Odour management at Bateau Bay Sewage Treatment Plant

Sewage treatment aims to clean and sanitise wastewater before it's reintroduced into the environment.

Odour management is a common complaint associated with sewage treatment plants. As part of our commitment to improving your water and sewer services, we are planning to address the presence of odour at Bateau Bay.

These FAQs will help explain why this is happening and how we plan to address the odour.

Background

The Bateau Bay Sewage Treatment Plant (STP) currently services a population of approximately 40,000 people, bounded by the suburbs of The Entrance North, Killarney Vale and Bateau Bay.

The sewerage reticulation network is serviced by 16 STP's, with three major stations delivering sewage directly to the STP. There are four sewer pump stations that have odour control injection facilities installed and operated.

What occurs at a Sewage Treatment Plant?

Raw sewage from as far away as The Entrance North and Killarney Vale, is pumped to Bateau Bay Sewage Treatment Plant where it undergoes a variety of treatment processes.

The main goal of sewage treatment is to create a volatile-free effluent that can be safely discharged into the environment or reused as recycled water. Controlling odours is one of the most important – and yet most challenging aspects of sewage treatment.

How are odours created?

Reasons why odours occur may include:

- Inappropriate chemicals entering the sewage system have disrupted the treatment process
- Operational breakdowns
- Aging infrastructure.

Odours can increase in certain parts of the treatment process, for example; the inlet or headworks of the plant is where the flows come in. The raw sewage entering the plant may have more foul-smelling or stronger odours when compared to other parts of the treatment plant.

Sewage treatment plant odours are commonly associated with the anaerobic (without oxygen) breakdown of organic compounds in sewage by microbes such as bacteria. A natural by-product of anaerobic digestion is a gas known as hydrogen sulphide (commonly called rotten

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egg gas). This gas can cause a strong, nauseating, and offensive smell. Due to low solubility in sewage it is readily released into the atmosphere. Council actively dose chemicals (oxygen, peroxide, air or ferrous chloride) into the incoming sewage to help increase the levels of oxygen and reduce the potential for odours.

Is it dangerous or unhealthy?

While offensive, there is no threat to public health from the STP odour.

Actions Council are currently undertaking to address odours?

- *Maintenance Works*
  - Data Loggers have been installed at the STP to identify the source of the odours so mitigation measures can be implemented.
  - Council have recently replaced the activated carbon media at the inlet works and will continue to monitor its effectiveness.
  - We are making adjustments to the odour injection facilities to help improve the quality of the sewage entering the plant.
- *Planned Upgrade Works*
  - New Odour Control Facility at:
    - The Treatment Plant Inlet works
    - The Primary Sedimentation Tanks
  - Full Plant Process Optimisation
    - New biosolids management

Total estimate for the proposed works?

- Upgrade to the Odour Control Facilities
  - Current estimate $3.5M
- Plant Process Optimisation
  - Current estimate $32M
- Odour, Corrosion and Septicity Investigation
  - Current estimate $1.1M

When will the works commence?

Odour Control Facility

- Works are anticipated to commence in late 2023, with an estimated completion date in mid-2024.

Process Optimisation

- These works are anticipated to be completed in 2026-2027 FY.

Odour & Septicity Investigations

- These works are anticipated to be completed in 2025-2026 FY.

Keep updated

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