



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 10265/1
Permit Holder:	Shire of Yilgarn
Duration of Permit:	From 08 January 2024 to 08 January 2029

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of road construction and sourcing of construction materials.

2. Land on which clearing is to be done

Lot 1010 on Deposited Plan 91883, Marvel Loch

Marvel Loch – Forrestania Road reserve, (PINs 11712460 and 11721929) Marvel Loch and Parker Range

Unallocated Crown Land (PIN 965955), Marvel Loch and Skeleton Rock

Unallocated Crown Land (PIN962514), Marvel Loch

Unallocated Crown Land (PIN12034664), Marvel Loch

3. Clearing authorised

The permit holder must not clear more than 4.02 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

4. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 08 January 2029.

PART II – MANAGEMENT CONDITIONS

5. Avoid, minimise, and reduce impacts and extent of clearing

In determining the *native vegetation* authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending order of preference:

- (a) avoid the clearing of *native vegetation*;
- (b) minimise the amount of *native vegetation* to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

6. Weed management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no known *weed*-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

7. Directional clearing

The permit holder must:

- (a) conduct clearing activities in a slow, progressive manner towards adjacent *native vegetation*; and
- (b) allow a reasonable time for fauna present within the area being cleared to move into adjacent *native vegetation* ahead of the clearing activity.

8. Wind and water erosion management

To reduce the potential for wind and water erosion, the permit holder must:

- (a) commence the construction of road and associated structures, including drainage, no later than three (3) months after undertaking the authorised clearing activities; and
- (b) undertake *dust management* within the permit area to suppress dust impacts to the surrounding vegetation.

9. Priority flora management

- (a) The permit holder must ensure that:
 - (i) the boundaries of the area to be *cleared* are identified and demarcated using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) *recorded priority flora* are identified within the *clearing* boundary using a Global Positioning System (GPS) unit set to Geocentric Datum Australia

2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;

- (b) When undertaking any *clearing* authorised under this permit, the permit holder must not cause or allow the *clearing* of more than the *recorded priority flora* within the *clearing* boundary.

PART III - RECORD KEEPING AND REPORTING

10. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	<ul style="list-style-type: none"> (a) the species composition, structure, and density of the <i>cleared</i> area; (b) the location where the <i>clearing</i> occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was <i>cleared</i>; (d) the date construction activities commenced; (e) direction of <i>clearing</i>; (f) the size of the area <i>cleared</i> (in hectares); (g) actions taken to avoid, minimise, and reduce the impacts and extent of <i>clearing</i> in accordance with condition 5; (h) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> in accordance with condition 6; and (i) <i>dust management</i> actions in accordance with condition 8.
2.	In relation to flora management pursuant to condition 9	<ul style="list-style-type: none"> (a) the name and date <i>recorded priority flora</i> species were cleared; (b) the <i>recorded priority flora taxa</i> and number of individuals cleared; (c) the location of <i>recorded priority flora taxa</i> cleared, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings; and (d) actions taken to avoid the clearing of <i>recorded priority flora</i> species, where practicable.

11. Reporting

The permit holder must provide to the *CEO* the records required under condition 10 of this permit when requested by the *CEO*.

DEFINITIONS

In this permit, the terms in Table 2 have the meanings defined.

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
dust management	the system implemented to reduce or eliminate dust emissions from the activities that generate airborne and fugitive dust and cause erosion e.g. through the application of dust suppression with water or other material.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
fill	means material used to increase the ground level, or to fill a depression.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
Priority flora	means those plant taxa described as priority flora classes 1, 2, 3, or 4 in the <i>Department of Biodiversity, Conservation and Attractions Threatened and Priority Flora List for Western Australia</i> (as amended)
recorded	means individuals of those <i>priority flora</i> species found within the area cross-hatched yellow in Figure 1 of Schedule 1 during the following surveys: <ul style="list-style-type: none"> (a) <i>Interim Detailed Flora and Vegetation Assessment and Gap Analysis Moorine Rock to Mt Holland minesite. Southern Section, Parker Range to Mt Holland, Supporting Clearing Permit CPS 10049</i>. Dated June 2023. (Western Botanical, 2023) (DWER Reference DWERDT871963) (b) <i>Interim Detailed Flora and Vegetation Assessment and Gap Analysis Moorine Rock to Mt Holland minesite. Northern Section, Gt Eastern Hwy to Fence Road. Supporting Clearing Permit CPS 10197</i>. Dated June 2023. (Western Botanical, 2023). (DWER Reference: DWERDT871948) (c) <i>Interim Detailed Flora and Vegetation Assessment and Gap Analysis Moorine Rock to Mt Holland minesite. Central Section, Mt Caudan Bypass to Buffalo Bypass. Supporting Proposed Clearing Permit CPS 10265</i>. Dated July 2023. (Western Botanical, 2023). (DWER Reference : DWERDT871965)

Term	Definition
	(d) Additional survey targeting priority flora for CPS 10049, CPS 10197 and CPS 10265 whose result is summarized in data sheet entitled “ <i>Covalent Composite Flora 20231110 CPS10197 10265 10049 Summary</i> ”. Received by the Department on 10 November 2023 (DWER Reference DWERDT868667)
weeds	means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i> ; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS



Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

13 December 2023

Schedule 1

The boundary of the area authorised to be cleared is shown in the map below (Figure 1).

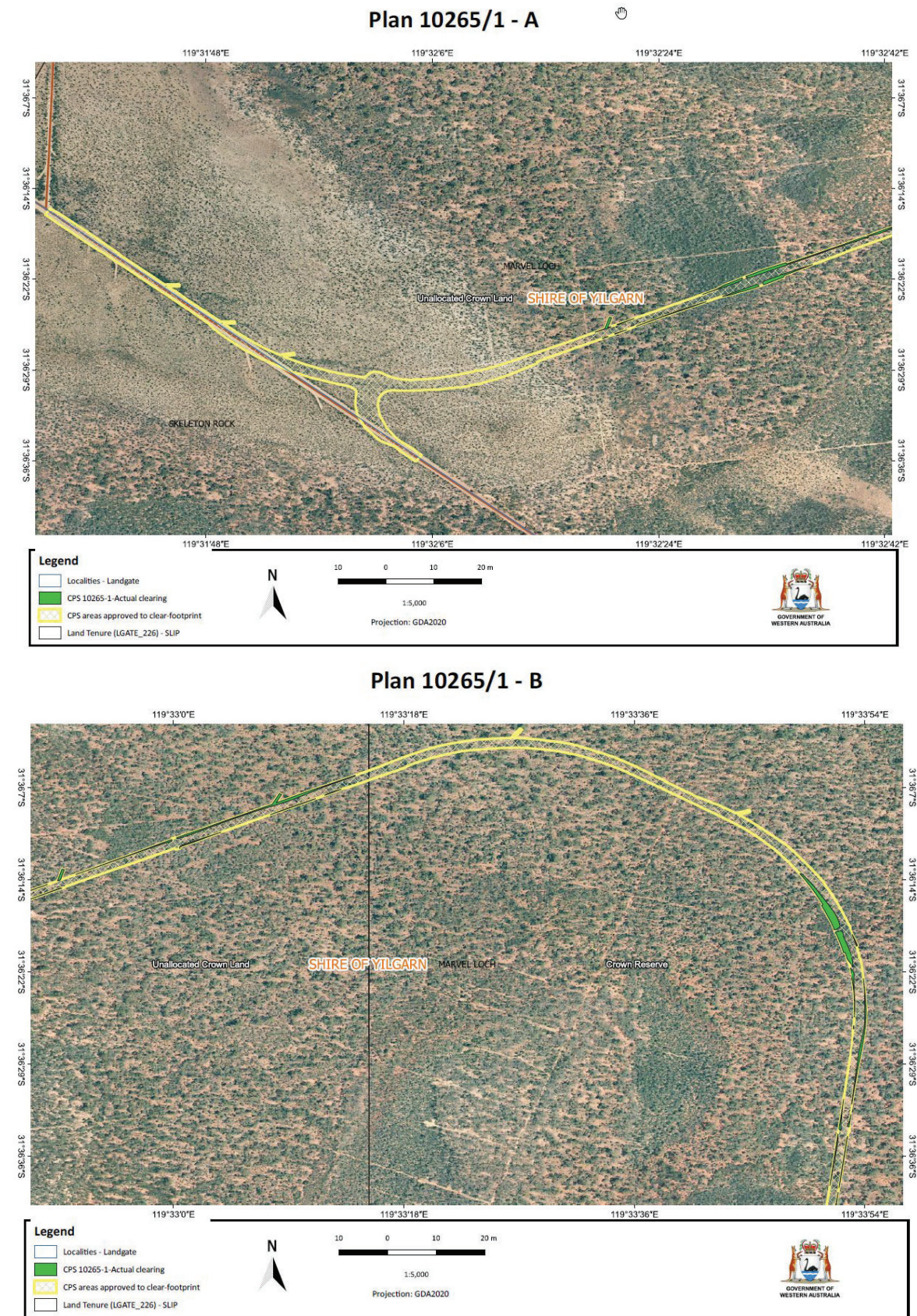
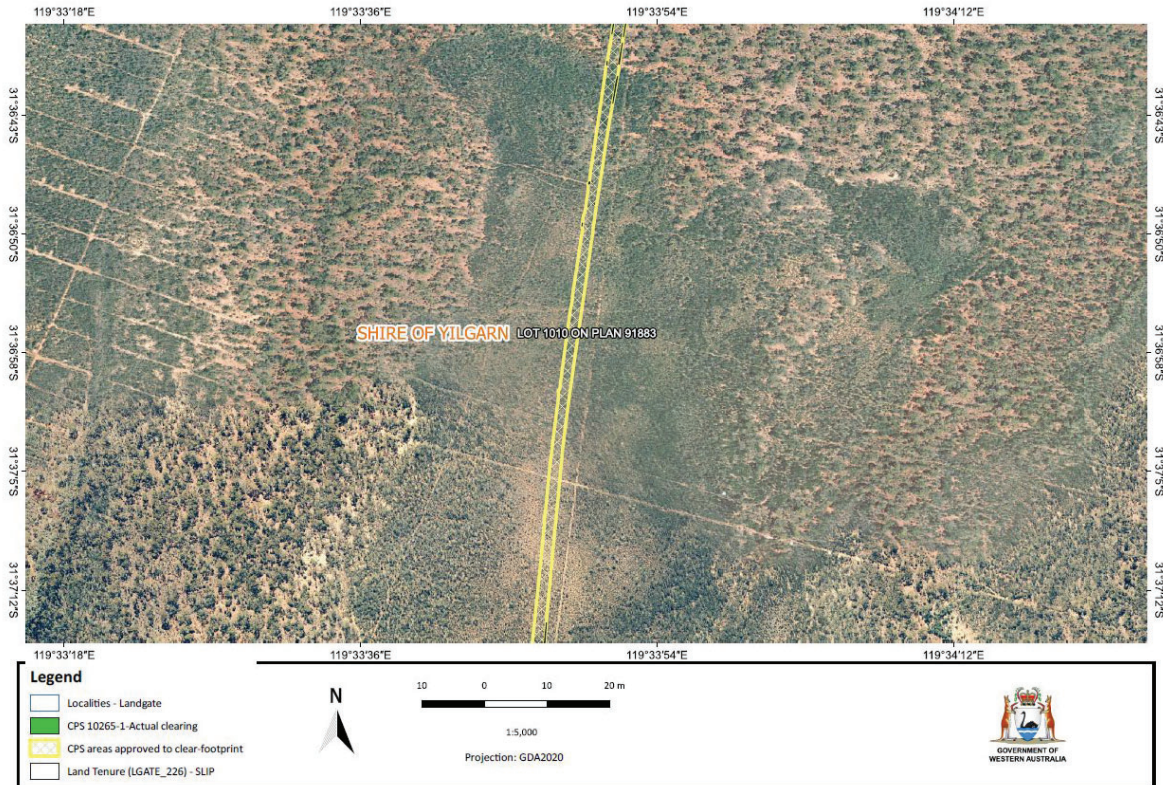


Figure 1: Map of the boundary of the area within which clearing may occur.

Plan 10265/1 - C



Plan 10265/1 - D

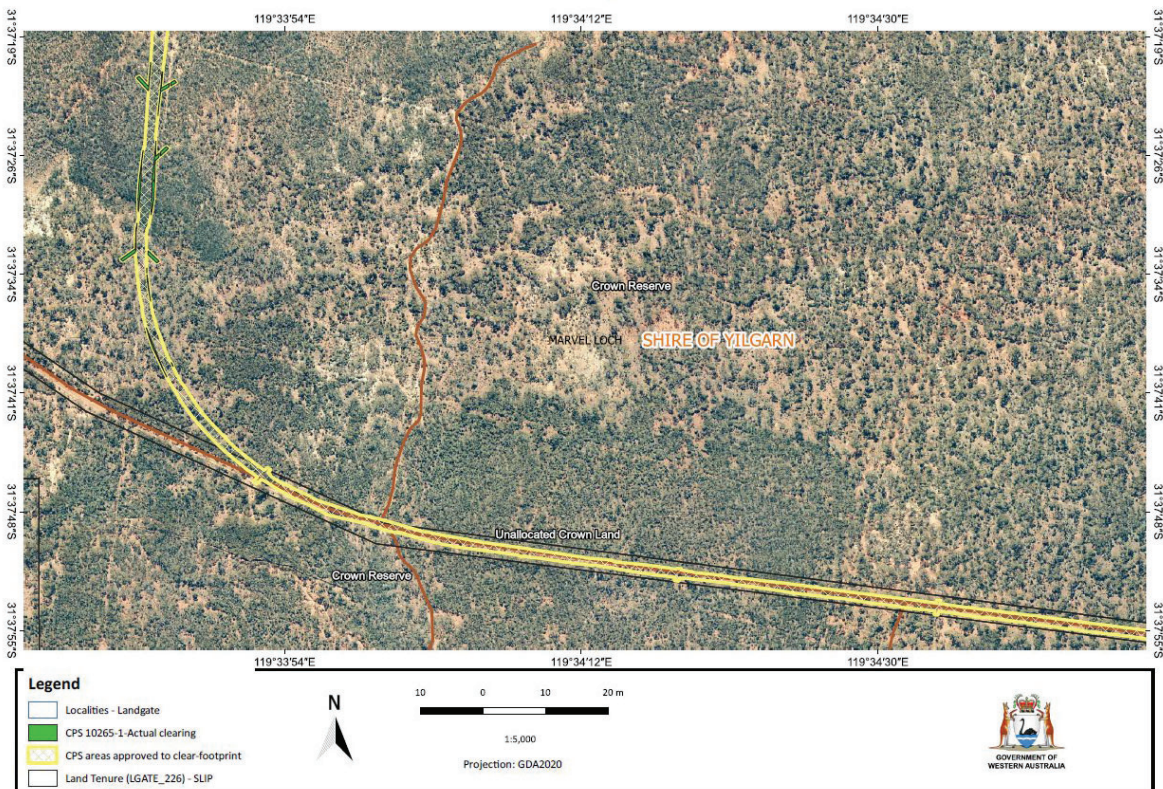
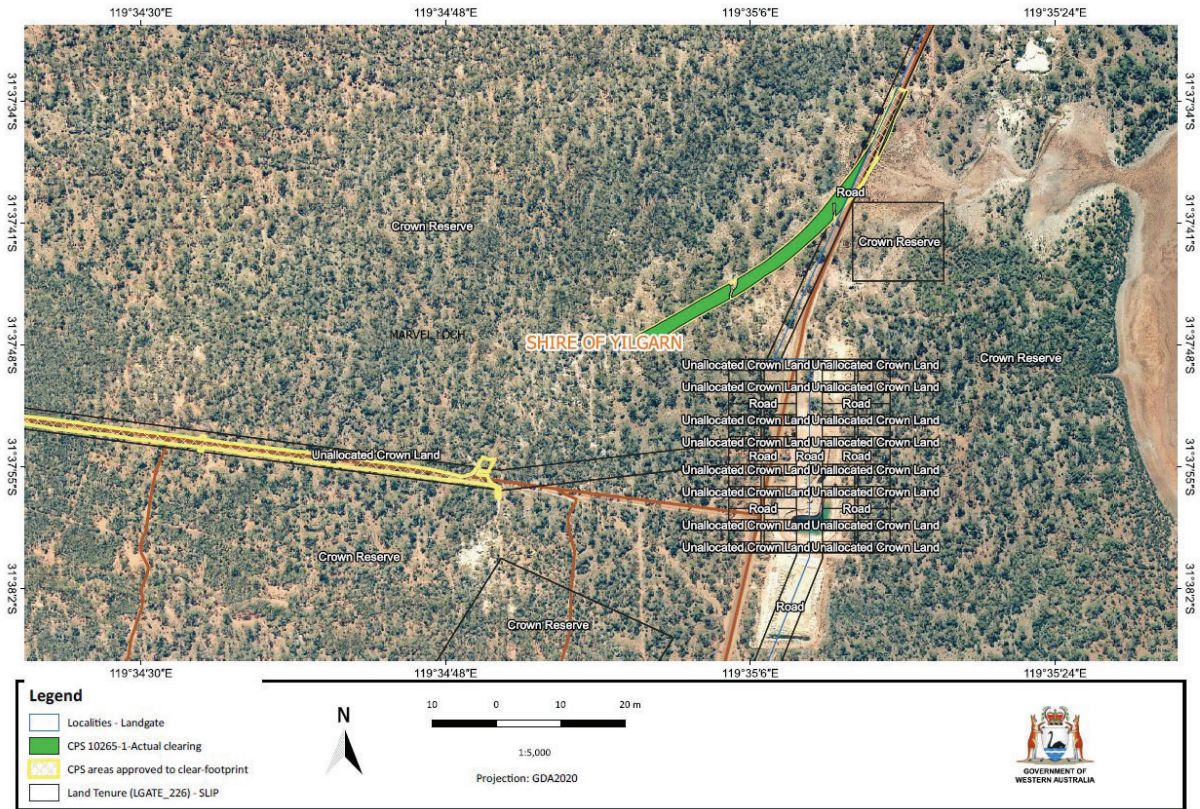


Figure 2: Map of the boundary of the area within which clearing may occur (cont.).

Plan 10265/1 - E



Plan 10265/1 - F

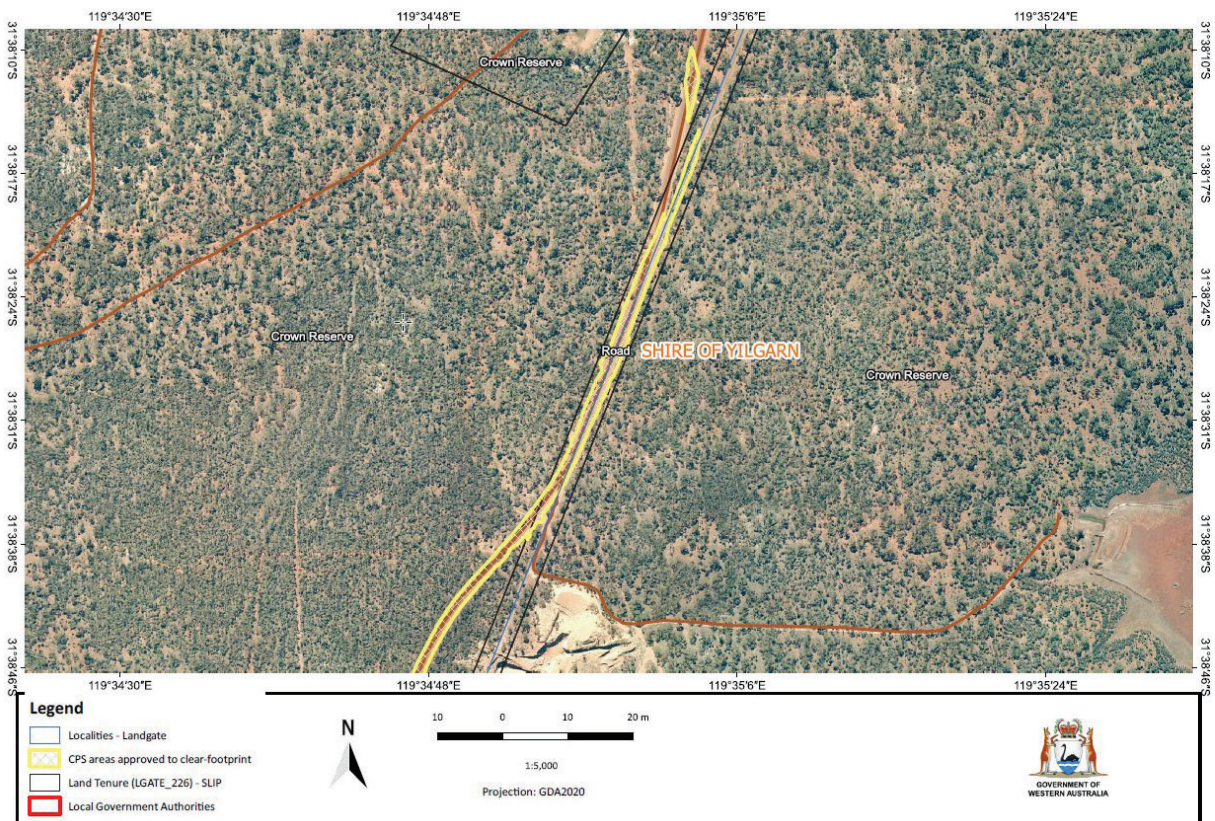
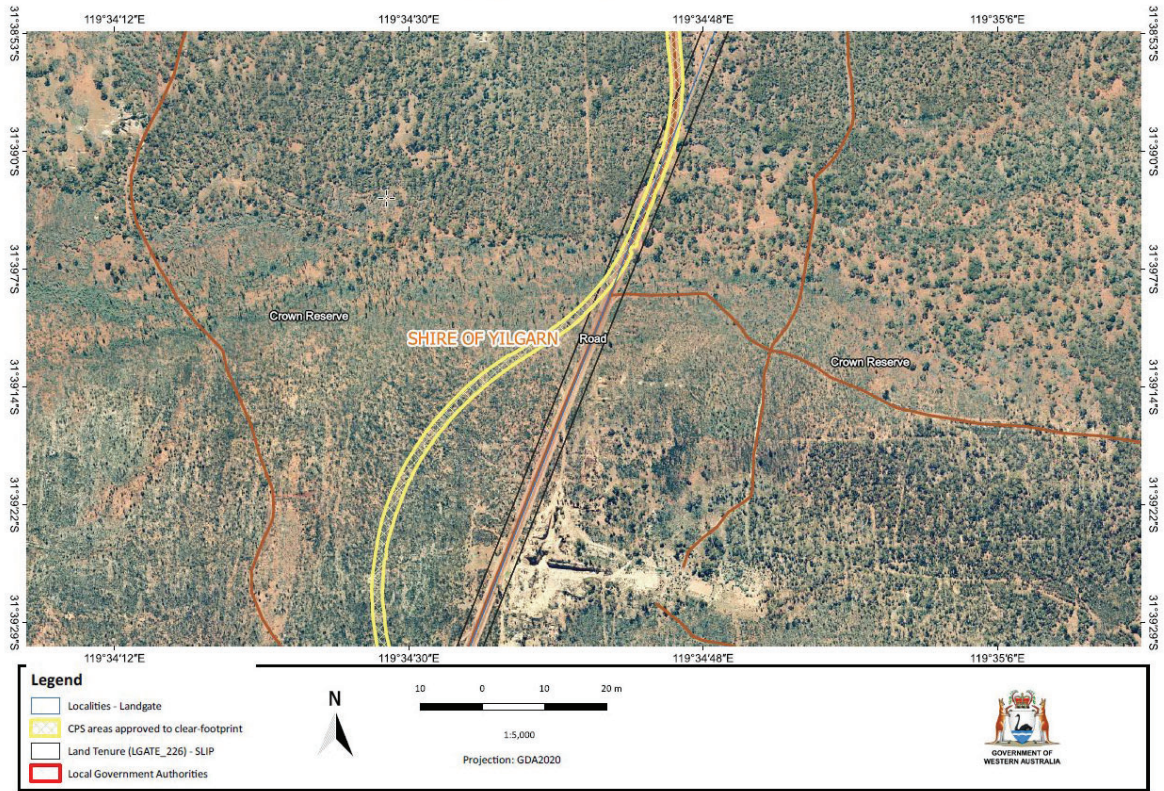


Figure 3: Map of the boundary of the area within which clearing may occur (cont.).

Plan 10265/1 - G



Plan 10265/1 - H

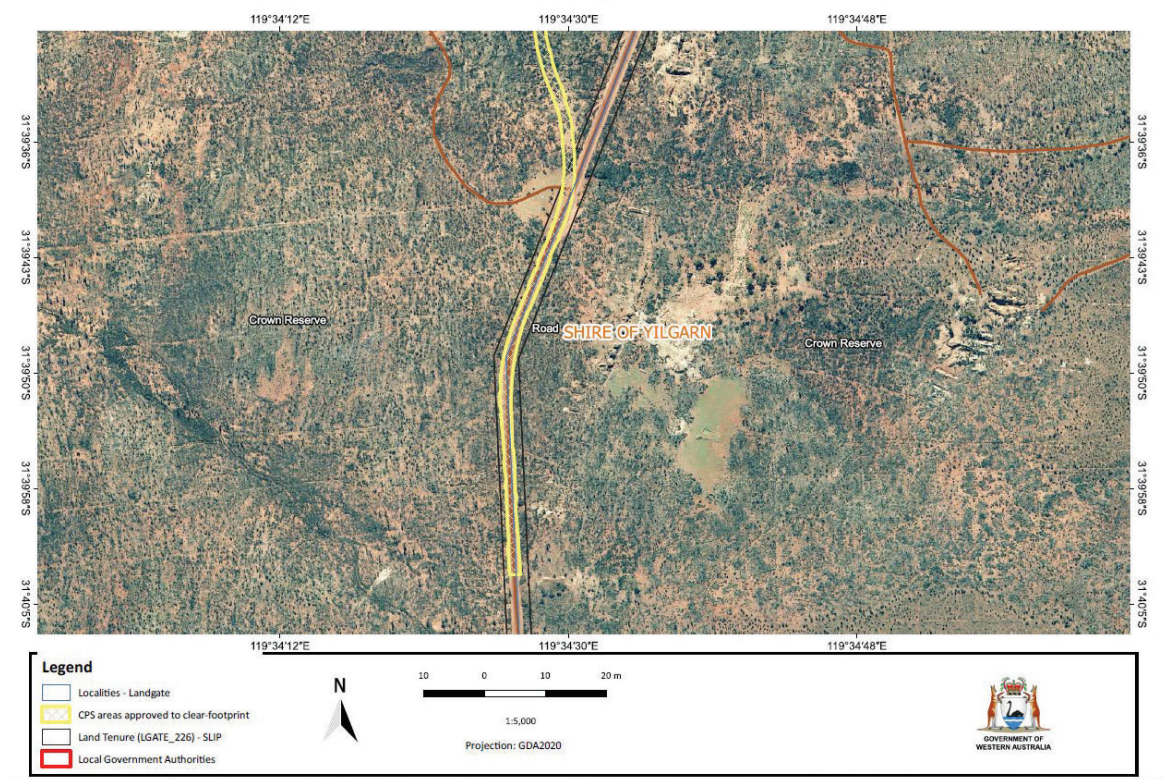


Figure 4: Map of the boundary of the area within which clearing may occur (cont.).



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10265/1
Permit type:	Purpose permit
Applicant name:	Shire of Yilgarn
Application received:	06 July 2023
Application area:	4.02 hectares (ha) (revised) of native vegetation within a 25.83 ha clearing footprint
Purpose of clearing:	Road construction and sourcing of construction materials
Method of clearing:	Mechanical
Property:	Lot 1010 on Deposited Plan 91883, Marvel Loch Marvel Loch – Forrestania Road reserve, (PINs 11712460 and 11721929) Marvel Loch and Parker Range Unallocated Crown Land (PIN 965955), Marvel Loch and Skeleton Rock Unallocated Crown Land (PIN 962514), Marvel Loch Unallocated Crown Land (PIN12034664), Marvel Loch
Location (LGA area/s):	Shire of Yilgarn
Localities (suburb/s):	Marvel Loch, Parker Range and Skeleton Rock

1.2. Description of clearing activities

The Shire of Yilgarn (the Shire) is undertaking an upgrade and maintenance along approximately 116 kilometres (km) of road within the Parker Range Road Reserve and Marvel Loch Forrestania Road reserve. The road will be connecting Great Eastern Highway at Moorine Rock to the Earl Grey Lithium Project's mine site at Mount Holland. The proposed project includes realignments and sealing of Stubbs Street and Parker Range Road south of Moorine Rock and works on the newly constructed Parker Range Road diversion around the Mt Caudan minesite and a section of the Marvel Loch to Forrestania Road from the Parker Range Road intersection to the Mt Holland mine site. The realignment, widening and sealing are required due to anticipated increase in traffic because of expanded mining operations within the area. The improved road is also expected to increase tourism in the Shire (Shire of Yilgarn, 2023a).

Clearing of native vegetation distributed across either side of the road is required. The Shire applied for three Clearing Permits associated with the project. This proposal (CPS 10265/1) is to clear native vegetation distributed over either side of a 13 km long stretch of road in the mid-section of the 116 km long road works. The Central Section (Section 3 of 3) is within the chainage 50.0 km to 64.0 km. This includes the southern portion of the Parker Range Road and the newly constructed Mt Caudan Minesite Diversion Road which extends around the northern end of the Parker Range, and then a section of the Marvel Loch to Forrestania Road.

The proposal is to clear up to 4.02 ha of native vegetation within the road reserve, much of which lies within or is surrounded by uncleared native vegetation and has few small and disjunct areas of former clearing in small scale mining and exploration activities. The proposed clearing area size was originally 7.73 ha of native vegetation within a 28.67 hectare clearing footprint. During assessment, in response to the Department of Water and Environmental Regulation's (DWER) request for further information, the clearing footprint and proposed actual clearing area were reduced to 25.83ha and 4.02 ha, respectively, to minimise impacts on environmental values.

1.3. Decision on application

Decision:	Granted
Decision date:	13 December 2023
Decision area:	4.02 hectares (ha) of native vegetation within a 25.83 ha clearing footprint (revised) as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). DWER advertised the application for 21 days and no submissions were received. The application area was revised during the assessment stage and re-advertised for an additional seven days. No submissions were received during this time.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets (see Appendix F.1), the findings of the flora, vegetation and fauna surveys (see Appendix E), the clearing principles set out in Schedule 5 of the EP Act (see Appendix C), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration that the road project for which the proposed clearing is required will improve community safety and local economy through mining and tourism. In particular, the Delegated Officers has considered the following:

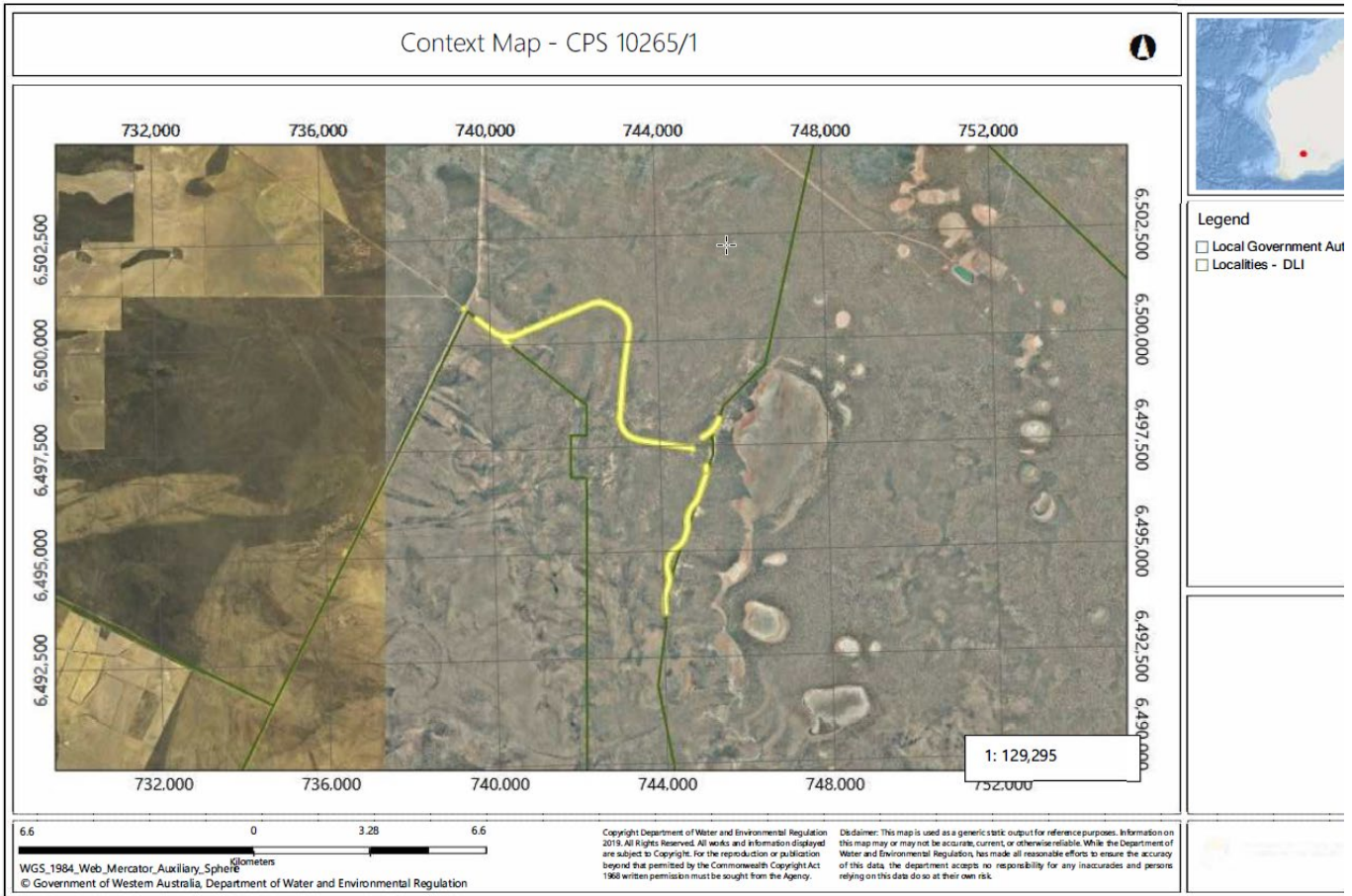
- The proposed clearing will clear four Priority 1 (P1), one Priority 2 (P2), two Priority 3 (P3), and four flora species of interest (SOI). The proportion of individuals to be removed to the total population known locally and regionally are considered low, that the impacts are unlikely to be significant locally or regionally. The impacts on the species conservation values are also considered insignificant. Clearing, however, may have indirect impact on conservation significant flora species and individuals within the clearing footprint or nearby. Potential impacts can be reduced and mitigated by placing a condition to the permit including the requirement to demarcate the clearing areas to avoid inadvertent clearing of native vegetation and conservation significant flora individuals nearby.
- The proposed clearing will remove 2.04 ha of vegetation representative of the Plant Assemblages of the Parker Range Priority Ecological Community (PEC) (Priority 3). The clearing constitutes 0.004 percent of the total known area of the PEC, which is considered unlikely that the clearing would change the conservation status of the PEC. To mitigate indirect impacts of clearing on the PEC nearby, demarcation of the clearing areas and weed and land management conditions are imposed on the permit.
- The proposed clearing will not remove any areas mapped or identified as the Eucalypt Woodlands of Western Australian Wheatbelt Region (Wheatbelt Woodlands) Threatened Ecological Community (TEC). Indirect impacts on the TEC nearby can be managed by the demarcation of the clearing areas and weed and land management conditions.
- The application area and surrounds contain suitable habitats for conservation significant fauna, however, they are not considered critical habitats. Potential impacts on individuals present at the time of clearing can be minimised by conducting clearing in a slow and directional manner.

After consideration of the available information, advice from the Department of Biodiversity, Conservation and Attractions (DBCA), as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to appreciable land degradation nor have long-term adverse impacts on the conservational value of priority flora species or the habitat values of adjacent vegetation. Potential impacts of clearing can be minimised and managed to unlikely lead to an unacceptable risk to environmental values by imposing management conditions on the Permit.

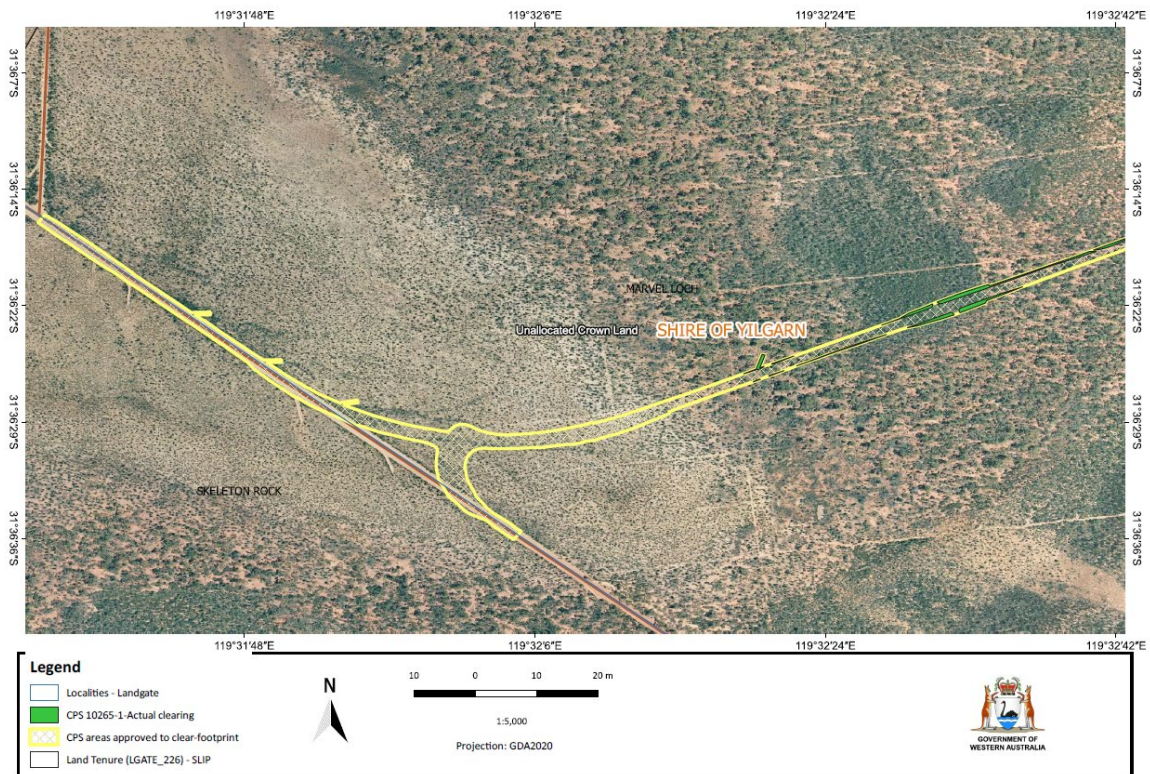
The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds
- staged clearing to minimise wind erosion
- demarcation of clearing area
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity
- commence construction of drainage and road works within three months of authorised clearing
- dust management within the application area to suppress dust.

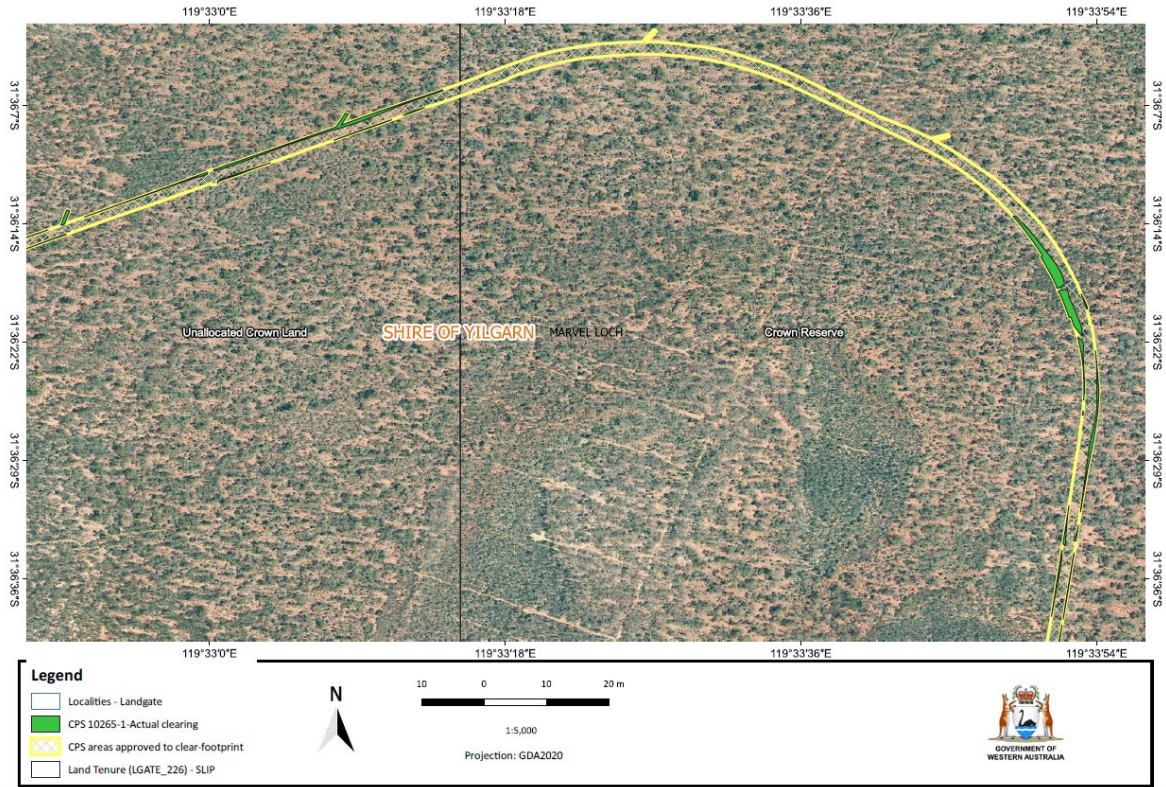
1.5. Site map



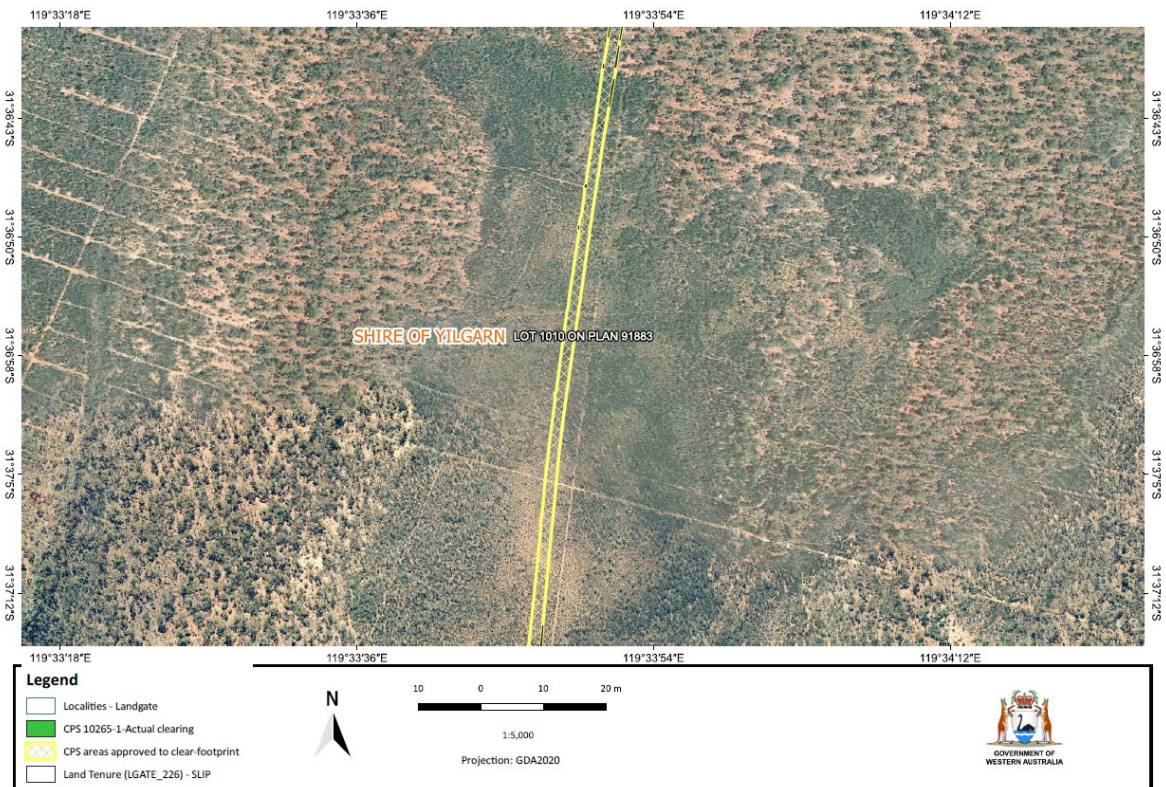
Plan 10265/1 - A



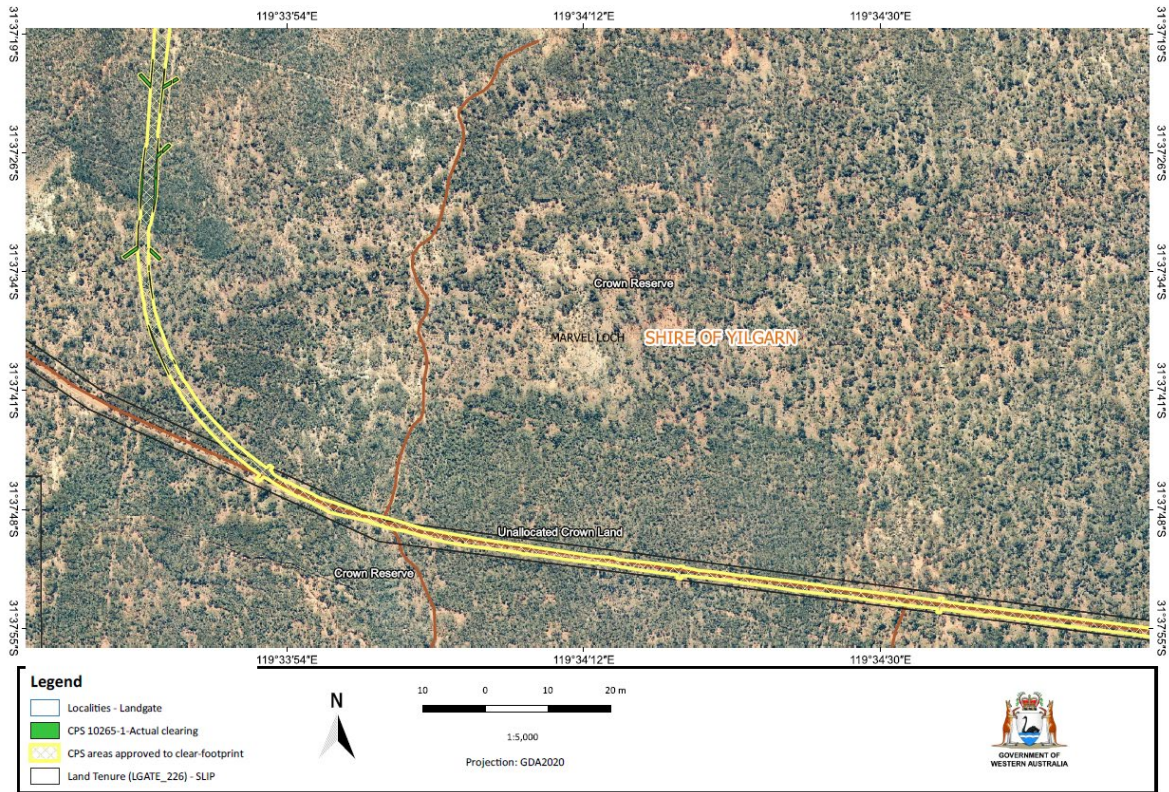
Plan 10265/1 - B



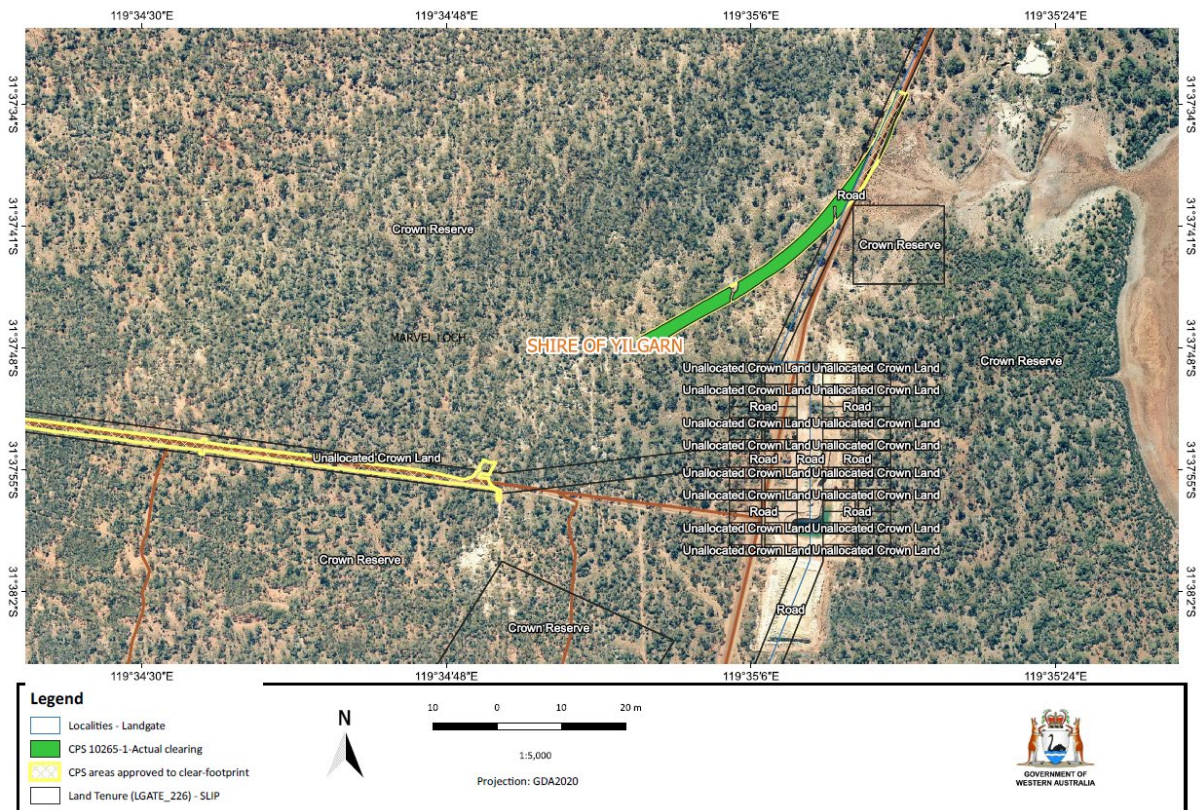
Plan 10265/1 - C



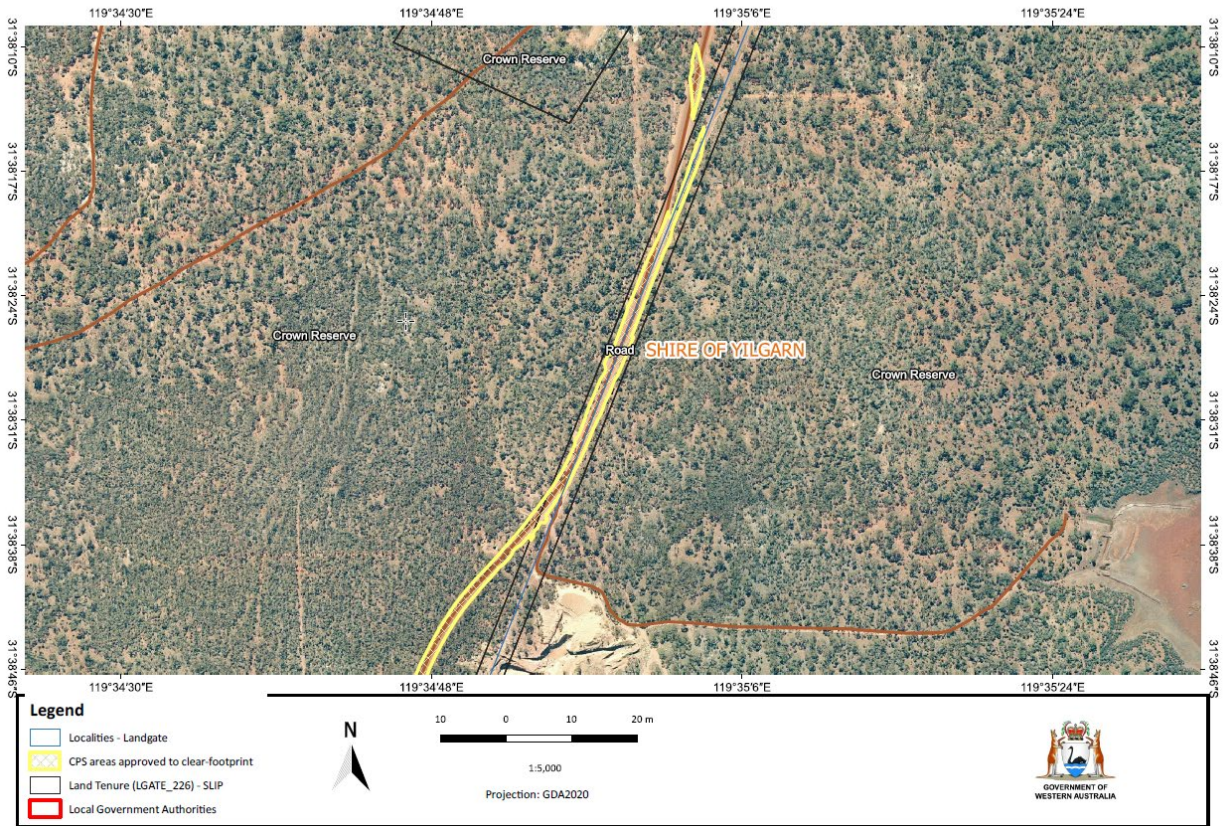
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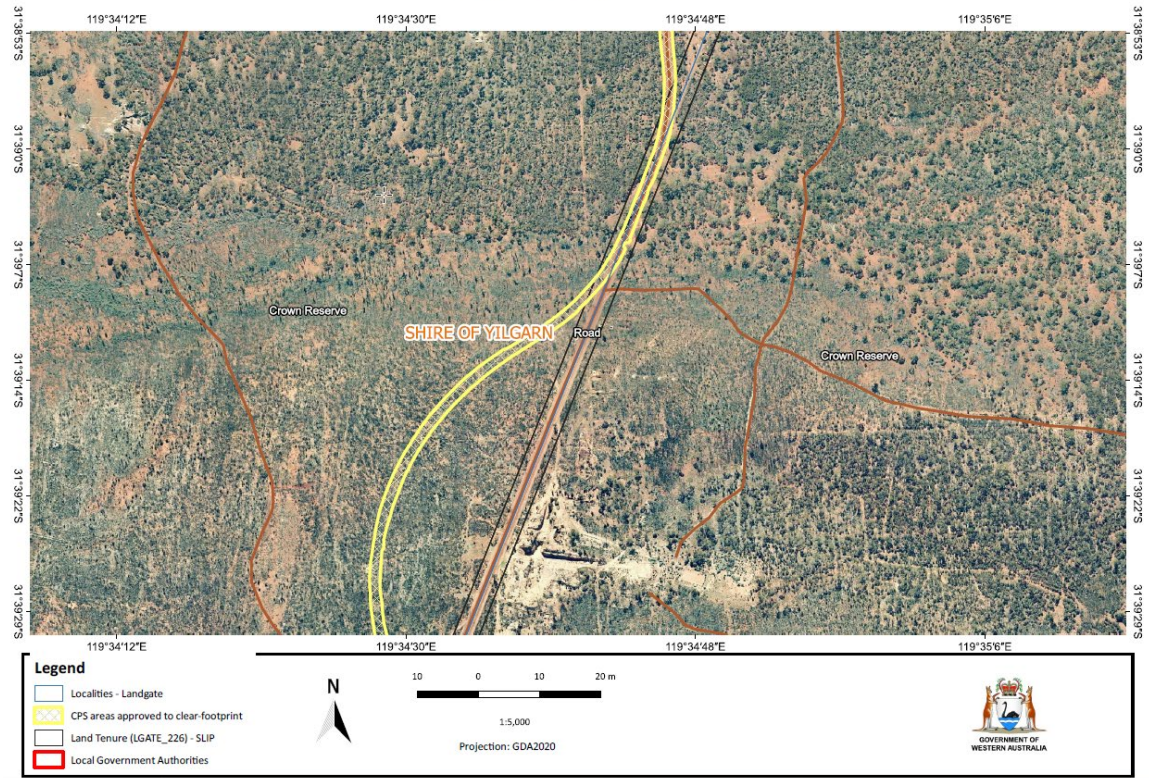
Plan 10265/1 - E



Plan 10265/1 - F



Plan 10265/1 - G



Plan 10265/1 - H

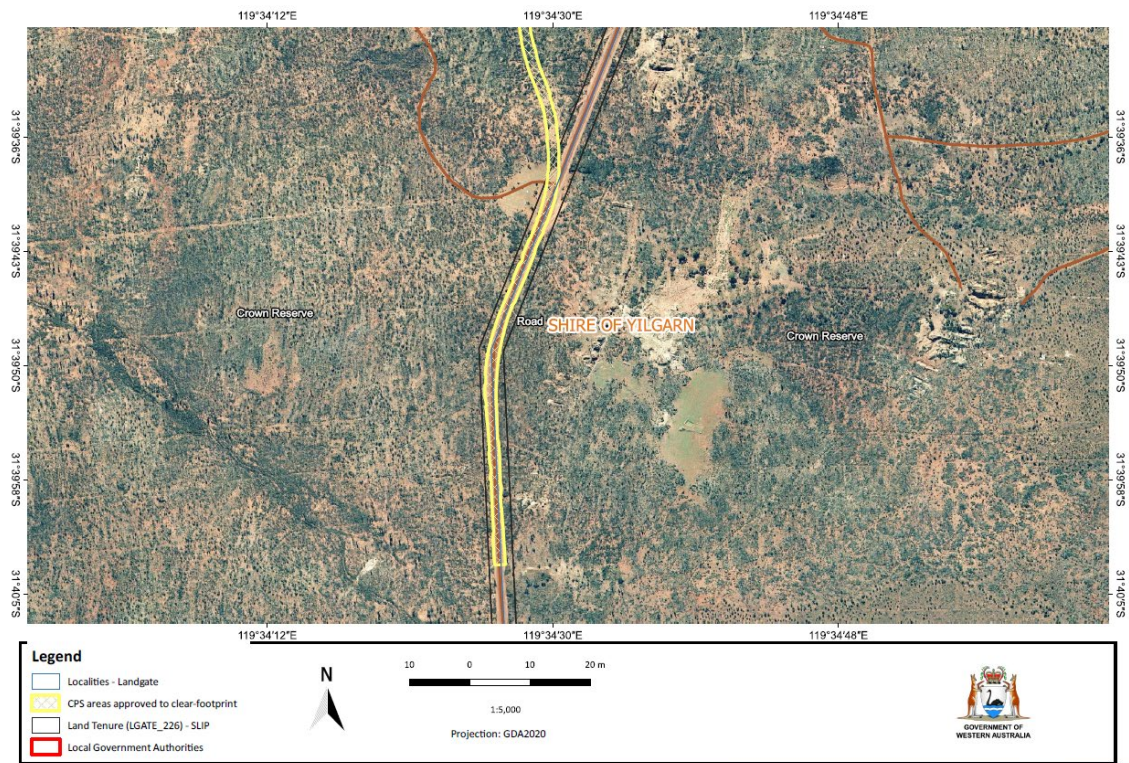


Figure 1 Map of the application area

2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- *Rights in Water and Irrigation Act 1914* (RIWI Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant advised that the road alignment was designed to avoid and minimise clearing and impact on environmental values. The proposed clearing area size was originally 7.73 ha of native vegetation within a 28.67 hectare clearing footprint. During assessment, in response to DWER's request for further information, the clearing footprint and proposed actual clearing area were reduced to 25.83ha and 4.02 ha, respectively, to minimise impacts on environmental values (Covalent Lithium, 2023b; 2023c). With the current road alignment and proposed actual clearing area as reflected in the Permit, the applicant has avoided clearing of several priority flora species and individuals, and the Wheatbelt Woodlands TEC. The applicant advised that further reduction in the clearing area is

not advisable as it may result in the failure to meet the standards required by the Shire, Main Roads and Austroads (Covalent Lithium, 2023a).

The Delegated Officer acknowledges that in addition to the ongoing search for and identification of priority and threatened flora species over the application area, the applicant has surveyed for and provided information on flora SOI. The applicant is committed to demarcate the clearing area to avoid inadvertent clearing of native vegetation and conservation significant flora species, including flora SOI nearby (Covalent Lithium, 2023a; 2023b; 2023c; 2023d).

To address the potential dust disposition during clearing, the applicant has committed to apply mitigation measures including watering of the area during high dust loads and limiting vehicles speed (Covalent Lithium, 2023d).

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix B) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values. In assessing the impacts of this clearing on environmental values, particularly priority flora, vegetation and biodiversity, DWER considered not only the impacts from this clearing application but also cumulatively in conjunction with the other clearing permit applications (CPS 10049/1 and CPS 10197/1) proposed for the project.

The assessment against the clearing principles (Appendix C) identified that the impacts of the proposed clearing present a risk to priority flora and flora SOI, biodiversity, PEC, fauna and land resources. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values – Biodiversity, Flora and Vegetation - Clearing Principles (a), (c) and (e)

Assessment

Surveys over the application area and surrounds identified that the vegetation in the area comprises of several eucalypt -dominated vegetation associations and shrublands vegetation associations (Western Botanical, 2023a; 2023b). Twelve structural groups of vegetation associations were recognised within the Study Area. These can be grouped into three super-groups: those dominated by tall eucalypts in the upper stratum (Tall eucalypt Woodlands), those dominated by mallees in the upper stratum (Mallee Shrublands); and those dominated by a wide range of other tall to low shrubs excluding eucalypts (Shrublands).

Surveys over the application area and surrounds indicate that the majority of vegetation surrounding the CPS 10265/1 application area lies within uncleared native vegetation and has few small and disjunct areas of former clearing in small scale mining and exploration activities. Consequently, most of the vegetation condition here has been mapped from Good to Excellent condition. A minor portion represents *Acacia* and *Allocasuarina* dominated shrublands on aeolian sandplains (1.57 km, 12.1%) or laterite gravelly rises (1.58 km, 12.1%). The majority of the survey areas at this section (9.85 km, 75.76%) contains *Eucalyptus* mallee woodlands and tall mallet woodlands on heavier sandy clay or clay soils (Western Botanical, 2023c). The majority of the footprint is within the mapped Plant Assemblages of the Parker Range System Priority 3 PEC. The application area and surrounds has been identified as containing vegetation types that would provide suitable habitats for conservation significant species (discussed in Section 3.2.3).

The types of vegetation and associated excellent condition is typical of the local area and region. The vegetation supports a vast array of conservation significant flora species and ecological communities. Surveys over the application area (footprint) identified the occurrence of six (6) Priority1, four (4) Priority2, six (6) Priority 3, three (3) Priority 4, and seven (7) flora SOI from the application area. These conservation significant flora species are also identified outside of the clearing footprint proposed for this permit and others proposed in conjunction with the proposed road works. The complete record of these flora is provided in Appendix B3. Threatened flora species were also identified during the survey, although none occurs within this proposed clearing footprint and areas of actual clearing.

Given the above, the application area and surrounds is considered to have a high level of biodiversity. Clearing associated with this application and cumulatively in conjunction with the other two clearing applications for the road project may reduce the biodiversity and impact on it. The level of impacts of clearing on biodiversity will depend on the level of impact on each species, community and habitat that comprise the biodiversity, as discussed below.

The assessment of impacts of the proposed removal of the flora species is based on the significance of the removal within the local, regional and species conservation contexts. To completely assess the impact of removal of the conservation significant flora species, the Department sought advice from DBCA (2023). While acknowledging that several conservation significant flora species will be removed with the proposed clearing, assessment is emphasised on species that would comprise larger impacts to the population, and species that are considered less known. The extent of impact as percentage of the removed individuals to the known population for each flora species is provided in Appendix B3.

Balaustion grandibracteatum subsp. *grandibracteatum* (P3) is known from 35 Western Australian Herbarium records across the Avon Wheatbelt and Coolgardie IBRA regions. According to available databases two records occur within the local area. Surveys over the application area and beyond (Western Botanical 2023a, 2023b; 2023c) recorded 3,273 plants; 183 of which are within the clearing footprint. None, however will be removed in the actual clearing. The closest plant to the actual clearing is approximately 287m from the area proposed to be cleared. The proposed clearing, therefore, will not impact the conservation status of this species.

Chamelaucium sp. Parker Range (B.H. Smith 1255) (P1) is a conspicuous shrub with a restricted distribution in three general areas spread across approximately 200 km north south to 250 km east west in the Coolgardie, Kondinin and Yilgarn local government areas. Considering the proposed clearing will not directly impact any of the two individuals within the footprint and that 36,911 individuals have been recorded outside of the application area, it is unlikely the proposed clearing will have a significant impact on the local or conservation status of this species. It is noted that the road works covered under all three clearing permit applications (CPS 10049/1, CPS 10197/1 and CPS 10265/1) will cumulatively remove 569 individuals or 1.54% of the total known population, however the cumulative impact remains low. Further impact of clearing on individuals nearby can be prevented and mitigated by demarcating the clearing area.

Hakea pendens (P3) is a shrub which occurs on stony loam and ironstone ridges, extending over approximately eight locations in the Yilgarn and Norseman areas, 100 km north south and 100 km east west. As the application area is located at the western extent of the species distribution, this population is considered important to the species range. A total of 10,801 individuals have been recorded in the region. The application area contains one plant, which will be removed with the proposed clearing. Additionally, 131 individuals will be removed under CPS 10049/1. The removal of individuals from the proposed clearing area and cumulatively comprise of 0.09% and 1.22% of the total population respectively, which are considered low. DBCA (2023) advised that this species should persist in the area and may regenerate well in disturbed areas. The proposed clearing is unlikely to be significant at the species level.

Logania nanophylla (P2) is known from five Western Australian Herbarium records across the Coolgardie IBRA region. Surveys over the local area recorded 1337 plants, most of which (1333 plants) are within the clearing footprint. The revised actual clearing areas, however, has avoided clearing of any individuals. The actual clearing area is approximately 147 m from the nearest identified plant. The proposed clearing is unlikely to affect the conservation of the species locally or regionally.

Rinzia medifila (P1) is known from three Western Australian Herbarium records across the Coolgardie and Avon Wheatbelt IBRA regions. According to available databases one record occurs within the local area. The surveys over the project area confirmed the occurrence of 34,027 plants, of which 1,430 occur within the application area and 1,204 individuals will be cleared. The proposed clearing under this CPS and cumulatively under all three clearing proposals comprise 3.54 percent and 3.57 percent, respectively, of impacts on the total known population, which is considered unlikely to be significant locally or regionally. In addition, the ongoing survey over the adjacent areas is expected to identify additional plants, which will likely further reduce the abovementioned percentage take impacts. The proposed clearing is considered unlikely to impact the conservation status of this species.

Rinzia triplex (P3) is a shrub which occurs on gravelly or lateritic soils, extending from the Die Hardy Range area, north of Koolyanobbing, south to Southern Cross (160 km east west and 300 km north south, approximately eight locations). The application area contains 42 *R. triplex* individuals, 37 of which lie within the actual clearing area and will be removed. An additional 54 individuals will be removed under CPS 10197/1. A total of 15,224 individuals have been identified within the region. The removal of individuals from the application area and cumulatively from the entire roadworks comprise of 0.24 % and 0.60% of the total known population respectively. The proposed clearing is considered unlikely to have a significant impact on the species at a local level or on the conservation status of the species.

Many of the SOI identified by Western Botanical are considered to be well represented within the WAHERB collection but have not yet been recognised taxonomically to date (Western Botanical, 2023a; 2023b; 2023c; Covalent, 2023d).

Many of the SOI specimens identified to date have been observed outside of the proposed clearing area in adjacent similar vegetation types and is not likely to be significantly impacted (Appendix B3).

DBCA (2023) notes that there are numerous specimens not fully identified during the surveys (Western Botanical, 2023a; 2023b; 2023c). Western Botanical undertook identification of the specimens using the resources of the WA Herbarium, both the Reference and Research Collections. Western Botanical are very familiar with the local vegetation and are confident that none of these represent any known Threatened or Priority listed flora and therefore do not represent a significant concern for this clearing application (Covalent, 2023d; 2023e). DBCA (2023) concurred with this advice and did not have any further concerns.

No Threatened flora species will be impacted by the proposed clearing. A threatened species (*Banksia dolichostyla*) has been recorded in the region, the nearest record to the application area is located approximately 45 km south of the application area where it is identified and recorded in abundance.

Plant Assemblages of the Parker Range PEC

The majority of the application area lies within the buffer of the Plant Assemblages of the Parker Range System Priority 3 PEC. The vegetation of the Parker Range system, as originally described in Beard (1979), includes all the vegetation units of the range including: *Eucalyptus sheathiana* with *E. transcontinentalis* and/or *E. eremophila* woodland on sandy soils at the base of ridges and low rises; *E. longicornis* with *E. corrugata* and *E. salubris* or *E. myriadena* woodland on broad flats; *E. salmonophloia* and *E. salubris* woodland on broad flats; *Allocasuarina acutivalvis* and *A. corniculata* on deeper sandy soils of lateritic ridges; *E. capillosa* subsp. *polyclada* and/or *E. loxophleba* over *Hakea pendens* thicket on skeletal soils on ridges (laterites, breakaways and massive gossanous caps); and *Callitris columellaris* low open woodland on massive greenstone ridges (vegetation units as described in Gibson and Lyons, 1998). Survey over the application area and other proposed clearing areas has identified the occurrence of 48.90 ha of the PEC in the study area, 2.04 ha of which is within the actual clearing areas. According to available databases, approximately 41,725.73 hectares of the PEC occurs in the region, 33,944 ha of which occurs within 20 km radius of the application area. Removal of 2.04 ha or 0.004 % of the total area of the PEC is considered insignificant. The clearing is unlikely to change the conservation status of the PEC (DBCA, 2023). The potential of indirect impacts to the PEC nearby can be managed by the implementation of weed and land management measures.

Conclusion:

Given the above, the proposed clearing is unlikely to significantly impact on the conservation values of conservation significant flora species and the PEC occurring within the local area. Clearing is unlikely to reduce the biodiversity of the local area or significantly impact the region. The potential impacts on the values can be mitigated by implementing management conditions to the Permit.

Conditions:

To address the potential impacts on the values identified above, the following conditions are imposed on the permit:

- Demarcation of clearing area to avoid inadvertent clearing of nearby native vegetation, conservation significant flora and PEC
- Implementation of weed management
- Implementation of land management including dust control

3.2.2. Biological value – Fauna – Clearing Principle (b)

Assessment

Eight conservation significant fauna species have been recorded from the local area (20 km radius of the application area), two of which are considered unlikely to occur over the application area for unavailability of suitable habitat or for being historical records. The records are summarised in Appendix B4. The most frequent and recent records are of Chuditch (*Dasyurus geoffroi*) and *Leipoa ocellata* (malleefowl) which occur mostly within the Eucalypt Woodlands identified as the TEC and PEC adjacent to the application area (Figure 3).

A basic and targeted terrestrial fauna survey along the proposed road works was conducted in March and April 2022 in support of the application (Ecoscape, 2022). The survey was to delineate fauna habitats, obtain knowledge on the likely fauna assemblage and focus on identifying the presence/absence and suitable habitat of conservation significant listed species identified during the desktop assessment. The survey identified four broad vertebrate fauna habitat types: Eucalypt Woodland, Shrubland, Regrowth and Seasonal Marsh/Wetland. Both the Eucalypt Woodland (367.77 ha) and the Shrubland (1312.62 ha) provide habitat for most species in the area and made up the largest part of the survey area, with the Regrowth (5.76 ha) and Seasonal Marsh/Wetland (0.43 ha) being less common. These habitat types recorded during the survey are considered to be well represented outside the survey areas.

The habitat types available were identified as having the potential to support Chuditch (*Dasyurus geoffroii*), Inland Western Rosella (*Platycercus icterotis xanthogenys*), Central Long-eared Bat (*Nyctophilus major tor*), Rainbow Bee-eater (*Merops ornatus*), Western Brush Wallaby (*Notamacropus irma*) and Lake Cronin Snake (*Paroplocephalus atriceps*). Where the woodland is interspersed with Mallee, *Allocasuarina* and *Acacia* species, it may also support Malleefowl (*Leipoa ocellata*). Eucalypt woodland also provides nesting habitat for small birds where the understorey is dense. In this habitat, the reptile assemblage is likely to vary depending upon the substrate type (e.g. clay, sand etc) and the litter cover.

Based on the likelihood of occurrence and the availability of habitats (Ecoscape, 2022), the assessment of potential impacts of clearing on conservation significant fauna is focused on the following fauna species.

Chuditch (*Dasyurus geoffroii*)

Chuditch require adequate numbers of suitable den and refuge sites (hollow logs or earth burrows) and sufficient prey biomass (large invertebrates, reptiles, and small mammals) to survive. They can travel long distances and have large home ranges (15 km² for males and 3-4 km² for females), and even at their most abundant, Chuditch are generally solitary animals for most of their life (DEC, Chuditch Recovery Plan, 2012). For this reason, they require habitats that are of a suitable size and not excessively fragmented (Ecoscape, 2022). The vegetation adjacent to the application area may provide suitable habitat for chuditch. Despite the availability of suitable habitat, chuditch was not identified during the survey. The fauna species, however, had been identified in the same area in previous surveys by Ecoscape including in 2016 and 2017 (Ecoscape, 2022) that despite its current absence, it is determined to be known in the area.

While it is possible for chuditch to forage into the vegetation within the clearing footprint, considering the availability of the vast Eucalypt Woodlands in Excellent condition nearby, the road alignment is unlikely to comprise significant habitat for the species. The minimal clearing of vegetation along the road is unlikely to impact on the maintenance and conservation of Chuditch.

Leipoa ocellata (malleefowl)

Malleefowl has been recorded in the local area in abundance. At least 57 records of malleefowl are known from within a 20 km radius of the application area (Figure 2). The National Malleefowl Recovery Plan states that this fauna species is found principally in the semi-arid to arid zone in shrublands and low woodlands dominated by mallee (Frith 1962a) and associated habitats (Malleefowl Recovery Plan, 2015) such as Broombush (*Melaleuca uncinata*) (Woinarski 1989a; Woinarski 1989b) and Scrub Pine (*Callitris verrucosa*). In Western Australia they are also found in some shrublands dominated by acacia, and occasionally in woodlands dominated by eucalypts such as Wandoo (*E. wandoo*), Marri (*Corymbia calophylla*) and Mallet (*E. astringens*) (Benshemesh, 2007). The *National Recovery Plan for Malleefowl Leipoa ocellata* notes that habitat loss has been and continues to be the major factor in the decline of malleefowl in southern Australia. Habitat fragmentation and isolation and predation are also listed as major threats to malleefowl.

The Eucalypt woodlands within the application area represent the typical habitat of the fauna species. Suitable Malleefowl habitat was found throughout the survey area, and it is highly likely that this species is widely distributed through this habitat (Ecoscape, 2022). Two malleefowl mounds were identified approximately 50 km south of the footprint perimeters in the most recent survey (Ecoscape, 2022). One of the mounds showed recent activity, and the other was old. The mound with recent activity was located directly adjacent to a recently cleared track.

This indicates that malleefowl may use the area for breeding (indicated by the presence of mounds) and for foraging and that malleefowl can inhabit disturbed land. The high number of malleefowl records in the local area and the relatively even distribution of the records across the landscape indicate that the population is not presently restricted to certain areas. Given that suitable habitat for malleefowl is available in abundance in the local area and the absence of mounds within the application area, the road alignment where the clearing is proposed is unlikely to comprise critical habitat for malleefowl. However, clearing may still impact on the fauna if any individuals are present at clearing. Slow and directional clearing can mitigate the potential impact on malleefowl individuals present at the time of clearing.

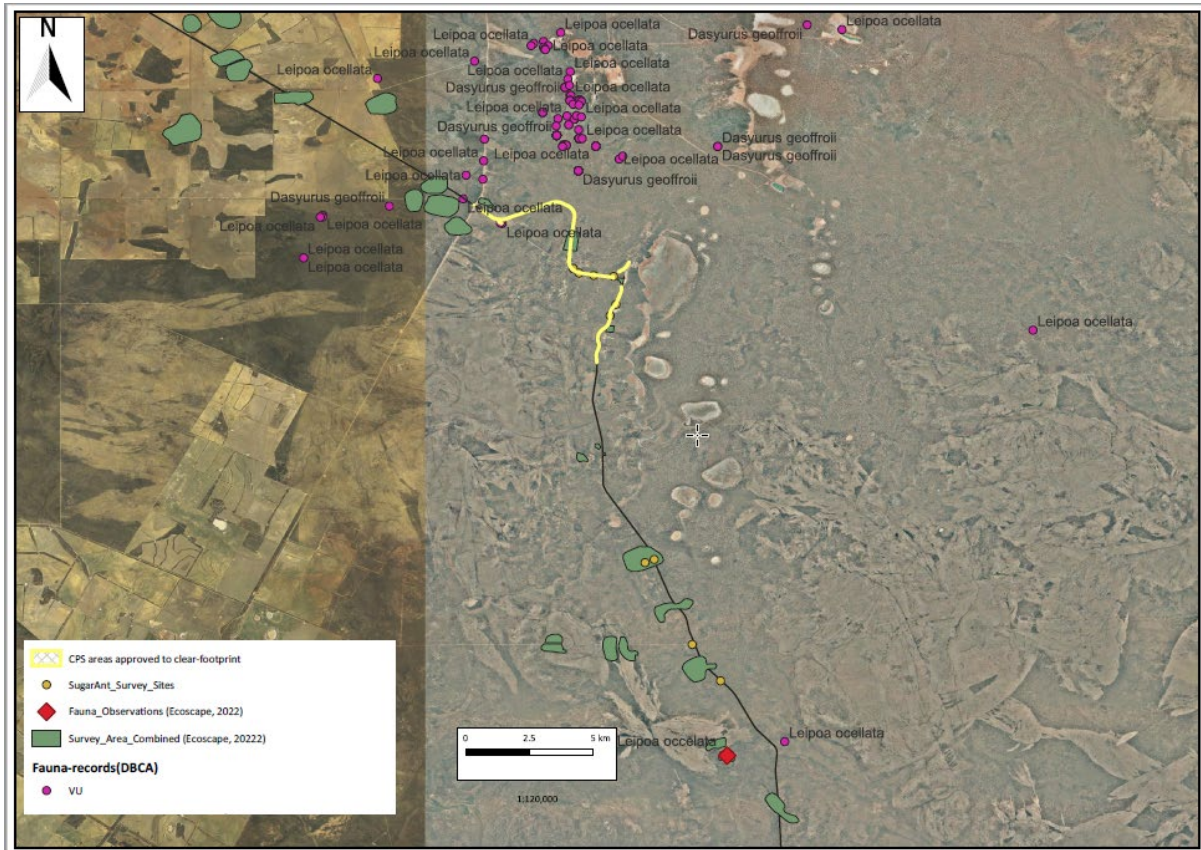


Figure 2. Records of conservation significant fauna species in the local area (DBCA, 2023) and the location of observed fauna (Ecoscape, 2022).

Western Brush Wallaby (*Notamacropus irma*)

Available databases shows four (4) records of Western Brush Wallaby's (P4) in the local area. The optimum habitat for the fauna is open forest or woodland, particularly favouring open, seasonally wet flats with low grasses and open scrubby thickets. It is also found in some areas of mallee and heathland and is uncommon in karri forest (Van Dyck & Strahan 2008). Suitable habitat for Western Brush Wallaby is found throughout Ecoscape's (2022) survey area (1680.39 ha). One Western Brush Wallaby was recorded on a camera trap and multiple scats were found during the field survey. This, in addition to an estimated home range of 32.5 to 69.2 ha (Bamford, Inglis & Watson 2009), indicates that the local area likely supports a resident population of an unknown number of individuals. The roadworks alignment, however, is unlikely to comprise critical habitat for the fauna species. Clearing of limited patches of vegetation along the road is unlikely to have significant impacts on the viability and conservation of the fauna species. Impacts on any individual present at clearing can be avoided by conducting clearing in slow and directional manner to allow for any individual present to move to adjacent vegetation ahead of clearing.

Arid Bronze Azure Butterfly (ABAB) (*Ogyris subterrestris petrina*)

A targeted fauna survey was conducted to identify ABAB (Critically Endangered) and the associated sugar (*Camponotus*) ants within the application area and surrounds (Ecoscape, 2022). The sugar ant is the host species of ABAB. In order to maintain this association, the ABAB requires large colonies of the sugar ants. The preferred habitat for the ants and ABAB includes smooth-barked eucalypts, which are present in the Eucalypt woodlands surrounding the application area.

Despite being widespread, the sugar ant is uncommon and (as of 2020) only three large colonies and several small colonies are known to occur, with the ABAB occurring at two of the large colonies, which are over 50 km from the survey area. The habitat at these two large colonies is mature mixed Gimlet *Eucalypt salubris* and Salmon Gum *Eucalypt salmonophloia* woodland on red-brown loam soils, with an open understorey. The fauna survey (Ecoscape, 2022) detected the ants at two single trees out of the 100 trees sampled along the road alignment, suggesting a low density of colonies, and that it is unlikely for ABAB to occur in the application area. Given the above, the proposed clearing of roadside vegetation is unlikely to impact on the fauna species.

Central Long-eared Bat (*Nyctophilus major tor*) – P4

Central Long-eared Bat is widespread across the arid south of Australia, and although thought to have a population of substantially more than 10,000 individuals, the reliability of this estimate is low (Woinarski, Burbidge & Harrison

2014). Although only known from 15 localities in Western Australia, it is considered locally common in the Coolgardie Bioregion. It occurs in eucalypt woodlands with a tall shrub understorey and around granite outcrops, roosting beneath bark, in tree crevices or in the foliage of trees (DEWHA 2010; Van Dyck & Strahan 2008). The eucalypt woodlands surrounding the application area may comprise such habitat. The Central Long-eared Bat has been previously recorded in the Jilbadji Nature Reserve, located 13.4 kilometres south east of the proposed clearing area. The fauna survey (Ecoscape, 2022), however, did not identify the fauna species within the survey area despite Ecoscape's assessment that approximately 367 ha of suitable habitat for the bat occurs within the survey area. Given the vastly available suitable habitat surrounding the application area, the vegetation on the road side proposed to be cleared is unlikely to comprise critical habitat for the bats. Avoidance of clearing of hollowed eucalypt trees may further mitigate any potential impact on the fauna species.

Western Rosella (Inland) (*Platycercus icterotis xanthogenys*)

As its name suggests, the Inland Western Rosella (*Platycercus icterotis xanthogenys*) is an inland subspecies of the nominate Western Rosella (*Platycercus icterotis icterotis*). The nominate *icterotis* is found in high rainfall areas in the south west, whereas the inland subspecies (*xanthogenys*), listed as a Priority 4 species by the DBCA, occurs in the drier wheatbelt eucalypt and sheoak woodlands and shrubland, especially those containing Wandoo (*E. wandoo*), Salmon Gum (*E. salmonophloia*), tall mallee and Rock Sheoak (*Allocasuarina huegeliana*) (Higgins, 1999). Western Rosellas nest in a hollow limb or tree trunk, usually one metre or more deep, and breed from August to December. The Eucalypt woodlands surrounding the application area may contain suitable habitat for the bird. The targeted fauna survey over the application area, however, did not identify the presence of Western Rosella at the time of the survey. The vegetation proposed to be cleared along the application area may contain suitable habitat for Inland Rosella, however, within the context of the large woodlands surrounding it, and the widespread distribution of the bird, it is unlikely to constitute critical habitat for the bird (Ecoscape, 2022). Clearing is unlikely to impact on the habitat values of surrounding vegetation and the conservation of the Inland Western Rosella.

Conclusion:

The vegetation within the application area and surrounds may contain suitable habitat for conservation significant fauna. However, the application area does not comprise significant or critical habitat for the fauna species recorded within the local area. Clearing of patches of vegetation scattered over the large linear footprint of more than 50 km is unlikely to impact on the survival, maintenance, and conservation of the fauna species. Potential impact on any fauna individuals that may be present during clearing can be mitigated by conducting clearing in slow and directional manner to allow any fauna individual present to move to adjacent vegetation ahead of clearing. This is placed as a management condition to the Permit.

Condition:

To address the potential impacts on fauna, the following condition is imposed on the permit:

- Slow clearing in the direction of adjacent vegetation to allow fauna to escape into adjacent native vegetation ahead of the clearing activity.

3.2.3. Biological value – Threatened Ecological Community – Principle (d)

A large portion of the application area support vegetation that is consistent with the Wheatbelt Woodlands.

The Approved Conservation Advice for the Wheatbelt Woodlands TEC described the TEC as vegetation dominated by a complex mosaic of eucalypt species with a tree or mallee form over an understorey that is highly variable in structure and composition. The trees typically are spaced, and the canopy is relatively open. There can be localised variation in vegetation structure as a consequence of disturbance, for instance fire, or change in site characteristics that allows for gaps in tree canopy cover, a higher density of trees e.g. dense sapling regrowth, or change in the nature of the understorey. (Department of the Environment, 2015).

The Wheatbelt Woodlands TEC is endemic to south-western WA. It occupies a transitional zone between the wetter forests associated with the Darling Range and the southwest coast, and the low woodlands, mallee and shrublands of the semi-arid to arid interior. The understorey beneath the woodland tree canopy is highly variable in both structure and composition across the wheatbelt. The highly biodiverse nature of the wheatbelt landscape, where the composition of plant species can vary markedly from patch to patch, means it is difficult to prepare a comprehensive list of plant species for the Wheatbelt Woodlands TEC. The key diagnostic characteristics for the Wheatbelt Woodlands TEC include the following:

- The distribution of the ecological community is limited to these IBRA bioregions and subregions:

- Avon Wheatbelt - subregions AVW01 Merredin and AVW02 Katanning;
 - Mallee - MAL02 Western Mallee only; and
 - Jarrah Forest – outlying patches in the eastern parts of JAF01 Northern Jarrah Forests and JAF02 Jarrah Forests adjacent to the Avon Wheatbelt, that are off the Darling Range, and
 - receive less than 600 mm mean annual rainfall. They are effectively an extension of the Avon Wheatbelt landscape in that they comprise areas subject to similar climate, landscape and threats.
- The structure of the ecological community is a woodland in which the minimum crown cover of the tree canopy in a mature woodland is 10% (crowns measured as if they are opaque).
 - The key species of the tree canopy are species of *Eucalyptus*. The dominant and co dominant tree species *E. salmonphloeia* and *E. loxophleba*
 - A native understorey is present but is of variable composition, being a combination of grasses, other herbs and shrubs.

Targeted survey of the vegetation along the road section under this application identified that the majority of the survey areas at this section (9.85 km, 75.76%) contains *Eucalyptus* mallee woodlands and tall mallet woodlands on heavier sandy clay or clay soils that would support the Wheatbelt Woodlands (Western Botanical, 2023c) (Figure 3). Having this information, upon request by DWER to minimise impact, the applicant has reduced the application area (to its current application area) to avoid clearing of the identified patches of the TEC. The survey also confirmed that vegetation within the already cleared road alignment does not meet the key diagnostic characteristics of the Wheatbelt Woodlands TEC (Western Botanical, 2023c, Covalent Lithium 2023b). Consequently, the footprint and proposed clearing will not directly impact on the TEC. However, noting the proximity of the proposed project to the TEC, clearing may indirectly impact on the TEC due to weed introduction and dust deposition, unless management measures are in place. These measures, along with demarcation of the clearing area prior to clearing are required as conditions in the permit.

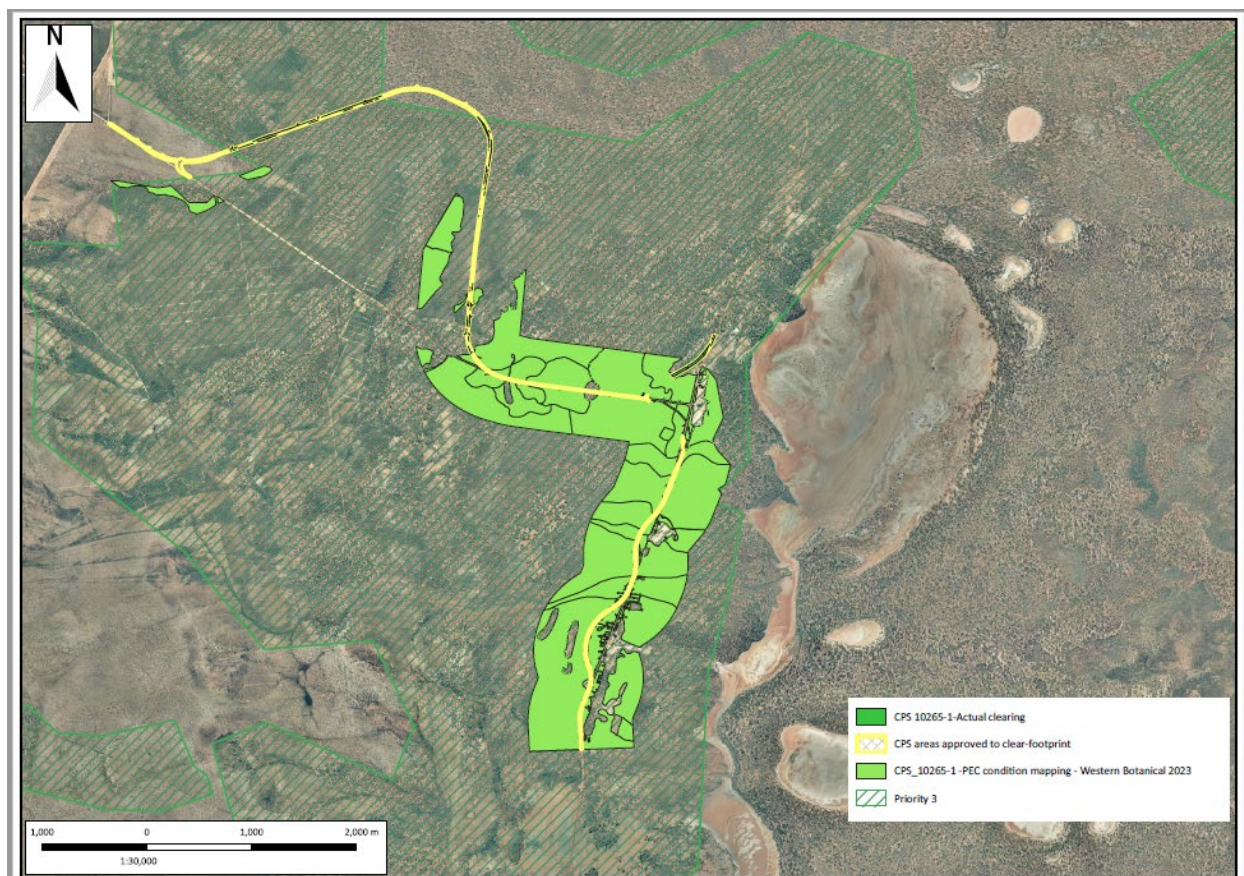


Figure 3. Map of vegetation identified the *Eucalypt* woodlands of the Western Australian Wheatbelt Priority 3 Priority Ecological Community (PEC) and the equivalent Federally listed Woodlands of the Avon Wheatbelt TEC (Western Botanical, 2023c)



Figure 5. The application area and actual clearing are not within the identified TEC (Western Botanical, 2023c)

Conclusion:

The proposed clearing does not remove vegetation representative of the Wheatbelt Woodland TEC, however it may indirectly impact on the condition and values of the Wheatbelt Woodland TEC through the dispersion and deposition of dust and spread of weeds. Management measures are required to mitigate this potential indirect impact.

Conditions:

To mitigate the indirect impact on the Wheatbelt Woodland TEC, the following conditions are imposed on the permit:

- Demarcation of the clearing area prior to clearing
- Dust suppression and management
- Weed management

3.2.4. Land and water resources - Clearing Principles (f) and (g)

Assessment

The sandy and loamy soils over the application area are prone to wind and water erosion when left bare. When rainfall is sufficient, bare ground can be prone to water erosion. Runoff in the area may transport sediments to nearby vegetation including the TEC and PECs which may affect the condition and habitat values of the vegetation. Indiscriminate flows of runoff may also exacerbate the spread of weeds. Although the long and narrow configuration of the road may limit the risk of land degradation due to erosion, the cumulative impacts of the entire 116 km long roadworks can be significant. Land management measures including the use of surface drainage can mitigate the potential impacts of clearing due to water erosion. The applicant is committed to construct surface drainage along the road alignment to address the risk of water erosion.

Noting the arid climate of the region and the loose sandy and loamy soils at bare ground, the application area may have a high dust load. Dust is known to accumulate on plants, particularly near to the source, and may affect the plant health and the nearby vegetation, even if temporarily. Considering the cumulative extent of clearing and road works associated with this clearing permit application and two others, the dust load can be significant that clearing can increase the risks of dust deposition and land degradation. This may be exacerbated by the longer time required to clear. Limiting the exposure time of cleared areas to wind and application of appropriate land management measures during and post clearing can mitigate this impact and avoid any appreciable and long-term land

degradation. The applicant is committed to watering the cleared area to suppress dust. Sealing of the road will also reduce dust load in the long term.

Conclusion

Given the above, the proposed clearing is considered unlikely to result in appreciable and long-term land degradation and dust deposition provided appropriate land management measures are applied.

Conditions:

To address the above impacts, the following management measures will be required as a condition on the clearing permit:

- Construction of road side drainage no later than three months after authorised clearing
- Commencement of road works no later than three months after authorised clearing
- Regularly suppress dust through dust management activities.

3.3. Relevant planning instruments and other matters

Most of the application area lies within road reserves and unallocated crown land vested to the Shire of Yilgarn. Parts of the application area traverses Reserve 10552 owned by the Department of Planning, Lands and Heritage (DPLH) who provided their authorisation and support for the proposed clearing (DPLH, 2023). The Shire of Yilgarn has provided authorisation for the proposed clearing on the lands. Part of the footprint overlaps with areas included under Ministerial Statement MS1202.

The Shire, as the applicant, appointed Covalent Lithium as an authorised representative for the clearing permit application (Shire of Yilgarn, 2023b).

The application area is within the Westonia Groundwater Area proclaimed under the RIWI Act. The proposed clearing and road works, however, is unlikely to intercept the ground water nor require abstraction of water that permit or licences under the RIWI Act is not required.

The Department notified the representative of the claimant of the native title (Marlinyu Ghoorlie and Karratjibbin People Claimant Groups) of the clearing application. On 9 June 2023, the representative of Karratjibbin People Claimant Group responded to the notification relevant to the acceptance of CPS 10049/1 by requesting that if a heritage survey was to be performed, the traditional owner of the land be appointed for the survey (Karratjibbin People Claimant Group, 2023). Representatives of the applicant, however, had already commissioned Terra Rosa Consulting to perform a heritage survey over the application areas for CPS 10049/1, CPS 10197/1, and CPS 10265/1 in 2022, whose report was provided during assessment.

The heritage survey was undertaken between 11 and 15 October with the endorsement of the Marlinyu Ghoorlie Traditional Owners. It was undertaken by six Marlinyu Ghoorlie representatives and two heritage consultants from Terra Rosa. Two Covalent representatives were also present during this time to support the survey team. Sites of heritage values were identified by the survey. The survey provided advice and direction for the operation of the mine on heritage sites avoidance, which were mostly relevant to the mining operations itself, rather than the existing road. The traditional owners also advised Covalent that all Mallee Fowl nests identified within the survey areas are to be avoided during the course of the proposed works. Any Mallee Fowl nests identified during these works must be provided with a 20 m buffer of protection. No malleefowl mounds are within the proposed clearing area for CPS 10197/1.

It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972 (WA)* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Additional information provided by applicant

Information requirements	Summary of comments	Consideration of comment
Evidence of efforts taken to avoid and/or mitigate significant environmental impacts resulting from the proposed clearing. This includes impacts on the Parker Range System Priority Ecological Community (PEC), Wheatbelt Woodlands TEC and conservation significant flora species (DWER, 2023)	Ongoing flora identification survey provides information on additional conservation significant individuals found over the application area and beyond that indicates lower impacts of the proposed clearing on the flora species. Reduction in the application area has avoided many of the conservation significant flora and TEC and PEC (Covalent Lithium 2023b; 2023c; 2023d)	DWER acknowledged that no TEC will be cleared and that the additional information on conservation significant flora and reduction in the clearing footprint and actual clearing support the assessment of lower impact on conservation significant flora species.
Preliminary vegetation type and condition mapping (DWER, 2023)	Vegetation types and maps are provided (Covalent Lithium 2023b; 2023c; 2023d)	Vegetation maps are provided.

Appendix B. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix C.

B.1. Site characteristics

Characteristic	Details
Local context	The areas proposed to be cleared are located within the Parker Range road reserve within the Shire of Yilgarn, which falls within the Avon Wheatbelt and Coolgardie IBRA regions of Western Australia. The proposed clearing area is surrounded by agricultural land and remnant vegetation. Spatial data indicates the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 80.39 per cent of the original native vegetation cover.
Ecological linkage	The areas proposed to be cleared may contribute towards fauna dispersal within the landscape, however there are no formal linkages mapped across the proposed clearing area.
Conservation areas	The Jilbadji Nature Reserve is located 13.4 kilometres south-east of the proposed clearing area.
Vegetation description	The Detailed flora and vegetation survey (Western Botanical, 2023a; 2023b; 2023c) indicates the vegetation within the proposed clearing area consists of 51 vegetation types, with the majority pertaining to Eucalypt woodlands or mallee. The survey descriptions are available in Appendix E. This is consistent with the Beard mapped vegetation associations (VA) for the application area: <ul style="list-style-type: none"> • VA 1068 (Parker) - York gum, salmon gum etc. <i>Eucalyptus loxophleba</i>, <i>E. salmonophloia</i> • VA 1068 (Skeleton Rock) - Medium woodland; salmon gum, morrel, gimlet & <i>Eucalyptus sheathiana</i> • VA 1413 - Wattle, casuarina and teatree <i>Acacia-Allocasuarina-Melaleuca</i> alliance • VA 519 (Skeleton Rock) - Shrublands; mallee scrub, <i>Eucalyptus eremophila</i> The mapped vegetation associations retain approximately 30.54, 97.75, 98.87 and 98.57 per cent of the original extent (Government of Western Australia, 2019).

Characteristic	Details
Vegetation condition	A flora and vegetation survey (Western Botanical, 2023c) indicates the vegetation within the proposed clearing area is in Good to Excellent condition (Keighery, 1994). The full Keighery (1994) condition rating scale is provided in Appendix D. Survey descriptions and mapping are available in Appendix E.
Climate and landform	The landforms of the application area are characteristic of the Merredin sub-region of the Avon Wheatbelt and the Southern Cross subregion of the western Coolgardie biogeographic regions. These include the Aeolian yellow sandplains, Low lateritic plateaux and associated kaolinitic clay slopes, Extensive loamy plains, Low rounded lateritic gravelly hills, and the Extensive sandy loamy plains with calcrete (Western Botanical, 2023c).
Soil description	The soils over the application includes that of dark red-brown clay, lateritic pizolitic gravel, pale brown clayey sand, pinkish grey sand, red brown sandy clay, yellow sand and red brown silty sand (Western Botanical, 2023c).
Land degradation risk	Comprising of mostly sands, clay and loamy soils, the application area is prone to wind and water erosion.
Waterbodies	The desktop assessment and aerial imagery indicated that a few non-perennial watercourses transect the application area. The nearest significant wetland is Lake Cronin, located approximately 32 km south of the Study Area.
Hydrogeography	The application area is located across two hydrological zones; Northern Zone of Ancient Drainage and Southern Cross Zone (majority of Study Area). It is located entirely within the Avon River Basin in the Swan Avon/Yilgarn hydrographic catchment and traverses the Lake Julia (northern end of Study Area), Yellowdine (mid-section) and Lake Eva (southern end) hydrographic sub-catchments (DPIRD, 2023a). Groundwater salinities over the application area range predominantly from 14,000 mg/L to 35,000 mg/L (highly saline).
Flora	Survey over the application area (footprint) identified the occurrence of six (6) Priority1, four (4) Priority2, six (6) Priority 3, and three (3) Priority 4, seven (7) flora SOI from the application area (Appendix B.3).
Ecological communities	The application area and surrounds are mapped within the Plant Assemblages of the Parker Range System' PEC (Priority 3). Vegetation in the area may support the Wheatbelt Woodlands TEC.
Fauna	Eight fauna of conservation significance have been recorded in the local area (20 km radius from the application area). The highest number and most recent records are of Chuditch and Malleefowl. A fauna survey performed over the application area, however, did not identify any of the conservation significant fauna species (Ecoscape, 2022)

B.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Avon-Wheatbelt	9,517,109.95	1,761,187.42	18.51	174,980.68	1.84
Coolgardie	12,912,204.35	12,648,491.39	97.96	2,114,349.37	16.37
Beard vegetation association *					
VA 1068 – Skeleton Rock	20,061.11	6,125.85	30.54	116.68	0.53

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
VA 1068 – Parker	32,713.01	28,704.70	87.75	1,834.45	5.61
VA 519 – Skeleton Rock	56,013.48	56,013.48	98.87	15,622.87	27.89
VA 1413 – Skeleton Rock	203,099.46	200,187.16	98.57	61,323.53	30.19
Local area (calculation - delete if not required)					
20km radius	1,690,651,672	1,359,184,856.	80.39	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F.1), and biological survey information (*Western Botanical, 2023a, 2023b, Covalent Lithium 2023c*), impacts to the following conservation significant flora identified from within the application area and surround are considered. Cumulative analysis is included in the analysis table by including data associated with other proposed clearing associated with the road project.

Species name	Conservation Status	Count within application area / footprint (CPS 10265/1)	Count within actual clearing area (CPS 10265/1)	Count in other application areas - footprint (CPS 10049/1 & CPS 10197)	Count outside of any proposed clearing associated with the project	Total count of known individuals - Regional population (region)	Total Count of individuals to be removed by the project	Impact of 10265/1 (% of total)	Cumulative impact of all clearing areas (% of total)
<i>Acacia asepala</i>	P2	82	16	98	25004	25184	16	0.064	0.064
<i>Balaustion grandibracteatum</i> subsp. <i>grandibracteatum</i>	P3	183	0	0	3090	3273	0	0	0
<i>Banksia dolichostyla</i>	T		0	0	26346	26346	0	0	0
<i>Boronia ternata</i> var. <i>promiscua</i>	P3	5	0	345	48907	49257	333	0	0.676
<i>Chamelaucium</i> sp. Parker Range (B.H. Smith 1255)	P1	2	0	656	36273	36931	569	0	1.541
<i>Cryptandra</i> sp. Zigzag (G. Cockerton-319)	SOI		0	40	743	783	40	0	5.109
<i>Grevillea comosa</i> ms (P.M. Olde 91/14, 7 Sep 1991)	SOI	99	42	246	18141	18486	185	0.227	1.001
<i>Hakea pendens</i>	P3	1	1	222	10578	10801	132	0.009	1.222
<i>Logania nanophylla</i>	P2	35		0	1302	1337	0	0	0
<i>Phebalium</i> sp. tuberculate (G. Cockerton 394)	SOI	6	0	426	10168	10600	393	0.000	3.708
<i>Rinzia medifila</i>	P1	1430	1204	33	32564	34027	1217	3.538	3.577
<i>Rinzia triplex</i>	P3	42	37	60	15122	15224	91	0.243	0.598
<i>Verticordia stenopetala</i>	P3	279	0	4593	44660	49532	4492	0	9.069

Species name	Conservation Status	Count within application area / footprint (CPS 10265/1)	Count within actual clearing area (CPS 10265/1)	Count in other application areas - footprint (CPS 10049/1 & CPS 10197)	Count outside of any proposed clearing associated with the project	Total count of known individuals - Regional population (region)	Total Count of individuals to be removed by the project	Impact of 10265/1 (% of total)	Cumulative impact of all clearing areas (% of total)
<i>Thryptomene</i> sp. Hyden (B.J. Lepschi & L.A. Craven 4477)	P1	0	0	13776	477194	490970	13714	0	2.793
<i>Verticordia gracilis</i>	P3	0	0	5642	29031	34673	5624	0	16.220
<i>Verticordia mitodes</i>	P3	0	0	179	3052	3231	137	0	4.240
<i>Verticordia multiflora</i> subsp. <i>solox</i>	P2	0	0	0	2641	2641	0	0	0
<i>Verticordia stenopetala</i>	P3	279		4593	44660	49532	4492	0	9.069

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority ; SOI : Species of interest

B.4. Fauna analysis table

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Aganippe castellum</i> (tree-stem trapdoor spider)	P4	Y	Y	5.54	1	N/A
<i>Dasyurus geoffroyi</i> (chuditch, western quoll)	VU	Y	Y	1.61	100	Y
<i>Leipoa ocellata</i> (malleefowl)	VU	Y	Y	0.00	57	Y
<i>Macrotis lagotis</i> (bilby, dalgyte, ninu)	VU	Y	Y	15.51	1	Y
<i>Notamacropus irma</i> (western brush wallaby)	P4	Y	Y	2.51	3	Y
<i>Paroplocephalus atriceps</i> (Lake Cronin snake)	P3	N	N	18.56	1	N/A
<i>Phascogale calura</i> (red-tailed phascogale, kenngoor)	CD	Y	Y	6.08	1	Y
<i>Platycercus icterotis xanthogenys</i> (western rosella (inland))	P4	Y	Y	5.25	2	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

B.5. Ecological community analysis table

Community name	Conservation status		Suitable habitat feature and vegetation types? [Y/N]	Suitable soil type? [Y/N]	Number of known records within 20 km radius (total)	Distance of closest record to application area (km)	Areas (ha)			Impact (% of total area)	
	WA	Commonwealth					Known records (total)	In actual clearing area (CPS 10265)	Actual clearing in other applications (CPS 10049/1 and 10197/1)	Clearing undue CPS 10265/1	Cumulative impact of all clearing areas
Eucalypt woodlands of the Western Australian Wheatbelt	P 3	CR	Y	Y	73	0	1,440.89 (within 20 km radius)	0	0	0	0
Plant assemblages of the Parker Range System	P3	NA	Y	Y	3	0	33,944.56 (within 20 km radius)	2.04	3.47	0.003	0.006

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains locally and regionally significant flora, PEC, and potential habitat for conservation significant fauna; and is adjacent to a TEC. However, impacts are not likely to be significant.</p>	May be at variance	Yes <i>Refer to Section 3.2.x, above.</i>
<p><u>Principle (b):</u> "Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared may contain suitable habitat for conservation significant fauna. However, it is not considered to contain critical habitat for conservation significant fauna. No fauna species of conservation significance were identified during the biological survey over the proposed clearing area.</p>	May be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain threatened flora species.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>Parts of the application area (footprint) traverse patches of native vegetation identified as the Wheatbelt Woodlands TEC. The proposed actual clearing, however, does not contain vegetation that meets the characteristics criteria for the TEC.</p>	May be at variance	Yes <i>Refer to Section 3.2.3, above.</i>
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The extent of the mapped native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation.</p>	Not at variance	No
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation area (the Jilbadji Nature Reserve), the proposed clearing is not likely to have an impact on the environmental values of any conservation areas.</p>	Not at variance	No
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>The clearing footprint intersects several minor non-perennial tributaries to the Yilgarn River. The vegetation proposed to be cleared, however, is not associated with water courses or wetlands. The proposed clearing is unlikely to impact on- or off-site hydrology and water quality.</p>	Not at variance	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>Being comprised of sandy soils, the soils in the application area are susceptible to wind and water erosion. The proposed clearing may increase the risks unless appropriate mitigation is applied.</p>	May be at variance	Yes <i>Refer to Section 3.2.4, above.</i>
<p><u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u></p> <p>The application area is within the Westonia Groundwater Area proclaimed under the RIWI Act. Ground water in parts of the application area is also saline. The proposed clearing and road works, however, is unlikely to intercept the ground water level, therefore it is unlikely to impact ground water quality. Surface water drainage impacts are being managed during construction of the road, therefore impacts to surface water is expected to be minimal.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (j)</u>: “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p><u>Assessment</u>:</p> <p>The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence of intensity of flooding.</p>	Not likely to be at variance	No

Appendix D. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation’s ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as ‘parkland cleared’ with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix E. Biological survey information excerpts

The applicant commissioned consultants to perform biological and heritage surveys in support of the road works proposal and associated clearing permit applications including this application. The surveys covered the entire alignment of the proposed road works and beyond. The surveys are as follows:

- Detailed Flora and vegetation survey (Western Botanical, 2023a; 2023b; 2023c) 2023c) Assessment and Gap Analysis
- Terrestrial Vertebrate Fauna Survey (Ecoscape, 2022)
- Archaeological and Ethnographic (Terra Rosa, 2022)

The applicant, through Covalent Lithium, commissioned Western Botanical to perform a detailed survey and assessment of the flora and vegetation in the application area and around the road alignment of the proposed roadworks. The Study Area for the Desktop Assessment was approximately 115 km in length and 10,914 ha in size. In the area adjacent to freehold land (cleared agricultural land), the Study Area is narrow, commonly less than 2 m wide, and restricted to the road easement between fencelines either side of the road. In the area south of Cockatoo Tanks (Water Reserve 12369744) at approximately chainage 46 km including around the application area for CPS 10265/1, the vegetation has not been cleared for agricultural purposes and the Study Area extends to a 1 km wide alignment, 500m either side of the road alignment in areas of native vegetation. The Study Area lies entirely within the Shire of Yilgarn. Map of the survey area is depicted in Figure 5.

The study area was divided into two regions differing in survey intensity. Methods employed for the survey and assessment included vegetation mapping, vegetation condition, species profiling for vegetation association using 139 quadrats (20x20m and 50x50 m), targeted survey for significant species, targeted survey timing ranging between mid-Spring to late-Spring and early Summer depending on species, collection of specimen to be recognised in the field and identified using the WA Herbarium's Research Collection and reference to third party specialist taxonomist.

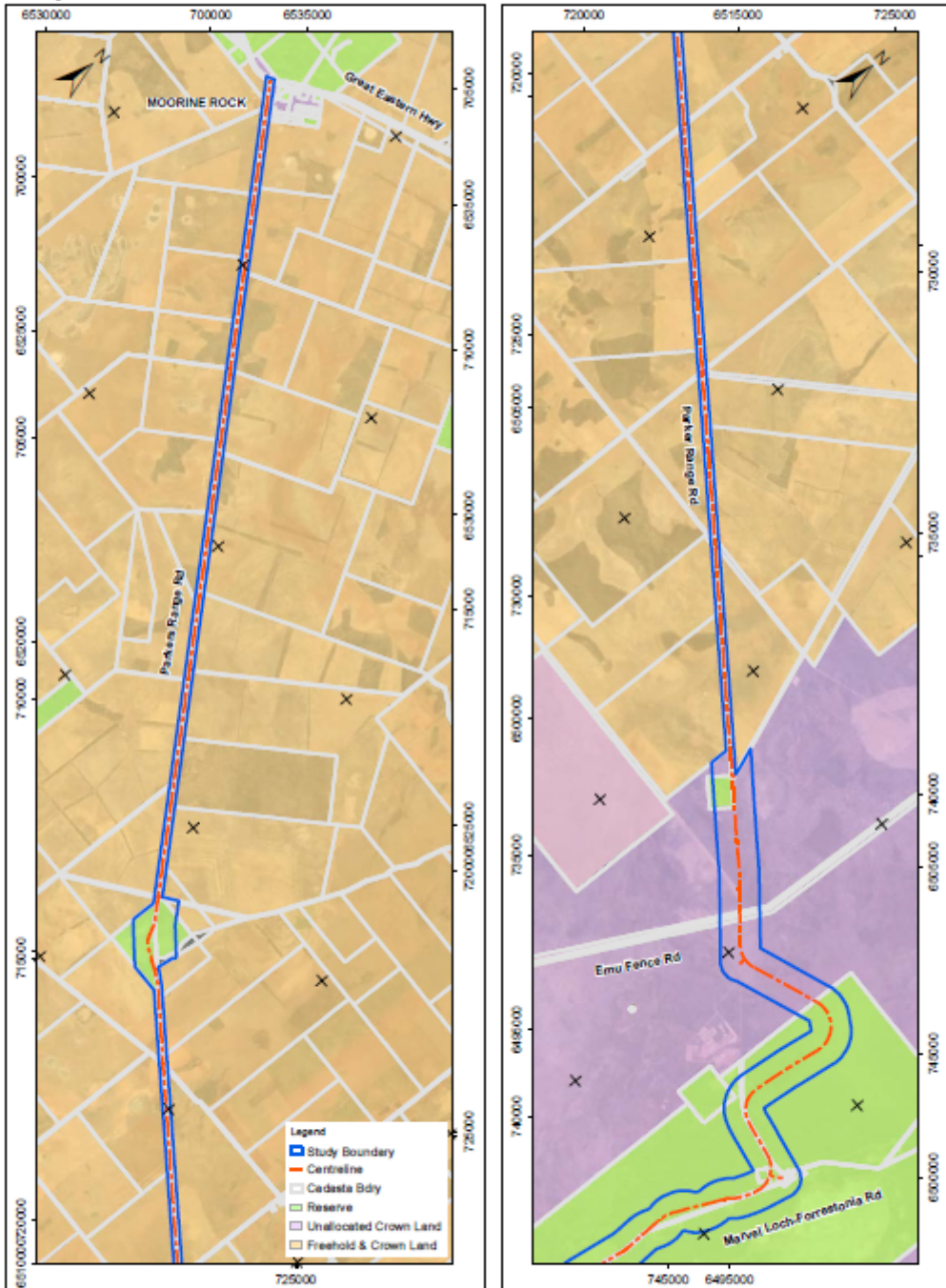
Multiple field surveys on a fortnightly basis were undertaken to assess the alignment in its entirety. Survey Effort to 21 February 2023 has included:

- (i) To date, 24 weeks of field survey with between 4 and 6 personnel per trip have been implemented over a period of 16 months, a total of approximately 840 man-days, consisting of:
 - (a) Fifteen x seven-day field trips (each consisting of 2 days travel and 5 days on-ground survey) with between 4 to 6 personnel commenced 29th November 2021 and continued until 23rd August 2023 on a fortnightly basis. One field trip was not undertaken to allow specimen identification and processing early in the assessment.
 - (b) A further nine x seven-day surveys field trip of the road alignment were re-commenced 26th September 2022 and continued to 21st February 2023.
- (ii) Surveys were redirected to other areas (potential borrow pits) from 29th August to 18th September 2022, reported separately by Western Botanical.

The Interim Report (Western Botanical, 2023c) specifically addresses the alignment covered by CPS 10265/1: Northern Section (Section 1) being chainage 50.0 km to 64.0 km, from the southern portion of the Parker Range Road and the newly constructed Mt Caudan Minesite Diversion Road which extends around the northern end of the Parker Range, to a section of the Marvel Loch.

Results of the survey and assessment are used in the assessment of the application, as presented in the preceding sections of this report.

Earl Grey Lithium Project
Parkers Range Rd and Marvel Loch-Forrestonia Rd Upgrade
Study Area - Sheet 1 of 2



Drawn: CAD Resources (08 9246 3242), Date: Mar 2023, CAD Ref: a2765_MR_MTH_31_02_01, Rev: A
Scale 1:125,000, A4, Projection MGAS4 zone 50
Source: Roads_MRWA, Cadasta: Landgate



Earl Grey Lithium Project
Parkers Range Rd and Marvel Loch-Forrestonia Rd Upgrade
Study Area - Sheet 2 of 2

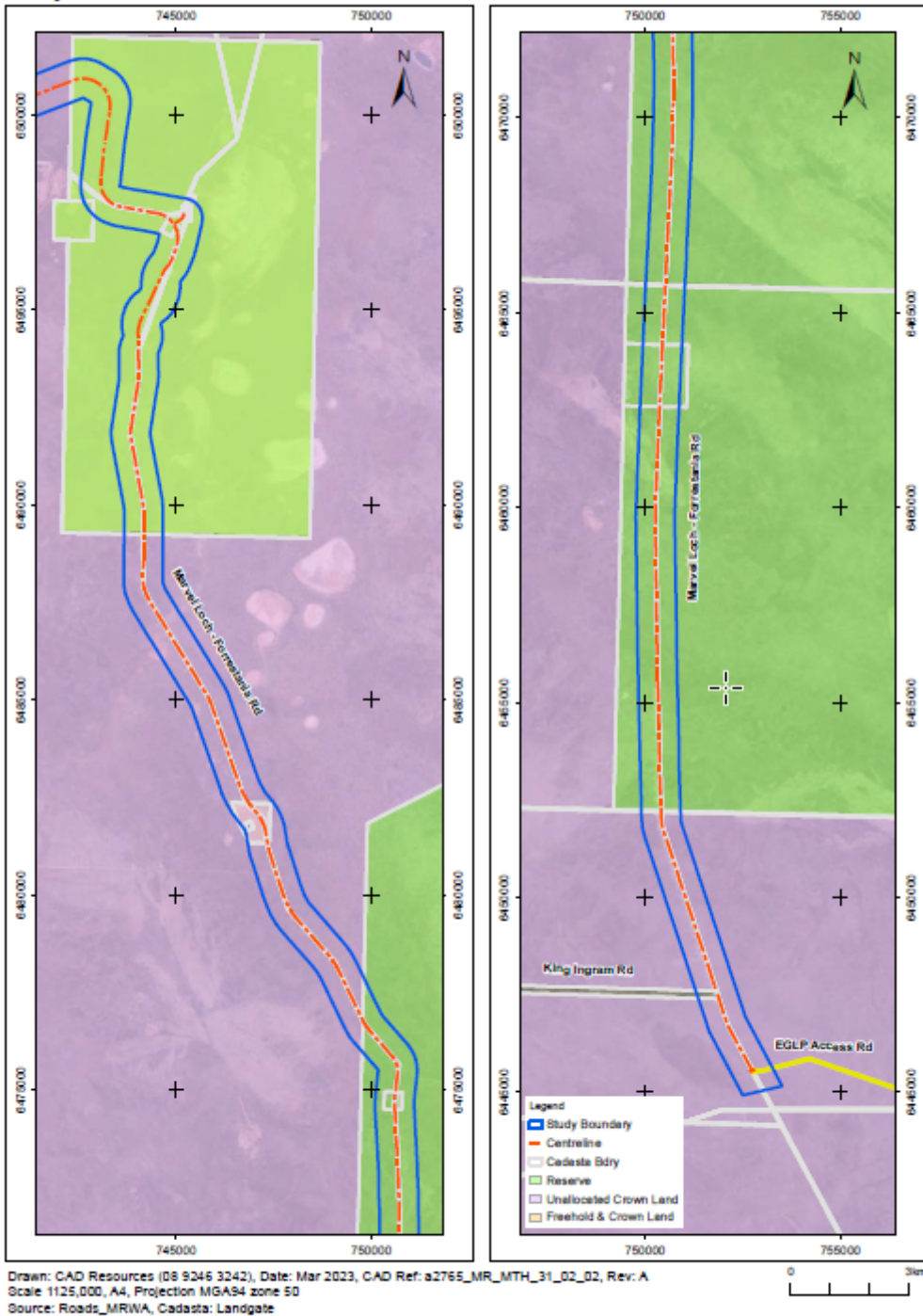


Figure 5. The survey area (Western Botanical, 2023a, 2023b, and 2023c)

Terrestrial Fauna Survey (Ecoscape, 2022)

The applicant commissioned Ecoscape to carry out a survey and assessment of terrestrial fauna over the application area and the road works alignment. The survey was undertaken by Ecoscape from the 28th of March to the 5th of April 2022. The purpose of the survey was to delineate fauna habitats, obtain knowledge on the likely fauna assemblage and focus on identifying the presence/absence and suitable habitat of conservation significant listed species identified during the desktop assessment. This will allow for a better understanding of the local fauna's potential sensitivity to impacts resulting from the road installation. The outcomes of the survey and other information (e.g. desktop aspects) will be used to inform the environmental assessment and approvals process.

The key outcomes from the field survey identified:

- 136 Habitat assessments were conducted identifying four broad vertebrate fauna habitat types: Eucalypt Woodland, Shrubland, Regrowth and Seasonal Marsh/Wetland. Representative photographs of the habitats are presented in Figure 7. Both the Eucalypt Woodland (367.77 ha) and the Shrubland (1312.62 ha) provide habitat for most species in the area and made up the largest part of the survey area, with the Regrowth (5.76 ha) and Seasonal Marsh/Wetland (0.43 ha) being less common. These habitat types recorded during the survey are considered to be well represented outside the survey areas.
- Sixty-four vertebrate and one invertebrate fauna species were recorded during the survey, consisting of:
 - o Twenty-two mammals (seven introduced)
 - o Thirty-six birds
 - o Six reptiles
 - o One invertebrate.
- The conservation significant vertebrate fauna species recorded by the field survey were:
 - o Malleefowl *Leipoa ocellata* (EPBC-VU, BC-VU), listed as a 'Threatened' fauna taxon at the conservation level of 'Vulnerable' under both Commonwealth and State legislation
 - o Western Brush Wallaby *Notamacropus irma* (DBCA-P4), classified as 'Priority 4' by DBCA.
 - o Central Long-eared Bat *Nyctophilus major* tor (DBCA-P4), classified as 'Priority 4' by DBCA. Ambiguous call recorded, this has been added on a precautionary basis
- None of the identified conservation significant fauna occur within the application area
- The targeted Malleefowl mound searches identified two previously unrecorded Malleefowl nest mounds, one of which was active. The mounds are located more than 2 km south of the application area.
- In accordance with guidelines for the critically endangered Arid Bronze Azure Butterfly (*Ogyris subterrestris petrina* (ABAB), a targeted survey was conducted to determine the presence/absence of the sugar ant species (*Camponotus sp. nr. terebrans*) on which its larvae parasitise. Sugar ants were detected at two single trees out of the 100 trees sampled. Densities of sugar ant colonies found during this survey are low, however, it is a requirement that the presence of the sugar ant colonies be reported to DBCA.

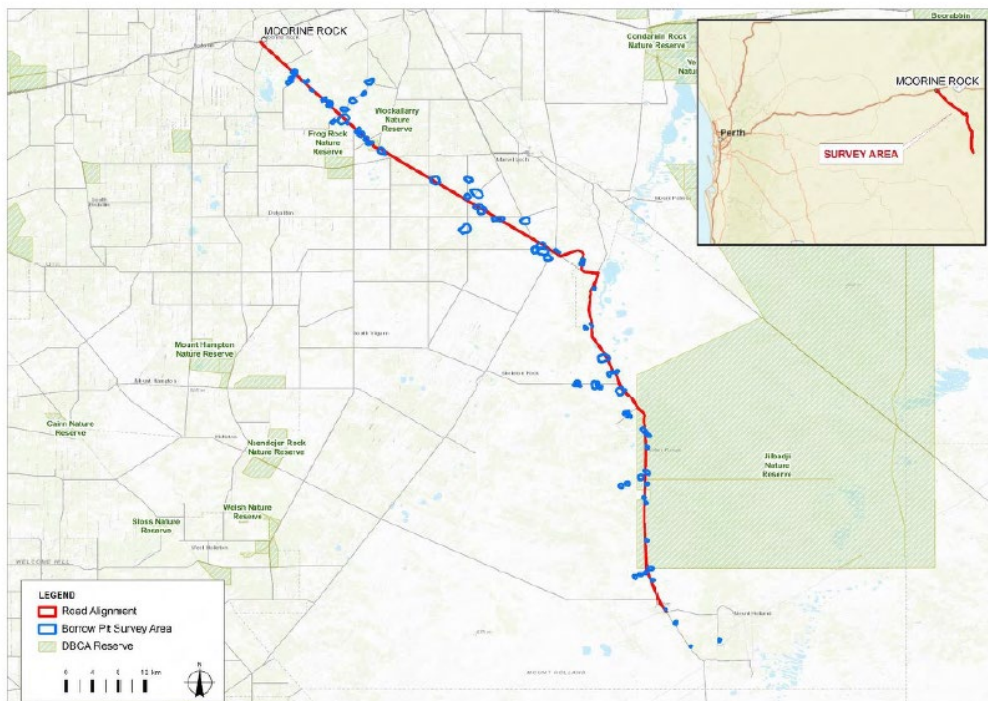


Figure 6. Survey area and locations (Ecoscape, 2022)





Habitat type	Description	Photograph
Eucalypt woodland	<p>Open Eucalypt woodland consisting of mixed compositions of Eucalypt species. Occurring within this habitat type are Salmon Gum, Mallee, Mallet, Gimlet, Red Morrel and Wandoo. Occurring mostly over low shrubs on clay, clayey sand and sandy clay soils; minimal understory; 30-50% litter cover; high frequency of fallen logs.</p> <p>Disturbance: Low to high.</p> <p>Fire Age: >10 yrs.</p> <p>Extent: 367.77ha, 11.7%</p>	
Shrubland	<p>Closed to dense shrublands of mixed species (<i>Allocasuarina</i>, <i>Hakea</i>, <i>Acacia</i>, and/or <i>Melaleuca</i>) on clay, clayey sand, sand or sandy clay soils; gravel; 50-95% litter cover.</p> <p>Disturbance: Low to high.</p> <p>Fire Age: 5-10 yrs.</p> <p>Extent: 1312.62ha, 41.77%</p>	
Regrowth	<p>Vegetation regrowth in previously cleared areas such as old borrow pits. Comprising of open shrubland of mixed species (<i>Allocasuarina</i>, <i>Hakea</i>, <i>Acacia</i>, and/or <i>Melaleuca</i>) on clayey sand or sandy clay soils; gravel; 10% litter cover.</p> <p>Disturbance: Low to high.</p> <p>Fire Age: >10 yrs.</p> <p>Extent: 5.76ha, 0.18%</p>	
Seasonal Marsh	<p>Seasonal inundated marsh with Samphire and low <i>Melaleuca</i> shrub; clay soils; quartz; 5% litter cover.</p> <p>Disturbance: Low.</p> <p>Fire Age: >10 yrs.</p> <p>Extent: 0.43ha, 0.01%</p>	

Figure 7. Fauna habitats identified over the survey area (Ecoscape, 2022)

Appendix F. Sources of information

F.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Wheatbelt Wetlands Stage 1 (DBCA-021)

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

F.2. References

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