



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9762/1
Permit Holder:	BHP Nickel West Pty Ltd
Duration of Permit:	From 20 April 2023 to 20 April 2038

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

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of maintenance and expansion of the Leinster town site.

2. Land on which clearing is to be done

Lot Number	Locality
Lot 10 on Deposited Plan 215045 Lot 1002 on Deposited Plan 184485 Lot 1003 on Deposited Plan 215204 Lot 1006 on Deposited Plan 215205 Lot 1009 on Deposited Plan 215205 Lot 11 on Deposited Plan 215046 Lot 12 on Deposited Plan 215046 Lot 13 on Deposited Plan 215046 Lot 14 on Deposited Plan 215046 Lot 15 on Deposited Plan 215046 Lot 16 on Deposited Plan 215046 Lot 163 on Deposited Plan 30116 (Crown Reserve 46801) Lot 17 on Deposited Plan 215046 Lot 18 on Deposited Plan 215046 Lot 19 on Deposited Plan 215046 Lot 2 on Deposited Plan 215044 Lot 20 on Deposited Plan 215046 Lot 200 on Deposited Plan 215045 Lot 201 on Deposited Plan 215045 Lot 202 on Deposited Plan 215045 Lot 203 on Deposited Plan 215045 Lot 204 on Deposited Plan 215045	Leinster

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3. Clearing authorised

The permit holder must not clear more than 150 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

4. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 20 April 2033.

PART II – MANAGEMENT CONDITIONS

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

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

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

6. Weed 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.

7. Directional clearing

The permit holder must conduct clearing activities in a slow, progressive manner toward remnant vegetation to allow fauna to move into adjacent *native vegetation* ahead of the clearing activity.

8. Wind erosion management

The permit holder must commence town maintenance and expansion activities no later than three (3) months after undertaking the authorised clearing activities to reduce the potential for wind erosion.

9. Vegetation management – watercourse and drainage line surface flow

The Permit Holder must maintain the existing surface flow of any *watercourse* or *drainage line* that is to be impacted by the authorised clearing.

10. Flora management

- (a) Prior to undertaking any clearing authorised under this Permit, the permit holder must demarcate the flora (*Eucalyptus kingsmillii* x *oldfieldii*) identified within the report *Leinster Townsite Flora, Vegetation and Fauna Assessment, prepared for BHP Billiton Nickel West, 2021* (Biota Environmental Sciences, January 2021)’ at the locations in Table 1 below:

Species	Easting (mE)	Northing (mN)	Number of Individuals
<i>Eucalyptus kingsmillii</i> x <i>oldfieldii</i>	272470	6910217	1
<i>Eucalyptus kingsmillii</i> x <i>oldfieldii</i>	272440	6910237	1
<i>Eucalyptus kingsmillii</i> x <i>oldfieldii</i>	272469	6910244	1

- (b) The permit holder shall not cause or allow the clearing of any *Eucalyptus kingsmillii* x *oldfieldii* individuals.

11. Revegetation and rehabilitation (temporary works)

For any clearing for *temporary works* under this Permit, the Permit Holder shall:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area(s) that has already been cleared.

- (b) At an *optimal time* within 12 months following the completion of works authorised under this Permit, *revegetate* and *rehabilitate* the area(s) that are no longer required for the purpose for which they were cleared under this Permit by:
 - (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land;
 - (ii) ripping the ground on the contour to remove soil compaction; and
 - (iii) laying the vegetative material and topsoil retained under condition 11(a) on the cleared area(s) no longer required for the purpose for which they were cleared under this Permit.
- (c) within 24 months of laying the vegetative material and topsoil on the cleared area(s) in accordance with condition 11(b) of this Permit:
 - (i) engage an *environmental specialist* to determine the species composition, structure and density of the area(s) *revegetated* and *rehabilitated*; and
 - (ii) engage an *environmental specialist* to determine as to whether or not the composition structure and density determined under condition 11(c)(i) of this Permit will, without further *revegetation*, result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area(s).
- (d) If the determination made by the *environmental specialist* under condition 11(c)(ii) is that the composition structure and density determined under condition 11(c)(i) of this Permit will not, without further *revegetation*, result in a similar species composition, structure and density to the of pre-clearing vegetation types in that area(s), the Permit Holder shall *revegetate* the area(s) by deliberately *planting* and/or *seeding local provenance native vegetation* that will result in a similar species composition, structure and density of *native vegetation* to pre-clearing vegetation types in that area(s).
- (e) Where additional planting or *direct seeding* of *native vegetation* is undertaken in accordance with condition 11(c) of this Permit, the Permit Holder shall repeat the activities required by condition 11(c) and 11(d) within 24 months of undertaking the additional *planting* or direct seeding of native vegetation.
- (f) Where a determination is made by an *environmental specialist* under condition 11(c)(ii) that the composition structure and density within area(s) *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area(s), that determination shall be submitted to the *CEO* within three months of the determination being made by the *environmental specialist*.
- (g) During the next *optimal time* occurring after receiving notice from the *CEO*:
 - (i) stating that the *CEO* disagrees with the determination submitted under condition 11(f); and
 - (ii) specifying that required further *planting* of *local provenance* propagating material and/or *direct seeding* of *local provenance* seeds that in the *CEO*'s reasonable opinion are necessary to ensure that the *native vegetation* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area(s), the Permit Holder must carry out the further *planting* and/or *direct seeding* specified in the notice.

PART III - RECORD KEEPING AND REPORTING

12. 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 2.

Table 2: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	<ul style="list-style-type: none"> (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 1994/2020 (GDA94/GDA2020), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 5; (f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> in accordance with condition 6; (g) actions taken in accordance with condition 7; (h) actions taken in accordance with condition 8; (i) actions taken in accordance with condition 9;
2.	In relation to flora management pursuant to condition 10	<ul style="list-style-type: none"> (a) actions taken to demarcate each flora species recorded; and (b) actions taken to avoid the clearing of flora species.
3.	In relation to the <i>revegetation</i> and <i>rehabilitation</i> of areas pursuant to condition 11 of this Permit.	<ul style="list-style-type: none"> (a) the location of any areas <i>revegetated</i> and <i>rehabilitated</i>, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994/2020 (GDA94/2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees; (b) a description of the <i>revegetation</i> and <i>rehabilitation</i> activities undertaken; (c) the size of the area(s) <i>revegetated</i> and <i>rehabilitated</i> (in hectares); (d) the date that the area(s) was <i>revegetated</i> and <i>rehabilitated</i>; and (e) action and timing of remedial actions undertaken within the area(s) that was <i>revegetated</i> and <i>rehabilitated</i> where the <i>revegetation</i> and <i>rehabilitation</i> will not result in a similar species composition, structure and density to that of pre-clearing vegetation type in that area(s).

13. Reporting

- (a) The permit holder must provide to the *CEO*, on or before 1 September of each calendar year, a written report containing:
- (i) the records required to be kept under condition 12; and
 - (ii) records of activities done by the permit holder under this permit between 1 July and 30 June 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 1 September 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 12, where these records have not already been provided under condition 13(a).

DEFINITIONS

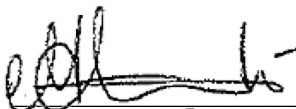
In this permit, the terms in Table have the meanings defined.

Table 3: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
direct seeding	means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species.
Drainage line	means a natural depression that carries surface water runoff.
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;
EP Act	<i>Environmental Protection Act 1986</i> (WA)
fill	means material used to increase the ground level, or to fill a depression.
local provenance	means native vegetation seeds and propagating material from natural sources within 200 kilometres and the same IBRA subregion of the area cleared;

Term	Definition
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 April to May for undertaking planting and direct seeding;
planting	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;
rehabilitate	means actively managing an area containing native vegetation in order to improve the ecological function of that area;
revegetate, revegetated and revegetation	means the re-establishment of a cover of native vegetation in an area such that the species composition, structure, density and condition is similar to pre-clearing vegetation types in that area, and can involve regeneration, direct seeding and/or planting;
site preparation	means management of existing site topsoil and preparation of the finished soil surface, for example by ripping or tilling the soil surface and respreading site topsoil and chipped native vegetation;
temporary works	means access tracks, spoil areas, side tracks, site offices, storage areas, laydown areas, extraction sites, camps, project surveys, pre-construction activities, and similar works associated with a project activity that are temporary in nature.
watercourse	Has the meaning given to it in section 3 of the <i>Rights in Water and Irrigation Act 1914</i> .
weeds	means any plant – <ul style="list-style-type: none"> (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i>; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS



Meenu Vitarana
Manager

NATIVE VEGETATION REGULATION

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

27 March 2023

Schedule 1

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

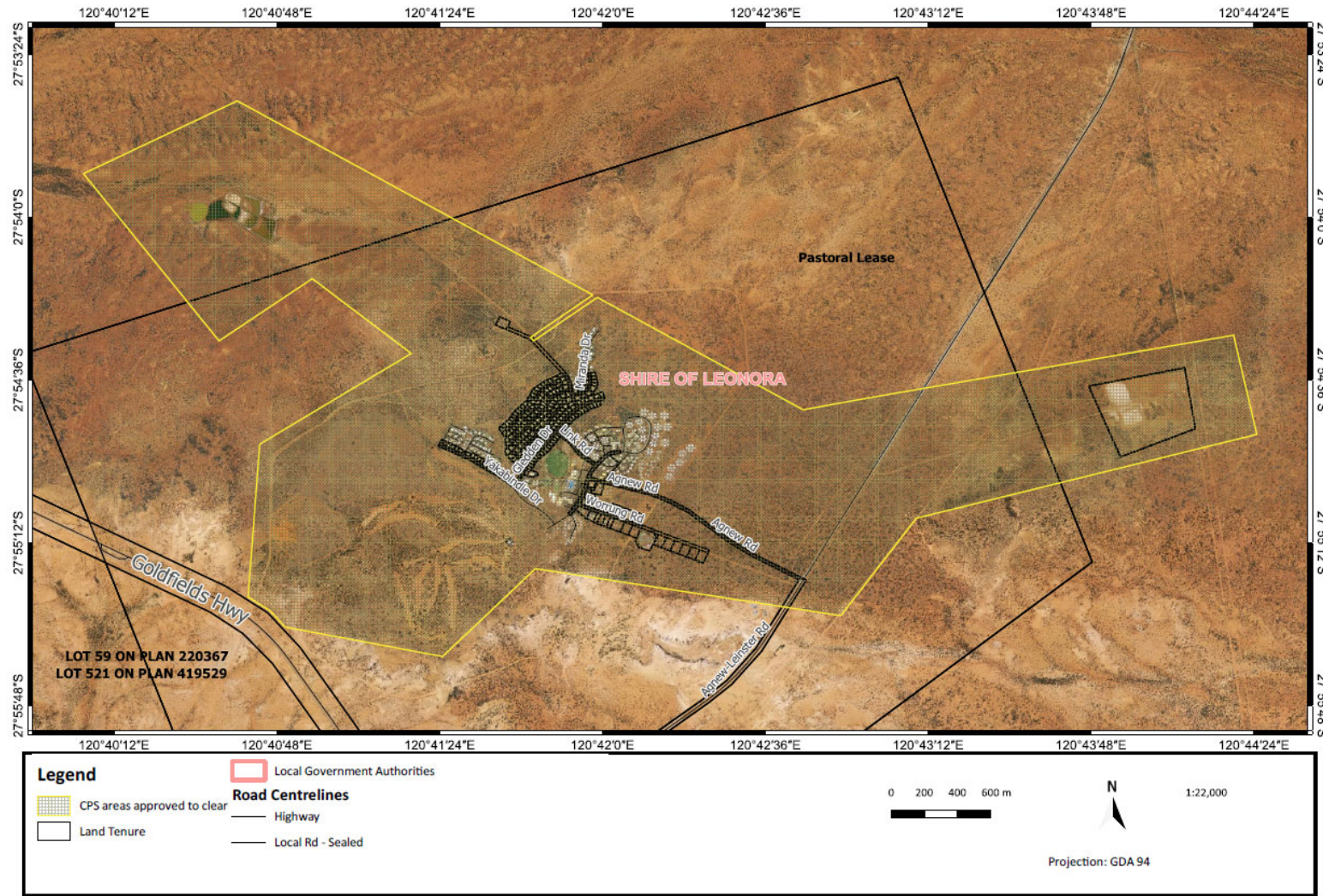


Figure 1: Map of the boundary of the area within which clearing may occur



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9762/1
Permit type:	Purpose permit
Applicant name:	BHP Nickel West Pty Ltd
Application received:	3 June 2022
Application area:	150 hectares of native vegetation (within a footprint of 1069 hectares)
Purpose of clearing:	Maintenance and expansion of the Leinster town site
Method of clearing:	Mechanical
Property:	Lot 10 on Deposited Plan 215045 Lot 1002 on Deposited Plan 184485 Lot 1003 on Deposited Plan 215204 Lot 1006 on Deposited Plan 215205 Lot 1009 on Deposited Plan 215205 Lot 11 on Deposited Plan 215046 Lot 12 on Deposited Plan 215046 Lot 13 on Deposited Plan 215046 Lot 14 on Deposited Plan 215046 Lot 15 on Deposited Plan 215046 Lot 16 on Deposited Plan 215046 Lot 163 on Deposited Plan 30116 (Crown Reserve 46801) Lot 17 on Deposited Plan 215046 Lot 18 on Deposited Plan 215046 Lot 19 on Deposited Plan 215046 Lot 2 on Deposited Plan 215044 Lot 20 on Deposited Plan 215046 Lot 200 on Deposited Plan 215045 Lot 201 on Deposited Plan 215045 Lot 202 on Deposited Plan 215045 Lot 203 on Deposited Plan 215045 Lot 204 on Deposited Plan 215045 Lot 205 on Deposited Plan 215045 Lot 206 on Deposited Plan 215045 Lot 207 on Deposited Plan 215045 Lot 208 on Deposited Plan 215045 Lot 209 on Deposited Plan 215045 Lot 210 on Deposited Plan 215045 Lot 211 on Deposited Plan 215045 Lot 212 on Deposited Plan 215045 Lot 213 on Deposited Plan 215045 Lot 214 on Deposited Plan 215045 Lot 215 on Deposited Plan 215045 Lot 216 on Deposited Plan 215045 Lot 217 on Deposited Plan 215045 Lot 218 on Deposited Plan 215045 Lot 219 on Deposited Plan 215045 Lot 220 on Deposited Plan 215045

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Location (LGA area/s): Shire of Leonora

Localities (suburb/s): Leinster

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area (see Figure 1, Section 1.5). The application is to clear native vegetation for disturbance associated with activities required for the maintenance of, or expansion at, the town site. Including clearing activities required for, but not limited to, infrastructure, drainage, services, roads / access tracks, buildings, waste management, commercial and recreational activities, and laydown areas. The proposed clearing is for up to 150 hectares within a footprint of 1069 hectares.

1.3. Decision on application

Decision: Granted

Decision date: 24 March 2023

Decision area: 150 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 Appendix A), relevant datasets (see Appendix E.1) the findings of a flora, fauna and vegetation survey (see Appendix D), the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing will result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values
- potential land degradation in the form of wind erosion.
- impacts to individual fauna if present at the time of clearing
- loss of flora species considered highly unusual
- obstruction to surface water flow of non-perennial watercourse

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 appreciable land degradation or have long-term adverse impacts on biological values of flora or fauna and can be minimised and managed to unlikely lead to an unacceptable risk to environmental values.

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
- staged clearing to minimise wind erosion
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity
- rehabilitation of all temporary clearing activities
- avoidance of one species of flora
- maintaining surface water flow of any watercourse

1.5. Site maps

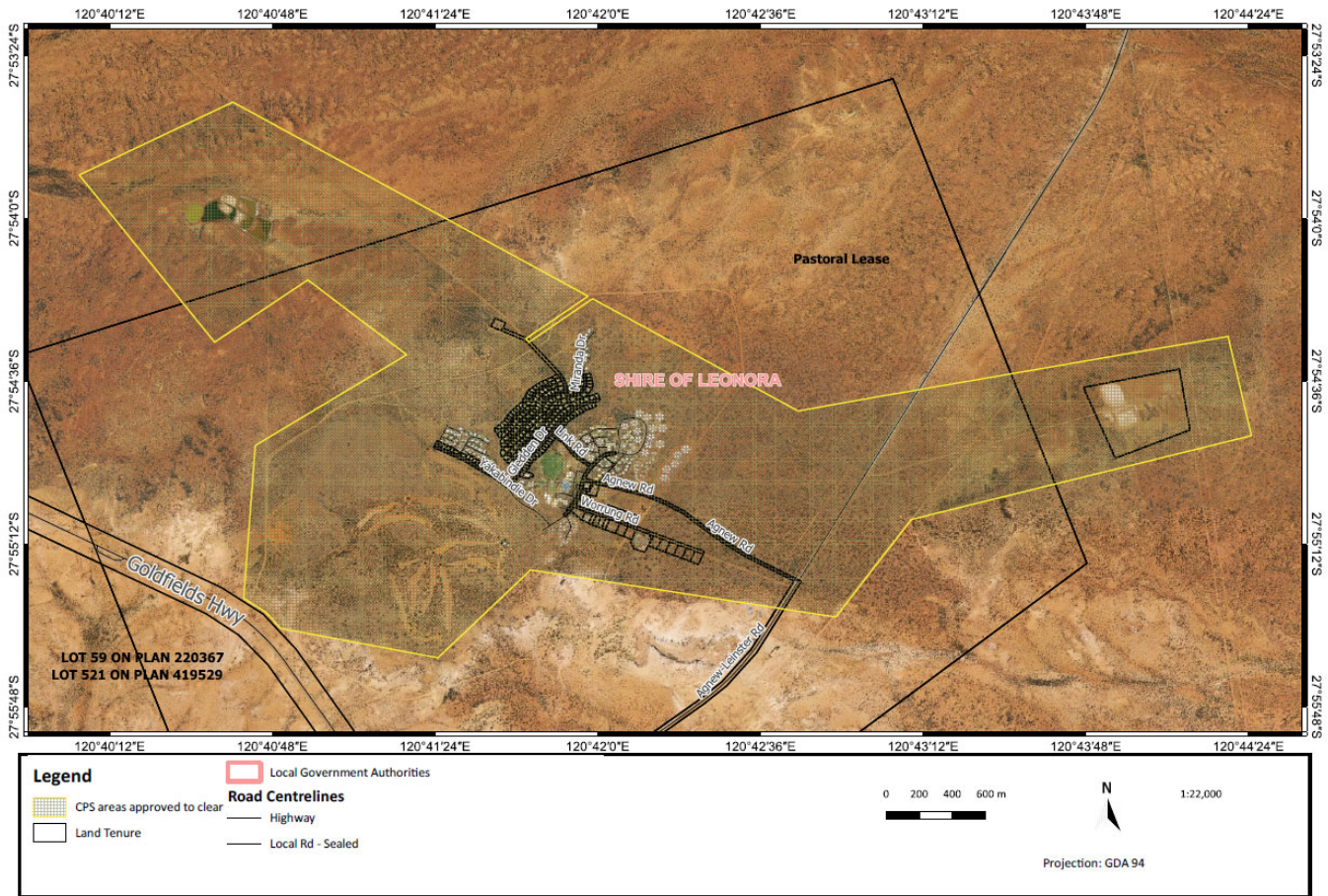


Figure 1 Map of the application area

The areas crosshatched yellow indicate 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)

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

Evidence was submitted by the applicant, demonstrating the following avoidance and mitigation measures have been considered (BHP Nickel West, 2022):

- Where practical, BHP Nickel West (BHP NiW) will utilise previously disturbed areas rather than clearing native vegetation. Where clearing is unavoidable it will be minimised as far as practical.
- Prior to any land disturbance an internal Environmental and Heritage Impact Assessment (EHIA) process will be undertaken to ensure that alternatives to clearing and minimisation of the clearing footprint has been considered.
- All temporary areas of clearing are progressively and immediately rehabilitated within six months of that area no longer being required, unless otherwise approved by the department in writing.
- No soil will be removed from the proposed native vegetation clearing permit area. Topsoil will be stockpiled and reused for landscaping/rehabilitation where practical.
- Clearing and topsoil to be managed in accordance with BHP NiW Topsoil Stripping and Handling Procedure
- Clearing will not occur more than two months ahead of planned ground disturbance/use, unless otherwise approved the department in writing.

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 Appendix A) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix B) identified that the impacts of the proposed clearing present a risk to fauna, adjacent flora and vegetation, unique flora, land degradation and surface water quality. 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 and fauna) - Clearing Principles (a, b, c)

Assessment – Flora

The survey recorded eight vegetation units within the study area with condition and extents reported in Table 1 below. The full descriptions and mapping available in Appendix D.

Table 1: vegetation types and condition (Biota Environmental Sciences, 2021)

Vegetation type	Condition	Extent (hectares) and proportion (per cent)
hardpan Mulga shrubland	Very good	303.7 hectares (28 per cent)
sandplain Mulga	Excellent	117.0 hectares (11 per cent)
broad drainage Wanderrie <i>Acacia</i> banks:	Excellent	97.3 hectares (9 per cent)
sand plain Spinifex hummock grassland with Wattles	Excellent	95.9 hectares (9 per cent)
sandplain <i>Eucalyptus gongylocarpa</i> woodland over Spinifex hummock grassland	Excellent	95.3 hectares (9 per cent)
stony <i>Acacia eremophila</i> shrubland-	Excellent	61.3 hectares (6 per cent)
drainage line Mulga shrubland	Very good	83.6 hectares (8 per cent)
granite outcrop stony Mulga shrubland	Very good	31.3 hectares (3 per cent)
Cleared	N/A	176.7 hectares (16 per cent)
Disturbed	Poor to degraded	10.6 hectares (1 per cent)

The survey noted 134 native flora species from 70 genera and 30 families were recorded in the study area. The species richness and composition are typical of the locality and is similar to study areas of comparable size. No threatened or priority flora were recorded in the study area (Biota Environmental Sciences, 2021)

The survey noted the following flora species were considered likely to occur (may occur) based on the habitat preferences of the species:

- *Korthalsella leucothrix* (Priority 1)
- *Eremophila pungens* (Priority 4)
- *Grevillea inconspicua* (Priority 4)
- *Hemigenia exilis* (Priority 4)

While the species listed above were not recorded within the survey, the report noted the three priority four species would have been identified if present during the survey. Additionally, given extensive habitat exists in the local area for these species, any missed occurrences would not be considered significant.

The species *Korthalsella leucothrix* is known from 14 records within available databases and is known as a parasitic species with host plants typically being *Acacia acuminata*. The species has been recorded across three IBRA regions (Gibson Desert, Murchison, and Yalgoo) with the closest record to the application area being approximately 19 kilometres south. While habitat for this species is present within the application area, no individuals were recorded.

Two species of interest were recorded: *Eucalyptus kingsmillii* x *oldfieldii* and *Prostanthera* sp. Bullimore Sandplain (G. Cockerton & G. O'Keefe WB32777) within the survey.

Eucalyptus kingsmillii x *oldfieldii*

The survey recorded three individuals of a hybrid mallee eucalypt, *Eucalyptus kingsmillii* x *oldfieldii*, were found in Sandplain *Eucalyptus gongylocarpa* woodland over Spinifex hummock grassland vegetation type at one location within the survey area. The species is a mallee and represents the second location where these two species have been recorded as hybridising: this cross was previously observed during the Koonoonooka sand quarry development project (Western Botanical 2020) and is considered highly unusual (Biota Environmental Sciences, 2021). Given all three individuals are located at one location, and despite the species not being listed as conservation significant species, the avoidance of the three individuals is considered an appropriate measure for their protection.

Prostanthera sp. Bullimore Sandplain (G. Cockerton & G. O'Keefe WB32777)

The survey recorded 35 individuals of this species primarily within the deep sands associated with the Sandplain *Eucalyptus gongylocarpa* woodland over Spinifex hummock grassland vegetation type and Sand plain Spinifex hummock grassland with wattles vegetation type. Previously identified as *Prostanthera althoferi* subsp. *althoferi*, Western Botanical recorded this shrub species extensively around Yeelirrie, Mt Keith, and Leinster (Western Botanical 2011). This species is yet to be formally described and currently still sits within *Prostanthera althoferi*. Given the species is not yet described, its significance cannot be assumed.

The applicant advised that it had targeted *Prostanthera* sp. Bullimore Sandplain (G. Cockerton & G. O'Keefe WB32777) during survey since it was collected by Western Botanical as a collection of interest. As collections have been made across varied habitat on BHP Nickel West's tenements, a genetic study to better understand the potential conservation significance of this phrase name collection was commissioned. Biologic has still to complete the genome skimming and to finalise their conclusion on the taxon. However, they have provided preliminary results, and it indicates *P. althoferi* and *P. sp.* Bullimore Sandplain are in fact the same species (BHP, 2023).

Noting the above and that *Prostanthera* sp. Bullimore Sandplain is not a recognised tax on FloraBase, no management conditions for this species is considered necessary.

Assessment – Fauna

The survey noted four naturally occurring fauna habitats and one artificial fauna habitat within the survey area (1069 hectares). The fauna habitats were characterised by the vegetation types, landforms, and soils. The dominant habitat type is described as plains habitat. The composition and areas are described below:

Table 2: Habitat descriptions and area from (Biota Environmental Sciences, 2021)

Habitat type	Description	Area (hectares)
Hardpan mulga shrubland.	Stony to hardpan plains with open shrublands, may include tussock grasses. Tall open shrublands dominated by <i>Acacia aneura</i> (sens. lat.) and <i>A. mulganeura</i> over a scattered low shrubland dominated by <i>Eremophila</i> spp. Over scattered grasses and herbs (<i>Aristida</i> and <i>Euphorbia</i> sp.).	365 (34 per cent)
Sandplain with <i>Eucalyptus</i> and <i>Acacia</i> woodlands over shrubs and spinifex grassland.	Low open woodland of <i>Eucalyptus</i> spp., <i>Acacia aneura</i> and <i>A. quadrimarginea</i> over an open shrubland dominated by <i>Eremophila</i> spp. Over <i>Triodia basedowii</i> . Upper strata ranging from woodland to open shrubland.	308.1 (28.7 per cent)
Drainage line mulga shrubland	Low woodland of scattered to moderately close <i>Acacia aneura</i> . Mid-storey of <i>Eremophila</i> spp. and lower stratum of herbs and grasses including Wanderrrie <i>Acacia</i> banks.	180.9 (16.9 per cent)
Granite outcrop stony mulga shrubland.	For the most part outcrop was limited to gravel and smaller rocks on the surface but included a minor area of more substantial rock habitat on the edge of the study area, south of the townsite (see photograph). Tall <i>Acacia</i> spp. Shrubland over scattered other shrub species, herbs, and grasses.	31.3 (2.9 per cent)
Man-made dam consisting of multiple waterbodies of varying depths.	Fringed by low open shrubland of <i>Acacia</i> over scattered grasses and chenopods.	10.7 (1.0 per cent)
Cleared/Disturbed		176.7 (16 per cent)
Wastewater ponds		10.7

The survey included targeted searches for species considered likely to occur. Likelihood assessments for fauna species considered brush-tailed mulgara was likely to occur and the following species may occur; long-tailed dunnart, Rufous (sandhill) grass wren, peregrine falcon, common sandpiper, common greenshank gull-billed tern, oriental plover.

The survey recorded 53 vertebrate species through direct observation or secondary evidence. The species recorded included five mammal species, 43 bird species and five reptile species. None of the species recorded are conservation significant species.

The survey noted the fauna of the East Murchison is diverse but typified by low levels of endemism (Cowan 2003) and all the species of significance having potential to occur within the study area have large distributions, generally extending outside the East Murchison subregion. Persistence of these species locally is not dependent on habitats within the study area, which are all continuous beyond its boundary (Biota Environmental Sciences, 2021).

The survey completed considered only vertebrate fauna species and therefore has not considered *Kwonkan moriartii* (Moriarty's trapdoor spider). According to available databases, the species has been recorded just three times from the local area. The habitat requirements of the species are not well-known. It could be assumed the application area provides some habitat for the species but noting the local area contains similar landforms, soil, and vegetation types, it is considered the species could also occur outside of the application area.

Conclusion

The survey effort noted no recordings of conservation significant flora or fauna species. However, impacts to individual fauna could occur if they are present at the time of clearing.

One flora species of unique value, *Eucalyptus kingsmillii* x *oldfieldii*, while not conservation significant flora, noting it is a rarely recorded hybrid and given the flexibility of the proposed clearing, impacts to this species can be minimised.

Conditions

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

- slow directional clearing to allow fauna species to move into other vegetated areas ahead of clearing
- avoiding clearing of all recorded *Eucalyptus kingsmillii* x *oldfieldii*

3.2.2. Land and water resources (land degradation and surface water) - Clearing Principles (g) and (i)

Assessment

The presence of the mapped minor perennial watercourse indicates the proposed clearing may cause deterioration in the quality of surface water if the watercourse is running at the time of clearing and if clearing occurs within the watercourse, however this is likely to be temporary.

The sand and gravel soil types within the application area are not considered high risk of water logging, water erosion or flooding due to the low rainfall of the area and the free draining nature of these soil types. The exposed surfaces may be susceptible to wind erosion if left exposed for prolonged periods of time.

Conclusion

Based on the above assessment, the proposed clearing may result in deterioration of surface water if clearing occurs on the minor watercourse at a time of flow and wind erosion could occur if soils are left exposed for a long duration.

Conditions:

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

- maintain water flow of any intersecting watercourse or drainage line
- clearing native vegetation to occur only when construction will commence within the following three months
- rehabilitation and rehabilitation conditions for temporary works

3.3. Relevant planning instruments and other matters

The Shire of Leonora advised DWER that local government approvals are not required. The Shire did not have any objections to the proposed clearing (Shire of Leonora, 2022).

An Aboriginal site of significance has been mapped within the application area (Leinster Downs 4, lodged site: place ID: 2840). 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.

Internal advice was received from the Contaminated Sites branch of DWER which noted the application area intersects Lot 995 on Deposited Plan 184483 which has been classified as 'possibly contaminated investigation required' under the *Contaminated Sites Act 2003*. The site is currently used as a non-domestic wastewater treatment plant, which is a potentially contaminating activity. The advice noted the subject area is mostly devoid of native vegetation and the proposed clearing is not expected to impact the status of contamination.

Internal advice was received under the *Rights in Water and Irrigation Act 1914 (RIWI Act)* as the application area is in the Goldfields Groundwater Area as proclaimed under the RIWI Act. The advice noted that a 26d and 5c licence to construct a well and to take water may be required if the applicant requires to take groundwater for various purposes.

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It encompasses the town of Leinster and its associated infrastructure</p> <p>Spatial data indicates the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains at least 90 per cent of the original native vegetation cover.</p>
Ecological linkage	The application area does not intersect any mapped ecological linkages.
Conservation areas	The closest conservation area to the application area is Wanjarri Nature Reserve, approximately 44 kilometers north.
Vegetation description	<p>Vegetation survey (Biota Environmental Sciences, 2021) indicate the vegetation within the proposed clearing area consists of eight different vegetation types.</p> <ul style="list-style-type: none"> • hardpan mulga shrubland • sandplain mulga • broad drainage Wanderrie <i>Acacia</i> banks: • sand plain Spinifex hummock grassland with Wattles • sandplain <i>Eucalyptus gongylocarpa</i> woodland over spinifex hummock grassland • stony <i>Acacia Eremophila</i> shrubland • drainage line mulga shrubland • granite outcrop stony mulga shrubland <p>Representative photos and the full survey descriptions and maps are available in Appendix D.</p> <p>This is consistent with the mapped vegetation type:</p> <ul style="list-style-type: none"> • Beard 18, which is described as Low woodland; mulga (<i>Acacia aneura</i>) (Shepherd et al, 2001) <p>The mapped vegetation type retains approximately 99 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Vegetation survey (Biota Environmental Sciences, 2021) indicate the vegetation within the proposed clearing area is in very good to excellent (Trudgen, 1991) condition, described as:</p> <ul style="list-style-type: none"> • Excellent condition - Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement. • Very good condition - Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks <p>The full Trudgen (1991) condition rating scale is provided in Appendix C. Representative photos and full survey descriptions and mapping are available in Appendix D.</p>
Climate and landform	<p>The annual average rainfall is 251 millimetres as taken from Leinster Aero (BOM, 2022).</p> <p>The elevation across the application area varies from 520 meters AHD to 490 meters AHD.</p>
Soil description	<p>The application area occurs within three mapped soil types:</p> <ul style="list-style-type: none"> • Bullimore System described as: gently undulating sandplain with occasional linear dunes and stripped surfaces supporting spinifex grasslands with mallees and acacia shrubs. • Gransal System described as: stony plains and low rises based on granite supporting mainly halophytic low shrublands.

Characteristic	Details
	<ul style="list-style-type: none"> Tiger System, described as: gravelly hardpan plains and sandy banks with mulga shrublands and wanderrie grasses.
Land degradation risk	<p>Bullimore System – can be susceptible to erosion if vegetation is removed.</p> <p>Gransal System – foot slopes and alluvial plains can be moderately to highly susceptible to water erosion.</p> <p>Tiger System - This land system is generally not susceptible to soil erosion</p>
Waterbodies	The desktop assessment and aerial imagery indicated that a number of minor nonperennial watercourses intersect the application area.
Hydrogeography	<p>The application area is within the Goldfields Groundwater Area as proclaimed under the <i>RIVI Act 1914</i>.</p> <p>The mapped groundwater salinity is 0 – 1000 milligrams per litre which is considered fresh.</p>
Flora	According to available databases, nine flora species have been recorded within the local area. The most frequently recorded is <i>Thryptomene</i> sp. Leinster (B.J. Lepschi & L.A. Craven 4362) which is known from six occurrences within the local area. One recording of <i>Thryptomene</i> sp. Leinster (B.J. Lepschi & L.A. Craven 4362) has been recorded within the application area.
Ecological communities	According to available databases, there are no mapped occurrences of ecological communities within the local area. The closest is located over 20 kilometres from the application area and is known as Lake Miranda west calcrete groundwater assemblage types on Carey palaeodrainage on Yakabindie Station.
Fauna	Available databases showed no fauna records within the local area. An extended search using a 50-kilometre radius of the application area yielded nine species of conservation fauna with the most frequently recorded being the brush-tailed mulgara which has been recorded three times.

A.2. Flora analysis table

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

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (local area)	Are surveys adequate to identify? [Y, N, N/A]
<i>Grevillea inconspicua</i>	4	N	Y	N	7.7	2	Y
<i>Thryptomene</i> sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	3	Y	Y	Y	0	6	Y
<i>Lysiandra baeckeoides</i>	3	Y	N	N	9.03	2	Y
<i>Eremophila pungens</i>	4	Y	Y	Y	6.9	5	Y
<i>Hemigenia exilis</i>	4	Y	Y	N	4.8	1	Y
<i>Korthalsella leucothrix</i>	1	Y	Y	Y	18.5	1	Y
<i>Sauropus</i> sp. Woolgorong (M. Officer s.n. 10/8/94)	3	Y	Y	N	10.2	1	Y
<i>Thryptomene nealensis</i>	3	Y	Y	N	13.7	5	Y
<i>Verticordia jamiesonii</i>	3	Y	Y	Y	0.02	2	Y

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

A.3. Fauna analysis table

The following species have been recorded within a 50-kilometer radius of the application area.

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 (in 50km radius)	Are surveys adequate to identify? [Y, N, N/A]
<i>Tringa nebularia</i> (Common greenshank)	MI	Y	Y	38.7	1	Y
<i>Dasyercus blythi</i> (brush-tailed mulgara)	P4	Y	Y	41.6	3	Y
<i>Falco peregrinus</i> (peregrine falcon)	OS	Y	Y	36	1	Y
<i>Kwonkan moriartii</i> (Moriarty's trapdoor spider)	P2	Y	Y	45.3	1	N
<i>Leipoa ocellata</i> (malleefowl)	VU	Y	Y	29.17	1	Y
<i>Leporillus conditor</i> (greater stick-nest rat)	CD	Y	Y	49.8	1	Y
<i>Dasyercus</i> sp. (Mulgara)	P4	Y	Y	49.8	2	Y

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

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared does not contain locally or regionally significant fauna, habitats, assemblages of plants.</p> <p>A survey undertaken found two species of flora which while are not listed as conservation significant, are of value.</p>	May be at variance	Yes Refer to Section 3.2.1 above.
<p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain critical or significant habitat for conservation significant fauna. Given the extent of vegetation within the local area, the habitat types surveyed are considered well represented locally and regionally. However there is the potential to have impacts to individual fauna at the time of clearing.</p>	May be at variance	Yes Refer to Section 3.2.1, above.
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is unlikely to contain habitat for flora species listed under the BC Act. A survey undertaken within the application area noted no threatened flora were located within the survey effort and records of threatened flora at an extended distance did not have suitable habitat within the application area.</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain species that can indicate a threatened ecological community.</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The extent of the mapped vegetation type and the native vegetation in the local area 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.</p>	Not likely to be at variance	No
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p>	Not 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 not likely to have an impact on the environmental values of conservation areas.		
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>Although minor non-perennial watercourses are within the application area, the low rainfall of the area suggests the vegetation within the application area does not grow in association with the minor watercourse. Additionally, no wetlands are recorded within the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality.</p>	Not at variance	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u> The surveyed soils are slightly susceptible to wind erosion if left exposed.</p>	May be at variance	Yes Refer to Section 3.2.2, above.
<p><u>Principle (i):</u> <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.”</i></p> <p><u>Assessment:</u></p> <p>Given the application area intersects a minor nonperennial river, the proposed clearing may impact surface water quality if the watercourse is flowing at the time of clearing.</p> <p>The proposed clearing is not expected to impact the quality of groundwater.</p>	May be at variance	Yes Refer to Section 3.2.2, above.
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>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.</p> <p>Given the sandy soils of the application area and the low rainfall, the proposed clearing is unlikely to contribute to waterlogging.</p>	Not likely to be at variance	No

Appendix C. Vegetation condition rating scale

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

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

Condition	Description
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires, or aggressive weeds.
Very poor	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

Appendix D. Biological survey information excerpts

Vegetation Unit Code	Vegetation Type	Vegetation Association (NVIS Level V)	Vegetation Condition	Extent (ha) / Proportion
HPMS	Hardpan Mulga shrubland	<i>Eucalyptus leptopoda</i> subsp. <i>elevata</i> scattered low trees over <i>Acacia incurvaneura</i> , <i>A. aneura</i> , <i>A. mulganeura</i> tall shrubland over <i>Eremophila latrobei</i> subsp. <i>latrobei</i> , <i>E. forrestii</i> subsp. <i>forrestii</i> , <i>E. foliosissima</i> open shrubland over <i>Triodia basedowii</i> scattered hummock grasses.	Very Good	303.7 (28%)
SAMA	Sandplain Mulga - Mallee shrubland over Spinifex hummock grassland	<i>Eucalyptus lucasii</i> , <i>E. horistes</i> low woodland over <i>Acacia aneura</i> , <i>A. aptaneura</i> , <i>A. craspedocarpa</i> tall shrubland over <i>Eremophila forrestii</i> subsp. <i>forrestii</i> , <i>E. latrobei</i> subsp. <i>latrobei</i> open shrubland over <i>Triodia basedowii</i> open hummock grassland.	Excellent	117.0 (11%)
WABS	Broad drainage Wanderie Acacia banks	<i>Acacia incurvaneura</i> , <i>A. mulganeura</i> , <i>A. ramulosa</i> var. <i>linophylla</i> tall shrubland over <i>Eremophila foliosissima</i> , <i>E. forrestii</i> subsp. <i>forrestii</i> , <i>Solanum lasiophyllum</i> low open shrubland over <i>Eragrostis eriopoda</i> , <i>Eriachne helmsii</i> , <i>Thyridolepis mitchelliana</i> very open hummock grassland.	Excellent	97.3 (9%)
SAWS	Sand plain Spinifex hummock grassland with Wattles	<i>Eucalyptus oldfieldii</i> , <i>E. kingsmillii</i> low open woodland over <i>Acacia effusifolia</i> , <i>A. longispinea</i> tall shrubland over <i>Triodia basedowii</i> open hummock grassland.	Excellent	95.9 (9%)
SAGS	Sandplain <i>Eucalyptus gongylocarpa</i> woodland over Spinifex hummock grassland	<i>Eucalyptus gongylocarpa</i> , <i>E. oldfieldii</i> low woodland over <i>Acacia effusifolia</i> , <i>A. jamesiana</i> tall open shrubland over <i>Eremophila forrestii</i> subsp. <i>forrestii</i> , <i>Senna artemisioides</i> subsp. <i>filifolia</i> , <i>Scaevola spinescens</i> (spiny, narrow leaf variant) open shrubland over <i>Triodia basedowii</i> and <i>Eriachne helmsii</i> open hummock and tussock grassland.	Excellent	95.3 (9%)
SAES	Stony Acacia <i>Eremophila</i> shrubland	<i>Acacia aneura</i> , <i>Eremophila ramiflora</i> , <i>Acacia aptaneura</i> tall open shrubland over <i>Acacia tetragonophylla</i> <i>Eremophila latrobei</i> subsp. <i>latrobei</i> scattered shrubs, over <i>Ptilotus obovatus</i> , <i>Solanum lasiophyllum</i> scattered low shrubs over <i>Eriachne mucronata</i> , <i>Eragrostis eriopoda</i> , <i>Thyridolepis mitchelliana</i> scattered tussock grasses.	Excellent	61.3 (6%)
DRMS	Drainage line Mulga shrubland	<i>Acacia aneura</i> , <i>A. aptaneura</i> tall shrubland over <i>Eriachne pulchella</i> subsp. <i>pulchella</i> , <i>Thyridolepis mitchelliana</i> open tussock grassland and <i>Ptilotus gaudichaudii</i> very open herbland.	Very Good	83.6 (8%)
SMS	Granite outcrop stony Mulga shrubland	<i>Acacia quadrimarginea</i> , <i>A. aneura</i> , <i>A. incurvaneura</i> tall open shrubland over <i>Acacia aneura</i> , <i>Eremophila latrobei</i> subsp. <i>latrobei</i> , <i>Scaevola spinescens</i> spiny, narrow leaf variant) open shrubland over <i>Aristida contorta</i> , <i>Eriachne pulchella</i> subsp. <i>pulchella</i> , <i>Maireana triptera</i> scattered tussock grasses and scattered herbs.	Very Good	31.3 (3%)

Figure 2: Extract of vegetation types and condition (Biota Environmental Sciences, 2021)

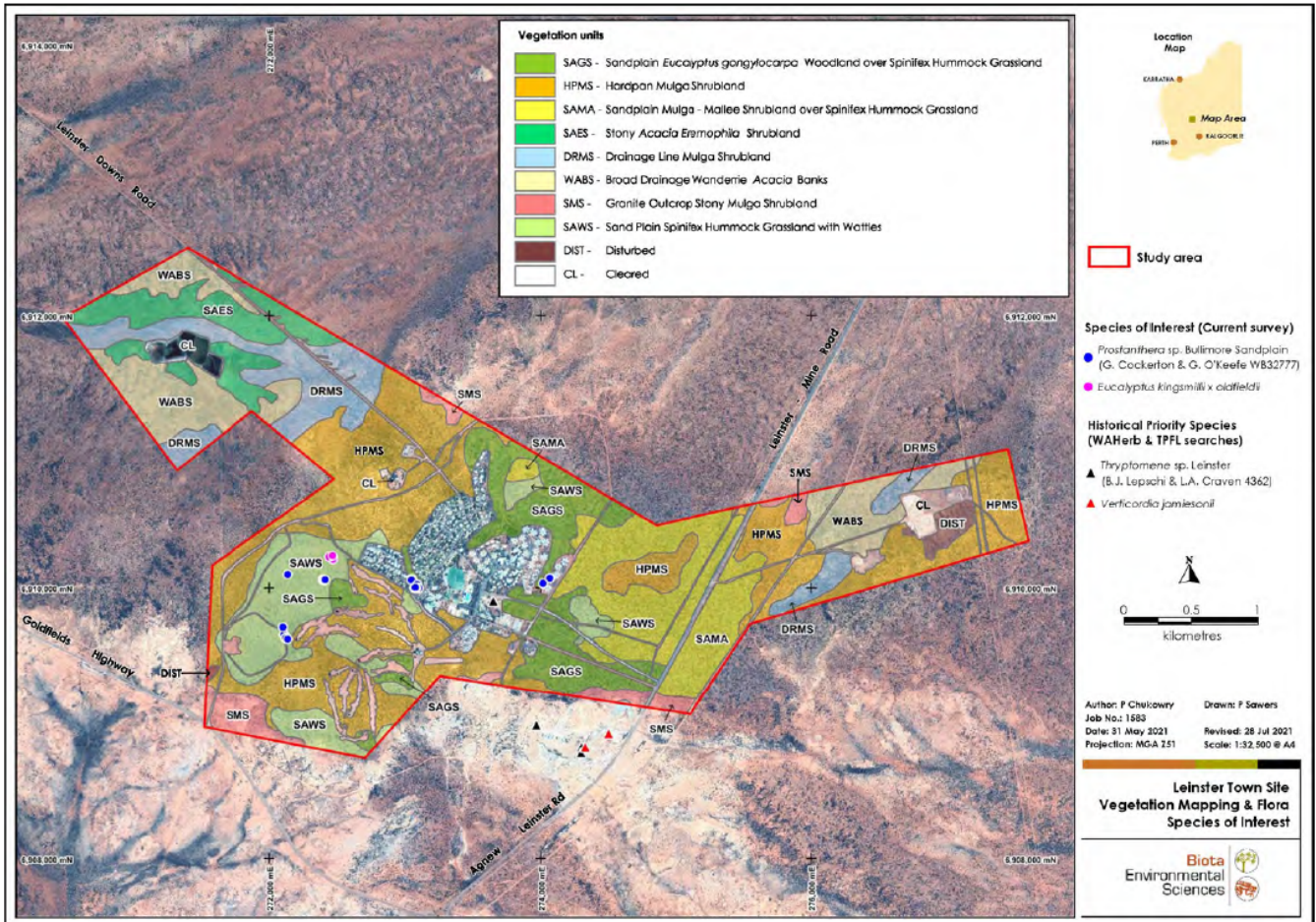


Figure 3: Excerpt of mapped vegetation types (Biota Environmental Sciences, 2021)

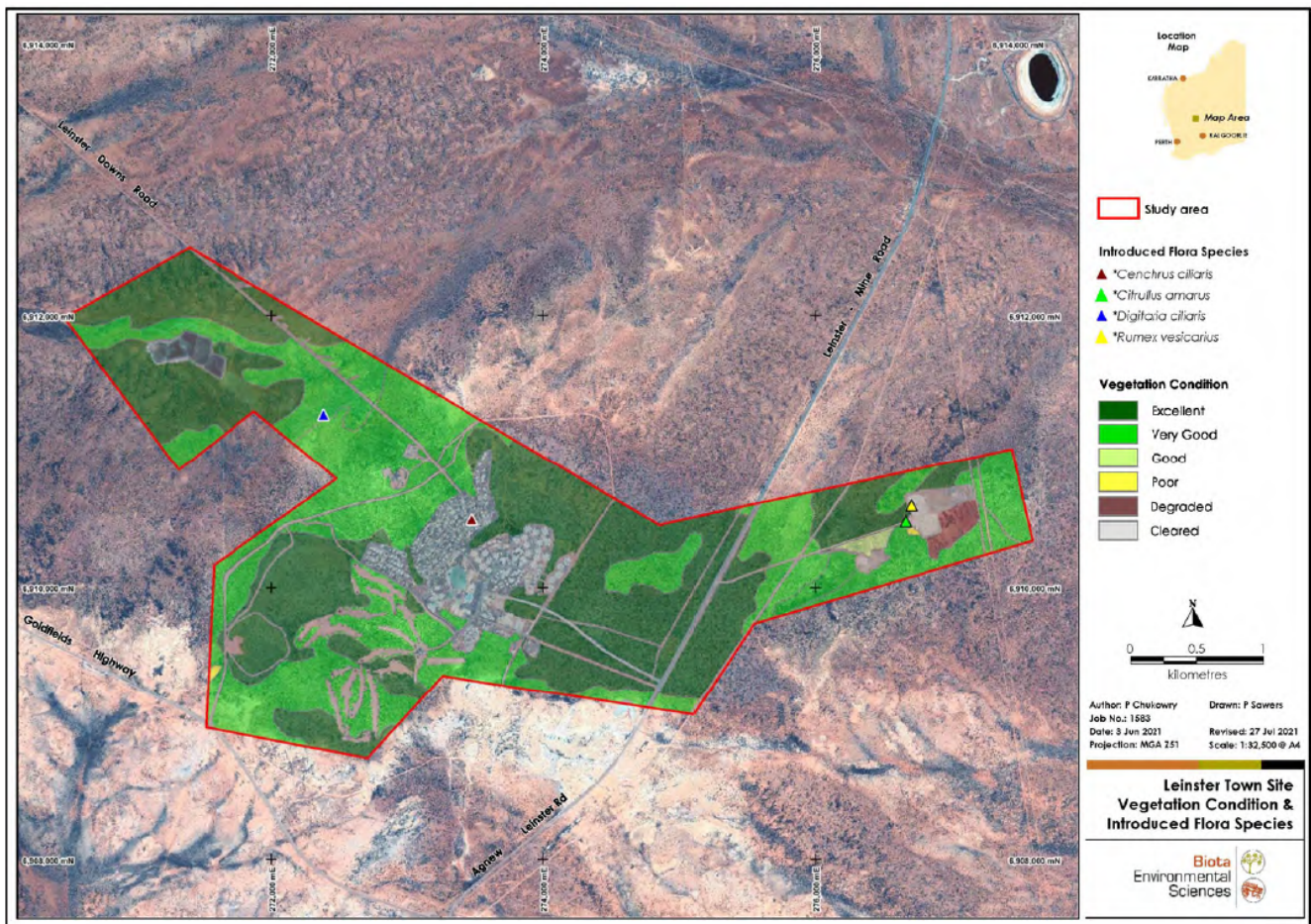


Figure 4: Extract of vegetation condition (Biota Environmental Sciences, 2021)

Appendix E. Sources of information

E.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)

E.2. References

BHP (2022a) *Clearing permit application CPS 9762/1*, received 3 June 2022 (DWER Ref: DWERDT612785).

BHP (2022b) *Supporting information for clearing permit application CPS 9762/1*, received 3 June 2022 (DWER Ref: DWERDT626409).

BHP (2023) *Response to draft permit for CPS 9762/1*, received 24 January 2023 (DWER Ref: DWERDT717082).

Biota Environmental Sciences (2021) *Leinster Townsite Flora, Vegetation and Fauna Assessment, prepared for BHP Billiton Nickel West, 2021*. DWER Reference:

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

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Department of Water and Environmental Regulation (DWER) (2019). *Procedure: Native vegetation clearing permits*. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.PDF.

Department of Water and Environmental Regulation (DWER) (Regulatory Services – Water) (2022) *Rights in Water and Irrigation Act 1914 advice for clearing permit application CPS 9762/1* received 16 November 2022 (DWER Ref: DWERDT687295).

Department of Water and Environmental Regulation (DWER) (Contaminated Sites) (2022) *Advice for clearing permit application CPS 9762/1* received 16 November 2022 (DWER Ref: DWERDT647412).

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