



# **Impact Reconciliation Procedure**

## **Marillana Creek (Yandi) Life of Mine Proposal Significant Amendment**

**April 2025  
Version 3.0**

## Version Control

Version	Description	Key changes	Date
Version 0	Draft version for Traditional Owner review	Original document	10/09/2023
Version 1.0	Draft version prepared for internal review for referral of Yandi E8 Significant Amendment	Revision of document for the Combined Proposal (i.e. Marillana Creek (Yandi) Life of Mine Proposal Significant Amendment)	31/05/2024
Version 2.0	Draft version submitted to BNTAC for review	Minor amendments	19/07/2024
Version 3.0	Final version for submission with Yandi Significant Amendment	Minor amendments	4/04/2025

## Abbreviations and Definitions

Term	Meaning
Amended Proposal	The combination of the Significant Amendment (once approved) together with the Approved Proposal (Marillana Creek (Yandi) Life of Mine Proposal Amended Proposal)
Approved Proposal	The works and activities for mining operations within the Yandi Life of Mine Proposal comprising the Approved Proposal under the existing Ministerial Statements: 679 (as amended by 1039)
AUD	Australian Dollars
BC Act	<i>Biodiversity Conservation Act 2016</i>
BHP	BHP Iron Ore Pty Ltd
CEO	Chief Executive Officer
Combined Proposal	The combination of the Significant Amendment together with the Approved Proposal.
CPI	Consumer Price Index
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DWER	Department of Water and Environmental Regulation
ECW	Enhanced Compressed Wavelet
EPA	Environmental Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ESRI	Environmental Systems Research Institution
GDA2020	Geocentric Datum of Australia 2020
GeoTIFF	Geographic Tagged Image File Format
GDV	Groundwater Dependent Vegetation
GST	Goods and Services Tax
ha	Hectares
IBRA	Interim Biogeographic Regionalisation for Australia
the Instructions	<i>Instructions on how to prepare Environmental Protection Act 1986 Part IV Impact Reconciliation Procedures and Impact Reconciliation Reports (EPA 2021)</i>
IRP	Impact Reconciliation Procedure
IRR	Impact Reconciliation Report
m	metres

Term	Meaning
Marillana Creek (Yandi) Life of Mine Proposal Significant Amendment (the Proposal)	The works and activities for which approval is sought (i.e. the Significant Amendment to the Approved Proposal)
MRF	Mining Rehabilitation Fund
MS	Ministerial Statement
NVCP	Native Vegetation Clearing Permit
PEOF	Pilbara Environmental Offsets Fund
Significant Amendment	An amendment to an Approved Proposal that is significant according to the definition in the <i>Environmental Protection Act 1986</i> and requires referral under s38 (i.e the Proposal)
WAIO	BHP Western Australia Iron Ore

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# 1 The proposal and condition requirements

## 1.1 The Proposal

This Impact Reconciliation Procedure (IRP) has been prepared by BHP Iron Ore Pty Ltd (BHP) to support the referral of a significant amendment<sup>1</sup> of an Approved Proposal (the Marillana Creek (Yandi) Life of Mine Proposal) under the existing Ministerial Statement (MS) 679 (as amended by 1039), the *Marillana Creek (Yandi) Significant Amendment* (the Proposal). The IRP has been developed in accordance with the *Instructions on how to prepare Environmental Protection Act 1986 Part IV Impact Reconciliation Procedures and Impact Reconciliation Reports* (Environmental Protection Authority [EPA] 2024) (the Instructions).

The approval of the Proposal will result in a single Ministerial Statement (MS) for the Amended Proposal (i.e. the combination of the Approved Proposal and the Proposal [once approved]; MSXXXX), and will authorise clearing of up to 4,653 hectares (ha) of native vegetation within the Yandi Development Envelope (Figure 1).

This IRP will apply to the Amended Proposal. Clearing associated with the Approved Proposal will continue to be covered under the endorsed BHP Western Australia Iron Ore (WAIO) *Impact Reconciliation Procedure* (V2.3) (WAIO IRP) (BHP 2023) until the new Ministerial Statement for the Amended Proposal is granted (at which time clearing will then be covered under this IRP).

The purpose of this IRP is to outline the methods used to calculate the area of vegetation or environmental value/s impacted within the Hamersley Interim Biogeographic Regionalisation for Australia (IBRA) subregions of the Pilbara bioregion (Figure 2), in relation to the combination of the Proposal together with the Approved Proposal (Combined Proposal).

## 1.2 Ministerial Statement condition requirements

BHP is required to implement the IRP as per Condition B7-5 of MSXXX (Table 1Table 1).

The relevant condition requirements for Condition B7 of MSXXXX are provided in Appendix 1.

**Table 1: MSXXXX Condition B7 Offsets**

Ministerial Statement	Title	Condition number
XXXX	Marillana Creek (Yandi) Life of Mine Amended Proposal	<b>B7 Offsets</b> B7-1 to B7-12

<sup>1</sup> An amendment to an Approved Proposal that is significant according to the definition in the *Environmental Protection Act 1986* and requires referral under s38.

## 2 Procedure

### 2.1 Identification of the environmental values requiring offsets

The environmental values required to be offset have been identified through the environmental impact assessment for the Proposal and the Combined Proposal, and by Condition B7-1 of MSXXXX.

BHP will contribute to the Pilbara Environmental Offsets Fund (PEOF) biennially, with the amount to be contributed calculated in accordance with the rates in Condition B7-3 of MSXXXX.

**Table 2: Environmental values that require offset and the contribution rate under MSXXXX Condition B7**

Environmental value/s	Contribution rate		
	Condition	IBRA Subregion	Offset rate (\$/ha) <sup>1</sup>
Good to Excellent condition Native vegetation	B7-3 (1)(a)	Hamersley	986
Riparian vegetation <sup>2</sup> (including groundwater dependent vegetation)	B7-3(2)(a)	Hamersley	1,972
Pilbara Olive Python ( <i>Liasis olivaceus barroni</i> ) critical habitat	B7-3(2)(b)	Hamersley	1,972
Ghost Bat ( <i>Macroderma gigas</i> ) critical habitat	B7-3 (2)(c)	Hamersley	1,972
Grey Falcon ( <i>Falco hypoleucos</i> ) critical habitat	B7-3(2)(d)	Hamersley	1,972
Northern Quoll ( <i>Dasyurus hallucatus</i> ) supporting habitat	B7-3(3)(a)	Hamersley	986
Pilbara Leaf-nosed Bat ( <i>Rhinonictis aurantius</i> ) supporting habitat	B7-3(3)(b)	Hamersley	986
Pilbara Olive Python ( <i>Liasis olivaceus barroni</i> ) supporting habitat	B7-3(3)(c)	Hamersley	986
Grey Falcon ( <i>Falco hypoleucos</i> ) supporting habitat	B7-3(3)(d)	Hamersley	986

1. Based on FY23/24 financial offset rates, to be indexed annually in accordance with the Perth - All Groups Consumer Index.

2. Riparian vegetation means the distinctive vegetation associated with a wetland or watercourse, as defined in DWER's *A guide to the exemptions and regulations for clearing native vegetation* (Department of Water and Environmental Regulation [DWER] 2019).

The environmental impact assessment for the Proposal found that following mitigation, there is potential for significant residual impacts on Terrestrial Fauna from the clearing of critical and supporting habitat for threatened fauna including the Pilbara Olive Python (Vulnerable; Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and Western Australia *Biodiversity Conservation Act 2016* [EPBC and BC Act]), Ghost Bat (Vulnerable; EPBC and BC Act), Grey Falcon (Vulnerable; EPBC and BC Act), Pilbara Leaf-nosed Bat (Vulnerable; EPBC and BC Act) and Northern Quoll (Endangered; EPBC and BC Act). In addition, the clearing of native vegetation in Good to Excellent condition and riparian vegetation is a significant residual impact on Flora and Vegetation due to the cumulative impacts of clearing in the Pilbara.

The environmental value of Good to Excellent condition vegetation that is required to be offset has been calculated based on the Combined Proposal (although the impacts associated with the Approved Proposal have been limited to the remaining areas to be cleared as authorised). This is in line with condition 13-1 of MS 1039. Condition 13-1 does not apply to the 4,050 hectares of clearing of native vegetation previously authorised on 1 April 2015, however it does apply to the remaining 508 ha for the Approved Proposal. The areas required to be offset for the environmental values of critical foraging and supporting habitat for significant fauna species as well as riparian vegetation have been calculated based on the Proposal, as these are not identified in Condition 13 of MS 1039.

The Proposal will result in clearing of up to 72 ha of critical foraging habitat for threatened fauna as requiring an offset (Table 3). This includes clearing critical habitat for the Ghost Bat, Pilbara Olive Python and Grey Falcon. In addition, clearing up to 72 ha of supporting habitat for the Pilbara Olive Python, Northern Quoll, Pilbara Leaf-nosed Bat and the Grey falcon has also been identified as requiring an offset (Table 3).

A total of 254 ha of native vegetation in Good to Excellent condition has been identified for the Combined Proposal as requiring offset (Table 3). This consists of up to 85 ha for the Proposal, and approximately 66 ha remaining from the Approved Proposal (specifically, 66 ha previously conditioned under MS 679 as amended by MS 1039) and 2 ha of riparian vegetation loss from the Approved Proposal. This extent (254 ha) is the combined total for the entire Combined Proposal; as there are existing approved operations, some of this extent has already been cleared and reported accordingly under the WAIO IRP.

Different offset payment rates apply depending on the value impacted, with higher payment rates required for critical habitat for listed threatened species. To avoid duplication of offsets, the extent of residual impact to be offset for clearing of native vegetation in Good to Excellent condition will be excluded where there is an overlap in extent to be offset for critical foraging habitat (where the habitats align to vegetation that is in Good to Excellent condition, i.e. 85ha).

BHP proposes to contribute funds to the PEOF at the rates detailed in Table 2, calculated on the 2023-2024 financial year.

- \$1,972 AUD (excluding GST) per hectare of the following environmental values cleared as a result of the proposal within the Hamersley IBRA subregion (defined as Area A in Table 3, Figure 5):
  - (a) riparian vegetation (including groundwater dependent vegetation)
  - (b) critical habitat for Pilbara Olive Python (*Liasis olivaceus barroni*)
  - (c) critical habitat for Ghost Bat (*Macroderma gigas*)
  - (d) critical habitat for Grey Falcon (*Falco hypoleucos*).
- \$986 AUD (excluding GST) per hectare (ha) of 'Good to 'Excellent' condition native vegetation cleared within Development Envelope within the Hamersley IBRA subregion and supporting habitat for significant fauna species (defined as Area B in Table 3, Figure5).

As a result, the total extent requiring offset for the Amended Proposal (once approved) is 254 ha. The extent of impacts to the environmental values to be offset are summarised in Table 3.



**Table 3: Extents of environmental values to be offset under MSXXXX Condition B7**

Significant residual impact	Values	Approved Proposal significant residual impact (ha)	Proposal significant residual impact (ha)	Combined extent to be offset (ha)
Area A Clearing of critical foraging habitat for Pilbara Olive Python, Ghost Bat and Grey Falcon	Drainage Area/ Floodplain, Major Drainage Line, Medium Drainage Line, Stony Plain, Undulating Low Hills, Hillcrest/Hillslope and Wetland.	2	78	80 <sup>2</sup>
Clearing of riparian vegetation (including groundwater dependent vegetation)	Riparian vegetation (including groundwater dependent vegetation)			
Clearing of riparian vegetation – impacts from dewatering	Riparian vegetation (including groundwater dependent vegetation)			
Area B Clearing of native vegetation in Good to Excellent condition	Vegetation in Good to Excellent condition in Indicative Footprint	157 <sup>1</sup> -	17	174 <sup>2</sup>
Clearing of supporting habitat for Pilbara Olive Python, Northern Quoll, Pilbara Leaf-nosed Bat and Grey Falcon	Drainage Area/ Floodplain, Major Drainage Line, Medium Drainage Line, Stony Plain, Undulating Low Hills, Hillcrest/Hillslope and Wetland.			
<b>Total extent to be offset</b>		<b>159</b>	<b>95</b>	<b>254</b>

1. This clearing extent excludes the 4,050 ha of clearing of native vegetation previously authorised on 1 April 2015, as detailed in Attachment 5 to MS 679, and as detailed by condition 13 of MS 1039. Of the 508 ha for the Approved Proposal that is subject to offsets, this clearing extent also excludes the 350.27 ha which has been cleared and reported to the PEOF to the end of the 2022 IRR reporting period.
2. To avoid duplication, the extent to be offset has removed areas where good to excellent vegetation and/or habitat overlap.

### 2.1.1 Baseline survey information

The baseline biological survey information that establishes the extent and condition of the environmental values, is described below and further in Appendix 2.

#### Native vegetation in Good to Excellent condition

Vegetation condition mapping of the Development Envelope is based on the survey data from the most recent consolidated vegetation association and condition mapping for the area (Onshore Environmental 2020). Vegetation condition mapping for the Development Envelope is shown in Figure 3. There are some areas of the Development Envelope that have not had vegetation condition mapped (50.4 ha, representing <1% of the Development Envelope) (Figure 3). These areas correspond to the historical Yandi mining area or gaps in mapping coverage. There is no clearing expected to occur in the unmapped areas; however, if the clearing does occur within the unmapped areas, it will be assumed that the vegetation in the area is in Good to Excellent condition.

Of the 508 ha of remaining clearing authorised for the Approved Proposal, and the 85 ha of clearing of Good to Excellent vegetation for the Proposal, up to 157 ha of native vegetation is in Good to Excellent condition and will require offset (Table 3).

The vegetation condition data was mapped spatially and is stored in an internal spatial database. The internal spatial database also contains the IBRA subregion spatial dataset as defined by the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW), as required by the Instructions.

### Critical foraging habitat

Based on recent and historical surveys, a total of 14 vertebrate fauna habitat types have been described and mapped within the Development Envelope (Astron 2023; Biologic 2014, 2018; GHD 2021). Eight of the 14 mapped habitat types occur within the Indicative Footprint including Wetland, Hillcrest/Hillslope, Major Drainage Line, Medium Drainage Line, Minor Drainage Line, Drainage Area/Floodplain, Stony Plain, and Undulating Low Hills. Eight of these habitats have been identified as critical foraging habitat for threatened fauna species including the Pilbara Olive Python, Ghost Bat and Grey Falcon (note that no critical breeding or roosting habitat is present within either the Indicative Footprint or Development Envelope; Astron 2023). Critical foraging habitat for these species includes Drainage Area/Floodplain, Major Drainage Line, Medium Drainage Line, Stony Plain, Undulating Low Hills, Hillcrest/Hillslope and Wetland (Figure 4; Astron 2023).

Based on the Indicative Footprint, the total extent of clearing of critical foraging habitat for Ghost Bat, Pilbara Olive Python and Grey Falcon will be up to 72 ha within the Hamersley IBRA subregion and will require offset (Table 3).

### Supporting habitat

The Wetland, Major Drainage Line, Medium Drainage Line, Stony Plain and Drainage Area/ Floodplain habitats within the Indicative Footprint also represent supporting habitat for threatened fauna including Northern Quoll, Pilbara Leaf-nosed Bat, Pilbara Olive Python and Grey Falcon (Astron 2023). The critical and supporting habitats overlap, as do the requirements of each threatened fauna species. Based on the Indicative Footprint, the total extent of clearing of supporting habitat will be up to 72 ha within the Hamersley IBRA subregion and will require offset (Table 3). However, given that these same seven fauna habitat types also represent critical habitat, it is proposed to only offset these values once (Table 3).

### Riparian Vegetation

A total of 14 riparian<sup>2</sup> vegetation associations are mapped within the Development Envelope (Onshore 2011, 2014a and 2020). Eleven of these are aligned with 'ecosystems at risk' by the DBCA, as they represent vegetation associated with a major ephemeral water course (Marillana Creek) in the Hamersley subregion which is subject to grazing and weed invasion (Kendrick 2001).

The Proposal will clear up to 48 ha of riparian vegetation, comprising six vegetation associations, along Marillana Creek. These vegetation associations potentially represent 'ecosystems at risk' as described by DBCA, and four of these also have the potential to contain Groundwater Dependent Vegetation (GDV). Four of the six riparian vegetation associations to be impacted will have >10% of their remaining extent in the Development Envelope cleared as a result of the Proposal; MA EcrEv AcpAtheEv TpTI, MA CcCs Aci EcrEv, TtEuaEte ApypAtpPI EvCh and MA EcrEvMa AcpAamAthe TydCyv.

The clearing of 48 ha of locally significant riparian vegetation is considered to be a significant residual impact and requires an offset to ensure the EPA's objective for Flora and Vegetation can be met (Table 3). In addition, BHP has included the clearing of 2 ha of riparian vegetation that has resulted from dewatering for the Approved

<sup>2</sup> Riparian vegetation means the distinctive vegetation associated with a wetland or watercourse, as defined in DWER's A guide to the exemptions and regulations for clearing native vegetation (Department of Water and Environmental Regulation [DWER] 2019).

Proposal. It should be noted, to avoid duplication, the extent to be offset has removed areas where good to excellent vegetation (including riparian vegetation) and/or habitat overlap.

### Offset exemptions

This IRP applies only to clearing within the Development Envelope authorised under MS 679 as amended (once approved) by MS 1039 for the Amended Proposal. The only IBRA subregion intersected by the Development Envelope is the Hamersley subregion of the Pilbara bioregion and therefore impacts to environmental values for the purpose of offsets only apply to the Hamersley subregion (Figure 2).

As discussed under Section 2.1, the Proposal identified the clearing of critical foraging habitat for Ghost Bat, Pilbara Olive Python and Grey Falcon as a significant residual impact requiring offset. This offset requirement only applies to clearing approved as part of the Proposal and not clearing approved under the Approved Proposal.

It is noted that some of the authorised clearing within the Approved Proposal is exempt from offsets. Table 4 summarises the offset exemptions that will apply to MSXXXX.

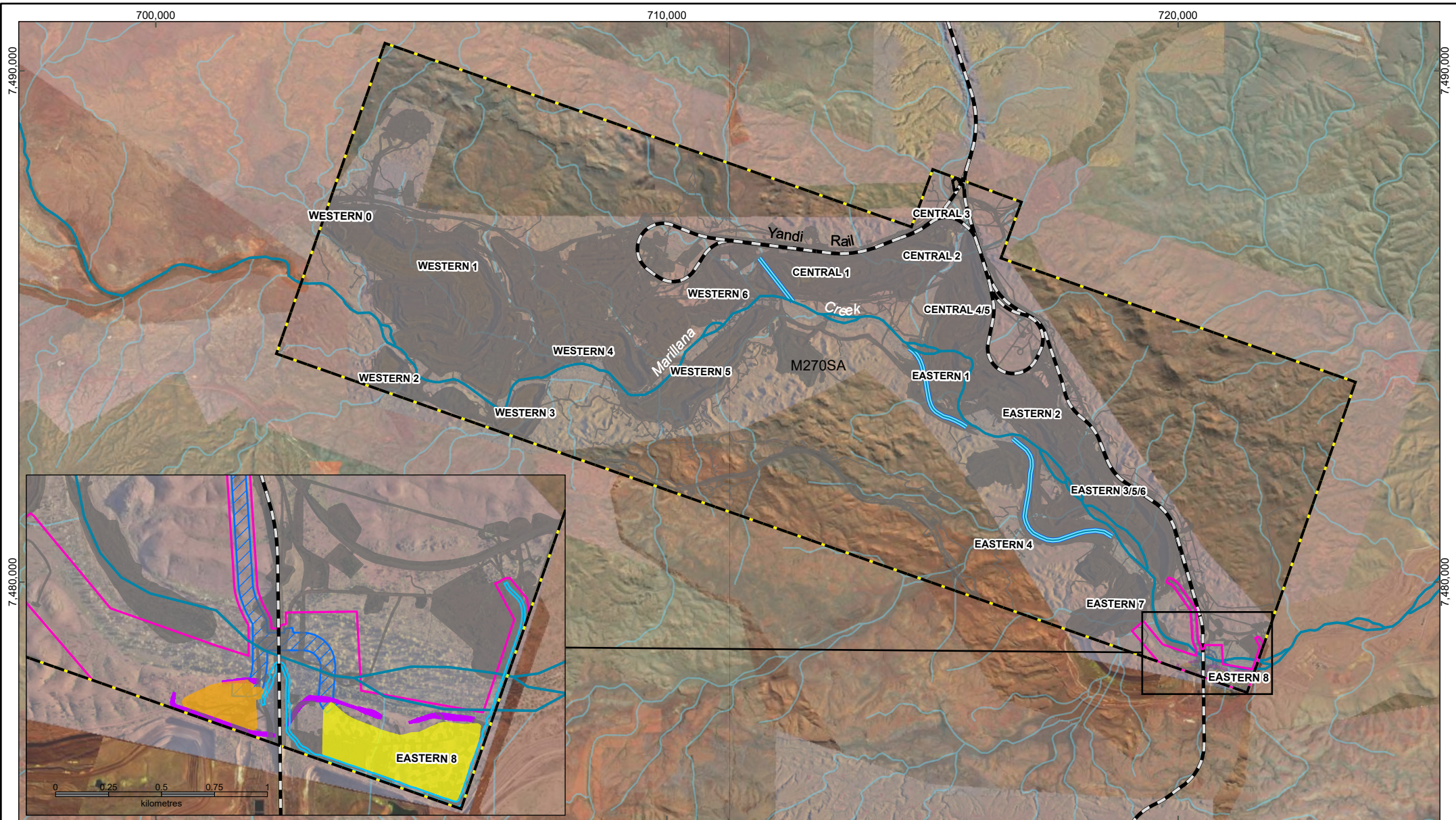
BHP notes that the Instructions require the offset exemption areas to be accurately documented and clearly delineated from those areas subject to offsets that are addressed in this IRP. It is important to note that in practice for Ministerial Statements, there is no spatial definition (i.e. a polygon) of the exempt areas; clearing is authorised anywhere within the Development Envelope and while unlikely, may not necessarily align with the Indicative Footprint provided during the assessment of a proposal.

**Table 4: Clearing exempt from offsets under MSXXXX Condition B7**

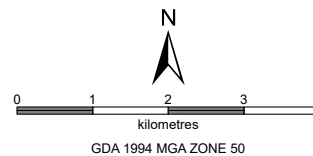
Condition	Condition requirement	Exemption area (ha)
B7-12	The clearing of 4,050 ha of native vegetation previously authorised under MS 679 prior to 4 May 2016 is exempt from the requirement to offset under condition B7-1.	4,050

The Approved Proposal comprises existing mining operations and therefore, a large portion of these exemption amounts have been met. Specifically, 4,050 ha of clearing has already taken place attributed to the exemption area for Condition B7-12. These areas have been tracked under the WAIO IRP.





- BHP rail
- Flood bunds
- Constructed Creek Diversion
- Indicative Footprint
- Development Envelope
- Existing Disturbance
- Haul Road
- LV road
- BHP Tenement
- Eastern Pit
- Western Pit



**BHP** **PUBLIC**

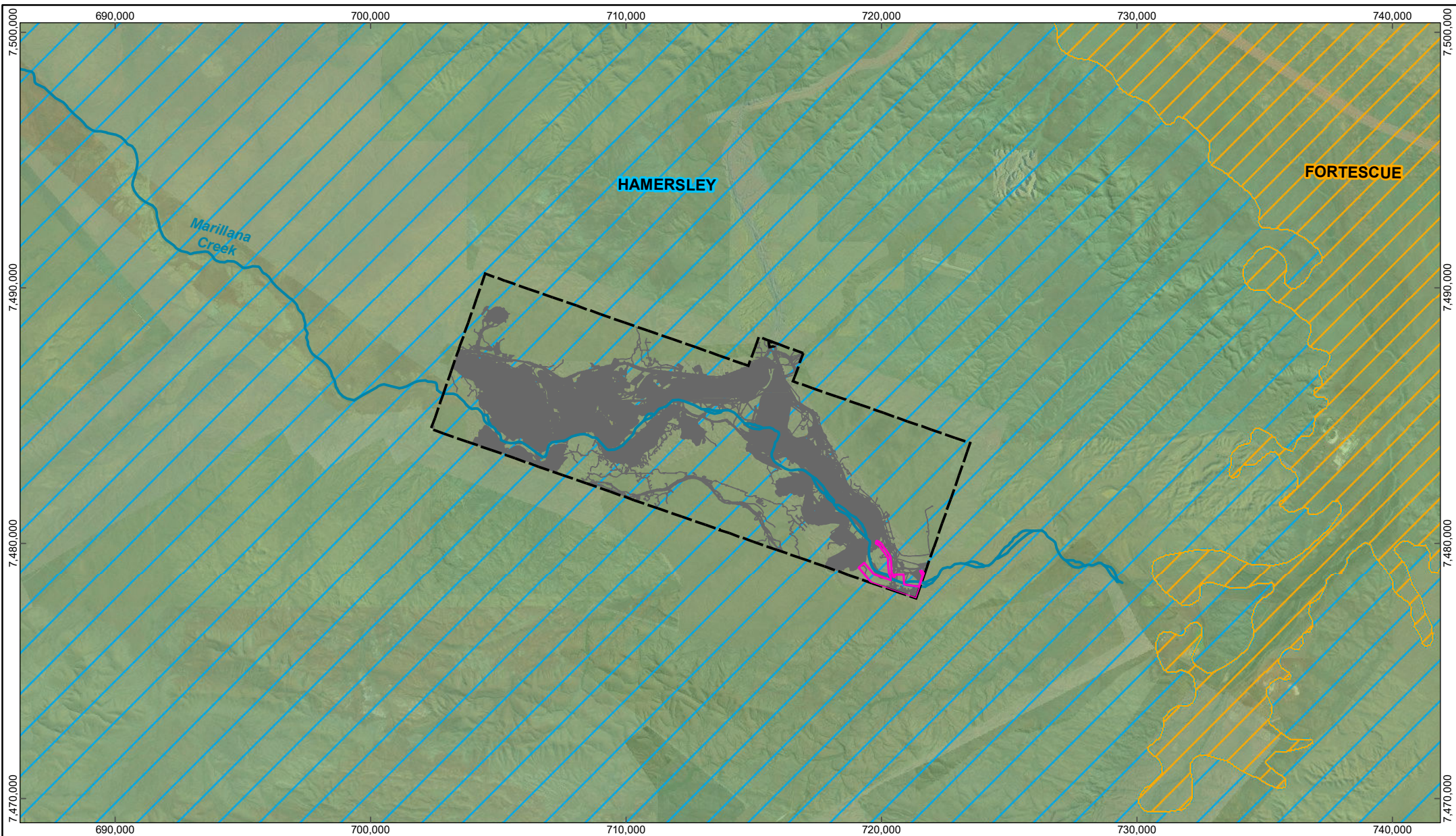
**MARILLANA CREEK (YANDI) IRP**  
**DEVELOPMENT ENVELOPE AND**  
**INDICATIVE FOOTPRINT OF THE**  
**COMBINED PROPOSAL**

**WAIO PLANNING, TECHNICAL & ENVIRONMENT**

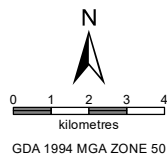
SCALE @ A4: 1:100,000 PREPARED: GEOMATICS FIGURE: 1  
 DATE: 26/04/2025 REQUESTOR: ENV APPROVALS

**A1205-085-RevC**





- Marillana Creek
- Indicative Footprint
- Development Envelope
- Existing Disturbance
- Interim Biogeographic Regionalisation for Australia (IBRA) V6.1 - Sub Regions**
- Fortescue
- Hamersley
- Interim Biogeographic Regionalisation for Australia (IBRA) V6.1 - Regions**
- Pilbara



**YANDI**

**IMPACT RECONCILLIATION PROCEDURE**

**IBRA BIOREGIONS AND SUBREGIONS**

**PLANNING & STANDARDS - IRON ORE**

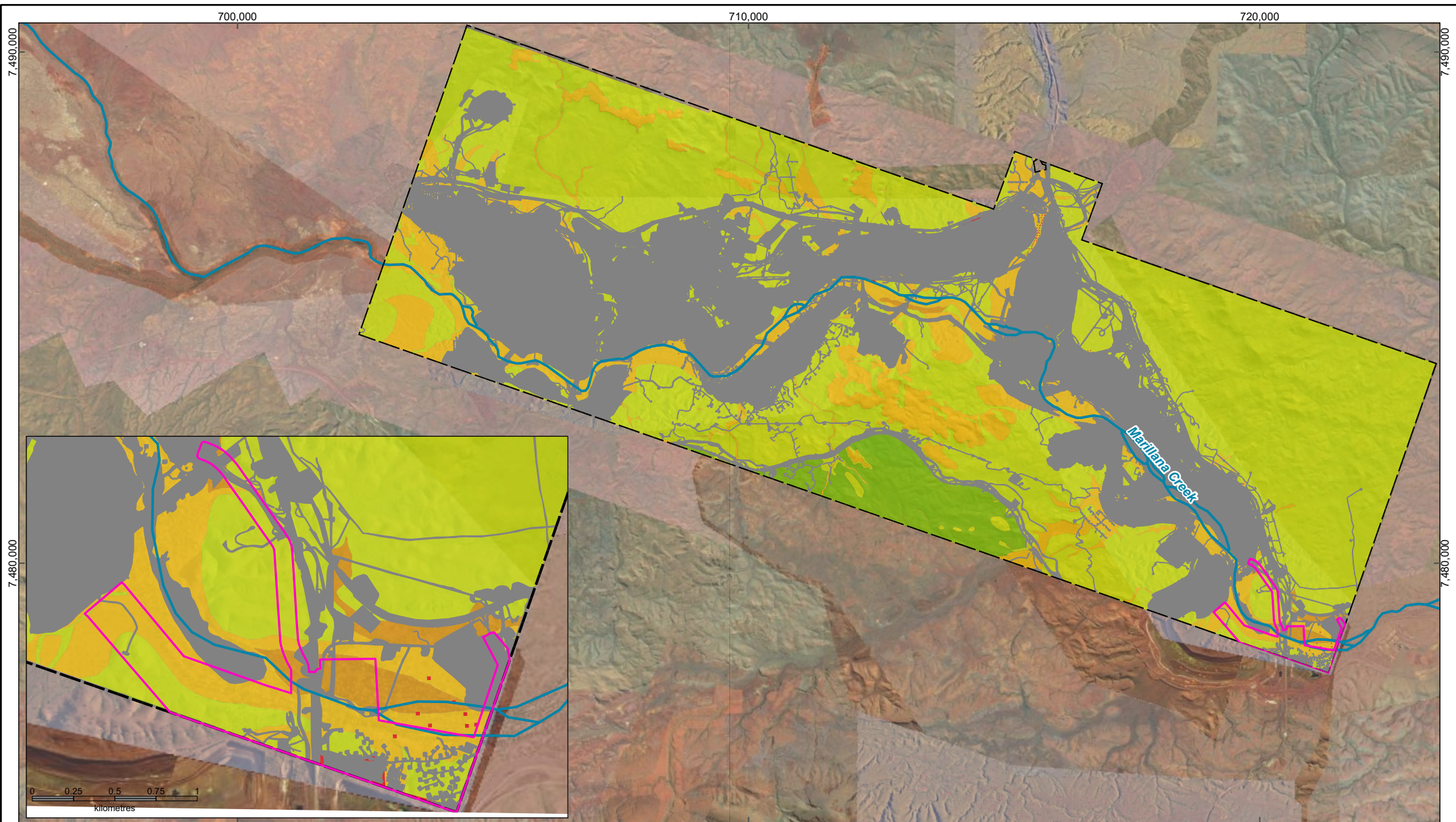
**PUBLIC**

SCALE @ A4: 1:200,000    PREPARED: SPATIAL DATA    FIGURE: **2**

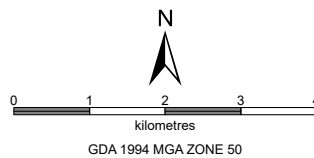
DATE: 23/04/2024    REQUESTOR: ENV APPROVALS

**A1205-013-RevB**





- |                          |                             |
|--------------------------|-----------------------------|
| — Marillana Creek        | <b>Vegetation Condition</b> |
| — Indicative Footprint   | Completely Degraded         |
| --- Development Envelope | Degraded                    |
| Existing Disturbance     | Poor                        |
|                          | Good                        |
|                          | Very Good                   |
|                          | Excellent                   |
|                          | Pristine                    |



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**PUBLIC**

YANDI IMPACT RECONCILIATION PROCEDURE

VEGETATION CONDITION

WAIO PLANNING, TECHNICAL & ENVIRONMENT

SCALE @ A4: 1:100,000

PREPARED: GEOMATICS

FIGURE:

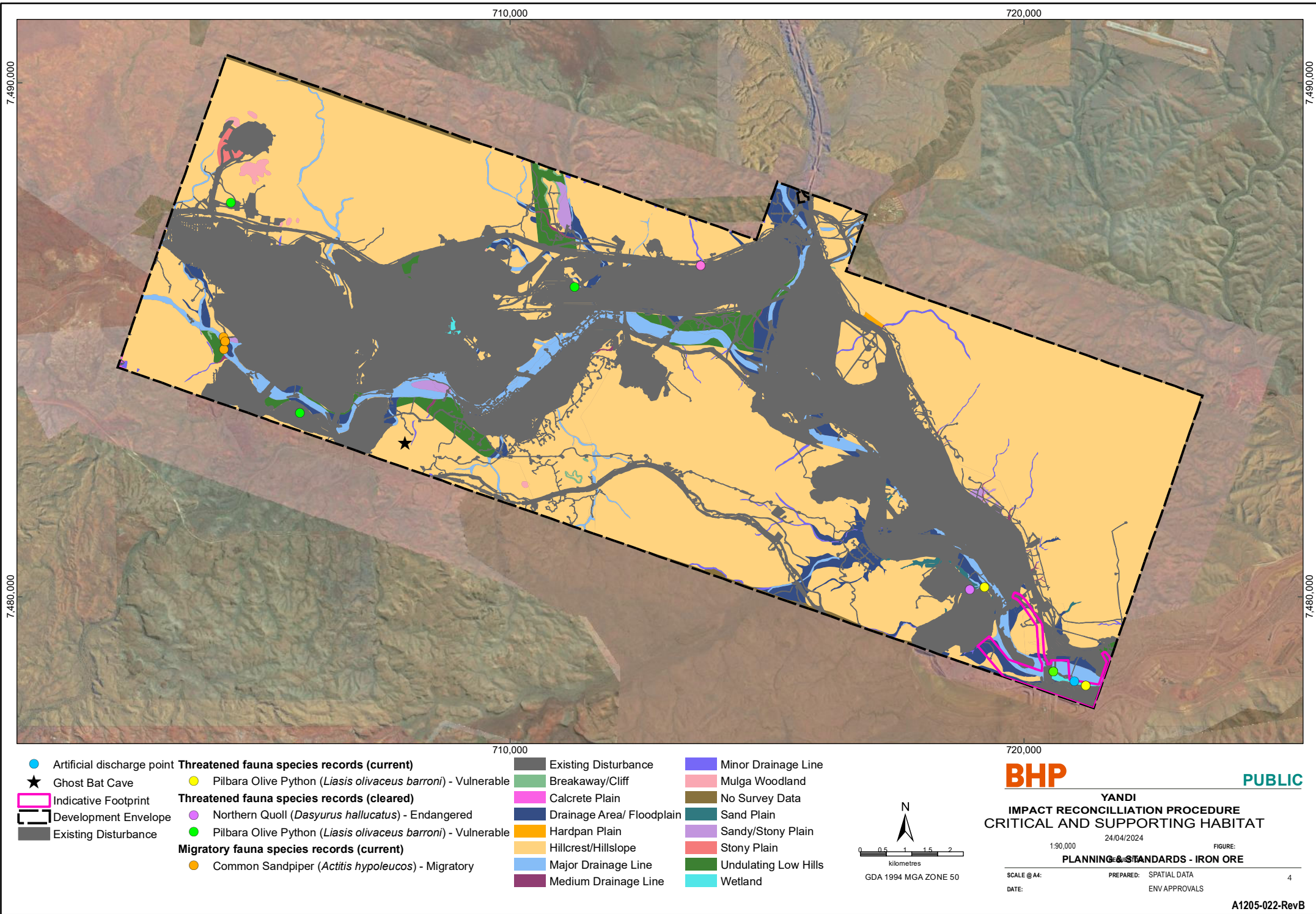
DATE: 28/04/2025

REQUESTOR: ENV APPROVALS

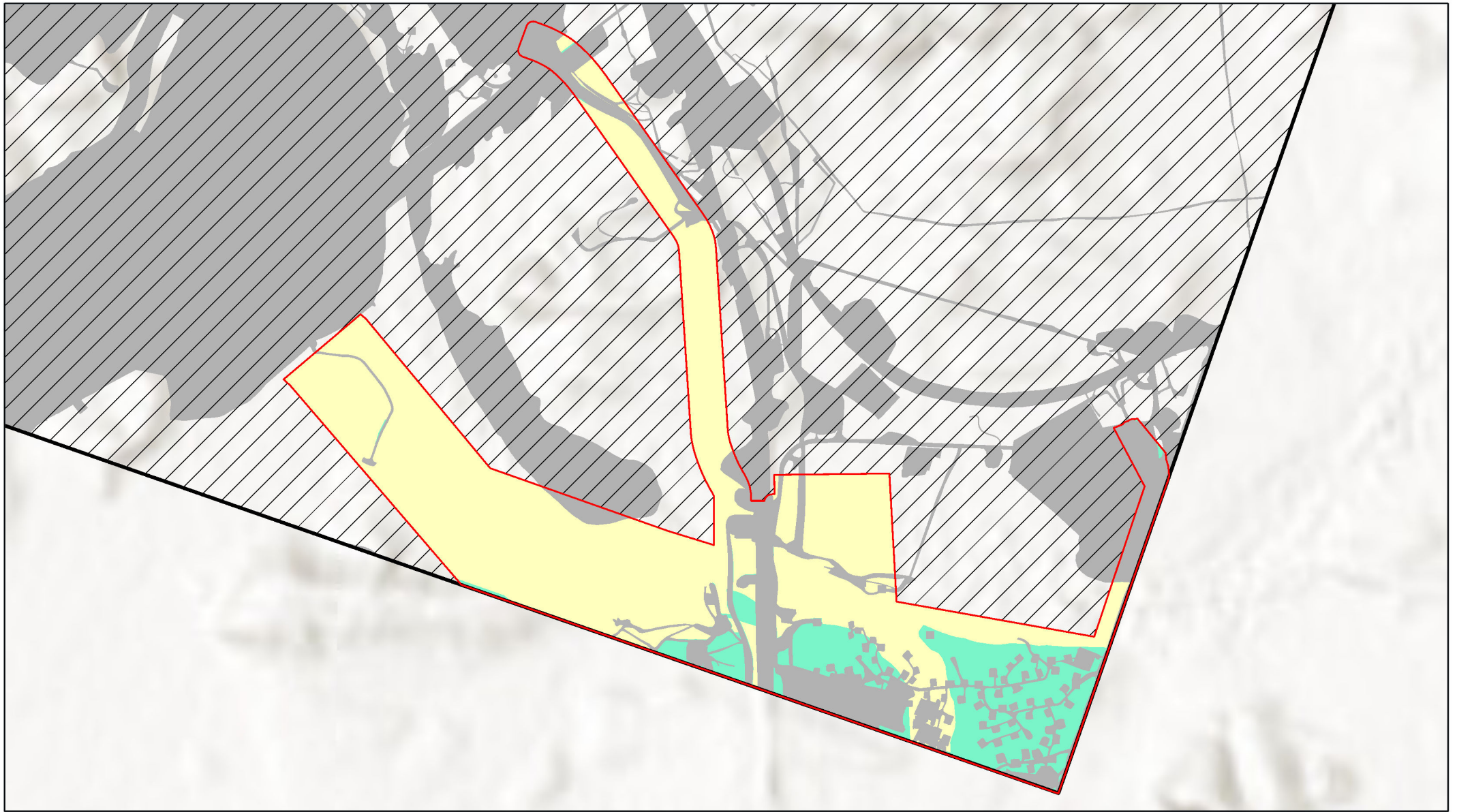
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A1205-087-RevB

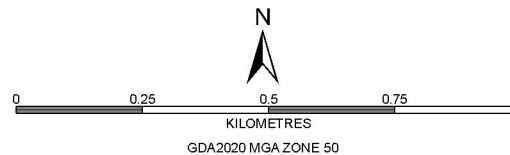








- Yandi E8 Development Envelope
- Yandi (MS679) Development Envelope
- Offset Area A
- Offset Area B
- Previously Disturbed
- Approved Proposal



**BHP**

**PUBLIC**

## YANDI IMPACT RECONCILIATION PROCEDURE

WAIO- PLANNING, TECHNICAL & ENVIRONMENT

SCALE @ A4:	1:15,000	REQUESTOR:	Env. Approvals	FIGURE:	<b>5</b>
DATE:	8/05/2025	PREPARED:	Geomatics		
		REVIEWED:	H. Lance	NO:	A1205-105 RevC



## 2.2 Method to determine impacts

As discussed in Section 2.1, flora and vegetation surveying (including vegetation condition assessment and mapping) and vertebrate fauna surveying (including identification and mapping of fauna habitats for threatened fauna species) of the Development Envelope were undertaken in accordance with EPA Technical Guidance (EPA 2016, 2020). The vegetation condition and fauna habitat mapping completed during the surveys is considered to form the baseline state of the environmental values for this IRP (described further in Appendix 1).

The Approved Proposal comprises existing mining operations. As discussed in Section 1.1, clearing associated with the Approved Proposal will continue to be covered under and reported against the endorsed WAIO IRP (BHP 2023) until the new Ministerial Statement for the Amended Proposal is granted (following which clearing will then be covered under this IRP).

### 2.2.1 Impacts

BHP will use the methodology detailed in Steps 1-3 below to calculate the amount of land disturbance (i.e. clearing of native vegetation) within the Development Envelope. This will result in a verified Land Disturbance dataset that is used to determine the amount of clearing that is required to be offset against the environmental value/s (i.e. Step 4).

The verified Land Disturbance dataset is also used to update the baseline datasets for the condition of vegetation and state of environmental value/s that is to be used for the next financial year reconciliation.

This process will be repeated annually to determine the amount of clearing in each financial year, as is required to be reported in the Impact Reconciliation Report (IRR) (see Section 3.2).

#### Step 1 - Remotely Sensed data

BHP sources appropriate remotely sensed data (i.e. aerial photography or satellite imagery) for the area of the IRR. The remotely sensed data may come from a variety of sources and where appropriate, it will be mosaicked together. The mosaicked remotely sensed data is then re-sampled to 1 metre (m) resolution. This remotely sensed data set is used for the capture of the land clearing that is to be supplied as an end deliverable dataset.

#### Step 2 - Land Disturbance data

Direct land disturbance (i.e. clearing) is captured on a periodic basis throughout the financial year. The data is captured via digitising the land disturbance visible in the Remotely Sensed data, at a scale of 1:1,000. This scale is consistent with the precision of all BHP internal datasets. The data is ground-truthed by site surveyors in mining areas and geoscience technicians in resource definition drilling areas (where required).

All land disturbance data is then attributed with the reporting year, responsible operational entity, the underlying approval and the proposed or actual land-use (using the Department of Mines, Industry Regulation and Safety Mining Rehabilitation Fund (MRF) classifications). Where there are multiple approvals within the same area, the site responsible person is accountable for allocating the land disturbance to the appropriate approval.

#### Step 3 - Data review

Following the capture of the Land Disturbance data, the dataset is reviewed at the end of each financial year to ensure:

- all land disturbance activities for the financial year period have been identified
- accurate and clean boundaries (removal of overlaps and correction of anomalies)

- data attribute completeness and correctness.

As BHP captures land disturbance/clearing at a scale of 1:1,000 (i.e. +/- 0.5 m on the ground), any polygon slivers or gaps in the dataset under one square metre are ignored and are considered acceptable in the context of analysing datasets at vastly different scales.

#### **Step 4 - Processing of environmental value/s datasets**

BHP have developed a methodology which automates the process of combining Land Disturbance, IBRA subregions and environmental value/s (e.g. vegetation condition) datasets to ensure the process of deriving the final offset calculation is consistent and repeatable. The process manipulates the datasets (e.g. clips inputs to the project Development Envelope, cleans any overlaps) to match the requirements of the Instructions, resulting in a final area calculation.

## 3 Reporting

### 3.1 Frequency and timing

As discussed in Section 2.2, any clearing undertaken for the Approved Proposal will continue to be managed under the endorsed WAIO IRP until the new Ministerial Statement is granted for the Amended Proposal. The first biennial reporting period is expected to commence in FY2027. Table 5 documents the timing of the biennial reporting periods for the Amended Proposal to end of life.

As per the Instructions, the IRR will be submitted no later than four months after the conclusion of the biennial reporting period. As specified in Table 5, BHP propose to submit the IRR on the last business day in September following the end of the reporting period.

**Table 5: Reporting period and frequency of the Impact Reconciliation Reports**

Biennial period	Action	Timing
	Ministerial Statement XXXX issued	TBC
	Proposal clearing commences under MSXXXX	Estimated to commence FY2027
Period 1	First biennial reporting period	1 July 2026 to 30 June 2028
	IRR submitted to DWER	30 September 2028
Period 2	Second biennial reporting period	1 July 2028 to 30 June 2030
	IRR submitted to DWER	30 September 2030
Period 3	Third biennial reporting period	1 July 2030 to 30 June 2032
	IRR submitted to DWER	28 September 2032
Period 4	Fourth biennial reporting period	1 July 2032 to 30 June 2034
	IRR submitted to DWER	30 September 2034

### 3.2 Impacts and reconciliation

Ground-disturbing activities will wholly occur within the Development Envelope. Clearing is ongoing for the existing operations authorised under the Approved Proposal, with new proposed clearing for the Proposal expected to commence in FY2027 once the new Ministerial Statement for the Amended Proposal is granted.

As discussed in Section 2.1, clearing of vegetation for the Amended Proposal will be up to 4,653 ha and includes clearing vegetation in Good to Excellent condition and critical foraging habitat for threatened fauna within the Hamersley IBRA subregion of the Pilbara bioregion. The Amended Proposal is estimated to have a maximum total project life of approximately 22 years (comprising construction and mine operations), with no clearing expected to occur beyond 2033. As detailed in Section 2.2, the clearing of vegetation will be captured spatially and reconciled against the baseline data (for vegetation condition and fauna habitats) within the Development Envelope.

As per Condition B7-7 of MSXXXX, the IRR will provide the location and spatial extent of the clearing undertaken within each biennial reporting period. More specifically, the following information will be submitted in each IRR:

- amount of clearing (ha) of fauna habitats identified as critical foraging habitat for Pilbara Olive Python, Ghost Bat and Grey Falcon, within the Hamersley IBRA subregion of the Pilbara bioregion that has occurred during each financial year of the reporting period, including the offset rate
- amount of clearing (ha) of riparian vegetation (including groundwater dependent vegetation), within the Hamersley IBRA subregion of the Pilbara bioregion that has occurred during each financial year of the reporting period, including the offset rate
- amount of clearing (ha) of vegetation in Good to Excellent condition, within the Hamersley IBRA subregion of the Pilbara bioregion that has occurred during each financial year of the reporting period, including the offset rate
- amount of clearing (ha) of supporting habitat for Northern Quoll, Pilbara Leaf-nosed Bat, Pilbara Olive Python and Grey Falcon, within the Hamersley IBRA subregion of the Pilbara bioregion that has occurred during each financial year of the reporting period, including the offset rate
- information used to validate amount of clearing (e.g. aerial imagery, remote sensing data, digitised polygons and/or ground-truthing surveys) in each financial year
- information regarding any exemptions, other clearing approvals or reductions to contributions to the fund (e.g. where impacts have occurred that are applied to a different Ministerial Statements or Native Vegetation Clearing Permits [NVCP])
- forward estimate of impacts expected to be reported in subsequent reporting periods
- details and spatial data for historical impacts excluded from offset requirements.

## 4 References

- Astron 2023. *Yandi 45c Targeted Significant Vertebrate Fauna Survey*. Prepared for BHP Western Australian Iron Ore.
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- BHP Iron Ore Pty Ltd (BHP) 2023. *Impact Reconciliation Procedure*. Document number 0147312. Version 2.3. Published February 2023.
- Department of Water and Environmental Regulation (DWER) 2019. *A guide to the exemptions and regulations for clearing native vegetation: Under Part V of the Environmental Protection Act 1986*. August 2019.
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- Environmental Protection Authority (EPA) 2024. *Instructions on how to prepare Environmental Protection Act 1986 Part IV Impact Reconciliation Procedures and Impact Reconciliation Reports*. Environmental Protection Authority. Western Australia. Published March 2024.
- GHD 2021. *Ministers North Fauna Survey Level 1 Survey*. BHP Western Australia Iron Ore. February 2021.
- Kendrick, P. 2001. *Pilbara 3 (PIL3 - Hamersley subregion)*. In J. May & N. McKenzie (Eds.), *A biodiversity audit of Western Australia's 53 biogeographical subregions in 2002* (pp. 568-580). Kensington, Western Australia: Department of Conservation and Land Management.
- Onshore Environmental (Onshore) 2020. *Ministers North and Yandi Vegetation Association and Condition Mapping*. Prepared for BHP Billiton Iron Ore, June 2020.
- Onshore Environmental (Onshore) (2011) *Flora and Vegetation Review: Yandi ML 270SA*. Prepared for BHP Western Australia Iron Ore, July 2011.
- Onshore Environmental (Onshore) (2014a) *Consolidation of Regional Vegetation Mapping, BHP Billiton Iron Ore Pilbara Tenure*. Report prepared for BHP Billiton Iron Ore Pty Ltd, June 2014, Western Australia.

# Appendices

## Appendix 1 Ministerial Statement XXXX Condition 7 requirements

Condition number	Condition requirements
<b>B7 Offsets</b>	
B7-1	<p>The proponent must contribute funds to the Pilbara Environmental Offsets Fund calculated pursuant to condition B7-2, to achieve the objective of counterbalancing the significant residual impacts by the proposal to:</p> <ol style="list-style-type: none"> <li>(1) <b>'Good' to 'Excellent' condition native vegetation</b></li> <li>(2) <b>Ghost Bat (<i>Macroderma gigas</i>) supporting habitat, Pilbara Olive Python (<i>Liasis olivaceus barroni</i>) supporting habitat and Grey Falcon (<i>Falco hypoleucos</i>) supporting habitat, subject to any reduction approved by the CEO under condition B7-8.</b></li> </ol>
B7-2	<p>The proponent's contribution to the Pilbara Environmental Offsets Fund must be paid biennially, with the amount to be contributed calculated based on the clearing of native vegetation undertaken in each year of the biennial reporting period in accordance with the rates in condition B7-3. The first biennial reporting period must commence from ground disturbing activities of the environmental value(s) identified in condition B7-1.</p>
B7-3	<p>Calculated on the 2023-2024 financial year, the contribution rates are:</p> <ol style="list-style-type: none"> <li>(1) \$1,972 AUD (excluding GST) per <b>ha</b> of the following environmental values cleared as a result of the proposal within the Hamersley <b>IBRA</b> subregion: <ol style="list-style-type: none"> <li>(a) <b>Good to Excellent condition native vegetation</b></li> </ol> </li> <li>(2) \$1,972 AUD (excluding GST) per <b>ha</b> of the following environmental values cleared as a result of the proposal within the Hamersley <b>IBRA</b> subregion: <ol style="list-style-type: none"> <li>(a) <b>Ghost Bat (<i>Macroderma gigas</i>) critical habitat</b></li> <li>(b) <b>Grey Falcon (<i>Falco hypoleucos</i>) critical habitat</b></li> </ol> </li> <li>(3) \$986 AUD (excluding GST) per <b>ha</b> of the following environmental values cleared as a result of the proposal within the Hamersley <b>IBRA</b> subregion: <ol style="list-style-type: none"> <li>(a) <b>Pilbara Olive Python (<i>Liasis olivaceus barroni</i>) supporting habitat</b></li> <li>(b) <b>Grey Falcon (<i>Falco hypoleucos</i>) supporting habitat</b></li> </ol> </li> </ol>
B7-4	<p>The rates in condition B7-3 change annually each subsequent financial year in accordance with the percentage change in CPI applicable to that financial year.</p>
B7-5	<p>To achieve the objective in condition B7-1 the proponent must prepare an Impact Reconciliation Procedure and submit to the CEO. This procedure must:</p> <ol style="list-style-type: none"> <li>(1) spatially define the environmental value(s) identified in condition B7-1</li> <li>(2) spatially define the areas where offsets required by condition B7-1 are to be exempt</li> <li>(3) include a methodology to calculate the amount of clearing undertaken during each year of the biennial reporting period for each of the environmental values identified in condition B7-3</li> <li>(4) state that clearing calculation for the first biennial reporting period will commence from ground disturbing activities in accordance with condition B7-2 and end on the second 30 June following commencement of ground disturbing activities</li> <li>(5) state that clearing calculations for each subsequent biennial reporting period will commence on 1 July of the required reporting period, unless otherwise agreed by the CEO</li> <li>(6) indicate the timing and content of the Impact Reconciliation Reports; and</li> </ol>

Condition number	Condition requirements
	(7) be prepared in accordance with <i>Instructions on how to prepare Environmental Protection Act 1986 Part IV Impact Reconciliation Procedures and Impact Reconciliation Reports</i> (or any subsequent revisions).
B7-6	The proponent must submit an Impact Reconciliation Report in accordance with the confirmed Impact Reconciliation Procedure in condition B7-5.
B7-7	The Impact Reconciliation Report required pursuant to condition B7-6 must provide the location and spatial extent of the clearing undertaken as a result of the proposal during each year of each biennial reporting period.
B7-8	The proponent may apply in writing and seek the written approval of the CEO to reduce all or part of the contribution payable under condition B7-2 where: <ul style="list-style-type: none"> <li>(1) a payment has been made to satisfy a condition of an approval under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> in relation to the proposal; and</li> <li>(2) the payment is made for the purpose of counterbalancing impacts of the proposal on matters of national environmental significance.</li> </ul>
B7-9	The <b>CEO</b> may grant approval to discount the amount payable under condition B7-2 if the <b>CEO</b> is satisfied that the payment will offset the significant residual impacts of the proposal.
B7-10	Condition C2 applies to the <b>confirmed</b> Impact Reconciliation Procedure required by condition B7-5 as if it were an environmental management plan.
B7-11	Failure to implement a <b>confirmed</b> Impact Reconciliation Procedure or submit an Impact Reconciliation Report as required by condition B7-6 represents a non-compliance with these conditions.
B7-12	The clearing of 4,050 ha of native vegetation previously authorised under Ministerial Statements 679 prior to 22 October 2015 is exempt from the requirement to offset under condition B7-1.

## Appendix 2 Baseline spatial data associated with the environmental value requiring offset

Flora, vegetation and vertebrate fauna surveying of the Development Envelope was undertaken in accordance with the EPA Technical Guidance relevant at the time of surveying (EPA 2016, 2020). The flora and vegetation surveying included the assessment and mapping of vegetation condition. The condition of vegetation was mapped using the Vegetation Condition Scale for the Eremaean and Northern Botanical Provinces as per Table 2 in the EPA Technical Guidance (EPA 2016). The vertebrate fauna survey included the identification and mapping of fauna habitats, and an assessment of their importance to threatened fauna species that are known to occur in the Development Envelope.

All baseline environmental survey data captured during the surveys was supplied to BHP in accordance with BHP Data Standards (document SPR-IEN-EMS-015) (BHP 2020). The BHP Data Standards ensure a consistent and repeatable method of capturing environmental survey data. The survey data is stored on BHP's internal database system following review for technical and spatial accuracy.

This baseline environmental survey data and existing land disturbance data is considered to form the pre-clearing extent and baseline state (of vegetation condition and fauna habitats) for this IRP.

The following spatial data is provided to support this IRP, as per the Instructions:

- **boundary:** the Amended Proposal Development Envelope
- **baseline:** vegetation condition mapping (baseline survey data), fauna habitat mapping (baseline survey data), clearing/ land disturbance up to the date of the approval of the Amended Proposal, and IBRA subregions
- **imagery:** aerial imagery for the extent of the Development Envelope.

All spatial data is provided in a format that complies with the requirements of the Instructions, and as per the following parameters:

- **data type:** closed polygons for boundary and baseline data attributes as per Table 6 of the Instructions
- **format:** shapefiles or Environmental Systems Research Institution (ESRI) geodatabase format
- **coordinate system:** Geocentric Datum of Australia 2020 (GDA2020) datum, projected into the appropriate Map Grid of Australia zone
- **imagery:** Enhanced Compressed Wavelet (ECW) format or Geographic Tagged Image File Format (GeoTIFF), at a minimum 1 m resolution.