GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 11277/1
Permit Holder:	Main Roads Western Australia's (Main Roads)
Duration of Permit:	From 20 December 2025 to 20 December 2030

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 activities relating to the upgrade of the Great Central Road.

2. Land on which clearing is to be done

Lot 1514 on Deposited Plan 75844, Cosmo Newbery
Lot 351 on Deposited Plan 220213 (R 24980), Cosmo Newbery
Lot 382 on Deposited Plan 66815, Cosmo Newbery
Unallocated Crown Land, Cosmo Newbery
Lot 49 on Deposited Plan 92113 (R 18594), Laverton
Lot 49 on Deposited Plan 92113 (R 18594), Cosmo Newbery
Lot 6 on Deposited Plan 92244 (R 25051), Cosmo Newbery
Lot 55 on Deposited Plan 240377 (R 22032), Cosmo Newbery

3. Clearing authorised

The permit holder must not clear more than 500 hectares of *native vegetation* within the area cross-hatched yellow in Figures 1a to 1j of Schedule 1.

PART II – MANAGEMENT CONDITIONS

4. 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.

5. 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.

6. Directional clearing

The permit holder must:

(a) conduct clearing activities authorised under this permit in a slow, progressive manner, in one direction, 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.

7. Fauna management – malleefowl

Where clearing authorised under this Permit is to occur between 1 September and 31 January, the Permit Holder shall:

(a) Within two weeks prior to undertaking any clearing, engage an *environmental specialist* to conduct an inspection of the area to be cleared to identify active (in use) Malleefowl (*Leipoa ocellata*) mounds.

(b) Where an active (in use) Malleefowl mound is identified under Condition 7(a) of this Permit, the Permit Holder shall ensure that no clearing occurs within 50 metres of the mound, during the months of September through to January, unless first approved by the *CEO*.

8. Erosion management

The permit holder must begin road upgrades no later than three (3) months after undertaking the authorised clearing activities.

9. Flora management

(a) Prior to undertaking any clearing authorised under this permit within the area cross-hatched yellow in Figure 1a-1j of Schedule 1, the permit holder must engage a *botanist* to conduct a pre-clearance *targeted flora survey* of the areas to be cleared to identify possible occurrences of following *priority flora* species:

- *Bossiaea eremaea* (Priority 3)
- *Grevillea obliquistigma* subsp. *cullenii* (Priority 3)

(b) Where *priority flora* is identified in relation to condition 9(a) of this permit, the permit holder shall ensure that no clearing occurs within 20 metres of identified priority 3 flora species, unless approved by the *CEO* in writing;

(c) the permit holder must provide the results of the *targeted flora survey* in a report to the *CEO* within three months of undertaking any clearing authorised under this permit.

(d) If any of the abovementioned *priority flora* are identified within the area cross-hatched yellow in Figure 1a-1j of Schedule 1, the *targeted flora survey* report must include the following:

(i) the location of each *priority flora*, identified under condition 9(a), either as the location of individual plants, or where this is not practical, the areal extent of the population and an estimate of the number of plants, recorded 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) the species name of each *priority flora* species identified under condition 9(a); and

(iii) the methodology used to survey the permit area.

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	(a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to GDA2020,

No.	Relevant matter	Specifications
		expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) direction of the clearing; (f) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 4; (g) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 5; (h) actions taken to identify and avoid clearing around active (in use) Malleefowl mounds in accordance with condition 7. (i) Actions taken in accordance with condition 8.
2.	In relation to flora management pursuant to condition 9	(a) the name and location of each priority flora species, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings; (b) actions taken to demarcate priority flora species recorded and their relevant buffers; and (c) actions taken to avoid the clearing of priority flora species.

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
active (in use) Malleefowl mound	means a mound with evidence of current Malleefowl (*Leipoa ocellata*) activity, such as: working of the mound; scratching; litter trails leading to the mound; or loose uncompacted surfaces. The form and structure of the mound will show that it is currently being prepared for egg laying or it already contains eggs.
botanist	means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of two (2) years work experience in Western Australian flora identification and undertaking flora surveys native to the bioregion being inspected or surveyed, or who is approved by the CEO as a suitable environmental specialist for the bioregion, and who holds a valid flora licence issued under the *Biodiversity Conservation Act 2016.*
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.
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.
fill	means material used to increase the ground level, or to fill a depression.
dieback	means the effect of *Phytophthora* species on native vegetation.
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.
EP Act	*Environmental Protection Act 1986* (WA)
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 fauna taxa describes as priority fauna, classes 1, 2, 3, 4 or 5 in the *Department of Biodiversity, Conservation and Attractions Threatened and Priority Fauna List for Western Australia* (as amended);
targeted flora survey	means a field-based investigation, including a review of established literature, of the biodiversity of flora and vegetation of the permit area, focusing on habitat suitable for flora species that are being targeted and carried out during the optimal time to identify those species. Where target flora are identified in the permit area, the survey must also include a minimum of a 10 metre radius of the surrounding areas to place the permit area into local context.
weeds	means any plant –

Term	Definition
	(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; 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

C Robertson
26.11.2025
2.52PM

Caron Robertson
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

26 November 2025

Schedule 1

The boundary of the area authorised to be cleared are shown in the maps below (Figure 1a – 1j).

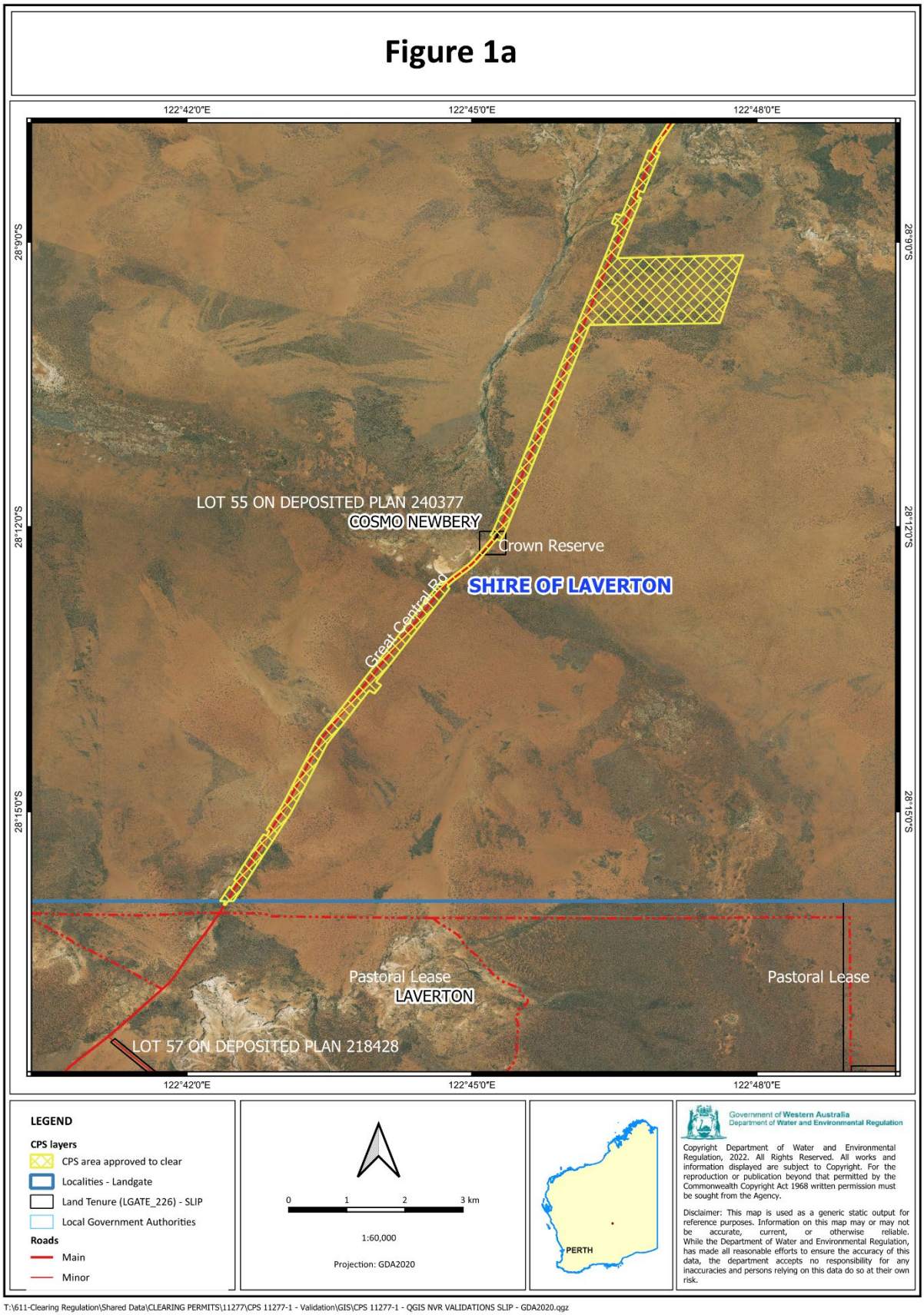

Figure 1a: Map of the boundary of the area within which clearing may occur

Figure 1b

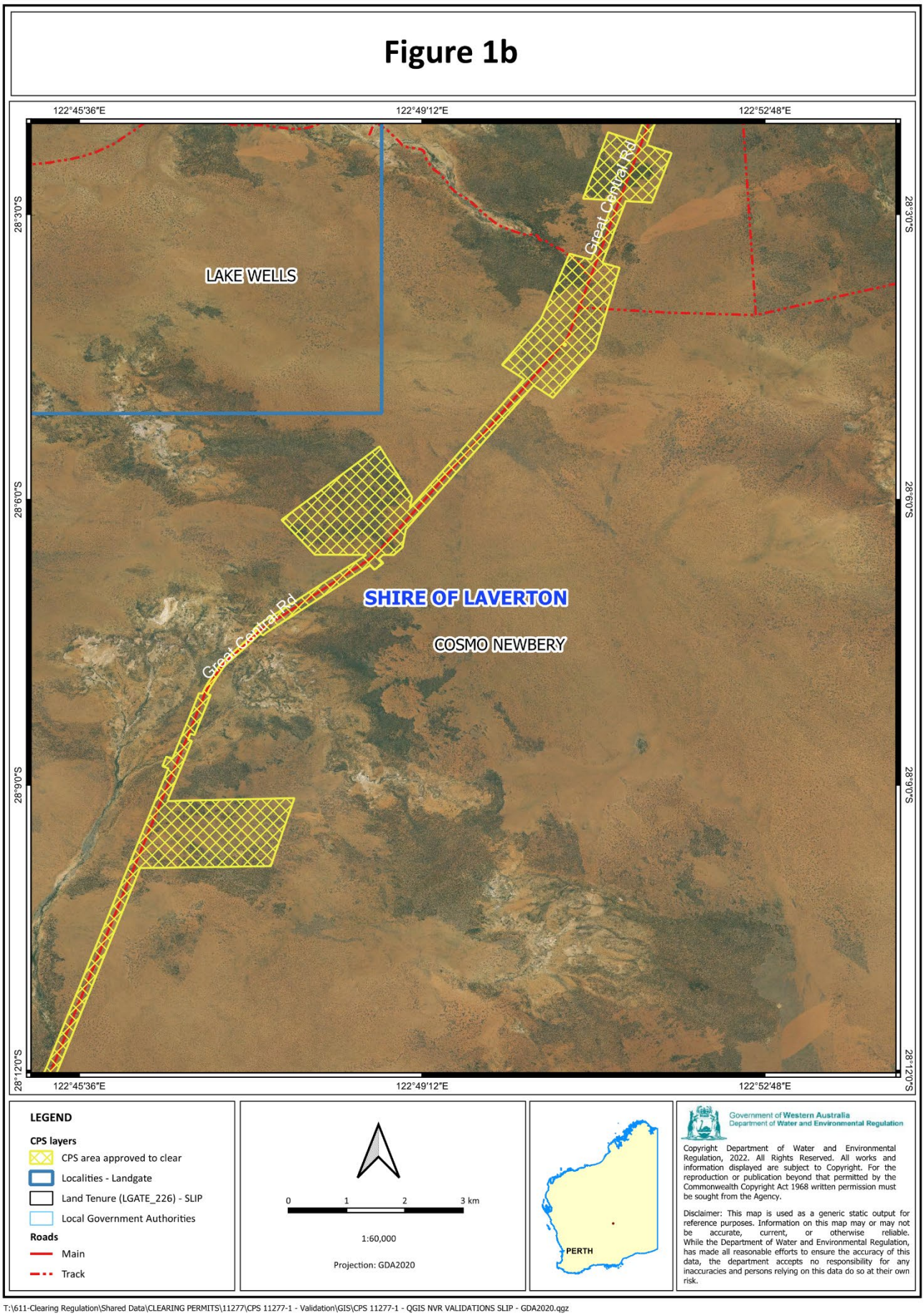

Figure 2b: Map of the boundary of the area within which clearing may occur

Figure 1c

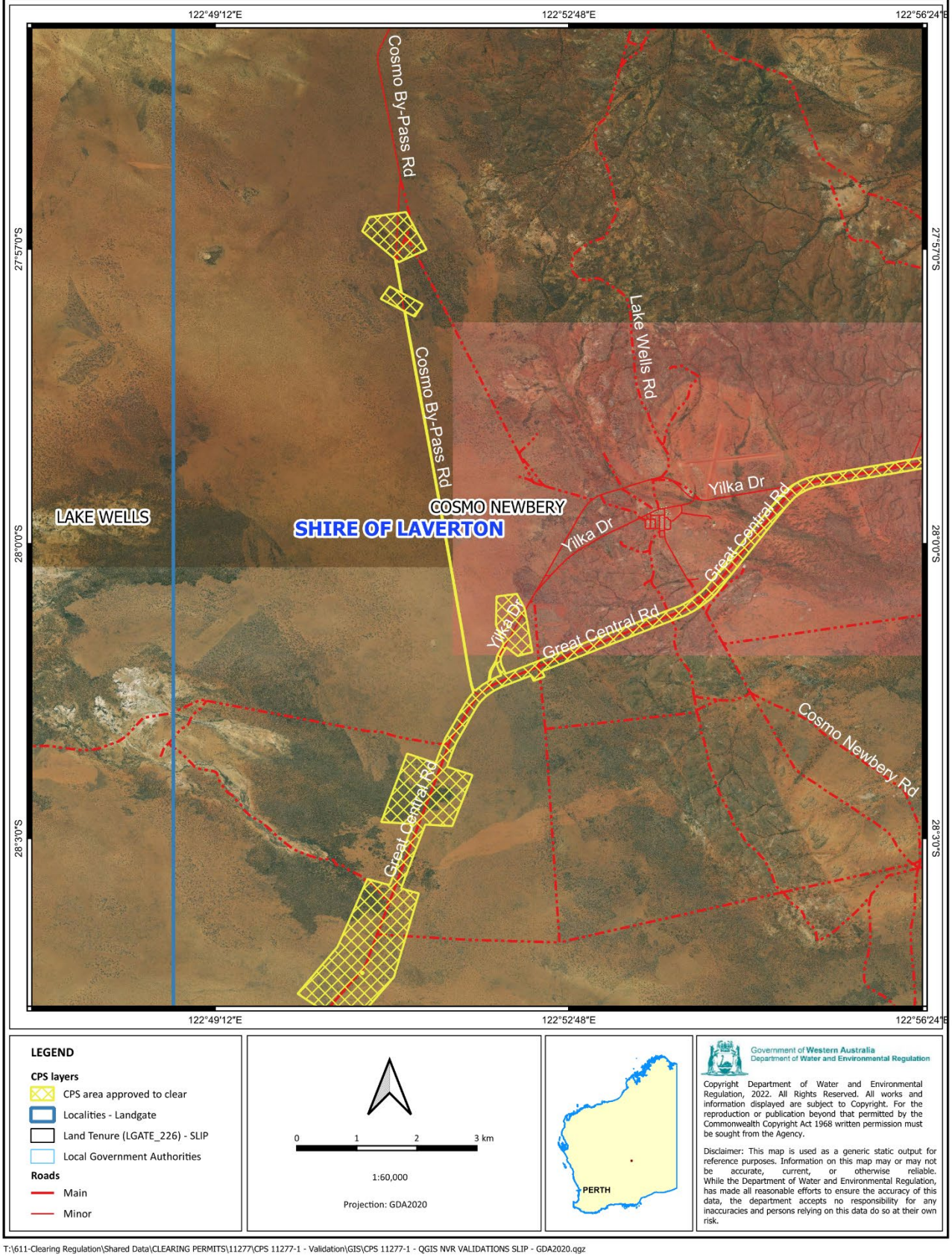

Figure 3c: Map of the boundary of the area within which clearing may occur

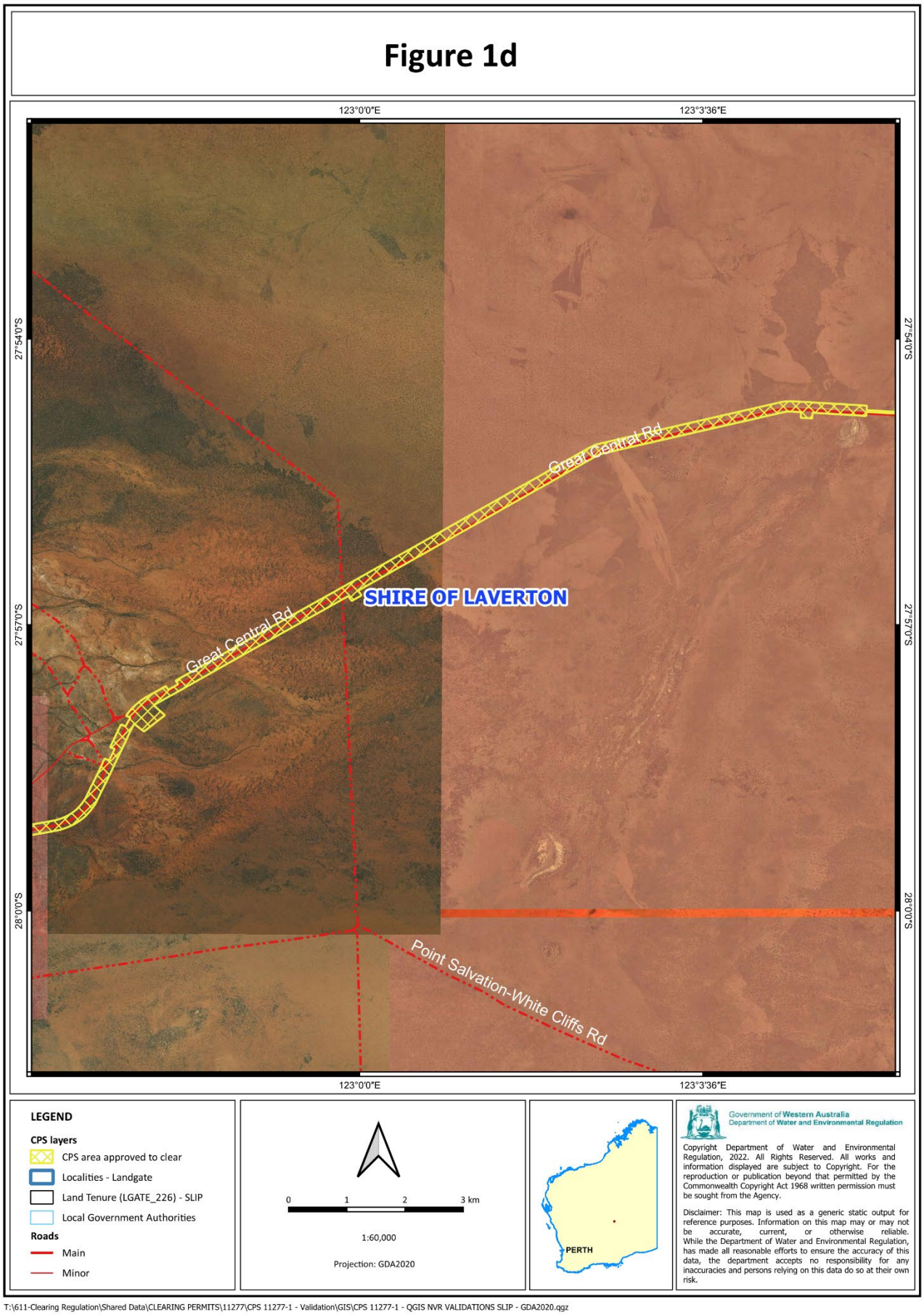

Figure 4d: Map of the boundary of the area within which clearing may occur

Figure 1e

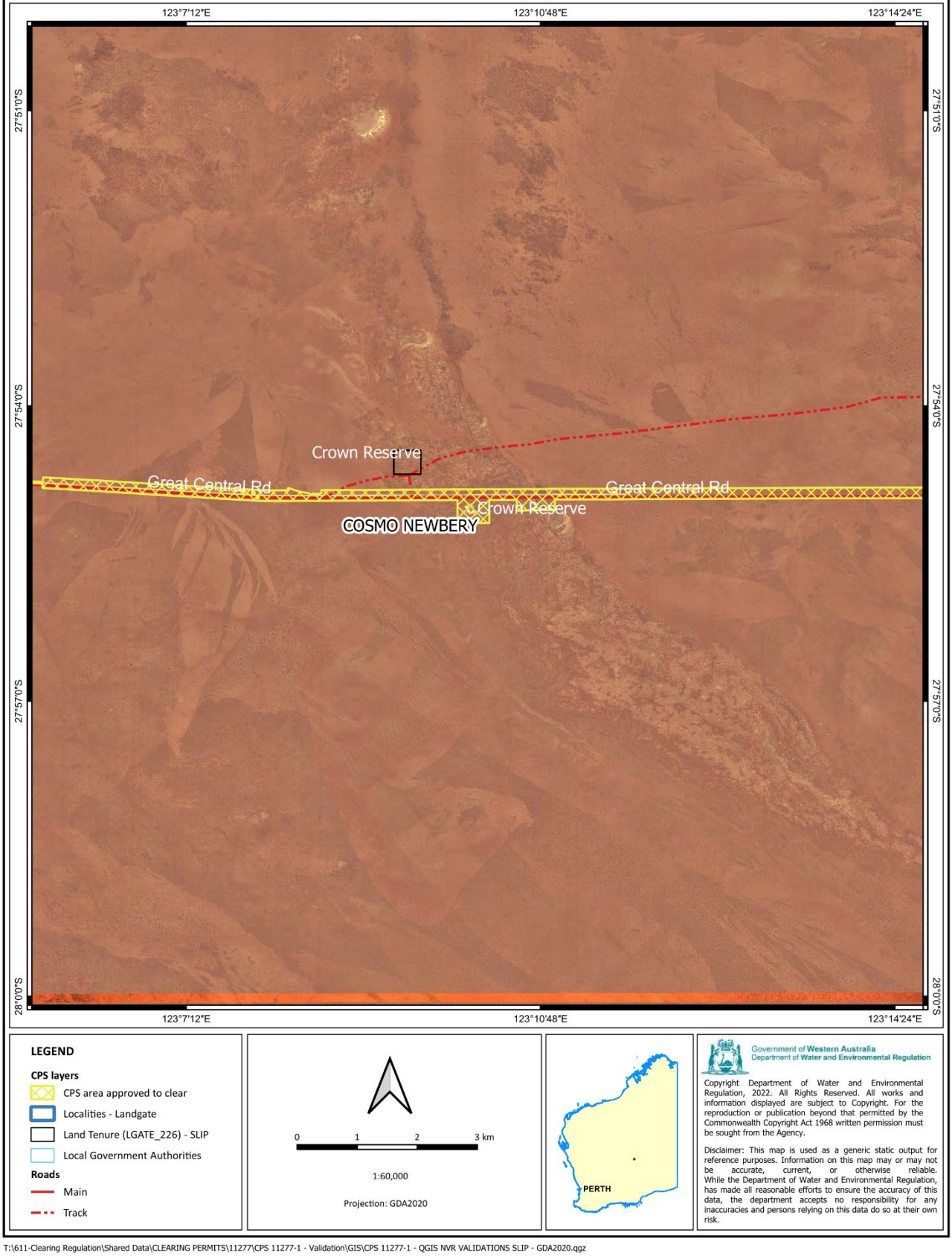

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Figure 5e: Map of the boundary of the area within which clearing may occur

Figure 1f

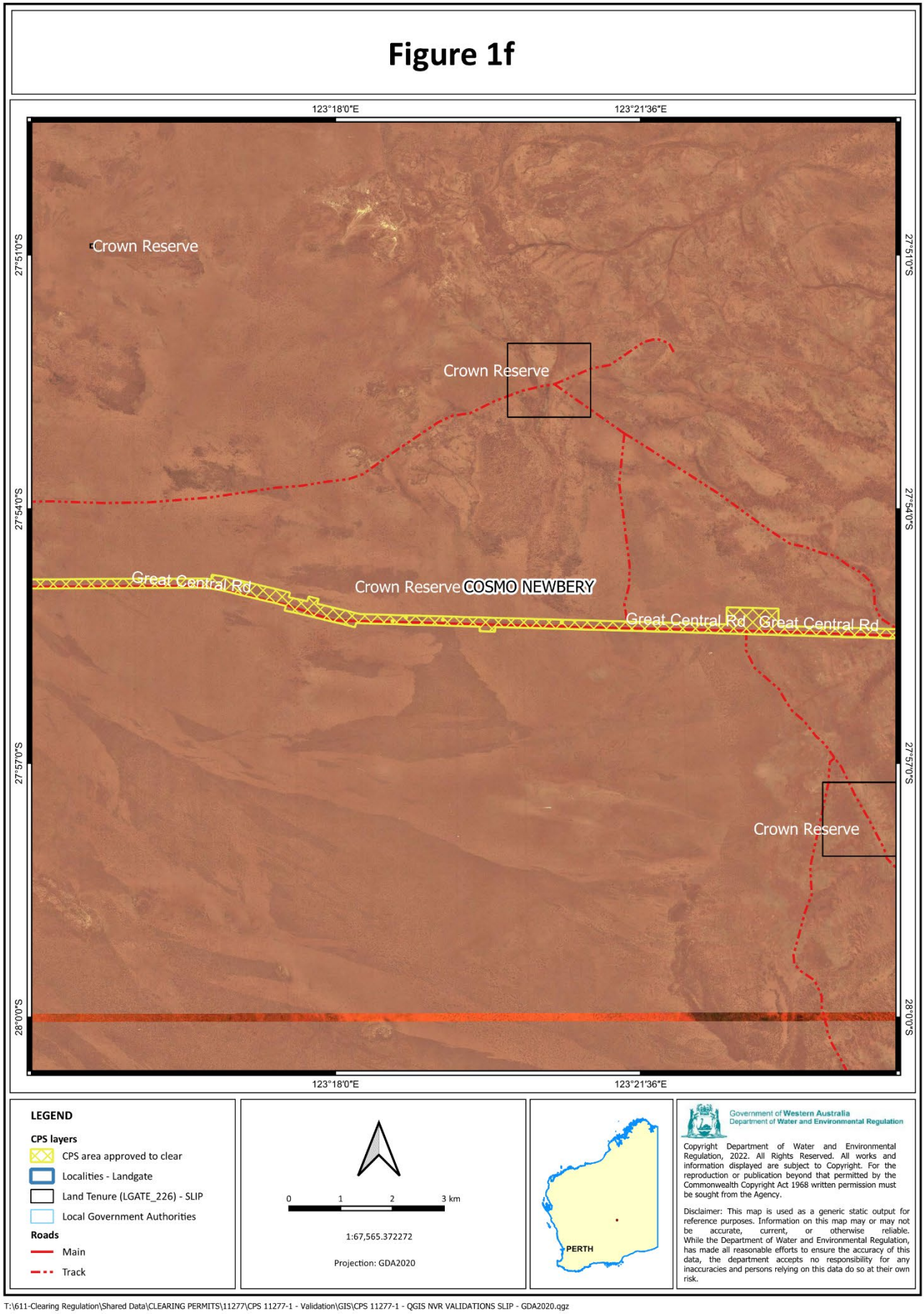

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Figure 6f: Map of the boundary of the area within which clearing may occur.

Figure 1g

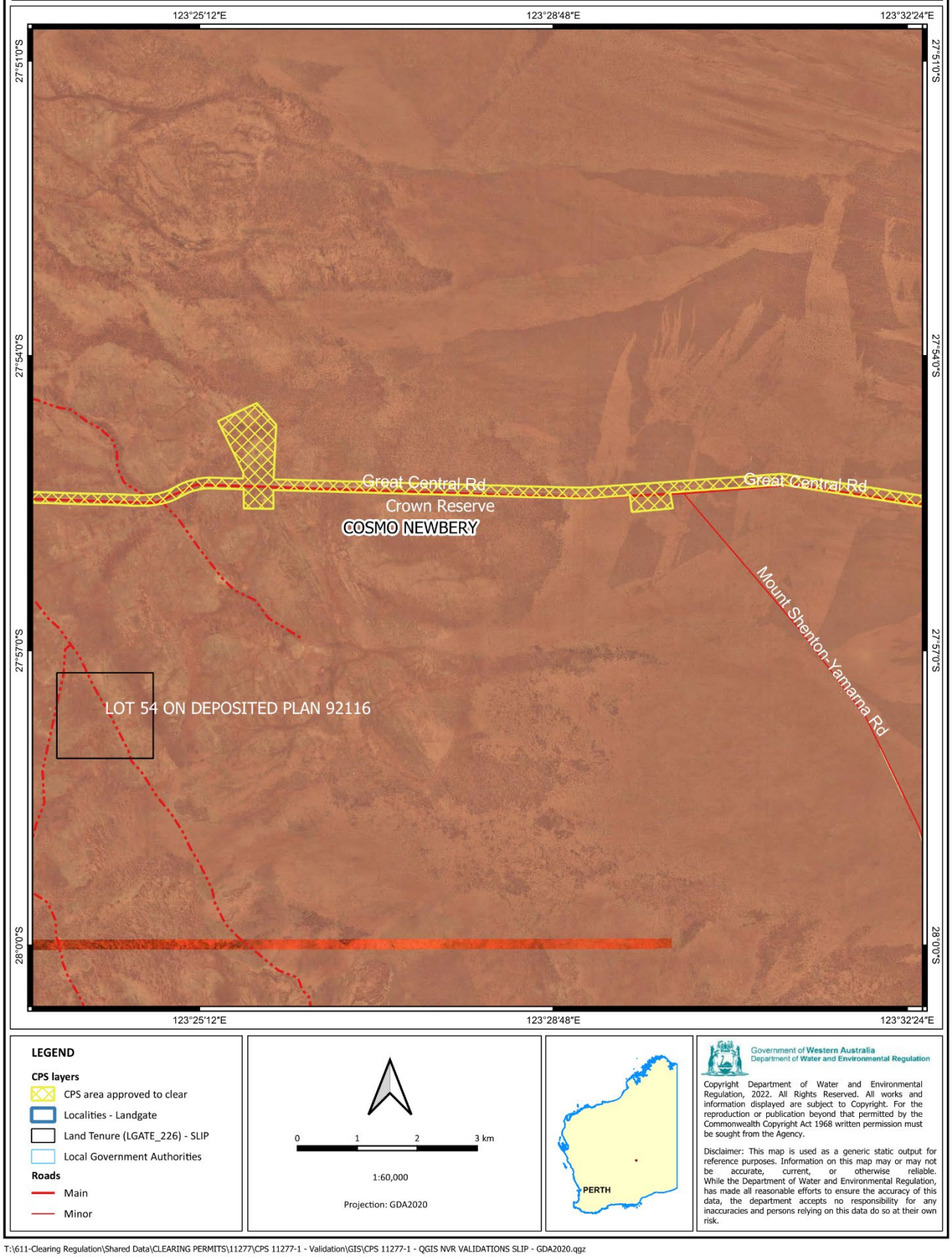

Figure 7g: Map of the boundary of the area within which clearing may occur

Figure 1h

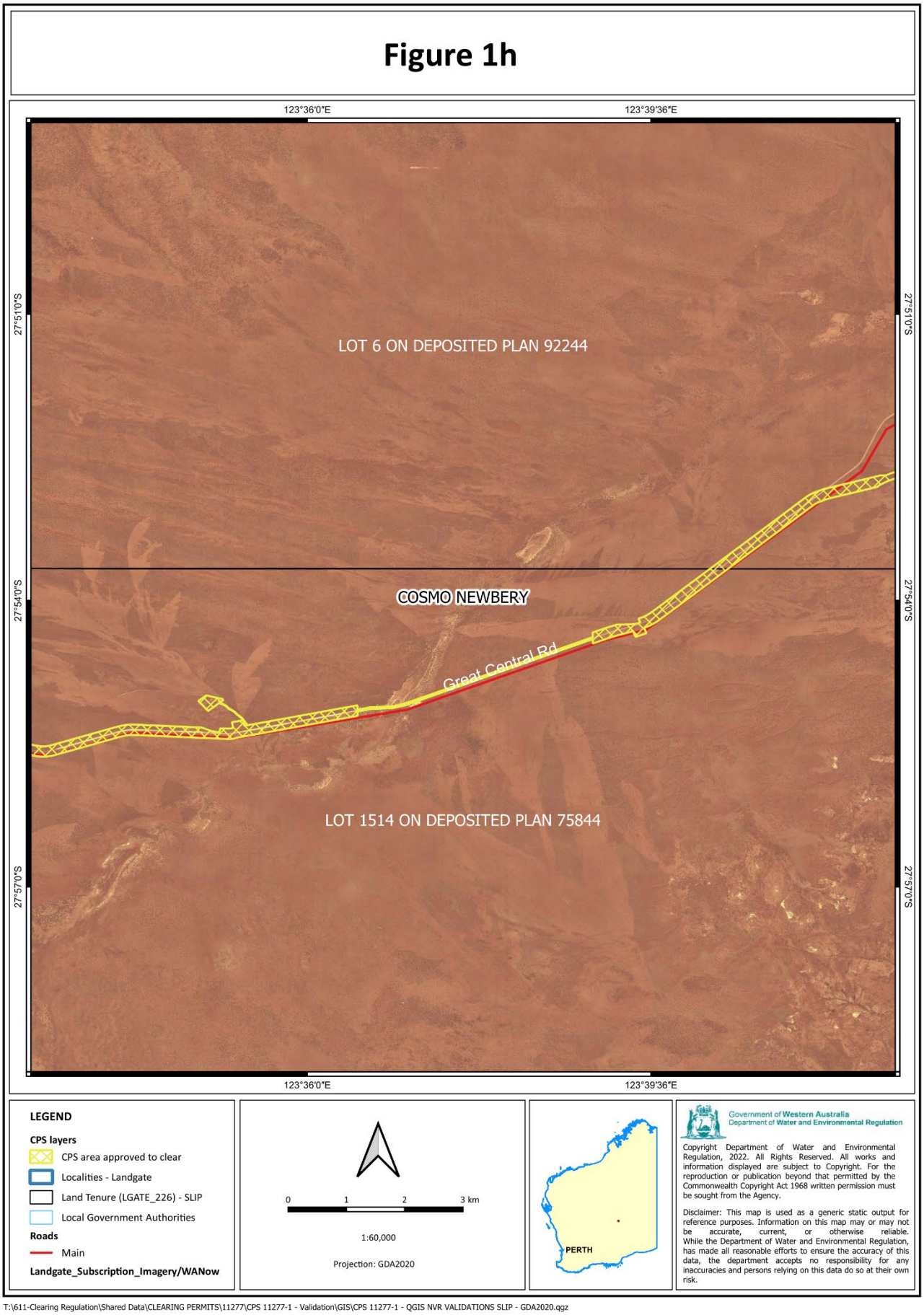

Figure 8h: Map of the boundary of the area within which clearing may occur

Figure 1i

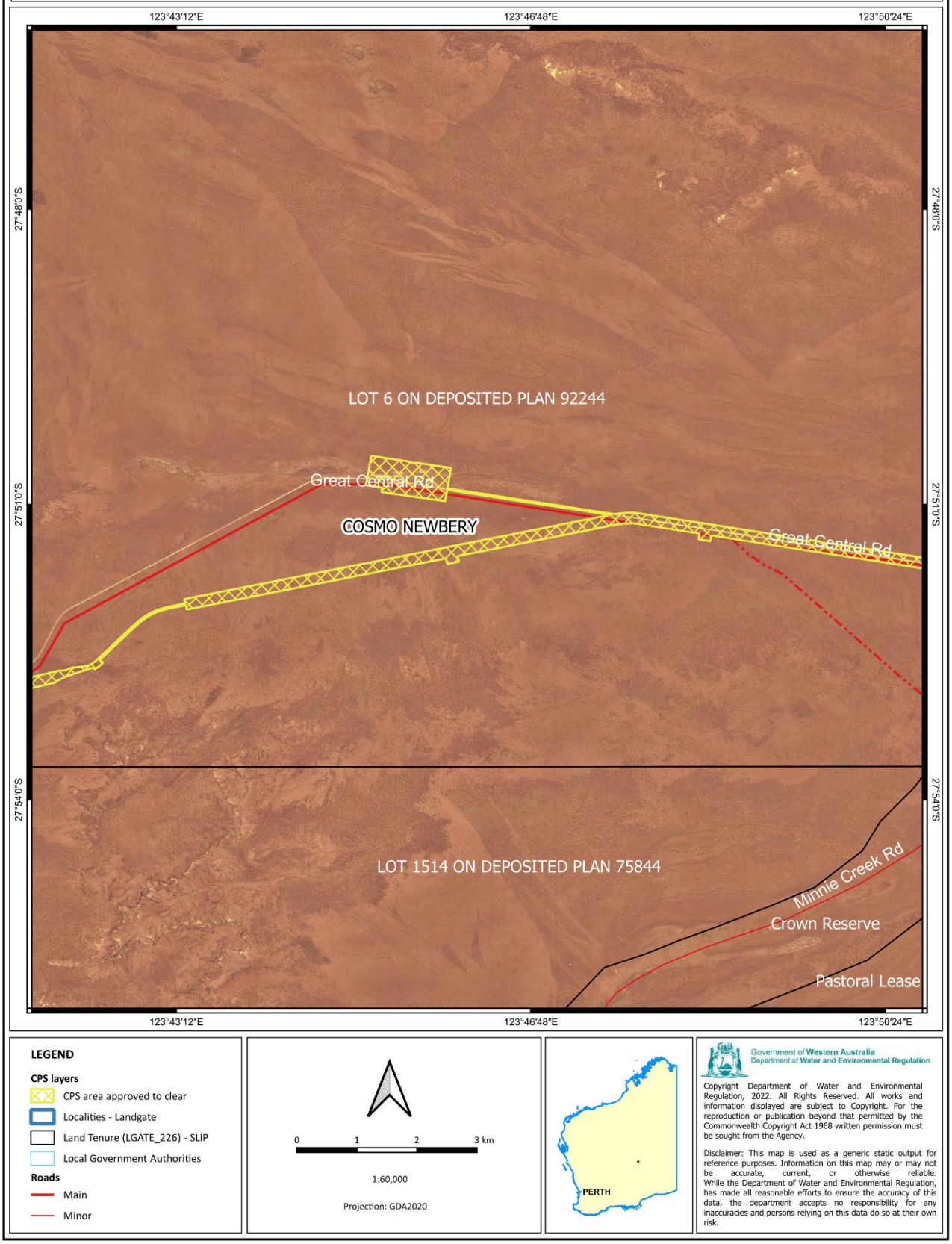

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Figure 9i: Map of the boundary of the area within which clearing may occur

Figure 1j

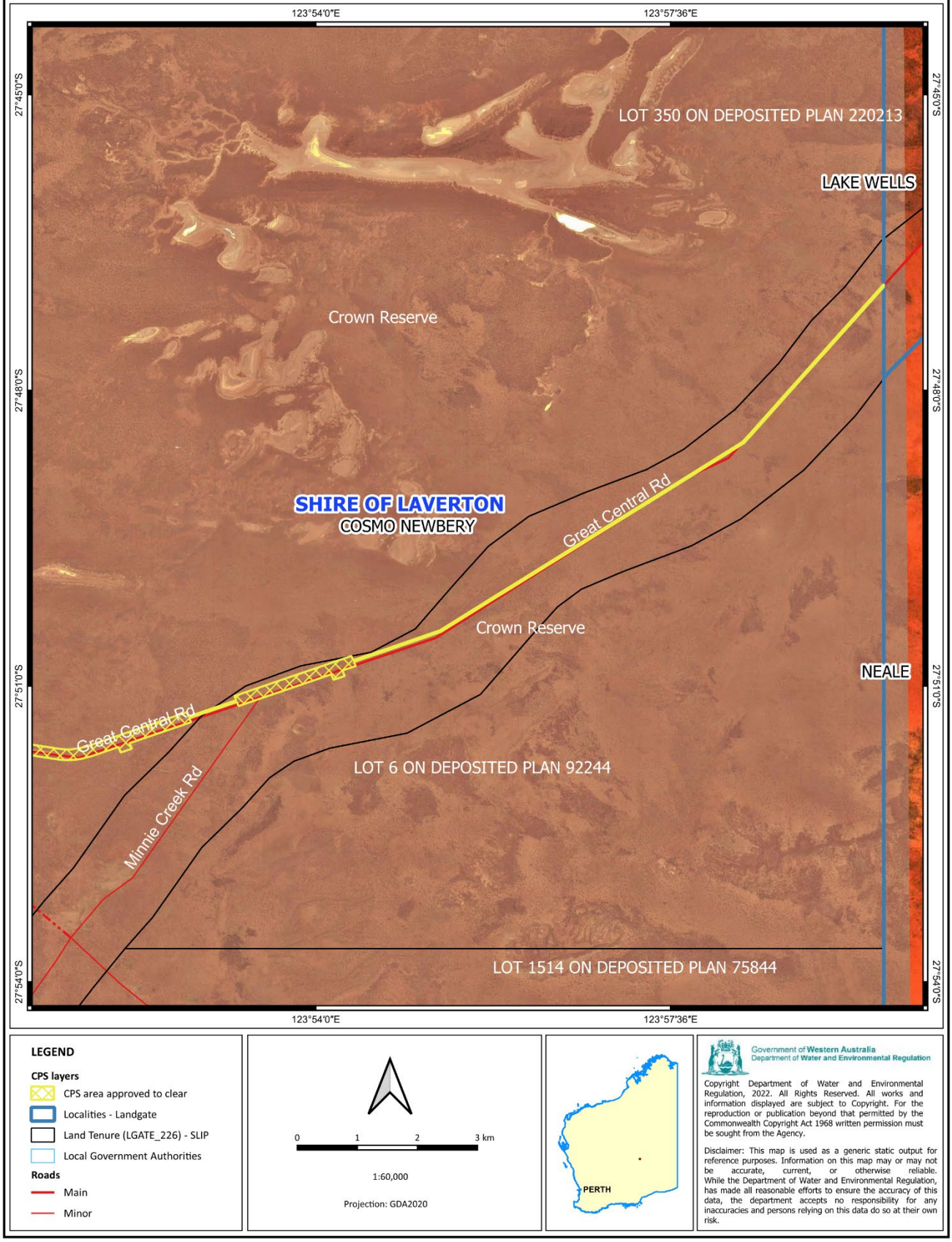

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Figure 10j: Map of the boundary of the area within which clearing may occur

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 11277/1
Permit type:	Purpose permit
Applicant name:	Main Roads Western Australia's (MRWA)
Application received:	25 September 2025
Application area:	500 hectares of native vegetation within a 4,094.73-hectare footprint
Purpose of clearing:	upgrading the road for safety and access
Method of clearing:	Mechanical clearing
Property:	Lot 1514 on Deposited Plan 75844, Cosmo Newbery Lot 351 on Deposited Plan 220213 (R 24980), Cosmo Newbery Lot 382 on Deposited Plan 66815, Cosmo Newbery Unallocated Crown Land, Cosmo Newbery Lot 49 on Deposited Plan 92113 (R 18594), Laverton Lot 49 on Deposited Plan 92113 (R 18594), Cosmo Newbery Lot 6 on Deposited Plan 92244 (R 25051), Cosmo Newbery Lot 55 on Deposited Plan 240377 (R 22032), Cosmo Newbery
Location (LGA area/s):	Shire of Laverton
Localities (suburb/s):	Laverton and Cosmo Newbery

1.2. Description of clearing activities

Main Roads Western Australia (MRWA) is proposing to upgrade sections of the Great Central Road near the Cosmo Newberry community, within the Shire of Laverton. The works will establish a 10 metre sealed surface and 10 metre pavements along approximately 153 kilometres of the Great Central Road, north of Laverton townsite (MRWA, 2025a).

Key components of the project include (MRWA, 2025a):

- upgrading 153 kilometres of existing gravel road to a sealed surface, including road construction, widening, and intersection improvements;
- development of parking and rest areas;
- establishment of material and borrow pits, including geotechnical investigations;
- construction of water bores and a turkey's nest for water supply;
- creation of laydown areas for equipment and materials;
- establishment of a construction camp; and
- installation of drainage infrastructure, including floodways, table drains, offshoot drains, and culverts.

The proposed works listed above will require clearing up to 500 hectares of native vegetation within an area of approximately 4,094.88 hectares (see Figure 1, Section 1.5).

1.3. Decision on application

Decision:	Granted
Decision date:	26 November 2025
Decision area:	500 hectares of native vegetation, 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 (department) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for:

- avoidance and minimisation actions implemented by the applicant along with consideration of alternatives;
- site characteristics and analysis of flora, fauna and ecological communities recorded/mapped within the local area (a 20 kilometres radius buffer from the application area) (see Appendix B);
- the 10 Clearing Principles set out in Schedule 5 of the EP Act (see Appendix C);
- a detailed assessment of the clearing impacts on environmental values (see Section 3.2);
- other matters considered relevant to the assessment (see Section 3.3)
- the additional information obtained during the assessment, including the findings of:
    - a biological survey prepared for MRWA by Botanica Consulting (2022);
    - a biological survey prepared for MRWA by Botanica Consulting (2023);
    - clearing assessment report prepared by MRWA (2025).

In addition to the above, the Delegated Officer also took into consideration the necessity and purpose of the proposed clearing, including the following (MRWA, 2025b):

- the transport network across Western Australia, the Northern Territory, and Queensland will be improved;
- improved access to health care and social services for the local communities;
- increased regional connectivity and reduced travel times;
- improved road safety;
- new local jobs and contract opportunities will be created along with employment of Aboriginal peoples through the Wongutha Way Alliance Program; and
- opportunities to open for local businesses to compete for interstate work and create new routes for mine sites and businesses through the middle of Australia.

The assessment identified that the proposed clearing will result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- the loss of native vegetation that may provide suitable habitat for *Leipoa ocellata* (malleefowl);
- land degradation risks including wind and water erosion;
- the increased risk of fauna mortality for species present within the application area at the time of clearing; and
- potential impacts to priority flora species *Bossiaea eremaea* and *Grevillea obliquistigma* subsp. *cullenii*.

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, have long-term adverse impacts on environmental values and can be minimised and managed to unlikely lead to an unacceptable risk to environmental values.

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;
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- inspection for active malleefowl mounds and placement of appropriate buffers;
- undertake clearing within three months of the authorised clearing being undertaken; and
- flora management measures to carry out a pre-clearance flora survey to demarcate and avoid the clearing of priority species; *Bossiaea eremaea* and *Grevillea obliquistigma* subsp. *cullenii* within the application area.

1.5. Site maps

The areas crosshatched yellow on Figures 1a-1j indicate the areas authorised to be cleared under the granted clearing permit.

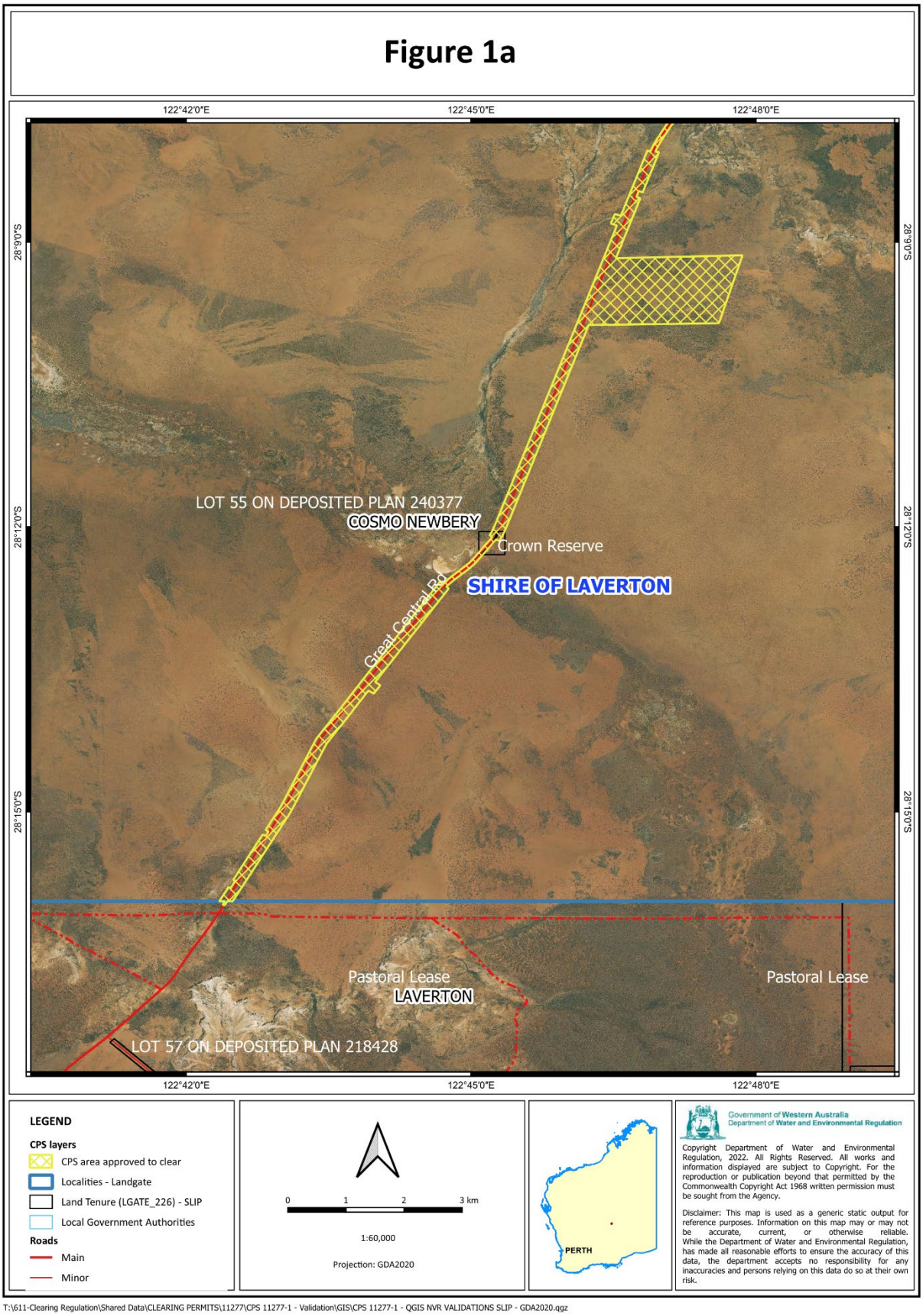

Figure 1a. Map of the application area

Figure 1b

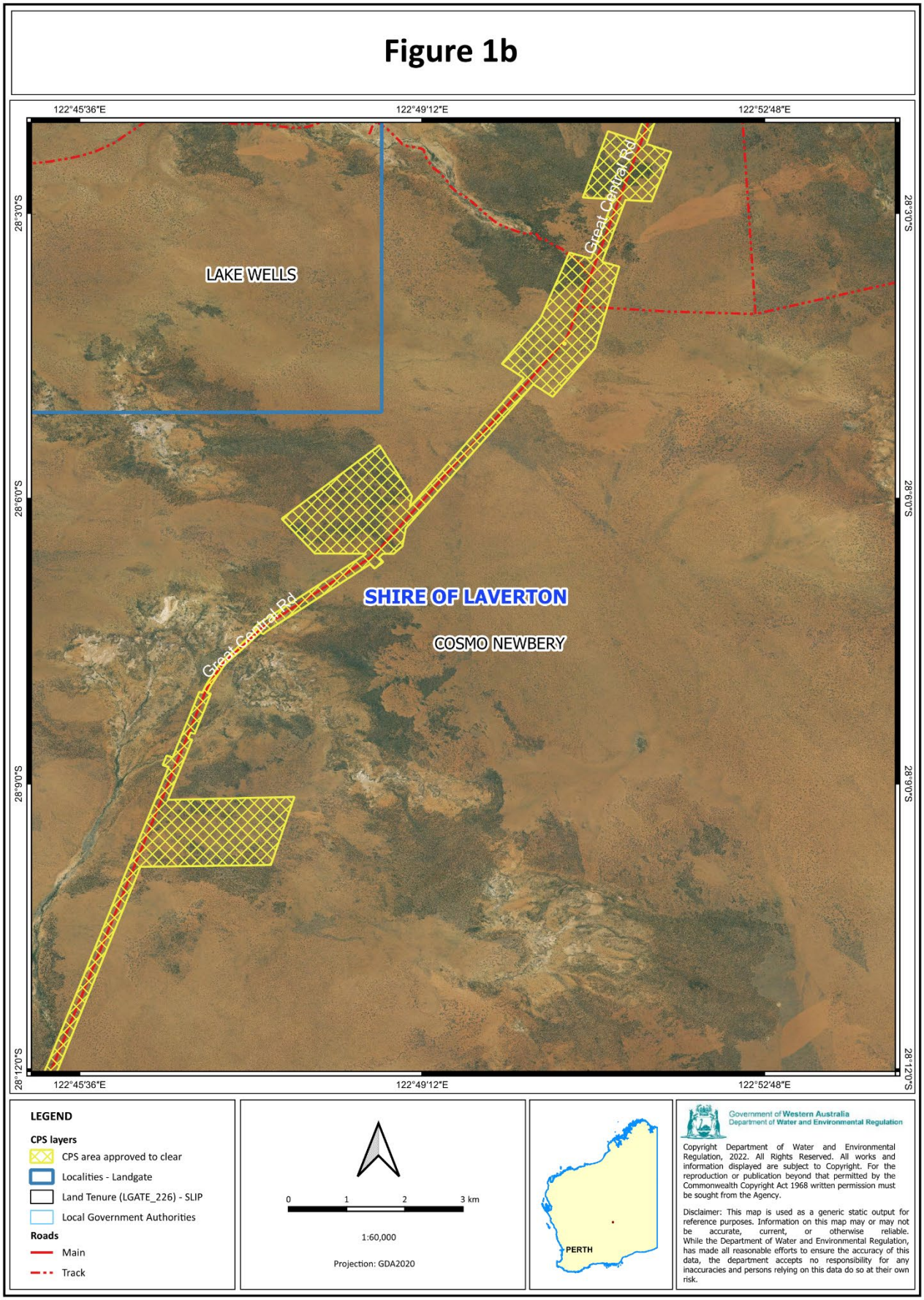

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Figure 1b. Map of the application area

Figure 1c

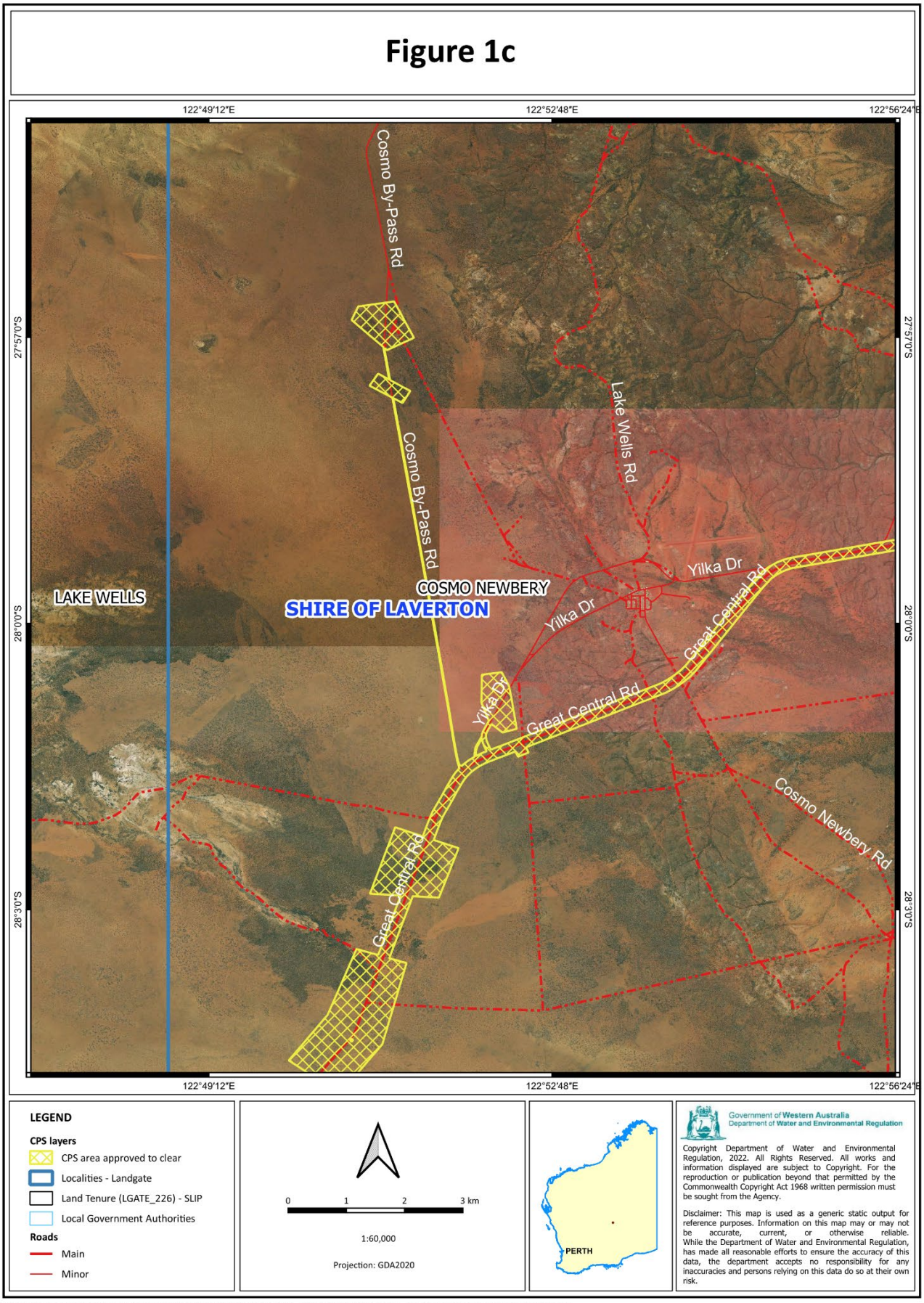

Figure 1c. Map of the application area

Figure 1d

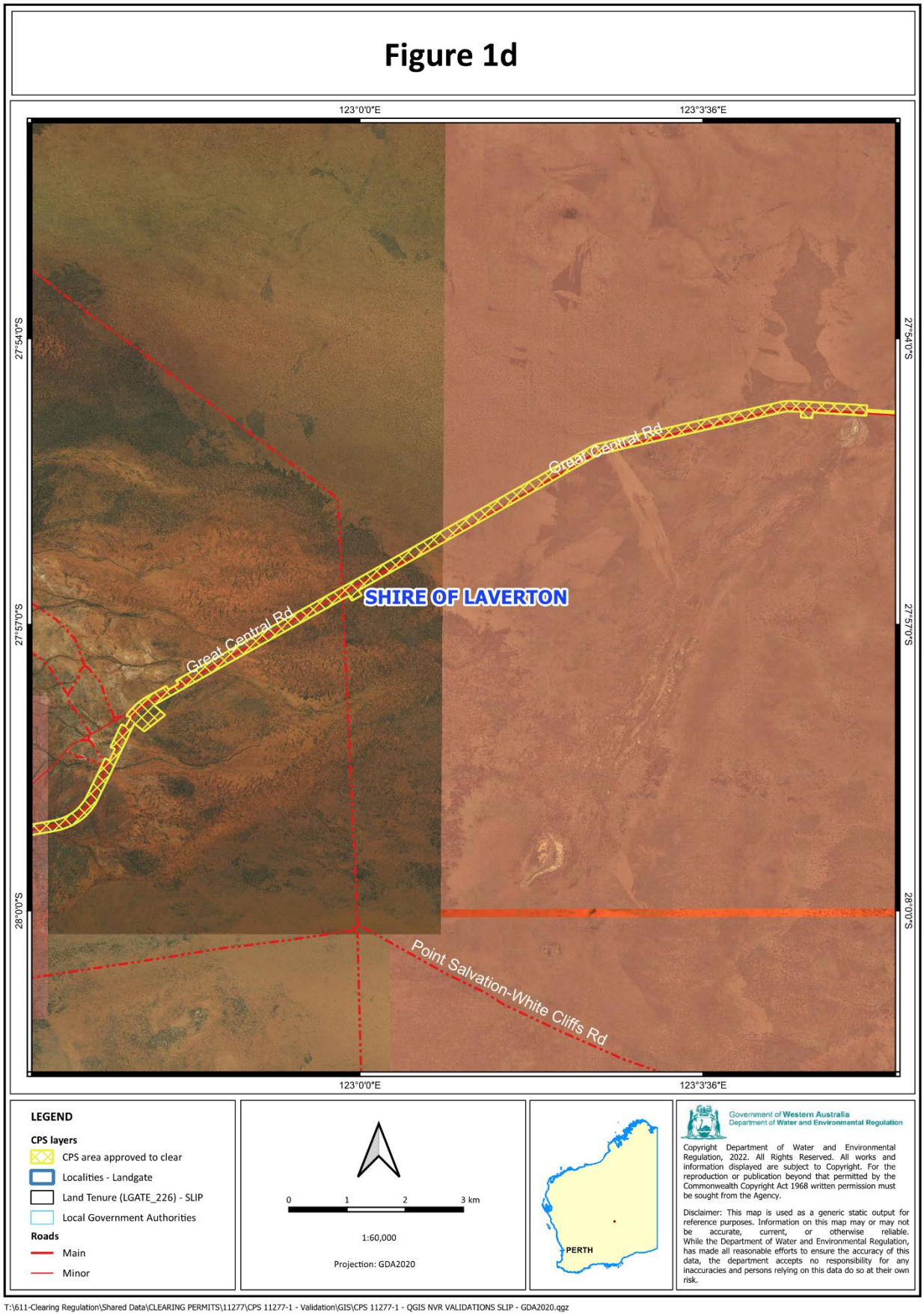

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Figure 1d. Map of the application area

Figure 1e

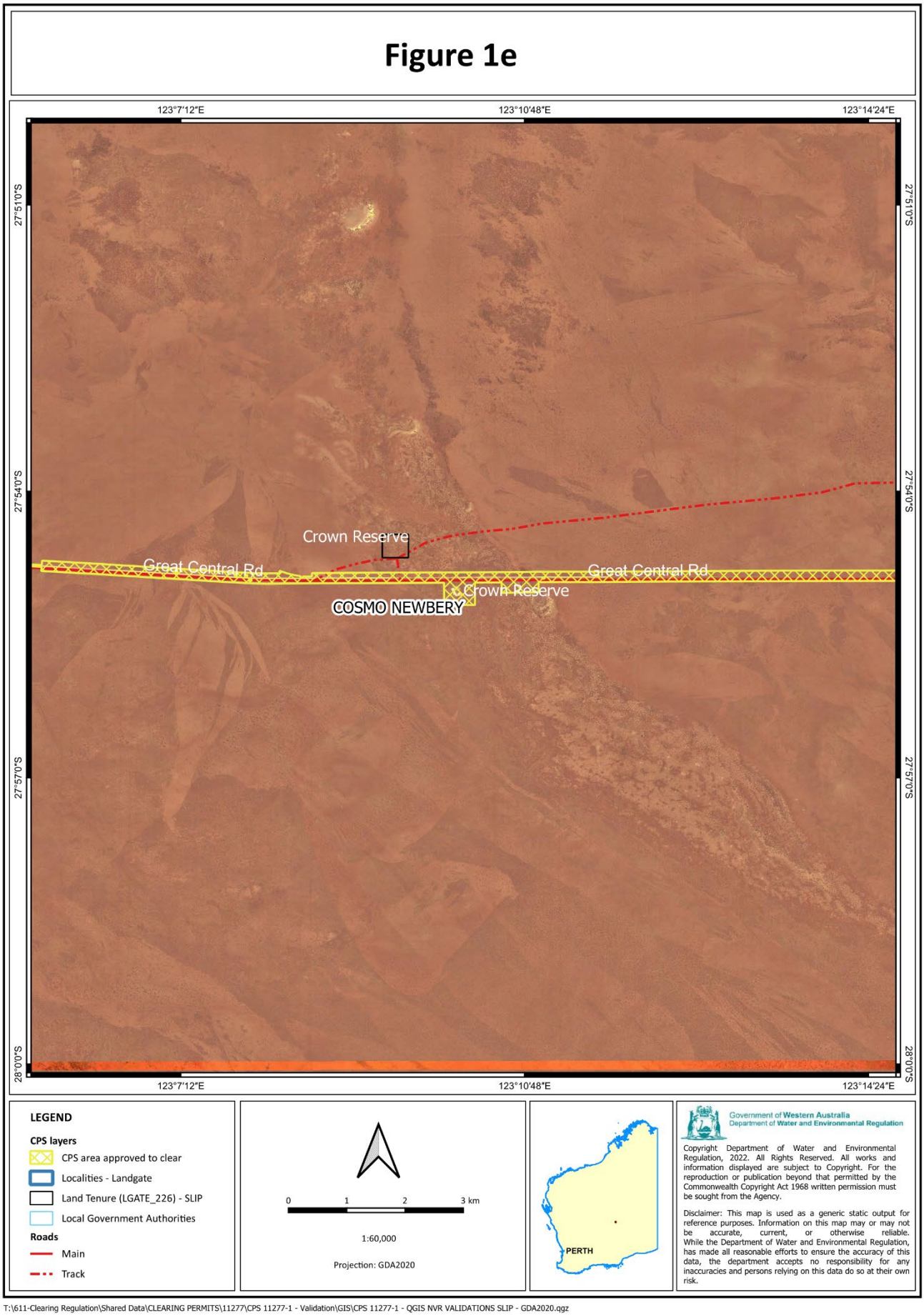

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Figure 1e. Map of the application area

Figure 1f

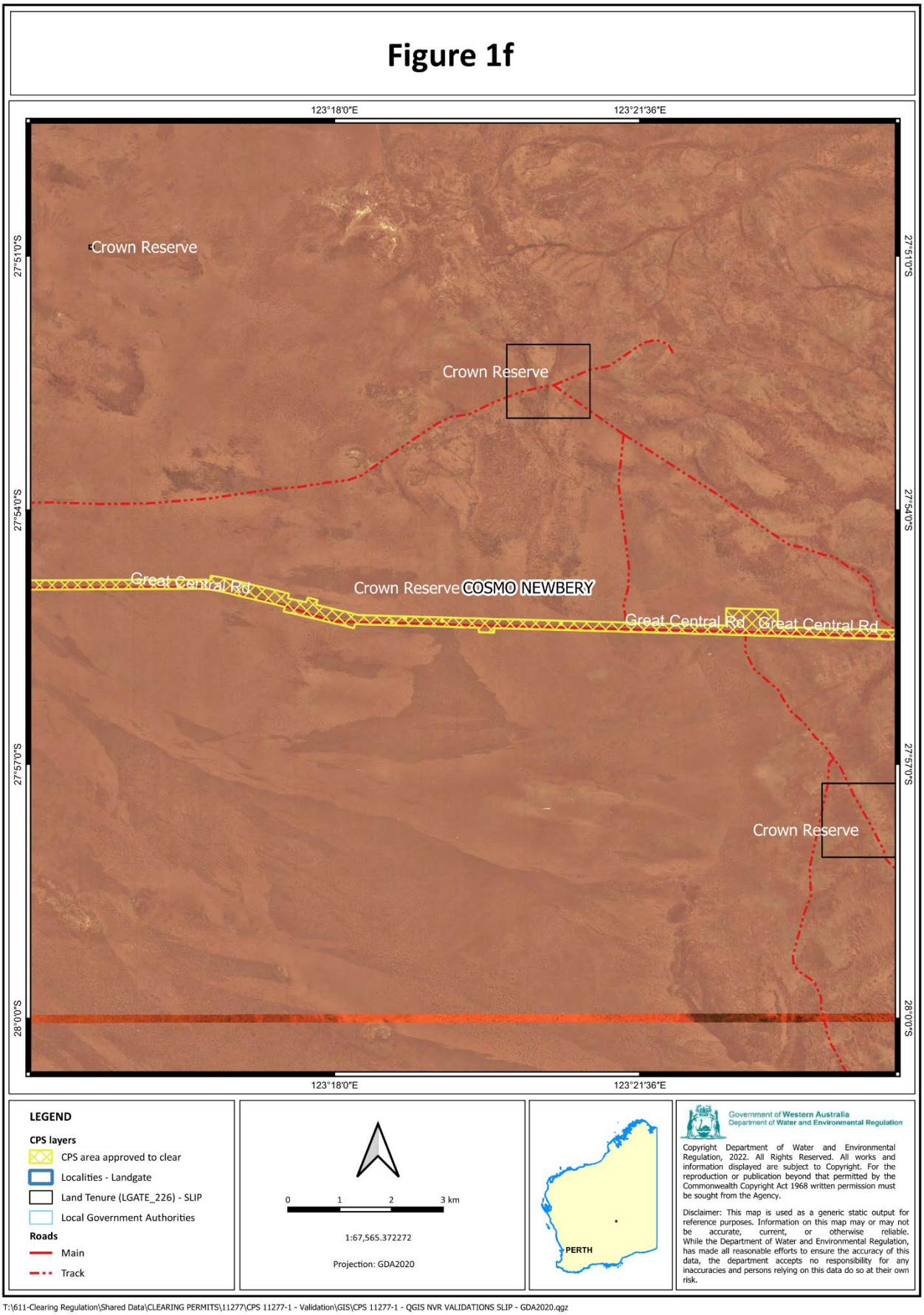

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Figure 1f. Map of the application area

Figure 1g

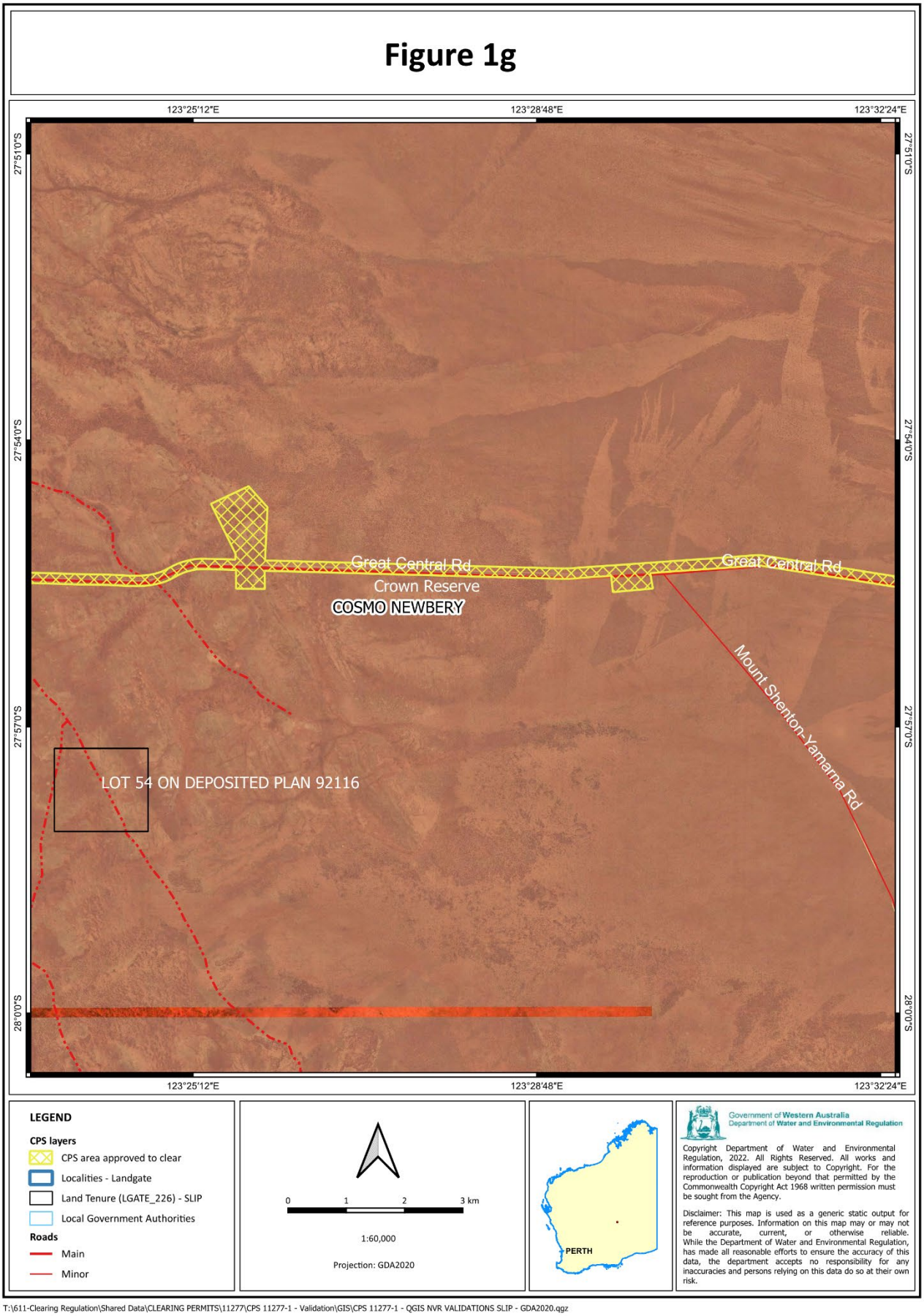

Figure 1g. Map of the application area

Figure 1h

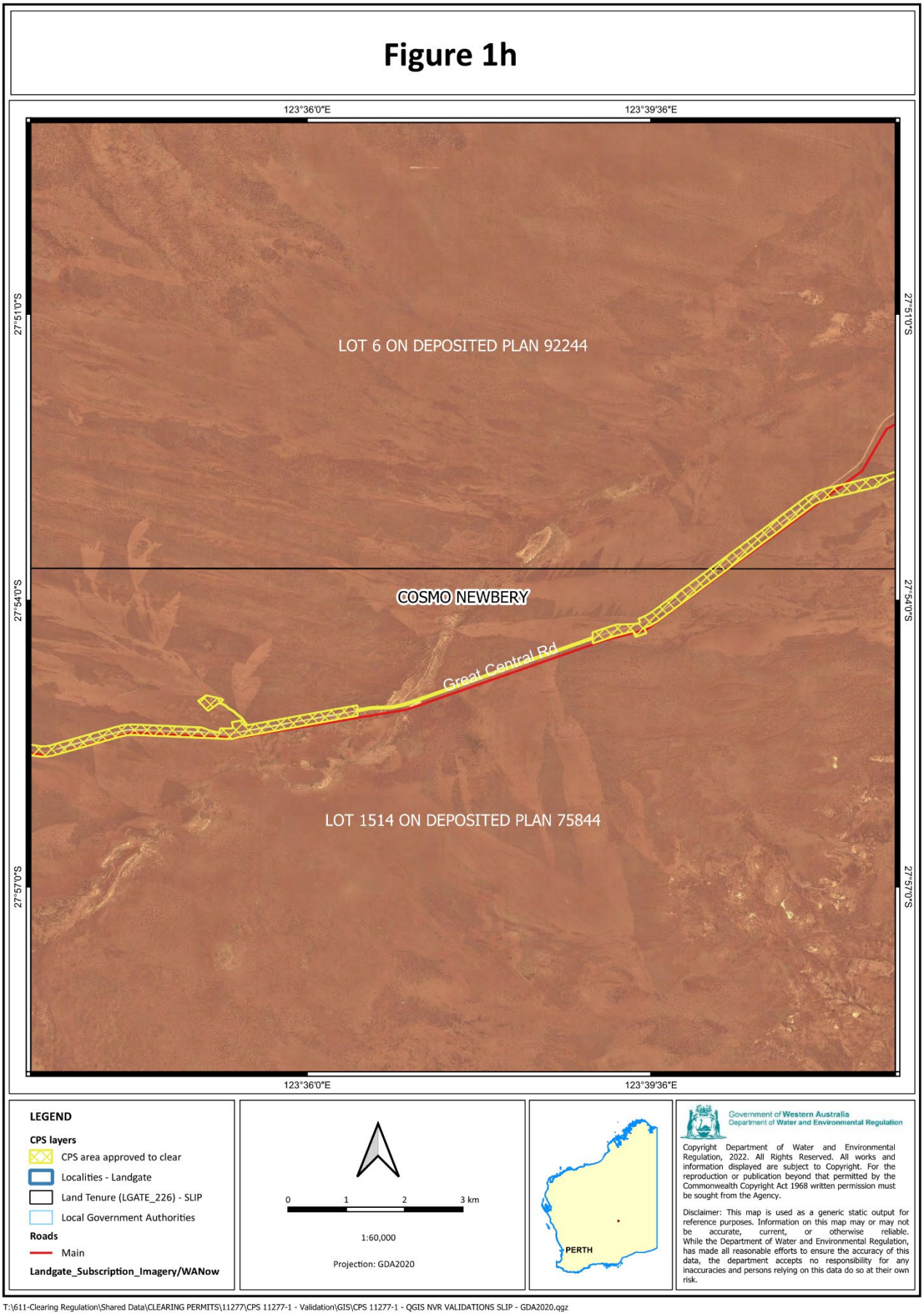

Figure 1h. Map of the application area

Figure 1i

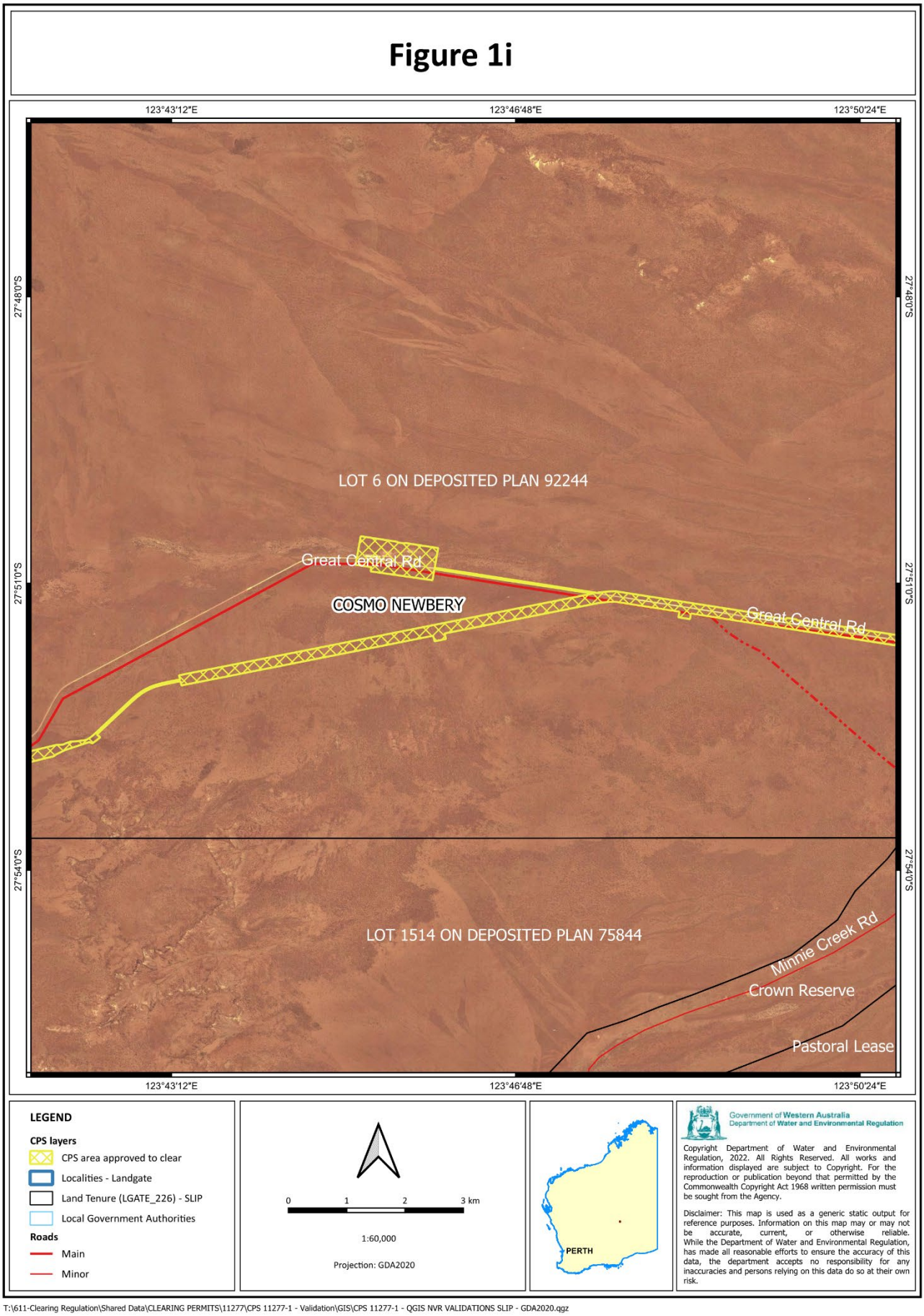

Figure 1i. Map of the application area

Figure 1j

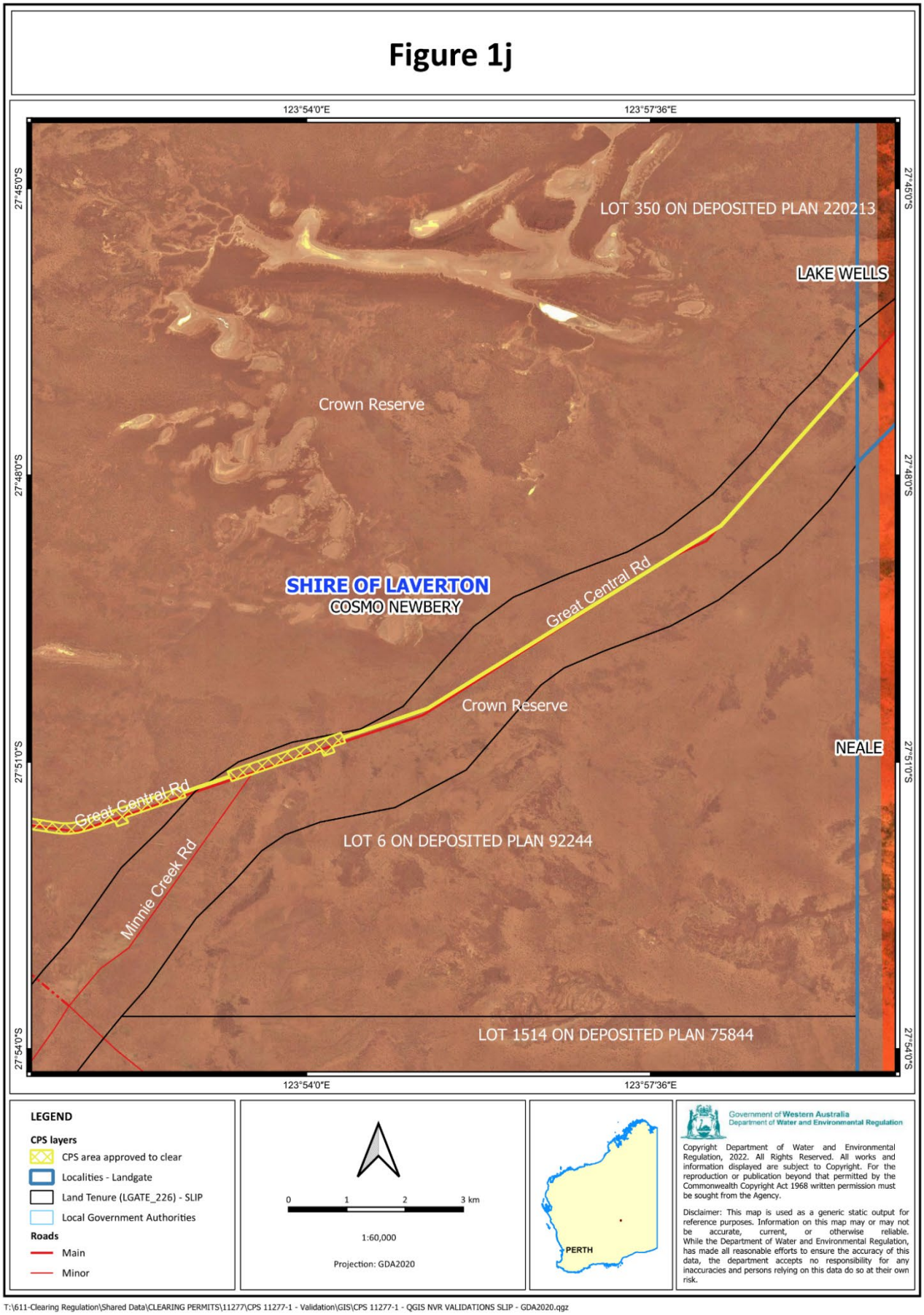

Figure 1j. Map of the application area

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)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Soil and Land Conservation Act 1945* (WA)

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, 2020)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Main Roads provided detailed information outlining the consideration of alternative options, as well as the avoidance and mitigation measures implemented to minimise environmental impacts. (MRWA, 2025c).

The following alternatives were considered by MRWA (MRWA, 2025c):

- Option to not upgrade the road: This alternative would avoid vegetation clearing but is likely to result in poorer safety outcomes, including an increased risk of serious injuries or fatalities, as well as continued deterioration of the state road asset.
- Retention of frangible vegetation in clear zones: while MRWA typically retains frangible vegetation within designated clear zones, this project does not include the establishment of clear zones. Clearing will be limited to what is necessary for the road formation, meaning the retention of frangible vegetation is not applicable to this proposal.
- Reducing speed limits to minimise clearing: lowering speed limits could reduce the extent of clearing; however, this must be balanced against safety considerations (such as driver fatigue) and freight efficiency. Speed limits are critical for the safe and efficient operation of road networks, and their application is based on national standards and multiple factors, including road conditions, driver behaviour, and overall design. Reducing speed limits below these standards is generally not supported, as it can lead to driver frustration, impatience, fatigue, and unsafe behaviour. The environmental benefits of reducing speed limits do not outweigh the negative impacts on freight efficiency and road user safety. Therefore, reducing speed limits to avoid vegetation clearing is not proposed for this project.

Design and management measures implemented by MRWA to avoid and minimise vegetation clearing impacts include (MRWA, 2025c):

- aligning the proposed clearing along the existing gravel road, which has previously been cleared.
- locating material pits and water bores within areas that are already disturbed or cleared.
- actively minimising additional clearing throughout the implementation of the proposed works.

During the assessment, the department requested that MRWA provide further details on measures taken to avoid and/or mitigate significant environmental impacts associated with the proposed clearing. MRWA has advised the following:

- The proposed 500 hectares of clearing encompasses all components necessary for road construction, including material pits, laydown areas, parking/rest areas, construction camps, and water sources.

- There are no existing material sources available to support construction activities. To minimise clearing for pit areas, geotechnical investigations will be undertaken to identify and define the specific areas required.
- The application area has been deliberately sized to allow flexibility, as investigations for material areas have not yet been completed.
- The road design will comply with the Main Roads Design Manual and Austroads Guide to Road Design, which set minimum standards for safety, geometry, and drainage for sealed rural highways.
- The proposed seal and pavement widths are standard for this road classification and traffic volumes, ensuring heavy vehicles can safely pass at designated speeds with adequate sight distance and recovery zones.
- The road formation includes necessary batters, longitudinal drains, and associated infrastructure; clearing is not limited to the 10-metre pavement but also accounts for earthworks, drainage, and road furniture.
- The selected alignment generally follows the existing corridor to minimise earthworks, vegetation clearing, heritage impacts, and to maintain existing drainage patterns.
- No areas of significant environmental value were identified for avoidance; however, MRWA has worked closely with Traditional Owners to ensure all heritage sites are protected.
- MRWA has committed to conducting Malleefowl searches prior to any clearing, as outlined in the supporting Clearing Assessment Report.
- Construction of appropriately sized culverts, floodways, and energy dissipation structures.
- Staged clearing and construction sequencing to minimise exposure time of bare soils.
- Reinstatement of table and offshoot drains to pre-construction functionality or better.
- Timing will be staged to ensure exposed surfaces are stabilised as soon as possible after clearing.

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.

The assessment against the clearing principles (see Appendix C) identified that the impacts of the proposed clearing present a risk to land and water resources and potential risk of impacting on Malleefowl habitat. 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 application area is located within Great Victoria Desert bioregion. The vegetation of the Great Victoria Desert is well represented across Western Australia and is classified as ‘least concern’ in terms of conservation status (Government of Western Australia, 2016). Vegetation communities within the application area are typical of the surrounding region and are not considered to exhibit unusual diversity.

According to the surveys (Botanica, 2022; Botanica, 2023), eleven different vegetation types were recorded within the application area. These are categorised into vegetation groups. A detailed description of the vegetation types are described under Appendix B.1. The vegetation groups are:

- Acacia forest and woodland
- Acacia open woodland
- Casuarina forests and woodland
- Eucalyptus woodland
- Mallee woodland and shrubland
- Eucalyptus open woodland

All vegetation types identified are common, with the dominant vegetation type being open mallee woodland and shrubland. The vegetation condition within the application area ranges from ‘degraded to very good’ with majority (59%) in ‘good’ condition (Trudgen, 1991). Disturbance in the survey area includes wildfire events, possibly five to ten years ago; roads, tracks and associated infrastructure; localised vegetation clearing and cumulative historical impacts. No significant weed presence was observed within the survey area (Botanica, 2022; Botanica, 2023).

Database searches indicate that 10 conservation-significant flora species have been recorded within a 20-kilometre radius of the local area, all of which are listed as Priority flora species. Historical records show that *Comesperma viscidulum* (Priority 4) was previously recorded within the application area, while *Melaleuca apostiba* was recorded

approximately 0.77 kilometres away. A likelihood of occurrence assessment was undertaken for conservation-significant flora within the application area. Based on species distribution and preferred habitat characteristics including soil and vegetation types mapped within the application area, the assessment concluded that the application area may provide suitable habitat for six conservation-significant flora species.

Botanica conducted a detailed flora and vegetation survey, including a targeted flora assessment, from 12 to 13 December 2021. This initial survey covered approximately 25 per cent of the application area and involved the establishment of 15 quadrats. A subsequent single-phase detailed flora and vegetation survey was undertaken from 2 to 3 August 2023, covering the remaining 75 per cent of the application area. Across both surveys, a total of 33 vegetation quadrats (50 m × 50 m) were assessed within the survey area, comprising 20 quadrats originally installed by Botanica in 2020 and re-scored during the 2023 survey (Botanica, 2022; Botanica, 2023).

The flora species considered likely to occur within the application area from the initial desktop assessment are discussed below in further detail.

- *Comesperma viscidulum* (Priority 4), previously recorded in the region, is described by the Department of Biodiversity Conservation and Attractions (DBCA) as a shrub growing up to 0.7 metres in height. This species occurs within the Local Government Areas of Kalgoorlie-Boulder, Laverton, Menzies, Ngaanyatjarraku, and Wiluna. The WA Herbarium lists 21 recorded occurrences of this species (WAH, 1998-).

  According to the survey reports (Botanica, 2022; Botanica, 2023), historical records date back to 2000 and are broadly described as 'east of Cosmo Newberry' was identified within the application area. These records may lack GPS accuracy, making their exact locations uncertain. Suitable habitat for this species is present within the application area; however, it was not recorded during the survey. *Comesperma viscidulum* is a non-cryptic, perennial species that was actively searched for during the field assessment but not located (Botanica, 2022; Botanica, 2023). Some historical records note the species as 'common.' It typically flowers in late spring and early summer (WAH, 1998-). Although the survey timing may have preceded flowering, the species' non-cryptic nature suggests it would have been identifiable if present. Florabase records indicate that this species was locally common from number of recorded locations, and 2 to 5 plants were recorded from few records as well. Based on the above and considering the habitat suitable for this species is present in the local and regional areas, If this species was to occur within the application area, the impact to this species is not likely to be significant.

- *Bossiaea eremaea* (Priority 3) is a divaricately branched, spreading shrub reaching up to 1.2 metres in height. Flowers are red, yellow, purple, and brown, occurring from July to September. It typically grows in deep red sand. The species is distributed within the Eremaean Botanical Province, specifically in the Murchison and Great Victoria Desert IBRA bioregions. According to the WA herbarium, there are 19 records of this species identified with four records within the Laverton region (WAH, 1998-).The desktop assessment undertaken as part of the biological survey (Botanica, 2022; Botanica, 2023) prior to fieldwork indicated that this species was likely to occur within the application area. However, subsequent field investigations concluded that its presence is only considered possible. *Bossiaea eremaea* is a non-cryptic, perennial species that was specifically targeted during the field assessment but was not detected (Botanica, 2022; Botanica, 2023). Florabase records indicate that this species frequency as uncommon and very localised. If this species was to occur within the application area, its removal may be significant.

- *Conospermum toddii* (Priority 4) is a spreading shrub typically 1.2–2 metres high, producing white to pale yellow flowers from July to October. The species is generally associated with yellow sand on sand dunes (WAH, 1998–); however, this preferred habitat was absent within the survey area. WA Herbarium records indicate that *Conospermum toddii* has been documented at 56 locations across the Kalgoorlie-Boulder, Laverton, Leonora, and Menzies local government areas (WAH, 1998–). It is a non-cryptic, perennial species that was actively targeted during the field assessment but was not detected. The desktop assessment undertaken as part of the biological survey (Botanica, 2022; Botanica, 2023) prior to the field survey suggested that this species could potentially occur within the application area. However, subsequent field investigations determined that its presence within the area is unlikely.

- *Grevillea obliquistigma* subsp. *cullenii* (Priority 3) is a spreading shrub typically 0.3–0.7 metres high, with cream flowers occurring in March. The species is associated with red sandy soils and is perennial (WAH, 1998-). During the survey it was also identified that potential habitat for this species may have been impacted by the fire but the species was identified as possible to occur within the application area. According to WA Herbarium records, there are five known occurrences of this subspecies, distributed across Laverton, Perenjori, and Yalgoo (WAH, 1998-). Suitable habitat is present within the application area; however, no individuals were recorded during the survey (Botanica, 2022; Botanica, 2023) Given the limited number of records of this species identified, any potential impact on this species maybe significant.

- *Sauropus sp. Woolgorong* (M. Officer s.n. 10/8/94) (Priority 3) is a perennial shrub typically 0.3–1 metres high, with yellow flowers occurring in June. The species is associated with red sandy soils on plains and is

known from isolated records within the region (WAH, 1998-). Suitable habitat is present within the application area; however, no individuals were recorded during the survey, and some potential habitat has been impacted by fire (Botanica, 2022; Botanica, 2023). This species is distributed across the Cue, Greater Geraldton, Laverton, Leonora, Meekatharra, Murchison, Ngaanyatjarraku, Sandstone, and Wiluna local government areas. WA Herbarium records indicate 36 occurrences, generally noted as uncommon or represented by a single plant (WAH, 1998-). A pre-survey desktop assessment identified the species as potentially occurring within the application area; however, post-survey findings concluded its presence is unlikely, with no records detected (Botanica, 2022; Botanica, 2023).*Melaleuca apostiba* (Priority 3) is a spreading shrub up to 2 metres high, with grey fissured bark and dull green leaves, producing red flowers in June. A historical record of this species occurs approximately 0.77 kilometres from the application area, which lies within its known range. According to the WA Herbarium (WAH, 1998–), the species has been recorded at 14 locations across the Laverton and Menzies LGAs, typically growing in deep red sands. The nearby record dates back to 1963, and its precise location is likely inaccurate. A pre-clearance desktop assessment identified the species as previously recorded within the application area, while post-survey findings concluded its presence is possible, though no individuals were detected (Botanica, 2022; Botanica, 2023). The species is considered common, with thousands of plants recorded across its range. Based on this information, if *Melaleuca apostiba* occurs within the application area, the impact of clearing is unlikely to be significant.

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A review of available databases confirmed that no Priority Ecological Communities (PECs) or Threatened Ecological Communities (TECs) are recorded within or in proximity to the application area (GIS Database). This finding was supported by the results of the detailed flora and vegetation surveys conducted by Botanica in 2022 and 2023, which reported that no vegetation communities within or adjacent to the application area meet the criteria for classification as a PEC or TEC.

Furthermore, the biological survey concluded that the vegetation within the survey area does not exhibit characteristics of highly disturbed communities nor does it provide critical refuge or significant ecological functions that would elevate its conservation value (Botanica, 2022; Botanica, 2023).

Conclusion

The native vegetation proposed to be cleared comprises of a vegetation type and flora taxa typical to the region. However, based on the assessment, the application area contains suitable habitat for six conservation-significant flora species. Although the flora survey did not record any of these species within the survey area, four species are considered likely to occur within the application footprint. Given the size of the proposed clearing area, it is unlikely that the surveys captured the entire extent of the application area. The assessment concludes that, should *Bossiaea eremaea* or *Grevillea obliquistigma* subsp. *cullenii* occur and be impacted by clearing, the impact would be significant. To mitigate this risk, a pre-clearance survey is required to confirm the presence or absence of these species within areas proposed for clearing. If either species is identified, they must be avoided, with a minimum buffer of 20 metres applied. This approach is considered sufficient to manage potential impacts.

The proposed clearing may introduce and spread weeds into the surrounding vegetation which may impact on habitat quality. Weed management practices will help reduce this risk.

Conditions

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

- avoid, minimise to reduce the impacts and extent of clearing; and
- take hygiene steps to minimise the risk of the introduction and spread of weeds.
- flora management measures to carry out a pre-clearance flora survey to demarcate and avoid the clearing of priority species; *Bossiaea eremaea* and *Grevillea obliquistigma* subsp. *cullenii* within the application area

3.2.2. Biological values (fauna) - Clearing Principles (b)

Assessment

The biological surveys conducted by Botanica in 2022 and 2023 identified eight distinct fauna habitat types within the application area. The eight fauna habitat types recorded within the application area are as follows (Botanica, 2022; Botanica, 2023):

- Clay-Loam Plain: *Acacia* Woodland – 288.6 hectares

    - This habitat was described as ground not especially suited to burrowing species, low diversity vegetation strata supporting low avifauna assemblage and low vegetation density and low leaf litter.
- Sandplain: *Acacia* woodland over *Triodia* hummock grassland – 971.1 hectares
    - This habitat was described as ground suited to burrowing species, low diversity vegetation strata supporting low avifauna assemblage and low to moderate vegetation density and low leaf litter.
- Sandplain: *Acacia/ Allocasuarina* woodland over *Triodia* hummock grassland – 45.1 hectares
    - This vegetation was described as ground suited to burrowing species, moderate diversity vegetation strata supporting moderate avifauna assemblage and moderate vegetation density and low leaf litter.
- Sandplain: *Eucalyptus* mallee woodland over *Triodia* hummock grassland – 957.8 hectares
    - This habitat was described as ground suited to burrowing species, low diversity vegetation strata supporting low avifauna assemblage, low vegetation density and low leaf litter and hummock grass provides good habitat for small fauna
- Sandplain: *Eucalyptus* woodland over *Acacia* shrubland over *Triodia* hummock grassland – 249 hectares
    - This habitat type was described as ground suited to burrowing species, low diversity vegetation strata supporting moderate avifauna assemblage and low to moderate vegetation density and low leaf litter
- Sandunes: *Eucalyptus* woodland/ mallee woodland over *Triodia* hummock grassland – 19.3 hectares
    - This habitat type was described as ground suited to burrowing species, low diversity vegetation strata supporting moderate avifauna assemblage, low to moderate vegetation density and low leaf litter.
- Clay loam plains: Clay-loam plain comprising of *Acacia* woodland over low mixed shrubs – 223 hectares
    - This habitat type was described as ground not especially suited to burrowing species, moderately diverse vegetation strata supporting diverse avifauna assemblage and moderately dense vegetation and low to moderate leaf litter.
- Sandplains - Sandplain comprising of *Acacia/ Eucalypt* Woodland/ Mallee woodland over low mixed shrubs and spinifex grassland – 1413 hectares
    - Substrate very well suited to a variety of burrowing small mammals and reptiles and less diverse vegetation strata supporting a less diverse avifauna assemblage.

According to available databases, four species of conservation significant fauna have been recorded within the 20-kilometre radius local area. A likelihood of occurrence assessment identified that these four species of conservation significant identified from the local area had the potential to occur within some sections of the application area and was considered further.

- *Dasycercus blythi* (brush-tailed mulgara) is listed as a Priority 4 species by DBCA. This small carnivorous marsupial occupies a variety of arid habitats but is most commonly associated with mature hummock grasslands dominated by spinifex species, particularly *Triodia basedowii* and *Triodia pungens*. Individuals typically maintain overlapping home ranges of approximately one to 14.4 hectares, and their distribution may be influenced by better-watered areas such as paleo-drainage systems or drainage lines within sandplain and dune environments. The brush-tailed mulgara is nocturnal, sheltering in burrows during daylight hours (Woolley, 2016). Within the local area, three records of this species exist, with the closest located approximately 13.13 kilometres from the application area. While sandplain habitats within the survey area provide potential habitat for this species, no individuals were detected during field surveys. Should the species occur within the application area, the implementation of directional clearing conditions under the permit would help minimise the risk of harm to individuals during clearing activities.

- *Falco peregrinus* (Peregrine Falcon) may occasionally overfly the application area. According to the Australian Museum (2020), this species occurs across a wide range of habitats, from rainforests to arid zones, and at most altitudes, from coastal regions to alpine areas. Peregrine Falcons require abundant prey and secure nesting sites, typically favouring coastal and inland cliffs or open woodlands near water, though they are also known to nest on tall urban structures. The species is widespread, highly mobile, and utilises open airspace for foraging. While the application area provides potential foraging habitat, records in the locality are rare, and the species is likely to occur only occasionally as part of a much larger home range.

- *Sminthopsis psammophila* (Sandhill Dunnart) is listed as Endangered and occurs in isolated populations within the southwestern and southeastern Great Victoria Desert and the Eyre Peninsula in South Australia (DPaW, 2016). In Western Australia, the species is typically associated with habitats comprising tall and low open mallee with emergent marble gum (*Eucalyptus gongylocarpa*), over mixed shrublands and spinifex on yellow or yellow-orange sands. Preferred habitats generally feature mixed-sized spinifex hummocks dominated by stage two and three growth, although individuals have also been recorded in stage 2–5 hummocks of *Triodia desertorum, T. basedowii*, and *T. rigidissima* (DPaW, 2016). Sandhill Dunnarts utilise spinifex hummocks for shelter and nesting, either by burrowing near or within the hummock centre or by

constructing nest chambers from spinifex needles, which provide effective refuge from predators (DPaW, 2016).

The closest record of the species is approximately 9.21 kilometres from the application area, with three records in the broader locality. Based on the survey, the application area lies outside the species' known range, and available habitat is considered marginal and unsuitable. Field assessments confirmed limited presence of old-growth spinifex within the application area, and the species is therefore considered unlikely to occur (Botanica, 2022; Botanica, 2023).

- *Leipoa ocellata* (Malleefowl), listed as Vulnerable, typically inhabits semi-arid to arid shrublands and lowlands dominated by mallee and/or acacias, requiring sandy substrates and abundant leaf litter for breeding (DPaW, 2016). This species forages on the ground in leaf litter or among low vegetation, such as herbs and shrubs. While occasional transients may occur in the broader region, no evidence of Malleefowl was recorded during the survey.

  Nesting habitat occurs in light sandy soil and where leaf litter is abundant, for the construction and heating of the incubation mound (DEWHA, 2017). Leaf litter within surveyed quadrats ranged from 5 per cent to 20 per cent, except for Q6-N, which had approximately 70 per cent leaf litter and may provide suitable habitat for the construction of mounds. The application area is located outside the species' main documented range. Survey results indicate that none of the fauna habitats within the application area are considered suitable for Malleefowl (Botanica, 2022; Botanica, 2023). Based on this information, the likelihood of Malleefowl occurring within the application area is low. However, given the abundance of records in the surrounding region, Main Roads WA has advised that a pre-clearance survey for Malleefowl mounds will be undertaken prior to clearing. The department concurs that, despite the current unsuitability of the application area for this species, based on the 468 records of this species from the local area with the closest record identified at 2.01 kilometres from the application area warrants a precautionary pre-clearance survey. A condition will be implemented on the clearing permit for MRWA to undertake pre-clearance surveys for Malleefowl mounds within suitable habitat during the breeding season (1 September to 31 January). If active mounds are identified and cannot be avoided, clearing to occur outside the breeding season and following appropriate authorisation under section 40 of the *Biodiversity Conservation Act.*

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Conclusion

No conservation-significant fauna species were recorded within the application area during the survey. While eight distinct fauna habitat types were identified, all are well represented at both the local and regional scale, and no restricted or unique habitat types were recorded.

Although the application area may occasionally be utilised by fauna species for movement or dispersal across the broader landscape, it is unlikely to provide critical habitat or essential resources such as breeding sites, permanent shelter, or key foraging areas for conservation-significant species. Consequently, the ecological value of the application area for fauna is considered low, and the proposed clearing is not expected to result in a significant impact on regional fauna populations or habitat connectivity.

Condition

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

- slow directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity will minimise impact to individuals.
- Conduct a pre-clearing inspection for Malleefowl mounds and implement a 50-metre buffer around any identified mounds.

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

Assessment

The Shire of Laverton is situated within the arid zone of Western Australia, characterised by low and variable rainfall, high evaporation rates, and predominantly sandy and loamy soils. The application area is situated within 16 soil landscape systems with the majority of the area mapped within three of these landform systems which are (DPIRD, 2019):

- Bullimore system - characterised by gently undulating sandplain with occasional linear dunes and stripped surfaces supporting spinifex grasslands and mallees and Acacia shrubs.
- My99 atlas system – characterised by plains with extensive gravel pavements and small tracts of longitudinal dunes.
- MX22 atlas system – characterised by plains often flanking areas of regional drainage (unit SV10); some longitudinal sand dunes.

The soils within the application area are generally considered resistant to erosion due to their inherent structure and composition; however, the removal of vegetation will reduce surface stability and may result in minor wind erosion, particularly during dry and windy conditions as strong, persistent winds occur within the arid zone. If surface water drainage is not adequately managed, localised runoff and pooling could occur following heavy rainfall events, increasing the risk sediment transport (Northcote, et al. 1960-68).

Given the size of the application area, vegetation clearing has the potential to contribute to land degradation through wind erosion and may increase surface water flow into adjacent vegetation communities if the ground remains exposed for an extended period. Implementing appropriate management measures will be required to mitigate these impacts.

It is also noted that the proposed clearing will occur primarily along an existing road and its verges, which reduces the overall risk of land degradation by limiting disturbance to previously undisturbed soils. Furthermore, the proposed clearing is unlikely to alter soil salinity levels or significantly affect nutrient export on-site or off-site, given the linear nature and the limited scale of disturbance.

Given that Main Roads is proposing to clear up to 500 hectares of native vegetation, standard erosion and dust management control measures will be implemented during construction to reduce the incidence of wind erosion (MRWA, 2025c). Number of land degradation management measures provided by MRWA that will be implemented during the proposed work are listed under section 3.1. of the decision report (MRWA, 2025c).

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The Contractor's Construction Environmental Management Plan (CEMP) will include inspection schedules, rainfall-triggered erosion checks and remediation measures for any erosion incidents. Sealing the road (this proposal) will significantly reduce the ongoing risk of water and wind erosion that the current unsealed road is exposed to (MRWA, 2025c).

The desktop assessment and aerial imagery indicate that no wetlands occur within the application area. There are number of non-perennial natural minor rivers that transect the application area. The annual evaporation rate for this area significantly exceeds the annual average rainfall for the local area (BoM, 2020; GIS Database). Any surface water within the application area is likely to only remain for short periods following significant rainfall events. The proposed clearing is not likely to cause deterioration in the quality of any surface water within or outside of the application area. The department also notes that MRWA propose to undertake the proposed works during the dry periods, which would further mitigate any short term surface water impacts to the minor watercourses mapped within the application area. With high annual evaporation rates and low annual rainfall, there is little recharge into regional groundwater. The proposed clearing is unlikely to further deteriorate the quality of underground water.

The current surface water hydrology regime will still be maintained. No increase incidence of flooding or severe increase in surface water flow is expected. Any sheet flow will be over a short time-scale and there is adequate surrounding native vegetation to allow water to infiltrate.

Conclusion

Based on the above assessment, the proposed clearing may result in land degradation in the form of wind erosion and is likely to result in increased surface water flow if soils are left bare for an extended period of time. However, given the land degradation mitigation measures proposed by MRWA, it is unlikely that the proposed clearing will cause appreciable land degradation or have appreciable impacts on surface water quality of the minor watercourses transecting through the application area.

Condition

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

- The permit holder must commence the construction of the road no later than three months after undertaking the authorised clearing activities.

3.3. Relevant planning instruments and other matters

Under the Shire of Laverton's Local Planning Scheme No. 2, the application area is zoned as pastoral and mining. The department has sent a direct interest letter to the Department of Planning, Lands and Heritage (DPLH) Pastoral Lease Management and Compliance Team inviting comments on the end land use of which the clearing is required for. Comments were received advising that no clearing should be undertaken until the ILUA is registered and the land transaction has occurred (DPLH, 2025). Main Roads are currently negotiating an Indigenous Land Use Agreement (ILUA) with Yilka (Package 3)- this process will be finalised in the coming months. MRWA has advised that no clearing or works will take place prior to the registration of the ILUA, and until tenure is created for the road (MRWA, 2025a).

Five registered Aboriginal Heritage Sites (ACH-00003157, ACH-00003106, ACH-00016087, ACH-00002711 and ACH-00002672) 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
Great Central Road Biological survey (Botanica, 2022)	Botanica Consulting Pty Ltd (Botanica) was commissioned by Main Roads to undertake the following assessments of the Great Central Road: • Desktop assessment within a 40-kilometre (km) radius of the Great Central Road survey area; • Basic fauna survey of the Great Central Road survey area, covering an area of approximately 1,779 ha; and • Targeted flora survey and detailed flora and vegetation survey of the Great Central Road survey area, covering an area of approximately 1,779 ha. Botanica conducted a detailed flora and vegetation survey and targeted flora survey from the 12th to 13th December 2021. The survey area was traversed by two people via 4WD, ATV and on foot. Previous biological surveys were conducted within the survey area by Botanica from the 2 to 6 December 2019 outside of the EPA recommended approximate timing (i.e. six-eight weeks post wet season) for the Murchison and Great Victoria Desert Bioregions. Botanica conducted a basic fauna survey of the survey area from the 12th to 13th December 2021.
Great Central Road (Outback Way) (SLK 87-205) Biological Survey (Botanica, 2023)	Botanica undertook a single-phase detailed flora and vegetation survey from 2 to 3 August 2023. The scope of work included: • Desktop assessment within a 30-kilometre radius of the Outback Highway Biological Survey Area; • Detailed flora and vegetation survey and targeted flora survey of the survey area, covering an area of approximately 2,929.9 ha; and • Basic fauna survey of the survey area, covering an area of approximately 2,929.9 ha
Clearing Assessment Report (CAR) (MRWA, 2025b)	The CAR details the key activities associated with the project, describes the existing environmental conditions, and presents an assessment of native vegetation clearing. This assessment evaluates the potential impacts of vegetation clearing in accordance with the ten Clearing Principles and outlines the strategies proposed to manage and mitigate these impacts effectively.

Appendix B. Site characteristics

B.1. 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 the department 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.

Characteristic	Details
Local context	The area proposed to be cleared is along Great Central Road in the intensive land use zone of Western Australia. The application area is within the Great Victoria Desert IBRA region. Aerial imagery and spatial data indicates that the local area is well vegetated containing over 90 per cent vegetation cover.

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
<tr><td>Ecological linkage</td><td>No formal ecological linkages are mapped within the application area.</td></tr>
<tr><td>Conservation areas</td><td>An A-class reserve, Yeo Lake Nature Reserve, designated for the conservation of flora and fauna, is located approximately one kilometre from the application area.</td></tr>
<tr><td>Vegetation description</td><td>Biological surveys conducted by Botanica in 2022 and 2023 identified the vegetation types present within the survey area, as detailed in the tables below. To ensure full coverage of the application area, the survey area was divided into two sections, with separate surveys undertaken for each. The combined results of these surveys are presented below.
Table 1: Botanica (2023) survey results on the vegetation type:
<table>
<tr><th>Landform</th><th>NVIS Major Vegetation Group</th><th>Vegetation Type</th><th>Vegetation Code</th><th>Quadrat</th><th>Area (ha)</th><th>Area (%)</th></tr>
<tr><td>Clay-loam Plain</td><td>MVG 6 - Acacia forests and woodlands</td><td>Acacia caesaneura, A. aptaneura, A. incurvaneura low woodland over Senna artemisioides subsp. x artemisioides, Senna artemisioides subsp. helmsii mid shrubland over Ptilotus obovatus low shrubland</td><td>CLP-AFW1</td><td>Q10-N, Q11-N, Q12-N Q23, Q24</td><td>288.6</td><td>9.9</td></tr>
<tr><td rowspan="6">Sandy Plain</td><td>MVG 6 - Acacia forests and woodlands</td><td>Acacia caesaneura, A. incurvaneura low open woodland over Triodia basedowii closed hummock grassland</td><td>S-AFW1</td><td>Q5-N, Q6-N, Q17</td><td>191.9</td><td>6.5</td></tr>
<tr><td>MVG 13 - Acacia open woodlands</td><td>Acacia caesaneura, A incurvaneura low open woodland over Senna artemisioides subsp. filifolia, Eremophila latrobei subsp. latrobei mid open shrubland over Triodia basedowii hummock grassland</td><td>S-AOW1</td><td>Q1-N, Q6, Q7, Q8, Q9, Q16, Q15</td><td>779.2</td><td>26.6</td></tr>
<tr><td>MVG 8 - Casuarina forests and woodlands</td><td>Acacia burkittii/ Allocasuarina helmsii low open woodland over Eremophila latrobei mid open shrubland over Triodia basedowii hummock grassland</td><td>S-CFW1</td><td>Q20,</td><td>45.1</td><td>1.5</td></tr>
<tr><td>MVG 11 - Eucalyptus Open Woodland</td><td>Eucalyptus gongylocarpa low woodland over Acacia ligulata mid shrubland over Triodia basedowii closed hummock grassland</td><td>S-EW1</td><td>Q9-N, Q13-N, Q21, Q25,</td><td>249</td><td>8.5</td></tr>
<tr><td>MVG 14 - Mallee woodlands and shrublands</td><td>Eucalyptus leptopoda subsp. elevata, Eucalyptus youngiana open mallee woodland over Acacia ligulata, Grevillea juncifolia subsp. juncifolia, Aluta maisonneuvei mid isolated shrubs over Triodia basedowii hummock grassland</td><td>S-MWS1</td><td>Q2-N, Q7-N, Q8-N, Q11, Q13, Q14, Q19, Q22</td><td>868.5</td><td>29.6</td></tr>
<tr><td>MVG 14 - Mallee woodlands and shrublands</td><td>Eucalyptus concinna open mallee woodland over Eremophila latrobei subsp. glabra mid open shrubland over Triodia irritans hummock grassland</td><td>S-MWS3</td><td>Q3-N, Q4-N</td><td>89.3</td><td>3.1</td></tr>
<tr><td>Sand Dune</td><td>MVG 11 - Eucalyptus Open Woodland</td><td>Eucalyptus gongylocarpa low open woodland over Eucalyptus youngiana open mallee shrubland over Triodia basedowii hummock grassland</td><td>SD-EW/MWS1</td><td>Q10</td><td>19.3</td><td>0.7</td></tr>
<tr><td>N/A</td><td>N/A</td><td>N/A</td><td>Cleared</td><td></td><td>399</td><td>13.6</td></tr>
<tr><td colspan="5">Total</td><td>2929.9</td><td>100</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
<tr><td></td><td>
Table 2: Botanica (2022) results on the vegetation type.
<table>
<tr><th>Landform</th><th>NVIS Major Vegetation Group</th><th>Vegetation Type</th><th>Vegetation Code</th><th>Quadrat</th><th>Area (ha)</th><th>Area (%)</th></tr>
<tr><td rowspan="2">Clay-Loam Plain</td><td>Acacia Forest and Woodland (MVG 6)</td><td>Low woodland of Acacia caesaneura/ A. aptaneura/ A. incurvaneura over mid shrubland of Senna artemisioides subsp. x artemisioides/ Senna artemisioides subsp. helmsii and low shrubland of Ptilotus obovatus on clay-loam plain</td><td>CLP-AFW1</td><td>Q30, Q62</td><td>212</td><td>11.9</td></tr>
<tr><td>Acacia Open Woodland (MVG 13)</td><td>Low open woodland of Acacia caesaneura/ A. incurvaneura over mid shrubland of Senna artemisioides subsp. x artemisioides/ Senna artemisioides subsp. helmsii and low shrubland of Ptilotus obovatus on clay-loam plain</td><td>CLP-AOW1</td><td>Q31</td><td>11</td><td>0.6</td></tr>
<tr><td rowspan="4">Sandplain</td><td>Acacia Forest and Woodland (MVG 6)</td><td>Low woodland of Acacia incurvaneura/ A. quadrimarginea over mid open shrubland of Eremophila latrobei subsp. glabra/ Eremophila latrobei subsp. latrobei and hummock grassland of Triodia basedowii on sandplain</td><td>S-AFW2</td><td>Q61, Q63</td><td>374</td><td>21.0</td></tr>
<tr><td>Eucalypt Woodland (MVG 5)</td><td>Low woodland of Eucalyptus gongylocarpa over mid shrubland of Acacia ligulata and hummock grassland of Triodia basedowii on sandplain</td><td>S-EW1</td><td>Q26, Q56, Q60</td><td>347</td><td>19.5</td></tr>
<tr><td rowspan="2">Mallee Woodland and Shrubland (MVG 14)</td><td>Open mallee woodland of Eucalyptus youngiana over hummock grassland of Triodia basedowii on sandplain</td><td>S-MWS1</td><td>Q27, Q28, Q29, Q32, Q58, Q59</td><td>670</td><td>37.7</td></tr>
<tr><td>Open mallee woodland of Eucalyptus trivalva over mid shrubland of Acacia desertorum and hummock grassland of Triodia basedowii on sandplain</td><td>S-MWS4</td><td>Q57</td><td>22</td><td>1.2</td></tr>
<tr><td>N/A</td><td>N/A</td><td>Cleared Vegetation</td><td>CV</td><td>N/A</td><td>143</td><td>8.0</td></tr>
<tr><td colspan="4">TOTAL</td><td>15</td><td>1779</td><td>100</td></tr>
</table>
Representative photos and the full survey descriptions and maps are available in Appendix E.

The mapped vegetation types within the application area are broadly consistent with the surveyed vegetation types identified within the application area:

Great Victoria Desert (45), which is described as Eucalypt shrubland Eucalyptus eremophila, E. redunca, E. spp.
Great Victoria Desert (85), which is described as hummock grassland with scattered eucalypts over wattle scrub or mallee Triodia spp. Acacia spp. Corymbia dichromophloia, Eucalyptus leucophloia, E. youngiana
Great Victoria Desert (18), which is described as Mulga Acacia aneura and associated species.
Great Victoria Desert (24), which is described as other acacia, banksia, peppermint, cypress pine, casuarina, York gum Acacia spp., Banksia spp., Agonis flexuosa, Callitris spp., Allocasuarina spp., Eucalyptus loxophleba.
Great Victoria Desert (1239), which is described as hummock grassland with scattered eucalypts over wattle scrub or mallee Triodia spp. Acacia spp. Corymbia dichromophloia, Eucalyptus leucophloia, E. youngiana
Great Victoria Desert (39), which is described as wattle, tea tree and other species Acacia spp. Melaleuca spp.
Great Victoria Desert (676), which is described as Tecticornia spp. communities in saline areas
Great Victoria Desert (84), which is described as Hummock grassland with scattered eucalypts over wattle scrub or mallee Triodia spp. Acacia spp. Corymbia dichromophloia, Eucalyptus leucophloia, E. youngiana

The mapped vegetation types retain greater than 90 per cent of the original extent (Government of Western Australia, 2019).
</td></tr>
<tr><td>Vegetation condition</td><td>
Biological surveys conducted by Botanica in 2022 and 2023 indicate that vegetation within the proposed clearing area ranges from poor to very good condition, with the majority assessed as good, in accordance with the Trudgen (1991) condition rating scale. To ensure full coverage of the application area, the survey area was divided into two sections, and two separate surveys were undertaken. The combined results of these surveys are presented in the tables below.

Table 3: Botanica (2023) survey results on the vegetation condition.
</td></tr>
</table>

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
<tr><td></td><td>
<table>
<tr><th>Condition rating</th><th>Description (EPA, 2016a)</th><th>Area (ha)</th><th>Area (%)</th></tr>
<tr><td>Very Good</td><td>Vegetation structure altered, obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.</td><td>1506.1</td><td>51.4</td></tr>
<tr><td>Good</td><td>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.</td><td>956.9</td><td>32.7</td></tr>
<tr><td>Poor</td><td>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.</td><td>53.7</td><td>1.8</td></tr>
<tr><td>Degraded</td><td>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.</td><td>14.2</td><td>0.5</td></tr>
<tr><td>Cleared</td><td>N/A</td><td>399.0</td><td>13.6</td></tr>
<tr><td colspan="2">TOTAL</td><td>2929.9</td><td>100</td></tr>
</table>

Table 4: Botanica (2022) survey results on the vegetation condition.

<table>
<tr><th>Condition rating</th><th>Description (EPA, 2016a)</th><th>Area (ha)</th><th>Area (%)</th></tr>
<tr><td>Very Good</td><td>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.</td><td>74</td><td>4.2</td></tr>
<tr><td>Good</td><td>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.</td><td>1,551</td><td>87.2</td></tr>
<tr><td>Poor</td><td>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.</td><td>11</td><td>0.6</td></tr>
<tr><td>Cleared Vegetation</td><td>Existing Clearing (Great Central Road and gravel pits)</td><td>143</td><td>8.0</td></tr>
<tr><td colspan="2">TOTAL</td><td>1779</td><td>100</td></tr>
</table>

The full Trudgen (1991) condition rating scale is provided in Appendix D.

Representative photos and the full survey descriptions and mapping are available in Appendix E.
</td></tr>
<tr><td>Climate and landform</td><td>The climate of the Great Victoria Desert subregion is characterised as an arid climate with mainly winter rainfall and annual rainfall of approximately 200 millimetres (mm).

The application area is located within the following landscapes (DPIRD, 2019):
• Laverton system - Greenstone hills and ridges with acacia shrublands.
• Bandy system - Gritty-surfaced plains and low outcrops of granite with scattered acacia shrublands.
• Violet system - Gently undulating gravelly plains on greenstone, laterite and hardpan, with low stony rises and minor saline plains; supporting groved mulga and bowgada shrublands and occasionally chenopod shrublands.
• Bullimore System - Gently undulating sandplain with occasional linear dunes and stripped surfaces supporting spinifex grasslands with mallees and acacia shrubs.
• SV10 - Shallow valleys with lakes, clay pans, salt pans, calcrete (kunkar) platforms, sand dunes, kopi dunes, and calcareous dunes
• Yanganoo System - Almost flat hardpan wash plains, with or without small wanderrie banks and weak groving; supporting mulga shrublands and wanderrie grasses on banks.
• AB47 - Plains and dunes--longitudinal and ring dunes with interdune corridors and plains; occasional salt pans
• Gundockerta System - Extensive, gently undulating calcareous stony plains supporting bluebush shrublands.</td></tr>
</table>

Characteristic	Details
	• Waguin System - Sandplains and stripped granite or laterite surfaces with low fringing breakaways and lower plains; supports bowgada and mulga shrublands with wanderrie grasses and minor halophytic shrublands. • Sherwood System - Breakaways, kaolinised footslopes and extensive gently sloping plains on granite supporting mulga shrublands and minor halophytic shrublands. • Ararak System - Broad plains with mantles of ironstone gravel supporting mulga shrublands with wanderrie grasses. • Mx22 - Plains often flanking areas of regional drainage (unit SV10); some longitudinal sand dunes • Darlot System - Salt lakes, fringing saline alluvial plains, regularly arranged sandy banks and numerous claypans and swamps, supporting halophytic shrublands and spinifex and wanderrie grasslands. • Fa7 - Greenstone hills and low ranges with some slate and basalt • AB49 - Plains with a variable proportion of longitudinal sand dunes and scattered residuals of hard sedimentary rocks and laterites • My99 - Plains with extensive gravel pavements and small tracts of longitudinal dunes
Soil description	The soil is described as red sandy earths with red loamy earths and some red deep sands, red-brown hardpan shallow loams and calcareous loamy earths.
Land degradation risk	The soil within the application area generally resistant to erosion but may experience minor wind erosion once vegetation is removed. Localised surface water runoff could occur following heavy rainfall, particularly if on-site drainage is not adequately managed.
Waterbodies	The desktop assessment and aerial imagery indicated that there are several non-perennial natural minor rivers that intersect the application area. No wetlands occurs within the application area.
Hydrogeography	There are no Public Drinking Water Source Areas (PDWSA) located within the application area. The application area is within the Goldfields Groundwater Area as proclaimed under the RIWI Act 1914 (GIS Database). Groundwater salinity within the application area is mapped as ranging from 500-1000 to more than 35,000 milligrams per litre total dissolved solids, which is considered saline (GIS Database).
Flora	According to the desktop assessment, ten conservation significant flora species are recorded from the local area and all these are priority flora species. According to spatial data, *Comesperma viscidulum* (Priority 4) was recorded within the application area and *Melaleuca apostiba* was recorded from 0.77 kilometres from the application area.
Ecological communities	No conservation significant ecological communities are mapped within the application area. The closest conservation significant ecological community is Laverton Downs calcrete groundwater assemblage type on Carey palaeo drainage on Laverton Downs Station located approximately 50 kilometres from the application area.
Fauna	According to the desktop assessment, four species of conservation significant fauna are recorded from the local area. There were records of peregrine falcon recorded within the application area. The most recorded species is the malleefowl with 468 recorded in the local area.

B.2. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F.1), and biological survey information (Botanica, 2022; Botanica, 2023), impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Bossiaea eremaea	3	Y	6.45	1	Y
Comesperma viscidulum	4	Y	0.00	3	Y
Conospermum toddii	4	Y	9.41	1	Y
Grevillea obliquistigma subsp. cullenii	3	Y	4.12	1	Y
Melaleuca apostiba	3	Y	0.77	1	Y
Sauropus sp. Woolgorong (M. Officer s.n. 10/8/94)	3	Y	10.05	1	Y

B.3. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F.1), and biological survey information (Botanica, 2022; Botanica, 2023), impacts to the following conservation significant fauna required further consideration.

Species scientific name	Species common name	Conservation status	Suitable habitat features ? [Y/N]	Year of most recent record	Distance of closest record to application area (km)	Number of known records (total)	Did surveys identify? [Y, N, N/A]
Dasycercus sp.	mulgara	P4	N	2012	13.13	3	N
Falco peregrinus	peregrine falcon	OS	Y	2010	0.00	2	N
Leipoa ocellata	malleefowl	VU	Y	2019	2.01	468	N
Sminthopsis psammophila	sandhill dunnart	EN	N	2018	9.21	3	N

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		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The area proposed to be cleared does not contain locally or regionally significant flora, fauna, habitats, assemblages of plants. The vegetation found within the application area is well represented within the local area. No conservation-significant flora species were recorded within the survey area. Although the survey was conducted later than the recommended period, the species of concern are non-cryptic and perennial, meaning they would likely have been detected if present. No Priority ecological communities were identified in the local area. The survey also did not identify any PEC's within the application area.	Not likely to be at variance	Yes *Refer to Section 3.2.1, 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."* Assessment: The area proposed to be cleared does not contain critical habitat for conservation significant fauna. No significant fauna taxa were recorded within the survey area. Based on the habitats present and/ or recent nearby records, four conservation significant fauna species of significance can be regarded as possibly occurring within the survey area, only as transient visitors. Although the application area does not provide significant habitat for malleefowl due to limited leaf litter within majority of the application area and the absence of mounds, MRWA has committed to conducting pre-clearance surveys for Malleefowl mounds prior to any clearing. If active mounds are identified, clearing in those areas will be avoided and appropriate buffers applied.	May be at variance	Yes *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."* Assessment: The area proposed to be cleared is unlikely to contain habitat for flora species listed under the BC Act. No threatened flora were identified from the local area in the desktop assessment or found during flora surveys.	Not likely to be at variance	No
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."* Assessment: No threatened ecological communities are identified within the local area and the vegetation within the application is not likely to represent a TEC,	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		

Assessment against the clearing principles	Variance level	Is further consideration required?
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."* Assessment: The extent of the mapped vegetation types and the 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 likely to be 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."* Assessment: The application area does not intersect with any conservation area. The closest conservation area is located one kilometre from the application area and given the purpose of clearing, it is unlikely that the values of the conservation area will be impacted from the proposed clearing.	Not likely to be 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."* Assessment: There are no permanent watercourses or wetlands within the area proposed to clear. Some seasonal minor, non-perennial watercourses pass through the application area (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall, and impacts from the proposed clearing to vegetation growing in association with watercourses is likely to be minimal. Vegetation types S-CFW1 and S-MWS3 are associated with the minor non-perennial watercourses, with 45.09 ha and 55.96 ha respectively mapped within the application area which are likely to be associated with minor watercourses (Botanica, 2022; Botanica, 2023). Whilst both vegetation types will be impacted by the proposed clearing, they are not restricted to the application area and extend well beyond the application area into the surrounding areas.	At variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: the application area intersects 16 distinct soil landscape systems. The majority of the area is mapped within the following soil systems (DPIRD, 2019): • Bullimore System – Characterised by gently undulating sandplains with occasional linear dunes and stripped surfaces. This system typically supports spinifex grasslands interspersed with mallees and acacia shrubs. • My99 Atlas System – Defined by plains with extensive gravel pavements and small tracts of longitudinal dunes. • MX22 Atlas System – Comprising plains that often flank regional drainage areas (unit SV10), with some longitudinal sand dunes present. The soils in the area consist of red sandy earths, red deep sands, red loamy earths, and red-brown hardpan shallow loams. While these soil types are generally resistant to erosion, they may become susceptible to wind erosion	May be at variance	Yes *Refer to Section 3.2.3, above.*

Assessment against the clearing principles	Variance level	Is further consideration required?
once vegetation is removed. Additionally, localised surface water runoff may occur following heavy rainfall, particularly if on-site drainage is not adequately managed. MRWA will be implementing standard erosion management methodologies to reduce impacts from water and wind erosion.		
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."* Assessment: The application area is not located within a Public Drinking Water Source Area (GIS Database). The annual evaporation rate (2,400 millimetres) significantly exceeds the annual average rainfall (190 millimetres) for the local area. Any surface water within the application area is likely to only remain for short periods following significant rainfall events. The proposed clearing is not likely to cause deterioration in the quality of any surface water within or outside of the application area.	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."* Assessment: There are no permanent water courses or waterbodies within the application area (GIS Database). Seasonal drainage lines are common in the region and temporary localised flooding may occur briefly following heavy rainfall events. However, the proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.	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 and photographs of the vegetation (Botanica, 2022; Botanica, 2023)

Figure 2: Photographs taken during the surveys for Quadrats 6,7 and 8.

Figure 3: Photographs taken during the surveys for Quadrats 9, 10 and 11

Photographs of the different vegetation types identified from the application area.

Clay-Loam Plain: Acacia Open Woodland

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

Sandplain: Acacia Forest and Woodland

Plate 4: Low woodland of *Eucalyptus gongylocarpa* over mid shrubland of *Acacia ligulata* and hummock grassland of *Triodia basedowii* on sandplain

Sandplain: Eucalypt Woodland

Plate 3: Low woodland of *Acacia incurvaneura/ A. quadrimarginea* over mid open shrubland of *Eremophila latrobei* subsp. *glabra/ Eremophila latrobei* subsp. *latrobei* and hummock grassland of *Triodia basedowii* on sandplain

Sandplain: Mallee Woodland and Shrubland

Plate 5: Open mallee woodland of *Eucalyptus youngiana* over hummock grassland of *Triodia basedowii* on sandplain

Sand Plain: Casuarina Open Woodland

Plate 4: *Acacia burkittii/ Allocasuarina helmsii low open woodland over Eremophila latrobei mid open shrubland over Triodia basedowii hummock grassland on sand plain*

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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