



# Works Approval

<b>Works approval number</b>	W6887/2024/1	
<b>Works approval holder</b>	South32 Worsley Alumina Pty Ltd	
<b>ACN</b>	008 905 155	
<b>Registered business address</b>	Gastaldo Road, Allanson WA 6255	
<b>DWER file number</b>	DER2024/000040	
<b>Duration</b>	14/01/2025 to	13/01/2028
<b>Date of issue</b>	14/01/2025	
<b>Premises details</b>	Nullaga Mine Development Project – Crushing and screening plants Boddington WA 6390	
	Legal description – Part of mining tenements: M258SA, M70/25, M70/564, M70/1428 and L70/223. As defined by the premises map in Schedule 1 and the coordinates in Schedule 2.	

<b>Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)</b>	<b>Assessed production capacity</b>
Category 12: Screening etc. of material: premises (other than premises within category 5 or 8) on which material is extracted from the ground is screened, washed, crushed. Ground, milled, sized or separated.	700,000 tonnes per year

This works approval is granted to the works approval holder, subject to the attached conditions, on 14 January 2025, by:

**A/SENIOR MANAGER, RESOURCE INDUSTRIES  
INDUSTRY REGULATION (STATEWIDE DELIVERY)**

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

## Works approval history

Date	Reference number	Summary of changes
14/01/2025	W6887/2024/1	Works approval granted.

## Interpretation

In this works approval:

- (a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a condition, each row in a table constitutes a separate condition;
- (d) any reference to an Australian or other standard, guideline, or code of practice in this works approval:
  - (i) if dated, refers to that particular version; and
  - (ii) if not dated, refers to the latest version and therefore may be subject to change over time;
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and
- (f) unless specified otherwise, all definitions are in accordance with the EP Act.

**NOTE:** This works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

# Works approval conditions

The works approval holder must ensure that the following conditions are complied with:

## Construction phase

### Infrastructure and equipment

1. The works approval holder must:
  - (a) construct and install the infrastructure or equipment;
  - (b) in accordance with the corresponding design and construction requirements; and
  - (c) at the corresponding infrastructure location.

As set out in Table 1.

**Table 1: Design and construction requirements**

	Infrastructure	Design and construction / installation requirements	Infrastructure location
1.	Mobile Crushing and Screening Plant 1	(a) Mobile Crushing and Screening Plant 1 to consist of: <ul style="list-style-type: none"> <li>- 1x jaw crusher,</li> <li>- 2x cone crushers,</li> <li>- 1x screener; and</li> <li>- associated conveyors,</li> </ul> installed to manufacturers specifications in general accordance with Figure 2 of Schedule 1; (b) Sound power level of the Mobile crusher and Mobile screen must not exceed 108 dB(A) and 107 dB(A), respectively, when operated independently; (c) Reticulated mist sprays to be installed on conveyors and all material transfer points; (d) 50 kilolitres (kL) raw water tank with surface water pipes leading from the tank to the plant to be installed to provide water to the reticulated mist sprays; (e) A dedicated water cart to be present during installation of the plant to manage dust emissions; (f) All vehicles and mobile machinery involved in the crushing and screening operation to be fitted with non-tonal reversing beepers; and (g) Stormwater management infrastructure to be installed to divert clean stormwater around construction and operational areas for crushing and screening plant, and to capture and retain potentially contaminated or contaminated stormwater on-site.	Within the Prescribed Premises boundary as depicted in Figure 1 of Schedule 1.
2.	Mobile Crushing and Screening Plant 2	(a) Mobile Crushing and Screening Plant to consist of: <ul style="list-style-type: none"> <li>- 1x jaw crusher,</li> <li>- 2x cone crushers,</li> <li>- 1x screen; and</li> <li>- associated conveyors,</li> </ul>	Within the Prescribed Premises boundary as depicted in Figure 1 of Schedule 1.

	Infrastructure	Design and construction / installation requirements	Infrastructure location
		<p>installed to manufacturers specifications in general accordance with Figure 2 of Schedule 1;</p> <p>(b) Sound power level of the Mobile crusher and Mobile screen must not exceed 108 dB(A) and 107 dB(A), respectively, when operated independently;</p> <p>(c) Reticulated mist sprays to be installed on conveyors and all material transfer points;</p> <p>(d) 50 kL raw water tank with surface water pipes leading from the tank to the plant to be installed to provide water to the reticulated mist sprays;</p> <p>(e) A dedicated water cart to be present during installation of the plant to manage dust emissions;</p> <p>(f) All vehicles and mobile machinery involved in the crushing and screening operation to be fitted with non-tonal reversing beepers; and</p> <p>(g) Stormwater management infrastructure to be installed to divert clean stormwater around construction and operational areas for crushing and screening plant, and to capture and retain potentially contaminated or contaminated stormwater on-site.</p>	
3.	Oily water separator and associated infrastructure [for the bulk fuel storage area of the non-process infrastructure (NPI) facility]	<p><b>Concrete hard stand and sumps</b></p> <p>(a) Concrete hardstand or compacted, lined earth pad installed under hydrocarbon storage and refueling facilities where there is potential for hydrocarbon spills:</p> <ul style="list-style-type: none"> <li>i Lined earth pad to meet a minimum permeability of <math>1 \times 10^{-9}</math> m/s; or</li> <li>ii Hardstands constructed in accordance with Australian Standard "The storage and handling of flammable and combustible liquids" (AS1940:2017);</li> </ul> <p>(b) 2x 5 kL sumps to receive drainage from concrete hard stands/compacted lined earth pad;</p> <p>(c) Float valve installed in sumps to automatically pump water to the oily water separator prior to overflowing; and</p> <p>(d) Pipeline installed above-ground leading from sumps to oily water separator to be bunded.</p> <p><b>Oily water separator</b></p> <p>(e) Oily water separator consisting of a full retention separator;</p> <p>(f) Oily water separator to have a minimum treatable flowrate of 5 L/s; and</p> <p>(g) Oily water separator fitted with a suitable isolation valve to attach to a waste removal truck.</p> <p><b>Evaporation pond</b></p> <p>(h) Lined with 2 mm High-Density Polyethylene (HDPE);</p>	As depicted in Figure 3 and Figure 4 of Schedule 1.

	Infrastructure	Design and construction / installation requirements	Infrastructure location
		(i) Evaporation pond to have a minimum holding capacity of 250 kL (excluding freeboard); and (j) Security fencing to be installed around the toe of the evaporation pond to prevent fauna access.	

### Compliance reporting

2. The works approval holder must within 30 calendar days of an item of infrastructure or equipment required by condition 1 being constructed or installed:
  - (a) undertake an audit of their compliance with the requirements of condition 1; and
  - (b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.
3. The Environmental Compliance Report required by condition 2, must include as a minimum the following:
  - (a) certification by a crushing/screening plant operator and/or fitter that the crushing and screening plant or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;
  - (b) certification by an engineer that the oily water separator and component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;
  - (c) as constructed plans or photographs and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1; and
  - (d) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

### Time limited operations phase

#### Commencement and duration

4. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1 where the Environmental Compliance Report as required by condition 2 has been submitted by the works approval holder for that item of infrastructure.
5. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 6 (as applicable):
  - (a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 4 for that item of infrastructure; or
  - (b) until such time as a licence for that item of infrastructure is granted in accordance with Part V of the *Environmental Protection Act 1986*, if one is granted before the end of the period specified in condition 5(a).

#### Time limited operations requirements and emission limits

6. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 2 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 2.

**Table 2: Infrastructure and equipment requirements during time limited operations**

	Site infrastructure and equipment	Operational requirement	Infrastructure location
1.	Mobile Crushing and Screening Plant 1 and 2	<p>(a) All installed reticulated mist sprays must be maintained and operated during crushing and screening activity to minimise dust emissions;</p> <p>(b) Plants to be maintained in accordance with manufactures specifications;</p> <p>(c) 2 x dedicated water carts, each with a holding capacity of up to 121 kL, to be available at all times for each crushing and screening plant, operated to precondition feed material for the crushers to minimise dust emissions.</p> <p>(d) Potentially contaminated or contaminated stormwater from within the crushing and screening operating areas is captured and prevented from being released into the environment.</p>	Within the Prescribed Premises boundary as depicted in Figure 1 of Schedule 1.
2.	Mobile machinery and vehicles	Vehicles and mobile machinery associated with the plant to be fitted with non-tonal reversing beepers	Within the Prescribed Premises boundary as depicted in Figure 1 of Schedule 1.
3.	Oily water separator and associated infrastructure	<p>(a) Float valves and pumps maintained and operational to prevent overflowing of sumps;</p> <p>(b) Oily water separator maintained to have a minimum total capacity of 50 kL;</p> <p>(c) Evaporation pond freeboard of 300 mm or greater to be maintained; and</p> <p>(d) Fencing surrounding evaporation pond maintained to prevent fauna access.</p>	As depicted in Figure 3 of Schedule 1.

7. The works approval holder must ensure that no visible dust generated from the crushing and screening activities crosses the boundary of the premises.

8. The works approval holder must:

- (a) undertake inspections as detailed in Table 3;
- (b) Where any inspection identifies that an appropriate level on environmental protection is not maintained, take corrective action to mitigate adverse environmental consequences as soon as practical; and
- (c) Maintain a record of all inspections undertaken.

**Table 3: Inspection of infrastructure**

Infrastructure	Type of inspection	Frequency of inspection	Infrastructure Located
Evaporation Pond	Visual condition, leak assessment and if required freeboard is available.	Weekly	As depicted in Figure 3 of Schedule 1.
Oily water separator	Visual condition, leak assessment and no overflow of waste oil or treated water.		
Oily water separator pipelines	Visual condition and leak assessment.		

**Monitoring during time limited operations**

9. The works approval holder must ensure that:
  - (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1; and
  - (b) all samples are submitted to a laboratory with current National Association of Testing Authorities (NATA) accreditation for the parameters to be measured unless indicated otherwise in relevant table.
  
10. The works approval holder must sample the water within the evaporation pond during time limited operations for concentrations of the identified parameters in accordance with Table 4.

**Table 4: Monitoring during time limited operations**

Monitoring location	Parameter	Unit	Limit	Frequency
Evaporation pond (as depicted in Figure 3 of Schedule 1)	Total Petroleum Hydrocarbons (TPH)	mg/L	15	Prior to water being pumped from the evaporation pond to the standpipe; and Monthly (at a minimum).
	Total Recoverable Hydrocarbons (TRH)		-	
	Benzene			
	Toluene			
	Ethylbenzene			
	Xylene			
	Total BTEX (Benzene, Toluene, Ethylbenzene and Xylene)		0.01	

## Noise monitoring

11. Within 14 days of the commencement date of time limited operations, as specified in condition 4, the works approval holder must retain the services of a suitably qualified acoustics professional to:
  - (a) investigate the nature and extent of noise emissions from the premises during the normal operation of the Mobile Crushing and Screening Plants 1 and 2 (as specified in condition 1) during night-time hours; and
  - (b) assess noise emissions in accordance with the methodology required in the *Environmental Protection (Noise) Regulations 1997*, the compliance of the noise emissions from crushing and screening activities against the relevant assigned noise levels specified in the *Environmental Protection (Noise) Regulations 1997*.
12. The works approval holder must, within 60 calendar days of undertaking the investigation required by condition 11, prepare and submit to the CEO a report on the investigation.
13. The report required by condition 12 must include, as a minimum, the following:
  - (a) description of the methods used to investigate and monitor noise emissions, including the monitoring locations, monitoring duration, and frequency, as well as justification for these methods;
  - (b) details and results of the investigation undertaken pursuant to condition 11(a);
  - (c) details and results of the assessment of the noise emissions from the crushing and screening activities, against the relevant assigned noise levels in the *Environmental Protection (Noise) Regulations 1997* undertaken pursuant to condition 11(b).
14. Where the assessment pursuant to condition 11 indicates that noise emissions from crushing and screening activities do not comply with the relevant assigned noise levels in the *Environmental Protection (Noise) Regulations 1997*, the works approval holder must:
  - (a) within 14 calendar days, prepare and implement a plan to demonstrate the operation of Mobile Crushing and Screening Plants 1 and 2 will no longer lead to any contravention of the *Environmental Protection (Noise) Regulations 1997*; and
  - (b) provide to the CEO the plan prepared pursuant to condition 14(a).

## Compliance reporting

15. The works approval holder must submit to the CEO a report on the time limited operations within 30 calendar days of the completion date of time limited operations or 30 calendar days before the expiration date of the works approval, whichever is the sooner.
16. The works approval holder must ensure the report required by condition 15 includes the following:
  - (a) a summary of the time limited operations, including timeframes and amount of material processed;
  - (b) a review of performance and compliance against the conditions of the works approval;
  - (c) monitoring and inspection data as required by condition 7 and 10, including raw monitoring data and certificates of analysis (where applicable); and



- (d) where the manufacturer's design specifications and the conditions of this works approval have not been met, what measures will the works approval holder take to meet them, and what timeframes will be required to implement those measures.

## Records and reporting (general)

- 17.** The works approval holder must record the following information in relation to complaints received by the works approval holder (whether received directly from a complainant or forwarded to them by the department or another party) about any alleged emissions from the premises:
  - (a) the name and contact details of the complainant, (if provided);
  - (b) the time and date of the complaint;
  - (c) the complete details of the complaint and any other concerns or other issues raised; and
  - (d) the complete details and dates of any action taken by the works approval holder to investigate or respond to any complaint.
  
- 18.** The works approval holder must maintain accurate and auditable books including the following records, information, reports, and data required by this works approval:
  - (a) the works conducted in accordance with condition 6;
  - (b) any maintenance of infrastructure that is performed in the course of complying with condition 6;
  - (c) monitoring programmes undertaken in accordance with condition 10; and
  - (d) complaints received under condition 17.
  
- 19.** The books specified under condition 18 must:
  - (a) be legible;
  - (b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;
  - (c) be retained by the works approval holder for the duration of the works approval; and
  - (d) be available to be produced to an inspector or the CEO as required.

## Definitions

In this works approval, the terms in Table 5 have the meanings defined.

**Table 5: Definitions**

Term	Definition
AS/NZS 5667.1	means Australian/New Zealand Standard “Water Quality – Sampling”
AS1940:2017	means Australian Standard “The storage and handling of flammable and combustible liquids
BTEX	means benzene, toluene, ethylbenzene and xylene.
books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer. CEO for the purposes of notification means:  Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 <a href="mailto:info@dwer.wa.gov.au">info@dwer.wa.gov.au</a>
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V Division 3 of the EP Act.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
environmental commissioning	means the sequence of activities to be undertaken to test equipment integrity and operation, or to determine the environmental performance, of equipment and infrastructure to establish or test a steady state operation and confirm design specifications.
Environmental Commissioning Report	means a report on any commissioning activities that have taken place and a demonstration that they have concluded, with focus on emissions and discharges, waste containment, and other environmental factors.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and/or equipment has been constructed and/or installed in accordance with the works approval.
EP Act	<i>Environmental Protection Act 1986</i> (WA).
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA).

Term	Definition
HDPE	means High-Density Polyethylene.
monthly period	means a one-month period commencing from the first day of a month until the last day of the same month.
NATA	means National Association of Testing Authorities.
Night-time hours	Means from 2200 hours on any day to 0700 hours (Monday to Saturday) or 0900 hours (Sunday and public holidays), in accordance with regulation 8(3) of the <i>Environmental Protection (Noise) Regulations 1997</i> .
NPI	means non-process infrastructure.
premises	the premises to which this works approval applies, as specified at the front of this works approval and as shown on the premises map Figure 1 in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
time limited operations	refers to the operation of the infrastructure and equipment identified under this works approval that is authorised for that purpose, subject to the relevant conditions.
works approval	refers to this document, which evidences the grant of the works approval by the CEO under section 54 of the EP Act, subject to the conditions.
works approval holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval.

---

**END OF CONDITIONS**

## Schedule 1: Maps

### Premises map

The boundary of the prescribed premises is shown in the map below (Figure 1).

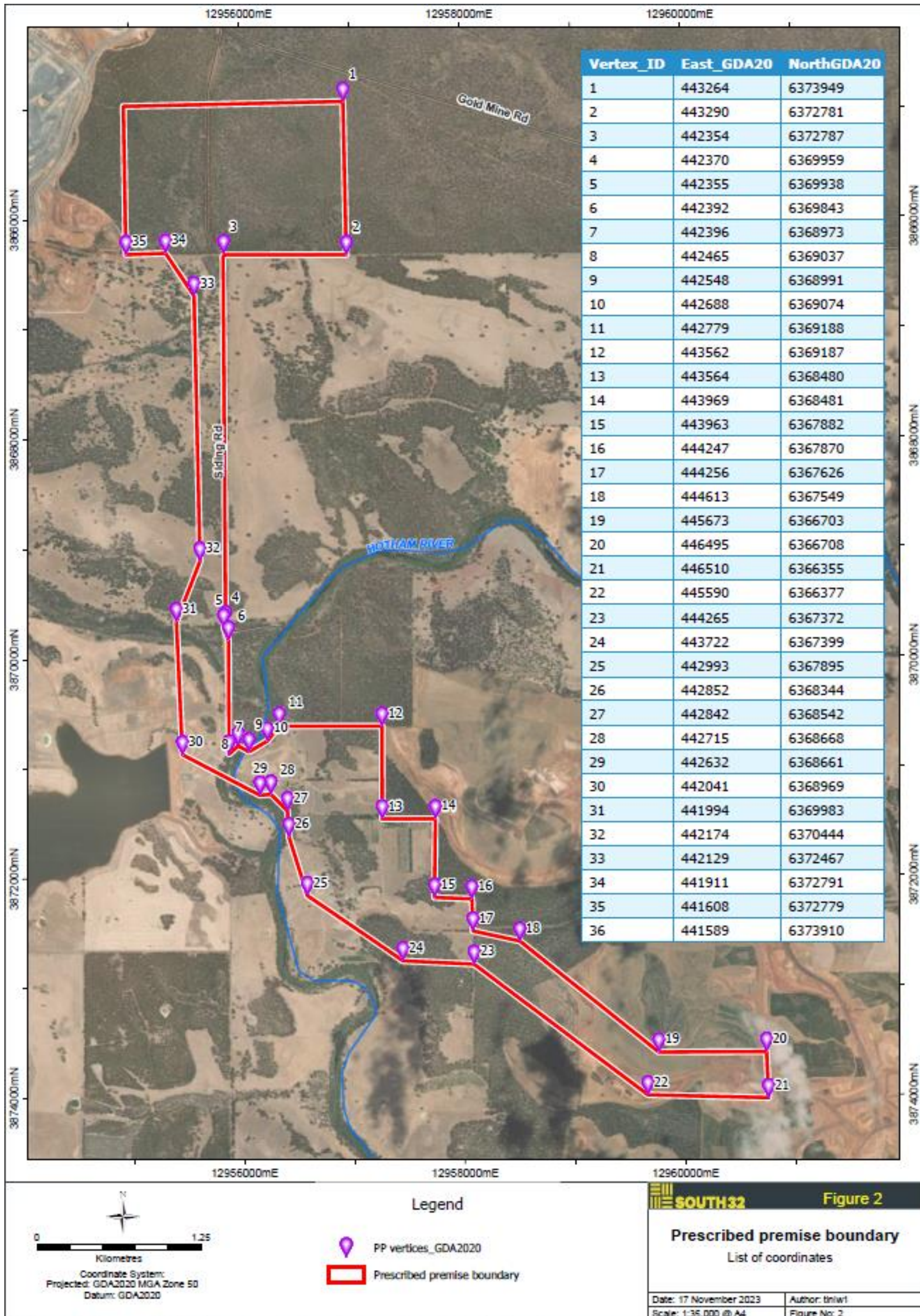


Figure 1: Map of the boundary of the prescribed premises

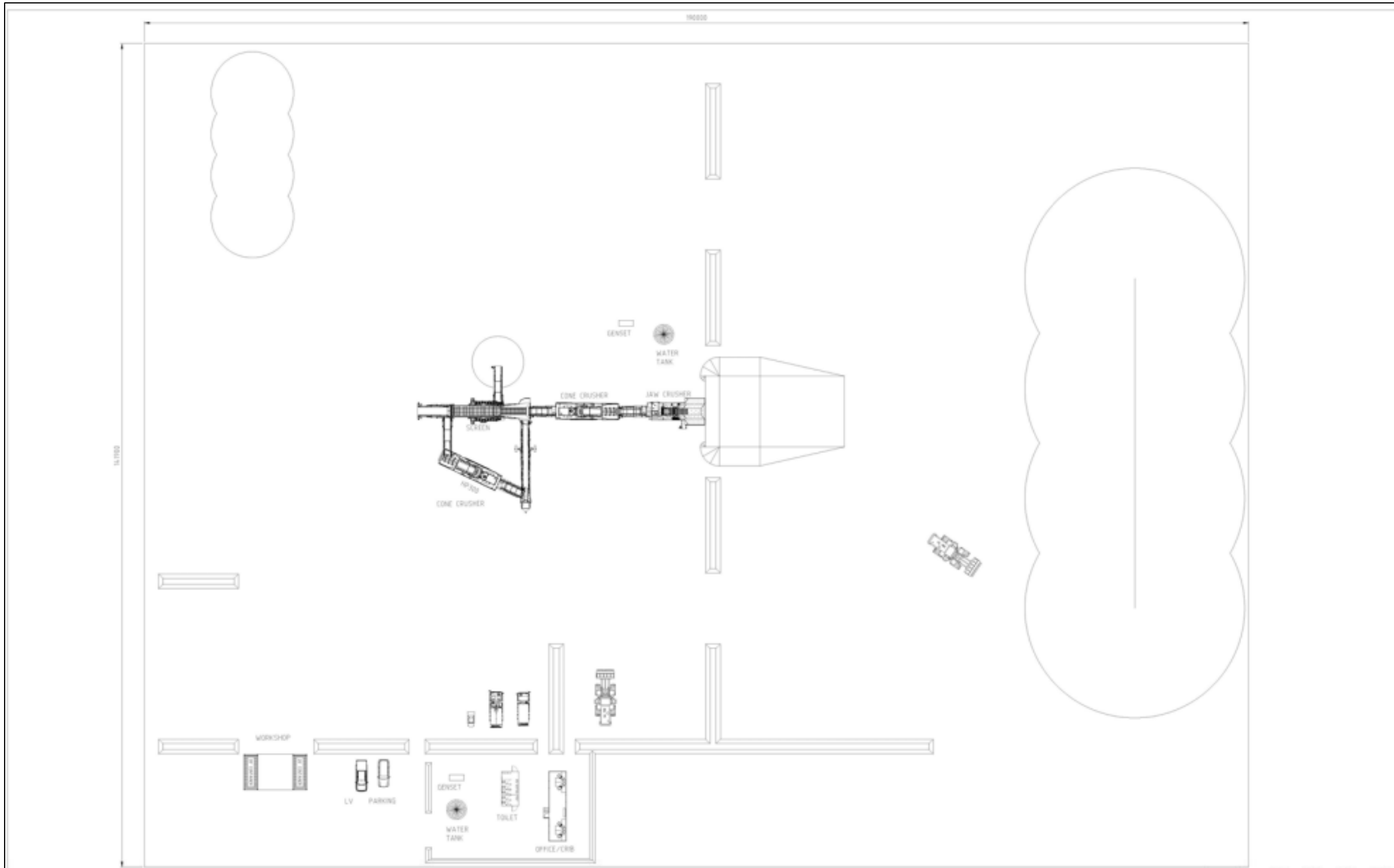


Figure 3B.1: Mobile Crusher Layout


										COPYRIGHT © RESERVED THIS DRAWING IS THE PROPERTY OF MACA MINING AND ITS ASSOCIATES. IT IS ISSUED ON THE CONDITION THAT IT MUST NOT BE REPRODUCED, COPIED OR COMMUNICATED TO ANY THIRD PARTY. IT IS NOT TO BE USED FOR ANY PURPOSE OTHER THAN THAT STATED IN THE ENQUIRY, ORDER OR CONTRACT WITH WHICH IT HAS BEEN ISSUED. THE RESERVATION OF COPYRIGHT EXTENDS FROM EACH REVISION DATE APPEARING ON THIS DRAWING.										CLIENT SOUTH 32 WORSLEY NULLAGA HAUL ROAD CRUSHING AND SCREENING SERVICES GENERAL LAYOUT									
45 Gordon Street, Walsby, SA 5108 Phone: (08) 4342 2600 Web: www.maca.net.au										PROJECT NO. MACA DRAWING NO. 110821 DATE 14/01/2025 DRAWN BY CHECKED BY APPROVED BY										SCALE 1:300 DRAWING No. MACA-WN-CR-GA-001 REV A									
REFERENCE DRAWING NUMBER TITLE										REV DATE DESCRIPTION BY CHK DIVISION DESIGNED BY APPROVED										A 15/08/24 ISSUE FOR INFORMATION PK ZK									

Figure 2: Mobile crushing and screening plant layout

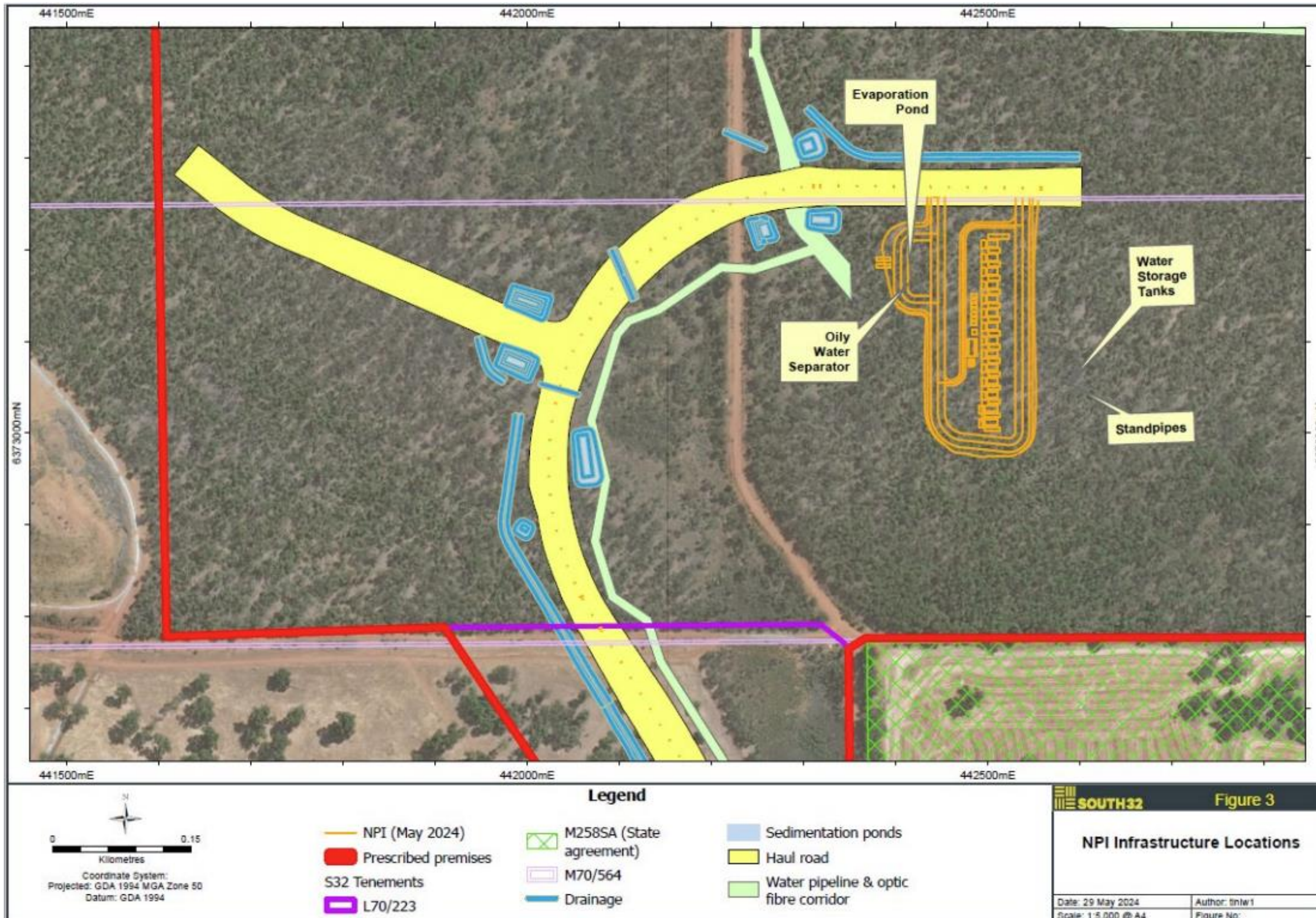


Figure 3: Location of oily water separator and associated infrastructure

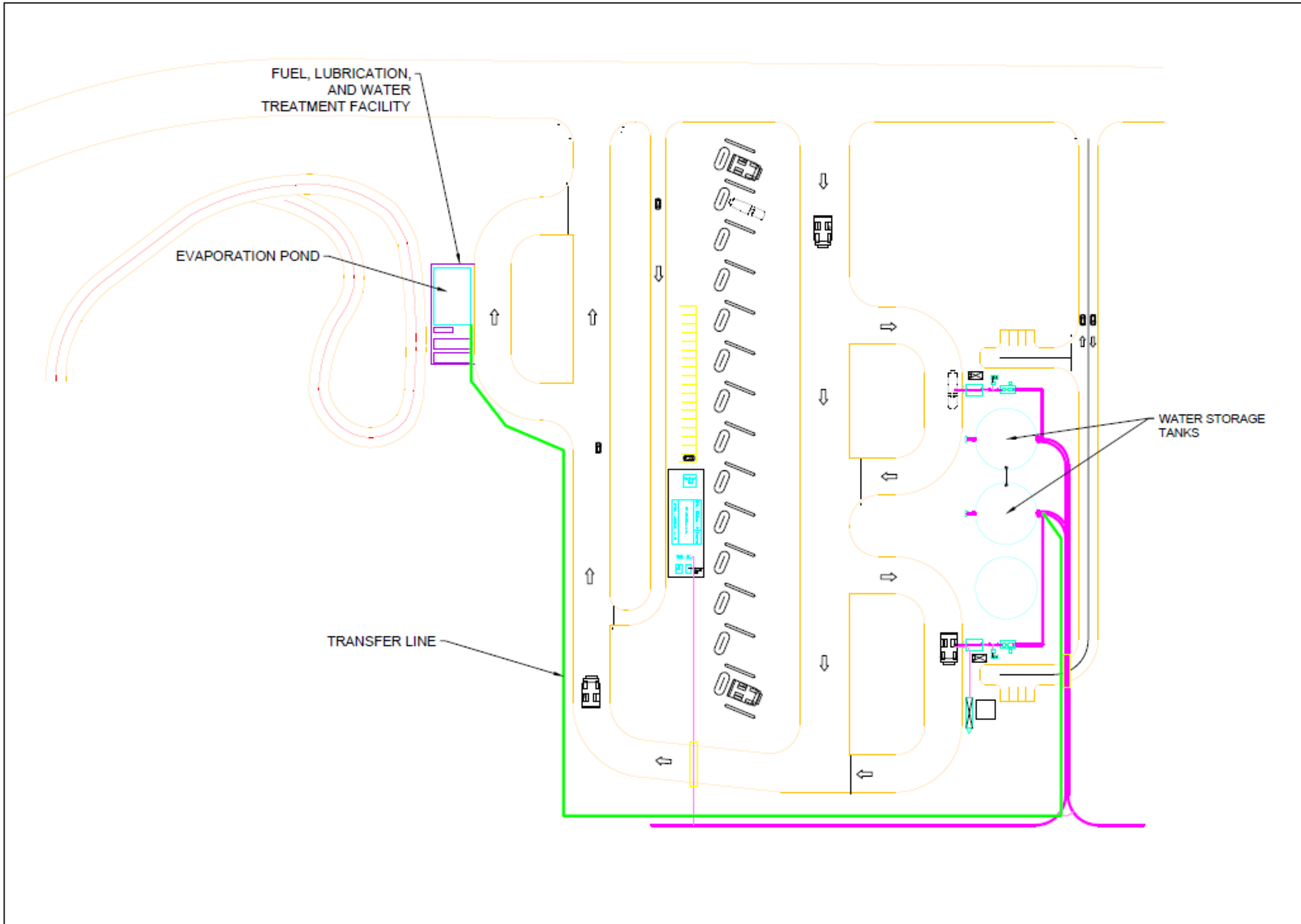


Figure 4: Estimated pipeline route between the Oily waster separator and the Water Storage Tanks

## Schedule 2: Premises boundary

The corners of the premises boundary are the coordinates listed in Table 6.

**Table 6: Premises boundary coordinates (GDA2020)**

	<b>Easting</b>	<b>Northing</b>	<b>Zone</b>
1.	443264	6373949	50
2.	443290	6372781	50
3.	442354	6372787	50
4.	442370	6369959	50
5.	442355	6369938	50
6.	442392	6369843	50
7.	442396	6368973	50
8.	442465	6369037	50
9.	442548	6368991	50
10.	442688	6369074	50
11.	442779	6369188	50
12.	443562	6369187	50
13.	443564	6368480	50
14.	443969	6368481	50
15.	443963	6367882	50
16.	444247	6367870	50
17.	444256	6367626	50
18.	444613	6367549	50
19.	445673	6366703	50
20.	446495	6366708	50
21.	446510	6366355	50
22.	445590	6366377	50
23.	444265	6367372	50



	<b>Easting</b>	<b>Northing</b>	<b>Zone</b>
24.	443722	6367399	50
25.	442993	6367895	50
26.	442852	6368344	50
27.	442842	6368542	50
28.	442715	6368668	50
29.	442632	6368661	50
30.	442041	6368969	50
31.	441994	6369983	50
32.	442174	6370444	50
33.	442129	6372467	50
34.	441911	6372791	50
35.	441608	6372779	50
36.	441589	6373910	50