GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9494/1
Permit Holder:	Dean and Nathalie Wauters
Duration of Permit:	From 21 April 2022 to 21 April 2027

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of installing an underground power supply.

2. Land on which clearing is to be done

Mead Road Reserve (PIN 1193636), Kalgan

Lot 18 on Diagram 60729, Kalgan

Lot 19 on Diagram 60729, Kalgan

Lot 4 on Deposited Plan 62366, Kalgan

3. Clearing authorised

The permit holder must not clear more than 0.045 hectares of *native* within the area cross-hatched yellow in Figure 1 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

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

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

(a) avoid the clearing of *native vegetation*;

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

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

5. Weed and dieback management

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

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

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

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

6. Revegetation and rehabilitation (temporary works)

The permit holder must *revegetate* and *rehabilitate* areas cleared for *temporary works* within six months of the area no longer being required for the purpose for which it was cleared.

PART III - RECORD KEEPING AND REPORTING

7. Records that must be kept

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

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	(a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 4; and (f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 5.
2.	In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 6	(a) the size of the area *revegetated* and *rehabilitated,* records using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastern and Northings or

No.	Relevant matter	Specifications
		decimal degrees; (b) a description of the *revegetation* and *rehabilitation* activities undertaken; (c) the date(s) that the area was *revegetated* and *rehabilitated;* and (d) the size of the area *revegetated* and *rehabilitated* (in hectares).

8. Reporting

The permit holder must provide to the *CEO* the records required under condition 7 of this permit when requested by the *CEO*.

DEFINITIONS

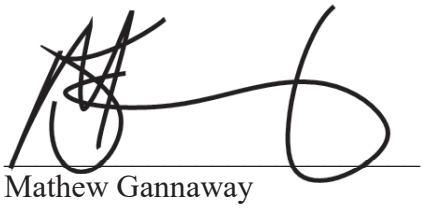
In this permit, the terms in Table have the meanings defined.

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
dieback	means the effect of *Phytophthora* species on native vegetation.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	*Environmental Protection Act 1986* (WA)
fill	means material used to increase the ground level, or to fill a depression.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
rehabilitate/ed/ion	rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area.
revegetate/ed/ion	rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area.
temporary works	means access tracks, spoil areas, side tracks, site offices, storage areas, laydown areas, extraction sites, camps, project surveys, pre-construction activities, drill pads and similar works associated with a project activity that are temporary in nature.
weeds	means any plant – (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness

Term	Definition
	ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS



Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

28 March 2022

Schedule 1

Plan 9494/1

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

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

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9494/1
Permit type:	Purpose permit
Applicant name:	Dean and Nathalie Wauters
Application received:	17 November 2021
Application area:	0.045 hectares within a 0.083 hectares footprint
Purpose of clearing:	Underground power supply
Method of clearing:	Mechanical
Property:	Mead Road Reserve (PIN 1193636) Lot 18 on Diagram 60729 Lot 19 on Diagram 60729 Lot 4 on Deposited Plan 62366
Location (LGA area/s):	City of Albany
Localities (suburb/s):	Kalgan

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area in the intensive land use zone of Western Australia (see Figure 1, Section 1.5).

The proposed clearing area is within an approximate 230 metre strip of remnant vegetation along Mead Road reserve and small areas of the application area further intersect with adjacent properties. Applicant has advised the Department of Water and Environmental Regulations (DWER) that the proposed clearing is limited to only “pockets of native vegetation which equal to 0.045 hectares” for the purpose of installing a new transformer and positioning of the drilling machine to facilitate underground conduit. The applicant has applied for clearing of 0.045 hectares of native vegetation within a 0.083 hectares footprint given the uncertainty of the location proposed for positioning of the drilling machine and the transformer (Wauters. D and Wauters. N, 2021).

1.3. Decision on application

Decision:	Granted
Decision date:	28 March 2022
Decision area:	0.045 hectares of native vegetation within a 0.083 hectares footprint, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). DWER advertised the application for 14 days and one submission was received. Consideration of matters raised in the public submission is summarised in Appendix B.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix G.1), supporting information provided by the applicant, the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration the purpose of the proposed clearing is for an underground power supply.

The assessment identified that the proposed clearing will result in:

- the potential introduction and spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values.
- the clearing of black cockatoo foraging habitat.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to have long-term adverse impacts on environmental values.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing.
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback.
- revegetate and rehabilitate the temporary clearing area.

1.5. Site map

Figure 1 Map of the application area

The area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit.

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Soil and Land Conservation Act 1945* (WA)

The key guidance documents which inform this assessment are:

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant has advised that the proposed clearing will be kept to the absolute minimum and will strictly be limited to the areas requiring clearing for the purpose of positioning the drilling machine and the transformer (Wauters. D and Wauters. N, 2021).

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

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

The assessment against the clearing principles (see Appendix D) identified that the impacts of the proposed clearing present a risk to biological values (adjacent flora and vegetation). The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (flora and fauna) - Clearing Principles (a), (b) and (c)

Assessment

The application area is mapped within the Jarrah Forest Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. Approximately 80 per cent of the northern section of the application area falls within vegetation association 3, described as mainly *Eucalyptus marginata* (jarrah) and *Corymbia calophylla* (marri) (Shepherd et at, 2001). Approximately 20 per cent of the southern section of the application area is mapped within vegetation association 51, which is described as sedgeland of Cyperaceae, Restionaceae, Juncaceae (Shepherd et at, 2001). The proposed application area comprises of Jarrah, Marri, Xanthorrhoea, Leucopogon, Acacia, Bracken, sedges, and rushes (Wauters. D and Wauters. N, 2022). The condition of the native vegetation within the application area appears to be in a Good to Very Good (Keighery, 1994) condition according to the photographs provided by the applicant.

Flora
A review of available database indicates that a total of 91 conservation significant flora species have been recorded within the local area. These species were listed as threatened under the state BC Act and/or Commonwealth EPBC Act, or as Priority (P) species by the Department of Biodiversity Conversation and Attractions (DBCA). The closest record was identified approximately 1.39 kilometres from the application area. There are several national parks and nature reserves conserved for the purpose of protecting flora and fauna within the 20-kilometre local area.

- Two Peoples Bay nature reserve

- Gull rock national park
- Bakers Junction nature reserve
- Mount Mason nature reserve
- Mill Brook nature reserve
- Torndirrup national park

Majority of the threatened and priority flora species identified from the local area are recorded within the abovementioned nature reserves. In addition, the majority of flora species are also recorded near the south coast, within a different vegetation type (vegetation association 423), and are not likely to be found within the application area.

Based on the habitat preferences, distribution, extent of existing records and the small area of clearing proposed, the application area is not considered likely to comprise significant habitat for flora species identified from the local area.

Fauna
The desktop assessment of the application area identified 86 conservation significant fauna listed under the International Agreements, state BC Act, Commonwealth EPBC Act or listed as Priority species by DBCA within the 20-kilometres radius of the application area. The 86 conservation significant fauna species include 56 bird species, seven fish species, five invertebrate species, 15 mammal species and three reptile species. The fish species, invertebrate species, reptile species and mammal species that are associated with watercourses in the local area would not likely be directly impacted by the proposed clearing given the application area does not comprise of suitable habitat. *Setonix brachyurus* (Quokka) is the most common recorded species (890 records), with *Calyptorhynchus latirostris* (Carnaby's cockatoo) comprising 533 records. The nearest record of conservation significant fauna is *Calyptorhynchus banksii naso* (Forest Red-tailed black cockatoo), identified approximately 0.09 kilometres from the application area.

Class: Bird

Majority of the birds identified through the desktop study are migratory birds associated with mudflats, freshwater wetlands, saltmarshes, mangroves, and riparian vegetation or threatened and priority bird species associated with coastal habitats (DAWE, n.d). Based on the known distribution and habitat preference, the bird species most likely to occur over the application area are the three vagile species of black cockatoos; the endangered *Calyptorhynchus latirostris* (Carnaby's black cockatoo), vulnerable *Calyptorhynchus banksii naso* (Forest red-tailed black cockatoo) and endangered *Calyptorhynchus baudinii* (Baudin's cockatoo). Seven known black cockatoo roost sites are located within a 12-kilometre radius from the application area with the closest known roost site located approximately 480 metres north of the application area. No roost sites are known to occur over the application area.

Black cockatoo species, are known to nest in hollows of live and dead trees, including marri, jarrah, Karri (*Eucalyptus diversicolor*), wandoo (*Eucalyptus wandoo*), tuart, flooded gum (*Eucalyptus rudis*), and other eucalyptus spp. (Commonwealth of Australia, 2012). Breeding habitat for black cockatoos include trees of these species that either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow. Suitable DBH for nest hollows is 500 millimetres for most tree species (Commonwealth of Australia, 2012). While breeding, black cockatoos also generally forage within a 6 to 12-kilometre radius of their nesting site (Commonwealth of Australia, 2012). According to available datasets, mapped black cockatoo foraging habitat is recorded within the 12-kilometre radius of the application area, making it a suitable location for breeding if appropriate hollows are present (Commonwealth of Australia, 2012). The closest confirmed breeding site is approximately 55 kilometres north of the application area. The application area does not include large trees to contain a suitable black cockatoo hollow and it is unlikely the proposed clearing will involve clearing of black cockatoo breeding habitat.

A significant amount of area mapped as feeding habitat for black cockatoos surrounds the application area as represented in Figure 2. The Forest Red-tailed black cockatoo feeds mainly on the seeds of marri and jarrah; other foods include sheoak (*Allocasuarina fraseriana*), snottygobble (*Persoonia longifolia*), blackbutt (*Eucalyptus patens*) and introduced species including white cedar (*Cape Lilac*) (*Melia azedarach*) and lemon-scented gum (*Corymbia citriodora*) (Johnstone and Kirkby, 2008). Carnaby's cockatoo forages on the seeds, nuts, and flowers of a variety of plants, including Proteaceous species (banksia, hakea and grevillea), as well as allocasuarina and eucalyptus species, marri and a range of introduced species (Valentine and Stock, 2008). Baudin's cockatoos are also known to feed on a range of foods including the seeds of sheoak, banksia species, hakea species and jarrah. However, marri is the primary food source with the birds using its seeds, flowers, nectar, and buds (DBCA, 2017).

The application area represents an extremely small proportion of the mapped feeding habitat. Local area comprise of approximately 33,776 hectares of native vegetation and vast majority of the mapped native vegetation are also suitable foraging habitat for black cockatoos. As stated earlier in the report, the application area is surrounded by

multiple national parks and nature reserves which comprise of large quantities of foraging habitat for black cockatoos. Given the size of the proposed clearing (0.045 hectares), the proposed clearing will not have a significant impact on black cockatoo foraging habitat.

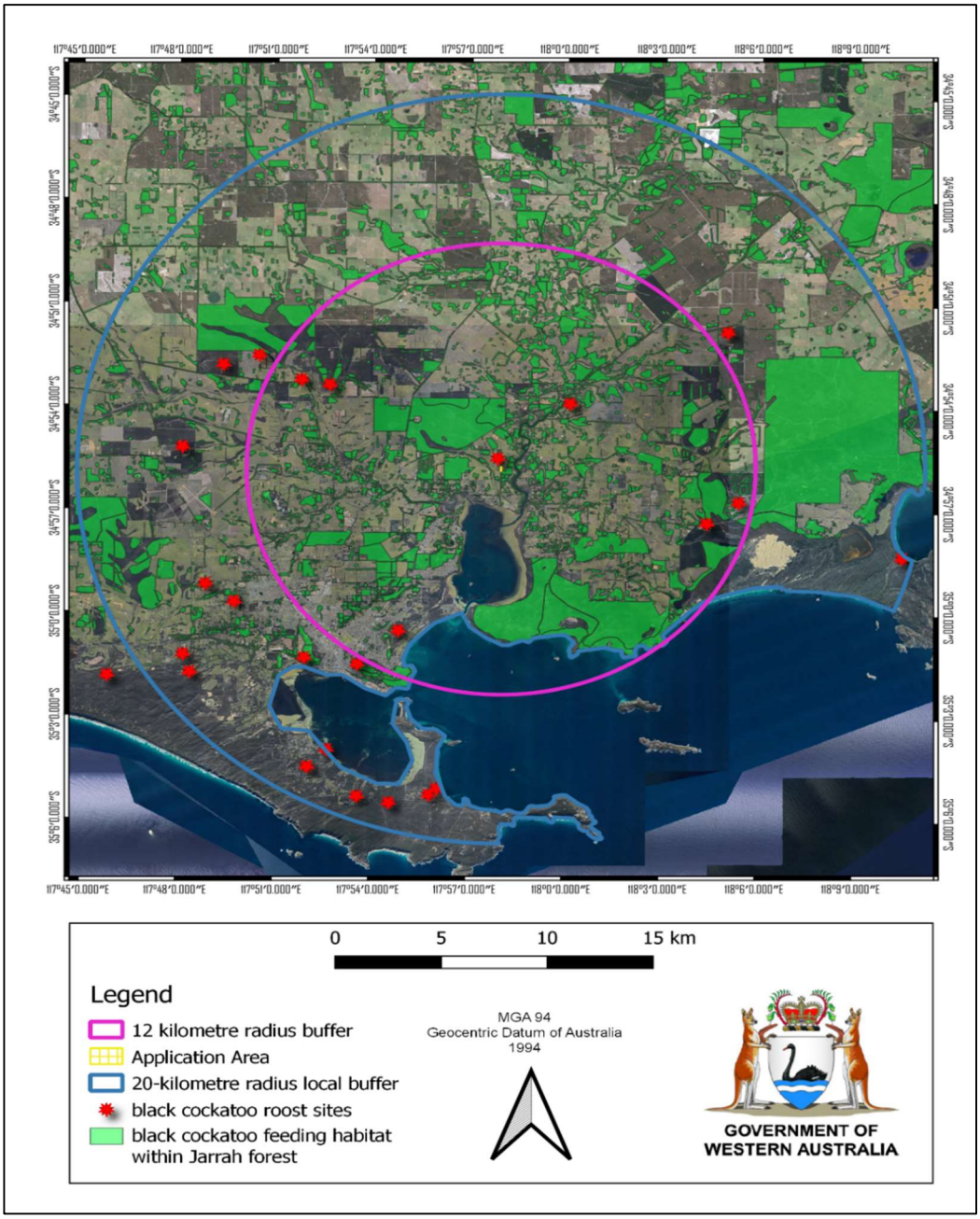


Figure 2: Black cockatoo foraging habitat available within the 20-kilometre radius local area in Jarrah Forest and the location of roost sites within the 12-kilometre radius buffer.

The *Falco peregrinus* (Peregrine falcon) may overfly the application area as the species is found in most habitats. Peregrine falcon requires abundant prey and secure nest sites and prefers coastal and inland cliffs or open woodlands near water and may even be found nesting on high city buildings. This species is widespread, highly mobile (Australian Museum, 2020). Given the above description and the small, linear nature of the application area, it is unlikely the proposed clearing will have a significant impact on the Peregrine falcon.

Class: Mammal

Fifteen species of mammal were recorded within the 20-kilometre radius local area. Of the 15 species, three species; *Setonix brachyurus, Pseudocheirus occidentalis*, *Isoodon fusciventer* and *Dasyurus geoffroii* bay be transient visitors within the application area while foraging. However, the application area does not provide core habitat for these species as described below.

Setonix brachyurus (Quokka) typically inhabit eucalypt forests and riparian habitats with sedge-dominated understorey; usually associated with vegetation that has high rainfall, complex vegetation structure and burn patchiness (DAWE, n.d). Almost all records of Quokka were identified approximately 12 kilometres east of the application area within the Two Peoples Bay nature reserve and within the reserve number 13802 located immediately north of the Two Peoples Bay nature reserve. Although, 890 records of *Setonix brachyurus* (Quokka) were recorded within the local area, no individuals of Quokka are likely to be encountered within the application area, due to the small, linear nature of the application area.

Pseudocheirus occidentalis (Western Ringtail Possum (WRP), ngwayir) have been recorded within the local area (639 records). WRP is an arboreal folivore, associated with a diverse range of habitats in the South Coast management zone from Walpole to east of Albany, characterised by high canopy cover and connectivity and associated with marri and jarrah within the south forest (DPAW, 2017). Majority of the numbers identified within the local area are records from the south coast which consumes a more diverse range of species and habitat types for WRP. Given the extent, linear nature of the application area and the location of larger remnants of suitable habitat for WRP within the local area, the application area is not considered likely to comprise significant habitat for the WRP.

The number of individuals of *Isoodon fusciventer* (Quenda, Southwestern Brown Bandicoot) recorded within the local area were 532. Quendas are ground-dwelling marsupials, typically associated with forests or woodlands near watercourses, where understorey consists of dense scrub and leaf litter is abundant (DAWE, n.d). The proposed clearing area is located within a road reserve next to a paddock and is linear in nature. It is unlikely the proposed clearing area will comprise of significant habitat for the Quenda. The species is likely to utilise the larger remnants of suitable habitat located within the local area.

The *Dasyurus geoffroii* (Chuditch, Western Quoll) may utilise the application area as the Chuditch inhibit a range of habitats including Jarrah Forests, Eucalypt woodlands, and Mallee shrublands. Heathland and riparian vegetation may hold higher densities. Chuditch require den resources (for example, tree hollows, hollow logs, burrows or rock crevices) and are opportunistic feeders that forage on insects, large invertebrates, as well as seeds, fruits, flowers, and some small mammals, birds and lizards (DAWE, n.d). The application area will not provide core habitat for the Chuditch.

Should any mammal species described above be present within the application area at the time of clearing, it is expected that these individuals are mobile and will be able to disperse into adjacent areas.

Conclusion

The proposed clearing will not have a significant impact on the local availability of foraging and roosting resources for black cockatoos, nor will the proposed clearing have an impact on breeding habitats or impact on black cockatoos' ability to move through the landscape.

The vegetation under application within the respectful road reserve, is not likely to be significant habitat for fauna species within the local area given the small, linear nature of the application area and the amount of suitable habitat nearby.

Weeds have the potential to out-compete native flora and vegetation and reduce the biodiversity of an area. Potential impacts to biodiversity as a result of the introduction and spread of weeds and dieback may be minimised by the implementation of a weed and dieback management condition.

Conditions

- Weed and dieback management measures to mitigate impacts to adjacent vegetation will be required as a condition on the clearing permit.

3.3. Relevant planning instruments and other matters

The applicant has received approval to apply for a clearing permit in regard to installing a power connection from the City of Albany (City of Albany, 2021). The City of Albany also advised DWER that no further local government approvals are required (City of Albany, 2021).

No Aboriginal sites of significance have been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Additional information provided by applicant

Information	Description
Photographs (Wauters. D and Wauters. N, 2022)	Applicant provided photographs of the application area with a description of the vegetation present within the application area determined during a site inspection undertaken on the 03 March 2020 by a Bushfire Practitioner (Wauters. D and Wauters. N, 2022).

Appendix B. Details of public submission

Summary of comments	Consideration of comment
Applicant does not state the number of trees proposed for clearing, species of trees, size of trees and whether the trees contain nesting hollows.	DWER requested that applicant provide a response in regard to the concern raised by the public submission. The response from the applicant is as follows: "*Western Power confirms that they will not be clearing the whole application area, they will only be clearing a small section between the crossovers for the installation of their new transformer and a small section for the positioning of their drilling machine for the installation of the underground conduit. Clearing of the full area would be an absolute worst-case scenario and is certainly not anticipated nor necessary. The reason why Western Power applies for the full area, is because they are not sure at this moment of where the machine will be placed. They will only know when they are physically on site*."
Clearing of black cockatoo foraging habitat and breeding habitat.	Refer to section 3.2.1 of the decision report. The proposed clearing is highly unlikely to have a significant impact on breeding, roosting and foraging habitat for black cockatoos. The applicant has advised DWER that only one tree is likely to be cleared during the installation of the new transformer and positioning of the drilling machine to facilitate underground conduit. The tree is not likely to contain breeding habitat.

Appendix C. Site characteristics

C.1. Site characteristics

The information provided below describes the key characterises of the area proposed to be cleared and is based on the best information available to DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix D.

Characteristic	Details
Local context	The area proposed to be cleared is 0.045 hectares within a 0.083 hectare footprint and is a narrow tract of native vegetation in the intensive land use zone of Western Australia. The application area is located in the southern edge of the Albany sandplain between Hay River and Green Range and is an approximately 230-metre strip of remnant vegetation along the eastern side of the Mead Road reserve. Aerial imagery and Spatial data indicate the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 32 per cent of the original native vegetation cover.
Ecological linkage	The application area is mapped within Strategic Zone A of the Western Australian South Coast Corridor Network, characterised by areas of woody vegetation where polygons greater than 30 hectares in size are spaced no greater than one kilometre apart and potentially form the most strategic link between major protected areas (Wilkins et al, 2006). At a landscape level, the removal of the small amount of vegetation proposed will not result in disruption to ecological linkage values.
Conservation areas	There are several conservation areas within the local area, the closest being Bakers Junction Nature Reserve which is approximately two kilometres northwest from the application area. The application area is not within a conservation covenant, regional park or DBCA areas of interest (DBCA-012, DBCA-026).
Vegetation description	The supporting document supplied by the applicant states the vegetation within the proposed clearing area consists of jarrah, marri, xanthorrhoea, leucopogon, acacia, bracken, sedges, and rushes (Wauters. D and Wauters. N, 2022). Representative photos are available in Appendix F. The mapped vegetation types: • Beard vegetation association (3), which is described as mainly jarrah and marri (Shepherd et al, 2001). • Beard vegetation association (51), which is described as cyperaceae, restionaceae and juncaceae species (Shepherd et al, 2001). The mapped vegetation types retain more than 30 per cent of the original extent (Government of Western Australia, 2019).
Vegetation condition	Photographs supplied by the applicant indicate the vegetation within the proposed clearing area is in a Good to Very Good (Keighery, 1994) condition. The full Keighery (1994) condition rating scale is provided in Appendix E. Representative photos are available in Appendix F.
Climate and landform	The application area is mapped on south coast and hinterland landforms with soils described as broad convex crests of sandy and lateritic spurs and ridges on deeply weathered siltstone. South coast and hinterland landform is part of the King System (242Kg) described as dissected siltstone and sandstone terrain on the southern edge of the Albany Sandplain Zone, with shallow gravel, sandy gravel, grey sandy duplex, and pale deep sand (DPIRD, 2019).

Characteristic	Details
	Local climate is characterised by mean annual rainfall of 930 millimetres and evapotranspiration of 800 millimetres.
Soil description	The soil over the application area is mapped as 242KgDMc which is described as duplex sandy gravels, grey deep sandy duplexes, pale deep sands, and shallow gravel (DPIRD, 2019).
Land degradation risk	The soil in which the application area falls into have a (DPIRD, 2019): • High risk of wind erosion and subsurface acidification (DPIRD-016, DPIRD-011). • Low risk of water erosion, waterlogging and salinity (DPIRD-013, DPIRD-015, DPIRD-026). The land degradation table C.5. further summaries the soil degradation risk within the application area.
Waterbodies	The application area is within the Albany sandplain hydrological zone of Western Australia (DPIRD-069). The desktop assessment and aerial imagery indicated that no watercourses intersect the application area. The Johnston Creek conservation class wetland is located approximately 530 metres west of the application area. The Kalgan River is located approximately 770 metres east of the application area.
Hydrogeography	The application area does not occur within a Groundwater or a Surface water area under the *Rights in Water and Irrigation Act 1914* (DWER-034, DWER-037) nor does it occur within an area subject to the *Country Areas Water Supply Act 1947* or a Public Drinking Water Source Area (DWER-033). Groundwater salinity level (Total Dissolved Solids) is mapped as 500 – 1000 milligrams per litre (fresh water) (DWER-026).
Flora	Thirteen threatened and 78 priority flora species are known to occur within the 20-kilometre radius local area. The closest record identified is the priority 4 species; *Bossiaea divaricate* located 1.39 kilometres from the application area. Four threatened flora and 11 priority flora are mapped on the same soil landscape and the same vegetation association, but the application area does not comprise of suitable habitat features (watercourse/wetland habitat) for any of the known species to occur within the local area.
Ecological communities	The application area does not intersect any mapped Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs). No TECs are mapped within the 20-kilometre radius local area.
Fauna	Records of 86 fauna of conservation significance were identified within the local area which include 56 bird species, seven fish species, five invertebrate species, 15 mammal species and three reptile species. There are numerous records of the three species of black cockatoos in the local area. Seven roost sites are recorded within the 12 kilometres radius of the application area.

C.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Jarrah Forest	4,506,660.25	2,399,838.15	53.25	1,673,614.25	37.14
Vegetation complex					
Beard vegetation association 3 *	2,390,591.54	1,604,101.56	67.10	1,299,263.74	54.35
Beard vegetation association 51 *	19,962.06	7,187.97	36.01	2,318.61	11.62
Local area					
20km radius	-	33,776.56	32	-	-

*Government of Western Australia (2019a)

C.3. Flora analysis table

91 flora species were recorded within the 20-kilometre radius local buffer. Majority of the species did not fall within the same soil landscape mapping and the same vegetation association as the application area hence, not listed within the flora analysis table. With consideration for the site characteristics set out above and relevant datasets (see Appendix G.1), impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Threatened Species							
Banksia brownii	T	N	Y	Y	6.62	39	N/A
Banksia goodii	T	N	Y	Y	2.70	46	N/A
Chordifex abortivus	T	N	Y	Y	2.56	4	N/A
Drakaea micrantha	T	N	Y	Y	2.10	5	N/A
Priority Species							
Astartea transversa	P2	N	Y	Y	11.69	4	N/A
Banksia serra	P4	N	Y	Y	3.72	10	N/A
Bossiaea lalagoides	P3	N	Y	Y	1.19	2	N/A
Calectasia grandiflora	P2	N	Y	Y	10.74	1	N/A
Corybas abditus	P3	N	Y	Y	6.11	1	N/A
Drosera fimbriata	P4	N	Y	Y	3.72	3	N/A
Hakea oldfieldii	P3	N	Y	Y	9.25	1	N/A
Lysinema lasianthum	P4	N	Y	Y	2.11	14	N/A
Thelymitra variegata	P2	N	Y	Y	9.25	1	N/A
Verticordia huegelii var. *tridens*	P3	N	Y	Y	4.58	2	N/A
Bossiaea divaricata	P4	N	Y	Y	1.39	1	N/A

T: threatened, P: priority

C.4. Fauna analysis table

86 records of fauna species were identified within the 20-kilometres radius local area. Of these records, majority were either marine species or migratory birds and the application area does not provide suitable habitat for any of the marine and migratory species hence, not included within the fauna analysis table below. Species which does not fall within the above categories required further consideration and are listed within the fauna analysis table below.

Species Scientific name	Species Common name	Conservation status	Distance of closest record to application area (km)	Year of most recent record	Number of known records (total)	Suitable habitat features
BIRDS						
Ardenna carneipes	Flesh-footed Shearwater, Fleshy-footed Shearwater	VU	7.37	2014	23	N
Atrichornis clamosus	noisy scrub-bird, tjimiluk	EN	8.22	2011	141	N
Botaurus poiciloptilus	Australasian bittern	EN	2.04	2010	11	N
Calidris canutus	Red knot	EN	1.49	2018	78	N
Calidris ferruginea	Curlew Sandpiper	CR	1.50	2015	19	N
Calidris tenuirostris	Great knot	CR	1.49	2018	164	N
Calyptorhynchus banksii naso	forest red-tailed black cockatoo	VU	0.09	2020	62	Y (foraging)
Calyptorhynchus baudinii	Baudin's cockatoo	EN	0.26	2018	308	Y (foraging)
Calyptorhynchus latirostris	Carnaby's cockatoo	EN	0.40	2018	533	Y (foraging)
Calyptorhynchus sp. 'white-tailed black cockatoo'	white-tailed black cockatoo	EN	0.70	2018	216	Y (foraging)
Cereopsis novaehollandiae grisea	Cape Barren Goose, Recherche Cape Barren goose	VU	16.75	2000	1	N
Charadrius leschenaultii	Greater sand plover, large sand plover	VU	2.22	2018	158	N
Charadrius mongolus	Lesser Sand Plover	EN	2.21	2015	11	N
Dasyornis longirostris	western bristlebird	EN	10.87	2017	54	N
Diomedea exulans	Wandering albatross	VU	11.91	-	2	N
Falco peregrinus	Peregrine falcon	OS	1.79	2018	25	May fly over
Leipoa ocellata	malleefowl	VU	3.37	2018	5	N
Limosa lapponica	Bar-tailed godwit	MI	1.50	2018	187	N
Numenius madagascariensis	eastern curlew	CR	1.50	2012	22	N
Oxyura australis	Blue-billed duck	P4	4.08	2018	177	N
Pezoporus flaviventris	western ground parrot	CR	12.19	1994	2	N
Phaethon rubricauda	Red-tailed tropicbird	P4	8.07	2000	1	N
Psophodes nigrogularis	western whipbird	EN or P4	8.13	2018	42	N
Psophodes nigrogularis nigrogularis	western whipbird (western heath)	EN	9.34	2015	77	N
Puffinus huttoni	Hutton's shearwater	EN	11.16	2006	2	N
Stercorarius antarcticus lonnbergi	Brown Skua, Subantarctic skua	P4	8.74	2007	7	N
Thalassarche carteri	Indian yellow-nosed albatross	EN	11.91	1950	1	N
Thalassarche cauta cauta	Shy albatross	VU	19.91	1999	1	N
Thalassarche chlororhynchos	Atlantic yellow-nosed albatross	VU	12.06	1999	7	N
Thalassarche melanophris	Black-browed albatross	EN	11.25	2000	4	N
Thinornis rubricollis	Hooded plover, hooded dotterel	P4	7.37	2015	20	N
Tringa brevipes	Grey-tailed tattler	P4	1.50	2017	95	N
Tyto novaehollandiae novaehollandiae	masked owl (southwest)	P3	11.91	2001	3	N

Species Scientific name	Species Common name	Conservation status	Distance of closest record to application area (km)	Year of most recent record	Number of known records (total)	Suitable habitat features
MAMMAL						
Dasyurus geoffroii	chuditch, western quoll	VU	5.47	2014	4	May utilise the area
Falsistrellus mackenziei	western false pipistrelle, western falsistrelle	P4	16.37	1999	1	N
Hydromys chrysogaster	water-rat, rakali	P4	1.44	2017	22	N
Isoodon fusciventer	quenda, southwestern brown bandicoot	P4	2.21	2019	532	May utilise the area
Macrotis lagotis	bilby, dalgyte, ninu	VU	3.49	1970	2	N
Notamacropus irma	western brush wallaby	P4	4.37	1917	6	N
Parantechinus apicalis	dibbler	EN	12.08	1988	6	N
Phascogale tapoatafa wambenger	south-western brush-tailed phascogale, wambenger	CD	2.52	2017	11	N
Pseudocheirus occidentalis	western ringtail possum, ngwayir	CR	1.55	2020	639	May utilise the area
Setonix brachyurus	quokka	VU	4.37	2018	890	May utilise the area

C.5. Land degradation risk table

Risk categories	*242KgDMc Map unit*	*Description*
Wind erosion	H2	92% of map unit has a high to extreme hazard
Water erosion	L1	0% of map unit has a very high to extreme hazard
Salinity	L1	0% of map unit has a moderate to extreme risk
Subsurface Acidification	H2	87% of map unit has a high susceptibility
Flood risk	L1	0% of the map unit has a moderate to high hazard
Water logging	L1	0% of map unit has a moderate to very high risk
Phosphorus export risk	L2	9% of map unit has a high to extreme hazard

Appendix D. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The area proposed to be cleared contains foraging habitat for black cockatoos, however, the proposed clearing is not considered to result in a significant impact to foraging, roosting and breeding habitat nor will it impact other conservation significant fauna species. It is unlikely the proposed clearing will impact on conservation significant flora species and conservation significant ecological communities.	Not likely to be at variance	Yes *Refer to Section 3.2.1, above.*
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The application area contains foraging habitat for the three black cockatoo species however, the proposed clearing will not have a significant impact on the extent of available foraging habitat available for black cockatoos. The proposed clearing is small (0.045 hectares) and linear in nature, located between completely degraded (Keighery, 1994) paddocks, therefore, the proposed clearing will not impact on any fauna species identified from the local area.	Not likely to be at variance	Yes *Refer to Section 3.2.1, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: The area proposed to be cleared is unlikely to contain habitat for flora species listed under the BC Act or EPBC Act.	Not likely to be at variance	Yes *Refer to Section 3.2.1, above.*
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: The application area is not mapped within a TEC, nor does it contain species that can indicate the presence of a TEC.	Not at variance	No
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extent of the mapped vegetation types and the native vegetation extent within the local area are consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is mapped within the strategic zone A, south coast macro corridor fauna ecological linkage. The proposed clearing will not have a significant impact on the ecological linkage.	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.	Not at variance	No
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: Given no watercourses or wetlands are recorded within the application area, the proposed clearing is not likely to impact an environment associated with a watercourse or wetland.	Not at variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils are not susceptible to water erosion, nutrient export, and salinity. The application area is mapped as having a high risk of wind erosion and subsurface acidification. Noting the extent, location and the purpose of the application area, the proposed clearing is not likely to have an appreciable impact on land degradation.	Not likely to be at variance	No
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: Given no watercourses, wetlands and Public Drinking Water Sources Areas are recorded within the application area, the proposed clearing is unlikely to impact on surface or ground water quality.	Not at variance	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: The mapped soils and topographic contours in the surrounding area do not indicate that the proposed clearing is likely to contribute to increased incidence or intensity of flooding. Given no watercourses and wetlands are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging.	Not at variance	No

Appendix E. Vegetation condition rating scale

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

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

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

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix F. Photographs of the vegetation (Wauters. D and Wauters. N, 2022) and supporting documentation.

Figure 3: View to the south along Mead Road

Figure 4: View facing south south-east towards the strip of forest vegetation along the eastern side of Mead Road.

Appendix G. Sources of information

G.1. GIS databases

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

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

Restricted GIS Databases used:

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

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