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25 March 2025

[redacted]
Manager, Process Industries (Major Projects)
Department of Water and Environmental Regulation
Prime House, 8 Davidson Terrace Joondalup, Western Australia, 6027

Dear [redacted]

Re: Application for a Works Approval (App-0026911) under the *Environmental Protection Act 1986* – Request for further information

Roy Hill Infrastructure Pty Ltd received a request for further information from the Department of Water and Environmental regulation on 29 January 2025 for the proposed expansion of the current Roy Hill Port Bulk Handling Facility and Screening Plant. Responses to Schedule 1 of the request for further information have been provided below. Relevant documents have also been provided as electronic attachments.

[redacted]
Environmental and Approvals Specialist

Encs:

Attachment 8A: BG&E Resources Pty Ltd, Surface water management;

Attachment 8B: Environmental Technologies & Analytics Pty Ltd, 2023 Dust Modelling (including modelling files);

Attachment 8C: Prescribed Premises boundary shapefile

Attachment 8D: RHI lease with Pilbara Ports Authority

Attachment 8E: Preliminary Design Drawings;

Attachment 8F: Talis Consultants, 2024 Acid Sulphate Soil Report;

Attachment 8G: CD2 Acid Sulphate Soil Management Plan;

Attachment 8H: Pentium Water, 2024 Groundwater Monitoring Event;

Attachment 8I: Dewatering Outfall Management Plan; and

Attachment 8J: Talis Consultants, 2023 Noise Assessment.

No.	DWER Information Required	Hanroy Response
General		
1	Please provide the following information to support the proposed expansion of the premises: • A GIS shape file with the proposed prescribed premises boundary, with Coordinate Reference System of the Easting, Northern Zone. Preference for GDA2020. • Copies of certificate of titles, lease or other instrument evidencing proof of occupier status, including the expiry date or confirmation that there is no expiry date, for each lot number that falls within the proposed prescribed premises boundary. • Copies of relevant Planning approvals.	Prescribed Premises boundary shapefile is attached (Attachment 8C). A copy of RHI lease with Pilbara Ports Authority is attached (Attachment 8D).
2	Please provide the following attachments that were mentioned in your application but were missing: • Attachment 8B – Environmental Technologies & Analytics Pty Ltd, 2023 Dust Modelling (including modelling files); and • Attachment 8A - BG&E Resources Pty Ltd, Surface water management	Attachments 8A and 8B are attached.
Infrastructure/Equipment		
3	Please provide the following information to support the proposed expansion of the premises:	
3	• Detailed design drawings of all proposed infrastructure / equipment to be constructed / brought on site, including stacker, conveyors, car dumper, bucket reclaimers, and ship-loading facility. Should detailed design be not yet available, preliminary designs will be sufficient initially. Please advise if components of the provided drawings are commercially sensitive and/or whether they require redaction prior to public advertising.	Preliminary designs for stacker, conveyors, car dumper, bucket reclaimers, and ship loading facility are attached (Attachment 8E). These drawings are commercially sensitive and require redaction prior to public advertising.

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3	• Please provide further detail on the information provided regarding the hydrocarbon storage on the trestle jetty, specifically: ○ the proposed volumes of hydrocarbons stored on the jetty, ○ specific management actions for spills etc., and ○ a map or diagram showing the proposed location of hydrocarbon storage areas.	Some small amounts of grease are stored on the wharf at conveyor 163/164 during shutdown only. These are stored on appropriate bunds (Figure 1). Spills will be handled as per the current spill and management procedure. Spill kits are present at each drive station.
3	• Please clarify if you are proposing to construct / install new transfer stations as part of the proposed works. Details of the location and nature of any new transfer stations is requested, along with detail on any dust control measures proposed.	Transfer stations that transfer ore from conveyor to conveyor will be sized to accept/contain the volume of material during belt rundown preventing product from spilling out of the transfer during a blocked chute event. The proposed locations of the Project transfer stations are shown in Figure 2. All transfer stations will contain a fully enclosed ore stream, to ensure the capture and containment of potential dust emissions, and include the flowing dust mitigation measures: • For conveyor to conveyor transfers a "WEBA" chute design will be investigated. • Chutes will be designed to catch ore dribble and ore discharged from belt cleaners; • Dust tight covers to enclose the transfer chute; • Rubber dust curtains at the entrance and exit points of the transfer stations will minimise airflow through the transfer point and reduce dust; • Primary and Secondary scrapers will clean the dirty side of the belt; • Rubber dust skirt to provide a seal between the moving conveyor belt and the chute; • Dual rubber dust curtains prior to the impact area a minimum of 150 mm apart • Dust curtain will also be provided behind the hard skirts; • Rubber dust curtains at the belt discharge will be separated by a suitable length to enable the dust to settle;

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		• Fitted with misting sprays (fogging system) at the transfer chute exit where required. • Inspection and access doors with a batten down latching device sealed with dust-tight gaskets; and • Regular maintenance to compensate for any wear that occurs. Transfer stations do not require fogging systems (mist sprays) due to the moisture content of the Product being above the dust extinction moisture (DEM) levels. Retrofitting of misting sprays will occur if it is determined that the dust monitoring trigger values are being exceeded. This will occur during the commissioning phase. Extra monitoring will be established to localise the root cause of dust emissions prior to any engineering controls being installed. The wharf and all overland conveyor transfer stations will be supported on concrete flooring so that any potential spillage will be contained. All conveyors will be designed with a 15% surge capacity and adequate distance between the product and the belt edge to help minimise spillage. Potential for dust emissions from adhering product on the return strand of the belt (carryback) will be minimised with use of primary and secondary belt scrapers. Scrapers will be on all head or tripper pulleys and any carryback will be returned into the product stream. The control system will prevent overloading and ensure conveyor belt capacity is not exceeded. Regular conveyor belt maintenance will be conducted and includes not only proper care of the belt itself but also care and maintenance of the frame and accessories, resulting in minimised ore spillage and dust emission. The elevated conveyors will be designed to be higher than the maximum 1:100-year storm surge level. The conveyors will be designed to act as a wind break and aim to minimise dust emissions and will be provided with belt wash stations when not travelling over a solid floor. Belt wash station slurry will be returned to the ore stream.
3	• The application indicates the construction and operation of an additional car dumper, without providing detail of the construction and operational emissions of relevance for this infrastructure. Please provide additional detail on controls proposed to manage emissions and discharges during:	**Construction:** The construction of Car Dumper 2 (CD2) is not considered a 'prescribed activity' under Part V of the EP Act as it is not part of the bulk material loading of vessels,

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	○ construction (noise, dust, stormwater, management of ASS/PASS during excavation works, soil/waste disposal, dewatering requirements (discharges and controls, including consideration of likely dewater volumes, potential contaminants, discharge locations and the management of dewatering activities to mitigate the risks to the receiving environment/location), etc.), and ○ operation (noise, dust, hydrocarbon management etc.)	and it has been assessed under Part IV. However, in the interest of full disclosure the below information has been provided to address the potential emissions. *Noise:* Noise emissions have been estimated using the existing Port infrastructure. They are not expected to be excessive and will be reminiscent of the current Project operations. Noise will not impact receptors as the nearest receptor, approximately 6 km southeast of the activity and will cause no net increase in the received noise levels in the Town of Port Hedland. Prior to construction activities Construction Noise Management Plans will be prepared by contractors if works are to occur outside the hours 0700 - 1900 (Mon-Sat) and to comply with the Environmental Protection (Noise) Regulations 1997. Incident reporting will be maintained to assist in managing environmental incidents such as excessive noise emissions. *Dust:* Dust emissions have been estimated using the existing Port infrastructure. They are not expected to be excessive and will be reminiscent of the current Project operations. Dust emission modelling (Attachment 8B) shows that the maximum predicted dust emissions generated from the Project will not increase the maximum predicted ground level concentration at the Taplin Street receptor. Dust monitoring will be conducted as per the current Licence (L8967/2016/1). Opportunistic inspections for dust emissions will be undertaken during construction to ensure dust control measures are being implemented and are effective and visual inspections and incident reporting will also be conducted. A summary of relevant dust construction management measures has been provided below: • Retrofitting of misting sprays within Transfer Stations will occur if it is determined that the dust monitoring trigger values are being exceeded. Extra monitoring will be established to localise the root cause of dust emissions prior to any engineering controls being installed;

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		• Dust emissions from bulk earthworks will be kept to a minimum with all areas to be watered down prior to digging; and • Dust trigger alarms will consist of both text message and email alerts and sent to the responsible personnel. Personnel receiving alarms may include, but not be limited to: o Shift supervisors; o Environmental Officers; o Staff manning the RHI regional operations centre in Perth; and/or o RHI Environmental team members. *Stormwater:* Stormwater management will be similar to the existing arrangements for Car Dumper 1. A catchment will be created to the east of CD2 and north of the existing railway which will direct stormwater to stormwater basin 5 for volume management but is otherwise free draining to the coast through a culvert. *Actual Acid Sulphate Soils/Potential Acid Sulphate Soils:* The excavation area will be approximately 2.9 ha to a depth of approximately 14 metres below ground level (mbgl). 18 samples were nominated to assess the likelihood of Potential Acid Sulphate Soils (PASS) and Actual Acid Sulphate Soils (AASS) within the CD2 excavation area. An assessment of the soil laboratory results indicate that the construction works of CD2 will have potential to disturb AASS (Attachment 8F). Sampling indicated that PASS is likely to occur at 1.45 mbgl. Due to the presence of natural neutralising capacity of calcareous material (cemented sands and shell fragments) in the soils surrounding the CD2 Project Area, the risk of acidification is considered low. As the excavation will reach below the area where PASS is likely to occur an ASS Management Plan has been created which outlines the management measures to be implemented prior to, during and following ground disturbance and excavation of PASS and AASS (Attachment 8G). Seven groundwater wells were monitored and sampled in April 2023 and based on the results obtained, the groundwater beneath the CD2 area is classified to have

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		'High Alkalinity to Very High Alkalinity' (Department of Water and Environmental Regulation, 2015; Attachment 8H). This indicates that it can be considered to be generally adequate to maintain acceptable pH level in the event of acidification through the oxidation of AASS within the disturbance area. *Soil/Waste disposal:* Excavated material will be tested to verify compliance to project specification and suitable material will be used as general fill material. Suitable material will be transported to piling platform and office pad work area which will be used as fill material (Figure 3). Suitable material may also be used for transition layer under road and rail embankment. Unsuitable material will be removed from the rail loop area. Any material movement will be loaded and transported under the supervision of a trained and experienced earthworks supervisor. *Dewatering and discharge:* Under Condition B2-2 of MS1206, the dewatering discharge (associated with CD2 construction activities) must meet the following environmental outcome: *'for Ecosystem Health achievement of a Moderate Ecological Protection Area, directly outside the Temporary Low Ecological Protection Area'.* The discharge of dewater from CD2 to South West Creek can be achieved to meet the environmental outcome as defined under Condition B2-2 of MS1206 as shown below. Refer to Attachment 8I which provides management measures for dewatering and discharge. A total of 26 perimeter and two in-pit dewatering bores (28 in total) will be used to abstract an average dewatering rate of approximately 10,000 cubic metres (m^3) per day (~115 litres per second (L/s)) for the duration of dewatering (Hydro Geochem Group, 2023). The dewater will be pumped to a lined holding dam, located in close vicinity to the excavation, and subsequently transported along the existing

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conveyor corridor to the berths (Figure 4). The lined holding time is designed to hold approximately 10,100 m^3 (i.e., up to 16 hours of water discharged at a rate of 175 L/s). A diesel-generated mobile dewatering discharge pump skid with estimated 250 kW will have capacity to pump approximately 200 L/s to an approximately 4,000 m long HDPE pipe that runs along the existing conveyor structure (Figure 4).

The pipe will extend to the wharf deck. The dewater will be discharged at depth into South West Creek through the two outfall pipes attached to two wharf piles. Each outfall pipe will have diffuser ports situated at minimum of 8 m below lowest astronomical tide. Discharge will be continuous at 24 hours a day, seven days a week.

Continuous water quality monitoring will be undertaken when discharge is occurring. The guideline values for in-line discharge parameters are shown in Table 1. In the event of an exceedance the contingencies provided in Section 9.3 of Attachment 8I will be implemented.

Table 1: Continuous dewatering outfall water quality monitoring
<table>
<tr><th>Characteristic</th><th>Guideline value</th><th>Comment</th></tr>
<tr><td>Flow (L/s)</td><td>200</td><td>Average daily flow not to exceed value.</td></tr>
<tr><td>Salinity (ppt)</td><td>120</td><td>No more than 1% of the values recorded for salinity for a period of one week should exceed the guideline value.</td></tr>
<tr><td>Temperature (°C)</td><td>37</td><td>No more than 1% of the values recorded for temperature for a period of one week should exceed the guideline value.</td></tr>
<tr><td>pH</td><td>6.5 – 8.3</td><td>No more than 1% of the values recorded for pH for a period of one week should exceed the guideline value.</td></tr>
<tr><td>DO (% saturation)</td><td>60</td><td>No more than 1% of the values recorded for DO for a period of one week should exceed the guideline value.</td></tr>
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		TN, bioavailable nitrogen forms (NH4 + and NOx,) and metals (Al, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, and Zn) will be monitored within the discharge on a fortnightly basis and compared against guideline levels where appropriate. Monitoring of toxicants will be measured at the dewatering outfall discharge location. A visual turbidity and algal bloom inspection of the waters surrounding the outfall will be conducted on a daily basis during periods of discharge. **Operations** *Noise* Noise modelling has been undertaken and is provided in Attachment 8J. A summary of noise management measures have been summarised below: • All Project activities will be conducted in accordance with the Environmental Protection (Noise) Regulations 1997, Australian Standard 2436-1981: Guide to noise control on construction, maintenance and demolition sites and relevant occupational health and safety standards; • Equipment and vessels shall operate in accordance with appropriate industry and equipment standards including specifications for noise levels; • Regular maintenance shall be conducted to the manufacturer's specifications; • Equipment covers, mufflers and other noise suppression equipment shall also be maintained and in good working order at all times; • Equipment shall be fitted with appropriate noise reduction devices (where necessary) to comply with Project and regulatory requirements; and • RHI will regularly inspect, maintain, and replace mobile equipment so that noise levels are minimised during the equipment life. *Dust* Dust modelling has been undertaken and is provided in Attachment 8B. A summary of the dust operation management measures are provided below:

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		• Dust collected within the CD2 bag house dust extraction system will be treated and discharged back into the ore stream; • Any spillage will be manually removed from the CD2 facility floor as a part of the general maintenance plan; • Generation of dust through vehicle movement will be minimised by imposing speed limits and the use of non-water soil stabilisers for dust suppression on unsealed roads will be investigated; • The Project meteorological station and wind anemometers information will be used in conjunction with regular BOM weather forecast information to initiate proactive dust mitigation measures using the water cannon system; • The Project area will be provided with equipment, including a road sweeper to periodically clean up ore spillage that may occur; • Preventive maintenance is performed on the baghouse to ensure it continues to operate properly and that the bags are in good condition; • On site personnel will be trained in the operation of all dust mitigation equipment; and • Regular conveyor belt maintenance will be conducted and includes not only proper care of the belt itself but also care and maintenance of the frame and accessories, resulting in minimised ore spillage and dust emission. *Hydrocarbon Storage* No bulk storage of chemicals or large amounts of hydrocarbons (fuel) (1000 m^3 in aggregate) will be located on the Project site. The workshop and storage areas established within the stockyard area may contain limited quantities of solvents, paints, cleaning products and bonding agents as required. During operations hydrocarbons will be stored in self-bunded bulk containers at the workshop (West end of the stockyard at the neck of the rail loop). Any soil contamination due to minor spillages of hydrocarbons will be removed from site to suitable licensed waste facilities.

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		The *Roy Hill Project: Contractor Environmental Guidelines Requirements* outlines the training required for site staff for prevention of hydrocarbon spills and mitigation measures in the event of a spill. The contents of spills trays will not be discharged to ground but placed back into the waste oil container.
Emissions / Discharges		
	Noise Please provide further detail on the noise modelling/assessment undertaken for the proposed activities to verify the statements in the application supporting document regarding impacts. Where noise modelling has been undertaken this modelling is requested to be provided	Noise modelling has been undertaken and the report attached (Attachment 8J).
	Dust Management The application includes minimal detail on the specific controls proposed to manage dust emissions from the additional infrastructure within the application. The Department notes that dust management is a key component of existing operations at the premises, and requests further specific information be provided on the location and specific nature of the dust controls proposed. Acknowledging that these proposed works may include dust controls similar to that already utilised at the premises, it is requested that detail is provided to enable sufficient confirmation and assessment of these controls specific for this application, and provide clarity on the type, location and operational management proposed for each of infrastructure. To inform the risk assessment, and consideration of the controls proposed, information should also be provided that outlines any improvements the proposed controls have over those used on existing infrastructure (if applicable), and any additional dust mitigation strategies or controls that mitigate the emissions from the proposed infrastructure	Works conducted within the Prescribed Premises will follow the current Port Dust Management Plan. This Management Plan is to be followed by all Port Supervisors and Operators to minimise dust emissions that may adversely affect environmental values or the health, welfare and amenity of people and land users by meeting statutory requirements and achieving acceptable standards. *Conveyors* The elevated overland conveyors 161 and 162 (approximately 8.5m) are covered to reduce exposure to winds. All elevated overland conveyors (except conveyor 163) have been fitted with belt wash stations capable of cleaning conveyor belt for the purpose of minimising ore carry-back on return belts. *Belt scrapers/Belt wash stations* Scrapers are fitted on return belts at transfer stations and at the head end of the stackers and ship loading boom conveyor. Conveyor belt wash stations are installed and operated whenever Iron Ore is transported to reduce carry-back.

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	• Please provide additional detail on the nature of the proposed conveyor shielding (extent, material, coverage, etc.) particularly for the additional overland conveyor, understood to be constructed on top of the existing overland conveyor • Please provide additional detail on the number and location of belt scrapers and/or belt wash stations proposed for the new conveyors and where these will be located on a map, if possible. • Please provide detail on sprinkler reach and configuration (including number of sprinklers) associated with the additional stockyard footprint. The application indicates that the stockpiles will have an increased footprint (8m wider), and therefore additional information is required to confirm the dust control measure and strategies for this area, noting that open air stockpiling, stacking and reclaiming will likely increase dust emissions from this area. • Please provide additional detail on the controls proposed to manage dust for the new stacker and reclaimer (number and location of dust suppression sprays, etc.). • Please identify the specific dust suppression controls proposed for any additional transfer stations proposed. • Please identify the specific operational dust suppression controls proposed for the car dumper. • In the response to the above, a map/plan showing the location of all dust controls associated with the product handling such as the location of covers/hoods/skirts, belt washing stations, wind guards, dust suppression sprays etc. should be provided where possible.	*Stockpile area* The stockpile area dust mitigation system includes: • Water cannons installed parallel to each row of stockpiles that are positioned to suit water spray trajectory, height, and slope of stockpile. The water cannon is fully automated with an associated wind anemometer and manual override capability. • Dust suppression water sprays on the boom (stacker) and wheel bucket (reclaimer). *Stacker and Reclaimer* The stacker's water spray will be located at the boom discharge to spray the outer surface of the ore stream as it discharges onto the stockpile. Wind hoods will be fitted at the stacker boom discharge to direct the water spray onto the ore stream. The reclaimer water spray will be located on the bucket wheel positioned to wet the stockpile at the digging face. Water sprays will be installed on the reclaimer boom conveyor (prior to discharge into the central chute) and at the end of the yard conveyor loading zone. *Transfer Stations* All transfer stations will contain a fully enclosed ore stream, to ensure the capture and containment of potential dust emissions, and include the flowing dust mitigation measures: • For conveyor to conveyor transfers a "WEBA" chute design will be investigated. • Chutes will be designed to catch ore dribble and ore discharged from belt cleaners; • Dust tight covers to enclose the transfer chute; • Rubber dust curtains at the entrance and exit points of the transfer stations will minimise airflow through the transfer point and reduce dust; • Primary and Secondary scrapers will clean the dirty side of the belt; • Rubber dust skirt to provide a seal between the moving conveyor belt and the chute;

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		• Dual rubber dust curtains prior to the impact area a minimum of 150 mm apart • Dust curtain will also be provided behind the hard skirts; • Rubber dust curtains at the belt discharge will be separated by a suitable length to enable the dust to settle; • Fitted with misting sprays (fogging system) at the transfer chute exit where required. • Inspection and access doors with a batten down latching device sealed with dust-tight gaskets; and • Regular maintenance to compensate for any wear that occurs. *Car Dumper* The CD2 facility will be fully enclosed (except where train enters and exits) and contain a negative pressure system for dry dust extraction together with a collection system (bag house). Dust collected within the bag house dust extraction system will be treated and discharged back into the ore stream. Within the CD2 facility: • Apron feeders directly below the Dump hoppers will extract the ore and transfer it to stockyard feed conveyor. A dribble conveyor will be provided underneath the apron feeders to collect material that falls between the apron feeder pans and direct it to the stockyard feed conveyor; and • A stockyard feed conveyor will transfer ore from the CD2 facility to the stockyard and is equipped with a moisture analyser. Any spillage will be manually removed from the CD2 facility floor as a part of the general maintenance plan. A map/plan showing the location of all dust controls associated with the product handling such as the location of covers/hoods/skirts, belt washing stations, wind guards, dust suppression sprays etc. are provided below in Figure 2.

No.	DWER Information Required	Hanroy Response
	Spillages • Please provide further details on the proposed controls to manage spillages of ore at the wharf and ship loading facility including how spillages will be captured and managed at wharf/berth	Spills will be cleaned up and removed within 72 hours of identification. Ongoing regular clean-up undertaken on the wharf using a street sweeper/sucker truck, to remove any spills and built-up material. During maintenance shutdown and wash down of ship loading equipment on the wharf, a street sweeper/sucker truck or equivalent (bobcat with sweeper attachment) will be present at all times to immediately collect all wash down water to prevent it entering the marine environment.
	• Please provide cleanup protocols for the wharf/berth	Cleanup protocols will be followed as per the current Licence. A Wharf inspection Checklist will be used twice daily to ensure no spills are unattended. Street sweepers or equivalent are utilised when required.
	Wash water Please provide detail on the proposed measures to collect, contain and dispose of any wash water associated with belt washing or any other hosing / washing activities that are associated with product handling along the conveyors or at the wharf	A street sweeper/sucker truck is often present to collect all wash down water to prevent it from entering the marine environment. Wharf floor is completely sealed, and ongoing clean-up is us undertaken on the wharf using sweeper/suck truck bobcats and tipper to remove any spills and build up material. Collected ore spills material are taken to stockpile area. Belt wash water is collected and fed back onto conveyor system at conveyor 163 and then onto the ship. HanRoy is currently investigating an alternative wash water collection method that includes pumping washdown water to a landside sedimentation pond to prevent excess water being within an already wet ore product.

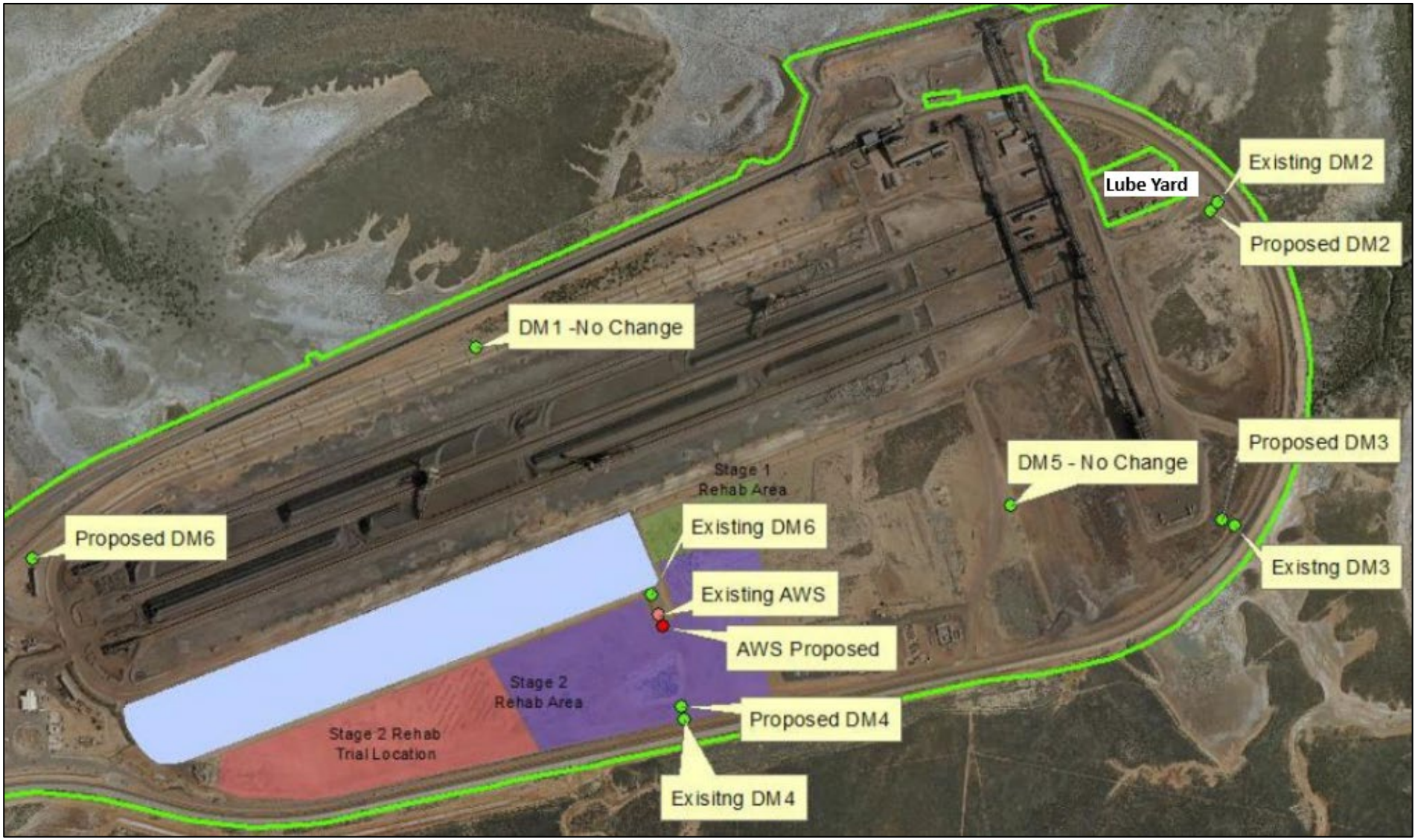

Figure 1: Hydrocarbon storage areas

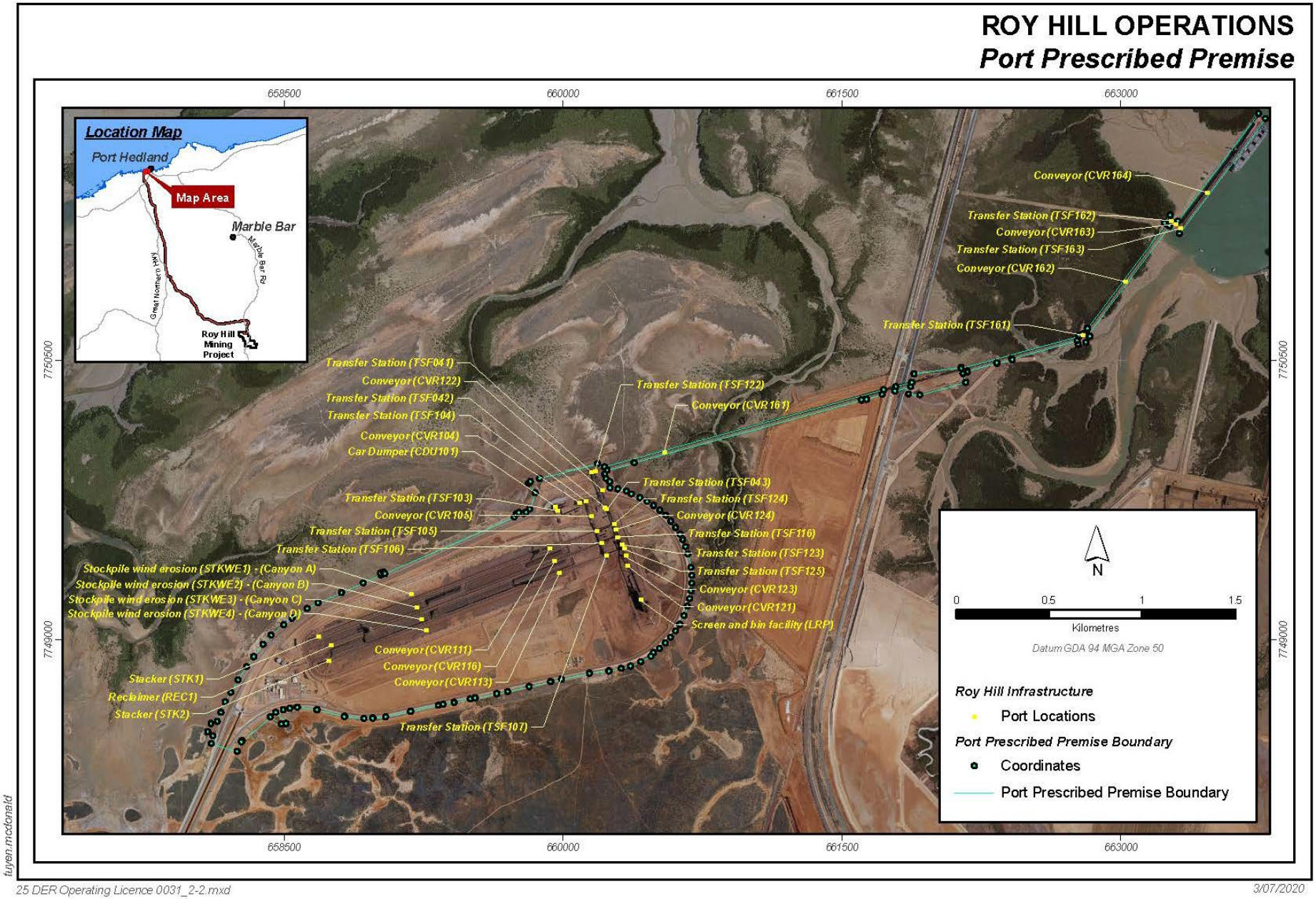

Figure 2: Dust control locations

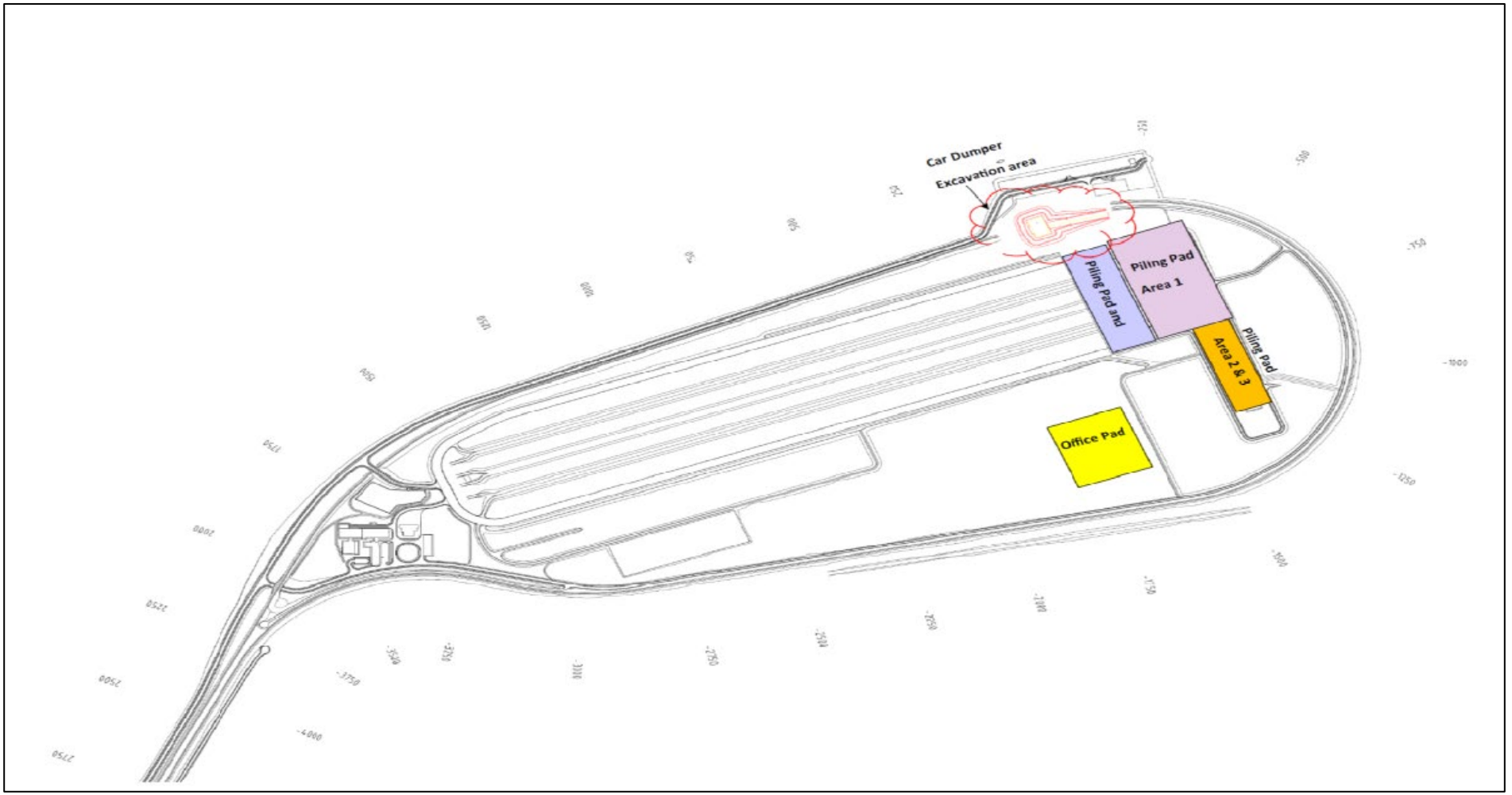

Figure 3: Excavated material location

Figure 4: Discharge pipeline (red dotted line)

References

DWER (2015). *Identification and investigation of acid sulfate soils and acidic landscapes*. Department of Water and Environmental Regulation. June 2015.

Hydro Geochem Group (2023). *Port Landside Car Dumper Dewatering Assessment, Roy Hill Port Hedland facility*. Document Number: J-H-AU0131-001-R-Rev1. Document Date: 19 September 2023