on the ground.</p> <p>The Development Envelope contains no permanent water bodies and there are none nearby. The closest waters to the Development Envelope are at Weeli Wooli pool approximately 40 km east of the Project area.</p> <p>Consequently, the Project works are not expected to significantly impact these species. It is unlikely that the Project will significantly impact migratory species either directly or indirectly.</p>
<i>Methodology</i>	DAWE PMST Report. Level 2 Vertebrate Fauna Survey and Targeted Northern Quoll Survey of the Lamb Creek Project Area. (Rapallo 2012a) Detailed vertebrate fauna survey of the Lamb Creek project (Rapallo, 2022b)
Wetlands of International Importance	No Wetlands of International Importance were identified in the PMST report.
<i>Justification of likely impact</i>	Wetlands of International Importance will not be impacted by the activities associated with the Project.
<i>Methodology</i>	DAWE PMST Report.
World Heritage Properties	No World Heritage Properties were identified in the PMST report.
<i>Justification of likely impact</i>	World Heritage Properties will not be impacted by the activities associated with the Project.
<i>Methodology</i>	DAWE PMST Report.
National Heritage Places	No National Heritage Places were identified in the PMST report.
<i>Justification of likely impact</i>	National Heritage Places will not be impacted by the activities associated with the Project.
<i>Methodology</i>	DAWE PMST Report.
Commonwealth Land or Marine Areas	No Commonwealth Land or Marine Areas were identified in the PMST report.
<i>Justification of likely impact</i>	Project activities are not located on or near Commonwealth land or marine areas. Commonwealth land or marine areas will not be impacted by the activities associated with the project.
<i>Methodology</i>	DAWE PMST Report.
Nuclear Actions	Not relevant to the proposed activity.
<i>Justification of likely impact</i>	The project activities do not involve nuclear actions and this aspect is not relevant to the project.
<i>Methodology</i>	DAWE PMST Report.
Water Resource	Not relevant to the proposed activity.
<i>Justification of likely impact</i>	The project activities do not involve a coal seam gas development or a large coal mining development.
<i>Methodology</i>	DAWE PMST Report.

9 SUMMARY OF THE SURVEY/ASSESSMENT

The detailed and targeted flora and detailed fauna surveys were undertaken by Rapallo Environmental over two phases, from 15-29 April 2020 and 12-17 May 2021 (Appendix A). MinRes commissioned the biological survey to delineate key flora and fauna values and potential sensitivity to impact in the greater LCIOF project area. The survey areas included the Great Northern Highway Road Reserve Project Area. An additional vegetation survey of the Development Envelope was undertaken by Umwelt in August 2022. Following this, a desktop review of the likelihood of presence of conservation significant species was undertaken by AECOM to confirm that no newly significant species had been missed (Appendix D).

One Priority 2 flora species and one Priority 3 flora species were recorded within the GNH Intersection Survey Area during the desktop and field assessment: *Aristida Lazaridis* and *Aristida jerichoensis* var. *subspinulifera*, respectively. An extensive population of *Aristida lazardis* was recorded on the un-incised loamy valley floor drainage at the southern end of the survey area proximal to the GNH. The species was recorded from all 2022 vegetation types, with the greatest number of records from vegetation type 9 (Umwelt, 2022). *Aristida jerichoensis* var. *subspinulifera* were also extensively recorded with a total of 97 individuals at eight locations within vegetation type 8, within the study area, which is considered to be the preferred habitat of this taxon (Umwelt, 2022).

No threatened flora taxa were recorded during the desktop assessment or considered likely to occur within the Survey Area. A total of four vegetation types were described within the GNH flora survey area (Umwelt 2022) No vegetation recorded at the Survey Area resembles any known TEC or PEC communities. The vegetation condition within the Survey Area ranged from Very Good to Completely Degraded and varied within vegetation types based on previous disturbances and proximity to the road verge. Eleven weed species have been recorded from the greater Lamb Creek project survey area from the 2012 and 2021 detailed flora and vegetation surveys. The weeds were recorded in five of the six vegetation types identified during the survey, as well as from disturbed areas and outside of the survey area. The most frequently recorded weed was **Cenchrus ciliaris* (Buffel grass) which was recorded from three quadrats as well as opportunistically across the survey area from four different vegetation types. However, the only weed species found within the GNH intersection Development Envelope during the 2020 and 2021 flora surveys was *Melinis repens*, Natal grass, (Rapallo 2021, 2022a).

The vegetation across the survey area generally comprised low open woodland to isolated trees dominated by mulga (*Acacia aptaneura*) or other acacia species, over an understorey of either spinifex, tussock grasses, or a combination thereof, on a flat to gently sloping clay-loam plain. The dominant spinifex species was *Triodia pungens*, however patches dominated by *Triodia wiseana* occurred throughout the southern part of the survey area, with some patches large enough to be mapped.

A desktop assessment identified five fauna species of conservation significance which had been recorded within the Survey Area in previous surveys. A further 12 species were assessed as possible, likely or confirmed to occur on the survey area, including 4 mammal, 3 reptiles and 5 birds. Seventeen conservation significant species were considered unlikely to highly unlikely to occur in the survey area due to absence of suitable habitat (such as sand dunes for bilbies and mulgaras, and rivers, dams, wetlands for wader species). There were 128 vertebrate species recorded during the assessment including one conservation significant fauna species – Western pebble-mound mouse (*Pseudomys chapmani*) DBCA Priority 4. Seven broad fauna habitat types were recorded. These were, in decreasing order of extent; Stony plain, Hillcrest/hillslope, Mulga/Corymbia plain, Minor drainage, Tussock grassland plain, medium drainage and Gorge, gully and rocky breakaway.

Following Rapallo's survey, AECOM undertook a desktop review of the likelihood of conservation-significant flora, fauna, and community species to confirm that no newly significant species had been missed due to potential changes in conservation over time. No additional conservation significant species were considered likely to occur on the site (Appendix D).

Further details regarding the Detailed and Targeted Flora surveys and fauna survey are provided as Appendix A.

10 RECOMMENDATIONS FOR FURTHER ASSESSMENT

No further survey(s) or assessment(s) are needed as part of the project activities. The project will be implemented in accordance with the CEMP provided in Appendix B.

11 STAKEHOLDER CONSULTATION

MinRes have conducted extensive stakeholder consultation on the greater LCIOP, which includes the GNH intersection. This consultation has included stakeholders in regulatory agencies, local government, other companies and landholders, and Traditional Owners.

. The Traditional Owners group for the area of the Project, and greater LCIOP, are the local /Banjima People and the Development Envelope is located on land the subject of Banjima People Native Title Determination Area (WAD6096/1998).

A search of the Aboriginal Cultural Heritage Inquiry System (ACHIS) database confirms the proposed work area inside the MRWA road reserve does not intersect with any DPLH Registered Sites or Lodged Places. The public boundary for DPLH Registered Site 7607, Whispering Trees Shelter is 1.8km to the south of the proposed work area. The Great Northern Highway Road Reserve runs through the public boundary. DPLH Lodged Place ID 30213, Gaguna is located over 800m to the north.

MinRes's engagement with Banjima has included extensive heritage survey, consultation about infrastructure design, haulage options and the management of Aboriginal Cultural Heritage. The proposed GNH intersection and all other LCIOP infrastructure is designed to avoid Aboriginal Cultural Heritage, eliminating the need for any approvals under the AHA 1972.

A record of stakeholder consultations of relevance to the Project is provided in Table 6.

Table 6 Lamb Creek Stakeholder Engagement Communications Register

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
08-January-2025	Online submission	DCCEEW	DCCEEW	Submission of Section 38 Referral for the Lamb Creek Iron Ore Project via Environment Online.	Issues with online system validating spatial data, application and spatial data manually uploaded by DWER staff.	Referral lodged, Application reference APP-0026940.
20-December-2024	Online submission	DEMIRS	DEMIRS	Submission of Lamb Creek Mining Proposal via EARS.	None, application lodged.	Mining Proposal lodged, Application ID 500084.
18-December-2024	Email	DCCEEW	DCCEEW MinRes	DCCEEW provided comments on MinRes response to RFI queries on Preliminary Document.	Additional information required for some MinRes responses.	MinRes to provide additional information requested regarding; progressive rehabilitation plans, habitat type and quantity cleared for fringed firebush, potential impacts of dust/vibration/noise on some MNES, offset details, understanding of groundwater conditions
06-December-2024	Email	BNTAC	BNTAC MinRes	Final versions of Mining Proposal, Mine Closure Plan and Section 38 Referral Supporting Document provided to BNTAC prior to submission to DEMIRS/DWER.		MinRes to continue its collaboration with BNTAC on mine closure plan and Part IV and V approval submissions.
2-December-2024	Meeting	DEMIRS MinRes	DEMIRS MinRes	Mining Proposal pre-submission briefing, MinRes intention to submit MP before Christmas break.	No significant concerns raised by DEMIRS, recommended early engagement with DEMIRS-NVCP staff if s38 decision is Not Assessed.	MinRes to finalise and submit MP and MCP before end of 2024. DEMIRS MinRes staff available for any queries from DEMIRS staff.

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
22-November-2024	Email	Banjima People (MHERC) BNTAC	BNTAC MinRes	BNTAC letter of support for the Lamb Creek Iron Ore Project.	BNTAC provided MinRes with a letter of support for the Lamb Creek Project. The letter is provided conditionally with BNTAC and the MHERC being satisfied with the level of engagement by MinRes to date. Conditions for this support listed in the letter and included (among others); no on-site landfills, pit backfilled to minimum of 5m above the pre-mining water table, no ex-pit storage of mineralised waste, various measures to support visual amenity, access road to be paved with asphalt. BNTAC's support is also preliminary and subject to their approval of the MCP for both Lamb Creek and Phil's Creek mines (prior to commencing extractive activities at Lamb Creek).	MinRes to include the letter of support when submitting its Section 38 Referral Supporting Document to the WA-EPA, and other licencing submissions. MinRes to continue its collaboration with BNTAC on the details of Lamb Creek and Phil's Creek MCP's
7-November-2024	Email	Banjima People (MHERC) BNTAC	BNTAC MinRes	BNTAC advised MinRes of resolution passed by Banjima board 6/11/24 to provide letter of support for Section 38 referral.	MHERC support for the proposed project on behalf of Banjima People to be provided.	MinRes to provide draft letter to BNTAC for their review and edit as necessary and issuing under Banjima letterhead.
25-October-2024	Meeting	BNTAC	BNTAC MinRes	Follow-up to 21-22 October 2024 On-Country visit to discuss BNTAC/MHERC view of the proposed Project and management controls presented to date. Discuss MinRes request for BNTAC/MHREC formal endorsement/support of the project. MinRes draft statement of position for Closure Outcomes for the project discussed and the progress of mine closure plan update for Lamb Creek	BNTAC seeking clarity on its ability to comment on future approval submissions, if it provides formal support for the Section 38 referral now.	MinRes to provide update to key opportunities for BNTAC / Banjima to provide input, feedback, comment on the various regulatory approval applications for the Lamb Creek Project. BNTAC will provide comments to the Rev 1 traffic light statement of position based on Banjima / BNTAC Closure Outcomes

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
23-October-2024	Email	DCCEEW	DCCEEW MinRes	MinRes provided minor update to EPBC Preliminary Documentation report. Figure 3 (Conceptual Mine Layout) was updated to reflect a revised (expanded) pit boundary. No changes to the Proposed Action Area (PAA) or Indicative Footprint (IF) are required by this update.	No effect on assessment of potential impacts given no change to PAA or IF.	DCCEEW assessment of Preliminary Documentation to continue.
21-22-October-2024	Meeting	Banjima People (MHERC) BNTAC	Banjima People (MHERC) BNTAC MinRes	On-Country meetings and site inspection with Banjima members of their MinRes Heritage and Environment Reference Committee (MHERC) and BNTAC staff and consultants. MinRes provided project overview and inspection of the site to ensure MHERC members are fully informed before making decisions on level of support for the project.	Further examination of opportunities for reducing extent of ex-pit waste rock landform remaining post-operations to continue. Support for the project will be dependent on continuing collaboration on development of the Mine Closure Plan.	MHERC and BNTAC to report to their Board at November 2024 meeting and consider MinRes' request for letter of support for the Lamb Creek Project.
14-October-2024	Meeting	BNTAC	BNTAC MinRes	MinRes met with Technical Representatives and Consultants for BNTAC to present the 'Statement of Position' for the Project for each Closure Outcome. Alternative Closure Outcome phrasing for the Project were presented based on ability to meet original Closure Outcome.	BNTAC largely accepted Statement of Position, however, recommended workshopping of Surface Water Closure Outcome.	MinRes to revise Statement of Position based on 14 October 2024 meeting and provide to BNTAC for presentation to the MHERC.

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
04-October-2024	Meeting	BNTAC	BNTAC MinRes	Technical Representatives and Consultants for BNTAC presented the under-development Banjima Closure Principles and Outcomes to MinRes for consultation. This presentation included an overview of the Banjima Closure Framework, Closure Objectives, Closure Principles and Behaviours and Closure Outcomes, also known as the End State Values – for any Projects that occur on Banjima Country.	BNTAC noted that these Closure Outcomes are in development and will be Project specific, however represent the aspirational Closure Outcomes on Banjima Country.	MinRes to develop a 'Statement of Position' for the Project against BNTAC Closure Outcomes.
03-September-2024	Email	BNTAC	BNTAC MinRes	BNTAC and Minres confirm dates for the next MHERC meeting to occur 21-23 October 2024		Engagement between MinRes and BNTAC is ongoing, including coordination of attendees and logistics
29-August-2024	Email	DCCEEW	DCCEEW MinRes	Finalised meeting (23/08/2024) notes provided by DCCEEW. Advice also provided regarding how change in EPBC approval area (reduction) could be presented in upcoming Preliminary Document submission.	Agreed meeting notes finalised. DCCEEW recommendation to MinRes for proposed reduction in EPBC Proposed Action Area (PAA), keep PAA area unchanged but reduce Indicative Footprint to account for change in waste rock landform design.	MinRes to consider advice when finalising Preliminary Document for submission to DCCEEW in response to RFI.
28-August-2024	Email	DCCEEW	DCCEEW MinRes	MinRes provided draft PAP to DCCEEW staff for the EPBC assessment, including steps and indicative timelines.	Draft PAP to be reviewed by DCCEEW and comments provided to MinRes before finalising.	DCCEEW to review draft and provide comments to MinRes

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
23-August-2024	Meeting	DCCEEW	DCCEEW MinRes	MinRes provide DCCEEW staff with outline of approach taken to address EPBC-RFI questions and high level summary of responses.	Subject to review of details, MinRes' approach for addressing RFI sounds reasonable to DCCEEW. This approach is based on using fauna habitat suitability, and local and regional fauna survey info, supported by technical expert review and advice, to provide justification that no additional fauna surveys are required. MinRes advised DCCEEW of proposed change (reduction) to disturbance area from reduction/relocation of waste rock landform resulting for Social Surrounds enagement with Banjima (to be reflected in Preliminary Document). Next steps includes preparation of a Project Assessment Plan (PAP) to outline steps and indicative timing for the assessment and approval. MinRes offered to provide draft PAP for DCCEEW's consideration.	MinRes to complete and submit Preliminary Document for DCCEEW assessment, addressing RFI queries and any updates in PAA or disturbance areas. MinRes to provide draft PAP for DCCEEW review and consideration.

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
19-August-2024	Meeting	BNTAC, Banjima People (MHERC)	BNTAC, Banjima People (MHERC) MinRes	Initial meeting of Banjima's MinRes Heritage, Environment Reference Committee (MHERC) with MinRes presenting Lamb Creek Project overview and technical area summaries, including progress of Mine Closure Plan (MCP) updating. As step toward MHERC understanding of Project and expression of support for environmental approvals. Banjima MHERC/BNTAC satisfied with amount and detail of information presented, however the MHERC members need to visit the site to be fully informed before making decisions regarding level of support for the proposed Project. Mine closure is of particular interest given the short mine life.	Banjima MHERC/BNTAC satisfied with amount and detail of information presented, however the MHERC members need to visit the site to be fully informed before making decisions regarding level of support for the proposed Project. Mine closure is of particular interest given the short mine life.	MinRes to work with BNTAC to facilitate the next MHERC meeting (21 - 23 Oct, 2024) being held at Lamb Creek. MinRes to continue consultations with BNTAC, MHERC and independent consultants on approval submission reviews and MCP updates.
5-7 August 2024	On ground consultation	Banjima Traditional Owners	Banjima Traditional Owners, MinRes	A request received following Social Surroundings consultation undertaken June 2024, recommended further ethnographic consultation occur to confirm the avoidance of Ethnographic Place Gaguna. The additional ethnographic consultation occurred in August 2024, 2024_BAN_Trip06		In August 2024, MinRes conducted further ethnographic consultation with nominated Traditional Owners. Heritage report received confirms MinRes proposed Project footprint and activities within development envelope avoid heritage place Gaguna, administered by the DPLH.
06-August-2024	Meeting	BNTAC	BNTAC MinRes	MinRes and BNTAC/consultants workshop on Mine Closure Plan updating.	Post Mining Land Use (PMLU) development, target ecosystem restoration.	MinRes to consider BNTAC comments when updating MCP, continue with closure studies, further consultation with BNTAC on MCP development.
17-June-2024	On ground consultation	BNTAC	BNTAC MinRes	On Country Social Surrounds consultation and engagement with Banjima People, 17 to 21 June, 2024 (2024_BAN_Trip04)	Issues discussed included visual impacts mitigation, pit design and closure considerations; to achieve	MinRes to be provided a report; including the consultation outcomes; and management recommendations regarding

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
				The purpose of the MinRes's engagement was to provide the Banjima Traditional Owners Project brief, detail regarding completed supporting studies; and the proposed project infrastructure layout. The consultation opportunity was for MinRes to understand Banjima People's social surrounding values and any concerns with proposed Project and management measures.	best outcomes for the Project and Banjima People. A request for MinRes to conduct further ethnographic consultation to confirm the avoidance of Gaguna.	any identified concerns, and social surrounding values. MinRes to consider Banjima's requests and recommendations; and investigate options to address concerns including visual impacts mitigation, pit design and closure considerations; to achieve best outcomes for the Project and Banjima People. A request for MinRes to conduct further ethnographic consultation to confirm the avoidance of Gaguna, BNTAC to confirm establishment of the MHERC and for all future MinRes consultation to occur with the MHERC.
6-June-2024	Email	DCCEEW	DCCEEW MinRes	DCCEEW issue Further Information Request for EPBC referral EPBC 2023/09754.	Requesting further information regarding fauna survey adequacy, noise assessment for road train traffic.	MinRes to prepare response to questions and submit to DCCEEW.
20-April-2024	Email	DCCEEW	DCCEEW MinRes	DCCEEW decision on referral, assessment approach completed.	DCCEEW notification letter and decision notice on EPBC referral - Controlled Action, assessment on preliminary information with additional information.	Proceed with referral assessment process - MinRes pay assessment fee, DCCEEW issue request for further information, MinRes responses, assessment.
11-April-2024	Email	RTIO / Juna Downs	RTIO / Juna Downs MinRes	Following up from 8/02/2024 meeting with MinRes, RTIO provide update re: potential impact on pastoral infrastructure, future pastoral activities.	RTIO confirmed no current or future pastoral infrastructure within Lamb project area. Also noted Project would sterilize grazing area and request confirmation that rehabilitation post mine closure would restore potential for grazing.	RTIO/Juna Downs do not have any concerns with the proposed Lamb Creek operation regarding the pastoral station operations. MinRes to provide requested information and continue engagement regarding post closure land uses.

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
					Request MinRes provide the total area (ha) that will be fenced during operations. Also request a copy of the ALCAM for the rail crossing.	
5-Apr-2024	Meeting	BNTAC	BNTAC MinRes	Follow up (to meeting on 21/03/2024) technical discussion between BNTAC consultant (Pentium Water) and MinRes hydrogeology and hydrology specialists, regarding the Lamb Creek hydrogeological setting and mine water management.	Pentium endorses the information provided by MinRes regarding the Lamb Creek hydrogeological setting and dewatering analysis, based on pumping test data and other studies. Pentium endorses the adaptive water management approach proposed for Lamb Creek but would like to see some high-level commentary on the management of a mine water deficit or surplus, were this to occur.	MinRes to reissue the Test Pumping Results memo, revised to include a summary of the adaptive mine water management under deficit or surplus conditions.
26-March-2024	Phone and email	DCCEEW	DCCEEW MinRes	DCCEEW staff reviewing EPBC referral submission had questions regarding the areas covered by fauna survey.	Differences in areas surveyed in 2012 and 2020 fauna surveys was difficult to see in figures in the referral supporting document (RSD). 2012 survey is considered too old, and it was unclear where the 'gap' in survey coverage for the proposed Action Area was.	The differences in survey coverage and minor (2.3% of indicative footprint) gap in fauna survey coverage were explained and additional images displaying this was provided to DCCEEW by email. Review of the referral for decision whether proposal is a Controlled Action is continuing and is due by 19/4/2024.
21-March-2024	Meeting	BNTAC	BNTAC MinRes	Discuss MinRes responses to BNTAC/consultant review comments on draft Section 38 referral. BNTAC update on access agreement negotiations, planning for	Lacking detail on groundwater, surface water conditions and predicted impacts. Further info provided by MinRes hydro-geos, technical	MinRes hydro-geos and hydrology specialists to continue discussions with BNTAC consultant, report on pump testing also

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				Social Surroundings consultation.	discussions with BNTAC consultant to continue after meeting. Detail and understanding of mine closure plans also needed now by Banjima given short LoM.	provided by MinRes 22/3/2024.
16-February-2024	Email	BNTAC	BNTAC MinRes	BNTAC provided review comments (general environmental, approvals focus) on draft Section 38 referral and site-wide NVCP. Request meeting to discuss comments.	General comments on updates required due to changes in project footprints (e.g. changes to mine plan, pit backfilling) and pending results of Social Surroundings consultation. BNTAC not supportive of on-site landfill.	MinRes to review comments and provide responses. Meeting to discuss review comments scheduled for 20/02/2024. MinRes has work underway and planned.
8-February-2024	Meeting	RTIO / Juna Downs	RTIO / Juna Downs MinRes	Project update, approvals status, pastoral station (Juna Downs) operational status/plans. EPBC referral submitted Dec 2023 includes restrictions on use of barbed wire fencing (re: impact on ghost bats).	Juna Downs being restocked but should be north of RTIO rail line and so minimal consequence for MinRes' Lamb Creek project. Confirmation of what (if any) existing pastoral infrastructure is in/near MinRes' project area is required. RTIO request info/assurances regarding impacts on rail crossing, GNH traffic numbers.	RTIO will brief Juna Downs pastoral manager and revert to MinRes with any concerns and info on current/planned pastoral infrastructure in area of proposed operations. MinRes to check and provide, as available, traffic, rail crossing (ALCAM) assessment, related to GNH intersection and RTIO rail line.
19-January-2024	Email	BNTAC	BNTAC MinRes	MinRes provided draft Section 38 Referral Supporting Document (RSD) and draft site wide NVCP application (only needed if s38 decision is Not Assessed) for BNTAC review and comment.	MinRes identified that the drafts have hold points for further updates related to; status of access agreement and updated mine plan, waste backfill level and WRL design.	BNTAC/consultants to review and comment on draft submissions.

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12-January-2024	Email	BNTAC	BNTAC MinRes	MinRes issued scope and request for quote to BNTAC for the review of draft submissions - Section 38 referral, NVCP (site-wide, only needed if s38 decision is Not Assessed), and Works Approval.	None, issued for response.	BNTAC to review with consultants and provide quote to MinRes.
20-December-2023	Online submission	DCCEEW	DCCEEW MinRes	Submission of EPBC referral for the Lamb Creek Iron Ore Project via EPBC Business Portal.	None, EPBC referral lodged.	EPBC referral lodged, reference 2023/09754.
18-December-2023	Meeting	BNTAC	BNTAC MinRes	Consultation with BNTAC and their consultants regarding comments on draft submissions; EPBC, Mine Closure Plan, Mining Proposal. Pit backfilling, on-site landfill not acceptable, visual amenity lacking. MinRes provided info on work (underway and planned) to further refine mine closure plan.	Request to minimise ex-pit waste rock disposal, maximise pit backfilling. BNTAC uncomfortable with on-site landfill (within WRL) prefer off-site disposal. Level of maturity of MCP considered inadequate for short mine life, visual amenity needs addressing.	A number of BNTAC comments are common between the various submission documents, e.g. level of pit backfilling, maturity of design/plans. Gaps in information provided to BNTAC were identified and plans to address discussed. Agreed on collaborative approach.
5-December-2023	Email	BNTAC	BNTAC MinRes	MinRes provided responses to BNTAC comments/questions on the EPBC Referral Supporting document and SFMP.	Responses to comments/questions provided, including any resulting changes to EPBC documentation.	Responses issued for review and discussion with BNTAC. Arrange for meeting to discuss responses and consideration of culturally appropriate mitigation methods (where required).
30-October-2023	Email	BNTAC	BNTAC MinRes	BNTAC provided written comments on EPBC submission Referral Supporting Document and Significant Fauna Management Plan (SFMP).	Comments, questions on submission documents.	MinRes assess and provide responses to BNTAC review comments and questions including any revisions to documents as a result of BNTAC comments.
20-October-2023	Email	BNTAC	BNTAC MinRes	BNTAC provide list of meeting dates with BNTAC Heritage & Env Committee for engagement on Lamb Creek.	Three meetings with MRHEC scheduled for 2024 (Apr, Jun & Oct), high demand for Banjima	BNTAC anticipate MRHEC will be established in Jan 2024. MinRes to incorporate meeting dates into

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					representatives from multiple proponents. No meeting before end of 2023 due to cultural events, Lore in Dec/Jan.	engagement schedule and advise BNTAC on alignment with approval submission endorsements being sought by MinRes
13-October-2023	Phone	BNTAC	BNTAC MinRes	Discuss progress on Land Access Agreement (LAA) for MinRes activities on Banjima Country	BNTAC Board met on 12/10/2023 and agreed that LAA doesn't require a community meeting to execute, however the Trustee advised that a Meeting is required to determine how the royalties are to be shared/allocated and under what trust structure. MinRes' business will not make the Nov. 2023 AGM/Common Law meeting but a community meeting is scheduled for Feb/Mar 2024. BNTAC do not anticipate a delay in their support for the Lamb Creek Project as a result of these requirements.	LAA between BNTAC and MinRes to be discussed at Feb/Mar 2024 Community Meeting, facilitating execution of the agreement thereafter.
11-October-2023	Meeting	BNTAC	BNTAC MinRes	Discuss draft schedule, process, and objectives for BNTAC review/commenting on approval submissions. Focused on the mining proposal (MP) and closure plan but also relevant for other approvals	Establishment of BNTAC's Heritage & Env Committee delayed due to workload (busy until end of Nov 2023). MinRes allotted 1 meeting per quarter with BNTAC committees, BNTAC staff can only consult/brief MRHEC at scheduled meeting dates	MinRes and BNTAC staff continue collaboration to refine consultation schedule with further inputs from BNTAC on creation of BNTAC's Heritage & Environment Committee for review of MinRes projects. MinRes provided copy of draft MP via portal for review alongside MCP.
06-October-2023	Meeting	BNTAC	BNTAC MinRes	Facilitate engagement with BNTAC regarding review of approval submissions and discussions around mine	BNTAC's need for resources, establishing reference groups, for approval document	BNTAC to set up Heritage & Env Committee (MRHEC) to conduct reviews & TO inputs for approval

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				closure/rehabilitation and end land uses. Review of EPBC submission also discussed.	reviews, inputs on closure planning, to allow for BNTAC to 'consent' and support MinRes' proposed projects. MinRes priority for Lamb EPBC referral submission by end of Oct 2023	documents & mine closure plans. EPBC submission review to be prioritised. BNTAC developing "statement of principles" guidelines for closure, including end land uses. Agreement/PO required to cover additional BNTAC resourcing needs. Draft EPBC submission documents provided to BNTAC.
12-September-2023	Email	RTIO Juna Downs	RTIO, Juna Downs MinRes	Notification of planned sampling of groundwater monitoring bores at Lamb Creek, Sept 19 to 21, 2023. Access using existing exploration tracks crosses through RTIO tenement & Juna Downs	Access using existing exploration tracks crosses through Hamersley Iron E47/1790 & Juna Downs Station	Notification provided as per access agreement between MinRes & RTIO, Juna Downs
12-September-2023	Email	BHP	BHP MinRes	Notification of planned sampling of groundwater monitoring bores at Lamb Creek, Sept 19 to 21, 2023. Access using existing exploration tracks crosses through BHP tenement	Access using existing exploration tracks crosses through BHP tenements ML 281SA and ML 251SA	Notification provided as per access agreement between MinRes & BHP
29-August-2023	Email	BNTAC	BNTAC MinRes	MinRes provide GIS files to BNTAC of planned exploration activities at Wedge	None, information provided for further consultation	Requested information provided
29-August-2023	Email	BNTAC	BNTAC MinRes	MinRes provide information requested by BNTAC; 1) GIS files of proposed Development Envelope & Indicative Footprint for Lamb Creek, and 2) groundwater quality monitoring data	None, information provided for further consultation	Requested information provided
22-August-2023	Meeting / Presentation	BNTAC	BNTAC MinRes	MinRes provide BNTAC summary & update on environmental studies/reports	Limitations with BNTAC resources for review/commenting on	MinRes & BNTAC to continue discussions on consultation, engagement

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				on Banjima country in Lamb Creek/Wedge area	studies, approval submissions, arrangement to be agreed. Prelim feedback from BNTAC consultants on MCP-detail lacking, consultation required. Sharing of monitoring data requested	process. MinRes provide link to monitoring data. MinRes requests written comments on MCP
17-August-2023	Email	MRWA	MRWA MinRes	MRWA approval of GNH intersection design	100% design IFC drawings approved, MRWA approval to proceed pending satisfying of MRWA conditions as given	MinRes free to proceed with tendering, construction subject to receipt of other Project approvals (Mining Proposal, NVCP, Part IV)
16-August-2023	Email	BNTAC	BNTAC MinRes	MinRes to provide BNTAC and their consultants with electronic copies of final Lamb Creek baseline environmental study reports, prior to in person meeting	Baseline study reports available for BNTAC review and comment	Electronic link to baseline reports provided to BNTAC and consultants.
25-July-2023	Email	MRWA	MRWA MinRes	Provide updated 100% design IFC drawings to MRWA for review and signoff	Updates to design based on discussions with MRWA	MinRes consultant (ShawMac) to update GNH 100% design as agreed with MRWA
13-July-2023	Meeting/ Presentation	DCCEEW	DCCEEW DWER MinRes	Pre-referral meeting with DCCEEW on the EPBC referral and MNES likely to be impacted	Buffer distances for ghost bat roosts	MinRes will ensure DCCEEW comments on access road and buffers are addressed in EPBC referral submission
10-July-2023	Meeting/ Presentation	BNTAC	BNTAC MinRes	MinRes provide briefing to BNTAC staff on current and proposed works on Banjima country and discuss approach for future engagements. Status and way forward for agreement	Workload on BNTAC resources, establishment of BNTAC heritage and negotiation committees. BNTAC request for copies of baseline studies for review by BNTAC subject matter experts (consultants)	BNTAC and MinRes to work together to exchange information and establish protocols for timely consultation on environmental studies and licensing submissions
8-June-2023	Email	MRWA	MRWA MinRes	MRWA review comments on 100% intersection design	Acceleration lane design to be shortened to address aquaplaning risk as agreed with MRWA	MinRes consultants (ShawMac) to update GNH intersection 100% design as agreed with MRWA

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28-March-2023	Letter	DMIRS	DMIRS MinRes	Granting of L47/1008 to PMI	None	L47/1008 granted, expiry 27-March-2044
1-February-2023	Letter	EPA	EPA MinRes	MinRes withdrawing Lamb Creek Section 38 referral	MinRes decision to withdraw referral to allow engagement and project support from BNTAC (Banjima)	Lamb Creek Section 38 referral withdrawn
27-January-2023	Letter	BNTAC	BNTAC MinRes	Letter from BNTAC, responding to MinRes proposed negotiation schedule, funding arrangements, request for BNTAC letter of support for EPA referral under assessment	BNTAC position that appropriate consultation has not yet occurred but is willing to work with MinRes towards establishing an appropriate consultation and agreement administration process moving forward. Significant attrition/turnover of BNTAC staff and a new Board has resulted in loss of corporate knowledge.	BNTAC position that appropriate consultation has not yet occurred, but is willing to work with MinRes towards establishing an appropriate consultation and agreement administration process moving forward
24-January-2023	Email	MRWA	MinRes MRWA	MRWA letter issued consenting to MinRes applying for NVCP to work within GNH road reserve to construct intersection	None	MRWA letter available to support MinRes' NVCP application (when made)
12-January-2023	Meeting	MRWA	MRWA MinRes	MinRes provide briefing to MRWA environmental staff on proposed NVCP for intersection at GNH	None	MRWA to consider MinRes request for letter of support
19-December-2022	Letter	EPA	MinRes EPA	EPA letter request for further info (Section 38F (1) and (2)) regarding Social Surroundings-Cultural Heritage- for assessment of s38 referral.	EPA require evidence that Banjima People have been appropriately consulted on how potential impacts on the Social Surroundings have been avoided and minimised	MinRes to contact Banjima representatives (BNTAC) with request for letter
23-November-2022	Email	MRWA	MinRes MRWA	MinRes provided list of current and upcoming	Proposed intersection of Lamb Creek access road with GNH (within road	MinRes awaiting MRWA feedback on proposed approvals approach.

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				projects interacting within MRWA road reserve areas	reserve) and approvals approach. MinRes propose to obtain their own NVCP for work within the road reserve and seek MRWA consent	
10-November-2022	Teams meeting	Shire of East Pilbara	Shire of East Pilbara MinRes	MinRes gave an overview of MinRes, it's central Pilbara operations (including Lamb Creek) and the Pilbara hub development	None	The Shire indicated they were supportive of the proposal subject to the details
2-November-2022	Email	MRWA	MinRes MRWA	MRL responses to MRWA review comments on 85% design report	Before proceeding to 100% design, a few MRL comments require confirmation of MRWA Region preference/direction	MRWA 85% design review comments addressed, a few MRL comments require MRWA Region responses
14-October-2022	Meeting	Rio Tinto Juna Downs	MinRes BCI	Meeting of Rio Tinto / MinRes tenure land access liaison meeting group. Discuss status and identify actions concerning current and upcoming activities/plans in areas involving RTIO/MinRes tenure, including Lamb Creek	MinRes has concluded access agreements with RTIO and BHP regarding Lamb Creek (L47/1008 and others). Granting of L47/1008 is pending application transfer from Warden to Mining Register. RTIO advised of plans of re-stocking pastoral station around the Lamb Creek area. Other, non-Lamb Creek, topics discussed related to; water sharing/transfer project in conjunction with BCI, MinRes' Central Haul Road project, Yandi/Phil Creek access agreement review.	Granting of L47/1008 (for MinRes Lamb Creek Project access route) is pending action from Mining Register. Management arrangement for re-stocking to be considered by pastoral manager. Access agreements in place with RTIO and BHP.
10-October-2022	Email	MRWA	MinRes MWRA	MRWA review comments on 85% design report for proposed GNH intersection	MRWA comments/questions on a number of design elements	MRWA 85% design review comments to be addressed

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13-September-2022	Email	BNTAC (Banjima)	BNTAC MinRes	MinRes following up invitation for Banjima representatives to participate in ongoing Lamb Creek environmental activities and seeking comment on environmental assessments environmental activities issued.		
09-September-2022	Email	BNTAC (Banjima)	BNTAC MinRes	MinRes following up invitation for Banjima representatives to participate in ongoing Lamb Creek environmental activities.		
05-September-2022	Email	BNTAC (Banjima)	BNTAC MinRes	Copies of Referral documents, supporting appendices and other relevant documents issued to BNTAC with invitation to comment and offer to give a presentation on key aspects.		
02-September-2022	Email	BNTAC (Banjima)	BNTAC MinRes	Invitation for Banjima representatives to participate in ongoing Lamb Creek environmental activities issued.	Planned activities schedule provided.	Await response from BNTAC.
10-Aug-2022	Meeting/ Presentation	DMIRS	DMIRS MinRes	Mining Proposal (MP) Pre-submission meeting Project description, approvals approach, proposed MP Key Activities	POW for access road construction only valid if for exploration purposes. Post closure surface water control & pit flooding assessment required. Abandonment bunds also serving as surface water controls must be designed to function in perpetuity	MRL will ensure DMIRS comments on access road and abandonment bund are addressed in MP submission.

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10-August-2022	Meeting / Presentation	DMIRS	MinRes DMIRS	Mining Proposal (MP) Pre-submission meeting Project description, approvals approach, proposed MP Key Activities	POW for access road construction only valid if for exploration purposes. Post closure surface water control & pit flooding assessment required. Abandonment bunds also serving as surface water controls must be designed to function in perpetuity.	MRL will ensure DMIRS comments on access road and abandonment bund are addressed in MP submission.
08-August-2022	Email	EPA	MinRes EPA	RFI from EPAS for assessing s38 submission & setting level of assessment	"RFI on: Subterranean fauna- extent of stygo habitat impacted Inland waters- spatial extent of impact, any GDE Social surroundings- evidence of engagement with Banjima, Gaguna extent, impacts to Juna Downs Station.	EPAS referred to info in s38 submission (RSD) and additional info also provided in MRL email 12 Aug
May 30 to Aug 1-2022	Phone and email	BNTAC (Banjima)		Email and telephone correspondence with BNTAC and BNTAC legal counsel regarding matters relating to other MinRes projects BNTAC wished resolved before progressing other discussions on Lamb Creek.		
08-July-2022	Meeting / Presentation	Rio Tinto	MinRes Rio Tinto	"Meeting convened to assist and support tenure interactions between the companies' interests in the Central Pilbara arising due to new project developments. DISCUSSION POINTS • Withdrawal of Objections by RIO. Signed agreement reached May 2022	N/A	RIO and MinRes to consider a date such as around Friday 14 October 2022 to re-convene and review action items.

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21-June-2022	Meeting	BHP	MinRes	Lamb Creek haul road tenure	N/A	Below are details of the meeting held with BHP yesterday. The primary agenda item was to review the access agreement for the Lamb Creek haul road tenure which is currently being negotiated but we also introduced the Mulga (Central Pilbara) Haul Road to their new tenure manager. Next steps on this are to review with their rail superintendent which is anticipated around end of July.
21-June-2022	Meeting	BHP	MinRes BHP	Lamb Creek haul road tenure	N/A	The primary agenda item was to review the access agreement for the Lamb Creek haul road tenure which is currently being negotiated but we also introduced the Mulga (Central Pilbara) Haul Road to their new tenure manager. Next steps on this is to review with their rail superintendent which is anticipated around end of July.
23-May-2022	Email	BNTAC (Banjima)	BNTAC MinRes	MinRes issue revised memorandum to BNTAC setting out further information on matters to be discussed with the BNTAC Board.		
13-May-2022	Email	EPA	MinRes	Section 38 Referral for the Lamb Creek Iron Ore Project submitted.	N/A	N/A

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09-May-2022	Email	MRWA	MinRes MRWA Handley Surveys	GNH / Lamb Creek Intersection - Handley Surveys received the MRWA approval for work at Lamb Creek. Site mob 17/05/22, demob 20/05/22.	N/A	<ol style="list-style-type: none"> 1. Please ensure that all traffic management implemented in the road reserve is as per the approved Traffic Management Plan PTM-TMP-HS4342-001 REV B and complies with Australian Standards and Main Roads Traffic Management for Works on Roads – Code of Practice. 2. During works, Main Roads' Officers may give directives relating to safety or adherence to Main Roads standards. In the event there is a non-compliance with standards or procedures they can also suspend works. 3. Notification of road works shall be sent to all relevant parties seven (7) business days prior to works commencing. 4. This approval is valid until 24 May 2022 5. If the works are not completed by the above date, please notify Main Roads of the new scheduled completion date.
29-April-2022	Email	BNTAC (Banjima)	BNTAC MinRes	Further formal request to meet with BNTAC Board including a memorandum outlining all issues to be discussed.		

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29-April-2022	Meeting	Rio Tinto	MinRes Rio Tinto	GENERAL INTRODUCTION Meeting convened to assist and support tenure interactions between the companies' interests in the Central Pilbara arising due to new project developments. DISCUSSION POINTS • Noted that a draft access agreement had been settled for execution and is currently in the signing process. • Matter scheduled for Warden on 6 May 2022. • Withdrawal of Objections by RIO is subject to completing document execution and making programming orders for grant.	N/A	RIO and MinRes to consider a date such as around Friday 1 July 2022 to re-convene and review action items.
11-April-2022	Meeting	BNTAC (Banjima)	BNTAC MinRes	Meeting with BNTAC Officers to discuss revised process for securing date to present to BNTAC Board.		
04-April-2022	Phone and email	BNTAC (Banjima)	BNTAC MinRes	MinRes renewed discussions on presentation to BNTAC Board and follow up on draft agreement.		
28-March-2022	Meeting	BHP	MinRes BHP	Meeting convened to assist and support tenure interactions between the companies' interests in the Central Pilbara arising due to new project developments. Included discussion on Lamb Creek Miscellaneous lease (L) applications.	BHP has an objection to L47/1046 (not related to Lamb Creek Project area)	BHP and MinRes to consider a date such as around mid- June 2022 to re-convene and review action items.

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21-March-2022	Email	DWER	MinRes DWER	MinRes provide updated GWOS incorporating DWER comments on earlier version.	All DWER comments incorporated into GWOS. MinRes proposed that due to access restrictions, baseline groundwater quality monitoring will be conducted quarterly until drive-in access is established, then monthly thereafter. In addition, data loggers are to be installed to record groundwater levels.	Updated GWOS to support 5C licence application lodged.
15-March-2022	Email	DWER	MinRes DWER	MinRes provide additional info to DWER for assessment of 5C water licence application, follow-up to 6/12/2021 meeting	MinRes provided memo report to DWER with additional info on potential for perched aquifers at Lamb Creek and the occurrence of subterranean fauna and potential impacts from dewatering. MinRes also advised that it is still working on providing responses to enquiries on heritage. Evidence of consultation with other water user (RTIO) also provided.	RTIO has no objections to issuing of water licence. Additional info/update on heritage questions to be provided by MinRes.

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02-March-2022	Email	BNTAC (Banjima)	BNTAC MinRes	Invitation to participate in Lamb Creek environmental surveys. MinRes is conducting further baseline environmental surveys across and around the Lamb Creek project. There will be two rounds of post- wet season survey: 1- 14-23 March 2- 4-14 April Each survey will be by helicopter and run out of Newman.		Waiting on BNTAC advice around their involvement.
25-February-2022	Teams	DBCA	MinRes DBCA	MinRes presented a brief outline of the Project and summary of the baseline ecological investigations completed and potential impacts on flora, vegetation, terrestrial fauna and subterranean fauna. Briefing of DBCA as background for upcoming Section 38 referral submission for Lamb Creek.	DBCA will be looking for contextual information on the presence, numbers of ghost bats and the level of understanding of roosting sites in the area. DBCA are also interested in the potential cumulative impacts on conservation significant flora and fauna.	DBCA appreciates the Project briefing and summary of ecological investigations and potential impacts. This will assist them when they are asked for advice on the flora/fauna aspects of the referral.
17-February-2022	Phone and email	DBCA	MinRes DBCA	Provide brief introduction to Lamb Creek Project and high-level summary of flora and fauna values and potential impacts. Approvals pathway via Part IV referral and DBCA involvement in reviews.	Request more detailed presentation on Lamb Creek Project and environmental setting and potential impacts	DBCA appreciates the introduction to the project and summary of key points with respect to DBCA remit. DBCA request a formal presentation (Teams) on Lamb Creek to further inform them of site environment and potential impacts in advance of them being asked to comment on referral.
15-February-2022	Email	BNTAC (Banjima)	BNTAC MinRes	Draft land access agreement between MinRes and BNTAC issued to BNTAC and legal counsel for Banjima.		

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15-February-2022	Email	BNTAC (Banjima)	BNTAC MinRes	Draft mine closure plan presentation to introduce MinRes mine closure planning. MinRes seeking an opportunity to start consulting with Banjima regarding this plan as it develops.	No issues raised.	MinRes awaiting feedback on Mine Closure Plan and ongoing engagement
10-February-2022	Teams	Shire of East Pilbara	MinRes Shire	Provided update re MinRes's Central Pilbara Iron Ore hub Provided update re Lamb Creek project including updated timings for approvals and expected construction Requested support re accessing alternative Shire Roads to access tenements for exploration drilling	No issues raised.	Shire continues to remain highly supportive of MinRes and our projects Supportive of our use of roads, and our request to maintain roads to our required standard, as needed Requested we inspect roads in question to determine required upgrades, and to capture these upgrades and future maintenance commitments in an agreement

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05-January-2022	Email	Rio Tinto	MinRes RTIO	RTIO advised that their hydrologists have no concern with abstraction in the area given the low volumes and length of use. However, they have pointed out the lack of data in this area – asked if data sharing could be an opportunity?	Lack of data.	MinRes responded. Thanked for the update on RTIO's position in relation to our water licence application, we are pleased to hear our proposed water extraction does not raise any concerns with RTIO interests. Regarding data sharing, MinRes is also open to this and just need to finish checking with a few internal groups to determine how this can work and get the official go ahead. At present anticipate that, assuming confirmation of approval to proceed, our hydrogeological people can liaise directly with your hydrogeological people after introductions.
04-January-2022	Phone and email	White Springs Pty Ltd	MinRes White Springs Pty Ltd	White Springs query on appropriate contacts for contracting opportunities.	Seeking to make contact with appropriate MinRes staff.	Contact details originally forwarded in late 2021 were re-sent.
21-December-2021	Email	Rio Tinto	MinRes RTIO	RTIO query on MinRes's purpose for the water licence application.	Purpose of water abstraction applied for by MinRes. Potential for data sharing.	Informed RTIO the water abstraction is for supply and dewatering, from both in-pit sump and production bores. RTIO indicated no significant concerns with MinRes's proposed water licence application.
17-December-2021	Email	Banjima	MinRes BNTAC	Email introducing White Springs - a business owned by a Banjima member.	Seeking to make contact with appropriate MinRes staff in the business development area.	Appropriate contacts in the Communities team given and introduction made.
17-December-2021	Email	Banjima	MinRes BNTAC	Email seeking an opportunity to give project update to Banjima Board.	No issues raised.	BNTAC CEO will advise on suitable dates.

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16-December-2021	Email	DWER	MinRes DWER	DWER email received following up on 6/12/21 meeting.	DWER areas of interest for written response from MinRes - info on potential impact to stygofauna, drawdown. Evidence of consultation and 'consent' from TOs for proposed activities.	Information presented re: drawdown, stygofauna appear to address DWER queries, written response to be provided by MinRes. Evidence of consultation with other users (RTIO) to be provided by MinRes. MinRes presented info that DPLH 'lodged' Gaguna heritage site is larger than the site agreed with the Banjima people, and proposed bores are not within the actual Gaguna site. All registered sites have been avoided in the project design. DWER cannot accept the revised site boundaries unless reflected in DPLH database, or MinRes can provide documentary evidence of Banjima consent to the bores & other proposed activity within the DPLH designated site.
10-December-2021	Phone	Rio Tinto	MinRes RTIO	Consultation on MinRes's water licence application with adjacent licence holder (RTIO). Status of RTIO licence and any concerns with proposed MinRes allocation.	RTIO's existing GWL#173219 only approx. 1.5km south of MinRes Project, but of small annual quantity (45,000 kL) and likely for exploratory purposes. Any impacts of MinRes's proposed water allocation on RTIO?	No initial RTIO concerns with proposed allocation but will require confirmation with RTIO water specialists.

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
06-December-2021	Meeting / Presentation	DWER	MinRes DWER	DWER-water comments/questions on water licence application & supporting documents (GWOS, H2 study). Included a heritage update.	H2 study - potential of perched aquifers/shallow groundwater in detrital supporting GDE vegetation/other ecosystems? GWOS - consultation required with neighbouring water user (GWL#173219), DWER acceptance of proposed monitoring program, bores within lodged aboriginal heritage site and agreements with TOs.	H2 study - study data & model indicates absence of perched/shallow groundwater that would support GDE vegetation or subterranean fauna in a perched aquifer. No GDE vegetation found during flora studies, subterranean fauna found in underlying bedrock not detrital. GWOS - DWER accepts proposed monitoring program, MinRes in contact with other water user (RTIO) to determine any concerns with MinRes water allocation request, MinRes in ongoing consultations with TO group (Banjima) to renew an access agreement & have conducted numerous heritage surveys identifying some (registered) sites, Project design footprint avoids all heritage sites. Noted that lodged sites not recognized until registered.
01-December-2021	Email	Rio Tinto	MinRes	MinRes provided updated map and associated shapefiles.	No issues raised.	Updated map and shapefiles provided.
01-December-2021	Email	BHP	MinRes BHP	PMI BHP Lamb Creek Access Deed - MinRes provided updated map and the associated shapefiles for the access deed.	No issues raised.	Updated map and shapefiles provided.

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
30-November-2021	Meeting	Rio Tinto/Juna Downs	MinRes RTIO	The Lamb Creek proposed alignment and access agreement.	RTIO exploration team are not comfortable with the position of borrow pits or infrastructure located close to the haul road intersection. MinRes confirmed that it will not be progressing any of the borrow pits in that iteration of the haul road alignment.	RTIO to review shapefiles and respond to MinRes comments on draft deed.
26-November-2021	Meeting	EPA	MinRes Stantec EPA	Pre-referral meeting for Lamb Creek s38 submission. Provide high level summary of potential impacts on significant factors and proposed management measures, seek EPA feedback.	No significant issues. The plant shown as critically endangered at GNH intersection is a result of misidentification and expected to be delisted. EPA advice on aspects to ensure are included in referral, and recent experiences with other referrals: identify changes made to avoid heritage sites, committing to ongoing TO group engagement is important, clearly demonstrate any risk, or lack thereof, of PAF wastes, ghost bat habitat and distances from disturbances important. EPA advised that any recent assessments that included GHG have been appealed on this factor (Conservation Council-philosophically opposed to GHG emissions).	No significant issues raised with Lamb Creek as proposed, should be an uncomplicated assessment. However, EPA also advised that appeals can, and have recently, come from unexpected, interested parties.

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
18-November-2021	Email	DWER	MinRes DWER	Email correspondence from/to DWER water regarding MinRes's water licence application. DWER requesting further information on the potential for perched/shallow groundwater systems at Lamb Creek. Also provided review comments on MinRes's proposed Groundwater Operating Strategy. MinRes has requested a meeting to respond to DWER enquiries and is awaiting a response. Plan for a meeting in December 2021.	No issues raised.	MinRes has requested a meeting to respond to DWER enquiries and is awaiting a response. Plan for a meeting in December 2021.
18-November-2021	Phone	EPA	MinRes EPA	Provided an email update on project referral status (including Lamb Creek) - confirming this will be referred and seeking a pre-referral meeting.	No issues raised.	N/A
16-November-2021	Email	Banjima	MinRes Banjima	Discuss approach to new Aboriginal Heritage Legislation.	Agreed New Act should be provided for.	Drafting to proceed on that basis.
12-November-2021	Phone and email	Banjima	MinRes Banjima	Email correspondence and phone calls regarding future heritage surveys and COVID-19 management protocols.		
10-November-2021	Meeting	DMIRS	MinRes DMIRS	Whole of projects and mining activity presentation which included discussion on Lamb Creek and confirmation of referral under s38 and adjusted timeframes for submission of Mining Proposal.	No issues raised.	Further update in next bi-monthly meeting.

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
5-9-November-2021	Email	Banjima	MinRes Banjima	Discussion regarding Board meeting to consider agreement drafting. Banjima preferred draft agreement before Board meeting. Drafting to commence whilst Board meeting date agreed.	Banjima proposed alternative means of engagement.	MinRes to consider
19-October-2021	Email	Juna Downs Station	MinRes Rio Tinto	Notification that MinRes will be undertaking airborne imagery surveys in late October in association with its Lamb Creek and Ophthalmia projects. The survey will include various tenements and pastoral leases held by Rio Tinto.	No issues raised.	Rio to circulate to internal stakeholders and revert if any feedback.
19-October-2021	Email	BHP	MinRes BHP	Notification that MinRes will be undertaking airborne imagery surveys in late October in association with its Lamb Creek and Ophthalmia projects. The survey will include various tenements and pastoral leases held by BHP.	No issues raised.	BHP responded and advised they have no concerns.
11-13-October-2021	Email	Banjima	MinRes Banjima	Seeking date to present update to Banjima Board as agreed on 8 September.	Purpose of Board update queried - what level of information.	Banjima to consider if Board update appropriate course.
30-September-2021	Phone	Banjima	MinRes Banjima	Seeking date to present update to Banjima Board as agreed on 8 September.	No issues raised.	Date to be provided by Banjima.

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
21-September-2021	Meeting	DMIRS EPA	MinRes DWER/EPA DMIRS	Talk through the Lamb Creek Project - DMIRS and DWER-EPA - intent to put through DMIRS approvals process - get a feel in terms of preliminary impact assessment that may change the approvals strategy / approach. Undertaken baseline studies and developing disturbance and development envelopes.	No issues raised.	<p>EPA advised MinRes evidence of avoidance is good. Reaffirmed GHG, Culture and Heritage important.</p> <p>MinRes advised project is effectively replacing tonnes from Iron Valley. Cumulative impacts considered in this regard. No net increase in trucks from Lamb Creek to PH (direct replacement for Iron Valley haulage) MinRes total GHG would not change.</p> <p>EPA advised unrelated activity but worth noting in submission. Mentioned previous studies assessing whole vs single operations GHG assessment. Advised to avoid going down this path. Additionally, emissions from diesel are costly, alternatives not likely to occur within short mine life.</p>
16-September-2021	Phone and email	Banjima		Email correspondence and phone calls exploring possibility of meeting with Banjima Working Group in lieu of BNTAC Board.		
08-September-2021	Meeting	Banjima	MinRes Banjima	Delivered a project update and discussed meeting with the Board to deliver a similar overview	No issues raised.	Desire for ongoing dialogue.

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
08-September-2021	Meeting	DMIRS	MinRes DMIRS	Bi-monthly whole of projects and mining activity presentation which included discussion on Lamb Creek.	No issues raised.	Further update in next bi-monthly meeting.
24-August-2021	Meeting	Shire of East Pilbara	MinRes Shire	MinRes met with the Shire to give them an overview of the proposed Lamb Creek project.	No issues raised.	Good opportunity to meet with the new CEO and present an overview of our projects and operations. The Shire did not raise any concerns and indicated they would support new developments through the usual approvals processes etc. The relationship will become more significant as we progress the development of our broader Central Pilbara project.
18-August-2021	Email	Birdlife WA Conservation Council WA Wilderness Society Wildflower Society WA	Birdlife WA representatives Conservation Council WA representatives Wilderness Society representatives Wildflower Society WA representatives	MinRes sent email invitation to NGO's to attend a briefing update on the proposed Lamb Creek Project.	No issues raised.	No NGOs were available to attend therefore MinRes offered individual briefings at times that are suitable to the NGOs via phone or Teams.
16-August-2021	Phone	MRWA	MinRes MRWA	Native veg clearing in MRWA road reserve required for GNH intersection.	Determine NVCP approval pathway for clearing in road reserve- use MRWA state-wide CPS-818, or MinRes lodge NVCP via DWER. Understand MRWA requirements for working in road reserve in either case.	MinRes apply for NVCP via DWER but also prepare supporting documents meeting MRWA requirements. MRWA will review MinRes application and supporting documents and provide letter giving consent for MinRes to submit NVCP and work in road reserve.

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
13-August-2021	Email	DWER	DWER MinRes	MinRes submission of H2 hydrogeological study and groundwater operating strategy (GWOS), in support of application for 5C water licence	No issues raised.	Submissions completed as required to support 5C licence application.
22-July-2021	Email	DWER	DWER MinRes	MinRes's application for 5C water licence and required supporting H2 hydrogeological study and groundwater operating strategy (GWOS) submissions.	MinRes request further 2-week deferral of submission for H2 hydrogeological study and GWOS (in support of 5C licence application) until 13 August 2021. Amendment to H2 study underway to predict water table recovery levels (post mining). Results of this additional work will inform GWOS.	DWER-Water approve revised submission date for H2 study and GWOS to 13 August 2021.
21-July-2021	Meeting	DMIRS	MinRes DMIRS	Bi-monthly whole of projects and mining activity presentation which included discussion on Lamb Creek.	No issues raised.	Further update in next bi-monthly meeting.
1-July-2021 - 14-July-2021	Email	Banjima Australian Cultural Heritage Management (ACHM)	MinRes Roe Legal ACHM	Additional spatial data provided clarifying boundaries of Gaguna and acceptable buffer around the place.		The Proposal has been modified in response to the recommendations of the ethnographic survey – the northern haul road alignment has been shifted north to place it further away from Gaguna.
09-November-2020	Email	DWER	DWER MinRes	MinRes application for 5C water licence and required supporting H2 hydrogeological study and groundwater operating strategy (GWOS) submissions.	MinRes request deferral of submission for H2 hydrogeological study and GWOS (in support of 5C licence application) until 31 July 2021. Due to difficulty in securing drilling contractors given industry-wide demand.	DWER-Water approved revised submission date for H2 study and GWOS to 31 July 2021.

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
24-September-2020	Letter	DPLH	DPLH MinRes	Programme of Works (POW) 89255.	A review of the Register of Places and Objects as well as the Aboriginal Heritage Database.	The proposed drilling program does not intersect the actual boundary of Aboriginal heritage place ID 30213 (Gaguna) as currently administered by DPLH.
16-April-2020	Meeting / Presentation	DWER	MinRes DWER	Lamb Creek Iron Ore Project Presentation for DWER to provide an overview of MinRes proposed Lamb Creek Iron Ore Project and complete pre referral meeting, discuss environmental acceptability and next steps in assessment process.	No issues raised.	N/A
01-March-2020	Meeting	DMIRS	MinRes DMIRS	Introduced the Project to DMIRS. Complete pre-referral meeting, agree environmental acceptability and next steps in assessment process.	DMIRS stated that targeted fauna surveys will be required as original surveys are over 5 years old and there were potential MNES. Flora surveys not required as no TEC/PEC or priorities.	MinRes to undertake targeted flora and fauna studies. Reports to be submitted with POW application. MinRes to develop and submit an Exploration EMP, to be submitted with POW application. MinRes to ensure excess tonnage applied for prior to submitting POW application.
15-September-2017	Meeting	DWER	DWER MinRes	Pre-referral meeting with EPA Services to discuss environmental factors relevant to the proposal.	Potential for significant impact on troglofauna (five new species recorded found only in pit extent).	The Proposal has been modified in response to the potential impact to restricted troglofauna – the northern extent of the pit has been reduced via the application of a troglofauna exclusion zone. This zone effectively avoids the recorded occurrence of three restricted troglofauna within the mine pit.

Date of Consultation	Type of Consultation	Stakeholder	Attendees	Purpose and items discussed	Issues raised	Outcomes
21-December-2012	Letter	DAWE	Polaris / MinRes SEWPaC	EPBC Referral	EPBC referral assessment decision.	SEWPaC Decision: The proposed action is not a controlled action.
01-November-2012	Letter	DAWE	Polaris / MinRes SEWPaC	EPBC Referral	Letter dated 1 November 2012, referred to a meeting on 15 November 2012 to discuss the Lamb Creek project.	N/A
August / September 2012	Survey	Banjima	Banjima	Martidja Banyjima Site Avoidance Survey of Lambs Creek Project, East Pilbara, WA. The archaeological survey was undertaken between 14 August and 23 August, and 11 September and 20 September 2012.	The Proposal has been modified in response to the recommendations of the ethnographic avoidance survey – the northern haul road alignment has been shifted north to place it further away from the hill known as Gaguna.	The Proposal has been modified in response to the recommendations of the ethnographic avoidance survey – the northern haul road alignment has been shifted north to place it further away from the hill known as Gaguna.

12 DECISION TO REFER

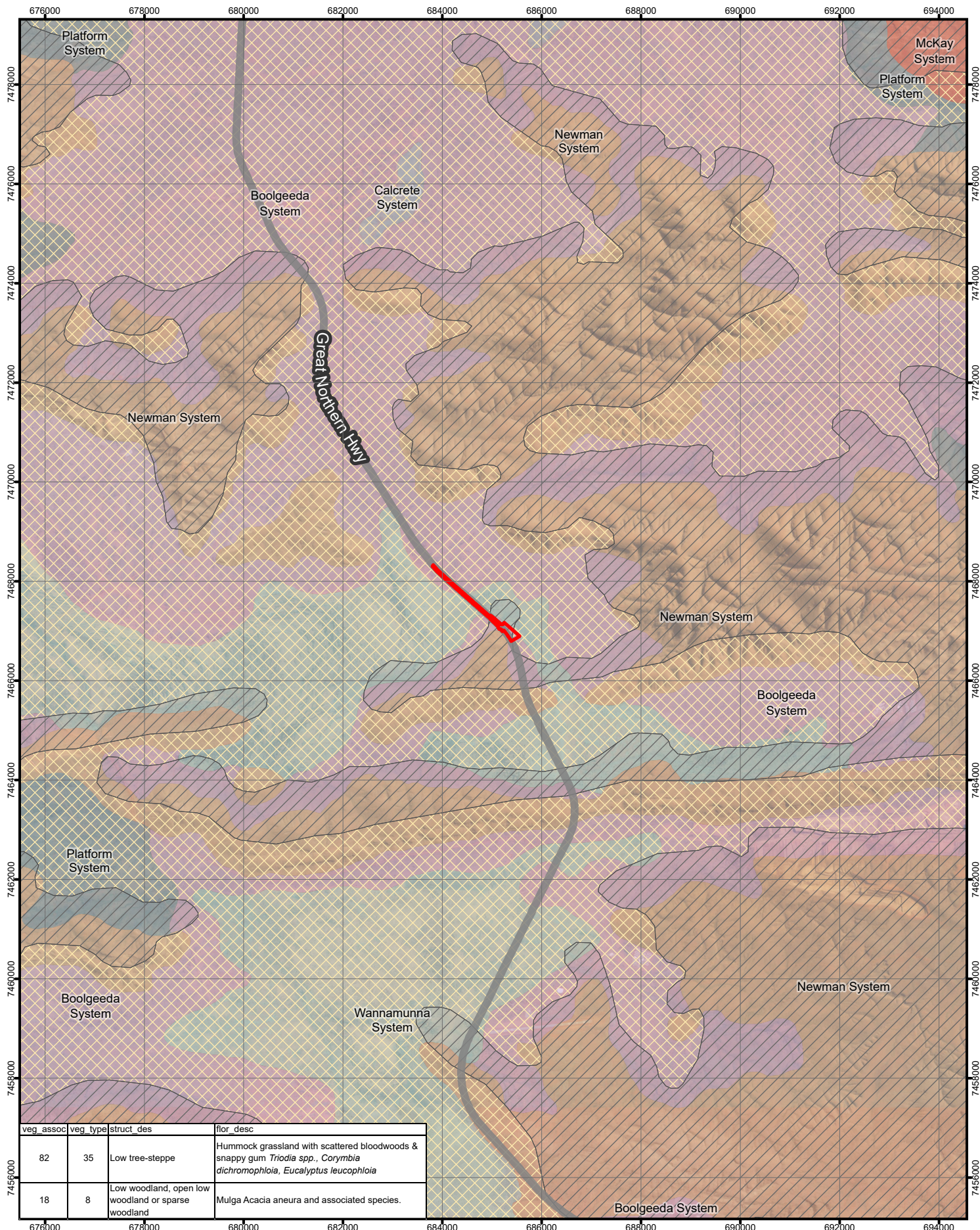
12.1 Referral to the Department of Climate Change, Energy, the Environment and Water (DCCEEW)

The environmental impact assessment determined the project will not have a significant impact on MNES or impact Commonwealth land as outlined in Table 5 of this report. For this reason, the project does not require referral to the Commonwealth DCCEEW.

12.2 Referral to the Environmental Protection Authority

The environmental impact assessment determined the project does not have a significant impact on conservation significant environmental values of the footprint or surrounding area and is unlikely to require referral to the WA EPA. This is due to the small scale of the project, the low significance of its impacts to the surrounding environment and that it is unlikely the project will generate significant public interest.

13 CONSTRAINTS MAPPING



PROJECT ID 60650191
CREATED BY ROB.MCGREGOR
APPROVED BY J. PEDERICK
LAST MODIFIED 03 AUG 2022



Datum: GDA2020 MGA Zone 50
1:100,000
(when printed at A4)

Data sources:
Base Data: (c) Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2010)
Service Layer Credits: WMS:

LEGEND

- Development Envelope (DE)
- Pre-European Vegetation (DPIRD-006)
- Vegetation Association # (veg_assoc)
- 18
- 82

Soil Landscape Mapping - Land Systems (DPIRD-064)

- Boolgeeda System
- Calcrete System
- McKay System
- Newman System
- Platform System
- Wannamunna System

Pre-European Vegetation and Land Systems

MINERAL RESOURCES LIMITED (MINRES)

LAMB CREEK IRON ORE PROJECT –
GREAT NORTH HIGHWAY
INTERSECTION, ENVIRONMENTAL
IMPACT ASSESSMENT

Figure
3



PROJECT ID 60650191
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 APPROVED BY J. PEDERICK
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AECOM
 www.aecom.com

Datum: GDA2020 MGA Zone 50
 0 25 50 75 100
 metres

1:3,500
 (when printed at A4)

Data sources:
 Base Data: (c) Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2010)
 Service Layer Credits: WMS:

- LEGEND**
- Development Envelope (DE)
 - A - Low open Eucalyptus gamophylla woodland over Triodia melvillei and T. pungens on stony plain
 - E - Low mulga woodland over sparse understorey on stony plain
 - X -Disturbed / cleared / road

Vegetation Types

MINERAL RESOURCES LIMITED (MINRES)

LAMB CREEK IRON ORE PROJECT –
 GREAT NORTH HIGHWAY
 INTERSECTION, ENVIRONMENTAL
 IMPACT ASSESSMENT

Figure
4.1



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AECOM
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Datum: GDA2020 MGA Zone 50
 0 25 50 75 100
 metres

1:3,500
 (when printed at A4)

Data sources:
 Base Data: (c) Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2010)
 Service Layer Credits: WMS:

LEGEND

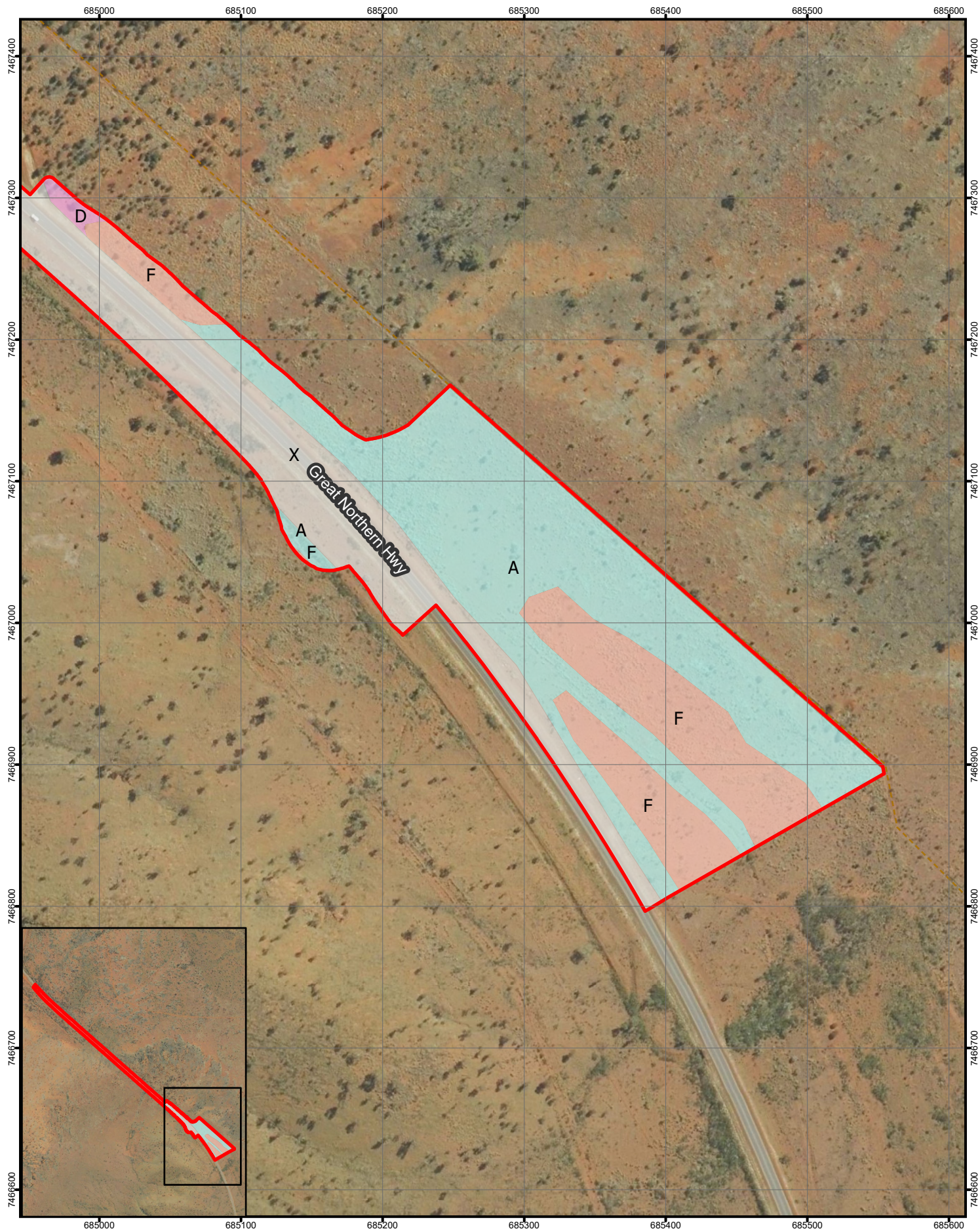
- Development Envelope (DE)
- A - Low open Eucalyptus gamophylla woodland over Triodia melvillei and T. pungens on stony plain
- D - Mulga, Hakea lorea, and Eucalyptus xerothermica low open woodland over closed tussock grassland on gently sloping clay-loam plain
- F - Triodia wiseana hummock grassland with emergent shrubs and low trees on gently sloping stony plain
- X - Disturbed / cleared / road

Vegetation Types

MINERAL RESOURCES LIMITED (MINRES)

LAMB CREEK IRON ORE PROJECT –
 GREAT NORTH HIGHWAY
 INTERSECTION, ENVIRONMENTAL
 IMPACT ASSESSMENT

Figure
4.2



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AECOM
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Datum: GDA2020 MGA Zone 50
 0 25 50 75 100
 metres

1:3,500
 (when printed at A4)

Data sources:
 Base Data: (c) Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2010)
 Service Layer Credits: WMS:

LEGEND

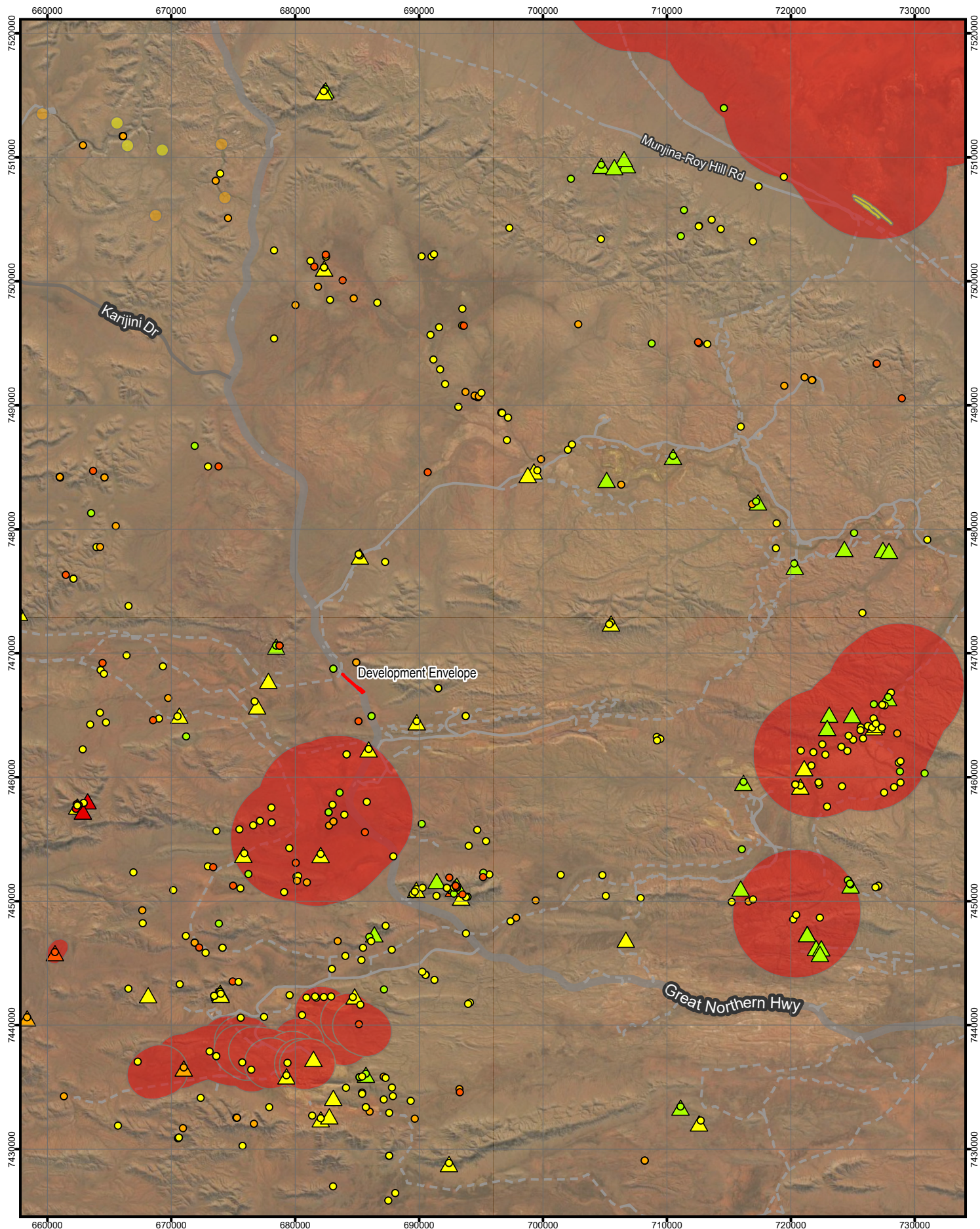
- Development Envelope (DE)
- A - Low open Eucalyptus gamophylla woodland over *Triodia melvillei* and *T. pungens* on stony plain
- D - Mulga, *Hakea lorea*, and *Eucalyptus xerothermica* low open woodland over closed tussock grassland on gently sloping clay-loam plain
- F - *Triodia wiseana* hummock grassland with emergent shrubs and low trees on gently sloping stony plain
- X - Disturbed / cleared / road

Vegetation Types

MINERAL RESOURCES LIMITED (MINRES)

LAMB CREEK IRON ORE PROJECT –
 GREAT NORTH HIGHWAY
 INTERSECTION, ENVIRONMENTAL
 IMPACT ASSESSMENT

Figure
4.3



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AECOM
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Datum: GDA2020 MGA Zone 50
 1:400,000
 (when printed at A4)

Data sources:
 Base Data: (c) Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2010)
 Service Layer Credits: World Imagery: Earthstar Geographics

LEGEND

Development Envelope (DE)
 TPFL Status (DBCA)

T
 1
 2
 3
 4

WAHerb Status (DBCA)

T
 1
 2
 3
 4

TecPec Category (DBCA)

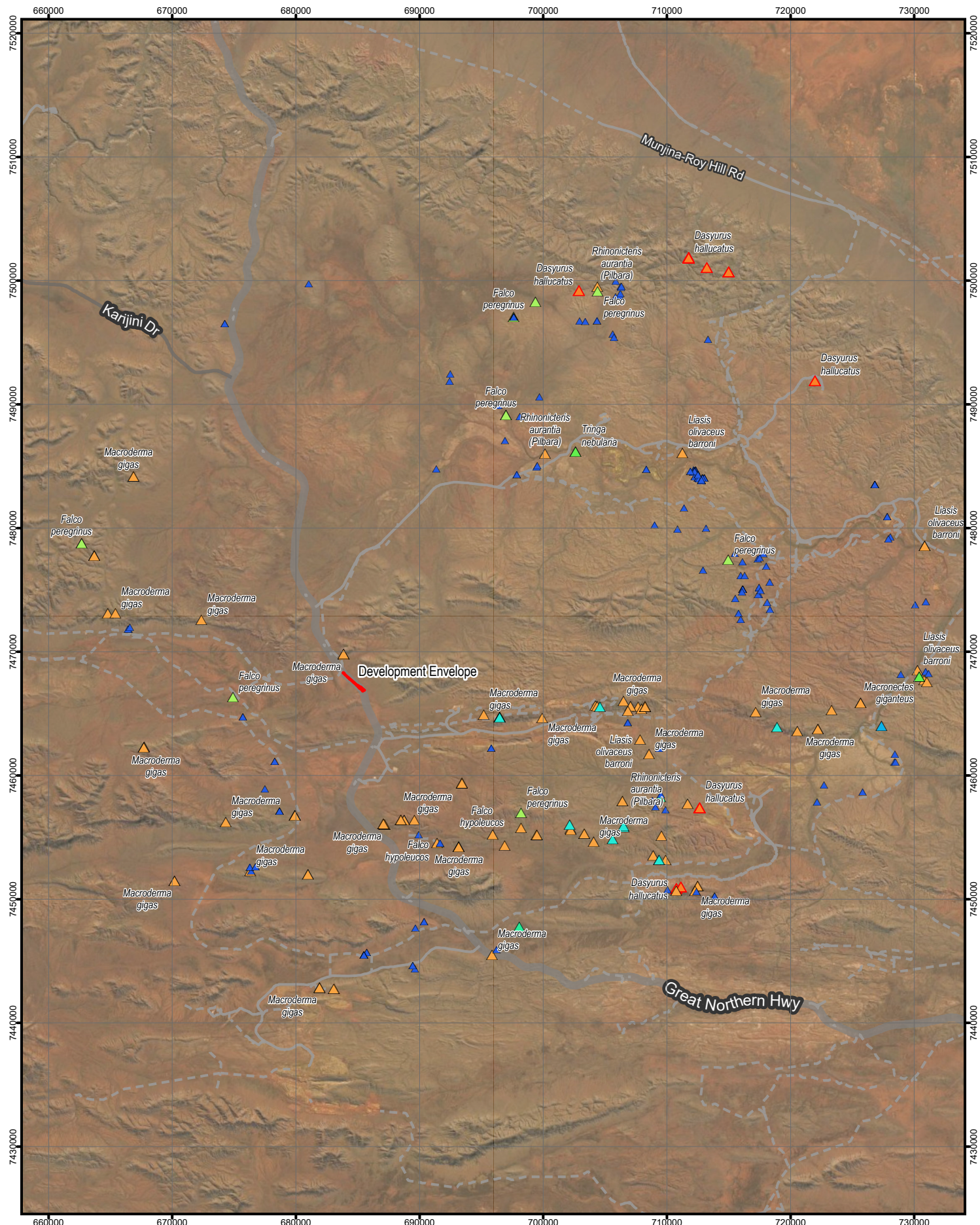
Priority 1
 Priority 2
 Priority 3

DBCA Threated and Priority Flora

MINERAL RESOURCES LIMITED (MINRES)

LAMB CREEK IRON ORE PROJECT – GREAT NORTH HIGHWAY INTERSECTION, ENVIRONMENTAL IMPACT ASSESSMENT

Figure 5



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AECOM
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Datum: GDA2020 MGA Zone 50
1:400,000
(when printed at A4)

Data sources:
Base Data: (c) Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2010).
Service Layer Credits: World Imagery: Earthstar Geographics

LEGEND
Development Envelope (DE)

- Threatened Fauna database (DBCA)
- Endangered
 - Vulnerable
 - Specially Protected
 - International Agreement
 - Priority 1
 - Priority 2
 - Priority 3
 - Priority 4

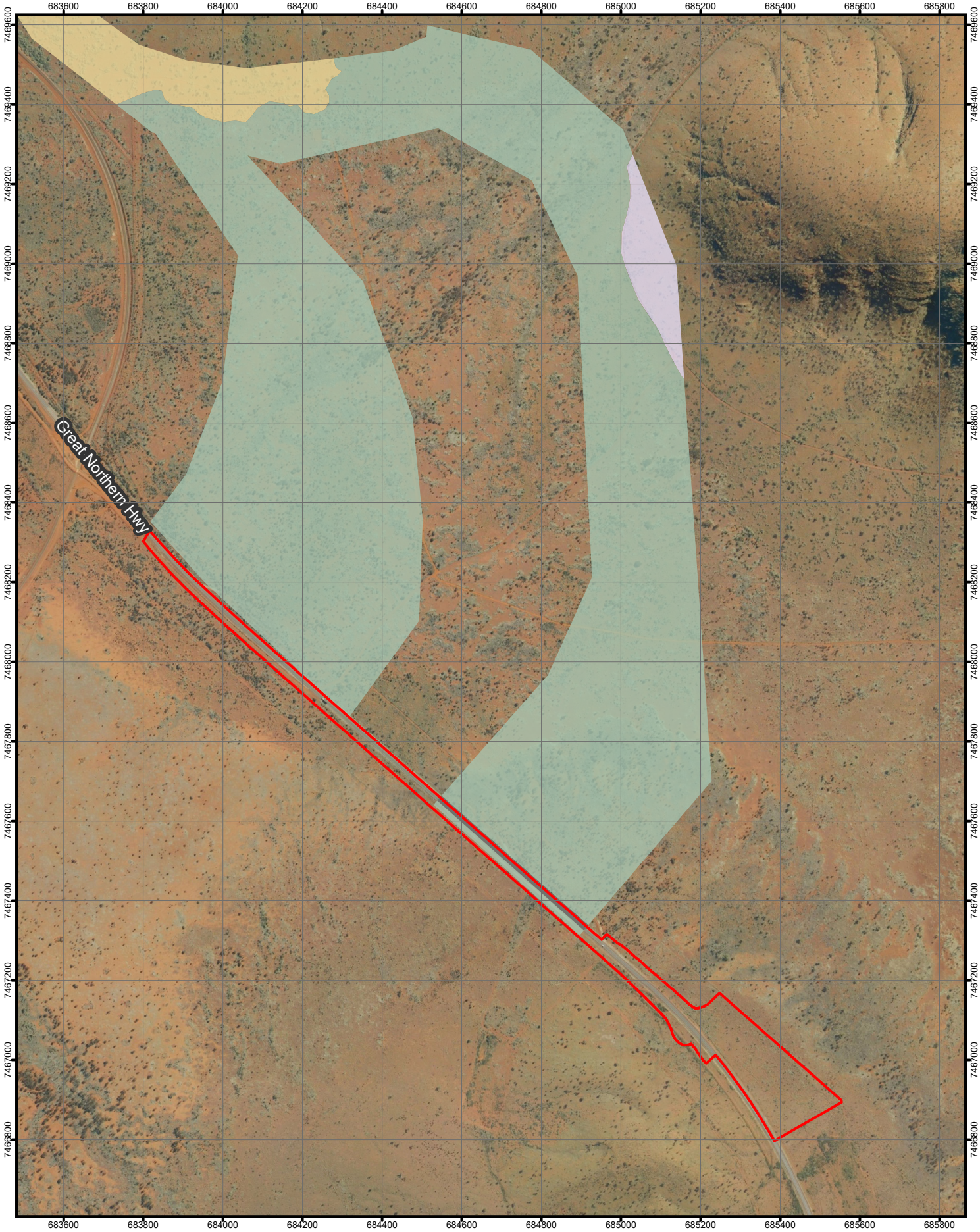
Note: Taxon name of 'International Agreement' status and above labelled on figure

DBCA Threatened Fauna

MINERAL RESOURCES LIMITED (MINRES)

LAMB CREEK IRON ORE PROJECT – GREAT NORTH HIGHWAY INTERSECTION, ENVIRONMENTAL IMPACT ASSESSMENT

Figure
6



PROJECT ID
60650191

CREATED BY
ROB.MCGREGOR

APPROVED BY
J. PEDERICK

LAST MODIFIED
03 AUG 2022

AECOM

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N

1:12,500

(when printed at A4)

Datum: GDA2020 MGA Zone 50

0 50 100 150 200

metres

Data sources:

Base Data: (c) Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2010)

Service Layer Credits: WMS:

LEGEND

Development Envelope (DE)

Hill crests and hill slopes

Road - Bitumen

Stony plain

Tussock grassland plain

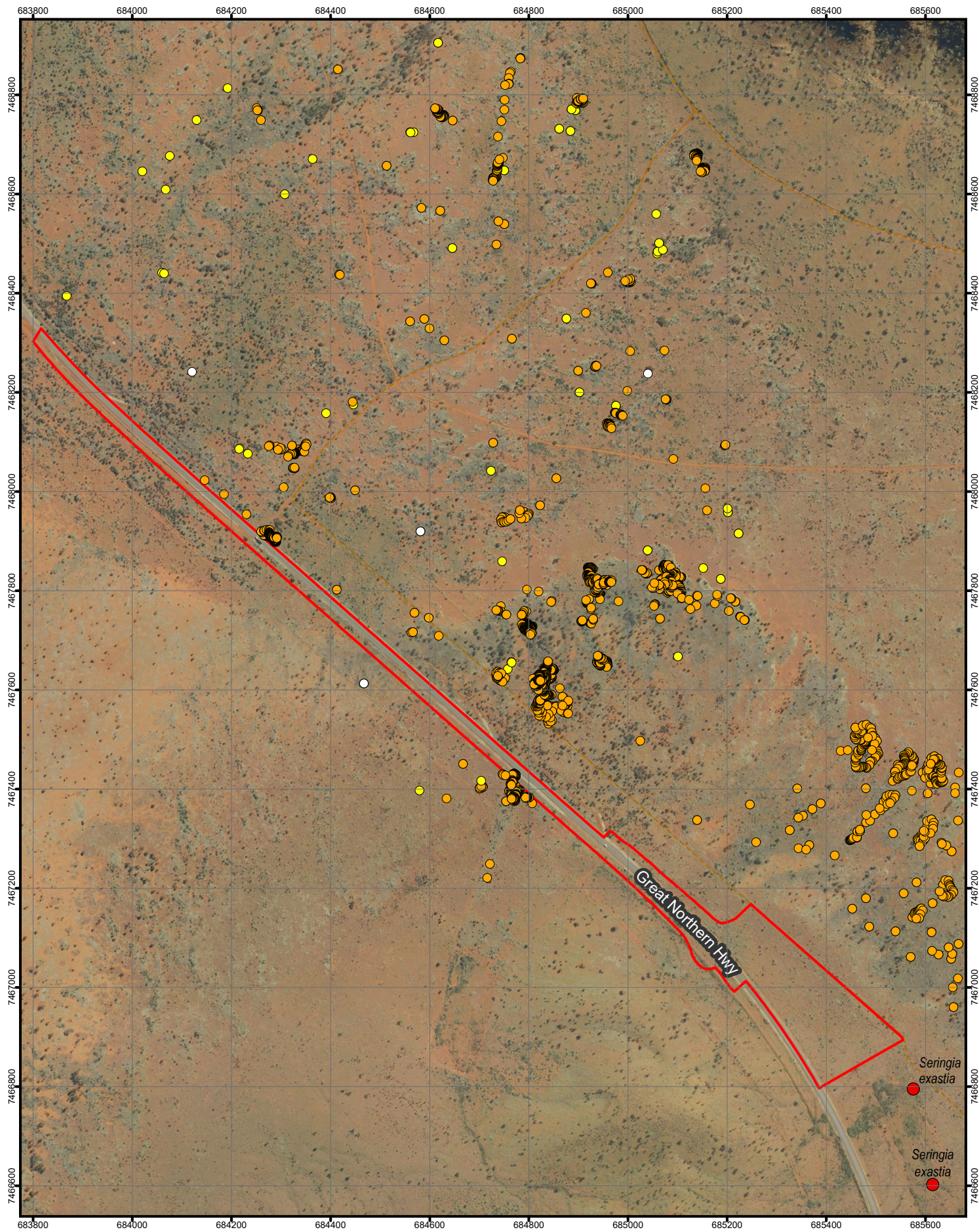
Fauna Habitat

MINERAL RESOURCES LIMITED (MINRES)

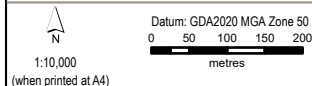
LAMB CREEK IRON ORE PROJECT – GREAT NORTH HIGHWAY INTERSECTION, ENVIRONMENTAL IMPACT ASSESSMENT

Figure

7



PROJECT ID 60650191
CREATED BY ROB.MCGREGOR
APPROVED BY J. PEDERICK
LAST MODIFIED 03 AUG 2022



Data sources:
Base Data: (c) Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2010)
Service Layer Credits: WMS:

LEGEND

Development Envelope (DE)
Priority Flora (Rapallo, 2021)

- CR
- P2
- P3
- P4
- Potentially undescribed species

Conservation Significant Flora

MINERAL RESOURCES LIMITED (MINRES)

LAMB CREEK IRON ORE PROJECT –
GREAT NORTH HIGHWAY
INTERSECTION, ENVIRONMENTAL
IMPACT ASSESSMENT

Figure
8

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15 APPENDICES

Appendix	Title
Appendix A	Biological Reports
Appendix B	Construction Environmental Management Plan
Appendix C	DCCEEW Protected Matters Database Search
Appendix D	Supplementary Likelihood Assessment