

Odour Management Plan – Whitby WwTW Tankered Trade Imports

Site details

Site name: Whitby Wastewater Treatment Works

Site address: Stainsacre Lane, Whitby, YO22 4NW

Operator name: Yorkshire Water Services Limited

Permit number: To be confirmed

Who this plan is for:

- All YW colleagues who work or visit site, contractors working or visiting site, Environment Agency officers
- This document will be stored on YW's IMS and be available on site.

Document owner

Document author: Katherine Jowsey

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List of revisions

Revision number	Revision authorised by	Date submitted to Environment Agency	Revision owner
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1. Introduction

This Odour Management Plan (OMP) is a live working document that forms part of the operational management system of tankered trade imports to Whitby WwTW only. It has been submitted to the Environment Agency in support of the environmental permit application for tanker trade waste imports to Whitby WwTW. Following an environmental risk assessment, it has been determined that the odour risk from this activity is low.

The OMP demonstrates how odours shall be managed and controlled to prevent odour impacts from activities during normal operation and during abnormal events.

The OMP provides sufficient detail to allow operators and maintenance staff to clearly understand the operational procedures for both normal and abnormal conditions. It is intended to be used as a reference document by operational staff on a day-to-day basis.

This OMP has been prepared using the following guidance:

- Environment Agency Odour Management Plan Template and Guidance
- Environmental Permitting: H4 Odour Management Guidance

This OMP also forms part of Yorkshire Water's ISO 14001 Environment Management System (EMS). The Technically Competent Manager (TCM) for the site will be responsible for this OMP, its implementation and regular review. This OMP will be reviewed annually and more frequently where there are valid odour complaints.

1.1 Site description

Whitby WwTW is located on the south-eastern fringes of Whitby. The site is surrounded by the Stainsacre Beck to the south, the A171 to the north, farmland to the north and west and residential properties and a caravan park to the east. To the south of the Beck is a wooded area and long-distance path. The closest residential and commercial properties are approximately 60m east, Stainsacre approximately 600m south-east, and the Whitby industrial estate 500m north-east.



Figure 1 - Site location plan

There is an area of ancient woodland 75m south of the site, known by various names including Larpool Wood and Cock Mill Wood. The nearest SAC and SPA is the North

Yorks Moors, approximately 2.9km south west of the site at its closest point. The nearest SSSI is the Whitby-Saltwick SSSI approximately 2.2km north. The site does not lie within any Source Protection Zones or areas designated for nature conservation.

The whole site lies within Flood Zone 1 with a low probability of flooding from rivers (<1:1000 annual probability of flooding).

Whitby WwTW treats domestic and industrial waste. The OMP for Whitby WwTW is stored on Yorkshire Waters IMS.

1.2 Process Overview

This OMP covers the import of tankered trade waste to Whitby WwTW. Yorkshire Water are applying for a bespoke waste Environmental Permit at Whitby Wastewater Treatment Works (WwTW) which relates to the acceptance of liquid waste and discharge of effluent into the main works.

Liquid wastes are delivered to the site by road tanker from a number of sources for treatment within the WwTW. These effluents are discharged directly into the 'head of the works'. Effluents are discharged to the 'head of the works' they are mixed within the incoming sewer delivered urban wastewater directive (UWWTD) main flow. Once the liquid effluent enters the main works system it is classified as urban wastewater and is therefore, no longer considered waste under the Waste Framework Directive 2008/98/EC. This permit is limited to the acceptance of waste.

It is proposed that the maximum quantity of the above mentioned tankered waste accepted at Whitby WwTW is an annual allowance of 500,000 tonnes. Due to the nature of the site, the works is operational 24-7. However, the majority of imports will be received between 0600-1900.

The types of accepted tankered waste are specified in the permit application.

1.3 Maintenance and review of the OMP

A digital copy of this OMP is available on Yorkshire Waters IMS.

Assessment of competence and identification of individual training needs is carried out through mutual discussion between the individual and their manager as part of the company performance management process, a fundamental part of which is the competency framework and progression plans which are available for every role in the organisation. All YW employees receive IMS awareness training, delivered online at induction and periodically thereafter. This includes awareness of the environmental policy and understanding key environmental hazards and risks and the need to comply with IMS requirements. Toolbox talks are used to provide information and training to site staff, including information about environmental requirements/activities and legislative and compliance requirements. Training records for programmes and courses managed centrally are held on the company Learning Management System. Records for specific training managed locally at site is held by individual managers and/or on the Learning Management System.

The training requirements for key staff at Whitby WwTW are displayed in Table 1 below.

Table 1 - Training requirements for Whitby WwTW Tankered Trade Imports OMP

Post	Training Requirement
Product and Process Site Manager (PPM)	<ul style="list-style-type: none"> • Awareness of the responsibilities for avoiding odour nuisance. • Procedures for abnormal conditions. • Requirements of the OMP and Environmental Permit.
Product and Process Engineer (PPE)	<ul style="list-style-type: none"> • Awareness of the responsibilities for avoiding odour nuisance. • Procedures for abnormal conditions. • Requirements of the OMP and Environmental Permit.

2. Receptors

2.1. Receptor List

Table 2.1. Receptor list

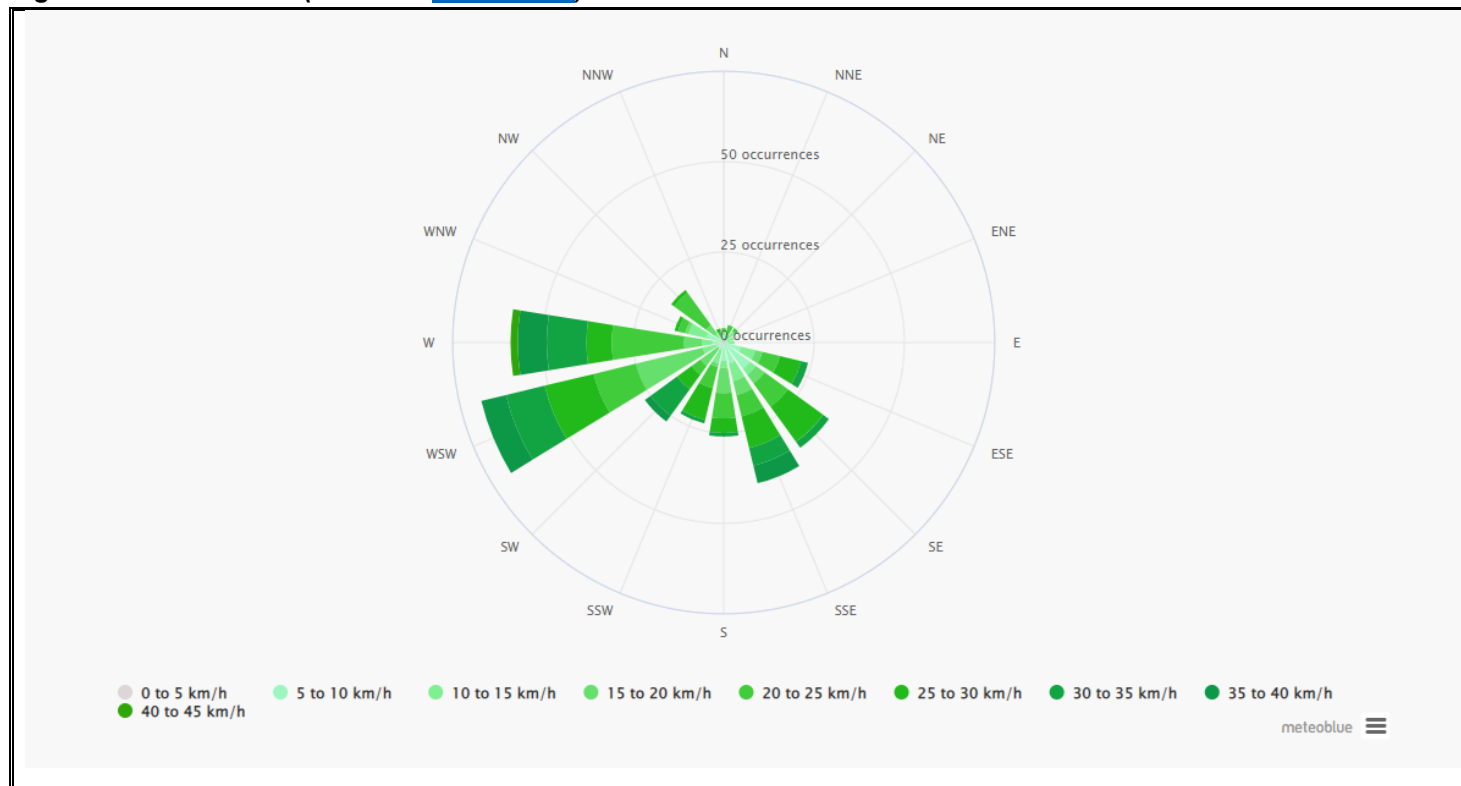
Receptor reference	Land use e.g., house, school, hospital, commercial	Approximate distance and direction to site boundary	Sensitivity to odour Low (e.g., footpath/road) Medium (e.g., industrial / commercial workplace) High (e.g., housing / pub / hotel etc.)
1	Principal (secondary A) Bedrock Aquifer	n/a	Low
2	Secondary (Undifferentiated) Superficial Aquifer	n/a	Low
3	River Esk	1.3km NW	Low
4	Stainsacre Beck	50m S	Low
5	North Yorks Moors (SAC/SPA/SSSI)	2.9km SW	Low
6	Ancient woodland Larpool Wood / Cock Mill Wood	75m S	Low
7	Residential Receptors including caravan park	60m E	High
8	Residential area (Stainsacre)	600m SE	High
9	Commercial receptor Whitby Industrial Estate	500m NE	Medium

2.2. Wind rose and source of weather data

In the UK, the prevailing wind directions are commonly from the west and south-west. The wind direction and speed will impact the dispersion of odour emissions from site. There is currently no wind station on site to measure meteorological conditions.

Whitby meteorological station is the closest representative station for Whitby WwTW. The meteorological station is located approximately 2.7km north-west of the site and is to be considered comparable to the meteorological conditions on site.

Figure 2.2. - Wind rose (source: - [Meteo Blue](#))



3. Sources of odour and site processes

3.1 Site Processes and Proposed Permit Boundary

Waste is transported to Whitby WwTW via road in sealed tankers. On delivery, effluents are discharged from the tanker, using sealed coupling hoses via a dedicated tanker offloading point, directly into the 'head of the works' for full treatment. This offloading process takes 15 minutes to complete. There is rapid mixing (0-2 minutes) with the incoming flow at the inlet.

The tanker offloading point is equipped with a key fob-controlled data logger, which measures the volume discharged, as well as the origin of the waste. Offloading is only possible once the data logger has been activated. The tanker offloading area is equipped with impermeable surfaces to minimise the impact of any spillages on the wider environment. Where any spillages do occur, the drainage system in the offloading area is connected to the 'head of the works'. The offloading point is fixed and equipped with appropriate sealed tanker coupling hoses to reduce the risk of poor tanker connection.

All loads are subject to robust pre-acceptance checks to determine their suitability for the processes on site, including an assessment of their variability over time. All loads are pre-booked into the works, to ensure that there is sufficient capacity within the works, and if necessary, loads are diverted to other appropriately permitted facilities. Once a load has been assessed and determined to be acceptable for treatment at the site, the producer is issued an appropriate key fob to access the data logger and offloading point at the works. The data logger is interlocked with the offloading point to ensure that only authorised loads are accepted. The offloading point is covered by CCTV camera and prior to offloading, the control centre for the works must approve the offloading. Loads are subject to random sampling and inspection prior to offloading.

Pre-acceptance and acceptance method statements for the works have been prepared and approved as part of the YW management system. These are corporate level documents applicable across all potential imports to any of YW WwTW, however, individual works may have specific restrictions or limitations on chemical and biological components within potential imports, based on site specific factors.

Due to the nature of the site, the works is operational 24 hours a day, however, it may not be fully staffed during all operational hours. There is continuous monitoring of the site from the regional YW control centre. The site is currently operational. There are no channelled emissions to air from the permitted operations.

Due to the nature of tankered trade imports, waste comes from a range of customers dependent on demand, and as there is no storage of waste on site, the following information has been omitted from the OMP, as it is not relevant to site processes:

- Source of waste (as this is variable depending on customers)
- Age of waste (N/A – no storage)
- Storage / treatment method and location (N/A – no storage)
- Storage time limits (N/A – no storage)

Rejection Procedure

When a waste is deemed unacceptable due to not meeting the requirements stated above, or the load is too malodourous it will be rejected by operational colleagues on site. The waste will be managed as outlined below:

1. Waste identified as unacceptable due to odour or failing to pass pre-acceptance checks
2. Tanker is directed away from offloading point and is quarantined in separate area of tanker offloading area
3. The waste supplier is contacted and is informed of the rejection and reason for rejection
4. Waste supplier requested to remove waste tanker from site if deemed unacceptable for discharge

3.2 Odorous materials

A complete list of waste types that are accepted at Whitby WwTW can be found in the permit application. The risk of odour has been deemed low due to pre-acceptance checks which will minimise odour risk. All tankered wastes are imported into site in sealed tankers and are offloaded into the inlet through sealed coupling hoses. As outlined in section 3.1, rejected loads which are not suitable for treatment directed back to the site of origin.

3.3 Inventory of odorous materials

Table 3.1 - Inventory of odorous materials

Table 3.1 provides an inventory of wastes which may cause increased odour on site and their mitigation measures.

Source	Source Type	Storage capacity (m ³)	Average retention time	Frequency of operation	Odour risk before mitigation	Mitigation	Odour risk after mitigation
Wastewater treatment works inlet works	Liquid imports (see EWC list in permit for full list of imported waste types)	0	Offloading of waste from tanker takes approximately 15 minutes but retention time is 0 – 2 minutes due to rapid mixing with main works flow.	Intermittent Daily	Low – sewage dilutes other wastes.	Pre-acceptance checks screen out highly odorous material. Tankers and offloading coupling hoses are both sealed.	Low

4. Odour reporting

4.1 Complaints reporting

External odour complaints are received by Loop, which is the external company YW uses for all customer contacts. The call handler will work with the caller to understand the source of the issue. They will explore where the caller experienced the odour, whether it is a repeat or a singular issue, when and where it's most noticeable, what site the odour may be coming from, a description of the smell and if it's the first time it's been noticed. Loop record all complaints on the ICE system and contact the appropriate site owner to manage the complaint. ICE is a computer program used to record and manage customer contacts.

If the PPE or any YW staff identify an abnormal odour release, the PPE will undertake an investigation using the Operator Site Checklist and complete any actions the investigation suggests. The PPE should then put a note in the site diary and the odour site diary and inform the Technical Optimiser and Site Manager of their findings.

4.2 Community engagement

Customers are at the heart of what we do at YW. In the event of an odour issue affecting multiple customers within the community, YW communication team will decide the level of response that is required. This could include, but not be restricted to, stakeholder liaison (communication through local councillors, MPs and affected businesses), local media liaison and/or community meetings to discuss the issues and actions that will be undertaken to rectify the issue. Customer engagement events would be held if the odour severity dictated this level of response. Customers may be encouraged to keep an odour diary to record when odour is perceived to be a greater issue.

4.3 Pro-active odour monitoring & olfactometry monitoring

A pre-acceptance procedure is in place to screen out highly odorous effluent.

Sniff testing is recognised by YW as a useful technique to build up a picture of the impact the odour has on the surrounding environment over time. Sniff testing shall be used to support profiling site odour impact, investigate odour complaints and to introduce temporary odour mitigation measures. Monthly sniff tests shall be carried out by non-site-based staff (Technically Competent Manager) who are not adapted to site odours. In the event of odour complaints being received, site operators shall undertake a sniff test including off-site sniff testing local to the complaint location(s). A copy of the sniff test form can be found in Appendix 1.

4.4 Reactive odour monitoring

If any receptors reported an odour complaint, YW would review import data to understand the loads imported around the time that the odour was observed. These loads would then

be assessed via an odour sniff test (see appendix 1) at the next import and if deemed necessary, hours of acceptance would be restricted to times less likely to cause nuisance. Alternatively, the import would be directed to another YW site less sensitive to odour (with no odour sensitive receptors). If an import was found to be causing a significant, repeated odour issue, the waste would no longer be accepted by YW.

5. Abnormal events

If an abnormal event were to occur that would put pressure on operations at Whitby WwTW, the acceptance of tankered trade waste would be halted until such a time that imported waste could be accepted again without compromising the WwTW operation.

6. Appendix 1

Sniff Testing Record Sheet

Test by		Start Time	
Date		End Time	
Weather Condition		Temperature	
Wind Strength		Wind Direction	

Location No. / Name	Nearest Receptor Sensitivity	Intensity	What does it smell like?	Frequency of odour?	Is the source evident	Other comments / observations
Tankered trade import point	Low / Medium / High	0 No odour 1 Very faint 3 Faint odour 4 Distinct odour 5 Strong odour 6 Very strong odour 7 Extremely strong odour		Constant / Intermittent	Yes / No Source area / name to be provided. Might be that maintenance work is occurring and you can detect increased odours due to that activity.	Are there odours detected from other sources? Farm / Landfill / other industry etc