



Works approval number	W6590/2021/1
Works approval holder	Juno Minerals Limited
ACN	645 778 892
Registered business address	Level 10, 16 St Georges Terrace Perth WA 6000
DWER file number	DER2021/000461
Duration	20/01/2022 to 19/01/2027
Date of issue	20/01/2022
Premises details	Mount Mason Direct Shipping Ore (DSO) Hematite Project Shire of Menzies
	Legal description - Within the Mining tenements M29/408, G29/23 and L29/100 as depicted in Schedule 1

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed design capacity
Category 5: Processing or beneficiation of metallic or non-metallic ore: premises on which — (a) metallic or non-metallic ore is crushed, ground, milled or otherwise processed; (b) tailings from metallic or non-metallic ore are reprocessed; or (c) tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam.	2 million tonnes per annum
Category 85: Sewage facility: premises — (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters.	30 m ³ per day
Assessed activities directly related to the above categories	
Storage of bulk hydrocarbon fuel / chemicals on site	660 kL in aggregate

This works approval is granted to the works approval holder, subject to the attached conditions, on 20 January 2022, by:

**A/MANAGER, RESOURCE INDUSTRIES
REGULATORY SERVICES**

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

Works approval history

Date	Reference number	Summary of changes
20/01/2022	W6590/2021/1	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/or install the infrastructure and/or equipment;
 - (b) in accordance with the corresponding design and construction / installation requirements; and
 - (c) at the corresponding infrastructure location; and
 as set out in Table 1.

Table 1: Design and construction / installation requirements

	Infrastructure	Design and construction / installation requirements	Infrastructure location
1.	Processing plant	<ul style="list-style-type: none"> • crushing and screening plant to be installed with a maximum of 2Mtpa design capacity • must be designed to minimise noise and vibration • water sprays to be installed at the dust emission points in the processing plant as shown in the figure labeled as “water sprays on the processing plant” to reduce dust generation 	<p>Depicted in Schedule 1, Figure 2 as “Crushing and screening plant”</p> <p>Water sprays in Schedule 1, Figure 3</p>
2.	Stormwater management	<ul style="list-style-type: none"> • 2 x stormwater management ponds to be constructed at the locations outlined in Figure 4, Schedule 1 • stormwater ponds and channels to be constructed to contain at least a 1 in 100-year, 24-hour storm event • bunding system to be constructed to direct runoff to the stormwater ponds 	Depicted in Schedule 1, Figure 4
3.	Water cart	<ul style="list-style-type: none"> • Water carts, or equivalent, must be available at all times to effectively wet down the area of approved activities, roads and stockpiles of ore to mitigate emissions of dust 	Within the prescribed premises depicted in Schedule 1, Figure 1
4.	Hydrocarbon and chemical storage area	<ul style="list-style-type: none"> • to be constructed with a containment capacity equivalent to 110% of the capacity of any tank or 25% of the total capacity of an interlinked system • to be stored in double-skinned, self-bunded, and interconnected tanks • Storage areas to be bunded • water/oil interceptor system to be installed in the washdown bay. 	Depicted in Schedule 1, Figure 2 as ‘Mine Operations Centre (MOC)’

	Infrastructure	Design and construction / installation requirements	Infrastructure location
5.	Sewage treatment plant	<ul style="list-style-type: none"> • HICLEAR 45kL per day packaged sewage treatment plant or equivalent to be installed at the locations outlined in Figure 2, Schedule 1 • up to 30m³/day of treated sewage to be discharged • to be designed to meet the following treated effluent quality: <ul style="list-style-type: none"> (i) Total Nitrogen <20mg/L (ii) Total Phosphorus <8mg/L (iii) Biochemical oxygen demand <20mg/L (iv) Total suspended solids <30mg/L (v) pH 7.5 – 8.5 (vi) <i>E coli</i> <10cfu/100mL (vii) Fats, oils and grease <5mg/L • all sewage and storage treatment tanks, vessels, transfer pipelines and conveyance infrastructure must be impermeable and free of leaks or defects • volumetric flow meter must be installed on the discharge pipe outlet to monitor cumulative volumes discharged to the irrigation spray field 	Depicted in Schedule 1, Figure 2 as “Sewage treatment facility”
6.	Irrigation spray field	<ul style="list-style-type: none"> • spray field must be at least 2 hectares • sprinklers must be positioned to ensure even distribution of wastewater, to maximise evaporation and must be separated from major drainage channels by no less than 500m 	Depicted in Schedule 1, Figure 2 as “Sewage treatment facility sprayfield”

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 and/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 qualified and experienced engineer (eligible for membership of the Institute of Engineers, Australia) that the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;
 - (b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1;
 - (c) soil report to confirm the Soil Risk Category of the irrigation spray field; and
 - (d) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.
4. Where an item of infrastructure has been certified as not being located or constructed, or

does not comply with the corresponding requirements, the works approval holder must correct the non-compliant or defective works, prior to re-certifying, or provide to the CEO a description of, and explanation for, any departures from the requirements specified in condition 1 that do not constitute relocation or rectification and do not constitute a material defect along with the Environmental Compliance Report.

Environmental commissioning phase

Environmental commissioning requirements and emission limits

5. The works approval holder may only commence environmental commissioning of an item of infrastructure listed in condition 6 once the Environmental Compliance Report has been submitted for that item of infrastructure in accordance with condition 2 of this works approval.
6. Any environmental commissioning activities undertaken for an item of infrastructure specified in Table 2 may only be carried out:
 - (a) in accordance with the corresponding commissioning requirements; and
 - (b) for the corresponding authorised commissioning duration.

Table 2: Environmental commissioning requirements

	Infrastructure	Design and construction / installation requirements	Infrastructure location
1.	Processing plant	<ul style="list-style-type: none"> environmental commissioning to be comprised of: <ol style="list-style-type: none"> (a) pre-commissioning - progressive testing and commissioning of all systems and subsystems (b) dry commissioning - components and the systems will be operated without feed ore Dust suppression sprays to be tested and operated to ensure functionality (c) process commissioning - feed ore will be introduced and gradually increase up to the design capacity 	For a period not exceeding 28 calendar days in aggregate
2.	Sewage treatment plant	<ul style="list-style-type: none"> initially, commissioning must be conducted using running raw water, then camp effluent may be introduced and ramp up to approved design throughput (30 m³ per day) progressively record volumes of treated effluent discharged during commissioning 	For a period not exceeding 90 calendar days in aggregate
3.	Irrigation spray field	<ul style="list-style-type: none"> must be managed to prevent ponding and pooling of effluent in the ground surface of the irrigation discharge area 	

7. During environmental commissioning, the works approval holder must ensure that the emission specified in Table 3, are discharged only in accordance with the requirements specified in that table.

Table 3: Treated wastewater disposal requirements

	Emission	Discharge point	Limit
1.	Treated wastewater, treated via a package sewage treatment plant	Must only be discharged to the "Sewage treatment facility sprayfield" as depicted in Schedule 1, Figure 2	Irrigated at a rate of no more than 30m ³ per day

8. During environmental commissioning, the works approval holder must ensure that the treated wastewater is only discharged via the irrigation sprayfield discharge point in accordance with the limits specified in Table 4.

Table 4: Treated wastewater irrigation emission limits

Parameter	Unit	Concentration Limit
Total Nitrogen	mg/L	≤20
Total Phosphorus		≤8
Biochemical oxygen demand		≤20
Total suspended solids		≤30
pH	pH units	7.5 – 8.5
<i>E coli</i>	cfu/100mL	≤10
Fats, oil, and grease	mg/L	≤5

Monitoring during environmental commissioning and time limited operations

9. The works approval holder must monitor emissions during environmental commissioning and time limited operations in accordance with Table 5.

Table 5: Emissions and discharge monitoring during environmental commissioning and time limited operations

Discharge point	Monitoring location	Parameter	Frequency	Averaging period	Unit	Method
Irrigation sprayfield	Flow meter to irrigation field	Cumulative volumetric flow rate	Daily or continuous online	N/A	m ³ /day	-
	Sewage treatment plant outlet	Total Nitrogen	monthly	Spot sample	mg/L	Sample collection and preservation as per AS/NZS 5667.1; analysis as per AS/NZS 5667.10 Analysis
		Total Phosphorus				
		Biochemical oxygen demand				
		Total suspended solids				
		pH			pH units	

Discharge point	Monitoring location	Parameter	Frequency	Averaging period	Unit	Method
		<i>E Coli</i>			cfu/100mL	conducted by a laboratory with NATA accreditation
		Fats, oils and grease			mg/L	

Environmental commissioning reporting

10. The works approval holder must submit to the CEO an Environmental Commissioning Report within 30 calendar days of the completion date of environmental commissioning for each item of infrastructure specified in Table 2.
11. The works approval holder must ensure the Environmental Commissioning Report required by condition 10 of this works approval includes the following:
 - (a) a summary of the environmental performance of each item of infrastructure or equipment as constructed or installed, which at minimum includes records detailing the:
 - (i) environmental commissioning of the crushing and screening plant;
 - (ii) testing of the dust suppression system(s);
 - (iii) volumes of treated wastewater discharged from sewage treatment plant; and
 - (iv) quality of the irrigated treated wastewater discharged from the sewage treatment plant;
 - (b) a review of the works approval holder's performance and compliance against the conditions of this works approval; and
 - (c) where they have not been met, measures proposed to meet the manufacturer's design specifications and the conditions of this works approval, together with timeframes for implementing the proposed measures

Time limited operations phase

Commencement and duration

12. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 14:
 - (a) where the item of infrastructure is not authorised to undertake environmental commissioning, the Environmental Compliance Report as required by condition 2 has been submitted by the works approval holder for that item of infrastructure; and
 - (b) where the item of infrastructure is authorised to undertake environmental commissioning under condition 5, the Environmental Commissioning Report for that item of infrastructure as required by condition 10 has been submitted by the works approval holder.
13. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 14:
 - (a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 11 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*.

Time limited operations requirements and emission limits

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

Table 6: Infrastructure and equipment requirements during time limited operation

	Infrastructure and equipment	Operational requirements	Infrastructure location
1.	Processing plant	<ul style="list-style-type: none"> water sprays to be operated at the dust emission points in the processing plant to reduce dust generation record volumes of all material processed through the crushing and screening plant 	Water sprays in Schedule 1, Figure 3
2.	Stormwater management	<ul style="list-style-type: none"> ensure stormwater management ponds are maintained appropriately to capture potentially contaminated stormwater ensure stormwater diversion bunds are maintained to divert surface water flows around processing plant area ensure stormwater ponds and channels are maintained to achieve containment capacity for at least 1 in 100-year, 24-hour storm event 	Depicted in Schedule 1, Figure 4
3.	Water cart	<ul style="list-style-type: none"> water truck or equivalent must be available at all times at the premises during operation phase to suppress generated dust 	Within the prescribed premises depicted in Schedule 1, Figure 1
4.	Hydrocarbon and chemical storage area	<ul style="list-style-type: none"> ensure hydrocarbon storage areas are bunded with a containment capacity equivalent to 110% of the capacity of any tank or 25% of the total capacity of an interlinked system is maintained water/oil interceptor system in the washdown bay to be maintained appropriately 	Depicted in Schedule 1, Figure 2
5.	Sewage treatment plant	<ul style="list-style-type: none"> Record volumes of treated effluent discharged during time limited operations 	Depicted in Schedule 1, Figure 2 as "Sewage treatment facility"
6.	Irrigation spray field	<ul style="list-style-type: none"> must be at least 2 hectares and must be managed to prevent ponding and pooling of effluent in the ground surface of the irrigation discharge area 	Depicted in Schedule 1, Figure 2 as "Sewage treatment facility sprayfield"

15. The works approval holder must ensure that during time limited operations, the treated wastewater is only discharged via irrigation sprayfield discharge point in accordance with the concentration limits specified in Table 4.

Monitoring during time limited operations

16. The works approval holder must monitor emissions during time limited operations in accordance with Table 5.

Time limited operation Compliance reporting

17. 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.
18. The works approval holder must ensure the report required by condition 17 includes the following:
 - (a) a summary of the time limited operations, including timeframes and amount of:
 - (i) ore processed; and
 - (ii) treated wastewater discharged from the sewage treatment plant.
 - (b) a summary of monitoring results obtained during time limited operations under condition 16.
 - (c) a review of performance and compliance against the conditions of the works approval and the Environmental Commissioning Report; 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)

19. 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.
20. 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 1;
 - (b) any maintenance of infrastructure that is performed in the course of complying with condition 14;
 - (c) monitoring programmes undertaken in accordance with condition 16; and
 - (d) complaints received under condition 19.
21. The books specified under condition 20 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 7 have the meanings defined.

Table 7: Definitions

Term	Definition
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples.
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 Water Quality – Sampling – Guidance on sampling of groundwaters.
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 info@dwer.wa.gov.au
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
monthly period	means a one-month period commencing from day 15 of a month until day 14 of the immediately following month.
NATA	National Association of Testing Authorities, Australia
NATA accredited	means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis
premises	the premises to which this licence applies, as specified at the front of this licence 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.
spot sample	means a discrete sample representative of the time and place at which the sample is taken
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.
waste	has the same meaning given to that term under the EP Act.
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).

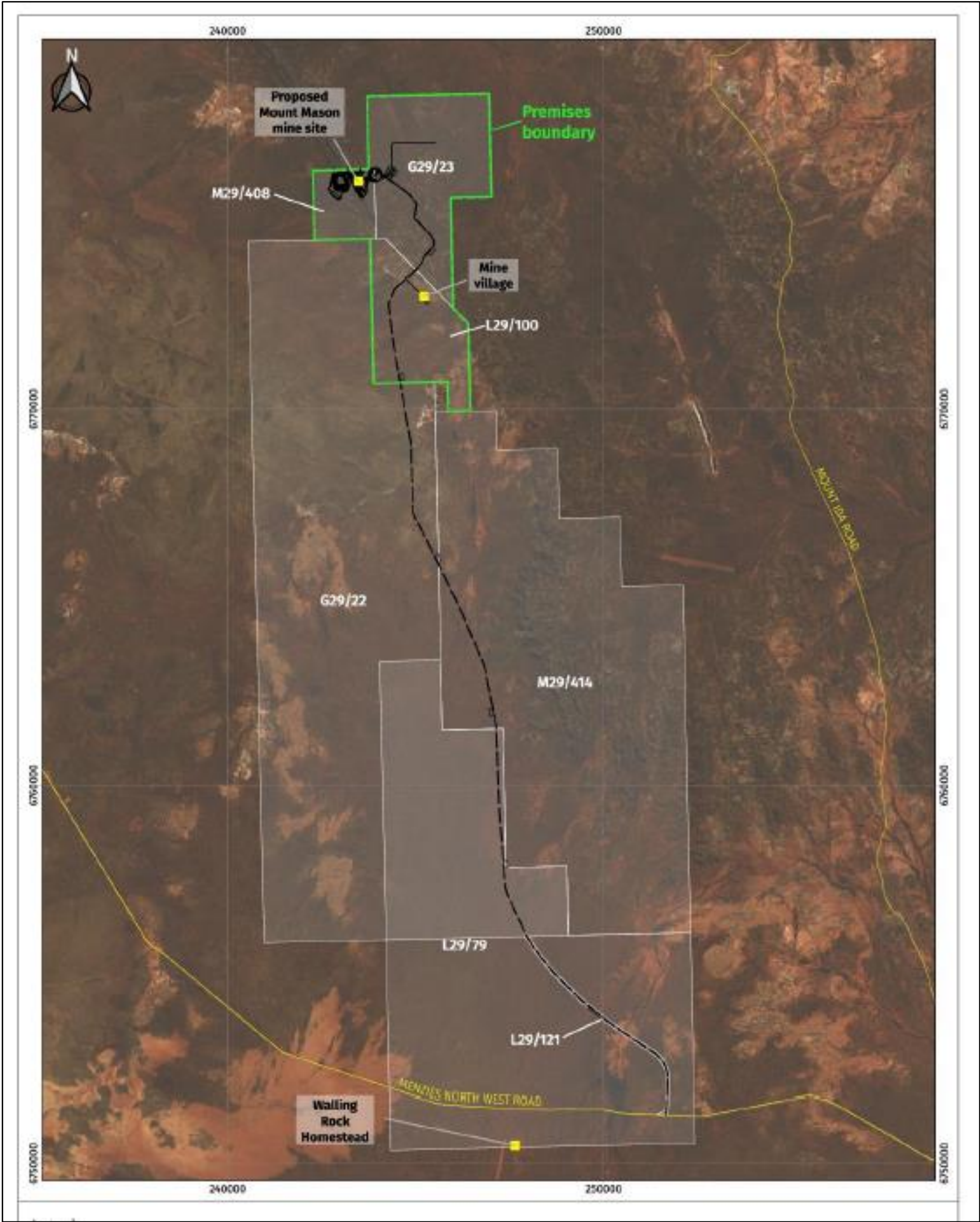


Figure 1: Map of the boundary of the prescribed premises

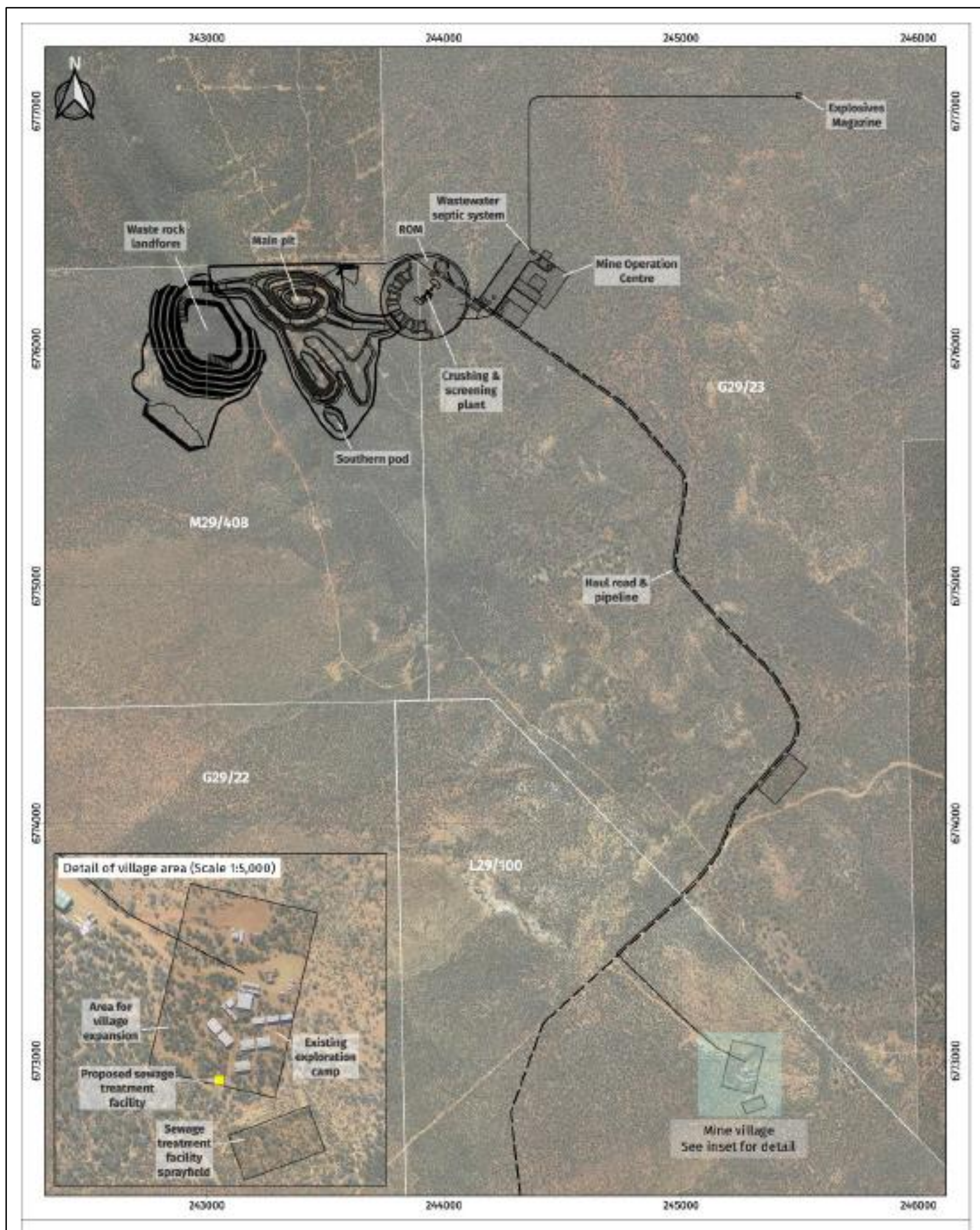


Figure 2: Project Layout at mount mason Hematite DSO Project

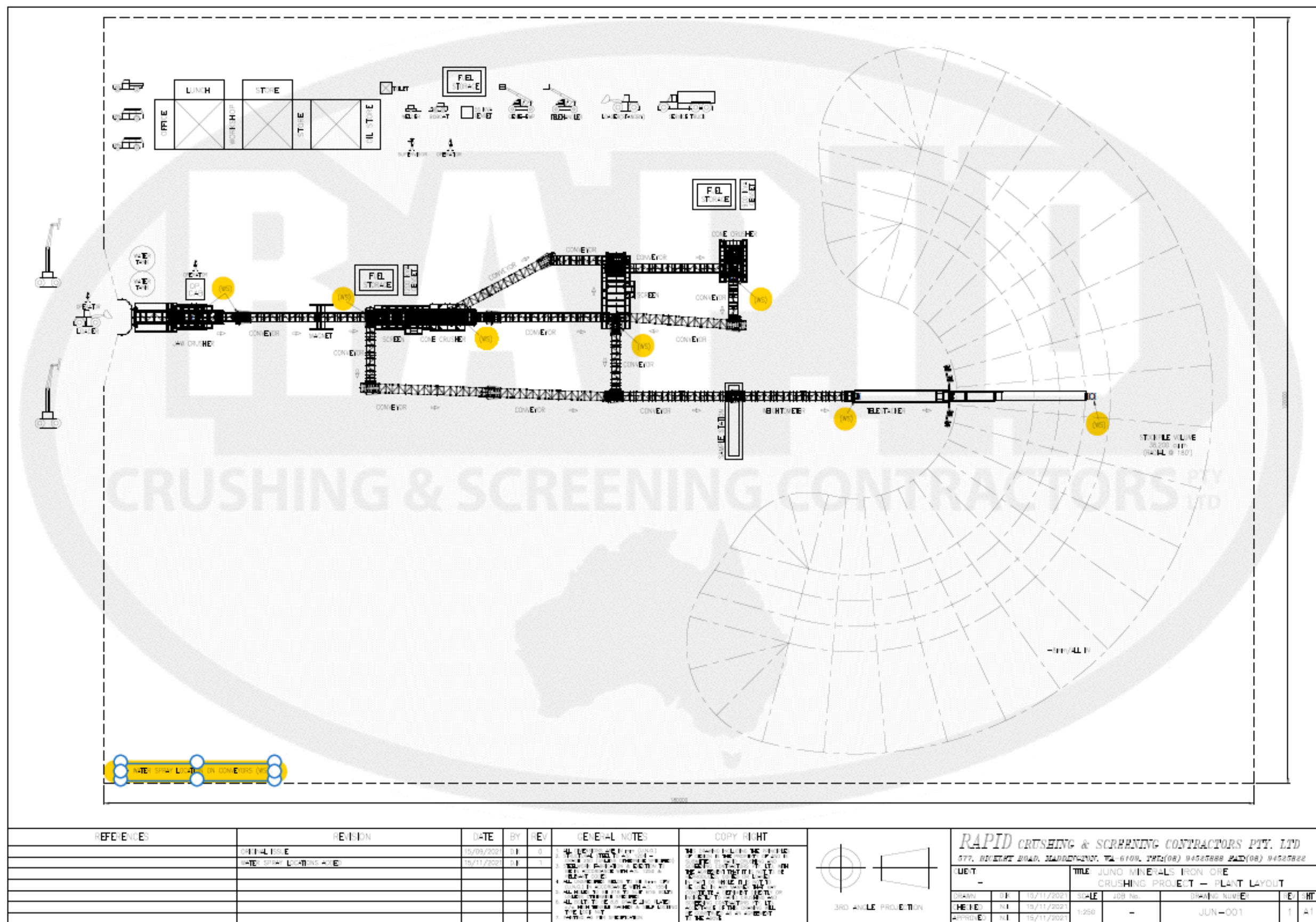


Figure 3: Locations of water sprays on the processing plant

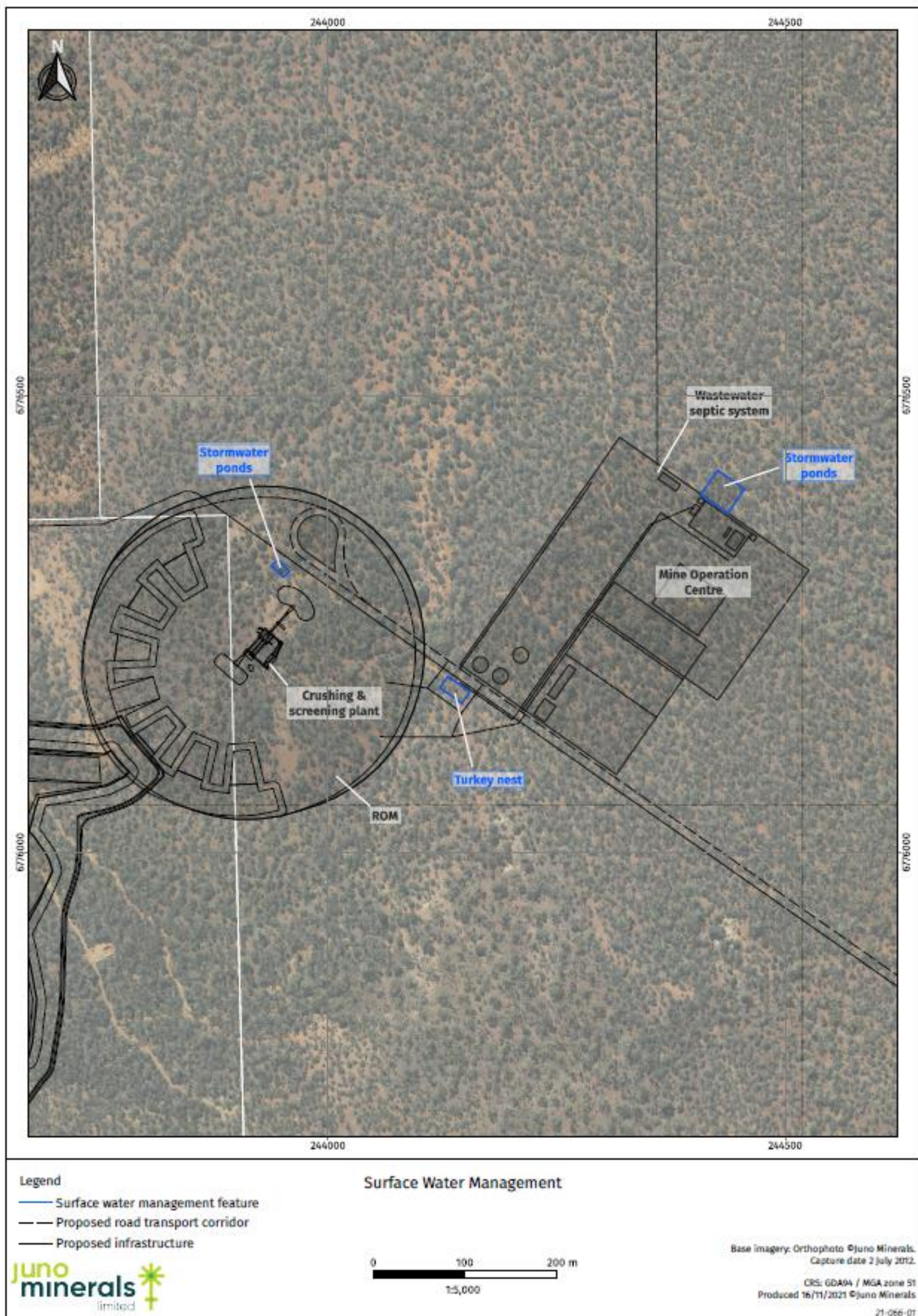


Figure 4: Stormwater management infrastructure around the processing plant