



Licence number	L4726/1991/16
Licence holder	Water Corporation
Registered business address	629 Newcastle Street LEEDERVILLE WA 6007
DWER file number	DER2016/000050-1
Duration	01/11/2022 to 31/10/2042
Date of issue	28/10/2022
Premises details	Subiaco Water Resource Recovery Facility Lemnos Street SHENTON PARK WA 6008 Legal description - Lot 3150 on Plan 149501, Lot 5286 on Plan 162620, and Lot 6815 on Plan 166929 As shown in Schedule 1

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed production / design capacity
Category 54 - Sewage facility premises – (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters.	67,000 cubic metres per day
Category 61 - Liquid waste facility: premises on which liquid waste produced on others premises (other than sewage waste) is stored, reprocessed, treated or irrigated.	20,000 tonnes per annual period

This licence is granted to the licence holder, subject to the attached conditions, on 28 October 2022, by:

Senior Environmental Officer, Industry Regulation
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Licence history

Date	Reference number	Summary of changes
30/10/2014	L4726/1991/15	Licence re-issue – conversion to REFIRE format.
05/03/2014	L4726/1991/15	Licence amendment.
28/10/2022	L4726/1991/16	Licence renewed for twenty years.

Interpretation

In this licence:

- (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 licence:
 - (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 licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

Licence conditions

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

Premises operation

1. The licence holder must record and investigate the exceedance of any descriptive or numerical limit and/or target in this section.
2. The licence holder must only accept waste on to the premises if:
 - (a) it is of a type listed in Table 1;
 - (b) the quantity accepted is below any quantity limit listed in Table 1; and
 - (c) it meets any specification listed in Table 1.

Table 1: Waste acceptance

Waste	Waste Code	Quantity Limit	Specification
Putrescible and Organic wastes			
Sewage	N/A	67,000m ³ / day (average per year)	<ul style="list-style-type: none"> • Accepted through sewer inflows only.
Septage waste (sewage) – domestic wastes from apparatus for the treatment of sewage.	K210	20,000 tonnes per annual period	<ul style="list-style-type: none"> • Tankered into the premises and discharged in the pre-treatment area Controlled Waste Inlet Port via an enclosed pipeline; and/or • Tankered into the premises and unloaded via the Pump Station receivable point.

3. The licence holder must ensure that wastes accepted onto the premises are only subjected to the process(es) set out in Table 2 and in accordance with any process requirements described in that Table 2.

Table 2: Waste processing

Waste type	Process
Sewage	Screening, grit removal, disinfection and filtration; and physical, biological and chemical treatment.
Septage waste (sewage) – domestic wastes from apparatus for the treatment of sewage.	<p>Preliminary treatment</p> <ul style="list-style-type: none"> • Screening and Grit removal <p>Primary treatment</p> <ul style="list-style-type: none"> • Primary Sedimentation tanks <p>Secondary treatment</p> <ul style="list-style-type: none"> • Aeration tanks and secondary sedimentation tanks <p>Tertiary treatment and disinfection</p> <ul style="list-style-type: none"> • Filtration and chlorination
Sewage sludge and waste activated sludge	Sludge treatment and storage

4. The licence holder must ensure that waste material is only stored and/or treated within vessels or compounds provided with the infrastructure to the requirements specified in Table 3.

Table 3: Containment infrastructure

Vessel or compound	Material	Requirements
Inlet/preliminary works: 3 x Band screens 2 x Grit Removal Tanks	Screenings and Grit	Recovered screenings and grit to be stored in a sealed bin which is stored within a bunded hardstand area or a hardstand area that is graded to a collection drain which ensures that excess sludge leachate is returned to head of plant.
Primary Sedimentation Tanks (PST 7-10)	Wastewater	Ensure that the covers on the primary and aeration tank areas of the plant are kept in place at all times except when removal is required for maintenance operations or during emergency situations.
Aeration Treatment (AT 1-11)		
Secondary Sedimentation Tanks (SST 1-12)		None specified
Sludge blending tanks (SBT 1-2) Dissolved Air Flotation Treatment Tanks (DAFT 1-3) Lime Amended Biosolids Storage Silos (Silos 1-6)	Sludge and leachate	N/A
Lime amended Biosolids Storage Silos (Silo 1 – Silo 6)	Lime amended biosolids	None specified

5. The licence holder must manage the wastewater treatment tanks such that:
 - (a) overtopping of the tanks does not occur;
 - (b) stormwater runoff is prevented from entering the tanks;
 - (c) there is no discernible seepage loss from the tanks; and
 - (d) vegetation and floating debris (emergent or otherwise) are prevented from growing or accumulating in the tanks.

6. The licence holder must manage the irrigation of treated wastewater to onsite irrigation areas such that:
 - (a) no irrigation generated run-off, spray drift or discharge occurs beyond the boundary of the defined irrigation area(s);
 - (b) treated wastewater is evenly distributed over the irrigation area;
 - (c) no soil erosion occurs;
 - (d) irrigation does not occur on land that is waterlogged; and
 - (e) vegetation cover is maintained over the irrigation area.

Emissions and discharges

Authorised discharge points for emissions

7. The licence holder must ensure that the emissions specified in Table 4, are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

Table 4: Authorised discharge points to air, surface waters and land

Emission	Discharge point	Discharge point location/s
Treated air	A1 – Chemical scrubber stack (with height of approximately 50m)	Chemical scrubber stack (as shown in Schedule 1 – Figure 3: Premises emissions and monitoring points)
Treated wastewater	SW1 - Swanbourne Ocean Outlet	Swanbourne Ocean Outlet (as shown in Schedule 1 – Figure 3: Premises emissions and monitoring points)
	SW2 - Perth Main Drain via emergency overflow basin.	Perth Main Drain (as shown in Schedule 1 – Figure 3: Premises emissions and monitoring points)
	L1 – On site irrigation area	Irrigation areas (onsite and offsite for re-use). (as shown in Schedule 1 – Figure 3: Premises emissions and monitoring points)
	L2 – Off site irrigation area(s)	

Emission limits

8. The licence holder must record and investigate the exceedance of any descriptive or numerical limit, and/or target in this section.
9. The licence holder must ensure that emissions from the discharge points listed in Table 5 for the corresponding parameter do not exceed the corresponding limit when monitored in accordance with conditions 16 and 21.

Table 5: Emission limits to air and surface waters

Discharge point	Parameter	Limit (including units)
A1 – Chemical scrubber stack	Hydrogen sulphide	5 mg/m ³ at STP dry
		140 mg/s at STP dry
SW1 - Swanbourne Ocean Outlet	Total nitrogen	3,300 kg/day as an average over the annual period
	Total phosphorous	1,000 kg/day as an average over the annual period

Odour

10. The licence holder must ensure that odour emitted from the premises does not unreasonably interfere with the health, welfare, convenience, comfort or amenity of any person beyond the odour boundary as depicted in the Map of Odour Boundary in Schedule 1.

Monitoring

General monitoring

11. The licence holder must ensure that:
 - (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
 - (b) all surface water sampling is conducted in accordance with AS/NZS 5667.9
 - (c) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
 - (d) all microbiological samples are collected and preserved in accordance with AS 2031; and
 - (e) all laboratory samples are submitted to a laboratory with current NATA accreditation for the parameters to be measured unless indicated otherwise in the relevant table.
12. The licence holder must ensure that:
 - (a) monthly monitoring is undertaken at least 15 days apart;
 - (b) quarterly monitoring is undertaken at least 45 days apart; and
 - (c) six monthly monitoring is undertaken at least 5 months apart.
13. The licence holder must record production or throughput data and any other process parameters relevant to any non-continuous or CEMS monitoring undertaken.
14. The licence holder must ensure that all monitoring equipment used on the premises to comply with the conditions of this licence is calibrated in accordance with the manufacturer's specifications.
15. The licence holder must, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

Discharge point monitoring to air

16. The licence holder must monitor emissions in accordance with the requirements specified in Table 6 and record the results of all such monitoring.

Table 6: Emissions monitoring to air

Discharge point	Parameter	Reporting Units ¹	Frequency ²	Method
A1 – Chemical scrubber stack	Hydrogen sulphide	ppm	Continuous	CEMS
		mg/m ³ mg/s	Quarterly	NATA accredited method for the measurement and analysis of hydrogen sulphide emissions from stationary sources
	Volumetric flow rate	m ³ /s	Quarterly	Thermal mass flow meters calibrated against USEPA Method 2
	Stack exit temperature	degrees Celcius	Quarterly	None specified

Note 1: All units are referenced to STP dry.

Note 2: Monitoring shall be undertaken to reflect normal operating conditions and any limits or conditions on inputs or production.

17. The licence holder must maintain a log of all CEMS calibration curve correlations and make this log available on request.
18. The licence holder must ensure that sampling required under condition 16 of the licence is undertaken at sampling locations in compliance with the AS4323.1 or relevant part of the CEMS code.
19. The licence holder must ensure that all non-continuous sampling and analysis undertaken pursuant to condition 16 for the parameters specified in Table 6 is undertaken by a holder of NATA accreditation for the relevant methods of sampling and analysis.
20. The licence holder must ensure, for any parameter in Table 6 requiring continuous monitoring, that the CEMS is regularly operated, maintained and calibrated in accordance with the CEMS Code.

Discharge point monitoring to surface water

- 21.** The licence holder must monitor emissions in accordance with the requirements specified in Table 7 and record the results of all such monitoring.

Table 7: Emissions monitoring to surface water

Discharge point	Monitoring location	Parameter	Reporting Units	Averaging period	Frequency
SW1 - Swanbourne Ocean Outlet	MSW1 - Magflow to ocean outfall	Volumetric flow rate (cumulative)	m ³ /day	Monthly	Continuous
SW1	MSW2 – Effluent discharge pumping station sample point	pH ¹	mg/L	Spot or composite sample	Monthly
		Total nitrogen			
		Total phosphorus			
		Total suspended solids			Six monthly
		Total dissolved solids			
		Biological oxygen demand			
		Oil and grease			
		Arsenic			
		Cadmium			
		Copper			
		Chromium			
		Lead			
		Mercury			
		Nickel			
Zinc					

Note 1: In field non-NATA accredited analysis permitted.

- 22.** The licence holder must calculate wastewater volumes and take a spot sample and have it analysed for the parameters listed in Table 7 for discharge point SW1 when a discharge occurs from SW2 for a continuous period of longer than 2 hours.

Discharge point monitoring to land

23. The licence holder must monitor emissions in accordance with the requirements specified in Table 8 and record the results of all such monitoring.

Table 8: Emissions monitoring to land

Monitoring location	Parameter	Reporting Units	Averaging period	Frequency
ML1 – Magflow to onsite irrigation	Volumetric flow rate (cumulative)	m ³ /day	Monthly	When irrigating
ML2 – Magflow to offsite re-use				
ML3 – Irrigation transfer pump station sample point	pH ¹	N/A	Spot or composite sample	Monthly
	Total nitrogen	mg/L		
	Total phosphorous			
	Total suspended Solids			
	Total dissolved solids			
	Biochemical oxygen demand	cfu/100ml		Six monthly
<i>Escherichia coli</i>	Quarterly			

Note 1: In-field non-NATA accredited analysis permitted.

Monitoring of inputs and outputs

24. The licence holder must undertake the monitoring in Table 9 according to the specifications in that table.

Table 9: Monitoring of inputs and outputs

Input/ Output	Monitoring point reference	Parameter	Units	Averaging period	Frequency
Sewage – Inlet flow	Inlet flow meters M1 and M2	Volumetric flow rate (cumulative)	m ³ /day	Monthly	Continuous
Septage wastes (sewage) – domestic wastes from apparatus for the treatment of sewage	None specified	Volumetric flow rate (cumulative) of Controlled waste (by category) received at WRRF)	m ³ /day; or ML/ day		Each load received to the facility

Records and reporting

25. The licence holder must record the following information in relation to complaints received by the licence 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 licence holder to investigate or respond to any complaint.
- 26.** The licence holder must:
- (a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and
 - (b) prepare and submit to the CEO by no later than 93 days after the end of that annual period an Annual Audit Compliance Report in the approved form.
- 27.** The licence holder must maintain accurate and auditable books including the following records, information, reports, and data required by this licence:
- (a) the calculation of fees payable in respect of this licence;
 - (b) any maintenance of infrastructure that is performed in the course of complying with condition 4 of this licence;
 - (c) monitoring programmes undertaken in accordance with conditions 16, 21 and 23 of this licence; and
 - (d) complaints received under condition 25 of this licence.
- 28.** The books specified under condition 27 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 licence holder for the duration of the licence; and
 - (d) be available to be produced to an inspector or the CEO as required.

29. The licence holder must submit to the CEO by no later than 93 days after the end of each annual period, an Annual Environmental Report for that annual period for the conditions listed in Table 10, and which provides information in accordance with the corresponding requirement set out in Table 10.

Table 10: Annual Environmental Report

Condition	Requirement
2	Summary of any quantity limit exceedance and any action taken
1 & 8	Summary of any emission limit exceedances and any action taken
16	Monitoring of emissions to air
21	Monitoring of emissions to surface waters
	Contaminant loading (kg/day - monthly average) to water (SW1 and SW2) of parameters monitored in Table 7 (except pH and <i>E.Coli</i>)
	Methodology and calculations used to estimate the daily volumetric flow rate of treated wastewater discharged to SW2 and results of those calculations.
23	Monitoring of emissions to land
	Contaminant loading (kg/day -monthly average) to land (L1) of parameters monitored in Table 8 (except pH and <i>E.Coli</i>)
24	Monitoring of inputs and outputs
25	Complaints summary
-	Summary of any changes to site boundaries or sampling point locations/names.
-	The quantity of sewage sludge removed from the premises.

30. The licence holder must ensure that the Annual Environmental Report also contains:
- any relevant process, production or operational data recorded; and
 - an assessment of the information contained within the report against previous monitoring results and licence limits.

Notification

31. The licence holder must ensure that the parameters listed in Table 11 are notified to the CEO in accordance with the notification requirements of the table.

Table 11: Notification requirements

Condition	Parameter	Notification requirement ¹	Format or form
-	Taking process equipment offline for maintenance works that may result in increase odour emissions.	No less than 72 hours in advance of works.	None specified
7	Discharges of treated wastewater into the emergency overflow basin and then into Perth Main Drain.	Within 24 hours of becoming aware of such discharges.	None specified
20	Calibration report	As part of AER	None specified

Note 1: No notification requirement in the licence shall negate the requirement to comply with S72 of the *Environmental Protection Act 1986*.

Definitions

In this licence, the terms in Table 12 have the meanings defined.

Table 12: Definitions

Term	Definition
ABN	Australian Business Number
Annual Audit Compliance Report (AACR)	means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the Department's website).
annual period	a 12 month period commencing from 1 July until 30 June of the immediately following year.
CEMS code	means the current version of the Continuous Emission Monitoring System (CEMS) Code for Stationary Source of Air Emissions (March 2016) Department of Environment and Regulation, Government of Western Australia.
CEO	means Chief Executive Officer of the Department. "submit to / notify the CEO" (or similar), means either: Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
Emergency overflow basin	means the unlined basin dedicated for the purpose of containing unplanned overflows from the Subiaco WRRF as depicted and labelled "Emergency Compensation Basin" in the Map of premises infrastructure and site layout (Figure 1) in Schedule 1.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA)
licence	refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained within.
licence holder	refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted.
odour boundary	means the outer boundary of odour modelled at 5 odour units (OU) at 99.9 percentile 1 hour averaging as depicted on the Map of of Odour

Term	Definition
	Boundary (Figure 4 in Schedule 1) to this licence.
premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map (Figure 1) in Schedule 1 to this licence.
Perth Main Drain	means the gravity pipe that conveys stormwater from catchments upstream of the premises, and discharges offshore of Swanbourne Beach. It is isolated from the Emergency Compensation Basin via a series of interlocks, which may be opened during emergency scenarios to prevent the Emergency Compensation Basin from overflowing. Depicted and labelled “Perth Main Drain” in Figure 1 and Figure 2 (Schedule 1).
Swanbourne Ocean Outlet	means the sewer pressure main that conveys treated wastewater from the Subiaco WRRF and discharges it to the Indian Ocean, approximately 1.1 km offshore. Depicted and labelled “Swanbourne Ocean Outlet” in Figure 1 and Figure 2 (Schedule 1).
waste code	means the waste code assigned to the type of controlled waste for purposes of tracking and reporting as specified in the Department of Water and Environmental Regulation’s ‘Controlled Waste Category List’ (May 2018), as amended from time to time.
wastewater treatment vessels	means any vessel, pond or tank containment infrastructure associated with the storage and treatment of wastewater.

END OF CONDITIONS

Schedule 1: Maps

Premises map

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



Figure 1: Map of the boundary of the prescribed premises and infrastructure and site layout.

Premises map of discharge pipeline

The premises discharge pipeline is shown in the map below (Figure 2).

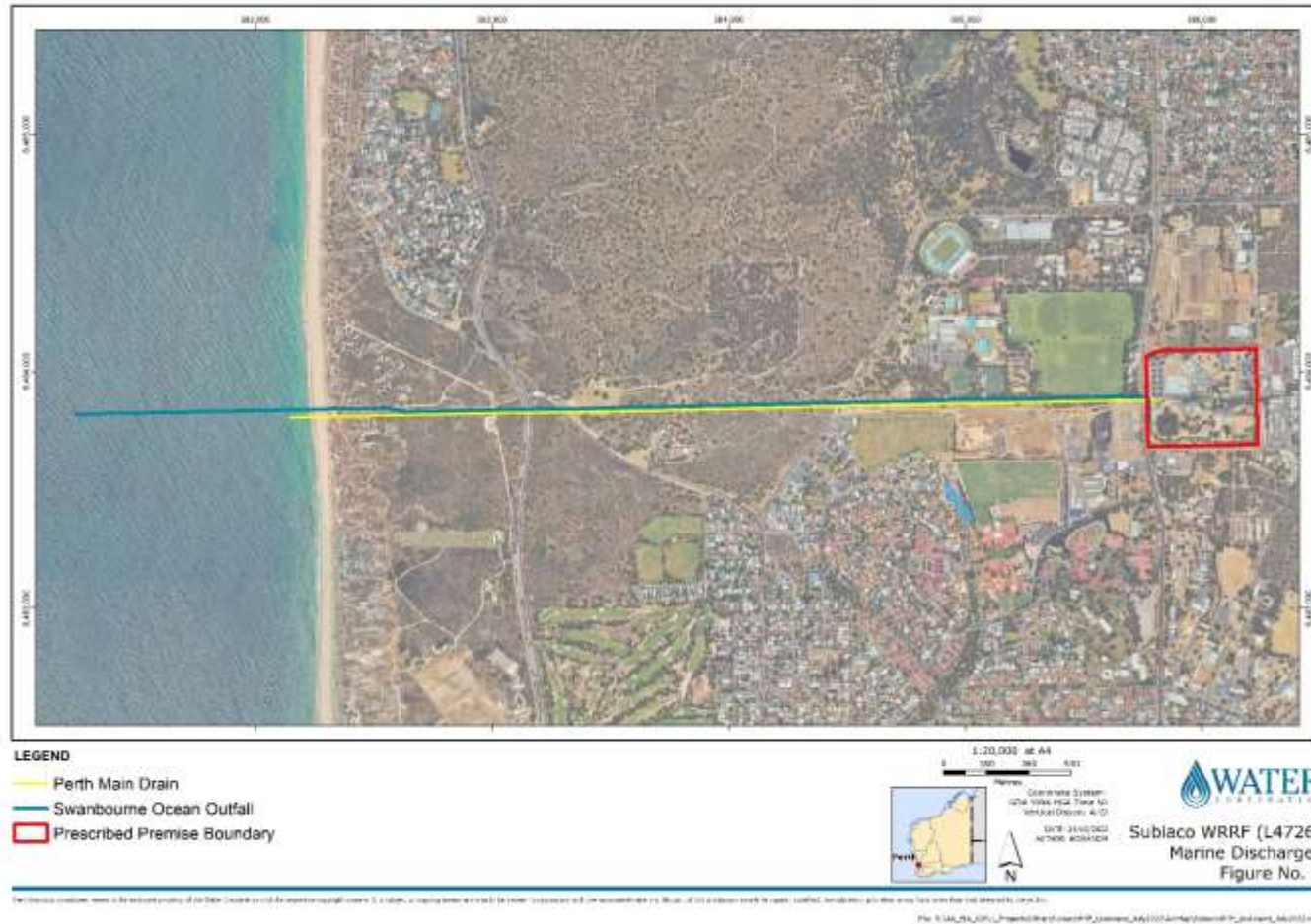


Figure 2: Premises discharge pipeline

Map of authorised emission and monitoring points

The premises emission and monitoring points are shown in the map below (Figure 3).



Figure 3: Premises emissions points (A1, SW1, SW2, L1 and L2) and monitoring points (MSW1, MSW2, ML1, ML2, ML3, M1 and M2).

Map of odour boundary

The premises odour boundary is shown in the map below (Figure 4).

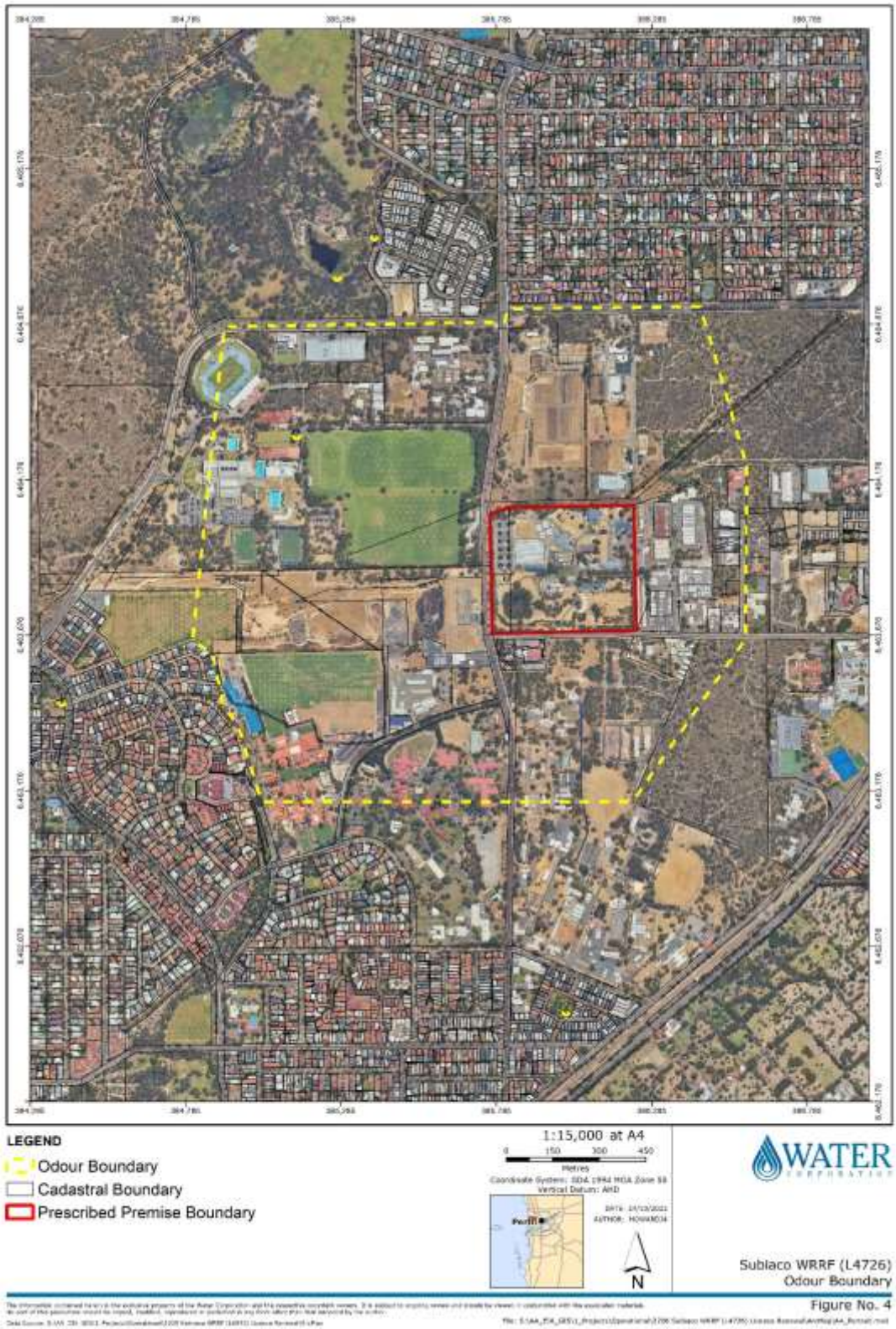


Figure 4: Premises Odour Boundary