



<b>Works approval number</b>	W6448/2020/1
<b>Works approval holder</b>	Water Corporation
<b>ACN</b>	28 003 434 917
<b>Registered business address</b>	629 Newcastle Street LEEDERVILLE WA 6007
<b>DWER file number</b>	DER2020/000280
<b>Duration</b>	11/12/2020 to 10/12/2025
<b>Date of issue</b>	11/12/2020
<b>Premises details</b>	Narrogin Wastewater Treatment Plant Legal description – Lots 698, 699, 704, 705 and 1156 on Plan 222899 Crown Reserve 26458 NARROGIN WA 6312 and Lot 2001 on Plan 67196 NARROGIN VALLEY WA 6312

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i> )	Assessed design capacity
Category 54: Sewage facility	1800 m <sup>3</sup> per day

This works approval is granted to the works approval holder, subject to the attached conditions, on 11 December 2020, by:

**MANAGER WASTE INDUSTRIES  
REGULATORY SERVICES**

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

## Works approval history

Date	Reference number	Summary of changes
11/12/2020	W6448/2020/1	Works approval granted.

## Interpretation

In this works approval:

- (a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a condition, each row in a table constitutes a separate condition;
- (d) any reference to an Australian or other standard, guideline, or code of practice in this works approval:
  - (i) if dated, refers to that particular version; and
  - (ii) if not dated, refers to the latest version and therefore may be subject to change over time;
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and
- (f) unless specified otherwise, all definitions are in accordance with the EP Act.

**NOTE:** This works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

# Works approval conditions

The works approval holder must ensure that the following conditions are complied with:

## Construction phase

### Infrastructure and equipment

1. The works approval holder must:
  - (a) install the infrastructure;
  - (b) in accordance with the corresponding design and installation requirements; and
  - (c) at the corresponding infrastructure location, as set out in Table 1.

**Table 1: Design and installation requirements**

	Infrastructure	Design and installation requirements	Infrastructure location
1.	Automatic flushing screen filter	120 micron automatic flushing screen filter to be installed on the existing pressure main.	New Filter (adjacent to the Trickling Filter) in Figure 2 of Schedule 1
2.	Pressure main	Returns backwash from the automatic flushing screen filter to the geobags in the Geobag Area.	N/A
3.	Two filter feed pumps in Pond 2 outlet sump	High pressure duty assist pumps replacing existing filter feed pumps in Pond 2 outlet sump.	N/A
4.	Electrical, instrumentation and supervisory control and data acquisition (SCADA) infrastructure associated with the automatic flushing screen and pressure main.	N/A	N/A
5.	Humus tank bypass pipe	Connect bypass pipe to allow decommissioning of both humus tanks.	N/A
6.	Emergency overflow pipework	Pipework from the baffled intake in the north-east corner of Pond 2 to the Treatment Wetland Cells 1 and 2 with a distributor arrangement (pipes with orifice discharge holes).	Overflow Pipework in Figure 2 of Schedule 1
7.	Odour control unit	Air is extracted from the Inlet Works and passed through the biofiltration system and activated carbon polishing filter.  Contains an induced draft fan to create negative pressure in the biofiltration system.	Odour Control Unit in Figure 2 of Schedule 1

	Infrastructure	Design and installation requirements	Infrastructure location
		Contains a vented 3 m stack to the atmosphere.	
8.	Storage dam liner	<p>2mm high-density polyethylene (HDPE) geomembrane, exhibiting the following properties:</p> <ul style="list-style-type: none"> <li>(a) Average thickness: 2.0mm</li> <li>(b) Minimum thickness: &gt;1.8mm</li> <li>(c) Hydraulic conductivity of less than <math>2 \times 10^{-10}</math> m/s.</li> <li>(d) Density: 09.4 g/cm<sup>3</sup></li> <li>(e) Tensile properties: <ul style="list-style-type: none"> <li>(i) break strength: 58 kN/m</li> <li>(ii) yield strength: 29 kN/m</li> <li>(iii) yield elongation: 13 %</li> <li>(iv) break elongation: 700 %</li> </ul> </li> <li>(f) Tear resistance: <math>\geq 254</math> N</li> <li>(g) Puncture resistance: <math>\geq 704</math> N</li> <li>(h) Carbon Black content: 2-3 %</li> <li>(i) Carbon black dispersion: 1-2 Cat</li> </ul>	Storage Dam in Figure 2 of Schedule 1

### Compliance reporting

2. The works approval holder must within 30 calendar days of an item of infrastructure required by condition 1 being installed:
  - (a) undertake an audit of their compliance with the requirements of condition 1; and
  - (b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.
3. The Environmental Compliance Report required by condition 2, must include as a minimum the following:
  - (a) certification by a suitably qualified civil engineer that the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;
  - (b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1;
  - (c) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person; and
  - (d) is accompanied by a construction quality assurance report that:
    - (i) is written and certified by a suitably qualified geotechnical engineer who has undertaken construction quality assurance on the completed works for the storage dam liner (Table 1, item 8); and
    - (ii) confirms the quality assurance measures employed through the construction and installation process of the storage dam liner (Table 1, item 8), including confirming manufacturing requirements (as specified by the supplier of the geosynthetic material) and details and evidence of conformance testing works (to demonstrate that the materials meet the minimum requirements outlined for item 8 in Table 1).

## Environmental commissioning phase

### Environmental commissioning requirements and emission limits

4. The works approval holder may only commence environmental commissioning of an item of infrastructure listed in condition 5 once the Environmental Compliance Report has been submitted for that item of infrastructure in accordance with condition 2 and 3 of this works approval.
5. Any environmental commissioning activities undertaken for an item of infrastructure specified in Table 2 may only be carried out:
  - (a) in accordance with the corresponding commissioning requirements; and
  - (b) for the corresponding authorised commissioning duration.

**Table 2: Environmental commissioning requirements**

Infrastructure	Commissioning requirements	Authorised commissioning duration
Automatic flushing screen filter	N/A	For a period not exceeding 90 calendar days in aggregate.
Pressure main	N/A	
Two filter feed pumps in Pond 2 outlet sump	N/A	
Electrical, instrumentation and supervisory control and data acquisition (SCADA) infrastructure associated with the automatic flushing screen and pressure main.	N/A	
Odour control unit	N/A	
Storage dam liner	Perform a 7-day hydrostatic leak test in accordance with the Pond Hydrostatic Inspection Test Procedure.	

6. During environmental commissioning, the works approval holder must ensure that the emission(s) specified in Table 3, are discharged only from the corresponding discharge point(s) and only at the corresponding discharge point location(s).

**Table 3: Authorised discharge points during commissioning**

	Emission	Discharge point	Discharge point location
1.	Air extracted from the Inlet Works	Odour control unit stack	Odour Control Unit in Figure 2 of Schedule 1

## Monitoring during environmental commissioning

7. The works approval holder must monitor process parameters and emissions during environmental commissioning in accordance with Table 4.

**Table 4: Monitoring during environmental commissioning**

Discharge point	Monitoring location	Parameter	Frequency	Unit
N/A	Biofilter media	Temperature	Continuous for 7 day performance period	Degrees Celsius (°C)
N/A	Biofilter media	Relative humidity	Daily until relative humidity of between 60%-90% is achieved	Percentage (%)
			Once during final performance check	
N/A	Gas tight housings in the inlet ductwork	H <sub>2</sub> S	Continuous for 7 day performance period	ppm
Odour unit outlet	Gas tight housings in the outlet ductwork	H <sub>2</sub> S	Continuous for 7 day performance period	ppm

8. The works approval holder must record the results of all monitoring activity required by condition 7.

## Commissioning reporting

9. The works approval holder must submit to the CEO an Environmental Commissioning Report within 30 calendar days of the completion date of environmental commissioning for each item of infrastructure specified in Table 2.
10. The works approval holder must ensure the Environmental Commissioning Report required by condition 9 of this works approval includes the following:
- a summary of the environmental commissioning activities undertaken;
  - the monitoring results recorded in accordance with condition 7 and 8;
  - a summary of the environmental performance of each item of infrastructure or equipment as installed, which includes records detailing the results of the hydrostatic leak test performed for the storage dam liner;
  - a review of the works approval holder's performance and compliance against the conditions of this works approval; and
  - where they have not been met, measures proposed to meet the manufacturer's design specifications and the conditions of this works approval, together with timeframes for implementing the proposed measures.

## Time limited operations phase

### Commencement and duration

11. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 13:
- (a) where the item of infrastructure is not authorised to undertake environmental commissioning, the Environmental Compliance Report as required by condition 2 has been submitted by the works approval holder for that item of infrastructure; and
  - (b) where the item of infrastructure is authorised to undertake environmental commissioning under condition 5, the Environmental Commissioning Report for that item of infrastructure as required by condition 9 and 10 has been submitted by the works approval holder.
12. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 13 (as applicable):
- (a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 11 for that item of infrastructure; or
  - (b) until such time as a licence for that item of infrastructure is granted in accordance with Part V of the *Environmental Protection Act 1986*.

### Time limited operations requirements and emission limits

13. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 5 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 5.

**Table 5:** Infrastructure and equipment requirements during time limited operations

	Site infrastructure and equipment	Operational requirement	Infrastructure location
1.	Automatic flushing screen filter	N/A	New Filter (adjacent to the Tricking Filter) in Figure 2 of Schedule 1
2.	Pressure main	N/A	
3.	Two filter feed pumps in Pond 2 outlet sump	N/A	
4.	Electrical, instrumentation and supervisory control and data acquisition (SCADA) infrastructure associated with the automatic flushing screen and pressure main.	N/A	
5.	Odour control unit	Air is extracted from the Inlet Works and passed through the biofiltration system and activated carbon polishing filter.	Odour Control Unit in Figure 2 of Schedule 1

14. During time limited operations, the works approval holder must ensure that the emission(s) specified in Table 6, are discharged only from the corresponding discharge point(s) and only at the corresponding discharge point location(s).

**Table 6: Authorised discharge points**

	Emission	Discharge point	Discharge point location
1.	Air extracted from the Inlet Works	Odour control unit stack	Odour Control Unit in Figure 2 of Schedule 1

### Monitoring during time limited operations

15. The works approval holder must monitor process parameters and emissions during time limited operations in accordance with Table 7.

**Table 7: Monitoring during time limited operations**

Discharge point	Monitoring location	Parameter	Frequency	Unit	Method
N/A	Biofilter media	Temperature	Quarterly	Degrees Celsius (°C)	Standard Work Instruction – Odour Control System - Biofilter Maintenance
N/A	Biofilter media	Relative humidity	Quarterly	Percentage (%)	
N/A	Gas tight housings in the inlet ductwork	H <sub>2</sub> S	Quarterly	ppm	
Odour unit outlet	Gas tight housings in the outlet ductwork	H <sub>2</sub> S	Quarterly	ppm	

16. The works approval holder must ensure that monitoring is undertaken in each quarterly period such that there are at least 45 days in between the days on which measurements are taken in successive quarters.
17. The works approval holder must record the results of all monitoring activity required by condition 15.

### Compliance reporting

18. The works approval holder must submit to the CEO a report on the time limited operations within 60 calendar days of the completion date of time limited operations or 30 calendar days before the expiration date of the works approval, whichever is the sooner.



- 19.** The works approval holder must ensure the report required by condition 18 includes the following:
- (a) a summary of the time limited operations;
  - (b) a summary of monitoring parameter results obtained during time limited operations under condition 15;
  - (c) a summary of the environmental performance of all infrastructure as installed,
  - (d) a review of performance and compliance against the conditions of the works approval and the Environmental Commissioning Report; and
  - (e) where the manufacturer's design specifications and the conditions of this works approval have not been met, what measures will the works approval holder take to meet them, and what timeframes will be required to implement those measures.

## Records and reporting (general)

- 20.** The works approval holder must record the following information in relation to complaints received by the works approval holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:
- (a) the name and contact details of the complainant, (if provided);
  - (b) the time and date of the complaint;
  - (c) the complete details of the complaint and any other concerns or other issues raised; and
  - (d) the complete details and dates of any action taken by the works approval holder to investigate or respond to any complaint.
- 21.** The works approval holder must maintain accurate and auditable books including the following records, information, reports, and data required by this works approval:
- (a) the works conducted in accordance with condition 1;
  - (b) any maintenance of infrastructure that is performed in the course of complying with condition 13;
  - (c) monitoring programmes undertaken in accordance with conditions 7 and 15; and
  - (d) complaints received under condition 20.
- 22.** The books specified under condition 21 must:
- (a) be legible;
  - (b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;
  - (c) be retained by the works approval holder for the duration of the works approval; and
  - (d) be available to be produced to an inspector or the CEO as required.

## Definitions

In this works approval, the terms in Table 8 have the meanings defined.

**Table 8: Definitions**

Term	Definition
books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 <a href="mailto:info@dwer.wa.gov.au">info@dwer.wa.gov.au</a>
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V Division 3 of the EP Act.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
environmental commissioning	means the sequence of activities to be undertaken to test equipment integrity and operation, or to determine the environmental performance, of equipment and infrastructure to establish or test a steady state operation and confirm design specifications.
Environmental Commissioning Report	means a report on any commissioning activities that have taken place and a demonstration that they have concluded, with focus on emissions and discharges, waste containment, and other environmental factors.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and/or equipment has been constructed and/or installed in accordance with the works approval.
EP Act	<i>Environmental Protection Act 1986</i> (WA).
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA).
H <sub>2</sub> S	means hydrogen sulfide
Pond Hydrostatic Inspection Test Procedure	means the document <i>Pond Hydrostatic Inspection Test Procedure</i> , provided to the Department by Water Corporation on 8 December 2020 (record number reference DWERDT388253).
ppm	means parts per million

Term	Definition
premises	the premises to which this licence applies, as specified at the front of this licence and as shown on the premises boundary map Figure 1 in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
Quarterly	means the four inclusive periods from 1 January to 31 March, 1 April to 30 June, 1 July to 31 September, and 1 October to 31 December in the same year.
Standard Work Instruction – Odour Control System - Biofilter Maintenance	means the document <i>Standard Work Instruction – Odour Control System - Biofilter Maintenance</i> , Water Corporation (record number reference DWERDT388253).
Suitably qualified geotechnical engineer	means a person who: <ul style="list-style-type: none"> <li>a) holds a Bachelor of Engineering recognised by the Institute of Engineers; and</li> <li>b) has a minimum of five years of experience working in a supervisory area of geotechnical engineering; and</li> <li>c) is employed by an independent third party external to the works approval holder.</li> </ul>
Suitably qualified civil engineer	means a person who: <ul style="list-style-type: none"> <li>a) holds a Bachelor of Engineering recognised by the Institute of Engineers; and</li> <li>b) has a minimum of five years of experience working in a supervisory area of civil or structural engineering; and</li> <li>c) is employed by an independent third party external to the works approval holder.</li> </ul>
time limited operations	refers to the operation of the infrastructure and equipment identified under this works approval that is authorised for that purpose, subject to the relevant conditions.
waste	has the same meaning given to that term under the EP Act.
works approval	refers to this document, which evidences the grant of the works approval by the CEO under section 54 of the EP Act, subject to the conditions.
works approval holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval.

**END OF CONDITIONS**

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# Schedule 1: Maps

## Premises boundary map

The boundary of the prescribed premises is shown in the map below (Figure 1).



Figure 1: Map of the boundary of the prescribed premises



Premises layout map

The layout of the Premises infrastructure is shown in the map below (Figure 2).

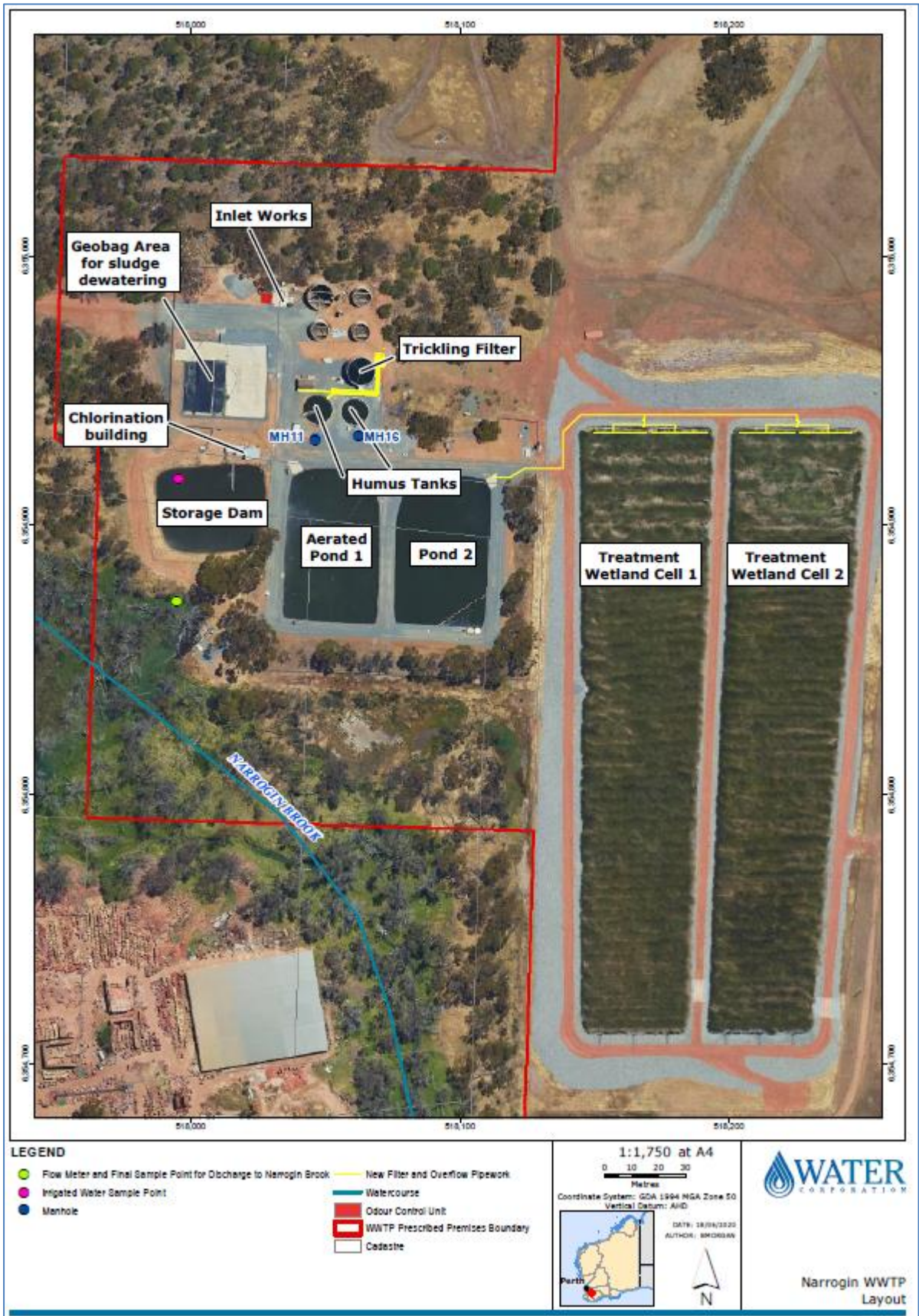


Figure 2: Map of the lay out infrastructure within the Premises (figure provided by Water Corporation)