GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 8582/4

File Number: DWERVT3058

Duration of Permit: From 5 June 2021 to 5 June 2038

ADVICE NOTE

The funds referred to in condition 5 of this permit are intended for contributing towards the purchase of 30.61 hectares of native vegetation with habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorhynchus baudinii*) and Forest Red-tailed black cockatoo (*Calyptorhynchus banksii naso*).

PERMIT HOLDER

Holcim (Australia) Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE

Lot 3 on Plan 14769, Martin.

AUTHORISED ACTIVITY

The permit holder must not clear more than 13.08 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

1. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 5 June 2028.

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

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

(a) avoid the clearing of *native vegetation*;

(b) minimise the amount of *native vegetation* to be cleared; and

(c) reduce the impact of clearing on any environmental value.

3. Weed and dieback management

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

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

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

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

4. Directional clearing

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

5. Offsets – monetary contributions to the Offsets Fund

Prior to undertaking any clearing authorised under this permit, the permit holder must provide documentary evidence to the *CEO* that funding of $159,172 has been transferred to the Department of Water and Environmental Regulation for the purpose of establishing or maintaining native vegetation as an environmental offset for the clearing activities authorised under this permit.

6. Revegetation and Rehabilitation – mitigation

Within 12 months of the commencement of clearing authorised under this permit, and no later than 5 June 2027, for the areas cross-hatched red in Figure 2 of Schedule 1, the permit holder must implement and adhere to the *Gosnells Quarry Bund Rehabilitation Management Plan*, V5 *September 2025* including but not limited to the following actions:

(a) commence *revegetation* and *rehabilitation* of 0.41 hectares within the area cross hatched red in Figure 2 of Schedule 1 of this permit by:

  (i) undertaking *weed* control activities prior to *planting* and/or *direct seeding*, and annually thereafter until completion criteria have been met;

  (ii) rip the sites prior to *planting* to remove any areas of compaction or other obstruction that could prevent root penetration of seedlings;

  (iii) deliberately *planting* of tubestock and/or *direct seeding* of species that will result in the establishment of suitable habitat for *black cockatoo species*;

  (iv) ensuring only *local provenance* species and propagating material are used; and

  (v) ensuring *planting* and/or *direct seeding* is undertaken at the *optimal time*;

(b) establish a minimum of five 2 x 2 metre quadrat monitoring sites across each of the areas cross-hatched red in Figure 2 of Schedule 1.

(c) undertake annual monitoring of the *revegetated* and *rehabilitated* areas by an *environmental specialist*, until the completion criteria specified in Table 1 of Schedule 2 are met.

(d) achieve the completion criteria specified in Table 1 of Schedule 2 of this permit, after a five- year monitoring period for areas *revegetated* and *rehabilitated* under this permit.

(e) undertake remedial actions for areas *revegetated* and *rehabilitated*, where monitoring indicates that *revegetation* and *rehabilitation* has not met the completion criteria outlined in Table 1 of Schedule 2 of this permit, including;

(i) *revegetate/rehabilitate* the area by deliberately *planting* and/or *direct seeding native vegetation* that will result in the minimum target set out in the completion criteria detailed in Table 1 of Schedule 2 and ensuring only *local provenance* seeds and propagating material are used;

(ii) additional *weed* control activities;

(iii) annual monitoring of the *revegetated* and *rehabilitated* areas by an *environmental specialist*, until the completion criteria, specified in Table 1 of Schedule 2 are met; and

(iv) where an *environmental specialist* has determined that the completion criteria, outlined in Table 1 of Schedule 2 has been met, that report is to be provided to the *CEO*.

7. 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 cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 2; (f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 3; and (g) direction of the clearing undertaken in accordance with condition 4.

2.	In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 6	(a) a description of the *revegetation* and *rehabilitation* activities undertaken; (b) the size of the area *revegetated* and *rehabilitated*; (c) the date/s on which the *revegetation* and *rehabilitation* was undertaken; (d) the boundaries of the area *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; (e) results of annual monitoring against the completion criteria; (f) the date completion criteria are considered to have been met; (g) photographic evidence of the *revegetation* and *rehabilitation* work undertaken; and (h) any other actions taken in accordance with condition.

8. Reporting

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

(vi) the records required to be kept under condition 7; and

(vii) 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 calendar days prior to the expiry date of the permit, a written report of records required under condition 7, where these records have not already been provided under condition 8(a).

DEFINITIONS

In this permit, the terms in Table 2 have the meanings defined.

Table 2: Definitions

Term	Definition
black cockatoo species	means one or more of the following species: (a) *Zanda latirostris* (Carnaby's cockatoo); (b) *Zanda Calyptorhynchus* (Baudin's cockatoo); and/or (c) *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo).
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.
fill	means material used to increase the ground level, or to fill a depression.

dieback	means the effect of *Phytophthora* species on native vegetation.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent, and has a minimum of 2 years work experience relevant to the type of environmental advice that an environmental specialist is required to provide under this permit, or who is approved by the CEO as a suitable environmental specialist.
local provenance	means native vegetation seeds and propagating material from natural sources within 50 kilometres and the same IBRA subregion of the area cleared.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
optimal time	means the period from May to October for undertaking planting and seeding.
Planting	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species.
revegetate/ed/ion	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.
rehabilitate/ed/ion	means actively managing an area containing native vegetation in order to improve the ecological function of that area.
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.

END OF CONDITIONS

C Robertson
03.02.2026
2.22PM

Caron Robertson
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
Of the Environmental Protection Act 1986

30 December 2025

SCHEDULE 1

The boundary of the area authorised to be cleared is shown in the map below (Figure 1).

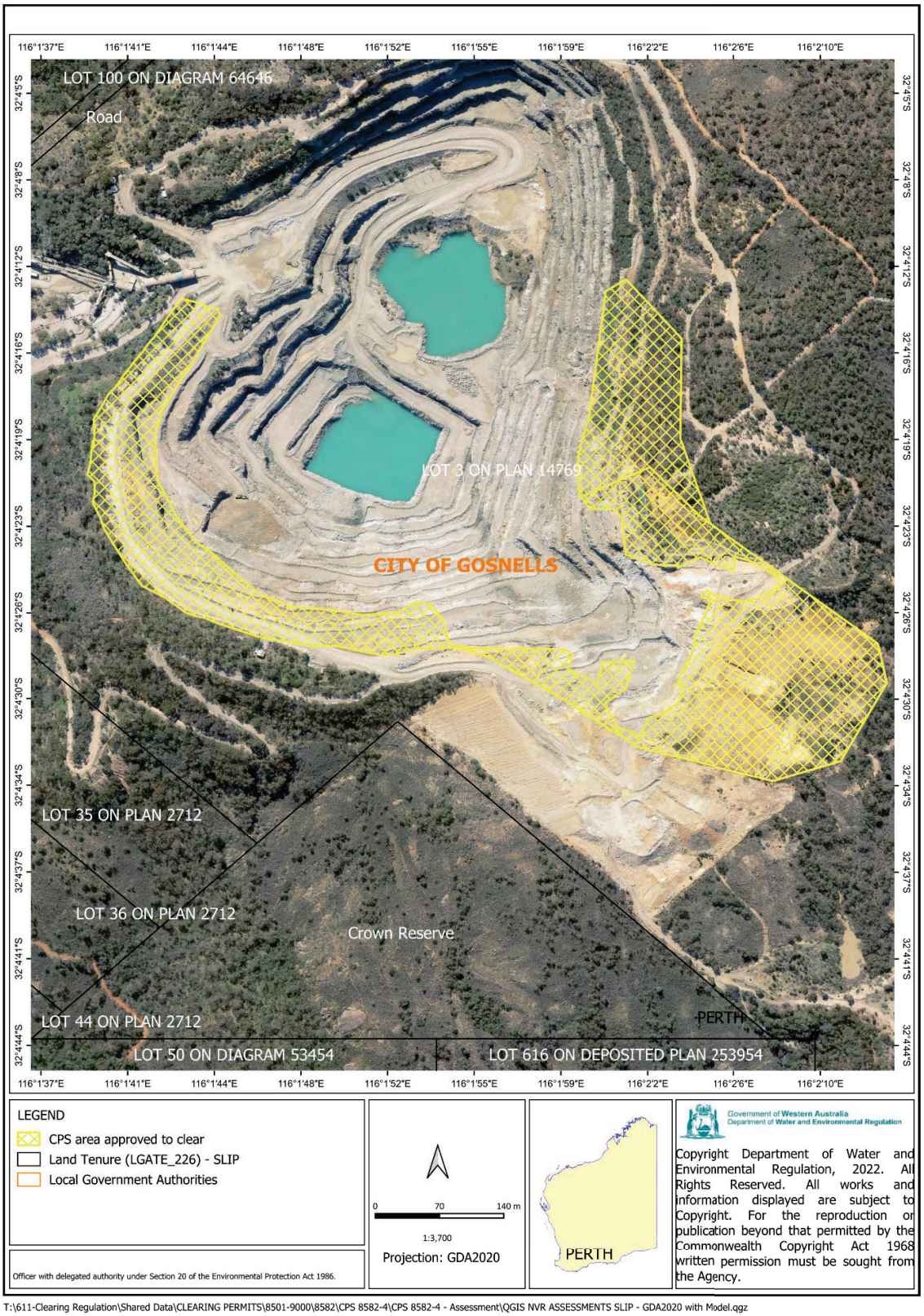


Figure 1: Map of the boundary of the area within which clearing may occur

Figure 2: Map of the boundary of the area within conditions apply.

SCHEDULE 2

Table 1: Target completion criteria

Parameter	Units	Completion criteria
Species richness	Species count	The rehabilitated area will have at least six of the native flora species present in the reference monitoring sites. .
Species abundance/density	Species and individual count	The rehabilitated area will have at least 25 native flora individuals per monitoring quadrat.
Foliage cover	Percentage cover	The rehabilitated area will have at least 30% native vegetation foliage cover.
Vegetation condition	Condition Scale	Vegetation condition of rehabilitated areas will achieve a minimum ranking of "Fair to Good"* within five years of completion of rehabilitation works. **as defined by the Kaesehagen Condition Scale (1994) (Table 3.3)*
Vegetation structure	Prescence/absence of dominant species from undisturbed areas	The rehabilitated area will include (but not necessarily be limited to) the dominant species recorded in each stratum of the reference monitoring sites, • Upper stratum species will include *Eucalyptus marginata* subsp.*marginata*, *Corymbia calophylla* and *Allocasuarina fraseriana.* • Middle stratum species will include *Hibbertia hypericoides*, *Hibbertia polystachya* and *Lysiandra calycina.* • Lower stratum species will include *Lepidosperma asperatum*, *Patersonia occidentalis* and *Lepidosperma squamatum.* Note: not all of these species will necessarily be present in each rehabilitation monitoring site but will be represented across the rehabilitated area.
Bare ground cover	Percentage	Bare ground cover within the rehabilitated area will not exceed 16% (highest recorded bare ground cover within the reference monitoring sites).
Weed species cover	Percentage Prescence/absence	Note: It is expected that weed species will be present, at least in the early stages of native vegetation establishment. Weed control measures will demonstrate success with a measurable reduction in weed species over time. In the longer term, weed species cover will not exceed 5% of the rehabilitated area. No Declared Pests as listed under the Western Australian Organism List will be present.
Black cockatoo foraging habitat flora species	Prescence/absence	Key foraging species for black cockatoo are present in the rehabilitated area at densities of at least 50% of the average reference site values within 5 years of completion of rehabilitation, noting that it will be many years before these species become a food source for black cockatoos.

		Key black cockatoo foraging species and target numbers: • *Banksia sessilis* (other species are also foraged) – 575 per hectare • *Corymbia calophylla* – 161 per hectare • *Eucalyptus marginata* – 100 per hectare • *Eucalyptus wandoo* – 50 per hectare *Hakea* spp (including *H. cristata, H. lissocarpha, H trifurcata, H. undulata*) – 169 per hectare
Planted tube stock	Alive/Dead count	Survival rate of planted tube stock is >75% five years after planting.

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 8582/4
Permit type:	Area permit
Applicant name:	Holcim (Australia) Pty Ltd
Application received:	29 June 2023
Application area:	13.08 hectares of native vegetation (revised)
Purpose of clearing:	Rock quarry accommodate reprofiling of an existing batter to improve geotechnical and operational safety
Method of clearing:	Mechanical removal
Property:	Lot 3 on Plan 14769
Location (LGA area/s):	City of Gosnells
Localities (suburb/s):	Martin

1.2. Description of clearing activities

The applicant applied to amend CPS 8582/3 to increase the approved clearing area by an additional 2.38 hectares, resulting in a total clearing of 13.08 hectares (comprising the original 10.7 hectares plus the proposed 2.38 hectares). The proposed amendment area is situated to the eastern boundaries of the initial development footprint (Holcim, 2023). The amendment application area is illustrated in Section 1.5.

The need for additional clearing is to facilitate the safe installation of a stormwater pipe and the installation of a cold water break tank and pump. This area has largely been replanted for visual amenity. This proposal requires the removal of approximately 2.38 hectares (2.28 ha rehabilitation and 0.1 ha remnant, native vegetation) on the eastern edge of the existing quarry pit (Holcim, 2023).

According to the shapefiles provided by the applicant, approximately 1.81 hectares of clearing is remaining within the area approved for clearing under CPS 8582/3.

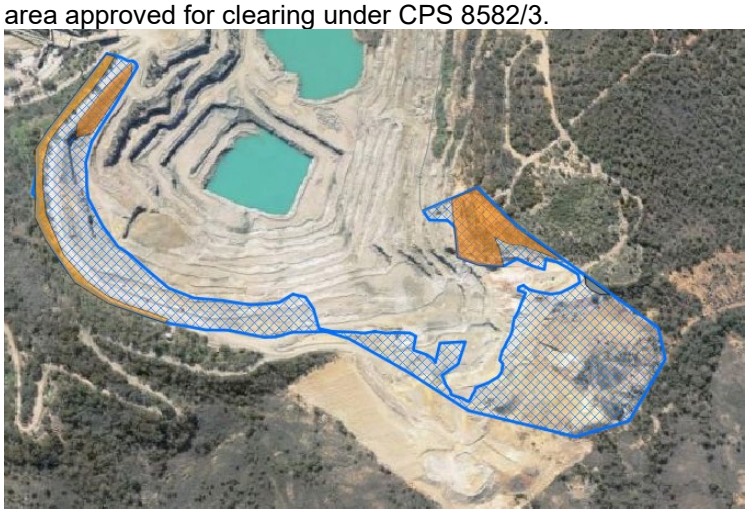


Figure 1: A map representing the area approved under CPS 8582/2 remaining to be cleared (orange)

1.3. Decision on application

Decision:	Granted
Decision date:	3 February 2026
Decision area:	13.08 hectares of native vegetation as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit amendment 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 no submissions were received. During the assessment of the application, the applicant requested to increase the application area (to the current total of 13.08 hectares). The application area was re-advertised for an additional seven days, and no submissions were received.

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

- avoidance, minimisation and mitigation actions implemented by the applicant;
- site characteristics and analysis of flora, fauna and ecological communities recorded/mapped within the local area (a 10 kilometres radius buffer from the application area) (see Appendix B);
- the 10 Clearing Principles set out in Schedule 5 of the EP Act (see Appendix C);
- a detailed assessment of the clearing impacts on environmental values (see Section 3.2);
- available datasets at the time of the assessment (see Appendix F);
- the additional information obtained during the assessment (see Appendix E), including the findings of:
    - the findings of targeted flora survey (Ecologia, 2023);
    - a black cockatoo habitat survey (INSiGHT Ornithology, 2023); and
    - a site inspection undertaken by the department (DWER, 2025)
- relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The Delegated Officer also noted that the requirement for additional clearing has arisen to enable amendments to the Gosnells Quarry mine development plan, increasing the factor of safety and improving overall stability by eliminating geotechnical hazards currently exposed at the pit face. The applicant advised that this need became evident in 2023 following a geotechnical review of the pit by SME Geotechnical and Encompass Mining Solutions (Holcim, 2023). Geotechnical instability is a significant hazard in mining operations, and operators have a duty of care to eliminate or reduce such risks to as low as reasonably practicable. The current mine plan for Gosnells Quarry involves extraction in close proximity to these hazards, primarily wedge failure and rockfall (Holcim, 2023).

The assessment of the additional clearing area identified that the proposed clearing will result in:

- the loss of 0.1 hectares of native vegetation that is suitable habitat for the following three (3) conservation significant fauna species;
    - Carnaby's cockatoo (*Zanda latirostris*);
    - Baudin's cockatoo (*Zanda calyptorhynchus*); and
    - forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*)
- the potential introduction and spread of weeds and dieback into adjacent vegetation, and conservation areas which could impact on the quality of the adjacent vegetation and its habitat values; and
- direct impacts to fauna during clearing activities.

After reviewing the available information and the applicant's proposed minimisation and mitigation measures (refer to Section 3.1), the Delegated Officer concluded that while the proposed clearing may pose long-term risks to environmental values, these risks can be sufficiently minimised and managed to reduce the likelihood of unacceptable impacts. The applicant has suitably demonstrated mitigation measures to counterbalance the significant impact of the clearing on black cockatoo foraging habitat (see Section 3.1).

The Delegated Officer notes that during a site inspection (DWER, 2023), it was observed that most of the amendment area consists of planted non-native *Eucalyptus* species, with occasional small marri trees present beneath the non-native canopy. The understorey is sparse, with dense leaf litter and evidence of marri recruitment (juvenile marri present), alongside dead understorey vegetation. As such 2.28 hectares of the application area is not considered to have significant environmental value while 0.1-hectares of native vegetation within the application area (southeastern corner of the amendment area) includes high-quality black cockatoo habitat, comprising marri woodland in good condition. The Delegated Officer determined that, with consideration for mitigation revegetation measures, there is

no significant residual impact associated with the amended clearing and therefore no additional offset is required as part of the increase in area associated with CPS 8582/4.

The Delegated Officer decided to grant the amendment to the 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;
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity; and
- undertake revegetation/rehabilitation planting of at least 0.41 hectares area with black cockatoo foraging species.

1.5. Site map

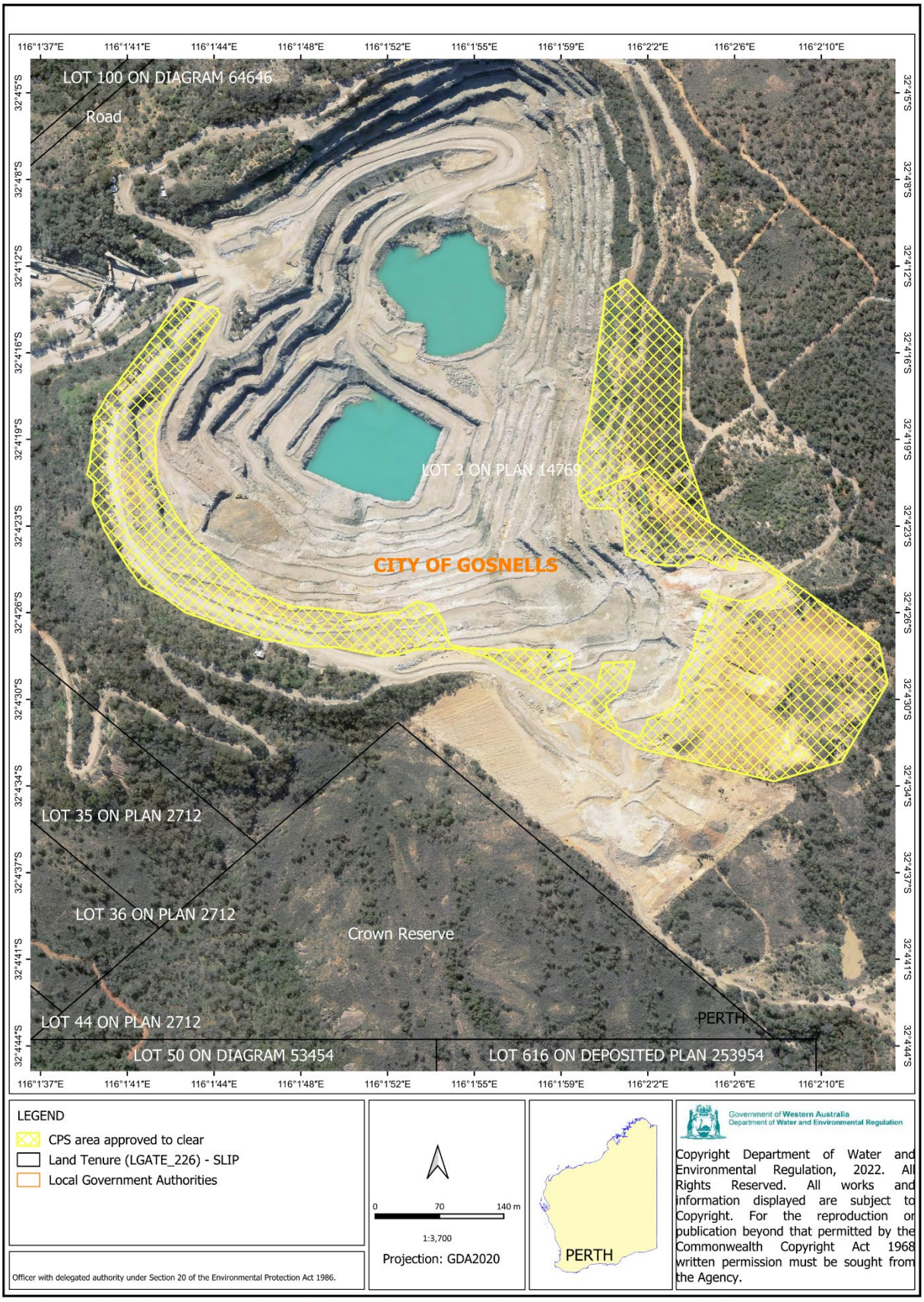


Figure 1 Map of the application area

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

2 Legislative context

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

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

- the precautionary principle
- the principle of intergenerational equity
- the 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)
- *Soil and Land Conservation Act 1945* (WA)

The key guidance documents which inform this assessment are:

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant was asked to provide details on avoidance and minimisation measures for the proposed clearing. In response, the applicant advised that the clearing is unavoidable as it is required to rectify a geotechnical fault within the pit, ensuring safe and stable operations at Gosnells Quarry. The application area lies within Holcim's approved Maximum Development Area for the quarry's lifespan, as outlined in the Development Approval granted in 1984. The quarry is expected to operate for over 200 years and is recognised as a Significant Geological Supply under the Basic Raw Materials Policy, providing a strategic and essential source of aggregate for the Perth Metropolitan Region. Holcim further advised that potential impacts on surrounding vegetation are managed through adherence to its Boundary Compliance Standard, which ensures all clearing areas are accurately surveyed and clearly marked. Additionally, topsoil and vegetation are carefully stripped and stored for future onsite rehabilitation activities

Holcim also operates in accordance with an existing Environmental Management Plan (EMP) that was prepared to support the EIL, as updated from time to time. The EMP provides mitigation measures for potential impacts of clearing on environmental values, including the following:

- Management processes in place to control any runoff or increase in sediment load as a result of clearing. Roads will have appropriate gullying and surface water infrastructure will be installed if required;
- Dieback and Weed Management Plan in place as part of the EMP to reduce the spread of weeds and dieback;
- Dust related impacts will be controlled by the following mitigation measures:
    - regularly wet down with water cart and truck dust prone unsealed surfaces.
    - undertake progressive rehabilitation in accordance with the Progressive Rehabilitation Plan (PRP).
    - undertake dust monitoring as per the Dust Management Plan.
    - undertake progressive rehabilitation in accordance with the PRP.
    - implementing additional dust control measures.

The vegetation clearing approved under CPS 8582/3 required an offset to counterbalance the following significant residual impacts:

- The proposed clearing of 4.34 ha of black cockatoo habitat, containing foraging habitat and potential breeding and roosting trees.

As mentioned previously in the CPS 8582/3 decision report, following discussions between department and the applicant during the assessment process, the applicant proposed a monetary contribution to the WA Offset fund as an offset for the proposed clearing. The offset involves the monetary contribution of $159,172 to purchase 30.61 hectares of native vegetation with very good condition habitat for Carnaby's cockatoo, Baudin's cockatoo and Forest Red tailed black cockatoo to be protected in perpetuity. Clearing permit CPS 8582/2 conditions the Permit Holder to

provide documentary evidence of the monetary contribution to the CEO, prior to undertaking any clearing authorised under the permit. This monetary contribution has been transferred to the department.

For the proposed additional 0.1 hectares of clearing of black cockatoo habitat, the applicant has committed to a mitigation measure involving rehabilitation planting over 0.41 hectares within a 1.41-hectare footprint located on the south-western perimeter of the pit. This measure is intended to offset the significant impact on black cockatoo foraging habitat. To ensure the mitigation is adequate, the department applied the WA Environmental Offsets Metric to calculate the area required to fully counterbalance the impacts. Consequently, a revegetation condition has been imposed on the clearing permit to guarantee the success of the rehabilitation efforts.

The applicant has submitted a rehabilitation plan to support the proposed revegetation activities. The area identified for rehabilitation is in a historically disturbed state. Existing vegetation within this area primarily consists of *Eucalyptus cladocalyx* (an introduced native species) and lacks a diverse understorey. The vegetation appears to be a mix of natural regrowth and self-propagation of *E. cladocalyx*, which was initially planted. Due to the near absence of understorey and the dominance of introduced species, the vegetation at the upper section of this area is assessed as being in Poor condition. While some potential black cockatoo food source species, such as *Eucalyptus wandoo* subsp. *wandoo* and *Corymbia calophylla*, are present, they occur sparsely among the *E. cladocalyx* (Holcim, 2024). Based on this, the applicant concluded that the areas lacking vegetation within the proposed rehabilitation site are suitable for infill-planting with species that provide foraging habitat for black cockatoos. The applicant also advised that a rehabilitation consultant from Ecotec WA has confirmed that this area is appropriate to undertake infill planting (Holcim, 2024).

According to the rehabilitation plan, measures will be implemented to enhance the area's potential as black cockatoo habitat by introducing suitable food source species among the existing vegetation. To offset the loss of understorey vegetation, the Shire proposes rehabilitation activities that include dry planting of *Corymbia calophylla* (marri) and *Eucalyptus marginata* (jarrah) tube stock, along with seeding of selected species identified in the rehabilitation plan (Holcim, 2023c).

A trial using "seed balls" with an appropriate native seed mix is being considered for the steep slopes. This approach involves broadcasting pre-formed balls made from a suitable sterile material potentially clay-loam soil sourced from the site by hand across areas that are otherwise inaccessible. During rainfall events, the balls will break down, releasing the seeds and enabling natural distribution across the slopes. An assessment of the contours of the area found several locations where the slope is less than 5 per cent and may therefore be accessible for planting tube stock. These suitable areas provide a total of 1.465 hectares.

Due to the presence of the introduced species *Eucalyptus cladocalyx*, monitoring will focus on the establishment of species that provide food sources for black cockatoos, particularly marri (*Corymbia calophylla*) and jarrah (*Eucalyptus marginata*). Success will be assessed based on the density of these key species within the rehabilitation area. If the seed ball trial proceeds, photographic monitoring points will be established above or below the steep slopes to visually track revegetation progress. Success will be measured by a noticeable increase in vegetative cover over time, with species identified where possible. Photographs of the proposed rehabilitation area are provided in Appendix E.

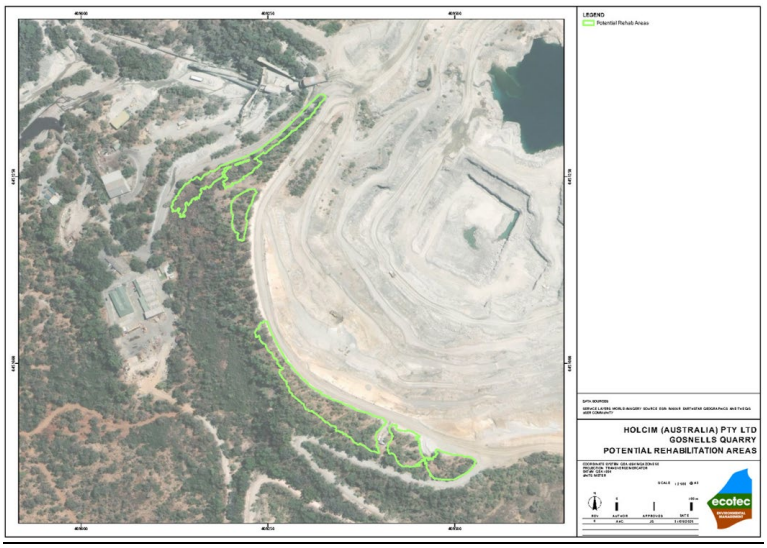


Figure 3: A map of the proposed rehabilitation area.

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

3.2. Assessment of impacts on environmental values

A review of current environmental information (see Appendix A) reveals that the assessment against the clearing principles has not changed significantly from the Clearing Permit Decision Reports CPS 8582/1 to CPS 8582/3 for the previous 10.7 hectares area approved under these previous permits. Upon assessment of the proposed amendment, the Delegated Officer had regard for recent environmental values of conservation significant flora and fauna.

In assessing the additional area proposed for clearing, the Delegated Officer has had regard for the site characteristics (see Appendix B) and the extent to which the impacts of the proposed clearing present a risk to biological values and land and water resources.

The assessment against the clearing principles (see Appendix C) identified that the proposed clearing of the additional 2.38 hectares of vegetation included in this amendment application presents an additional risk to biological values (fauna). The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values – flora - Clearing Principles (a)

Assessment

The department's desktop assessment determined that five (5) threatened and 15 priority flora taxa are known to occur within the local area, and there is a reasonable probability these may occur in the application area based on soil and habitat preferences.

The department notes a flora, vegetation and targeted flora survey was provided with CPS 8582/1 (AECOM, 2017). The department has since received advice from DBCA indicating this survey is no longer considered current. Given the above, a new flora and vegetation survey, including a targeted flora survey listed under section B.3. were requested from the applicant.

In response to the above request, Ecologia conducted a targeted flora and fauna survey of the additional area proposed for clearing on 11 November 2023, in accordance with the *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016). A subsequent survey by iNSiGHT Ornithology on 28 November 2023 identified that 2.28 hectares of the additional area comprises of planted vegetation, while 0.1 hectares consists of remnant vegetation, specifically Wandoo-Marri-Jarrah open forest (EmBsBd). Some local, native plant species did occur in the rehabilitation area but most plants were immature (DWER, 2025).

The department conducted a site inspection on 1 November 2024 to verify the survey findings, as discrepancies were noted between the surveys undertaken. During the inspection (DWER, 2023), it was observed that the majority of the amendment area consists of planted non-native *Eucalyptus* species, with occasional small marri trees present beneath the non-native canopy. The understorey was sparse, with dense leaf litter and evidence of marri recruitment (juvenile marri present), alongside dead understorey vegetation. A 0.1-hectare area in the southeastern corner of the amendment area was identified as high-quality black cockatoo habitat, comprising marri woodland in good condition.

Targeted searches for significant plant species identified during the desktop assessment were conducted along traverses spaced approximately 10 metres apart within accessible vegetated sections of the survey area. Following the field survey, the initial likelihood of occurrence assessment for each species was reviewed, taking into account survey effort, seasonal conditions, vegetation condition, and the presence of suitable habitat. No flora species of conservation significance were recorded during the survey.

The department notes that the flora and vegetation survey conducted by Ecologia in 2023 considered 102 flora species in its assessment. According to the survey report, 11 species were identified as having a high potential to occur within the application area, based on habitat similarities between the site and the known preferences of these species (Ecologia, 2023). During the likelihood assessment, it was observed that a substantial proportion of these taxa are Swan Coastal Plain species, many of which are associated with Brixton Street Wetlands and other seasonally wet habitats. Given the location of the survey area on the Darling Scarp, these taxa were deemed unlikely to occur (Ecologia, 2023). Of the 11 species, five (5) have previously been recorded in areas surrounding the survey site during surveys conducted by AECOM in 2016. However, following analysis after the field survey from 2024, it was determined that these species are unlikely to occur within the proposed additional clearing area under this application (Ecologia, 2023).

The five (5) flora species that were recorded by the previous AECOM survey in the surrounding of the survey were further considered by the department.

Acacia horridula typically occurs in gravelly soils over granite, sand, and rocky hillsides (WAH, 1998–). This species was previously recorded at a single location within the quarry area, comprising six individuals (AECOM, 2017). The population was found within vegetation community CcCrTc, beneath a thicket of *Calothamnus rupestris*. The additional application area does not include this vegetation community, and no individuals were recorded during the most recent survey (Ecologia, 2023). Given the extensive targeted searches for this species and its absence within the application area, the proposed clearing is unlikely to have a significant impact on *Acacia horridula* at either a local or regional scale.

Asteridea gracilis typically occurs in sand, clay, and gravelly soils (WAH, 1998–). Two distinct populations of this species have been recorded within the quarry area, one to the south and another to the northwest of the existing pit. The northern population was associated with the *Eucalyptus wandoo* (EwHhSa) vegetation community, extending slightly into adjacent heath, while the southern population occurred within the HeSb community, also linked to *Eucalyptus wandoo*. This species appears to favour open shrubland beneath a tree canopy rather than dense heath on granite (AECOM, 2017). The vegetation communities preferred by this species are absent from the additional application area, and no individuals were recorded during the recent survey (Ecologia, 2023). Therefore, the proposed clearing is unlikely to have a significant impact on *Asteridea gracilis* at either a local or regional scale.

Beaufortia purpurea grows in lateritic or granitic soils and rocky slopes (WAH, 1998-). An estimated 17,198 individuals occur within three distinct populations in the Quarry area (AECOM, 2017). This species was recorded in number of vegetation communities including woodlands of EmBsBd. *B. purpurea* was found to be common within the vegetation community BpSr described in AECOM survey (2017) (see Appendix E). It appears that the application area contains vegetation community EmBsBd that the *Beaufortia purpurea* has previously been recorded on. However, searches for this species were undertaken within the additional area of the application area and no recorded were found. Based on this, it is not likely that the proposed clearing will have a significant impact to *B. purpurea* on a local or regional scale.

Lasiopetalum glutinosum subsp. *glutinosum* has previously been recorded in a range of soil types, including lateritic gravel, clay, and brown clayey sand with laterite (WAH, 1998–). Six populations comprising 313 individuals have been documented within the quarry area (AECOM, 2017). This species is typically associated with heath communities near granite outcrops. The application area does not contain any of the vegetation communities this species was recently recorded within, and recent surveys did not record this species within the proposed clearing area (Ecologia, 2023). Therefore, the proposed clearing is unlikely to have a significant impact on this species at either a local or regional scale.

Acacia oncinophylla subsp. *patulifolia* typically occurs in granitic soils and occasionally on laterite (WAH, 1998–). This species has been recorded extensively within the VaBs and IdBc vegetation communities, both associated with granite outcrops on upper slopes. Five populations comprising at least 3,533 individuals have been documented in the quarry area (AECOM, 2017), and the species is considered locally common. However, the targeted survey conducted in 2023 (Ecologia, 2023) did not identify this species within the additional application area, and the vegetation types in which it is typically found were absent from the proposed clearing area. Based on these findings, the proposed clearing is unlikely to have a significant impact on this species.

Conclusion
Based on the above assessment, the Delegated Officer has determined that the proposed clearing is not likely to significantly impact on conservation significant flora species. However, it is recognised that the proposed clearing may pose a risk to the adjacent vegetation where priority flora may occur. Hygiene management practices will likely ameliorate this risk.

Conditions
To address the above impacts, weed and dieback hygiene management measures will be required as a condition on the clearing permit.

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

Assessment
A review of current environmental information confirms that the environmental values related to fauna impacts within the permit area remain largely consistent with previous assessments.

Under CPS 8582/1, a fauna assessment was undertaken by Bamford Consulting Ecologists (Bamford, 2017) across the Quarry area, which includes the additional application area. This assessment comprised a desktop review, site inspection, and targeted fauna surveys. The surveys focused on species of conservation significance, particularly three black cockatoo species: Baudin's Black-Cockatoo, Carnaby's Black-Cockatoo, and forest red-tailed black-cockatoo.

At the department's request, an additional black cockatoo foraging habitat assessment was conducted in 2023 by iNSiGHT Ornithology as part of the CPS 8582/4 evaluation. The survey concluded that the revegetated areas provide limited fauna habitat value. Trees within these areas were not of sufficient size to develop hollows, which was consistent with the absence of large fallen trunks or branches. Furthermore, understory and midstory vegetation were largely absent, resulting in a landscape best described as a canopy of immature species over eroding slopes. While some bird species may use the canopy for foraging and temporary shelter, the habitat value for ground-dwelling species is minimal (iNSiGHT Ornithology, 2023).

Significant fauna species identified by the desktop review were assessed with regards to their distribution and preferred habitat to determine their likelihood of occurrence within the additional amendment application area. The additional area is likely to provide habitat for the following conservation significant fauna species.

- *Zanda latirostris* (Carnaby's cockatoo);
- *Zanda calyptorhynchus* (Baudin's cockatoo);
- *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo);
- *Dasyurus geoffroii* (Chuditch)
- *Acanthophis antarcticus* (Southern Death-Adder)
- *Ctenotus delli* (Darling Range South-west Ctenotus)
- *Macropus irma* (Western Brush Wallaby)
- *Isoodon obesulus* (Quenda)
- *Falsistrellus mackenziei* (Western False Pipistrelle)
- *Phascogale tapoatafa tapoatafa* (Brush-tailed Phascogale)
- *Falco peregrinus* (Peregrine Falcon)

Black cockatoo species

The application area is mapped within the known distribution zones of the endangered Baudin's cockatoo, Carnaby's cockatoo and the vulnerable forest red-tailed black cockatoo (FRTBC), collectively referred to as 'black cockatoos' hereafter. Baudin's and FRTBC cockatoo are more commonly associated with the forests of the Jarrah Forest Bioregion, with Carnaby's cockatoo more commonly associated with the Swan Coastal Plain (DAWE, 2022).

The seasonal movements of black cockatoos mean they require large areas of habitat for breeding, night roosting and foraging, as well as connectivity between these habitats to assist their movement through the landscape (Commonwealth of Australia, 2012).

Available databases indicate that there are 51 black cockatoo roosts within the local area with the closest being approximately two (2) kilometres from the application area. The closest white-tailed black cockatoo breeding (confirmed, natural) site is 2.7 kilometres southeast of the application area. The closest FTBC breeding site is 27 kilometres from the application area.

Foraging habitat

Critical foraging habitat for black cockatoo species includes foraging material that is within an approximate six-to-12-kilometre radius of a nesting site and within six kilometres of a night roosting site. The preferred foraging habitat for each of the species is described below (DAWE, 2022):

- Baudin's cockatoo – eucalypt woodlands and forest, proteaceous woodland, and heath. Primarily feeding on marri during the breeding season and non-native species outside of the breeding season (DAWE, 2022). During the breeding season (October to late January/early February), Baudin's has a preference for marri seeds (Commonwealth of Australia, 2012).
- Carnaby's cockatoo – Native shrubland, kwongan heathland and woodland on seeds, flowers and nectar of native proteaceous plant species (Banksia spp., Hakea spp. and Grevillea spp.), as well as Callistemon spp. and Marri.
- Forest red-tailed black cockatoo – Primarily seeds of jarrah and marri in woodlands and forest, and edges of karri forests, including wandoo and blackbutt. Forages on Allocasuarina cones, fruits of *Persoonia longifolia* (snottygobble) and *C. haematoxylon* (mountain marri). Other less important foods include Blackbutt, Bullich, *Allocasuarina fraseriana*, *Hakea spp.*, Tuart, *E. decipiens* (redheart moit) and *E. lehmannii* (bushy yate).

Food resources within the range of breeding sites and roost sites are important to sustain black cockatoo populations. Foraging resources are therefore, viewed in the context of known breeding and night roosting sites. It is considered that foraging habitat within 6 to 12 kilometres of an application area are a significant food source (DAWE, 2022).
The majority of vegetation within the proposed clearing area consists of rehabilitation plantings, primarily species that do not provide suitable foraging habitat or mature nesting trees for black cockatoos (e.g., *Acacia saligna*, *A. iteaphylla*, *Eucalyptus cladocalyx*, *Callitris preissii*) (iNSiGHT Ornithology, 2023). While some local native species known to be utilised by black cockatoos for food (such as *Hakea lissocarpha* for Carnaby's Cockatoo and *Corymbia calophylla* for Carnaby's, Baudin's, and forest red-tailed black cockatoos) were present, most were immature, and no evidence of foraging was observed beneath fruit-bearing individuals. A small remnant patch (approximately 0.1 ha) of native vegetation is present, comprising Jarrah (*Eucalyptus marginata*) and Marri (*Corymbia calophylla*) with associated understorey. The survey also identified *Banksia sessilis* shrub with no feeding debris beneath, and *Hakea undulata* shrub retaining fruit from at least two years, indicating no evidence of black cockatoo foraging within this area (iNSiGHT Ornithology, 2023).

Eucalyptus marginata, *Corymbia calophylla*, *Banksia sessilis* and *Hakea undulata* are primary foraging species for black cockatoo species. Although the local area is highly vegetated and comprises of vegetation that can provide foraging resources to black cockatoos, the cumulative impact of clearing black cockatoo foraging habitat within the Jarrah Forest is resulting in an ongoing decline in foraging resources available to black cockatoos. Based on this, the proposed clearing of 0.1 hectares is likely to have a significant impact on black cockatoo foraging.

Based on the above findings and the site context, it is considered that 0.1 hectares of the application area provides high quality foraging habitat for black cockatoos. Clearing of this vegetation would result in a significant residual impact and requires mitigation measures or an offset to counterbalance the impacts. The applicant has proposed to undertake revegetation planting of an area within the quarry with species that provides high quality foraging habitat for black cockatoos to counterbalance the residual impact.

Breeding

Breeding habitat for black cockatoos includes trees that either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow. Suitable DBH for nest hollows is 500 millimetres for most tree species (Commonwealth of Australia, 2012; DAWE, 2022) however, is reduced to 300 millimetres for wandoo and salmon gum (Commonwealth of Australia, 2012). Breeding habitat for species of black cockatoos is described as the following (DAWE, 2020):

- Baudin's cockatoo - generally in woodland or forest but may also breed in former woodland or forest now present as isolated trees. Nest in hollows in live or dead trees of *Eucalyptus diversicolor* (karri), *Corymbia calophylla* (marri), *Eucalyptus wandoo* (wandoo) and *Eucalyptus gomphocephala* (tuart).
- Carnaby's cockatoo - Generally in woodland or forest, but also breeds in former woodland or forest now present as isolated trees. Nest in hollows in live or dead trees of *Eucalyptus Salmonophloia* (salmon gum), wandoo, tuart, jarrah, *Eucalyptus rudis* (flooded gum), *Eucalyptus loxophleba* subsp. *Loxophleba* (york gum), *Eucalyptus accedens* (powder bark), karri and marri.
- FRTBC - Generally in woodland or forest but may also breed in former woodland or forest now present as isolated trees. Nest in hollows in live or dead trees of marri, karri, wandoo, *Eucalyptus megacarpa* (bullish), *Eucalyptus patens* (blackbutt), tuart and jarrah.

According to the black cockatoo habitat assessment conducted by iNSiGHT Ornithology in 2023, no potential breeding trees were found within the additional area proposed for clearing ((iNSiGHT Ornithology, 2023). This was further confirmed by the department's site inspection.

Roosting
Roosting habitat is defined as a suitable tree (generally the tallest) or group of tall trees, native or introduced, usually close to an important water source, within an area of quality foraging habitat that provides black cockatoos with shelter during the heat of the day and safe resting places at night (EPA, 2019). Individual night roosting sites need suitable foraging habitat and water within six kilometres (EPA, 2019).

Given the highly vegetated local area and the remnant vegetation available to the east of the application area which is likely to contain tall trees that provide roosting habitat for the black cockatoos, it is not likely that the application area will significantly impact black cockatoo roosting habitat in the local area.

Other fauna species that may utilise the application area;

Dasyurus geoffroii (Chuditch)

Chuditch is known to occur in the region and typically inhabits a range of environments, particularly riparian zones and Jarrah forests (DEC, 2012). The quarry area, including the application site, contains suitable habitat for this species, such as Marri and Jarrah woodland, and may therefore support resident individuals. However, similar habitat is well represented in adjacent conservation areas and across comparable vegetation complexes in the Darling Range. Consequently, the proposed clearing is unlikely to have a significant impact on this species.

Acanthophis antarcticus (Southern Death-Adder)
The Southern Death Adder occurs in open woodland, heathland, and shrubland throughout the Darling Range (Atlas of Living Australia, n.d.). The presence of suitable habitat suggests this species may be resident within the quarry area. However, similar habitat is well represented in adjacent conservation reserves and across comparable vegetation complexes in the Darling Range. Therefore, the proposed clearing is unlikely to have a significant impact on this species.

Ctenotus delli (Darling Range South-west Ctenotus)
The Darling Range South-west Ctenotus is restricted to the Darling Range, occurring in Jarrah and Marri woodland. Although this species was not recorded during surveys, it is noted that survey methods did not include pitfall or funnel trapping, nor hand searching. Given the presence of suitable habitat, the species is considered likely to occur within the quarry area. However, similar habitat is well represented in adjacent conservation reserves and across comparable vegetation complexes in the Darling Range. Therefore, the proposed clearing is unlikely to have a significant impact on this species

Macropus irma (Western Brush Wallaby)
The Western Brush Wallaby prefers open forest or woodland habitats, particularly seasonally wet flats with low grasses and open scrubby thickets, and is also found in some mallee and heathland areas (DEC, 2012). Motion-sensitive cameras recorded the species within the quarry area, indicating it is likely resident in the surrounding eucalypt woodland. However, similar habitat is well represented in adjacent conservation areas and across comparable vegetation complexes in the Darling Range. Therefore, the proposed clearing is unlikely to have a significant impact on this species.

Isoodon obesulus (Quenda)
The Quenda typically inhabits dense shrubland and eucalypt woodland near drainage lines and low-lying areas. Suitable habitat is present throughout the quarry area, and its occurrence was confirmed through motion-sensitive camera recordings (Bamford, 2017). However, similar habitat is well represented in adjacent conservation areas and across comparable vegetation complexes in the Darling Range. Therefore, the proposed clearing is unlikely to have a significant impact on this species.

Falsistrellus mackenziei (Western False Pipistrelle)
The Western False Pipistrelle inhabits Jarrah and Marri woodlands and typically roosts in tree hollows. This species is known to occur in the region and may use parts of the quarry area for foraging or roosting (Bamford, 2017). Its presence within the quarry was confirmed during surveys conducted in 2015. However, suitable habitat for this species is well represented in nearby conservation areas. Therefore, the proposed clearing is unlikely to have a significant impact on this species.

Phascogale tapoatafa tapoatafa (Brush-tailed Phascogale)
The Brush-tailed Phascogale is known to inhabit Jarrah forests within the region, and suitable habitat occurs in the quarry area. This species was recorded on a motion-sensitive camera during previous surveys (Bamford, 2017). However, similar habitat is well represented in adjacent conservation areas and across comparable vegetation complexes in the Darling Range. Therefore, the proposed clearing is unlikely to have a significant impact on this species.

Falco peregrinus (Peregrine Falcon)
The Peregrine Falcon occupies a wide range of habitats, with its distribution primarily influenced by prey availability. Suitable habitat for this species exists within the region and the quarry area. It typically nests on cliffs or in very large trees and may potentially nest within the quarry (Bamford, 2017). Given the species' broad habitat range and widespread distribution, the proposed clearing is unlikely to have a significant impact on this species.

Ninox connivens connivens (Barking Owl) and *Tyto novaehollandiae* (Masked Owl)
These species are patchily distributed throughout the Darling Range and may occur within the quarry area, where they could breed in hollows of larger trees in Jarrah, Marri, and Wandoo woodland (Bamford, 2017). However, similar habitat is well represented in adjacent conservation areas and across comparable vegetation complexes in the Darling Range. Therefore, the proposed clearing is unlikely to have a significant impact on these species.

Conclusion

Based on the above assessment, the 0.1 hectares of the additional application area is likely to provide significant habitat for black cockatoos. For the reasons set out above, it is considered that the impacts of the proposed clearing to significant habitat for black cockatoos constitutes a residual impact. Revegetation planting measures proposed by the applicant, and conditioned on the permit, are sufficient to mitigate the residual impact, as outlined under section 3 above. There are number of conservation significant fauna species that is likely to utilise the application area to move throughout the application area. It is therefore important that the clearing is undertaken in a directional manner to allow the fauna species to move to adjacent remnant vegetation ahead of the clearing activities.

Condition

To address the above impacts, the following conditions will be implemented on the amended permit:

- slow, progressive one directional clearing (e.g. west to east) to allow fauna to move into adjacent habitat ahead of clearing activity
- revegetation planting of 0.41 hectares of flora species that provide foraging habitat for the black cockatoo species.

3.3. Relevant planning instruments and other matters

The Gosnells Quarry currently operates in accordance with the following licences and environmental management procedures:

- An EIL granted to HAUS by the City of Gosnells in 2007 for a period of 21 years. This EIL expires on 30 June 2028.
- Department of Water and Environmental Regulation (DWER) “Prescribed Premises” (Category 12) Licence L6821/1967/12 issued under the *Environmental Protection Act 1986* (EP Act 1986) and valid until 2027.
- Clearing Permit CPS 5543/2 issued under the EP Act 1986.
- Department of Mines, Industry Regulation and Safety (DMIRS) Dangerous Goods Licence (DGS001429).
- The existing Gosnells Quarry Environmental Management Plan (EMP) prepared to support the EIL, as updated from time to time (HAUS, 2014).

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.

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
Targeted flora and fauna survey (Ecologia, 2023)	Targeted searches were conducted along traverses at approximately 10 metre spacings in accessible vegetated areas on 11 November 2023. The following efforts were taken as part of the survey: • A desktop assessment to evaluate biological values of the survey area and surrounds, including a review of existing physical and biological values, conservation significant species, and other relevant available data. • Targeted searches for flora of conservation significance. • A basic fauna and fauna habitat assessment.
Black Cockatoo Foraging Habitat Assessment for Clearing Permit Amendment CPS 8582/4 (INSiGHT Ornithology, 2023)	Holcim commissioned iNSiGHT Ornithology to carry out a black cockatoo habitat assessment on 28th November 2023.
Gosnell Quarry Bund Rehabilitation Management Plan (Holcim, 2023)	A rehabilitation plan was prepared to support the proposed rehabilitation works.

Appendix B. Site characteristics

B.1. Site characteristics

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

Characteristic	Details
Local context	The proposed clearing area is part of an expansive tract of native vegetation. It is surrounded by woodland and heath communities. Spatial data indicates the local area (10 km radius of the proposed clearing area) retains approximately 41.6% of the original native vegetation cover.
Ecological linkage	There are no mapped ecological linkages within the application area. The closest mapped record is the Perth Regional Ecological Linkage (Object ID: 34) recorded approximately 600 metres east of the application area.
Conservation areas	No conservation areas mapped over the application area. Approximately 650 metres of the application area is DBCA legislated tenure (parcel 1267/485) and approximately one kilometre to the east of the application area is DBCA tenure Korung National Park.
Vegetation description	Vegetation surveys (AECOM, 2017) indicate the vegetation within the proposed clearing area approved under CPS 8582/3 consists of two heath communities, three forest/woodland communities and planted/rehabilitated vegetation. Vegetation survey by Ecologia described that within the new application area, two vegetation types are pressent which are: • Wandoo-Marri-Jarrah open forest – *Eucalyptus marginata* subsp. *marginata*, *Corymbia calophylla* and *Allocasuarina fraseriana* mid open forest over *Banksia sessilis* var. *sessilis, Xanthorrhoea preissii* and *Hakea undulata* tall shrubland over *Banksia dallanneyi* var. *dallanneyi, Hibbertia hypericoides, Bossiaea ornata, Hibbertia commutata* and *Hypocalymma robustrum* low shrubland with *Lepidosperma leptostachyum, Tetraria capiullaris* and *Lepidosperma pubisquameum* mid sparse sedgeland with *Orthrosanthus laxus* var. *laxus*, *Conostylis setosa, Lomandra caespitosa, Burchardia congesta, Pentapelis peltigera* and *Thysanotus manglesianus* low sparse forbland.

Characteristic	Details
	• revegetated area - Revegetated steep slopes (up to 40°) between benches with *Eucalyptus spp*., *Allocasuarina sp*. and *Acacia spp*. over gravel or *Calothamnus* spp. and *Acacia spp* on benches. Understorey almost entirely absent on slopes, extensive erosion. No hollows in branches or fallen trees on slopes, standing trees to narrow and young for hollow formation. No evidence of native terrestrial vertebrate fauna activity (scats etc.). iNSiGHT Ornithology' survey assessment has determined that 0.1 hectares was consisted of species *Banksia sessilis, Hakea lissocarpha, H. undulata, Corymbia calophylla, Eucalyptus marginata* and 2.37 hectares is rehabilitation with non-native species with few native regrowth and that juvenile. The Department's site inspection confirmed these findings from iNSiGHT Ornithology that only 0.1 hectares of vegetation consisted of native tree species. Representative photos and the full survey descriptions and maps are available in Appendix E. The native vegetation within the application area is consistent with the mapped vegetation types: • Darling Plateau Uplands Dwellingup, D2, described as open forest of *Eucalyptus marginata subsp. marginata - Corymbia calophylla* on lateritic uplands in subhumid and semiarid zones. • Darling Plateau Uplands Darling Scarp, DS2, described as mosaic of open forest of *Eucalyptus marginata subsp. marginata - Corymbia calophylla*, with some admixtures with *Eucalyptus laeliae* in the north (subhumid zone), with occasional *Eucalyptus marginata subsp. elegantella* (mainly in subhumid zone) and *Corymbia haematoxylon* in the south (humid zone) on deeper soils adjacent to outcrops, woodland of *Eucalyptus wandoo* (subhumid and semiarid zones), low woodland of *Allocasuarina huegeliana* on shallow soils over granite outcrops, closed heath of Myrtaceae - Proteaceae species and lithic complex on or near granite outcrops in all climate zones. The mapped vegetation types retain greater than 40 per cent of the original extent (Government of Western Australia, 2019).
Vegetation condition	Vegetation survey (Ecologia, 2023) and the department's site inspection (DWER, 2025) indicate the vegetation within the application area ranges from good to very good condition with 1.3 hectares mapped as cleared. The full Keighery (1994) condition rating scale is provided in Appendix D. Representative photos and the full survey descriptions and mapping are available in Appendix E.
Climate and landform	The Perth region has a warm Mediterranean climate, characterised by hot dry summers and cool to mild wet winters. Gosnells City has experienced an average annual rainfall of 825 mm since 1961, with the majority of rainfall occurring between May and August (BoM, 2015). The Quarry is located on the eastern edge of the Darling Scarp. The surface geology of the entire Quarry area consists of igneous felsic intrusives, which are described as undifferentiated felsic intrusive rocks, including monzogranite, granodiorite, granite, tonalite, quartz monzonite, syenogranite, diorite, monzodiorite, and pegmatite.
Soil description	The soil is mapped as: • Dwellingup 2 Phase (255DpDW2), described as very gently to gently undulating terrain (<10%) with well drained, shallow to moderately deep

Characteristic	Details
	gravelly brownish sands, pale brown sands and earthy sands overlying lateritic duricrust. • Murray Valley disturbed land, mine Phase (255MvX_MINE), described as Mine. Disturbed land.
Land degradation risk	The application area partially intersects areas with a high risk of wind erosion, water erosion, subsurface acidification, and phosphorous export.
Waterbodies	Within the original application area, one minor, non-perennial watercourse transects a section of the eastern section of the application area. However, according to the aerial imagery, it appears that clearing has occurred within this area. Within the additional area, the desktop assessment and aerial imagery indicated that no waterbodies or watercourses transect this area.
Hydrogeography	The application area falls within the Western Darling Range hydrological zone of Western Australia. The application area is not subject to an area protected under the *Rights in Water and Irrigation Act 1914* (RIWI Act), *Country Water Supply Act 1917* or a Public Drinking water source area. The groundwater salinity level (Total Dissolved Solids) is mapped as 500-1000 milligrams per litre.
Flora	The desktop assessment identified 102 conservation significant flora taxa within the local area which comprises of 24 threatened flora, 77 priority flora taxa, and one presumed extinct species. The closest record is a Priority 4 species, *Calothamnus graniticus subsp. leptophyllus*, approximately 0.1 kilometres of the application area. The targeted flora survey did not identify any conservation significant flora species within the additional application area during the 2023 survey conducted by Ecologia (Ecologia, 2023). According to the conservation significant flora likelihood assessment's post survey, all species that were considered likely to occur were considered as unlikely to occur.
Ecological communities	There are no mapped threatened ecological communities (TEC) within the application area. The closest mapped TEC is the Central Northern Darling Scarp Granite Shrubland Community recorded approximately 280 metres east of the application area. There are three other conservation significant ecological communities mapped within the local area and these are: • Banksia Woodlands of the Swan Coastal Plain ecological community (Priority 3) located approximately one kilometre from the application area. • *Corymbia calophylla — Eucalyptus marginata* woodlands on sandy clay soils of the southern Swan Coastal Plain (floristic community type 3b as originally described in Gibson et al. 1994) (TEC) is located approximately one kilometre from the application area. • *Banksia attenuata* and/or *Eucalyptus marginata* woodlands of the eastern side of the Swan Coastal Plain (floristic community type 20b as originally described in Gibson et al. 1994) (TEC) is located approximately 1.3 kilometres from the application area.
Fauna	The desktop assessment identified 33 conservation significant fauna in the local area. The closest record is a *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo) recorded 0.28 kilometres of the application area. The application area is within Baudin's cockatoo, Carnaby's cockatoo and forest red-tailed black cockatoo known distribution zones and is mapped as black cockatoo feeding habitat. There are 51 known black cockatoo roost sites within the local area, the closest is 1.98 kilometres of the application area.

B.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Jarrah Forest	4,506,660.25	2,399,838.15	53.25	1,673,614.25	37.14
Vegetation complex**					
Dwellingup, D2	86,128.33	71,055.96	82.50	58,975.34	68.48
Darling Scarp, DS2	32,448.29	13,586.40	41.87	3,287.66	10.13
Local area					
10km radius	31,629.68	12,446.07	39.35	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

B.3. Flora analysis table

The following species listed under the table below were surveyed for presence/absence within the additional clearing area. The flora species that were identified within one kilometre of the quarry site during the 2017 survey conducted by AECOM were further considered within the assessment under 3.2.2.

Species name	Conservation status	Distance of closest record to application area (km)	Suitable habitat features ? [Y/N]	Number of records	Mentioned in survey?	Post-survey likelihood of occurrence within additional clearing area
Threatened flora						
Goodenia arthrotricha	T	0.62	Y	4	Y	Unlikely
Darwinia apiculata	T	0.77	Y	11	Y	Unlikely
Thelymitra magnifica	T	0.89	Y	19	Y	Unlikely
Conospermum undulatum	T	2.18	Y	81	Y	Unlikely
Thelymitra stellata	T	2.29	Y	11	Y	Unlikely
Priority flora						
Eriochilus glareosus	P1	2.70	Y	8	Y	Unlikely
Andersonia sp. *Blepharifolia* (F. & J. Hort 1919)	P2	0.60	Y	9	Y	Unlikely
Asteridea gracilis	P3	0.48	Y	8	Recorded in AECOM (2017) survey	Unlikely
Beaufortia purpurea	P3	0.83	Y	3	Recorded in AECOM (2017) survey	Unlikely
Lasiopetalum glutinosum subsp. *glutinosum*	P3	0.91	Y	18	Recorded in AECOM (2017) survey	Unlikely
Stackhousia sp. Red-blotched corolla (A. Markey 911)	P3	0.92	Y	2	Y	Unlikely
Halgania corymbose	P3	0.97	Y	5	Y	Unlikely
Acacia horridula	P3	1.18	Y	11	Recorded in AECOM (2017) survey	Unlikely
Banksia kippistiana var. *paenepeccata*	P3	1.23	Y	3	Y	Unlikely
Thysanotus anceps	P3	1.60	Y	4	Y	Unlikely

Species name	Conservation status	Distance of closest record to application area (km)	Suitable habitat features ? [Y/N]	Number of records	Mentioned in survey?	Post-survey likelihood of occurrence within additional clearing area
Calothamnus graniticus subsp. *leptophyllus*	P4	0.10	Y	3	Y	Unlikely
Acacia oncinophylla subsp. *patulifolia*	P4	0.89	Y	32	Recorded in AECOM (2017) survey	Unlikely
Calothamnus accedens	P4	1.15	Y	3	Y	Unlikely
Pimelea rara	P4	1.64	Y	43	Y	Unlikely
Cyanothamnus tenuis	P4	1.84	Y	14	Y	Unlikely

P: priority

B.4. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)
Calyptorhynchus banksii naso (Forest Red-tailed Black-Cockatoo)	VU	Recorded within Quarry area	N/A	0.28	97
Zanda calyptorhynchus (Baudin's Black-Cockatoo)	EN	<10	N/A	0.28	208
Zanda latirostris (Carnaby's Black-Cockatoo)	EN	<10	N/A	0.28	1125
Dasyurus geoffroii (Chuditch)	VU	<10	N/A	2.10	36
Phascogale tapoatafa tapoatafa (Brush-tailed Phascogale)	CD	Recorded within Quarry area	N/A	1.06	30
Acanthophis antarcticus (Southern Death-Adder)	P3	<10	N/A	5.13	27
Notamacropus irma (Western Brush Wallaby)	P4	Recorded within Quarry area	N/A	1.06	7
Isoodon obesulus (Quenda)	P4	Recorded within Quarry area	N/A	0.53	543
Ctenotus delli (Darling Range South-west Ctenotus)	P4	<10	N/A	7.82	2
Falsistrellus mackenziei (Western False Pipistrelle)	P4	Recorded within Quarry area	N/A	-	Not within local area
Falco peregrinus (Peregrine Falcon)	OS	Recorded within Quarry area	N/A	1.26	14

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

Appendix C. 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 additional area proposed to be cleared does not comprise a high level of biodiversity. No flora or fauna species of conservation significance were recorded within the application area (Ecologia, 2023). The vegetation units identified in the application area are not representative of any known PECs. The area proposed to be cleared does not contain locally significant flora, ecological communities or higher diversity compared to the local area. However, it contains suitable habitat for conservation significant fauna including 0.1 hectares of high-quality foraging habitat for three species of black cockatoos.	At variance changed from CPS 8582/3	Yes *Refer to Section 3.2.1, 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 area proposed to be cleared contains significant foraging habitat for black cockatoo species.	At variance changed from CPS 8582/3	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 habitat for flora species listed under the BC Act.	Not likely to be at variance As per CPS 8582/3.	No
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 area proposed to be cleared does not contain species that indicate a threatened ecological community.	Not likely to be at variance As per CPS 8582/3.	No
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 is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.	Not likely to be at variance As per CPS 8582/3.	No
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:	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Given the distance to the nearest conservation area, the proposed clearing is unlikely to have a significant impact on any conservation areas in the surrounding. Weed and dieback management conditions implemented on the permit will avoid any potential impacts. The additional clearing area has a sufficient distance to conservation areas and is not likely to result in any impacts to the nearby conservation areas.	As per CPS 8582/3.	
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 remaining area to be cleared and the additional area proposed for clearing does not transect a watercourse or wetland and does not involve clearing of riparian vegetation.	Not likely to be at variance *As per CPS 8582/3.*	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils within the original area are highly susceptible to wind erosion, water erosion, subsurface acidification, and nutrient export. Noting the extent of the application area remaining to be cleared, and the mitigation measures that will be implemented by the applicant, the proposed clearing is not likely to have an appreciable impact on land degradation. The additional area is mapped as having a high risk of wind erosion and subsurface acidification. However, given the small area of clearing and the remnant vegetation that is adjacent to the application area, and by implementing a condition on the clearing permit to commence the proposed work within three months of the clearing, potential land degradation impacts could be mitigated.	At variance changed from CPS 8582/3	No
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: Given no permanent water courses, wetlands or Public Drinking Water Sources Areas are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water quality.	Not likely to be at variance As per CPS 8582/3.	No
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 surveyed 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.	Not likely to be at variance As per CPS 8582/3.	No

Appendix D. 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 E. Biological survey information excerpts, photographs of the vegetation and the department's site inspection report (Ecologia, 2023; INSiGHT Ornithology, 2023; DWER, 2025)

Photographs from the department's site inspection.

Vegetation photographs from the southeastern area of the additional application area.

Non-native dominant area within the application area

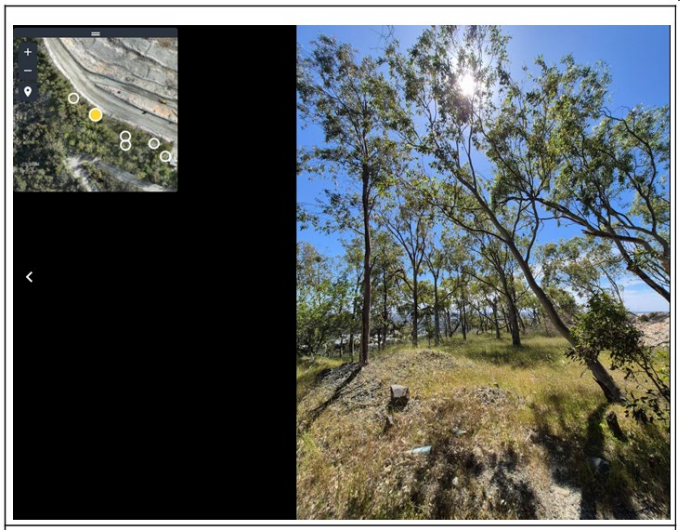
Figure 2. Sites photos taken during black cockatoo habitat assessment at eastern edge of Holcim's Gosnells Quarry pit (Martin) showing structure and composition of rehabilitation vegetation, comprising exotic (i.e. not locally native) *Eucalyptus* and *Callitris* species unsuitable as foraging habitat and too young to provide nest sites for black cockatoo species.

Figure 3. Site photo taken during black cockatoo habitat assessment at south-eastern corner of proposed clearing area Holcim's Gosnells Quarry pit (Martin) showing small pocket (0.1 ha) of remnant, native Jarrah *Eucalyptus marginata* and Marri *Corymbia calophylla* vegetation and associated understorey. Insect photos show examples of common food plants for Carnaby's Cockatoo: a) a *Banksia sessilis* shrub, with no feeding debris beneath, and b) a *Hakea undulata* shrub, with at least two years of fruit still present, indicating lack of foraging by black cockatoos in this area.

Photographs of the proposed rehabilitation area

Orientation: North West
Coordinates: MGA Zone 50 **N** 6 450 903.335m **E** 408 395.674m

Orientation: West
Coordinates: MGA Zone 50 **N** 6 450 925.328m **E** 408 349.175m



Orientation: North-West
Coordinates: MGA Zone 50 **N** 6 450 950.109m **E** 408 314.228m

Orientation: South-East
Coordinates: MGA Zone 50 **N** 6 451 228.370m **E** 408 131.393m

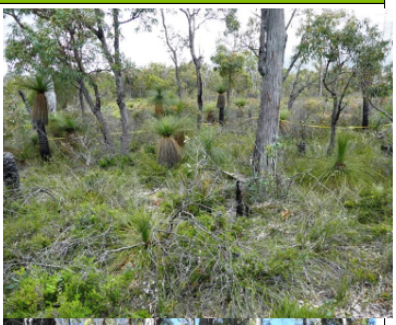
Vegetation communities described in AECOM survey (2017)

Code	Description	Comments	Photograph
BpSr	*Beaufortia purpurea, Hakea uncinata, Verticordia acerosa* var. *acerosa, Petrophile squamata* subsp. *squamata* and *Allocasuarina humilis* mid shrubland over *Beaufortia macrostemon, Banksia armata* var. *armata, Astroloma glaucescens, Babingtonia pelloeae* and *Hibbertia hypericoides* low open shrubland over *Stylidium repens, Thysanotus manglesianus, Goodenia coerulea* and *Stylidium bulbiferum* low sparse forbland. Supports populations of *Beaufortia purpurea* (P3) and *Lasiopetalum glutinosum* subsp. *glutinosum* (P3). These are further discussed in Section 6.3.1.	Species richness: 52 native species. Survey effort: CK3, HO28, HO29. Area: 4.43 ha	
HeSb	*Eucalyptus wandoo* low isolated trees over *Hakea erinacea, Verticordia acerosa* var. *acerosa, Leucopogon sprengelioides, Melaleuca radula* and *Xanthorrhoea drummondii* mid shrubland over *Hibbertia hypericoides, Melaleuca parviceps, Babingtonia camphorosmae, Beaufortia purpurea* and *Hakea incrassata* low shrubland over *Stylidium bulbiferum, Stylidium calcaratum, Cassytha racemosa* forma *racemosa, Stylidium eriopodum* and *Drosera glanduligera* low sparse forbland. Predominantly heathland with some mallee form *Eucalyptus wandoo* and *Corymbia calophylla* as an ecotone to adjacent forest. Variable in density of *Hakea erinacea.* Supports populations of *Asteridea gracilis* (P3), *Beaufortia purpurea* (P3) and *Lasiopetalum glutinosum* subsp. *glutinosum* (P3). These are further discussed in Section 6.3.1.	Species richness: 122 native species, four weed species. Survey effort: HO1, HO17, HO26, HO30, HO31. Area: 10.11 ha	

Code	Description	Comments	Photograph
IdBc	*Acacia oncinophylla* subsp. *patulifolia* and *Xanthorrhoea drummondii* tall open shrubland over *Isopogon dubius, Verticordia acerosa* var. *acerosa, Hakea erinacea, Melaleuca holosericea* and *Allocasuarina humilis* medium shrubland over *Astroloma glaucescens, Cryptandra pungens, Hibbertia subvaginata, Melaleuca parviceps, Hakea undulata* and *Hibbertia hypericoides* low shrubland with *Borya constricta, Stylidium eriopodum, Pterochaeta paniculata, Stylidium brunonianum,* and *Thysanotus scaber* low sparse forbland. Dominated by *A. oncinophylla* subsp. *patulifolia* (P4) throughout most of the community with the exception of HO21 and HO25. This is further discussed in Section 6.3.1.	Species richness: 87 native species. Survey effort: HO4, HO14r, HO21, HO22, HO25. Area: 3.32 ha	
VaBs	*Acacia oncinophylla* subsp. *patulifolia* and *Melaleuca holosericea* tall sparse shrubs over *Verticordia acerosa* var. *acerosa, Verticordia insignis* subsp. *insignis, Verticordia plumosa* var. *plumosa* and *Hakea erinacea* mid shrubland over *Borya sphaerocephala, Stylidium bulbiferum, Drosera gigantea, Glischrocaryon aureum* and *Pterochaeta paniculata* low open forbland. Supports populations of *Acacia oncinophylla* subsp. *patulifolia* (P4), *Beaufortia purpurea* (P3) and *Lasiopetalum glutinosum* subsp. *glutinosum* (P3). These are further discussed in Section 6.3.1.	Species richness: 75 native species, eight weed species. Survey effort: CK4, CK5, CK10, HO13r, HO27. Area: 15.18 ha	

Code	Description	Comments	Photograph
Thicket			
CcCrTc	*Corymbia calophylla* mid isolated trees over *Calothamnus rupestris, Xanthorrhoea preissii* and *Hakea undulata* tall closed shrubland over *Hibbertia hypericoides, Banksia dallanneyi* var. *dallanneyi, Gompholobium tomentosum, Synaphea acutiloba* and *Hakea amplexicaulis* low sparse shrubland with *Tetraria capillaris* and *Tetraria octandra* low sparse sedgeland with *Stylidium piliferum, Stylidium bulbiferum, Trichocline spathulata, Dampiera alata* and *Patersonia occidentalis* low sparse forbland. Supports population of *Acacia horridula* (P3), discussed in Section 6.3.1.	Species richness: 46 native species. Survey effort: HO8r, HO15, HO19. Area: 3.29 ha	
Forest and Woodlands			
CcHtHh	*Corymbia calophylla* and *Eucalyptus marginata* subsp. *marginata* mid open forest over *Hakea trifurcata, Xanthorrhoea preissii, Hakea undulata,* and *Hakea prostrata* mid to tall shrubland over *Hibbertia hypericoides, Hibbertia commutata, Banksia dallanneyi* var. *dallanneyi, Hibbertia huegelii* and *Bossiaea ornata* low open shrubland with *Lepidosperma leptostachyum* and *Cyathochaeta avenacea* mid open sedgeland with *Scaevola calliptera, Cassytha racemosa, Pentapeltis peltigera, Xanthosia candida, Conostylis setosa* and *Burchardia congesta* mid sparse forbland.	Species richness: 96 native species, one weed species. Survey effort: Ck6, CK7, CK9, HO3, HO12r, HO32. Area: 32.31 ha	

Code	Description	Comments	Photograph
EmBsBd	*Eucalyptus marginata* subsp. *marginata, Corymbia calophylla* and *Allocasuarina fraseriana* mid open forest over *Banksia sessilis* var. *sessilis, Xanthorrhoea preissii* and *Hakea undulata* tall shrubland over *Banksia dallanneyi* var. *dallanneyi, Hibbertia hypericoides, Bossiaea ornata, Hibbertia commutata* and *Hypocalymma robustum* low shrubland with *Lepidosperma leptostachyum, Tetraria capillaris* and *Lepidosperma pubisquameum* mid sparse sedgeland with *Orthrosanthus laxus* var. *laxus, Conostylis setosa, Lomandra caespitosa, Burchardia congesta, Pentapeltis peltigera,* and *Thysanotus manglesianus* low sparse forbland. Isolated occurrence of *Beaufortia purpurea* (P3) recorded in this community.	Species richness: 137 native species, two weed species. Survey effort: CK1, CK2, CK8, HO2, HO5, HO6, HO9r, HO33. Area: 53.50 ha	
EwHhSa	*Eucalyptus wandoo* subsp. *wandoo, Corymbia calophylla* and *Eucalyptus marginata* subsp. *marginata* medium open forest over *Xanthorrhoea preissii* and *occasional Xanthorrhoea drummondii tall open shrubland over Macrozamia riedlei, Hibbertia hypericoides, Acacia pulchella* var. *pulchella, Boronia ovata, Hakea lissocarpha* and *Hakea stenocarpa* low shrubland over *Stylidium affine, Acanthocarpus canaliculatus, Conostylis setosa, Lagenophora huegelii* and *Trichocline spathulata* low sparse forbland. Supports populations of *Asteridea gracilis* (P3), discussed in Section 5.1.	Species richness: 92 native species, three weed species. Survey effort: HO10, HO11, HO23, HO24. Area: 5.10 ha	

Code	Description	Comments	Photograph
EmKaLm	*Eucalyptus marginata* subsp. *marginata* and *Corymbia calophylla* mid open woodland over *Kingia australis* and *Xanthorrhoea drummondii* tall open shrubland over *Lambertia multiflora* var. *darlingensis, Beaufortia macrostemon, Hibbertia hypericoides, Paragonis grandiflora and Banksia armata* var. *armata* low shrubland with *Mesomelaena tetragona* and *Lepidosperma leptostachyum* mid sparse sedgeland over *Patersonia occidentalis, Lomandra effusa, Stylidium brunonianum, Dampiera linearis* and *Drosera glanduligera* low sparse forbland. Isolated occurrence of *Beaufortia purpurea* (P3) recorded in this community.	Species richness: 83 native species. Survey effort: HO7, HO18, HO20. Area: 10.54 ha	 

F.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Wheatbelt Wetlands Stage 1 (DBCA-021)

Restricted GIS Databases used:

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

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