



## Application for Licence Amendment

### Part V Division 3 of the *Environmental Protection Act 1986*

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|                       |   |
|-----------------------|---|
| <b>Licence Number</b> | L9178/2018/1  |
| <b>Licence Holder</b> | Mulga Downs Iron Ore Pty Ltd  |
| <b>ACN</b>            | 080 659 150   |
| <b>File Number</b>    | DER2018/001539  |
| <b>Premises</b>       | Mulga Downs Exploration Camp Landfill<br>Part of R 47/12<br>Mulga Downs WA 6751<br><br>As defined by the coordinates in Schedule 1 of the Revised Licence |
| <b>Date of Report</b> | 30 May 2024   |
| <b>Decision</b>       | Revised licence granted   |

**MANAGER, RESOURCE INDUSTRIES  
REGULATORY SERVICES**

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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## 1. Decision summary

Licence L9178/2018/2 (Licence) is held by Mulga Downs Iron Ore Pty Ltd (Licence Holder) for the Mulga Downs Exploration Camp Landfill (the Premises), located at Part of R 47/12, MULGA DOWNS WA 6751.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the construction and operation of the Premises. As a result of this assessment, Revised Licence L9178/2018/2 has been granted.

## 2. Scope of assessment

### 2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

### 2.2 Application summary

On 02 February 2024, the Licence Holder submitted an application to the department to amend the Licence under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act).

The Licence Holder proposes to increase the size of the land occupied by the Premises from the current 0.39 hectares (ha) up to 0.89 ha (see Figure 1). The additional 0.5 ha of land is required by the Licence Holder because the current landfill is nearing capacity, and more space is required for the disposal of wastes, which are generated at the onsite exploration camp. The Licence Holder has not proposed any changes to the types of wastes authorised for disposal at the Premises (as defined in the Licence) or to the current capacity to bury up to 50 tonnes per year.

The Licence Holder proposes to continue with the current method of utilising excavated trenches for the disposal of waste and will construct three new trenches in the expanded area as shown in Figure 1 below. The method of disposal will remain the same with waste placed within the active trench with the tipping area covered with 300 mm of Inert Waste Type 1 or Clean Fill at least once a month except for Special Waste Type 2, which is covered immediately following placement in the trench.

The construction of each new trench at the Premises will remain the same as existing practices with the trench excavated to a depth of 2.5 m and will be 40 m long and 2 m wide and will be unlined. The Licence Holder proposes to install a 0.75 m high earthen bund around the perimeter of the new landfill area to divert clean stormwater away from waste disposal areas and to retain any contaminated stormwater within the boundary of the Premises. A 1.8 m high cyclone fence is also proposed around the perimeter of the extend landfill area which will assist in mitigating windblown waste and restrict access to fauna.

Three groundwater monitoring bores are installed at the Premises to measure groundwater quality and groundwater levels. These bores were initially installed at the Premises construction phase, however, the requirement to measure water quality was not regulated through conditions of the Licence as the department considered the risk of impacts to groundwater from landfill operations was low. The Licence Holder now proposes to install three additional groundwater monitoring bores within the adjacent extended area (see Figure 1).

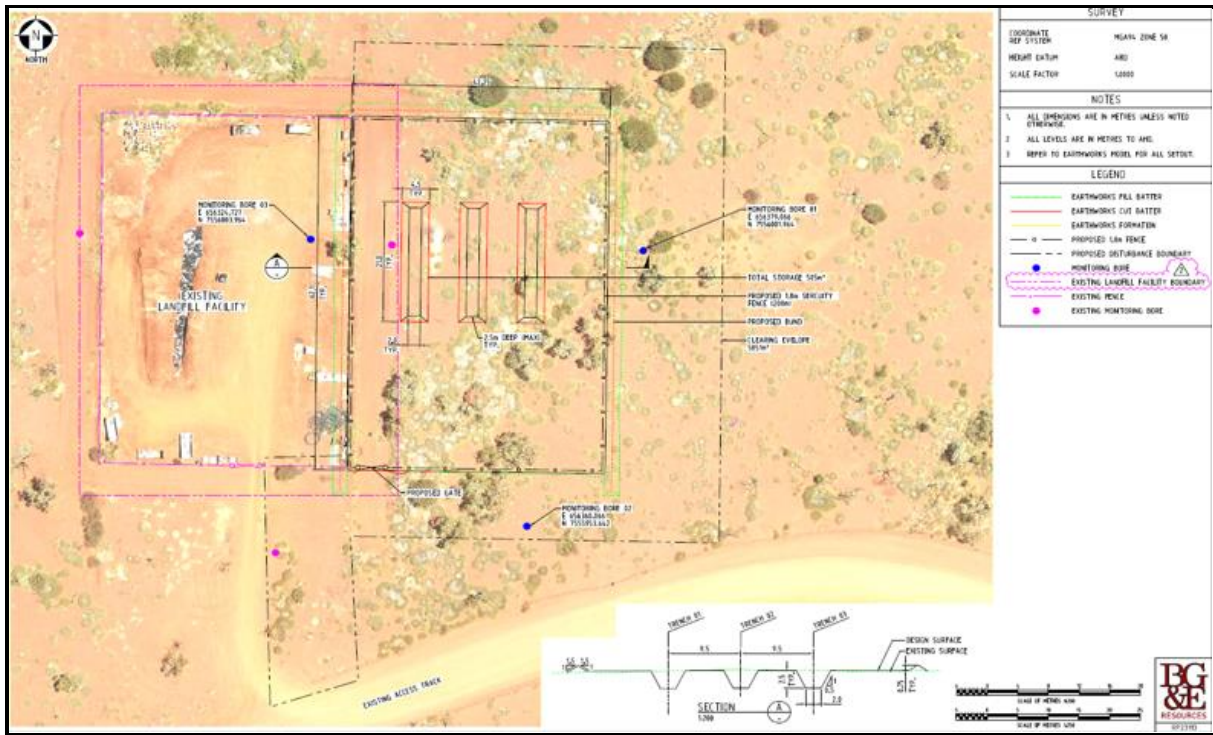


Figure 1: Site Layout

### 3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

#### 3.1 Source-pathways and receptors

##### 3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this Amendment Report are detailed in Table 1 below. Table 1 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 1: Licence Holder controls

| Emission            | Sources   | Potential pathways    | Proposed controls  |
|---------------------|---|-----------------------|--|
| <b>Construction</b> |   |                       |  |
| Dust                | Earth moving and construction of landfill trenches, access roads, earthen bunding and | Air/windborne pathway | Onsite speed limited to 30 km/hr.<br>Use of water cart as required to wet down roads, cleared areas and cover materials.<br>Cease construction and operations during |

| Emission  | Sources  | Potential pathways                            | Proposed controls   |
|---|--|---|---|
|   | fencing.<br>Landfilling operations including vehicle movements.<br>Stockpiling cover material/s. |   | high winds.<br>Minimise required clearing as far as practicable.  |
| <b>Operations</b>   |  |   |   |
| Dust  | Landfilling operations including vehicle movements.<br>Stockpiling cover materials               | Air/windborne pathway                         | Onsite speed limited to 30 km/hr.<br>Use of water cart as required to wet down roads, cleared areas and cover materials.<br>Cease construction and operations during high winds.<br>Minimise required clearing as far as practicable.   |
| Odour   | Landfilling of putrescible waste   | Air/windborne pathway                         | All waste will be unloaded into the landfill as close to the ground as possible.<br>All wastes entering the site will be covered to prevent the uncontrolled release of litter.   |
| Windblown waste   | Landfilling of putrescible waste   | Air/windborne pathway                         | All waste will be unloaded into the landfill as close to the ground as possible.<br>All wastes entering the site will be covered to prevent the uncontrolled release of litter.<br>1.8 m high boundary fence to reduce dispersal of wind blown waste.<br>Boundary fence will be inspected at least once a month for windblown waste and any collected waste will be returned to the active trench and covered to prevent further windblown waste. |
| Contaminated/high sediment laden stormwater   | Cleared areas, access roads<br>Landfilling operations.<br>Stockpiling of cover materials         | Surface run-off                               | Installation of a 0.75 m high earthen bund around the landfill boundary to divert stormwater away from landfilling areas.<br>Surrounding landfill trenches capable of diverting stormwater away from active landfill trench.  |
| Leachate arising from the degradation of the waste mass and/or interaction with rainwater ingress | Landfilling of putrescible waste (unlined landfill)  | Seepage to land impacting groundwater quality | New landfill extension positioned in an area where the depth to groundwater is 13 – 14 metres below ground level (mbgl) which is greater than the minimum 3 m required in the <i>Environmental Protection (Rural Landfill) Regulations 2002</i> .   |

| Emission                            | Sources             | Potential pathways   | Proposed controls   |
|-------------------------------------|---------------------|--|---|
| Contaminated fire suppression water | Landfill fire event | <p>Surface run-off impacting nearby creeklines.</p> <p>Seepage to land impacting groundwater quality</p> | <p>Landfill trenches constructed below ground level with earthen bund around each trench to retain fire suppression water.</p> <p>Regular covering of waste to minimise fire risk.</p> <p>Security fence (1.8 m height) installed around the Premises.</p> <p>A number of smaller trenches for waste disposal instead of one larger trench.</p> |

### 3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Licence Holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 2 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental siting* (DWER 2020)).

**Table 2: Sensitive human and environmental receptors and distance from prescribed activity**

| <b>Human receptors</b>   | <b>Distance from prescribed activity</b>                 |
|--|--|
| Mulga Downs Pastoral Station Homestead   | Approximately 4.5km west of the landfill                 |
| <b>Environmental receptors</b>   | <b>Distance from prescribed activity</b>                 |
| Ephemeral Creeks – Unnamed drainage lines  | Approximately 150 m east and 100 m west of the landfill. |
| Groundwater – fresh to brackish and is suitable for stockwatering                                    | Approximately 13 – 14 metres below ground level (mbgl)   |
| Five separate heritage sites within the Premises boundary. Primarily consists of artifacts/scatters. | Closest within 200 m of the landfill boundary.           |

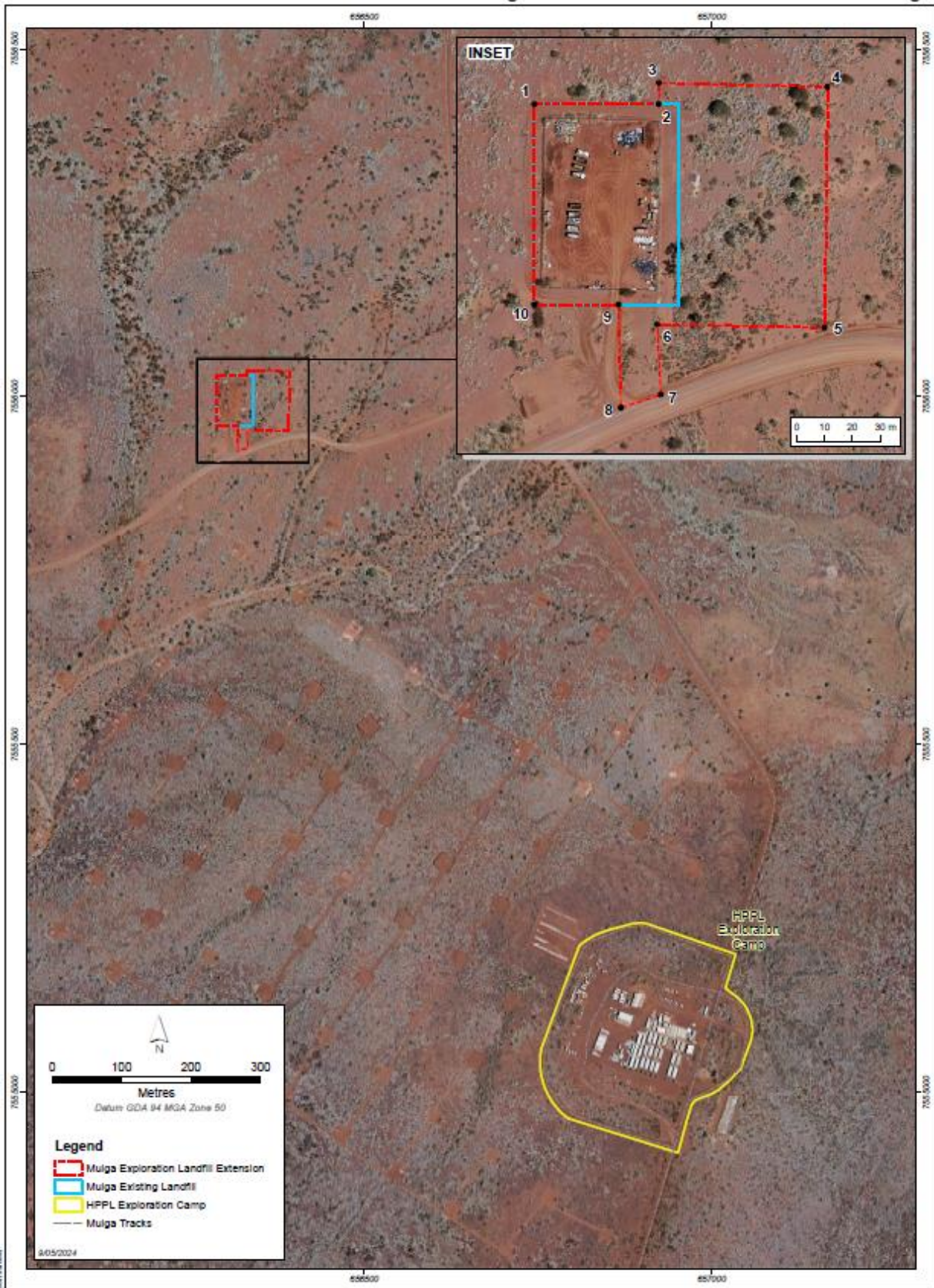


Figure 2: Distance to sensitive receptors



## 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

The Revised Licence L9178/2018/2 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. Category 89 activities.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

**Table 3. Risk assessment of potential emissions and discharges from the Premises during construction and operation**

| Risk Event   |                    |   |  |                           | Risk rating <sup>1</sup><br>C = consequence<br>L = likelihood | Licence Holder's controls sufficient? | Conditions <sup>2</sup> of licence  | Justification for additional regulatory controls |
|--|--------------------|---|--|---------------------------|---|---------------------------------------|---|--|
| Source/Activities  | Potential emission | Potential pathways and impact   | Receptors  | Licence Holder's controls |   |                                       |   |  |
| <b>Construction</b>  |                    |   |  |                           |   |                                       |   |  |
| Construction of landfill trenches, access roads, earthen bunding and fencing       | Dust               | Air/windborne pathway   | Vegetation   | Refer to Section 3.1      | C = Slight<br>L = Rare<br><b>Low Risk</b>                     | Y                                     | N/A   | N/A  |
| <b>Operations</b>  |                    |   |  |                           |   |                                       |   |  |
| Landfilling operations including vehicle movements.<br>Stockpiling cover materials | Dust               | Air/windborne pathway   | Vegetation   | Refer to Section 3.1      | C = Slight<br>L = Rare<br><b>Low Risk</b>                     | Y                                     | N/A   | N/A  |
| Landfilling of putrescible waste   | Odour              | Air/windborne pathway   | Mulga Downs Pastoral Station Homestead approximately 4.5 km west of the landfill | Refer to Section 3.1      | C = Slight<br>L = Rare<br><b>Low Risk</b>                     | Y                                     | Conditions 1 Table 1, 2, 3, 4, 5 Table 2, 6, 7 Table 3, 8<br>Design and location of landfill trenches and fencing<br>Existing conditions for maintaining infrastructure, operational requirements (including cover materials), waste disposal (types, quantity and method) and recording and reporting requirements | N/A  |
|  | Windblown waste    | Air/windborne pathway causing detrimental impacts to culturally significant sites | Heritage sites within 200 m  | Refer to Section 3.1      | C = Slight<br>L = Unlikely<br><b>Low Risk</b>                 | Y                                     | Conditions 1 Table 1, 2, 3, 4, 5 Table 2, 6, 7 Table 3, 8<br>Design and location of landfill trenches and fencing<br>Existing conditions for maintaining infrastructure, operational requirements (including cover materials), waste disposal (types, quantity and method) and recording and reporting requirements | N/A  |

| Risk Event  |  |  |   |                           | Risk rating <sup>1</sup>                        | Licence Holder's controls sufficient? | Conditions <sup>2</sup> of licence   | Justification for additional regulatory controls |
|---|--|--|---|---------------------------|---|---------------------------------------|--|--|
| Source/Activities   | Potential emission   | Potential pathways and impact  | Receptors   | Licence Holder's controls | C = consequence<br>L = likelihood               |                                       |  |  |
| Cleared areas, access roads<br>Landfilling operations<br>Stockpiling of cover materials | Contaminated stormwater  | Surface run-off causing detrimental impacts on the surrounding ephemeral creeks due to poor water quality  | Ephemeral Creeks about 150 m east and 100 m west of the landfill                                      | Refer to Section 3.1      | C = Minor<br>L = Possible<br><b>Medium Risk</b> | Y                                     | Conditions 1 Table 1, 2, 3, 4, 5 Table 2, 6, 7 Table 3<br>Design and location of stormwater infrastructure<br>Existing conditions for maintaining stormwater infrastructure, waste disposal (types and quantity) and recording and reporting requirements  | N/A  |
| Landfilling of putrescible waste (unlined landfill)                                     | Leachate: arising from the degradation of the waste mass and/or interaction with rainwater ingress | Seepage to land impacting groundwater quality.   | Underlying groundwater 13-14 mbgl   | Refer to Section 3.1      | C = Slight<br>L = Unlikely<br><b>Low Risk</b>   | Y                                     | Conditions 1 Table 1, 2, 3, 4, 5 Table 2, 6, 7 Table 3<br>Design and location of landfill trenches<br>Existing conditions for maintaining infrastructure, operational requirements (including cover materials), waste disposal (types, quantity and method) and recording and reporting requirements                                 | N/A  |
|   | Fire event: contaminated fire suppression water  | Surface run-off causing detrimental impacts on the surrounding ephemeral creeks due to poor water quality<br>Seepage to land impacting groundwater quality | Ephemeral Creeks about 150 m east and 100 m west of the landfill<br>Underlying groundwater 13-14 mbgl | Refer to Section 3.1      | C = Moderate<br>L = Rare<br><b>Medium Risk</b>  | Y                                     | Conditions 1 Table 1, 2, 3, 4, 5 Table 2, 6, 7 Table 3, 8<br>Design and location of landfill trenches<br>Existing conditions for maintaining infrastructure, operational requirements (including cover materials), waste disposal (types, quantity and method) and recording and reporting requirements retained within the Licence. | N/A  |

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Proposed Licence Holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

## 4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

**Table 4: Consultation**

| Consultation method   | Comments received  | Department response  |
|---|--|--|
| Local Government Authority advised of proposal 29 February 2024.  | The Shire of Ashburton replied on 22 March 2024 with no objections to the proposed expansion of the landfill area.   | Noted.   |
| Email received from Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) 06 March 2024. | <p>DEMIRS stated that the information provided by the Applicant seems to contradict information provided to DWER on whether or not the landfill is for exploration.</p> <p>DEMIRS expects exploration activities are managed to be low impact transient activities and clearly related to exploration activities.</p> <p>Landfills are not typical exploration disturbances given their rehabilitation complexities and as they are usually permanent structures.</p> <p>DEMIRS considers that the landfill requires a Programme of Work (PoW) that demonstrates the requirement for exploration, appropriate amendment and rehabilitation strategies.</p> <p>On 26 April 2024 DEMIRS confirmed that a PoW application for landfill (Reg ID 124093) has been received and will be processed.</p> | <p>The Licence Holder has demonstrated legal occupancy of the Premises and therefore DWER considers there is no reason to withhold approval to amend the Licence.</p> <p>DWER notes that the PoW is under assessment and DEMIRS approval will be required prior to works commencing at the Premises.</p> |
| Licence Holder was provided with draft amendment on 30/04/2024  | Comments received 16/05/2024. Applicant provided an updated Premises map and requested the remaining comment period be waived.   | Licence updated with new map.  |

## 5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

### 5.1 Summary of amendments

Table 5 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

**Table 5: Summary of licence amendments**

| Condition no.                                     | Proposed amendments   |
|---|---|
| Premises details                                  | Premises description changed as coordinates have been updated. DWER has noted that R47/12 expires on 17 May 2026 and it is the responsibility of the Licence Holder to ensure that they have appropriate approvals. |
| New condition 1                                   | Standard design and installation requirement condition for the Mulga Exploration Landfill Extension.  |
| New condition 2                                   | Standard condition requiring the Licence Holder undertake auditing and submit a construction report following the installation/construction of the Mulga Exploration Landfill Extension.                            |
| New condition 3                                   | Standard Licence Holder reporting requirement condition.  |
| New condition 4                                   | Standard condition to allow use of the new landfill area following the submission of the construction report.   |
| Schedule 1: Maps<br>Figure 1                      | Premises map updated to include the new landfill extension area.  |
| Schedule 1: Maps<br>Premises<br>boundary, Table 5 | Premises boundary coordinates updated.  |
| Schedule 1: Maps<br>Site Layout map<br>Figure 2   | Map updated to include the new landfill extension area.   |

## References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Hanroy Hancock Prospecting, Exploration Camp Landfill Licence Amendment – Supporting Documentation, Mulga Downs Exploration Camp Landfill, 25/01/2024