GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 9131/1

File Number: DWERVT7077

Duration of Permit: From 22 May 2021 to 22 May 2023

PERMIT HOLDER

Shire of Mingenew

LAND ON WHICH CLEARING IS TO BE DONE

Mingenew-Morawa Road Reserve (PIN 11459987)

Yandanooka North-East Road Reserve (PIN 11460000)

AUTHORISED ACTIVITY

The permit holder must not clear more than 0.035 hectares of native vegetation within the areas cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

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

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

(a) avoid the clearing of native vegetation;

(b) minimise the amount of native vegetation to be cleared; and

(c) reduce the impact of clearing on any environmental value.

2. Weed management

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

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;

(b) ensure that no known weed-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and

(c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

3. Records that must be kept

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

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	(a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 1 of this permit; and (f) actions taken to minimise the risk of the introduction and spread of weeds in accordance with condition 2 of this permit.

4. Reporting

The permit holder must provide to the *CEO* the records required under condition 3 of this permit when requested by the *CEO*.

DEFINITIONS

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

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	*Environmental Protection Act 1986* (WA)
fill	means material used to increase the ground level, or to fill a depression.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS

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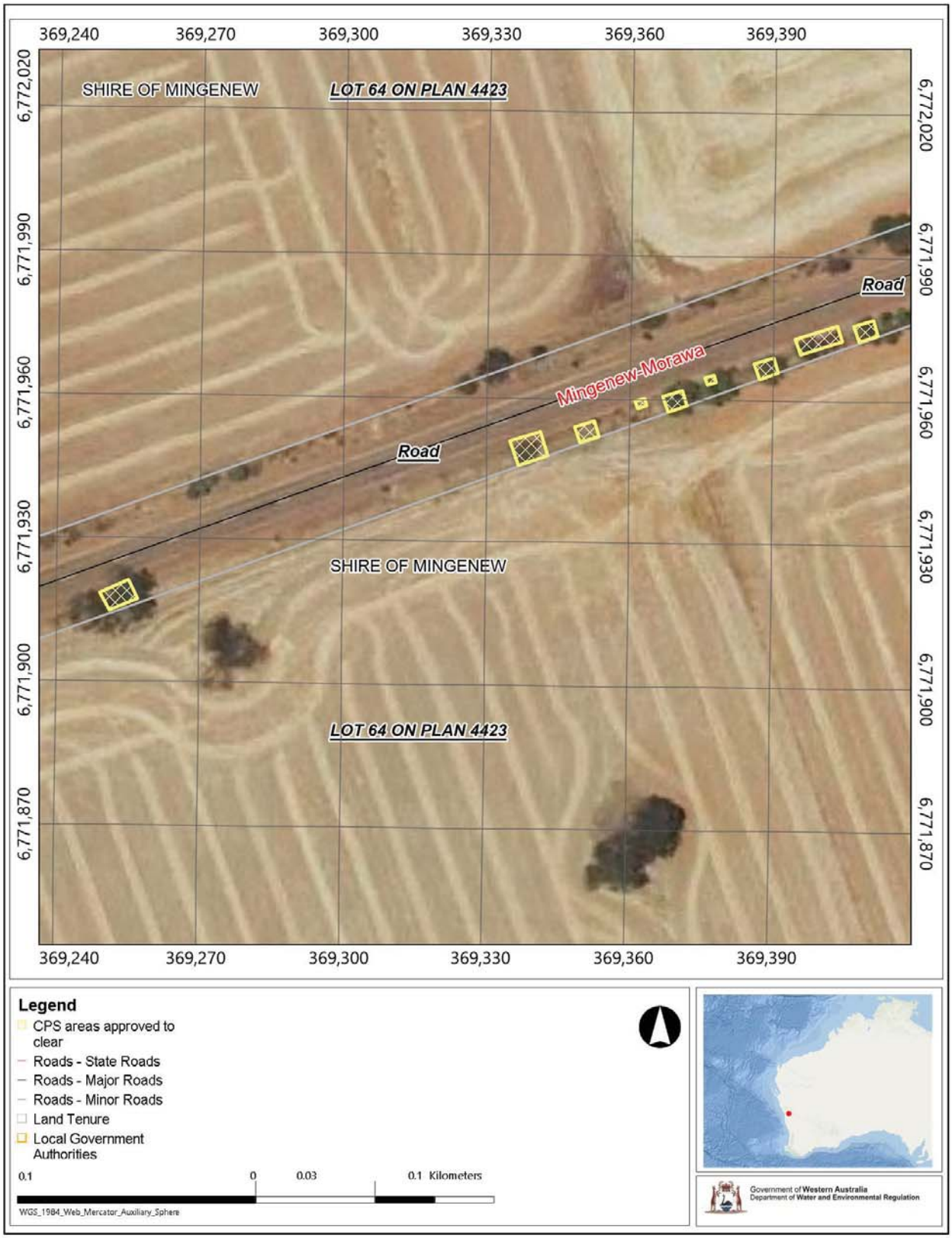
Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

29 April 2021

SCHEDULE 1

The boundary of the area authorised to be cleared is shown in the maps below.



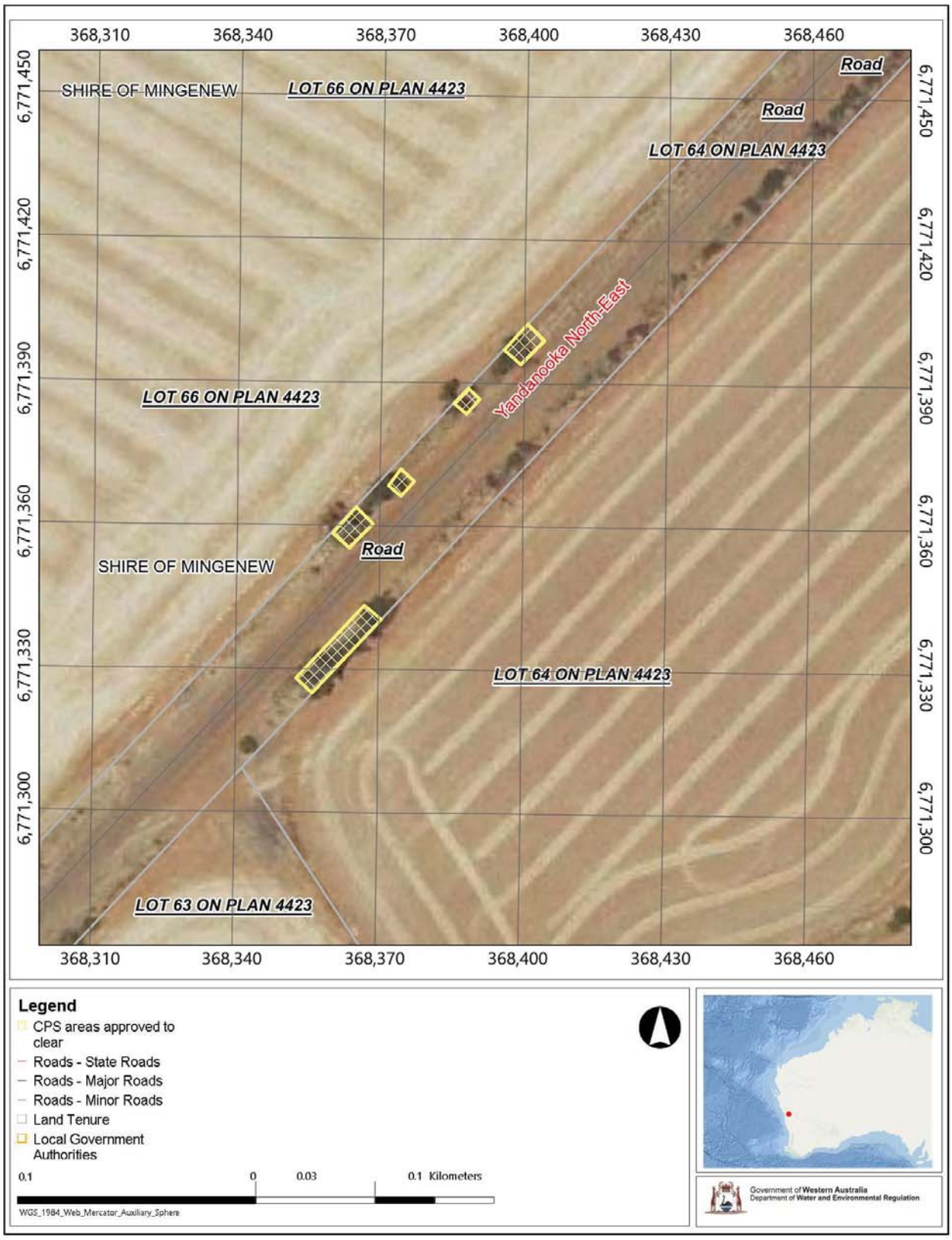


Figure 1: Maps of the boundary of the area within which clearing may occur

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9131/1
Permit type:	Area permit
Applicant name:	Shire of Mingenew
Application received:	2 December 2020
Application area:	0.035 hectares of native vegetation
Purpose of clearing:	Road intersection upgrades
Method of clearing:	Mechanical
Property:	Mingenew-Morawa Road reserve (PIN 11459987) Yandanooka North-East Road reserve (PIN 11460000)
Location (LGA area/s):	Shire of Mingenew
Localities (suburb/s):	Mount Budd

1.2. Description of clearing activities

The vegetation proposed to be cleared is 0.035 hectares of native vegetation distributed across 14 separate areas for the purpose of road intersection upgrades. (see Figure 1, Section 1.5).

1.3. Decision on application

Decision:	Granted
Decision date:	29 April 2021
Decision area:	0.035 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix H.1), the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration this clearing is in relation to road safety improvements.

Assessment of this application identified:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values; and
- the application area comprises native vegetation in an area that has been extensively cleared.

After consideration of the available information, the Delegated Officer determined the proposed clearing is unlikely to have long-term adverse impacts on environmental values. The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing; and
- implementation of hygiene measures to minimise the risk of the introduction and spread of weeds

1.5. Site maps

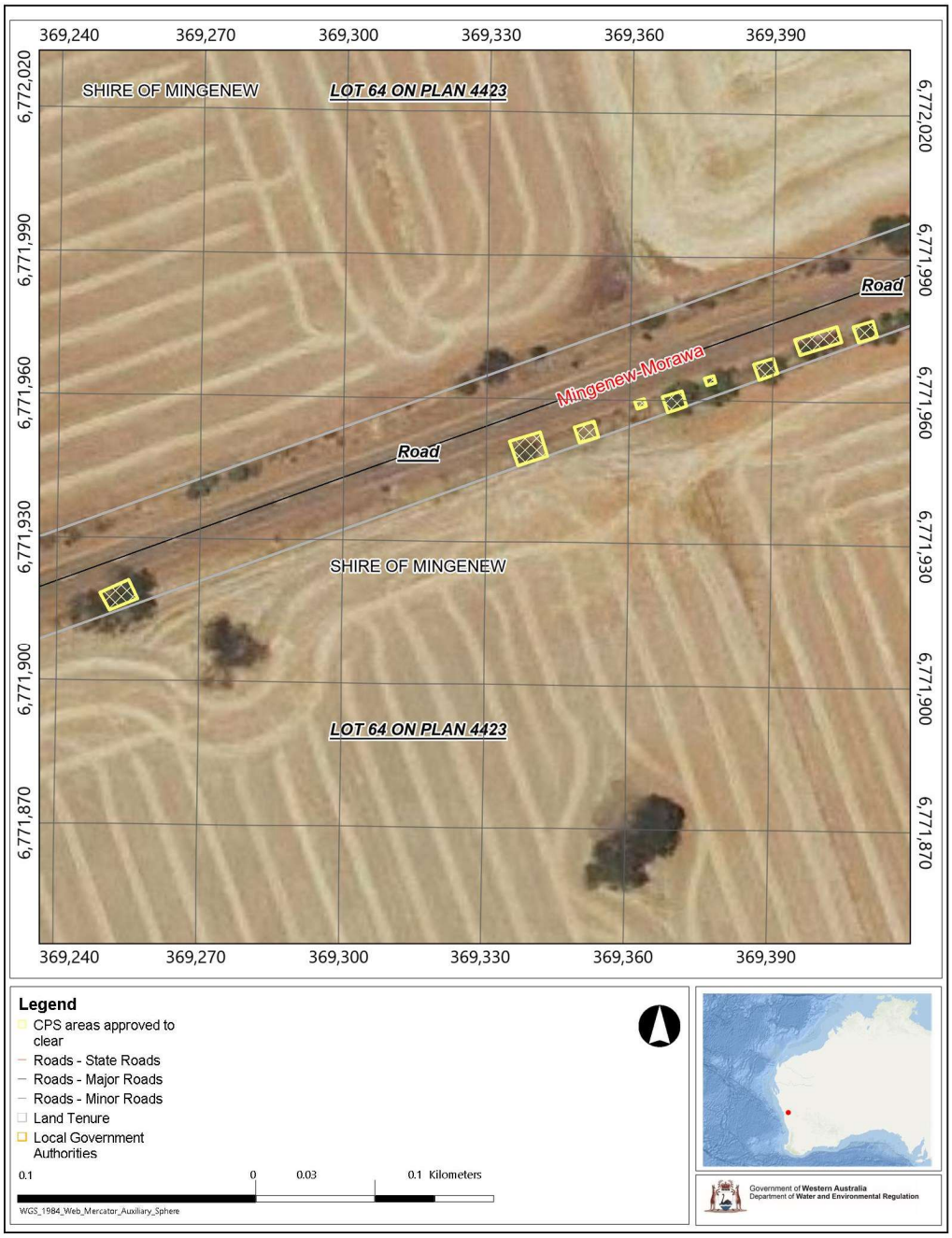


Figure 1: Map of the application area. The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

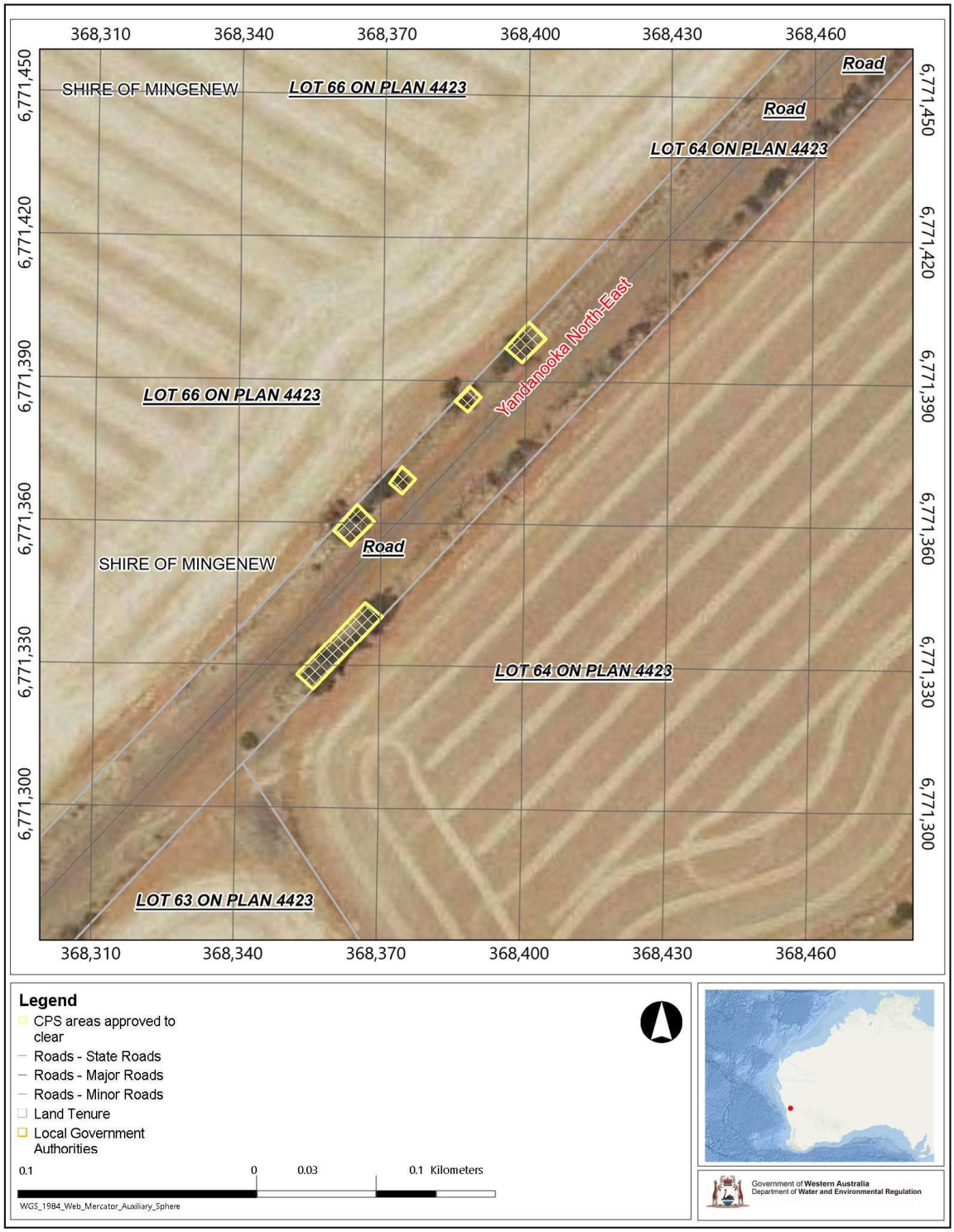


Figure 2: Map of the application area. The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant has advised that the intersection design chosen utilises minimal clearing in the design while still improving road safety and visibility (see Appendix F.).

The applicant has engaged a supervising contractor to manage the construction of the road upgrades and plans to implement works during the winter period which will mitigate potential wind erosion risks (Applicant, 2021).

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix C) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, land and water resource values.

The assessment against the clearing principles (see **Error! Reference source not found.**) identified that the impacts of the proposed clearing would result in the removal of a small amount of vegetation within an area which had been extensively cleared. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Significant remnant vegetation - Clearing Principle (e)

Assessment

The application area is mapped within the Avon Wheatbelt bioregion and the Mingenew 354 vegetation association which retain 18.51% and 11.36% respectively. The local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 17.7% of the original native vegetation cover. These figures are inconsistent with national objectives of 30% of biodiversity conservation.

The surrounding landscape has been extensively cleared with the land immediately adjacent to the application area consisting of cleared agricultural land. There are small, scattered areas of mapped remnant vegetation near the application area, the closest of which is approximately 250 m north east. The proposed clearing consists of 14 separate parcels across two locations. Vegetation is present along the roadside in between these locations (see Figures 2 and 3) and vegetation is to be retained within the road reserve within close proximity to the application areas.

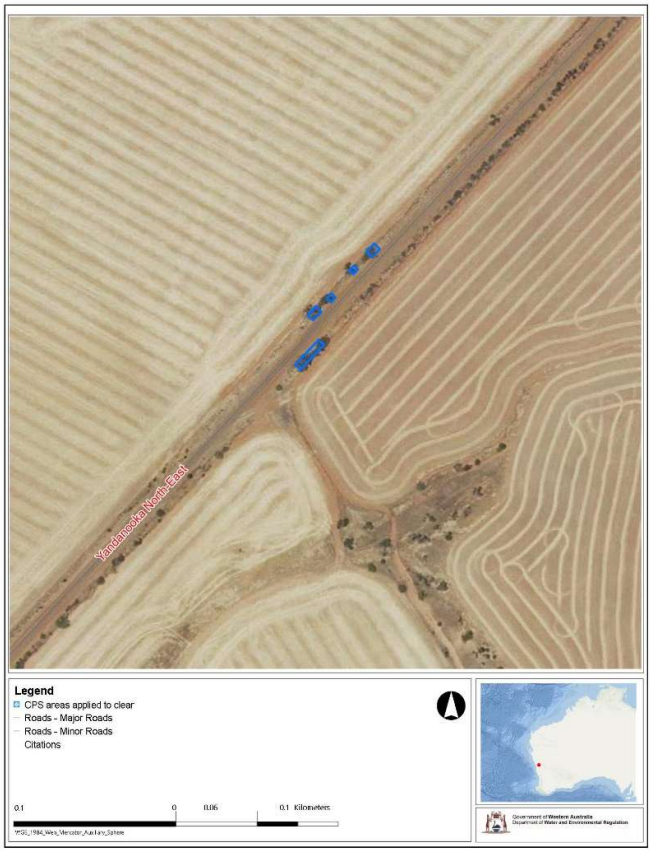


Figure 3: Aerial imagery of the "Western Area" showing retention of roadside vegetation along Yandanooka North-East Road and the numerous small clearing areas.

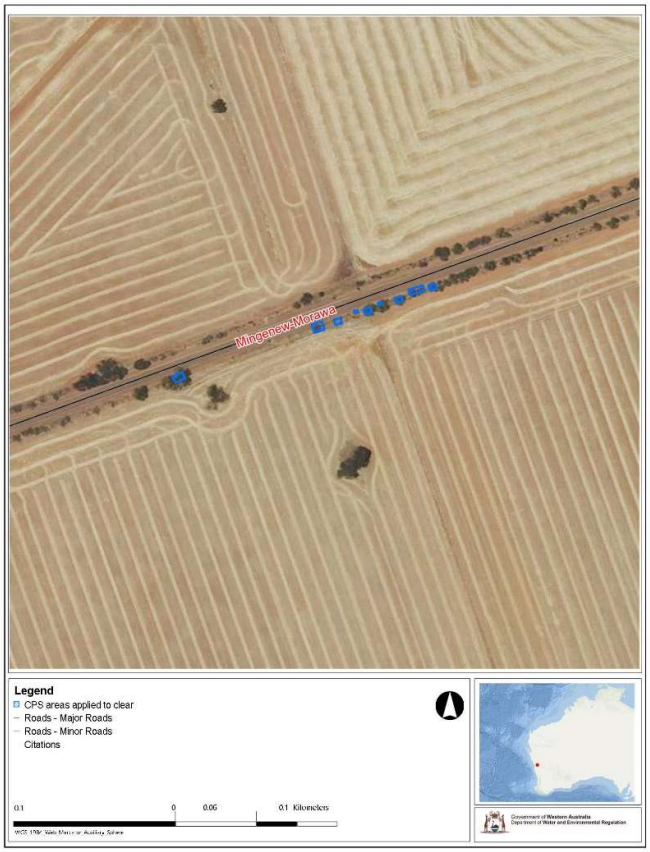


Figure 4: Aerial imagery of the "Eastern Area" showing retention of roadside vegetation along Mingenew-Morawa Road and the numerous small clearing areas.

Mapped remnant vegetation is present within the local area with remnants located 250 – 500 m from the application area (see Figure 5). It is unlikely the vegetation proposed to be cleared provides significant functionality as an ecological linkage given the retention of vegetation within the road reserve and the proximity to mapped remnant vegetation.

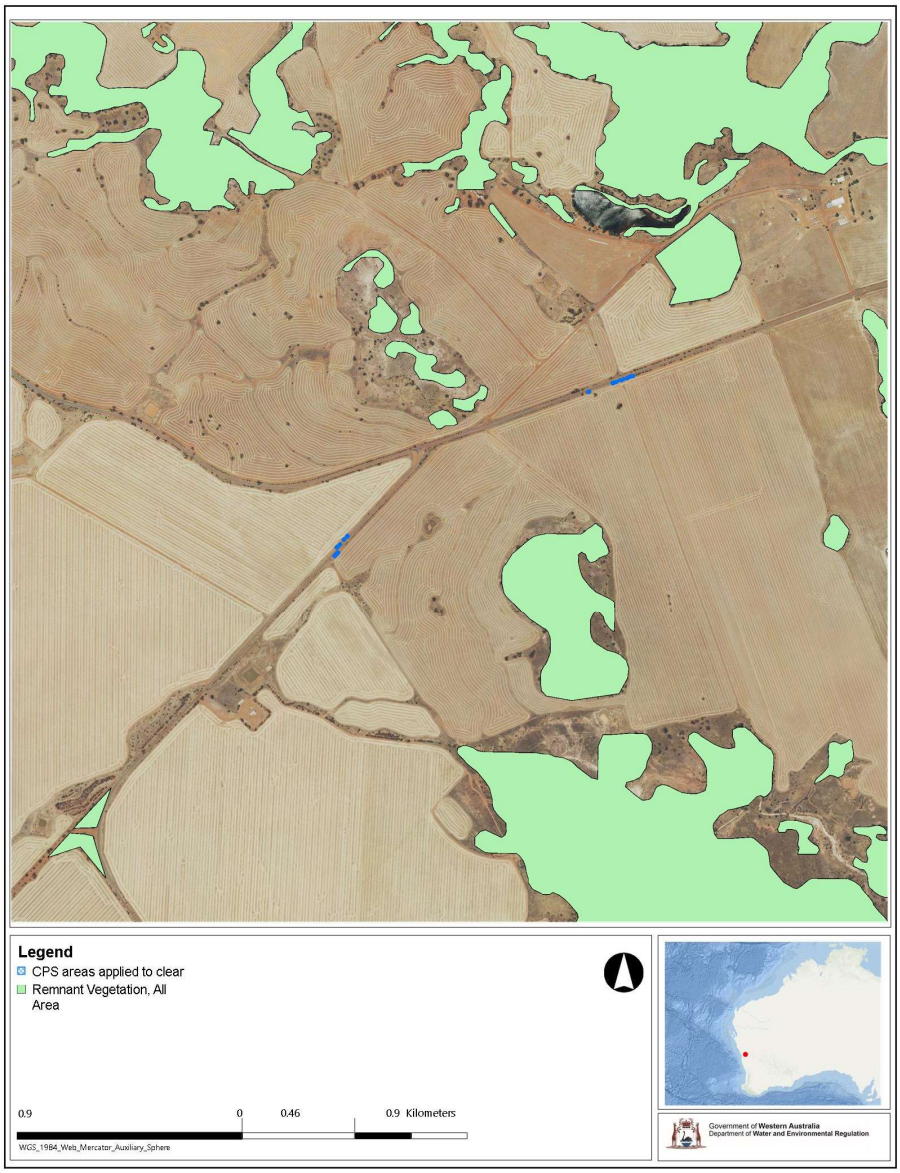


Figure 5: Aerial imagery showing the extent of mapped remnant vegetation in proximity of the application areas.

Usage of vegetation by Black Cockatoos

The application areas are not located within known distribution areas for Forest Red-tailed Black Cockatoos (*Calyptorhychus banksii)* or Baudin's Black Cockatoo (*C. baudinii)* (DSEWPaC 2012). The nearest known Forest Red-tailed Black Cockatoo breeding location is found approximately 26 km away.

The areas proposed to be cleared are within the mapped breeding range of Carnaby's Black Cockatoo (*C. latirostris)*, with the nearest confirmed breeding location approximately 39 km from the application area. The nearest confirmed roost is located approximately 35 km away and the nearest unconfirmed roost is approximately 32 km away. Assessment of the photographs supplied by the applicant (see Appendix F) indicate that the trees proposed to be cleared are not of sufficient size to be utilised by *C. latirostris* for breeding and no visible hollows were observed. Given the small scale of the proposed clearing and that the application areas are not located within a 6-12 km radius of a nesting site or 6 km radius of a night roost, it unlikely the vegetation proposed to be cleared comprises a

significant foraging resource for Black Cockatoos, particularly given the extent of mapped remnant vegetation surrounding the application area (DSEWPaC 2012).

Conclusion
Based on the above assessment, despite the vegetation extent within the local area being below the national retention target of 30%, the vegetation proposed to be cleared is not considered significant as it is not likely to be utilised by fauna of conservation significance, in particular *C. latirostris*. The vegetation proposed to be cleared is not likely to serve a significant linkage function due to small scale of the clearing, presence of remnant vegetation near the clearing area, and the retention of vegetation within the road reserve (see Figures 2, 3, and 4). The vegetation retained between clearing areas will continue to act as a stepping-stone for fauna transition between mapped remnants north and south of the application area (see Figures 3 and 4), maintaining any potential linkage function.

Conditions
No conditions required.

3.3. Relevant planning instruments and other matters

The Shire of Mingenew advised DWER that local government approvals are not required, and that the proposed clearing is consistent with the Shire's Local Planning Scheme.

Main Roads Western Australia has provided in principle support for the Shire of Mingenew to undertake the clearing as per this application.

There are no Aboriginal Sites of Significance within close proximity, or intersected by the application areas.

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
Shire of Mingenew provided photographs of the area proposed to be cleared.	Assessment of the photographs was undertaken to determine the species composition and vegetation condition of the application area (see Appendix C).

Appendix C. Site characteristics

C.1. Site characteristics

Characteristic	Details
Local context	The areas proposed to be cleared comprise 0.035 ha of isolated patches of native vegetation in the intensive land use zone of Western Australia. They are surrounded by cleared agricultural land in the immediate vicinity with areas of native vegetation scattered throughout the local area. The proposed clearing areas are small, isolated remnants on roadsides in a highly cleared landscape. Spatial data indicates the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 17.7 per cent of the original native vegetation cover.
Ecological linkage	The application area does not form part of any formal mapped linkage, however, due to the extensively cleared landscape, the vegetation may contribute to informal linkage functionality. The application areas are small and scattered with vegetation retained in between them. This retention of vegetation serves to retain any potential linkage function. Remnant vegetation is mapped to the north and south of the application areas.
Conservation areas	The application area does not intersect any conservation areas. The local area contains 53 reserves, three of which are “Class A”. The nearest “Class A” reserve is located 16.5 km from the application area
Vegetation description	Photographs supplied by the applicant indicate the vegetation within the proposed clearing area consists of *Acacia sp*., York Gum, and exotic grass species. Representative photos are available in F. This is broadly consistent with the mapped vegetation types: • Avon Wheatbelt – Mingenew System 354, which is described as: Shrublands; jam and *Acacia rostellifera* (+ hakea) scrub with scattered York Gum (Shepherd et al, 2001) The mapped vegetation type retains approximately 11.36 per cent of the original extent (Government of Western Australia, 2019).
Vegetation condition	Photographs supplied by the applicant indicate the vegetation within the proposed clearing area is in Degraded to Completely Degraded (Keighery, 1994) condition, described as: • Degraded: Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing. • Completely Degraded: The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as ‘parkland cleared’ with the flora comprising weed or crop species with isolated native trees or shrubs.

Characteristic	Details
	The full Keighery (1994) condition rating scale is provided in Appendix E. Representative photos are available in F.
Climate	Rainfall: 400 mm Evapotranspiration: 400 mm
Topography	The elevation of the application areas ranges from 230 m AHD in the eastern application areas to approximately 250 m AHD in the western application areas.
Soil description	The soil across the application areas is mapped as: • 226Mb_4 (Mount Budd 4 Subsystem) described as gently inclined foot slopes with red, grey, and pale-yellow sands and gradational red sands. • 226Mb_2 (Mount Budd 2 Subsystem) described as gently to moderately inclined upper foot slopes, eroded sandy loam duplex soils and rocky loams.
Land degradation risk	• <3% of map unit has a moderate to high flood risk • <3% of map unit has a moderate to high salinity risk or is presently saline • 50-70% of map unit has a high to extreme phosphorous export risk • <3% of map unit has a high to extreme phosphorous export risk • 10-30% of map unit has a high subsurface acidification risk or is presently acid • >70% of map unit has a high subsurface acidification risk or is presently acid • 10-30% of map unit has a high to extreme water erosion risk • <3% of map unit has a high to extreme water erosion risk • >70% of map unit has a high to extreme wind erosion risk • <3% of map unit has a high to extreme wind erosion risk
Waterbodies	The desktop assessment and aerial imagery indicated that no watercourses, waterbodies or wetlands transect the area proposed to be cleared. A large man-made dam and the Lockier River are located approximately 520 m from one of the clearing application areas.
Hydrogeography	The application area is located in the Gascoyne Groundwater Area, proclaimed under section 26B (1) of the *Rights in Water and Irrigation Act 1914*. The Priority 2 Mingenew Water Reserve is located within the local area, approximately 16.5 km from the application area.
Flora	The local area contains 177 records from 53 flora species of conservation significance. Of these records, 11 species occur on the same soil type as the application area, of which one species is classified as “threatened” The closest conservation significant flora record is the Priority 4 *Lepidobolus densus* located approximately 1.1 km from the application area. Photos provided by the applicant indicate and abundance of exotic grasses within the application area.
Ecological communities	The local area contains 140 records of Threatened or Priority Ecological Communities. The closest record to the application area is a mapped area of Eucalypt woodlands of the Western Australian Wheatbelt located approximately 10.5 km away. The application area does not intersect any TECs or PECs.
Fauna	The local area contains 17 records of 5 fauna species of conservation significance. The nearest record to the application area is of *Idiosoma arenaceum* (Geraldton Sandplain Shield-backed Trapdoor Spider) located approximately 2.2 km away. The species with the most records within the local area is the *Leipoa ocellata* (Malleefowl) with 9 records.

C.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Avon Wheatbelt	9,517,109.95	1,761,187.42	18.51	174,980.68	1.84
IBRA bioregion system*					
Avon Wheatbelt - Mingenew	96,515.33	12,915.64	13.38	894.77	0.93
Vegetation association within IBRA system*					
Avon Wheatbelt – Mingenew Vegetation Association 354	91,099.79	10,352.71	11.36	894.77	0.98

*Government of Western Australia (2019a)

C.3. Flora analysis table

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (Local Area)	Are surveys adequate to identify? [Y, N, N/A]
Acacia lanceolata	P3	N	N	Y	2.9	9	N/A
Babingtonia fascifolia	P1	N	N	Y	4.8	6	N/A
Calyrix purpurea	P2	Y	N	Y	5.3	3	N/A
Lepidobolus densus	P4	N	N	Y	1.1	4	N/A
Pityrodia viscida	P4	N	N	Y	7.1	4	N/A
Rhodanthe sp. Yuna	P3	N	N	Y	6.7	2	N/A
Schoenia filifolia subsp. subulifolia	EN	N	N	Y	5.0	11	N/A
Scholtzia brevistylis subsp. brevistylis	P1	N	N	Y	5.8	7	N/A
Tricoryne soullierae	P1	N	N	Y	5.6	3	N/A
Vittadinia cervicularis var. occidentalis	P1	Y	N	Y	4.8	2	N/A
Wurmbea tubulosa	T	N	N	Y	10.1	8	N/A

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

C.4. Fauna analysis table

Species name	Conservation status (State)	Suitable vegetation type? [Y/N]	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (Local Area)
Idiosoma arencaeum	P3	Y	N	2.5	4
Cyclodomorphus branchialis	VU	-	-	17	1
Leipoa ocellata	VU	Y	N	7.8	9
Falco peregrinus	OS	-	-	12.7	2
Aspidites ramsayi	P1	-	-	20	1

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority, OS: other specially protected species

C.5. Ecological community analysis table

Community name	Conservation status (Commonwealth)	Conservation Status (State)	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (local area)
Eucalypt woodlands of the Western Australian Wheatbelt	CR	P3	Y	Y	Y	10.5	139
Plant assemblages of the Billeranaga System as originally described in Beard 197)	-	VU	N	N	N	14.3	1

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

Appendix D. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The area proposed to be cleared does not contain significant flora, fauna, habitats or assemblages of plants. The application areas do not intersect and are not within close proximity to any Threatened Ecological Communities listed under the EPBC Act, or Priority Ecological Communities listed under the BC Act. The application areas are degraded to completely degraded, have minimal to no understorey vegetation, a high abundance of exotic species and are highly disturbed. The vegetation and/or habitat features of the application areas are not conducive for the occurrence of conservation significant flora that occur in the local area. Based on the above, it is highly unlikely that any species of conservation significance have a dependency on habitat within the application areas.	Not likely to be at variance	No
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The area proposed to be cleared is considered unlikely to contain significant habitat for conservation significant fauna which have been recorded within the local area, including the Geraldton Sandplain Shield-backed Trapdoor Spider and Malleefowl. The application areas are small, contain minimal leaf litter and have a high number of exotic species that occupy a large percentage of the understorey. The Shield-backed Trapdoor Spider typically inhabits clay soils of eucalypt woodlands and acacia vegetation and rely heavily on leaf-litter and twigs for burrow construction. The Malleefowl relies heavily on abundant leaf litter for breeding and are highly sensitive to grazing by sheep, cattle, rabbits and goats. Given the above, it is unlikely that the application areas provide significant habitat for either the Malleefowl or Geraldton Sandplain Shield-backed Trapdoor Spider.	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: The area proposed to be cleared is unlikely to contain habitat for threatened flora species listed under the BC Act. The local area contains 8 records of *Wurmbea tubulosa,* the closet being 10.1 km from the application area. *W. tubulosa* occurs on riverbanks and in seasonally wet areas, on which basis it is unlikely to be present within the application area. The local area contains 11 records of *Schoenia filifolia subsp. subulifolia.* This species occurs on swampy flats, tops of breakaways, and crabholes and is unlikely to be present within the application area.	Not likely to be at variance	No
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: The application area does not intersect any Threatened Ecological Communities listed under the BC Act. There are no state listed TECs mapped within the local area.	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extent of native vegetation in the local area is inconsistent with the national objectives and targets for biodiversity conservation in Australia, with approximately 17.7 per cent retention. The vegetation proposed to be cleared is not considered to be part of any formal ecological linkage in the local area, however, due to the extensively cleared landscape, may perform an informal linkage function. The area proposed to be cleared is of a small scale, does not comprise high biodiversity values or represent significant habitat for conservation significant flora or fauna, on which basis it is not likely to be considered a significant remnant when compared to other larger, intact remnants within the local area.	May be at variance	Yes *Refer to Section 3.2.1, above.*
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: Given the distance to the nearest conservation area (16.5 km), the proposed clearing is not likely to have an impact on the environmental values of any conservation areas.	Not likely to be at variance	No
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: The application areas do not intersect any watercourses or wetlands or contain any riparian vegetation. The nearest mapped watercourse is a non-perennial tributary of the Lockier River located approximately 100 m away.	Not at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils within some of the application areas are moderately to highly susceptible to wind, nutrient export and subsurface acidification risk. Noting the extent and location of the application area and the condition of the vegetation, the proposed clearing is not likely to have an appreciable impact on land degradation.	Not likely to be at variance	No
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: Given the small amount of clearing proposed, no mapped wetlands within the application area, and no Public Drinking Water Source Areas within 15km, it is unlikely the clearing will result in significant impacts to surface or ground water quality.	Not likely to be at variance	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: Given the small application areas being within a road reserve, the surrounding land being cleared and the non-perennial waterways in the area, it is unlikely the clearing will increase the incidence or intensity of flooding.	Not likely to be at variance	No

Appendix E. Vegetation condition rating scale

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

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

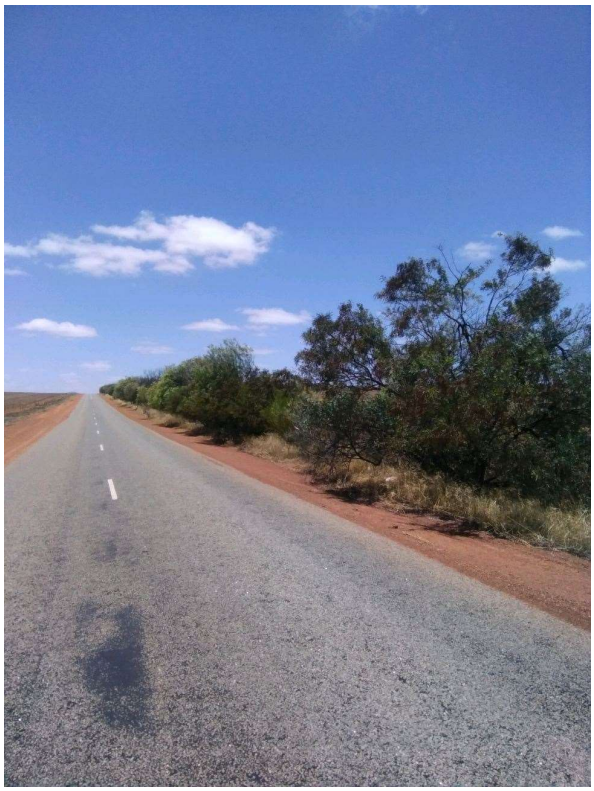
Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.

Condition	Description
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix F. Photographs of vegetation and Intersection map

Figure 6-14: Images showing the vegetation proposed to be cleared as part of CPS 9131/1



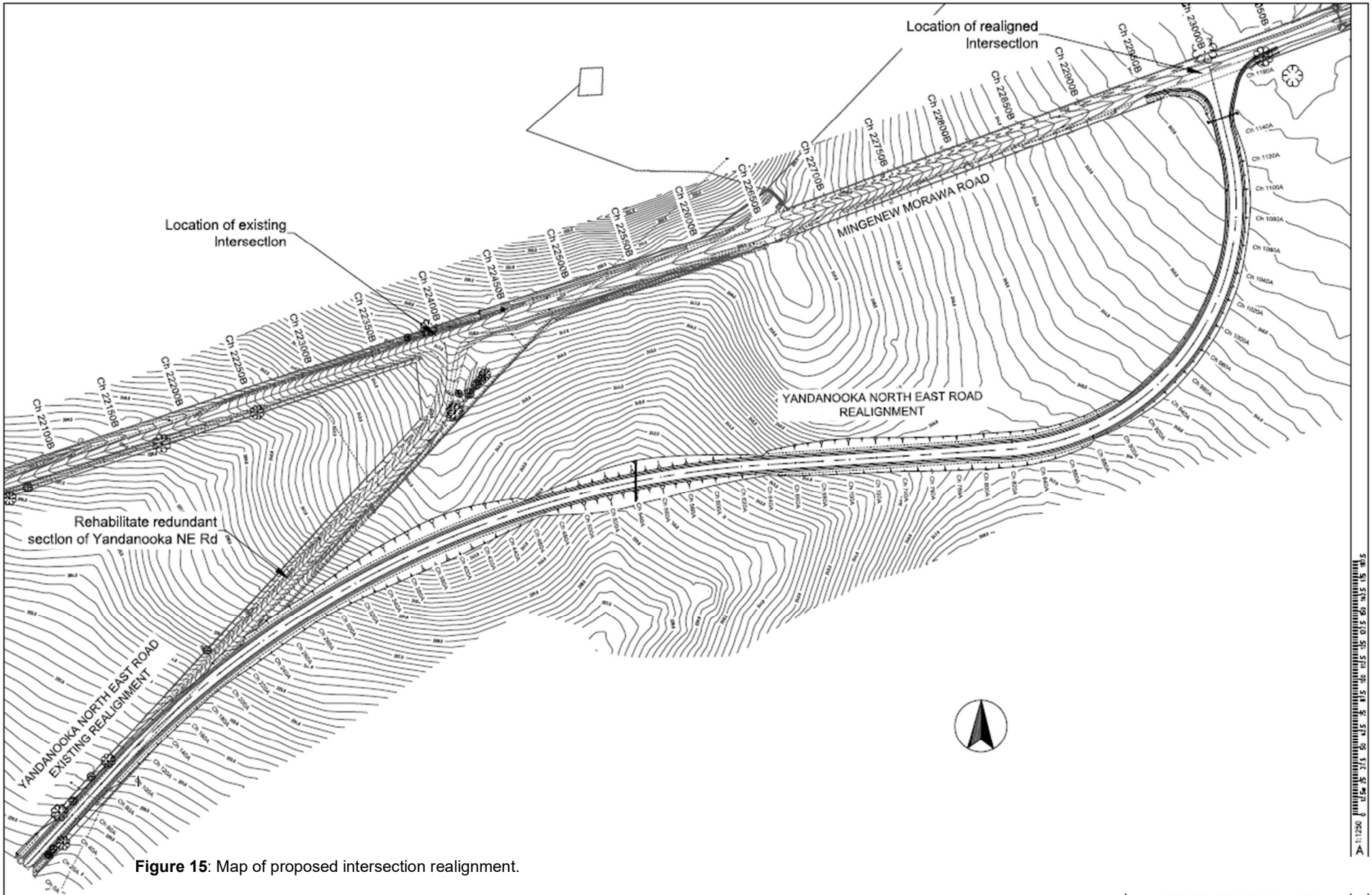


Figure 15: Map of proposed intersection realignment.

Appendix H. Sources of information

H.1. GIS databases

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

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

Restricted GIS Databases used:

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

H.2. References

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