



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 9353/1
File Number: DWERVT8233
Duration of Permit: From 16 December 2021 to 16 December 2023

PERMIT HOLDER

Serenitas Communities Holdings Pty Ltd on behalf of Helena Valley Residential Resort

LAND ON WHICH CLEARING IS TO BE DONE

Lot 104 on Deposited Plan 406369, Helena Valley

AUTHORISED ACTIVITY

The permit holder must not clear more than 0.28 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

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

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

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

2. Weed and dieback management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no known *dieback* or *weed*-affected soil, mulch, fill, or other material is brought into the area to be cleared; and

- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

3. Directional clearing

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

4. Records that must be kept

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

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	<ul style="list-style-type: none"> (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 <i>clearing</i> in accordance with condition 1; (f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 2; and (g) direction of <i>clearing</i> in accordance with condition 3.

5. Reporting

The permit holder must provide to the *CEO* the records required under condition 4 of this permit when requested by the *CEO*.

DEFINITIONS

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

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
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



Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION
*Officer delegated under Section 20
of the Environmental Protection Act 1986*

22 November 2021

SCHEDULE 1

The boundary of the area authorised to be cleared is shown in the map below (

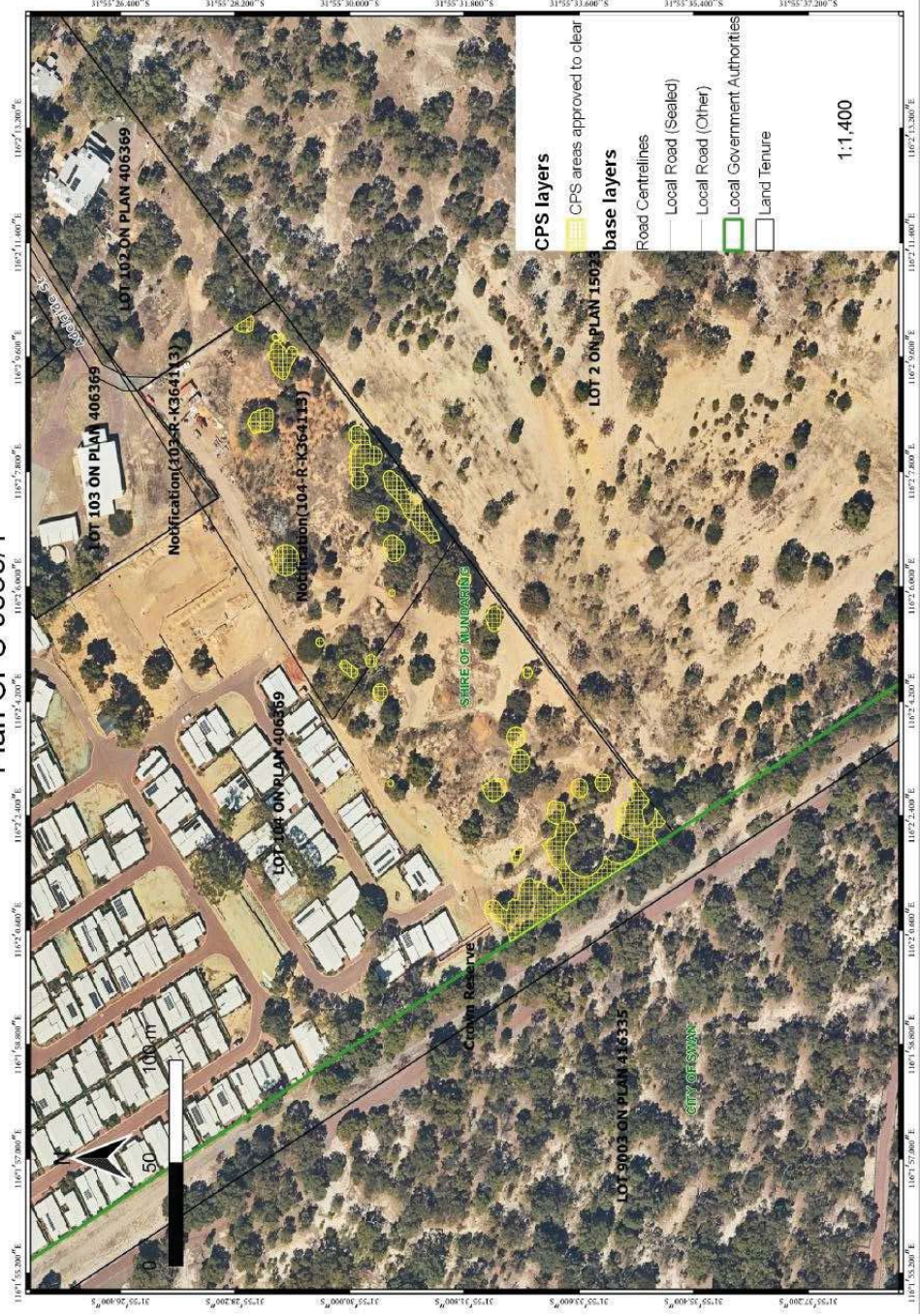


Figure 1).

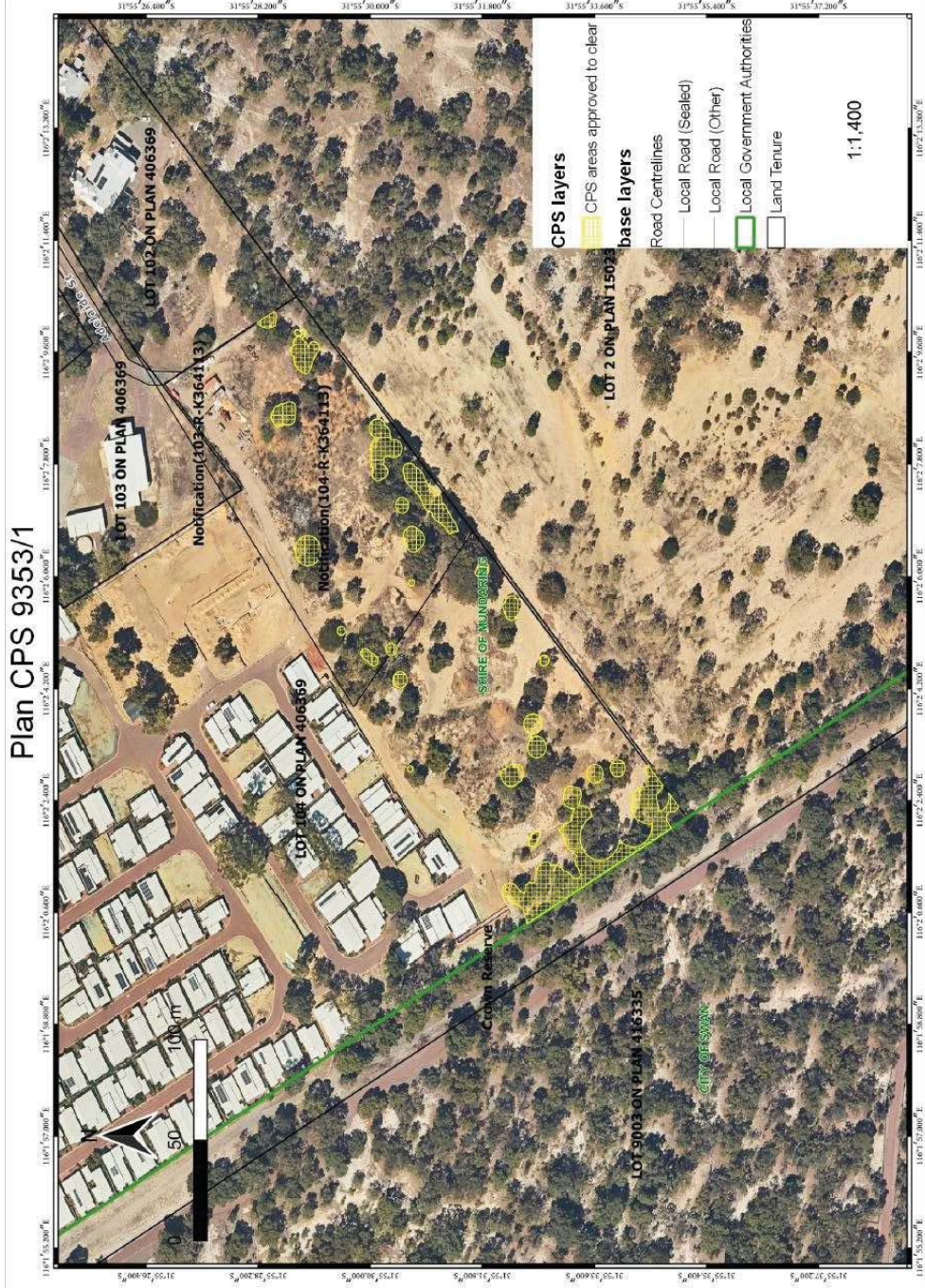


Figure 1: Map of the boundary of the area within which clearing may occur



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9353/1
Permit type:	Area permit
Applicant name:	Serenitas Communities Holdings Pty Ltd on behalf of Helena Valley Residential Resort
Application received:	09 July 2021
Application area:	0.28 hectares of native vegetation
Purpose of clearing:	Expansion of existing lifestyle village
Method of clearing:	Mechanical
Property:	Lot 104 on Deposited Plan 406369
Location (LGA area/s):	Shire of Mundaring
Localities (suburb/s):	Helena Valley

1.2. Description of clearing activities

The purpose of the proposed clearing is to extend the Helena Valley Lifestyle Resort. The vegetation proposed to be cleared is distributed across 24 separate areas (see Figure 1, Section 1.5). The application area was revised during the assessment process to include small areas of vegetation between polygons. These areas were included as it would not be possible to clear the vegetation without severely impacting the areas between polygons. Also, polygons overlapping previously cleared areas were reshaped or moved. These revisions were made to more accurately capture the area and distribution of the clearing. The total size of the application area did not change.

The land parcel containing the application area was previously used for sand extraction and rehabilitated using a mix of native and non-native species (Serenitas Communities Holdings Pty Ltd (Serenitas) 2021a). Therefore, the vegetation comprises a mix of native remnant species and planted non-indigenous species.

1.3. Decision on application

Decision:	Granted
Decision date:	22 November 2021
Decision area:	0.28 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

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

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix A), relevant datasets (see Appendix E.1), photographs provided by the applicant (see Appendix D), vegetation and tree survey (Bowman and Partners 2021), the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing may result in:

- the loss of native vegetation that is suitable for foraging habitat for fauna
- the potential introduction and spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values.

As the application area is comprised of degraded vegetation with a history of intensive ground disturbance and rehabilitation using a mix of native and non-native species, no impacts to flora of conservation significance or impacts to an ecological linkage is likely to occur. The proposed clearing is not considered to include the Threatened Ecological Community (TEC); Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region. It is also considered the proposed clearing, will not result in the loss of significant foraging habitat, due to its poor quality and proximity to an extensively vegetated landscape, where breeding and foraging habitat of better condition is likely to occur. However, fauna individuals may be present within the application area at the time of clearing.

After consideration of the available information, the Delegated Officer decided to grant a clearing permit subject to the following requirements conditioned on the clearing permit, to manage and address the impacts of clearing:

- Undertake slow, progressive clearing towards adjacent native vegetation, allowing terrestrial fauna to move into adjacent habitat ahead of the clearing activity.
- Take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback.

1.5. Site map

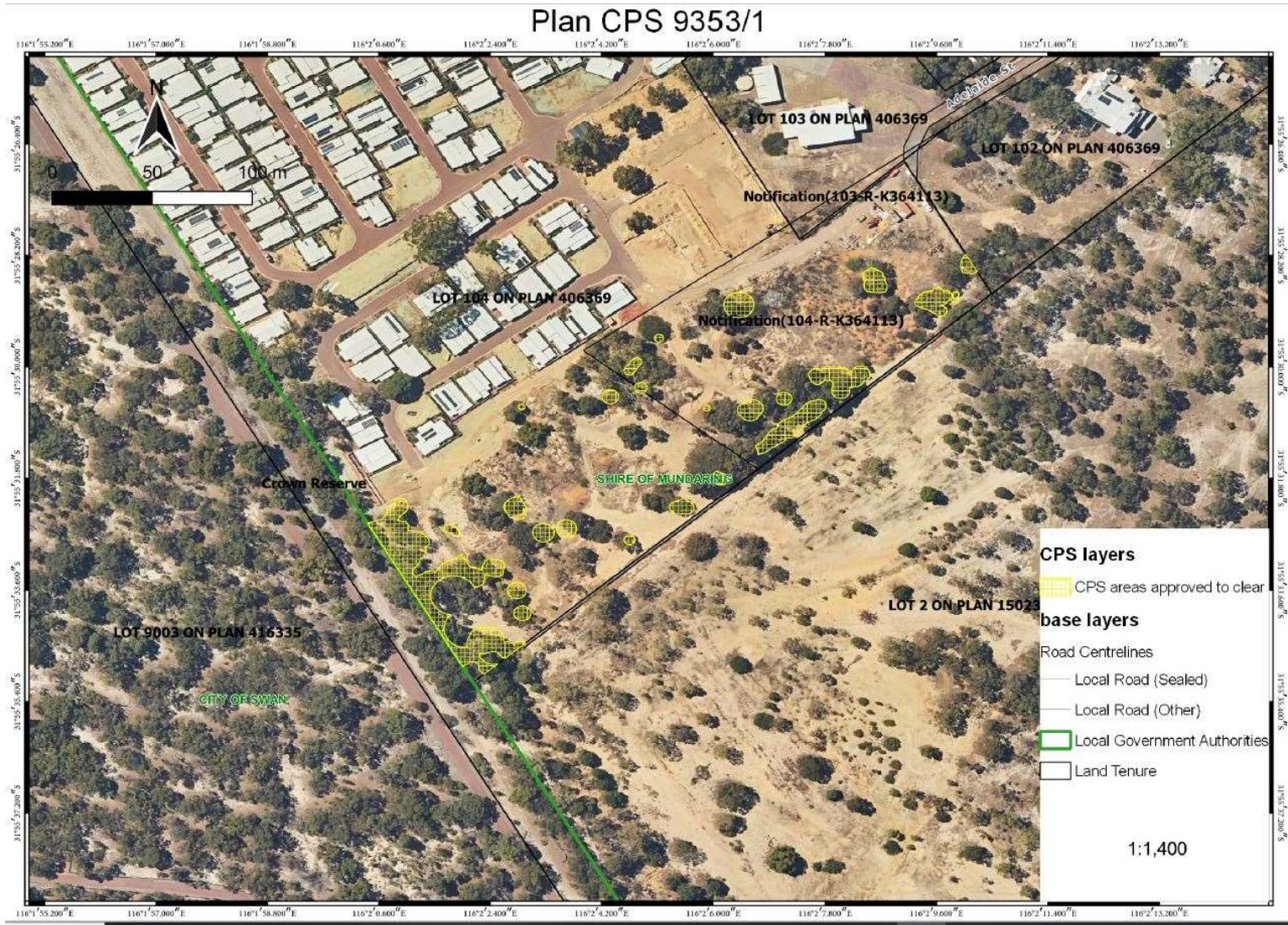


Figure 1 Map of the application area. The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)
- *Soil and Land Conservation Act 1945* (WA)

Relevant policies considered during the assessment include:

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant has advised that large (with a diameter above 30 centimes diameter at breast height (DBH)) *Corymbia calophylla* (Marri) trees present within the project area have been omitted from the proposed clearing and will be retained as landscape enhancement features for the proposed Lifestyle resort (see Appendix D Figure 2 and Plate 6; Serenitas 2021a).

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

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

The assessment against the clearing principles (see Appendix B) identified that the impacts of the proposed clearing may present a risk to a TEC and fauna. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological Values (fauna) - Clearing Principles (b)

Assessment

No conservation significant fauna are recorded in the application area. Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorhynchus baudinii*) and forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*), collectively known as black cockatoos, have all been recorded within less than one kilometre of the application area. The proposed clearing may contain foraging and roosting habitat for black cockatoos. A study of aerial imagery and photographs provided by the applicant (Serenitas 2021b), indicate the application area has undergone previous disturbance and is in a degraded (Keighery 1994) to completely degraded (Keighery 1994) condition (see Appendix D). Small *Banksia attenuata* shrubs are occasionally scattered throughout the application area. However these are not considered significant as, a review of aerial photography and spatial datasets indicate that a larger tract of native vegetation in better condition, covering approximately 235 hectares, is adjacent to the application area, providing better quality foraging habitat.

The application area is unlikely to contain black cockatoo breeding habitat as all large trees with a diameter above 30 centimetres DBH have been excluded from the proposed clearing (see Appendix D, Figure 2 and Plate 6).

Given the presence of higher quality habitat in close proximity to the proposed clearing, ground dwelling fauna, such as *Isodon fusciventer* (quenda) may range through the application area. Quenda are known to forage in lesser quality habitat such as parks and gardens (DBCA 2017) and may be present at the time of clearing. The remainder of conservation significant fauna recorded within the local area are unlikely to utilise the application area, due to the

disturbed and degraded nature of the site, that includes a history of extensive ground disturbance resulting from sand extraction and rehabilitation of the site (Serenitas 2021a).

Conclusion

Based on the above assessment, the proposed clearing will not result in a significant loss of available fauna habitat within the local area. However, impact to fauna that may be present at the time of clearing remains and can be managed through slow directional clearing.

Conditions

To address the above impacts, the permit holder will be required to undertake slow, progressive one directional clearing to allow terrestrial and avian fauna to move into adjacent habitat ahead of the clearing activity.

3.2.2. Significant remnant vegetation and conservation areas - Clearing Principles (d)

Assessment

Approximately 0.075 hectares of the application area is mapped as the federally listed TEC 'Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region' (Banksia Woodlands). This community is listed as a Priority 3 Priority Ecological Community (PEC) by the Department of Biodiversity, Conservation and Attractions (DBCA). The application area is also mapped within the buffer of the Critically Endangered 'Shrublands and woodlands of the eastern side of the Swan Coastal Plain' TEC, the boundary of which is 0.025 kilometres to the west, separated from the application area by a cycle path.

The land parcel containing the application area was previously used for sand extraction and is in a degraded (Keighery 1994) to completely degraded (Keighery 1994) condition. Photographic evidence provided by the applicant (Serenitas 2021b) indicates the proposed clearing is comprised of vegetation not representative of either of the above TEC's, as the application area is mostly dominated by *Eucalyptus camaldulensis*. Also, the understory is mostly absent, and the ground layer is bare or dominated by introduced grasses (see Appendix D Plate 4). Two large remnant Marri trees have been omitted from the clearing. Given the lack of indicator species and the condition of the vegetation within the application area, the proposed clearing is not considered to be the Banksia Woodlands TEC. In addition, the cycle path running between the application area and the Shrublands and woodlands of the eastern side of the Swan Coastal Plain TEC will act as a barrier from the adjacent clearing (see Figure 2).

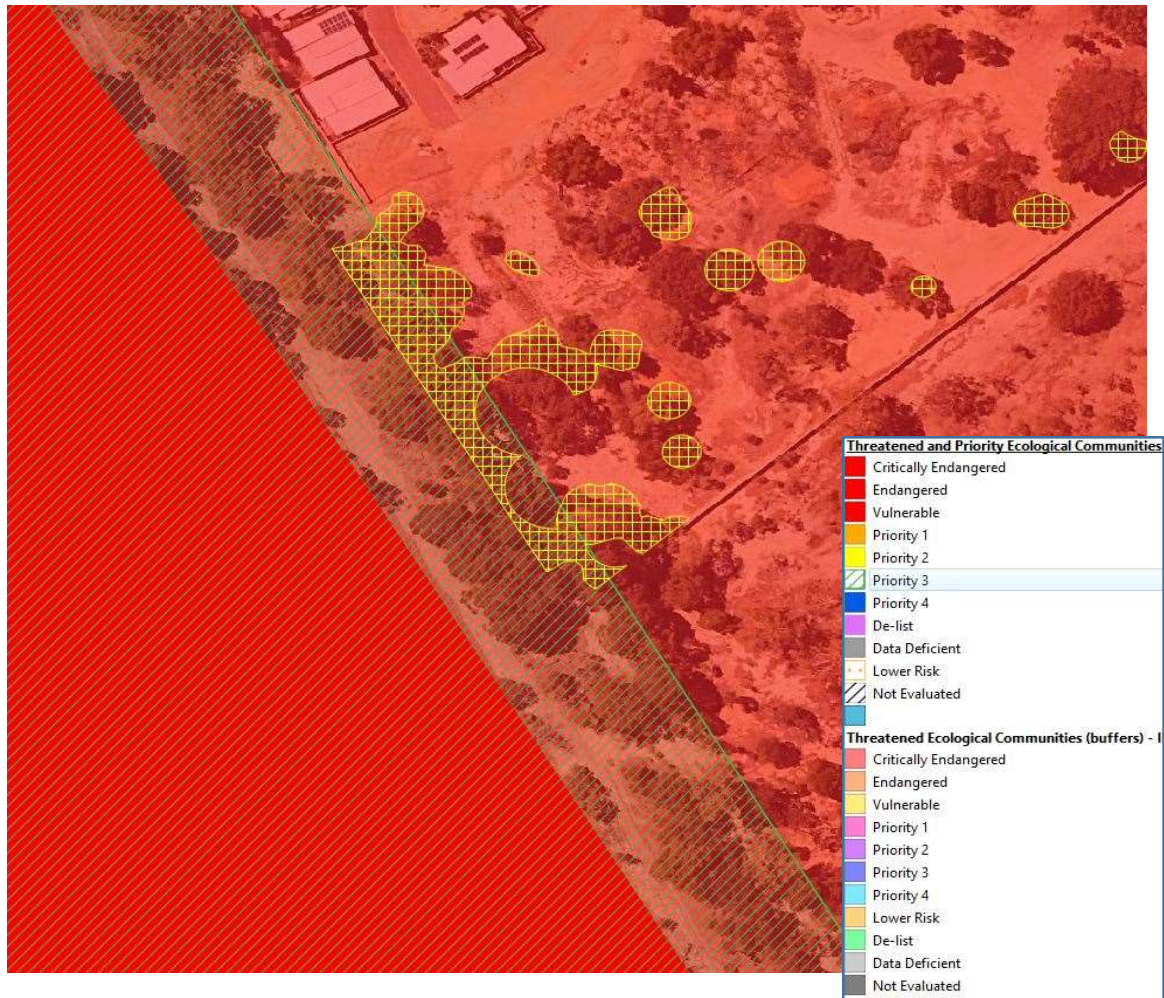


Figure 2 The western edge of the application (yellow crosshatch) and its proximity to the Shrublands and woodlands of the eastern side of the Swan Coastal Plain TEC (red). Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region is also mapped over the application area.

Conclusion

Based on the above assessment, the proposed clearing does not represent the Banksia Woodlands TEC, and is unlikely to result in a significant impact to any mapped TEC's in the local area. Adjacent areas are particularly susceptible to weed invasion and dieback disease which the clearing process may exacerbate.

Conditions

To address the above impacts, the permit will be required to implement weed and dieback management measures to mitigate impacts to adjacent vegetation.

3.3. Relevant planning instruments and other matters

The applicant received development approval for the purpose of extension of the Helena Valley Lifestyle Resort on 14 February 2021 from the Shire of Mundaring (2021) and did not have any objections to the proposed clearing. The DA was subject to conditions, namely the retention of large (DBH greater than 30cm) habitat trees. The Shire of Mundaring also issued a works permit on 26 May 2021 (Serenitas 2021b).

The application area falls within the Helena River and Elders Sand Pit registered heritage places. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix B

A.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is situated within the Helena Valley at the foot of the Darling Scarp. It is adjacent to an intact tract of native vegetation, covering an area of approximately 235 hectares in the intensive land use zone of Western Australia, situated between two sections of the Perth regional ecological linkage. The land parcel containing the clearing area was previously used for sand mining (Serenitas 2021a) and represents a highly degraded site compared to adjacent tracts of native vegetation.</p> <p>Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 41.38 per cent of the original native vegetation cover.</p>
Ecological linkage	Perth regional ecological linkage mapped 0.26 and 0.30 kilometres east and west of the application area respectively.
Conservation areas	<ul style="list-style-type: none"> • Beelu National Park, 1 kilometre to the southeast • Greenmount National Park, 2 Kilometres north east
Vegetation description	<p>Photographs supplied by the applicant (Serenitas 2021b) indicate the vegetation within the application area consists of occasional <i>Corymbia calophylla</i> and <i>Eucalyptus tottiana</i> over scattered <i>Banksia attenuata</i> and mixed <i>Acacia</i> and <i>Melaleuca</i> ssp. Vegetation also includes planted parkland species such as <i>Eucalyptus camaldulensis</i> and <i>Eucalyptus decipiens</i>. The ground layer is mostly bare ground with patches of weed grasses and herbs. Representative photos, descriptions and maps are available in Appendix D.</p> <p>This is inconsistent with the mapped vegetation type:</p> <ul style="list-style-type: none"> • Forrestfield Complex 29, which is described as vegetation ranging from open forest of <i>Corymbia calophylla</i> (Marri) - <i>Eucalyptus wandoo</i> (Wandoo) - <i>Eucalyptus marginata</i> (Jarrah) to open forest of <i>Eucalyptus marginata</i> (Jarrah) - <i>Corymbia calophylla</i>. Swan Coastal Plain vegetation complexes as described and mapped by Heddle et al. (1980) as updated by Webb et al. (2016).
Vegetation condition	<p>Photographs supplied by the applicant (Serenitas 2021b) indicate the vegetation within the proposed clearing area is in degraded to completely degraded condition (Keighery 1994).</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix C. Representative photos are available in Appendix D.</p>
Climate	<ul style="list-style-type: none"> • Mean annual rainfall: 760.4 millimetres • Temperature (mean annual minimum): 12.1 degrees centigrade • Temperature (mean annual maximum): 24.6 degrees centigrade • Mean annual evapotranspiration: 800 millimetres
Soil description and landform	Forrestfield (D Range) F1 Phase, described as foot and low slopes < 10% with deep rapidly drained siliceous yellow brown sands, and pale or bleached sands with yellow-brown subsoil. Shrubland of unidentified species.
Land degradation risk	The soil type mapped within the application area has low risk of water erosion, salinity, waterlogging, flooding, and phosphorus export risk. However, has moderate to high susceptibility to subsurface acidification and wind erosion.
Waterbodies	The desktop assessment and aerial imagery indicated the proposed clearing does not occur within a wetland and does not transect any water courses. The application area is adjacent to two perennial rivers, the Helena River, 0.5 kilometres east and Kadina Brook to the west.
Hydrogeography	The application area falls within Swan River system surface water and Perth Groundwater Area.

Characteristic	Details
Flora	<p>There is a total of 73 conservation significant flora in the local area including 13 Threatened flora and 60 priority flora. The species recorded nearest to the application area is the Priority 3 <i>Lasiopetalum glutinosum</i> subsp. <i>glutinosum</i>, at 0.77 kilometres. This species is associated with shallow soils on granite outcrops.</p> <p>The threatened flora species recorded nearest to the application area is <i>Acacia aphylla</i> occurring approximately 1 kilometre from the application area. This species is known from a variety of soils, including the Forrestfield (D Range) F1 Phase mapped within the application area.</p> <p>Noting the historical disturbance of the site, no flora of conservation significance are likely to occur.</p>
Ecological communities	<p>The proposed clearing intersects approximately 0.075 hectares of the TEC 'Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region', listed as Priority 3 PEC by DBCA and federally listed as Endangered under the EPBC Act. Other ecological and priority communities in the local area include:</p> <ul style="list-style-type: none"> • The Critically Endangered, TEC 'Shrublands and woodlands of the eastern side of the Swan Coastal Plain (floristic community type 20c as originally described in Gibson et al. (1994))', occurs approximately 0.23 kilometres to the west of the application area. • The Endangered, TEC '<i>Banksia attenuata</i> woodlands over species rich dense shrublands (floristic community type 20a as originally described in Gibson et al. (1994))', occurs approximately 1.4 kilometres to the north west • The Priority 4 PEC 'Central Northern Darling Scarp Granite Shrubland Community', occurs approximately 1.8 kilometres to the south east.
Fauna	<p>A total of 38 conservation significant fauna are recorded in the local area. The nearest record is for <i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo) approximately 0.4 kilometres from the application area. The local area includes 12 unspecified records for white-tailed black cockatoo, the nearest at 0.18 kilometres from the application area.</p> <p>Black cockatoo habitat within the local area includes:</p> <ul style="list-style-type: none"> • 11 white tailed black cockatoo breeding sites, this includes a cluster of eight sites all approximately 4 kilometres west of the application area. The nearest mapped breeding site is 4.1 kilometres east of the application area. • A total of 54 black cockatoo roosts sites. The nearest is 0.36 kilometres south-west of the application area. • Approximately 40 percent of all remnant vegetation in the local area, is mapped as cockatoo feeding habitat. <p>Habitat suitability analysis is provided in table A.3. A number of fauna species dependent on marine and freshwater habitats have been omitted from the table as these species are highly unlikely to utilise the habitats within the application area.</p>

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	10,4180.6	3,043.13	29.21	855.93	9.31
Vegetation complex					
*Hedde vegetation complex: Forrestfield Complex 29	22,812.92	2,803.36	12.93	381.57	1.67
Local area					

	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
10 km radius	32099.89	13284.07	41.38	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

A.3. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
(<i>Calyptorhynchus banksii naso</i>) forest red-tailed black cockatoo	EN	Yes	Yes	0.36	61	N/A
(<i>Calyptorhynchus latirostris</i>) Carnaby's cockatoo	EN	Yes	Yes	0.44	1330	N/A
<i>Isoodon fusciventer</i> (quenda)	P4	Yes	Yes	0.49	856	N/A
<i>Dasyurus geoffroii</i> (chuditch, western quoll)	VU	Yes	Yes	0.54	68	N/A
<i>Calyptorhynchus baudinii</i> (Baudin's cockatoo)	EN	Yes	Yes	0.77	114	N/A
<i>Falco peregrinus</i> (Peregrine falcon)	OS	No	No	1.5	30	N/A
<i>Ctenotus delli</i> (Dell's skink, Darling Range Southwest Ctenotus)	P4	Yes	Yes	1.6	4	N/A
<i>Phascogale tapoatafa wambenger</i> (South-western brush-tailed phascogale, wambenger)	CD	Yes	Yes	3	23	N/A
<i>Idiosoma sigillatum</i> (Swan Coastal Plain shield-backed trapdoor spider)	P3	Yes	Yes	4.4	4	N/A
<i>Pseudocheirus occidentalis</i> (western ringtail possum, ngwayir)	CR	Yes	Yes	4.9	1	N/A
<i>Cacatua pastinator pastinator</i> (Muir's corella)	CD	Yes	Yes	5.5	6	N/A
<i>Synemon gratiosa</i> (graceful sunmoth)	P4	Yes	yes	5.5	3	N/A
<i>Idiosoma spp.</i> (Idiosoma trapdoor spider)	EN or P	No	No	5.8	2	N/A
<i>Neelaps calonotos</i> (black-striped snake, black-striped burrowing snake)	P3	Yes	Yes	8.3	10	N/A
<i>Acanthophis antarcticus</i> (southern death adder)	P3	Yes	Yes	8.9	2	N/A

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority conservation dependent OS: other conservation Status

A.4. Land degradation table

Risk categories	<i>Forrestfield (D Range) F1 Phase</i>
Wind erosion	50-70% of map unit has a high to extreme risk
Water erosion	<3% of map unit has a high risk
Salinity	<3% of map unit has a high risk
Flood risk	<3% of the map unit has a moderate to high hazard
Water logging	<3% of map unit has a high risk
Phosphorus export risk	3-10% of map unit has a high risk
Subsurface soil acidification	50-70% of 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><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>A portion of the application area (0.075 hectares) is mapped as the Banksia Woodlands PEC, federally listed as an Endangered TEC.</p> <p>Photographs provided by the applicant (Serenitas 2021b), indicate a large portion of the vegetation in the application area is in a degraded (Keighery 1994) to completely degraded (Keighery 1994) condition, and includes non-indigenous planted species (see Appendix D). The area proposed to be cleared does not contain locally significant flora, fauna, habitats, assemblages of plants to indicate a TEC or PEC. No threatened or priority flora are likely to occur in the application area due to the historical disturbance of the site.</p>	Not likely to be at variance	No
<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 area proposed to be cleared may contain foraging habitat for conservation significant fauna.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above</i>
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>No Threatened flora are recorded in the application area. The area proposed to be cleared has undergone previous disturbance from sand extraction (Serenitas 2021a) and is in a degraded condition, therefore it is unlikely to contain habitat for 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>A portion of the vegetation at the western end of the application area is mapped as Banksia Woodlands TEC.</p> <p>Vegetation within the application area is in a degraded to completely degraded condition and does not represent the Banksia Woodlands TEC.</p>	May be at variance	Yes <i>Refer to Section 3.2.2, above</i>
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 native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</p>	Not 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>Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.</p>	Not 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>It is noted the application area includes the riparian species <i>Eucalyptus camaldulensis</i>. According to mapped vegetation within the local area <i>Eucalyptus camaldulensis</i> does not form a component of riparian vegetation and has probably been planted with other non-indigenous species as part of mine rehabilitation following sand extraction (Serenitas 2021). Considering the above, the vegetation proposed to be cleared is not likely to represent riparian vegetation. No watercourses or wetlands are mapped within or adjacent to the application area.</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>The mapped soils have low susceptibility to water erosion, nutrient export, salinity and water logging and moderately to high susceptibility to wind and subsurface acidification. Given the limited extent of clearing (0.28 hectares) that has previously been disturbed and the condition of the vegetation, the proposed clearing is not likely to have an appreciable impact on land degradation.</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 no wetlands or Public Drinking Water Source Areas are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water quality.</p>	Not 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.</p>	Not at variance	No

Appendix C. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from

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

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

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

Appendix D. Photographs of the vegetation provided by the applicant (Serenitas 2021b)



Figure 3 Numbers indicate photographs (Plates, see below), arrows indicate direction the photograph was taken (Serenitas 2021b). Blue circles indicate large trees excluded from the application area (see Plate 6 below).



Plate 1. This is the typical and most common non-endemic species, which I have identified as *Eucalyptus camaldulensis*. The location and direction of this photo are shown on the attached site plan.



Plate 2. This photo shows the young fruiting bodies which has been used to identify the species in plate 1 as *E. camaldulensis*.



Plate 3 This is a further photograph of the young fruiting bodies used to identify the species as *E. camaldulensis*. Taken at about the same location as the previous photo.



Plate 4. This photo taken at location 2 on the map shows a typical area of naturally seeded *E. camaldulensis* regrowth. The photo shows bare ground where historical rehabilitation success after the former sand mining activity has not been successful and stockpiles of earth which have been placed on bare ground as part of earthworks to construct previous stages of construction.



Plate 5. This photo is taken a location 3 and shows *E. camaldulensis* saplings on the left and a single *E. wandoo* in the right of the frame. Note the absence of ground level vegetation and disturbed land surface from previous sand extraction.



Plate 6. This photograph is taken from location 4 on the plan (actually from inside the property) and shows one of the large marri trees intended for retention. The absence of ground level vegetation indicates that machinery movements carrying out clearing and earthworks will be able to be conducted without risk to the tree.



Plate 7. This photo is taken at location 5 and shows a small copse of *Acacia* (*sp*) which have likely naturally regenerated after sand mining or may have been part of the original pit rehabilitation. Note proliferation of weeds and the generally degraded condition of the vegetation.



Plate 8. This photo is taken from location 6 on the plan. This is the south-western edge of the former sand mining operation and the steep upward slope of the land is evident in the left of the image. The tree in the right of the image is *Banksia attenuata*.



Plate 9. Fruiting structures used to identify *Eucalyptus patens*, taken at location 7. *E. patens* is the most common of the endemic Eucalypts on the site and is inferred as natural regrowth following mining of the site.



Plate 11. This photo, taken at location 9, shows the fruiting structure used to identify the plant as *Eucalyptus decipiens*.

Appendix F. Sources of information

F.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)

F.2. References

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