GOVERNMENT OF WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8737/1
Permit Holder:	Department of Transport
Duration of Permit:	8 October 2020 to 8 October 2032

PART I –CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of expanding the Woodman Point Recreational Boating Precinct.

2. Land on which clearing is to be done

Property Details	Locality
LOT 50 ON PLAN 14757	Coogee
LOT 51 ON PLAN 14756	
LOT 61 ON DIAGRAM 67078	
LOT 184 ON PLAN 219648	
LOT 185 ON PLAN 219648	
LOT 501 ON PLAN 56133	
LOT 502 ON PLAN 56133	

3. Area of clearing

The Permit Holder must not clear more than 7.8 hectares of native vegetation within the area cross hatched yellow on attached Plan 8737/1(a).

4. Application

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

5. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out work involving clearing for those activities under any relevant Act or any other written law.

6. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 8 October 2025.

PART II –MANAGEMENT CONDITIONS

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

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

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

8. Dieback and weed control

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

(a) clean machines and other vehicles of soil and vegetation prior to entering and leaving the area to be cleared

(b) ensure that no known *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared

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

9. Fauna management - direction of clearing

The Permit Holder shall conduct clearing in a slow progressive manner from one direction to the other (e.g. east to west) to allow fauna to move into adjacent native vegetation ahead of the clearing activity.

10. Wind erosion management

The Permit Holder must ensure that construction activities commence within three months of the authorised clearing being undertaken, to reduce the risk of soil erosion by minimising the exposure time of soils prior to construction.

11. Revegetation plan

(a) Within 24 months of clearing commencing under this Permit, the Permit Holder must submit a Project Revegetation Plan to the *CEO* for approval for a 12.5 hectare portion of the area hatched red on Plan 8737/1(b)

(b) The boundaries of the 12.5 hectare revegetation area specified in the Project Revegetation Plan as required under Condition 11(a) must be determined in consultation with the Department of Biodiversity, Conservation and Attractions, and based on the findings of a weed mapping survey

(c) The Project Revegetation Plan shall be developed in accordance with *A Guide to Preparing Revegetation Plans for Clearing Permits* (Department of Water and Environmental Regulation (DWER) 2018)

(d) The Project Revegetation Plan must be prepared by an *environmental specialist*

(e) The Project Revegetation Plan must include the following:

- (i) The results of the weed mapping survey undertaken within the area hatched red on attached Plan 8737/1(b);
- (ii) *site preparation* measures;
- (iii) *weed* control measures;
- (iv) *regeneration, direct seeding* or *planting* measures at an *optimal time*;
- (v) a *vegetation establishment period*;
- (vi) *revegetation* success *completion criteria* based on *reference sites;*
- (vii) *revegetation* success *completion criteria* which shall include but not be limited to target weed cover, target vegetation condition, target density and target structure;
- (viii) remedial actions to be undertaken if *completion criteria* are not met;
- (ix) ongoing maintenance and monitoring of the area to be *revegetated* and *rehabilitated*;
- (x) timeframes for completion of the activities; and
- (xi) management commitments that will be achieved.

(f) The Permit Holder shall implement the Project Revegetation Plan as approved by the *CEO*.

PART III - RECORD KEEPING AND REPORTING

12. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

(a) In relation to the clearing of native vegetation authorised under this Permit:

- (i) 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;
- (ii) the date that the area was cleared;
- (iii) the size of the area cleared (in hectares);
- (iv) the purpose for which clearing was undertaken;
- (v) actions taken in accordance with condition 6 of this Permit;

(vi) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 7 of this Permit;
(vii) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 8 of this Permit;
(viii) activities taken in accordance with condition 9 of this Permit; and
(ix) activities taken in accordance with condition 10 of this Permit.

(b) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 11 of this Permit:
(i) a description of the *revegetation* and *rehabilitation* activities undertaken;
(ii) the size of the areas *revegetated* and *rehabilitated* (in hectares);
(iii) the date that *revegetation* and *rehabilitation* works began; and
(iv) actions taken in accordance with condition 11 of this Permit.

13. Reporting

(a) The Permit Holder must provide to the *CEO* on or before 30 June of each year, a written report:
(i) of records required under condition 12 of this Permit; and
(ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.
(b) If no clearing authorised under this Permit has been undertaken, a written report confirming that no clearing under this Permit has been undertaken, must be provided to the *CEO* on or before 30 June of each year.
(c) Prior to 7 July 2032, the Permit Holder must provide to the *CEO* a written report of records required under condition 12 of this Permit where these records have not already been provided under condition 13(a) of this Permit.

DEFINITIONS

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

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

completion criteria means a measurable outcome based on suitable *reference sites*, used to determine revegetation/*rehabilitation* success

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

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

environmental specialist means a person who holds a tertiary qualification in environmental science or equivalent, and has 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

fill means material used to increase the ground level, or fill a hollow

local provenance means native vegetation seeds and propagating material from natural sources within 100 kilometres and the same Interim Biogeographic Regionalisation for Australia (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

optimal time means the optimal time for undertaking direct seeding and planting as set out in the table in Schedule 2 of this Permit;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species

reference sites means nearby sites used to provide baseline data for planning a revegetation project. Measurements from fixed reference points or plots where biodiversity components are measured are used to set measurable completion criteria for revegetation projects. The *reference sites* must contain the following values:

(a) Vegetation that is representative of the ''*Callitris preissii* (or *Melaleuca lanceolata*) forests and woodland's' ecological community

(b) Vegetation in a good to very good (Keighery, 1994) or better condition

rehabilitate/ed/ion/ing means actively managing an area containing native vegetation in order to improve the ecological function of that area

revegetate/ed/ion/ing means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area

regeneration means revegetation that can be established from in situ seed banks contained either within the topsoil or seed-bearing mulch;

site preparation means management of existing site topsoil and preparation of the finished soil surface for revegetation, for example by ripping or tilling the soil surface and respreading site topsoil and chipped native vegetation;

vegetation condition means the rating given to native vegetation which refers to the impact of disturbance on each of the layers and the ability of the community to regenerate (Keighery 1994)

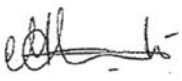
vegetation establishment period means a period of at least two summers after the revegetation during which time replacement and infill revegetation works may be required for areas in which revegetation has been unsuccessful, and involves regular inspections of revegetation sites to monitor the success of revegetation;

weed/s means any plant -

(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or

(b) published in 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.



Meenu Vitarana
A/MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

14 September 2020

Plan 8737/1 (a)

Legend

- Roads
- Imagery
- Clearing Instruments Activities
- Local Government Authority

N

0 200m

1:7,646

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

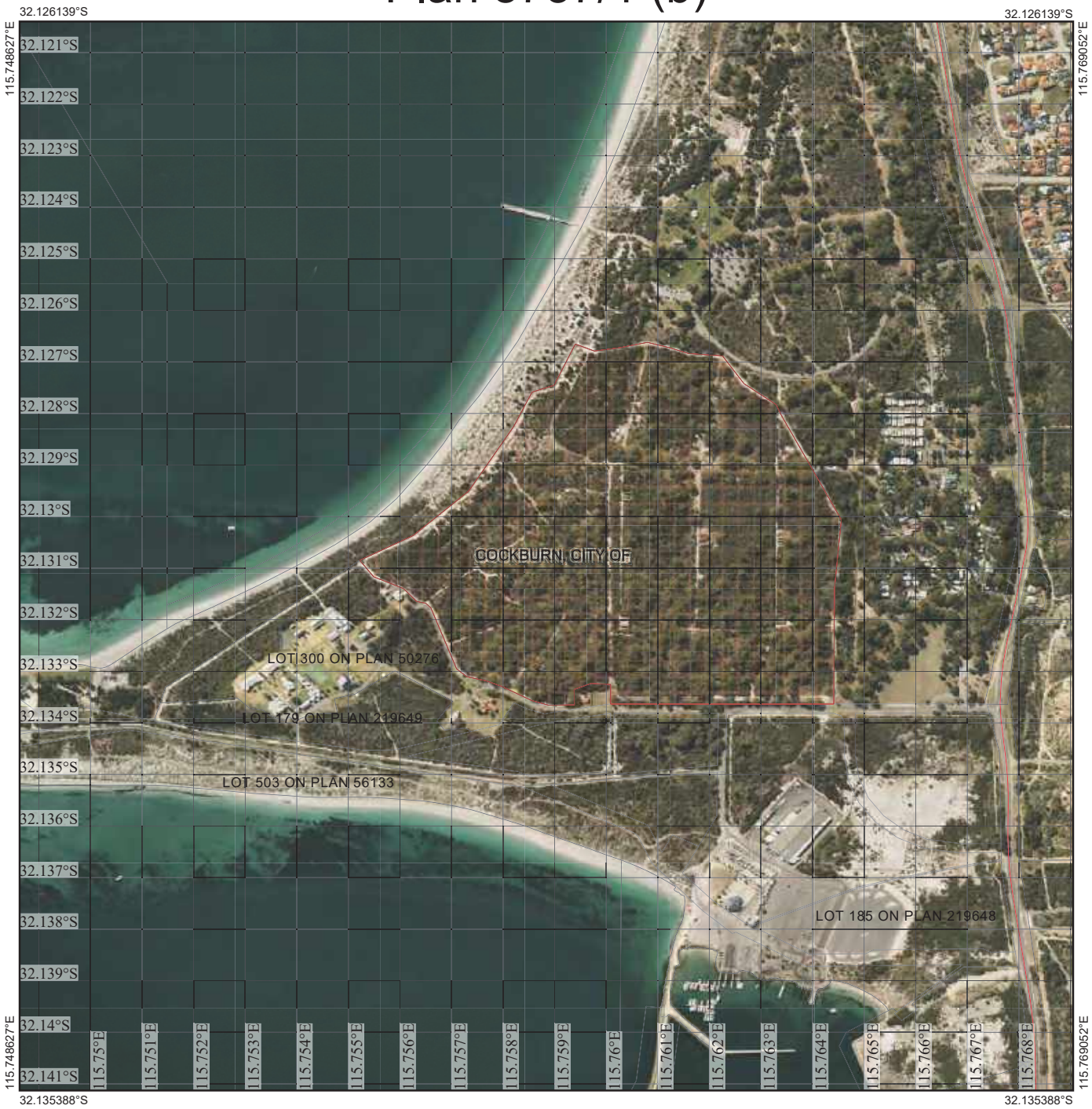
Geocentric Datum of Australia 1994

Meenu Vitarana
2020.09.14 14:34:37
+08'00'

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Plan 8737/1 (b)



Legend

- Clearing Instruments Conditions
- Imagery
- Local Government Authority

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GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

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Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Clearing Permit Decision Report

1. Application details and decision summary

1.1. Permit application details

Permit application No.: 8737/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Department of Transport
Application received: 21 November 2019

1.3. Property details

Properties: LOT 61 ON DIAGRAM 67078, COOGEE
LOT 51 ON PLAN 14756, COOGEE
LOT 50 ON PLAN 14757, COOGEE
LOT 502 ON PLAN 56133, COOGEE
LOT 501 ON PLAN 56133, COOGEE
LOT 185 ON DEPOSITED PLAN 219648, COOGEE
LOT 184 ON DEPOSITED PLAN 219648, COOGEE
Local Government Authority: City of Cockburn

1.4. Application details

Clearing Area (ha)	Method of Clearing	Purpose category
7.8	Mechanical Removal	Building or structure

1.5 Application Decision

Decision on Permit Application: Grant
Decision Date: 14 September 2020

Reasons for Decision

The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986* (EP Act). It has been concluded that the proposed clearing is at variance with Principles (d), (e) and (h), may be at variance with Principle (g), is not at variance with Principle (f), and is not likely to be at variance to the remaining clearing Principles.

In designing the project, the applicant has avoided 4.6 hectares of native vegetation largely in a good (Keighery, 1994) condition within the north of the boating precinct, which is mapped as the '*Callitris preissii* (or *Melaleuca lanceolata*) forests and woodland' (*Callitris preissii* Woodlands) state listed threatened ecological community (TEC).

The assessment determined that the proposed clearing will impact on 2.6 hectares of native vegetation in a good to degraded condition considered representative of the *Callitris preissii* Woodlands state listed TEC within Woodman Point Regional Park (Bush Forever Site 341).

To address the above impact the applicant has committed to revegetating 12.5 hetcares of native vegetation representative of the *Callitris preissii* Woodlands TEC within Woodman Point Regional Park (also Bush Forever Site 341), in consultation with DBCA. As a condition of the Clearing Permit the applicant will be required to undertake weed mapping to inform the most suitable area for revegetation, and submit a comprehensive revegetation plan which includes target completion criteria for DWER's approval.

The Delegated Officer considers that the above offset is sufficient to counterbalance the impact to the *Callitris preissii* Woodlands TEC, Woodman Point Regional Park and Bush Forever Site 341.

To minimise other potential impacts, as a condition of the Clearing Permit the applicant will be required to undertake the following measures:

- Slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity
- Implement weed and dieback management measures to reduce the risk of spread, including;
  - Cleaning machines of soil and vegetation before entering and leaving the application area
  - Ensuring that no known dieback or weed-affected soil, mulch, fill or other material is brought into the application area

- Restricting the movement of machines and other vehicles to the limits of the areas to be cleared.
- Undertake construction activities within three months of clearing to reduce the exposure time of bare sandy soils and minimise the risk of wind erosion.

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

2. Site Information

Clearing Description

The Department of Transport (DoT) has applied to clear up to 7.8 hectares of native vegetation within a larger 14.87 hectare footprint area, for the expansion of the Woodman Point Recreational Boating Precinct (the Precinct). The applicant has advised the works are being undertaken to support the growth and future demand for boat launching, storage and a range of complimentary maritime service businesses in the area (AECOM, 2020).

The Precinct is a 32 hectare site managed by the Department of Transport, located on the southern portion of the Woodman Point peninsula in the City of Cockburn (see Figure 1) (AECOM, 2020).

The applicant notes that the Precinct is the only district-level public boat launching facility located on the coast between Point Peron (approximately 16 kilometres south) and Hillarys Boat Harbour (approximately 35 kilometres north), and may be subject to the launching of up to 300 boats on peak days (AECOM, 2020).

The applicant notes that the proposed development will result in the following improvements (AECOM, 2020):

- Support the expansion of leisure activities for trailerable boat users
- Establish commercial maritime activities to service the recreational boating community including chandlery, fabrication, refurbishment, repair, servicing and storage of small boats
- Provide roads and pedestrian networks, service infrastructure and drainage

Biological Surveys

A Level 1 Flora and Vegetation Assessment and a Level 1 Fauna Assessment (the Survey) were conducted over a larger project area encompassing the application area in September 2015, in accordance with the former EPA (2004) Guidance Statement 51 and EPA (2003) Guidance Statement 56 respectively (AECOM 2016).

A further field study was undertaken in September 2019 to identify evidence of the state listed *Callitris preissii* Woodlands TEC and the federally listed 'Tuart (*Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain' TEC.

Flora Survey Methods

The methods for the flora survey included the collection of floristic data at sample point locations using a combination of 10 by 10 metre non-permanent quadrats and relevés to document the floristics, community composition, condition, and other identifying features of the project area. The entire project area was traversed on foot to conduct targeted searches for conservation significant flora (AECOM, 2016).

Floristic Community Types (FCTs) of the Swan Coastal Plain (SCP) were inferred using floristic data from the mapped vegetation communities (AECOM, 2016).

Fauna Survey Methods

The methods for the fauna survey included recording all observed fauna and birds identified from distinctive calls. Details of indirect evidence such as scats, tracks and diggings was documented. The Survey notes that attention was given to conservation significant species identified in the desktop assessment as having the potential to occur in the area (AECOM, 2016).

At each habitat, the Survey included searches involving raking soil and leaf litter, inspecting dead logs and timber, inspecting burrows, lifting rocks and inspecting loose bark on of trees (AECOM, 2016).

Vegetation Description

Regional vegetation complex mapping identifies the following vegetation complex within the application area (Heddle et al., 1980):

- Cottesloe complex – central and south, described as mosaic of woodland of *Eucalyptus gomphocephala* and open forest of *E. gomphocephala – E. marginata – E. calophylla*; closed heath on the Limestone outcrops.

The Survey recorded the following vegetation types within the application area (AECOM, 2016). Note that the extent of these vegetation types has been provided for the larger application area footprint of 14.87 hectares. The application area includes large bare sections devoid of native vegetation, and the actual extent of native vegetation within the larger footprint is 7.8 hectares (PTA, 2020).

Table 1. Vegetation types within the application area.

Recorded Vegetation type	Description (where * denotes an exotic species)	Extent within application area (hectares)
Acacia rostellifera thicket (ArAp)	*Acacia rostellifera, Melaleuca systena* and *Santalum acuminatum* mid to tall closed shrubland over *Acanthocarpus preissii, Hardenbergia comptoniana* and *Cyathochaeta avenacea* mid mixed open herbs and sedgeland. The community is further characterised by sparse weed understorey including *Arctotheca calendula*, Asparagus asparagoides*, Brassica tournefortii** and *Euphorbia paralias**.	2.59
Degraded foredunes (LlSp)	*Leptospermum laevigatum** and *Acacia rostellifera* mid open to sparse shrubland over *Spinifex longifolius, Juncus pallidus* and *Ficinia nodosa* mid open sedgeland. Foredune areas where lack of vegetation establishment has led to prominent wind erosion and weed dispersal.	1.82
Acacia rostellifera woodlands (ArLlAb)	*Acacia rostellifera* mid woodlands over *Leptospermum laevigatum** and *Spyridium globulosum* tall sparse shrubland over *Avena barbata*, Asparagus asparagoides** and *Clematis linearifolia* mid mixed herb and grassland. Very low species richness (four native species). This community is highly degraded with weeds displacing native vegetation.	2.36
Limited regrowth (SrAf)	Limited regrowth of *Scaevola repens* var. *repens, Austrostipa flavescens*, *Leptospermum laevigatum*,* and *Trachyandra divaricata**. This large area in the centre of the project area has undergone historic clearing. Since then, erosion and weed dispersal have prevented significant regrowth.	6.72
Unmapped	Similar to SrAf described above.	0.17

Vegetation Condition

The Survey notes that historical clearing across the application area has resulted in large bare areas which are vulnerable to weed dispersal, leading to increased edge effects (AECOM, 2016). The condition of the vegetation within the application has been summarised within Table 2 below (AECOM, 2016).

Table 2: Vegetation Condition within the application area

Vegetation Condition	Extent within the application area
Good - Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994)	0.44 hectares
Degraded - Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994)	6.02 hectares
Completely degraded - No longer intact, completely/almost completely without native species (Keighery, 1994)	6.88 hectares

The remainder of the application area has been completely cleared.

Soil type

The application area is mapped as S13 Phase (Unit 211Qu__S13), described as calcareous sand, white, medium-grained, rounded quartz and shell debris, well sorted, of eolian origin (DPIRD, 2017).

Site Maps

Figure 1. Application Area (outlined blue)

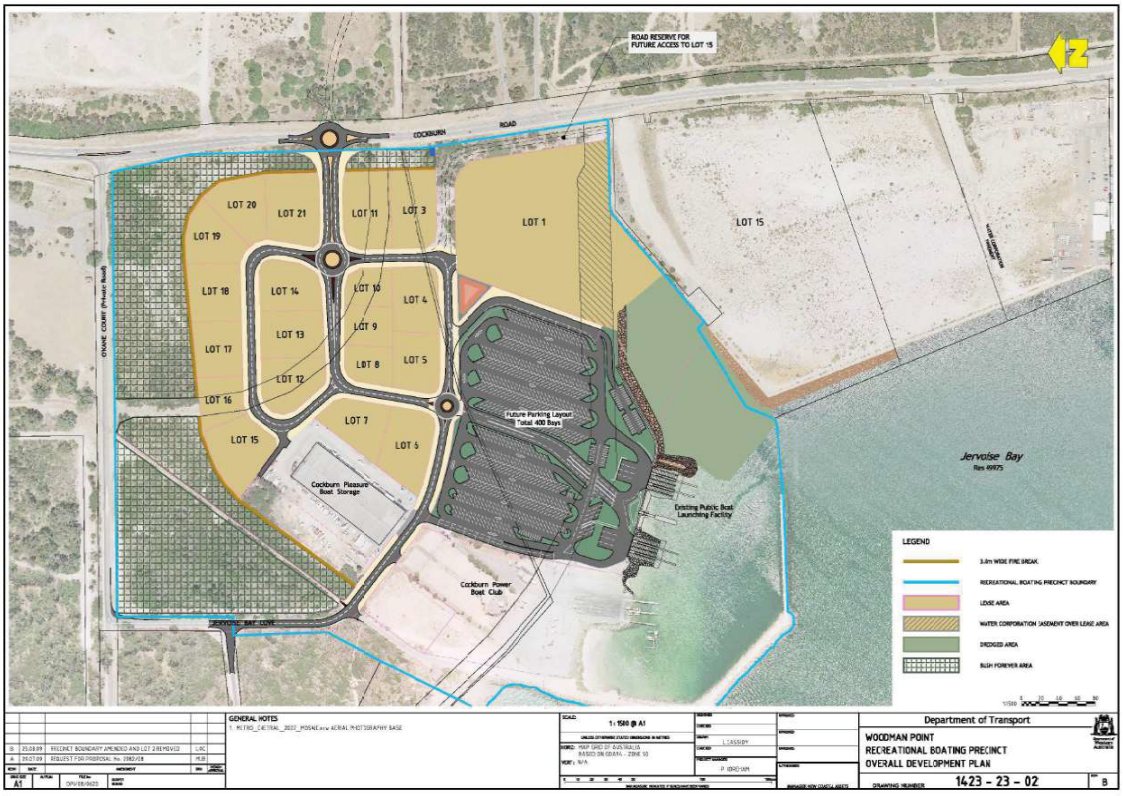

Figure 2. Future concept design

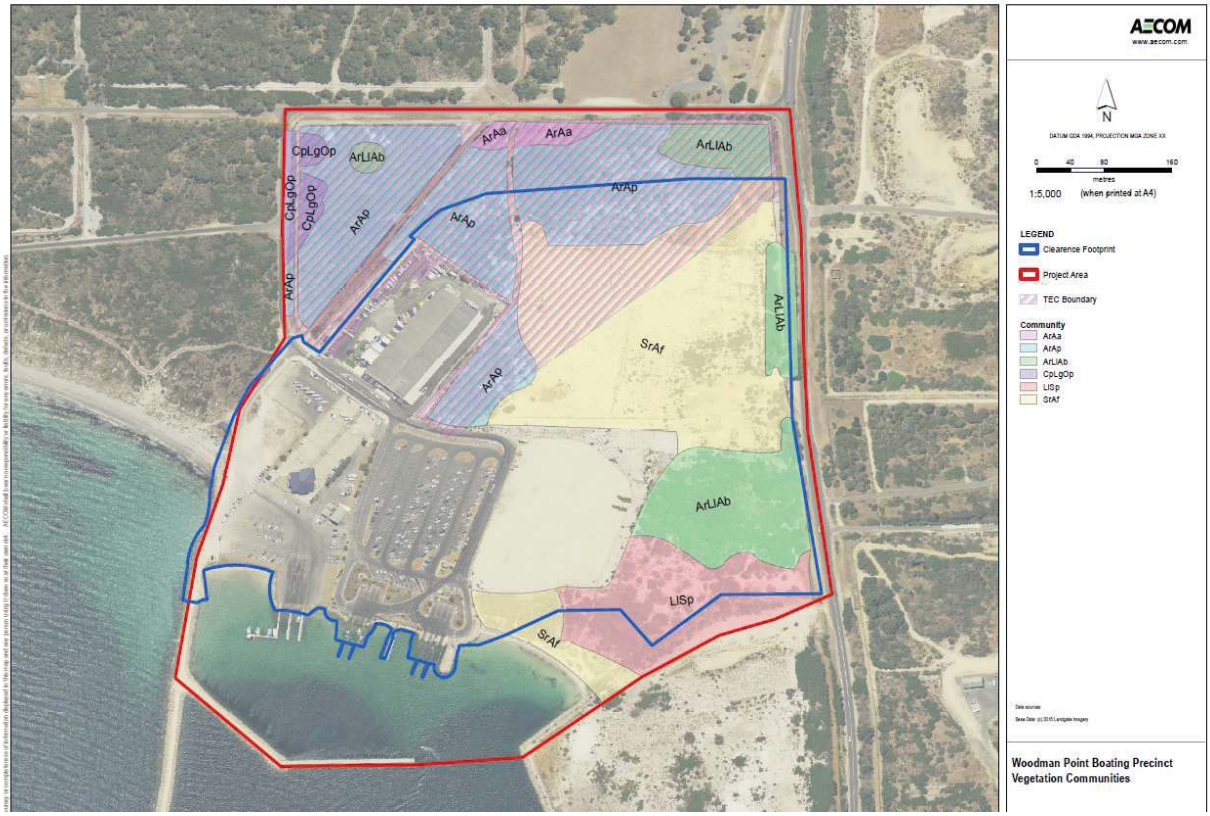

Figure 3. Mapped vegetation types. Note marked 'clearance footprint' differs slightly from the application area (AECOM, 2020)

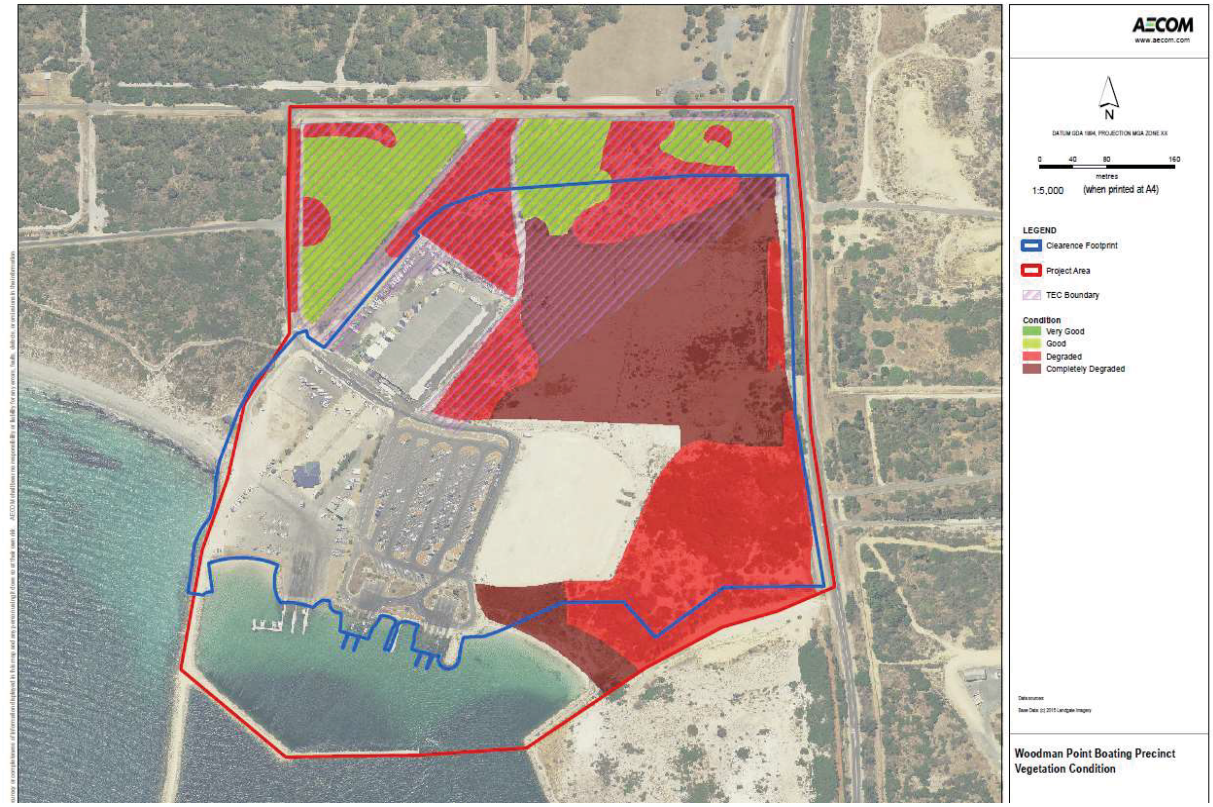

Figure 4. Mapped vegetation condition. Note marked 'clearance footprint' differs slightly from the application area (AECOM, 2019) (AECOM, 2020)

3. Avoidance, minimisation and mitigation measures

The applicant notes that the proposed expansion has been designed to utilise areas that have undergone the greatest historical disturbance (AECOM, 2020). Specifically, the applicant notes avoidance of 4.6 hectares of native vegetation largely in a good (Keighery, 1994) condition within the north of the precinct. This avoided area is mapped as the *Callitris preissii* Woodlands, which is a state listed TEC (vulnerable) (AECOM, 2020).

As discussed under Section 6, the applicant has committed to undertaking revegetation measures to offset the remaining impacts to the *Callitris preissii* Woodlands TEC.

The applicant has provided a number of pre clearing vegetation management measures within the supporting information, which include the following (AECOM, 2020):

- Demarcate approved clearing area using GPS coordinates and flagged star pickets
- Demarcate any native vegetation within the site boundary that will be retained
- Demarcate topsoil, weed and dieback management boundaries
- Demarcate approved site boundary with flagging and permanent fencing
- Restrict access by personnel, vehicles and plant into vegetated areas adjacent to the project boundary
- Ensure vegetation is felled into the approved clearing area, not into undisturbed vegetation
- Retain logs for use as habitat landscaping and revegetation, where possible
- Stockpile all cleared vegetation separately and mulch for use either on-site (for stabilisation) or for other rehabilitation projects
- Ensure no new informal tracks arise and all vehicle and personnel movements are limited to the approved project boundary
- Ensure fill, soil and mulch used on site and in landscaping is uncontaminated, and free of weeds and disease
- Control, with the aim to eradicate, any infestation of declared pests or high priority weeds
- Locate topsoil and cleared vegetation stockpiles away from areas where runoff from rainfall may occur
- Ensure any hydro-mulching used for dust suppression or stabilisation is certified weed free

4. Assessment of application against clearing principles

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

Proposed clearing is not likely to be at variance with this Principle

Delegated Officers Key Considerations

The application area is not likely to provide a high level of biodiversity. This is based on the following:

- It is largely in a degraded to completely degraded condition with minimal native understorey that is heavily impacted by weeds
- It is not likely to comprise significant habitat for fauna
- It is not likely to include threatened or priority flora species.

It is noted that the application area includes 2.6 hectares of a mapped occurrence of the *Callitris preissii* Woodlands TEC. The impact to this TEC is considered a significant residual impact, however based on the above key considerations, the presence of this TEC alone does not infer that the application area has a high level of biodiversity.

Background

As described under Section 2, four vegetation types have been recorded and mapped within the application area (AECOM, 2016). The majority of the application area is dominated by *Acacia rostellifera* which forms thickets and woodlands over a predominantly weedy understorey (AECOM, 2016).

The Survey identified a total of 53 flora species, including 34 native species (representing 32 genera and 20 families) and 19 weeds (AECOM, 2016).

The condition of the vegetation within the application area ranged between good and completely degraded (Keighery, 1994), with the majority in a degraded (Keighery, 1994) to completely degraded (Keighery, 1994) condition. The condition was attributed to the presence of weeds, historical clearing, and erosion of sandy surfaces due to low vegetation recruitment in bare areas (AECOM, 2016).

Threatened and Priority Flora

The local area includes records of 25 priority flora species and three threatened flora species. Of these, six priority flora species are considered likely to occur in the application area on the basis of nearby records (within a 10 kilometre radius (local area)) and habitat suitability, as shown in table 3 below (AECOM, 2020; Western Australian Herbarium, 1998-).

Table 3. Priority flora considered likely to occur within the application area.

Taxon	Conservation status
Austrostipa mundula	P2
Hibbertia leptotheca	P3
Pimelea calcicola	P3
Lepidium puberulum	P4
Dodonaea hackettiana	P4
Grevillea olivacea	P4

As discussed under Principle (c), the application area does not provide suitable habitat for the three threatened flora species recorded within the local area.

The Survey did not identify any threatened or priority flora species within the application area or surrounds (AECOM, 2016). The Survey methodology notes that the project area was traversed on foot to conduct targeted searches for conservation significant flora (AECOM, 2016).

The age of survey is acknowledged, however noting its findings and the degraded to completely degraded (Keighery, 1994) condition of the majority of the application area (AECOM, 2016), it is unlikely that the application area contains any threatened or priority flora species.

Threatened and Priority Ecological Communities (TEC/PEC)

Tuart Woodland TEC/PEC

The closest mapped priority ecological community (PEC) to the application area is around 150 metres north west, known as the 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' (Priority 3). This state listed PEC is also recognised as a commonwealth listed TEC (critically endangered) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The TEC is defined by the presence of *Eucalyptus gomphocephala* trees in the canopy layer and is predominantly located on the Spearwood and Quindalup dune systems which are underlain by Tamala Limestone.

To be considered a Matter of National Environmental Significance, areas of Tuart woodland and/or forest must meet several diagnostic characteristics and minimum condition thresholds (Department of the Environment and Energy (DotEE), 2019). The primary defining feature of the community is the presence of at least two living established Tuart trees with a gap of no more than 60 metres between the outer edges of the canopies of adjacent Tuart trees (DotEE, 2019). Where a patch of Tuart trees is identified, further assessment is required to assess the other diagnostic characteristics to determine if the Tuart Woodland TEC is present (DotEE, 2019).

The 2015 Survey was undertaken prior to the listing of the Tuart Woodland TEC and therefore the TEC's presence was not considered during that Survey. Subsequently, the applicant commissioned AECOM to undertake a further field survey in September 2019 to identify evidence of this TEC, with the findings assessed against the published diagnostic characteristics of the TEC (AECOM, 2020).

Two small patches of tuart trees were identified during the survey, as shown below in Figure 4 (AECOM, 2020). The patch on the eastern boundary of the site contained established Tuart trees but was not large enough to be representative of the Tuart Woodland TEC (AECOM, 2020), as the 0.5 hectare minimum patch size threshold specified for this community was not met (DotEE, 2019).

The northern patch comprised 0.9 hectares and contained Tuart trees within *Acacia rostellifera* thicket in an area mapped as degraded to good (Keighery, 1994) condition (AECOM, 2020). The understorey comprises *Acacia rostellifera* shrublands with open and previously disturbed areas.

The ground cover is largely devoid of native species (AECOM, 2020). The patch is considered to be in a moderate to poor condition when considering the vegetation condition ratings (biotic thresholds) under the TEC's approved conservation advice. To be representative of the TEC, patches in a moderate to poor condition need to be larger than two hectares. Therefore this patch is not representative of the TEC.

Figure 4. Tuart woodland (hatched green) within the application area.

Callitris preissii Woodlands TEC

As discussed under Principle (d), the *Callitris preissii* Woodlands TEC is mapped over around 3.2 hectares of the application area. Of this, 0.6 hectares is devoid of native vegetation. It is considered that the proposed clearing will impact on 2.6 hectares of vegetation representative of this TEC. The applicant has proposed an offset to address impacts to this TEC (as described under Section 6).

Threatened and Priority Fauna

As discussed under principle (b), two conservation significant fauna species were recorded during the Survey (AECOM, 2016):

- Quenda (*Isoodon fusciventer*) (state listed as Priority 4) was recorded outside of the application area (direct sighting) with potential diggings identified inside the application area
- Carnaby's cockatoo (*Calyptorhynchus latirostris*) (Endangered under the *Biodiversity Conservation Act 2016* (BC Act) and EPBC Act), a flock of 14 birds were recorded flying over the application area. No birds were identified landing in the application area.

The application area does not provide preferred habitat for quenda or Carnaby's cockatoo, and is not likely to be significant for either species.

The application area also contains suitable habitat and may be transiently visited by a number of conservation listed migratory birds. Noting that vegetation in a better condition occurs adjacent within the remainder of Woodman Point Regional Park (comprises around 252 hectares), the application area is not likely to provide significant habitat for migratory birds.

The application area is not mapped as an ecological linkage, and does not contribute significantly to landscape ecological linkage values.

(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.

Proposed clearing is not likely to be at variance with this Principle

Delegated Officers Key Considerations

The application area is not likely to comprise the whole or a part of, or be necessary for the maintenance of a significant habitat for fauna. This is based on the following:

- It is largely in a degraded to completely degraded condition
- It does not contain any trees with hollows
- It does not contain preferred foraging habitat for Carnaby's cockatoo
- It provides limited dense native understorey habitat for quenda
- It is surrounded by higher quality habitat for migratory birds and quenda within the adjacent Woodman Point Regional Park.

It is noted that the quenda may be a transient visitor to the site. As a condition of the Clearing Permit the applicant will be required to undertake slow progressive one directional clearing to allow quenda to move ahead of the clearing activity.

Fauna Habitat and Species Records

The application area predominantly contains three fauna habitats (AECOM, 2016):

- Acacia woodlands and shrublands - comprising *Acacia* thickets and some mixed shrubs on undulating to flat sandy terrain (mapped over 4.6 hectares of the application area)
- Formerly cleared shrubland - comprising a large area of degraded low shrubs and grasses (mapped over 6.1 hectares of the application area)
- Beach/dune habitat - comprising sedges on sand and beach (mapped over 2.5 hectares of the application area).

The Survey identified that 22 Threatened, Priority or Migratory fauna species may occur within the application area (based on key database searches) (AECOM, 2016). The Survey notes that five of these species were likely to occur in the application area on the basis of habitat suitability and evidence of nearby records (AECOM, 2020):

- Carnaby's cockatoo
- Great knot (*Calidris tenuirostris*) (critically endangered under the EPBC Act and BC Act)
- Grey plover (*Pluvialis squatarola*) ((Migratory under the EPBC Act and BC Act)
- Red-necked stint (*Calidris ruficollis*) (Migratory EPBC Act and BC Act)
- Quenda

Of these species, the Survey recorded quenda and Carnaby's cockatoo (AECOM, 2016).

Carnaby's cockatoo

The survey recorded a flock of 14 Carnaby's cockatoos flying over the project area. No birds were identified utilising the application area (AECOM, 2016).

Carnaby's cockatoo forages on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia*, *Hakea* and *Grevillea*), as well as *Allocasuarina* and *Eucalyptus* species, *Corymbia calophylla* and a range of introduced species (Valentine and Stock, 2008). The records of foraging activity for Carnaby's cockatoo on the Swan Coastal Plain show that *Banksia* species account for nearly 50 per cent of the diet for this species (Shah, 2006).

The vegetation types recorded within the application area (AECOM, 2016) do not comprise preferred foraging habitat for this species. The Survey notes that the application area has a low diversity and low abundance of foraging species suitable for Carnaby's cockatoo (AECOM, 2016).

Carnaby's cockatoo generally breeds in flat-topped yate, salmon gum, wandoo, marri, karri, blackbutt, tuart, introduced eucalypts (for example blue gum) and introduced pines (Commonwealth of Australia, 2012). To be suitable as a breeding site, trees require a suitable nest hollow or be of a suitable diameter at breast height (DBH) to develop a nest hollow, which for most species is 500 millimetres (Commonwealth of Australia, 2012).

The Survey recorded three trees within the application area with a DBH of greater than 500 millimetres. None of these trees had hollows of a suitable nesting size for Carnaby's cockatoo (AECOM, 2016).

Noting the lack of preferred foraging habitat and suitable nesting trees, the application area is not likely to provide significant habitat for Carnaby's cockatoo.

Quenda

The fauna assessment identified potential quenda diggings within the application area (AECOM, 2016).

Quenda prefer dense scrubby, often swampy, vegetation with dense cover up to one metre high. It also occurs in woodlands, and may use less ideal habitat where this habitat occurs adjacent to the thicker, more desirable vegetation (Burbidge, 2016). On the Swan Coastal Plain, quenda are often associated with wetlands.

The application area is unlikely to provide significant habitat for this species given the presence of higher quality denser vegetation within the adjacent remnant vegetation in Woodman Point Regional Park.

This species may however be subject to individual harm should they be present on site at the time of clearing. Slow progressive one directional clearing would help to allow this species to disperse ahead of the clearing activity should it occur on site.

Migratory Birds

The application area provides some suitable habitat for the great knot, grey plover and red-necked stint, which may transiently visit the application area. Noting that these species are highly mobile avian fauna with large home ranges, the application area, which is largely in a degraded to completely degraded (Keighery, 1994) condition, is not likely to comprise significant habitat for these species. It is noted that higher quality habitat remains within other portions of the surrounding Woodman Point Regional Park, which is more likely to be utilised by these species.

Ecological Linkages

The application area is not mapped as an ecological linkage, and does not contribute significantly to ecological linkage values within the landscape.

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

Proposed clearing is not likely to be at variance with this Principle

Delegated Officers Key Considerations

The application area is not likely to include or be necessary for the continued existence of threatened flora. This is based on the following:

- The application area does not contain suitable habitat for the three threatened flora species recorded within the local area (10 kilometre radius)
- The Survey did not identify any threatened flora species within the application area
- The application area is largely in a degraded to completely degraded condition.

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Proposed clearing is at variance with this Principle

Delegated Officers Key Considerations

The application area is considered to comprise the whole or part of, or be necessary for the maintenance of a threatened ecological community. This is based on the following:

- The application area contains 2.6 hectares of native vegetation mapped as, and considered representative of the *Callitris preissii* Woodlands state listed TEC
- The proposed clearing will increase the risk of weeds and dieback spreading into adjacent native vegetation mapped as the *Callitris preissii* Woodlands TEC.

The applicant has provided an offset proposal to address the above impact (as detailed under Section 6).

As a condition of the Clearing Permit, the applicant will be required to adhere to weed and dieback management measures to reduce their spread into adjacent remnant native vegetation.

The application area intersects a 3.2 hectare portion of a mapped state listed TEC (vulnerable) known as '*Callitris preissii* (or *Melaleuca lanceolata*) forests and woodland' (vulnerable). Of this, 2.6 hectares contains native vegetation in a good to degraded condition (AECOM, 2016), which is considered representative of the TEC, with the remainder comprising largely bare areas.

The Department of Biodiversity, Conservation and Attractions (DBCA) provided comment on the TEC and advised that "a total of [around] 634 ha of the [TEC] (floristic community type 30a as originally described in Gibson et al. 1994) is recorded on the TEC database. The community is highly restricted, and located on calcareous sandy soils of the Quindalup dunes. It occurs in urban areas close to Perth, and on Garden and Rottnest Islands. Mainland occurrences are subject to significant pressures including vegetation clearing, weed invasion, too frequent fire, hydrological change, grazing by rabbits, and recreational impacts. Many of the mainland occurrences are weedy and dissected by tracks for recreational use. The *Callitris* community is threatened by clearing and cumulative impacts from coastal developments. There are three development proposals currently being evaluated by Species and Communities Program that involve clearing of this community" (DBCA, 2020a).

DBCA noted that "the development proposal partially intersects an 8.9ha occurrence of the community within an area that is considered protectable due to its location within the regional park and the Bush Forever site. Under this proposal a total of 6.75ha of vegetation ranging in Good-Degraded condition is proposed to be cleared which includes up to 2.6ha of the 8.9ha occurrence of the TEC. As this community is species poor, easily degraded, and remaining occurrences are largely highly impacted, areas of the TEC that are in good-degraded condition are considered extant" (DBCA, 2020a).

DBCA concluded that "the cumulative impacts of this and other recent development proposals are considered significant. At a local scale the impacts of this proposal are also likely to be significant. In particular the proposal is likely to significantly impact on the future viability of the remainder of the patch, by substantial increases in the level of fragmentation and potentially, recreational and other associated impacts in the balance of the vegetation" (DBCA, 2020a).

Based on the above, the proposed clearing will impact on 2.6 hectares of a mapped occurrence of the *Callitris preissii* Woodlands TEC, which may significantly impact on the larger occurrence of the mapped TEC at a local scale.

The proposed clearing is not likely to impact on any other state listed TEC's.

As discussed under Section 6 the applicant has provided an offset proposal to address the impact to the *Callitris preissii* Woodlands TEC.

(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.

Proposed clearing is at variance with this Principle

Delegated Officers Key Considerations

It is considered that 2.6 hectares of the application area is a significant remnant in an area that has been extensively cleared. This is based on the following:

- It contains 2.6 hectares of native vegetation that is representative of the *Callitris preissii* Woodlands state listed TEC
- It occurs within a local area that contains 22 per cent native vegetation cover, having been subject to extensive urban and industrial development.

The applicant has provided an offset proposal to address the impact to the *Callitris preissii* Woodlands (as detailed under Section 6).

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

Within constrained areas (areas of urban development in cities and major towns) on the Swan Coastal Plain, the threshold for representation of the pre-clearing extent of a particular native vegetation complex is 10 per cent (EPA, 2008). The application area is classified as a constrained area.

As indicated in Table 4 below, the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion and the vegetation complex mapped within the application area retain greater than the abovementioned 10 per cent vegetation threshold for constrained areas (Government of Western Australia, 2019a; Government of Western Australia, 2019b).

The local area (taking into account the coastal watermark) retains approximately 22 per cent native vegetation cover (4,230 hectares). The application area represents around 0.04 per cent of the remaining native vegetation in the local area and the proposed clearing would reduce the extent of native vegetation in the local area to 18,877.2 hectares.

While the remnant vegetation extents for the local area and mapped vegetation complexes is above the 10 per cent vegetation threshold outlined above, 2.6 hectares of the application area is representative of a state listed TEC within Woodman Point Regional Park and Bush Forever Site 341. Therefore, it is considered that 2.6 hectares of the application area is a significant remnant within an extensively cleared area.

Table 4 – Remnant Vegetation Statistics (Government of Western Australia, 2019).

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent of pre-European extent in DBCA Managed Lands (%)
IBRA Bioregion				
Swan Coastal Plain	1,501,222	579,813	39	15
Vegetation Complex				
Cottesloe Complex – Central and South	45,299	14,568	32	15

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Proposed clearing is not at variance with this Principle

Delegated Officers Key Considerations

The application area does not contain any native vegetation growing in, or in association with an environment associated with a watercourse a wetland. This is based on the following:

- No riparian vegetation was identified during the Survey
- There are no wetlands or watercourses mapped within the application area, with the closest hydrological feature mapped 650 metres east (Lake Coogee).

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

Proposed clearing may be at variance with this Principle

Delegated Officers Key Considerations

The proposed clearing may result in appreciable land degradation should the application area remain bare for an extended period of time. This is based on the following:

- The application area comprises light sandy soils with a high risk of wind erosion
- The application area is subject to consistently strong prevailing coastal winds that are known to cause erosion of coastal dune soil formations, which is consistent with the application area
- The Survey notes evidence of historical wind erosion in previously cleared portions, which has led to land degradation.

As a condition of the Clearing Permit, the applicant will be required to undertake construction activities within three months of clearing to reduce the exposure time of bare sandy soils and reduce the risk of wind erosion.

As part of the applicants Site Management Plan a number of measures are proposed to reduce the risk of wind erosion, including the use of hydro mulch, wetting soils, and use of wind barriers.

The application area is mapped as S13 Phase (Unit 211Qu__S13), described as calcareous sand, white, medium-grained, rounded quartz and shell debris, well sorted, of eolian origin (DPIRD, 2017).

The light sandy soils mapped within the application area are prone to wind erosion, particularly given their coastal locality, with the application area frequently subject to strong prevailing winds.

The Survey notes evidence of historical wind erosion within those bare centre portions of the application which are likely to have prevented regrowth vegetation from establishing (AECOM, 2016). The Survey also notes evidence of wind erosion within the degraded foredunes vegetation type (LISP) (AECOM, 2016).

The proposed clearing will further exacerbate the risk of wind erosion, and should the site remain bare for an extended period without appropriate erosion management, appreciable land degradation may occur. Undertaking construction activities within three months of clearing would assist in minimising the exposure time of bare soils and the associated wind erosion risk.

The applicant also notes that the Site Management Plan for the development includes the following measures to reduce the risk of wind erosion:

- Use of hydro mulch to stabilise soils
- Spraying water over exposed soils to minimise dust generation during works
- Monitoring meteorological conditions and halting works if adverse weather conditions (strong winds) are predicted
- The placement of wind barriers around excavations and/or the site boundary.

Noting the absence of wetlands or watercourses within or adjacent to the application area, and the presence of highly permeable sandy soils, the proposed clearing is not likely to result in land degradation from water erosion or waterlogging.

Mapped groundwater salinity levels within the application area are low (500 to 1000 milligrams per litre total dissolved solids). No signs of salinity were identified on site. The proposed clearing, which largely includes vegetation in a degraded to completely degraded (Keighery, 1994) condition is not likely to result in a perceptible rise in groundwater levels and the risk of salinity resulting in land degradation is considered to be low.

(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.

Proposed clearing is at variance with this Principle

Delegated Officers Key Considerations

The proposed clearing will impact on the environmental values of a conservation area. This is based on the following:

- It will result in the loss of 2.6 hectares of native vegetation considered an occurrence of the *Callitris preissii* Woodlands TEC from the Woodman Point Regional Park and Bush Forever Site 341
- It will result in the loss of 6.5 hectares of native vegetation from Bush Forever Site 341
- It will increase the risk of weeds spreading into adjacent areas of native vegetation within Woodman Point Regional Park and Bush Forever Site 341.

As a condition of the Clearing Permit, the applicant will be required to adhere to weed and dieback management measures to reduce their spread into Woodman Point Regional Park.

The applicant has provided an offset proposal to address the above impact (as detailed under Section 6).

The application area is within the Woodman Point Regional Park (the Park) and Bush Forever Site 341, known as Woodman Point, Coogee/Munster, which covers the majority of the Park. The Park comprises around 252 hectares and consists of a relatively narrow beach ridge plain that extends to a vegetated coastal peninsula.

The Park is managed by DBCA, with the exception of the application area and around 4.6 hectares of vegetation immediately north, which is joint managed by DBCA and the Department of Transport (applicant). The portion of the Park overlapping the application area is zoned as 'recreation' within the Park Management Plan.

The proposed clearing would result in the loss of 2.6 hectares of native vegetation representative of the *Callitris preissii* Woodlands TEC from the Park, and may result in the spread of weeds and dieback to adjacent native vegetation within the Park boundaries. Weed and dieback management measures would mitigate the risk of this spread.

The applicant has advised that hygiene management practises will be implemented to prevent the introduction of new weeds, limit the spread of existing weeds and potential spreading of Honey Fungus *(Armillaria luteobubalina)* and Dieback *(Phytophthora)* (AECOM, 2020). The applicant notes that dieback pathogen (*Phytophthora cinnamoni*) is generally not found in the Quindalup Dune System on the coastal strip (AECOM, 2020).

The applicant has provided a summary of proposed weed management measures which include the following (AECOM, 2020):

- Ensure fill, soil and mulch used on site and in landscaping is uncontaminated, and free of weeds and disease as specified in the Landfill Waste Classification and Waste Definitions (DOE 1996)
- Control, with the aim to eradicate, any infestation of Declared Pests or High to Very High priority weeds
- Locate topsoil and cleared vegetation stockpiles away from areas where runoff from rainfall may occur
- Ensure any hydro-mulching used for dust suppression or stabilisation is certified weed free
- No movement of soil, equipment or personnel between dieback free and dieback infested areas without implementing proper hygiene standards

The applicant has provided an offset to address impacts to the *Callitris preissii* Woodlands TEC within Woodman Point Regional Park and Bush Forever Site 341 (See Section 6 for further detail of the proposed offset).

(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.

Proposed clearing is not likely to be at variance with this Principle

Delegated Officers Key Considerations

The proposed clearing is not likely to cause deterioration in the quality of surface or underground water. This is based on the following:

- There are no wetlands or watercourses mapped within or within close proximity to the application area
- Groundwater salinity within the application area is low at 500 to 1000 milligrams per litre total dissolved solids
- The application area is largely in a degraded to completely degraded condition.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Proposed clearing is not likely to be at variance with this Principle

Delegated Officers Key Considerations

The proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding. This is based on the following:

- There are no wetlands or watercourses mapped within or within close proximity to the application area
- The application area contains highly permeable sandy soils
- The application area is largely in a degraded to completely degraded condition
- The local area is subject to a moderate mean annual rainfall of 800 millimetres

Planning instruments and other relevant matters.

The application area is located within the Woodman Point Regional Park and the proposed development for a Maritime Precinct is consistent with the Management Zones and Recreational Masterplan for this portion of the Regional Park, which is zoned 'recreation' (AECOM, 2020)

The applicant has liaised with the Western Australian Planning Commission (WAPC) in relation to the requirement for Development Approval under the Metropolitan Regional Scheme and notes that development approval will be applied after such time that a clearing permit is granted. The applicant notes that for those areas that require development approval, no clearing works will commence prior to the WAPC issuing development approval.

The applicant notes it has prepared a development concept plan to coordinate development works within the boating precinct, which has informed the overarching Woodman Point Marine Precinct Masterplan. The applicant notes that the Masterplan has been supported by a number of key stakeholders, including:

- City of Cockburn
- Department of Biodiversity, Conservation and Attractions
- Department of Local Government, Sport and Cultural Industries
- Department of Planning, Lands and Heritage
- Western Australian Planning Commission.

No Aboriginal sites of significance have been mapped within the application area.

The clearing permit application was advertised on DWER's website on 11 February 2020 with a 7 day submission period. No public submissions were received. On 18 March 2020 the applicant requested to increase the clearing footprint after DWER advised that areas of regrowth outside of the clearing footprint constituted native vegetation and required a permit to clear. As a result of that revision the application was readvertised on 21 March 2020 for a 7 day submission period. No public submissions were received.

DBCA provided comment on the proposed development and advised that "Woodman Point Regional Park is managed by DBCA's Regional Parks Unit (RPU). RPU provided provisional support of the proposed development in April 2018 on the understanding that the Department of Transport (DoT) obtains appropriate environmental approvals as development proceeds.

DBCA is not normally supportive of any loss of native vegetation within the Regional Parks but acknowledges that the development of the site for recreational boating purposes has Ministerial support" (DBCA, 2020b).

The Department of Planning, Lands and Heritage (DPLH) provided comment on the proposed development and advised that "the subject site is reserved as Parks and Recreation in the Metropolitan Region Scheme (MRS) and has the Bush Forever implementation category of Bush Forever Reserves (existing or proposed)" (DPLH, 2020).

DPLH concluded that "there is no objection to the proposal or clearing, however, the originally proposed offset strategy is considered insufficient for the clearing. The following conditions are recommended as part of any clearing permit approval:

- An offset package is prepared and approved by the Department of Water and Environmental Regulation prior to the clearing of any native vegetation, in accordance with the WA Environmental Offsets Policy (2011) and Appendix 4 of SPP 2.8. It would be recommended that the offset measures are provided onsite at Bush Forever area 341, and provide at least an equivalent gain to what is being lost.
- Other than the native vegetation proposed to be cleared in this clearing permit application, no other disturbance or clearing of any other native vegetation within Bush Forever area 341 is to occur".

The applicant has provided an offset proposal which involves the rehabilitation of 12.5 hectares of native vegetation within Woodman Point Regional Park (Bush Forever Site 341), as detailed below within Section 6.

5. Suitability of Proposed Offset

Offset Proposal

After consideration of the avoidance and minimisation measures, the proposed clearing will result in the following significant residual impact:

- Loss of 2.6 hectares of native vegetation within Woodman Point Regional Park (Bush Forever Site 341) that is representative of the *Callitris preissii* Woodlands TEC.

To address the above impact, the applicant has committed to undertaking the following revegetation/rehabilitation measure within adjacent (north) remnant vegetation in Woodman Regional Park and Bush Forever Site 341 (see Figure 5):

- Rehabilitation/revegetation of 12.5 hectares of native vegetation representative of the *Callitris preissii* Woodlands TEC, considered to be in a good condition. The applicant has committed to undertaking a weed mapping survey within a larger footprint area to inform the most suitable 12.5 hectare area for revegetation/rehabilitation.

The proposed measures have been endorsed by, and will be undertaken in consultation with DBCA.

Offset Adequacy

In assessing whether the proposed offset is adequately proportionate to the significance of the habitat values being impacted, DWER undertook a calculation using the Commonwealth Offsets Assessment Guide.

The calculation determined that the rehabilitation/revegetation of 12.5 hectares of native vegetation that is representative of the *Callitris preissii* Woodlands TEC is adequate to counterbalance the significant residual impacts. The following detail was considered in determining the adequacy of this offset:

- The rehabilitation/revegetation of the 12.5 hectare area will aim to improve the condition of the *Callitris preissii* Woodlands TEC from a good to a very good condition.

As a condition of the Clearing Permit the applicant will be required to submit a comprehensive revegetation plan with specific completion criteria, in consultation with DBCA, for DWER's approval.

Given the above, the proposed offset is considered adequate to counterbalance the significant residual impacts of clearing, consistent with the *WA Environmental Offsets Policy September 2011*.

Figure 5. Proposed rehabilitation/revegetation footprint area.

6. References

AECOM (2020) Woodman Point Native Vegetation Clearing Permit. Woodman Point Maritime Precinct. Supporting information for Clearing Permit Application CPS 8737/1. DWER Ref A1843686.

AECOM (2016) Ecological Assessments – Woodman Point Recreational Precinct. Supporting information for Clearing Permit Application CPS 8737/1. DWER Ref A1843686.

Burbidge, A.A. & Woinarski, J. 2016. *Isoodon obesulus*. *The IUCN Red List of Threatened Species* 2016:https://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T40553A21966368.en. Downloaded on 10 May 2020.

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

Commonwealth of Australia (2012) EPBC Act referral guidelines for three threatened black cockatoo species. Department of Sustainability, Environment, Water, Populations and Communities, Canberra.

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Department of Planning, Heritage and Lands (DPLH) (2020) Direct Interest Advice for Clearing Permit Application CPS 8737/1. DWER Ref A1892157.

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Shah, B. (2006) Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.
Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. http://florabase.dpaw.wa.gov.au/ (Accessed May 2020).

GIS databases:

- CPS Areas applied to clear
- NatureMap (conservation significant fauna)
- DAFWA Subsystems
- Vegetation Complexes – South West
- Managed Tenure
- TPFL Data June 2020
- WAHerb Data June 2020
- Aboriginal Sites Register
- IBRA Vegetation WA