Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W2862/2025/1
Works approval holder	Roy Hill Iron Ore Pty Ltd
ACN	123 722 038
Registered business address	5 Whitham Road PERTH AIRPORT WA 6105
DWER file number	INS-0002862
Duration	12/06/2025 to 11/06/2029
Date of issue	12/06/2025
Premises details	Roy Hill Iron Ore Mine Legal description - M46/518, M46/519, L47/772, L47/851, and Part of L47/346 and L47/642 NEWMAN WA 6753 As defined by the premises maps in Schedule 1

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production capacity**
Category 5: Processing or beneficiation of metallic or non-metallic ore	102,000,000 tonnes per annual period

This works approval is granted to the works approval holder, subject to the attached conditions, on 12 June 2025, by:

Jarrod Abrahams

Digitally signed by Jarrod Abrahams
Date: 2025.06.12 12:06:12 +08'00'

MANAGER, RESOURCE INDUSTRIES

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

Works approval history

Date	Reference number	Summary of changes
12/06/2025	W2862/2025/1	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,

as set out in Table 1.

Table 1: Design and construction / installation requirements

	Infrastructure	Design and construction / installation requirements	Infrastructure location
1.	Tailings and decant / return pipelines	• Installation of dual tailings delivery lines from a tie-in location downstream to the existing pipelines close to the pump station (PS1) through the plant area to the Delta 2 IPTSF. • Pipeline used must be steel pipe, lined for wear resistance and HDPE pipe with PN25 to provide sufficient pressure rating. • Tailings pipelines must have flow meters installed at the PS3 inlet, PS3 outlet and the IPTSF crest, to allow for automatic shutdown sequence implementation. • Installation of earthen bunded pipeline corridors to contain any potential spills or leaks. • Installation of hydraulically actuated valves at the tie-in point to the existing tailings pipelines to allow flow to be diverted from Zulu 6 IPTSF to Delta 2 IPTSF. Manually actuated valves must be installed as the pipeline reaches the Delta 2 IPTSF crest to divert tailings down either or both spigot lines. • HDPE pipeline must be installed with burst discs for overpressure protection by raising an alarm. • Dust emission must be minimised during the construction through the application of water for dust suppression.	Schedule 1 maps – Figure 2
2.	Delta 2 IPTSF and decant pumping infrastructure and other associated infrastructure / equipment	• Layout and construct as detailed in Schedule 1 maps: Figure 2, Figure 3, Figure 4 and Figure 5. • Placement of a combination of pit shell and mine waste backfill. • Construction of safety windrows along the pit perimeter to direct surface water flows away from backfill and pipelines.	Schedule 1 maps – Figure 3

	Infrastructure	Design and construction / installation requirements	Infrastructure location

		• Provide an operational freeboard of 0.5 m at 445.0 mRL.
		• Designed to contain a 1:100 AEP 72-hour rain event, while maintaining a total freeboard of a minimum of 0.5 m.
		• Installation of a booster pump station (PS3) must be:
		  ○ located on the pipeline alignment;
		  ○ designed as an in-line booster, with no hydraulic break between the PS1 and PS3 systems;
		  ○ pumping arrangement to include three trains of five pumps in a series, operating in duty / duty / standby arrangement;
		  ○ fully bunded to collect all tailings spillages; and
		  ○ installation of a siltation pit adjacent to PS3 to collect any larger spill events, including a full dump of the tailings pipeline from PS1.
		• Installation of four remote input / output (RIO) panels located at PS3 substation switch-room, top of North, South, and West pit perimeter of the IPTSF.
		• Installation of new decant pumping infrastructure must include:
		  ○ three trailer mounted self-priming diesel driven pumps;
		  ○ onboard flowmeter, suction, and discharge pressure transmitters;
		  ○ discharge piping must be HDPE pipe; and
		  ○ pipelines to tie-in into a large pipeline for transfer to the thickener deaeration box at the plant.
		• Highwall pump, consisting of a skid housing a pipe reel, trellis boom and submersible pump, may be utilised for the eastern basin.
		• Discharge spigots must be slotted OD450 PN16 HDPE.	

Compliance reporting

2. The works approval holder must within 60 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 suitably qualified professional 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 and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1; and

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

Construction of groundwater monitoring bores

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

Table 2: Infrastructure requirements – groundwater monitoring bores

Infrastructure	Design, construction, and installation requirements	Monitoring bore locations	Timeframe
Groundwater monitoring network for Delta 2 IPTSF: Install six monitoring bores (four deep and two shallow)	<u>Bore design and construction:</u> Bore design and construction: Designed and constructed in accordance with *Minimum construction requirements for water bores in Australia 4th Ed. (National Uniform Drillers Licensing Committee (NUDLC), 2020)*. 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, bores must be nested, and the perched features individually screened.	Schedule 1 maps: Figure 6	Must be constructed, developed (purged), and determined to be operational by no later than 30 calendar days prior to tailings deposition in Delta 2 IPTSF.
	<u>Logging of borehole:</u> 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 / odours or other indications of contamination must be included in the bore log.		

Infrastructure	Design, construction, and installation requirements	Monitoring bore locations	Timeframe
	Bore construction log: Bore construction details must be documented within a bore construction log to demonstrate compliance with NUDLC 2020. 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: 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: 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: 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.

Compliance reporting

5. The works approval holder must, within 30 days of the monitoring bores in Table 2 being constructed and prior to environmental commissioning of the Delta 2 IPTSF, conduct baseline sampling (at least one event) on the bores in accordance with Schedule B2 (Section 5.4 and 8.2.4) of the *Assessment of Site Contamination NEPM* for the parameters outlined in Table 6 .

6. The works approval holder must, within 60 calendar days of the monitoring bores being constructed, submit to the CEO a bore construction report evidencing compliance with the requirements of condition 4 and 5.

Environmental commissioning phase

Environmental commissioning requirements and emission limits

7. The works approval holder may only commence environmental commissioning of an item of infrastructure identified in condition 8 once the Environmental Compliance Report has been submitted for that item of infrastructure in accordance with condition

2 and 3 of this works approval.

8. Any environmental commissioning activities undertaken for an item of infrastructure specified in Table 3 may only be carried out:

(a) in accordance with the corresponding commissioning requirements; and

(b) for the corresponding authorised commissioning duration.

Table 3: Environmental commissioning requirements

	Infrastructure	Commissioning requirements	Authorised commissioning duration
1.	New pipeline to Delta 2 IPTSF	• Hydrostatically pressure testing of the valving and pump station and leak inspection[1]. • Daily visual inspections.	For a period not exceeding 16 weeks in aggregate.
2.	Delta 2 IPTSF and decant pumping infrastructure and other associated infrastructure / equipment	<u>Stage 1 – construction verification</u> • Verify that all construction installation works were carried out to design and the subsystems are suitable for safe first energisation. <u>Stage 2 – functional testing</u> • Initial equipment energisation. Testing of equipment to prove configuration, integration and functionality typically using extra low voltage (24V). <u>Stage 3 – commissioning</u> • Testing of subsystems and then systems operated together to verify functionality. Testing is conducted with inert process material, such as water or air. <u>Stage 4 – process commissioning</u> • Introduction of process feedstock (tailings) to verify capability of the plant and process according to the design. <u>Stage 5 – performance testing</u> • Testing of systems at an agreed steady state rate to verify plant availability, reliability and performance to design criteria. Stages 4 and 5 are the Wet Processing Commissioning of Delta 2 IPTSF and its associated equipment.	

Note 1: Equipment that is not rated for the test pressure must be isolated or removed for the duration of the test while automatic control limits and shutdowns are tested.

9. During environmental commissioning and time limited operations, the works approval holder must ensure that the emission(s) specified in Table 4, are discharged only from the corresponding discharge point(s) and only at the corresponding discharge point location(s).

Table 4: Authorised discharged points during environmental commissioning and time limited operations

Emission	Discharge point	Discharge point location
Tailings from the Processing Plant	Delta 2 IPTSF via multiple spigots located along the perimeter	Schedule 1 maps: Figure 2

Monitoring during environmental commissioning

10. The works approval holder must monitor the ambient groundwater monitoring during environmental commissioning for concentrations of the identified parameters in accordance with Table 6.

Environmental commissioning reporting

11. 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 3.

12. The works approval holder must ensure the Environmental Commissioning Report required by condition 11 of this works approval includes the following:

(a) a summary of the environmental commissioning activities undertaken, including timeframes and amount of tailings deposited;

(b) a summary of the environmental performance of each item of infrastructure or equipment as constructed or installed (as applicable), which at minimum includes records detailing the;

(i) commissioning of the infrastructure; and
(ii) testing of the infrastructure.

(c) a review of the works approval holder's performance against manufacturer design and specifications; and

(d) where they have not been met, measures proposed to meet then 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

13. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1:

(a) where the item of infrastructure is not authorised to undertake environmental commissioning, the Environmental Compliance Report as required by condition 2 and 3 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 8, the Environmental Commissioning Report for that item of infrastructure as required by condition 11 and 12 has been submitted by the works approval holder.

14. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 15 (as applicable):

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 13 for that item of infrastructure; or

(b) until such time as a licence for that item of infrastructure is granted in accordance with Part V of the *Environmental Protection Act 1986*, if one is granted before the end of the period specified in condition 14(a).

Time limited operations requirements and emission limits

15. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 5 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirements set out in Table 5.

Table 5: Infrastructure and equipment requirements during time limited operations

	Site infrastructure and equipment	Operational requirements	Infrastructure location
1.	Tailings and decant / return pipelines	• Maintain and operate the flow meters, hydraulically and manually actuated valves, and burst discs in the event of pipeline failure. • Daily inspections of pipelines for integrity and potential leaks / spills. • Maintain earthen bunded pipeline corridors to contain any potential spills or leaks.	Schedule 1 maps: Figure 2

2.	Delta 2 IPTSF and decant pumping infrastructure and other associated infrastructure / equipment	• Production capacity must not exceed 102,000,000 tonnes per annual period.
		• Maintain and operate an operational freeboard of 0.5 m above the 1:100 AEP 72-hour rain event.
		• Embankment height to a maximum of 445.0 mRL.
		• Tailings density of 44 to 55 %.
		• Maintain and operate the decant pump infrastructure and associated infrastructure / equipment.
		• Maintain and operate PS3, burst disc and the four RIO panels.
		• Maintain and operate 0.3 m freeboard over the Kulbee Creek Channel where the tailings pipeline has been raised.
		• Maintain ground profiling, windrows, and diversions to minimise the impact of surface water runoff.
		• Daily inspection logs of the following:
		  ○ decant pumps;
		  ○ discharge spigots locations;
		  ○ location of the decant pond; and
		  ○ embankment freeboard.
		• Monthly records of the:
		  ○ volume of tailings discharged; and
		  ○ volume of decant recovered.
		• Quarterly records of the following:
		  ○ location and size of the decant pond.
			Schedule 1 maps: Figure 3

Monitoring during time limited operations

16. The works approval holder must monitor emissions and ambient groundwater during time limited operations in accordance with Table 6.

Table 6: Emissions, discharge and ambient monitoring

Discharge point	Monitoring location	Parameter	Frequency	Averaging Period	Unit	Method
Delta 2 IPTSF	Discharge pipeline	Cumulative volumetric flow rate	Daily or continuous online	Not applicable	m^3/day	-
	Monitoring bores that are installed in accordance with Condition 4 (if water is present)	Surface water level	One sample event prior to tailings deposition then monthly thereafter	Spot sample	mbgl	AS/NZS 5667.1 AS/NZS 5667.11 In field
		pH			pH units	
		Total Dissolved Solids			mg/L	
		<u>Nutrients</u> Nitrate (NO_3)	One sample event prior to tailings deposition then bimonthly thereafter	Spot sample	mg/L	AS/NZS 5667.1 AS/NZS 5667.11 By a NATA accredited laboratory
		Nitrate Nitrogen (NO_3-N				
		Ammonia-Nitrogen (NH3-N)				
		Total Nitrogen (TN)				
		Total Phosphorus (TP)				
		<u>Metals / metalloids</u> Aluminium (Al)				
		Arsenic (As)				
		Barium (Ba)				
		Cadmium (Cd)				
		Chromium (Cr)				
		Copper (Cu)				
		Mercury (Hg)				
		Manganese (Mn)				
		Nickel (Ni)				
		Lead (Pb)				
		Selenium (Se)				
		Strontium (Sr)				
		Zinc (Zn)				
	Decant water	Surface water level	One sample event prior to tailings deposition	Spot sample	mbgl	AS/NZS 5667.1 AS/NZS 5667.11
		pH			pH units	

Discharge point	Monitoring location	Parameter	Frequency	Averaging Period	Unit	Method
		Total Dissolved Solids	then monthly thereafter		mg/L	In field
		<u>Nutrients</u> Nitrate (NO_3)	One sample event prior to tailings deposition then bimonthly thereafter	Spot sample	mg/L	AS/NZS 5667.1 AS/NZS 5667.11 By a NATA accredited laboratory
		Nitrate Nitrogen (NO_3-N				
		Ammonia-Nitrogen (NH3-N)				
		Total Nitrogen (TN)				
		Total Phosphorus (TP)				
		<u>Metals / metalloids</u> Aluminium (Al)				
		Arsenic (As)				
		Barium (Ba)				
		Cadmium (Cd)				
		Chromium (Cr)				
		Copper (Cu)				
		Mercury (Hg)				
		Manganese (Mn)				
		Nickel (Ni)				
		Lead (Pb)				
		Selenium (Se)				
		Strontium (Sr)				
		Zinc (Zn)				

17. The works approval holder must undertake monitoring of the water balance for Delta 2 IPTSF each monthly period, and (as a minimum) record the following information:

(a) site rainfall;

(b) evaporation rate;

(c) decant water recovery volumes;

(d) volume of tailings deposited; and

(e) estimate of seepage losses.

Compliance reporting

18. The works approval holder must submit to the CEO a report on the time limited operations within 60 calendar days of the completion date of time limited operations or 180 calendar days before the expiration date of the works approval, whichever is the sooner.

19. The works approval holder must ensure the report required by condition 18 includes

the following:

(a) a summary of the time limited operations, including timeframes and volume of tailings deposited per month;

(b) the emissions, discharge and ambient groundwater monitoring results obtained during time limited operations under Table 6;

(c) a summary of the environmental performance of Delta 2 IPTSF as constructed or installed (as applicable), which includes records detailing the:

(i) volume of tailings deposited;
(ii) tailings density (monthly average);
(iii) tailings solid content (monthly average);
(iv) Delta 2 IPTSF water balance; and
(v) monthly records of tailings level at Delta 2 IPTSF in mRL.

(d) Where modifications of Delta 2 IPTSF 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)

20. 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.

21. 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 conditions 1 and 15;

(c) monitoring programmes undertaken in accordance with conditions 10 and 16; and

(d) complaints received under condition 20.

22. The books specified under condition 21 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
AEP	means Annual Exceedance Probability.
annual period	a 12-month period commencing from 1 January until 31 December of the immediately following year.
Assessment of Site Contamination of NEPM	means the *National Environment Protection (Assessment of Site Contamination) Measure 1999,* as amended from time to time.
AS/NZS 5667.1	means the current and most recent version of 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 current and most recent version of the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance on sampling of groundwaters.*
Assessment of Site Contamination NEPM	means the *National Environmental Protection (Assessment of Site Contamination) Measure 1999,* as amended from time to time.
Australian Standard Geotechnical Site Investigations AS1726	means the Australian Standard AS 1726 – 1993 *Geotechnical site investigations.*
averaging period	means the time over which a limit or target is measured or a monitoring result is obtained.
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 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

Term	Definition
	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	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
HDPE	means high-density polyethylene.
IPTSF	means In-pit Tailings Storage Facility.
m	means metre.
m^3	means cubic metre.
mbgl	means metres below ground level.
mg/L	means milligrams per litre.
Mm^3	means million cubic metres.
mRL	means metres at reduced level.
NATA	means 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.
NUDLC 2020	means the *National Uniform Drillers Licensing Committee, 2020, Minimum construction requirements for water bores in Australia 4th Ed.*
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 in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
PS1	means pumping station 1.
PS3	means pumping station 3.
RIO panels	means the remote input and output panels.
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.
suitably qualified professional engineer	means a person who: (a) holds a tertiary academic qualification in geotechnical science

Term	Definition
	or engineering; and / or (b) is eligible for membership of the Institute of Engineers, Australia; and (c) has minimum of 5 years of experience working in the field of geoscience.
µS/cm	means microsiemens per centimetre.
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).

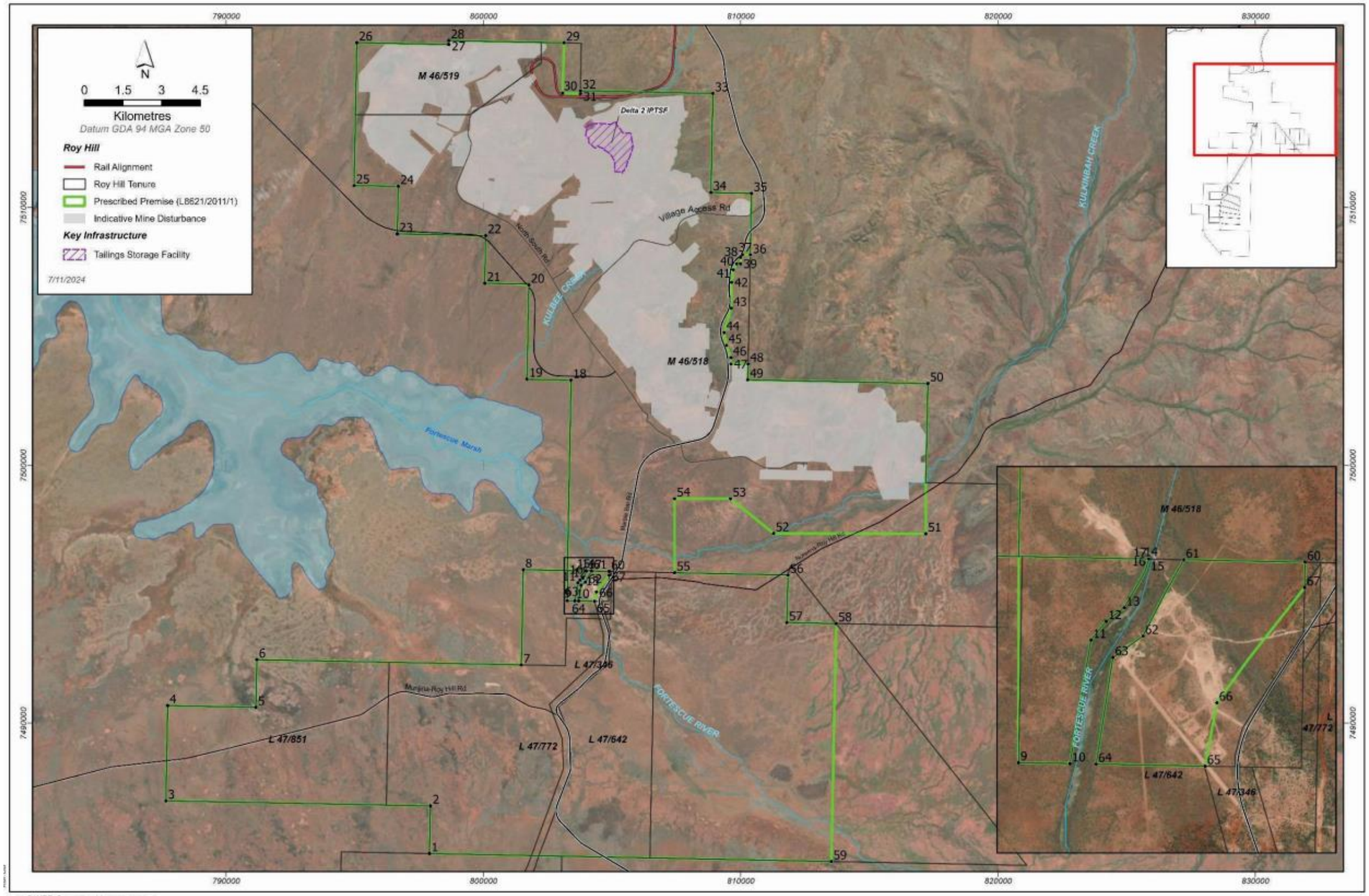

Figure 1: Map of the boundary of the prescribed premises

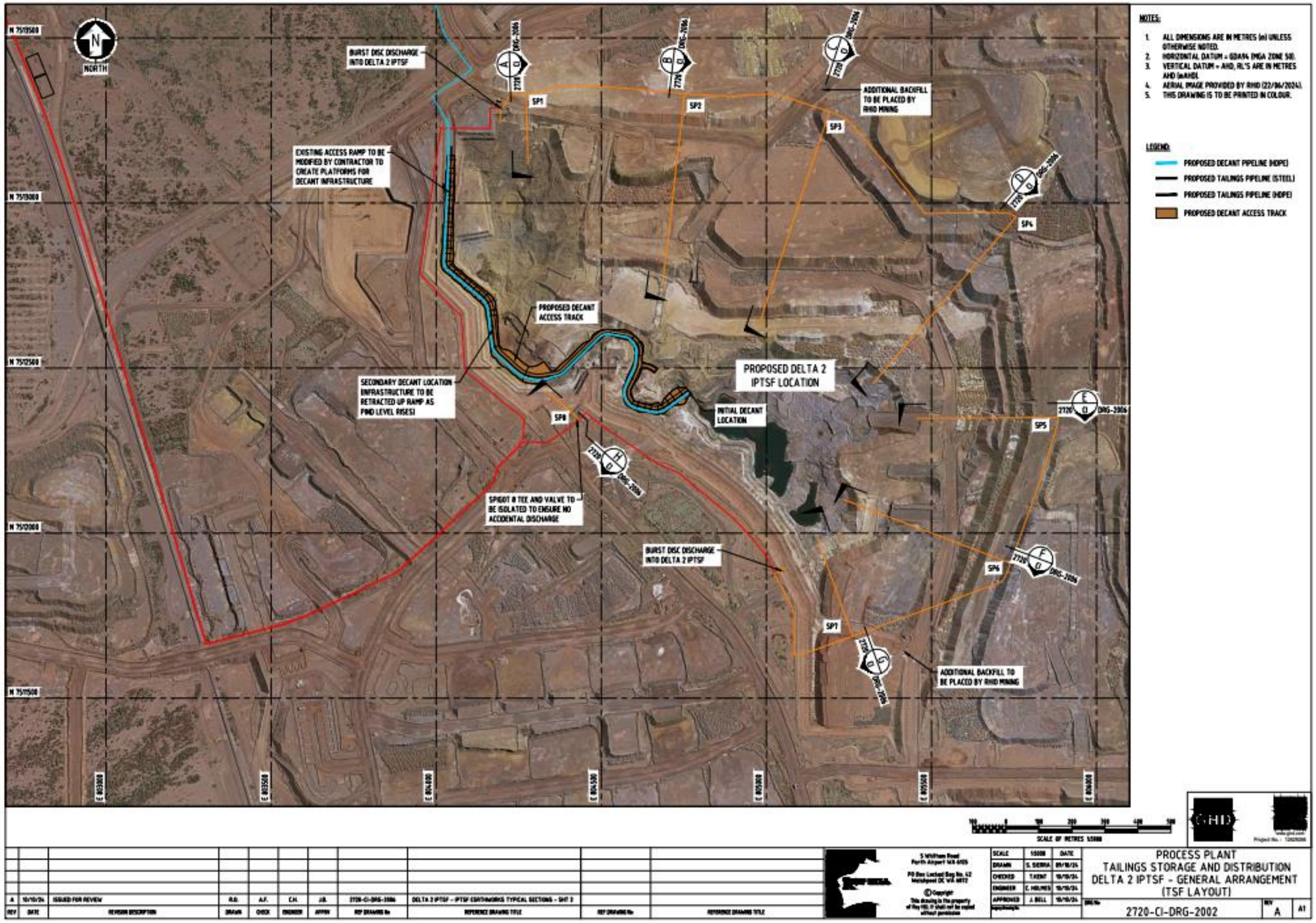

Figure 2: Delta 2 IPTSF proposed tailings and decant / return pipelines, proposed spigot locations and decant access ramp location

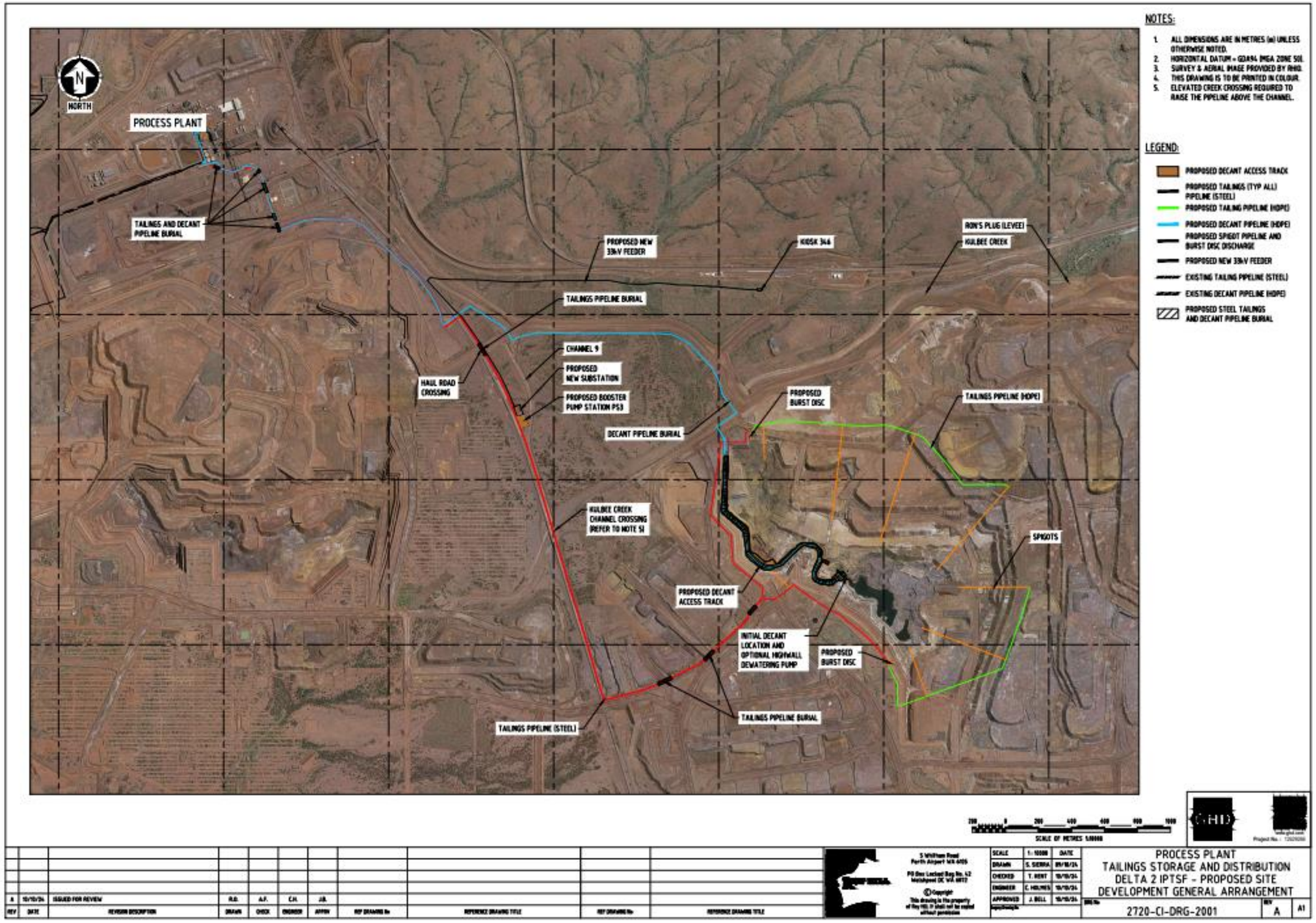

Figure 3: Delta 2 IPTSF proposed site development and general arrangement

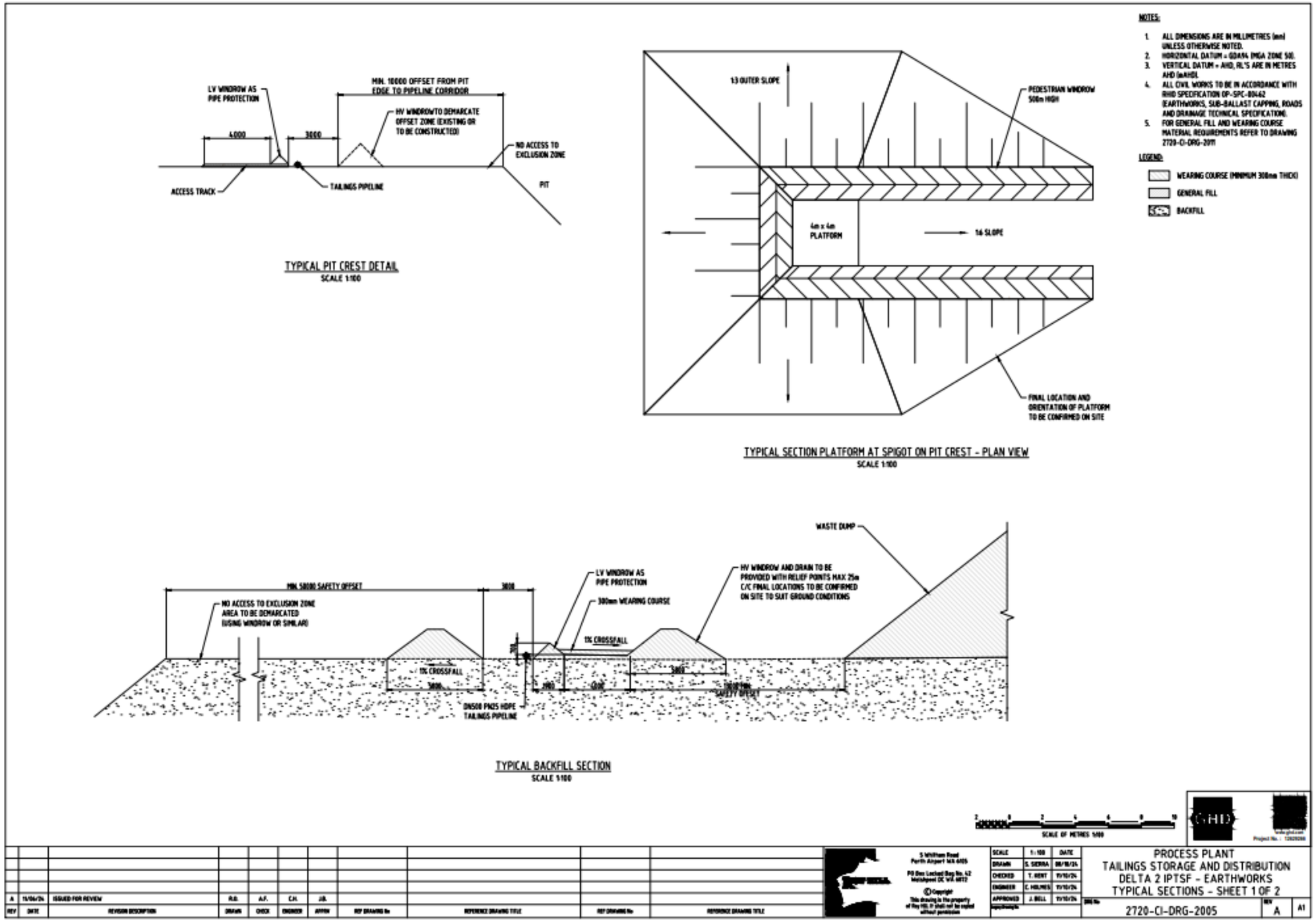

Figure 4: Delta 2 IPTSF – earth works typical sections for the pit crest, backfill and platform at spigot on pit crest

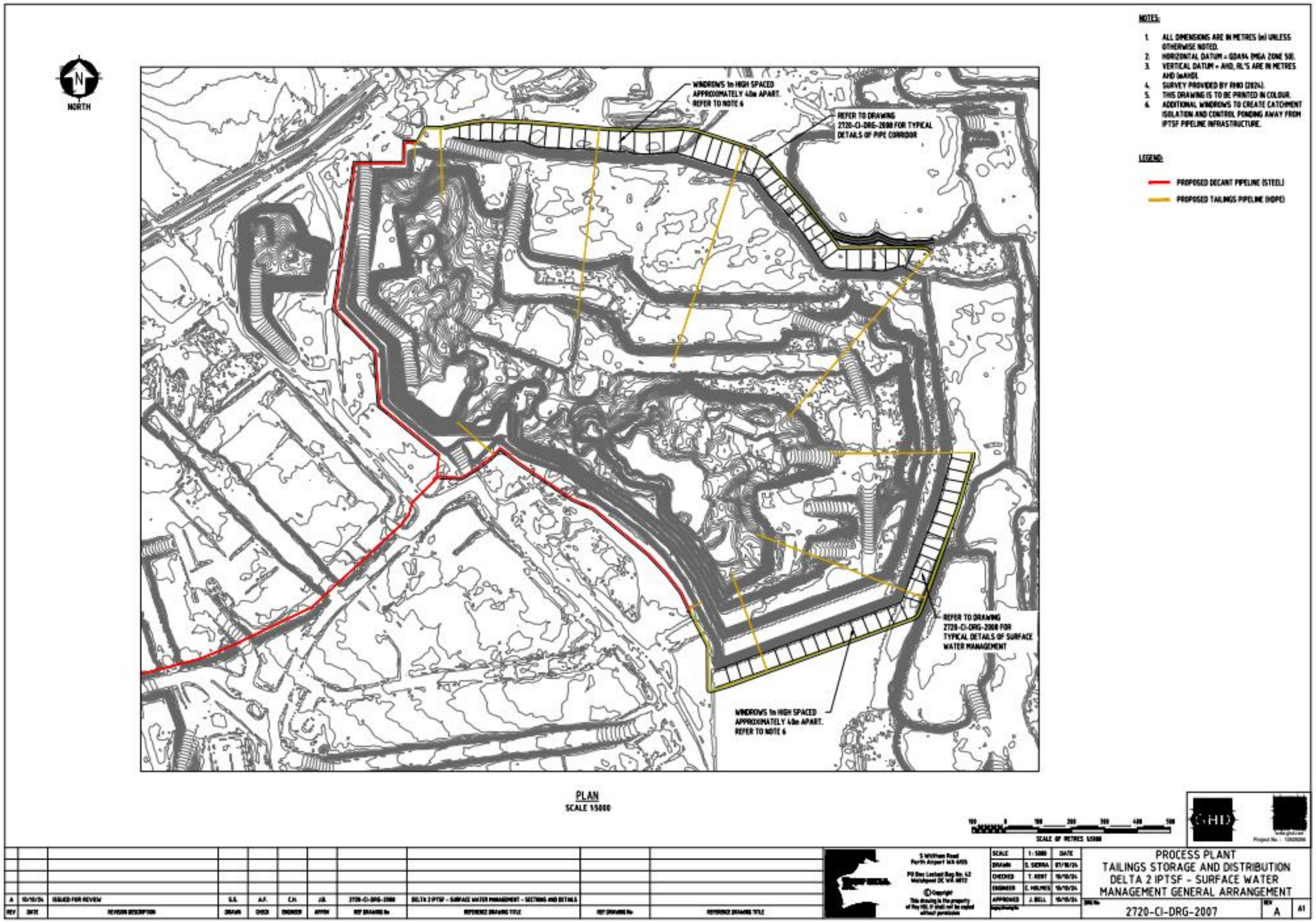

Figure 5: Delta 2 IPTSF – surface water management

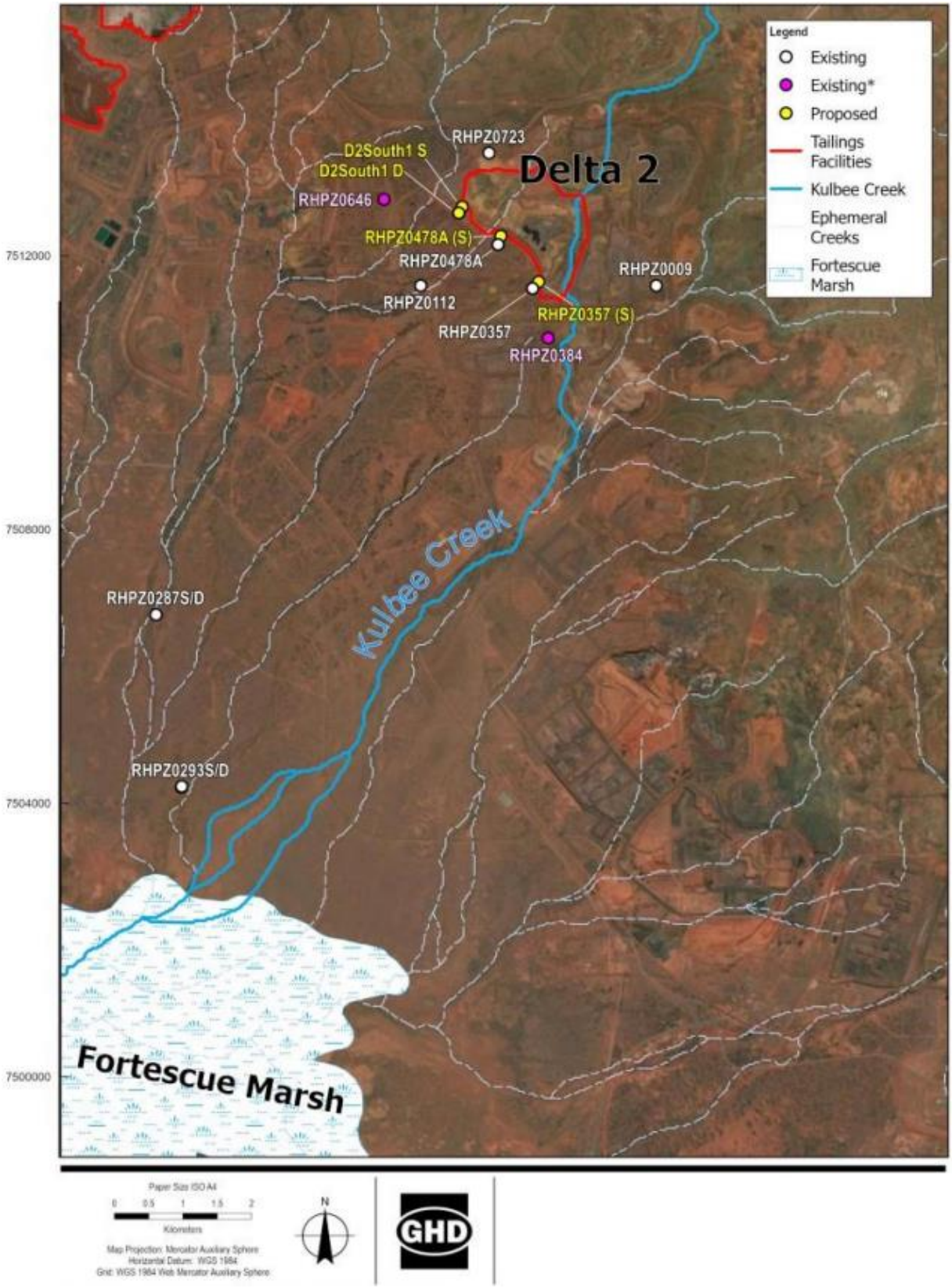

Figure 6: Delta 2 IPTSF groundwater monitoring bore locations