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WESTERN AUSTRALIA

Albany Ring Road Service Relocations Clearing Desktop Report – CPS 818

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Western Australia.*

Albany Ring Road Service
Relocations

June 2022

1413

D22#595921

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Amendments

Report Compilation & Review	Name and Position	Document Revision	Date
Author:	Senior Environment Officer	Draft v1	02/06/2022
Reviewer:	Senior Environment Officer	Rev 0	08/06/2022

1 PURPOSE

This Clearing Desktop Report (CDR) is a desktop assessment of native vegetation clearing that is proposed to be cleared using the Statewide Clearing Permit CPS 818 issued to Main Roads Western Australia (Main Roads).

2 SCOPE

2.1 Project Scope

Project Name: Albany Ring Road Service Relocations

Project Purpose / Components: Main Roads Western Australia (Main Roads) is proposing the construction of a new seven km long section of the Albany Ring Road (ARR) from the intersection of South Coast Highway and Link Road, to Frenchman's Bay Road in the City of Albany in Western Australia.

The aim of this proposal is to relocate Western Power services to an alignment that will not be affected by the Albany Ring Road Works Roads works.

The proposed clearing under CPS 818 is : <0.1ha

The proposed temporary clearing under CPS 818 is: NA

Project Location(s): The project area is located in the City of Albany in the following locations:

- Corner of Frenchman Bay Road and Woolstores Place
- Old Elleker Road 350m East of Charles Street
- Frederick Street 250m East of George Street
- Lower Denmark Road 200m East of Frenchman Bay Road

The location of each of these locations is shown in Figure 1.

- Latitude: 117.820227
- Longitude: -35.0134362

The location of the proposed works is at Figures 1-5.

2.2 Desktop Assessment Scope

The assessment area is confined to a local area of a 10 km radius, as shown in Figure 6.



Figure 1. Project Area



Figure 2. Frederick Street Project Area



Figure 3. Old Elleker Road Project Area



Figure 4. Lower Denmark Road Project Area



Figure 5. Frenchman Bay Road Project Area

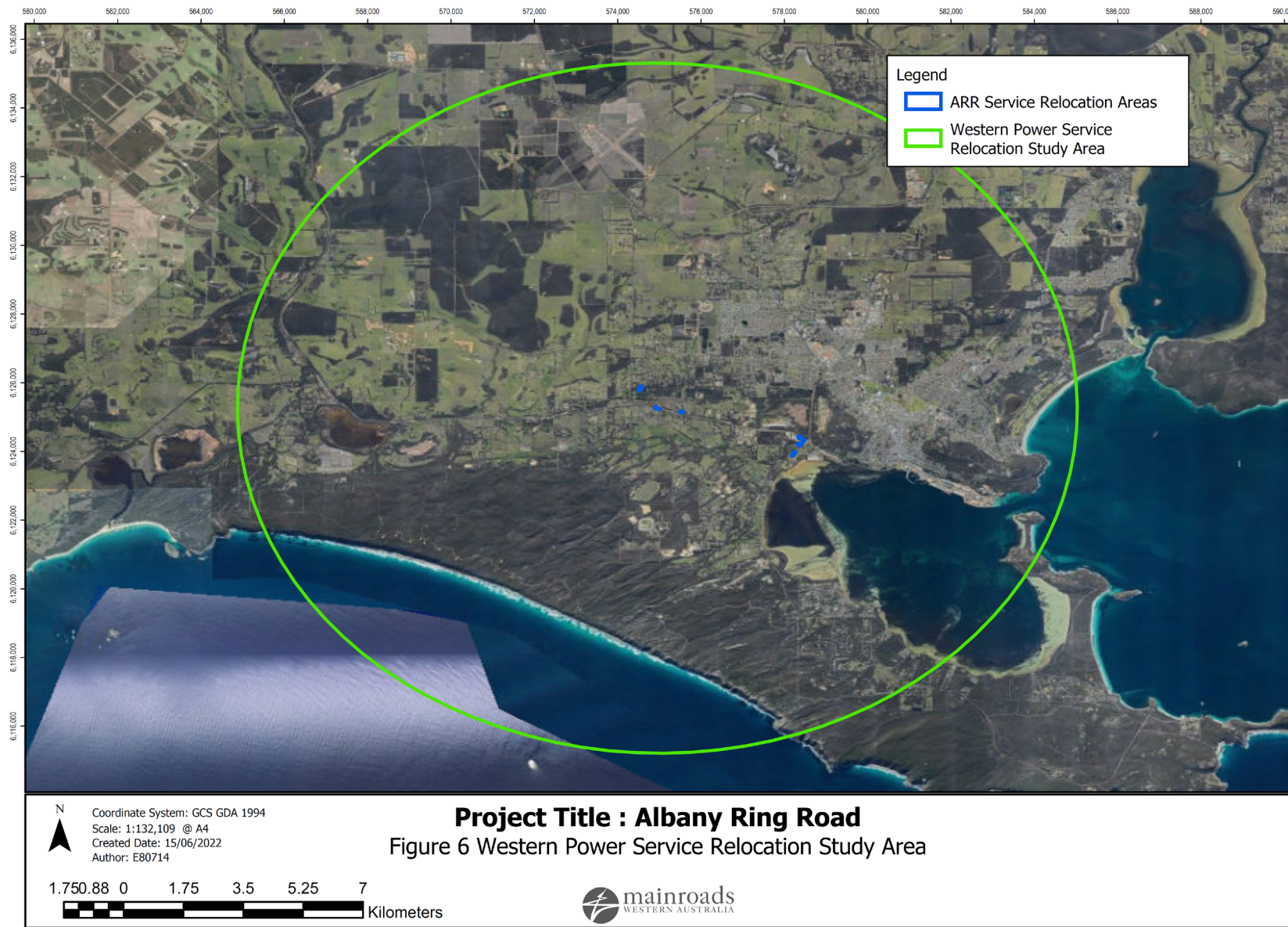


Figure 6. Project Location and Study Area

2.3 Alternatives to Clearing

There are no alternatives to the clearing proposed as the footprint has been reduced as far as practicable and only a minimal amount of native vegetation will be removed for the works.

2.4 Measures to Avoid, Minimise, Mitigate and Manage Project Clearing Impacts

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

The project area will be marked prior to clearing and the movement of machinery will be restricted to the approved limits of vegetation clearing. This approach will prevent accidental over-clearing.

Table 1. Justification of Avoiding, Minimising, Mitigating and Managing Project Clearing Impacts

Design or Management Measure	Discussion and Justification
Preferential use of existing cleared areas for access tracks, construction storage and stockpiling	Cleared areas will be required for storage of equipment and machinery. There will be no temporary clearing permitted to complete the service relocations.

2.5 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 (see Section 1.3), Main Roads has also had regard to

EPPs

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

Relevant other policies and guidance documents:

- The Western Australian Environmental Offsets Policy (Government of Western Australia, 2011)
- A guide to the assessment of applications to clear native vegetation (DWER, December 2014)
- Procedure: Native vegetation clearing permits (DWER, October 2019)
- Environmental Offsets Guidelines (Government of Western Australia, August 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
- Approved Recovery Plans for threatened species
- EPBC Act Referral guidelines for the three threatened black cockatoo species
- Strategic advice - EPA

Other Legislation of relevance 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&D Act)
- Soil and Land Conservation Act 1945 (WA)
- Rights in Water and Irrigation Act 1914
- Aboriginal Heritage Act 1972 (WA)
- Town Planning and Development Act 1928

3 Methodology

3.1 Desktop Study

A desktop assessment of the project area and an assessment of native vegetation clearing were undertaken by reviewing a number of government agency managed databases, viewing GIS shapefiles and consulting with relevant stakeholders where necessary. Results from searches can be found in the relevant Appendix.

GIS layer viewing and mapping is done using ArcMap and / or Main Roads Integrated Mapping System (IMS). 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, these are referenced in Section 7.

4 VEGETATION DETAILS

4.1 Project Site Vegetation Description

The area under application is in degraded to completely degraded condition with all project areas consisting of predominately weed species and planted vegetation with scattered native species. Vegetation at each of the project sites are provided below:

- Frederick Street - Mature planted and remnant native trees, mixed with garden plants (Eucalytus are a mix of Marri, Iron Barks, Blue Gum, Tuart). Areas of native vegetation consists predominately of Eucalyptus (90%) with weedy understory (10%).
- Old Elleker Road - Mature planted trees such as Gums(20%), with midstory species such as *Melaleuca preissiana* (40%) with a weedy understory or introduced grasses (40%).
- Lower Denmark Road - Predominantly consists of weeds such as introduced grasses and watsonia (90%) with regrowth of midstory scattered natives such as *Pteridium esculentum* (10%).
- Frenchman Bay Road - Predominantly consists of weeds such as introduced grasses and watsonia (90%) with regrowth of midstory scattered natives such as *Pteridium esculentum* (10%).

Tables 3 and 4 provide details of the Pre-European Vegetation Associations with the project area and the remaining extents of these associations.

Site photos of the four sites are located in Appendix 2.

A Biological Survey covers a small portion of the project areas at Frederick Street and Lower Denmark Road. Refer to Appendix 4 for figures showing the extent of the Biological Survey.

Table 2. Summary of Project Area's Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 3 described as a Medium forest: jarrah-marri (Government of Western Australia, 2017)	Clearing of up to <0.1 ha for service relocations on Lower Denmark Road, Albany.	Degraded to Completely degraded (EPA 2016)	degraded to completely degraded condition. Areas consist of predominately weed species and planted vegetation with scattered native species

Table 3. Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 3	Statewide	2 661 404	1 806 035	68%	81%
	IBRA Bioregion Jarrah Forest	2 390 591	1 606 737	67%	80%
	IBRA Sub-region Southern Jarrah Forest	1 482 491	883 557	59%	81%
	Local Government Authority City of Albany	50 509	16 024	32%	38%

5 Assessment Against the Ten Clearing Principles

In assessing whether the project's proposed clearing is likely to have a significant impact on the environment, the project was assessed against the ten Clearing Principles (*Environmental Protection Act 1986* (EP Act), Schedule 5).

Each principle has been assessed in accordance with DWER's 'A Guide to the Assessment of Applications to Clear Native Vegetation'.

The proposed clearing is not likely to be at variance with the 10 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
Comments A desktop assessment identified 70 conservation significant flora. In addition, there was a Biological Survey conducted by Southern Ecology (2020) as part of the Albany Ring Road Project which occurs adjacent to the service relocation works which identified 38 conservation significant flora may occur within the survey area. The results of this biological survey did not identify any significant flora and fauna or Threatened Ecological Communities (TEC's) at Frederick Street and Lower Denmark Road (Southern Ecology 2020). In addition, targeted Black Cockatoo and Western Ringtail Possum assessments were also conducted at the Lower Denmark Road project area and the majority of the Fredrick Road project area. Biological and Targeted

survey's were not conducted on Frenchman Bay Road and Old Elleker Road due to lack of suitable habitat and historical disturbance.

The nearest recorded threatened flora (to any of the project areas) is a Department of Biodiversity, Conservation and Attractions (DBCA) record of *Prasophyllum paulinae* (T) which is 680m from the Frederick project area and will not be impacted. The nearest Priority species, which was identified in the Biological survey was *Thysanotus isantherus* (P4) located 600m to the East of the Lower Denmark Road project area and will not be impacted.

The Frenchman Bay Road project area occurs within the buffer of a DBCA mapped Priority Ecological community (PEC) *Subtropical and Temperate Coastal Saltmarsh* (P3) and EPBC listed TEC as vulnerable. The vegetation surrounding this area has been surveyed and is not considered representative of the TEC with the vegetation consisting of planted trees over weeds, and consisting of weeds with scattered natives. The Old Elleker Road proposal area occurs within the buffer of a DBCA mapped Priority Ecological community (PEC) *Astartea scoparia Swamp Thicket* (P1). The area to be cleared has been significantly altered and is not deemed consistent with the Priority Ecological community. All other project areas do not intersect PEC's.

At Frederick street there is a small cluster of Eucalyptus trees which may offer roosting habitat for black cockatoos. However as there are no trees with a suitable DBH and the small amount of clearing (<0.02ha) it is considered unlikely that the vegetation would constitute significant habitat. The other areas do not provide suitable habitat for Black Cockatoos.

Frederick Street also offers <0.02ha of linkage habitat for Western Ringtail Possum. This area does not contain any core or supporting habitat for the Western Ringtail possum. The construction of a power line in this area, would not prevent movement of this fauna through the area. Due to the small amount of clearing it is not considered that the project will have a significant impact to Western Ringtail Possums. The other areas do not offer suitable habitat for Black Cockatoos.

The project area contains Vegetation Association 3 described as Medium forest; jarrah-marri (Government of Western Australia, 2017), which has 68% remaining. As there is greater than 30% remaining it is not considered significant as a remnant of native vegetation.

The vegetation to be cleared is minor in size (0.1ha) is in degraded to completely degraded condition. No significant species or ecological communities will be impacted from the removal of <0.1Ha and make it unlikely that clearing will significantly reduce the biodiversity of the locality.

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

Methodology

Biological Survey (2020)
Prasophyllum paulinae Survey (2020)
 DBCA shapefiles
 Department of Natural Resources and Environment (2002)
 EPA (2016, 2020)
 Government of WA (2013)
 Main Roads GIS Shapefiles

(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 indigenous to Western Australia.

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

Comments

A desktop assessment identified 52 potential threatened fauna as occurring within the entire project area with a biological survey conducted adjacent to the project areas identifying potential habitat for 13 species within the area. The biological survey identified potential habitat for Quenda, South-western Brush tailed Phascogale, Fork-tailed Swift, Short nosed Snake, Masked Owl, Wollybush Bee, Water-rat Rakali, Western Ringtail Possum, Baudins Cockatoo, Carnaby's Cockatoo and Forrest Red-tailed Black Cockatoo and Peregrine Falcon. Additional targeted surveys were conducted for Western Ringtail Possums and Black Cockatoos adjacent to the project site. The Frederick street project area consists of a small cluster of Eucalyptus trees which may offer roosting habitat for black cockatoos. However as there are no trees with a suitable DBH and the small amount of clearing (<0.02ha) required at this location, it is considered unlikely that the vegetation would constitute significant habitat. The other project areas do not provide suitable habitat for Black Cockatoos. Frederick Street also offers <0.02ha of linkage habitat for Western Ringtail Possum. This area does not contain any core or supporting habitat for the Western Ringtail possum. The construction of a power line in this area, would not prevent movement of this fauna through the area. Due to the small amount of clearing it is not considered that the project will have a significant impact to Western Ringtail Possums. The other areas do not offer suitable habitat for Black Cockatoos. While the area is noted as potential habitat for the above listed species, all sites lack vegetation with remaining vegetation in a degraded to completely degraded condition. Furthermore, the small amount of clearing (<0.1Ha) will occur across the 4 project areas and will not result in a significant impact to habitat for fauna indigenous to Western Australia. Based on the above, the proposed clearing is not likely to be at variance to this Principle.
Methodology Biological Survey (2020) DBCA Shapefiles DBCA website EPA (2016, 2020)

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

Proposed clearing is not likely to be at variance to this Principle
Comments There are no rare flora species records within 500m of the project areas and the nearest recorded threatened flora record to any of the project areas is a Department of Biodiversity, Conservation and Attractions (DBCA) record of <i>Prasophyllum paulinae</i> (T) which is 680m from the Frederick project area and will not be impacted. Due to the degraded nature of the project areas and no known records of threatened or rare flora in the project areas, it is unlikely that any threatened and rare flora occur within the proposal area. Based on the above, the proposed clearing is not likely to be at variance to this Principle.
Methodology Biological Survey (2020) Prasophyllum paulinae Survey (2020) DBCA shapefiles EPA (2016)

(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 likely to be at variance to this Principle****Comments**

The Frenchman bay road project area occurs within the buffer of a DBCA mapped Priority Ecological community (PEC) *Subtropical and Temperate Coastal Saltmarsh* (P3) and EPBC listed TEC as vulnerable. The area immediately adjacent/surrounding the project has been surveyed and is not considered TEC due to the vegetation being described as '*Mature Planted Trees (Iron Barks, Blue Gum, Tuart, other Eucalypts and Peppermint generally > 10 years old*'.

The project area predominantly consists of weeds such as introduced grasses and watsonia (90%) with regrowth of midstory scattered natives such as *Pteridium esculentum* (10%). Based on the vegetation description, the degraded to completely degraded condition of the vegetation and the historical clearing across the area it is unlikely that this area represents the TEC.

All other project areas do not intersect TEC's or PEC's.

Based on the above, the proposed clearing will not impact any rare flora and is not likely at variance to this Principle.

Methodology

Biological Survey (2020)

DBCA shapefiles

EPA (2016)

(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 likely to be at variance to this Principle****Comments**

The project area contains Vegetation Association 3 described as Medium forest; jarrah-marri (Government of Western Australia, 2017), which has 32% remaining in the City of Albany. As there is greater than 30% of the Vegetation association remaining, and the project entails removal of only <0.1ha of degraded to completely degraded vegetation (which consists of scattered native species, weed species and planted vegetation), it is not considered significant as a remnant of native vegetation.

Summary of Project Area's Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 3 described as a Medium forest: jarrah-marri (Government of Western Australia, 2017)	Clearing of up to <0.1 ha for service relocations on Lower Denmark Road, Albany.	Degraded to Completely degraded (EPA 2016)	degraded to completely degraded condition. Areas consist of predominately weed species and planted vegetation with scattered native species

Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 3	Statewide	2 661 404	1 806 035	68%	81%
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	IBRA Sub-region Southern Jarrah Forest	1 482 491	883 557	59%	81%
	Local Government Authority City of Albany	50 509	16 024	32%	38%

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

Methodology

Aerial photography

Biological Survey(2020)

EPA (2016)

Government of Western Australia (2017)

Perth Biodiversity Project (2013)

(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 not at variance to this Principle

Comment

The project requires clearing of <0.1 ha of vegetation described as predominately weed species and planted vegetation with scattered native species, is in a degraded to completely degraded condition. Vegetation at each of the project areas consists of:

- Frederick Street - Mature planted and remnant native trees, mixed with garden plants (Eucalytus are a mix of Marri, Iron Barks, Blue Gum, Tuart). Areas of native vegetation consists predominately of Eucalyptus (90%) with weedy understory (10%).
- Old Elleker Road - Mature planted trees such as Gums(20%), with midstory species such as *Melaleuca preissiana* (40%) with a weedy understory or introduced grasses (40%).
- Lower Denmark Road - Predominantly consists of weeds such as introduced grasses and watsonia (90%) with regrowth of midstory scattered natives such as *Pteridium esculentum* (10%).
- Frenchman Bay Road - Predominantly consists of weeds such as introduced grasses and watsonia (90%) with regrowth of midstory scattered natives such as *Pteridium esculentum* (10%).

The vegetation to be cleared at each of the project areas is not considered to constitute riparian vegetation and is not associated with a wetland or watercourse or wetland. The closest wetlands to are the Gledhow Wetlands located 900m to the west of the project area and will not be impacted.

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

Methodology

Biological Survey (2020)

DWER and DBCA shapefiles

(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

Comments

The Project is mapped within an area with a variety of land degradation factors as detailed below (GoWA 2020).

Risk factor	Risk likelihood
Water Erosion	<3% high to extreme water erosion risk
Flooding	<3% moderate to high water erosion risk
Salinity	<3% of map unit has a moderate to high salinity risk or is presently saline
Wind erosion	<3% of map unit has a high to extreme water erosion risk
Sub-surface acidification	>70% of map unit has a high subsurface acidification risk or is presently acid

Soils in the Project area were identified primarily as clays. Whilst the project area is located within an mapped high risk of sub-surface acidification, the clearing for the project is unlikely to significantly contribute to this risk due to the small area (<0.1ha) of clearing being spread across multiple small project

areas. Given the relatively small amount of vegetation clearing within the Project area, 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 Biological survey (2020) GoWA (2020) DPRID Soil landscape quality mapping

(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 likely to be at variance to this Principle
Comments The Project does not intersect or occur within any DBCA managed areas. The nearest nature reserve is Gledhow Nature Reserve located 680m to the north of the project area and no direct or indirect impacts to these conservation areas are expected as a result of the clearing activities. Based on the above, the proposed clearing is not likely to be at variance to this principle.
Methodology DBCA shapefiles EPA (2016)

(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
Comments The majority of the project area occurs within a Groundwater Protection area (Albany Groundwater Area) and outside a proclaimed surface water area. The clearing of native vegetation is minor in nature (<0.1 ha) and will occur across multiple (4) small project areas. In addition, no dewatering or excavation below the water table is required and as such no impacts to the groundwater area and drinking water area are expected across the project areas. Based on the above, the proposed clearing is not likely to be at variance to this principle.
Methodology DWER and DBCA shapefiles EPA (2016)

(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 likely to be at variance to this Principle
Comments The Project area is characterised by clay soils with low infiltration rates, is located within a region that receives an average annual rainfall of 925.2 mmm, and mapped as a moderate to high flood risk, however it is unlikely that this project will cause deterioration in the quality of surface or underground water due to

minor nature of the clearing spread across multiple project areas (less than 0.1ha spread across four project areas).

Furthermore, the native vegetation to be cleared is narrow and linear and this along with the relatively minor nature of the clearing at each of the project area sites, is unlikely to result in excessive surface runoff levels that would increase the intensity or incidence of flooding above the current risk level.

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

Methodology

Biological survey (2020)

DWER, DPIRD and DBCA shapefiles

6 ADDITIONAL ACTIONS REQUIRED

The clearing associated with the proposal is unlikely or not at variance with the Clearing Principles. Additional management actions under CPS 818 are detailed in Table 6.

Table 6. Summary of Additional Management Actions Required by Permit CPS 818

Impact of Clearing	Yes/No or NA	Further Action Required
1. The project involves clearing for temporary works (as defined by CPS 818).	No	No further action required.
2 a. Project is within Region that: - Has rainfall greater than 400mm and - Is South of the 26th parallel and - Works are in 'Other than dry conditions' and - Works have potential for uninfested areas to be impacted	Yes	Proceed with standard Vehicle and Plant management actions from PEMR's and Vehicle and Plant Hygiene Checklists
3. 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.
4. The vegetation within the area to be cleared and/or the surrounding vegetation in a good or better condition and weeds 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.

7 VEGETATION MANAGEMENT

Main Roads will avoid clearing native vegetation where possible. Where clearing cannot be avoided then this clearing is kept to a minimum. Vegetation will be managed in accordance the Project Specific Environmental Management Plan.

8 REFERENCES

Australian Government. EPBC Act referral guidelines for three threatened black cockatoo species (2012). Department of Sustainability, Environment, Water, Population and Communities.

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9 APPENDICES

Appendix	Title
Appendix 1	Albany Ring Road Biological Survey
Appendix 2	Site Photos
Appendix 3	Flora and Fauna Figure
Appendix 4	Biological Survey Extents

Appendix 1: Biological Survey



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Appendix 2: Site Photos

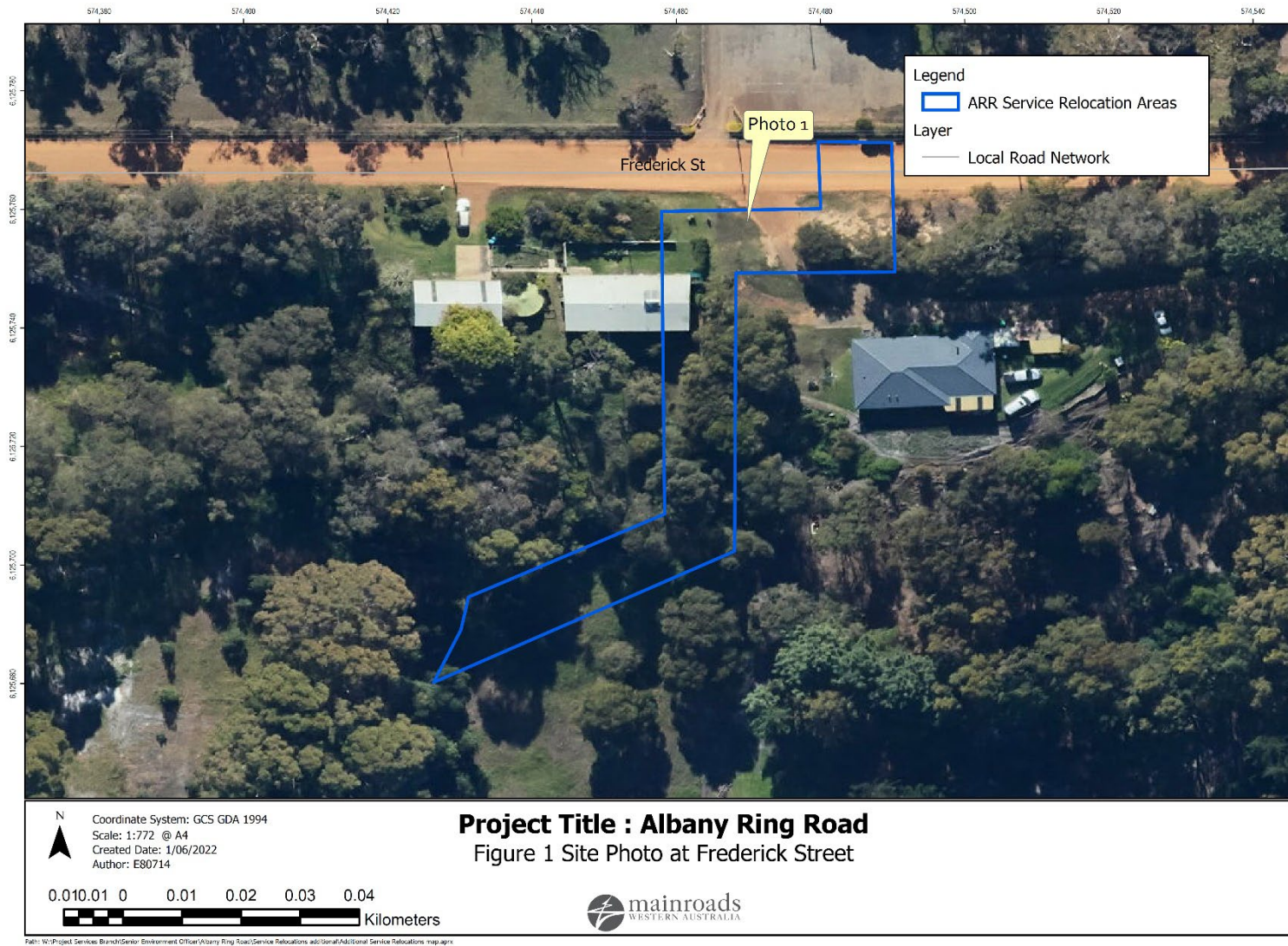


Figure 1 Frederick Street Site Photo



Figure 2 Site Photos Locations at Old Elleker Road



Figure 3 Site Photo Location at Lower Denmark Road



Figure 4 Site Photo Location at Frenchman Bay Road

Table 1 Site Photos



Photo 1: Looking South towards house powerline will run parallel to. Photo shows garden plants on road verge.



Photo 2: Looking East on Old Elleker Road towards power pole relocation. Photo shows planted vegetation mixed with some native species the vegetation is in degraded condition.



Photo 3. Looking north towards the railway line north of Lower Denmark Road. Photo shows completely degraded native vegetation described as weeds with scattered native species.



Photo 4. Looking west towards Frenchman Bay Road. Photo Shows Planted Eucalyptus with weedy understorey on private property, with predominately weeds in the road reserve, some scattered natives occur in the road reserve.

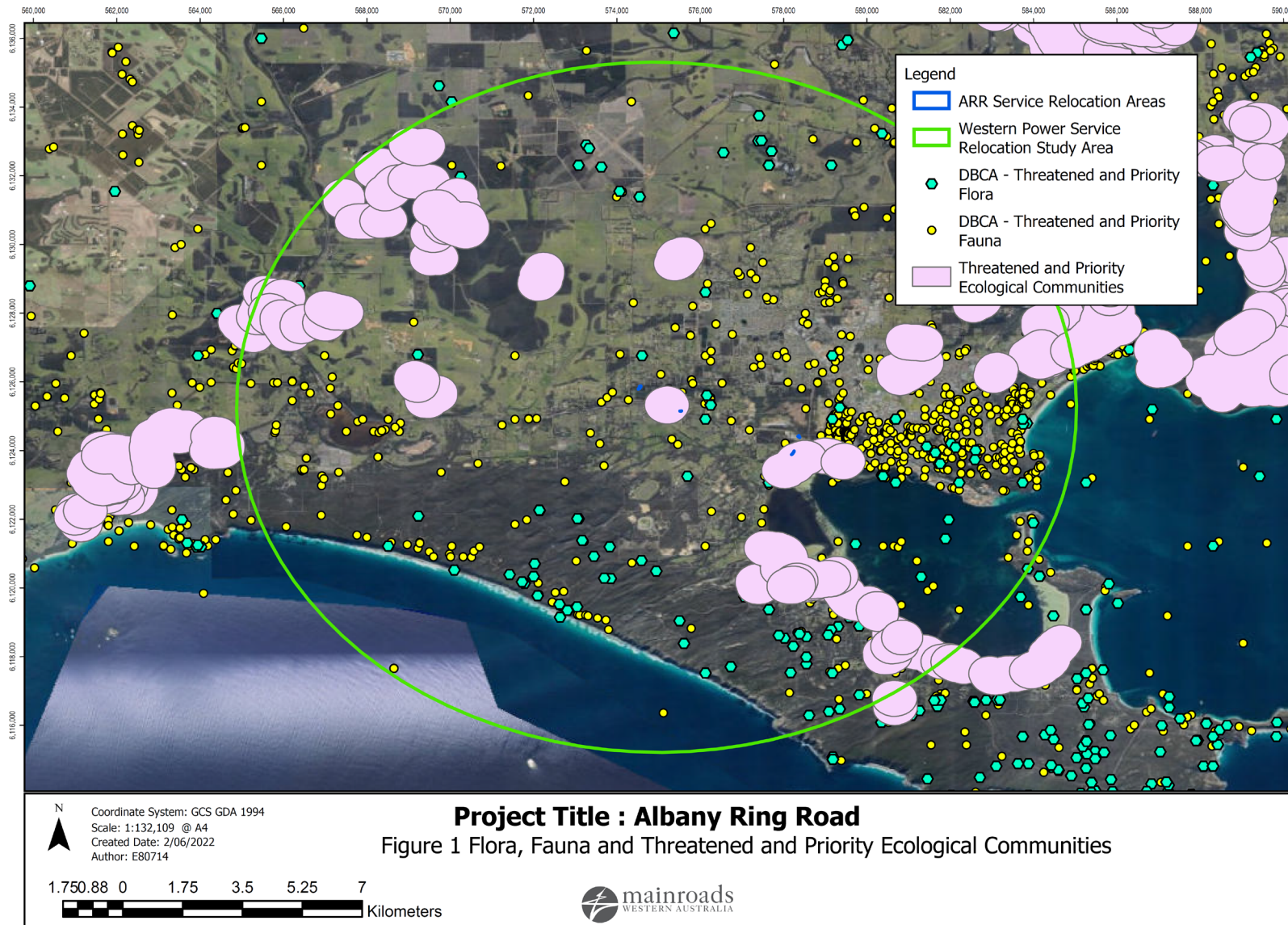


Figure 5 Historical Aerial Photography at Frenchman Bay Road (Landgate 1996)



Figure 6 Historical Aerial Photography at Old Elleker Road (Landgate 1996)

Appendix 3: Environmental Constraints Figure



Appendix 4: Biological Survey Areas



Figure 1 Biological Survey Extent at Frederick Street



Figure 2 Biological Survey Extent at Old Elleker Road

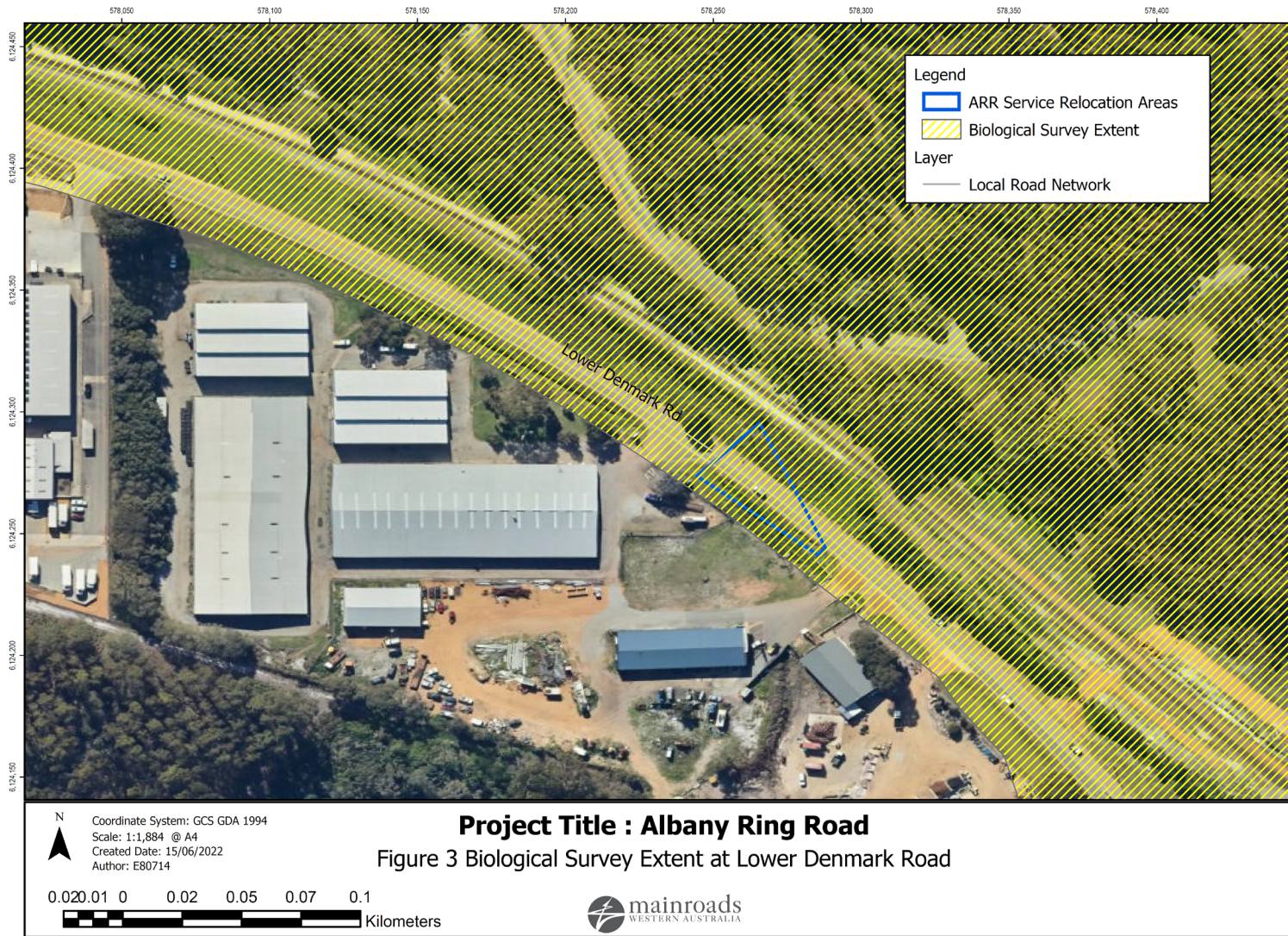


Figure 3 Biological Survey Extent at Lower Denmark Road



Figure 4 Biological Survey Extent at Frenchman Bay Road



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Albany Ring Road Service
Relocations Walmsley Road

August 2022

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1 PURPOSE

This Clearing Desktop Report (CDR) is a desktop assessment of native vegetation clearing that is proposed to be cleared using the Statewide Clearing Permit CPS 818 issued to Main Roads Western Australia (Main Roads).

2 SCOPE

2.1 Project Scope

Project Name: Albany Ring Road Service Relocations at Walmsley Road

Project Purpose / Components: Main Roads Western Australia (Main Roads) is proposing the construction of a new seven km long section of the Albany Ring Road (ARR) from the intersection of South Coast Highway and Link Road, to Frenchman's Bay Road in the City of Albany in Western Australia.

The aim of this proposal is to relocate Western Power services to an alignment that will not be affected by the Albany Ring Road Works Roads works.

The proposed clearing under CPS 818 is : up to 0.02ha

The proposed temporary clearing under CPS 818 is: NA

Project Location(s): The project area is located in the City of Albany at the intersection of Walmsley Road and Old Elleker Road.

- Latitude: 117.82977334
- Longitude: -35.0150103

The location of the proposed works is at Figure 1.

2.2 Desktop Assessment Scope

The assessment area is confined to a local area of a 10 km radius, as shown in Figure 2.



Figure 1. Project Area



Figure 2. Project Location and Study Area

2.3 Alternatives to Clearing

There are no alternatives to the clearing proposed as the footprint has been reduced as far as practicable and only a minimal amount of native vegetation will be removed for the works.

2.4 Measures to Avoid, Minimise, Mitigate and Manage Project Clearing Impacts

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

The project area will be marked prior to clearing and the movement of machinery will be restricted to the approved limits of vegetation clearing. This approach will prevent accidental over-clearing.

Table 1. Justification of Avoiding, Minimising, Mitigating and Managing Project Clearing Impacts

Design or Management Measure	Discussion and Justification
Preferential use of existing cleared areas for access tracks, construction storage and stockpiling	Cleared areas will be required for storage of equipment and machinery. There will be no temporary clearing permitted to complete the service relocations.

2.5 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 (see Section 1.3), Main Roads has also had regard to

EPPs

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

Relevant other policies and guidance documents:

- The Western Australian Environmental Offsets Policy (Government of Western Australia, 2011)
- A guide to the assessment of applications to clear native vegetation (DWER, December 2014)
- Procedure: Native vegetation clearing permits (DWER, October 2019)
- Environmental Offsets Guidelines (Government of Western Australia, August 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
- Approved Recovery Plans for threatened species
- EPBC Act Referral guidelines for the three threatened black cockatoo species
- Strategic advice - EPA

Other Legislation of relevance 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&D Act)
- Soil and Land Conservation Act 1945 (WA)
- Rights in Water and Irrigation Act 1914
- Aboriginal Heritage Act 1972 (WA)
- Town Planning and Development Act 1928

3 Methodology

3.1 Desktop Study

A desktop assessment of the project area and an assessment of native vegetation clearing were undertaken by reviewing a number of government agency managed databases, viewing GIS shapefiles and consulting with relevant stakeholders where necessary. Results from searches can be found in the relevant Appendix.

GIS layer viewing and mapping is done using ArcMap and / or Main Roads Integrated Mapping System (IMS). 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, these are referenced in Section 7.

4 VEGETATION DETAILS

4.1 Project Site Vegetation Description

The area under application is in degraded to completely degraded condition with the area consisting of predominately weed species and planted vegetation with scattered native species. Vegetation at the site is described as planted pine trees and non native Eucalyptus trees and regrowth of native Eucalyptus and Peppermint trees, with an understorey of Watsonia, Grasses and Victorian Tea Tree. Site photos are located in Appendix 1.

Tables 3 and 4 provide details of the Pre-European Vegetation Associations with the project area and the remaining extents of these associations.

Table 2. Summary of Project Area's Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 3 described as a Medium forest: jarrah-marri (Government of Western Australia, 2017)	Clearing of up to 0.02 ha for service relocations on Old Elleker Road, Albany.	Degraded to Completely degraded (EPA 2016)	Degraded to completely degraded condition. Areas consist of predominately weed species and planted vegetation with scattered native species.

Table 3. Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 3	Statewide	2 661 404	1 806 035	68%	81%
	IBRA Bioregion Jarrah Forest	2 390 591	1 606 737	67%	80%
	IBRA Sub-region Southern Jarrah Forest	1 482 491	883 557	59%	81%
	Local Government Authority	50 509	16 024	32%	38%

	City of Albany				
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5 Assessment Against the Ten Clearing Principles

In assessing whether the project's proposed clearing is likely to have a significant impact on the environment, the project was assessed against the ten Clearing Principles (*Environmental Protection Act 1986* (EP Act), Schedule 5).

Each principle has been assessed in accordance with DWER's 'A Guide to the Assessment of Applications to Clear Native Vegetation'.

The proposed clearing is not likely to be at variance with the 10 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
Comments A desktop assessment of 10 km radius identified 70 conservation significant flora species. There are no known records of threatened or priority species or communities within the project area. The nearest recorded threatened flora is a Department of Biodiversity, Conservation and Attractions (DBCA) record of <i>Prasophyllum paulinae</i> (T) which is 360m South East of the project area and will not be impacted. The nearest Priority species, which was identified in the DBCA records was <i>Boronia crassipes</i> (P3) located 600m to the North East of the project area and will not be impacted. Considering the previous clearing and disturbance of the project area and the current degraded state dominated by introduced species, significant flora species are considered unlikely to be present. The project area is located within 100m of the buffer of a DBCA mapped Priority Ecological community (PEC) <i>Astartea scoparia Swamp Thicket</i> (P1). The area to be cleared has been significantly altered and is not representative of this Priority Ecological community. Considering the small size of the clearing area and the degraded condition of the vegetation, the area offers limited habitat for fauna overall. There is a small cluster of Eucalyptus trees and Pine Trees which may offer some habitat for black cockatoos. However due to the small amount of clearing (<0.02ha) it is considered unlikely that the vegetation would constitute significant habitat. The proposed clearing area offers <0.02ha of potential linkage habitat for Western Ringtail Possum. This area does not contain any core or supporting habitat for the Western Ringtail Possum. The construction of a power line in this area, would not prevent movement of this fauna through the area. Due to the small amount of clearing it is not considered that the project will have a significant impact to Western Ringtail Possums. The project area contains Vegetation Association 3 described as Medium forest; jarrah-marri (Government of Western Australia, 2017), which has 68% remaining. As there is greater than 30% remaining it is not considered significant as a remnant of native vegetation. The vegetation to be cleared is minor in size (<0.02ha) and is in degraded to completely degraded condition. It does not comprise a high level of biodiversity. No significant species or ecological communities will be impacted from the removal of <0.02ha and it is unlikely that clearing will significantly reduce the biodiversity of the locality.

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

Methodology

Prasophyllum paulinae Survey (2020)
 DBCA shapefiles
 Department of Natural Resources and Environment (2002)
 EPA (2016, 2020)
 Government of WA (2013)
 Main Roads GIS Shapefiles

(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 indigenous to Western Australia.

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

Comments

A desktop assessment of 10 km radius identified 52 significant fauna species.

There is a small cluster of Eucalyptus trees and Pine Trees which may offer habitat for black cockatoos. However due to the small amount of clearing (<0.02ha) it is considered unlikely that the vegetation would constitute significant habitat.

The proposed clearing area offers <0.02ha of potential linkage habitat for Western Ringtail Possum. This area does not contain any core or supporting habitat for the Western Ringtail Possum. The construction of a power line in this area, would not prevent movement of this fauna through the area. Due to the small amount of clearing it is not considered that the project will have a significant impact to Western Ringtail Possums.

While the area is noted as potential habitat for the above listed species, the habitat is very limited in scale (<0.02ha) and the remaining vegetation is in a degraded to completely degraded condition. Therefore the vegetation proposed to be cleared is not likely to comprise, or be necessary for the maintenance of, significant habitat for fauna indigenous to Western Australia.

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

Methodology

DBCA Shapefiles
 DBCA website
 EPA (2016, 2020)

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

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

Comments

The nearest recorded threatened flora is a Department of Biodiversity, Conservation and Attractions (DBCA) record of *Prasophyllum paulinae* (T) which is 360m South East of the project area and will not be impacted.

Due to the degraded nature of the project area and no known records of threatened or rare flora in the project area, it is unlikely that any threatened and rare flora occur within the project area. Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

Prasophyllum paulinae Survey (2020)
 DBCA shapefiles
 EPA (2016)

(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 likely to be at variance to this Principle

Comments

There are no known Threatened Ecological Communities with 2km of the project area. The project area predominantly consists of weeds such as introduced grasses and watsonia with regrowth of tree species such as Peppermint Tree or Eucalyptus sp. Based on the vegetation description, the degraded to completely degraded condition of the vegetation and the historical clearing across the area, it is unlikely that this area represents the TEC.

Based on the above, the proposed clearing will not impact any Threatened Ecological Communities and is not likely at variance to this Principle.

Methodology

DBCA shapefiles
 EPA (2016)

(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 likely to be at variance to this Principle

Comments

The project area contains Vegetation Association 3 described as Medium forest; jarrah-marri (Government of Western Australia, 2017), which has 32% remaining in the City of Albany. As there is greater than 30% of the Vegetation association remaining, and the project entails removal of only <0.02ha of degraded to completely degraded vegetation (which consists of scattered native species, weed species and planted vegetation), it is not considered significant as a remnant of native vegetation.

Summary of Project Area's Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 3 described as a Medium forest: jarrah-marri (Government of Western Australia, 2017)	Clearing of up to <0.02 ha for service relocations on Old Elleker Road, Albany.	Degraded to Completely degraded (EPA 2016)	Degraded to completely degraded condition. Areas consist of predominately weed species and planted vegetation with scattered native species

Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 3	Statewide	2 661 404	1 806 035	68%	81%

	IBRA Bioregion Jarrah Forest	2 390 591	1 606 737	67%	80%
	IBRA Sub-region Southern Jarrah Forest	1 482 491	883 557	59%	81%
	Local Government Authority City of Albany	50 509	16 024	32%	38%

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

Methodology

Aerial photography

EPA (2016)

Government of Western Australia (2017)

Perth Biodiversity Project (2013)

(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 not at variance to this Principle

Comment

The project requires clearing of <0.02 ha of vegetation described as predominately weed species and planted vegetation with scattered native species, is in a degraded to completely degraded condition. Vegetation at the site is described as planted pine trees and non native Eucalyptus trees and regrowth of native Eucalyptus and Peppermint trees, with an understorey of Watsonia, Grasses and Victorian Tea Tree.

The vegetation to be cleared at the project areas is not considered to constitute riparian vegetation and is not associated with a wetland or watercourse. The closest wetlands to are the Gledhow Wetlands located 1km to the South East of the project area and will not be impacted.

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

Methodology

DWER and DBCA shapefiles

(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

Comments

The Project is mapped within an area with a variety of land degradation factors as detailed below (GoWA 2020).

Risk factor	Risk likelihood
Water Erosion	<3% high to extreme water erosion risk
Flooding	<3% moderate to high water erosion risk
Salinity	<3% of map unit has a moderate to high salinity risk or is presently saline
Wind erosion	<3% of map unit has a high to extreme water erosion risk
Sub-surface acidification	> 70% of map unit has a high subsurface acidification risk or is presently acid

Soils in the Project area were identified primarily as clays. Whilst the project area is located within a mapped high risk of sub-surface acidification, the clearing for the project is unlikely to significantly contribute to this risk due to the small area (<0.02ha) of clearing and previous disturbance. Given the small amount of vegetation clearing within the Project area, 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 GoWA (2020) DPRID Soil landscape quality mapping

(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 likely to be at variance to this Principle
Comments The Project does not intersect or occur within any conservation areas. The nearest conservation area is Gledhow Nature Reserve located 550m to the north of the project area and no direct or indirect impacts to this conservation area is expected as a result of the clearing activities. Based on the above, the proposed clearing is not likely to be at variance to this principle.
Methodology DBCA shapefiles EPA (2016)

(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
Comments The project area is not located within a groundwater protection area or proclaimed surface water area. A Public Drinking Water Source Area (South Coast Water Reserve, Priority 2 Protection Area) is located approximately 100m south of the proposed clearing area. The clearing of native vegetation is very minor in scale (<0.02ha). In addition, no dewatering or excavation below the water table is required and as such no impacts to surface or groundwater quality are expected as a result of the project. Based on the above, the proposed clearing is not likely to be at variance to this principle.
Methodology DWER and DBCA shapefiles EPA (2016)

(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 likely to be at variance to this Principle
Comments The Project area is characterised by clay soils with low infiltration rates, is located within a region that receives an average annual rainfall of 925.2 mm, and mapped as a moderate to high flood risk. However, considering the very small scale of the proposed clearing (<0.02 ha), it is unlikely to cause or exacerbate the intensity or incidence of flooding above the current risk level. Based on the above, the proposed clearing is not at variance to this Principle.
Methodology DWER, DPIRD and DBCA shapefiles

6 ADDITIONAL ACTIONS REQUIRED

The clearing associated with the proposal is unlikely or not at variance with the Clearing Principles. Additional management actions under CPS 818 are detailed in Table 6.

Table 6. Summary of Additional Management Actions Required by Permit CPS 818

Impact of Clearing	Yes/No or NA	Further Action Required
1. The project involves clearing for temporary works (as defined by CPS 818).	No	No further action required.
2 a. Project is within Region that: - Has rainfall greater than 400mm and - Is South of the 26th parallel and - Works are in 'Other than dry conditions' and - Works have potential for uninfested areas to be impacted	Yes	Proceed with standard Vehicle and Plant management actions from PEMR's and Vehicle and Plant Hygiene Checklists
3. 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.
4. The vegetation within the area to be cleared and/or the surrounding vegetation in a good or better condition and weeds 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.

7 VEGETATION MANAGEMENT

Main Roads will avoid clearing native vegetation where possible. Where clearing cannot be avoided then this clearing is kept to a minimum. Vegetation will be managed in accordance the Project Specific Environmental Management Plan.

8 REFERENCES

Australian Government. EPBC Act referral guidelines for three threatened black cockatoo species (2012). Department of Sustainability, Environment, Water, Population and Communities.

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Government of Western Australia (2011). WA Environmental Offset Policy. Perth Western Australia.

Havel, J.J. and Mattiske, E.M. (2000) Vegetation Mapping of South West Forest Regions of Western Australia. Prepared for CALMSCIENCE, Department of Conservation and Land Management and Environment Australia

Heddle, E. M., Loneragan, O. W., and Havel, J. J (1980) Atlas of Natural Resources Darling System, Western Australia. Department of Conservation and Environment.

9 APPENDICES

Appendix	Title
Appendix 1	Site Photos
Appendix 2	Environmental Constraints Map

Appendix 1: Site Photos

Table 1 Site Photos



Photo 1: Looking North West towards existing power pole on Old Elleker Road. Photo shows the Degraded condition of the vegetation consisting of grasses, watsonia, Victorian tea tree peppermint tree and Eucalyptus sp..



Photo 2: Looking North East towards Walmsley Road. Photo shows grasses, watsonia, Victorian tea tree, Pine tree sp. tree and Eucalyptus sp.



Photo 3. Looking North towards Walmsley Road. Photo shows the Degraded condition of the vegetation consisting of grasses, watsonia, Victorian tea tree peppermint tree, Pine Tree and Eucalyptus sp.



Figure 1 Historical Arial Photography at Frenchman Bay Road (Landgate 1996)

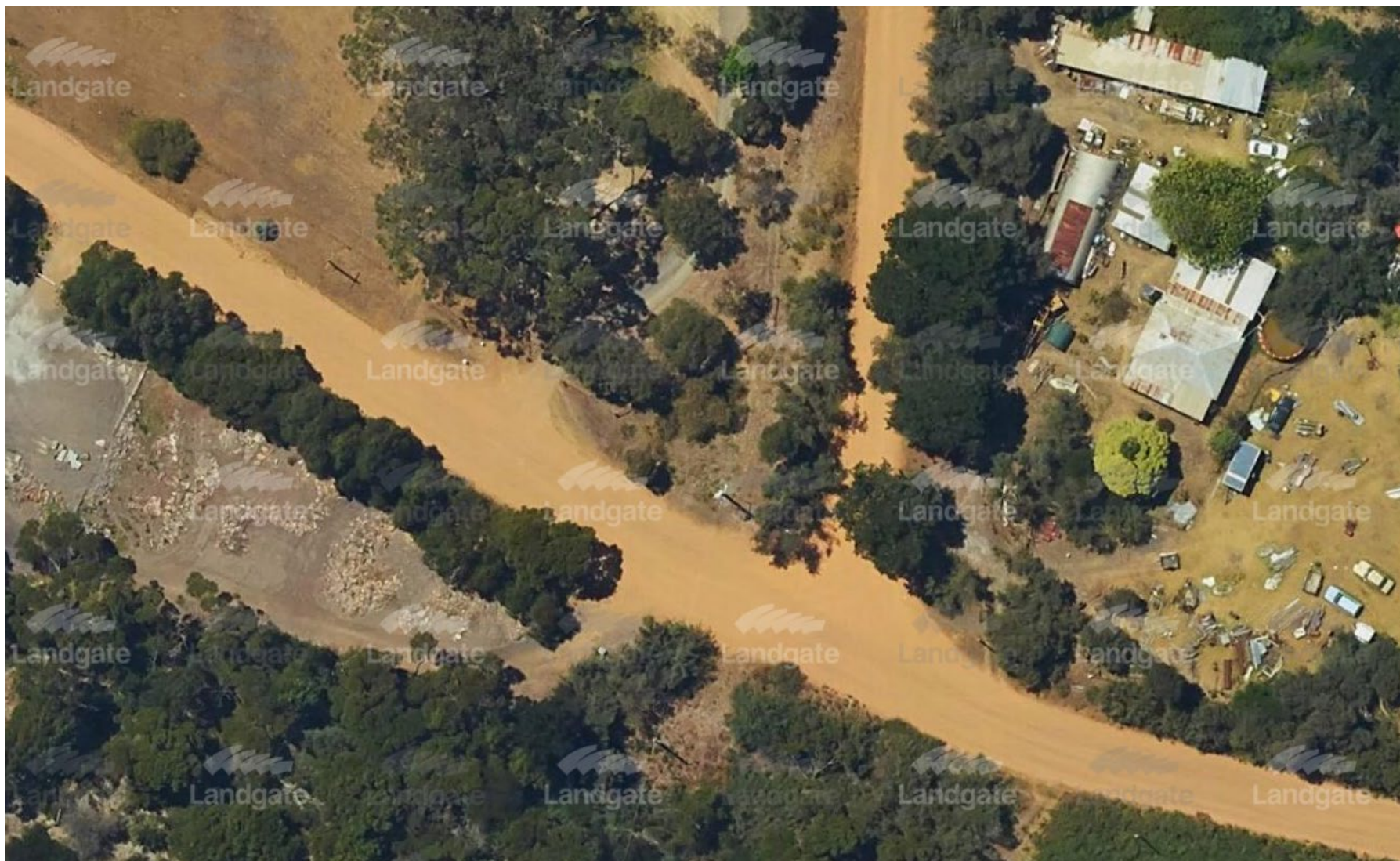
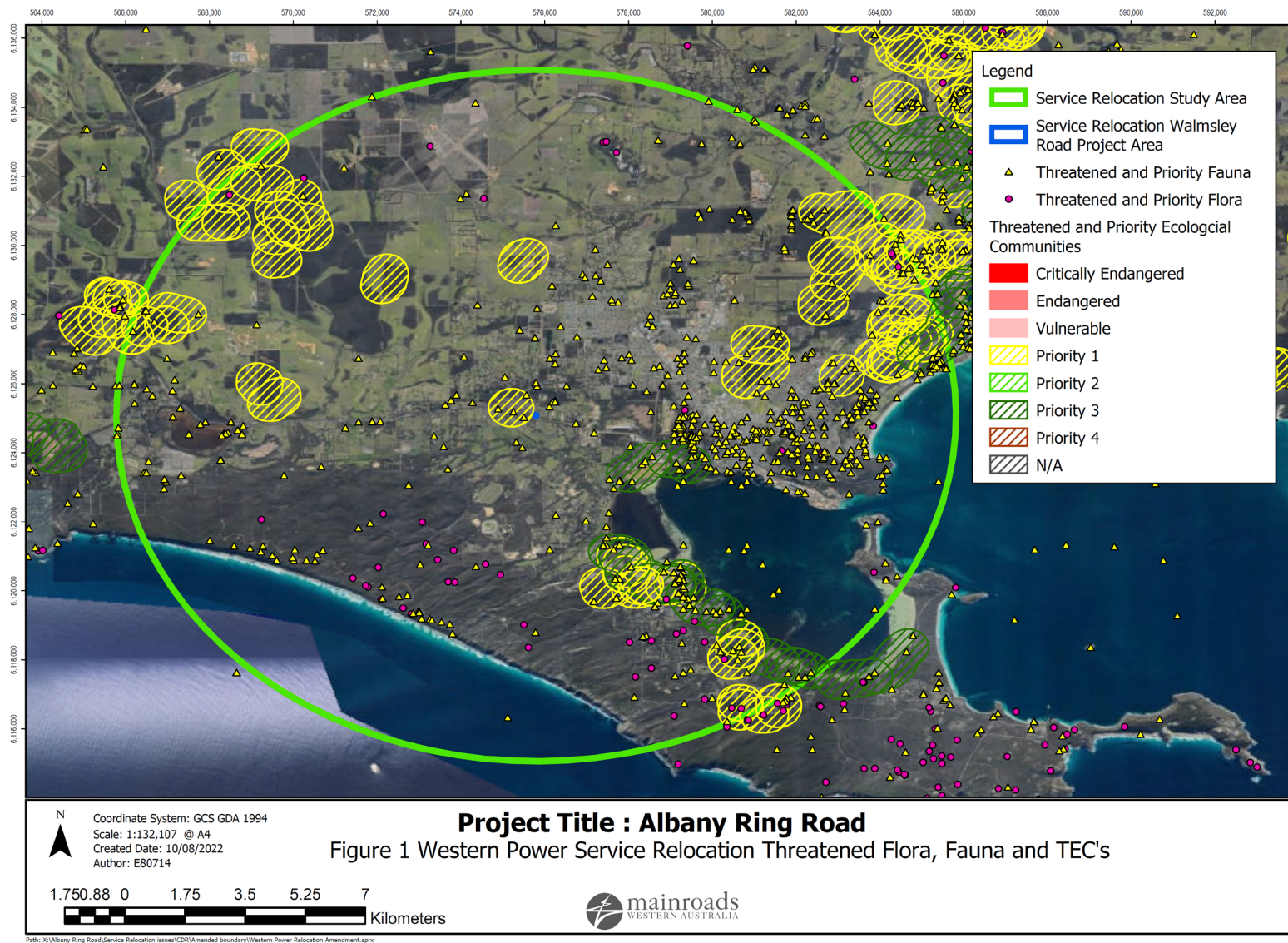


Figure 2 Historical Arial Photography at Old Elleker Road (Landgate 2019)

Appendix 2: Environmental Constraints Map





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WESTERN AUSTRALIA

Clearing Assessment Report – CPS 818

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Albany Ring Road Water Corporation
Relocation Works

October 2022

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Amendments

Report Compilation & Review	Name and Position	Document Revision	Date
Author:	Senior Environment Officer	Draft v1	20/09/2022
Reviewer:	Principal Environment Officer	Rev 0	03/10/2022
Reviewer:	Principal Environment Officer	Rev 0	04/10/2022

PURPOSE

The purpose of this Clearing Assessment Report (CAR) is to provide a report detailing the assessment of native vegetation clearing that is proposed to be undertaken using the Statewide Clearing Permit CPS 818 issued to Main Roads Western Australia (Main Roads).

The CAR outlines the key activities associated with the project, the existing environment and an assessment of native vegetation clearing. This assessment provides an evaluation of the vegetation clearing impacts associated with the project using the ten Clearing Principles, and the strategies used to manage vegetation clearing.

SCOPE

Project Scope

Project Name: Albany Ring Road Water Corporation Pipeline Service Relocation and Drainage Swale

Project Purpose / Components: A Water Corporation water pipe along George Street, near the intersection of Frederick Street (Figure 1) in Albany requires relocating prior to construction works for the wider Albany Ring Road (ARR). The proposal requires clearing of <0.1 ha of a mix of native vegetation and planted vegetation at the intersection of George Street and Frederick Street and the clearing is proposed to be conducted under CPS 818/15

The proposed clearing undertaking using CPS 818 is: <0.1ha

The proposed temporary clearing undertaking using CPS 818 is: N/A

Project Location(s):

The project area is located in the City of Albany at the intersection of George Street and Frederick Street.

- Latitude: 117.8135760
- Longitude: -35.0087276

The location of the proposed works is shown at Figure 1 and Figure 2 shows the 10km study area.

Assessment Report Scope

The study area, see Figure 2, is confined to a local area of a 10km radius.



Figure 1. Water Corporation Relocation Project Area

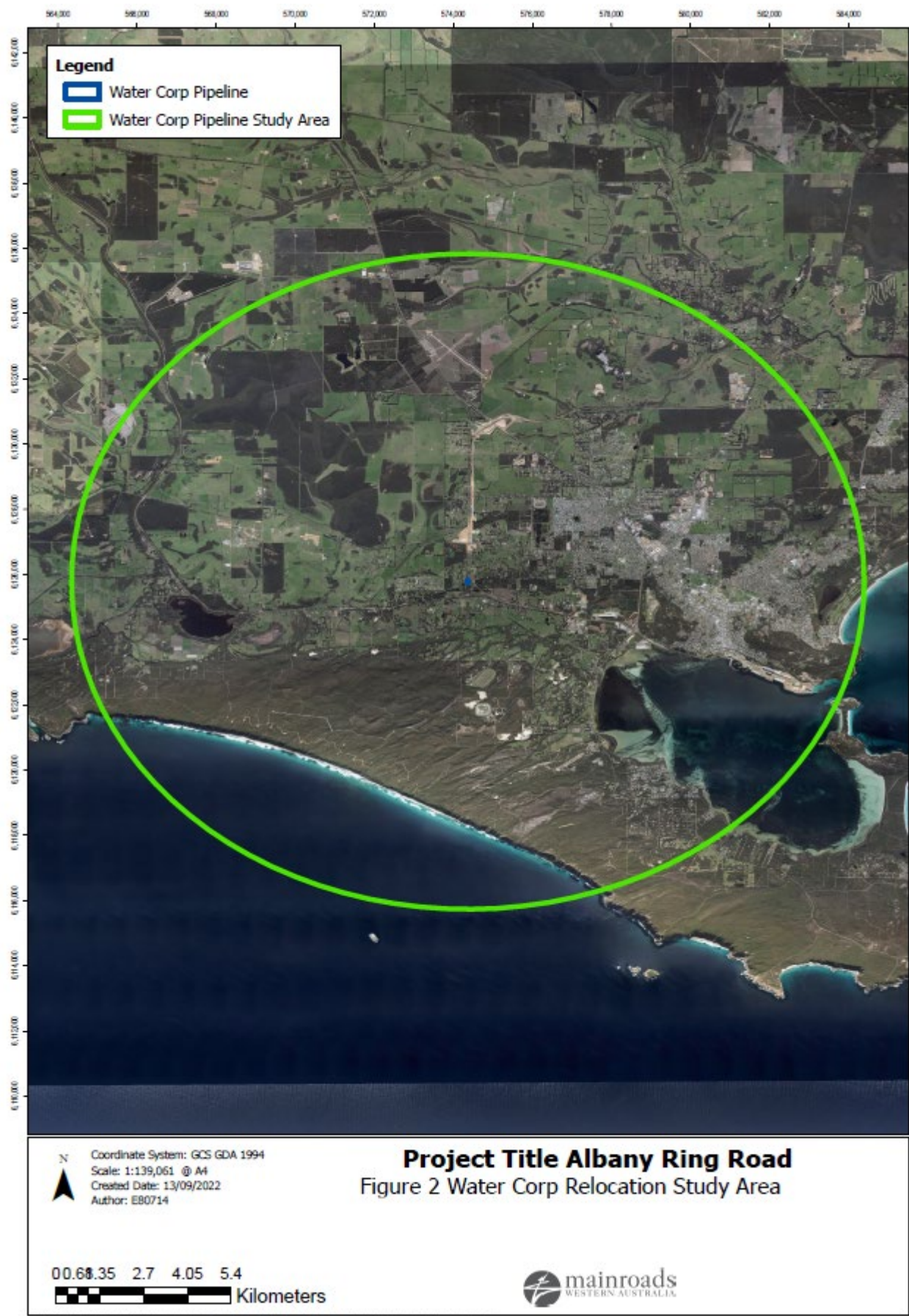


Figure 2. Study Area

Alternatives to clearing

Due to the proximity of existing infrastructure, there are no alternatives to the clearing proposed however the footprint has been reduced as far as practicable and only a minimal amount of native vegetation will be removed for the works.

Measures to Avoid, Minimise, Reduce and Manage Project Clearing Impacts

The design and management measures implemented to avoid and minimise the clearing impacts by the project are provided in Table 1.

The project area will be marked prior to clearing and the movement of machinery will be restricted to the approved limits of vegetation clearing. This approach will prevent accidental over-clearing.

Table 1. Measures undertaken to Avoid, Minimise, Reduce and Manage the Project Clearing Impacts

Design or Management Measure	Discussion and Justification
Preferential use of existing cleared areas for access tracks, construction storage and stockpiling	Cleared areas will be utilised for storage of equipment and machinery. There will be no temporary clearing required to complete the service relocations.

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 (see Section 1.3), Main Roads has also had regard to the below instruments.

Other Legislation of relevance 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&D Act)
- Soil and Land Conservation Act 1945 (WA)
- Rights in Water and Irrigation Act 1914
- Aboriginal Heritage Act 1972 (WA)
- Town Planning and Development Act 1928

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 (DEC, December 2014)
- Procedure: Native vegetation clearing permits (DWER, October 2019)
- Environmental Offsets Guidelines (Government of Western Australia, August 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
- Approved Recovery Plans for Threatened species
- EPBC Act Referral guidelines for the three Threatened black cockatoo species
- Strategic advice - EPA

SUMMARY OF SURVEYS

Surveys undertaken for the wider Albany Ring Road Project that are relevant to this Proposal

Multiple surveys have occurred across the wider Albany Ring Road Project which incorporate the Water Corporation pipeline service relocation proposal. A summary of each is provided below.

Biological Survey

The Albany Ring Road Biological Survey was conducted on multiple visits between October 2017 and October 2019 by Southern Ecology. Southern Ecology was engaged to assess a broad project envelope (338 ha) for potential environmental constraints. Below is a summary of this survey as relevant to the current Proposal:

Flora & Vegetation

- A total of 342 plant taxa from 65 families were recorded within and adjacent to 32 floristic quadrats established in the Survey Area.
- Populations of four Priority-listed flora were recorded: *Synaphea incurva* (P1), *Boronia crassipes* (P3), *Andersonia sp. Jamesii* (J. Liddel 84) (P4) and *Thysanotus isantherus* (P4). A previously recorded population of *Prasophyllum paulinae* (P1) is known from the Survey Area.
- *Synaphea incurva* (P1) is the closest Threatened or Priority Flora recorded in the survey to the current Proposal. It is located 400m to the north of the Proposal
- Five Declared Pests and/or Weeds of National Significance (WONS) were recorded: - Blackberry (**Rubus species complex*), Bridal Creeper (**Asparagus asparagoides*), Gorse (**Ulex europaeus*), Arum Lily (**Zantedeschia aethiopica*) and Lantana (**Lantana camara*).
- Vegetation condition ranges from Completely degraded to Degraded within the Proposal area.
- Thirteen vegetation associations were described in the survey, with only one occurring in the Proposal area – "Mature Planted Trees (Iron Barks, Blue Gum, Tuart, other Eucalypts and Peppermint generally > 10 years old).
- Two Threatened and four Priority Ecological Communities occur in the vicinity; no vegetation in the Survey Area meets the requisite criteria for these communities.

Fauna

- Five significant fauna species were present within the Survey Area: - Carnaby's Cockatoo (*Calyptorhynchus latirostris*) (T-EN), Baudin's Cockatoo (*Calyptorhynchus baudinii*) (T-EN), Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) (T-VN), Western Ringtail Possum (*Pseudocheirus occidentalis*) (T-CR), and Southern Brown Bandicoot (*Isodon obesulus subsp. fusciventer*) (P4).
- Western Ringtail Possum (WRP) scats were observed widely across the Survey Area in multiple habitats of varying condition.
- Supporting habitats and potential habitat linkages were identified in the Proposal area.
- Foraging and potential breeding habitat for three Black Cockatoo species occurred throughout the Survey Area.
- The Proposal area contains high quality foraging and roosting habitat for Black Cockatoos.
- No hollows were determined to be occupied or showed recent use by Cockatoo species. 60 trees contained hollows potentially suitable for the Carnaby's Cockatoo; 18 trees contained hollows potentially suitable for Forest Red-tailed Black Cockatoo and three trees contained

hollows potentially suitable for Baudin's Cockatoo. In total, 662 potential breeding trees were recorded (DBH $\geq$ 500mm, with or without hollows) comprising of four tree species.

- Two Marri's with a DBH > 500mm without hollows occur in the Proposal area.

Summary of dieback survey

The Albany Ring Road Dieback Survey was conducted in August 2019 by Southern Ecology. 17.3 ha was recorded as infested, 25.93 ha as Uninterpretable and 191.7ha as Excluded. The Proposal area was mapped as "Excluded" as it contains non-native vegetation

Summary of Black Cockatoo Habitat Survey

The Albany Ring Road Black Cockatoo Habitat Assessment was conducted in August 2017 by Biota. A total of 516 'suitable diameter at breast height (DBH) trees' (>50 cm DBH) were recorded during the survey. From these trees, a total of 48 hollows with entrance diameters of 10 cm or greater were recorded, 37 of which were considered to warrant further investigation during a dedicated hollow assessment. This follow-up hollow assessment included the use of an RPA with a camera mounted to take photographs of the hollows. This assessment indicated that none of the hollows were suitable for black-cockatoo breeding, primarily due to inadequate chamber size.

Potential foraging habitat within the study area was assessed using the detailed vegetation mapping of the study area. This comprised 17.4 ha of predominantly Jarrah and/or Marri woodland with varying mid- and under-storeys, in some places included foraging plants. Individual planted *Pinus radiata* were also recorded throughout the study area and represent foraging plants for White-tailed Black Cockatoos.

The Proposal area contains high quality foraging and roosting habitat for Black Cockatoos and two Marri's with a DBH > 500mm.

Summary of Western Ringtail Possum Assessment

The Albany Ring Road Western Ringtail Possum Survey was conducted July 2018 by Biota. Within the Project Area 16.2 km of strip transects yielded 13 observations of Western Ringtail Possums and, when the expected number of individuals based on distance sampling in the Old Tip site and CSBP site are included, the abundance estimate for the Project Area increased to between 20 and 37 individuals. For the area of habitat sampled (92.2 ha) this represents a density estimate ranging between 0.22 – 0.40 individuals per hectare. No WRP were recorded within the Proposal area

Summary of *Prasophyllum paulinae* Survey

The Albany Ring Road *Prasophyllum paulinae* Survey was conducted in October 2019 by Southern Ecology. *Prasophyllum paulinae* is a geographically restricted orchid taxon, listed as Priority 1 by the Department of Biodiversity, Conservation and Attractions (DBCA) and has historically been recorded within the Albany Ring Road Project area. It is known only from two populations over a range of 20 km and is a tuberous orchid, which is presumed to only exhibit annual above-ground leaves and flowers during spring for several years after its habitat is disturbed by fire. To provide contextual information on potential impacts, Southern Ecology was engaged to complete a desktop assessment to identify suitable areas of habitat for *P. paulinae* and to conduct additional targeted surveys within the regional distribution of *P. paulinae* and within the Albany Ring Road project area. Targeted searches in areas containing suitable habitat for *P. paulinae* within the Albany Ring Road Project area did not identify any individuals of the taxon (See main report). These areas have been subject to survey effort in 2017, 2018 and 2019, however are long-unburnt and some are highly degraded.

VEGETATION DETAILS

Project Site Vegetation Description

The proposal area is in Degraded to Completely degraded condition with the area consisting of predominately weed species and planted vegetation with scattered native species. Vegetation at George Street is described as a small portion of remnant Marri trees surrounded by planted Eucalyptus trees and Peppermint trees, with an understorey of Watsonia, clover, Cape Lilac Grasses and Victorian Tea Tree.

Tables 2 and 3 provide details of the Pre-European Vegetation Associations with the project area and the remaining extents of these associations.

Table 2. Summary of Project Area's Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 3 described as a Medium forest: jarrah-marri (Government of Western Australia, 2017)	Clearing of up to <0.1 ha for service relocations on George Street and Hanrahan Road, Albany.	Degraded to Completely degraded (EPA 2016)	Degraded to Completely degraded condition. Areas consist of predominately weed species and planted vegetation with scattered native species.

Table 3. Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 3	Statewide	2 661 404	1 806 035	68	81
	IBRA Bioregion Jarrah Forest	2 390 591	1 606 737	67	80
	IBRA Sub-region Southern Jarrah Forest	1 482 491	883 557	59	81
	Local Government Authority City of Albany	50 509	16 024	32	38

ASSESSMENT AGAINST THE TEN CLEARING PRINCIPLES

In assessing whether the project's proposed clearing is likely to have a significant impact on the environment, the project was assessed against the ten Clearing Principles (Environmental Protection Act 1986, Schedule 5).

Each principle has been assessed in accordance with DWER's 'A Guide to the Assessment of Applications to Clear Native Vegetation' and other relevant CPS Decision Reports prepared by DWER.

The proposed clearing is at or may be at variance with principle (f) of the 10 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
Comments <u>Flora & Vegetation</u> A desktop assessment of 10 km radius identified 70 conservation significant flora species. There are no known records of Threatened or Priority species or communities within the project area. The nearest recorded Threatened flora is a Department of Biodiversity, Conservation and Attractions (DBCA) record of <i>Prasophyllum paulinae</i> (T) located 900m to the West of the project area and will not be impacted due to the distance from the proposed works. The nearest Priority species identified in the Biological Survey is <i>Synaphea incurva</i> (P3) located 800m to the north of the project area. This species will not be impacted by this proposal given the distance to the proposed works. The proposal area has historically been cleared and subject to ongoing disturbance to the area, resulting in the area being dominated by introduced species and its current degraded state. Noting the absence of significant flora species from the biological surveys and lack of DBCA records, furthermore it is unlikely significant flora species would be present due to being outcompeted by the introduced species and ongoing disturbance. The project area is located within 400m of the buffer of a DBCA mapped Priority Ecological community (PEC) <i>Astartea scoparia Swamp Thicket</i> (P1). The area to be cleared has been significantly altered and is not representative of this Priority Ecological community. The biological survey did not identify this PEC within the Proposal area. The project area contains Vegetation Association 3 described as Medium forest; jarrah-marri (Government of Western Australia, 2017), which has 68% remaining. As there is greater than 30% remaining and the vegetation is degraded to completely degraded, it is not considered significant as a remnant of native vegetation. <u>Fauna</u> The proposal will involve: - clearing of <0.1Ha of high-quality foraging and roosting habitat for Black Cockatoos and two Marri trees, both with a DBH greater than 500mm and no suitable hollow for black cockatoo breeding. Clearing of <0.1ha of high-quality Black Cockatoo habitat is unlikely to constitute significant habitat for the species. black cockatoos. <0.1ha of potential supporting habitat for Western Ringtail Possum. This area does not contain any core habitat for the Western Ringtail Possum. Due to the small amount of clearing it is not considered that the project will have a significant impact to Western Ringtail Possums. Please see Principle B for further fauna assessment.

The vegetation to be cleared is small in size (<0.1ha) and is in degraded to completely degraded condition. It does not comprise a high level of biodiversity, as the native vegetation is dominated by weed species and planted, exotic trees. No significant species or ecological communities will be impacted from the removal of <0.1ha and it is unlikely that clearing will significantly reduce the biodiversity of the locality.

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

Methodology

Prasophyllum paulinae Survey (2020)

Biological Survey

DBCA shapefiles

EPA (2016, 2020)

Main Roads GIS Shapefiles

(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 indigenous to Western Australia.

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

Comments

A desktop assessment of 10 km radius identified 52 significant fauna species. Only twelve are likely to occur in the Proposal area:

Field assessments confirmed that habitats within the overall ARR project area are currently being utilised by five significant fauna species recorded during desktop searches (GHD, 2020, D20#1177521). These included:

- Carnaby's Cockatoo (*Calyptorhynchus latirostris*) (Endangered (EN)).
- Baudin's Cockatoo (*Calyptorhynchus baudinii*) (EN).
- Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) (Vulnerable (VU)).
- Western Ringtail Possum (*Pseudocheirus occidentalis*) (Critically Endangered (CR)).
- Southern Brown Bandicoot, Quenda (*Isodon obesulus* subsp. *fusciventer*) (P4).

In addition to the above species, seven significant fauna species listed under state legislation were considered to possibly occur in the overall Albany Ring Road project area despite not being recorded during field investigations:

- South-western Brush-tailed Phascogale (*Phascogale tapoatafa wambenger*) (Conservation Dependent (CD))
- Masked Owl (*Tyto novaehollandiae* subsp. *novaehollandiae*) (P3)
- Short-nosed Snake (*Elapognathus minor*) (P2)
- Fork-tailed Swift (*Apus pacificus*) (International Agreement (IA))
- Woollybush bee (*Hylaeus globuliferus*) (P3)
- Water-rat, Rakali (*Hydromys chrysogaster*) (P4)
- Peregrine Falcon (*Falco peregrinus*) (Other specially protected fauna (OS)).

The proposal involves clearing of <0.1Ha of high-quality foraging and roosting habitat for Black Cockatoos and two Marri trees, both with a DBH greater than 500mm and no suitable hollow for black cockatoo breeding. 44 ha of high quality foraging and potential breeding habitat for three Black Cockatoo species occurs throughout the 344 ha survey area, in the Eucalypt Woodland/Forest habitats and clearing of <0.1ha of high-quality Black Cockatoo habitat is unlikely to constitute significant habitat for the species

The proposed clearing area offers <0.1ha of potential supporting habitat for Western Ringtail Possum. This area does not contain any core habitat for the Western Ringtail Possum. Due to the small amount of clearing it is not considered that the project will have a significant impact to Western Ringtail Possums. A suitably qualified ecologist will be present on site to supervise clearing and ensure that no possums are within the trees proposed for removal. Due to the small amount of clearing and management strategies to

be applied, the Proposal is not likely to have a significant direct or indirect impact on this species or any individuals. Considering the small size of the clearing area, the degraded condition of the vegetation, and the wider available quality habitat identified in the wider 344 ha survey area, the proposal area offers limited habitat for fauna overall. Based on the above, the proposed clearing is not likely to be at variance to this Principle.
Methodology Biological Survey DBCA Shapefiles DBCA website EPA (2016, 2020)

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

Proposed clearing is not likely to be at variance to this Principle
Comments The nearest recorded threatened flora is a Department of Biodiversity, Conservation and Attractions (DBCA) record of <i>Prasophyllum paulinae</i> (T) which is 900m West of the project area and will not be impacted as works will be restricted to within the proposal area. Due to the degraded nature of the project area and no known records of threatened or rare flora in the project area, it is unlikely that any threatened and rare flora occur within the project area. Based on the above, the proposed clearing is not likely to be at variance to this Principle.
Methodology Biological Survey Prasophyllum paulinae Survey (2020) DBCA shapefiles EPA (2016)

(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 likely to be at variance to this Principle
Comments There are no known Threatened Ecological Communities with 3km of the project area. The project area predominantly consists of remnant Marri trees surrounded by planted Eucalyptus trees and Peppermint trees, with an understorey of Watsonia, clover, Cape Liliac Grasses and Victorian Tea Tree. Based on the vegetation description, the degraded to completely degraded condition of the vegetation and the historical clearing across the area, it is unlikely that this area represents the TEC. Based on the above, the proposed clearing will not impact any Threatened Ecological Communities and is not likely at variance to this Principle.
Methodology DBCA shapefiles EPA (2016)

(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 likely to be at variance to this Principle

Comments

The project area contains Vegetation Association 3 described as Medium forest; jarrah-marri (Government of Western Australia, 2017), which has 32% remaining in the City of Albany. As there is greater than 30% of the Vegetation association remaining, and the project entails removal of only <0.1ha of degraded to completely degraded vegetation (which consists of remnant Marri trees surrounded by planted Eucalyptus trees and Peppermint trees, with an understorey of Watsonia, clover, Cape Liliac Grasses and Victorian Tea Tree.), it is not considered significant as a remnant of native vegetation.

Summary of Project Area's Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 3 described as a Medium forest: jarrah-marri (Government of Western Australia, 2017)	Clearing of up to <0.1 ha for service relocations on George Street and drainage swale at Hanrahan Road, Albany.	Degraded to Completely degraded (EPA 2016)	Degraded to completely degraded condition. Areas consist of predominately weed species and planted vegetation with scattered native species

Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 3	Statewide	2 661 404	1 806 035	68%	81%
	IBRA Bioregion Jarrah Forest	2 390 591	1 606 737	67%	80%
	IBRA Sub-region Southern Jarrah Forest	1 482 491	883 557	59%	81%
	Local Government Authority City of Albany	50 509	16 024	32%	38%

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

Methodology

Aerial photography
EPA (2016)
Government of Western Australia (2017)
Perth Biodiversity Project (2013)

(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 not at variance to this Principle

Comment

The Proposal requires clearing of <0.1 ha of vegetation described as remnant Marri trees surrounded by planted Eucalyptus trees and Peppermint trees, with an understorey of Watsonia, clover, Cape Liliac

Grasses and Victorian Tea Tree, and is in a degraded to completely degraded condition. The Proposal is located on a steep slope, near the top of a ridge.

The vegetation to be cleared within the Proposal area does not constitute riparian vegetation and is not associated with a wetland or watercourse. The closest water course the proposed area is a minor non perennial watercourse 300m to the north of the project area.

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

Methodology

DWER and DBCA shapefiles

(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

Comments

The Project is mapped within an area with a variety of land degradation factors as detailed below (GoWA 2020).

Risk factor	Risk likelihood
Water Erosion	<3% high to extreme water erosion risk
Flooding	<3% moderate to high water erosion risk
Salinity	<3% of map unit has a moderate to high salinity risk or is presently saline
Wind erosion	<3% of map unit has a high to extreme water erosion risk
Sub-surface acidification	>70% of map unit has a high subsurface acidification risk or is presently acid

Soils in the Project area were identified primarily as clays. Whilst the project area is located within a mapped high risk of sub-surface acidification, the clearing is minor in nature (<0.1ha) and located in an area that has been subject to previous disturbance. Given the small amount of vegetation clearing within the Project area, 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

GoWA (2020) DPRID Soil landscape quality mapping

(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

Comments

The Project does not intersect or occur within any conservation areas. The nearest conservation area is Gledhow Nature Reserve located 1.7km to the east of the project area and no direct or indirect impacts to this conservation area is expected as a result of the clearing activities.

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

Methodology

DBCA shapefiles
EPA (2016)

(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

Comments

The project area is not located within a groundwater protection area, proclaimed surface water area or Public Drinking Water Source Area. The nearest groundwater protection area is 400m to the south (south of Lower Denmark Road) and is also a Public Drinking Water Source Area (South Coast Water Reserve).

The clearing of native vegetation is very minor in scale (<0.1ha). In addition, no dewatering or excavation below the water table is required for this clearing and as such no impacts to surface or groundwater quality are expected as a result of the project.

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

Methodology

DWER and DBCA shapefiles
EPA (2016)

(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 likely to be at variance to this Principle

Comments

The Project area is characterised by clay soils with low infiltration rates, is located within a region that receives an average annual rainfall of 925.2 mm and mapped as a moderate to high flood risk.

However, considering the very small scale of the proposed clearing (<0.1 ha), it is unlikely to cause or exacerbate the intensity or incidence of flooding above the current risk level.

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

Methodology

DWER, DPIRD and DBCA shapefiles

ADDITIONAL ACTIONS REQUIRED

Table 5 summarises what further pre-clearing impact assessment and vegetation management is required in accordance with CPS 818.

Table 5. 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. 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); (ii) a wetland(s) classed as a multiple use management category wetland(s); and/or (iii) a wetland that is not a defined wetland; the preparation of an Assessment Report, as required by condition 6(e), is not required.	No	No further action 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. The project involves clearing for temporary works (as defined by CPS 818).	No	No further action required.
4 a. Project is within Region that: - Has rainfall greater than 400mm and - Is South of the 26th parallel and - Works are in 'Other than dry conditions' and - Works have potential for uninfested areas to be impacted	Yes	Hygiene management will be conducted in accordance with the ARR Construction Environmental Management Plan. Note Proposal area has been mapped as "Excluded" due to the heavy historical disturbance and lack of indicator species.

Impact of Clearing	Yes/No or NA	Further Action Required
4b. Does the proposed works require clearing within or adjacent to DBCA estate in non-dry conditions?	No	No further action required.
5. 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.
6. The vegetation within the area to be cleared and/or the surrounding vegetation in a good or better condition and weeds 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.

STAKEHOLDER CONSULTATION

Main Roads will undertake stakeholder consultation in accordance with CPS 818/15 Condition 8.

REFERENCES

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APPENDICES

Appendix	Title
Appendix 1	Albany Ring Road Biological Survey
Appendix 2	Site Photos

Appendix 1: Biological Survey

Biological Survey at D22#198065

Appendix 2: Site Photos

Table 1 George Street Site Photos



Photo 1: Looking South West towards farmers property. Photo shows the Degraded condition, the vegetation consisting of grasses, watsonia, clover and Eucalyptus sp.



Photo 2. Photo looking East towards road. Photo shows the vegetation in degraded condition, with vegetation consisting of grasses, watsonia, clover and planted vegetation such as Peppermint trees, Sheoak and Hibbertia sp.

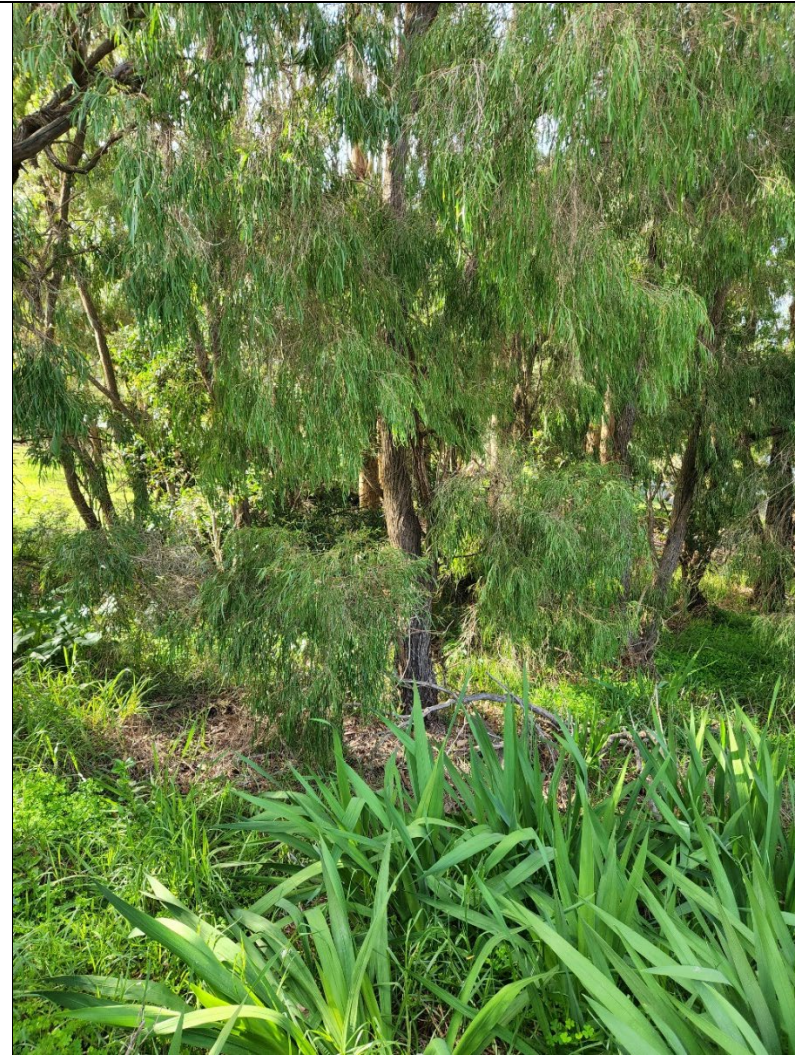


Photo 3: Photo facing North towards Frederick Street. Photo show vegetation in Degraded condition, the vegetation consisting of grasses, watsonia, Acacia, Arum Lily and Eucalyptus sp.

Photo 4: Photo facing West towards George Street. Photo shows vegetation in Degraded condition, the vegetation consisting of grasses, watsonia, Arum Lily and Peppermint trees,



mainroads
WESTERN AUSTRALIA

Albany Ring Road Ware Road Realignment Clearing Desktop Report – CPS 818

*We're working for
Western Australia.*

Albany Ring Road Ware Road
Realignment

June 2022

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D22#608468

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Amendments

Report Compilation & Review	Name and Position	Document Revision	Date
Author:	Senior Environment Officer	Draft v1	08/06/2022
Reviewer:	Senior Environment Officer	Rev 0	26/06/2022

1 PURPOSE

This Clearing Desktop Report (CDR) is a desktop assessment of native vegetation clearing that is proposed to be cleared using the Statewide Clearing Permit CPS 818 issued to Main Roads Western Australia (Main Roads).

2 SCOPE

2.1 Project Scope

Project Name: Albany Ring Road Ware Road Realignment

Project Purpose / Components: Main Roads Western Australia (Main Roads) is proposing the construction of a new seven km long section of the Albany Ring Road (ARR) from the intersection of South Coast Highway and Link Road, to Frenchman's Bay Road in the City of Albany in Western Australia.

The aim of this proposal is to realign Ware Road to meet the new alignment of Lower Denmark Road, this includes a relocation of services surrounding the existing road.

As part of the construction of the Albany Ring Road, Lower Denmark Road is required to be realigned to suit the installation of a new roundabout at the southern end of the new bridge over the existing rail. As a consequence of this, Ware Road will need to be realigned to suit the new location of Lower Denmark Road. In addition to this, the standards for intersections have changed dramatically since this intersection was built and requires additional widening to suit the new standards. Works have been designed to reduce the amount of earthworks and by extension clearing required for the construction activities.

The proposed clearing under CPS 818 is: 0.1ha

The proposed temporary clearing under CPS 818 is: N/A

Project Location(s): The project area is located in the City of Albany at the intersection of the new alignment of Lower Denmark Road and Ware Road in the following location:

- Latitude: 117.8580290
- Longitude: -35.0230621

The location of the proposed works is shown in Figure 1.

2.2 Desktop Assessment Scope

The assessment area is confined to a local area of a 10 km radius, as shown in Figure 2.



Figure 1. Project Area

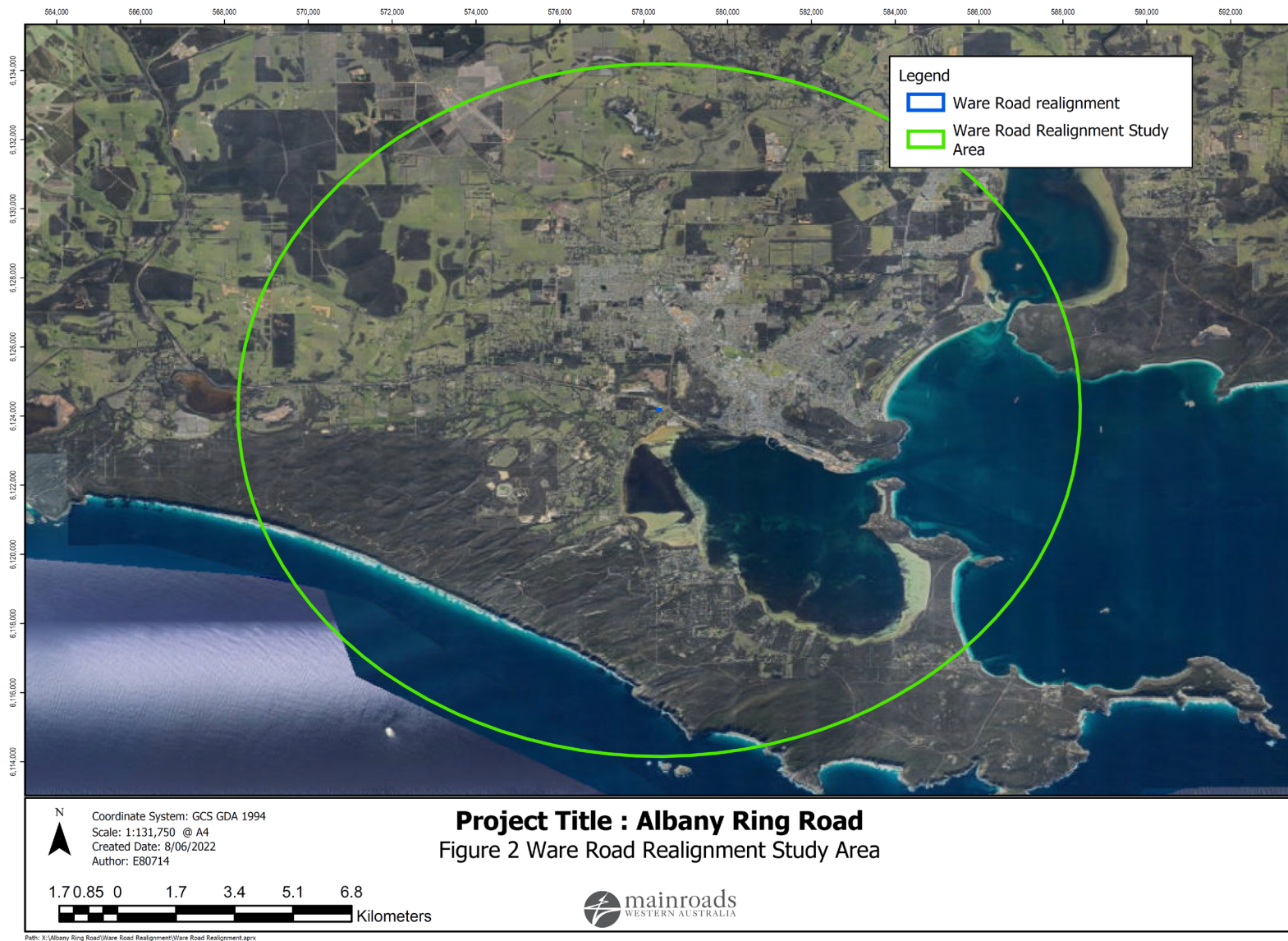


Figure 2. Project Location and Study Area

2.3 Alternatives to Clearing

There are no alternatives to the clearing proposed as the footprint has been reduced as far as practicable and only a minimal amount of native vegetation will be removed for the works.

2.4 Measures to Avoid, Minimise, Mitigate and Manage Project Clearing Impacts

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

Measures to reduce and manage clearing impacts include:

- Selecting an alignment that fulfils safety objectives with the smallest practicable construction footprint;
- Adhering to the Project specific management plan for ARR to detail ways to minimise risks to the surrounding environment and provide monitoring during construction including:
 - Measures to minimise the risk of over-clearing, such as clear demarcation of clearing areas and the implementation of an internal clearing permit system.
 - Measures to minimise the risk of impacting adjacent vegetation, such as temporary fencing and adherence to City of Albany fire restrictions.
 - Hygiene management to ensure that dieback and weeds are not introduced and/or spread to adjacent vegetation, including procedures such as machinery/vehicle clean down, weed treatments and restrictions on vehicle/machinery movements.
- Rehabilitation and revegetation using suitable native species in any areas disturbed during construction not required for road and associated infrastructure.

Table 1. Justification of Avoiding, Minimising, Mitigating and Managing Project Clearing Impacts

Design or Management Measure	Discussion and Justification
Steepen batter slopes	Due to the raised profile of the Albany Ring Road, altering the batter ratio would not comply with road safety standards.
Installation of safety barriers	The installation of safety barriers was considered during the design process, and it was deemed not warranted at this location.
Alignment to one side of existing road	Due to the constraints of the adjacent commercial property to the north, and private residential properties to the south, widening on only one side of Ware Road is not possible as a measure to avoid further impacts.
Alternative alignment to follow existing road (or) to preferentially locate within pasture or a degraded areas	Alternative Alignments were considered as part of the greater Albany Ring Road project. Consultation and design for the alignment commenced in 2006 with corridor refinement for this portion commencing in 2019. A multicriteria analysis was undertaken to determine the final alignment. This assessment took into consideration safety, environment and economic benefits.
Installation of kerbing	Kerbing has been designed where possible to limit impact of the construction footprint where trees are located but is necessary due to the offsets required for road safety and drainage requirements.
Simplification of design to reduce number of lanes and/or complexity of intersections	The intersection realignment cannot be further simplified whilst retaining the necessary safety benefits. The upgrade of the intersection is a result of the construction of the Albany Ring Road. The greater project has undergone significant design alterations to reduce the overall footprint.
Preferential use of existing cleared areas for access tracks, construction storage and stockpiling	Where practicable, side-tracks, stockpile areas and site offices will be located on existing cleared areas. The project will utilise existing stockpile areas, accommodation and site offices installed for the Albany Ring Road Project.
Drainage modification	Due to the constraints of the adjacent Commercial property to the north, and private residential properties to the south, it is not possible to alter the drainage design to minimise the footprint. The broader Albany Ring Road Project has undergone significant alterations to reduce the overall project footprint.

2.5 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 (see Section 1.3), Main Roads has also had regard to:

EPPs

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

Relevant other policies and guidance documents:

- The Western Australian Environmental Offsets Policy (Government of Western Australia, 2011)
- A guide to the assessment of applications to clear native vegetation (DWER, December 2014)
- Procedure: Native vegetation clearing permits (DWER, October 2019)
- Environmental Offsets Guidelines (Government of Western Australia, August 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
- Approved Recovery Plans for threatened species
- EPBC Act Referral guidelines for the three threatened black cockatoo species
- Strategic advice - EPA

Other Legislation of relevance 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&D Act)
- Soil and Land Conservation Act 1945 (WA)
- Rights in Water and Irrigation Act 1914
- Aboriginal Heritage Act 1972 (WA)
- Town Planning and Development Act 1928

3 Methodology

3.1 Desktop Study

A desktop assessment of the project area and an assessment of native vegetation clearing were undertaken by reviewing a number of government agency managed databases, viewing GIS shapefiles and consulting with relevant stakeholders where necessary. Results from searches can be found in the relevant Appendix.

A Biological Survey was conducted adjacent to the project. This has been used as a reference for information on the surrounding habitat given the survey does not cover the project area and is considered to be representative of the project area.

GIS layer viewing and mapping is done using ArcMap and / or Main Roads Integrated Mapping System (IMS). 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, these are referenced in Section 7.

4 VEGETATION DETAILS

4.1 Project Site Vegetation Description

The area under application is in degraded to completely degraded condition. Areas consist of predominately weed species such as introduced grasses, *Conyza bonariensis* and planted vegetation such as *Callistemon* sp. with scattered native species such as *Pteridium esculentum*.

Tables 2 and 3 provide details of the Pre-European Vegetation Associations with the project area and the remaining extents of these associations.

For a historical aerial photography and site photos, refer to Appendix A.

Table 2. Summary of Project Area's Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 3 described as a Medium forest: jarrah-marri (Government of Western Australia, 2017)	Clearing of up to 0.1 ha for Ware Road Realignment and service relocations, Albany.	Degraded (EPA 2016)	Degraded condition. Areas consist of weed species and planted vegetation with scattered native species

Table 3. Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 3	Statewide	2 661 404	1 806 035	68	81
	IBRA Bioregion Jarrah Forest	2 390 591	1 606 737	67	80
	IBRA Sub-region Southern Jarrah Forest	1 482 491	883 557	59	81
	Local Government Authority	50 509	16 024	32	38

	City of Albany				
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5 Assessment Against the Ten Clearing Principles

In assessing whether the project's proposed clearing is likely to have a significant impact on the environment, the project was assessed against the ten Clearing Principles (*Environmental Protection Act 1986* (EP Act), Schedule 5).

Each principle has been assessed in accordance with DWER's 'A Guide to the Assessment of Applications to Clear Native Vegetation'.

The proposed clearing is not likely to be at variance with the 10 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
Comments A desktop assessment identified 70 conservation significant flora. In addition, there was a Biological survey conducted adjacent to the project area for the purpose of the Albany Ring Road Project. It identified 38 conservation significant flora may occur within the survey area. The closest record of threatened or priority flora found during the Biological Survey conducted by Southern Ecology (2020) did not identify any significant flora or Threatened Ecological Communities (TEC's) within 500m of the project area (Southern Ecology 2020). In addition, targeted Black Cockatoo and Western Ringtail Possum assessments were also conducted. The nearest recorded threatened flora (to any of the project areas) was identified by Southern Ecology as a record of <i>Prasophyllum paulinae</i> (T) 2km from the project area. The nearest Priority species, which was identified in the Biological survey was <i>Thysanotus isantherus</i> (P4) located 580m to the East of the Road project area. There will be no impact on these species from the project. The project area occurs within the buffer of a DBCA mapped Priority Ecological community (PEC) <i>Subtropical and Temperate Coastal Saltmarsh</i> (P3) and EPBC listed TEC as vulnerable. The area around this area has been surveyed and it is considered unlikely that this TEC occurs at this location. The surrounding vegetation is described as planted trees or completely cleared, and the proposed area to be cleared consists of weeds, planted vegetation and native species. The vegetation in the project area is not considered to be representative of the TEC and therefore, will be no impact on the TEC. A Black Cockatoo Habitat assessment was conducted adjacent to the other areas. No habitat or DBH trees were identified adjacent to the area, and no suitable DBH trees present in project area. Due the small amount of clearing it is considered that the proposal will not have a significant impact on Black Cockatoo. Clearing for these works will be conducted in accordance with the Conservation Significance Management Plan developed for the Albany Ring Road project. A Western Ringtail Possum habitat assessment was completed for all of the impacted area with no habitat identified in the area. Due to the small area of clearing and absence of nearby habitat, it is deemed the proposal will not have a significant impact on the Western Ringtail Possum. Clearing for these works will be conducted in accordance with the Conservation Significance Management Plan developed for the Albany Ring Road project.

The vegetation is predominately in Degraded condition (0.1ha). Given the Biological Survey and targeted assessments did not identify any significant habitat surrounding the area it is considered unlikely to constitute significant habitat for flora and fauna.

The project area contains Vegetation Association 3 described as Medium forest; jarrah-marri (Government of Western Australia, 2017), which has 68% remaining across the State. As there is greater than 30% remaining, it is not considered significant as a remnant of native vegetation.

The size of the clearing footprint coupled with the fact that no significant species or ecological communities will be impacted, make it unlikely that clearing will significantly reduce the biodiversity of the locality.

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

Methodology

Biological Survey (2020)

Prasophyllum paulinae Survey (2020)

DBCA shapefiles

Department of Natural Resources and Environment (2002)

EPA (2016, 2020)

Government of WA (2013)

Main Roads GIS Shapefiles

(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 indigenous to Western Australia.

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

Comments

A desktop assessment identified 52 potential threatened fauna as occurring within the entire project area. A biological survey was conducted adjacent to the project area and identified potential habitat for 13 species. The survey identified potential habitat for Quenda, South-western Brush tailed Phascogale, Fork-tailed Swift, Short nosed Snake, Masked Owl, Wollybush Bee, Water-rat Rakali, Western Ringtail Possum, Baudin's Cockatoo, Carnaby's Cockatoo, Forrest Red-tailed Black Cockatoo and Peregrine Falcon. Additional targeted surveys adjacent to the project site were conducted for Western Ringtail Possums and Black Cockatoos.

While the area is noted as potential habitat for the Quenda, the lack of vegetation at the majority of locations and small amount of clearing is considered unlikely to cause a significant impact.

A Black Cockatoo Habitat assessment was conducted adjacent to the project area. No potential habitat or DBH trees were identified adjacent to or within the project area. Due the small amount of clearing it is considered that the proposal will not have a significant impact on Black Cockatoo. Clearing for these works will be conducted in accordance with the Conservation Significance Management Plan developed for the Albany Ring Road project.

A Western Ringtail Possum habitat assessment was completed for all of the impacted area with no habitat identified in the area. Due to the small area of clearing and absence of nearby habitat, it is deemed the proposal will not have a significant impact on the Western Ringtail Possum. Clearing for these works will be conducted in accordance with the Conservation Significance Management Plan developed for the Albany Ring Road project.

The vegetation is predominately in degraded condition (0.1ha). Given the Biological Survey and targeted assessments did not identify any significant habitat surrounding the area it is considered the project area is unlikely to be significant habitat for fauna.

The proposed clearing is not likely to comprise significant habitat for any local fauna. Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

Biological Survey (2020)

DBCA Shapefiles

DBCA website

EPA (2016, 2020)

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

Proposed clearing is not likely to be at variance to this Principle
Comments A desktop assessment identified 70 conservation significant flora. The Biological survey adjacent to the project area identified 38 conservation significant flora may occur within the survey area. The nearest recorded threatened flora (to any of the project areas) is a Department of Biodiversity, Conservation and Attractions (DBCA) record of <i>Prasophyllum paulinae</i> (T) which is 2km from the proposal area and will not be impacted. Due to the degraded nature of the site, it is considered unlikely that any threatened flora would occur within the proposal area. Based on the above, the proposed clearing is not likely to be at variance to this Principle.
Methodology Biological Survey (2020) <i>Prasophyllum paulinae</i> Survey (2020) DBCA shapefiles EPA (2016)

(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 likely to be at variance to this Principle
Comments The project area occurs within the buffer of a DBCA mapped Priority Ecological Community (PEC) <i>Subtropical and Temperate Coastal Saltmarsh</i> (P3) and EPBC listed TEC as vulnerable. The area around the project area has been surveyed and it is considered unlikely that this TEC occurs at this location. The surrounding vegetation is described as planted trees or completely cleared, and the proposed area to be cleared consists of weeds and planted vegetation with scattered natives. All other project areas do not intersect TEC's or PEC's. Based on the above, the proposed clearing will not impact any rare flora and is not likely at variance to this Principle.
Methodology Biological Survey (2020) DBCA shapefiles EPA (2016)

(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 likely to be at variance to this Principle****Comments**

The project area contains Vegetation Association 3 described as Medium forest; jarrah-marri (Government of Western Australia, 2017), which has 32% remaining in the City of Albany. The vegetation is predominately in degraded condition (0.1ha). Vegetation on site was described as predominately weed species such as introduced grasses, *Conyza bonariensis* and planted vegetation such as *Callistemon sp.* with scattered native species such as *Pteridium esculentum*. As there is greater than 30% remaining and the vegetation in degraded condition in the project area, it is not considered significant as a remnant of native vegetation.

Summary of Project Area's Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 3 described as a Medium forest: jarrah-marri (Government of Western Australia, 2017)	Clearing of up to 0.1 ha Ware Road Realignment and service Relocations, Albany.	Degraded (EPA 2016)	Degraded condition. Areas consist of weed species, planted vegetation with scattered native species

Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 3	Statewide	2 661 404	1 806 035	68	81
	IBRA Bioregion Jarrah Forest	2 390 591	1 606 737	67	80
	IBRA Sub-region Southern Jarrah Forest	1 482 491	883 557	59	81
	Local Government Authority City of Albany	50 509	16 024	32	38

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

Methodology

Aerial photography

Biological Survey(2020)

EPA (2016)

Government of Western Australia (2017)

Perth Biodiversity Project (2013)

(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 not at variance to this Principle

Comment

The project requires clearing of 0.1 ha of vegetation described as weed species, planted vegetation with scattered native species. The vegetation is in degraded to completely degraded condition.

The vegetation to be cleared is not associated with a wetland or watercourse or wetland. The closest wetlands to are the Gledhow Wetlands located 900m to the west of the project area.

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

Methodology

Biological Survey (2020)

DWER and DBCA shapefiles

(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

Comments

The Project is mapped within an area with a variety of land degradation factors as detailed below (GoWA 2020).

Risk factor	Risk likelihood
Water Erosion	<3% high to extreme water erosion risk
Flooding	<3% moderate to high water erosion risk
Salinity	<3% of map unit has a moderate to high salinity risk or is presently saline
Wind erosion	<3% of map unit has a high to extreme water erosion risk
Sub-surface acidification	>70% of map unit has a high subsurface acidification risk or is presently acid

Soils in the Project area were identified primarily as clays. While there is a high risk of sub-surface acidification, the Project is unlikely to significantly contribute to this risk via clearing of native vegetation. Given the relatively small amount of vegetation clearing within the Project area, 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

Biological survey (2020)

GoWA (2020) DPRID Soil landscape quality mapping

(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 likely to be at variance to this Principle
Comments The Project does not intersect or occur within any DBCA managed areas. The nearest nature reserve is Gledhow Nature Reserve located 2km to the west of the project area. The proposed clearing is not expected to result in any direct or indirect impacts to these conservation areas. Based on the above, the proposed clearing is not likely to be at variance to this principle.
Methodology DBCA shapefiles EPA (2016)

(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
Comments The Project area is characterised by clay soils and drainage management strategies will be implemented to minimise sedimentation and erosion resulting from native vegetation clearing. The majority of the clearing occurs within a Groundwater Protection area (Albany Groundwater Area). The proposed footprint does not lie in a proclaimed surface water area. As no dewatering or excavation below the water table will be undertaken, no impacts to the groundwater area and drinking water area are expected. Based on the above, the proposed clearing is not likely to be at variance to this principle.
Methodology DWER and DBCA shapefiles EPA (2016)

(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 likely to be at variance to this Principle
Comments The Project area is characterised by clay soils, however it is unlikely that this project will cause deterioration in the quality of surface or underground water due to the minor nature of the works, drainage design considerations and clearing of only a small linear section of native vegetation. Based on the above, the proposed clearing is not at variance to this Principle.
Methodology Biological survey (2020) DWER and DBCA shapefiles

6 ADDITIONAL ACTIONS REQUIRED

The clearing associated with the proposal is unlikely to be or not at variance with the Clearing Principles. Additional management actions under CPS 818 are detailed in Table 4.

Table 4. Summary of Additional Management Actions Required by Permit CPS 818

Impact of Clearing	Yes/No or NA	Further Action Required
1. The project involves clearing for temporary works (as defined by CPS 818).	No	No further action required.
2 a. Project is within Region that: - Has rainfall greater than 400mm and - Is South of the 26th parallel and - Works are in 'Other than dry conditions' and - Works have potential for uninfested areas to be impacted	Yes	Proceed with standard Vehicle and Plant management actions from PEMR's and Vehicle and Plant Hygiene Checklists
3. 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.
4. The vegetation within the area to be cleared and/or the surrounding vegetation in a good or better condition and weeds 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.

7 VEGETATION MANAGEMENT

Main Roads will avoid clearing native vegetation where possible. Where clearing cannot be avoided then this clearing will be kept to a minimum. Vegetation will be managed in accordance the Project Specific Environmental Management Plan.

8 REFERENCES

Australian Government. EPBC Act referral guidelines for three threatened black cockatoo species (2012). Department of Sustainability, Environment, Water, Population and Communities.

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9 APPENDICES

Appendix	Title
Appendix 1	Albany Ring Road Biological Survey
Appendix 2	Site Photos
Appendix 3	Flora and Fauna Figure
Appendix 4	Biological Survey Extent

Appendix 1: Biological Survey



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Appendix 2: Site Photos



Figure 1 Ware Road Site Photo

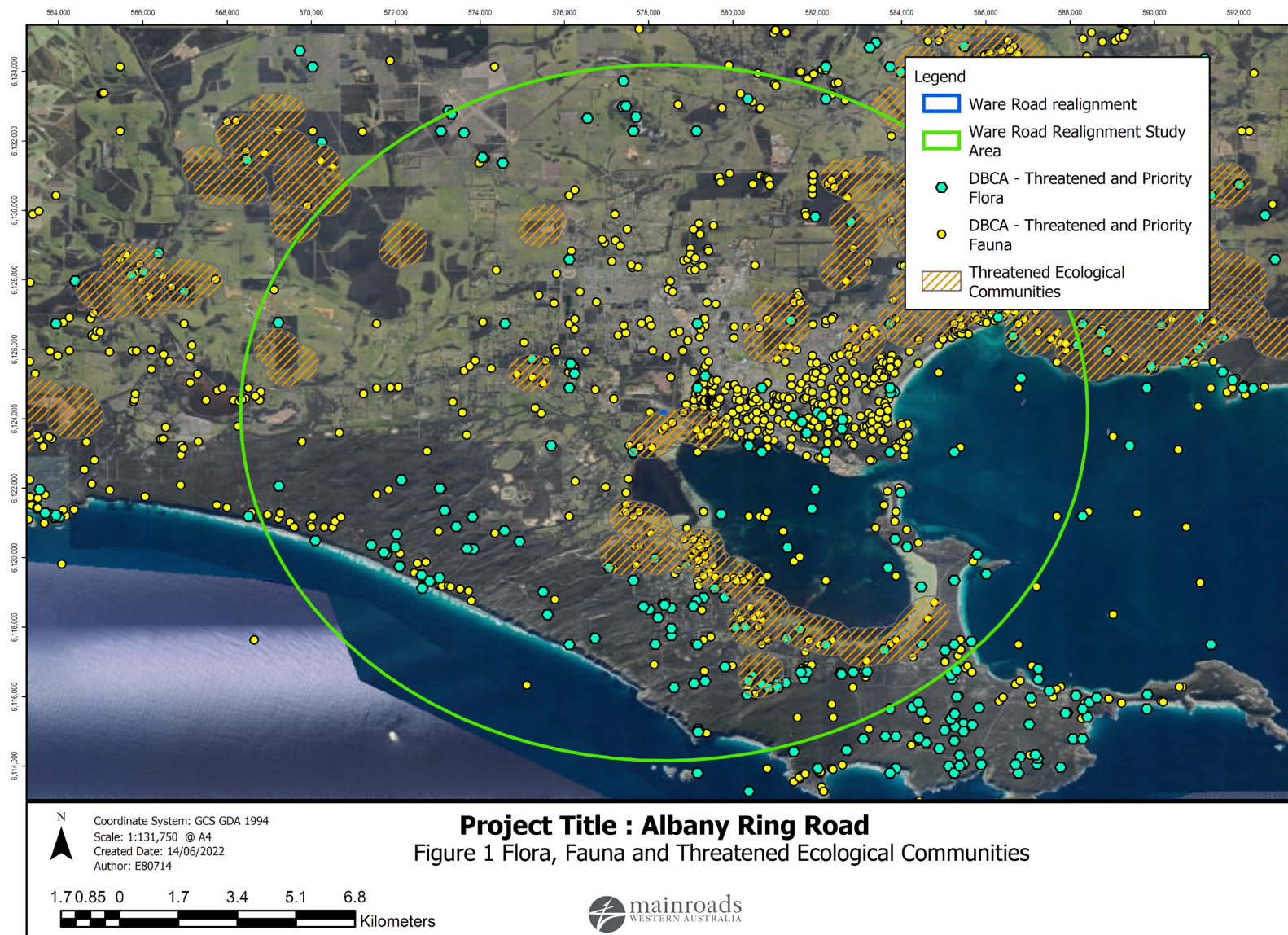


Photo 1: Looking South towards Ware Road. Photo shows predominately weed species such as introduced grasses and *Conyza bonariensis*, planted vegetation such as *Callistemon* sp. with scattered native species such as *Pteridium esculentum*..

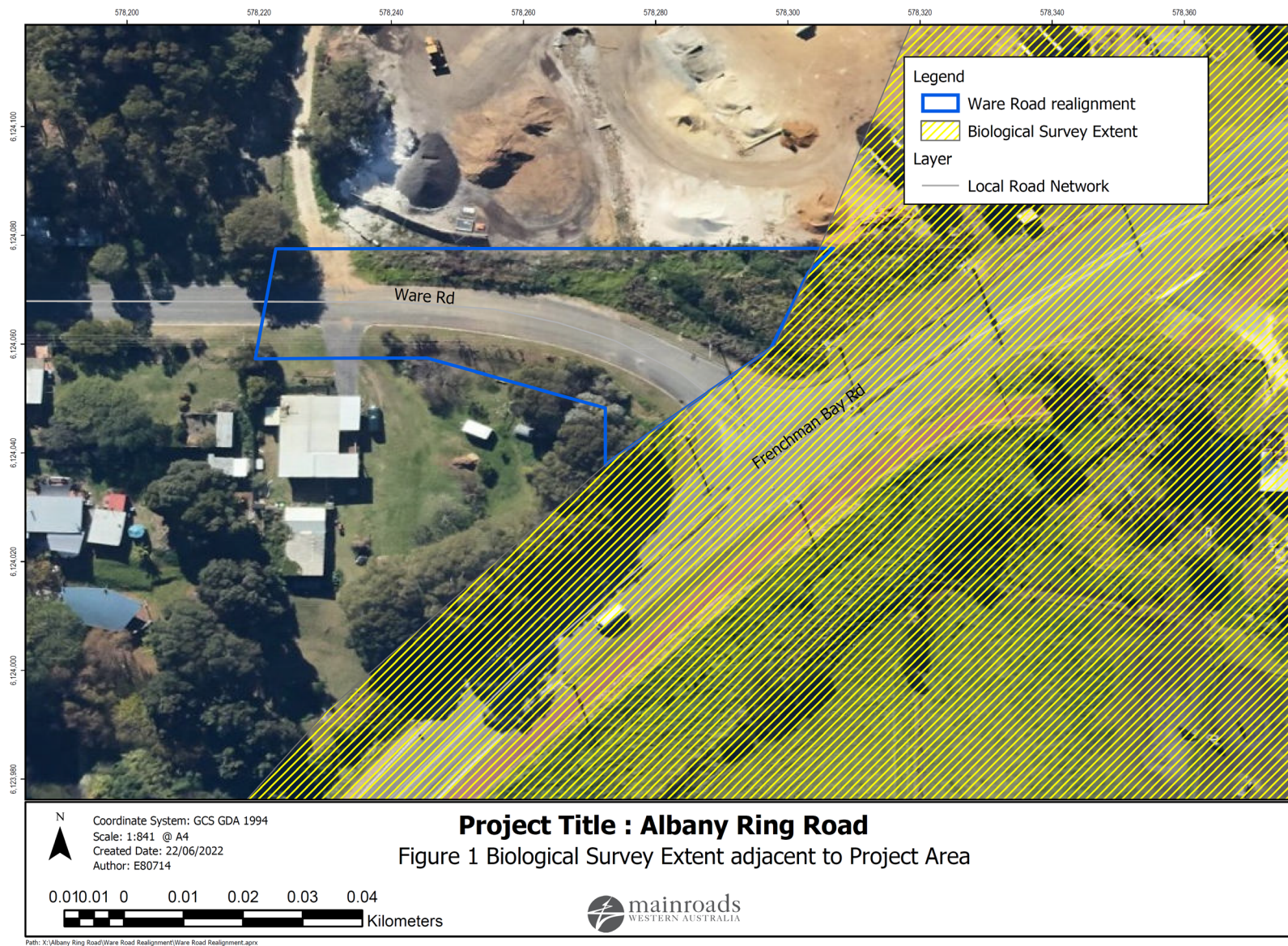


Figure 2 Aerial Photography from 1988 showing intersection (landgate imagery)

Appendix 3: Environmental Constraints Figure



Appendix 4: Biological Survey Extent





mainroads
WESTERN AUSTRALIA

Albany Ring Road Western Power Relocations Clearing Assessment Report – CPS 818

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Albany Ring Road Western Power
Relocations

March 2022

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D22#316496

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Amendments

Report Compilation & Review	Name and Position	Document Revision	Date
Author:	Senior Environment Officer	Draft v1	28/03/2022
Reviewer:	Senior Environment Officer	Rev 0	5/04/22
Author:	Senior Environment Officer	Rev 1	6/07/2022
Reviewer:	Senior Environment Officer	Rev 1	13/07/2022

1 PURPOSE

The purpose of this Clearing Assessment Report (CAR) is to provide a report detailing the assessment of native vegetation clearing that is proposed to be undertaken using the Statewide Clearing Permit CPS 818 issued to Main Roads Western Australia (Main Roads).

The CAR outlines the key activities associated with the project, the existing environment and an assessment of native vegetation clearing. This assessment provides an evaluation of the vegetation clearing impacts associated with the project using the ten Clearing Principles, and the strategies used to manage vegetation clearing.

2 SCOPE

2.1 Project Scope

Project Name: Albany Ring Road Western Power Services Relocation

Project Purpose / Components: Main Roads Western Australia (Main Roads) is proposing the construction of a new seven km long section of the Albany Ring Road (ARR) from the intersection of South Coast Highway and Link Road, to Frenchman's Bay Road in the City of Albany in Western Australia.

The aim of this proposal is to relocate Western Power services to an alignment that will not be affected by the Albany Ring Road Works Roads works and remove the powerlines that are no longer required.

The proposed clearing undertaking using CPS 818 is: 0.3ha

The proposed temporary clearing undertaking using CPS 818 is: N/A

Project Location(s): The project area is located on Lower Denmark Road, Albany, SLK 3.8, City of Albany as shown in Figure 1.

- Latitude: 117.820227
- Longitude: -35.0134362

The location of the proposed works is at Figure 1.

2.2 Assessment Report Scope

The assessment area, see Figure 2, is confined to a local area of a 10km radius.

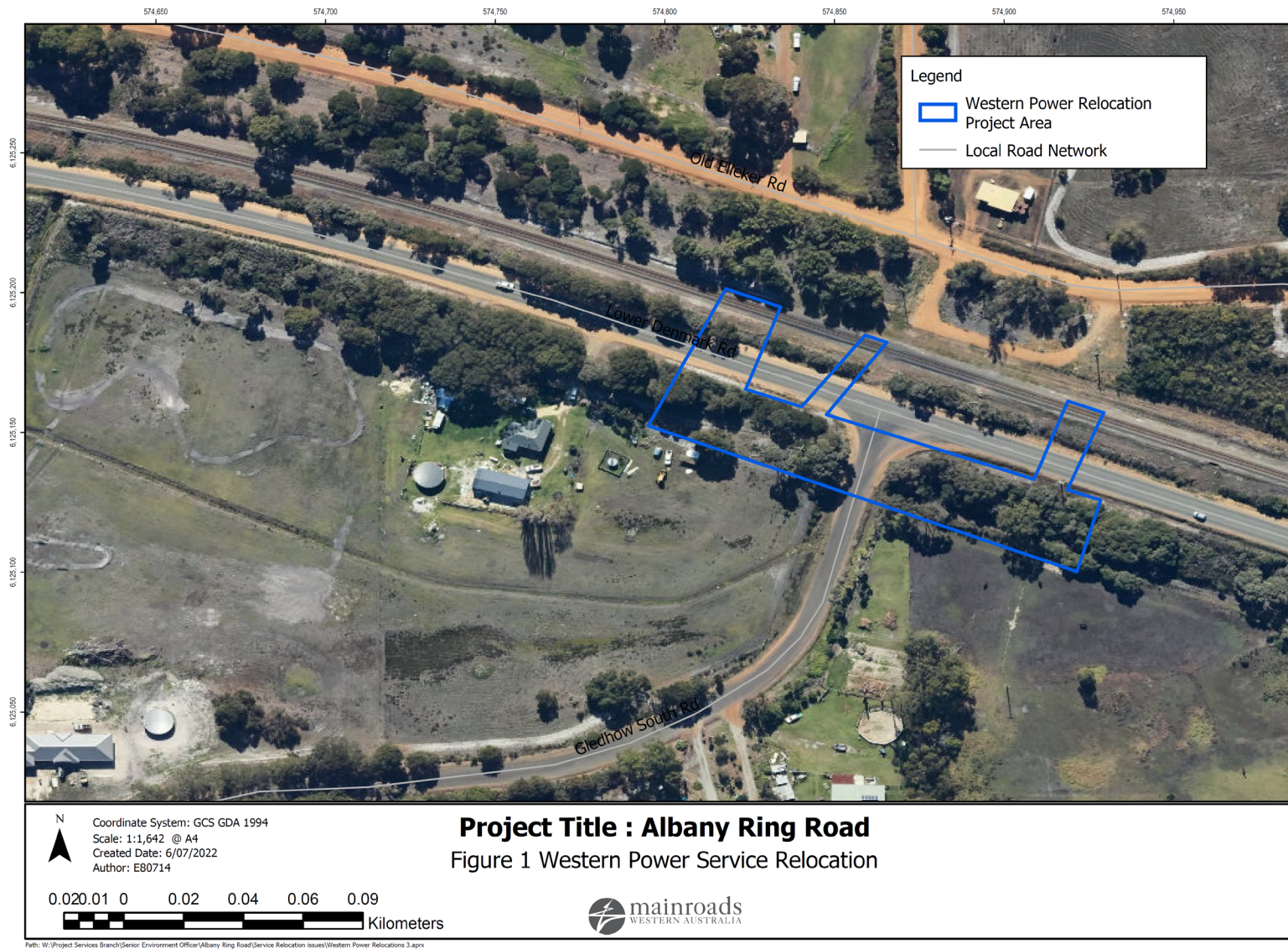


Figure 1. Project Area

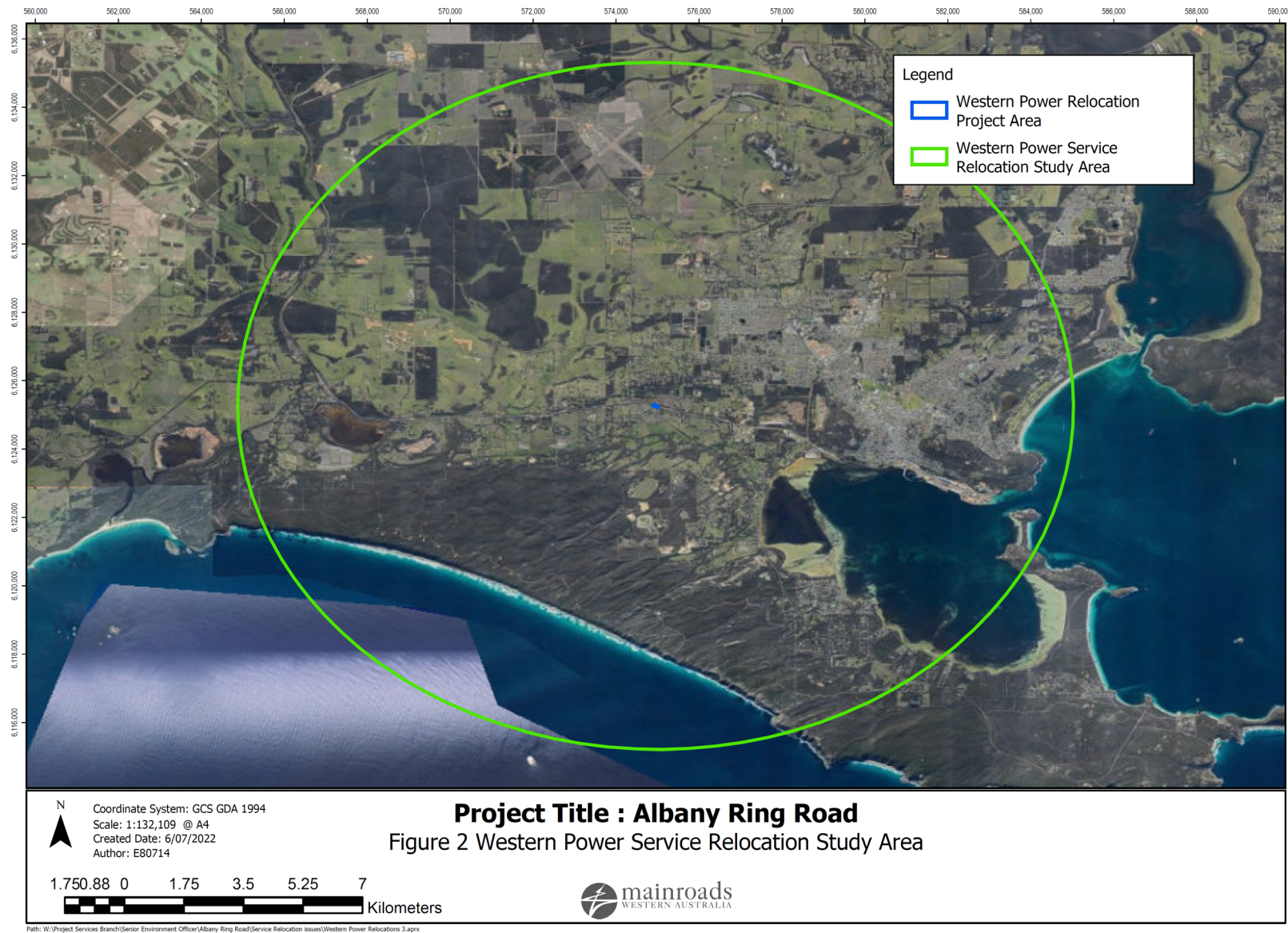


Figure 2. Study Area

2.3 Alternatives to clearing

There are no alternatives to the clearing proposed as the footprint has been reduced as far as practicable and only a minimal amount of native vegetation will be removed for the works.

2.4 Measures to Avoid, Minimise, Reduce and Manage Project Clearing Impacts

The design and management measures implemented to avoid and minimise the clearing impacts by the project are provided in Table 1.

The project area will be marked prior to clearing and the movement of machinery will be restricted to the approved limits of vegetation clearing. This approach will prevent accidental over-clearing.

Table 1. Measures undertaken to Avoid, Minimise, Reduce and Manage the Project Clearing Impacts

Design or Management Measure	Discussion and Justification
Preferential use of existing cleared areas for access tracks, construction storage and stockpiling	Cleared areas will be utilised for storage of equipment and machinery. There will be no temporary clearing required to complete the service relocations.

2.5 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 (see Section 1.3), Main Roads has also had regard to the below instruments.

Other Legislation of relevance 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&D Act)
- Soil and Land Conservation Act 1945 (WA)
- Rights in Water and Irrigation Act 1914
- Aboriginal Heritage Act 1972 (WA)
- Town Planning and Development Act 1928

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 (DEC, December 2014)
- Procedure: Native vegetation clearing permits (DWER, October 2019)
- Environmental Offsets Guidelines (Government of Western Australia, August 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
- Approved Recovery Plans for threatened species
- EPBC Act Referral guidelines for the three threatened black cockatoo species
- Strategic advice - EPA

3 SUMMARY OF SURVEYS

3.1 Biological Survey

The Albany Ring Road Biological Survey was conducted on multiple visits between October 2017 and October 2019 by Southern Ecology.

Section 3.1.1 contains the summary of the survey.

3.1.1 Summary of Biological Survey

Main Roads Great Southern Region are proposing to construct stage two and three of the Albany Ring Road Project. Southern Ecology was engaged to assess a broad project envelope (338 ha) for potential environmental constraints.

FLORA

- A total of 342 plant taxa from 65 families were recorded within and adjacent to 32 floristic quadrats established in the Survey Area.
- Populations of four Priority-listed flora were recorded: *Synaphea incurva* (P1), *Boronia crassipes* (P3), *Andersonia sp. Jamesii* (J. Liddelow 84) (P4) and *Thysanotus isantherus* (P4). A previously recorded population of *Prasophyllum paulinae* (P1) is known from the Survey Area; the potential exists for it to re-emerge following fire.
- Five Declared Pests and/or Weeds of National Significance (WONS) were recorded: - Blackberry (**Rubus species complex*), Bridal Creeper (**Asparagus asparagoides*), Gorse (**Ulex europaeus*), Arum Lily (**Zantedeschia aethiopica*) and Lantana (**Lantana camara*).
- Vegetation condition graded from Completely Degraded to Excellent; Large areas of vegetation associated with Shire reserves and intact wetlands on private property were classified as Excellent.
- Thirteen vegetation associations were described: - four occur exclusively in wetland habitats (*Homalospermum firmum*/*Callistemon glaucus* Peat Thicket, *Evandra aristata* Sedgeland, *Taxandria juniperina* Closed Forest and *Melaleuca preissiana* Low Woodland), three are associated with granite outcrops (*Taxandria marginata*, *Gastrolobium bilobum* and *Leucopogon assimilis* Shrublands) and six generally occur on uplands (Hakea spp. Shrubland/Woodland Complex, Jarrah/Marri/Sheoak Laterite Forest, Jarrah/Sheoak/*E. staeri* Sandy Woodland, Marri/Jarrah Coastal Hills Forest, Marri/Jarrah Forest/Peppermint Woodland and Peppermint Low Forest).
- Two Threatened and four Priority Ecological Communities occur in the vicinity; no vegetation in the Survey Area meets the requisite criteria for these communities. Several vegetation associations can be consigned as being significant due to their association with wetlands, granite refugia, low reservation status or low overall extent.

FAUNA

- Five significant fauna species were present within the Survey Area: - Carnaby's Cockatoo (*Calyptorhynchus latirostris*) (T-EN), Baudin's Cockatoo (*Calyptorhynchus baudinii*) (T-EN), Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) (T-VN), Western Ringtail Possum (*Pseudocheirus occidentalis*) (T-CR), and Southern Brown Bandicoot (*Isodon obesulus subsp. fusciventer*) (P4).
- Western Ringtail Possum (WRP) scats were observed widely across the Survey Area, in multiple habitats of varying condition. Core and supporting habitats and potential habitat linkages were identified.

- Foraging and potential breeding habitat for three Black Cockatoo species occurred throughout the Survey Area, in all the Eucalypt Woodland/Forest habitats. Large areas of potential roosting sites were identified among both native and introduced tree species.
- No hollows were determined to be occupied or showed recent use by Cockatoo species. 60 trees contained hollows potentially suitable for the Carnaby's Cockatoo; 18 trees contained hollows potentially suitable for Forest Red-tailed Black Cockatoo and three trees contained hollows potentially suitable for Baudin's Cockatoo. In total, 662 potential breeding trees were recorded (DBH $\geq$ 500mm, with or without hollows) comprising of four tree species.

3.2 Summary of dieback survey

The Albany Ring Road Dieback Survey was conducted in August 2019 by Southern Ecology.

Section 3.2.1 contains the summary of the survey.

3.2.1 Summary of Dieback Survey

Main Roads Great Southern Region are proposing to construct stage two and three of the Albany Ring Road Project. Southern Ecology was engaged to assess the development envelope (232.8 ha) for presence of *Phytophthora* species in accordance with regulatory guidelines (Department of Parks and Wildlife 2015) and to recommend management strategies to reduce the spread of soil pathogens during construction.

The proposed soil disturbance activities associated with construction are considered to be complex and will require the use of heavy machinery and the introduction of basic raw materials. Due to the presence of putatively Uninfested areas in the Survey Area that supports Priority Flora that are moderately to highly susceptible, the Risk Rating for spreading of soil pathogens is considered 'High'. All of the roads and tracks within the Survey Area have uncontrolled hygiene and are open to the public, therefore introduction of pathogens may occur at any time.

The field interpretation combined with the soil and root sampling delineated the Survey Area into four disease status categories for the purposes of managing the spread of *Phytophthora cinnamomi*. A total of 1.05 ha was determined to be Uninfested from *Phytophthora cinnamomi* and is considered to be Protectable. However, the Protectability of these areas may change depending on activities undertaken and the extent of vegetation removed prior to construction.

Other parts of the Survey Area were Infested (17.3 ha), Uninterpretable (25.93 ha) or Excluded (191.7 ha).

A hygiene management plan has been provided with recommendations to reduce the risk of spreading *P. cinnamomi*, other soil pathogens and weeds during construction.

3.3 Summary of Black Cockatoo Habitat Survey

The Albany Ring Road Black Cockatoo Habitat Assessment was conducted in August 2017 by Biota.

Section 3.3.1 contains the summary of the survey.

3.3.1 Summary of Black Cockatoo Habitat Survey

Main Roads Western Australia (Main Roads) is proposing to construct the Albany Ring Road, a staged development with the purpose of redirecting heavy vehicle traffic bound for the Port away from built up urban areas of the City of Albany. With Stage 1 completed in 2017, Main Roads is now proposing to undertake construction of Stages 2 and 3 of the Albany Ring Road project. The survey area for Stages 2 and 3 is known as the Ultimate Footprint (the area to which this report pertains). It is 12 km in length and consists of 185 ha, of which 144.7 ha are vegetated.

Habitat for black-cockatoos was assessed by foot-traversing as much of the woodland habitat in the study area as practicable. In larger vegetation fragments, a systematic approach was applied, whereby transects of 25 m spacing were overlain on the study area in GIS. A zoologist then walked down the middle of two 25 m transects, effectively using them as the boundary of a strip-search, and recorded the location of all trees within the strip. This was continued until the entire fragment had been searched. In small fragments or where there were singular trees, foot traverses were also undertaken and recorded via a track file. Foraging habitat descriptions were recorded while conducting foot traverses. For any tree supporting hollow/s, details of the hollows were taken, and a differential GPS was used to record an accurate location of the tree. These trees were also subject to a dedicated breeding hollow assessment, which included the use of a remotely piloted aircraft (RPA) to obtain images of the hollows.

A total of 516 'suitable diameter at breast height (DBH) trees' (> 50 cm DBH) were recorded in the Ultimate Footprint during the survey. From these trees, a total of 48 hollows with entrance diameters of 10 cm or greater were recorded, 37 of which were considered to warrant further investigation during a dedicated hollow assessment. This follow-up hollow assessment included the use of an RPA with a camera mounted to take photographs of the hollows. This assessment indicated that none of the hollows were suitable for black-cockatoo breeding, primarily due to inadequate chamber size.

Potential foraging habitat within the study area was assessed using the detailed vegetation mapping of the study area (Rathbone and Gilfillan 2018). This comprised 17.4 ha of predominantly Jarrah and/or Marri woodland with varying mid- and under-storeys, in some places included foraging plants. Individual planted *Pinus radiata* were also recorded throughout the study area and represent foraging plants for White-tailed Black Cockatoos.

3.4 Summary of Western Ringtail Possum Assessment

The Albany Ring Road Western Ringtail Possum Survey was conducted July 2018 by Biota.

Section 3.4.1 contains the summary of the survey.

3.4.1 Summary of Western Ringtail Possum Survey

The Albany Ring Road project is a proposed staged development to support freight growth in the City of Albany, by creating an alternative route for heavy vehicles accessing Albany Port and remove the necessity for these vehicles to travel through built up urban areas of the City. Stage 1 is complete and Stage 2 and Stage 3, the focus of this study, will connect Albany Highway, South Western Highway, Lower Denmark Road and Hanrahan Road allowing access to the port.

This report presents the results of sampling for the Western Ringtail Possum within the Albany Ring Road Project Area (the "Project Area" hereafter) as well as local and regional contextual sampling. Central to the overall assessment of the significance of the Western Ringtail Possum habitat encompassed by the Project Area is the provision of local and regional context. To provide local context, distance sampling was undertaken in the Down Road Nature Reserve located approximately 4 km north-west of the Project Area. The contextual assessment is extended further by comparison with abundance estimates derived for Bakers Junction Nature Reserve, Mt Melville, Mt Clarence and Mt Adelaide. Finally, the assessment extrapolates the density estimates to the extent of the Albany Regional Vegetation Survey to provide an 'Around Albany' sub-population estimate. Assumptions are presented that provide caveats relevant to this extrapolation of density estimates.

Two sampling methods were used within the Project Area: (i) strip sampling was employed in areas where the habitat comprised individual isolated trees or narrow strips of vegetation, and (ii) distance sampling was used over larger remnants (the Old Tip site and CSBP site). At the Down Road Nature Reserve context site, distance sampling was applied to the entire site. Within the Project Area 16.2 km of strip transects yielded 13 observations of Western Ringtail Possums and, when the expected number of individuals based on distance sampling in the Old Tip site and CSBP site are included, the abundance estimate for the Project Area increased to between 20 and 37 individuals. For the area of habitat sampled (92.2 ha) this represents a density estimate ranging between 0.22 – 0.40 individuals per hectare.

The sampled area of Down Road Nature Reserve (363 ha) was estimated to support 452 ± 85 (95% CI 312 – 656) individuals for a density estimate of 1.246 ± 0.234 individuals per hectare. At a regional scale, further distance sampling effort has been applied to three other remnant habitat sites, at Bakers Junction Nature Reserve, Mt Melville, Mt Clarence and Mt Adelaide where a combined estimate of 1,480 (95% CI 894 – 2,465) Western Ringtail Possums in an area of 4,400 ha was calculated.

If an average density estimate of 0.8 individuals per hectare (derived from the two largest areas surveyed: Down Road Nature Reserve and Bakers Junction Nature Reserve) is extrapolated to the mapped extent of the vegetation units surveyed within the Albany Regional Vegetation Survey boundary (a combined area of 21,633 ha), an estimate of 17,306 Western Ringtail Possums is obtained. Not all of this habitat would necessarily be utilised by Western Ringtail Possums, due either to land clearing that has occurred since 2010 (when the mapping was completed), recent fires or

degradation from a variety of pressures. Nor is it necessarily accurate to apply a uniform density across the region encompassed by the mapping. However, the approach does indicate that the population estimate for the 'Around Albany' sub-population is considerably larger than the 500 reported in the IUCN assessment, perhaps by an order of magnitude.

3.5 Summary of *Prasophyllum paulinae* Survey

The Albany Ring Road *Prasophyllum paulinae* Survey was conducted in October 2019 by Southern Ecology.

Section 3.5.1 contains the summary of the survey.

3.5.1 Summary of *Prasophyllum paulinae* Survey

Prasophyllum paulinae is a geographically restricted orchid taxon, listed as Priority 1 by the Department of Biodiversity, Conservation and Attractions (DBCA) and has historically been recorded within the Albany Ring Road Project area. It is known only from two populations over a range of 20 km and is a tuberous orchid, which is presumed to only exhibit annual above-ground leaves and flowers during spring for several years after its habitat is disturbed by fire. To provide contextual information on potential impacts, Southern Ecology was engaged to complete a desktop assessment to identify suitable areas of habitat for *P. paulinae* and to conduct additional targeted surveys within the regional distribution of *P. paulinae* and within the Albany Ring Road project area.

The desktop assessment identified the habitat of *P. paulinae* to most likely be associated with recently burnt vegetation that aligns with two Albany Regional Vegetation Mapping Units (*Taxandria juniperina* Closed Forest (ARVS Unit 59) and *Homalospermum firmum*/*Callistemon glaucus* Peat Thicket (ARVS Unit 47). These units occupy 19.25 ha of the Albany Ring Road Project area and a total of 2,861 ha are mapped within the Albany Region (Sandiford and Barrett 2010). An analysis of available fire history information and historic aerial photographs indicated approximately 391 ha of these vegetation units occur within the range of *Prasophyllum paulinae* (± 15 km) and have been burnt since 2014. These areas were targeted for regional survey in October 2019.

Representative *Prasophyllum* specimens were collected over a range of sites to assess the application of the published description of *P. paulinae* (Jones and Clement 1996). The key diagnostic morphological characters that distinguish *P. paulinae* from the allied *P. macrostachyum* were assessed on a subset of 22 freshly collected specimens.

The assessment determined that five specimens (from one new population) exhibited all of the characters that align with *P. paulinae*. However, many specimens showed a combination of characters from both species (*P. paulinae* and *P. macrostachyum*) and several of the qualitative characters could potentially be influenced by the environment. The results of the morphological assessment were concordant with the findings of others and demonstrated inconsistencies in the taxonomy and the need for a broader reassessment of the group. Andrew Brown (ex. DBCA expert in Orchidaceae) viewed the specimens collected in this study and supported our interpretation of the taxonomy (Andrew Brown pers. comm.).

The desktop, field surveys and morphological assessment identified a new previously unknown population outside the Albany Ring Road Project area, estimated to comprise 50 plants and occupy 0.45 ha. No extant individuals were found in either of the two previously known populations during the targeted survey, presumably due to the absence of recent fire. Historical photos indicate population one occupies approximately 1.04 ha of the Albany Ring Road Project area. Whilst no individuals of *P. paulinae* have been recorded from this location despite extensive survey effort (spring 2017, 2018 and 2019), there remains the possibility for the taxon to emerge after fire.

Targeted searches in areas containing suitable habitat for *P. paulinae* within the Albany Ring Road Project area did not identify any individuals of the taxon (See main report). These areas have been subject to survey effort in 2017, 2018 and 2019, however are long-unburnt and some are highly degraded.

4 VEGETATION DETAILS

4.1 Project Site Vegetation Description

The area under application is in very good condition to completely degraded, vegetation described as *Homalospermum firmum/Callistemon glaucus* Peat Thicket.

Tables 2 and 3 provide details of the Pre-European Vegetation Associations with the project area and the remaining extents of these associations.

For a full description of the existing vegetation, refer to the Biological Survey in Appendix 1.

Table 2. Summary of Project Area's Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 3 described as a Medium forest: jarrah-marri (Government of Western Australia, 2017)	Clearing of up to 0.3 ha for service relocations on Lower Denmark Road, Albany.	Very Good (EPA 2016)	Vegetation on site was described as <i>Homalospermum firmum/Callistemon glaucus</i> Peat Thicket in Very Good to Completely degraded Condition

Table 3. Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 3	Statewide	2 661 404	1 806 035	68	81
	IBRA Bioregion Jarrah Forest	2 390 591	1 606 737	67	80
	IBRA Sub-region Southern Jarrah Forest	1 482 491	883 557	59	81
	Local Government Authority City of Albany	50 509	16 024	32	38

5 ASSESSMENT AGAINST THE TEN CLEARING PRINCIPLES

In assessing whether the project's proposed clearing is likely to have a significant impact on the environment, the project was assessed against the ten Clearing Principles (Environmental Protection Act 1986, Schedule 5).

Each principle has been assessed in accordance with DWER's 'A Guide to the Assessment of Applications to Clear Native Vegetation' and other relevant CPS Decision Reports prepared by DWER.

The proposed clearing is at or may be at variance with principle (f) of the 10 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
Comment A Biological Survey conducted by Southern Ecology (2020) did not identify any significant flora and fauna or Threatened Ecological Communities (TEC's) in the project area (Southern Ecology 2020). In addition targeted Black Cockatoo and Western Ringtail Possum assessments were also conducted. The Biological Survey did not identify any Priority or Threatened Species within the proposed clearing area. The nearest recorded Priority Species is <i>Synaphea incurva</i> (P3) which is 1km from the proposed footprint and will not be impacted. . A Black Cockatoo Habitat assessment conducted over the proposal area identified 0.3 ha of roosting habitat (low quality) within the area of native vegetation, with no suitable DBH trees present in any of the proposed clearing areas. As there are no trees with a suitable DBH and the small amount of clearing proposed, it is considered unlikely that the vegetation would constitute significant habitat. A Western Ringtail Habitat assessment was completed for all of the impacted area with a total of 0.03ha of linkage/linkage likely habitat and <0.2ha of supporting habitat. The construction of a power line in this area, would not prevent movement of this fauna through the area. Due to the small amount of clearing it is not considered that the proposal will have a significant impact to Western Ringtail Possums. The vegetation consists predominately in Very good condition (0.2ha) with a small portion of Completely degraded (0.1ha). Given the Biological Survey and targeted assessments did not identify any significant habitat it is considered unlikely to be a significant habitat for flora and fauna. The project area contains Vegetation Association 3 described as Medium forest; jarrah-marri (Government of Western Australia, 2017), which has 68% remaining. As there is greater than 30% remaining it is not considered significant as a remnant of native vegetation. The size of the clearing footprint coupled with the fact that no significant species or ecological communities will be impacted make it unlikely that clearing will significantly reduce the biodiversity of the locality. Based on the above, the proposed clearing is not likely to be at variance to this Principle.
Methodology Biological Survey (2020) Prasophyllum paulinae Survey (2020) DBCA shapefiles Department of Natural Resources and Environment (2002) EPA (2016, 2020)

Government of WA (2013)
Main Roads GIS Shapefiles

(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 indigenous to Western Australia.

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

Comment

A Black Cockatoo Habitat assessment was conducted over the proposal area. 0.3 ha of roosting habitat (low quality) was identified within the area of native vegetation, with no suitable DBH trees present in any of the proposed clearing areas. As there are no trees with a suitable DBH and the small amount of clearing proposed, it is considered unlikely that the vegetation would constitute significant habitat.

A Western Ringtail Habitat assessment was completed for all of the impacted area with a total of 0.03ha of linkage/linkage likely habitat and <0.2ha of supporting habitat. There will be no clearing of core Western Ringtail Possum habitat. The construction of a power line in this area, would not prevent movement of this fauna through the area. Due to the small area of clearing required that is not considered to be core habitat, it is deemed the proposal will not have a significant impact on WRP.

The proposed clearing is not likely to comprise significant habitat for any local fauna. Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

Biological Survey (2020)
DBCA Shapefiles
DBCA website
EPA (2016, 2020)

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

Proposal is not at variance to this Principle

Comment

The Biological Survey did not identify any Threatened Species within the proposed clearing area. The proposed clearing will not result in clearing of threatened flora or their potential habitat, and there is no clearing of areas necessary to maintain ecological processes and functions for threatened flora.

Based on the above, the proposed clearing will not impact any rare flora and is not at variance to this Principle.

Methodology

Biological Survey (2020)
Prasophyllum paulinae Survey (2020)
DBCA shapefiles
EPA (2016)

(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
Comment The 2020 biological survey did not identify any state listed Threatened Ecological communities (TECs) within the project area. The vegetation within the project area does not align with any State or Federally listed TEC. Based on the above, the proposed clearing is not at variance to this Principle.
Methodology Biological Survey (2020) DBCA shapefiles EPA (2016)

(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****Comment**

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 that has less than 30% remaining is said to represent an area that is significant as remnant vegetation, below this threshold, species loss appears to accelerate exponentially at an ecosystem level.

The project area contains Vegetation Association 3 described as Medium forest; jarrah-marri (Government of Western Australia, 2017), which has 32% remaining in the City of Albany and 68% remaining statewide. As there is greater than 30% remaining it is not considered significant as a remnant of native vegetation. In addition, given the small area to be cleared (0.3 ha), it is not likely that the removal of this vegetation will reduce ecosystem functioning, be a barrier to ecological linkages or significantly reduce this vegetation association.

Summary of Project Area's Mapped Pre-European Vegetation Associations

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 3 described as a Medium forest: jarrah-marri (Government of Western Australia, 2017)	Clearing of up to 0.3 ha for service relocations on Lower Denmark Road, Albany.	Very Good to Completely Degraded (EPA 2016)	Vegetation on site was described as <i>Homalospermum firmum</i> / <i>Callistemon glaucus</i> Peat Thicket in Very Good to Completely Degraded condition

Pre-European Vegetation Representation

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
Veg Assoc No. 3	Statewide	2 661 404	1 806 035	68	81
	IBRA Bioregion Jarrah Forest	2 390 591	1 606 737	67	80
	IBRA Sub-region	1 482 491	883 557	59	81

	Southern Jarrah Forest					
	Local Government Authority City of Albany	50 509	16 024	32	38	
Based on the above, the proposed clearing is not at variance to this Principle.						
Methodology Aerial photography Biological Survey(2020) EPA (2016) Government of Western Australia (2017)						

(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****Comment**

The project requires clearing of 0.3ha of vegetation described as *Homalospermum firmum*/*Callistemon glaucus* Peat Thicket. The vegetation is in Very good to Completely degraded condition. This vegetation is identified in the Biological Survey as a wetland vegetation association however, is not part of a Conservation Category Wetland or other defined wetland as per the Environmental Protection (Environmentally Sensitive Areas) Notice 2005.

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

Methodology

Biological Survey (2020)
DWER and DBCA shapefiles

(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****Comment**

The Project is mapped within an area with a variety of land degradation factors as detailed below (GoWA 2020).

Risk factor	Risk likelihood
Water Erosion	<3% high to extreme water erosion risk
Flooding	<3% moderate to high water erosion risk
Salinity	<3% of map unit has a moderate to high salinity risk or is presently saline
Wind erosion	<3% of map unit has a high to extreme water erosion risk
Sub-surface acidification	> 70% of map unit has a high subsurface acidification risk or is presently acid

Soils in the Project area were identified primarily as clays. While there is a high risk of sub-surface acidification, the Project is unlikely to significantly contribute to this risk via clearing of native vegetation. Given the relatively small amount of vegetation clearing within the Project area, 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

Biological survey (2020)
GoWA (2020) DPRID Soil landscape quality mapping

(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
Comment The Project does not intersect or occur within any DBCA managed areas. The nearest nature reserve is Gledhow Nature Reserve located 600m to the north of the project area. The proposed clearing is not expected to result in any direct or indirect impacts to these conservation areas. Based on the above, the proposed clearing is not at variance to this principle.
Methodology DBCA shapefiles EPA (2016)

(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 at variance to this Principle
Comment The Project area is characterised by clay soils and drainage management strategies will be implemented to minimise sedimentation and erosion resulting from native vegetation clearing. A small portion of the proposed footprint occurs on a Public Drinking Water Source Area (South Coast Water Reserve and Limeburners Creek Catchment Area) and the majority of the clearing occurs within a Groundwater Protection area (Albany Groundwater Area). The proposed footprint does not lie in a proclaimed surface water area. As no dewatering or excavation below the water table will be undertaken, no impacts to the groundwater area and drinking water area are expected. Based on the above, the proposed clearing is not at variance to this principle.
Methodology Biological survey (2020) DWER and DBCA shapefiles EPA (2016)

(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
Comment The Project area is characterised by clay soils with low infiltration rates, is located within a region that receives an average annual rainfall of 925.2 mm, and mapped as a moderate to high flood risk however, it is unlikely that this project will cause deterioration in the quality of surface or underground water due to the minor nature of the works and the fact that only a small linear section of native vegetation will be cleared. Additionally, for these reasons, it is unlikely this project will result in excessive surface runoff levels that would increase the intensity or incidence of flooding above the current risk level.

Based on the above, the proposed clearing is not at variance to this Principle.
Methodology Biological survey (2020) DWER, DPIRD and DBCA shapefiles

6 ADDITIONAL ACTIONS REQUIRED

Table 5 summarises what further pre-clearing impact assessment and vegetation management is required in accordance with CPS 818.

Table 5. 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. 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); (ii) a wetland(s) classed as a multiple use management category wetland(s); and/or (iii) a wetland that is not a defined wetland; the preparation of an Assessment Report, as required by condition 6(e), is not required.	Yes	No further action required as the clearing is less than 0.5 ha and although the vegetation is identified as a wetland vegetation association it is not located in a defined wetland (i.e. not mapped in a DBCA held geomorphic wetlands dataset or similar).
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. The project involves clearing for temporary works (as defined by CPS 818).	No	No further action required.
4 a. Project is within Region that: - Has rainfall greater than 400mm and - Is South of the 26th parallel and - Works are in 'Other than dry conditions' and - Works have potential for uninfested areas to be impacted	Yes	Proceed with standard vehicle and plant management actions from PEMR's and Vehicle and Plant Hygiene Checklists.

Impact of Clearing	Yes/No or NA	<i>Further Action Required</i>
4b. Does the proposed works require clearing within or adjacent to DBCA estate in non-dry conditions?	No	No further action required.
5. 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.
6. The vegetation within the area to be cleared and/or the surrounding vegetation in a good or better condition and weeds 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. The clearing associated with the project will not increase the risk of spread of weeds into adjacent areas of native vegetation which already have cleared paddock along the majority of their border.

7 STAKEHOLDER CONSULTATION

Stakeholder submissions are not required for the project as the project involves clearing of less than 0.5 ha of vegetation and is not located in a defined wetland or watercourse (i.e. not mapped in a DBCA held geomorphic wetlands dataset or similar).

8 REFERENCES

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9 APPENDICES

Appendix	Title
Appendix 1	Albany Ring Road Biological Survey
Appendix 2	Site Photos

Appendix 1: Biological Survey



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Appendix 2: Site Photos



Photo 1. Looking south towards farmers paddock at Lower Denmark Road Geldhow South Road. Photo shows the Very good quality native vegetation described as *Homalospermum firmum/Callistemon glaucus* Peat Thicket.



Photo 2. Looking south at Lower Denmark Road Geldhow South Road. Photo shows the Very good quality native vegetation described as *Homalospermum firmum/Callistemon glaucus* Peat Thicket.



Photo 3. Looking south towards Lower Denmark Road. Photo shows the Degraded quality native vegetation described as *Homalospermum firmum*/*Callistemon glaucus* Peat Thicket.



Photo 4. Looking South towards Old Elleker Road. Photo shows the Degraded quality native vegetation described as *Homalospermum firmum*/*Callistemon glaucus* Peat Thicket.



Photo 5 Photo 3. Looking north towards railway line. Photo shows the Degraded quality native vegetation described as *Homalospermum firmum*/*Callistemon glaucus* Peat Thicket.