

ENVIRONMENT IMPROVEMENT PROGRAM

Pursuant to requirements under the Environment Protection Act 1993



1 Tracking and reference information

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| Document Number | 12957 V20230330 |
| Document date | 24 March 2023 |
| Licensee | Light Regional Council |
| EPA authorisation number | Licence 12957 |
| Site to which this EIP applies | 2 Daveyston Road Freeling (CT6158/466) 184 Dee Road Shea-Oak Log (CT6272/920) |
| Document produced by | Light Regional Council |

2 General description

Brief

Freeling is a small town located within the Light Regional Council (Council), approximately 50km north of Adelaide. The town is serviced by a Community Wastewater Management System (CWMS), involving collection, treatment and reuse of wastewater and sewage.

The wastewater and sewage are treated at the Freeling Wastewater Treatment Plant (WWTP) and is then discharged to the water storage lagoons located to the south of the WWTP.

Constructed in 2009, the WWTP is nearing the end of its life and no longer efficiently treats inflows. This has resulted in odours emanating beyond the treatment plant.

Licence compliance

An EIP is required to prevent and minimise odour impacts to sensitive receptors in Freeling and is required by Licence 12957, clause 3.1 (Condition U-1528 as of 23 February 2023).

3.1 ENVIRONMENT IMPROVEMENT PROGRAMME (U - 1528)

The Licensee must:

- 3.1.1 Develop and submit to the satisfaction of the EPA, by the compliance date listed below, an Environment Improvement Programme (EIP) for wastewater treatment upgrades at the Premises;
- 3.1.2 Undertake public consultation (and have regard to any submissions made during the course of public consultation) in the course of developing the EIP;
- 3.1.3 Ensure that the EIP includes but is not limited to;
 - a a summary of the results of public consultation undertaken in developing the EIP;
 - b clear timeframes by which:
 - i the Licensee will submit to the EPA an Alterations to Plant and Equipment application for the proposed wastewater treatment upgrades, which includes an odour assessment from a suitably qualified expert (i.e. a CASANZ Certified Air Quality Professional);
 - ii key milestones of the wastewater treatment upgrades will be completed;
 - iii the Licensee would undertake monitoring (once the wastewater treatment upgrades are complete and operational) to confirm the effectiveness of odour controls at the Premises and report the outcome to the satisfaction of the EPA;
 - iv the Licensee would provide, to the satisfaction of the EPA, a demonstration that the capacity of all irrigated areas is adequate to receive the volumes and loads of wastewater throughout the year to maximise the sustainable reuse of recycled water;
 - c a methodology for reporting to the EPA, including frequency, to demonstrate progress and completion of the compliance actions identified in the EIP; and
 - d a methodology for providing public access to the EIP.

This EIP will be made available to the public and accessible via the Light Regional Council website - light@light.sa.gov.au.

Referenced Documentation

1. Licence No. 12957 EPA Licence Light Regional Council issued 1 December 2022 (as amended 23 February 2023) - EIP Doc1
2. Submission to Department for Health and Wellbeing for the Freeling Wastewater Treatment Plant Upgrade - EIP Doc2
3. Draft EIP for public consultation dated 20 February 2023, released for public consultation on 21 February 2023 - EIP Doc3
4. Summary of submissions for EIP public consultation process - EIP Doc4

Intent

Council is currently upgrading the existing WWTP and providing a Tertiary Treatment Plant (TTP) for sustainable reuse of recycled water meeting the requirements of the Department for Health and Wellbeing (DHW). The aim is to increase capacity, improve performance of the WWTP, which in turn will reduce odours, improve water quality, provide an ability to reuse water, and to comply with DHW current legislative requirements.

The current system will remain operational throughout the construction and commissioning period.

Construction commenced in November 2022 with the WWTP expected to be largely completed in July 2023 and construction of the TTP expected to be commissioned by October 2023.

Changes made to existing infrastructure since construction commenced to minimise odour includes installation of two new floating aerators to the Anoxic and Aeration Tank. The new aerators were installed in November 2022 and have provided a much-needed improvement to the efficiency of aeration within the tanks.

With the addition of the TTP, wastewater will be treated to a standard that will enable use for irrigation of public open space, agriculture or viticulture. It is likely the demand for water will exceed the available supply.

A draft EIP was made publicly available through Council's website with a survey link provided between 21 February 2023 and 7 March 2023. There were no submissions by members of the public, or general feedback from the community on the proposal.

Site map

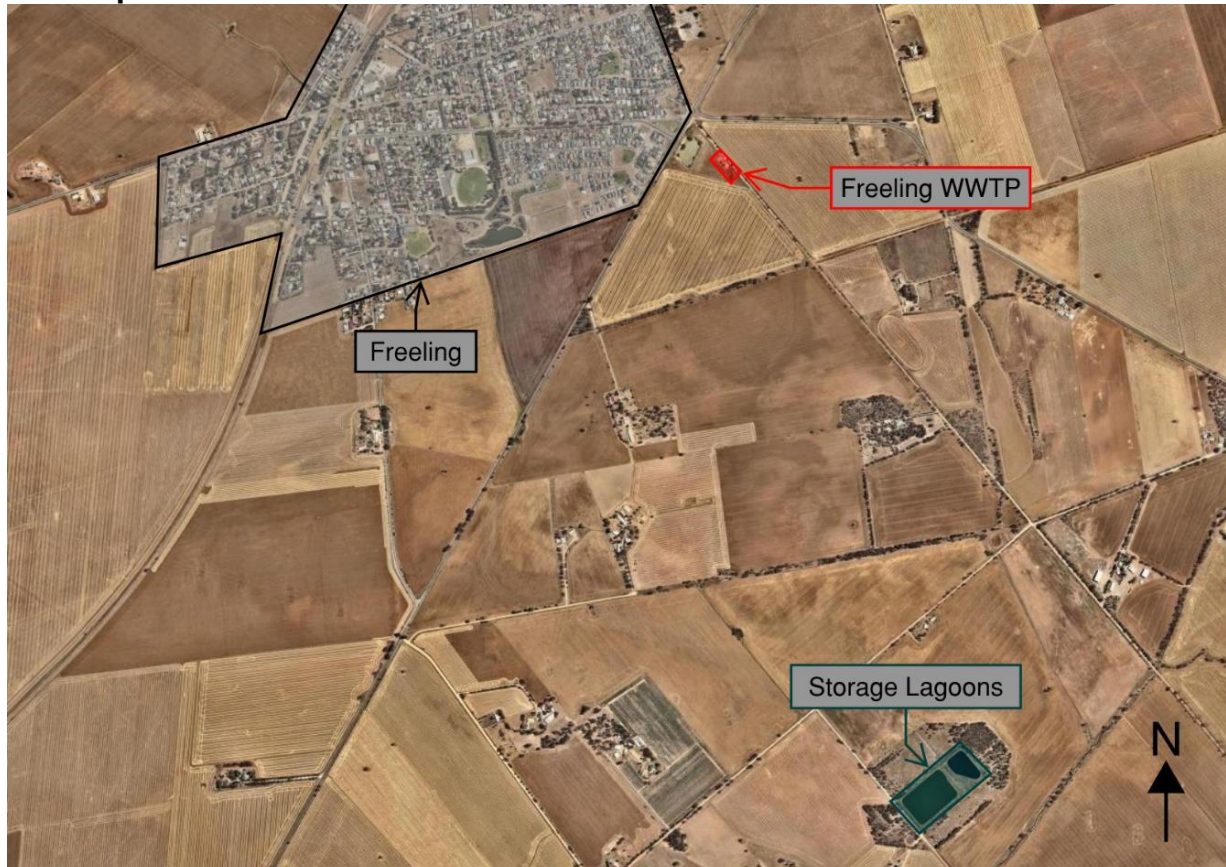


Figure 1 – Freeling township and WWTP location.

3 Table of intended approach

Construction commenced of the Freeling Wastewater Treatment Plant Upgrade and proposed Tertiary Treatment Plant in November 2022 with completion of both expected by October 2023.

The current WWTP will remain operational during this time.

4 EIP compliance actions

Compliance action 1 – *“the Licensee will submit to the EPA an Alterations to Plant and Equipment application for the proposed wastewater treatment upgrades, which includes an odour assessment from a suitably qualified expert (i.e. a CASANZ Certified Air Quality Professional)”*.

An application to the EPA for Alterations to Plant and Equipment will be submitted by 30 April 2023. The application will include;

- details of odour control measures;
- details of the effectiveness of measures taken up the date of the application submitted; and

- scope of works for the post commissioning odour assessment by a suitably qualified subject matter expert.

Compliance action 2 – *“key milestones of the wastewater treatment upgrades will be completed”*.

Key milestones of the WWTP upgrade are estimated as follows;

- Installation of new aerators to the existing Anoxic and Aeration Tanks by November 2022 (brought forward from the original program and now complete)
- Construction of two (2) concrete Sequential Batching Reactor tanks, first tank by December 2022 (completed) and second tank by 30 March 2023.
- A new contained grit removal screen to be operational in accordance with DHW requirements by 30 May 2023. (Install complete, yet to be commissioned)
- Complete WWTP by 30 July 2023
- Commission of SCADA system and WWTP by 30 August 2023
- Complete TTP by 30 September 2023
- Commission TTP by 31 October 2023

As milestones are reached, the EPA will be advised with either photographic or documented evidence.

Compliance action 3 – *“the Licensee would undertake monitoring (once the wastewater treatment upgrades are complete and operational) to confirm the effectiveness of odour controls at the Premises and report the outcome to the satisfaction of the EPA”*.

On site odour monitoring is currently in place by recording a log of reported odours by staff or contractors who attend the site, in addition to any reports of odours by members of the public. Monitoring will continue at the site for twelve months following commissioning of the works and completion of the project.

Quarterly reports will be provided to the EPA of details captured for a twelve month period from expected completion in October 2023 up to and including October 2024 (with the time frame adjusted accordingly with completion of the project).

An independent odour assessment will take place following commissioning of the WWTP, and prior to the end of 2023, with timing of such an assessment subject to the advice of an independent technical expert. Should the advice from an independent odour assessment recommend the assessment take place in 2024, this information shall be provided to the EPA no later than 30 December 2023.

Compliance action 4 – “the Licensee would provide, to the satisfaction of the EPA, a demonstration that the capacity of all irrigated areas is adequate to receive the volumes and loads of wastewater throughout the year to maximise the sustainable reuse of recycled water”.

The Application for Plant and Equipment required by Compliance Action 1 will include a water balance table and identified water reuse options.

Following the commissioning of the WWTP and the TTP, Council will provide to the EPA an updated water balance table outlining the;

- water quantity required from third party recipients; and
- areas of irrigation where treated water is able to be used

By 30 November 2023

And further, on a quarterly basis during 2024; reports that verify the water balance table and detail the following;

- Flows from the inlet to the WWTP
- outlet flows from the TTP (including a breakdown of recycled water quantities used by third parties and Council)
- Water quality reports from the Australian Water Quality Centre (AWQC)
- An assessment of the capacity of public assets to receive additional recycled water.

5 Submission

Submitted by:



Megan Renzella
Acting General Manager Infrastructure and Environment
Light Regional Council

ENVIRONMENT PROTECTION AUTHORITY

THIS IS THE APPROVED Environment Improvement Programme

REFERRED TO IN CONDITION 3.1 ENVIRONMENT IMPROVEMENT PROGRAMME (U - 1528)

OF EPA AUTHORISATION NUMBER 12957

DELEGATE Shaun Thomas  DATE 05/04/2023
Principal Adviser Compliance