GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 9870/1

File Number: DWERVT10933

Duration of Permit: From 08 December 2023 to 08 December 2033

PERMIT HOLDER

Shire of Gnowangerup

LAND ON WHICH CLEARING IS TO BE DONE

Tie Line Road Reserve (PIN 11338434), Mindarabin

AUTHORISED ACTIVITY

The permit holder must not clear more than 0.15 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 08 December 2025.

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

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

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

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

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

3. Weed 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*:

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

(b) ensure that no known *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. Revegetation and rehabilitation – Mitigation planting

(a) The permit holder must, within 12 months of the commencement of *clearing* authorised under this permit, and no later than 08 December 2026;

(i) undertake deliberate *planting* of 24 native trees that are comprised of a mixture of *Eucalyptus eremophila*, *Eucalyptus redunca*, and *Melaleuca uncinata* within the area cross-hatched red in Figure 1 of Schedule 1, within the Tie Line Road reserve;

(ii) ensure only *local provenance* species are used;

(iii) ensure *planting* is undertaken at the *optimal time*;

(iv) water seedlings for at least three years post *planting*, as required;

(v) undertake *weed* control activities prior to *planting*, and annually thereafter for at least three years;

(b) the permit holder must within 24 months of *planting* the 24 trees in accordance with condition 4(a) of this permit:

(i) engage an *environmental specialist* to make a determination that at least 24 *plantings* will survive.

(ii) if the determination made by the *environmental specialist* under condition 4(b)(i) that at least 24 *plantings* will not survive, the permit holder must plant additional native trees consisting of a mixture of *Eucalyptus eremophila*, *Eucalyptus redunca,* and *Melaleuca uncinata,* that will result in at least 24 planted native trees persisting within the area cross-hatched red in Figure 1 of Schedule 1.

(c) where additional *planting* of trees is undertaken in accordance with condition 4(b)(ii), the permit holder must repeat the activities required by condition 4(a), of this permit.

5. 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 GDA2020, expressing the geographical coordinates in Eastings and Northings;

No.	Relevant matter	Specifications
		(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 1; and (f) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 3.
2.	In relation to mitigation *planting* pursuant to condition 4.	(a) the location where the mixture of 24 native trees were planted, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA20), expressing the geographical coordinates in Eastings and Northings; (b) the date that the area was planted; (c) the number of each species planted; (d) the size (in mm) of the tube stock planted; (e) dates of the *weed* and watering actions undertaken; (f) a copy of the *environmental specialist's* report; (g) a description of the planting activities undertaken; and (h) any remedial actions required to be undertaken.

6. Reporting

The permit holder must provide to the *CEO* the records required under condition 5 of this permit when requested by the *CEO*.

DEFINITIONS

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

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *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

Term	Definition
	administration of the EP Act, which includes Part V Division 3.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit, or who is approved by the CEO as a suitable environmental specialist.
EP Act	*Environmental Protection Act 1986* (WA)
local provenance	means *native vegetation* seeds and propagating material from natural sources e 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 July for undertaking *planting*
planting	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of desired species.
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

Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

14 November 2023

SCHEDULE 1

The boundary of the area authorised to be cleared is shown, cross-hatched yellow, in the map below (

Figure **1**).

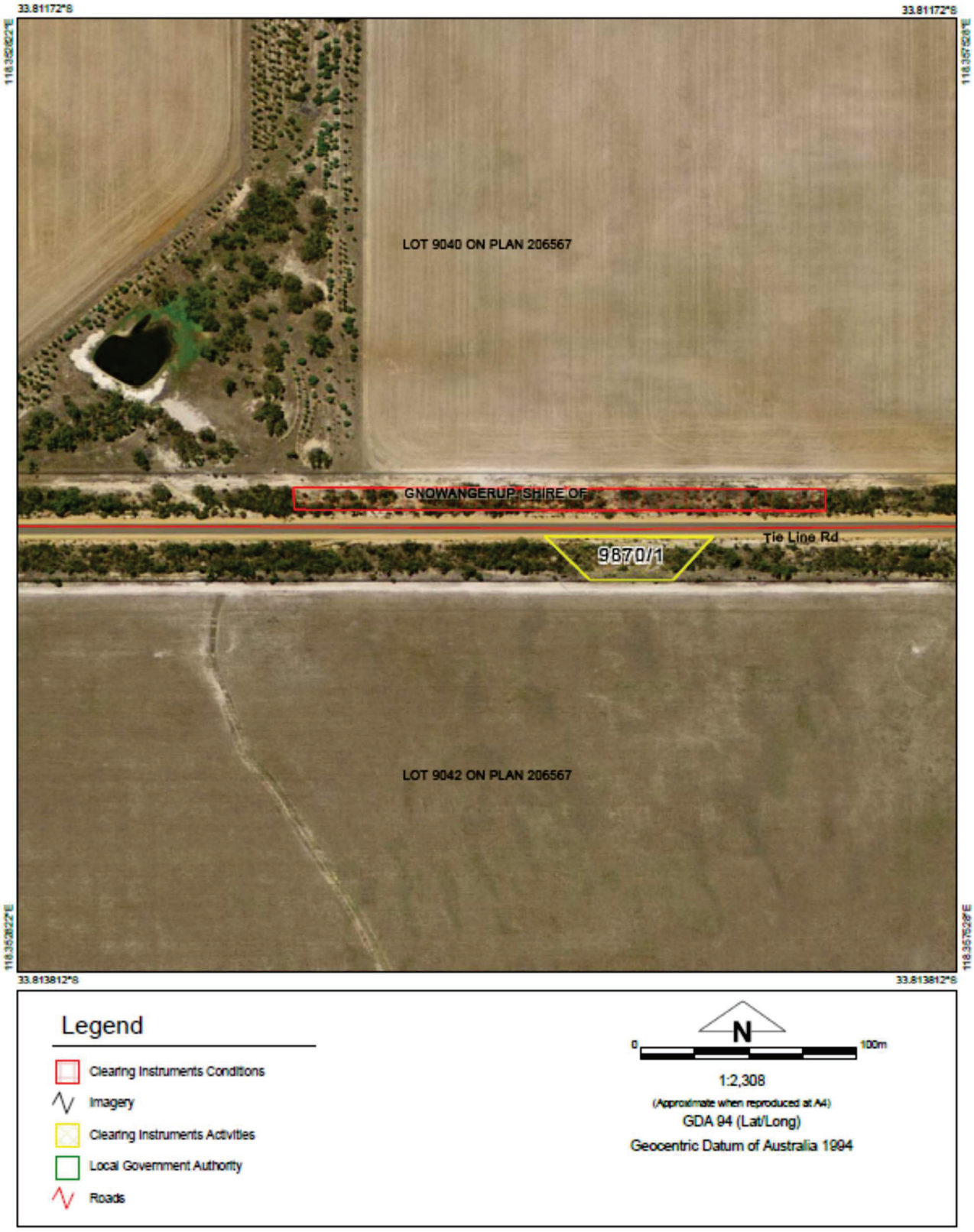

Figure 1: Map of the boundary of the area within which clearing may occur (cross-hatched yellow) and where specific *conditions* apply – *revegetation* (cross-hatched red).

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 9870/1
Permit type:	Area permit
Applicant name:	Shire of Gnowangerup
Application received:	31 August 2022
Application area:	0.15 hectares (revised) of native vegetation
Purpose of clearing:	Water tank installation and access road construction
Method of clearing:	Mechanical
Property:	Tie Line Road Reserve (PIN 11338434)
Location (LGA area/s):	Shire of Gnowangerup
Localities (suburb/s):	Mindarabin

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area (76 metres in length by 17 metres wide) within the Tie Line Road Reserve (PIN 11338434) (see Figure 1, Section 1.5). This area has been chosen to be cleared to house fire water storage tanks, a preventative and preparatory measure deemed by the Department of Fire and Emergency Services (DFES), for the use of fire fighting, and is adjacent to the CBH grain terminal (Shire of Gnowangerup, 2022b).

The application was revised during the assessment process, in response to a request for further avoidance and minimisation measures to reduce the impact of the proposed clearing on a significant remnant of native vegetation within an extensively cleared landscape. The changes include the reduction in the amount of clearing from 0.75 hectares to 0.15 hectares to avoid and minimise the clearing impacts (see Section 3.1 for further details).

1.3. Decision on application

Decision:	Granted
Decision date:	14 November 2023
Decision area:	0.15 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

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

In making this decision, the Delegated Officer had regard for the site characteristics (see 0), relevant datasets (see Appendix 0), representative photographs provided by the applicant (see 0), the clearing principles set out in Schedule 5 of the EP Act (see 0), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The Delegated Officer also took into consideration the purpose of the clearing is to improve public safety by increasing the fire-fighting capacity at the CBH grain terminal in Mindarbin (a high value asset of the Shire). The Delegated Officer also noted the applicant's effort to avoid and minimise clearing and associated impacts (see Section 3.1).

The assessment identified that:

- the proposed clearing will result in the loss of a significant remnant of native vegetation that occurs within an extensively cleared landscape. The local area and the mapped vegetation type retain approximately 9.92 percent and 14.22 percent of their original extents, respectively, which is below the national target of biodiversity conservation of a minimum 30 percent native vegetation cover.
- the proposed clearing has the potential of the introduction and spread of weeds into the nearby vegetation, which could impact on the quality of the vegetation and quality as fauna habitat.
- whilst the clearing area is 0.15 hectares, the vegetation consists of low native ground cover and shrubs with non-native grasses. No trees are proposed to be cleared.

Given the vegetation condition, historical disturbance, the lack of proximity of records of conservation significant flora and fauna and the relatively small extent of clearing proposed, the vegetation within the application area is not considered to comprise significant habitat for conservation significant flora and fauna. The likelihood of impact from weeds can be minimised and mitigated by applying proper weed management measures.

To mitigate the clearing of 0.15 hectares of significant remnant of native vegetation in an extensively cleared landscape, mitigation planting of 24 local provenance native trees and weed control within a 0.32-hectare area of degraded condition native vegetation, along Tie Line Road reserve, will be required.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to unacceptable impacts to the environment.

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

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds
- undertake deliberate planting with local provenance species and weed control, in a degraded 0.32 hectare area within adjacent vegetation, to mitigate the loss of 0.15 hectares within an extensively cleared landscape.

1.5. Site map

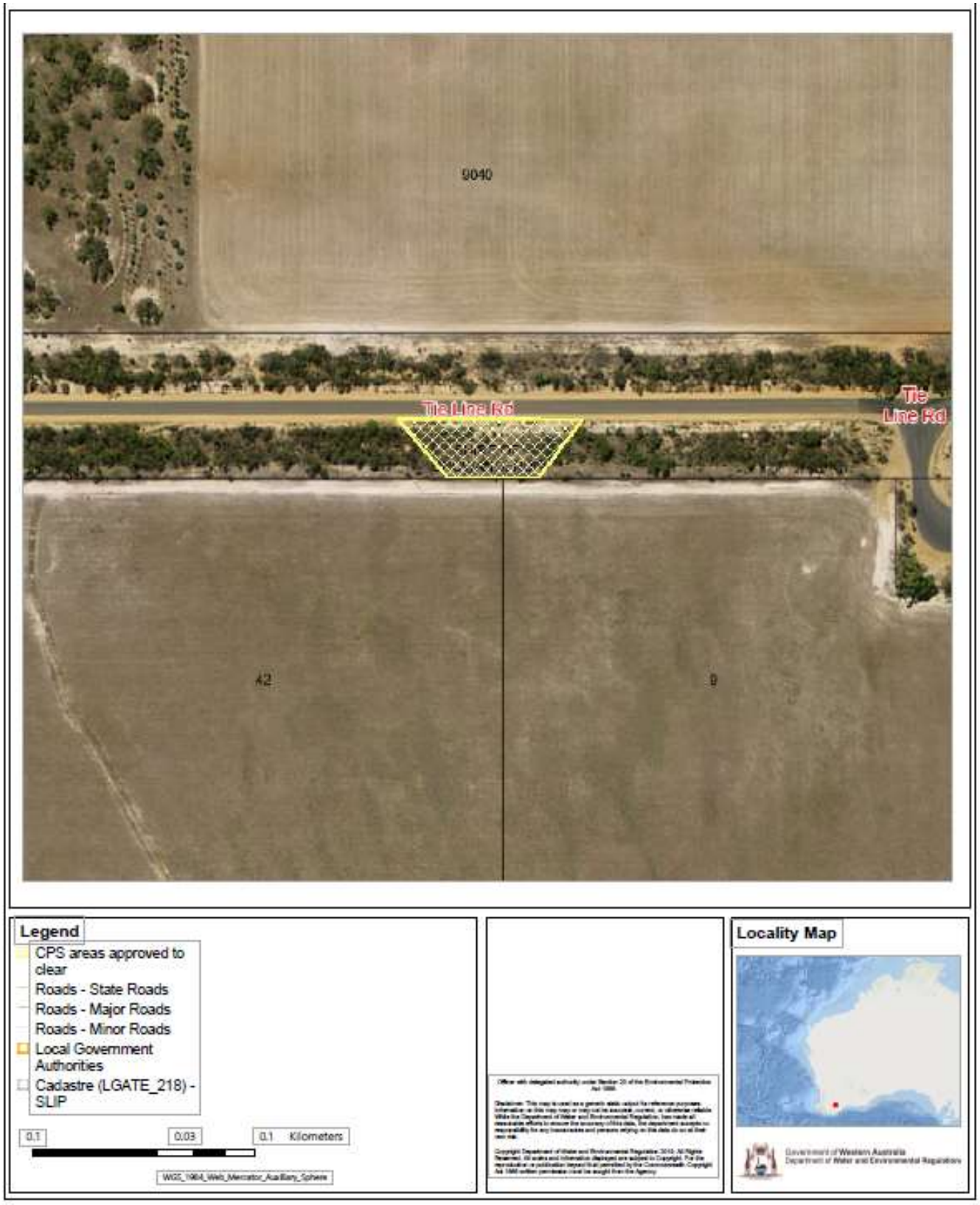

Figure 1 - Map of the application area

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 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)

Relevant policies considered during the assessment include:

- *Environmental Offsets Policy (2011)*

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* (DER, August 2014)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Evidence was submitted by the applicant, demonstrating that avoidance and mitigation measures have been taken.

Avoidance
The Shire of Gnowangerup advised that several locations were reviewed, with the application area being chosen as it required the least amount of clearing to be undertaken as it was adjacent to the road (Shire of Gnowangerup, 2022b).

The Shire of Gnowangerup advised they have been in consultation with DFES, and through this process it was identified that there were issues with the fire-fighting capabilities in this location. It was deemed necessary to have water available for firefighting for fires within grain bins and associated infrastructure. The Shire of Gnowangerup advised that all suitable sites required the clearing of native vegetation, however this site was chosen due to having the least amount of vegetation to clear within it (Shire of Gnowangerup, 2022b).

Mitigation
The Shire of Gnowangerup have committed to plant a minimum of 24 native tree seedlings of local provenance species that represent the Chidnup vegetation complex within a 0.33-hectare degraded area, as a mitigation measure for the clearing of native vegetation that represents a significant remnant of native vegetation within an extensively cleared landscape (Shire of Gnowangerup, 2023d).

An assessment of the mitigation planting was undertaken using the WA Environmental Offsets Metric and had consideration for the Environmental Offsets Policy (2011) and the Environmental Offsets Guidelines (2014). To ensure adequate suitability to balance the impact of the clearing of an extensively cleared vegetation association, the calculation identified that revegetation within 0.32-hectare area of degraded vegetation along Tie Line Road reserve that is representative of Chidnup vegetation complex, including planting at least 24 native trees and weed management, would be sufficient to ensure that no significant residual impacts remain.

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

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see 0) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix C) identified that the impacts of the proposed clearing may present a risk to the biological values (fauna and flora) and remnant vegetation within an extensively cleared landscape. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (Fauna) - Clearing Principle (b)

Assessment:
The desktop assessment identified 15 conservation significant fauna recorded within the local area. In forming a view on the likelihood of each species occurring within the application area, the following was considered:

- the preferred habitat and vegetation types of the species, and
- their recorded proximity to the application area (See Appendix B.4).

Habitat for three species were considered possible to occur during the desktop assessment (See Appendix B.4) however given the condition of the vegetation, the application area is not considered to contain significant habitat for these species.

***Leipoa ocellata* (Malleefowl) (VU)**
Historically, Malleefowl were found in the semi-arid mallee shrublands and woodlands across southern Australia in New South Wales, Victoria, South Australia, Northern Territory and Western Australia. Though the species is still found across its range, there have been local extinctions in the NT, northern SA and far south-west WA, and its remaining populations are highly fragmented due to extensive land clearing.

A review of the representative photographs of the clearing area supplied by the applicant (Shire of Gnowangerup, 2023b (see Appendix E) did not indicate the presence of active or historic Malleefowl mounds in the application area. Given the habitat preferences of the above species and the degraded (Keighery, 1994) condition of the vegetation within the Tie Line Road Reserve, it is not anticipated that the application area comprises suitable habitat for the Malleefowl.

The remnant vegetation corridor associated with the Tie Line Road Reserve may be utilised intermittently by Malleefowl to navigate between remnant patches of native vegetation linked by this degraded vegetation corridor. However, a review of aerial imagery indicated adjoined patches of vegetation occurring on the other side of the road reserve, the land adjacent and further road reserves to the east of the application area may also function as a corridor. It is not considered for the proposed clearing to impact an ecological linkage.

***Notamacropus Irma* (Western brush wallaby) (P4)**
The western brush wallaby's optimum habitat is open forest or woodland, particularly favouring open, seasonally wet flats with low grasses and open scrubby thickets. It is also found in some areas of mallee and heathland (DEC, 2012). The remnant vegetation corridor associated with the Tie Line Road reserve may be utilised intermittently by this species to navigate between patches of native vegetation. However, given the degraded condition of the vegetation within the application area and that there is adjoining vegetation on the other side of the road reserve, the proposed clearing is unlikely to impact significant habitat for this species.

***Platycercus icterotis xanthogenys* (Western rosella (inland) (P4)**
Western rosella are known to inhabit open woodlands. Western rosella was recorded once within the local area. This species is a possible transient visitor to the application area. However, given the lack of suitable habitat (i.e. canopy cover), the application area is not likely to comprise significant habitat for this species, nor be significant for the continued survival of this species.

The vegetation within the application area contains many exotic grasses, therefore, the clearing activities have the potential to cause and/or exacerbate the introduction and spread of weeds into nearby vegetation, which could impact on the quality of fauna habitat.

Conclusion:
Based on the size and condition of the proposed clearing area, it is unlikely that the application area provides significant habitat for fauna of conservation significance.

The clearing activities have the potential to cause and/or exacerbate the introduction and spread of weeds into nearby vegetation, which could impact on the quality of adjacent fauna habitat.

Conditions:

To address potential impacts to nearby native vegetation from the proposed clearing, weed management measures will be required as a condition on the clearing permit to mitigate impacts to adjacent vegetation.

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

Assessment:

Vegetation association

Photographs provided by the applicant indicate that the vegetation within the application area consist of *Melaleuca uncinata*, *Acacia* sp., native sedges and low shrubs with grassy weeds in a degraded (Keighery, 1994) condition. Adjacent vegetation along the road reserve consists of very open mallee woodland of *Eucalyptus eremophila*, and *Eucalyptus redunca* in the overstorey (Shire of Gnowangerup, 2023b).

Whilst the vegetation proposed to be cleared is in a degraded (Keighery, 1994) condition, the majority of the vegetation has been mapped as the Beard vegetation association Chidnup, described as 'Shrublands; mallee scrub, *Eucalyptus eremophila* & black marlock (*Eucalyptus redunca*)' (Shepherd et al, 2001). The vegetation within the application area is considered to be a degraded representative of the extensively cleared Chidnup vegetation association.

Roadside value

The Roadside Conservation Committee (RCC) has mapped the roadside vegetation within the Shire of Gnowangerup between 1995 and 1998. The following attributes were used to assess a quantitative measure of conservation value of each side of the road reserves:

- native vegetation on roadside;
- extent of native vegetation along length of roadside;
- number of different native species;
- weed infestation;
- value as a biological corridor;
- predominant adjoining land use.

Each of these attributes was given a score ranging from 0 to 2 points. The combined scores provide a conservation score ranging from 0 to 12. The RCC mapped the application area as occurring within a road reserve that has high conservation value with a score of 9 that provided a biological corridor but did note that there was a medium cover of weed infestation (RCC, 1999).

While this is noted and that adjacent vegetation to the application area occurs in better condition, the vegetation proposed to be cleared is in a degraded condition. The proposed clearing is not considered to impact an area of high conservation value. Noting the small area being cleared and vegetation remaining on the other side of the road, the biological corridor values will not be significantly impacted by the clearing.

Flora

According to available databases, there are 30 conservation significant flora species recorded within the local area, compromising of one Threatened, one Priority 1, three Priority 2, 19 Priority 3 and six Priority 4 flora species. The nearest record is Priority 3 species *Verticordia coronata*, located 0.91 kilometres from the application area.

The likelihood of conservation significant flora occurring within the application area was determined by considering habitat requirements, proximity of records to the application area, the type and condition of the vegetation within the application area and historical nature of the records. A summary of flora recorded within the local area is provided in Appendix B.3.

Of the 30 conservation significant flora species identified within the local area, two occur on the same soil type recorded within the application area (see section B.3). These species include *Verticordia brevifolia* subsp. *brevifolia* (P3) and *Verticordia coronata* (P3). Given the condition of the vegetation within the application area, these species are considered unlikely to occur. The application area is not considered to contain individuals or suitable habitat for conservation significant flora.

Conclusion:
Based on the size and condition of the proposed clearing area, it is unlikely that the application area provides significant habitat for flora of conservation significance, nor contains a high level of biological diversity.

The clearing activities have the potential to cause and/or exacerbate the introduction and spread of weeds into nearby vegetation, which could impact on the quality of adjacent vegetation in better condition.

Conditions:
To address potential impacts to nearby native vegetation from the proposed clearing, weed management measures will be required as a condition on the clearing permit to mitigate impacts to adjacent vegetation.

3.2.3. Environmental value: significant remnant vegetation – Clearing Principle (e)

Assessment:

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

The mapped vegetation complex, Chidnup (1075) currently retains approximately 14.22 per cent of its pre-European native vegetation extent (Government of Western Australia, 2018). A review of available databases determined the local area retains approximately 9.92 per cent of its pre-European native vegetation extent. Considered alongside the highly cleared nature of vegetation complex 1075, the application area is located within an extensively cleared landscape.

Roadsides often present the only remaining example of the original vegetation types within extensively cleared landscapes, with this especially relevant in the Avon Wheatbelt. Conservation advice from Department of Biodiversity, Conservation and Attractions (DBCA, 2019) recognises the importance of native vegetation remnants along road verges and their value as wildlife corridors, particularly if they link to other non-roadside vegetation remnants and habitat for threatened species (DBCA, 2019). Noting the local area retains approximately 10 per cent native vegetation, the vegetation within the application area represents a significant remnant of native vegetation.

Whilst the proposed clearing is located within an extensively cleared landscape, the application area does not contain any conservation significant flora, does not provide significant habitat for any conservation significant fauna and does not contain high levels of biodiversity. Given the above, it is considered that the impact of clearing can be mitigated through appropriate onsite revegetation.

The applicant has committed to revegetating 0.32 hectares of native vegetation within Tie Line Road reserve to mitigate the clearing of 0.15 hectares, to ensure the clearing will not contribute to the decline of vegetation within the local area (see section 4).

The suitability of this mitigation measure has been assessed and the mitigation planting proposed was input into the WA Environmental Offsets Metric Calculator to determine the ratio required to mitigate the loss of 0.15 hectares. From this, it was determined that mitigation planting within 0.32 hectares was determined to be a suitable mitigation measure to counterbalance 100 percent of the impact to significant remnant vegetation. A significant residual impact does not remain following the mitigation planting. It is considered that the mitigation planting aligns with the WA Environmental Offset Policy (2011) and WA Environmental Offsets Guideline (2014).

Conclusion:

Given the limited extent of clearing and the degraded condition of the vegetation proposed to be cleared, it is considered that the impact of clearing can be mitigated through appropriate onsite mitigation planting. A significant residual impact does not remain following the mitigation planting.

Conditions:

To ensure there is no net loss of trees within the local area, the following management measure will be required as a condition on the clearing permit:

- Planting of local provenance species within 0.32 hectares within Tie Line Road reserve.

3.3. Relevant planning instruments and other matters

Local Government Approvals – Shire of Gnowangerup

The application area occurs within the Tin Line Road Reserve which is dedicated for the widening and casement of the road. The road reserve is managed by the Shire of Gnowangerup (the Shire). The Shire advised that the construction of the water tanks and associated access road construction did not require development or planning approval (Shire of Gnowangerup, 2023c).

Funding

The project has been funded by the Commonwealth's Government's National Water Grid Fund, supported by State funding for capital works for community dams and water supplies. Many versions of the tank location have been considered including private land, CBH and Shire land. The CBH location is the preferred site for dam construction, as land is available and CBH has provided its support for the project. The tanks will be installed on adjacent Shire land next to the CBH grain terminal.

Aboriginal Heritage

According to the Department of Planning, Lands and Heritage's Aboriginal Cultural Heritage inquiry system, the site is not an active registered Aboriginal Culturally Sensitive Heritage 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 mitigation

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

- 0.15 hectares of native vegetation in a degraded condition representing a highly cleared vegetation association within an extensively cleared landscape.

The applicant proposed mitigation planting consisting of 24 native tree species within a 0.32 hectare area that is in a degraded (Keighery, 1994) condition within the Tie Line Road reserve. Species that will be planted includes *Eucalyptus eremophila*, *Eucalyptus redunca*, and *Melaleuca uncinata.* Weed management will also be undertaken.

The Delegated Officer considers that this adequately counterbalances the impacts listed above. The justification for the values used in the mitigation calculation is provided in **Error! Reference source not found.**.

End

Appendix A. Additional information provided by applicant

Reference	Description of information (in timeline order)
Shire of Gnowangerup (2022)	Additional supporting information for clearing permit application CPS 9870/1, including avoidance and mitigation measures and confirmation of digitisation of the application area. Received 20 September 2022 (DWER Ref: DWERDT661488).
Shire of Gnowangerup (2023a)	Additional supporting information for clearing permit application CPS 9870/1, including details about no planning development required. Received 23 March 2023 (DWER Ref: DWERDT754807).
Shire of Gnowangerup (2023b)	Additional supporting information for clearing permit application CPS 9870/1, including photographs and videos of application area. Received 3 March 2023 (DWER Ref: DWERDT745502).
Shire of Gnowangerup (2023c)	Additional information for clearing permit application CPS 9870/1 including reduction in the size of clearing required from 0.75 ha to 0.15 ha. Received 8 September 2023 (DWER Refs: DWERDT833404
Shire of Gnowangerup (2023d)	Additional information for clearing permit application CPS 9870/1, including mitigation planting. Received 18 September 2023 and 6 October 2023 (DWER ref DWERDT846318 and DWERDT837887).

Appendix B. Site characteristics

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

B.1 Site characteristics

Characteristic	Details
Local context	Mindarabin is a small Western Australia rural location within the Great Southern area and the Shire of Gnowangerup, approximately 312 kilometers from Perth, and is a prosperous grain growing, sheep and cattle producing area. The vegetation proposed to be cleared is within the Tie Line Road Reserve, adjacent to cleared farming land to the north, south and west. To the east of the application area, Co-Operative Bulk Handling Ltd (CBH) own the Mindarabin Grain Terminal and further to the east (south-east of the application area), there is a large patch of remnant vegetation, owned and managed by the Department of Biodiversity, Conservation and Attractions. Aerial imagery and spatial data indicate the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 10.23 per cent of the original native vegetation cover.
Ecological linkage	The proposed clearing area contributes to important remnant roadside vegetation in a highly cleared landscape. The application area may function as an ecological linkage for fauna moving between larger remnants of native vegetation within the local area.
Conservation areas	The application area is not located within any conservation areas. The closest DBCA legislated tenure is the Corneecup Nature Reserve, located approximately 250 metres east of the application area.
Vegetation description	The application area occurs within the Mallee IBRA region. Photographs supplied by the applicant (Shire of Gnowangerup, 2023a and 2023b) indicate the vegetation within the proposed clearing area consists of Open mixed *Eucalyptus* mallee woodland over low *Melaleuca* spp., *Acacia* spp. and other native shrubland over grassy weeds.

Characteristic	Details
	This is broadly consistent with the mapped vegetation association Chidnup (1075), which is described as Shrublands; mallee scrub, *Eucalyptus eremophila* & black marlock (*Eucalyptus redunca*) (Shepherd et al, 2001). Representative photographs are available in 0.
Vegetation condition	Photographs supplied by the applicant (Shire of Gnowangerup, 2023a and 2023b) indicate the vegetation within the proposed clearing area is in Degraded to Compleately Degraded (Keighery, 1994) condition. The full Keighery (1994) condition rating scale is provided in 0. Representative photographs are available in 0.
Climate and landform	Summer in Gnowangerup is between December and February and maximum daily temperatures average between 27.1 and 28.6 degrees Celsius (°C) with overnight minimums averaging between 12.4 and 14.3°C. Summer days are balmy, averaging around 28.6 °C in the hottest months. Winter is between June and August and maximum daily temperatures average between 14.9 and 15.9°C with overnight minimums averaging between 5.8 and 6.8°C. Winter days in Gnowangerup are moderately cool but can be moderately cold if windy, dropping to around 14.9 °C. Gnowangerup is at an altitude of about 261 metres above sea level.
Soil description	The application area contains one mapped soil type the Nyabing 3 Subsystem (250Ny_3), which is described as lower to upper slopes and crests associated with shallow granitic rock. Alkaline grey shallow sandy loamy duplex soils, rock outcrop, alkaline red shallow loamy duplex soils and grey non-cracking clays (Schoknecht, et al. 2004).
Land degradation risk	Please see Section B.5. for a detailed table outlining the land degradation risk categories for the soil type found within the application area.
Waterbodies	The desktop assessment and aerial imagery indicated that there are no waterbodies or wetlands mapped as occurring within the application area.
Hydrogeography	Within the South Broomehill-Gnowangerup catchment area, aquifers have local scale flow systems and the depth to bedrock is less than 20 metres, with the aquifers generally thin and shallow. Due to the shallow bedrock, groundwater bores in the area show depths from two to nine metres, but are all located low within the landscape, with the low-yielding profile due to clays. Salinity in these areas are creeklines and hillside seeps. Well-defined and narrow creeklines will become salt-affected because they become discharge sites as well as the carriers of saline baseflow. Hillside seeps occur in the lower parts of the dissected landforms where bedrock highs or dolerite dykes obstruct the saline groundwater and bring it close to the surface causing seeps to develop (Overheu, 2002). Groundwater salinity ranges between 14000-35000 mg/L total dissolved solids in the area.
Flora	There are 30 flora species recorded within the local area, compromising of one Threatened, one Priority 1, three Priority 2, 19 Priority 3 and six Priority 4 flora species. The nearest record is Priority 3 species *Verticordia coronata*, located 0.91 kilometres from the application area. Of the 30 flora species, two (including *Verticordia coronata*) are found on the same soil type as the application area. See Appendix B.3 for further consideration.
Ecological communities	No Priority or Threatened ecological communities (PEC/TEC's) are found within the application area. The nearest PEC is the Eucalypt woodlands of the Western Australian Wheatbelt (Priority 3), located approximately 6.55 kilometres from the application area.

Characteristic	Details
Fauna	There are 15 conservation significant fauna species with 183 records in the local area, with the closest record being of the Western whipbird (*Psophodes nigrogularis*) located approximately 1.25 kilometres from the application area. There are no black cockatoo roost sites within the local area, but the local area is mapped within the Carnaby's distribution. See Appendix B.4 for further consideration.

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*					
Mallee	7,395,894.36	4,180,937.68	56.53	1,289,384.08	30.84
Vegetation complex					
Beard vegetation association Chidnup (1075) *	517,041.34	73,513.35	14.22	28,314.50	38.52
Local area					
20km radius	120,491.02	12,328.03	10.23	-	-

*Government of Western Australia (2019a)

B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix 0), and representative photographs provided by the applicant (Shire of Gnowangerup, 2023a and 2023b) (Appendix E), impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Acacia arcuatilis	2	N	5.11	2	N/A
Acacia mutabilis subsp. *incurva*	2	N	15.61	12	N/A
Acacia mutabilis subsp. *rhynchophylla*	3	N	16.69	2	N/A
Acacia newbeyi	3	N	13.36	1	N/A
Banksia drummondii subsp. *macrorufa*	2	N	18.18	5	N/A
Banksia meganotia	3	N	18.22	1	N/A
Banksia parva	4	N	1.66	8	N/A
Banksia porrecta	4	N	3.81	4	N/A
Bossiaea divaricata	4	N	13.12	3	N/A
Bossiaea spinosa	3	N	14.02	3	N/A
Brachyloma mogin	3	N	8.81	2	N/A
Calytrix nematoclada	3	N	19.27	1	N/A
Calytrix pulchella	3	N	2.38	5	N/A

Species name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Chorizema circinale	3	N	18.14	1	N/A
Commersonia rotundifolia	3	N	16.40	1	N/A
Eremophila veneta	4	N	13.94	8	N/A
Eucalyptus dissimulata subsp. *dissimulata*	4	N	18.04	4	N/A
Grevillea newbeyi	3	N	8.84	5	N/A
Hakea brachyptera	3	N	14.60	8	N/A
Lasiopetalum fitzgibbonii	3	N	19.60	2	N/A
Leucopogon florulentus	3	N	8.81	3	N/A
Leucopogon newbeyi	3	N	8.45	3	N/A
Melaleuca polycephala	3	N	9.06	5	N/A
Orthrosanthus muelleri	4	N	17.52	2	N/A
Persoonia brevirhachis	3	N	7.79	1	N/A
Synaphea drummondii	3	N	18.16	1	N/A
Thelymitra psammophila	T	N	14.72	1	N/A
Verticordia brevifolia subsp. *brevifolia*	3	N	0.80	7	N/A
Verticordia coronata	3	N	0.91	4	N/A
Xanthoparmelia scabrosina	1	N	2.32	2	N/A

B.4. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F.1), the habitat preferences and conservation status of the aforementioned species, the distribution and extent of existing records, and representative photographs provided by the applicant (Shire of Gnowangerup, 2022a, 2023) (Appendix D), the application area may provide suitable habitat for four conservation significant fauna species and impacts to these species required further consideration (see section 3.2.1 above).

Species name and Common name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Actitis hypoleucos (Common Sandpiper)	MI	N	9.05	2	N/A
Calidris acuminata (Sharp-tailed sandpiper)	MI	N	12.64	1	N/A
Calidris ferruginea (Curlew sandpiper)	CR	N	12.64	1	N/A
Calidris ruficollis (Red-necked stint)	MI	N	12.64	1	N/A
Calidris subminuta (Long-toed Stint)	MI	N	12.64	1	N/A
Leipoa ocellata (Malleefowl)	VU	MAY	0.42	96	N/A
Macrotis lagotis (Bilby, dalgyte, ninu)	VU	N	10.57	1	N/A
Notamacropus Irma (Western brush wallaby)	P4	MAY	2.85	4	N/A
Phascogale calura (Red-tailed phascogale, kenngoor)	CD	N	2.98	4	N/A
Platycercus icterotis xanthogenys (Western rosella (inland)	P4	MAY	9.75	1	N/A
Pseudomys occidentalis (Western ringtail possum, ngwayir)	P4	N	10.23	1	N/A
Psophodes nigrogularis (Western whipbird)	EN or P4	N	1.25	18	N/A
Psophodes nigrogularis oberon (Western whipbird (western mallee)	P4	N	5.62	39	N/A

Species name and Common name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
*Zanda latirostris (*Carnaby's cockatoo)	EN	N	11.23	4	N/A
Zanda sp. 'white-tailed black cockatoo'	EN	N	9.05	9	N/A

B.5. Land degradation risk table

Risk categories	(250Ny_3)
Wind erosion	L2: 3-10% of map unit has a high to extreme wind erosion risk
Water erosion	L1: <3% of the map unit has a moderate to high hazard
Salinity	L2: 3-10% of the map unit has a moderate or high hazard or is presently saline
Subsurface Acidification	M2: 30-50% of the map unit has a high susceptibility
Flood risk	L1: <3% of the map unit has a moderate to high hazard
Water logging	L1: <3% of the map unit has a moderate to high hazard
Phosphorus export risk	L1: <3% of the map unit has a moderate to high hazard

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 area proposed to be cleared does not contain any records of conservation significant flora, fauna or communities. However, it is considered for the vegetation to represent a degraded representation of a highly cleared beard vegetation association within an extensively cleared landscape. Therefore, the proposed clearing may impact on native vegetation that comprises a high level of biodiversity compared to the surrounding area.	Not likely to be at variance	Yes *Refer to Section 3.2.2, 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: It is unlikely that the application area contains significant habitat for any of the fifteen conservation significant fauna species recorded in the local area. In particular, the vegetation within the application area is not considered suitable habitat for *Leipoa ocellata* (Malleefowl) (VU), *Notamacropus Irma* (Western brush wallaby) (P4), *Phascogale calura* (Red-tailed phascogale, kenngoor) (CD) and *Platycercus icterotis xanthogenys* (Western rosella (inland) (P4). Noting the degraded (Keighery, 1994) condition of the vegetation, and that the application area is adjacent to a highly disturbed area, the area proposed to be cleared is unlikely to contain significant foraging, roosting, or breeding, habitat for conservation significant fauna.	Not likely to be 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: One Threatened flora species (*Thelymitra psammophila)* was recorded in the local area, however the application area does not support the same soil type	Not likely to be at variance	Yes *Refer to Section 3.2.2, above.*

Assessment against the clearing principles	Variance level	Is further consideration required?
and habitat requirements for this species. Given the extent of clearing is contained within a road reserve and the degraded (Keighery, 1994) condition of the vegetation, the proposed clearing is unlikely to contain habitat for threatened flora.		
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 distance to the nearest TEC to the application area is located approximately 6.53 kilometres away. The area proposed to be cleared is unlikely to contain vegetation to indicate that it is representative of a TEC.	Not likely to be at variance	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 and the native vegetation in the local area are below 30 per cent, which is inconsistent with the national objectives and targets for biodiversity conservation in Australia.	At variance	Yes *Refer to Section 3.2.3, 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: Given the distance to the nearest conservation area is approximately 250 metres away, and separated by a road and structures, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.	Not likely to be at variance	No
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: Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact an environment associated with a watercourse or wetland.	Not likely to be at variance	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 are moderately susceptible to subsurface acidification, which may be exacerbated by the clearing of vegetation. All other land degradation risks are low. Noting the extent of the application area and the condition of the vegetation, the proposed clearing is not likely to have an appreciable impact on land degradation.	Not likely to be at variance	Yes *Refer to Section 3.2.4, 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:	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Given the distance to the closest waterbody and the application area not being within a proclaimed area under the *RiWI Act*, the proposed clearing is unlikely to impact surface or ground water quality.		
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. Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging.	Not likely to be at variance	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. Representative photographs of the vegetation

Figure 2 and 3 – Representative photograph of application area (Shire of Gnowangerup, 2022a)

Figure 4 and 5 – Representative photograph of application area (Shire of Gnowangerup, 2022a)

Figure 6 – Representative photographs of application area (Shire of Gnowangerup, 2023b)

Appendix F. Mitigation calculator value justification

Field Name	Description	Justification
Area of impact (Habitat/community)	The area of community impacted	0.15 hectares of Chidup vegetation association in an extensively cleared landscape.
Quality of impact area	The quality score for area of community being impacted	3 - In a degraded to completely degraded (Keighery, 1994) condition from photographic evidence provided by the applicant
Time over which loss is averted	This describes the timeframe over which changes in the level of risk to the proposed mitigation site can be considered and quantified	20 - to be protected under conditions of the permit.
Time until ecological benefit	This described as estimated in time (in years) that it will take for the main benefit if the quality (community) improvement of the proposed mitigation to be realised.	10 years -Time until planted vegetation has matured enough to survival long-term.
Start area	The area of community proposed to mitigate the impacts	0.32 hectares - Total planting area required to counterbalance 100% impact of clearing is 0.32 hectares. This value was calculated by determining the percentage of impacts mitigated for the 0.15 ha area in the 'rehabilitation credit' section (step 2) of the calculator, and extrapolating the area required to counterbalance the impact by 100% in

		the offset section (step 3) of the calculator.
Start Quality	The quality score for the area of community proposed as mitigation – a measure of how a particular site supports a particular ecological community.	3- mitigation area is of the same condition as the application area and is considered to be in a degraded (Keighery, 1994) condition with high weed cover (determined by aerial imagery and observations of vegetation through google map's street view).
Future quality without mitigation	The predicted future quality score of the proposed mitigation site without the mitigation	3-It is considered that the quality of the vegetation within the mitigation planting area will not change.
Future quality with mitigation	The predicted future quality score of the proposed mitigation site with the mitigation	5 - The planting area quality is considered to improve from a degraded to a good condition with on ground management including weed control and planting of native species that represents the Chidup vegetation association.
Risk of loss without mitigation %	This describes the change that the community of at the proposed mitigation site will completely lost over the foreseeable future without the mitigation.	Risk of loss is 20% within road reserves
Risk of loss with mitigation %	This describes the change that the community of at the proposed mitigation site will completely lost over the foreseeable future with the mitigation.	20% - Risk of loss will stay the same
Confidence in results %	The level of certainty about the successful achievement of the proposed change in quality.	80% confidence of the result of the mitigation planting

Appendix G. Sources of information

G.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)
- Cadastre (L218)
- 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)
- 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

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

G.2 References

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Shire of Gnowangerup (2023a) *Supporting information for clearing permit application CPS 9870/1 including advice on planning approvals,* received 3 March 2023 (DWER Refs: DWERDT754807).

Shire of Gnowangerup (2023b) *Supporting information for clearing permit application CPS 9870/1 including representative photographs,* received 23 March 2023 (DWER Refs: DWERDT745502

Shire of Gnowangerup (2023c) *Supporting information for clearing permit application CPS 9870/1 including reduction in the size of clearing required from 0.75 ha to 0.15 ha.* Received 8 September 2023 (DWER Refs: DWERDT833404

Shire of Gnowangerup (2023d) *Supporting information for clearing permit application CPS 9870/1 including mitigation planting information.* Received 18 September and 6 October 2023 (DWER Refs: DWERDT837887 and DWERDT846318).

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