Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

Application for Works Approval

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

Works Approval Number	W2949/2025/1
Applicant	BBB Catering Pty Ltd T/A BBB Remote Site Services
ACN	114 871 868
File number	APP-0028689
Premises	King Rocks Wind Farm Workers Camp Wastewater Treatment Plant (WWTP) Hyden-Mount Walker Rd HYDEN WA 6359 Legal description - Part of Lot 192 on Deposited Plan 147011 Certificate of Title Volume 23 Folio 359A As defined by the premises map in Schedule 1 of the Works Approval
Date of report	4 July 2025
Decision	Works approval granted

Grace Heydon

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Grace Heydon
MANAGER, WASTE INDUSTRIES
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 W2949/2025/1 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 20 April 2025, BBB Remote Site Services (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 works relating to the construction of a wastewater treatment plant (WWTP) to service the temporary King Rocks Wind Farm Workers' Camp at Lot 192 on Deposited Plan 147011, Hyden Mount Walker Road, Hyden, Western Australia (the premises). The premises is located on a privately owned crop field, approximately 260 m north of the town of Hyden.

The temporary workers' accommodation camp will have 189 rooms and will operate for 24 months with options to extend operations for a further maximum of 18 months. The proposed WWTP and irrigation field is designed to treat up to 36.62 kL of sewage per day, operating in batch cycles to allow for controlled treatment stages. The WWTP will be comprised of the following infrastructure:

- Wastewater pump station;
- Sequencing Batch Reactor (SBR) tank (approximately 12.2 m x 2.4 m x 2.9 m);
- 50 kL SBR balance tank;
- 50 kL sludge tank;
- 14 kL Polishing Plant balance tank;
- Two 36 x72" Fibre-reinforced vessels with glass filtration media; and
- 11 kL effluent tank and secondary Polishing Filtration Plant.

The WWTP and associated infrastructure will be constructed on top of a 915 m^2 compacted hardstand, with the SBR system and the Polishing Plant being housed within sea containers.

Wastewater will enter the WWTP through an inlet screen to remove inorganic materials. It will then be stored in a balance tank temporarily to regulate flow before being pumped into the SBR tank, where organic pollutants will be broken down by microorganisms. The treatment process includes de-nitrification (anoxic phase) and biological oxidation of organic matter (aerobic phase). Solids will then be allowed to settle to the bottom of the tank, with the clear effluent being decanted and removed to the Polishing Plant to undergo secondary treatment. The remaining sludge will be pumped to a storage tank for offsite disposal at a licensed facility. Prior to offsite disposal, sludge is proposed to be retained for a period of 20 to 30 days to remove pathogens.

In the Polishing Plant, the effluent will be filtered through a high-flow 1-micron nominal cartridge filter to remove any remaining suspended solids. It will then be moved to the irrigation tank where it will be disinfected with sodium hypochlorite. The treated effluent will then be irrigated over a 18,423 m^2 drip irrigation field.

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 W2949/2025/1. 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 W2949/2025/1.

2.3 Targets for the final quality of treated effluent

Wastewater is proposed to be treated to a 'low exposure risk level' as outlined in the Department of Health *Guidelines for the Non-potable Uses of Recycled Water in Western Australia* (DOH Guidelines). The proposed targets for the final quality of treated wastewater have also been compared to the *Australian Guidelines for Sewerage systems, Effluent Management 1997,* National Water Quality Management Strategy (ANZECC 1997).

Table 1 outlines the target discharge quality of the treated wastewater from the WWTP in comparison with the compliance values for 'low exposure risk level' effluent in the DOH Guidelines and the parameters in Appendix 6 of ANZECC (1997) for secondary treatment of wastewater.

Table 1: Treated effluent quality targets

Parameter	Target	Low Exposure Risk Level effluent compliance value (DOH Guideline)	ANZECC (1997) Treatment Process Category C
Biochemical Oxygen Demand (BOD)	<20 mg/L	<20 mg/L	20-30 mg/L
Total Suspended Solids (TSS)	<30 mg/L	<30 mg/L	25-40 mg/L
Total Nitrogen (TN)	<10 mg/L	N/A	20-50 mg/L
Total Phosphorus (TP)	<1 mg/L	N/A	6-12 mg/L
E. coli	<1000 cfu/100 mL	<1000 cfu/100 mL	10^5 -10^6 org/100 ml
pH	6.5 – 8.5 pH Units	6.5 – 8.5 pH Units	N/A
Disinfection (if used)	0.2 – 2.0 mg/L	0.2 – 2.0 mg/L	N/A

The treated effluent quality targets from the WWTP meet or surpass the respective DOH Guideline and ANZECC (1997) parameters.

The applicant has requested time limited operations of the WWTP for 180 days as part of this works approval application and treated effluent quality will be assessed during this period and during commissioning.

2.4 Topography and geology

The Geoscience Australia 'Surface Geology' dataset shows the site's topography to be generally flat, lying below 300 m Australian Height Datum (AHD), and consisting of both Czs and Qdlu surface geologies (Figure 1).

In January 2025, Galt Geotechnics conducted a geotechnical study which confirmed the site's flatness, with elevations ranging from 294 mAHD to 296 mAHD (Galt Geotechnics, 2025). The study also indicated that the site has a topsoil layer over 1-2 m of clayey sands, transitioning to sandy clay at greater depths. The soil has low permeability but may become erodible when disturbed. The site's surface geology has been classified as M-D under Australian Standard (AS) 2870-2011, assuming at least 1 m of clayey sand over sandy clay. Where the clayey sand layer is less than 1 meter, a H1-D classification would apply (Galt Geotechnics, 2025).

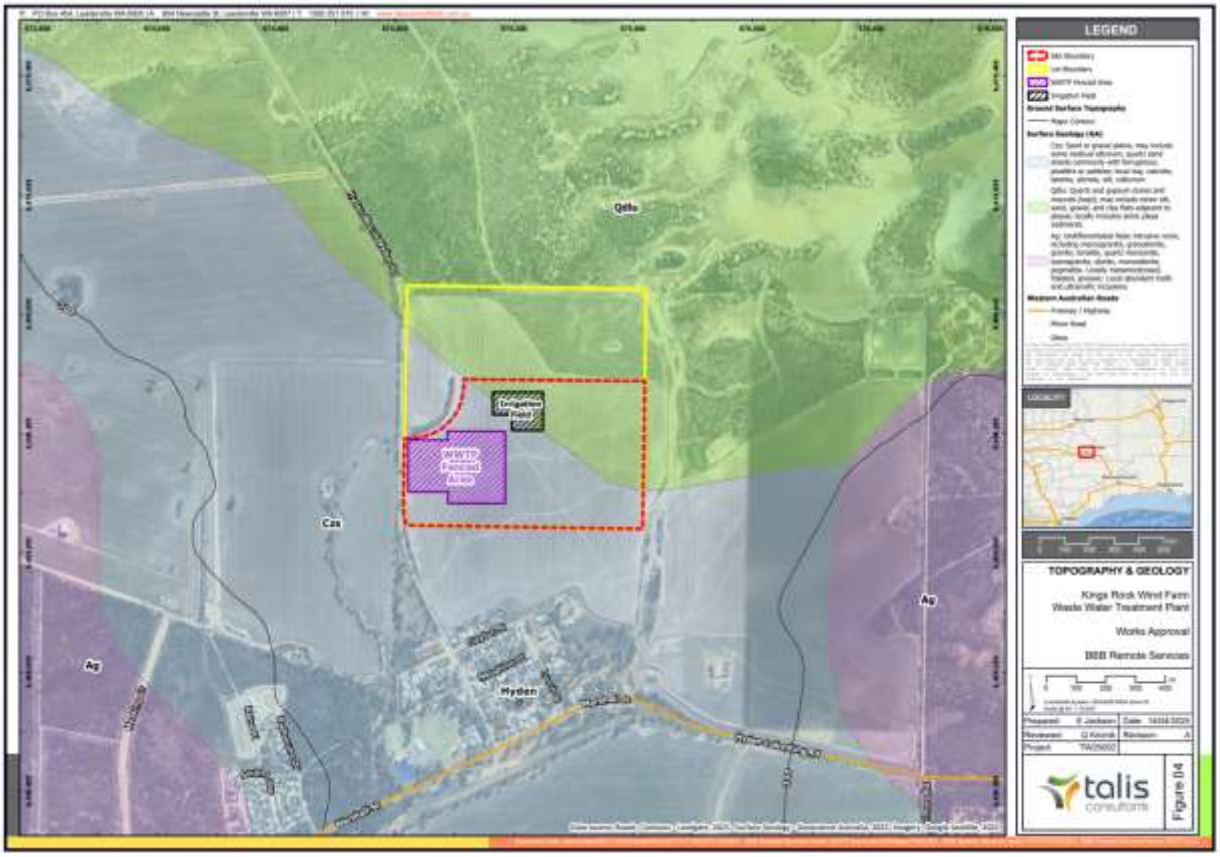

Figure 1: Site topography and geology

Galt Geotechnics undertook a general site and soil evaluation for the proposed workers' accommodation camp in January 2025. *The Report on: Site and Soil Evaluation, Proposed Workers Camp Development, Lot 192 Hyden Mount Walker Road, Hyden WA*, prepared by Galt Geotechnics in relation to the site and soil evaluation, provides information on the subsurface conditions within the proposed irrigation area (shown as TP07 to TP09 in Figure 2). The soil profile in the proposed irrigation area is as follows:

- 0.1 m thick topsoil layer; overlying
- Clayey sand/sandy clay, extending to depths of 1.0 m to 1.5 m; overlying
- Clay/sandy clay, extending beyond target depths of 2.5 to 3 m.

In TP08, a layer of clayey gravel was found from a depth of 0.5 m to 1.0 m.

PRI testing indicated that in-situ soils have adequate capacity to remove nutrients, and no soil improvement is therefore required. Irrigation dripper pipework is to be installed 100-150 mm into

a good quality top-soil, rich in humus (Galt Geotechnics, 2025).

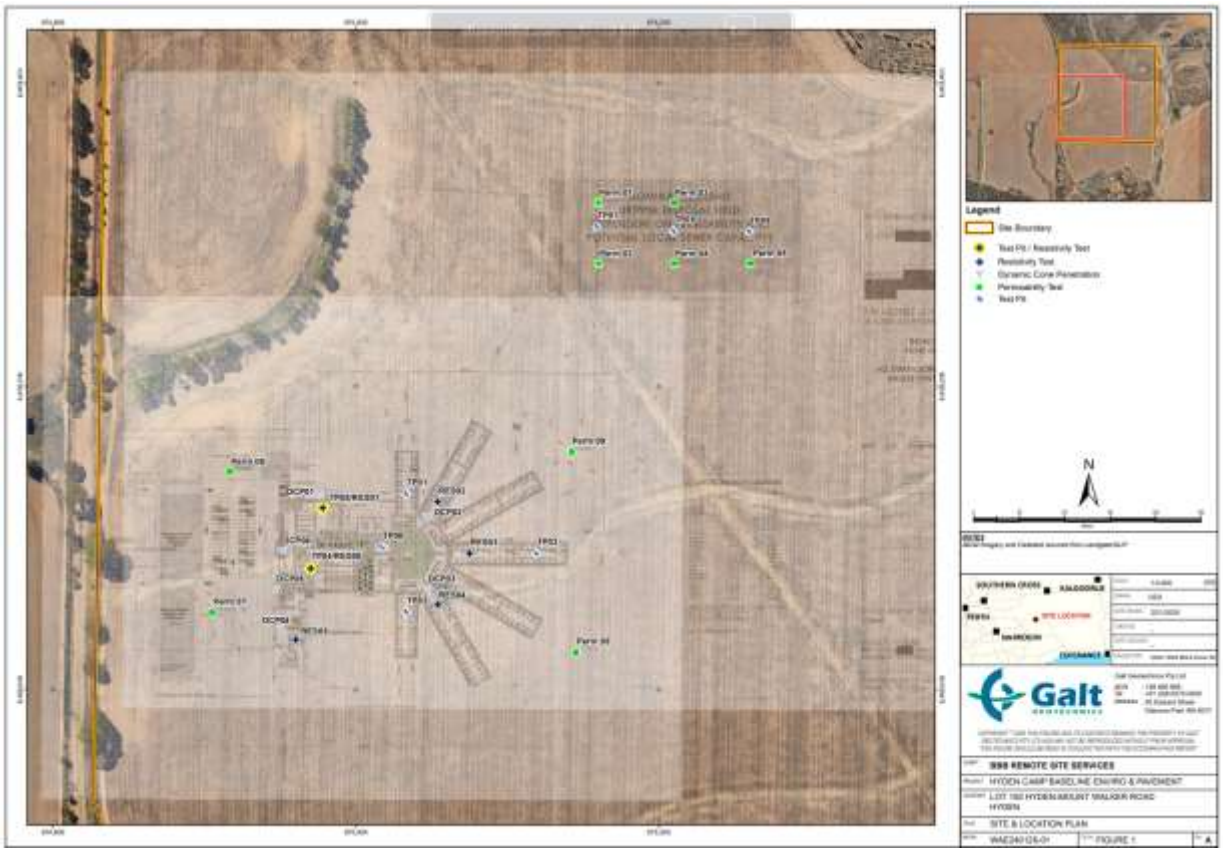

Figure 2: Soil testing locations

2.5 Hydrogeology and hydrology

Groundwater at the site is contained within a fractured rock aquifer in weathered granite. Groundwater has been observed across the site at depths between 2.3 m and 2.9 m, with the possibility of perched water near the surface after rainfall (Galt Geotechnics, 2025). Groundwater generally follows the land contours and is expected to flow slowly towards the north until it reaches the salt lake system of the Camm River, apart from the non-perennial watercourse north-west of the property, which flows south towards Hyden townsite. The aquifer is likely to produce small amounts of saline groundwater, limiting its beneficial use.

The premises is situated within the Lockhart River Catchment, a sub-catchment of the Avon River Basin, which spans approximately 28,700 km^2 and is primarily used for agriculture. Lake Gounter Nature Reserve managed by the Department of Biodiversity, Conservation and Attractions (DBCA), is situated approximately 280 m north of the site.

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 2 below. Table 2 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 2: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Vehicle/machinery movements on unsealed roads. Installation of WWTP and irrigation field infrastructure	Air / windborne pathway	• Vehicles must maintain a maximum speed of 20 km/hr unless otherwise posted; • A water cart will be utilised on unsealed roads, stockpiles and other operations as deemed necessary during construction works; and • All works will cease during periods of strong winds.
Noise			• All equipment and machinery will be maintained in good working condition. • All vehicles accessing the site will use designated access roadways. • The operation of equipment and machinery during construction will be restricted to operational hours only. • Vehicles will be restricted to a maximum speed of 20 km/hr at the site.
Operation			
Noise and vibration	Operation of WWTP or sludge removal	Air and ground pathway	• All equipment and machinery will be maintained in good working condition. • All vehicles accessing the site will use designated access roadways. • If required, plant and equipment shall be fitted with appropriate acoustic treatment (i.e., silencers. • Vehicles will be restricted to a maximum speed of 20 km/hr at the site.

Emission	Sources	Potential pathways	Proposed controls
Odour		Air / windborne pathway	• Any desludging operations will be limited to a brief period on a regular, scheduled basis. • The WWTP will undergo regular monitoring and maintenance to ensure optimal operation, especially during anaerobic conditions. • A stakeholder engagement log (i.e., complaints register) will be maintained to ensure that the community can express their comments or concerns; and • Odour levels across the WWTP will be monitored by staff.
Discharge of contaminated/potentially contaminated stormwater into the environment Discharge of waste to land Leachate	Leaks or spills of wastewater or sludge from tanks or pipelines from the WWTP during commissioning and operations	overflow to the environment and infiltration to soil and groundwater	• The WWTP will be surrounded by adequate containment infrastructure. • The final levels around the site's WWTP system ensure that stormwater run-off flows away. • All stormwater engineering features will be inspected regularly, and maintenance works scheduled appropriately. • Monitoring of meteorological conditions (i.e., storm events)
Low quality treated wastewater containing contaminants (e.g. nutrients, pathogens, heavy metals) Treated wastewater containing contaminants (e.g. nutrients, pathogens, heavy metals)	Discharge of treated wastewater to the WWTP irrigation area	Subsurface seepage	• Wastewater will be treated to 'low exposure risk level' effluent in the DOH Guidelines
Chemical spill	Leaks or spills of chlorine	Subsurface seepage	• The WWTP will be surrounded by adequate containment infrastructure.

Emission	Sources	Potential pathways	Proposed controls
Smoke	Upset conditions (fire)	Air/windborne pathway	• Fire breaks will be established and maintained between the site boundary and surrounding areas. • Smoking will be restricted on site. • All equipment, plant, vehicles, and machinery will be regularly maintained. • Pre-start checks will be conducted on all vehicles and machinery. • Fire suppression equipment will undergo regular testing. • Staff will receive induction and training on fire risks, mitigation measures, and response capability. • A perimeter fence will be installed around the site and monitored and maintained. • Access gates and buildings will be locked securely outside of operational hours.
Embers			
Fire-fighting wash water		Overflow to the environment and infiltration to soil and groundwater	Nil provided

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 3 and Figure 3 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 3: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	**Distance from prescribed activity**
Residential Premises	Appx. 260 m south of the prescribed premises boundary, 440 m south of WWTP and 625 m south of irrigation area
Residential Premises	Appx. 680 m south-west of the prescribed premises boundary
Environmental receptors	**Distance from prescribed activity**
Native vegetation Threatened and Priority Flora	Appx. 1.8 km east of the prescribed premises boundary
Threatened Fauna	Sightings appx. 690 m south of prescribed premises boundary
Lake Gounter Nature Reserve	Appx. 280 m north of the prescribed premises boundary
Underlying groundwater (non- potable purposes) Salinity 14000-35000 mg/L	2.3-2.9 mbgl There is a potential for perched water near the surface following rainfall
Minor perennial watercourse	Adjoining north-western premises boundary Greater than 100m from proposed WWTP or irrigation area Flows southerly to the Hyden townsite
Surface water body (Lake Gounter)	Appx. 3.8 km north-west of prescribed premises boundary
Gamm River	Appx. 930 m north-east of prescribed premises boundary
TECs/PECs Priority 3 TEC	Appx. 280 m north, 880 m east, 680 m south-west, and 290 m south of prescribed premises boundary
Cultural receptors	**Distance from prescribed activity**
Aboriginal heritage sites (Wave Rock, Wave Rock Scarred Tree, and Hyden Rock)	Appx. 2.2 km east of prescribed premises boundary.

Figure 3: Distance to sensitive receptors

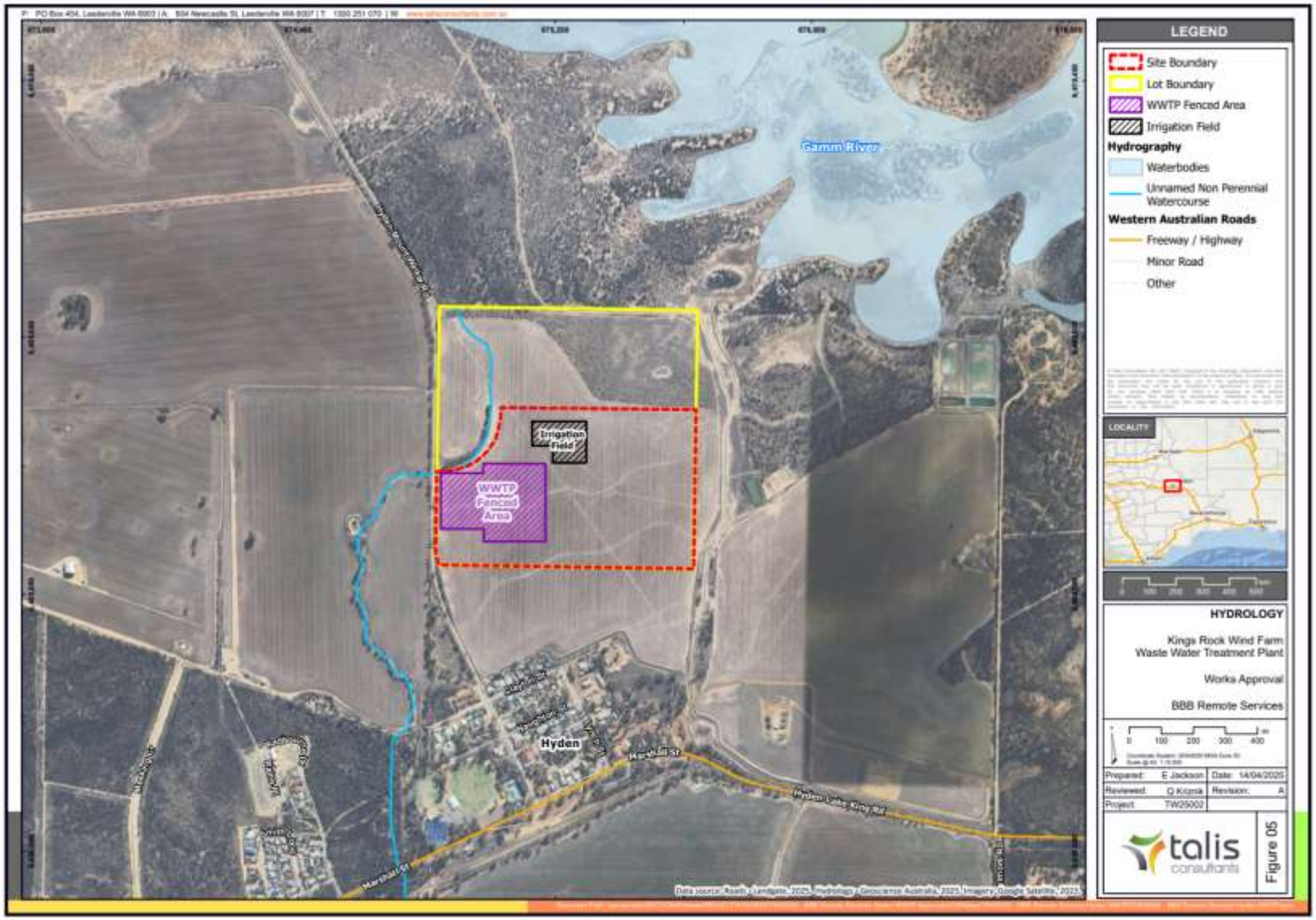

Figure 4: Distance to sensitive receptors (surface water)

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 4.

Works approval W2949/2025/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 4 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A 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. A risk assessment for the operational phase has been included in this decision report.

The conditions in the issued licence, as outlined in Table 4 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 4: 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								
Vehicle/machinery movements on unsealed roads. Installation of WWTP and irrigation field infrastructure	Dust	**Pathway:** Air/windborne pathway **Impact:** Health and amenity	Residential premises appx. 260 m south and 680 m south-west of the prescribed premises boundary	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Condition 2	N/A
	Noise			Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	N/A	Noise emissions are required to comply with the *Environmental Protection (Noise) Regulations 1997*
Commissioning and Operation **(including time-limited-operations operations)**								
Operation of WWTP or sludge removal	Noise and vibration	**Pathway:** Air and ground pathway **Impact:** Health and amenity	Residential premises appx. 260 m south and 680 m south-west of the prescribed premises boundary	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	Condition 1	Noise emissions are required to comply with the *Environmental Protection (Noise) Regulations 1997*
	Odour	**Pathway:** Air/windborne pathway **Impact:** Health and amenity	Residential premises appx. 260 m south and 680 m south-west of the prescribed premises boundary	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Conditions 1, 7, 8, 9, 16, 7, 18, 19	N/A
Leaks or spills of wastewater or sludge from tanks or pipelines from the WWTP during commissioning and operation	Discharge of contaminated/potentially contaminated stormwater into the environment Discharge of waste to land Leachate	**Pathway:** overland flow or seepage through soil to groundwater or to down-gradient water bodies **Impact:** contamination of soil and degradation of groundwater or surface water quality	Beneficial users of groundwater Minor surface watercourse adjacent to prescribed premises boundary Gamm River	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	Condition 1, 7, 16	N/A
Discharge of treated wastewater to the WWTP irrigation area	Treated wastewater containing contaminants (e.g. nutrients, pathogens, heavy metals) Low quality treated wastewater containing contaminants (e.g. nutrients, pathogens, heavy metals)	**Pathway:** seepage through soil to groundwater or to down-gradient water bodies **Impact:** contamination of soil and degradation of groundwater or surface water quality	Beneficial users of groundwater Minor surface watercourse adjacent to prescribed premises boundary Gamm River	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Condition 1, 7, 8, 9, 16, 17, 18, 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**				
Leaks or spills of chlorine	Chemical spill	**Pathway:** seepage through soil to groundwater or to down-gradient water bodies **Impact:** ecosystem disturbance or degradation to groundwater quality	Beneficial users of groundwater Minor surface watercourse adjacent to prescribed premises boundary Gamm River	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	Condition 1 **Conditions 7, 16**	The Delegated Officer considers it necessary that any spills outside of containment infrastructure need to be cleaned up immediately and this has been specified as a condition within the works approval
Upset conditions (fire)	Smoke	**Pathway:** Air/windborne pathway **Impact:** impacts to health and amenity and ecosystem disturbance	Residential premises appx. 260 m south and 680 m south-west of the prescribed premises boundary Fauna	Refer to Section 3.1	C = Major L = Rare **Medium Risk**	N	Condition 1 **<u>Condition 3</u>**	Due to the proximity of residential premises and the Lake Gounter Nature Reserve, the Delegated Officer considers it necessary for the works approval holder to have a Fire and Emergency Management Plan in Place. This has been included as a requirement within the works approval.
	Embers		Residential premises appx. 260 m south and 680 m south-west of the prescribed premises boundary Fauna Lake Gounter Nature Reserve Threatened Ecological Communities	Refer to Section 3.1	C = Severe L = Rare **High Risk**	N	Condition 1 **<u>Condition 3</u>**	
	Fire-fighting wash water	**Pathway:** overflow to the environment and infiltration through soil to groundwater or to down-gradient water bodies **Impact:** ecosystem disturbance and degradation to groundwater or surface water quality	Beneficial users of groundwater Minor surface watercourse adjacent to prescribed premises boundary	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	N	Condition 1 **<u>Condition 3</u>**	

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. **<u>Bold and underline text</u>** depicts additional regulatory controls imposed by department.

4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 27 May 2025	None received	N/A
Local Government Authority advised of proposal on 27 May 2025	None received	N/A
Department of Planning, Lands and Heritage (DPLH) advised of proposal on 27 May 2025	Comments from DPLH were received on 23 June 2025. DPLH confirmed that the subject area does not intersect with any known Aboriginal Heritage Places or Registered sites. However, the subject area is in proximity to Aboriginal Registered Sites Wave Rock (21387), Wave Rock Scarred Tree (ID 4438) and Hyden Rock (ID 5840). The subject area is also in proximity to Aboriginal heritage Places Wave Rock Scarred Tree (ID 21384), Wave Rock Isolated Find (ID 21386) and Wave Rock Rockholes (ID 21385). DPLH noted that there had not been any surveys undertaken over the subject area and DPLH recommends BBB Catering Pty Ltd to contact Ballardong Aboriginal Corporation to request their comments. The granting of the works approval does not count as approval under the *Aboriginal Heritage Act 1972.*	It is the responsibility of the licence holder to ensure that they are compliant with the requirements of the *Aboriginal Heritage Act 1972* The licence holder should liaise with DPLH and BAC where required.
Department of Health (DOH) advised of proposal on the 27 May 2025	Comments were received from DOH on 19 June 2025. DOH has received and approved an Application to Construct or Install an Apparatus for the Treatment of Sewage for the WWTP and irrigation area for a maximum volume of 36620 L per day.	Noted.

Ballardong Aboriginal Corporation (BAC) advised of the proposal on 27 May 2025	Comments from BAC were received on 17 June 2025. BAC requested that two Ballardong Cultural Heritage Informants are present for monitoring of all initial ground disturbing works associated with the project. This includes but is not limited to: • Geotechnical investigations • Ground clearing and levelling • Boring and trenching for the installation of utilities.	It is the responsibility of the licence holder to ensure that they are compliant with the requirements of the *Aboriginal Heritage Act 1972.* The licence holder is encouraged to liaise with BAC regarding this request.
Department of Biodiversity, Conservation and Attractions (DBCA) advised of proposal on 23 June 2025	DBCA advised on 3 July 2025 that they had no comments on the application.	N/A
Applicant was provided with draft documents on 24 June 2025	The applicant requested for the comment period to be waived on 30 June 2025.	N/A

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. Australian and New Zealand Environment and Conservation Council (ANZECC) 1997, *Australian Guidelines for Sewerage systems, Effluent Management 1997,* National Water Quality Management Strategy, Canberra, ACT
2. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
3. Department of Health (DOH) 2024, *Guidelines for the non-potable uses of recycled water in Western Australia*, Perth, Western Australia
4. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
5. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
6. Galt Geotechnics 2025, *The Report on: Site and Soil Evaluation, Proposed Workers Camp Development, Lot 192 Hyden Mount Walker Road, Hyden WA*, Osborne Park, WA