



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 6701/2
Permit Holder:	AMG (WA) Pty Ltd
Duration of Permit:	14 November 2015 to 8 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 sand extraction and landfill activities.

2. Land on which clearing is to be done

Lot 3 on Diagram 35920, Waroona.

3. Clearing authorised

The permit holder must not clear more than 7.66 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;
- (c) restrict the movement of machines and other vehicles to the limits of the area to be cleared; and
- (d) only move soils in dry conditions.

6. Directional clearing

The permit holder must:

- (a) conduct clearing authorised under this permit from east to west or south to north; and
- (b) allow a reasonable time for fauna present within the area being cleared under this permit to move into adjacent native vegetation ahead of the clearing activity.

PART III - RECORD KEEPING AND REPORTING

7. Records that must be kept

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

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	<ol style="list-style-type: none">(a) the species composition, structure, and density of the cleared area;(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;(c) the date that the area was cleared;(d) the size of the area cleared (in hectares);(e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 4;(f) actions taken to minimise the risk of the spread of weeds and dieback in accordance with condition 5;(g) actions undertaken in accordance with condition 6;

8. Reporting

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


DEFINITIONS

In this permit, the terms in Table 2 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.
dry conditions	means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches.
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.
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


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Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

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

8 April 2022

SCHEDULE 1

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

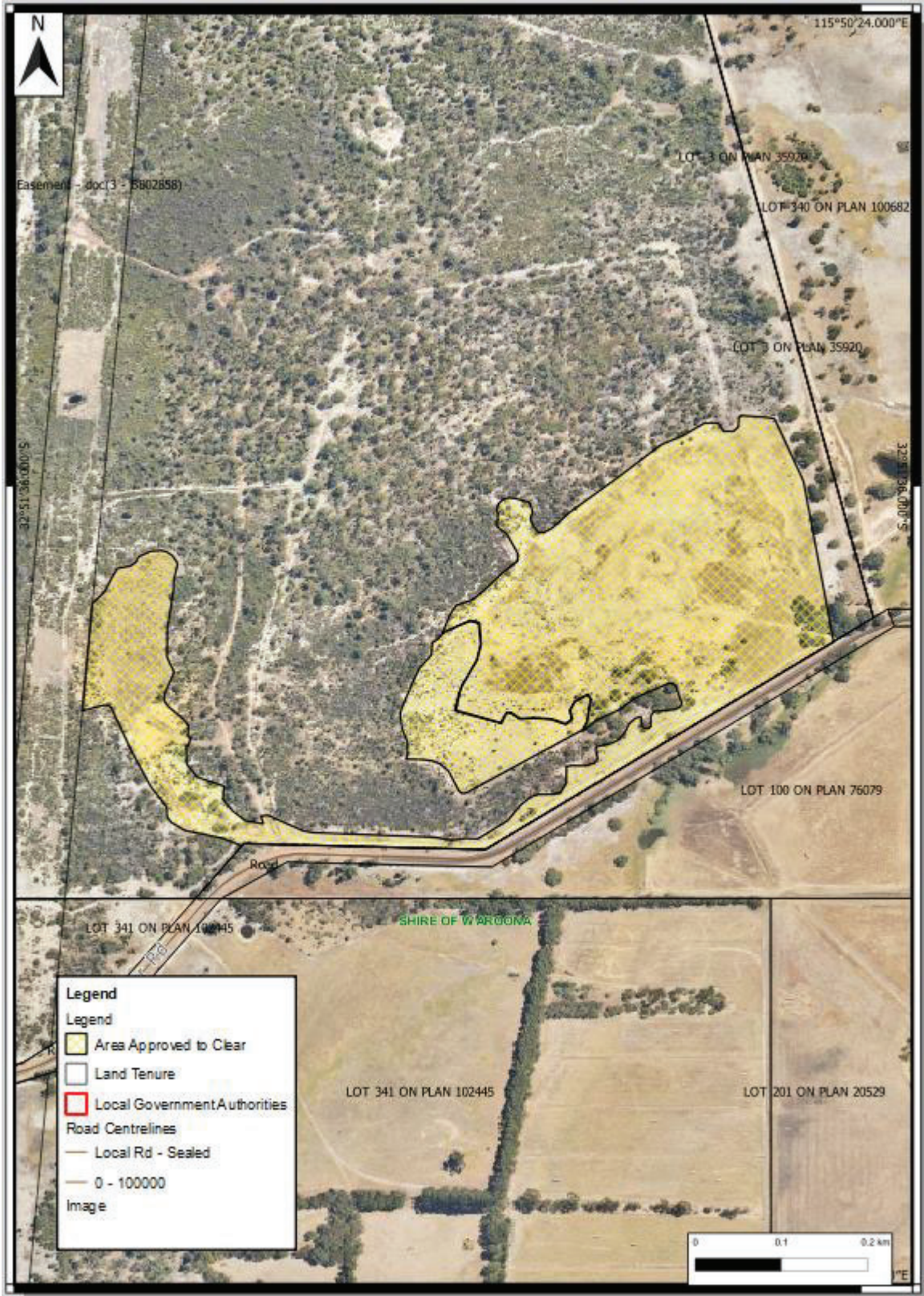


Figure 1: The area hatched yellow shows the approved clearing area.



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 6701/2
Permit type:	Purpose permit
Applicant name:	AMG Pty Ltd
Application received:	28 September 2021
Application area:	7.66 hectares of native vegetation
Purpose of clearing:	Sand extraction and landfill facility
Method of clearing:	Mechanical
Property:	Lot 3 on Diagram 35920 (Lot 3 Buller Road)
Location (LGA area/s):	Shire of Waroona
Localities (suburb/s):	Waroona

1.2. Decision on application

Decision:	Granted
Decision date:	8 April 2022
Decision area:	7.66 hectares of native vegetation

1.3. Reasons for decision

This application was 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 public submissions were received.

On 15 October 2015, Clearing Permit CPS 6701/1 was granted to clear up to 6.2 hectares of native vegetation within Lot 3 Buller Road, Waroona, for sand extraction.

Since the grant of CPS 6701/1, the applicant has planned an additional end land use post-extraction, proposing to use the site as a landfill facility. As a result of this end land use change, the applicant has applied to amend clearing permit CPS 6701/1 to:

- increase the authorised clearing area by 1.46 hectares, to a total area comprising 7.66 hectares
- change the purpose of clearing to include 'landfill facility'
- remove a conditional requirement to revegetate the approved clearing area immediately post-extraction, noting the proposed landfill end land use.

The application area has previously been subject to two biological surveys:

- MBS Environmental (2015), level 1 flora and vegetation assessment, covered the entirety of the application area

- Woodman Environmental (2015), detailed level 2 flora and vegetation assessment, covered the entirety of the application area

The assessment identified that the additional area proposed for clearing comprises a historically cleared 1.46 hectare area, with the limited occasional regrowth vegetation present considered to be in a completely degraded (Keighery, 1994) condition (Woodman, 2015; MBS Environmental, 2015).

A current desktop assessment of the application area did not identify the presence of any significant environmental values.

Based on the biological surveys of the application area, the assessment undertaken for CPS 6701/1, and a review of current environmental information, the assessment identified that the additional proposed clearing may result in the following impacts:

- direct impacts to any fauna utilising the application area at the time of clearing
- the introduction and spread of weeds and dieback into adjacent native vegetation with high biodiversity values.

After considering the available information, the Delegated Officer determined that the following changes will be made to the amended clearing permit CPS 6701/2:

- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity
- remove the requirement to revegetate the approved clearing area immediately post-extraction.

The following conditional requirements already captured within clearing permit CPS 6701/1 will be carried over to the amended permit to minimise risk of the above potential impacts:

- avoid and minimise measures to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback

Noting landfill is now proposed post-extraction, the applicant would have been unable to comply with the abovementioned requirement to revegetate the approved clearing area immediately post-extraction. Subsequently, this condition was removed. In removing the revegetation condition, the Delegated Officer had regard for the completely degraded (Keighery, 1994) condition of the application area and the Shire of Waroona's Development Approval, which includes a condition that requires revegetation of the site post-landfill (further information available under Section 3.1).

No additional environmental impacts have been identified during the assessment of this application, therefore the impacts are consistent with those identified with Decision Report CPS 6701/1.

In determining to grant the amended clearing permit subject to conditions, the Delegated Officer found that the proposed clearing is unlikely to lead to an unacceptable risk to the environment.

1.4. Site map



Figure 1. Map of the revised (current) application area and required rehabilitation area

The area cross-hatched yellow indicates the area authorised to clear under the amended clearing permit.

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

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

The key guidance documents which inform this assessment are:

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

3 Assessment of Application

3.1. Avoidance and mitigation measures

The applicant has confined the extent of additional clearing under this amendment to vegetation in a completely degraded (Keighery, 1994) condition.

The applicant has also submitted a site management plan to support the development approval (DA) obtained from the Shire of Waroona. The DA requires the applicant to implement the measures within the site management plan, which includes dieback, vermin, litter, surface and groundwater management measures.

The DA also requires the applicant to undertake the following management actions (Shire of Waroona, 2021):

- prior to the commencement of works, lodge a plan for approval that demonstrates how the edge impacts of the landfill works will be managed to avoid impacting adjacent retained native vegetation. The plan is to address the intrusion of litter, weeds, people/vehicles, dieback and fill materials.
- a Landscape Assessment and Management Plan is to be lodged for approval prior to works. The plan must consider the staging of the development, the existing and proposed ground levels
- the site is to be managed to effectively stabilise dust on site
- the landfill site is to be fenced to prevent unauthorised access or dumping of materials
- a Dieback Management Plan is to be submitted for approval
- a Weed Management Plan is to be submitted for approval.

Under the DA for the landfill facility, the applicant is also required to submit a rehabilitation management plan (the plan) for Shire approval prior to the commencement of works. With respect to the plan, the DA requires the following:

- the plan must consider the type and depth of soil to be used to cap the land fill to maximise the success of the native vegetation rehabilitation and the staging of the progressive landfill and rehabilitation
- the plan must include progressive rehabilitation measures
- prior to commencing works, the applicant is to enter into an agreement with and to the satisfaction of the local government to implement the plan
- prior to commencing works, the applicant is provide a bond or bank guarantee to the local government to secure the successful implementation of the approved plan
- the bond or bank guarantee is to be no less than 30 per cent of the cost of implementing the plan including the site preparation, planting and maintenance for two summers.

3.2. Environmental Assessment

The proposed amendments to CPS 6701/1 relate to increasing the proposed clearing area by 1.46 hectares, including 'landfill facility' as an additional purpose and excluding the requirement to revegetate the sand extraction pit immediately post-clearing, noting the additional landfill proposed end land use.

The application area has previously been subject to two biological surveys:

- MBS Environmental (2015), level 1 flora and vegetation assessment, covered the entirety of the application area
- Woodman Environmental (2015), detailed level 2 flora and vegetation assessment, covered the entirety of the application area

A review of current environmental information indicates that the application area has been historically cleared and comprises scattered occasional regrowth vegetation in a completely degraded (Keighery, 1994) condition (Woodman Environmental, 2015; MBS Environmental 2015).

The surveys, and a current desktop assessment, did not identify any of the following environmental values within the application area:

- threatened or priority flora
- threatened or priority ecological communities
- threatened or priority fauna, or significant fauna habitat
- riparian vegetation
- ecological linkage values

Based on the biological surveys of the application area, the assessment undertaken for CPS 6701/1, and a review of current environmental information, the assessment identified that the additional proposed clearing may result in the following impacts:

- direct impacts to any fauna utilising the application area at the time of clearing
- the introduction and spread of weeds and dieback into adjacent native vegetation with high biodiversity values, including an adjacent area mapped as the Banksia woodlands of the Swan Coastal Plain' threatened ecological community (TEC) (federally listed as endangered, and state listed as priority 3).

Given the above, the environmental values present within the current amended application area are consistent with those identified for the previous assessment, outlined within the CPS 6701/1 Decision Report.

After considering the available information, the Delegated Officer determined that the following additional condition (to that within CPS 6701/1) will be added to amended clearing permit CPS 6701/2:

- conduct clearing from east to west or south to north; and
- allow a reasonable time for fauna present within approved clearing area to move into adjacent native vegetation ahead of the clearing activity.

3.3. Relevant planning instruments and other matters

Clearing application history

Clearing Permit 6701/1

On 12 August 2015, AMG (WA) Pty Ltd applied for a permit to clear 6.02 hectares of vegetation in a degraded (Keighery, 1994) condition within Lot 3 Buller Road, for sand extraction. This area is adjacent to the additional area proposed to clear under this amendment, as required for the future landfill of the site post-cessation of extractive activities. The former Department of Environment Regulation's (DER, now DWER) assessment did not identify any significant environmental impacts associated with the proposed clearing, and on 15 October 2015, DER granted a permit to clear, subject to conditions.

Clearing Permit 8500/1

On 22 May 2019, AMG (WA) Pty Ltd applied for a permit to clear 14 hectares of native vegetation within Lot 3 Buller Road, for sand extraction. The application area was later revised to 10.04 hectares to minimise the extent of

environmental impacts, and on 5 May 2021, DWER granted a permit to clear, subject to conditions, including offset, revegetation and fauna management conditions.

This area is adjacent to the current amendment application area and has also been proposed as a future landfill site. Subsequently, the applicant has also applied to amend clearing permit CPS 8500/1.

Planning Approvals

The Shire of Waroona Council determined to approve the development application for the proposed landfill facility, subject to conditions, which include the following (Shire of Waroona, 2021):

- prior to commencing works, a plan is to be lodged with the Shire for approval that demonstrates how the edge impacts of the land fill works will be effectively managed to avoid impacting the adjacent retained native vegetation. In particular, this plan is to address the intrusion of litter, weeds, people/vehicles, dieback and fill materials
- a Landscape Assessment and Management Plan is to be lodged with the Shire prior to the commencement of works. The plan is to consider the staging of the development, the existing and proposed ground levels
- the site is to be managed to effectively stabilise dust on the site
- the landfill site is to be fenced to the satisfaction of the local government, sufficient to prevent unauthorised access or dumping of materials
- a Dieback Management Plan is to be submitted to the Shire for approval
- a Weed Management Plan is to be submitted to the Shire for approval
- a Rehabilitation Management Plan, to be submitted to the Shire for approval, including –
 - considerations on the type and depth of soil to be used to cap the land fill to maximise the success of the native vegetation rehabilitation and the staging of the progressive landfill and rehabilitation
 - progressive rehabilitation measures
 - prior to commencing works, the applicant is to enter into an agreement with and to the satisfaction of the local government to implement the plan
 - prior to commencing works, the applicant is provide a bond or bank guarantee to the local government to secure the successful implementation of the approved plan
 - the bond or bank guarantee is to be no less than 30 per cent of the cost of implementing the plan including the site preparation, planting and maintenance for two summers.

EP Act Approval, Industrial Emissions and Discharges

Industrial premises with the potential to cause emissions and discharges to air, land or water are 'prescribed premises' and trigger regulation under the EP Act. The EP Act requires a works approval to be obtained before constructing a prescribed industrial premises. The applicant has submitted a works approval application for the proposed landfill. This application has been assessed and the applicant was provided with a Draft Works Approval for comment. The Works Approval is expected to be issued after a decision is made on the clearing permit amendment applications.

It is considered that impacts associated with the end land use have been addressed through the Shire of Waroona's conditional development approval, the applicant's site management plan, and will be further addressed under the Works Approval.

RIWI Act Approvals

The application area is mapped within the Murray groundwater area which is proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). Under the RIWI Act, if a bore is to be drilled and water taken for purposes other than those purposes exempt from licensing, a licence application must be made to DWER. The applicant has advised that the proposed extractive industry and proposed landfill will remain above the groundwater level, and therefore will not require a RIWI licence to take groundwater.

Aboriginal heritage

There is one Aboriginal Site of Significance mapped within the application area, Buller Road Camp. 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 application area is in the Swan Coastal Plain Bioregion, and Shire of Waroona. It is immediately adjacent to an extractive industry operation north and west, which is bound by remnant native vegetation further afield north and west. The application area is bound by agricultural properties to the east and south.</p> <p>The application area is part of a historically cleared area that has been used for a sand extraction operation.</p>
Climate and Landform	<p>The application area is located on the Bassendean Dunes landform, comprising gently undulating dunes made up of well-bleached white-grey sands. The landform of the larger remnant within Lot 3 Buller Road ranges from 24 mAHD on top of a sand rise in the southwest part of the area to around 15.5 mAHD within the adjacent eastern extraction areas (MBS Environmental, 2015).</p> <p>The climate of the area is warm and temperate (Mediterranean). The winter months have higher rainfall than summer months with an annual rainfall of around 950 millimetres.</p>
Vegetation description and condition	<p>The Woodman (2015) detailed flora survey indicated that the application area is largely cleared and is in a completely degraded (Keighery, 1994) condition.</p> <p>Since the time of the Woodman survey there has been some minor regrowth comprising occasional scattered shrubs within the application area, however, aerial imagery indicates that the majority remains cleared and in a completely degraded (Keighery, 1994) condition.</p> <p>According to broad scale vegetation mapping of the Swan Coastal Plain, the application area is mapped as the Southern River Complex. This complex is described as open woodland of <i>Corymbia calophylla</i> (Marri), <i>Eucalyptus marginata</i> (Jarrah) and <i>Banksia</i> species with fringing woodland of <i>Eucalyptus rudis</i> (Flooded Gum), and <i>Melaleuca raphiophylla</i> (Swamp Paperbark) along creek beds (Hedde et al, 1980). Noting the completely degraded (Keighery, 1994) condition of the application area, it is not considered to be representative of this complex.</p> <p>The full Keighery (1994) condition rating scale, with a description of each condition, is provided in Appendix C.</p>
Soil description	<p>The application is mapped as the 'Bassendean B1 Phase' map unit, described as extremely low to very low relief dunes, undulating sandplain and discrete sand rises with deep bleached grey sands sometimes with a pale yellow B horizon or a weak iron-organic hardpan at depths generally greater than 2 m. (DPIRD, 2019).</p>
Conservation areas	<p>The closest conservation area is Buller Nature reserve located around 260 metres from the application area.</p>
Ecological linkage	<p>The application area forms part of a mapped portion of the South West Regional Ecological Linkage (SWREL). Noting the condition of the application area it is not considered to contribute values to this linkage.</p>

Characteristic	Details
Land degradation risk	<p>According to land degradation risk mapping, the highest risk on site is associated with wind erosion, as 50-70 per cent of the application areas mapped land unit has a high to extreme wind erosion risk (see all categories below).</p> <p>Groundwater salinity is mapped at between 500-1000 milligrams per litre total dissolved solids. This level is considered marginal.</p>
Waterbodies	<p>According to available datasets, there are no wetlands mapped within the application area.</p> <p>The closest wetland to the application area are:</p> <ul style="list-style-type: none"> • UFI 5004 sumpland (seasonally inundated basin) – 100 metres north • UFI 4807 conservation category sumpland – 130 metres west • UFI 4636 conservation category sumpland – 420 metres west <p>There are no natural watercourses mapped within, or nearby the application area.</p>
Flora	<p>According to available datasets, there are records of four threatened and 20 priority flora species within the local area.</p> <ul style="list-style-type: none"> - <i>Caladenia huegelii</i> is the closest known record of threatened flora to the application area, located 1.4 kilometres away. - <i>Caladenia speciosa</i> is the closest known record of priority flora to the application area, located around 1.2 kilometres away. <p>Flora surveys did not identify any threatened or priority flora species within the application area (Woodman Environmental, 2015; MBS Environmental, 2015).</p>
Ecological communities	<p>The application area is adjacent to the mapped 'Banksia woodlands of the Swan Coastal Plain' (Banksia Woodland) threatened ecological community (TEC) (federally listed as endangered, and state listed as priority 3).</p> <p>The application area is not representative of this community.</p>
Fauna	<p>According to available datasets, there are records of 13 conservation listed fauna species within the local area. Based on habitat suitability, the application is unlikely to provide suitable habitat for any of these species.</p>

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles

Principle (a): “Native vegetation should not be cleared if it comprises a high level of biodiversity.”

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.”

Principle (c): “Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”

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.”

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.”

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.”

Principle (g): “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”

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.”

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.”

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.”

The application area is in a completely degraded (Keighery, 1994) condition and comprises occasional scattered shrubs. Two biological surveys which encompassed the application area did not identify any threatened or priority flora species, or vegetation representative of any threatened or priority ecological communities (Woodman, 2015; MBS Environmental, 2015).

Noting the above, the application area does not provide a high level of biodiversity, nor does it represent a significant remnant or provide significant fauna habitat.

The application area does not comprise a watercourse or wetland and does not comprise of riparian vegetation.

Noting the condition of the vegetation within the application area, and proximity to wetlands/watercourse the proposed clearing is not likely to exacerbate or contribute to further land degradation, deteriorate the quality of groundwater, or cause or exacerbate flooding.

Given the above, the proposed clearing is not likely to be at variance to the clearing principles.

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 - Sources of information

D.1. GIS databases

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

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

- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Wheatbelt Wetlands Stage 1 (DBCA-021)

Restricted GIS Databases used:

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

D.2. References

- Department of Primary Industries and Regional Development (DPIRD) (2019). *NRInfo Digital Mapping. Department of Primary Industries and Regional Development*. Government of Western Australia. URL: <https://maps.agric.wa.gov.au/nrm-info/> (accessed January 2022).
- Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) *Vegetation Complexes of the Darling System, Western Australia*. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
- Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- MBS Environmental (2015) Lot 3 Buller Road Waroona, Level 1 Flora and Vegetation Survey for Jackson Block. Prepared for KD.1 Pty Ltd. June 2015 (DER Ref: A922976).
- Shire of Waroona (2021) Development Approval for Landfill Facility, Lot 3 Buller Road (DWER ref A2070683).
- Woodman Environmental (2015) Lot 3 Buller Road Waroona, Level 2 Flora and Vegetation Assessment. Prepared for KD.1 Pty Ltd. November 2015 (DER Ref: A1025615)