GOVERNMENT OF
WESTERN AUSTRALIA

# CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

| | |
|---|---|
| **Purpose Permit number:** | CPS 10821/1 |
| **Permit Holder:** | Main Roads Western Australia (MRWA) |
| **Duration of Permit:** | From 14 March 2025 to 14 March 2035 |

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 upgrades and associated activities.

### 2. Land on which clearing is to be done

Lot 8 on Deposited Plan 91735 (Crown Reserve 21471), Warburton,
Lot 10 on Deposited Plan 93163, Gibson Desert South

### 3. Clearing authorised

The permit holder must not clear more than 137 hectares of *native vegetation* within the areas cross-hatched yellow in Figure 2a, Figure 2b, Figure 2c and Figure 2d of Schedule 1.

### 4. Period during which clearing is authorised

The permit holder must not clear any native vegetation after 14 March 2030.

### 5. Application

This permit allows the permit holder to authorise persons, including employees, contractors and agents of the permit holder, to clear native vegetation for the purposes of this permit subject to compliance with the conditions of this permit and approval from the permit holder.

## PART II – MANAGEMENT CONDITIONS

### 6. 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.

### 7. 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.

### 8. Directional clearing

The permit holder must conduct clearing activities in a slow, progressive manner to allow fauna to move into adjacent *native vegetation* ahead of the clearing activity.

### 9. Wind erosion management

The permit holder must commence the road construction and associated works no later than three (3) months after undertaking the authorised clearing activities to reduce the potential for wind erosion.

### 10. Flora management – avoidance of priority flora

Prior to undertaking any clearing authorised under this permit, the permit holder shall demarcate the clearing area authorised under this permit to avoid clearing of priority flora which may potentially occur outside of the approved clearing area.

### 11. Rehabilitation and revegetation of temporary clearing areas

The permit holder must:

(a) retain the vegetative material and topsoil removed by clearing authorised under this permit and stockpile the vegetative material and topsoil in an area that has already been cleared;

(b) at an optimal time within 12 months following completion of temporary clearing, revegetate the area(s) that are no longer required for purpose for which they were cleared under this permit, by:

(i) re-shaping the surface of the land so that it is consistent with the surrounding five metres of uncleared land;

(ii) ripping the ground on the contour to remove soil compaction;

(iii) laying the vegetative material and topsoil retained under condition 11(a) on the cleared area(s); and

(iv) undertake weed control activities on an 'as needed' basis to reduce weed cover within the cleared areas to no greater than the weed cover within the surrounding five metres of uncleared land.

(c) within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 11(b) of this permit:

(i) engage an *environmental specialist* to determine the species composition, structure and density of the area revegetated and rehabilitated; and

(ii) engage an *environmental specialist* to make a determination as to whether the composition, structure and density determined under condition 11(c)(i) of this permit will, without further revegetation, result in a similar species composition, structure and density to that of pre-clearing vegetation types in that are

(d) if the determination made by the *environmental specialist* under condition 11(c)(ii) is that the species composition, structure, and density determined under condition 11(c)(i) will not, without further revegetation, result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, the permit holder must revegetate the area by deliberately planting and/or direct seeding native vegetation seeds that will result in a similar species composition, structure, and density of native vegetation to pre-clearing vegetation types in that area and ensuring only local provenance seeds and propagating material are used.

(e) where additional planting or direct seeding of native vegetation is undertaken in accordance with condition 11(d), the permit holder must repeat the activities required by condition 11(c) and 11(d) within 24 months of undertaking the additional planting or direct seeding of native vegetation.

(f) where a determination is made by an *environmental specialist* under condition 11(c)(ii) that the composition, structure and density within areas revegetated and rehabilitated will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, that determination shall be submitted to the CEO within three months of the determination being made by the environmental specialist.

## PART III - RECORD KEEPING AND REPORTING

### 12. 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 | (a) the species composition, structure, and density of the cleared area;<br>(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings;<br>(c) the date that the area was cleared;<br>(d) the size of the area cleared (in hectares); and<br>(e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 6;<br>(f) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 7;<br>(g) actions taken in accordance with condition 8; and<br>(h) actions taken in accordance with condition 9 |
| 2. | In relation to flora management pursuant to condition 10 | (a) actions taken to demarcate the clearing area |
| 3. | In relation to rehabilitation and revegetation of areas pursuant to condition 11 of the permit | (a) actions taken to retain vegetative material and topsoil;<br>(b) the size of the area revegetated;<br>(c) the date(s) on which the area revegetation was undertaken;<br>(d) the date(s) where additional planting or direct seeding of native vegetation was undertaken; and<br>(e) the boundaries of the area revegetated (recorded digitally as a shapefile) |

## 13. Reporting

The permit holder must provide to the *CEO* the records required under condition 12 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 *Environmental Protection Act 1986*. |
| 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 *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3. |
| direct seeding | means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species |
| environmental specialist | means a person who holds a tertiary qualification in environmental science or equivalent and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit, or who is approved by the CEO as a suitable environmental specialist. |
| EP Act | *Environmental Protection Act 1986* (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. |
| revegetation, revegetate, revegetated | means the re-establishment of a cover of native vegetation in an area such that the species composition, structure and density is similar to pre-clearing vegetation types in that area, and can involve regeneration, direct seeding and/or planting; |
| weeds | means any plant –<br>(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or<br>(b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or<br>(c) not indigenous to the area concerned. |

**END OF CONDITIONS**

Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

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

19 February 2025

# Schedule 1

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

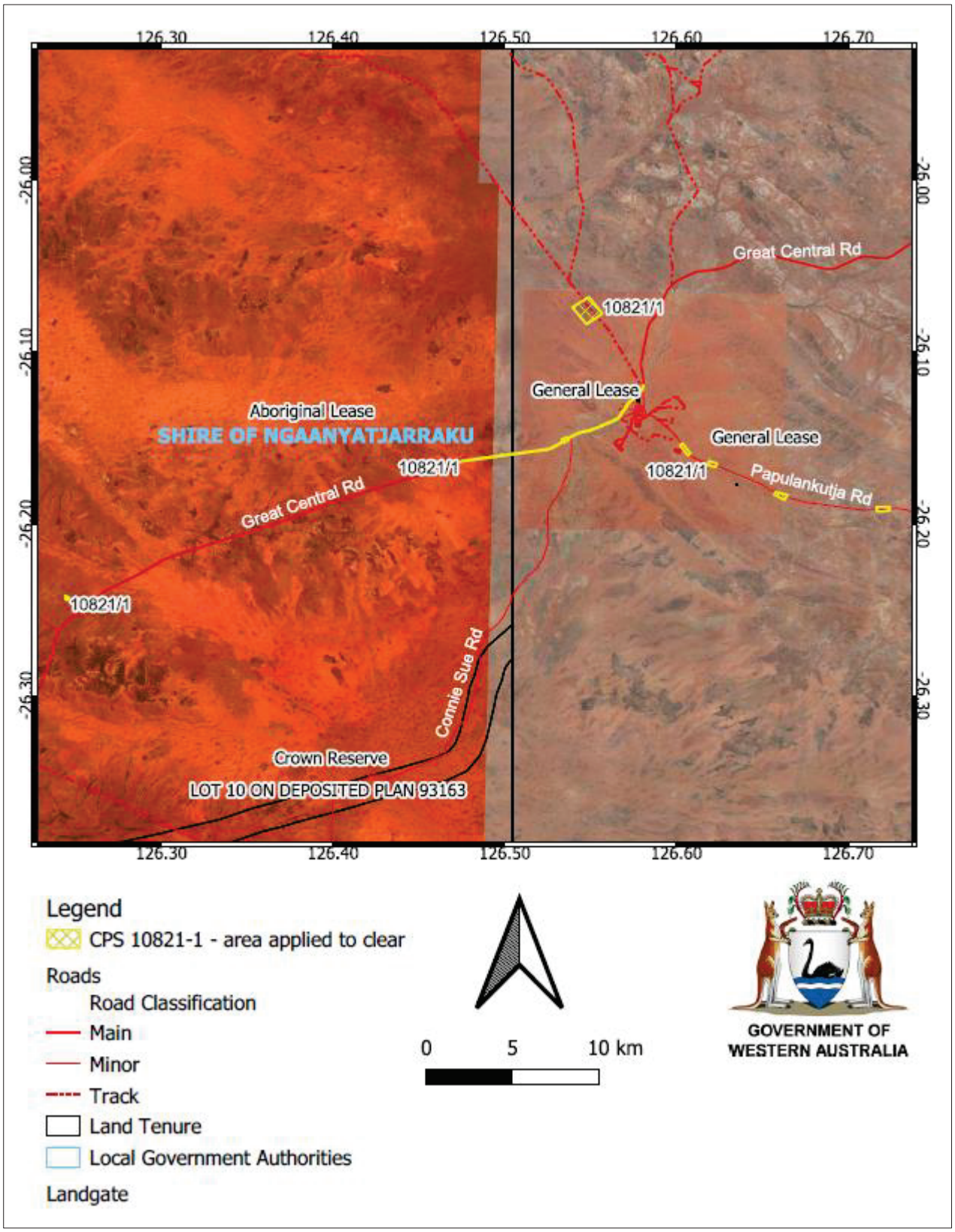


**Figure 1: Map of the boundary of the areas within which clearing may occur**

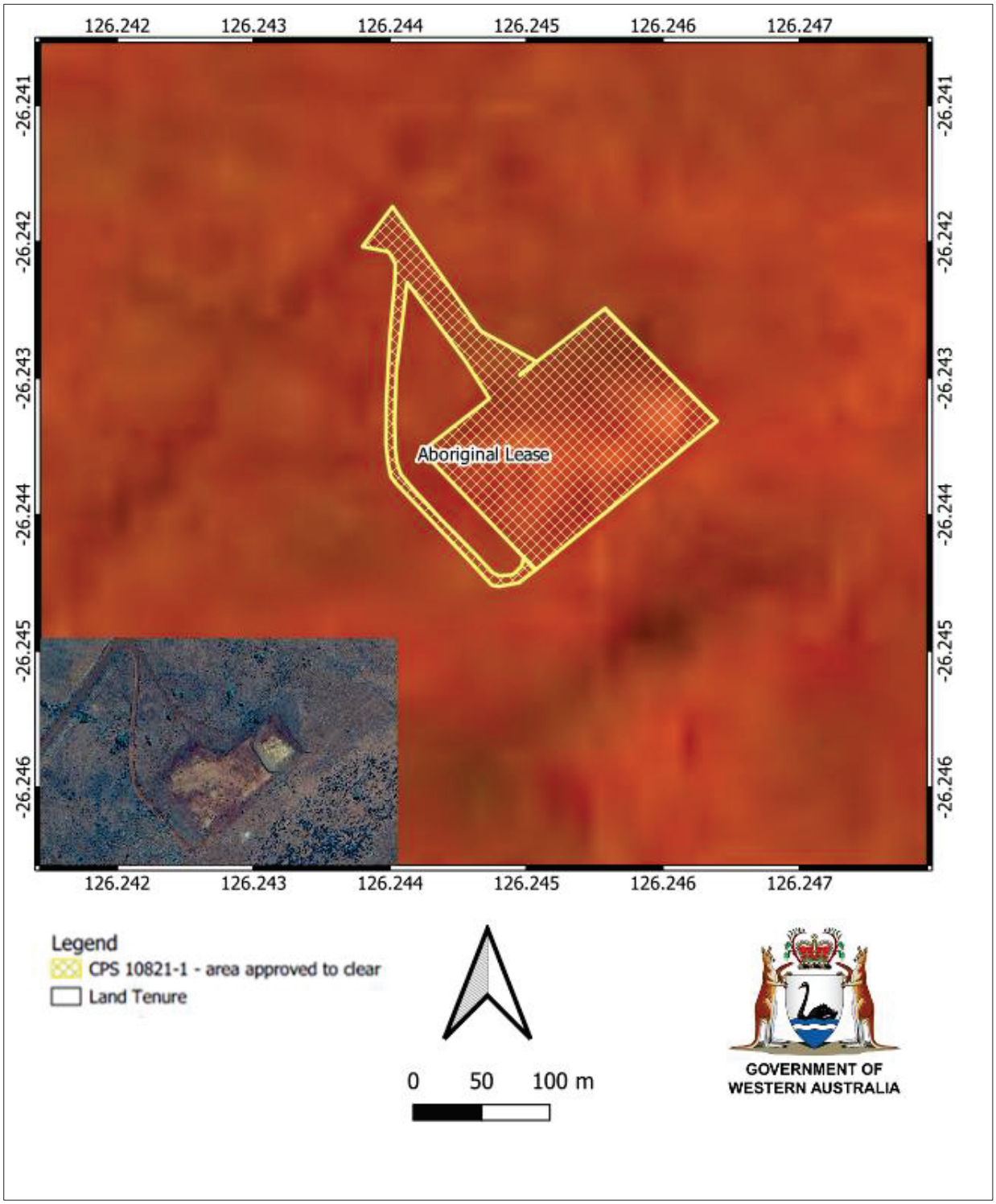


**Figure 2a. Map of the application area (Site A)**

The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit.

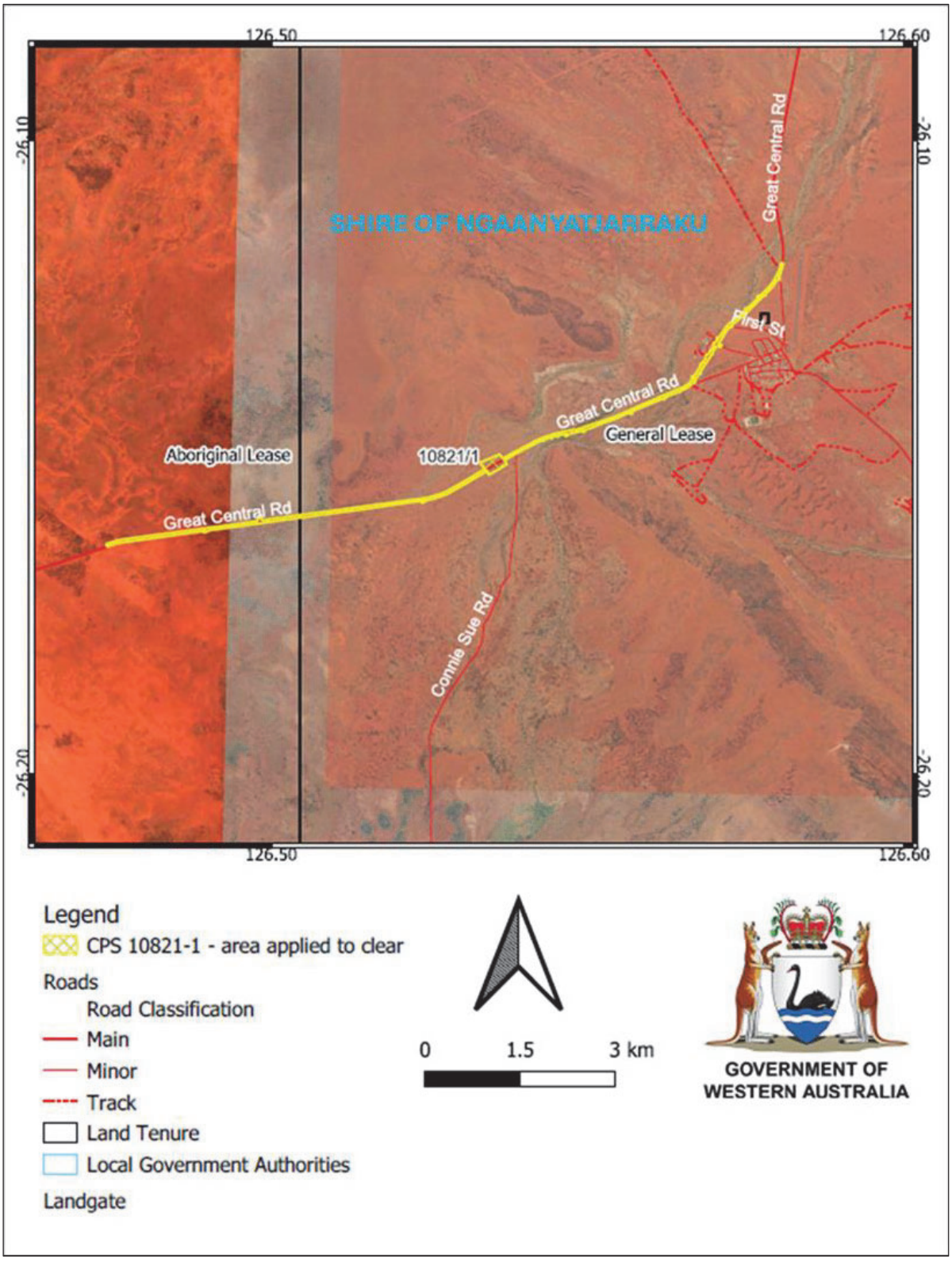


**Figure 2b. Map of the application area (Site B)**

The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

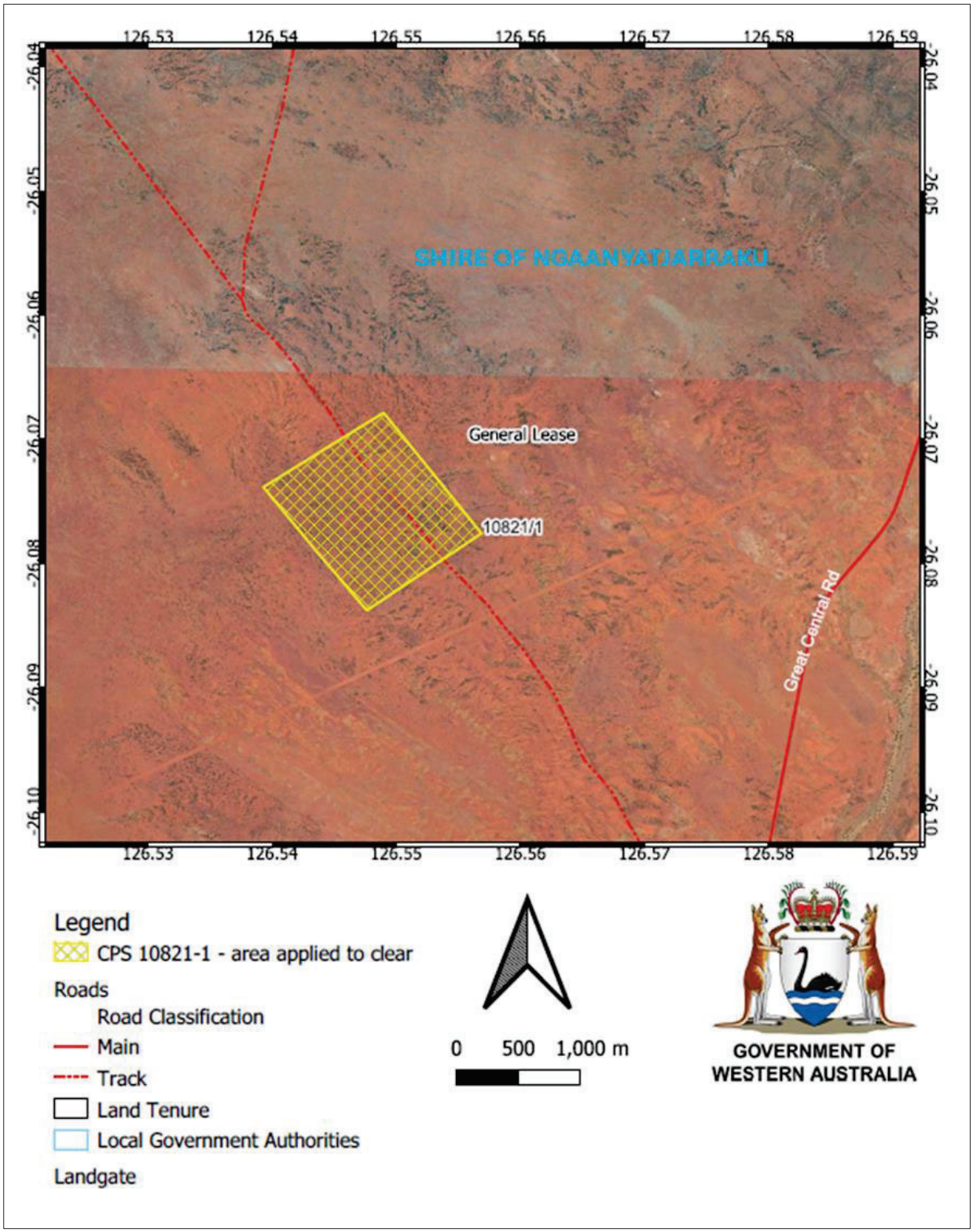


**Figure 2c. Map of the application area (Site C)**

The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit.

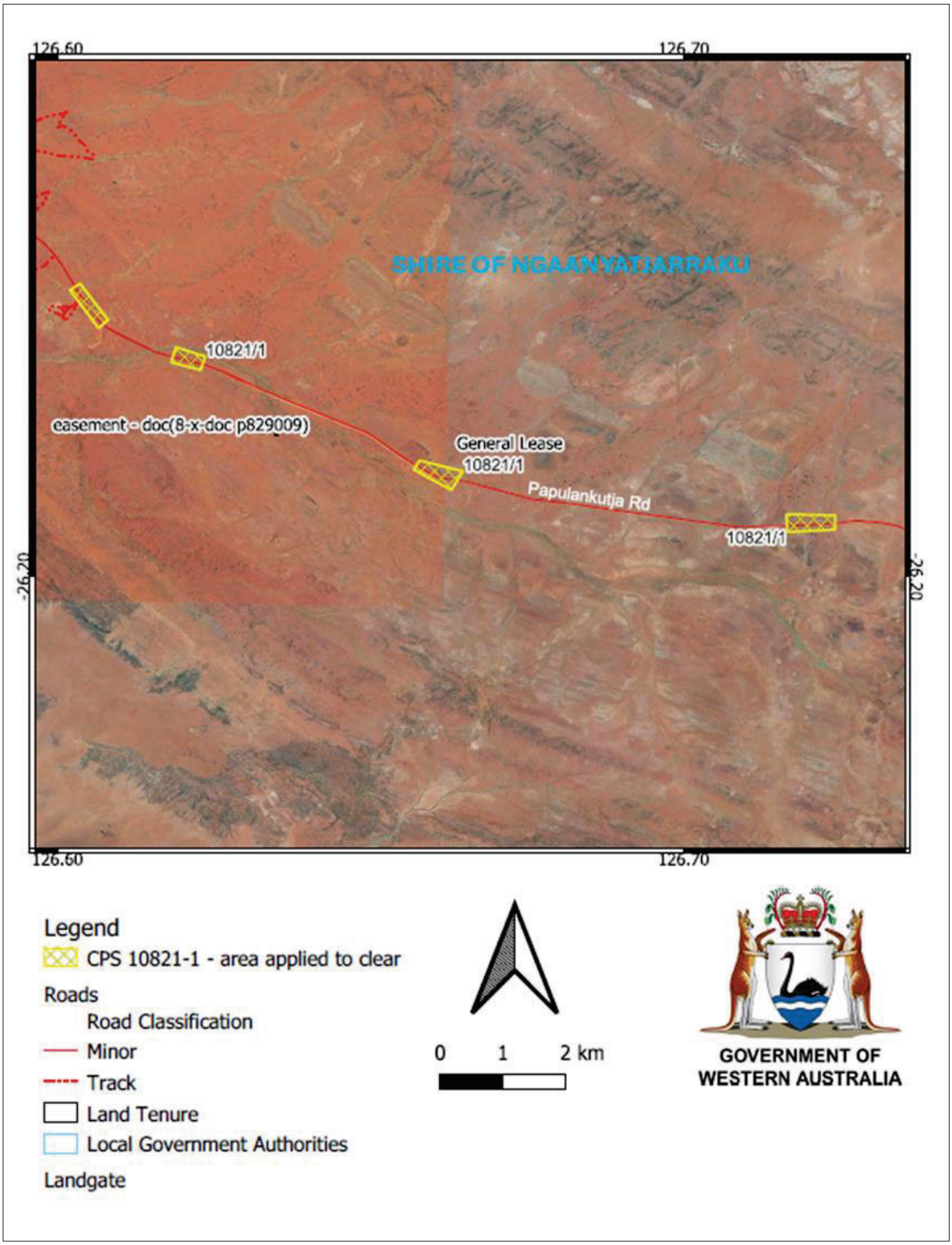


**Figure 2d. Map of the application area (Site D)**

The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit

Government of Western Australia
Department of Water and Environmental Regulation

# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

| | |
|---|---|
| **Permit number:** | CPS 10821/1 |
| **Permit type:** | Purpose permit |
| **Applicant name:** | Main Roads Western Australia (MRWA) |
| **Application received:** | 31 October 2024 |
| **Application area:** | 137 hectares of native vegetation within a 299-hectare footprint |
| **Purpose of clearing:** | Road upgrades and associated activities |
| **Method of clearing:** | Mechanical clearing |
| **Property:** | Lot 8 on Deposited Plan 91735 (Crown Reserve 21471),<br>Lot 10 on Deposited Plan 93163 |
| **Location (LGA area/s):** | Shire of Ngaanyatjarraku |
| **Localities (suburb/s):** | Warburton<br>Gibson Desert South |

### 1.2. Description of clearing activities

The applicant is proposing to upgrade the existing Great Central Road between Straight Line Kilometre (SLK) SLK 538 – 551 under the 'Great Central Road Work Package 2 - Warburton Project' to improve the road condition and safety for road users and improve access to remote communities. This state and Commonwealth priority project will provide critical employment and business opportunities for workers from the locally remote Aboriginal communities. It is noted that the widening and sealing of the Warburton section of Great Central Road will improve access to Aboriginal communities where access may be cut off at times due to high rainfall events. Upgrades to the road will significantly improve freight efficiencies and access to and from Western Australia (Main Roads, 2025).

To facilitate this, the applicant proposes to clear 137 hectares within a 299-hectare footprint (refer to Figure 1, Section 1.5), encompassing:

- an area along Great Central Road (Site A, Figure 2a, Section 1.5) for a camp site and site office;
- a portion of the road reserve of Great Central Road (Site B, Figure 2b, Section 1.5) to allow the road to be sealed and to upgrade drainage infrastructure and flood crossings:
- an area on Warburton North Road (Site C, Figure 2c, Section 1.5) for a borrow pit from which material will be sourced for the project; and
- four areas along Papulankutja Road (Site D, Figure 2d, Section 1.5) and one area along Great Central Road (part of Site B, Figure 2b, Section 1.5) for water bores from which water will be utilised for the project.

### 1.3. Decision on application

| | |
|---|---|
| **Decision:** | Granted |
| **Decision date:** | 19 February 2025 |

| | |
|---|---|
| **Decision area:** | 137 hectares of native vegetation within a 299-hectare footprint, 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). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

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 a flora and vegetation survey (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 considered the necessity of clearing and public benefits that would be derived from the project.

The assessment identified that:

- the proposed clearing may introduce and spread weeds into adjacent vegetation, which could impact on the quality and habitat values of the adjacent vegetation, which contains priority flora species. Weed management measures conditioned on the permit are expected to minimise and mitigate these impacts;
- the proposed clearing may result in land degradation due to wind erosion. Erosion management measures conditioned on the permit are expected to mitigate these impacts.

After consideration of the available information, 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 or have long-term adverse impacts on the conservation value of priority flora species or the habitat values of adjacent vegetation. Potential impacts of clearing can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values by imposing management conditions to the Permit. The applicant has suitably demonstrated avoidance and minimisation measures.

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
- demarcation of clearing areas prior to, and during clearing to avoid inadvertent clearing of priority flora species
- commencement of road works and other associated works within three months of the authorised clearing to minimise wind erosion
- retain cleared vegetation and topsoil for rehabilitation of material sourcing areas
- undertake slow, progressive one-directional clearing towards adjacent native vegetation to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity.

Government of Western Australia
Department of Water and Environmental Regulation

# Clearing Permit Decision Report

## 1.5. Site maps

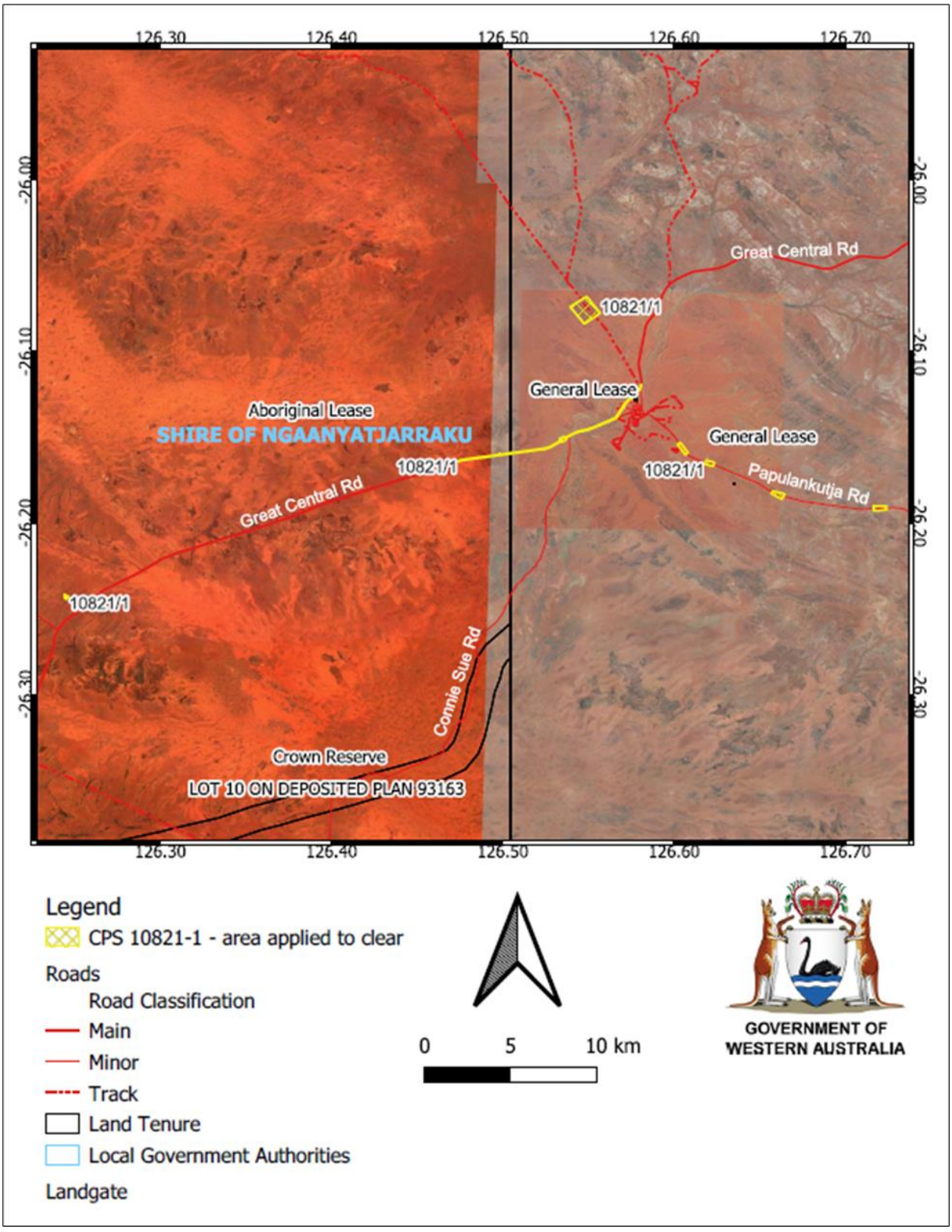


**Figure 1**. Context map of the application area. The areas cross-hatched yellow indicate the areas in which clearing is authorised under the granted clearing permit.

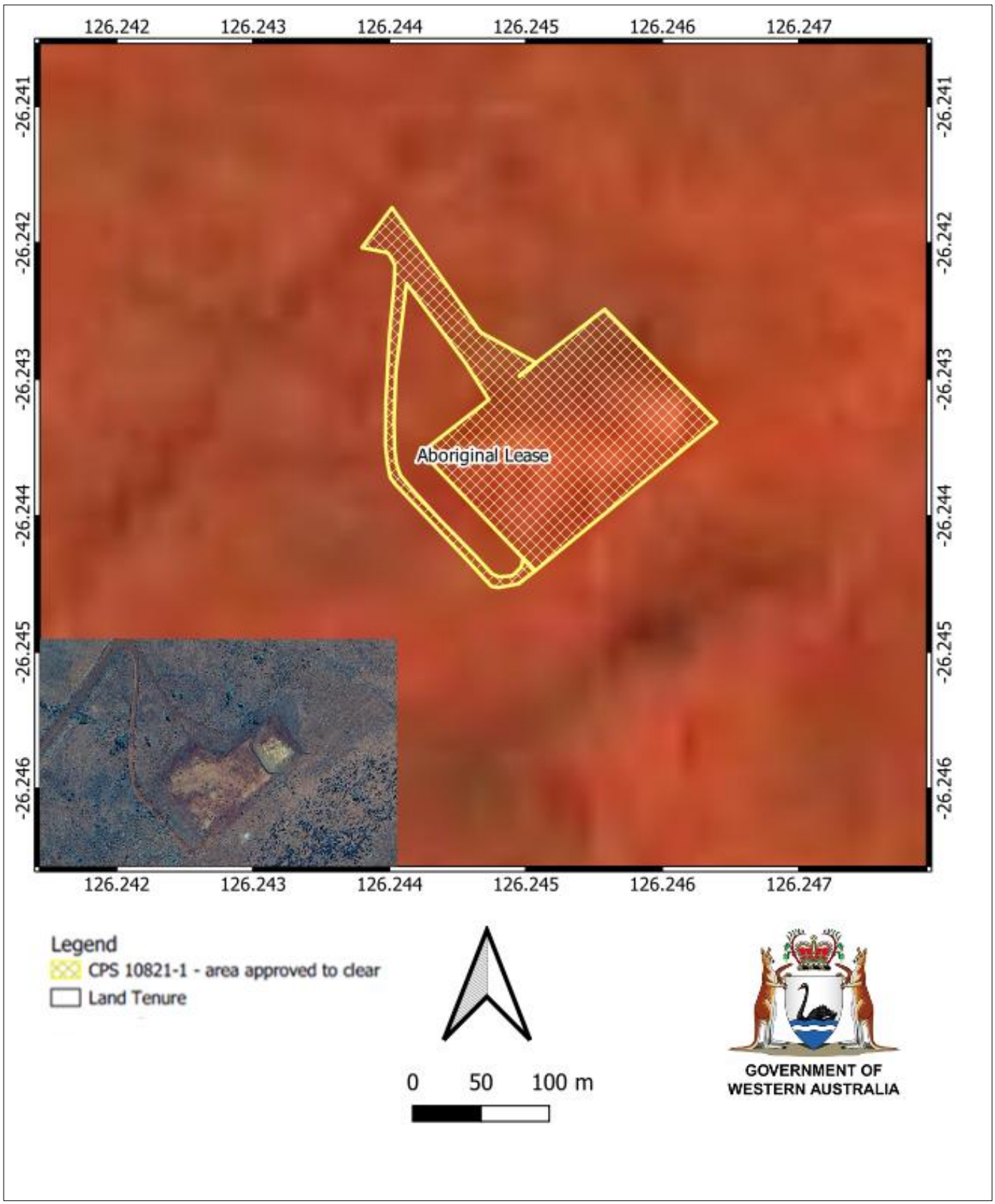


**Figure 2a**. Map of the application area (Site A). The area cross-hatched yellow indicates the area in which clearing is authorised under the granted clearing permit.

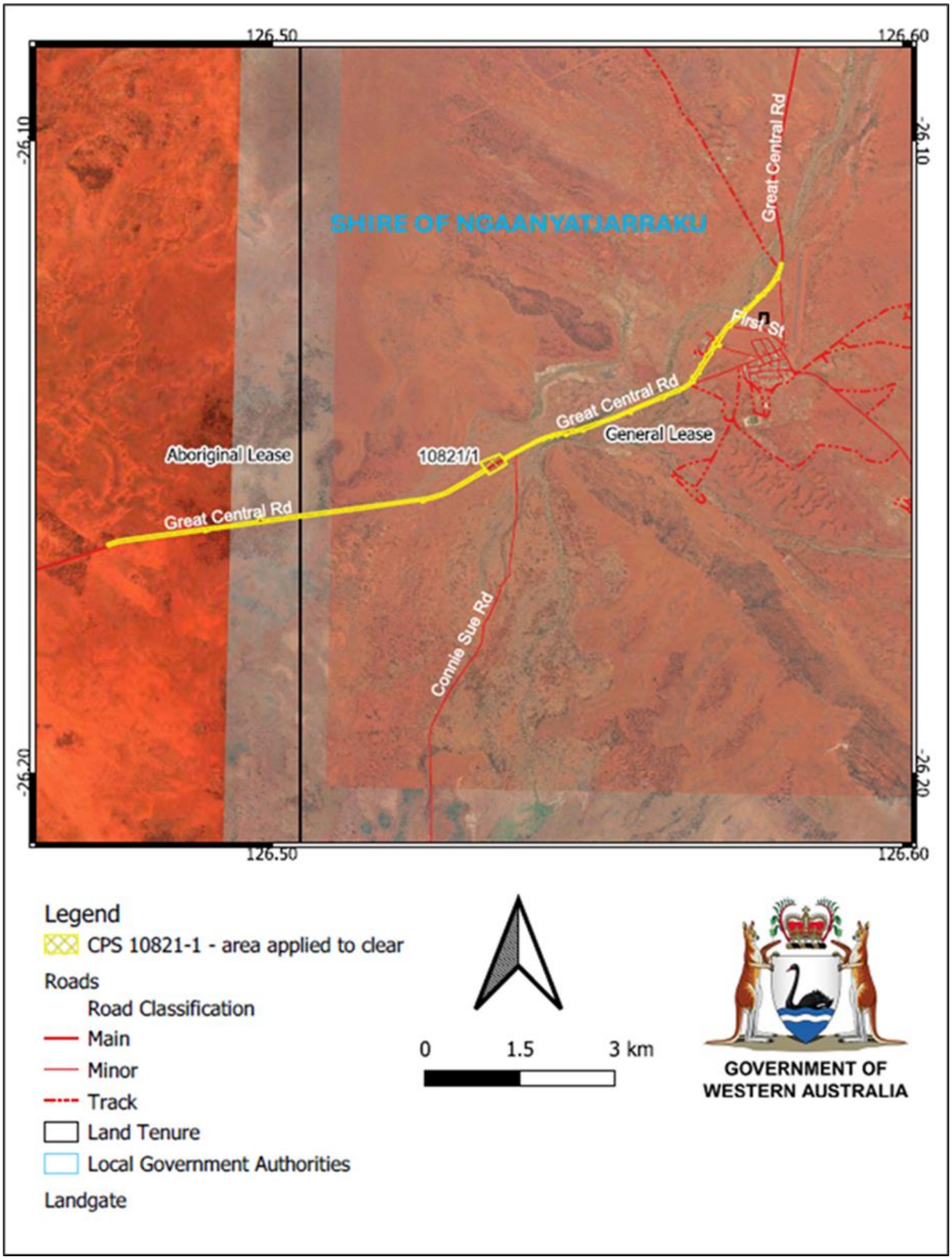


**Figure 2b.** Map of the application area (Site B). The area crosshatched yellow indicates the area in which clearing is authorised under the granted clearing permit.

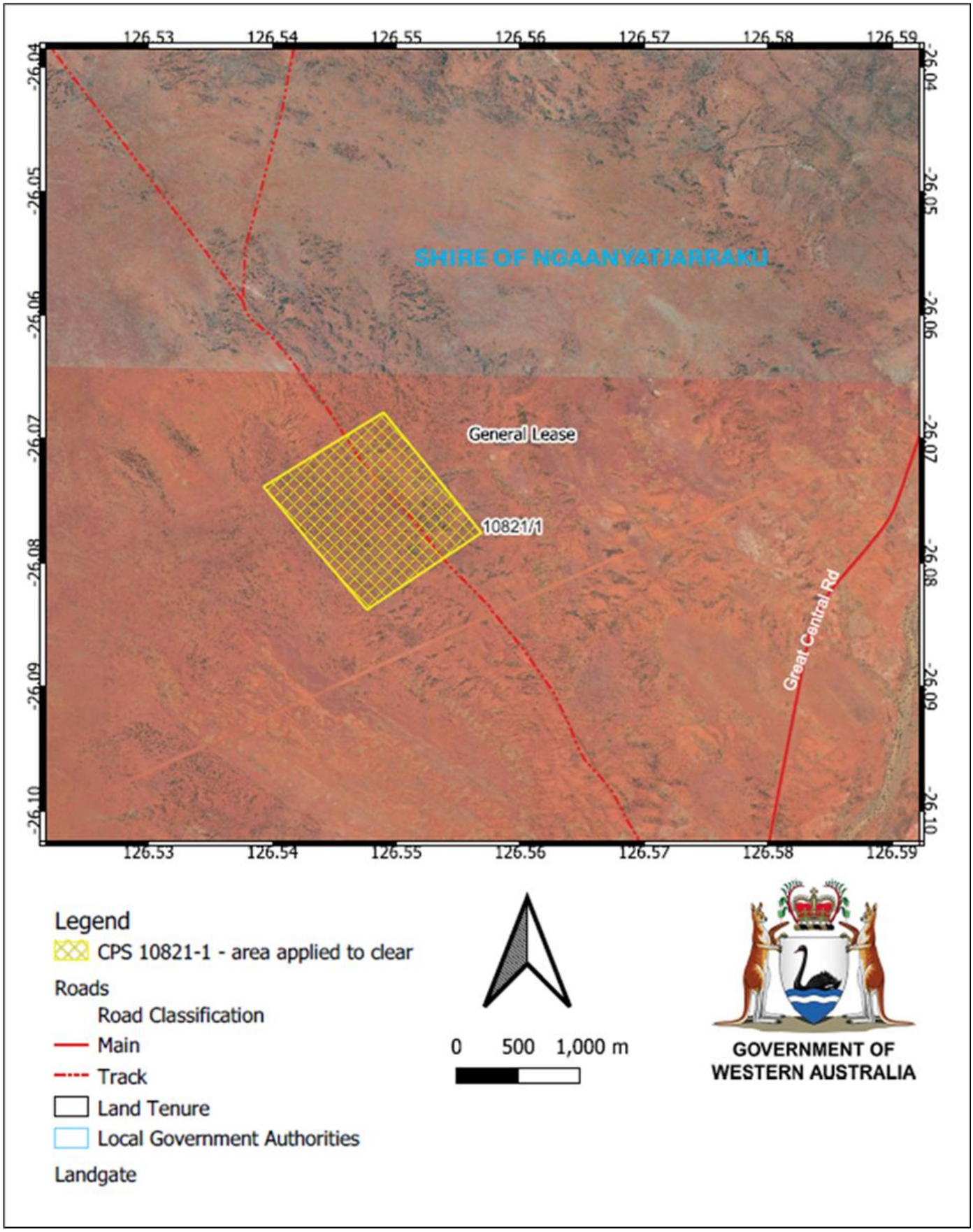


**Figure 2c.** Map of the application area (Site C). The area cross-hatched yellow indicates the area in which clearing is authorised under the granted clearing permit.

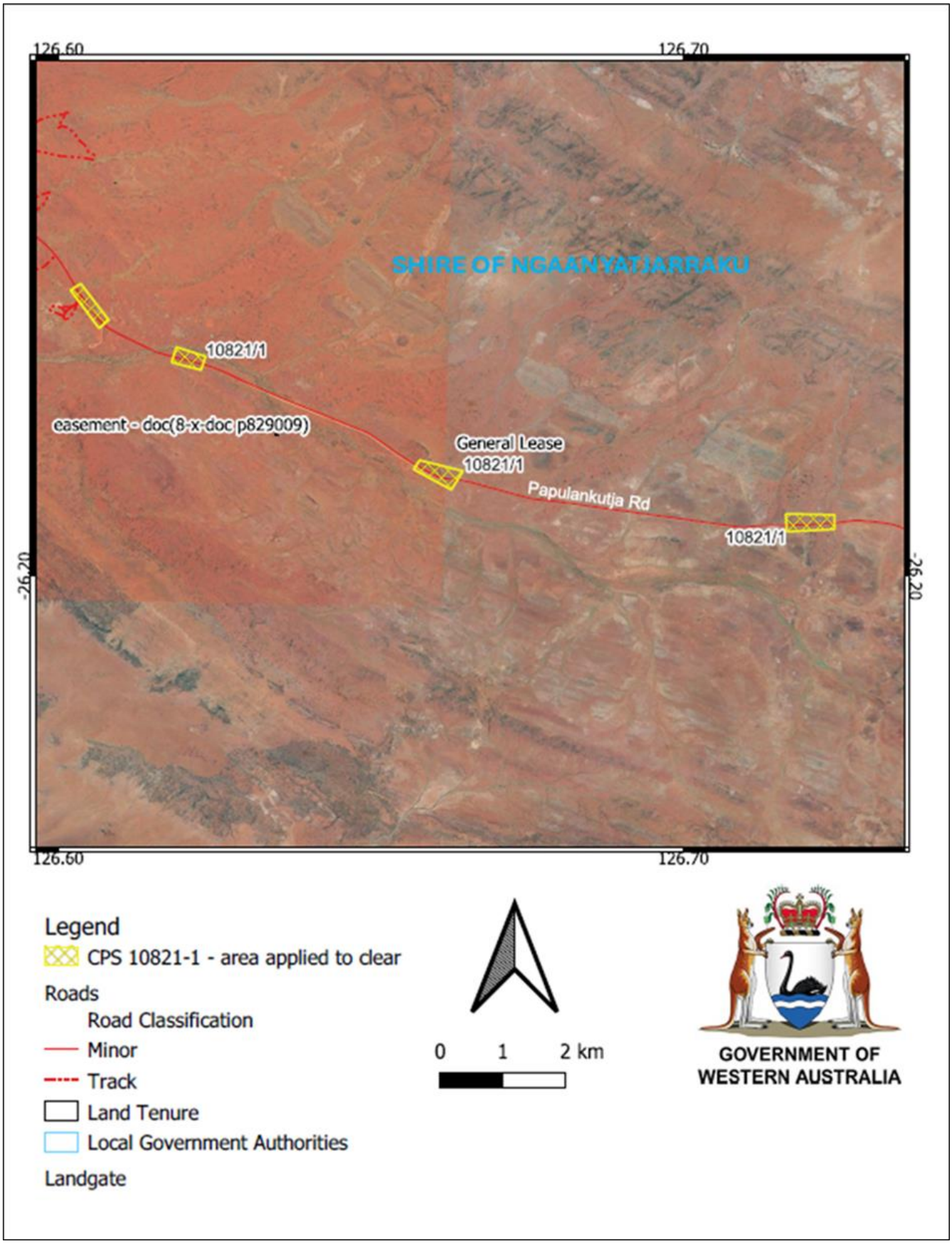


**Figure 2d.** Map of the application area (Site D). The area crosshatched yellow indicates the area in which clearing is authorised under the granted clearing permit.

## 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.

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 Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

## 3 Detailed assessment of application

### 3.1. Avoidance and mitigation measures

The following design and management measures were submitted by the applicant, demonstrating their consideration of avoidance and mitigation measures (Main Roads, 2024):

| Design and Management Measure | Discussion and Justification |
|---|---|
| Alignment to one side of existing road | The proposal has been strategically designed to encompass an already cleared gravel road, with maximum usage of cleared areas alongside the existing route. |
| Alternative alignment located within pasture or degraded areas | The design has been developed to utilise the existing road alignment. An alternate route would significantly add to the quantity of clearing. |
| Steepen batter slopes | Batter slope angles to reduce clearing whilst remaining effective have been considered in the design and implemented where possible and appropriate |
| Installation of barriers | The installation of safety barriers would not reduce the clearing footprint due to the requirements of roadside drainage. Thus, this is not a suitable measure to avoid. |
| Use of existing cleared areas for access tracks, construction storage and stockpiling | The location of water bores, water standpipes, laydown and camp infrastructure have all been located in existing cleared areas. |
| Drainage modification | The floodway at Elder Creek will be upgraded to decrease flooding. Along the alignment, culverts are being installed to maintain the existing hydrological regime. |

The applicant provided the following further information regarding Site A:

- the camp site was selected within the footprint of the existing disturbed quarry area to reduce the clearing footprint for the proposal (see Figure 2a); and
- only very minimal clearing will be required in this area to provide safe access for heavy vehicles to enter and exit the site.

The Delegated Officer was satisfied that the applicant has undertaken reasonable measures 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 C) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water

resource values.

The assessment against the clearing principles (see Appendix C) identified that the risk of impacts of the proposed clearing to biological values (adjacent flora) and land and water resources required further consideration. 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 (Flora) - Clearing Principles (a)*

Assessment
The available datasets and surveys provided by the applicant (Botanica, 2022, 2024) indicate the following priority flora species with 'possible' likelihood of occurrence:

*Dicrastylis subterminalis* (Priority 1) is found in red sand usually by creeklines. It is considered that this species may be present particularly surrounding creeklines intersecting the application area, accounting for up to 2.45 hectares within the application area. Considering that multiple surveys in the Central Ranges bioregion, conducted during the optimal conditions, did not record this flora species and only one record of this species has been found throughout Australia and only 2.45 hectares of the potential habitat occurs within the application area, the likelihood of occurrence of this species within the application area is low.

*Thysanotus* sp. Desert East of Newman (R.P. Hart 964) (Priority 2) is known to occur in red-brown loamy sand or red sand in sand plains and pisolitic buckshot plain (Botanica, 2022). This flora species is known to flower between August to October, with suitable soils mapped within the application area. Botanica (2024) considered it possible to occur within the application area. However, it was actively searched for during the survey (Botanica, 2022) during the flowering period and was not recorded. Therefore, it is considered unlikely that this taxon would be found within the application area.

*Goodenia virgata* (Priority 2), is known to occur in association with red sandy loam near salt pans. This species was recorded in a flora survey conducted for another clearing permit application 20 metres from the CPS 10821/1 application area in similar vegetation (Acacia woodland) to that mapped within the application area. Occurrences of this species are both singular and common in frequency and it has been recorded across the arid interior from five bioregions (Little Sandy Desert, Great Sandy Desert, Gibson Desert, Gascoyne and Tanami IBRA Regions). Records of the species span over 1,000 kilometres (south- west to north-east), with datasets indicating this species flowers between May through to October. Given the broad distribution of this species and that the vegetation associations of the IBRA Central Ranges and Gibson Desert, and respective subregions of the Mann-Musgrave Block and Lateritic Plain are 99 per cent intact and contiguous, the removal of roadside vegetation along an already established road that is subject to edge effects is not likely to impact significant habitat for this species.

Conclusion
Noting the records of *G. virgata* flora species within the local area and its likelihood of occurrence in the application area and surrounds, measures must be taken to prevent the inadvertent clearing of any individuals of this flora species which may be present in adjacent areas. Demarcating the clearing areas prior to, and during clearing works can reduce the risks of inadvertent impacts and has been imposed as a condition on the permit. Weed management practices will further avoid any impacts to the adjacent vegetation.

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

- demarcation of clearing areas prior to, and during clearing to avoid inadvertent clearing of priority flora species
- implement weed management measures to prevent the introduction and spread of weeds into the adjacent vegetation.

### *3.2.2. Biological values (Fauna) - Clearing Principles (a) and (b)*

Assessment
Assessment of available databases indicates that the local area (20-kilometre radius from the application area) does not contain many records of conservation significant fauna. The fauna records available comprise mostly of historical records.

Botanica (2022; 2024) conducted a fauna habitat survey and extrapolation mapping for Sites B, C and D, and determined that the following three fauna habitats were present within the application area:

- Clay-Loam Plain comprising *Acacia* woodland/*Corymbia* Woodland over low mixed shrubs and tussock grassland;
- Ephemeral creekline comprising of Eucalypt woodland over low mixed shrubs and Buffel Grass; and
- Sandplain containing *Acacia* and Mallee Woodland over low mixed shrubs and spinifex grassland.

The fauna habitats are typical of those in the wider region, with no unique fauna habitats (i.e. caves, rock outcrops, overhangs or crevices) or inland waters identified within the total survey area (Botanica, 2024).

Based on data extrapolation and available GIS databases it can be inferred that similar habitats are likely to be present within Site A, albeit of lesser quality given the Completely Degraded condition of the vegetation throughout the majority of the site.

Based on the habitats present and/ or recent nearby records, the application area may provide habitat for the following conservation significant fauna species:

- **Grey Falcon (*Falco hypoleucos)* – Vulnerable**
  The Grey Falcon occurs at low densities across inland Australia. The species frequents timbered lowland plains, particularly Acacia shrublands that are crossed by tree-lined water courses. The species has been observed hunting in treeless areas and frequents tussock grassland and open woodland, especially in winter. While breeding, Grey Falcons feed almost exclusively on birds.

  The application area may form part of a larger home range for this species, and it has potential to pass through the survey area. The only potential breeding site would be Elder Creek in a high rainfall period, however, no nesting sites/ direct bird observations were identified in Sites B, C and D during the field survey (Botanica, 2024). This species is considered unlikely to be present in Site A given the condition of the vegetation. This species is unlikely to be significantly impacted by the proposed clearing, noting the extent of habitat of higher value located outside of the application area.

- **Princess Parrot (*Polytelis alexandrae)* – Vulnerable**
  The Princess parrot is confined to arid regions of Western Australia, the Northern Territory and South Australia. In Western Australia, it is sparsely distributed from near Coolgardie in the west and the Murchison River to the east, and north to near the Fitzroy River in Western Australia and to Howell Ponds in the Northern Territory. It is believed that the population is mainly concentrated in the Great Sandy, Gibson, Tanami and Great Victoria Deserts, and in the central ranges. It inhabits sand dunes and sand flats in the arid zone of western and central Australia, in open savanna woodlands and shrublands that usually consist of scattered stands of Eucalyptus (including *E*. *gongylocarpa*, *E*. *chippendalei* and mallee species), Casuarina or Allocasuarina trees; an understorey of shrubs such as Acacia (especially *A*. *aneura*), Senna, Eremophila, Grevillea, Hakea and Senna; and a ground cover dominated by Triodia species (DCCEEW, 2024).

  Botanica (2024) reports records of this species dating back to 2012, located at Lake Christopher near the Rawlinson Range, located approximately 70 kilometres north-west of the survey area. This species has the potential to pass through the application area, however no potential breeding trees were identified during the field survey within Sites B, C and D (Botanica, 2024) and it is considered unlikely to be present in Site A given the condition of the vegetation. This species is unlikely to be significantly impacted by the proposed clearing, noting the extent of habitat of higher value located outside of the application area.

- **Peregrine Falcon (*Falco peregrinus*) Other Specially Protected**
  The Peregrine Falcon is found in most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites and prefers coastal and inland cliffs or open woodlands near water and may even be found nesting on high city buildings (Birdlife Australia, 2019).

  This species potentially occurs aerially over the survey area as part of a much larger home range, though records in this area are rare and therefore it is likely to be present occasionally. No potential nest sites were observed within Sites B, C and D during the field survey (Botanica, 2024) and the species is considered unlikely to be present in Site A given the condition of the vegetation. This species is unlikely to be significantly impacted by the proposed clearing, noting the extent of habitat of higher value located outside of the application area.

- **Striated Grasswren (Sandplain) (*Amytornis striatus* subsp. *Striatus)* - Critically Endangered**
  The Striated Grasswren is usually found in open mallee over a sparse layer of shrubs and a ground layer dominated by spinifex (Triodia), though they are sometimes found in other vegetation types (DCCEEW, 2024). The survey area is located within its known range and suitable habitat is present, however, this taxon was not observed within Sites B, C and D during the field survey (Botanica, 2024) and are considered unlikely to be present in Site A given the condition of the vegetation. This species is unlikely to be significantly impacted by the proposed clearing, noting the extent of habitat of higher value located outside of the application area.

- **Great Desert Skink (*Liopholis kintorei)* - Vulnerable**
  The Great Desert Skink generally occurs on red sandplains and sand ridges. Vegetation usually consists of hummock grassland (*Triodia basedowii, Triodia pungens* and *Triodia schinzii*), with some scattered shrubs and occasional trees (e.g. *Acacia* spp., *Eucalyptus* spp., *Hakea* spp., *Grevillea* spp. and *Allocasuarina decaisneana*) (DCCEEW, 2024). The survey area is located within its known range and suitable habitat is present, however, this taxon was not observed Sites B, C and D during the field survey (Botanica, 2024) and are considered unlikely to be present in Site A given the condition of the vegetation. This species is unlikely to be significantly impacted by the proposed clearing, noting the extent of habitat of higher value located outside of the application area.

Conclusion

No conservation significant fauna were recorded within Sites B, C and D, and it is unlikely that Site A provides significant fauna habitat based on the condition of the vegetation within Site A which is assumed to be of poor quality due to historical disturbance from quarrying activities. The proposed clearing is not likely to impact significant habitat for conservation significant fauna species, noting the extent of comparable habitat located outside of the application area. Impacts of the proposed clearing on any fauna individuals that may be present at the time of clearing can be managed by implementing fauna management practices.

Conditions

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

- Slow, one-directional clearing to allow any fauna individuals present to move into adjacent vegetation ahead of the clearing activity will minimise impact to individuals

### *3.2.3. Land and water resources - Clearing Principles (g)*

Assessment

The application area is located in an arid environment where the soils comprise of sands and the climate is dry. Consequently, in the areas which do not have pre-existing road present, any clearing in the absence of ground cover will result in the loose sands to become more prone to wind erosion. With limited rainfall, the risk from water erosion is low. However, where rainfall is sufficient, runoff in the area generally drains as sheet flow which may transport sediment to nearby areas.

Clearing may exacerbate the risk of land degradation due to wind erosion and sediment transport. Noting the linear nature of the proposed clearing area within the context of an extensive vegetation area which is largely uncleared, the proposed clearing is not expected to lead to significant land degradation, provided appropriate land management measures are applied during clearing and post-clearing. The upgrades to the drainage infrastructure alongside the road may also minimise the risk of impacts from erosion and surface water runoff.

Associated works for this project include upgrading the drainage infrastructure to improve road drainage, sourcing quarry material from a borrow pit. DWER considers that the nature and extent of impacts of clearing for the road upgrades and drainage infrastructure on the water and land resources are different from that of material sourcing (borrow pits). Clearing for the road upgrades and drainage infrastructure is considered permanent due to its final land use. The installation of drainage systems including the installation of culverts along the roadsides can avoid the changes in the hydrological regime in the local area, and subsequently minimise impacts on the land and water resources along the roads. Limiting the exposure time of cleared areas to wind and the application of appropriate land management measures during clearing and construction works can further mitigate the potential soil erosion and sedimentation transfer risks and dust deposition. These requirements have also been conditioned on the permit.

The proposed clearing for borrow pit is considered as temporary clearing and it is appropriate that areas of temporary disturbance are rehabilitated once all sources of borrow material have been exhausted to minimise and mitigate the

potential impacts of land degradation. Progressive rehabilitation and revegetation using stockpiled topsoils from the sites can minimise potential impacts to the surrounding environment by:

- reducing the potential for long-term wind erosion;
- reducing the time overburden piles and loose soils are exposed to wind;
- reducing the potential for dust deposition;
- reducing the time topsoil stockpiles are exposed to weeds;
- ensuring topsoil seed viability for use in the revegetation program; and
- re-establishing ecological values that facilitate the movement of fauna.

Conclusion

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

Conditions

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

- Commencement of the construction of the road and associated works no later than three (3) months after undertaking the authorised clearing activities to reduce the potential for wind erosion.
- progressively rehabilitate and revegetate temporary cleared areas using stored overburden materials and topsoil salvaged from the location within 12 months of the area no longer being required for the purpose for which it was cleared.

## 3.3. Relevant planning instruments and other matters

DWER (2024a) advised that the clearing of native vegetation is unlikely to impact groundwater resources. DWER confirmed that the applicant holds a current water licence, and no additional permits or licences are required under the *Rights in Water and Irrigation Act 1914* (RIWI Act).

DWER (2024b) indicates that the western portion of the application area at Site D (Figure 2d) was classified under the *Contaminated Sites Act 2003* (CS Act) as 'possibly contaminated – investigation required' on 16 December 2021. The classification was based on the site's use as a power station and landfill, and the presence of potential asbestos-containing material (PACM) on the ground surface in current and historical landfill areas, exposed (uncapped) landfill material, hydrocarbon staining, evidence of illegal dumping, ash from burnt vehicles and melted car batteries. Based on this information, DWER's Contaminated Sites branch advised:

- an appropriate health and safety management plan should be prepared prior to commencement of site works; and
- an 'Unexpected Finds Protocol' should be prepared in the event that buried waste, including asbestos-containing material, is intercepted during ground-disturbing works.

Several Aboriginal sites of significance have been mapped within the application area. 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

| Summary of comments | Consideration of comment |
|---|---|
| Information regarding Site A | see Section 3.1 |
| Information regarding priority flora species | See Section 3.2.1 |

# Appendix B. Site characteristics

## B.1 Site characteristics

| Characteristic | Details |
|---|---|
| Local context | The areas proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. These areas are located on Great Central Road between SLK 538 - 551 near the town of Warburton, in the Shire of Ngaanyatjarraku. The Great Central Road is largely surrounded by native vegetation. |
| Ecological linkage | There are no mapped ecological linkages within the application area and the combined local area (20-kilometre radius from the application area). |
| Conservation areas | There are no mapped conservation areas within the application area. The closest mapped conservation area to the application area is Pila Nature reserve, approximately 75 kilometres northwest of the application area. |
| Vegetation description | The vegetation surveys (Botanica, 2022;2024) and the available datasets indicate the vegetation within the proposed clearing area consists of: |

| Major Vegetation group | Vegetation type and vegetation code |
|---|---|
| Acacia Forest and Woodland (MVG 6) | Low woodland of *Acacia aptaneura/ A. incurvaneura/ A. paraneura* over mid shrubland of *Eremophila latrobei/ Ptilotus obovatus/ Senna artemisioides* and tussock grassland of *Aristida contorta/ Eragrostis eriopoda* on clay-loam plain (vegetation code - CLP-AFW1) |
| Other Forest and Woodland (MVG 10) | Mid woodland of *Corymbia opaca* over low woodland of *Acacia incurvaneura* and tussock grassland of *Aristida contorta* on clay-loam plain (vegetation code- CLP-OFW1) |
| Eucalypt Woodland (MVG 5) | Mid woodland of *Eucalyptus camaldulensis* subsp. *obtusa* over mid shrubland of *Acacia victoriae* subsp. *victoriae/ Eremophila longifolia* and tussock grassland of *Cenchrus ciliaris* in drainage line (vegetation code - OD-EW1) |
| Acacia Forest and Woodland (MVG 6) | Low woodland *Acacia incurvaneura/ A. pruinocarpa* over *Eremophila latrobei/ Acacia paraneura* and hummock grassland of *Triodia basedowii/ T. melvillei* on sandplain (vegetation code - SP-AFW1) |

The full survey descriptions and maps are available in Appendix D.

This is mostly consistent with the mapped vegetation types:

- Central Ranges_18, which is described as low woodland or open low woodland of *Mulga Acacia aneura* and associated species.
- Central Ranges _39, which is described as open or sparse scrub of wattle, teatree & other species *Acacia* spp. *Melaleuca* spp.
- Gibson Desert_18 which is described as low woodland or open woodland comprising of *Mulga Acacia aneura* and associated species.

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
<tr><td></td><td><ul><li>Gibson Desert _139 which is described as hummock grassland with sparse shrubs Triodia spp. Acacia spp.</li></ul></td></tr>
<tr><td>Vegetation condition</td><td>The vegetation surveys (Botanica, 2022; 2024) indicate the vegetation within Sites B, C and D ranges from ‘Good’ to ‘Very Good’ (Trudgen, 1991) condition. Aerial imagery and information provided by the applicant indicates that the vegetation proposed to be cleared within Site A (see Figure 2a) comprises regrowth and is likely to be in Completely Degraded condition.<br><br>The full Trudgen (1991) condition rating scale is provided in Appendix D. The full survey descriptions and mapping are available in Appendix E.</td></tr>
<tr><td>Climate and landform</td><td>The average climate in the application area is characterised as arid with an average annual rainfall of 240 millimetres. Annual evaporation rates are between 3,200 millimetres and 3,600 millimetres (BoM, 2025).<br><br>The landform within the application area ranges from clay-loam Plains to Open Depressions and Sandplains (Botanica, 2024).</td></tr>
<tr><td>Soil description</td><td>The soil and landforms within the application area are mapped as:<br><br>
<table>
<tr><th>mu_symbol</th><th>mu_name</th><th>mu_description</th><th>Characteristic soils (Tille, 2006)</th></tr>
<tr><td>619My109</td><td>My109</td><td>Outwash plains and dissected fan and terrace formations flanking ranges of sedimentary and some metamorphic, volcanic, and granitic rocks</td><td>Loamy earth soils (Red/brown hardpan shallow loam and red loams)</td></tr>
<tr><td>192AB47</td><td>AB47</td><td>Plains and dunes--longitudinal and ring dunes with interdune corridors and plains; occasional salt pans</td><td>Deep sandy and sandy earth soils (Red)</td></tr>
<tr><td>192AY2</td><td>AY2</td><td>Dissected lateritic upland (tableland) of flat to hilly topography with shallow detrital valleys and pediment slopes</td><td>Clayey soils (Cracking clays)</td></tr>
</table>
</td></tr>
<tr><td>Land degradation risk</td><td>According to Schoknecht and Pathan (2013), water erosion can be a problem on slopes and drainage lines in loamy earth soils (i.e. map unit My109), and red sandy earth soils (i.e. map unit AB47) can be susceptible to wind erosion.</td></tr>
<tr><td>Waterbodies</td><td>The desktop assessment and aerial imagery indicated that two minor, non-perennial watercourses transect the area proposed to be cleared, one of which is Elder Creek at its junction with Hughes Creek.</td></tr>
<tr><td>Hydrogeography</td><td>The application area falls within the East Murchison Groundwater Area, as proclaimed under the Rights in Water and Irrigation Act 1914 (RIWI Act).</td></tr>
<tr><td>Flora</td><td>There are records of three priority flora within 20-kilometre radius of the application area. All three flora records are historic. The surveys did not identify any BC Act listed threatened flora species.</td></tr>
<tr><td>Ecological communities</td><td>There are no records of priority or threatened ecological communities in the local area (20-kilometre radius).</td></tr>
<tr><td>Fauna</td><td>There are records of 11 fauna of conservation significance within the local area with most of the records historic in nature. The closest recent record is of Liopholis kintorei (Vulnerable) located one kilometre away from the application area. No conservation</td></tr>
</table>

| Characteristic | Details |
|---|---|
| | significant fauna species were identified within Sites B, C and D during the Botanica surveys (2022; 2024). |

## Appendix C. Assessment against the clearing principles

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| **Environmental value: biological values** | | |
| Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."*<br><br>Assessment:<br><br>The Botanica surveys (2022; 2024) did not identify any threatened flora or assemblages of plants within the survey area. However, further information provided by the applicant (Main Roads, 2025) indicate three priority flora species are likely to occur in the local area (see section 3.2.1). The application area may provide habitat for the several conservation significant fauna species, however, noting the extent of habitat of comparable value located outside of the application area, it is unlikely that the proposed clearing will impact significant habitat for any of these species. It is noted that *Goodenia virgata* (Priority 2) was identified within close proximity of the application area (see Section 3). The permit will be subject to flora management conditions. | Not likely to be at variance | Yes<br><br>*Refer to Sections 3.2.1 and 3.2.2 above* |
| Principle (b): *"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."*<br><br>Assessment:<br><br>The application area may provide habitat for the several conservation significant fauna species, however, noting the extent of comparable habitat located outside of the application area, it is unlikely that significant habitat for any of these species will be impacted by the proposed clearing. | Not likely to be at variance | Yes<br><br>*Refer to Section 3.2.2 above* |
| Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."*<br><br>Assessment:<br><br>The Botanica surveys (2022; 2024) did not identify any threatened flora species within the survey area. Noting that the western portion of the application area (Site A; Figure 2a) comprises of similar soil and vegetation habitat as that of the eastern portion of the application area, and considering the disturbed nature of Site A, it is assumed that the entire application is unlikely to contain habitat for threatened flora species. As such, the area proposed to be cleared is unlikely to contain habitat for threatened flora species listed under the BC Act. | Not likely to be at variance | No |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| Principle (d): *"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."*<br><br>Assessment:<br><br>The area proposed to be cleared does not contain species indicative of a threatened ecological community. | Not likely to be at variance | No |
| **Environmental value: significant remnant vegetation and conservation areas** | | |
| Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."*<br><br>Assessment:<br><br>The extent of native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area. | Not at variance | No |
| Principle (h): *"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."*<br><br>Assessment:<br><br>Given the distance to the nearest conservation area, it is unlikely that the proposed clearing will have an impact on the environmental values of nearby conservation areas. | Not at variance | No |
| **Environmental value: land and water resources** | | |
| Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."*<br><br>Assessment:<br>A total of 3.06 ha of riparian vegetation associated with drainage lines (vegetation type MVG 5) is proposed to be cleared. Vegetation of this type extends beyond the area proposed to be cleared, as mapped by Botanica (2022, 2024), along an approximate 20 kilometres length of Elder Creek (Main Roads Western Australia, 2024). Noting this, the impacts to riparian vegetation are not considered to be significant. | At variance | No |
| Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."*<br><br>Assessment:<br><br>Sandy earths in the application area may be susceptible to wind erosion. Given the proposed clearing will mostly occur along the existing road and is linear, the proposed clearing is not likely to cause appreciable wind erosion. Conditions on the permit will limit these impacts.<br><br>Although loamy earth soils along drainage lines may be susceptible to water erosion, given the amount of clearing along drainage lines is relatively low and surface flow is likely to be minimal (determined from the low rainfall and high evaporation levels in the region), the risk from water erosion is considered to be low. | Not likely to be at variance | Yes<br><br>*Refer to Section 3.2.3* |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| Principle (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."*<br><br>Assessment:<br><br>There are no public drinking water sources in the vicinity of the proposed works. The clearing of native vegetation is unlikely to impact the quality of groundwater resources in the area (DWER, 2024a). The proposed clearing may increase the risk of erosion and sedimentation within the non-perennial watercourses intersecting the application area. However, given that the flow in these watercourses is intermittent, the disturbance is linear, and that little surface flow is expected during rains (determined from the low rainfall and high evaporation levels in the region), it is considered unlikely that the proposed clearing will cause deterioration in the quality of surface water. | Not likely to be at variance | No |
| Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."*<br><br>Assessment:<br><br>Given the linear nature of the clearing, the low rainfall and high evaporation rates in the region and the soil types mapped in the application area, the risk of flooding and waterlogging are considered low.<br>It is noted that the proposed purpose of clearing includes upgrades to the floodway at Elder Creek to decrease flooding. Along the alignment, culverts are being installed to maintain the existing hydrological regime. | 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 Trudgen (1991) scale below was used to measure the condition of the vegetation proposed to be cleared.

**Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)**

| Condition | Description |
|---|---|
| Excellent | Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement. |
| Very good | Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks. |
| Good | More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds. |
| Poor | Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds. |

| Condition | Description |
|---|---|
| Very poor | Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species. |
| Completely degraded | Areas that are completely or almost completely without native species in the structure of their vegetation, i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs. |

## Appendix E. Biological survey information excerpts

Botanica Consulting Pty Ltd (Botanica, 2022;2024) conducted surveys over Sites B, C, and D (Figure 2b, 2c, and 2d). No survey data is available for Site A. However, based on the GIS databases, information provided by the applicant and extrapolation of the existing survey information, Site A (Figure 2a) was assessed for any impacts on environmental values.

Plate 1: Low woodland of *Acacia aptaneura/ A. incurvaneura/ A. paraneura* over mid shrubland of *Eremophila latrobei/ Ptilotus obovatus/ Senna artemisioides* and tussock grassland of *Aristida contorta/ Eragrostis eriopoda* on clay-loam plain

**Figure 4.** Acacia Forest and Woodland (MVG 6) (Botanica, 2024)

Plate 2: Low woodland of *Acacia caesaneura/ A. incurvaneura* over mid shrubland of *Eremophila latrobei/ Senna artemisioides and* low shrubland of *Ptilotus obovatus* on clay-loam plain

**Figure 5.** Acacia Forest and Woodland (MVG 6) (Botanica, 2024)

Plate 3: Mid woodland of *Corymbia opaca* over low woodland of *Acacia incurvaneura* and tussock grassland of *Aristida contorta* on clay-loam plain

**Figure 6.** Other Forest and Woodland (MVG 10) (Botanica, 2024)

Plate 4: Mid woodland of *Eucalyptus camaldulensis* subsp. *obtusa* over mid shrubland of *Acacia victoriae* subsp. *victoriae/ Eremophila longifolia* and tussock grassland of *Cenchrus ciliaris* in drainage line

**Figure 7.** Eucalypt Woodland (MVG 5) (Botanica, 2024)

# 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

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)

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