



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

### PERMIT DETAILS

Area Permit Number: CPS 9849/1  
File Number: DWERVT10784  
Duration of Permit: From 9 January 2023 to 9 January 2029

### PERMIT HOLDER

City of Busselton

### LAND ON WHICH CLEARING IS TO BE DONE

Lot 300 on Deposited Plan 50595 (Reserve 29933), West Busselton

### AUTHORISED ACTIVITY

The permit holder must not clear more than two native trees within the area cross-hatched yellow in Figure 1 of Schedule 1.

### CONDITIONS

#### 1. Period during which clearing is authorised

The permit holder must not clear any native vegetation after 9 January 2025.

#### 2. 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.

### 3. 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.

### 4. Fauna management – western ringtail possums

- (a) In relation to the area cross-hatched yellow in Figure 1 of Schedule 1, the permit holder must engage a *fauna specialist* to inspect that area immediately prior to, and for the duration of clearing activities, for the presence of western ringtail possum(s) (*Pseudocheirus occidentalis*).
- (b) Clearing activities must cease in any area where fauna referred to in condition 4(a) are identified until either:
  - (i) the western ringtail possum(s) individual has moved on from that area to adjoining *suitable habitat*; or
  - (ii) the western ringtail possum(s) individual has been removed by a *western ringtail possum specialist*.
- (c) Any western ringtail possum(s) individual removed in accordance with condition 4(b)(ii) must be relocated by a *western ringtail possum specialist* to a *suitable habitat* or as otherwise approved by the *CEO*.
- (d) Where fauna is identified under condition 4(a), the permit holder must within 14 calendar days provide the following records to the *CEO*:
  - (i) the number of individuals identified;
  - (ii) the date each individual was identified;
  - (iii) the location where each individual was identified recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994/2020 (GDA94/2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
  - (iv) the number of individuals removed and relocated;
  - (v) the relevant qualifications of the *western ringtail possum specialist* undertaking removal and relocation;
  - (vi) the date each individual was removed;
  - (vii) the method of removal;

- (viii) the date each individual was relocated;
- (ix) the location where each individual was relocated to, recorded using a GPS unit set to GDA94/2020, expressing the geographical coordinates in Eastings and Northings or decimal degrees; and
- (x) details pertaining to the circumstances of any death of, or injury sustained by, an individual.

## 5. Planting – mitigation

- (a) The permit holder must, within 12 months of the commencement of clearing authorised under this permit:
  - (i) undertake deliberate *planting* of four (4) trees that includes a combination of *Agonis flexuosa* (peppermint) *Corymbia calophylla* (marri) and *Melaleuca raphiophylla* (swamp paperbark) trees within the area hatched red in Figure 2 of Schedule 1;
  - (ii) ensure only *local provenance* propagating material is used for *planting* activities;
  - (iii) ensure planting is undertaken at an *optimal time*; and
  - (iv) undertake *weed* control and watering of seedlings, as required, for at least two years post *planting*.
  
- (b) The permit holder must, within 24 months of planting the trees in accordance with condition 5(a)(i) of this permit:
  - (i) engage an *environmental specialist* to make a determination on the likelihood of survival of *planted* trees;
  - (ii) if the determination made by the *environmental specialist* under condition 5(b)(i) is that any *planted* trees will not survive, the permit holder must *plant* additional trees that will result in at least four (4) trees persisting at the suitable location;
  - (iii) where additional *planting* of trees is undertaken in accordance with condition 5(b)(ii), the permit holder must repeat the activities required under conditions 5(a)(ii)-(iv) and 5(b)(i)-(ii) of this permit.

## 6. Records that must be kept

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

**Table 1: Records that must be kept**

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	<ul style="list-style-type: none"><li>(a) the species composition, structure, and density of the cleared area;</li><li>(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994/2020 (GDA94/2020), expressing the geographical coordinates in Eastings and Northings;</li><li>(c) the date that the area was cleared;</li><li>(d) the size of the area cleared (in hectares); and</li><li>(e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 2; and</li><li>(f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 3; and</li><li>(g) actions taken to manage and mitigate impacts to western ringtail possums in accordance with condition 4.</li></ul>
2.	In relation to planting pursuant to condition 5	<ul style="list-style-type: none"><li>(a) the date(s) on which the planting was undertaken;</li><li>(b) the boundaries of the area planted (recorded digitally as a shapefile);</li><li>(c) a description of the planting activities undertaken pursuant to condition 5(a), including planted species composition and number, and actions taken to implement watering and weed control;</li><li>(d) a copy of the environmental specialist's monitoring report and determination; and</li><li>(e) a description of any remedial actions undertaken pursuant to conditions 5(b)(ii)-(iii), where the environmental specialist indicates that planted trees will not survive.</li></ul>

## 7. Reporting

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

## DEFINITIONS

In this permit, the terms in Table 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.
fauna specialist	means a person who holds a tertiary qualification specialising in environmental science or equivalent and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the <i>Biodiversity Conservation Act 2016</i> .
fill	means material used to increase the ground level, or to fill a depression.
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.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent and has a minimum of two (2) years work experience relevant to the type of environmental advice that an environmental specialist is required to provide under this permit, or who is approved by the CEO as a suitable environmental specialist.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
local provenance	means native vegetation seeds and propagating material from natural sources within the same IBRA subregion of the area cleared.
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.
optimal time	means the period from May to September for undertaking planting and seeding.
planting/ed	means the re-establishment of vegetation by creating soil conditions and planting seedlings of the desired species.
suitable habitat (western ringtail possum)	means habitat known to support western ringtail possums ( <i>Pseudocheirus occidentalis</i> ) within the known current distribution of the species, typically characterised by abundant foliage, presence of suitable nesting structures such as tree hollows, as well as high canopy cover and continuity. Known habitat includes peppermint ( <i>Agonis flexuosa</i> ) dominated woodlands, jarrah ( <i>Eucalyptus marginata</i> ) and marri ( <i>Corymbia calophylla</i> ) forests, riparian vegetation with a canopy of Bullich ( <i>Eucalyptus megacarpa</i> ) or flooded gum ( <i>Eucalyptus rudis</i> ), karri ( <i>Eucalyptus diversicolor</i> ) forests, sheoak ( <i>Allocasuarina fraseriana</i> )

Term	Definition
	dominated woodlands, and other stands of myrtaceous trees growing near swamps, watercourses or floodplains.
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.
western ringtail possum specialist	means a <i>fauna specialist</i> who holds a tertiary qualification specialising in environmental science or equivalent, has a minimum of two years of work experience in western ringtail possum ( <i>Pseudocheirus occidentalis</i> ) identification, surveys of western ringtail possums and capture and handling of western ringtail possums, and holds a valid fauna licence issued under the <i>Biodiversity Conservation Act 2016</i> .

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**END OF CONDITIONS**




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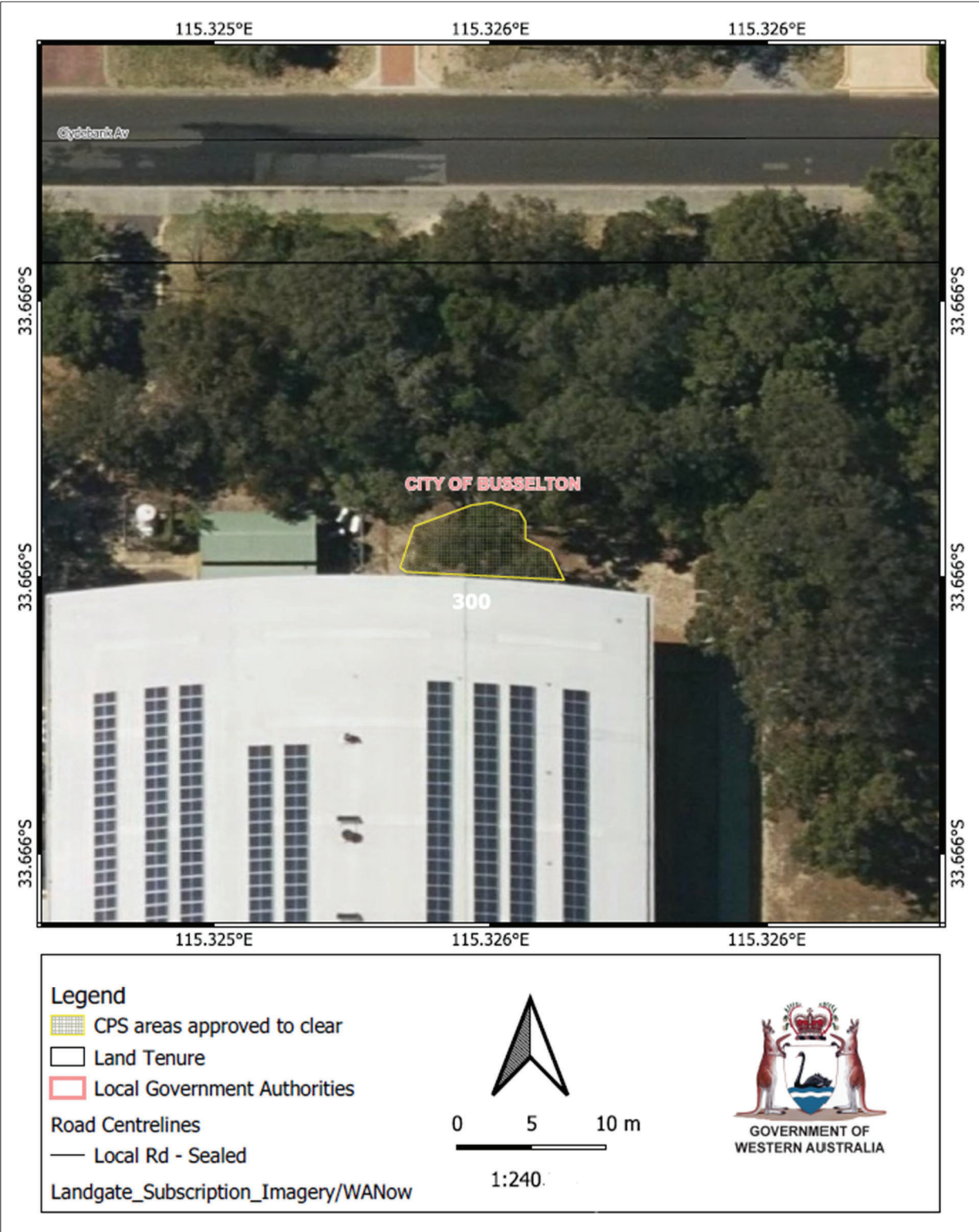
**Meenu Vitarana**  
**Manager**

NATIVE VEGETATION REGULATION

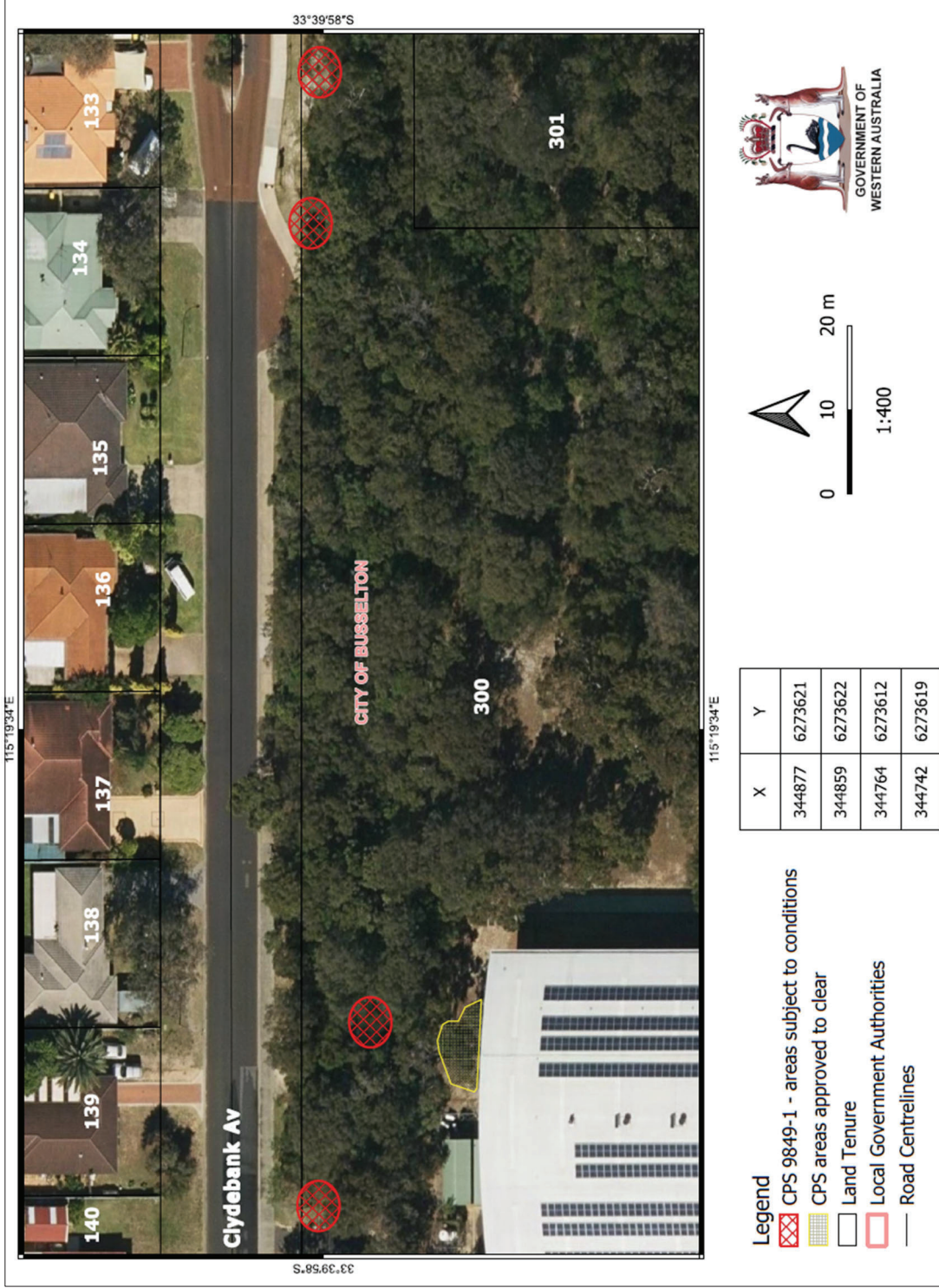
*Officer delegated under Section 20  
of the Environmental Protection Act 1986*

16 December 2022

# SCHEDULE 1



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



**Figure 2: The locations cross-hatched red indicate the areas conditioned for planting under condition 5 of the clearing permit.**





# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

Permit number:	CPS 9849/1
Permit type:	Area permit
Applicant name:	City of Busselton
Application received:	15 August 2022
Application area:	two native trees
Purpose of clearing:	extension of an existing building
Method of clearing:	Mechanical removal
Property:	Lot 300 on Deposited Plan 50595 (Reserve 29933)
Location (LGA area/s):	City of Busselton
Localities (suburb/s):	West Busselton

### 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 application is to selectively clear two trees to extend the existing building (Geographe Leisure Centre) for a storage facility to store equipment. The two trees proposed to clear comprise of one medium *Corymbia calophylla* (marri) and a juvenile *Melaleuca raphiophylla* (swamp paperbark).

### 1.3. Decision on application

Decision:	Granted
Decision date:	16 December 2022
Decision area:	Two native trees, as depicted in Section 1.5, below.

### 1.4. Reasons for decision

In making this decision, the Delegated Officer had regard for the site characteristics (see 0), relevant datasets (see Appendix E.1), the findings of a flora and vegetation survey (see Appendix D), the clearing principles set out in Schedule 5 of the EP Act (see 0), 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 potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation, and
- impacts to individual fauna (western ringtail possum) if present during the clearing.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to have long-term adverse impacts

on biological values and can be minimised and managed to unlikely lead to an unacceptable risk to environmental values. The applicant has suitably demonstrated avoidance and minimisation measures.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds
- engage a western ringtail possum specialist to inspect the area prior to, and for the duration of clearing activities and if required, appropriately remove/relocate any individual western ringtail possums prior to the clearing; and
- mitigate impacts to western ringtail possum habitat by planting native trees including peppermint trees in the vicinity of the application area at a ratio of 2:1 for each tree cleared, to recreate habitat for western ringtail possums.

1.5. Site map

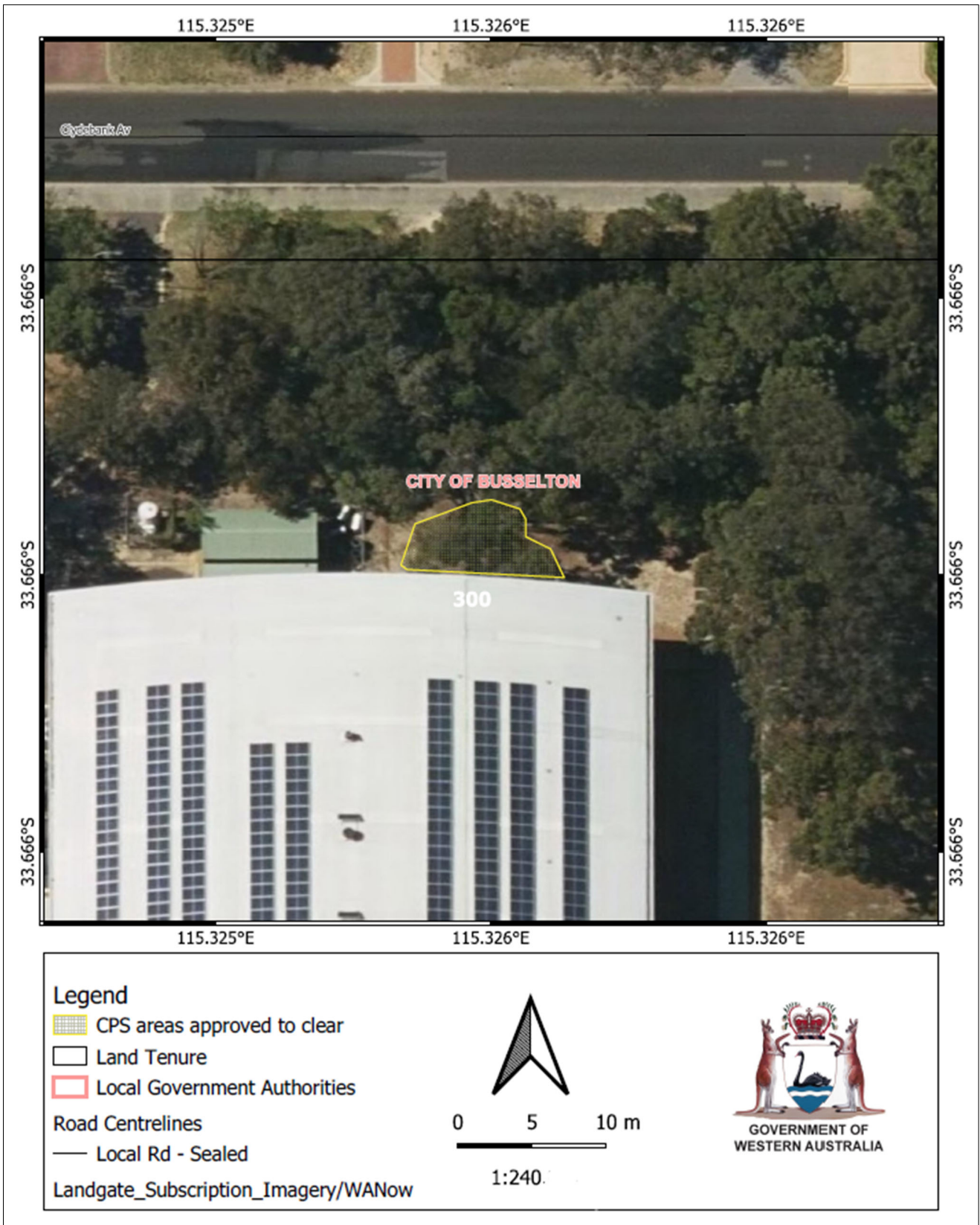


Figure 1: Map of the application area crosshatched yellow.



Figure 2: The areas cross hatched red indicate the locations where planting of trees (including peppermint trees) is to occur under the granted clearing permit.

## 2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

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

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)

## 3 Detailed assessment of application

### 3.1. Avoidance and mitigation measures

Applicant advised that the proposed expansion is for a storage space to store equipment (City of Busselton, 2022) and advised that they will cut and remove the two trees without damaging the surrounding vegetation. The applicant intends to avoid impact to the intact priority ecological community present immediately adjacent to the proposed clearing.

Furthermore, the applicant proposes to plant trees to mitigate the impact of the clearing of trees. Applicant has provided a map of the locations where the trees will be planted (see Appendix D) and confirmed that the trees planted will be the same species that will be removed as part of this application and also some Western Australian peppermint trees. The trees will be planted between the footpath and the existing vegetation and provide vegetation connectivity and will replace the western ringtail possum habitat values that may have been impacted by the vegetation removal.

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 0) 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 present a risk to biological values (fauna and flora), and significant remnant vegetation. 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

According to available databases, 54 conservation significant fauna species have been recorded within the local area (10-kilometre radius from the centre of the area proposed to be cleared), which includes 20 migratory species.

Based on the information available, the proposed clearing is likely to have a significant impact on the following species listed under the EPBC Act:

- Western ringtail possum (*Pseudocheirus occidentalis*), listed as critically endangered;
- Baudin's cockatoo (*Zanda Calyptorhynchus* -previously *Calyptorhynchus baudinii*), listed as endangered;
- Carnaby's cockatoo (*Zanda latirostris*- previously *Calyptorhynchus latirostris*) listed as endangered;

### **Baudin's cockatoo**

Baudin's cockatoo is endemic to a 2,000-kilometre area of the humid and sub-humid zones of southwest Western Australia and is generally contained within the 750-millimetre isohyet of average annual rainfall. This species is locally resident, but at the end of the breeding season (January), the birds move away from the breeding area and form flocks that move in response to changing food resources (DEC, 2008). Baudin's cockatoo mainly feeds on the seeds of marri and nest in mature trees such as marri, karri, jarrah and Wandoo in the lower southwest of Western Australia (DEC, 2008).

The range of this species has declined by more than 50 per cent over the past 50 years (Garnett and Crowley, 2000). The principal cause of the decline in range was clearing of the eastern margins of the forests for agriculture and the current primary threat to the population is illegal shooting (DEC, 2008). The main identified threats to the Baudin's cockatoo are illegal shooting, habitat loss through land clearing, nest hollow shortage and competition from other species (DEC, 2008). Baudin's cockatoo is also listed as endangered under the BC Act.

Twenty seven records of Baudin's cockatoos have been identified within the local area with the closest record approximately 2.5 kilometres from the application area.

### **Carnaby's cockatoo**

The Carnaby's cockatoo is also listed as endangered under the BC Act. Carnaby's cockatoo's preferred habitat is remnant native eucalypt woodlands, especially those of salmon gum (*Eucalyptus salmonophloia*) and wandoo (*Eucalyptus wandoo*), and in shrubland or kwongan heathland dominated by plants of the Proteaceae family. It also occurs in forests containing marri, jarrah, karri (*Eucalyptus diversicolor*) and tuart (*Eucalyptus gomphocephala*) (DPaW, 2013).

Carnaby's cockatoo forages on the seeds, flowers and nectar of native proteaceous plant species (e.g. Banksia, Hakea and Grevillea species), eucalypts and Callistemon species. The species also forages on seeds of introduced species (e.g. Pinus and Erodium species, canola and almonds), insects and insect larvae. Carnaby's cockatoo generally forages within six kilometres of a night roost site and, while nesting, within a 12 kilometres radius of their nest site (Commonwealth of Australia, 2012).

Carnaby's cockatoo nests in large hollows in tall, living or dead eucalypts. It nests most commonly in smooth-barked wandoo and salmon gum but has also been recorded breeding in red morrel (*Eucalyptus longicornis*), York gum (*Eucalyptus loxophleba*), tuart, flooded gum (*Eucalyptus rudis*), swamp yate (*Eucalyptus occidentalis*), gimlet (*Eucalyptus salubris*) and marri, and are said to nest in any species of eucalypt with a suitable hollow (DPaW, 2013).

Fourteen records of Carnaby's cockatoos have been identified within the local area with the closest record approximately 1.9 kilometres from the application area.

A known black cockatoo roost site is approximately 6.8 kilometres west of the application area.

The removal of two medium sized trees, one marri and a juvenile swamp paperbark is not likely to have a significant impact on foraging, roosting, and breeding habitat for the Carnaby's cockatoo and Baudin's cockatoo.

### **Western ringtail possum**

The western ringtail possum (WRP) is listed as critically endangered under the Western Australia's *Biodiversity Conservation Act 2016* (BC Act). The application area is mapped as highly suitable habitat for WRP and 6485 records of western ringtail possums have been identified within the local area (10-kilometre radius) with the closest record approximately 100 metres from the application area.

Noting the habitat preferences of this species, the trees proposed to be cleared and local records of the species, it is considered highly likely that WRP may occur within the application area. It is more likely that western ringtail possums may utilise the two trees transiently for foraging or movement.

The removal of two trees is however not likely to impact on the conservation status of the WRP, or persistence of suburban WRP populations within the local area. For the reasons set out above, it is considered that the impacts of the proposed clearing on WRP can be managed by the engagement of an experienced western ringtail possum specialist to monitor clearing activities.

The applicant has proposed to plant native trees adjacent to the proposed clearing to ensure habitat for the local WRP population is maintained, which will further mitigate impacts to the species.

#### Conclusion

Based on the above assessment, the proposed clearing may result in impacts to individual WRPs if present during the clearing, however, this is not likely to impact on the conservation status of the species.

#### Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Fauna management conditions requiring a pre-clearing inspection of the application area for presence of western ringtail possums, and relocation if required
- Revegetation – mitigation, which requires the revegetation of suitable habitat (including peppermint trees) for western ringtail possum, at a ratio of 2: for each tree cleared.

### **3.2.2. Biological values (flora and vegetation) - Clearing Principles (c)**

#### Assessment:

Ecoedge (2022) conducted a detailed and targeted flora and vegetation survey. The survey area included the application area and its surrounding vicinity.

- One species of threatened flora, *Caladenia procera*, was found at three locations within the survey area but not within the application area.
- The conservation significant taxon, *Conospermum caeruleum* var. 'Busselton' was observed scattered throughout much of the *Corymbia calophylla*, *Melaleuca preissiana* and *Agonis flexuosa* Woodland vegetation unit.

Noting the extent of clearing and the vegetation condition being completely degraded, the area proposed to be cleared is unlikely to contain suitable habitat for these flora species.

The application area is within a mapped occurrence of priority-1 ecological community (PEC) 'Eucalyptus rudis (flooded gum), *Corymbia calophylla* (marri), *Agonis flexuosa* (peppermint) closed low forest (near Busselton)'.

Representative photos and information supplied by the applicant (see Appendix D) indicate the two trees to be cleared are *Corymbia calophylla* (marri) and a juvenile *Melaleuca rhapsiophylla* (swamp paperbark). The vegetation surrounding these trees comprises of weedy understorey.

It is unlikely the application area would be considered a part of a PEC given:

- the trees to be cleared are not a complete representative of the key dominant species that comprise this priority ecological community,
- the completely degraded condition (degraded condition) of the area,
- lack of habitat in the form of tree hollows or fallen wood, and
- signs of disturbance and lack of understorey diversity.

#### Conclusion

Based on the above assessment, the vegetation proposed to be cleared is not representative of the *Eucalyptus rudis* (flooded gum), *Corymbia calophylla* (marri), *Agonis flexuosa* closed low forest (near Busselton)'. The vegetation to be cleared does not constitute a significant part of this PEC nor does it represent a suitable habitat for threatened flora species, particularly given its completely degraded condition and the small number of trees to be cleared. As such, the impacts of the proposed clearing will be minimal and not represent a significant residual impact or be detrimental to this PEC.

#### Conditions

No flora and vegetation management conditions required. A weed and dieback management condition will minimise the risk of the introduction and spread of weeds to adjacent vegetation.

### 3.2.3. Significant remnant vegetation - Clearing Principle (e)

#### Assessment

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 percent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

As indicated in Table A.3, the remaining extents of native vegetation within the Swan Coastal Plain is below the minimum 30 per cent representation threshold. Aerial photography indicates the local area (10-kilometre radius) is approximately 12.27 percent vegetated.

Noting the predominantly completely degraded (Keighery, 1994) condition and the weedy understorey present, the proposed clearing is not likely to impact vegetation which is representative of a PEC. The application area may provide transient habitat for WRP, however is not likely to have a significant impact on WRP.

Noting the size of the application area, proposed clearing will not reduce the size of the adjacent informal ecological linkage and the removal of the two trees will not compromise the linkage function of adjacent areas of vegetation.

Given the application area is not likely to provide significant habitat for flora, fauna or vegetation communities, the proposed clearing is not likely to be considered a significant remnant in an extensively cleared landscape.

#### Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on adjacent ecological community can be managed by taking steps to minimise the risk of the introduction and spread of weeds.

#### Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Weed and dieback management

### 3.3. Relevant planning instruments and other matters

No Aboriginal sites of significance have 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.

DBCA has advised the applicant to conduct the construction as sensitively as possible minimising the impact to the adjacent conservation values (threatened flora, western ringtail possum and the priority ecological community '*Eucalyptus rudis* (flooded gum), *Corymbia calophylla*, *Agonis flexuosa* closed low forest (near Busselton)') (City of Busselton, 2022a)

The department of Water and Environmental Regulation's (the department 's) (Regulatory Services – Water) water licencing branch advised that the application area is located within the Busselton-Capel Groundwater Area, as proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act) and there are no concerns from a water regulation perspective, under the RIWI Act (DWER, 2022).

**End**



## Appendix A. Site characteristics

### A.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared comprises of two native trees in the intensive land use zone of Western Australia. It is adjacent to a building and lies in between Recreation Lane and Clydebank Avenue in the City of Busselton.</p> <p>Aerial imagery indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 12.27 per cent of the original native vegetation cover.</p>
Ecological linkage	No mapped formal ecological linkages have been identified within the application area.
Conservation areas	The closest conservation area is approximately 0.89 kilometres west of the application area.
Vegetation description	<p>Vegetation survey indicate the vegetation within the proposed clearing area consists of <i>Corymbia calophylla</i>, <i>Melaleuca preissiana</i> and <i>Agonis flexuosa</i> Woodland (Ecoedge, 2022).</p> <p>This is somewhat consistent with the Swan Coastal Plain mapped vegetation type:</p> <ul style="list-style-type: none"> <li>• Yoongarillup Complex, which is described as woodland to tall woodland of <i>Eucalyptus gomphocephala</i> (Tuart) with <i>Agonis flexuosa</i> in the second storey. Less consistently an open forest of <i>Eucalyptus gomphocephala</i> (Tuart) - <i>Eucalyptus marginata</i> (Jarrah) - <i>Corymbia calophylla</i> (Marri). South of Bunbury is characterized by <i>Eucalyptus rudis</i> (Flooded Gum)-<i>Melaleuca</i> species open forests.</li> </ul> <p>Representative photos and maps are available in Appendix D</p>
Vegetation condition	<p>Vegetation survey (Ecoedge, 2022) indicate that the trees proposed to be cleared are within in a good (Keighery, 1994) condition vegetation patch however, the photographs provided by the applicant indicate that the trees proposed to be cleared are in a completely degraded (Keighery, 1994) condition with an understorey comprising mostly of weeds.</p> <ul style="list-style-type: none"> <li>• Good: Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it.</li> <li>• 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.</li> </ul> <p>The full Keighery (1994) condition rating scale is provided in 0. Representative photos and survey mapping are available in Appendix D.</p>
Climate and landform	<p>Landform: Flat to gently undulating plain but poorly drained flats.</p> <p>Climate: Annual mean maximum temperature: 22 degrees Celsius.</p> <p>Annual mean minimum temperature:10 degrees Celsius</p>

Characteristic	Details
	Rainfall: Mean annual rainfall 807 mm
Soil description	The soil (211SpLDw) is mapped as flats with poor subsoil drainage in winter. Deep yellow brown siliceous sands over limestone (i.e. Spearwood Sands).
Land degradation risk	The application area is mapped as having a high risk for wind erosion.
Waterbodies	The desktop assessment and aerial imagery indicate that no watercourses or wetlands intersect the application area.
Hydrogeography	The application area falls within the Busselton-Capel Groundwater Area, as proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (RIWI Act).
Flora	There are 58 flora records within the local area. There are two threatened species ( <i>Austrostipa bronweniae</i> and <i>Caladenia procera</i> ) and four priority-three flora records found on the same soil and vegetation type as of application area.
Ecological communities	The application area lies within a mapped occurrence of priority-1 ecological community ' <i>Eucalyptus rudis</i> (flooded gum), <i>Corymbia calophylla</i> , <i>Agonis flexuosa</i> closed low forest (near Busselton)'
Fauna	There are records of 54 fauna of conservation significance within the local area (10-kilometre radius) and a known black cockatoo roost site 6.8 kilometres away.

## 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	94,175.31	24,869.20	26.41	4,769.48	5.06
Vegetation complex					
Yoongarillup Complex	27,977.93	10,018.14	35.81	5,151.57	18.41
Local area					
10km radius	202722882.8	24875884.57	12.27	-	-

\*Government of Western Australia (2019a)

\*\*Government of Western Australia (2019b)

### A.3. Flora analysis table

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

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil 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>Caladenia procera</i>	T	Y	N	N	0.07	16	Y
<i>Caladenia huegelii</i>	T	N	Y	Y	0.91	1	-
<i>Grevillea brachystylis subsp. brachystylis</i>	P3	Y	Y	Y	1.93	19	U2
<i>Jacksonia gracillima</i>	P3	Y	Y	Y	1.42	2	U1
<i>Pimelea ciliata subsp. longituba</i>	P3	N	Y	Y	0.07	2	U2
<i>Synaphea hians</i>	P3	Y	Y	Y	1.93	10	U1

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority ; U1. Unlikely, the taxon was not found, no suitable habitat was observed, and the taxon is known to be restricted to a narrow and clearly defined habitat type. ; U2. Unlikely, the taxon was not found, suitable or potential habitat was present and appropriately searched, but the taxon was not observed (Ecoedge, 2022)

### A.4. Fauna analysis table

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

Species name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Baudin's cockatoo	Endangered	Y	2.50	27	N/A
Carnaby's cockatoo	Endangered	Y	1.94	14	N/A
Western ringtail possum, ngwayir	Critically Endangered	Y	0.122	6485	N/A

### A.5. Ecological community analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix E.1), and vegetation and flora survey information, impacts to the following conservation significant ecological communities required further consideration.

Community name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Are surveys adequate to identify? [Y, N, N/A]
<i>Eucalyptus rudis</i> (flooded gum), <i>Corymbia calophylla</i> , <i>Agonis flexuosa</i> Closed Low Forest (near Busselton)	P1	Y	Y	Y

## A.6. Land degradation risk table

Risk categories	Land Unit 1
Wind erosion	H2: >70% 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
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 hazard
Water logging	M2: 30-50% of map unit has a moderate to very high waterlogging risk
Phosphorus export risk	M2: 30-50% of map unit has a high to extreme phosphorus export risk

## Appendix. B Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>Application area is mapped as the 'Eucalyptus rudis (flooded gum), Corymbia calophylla, Agonis flexuosa closed low forest (near Busselton)' (Priority 1) priority ecological community (PEC).</p> <p>The application area consists of two native trees (one marri tree with a moderately dense canopy and a juvenile swamp paperbark tree) comprising of no middle storey and a weedy understorey. Considering the extent of the proposed clearing and the degraded vegetation condition, the proposed clearing is not likely to impact locally significant flora, fauna, habitats, and assemblages of plants.</p>	Not likely to be at variance	No
<p><u>Principle (b):</u> "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."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is likely to contain significant habitat for conservation significant fauna, however may impact individuals of western ringtail possums if present during the time of the clearing. A preclearance inspection by a fauna specialist and appropriate management actions will mitigate any potential impacts.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p> <p><u>Assessment:</u></p> <p>Noting the extent of clearing and the vegetation condition being completely degraded, the area proposed to be cleared is unlikely to contain suitable habitat for flora species listed under the BC Act.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.2, above</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain species that can indicate a threatened ecological community (TEC). The closest threatened ecological community (<i>Corymbia calophylla</i> woodlands on heavy soils of the southern Swan Coastal Plain (SCP1b) is approximately 7.4 kilometres from the application area.</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<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 inconsistent with the national objectives and targets for biodiversity conservation in Australia.</p> <p>Noting the extent and condition of the vegetation within the area applied to clear, it is not considered to be part of a significant ecological linkage in the local area.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.3, above.</i>
<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 likely to be at variance	No
<b>Environmental value: land and water resources</b>		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>The proposed clearing is at variance with this principle as the application area includes a swamp paperbark, which is riparian in nature (Ecoedge, 2022). <i>Eucalyptus rudis</i> (flooded gum), <i>Corymbia calophylla</i>, <i>Agonis flexuosa</i> Closed Low Forest (near Busselton) PEC is a wetland vegetation community. The plant species in the community are wetland dependent.</p> <p>However, the extent of clearing (two native trees) within these larger riparian habitats is considered to be minimal and is not likely to significantly impact on the larger extent of riparian habitat associated and adjacent to the application area.</p>	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 are susceptible to wind erosion. Noting the extent of clearing and location of the application area, the proposed clearing is not likely to have an appreciable impact on land degradation.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><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."</p> <p><u>Assessment:</u></p> <p>The clearing of two trees adjacent to intact better condition vegetation is not likely to impact surface or groundwater quality of the associated damland.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."</p> <p><u>Assessment:</u></p> <p>The mapped soils have poor drainage in winters however topographic contours in the surrounding area and the flood risk rating (DPIRD-007) does not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.</p> <p>The proposed clearing of two trees is unlikely to contribute to waterlogging.</p>	Not likely to be at variance	No

### Appendix C. Vegetation condition rating scale

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

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. 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. Biological survey information excerpts and photographs of the vegetation**



Figure D-1: application area comprises of one marri tree and a juvenile swamp paperbark tree (City of Busselton, 2022b)



Figure 2. Aerial photograph showing the location of the survey area.



Figure D-3: vegetation condition within the survey area (Ecoedge, 2022)



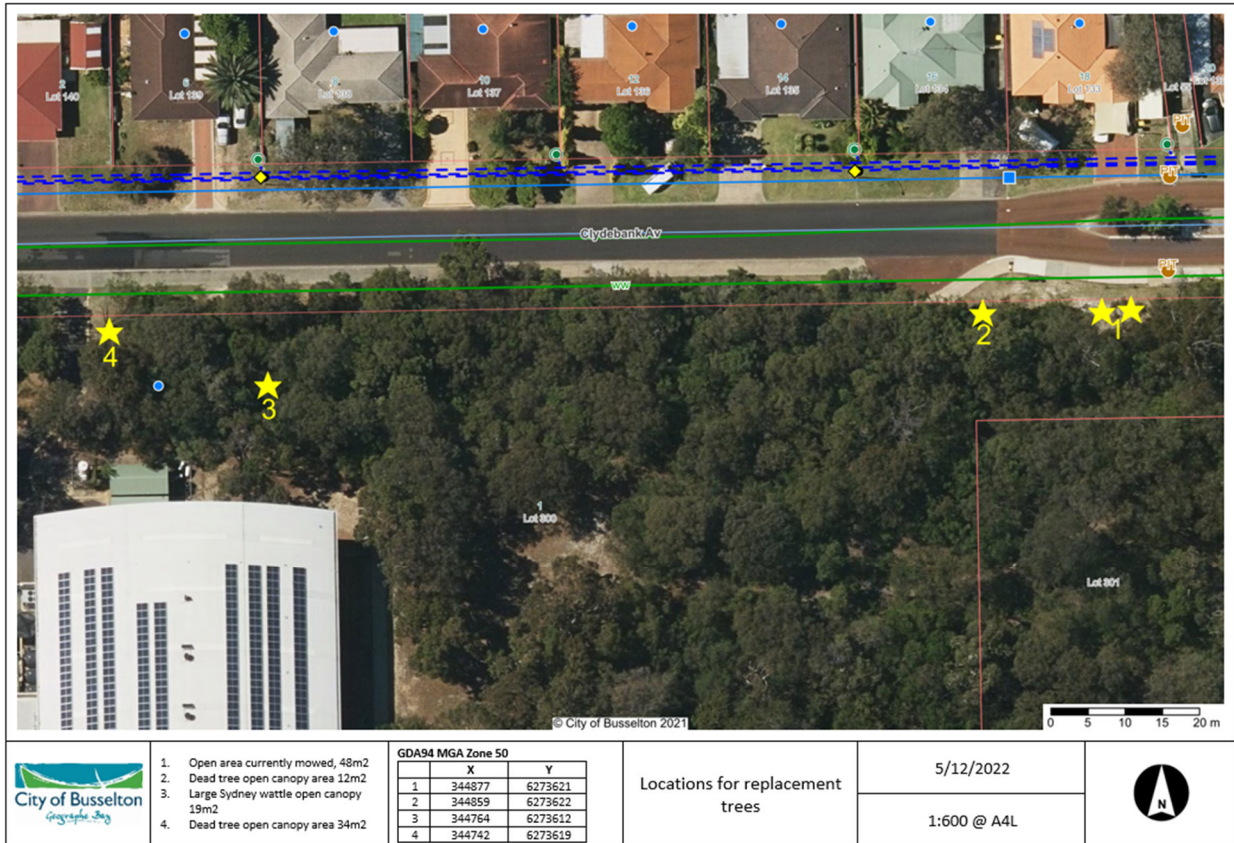


Figure D-4: Approximate location on Clydebank Avenue where trees could be planted to mitigate the impact of tree removal from the site (City of Busselton, 2022b)

## Appendix E. Sources of information

### E.1. GIS databases

Publicly available GIS Databases used (sourced from [www.data.wa.gov.au](http://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)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)

- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available

Restricted GIS Databases used:

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

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