



Application for Works Approval

Part V Division 3 of the *Environmental Protection Act 1986(WA)(CKI)*

Works Approval Number W3176/2025/1

Applicant Fulton Hogan Construction Pty Ltd

ACN 010 240 758

File number APP-0032810

Premises Accommodation Camp
Sydney Highway, West Island, Cocos (Keeling) Islands
Legal description
Lot 3003 on Deposited Plan 44688
As defined by the premises map attached to the issued works approval

Date of report 31 March 2026

Decision Works approval granted

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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 W3176/2025/1 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 2 December 2025, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986 (WA)(CKI)* (EP Act).

The application is to undertake construction works relating to a wastewater treatment plant at the premises.

The premises relates to the category and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987 (WA)(CKI)* (EP Regulations) which are defined in works approval W3176/2025/1. 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 W3176/2025/1.

The Australian Department of Defence (Defence) is proposing to upgrade the Cocos (Keeling) Islands (CKI) Airfield. The CKI Airfield is a Commonwealth of Australia (Commonwealth) asset under the jurisdiction of the Department of Infrastructure, Transport, Regional Development and Communications and the Arts (DITRDCA) and managed by Toll Remote Logistics Pty Ltd (Toll).

Upgrades to the CKI Airfield are required to enable the Royal Australian Air Force to support P-8A Poseidon capability on the runway, reduce the safety risks associated with operating Code D aircraft on the airfield, and address non-compliances identified by the Civil Aviation Safety Authority.

To support delivery of the CKI Airfield Upgrade Project, enabling infrastructure will be required that will require temporary accommodation for a workforce of approximately 100 people. The workforce will be accommodated in a temporary Accommodation Camp that will be constructed on Crown land on West Island. The Project will exceed the capacity of the existing Cocos (West) Island Wastewater Treatment Plant, which is managed by Water Corporation. To manage this excess wastewater load, it is proposed that a temporary WWTP be installed at the Accommodation Camp, with treated effluent from this plant being pumped to the balance tank at the West Island community WWTP (for additional UV disinfection) before discharge via the existing ocean outfall 400 m offshore.

The existing Cocos (West) Island Wastewater Treatment Plant is located at Part Lot 100 on Deposited Plan 18500, Certificate of Title Volume 2103 Folio 109, and holds registration 1841.

The proposed Membrane Bioreactor (MBR) WWTP will treat approximately 17 m³/day based on camp accommodation of 96 people and using a wastewater allowance of 180 L/person/d (for a hotel premises) (source: supplement to Regulation 29 and Schedule 9 – Wastewater System Loading Rates, Department of Health).

2.3 Native Vegetation Clearing

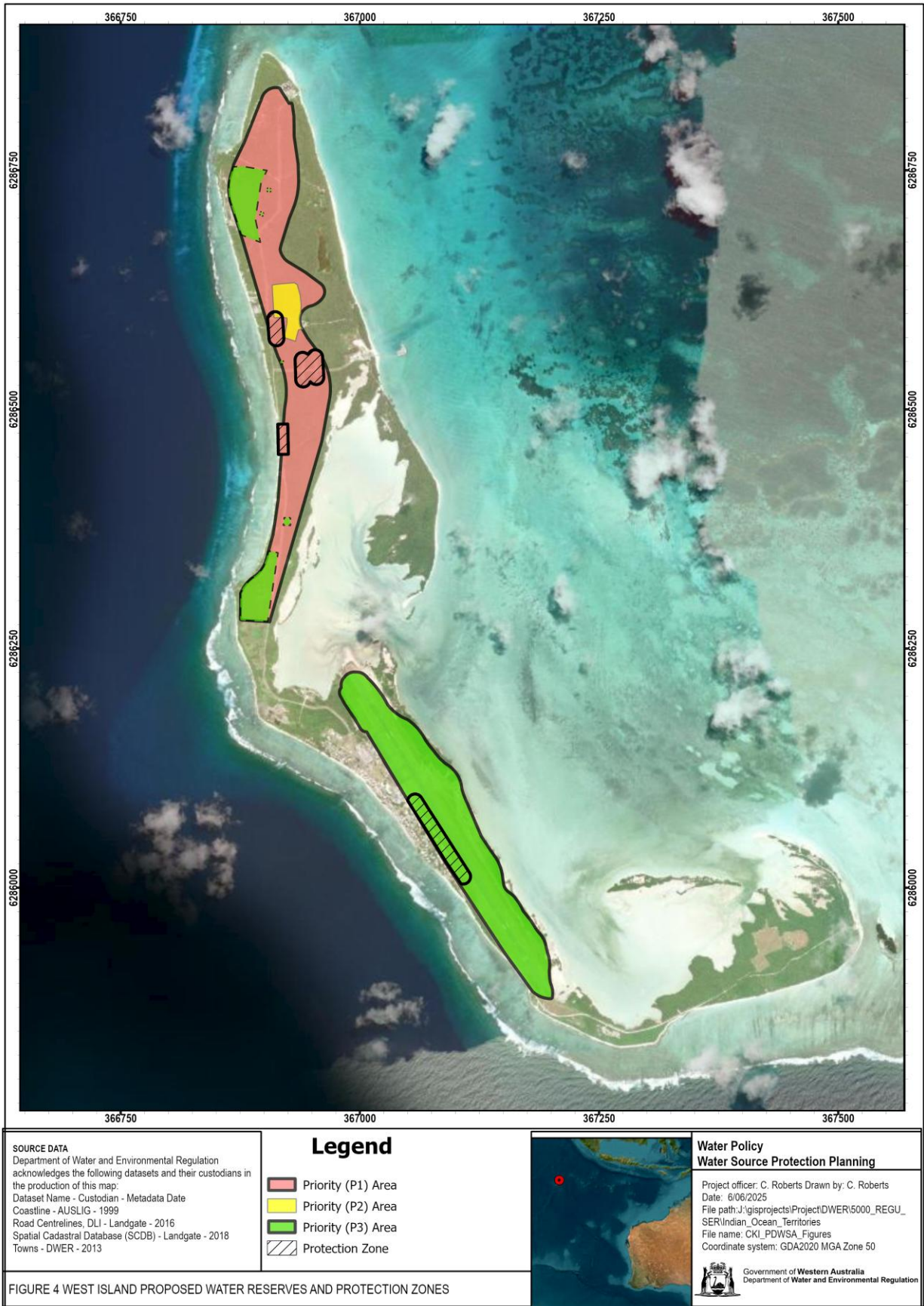
The applicant holds Clearing Permit Number CPS 10428/1 (Duration of Permit: From 11 January 2025 to 11 January 2030) to clear native vegetation for the purpose of constructing a materials offloading facility and associated infrastructure, and an accommodation compound, to facilitate the Cocos (Keeling) Islands Airfield Upgrade Project. The land on which clearing is to be undertaken includes Lot 3003 on Deposited Plan 44688 (Crown Reserve 47378).

2.4 Consideration of Water Quality Protection Note (WQPN) 25

The Australian Government, through the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA) and DWER is proposing to proclaim protection areas (boundaries) for public drinking water sources, and a regulatory management system on the Cocos (Keeling) Islands (CKI) to support water security for the Islands.

Proclaiming drinking water source protection areas under the *Country Area Water Supply Act 1947 (WA)(CKI) (CAWS Act)* will provide protection areas for public drinking water sources, and other groundwater resources (including freshwater contained within unpopulated islands). Figure 1 provides the proposed protection areas for public drinking water sources on West Island.

Figure 1: Proposed water reserves and protection zones



WQPN 25: Land use compatibility tables for public drinking water source areas (DWER, August 2021) provides guidance on land uses and activities within public drinking water source areas (PDWSAs) to protect drinking water quality and public health. The department's policy on development in PDWSAs is a presumption against the intensification of land uses. This is because more intense land uses increase the risk that the drinking water will become contaminated. Although the primary goal is to avoid contamination of PDWSAs, the department also needs to consider land uses, activities and zonings that were present before the PDWSA was declared, or that are required to support population growth, housing, jobs and essential infrastructure or industry. So, there may be times when these risks cannot be avoided. In such cases, the risks need to be minimised or managed. However, wherever possible, DWER has a responsibility to prevent an increase in the base level of risk.

The premises is currently not located within a PDWSA but is located adjacent to a proposed Priority 3 (P3) PDWSA.

Table 2 of WQPN 25 specifies that wastewater treatment plants are a compatible land use within P3 areas, with conditions 13, 22, 24 and 28. The conditions are as follows:

Condition 13: The department does not support this activity within protection zones (WHPZs and RPZs) unless special circumstances apply.

Condition 22: Where organic materials and/or turbid wastewaters are stored, adequate bunding should prevent the escape of potential contaminants (such as pathogens and nutrients) into the environment, including planning for contingencies such as storms and floods.

Condition 24: Hydrocarbons, chemicals and other toxic or hazardous substances should be stored so there is no discernible risk of contamination of groundwater or surface water. This should include effective secondary barriers to contain the system, such as double-walled tanks and bunding. Restrictions apply for storage tanks as explained in WQPN 56: Tanks for fuel and chemical storage near sensitive water resources. A contingency plan for managing and responding to spills should be in place, as per WQPN 10: Contaminant spills – emergency response plan.

Condition 28: This land use/activity may require assessment by this department under the *Environmental Protection Act 1986*. For a list of activities see the schedule 1 of the *Environmental Protection Regulations 1987*.

The Delegated Officer has considered the above guidance as part of the risk assessment outlined in Section 3.

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 and installation of new infrastructure	Air / windborne pathway	- Construction and commissioning emissions will be managed through the <i>Environmental Management Plan – R8129 Cocos (Keeling) Islands Airfield Upgrade Project</i> (Document ID: FH_PM_PLA_DP_0000_8) (Fulton Hogan, December 2025).
Noise	Construction and installation of new infrastructure	Air / windborne pathway	- Construction and commissioning emissions will be managed through the <i>Environmental Management Plan – R8129 Cocos (Keeling) Islands Airfield Upgrade Project</i> (Document ID: FH_PM_PLA_DP_0000_8) (Fulton Hogan, December 2025). - Works will be conducted in accordance with the <i>Environmental Protection (Noise) Regulations 1997 (WA)</i> (CKI).
Spills of hydrocarbons from vehicles and equipment	Installation of wastewater infrastructure	Overland flow and infiltration to soil and groundwater	- Construction and commissioning emissions will be managed through the <i>Environmental Management Plan – R8129 Cocos (Keeling) Islands Airfield Upgrade Project</i> (Document ID: FH_PM_PLA_DP_0000_8) (Fulton Hogan, December 2025). - <i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)</i> (CKI) apply.
Operation			
Odour	Operation of infrastructure Receipt, processing and treatment of wastewater, and the discharge of wastewater	Air / windborne pathway	- Closed or covered design of the Membrane Bioreactor (MBR) WWTP, which minimises the escape of volatile and malodorous compounds into the environment. - Under normal MBR operating conditions VOCs released will be low to undetectable. - A comprehensive WWTP Operational Management Plan (OMP) will be developed

Emission	Sources	Potential pathways	Proposed controls
			<p>and implemented. The plan will outline the maintenance and operational protocols necessary to ensure optimal plant performance and prevent upset conditions. It will also specify corrective actions in the event of unexpected process deviations.</p> <ul style="list-style-type: none"> - Weekly odour monitoring will be conducted at the southeast boundary of Lot 3003 for the first three months following WWTP commissioning. - Odour monitoring will also occur during sludge dewatering operations within the same period. Monitoring will encompass both pre-commissioning and post-commissioning phases. - Alarms, nutrient flow meter indication, spare nutrient pumping and controls to reduce feed if required.
Loss of containment	Wastewater discharge to the environment	Overland flow and infiltration to soil and groundwater	<ul style="list-style-type: none"> - Bunding will be installed around the WWTP to contain unplanned spillages, ruptures, or loss of containment. Bunding will be designed in accordance with AS/NZ 3780 guidelines, and designed for a minimum 1-in-20-year Average Recurrence Interval (ARI) storm event (5% Annual Exceedance Probability). - Fortnightly water quality monitoring from monitoring bores located adjacent to WWTP and downgradient at the Premises boundary. - A detailed WWTP OMP will be implemented to ensure that the WWTP will be maintained and operated at optimal conditions to prevent unplanned events. The OMP will also highlight specific control actions to be implemented if an unplanned event occurs. - Implementation of spill management protocols outlined in the CKI Environmental Management Plan (EMP).
Wastewater discharge to the environment	Discharge of treated wastewater	Discharge to the West Island WWTP, then discharge through an ocean outfall	<ul style="list-style-type: none"> - Treated wastewater from the WWTP will be pumped from the Premises to the balance tank at the existing West Island WWTP (managed by Water Corporation) via a conveyance pipeline where it will be mixed and discharged via the existing ocean outfall with effluent from the community WWTP. - Monitoring will be undertaken to confirm wastewater quality prior to discharge.

Emission	Sources	Potential pathways	Proposed controls
Noise	<p>Operation of infrastructure</p> <p>Acceptance, processing and treatment of wastewater, and the discharge of wastewater</p>	Air / windborne pathway	<ul style="list-style-type: none"> - The loudest equipment item in the WWTP is the G-BH1 blower which has an upper sound pressure level not exceeding 69dB(A). - There will be significant vegetation between the Premises boundary (on Lot 3003) and the nearest residential dwellings that will likely attenuate any noise levels before they reach nearby residential receptors. - Lot 3003 was previously surveyed, and that survey did not reveal evidence of any significant fauna being present. The fauna habitats on the site are characterised as providing moderate to low value to fauna, with habitat on the site being described as either too dense or too open and not suitable for nesting of listed significant fauna. Based on this, the likelihood of any significant impacts to listed significant terrestrial fauna are considered extremely low
Sludge disposal	Operation of infrastructure	Overland flow and infiltration to soil and groundwater	<ul style="list-style-type: none"> - It is estimated that up to 1,100 kg of WWTP sludge waste will be produced annually (~3 kg/day). Sludge waste from the WWTP will be disposed of to the West Island SDF, a registered Class II putrescible landfill site. - Waste sludge from the accommodation camp WWTP will have a similar contaminant profile to sludge produced from the West Island municipal WWTP operated by Water Corp and given the very small volume (< 2.5 tonnes over lifetime of plant operation) requiring disposal, it is not expected that the West Island SDF will be put under pressure from the proposed disposal of waste sludge from the accommodation camp WWTP. - Currently, the SDF is operating within waste acceptance capacity of 1,800 tonnes annually, with it currently only accepting approximately 300 tonnes of sludge annually. The estimated sludge volume disposed to the SDF from the accommodation camp WWTP will only add <0.4% to the current volume disposed to the SDF. - Sludge from WTTP will be tested monthly to ensure that it will conform to the wastewater acceptance criteria (Class II landfills).

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 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
Residential Premises	200 m south-east of the premises boundary
Environmental receptors	Distance from prescribed activity
Native vegetation	Situated on native vegetation
Fauna	Observed in surrounding area of the proposed premise site (along Sydney Highway)
Underlying groundwater	Approximately 1-2 mbgl The main freshwater lens is located below the airport
Indian Ocean	~120 m Southwest of the premises boundary

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 W3176/2025/1 that accompanies this decision report authorises construction and commissioning. 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 (as applicable) is required to authorise emissions associated with the 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 (as applicable).

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 / DWER comments
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Construction and installation of new infrastructure	Dust	Air / windborne pathway causing impacts to health and amenity	Residences 200 m south-east	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 1	The delegated officer considers dust emissions are effectively regulated by the general provisions of the EP Act and the applicant controls specified in the <i>Environmental Management Plan – R8129 Cocos (Keeling) Islands Airfield Upgrade Project</i> (Document ID: FH_PM_PLA_DP_0000_8) (Fulton Hogan, December 2025).
	Noise			Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 1	The delegated officer considers noise emissions are effectively regulated by the <i>Environmental Protection (Noise) Regulations 1997 (WA)(CKI)</i> and the applicant controls specified in the <i>Environmental Management Plan – R8129 Cocos (Keeling) Islands Airfield Upgrade Project</i> (Document ID: FH_PM_PLA_DP_0000_8) (Fulton Hogan, December 2025).
	Spills of hydrocarbons from vehicles and equipment	Overland flow and infiltration to soil and groundwater causing ecosystem disturbance	Groundwater 1-2 mbgl	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1	The delegated officer considers that the applicant and regulatory controls provide adequate mitigation of potential hydrocarbon spills during construction.

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls / DWER comments
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Commissioning and Operation								
Operation of infrastructure Acceptance, processing and treatment of wastewater, and the discharge of wastewater	Odour	Air / windborne pathway causing impacts to health and amenity	Residences 200 m south-east	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Conditions 1, 5, 6, 7, 13 to 16 and 20	<p>An initial odour screening assessment, as recommended in DWER's <i>Odour Emissions Guideline (2019)</i>, was undertaken to determine if a detailed odour impact assessment was required. This assessment used a Screening Distance (A) of 150 m (Category 85) and a Sensitive Receptor Distance (B) of 200 m. As no Special Case Factors applied, the screening outcome concluded that no further odour modelling or analysis was necessary.</p> <p>Odour emissions from normal operating conditions are not expected to cause adverse effects on the nearest residential area, located approximately 150 m southeast of the Premises boundary.</p> <p>The submission of an Environmental Compliance Report under condition 4 will allow the department to verify the effectiveness of infrastructure controls relating to odour management.</p> <p>The delegated officer considers that the operational and regulatory controls provide adequate mitigation of potential odour impacts to nearby sensitive receptors.</p>

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls / DWER comments
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Loss of containment Spills of untreated wastewater and chemicals	Wastewater discharge to the environment	Overland flow and infiltration to soil and groundwater causing ecosystem disturbance	Groundwater 1-2 mbgl	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Conditions 1, 5, 6, 13 and 14	The submission of an Environmental Compliance Report under condition 2 will allow the department to verify the effectiveness of infrastructure controls relating to containment. The delegated officer considers that the operational and regulatory controls provide adequate mitigation of potential containment loss.
Discharge of treated wastewater	Wastewater discharge	Discharge to the West Island WWTP, which then discharges through an ocean outfall causing ecosystem disturbance	Indian Ocean 400 m offshore	Refer to Section 3.1	C = Moderate L = Possible Medium Risk	Y	Conditions 1, 5, 6, 8, and 13 to 16	Marine ecosystem impacts from the discharge of treated wastewater from this premises were assessed under W2986/2025/1 Cocos (West) Island Wastewater Treatment Plant. The department is confident that there will be no significant change in the treated wastewater constituents surfacing with the plume via the ocean outfall from the increased volume.. The discharge volume is minimal, and the end-of-pipe limits are appropriate to a WWTP of similar size. Dispersion modelling clearly predicts adequate dilution at the outfall, as expected, based on the bathymetry of the site and the local hydrodynamics.

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls / DWER comments
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Operation of infrastructure	Noise	Air / windborne pathway causing impacts to health and amenity	Residences 200 m south-east	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 20	Cumulative unattenuated sound power levels (SWL) generated from the WWTP and pump station are estimated to be approximately 69 dB(A). Based on this, the sound pressure level (SPL) at the nearest (200 m) residential receptors is calculated to be 12 dB(A), which would not exceed the regulatory assigned levels (< 35 dB(A); LA10 nighttime (2200 to 0700 hours and <40 dB(A); LA10 daytime (0900 to 2200 hours)) for noise receiving premises (noise sensitive premises: highly sensitive area). The delegated officer considers noise emissions are effectively regulated by the <i>Environmental Protection (Noise) Regulations 1997 (WA)(CKI)</i> .
Operation of infrastructure	Sludge disposal	Overland flow and infiltration to soil and groundwater causing ecosystem disturbance	Groundwater 1-2 mbgl	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Conditions 1, 5, 6, 13 and 14	The delegated officer considers that the operational and regulatory controls provide adequate mitigation of potential sludge disposal emissions.

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	None received	N/A
Applicant was provided with draft documents on 23 March 2026.	<p>Comments were received on 25 March 2026, relating to:</p> <ul style="list-style-type: none"> Amendment of storage drum sizes; Pumping station details. 	The delegated officer has amended the infrastructure specifications of Table 1 of the works approval to align with the comments, also removing reference to the pumping stations within the accommodation camp as they do not constitute part of the treatment infrastructure.

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. Accessed at: <https://www.wa.gov.au/service/building-utilities-and-essential-services/integrated-essential-services/dwer-regulatory-documents>
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia. Accessed at: <https://www.wa.gov.au/service/building-utilities-and-essential-services/integrated-essential-services/dwer-regulatory-documents>
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia. Accessed at: <https://www.wa.gov.au/service/building-utilities-and-essential-services/integrated-essential-services/dwer-regulatory-documents>
4. Department of Water and Environmental Regulation (DWER) 2019, *Guideline: Decision Making*, Perth, Western Australia. Accessed at: <https://www.wa.gov.au/service/building-utilities-and-essential-services/integrated-essential-services/dwer-regulatory-documents>
5. DWER 2019, *Guideline: Industry Regulation Guide to Licensing*, Perth, Western Australia. Accessed at: <https://www.wa.gov.au/service/building-utilities-and-essential-services/integrated-essential-services/dwer-regulatory-documents>