Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6573/2021/1
Works approval holder	Paddington Gold Pty Limited
ACN	008 585 886
Registered business address	Viskovich House Level 1, 377 Hannan Street KALGOORLIE WA 6430
DWER file number	DER2021/000412
Duration	14/01/2022 to 13/01/2027
Date of issue	14/01/2022
Premises details	Rose Dam North Paddington Mill Site, Goldfields Highway MOUNT PLEASANT WA 6431 Legal description – Part of mining tenements M24/81, M24/82, M24/182, M24/223, M24/266, M24/227, M24/229, M24/234, M24/236, M24/265, M24/302, M24/393, M24/451 and M24/838 As defined by the coordinates in Schedule 1

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production capacity**
Category 6: Mine dewatering	1,600,000 kL per annual period
Assessed activities directly related to the above categories	
A clearing permit, CPS No: 9043/1, to clear 380 hectares (ha) of native vegetation has been granted under the *Environmental Protection Act 1986* (EP Act). The requirements of the clearing approval have not been duplicated in this approval.	

This works approval is granted to the works approval holder, subject to the attached conditions, on 14 January 2022, by:

Melanie Bruckberger
Digitally signed by Melanie Bruckberger
Date: 2022.01.14 08:18:05 +08'00'

Melanie Bruckberger
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
14/01/2022	W6573/2021/1	This works approval application for category 6 – mine dewatering operations.

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:

General

1. Where the works approval holder uses mine dewater for dust suppression during both construction and time limited operations activities, the water must be:

(a) stored in pits ensuring all visible particulates have settled prior to being used for dust suppression; and

(b) applied to avoid damage to native vegetation (such as from overspraying or runoff).

Construction phase

Infrastructure/Equipment

2. The works approval holder must:

(a) construct and/or install the infrastructure/equipment;

(b) in accordance with the corresponding design, construction and/or installation requirements; and

(c) at the corresponding infrastructure/equipment location,

as set out in Table 1.

Table 1: Design, construction and/or installation requirements

Item	Infrastructure/Equipment	Design, construction and/or installation requirements	Infrastructure/Equipment location
1.	Mine dewatering pipelines: • Rose Dam North Pit 1 to Rose Dam North Pit 2; • Rose Dam North Pit 2 to Rose Dam North Pit 1; • Rose Dam North Pit 1 and Rose Dam North Pit 2 to Rose Dam South Pit; and • Rose Dam North Pit 1 and Rose Dam North Pit 2 to Rose East Pit.	• Constructed of high-density polyethylene (HDPE). • Required to meet the following standards: ○ AS/NZS 2033: *Installation of polyethylene pipe systems*; ○ AS/NZS 4129: *Fittings for polyethylene (PE) pipes for pressure applications*; ○ AS/NZS 4130: *Polyethylene (PE) pipes for pressure applications*; and ○ AS/NZS 4131: *Polyethylene (PE) compounds for pressure pipes and fittings.*	Mine dewatering pipeline routes as shown in Figure 1 and Figure 2 of Schedule 1.

Item	Infrastructure/Equipment	Design, construction and/or installation requirements	Infrastructure/Equipment location
	Dewatering pipeline bunding	• Dewatering pipeline must be located within an earthen v-drain bund. • Scour pits must be constructed along the pipeline route at strategic locations and low points. • V-drains and scour pits in combination must provide sufficient capacity to completely contain any spills from pipeline leakage or breach for a period equal to the time between routine inspections. • The works approval holder must provide evidence of such capacity within the Environmental Compliance Report as required by condition 4.	
	Dewatering pipeline anchors	Dewatering pipeline anchored at regular intervals to restrict movement in the event of a significant rainfall event.	
	Flow meters	Cumulative flow meters installed at upstream and downstream ends of the dewatering pipeline.	
	Stormwater drainage infrastructure	• Designed to divert clean surface water around construction and operational areas; and • Designed to retain potentially contaminated waters onsite.	
	Water cart	Water cart must be available and operational to effectively wet down dust generating areas during the construction phase.	
	Pits: • Rose Dam North Pit 1; • Rose Dam North Pit 2; and • Rose Dam South Pit.	Installation of markers at 6 metres below ground level (mbgl).	Pits as shown in Figure 1 and Figure 2 of Schedule 1.

Compliance reporting

3. The works approval holder must within 30 calendar days of an item of infrastructure/equipment required by condition 2 being constructed and/or installed:

(a) undertake an audit of their compliance with the requirements of condition 2; and

(b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.

4. The Environmental Compliance Report required by condition 3, must include as a minimum the following:

(a) certification by a suitably qualified engineer that the items of infrastructure or component(s) thereof, as specified in condition 2, have been constructed in accordance with the relevant requirements specified in condition 2;

(b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 2; and

(c) 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

5. The works approval holder may only commence time limited operations for an item of infrastructure/equipment identified in condition 2 where the Environmental Compliance Report as required by condition 3 has been submitted by the works approval holder for that item of infrastructure/equipment.

6. The works approval holder may conduct time limited operations for an item of infrastructure/equipment specified in condition 2:

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 5 for that item of infrastructure/equipment; or

(b) until such time as a licence for that item of infrastructure/equipment 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 6(a).

Authorised discharge points for emissions

7. The works approval holder must ensure that all emissions specified in Table 2, are discharged only from the corresponding discharge points and only at the corresponding discharge point locations.

Table 2: Authorised discharge points

Emission	Discharge point	Discharge point location
Mine dewater sourced from: • Rose Dam North Pit 1; • Rose Dam North Pit 2; • Rose Dam South Pit; and • Rose East Pit.	• Rose Dam North Pit 1 to Rose Dam North Pit 2; • Rose Dam North Pit 2 to Rose Dam North Pit 1; • Rose Dam North Pit 1 and Rose Dam North Pit 2 to Rose Dam South Pit; and • Rose Dam North Pit 1 and Rose Dam North Pit 2 to Rose East Pit.	Pits as shown in Figure 1 and Figure 2 of Schedule 1.

Operational requirements

8. The works approval holder must ensure that the premises infrastructure/equipment listed in Table 3 and located at the corresponding infrastructure/equipment location is maintained and operated in accordance with the corresponding operational requirement set out in Table 3.

Table 3: Infrastructure requirements during time limited operations

No.	Infrastructure/Equipment	Operational requirement	Infrastructure/Equipment location
Category 6 – Mine dewatering			
1.	Mobile equipment (e.g. light vehicles, heavy equipment, generators and dewatering pumps)	Spill management: • Maintain equipment as per manufacturer's specifications; and • Keep suitably stocked spill response equipment close to where spills may occur.	–
2.	Dewatering pumps	Visual inspections every 12 hours to check the integrity of the dewatering pumps when in operation.	
3.	Flow meters	Weekly inspections to check the integrity of flow meters when dewatering in operation.	
4.	Dewatering pipelines and bunding (v-drains and scour pits)	• Visual inspections every 12 hours when dewatering in operation to check the integrity of the dewatering pipeline and bunding. • Dewatering pipelines and bunding to be maintained as per the design and construction/installation	Dewatering pipeline route as shown in Figure 1 and Figure 2 of Schedule 1.

No.	Infrastructure/Equipment	Operational requirement	Infrastructure/Equipment location
		requirements in Table 3.	
5.	Dewatering pipeline anchors	Visual inspections every 12 hours to check the integrity of the dewatering pipeline anchors when dewatering in operation.	
6.	Pits: • Rose Dam North Pit 1; • Rose Dam North Pit 2; and • Rose Dam South Pit.	• Monthly inspections and following significant rainfall events to check SWL. • SWL of 6 mbgl must be maintained.	Pits as shown in Figure 1 and Figure 2 of Schedule 1.

Monitoring during time limited operations

General

9. The works approval holder must ensure that all monitoring equipment used on the premises to comply with the conditions of this works approval is calibrated in accordance with the manufacturer's specifications.

10. The works approval holder must ensure that all analysis undertaken pursuant to conditions 11 and 12 is undertaken by a holder of a current accreditation from the National Association of Testing Authorities (NATA) (unless indicated otherwise in Table 4 and Table 5).

Mine dewater quality – Rose Dam North Pit 2

11. The works approval holder must undertake mine dewater quality monitoring in accordance with Table 3 at least 15 calendar days prior to the commencement of dewatering operations from Rose Dam North Pit 2:

Table 4: Mine dewater quality – Rose Dam North Pit 2

Monitoring location	Parameter[1]	Unit	Sampling method
Rose Dam North Pit 2 as shown in Figure 2 of Schedule 1.	Electrical conductivity[2] at 25°C	µS/cm	AS/NZS 5667.1
	pH[2]	pH units	
	Total alkalinity as $CaCO_3$	mg $CaCO_3$/L	
	Aluminium (Al)	mg/L	
	Ammonia (NH_3)		
	Antimony (Sb)		
	Arsenic (As III)		
	Arsenic (As V)		

Monitoring location	Parameter[1]	Unit	Sampling method
	Beryllium (Be)		
	Boron (B)		
	Cadmium (Cd)		
	Calcium (Ca)		
	Chloride (Cl^-)		
	Chromium (Cr III)		
	Chromium (Cr VI)		
	Cobalt (Co)		
	Copper (Cu)		
	Fluoride (F)		
	Hexavalent Chromium (Cr^{6+})		
	Iron (Fe)		
	Lead (Pb)		
	Magnesium (Mg)		
	Manganese (Mn)		
	Mercury (Hg)		
	Molybdenum (Mo)		
	Nickel (Ni)		
	Nitrate (NO_3)		
	Nitrite (NO_2)		
	Potassium (K)		
	Selenium (Se)		
	Silica, Soluble		
	Sodium (Na)		
	Sulphate (SO_4)		
	Thallium (TI)		
	Total Dissolved Solids (TDS)		

Monitoring location	Parameter[1]	Unit	Sampling method
	Total Nitrogen (TN)		
	Total Phosphorus (TP)		
	Total Recoverable Hydrocarbon (TRH)		
	Total Suspended Solids (TSS)		
	Uranium (U)		
	Vanadium (V)		
	Zinc (Zn)		

Note [1]: Level of detection is required to be sufficient to enable a comparison with the Australian and New Zealand Guidelines for Fresh & Marine Water Quality (ANZ 2018).
Note [2]: In-field non-NATA accredited analysis permitted.

Emissions and discharge monitoring

12. The works approval holder must monitor emissions during time limited operations in accordance with Table 3.

Table 5: Emissions and discharge monitoring during time limited operations

Monitoring location	Parameters[1]	Units	Trigger value	Limit	Frequency[4]	Sampling method
The following pits as shown in Figure 2 of Schedule 1: • Rose Dam North Pit 1; • Rose Dam North Pit 2; and • Rose Dam South Pit.	Standing water level (SWL) within each pit	mbgl	6	4	Monthly[3]	N/A
	Cumulative volume of mine dewater abstracted from each pit	kL/month	N/A	N/A		
	Cumulative volume of mine dewater discharged into each pit					
	Electrical conductivity[2] at 25°C	µS/cm				AS/NZS 5667.1
	pH[2]	pH units				

Note [1]: Level of detection is required to be sufficient to enable a comparison with ANZ 2018.
Note [2]: In-field non-NATA accredited analysis permitted.
Note [3]: Monthly monitoring is undertaken at least 15 days apart.
Note [4]: When dewatering in operation.

Emissions exceedance trigger values

13. Subject to conditions 14 and 15, the works approval holder must submit to the CEO a written report within 14 calendar days of an exceedance where emissions:

(a) from the discharge point listed in Table 6;

(b) for the corresponding parameter;

(c) exceed the corresponding trigger value,

when monitored in accordance with condition 12.

Table 6: Emission trigger values

Discharge point	Parameter	Trigger value
The following pits as shown in Figure 2 of Schedule 1: • Rose Dam North Pit 1; • Rose Dam North Pit 2; and • Rose Dam South Pit.	Standing water level (SWL) within each pit	6 mbgl

Management actions for trigger value exceedances

14. The works approval holder must, in the event of a parameter in condition 13 exceeding the corresponding trigger value specified in that condition, undertake the management actions that correspond with the relevant parameter and corresponding monitoring locations within the corresponding timeframe as specified in Table 7.

Table 7: Management actions required in the event of trigger value exceedance

Monitoring location	Parameter	Management action	Timeframe
The following pits as shown in Figure 2 of Schedule 1: • Rose Dam North Pit 1; • Rose Dam North Pit 2; and • Rose Dam South Pit.	Standing water level (SWL) within each pit	Develop a groundwater management plan to ensure water levels remain less than 6 mbgl.	Management actions to commence immediately upon being notified of the exceedance and to continue for the duration of the exceedance.

15. The works approval holder must include the following information in the report referred to in condition 13 in relation to any exceedances of any of the trigger values identified in that condition:

(a) the nature, volume, and characteristics of the emissions or ambient concentrations exceedance;

(b) the time and date when the exceedance occurred;

(c) whether any environmental impact occurred as a result of the exceedance and, if so, what that impact was and where the impact occurred;

(d) the details of the management action(s) taken pursuant with condition 14 in response to the exceedance;

(e) the details and result of any investigation undertaken into the cause of the exceedance; and

(f) the details of any action or specified measures that have been taken, or will be taken, to prevent the exceedance occurring again and for the purpose of minimising the likelihood of pollution or environmental harm.

Compliance reporting

16. 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 90 calendar days before the expiration date of the works approval, whichever is the sooner.

17. The works approval holder must ensure the report required by condition 16 includes the following:

(a) a summary of the time limited operations, including timeframes and mine dewatering volumes;

(b) a summary of groundwater SWL results obtained during time limited operations under condition 12.

(c) a summary of the environmental performance of all infrastructure as constructed and/or installed;

(d) a review of performance and compliance against the conditions of the works approval; and

(e) 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)

18. 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.

19. The works approval holder must maintain accurate and auditable books that include the following records, information, reports, and data required by this works approval:

(a) the calculation of fees payable in respect of this works approval;

(b) the works conducted in accordance with condition 2 of this works approval;

(c) any maintenance of infrastructure that is performed in the course of complying with condition 8 of this works approval;

(d) monitoring programmes undertaken in accordance with conditions 11 and 12 of this works approval; and

(e) complaints received under condition 18 of this works approval.

20. The books specified under condition 19 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 8 have the meanings defined.

Table 8: Definitions

Term	Definition
ANZ 2018	means the *Australian and New Zealand guidelines for fresh and marine water quality.*
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples.*
AS/NZS 2033	means the Australian Standard AS/NZS 2033 *Installation of polyethylene pipe systems.*
AS/NZS 4129	means the Australian Standard AS/NZS 4129 *Fittings for polyethylene (PE) pipes for pressure applications.*
AS/NZS 4130	means the Australian Standard AS/NZS 4130 *Polyethylene (PE) pipes for pressure applications.*
AS/NZS 4131	means the Australian Standard AS/NZS 4131 *Polyethylene (PE) compounds for pressure pipes and fittings.*
annual period	a 12 month period commencing from 01 January until 31 December of each year.
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 *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
department	means the department established under section 35 of the *Public Sector Management Act 1994* 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 Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure/equipment has been designed, constructed and/or installed in accordance with the works approval.
EP Act	*Environmental Protection Act 1986* (WA).

Term	Definition
kL	kilolitre
m	metres
monthly period	means a one-month period commencing from the first day of a month until the last day of the same month.
N/A	Not applicable
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.
significant rainfall event	a significant rainfall event is defined based on the Bureau of Meteorology website for the location of Kalgoorlie-Boulder (http://www.bom.gov.au/water/designRainfalls/revisedifd/?year=2016). A significant rainfall event has been based on Intensity Frequency Duration (IFD), being 24 hours rainfall duration at 20% Annual Exceedance Probability (AEP). Note that a 20% AEP is equivalent to a 4.48 Annual Recurrence Internal (ARI).
suitably qualified engineer	means a person who: (a) holds a Bachelor of Engineering recognised by the Institute of Engineers; and (b) has a minimum of five years of experience working in the area of engineering or is otherwise approved by the CEO to act in this capacity.
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 maps below (Figure 1 and Figure 2).

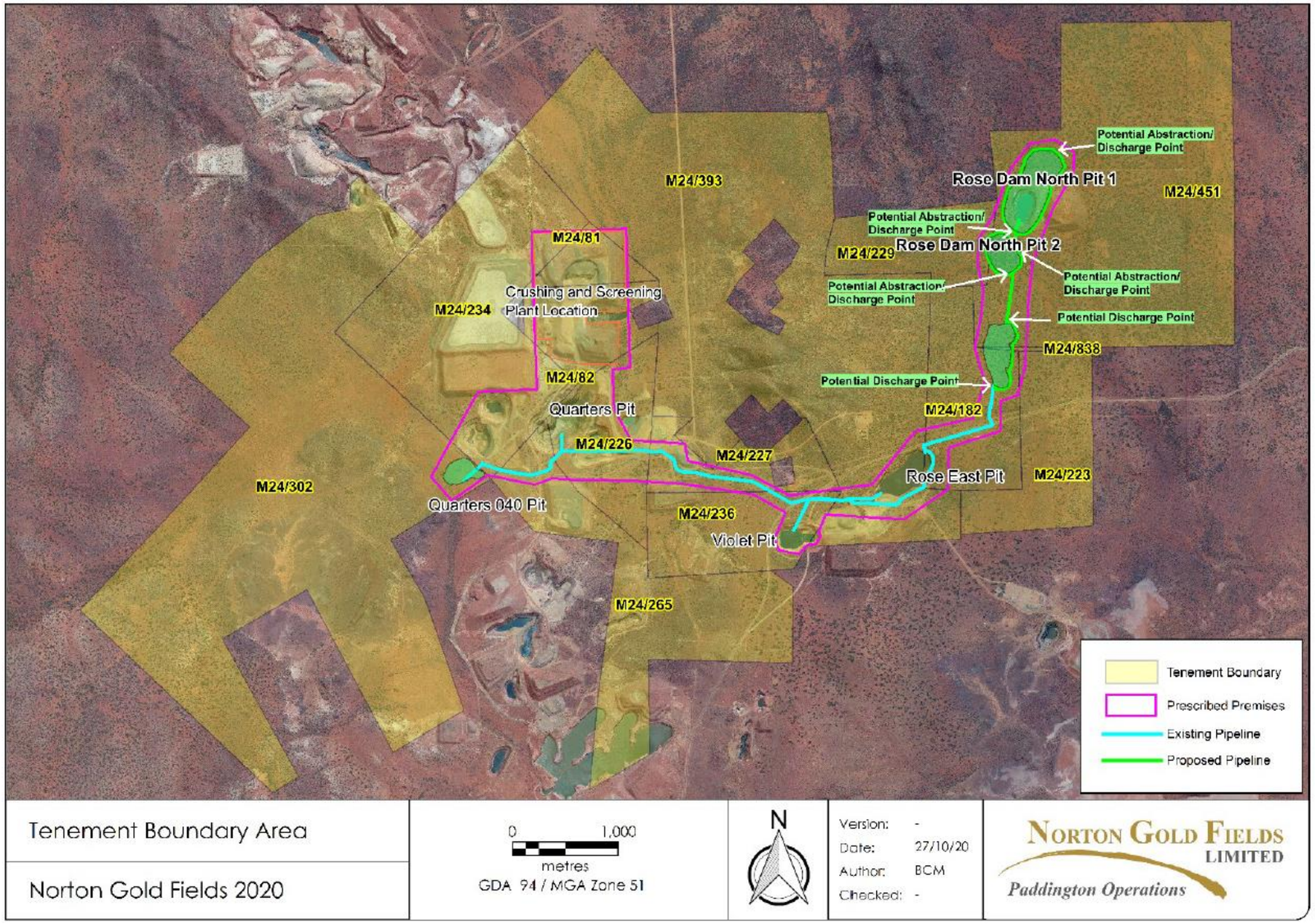

Figure 1: Map of the boundary of the prescribed premises (including mining tenements)

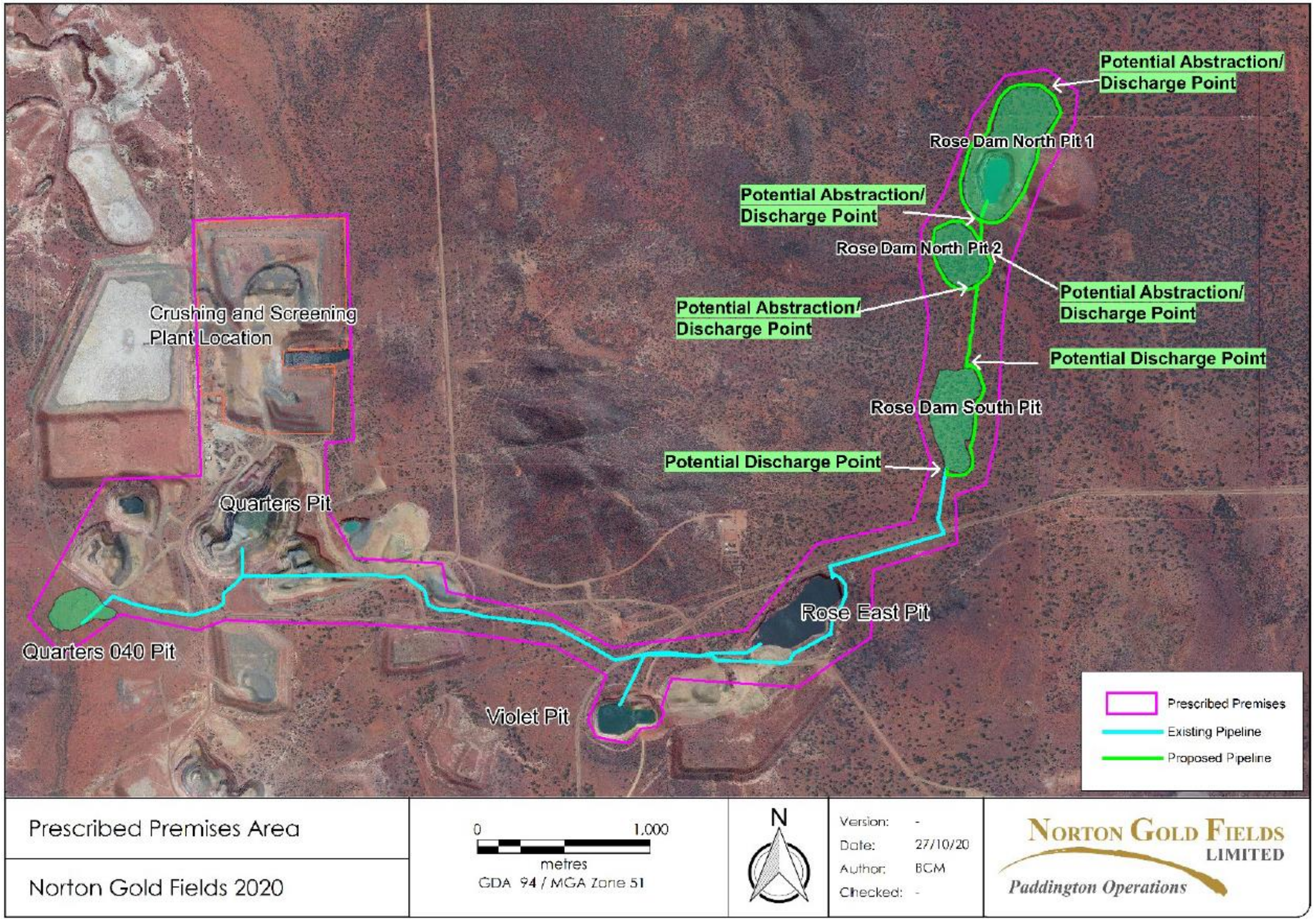

Figure 2: Map of the boundary of the prescribed premises

Schedule 2: Premises boundary

The premises boundary is defined by the coordinates in Table 9.

Table 9: Premises boundary coordinates

Easting mE	Northing mN
330257.201	6623163.545
331144.091	6623195.799
331179.564	6621892.874
331018.317	6621873.528
331031.213	6621492.975
331189.245	6621209.173
331692.349	6621176.92
331721.374	6621015.663
332321.234	6620883.429
332675.995	6620693.158
333412.193	6620788.329
333442.768	6620792.278
333852.397	6621290.836
334402.016	6621419.24
334507.554	6621757.831
334411.053	6622082.735
334411.053	6622082.735
334411.053	6622082.735

Easting mE	Northing mN
334465.55	6622330.915
334493.041	6622610.418
334442.635	6622862.437
334451.804	6623109.866
334580.101	6623311.485
334749.636	6623760.534
334932.924	6623998.805
335171.196	6624035.458
335349.9	6623911.743
335336.146	6623719.292
335148.281	6623384.8
334960.416	6622892.211
334919.178	6622541.692
334887.679	6621917.419
334820.83	6621634.587
334649.308	6621573.539
334655.831	6621296.375
334171.808	6621139.177