GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9169/1
Permit Holder:	City of Busselton
Duration of Permit:	From 15 April 2021 to 15 April 2026

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 parkland extension.

2. Land on which clearing is to be done

Lot 4538 on Deposited Plan 211912 (Crown Reserve 37207), West Busselton

3. Clearing authorised

The permit holder must not clear more than 0.012 hectares of native vegetation 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.

PART III - RECORD KEEPING AND REPORTING

6. 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); and (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.

7. Reporting

The permit holder must provide to the *CEO* the records required under condition 6 of this permit when requested by the *CEO*.

DEFINITIONS

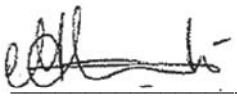
In this permit, the terms in Table have the meanings defined.

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.

Term	Definition
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 fill a hollow.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS



Meenu Vitarana
A/MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

23 March 2021

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

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 9169/1
Permit type:	Purpose permit
Applicant name:	City of Busselton
Application received:	24 December 2020
Application area:	0.012 hectares of native vegetation
Purpose of clearing:	Parkland extension
Method of clearing:	Mechanical Removal
Property:	Lot 4538 on Deposited Plan 211912 (Crown Reserve 37207)
Location (LGA area/s):	City of Busselton
Localities (suburb/s):	West Busselton

1.2. Description of clearing activities

The vegetation proposed to be cleared includes 0.012 hectares contained within an isolated strip of coastal peppermint (*Agonis flexuosa*) woodland and dune vegetation, adjacent to existing parkland and road infrastructure. The application area includes six mature peppermint trees over an understorey of sparse sword sedge (*Lepidosperma gladiatum*) and introduced species (see Figure 1, Section 1.5). The proposed clearing is for the purpose of expanding the existing King Street Coastal parkland, including laying of turf, irrigation, kerbing and parkland infrastructure, and requires the clearing of six mature peppermint trees.

1.3. Decision on application

Decision:	Granted
Decision date:	23 March 2021
Decision area:	0.012 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 14 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 assessment identified that the proposed clearing has the potential to result in the introduction and spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values. However, given the condition of the vegetation, the extent of the proposed clearing, and the adjacent land uses, the proposed clearing was not considered likely to constitute a significant residual impact to the adjacent vegetation or any other biological, conservation, or land and water resource value.

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 can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values. The Delegated Officer decided to grant a clearing permit subject to standard avoid and minimise and weed and dieback management conditions.

1.5. Site map

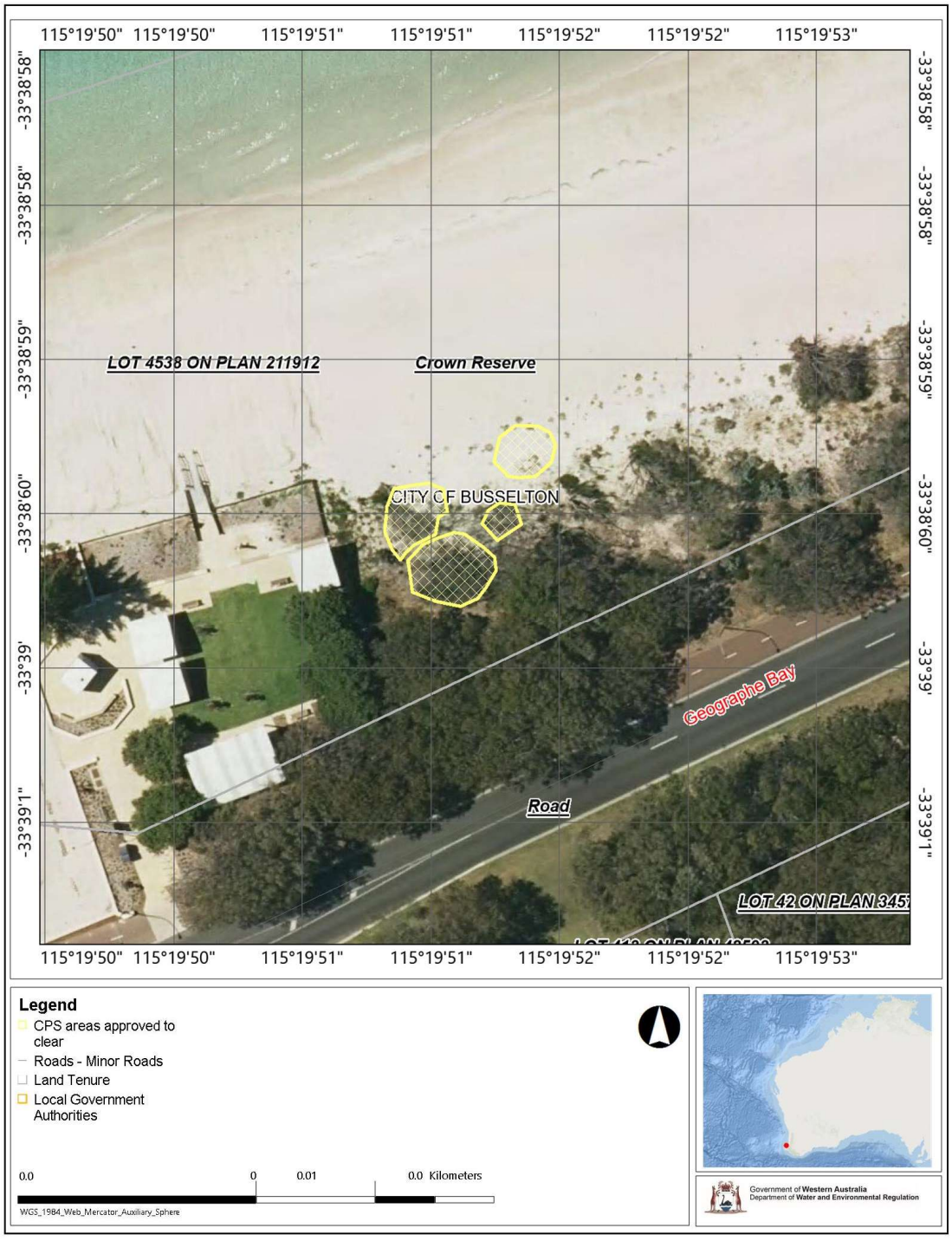


Figure 1 The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

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

The key guidance documents which inform this assessment are:

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant advised that a visual assessment of the vegetation within Crown Reserve 37207 was undertaken prior to determining a suitable design for the proposed parkland upgrade (Accendo Australia, 2020). Following this assessment, the parkland upgrade was designed to avoid areas of healthy trees to the south of the reserve that were buffered from the effects of damaging winds and salt scald (Accendo Australia, 2020). The applicant advised that disturbance has been minimised to ensure that only deceased and degraded vegetation and trees that have been damaged by historical storm fronts and salt scald are included within the proposed clearing area (Accendo Australia, 2020; City of Busselton, 2020).

The applicant has advised that the following measures will be implemented to mitigate direct or indirect impacts to adjacent, retained vegetation:

- Limiting vehicular access to the retained areas;
- No stockpiling of cleared vegetation or equipment within the retained areas; and
- Establishment of a limestone wall between the retained vegetation and recreational area within the Crown reserve (Accendo Australia, 2020).

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 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 may present a risk to biological values (fauna), significant remnant vegetation, and land and water resources. 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 (fauna) - Clearing Principle (b)

Assessment

A review of available databases indicates that a total of 63 conservation significant fauna species have been recorded within the local area (see Appendix A). These species were listed under the state *Biodiversity Conservation Act 2016* (BC Act) and/or *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), as Priority species by DBCA, or are migratory species listed under International Agreements (MI).

Of the conservation significant fauna species recorded within the local area, the following migratory shorebirds have the potential to be found within the application area based on habitat preferences:

- 10 species of migratory waterbird protected under International Agreements, which may utilise coastal dune vegetation for foraging or roosting habitat, or as transient habitat during migration (Commonwealth of Australia, 2015).
- *Ardenna carneipes* (Fleshy-footed shearwater) (Migratory under EPBC Act and Vulnerable under BC Act) typically inhabit coastal forest, shrubland or grassland, nesting in colonies in burrows under trees or shrubs and foraging offshore (TSSC, 2014a). The degraded coastal peppermint woodland over sedge understorey in the application area is unlikely to provide suitable breeding, roosting or foraging habitat, but may provide transient habitat for this species as it migrates between more suitable coastal habitat.
- *Calidris ferruginea* (Curlew sandpiper) (Critically Endangered under EPBC Act and Vulnerable under BC Act) is found on intertidal mudflats of estuaries, lagoons, mangroves, as well as beaches, rocky shores and around lakes, dams and floodwaters (DoE, 2015). The degraded coastal peppermint woodland over sedge understorey in the application area is unlikely to provide suitable breeding, roosting or foraging habitat, but may provide transient habitat for this species as it migrates between more suitable coastal habitat.
- *Calidris tenuirostris* (Great knot) (Critically Endangered under EPBC Act and BC Act) inhabit intertidal mudflats and sandflats in sheltered coasts, including bays and estuaries (TSSC, 2016a). They forage on the moist mud, and often roost on beaches or in nearby low vegetation, such as mangroves or dune vegetation (TSSC, 2016a). The degraded coastal peppermint woodland over sedge understorey in the application area may provide suitable roosting or transient habitat for this species.
- *Charadrius leschenaultii* (Greater sand plover) (Vulnerable under EPBC Act and BC Act) is known to occur in littoral and estuarine habitats, typically on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks (TSSC, 2016b). The degraded coastal peppermint woodland over sedge understorey in the application area may provide suitable roosting or transient habitat for this species.
- *Thinornis rubricollis* (Hooded plover) (Priority 4) inhabits ocean beaches and the edges of near-coastal and inland salt-lakes (TSSC, 2014b). The degraded coastal peppermint woodland over sedge understorey in the application area may provide suitable roosting or transient habitat for this species.

While the aforementioned migratory shorebirds have the potential to occur within the application area, it is acknowledged that most of these species would be transient within the application area, utilising it for temporary roosting or as an ecological linkage while moving between more suitable coastal habitat. It is also noted that the application area is part of a 1.34-hectare strip of coastal dune vegetation of similar or better condition to the vegetation present within the application area, and that larger areas of suitable shorebird habitat are present within the adjoining crown reserves along the coast. Noting the high mobility of these species, the small extent of the proposed clearing and that the application area has been subject to significant disturbance from weed invasion, adjacent recreational land use and coastal storm fronts, it is not considered likely that these species would be dependent on the application area for foraging, roosting or breeding, or as an ecological linkage. Therefore, the proposed clearing of 0.012 hectares is unlikely to impact significant habitat for migratory shorebird species.

The application area is also mapped as 'Very High' suitability habitat for *Pseudocheirus occidentalis* (western ringtail possum) and records of this species are abundant in the local area, the closest being within 50 metres of the application area. The western ringtail possum is an arboreal foliovore, associated with long unburnt mature remnant *Agonis flexuosa* (peppermint) woodlands along the Swan Coastal Plain management zone from Mandurah to Augusta, characterised by high canopy cover and connectivity (DPAW, 2017). Throughout the range of the western ringtail possum, tree hollows and dreys are the most utilised breeding and diurnal refuge sites (DPAW, 2017). Noting that the application area includes six mature peppermint trees adjacent to a connected stand of coastal peppermint woodland, the application area is likely to provide suitable habitat for the western ringtail possum.

Photographs provided by the applicant indicate that the six trees proposed to be cleared have been subject to significant disturbance from an extreme storm event in May 2020, resulting in the foreshore vegetation being severely impacted by the effects of wind and salt scalding (Accendo Australia, 2020). As a result, three of the six peppermint trees are deceased and the remaining three trees are significantly disturbed, with little to no foliage and limited regrowth in the canopy. Given the lack of foliage and canopy cover provided by these trees, it is unlikely that they would be utilised as foraging habitat for the local western ringtail possum population or that they would be suitable for use as diurnal refuge through the construction of dreys. Further, the entire 1.34-hectare strip of adjacent coastal peppermint woodland and dune vegetation is mapped as high-quality western ringtail possum habitat, and approximately 7.8 hectares of 'Very High' suitability habitat is mapped within a one-kilometre radius of the application area. Given the above, the proposed clearing of 0.012 hectares of poor-quality peppermint trees is not considered likely to impact significant foraging, breeding, or diurnal refuge habitat for western ringtail possums.

It is acknowledged that trees in poor condition can still provide linkage values within remnant vegetation. However, it is noted that the six peppermint trees within the application area are on the edge of a 1.34-hectare isolated strip of

coastal peppermint woodland and dune vegetation, adjacent to existing parkland and road infrastructure, and provide limited canopy cover or connectivity, given their lack of foliage. Given the location and extent of the proposed clearing, it is not considered likely that the clearing of 0.012 hectares will significantly impact vegetation connectivity within Crown Reserve 37207 or impact the dispersal of western ringtail possums between areas of suitable habitat in the local area.

Conclusion
Based on the above assessment, the proposed clearing is unlikely to result in impacts to significant habitat for fauna species and does not constitute a significant residual impact.

Conditions
No fauna management conditions required.

3.2.2. Significant remnant vegetation - Clearing Principle (e)

Assessment
The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). Noting that the current vegetation extent within the local area falls below the 30 per cent threshold (see Appendix A.2), the application area is considered to be a remnant within an extensively cleared landscape.

However, it is acknowledged that the application area comprises 0.012 hectares of coastal peppermint woodland and dune vegetation in Degraded (Keighery, 1994) condition, that has been subject to significant disturbance from adjacent recreational land uses, weed invasion, and the effects of wind and salt scalding. Further, the application area is on the edge of a 1.34-hectare isolated strip of coastal peppermint woodland and dune vegetation, adjacent to existing parkland and road infrastructure and is not considered likely to comprise significant habitat for any conservation significant flora, fauna or ecological communities. Given the location and extent of the proposed clearing, it is also not considered likely that the clearing of 0.012 hectares will significantly impact vegetation connectivity within Crown Reserve 37207 or reduce the capacity of the remaining vegetation within the local area to act as an ecological linkage. Therefore, the application area is not considered to be a significant remnant of vegetation within the extensively cleared local area.

It is noted that the application area has been subject to significant weed invasion and is adjacent to coastal peppermint woodland and dune vegetation that will be retained. Noting the condition of the vegetation and its proximity to retained vegetation, the proposed clearing may facilitate the spread of weeds and dieback to remnant vegetation in the local area. The applicant has advised that direct and indirect impacts to adjacent vegetation will be minimised through restricting vehicle access to this vegetation during the proposed clearing and constructing a limestone wall between the recreational area and Crown Reserve 37207 (Accendo Australia, 2020). In addition to the applicant's mitigation measures, a weed and dieback management condition is considered to minimise this risk.

Conclusion
Based on the above assessment, the proposed clearing is unlikely to result in impacts to significant remnant vegetation but may facilitate the spread of weeds and dieback into adjacent retained vegetation in the local area. For the reasons set out above, it is considered that the impacts of the proposed clearing can be managed to be environmentally acceptable by taking steps to minimise the risk of the introduction and spread of weeds and dieback, and does not constitute a significant residual impact.

Conditions
To address the above impacts, the following management measure will be required as a condition on the clearing permit:

- Dieback and weed control, which ensures protocols are put in place to limit the introduction and transportation of dieback- and weed-affected materials.

3.2.3. Land and water resources (Land degradation) - Clearing Principle (g)

Assessment
According to available databases, the soil type present within the application area has a moderate risk of land degradation resulting from wind erosion (see Appendix A.1). The application area occurs within coastal dune sands and includes 0.012 hectares on the edge of a 1.34-hectare stand of coastal dune vegetation, that is exposed to the effects of wind and coastal storm fronts. Given the above, the proposed clearing may result in localised wind erosion, if the sandy soils are left exposed to weathering for long periods of time.

The applicant has advised that, following clearing, the cleared area will be immediately stabilised through the installation of turf and construction of a limestone retaining wall (Accendo Australia, 2020). The applicant has also advised that revegetation will occur both within the cleared area, as landscaping for the recreational area, and in the adjacent crown reserve, to enhance vegetation condition (Accendo Australia, 2020). Noting the extent of the proposed clearing, the condition of the vegetation and the mitigation measures proposed by the applicant, the effects of wind erosion within the cleared area are expected to be short-term and localised, and it is not considered likely that the proposed clearing will result in appreciable land degradation.

Conclusion
Based on the above assessment, the proposed clearing is unlikely to result in appreciable land degradation and does not constitute a significant residual impact.

Conditions
No land degradation or erosion management conditions required.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on DWER's website on 22 February 2021, inviting submissions from the public within a 14-day period. No submissions were received in relation to this application.

The application area is located within the Lou Western Oval Reburial Site, a mapped Aboriginal site of significance. 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	The area proposed to be cleared is part of a 1.34-hectare isolated strip of coastal dune vegetation in the intensive land use zone of Western Australia. It is adjacent to the existing King Street Coastal Parkland and Geographe Bay Road. The proposed clearing area is on the western-most edge of the coastal strip and is isolated from larger remnants of native vegetation in the local area. Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 16.84 per cent of the original native vegetation cover.
Conservation areas	The proposed clearing area is adjacent to the Ngari Capes Marine Park, with the closest terrestrial conservation area being an unnamed Nature Reserve approximately one kilometre south, separated by existing road and residential infrastructure.
Vegetation description	Photographs supplied by the applicant indicate that the vegetation within the proposed clearing area consists of six mature peppermint (*Agonis flexuosa*) trees over an understorey of sparse sword sedge (*Lepidosperma gladiatum*) and introduced species including *Trachyandra divaricata*, *Gazania* spp., *Pelargonium capitatum*, *Avena* spp., *Euphorbia paralias* and *Tetragonia decumbens* (Accendo, 2020). Representative photos are available in Appendix D. This is broadly consistent with the mapped Swan Coastal Plain vegetation type, the Quindalup Complex, which is described as coastal dune complex consisting mainly of two alliances; the strand and fore-dune alliance and the mobile and stable dune alliance (Heddle et al., 1980). Local variations to this complex include low closed peppermint forest at Geographe Bay (Heddle et al., 1980).
Vegetation condition	Photographs supplied by the applicant indicate that the vegetation within the proposed clearing area is in Degraded (Keighery, 1994) condition (Accendo, 2020), described as basic vegetation structure severely impacted by disturbance with scope for regeneration but not to a state approaching good condition without intensive management (Keighery, 1994). The full Keighery (1994) condition rating scale is provided in Appendix C. Representative photos are available in Appendix D.
Soil description and land degradation risk	The soil is mapped within the Quindalup South Qf2 Phase (211Qu__Qf2) described as relict foredunes and gently undulating beach ridge plain with deep uniform calcareous sands (DPIRD, 2019). The Quindalup South Qf2 Phase is mapped at a low risk of land degradation resulting from water erosion, salinity, subsurface acidification, or phosphorus export, waterlogging and flooding, but has a moderate risk of land degradation resulting from wind erosion (Shepherd et al., 2001).
Waterbodies and hydrogeography	The application area consists of 0.012 hectares of coastal dune vegetation that is within 50 metres of the Indian Ocean. However, the desktop assessment and aerial imagery indicated no freshwater watercourses or wetlands transect the area proposed to be cleared. The closest watercourse is the man-made Vasse River Diversion, located approximately 800 metres west and separated from the proposed clearing area

Characteristic	Details
	by parkland and road infrastructure. The closest natural watercourse is the Vasse River, approximately one kilometre south of the application area. The closest mapped wetland is a multiple-use wetland located approximately 800 metres south of the application area, separated by road and residential infrastructure. The proposed clearing area occurs within the Busselton-Capel Groundwater Area, proclaimed under the *Rights in Water and Irrigation Act 1914* (the RIWI Act).
Flora	The desktop assessment identified that a total of 52 threatened or priority flora species have been recorded within the local area, comprising three Priority 1 (P1) flora, eight Priority 2 (P2) flora, 18 Priority 3 (P3) flora, eight Priority 4 (P4) flora, and 15 threatened flora (Western Australian Herbarium, 1998-). None of these existing records occur within the application area, with the closest record being an occurrence of *Acacia flagelliformis* (P4) approximately 250 metres from the application area, separated by residential properties and road infrastructure. With consideration for the site characteristics set out above, relevant datasets (see Appendix E.1), the adjacent land uses, the habitat preferences of the aforementioned species, and the distribution and extent of existing records, impacts to conservation significant flora species or significant habitat for these species were not considered likely to result from the proposed clearing and did not require further consideration.
Ecological communities	The desktop assessment identified that the closest state-listed threatened ecological community (TEC) is an occurrence of the SCP1b; *Corymbia calophylla* woodlands on heavy soils of the southern Swan Coastal Plain (floristic community type 1b as originally described in Gibson et al. (1994)) TEC, located approximately 9 kilometres south of the application area. The closest state-listed priority ecological community (PEC) is an occurrence of the Subtropical and Temperate Coastal Saltmarsh PEC, located approximately 1 kilometre south of the application area, separated by road and residential infrastructure.
Fauna	The desktop assessment identified that a total of 63 threatened or priority fauna species have been recorded within the local area, including 26 threatened fauna species, 12 priority fauna species, 20 fauna species protected under international agreement, four other specially protected fauna species, and one fauna species presume extinct (DBCA, 2007-). None of these records occur within the application area, with the closest record being a western ringtail possum (*Pseudocheirus occidentalis*) occurring approximately 30 metres from the application area. With consideration for the site characteristics set out above and relevant datasets (see Appendix E.1), the application area may provide suitable habitat for 16 of the aforementioned conservation significant fauna species and impacts to these species required further consideration (see Appendix A.3).

A.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**					
Swan Coastal Plain	1,501,221.93	579,813.47	38.62	222,916.97	14.85
Swan Coastal Plain Vegetation complex*					
Quindalup Complex	54,573.87	33,011.64	60.49	5994.64	10.98
Local area					
10-kilometre radius	14,390.21	2,423.57	16.84	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

A.3. Fauna analysis table

With consideration for the site characteristics set out above and relevant datasets (see Appendix E.1), impacts to the following conservation significant fauna required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation 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]
Ardenna carneipes (Fleshy-footed shearwater)	VU	Y	N	1.8	1	N/A
Calidris ferruginea (Curlew sandpiper)	CR	Y	N	3.3	18	N/A
Calidris tenuirostris (Great knot)	CR	Y	N	5.1	3	N/A
Charadrius leschenaultii (Greater sand plover)	VU	Y	N	7.7	2	N/A
Migratory waterbirds (10 species)	MI	Y	N	10.0	-	N/A
Pseudocheirus occidentalis (Western ringtail possum)	CR	Y	Y	0.03	6657	N/A
Thinornis rubricollis (Hooded plover)	P4	Y	N	10.0	1	N/A

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

Appendix B. 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 includes 0.012 hectares of degraded coastal peppermint woodland and dune vegetation adjacent to parkland cleared areas and road infrastructure, and does not contain locally or regionally significant flora, fauna, habitats, ecological communities, or ecological linkages. The proposed clearing area does not comprise a high level of biodiversity.	Not likely to be at variance	No
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The application area may contain suitable habitat for conservation significant fauna species (see Appendix A.3). However, given the extent of the proposed clearing, and the composition and condition of the vegetation, it is unlikely that the clearing of 0.012 hectares of degraded coastal dune vegetation will result in the loss of significant habitat for these species.	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 application area comprises 0.012 hectares of degraded coastal dune vegetation that has experienced significant weed invasion and disturbance from adjacent residential and recreational land uses. The area proposed to be cleared is unlikely to contain significant habitat for any flora species listed under the BC Act.	Not likely to be at variance	No
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: The area proposed to be cleared includes 0.012 hectares of degraded coastal peppermint woodland and dune vegetation and is not consistent with any threatened ecological community (TEC) listed under the BC Act. Given the distance and separation from the nearest TEC, the proposed clearing is not likely to impact or be necessary for the maintenance of any state-listed TEC.	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extent of native vegetation in the local area is inconsistent with the national objectives and targets for biodiversity conservation in Australia. However, the vegetation proposed to be cleared is in Degraded (Keighery, 1994) condition, has experienced a high degree of historical disturbance and is not considered to comprise significant flora, fauna, habitats, ecological communities, or a significant ecological linkage in the local area.	Not likely to be at variance	Yes *Refer to Section 3.2.2, above.*

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 and separation from the nearest conservation area by existing road and residential infrastructure, the proposed clearing is not likely to have an impact on the environmental values of adjacent or nearby conservation areas.	Not likely to be at variance	No
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: Given the extent of the proposed clearing, the condition of the vegetation, and that the closest freshwater water courses and wetlands are recorded more than 800 metres from the application area and are separated by road and residential infrastructure, the proposed clearing is unlikely to impact on- or off-site hydrology or to impact the environmental values of the associated riparian communities.	Not likely to be 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 have a low risk of land degradation resulting from water erosion, salinity, subsurface acidification, phosphorus export, waterlogging and flooding, but has a moderate risk of land degradation resulting from wind erosion. Noting that the application area includes sandy, coastal dune soils, there is the potential for the proposed clearing to facilitate wind erosion within the application area. However, noting the extent of the proposed clearing, the condition of the vegetation, and that the cleared area will be immediately stabilised and developed, the proposed clearing is not likely to have an appreciable impact on land degradation.	Not likely to be at variance	Yes *Refer to Section 3.2.3, above.*
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: The application area is mapped within a proclaimed groundwater area and is approximately 1 kilometre from the nearest natural freshwater watercourse. However, given the extent of the proposed clearing, the separation from the nearest source of surface water by existing infrastructure, and that the vegetation is in Degraded (Keighery, 1994) condition, the proposed clearing is unlikely to impact surface or ground water quality.	Not likely to be at variance	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: The mapped soils and topographic contours in the surrounding area do not indicate that the application area is susceptible to flooding. Noting this, the extent of the proposed clearing and condition of the vegetation, the proposed clearing is unlikely to contribute to increased incidence or intensity of flooding.	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.
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 / DWER site inspection report

Figure 1. Deceased peppermint (*Agonis flexuosa*) tree 1 over weed understorey (Accendo Australia, 2020).

Figure 2. Deceased peppermint (*Agonis flexuosa*) tree 2 over weed understorey (Accendo Australia, 2020).

Figure 3. Peppermint (*Agonis flexuosa*) tree 3 over weed understorey (Accendo Australia, 2020).

Figure 4. Peppermint (*Agonis flexuosa*) tree 4 over mixed sword sedge (*Lepidosperma gladiatum*) and weed understorey (Accendo Australia, 2020).

Figure 5. Deceased peppermint (*Agonis flexuosa*) tree 5 over weed understorey (Accendo Australia, 2020).

Figure 6. Peppermint (*Agonis flexuosa*) tree 6 over mixed sword sedge (*Lepidosperma gladiatum*) and weed understorey (Accendo Australia, 2020).

Appendix E. Sources of information

E.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)
- 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
  Vegetation Complexes - Swan Coastal Plain (DBCA-046)

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

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