



Application for Works Approval

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

Works Approval Number	W6480/2020/1
Applicant	Edna May Operations Pty Ltd
ACN	136 385 883
File Number	DER2020/000584
Premises	Edna May Treated Wastewater Disposal Area 772 Carrabin-Westonia Rd Lot 1523 on Deposited Plan 187255 Certificate of Title Volume 1987 Folio 491 As defined by the Premises maps attached to the issued works approval
Date of Report	10 May 2021
Proposed Decision	Works approval granted

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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 of the Premises. As a result of this assessment, Works Approval W6480/2020/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Decision Report, the department 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

The Edna May Village WWTP (L8811/2014/1) is owned and operated by Edna May Operations Pty Ltd. In 2019 the licence was amended to approve works in relation to the upgrade of the wastewater treatment plant (WWTP) from a submerged aerated filter (SAF) overflow system to a sequence batch reactor (SBR) overflow system. The upgrade of the wastewater treatment plant (WWTP) was to improve the treated effluent water quality that could have a beneficial end use and to meet requirements for discharges to land. This upgrade was completed in December 2019. The DoH approved the Recycled Water Scheme on 7th September 2020.

Under the DoH approval Edna May must have a secondary discharge area as a contingency. This secondary discharge area will only be used infrequently as a contingency if the recycled water is required to be redirected from the town oval for any reason.

On 16 November 2020, the applicant applied for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act) for a 1.25 ha secondary discharge area to receive a maximum of 20 – 30 kL/day of treated effluent during infrequent, short-term periods of emergency or non-standard operation of the Edna May Village WWTP licence L8811. During normal operations, effluent will be reused on the town oval in accordance with L8811

The Premises is owned by Edna May Operation Pty Ltd and is situated at the corner of the Carrabin-Westonia Road and Wolfram Street. The north eastern corner of the property is approximately 900m from the wastewater treatment plant which is approximately 1km from the township of Westonia.

The application is to undertake construction works for the installation of a pipeline connecting the Edna May village wastewater treatment plant irrigation tank to the reticulated sprinkler system located within Lot 1523 on Deposited Plan 187255, Carrabin-Westonia Rd, WESTONIA (**Premises**).

The application details that the eastern part of the property will be used for growing of sandalwood (*Santalum spicatum*). The area has been seeded with sandalwood seed for reseeded on mining tenements leased by Edna May Operations Pty Ltd.

The treated wastewater will be transferred through underground pipes and then will be discharged via irrigation sprinklers designed to prevent water from pooling.

The applicant has obtained approval from Shire of Westonia to utilise the road reserve along Wolfram Street from the WWTP to Edna discharge farm (Lot 1523) for the installation of a water pipeline.

The Premises relates to the category 85 and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in Works Approval W6480/2020/1. The infrastructure and equipment relating to the premises category

and any associated activities which the department has considered in line with *Guidance Statement: Risk Assessments* (DER 2017) are outlined in Works Approval W6480/2020/1.

Following construction, an application for a registration for the operation of the irrigation area under Part V of the EP Act is expected. As registrations do not include specific conditions, DWER is not able to include controls relating to the operational phase of this proposal at the discharge site. However, prior to commission of the secondary discharge area, an application for amendment of licence L8811 is expected to authorisation this change in operation of the WWTP and enable appropriate monitoring and regulatory control of discharge provided for reuse.

Approval under Part V of the EP Act does not negate the need for the Applicant to have all relevant approvals in place prior to construction works commencing at the Premises.

The Edna May Village WWTP is designed to treat effluent to a pre-determined quality prior to use in irrigation. Table 4 details the maximum concentrations of key wastewater contaminant indicators the WWTP is designed to achieve:

The proposed irrigation area is 1.25 ha of the eastern part of the property for growing sandalwood (*Santalum spicatum*) and consists of yellow deep sands and sandy gravel soil. The proposed nutrient application rates are detailed in Table 1 below.

Table 1: Nutrient application rates at the proposed irrigation area

Category	Nitrogen	Phosphorus
Expected effluent concentration (after treatment)	<10 mg/L	<3 mg/L
Expected discharge	41 kg/ha/year	12 kg/ha/year
Recommended nutrient loading rates under Water Quality Protection Note 22 for sandy and gravel soil*	180 kg/ha/year	20 kg/ha/year

* Based on "Water Quality Protection Note 22" – No surface water within 500 metres

Table 2: Application rates at proposed irrigation area

Application rates	
Max effluent volume	25,000 – 30,000 L/d
Irrigation area	1.25 ha
Pumping capacity	10-12m ³ / L/s
Duration of irrigation all stations	2.5 - 3 hrs

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 *Guidance Statement: Risk Assessments* (DER 2017).

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 3 below. Table 3 also details the proposed control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 3: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
<i>Dust</i>	<i>Placement of WWTP tanks Minor earthworks Vehicle movements</i>	<i>Air/windborne pathway</i>	<i>Land disturbance will be kept to the minimum necessary for construction works. During high winds, topsoil stripping activities will be restricted if dust cannot be adequately controlled. Construction areas will be maintained in a damp state.</i>
<i>Noise</i>		<i>Air/windborne pathway</i>	<i>All vehicles and plant equipment will be regularly maintained and serviced to ensure they are operating efficiently. Construction works will take place during daylight hours to avoid any disturbance.</i>
Operation			
<i>Odour</i>	<i>Discharge of waste water via sprinkler irrigation to land</i>	<i>Air/windborne pathway</i>	<i>The irrigation area will be maintained in accordance with the manufacturer's specifications. The sprinklers will be checked daily to ensure that the water is distributing evenly. Effluent discharge will be managed to allow effluent to infiltrate or evaporate and prevent surface ponding or runoff.</i>
<i>Leakages</i>	<i>Rupture of pipes resulting in sewage discharge to land-key contaminants include Nitrogen and Phosphorous</i>	<i>Direct discharge</i>	<i>Under the agreement should treated wastewater not meet required water quality standards, transportation of treated wastewater to the oval and the secondary discharge area will cease immediately; All pipelines will be buried; Buried pipes will be sign posted; Pipelines will include daily visual inspections when the discharge is occurring; Monitor treated water quality at outlet pipe from WWTP.</i>

Emission	Sources	Potential pathways	Proposed controls
Treated effluent	Effluent from the WWTP discharged at the irrigation spray field area	Direct discharge	<p>Should treated wastewater not meet required water quality standards, irrigation to the oval and secondary discharge area will cease immediately.</p> <p>Monitor treated effluent water quality at outlet pipe from WWTP.</p> <p>This secondary discharge area will only be used if the recycled water is required to be redirected from the town oval for any reason.</p> <p>The treatment of effluent for the re-use for irrigation is regulated by the Department of Health under the Health Act 1911 via a Recycled Water Scheme Approval (Approval Number: E28/WS000).</p>

3.1.2 Monitoring of treated effluent

The Applicant has advised that monitoring of the will ensure the treated effluent will meet the specifications as outlined in Table 4 below.

Table 4: WWTP Treated effluent specifications

Analyte	Units	Value
Biochemical Oxygen Demand (BOD)	mg/L	<10 ¹
Total Suspended Solids		<30 ¹
Total Nitrogen		<10 ²
Total Phosphorus		<3 ²
Chlorine residual		0.2 – 2 ¹
pH	-	6.5 – 8.5 ¹
E. Coli	cfu/100 mL	< 10 ¹

Note 1: Guidelines for Non-potable uses of recycled Water in Western Australia 2011, Department of Health

Note 2: WQPN 22

3.1.3 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), the Delegated Officer has excluded employees, visitors and contractors of the applicant's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 55 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 (*Guidance Statement: Environmental Siting* (DER 2016)).

Table 5: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Privately owned broadacre agricultural farmland	To the south, approximately 50m from the boundary of this land
The Westonia Caravan park	Approximately 1km from Edna discharge farm
Edna May Accommodation Village WWTP	Approximately 1km from Edna discharge farm
Westonia oval	Approximately 1.3 km from the discharge
Environmental receptors	Distance from prescribed activity
Lake Campion	Approximately 25 km from the discharge farm
Lake Mount Brown	Approximately 50 km from the discharge farm
Groundwater	Depth to groundwater encountered at approximately 28m to 40m below ground level

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 2017) 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.

For emissions linked to public health risk, risk ratings have been determined based on the assumption that approval from the Department of Health has been granted prior to the construction of the WWTP.

Works Approval W6480/2020/1 that accompanies this Decision Report authorises construction only. The conditions in the issued Works Approval, as outlined in Table 66 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A registration is required 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 registration will not be finalised until the department assesses the registration application.

Table 6: Risk assessment of potential emissions and discharges from the Premises during construction and operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Excavation works for pipeline construction	Dust	Air/windborne pathway causing impacts to health and amenity	Privately owned farmland adjacent to the discharge farm. Westonia Caravan Park and Edna May accommodation village in proximity.	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	None required - The Delegated Officer considers impacts from dust emissions are unlikely but can be regulated under s49 of the EP Act. No further risk assessment is required.	N/A
	Noise			Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	None required - The Delegated Officer considers that if any noise impacts arise, management under the Environmental Protection (Noise) Regulations 1997 will be adequate. No further risk assessment is required.	N/A
Operation (Operational Premises subject to Registration which is not subject to specific conditions)								
Irrigation - Transportation and discharge of treated effluent wastewater	Odour	Air/windborne pathway causing impacts to health and amenity	Privately owned farmland adjacent to the discharge farm. Westonia Caravan Park and Edna May accommodation village in proximity.	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	None required - The Delegated Officer considers odour impacts are unlikely and that any emissions can be regulated under s49 of the EP Act. No further risk assessment is required.	N/A
	Treated effluent discharge outside of irrigation area from over irrigation, rupture	Overland flow potentially impacting health of adjacent vegetation via	Soil and vegetation adjacent to discharge area	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 1 specifies the location and infrastructure requirements for the establishment of the secondary discharge area	The Delegated Officer considers that given the expected infrequent usage of the

Risk Event					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	<i>of pipes resulting in treated effluent discharge to land-key contaminants include Nitrogen and Phosphorous</i>	<i>waterlogging of soils and excess nutrients</i>					<i>including a <u>requirement in the construction stage to employ contouring or earthen bunding to ensure that runoff from the irrigation area does not occur</u></i>	<i>disposal area and low nutrient loading rates, the proposal represents a low risk to the environment. Addition control is added to ensure that runoff does not impact nearby nutrient-sensitive native vegetation.</i>
	<i>Treated effluent discharge containing human pathogens outside of irrigation area from over irrigation, rupture of pipes resulting</i>	<i>Overland flow to adjacent broad acre farm potentially contacting workers and causing health impacts</i>	<i>Workers and other human receptors,</i>	<i>Refer to Section 3.1</i>	<i>C = Slight L = Unlikely Low Risk</i>	<i>Y</i>	<i>Condition 1 includes a <u>requirement in the construction stage to employ contouring or earthen bunding to ensure that runoff from the irrigation area does not occur</u> <i>Although DWER is not able to place operational controls on a Registered premises, the Department of Health regulates public health impacts from the wastewater scheme. The Delegated Officer has reviewed the Department of Health approval for the reuse scheme and considers it appropriate for the regulation of public health impacts.</i></i>	<i>The Delegated Officer considers that the appropriate design and contouring of the irrigation area to reduce the likelihood of runoff will mitigate risks of exposure to possible human receptors.</i>

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 2017).

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

4. Consultation

Table 7 provides a summary of the consultation undertaken by the department.

Table 7: Consultation

Consultation method	Comments received	Department response
<i>Application advertised on the department's website on 07/01/2021</i>	<i>None received</i>	<i>N/A</i>
<i>Local Government Authority referred proposal on 19/01/2021</i>	<i>None received</i>	<i>N/A</i>
<i>Department of Health referred proposal on 19/01/2021</i>	<i>A response was received on 21 January 2021 advising that DoH has no objection to the Edna May Operations Pty Ltd application for works approval subject an updated application to construct or install an Apparatus for the Treatment of Sewage and Recycled Water Quality Management Plan, addressing amended location of the spray irrigation area being submitted for the Department's consideration.</i>	<i>Noted The Delegated Officer is aware that Approval under Part V of the EP Act does not negate the need for the applicant to have all relevant approvals in place prior to commencing the proposed installation works.</i>
<i>Applicant was provided with draft documents on 1 April 2021</i>	<i>No further comments on the draft Works Approval and asked to waive the remaining consultation period</i>	<i>Works Approval will be granted</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) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
2. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
3. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. DWER, 2019, *Industry Regulation Guide to Licensing*, Perth, Western Australia

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY					
Application type					
Works approval	<input checked="" type="checkbox"/>				
Licence	<input type="checkbox"/>	Relevant works approval number:	TBA	None	<input type="checkbox"/>
		Has the works approval been complied with?	Yes <input type="checkbox"/> No <input type="checkbox"/>		
		Has time limited operations under the works approval demonstrated acceptable operations?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>		
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?	Yes <input type="checkbox"/> No <input type="checkbox"/>		
		Date Report received:			
Renewal	<input type="checkbox"/>	Current licence number:			
Amendment to works approval	<input type="checkbox"/>	Current works approval number:			
Amendment to licence	<input type="checkbox"/>	Current licence number:			
		Relevant works approval number:		N/A	<input type="checkbox"/>
Registration	<input type="checkbox"/>	Current works approval number:		None	<input checked="" type="checkbox"/>
Date application received	16/11/2020				
Applicant and Premises details					
Applicant name/s (full legal name/s)	Edna May Operations Pty Ltd				
ACN	136385883				
Premises name	Edna May Village Wastewater Treatment Plant				
Premises location	Lot 772 WESTONIA WA 6423				
Local Government Authority	Shire of Westonia				
Application documents					
HPCM file reference number:	DER2020/000584				
Key application documents (additional to application form):	Supporting document Attachment 1A: Lease arrangement document for the WWTP				

	Attachment 1B: ASIC extract Attachment 1C: Certificate of registration Attachment 2: Premises and Infrastructure Map Attachment 3: Edna's Farm Discharge Area Proposal Attachment 3: DoH approval Attachment 4: Shire approval	
Scope of application/assessment		
Summary of proposal	The DoH approved the Recycled Water Scheme on the 7th September 2020. Under the DoH approval Edna May must have a secondary discharge area as a contingency. This secondary discharge area will only be used if the recycled water is required to be redirected from the town oval for any reason.	
Category number/s (activities that cause the premises to become prescribed premises)		
Table 1: Prescribed premises categories		
Prescribed premises category and description	Production or design capacity (Assessed – existing licence)	Proposed changes to the production or design capacity (amendments only)
Category 85	Existing licence – not more than 30 cubic metres per day	NA
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: N/A 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: N/A EPA Report No: N/A
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No: N/A
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Mining lease / tenement <input type="checkbox"/> Will be requested from the applicant
Has the applicant obtained all relevant planning approvals?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Approval letter from Shire of Westonia

Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Valid permit applies -
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"/>	Application reference No: N/A Licence/permit No: N/A
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"/>	Name: Type: Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office:
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: N/A Are the proposed activities/landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004</i> , <i>Environmental Protection (Controlled Waste) Regulations 2004</i> , <i>State Agreement Act xxxx</i>)	Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	<i>Environmental Protection (Unauthorised Discharges Regulations 2004</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
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"/>	Classification: N/A – not listed in DWERS Geocortex viewer Date of classification: N/A