



Licence number	L6315/1991/11
Licence holder	Water Corporation
Registered business address	629 Newcastle Street LEEDERVILLE WA 6007
DWER file number	DER2015/000323
Duration	01/11/2011 to 31/10/2027
Premises details	Denmark Water Resource Recovery Facility 33 Hodgson Street DENMARK WA 6333 Lot 965 on Deposited plan 183447

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed 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.	1,200 cubic metres per day.

This licence is granted to the licence holder, subject to the attached conditions, on 09 June 2022, by:

**MANAGER WASTE INDUSTRIES
REGULATORY SERVICES**
an officer delegated under section 20 of
the *Environmental Protection Act 1986* (WA)

Licence history

Date	Reference no.	Summary of changes
28/04/2011	W4708/2010/1	New approval to upgrade the treatment plant to an oxidation ditch based system
20/10/2011	L6315/1991/11	Reissue of L6315/1991/10
24/05/2012	W4708/2010/1	Amendment to give effect to Ministers Appeal Determination dated 19/12/2011 for appeals 064 and 065 of 2011
04/04/2014	L6315/1991/11	Amendment of licence granted 20/10/2011 to: <ul style="list-style-type: none"> • Convert to REFIRE format conditions (now superseded) and add discharge target and limits • Clarify and include additional ambient groundwater, process and discharge monitoring • Add the environmental improvement plan condition (4.1.2) consistent with W4708/2010/1
05/02/2015	L6315/1991/11	Amendment for the operation of the upgraded treatment plant constructed under W4708/2021/1
17/03/2016	L6315/1991/11	Administrative amendment
09/06/2022	L6315/1991/11	Amendment for works to install reuse offtake infrastructure

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:

Operations

Infrastructure and equipment operational requirements

- The licence holder must ensure that the site infrastructure and equipment listed in Table 1 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirements set out in Table 1.

Table 1: Infrastructure and equipment operational requirements

Site infrastructure and equipment		Operational requirements	Infrastructure location
1.	Oxidation ditch	Impervious concrete vessel	The locations depicted in Figure 1 and Figure 2
2.	Secondary clarification tank	Impervious concrete vessel	
3.	Balancing pond (Pond 1)	Clay lined pond	
4.	Emergency storage pond- (Pond 2)	Clay lined pond	
5.	Sludge drying/ storage hardstands	(a) A hardstand area enclosed by bunds capable of preventing surface run-off of leachate and sludge, that returns sludge leachate to the wastewater treatment system. (b) Overtopping of the hardstand for sludge/ geobag dewatering does not occur. (c) Stormwater runoff is prevented from entering the hardstand for sludge/ geobag dewatering. (d) There is no discernible seepage loss from the hardstand.	
6.	All wastewater storage ponds	(a) Overtopping of the ponds does not occur. (b) The integrity of the containment infrastructure is maintained. (c) Trapped overflows are maintained on the outlet of ponds to prevent carry-over of surface floating matter. (d) Vegetation and floating debris (emergent or otherwise) is prevented from encroaching onto pond surfaces or inner pond embankments.	

Site infrastructure and equipment		Operational requirements	Infrastructure location
7.	Wastewater treatment vessels	(a) Overtopping of the wastewater treatment vessels does not occur. (b) Stormwater runoff is prevented from entering the wastewater treatment vessels. (c) There is no discernible seepage loss from the wastewater treatment vessels. (d) Vegetation and floating debris (emergent or otherwise) is prevented from growing or accumulating in the wastewater treatment vessels.	The locations depicted in Figure 1 and Figure 2
8.	Waste water reuse offtake infrastructure	(a) In accordance with the Design and construction requirements of Condition 20, Table 11. (b) Not to be operated unless the requirements of Conditions 23 and 24 have been met.	The location depicted in Figure 3

Waste acceptance

2. The licence holder must only accept onto the premises waste of a waste type, which does not exceed the corresponding rate at which waste is received, and which meets the corresponding acceptance specification set out in Table 2.

Table 2: Types of waste authorised to be accepted onto the premises

Waste type	Rate at which waste is received	Acceptance specification
Sewage – waste from the reticulated sewerage system	None specified	<ul style="list-style-type: none"> Accepted through sewer inflow(s); and/ or Accepted through the tankered waste disposal facility

Waste processing

3. The licence holder must ensure that the waste types specified in Table 3 are only subjected to the corresponding process(es), subject to the corresponding process limits and/or specifications.

Table 3: Waste processing

Waste type	Process(es)	Process limits and/or specifications
Odorous air	Odour treatment system	Capture and treat all odorous air from the inlet works, tanker receipt facility and bio-selector prior to discharge.
Sewage	Wastewater treatment system	Treatment of sewage waste shall be targeted at or below the treatment capacity of 1,200 m ³ / day and limited below 3,000 m ³ / day
Sewage sludge	Storage	Hardstand enclosed by bunds

Emissions and discharges

4. The licence holder must ensure that:
- no wastewater gains access to the environment other than the emissions specified in Table 4; and
 - 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

Emission	Discharge point	Discharge point location
Final treated wastewater discharge point from wastewater treatment system via the flume into the infiltration gallery	L1	As shown in Schedule 1, Figure 1 and Figure 2

5. The licence holder must ensure that emissions from the discharge point listed in Table 5 for the corresponding parameter do not exceed the corresponding limit when monitored in accordance with condition 9.

Table 5: Emission and discharge limits

Discharge point	Parameter	Limit	Averaging period
L1	Annual daily average wastewater discharge	600 m ³ / day annual average	Annual
	Ammonium (NH ₄ -N)	5 mg/L	Spot sample
	<i>Escherichia coli</i>	150 cfu/100 mL	
	pH	6.0 – 9.0 (range)	
	Total aluminium	3 mg/L	
	Total biochemical oxygen demand	20 mg/L	
	Total nitrogen	10 mg/L	
	Total phosphorus	2 mg/L	
	Total suspended solids	30 mg/L	

Monitoring

6. The licence holder must ensure that monitoring is undertaken in each:
- weekly period such that there are at least 4 days in between the days on which samples are taken in successive weeks;
 - monthly period such that there are at least 15 days in between the days on which samples are taken in successive months; and
 - quarterly period such that there are at least 45 days in between the days on which samples are taken in successive quarters.
7. The licence holder must ensure all monitoring equipment used to comply with conditions 9, 10, 12 and 14 is operated and calibrated in accordance with the manufacturers specifications.

8. The licence holder must ensure that all non-continuous sampling and analysis undertaken pursuant to conditions 9, 12 and 14 is undertaken by a holder of a current accreditation from the National Association of Testing Authorities (NATA) for the methods of sampling and analysis relevant to the corresponding relevant parameter.

Emission and discharge monitoring

9. 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: Emission and discharge monitoring

Discharge point (monitoring locations)	Parameter	Unit	Frequency	Averaging period	Method
L1 (As shown in Schedule 1, Figure 1 and Figure 2)	Volumetric flow rate (cumulative) ¹	L/s m ³ /day	Continuous	Monthly	Calibrated flowmeter
	pH ¹	-	Monthly	Spot sample	AS/NZS 5667.1 AS/NZS 5667.10 AS/NZS 2031
	Ammonium (NH ₄ -N)	mg/L			
	Filtered aluminium				
	Total aluminium				
	Nitrate + nitrite – nitrogen				
	Total biochemical oxygen demand				
	Total dissolved solids				
	Total nitrogen				
	Total phosphorus				
	Total suspended solids				
	<i>Escherichia coli</i>	cfu/100 mL			

Process monitoring

10. The licence holder must record the total amount of waste accepted onto and transferred from the premises, for each waste type listed in Table 7, in the corresponding unit, and for each corresponding time period, as set out in Table 7.

Table 7: Waste accepted onto and transferred from the premises

Waste/ process type	Monitoring point reference	Unit	Averaging period	Frequency
Sewage received via sewer inflows to the wastewater treatment system	Wastewater inflow monitoring site (IMS)	m ³ / day	Monthly	Continuous
Treated wastewater transferred from the premises for reuse	As defined through Condition 20, Table 11, item 1(b) flow meter			

11. The licence holder must monitor the treated wastewater transferred from the premises for the parameters and corresponding requirements specified in Table 6.

Ambient environmental monitoring

12. The licence holder must monitor groundwater for concentrations of the identified parameter(s) in accordance with Table 8.

Table 8: Groundwater monitoring of ambient concentrations

Monitoring well location	Parameter	Unit	Frequency	Averaging period	Method
1/09, 2/09 and 3/09	Standing water level ¹	m(AHD)	Monthly	Spot sample	AS/NZS 5667.1 AS/NZS 5667.11 AS/NZS 2031
	pH ²	-			
	Ammonium (NH ₄ -N)	mg/L			
	Nitrate + nitrite – nitrogen				
	Total dissolved solids				
	Total nitrogen				
	Total phosphorus				
	<i>Escherichia coli</i> (<i>E. coli</i>)				

Note 1: Standing water level to be taken prior to sampling for water quality.

Note 2: In-field non-NATA accredited analysis permitted.

13. The licence holder must adhere to the field quality assurance and quality control procedures specified in Schedule 2, condition 25 for the monitoring required by condition 12.
14. The licence holder must monitor surface water for concentrations of the identified parameter(s) in accordance with Table 9.

Table 9: Surface water monitoring of ambient concentrations

Monitoring well location	Parameter	Unit	Frequency	Averaging period	Method
Pierce Street sample point (PSSP); Hodgson Street sample point (HSSP); and Inlet Drive sample point (IDSP).	pH ²	-	Monthly	Spot sample	AS/NZS 5667.1 AS/NZS 5667.6 AS/NZS 2031
	Ammonium (NH ₄ -N)	mg/L			
	Nitrate + nitrite – nitrogen				
	Total biochemical oxygen demand				
	Total dissolved solids				
	Total aluminium				
	Total nitrogen				
	Total phosphorus				
	Total suspended solids				
	<i>Escherichia coli</i> (<i>E. coli</i>)				

Records and reporting

- 15.** 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.
- 16.** 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 90 days after the end of that annual period an Annual Audit Compliance Report in the approved form.
- 17.** 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) the works conducted in accordance with condition 20 of this licence;
 - (c) any maintenance of infrastructure that is performed in the course of complying with condition 1 of this licence;
 - (d) monitoring programmes undertaken in accordance with conditions 6 through 14 of this licence; and
 - (e) complaints received under condition 15 of this licence.
- 18.** The books specified under condition 17 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.
- 19.** The licence holder must submit to the CEO by no later than 90 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
Conditions 4 and 5	An assessment of the information contained within the Annual Environmental Report against monitoring results limits and/ or targets.
Condition 9	<p>a) Summary of all monitoring data for emissions to land which shall include:</p> <ul style="list-style-type: none"> i) data in a table format for the annual period; and ii) data in graphical format for trend analysis to include at least the last four years data where available. <p>b) Contaminant load to land for the monitored parameters (except pH and E. coli) as:</p> <ul style="list-style-type: none"> i) kg/ day monthly average; and ii) total annual loading kg/ year.
Condition 10	<p>Summary of all inputs and outputs monitoring data which shall include:</p> <ul style="list-style-type: none"> a) data in a table format for the annual period; and b) comment on annual inflow and outflow volumetric trends.
Condition 11	Summary of monitoring data for treated wastewater transferred from the premises for reuse
Condition 12	<p>Summary of all monitoring data for ambient groundwater quality which shall include:</p> <ul style="list-style-type: none"> a) data in a table format for the annual period; b) data in graphical format for trend analysis to include at least the last four years data where available; and c) an assessment of ambient groundwater quality monitoring data for the risk and likelihood of seepage from the wastewater treatment system.
Condition 14	<p>Summary of all monitoring data for ambient surface water quality which shall include:</p> <ul style="list-style-type: none"> a) data in a table format for the annual period; b) data in graphical format for trend analysis to include at least the last four years data where available; and c) an assessment of ambient surface water quality monitoring data for impact on surface water quality.
Condition 15	Complaints summary

Construction

- 20.** The licence holder must construct and/ or install the infrastructure listed in Table 11 in accordance with;
- (a) the corresponding design and construction requirement; and
 - (b) at the corresponding infrastructure location; and
 - (c) within the corresponding timeframe,
- as set out in Table 11.

Table 11: Design and construction requirements

Infrastructure		Design and construction requirements	Location
1.	Waste water reuse offtake infrastructure	(a) 30,000 kL/ year transfer design capacity. (b) Impervious 25kL reuse transfer tank, with low level float switch set at 1.5 m, flow meter and pressure transmitter. (c) Reuse transfer pumps (one operational, one standby). (d) U-PVC pipeline (~530m) and isolation valve. (e) Potable water material defect test.	The location depicted in Figure 3
2.	Wastewater treatment system upgrades	(a) New sodium hypochlorite dosing pump. (b) Tertiary filter feed pump flow control.	N/A

21. The licence holder must manage acid sulphate soils, in accordance with the acid sulphate soil guidelines.
22. The licence holder must ensure that treated acid sulfate soil is only re-used at the premises after validation sampling confirms neutralisation has been achieved.
23. The licence holder must within 30 calendar days of an item of infrastructure or equipment required by condition 20 being constructed and / or installed:
 - (a) undertake an audit of their compliance with the requirements of condition 20; and
 - (b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.
24. The Environmental Compliance Report required by condition 23, 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 20, have been constructed in accordance with the relevant requirements specified in condition 20;
 - (b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 20;
 - (c) a summary of management actions under conditions 21 and 22 for any acid sulfate soil encountered at the premises during construction; and
 - (d) be signed by a person authorised to represent the licence holder and contains the printed name and position of that person.

Definitions

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

Table 12: Definitions

Term	Definition
acid sulfate soil	includes both sulfidic soil materials as potential acid sulfate soils and sulfuric soil materials as actual acid sulfate soils.
acid sulfate soils guidelines	means the documents Department of Environment and Regulation 2015, <i>Identification and investigation of acid sulfate soils and acidic landscapes</i> and <i>Treatment and management of soils and water in acid sulfate soil landscapes</i> .
AHD	means the Australian height datum.
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.
AS/NZS 2031	means the Australian Standard AS/NZS 2031 <i>Water quality – Sampling for microbiological analysis</i>
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 <i>Water quality – Sampling – Guidance of the design of sampling programs, sampling techniques and the preservation and handling of samples</i> .
AS/NZS 5667.6	means the Australian Standard AS/NZS 5667.6 <i>Water quality – Sampling – Guidance on sampling of rivers and streams</i> .
AS/NZS 5667.10	means the Australian Standard AS/NZS 5667.10 <i>Water quality – Sampling – Guidance on sampling of waste waters</i> .
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 <i>Water quality – Sampling – Guidance on sampling of groundwaters</i> .
Assessment of Site Contamination NEPM	means the <i>National Environment Protection (Assessment of Site Contamination) Measure 1999</i>
averaging period	means the time over which a limit or target is measured or a monitoring result is obtained;
books	has the same meaning given to that term under the EP Act.

Term	Definition
CEO	<p>means Chief Executive Officer of the Department.</p> <p>“submit to / notify the CEO” (or similar), means either:</p> <p style="padding-left: 40px;">Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919</p> <p>or:</p> <p style="padding-left: 40px;">info@dwer.wa.gov.au</p>
Department	<p>means the department established under section 35 of the <i>Public Sector Management Act 1994 (WA)</i> and designated as responsible for the administration of the EP Act, which includes Part V Division 3.</p>
discharge	<p>has the same meaning given to that term under the EP Act.</p>
emission	<p>has the same meaning given to that term under the EP Act.</p>
emission point L1	<p>means the treated wastewater emission point from the Premises authorised under this licence, being the discharge flume from the effluent final polishing pond as depicted in Schedule 1.</p>
EP Act	<p><i>Environmental Protection Act 1986 (WA)</i></p>
EP Regulations	<p><i>Environmental Protection Regulations 1987 (WA)</i></p>
Environmental compliance report	<p>means a report to satisfy the CEO that the conditioned infrastructure and/or equipment has been constructed and/or installed in accordance with the licence.</p>
geobag	<p>means a geotextile dewatering bag that allows solids to dewater over time while containing the solid component.</p>
hardstand	<p>means a surface with a permeability of 10⁻⁹ metres/ second or less.</p>
leachate	<p>means liquid released by or water that has percolated through waste and which contains some of its constituents.</p>
licence	<p>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.</p>
licence holder	<p>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.</p>

Term	Definition
neutralisation	<p>Is the process of soil treatment meeting the following performance criteria:</p> <ul style="list-style-type: none"> a) the neutralising capacity of the treated soil must exceed the existing plus potential acidity of the soil (e.g. pH_{fox} must be >5); b) the neutralising material has been thoroughly mixed with the soil; c) soil pH must be in the range of 6.0 to 8.5; and d) excess neutralising agent must remain within the soil until all acid generation reactions are complete and the soil has no further capacity to generate acidity.
premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises maps (Figures 1, 2 and 3) in Schedule 1 to this licence.
prescribed premises	has the same meaning given to that term under the EP Act.
suitably qualified engineer	<p>means a person who:</p> <ul style="list-style-type: none"> a) holds a Bachelor of Engineering recognised by the Institute of Engineers; and b) has a minimum of five years' experience working in a supervisory role in civil or structural engineering; and c) has worked for a minimum of four of the last five years;
treated wastewater	means wastewater that has been treated by the 'wastewater treatment system'
waste	has the same meaning given to that term under the EP Act.
wastewater treatment system	means the system for treating wastewater at the Premises which comprises of the elevated inlet works, inlet screens, oxidation ditch, clarification tank, tertiary filtration system, chemical dosing facilities, hardstand for sludge/ geobag dewatering, balancing and emergency storage pond.
wastewater treatment vessels	means any vessel or tank containment infrastructure associated with the treatment of wastewater.

END OF CONDITIONS

Schedule 1: Maps

Premises map

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

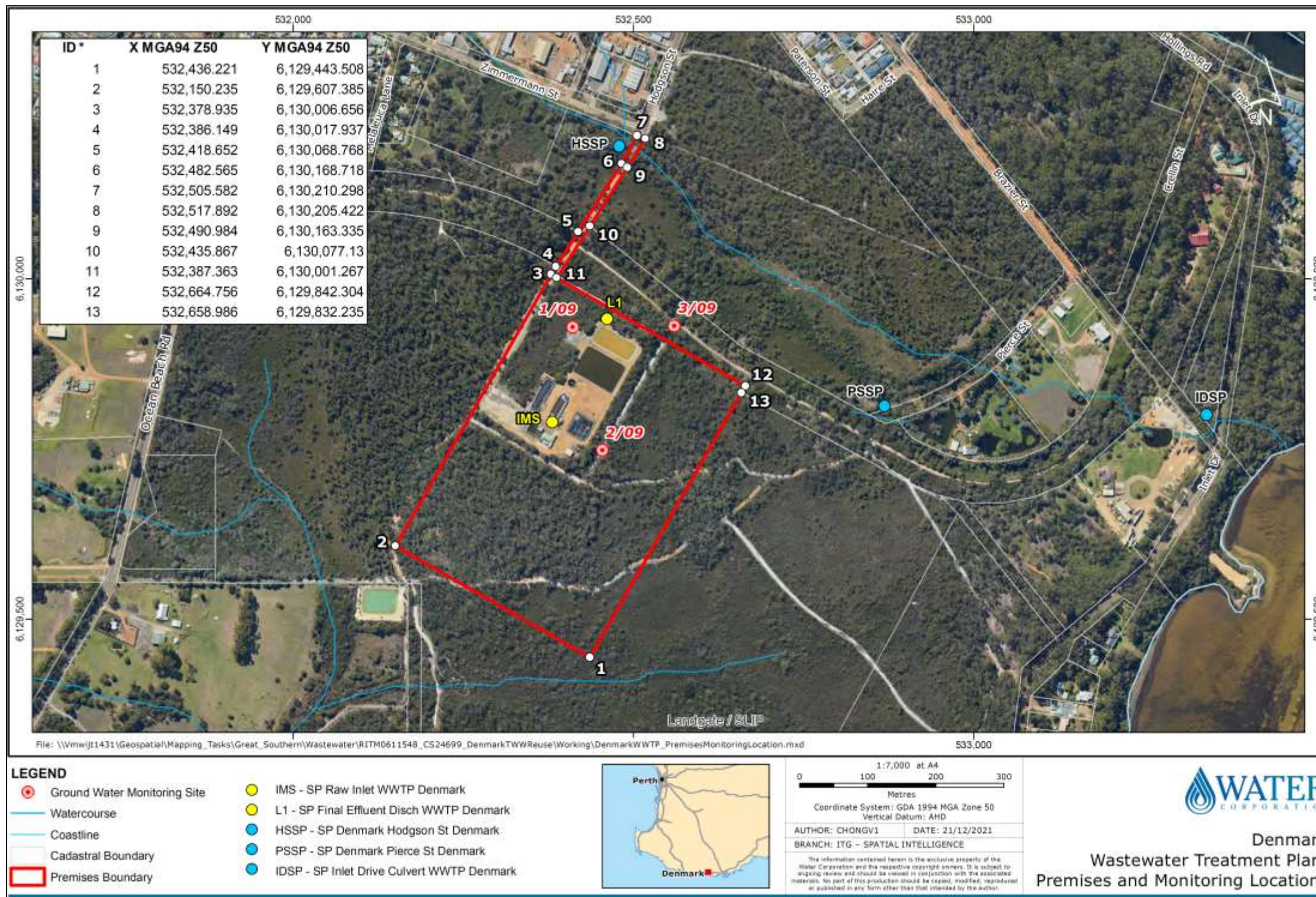


Figure 1: Map of the boundary of the prescribed premises (source: Water Corporation 2021, Denmark WWTP Treated wastewater reuse scheme (CS24699)).

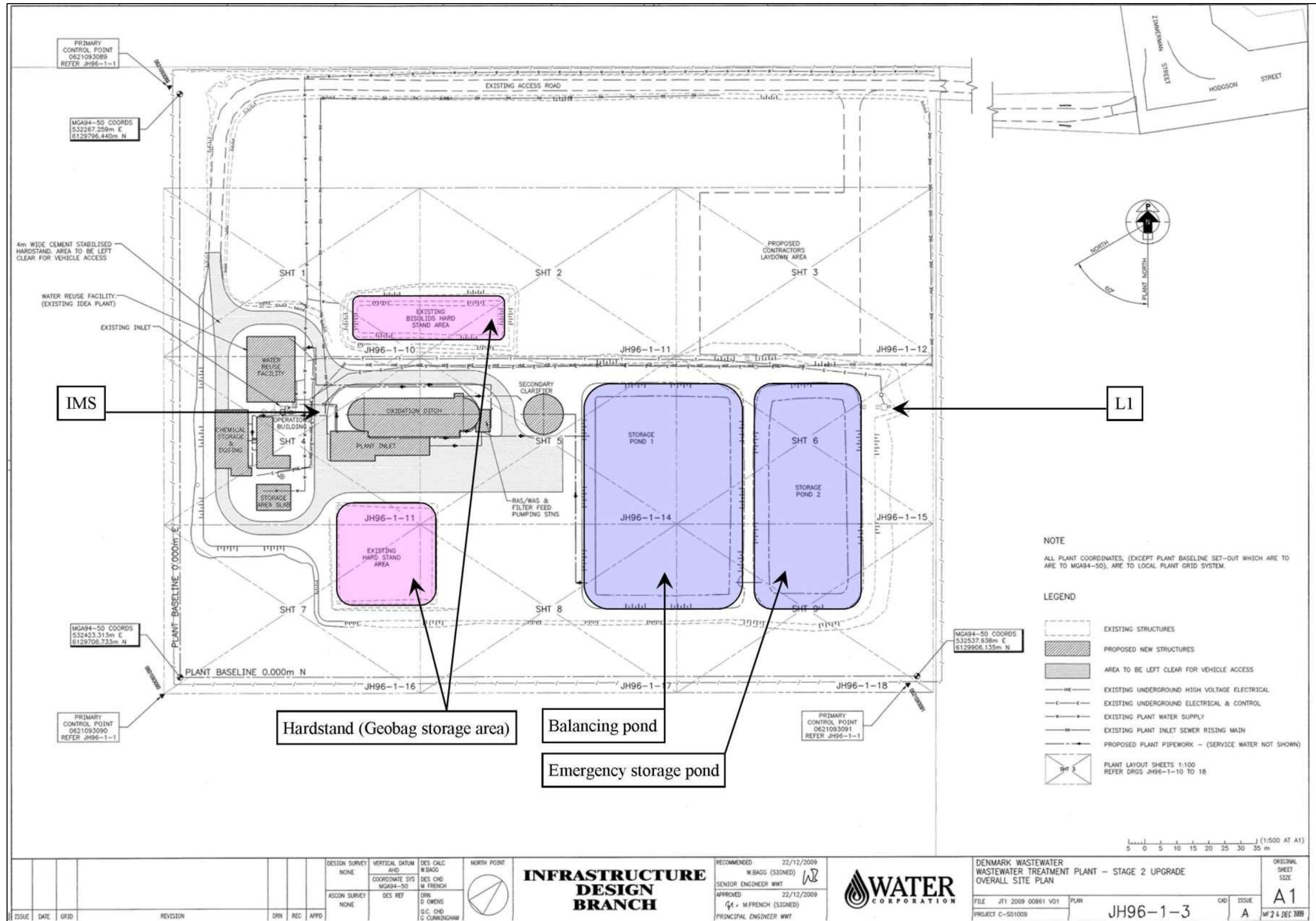


Figure 2: Schematic of the prescribed premises wastewater treatment system.

L6315/1991/1 (amended: 9 June 2022)

IR-T06 Licence template (v7.0) (February 2020)

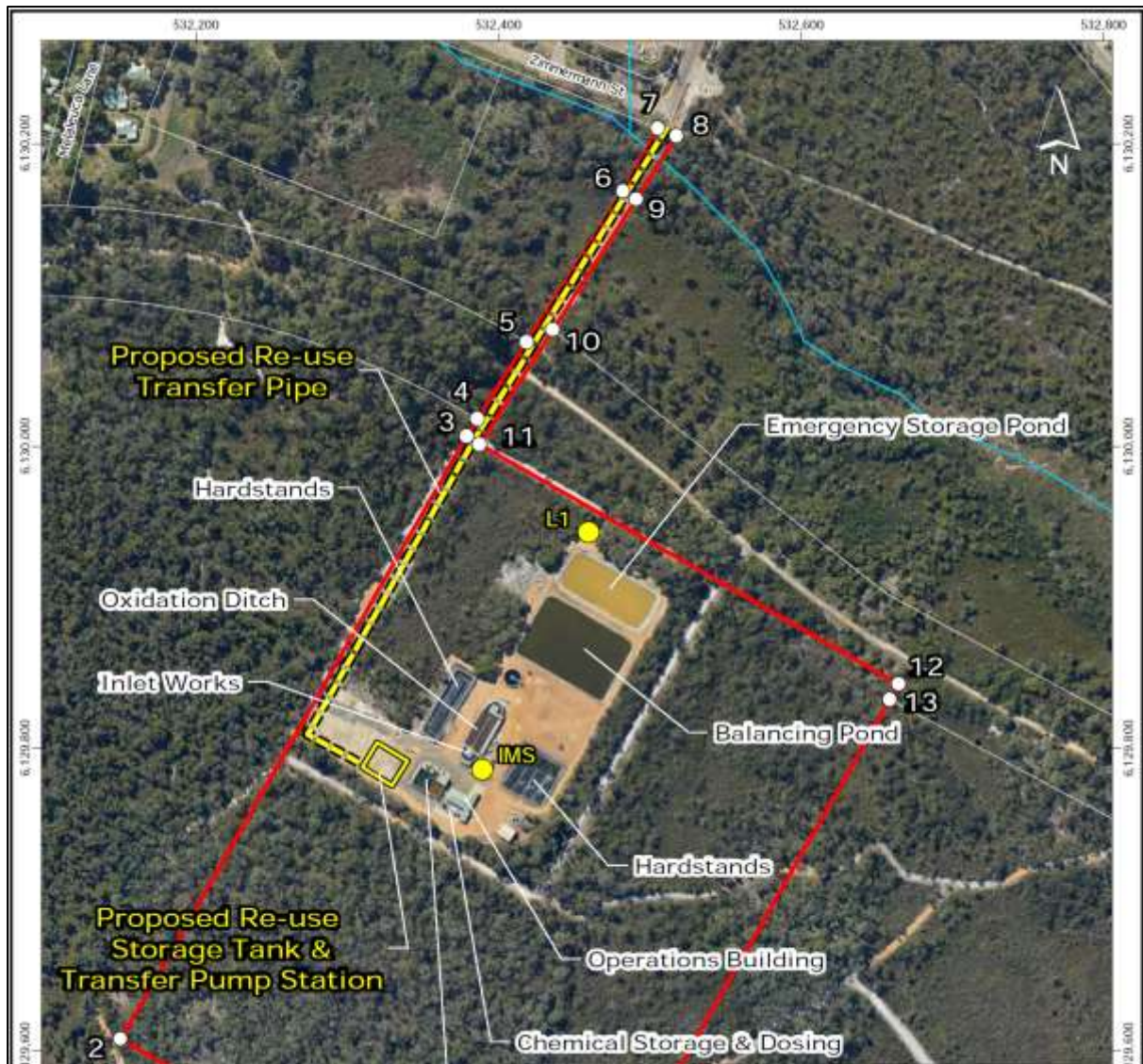


Figure 3: Location of the new infrastructure and equipment (source: Water Corporation 2021, *Denmark WWTP Treated wastewater reuse scheme (CS24699)*).

Schedule 2

Groundwater monitoring: Quality assurance and quality control

- 25.** The licence holder must adhere to the following field quality assurance and quality control procedures, as specified in Schedule B2 of the Assessment of Site Contamination NEPM, and must include as a minimum:
- (a) decontamination procedures for the cleaning of tools and sampling equipment before sampling and between samples;
 - (b) field instrument calibration for instruments used on site;
 - (c) blind replicate samples and rinsate blanks must be collected in the field and sent to the primary laboratory to determine the precision of the field sampling and laboratory analytical program;
 - (d) completed field monitoring sheets / sampling logs for each sample collected, showing:
 - (i) time of collection;
 - (ii) location of collection;
 - (iii) initials of sampler;
 - (iv) sampling method;
 - (v) field analysis results;
 - (vi) duplicate type / location (if relevant); and
 - (vii) site observations and weather conditions, and
 - (e) chain-of-custody documentation must be completed which details the following information:
 - (i) site identification;
 - (ii) the sampler;
 - (iii) nature of the sample;
 - (iv) collection time and date;
 - (v) analyses to be performed;
 - (vi) sample preservation method;
 - (vii) departure time from site;
 - (viii) dispatch courier(s); and
 - (ix) arrival time at the laboratory.