Government of Western Australia
Department of Water and Environmental Regulation

# Licence

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| **Licence number** | L9155/2018/1 |
| **Licence holder** | Karora (Higginsville) Pty Ltd |
| **ACN** | 108 547 217 |
| **Registered business address** | 15-17 ALTONA STREET<br>West Perth, WA, 6005 |
| **DWER file number** | INS-0002054 |
| **Duration** | 18/09/2018 to 17/09/2030 |
| **Date of issue** | 17/09/2018 |
| **Date of amendment** | 28/05/2026 |
| **Premises details** | Higginsville Gold Project<br>HIGGINSVILLE WA, 6443<br>M15/351, M15/289, M15/225, M15/642, M15/348, M15/31, M15/786, M15/506, M15/507, M15/620, M15/629, M15/639, M15/640, M15/580, M15/581, M15/597, L15/225, L15/288, L15/302, G15/19, G15/23, M15/528, M15/231, M15/748, M15/512, M15/352, M15/610, M15/375, M15/338, M15/1790, M15/1814, L15/282, L15/347, G15/26, G15/27, G15/29, L15/382, L15/389, M15/325, M15/681, M15/817, M15/1132 and L15/298.<br>As depicted in the premises map in Schedule 1 |

| **Prescribed premises category description** (Schedule 1, *Environmental Protection Regulations 1987*) | **Assessed production / design capacity** |
|---|---|
| Category 5: Processing or beneficiation of metallic or non-metallic ore | 1,700,000 tonnes per year |
| Category 6: Mine dewatering | 5,515,000 tonnes per year |
| Category 54: Sewage facility | No more than 200 cubic metres per day |
| Category 64: Class I or II putrescible landfill | 20 tonnes or more per year |

This amended licence is granted to the licence holder, subject to the attached conditions, on 28 May 2026 by:

Christine Pustkuchen

Digitally signed by Christine Pustkuchen
Date: 2026.05.28 14:43:42 +08'00'

Manager, Resource Industries

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

# Licence History

| Date | Reference number | Summary of changes |
|---|---|---|
| 17/09/2018 | L9155/2018/1 | New licence issued |
| 21/12/2018 | L9155/2018/1 | Amendment Notice 1: to include the Fairplay East Pit as a Tailings Storage Facility, construct a new seepage pond at the TSF and include the current monitoring bores at the Aphrodite in-pit TSF. Add category 64 to the licence. |
| 14/05/2019 | L9155/2018/1 | Amendment Notice 2 – Add dewatering from Baloo Pit to Lake Cowan as a discharge and amend the Premises boundary to include the tenement in which Baloo open pit is located. |
| 30/8/2019 | L9155/2018/1 | Amendment Notice 3 – Include Vine Pit void as a Tailings Storage Facility. |
| 26/10/2020 | L9155/2018/1 | Licence amendment for recommissioning and embankment lifts to TSFs2-4. Increasing dewatering quantities from Baloo pit to Lake Cowan and addition of tenements. |
| 22/09/2021 | L9155/2018/1 | Licence amendment to increase throughput of Category 6 to 5,515,000 tonnes per annual period. Remove redundant conditions, including those relating to time limits on discharges and to construction that has been completed. Administrative amendments to correct errors in reference to infrastructure and maps/plans. |
| 4/11/2021 | L9155/2018/1 | Administrative amendment. Minor typographical errors corrected. |
| 22/09/2023 | L9155/2018/1 | Amendment to add Chalice borefield infrastructure and Pioneer Pit dewatering infrastructure. Addition of tenement L15/298. Added Fairplay North pit discharge point. Removed Lake Cowan discharge point.<br>Formatting updated and administrative errors corrected. |
| 2/08/2024 | L9155/2018/1 | Amendment to add dewatering from Atreides pit and discharge into the nearby Louis pit or Josephine pit. A turkey nest is also proposed to provide access to raw water for dust suppression during mining. |
| 31/07/2025 | L9155/2018/1 | Administrative amendment to extend the licence expiry date by 5 years. |
| 28/05/2026 | L9155/2018/1 | Amendment (APP-0032460) to include the construction and operation of the TSF2–4 Stage 5 embankment, increase Category 5 throughput to 1.7 million tonnes per annum, correct typographical errors, review licence conditions, |

| | | |
|---|---|---|
| | | and remove the in-pit TSFs (Aphrodite, Fairplay East and Vine). |

## Interpretation

In this licence:

(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 licence:

  (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 licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

# Licence conditions

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

## Construction requirements

### 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

as set out in Table 1.

**Table 1: Design and construction / installation requirements**

| | Infrastructure | Design, construction and installation requirements | Infrastructure location |
|---|---|---|---|
| 1. | TSF2-4 Stage 5 embankment raise | (a) Embankment raise must be constructed in accordance with Schedule 2, Figure 12,13,14 and 15 including embankment construction material, geometry, windrow, crossfall, and downstream capping<br>(b) Embankment raise must be constructed using non-acid forming material<br>(c) Crest height of embankment raise must not exceed 325.0 m RL<br>(d) Embankment crest must be at a minimum 7 m wide<br>(e) A nominal 400 mm safety bund must be constructed on each side of the crest with regular breaks and a 2% cross-fall<br>(f) Embankment raise must be constructed with a downstream slope of 1V:2.75H and an upstream slope of 1V:2H<br>(g) Downstream embankment raise must be capped with at least 300 mm of rock armouring.<br>(h) Decant tower raise must be constructed in accordance with Schedule 2, Figure 14 and Figure 16, including construction material, geometry, and bunding.<br>(i) A return water pump with sufficient capacity to effectively manage decant water flows must be reinstated at the decant tower following raising.<br>(j) Tailings and decant pipelines must be reinstated within the existing earthen-bunded corridors and its reinstatement must comply with the requirements of condition 8.<br>(k) Pipelines must be equipped with flowmeter to quantify tailings volume deposited and | As shown in Schedule 1, Figure 1 and Figure 2 |

| | Infrastructure | Design, construction and installation requirements | Infrastructure location |
|---|---|---|---|
| | | return water recovered. | |
| 2. | Pioneer turkey's nest | (a) HDPE-lined<br>(b) 80m by 80m<br>(c) Embankments must be no greater than 3m in height | As shown in Schedule 1, Figure 5 |
| 3. | Chalice turkey's nest | (a) HDPE-lined<br>(b) 80m by 80m<br>(c) Embankments must be no greater than 3m in height | As shown in Schedule 1, Figure 4 |
| 4. | Josephine turkey's nest | (a) HDPE-lined<br>(b) 80m by 80m<br>(c) Embankments must be no greater than 3m in height | As shown in Schedule 1, Figure 10 |
| 5. | Pioneer dewatering pipelines, Chalice borefield pipelines and Atreides dewatering pipelines | (a) Ensure that they are either:<br>i. equipped with automatic cut-outs in the event of a pipeline failure;<br>ii. equipped with telemetry; or<br>iii. are provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections. | As shown in Schedule 1, Figure 4, Figure 5 and Figure 10 |

**2.** The licence holder must design, construct, and install groundwater monitoring bores in accordance with the requirements specified in Table 2.

**Table 2: Infrastructure installation requirements – groundwater monitoring bores**

| Infrastructure | Design, construction, and installation requirements | Monitoring bore locations | Timeframe |
|---|---|---|---|
| Groundwater monitoring bores:<br>HMB30 | <u>Bore design and construction:</u><br>Designed and constructed in accordance with the *Minimum Construction Requirements for Water Bores in Australia*.<br>Bore screens must target the part, or parts, of the aquifer most likely to be affected by contamination[1]. Where temporary/seasonal perched features are present, wells must be nested, and the perched features individually screened. | As shown in Schedule 1, Figure 11 and labelled as *2026 Monitoring bore* | Must be constructed, developed (purged), and determined to before TSF2-4 Stage 5 operations can commence. |
| | <u>Logging of borehole:</u><br>Soil samples must be collected and logged during the installation of the monitoring bores. A record of the geology encountered during drilling must be described and classified in accordance with the *Australian Standard Geotechnical Site Investigations AS1726*. Any observations of staining / | | |

| Infrastructure | Design, construction, and installation requirements | Monitoring bore locations | Timeframe |
|---|---|---|---|
| | odours or other indications of contamination must be included in the bore log. | | |
| | Bore construction log:<br>Bore construction details must be documented within a bore construction log to demonstrate compliance with *Minimum Construction Requirements for Water Bores in Australia*. The construction logs shall include elevations of the top of casing position to be used as the reference point for water-level measurements, and the elevations of the ground surface protective installations. | | |
| | Bore development:<br>All installed monitoring bores must be developed after drilling to remove fine sand, silt, clay and any drilling mud residues from around the bore screen to ensure the hydraulic functioning of the bore. A detailed record should be kept of bore development activities and included in the bore construction log. | | |
| | Installation survey:<br>The vertical (top of casing) and horizontal position of each monitoring bore must be surveyed and subsequently mapped by a suitably qualified surveyor. | | |
| | Bore network map:<br>A bore location map (using aerial image overlay) must be prepared and include the location of all monitoring bores in the monitoring network and their respective identification numbers. | | |

Note 1: Refer to Section 8 of Schedule B2 of the *Assessment of Site Contamination NEPM* for guidance on bore screen depth and length.

**3.** The licence holder must design, construct, and install seepage recovery bores in accordance with the requirements specified in Table 3

**Table 3: Infrastructure installation requirements – seepage recovery bores**

| Infrastructure | Design, construction, and installation requirements | Monitoring bore locations | Timeframe |
|---|---|---|---|
| Groundwater seepage recovery bores: | Bore design and construction:<br>Designed and constructed in accordance with the *Minimum Construction* | As shown in Schedule 1, Figure 11and | Must be constructed, developed |

| Infrastructure | Design, construction, and installation requirements | Monitoring bore locations | Timeframe |
|---|---|---|---|
| PB14<br>PB15<br>PB16<br>PB17<br>PB18 | *Requirements for Water Bores in Australia, using specification appropriate for extraction bores* (e.g., larger diameter casing, gravel pack and screen suitable for sustained pumping, and headworks designed for recovery pump installation). These bores must be capable of removing seepage water at required recovery rates and preventing inter-aquifer leakage.<br>Recovery-bore screens must be positioned to target the saturated zone(s) contributing to seepage at the premises. | labelled as *2026 Recovery bore* | (purged), and determined to be operational before TSF2-4 Stage 5 operations commence |
| | <u>Pump installation:</u><br>Each recovery bore must be fitted with an appropriately sized pump selected based on the hydraulic properties of the aquifer and expected inflows. Pump intake must be positioned within the screened interval to optimise recovery efficiency. | | |
| | <u>Bore development</u><br>Recovery bores must be developed until sand-free operation is achieved to ensure reliable pumping performance. | | |
| | <u>Installation survey:</u><br>The horizontal position and top-of-casing elevation must be surveyed and mapped by a qualified surveyor. | | |
| | <u>Bore network map:</u><br>A bore location map (using aerial image overlay) must be prepared and include the location of all recovery bores, identification numbers and position with respect to TSF2-4. | | |
| PB7, PB8, PB9, PB11 | Each recovery bore pump must be replaced with an appropriately sized pump selected based on the hydraulic properties of the aquifer and expected inflows. Pump intake must be positioned within the screened interval to optimise recovery efficiency. | As shown in Schedule 1, Figure 11 and labelled as *Existing Recovery bore* | Pump replacement to be undertaken before TSF2-4 Stage 5 operations commence |

## Compliance reporting

**4.** The licence 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.

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

(a) certification by a suitably qualified geotechnical engineer 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, a detailed site plan and photographic evidence for each item of infrastructure or component of infrastructure specified in condition 1; and

(c) be signed by a person authorised to represent the licence holder and contain the printed name and position of that person.

**6.** The licence holder must, within 30 calendar days of the monitoring bores specified in condition 2, and the seepage recovery bores specified in condition 3 being constructed, submit to the CEO a bore construction report evidencing compliance with the requirements of condition 2 and 3.

## Premises Operations

### Infrastructure and equipment

**7.** The licence holder must ensure that the site infrastructure and equipment listed in Table 4 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 4.

**Table 4: Infrastructure and equipment requirements**

| Site infrastructure and equipment | Operational requirement | Infrastructure location |
|---|---|---|
| Processing Plant and associated infrastructure | (a) Production capacity not to exceed 1.7 Mtpa tonnes per annual period<br>(b) Processing plant layout and components to be maintained consistent with Figures 17, 18 and 19 of Schedule 1<br>(c) Dust suppression system including water sprays to be operational and used during operation of the crushing and screening facility<br>(d) Dust covers and aprons to be maintained<br>(e) Dust suppression using water cart to be undertaken, when dust is visible<br>(f) Sumps to must be maintained to accept stormwater runoff<br>(g) Bunding, sumps and diversion channels to be maintained to:<br>(i) capture and contain contaminated stormwater; and<br>(ii) divert uncontaminated stormwater runoff away from operational areas | As shown in Schedule 1, Figure 2 |
| TSF2-4 | (a) Lined with at least 0.5m of clay with a permeability of $<10^{-7}$ m/s or equivalent<br>(b) Embankment crest elevation must not exceed | As shown in Schedule 1, Figure 1 and Figure 2 |

| Site infrastructure and equipment | Operational requirement | Infrastructure location |
|---|---|---|
| | 325.0 m RL<br>(c) Tailings elevation must not exceed 324.7m RL<br>(d) Minimum freeboard of 500 mm must be maintained<br>(e) Tailings slurry must be discharged sub-aerially and cyclically from the perimeter embankment<br>(f) Decant pond must be maintained around the decant structure to enable return water recovery<br>(g) Decant water pump must be continuously operated to minimise decant pond size as much as practicable<br>(h) Separation distance between the decant pond and the perimeter embankment must be maintained at more than 200 m<br>(i) Seepage interception trench, downstream toe drain, and stormwater diversion infrastructure must be maintained in good working order<br>(j) Permitted to accept tailings from the onsite processing plant. | |
| TSF2-4 Seepage recovery bores | (a) Seepage recovery bores must be operated continuously<br>(b) Recovered groundwater must be discharged to the Seepage pond. | As shown in Schedule 1, Figure 11 |
| Aphrodite in-pit TSF<br>Vine in-pit TSF<br>Fairplay East in-pit TSF | (a) Decommissioned tailing storage facilities that no longer accept tailings. | As shown in Schedule 1, Figure 6 |
| Seepage water pond | (a) Pond embankment, HDPE liner, and storage capacity must be maintained<br>(b) Permitted to receive seepage from TSF2-4 seepage recovery bores and seepage interception trench<br>(c) Minimum freeboard of 500 mm must be maintained. | As shown in Schedule 1, Figure 7 |
| Process water pond | (a) Pond embankment, HDPE liner, and storage capacity must be maintained<br>(b) Minimum freeboard of 500 mm must be maintained<br>(c) Authorised to receive decant return, seepage recovery, and mine dewater. | |
| Raw water pond | (a) Pond embankment, HDPE liner, and storage capacity must be maintained<br>(b) Minimum freeboard of 500 mm to be maintained<br>(c) Authorised to receive mine dewater and water from the Chalice borefield. | |
| Pioneer turkey's nest | (a) Pond embankment, HDPE liner, and storage capacity must be maintained | As shown in Schedule 1, |

| Site infrastructure and equipment | Operational requirement | Infrastructure location |
|---|---|---|
| | (b) Minimum freeboard of 500 mm to be maintained<br>(c) Authorised to receive mine dewater from Pioneer open pit. | Figure 5 |
| Chalice turkey's nest | (a) Pond embankment, HDPE liner, and storage capacity must be maintained<br>(b) Minimum freeboard of 500 mm to be maintained<br>(c) Authorise to receive water from the Chalice borefield. | As shown in Schedule 1, Figure 4 |
| Josephine turkey's nest | (a) Pond embankment, HDPE liner, and storage capacity must be maintained<br>(b) Minimum freeboard of 500 mm to be maintained<br>(c) Authorised to receive mine dewater from Atreides open pit. | As shown in Schedule 1, Figure 10 |

**8.** The Licence Holder must maintain and operate all pipelines containing tailings, effluent or saline water by ensuring they are either:

(a) equipped with automatic cut-outs in the event of a pipeline failure;

(b) equipped with telemetry; or

(c) are provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections.

**9.** The Licence Holder is authorised to:

(a) construct TSF2-4 embankment raises to the construction height; and

(b) operate TSF2-4 at the operating height

specified in Table 5.

**Table 5: TSF2-4 staged construction elevations and operating heights**

| Infrastructure | Embankment stage | Construction elevation (m RL) | Operating height (m RL) |
|---|---|---|---|
| TSF 2-4 | 3 | 320.0 | 319.7 |
| | 4 | 322.5 | 322.2 |
| | 5 | 325.0 | 324.7[1] |

[1]Operations at this height to commence after requirements of condition 2,3, 4 and 5 have been met.

**10.** The Licence Holder must:

(a) undertake inspections as detailed in Table 6;

(b) where any inspection identifies that an appropriate level of environmental protection is not being maintained, take corrective actions to mitigate adverse environmental consequences as soon as practicable; and

(c) maintain a record of all inspections undertaken.

**Table 6: Inspection of infrastructure**

| Infrastructure | Type of inspection | Frequency of inspection |
|---|---|---|
| Tailings pipelines | Visual to confirm pipeline integrity and sufficient capacity of containment | Daily (when operating) |
| Return water pipelines | | |
| Seepage Pond | Visual to confirm required freeboard capacity outlined in Table 4 is available | |
| Process water pond | | |
| Raw water pond | | |
| Pioneer turkey's nest | | |
| Chalice turkey's nest | | |
| Josephine turkey's nest | | |
| Processing plant containment | Visual to confirm vessels integrity | Weekly |
| TSF2-4 | Visual to confirm size and location of decant pond and sufficient freeboard capacity | Daily (when operating) and prior to and following a significant rainfall event. |
| TSF2-4 seepage interception drain | Visual to confirm no obstruction and has sufficient capacity | |
| Stormwater infrastructure including drains, diversions, bunding | Visual to confirm no sediment or debris accumulated | |
| Pipelines containing saline water | Visual to confirm integrity | |

## Emissions and discharges

**11.** The licence holder must immediately recover or remove and dispose of spills of environmentally hazardous materials, including fuel, oil, hydrocarbons, tailings, process water, and cyanide-laden water, whether inside or outside an engineered containment system.

**12.** The Licence Holder must record and investigate the exceedance of any descriptive or numerical limit, in this section.

### Point source emissions to surface water

**13.** The Licence Holder must ensure that where waste is emitted to surface water from the emission point in Table 6, it is done in accordance with the conditions of this licence.

**Table 6: Emission points to surface water**

| Emission point reference | Emission point reference on map of emission points | Description | Source including abatement |
|---|---|---|---|

| | | | |
|---|---|---|---|
| D1 | Chalice West Lake | Receiving environment - hypersaline lake | Mine dewater from Chalice Pit |

### Point source emissions to groundwater

**14.** The Licence Holder must ensure that where waste is emitted to groundwater from the emission points in Table 7, it is done in accordance with the conditions of this licence.

**Table 7: Emission points to groundwater**

| Emission point reference | Emission point reference on Map of emission points | Description | Source including abatement |
|---|---|---|---|
| G1<br>(As shown in Schedule 1 Figure 8) | Aphrodite East Pit | Receiving environment – previously mined pit | Mine dewater from Chalice pit, Pioneer pit, Higginsville underground and Challenge pit.<br>Water from the Chalice borefield. |
| G2<br>(As shown in Schedule 1 Figure 8) | Poseidon North Pit | Receiving environment- previously mined pit | Mine dewater from Aphrodite East pit, Trident underground mine and Chalice pit.<br>Water from the washdown bay. Water must be treated by an oil/water separator. |
| G3<br>(As shown in Schedule 1 Figure 8) | Fairplay North Pit | Receiving environment- previously mined pit | Mine dewater from Two Boys Underground mine and Aquarius Underground mine |
| G5<br>(As shown in Schedule 1 Figure 10) | Louis Pit | Receiving environment- previously mined pit | Mine dewater from Atreides Pit |
| G6<br>(As shown in Schedule 1 Figure 10) | Josephine Pit | Receiving environment- previously mined pit | Mine dewater from Atreides Pit |

**15.** The Licence Holder must not cause or allow emissions to groundwater greater than the limits listed in Table 8.

**Table 8: Emission limits**

| Emission point reference | Parameter | Limit (including units) | Averaging period |
|---|---|---|---|
| G1 & G2 | Annual cumulative volume | 1 900 000 tonnes | N/A |
| Washdown bay Oil/water separator | Total recoverable hydrocarbons (TRH) | 15 mg/L | Spot sample |

| | | | |
|---|---|---|---|
| discharge to Poseidon North Pit (G2) | | | |

### Point source emissions to land

**16.** The Licence Holder must ensure that where waste is emitted to land from the emission points in Table 9 and identified on the map in Figure 2 of Schedule 1, it is done in accordance with the conditions of this licence.

**Table 9: Emission point to land**

| Emission point reference | Emission point reference on Map of Emission Points | Description | Source including abatement |
|---|---|---|---|
| L1 | Irrigation Field | Sewage facility irrigation field | Sewage facility |

**17.** The Licence Holder must not cause or allow emissions to land greater than the limits listed in Table 10.

**Table 10: Emission limits to land**

| Emission point reference | Parameter | Limit (including units) | Averaging period |
|---|---|---|---|
| L1 | Maximum inorganic nitrogen addition | 480 kg/hectare/year | Quarterly spot sample |
| | Maximum inorganic phosphorus addition | 120 kg/hectare/ year | |

**18.** The Licence Holder must ensure that any dewatering effluent used for dust suppression is managed in a manner that minimises damage to surrounding vegetation.

## Monitoring

**19.** The Licence Holder must ensure that:

(a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;

(b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;

(c) all surface water sampling is conducted in accordance with AS/NZS 5667.4, AS/NZS 5667.6 or AS/NZS 5667.9 as relevant;

(d) all groundwater sampling is conducted in accordance with AS/NZS 5667.11;

(e) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured.

**20.** The Licence Holder must ensure that:

(a) monthly monitoring is undertaken at least 15 days apart;

(b) quarterly monitoring is undertaken at least 45 days apart; and

(c) annual monitoring is undertaken at least 9 months apart.

### Monitoring of point source emissions to surface water

**21.** The Licence Holder must undertake the monitoring in Table 12 according to the specifications in that table.

**Table 12: Surface water discharge and receiving environment monitoring**

| Emission point reference | Parameter | Units | Frequency |
|---|---|---|---|
| Chalice West Lake - CMB6 monitoring bore | Aluminium, arsenic, barium, boron, beryllium, cadmium, cobalt, chromium, copper, iron, mercury, potassium, magnesium, manganese, molybdenum, sodium, nickel, lead, selenium, silicon, tin, strontium, titanium, thallium, vanadium, and zinc. | mg/L | Annually during active discharge |
| Chalice West Lake | Aquatic biota | N/A | Annually during active discharge |
| | TDS | mg/L | Annually during active discharge |
| D1, D2, D3, C1, C2 | Lake fringe monitoring- species richness in quadrats | N/A | Annually |
| Discharge to Chalice West Lake | pH | - | Monthly during active discharge |
| | TDS<br>TSS | mg/L | |
| | Bicarbonate ($HCO_3$)<br>Carbonate ($CO_3$)<br>Calcium (Ca)<br>Chloride (Cl)<br>Magnesium (Mg)<br>Potassium (K)<br>Sodium (Na)<br>Sulfate ($SO_4$)<br>Aluminium (Al)<br>Antimony (Sb)<br>Arsenic (As)<br>Barium (Ba)<br>Beryllium (Be)<br>Boron (B)<br>Cadmium (Cd)<br>Chromium (Cr)<br>Cobalt (Co)<br>Copper (Cu)<br>Iron (Fe)<br>Lead (Pb)<br>Manganese (Mn)<br>Mercury (Hg)<br>Molybdenum (Mo)<br>Nickel (Ni)<br>Selenium (Se)<br>Silicon (Si)<br>Thallium (Tl)<br>Uranium (U)<br>Vanadium (V)<br>Zinc (Zn) | mg/L | Annually during active discharge |
| | Diatoms<br>Macrophytes | N/A | Annually during |

| Emission point reference | Parameter | Units | Frequency |
|---|---|---|---|
| | Aquatic invertebrates | | active discharge |

**22.** The Licence Holder must ensure that monitoring of aquatic biota (algae (diatoms), macrophytes, invertebrates (including resting stages)) required by condition 21 is undertaken by a qualified scientist experienced in biological sampling from salt lakes. The ecological components monitored must reflect the lake conditions at the time of sampling (i.e. whether wet or dry). If sampled during dry conditions, hatching of dormant species must be completed to provide a complete record of all species present.

### Monitoring of emissions to land and groundwater

**23.** The Licence Holder must undertake the monitoring in Table 11 according to the specifications in that table.

**Table 11: Monitoring of emissions to land and groundwater**

| Emission point reference | Parameter | Units | Limit | Reference period | Frequency |
|---|---|---|---|---|---|
| L1 | Biochemical Oxygen Demand (BOD) | mg/L | - | Spot sample | Annually |
| | Total Suspended Solids (TSS) | mg/L | - | | |
| | Total Nitrogen (TN) | mg/L | | | |
| | Total Phosphorus | mg/L | | | |
| | Turbidity | NTU | - | | |
| | Chlorine Residual | Mg/L | - | | |
| | pH | - | - | | |
| | *E.coli* | cfu per 100ml | - | | |
| G1 | SWL within pit | mbgl | 4 | | Monthly |
| G2<br>G3<br>G5 &<br>G6 | pH | | - | Spot sample | Monthly (except when no discharges to pit occur in that month) |
| | TDS | mg/L | - | | |
| | Conductivity | mS/cm | - | | |
| | Aluminium, arsenic, barium, boron, beryllium, bicarbonate, carbonate, cadmium, cobalt, chromium, copper, iron, mercury, potassium, | mg/L | - | Spot sample | Quarterly (except when no discharges to pit occur in that |

| Emission point reference | Parameter | Units | Limit | Reference period | Frequency |
|---|---|---|---|---|---|
| | magnesium, manganese, molybdenum, sodium, nickel, lead, selenium, silicon, sulfate, strontium, thallium, vanadium, and zinc. | | | | quarter) |
| Oil/water separator discharge into Poseidon North Pit (G2) | Total Recoverable Hydrocarbons (TRH) | mg/L | 15 | Spot sample | Quarterly |

Note 1: pH and TDS may be measured in the field.

## Process monitoring

**24.** The Licence Holder must undertake the monitoring in Table 12 according to the specifications in that table.

**Table 12: Process monitoring**

| Monitoring point reference | Process description | Parameter | Units | Frequency | Method |
|---|---|---|---|---|---|
| TSF2-4 | Tailings delivery to TSF | Volume, and mass of tailings deposited into the TSF (figures for wet and dry) | $m^3$ and tonnes | Monthly | None specified |
| | TSF return water | Volumes of water recovered from the TSF | kL | Monthly | None specified |
| | Seepage recovery | Total volume of seepage water recovered from the TSF | kL | Monthly | None specified |
| | | Volume of seepage water recovered from the seepage recovery bores (PB1-18) | | | |
| | | Seepage recovery bores (PB1-PB18) flow rates | L/sec | Monthly average | |
| Aphrodite In-Pit TSF<br>Fairplay East In-pit TSF<br>Vine In-pit TSF | Seepage recovery | Volume of seepage water recovered from the TSF | kL | Monthly | None specified |

| Monitoring point reference | Process description | Parameter | Units | Frequency | Method |
|---|---|---|---|---|---|
| G1 Aphrodite East Pit<br>G2 Poseidon North Pit<br>G3 Fairplay North Pit<br>G5 Louis Pit<br>G6 Josephine pit | Water discharge into pit | Volume of water discharged into each pit | kL | Monthly | None specified |
| Chalice West Lake discharge point | Dewatering from Chalice Pit to Chalice West Lake | Volume of water discharged to Chalice West Lake | kL | Monthly | Flowmeter readings |

## Ambient environmental quality monitoring

**25.** The Licence Holder must undertake the monitoring in Table 13 according to the specifications in that table and record and investigate results that do not meet any specified limit.

**Table 13: Ambient groundwater and associated water quality monitoring**

| Monitoring point reference and location | Parameter | Limit | Units | Averaging period | Frequency |
|---|---|---|---|---|---|
| Tailings outfall and decant water | pH[1] | - | - | Spot sample | Monthly when in operation |
| | WAD CN | - | mg/L | | |
| | TDS[1] | | | | |
| Seepage water pond | pH[1] | | mg/L | | Quarterly when in operation |
| | WAD CN | | | | |
| | TDS[1] | | | | |
| Monitoring bores:<br><u>TSFs 2-4:</u><br>HMB6, HMB7, HMB12, HMB22, HMB25, HMB27, HMB28, HMB29<br><br><u>Aphrodite In-pit TSF (decommissioned):</u><br>APHMB1, APHMB2, APHMB3, APHMB4, APHMB5, APHMB6,<br><u>Fairplay East In-pit TSF (decommissioned):</u> | SWL | 4 | mbgl | | Monthly when in operation.<br>Six monthly when in care and maintenance or decommissioned |

| Monitoring point reference and location | Parameter | Limit | Units | Averaging period | Frequency |
|---|---|---|---|---|---|
| FPEMB2, FPEMB4 and FPEMB5<br>Vine In-pit TSF (decommissioned):<br>VMB1, VMB2 and VMB3 | | | | | |
| Monitoring bores:<br>TSFs 2-4:<br>HMB1, HMB3, HMB4, HMB5, HMB6, HMB7, HMB12, HMB22, HMB25, HMB27, HMB28, HMB29<br>Aphrodite In-pit TSF (decommissioned):<br>APHMB1, APHMB2, APHMB3, APHMB4, APHMB5, APHMB6,<br>Fairplay East In-pit TSF (decommissioned)<br>FPEMB2, FPEMB4 and FPEMB5<br>Vine In-pit TSF (decommissioned):<br>VMB1, VMB2 and VMB3 | pH | - | | | Monthly when in operation.<br>Six monthly when in care and maintenance or decommissioned |
| | TDS | - | mg/L | | |
| | Conductivity | - | mS/cm | | Quarterly when in operation;<br>Annually when in care and maintenance or decommissioned |
| | WAD CN | 0.5 | mg/L | | |
| | aluminium, arsenic, barium, boron, beryllium, bicarbonate, carbonate, cadmium, cobalt, chromium, chloride, copper, iron, mercury, potassium, magnesium, manganese, molybdenum, nickel, lead, selenium, silicon, sulfate, sodium, strontium, thallium, vanadium, zinc | - | mg/L | | |

Note 1: pH and TDS may be measured in the field

**26.** The licence holder must undertake monitoring of the water balance at TSF2-4 for each monthly period, and record as a minimum the following information:

(a) tailings slurry and solids deposited;
(b) estimated volume of water deposited (as part of tailings slurry);
(c) direct rainfall;
(d) volume of water recovered by the decant system;
(e) evaporation rate;

(f) volume and rate of seepage recovered from sumps and bores;

to calculate the estimated volume of seepage losses into the environment.

## Specified actions

**27.** The licence holder must complete the specified actions in Table 14 and provide the items to the CEO in accordance with the requirements and timeframes set out in that table.

**Table 14: Specified actions requirements and timeframes**

| item | Specified action requirements | Timeframe |
|---|---|---|
| 1. | **Audit of seepage recovery network**<br>Conduct an audit of the existing TSF2–4 seepage recovery bores to determine their adequacy in managing groundwater mounding within the TSF2–4 zone of influence. The audit must be undertaken by a suitably qualified hydrogeologist and include a report of the findings. The report must include, but not be limited to:<br>(a) an assessment of the effectiveness of the TSF2–4 seepage recovery bore network in managing groundwater levels around TSF2–4 since installation of the additional bores required by condition 3, including comparison of groundwater level and quality monitoring data against data collected prior to their installation; and<br>(b) an assessment of the rate of change in groundwater levels and the predicted time (in years) for groundwater to reach the surface, with comparison to the predicted values specified in Table 3 of Rockwater (2025). | Within 9 months of deposition commencing into TSF2-4 at the Stage 5 embankment elevation. |
| 2. | Where the audit required by Item 1 (Table 17) determines that seepage recovery bores or other measures at TSF2–4 are ineffective in managing groundwater mounding or improving groundwater quality the Licence Holder must prepare a seepage improvement plan. The plan must include, but not be limited to:<br>(a) identification and assessment of additional seepage recovery bore locations, supported by empirical data, including geophysical transect surveys (electrical and/or electromagnetic) to define seepage pathways;<br>(b) investigation and assessment of alternative seepage control measures, including underdrainage improvements and/or reduction of tailings water content; and<br>(c) recommended seepage management measures, including priorities and indicative timeframes for implementation.<br>The Licence Holder is to implement to seepage improvement plan. | Must be submitted within 6 months of the submission of the audit report required by item 1 |

# Records and Reporting

**28.** The licence holder must record the following information in relation to complaints received by the licence 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 licence holder to investigate or respond to any complaint.

**29.** The licence holder must maintain accurate and auditable books that include the following records, information, reports, and data required by this licence:

(a) the calculation of fees payable in respect of this licence

(b) the works conducted in accordance with condition 1, 2 and 3 of this licence

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

(d) monitoring programmes undertaken in accordance with conditions 22, 24, 25 and 26 of this licence; and

(e) complaints received under condition 29 of this licence.

**30.** The books specified under condition 30 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 licence holder for the duration of the licence; and

(d) be available to be produced to an inspector or the CEO as required.

**31.** The Licence Holder must complete an Annual Audit Compliance Report indicating the extent to which the Licence Holder has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.

**32.** The Licence Holder must submit to the CEO an Annual Environmental Report within 90 calendar days after the end of the annual period. The report shall contain the information listed in Table 15 in the format or form specified in that table.

**Table 15: Annual Environmental Report Requirements**

| Condition or table (if relevant) | Parameter | Format or form[1] |
|---|---|---|
| - | Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken | None specified |
| 31 | Compliance | AACR[1] |
| 28 | Complaints summary | None specified |
| Table 12 | All analytes and physical characteristics listed in Table 12 should be included in the annual environmental report, including a comparison with relevant ecological criteria. | Tabular |
| Table 13 | All analytes and physical characteristics listed in Table 13 should be included in the annual environmental report, including a comparison with relevant ecological criteria. | Tabular |

| Condition or table (if relevant) | Parameter | Format or form[1] |
|---|---|---|
| Table 14 | All process monitoring parameters listed in Table 14 should be included in the annual environmental report. | Tabular |
| Table 15 | pH, WAD CN, SWL, TDS, Conductivity, metal(loid)s and major ions | None specified |
| Condition 26 | Water balance | None specified |

Note 1: The AACR form can be accessed online at:
https://www.wa.gov.au/system/files/2020-09/DWER-IR-F14%20Annual%20Audit%20Compliance%20Report%20Form.docx

**33.** The Licence Holder must ensure that the Annual Environmental Report also contains:

(a) any relevant process, production or operational data recorded; and

(b) an assessment of the information contained within the report against previous monitoring results and Licence limits.

**34.** The Licence Holder must ensure that the parameters listed in Table 16 are notified to the CEO in accordance with the notification requirements of the table.

**Table 16: Notification requirements**

| Condition or table (if relevant) | Parameter | Notification requirement[1] | Format or form[2] |
|---|---|---|---|
| 15, 17, 23 and 25 | Breach of any limit specified in the Licence | Part A: As soon as practicable but no later than 5PM of the next usual working day.<br>Part B: As soon as practicable | N1 |

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the EP Act
Note 2: N1 Form in Schedule 4

# Definitions

In this licence, the terms in Table 17 have the meanings defined.

**Table 17: Definitions**

| Term | Definition |
|---|---|
| ACN | Australian Company Number |
| Annual Audit Compliance Report (AACR) | means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the Department's website). |
| annual period | a 12 month period commencing from 1 July until 30 June of the immediately following year. |
| books | has the same meaning given to that term under the EP Act. |
| CEO | means Chief Executive Officer of the Department.<br>"submit to / notify the CEO" (or similar), means either:<br>Director General<br>Department administering the *Environmental Protection Act 1986*<br>Locked Bag 10<br>Joondalup DC WA 6919<br>or:<br>info@dwer.wa.gov.au |
| cfu per 100 mL | means colony forming units per 100 millilitres |
| Decommissioned TSF | have reached operational capacity and no longer received tailings. |
| Department | means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3. |
| 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. |
| environmentally hazardous material | means material which, if discharged into the environment from or within the premises may cause pollution or environmental harm.<br>Note: Environmentally hazardous materials include dangerous goods where they are stored in quantities below placard quantities. The storage of dangerous goods above placard quantities is regulated by the Department of Mines, Industry Regulation and Safety. |
| EP Act | *Environmental Protection Act 1986* (WA) |
| EP Regulations | *Environmental Protection Regulations 1987* (WA) |
| freeboard | means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point |

| Term | Definition |
|---|---|
| licence | refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained within. |
| licence holder | refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted. |
| mbgl | metres below ground level |
| monthly period | means a one-month period commencing from day 1 of a month until the final day of the same month. |
| NATA | means the National Association of Testing Authorities, Australia. |
| NTU | Nephelometric Turbidity Unit |
| premises | refers to 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 licence. |
| prescribed premises | has the same meaning given to that term under the EP Act. |
| Rockwater (2025) | means *the Hydrogeological and Seepage Assessment Report* (Rockwater, 2025) submitted as part of the 2025/2026 licence amendment application. |
| Suitably qualified geotechnical engineer | means a person who:<br>(a) holds a Bachelor of Engineering degree recognised by Engineers Australia; and<br>(b) has a minimum of five years of experience working in a supervisory role of geotechnical engineering; and<br>(c) is employed by an independent third party external to the Works Approval Holder's business;<br>or is otherwise approved in writing by the CEO to act in this capacity. |
| SWL | means standing water level |
| TDS | means total dissolved solids |
| TSF | means tailings storage facility |
| WAD CN | means weak acid dissociable cyanide |
| waste | has the same meaning given to that term under the EP Act. |

**END OF CONDITIONS**

# Schedule 1: Maps

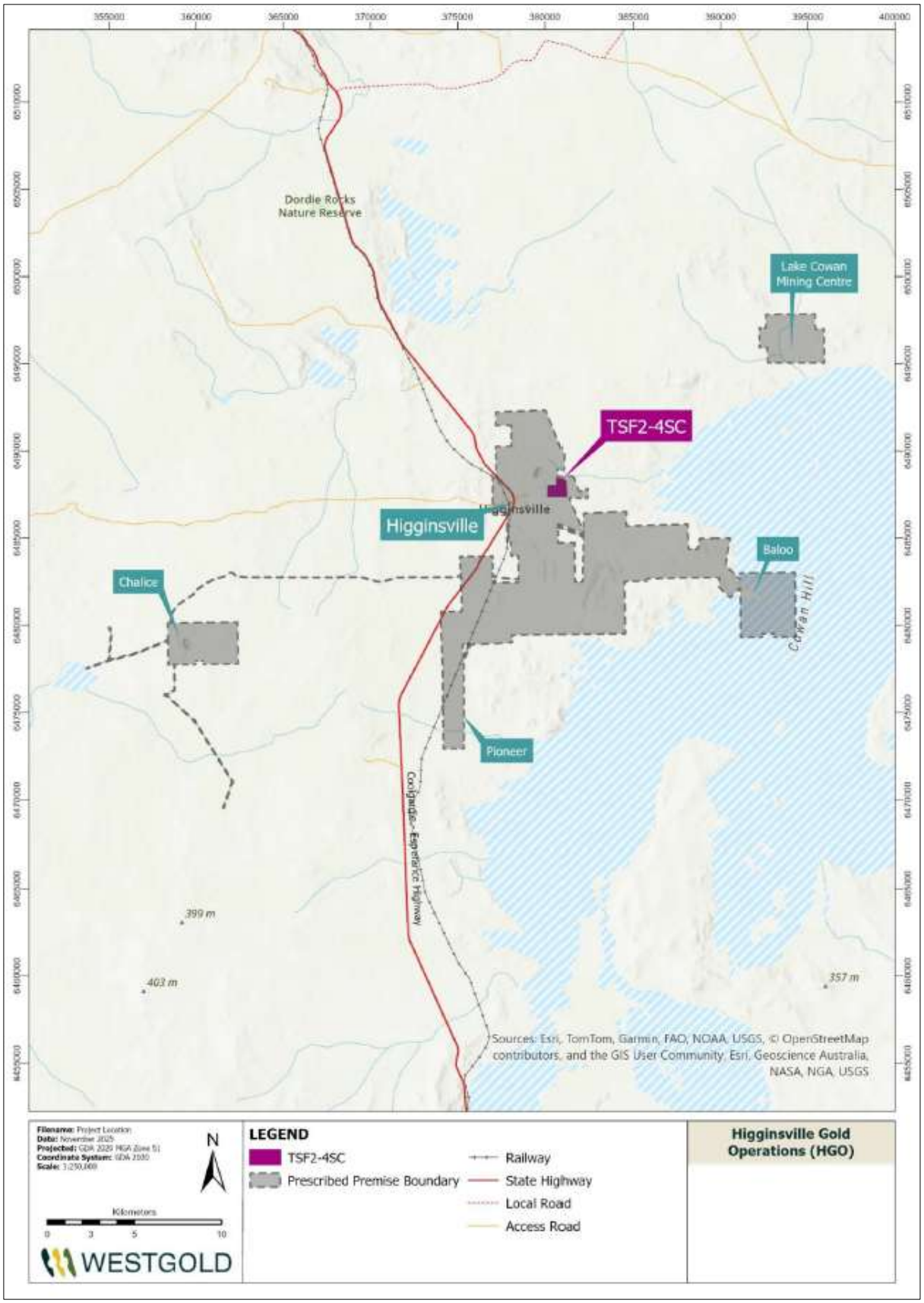


**Figure 1: Prescribed premises boundary**

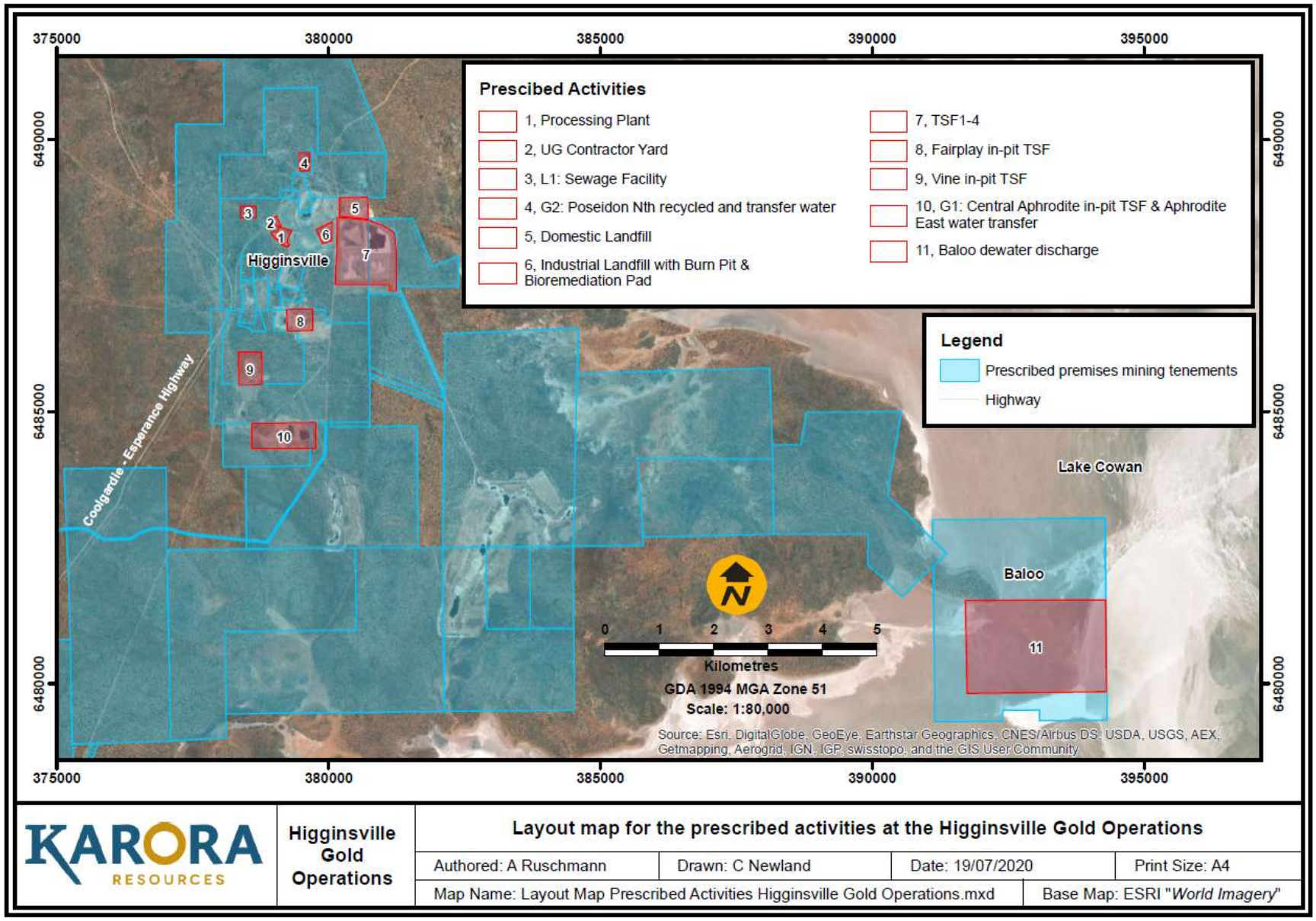


**Figure 2: Prescribed activities layout – eastern region**

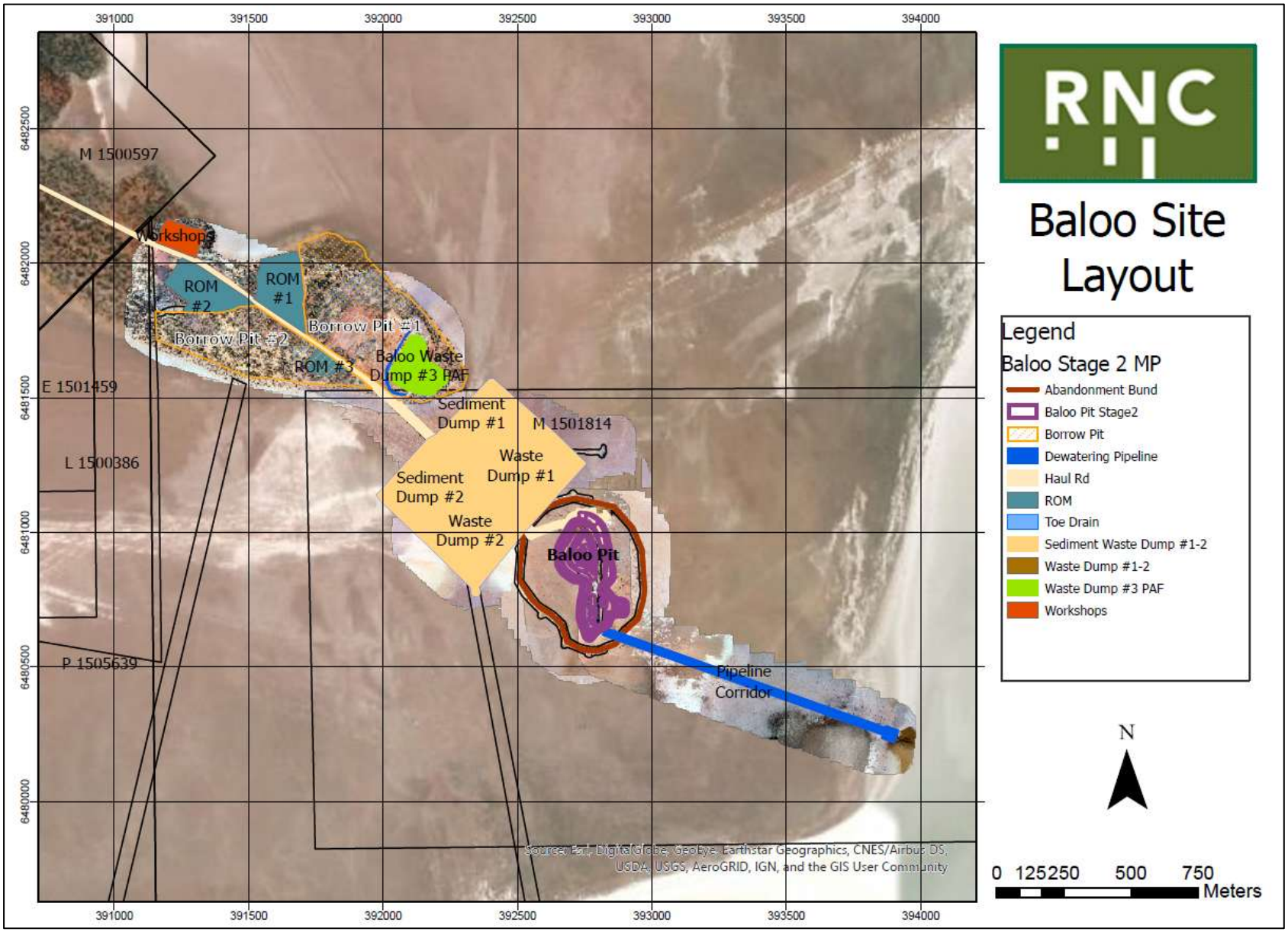


**Figure 3: Baloo site layout**

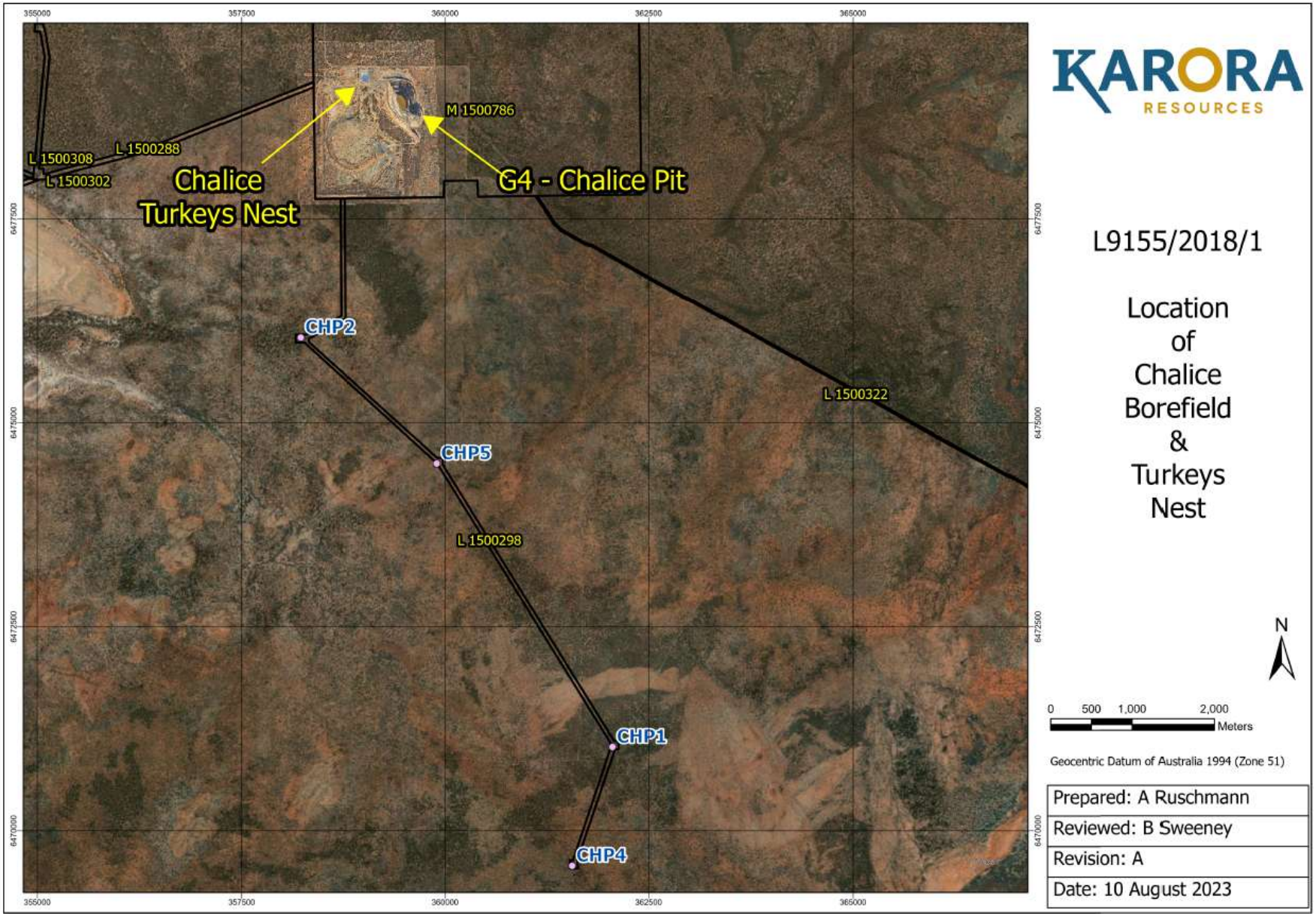


**Figure 4: Chalice site layout**

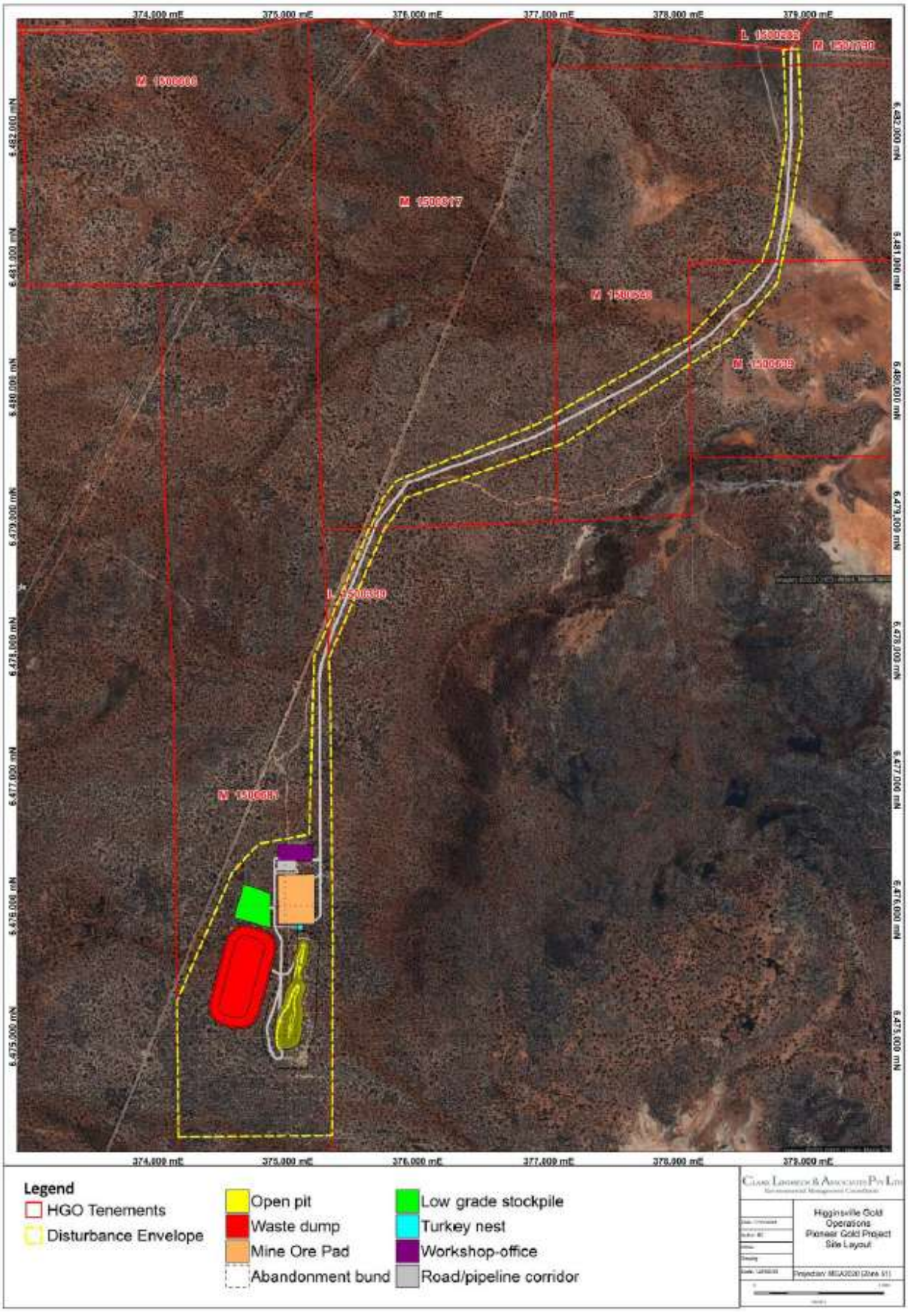


**Figure 5: Pioneer site layout**

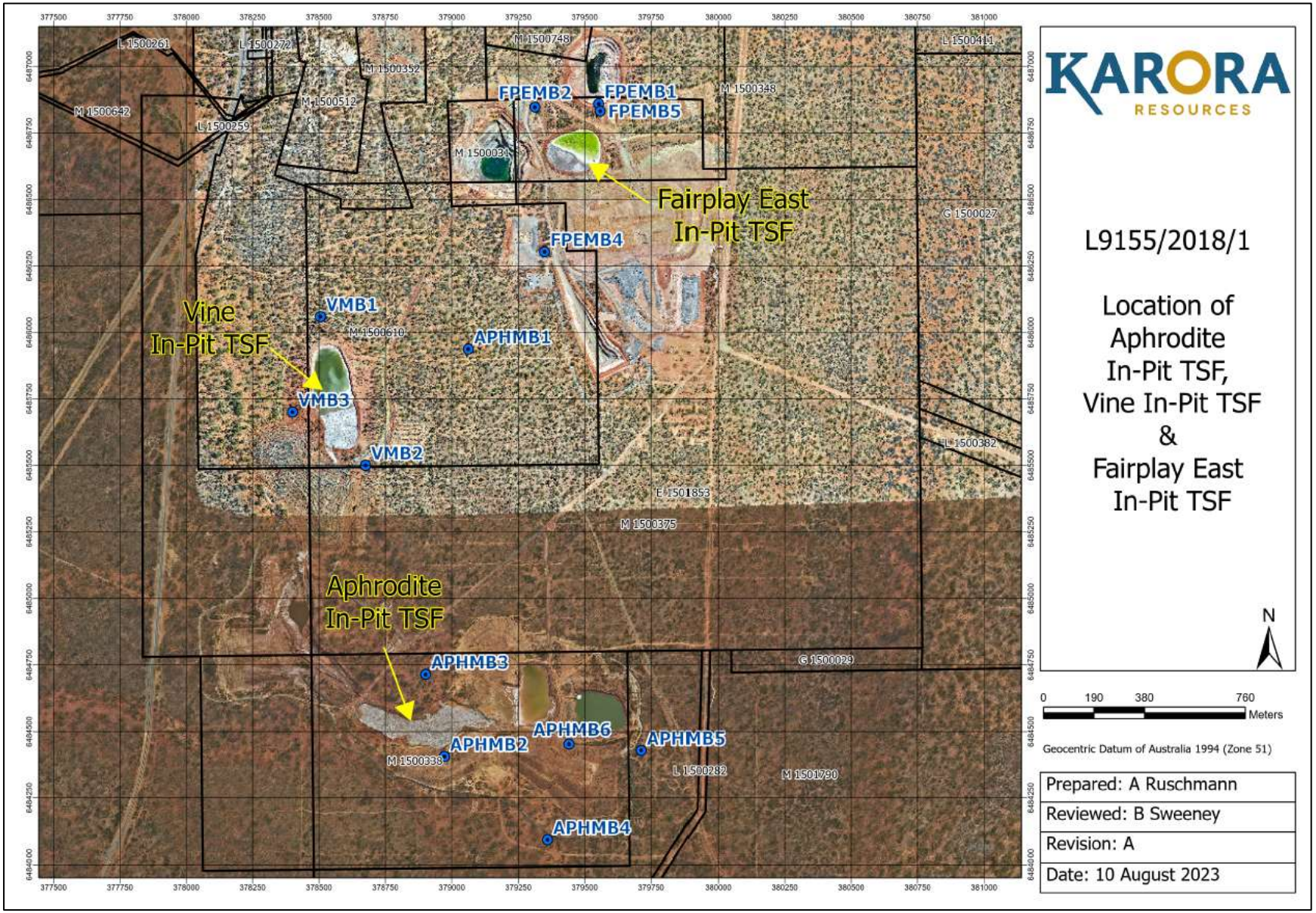


**Figure 6: Location of in-pit TSFs and respective monitoring bores**


**Figure 7: Location of raw water, process water and seepage water ponds in relation to TSF2–4**

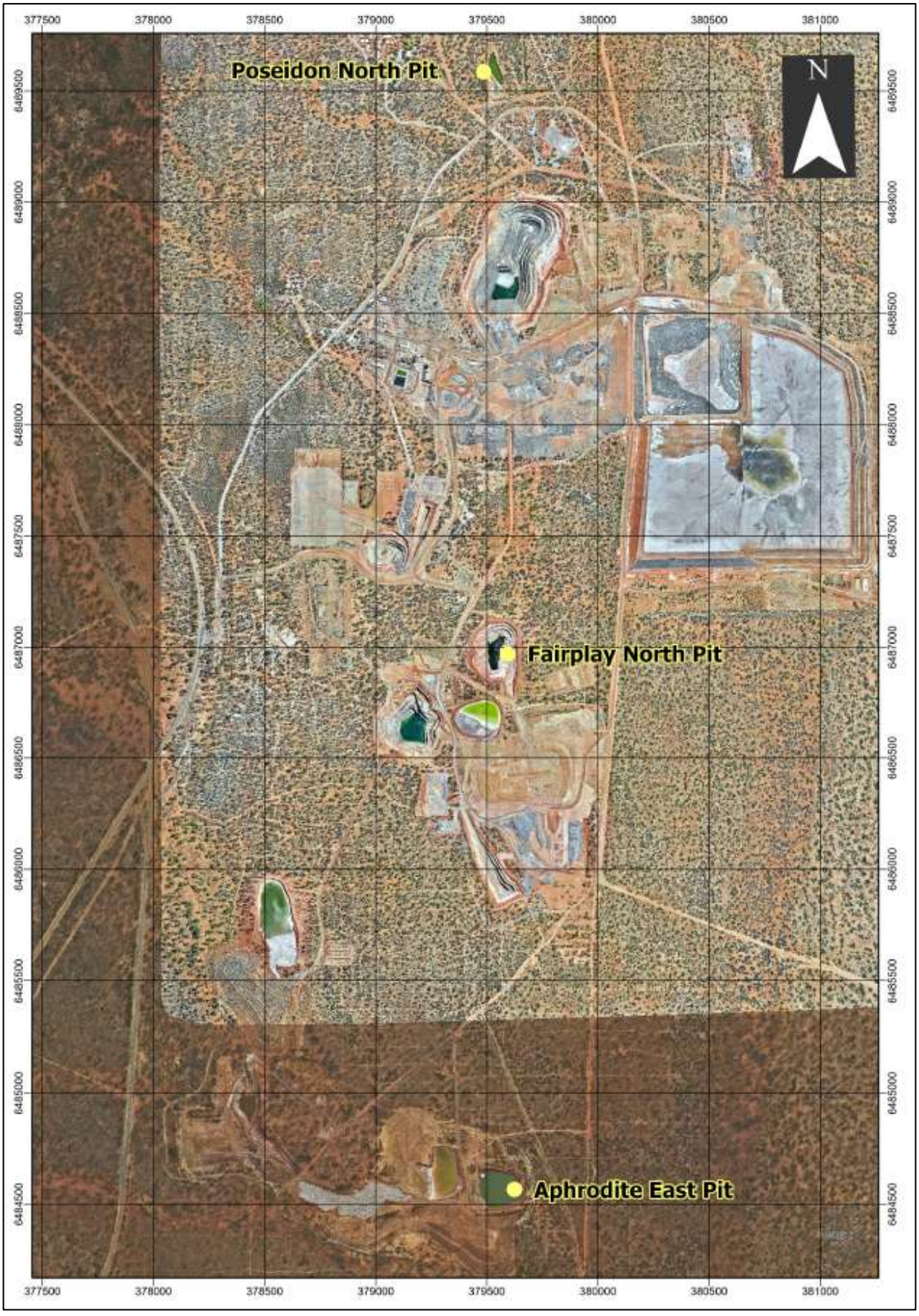


**Figure 8: Discharge points to groundwater (G1, G2 and G3)**

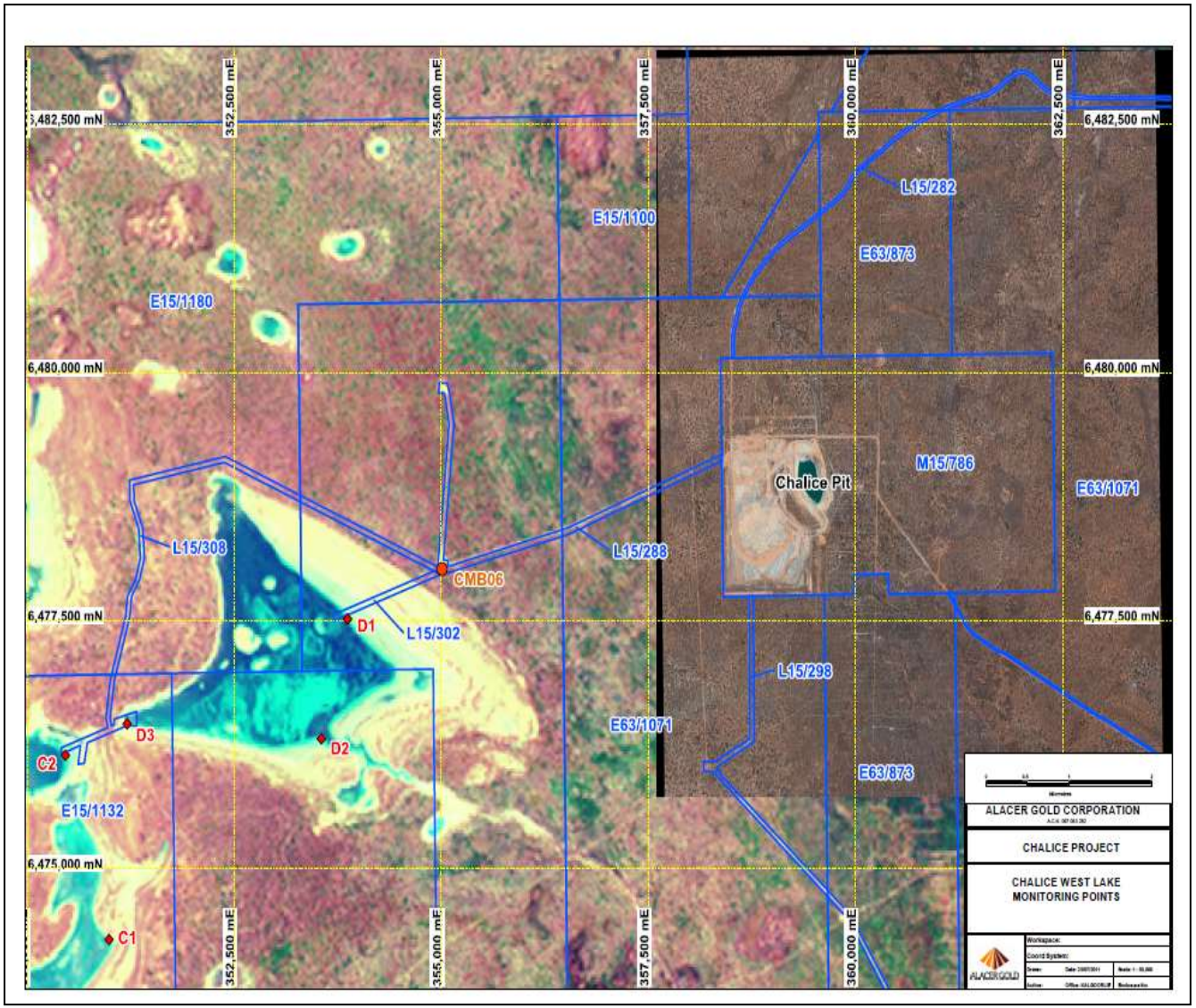


**Figure 9: Locations of the Chalice West Lake monitoring points**

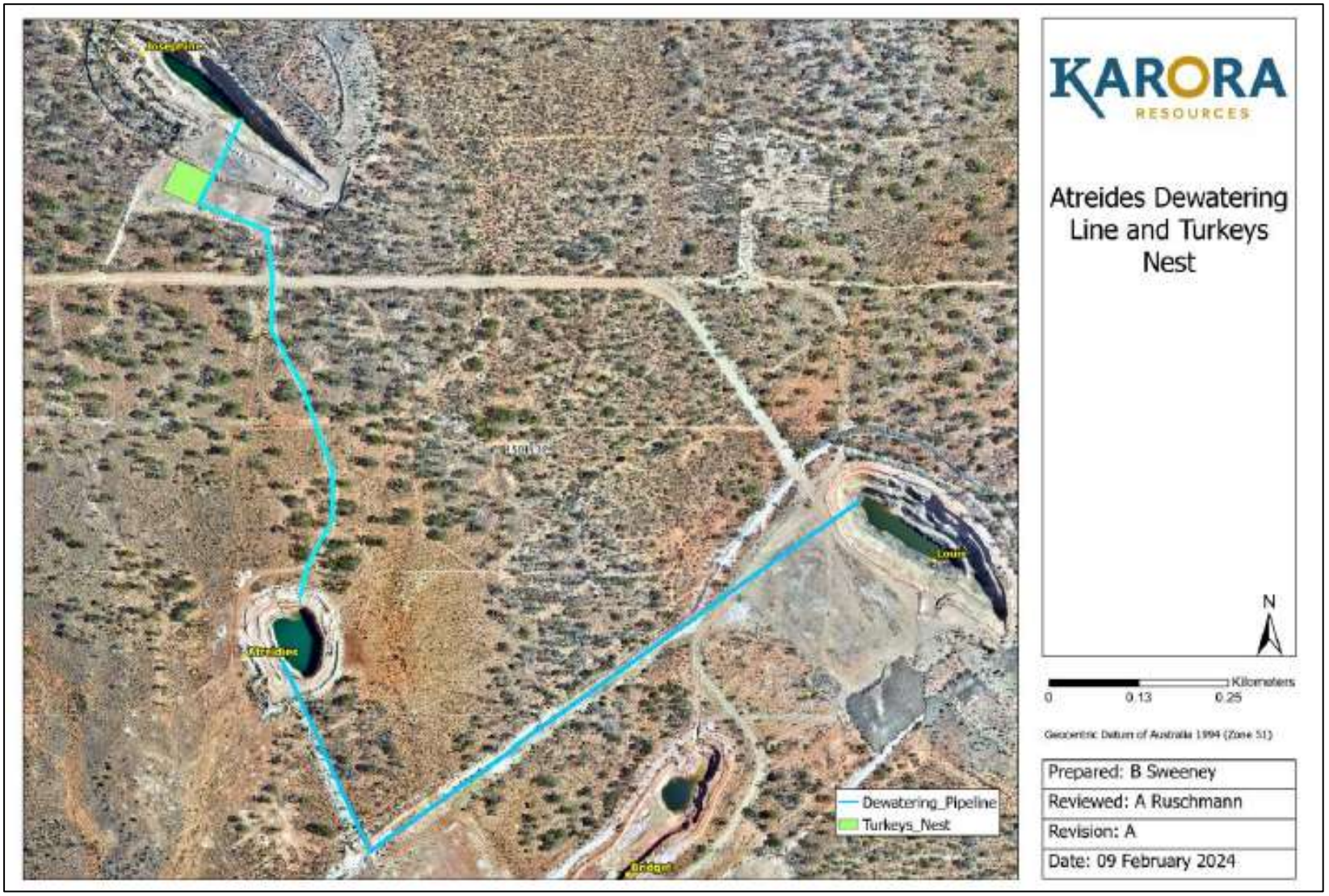


**Figure 10: Atreides, Josephine (G6) and Louis pit (G5) and pipeline route**


**Figure 11: TSF 2-4 monitoring and recovery bores**

## Schedule 2: TSF2-4 construction

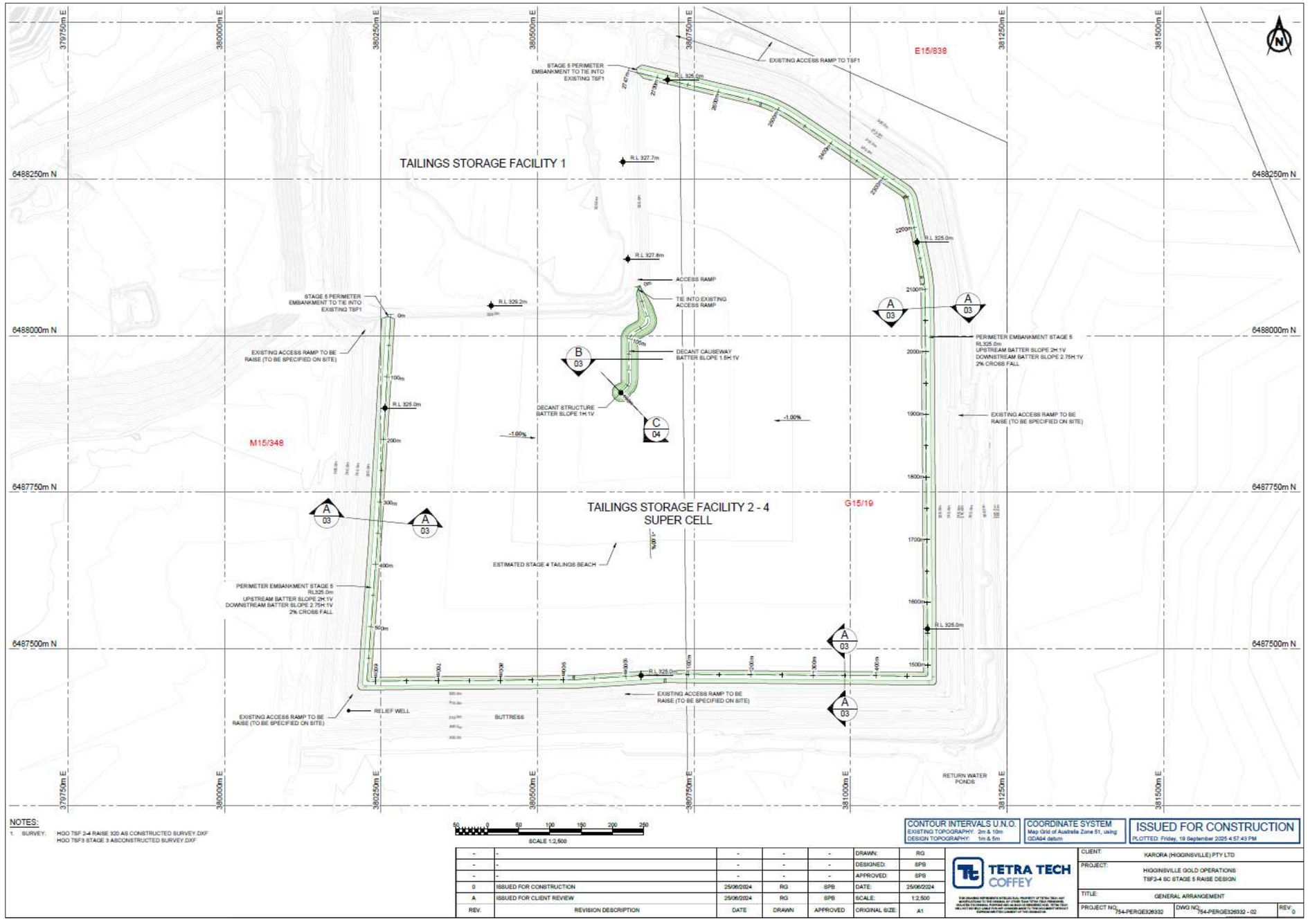


**Figure 12: TSF2-4 stage 5 embankment raise design - embankment alignments and supporting infrastructure**

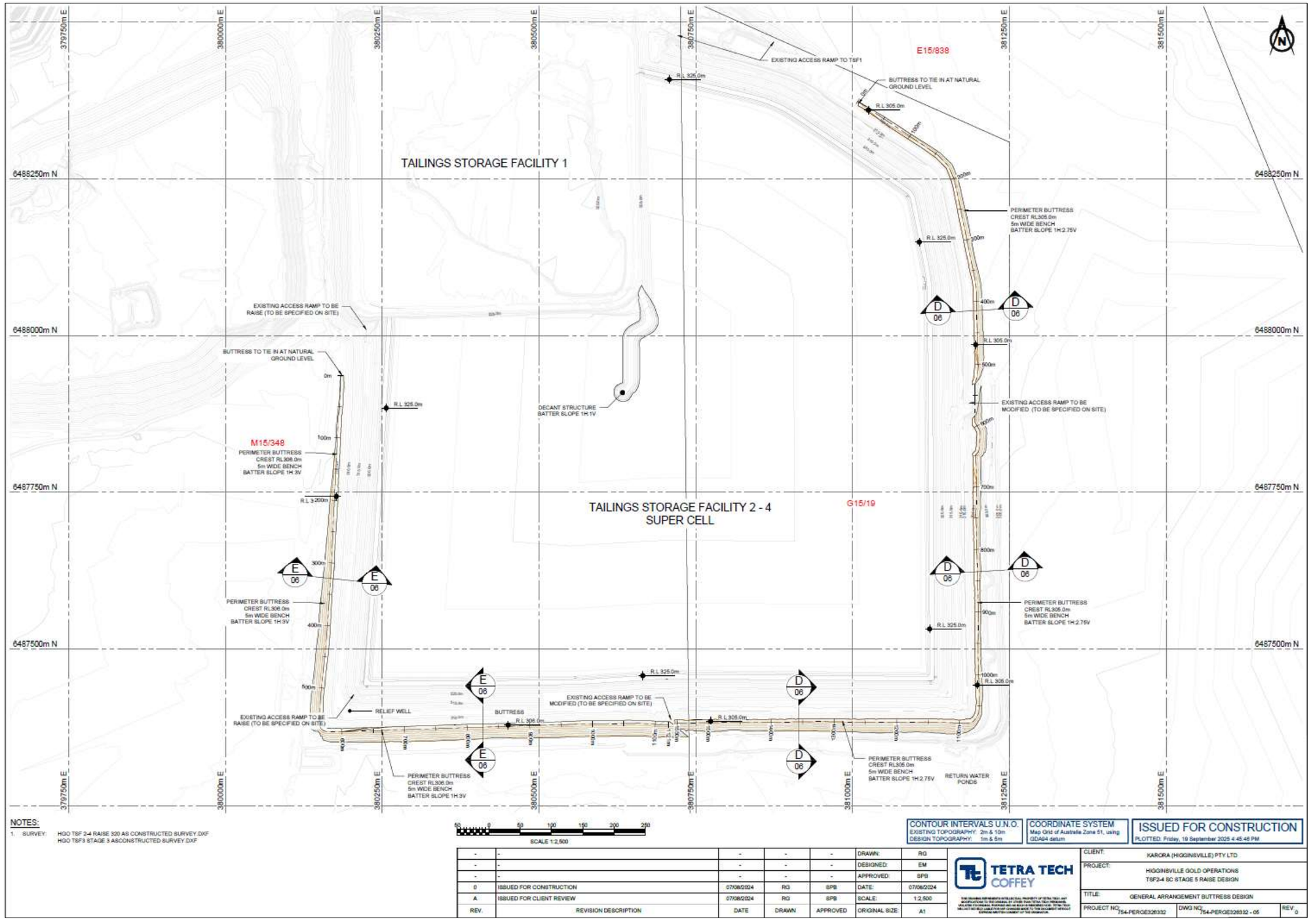


**Figure 13: TSF2-4 stage 5 embankment raise design - embankment geometry and associated site features.**

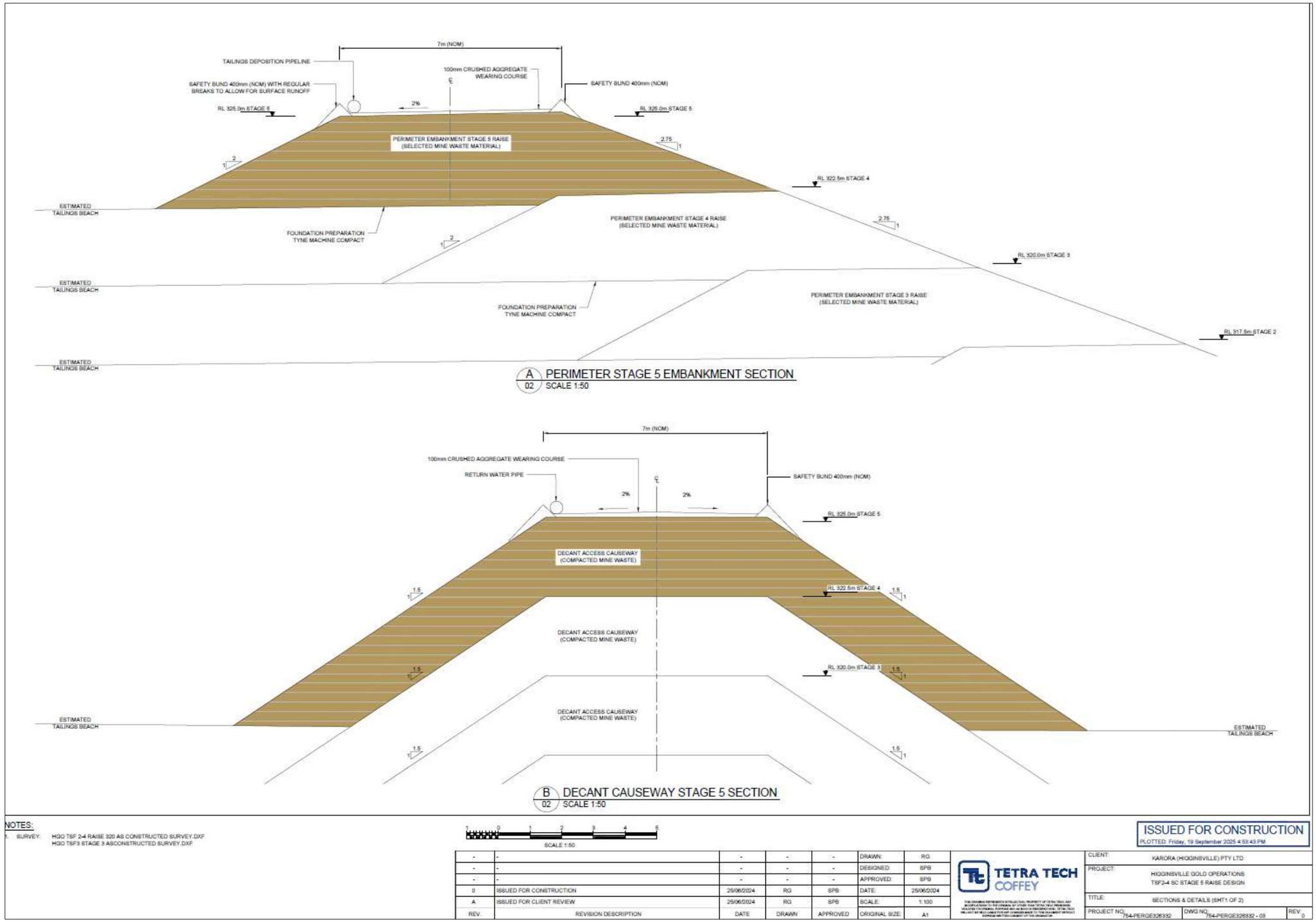


**Figure 14: TSF2-4 Stage 5 embankment raise - perimeter and decant causeway design**

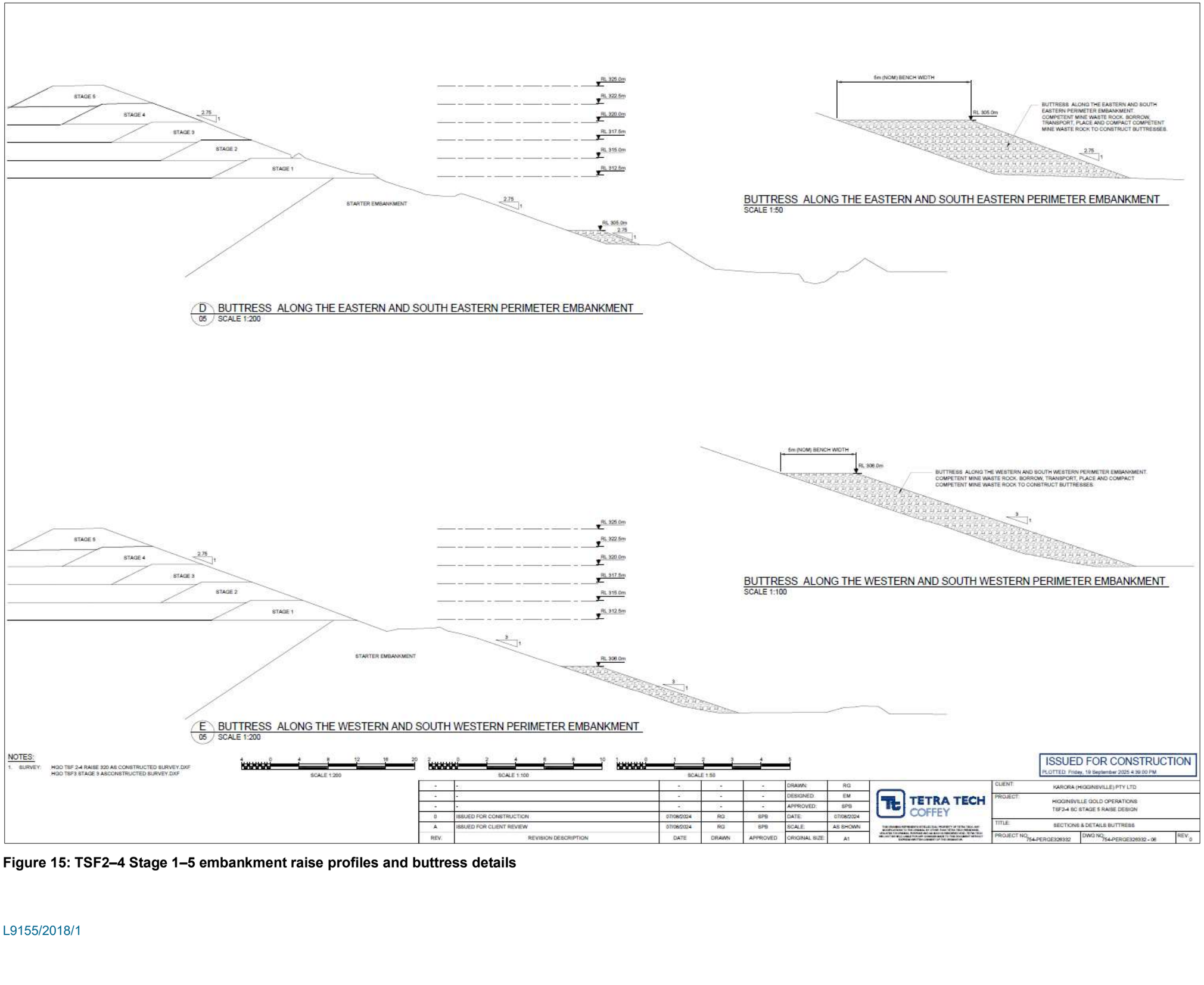


**Figure 15: TSF2–4 Stage 1–5 embankment raise profiles and buttress details**

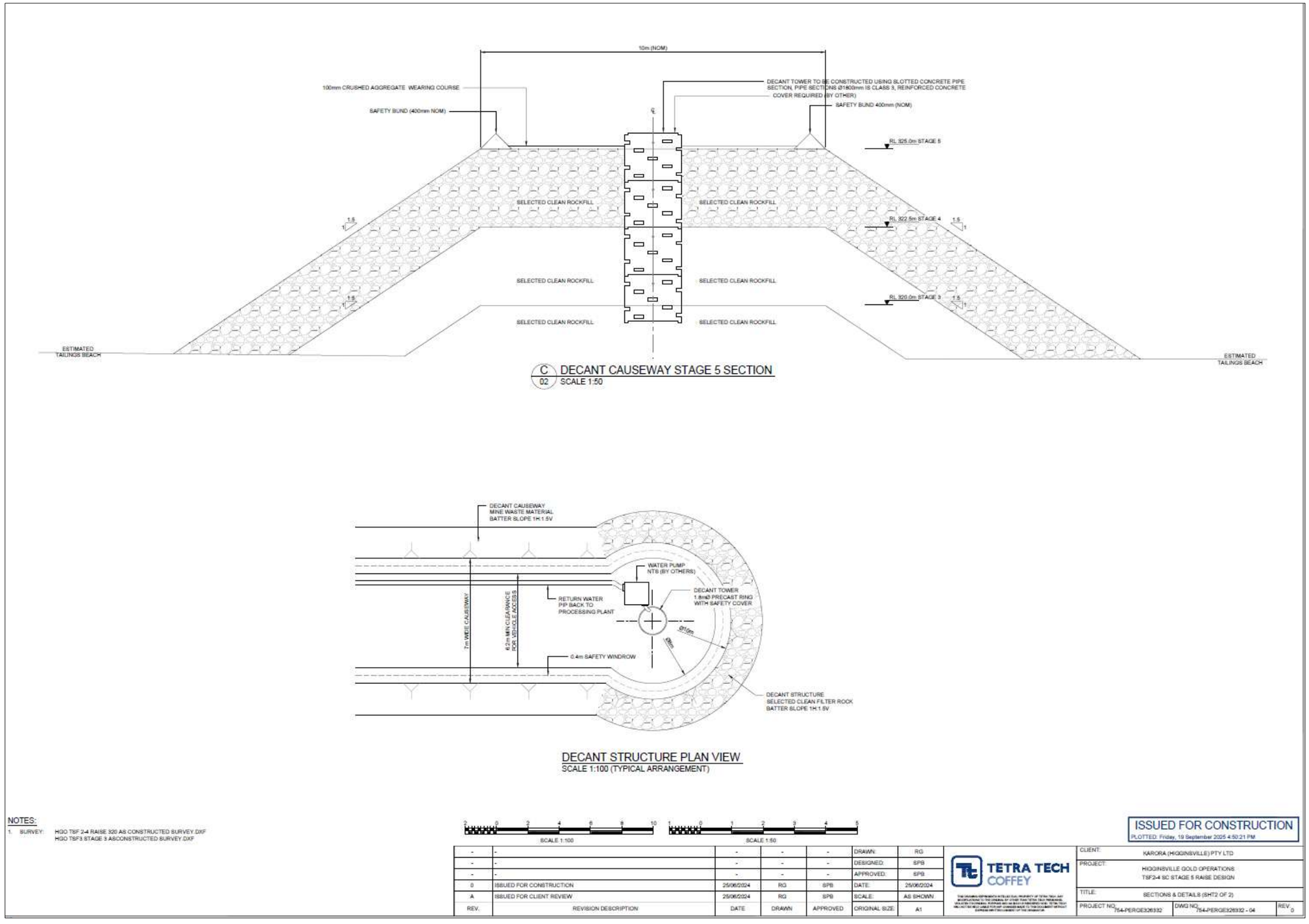


**Figure 16: TSF2-4 Stage 5 embankment raise - decant infrastructure detail**

# Schedule 3: Higginsville Processing Plant

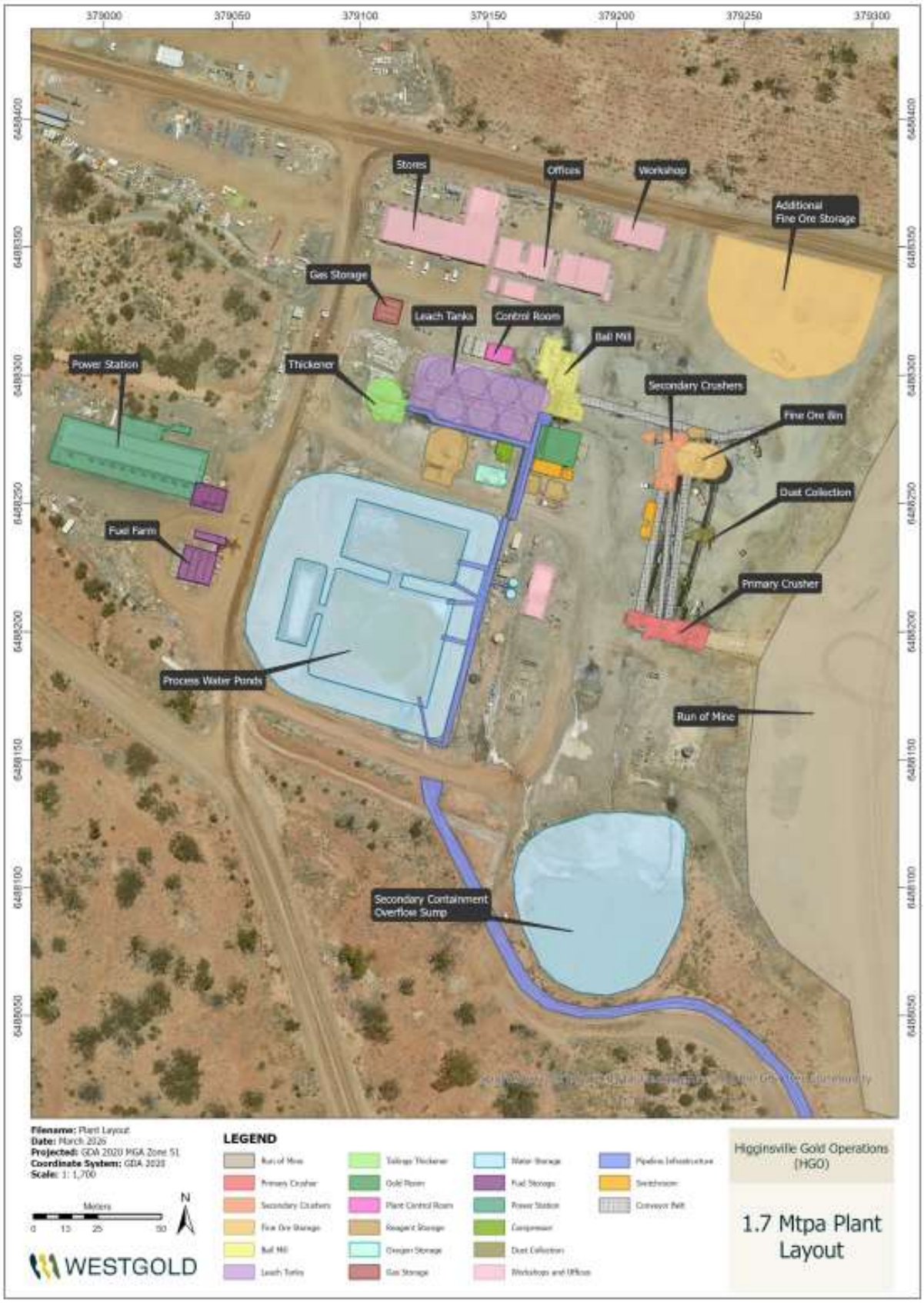


**Figure 17: Higginsville processing plant area layout**

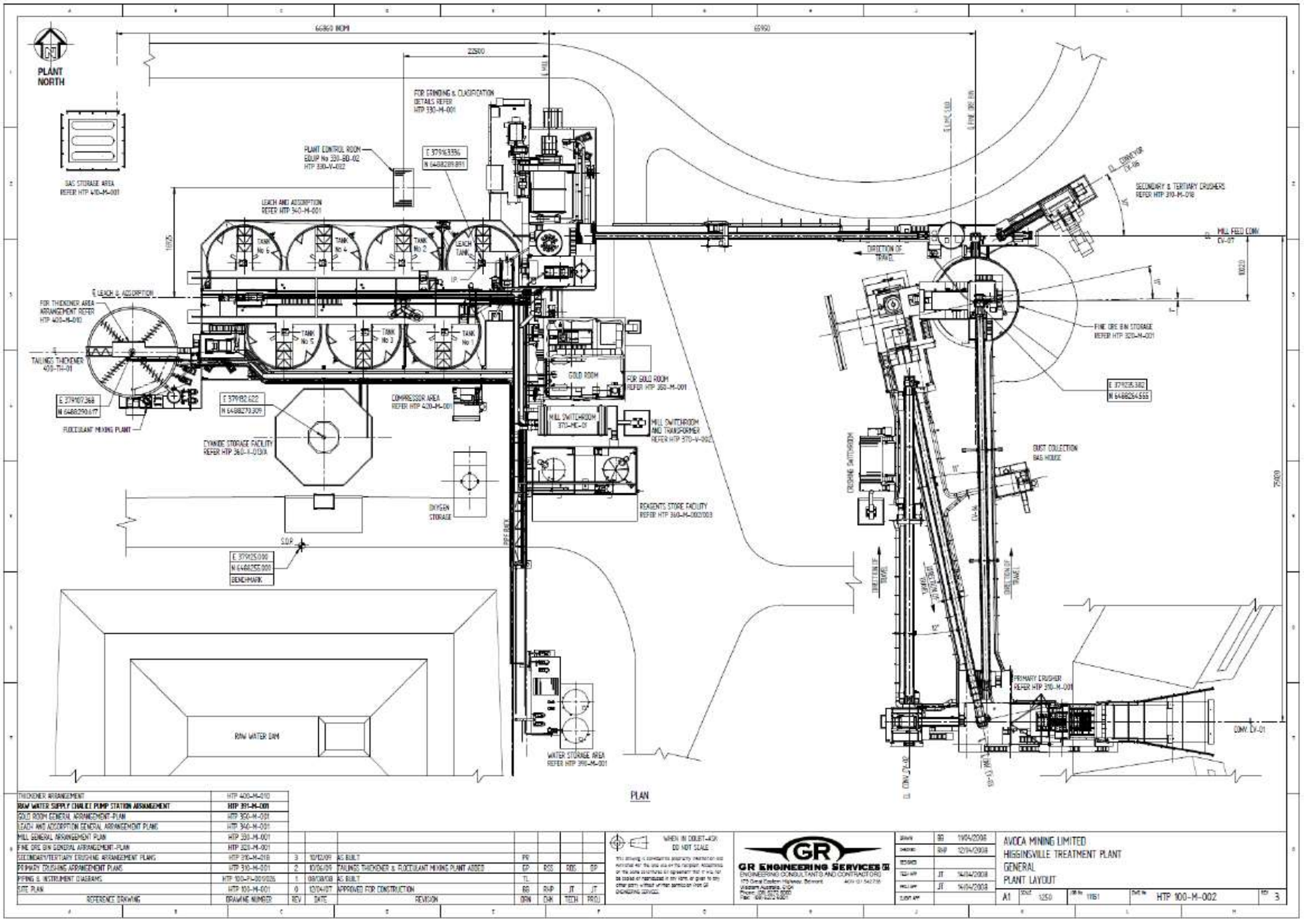


**Figure 18: Higginsville processing plant and associated infrastructure**

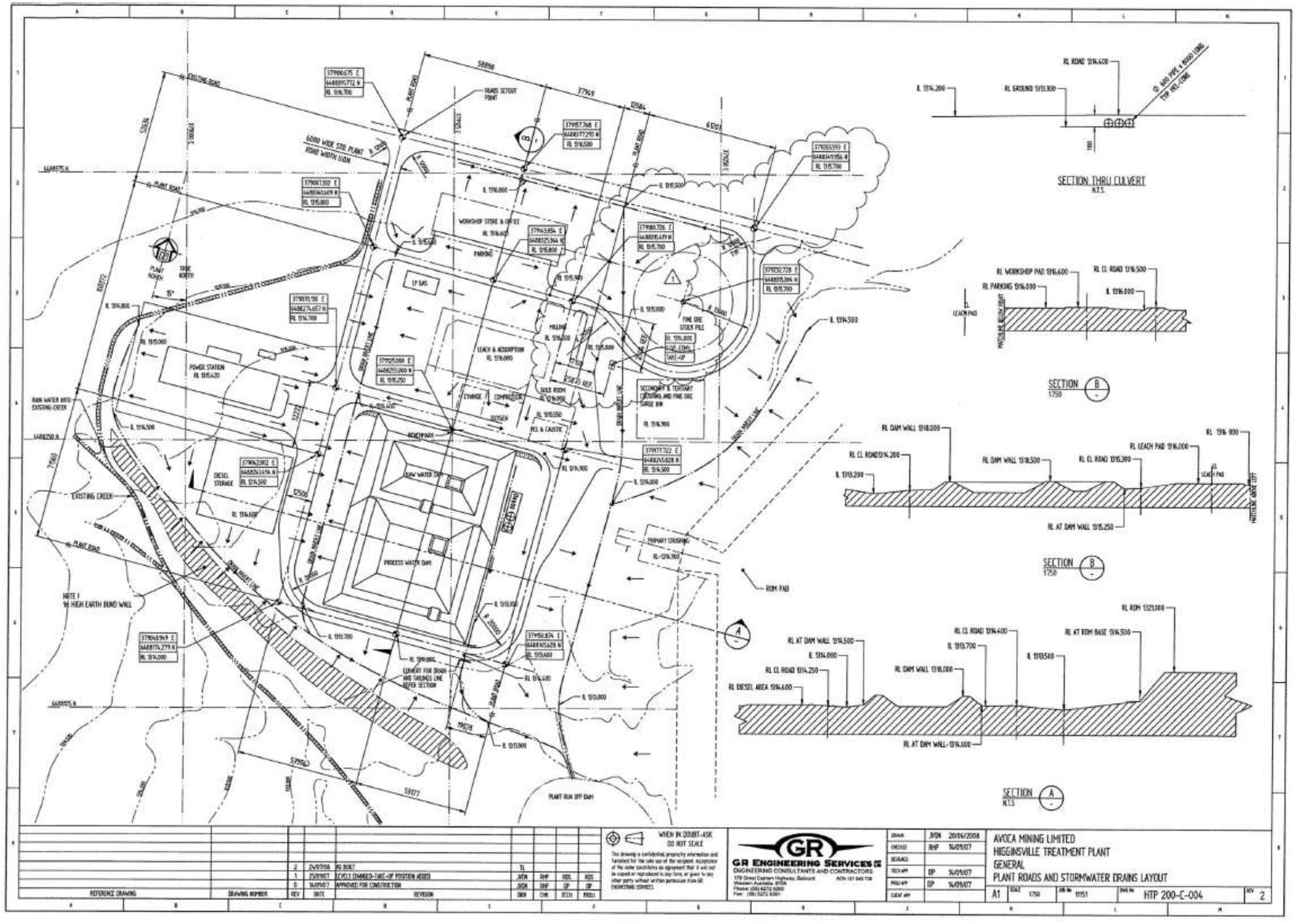


**Figure 19: Higginsville Processing Plant Stormwater Management Layout**

# Schedule 4 : Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

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| | | | |
|---|---|---|---|
| Licence: | L9155/2018/1 | Licence Holder: | Avoca Mining Pty Ltd |
| Form: | N1 | Date of breach: | _____ |

Notification of detection of the breach of a limit or any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution.

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

***Part A***

| | |
|---|---|
| ***Licence Number*** | |
| ***Name of operator*** | |
| ***Location of Premises*** | |
| ***Time and date of the detection*** | |
| ***Notification requirements for the breach of a limit*** | |
| ***Emission point reference/ source*** | |
| ***Parameter(s)*** | |
| ***Limit*** | |
| ***Measured value*** | |
| ***Date and time of monitoring*** | |

## *Part B*

| | |
|---|---|
| ***Any more accurate information on the matters for notification under Part A.*** | |
| ***Measures taken, or intended to be taken, to prevent a recurrence of the incident.*** | |
| ***Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission.*** | |
| ***The dates of any previous N1 notifications for the Premises in the preceding 24 months.*** | |

| | |
|---|---|
| ***Name*** | |
| ***Post*** | |
| ***Signature on behalf of***<br><br>***Avoca Mining Pty Ltd*** | |
| ***Date*** | |