



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

### PERMIT DETAILS

Area Permit Number: CPS 9697/1  
File Number: DWERVT9996  
Duration of Permit: From 24/07/2022 to 24/07/2024

### PERMIT HOLDER

City of Albany

### LAND ON WHICH CLEARING IS TO BE DONE

Lot 7655 on Deposited Plan 91736 (Reserve 41252), Cheynes

### AUTHORISED ACTIVITY

The permit holder must not clear more than 0.016 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

### CONDITIONS

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

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

- (a) avoid the clearing of *native vegetation*;
- (b) minimise the amount of *native vegetation* to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

#### 2. Weed 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.

### 3. Directional clearing

The permit holder must conduct clearing activities in a slow, progressive manner to allow fauna to move into adjacent *native vegetation* ahead of the clearing activity.

### 4. Revegetation - retention vegetative material and topsoil

The permit holder must retain the vegetative material and topsoil removed by clearing authorised under this permit and *revegetate* the area cross-hatched red on Figure 2 of Schedule 1 by laying the vegetative material and topsoil retained.

### 5. 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	<ul style="list-style-type: none"><li>(a) the species composition, structure, and density of the cleared area;</li><li>(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;</li><li>(c) the date that the area was cleared;</li><li>(d) the size of the area cleared (in hectares); and</li><li>(e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 1; and</li><li>(f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 2.</li><li>(g) actions taken in accordance with condition 3 and 4.</li></ul>

### 6. Reporting

The permit holder must provide to the *CEO* the records required under condition 5 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 <i>Environmental Protection Act 1986</i> .
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 <i>Phytophthora</i> species on native vegetation.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986</i> (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.
revegetation/revegetate	means the re-establishment of a cover of local provenance native vegetation in an area using methods such as natural regeneration, direct seeding and/or planting.
weeds	means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i> ; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

---

## END OF CONDITIONS



\_\_\_\_\_  
Jessica Burton  
A/MANAGER  
NATIVE VEGETATION REGULATION

*Officer delegated under Section 20  
of the Environmental Protection Act 1986*

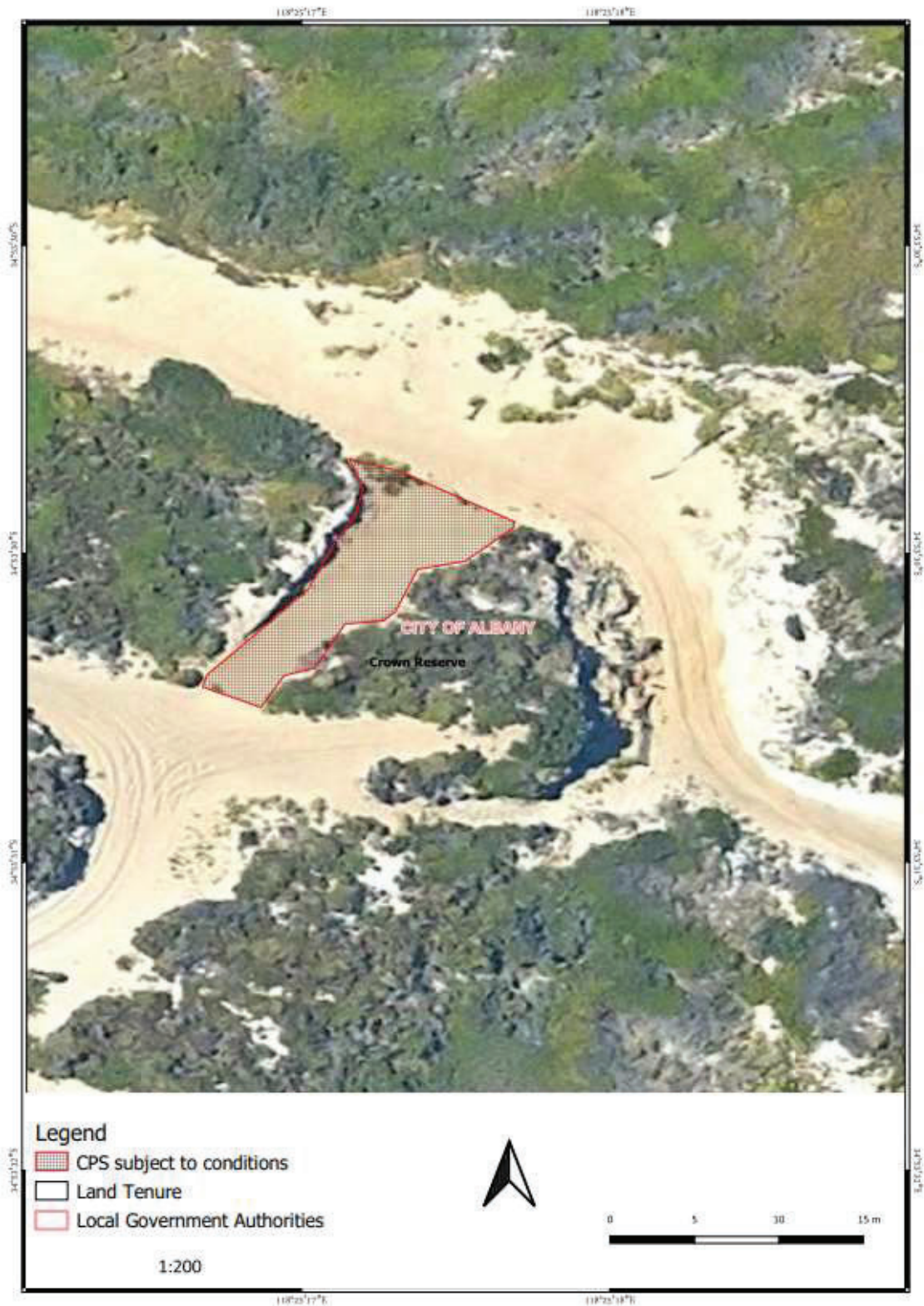
29 June 2022

# SCHEDULE 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



**Figure 2: Map of the area subject to conditions**



# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

<b>Permit number:</b>	CPS 9697/1
<b>Permit type:</b>	Area permit
<b>Applicant name:</b>	City of Albany
<b>Application received:</b>	11 April 2022
<b>Application area:</b>	0.016 hectares of native vegetation
<b>Purpose of clearing:</b>	Formalising a car park area
<b>Method of clearing:</b>	Mechanical
<b>Property:</b>	Lot 7655 on Deposited Plan 91736 (Reserve 41252)
<b>Location (LGA area/s):</b>	City of Albany
<b>Localities (suburb/s):</b>	Cheynes

### 1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area (see Figure 1, Section 1.5).

### 1.3. Decision on application

<b>Decision:</b>	Granted
<b>Decision date:</b>	29 June 2022
<b>Decision area:</b>	0.016 hectares of native vegetation as depicted in Section 1.5, below.

### 1.4. Reasons for decision

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

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix A), relevant datasets (see Appendix E.1), the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration that there is no formal parking area at the location and the provision of a designated area should deter users from parking on existing vegetation.

The assessment identified that the proposed clearing will result in:

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

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 and can be minimised and managed to unlikely lead to an unacceptable risk to environmental values].

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

- avoid, minimise to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback
- Directional clearing to allow fauna to move into the adjacent vegetation ahead of clearing.
- Revegetation of closed track areas through the spread of vegetative material and topsoil to promote natural regeneration.

### 1.5. Site map



Figure 1 Map of the application area

The area cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.





### **3.2. Assessment of impacts on environmental values**

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A) 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 B) identified that the impacts of the proposed clearing present a risk to the adjacent vegetation which is a mapped occurrence of a threatened/priority ecological community. 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, fauna and ecological communities) - Clearing Principles (a), (b), (c), (d)**

##### Assessment

According to available databases, 47 conservation significant fauna species have been recorded within the local area, the majority of which are bird species. It is noted that some of these species have been recorded within similar habitat types as the application area, however, consideration is given to the presence and use of vehicle tracks around the application area which limit its suitability to provide habitat for fauna species. For these reasons and noting the extent and condition of the adjacent vegetation, the vegetation within the application area is not considered to provide significant habitat for conservation significant fauna species. However, impacts to individual fauna could occur if they are present at the time of clearing.

According to available databases, there are 54 conservation significant flora species recorded within the local area. It is noted that many of these species have habitat preferences of granite outcrops which are not present within the application area. Noting the condition of the vegetation within the application area and the habitat preferences of many of the conservation significant species within the local area, the application area is not likely to contain habitat for conservation significant flora.

The application area is within a mapped occurrence of 'Proteaceae dominated Kwongan shrublands of the southeast coastal floristic province of Western Australia' listed as a Priority 3 Ecological Community by Department of Biodiversity Conservation and Attractions (DBCA) and endangered under the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) and the proposed clearing may introduce and spread weeds and dieback into adjacent vegetation that represents this PEC/TEC. The mapped patch of this community is approximately 833 hectares in total. Noting the application is for the proposed clearing of 0.016 hectares, this represents <0.001 per cent of the patch of TEC.

Considering this, that the formalising of a carpark area is to deter beach users from parking on other areas of vegetation and that the applicant has proposed to revegetate closed track areas (0.010 hectares) through natural regeneration by the spread of topsoil and vegetative material, the proposed clearing is not likely to significantly impact the ecological community.

##### Conclusion

Based on the above assessment, the proposed clearing will result in the potential introduction of weeds and/or dieback to adjacent vegetation which is mapped as a PEC/TEC. The proposed clearing may impact terrestrial fauna if present at the time of clearing.

For the reasons set out above, it is considered that the impacts of the proposed clearing on the adjacent vegetation can be managed to be environmentally acceptable and does not constitute a significant residual impact.

##### Conditions

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

- Avoid and minimise clearing condition.
- Weed and dieback management condition
- Directional clearing to allow fauna to move into the adjacent vegetation ahead of clearing.
- Revegetation of closed track areas through the spread of vegetative material and topsoil to promote natural regeneration.

### **3.3. Relevant planning instruments and other matters**

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. Site characteristics

### A.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is part of an expansive tract of native vegetation in the intensive land use zone of Western Australia. It is adjacent to unsealed vehicle tracks and to remnant vegetation.</p> <p>Spatial data indicates the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 50 per cent of the original native vegetation cover.</p>
Ecological linkage	There are no mapped ecological linkages within the application area. Noting the extent and condition of adjacent vegetation and the presence of disturbances, the vegetation within the application area is not likely to be critical to any local or informal linkages
Conservation areas	The closest conservation area to the application area is the Waychinicup National Park which is located 90 meters from the application area.
Vegetation description	<p>Photographs provided by the applicant indicate the vegetation within the proposed clearing area consists of shrubby heathland. Representative photos are available in Appendix D.</p> <p>This is consistent with the mapped vegetation type:</p> <ul style="list-style-type: none"> <li>• Beard 989, which is described as Shrublands; Albany blackbutt mallee-heath (Shepherd et al, 2001)</li> </ul> <p>The mapped vegetation type retains approximately 84 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Photographs provided by the applicant indicate the vegetation within the proposed clearing area is in degraded (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> <li>• Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management</li> </ul> <p>The full Keighery (1994) condition rating scale is provided in Appendix C. Representative photos are available in Appendix D.</p>
Climate and landform	<p>The application area is mapped within a 15-meter isoheight within a coastal dune system.</p> <p>The annual average rainfall for the region is 925.2 millimetres (BOM, 2022)</p>
Soil description	The soil within the application area is mapped as Meerup podzols over calcareous sand Phase which is described as Podzols over calcareous sand; banksia-bulich-yate woodland.
Land degradation risk	The mapped soils are moderately to highly susceptible to wind erosion, water erosion, subsurface acidification and phosphorus export risk.
Waterbodies	The desktop assessment and aerial imagery indicated that no water bodies occur within 100 meters of the application area. .
Hydrogeography	The application area is not within any proclaimed water protection areas. The mapped groundwater salinity is 1000-3000 milligrams total dissolved solids per litre.
Flora	According to available databases, there are 54 conservation significant flora species recorded within the local area. The closest record is of a <i>Eucalyptus x missilis</i> (Priority 4) which is located approximately 380 meters from the application area within the same mapped soil and vegetation types as the application area.

Characteristic	Details
Ecological communities	The application area is within a mapped occurrence of Proteaceae Dominated Kwongkan Shrubland.
Fauna	According to available databases, 47 conservation species have been recorded within the local area. The nearest recording is of a noisy whiplbird which was recorded 10 meters from the application area.

## Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared does contain locally or regionally significant flora or fauna, habitats.</p> <p>The application area is mapped as the ‘Proteaceae dominated Kwongkan shrublands of the southeast coastal floristic province of Western Australia’, a Priority 3 Ecological Community (PEC). The PEC is also a Threatened Ecological Community (TEC) and is discussed under Principle (d).</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (b):</u> <i>“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.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared does not contain significant habitat for conservation significant fauna.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared is unlikely to contain habitat for flora species listed under the BC Act.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (d):</u> <i>“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.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared is within a mapped occurrence of Proteaceae Dominated Kwongkan Shrubland which is listed as endangered under the EPBC Act 1999.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u> The extent of the mapped vegetation type and the native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</p>	Not likely to be at variance	No
<p><u>Principle (h):</u> <i>“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.”</i></p> <p><u>Assessment:</u> Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
of nearby conservation areas but may impact adjacent vegetation in the form of weeds.		
<b>Environmental value: land and water resources</b>		
<p><u>Principle (f):</u> "Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."</p> <p><u>Assessment:</u> Given no water courses or wetlands are recorded within 100 meters of the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality.</p>	Not at variance	No
<p><u>Principle (g):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."</p> <p><u>Assessment:</u> The mapped soils are moderately to highly susceptible to wind erosion, water erosion, subsurface acidification and phosphorus export risk. However, noting the extent of the clearing is small and considering the extent and condition of the vegetation remaining and that the clearing is somewhat protected from the primary dune, it is considered the proposed clearing is not likely to cause appreciable land degradation.</p>	Not likely to be at variance	No
<p><u>Principle (i):</u> "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."</p> <p><u>Assessment:</u> Given no watercourses or wetlands are recorded within 100 meters of the application area, the proposed clearing is unlikely to impact surface or ground water quality.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."</p> <p><u>Assessment:</u> The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.</p> <p>Given no watercourses or wetlands are recorded within 100 meters of the application area, the proposed clearing is unlikely contribute to waterlogging.</p>	Not likely to be at variance	No

### Appendix C. 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.

Condition	Description
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 D. Photographs of the vegetation



Figure 3: Photographs of the application area (City of Albany, 2022)

### Appendix E. Sources of information

#### E.1. GIS databases

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

## E.2. References

City of Albany (2022) *Clearing permit application CPS 9697/1*, received 4 April 2022 (DWER Ref: DWERDT590184).

Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.

Department of Environment Regulation (DER) (2013). *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: [https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2\\_assessment\\_native\\_veg.pdf](https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf).

Department of Water and Environmental Regulation (DWER) (2019). *Procedure: Native vegetation clearing permits*. Joondalup. Available from: [https://dwer.wa.gov.au/sites/default/files/Procedure\\_Native\\_vegetation\\_clearing\\_permits\\_v1.PDF](https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.PDF).

Government of Western Australia. (2019) *2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report)*. Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68) *Atlas of Australian Soils*, Sheets 1 to 10, with explanatory data. CSIRO and Melbourne University Press: Melbourne.

Schoknecht, N., Tille, P. and Purdie, B. (2004) *Soil-landscape mapping in South-Western Australia – Overview of Methodology and outputs* Resource Management Technical Report No. 280. Department of Agriculture.

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) *Native Vegetation in Western Australia, Extent, Type and Status*. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

Western Australian Herbarium (1998-). *FloraBase - the Western Australian Flora*. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dpaw.wa.gov.au/> (Accessed 17 June 2022)