



Application for Works Approval

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

Works Approval Number W6799/2023/1

Applicant Shire of Ashburton

File number DER2023/000240

Premises Pilbara Regional Waste Management Facility
Part Lot 550 and Lot 551 on Plan 414367, being Reserve 53324
Onslow Road
TALANDJI WA 6710
Certificate of Title: Volume LR3169, Folio 963

Date of report 20 November 2023

Decision Works approval granted

Adam Green
A/MANAGER WASTE INDUSTRIES
REGULATORY SERVICES

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 W6799/2023/1 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 5th April 2023, 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 to undertake construction works relating to the construction of three evaporation ponds and two drying pads at the premises. The facility has an existing Class IV landfill, a liquid waste evaporation pond, a green waste area and associated supporting infrastructure.

The premises relates to the categories and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6799/2023/1. 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 W6799/2023/1.

2.2.1 Staged development

The proposal is to develop this infrastructure in stages. Initially, two evaporation ponds and one drying pad will be constructed. Once these facilities are operational, then, if there is adequate demand, the Proponent will develop the additional evaporation pond and drying pad, either simultaneously or as two separate construction activities.

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	Construction activities and vehicle movements.	Air/windborne pathway causing impacts to health and amenity.	Low vehicle speeds. Dust suppression using water cart. Cessation of dusty operations when weather conditions are adverse.
Noise			Low vehicle speeds. Works will be carried out over a short period of four to five weeks. Minimal equipment will be necessary for the construction works.
Operation			
Contaminated stormwater, wastewater or leachate discharge to the environment	Acceptance of various liquid wastes. Waste spills. Operation of evaporation ponds and drying beds.	Surface runoff via pond overflow causing ecosystem disturbance. Liner failure and seepage through infrastructure and soil causing impacts to groundwater and groundwater dependent ecosystems.	Installation of a GCL and HDPE liner system. Critical containment infrastructure construction quality assurance testing. Maintenance of a 0.5 m freeboard in ponds and beds to hold a 1% 168-hour/7-day storm event. A 3 m firebreak is maintained around the ponds to prevent damage to liner. Earthen perimeter bunds and stormwater trench drains.
Odour		Air/windborne pathway causing impacts to health and amenity.	Physical separation from sensitive receptors. Monitoring of odour by site staff. Where required lime-dosing the ponds to adjust the liquid waste pH. Covering wastes on the drying pads. Cease acceptance of particularly odorous wastes if identified as being the cause of excessive odours.
Toxic fumes, fire, or explosion	Chemical reaction from the mixing of incompatible waste types.	Air/windborne pathway causing impacts to health and amenity. Direct impacts.	Physical separation from sensitive receptors. Incompatible materials will not be stored or processed in close proximity. Incompatible wastes placed on the drying pads will not be blended.
Dust and atomized drying pad leachate (contaminated stormwater)	Unloading and working of hydrocarbon contaminated soils during bioremediation process using collected leachate.	Air/windborne pathway causing impacts to health and amenity.	Physical separation from sensitive receptors. Damping-down of soil and maintenance of required soil moisture throughout process. Only leachate generated within the drying pads or fresh, clean water will be used for bioremediation, no other liquid wastes will be used.

Emission	Sources	Potential pathways	Proposed controls
Atomized leachate			Physical separation from sensitive receptors.

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 provide 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
Pastoral stations and leases	Lands used for agricultural purposes (grazing) on Minderoo and Peedamulla station extend from ~3.2 km west and ~8 km north of the premises. Minderoo Station homestead is located ~20 km south-west of the premises. Peedamulla Station homestead and campground are located ~40km east northeast of the premises.
Onslow town site and industrial areas	Wheatstone oil and gas worker accommodation is located ~22 km north-west of the premises. Onslow town site is located ~30 km north-west of the premises.
Users of Conservation Park (existing and proposed)	The proposed extension to the Cane River Conservation Park (CRCP) includes all lands surrounding the premises except easements associated with the Onslow Road and associated infrastructure. The boundary of the proposed extension to the CRCP is located between 150 and 1,500 m from the PRWMF infrastructure.
Environmental receptors	Distance from prescribed activity
Cane River Conservation Park (CRCP)	Current: located approximately 32 km south-east. Proposed extension: surrounding the premises, between approximately 150 m and 1,500 m from the PRWMF infrastructure. No management plan has been published for the existing or proposed extension to the CRCP. Consistent with section 56 of the CALM Act, the purpose of conservation parks is to conserve the natural environment, protect flora and fauna and preserve features of archaeological, historic or scientific interest while providing for suitable levels of public recreation.

Public Drinking Water Source Area (PDWSA) under the Country Areas Water Supply Act 1947	The Cane River Water Reserve Priority 1 PDWSA is located approximately 21.1 km north-east (up-gradient) of the premises.
Surface Water: River systems	The premises is located along the divide of the Ashburton River and Cane River catchment which discharges into the Ashburton River catchment. Ashburton River: Approximately 20.5 km west of the premises (down-gradient). Cane River: Approximately 22 km north-east of the premises (up-gradient)
Surface Water Resource Proclaimed Area	Surface Water Area which is proclaimed area under the RIWI Act. The premises is specifically located within the Ashburton River surface water resource proclaimed portion. Surface water areas are proclaimed for the purposes of regulating the taking of water from watercourses and wetlands and where there is a need for systematic management for the use of water.
Surface water bodies	A series of non-perennial lakes are situated to the west (down-gradient), south-west (up-gradient) and north-east (up-gradient) of the premises. The closest of these is located approximately 2.3 km west of the premises. Beyond these is a series of Saline Coastal Flats which extend towards the Indian Ocean.
Threatened Ecological Communities (TEC) (buffers)	The closest TEC buffer, being Tanpool land system, is situated 36.8 km north-east of the premises. A Tanpool land system is a "highly restricted land system that occurs between Pannawonica and Onslow. It consists of stony plains and low ridges of sandstone and other sedimentary rocks supporting hard spinifex grasslands and snakewood shrublands" (DBCA, 2017), with a Priority 1 category rating.
Indian Ocean	Approximately 40.3 km north-west (down-gradient) of the premises.
Groundwater: superficial and confined aquifers	The premises is located with the Carnarvon confined Birdrong aquifer and Carnarvon superficial aquifer. Talis (2018a) reported that the superficial aquifer was not encountered during intrusive investigations at the premises. Depth to groundwater ranges across the premises from 5.4 metres below ground level (m BGL) (BH03 January 2018) to 20.9 m BGL (BH10 April 2019). Groundwater dependent ecosystems have not been investigated within the unallocated crown land surrounding the premises, proposed as an extension to the CRCP, for the purposes of the risk assessment they are assumed to be potentially present.

Users of groundwater resources	<p>The premises is located within the RIWI Act proclaimed Pilbara Groundwater Area.</p> <p>Groundwater licences are granted ~20 km south-west (Ashburton River – bore is up-gradient), ~27 km north-east (Cane River – up-gradient) and from ~16 km north-west (down-gradient) of the premises. A series of licences are also granted along the Onslow Road from ~5 km north-west (up-gradient) and ~1 km south-east (up-gradient) that are predominately granted to Main Roads Western Australia.</p> <p>Groundwater may also be used for stock water on nearby pastoral stations.</p>
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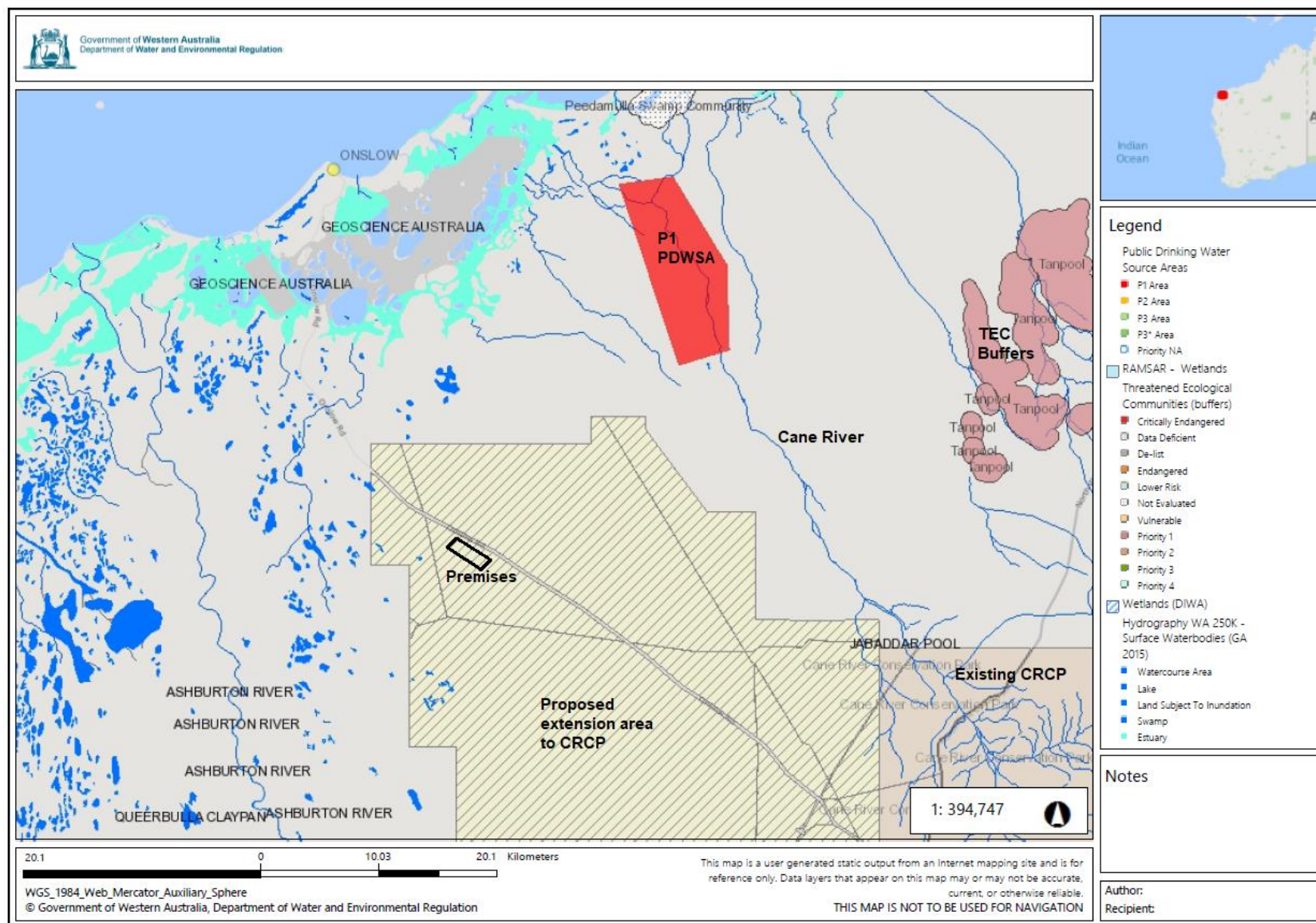


Figure 1:Relative distance to sensitive receptors.

W6799/2023/1

IR-T13 Decision report template (short) v3.0 (May 2021)

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and considers 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 3.1.1), 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 W6799/2023/1 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 is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

Table 3: Risk assessment of potential emissions and discharges from the premises during construction 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								
Construction activities including vehicle movements	Dust	Air / windborne pathway causing impacts to health and amenity.	Users of conservation park	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Condition 2	N/A
	Noise			Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	N/A	N/A
Operation (Including time-limited-operations operations)								
Acceptance of various bulk liquid wastes to evaporation ponds	Wastewater discharge to the environment and potentially contaminated stormwater	Surface runoff via pond overflow causing ecosystem disturbance.	Non-perennial surface waters	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1, 3, 4,8, 9, and 17	N/A
Operation of evaporation ponds and drying beds		Seepage through infrastructure and soil causing impacts to groundwater and groundwater dependent ecosystems.	Terrestrial habitats including the proposed extension of the CRCP (150 - 1,500 m from premises) including native flora and groundwater dependent vegetation	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1, 3, 4, 8, 9, 12, 13, 17, 18 and 19	N/A

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				
	Odour	Air / windborne pathway causing impacts to health and amenity	Users of conservation park	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Condition 8, 9, 11, and 17	N/A
Chemical reaction from the mixing of incompatible waste types	Toxic fumes, fire, or explosion	Air / windborne pathway causing impacts to health and amenity	Users of conservation park	Refer to Section 3.1	C = Major L = Possible High Risk	N	Condition 11, 12, 13, 14, 15, 16, and 17 and <u>Condition 10</u>	The applicant did not specify how they would classify waste and determine what is compatible and incompatible, so the Delegated Officer has included condition 10 to specify this action must be carried out by a qualified chemist.
Hydrocarbon contaminated soil bioremediation	Dust	Air / windborne pathway causing impacts to health and amenity	Users of conservation park	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Condition 17	N/A
	Atomised leachate					Y	Condition 17, 18 and 19	N/A

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 26 May 2023	None received	N/A
Department of Mining, Industry Regulation and Safety advised on 9 June 2023	<p>DMIRS have no comment on the WORKS APPROVAL (W6799/2023/1 Pilbara Regional Waste Management Facility).</p> <p>E08/3371 was withdrawn in September 2022. As I understand if this application had proceeded the section 19 area would have been excised.</p>	Noted.
Department of Health advised on 9 June 2023	<p>The DoH provides the following comments:</p> <p>Water Supply and Wastewater Disposal. The proposal is required to comply with the requirements of the Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974 (the Regulations).</p> <ul style="list-style-type: none"> • Further information is required prior to DoH supporting the proposal. In particular: • In accordance with the Regulations an 'Application to Construct or Install an Apparatus for the Treatment of Sewage' (Application) is required to be submitted to the local government for the wastewater system. As this proposal is viewed as commercial/industrial, the application is required to be forwarded to the DoH for assessment and approval. • The design criteria for the construction of wastewater treatment ponds and effluent ponds can be obtained from the DoH. The Application is required to be submitted prior to the commencement of any construction work. 	Noted.

	<ul style="list-style-type: none"> The proposal for leachate to be sprayed on a pad to evaporate or used to moisture condition hydrocarbon soils requires further clarification and details of efficient remediation management to be demonstrated. Detailed plans showing the proposed building envelopes, onsite wastewater system/s and ponds, all trafficable areas, parking bays and land application area/s including setback distances, exclusion zones with measurements are to be provided with the Application. 	
Department of Planning, Lands and Heritage advised on 9 June 2023	No response received.	N/A
Applicant was provided with draft documents on 6 November 2023	<p>The applicant provided the following comments:</p> <ul style="list-style-type: none"> Table 1 - Liner permeability change to 3×10^{-11} for both Evaporation Ponds and Drying Pads Table 1 - Construction Timeframe - I would suggest Stage 1 - 2023/24 & Stage 2 2025/26 Table 6 - Flux Index add value of $\leq 1.0 \times 10^{-8}$ (m³/m²)/s Table 6 - Permeability - 3×10^{-11} as above I'm happy with all of the other values in Table 6, 7 & 8. 	Noted. Values amended accordingly.

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.

Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY		
Application type		
Works approval	<input checked="" type="checkbox"/>	
Date application received	06/04/2023	
Applicant and Premises details		
Applicant name/s (full legal name/s)	Shire of Ashburton	
Premises name	Pilbara Regional Waste Management Facility	
Premises location	Lot 550 and Lot 551 on Plan 414367, Volume LR3169, Folio 963, Reserve 53324	
Local Government Authority	Shire of Ashburton	
Application documents		
HPCM file reference number:	DER2023/000240	
Key application documents (additional to application form):	Supporting documentation	
Scope of application/assessment		
Summary of proposed activities or changes to existing operations.	<i>Works approval</i> Earthworks, synthetic lining, concrete works, leachate management, roadworks and stormwater works for new evaporation ponds and drying beds	
Category number/s (activities that cause the premises to become prescribed premises)		
Table 1: Prescribed premises categories		
Prescribed premises category and description	Proposed production or design capacity	
Category 61 – Liquid waste facility: premises on which liquid waste produced on other premises (other than sewerage waste) is stored, reprocessed, treated or irrigated	21,000 tonnes per annual period	
Category 61A – solid waste facility: premises (other than premises within category 67A) on which solid waste processed on other premises is stored, reprocessed, treated or discharged onto land	20,000 tonnes per annual period	
Legislative context and other approvals		
Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:

Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Has the applicant obtained all relevant planning approvals?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Applicant is the relevant planning authority
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Clearing permit for 70 ha issued 2019 valid for 5 years
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	