GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 11410/1
Permit Holder:	Commissioner of Main Roads Western Australia
Duration of Permit:	From 22 November 2026 to 22 May 2048

ADVICE NOTE

Revegetation and rehabilitation offset

The *Revegetation Management Plans* referred to in condition 12 of this permit are intended to facilitate the *revegetation* and *rehabilitation* of:

- a total of 22.30 hectares of *native vegetation* within the *Jandakot Regional Park Offset Site*, including:
  - 20.82 hectares that is representative of the ecological community Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region, rehabilitated from a Good to Very Good (Keighery, 1994) condition to achieve a Very Good (Keighery, 1994) condition; and
  - 22.30 hectares that provides significant foraging habitat for Carnaby's cockatoo (*Zanda latirostris*), rehabilitated from a Good to Very Good (Keighery, 1994) condition to achieve a Very Good (Keighery, 1994) condition and provide high-quality foraging habitat for Carnaby's cockatoo.
  - 1.70 hectares of *native vegetation* within the Bush Forever site 347 from a Good to Very Good (Keighery, 1994) condition to a Very Good (Keighery, 1994) condition.
- a total of 14.00 hectares of *native vegetation* within the *Postans Offset Site*, including:
  - 3.05 hectares that is representative of the ecological community Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain, rehabilitated from a Degraded to Good (Keighery, 1994) condition to achieve a Good to Very Good (Keighery, 1994) condition;
  - 14.00 hectares that provides significant foraging habitat for Carnaby's cockatoo, rehabilitated from a Good (Keighery, 1994) or lower condition to achieve a Very Good (Keighery, 1994) condition and provide high-quality foraging habitat for Carnaby's cockatoo; and
  - 13.42 hectares that provides significant foraging habitat for forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*), rehabilitated from a Good (Kieghery, 1994) or lower condition to achieve a Very Good (Keighery, 1994) condition and provide high-quality foraging habitat for forest red-tailed black cockatoo, including through the establishment of marri (*Corymbia calophylla*) trees, a key forest red-tailed black cockatoo foraging species that is currently absent from the site.
- a total of 2.18 hectares of *native vegetation* within the *The Spectacles Offset Site* that is commensurate with a Conservation Category Wetland from a Good (Keighery, 1994) condition to a Good to Very Good (Keighery, 1994) condition.

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of road construction and upgrades associated with the Kwinana Freeway Upgrade project.

2. Land on which clearing is to be done

Lot 50 on Plan 17111, Jandakot
Lot 52 on Plan 17406, Wandi
Lot 55 on Plan 17406, Wandi
Lot 157 on Deposited Plan 226118, South Lake
Lot 701 on Deposited Plan 301020, Aubin Grove
Lot 8005 on Deposited Plan 400200 (Crown Reserve 51952), Wandi
Lot 8018 on Deposited Plan 77243 (Unallocated Crown Land), Mandogalup
Kwinana Freeway road reserve (PIN 1189553), Hammond Park
Kwinana Freeway road reserve (PIN 1189559), Hammond Park
Kwinana Freeway road reserve (PIN 1237979), The Spectacles
Kwinana Freeway road reserve (PIN 11414446), Mandogalup
Kwinana Freeway road reserve (PIN 11416234), Aubin Grove
Kwinana Freeway road reserve (PIN 11416248), Aubin Grove
Kwinana Freeway road reserve (PIN 11567184), Anketell
Kwinana Freeway road reserve (PIN 12628218), Wandi

3. Clearing authorised

The permit holder must not clear more than 9.68 hectares of *native vegetation* within the combined areas cross-hatched yellow in Figure 1, Figure 2, Figure 3, Figure 4, Figure 5, Figure 6 and Figure 7 of Schedule 1.

4. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 22 November 2032.

PART II – MANAGEMENT CONDITIONS

5. 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.

6. Weed and dieback management

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

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;

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

(c) ensure that the boundaries of the *wetland* areas cross-hatched red in Figure 1 of Schedule 2 are demarcated prior to the commencement of *clearing*;

(d) prior to entering and leaving each area demarcated, pursuant to condition 6(c), clean earth-moving machinery of soil and vegetation;

(e) ensure that the boundaries of the *dieback*-infested area cross-hatched red in Figure 2 of Schedule 2 are mapped and demarcated prior to the commencement of *clearing*;

(f) prior to leaving the *dieback*-infested area demarcated pursuant to condition 6(e), clean earth-moving machinery of soil and vegetation; and

(g) where *dieback* or *weed*-affected soil, *mulch*, *fill*, or other material is to be removed from the area to be cleared, ensure it is transferred to areas of comparable soil disease status.

7. Demarcation of the clearing area

Prior to undertaking any *clearing* authorised under this permit that is adjacent to other *native vegetation*, the permit holder must demarcate the boundary of the *clearing* area that is adjacent to *native vegetation* that is proposed to be retained.

8. Directional clearing

The permit holder must, where practicable:

(a) conduct *clearing* activities in a slow, progressive manner towards adjacent *native vegetation*; and

(b) allow a reasonable time for fauna, present within the area being cleared, to move into adjacent *native vegetation* ahead of the *clearing* activity.

9. Erosion management

The permit holder must commence road construction and upgrades within three (3) months after undertaking the authorised *clearing* activities, to reduce the potential for soil erosion.

10. Fauna management - quenda

(a) For a minimum of four (4) nights prior to the commencement of clearing activities authorised under this permit, within the areas cross-hatched red in Figure 3, Figure 4 and Figure 5 of Schedule 2, the permit holder must engage a *fauna specialist* to undertake a pre-clearance trapping and relocation survey of the permit area to identify quenda (*Isoodon fusciventer*).

(b) The permit holder must engage the *fauna specialist* to trap and relocate quenda and any incidentally trapped native fauna, in accordance with a fauna license pursuant to the *Biodiversity Conservation Regulations 2018,* in consultation with the Department of Biodiversity, Conservation and Attractions.

(c) *Clearing* activities must cease in any area where quenda(s) are identified within the areas cross-hatched red in Figure 3, Figure 4 and Figure 5 of Schedule 2 under *condition* 10(a) until the quenda individual has been trapped and relocated in accordance with *condition* 10(b), or the *fauna specialist* confirms quenda are no longer present within the permit area.

(d) Within two months of clearing authorised under this permit being completed and within the area cross-hatched red in Figure 3, Figure 4 and Figure 5 of Schedule 2, the permit holder must provide the results of the pre-clearance trapping and relocation survey in a report to the *CEO*.

(e) The report prepared in accordance with *condition* 10(d) must include, but not be limited to:

(i) the methodology used to trap and relocate quenda under *conditions* 10(b) and 10(c);

(ii) the relevant qualifications of the *fauna specialist* undertaking identification, trapping, and relocation under *conditions* 10(a), 10(b) and 9(c);

(iii) the number of quenda individuals identified under *conditions* 10(a), 10(b) and 10(c);

(iv) the time and date each quenda individual was identified under *conditions* 10(a), 10(b) and 10(c);

(v) the species name and number of any native fauna individual(s) incidentally identified under *conditions* 10(b) and 10(c);

(vi) the time and date each native fauna individual(s) was incidentally identified under *conditions* 10(b) and 10(c);

(vii) the location where each individual referred to in *conditions* 10(a), 10(b) and 10(c) was identified recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;

(viii) the number of quenda individuals relocated under *conditions* 10(b) and 10(c);

(ix) the time and date each quenda individual referred to under *condition* 10(b) and 10(c) was relocated;

(x) the name and number of any other native fauna individual(s) relocated;

(xi) the location where each quenda individual or other native fauna individual was relocated to, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees; and

(xii) details pertaining to the circumstances of any death of, or injury sustained by a quenda individual or other native fauna individual.

11. Offset – Executed change in purpose

Within 24 months of the commencement of *clearing* authorised under this permit, and no later than 22 November 2034, the permit holder must provide to the *CEO* a copy of the order vesting the portions of *Postans Offset Site,* within Lot 314 on Deposited Plan 217969 (Unallocated Crown Land PIN 288140), Lot 220 on Deposited Plan 215628 (Crown Reserve 39496) and Unallocated Crown Land (PIN 288145), shown cross-hatched red in Figure 8 of Schedule 2, for the purpose of Conservation.

12. Offset – revegetation and rehabilitation

(a) Within 18 months of the commencement of *clearing* authorised under this permit, and no later than 22 May 2033, the permit holder must submit individual *Rehabilitation Management Plans* to the *CEO* for approval for the *rehabilitation* of:

(i) the area cross-hatched red in the *Jandakot Regional Park Offset Site*, shown in Figure 6 of Schedule 2;

(ii) the area cross-hatched red in the *The Spectacles Offset Site*, shown in Figure 7 of Schedule 2; and

(iii) at least 14 hectares within the area cross-hatched red in the *Postans Offstet Site*, shown in Figure 8 of Schedule 2.

(b) The *Rehabilitation Management Plans* must be developed in accordance with *A Guide to Preparing Revegetation Plans for Clearing Permits* (Department of Water and Environmental Regulation, 2018).

(c) The *Rehabilitation Management Plans* must be prepared by an *environmental specialist*.

(d) The *Rehabilitation Management Plans* must include the following:

(i) the location/s of the *revegetation* and *rehabilitation* area/s required under *condition* 12(a) of this permit, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;

(ii) *site preparation* actions;

(iii) management activities, including but not limited to, fencing and access control, pest animal control, *weed* control, *dieback* management, fire management;

(iv) infill planting, at an *optimal time* (if applicable);

(v) a *vegetation establishment period* (if applicable);

(vi) *rehabilitation* success completion criteria based on selected *reference sites*, including but not limited to target weed cover, target species diversity, target vegetation condition, target density, and target structure;

(vii) *remedial actions* to be undertaken if completion criteria are not met;

(viii) details of ongoing maintenance and monitoring of the area to be *revegetated* and *rehabilitated* for a period of twenty (20) years;

(ix) timeframes for implementation and completion of the activities; and

(x) management commitments that will be achieved.

(e) If the *CEO*, having had regard to *conditions* 12(b), 12(c) and l2(d) of this permit, does not approve the *Rehabilitation Management Plans*, the permit holder must revise and resubmit the *Rehabiliation Management Plans* within three (3) months of the date of the *CEO*'s decision.

(f) If the *CEO*, having had regard to *conditions* 12(b), 12(c) and l2(d) of this permit, does not approve revised *Rehabilitation Management Plans* submitted in accordance with condition 12(e) of this permit, the permit holder must again revise and resubmit the *Rehabilitation Management Plans* in accordance with condition 12(e) of this permit.

(g) The permit holder must obtain the approval of the *CEO*, prior to implementing the *Rehabilitation Management Plans*.

(h) The permit holder must commence implementation of the approved *Rehabilitation Management Plans* within 12 months of the date of approval by the *CEO*.

13. Offset – Contingency

(a) In the event that the offsets pursuant to *condition* 11 and 12 of this permit can not be achieved, the permit holder must provide to the *CEO* for approval, a new *offset proposal* in accordance with the *Western Australian Environment Offsets Policy* (2011) and *Western Australian Environmental Offsets Guidelines* (2014).

(b) If it is necessary to modify the *offset proposal* approved by the CEO in accordance with *condition* 13(a), then the permit holder must provide that modified *offset proposal* to the CEO for the CEO's approval, prior to implementing the modified *offset proposal*.

(c) The permit holder must implement the latest version of the *offset proposal* approved by the CEO.

PART III - RECORD KEEPING AND REPORTING

14. 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.	(a) the species composition, structure and density of the clearing area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with *condition* 5; (f) actions taken in accordance with *condition* 7; (g) actions taken to undertake directional clearing in accordance with *condition* 8; (h) actions taken to reduce the potential for erosion in accordance with *condition* 9; (i) actions taken to manage impacts to quenda, including any details pertaining to the circumstances of any death of, or injury sustained by a quenda individual, in accordance with *condition* 10; and (j) actions taken to implement offsets in

No.	Relevant matter	Specifications
		accordance with *condition* 11.
2.	In relation to *weed* and *dieback* management pursuant to condition 6.	(a) the boundaries of *wetland* areas mapped in accordance with condition 6(c), recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings; (b) the boundaries of *dieback*-infested areas mapped in accordance with condition 6(e), recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings; and (c) other actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with *condition* 6.
3.	In relation to the *revegetation* and *rehabilitation* of offset areas pursuant to condition 12.	(a) the date/s on which the *Revegetation Management Plans* were approved by the *CEO;* (b) the size of the areas *revegetated* and *rehabilitated*; (c) the date/s on which the *revegetation* and *rehabilitation* was undertaken; (d) a description of the *revegetation* activities undertaken; (e) the boundaries of the areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings; (f) the results of ongoing maintenance and monitoring under the approved *Revegetation Management Plans;* (g) a description of any *remedial actions* undertaken; and (h) any other actions taken to in accordance with *condition* 12.

15. Reporting

(a) The permit holder must provide to the *CEO* on or before 30 June of each calendar year, a written report containing:

(i) the records required to be kept under *condition* 14; and

(ii) records of activities done by the permit holder under this permit between 1 January and 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 calendar year.

(c) The permit holder must provide to the *CEO*, no later than 90 days prior to the expiry date of the permit, a written report of records required under *condition* 14, where these records have not already been provided under *condition* 15(a).

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 *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 2.
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.
dry conditions	means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches.
EP Act	*Environmental Protection Act 1986* (WA)
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 an appropriate fauna licence issued under the *Biodiversity Conservation Act 2016*.
fill	means material used to increase the ground level, or to fill a depression.
Jandakot Regional Park Offset Site	means the environmental offset proposed by the permit holder within the Jandakot Regional Park - Lot 107 on Deposited Plan 202625, Oakford, depicted as the areas cross-hatched red on Figure 6 of Schedule 2.
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.
offset proposal	means a documented plan that addresses the principles outlined the Government of Western Australia's Environmental Offsets Policy, September 2011.
optimal time	means the period from April to July for undertaking *planting* and *direct*

Term	Definition
	seeding.
planted / planting	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of desired species.
Postans Offset Site	means the environmental offset proposed by the permit holder within Lot 314 on Deposited Plan 217969 (Unallocated Crown Land PIN 288140), Lot 220 on Deposited Plan 215628 (Crown Reserve 39496) and Unallocated Crown Land (PIN 288145), Kwinana Beach and Postans, depicted as the areas cross-hatched red on Figure 8 of Schedule 2.
regenerate/ regenerated/ regeneration	means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within the topsoil or seed-bearing mulch.
rehabilitate/ rehabilitated/ rehabilitation	means actively managing an area containing native vegetation in order to improve the ecological function of that area.
remedial actions	means any activity that is required to ensure the successful re-establishment of vegetation to its pre-clearing composition, structure and density, and may include a combination of soil treatments and revegetation.
revegetate / revegetated / revegetation	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.
Rehabilitation Management Plan/s	means three individual documents prepared by the permit holder, describing the *revegetation* and *rehabilitation* activities proposed within the *Jandakot Regional Park Offset Site*, *The Spectacles Offset Site*, and *Postans Offset Site* in accordance with condition 12 of this permit and as outlined in the document *Kwinana Freeway Upgrade Native Vegetation Clearing Permit (CPS 11410/1) Offset Proposal, September 2026* (MRWA, 2026) (DWER ref DWERDT1401986).
site preparation	means management of existing site topsoil and preparation of the finished soil surface, for example by ripping or tilling the soil surface and respreading site topsoil and chipped native vegetation.
The Spectacles Offset Site	means the environmental offset proposed by the permit holder within Lots 1142, 1144 and 1146 on Deposited Plan 203629 (Crown Reserve 53313), The Spectacles, depicted as the areas cross-hatched red on Figure 7 of Schedule 2.
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*.
weeds	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.
wetland	means an area of seasonally, intermittently or permanently waterlogged

Term	Definition
	or inundated land, whether natural or otherwise, and includes a lake, swamp, marsh, spring, dampland, tidal flat or estuary.

END OF CONDITIONS



Jessica Burton
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under section 20
of the Environmental Protection Act 1986

29 October 2026

Schedule 1

The boundary of the area authorised to be cleared is shown in the maps below (Figures 1-7).



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



Figure 2: Map of the boundary of the areas within which clearing may occur



Figure 3: Map of the boundary of the areas within which clearing may occur



Figure 4: Map of the boundary of the areas within which clearing may occur

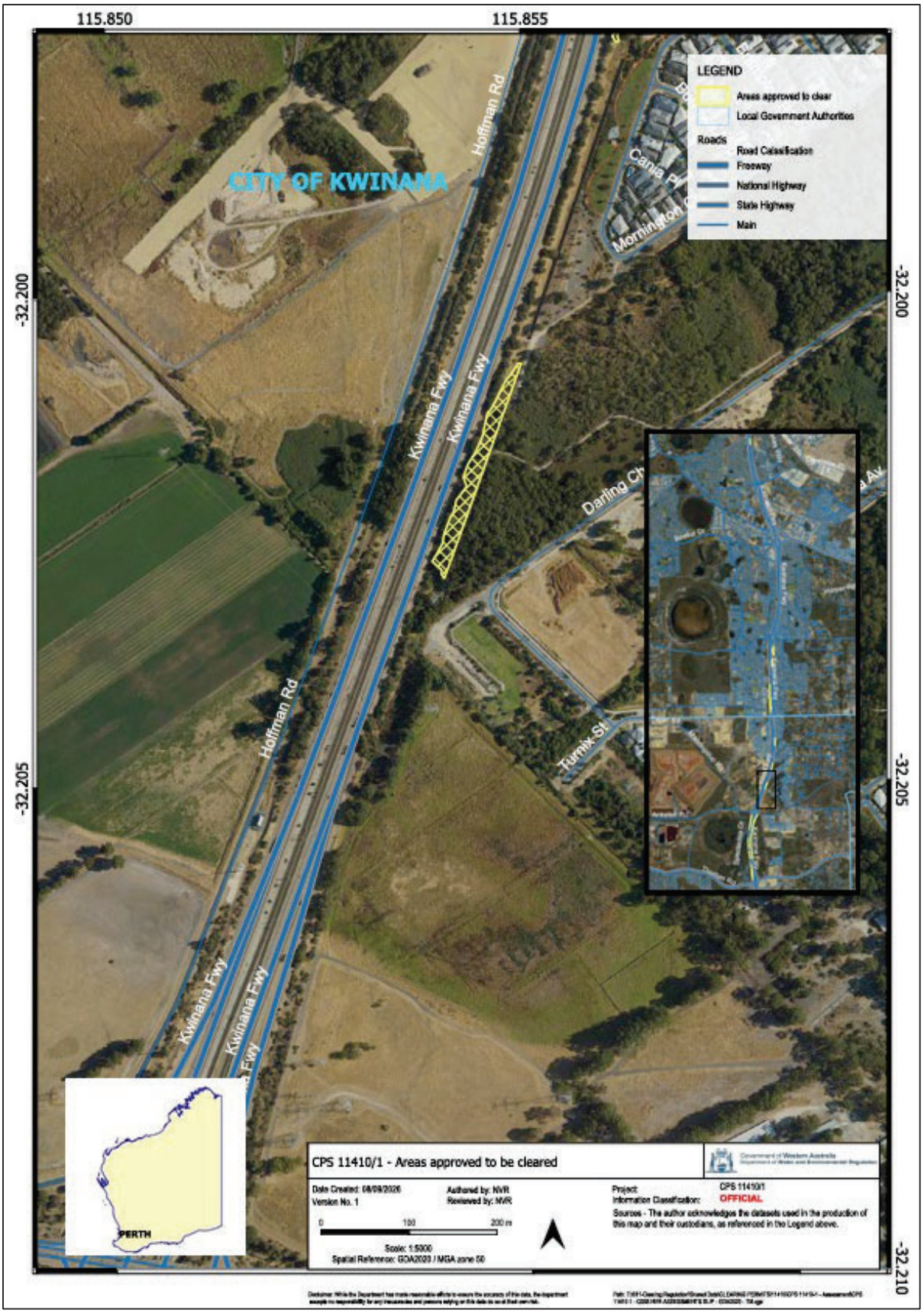


Figure 5: Map of the boundary of the areas within which clearing may occur



Figure 6: Map of the boundary of the areas within which clearing may occur



Figure 7: Map of the boundary of the areas within which clearing may occur

Schedule 2

The boundary of the areas subject to conditions are shown in the maps below (Figures 1-8).



Figure 1: Map of the boundary of the wetland areas subject to additional *weed* management measures pursuant to condition 6 of this permit.

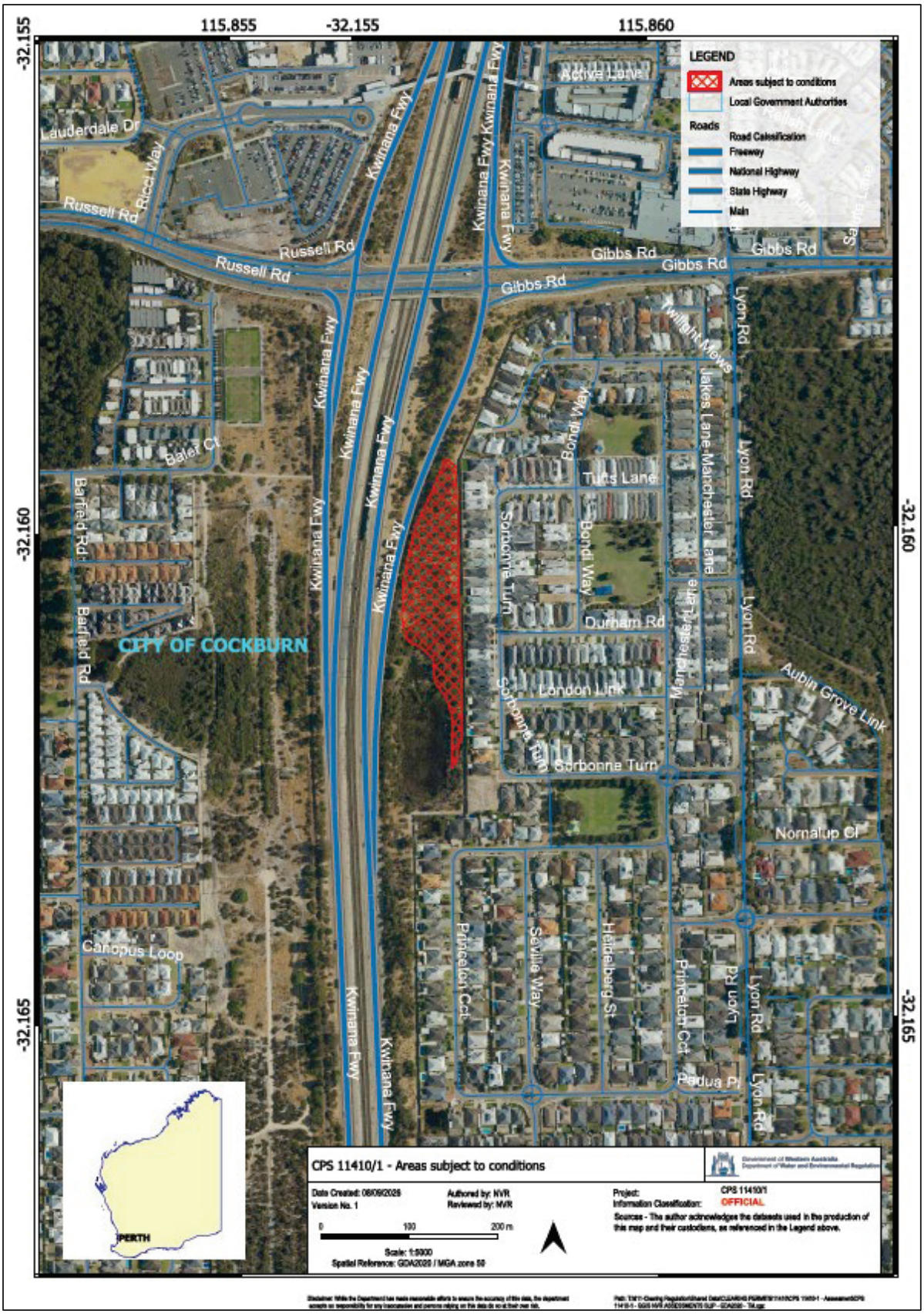


Figure 2: Map of the boundary of the *dieback*-infested area subject to additional *dieback* management measures pursuant to condition 6 of this permit.



Figure 3: Map of the boundary of the areas subject to quenda management pursuant to condition10 of this permit



Figure 4: Map of the boundary of the areas subject to quenda management pursuant to condition 10 of this permit



Figure 5: Map of the boundary of the areas subject to quenda management pursuant to condition 10 of this permit

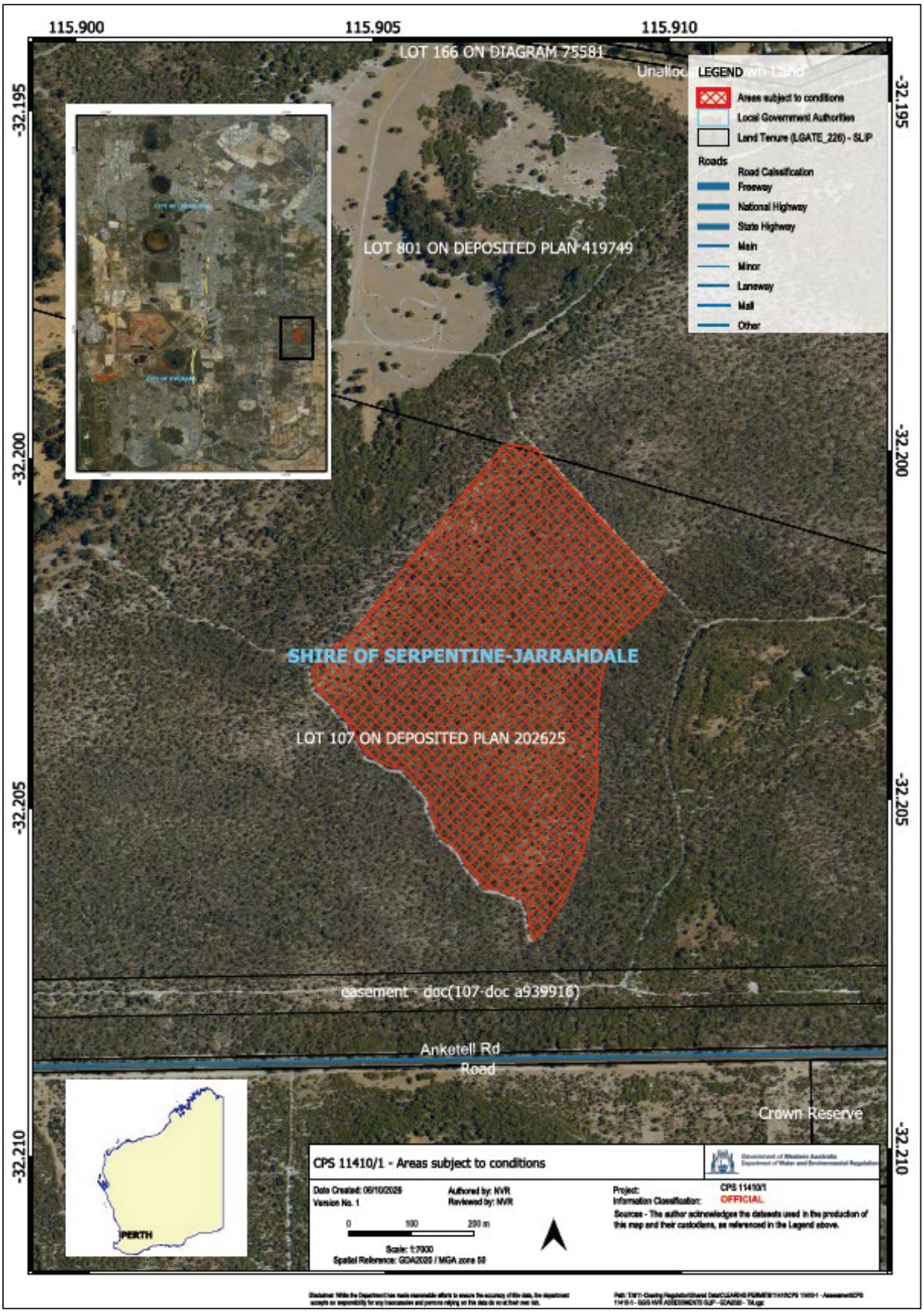


Figure 6: Map of the boundary of the *Jandakot Regional Park Offset Site* pursuant to condition 12 of this permit

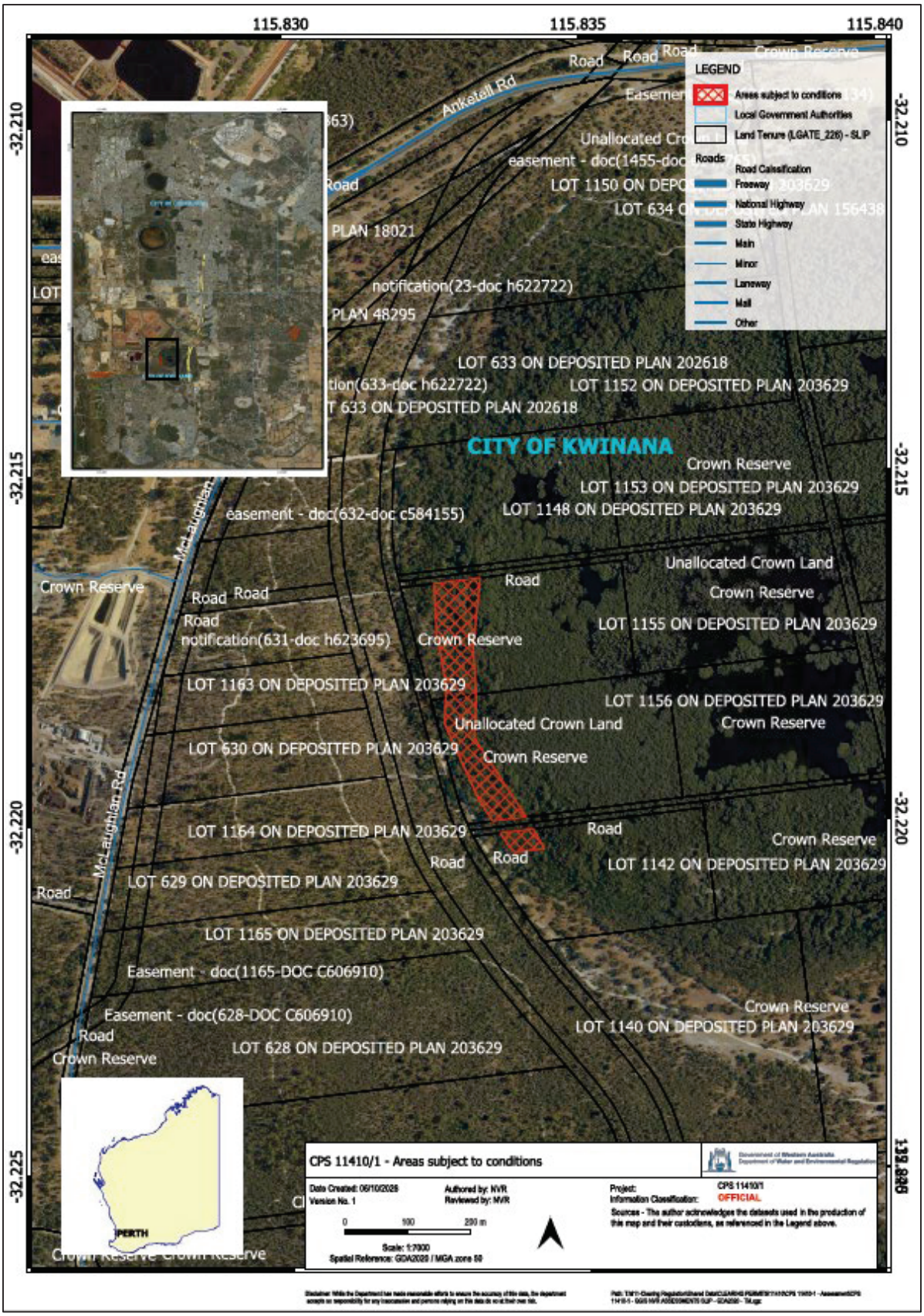


Figure 7: Map of the boundary of the *The Spectacles Offset Site* pursuant to condition 12 of this permit



Figure 8: Map of the boundary of the *Postans Offset Site* pursuant to conditions 11 and 12 of this permit

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 11410/1
Permit type:	Purpose permit
Applicant name:	Commissioner of Main Roads Western Australia
Application received:	22 December 2025
Application area:	9.68 hectares of native vegetation
Purpose of clearing:	Kwinana Freeway upgrades and widening
Method of clearing:	Mechanical
Property:	Lot 50 on Plan 17111 Lot 52 on Plan 17406 Lot 55 on Plan 17406 Lot 157 on Deposited Plan 226118 Lot 701 on Deposited Plan 301020 Lot 8005 on Deposited Plan 400200 (Crown Reserve 51952) Lot 8018 on Deposited Plan 77243 (Unallocated Crown Land) Kwinana Freeway road reserve (PIN 1189553) Kwinana Freeway road reserve (PIN 1189559) Kwinana Freeway road reserve (PIN 1237979) Kwinana Freeway road reserve (PIN 11414446) Kwinana Freeway road reserve (PIN 11416234) Kwinana Freeway road reserve (PIN 11416248) Kwinana Freeway road reserve (PIN 11567184) Kwinana Freeway road reserve (PIN 12628218)
Location (LGA area/s):	City of Cockburn City of Kwinana
Localities (suburb/s):	Aubin Grove, Hammond Park (City of Cockburn) Anketell, Jandakot, Mandogalup, South Lake, The Spectacles, Wandi (City of Kwinana)

1.2. Description of clearing activities

The proposed clearing is located within existing road reserves in the City of Cockburn and City of Kwinana and comprises 13 separate vegetation patches distributed along approximately eight kilometres of the Kwinana Freeway corridor (see Figure 1, Section 1.5). MRWA is proposing to clear 9.68 hectares of native vegetation across a linear

area of approximately eight kilometres to facilitate the widening and upgrading of Kwinana Freeway between Roe Highway and Safety Bay Road. The clearing footprint is fragmented and largely confined to narrow roadside vegetation remnants adjacent to the existing freeway corridor.

Kwinana Freeway is one of the busiest roads in Perth and currently experiences congestion during peak periods (MRWA, 2025). The proposed works aim to improve safety, reduce congestion, enhance user journeys and provide better connection to Perth's southern suburbs, supporting Perth's forecasted population growth to 2050 and future economic opportunities (MRWA, 2025). Additional lanes will increase the Kwinana Freeway's capacity and smart technology in the form of coordinated ramp signals, improve safety, smooth traffic flow, and enhance freight efficiency (MRWA, 2025).

The proposal includes:

- vegetation clearing and earth works,
- widening of Kwinana Freeway and ramp upgrades,
- relocation of services and paths,
- construction of noise walls, and
- improvements to safety barriers, surfacing and drainage (MRWA, 2025).

1.3. Decision on application

Decision:	Granted
Decision date:	29 October 2026
Decision area:	9.68 hectares of native vegetation; as depicted in Section 1.5, below.

1.4. Reasons for decision

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

In making this decision, the Delegated Officer had regard for:

- the site characteristics (see Appendix C);
- relevant datasets (see Appendix H.1);
- biological survey information (see Appendix G);
- expert advice received from the Department of Biodiversity, Conservation and Attractions (DBCA, 2026);
- the applicant's efforts to avoid, minimise, mitigate and offset the environmental impacts of the proposed clearing in accordance with the *WA Environmental Offsets Guidelines (2014)* mitigation hierarchy;
- the clearing principles set out in Schedule 5 of the EP Act (see Appendix D); and
- relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The Delegated Officer also took into consideration that the proposed clearing is required to facilitate the widening and upgrade of Kwinana Freeway between Roe Highway and Safety Bay Road. The proposal is intended to improve road safety, reduce congestion, improve freight efficiency, and accommodate forecast population growth in Perth's southern metropolitan corridor.

The assessment identified that the proposed clearing will result in:

- the loss of 8.59 hectares of significant foraging habitat for state and federally listed threatened fauna species Carnaby's cockatoo (*Zanda latirostris*) and forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*).
- the loss of 6.23 hectares of native vegetation that is representative of the Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region (Banksia Woodlands Community) federally listed threatened ecological community (TEC) and priority ecological community (PEC) in WA,
- the loss of 0.88 hectares of vegetation representative of the Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain federally listed TEC;
- the loss of 1.08 hectares of native vegetation associated with wetlands that are Conservation Category Wetlands or have values commensurate with a Conservation Category Wetland;
- the loss of 0.85 hectares of regionally significant bushland within Bush Forever Site 270;

- impacts to suitable habitat for quenda *(Isoodon fusciventer)* (P4);
- a localised reduction in ecological linkage values within an already fragmented landscape;
- the potential introduction and spread of weeds and dieback into:
    - adjacent native vegetation; and
    - wetland habitats (Section 1.5, Figure 9); and
- the potential for land degradation through erosion of exposed soils following clearing.

After consideration of the available information, the Delegated Officer considered that direct impacts to fauna through machinery strike, exacerbation of ecological linkage barriers, and the potential for land degradation can be appropriately managed through conditions on the clearing permit. In addition, permit conditioning was considered appropriate to manage the potential indirect impacts of the proposed clearing to adjacent patches of native vegetation, wetland habitat and conservation areas.

The Delegated Officer determined that the impacts to significant black cockatoo foraging habitat, Banksia Woodlands, Tuart Woodlands, wetland vegetation and regionally significant vegetation within bush forever site 270, remained significant after the application of the mitigation hierarchy. These impacts therefore constitute significant residual impacts.

The Delegated Officer determined that, given the extent of the significant residual environmental impacts, the applicant's implementation of the mitigation hierarchy, necessity and public benefit of the purpose widening of Kwinana Freeway, it was appropriate to consider offsets to counterbalance the significant residual impacts of clearing in this instance.

The applicant has provided several environmental offsets to counterbalance the above significant residual impacts. The offsets proposed are consistent with the *WA Environmental Offsets Policy (2011)* and *WA Environmental Offsets Guidelines (2014)* and have been quantified using the WA Environmental Offsets Metric. The Delegated Officer has determined that the offsets proposed adequately counterbalances the significant residual impacts of the proposed clearing (see Section 4 below for details).

The proposed offsets include rehabilitation and ongoing management of:

- A total of 22.30 hectares of native vegetation within the **Jandakot Regional Park Offset Site**, including:
    - 20.82 hectares that is representative of the ecological community Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region, rehabilitated from a Good to Very Good (Keighery, 1994) condition to achieve a Very Good (Keighery, 1994) condition; and
    - 22.30 hectares that provides significant foraging habitat for Carnaby's cockatoos rehabilitated from a Good to Very Good (Keighery, 1994) condition to achieve a Very Good (Keighery, 1994) condition and provide high-quality foraging habitat for Carnaby's cockatoos.
    - 1.70 hectares of *native vegetation* within the Bush Forever site 270 from a Good to Very Good (Keighery, 1994) condition to a Very Good (Keighery, 1994) condition.
- A total of 14.00 hectares of native vegetation within the **Postans Offset Site**, including:
    - 3.05 hectares that is representative of the ecological community Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain, rehabilitated from a Degraded to Good (Keighery, 1994) condition to achieve a Good to Very Good (Keighery, 1994) condition;
    - 14.00 hectares that provides significant foraging habitat for Carnaby's cockatoos, rehabilitated from a Good (Keighery, 1994) or lower condition to achieve a Very Good (Keighery, 1994) condition and provide high-quality foraging habitat for Carnaby's cockatoos; and
    - 13.42 hectares that provides significant foraging habitat for forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*), rehabilitated from a Good (Keighery, 1994) or lower condition to achieve a Very Good (Keighery, 1994) condition and provide high-quality foraging habitat for forest red-tailed black cockatoo, including through the establishment of marri (*Corymbia calophylla*) trees, a key forest red-tailed black cockatoo foraging species that is currently absent from the site.
    - The **Postan Offset Site** will also be conserved in perpetuity through executed change in purpose.
- A total of 2.18 hectares of native vegetation within the **The Spectacles Offset Site** that is commensurate with a Conservation Category Wetland (CCW) from a Good (Keighery, 1994) condition to a Good to Very Good (Keighery, 1994) condition.

Given the above, the Delegated Officer considered that, on balance, it was appropriate 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 and dieback, including additional protocols for clearing adjacent to dieback-uninfested protectable areas and weed-infested areas adjacent to significant environmental values,

- demarcate the application area to avoid the inadvertent clearing of adjacent significant environmental values,
- undertake slow, one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity,
- commence construction activities within three months of clearing to minimise the risk of wind erosion;
- undertake pre-clearance surveying, trapping and relocation of quenda within identified high-risk areas where directional clearing alone is unlikely to adequately mitigate impacts to quenda;
- implement environmental offsets (executed change in purpose, and revegetation and rehabilitation), as outlined above.

1.5. Site map(s)



Figure 1 Map of the application area.

The area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit.



Figure 2 Map of the application area.

The areas crosshatched yellow indicates the areas authorised to be cleared under the granted clearing permit.



Figure 3 Map of the application area.

The areas crosshatched yellow indicates the areas authorised to be cleared under the granted clearing permit.



Figure 4 Map of the application area.

The areas crosshatched yellow indicates the areas authorised to be cleared under the granted clearing permit.



Figure 5 Map of the application area.

The areas crosshatched yellow indicates the areas authorised to be cleared under the granted clearing permit.

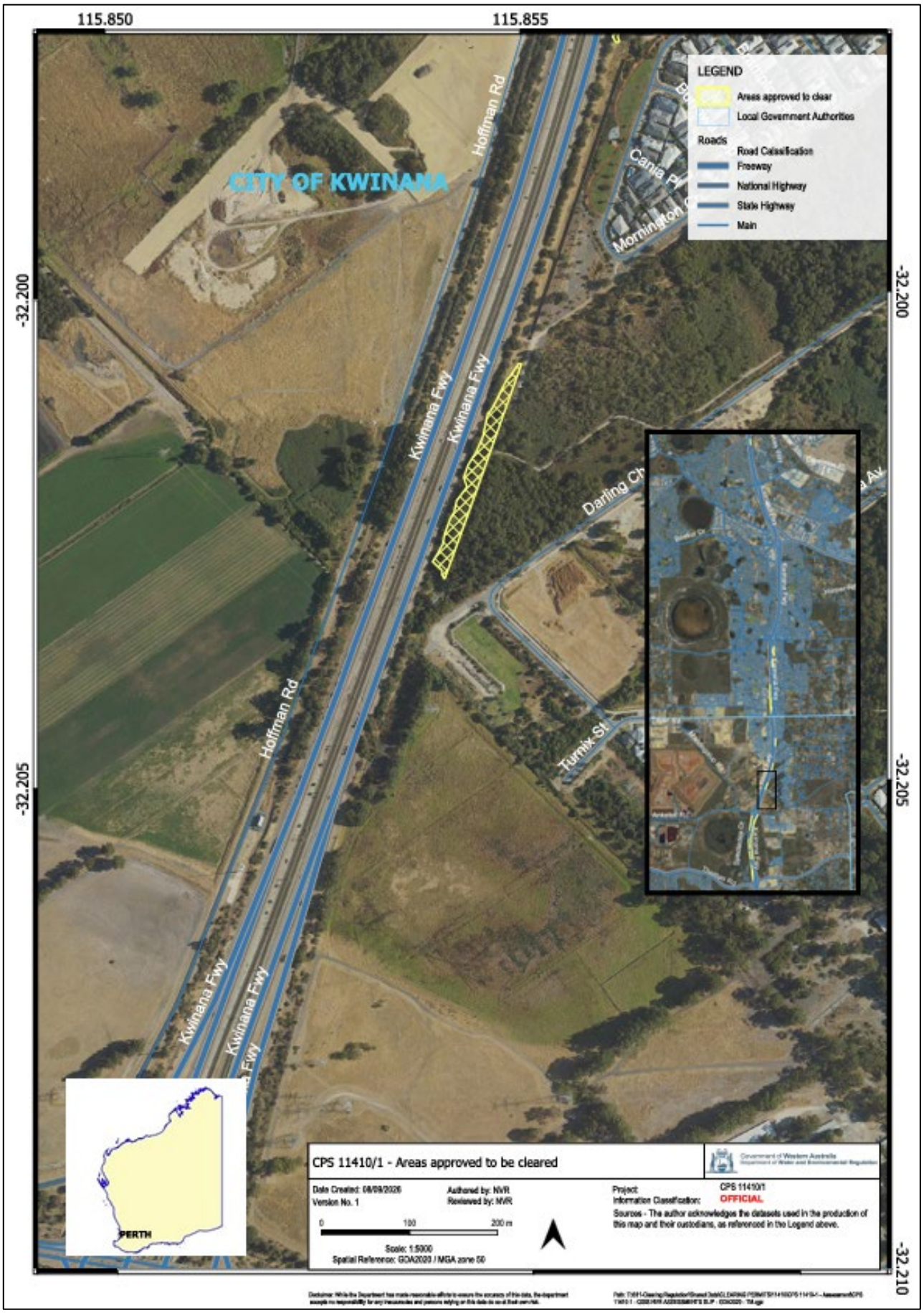


Figure 6 Map of the application area.

The areas crosshatched yellow indicates the areas authorised to be cleared under the granted clearing permit.



Figure 7 Map of the application area.

The areas crosshatched yellow indicates the areas authorised to be cleared under the granted clearing permit.



Figure 8 Map of the application area.

The areas crosshatched yellow indicates the areas authorised to be cleared under the granted clearing permit.



Figure 9 Areas subject to conditions

The areas crosshatched red indicates the areas within which specific conditions apply



Figure 10 Areas subject to conditions

The areas crosshatched red indicates the areas within which specific conditions apply



Figure 11 Areas subject to conditions

The areas crosshatched red indicates the areas within which specific conditions apply



Figure 12 Areas subject to conditions

The areas crosshatched red indicates the areas within which specific conditions apply

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 polluter pays principle
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)
- *Metropolitan Water Supply, Sewerage and Drainage Act 1909*

Relevant policies considered during the assessment include:

- *Environmental Offsets Policy* (2011)
- *State Planning Policy 2.8 - Bushland Policy for the Perth Metropolitan Region* (2010) (SPP 2.8)

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)
- *Environmental Offsets Guidelines* (August 2014)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Supporting information provided by MRWA (MRWA, 2025; 2026a) indicates that mitigation hierarchy has been applied for the proposal, including:

Avoidance measures

- MRWA considered a range of alternatives during project planning to avoid native vegetation clearing; however, no feasible alternative was identified that would adequately address the existing and forecast congestion issues on Kwinana Freeway;
- freeway widening, including additional lanes and associated upgrades, was determined to be the only viable solution to address current and future traffic volumes on Kwinana Freeway;
- complementary transport initiatives, including the Thornlie-Cockburn Link and potential future freight rail upgrades, are being progressed to improve public and freight transport options; however, these initiatives alone would not adequately address the congestion issues on Kwinana Freeway;
- reducing speed limits to minimise native vegetation clearing was considered during project planning. However, MRWA determined that this option would not adequately address existing or future congestion on Kwinana Freeway and could adversely affect road safety and freight efficiency. Accordingly, it was not considered a feasible alternative; and
- the application area has been limited to the maximum extent required for construction of the proposal. Areas not meeting the definition of native vegetation and areas eligible for a clearing permit exemption have been excluded from the clearing assessment.

Minimisation measures

- Where practicable native vegetation and fauna habitat will be retained during detailed design;
- additional freeway lanes will be incorporated into the existing cleared median south of the rail portal where practicable, reducing the need to clear native vegetation on the freeway verges;
- road, ramp and carriageway layouts have been designed to minimise disturbance while maintaining road safety, traffic efficiency and sight distance requirements. Additional lanes will be designed to be consistent with the existing freeway cross-section to reduce earthworks and the overall disturbance footprint;

- batter slopes will be steepened where practicable, including the use of rock pitching on steep batters and embankments, to reduce earthworks and minimise clearing in vegetated areas;
- safety barriers will be utilised where practicable to protect high-quality vegetation and reduce clearing requirements;
- kerbing will be installed where appropriate to reduce the need for table drains and minimise the clearing footprint associated with drainage infrastructure;
- existing cleared areas will be used, where practicable, for site offices, access tracks, construction compounds, stockpiling and materials storage to avoid additional clearing of native vegetation;
- drainage design will seek to maintain existing surface flow paths and avoid impacts on retained native vegetation wherever practicable; and
- mature trees will be conserved as far as practicable during the pre-clearing process.

Mitigation measures

MRWA has prepared a Vegetation Management Plan (VMP) (MRWA, 2026a) to manage and minimise impacts associated with the proposed clearing, consisting of the following measures:

- the limits of vegetation clearing will be demarcated prior to the commencement of clearing to prevent inadvertent disturbance outside approved clearing areas;
- Special Environmental Areas will be identified and pegged prior to construction activities;
- weed and dieback management measures will be implemented, including vehicle, plant and machinery hygiene procedures, machinery clean-down prior to entering the site, hygiene inspections, compliance verification of clearing machinery, and prohibiting the importation of known dieback-infested soil, mulch, fill or other materials into the works area;
- fauna management measures will be implemented prior to and during clearing, including pre-clearing fauna operational controls, pre-clearing inspections of conservation significant fauna habitat and residences by a suitably qualified and licensed fauna specialist, staged and directional clearing to allow fauna to disperse into adjacent habitat, and the use of a fauna spotter where required to identify and relocate displaced fauna;
- where required at the Russell Road/Gibbs Road drainage sump, targeted trapping and relocation of quenda will be undertaken by a licensed fauna specialist in consultation with DBCA prior to clearing;
- natural drainage pathways will be maintained and not obstructed by stockpiled materials or construction activities;
- recently cleared and exposed areas will be protected from wind and water erosion during construction;
- clearing will only be undertaken in dry conditions unless otherwise approved by the Superintendent;
- environmental induction and training will be provided to personnel to ensure awareness of environmental management requirements and sensitive environmental values;
- a pre-clearing hold point process will be implemented to ensure environmental requirements, including clearing boundary demarcation, fauna controls, weed controls, dieback controls, identification of suitable and unsuitable topsoil zones, and identification of stockpile locations, are completed prior to clearing commencing; and
- monitoring and compliance measures will be implemented during construction, with non-compliances recorded and managed through MRWA' incident management system.

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. After consideration of avoidance and mitigation measures, the Delegated Officer determined that the proposed clearing will result in the following significant residual impacts:

- 6.23 hectares of vegetation representative of the Banksia Woodlands PEC/TEC;
- 0.88 hectares of vegetation representative of the Tuart Woodlands PEC/TEC;
- 8.59 hectares of Carnaby's cockatoo *(Zanda latirostris)* and forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) foraging habitat;
- 1.08 hectares of native vegetation associated with Conservation Category Wetlands and wetlands with values commensurate with a Conservation Category Wetland; and
- 0.85 hectares of native vegetation within Bush Forever Site 270 – Sandy Lake and Adjacent Bushland Anketell.

In accordance with the Government of Western Australia's *Environmental Offsets Policy* and *Environmental Offsets Guidelines*, these significant residual impacts have been addressed through the conditioning of environmental offset requirements on the permit. The nature and suitability of the offset provided are summarised in Section 4.

3.2. Assessment of impacts on environmental values

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

The assessment against the clearing principles (see **Error! Reference source not found.**) identified that the impacts of the proposed clearing present a risk to biological values (fauna, flora and ecological communities), significant remnant vegetation and conservation areas, and land and water resources. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (fauna and biodiversity) - Clearing Principles (a) and (b)

Assessment

The application area has been subject to a basic fauna survey, a targeted short-range endemic (SRE) survey for trapdoor spider burrows, and a targeted black cockatoo habitat assessment as part of the biological surveys undertaken by GHD (2026; 2025a). The survey timing and methodology is summarised in Appendix G.

The biological surveys identified fauna habitat types within the application area which correspond to mapped vegetation types (see Appendix C for the full survey descriptions of different vegetation types):

- Banksia woodland, which covers a total area of 2.25 hectares within the application area and corresponds to the BmBa (*Banksia menziesii and Banksia attenuata* woodland) and Isolated Banksia spp. (Isolated *Banksia menziesii* and *Banksia attenuata* over scattered natives and weeds) vegetation types;
- Eucalyptus woodland over Banksia, which covers a total area of 6.32 hectares and corresponds to the EgBspp. (*Eucalyptus gomphocephala* and *Banksia* spp. woodland) and EmBspp. (*Eucalyptus marginata* and *Banksia* spp. woodland) vegetation types;
- Melaleuca dampland and sparse flooded gum, which covers a total area of 1.09 hectares, and corresponds to the ErMr (*Eucalyptus rudis* over *Melaleuca rhaphiophylla* +/- *M. preissiana* woodland) vegetation type;
- native and introduced shrubs, which covers a total area of 0.005 hectares and corresponds to the Mixed shrubland (native and introduced shrubs) vegetation type; and
- artificial lake, which covers a total area of 0.002 hectares and corresponds to the Modified wetland (modified wetland/drainage area) vegetation type (GHD 2026; GHD 2025a).

With consideration of the biological survey findings (GHD 2026; GHD, 2025a), the site characteristics (see Appendix C), and the habitat preferences of species recorded from the local area, the Department's assessment identified that 14 conservation significant fauna species, including four bird, two mammal, six invertebrate, and two reptile species, have the potential to occur within the application area:

- *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo) (listed as Vulnerable under the BC Act and EPBC Act),
- *Dasyurus geoffroii* (chuditch) (listed as Vulnerable under the BC Act and EPBC Act),
- *Falco peregrinus* (peregrine falcon) (listed as other specially protected fauna by DBCA),
- *Idiosoma sigillatum* (Swan Coastal Plain shield-backed trapdoor spider) (listed as Priority 3 by DBCA),
- *Isoodon fusciventer* (quenda) (listed as Priority 4 by DBCA),
- *Leioproctus contrarius (*Native short-tongued bee) (listed as Priority 3 by DBCA),
- *Lerista lineata* (Perth slider) (listed as Priority 3 by DBCA),
- *Neelaps calonotos* (Black-striped burrowing snake) (listed as Priority 3 by DBCA),
- *Neopasiphae simplicior* (Native short-tongued bee) (listed as Endangered under the BC Act and Critically Endangered under the EPBC Act),
- *Oxyura australis* (blue-billed duck) (listed as Priority 4 by DBCA),
- *Synemon gratiosa* (graceful sunmoth) (listed as Priority 4 by DBCA),
- *Throscodectes xiphos* (stylet bush cricket) (listed as Priority 1 by DBCA),
- *Westralunio carteri* (Carter's freshwater mussel) (listed as Vulnerable under the BC Act and EPBC Act), and
- *Zanda latirostris* (Carnaby's cockatoo) (listed as Endangered under the BC Act and EPBC Act).

Bird

Black cockatoo species

The application area is located within the modelled distribution of Carnaby's cockatoo and forest red-tailed black cockatoo (FRTBC), which are collectively referred to as black cockatoo species for the purpose of this assessment.

The application area occurs immediately west of the modelled distribution of *Zanda baudinii* (Baudin's cockatoo) (listed as Endangered under the BC Act and EPBC Act), and the closest record of the species is approximately 4.66 kilometres from the application. Furthermore, biological surveys of the application area (GHD 2026; GHD, 2025a), have not identified any evidence of this species within the application area or immediate vicinity. Therefore, while the application area contains suitable habitat for Baudin's cockatoo, its use of the application area at present is likely to be limited to occasional foraging and the application area is not considered likely to comprise significant habitat for this species of black cockatoo.

Breeding habitat

Black cockatoo species are known to nest in hollows of live and dead trees, including marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*), karri (*Eucalyptus diversicolor*), wandoo (*Eucalyptus wandoo*), tuart (*Eucalyptus gomphocephala*), flooded gum (*Eucalyptus rudis*), and other Eucalyptus spp. (DAWE, 2022). 'Breeding habitat' for black cockatoos includes trees of these species that either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow (500 mm for most tree species) (DAWE, 2022).

The black cockatoo habitat assessment identified 44 potential breeding trees with a DBH greater than 500 mm within the broader survey area, of which two trees occur within the application area (GHD, 2025a). Both potential breeding trees are marri and were identified as having a DBH of 600 mm and 800 mm, respectively (GHD, 2025a). Ground inspection of these trees did not identify hollows of any size and concluded that no currently suitable black cockatoo breeding trees occur in the application area (GHD, 2025a).

DBCA advised that trees may take more than 120 years to develop hollows suitable for black cockatoo breeding and that the retention of habitat trees, regardless of whether they currently contain suitable hollows, is important to support hollow succession and the long-term recovery of black cockatoo populations (DBCA, 2026). DBCA also noted that existing hollows will continue to be lost through natural attrition and that consideration should therefore be given to retaining potential breeding trees where practicable (DBCA, 2026).

The proposed clearing would result in the removal of two potential breeding trees that do not currently contain suitable nesting hollows. These trees represent a small proportion (approximately 4.5%) of the 44 potential breeding trees identified within the broader survey area. Given the absence of confirmed breeding hollows, the limited number of potential breeding trees proposed to be cleared relative to those identified in the broader survey area, and the availability of additional mature eucalypts within the surrounding landscape, the impact of the proposed clearing on potential breeding habitat is not considered to constitute a significant residual impact.

Nevertheless, the importance of hollow succession for black cockatoo conservation is recognised. While the proposed clearing would result in the loss of two potential breeding trees, the proposed offsets include the conservation, rehabilitation and ongoing management of native vegetation at the Postans offset site, where potential black cockatoo breeding trees occur (See Section 4). This would contribute to the protection and long-term persistence of potential breeding habitat and support the future availability of breeding hollows through natural hollow succession processes.

Roosting habitat

Black cockatoos commonly night roost in tall eucalypts near food and water resources (DAWE, 2022). The black cockatoo habitat assessment identified that potential night roosting habitat exists within the Naturalised and native trees and Modified wetland vegetation types, due to the presence of tall emergent eucalypt trees (GHD, 2025a). The application area contains approximately 0.002 hectares of these vegetation types based on survey mapping (GHD, 2025a). The assessment considered it reasonable to assume that the two potential breeding trees within the application area may also be suitable for roosting, noting their size and proximity to foraging habitat and water sources within the local area. However, the habitat assessment did not identify any evidence of roosting within the application area or broader survey area (GHD, 2025a).

The loss of potential roosting habitat is not considered a significant residual impact in this instance, noting the limited extent of potential roosting habitat within the application area, the absence of evidence of roosting use during field surveys, and the proximity of the application area to major road infrastructure, which is likely to reduce its suitability for roosting. Therefore, an offset has not been required to specifically counterbalance this impact. Nevertheless, the proposed offset at the Postans offset site includes the rehabilitation and ongoing management of native vegetation containing trees of a suitable size to provide potential roosting habitat (see Section 4), which would contribute to the long-term persistence of this habitat value.

Foraging habitat

Carnaby's cockatoos forage on the seeds, nuts, and flowers of a variety of plants, including Proteaceous species (*Banksia* spp., *Hakea* spp., and *Grevillea* spp.), as well as Eucalyptus species and marri (Valentine and Stock, 2008). On the Swan Coastal Plain (SCP), it is noted that Banksia species (predominantly *Banksia attenuata*, *Banksia menziesii* and *Banksia sessilis*) are the most important natural food source for Carnaby's cockatoo, followed by marri (Groom, et al., 2014). FRTBC feed predominantly on the seeds of marri and jarrah, which comprise approximately 90 per cent of their diet (DEC, 2008).

In considering the vegetation type and fauna habitat mapping of the application area, moderate to high-quality foraging habitat for both Carnaby's cockatoo and forest red-tailed black cockatoo is present within approximately 8.59 hectares of the application. This corresponds with the Banksia woodland, Eucalyptus woodland over Banksia, and Native and introduced shrubs habitat types, which contain preferred foraging species based on vegetation descriptions from the habitat assessment (GHD, 2025a; 2026).

Critical habitat is defined as any habitat that provides for feeding, watering, regular night roosting, and potential for breeding for Carnaby's cockatoo (DPAW, 2013). For the forest red-tailed black cockatoo, all marri, karri and jarrah forests, woodlands and remnants in the south-west of Western Australia receiving more than 600 millimetres of annual average rainfall are considered critical habitat (DEC, 2008). Foraging habitat within 12 kilometres of a nesting site and six kilometres of a roosting site is also of particular importance in supporting breeding effort and sustaining populations (DAWE, 2022; DEC, 2008; DPAW, 2013a; EPA, 2019; Glossop et al., 2011; Le Roux, 2017).

According to available databases, there are no confirmed nesting sites for any black cockatoo species within 12 kilometres of the application area. Whilst 20 artificial breeding hollows have been recorded in the local area, there has been no evidence of use of these hollows to date, and these are considered potential local breeding habitat only. The closest confirmed breeding sites are approximately 14.5 kilometres from the application area for Carnaby's cockatoo and 41.6 kilometres for FRTBC. Therefore, the foraging habitat within the application area is unlikely to be supporting breeding black cockatoos at present. However, it remains important for supporting non-breeding individuals and the broader local black cockatoo population.

There are 62 black cockatoo roost sites mapped within six kilometres of the application area (a combination of Carnaby's and FRTBC records), the majority of which have been confirmed. This indicates that the foraging habitat present within the application area is likely to be used by black cockatoos roosting in the local area and contributes to the habitat resources available to the local population.

Carnaby's cockatoo and FRTBC were both recorded within the survey area during the biological surveys (GHD, 2025a). Carnaby's cockatoo was recorded through direct observations and extensive foraging evidence, including chewed Banksia cones, within Banksia woodland and Eucalyptus woodland over Banksia habitats. FRTBC was observed and heard calling at several locations, and extensive foraging evidence, including chewed marri seed pods, was recorded across the survey area (GHD, 2025a).

Given the extent of moderate to high quality foraging habitat proposed to be cleared, the presence of preferred foraging species including *Banksia attenuata*, *Banksia menziesii*, marri and jarrah, the recorded evidence of black cockatoo foraging within and adjacent to the application area, and the importance of foraging habitat in supporting local black cockatoo populations, the Delegated Officer considers the loss of black cockatoo foraging habitat to constitute a significant residual impact requiring offsets.

Peregrine falcon

The peregrine falcon typically nests on rocky ledges in tall, vertical cliff faces and gorges, or in tall trees associated with drainage lines, and can hunt in a range of habitat types including timbered watercourses, riverine environments, wetlands, plains, open woodlands, and pylons and spires of buildings (Australian Museum, 2026).

Suitable habitat for the peregrine falcon occurs within the application area and there are 72 records of the species within the local area, with the nearest record located approximately 2.1 kilometres from the application area. The application area may therefore be used opportunistically for foraging. However, noting this highly mobile avian species has a large home range, does not rely on specialist habitat within the application area, and was not recorded

during the biological surveys (GHD, 2025a; 2026), the proposed clearing is not likely to significantly impact the species.

Blue-billed duck

There are 526 records of blue-billed duck within the local area, including records approximately 0.7 kilometres from the application area. This species can breed from August to March, mostly between October to January. Breeding habitat is typically secluded densely vegetated areas, with the nest constructed in Typha beds or other vegetation, in permanent water (Australian Museum, 2024). Suitable wetland habitat for the species may occur within and adjacent to the application area (GHD, 2025a; 2026). However, the proposed clearing within wetland areas is generally limited to narrow linear sections along wetland margins and substantial areas of surrounding wetland vegetation will remain. The application area is unlikely to provide important nesting habitat for the species, and no evidence of breeding activity was identified during the biological surveys (GHD, 2025a; 2026).

Given the limited extent of wetland vegetation proposed to be cleared and the retention of adjacent habitat, the proposed clearing is unlikely to significantly impact the ongoing maintenance of the species. Directional clearing is considered sufficient to minimise the risk of direct impacts to this species.

Mammal

Chuditch

Chuditch are present in a range of habitats across south-west Western Australia, including jarrah forest, woodland, mallee shrubland and heath vegetation (DEC, 2012a). The fauna assessment identified suitable habitat for the species within the application area (GHD, 2025a; 2026) and there are three records of chuditch within the local area, including a record approximately 0.2 kilometres from the application area (GIS database).

As chuditch have historically occupied a wide variety of habitat types, critical habitat for the species is not defined by specific vegetation communities but rather by the presence of adequate denning resources, prey availability and access to relatively large and connected areas of habitat (DEC, 2012). The application area comprises predominantly linear patches of vegetation that have been fragmented by historical clearing, major road infrastructure and surrounding urban and industrial land uses. Therefore, whilst the application area may provide habitat for transient individuals, it is unlikely to provide significant habitat for the species. The proposed clearing is therefore not considered likely to significantly impact the ongoing maintenance of chuditch populations at a local or regional scale.

However, should chuditch be present within the application area at the time of clearing, there is potential for direct impacts to individuals. Directional clearing is considered appropriate measure to minimise this risk.

Quenda

The application area contains suitable habitat for quenda within Banksia woodland, shrubland and wetland-associated vegetation (GHD, 2025a; 2026). The biological surveys recorded quenda at two locations within the broader survey area, including near the artificial lake south of Russell Road/Gibbs Road and adjacent to the proposed clearing area south of Anketell Road (Figure 16) (GHD, 2025a; 2026). There are 2,388 records of quenda within the local area, including records approximately 20 metres from the application area. Given the extent of surrounding vegetation within the broader site and the number of existing records in the local area, it is not considered likely that the proposed clearing would result in locally or regionally significant impacts on quenda.

However, the proposed clearing has the potential to result in direct impacts to quenda occupying the application area at the time of clearing. In the southern portions of the application area, vegetation remains connected to larger and more contiguous remnants of native vegetation and directional clearing towards adjoining habitat is likely to provide an effective means of minimising impacts. However, portions of the northern and central application area comprise smaller and more fragmented vegetation patches isolated by existing infrastructure. DBCA advised that directional clearing alone may not be sufficient in these locations and that suitable management measures should be considered on a case-by-case basis, given the potential for displaced quenda individuals to be concentrated into small habitat remnants (DBCA, 2026).

To address this matter, in response to the Department's request for further information, MRWA advised that additional fauna management measures will be implemented in the vicinity of the artificial lake south of Russell Road/Gibbs Road (MRWA, 2026a). These measures include pre-clearing inspections by a suitably qualified and licensed fauna specialist, staged and directional clearing, the presence of a fauna spotter during clearing, and, where the final design does not retain an adequate vegetated buffer, targeted trapping and relocation of quenda prior to clearing. MRWA

advised that trapping would be undertaken by a licensed fauna specialist for a minimum of four nights, with captured individuals relocated to suitable habitat identified in consultation with DBCA (MRWA, 2026a). Additional measures would include temporary cessation of clearing to allow fauna to disperse, staged removal of habitat features, and implementation of fauna management procedures through the Construction Environmental Management Plan (MRWA, 2026a).

It is considered that additional fauna management measures should be implemented in the northern and central portions of the application area, between Roe Highway and Rowley Rd, where vegetation patches are limited and fragmented (see Section 1.5, Figures 10, 11 and 12). Provided these measures are implemented, the Delegated Officer considers the proposed clearing is unlikely to significantly impact the ongoing maintenance of quenda populations in the local area. These measures have been imposed as conditions of the permit.

Invertebrate

Short-range endemic (SRE) species

Swan Coastal Plain shield-backed trapdoor spider (SCP trapdoor spider)

The SCP shield-backed trapdoor spider is associated with Banksia woodland and heath vegetation on sandy soils and is largely restricted to remnant bushland on the SCP (Rix et al., 2018). Suitable habitat for the species occurs within Banksia woodland vegetation of the application area. There are 106 records of the species within the local area, with closest record approximately 2.1 kilometres from the application area. Although targeted SRE surveys did not detect the species and no characteristic burrows attributable to the species were identified during biological surveys (GHD, 2025a; GHD, 2026), the species cannot be conclusively ruled out due to its cryptic nature and capacity to persist within small remnants of suitable habitat.

DBCA identified the SCP shield-backed trapdoor spider as a species likely to occur within the broader area based on habitat suitability and the proximity of known records (DBCA, 2026). DBCA also noted that the targeted SRE survey undertaken for the proposal was limited to trapdoor spiders and recommended that targeted surveys be undertaken for other conservation significant SRE species (DBCA, 2026).

In considering DBCA's advice and the limitations of survey techniques for cryptic invertebrate fauna, it is noted that additional targeted surveys for conservation significant SRE fauna may provide limited additional certainty regarding their occurrence within the application area. While targeted surveys may assist in confirming habitat suitability, the likelihood of detecting these species during a single survey event may remain low. Therefore, it is considered that it is appropriate to apply the precautionary principle and assume that the SCP trapdoor spider and other conservation significant SRE fauna may occur where suitable habitat is present. The significance of potential impacts can therefore be assessed having regard to the availability of suitable habitat, the extent of habitat to be impacted, and the known distribution and conservation status of the species.

Having regard to the above, it is considered that the SCP trapdoor spider may occur within suitable Banksia woodland habitat in the application area. However, the proposed clearing is largely confined to narrow, linear roadside vegetation adjacent to existing infrastructure and represents a small proportion of the suitable habitat available locally. Extensive areas of comparable habitat remain within adjoining remnant vegetation and nearby conservation lands. Therefore, while the proposed clearing may result in the loss of potential habitat for the SCP trapdoor spider, it is unlikely to significantly impact the ongoing maintenance of the species.

Native short-tongued bee

Two native short-tongued bee species of conservation significance have been recorded within the local area, comprising *Leioproctus contrarius* (Priority 3) and *Neopasiphae simplicior* (Endangered under the BC Act and Critically Endangered under the EPBC Act). *L. contrarius* is known from three records within the local area, with the nearest record located approximately 3.2 kilometres from the application area, while *N. simplicior* is known from six local records, with the nearest record approximately 8.5 kilometres from the application area.

Vegetation surveys recorded *Scaevola repens* and *Leschenaultia* species within the survey area, indicating that potential forage resources for native pollinators are present (GHD, 2025a; GHD, 2026). However, neither species was recorded during biological surveys and no targeted surveys for native short-tongued bees were undertaken (GHD, 2025a; GHD, 2026). Given the limited detectability of native bees and the absence of targeted survey effort, it is considered that the occurrence of *L. contrarius* and *N. simplicior* within the application area cannot be conclusively discounted. Therefore, applying the precautionary principle, it is considered that both species may occur where suitable habitat and forage resources are present.

Notwithstanding this, the proposed clearing is largely confined to narrow linear vegetation adjacent to existing road infrastructure and would impact only a small proportion of the habitat available within the local area. Extensive areas of comparable habitat would remain within adjoining vegetation remnants and nearby conservation lands. Therefore, should *L. contrarius* or *N. simplicior* occur within the application area, the proposed clearing is unlikely to significantly impact the ongoing maintenance of either species.

Graceful sunmoth

The graceful sunmoth is associated with Banksia woodland containing suitable *Lomandra* host plants (DEC, 2011). *Lomandra hermaphrodita*, a recognised larval host plant, was recorded within the survey area and suitable habitat for the species occurs within portions of the application area (GHD, 2025a; GHD, 2026). There are 15 records of the species within the local area, including records approximately one kilometre from the application area.

DBCA advised that the graceful sunmoth is likely to occur in remnant patches of Banksia woodland in good or better condition within the broader survey area (DBCA, 2026). However, *Lomandra hermaphrodita* was recorded at low abundance, comprising approximately one per cent cover in only two quadrats within the application area (GHD, 2025a). Considering the limited extent of host plants, the linear nature of the proposed clearing adjacent to existing infrastructure, and the retention of extensive areas of suitable habitat in adjoining vegetation, particularly within the more contiguous remnants south of Anketell Road, the proposed clearing is unlikely to significantly impact the ongoing maintenance of graceful sunmoth populations.

Bush stylet cricket

The bush stylet cricket is known from four records in the local area, with the nearest record approximately 1.9 kilometres from the application area. DBCA noted that the ecology of this species is poorly understood and that available records are limited (DBCA, 2026). Suitable Banksia woodland habitat occurs within the application area, and therefore the species cannot be discounted from occurring within the proposed clearing footprint (DBCA, 2026).

Notwithstanding its conservation significance, the proposed clearing is largely confined to narrow linear vegetation along existing road corridors and would impact only a small proportion of the suitable habitat available in the surrounding landscape. Extensive areas of comparable and generally higher-quality habitat would remain in adjacent vegetation remnants. Therefore, applying a precautionary approach and assuming the species may occur where suitable habitat is present, the Department considers that the proposed clearing is unlikely to significantly impact the ongoing maintenance of the species.

Aquatic invertebrate

Carter's freshwater mussel

The Carter's freshwater mussel (CFM) species is generally associated with permanent freshwater rivers, streams, wetlands and lakes that support low salinity water, suitable substrates and fish populations necessary for completion of its life cycle (Klunzinger et al., 2015; Klunzinger et al., 2022). There are 10 records of the species within the local area, including records approximately 2.7 kilometres from the application.

The biological surveys assessed CFM as unlikely to occur within the application area on the basis that suitable waterway habitat was not identified (GHD, 2025a). However, DBCA advised that the absence of waterways alone should not preclude the possibility of occurrence, noting that the species has been recorded from isolated wetlands within highly modified landscapes, including during targeted surveys undertaken for the Great Eastern Highway Bypass Interchanges Project (DBCA, 2026). While the limited connectivity of the application area to drainage lines or permanent waterways may reduce the likelihood of occurrence, DBCA considered that insufficient information was provided on the habitat characteristics of the artificial lake south of Russell Road/Gibbs Road and the wetland areas associated with UFIs 6664, 15584 and 12981 intersecting the application area to support a defensible assessment of habitat suitability (DBCA, 2026). Accordingly, DBCA requested further information on factors such as hydrological regime, seasonality, and water quality to enable an assessment of whether these wetland features could provide suitable habitat for the species (DBCA, 2026). DBCA advised that, should assessment of these habitat characteristics identify potential habitat for CFM, targeted surveys would be warranted to determine the species' presence or absence within the application area (DBCA, 2026).

In response to advice from DBCA, MRWA provided further information on the habitat characteristics of the artificial drainage sump south of Russell Road/Gibbs Road and wetland areas associated with UFIs 6664, 15584 and 12981 (MRWA, 2026b). MRWA advised that these wetland features are isolated systems that lack hydrological connectivity

to perennial waterways, with historical aerial imagery indicating that the artificial drainage sump and associated wetlands are subject to periodic drying and do not maintain permanent surface water (MRWA, 2026b). MRWA further advised that the absence of hydrological connectivity and the non-perennial nature of these systems are likely to restrict dispersal opportunities for both CFM and its obligate host fish species, reducing the likelihood of establishing self-sustaining populations. The wetland features were described as shallow, highly modified systems subject to periodic drying, elevated temperatures and potentially variable water quality, with the artificial drainage sump also likely to be influenced by urban runoff. MRWA also noted that available records of CFM in the broader region are generally associated with perennial waterways and that no records have been identified from these wetland systems despite previous aquatic surveys undertaken within the locality. On this basis, MRWA maintained that the artificial drainage sump and wetlands associated with UFIs 6664, 15584 and 12981 are highly unlikely to support CFM.

Having regard to the biological survey findings, DBCA advice and the additional habitat information provided by MRWA, the artificial drainage sump and wetlands associated with UFIs 6664, 15584 and 12981 are considered unlikely to provide suitable habitat for CFM. While the species has been recorded within the local area, the absence of permanent surface water, hydrological connectivity and suitable host fish populations substantially reduces the likelihood of occurrence within or adjacent to the application area. Accordingly, the proposed clearing is unlikely to have a significant impact on CFM as well as its preferred habitat.

Reptile

Perth slider and black-striped burrowing snake

The Perth slider and black-striped burrowing snake are Priority 3 fauna species associated with Banksia woodland and other sandy soil habitats on the SCP. Both species have been recorded within the local area and were assessed as likely to occur within the application area due to the presence of suitable remnant Banksia woodland habitat (GHD, 2025a). Perth slider has been recorded from numerous locations within the local area, including records within approximately one to three kilometres of the application area, while black-striped burrowing snake is also known from nearby records and suitable habitat associated with the remnant vegetation adjoining the application area (GHD, 2025a; DBCA, 2026).

The biological surveys did not record either species during field investigations (GHD, 2025a). However, it is noted that both species are cryptic and may not be readily detected during basic fauna surveys, particularly where targeted survey techniques have not been undertaken (DBCA, 2026). DBCA also advised that the species are likely to occur within the larger and more continuous remnant vegetation south of Anketell Road, where habitat condition and connectivity are generally higher than in the northern and central sections of the application area (DBCA, 2026).

The proposed clearing would remove a relatively small area of potential habitat for these species. The Department notes that the majority of clearing is linear in nature and occurs adjacent to existing road infrastructure. Noting the retention of larger areas of remnant vegetation south of Anketell Road and adjacent conservation lands, including The Spectacles and Sandy Lake, habitat connectivity and fauna dispersal opportunities are expected to remain available within the surrounding landscape.

Given the availability of suitable habitat in the surrounding landscape, the relatively limited extent of habitat proposed to be cleared, and the retention of larger and more continuous remnants adjacent to the application area, it is not considered likely for the proposed clearing to significantly impact local populations of either the Perth slider or the black-striped burrowing snake.

Fauna strike risk

The proposed clearing may result in direct impacts to fauna present within the application area at the time of clearing. Implementation of directional clearing towards adjacent retained vegetation would provide fauna with an opportunity to disperse from disturbance areas, thereby reducing the risk of injury, mortality and entrapment associated with vegetation removal.

Ecological linkages

The application area intersects several mapped Perth Regional Ecological Linkages (PRELs), including Linkages 50, 52, 58 and 59. The PREL dataset identifies these linkages as broad connections between patches of remnant vegetation considered to be of regional significance within the Perth Metropolitan Region (WALGA, n.d.). In the vicinity of the application area, the PRELs provide broad ecological connections between Bush Forever Sites 269, 270, 347, 392 and 492, with vegetation within and adjacent to the application area contributing to north-south fauna movement on both sides of the Kwinana Freeway.

It is noted that east-west ecological connectivity has already been substantially constrained by the existing Kwinana Freeway corridor and associated road infrastructure. The proposed clearing is therefore unlikely to materially alter east-west connectivity. However, remnant vegetation within the application area contributes to north-south movement pathways, particularly between wetland habitats and adjacent areas of remnant vegetation.

MRWA advised that the proposal represents a marginal increase in disturbance within an already fragmented landscape and that broader connectivity between regionally significant habitat areas, including Bush Forever sites and wetland systems, is largely maintained outside the immediate road reserve (MRWA, 2026b). MRWA further advised that the design has sought to minimise clearing within freeway verges where practicable, particularly adjacent to wetland interfaces and remnant vegetation patches that may support fauna movement (MRWA, 2026b).

The proposed clearing is unlikely to significantly affect north-south fauna movement on the western side of the Kwinana Freeway, noting that relatively intact vegetation remains within PREL Linkage 50 between Bush Forever Sites 269 and 392. However, remnant vegetation on the eastern side of the freeway is largely restricted to narrow and discontinuous roadside habitat corridors within an urbanised landscape. Consequently, the proposed clearing is likely to result in a localised reduction in ecological connectivity and fauna movement opportunities between retained habitat patches, including areas associated with nearby wetland systems. DBCA advised that north-south fauna movement on the eastern side of the freeway may be more significantly reduced, particularly between wetland habitats, and requested further consideration of these impacts (DBCA, 2026).

MRWA advised that impacts to ecological connectivity would be minimised through retention of vegetated strips where practicable and implementation of landscaping and revegetation measures in accordance with an Urban Design Plan (MRWA, 2026b). Revegetation would utilise locally appropriate native species and focus on strengthening and consolidating existing habitat corridors rather than creating new linkages, reflecting the constrained nature of the transport corridor and surrounding urban development (MRWA, 2026b). Additional measures include pre-clearing fauna management and staged clearing to maintain temporary refuge and movement opportunities for fauna during construction (MRWA, 2026b).

Having regard to the existing fragmentation of the landscape, the retention of substantial areas of habitat outside the application area, including vegetation associated with Bush Forever sites, regional parks and wetland reserves, and the proposed mitigation and rehabilitation measures, it is considered that the proposed clearing may result in a localised reduction in ecological linkage values but is unlikely to significantly impact ecological connectivity at a regional scale.

To minimise impacts to ecological linkage values, the Delegated Officer considers that clearing should be confined to the minimum extent necessary and that retained vegetation adjacent to the application area should be protected from direct and indirect impacts. Directional clearing, retention of vegetated strips where practicable, weed and disease hygiene measures, and post-construction revegetation using locally native species would assist in maintaining ecological function and fauna movement opportunities within the locality (MRWA, 2026b). While a localised reduction in habitat connectivity is likely to occur, these measures are expected to minimise fragmentation effects and support the ongoing use of surrounding remnant vegetation by fauna.

Conclusion

The proposed clearing is likely to result in a significant residual impact to approximately 8.59 hectares of foraging habitat for Carnaby's cockatoo and FRTBC, requiring offsets in accordance with the *Government of Western Australia's Environmental Offsets Policy* (2011) and *Environmental Offsets Guidelines* (2014), as outlined under Section 4.

The proposed clearing is unlikely to significantly impact black cockatoo breeding or roosting habitat, or the ongoing maintenance of local or regional populations of other conservation significant fauna species, including quenda, chuditch, peregrine falcon, blue-billed duck, Carter's freshwater mussel, SCP trapdoor spider, native short-tongued bees, graceful sunmoth, bush stylet cricket, Perth slider and black-striped burrowing snake.

While direct impacts to individual fauna may occur during clearing activities, these impacts can be appropriately managed through implementation of fauna management measures. The proposed clearing may also result in a localised reduction in ecological linkage values, particularly within fragmented habitat on the eastern side of the Kwinana Freeway; however, having regard to the limited extent of clearing, the retention of substantial habitat within

the surrounding landscape, and the proposed mitigation and management measures, the impact is not considered likely to significantly affect ecological connectivity at a regional scale.

Conditions

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

- directional clearing, which requires the permit holder to undertake staged and directional clearing towards retained native vegetation, where practicable, to allow fauna to disperse from the clearing area ahead of clearing activities.
- quenda management, which requires the permit holder to implement targeted trapping and relocation measures within identified high-risk areas where directional clearing alone is unlikely to adequately mitigate impacts to quenda.
- weed and disease management, which requires the permit holder to implement hygiene measures to minimise the introduction and spread of weeds and disease into retained native vegetation, wetland vegetation and fauna habitat.
- offset requirements, which require the permit holder to implement the approved offset strategy to counterbalance the significant residual impacts to black cockatoo foraging habitat.

3.2.2. Biological values (flora and biodiversity) - Clearing Principles (a) and (c)

Assessment

The application area has been subject to detailed and targeted flora surveys and a targeted orchid survey as part of the biological surveys undertaken by GHD (2026; 2025a; 2025b). The survey timing and methodology is summarised in Appendix G.

The biological surveys identified that vegetation within the application area ranges from Very Good to Completely Degraded (Keighery, 1994) condition, with the majority of vegetation assessed as Degraded or Completely Degraded; and comprises five remnant native vegetation types and seven roadside revegetation types (see Appendix C). Vegetation occurs predominantly within road reserves and fragmented remnants adjacent to existing transport infrastructure and urban development. Historical disturbance, vegetation clearing, weed invasion, altered hydrology, road construction and fragmentation have affected the condition and ecological integrity of much of the remaining vegetation (GHD, 2025a; GHD, 2026).

Three conservation significant flora taxa were recorded within the application area, comprising *Jacksonia gracillima* (Priority 3), *Grevillea curviloba* (Endangered under the BC Act) and *Grevillea olivacea* (Priority 4). However, *Grevillea curviloba* and *Grevillea olivacea* were assessed as planted individuals occurring outside their natural distribution and habitat and are therefore not considered significant in the context of the proposal. *Jacksonia gracillima* was recorded as three individuals within a restricted 0.42 ha patch of *Corymbia calophylla* woodland (Cc).

Having regard to the site characteristics, biological survey results, and available local records, ten conservation significant flora species known or considered likely to occur within the local area require further assessment (see Appendix C.3), as discussed below.

Threatened flora

Threatened orchids

The flora analysis identified that vegetation and soil characteristics within parts of the application area may provide habitat for six threatened orchid species: *Caladenia huegelii* (King Spider-orchid), *Diuris drummondii*, *Diuris micrantha* (Dwarf Bee-orchid), *Diuris purdiei*, *Drakaea elastica* (Glossy-leaved Hammer Orchid) and *Thelymitra variegata*. These species have been recorded between approximately 0.38 kilometres and 5.29 kilometres from the application area.

Threatened orchid survey effort within and adjacent to the application area comprised detailed flora and vegetation surveys undertaken in July, September and November 2024, an additional biological survey completed in September 2025, and a targeted orchid survey undertaken between 27 and 30 October 2025 (GHD, 2025a; GHD, 2025b; GHD, 2026a). The additional biological survey included targeted searches for *Caladenia huegelii*, *Diuris micrantha* and *Drakaea elastica* within native vegetation areas, with potential habitat systematically traversed at intervals of approximately 5 to 20 m (GHD, 2026a). These searches were subsequently repeated during the dedicated targeted orchid survey, which focused on suitable habitat for the three target species and was undertaken during their known flowering periods in accordance with the *Commonwealth Draft Survey Guidelines for Australia's Threatened Orchids*

(GHD, 2025b). DBCA advised that orchid surveys had been undertaken over two survey periods, at an appropriate intensity and time of year, and were considered sufficient to detect threatened orchid species, if present (DBCA, 2026).

Caladenia huegelii is a threatened orchid endemic to the SCP and is known from numerous subpopulations across its range (Herbarium, 1998-). The species typically occurs in open woodlands dominated by jarrah (*Eucalyptus marginata*), marri (*Corymbia calophylla*) and *Banksia* species on deep grey-white sandy soils, with an understorey comprising low heath and shrub species including *Hibbertia*, *Hypocalymma*, *Adenanthos*, *Conostylis* and grass trees (DEC, 2009). DBCA noted that a historical subpopulation occurs approximately 500 metres south-west of the application area; however, no plants have been recorded from that locality since 1994 and the surrounding habitat has been substantially degraded through clearing and development (DBCA, 2026). Desktop assessment identified vegetation types BmBa and EmBspp. within the application area as potentially suitable habitat for the species. However, field investigations determined that much of the potential habitat was degraded due to weed invasion, understorey loss and canopy structural modification, reducing its suitability for supporting *C. huegelii* (GHD, 2025a; GHD, 2026a). No individuals of *C. huegelii* were recorded during flora and vegetation surveys, the additional biological survey or the targeted orchid survey, despite survey effort being undertaken during appropriate seasonal conditions and flowering periods (GHD, 2025a; GHD, 2025b; GHD, 2026a). Given the degraded condition of potential habitat, the absence of records during multiple survey phases and DBCA's advice that survey effort was sufficient to detect threatened orchid species if present, *C. huegelii* is considered unlikely to occur within the application area (DBCA, 2026).

Diuris drummondii, *D. micrantha* and *D. purdiei* are threatened orchids associated with seasonally inundated habitats on the SCP (WA Herb, 1998-). *D.s drummondii* typically occurs on sandy clay soils within low-lying seasonally wet flats, depressions and swamps, often in habitats that are waterlogged during winter (DEWHA, 2008a). *D. micrantha* occurs on brown loamy clay soils within winter-wet flats, depressions and seepage areas, commonly amongst dense sedges and rushes, while *D. purdiei* is associated with winter-wet swamps on grey-black sandy soils between Perth and Yarloop (DEWHA, 2008b; Western Australian Herbarium, 1998–). Desktop assessment identified the ErMr and Modified Wetland vegetation types within the application area as potentially suitable habitat for these species. However, biological surveys determined that wetland habitats within the application area have been substantially modified by drainage infrastructure, altered hydrological processes, weed invasion and historical disturbance, resulting in vegetation communities that differ considerably from known habitat preferences for threatened *Diuris* species (GHD, 2025a; GHD, 2026a). DBCA further advised that *D. drummondii* is known primarily from historical records within the broader area and that *D. purdiei* often flowers only following fire, which may reduce detectability during surveys; however, the highly modified condition of the vegetation reduces the likelihood of these species occurring within the application area (DBCA, 2026). DBCA also noted that the application area is located north of the nearest known *D. micrantha* subpopulations and that the disturbed condition of the vegetation is unlikely to represent significant habitat for the species (DBCA, 2026). No individuals of *D. drummondii*, *D. micrantha* or *D. purdiei* were recorded during the flora and vegetation surveys, additional biological survey or targeted orchid survey (GHD, 2025a; GHD, 2025b; GHD, 2026a). Having regard to the disturbed condition of potential habitat, the absence of records despite survey effort undertaken during appropriate seasons, and DBCA's advice regarding habitat suitability and species distribution, all three species are considered unlikely to occur within the application area. Accordingly, while the proposed clearing may impact a small extent of potential habitat, it is unlikely to have a significant impact on the conservation of *D. drummondii*, *D. micrantha* or *D. purdiei*.

Drakaea elastica is a threatened orchid endemic to the Swan Coastal Plain and is known to occur in white or grey sandy soils within low-lying habitats adjacent to winter-wet swamps and in *Banksia*, jarrah and sheoak woodlands and shrublands (WA Herbarium, 1998-). The species occupies open sandy microsites characterised by sparse understorey vegetation, moderate canopy cover and low litter accumulation, and is known to have highly specialised ecological requirements, including dependence on specific pollinators and mycorrhizal fungi (Menz, 2013; Menz et al., 2015). Desktop assessment identified vegetation types BmBa, EgBspp., EmBspp. and Isolated *Banksia* spp. as potentially suitable habitat for the species. Targeted surveys undertaken during September and October 2025 specifically searched for *D. elastica* within potential habitat, but no individuals were recorded (GHD, 2026a; GHD, 2025b). Surveyed habitats were generally degraded, fragmented and subject to weed invasion and historical disturbance, reducing their suitability for supporting the species (GHD, 2025a; GHD, 2026a). Accordingly, *D. elastica* is considered unlikely to occur within the application area.

Thelymitra variegata is a threatened orchid that persists in a small number of remaining subpopulations on the SCP. The species occurs in woodland habitats on sandy soils and flowers between June and September (WA Herbarium,

1998-; DBCA, 2025). A population was recorded in 2024 approximately 2.5 kilometres west of the application area within Banksia woodland TEC. Desktop assessment identified vegetation types BmBa, EgBspp. and EmBspp. as potentially suitable habitat due to their sandy substrates and broad structural similarity to known habitat. However, vegetation within the application area is generally more fragmented and degraded than nearby Banksia woodland remnants and is affected by weed invasion and historical disturbance (GHD, 2025a; GHD, 2026a). No individuals of *T. variegata* were recorded during flora and vegetation surveys undertaken across the project area (GHD, 2025a; GHD, 2026a). Given the absence of records and the relatively poor condition of potential habitat, the species is considered unlikely to occur within the application area.

Byblis gigantea

Byblis gigantea is a threatened carnivorous plant endemic to the SCP and is typically associated with seasonally wet habitats, including the margins of winter-wet swamps and depressions on shallow sands over sandy clay substrates (WA Herbarium, 1998-; DBCA, 2026). Six records of this species were mapped within the local area, with the nearest known record located approximately 6.27 kilometres from the application area. DBCA advised that *B. gigantea* is generally associated with open heathland surrounding seasonally wet wetlands and considered that the vegetation types within the application area do not closely align with the species' preferred habitat requirements (DBCA, 2026). DBCA also noted that numerous historically recorded populations on the SCP are now presumed extinct, with no live plants recorded at many previously known locations during recent surveys (DBCA, 2026),

Flora and vegetation surveys undertaken within and adjacent to the application area between 2024 and 2025 did not record *B. gigantea* (GHD, 2025a; GHD, 2025b). Having regard to the species' habitat preferences, the absence of records during biological surveys, and DBCA's advice regarding the low likelihood of occurrence, *B. gigantea* is considered unlikely to occur within the application area.

Priority flora

Amanita preissii

Amanita preissii is a macrofungus endemic to Western Australia and is typically associated with sandy soils within Banksia woodlands, mixed woodlands and Eucalyptus communities (WA Herbarium, 1998-). The species is likely to form mycorrhizal associations with native woodland vegetation and is generally detected through the emergence of fruiting bodies during wetter winter conditions (WA Herbarium, 1998-). The Western Australian Herbarium contains numerous records of the species, including 11 records within the local area surrounding the application area (WA Herbarium, 1998-).

Desktop assessment identified vegetation types BmBa, EgBspp., EmBspp. and Isolated *Banksia* spp. within the application area as potentially suitable habitat for *A. preissii*. The flora and vegetation surveys undertaken between 2024 and 2025 did not specifically target the species and survey timing was not optimal for detection, as field surveys were primarily undertaken during spring rather than the wetter winter period when fungal fruiting bodies are most likely to be present (GHD, 2025a; GHD, 2025b; GHD, 2026a). Consequently, the absence of records during biological surveys does not confirm the absence of the species from the application area.

DBCA advised that suitable habitat for *A. preissii* occurs within the application area and that the species may have been overlooked during surveys due to seasonal limitations. However, DBCA also noted that *A. preissii* occurs across a broad range of woodland habitats, is likely to be under-surveyed, and may be more widespread than currently documented (DBCA, 2026). Furthermore, the nearest known record occurs approximately 1.21 kilometres from the application area and multiple records occur throughout the local area (DBCA, 2026). Accordingly, while the proposed clearing may impact potential habitat for *A. preissii*, the available evidence indicates that the clearing is unlikely to result in a significant impact on the conservation of the species (DBCA, 2026).

Dodonaea hackettiana

Dodonaea hackettiana is a shrub endemic to south-western Western Australia, occurring primarily on the SCP where it is associated with *Banksia* woodland communities on sandy soils (WA Herbarium, 1998–). Numerous records occur within the local area surrounding the application area, and the species is known to be relatively widespread across suitable habitats on the SCP (WA Herbarium, 1998–; DBCA, 2026). Vegetation types BmBa, EgBspp. and EmBspp. within the application area contain characteristics consistent with the known habitat preferences of *D. hackettiana* and are therefore considered potential habitat for the species.

During the 2024 flora surveys, a potential individual of *D. hackettiana* was observed adjacent to a slip lane; however, the identification could not be confirmed due to access restrictions and safety limitations at the survey location (GHD,

2025a). Consequently, the post-survey likelihood assessment concluded that the species may occur within the application area (GHD, 2025a). DBCA advised that, although *D. hackettiana* is a relatively range-restricted taxon, it is represented by numerous records throughout the local area and broader SCP region, indicating that it is more widespread than previously understood (DBCA, 2026). Furthermore, due to limitations on survey access, the number of potential individuals that may occur within the application area could not be reliably determined (GHD, 2025a; DBCA, 2026).

Having regard to the availability of suitable habitat, the unconfirmed field observation and the local distribution of records, *D. hackettiana* may occur within the application area. However, given the species' broader regional distribution and the number of known occurrences within the SCP, DBCA advised that the proposed clearing is unlikely to significantly affect the conservation status of the species (DBCA, 2026). Accordingly, any impacts to potential habitat for *D. hackettiana* are considered unlikely to have a significant impact on the ongoing conservation of the species.

Poranthera moorokatta

Poranthera moorokatta is endemic to the Perth region of south-western Western Australia and is primarily associated with *Banksia* woodland on sandy soils (WA Herbarium, 1998-). The species is known from a limited number of occurrence records within the metropolitan area and is considered highly cryptic, with DBCA advising that it is likely to be under-surveyed (Barrett, 2012; DBCA, 2026). Vegetation types BmBa, EgBspp. and EmBspp. within the application area are consistent with the species' known habitat preferences and therefore have the potential to support *P. moorokatta* (GHD, 2025a; GHD, 2026a).

No individuals of *P. moorokatta* were recorded during the 2024 and 2025 biological surveys; however, the species was assessed as having a possible likelihood of occurrence due to its small stature and cryptic growth habit, which may reduce detectability during field surveys (GHD, 2025a; GHD, 2025b; GHD, 2026a). A confirmed record of *P. moorokatta* occurs within the Anketell Road reserve immediately adjacent to the application area, where a single individual was recorded in 2020 (Figure 13) (DBCA, 2026). Given the proximity of this record to the proposed clearing area, the occurrence of additional individuals within adjacent vegetation cannot be discounted. The limited number of records documented along the Anketell Road corridor, together with the location of this occurrence near the southern extent of the species' known distribution within the Perth region, indicates that impacts to nearby individuals or habitat may be locally significant (DBCA, 2026). DBCA noted that indirect impacts associated with clearing and construction activities, including the spread of weeds, plant disease and edge effects, may pose a risk to adjacent habitat where the species may occur (DBCA, 2026).

Having regard to the availability of suitable habitat, the proximity of known records, the cryptic nature of the species and the uncertainty associated with its detectability, *P. moorokatta* may occur within or immediately adjacent to the application area. While impacts to the regional conservation status of the species are considered unlikely given its broader distribution and the presence of other known populations in the local area (DBCA, 2026), a precautionary approach is warranted due to the potential for locally significant impacts. Accordingly, measures to avoid and minimise direct and indirect impacts should be implemented including weed management and dieback hygiene measures, particularly in areas adjoining remnant native vegetation (DBCA, 2026).



Figure 13: Location of the 2020 record of *Poranthera moorokatta* (pink), relative to the application area (red outline) and vegetation type EgBspp. (green shading) (DBCA, 2026).

Jacksonia gracillima

Jacksonia gracillima is known from the SCP between Perth and Busselton, where it typically occurs in shrublands on peaty sands (WA Herbarium, 1998–). Three individuals were recorded during biological surveys undertaken for the project; however, all records occurred outside the application area and would not be directly impacted by the proposed clearing (GHD, 2025a; GHD, 2026a). Accordingly, the Department considers that the proposed clearing is unlikely to result in a significant impact on the species, noting that no known individuals occur within the application area and impacts to the conservation of *J. gracillima* at a regional scale are not anticipated.

Planted conservation significant flora

Grevillea curviloba and *Grevillea olivacea*

Several individuals of *Grevillea curviloba* and *Grevillea olivacea* were recorded during biological surveys; however, these individuals were identified as planted specimens occurring outside their known natural range and habitat (GHD, 2025a). DBCA advised that both species are commonly cultivated and widely used in horticultural plantings throughout the Perth metropolitan area and considered the recorded individuals to be planted rather than naturally occurring populations (DBCA, 2026). Therefore, the Department considers these specimens are not relevant to the assessment of impacts to conservation significant flora associated with the proposed clearing.

Other matter: Dieback

A P*hytophthor*a dieback assessment was undertaken across the broader project area in July and August 2025 (Glevan Consulting, 2026). The assessment identified two areas of dieback infestation, including one confirmed *Phytophthora cinnamomi* infestation that intersects the application area (Figure 14) (Glevan Consulting, 2025).



Figure 14: Dieback infection (red dots) found within a portion of the application area.

The application area contains vegetation communities with species known to be susceptible to *Phytophthora cinnamomi*, including *Banksia attenuata*, *Banksia menziesii* and *Xanthorrhoea preissii*. Consequently, clearing and construction activities have the potential to spread dieback to adjacent uninfested vegetation through the movement of soil, machinery and plant material.

Given that a confirmed dieback infestation occurs within the application area, the Department considers that permit conditions should be imposed requiring the demarcation of dieback-infested area and the implementation of strict dieback hygiene measures during construction. Subject to the implementation of these measures, the risk of spreading dieback to adjacent native vegetation can be adequately managed.

Conclusion

Based on the above assessment, the proposed clearing is unlikely to have a significant impact on the conservation of threatened or priority flora. While *Poranthera moorokatta* may occur within or adjacent to the application area and localised impacts cannot be discounted, the limited extent of clearing and implementation of measures such as clearing boundary demarcation, weed management and dieback hygiene are expected to minimise direct and indirect impacts. Subject to these measures, the Department considers the proposed clearing is unlikely to significantly affect flora conservation values or the long-term viability of conservation significant flora populations at a local or regional scale.

Conditions

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

- avoid, minimise, and reduce the impacts and extent of clearing;
- demarcating area proposed to be cleared, prior to clearing; and
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback, including demarcating dieback-infested areas.

3.2.3. Biological values (ecological communities) - Clearing Principles (a) and (d)

Assessment

As part of the biological surveys undertaken to inform vegetation mapping of the application area, GHD conducted a Floristic Community Type (FCT) assessment and ecological community patch assessments to determine whether vegetation within the application area was consistent with conservation-significant ecological communities (GHD, 2025a; GHD, 2026).

These assessments identified that the surveyed vegetation types are likely to be representative of two conservation significant ecological communities:

- Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region (Banksia Woodlands Community) (listed as Endangered under the EPBC Act and as Priority 3 by DBCA), and
- Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain (Tuart Woodlands Community) (listed as Critically Endangered under the EPBC Act and as Priority 3 by DBCA).

Banksia Woodlands Community

The flora and vegetation surveys identified that portions of the BmBa, EmBspp, and EgBspp vegetation types are representative of the Banksia Woodlands community. These vegetation types contain the key structural and floristic attributes of the ecological community, including a canopy dominated or co-dominated by *Banksia attenuata* and *Banksia menziesii*, with a native shrub and sedge understorey occurring on Bassendean and Spearwood sands (GHD, 2025; DBCA, 2026). The condition of Banksia Woodlands vegetation within the application area ranges from Very Good to Completely Degraded according to the Keighery (1994) scale; however, the majority of vegetation proposed to be cleared occurs in Degraded condition and has been subject to historical disturbance, fragmentation and edge effects associated with the Kwinana Freeway corridor (GHD, 2025; DBCA, 2026). Notwithstanding the level of disturbance within parts of the application area, the proposed clearing will result in the loss of 6.23 hectares of vegetation representative of the Banksia Woodlands community.

According to the conservation advice for this community, areas critical to the persistence of the ecological community include patches that meet the diagnostic characteristics and condition thresholds for the community, particularly where they contribute to landscape connectivity and ecological function (TSSC, 2016). The application area is located within a highly fragmented portion of the SCP where historical clearing has substantially reduced the extent of native vegetation. While the proposed clearing of 6.23 hectares of Banksia Woodlands represents a relatively small proportion of the overall distribution of the ecological community, it will contribute to the cumulative loss and ongoing fragmentation of Banksia woodland vegetation within the Perth metropolitan region (TSSC, 2016; DBCA, 2026). Accordingly, it is considered that the loss of 6.23 hectares of Banksia Woodlands constitutes a significant residual impact and requires offsets.

Tuart Woodlands Community

The Tuart Woodlands community is listed as Critically Endangered and has undergone extensive historical decline as a result of clearing, fragmentation, weed invasion, disease, altered fire regimes and hydrological changes. Remaining occurrences are highly fragmented and generally restricted to remnant patches across the SCP (DotEE, 2019; DBCA, 2026).

The flora and vegetation surveys identified that approximately 0.88 hectares of vegetation representative of the Tuart Woodlands community will be impacted by the proposed clearing (GHD, 2025a; Biota, 2025). This vegetation occurs within the EgBspp vegetation type and is characterised by a canopy dominated by *Eucalyptus gomphocephala* (Tuart) over *B. attenuata* and *B. menziesii* woodland on Spearwood and associated dune systems (GHD, 2025a). While the vegetation representative of the ecological community within the application area occurs adjacent to existing transport infrastructure and is subject to edge effects and historical disturbance, it retains the key structural characteristics of the community, including a Tuart canopy and native Banksia woodland understorey, and contributes to the remaining extent of the ecological community in the southern Perth metropolitan region (DBCA, 2026).

The proposed clearing will result in the loss of 0.88 hectares of vegetation representative of the Tuart Woodlands community. Although this represents a relatively small proportion of the overall extent of the ecological community, the clearing will contribute to the cumulative loss and fragmentation of this Critically Endangered ecological community within a landscape that has already experienced substantial historical vegetation loss. Therefore, the Delegated Officer considers that this loss constitutes a significant residual impact and requires offsets.

Conclusion
Based on the above assessment, the proposed clearing will result in:

- the loss of 6.23 hectares of native vegetation representative of the Banksia Woodlands community, and
- the loss of 0.88 hectares of native vegetation representative of the Tuart Woodlands community.

For the reasons set out above, it is considered that the loss of vegetation representative of the Banksia Woodlands Community and the Tuart Woodlands Community constitutes a significant residual impact. In accordance with *the WA Environmental Offsets Policy (2011*) and *WA Environmental Offsets Guidelines (2014)*, it is appropriate to consider environmental offsets to counterbalance these impacts.

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

- rehabilitate 22.30 hectares of native vegetation at the Jandakot Regional Park Offset Site to counterbalance the significant residual impacts to the Banksia Woodlands Community; and
- rehabilitate 14 hectares of native vegetation at the Postans Offset Site to counterbalance the significant residual impacts to the Tuart Woodlands Community, and secure long-term conservation outcomes through future vesting arrangements.

3.2.4. Significant remnant vegetation - Clearing Principle (e)

Assessment
The national objectives and targets for biodiversity conservation in Australia identify a threshold of 30 per cent of pre-European vegetation extent, below which species loss appears to accelerate at an ecosystem level (Commonwealth of Australia, 2001). The application area occurs within the Swan Coastal Plain IBRA bioregion, which retains approximately 38.6 per cent of its pre-European vegetation extent (Government of Western Australia, 2019). While the current vegetation extent for the SCP IBRA bioregion is above the 30 per cent threshold, remaining native vegetation within a mapped SCP vegetation complex (Bassendean Complex-Central and South) and the local area are below the national objectives (see Appendix C.2).

However, the Environmental Protection Authority (EPA) recognises the Perth Metropolitan Region to be a constrained area, in which a minimum 10 per cent representation threshold for ecological communities is recommended (EPA, 2008). The current vegetation extent for the SCP IBRA Bioregion, the mapped vegetation complexes, and the local area is all above this threshold. The application area also represents less than 0.09 per cent of all remaining native vegetation in the local area and mapped within the vegetation complexes on the SCP, meaning the proposed clearing will not cause the extent of native vegetation to fall below the 10 per cent representation threshold. Therefore, when considered in the context of the constrained area, the proposed clearing is consistent with revised thresholds and is not considered to significantly impact vegetation extent in the Perth Metropolitan Region.

Given the high weed load and dieback found in parts of the application area, it is possible that the proposed clearing will facilitate the spread of weeds and dieback into surrounding significant remnant vegetation in the local area. A hygiene management condition will sufficiently minimise this risk.

Conclusion
Based on the above assessment, the proposed clearing is unlikely to result in significant impacts to vegetation extent within an extensively cleared area but may facilitate the spread of weeds and dieback into nearby vegetation in the local area, including adjacent significant remnant vegetation.

For the reasons set out above, it is considered that the impacts of the proposed clearing can be managed to be environmentally acceptable by taking steps to minimise the risk of the introduction and spread of weeds and dieback and does not constitute a significant residual impact.

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

- undertake weed and dieback hygiene measures to minimise the introduction and spread of weeds and dieback into native vegetation; and
- avoid and minimise the extent of clearing.

3.2.5. Land and water resources (wetlands and water quality) - Clearing Principles (f) and (i)

Assessment

Wetlands

The application area intersects five wetlands mapped in DBCA's Geomorphic Wetlands of the SCP (GWSCP) dataset, all associated with Mandogalup Swamp (see Figure 15 below):

- A sumpland of Mandogalup Swamp Mid North (UFI 6664), mapped as a Resource Enhancement Wetland (REW) and covering a total area of 6.26 hectares, of which 0.2 hectares intersects the application area.
- Two sumplands of Mandogalup Swamp Mid-South;
    - UFI 15583, mapped as a Multiple Use Wetland (MUW) and covering a total area of 1.31 hectares, of which 0.13 hectares intersects the application area, and
    - UFI 15584, mapped as a CCW and covering a total area of 0.93 hectares, of which 0.07 hectares intersects the application area.
- Two damplands of Mandogalup Swamp South;
    - UFI 6530, mapped as a MUW and covering a total area of 215.39 hectares, of which 0.11 hectares intersects the application area, and
    - UFI 12981, mapped as a CCW and covering a total area of 3.42 hectares, of which 0.27 hectares intersects the application area.

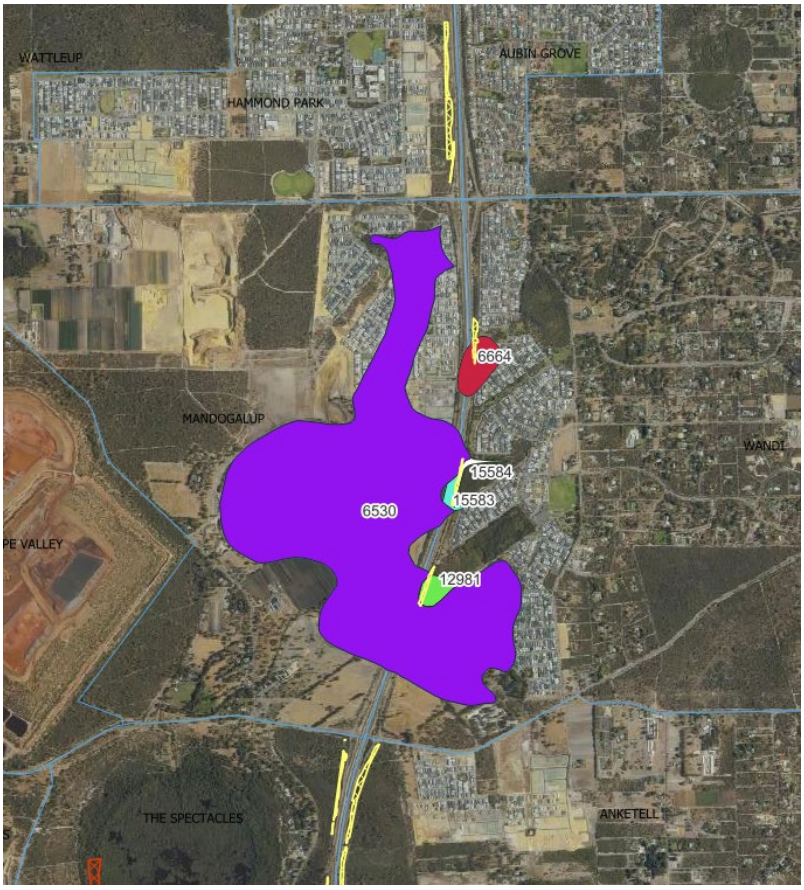


Figure 15: Geomorphic wetlands intersecting the application area, showing the extent of Conservation Category Wetlands (CCWs), Resource Enhancement Wetlands (REWs) and Multiple Use Wetlands (MUWs) associated with Mandogalup Swamp.

The biological survey identified that all five mapped wetlands occur within the *Eucalyptus rudis* over *Melaleuca rhaphiophylla* +/- *Melaleuca preissiana* woodland (ErMr) vegetation type (GHD, 2025a). The ErMr vegetation type is made up of characteristic wetland and riparian species including flooded gum, *Melaleuca* spp., *Kunzea glabrescens* and *Lepidosperma longitudinale* (GHD, 2025a). Vegetation condition within the portions of the mapped wetlands intersecting the application area ranges from Completely Degraded to Good (Keighery, 1994) condition (GHD, 2025a).

To confirm the environmental values of the mapped wetlands, GHD (2025a) undertook a wetland evaluation using the criteria outlined in *A methodology for the evaluation of wetlands on the Swan Coastal Plain, Western Australia* (DBCA, 2017) for eight CCWs and one REW within a broader survey area, including UFI 15584, UFI 12981, and UFI

6664 within the application area. The preliminary evaluation concluded that all nine assessed wetlands have values commensurate with CCWs, on the basis that equal to or greater than 90% of each wetland supported vegetation in a Good or better condition (GHD, 2025a). It is considered that UFI 6664 has values commensurate with a CCW despite its current REW classification.

The remaining wetlands within the survey area, including UFI 6530 and UFI 15583, were not considered necessary to be evaluated as they were highly fragmented, degraded or cleared and were no longer considered to represent functional wetlands (GHD, 2025a). It is acknowledged that a significant portion of UFI 6530 and UFI 15583 is encompassed by the Kwinana Freeway alignment and adjacent urban and rural development and is no longer part of the functional wetland area. However, the survey mapping indicates that there is a contiguous patch of wetland associated vegetation at Mandogalup Swamp Mid-South, which encompasses the CCW UFI 15584 and adjacent remnant vegetation within a portion of UFI 6530 and UFI 15583 (see Figure 15). Similarly, the contiguous patch of ErMr vegetation type at Mandogalup Swamp South is made up of the CCW UFI 12981 and remnant vegetation within an adjacent portion of UFI 6530 (see Figure 15).

Noting that the portions of UFI 6530 and UFI 15583 within the application area have not been subject to a detailed wetland assessment and that these areas represent contiguous patches of wetland associated vegetation, it is considered that it is appropriate to apply the precautionary principle and assume that these areas are part of the overall patch of functional wetland associated with UFI 15584 and UFI 12981. If considered as part of the overall wetland patch, the portions of UFI 6530 and UFI 15583 within the application would be considered to have values commensurate with a CCW or, at minimum, be significant in supporting the CCWs by providing a buffer to edge effects associated with the Kwinana Freeway to the west. This is consistent with advice and preliminary data from DBCA, which indicates that portions of the remaining wetland areas may support values more consistent with a REW and, potentially CCW where functional wetland vegetation remains intact (DBCA, 2026).

It should be noted that the formal wetland boundaries and classification within DBCA's GGWSCP dataset cannot be changed without a delineation assessment, followed by an evaluation of the wetland values and determination of the appropriate management category. Given the entire GWSCP mapped wetland areas have not been evaluated, the available data is not sufficient to support a reassessment of wetland boundaries or classification at present (DBCA, 2026). Therefore, while UFI 6664 and the portions of UFI 6530 and UFI 15583 are considered to have values commensurate with a CCW for the purposes of this assessment, the wetlands have not been formally reclassified at present.

Given the alignment between the mapped wetlands of the GWSCP dataset and the wetland-associated vegetation recorded in the survey (GHD, 2025a), it is considered that the mapped extent of wetland-associated vegetation provides a more accurate representation of actual wetland extent than the GWSCP mapping alone. Based on the survey mapping, wetland-associated vegetation within a contiguous patch extends slightly beyond the mapped boundary of both UFI 6664 and UFI 6530 (GHD, 2025a). This approach is supported by advice from DBCA which indicates that the GWSCP mapping for this area is unlikely to have been updated since 1996, excluding UFI 15583 which was updated in 2009, and that the mapped boundaries may not align with the actual extent of the wetlands (DBCA, 2026). Therefore, the total area of native vegetation growing in association with these wetlands within the application area is considered to be 1.08 hectares to align with the ErMr vegetation mapping, rather than 0.78 hectares based on the GWSCP dataset.

The proposed clearing represents linear strips of disturbed wetland vegetation on the edge of each functional CCW area; 0.47 hectares associated with UFI 6664, 0.25 hectares associated with UFI 15584 (including 0.134 hectares of connected vegetation mapped within UFI 15583 and 0.048 hectares within UFI 6530), and 0.37 hectares associated with UFI 12981 (including 0.058 hectares of connected vegetation mapped within UFI 6530). Based on the GWSCP mapping, vegetation mapping from the biological surveys (GHD, 2025a), and aerial imagery, the proposed clearing represents the loss of approximately 25.4%, 4.7%, and 18.3% of the functional CCW areas, respectively. It is acknowledged that the wetland associated vegetation within the application areas is in Completely Degraded to Good (Keighery, 1994) condition (GHD, 2025a) and that better quality vegetation in Good to Excellent (Keighery, 1994) condition (GHD, 2025a) within the functional CCW areas adjacent to the application will be retained.

Although the proposed clearing will not result in the overall loss of the CCWs and has targeted the lower quality wetland vegetation within the functional CCW areas, the clearing will still have the overall effect of reducing the extent of wetland associated vegetation and increasing pressure from surrounding land uses on the long-term viability of the CCWs.

CCWs are wetlands which support high levels of ecological attributes and functions through various mechanisms (Water and Rivers Commission, 2001). Management priorities of such wetlands are to preserve wetland attributes and functions through reservation in National Parks, Crown Reserve, State owned land and protection under environmental protection policies (Hill et al., 1996). Noting the significant ecological functions performed by CCWs and the cumulative loss of wetland vegetation on the SCP, the Delegated Officer considered that the loss of a total of 1.08 hectares of native vegetation growing in association with a CCW and with wetlands that have values commensurate with a CCW represents a significant residual impact.

It is considered that the applicant's efforts to minimise impacts to wetland vegetation to the extent possible through alignment and design (see Section 3.1). Noting these efforts to avoid and minimise impacts, it is considered appropriate to consider offsets to counterbalance the significant residual impact to wetlands that have values commensurate with a CCW.

The applicant has proposed an adequate environmental offset to counterbalance the direct loss of native vegetation growing in association with wetlands that have values commensurate with a CCW. The nature and suitability of this offset is detailed under Section 4.

In addition, a modified wetland/drainage area associated with an artificial lake occurs adjacent to the application area on the eastern side of the Kwinana Freeway, south of Russell Road (Figure 16). Although this area is not mapped as a wetland within the GWSCP dataset, biological surveys confirmed the presence of wetland-associated vegetation and DBCA advised that the area may have values commensurate with a REW or CCW if formally evaluated, noting that it continues to support hydrological functions and habitat for native flora and fauna despite its degraded condition (GHD, 2026; DBCA, 2026). The proposed clearing includes only a very small extent of mapped modified wetland vegetation (approximately 0.002 hectares) (GHD, 2026); however, approximately 1.26 hectares of adjacent Eucalyptus gomphocephala and Banksia spp. woodland (EgBspp.) in Degraded (Keighery, 1994) condition occurs within a contiguous patch immediately adjoining the wetland and may be providing a buffer and supporting wetland functions (GHD, 2026). Given the absence of a formal wetland delineation or evaluation, this area has not been included within the calculated 1.08 hectares of vegetation associated with wetlands considered commensurate with a CCW.

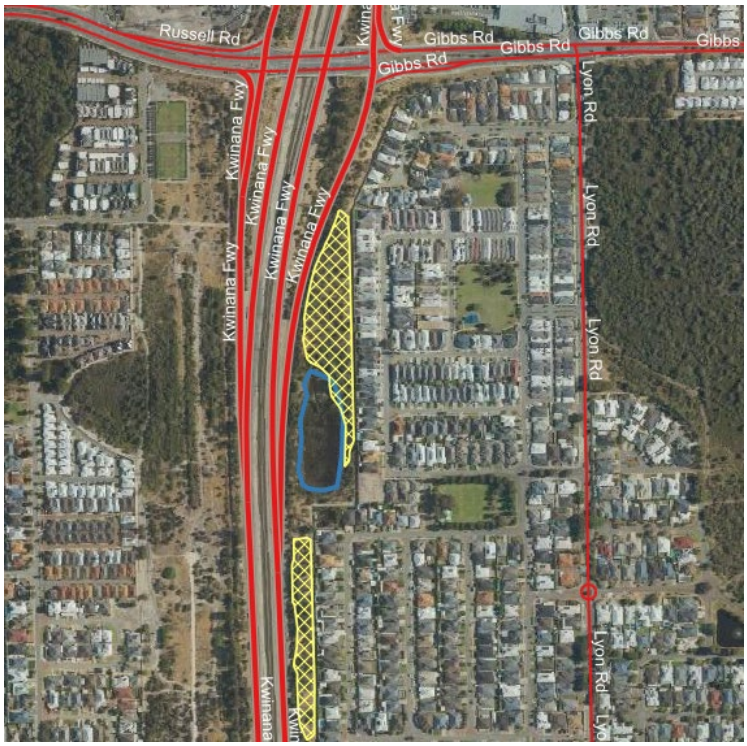


Figure 16: Location of the artificial sump (circled blue) adjacent to the application area.

Nevertheless, the potential wetland values identified by DBCA, together with advice that weeds and disease should be managed to minimise indirect impacts to wetlands in close proximity to clearing areas, have been taken into consideration in this assessment (DBCA, 2026). Accordingly, a permit condition requiring the implementation of weed

and disease hygiene measures within all wetland areas intersecting or adjoining the application area will be imposed to minimise indirect impacts to the ecological and hydrological values of these wetlands.

Indirect Impacts and Water Quality
In addition to the direct loss of wetland associated vegetation, the proposed clearing may also result in the following indirect impacts to the wetlands onsite:

- changes to hydrological regimes post development, as a result of altered geomorphology and drainage, and
- increasing the risk of weed or dieback spread into areas of UFI 6664, UFI 6530, UFI 15583, UFI 15584, and UFI 12981 within adjacent to the clearing area.

Groundwater contours indicate groundwater flow in a north-west to south-east direction across the areas associated with Mandogalup Swamp. As the Conservation Category Wetlands (CCWs) and wetlands with values commensurate with a CCW are generally located downgradient of portions of the proposed clearing area, there is potential for construction activities to result in localised water quality impacts through the mobilisation of sediments and other pollutants. However, MRWA has advised that natural drainage pathways will be maintained during construction and that stockpiled materials will not obstruct surface water flows (MRWA, 2026a, b). In addition, the application area is characterised by relatively flat topography, sandy and free-draining soils, and a linear clearing footprint within an existing transport corridor. Having regard to these factors, it is considered unlikely that the proposal will significantly alter the hydrological regime of the wetlands or result in significant impacts to surface water or groundwater quality.

A modified wetland/drainage area associated with an artificial lake also occurs adjacent to the application area on the eastern side of the Kwinana Freeway south of Russell Road. Groundwater contours in this area generally indicate groundwater flow in a north-south direction and local topography indicates the artificial lake occurs at a lower elevation than portions of the proposed clearing area. Consequently, there is some potential for runoff from exposed soils during construction to enter the drainage system associated with the lake. The City of Cockburn raised concerns regarding erosion, sedimentation and stormwater management impacts to this drainage feature (City of Cockburn, 2026). In response, MRWA advised that the drainage sump will be enlarged to accommodate increased runoff associated with the freeway widening and that drainage infrastructure discharging to the sump will incorporate a gross pollutant trap to improve water quality entering the basin (MRWA, 2026a). It is considered that these measures are likely to minimise the risk of significant water quality impacts.

The application area contains vegetation affected by weeds and dieback which may be introduced or spread into adjacent wetland vegetation during construction activities. The spread of weeds and dieback has the potential to further degrade the condition and ecological function of wetland vegetation, including CCWs and wetlands with values commensurate with a CCW. Accordingly, the implementation of weed and dieback hygiene measures is necessary to minimise indirect impacts to wetland values.

Overall, it is considered that indirect impacts to wetland hydrology and water quality are likely to be localised and manageable through permit conditions. However, measures to minimise the introduction and spread of weeds and dieback are required to protect the ecological values of adjacent wetlands.

Public Drinking Water Source Area (PDWSA)
The northern portion of the application area occurs within a Priority 3 area of the Jandakot Underground Water Pollution Control Area, a Public Drinking Water Source Area (PDWSA) proclaimed under the *Metropolitan Water Supply, Sewerage and Drainage Act 1909*. Priority 3 areas are intended to protect water resources while accommodating compatible land uses and development.

The proposed clearing is associated with the widening of an existing transport corridor and is not expected to introduce new long-term sources of contamination. Potential impacts on water quality are primarily associated with construction activities, including sediment mobilisation, accidental hydrocarbon spills, and the transport of contaminants in stormwater runoff. The applicant has advised that construction activities will be undertaken in accordance with standard environmental management measures and that drainage infrastructure will be upgraded to manage stormwater runoff and improve water quality entering the drainage system (MRWA, 2026a, 2026b).

Having regard to the scale of clearing, the existing disturbed nature of the corridor and the proposed management measures, it is considered that the proposed clearing is unlikely to result in significant impacts to the environmental values of the PDWSA.

Conclusion
Based on the above assessment, the proposed clearing will result in the direct loss of approximately 1.08 hectares of native vegetation growing within, commensurate with, or significant in supporting Conservation Category Wetlands (CCWs) associated with the Mandogalup Swamp system. While the proposal has been designed to minimise impacts to wetland vegetation and will not result in the complete loss of any wetland, it is considered that the loss of wetland-associated vegetation will reduce the extent and ecological function of these wetland systems and constitutes a significant residual impact. In accordance with the Government of Western Australia's *Environmental Offsets Policy* (2011) and *Environmental Offsets Guidelines (2013),* these significant residual impacts have been addressed through the conditioning of environmental offset requirements, as outlined under Section 4.

It is considered that potential indirect impacts to wetland hydrology, surface water quality, groundwater quality and adjacent wetland vegetation is likely to occur. Having regard to the proposed design, drainage infrastructure upgrades, existing disturbance within the corridor, and the implementation of appropriate management measures, these indirect impacts are considered likely to be localised and manageable.

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

- demarcate approved clearing boundaries to avoid unnecessary impacts to adjacent wetlands and wetland-associated vegetation;
- avoid and minimise the extent of clearing;
- implement weed and dieback management measures to minimise the introduction and spread of weeds into adjacent wetland vegetation;
- undertake clearing and construction activities in a staged manner to minimise erosion, and
- rehabilitate 2.18 hectares within the Spectacles offset site to offset impacts to wetland-associated vegetation.

3.2.6. Land and water resources (land degradation) - Clearing Principles (g)

Assessment
The application area occurs predominantly on Bassendean and Spearwood soil types comprising deep siliceous sands, with smaller areas of Vasse soils associated with low-lying wetland environments (Appendix C.1). These soils may be susceptible to erosion where native vegetation is removed and soils are left exposed.

The proposal will clear approximately 9.68 hectares of native vegetation, predominantly within an approximately eight-kilometre section of the existing Kwinana Freeway corridor, with a small discrete clearing area north of Roe Highway. Clearing, earthworks and construction activities have the potential to temporarily increase the risk of wind and water erosion, particularly on embankments, batters and in proximity to drainage infrastructure.

The application area is located within an existing transport corridor that has been substantially disturbed by historical road construction, maintenance activities and surrounding urban development. The proposal is required to facilitate road widening, and associated infrastructure works and is not expected to result in the long-term exposure of extensive areas of soil, as cleared areas will be incorporated into the upgraded transport corridor.

The City of Cockburn raised concerns regarding the potential for erosion, sedimentation and drainage impacts to the drainage sump located south of the Russell Road/Gibbs Road interchange in Aubin Grove (Figure 16) (City of Cockburn, 2026). The drainage sump forms part of the local stormwater management network and may receive runoff from construction areas associated with the proposal. In response, MRWA advised that the sump will be enlarged to accommodate the increased catchment runoff generated by the freeway widening and will remain operational throughout construction (MRWA, 2026a). MRWA further advised that drainage entering the sump will pass through a gross pollutant trap, which will assist in capturing sediment and debris and reducing the potential for sedimentation and water quality impacts. The proposed drainage upgrades are expected to maintain the drainage function and capacity of the sump and reduce the risk of erosion and sediment accumulation associated with increased runoff from the upgraded transport corridor.

MRWA (2026a, 2026b) advised that recently cleared and exposed areas will be protected from wind and water erosion during construction, native vegetation will be cleared during dry conditions where practicable, and natural drainage pathways will be maintained and not obstructed by stockpiled materials.

Conclusion
Based on the above assessment, the proposed clearing may result in a temporary increase in the risk of soil erosion where native vegetation is removed and soils and exposed during construction.

For the reasons set out above, it is considered that the impacts of the proposed clearing on soil erosion can be managed to an environmentally acceptable level through timely construction of the approved works and measures to minimise the period that soils remain exposed. Accordingly, the proposed clearing is unlikely to cause appreciable land degradation and does not constitute a significant residual impact.

Conditions

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

- undertake road construction and upgrade works within three months of clearing to minimise the risk of erosion from exposed soils.

3.2.7. Conservation areas (Bush Forever Site) - Clearing Principle (h)

Assessment

The application area includes approximately 0.85 hectares of native vegetation within Bush Forever Site 270 (Figure 17). A portion of the application area is also located directly adjacent to Bush Forever Site 269. The broader Bush Forever Sites 270 and 269 also comprise the Beeliar and Jandakot Conservation Parks, respectively, which are vested under the Conservation and Parks Commission. The application area does not intersect the boundary of these Conservation Parks but occurs directly adjacent within connected vegetation.



Figure 17: Bush Forever Site 270 (dashed black) in relation to the southern portion of CPS 11410/1 proposed clearing (cross-hatched yellow).

The portion of the application area that falls within the Bush Forever Site 270, consists of EgBspp and ErMr vegetation types with (MRWA, 2025):

- 0.32 hectares of native vegetation in Very Good to Excellent condition:
- 0.40 hectares of native vegetation in Very Good condition; and
- 0.13 hectares of native vegetation in Degraded (Keighery, 1994) condition.

The affected area is reserved for 'Primary Regional Roads' under the Metropolitan Region Scheme (MRS) and is categorised as 'Government lands or public infrastructure' under State Planning Policy 2.8 – Bushland Policy for the Perth Metropolitan Region (SPP 2.8).

Section 5.1.2.3 of SPP 2.8 provides for the protection of regionally significant bushland within the 'Government lands or public infrastructure' site implementation category, or another category that is likely to be adversely affected by proposed public infrastructure. SPP 2.8 sets out that proposals and decision making in respect of Bush Forever areas should support a general presumption against the clearing of regionally significant bushland or other degrading

activities, except where a proposal or decision is consistent with the overall purpose and intent of the existing Crown reserve or can be reasonably justified with regard to wider environmental, social, economic or recreational needs (clause 5.1.2.1(i)(e)) (Western Australian Planning Commission, 2010).

The proposed clearing will result in the loss of approximately 0.85 hectares of regionally significant bushland within Bush Forever Site 270 and has the potential to impact conservation values through vegetation loss and the introduction or spread of weeds and dieback.

SPP 2.8 provides that unavoidable adverse impacts on regionally significant bushland within a Bush Forever area should be offset at a ratio of at least 2:1 in hectares. Accordingly, a minimum of 1.7 hectares of rehabilitation is required to counterbalance the impact.

To counterbalance this impact, the applicant has proposed to rehabilitation of 1.7 hectares within the Jandakot Regional Park Offset site, which is located within Bush Forever Site 347. The offset area comprises vegetation representative of Banksia woodlands and black cockatoo foraging habitat and is proposed to be rehabilitated from good to very good condition (Keighery, 1994) to very good condition. It is considered that the proposed offset targets similar environmental values to those impacted within Bush Forever Site 270 and is therefore appropriate.

Indirect impacts

The proposed clearing also has the potential to result in indirect impacts to habitat values of adjacent Bush Forever areas through the spread of weeds and other pathogens. The areas of Bush Forever Site 270 associated with the proposed clearing area are in predominantly very good condition (Keighery, 1994) and may be degraded by weed spread facilitated by the proposed clearing. To ensure the environmental values of Bush Forever Site 270 are not indirectly impacted or degraded, additional conditions will be required concerning dieback-infested areas and weed-hygiene management practices.

Conclusion
Based on the above assessment, the proposed clearing will result in the loss of 0.85 hectares of regionally significant bushland within Bush Forever Site 270.

It is considered that this constitutes a significant residual impact. However, having regard to the applicant's avoidance and minimisation measures, the public benefit associated with the proposal, and the proposed rehabilitation of 1.7 hectares within the Jandakot Regional Park Offset Site (Bush Forever), the impact can be appropriately counterbalanced through the implementation of environmental offsets.

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

- avoid, minimise to reduce the impacts and extent of clearing;
- dieback and weed control, which ensures protocols are put in place to limit the introduction and transportation of dieback- and weed-affected materials;
- demarcation of clearing area prior to clearing; and
- undertake 1.7 hectares of revegetation within Jandakot Regional Park Offset Site, located within Bush Forever Site 347, to counterbalance impacts to Bush Forever Site 270.

3.3. Relevant planning instruments and other matters

Public Benefit
The department's *'A guide to the assessment of applications to clear native vegetation'* (DER, 2013) indicates the necessity of clearing is an 'other relevant matter' to be considered when making decisions as to whether a clearing permit should be granted. The assessment guideline priorities clearing for public use over private benefit or commercial gain (DER, 2013).

In considering the clearing permit application, the Delegated Officer considered the public benefit associated with the proposal. Main Roads is the statutory authority responsible for the management of Western Australia's State road network and has responsibilities to provide a safe and efficient transport network while minimising environmental impacts.

The proposal is required to facilitate the widening and upgrade of the Kwinana Freeway between Roe Highway and Safety Bay Road. The Kwinana Freeway is a major transport corridor that currently experiences congestion during peak periods and serves a growing population within Perth's southern metropolitan region. The proposal is intended to improve road safety, reduce traffic congestion, improve freight efficiency and accommodate forecast population growth. Additional freeway lanes, ramp upgrades and intelligent transport systems are expected to improve traffic flow, network reliability and the overall efficiency of the transport corridor (MRWA, 2025).

Shire Approvals

City of Kwinana

The City of Kwinana was invited to provide comments on the application. No response was received from the City of Kwinana during the assessment of the application (City of Kwinana, 2026).

City of Cockburn

The City of Cockburn advised that it supports the strategic intent of the proposal, noting the anticipated benefits associated with reducing congestion, improving road safety and facilitating economic growth within Perth's southern metropolitan corridor (City of Cockburn, 2026).

However, the City raised concerns regarding the level of design detail available to justify the extent of clearing proposed and recommended that the clearing footprint be limited to the minimum extent necessary to accommodate the works. The City also raised concerns regarding:

- the potential loss of vegetation screening adjacent to residential areas and associated amenity impacts from noise walls;
- impacts to regional ecological linkages on both the eastern and western sides of the Kwinana Freeway;
- potential impacts to drainage sump No. 79 in Aubin Grove, including erosion, sedimentation and stormwater management issues; and
- uncertainty regarding whether additional vegetation clearing may be undertaken under separate clearing authorisations.

Matters relating to the extent of the clearing, ecological linkages, wetlands and land degradation have been considered as part of the assessment of the application (see Sections 3.1 and 3.2). The potential loss of vegetation screening adjacent to residential areas has also been considered; however, noise and visual amenity impacts are not matters that can be directly regulated under Part V Division 2 of the EP Act. It is further noted that the application has been assessed based on the clearing footprint applied for. Any future clearing outside the approved area would require separate authorisation under the EP Act where applicable. Permit conditions and environmental offsets have been imposed to avoid, minimise and mitigate significant residual environmental impacts.

EPBC Act Approval

On 5 September 2025, MRWA referred the project to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) (reference EPBC 2025/10266). On 5 November 2025, DCCEEW determined that the proposed action is a controlled action and required assessment and approval in relation to impacts to listed threatened species and communities (section 18 and 18A) under the EPBC Act before it can proceed.

On 23 February 2026, a request to vary the Proposed Action was submitted to DCCEEW which determined to accept the variation as a Controlled Action on the 1 April 2026. The assessment under the EPBC Act is currently on-going.

Public Drinking Water Source Area (PDWSA)

PDWSAs are surface water catchments and groundwater resources that provide drinking water to cities, towns and communities throughout the state. PDWSAs are constituted under the *Metropolitan Water Supply, Sewerage, and Drainage Act 1909*. The application area falls within a Priority 3 (P3) zone of the Jandakot Underground Water Pollution Control Area. P3 areas are located over land zoned urban, commercial and light industrial. The objective in P3 areas is to manage water quality contamination risks so that the drinking water source is maintained for as long as possible. Within P3 areas, drinking water sources co-exist with higher intensity land uses.

The proposed road upgrades are considered a compatible land use within P3 zones based on the land-use compatibility in accordance with *Water Quality Protection Note (WQPN) 25*. It is recommended that the applicant refer and adhere to *WQPN 44: Infrastructure – Road, Transportation and utility corridors*, for best management practices for construction and upgrading of infrastructure corridors within PDWSAs.

Consistency with State Planning Policy (SPP) 2.8

As discussed above, a portion of the application area is a designated Bush Forever area. Therefore, the Delegated Officer considers that SPP 2.8 is a relevant matter for this application.

SPP 2.8 sets out that:
'Proposals or decision-making' in respect of Bush Forever areas 'should: 'support a general presumption against the clearing of regionally significant bushland or other degrading activities, except where a proposal or decision – a. is consistent with the overall purpose and intent of an existing Crown reserve or can be reasonably justified with regard to wider environmental, social, economic or recreational needs, and all reasonable alternatives have been considered in order to avoid or minimise any direct loss of regionally significant bushland, and reasonable offset strategies are secured to offset any loss of regionally significant bushland, where appropriate and practical (clause 5.1.2.1(i)(e)).'

Development Approval from Western Australian Planning Commission (WAPC) is likely to be required under the Metropolitan Regional Scheme (MRS) for the proposed clearing within Bush Forever area 270. The applicant has advised that they are liaising with DPLH and will obtain the necessary approval prior to commencing works within Bush Forever Site 270.

In considering SPP 2.8 and advice received from DPLH (DPLH, 2026), the Delegated Officer considered it appropriate to grant the clearing permit in relation to Bush Forever Site 270 given the proposed road upgrades are consistent with the purpose and intent of the land parcels, is justified based on the necessity of the upgrades (see Section 1.2), impacts have been avoided and minimised to the extent possible (see Section 3.1), and a suitable environmental offset is implemented to counterbalance the loss of vegetation (see Section 4). Therefore, the Delegated Officer determined that the proposed clearing is consistent with the provisions of SPP 2.8.

EPA Guidance Statement No. 33
The Delegated Officer noted that the EPA's Guidance Statement No. 33, '*Environmental Guidance for Planning and Developmen*t' (EPA, 2008) discusses the need for protection of CCWs. As outlined in Section 3.2 of this decision report, the proposed clearing will impact vegetation that has been determined to have values that are commensurate with a CCW. Given this, the Delegated Officer considered Guidance Statement No. 33 to be a relevant 'other matter' for this application.

In having regard to Guidance Statement No. 33, the Delegated Officer noted that the statement considers CCWs to be wetlands of high conservation significance and of high priority for protection, and that the statement does not consider clearing within CCWs to be appropriate. Also, in accordance with section 51O(4) of the EP Act, the Delegated Officer had regard to the planning context for the proposal and, as a relevant 'other matter', the necessity of the clearing and associated public benefit.

The Delegated Officer notes the surrounding existing land uses, the MRS land zoning within the mapped CCWs as a primary regional road, and that the proposal is expected to provide direct public benefit.

The Delegated Officer also noted that the proposal would not entail clearing of the entire mapped wetlands. Rather, the proposal would result in the clearing portions of the areas commensurate with a CCW.

Therefore, in relation to the wetlands, having had regard to the environmental impacts to the wetland values in question, the content and status of Guidance Statement No. 33, the planning context for the proposal and the public benefit associated with the proposed clearing, the Delegated Officer considered that, on balance, the environmental impacts associated with the proposed clearing of the wetlands were not so significant that they outweighed the necessity of the clearing. The Delegated Officer therefore determined that it was appropriate to grant the clearing permit in relation to the wetlands, on the basis that an environmental offset was implemented to counterbalance the impacts (see Section 4).

Aboriginal Sites of Significance
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.

4 Suitability of offsets

Through the detailed assessment outlined in Section 3.2 above, it has been determined that the following significant residual impacts remain after the application of the avoidance and mitigation measures summarised in Section 3.1:

- approximately 8.59 hectares of native vegetation that provides significant foraging habitat for Carnaby's cockatoo;
- approximately 8.59 hectares of native vegetation that provides significant foraging habitat for FRTBC;
- approximately 6.23 hectares of native vegetation that is representative of the Banksia Woodlands Community TEC;

- approximately 0.88 hectares of native vegetation that is representative of the Tuart Woodlands Community TEC;
- approximately 1.08 hectares of native vegetation that is growing in association with a Conservation Category Wetland (CCW) or has values commensurate with a CCW; and
- approximately 0.85 hectares of regionally significant bushland within Bush Forever Site 270.

The applicant proposed an environmental offset consisting of (MRWA, 2026c):

- **Jandakot Regional Park Offset Site:**
  Rehabilitate 22.30 hectares of native vegetation to offset impacts to the Banksia Woodlands PEC/TEC, Carnaby's cockatoo foraging habitat and Bush Forever Site 270;
- **Postans Offset Site**:
  Rehabilitate 14 hectares of native vegetation to offset impacts to the Tuart Woodlands and Forests PEC/TEC, Carnaby's cockatoo and forest red tail black cockatoo foraging habitat, and secure conservation outcomes through future vesting arrangements; and
- **The Spectacles Offset Site:**
  Rehabilitate 2.18 hectares of native vegetation associated with a CCW to offset impacts to wetland-associated vegetation.

The applicant proposes to prepare site-specific revegetation management plans (RMP's) for each offset site. The permit requires the preparation, approval and implementation of RMP's for each offset site and includes contingency provisions should the approved offsets be unable to be achieved.

Information on the proposed offset sites and the proposed offset actions at each site, are summarised in detail in Table 1 below.

In considering the site characteristics of the proposed offset sites, and the proposed management actions, the Delegated Officer was satisfied that the offset sites proposed are suitable for the purpose of offseting the significant residual imapcts of the proposed clearing. The justification for the values used in the offset calculation is provided in Appendix F.

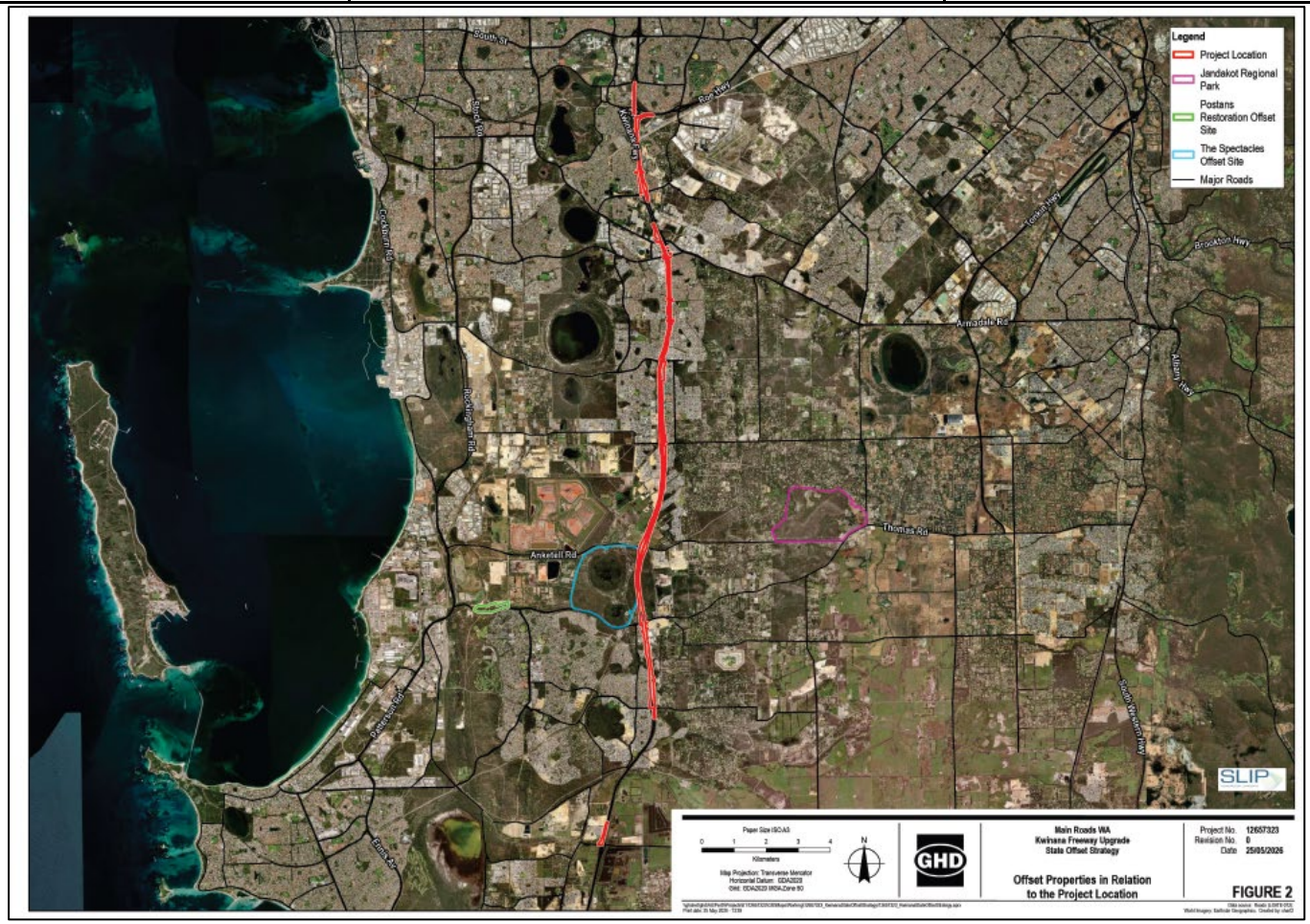
In determining the adequacy of the proposed offsets, the Delegated Officer also considered:

- the approved conservation advice for the Banksia Woodlands Community, which notes ongoing threat abatement and monitoring can provide a substantial net conservation benefit for the community (DotEE, 2016),
- the recovery plans for Carnaby's cockatoo, and forest red-tailed black cockatoo, which identify the protection and management of important habitat for these species as a key recovery action (DPAW, 2013a; DEC, 2008). For Carnaby's cockatoo, a key recovery action includes improving security of tenure and management of foraging habitat within the species non-breeding range, through purchase, transfer of vesting, or conservation covenant (DPAW, 2013a), and
- the approved conservation advice for the Tuart Woodlands Community, which notes protection of higher quality remnants or patches of this TEC in secure tenure and ongoing management for conservation purposes is of highest priority (DotEE, 2019).
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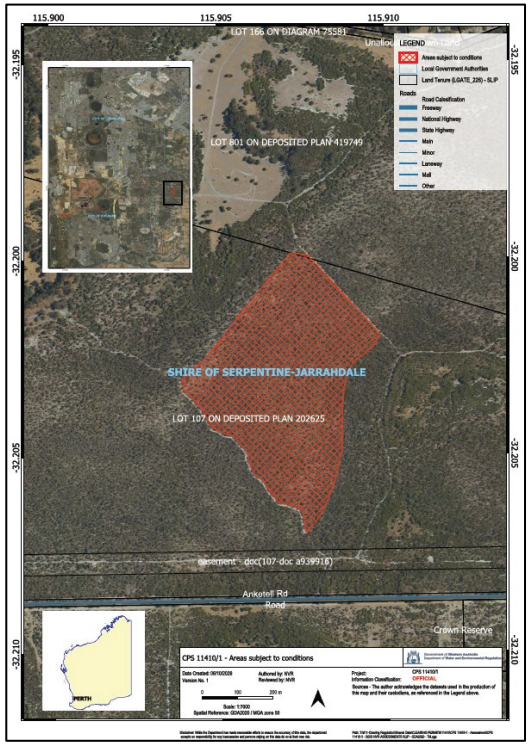
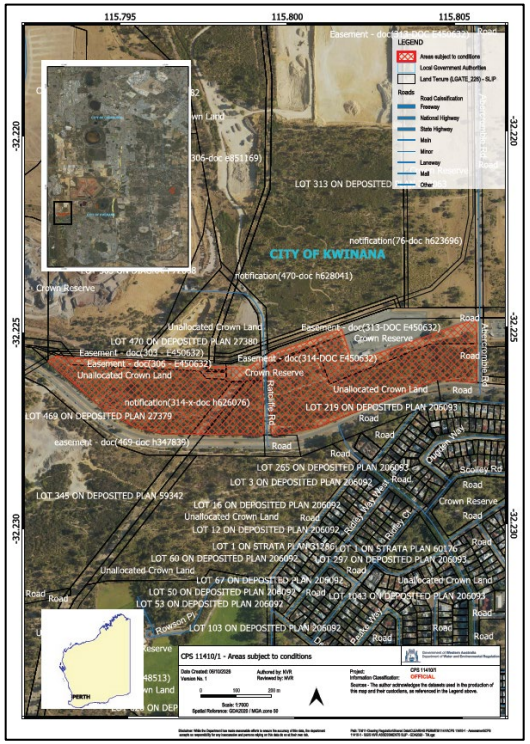
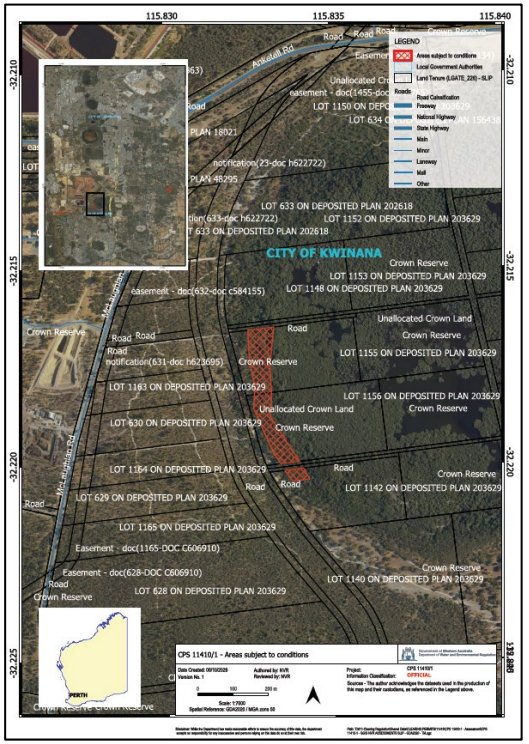
The environmental outcome of the proposed offsets is considered consistent with the above approved conservation advice and recovery plans.

In accordance with the WA Environmental Offsets Metric, WA *Environmental Offsets Policy* (2011), and *WA Environmental Offsets Guidelines* (2014), the Delegated Officer considers that the proposed conservation, and rehabilitation offsets, when combined, are adequate to counterbalance the significant residual impacts of the proposed clearing.

Table 1. Summarized information of proposed rehabilitation offsets (MRWA, 2026c)

Proposed offset sites	Jandakot Regional Park	Postans	The Spectacles
Location	Approximately 4.1 km east of the project, within Jandakot Regional Park and Bush Forever Site 347.	Approximately 4 km west of the project within the City of Kwinana.	Adjacent to the project, within The Spectacles Bush Forever Site 269.
Context map	 Figure 18: Context map of the proposed offset sites in relation to the application area		
Vesting	• Managed by DBCA within a conservation reserve. • DBCA has provided in-principle support for the use of Jandakot Regional Park as an offset site.	▪ This site is an unallocated Crown land. ▪ The City of Kwinana (CoK) has provided in-principle support, subject to MRWA rehabilitating and maintaining the site for an agreed period, preparing a management plan to guide rehabilitation and	• Managed by DBCA within a conservation reserve. • MRWA advised that DBCA's supporting letter is pending DBCA's review of the recent MRWA site inspection.

	• Long-term management arrangements are proposed through an agreement between MRWA and DBCA	ongoing management, pursuing conservation reservation of the land under the Metropolitan Region Scheme, and establishing appropriate long-term management arrangements following the maintenance period. ▪ The CoK noted that any future decision to accept a Management Order remains subject to Council approval. • MRWA advised that consultation with DPLH regarding future tenure and vesting arrangements is ongoing.	
Site size and environmental values	Jandakot Regional Park comprises approximately 2,362 ha. The proposed offset area is a 22.30 ha portion within a larger reserve area of approximately 366 ha. The site has following values: • Banksia Woodlands TEC/PEC. • Carnaby's cockatoo foraging habitat. • Bush Forever vegetation. • Mapped as Beard Vegetation Association 1001 and Bassendean Complex Central and South.	The Postans site covers approximately 21.49 ha, of which 14.00 ha is proposed as an offset. The site has following values: • Contains ~7 ha good to degraded condition Tuart Woodlands and Forests TEC/PEC throughout the site. • Contains ~15 ha of Carnaby's Cockatoo and FRTBC foraging habitat. • Mature Tuart and Jarrah woodland. • Potential black cockatoo breeding trees. • Mapped vegetation complexes representative of Tuart woodland communities.	The Spectacles offset site forms part of a large DBCA-managed conservation reserve comprising multiple properties. A 2.18 ha area is proposed as the offset. The site has following values: • Conservation Category Wetland (Spectacles North UFI 6539). • Wetland-associated vegetation. • Banksia Woodlands PEC and Tuart TEC/PEC occur within the broader reserve. • Carnaby's Cockatoo and FRTBC habitat occur within the broader reserve.
Proposed offset areas	22.30 ha rehabilitation area, includes: • 20.82 ha of Banksia Woodlands TEC/PEC; • 22.30 ha of Carnaby's Cockatoo foraging habitat; and • 1.70 ha of Bush Forever vegetation. According to a site inspection conducted by MRWA in June 2025, vegetation within the proposed rehabilitation area was in Good to Very Good (Keighery, 1994) condition. The vegetation condition was noted to have declined in the past 16 years.	14.00 ha rehabilitation area, includes: • 3.05 ha of Tuart TEC/PEC; • 14.00 ha of Carnaby's Cockatoo habitat; and • 13.42 ha of FRTBC habitat	2.18 ha rehabilitation area within a CCW
Current threats	• Weed invasion. • Rabbit grazing and herbivory. • Uncontrolled vehicle access. • Edge effects associated with surrounding urban and industrial land uses.	• Weed invasion restricting natural recruitment. • Uncontrolled access including dirt-bike tracks. • Illegal dumping and rubbish accumulation. • Edge effects from surrounding urban and industrial land uses.	• High weed infestation (approximately 50% cover). • Presence of introduced and declared weed species. • Edge effects and ongoing degradation risk without active management. (These threats are only for the proposed offset areas)

Map of the proposed offset areas			
Proposed management activities	• Fencing and access control where appropriate. • Pest animal control. • Weed control. • Dieback management. • Ongoing ecological monitoring and adaptive management for 20 years.	• Fencing and access control. • Pest animal control. • Weed management. • Fire management. • Dieback management. • Contingency infill planting/revegetation if habitat improvements are not achieved. • Ongoing ecological monitoring for 20 years.	• Fencing and access control. • Pest animal control. • Weed management. • Dieback management. • Fire management. • Ongoing vegetation condition monitoring and adaptive management for 20 years.
Rehabilitation targets / expected outcomes	• Improve Banksia Woodlands condition from 'Good to Very Good' (Keighery, 1994) condition to 'Very Good' (Keighery, 1994) condition. • Prevent the vegetation condition from declining from ''Good to Very Good' (Keighery, 1994) condition to 'Good' (Keighery, 1994) condition. • Improve Carnaby's Cockatoo foraging habitat quality by increasing the projected foliage cover from 20-40% to 40-60%.	• Improve Tuart TEC condition from High-Very High to Very High (Approved Conservation Advice condition scale). • Improve Carnaby's and FRTBC habitat quality by increasing the projected foliage cover from 5-20% to >60%.	• Improve wetland-associated vegetation condition from 'Good' (Keighery, 1994) condition to 'Good to Very Good' (Keighery, 1994) condition. • Prevent the wetland vegetation condition from declining from ''Good' (Keighery, 1994) condition to 'Degraded to Good' (Keighery, 1994) condition.

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End

Appendix A. Additional information provided by applicant

Since the application was accepted for assessment on 24 December 2025, additional information was provided by the applicant as summarised in below.

Summary of comments	Consideration of comment
Following a formal request for further information received in June 2026 MRWA (2026a) advised:	The comments provided by MRWA were considered in the assessment of CPS 11410/1:
Evidence to Avoid and Mitigate Significant Environmental Impact No feasible alternative options are available to alleviate congestion on Kwinana Freeway. The existing infrastructure is proposed to be optimised where possible to minimise clearing requirements. An offset proposal was provided to counterbalance the significant residual impacts to black cockatoos, ecological communities, bush forever and significant wetland vegetation.	The applicant's avoidance, minimisation and proposed offsets were considered, refer to sections 1.4, 3.1, 3.2 and 4.
Fauna Management Commitments In addition to the fauna management described in the VMP, additional measures will be included regarding Quenda management near the Russell Road/Gibbs Road drainage sump. The applicant proposed pre-clearing inspections, directional clearing, a fauna spotter during clearing activities, temporary cessation of clearing to allow fauna to move outside area being cleared, and fauna management including the engagement with wildlife rescue organisations and management of injured fauna.	The Delegated Officer considered these measures as part of the assessment of potential impacts to native fauna, refer to sections 1.4 and 3.2.3.
Carter's Freshwater Mussel (CFM) Habitat Suitability The GHD (2026) biological survey concluded CFM is unlikely to occur within or adjacent to the proposal habitat. The wetlands present do not meet the key requirements for the species, including: • lack of hydrological connectivity/dispersal pathways; • non-perennial hydrology; • likely absence of host fish populations; and • habitat condition (highly exposed, shallow, ephemeral systems subject to elevated temperatures, variable water quality and periodic drying).	CFM was considered in Section 3.2.3 along with the supplied information and the Delegated Officer was satisfied that the application area is unlikely to support suitable habitat for CFM. Accordingly, impacts to this species were not considered significant.
Ecological Linkage Management The proposed widening of Kwinana Freeway is a marginal increase in an already disturbed and fragmented landscape of which already forms a significant barrier to east-west linkages. Revegetation will occur in accordance with an Urban Design Plan using native species to re-establish linear habitat connectivity.	The Delegated Officer acknowledges the proposal occurs adjacent to an existing major transport corridor within a fragmented landscape. However, the proposal will result in loss of native vegetation and contribute to further fragmentation. Refer to Section 3.2.1.
Offsets Identification Proposed offsets for Carnaby's cockatoo and FRTBC foraging habitat, Banksia and Tuart woodlands PEC/TEC's,	The Delegated Officer considered the proposed offsets. Refer to section 4 and Appendix F.

Summary of comments	Consideration of comment
vegetation growing in association with a Conservation Category Wetland and Bush Forever Site 270. **Address Comments Received from City of Cockburn (2026)** Noise and amenity impacts to adjacent residents*:* widening is constrained by presence of existing rail corridor and necessitates works within eastern road verge. Vegetation present would provide little noise reduction but does provide visual screening. Where practicable, vegetation will be retained. Drainage sump in Aubin Grove*:* will be enlarged to cater for increased runoff, will have a gross pollutant trap to increase water quality. The Russel Road entry ramp will be realigned in vicinity of the basin. Additional clearing not captured: clearing required to upgrade ramps will be undertaken in accordance with Ministerial Statement 663. 'Gap' areas present due to landscaping with planted local species, constituting altered planted landscaping rather than remnant native vegetation.	The Delegated Officer notes that noise and visual amenity impacts are not matters directly regulated under the clearing provisions of the *Environmental Protection Act 1986.* Information regarding drainage infrastructure and water management was considered in the assessment of potential hydrological and water quality impacts. Refer to Sections 3.2.6, 3.2.8 and Appendix C.
Following a formal request for further information received in August 2026 MRWA (2026b) advised: **Extent of Significant Residual Impacts** Significant residual impacts remain as follows: • 8.59 hectares of Carnaby's cockatoo and FRTBC foraging habitat; • 6.23 hectares Banksia Woodland TEC; • 0.88 hectares Tuart Woodland TEC; • 1.08 hectares in association with a CCW or commensurate; • 0.85 hectares within Bush Forever Site 270. **Offset Proposal** Consultation with other agencies Undertaken with DBCA and City of Kwinana (evidence provided). DBCA provided in principle support of the use of Jandakot Regional Park, and generally supporting of the Spectacles. Postans is supported by the City of Kwinana. Environmental Values and Condition Advised revised Offset Proposal provide detail regarding existing site conditions with justification. Proposed Offset Actions Strengthened offset proposal incorporating detailed management actions, measurable targets and monitoring requirements. Revegetation and infill planting to be implemented as a contingency measure where monitoring requires for black cockatoo habitat.	The comments provided by MRWA were considered in the assessment of CPS 11410/1: The Delegated Officer considered the significant residual impacts. Refer to Sections 1.4, 3.2 and 4. This information was considered by the Delegated Officer in assessing the suitability, feasibility and implementation of the proposed offset package. Refer to Section 4. Considered in determining the suitability of offset sites and expected environmental outcomes. See Section 4 and Appendix F. Considered in evaluating whether the proposed offsets are likely to achieve the intended environmental outcomes and appropriately counterbalance the significant residual impacts of the proposed. See Section 4 and Appendix F.
Following a formal request for further information received in October 2026 MRWA (2026c) provided the final offset proposal. The proposal details rehabilitation-based offsets at Jandakot Regional Park, Postans and The Spectacles to counterbalance the significant residual impacts identified. The proposal incorporates DWER-recommended offset calculations and outlines site-specific management, monitoring, adaptive management and reporting commitments over a 20-year implementation period.	The Delegated Officer considered the final offset proposal and was satisfied that, subject to implementation and appropriate conditions, the proposed offsets are capable of counterbalancing the significant residual impacts identified for the proposal. See Section 4 and Appendix F.

Appendix B. Details of public submissions

The Department advertised the application for 21 days between 24 December 2024 and 14 January 2026. Two submissions were received during this period. A summary of the issues raised, and the Department's consideration of the grounds are summarised in below.

Summary of comments	Consideration of comment
Submission1 objected to the proposal, raising concerns regarding: • the clearing of vegetation representative of the Banksia Woodlands and Tuart Woodlands ecological communities and the cumulative loss and fragmentation of these communities on the Swan Coastal Plain; • the clearing of foraging habitat for Carnaby's cockatoo and forest red-tailed black cockatoo, and the impacts to fauna more broadly; • the clearing of vegetation associated with Conservation Category Wetlands and wetland buffers, and the resulting reduction in ecological function and protection from edge effects; • impacts to Bush Forever Site 270 through the direct loss of native vegetation and increased fragmentation; • the clearing of significant remnant vegetation within an extensively cleared landscape; • potential indirect impacts to conservation values through fragmentation, edge effects, weed and dieback spread, hydrological changes, water quality impacts and flooding; and • the adequacy of the applicant's avoidance, mitigation and offset measures (Submission 1, 2026).	The matters raised were considered as part of the assessment of the application. Potential impacts to: • ecological communities; • threatened fauna; • significant remnant vegetation; • wetlands; • Bush Forever Site 270; • conservation areas; • hydrology; and • water quality, were assessed under Sections 3.1, 3.2 and Appendix D of this report. The concerns raised regarding cumulative vegetation loss and fragmentation of native vegetation on the Swan Coastal Plain, impacts to ecological connectivity and fauna movement corridors, and the adequacy of offsets to counterbalance impacts to conservation-significant values is noted. These matters were taken into consideration in determining the significance of the proposal and whether the impacts could be avoided, minimised, mitigated or offset. The assessment concluded that the proposal will result in significant residual impacts to ecological communities, black cockatoo habitat, wetlands and Bush Forever Site 270. Accordingly, avoidance and minimisation measures, permit conditions and environmental offsets have been required to address these impacts, as detailed in Sections 1.4, 3.1, 3.2 and 4 of this report.
Submission 2 objected to the proposal, raising concerns regarding: • the proposal is at variance with a number of the clearing principles and will directly impact conservation-significant values, including Threatened and Priority Ecological Communities, wetlands and habitat for threatened fauna; • continued clearing of wetlands, ecological communities and fauna habitat on the Swan Coastal Plain will contribute to cumulative environmental decline and further reduce the long-term viability and ecological function of these values; • the assessment does not adequately consider cumulative impacts associated with other existing and proposed infrastructure, industrial and urban development projects in the local area, including the Anketell Road upgrade and residential developments within Perth's southern metropolitan region; • insufficient consideration has been given to the cumulative impacts of the proposal and nearby developments on the Spectacles wetlands; • the proposal will further fragment native vegetation and reduce ecological connectivity between conservation areas, Bush Forever sites and other remnant vegetation; • roadside vegetation within the application area may function as movement corridors for fauna travelling between adjacent conservation areas and remnant vegetation, and the loss of these corridors has not been adequately considered; and • environmental offsets are not an appropriate mechanism to compensate for the loss of ecological values associated	

Summary of comments	Consideration of comment
with the vegetation proposed to be cleared (Submission 2, 2026)	

Appendix C. Site characteristics

C.1. Site characteristics

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

Characteristic	Details
Local context	The application area comprises a series of fragmented linear strips of native vegetation in the intensive land use zone of Western Australia. The vegetation runs adjacent to the existing Kwinana Freeway alignment along a distance of approximately eight kilometres. Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 20.20% of the original native vegetation cover (see Appendix C.2).
Ecological linkage	The application area intersects a mapped Perth Regional Ecological Linkages (PREL). The PREL dataset identifies regional ecological linkages mapped to broadly represent a link between patches of remnant vegetation judged to be of regional significance in the Perth Metropolitan Region (PMR) Scheme Area (Del Marco, et al., 2004). The mapped linkage represents broad links between several Bush Forever areas (Sites 269, 270, 347, 392 and 492) in the vicinity of the application area.
Conservation areas	The application area includes approximately 0.85 hectares of native vegetation within Bush Forever Site 270. A portion of the application area is also located directly adjacent to Bush Forever Site 269. The broader Bush Forever Sites 270 and 269 also comprise the Beeliar and Jandakot Conservation Parks, respectively, which are vested under the Conservation and Parks Commission. The application area does not intersect the boundary of these Conservation Parks but occurs directly adjacent within connected vegetation.
Vegetation description	Vegetation surveys (GHD, 2026; GHD, 2025a) indicate that the vegetation within the proposed clearing area consists of six vegetation types: • BmBa – *Banksia menziesii* & *B. attenuata* woodland: *Banksia menziesii* and *Banksia attenuata* woodland over *Hibbertia hypericoides*, *Scholtzia involucrata*, *Styphelia conostephioides* low shrubland over *Patersonia occidentalis*, *Desmocladus flexuosus* and *Lyginia barbata* open herb/sedgeland - 1.85 hectares (19.1% of the application area). • EgBspp. – *Eucalyptus gomphocephala* and *Banksia* spp. woodland: +/- *Eucalyptus gomphocephala* tall open woodland over *Banksia attenuata* and *B. menziesii* woodland over *Acacia pulchella var pulchella*, *Xanthorrhoea preissii* and *Hibbertia hypericoides* low open shrubland over *Mesomelaena pseudostygia* and **Ehrharta calycina* sedgeland/grassland - 5.22 hectares (53.89% of the application area). • EmBspp. – *Eucalyptus marginata* and *Banksia* spp. woodland: +/- *Eucalyptus marginata* tall open woodland over *Banksia attenuata*, *B. menziesii* and *Allocasuarina fraseriana* woodland over *Acacia pulchella var pulchella*, *Hibbertia hypericoides*, *Bossiaea eriocarpa* low open shrubland over weedy grasses - 1.11 hectares (11.4% of the application area). • ErMr – *Eucalyptus rudis* over *Melaleuca rhaphiophylla* +/- *M. preissiana* woodland: *Eucalyptus rudis* over *Melaleuca rhaphiophylla* +/- *M. preissiana* over *Kunzea glabrescens* tall sparse shrubland over *Xanthorrhoea preissii* low shrubland over *Lepidosperma longitudinale* sedgeland - 1.09 hectares (11.11% of the application area). • Isolated Banksia spp. - Isolated *Banksia menziesii* and *B. attenuata* over scattered natives and weeds - 0.4 hectares (4.1% of the application area). • Mixed shrubs - Native and Introduced shrubs - 0.005 hectares (0.05% of the application area).

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
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Modified wetland - Modified wetland/drainage area - 0.002 hectares (0.02% of the application area).
The full survey descriptions are available in Appendix G.
This is consistent with the mapped Swan Coastal Plain vegetation types (Heddle et al., 1980):

Bassendean Complex-Central and South, which is described as vegetation ranges from woodland of Eucalyptus marginata (Jarrah) - Allocasuarina fraseriana (Sheoak) - Banksia species to low woodland of Melaleuca species, and sedgelands on the moister sites. This area includes the transition of Eucalyptus marginata (Jarrah) to Eucalyptus todtiana (Pricklybark) in the vicinity of Perth - 6.63 hectares (68.4% of the application area).
Cottesloe Complex-Central and South, which is described as mosaic of woodland of Eucalyptus gomphocephala (Tuart) and open forest of Eucalyptus gomphocephala (Tuart) - Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri); closed heath on the limestone outcrops - 2.7 hectares (27.8% of the application area).
Herdsman Complex 53, which is described as sedgelands and fringing woodland of Eucalyptus rudis (Flooded Gum) - Melaleuca species - 0.37 hectares (3.8% of the application area).

</td></tr>
<tr><td>Vegetation condition</td><td>
Vegetation surveys (GHD, 2026; GHD, 2025a) indicate that the vegetation condition within the proposed clearing area varies from Very Good to Completely Degraded (Keighery, 1994) condition:

Very Good - 0.59 hectares (6.1% of the application area)
Good - 1.9 hectares (19.6% of the application area)
Degraded to Good - 0.25 hectares (2.6% of the application area)
Degraded - 5.63 hectares (58.2% of the application area)
Completely Degraded - 1.28 hectares (13.2% of the application area)

The full Keighery (1994) condition rating scale is provided in Appendix E.
</td></tr>
<tr><td>Climate</td><td>The closest Bureau of Meteorology (BOM) weather station with available data is located at Jandakot Aero, which is approximately eight kilometres from the application area (BOM, 2026). The highest mean maximum temperature is in February at 31.6°C, the lowest is in July at 18.1°C. The highest mean minimum temperature is in February at 17.0°C and the lowest is in July at 8.4°C. The average annual rainfall is 809.8 mm.</td></tr>
<tr><td>Soil and landform description</td><td>
Eight soil types are mapped within the application area.
<table>
<tr><th>Soil type symbol</th><th>Soil type name</th><th>Description</th><th>Area (ha)</th><th>Ratio</th></tr>
<tr><td>211Sp__S1b</td><td>Spearwood S1b Phase</td><td>Dune ridges with deep siliceous yellow brown sands or pale sands with yellow-brown subsoil and slopes up to 15%.</td><td>2.198</td><td>22.7%</td></tr>
<tr><td>211Sp__S1c</td><td>Spearwood S1c Phase</td><td>Dune ridges with deep bleached grey sands with yellow-brown subsoils, and slopes up to 15%.</td><td>0.462</td><td>4.8%</td></tr>
<tr><td>211Sp__S2a</td><td>Spearwood S2a Phase</td><td>Lower slopes (1-5%) of dune ridge with moderately deep to deep siliceous yellow-brown sands or pale sands with yellow-brown subsoils and minor limestone outcrop.</td><td>1.093</td><td>11.3%</td></tr>
<tr><td>211Va__V9</td><td>Vasse V9 Phase</td><td>Areas of former swamps which have been artificially drained, with uniform loamy or peaty sands.</td><td>0.464</td><td>4.8%</td></tr>
<tr><td>212Bs__B1</td><td>Bassendean B1 Phase</td><td>Extremely low to very low relief dunes, undulating sandplain and discrete sand rises with deep bleached grey sands sometimes with a pale yellow B horizon or a weak iron-organic hardpan at depths generally greater than 2 m; banksia dominant.</td><td>3.098</td><td>31.9%</td></tr>
<tr><td>212Bs__B2</td><td>Bassendean B2 Phase</td><td>Flat to very gently undulating sandplain with well to moderately well drained deep bleached grey sands with a pale yellow B horizon or a weak iron-organic hardpan 1-2 m.</td><td>2.266</td><td>23.4%</td></tr>
<tr><td>212Bs__B3</td><td>Bassendean B3 Phase</td><td>Closed depressions and poorly defined stream channels with moderately deep, poorly to very poorly drained bleached sands with an iron-organic</td><td>0.054</td><td>0.6%</td></tr>
</table>
</td></tr>
</table>

Characteristic	Details
	<table><tr><td></td><td></td><td>pan, or clay subsoil. Surfaces are dark grey sand or sandy loam.</td><td></td><td></td></tr><tr><td>212Bs__B4</td><td>Bassendean B4 Phase</td><td>Broad poorly drained sandplain with deep grey siliceous sands or bleached sands, underlain at depths generally greater than 1.5 m by clay or less frequently a strong iron-organic hardpan.</td><td>0.065</td><td>0.7%</td></tr></table>
Land degradation risk	All mapped soil types have low land degradation risks due to salinity, flooding, water erosion and water logging, except for the soil units 212Bs__B3 and 212Bs__B4 which have high risks of waterlogging. However, noting the small extent of clearing within these units, the risks are considered minor and negligible. Meanwhile, subsurface acidification and phosphorus export are the common land degradation risks of all soil types. The risk associated with wind erosion is varied among different soil types (see Appendix C.5).
Waterbodies	The desktop assessment and aerial imagery indicated that the application area mapped within several wetland areas for different purposes of conservation (UFI 15584 and 12981 – 0.34 hectares), resource enhancement (UFI 6664 – 0.20 hectares) and multiple use (UFI 6530 and 15583 – 0.24 hectares).
Hydrogeography	The application area is mapped within the Serpentine Groundwater Area and Jandakot Groundwater Area proclaimed under *RIWI Act.* The northern sections of the application area are mapped within a Priority 3 area of the Jandakot Underground Water Pollution Control Area, a Public Drinking Water Source Area (PDWSA) proclaimed under the *Metropolitan Water Supply Sewerage and Drainage Act 1909*. The application area does not transect any proclaimed surface water areas. Groundwater salinity varies from <500 to 500-1,000 milligrams per litre total dissolved solids (mg/l TDS).
Flora	According to available databases, there are 61 conservation significant flora species recorded within the local area, including 13 threatened and 48 priority species. Of which, 23 species are mapped in the same soil type and vegetation type occurring within the proposed clearing area. The most frequently recorded species is *Caladenia huegelii* (T). The closest recorded species is *Styphelia filifolia* (P3), mapped approximately 340 metres from the application area. The biological surveys identified three significant conservation flora species within the survey area, including one threatened and two priority species (GHD, 2025a). Based on the site characteristics set out above and the habitat preferences and ecology of the species known from the local area, the application area may provide suitable habitat for seven threatened and four priority flora species and impacts to these species required further consideration (see Appendix C.3).
Ecological communities	The desktop assessment identified that the application area is mapped within multiple occurrences of the Banksia woodlands TEC and Tuart woodlands TEC, both are listed as an Endangered TEC under the Commonwealth EPBC Act and is considered a Priority 3 PEC by DBCA in Western Australia. The biological surveys identified the application area include vegetation representing both Banksia woodlands TEC and Tuart woodlands TEC (GHD, 2025a).
Fauna	The desktop assessment identified that 85 conservation significant fauna species have been recorded within the local area, including 29 threatened fauna species, 19 priority fauna species, and 37 migrant and other specially protected fauna species. The closest record is for quenda (*Isoodon fusciventer*), recorded approximately 20 metres from the application area. With consideration for the site characteristics set out above, relevant datasets, the habitat preferences of the aforementioned species, and biological survey of the application area (GHD, 2025a), the application area may provide suitable habitat for 12 conservation significant fauna species and impacts to these species required further consideration (see Appendix C.4).

C.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Swan Coastal Plain	1,500,622.48	576,562.37	38.42	231,916.26	15.45
Vegetation complex*					
Bassendean Complex-Central and South	87,476.26	20,819.97	23.80	6,590.87	7.53
Cottesloe Complex-Central and South	45,299.61	14,063.50	31.05	7,190.20	15.87
Herdsman Complex	9,665.15	2,943.36	30.45	1,505.74	15.58
Local area*					
10-kilometre radius	55,354.24	11,182.98	20.20	-	-

*Government of Western Australia (2025)

C.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix H.1), the habitat preferences of the aforementioned species, and biological survey information (GHD, 2025a and 2025b), 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 in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
Amanita preissii	3	Y	Y	Y	1.21	11	N
Byblis gigantea	T	Y	Y	Y	6.27	6	Y
Caladenia huegelii	T	Y	Y	Y	0.52	84	Y
Dodonaea hackettiana	4	Y	Y	Y	0.46	39	Y
Diuris drummondii	T	N	Y	Y	1.61	3	Y
Diuris micrantha	T	N	Y	Y	0.36	7	Y
Diuris purdiei	T	N	Y	Y	5.29	19	Y
Drakaea elastica	T	N	Y	Y	0.57	10	Y
Jacksonia gracillima	3	Y	Y	Y	1.94	17	Y
Poranthera moorokatta	2	Y	Y	Y	2.87	4	Y
Thelymitra variegata	T	Y	Y	Y	2.52	6	Y
Grevillea curviloba	EN	Haven't been recorded within the local area. The survey recorded these two species within the survey area and identified they were naturalised.					Y
Grevillea olivacea	P4						Y

T: threatened, P: priority

C.4. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix H.1), the habitat preferences of the aforementioned species, and biological survey information (GHD, 2025a and 2025b), impacts to the following conservation significant fauna required further consideration.

Species name	Conservation status (WA)	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
Calyptorhynchus banksii naso (forest red-tailed black cockatoo)	VU	Y	Y	0.9	203	Y
Dasyurus geoffroii (chuditch)	VU	Y	Y	0.2	3	Y
Falco peregrinus (peregrine falcon)	OS	Y	Y	2.1	72	Y
Idiosoma sigillatum (Swan Coastal Plain shield-backed trapdoor spider)	P3	Y	Y	2.1	106	N
Isoodon fusciventer (quenda)	P4	Y	Y	0.02	2388	Y
*Leioproctus contrarius (*Native short-tongued bee)	P3	Y	Y	3.2	3	N
Lerista lineata (Perth slider)	P3	Y	Y	0.6	357	N
Neelaps calonotos (black-striped burrowing snake)	P3	Y	Y	2.6	15	N
Neopasiphae simplicior (Native short-tongued bee)	EN	Y	Y	8.5	6	N
Oxyura australis (blue-billed duck)	P4	Y	Y	0.7	526	N
Synemon gratiosa (graceful sunmoth)	P4	Y	Y	1.0	15	N
Throscodectes xiphos (stylet bush cricket)	P1	Y	Y	1.9	4	N
Westralunio carteri (Carter's freshwater mussel)	VU	Y	Y	2.7	10	N
Zanda latirostris (previously *Calyptorhynchus latirostris*) (Carnaby's cockatoo)	EN	Y	Y	0.4	2012	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority, MI: fauna species protected under international agreement, OS: other specially protected fauna species

C.5. Land degradation risk table

Based on relevant datasets (see Appendix H.1) and available land degradation risk mapping (DPIRD, 2025), the land degradation risk varies between soil types across the application area as follows:

Soil unit	211Sp__S1b	211Sp__S1c	211Sp__S2a	211Va__V9	212Bs__B1	212Bs__B2	212Bs__B3	212Bs__B4
Wind erosion	H2	H2	H2	M2	H1	M2	L2	M1
Water erosion	L1	L1	L1	L1	L1	L1	L1	L1
Salinity	L1	L1	L1	L1	L1	L1	L1	L1
Subsurface Acidification	M1	H1	L2	H2	H2	H2	H2	H2
Flood risk	L1	L1	L1	L1	L1	L1	L1	L1
Water logging	L1	L1	L1	L1	L2	L2	H2	H2
Phosphorus export risk	M1	H1	M1	H2	H2	H2	H2	H2

Note:

L1 <3% of map unit has a moderate/high to high/extreme (or is presently acid/saline for the risk of subsurface acidification/salinity)

L2 3-10% of map unit has a moderate/high to high/extreme (or is presently acid/saline for the risk of subsurface acidification/salinity)

M1 10-30% of map unit has a moderate/high to high/extreme (or is presently acid/saline for the risk of subsurface acidification/salinity)

M2 30-50% of map unit has a moderate/high to high/extreme (or is presently acid/saline for the risk of subsurface acidification/salinity)

H1 50-70% of map unit has a moderate/high to high/extreme (or is presently acid/saline for the risk of subsurface acidification/salinity)

H2 >70% of map unit has a moderate/high to high/extreme (or is presently acid/saline for the risk of subsurface acidification/salinity)

(DPIRD, 2022).

Appendix D. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The area proposed to be cleared contains native vegetation representative of the Banksia Woodlands and Tuart Woodlands PEC/TEC's and provides habitat for a range of conservation significant fauna species.	At variance	Yes *Refer to Section 3.2.1., 3.2.2., 3.2.3 above.*
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The application area contains significant foraging habitat for Carnaby's cockatoo and FRTBC, and suitable habitat for other conservation significant fauna.	At variance	Yes *Refer to Section 3.2.1., above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: The area proposed to be cleared is unlikely to contain significant habitat for threatened flora species.	Not likely to be at variance	Yes *Refer to Section 3.2.2, above.*
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: The application area contains vegetation representative of the Banksia Woodlands of the Swan Coastal Plain ecological community and Tuart Woodlands and Forests of the Swan Coastal Plain ecological community.	At variance	Yes *Refer to Section 3.2.3, above.*
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extent of the mapped vegetation type and native vegetation in the local area is inconsistent with the national objectives and targets for biodiversity conservation in Australia. However, the extent is consistent with the 10 per cent threshold for constrained areas. The vegetation proposed to be cleared contributes to vegetation connectivity in the local area.	Not likely to be at variance	Yes *Refer to Section 3.2.4. above.*
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: The proposed clearing impacts on 0.85 ha of native vegetation within Bush Forever Site 270 and may impact on the environmental values on this area through the direct loss of vegetation and indirect impacts to adjacent remaining vegetation.	At variance	Yes *Refer to Section 3.2.7, above.*

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: The application area intersects five wetlands associated with the Mandogalup Swamp system, including two wetlands mapped as Conservation Category Wetlands (CCW) and vegetation considered commensurate with or significant in supporting CCWs.	At variance	Yes *Refer to Section 3.2.5, above.*
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: Portions of the mapped soils are moderately to highly susceptible to wind erosion, water erosion and subsurface acidification. Without appropriate management, the proposed clearing has the potential to cause land degradation where there is significant disturbance of topsoil, and if bare ground is left exposed to weathering for an extended period between clearing and development. However, given the long and linear extent of the proposed clearing and the management measures proposed by the applicant, it is not considered for the proposed clearing to cause appreciable land degradation.	Not likely to be at variance	Yes *Refer to Section 3.2.6, above.*
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: The application area intersects several wetlands associated with the Mandogalup Swamp system and partly occurs within a Public Drinking Water Source Area. Clearing and construction activities have the potential to impact surface water and groundwater quality through vegetation removal, earthworks and increased runoff. However, these impacts are expected to be managed through project design, drainage infrastructure and environmental management measures and considered to be minor and short term.	May be at variance	Yes *Refer to Section 3.2.5, above.*
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding or waterlogging.	Not likely to be at variance	No .

Appendix E. Vegetation condition rating scale

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

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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

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

Appendix F. Offset calculator value justification

F.1. Jandakot Regional Park Offset Site

WA Environmental Offsets Calculator – Carnaby's Black Cockatoo Foraging Habitat

Rationale for scores used in the offset calculator

Calculation	Score	Rationale
Conservation Significance		
Description	Carnaby's black cockatoo foraging habitat	The proposed clearing will impact 8.59 hectares of native vegetation that provides significant foraging habitat for Carnaby's cockatoo.
Type of Environmental Value	Species (flora/fauna)	Carnaby's cockatoo (*Zanda latirostris).*
Conservation Significance of Environmental Value	Rare/threatened species – endangered	Listed as Endangered under both the Commonwealth EPBC Act and State BC Act.
Landscape-level Value Impacted	Yes/No	Carnaby's cockatoo is a highly mobile species that relies on a network of foraging resources across the Swan Coastal Plain. The application area occurs within a broader landscape supporting known roosting habitat and contains native vegetation that contributes to the availability and connectivity of foraging resources for the species.
Significant Impact		
Description	Clearing of native vegetation that comprises significant foraging habitat for Carnaby's cockatoo	

Significant Impact (hectares)	8.59	Based on the vegetation mapping (GHD, 2025 & 2026), the application area contains 8.59 hectares of native vegetation that provides significant foraging habitat for Carnaby's cockatoo.
Quality (scale)	7.00	Based on the biological surveys (GHD, 2025 & 2026), all vegetation units within the application area provide suitable foraging habitat for the Carnaby's cockatoo, with foraging quality ranging from moderate to high. The vegetation is in a Very Good (6%), Good (20%), Degraded to Good (3%), Degraded (58%) and Completely Degraded (13%) (Keighery, 1994) condition (GHD, 2025 & 2026). Although vegetation condition is variable, majority of the vegetation (88.5%), which is mapped within the vegetation units BmBa, isolated *Banksia spp., EgBspp.,* and *EmBspp.,* were considered to provide high-quality habitat for Carnaby's cockatoo, noting the retention of primary foraging resources, *Eucalyptus* and *Banksia spp.,* within the upper stratum (GHD, 2025 & 2026). However, noting the proposed clearing area is situated on the edge of these vegetation units, the habitat quality may be reduced due to edge impacts. The application area is located within six kilometres of 62 roost sites. Evidence of foraging by Carnaby's cockatoo was also recorded in habitat assessments of the application area (GHD, 2025 & 2026). Given the above, a value of '7' has been given.
Rehabilitation Credit		
Description	N/A	None proposed
Offset		
Description	Rehabilitation of a conservational area of native vegetation that provides foraging habitat for Carnaby's black cockatoo	MRWA proposes to rehabilitate an area within the Jandakot Regional Park, located approximately 4.1 km east of the proposed clearing, currently managed by DBCA, with the aims to improve the vegetation condition from 'Good-Very Good' condition to 'Very Good' condition, and to prevent it declining to 'Good' condition. The foraging habitat quality is also expected to increase from 40-60% foliage cover to more than 60% cover due to the rehabilitation (MRWA, 2026). MRWA commits to liaise with DBCA to develop a Memorandum of Understanding (MoU) for funding/ management of the offset site for 20 years.
Proposed offset (area in hectares)	22.30	A portion of 22.30 ha within the Jandakot Regional Park is proposed to be managed as an offset for the impacts on Carnaby's black cockatoo from the proposed clearing. The rehabilitation of this area would mitigate the significant residual impacts on this environmental value by 44.4%.
Current quality of offset site	7.00	A site inspection conducted by MRWA botanists in June 2025 identified the Banksia woodland vegetation within the proposed offset area was on average in Good-Very Good condition (MRWA,

		2025). No information regarding evidence of black cockatoo foraging was provided in the inspection memo (MRWA, 2025). Several roosting sites are mapped within 6km and one potential breeding site for Carnaby's are mapped within 12 km from the proposed offset site. Considering the vegetation condition and the site context, a high value of Carnaby's foraging habitat quality '7' has been given.
Future quality WITHOUT offset (scale)	6.00	According to the site inspection memorandum, DBCA currently undertakes only limited management within the proposed offset area, including calicivirus release programs and engagement of feral animal control contractors. Vegetation condition has declined since DBCA's 2010 survey, largely due to increased weed infestation associated with rubbish dumping, uncontrolled access, weed spread from adjacent cleared land, natural weed encroachment, and ongoing herbivory impacts (MRWA, 2025). As a result, both vegetation condition and the quality of Carnaby's Cockatoo foraging habitat are likely to continue declining in the absence of more active management measures delivered through the proposed offset.
Future quality WITH offset (scale)	8.00	MRWA proposes to undertake several management actions including installing or upgrading fencing; pest animal control; broadscale and selective weed control; and dieback management. These actions are expected to help improve the native vegetation condition to Very Good, which will in turn improve the quality of Carnaby's cockatoo foraging habitat.
Time until ecological benefit (years)	20.00	It is expected that the desired habitat quality improvement will be achieved after 20 years
Confidence in offset result (%)	0.8	There is a moderate to high level of confidence that the improvement in vegetation condition and foraging habitat will be achieved if the proposed management activities are undertaken in an appropriate manner.
Duration of offset implementation (maximum 20 years)	20.00	MRWA proposes to undertake the rehabilitation for 20 years.
Time until offset site secured (years)	1.00	Jandakot Regional Park is already secured, a 1-year time lag has been applied.
Risk of future loss WITHOUT offset (%)	5.0%	The proposed offset site is within the Jandakot Regional Park which has a low risk of loss.
Risk of future loss WITH offset (%)	5.0%	There is no change in the risk of loss with the proposed offset.

WA Environmental Offsets Calculator – Banksia Woodland TEC

Rationale for scores used in the offset calculator

Calculation	Score	Rationale
Conservation Significance		
Description	Banksia Woodlands of the Swan Coastal Plain Ecological Community (Banksia Woodlands Ecological Community)	The proposed clearing will impact on 6.23 hectares of native vegetation representative of the Banksia Woodlands ecological community.
Type of Environmental Value	Ecological community	The Banksia Woodlands ecological community is listed as a threatened ecological community under the Commonwealth EPBC Act and considered a priority ecological community by DBCA.
Conservation Significance of Environmental Value	Threatened ecological community – endangered	The Banksia Woodlands ecological community is listed as a threatened ecological community under the Commonwealth EPBC Act and considered a priority ecological community by DBCA. The highest level of threat has been applied for this field.
Landscape-level Value Impacted	Yes/No	The Banksia Woodlands ecological community is a regionally significant ecological community that has been extensively cleared and fragmented across the Swan Coastal Plain. The vegetation within the application area forms part of the remaining extent of the ecological community and contributes to broader ecological function, connectivity and habitat availability within the landscape.
Significant Impact		
Description	Clearing of native vegetation representative of the Banksia Woodlands ecological community	
Significant Impact (hectares)	6.23	Based on the biological surveys (GHD, 2025 & 2026, Biota, 2024), the application area contains 6.23 hectares of native vegetation that is representative of the Banksia Woodlands ecological community (i.e., that meets the key diagnostic criteria and condition thresholds). This largely corresponds with portions of the vegetation units BmBa, Isolated Banksia spp, EgBspp and EmBspp. (GHD, 2025 & 2026).
Quality (scale)	4.00	Based on the biological surveys (GHD, 2025 & 2026, Biota, 2024), the Banksia Woodlands ecological community within the application area was mapped in Very Good to Excellent (14%), Very Good (9%), Good (21%), Degraded (48%), and Completely Degraded (8%) (Keighery, 1994) condition. The application area occurs on the Swan Coastal Plain, upon which the Banksia Woodlands ecological community has been extensively modified and

		remaining intact patches of the community are limited. The Banksia Woodlands ecological community within the application area also provides habitat for significant fauna, including foraging habitat for black cockatoos. Given the above, a value of '4' has been given.
Rehabilitation Credit		
Description	N/A	None proposed
Offset		
Description	Rehabilitation of a conservation area of native vegetation that is representative of the Banksia Woodlands ecological community	MRWA proposes to rehabilitate an area within the Jandakot Regional Park, located approximately 4.1 km east of the proposed clearing, currently managed by DBCA, with the aims to improve the vegetation condition from 'Good-Very Good' condition to 'Very Good' condition, and to prevent it declining to 'Good' condition. MRWA commits to liaise with DBCA to develop a Memorandum of Understanding (MoU) for funding/ management of the offset site for 20 years.
Proposed offset (area in hectares)	20.82	A portion of 20.82 ha within the Jandakot Regional Park is proposed to be managed as an offset for the loss of Banksia Woodlands ecological community by the proposed clearing. This fully counterbalance the significant residual impacts to the Banksia Woodland ecological community.
Current quality of offset site	6.00	A site inspection conducted by MRWA botanists in June 2025 identified the Banksia woodland vegetation within the proposed offset area was on average in Good-Very Good condition (MRWA, 2026). Considering the vegetation condition, the value of 6' has been given.
Future quality WITHOUT offset (scale)	5.00	According to the site inspection memorandum, DBCA currently undertakes only limited management within the proposed offset area, including calicivirus release programs and engagement of feral animal control contractors. Vegetation condition has declined since DBCA's 2010 survey, largely due to increased weed infestation associated with rubbish dumping, uncontrolled access, weed spread from adjacent cleared land, natural weed encroachment, and ongoing herbivory impacts (MRWA, 2025). As a result, vegetation condition is likely to continue declining in the absence of more active management measures delivered through the proposed offset.
Future quality WITH offset (scale)	7.00	MRWA proposes to undertake several management actions including installing or upgrading fencing; pest animal control; broadscale and selective weed control; and dieback management. These actions are expected to improve the native vegetation condition to Very Good (Keighery, 1994) condition.

Time until ecological benefit (years)	20.00	It is expected that the desired vegetation condition improvement will be achieved after 20 years.
Confidence in offset result (%)	0.8	There is a moderate to high level of confidence that the improvement in vegetation condition will be achieved if the proposed management activities are undertaken in an appropriate manner.
Duration of offset implementation (maximum 20 years)	20.00	MRWA proposes to undertake the rehabilitation for 20 years.
Time until offset site secured (years)	1.00	Jandakot Regional Park is already secured, a 1-year time lag has been applied.
Risk of future loss WITHOUT offset (%)	5.0%	The proposed offset site is within the Jandakot Regional Park which has a low risk of loss.
Risk of future loss WITH offset (%)	5.0%	There is no change in the risk of loss with the proposed offset.

F.2. Postans Offset Site

WA Environmental Offsets Calculator – Carnaby's Black Cockatoo Foraging Habitat

Rationale for scores used in the offset calculator

Calculation	Score	Rationale
Conservation Significance		
Description	Carnaby's black cockatoo foraging habitat	The proposed clearing will impact 8.59 hectares of native vegetation that provides significant foraging habitat for Carnaby's cockatoo.
Type of Environmental Value	Species (flora/fauna)	Carnaby's cockatoo (*Zanda latirostris).*
Conservation Significance of Environmental Value	Rare/threatened species – endangered	Listed as Endangered under both the Commonwealth EPBC Act and State BC Act.
Landscape-level Value Impacted	Yes/No	Carnaby's cockatoo is a highly mobile species that relies on a network of foraging resources across the Swan Coastal Plain. The application area occurs within a broader landscape supporting known roosting habitat and contains native vegetation that contributes to the availability and connectivity of foraging resources for the species.
Significant Impact		
Description	Clearing of native vegetation that comprises significant foraging habitat for Carnaby's cockatoo	
Significant Impact (hectares)	8.59	Based on the vegetation mapping (GHD, 2025 & 2026), the application area contains 8.59 hectares of native vegetation that provides significant foraging habitat for Carnaby's cockatoo.

Quality (scale)	7.00	Based on the biological surveys (GHD, 2025 & 2026), all vegetation units within the application area provide suitable foraging habitat for the Carnaby's cockatoo, with foraging quality ranging from moderate to high. The vegetation is in a Very Good (6%), Good (20%), Degraded to Good (3%), Degraded (58%) and Completely Degraded (13%) (Keighery, 1994) condition (GHD, 2025 & 2026). Although vegetation condition is variable, majority of the vegetation (88.5%), which is mapped within the vegetation units BmBa, isolated *Banksia spp., EgBspp.,* and *EmBspp.,* were considered to provide high-quality habitat for Carnaby's cockatoo, noting the retention of primary foraging resources, *Eucalyptus* and *Banksia spp.,* within the upper stratum (GHD, 2025 & 2026). However, noting the proposed clearing area is situated on the edge of these vegetation units, the habitat quality may be reduced due to edge impacts. The application area is located within six kilometres of 62 roost sites. Evidence of foraging by Carnaby's cockatoo was also recorded in habitat assessments of the application area (GHD, 2025 & 2026). Given the above, a value of '7' has been given.
Rehabilitation Credit		
Description	N/A	None proposed.
Offset		
Description	Rehabilitation of a conservational area of native vegetation that provides foraging habitat for Carnaby's black cockatoo	MRWA proposes to rehabilitate a site 'Postans' which is within unallocated vacant crown land, located approximately 4 km west of the proposed clearing managed by the City of Kwinana, with the aims to prevent the vegetation condition declining, and to maintain and improve the vegetation condition. The rehabilitation also aims to improve the foraging habitat for Carnaby's from 5-20% foliage cover to more than 60% cover (MRWA, 2026). MRWA commits to liaise with City of Kwinana to develop a Memorandum of Understanding (MoU) to formalise a land management agreement, including funding and actions required by both parties. The duration of offset is proposed as 20 years.
Proposed offset (area in hectares)	14.00	A portion of 14.00 ha within the 'Postans' is proposed to be managed as an offset for Carnaby's cockatoo. The rehabilitation of this area will mitigate the significant residual impacts by 55.6%. Along with the rehabilitation of 22.3ha within the Jandakot Regional Park (see offset calculation 1.1), 100% significant residual impacts on Carnaby's foraging habitat has been counterbalanced.
Current quality of offset site	6.00	A survey conducted in July 2026 indicated that two vegetation types E1 (described as *Eucalyptus gomphocephala* with occasional *E. marginata, Banksia spp*. Over *Acacia rostellifera* over *Xanthorrhoea*) and EB1 *(Eucalyptus marginata*

		(Banksia spp.) over *Kunzea* and *Acacia* with *Xanthorrhoea spp*. Over *Hibbertia),* majority in Good (Keighery, 1994) condition, provide suitable foraging habitat for Carnaby's black cockatoo (WR, 2026). Evidence of Carnaby's foraging were observed at nine locations during the survey (MR, 2026). Four roosting sites are mapped within 6km. Noting the above, a habitat value of '6' is given.
Future quality WITHOUT offset (scale)	5.00	Noting this is an unallocated crown land, the vegetation condition is likely to be declined over time due to weed spreading, animal grazing.
Future quality WITH offset (scale)	8.00	MRWA proposes to undertake several management actions including installing or upgrading fencing; pest animal control; broadscale and selective weed control; fire management and dieback management, infill planting as a contingency measure. These actions are expected to help improve the native vegetation condition to Very Good (Keighery, 1994) condition, which will in turn improve the quality of Carnaby's cockatoo foraging habitat to high quality.
Time until ecological benefit (years)	15.00	It is expected that the desired habitat quality improvement will be achieved after 15 years
Confidence in offset result (%)	0.8	There is a moderate to high level of confidence that the improvement in vegetation condition and foraging habitat will be achieved if the proposed management activities are undertaken in an appropriate manner.
Duration of offset implementation (maximum 20 years)	20.00	MRWA proposes to undertake the rehabilitation for 20 years.
Time until offset site secured (years)	2.00	MRWA aims to finalise land management agreement with DPLH and City of Kwinana within 18 months of the approval of the offset proposal. Thus, the value of 2 years has been used.
Risk of future loss WITHOUT offset (%)	20.0%	The proposed offset site is an unallocated crown land within a rapid urban development area, leading to a high risk of loss.
Risk of future loss WITH offset (%)	10.0%	It is assumed that the land vesting with be changed to conservation managed by LGA, therefore the risk of loss is expected to be reduced.

WA Environmental Offsets Calculator – Forest Red Tailed Black Cockatoo Foraging Habitat

Rationale for scores used in the offset calculator

Calculation	Score	Rationale
Conservation Significance		
Description	Forest red-tailed black cockatoo black cockatoo (FRTBC) foraging habitat	The proposed clearing will impact 8.59 hectares of native vegetation that provides significant foraging habitat for FRTBC.
Type of Environmental Value	Species (flora/fauna)	Forest red-tailed black cockatoo *(Calyptorhynchus banksii naso)*
Conservation Significance of Environmental Value	Rare/threatened species – endangered	Listed as threatened - vulnerable under both the Commonwealth EPBC Act and State BC Act.
Landscape-level Value Impacted	Yes/No	Forest red-tailed black cockatoos are highly mobile and utilise foraging resources across a broad landscape. The application area contributes to the availability and connectivity of foraging habitat within the southern Swan Coastal Plain and occurs in proximity to known roost sites. The loss of foraging habitat therefore represents a landscape-scale impact.
Significant Impact		
Description	Clearing of native vegetation that comprises significant foraging habitat for FRTBC	
Significant Impact (hectares)	8.59	Based on the vegetation mapping (GHD, 2025 & 2026), the application area contains 8.59 hectares of native vegetation that provides significant foraging habitat for FRTBC. This corresponds with the recorded vegetation units BmBa, EgBspp., EmBspp., ErMr, isolated Banksia spp., mixed shrubs and modified wetland (GHD, 2025 & 2026).
Quality (scale)	4.00	Based on the biological surveys (GHD, 2025 & 2026), all vegetation units within the application area provide suitable foraging habitat for the FRTBC, with a moderate foraging habitat quality. The vegetation within the application area is in a Very Good (6%), Good (20%), Degraded to Good (3%), Degraded (58%) and Completely Degraded (13%) (Keighery, 1994) condition (GHD, 2025 & 2026). The application area is located within six kilometres of 62 roost sites. Evidence of foraging by FRTBC was recorded in habitat assessments of the survey area, all within the vegetation types associated with Marri trees (Cc and isolated C*orymbia calophylla)*. However, these vegetation types are not mapped within the application area (GHD, 2025 & 2026).

		Given the above, a moderate value of '4' has been given.
Rehabilitation Credit		
Description	N/A	None proposed.
Offset		
Description	Rehabilitation of a conservational area of native vegetation that provides foraging habitat for FRTBC.	MRWA proposes to rehabilitate a site 'Postans' which is within unallocated vacant crown land, located approximately 4 km west of the proposed clearing managed by the City of Kwinana, with the aims to prevent the vegetation condition declining, and to maintain and improve the vegetation condition. The rehabilitation also aims to improve the foraging habitat for FRTBC from 5-20% foliage cover to more than 60% cover (MRWA, 2026). MRWA commits to liaise with City of Kwinana to develop a Memorandum of Understanding (MoU) to formalise a land management agreement, including funding and actions required by both parties. The duration of offset is proposed as 20 years.
Proposed offset (area in hectares)	13.42	A portion of 13.42 ha within the 'Postans' is proposed to be managed as an offset for FRTBC. This fully counterbalances the significant residual impacts on FRTBC foraging habitat from the proposed clearing.
Current quality of offset site	5.00	A survey conducted in July 2026 indicated that two vegetation types E1 (described as *Eucalyptus gomphocephala* with occasional *E. marginata, Banksia spp.* over *Acacia rostellifera* over *Xanthorrhoea)* and EB1 *(Eucalyptus marginata (Banksia spp.)* over *Kunzea* and *Acacia* with Xanthorrhoea spp. over *Hibbertia),* majority in Good (Keighery, 1994) condition, provide suitable foraging habitat for FRTBC (WR, 2026). No evidence of FRTBC foraging was observed at during the survey (MR, 2026). Four roosting sites are mapped within 6km. Noting the above, a habitat value of 5 is given.
Future quality WITHOUT offset (scale)	4.00	Noting this is an unallocated crown land, the vegetation condition is likely to be declined over time due to weed spreading, animal grazing.
Future quality WITH offset (scale)	7.00	MRWA proposes to undertake several management actions including installing or upgrading fencing; pest animal control; broadscale and selective weed control; fire management, dieback management, and infill planting as a contingency measure. These actions are expected to help improve the native vegetation condition to Very Good (Keighery, 1994) condition, which will in turn improve the quality of FRTBC foraging habitat to high quality. A value of 7 has been assigned, assuming that marri, the preferred food source for FRTBC, should be established within the proposed offset area.

Time until ecological benefit (years)	15.00	It is expected that the desired habitat quality improvement will be achieved after 15 years.
Confidence in offset result (%)	0.8	There is a moderate level of confidence that the offset will be achieved, and that conservation of the offset site (in perpetuity) would successfully mitigate the future risk of loss of the site and maintain its current quality.
Duration of offset implementation (maximum 20 years)	20.00	MRWA proposes to undertake the rehabilitation for 20 years.
Time until offset site secured (years)	2.00	MRWA aims to finalise land management agreement with City of Kwinana within 18 months of the approval of the offset proposal. Thus, the value of 2 years has been used.
Risk of future loss WITHOUT offset (%)	20.0%	The proposed offset site is an unallocated crown land within a rapid urban development area, leading to a high risk of loss.
Risk of future loss WITH offset (%)	10.0%	It is assumed that the land vesting with be changed to conservation managed by LGA, therefore the risk of loss is expected to be reduced.

WA Environmental Offsets Calculator – Tuart Woodland Threatened Ecological Community

Rationale for scores used in the offset calculator

Calculation	Score	Rationale
Conservation Significance		
Description	Tuart Woodlands and Forests of the Swan Coastal Plain Ecological Community (Tuart Woodlands Ecological Community)	The proposed clearing will impact on 0.88 hectares of native vegetation representative of the Tuart Woodlands ecological community.
Type of Environmental Value	Ecological Community	The Tuart Woodlands ecological community is listed as a threatened ecological community (critically endangered) under the Commonwealth EPBC Act and considered a priority ecological community by DBCA.
Conservation Significance of Environmental Value	Threatened ecological community – critically endangered	The Tuart Woodlands ecological community is listed as a threatened ecological community under the Commonwealth EPBC Act and considered a priority ecological community by DBCA. The highest level of threat has been applied for this field.
Landscape-level Value Impacted	Yes/No	The Tuart Woodlands ecological community has undergone extensive historical clearing and fragmentation across the Swan Coastal Plain and remaining occurrences are limited. The vegetation within the application area forms part of the remaining extent of this Critically Endangered

		ecological community and contributes to its broader ecological function and persistence within the landscape.
Significant Impact		
Description	Clearing of native vegetation representative of the Tuart Woodlands ecological community	
Significant Impact (hectares)	0.88	Based on the biological surveys (GHD, 2025 & 2026, Biota, 2024), the application area contains 0.88 hectares of native vegetation that is representative of the Tuart Woodlands ecological community (i.e., that meets the key diagnostic criteria, patch size and condition thresholds). This corresponds with portions of the vegetation unit EgBspp (GHD, 2025 & 2026).
Quality (scale)	3.00	Based on the biological surveys (GHD, 2025 & 2026), the Tuart Woodlands ecological community within the application area was mapped in Degraded (Keighery, 1994) condition. The application area occurs on the Swan Coastal Plain, upon which the Tuart Woodlands ecological community has been extensively cleared and degraded, and remaining intact patches of the community are limited. The Tuart Woodlands ecological community within the application area also provides habitat for significant fauna, including foraging habitat for black cockatoos. Given the above, a value of '3' has been given.
Rehabilitation Credit		
Description	N/A	None proposed.
Offset		
Description	Rehabilitation of a conservational area of native vegetation that is representative of the Tuart Woodlands Ecological Community	MRWA proposes to rehabilitate a site 'Postans' which is within unallocated vacant crown land, located approximately 4 km west of the proposed clearing managed by the City of Kwinana, with the aims to prevent the vegetation condition of Tuart woodland community declining from Moderate-High (6), and to maintain and improve the vegetation condition to Very High (10) (MRWA, 2026). The quality value is based on Approved Conservation Advice scale (MRWA, 2026). MRWA commits to liaise with City of Kwinana to develop a Memorandum of Understanding (MoU) to formalise a land management agreement, including funding and actions required by both parties. The duration of offset is proposed as 20 years.
Proposed offset (area in hectares)	3.05	A portion of 3.05 ha within the 'Postans' is proposed to be managed as an offset for Tuart Woodlands ecological community. This fully counterbalances the

		significant residual impacts on this environmental value.
Current quality of offset site	5.00	A survey conducted in July 2026 indicated that the proposed offset site contained a total of 9.38 ha of Tuart Woodlands ecological community, comprising 7.46 ha of native vegetated areas and 1.04 ha of modified degraded areas. The vegetation in the native vegetated areas was in Good to Degraded (Keighery, 1994) condition, with Good condition vegetation comprising larger proportion (WR, 1994). Noting the above, a value of 5 is given.
Future quality WITHOUT offset (scale)	4.0	Noting this is an unallocated crown land, the vegetation condition is likely to be declined over time due to weed spreading, animal grazing.
Future quality WITH offset (scale)	6.00	MRWA proposes to undertake several management actions including installing or upgrading fencing; pest animal control; broadscale and selective weed control; fire management and dieback management. These actions are expected to improve the native vegetation condition. The target condition is Very High (10) based on the Approved Conservation Advice condition scale (MRWA, 2026). This condition is described as 'more than 60% of all understorey cover is native' which is likely to be consistent with Good to Very Good (Keighery, 1994) condition.
Time until ecological benefit (years)	20.00	It is expected that the desired vegetation condition improvement will be achieved after 20 years.
Confidence in offset result (%)	0.8	There is a moderate to high level of confidence that the improvement in vegetation condition will be achieved if the proposed management activities are undertaken in an appropriate manner.
Duration of offset implementation (maximum 20 years)	20.00	MRWA proposes to undertake the rehabilitation for 20 years.
Time until offset site secured (years)	2.00	MRWA aims to finalise land management agreement with City of Kwinana within 18 months of the approval of the offset proposal. Thus, the value of 2 years has been used.
Risk of future loss WITHOUT offset (%)	20.0%	The proposed offset site is an unallocated crown land within a rapid urban development area, leading to a high risk of loss.
Risk of future loss WITH offset (%)	10.0%	It is assumed that the land vesting with be changed to conservation managed by LGA, therefore the risk of loss is expected to be reduced.

F.3. The Spectacles Offset Site

WA Environmental Offsets Calculator – Conservation Category Wetlands

Rationale for scores used in the offset calculator

Calculation	Score	Rationale
Conservation Significance		
Description	Native vegetation commensurate with or significant in supporting Conservation Category Wetlands (CCW)	The proposed clearing will impact on 1.08 hectares of native vegetation growing in five wetlands which are commensurate with or significant in supporting a CCW, all associated with the Mandogalup Swamp. They include three sumplands and two damplands, in which two are formally mapped as CCW (UFI 12981 and UFI 15584). The remaining are considered providing a buffer and significant in supporting the CCW based on DBCA advice.
Type of Environmental Value	Wetland/watercourse	Vegetation growing in, association with or supporting high-value wetlands.
Conservation Significance of Environmental Value	Vegetation associated with a wetland or watercourse for which an offset is required	A CCW is generally defined as a wetland that supports a high level of attributes and functions. The clearing of native vegetation growing in, or in association with, a CCW is considered to constitute a significant residual impact for which an offset is required.
Landscape-level Value Impacted	Yes/No	The native vegetation proposed to be cleared forms part of, or supports, a broader wetland system associated with Mandogalup Swamp. These wetlands provide important hydrological and ecological functions at a landscape scale and contribute to the connectivity, buffering and long-term viability of the surrounding wetland complex. Accordingly, the impact extends beyond the immediate clearing footprint.
Significant Impact		
Description	Native vegetation commensurate with or significant in supporting Conservation Category Wetlands (CCW)	
Significant Impact (hectares)	1.08	Based on the biological surveys (GHD, 2025) and DBCA advice, the application area contains 1.08 hectares of native vegetation growing within wetlands that are commensurate with or significant in supporting a CCW. This corresponds with the vegetation unit ErMr (GHD, 2025).
Quality (scale)	3.00	Based on the biological surveys (GHD, 2025), the ErMr vegetation unit was mapped in Degraded to Good (23%), Degraded (43%) and Completely Degraded (34%) (Keighery, 1994) condition. The application area occurs on the Swan Coastal Plain, where other CCWs and high-value wetland vegetation has been highly impacted by

		development. Given the above, a value of '3' has been given.
Rehabilitation Credit		
Description	N/A	None proposed.
Offset		
Description	Rehabilitation of a conservational area of native vegetation that is commensurate with Conservation Category Wetlands (CCW)	MRWA proposes to rehabilitate an area of wetland-associated vegetation within a site 'Spectacles', part of Bush Forever Site 269, located adjacent to the application, currently managed by DBCA. The Spectacles North (UFI 6539) within this site is mapped as a CCW. The rehabilitation aims to improve the wetland-associated vegetation condition from 'Good' condition to 'Good to Very Good' condition, and to prevent it declining to 'Degraded to Good' condition. MRWA commits to liaise with DBCA to develop a Memorandum of Understanding (MoU) for funding/ management of the offset site for 20 years.
Proposed offset (area in hectares)	2.18	A total of 2.18 ha of wetland-associated vegetation within the 'Spectacles' is proposed to be managed as an offset for impacts to CCW. The rehabilitation of this area would mitigate the significant residual impacts on CCW by 100.2%
Current quality of offset site	4.00	A site inspection conducted by MRWA in July 2026 identified two areas, with a total area of approximately 2.18 ha, within the proposed offset site may be beneficial from the proposed on-ground management (MRWA, 2026). These areas were generally in Good (Keighery, 1994) condition, with about 50% weed cover (MRWA, 2026). Among 23 species recorded during the inspection, 15 species were considered introduced which comprises three taxa considered Declared Pest. A detailed flora and vegetation survey will be conducted at the Spectacles in spring 2026 to confirm the broader environmental values present (MRWA, 2026).
Future quality WITHOUT offset (scale)	3.00	Noting the presence of weed species in this area, it is anticipated the vegetation condition will be declined due to the weed spreading.
Future quality WITH offset (scale)	5.00	MRWA proposes to undertake several management actions including fencing; access control; weed control; dieback management and fire management. These actions are expected to improve the native vegetation condition to Good to Very Good (Keighery, 1994) condition after the duration of the offset.
Time until ecological benefit (years)	20.00	It is expected that the desired vegetation condition improvement will be achieved after 20 years.

Confidence in offset result (%)	0.8	There is a moderate to high level of confidence that the improvement in vegetation condition will be achieved if the proposed management activities are undertaken in an appropriate manner.
Duration of offset implementation (maximum 20 years)	20.00	MRWA proposes to undertake the rehabilitation for 20 years.
Time until offset site secured (years)	0.00	The site is already secured. Therefore, the value of 0 has been given.
Risk of future loss WITHOUT offset (%)	5.0%	The proposed offset site is part of the Beeliar Conservation Park managed by DBCA which has a low risk of loss.
Risk of future loss WITH offset (%)	5.0%	There is no change in the risk of loss with the proposed offset.

Appendix G. Biological survey information excerpts

G.1. Summary of the survey timing, methodology and efforts

1. **Flora and Vegetation Surveys** (GHD, 2025a; 2026)
   - A two-phase Detailed Flora and Vegetation Survey was undertaken within the main survey area (285.44 ha) extending along the Kwinana Freeway from Roe Highway to Mortimer Road, including the Mundijong Road and Safety Bay Road interchange areas (GHD, 2025a).
   - Surveys were undertaken on 16-17 September 2024 and 26-27 November 2024 (GHD, 2025a).
   - The survey included 10 quadrats (10 m × 10 m), 21 relevés and opportunistic flora records. Vegetation mapping was based on field observations, quadrat/relevé data, aerial imagery and topographic features (GHD, 2025a).
   - An additional Detailed Flora and Vegetation Survey was undertaken on 25 September 2025 within a 2.016 ha additional survey area located on the Kwinana Freeway southbound, south of Russell Road. This survey included one quadrat, two relevés and one Banksia TEC patch assessment (GHD, 2026).
   - Data collected included flora species composition, vegetation structure, landform, soils, disturbance factors and vegetation condition (GHD, 2026).

2. **Floristic Community Type (FCT) Assessment** (GHD, 2025a; 2026)
   - FCT analysis was undertaken using quadrat data collected during the main survey across the 285.44 ha survey area (GHD, 2025a).
   - Vegetation data were analysed against the Gibson et al. (1994) and Keighery et al. (2012) Swan Coastal Plain datasets using cluster analysis, Bray-Curtis similarity analysis and Single Site Insertion (SSI) analysis.
   - The 2025 additional survey aligned vegetation assessments with the vegetation types and FCT assignments established during the original biological survey.

3. **Targeted Flora Surveys** (GHD, 2025a; 2025b; 2026)
   - A targeted survey for Glossy-leaved Hammer Orchid (*Drakaea elastica*) was undertaken on 29-30 July 2024 across suitable habitat within the Kwinana Freeway survey area (GHD, 2025a).
   - Additional targeted flora searches were undertaken during the September 2024 survey, including grid searches of suitable habitat for significant orchid species (GHD, 2025a).
   - Within the 2.016 ha additional survey area south of Russell Road, native vegetation was traversed at 5-20 m intervals on 25 September 2025 to search for significant flora, including *Drakaea elastica*, *Caladenia huegelii* and *Diuris micrantha* (GHD, 2026).
   - Targeted orchid surveys were repeated within native vegetation areas in October 2025 as part of a dedicated orchid survey for the project (GHD, 2025b).

4. **Wetland Assessment** (GHD, 2025a)
   - A wetland assessment was undertaken on 29-30 July 2024 within wetlands intersecting the 285.44 ha main survey area.

- The assessment was conducted in accordance with DBCA's *Methodology for the Evaluation of Wetlands on the Swan Coastal Plain* and included field inspection and desktop assessment.
- Wetlands were assessed against DBCA criteria to determine management category and conservation significance.

5. **Basic Fauna Surveys** (GHD, 2025a; 2026)
- A Basic Fauna Survey was undertaken on 16-17 September 2024 and 26-27 November 2024 throughout the 285.44 ha survey area (GHD, 2025a).
- Survey methods included habitat assessments, active fauna searches and opportunistic observations, recording fauna sightings, calls, tracks, scats, diggings and feeding evidence (GHD, 2025a).
- An additional Basic Fauna Survey was completed on 25 September 2025 within the 2.016 ha additional survey area south of Russell Road, where eight fauna habitat assessments were completed (GHD, 2026)
- Habitat characteristics, connectivity, fauna habitat values and significant fauna habitat suitability were assessed (GHD, 2026).

6. **Targeted Short-range Endemic (SRE) Survey** (GHD, 2025a)
- A Targeted SRE Survey for the trapdoor spider (*Idiosoma sigillatum*) was undertaken on 16-17 September 2024 and 26-27 November 2024 within suitable habitat across the 285.44 ha survey area.
- Survey methods included transect searches through suitable habitat and targeted searches of leaf litter and tree bases for burrows and signs of activity.

7. **Black Cockatoo Habitat Assessments** (GHD, 2025a; 2026)
- A Targeted Black Cockatoo Habitat Assessment was undertaken on 16-17 September 2024 and 26-27 November 2024 across the 285.44 ha survey area (GHD, 2025a).
- The assessment evaluated foraging, breeding and roost habitat for Carnaby's Cockatoo, Forest Red-tailed Black Cockatoo and Baudin's Cockatoo (GHD, 2025a).
- Foraging habitat was assessed using food plant abundance, feeding evidence and the Bamford habitat scoring method. Breeding habitat assessments included inspection of suitable DBH trees for hollows and signs of use, while roost assessments targeted suitable tall trees and evidence of roosting activity (GHD, 2025a).
- An additional Black Cockatoo Habitat Assessment was completed on 25 September 2025 within the 2.016 ha additional survey area south of Russell Road, using the same methodology as the main survey (GHD, 2026).

Appendix H. Sources of information

H.1. GIS databases

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

- Aboriginal Heritage Places (DPLH-001)
- Bush Forever Areas 2000 (DPLH-019)
- Cadastre (LGATE-218)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- DBCA Statewide Vegetation Statistics
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Geomorphic Wetlands, Swan Coastal Plain (DBCA-019)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography, Linear (Hierarchy) (DWER-031)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics (DPIRD-006)
- Public Drinking Water Source Areas (DWER-033)

- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Systems (DPIRD-064)
- Vegetation Complexes - Swan Coastal Plain (DBCA-046)

Restricted GIS Databases used:

- Conservation Covenants Western Australia (DPIRD-023)
- Contaminated Sites Database - Restricted (DWER-073)
- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities

H.2. References

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