



Application for Works Approval

Part V Division 3 of the *Environmental Protection Act 1986*

Works Approval Number W6926/2024/1

Applicant Drilline Pty Ltd

ACN 065 688 164

File number DER2024/000140

Premises Five Mile Creek Sand Project
Mining Lease M46/524
Shire of East Pilbara

As defined by the premises map attached to the issued works approval

Date of report 6/08/2024

Decision Works approval granted

Manager, Resource Industries
INDUSTRY REGULATION (STATEWIDE DELIVERY)
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the premises. As a result of this assessment, works approval W6926/2024/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) has considered and given due regard to its regulatory framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary and overview of premises

On 27 March 2024 Drilline Pty Ltd (the applicant) submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is seeking approval to install a mobile screening plant and to operate under time limited operations within mining tenement M46/524 (the premises) which is located approximately 7.5km east of the town of Nullagine, along Five Mile Creek. The screening plant is required to screen sand at the premises that has been excavated from the riverbed of Five Mile Creek. It is expected that a maximum of 40,000 tonnes of sand will be processed per year for the life of the mining lease (2035) or as renewed for an additional 21 years (as the sand resource is replenished with each creek flow).

Material extracted from the creek bed will be processed through a Terex Finlay 683 Supertrak mobile screening plant to separate sand to the required specifications using a horizontal three-way screen. Mining and screening will occur on a campaign basis with all equipment removed from the site between campaigns. There will be no other infrastructure onsite. Any undersize or oversize reject material from the screening plant will be returned to the creek bed excavation as backfill or stockpiled as potential future product.

The premises relates to the category and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6926/2024/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6926/2024/1.

2.2.1 Premises History

A single mining campaign was undertaken at the premises in 2015, with 3,228 tonnes of sand being excavated from the creek and screened on site. No excavation or screening has occurred since 2015.

Works approval W6183/2018/1 was granted on 24 January 2019 for sand screening activities (category 12) on the premises, however the department understands that no screening of material occurred under this works approval, with the works approval expiring in 2022.

Site location and Nullagine Water Reserve

The application is for the use of the entirety of mining tenement M46/524. The majority of this tenement is contained in the Nullagine Water Reserve (water resource protection series report number no. 173). All land within the proposed Nullagine Water Reserve is assigned a priority 1 (P1) area except for the Nullagine town site, which will remain as priority 3 (P3). Water Quality Protection Note (WQPN) 25 *Land Use Compatibility in Public Drinking Water Source Areas*

indicates that extractive industries and crushing and screening operations in P1 area's are a compatible land use as long as the operations comply with conditions 9, 10, 12, 13, 14, 19, 22, 24, 26, 28, 41 of the WQPN.

The key risks associated with operation in a drinking water source protection area include spills and leaks of hydrocarbons from machinery and the release of contaminated (or sediment laden) stormwater from operational areas. The applicant has proposed several controls to address this and to comply with the requirements of operating in a P1 drinking area. These are discussed in section 3.1.

2.2.2 Legislative context

The proposed prescribed premises encompasses mining tenement M46/524, which, is the subject of the following current environmental approvals issued by the Department of Energy, Mines, Industry Regulation and Safety ('DEMIRS'):

- Mining Proposal ('MP') Registered ID 44991 ('MP 44991') approved 25/06/2014.
- Mine Closure Plan ('MCP') Registered ID 67979 ('MCP 67979') approved 27/06/2017.
- Mining Proposal with Mine Closure Plan ('MP-MCP') Registered ID 100238 ('MPMCP 100238') approved 19/11/2021.
- Native Vegetation Clearing Permit ('NVCP') CPS 9385/1 issued 18/02/2022.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk Assessments* (DWER 2020).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Placement of screen and associated equipment including vehicle movements	Air / windborne pathway causing impacts to surface water quality within the Five Mile Creek (within Premises boundary)	No controls proposed
Noise	Placement of screen and associated	Air / windborne pathway causing	No controls proposed

Emission	Sources	Potential pathways	Proposed controls
	equipment including vehicle movements (reversing beepers)	impacts to amenity of closest human receptors (indigenous community and freehold lot) approximately 2km from prescribed operations	
Operation			
Dust	Screening of sand, vehicle movements, lift-off from stockpiles and/or stored product etc	Air / windborne pathway causing impacts to surface water quality within the Five Mile Creek (within Premises boundary)	<ul style="list-style-type: none"> • All areas on the premises from which dust may be generated will be maintained so that no visible dust is discharged beyond the boundary of the premises. • Water truck cannon used on stockpiles and inaccessible areas • Water truck spray down will be used on roads, hardstand areas and processing issues • Haul trucks transporting material offsite will have their loads fully covered to ensure that no dust emissions of spillage occur during road transport • Stockpiles will be sprayed down with water to prevent dust • All vehicles will be confined to designated routes, with speed limits of 20 km/h enforced within M46/524 and L46/113
Noise	Crushing of material, vehicle movements	Air/windborne pathway causing impacts to health and amenity of closest human receptors (indigenous community and freehold lot) approximately 2km from prescribed operations.	<p>No controls proposed. The applicant has stated that:</p> <p>“Noise from the operating machinery is not considered to be an issue due to the small scale nature of the mining operations, the small operational fleet with modern baffled engines that comply with Australian Standards for noise emissions and the isolated location.”</p>
Sediment laden stormwater	Overland runoff	Overland runoff causing impacts to surface water quality Five Mile	The perimeter of the screening stockpiling area will be bunded off with a windrow of pushed up vegetation and topsoil.

Emission	Sources	Potential pathways	Proposed controls
		Creek (within premises boundary) from an increase in of suspended solids resulting in turbidity and sedimentation of the Creek and associated riparian flora and fauna.	
Spills and leaks	Hydrocarbon spills from operation of plant	<p>Overland runoff and seepage leading to impact to surface water and groundwater.</p> <p>Closest receptor is Nullagine Water Reserve, which the site overlays.</p>	<p>Proposed controls developed in consultation with DWER Planning Advice to ensure that requirements of Nullagine Water Reserve are met.</p> <ul style="list-style-type: none"> • The amount of hydrocarbons onsite will be minimal and will be transported to site daily on a 4WD ute or service truck. • No fuels to be stored on site • No refuelling of equipment in the creek bed. • Spill kits will be kept on site and in all vehicles • Hydrocarbon spills will be collected as soil masses and taken to the bioremediation section of the Newman landfill for disposal • Responsible hydrocarbon management practices are part of the site induction that includes continual vigilance to ensure that any leakages or discharges are rectified immediately. All spillages are to be reported to the Registered Manager under site procedures as per the induction training • The only requirement is to refuel mobile plant from support vehicles (with self-bunded tanks) that come to site as required. • All operations within three metres of the maximum wet season water table are prohibited in public drinking water source areas.

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant's employees, visitors, and contractors from its assessment. Protection

of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 2 and Figure 1 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental Siting* (DWER 2020)).

Table 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Freehold house (Lot 21)	Approximately 1.2 km south east of screening operations
Five Mile Indigenous Community (Reserve 42717)	Approximately 2 km south of the screening operations
Nullagine townsite	7.5km west of premises boundary
Millenium Minerals Limited Mining Camp	Approximately 8 km south-west of premises boundary
Blue Spec Mining Camp	Approximately 11 km north-east of screening operations
Environmental receptors	Distance from activity/prescribed premises
Nullagine River	Confluence located 3km downstream of premises boundary
Nullagine Water Reserve (Priority 1 Public Drinking Water Source Area)	Located within prescribed premises boundary.
Priority Ecological Community 23: Stony saline plains of Mosquito Land System (saltbush community of the duplex plains)	Surrounding premises (not within it)
Surface geology	Alluvial riverine environment

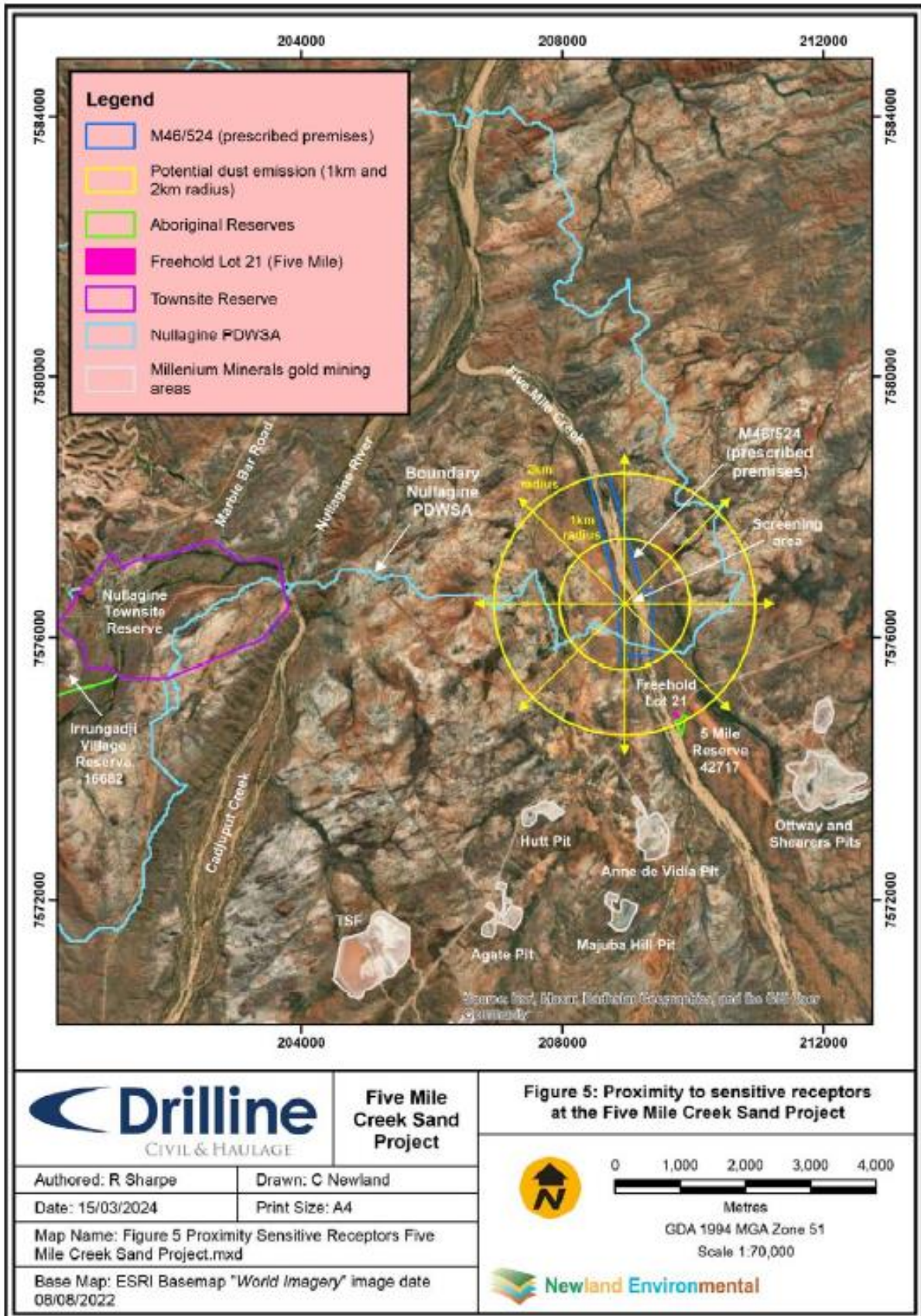


Figure 1: Distance to sensitive receptors

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

Works approval W6926/2024/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence or registration is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises i.e. Category 70 activities.

Table 3: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Place of screener and associated equipment including vehicle movements	Dust	Air /windborne pathway causing impacts to surface water quality within the Five Mile Creek (within premises boundary)	Native vegetation Five mile creek,	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	N/A	Minor construction works (equipment placement) is not expected to generate significant dust or noise emissions.
	Noise	Air/windborne pathway causing impacts to human receptors	Freehold lot 21, Five Mile Aboriginal Community	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	N/A	
Operation (including time-limited-operations operations)								

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Screening unloading, loading and storage of material vehicle movements.	Dust	Air/windborne pathway causing impacts to surface water quality and health an amenity of closest human receptors	Native vegetation, human receptors at Freehold lot 21 and Five Mile Aboriginal Community	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 1 Table 1 Condition 6 Table 2	Applicant's proposed controls from management of dust emissions are sufficient to manage this risk event. No additional regulatory controls required.
	Noise	Air/windborne pathway causing impacts to amenity of closest human receptors	Freehold lot 21, Five Mile Aboriginal Community	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	N/A	The closest human receptors are located approximately 2km from the prescribed premises, significant noise emissions are not expected to be generated.

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	Sediment laden stormwater	Overland runoff causing impacts to surface water quality	Five Mile Creek (within premises boundary) from an increase in of suspended solids resulting in turbidity and sedimentation of the Creek, and associated riparian flora and fauna.	<i>Refer to Section 3.1</i>	C = Minor L = Unlikely Medium Risk	Y	Condition 1 Table 1 Condition 6 Table 2	Applicant's proposed controls from management of hydrocarbon spills are sufficient to manage this risk event. No additional regulatory controls required.
	Spills and leaks	Hydrocarbon spills from plant	Five mile creek, native vegetation Nullagine Water Reserve (Priority 1 Public Drinking Water Source Area)	<i>Refer to Section 3.1</i>	C = Minor L = Unlikely Medium Risk	Y	Condition 1 Table 1 Condition 6 Table 2	

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk Assessments* (DWER 2020).

Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 16 May 2024.	None received.	N/A
Local Government Authority advised of proposal on 16 May 2024.	None received.	N/A
Nyamal Aboriginal Corporation advised of proposal on 16 May 2024.	None received.	N/A
<i>Applicant was provided with draft documents on 1 August 2024</i>	<i>Applicant responded on 2 August 2024 stating that they have no comments and 21 day consultation period waived.</i>	<i>Noted.</i>

5. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Water and Rivers Commission Report 1999, Nullagine Water Reserve Water Source Protection Plan, Nullagine Town Water Supply, Perth, Western Australia.