

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number: CPS 9758/1

Permit type: Area permit

Applicant name: Golden Mile Holdings Pty Ltd

Application received: 31 May 2022

Application area: 2.97 hectares of native vegetation

Purpose of clearing: Horticulture and fire hazard reduction

Method of clearing: Mechanical

Property: Lot 873 on Deposited Plan 253854

Location (LGA area/s): Shire of Donnybrook-Balingup

Localities (suburb/s): Donnybrook

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area (see Figure 1, Section 1.5). The proposed area to be cleared is to be used for future horticulture planting and also to provide a buffer in case of bush fire.

1.3. Decision on application

Decision: Refused

Decision date: 12 January 2024

Decision area: 2.97 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and two submissions were received. Consideration of matters raised in the public submissions are summarised in Appendix B.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix H.1), a site inspection undertaken by Department of Primary Industry and Regional Development (DPIRD) (2022), photographs provided by the applicant, the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing will result in:

- the loss of native vegetation that provides critical foraging habitat for three threatened black cockatoo species;
- the loss of native vegetation that may provide critical breeding habitat for three threatened black cockatoo species;

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values; and
- potential appreciable land degradation in the form of wind erosion.

In accordance with applying the objects and principles of the EP Act found under section 4A to the decision-making process, the Delegated Officer took a precautionary approach when assessing the application. The Delegated Officer considers that, based on the available information, the proposed clearing is likely to lead to significant impacts to the environment and that in the absence of the clarifying information that was requested from the applicant regarding presence/absence of breeding habitat for black cockatoos, it was not possible to have confidence that the impacts of the proposed clearing could be mitigated and managed to an acceptable level.

After considering the impact of the proposed clearing and that the applicant has not suitably demonstrated avoidance and minimisation measures (see section 4), nor provided additional information requested during assessment to accurately determine the impacts of the proposed clearing, the Delegated Officer determined to refuse to grant a clearing permit.

1.5. Site map



Figure 1 Map of the application area. The area crosshatched blue indicate the area applied to be cleared.

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)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

No evidence of avoidance or mitigation measures was provided to support the application.

On the 10 November 2022, the department requested for evidence of efforts taken to avoid and or mitigate significant impacts resulting from the proposed clearing on significant habitat for conservation significant fauna. The applicant has not provided a response to this request.

The Delegated Officer considers that the applicant has not adequately demonstrate that all reasonable efforts had been taken to avoid and minimise potential impacts of the proposed clearing on the environmental values.

3.2. Assessment of impacts on environmental values

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

The assessment against the clearing principles (see **Error! Reference source not found.**) identified that the impacts of the proposed clearing present a risk to biological values (fauna, adjacent flora and vegetation), and land 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 (Flora and vegetation) - Clearing Principles (a, c and d)

Assessment

The native vegetation within the application area is mapped as:

- Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Allocasuarina fraseriana on broad terraces in perhumid and humid zones; and
- Woodland to open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Eucalyptus patens on slopes and woodland of Melaleuca preissiana-Banksia littoralis on valley floors in perhumid and humid zones.

Photographs provided by the applicant and from a site inspection (Golden Mile Holdings, 2022a, DPIRD, 2022) indicate the vegetation under application is consistent with this mapping and consist of Marri and Jarrah tall forest over an understory of shrubs and weeds in a good (Keighery, 1994) to degraded condition.

According to available databases, a total of 24 conservation significant flora records have been recorded in the local (10 kilometre) area. There are records of three threatened flora species within 10 kilometres of the proposed clearing.

These species include:

- Banksia squarrosa subsp. argillacea which occurs in winter wet flats, clay flats associated with Marri and Jarrah Forest (WA Herbarium 1998-).
- Daviesia elongate which occurs in low jarrah forest over heath. Only one record of this species occurs within the local area (WA Herbarium 1998-).
- *Drakaea elastica* which occurs on white or grey sand in low-lying situations adjoining winter-wet swamps (WA Herbarium 1998-).

Given the habitat presences of these threatened flora species and that that the application area does not contain winter wet flats/swamps nor contains jarrah forest over health and occurs in a good to degraded (Keighery, 1994) condition, it is not considered for the vegetation under application to provide suitable habitat for these threatened flora species.

Out of the 21 priority flora species, it is considered for five (5) priority flora species to likely occur within the application area, based on preferred soil and vegetation type. However, given the degraded nature of the understory and dominance of weeds, it is not considered likely for the proposed clearing to impact on significant habitat for these species.

According to available databases, one priority ecological community (PEC) and one threatened ecological community (TEC) have been recorded within the local area. The State-listed PEC "Whicher Scarp Jarrah woodland of deep coloured sands" (Priority 1) occurs approximately 6.7 km from the application area and the Commonwealth listed threatened ecologically community (TEC), Banksia woodlands of the Swan Coastal Plain, occurs 7 km from the application area. Given that the application area does not occur on the Whitcher Scarp or the Swan Costal Plain, it is not considered for this PEC and TEC to occur within the application area.

Conclusion

Based on the above assessment, the proposed clearing is not likely to impact suitable habitat for threatened or priority flora species and will not impact vegetation that is consistent with a threatened or priority ecological community.

3.2.2. Biological values (fauna) - Clearing Principles (b)

Assessment

According to available databases, nineteen (19) conservation significant fauna have been recorded in the local area (10 km radius from the application area). Out of these 19 species, habitat for five (5) of these species is likely to occur within the application area given habitat preferences. Of these species the closest and most abundantly recorded fauna near the area proposed to be cleared is *Zanda latirostris* (Carnaby's black cockatoo), *Zanda baudinii* (Baudin's black cockatoo) and *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo), which are listed as endangered and/or vulnerable under the *Biodiversity Conservation Act 2016* and the Commonwealth *Environment Protection* and *Biodiversity Conservation Act 1999* (referred to herein collectively as black cockatoos).

Black Cockatoos

According to the Commonwealth of Australia's EPBC Act referral guidelines for Western Australia's three threatened black cockatoo species, the proposed clearing falls within the known breeding range for Carnaby's cockatoo, Baudin's Cockatoo and the forest red-tailed back cockatoo (DAWE, 2022). Photographs of the application area indicate that the vegetation under application consists of Jarrah and Marri woodland both of which are known food source for all three black cockatoo species (DEC, 2008, Parks And Wildlife, 2013). It is considered for the application area to provide foraging and potential nesting habitat for all three black cockatoo species.

The Jarrah Forest Region, in which the application area occurs within, is especially important for Baudin's cockatoo and the forest red-tailed black cockatoo, as it is the main breeding region. Baudin's cockatoo area also known to have important foraging and wintering areas in this region (DAWE, 2022).

Black cockatoos generally forage within six kilometres of a night roost site and, while nesting, within a 12-kilometre radius of their nest site (DAWE, 2022). According to current available databases, three (3) confirmed black cockatoo roosting sites occur within a six-kilometre radius and one (1) known breeding site occurs within a 12 kilometre radius, of the application area.

Nesting habitat for these species is defined as trees of species known to support nesting within the range of the species, which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow (DAWE, 2022). For jarrah and marri trees, DBH is 50 centimetres (cm) or above (DAWE, 2022). A black

cockatoo habitat assessment is required to determine the presence of suitable breeding habitat for black cockatoo species within the application area.

The Carnaby's Cockatoo Recovery Plan notes that there are multiple reasons for the decline of Carnaby's cockatoo, however the decline to-date has primarily been brought about by the extensive clearing of nesting and feeding habitat (Parks and Wildlife, 2013). Loss of nesting habitat, together with foraging areas and watering sites within foraging distance of breeding sites is one of the key threatening processes contributing towards the decline of the species. A further significant threat is the clearing, fragmentation and degradation of foraging and night roosting habitat in the non-breeding parts of Carnaby's cockatoo range in the southwest of Western Australia and particularly on the Swan Coastal Plain (Parks and Wildlife, 2013). The long-term survival of Carnaby's cockatoo depends on the availability of suitable breeding habitat and foraging habitat capable of providing enough food to sustain the population (Parks and Wildlife, 2013).

Given the application area contains 2.97 hectares of foraging habitat and may contain potential nesting trees, with suitable hollows, it is considered that the application contains critical habitat for Carnaby's cockatoo.

In relation to Baudin's cockatoo and the forest red-tailed black cockatoo, the Recovery Plan for these species identify habitat critical to the species survival as Marri and Jarrah forest (DEC, 2008). Therefore, it is considered that the application area also contains critical habitat for the Baudin's cockatoo and forest red-tailed black cockatoo.

Other fauna

Phascogale tapoatafa wambenger (south-western brush-tailed phascogale) have also been recorded within the local area and the application area is likely to provide habitat for this species. This species is listed as being conservation dependent within Western Australia. This categorisation is defined as fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. This species occurs in dry sclerophyll forests and open woodland that contain hollow bearing trees (DPAW, 2012),

The application area may also contain suitable habitat for *Tyto novaehollandiae novaehollandiae* (Masked owl (southwest) – (priority three). This species is usually associated with open forests and woodlands, containing hollow-bearing trees (usually eucalypts) and primarily prey on small mammals and utilise tree hollows for breeding.

Although the application area contains suitable habitat for the above species, the proposed clearing is not likely to result in significant impacts to habitat for these species, noting the abundance of native vegetation to the west of the application area within lands managed by DBCA for conservation, which is likely to be in better condition than vegetation within the application area and therefore more likely to provide better quality habitat.

Conclusion:

Based on the above assessment, it is considered that impacts of proposed clearing to significant fauna habitat is likely, and the presence of suitable breeding habitat for three black cockatoo species cannot be discounted. A fauna habitat assessment for black cockatoo breeding habitat is required to ascertain the presence or absence of suitable breeding hollow within the application area.

Proposed clearing may facilitate the introduction or spread of weed species and/or dieback disease that may compromise the condition of adjacent fauna habitat in better condition than that of the application area. Actions to minimise the risk of the introduction and/or spread of weeds and dieback will assist to mitigate this potential impact.

The applicant may have notification responsibilities under the EPBC Act for impacts to Baudin's black cockatoo, Carnaby's cockatoo, forest red-tailed black cockatoo and their habitats. The applicant has been advised to contact the Commonwealth Department of Climate Change, Energy, Environment and Water (DCCEEW) to discuss EPBC Act referral requirements.

3.2.3. Land resources (land degradation) - Clearing Principles (g)

<u>Assessment</u>

The application area is dominated by gentle valley slopes with soil exhibiting overall good infiltration and nutrient absorption characteristics. The site lies across a low laterite ridge, with the application area located on the side slopes. The application area has soils with better water and nutrient holding characteristics than the top of the ridge. The identified soil map unit does have a high wind erosion hazard, however with good land management, post clearing, this risk will not increase (DPIRD, 2022).

Conclusion

Based on the above assessment, the proposed clearing is likely to result in soil erosion due to the presence of sandy soils and that the clearing area is located on a slope. If appropriate land management measures are not put in place to manage this impact, the clearing is likely to cause appreciable land degradation.

3.3. Relevant planning instruments and other matters

The application area is zoned as Priority Agriculture under the Shire of Donnybrook – Balingup Local Planning Scheme No. 7.

The Shire of Donnybrook-Balingup has advised that local government approvals are not required as the purpose of the clearing is consistent with the land zoning however noted that under section 3.6.2(iv) of the Shire's local planning scheme the local government's objectives in management and guiding land use, development and subdivision within the Priority Agriculture Zone are to ensure protection and enhancement of biodiversity (Shire of Donnybrook-Balingup, 2022).

The application area falls within the Preston Valley Irrigation District Surface Water Area and the Busselton-Capel Groundwater Area, as proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The applicant currently holds RIWI licence GWL 56363 for the property (DWER, 2022).

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

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
Photographs of native vegetation to be cleared	Supporting photographs representing the vegetation under application (Golden Mile Holdings, 2022).

Appendix B. Details of public submissions

Summary of comments	Consideration of comment
Submission 1	Impacts to black cockatoo habitats are addressed in assessment of impacts on environmental values (see Section 3.2.2).
Submission 2	Impacts to black cockatoo foraging and possible nesting habitat are addressed in assessment of impacts on environmental values (see Section 3.2.2).

Appendix C. Site characteristics

C.1. Site characteristics

Characteristic	Details
Local context	The application area is situated within the Jarrah Forest bioregion. The area proposed to be cleared is a 2.97-hectare isolated patch of native vegetation in the intensive land use zone of Western Australia. The proposed clearing area is surrounded by Boyanup State Forest to the west and some patches of cleared ground and remnant vegetation to the north, east and south.

Characteristic	Details
	Aerial imagery indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 55 per cent of the original native vegetation cover (Appendix C.2).
Ecological linkage	The application area does not occur within a mapped regional or local ecological linkage.
Conservation areas	The closest conservation area to the proposed clearing is Boyanup State Forest located approximately 0.340 kilometres west of the application area.
Vegetation description	The vegetation within the application area is mapped as: Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Allocasuarina fraseriana on broad terraces in perhumid and humid zones. Woodland to open forest of Eucalyptus marginata subsp. marginata-Corymbia
	calophylla-Eucalyptus patens on slopes and woodland of Melaleuca preissiana- Banksia littoralis on valley floors in perhumid and humid zones.
	Photographs provided by the applicant (Golden Mile Holdings, 2022) indicate the vegetation within the application area consists of Marri and Jarrah trees over an understory of shrubs. Additional tree species may be present however could not be identified from the available photography. Representative photos are available in Appendix F.
Vegetation condition	Photographs supplied by the applicant (Golden Mile Holdings, 2022) indicate the vegetation within the proposed clearing area is in good to degraded (Keighery, 1994) condition, described as:
	 Good: Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. Degraded: Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management.
	The full Keighery (1994) condition rating scale is provided in Appendix E. Representative photos are available in Appendix F.
Climate and landform	Annual mean rainfall 969.8 millimetre.
	Mean maximum temperature 23 degrees Celsius and a mean minimum temperature 9.8 degrees Celsius.
	Application area is within moderate valley slopes described as Bentley subsystem with gentle undulating slopes phase and comprises slopes with gradients of two to five per cent and relief 5-20 meters.
	A small portion of the application area lies in the Layman subsystem which is describes as having poorly drained depressions lying on the valley floors but slightly raised above the current river level with a relief of one to ten metres and a gradient of zero to three per cent.
Soil description	The soil is mapped as: • Bentley Subsystem (214GvBN) - A gently undulating surface, soils are sandy gravels, deep sands, and shallow gravels.
	 Layman Subsystem (214GvLY) - Poorly drained depressions on valley floors. Soils are wet soils and deep sands.
Land degradation risk	The Department of Primary Industries and Regional Development (DPIRD), provides a series of soil degradation risk mapping at the systems level. The land degradation table C.6. below summaries the soil degradation risk within the application area. The

Characteristic	Details
	application area is mapped as having high subsurface acidification and wind erosion, and medium to high phosphorus export.
Waterbodies	The desktop assessment and aerial imagery indicated that one minor, non-perennial watercourse is located approximately 60 metres south-west of the area proposed to be cleared.
Hydrogeography	The application area falls under Busselton-Capel Groundwater Area under the Rights in Water and Irrigation Act 1914 (RIWI Act) and is proclaimed under Preston Valley Irrigation District. Groundwater salinity level (Total Dissolved Solids) is mapped as 500-1000 milligrams per litre (DWER-026).
Flora	24 flora records have been noted in local (10 kilometre) area. There are records of three threatened flora species within 10 kilometres. Nearest record is 2.4 kilometre from the application area of the threatened species <i>Banksia squarrosa</i> subsp. <i>Argillacea</i> .
Ecological communities	No Threatened or Priority Ecological Communities were recorded within the application area. The nearest ecological community is a Priority one 'Whicher Scarp Jarrah woodland of deep coloured sands' ecological community approximately 6.7 kilometres from the application area.
Fauna	There are records of 20 fauna of conservation significance within the local area. The desktop assessment identified one black cockatoo (BC) breeding site and five BC roosting sites within the ten-kilometre radius of the application area. The nearest record identified is <i>Calyptorhynchus latirostris</i> which was 1.6 kilometres from application area (GIS databases).

C.2. Vegetation extent

	Pre- European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre- European extent in all DBCA managed land
IBRA bioregion*					
Jarrah Forest	11127.72165	4732.989242	42.5	3308.217897	29.72
Vegetation complex					
Bentley	2135.331515	1335.571099	62.55	1,114.86	52.21
Layman	1429.482184	1057.152041	73.95	925.24	64.72
Native vegetation					
10-kilometre radius	32,397.5	17,808.92	55	-	-

^{*}Government of Western Australia (2019)

C.3. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Tyto novaehollandiae novaehollandiae	P3	Υ	1.7	2	N/A
Calyptorhynchus banksii naso	VU	Υ	1.6	13	N/A
Calyptorhynchus baudinii	EN	Υ	1.77	24	N/A
Calyptorhynchus latirostris	EN	Υ	1.6	17	N/A
Phascogale tapoatafa wambenger	CD	Υ	2.1	25	N/A

C.4. Land degradation risk table

Risk categories	Land Unit 1
Wind erosion	H2: >70% of map unit has a high to extreme wind erosion risk
	M2: 30-50% of map unit has a high to extreme wind erosion risk
Water erosion	L1: <3% of map unit has a high to extreme water erosion risk
	M1: 10-30% of map unit has a high to extreme water erosion risk
Salinity	L1: 30-50% of map unit has a moderate to high salinity risk or is presently saline
Subsurface Acidification	H2: >70% of map unit has a high subsurface acidification risk or is presently acid
Flood risk	L1: <3% of the map unit has a moderate to high flood risk
	M1: 10-30% of the map unit has a moderate to high flood risk
Water logging	L1: <3% of map unit has a moderate to very high waterlogging risk
	H2: >70% of map unit has a moderate to very high waterlogging risk
Phosphorus export risk	M1: 10-30% of map unit has a high to extreme phosphorus export risk
	H2: >70% of map unit has a high to extreme phosphorus export risk

L = Low, M = Medium, H = High

Appendix D. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): "Native vegetation should not be cleared if it comprises a high level of biodiversity."	Not likely to be at	Yes
Assessment:	variance	Refer to Section 3.2.1, above.
The area proposed to be cleared does not contain habitat for locally significant flora or vegetation that is representative of a TEC or PEC. Native vegetation within the application area consists of marri, jarrah over an understorey of shrubs and exotic grasses in a good to degraded condition (Keighery 1994).		
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."	At variance	Yes Refer to Section 3.2.2, above.
Assessment:		
The area proposed to be cleared contain significant habitat for conservation significant fauna. The application area falls within mapped black cockatoo Baudin's cockatoo and the Forest red-tailed black cockatoo distribution zone. The application area is considered to contain suitable foraging and potential breeding habitat for black cockatoos.		
Principle (c): "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."	Not likely to be at variance	Yes

Assessment against the clearing principles	Variance level	Is further consideration required?
Assessment:		Refer to Section
Given the degraded condition of the vegetation and lack of suitable habitat for threatened flora species that have been recorded within the local area. The proposed clearing is not considered likely to impact threatened flora species.		3.2.1, above.
Principle (d): "Native vegetation should not be cleared if it comprises the	Not likely to	No
whole or a part of, or is necessary for the maintenance of, a threatened ecological community."	be at variance	Refer to Section 3.2.1, above.
Assessment:		
The area proposed to be cleared does not contain species that can indicate a threatened ecological community.		
Environmental value: significant remnant vegetation and conservation are	eas	
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."	Not likely to be at	No
Assessment:	variance	
The extent of the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is considered to be part of an informal ecological linkage in the local area. The South West Regional ecological linkage (ID 199) is approximately 960 metres from the application area.		
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."	Not likely to be at variance	No
Assessment:		
Given the distance to the nearest conservation area (300 m), the proposed clearing is not considered likely to impact on environmental values of nearby conservation areas.		
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."	Not likely to be at	No
Assessment:	variance	
Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality. A non perennial watercourse occurs 60 metres south of the application area. Given this 60 metre buffer, it is not considered likely for the proposed clearing to impact riparian vegetation.		
Principle (g): "Native vegetation should not be cleared if the clearing of the	At variance	Yes
vegetation is likely to cause appreciable land degradation." Assessment:		Refer to Section 3.2.3, above.
The mapped soils highly susceptible to wind erosion and subsurface acidification. Noting the extent and location of the application area, the proposed clearing is likely to have an appreciable impact on land degradation through soil erosion, if appropriate management measures are not put in place.		

Assessment against the clearing principles	Variance level	Is further consideration required?
<u>Principle (i):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."	Not likely to be at variance	No
Assessment:		
Given no water courses, wetlands or Public Drinking Water Sources Areas are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water quality.		
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."	Not likely to be at variance	No
Assessment:		
The mapped soils and topographic contours in the surrounding area indicate the proposed clearing is unlikely to contribute to increased incidence or intensity of flooding.		
Given no water courses and wetlands are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging.		

Appendix E. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types. Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from:

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

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

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

Appendix F. photographs of the vegetation (Gold Mile Holdings 2022)





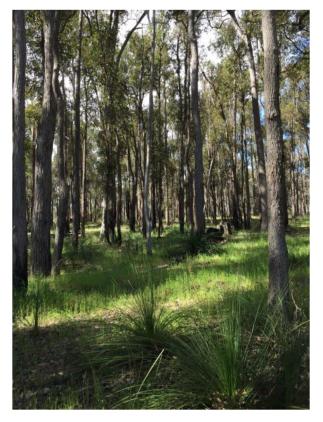








Photographs provided from DPIRD site inspection (DPIRD, 2022).



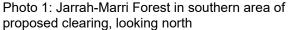




Photo 2: Jarrah-Marri Forest at southern boundary looking west

Appendix H. Sources of information

H.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)
- Contours (DPIRD-073)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia Western Australia (DBCA-045)
- Hydrography Inland Waters Waterlines
- IBRA Vegetation Statistics
- Imagery
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- 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)

Restricted GIS Databases used:

- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities

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