



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9044/1
Permit Holder:	Public Transport Authority
Duration of Permit:	23 December 2020 – 23 December 2025

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Constructing a bus depot.

2. Land on which clearing is to be done

Lot 3000 on Deposited Plan 415979, Alkimos.

3. Area of Clearing

The Permit Holder must not clear more than 3 hectares of native vegetation within the area hatched yellow on attached Plan 9044/1.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

5. Avoid, minimise and reduce the impacts and extent of clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

6. Dieback and weed management

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

- clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

7. Wind erosion management

The permit holder must commence works associated with the construction of the bus depot no later than three (3) months after undertaking the authorised clearing activities to reduce the potential for wind erosion.

PART III - RECORD KEEPING AND REPORTING

8. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit, in relation to the clearing of native vegetation authorised under this Permit:

- (a) 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 or decimal degrees;
- (b) the date that the area was cleared;
- (c) the size of the area cleared (in hectares);
- (d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 5 of this Permit; and
- (e) actions taken to minimise the risk of the introduction and spread *weeds* and *dieback* in accordance with condition 6 of this Permit.

9. Reporting

The Permit Holder must provide to the *CEO* the records required under condition 8 of this Permit, when requested by the *CEO*.

DEFINITIONS

The following meanings are given to terms used in this Permit:

CEO: means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;


dieback: means the effect of *Phytophthora* species on native vegetation.

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;

weed/s means any plant –

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
- (b) published in the Department of Environment and Conservation Regional Weed Assessments, regardless of ranking; or
- (c) not indigenous to the area concerned.

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Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

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

30 November 2020

Plan 9044/1

115°41'6.000"E

115°41'24.000"E

31°36'36.000"S

31°36'36.000"S

31°36'54.000"S

31°36'54.000"S



115°41'6.000"E

115°41'24.000"E

Legend

-  CPS areas approved to clear
-  Land Tenure (Landgate - 226)
-  Local Government Authorities
-  Road Centrelines
-  Local Rd - Sealed
-  Image




0 50 100 150 200 m



1:5144

MGA Zone 50
Geocentric Datum of Australia 1994


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Officer delegated under section 20 of the
Environmental Protection Act 1986



GOVERNMENT OF
WESTERN AUSTRALIA



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9044/1
Permit type:	Purpose permit
Applicant name:	Public Transport Authority
Application received:	10 September 2020
Application area:	3 hectares
Purpose of clearing:	Construction of Alkimos bus depot
Method of clearing:	Mechanical
Property:	Lot 3000 on Deposited Plan 415979
Location (LGA area/s):	City of Wanneroo
Localities (suburb/s):	Alkimos

1.2. Description of clearing activities

The vegetation proposed to be cleared is a single patch of vegetation within a larger lot comprising approximately 160 hectares of mapped remnant vegetation. The area proposed to be cleared is not mapped as remnant vegetation (see Figure 1, Section 1.5).

The purpose of the application is to clear vegetation for the construction of the Alkimos bus depot.

1.3. Decision on application

Decision:	Granted
Decision date:	30 November 2020
Decision area:	3 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 30 days and no public submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix AA), relevant datasets (see Appendix E), the findings of a biological survey (see Appendix DD), the clearing principles set out in Schedule 5 of the EP Act (see Appendix BB), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing may result in an increased risk of wind erosion, as well as the potential for the 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 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;
- manage and reduce the potential for the proposed clearing to cause or exacerbate wind erosion.

1.5. Site map

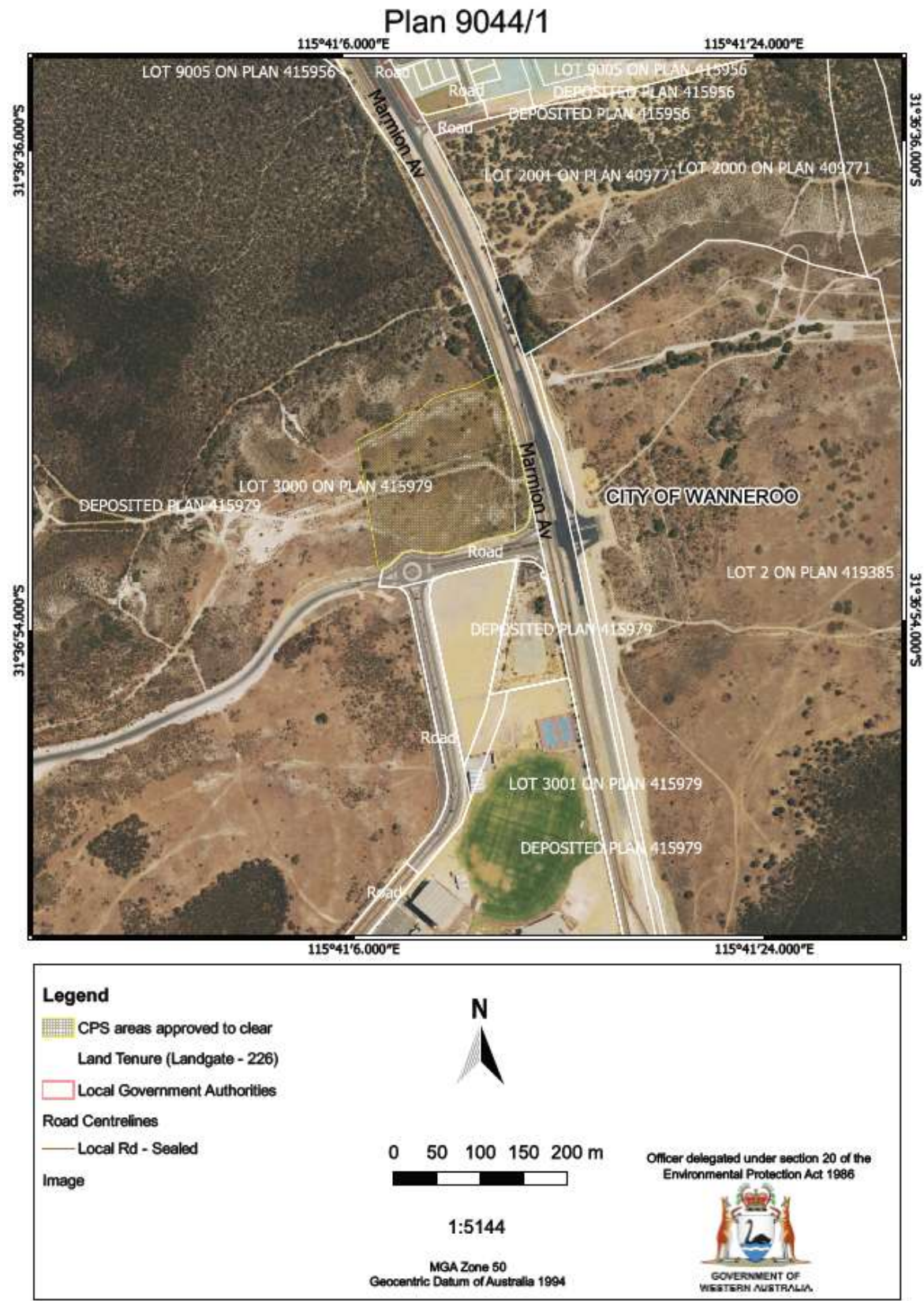


Figure 1: Map of the application area

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)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D 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)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016).

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The Delegated Officer was satisfied that the applicant has avoided and minimised potential impacts of the proposed clearing on environmental values. Minimisation of environmental impact to vegetation was considered by selecting an area that is partially cleared already with the vegetation that is present being in a Completely Degraded condition (Keighery, 1994).

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix AA) 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 BB) identified the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with standard avoid and minimise and weed and dieback hygiene management conditions.

3.3. Relevant planning instruments and other matters

The City of Wanneroo advised DWER that local government approvals are required, and that the proposed clearing is consistent with the Shire's Local Planning Scheme. The Shire provided the following comments in relation to the proposed clearing:

- the vegetation on site is mapped as Quindalup Complex, which has close to 11.3 percent of its original extent currently protected within the City of Wanneroo. As such, the vegetation complex is a High priority for further protection according to the City's Local Biodiversity Strategy 2011-16;
- the vegetation on site is also mapped as Cottesloe Complex-Central and South, which has close to 17.5% per cent of its original extent currently protected within the City of Wanneroo. As such, this vegetation complex is a Medium priority for further protection according to the City's Local Biodiversity Strategy 2011-16;
- the City of Wanneroo has not received a development application for this proposal, under the provisions of the MRS, this application would need to be determined by the Western Australian Planning Commission (WAPC). It is recommended that the applicant refer this proposal to the WAPC for comment.

DWER has taken into consideration the comments provided by the City of Wanneroo as part of this assessment. According to currently available databases, no part of the application area is mapped as Cottesloe Complex-Central and South. The application area is mapped as occurring within Quindalup Complex and although it is mapped as this

complex, the vegetation present does not match the description of this complex given the Completely Degraded condition of the vegetation (GHD, 2020).

The Public Transport Authority provided evidence that under the provisions of the *Railway (METRONET) Act 2018*, there is no requirement to obtain WAPC planning approval for the construction of the proposed bus depot (PTA, 2020c).

According to currently available databases no aboriginal sites are known to occur 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.

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is approximately 3 hectares of vegetation that is in a Completely Degraded condition. The application area is within Lot 3000 on Deposited Plan 415979 which comprises approximately 160 hectares of remnant vegetation. The Alkimos wastewater treatment plant is also located on this Lot. The application area itself is not mapped as remnant vegetation and the Lot is north of a housing development and immediately to the west of Marmion avenue.</p> <p>Aerial imagery and spatial data indicate that the local area (10 kilometre radius from the area proposed to be cleared) retains approximately 31 per cent of the original native vegetation cover.</p>
Ecological linkage	<p>Closest mapped ecological linkages are: Gnangara Mound ecological linkage (915 metres to the north).</p>
Conservation areas	<p>Conservation areas mapped in the local area are:</p> <ul style="list-style-type: none"> • Yanchep National Park (2.44 kilometres to the north) • Gnangara-Moore River State Forest (4.82 kilometres east) • Neerabup Nature Reserve (3.69 kilometres south east) • Neerabup National Park (2.53 kilometres east-south-east) • Bush Forever Site 397 (1.3 kilometres west) • Bush Forever Site 130 (1.99 kilometres east).
Vegetation description	<p>A vegetation survey was conducted on 15 and 16 October 2020 by GHD (GHD, 2020). This survey included the vegetation within the application area. Vegetation condition mapping supplied by the applicant (GHD, 2020) indicates the vegetation within the proposed clearing area to consist of Completely Degraded vegetation which does not represent any particular vegetation complex or community (insert reference). Representative photos of the vegetation along the northern boundary of the application area are shown in Appendix DD.</p> <p>As the vegetation within the application area does not reflect the mapped vegetation type, it is considered that the vegetation present in the application area is inconsistent with the mapped vegetation type:</p> <ul style="list-style-type: none"> • Swan Coastal Plain - Quindalup Complex which is described as: <ul style="list-style-type: none"> - Coastal dune complex consisting mainly of two alliances - the strand and fore-dune alliance and the mobile and stable dune alliance. Local variations include the low closed forest of <i>Melaleuca lanceolata</i> (Rottnest Teatree) - <i>Callitris preissii</i> (Rottnest Island Pine), the closed scrub of <i>Acacia rostellifera</i> (Summer-scented Wattle) and the low closed <i>Agonis flexuosa</i> (Peppermint) forest of Geographe Bay (Shepherd et al, 2001).
Vegetation condition	<p>Photographs supplied by the applicant with a vegetation survey (GHD, 2020) indicate the vegetation within the proposed clearing area is in Completely Degraded (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> • Completely Degraded - The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Characteristic	Details
	The full Keighery (1994) condition rating scale is provided in Appendix CC. Representative photos of vegetation along the northern boundary, survey descriptions and mapping are available in Appendix DD.
Climate and landform	Rainfall: 800 millilitres per year Evapotranspiration: 700 millilitres per year Geology: Alluvial, shoreline, and eolian deposits.
Soil description	The soil is mapped as: <ul style="list-style-type: none"> • Quindalup South deep sand flat Phase (211Qu_Qp) – Dark grey-brown sand to about 50 cm and then pale brown sand. • Quindalup South second dune Phase (211Qu_Q2) Calcareous sands with organic staining to about 20 cm, passing into pale brown sand; some cementation below 1 m.
Land degradation risk	Quindalup South Deep sand flat Phase (211Qu_QP) has a high risk of wind erosion (50-70%). Phosphorus export risk is considered moderate (10-30%) for both Quindalup South Deep sand flat Phase and Quindalup South second dune Phase (211Qu_QP). All other land degradation risks for both soil types are considered to be low.
Waterbodies	The desktop assessment and aerial imagery indicated that no watercourses, wetlands or waterbodies are within the application area.
Hydrogeography	Acid Sulfate Soil Risk: No Groundwater Salinity (Total Dissolved Solids): 500-1000 mg/L
Flora	A total of 22 conservation significant flora species are recorded in local area. The conservation categories of the recorded species as listed under the BC Act are: <ul style="list-style-type: none"> • Two priority one species • Four priority two species • Ten priority three species • Four priority four species • Two threatened species.
Ecological communities	There are six PEC/TEC records in local area, with the nearest record being: <ul style="list-style-type: none"> • 1.8 kilometres away and is Tuart (<i>Eucalyptus gomphocephala</i>) woodlands and forests of the Swan Coastal Plain (P3). The next closest is <i>Melaleuca huegelii</i> - <i>Melaleuca systema</i> shrublands on limestone ridges (Endangered)
Fauna	There are 47 recorded fauna species of conservation significance in the local area (BC Act). Non- marine species in the local area include: <ul style="list-style-type: none"> • Four critically endangered species • Seven endangered species • Two vulnerable species • Two priority two species • Three priority three species • Six priority four species.

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	850,785.09	276,461.42	32.49	153,017.73	17.99
Vegetation complex					
Quindalup Complex	54,573.87	33,011.64	60.49	6,632.92	10.98
Local area (calculation - delete if not required)					
10km radius			31	-	-

*Government of Western Australia (2019)

A.3. Land degradation risk table

Risk categories	Quindalup South second dune Phase (211Qu_Q2)	Quindalup South deep sand flat Phase (211Qu_Qp)
Wind erosion	L2: 3-10% of the map unit has a high to extreme risk	H1: 50-70% of the map unit has a high to extreme risk
Water erosion	L2: 3-10% of the map unit has a high to extreme risk	L2: 3-10% of the map unit has a high to extreme risk
Salinity	L1: <3% of the map unit has a moderate to high risk	L1: <3% of the map unit has a moderate to high risk
Subsurface Acidification	L1: <3% of the map unit has a high susceptibility	L1: <3% of the map unit has a high susceptibility
Flood risk	L1: <3% of the map unit has a moderate to high risk	L1: <3% of the map unit has a moderate to high risk
Water logging	L1: <3% of the map unit has a moderate to very high risk	L2: <3% of the map unit has a moderate to very high risk
Phosphorus export risk	M1: 10-30% of the map unit has a high to extreme risk	M1: 10-30% of the map unit has a high to extreme risk

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p>Principle (a): "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>The application area is partially cleared with the remaining vegetation in a Completely Degraded condition (GHD, 2020). No federally or state listed conservation significant flora were found within application area (GHD, 2020). The nearest mapped PEC is the Tuart (<i>Eucalyptus gomphocephala</i>)</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>woodlands and forests of the Swan Coastal Plain (P3), located 1.8 kilometres east of the application area. The vegetation is considered low value for black cockatoo foraging and no evidence of foraging was observed (GHD, 2020). No quenda diggings were observed during the GHD (2020) survey. Given the above, the application area is not likely to contain locally or regionally significant flora, fauna, habitats or assemblages of plants.</p>		
<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></p> <p>The vegetation present within the application area is in a Completely Degraded condition and the vegetation is considered low value for black cockatoo foraging, with no evidence of black cockatoo foraging (GHD, 2020). Additionally, no quenda diggings were observed during the GHD (2020) survey, which indicates that the native vegetation does not provide preferable habitat for fauna species dependent on ground cover and that the application area is not likely to represent significant habitat for conservation significant fauna. Given that the application area is on the edge of a larger parcel of vegetation on Lot 3000 on Deposited Plan 415979 and does not provide a linkage between native vegetation parcels, it is not likely to provided significant ecological linkage values.</p>	Not likely to be at variance	No
<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></p> <p>No threatened flora species listed under the BC Act were found during site survey conducted within the application area (GHD, 2020). Due to the Completely Degraded condition of the vegetation within the application area, it is unlikely to be necessary for the continued existence of threatened flora.</p>	Not likely to be at variance	No
<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></p> <p>The proposed clearing area does not contain species, or assemblages of species that are representative of a Threatened Ecological Community (TEC) as listed under the BC Act.</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<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></p> <p>The extent of the mapped vegetation type and native vegetation in the local area is above the national objective to prevent the clearing of ecological communities with an extent below 30 per cent of that present prior to European settlement (DEH, 2001). Given the vegetation with the application area is in a Completely Degraded condition, it does not represent the typical characteristics of the mapped vegetation type (Swan Coastal Plain Quindalup Complex).</p> <p>Vegetation in the proposed clearing area is not mapped within an ecological linkage.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<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></p> <p>The nearest conservation areas are Bush Forever Site 397 (1.3 kilometres west) and Yanchep National Park (2.44 kilometres to the north). Given the lack of direct connectivity of the application area to these conservation areas or any other conservation area, the proposed clearing is not likely to have an impact on the environmental values of any conservation areas.</p>	Not likely to be at variance	No
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>The nearest watercourses or wetlands are recorded within 2.7 kilometres of application area. The native vegetation within the application area is not growing in association with a watercourse or wetland and is therefore not considered to be riparian vegetation.</p>	Not likely to be at variance	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>Quindalup South deep sand flat Phase (211Qu__Qp) is highly susceptible to wind erosion and has a moderate risk of phosphorus export. Quindalup South second dune Phase (211Qu__Q2) also has a moderate risk of phosphorus export. The vegetation within the application area is in completely degraded conditions and is likely to provide limited value in mitigating the risk of erosion. Although the proposed clearing is not likely to have an appreciable impact on land degradation, there remains potential for erosion impacts as a result of the clearing. A management condition has been imposed on the permit to mitigate the risk of erosion by restricting the period of time between clearing and the commencement of development activities on site.</p>	Not likely to be at variance	No
<p><u>Principle (i):</u> <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.”</i></p> <p><u>Assessment:</u></p> <p>Given the vegetation condition is Completely Degraded and that no watercourses or wetlands are recorded within or adjacent to the application area and the soil types have a low risk of flooding, water erosion, salinity, subsurface acidification and water logging, the proposed clearing is unlikely to cause deterioration in the quality of surface or underground water.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>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. Given no watercourses or wetlands are recorded within 2.7 kilometres of the application area and there is no topographic connectivity between these surface water features and the application area, the proposed clearing is unlikely to cause or exacerbate the potential for 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.

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. Biological survey mapping and photographs of adjacent vegetation



Map 1
Vegetation description within the application area.



Map 2
Vegetation condition within the application area.

Photographs of vegetation immediately outside the surveyed area and along the northern fence line. The area 90 metres to the north of the application area is mapped as remnant vegetation.

Inspection date: 12 August 2020.



Photo 1 – Vegetation Facing East

Consistent with the GHD 2020 vegetation survey, areas with isolated native shrubs, normally *Acacia* spp., over mixed introduced grasses and herbs.



Photo 2 – Vegetation Facing West

Consistent with the GHD 2020 vegetation survey, areas with isolated native shrubs, normally *Acacia* spp., over mixed introduced grasses and herbs.



Photo 3 – Acacia shrub

Large isolated *Acacia* shrub adjacent to survey area.



Photo 4 – Introduced Herbs

Widespread exotic grasses and herbs, predominantly *Pelargonium* sp.

Appendix E. Sources of information

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

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)

References

- City of Wanneroo (2020). Comment on CPS 9044/1, received 19 October 2020 (DWER Ref: A1944148).
- Commonwealth of Australia (2001). National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
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