

Clearing Assessment Report – CPS 818

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Western Australia.*

Home Valley to Pentecost SLK 580-590
Gibb River Road (M012)
Kimberley
EOS 1904

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1 PROPOSAL

1.1 Purpose and Justification

The Gibb River Road stretches between Derby and Kununurra, providing a key access route to the cattle stations and communities in the area. The road is a mixture of unsealed and bitumised road surface which acts as a key tourist route and location. Main Roads has sealed the road between Great Northern Highway and the Pentecost River Crossing, and is proposing to seal up to and slightly beyond Home Valley Station (Gibb River Road SLK 580-590).

Main Roads Western Australia proposes to upgrade the Gibb River Road between the Pentecost River Crossing and Home Valley Station (SLK 580 – 590). The stretch between the Pentecost River crossing and the Home Valley Station is unsealed and contains various sections of non-compliant road geometry which deteriorate during the wet season. The project will upgrade the road surface to provide a sealed pavement layer and improve connectivity to the Home Valley Station.

Significant amounts of materials will be required for this upgrade, future upgrades and maintenance of the road network. As such, part of the proposed works includes material pits for gravel, fill and basecourse materials. These pits have all been subject to historical disturbance and have been selected for initial investigation works and subsequent expansion where materials are found to be suitable.

1.1.1 Main Roads Approach to Road Safety and the Environment

Main Roads is committed to minimising the environmental impacts of all of its activities and manages the State Road network to achieve balanced economic, social, safety and environmental benefits for the community. Main Roads recognises that Western Australia's environment is significant from a global perspective and the unique conservation values that are contained within its road reserve. Main Roads' road network often adjoins natural areas and, in some locations, the reserve itself hosts remnant vegetation with high environmental values. Although the reserves were not established for this purpose, Main Roads recognises that it has a responsibility to conserve the environmental values that occur within the State's road network and minimise the impact its proposals have on the environment. In addition to providing a safe and efficient road network for all people using the roads under its control, Main Roads is also committed to protecting the natural environment.

In accordance with National and State Government road safety policies, Main Roads is also committed to substantially reducing road trauma on the road network through Safe System principles. The Safe System approach acknowledges that more than two thirds of all serious crashes are due to human error rather than deliberate risk taking (e.g. speeding or drink driving) and seeks to improve behaviour through education and enforcement while managing the safety of vehicles, speeds and the road and road infrastructure. It is shown that improving sub-optimal road formation will substantially reduce the likelihood and severity of road crashes. For example, according to the Road Safety Management Guideline, increasing the sealed shoulder from 0.5 m to 2 m will reduce Killed and Seriously Injured numbers by more than 50%.

As the statutory authority responsible for providing and managing a safe and efficient main road network in Western Australia, Main Roads focuses on improving road safety by thoroughly considering all environmental, economic and community benefits and impacts. It operates on a hierarchy of avoiding, minimising, reducing and then, if required, offsetting our environmental

impacts. This has been achieved through changes in proposal scope and design. Main Roads regularly reduces its clearing footprint by restricting earthworks limits for proposals, steepening batters, installing barriers, establishing borrow pits in cleared paddocks and avoiding temporary clearing for storage, stockpiles and turn around bays to avoid and minimise its impacts.

Further details on measures to avoid, minimise and reduce are provided in Section 1.5.

1.2 Proposal Scope

Main Roads proposes to upgrade a 10 km section of the Gibb River Road between the Pentecost River Crossing and Home Valley Station. In addition, material investigation works are proposed around historical pits to identify suitable road-building materials. Should suitable materials be identified, these pits will be progressively developed to meet the construction and road maintenance needs of the State Road Network. Existing cleared areas in material pits will be utilised where practicable as laydowns, turnarounds and stockpile areas to avoid and minimise the clearing of native vegetation. Existing table/catch drains will be upgraded along with establishment of new offshoot drains. This also includes localised earthworks using graders, tippers, and rollers as well as sealing/asphalting using spray trucks and batch trucks.

1.3 Proposal Location

The Development Envelope is located on the Gibb River Road, SLK 580 – 590, in the Shire of Wyndham-East Kimberley as shown in Figure 1. The central coordinate of the proposal is 127.8587199, -15.7704282.

1.4 Clearing Details

Proposed Clearing to be undertaken using CPS 818:

Up to 78.67 ha of clearing within the approximately 465 ha Development Envelope will occur over many years to be used across numerous road upgrades and road maintenance works.

Areas of Native Vegetation Clearing:

The areas of native vegetation to be cleared are shown in

Figure 2 to Figure 13.

Type of Native Vegetation:

Across the three Biological Surveys that intersect the Development Envelope, 32 vegetation units were described under five broad landform types. These have been amalgamated into 20 units (including Regrowth and Cleared) by identifying similar features in each vegetation unit as practicable to estimate potential impacts from the proposed works. Of these 20 units, 16 intersect the Development Envelope. These 16 vegetation units are detailed further in Table 3 and illustrated in

Figure 2 to Figure 12

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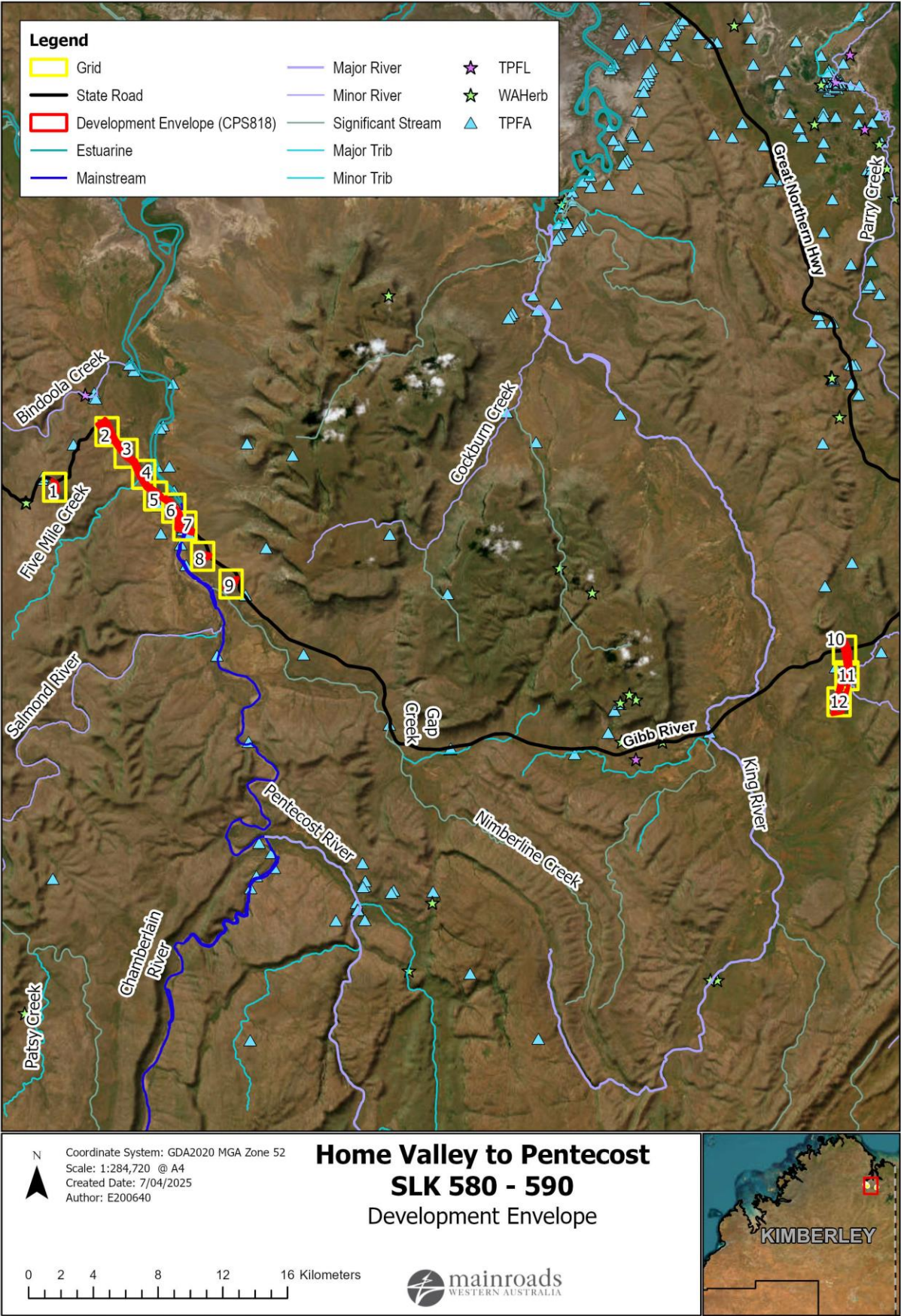


Figure 1. Development Envelope and Map Series Overview.

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Figure 2. Home Valley SLK 580-590 & Robb Hill Map Series. Map 1 of 12.

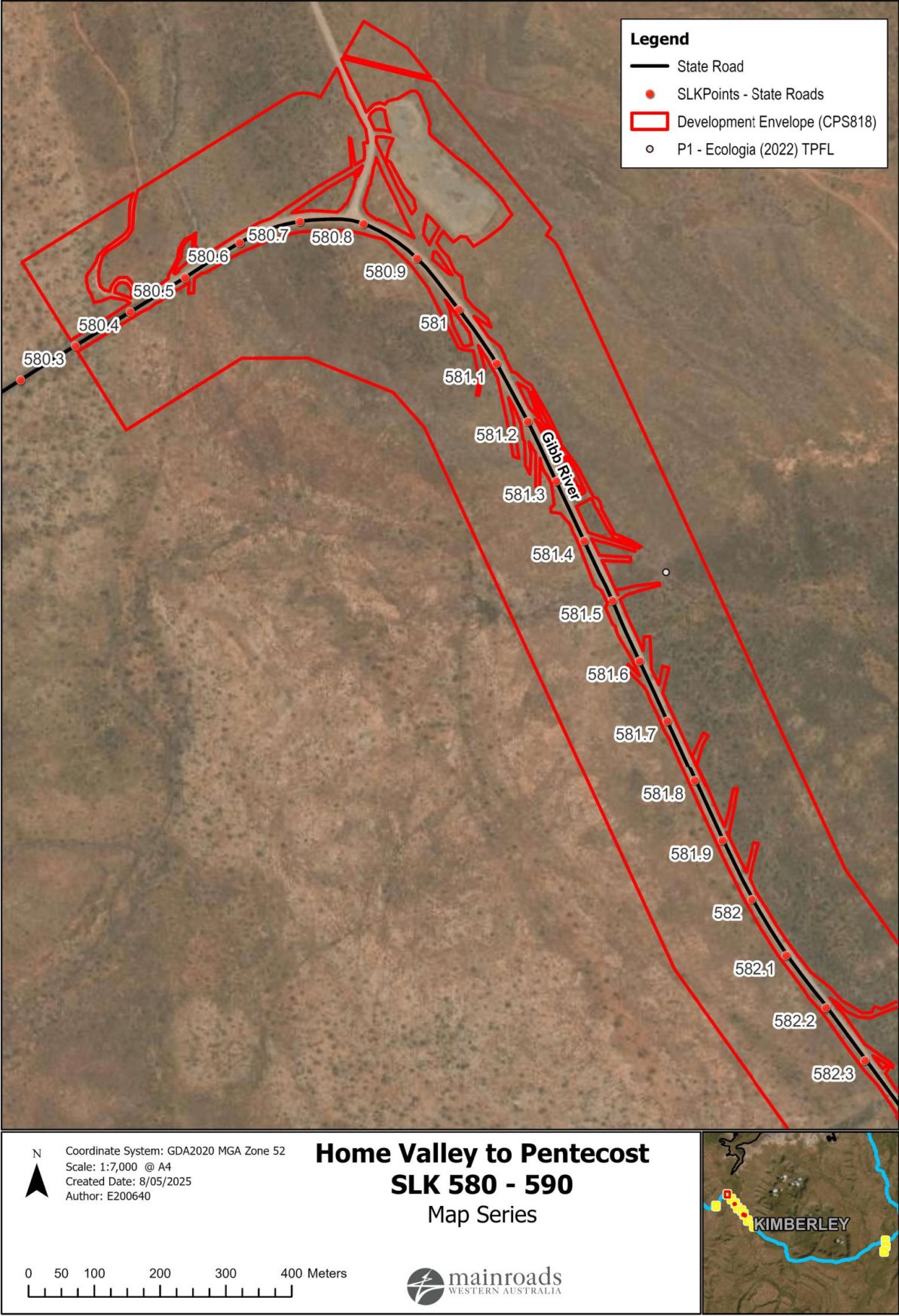


Figure 3. Home Valley SLK 580-590 & Robb Hill Map Series. Map 2 of 12.

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Figure 4. Home Valley SLK 580-590 & Robb Hill Map Series. Map 3 of 12.

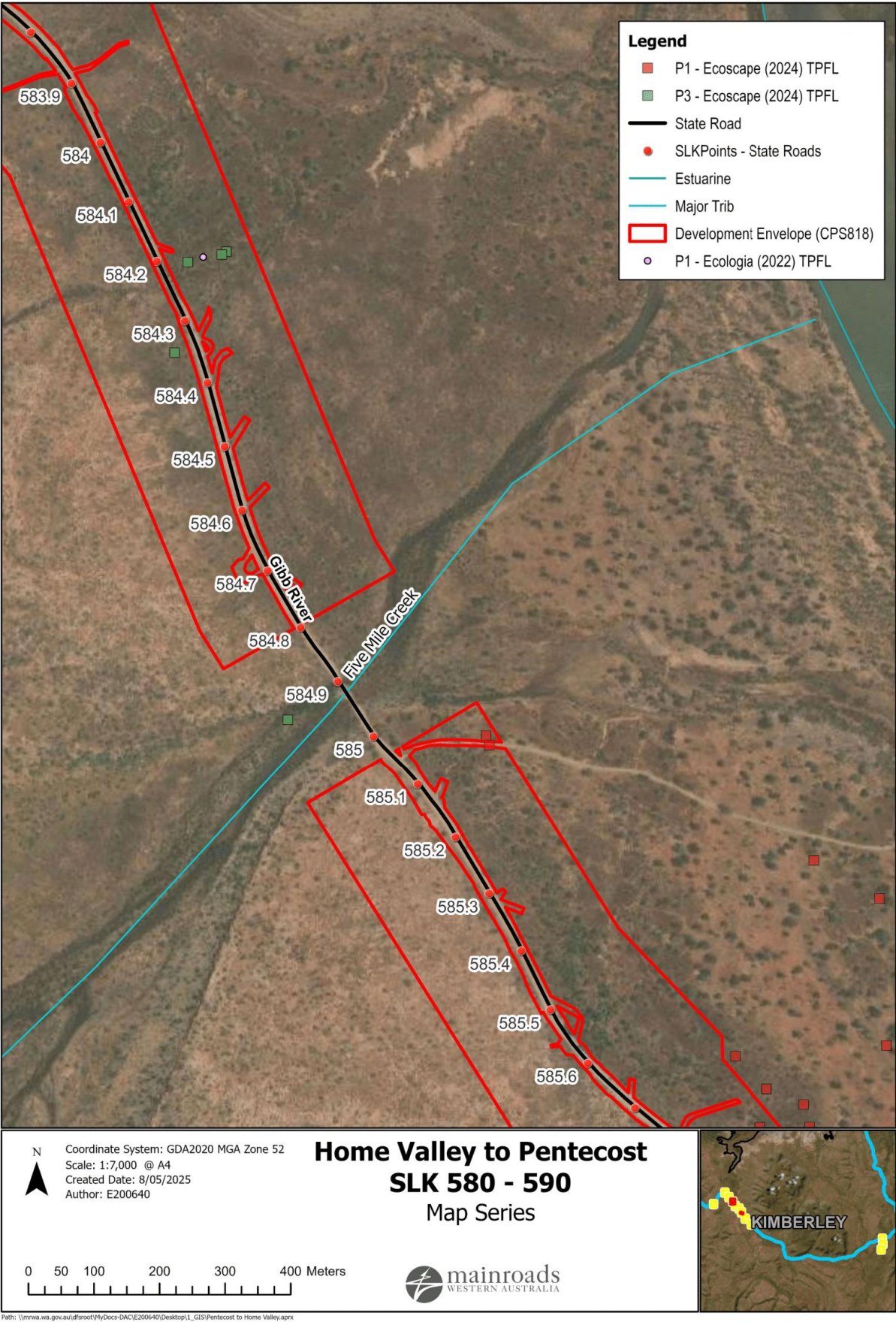


Figure 5. Home Valley SLK 580-590 & Robb Hill Map Series. Map 4 of 12.

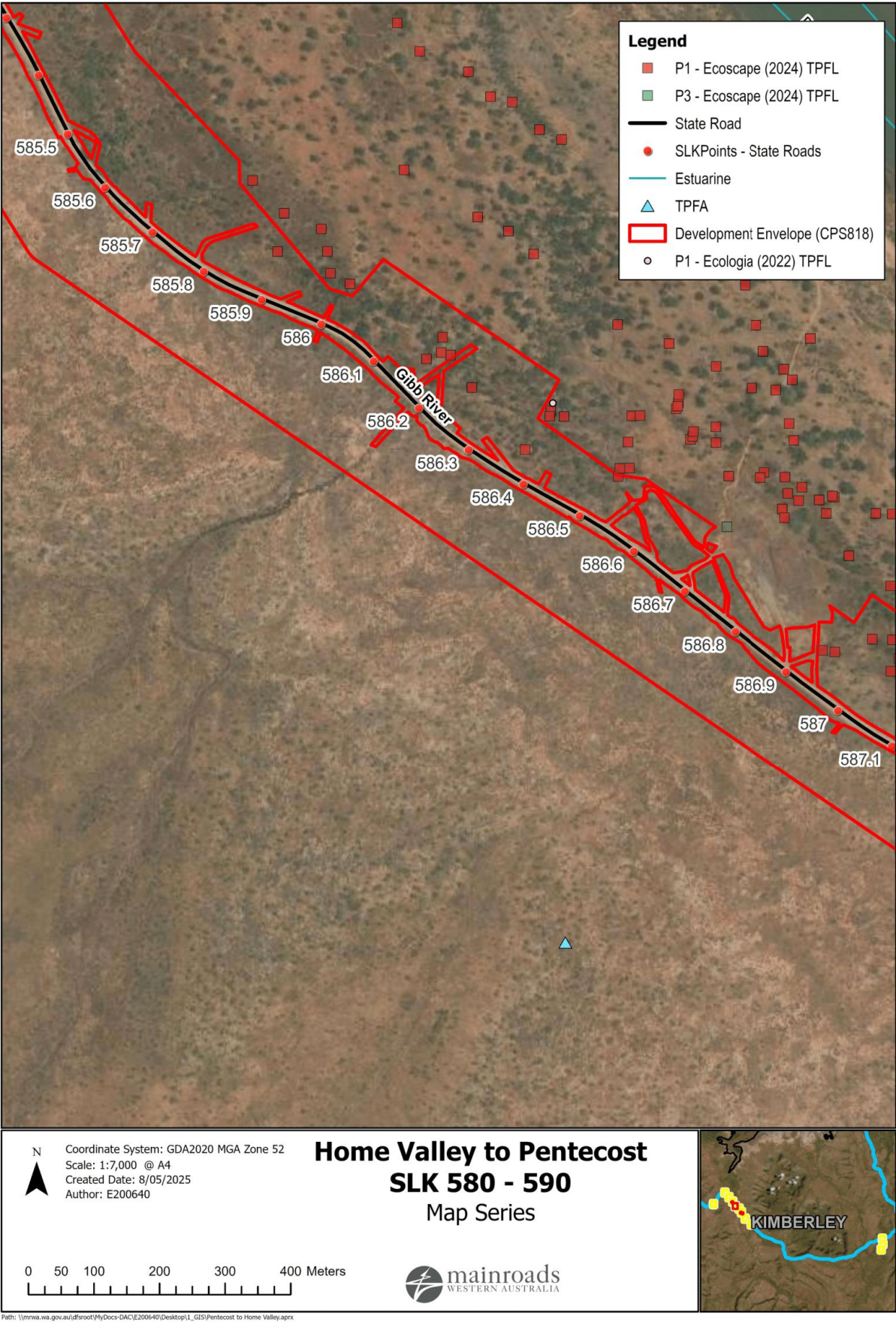


Figure 6. Home Valley SLK 580-590 & Robb Hill Map Series. Map 5 of 12.

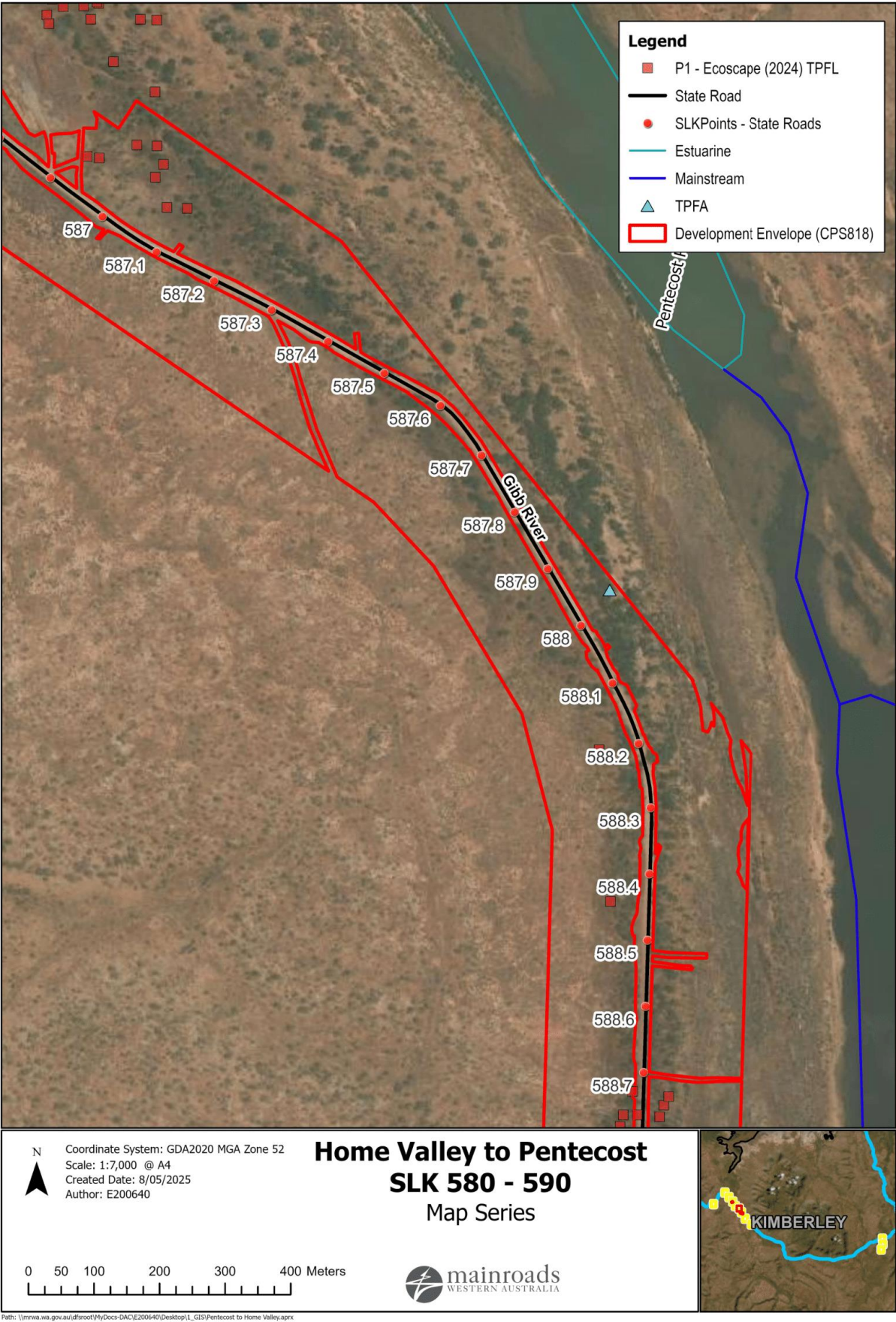


Figure 7. Home Valley SLK 580-590 & Robb Hill Map Series. Map 6 of 12.

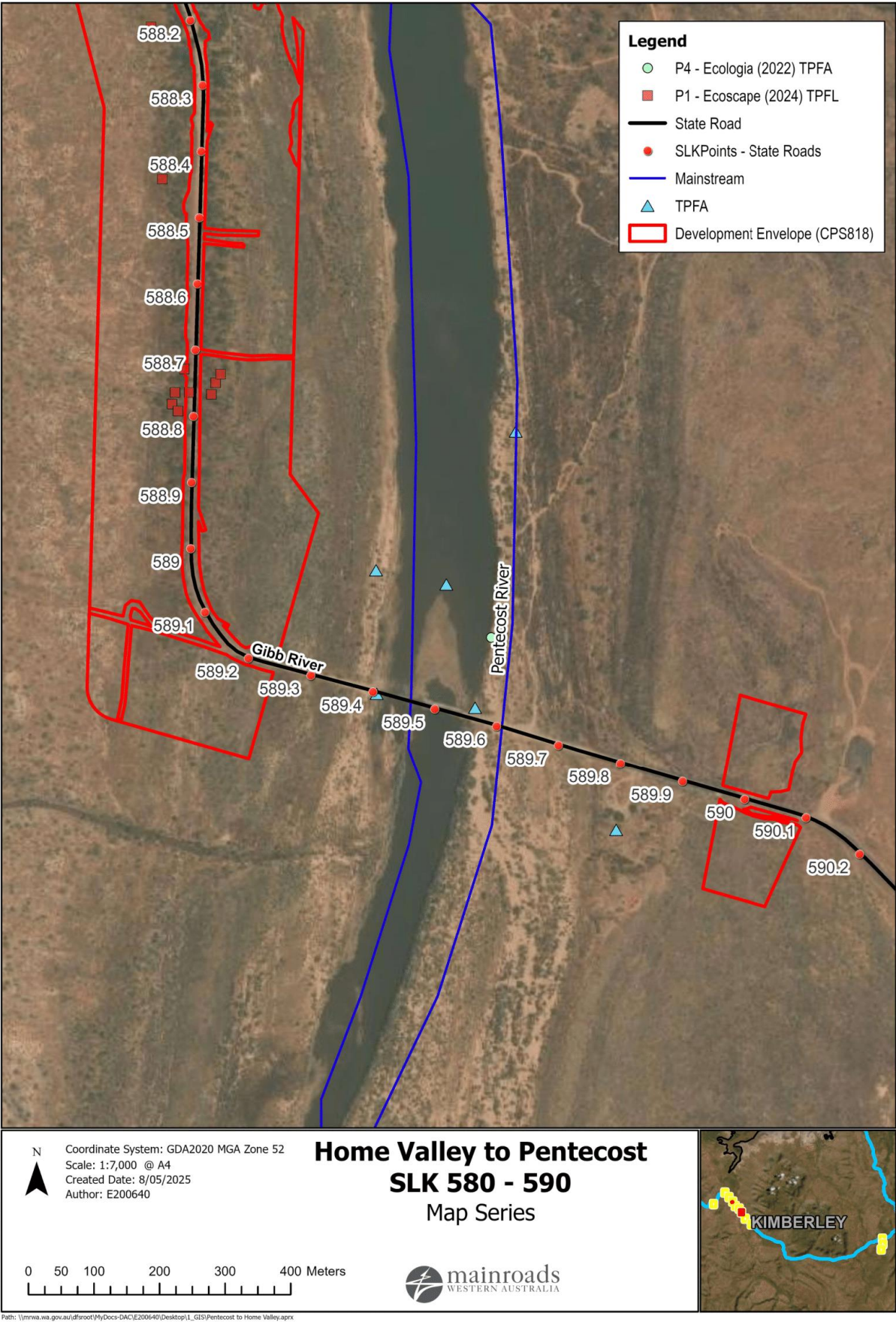


Figure 8. Home Valley SLK 580-590 & Robb Hill Map Series. Map 7 of 12.

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Figure 9. Home Valley SLK 580-590 & Robb Hill Map Series. Map 8 of 12.

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Figure 10. Home Valley SLK 580-590 & Robb Hill Map Series. Map 9 of 12.

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Figure 11. Home Valley SLK 580-590 & Robb Hill Map Series. Map 10 of 12.

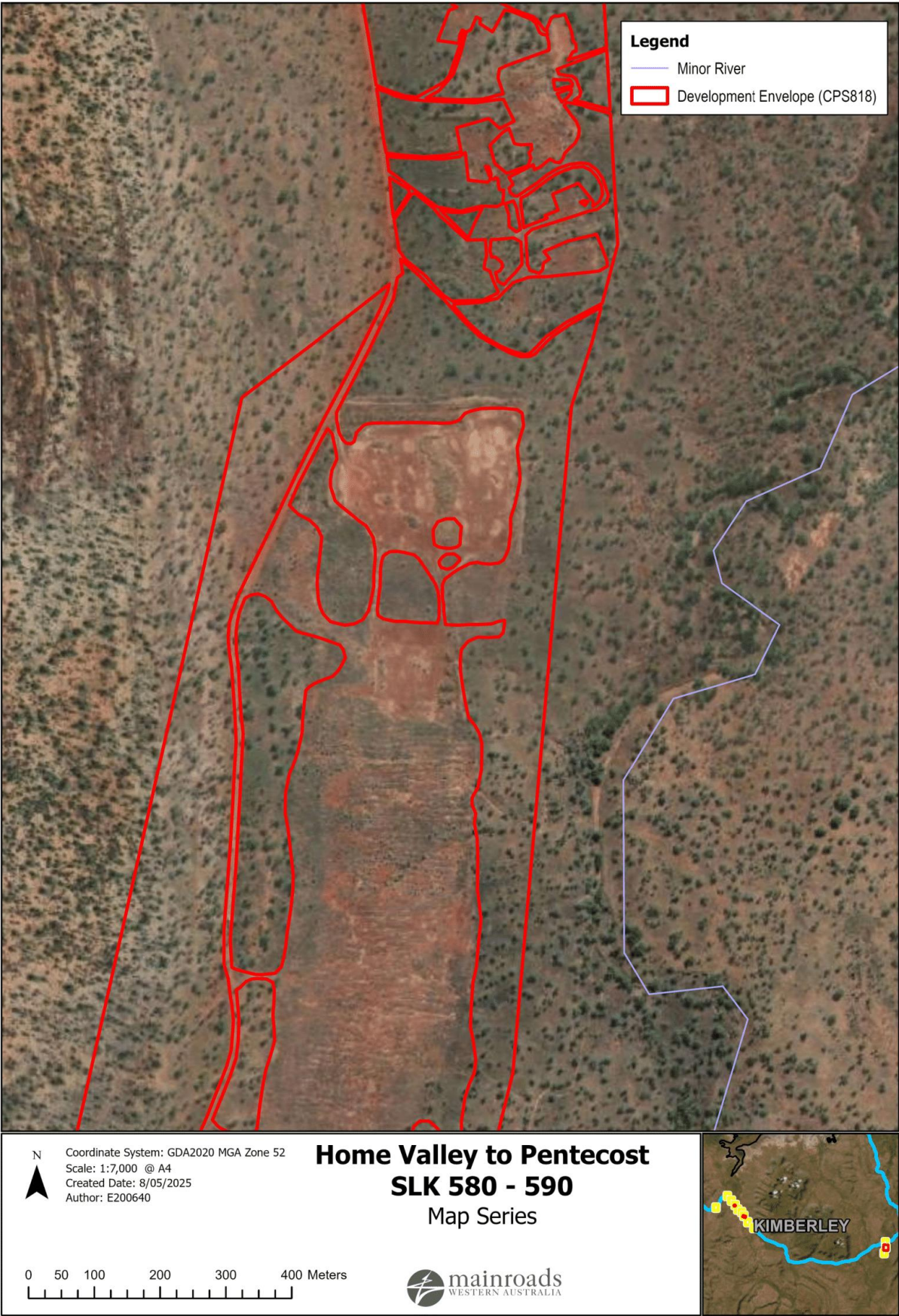


Figure 12. Home Valley SLK 580-590 & Robb Hill Map Series. Map 11 of 12.

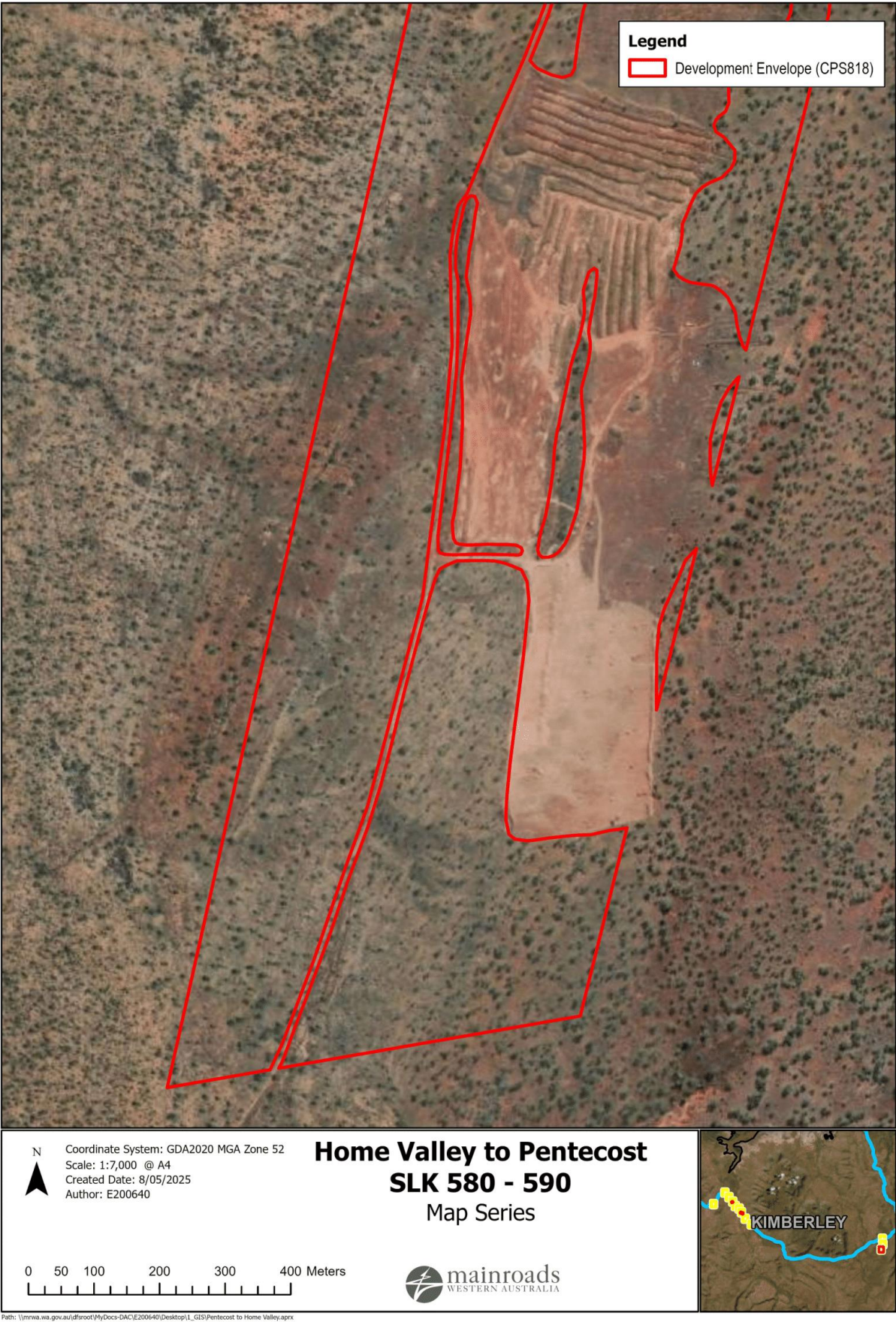


Figure 13. Home Valley SLK 580-590 & Robb Hill Map Series. Map 12 of 12.

1.5 Alternatives to Native Vegetation Clearing Considered During Proposal Development

The following alternatives to clearing were considered during the development of the proposal:

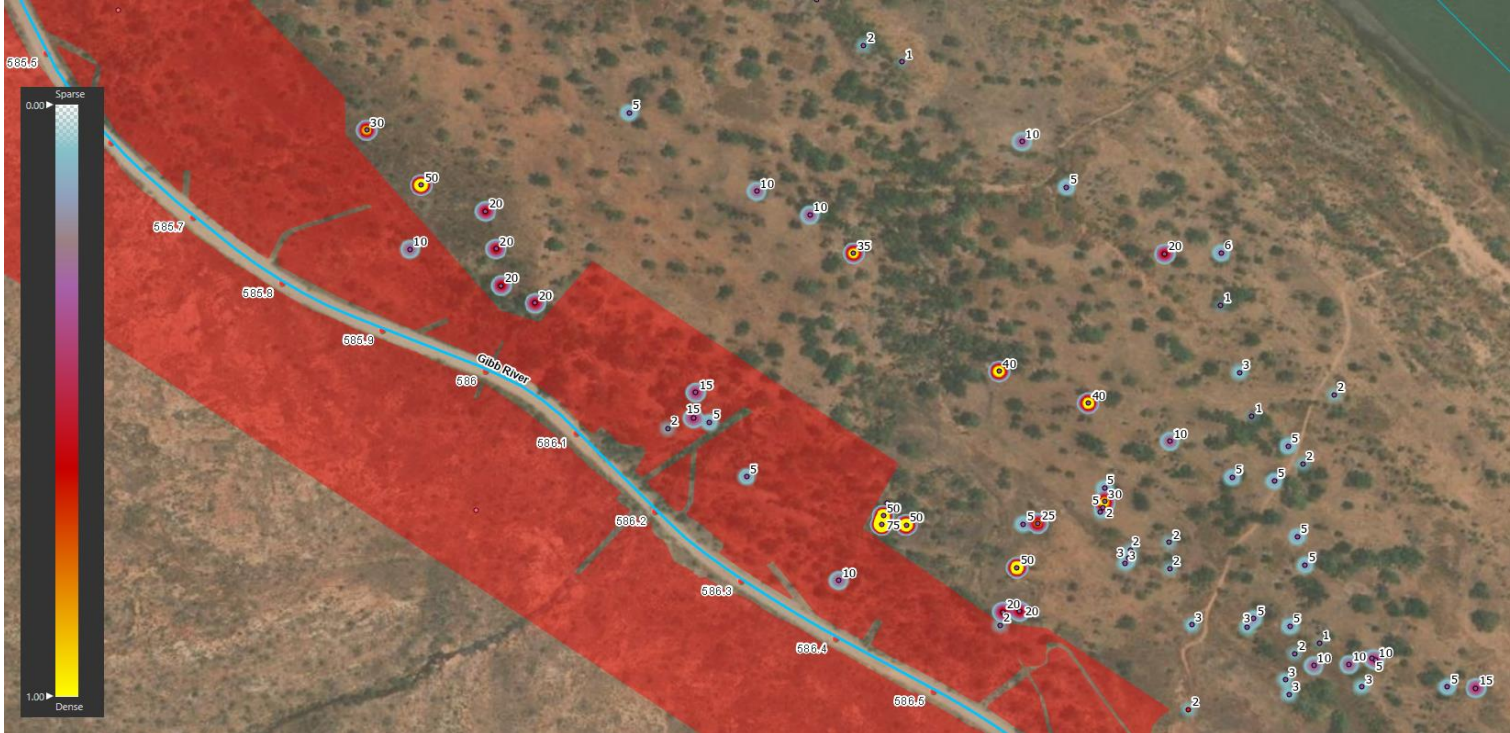
- Preferentially locating the new alignment in cleared pasture areas over the existing road reserve. However, all adjacent areas are well-vegetated.
- Do not upgrade the road, however this will potentially result in a poorer safety outcome and may result in future fatalities or serious injuries and further degradation of the State road asset.
- Main Roads retains frangible vegetation where a clear zone is to be established for road projects. For this project, however, clearing will only be required to accommodate the road formation, with no clear zone being established. Accordingly, the retention of frangible vegetation does not apply to this proposal.
- Sourcing road building materials from an existing commercial material pit such as Kimberley Quarries in Broome would meet construction criteria, however, the significant costs of carting these materials in addition to cost per tonne of material would not be economical, and the proposed works could not be delivered. Accordingly, a significant portion of the Development Envelope and Clearing footprint is dedicated to the exploration for, and extraction of, road-building materials.
- Reducing the speed limit to minimise clearing requirements, while still balancing safety (driver fatigue) and freight efficiency. Speed Limits are an essential mechanism to ensure the safe and efficient operation of road networks. The application of appropriate speed limits and other traffic management measures is a key mechanism in managing vehicle speeds to achieve desired safety, mobility, traffic management, local amenity, and road user expectations. There are several factors involved in road safety, including road conditions, driver behaviour and overall road design. Except in special situations, reducing speed limits below national standards on state and national roads is not typically supported as it has the potential to contribute to driver frustration, impatience, tiredness and recklessness. The environmental values protected by reducing the speed limit, do not justify the impacts on freight efficiencies nor road user safety. Accordingly, the reduction of the speed limits to avoid clearing of native vegetation for this proposal is not proposed.

1.6 Measures to Avoid, Minimise, Reduce and Manage Proposal Clearing Impacts

The design and management measures implemented to avoid and minimise the potential clearing impacts of the Proposal are provided in Table 1.

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Table 1. Measures Undertaken to Avoid, Minimise, Reduce and Manage the Proposal Clearing Impacts

Design or Management Measure	Discussion and Justification
Re-design of the Development Envelope to avoid and minimise impacts to Priority flora	As seen in Plate 1 below, Main Roads has designed the Development Envelope to avoid the densest known occurrences of Priority One flora species <i>Goodenia brachypoda</i>, where practicable. Approximately 355 individuals of <i>Goodenia brachypoda</i> have been excised from the initial Development Envelope design, reducing potential direct local impacts to this species from approximately 47.5% (558 of 1,174 individuals) to 17.2% (203 of 1,174 individuals).  Plate 1. Gibb River Road SLK 585.7 – 586.5 populations of <i>Goodenia brachypoda</i> excised from the Development Envelope.

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Design or Management Measure	Discussion and Justification
Simplification of design to reduce the requirement for horizontal realignments	The road is being widened without altering the horizontal alignment of the Gibb River Road. By avoiding any horizontal realignments, the proposed works have significantly reduced the amount of vegetation clearing required for road upgrades whilst also improving the safety of the road network by widening the seal width of the road.
Use of existing cleared areas for access tracks, construction storage and stockpiling	Existing drainage and new drainage will have a dual purpose as practicable. First this clearing will serve as a side track for the project during construction works, and once no longer required these areas will be reworked to serve as a table drain for the road infrastructure. Existing drainage will be daylighted as part of the proposed works, and if required, extended. Additional drainage infrastructure will be constructed as practicable where existing drainage infrastructure is insufficient for the increased road seal width.
Floodway alignment	The existing disturbance footprint of floodways will be utilised without altering the alignment in these areas. This minimises additional clearing that would be required should the road have been realigned. An example of such has occurred at SLK 582.38, where the existing floodway disturbance footprint will be utilised by maintaining the existing alignment and small widening upgrades of the floodway will occur.

1.7 Approved Policies and Planning Instruments

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, Main Roads has also had regard to the below instruments where relevant.

Other Legislation potentially relevant for assessment of clearing and planning/other matters:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Country Areas Water Supply Act 1947* (WA) (CAWS Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P and D Act)
- *Soil and Land Conservation Act 1945* (WA)
- *Rights in Water and Irrigation Act 1914* (WA) (RIWI Act)
- *Aboriginal Heritage Act 1972* (WA).

Environmental Protection Policies:

- Environmental Protection (Peel Inlet - Harvey Estuary) Policy 1992
- Environmental Protection (Western Swamp Tortoise Habitat) Policy 2011.

Other relevant policies and guidance documents:

- Environmental Offsets Policy (Government of Western Australia, 2011)
- A guide to the assessment of applications to clear native vegetation (DER 2014)
- Procedure: Native vegetation clearing permits (DWER, 2021)
- Environmental Offsets Guidelines (Government of Western Australia, 2014)
- Technical guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016)
- Technical guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (EPA, 2020)
- Approved conservation advice under section 266B of the EPBC Act for threatened flora/fauna/vegetation communities.

2 SCOPE AND METHODOLOGY ASSESSMENT OF CLEARING

Native vegetation will be cleared to accommodate this Proposal. This clearing will be undertaken using the Main Roads Statewide Clearing Permit CPS 818.

To comply with CPS 818, Main Roads must prepare a Clearing Assessment Report (CAR).

The CAR outlines the key activities associated with the Proposal, the existing environment and an assessment of native vegetation clearing. This assessment provides an evaluation of the vegetation clearing impacts associated with the Proposal using the ten Clearing Principles listed under s51 of the *Environmental Protection Act 1986* (EP Act) and strategies used to manage vegetation clearing.

2.1 Report Terminology and Sources

The following terms are used in this Clearing Report:

- **Clearing Area** – The maximum amount of native vegetation to be cleared for the Proposal that will accommodate the designed earthworks and, typically, a nominal buffer to allow for the safe movement of machinery during construction. The Clearing Area for this Proposal is 78.67 ha.
- **Development Envelope** – The maximum extent within which the Clearing Area will be located. This envelope is larger than the Clearing Area to allow for minor changes to the Proposal footprint as the design process continues, and to account for minor and unexpected changes that may occur during construction, such as working to avoid a large tree or encountering buried boulders or services. This flexibility allows the site personnel to make modifications to the Proposal to avoid areas that may contain better environmental values. The CAR has assessed all environmental values within the Development Envelope as though all of these values will be impacted, up to the amount specified within the Clearing Area. The Development Envelope for this Proposal is approximately 465 ha.
- **Study Area** – Area covered by the Desktop Assessment. The Study Area for the Proposal is confined to a local area of a 40 km radius.
- **Survey Area** – Area covered by the Biological Surveys (Ecologia, 2022; Astron, 2024; Ecoscape, 2024).

2.2 Desktop Assessment

A desktop assessment of the Development Envelope was undertaken by viewing internal datasets and other government agency managed databases, and consulting with relevant stakeholders where necessary. Results from searches can be found in Appendix 1.

GIS layer viewing and mapping is done using ArcMap and/or Main Roads corporate mapping system known as iMaps. Referencing of the GIS layers accessed is done under the relevant methodology section of each clearing principle. Government managed databases were searched to locate additional information, which are found under References in Section 8.

2.3 Surveys and Assessments

The surveys/assessments undertaken to inform this CAR are outlined Table 2 and a summary of the findings in these reports are presented in Sections 3.1 to 3.3.

Table 2. Summary of Biological and Targeted Surveys Relevant to the Proposal

Consultant and Survey Name	Survey Details
Ecologia (2022) Jump up to Pentecost River Upgrade Biological Survey	Survey Area: The Survey Area comprised approximately 365 ha along Gibb River Road from SLK 562 – 594 including the road reserve and prospective material pits with a 400 m Contextual Area. Type: The Survey Area was subject to a single-phase detailed flora and vegetation survey and a basic vertebrate fauna and fauna habitat assessment Timing: The Survey was conducted from 14 - 18 June 2021. Survey Results Shapefile TRIM Ref: D22#685302 Document TRIM Ref: D22#113951
Astron (2024) 910b Rob Hill Gravel Reserve Biological Assessment April to June 2024	Survey Area: The Survey Area was located at SLK 640 on Gibb River Road and comprised approximately 236.5 ha of Robb Hill Reserve with a 500 m Contextual Area. Type: Detailed and targeted flora survey, in addition to a basic and targeted fauna survey of the Survey Area. Timing: Fieldwork was conducted from 20 to 21 June 2024. Survey Results Shapefile TRIM Ref: D24#1427771 Document TRIM Ref: D24#1396095
Ecoscape (2024) Gibb River Road to Home Valley Station Biological Survey	Survey Area: The Survey Area comprised approximately 405.91 ha along Gibb River Road from SLK 562 – 594 including the road reserve and prospective material pits with a 400 m Contextual Area. Type: The Survey Area was subject to Detailed flora/Basic fauna survey (collectively referred to as 'Detailed Survey Area') and two parcels subject to Targeted flora searches that occupied 301.09 ha Timing: The flora component was conducted from 7-16 June 2024 and the fauna component was conducted from 19 to 20 April 2024. Survey Results Shapefile TRIM Ref: D24#1464273 Document TRIM Ref: D24#135529

3 SURVEY RESULTS

3.1 Summary and Analysis of Flora and Vegetation Surveys

Ecologia (2022)

A total of 190 vascular plant taxa (species, infraspecific taxa, and phrase names) representing 55 families and 108 genera were recorded during the survey. No EPBC Act (1999) or BC Act (2016) listed Threatened species were recorded. One DBCA listed Priority species was recorded within the Survey Area: *Goodenia brachypoda* (P1).

Eight introduced plant species were recorded within the Survey Area. None are listed as Declared Pests or are classified as a Weeds of National Significance (WONS).

Hierarchical agglomerative clustering was conducted using floristic data from 24 quadrats within the Survey Area. Based on this classification, ten vegetation types were characterised and mapped, with vegetation consisting mainly of *Terminalia canescens*, *Terminalia hadleyana*, *Cochlospermum fraseri* low open woodland on clay/clay-loam hills and undulating plains and *Corymbia opaca*, *Buchanania oblongifolia*, *Cochlospermum fraseri*, *Terminalia hadleyana* low woodland on silty, clay, loam low hills and undulating plains. Vegetation within the Survey Area was mostly in 'Very Good' to 'Excellent' condition. None of the vegetation types are considered significant based on available data.

Astron (2024)

Four vegetation units were recorded across the Survey Area and accounted for 185.7 ha of the Survey Area. A further 50.8 ha was mapped as Cleared where vegetation has been removed for existing infrastructure, including roads and borrow pits. A total of 48.8 ha of the Survey Area was mapped as Regrowth vegetation.

No threatened or priority ecological communities were recorded in the Survey Area. Vegetation condition ranged between Excellent to Degraded with the majority (57.9%) of the Survey Area vegetation rated as Excellent.

No State or Commonwealth listed threatened flora were recorded within the Survey Area. One priority flora species was considered to have the potential to occur: *Goodenia brachypoda* P1.

Weed diversity was low, with three introduced species recorded within the Survey Area:

**Calotropis procera*, **Neltuma* sp. and **Stylosanthes scabra*. **Neltuma* sp. is listed as a Weed of National Significance and a declared pest plant, and **Calotropis procera* is listed as a declared pest plant in Western Australia. One individual of **Neltuma* sp. and two individuals of **Calotropis procera* were located within the Survey Area.

Ecoscape (2024)

Prior to undertaking the field survey, an initial desktop assessment was completed. The key findings of the desktop assessment were:

- four pre-European vegetation associations intersect the Survey Area, each with greater than 97% of their statewide extent remaining.
- two Priority Ecological Communities identified by the database search from within 40 km (the 'study area'); neither of these have been recorded within the Survey Area. The nearest PEC occurrence is 1.46 km from the Survey Area (Vegetation Association 838).
- 25 conservation-listed flora were identified as having been recorded within the study area by the database searches consisting of one Threatened Flora, 11 Priority 1, five Priority 2

and eight Priority 3. One P1 (*Goodenia brachypoda*) and one P3 (*Brachychiton incanus*) have been previously recorded from within the Survey Area. One P1 (*Goodenia heterotricha*) was identified as being Likely to occur based on the information available during the desktop assessment. A further three conservation-listed flora taxa that 'may occur' within the Survey Area (*Euploca cupressina*; P1, *Grevillea latifolia*; P2 and *Tephrosia* sp. Mistake Creek (A.C. Beaglehole 54424); P3) were also prioritised for field survey.

The key findings of the field survey were:

- 42 floristic quadrats established within the Survey Area.
- 305 vascular flora recorded from the Survey Area, including:
 - six conservation-listed flora; *Euploca cupressina* (P1), *Goodenia brachypoda* (P1), *Goodenia heterotricha* (P1), *Tephrosia cardiophylla* (P1), *Dolichandrone filiformis* (P2) and *Brachychiton incanus* (P3).
 - 16 introduced flora including one Declared Pest (**Calotropis procera*).
- thirteen vegetation types from four landform types (low hills/slopes, plains, drainage lines and wetlands/depressions) including:
 - no vegetation types considered representative of any TEC or PEC
 - two vegetation types considered representative of Groundwater Dependent Vegetation (GDV) including **TbAhMr** and **AtTb**, corresponding with Bindoola Creek and the Pentecost River respectively. A further two vegetation types may be considered as potential GDV (**EoEs** and **MvSsFt**).
- the vegetation condition ranged from Good to Excellent with the majority in Excellent (56.70%) or Very Good condition (33.89%). The main factors affecting vegetation condition were presence and abundance of weeds, grazing by cattle and historical clearing.

3.2 Summary and Analysis of Fauna Surveys

Ecologia (2022)

Fauna habitat assessments were undertaken at 32 sites to describe representative habitat types present within the Survey Area. Additional opportunistic searches for reptiles were conducted at 10 locations where piles of rocks and boulders were present.

Four fauna habitat types were identified within the Survey Area: Low Rocky Hill, Creekline, River and Floodplain. All habitat types are considered generally common at a local and regional level and were not restricted to the Survey Area. Habitat condition ranged from 'Good' to 'Excellent' with evidence of introduced herbivores and clearing contributing to lower condition ratings for several assessment sites. Evidence of recent fire (<1 year) was recorded at six habitat assessment sites (HA01-HA03 and HA09-HA11).

Sixty-eight vertebrate fauna species were recorded during the survey including three mammals (one introduced), 52 birds and 13 reptiles. Fauna recorded during the survey were generally common and are not restricted to Survey Areas. One Threatened species, the Gouldian finch (*Chloebia gouldiae* [EN EPBC Act, P4 BC Act]) was recorded at site HA18 and suitable habitat for this species is present in the River, Creekline and Floodplain habitat types. An additional four Migratory birds protected under international agreements (Caspian tern, common greenshank, common sandpiper and gull-billed tern)

have previously been recorded within the Survey Area; however, these species were not observed during the current survey.

The post-survey likelihood of occurrence assessment identified six significant birds (glossy ibis, osprey, peregrine falcon, purple-crowned fairy-wren, partridge pigeon and grey plover) considered 'Likely' to occur within the Survey Area based on the presence of suitable habitat and proximity (<10km) of DBCA Threatened and Priority Fauna Database records.

Two reptiles (the Australian freshwater crocodile and salt-water crocodile) and one mammal (northern leaf-nosed bat) were assessed as to 'Possible' occur within the Survey Area due to distance of records from the Survey Area and limited availability of suitable habitat. The dwarf sawfish was also assessed as 'Possible' to occur within the Survey Area, despite the age of DBCA Threatened and Priority Database records (most recent 1989), as the species was historically recorded 3 km from the Survey Area within a Pentecost River tributary and has a lifespan of approximately 50 years. An additional eleven Migratory birds are considered 'Possible' to occur within the Survey Area; however, usage of habitat within Survey Area by these species is likely to be restricted to intermittent visitation on a seasonal basis.

Astron (2024)

One natural broad fauna habitat was recorded within the Survey Area, Eucalypt Woodland Plain, which is not restricted at a local or regional level. Fauna habitat condition ranged from High Quality to Highly Degraded. Historic vegetation clearing for tracks and historic borrow pits was evident across the Survey Area, and disturbance by cattle grazing was common throughout.

One fauna species of conservation significance was recorded within the Survey Area. The Orange Leaf-nosed Bat (*Rhinonictis aurantia*) (Priority 4) was recorded by ultrasonic bat detector at one location within the Survey Area, in Highly Modified habitat near a temporary pool. Post-survey, five conservation significant fauna species, were considered to have a high likelihood of occurrence within the Survey Area: Gouldian Finch (*Erythrura gouldiae*) (Endangered; Priority 4), ghost bat (*Macroderma gigas*) (Vulnerable; Vulnerable), peregrine falcon (*Falco peregrinus*) (Other Specially Protected), glossy ibis (*Plegadis falcinellus*) (Migratory; Migratory) and fork-tailed swift (*Apus pacificus*) (Migratory; Migratory). A further 11 species, including six migratory bird species, were considered to have a moderate likelihood of occurrence within the Survey Area.

The Eucalypt Woodland Plain habitat and temporary pools noted in the Survey Area may provide favourable foraging habitat for a suite of species, including Orange Leaf-nosed Bat, Gouldian Finch, Ghost Bat, Grey Falcon, Bare-rumped Sheath-tailed Bat and various migratory bird species. Additionally, the larger trees within the Eucalypt Woodland Plain habitat may provide some limited roosting opportunity for the Bare-rumped Sheath-tailed Bat. None of the habitats present within the Survey Area would be considered critical habitat for any of these significant species, and all of these habitats are widespread and well-represented across the region.

Ecoscape (2024)

Prior to undertaking the field survey, an initial desktop assessment was completed. The key findings of the desktop assessment were:

- 31 conservation-listed fauna species were identified by the DBCA database search within the study area including five mammals, 25 birds and one reptile. One conservation-listed fauna species has been previously recorded within the Survey Area and a further three were assessed as Likely to occur.

The key findings of the vertebrate fauna field survey were:

- five distinct habitat types were recorded from within the Survey Area: Low hills, Major drainage, Minor drainage, Plains and Floodplain. None are of local or regional significance and are abundant in the landscape.
- 75 vertebrate fauna species were recorded; including four conservation-listed/of conservation interest: Gouldian Finch (EN EPBC and P4 DBCA status), Freshwater Crocodile (OS DBCA status), Peregrine Falcon (OS DBCA status) and Rainbow Bee-eater (MA EPBC status).

4 DESKTOP ASSESSMENT OF VEGETATION

4.1 Desktop Vegetation Description

Table 3 and

Table 4 provide details of the vegetation types and their condition within the Development Envelope and the remaining extents of these associations.

For a full description of the existing vegetation, refer to the Biological Reports detailed in Table 2.

Table 3. Summary of Vegetation Types within Development Envelope.

Vegetation Type	Total Extent Mapped within Survey Area (ha)	Extent within Development Envelope (ha)
Woodlands		
W1 <i>Eucalyptus chlorophylla</i> and <i>Adansonia gregorii</i> open woodland over <i>Corymbia greeniana</i> , <i>Petalostigma pubescens</i> and <i>Lysiphyllum cunninghamii</i> low open woodland over * <i>Stylosanthes scabra</i> scattered low shrubs over <i>Chrysopogon fallax</i> , <i>Eriachne obtusa</i> and <i>Heteropogon contortus</i> open tussock grassland to tussock grassland with <i>Sorghum stipoides</i> very open to scattered annual grasses with <i>Cyperaceae</i> sp. very open sedgeland.	94.66	6.72
W2 <i>Eucalyptus chlorophylla</i> , <i>Corymbia greeniana</i> and/or <i>Corymbia ferruginea</i> low open woodland over * <i>Stylosanthes scabra</i> scattered shrubs over <i>Petalostigma quadriloculare</i> and <i>Dodonaea hispidula</i> var. <i>arida</i> low open shrubland over <i>Triodia bynoei</i> very open to open hummock grassland with <i>Eriachne obtusa</i> , <i>Sorghum plumosum</i> and <i>Heteropogon contortus</i> very open to open tussock grassland with <i>Sorghum stipoides</i> very open annual grassland over <i>Buchnera linearis</i> and/or <i>Indigofera linifolia</i> scattered herbs.	488.60	117.22
W3 <i>Corymbia ferruginea</i> , <i>Erythrophleum chlorostachys</i> and <i>Petalostigma pubescens</i> low open woodland over <i>Triodia bynoei</i> open hummock grassland with <i>Sorghum plumosum</i> and <i>Eriachne obtusa</i> very open to open tussock grassland with <i>Sorghum stipoides</i> scattered annual grasses over <i>Abildgaardia schoenoides</i> very open sedgeland with <i>Vigna lanceolata</i> var. <i>filiformis</i> scattered vines.	105.41	10.83
Low Hills/Hillslopes		
EoCfTb <i>Eucalyptus obconica</i> and <i>Erythrophleum chlorostachys</i> low woodland over <i>Cochlospermum fraseri</i> , <i>Terminalia canescens</i> and <i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i> tall sparse shrubland over <i>Triodia ?bitextura</i> , <i>Sorghum stipoides</i> and <i>Eriachne obtusa</i> mid hummock/tussock grassland	587.82	0.00

Vegetation Type	Total Extent Mapped within Survey Area (ha)	Extent within Development Envelope (ha)
EpAtSs (Ecologia 2022: F) <i>Eucalyptus phoenicea</i> , <i>E. miniata</i> and <i>Corymbia dichromophloia</i> low woodland over <i>Acacia tumida</i> var. <i>tumida</i> tall sparse shrubland over <i>Sorghum stipoideum</i> , <i>Triodia ?bitextura</i> and <i>T. sp. 3</i> mid tussock/hummock grassland	420.44	9.05
E <i>Terminalia canescens</i> , ± <i>Eucalyptus ?obconica</i> , ± <i>Eucalyptus miniata</i> low open woodland; <i>Triodia bitextura</i> low open hummock grassland.	5.11	2.81
Undulating plains		
CgMmTb <i>Corymbia grandifolia</i> subsp. <i>lamprocardia</i> low open woodland over <i>Melaleuca minutifolia</i> , <i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i> and <i>Terminalia canescens</i> mid sparse shrubland over <i>Triodia ?bitextura</i> , <i>Eriachne fastigiata</i> , and <i>Acacia lycopodiifolia</i> low hummock/tussock grassland/shrubland	513.07	56.29
CgSsAh (Ecologia 2022: C) <i>Corymbia greeniana</i> , <i>Buchanania oblongifolia</i> and <i>Acacia platycarpa</i> mid open woodland over <i>Sorghum stipoideum</i> , <i>Acacia</i> sp. Kununurra (Lullfitz 6195) and <i>Senna oligoclada</i> mid grassland/shrubland over <i>Aristida holathera</i> var. <i>holathera</i> , <i>Eriachne obtusa</i> and <i>Waltheria indica</i> mid tussock grassland/shrubland	83.76	33.42
EoAtEo (Ecologia 2022: D) <i>Eucalyptus obconica</i> and <i>Corymbia dichromophloia</i> low open woodland over <i>Acacia tumida</i> var. <i>tumida</i> and <i>Acacia</i> sp. Kununurra (Lullfitz 6195) mid open shrubland over <i>Eriachne obtusa</i> , <i>Sorghum stipoideum</i> and <i>Triodia ?bitextura</i> mid tussock/hummock grassland	127.18	41.01
LcTcEo (Ecologia 2022: G) <i>Lysiphyllum cunninghamii</i> low open woodland over <i>Terminalia canescens</i> , <i>Melaleuca minutifolia</i> and <i>Cochlospermum fraseri</i> mid sparse shrubland over <i>Eriachne obtusa</i> , <i>Chrysopogon fallax</i> and <i>Sorghum plumosum</i> var. <i>plumosum</i> mid closed tussock grassland	146.43	57.57

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Vegetation Type	Total Extent Mapped within Survey Area (ha)	Extent within Development Envelope (ha)
LcTcTb (Ecologia 2022: H) <i>Lysiphyllum cunninghamii</i> low open woodland over <i>Terminalia canescens</i> mid sparse shrubland over <i>Triodia ?bitextura</i> , <i>Eriachne obtusa</i> and <i>Sorghum stipoides</i> mid closed hummock/tussock grassland	196.52	93.28
Drainage lines		
AtTb (Ecologia 2022: I, J) <i>Acacia tumida</i> var. <i>tumida</i> , <i>Terminalia canescens</i> and <i>Lophostemon grandiflorus</i> subsp. <i>riparius</i> tall shrubland over <i>Triodia ?bitextura</i> and <i>Eriachne glauca</i> var. <i>glauca</i> hummock/tussock grassland	47.04	5.17
CgAtSs <i>Corymbia greeniana</i> mid open woodland over <i>Acacia tumida</i> var. <i>tumida</i> tall shrubland over <i>Sorghum stipoides</i> , <i>Mesosphaerum suaveolens</i> and <i>Whiteochloa biciliata</i> tall closed tussock grassland	20.84	0.64
MvSsFt <i>Melaleuca viridiflora</i> low woodland over <i>Sorghum stipoides</i> tall grassland over <i>Fimbristylis tetragona</i> and <i>Pseudopogonatherum contortum</i> mid sedgeland/grassland	19.35	0.00
TbAhMr (Ecologia 2022: B, Waterbody) <i>Terminalia bursarina</i> , <i>Melaleuca argentea</i> and <i>Eucalyptus camaldulensis</i> subsp. <i>obtusa</i> low woodland over <i>Acacia holosericea</i> tall sparse shrubland over <i>Mnesithea rottboellioides</i> mid sparse tussock grassland	25.59	0.00
TbEg (Ecologia 2022: A) <i>Terminalia bursarina</i> , <i>Acacia tumida</i> var. <i>tumida</i> and <i>Erythrophleum chlorostachys</i> tall sparse shrubland over <i>Eriachne glauca</i> var. <i>glauca</i> , <i>Triodia ?bitextura</i> mid tussock/hummock grassland	104.69	6.29
Unknown Drainage Astron (2024) mapped a drainage unit outside of the Survey in the Contextual area, however, due to survey limitations did not survey species composition.	34.57	0.00
Vegetation Type	Total Extent Mapped within Survey Area (ha)	Extent within Development Envelope (ha)
Wetland/depression		

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EoEs <i>Eucalyptus obconica</i> , <i>Corymbia grandifolia</i> subsp. <i>lamprocardia</i> low open woodland over <i>Eriachne</i> <i>sulcata</i> , <i>Chrysopogon fallax</i> and <i>E. obtusa</i> low tussock grassland	73.89	0.00
Other Mapping Units		
Regrowth Differing community compositions, affected by time since disturbance and comprised of variable species similar to adjacent vegetation units.	58.49	21.10
Cleared Not native vegetation (cleared) or waterbodies devoid of vegetation.	160.99	0.08
Total	3,314.44	461.49

Table 4. Pre-European Vegetation Representation within the Development Envelope.

Pre-European Vegetation Association	Scale	Pre-European Extent (ha)	Current Extent (ha)	% Remaining	% Current Extent in DBCA Managed Land (proportion of pre-European Extent)
Veg Assoc No. 61 Grasslands, tall bunch grass savanna woodland, coolabah over ribbon grass (<i>Crysopogon spp.</i>).	Statewide 61	185,472.52	185,315.67	99.92	0.55
	IBRA Bioregion <i>Victoria Bonaparte</i>	2,970.48	2,970.48	100.00	0.14
	IBRA Sub-region <i>Keep VIB01</i>	2,970.48	2,970.48	100.00	0.14
	Local Government Authority <i>SWEK</i>	3,004.91	3,004.91	100.00	0.13
Veg Assoc No. 75 Grasslands, curly spinifex, low tree savanna woodland; gnaingar (<i>Eucalyptus phoenicea</i>) & <i>Eucalyptus ferruginea</i> over <i>Triodia pungens</i> .	Statewide 75	1,961,050.02	1,961,013.43	100.00	0.00
	IBRA Bioregion <i>Central Kimberley</i>	1,956,790.30	1,956,753.72	100.00	0.00
	IBRA Sub-region <i>Pentecost CEK01</i>	1,956,790.30	1,956,753.72	100.00	0.00
	Local Government Authority <i>SWEK</i>	1,486,002.88	1,486,002.88	100.00	0.00
Veg Assoc No. 810 Grasslands, high grass savanna woodland; ghost gum & <i>Eucalyptus foelscheana</i> over upland tall grass (<i>Sorghum spp.</i>) & curly spinifex on basalt.	Statewide 810	79,037.47	79,037.47	100.00	1.19
	IBRA Bioregion <i>Victoria Bonaparte</i>	78,664.73	78,664.73	100.00	1.20
	IBRA Sub-region <i>Keep VIB01</i>	78,664.73	78,664.73	100.00	1.20
	Local Government Authority <i>SWEK</i>	79,037.47	79,037.47	100.00	1.19
Veg Assoc No. 814 Hummock grasslands, low steppe woodland; silver-leaved box (<i>Eucalyptus prunosa</i>) & <i>melaleuca</i> over <i>Triodia</i> .	Statewide 814	171,121.81	171,114.48	100.00	16.27
	IBRA Bioregion <i>Victoria Bonaparte</i>	110,409.18	110,401.85	99.99	25.22
	IBRA Sub-region <i>Keep VIB01</i>	110,409.18	110,401.85	99.99	25.22
	Local Government Authority <i>SWEK</i>	171,121.81	171,114.48	100.00	16.27
Veg Assoc No. 901 Grasslands, high grass savanna woodland; stringybark & woollybutt over upland tall grass & curly spinifex.	Statewide 901	4,781,133.26	4,683,522.84	97.96	18.68
	IBRA Bioregion <i>Central Kimberley</i>	2,250.27	2,250.27	100.00	3.09
	IBRA Sub-region <i>Pentecost CEK01</i>	2,250.27	2,250.27	100.00	3.09
	Local Government Authority <i>SWEK</i>	4,018,429.72	3,923,147.89	97.63	21.15

5 ASSESSMENT AGAINST THE TEN CLEARING PRINCIPLES

In assessing whether the Proposal's proposed clearing is likely to have a significant impact on the environment, the Proposal was assessed against the ten Clearing Principles (EP Act, Schedule 5).

Each principle has been assessed in accordance with the former Department of Environment Regulation (now Department of Water and Environmental Regulation (DWER) '[A Guide to the Assessment of Applications to Clear Native Vegetation](#)' (Department of Environment Regulation, 2014) and other relevant clearing permit application decision reports prepared by DWER.

The proposed clearing is at variance to Principle (f) and is not at variance, or not likely to be at variance, with the remaining Clearing Principles.

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Proposed clearing is not likely to be at variance to this Principle.

The Development Envelope does not occur in any of the eight Biodiversity Hotspots located in Western Australia. The nearest Biodiversity Hotspot is the Northern Kimberley IBRA region, located over 36 km northwest of the Development Envelope. Current guidance on the assessment of biological diversity, described in DER (2014), includes the following five metrics as indicators of high diversity:

1. Flora and Fauna Species Diversity;
2. Priority and other Significant Flora;
3. Fauna Habitat & Priority Fauna;
4. Significant Ecological Communities; and
5. Vegetation Condition.

Three Biological Surveys intersect the Development Envelope. Mapping for these areas has been clipped to the latest survey conducted (e.g., where Ecoscape (2024) mapping intersects Ecologia (2022) the Ecoscape mapping takes precedence due to its more recent nature) and vegetation units/fauna habitats amalgamated where descriptions are synonymous.

1. Flora and Fauna Species Diversity

Flora

Three biological surveys for flora species intersect the Development Envelope. These three surveys identified 104 (Astron, 2024), 305 (Ecoscape, 2024), and 192 (Ecologia, 2022) vascular flora taxa in the respective Survey Areas. None of the species recorded are listed as Threatened flora, whilst six species of Priority flora were recorded, of which three occur within the Development Envelope (those denoted by an asterisk in the list below). The six Priority flora species recorded in the Survey Area were:

1. *Euploca cupressina* (P1);
2. *Goodenia brachypoda** (P1);
3. *Goodenia heterotricha** (P1);
4. *Tephrosia cardiophylla* (P1);
5. *Dolichandrone filiformis* (P2); and
6. *Brachychiton incanus** (P3).

None of the plant taxa recorded represented range extensions. Some specimens were unable to be identified to species level, but were assessed with certainty that they did not resemble any currently described Threatened flora.

Of the 51 conservation significant flora species identified from the desktop search area, all species not recorded in the field assessment were assessed as either Unlikely or Very Unlikely to occur by the post-survey likelihood of occurrence assessment.

Vegetation types in the Development Envelope are likely to be common and widespread at a local and regional scale, based on the remaining extent of pre-European vegetation as outlined in Table 4. Floristic diversity within the Development Envelope is unlikely to be high in comparison to surrounding uncleared areas, both locally and regionally.

Fauna

A total of 75 (Ecoscape, 2024), 68 (Ecologia, 2022) and 53 (Astron, 2024) vertebrate fauna species were observed or positively identified from field evidence in the associated Biological Surveys. Fauna diversity in the Development Envelope is unlikely to be high in comparison to surrounding areas, locally or regionally, given the absence of 'River' and 'Major Drainage' fauna habitats which are more likely to support diverse assemblages of fauna, and the small amount (2.57 ha) of 'Minor drainage' habitat present. Habitats present in the Development Envelope are well represented in the greater Survey Area and surrounding Contextual Area. Habitat types are also likely to be widespread in the region, noting over 97% of pre-European vegetation remains at all scales (as seen in Table 4).

From these surveys, 29 conservation significant vertebrate fauna species were either Recorded, were considered Likely to Occur, or May occur in the Survey Area:

Recorded (5):

1. Gouldian Finch (*Chloebia gouldiae*) (EN EPBC Act, P4 BC Act)
2. Orange Leaf-nosed Bat (*Rhinonictis aurantia*) (P4 DBCA listed)
3. Freshwater Crocodile (*Crocodylus johnstonei*) (OS BC Act)
4. Peregrine Falcon (*Falco peregrinus*) (OS BC Act)

Migratory (1):

5. Rainbow Bee-eater (Rainbow Bee-eater) (MA EPBC Act)

Likely to Occur (6):

6. Ghost Bat (*Macroderma gigas*) (VU EPBC Act & BC Act)
7. Purple-crowned Fairy (Wren *Malurus coronatus coronatus*) (EN EPBC Act & BC Act)

Migratory Species (4):

8. Glossy Ibis (*Plegadis falcinellus*) (MI EPBC Act)
9. Grey Plover (*Pluvialis squatarola*) (MI EPBC Act & BC Act)
10. Osprey (*Pandion haliaetus*) (MI EPBC Act & BC Act)
11. Partridge Pigeon (western subspecies) (*Geophaps smithii blaauwi*) (VU EPBC Act & BC Act)

May Occur (18):

1. Grey Falcon (*Falco hypoleucos*) (VU EPBC Act & BC Act)
2. Bare-rumped Sheath-tailed Bat (*Saccolaimus saccolaimus nudiclunatus*) (VU EPBC Act; P3 DBCA listed)
3. Small Toadlet (*Uperoleia minima*) (P3 DBCA listed)
4. Letter-winged Kite (*Elanus scriptus*) (P4 DBCA listed)
5. Northern Leaf-nosed Bat (*Hipposideros stenotis*) (P2 DBCA listed)
6. Salt-water Crocodile (*Crocodylus porosus*) (MI EPBC Act, OS BC Act)
7. Dwarf Sawfish (*Pristis clavata*) (VU EPBC Act, P1 DBCA listed)

Migratory Species (11):

8. Curlew Sandpiper (*Calidris ferruginea*) (CR, MI & MA EPBC Act; CR BC Act)
9. Eastern Curlew (*Numenius madagascariensis*) (CR & MI EPBC Act; CR BC Act)
10. Fork-tailed Swift (*Apus pacificus*) (MI EPBC Act & BC Act)
11. Greater Sand Plover (*Charadrius leschenaultii*) (VU & MI EPBC Act; VU BC Act)
12. Little Curlew (*Numenius minutus*) (MI EPBC Act & BC Act)
13. Long-toed Stint (*Calidris subminuta*) (MI EPBC Act & BC Act)
14. Marsh Sandpiper (*Tringa stagnatilis*) (MI EPBC Act & BC Act)
15. Red-necked Stint (*Calidris ruficollis*) (MI EPBC Act & BC Act)
16. Sharp-tailed Sandpiper (*Calidris acuminata*) (MI EPBC Act & BC Act)
17. Whimbrel (*Numenius phaeopus*) (MI EPBC Act & BC Act)
18. Wood Sandpiper (*Tringa glareola*) (MI EPBC Act & BC Act)

2. Priority and other Significant Flora

A desktop search of DBCA TPFL and WA Herbarium records identified 51 species of conservation significant flora within 40 km of the Development Envelope. Of these species, six species of priority flora were recorded from the three Survey Areas, consisting of four P1 taxa, one P2, and one P3.

***Euploca cupressina* (P1)**

Euploca cupressina, previously known as *Heliotropium cupressinum*, is a perennial herb that grows in stony sandy soils and sandstone up to 0.6 m high and flowers in March to May (Western Australian Herbarium, 1998-). Prior to the field surveys, the nearest observation of the species was over 30 km northwest of the Development Envelope. *Euploca cupressina* has been recorded in three IBRA bioregions (Central Kimberley, Ord Victoria Plain and Victoria Bonaparte).

This species was recorded from three locations within the Survey Area. No observations of the species were made in the Development Envelope, the nearest being approximately 5.2 km northwest. The populations were not identified at the time of survey as the field identification resource was misleading, based on a specimen housed within the reference collection at the Western Australian Herbarium which was inaccurate. Therefore, the actual size/extent of the population is unclear, however, all records arise from a single vegetation type within a 1 km section of the Survey Area. It was recorded at low density (<1% cover) within each of the three quadrats. *Euploca cupressina* is known from 51 records in the Kimberley Region of Western Australia as well as the Northern Territory with an east-west range of approximately 380 km (ALA, 2024). Suitable habitat extends into the Contextual Area and beyond into the Northern Territory. Due to the wide distribution of the species, lack of records in the Development Envelope and availability of habitat adjacent to the Development Envelope, it is considered

unlikely that potential impacts to this species from the proposed clearing would be significant (Ecoscape, 2024).

***Goodenia brachypoda* (P1):**

Goodenia brachypoda is a prostrate herb that grows in red sandy loam with stems to 25 cm and produces yellow flowers in September (Western Australian Herbarium, 1998-). The species is known to occur within the Northern Kimberley and Victoria Bonaparte IBRA regions. Prior to the biological field surveys, the nearest observation of this species was approximately 27 km north of the Development Envelope. *G. brachypoda* is known from 15 records in the Western Australian Herbarium database, including a cluster of records around Kununurra and two other records over 300 km west north west and west south west, respectively. There are 141 records of this species in the Atlas of Living Australia database (ALA, 2024) which includes both the Kimberley Region of Western Australia and the Northern Territory, from an east-west range of approximately 625 km.

This species was recorded from 64 records totalling 758 plants within the Survey Area, likely representing up to three populations. An additional 416 plants were recorded from outside the Survey Area in the Contextual Area. As outlined in Section 1.6 (Avoidance and Mitigation), Main Roads has designed the Development Envelope to avoid the densest known occurrences of *Goodenia brachypoda*, where practicable. Approximately 355 individuals of *Goodenia brachypoda* have been excised from the initial Development Envelope design, reducing potential direct local impacts to this species from approximately 47.5% (558 of 1,174 individuals) to 17.2% (203 of 1,174 individuals). Whilst the Development Envelope includes approximately 17.2% of the individuals identified in the Survey Area and Contextual Area, not all individuals within the Development Envelope are likely to be impacted by the proposed clearing and significant populations of the species are likely to extend beyond Development Envelope in areas of suitable habitat, as illustrated by the additional 416 plants identified in the Contextual Area of Ecoscape's (2024) biological Survey. Based on the known distribution of the species and extensive occurrences outside the Development Envelope, it is considered unlikely that potential impacts to this species from the proposed clearing would be significant (Ecoscape, 2024).

***Goodenia heterotricha* (P1):**

Goodenia heterotricha is a slender, ascending herb with yellow flowers that has been recorded from plains, seasonally wet flats and gentle slopes in close proximity to drainage features (Western Australian Herbarium, 2024). The species is known to occur within the Central Kimberley IBRA region. Prior to the biological field surveys, the nearest observation of this species was approximately 2 km southwest of the most western extent of the Development Envelope.

The species was recorded from 79 records totalling 458 plants within the Survey Area, likely representing up to five populations. One population (6 records) totalling 18 individuals of the species was recorded within the Development Envelope. An additional 160 plants were recorded within the Contextual Area. *G. heterotricha* is known from six records from the Central Kimberley region with a range of approximately 100 km north-south. It was recorded from seven vegetation types within the Survey Area that are also well represented in the Contextual Area. Whilst this taxon can be considered poorly known based on the low number of previous records, it was recorded from seven vegetation types within the Survey Area that are also extensive within

the Contextual Area. Therefore, it is considered the potential impact to this species from the proposed clearing is unlikely to be significant (Ecoscape, 2024).

***Tephrosia cardiophylla* (P1):**

Tephrosia cardiophylla is low spreading shrub that grows from 0.25–0.6 m tall and 0.2–0.9 m wide (Barrett, 2015). The species grows in brown loam or red-brown clayey sand among sandstone rocks and produces small orange flowers in February and May. The species is known to occur within the Central Kimberley, Northern Kimberley, and Victoria Bonaparte IBRA regions. Prior to the biological field surveys, the nearest observation of this species was approximately 16 km north of the Development Envelope.

The species was recorded by Ecoscape (2024) from three records totalling 12 plants within the Survey Area, indicating a sparse/isolated distribution. It occurred in a single vegetation type that extended substantially into the Contextual Area. No individuals were located within the Development Envelope, and the nearest record is over 5.6 km northwest. *Tephrosia cardiophylla* is known from eight records in the Kimberley region with a range of 230 km east-west and can be considered a poorly known species. However, given the low number of plants recorded, high potential for additional plants within the Contextual Area, and lack of individuals within the Development Envelope, the potential impact to this species from the proposed clearing is unlikely to be significant

***Dolichandrone filiformis* (P2):**

Dolichandrone filiformis is a shrub or tree that occurs in sandstone, sandy soils and grows up to 4 m high, producing white flowers in December. The species is known to occur within the Northern Kimberley and Victoria Bonaparte IBRA regions (Western Australian Herbarium, 1998-). Prior to the biological field surveys, the nearest observation of this species was approximately 10 km west of the Development Envelope.

This species was recorded from two isolated plants within the Survey Area, of which the nearest is over 3.1 km west of the Development Envelope. *Dolichandrone filiformis* is known from 734 records from the Kimberley region as well as the Northern Territory with a distribution of approximately 1,000 km east-west (ALA, 2024). Based on the known distribution, low number of plants within the Survey Area, and the lack of observations within the Development Envelope, the potential impact to this species from the proposed clearing is unlikely to be significant (Ecoscape, 2024).

***Brachychiton incanus* (P3):**

Brachychiton incanus is a tree that occurs in sandy soils over sandstone or quartzite, rocky slopes, or scarps & ridges. The species grows from 4-15 m high, producing red/pink-red flowers from July to September. It occurs in sandy soils over sandstone or quartzite, rocky slopes, scarps & ridges. The species is known to occur within the Central Kimberley, Northern Kimberley and Victoria Bonaparte IBRA regions (Western Australian Herbarium, 1998-). Prior to the biological field surveys, the nearest observation of this species was approximately 2 km north of the Development Envelope.

This species was recorded from 20 records totalling 33 plants in the Survey Area, frequently observed as isolated plants. An additional five plants from two records were recorded from the Contextual Area. Of these, eleven are present within the Development Envelope. It was recorded from six vegetation types within the Survey Area that are also well represented in the Contextual

Area. *Brachychiton incanus* is known from 41 records within the Kimberley region with a range of 400 km east-west (ALA, 2024). Considering the relatively low number of plants recorded, high potential for substantial population within the Contextual Area and large known range of the species, the potential impact to this species from the proposed clearing is unlikely to be significant (Ecoscape, 2024).

3. Fauna Habitat and Priority Fauna

Amalgamated mapping of the three Biological Surveys and their intersects with the Development Envelope is summarised below in Table 5. These include 11 map units (including Cleared, and Highly Modified Areas). Mapping for these areas has been clipped to the latest survey conducted, and mapping amalgamated. All of these habitats are typically in Good or better condition.

Table 5. Fauna Habitat within the Development Envelope across three Biological Surveys (Astron 2024, Ecoscape 2024, Ecologia 2022).

FAUNA HABITAT & CODE	TOTAL EXTENT MAPPED (ha) WITHIN SURVEY AREA	EXTENT WITHIN DEVELOPMENT ENVELOPE (ha)
Creekline (CL) This habitat supports minor and major creeklines with scattered eucalypts over tussock grasses. During the survey, all creeklines within the Survey Area were dry; however, this habitat type may provide seasonal habitat for migratory birds, waterfowl, ducks and fish when inundated. Gouldian finches may visit this habitat type whilst foraging and utilise creeklines within the Survey Area as water sources when inundated.	5.86	2.36
Eucalypt Woodland Plain (EWP) Plains with brown to reddish-brown sandy clay loam and clay loam soils, with vegetation typified by an open woodland of <i>Corymbia</i> and <i>Eucalyptus</i> spp. with occasional <i>bauhinia</i> (<i>Lysiphyllum cunninghamii</i>) and <i>boab</i> (<i>Adansonia gregorii</i>) trees over open mixed shrubs of <i>Grevillea</i> , <i>Acacia</i> , and <i>kapok bush</i> (<i>Cochlospermum fraseri</i>) over tussock grassland with spear grasses (<i>Sorghum</i> spp.). This habitat type is described by W1, W2 and W3 vegetation units. The lower strata of grasses was typically quite dense, with logs and leaf litter providing good cover for small, ground-dwelling and burrowing species. Small tree hollows in the numerous mature, eucalypt trees, may provide some roosting and nesting habitat.	137.04	134.77
Floodplain (FP) This habitat types is found adjacent to major drainage lines with permanent water. It consists of <i>Corymbias</i> , <i>Eucalyptus</i> and <i>Acacias</i> over native tussock and or hummock grasses subject to seasonal inundation with a rocky/sandy substrate. Disturbances are minor and associated with previous clearing.	136.81	101.27

FAUNA HABITAT & CODE	TOTAL EXTENT MAPPED (ha) WITHIN SURVEY AREA	EXTENT WITHIN DEVELOPMENT ENVELOPE (ha)
Highly Modified (HM) Regrowth and W2 regrowth vegetation units, variably of sparse low Eucalypt woodland over tall Acacia shrubs, over tussock grasses, spear grass and herbs, or; inundated areas fringed with Melaleuca, Grevillea, Acacia and other mixed shrubs over open tussock grasses, or; sparse spear grass and small shrubs. While these areas are disturbed the regrowing thick undergrowth provides some habitat for small mammal and reptile species, and the soft soil provides habitat for burrowing species. Additionally, many areas have formed artificial ponds and pools during the wet season and continue to provide some feeding habitat and a water source for a range of species, for the wetter parts of the year.	48.78	21.10
Low Hills (LH) Low undulating rocky hills with scattered trees/shrubs (Corymbias, Eucalyptus and/or Acacias) to open woodland over tussock/hummock grassland. Boulders/rock piles are scarcely present throughout this habitat type. This habitat type has a varying fire history and is at different stages of regrowth.	226.56	7.06
Low Rocky Hill (LRH) Low Rocky Hills with scattered Acacia over Triodia and undulating hills. Boulders, rock-piles and rock-slabs are present within this habitat type, providing contain crevices and provide shelter, denning and roosting habitat for mammals and reptiles. Within the Survey Area, this habitat type exhibited evidence of widespread burning and was comprised of small, patchily distributed outcrops which lacked suitable niches for rock ringtail possums or scaly-tailed possums (e.g. fractured rock, large fissures and crevices or rugged rocky terrain).	194.61	124.09
Major Drainage (MJD) This habitat is associated with Bindoola Creek and the Pentecost River and is characterised by permanent water. The vegetation consists of riparian woodland/shrubland (Eucalyptus, Melaleuca spp.) over grassland on sandy substrate with occasional rocks.	4.14	0.00
Minor Drainage (MND) Scattered trees of Corymbia and/or Acacia spp. over tussock or hummock grasses on light brown loam, rocks and/or sand. This habitat type is subject to seasonal inundation.	29.15	2.57
FAUNA HABITAT & CODE	TOTAL EXTENT MAPPED (ha) WITHIN SURVEY AREA	EXTENT WITHIN DEVELOPMENT ENVELOPE (ha)

Plain (PL) Scattered trees/shrubs (Eucalyptus, Corymbias and/or Acacias) over tussock or hummock grassland on gently undulating country. The substrate is sandy/loam with occasional rocks. This habitat type has a varying fire history and is at different stages of regrowth and display varying levels of cattle disturbance.	101.47	65.70
River (R) This habitat type encompasses a portion of the Pentecost River which intersects the Survey Area. River habitat within the Survey Area encompasses riverine woodland and shrubland along the banks and sandy substrates. When inundated, the Pentecost River provides seasonal habitat for migratory birds, waterfowl, ducks, fish (including the dwarf sawfish) and both species of crocodile. Four Migratory bird species and one Threatened species have previously been recorded within this habitat. Gouldian finches were observed along the banks of the Pentecost River at habitat assessment site HA18 during the current survey.	16.89	0.00
Cleared Cleared areas, with no significant vegetation growth. However, in many areas artificial ponds and pools have formed during the wet season and continue to provide some feeding habitat and a water source for a range of species, for the wetter parts of the year.	106.98	0.29
TOTAL	1,008.29	459.19

These fauna habitats are likely widespread at a local and regional scale, with over 97% pre-European vegetation remaining at all scales, and less than 7.80% (up to 78.67 ha) of fauna habitat mapped is proposed to be cleared (Astron, 2024; Ecoscape, 2024; Ecologia, 2022). Ecoscape (2024) and Astron (2024) concluded that vegetation identified extends well beyond the Survey Area.

Therefore, fauna habitats in the Development Envelope are unlikely to comprise a high level of biodiversity in comparison to surrounding uncleared areas both locally and regionally. Furthermore, habitat proposed to be cleared adjacent to the existing road is unlikely to be significant for these species due to the frequent disturbance of vehicles and associated edge effects.

Further assessment of the significance of fauna habitat is provided in Clearing Principle (b).

4. Significant Ecological Communities

No Threatened or Priority Ecological Communities (TECs/PECs) listed under the EPBC Act or BC Act were recorded within the Development Envelope or the Survey Areas. The nearest is a Priority 1 Ecological Community over 3.6 km south of the Development Envelope.

None of the recorded vegetation units occur as small, isolated communities and all extend beyond the boundary of the Survey Area in multiple locations and are not considered to be limited in their local extent or distribution.

No significant ecological communities are likely to be impacted by the proposed clearing.

5. Vegetation Condition

Table 6. Vegetation Condition within the Development Envelope and Survey Area.

VEGETATION CONDITION	SURVEY AREA (ha)	DEVELOPMENT ENVELOPE (ha)
Excellent (incl. burnt)	655.59 (incl. 19.53 burnt)	338.48 (incl. 17.17 burnt)
Very Good	164.75	80.79
Good	17.43	10.26
Poor	21.52	18.41
Degraded	35.75	11.20
Cleared	113.24	0.09
Total	1,008.28	459.23

As shown in Table 6, the Development Envelope predominantly consists of vegetation mapped as Excellent (338.48 ha, 73.71%), followed by Very Good (80.79 ha, 17.59%) and Poor (18.41 ha, 4.01%). The availability of high-quality vegetation is unlikely to be significantly impacted by the proposed clearing, with over 88% of mapped Excellent vegetation remaining even if the entire proposed 78.67 hectares of clearing occurred within Excellent condition vegetation. Furthermore, this high-quality vegetation is likely to extend beyond the Survey Area, both locally and regionally given the surrounding landscape is largely uncleared. As such, no significant impact to the availability of vegetation in Good or better condition is anticipated from the proposed clearing.

Summary

The Development Envelope is not representative of any TEC or PEC, is unlikely to significantly impact conservation significant flora, does not contain critical fauna habitat, is unlikely to significantly impact conservation significant fauna, and will impact an insignificant amount of vegetation in Excellent condition. The Development Envelope is unlikely to comprise a high level of biodiversity based on the absence of key indicators.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

- Astron (2024)
- Barrett (2015)
- BoM (2025)
- DCCEEW (2025a)
- Ecologia (2022)
- Ecoscape (2024)
- Government GIS Shapefiles:
 - DBCA Threatened and Priority Ecological Community database search (Accessed March 2025)
 - DBCA Threatened and Priority flora database search (Accessed March 2025)
 - Ecological Linkages (Accessed March 2025)
- Natural Resource Management SLIP Soil Systems (Accessed March 2025)
- Government of Western Australia (2019)

- Western Australian Herbarium (1998-)
- Western Australian Herbarium (2024)

(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.

Proposed clearing is not likely to be at variance to this Principle.

Eleven fauna habitats (including Cleared and Heavily Modified areas) were mapped across the three biological surveys and are summarised in Table 5. These fauna habitats are likely widespread at a local and regional scale, with over 97% pre-European vegetation remaining at all scales, and less than 7.80% (up to 78.67 ha) of fauna habitat mapped is proposed to be cleared (Astron, 2024; Ecoscape, 2024; Ecologia, 2022). Ecoscape (2024) and Astron (2024) concluded that vegetation identified extends well beyond the Survey Area. Therefore, fauna habitats present in the Development Envelope are unlikely to be necessary for the maintenance of a significant habitat for fauna in comparison to surrounding vegetation which is widespread both locally and regionally. Furthermore, habitat proposed to be cleared adjacent to the Gibb River Road and existing material pits is unlikely to be significant for fauna due to the frequent disturbance by vehicles and associated edge effects.

A desktop search of DBCA TPFA records and PMST data within the Study Area (40 km buffer) identified 75 conservation significant fauna species. Of these species, 29 species were either Recorded or assessed as 'Likely to Occur', or 'May' occur based on distance to nearest records, species habitat preferences and habitat suitability in the Survey Area. Due to the significant distance between Gibb River Road SLK 580 – 590 (the Home Valley" section) and the Robb Hill Material Pit, the assessment of suitable habitat for these species has been conducted independently for each location.

Gouldian Finch

The closest known record is within the Survey Area at the Pentecost River Crossing, with other records sighted within 600 m of the Development Envelope at numerous locations. Their preferred habitat is rocky hills with hollow-bearing smooth-barked gums (*Eucalyptus brevifolia* or *E. tintinnans*) within two to four kilometres of small waterholes or springs that persist throughout the dry season. Dry season feeding habitat is dominated by annual spear grasses or native sorghum (*Sarga* species), and in the wet season birds shift to feeding from scattered patches of cockatoo grass (*Alloteropsis semialata*), golden beard grass (*Chrysopogon fallax*) or spinifex-dominated communities (*Triodia bitextura*; *T. acutispicula*; *T. bynoei*; *T. schinzii*) (O'Malley, 2006). Factors most likely to have caused past declines, and to be preventing recovery in Gouldian Finch populations are vegetation change through altered fire regimes and grazing by introduced herbivores (O'Malley, 2006; Legge et al., 2015). Routing by feral pigs can also cause significant damage to patches of foraging grass, and introduced herbivores can reduce or degrade waterholes used by Gouldian Finches in the dry season by trampling and eating surrounding vegetation (O'Malley, 2006). The proposed clearing is unlikely to contribute to any of the landscape-scale threats to the species.

Robb Hill (May Occur):

Habitats within the Survey Area (and consequently, the Development Envelope) had an open to very open canopy of small to medium Eucalyptus trees, which are unlikely to provide the necessary nest-hollow density and nest-hollow dimensions required for Gouldian Finch breeding. While breeding is unlikely in the Development Envelope (and Survey Area), there are foraging

resources available. The preferred foraging grass for Gouldian Finch, *Sorghum spp.*, was common across all vegetation units within the Survey Area (apart from Cleared areas) and throughout the Eucalypt Woodland Plain habitat type. Due to a range of breeding and foraging requirements, and proximity of nearby records, Gouldian Finches are considered to have a high likelihood of occurrence in the area around Robb Hill Material Pit. However, as the Development Envelope (and Survey Area) is unlikely to provide nesting habitat, and the potential foraging habitat provided is widespread throughout the region, it is unlikely that the Survey Area (and by extension, the Development Envelope), constitutes critical habitat for this species (Astron, 2024).

Home Valley SLK 580-590 (Recorded):

During Ecologia's 2022 Biological Survey a group of juvenile Gouldian Finches was recorded in the 'Low Hills' habitat type and again adjacent to the Development Envelope near the Pentecost River in Ecoscape's 2024 Biological Survey. The majority of the Survey Area provides suitable foraging habitat, and the Gouldian Finch can be regarded as a resident of the Survey Area. No Breeding habitat was identified in the Survey Area (Ecoscape, 2024). The Gouldian Finch is not likely to be reliant on the foraging habitat within the Development Envelope given the extensive and less disturbed suitable habitat surrounding the Development Envelope (Ecologia, 2022; Ecoscape, 2024). Due to the significant distribution of suitable habitat at a local and regional extent, no significant impact on the species is anticipated from the proposed clearing.

Orange Leaf-nosed Bat

Orange leaf-nosed bats are distributed across the northern part of Australia, from the Queensland-Northern Territory border, west across the Kimberley region of Western Australia, with a separate population and form of the species occurring within the Pilbara region (Atlas of Living Australia, 2024). This species is known to forage in a wide variety of habitats across their range, including monsoonal rainforest, mangroves, tall open forest, open savannah woodlands and spinifex grassland plains (Churchill et al. 1987, McKenzie et al. 1995, Churchill, 2008). This species requires roost caves with specific microclimate conditions during the dry season to prevent desiccation, the caves must be hot (28°C to 32°C) with a high relative humidity (85% to 100%) (Churchill et al., 1987; Jolly, 1988; Baudinette et al., 2000). Orange Leaf-nosed Bats are likely limited in their distribution by the availability of suitable dry season roost caves, rather than by availability of foraging habitat (Churchill, 1991; Armstrong, 2001). In the Northern Territory, orange leaf-nosed bats vary seasonally in their use of roosts, with colonies noted to leave roost caves during the wet season (Churchill, 1991; 1995). When emerging from roost caves to forage, Orange Leaf-nosed Bats have been observed to fly low to the ground and commonly forage in gorges, gullies and over water close to the roost, but may forage up to 20 km from the roost on a given night (Churchill et al., 1987; Armstrong, 2001; Bullen, 2022).

Robb Hill (Recorded):

This species was identified from approximately five calls per night picked up by an ultrasonic bat detector placed within the Highly Modified habitat (Astron, 2024). It is likely the bat(s) detected were foraging over the temporary water available at the location at the time of the survey. Both natural and artificial water bodies noted in the Survey Area are likely to provide favourable foraging habitat for this species during the wet season, and the remainder of the Eucalypt Woodland Habitat may provide some moderate foraging habitat throughout the year. However, there are no large rock or cave formations within the Survey Area, and it is unlikely the Survey Area (and by extension, the Development Envelope) provides any roosting habitat for this species. Given both the temporary pools and the Eucalypt Woodland Plain habitat are common and

widespread within the region, the Development Envelope does not represent critical habitat for this species.

Home Valley SLK 580-590 (Unlikely):

The nearest DBCA record of the species was made in 1992 and is over 22 km southeast of the Development Envelope. Both Ecoscape (2024) and Ecologia (2022) assessed the species is unlikely to occur in the Survey Area.

Due to the significant distribution of habitat in the local area and lack of roosting habitat, no significant impact on the species is anticipated from the proposed clearing.

Ghost Bat

The ghost bat is found across a wide range of habitats but relies on physiologically benign day roosts in temperature-stable caves with chambers or cavities that trap humidity (Bat Call WA, 2021). Ghost bats have relatively broad foraging habits, ranging across tree-lined drainage lines, isolated trees on the outskirts of plains, and productive plains of thin woodland over clumped tussock or *Triodia* hummock grass (Bat Call WA, 2021). Very high-frequency and GPS/satellite tracking studies have shown that ghost bats forage up to 12 km from their diurnal roosts (Augusteyn et al., 2018), with round trips of up to 30 km being recorded (Bat Call WA, 2021). Critical habitat for ghost bat comprises rocky gorge/gully and breakaway landforms that include maternity and/or diurnal roost caves, with foraging habitat within 12 km of such caves (Bat Call WA, 2021).

Robb Hill (Likely):

One previous record of Ghost Bat has been documented in 2019 approximately 17 km north of the Development Envelope. Potential foraging habitat for this species is broad, and potentially includes all habitats within the Survey Area, so ghost bats are highly likely to forage within the Survey Area. However, within the Survey Area, there are no rocky gorge/gully and breakaway landforms that could include any caves that ghost bat could use for roosts, and thus there is no critical ghost bat habitat within the Survey Area (and by extension, the Development Envelope).

Home Valley (Unlikely):

The species was assessed as unlikely to occur in the vicinity of Gibb River Road, SLK 580 - 590.

Due to the significant distribution of foraging habitat at a local and regional extent in both areas and lack of roosting habitat, no significant impact on the species is anticipated from the proposed clearing.

Peregrine Falcon

The Peregrine Falcon occurs throughout Australia and in most habitat types, with the exception of treeless and waterless desert, and dense forests (Birdlife International, 2022). This species utilises ledges, cliff faces, and large hollows/broken spouts of trees for nesting. It also occasionally uses the abandoned nests of other birds of prey (Johnstone and Storr, 1998). The Peregrine Falcon mates for life and pairs maintain a home range of about 20 km to 30 km square throughout the year (Australian Museum, 2019a). Critical breeding habitat does not occur in the Survey Area; however, due to its widespread movements, the species may overfly all habitat types. Peregrine falcons feed almost exclusively on birds, especially ducks, parrots and pigeons.

Robb Hill (Likely):

Twenty-seven peregrine falcon records were returned from database searches within 40 km of the Survey Area, with one record within 6 km west of the Survey Area (Astron 2024). This highly mobile, aerial predator is highly likely to utilise space above all habitats within the Survey Area. However, there is unlikely to be any suitable nesting habitat present, and the peregrine falcon would not be reliant upon any of the terrestrial habitats found within the Survey Area for foraging. As such, the Development Envelope is unlikely to represent significant habitat for the species and no significant impact on the species is anticipated.

Home Valley SLK 580-590 (Recorded):

Within the Survey Area a single Peregrine Falcon was observed flying over and potentially foraging within the 'Low hills' habitat type (Ecoscape, 2024). With one record within 1.5 km of the Survey Area and three additional records within the study area, this species is considered likely to intermittently overfly the Survey Area and may utilise all habitat types while foraging (Ecologia, 2022). This species is unlikely to be confined to the Survey Area and usage of habitats within the Survey Area is likely to be restricted to temporary visitation due to the absence of cliffs and rocky outcrops associated with breeding habitat. As such, the Development Envelope is unlikely to represent significant habitat for the species and no significant impact on the species is anticipated.

Due to the significant distribution of habitat in the local area, large home-range of the species, and lack of roosting habitat, no significant impact on the species is anticipated from the proposed clearing.

Purple-crowned Fairy Wren

The purple-crowned fairy-wren (western) inhabits dense, riparian vegetation in the wet-dry tropics of Western Australia and the Northern Territory (Smith & Johnstone, 1977; Boekel, 1979; Rowley & Russell, 1993, 1997). Its preferred habitat comprises a well-developed mid-storey under a dense canopy of emergent Eucalyptus and Melaleuca species (Garnett et al., 2011). In the Kimberley region, it usually occurs where the mid-storey is dominated by *Pandanus aquaticus* (Boekel, 1979) or *Barringtonia acutangula*, a freshwater mangrove (Skroblin & Legge, 2012), accompanied by a variety of shrubs. This species nests in dense pandanus grass from February until June and feeds on insects, spiders and cutworms (Johnstone and Storr 2004).

Robb Hill (Unlikely):

The species was assessed as unlikely to occur in the vicinity of Robb Hill Gravel Reserve.

Home Valley SLK 580-590 (Likely to Occur):

The closest record of the Purple-crowned Fairywren is located approximately 100 m north of the Development Envelope associated with the habitat surrounding Bindoola Creek, from 2015. Breeding habitat described as dense vegetation around permanent water is restricted to the Major drainage habitat type and limited within the Survey Area (4.14 ha, 0.41%) and no major drainage habitat is present within the Development Envelope. Foraging habitat is available across all other habitat types recorded from within the Survey Area. Post-survey, this species is considered as 'Likely to Occur' within the Survey Area. Suitable habitat is abundant outside of the Survey Area and associated with dense vegetation on the banks of Bindoola Creek and the Pentecost River. As the Survey Area contains only a small portion of the Pentecost River and suitable habitat extends well beyond the boundary of the Survey Area, the Purple-crowned Fairy-wren is considered unlikely to be restricted to the Survey Area.

Due to the significant distribution of suitable habitat at a local and regional extent, and noting the Development Envelope does not include any permanent water, no significant impact on the species is anticipated from the proposed clearing.

Grey Falcon

The Grey Falcon usually nests in the tallest trees along watercourses, particularly in river red gum (*Eucalyptus camaldulensis*) and coolibah (*E. coolabah*), but also in telecommunication towers (Marchant and Higgins, 1993; Schoenjahn, 2013; 2018). The species frequents timbered lowland plains, particularly *Acacia* shrublands that are crossed by tree-lined water courses (Garnett et al., 2011; Watson, 2011; Janse et al., 2015; Ley and Tynan 2016; Schoenjahn, 2018). Grey falcon have been observed hunting in treeless areas and frequenting tussock grassland and open woodland, especially in winter (Olsen and Olsen 1986; Schoenjahn, 2018).

Robb Hill (May Occur):

The Grey Falcon has only been recorded once within 40 km of the Development Envelope, a record taken approximately 30 km north of the Development Envelope in 1991 (Atlas of Living Australia, 2024) and the following nearest in DBCA records was made in 1977 over 47 km north. No suitable breeding habitat for the species occurs in Astron's (2024) Survey Area. Suitable foraging habitat for Grey Falcon is broad and may occur throughout the Survey Area. While previous records are scarce and from some time ago, the Grey Falcon has good dispersal abilities and a broad home range (~100 km²), and potentially may utilise habitats within the Survey Area on occasion. These habitats are widespread throughout the region, are likely to only be utilised for foraging, and are not likely to represent any critical habitat for this species (Astron, 2024). As such, habitat in the Development Envelope, whilst possibly suitable, is not representative of significant habitat for the species which is widespread across the regional area.

Home Valley (Unlikely to Occur):

Ecoscape (2024) concluded the Grey Falcon was unlikely to occur in the vicinity of Gibb River Road, SLK 580 – 590. As such, the species is unlikely to utilise this part of the Development Envelope.

Due to the significant distribution of habitat in Australia, lack of breeding or roosting habitat in the Development Envelope, no significant impact on the species is anticipated from the proposed clearing.

Bare-rumped Sheath-tailed Bat

The occurrence of this sub-species in Western Australia was disputed until recently due to the misidentification of specimens with a similar species, yellow-bellied sheath-tailed bat (*S. flaviventris*), and out-of-date taxonomy. Recent ultrasonic call analysis has detected the bare-rumped sheath-tailed bat at 40 sites across the Kimberley, in all five Kimberley bioregions, suggesting that this species is widespread at the western end of its Australian range (McKenzie et al., 2018). This species was found to forage over all major ecosystems in the Kimberley, in both sub-humid and semi-arid regions.

This poorly understood species broadly occurs in lowland areas, mainly in a range of forest, woodland and open environments. Suitable roosting and breeding habitat includes areas where tree hollows are present. The small number of roosts recorded in Australia have all been found in deep tree hollows of the following species: poplar gum (*Eucalyptus platyphylla*), Darwin

woollybutt (*E. miniata*), Darwin stringybark (*E. tetradonta*) and weeping paperbark (*Melaleuca leucadendra*) (Compton and Johnston, 1983; McKean, et al., 1981; Murphy, 2002).

Robb Hill (May Occur):

No records of the species are located within 40 km of the Survey Area (Astron, 2024). Some larger *Eucalyptus* trees within the Eucalypt Woodland Plain habitat may provide some limited roosting and breeding hollows for the bare-rumped sheath-tailed bat. However, most of these habitats had an open canopy of small to medium-sized eucalypts with only very occasional hollows. Potential foraging habitat is broad, and potentially includes all habitats within the Survey Area. However, as all habitats within the Survey Area are considered widespread throughout the region, it is unlikely the Development Envelope represents any critical habitat for this species (Astron, 2024). As such, no significant impact on the species is anticipated from the proposed clearing.

Home Valley (Unlikely to Occur):

The species was assessed as unlikely to occur in the vicinity of Gibb River Road, SLK 580 - 590. Due to the significant distribution of foraging habitat at a local and regional extent in both areas and lack of roosting habitat, no significant impact on the species is anticipated from the proposed clearing.

Freshwater Crocodile

Freshwater crocodiles inhabit various freshwater environments, including creeks, pools, billabongs, lagoons and swamps (Cogger, 2021). As habitats flood in the wet season, freshwater crocodiles are able to move throughout the floodplains, and when water levels drop in the dry season, they congregate within larger and deeper water bodies that remain (Australian Museum, 2024). While freshwater crocodiles spread out into the floodplains in the wet season, they do tend to return year on year to the same dry season water bodies (Australian Museum, 2024). Eggs are laid towards the end of the dry season into the wet, around October to November in sandbanks (Cogger, 2021) and take two to three months to hatch.

Robb Hill (May Occur):

Three previous records of freshwater crocodiles occur within 15 km of the Survey Area (Atlas of Living Australia, 2024), and while there is some temporary standing water, and suitable habitat present, most of that habitat is limited and highly modified within the Survey Area. While there is a moderate chance freshwater crocodiles might occur within the Survey Area, habitats within the Survey Area (and by extension, the Development Envelope) would not be considered optimal or critical habitat for freshwater crocodiles.

Home Valley SLK 580-590 (May Occur):

The nearest observation of the species is over 13 km from the Development Envelope, and over 24 km east of Home Valley works. Within the Survey Area suitable habitat is restricted to the Major Drainage habitat (Bindoola creek) (Ecoscape, 2024). Due to the limited extent of suitable habitat within the Survey Area, the Freshwater Crocodile can be regarded as an occasional visitor to the Survey Area. It is unlikely to occur in the Development Envelope given the absence of Major Drainage Habitat. Ecologia affirmed this, stating the species has the potential to intermittently utilise River habitat surrounding the Pentecost River crossing while travelling through the Survey Area (Ecologia, 2022). However, no River habitat is present within the Development Envelope. Extensive suitable habitat is present outside of the Survey Area and consequently, the Development Envelope. Thus, habitat in the Development Envelope is not critical for the species (Ecoscape, 2024).

Small Toadlet

The small toadlet is a tiny species of frog, reaching just 2.5 cm in body length (Australian Museum, 2019b). It was previously believed to be restricted to the Mitchell Plateau but is now thought to be distributed throughout the northern Kimberley (Western Australian Museum, 2014). Its preferred habitat is described as dense grasslands subject to flooding, but little is known of its breeding biology. To bridge this gap, assumptions of the species are that it is similar to other *Uperolia* species, and likely breeds from the summer into autumn during the wet season (Western Australian Museum, 2014; Australian Museum, 2019b).

Robb Hill (May Occur):

Two previous records of small toadlet occur within 24 km to 30 km west-northwest of the Survey Area (Atlas of Living Australia, 2024). One is an observation from 2020, and one is a Western Australian Museum collection from 1994, (although it should be noted that both of these records have been generalised to 10 km) (Atlas of Living Australia, 2024). Surface water features within the Eucalypt Woodland Plains habitat, and the nearby Rocky Drainage Line habitats are likely to be suitable habitat for this species. However, the majority of the surface water features within the Survey Area are highly modified and, whilst the species is moderately likely to occur in these habitat types, it is unlikely that these features form any critical habitat for the small toadlet.

Home Valley SLK 580-590 (May Occur):

The nearest mapped DBCA record of this species is 12 km east of the Development Envelope. Habitat adjacent to the road network is unlikely to be critical for the species, potentially using small pools of water in drainage habitat. However, this habitat is a result of road infrastructure works and is unlikely to be critical for the species.

Due to the significant distribution of habitat in the local area, and works are proposed to occur outside of the species' breeding season, no significant impact on the species is anticipated from the proposed clearing.

Letter-winged Kite

Letter-winged kites are small, gregarious, nocturnal birds of prey, found only in Australia (Debus, 2019; Atlas of Living Australia, 2024). Their preferred habitat is semi-arid open, shrubby or grassy country, common across the interior of the continent, where they hunt nocturnally, and roost communally during the day in well-foliaged trees (Debus, 2019). Letter-winged kites are specialist predators of rodents, and their abundance or even presence is heavily dependent upon available food resources. Significant rainfall events in arid areas can lead to surges in rodent numbers, which in turn lead to irruptions of letter-winged kites (Debus, 2019). While common in the southern parts of the Northern Territory and across the Barkly Tableland, this species is generally rare within Western Australia (Atlas of Living Australia, 2024).

Robb Hill (May Occur):

This species has been recorded from three locations, between 1994 and 2013, within 40 km of the Survey Area, the nearest being over 21 km southwest of the Development Envelope. These nearby records all occur in proximity to larger waterbodies and irrigated fields. While it is moderately likely that letter-winged kite may occur within the Survey Area at times, given their broad range and high degree of mobility, it is unlikely that any habitats within the Survey Area (or Development Envelope) constitute critical foraging or roosting areas for this species. No significant impact on the species is anticipated from the proposed clearing.

Home Valley SLK 580-590 (Unlikely to Occur):

The nearest DBCA record of the species to this part of the Development Envelope is approximately 49 km northwest. Due to the rarity of the species in Western Australia and lack of observations this far west, it is unlikely for the species to occur in this part of the Development Envelope. No significant impact on the species is anticipated from the proposed clearing.

Northern Leaf-nosed Bat

The Northern Leaf-nosed Bat occurs across the top end of Australia, with two disjunct populations: one in the Kimberley region of Western Australia, and the other in the Northern Territory and western Queensland. Searches for the Northern Leaf-nosed Bat in the Northern Territory revealed that this species is closely associated with steep hills and escarpments and does not typically forage far from diurnal roosts, unlike other cave-dwelling species.

The Northern Leaf-nosed Bat feeds predominantly on small insects detected with high-frequency echolocation calls and caught during a fluttering flight. Northern leaf-nosed bats roost alone or in well-separated pairs (Churchill, 1998). In the Kimberley, the breeding season of this bat extends from October through to at least the end of January, with some individuals being in the early stages of pregnancy in July (Churchill, 1998).

Robb Hill (Unlikely):

The nearest observation of the species is over 28 km west of this part of the Development Envelope and was made in 2012. Astron (2024) did not identify the species or suitable habitat for the species within the Survey Area. As such, no significant impact on the species is anticipated from the proposed clearing.

Home Valley SLK 580-590 (May Occur):

With one record (2012) 12 km from the Survey Area, this species has the potential to intermittently overfly all habitat types within the Survey Area and may intermittently utilise habitat within the Survey Area whilst foraging. Low Rocky Hills habitat within the Survey Area and Development Envelope lack breakaways, caves and crevices which may provide roosting opportunities for the species. Both Ecoscape (2024) and Ecologia (2022) determined their respective Survey Areas are unlikely to provide critical roosting or foraging habitats for the species. As such, no significant impact on the species is anticipated from the proposed clearing.

Salt-water Crocodile

Salt-water Crocodiles range from Rockhampton in Queensland, across the coastal areas of the Northern Territory, to King Sound in Western Australia. They mostly occur in tidal rivers, coastal floodplains and channels, billabongs and swamps up to 150 km inland, but have been reported in the open sea as far south as Broome (Ecologia, 2022).

Saltwater crocodiles are opportunistic feeders using active hunting or a sit-and-wait strategy. Juvenile crocodiles eat insects, crustaceans, fish and reptiles, while adults prey on mammals, birds and fish (Wilson and Swan, 2010). In the Northern Territory, nesting occurs during the wet season, with a peak in January and February.

Robb Hill (Unlikely to Occur):

Whilst the species has been observed within 40 km of this section of Robb Hill material pit, there is not suitable habitat present within this section of the Development Envelope (Astron, 2024). As such, no significant impact on the species is anticipated from the proposed clearing.

Home Valley SLK 580-590 (May Occur):

With one record (2010) 26 km downstream of the Survey Area, this species has the potential to intermittently utilise the River habitat surrounding the Pentecost River crossing while travelling through the Survey Area. The proposed works do not intersect the Pentecost River or any Major Drainage habitat and as such are unlikely to significantly impact the species.

Dwarf Sawfish

Juvenile sawfish are known to inhabit protected shallow waters before maturing and migrating to deeper waters. However, vegetation clearing and widening of the existing low floodways will not significantly impact potential nursery habitats in the local area. Sawfish are more likely to inhabit the nearby Pentecost River where the species has historically been recorded.

No suitable habitat is present within the Development Envelope. As such, no significant impact on the species is anticipated from the proposed clearing.

Migratory Species (15):

Fifteen Migratory species were identified with varying likelihoods of occurring within the Development Envelope. These species are migratory bird species with varying preferences for marine and wetland habitats.

Robb Hill

No suitable wetland habitat is present within the Development Envelope; however suitable wetland habitat may be present in the surrounds. No significant impact on these adjacent areas is anticipated from the proposed clearing.

Home Valley SLK 580-590

Freshwater aquatic habitat is present within the Survey Area around the Pentecost River and its associated surroundings. However, the Pentecost River is not present in the Development Envelope. Due to the lack of critical habitat as illustrated with all other species in the Development Envelope and the widespread availability of this habitat at a local and regional extent, no significant impact on any migratory species is anticipated from the proposed clearing.

Summary

Fauna habitats within both the Survey Area and Development Envelope are likely widespread at a local and regional scale, with over 97% pre-European vegetation remaining at all scales, and less than 7.80% (up to 78.67 ha) of fauna habitat mapped is proposed to be cleared (Astron, 2024; Ecoscape, 2024; Ecologia, 2022). Furthermore, the Development Envelope does not include River or Major Drainage line habitat, nor does it contain any known unique or restricted habitat features such as caves. Uncleared areas in the surrounding landscape are more likely to provide critical fauna habitat than the Development Envelope, noting that clearing for road upgrade works and associated materials will preferentially utilise pre-disturbed areas where possible.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

- Armstrong (2001)
- Astron (2024)
- Atlas of Living Australia (2024)
- Augusteyn et al. (2018)
- Australian Museum (2019)
- Australian Museum (2019)
- Australian Museum (2024)
- Bat Call WA (2021)
- Baudinette et al. (2000)
- Birdlife International (2022)
- Boekel (1979)
- Bullen (2022)
- Churchill (1991)
- Churchill (1995)
- Churchill (1998)
- Churchill (2008)
- Churchill et al. (1987)
- Cogger (2021)
- Compton and Johnston (1983)
- Debus (2019)
- Ecologia (2022)
- Ecoscape (2024)
- Garnett et al. (2011)
- Government GIS Shapefiles:
 - DBCA Threatened and Priority fauna database search (Accessed March 2025)
 - Ecological Linkages (Accessed March 2025)
- Janse et al. (2015)
- Johnstone and Storr (2004)
- Jolly (1988)
- Legge et al. (2015)
- Ley and Tynan (2016)
- Marchant and Higgins (1993)
- McKean, et al. (1981)
- McKenzie et al. (1995)
- McKenzie et al. (2018)
- Murphy (2002)
- O'Malley (2006)
- Rowley & Russell (1993)
- Rowley & Russell (1997)
- Schoenjahn (2013)
- Schoenjahn (2018)
- Skroblin & Legge (2012)
- Smith & Johnstone (1977)
- Watson (2011)
- Western Australian Museum (2014)
- Wilson and Swan (2010)

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.

Proposed clearing is not at variance to this Principle.

Desktop database searches identified no known records of Threatened flora within a 40 km radius of the Development Envelope.

None of the biological surveys which intersect the Development Envelope recorded any Threatened flora taxa and none are considered likely to occur (Astron, 2024; Ecoscape, 2024; Ecologia, 2022).

Based on the above, the proposed clearing is not at variance to this Principle.

Methodology

- Astron (2024)
- Ecologia (2022)
- Ecoscape (2024)
- Government GIS shapefiles:
 - DBCA Threatened flora database search (Accessed March 2025)

(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.

Proposed clearing is not at variance to this Principle.

None of the vegetation types mapped within the Development Envelope by Ecologia (2022), Astron (2024) or Ecoscape (2024) comprised of a listed Threatened Ecological Community (TEC).

Based on the above, the native vegetation proposed for clearing does not comprise the whole or a part of, and is not necessary for the maintenance of a TEC.

The proposed clearing is not at variance to this Principle.

Methodology

- Astron (2024)
- Ecologia (2022)
- Ecoscape (2024)
- Government GIS shapefiles:
 - DBCA Threatened Ecological Community database search (Accessed March 2025)

(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.

Proposed clearing is not at variance to this Principle.

The National Objectives and Targets for Biodiversity Conservation recognise that the retention of 30% or more of the pre-clearing extent of each ecological community is necessary if Australia’s biological diversity is to be protected (Commonwealth of Australia, 2001).

Vegetation within the Development Envelope is broadly mapped as pre-European Vegetation Associations 61, 75, 810, 814, and 901 (as seen in Table 4), all of which have over 97% of their pre-European extent remaining (Government of Western Australia, 2019). The proposal is not located in an area that has been extensively cleared and the vegetation proposed for clearing is not significant as a remnant.

Based on the above, the proposed clearing is not at variance to this Principle.

Methodology

- Commonwealth of Australia (2001)
- Government GIS shapefiles:
 - Pre-European vegetation (Accessed March 2025)
 - Vegetation complexes (Accessed March 2025)
- Government of Western Australia (2019)

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Proposed clearing is at variance to this Principle.

Based on GIS hydrology datasets, no mapped watercourses or wetlands occur within the Development Envelope. The nearest mapped watercourses are Five Mile Creek and the Pentecost River (WWYS Geoscience Australia Regional Surface Hydrology Lines). As shown in Figures 5 and 8, the Development Envelope does not include these watercourses or associated vegetation.

However, Table 3 (Vegetation types within the Development Envelope) indicates there is approximately 12.1 ha of vegetation mapped within the Development Envelope growing in, or in association with, drainage lines. This includes vegetation types 'AtTb' (5.17 ha), 'CgAtSs' (0.64 ha) and 'TbEg' (6.29 ha).

Approximately 0.2 ha of clearing in drainage areas is required for this proposal, based on the proposal works design and a nominal 10 metre construction footprint buffer. This includes floodway upgrades at two small existing floodways associated with unmapped, unnamed watercourses. No alignment change is proposed at these floodways, which significantly reduces vegetation clearing required as existing cleared footprints can be utilised. Vegetation to be cleared at existing floodways will primarily be located in areas historically cleared to construct the floodway crossings.

Based on the above, the proposed clearing is at variance to this Principle.

Main Roads commits to less than 0.5 ha of clearing of native vegetation growing in, or in association with, an environment associated with a watercourse or wetland. The loss of a small amount of vegetation growing immediately adjacent to the existing small floodways of unmapped minor watercourses is unlikely to result in a loss of watercourse values or functions.

Methodology

- Astron (2024)
- Ecologia (2022)
- Ecoscape (2024)
- Government GIS shapefiles:
 - Ramsar Sites (Accessed December 2024)
 - Directory of Important Wetlands in Australia – Western Australia (Accessed December 2024)
 - WWYS Geoscience Australia Regional Surface Hydrology Lines (Accessed December 2024)

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Proposed clearing is not likely to be at variance to this Principle.

The Development Envelope intersects three Soil Landscape Systems (Payne and Schoknecht, 2011); including the Cockburn System, Pinkerton Land System and the Cockatoo Land System. An assessment of the land degradation risks associated with each of these systems is provided below:

Cockburn System:

This land system is characterised by low hills and undulating plains on shale supporting curly spinifex grasslands or paperbark sparse low woodlands over curly spinifex. This Land system is not usually prone to degradation or erosion, but control of grazing pressure and frequency of burning is desirable to minimise potential degradation. The proposed clearing will not alter existing grazing or fire regimes. No appreciable land degradation is anticipated from the proposed clearing.

Cockatoo System:

This land system is characterised by gently undulating timbered sandy country. The system supports pastures which are only moderately favoured by livestock and are generally stable with low susceptibility to erosion. No appreciable land degradation is anticipated from the proposed clearing.

Pinkerton System:

This land system is characterised by rugged stony country on sedimentary rocks with gentle slopes adjacent to streamlines may be subject to flash floods. Due to the rugged nature of this soil system, no appreciable land degradation is anticipated from the proposed works.

The DWER/ASRIS Acid Sulfate Soil risk mapping indicates that the Development Envelope is primarily classified as Extremely Low Probability of Occurrence. However, there is a small ~0.28 ha section of High Probability of Occurrence within the Development Envelope. Native vegetation clearing is unlikely to oxidise acid sulfate soils, which would be expected at depth below the weathered soil profile.

Given the Soil Landscape Systems in the Development Envelope have a low susceptibility to erosion, and primarily consists of an extremely low risk of interacting with acid sulfate soils, the proposed clearing is unlikely to cause appreciable land degradation.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

- Payne and Schoknecht (2011)
- Government GIS Shapefiles:
 - Acid Sulfate Soil Risk Map (Accessed March 2025)

(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.

Proposed clearing is not at variance to this Principle.

The Development Envelope is not located within, adjacent to, or nearby any conservation areas. The nearest conservation area, the Ngamoowalem Conservation Park, is approximately 6 km northwest of the Development Envelope. This conservation area covers more than 60,000 hectares and exists for the purpose of conservation and traditional aboriginal uses. Due to the significant distance to this area, no direct or indirect impacts to the environmental values of the Ngamoowalem Conservation Park are anticipated.

No other known conservation areas are located within 10 km of the Development Envelope. The nearest Environmentally Sensitive Area is approximately 10.3 km north of the Development Envelope, around the Parry Lagoons Nature Reserve.

The proposed clearing will not impact any buffers, ecological linkages or environmental values of any conservation areas.

Based on the above, the proposed clearing is not at variance to this Principle.

Methodology

- Government GIS Shapefiles:
 - DBCA Legislated Lands and Waters (Accessed March 2025)
 - DBCA Lands of Interest (Accessed March 2025)
 - Ramsar Sites (Accessed March 2025)
 - Directory of Important Wetlands in Australia – Western Australia (Accessed March 2025)

(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.

Proposed clearing is not likely to be at variance to this Principle.

The Development Envelope is not located within or adjacent to a Public Drinking Water Source Area (PDWSA) or CAWS Clearing Control Catchment (GIS databases). The nearest PDWSA is over 19 km north, and the nearest CAWS is over 2,100 km south. The Development Envelope is located in the proclaimed Canning-Kimberley Groundwater Area under the RIWI Act. The proposed clearing is unlikely to cause any deterioration in the quality of groundwater given the local catchment is largely uncleared and works are scheduled to occur during the dry season. Furthermore, no groundwater-dependent vegetation (GDV) is proposed to be cleared (Ecoscape, 2024).

No mapped watercourses or wetlands occur in the Development Envelope (GIS Databases). Part of the Development Envelope, Robb Hill Pit, intersects the proclaimed Wyndham Water Supply Surface Water Area. Proposed native vegetation clearing in this location is required for the investigation and extraction of materials for the expansion of an existing material pit. Given no surface water features intersect the Development Envelope, and areas surrounding the Development Envelope and in the local surface water catchment are largely uncleared, the proposed clearing is not likely to cause deterioration in the quality of surface water.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

- Astron (2024)
- Ecologia (2022)
- Ecoscape (2024)
- Government GIS Shapefiles:
 - RIWI Act, Surface Water Areas and Irrigation Districts (Accessed March 2025)
 - CAWSA Part 2A Clearing Control Catchments (Accessed March 2025)
 - RIWI Act, Groundwater Areas (Accessed March 2025)
 - Public Drinking Water Source Areas (Accessed March 2025)
 - WWYS Geoscience Australia Regional Surface Hydrology Lines (Accessed March 2025)

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Proposed clearing is not at variance to this Principle.

The subregional climate is described as dry winter and hot semi-arid summer with a median annual rainfall in the range of 836.4 to 869.3 mm (Wyndham Aero, and Kununurra Aero respectively, Station Numbers 1006 and 2056) (BoM, 2025). Extreme weather events are a significant component of the Kimberley climate. Tropical cyclones and tropical storms can bring heavy and sustained rainfall, particularly in the months leading up to and during the wet season. It is common for a large proportion of the region's rainfall to be recorded in one single event, leading to extensive flooding of rivers, creeks and roadways.

The proposed clearing will take place in the dry season, reducing the potential escalation of flooding, waterlogging or erosion. No changes to the existing levels of natural flooding are anticipated. As noted above, climatic conditions are the main factor influencing flooding and the proposed clearing will have no measurable influence on flood regimes in the area.

Based on the above, the proposed clearing is not at variance to this Principle.

Methodology

- BoM (2025)
- Government GIS Shapefiles:
 - Soil Mapping (Accessed March 2025)
 - Contours (Accessed April 2025)

6 REHABILITATION, REVEGETATION AND OFFSETS

6.1 Revegetation and Rehabilitation

No temporary clearing will be undertaken as part of the Proposal activities and therefore no revegetation or rehabilitation will be conducted under CPS 818.

6.2 Offset Proposal

No offset proposal is required as the proposed clearing will not result in significant residual impacts to native vegetation within the region.

7 COMPLIANCE WITH CPS 818

Table 7 summarises what further pre-clearing impact assessment is required in accordance with CPS 818.

Table 7. Summary of Additional Management Actions Required by CPS 818

Impact of Clearing	Yes/No or NA	Further Action Required
1. The CAR indicates that the clearing is 'At Variance' or 'May be at Variance' with one or more of the Clearing Principles.	Yes	No further action required. In accordance with the conditions of CPS 818/17, where the clearing is at variance or may be at variance to clearing principle (f) and no other clearing principle, and the area of the proposed clearing is less than 0.5 hectares in size and the clearing principle (f) impacts only relate to: (i) a minor non-perennial watercourse(s); and/or (ii) a wetland that is not a defined wetland; stakeholder submissions are not required to be sought, nor is the preparation of a Vegetation Management Plan (VMP), Offset Proposal or approval from the CEO (of DWER) required.
2. Clearing is at variance or may be at variance with Clearing Principle (g) land degradation, (i) surface or underground water quality or (j) the incidence of flooding.	No	No further action required.
3. Clearing is at variance with Clearing Principle (g) land degradation, (i) surface or underground water quality and (j) the incidence of flooding.	No	No further action required.
4. The Proposal involves clearing for temporary works (as defined by CPS 818).	No	No further action required.
5a. Proposal is within a Region that: has rainfall greater than 400mm; and, is South of the 26 th parallel; and, works are necessary in 'Other than dry conditions'; and, works have potential for uninfested areas to be impacted.	No	No further action required.

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Impact of Clearing	Yes/No or NA	Further Action Required
5b. Do the proposed works require clearing within or adjacent to DBCA managed lands in non-dry conditions?	No	No further action required.
6. Main Roads has been notified by DWER or an environmental specialist that the area to be cleared is susceptible to a pathogen other than dieback.	No	No further action required.
7. Weeds are likely to spread to and result in environmental harm to adjacent areas of native vegetation that are in good or better condition.	No	No further action required.
8. Did an environmental specialist conduct the survey or field assessment?	Yes	The Environmental Specialist undertaking the biological assessments was suitably qualified and had more than three years' experience.
9. Did an environmental specialist prepare the Assessment Report and any other associated documentation including the VMP, Dieback Management Plan or Offset Proposal?	Yes	The Environmental Specialist preparing the Assessment Report and any other associated documentation including the VMP, Dieback Management Plan or Offset Proposal was suitably qualified and had more than three years' experience.

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