



<b>Works approval number</b>	W6677/2022/1
<b>Works approval holder</b>	Water Corporation
<b>Registered business address</b>	629 Newcastle Street LEEDERVILLE WA 6007
<b>DWER file number</b>	DER2022/000168
<b>Duration</b>	27/10/2022 to 26/10/2027
<b>Date of issue</b>	27/10/2022
<b>Premises details</b>	East Rockingham Water Resource Recovery Facility  Lot 501 on Deposited Plan 61891 Chesterfield Road and Pipeline Outlet Corridor located on Lot 502 Vol 2733 Folio 845 Deposited Plan 61891 Patterson Road East Rockingham WA 6168.

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i> )	Assessed production or design capacity
Category 54: Sewage facility	30 ML per day (30,000 cubic metres per day)

This works approval is granted to the works approval holder, subject to the attached conditions, on 27 October 2022, by:

**MANAGER WASTE INDUSTRIES  
REGULATORY SERVICES**

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

## 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

### Construction Environmental Management Plan (CEMP)

1. The works approval holder must submit a Construction Environmental Management Plan (CEMP) to the CEO a minimum 30 working days prior to construction activities commencing.
2. The CEMP specified in condition 1 should include as a minimum:
  - (a) details of the potential sources of:
    - (i) noise emissions;
    - (ii) odour emissions; and
    - (iii) dust emissions;during the construction works; and
  - (b) provide mitigation and management measures to reduce and prevent the potential emissions listed under condition 2(a); and
  - (c) demonstrate how compliance with the *Environmental Protection (Noise) Regulations 1997* will be achieved.

### Infrastructure and equipment

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

**Table 1: Design, construction, installation and operational requirements**

	Infrastructure	Design, construction, installation and operational requirements	Infrastructure location
1.	Inlet works	<p><b><u>Design, construction and installation requirements:</u></b></p> <ul style="list-style-type: none"><li>- Modification of inlet works to provide access.</li><li>- Direct inlet flow to alternate channel to enable a single channel to be modified one at a time.</li></ul> <p><b><u>Operational requirements:</u></b></p> <ul style="list-style-type: none"><li>- Maintain the inlet works as specified in the design requirements above.</li></ul>	Within the existing site layout, Schedule 1, Figure 2.
2.	Upgrade to the existing Bioselector	<p><b><u>Design, construction and installation requirements:</u></b></p> <ul style="list-style-type: none"><li>- Installation of an additional submersible mixer in the final channel of the existing Bioselector along with a suitably rated lifting davit.</li><li>- Connect Bioselector into the process.</li></ul>	Within the existing site layout, Schedule 1, Figure 2.

	Infrastructure	Design, construction, installation and operational requirements	Infrastructure location
		<p><b><u>Operational requirements:</u></b></p> <ul style="list-style-type: none"> <li>- Maintain the submersible mixer as specified in the design requirements above.</li> </ul>	
3.	Sludge Screening facility	<p><b><u>Design, construction and installation requirements:</u></b></p> <ul style="list-style-type: none"> <li>- Installation of a sludge screening facility designed to screen Thickened Waste Activated Sludge (TWAS).</li> <li>- Installation of the sludge screening is to be downstream of the TWAS Pumps prior to the Sludge Blend Tank.</li> <li>- Odourous air from the TWAS sludge screen building is to be extracted directly from the chutes and directed to the existing odour treatment plant.</li> </ul> <p><b><u>Operational requirements:</u></b></p> <ul style="list-style-type: none"> <li>- Maintain the sludge screening facility as specified in the design requirements above.</li> <li>- Ensure odourous air from the TWAS sludge screen building is extracted directly from the chutes and directed to the existing odour treatment plant.</li> </ul>	Within the existing site layout, Schedule 1, Figure 2.
4.	Treated Waste Activated Sludge (TWAS) Pumps	<p><b><u>Design, construction and installation requirements:</u></b></p> <ul style="list-style-type: none"> <li>- Replacement of the existing TWAS pumps so they are capable of pumping sludge at a range of 3.5 - 5% Dry Solids (DS) concentration at a flow rate of 5 L/sec.</li> </ul> <p><b><u>Operational requirements:</u></b></p> <ul style="list-style-type: none"> <li>- Maintain the TWAS pumps as specified in the design requirements above.</li> </ul>	Within the existing site layout, Schedule 1, Figure 2.
5.	Waste Activated Sludge (WAS) Pumps	<p><b><u>Design, construction and installation requirements:</u></b></p> <ul style="list-style-type: none"> <li>- Installation of a third pump on the WAS pump station to the same capacity as existing pumps.</li> <li>- The WAS Pump station to be configured to feed DAFT Tanks No. 1 and No. 2.</li> </ul> <p><b><u>Operational requirements:</u></b></p> <ul style="list-style-type: none"> <li>- Maintain the WAS pumps as specified in the design requirements above.</li> </ul>	Within the existing site layout, Schedule 1, Figure 2.
6.	Dissolved Air Flotation Thickener (DAFT) Tank No.2	<p><b><u>Design, construction and installation requirements:</u></b></p> <ul style="list-style-type: none"> <li>- Installation of a second DAFT tank to provide adequate redundancy in the solids dewatering process.</li> <li>- The second DAFT Tank is to be a duplicate of the existing DAFT Tank and be constructed in reinforced concrete.</li> <li>- The design of the tank is to be compliant with AS3600 and AS3735.</li> </ul> <p><b><u>Operational requirements:</u></b></p>	Within the existing site layout, Schedule 1, Figure 2.

	Infrastructure	Design, construction, installation and operational requirements	Infrastructure location
		- Maintain the DAFT Tank No.2 as specified in the design requirements above.	
7.	Return Liquor Pipework	<p><b><u>Design, construction and installation requirements:</u></b></p> <ul style="list-style-type: none"> <li>- Re-route the return liquor delivery pipeline from the oxidation ditch to the Bioselector.</li> <li>- Existing redundant pipework below ground to be decommissioned and removed.</li> </ul> <p><b><u>Operational requirements:</u></b></p> <ul style="list-style-type: none"> <li>- Maintain the return liquor delivery pipeline as specified in the design requirements above.</li> </ul>	Within the existing site layout, Schedule 1, Figure 2.
8.	Reclaimed effluent system	<p><b><u>Design, construction and installation requirements:</u></b></p> <ul style="list-style-type: none"> <li>- Upgrade in size of the accumulator size.</li> <li>- Pipework to be upgraded to High Density Polyethylene (HDPE).</li> </ul> <p><b><u>Operational requirements:</u></b></p> <ul style="list-style-type: none"> <li>- Maintain the reclaimed effluent system as specified in the design requirements above.</li> </ul>	Within the existing site layout, Schedule 1, Figure 2.
9.	Final Effluent Pumping Station (FEPS)	<p><b><u>Design, construction and installation requirements:</u></b></p> <ul style="list-style-type: none"> <li>- Replacement of the two dry mounted submersible final effluent existing pumps and installation of a third pump to treat 30 ML/day inflow.</li> </ul> <p><b><u>Operational requirements:</u></b></p> <ul style="list-style-type: none"> <li>- Maintain the submersible final effluent pumps as specified in the design requirements above.</li> </ul>	Within the existing site layout, Schedule 1, Figure 2.

## Compliance reporting

4. The works approval holder must within 120 calendar days of the completion of all items of infrastructure or equipment required by condition 3 being constructed and/or installed:
  - (a) undertake an audit of their compliance with the requirements of condition 3; and
  - (b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.
  
5. The Environmental Compliance Report required by condition 5, must include as a minimum the following:
  - (a) certification by a suitably qualified engineer that the items of infrastructure or component(s) thereof, as specified in condition 3, have been constructed in accordance with the relevant requirements specified in condition 3;
  - (b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 3; and

- (c) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

## Environmental commissioning phase

6. The works approval holder may commence environmental commissioning of an item of infrastructure listed in condition 7 immediately following the completion of construction and/or installation of that item of infrastructure or equipment in accordance with the design, construction and installation requirements of condition 3 of this works approval.
7. 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
Inlet works	The existing treatment process must remain operational throughout the construction and commissioning of the new infrastructure.	For a period not exceeding 9 calendar month in aggregate.
Upgrade to the existing Bioselector		
Sludge screening facility		
Treated Waste Activated Sludge (TWAS) Pumps		
Waste Activated Sludge (WAS) Pumps		
Dissolved Air Flotation Thickener (DAFT) Tank No.2		
Return Liquor Pipework		
Reclaimed effluent system		
Final Effluent Pumping Station (FEPS)		

## Environmental Commissioning Report

8. The works approval holder must submit to the CEO an Environmental Commissioning Report within 60 calendar days of the completion date of environmental commissioning.

9. The works approval holder must ensure the Environmental Commissioning Report required by condition 8 of this works approval includes the following:
- (a) a summary of the environmental commissioning activities undertaken, including timeframes and volume of wastewater processed;
  - (b) a summary of the environmental performance of the infrastructure or equipment as constructed or installed, which at minimum includes records detailing the:
    - (i) environmental commissioning of the system;
    - (ii) testing the system; and
    - (iii) commissioning of the process control system;
  - (c) a review of the works approval holder's performance and compliance against the conditions of this works approval; and
  - (d) 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

10. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 3 where the Environmental Commissioning Report for that item of infrastructure as required by condition 8 and 9 has been submitted by the works approval holder.
11. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 12 (as applicable):
- (a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 10 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*, if one is granted before the end of the period specified in condition 11(a).

### Infrastructure and equipment

12. During time limited operations, the works approval holder must ensure that the site infrastructure and equipment listed in Table 1 (Condition 3) and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirements set out in Table 1.

### Monitoring during time limited operations

13. The works approval holder must retain the services of a suitably qualified person during time limited operations to:
- (a) Plan and implement a minimum of four odour field assessments (OFAs) which follow the plume measurement methodology as specified in the *DWER Guideline: Odour Emissions* and the *European Standard EN 16841-2 (plume method)*. OFAs are to be undertaken:

- (i) with the prime objective of characterising odour plume extents in the directions of receptors which are most likely to be impacted by odour;
- (ii) during meteorological and operational conditions most likely to cause impacts at these receptors;
- (iii) over a period of 180 days during time limited operations, and with each OFA conducted at least one month apart; and
- (b) compile and submit to the works approval holder within six weeks of completion of the last OFA field campaign, an OFA report in accordance with condition 13.

**14.** An OFA report prepared pursuant to condition 13 is to include:

- (a) the objective of the assessment;
- (b) a description of the measurement strategy, measurement conditions and the odour field survey standards that were followed;
- (c) the following details for each single measurement:
  - (i) odour intensity levels and odour characters;
  - (ii) location (GPS coordinates), date and time;
  - (iii) field survey odour panellist identification;
  - (iv) details of wastewater volumes accepted through the premises during the assessment period.
- (d) the following representative meteorological measurements as recorded during the measurement cycle:
  - (i) wind speed (metres per second);
  - (ii) wind direction;
  - (iii) cloud cover estimate;
  - (iv) temperature;
- (e) map(s) depicting the assessment area, odour sources at the premises and other potential odour sources (if relevant);
- (f) a graphical summary of field survey results showing the recorded odour intensity levels either as a percentage of total observations using pie charts if the stationary plume method was used or as coloured dot points if the dynamic plume method was used that will be superimposed at each point assessed on a map of the survey area;
- (g) any deviations from the conditions targeted in the OFA strategy and those occurring during the measurement (conclusions should reflect the influence of such deviations on the results); and
- (h) detailed analysis, interpretation and conclusions with regard to the objectives of the assessment.



- 15.** During time limited operations, the works approval holder must retain the services of a person qualified and experienced in the area of environmental noise assessment and who by their qualifications and experience is eligible to hold membership of the Australian Acoustical Society or the Australian Association of Acoustical Consultants to:
- (a) investigate the nature and extent of noise emissions from the premises;
  - (b) assess in accordance with the methodology required in the *Environmental Protection (Noise) Regulations 1997*, the compliance of the noise emissions from the primary activities, against the relevant assigned levels specified in those Regulations; and
  - (c) compile and submit to the works approval holder within five months of the commencement of time limited operations a report in accordance with condition 16.
- 16.** A report prepared pursuant to condition 15(c) is to include:
- (a) a description of the methods used for monitoring and/or modelling of noise emissions from the premises;
  - (b) details and the results of the investigation undertaken pursuant to condition 15(a);
  - (c) details and results of the assessment of the noise emissions from the premises, against the relevant assigned levels in the *Environmental Protection (Noise) Regulations 1997* undertaken pursuant to condition 15(b); and
  - (d) an assessment of noise levels against the most recent previous noise assessment.
- 17.** The licence holder must submit to the CEO the report prepared pursuant to condition 15(c) within 14 days of receiving it.
- 18.** Where an assessment pursuant to condition 15(b) indicates that noise emissions do not comply with the relevant assigned levels in the *Environmental Protection (Noise) Regulations 1997*, the license holder must:
- (a) within 60 days of receiving an assessment report pursuant to condition 15(c) prepare a plan to ensure the undertaking of the licensed activity will no longer lead to any contravention of the *Environmental Protection (Noise) Regulations 1997*; and
  - (b) provide to the CEO a copy of the plan prepared pursuant to condition 18(a) within 30 days of its preparation.

### Compliance reporting

- 19.** 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 60 calendar days before the expiration date of the works approval, whichever is the sooner.
- 20.** The works approval holder must ensure the report required by condition 19 includes the following:

- (a) a summary of the time limited operations, including timeframes and volume of wastewater processed;
- (b) a summary of monitoring results obtained during time limited operations under condition 13;
- (c) the OFA report as specified in condition 14;
- (d) the noise report as specified in condition 16;
- (e) a summary of the environmental performance of all infrastructure as constructed or installed;
- (f) a review of performance and compliance against the conditions of the works approval and the Environmental Commissioning Report; and
- (g) 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)

- 21.** 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.
  
- 22.** 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 3;
  - (b) any maintenance of infrastructure that is performed in the course of complying with condition 12;
  - (c) monitoring programmes undertaken in accordance with conditions 13 and 15; and
  - (d) complaints received under condition 21.
  
- 23.** The books specified under condition 22 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 3 have the meanings defined.

**Table 3: Definitions**

Term	Definition
AS 3600	means the Australian Standard AS3600 <i>Concrete structures</i> .
AS 3735	means the Australian Standard AS3735 <i>Concrete structures for retaining liquids</i> .
AS 4323.1	means the Australian Standard AS4323.1 <i>Stationary Source Emissions Method 1: Selection of sampling positions</i> .
AS 4323.3	means the Australian Standard AS4323.3 <i>Stationary Source Emissions Part 3: Determination of odour concentration by dynamic olfactory</i> .
averaging period	means the time over which a limit is measured or a monitoring result is obtained.
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.
EN 16841-2	means the European Standard EN 16841-2 <i>Ambient air – determination of odour in ambient air by using field inspection – Part 2: Plume method</i> , CEN (European Committee for Standardisation), as amended from time to time.
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.

Term	Definition
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 (WA).</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA).</i>
Odour intensity	means the relative perceived strength of an odour. Intensity descriptor scales should be applied according to the German standards for the determination of odour intensity under field conditions (VDI 3940-3).
Odour panellist	means a person who is qualified to perform field inspections as described in EN 16841-2 and is independent of the works approval holder
OFA	odour field assessment as described in the <i>Guideline: Odour Emissions</i>
premises	the premises to which this works approval applies, as specified at the front of this works approval and as shown on the premises map (Figure 1) in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
suitably qualified engineer	means a person who: (a) holds a Bachelor of Engineering recognised by the Institute of Engineers; and (b) has a minimum of five years of experience working in a supervisory area of civil, structural or mechanical engineering; and (c) is employed by an independent third-party external to the works approval holder's business; or is otherwise approved in writing by the CEO to act in this capacity
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.
USEPA	means United States (of America) Environmental Protection Agency
USEPA Method 2	means the USEPA Method 2 - Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube).
waste	has the same meaning given to that term under the EP Act.

Term	Definition
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.

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**END OF CONDITIONS**



# Schedule 1: Maps

## Premises 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

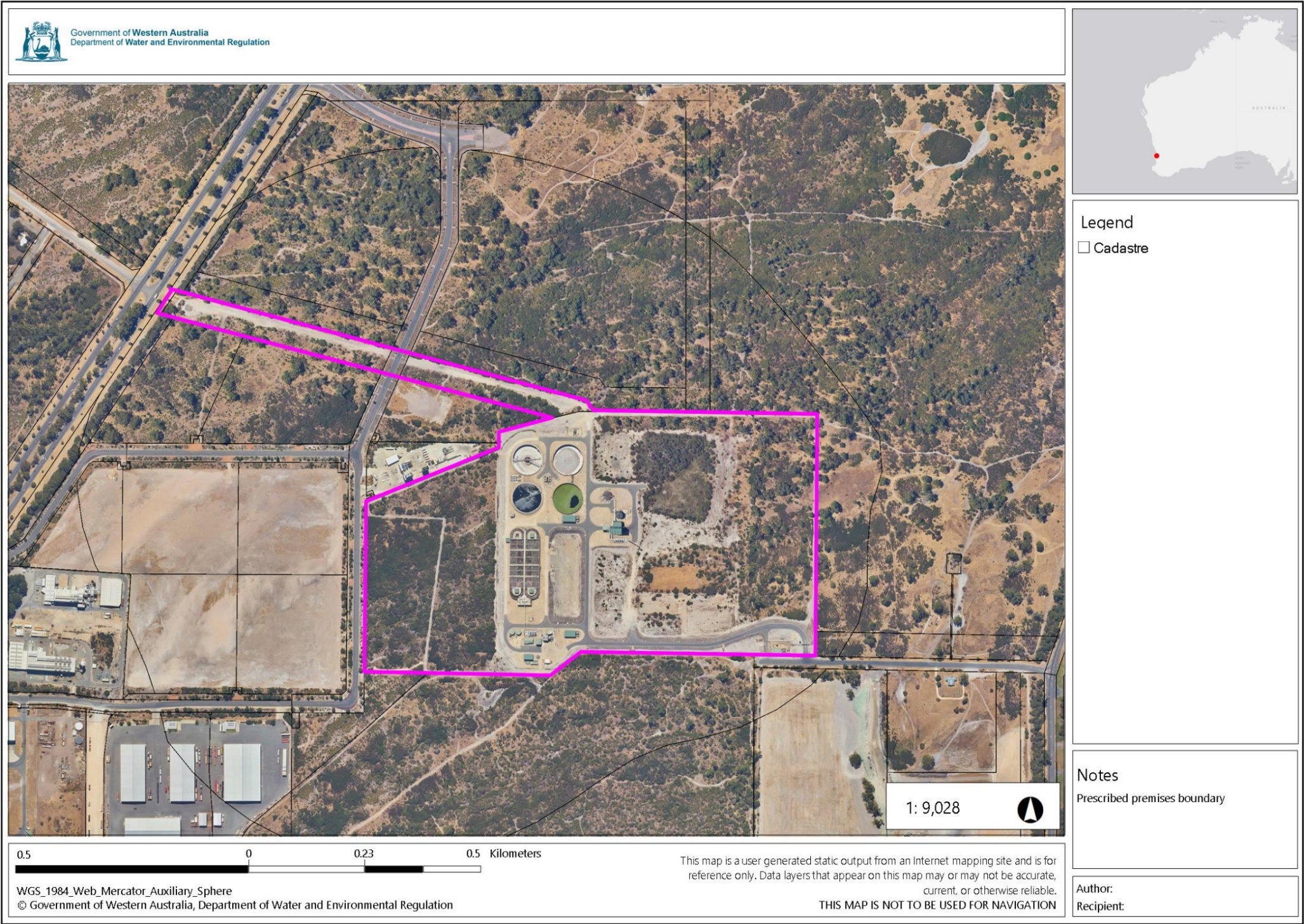




Figure 2: Existing site layout with proposed upgrades

