Odour Management Plan for Waste Transfer Operations

GAP GROUP LIMITED

Kempson Way

Bury St Edmonds

Suffolk

IP32 7AR

Version 1.0 – 14.09.2024

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1.0 Operations and odour management plan

1.1 Introduction

The structure of this OMP has been revised on the basis of the Environment Agency Guidance

available at the website and can be seen in the CONTENTS listing that follows here:

https://www.gov.uk/government/publications/environmental-permitting-h4-odour-management

This OMP is aimed at assisting the site management and staff in effectively managing potential odour releases associated with the operations at the site and minimisation of the risk of abnormal operational conditions, which could result in increased risk of odour generation at the site.

This type of operation has been carried out across the country by a number of operators without the requirement for an environmental permit, however a change in case law has resulted in an environmental permit being required due to the manual screening of the waste.

1.2 Structure of the Odour Management Plan

The structure of the OMP is laid out in accordance with EA guidance and considers:

- Operations and odour management plan
- Process and emissions
- Prevention
- Dispersion and Receptors
- Procedures

1.3 Objectives This odour management plan is designed to:

• employ appropriate methods, including monitoring and contingencies, to control and minimise odour pollution;

• prevent unacceptable odour pollution at all times;

• reduce the risk of odour releasing incidents or accidents by anticipating them and planning accordingly.

The OMP will consider sources, releases and impacts, and use these to identify cost effective opportunities for odour management.

2.0 Process and Emissions

2.1 Liquid waste transfer and storage operations

GAP GROUP Limited's Welfare Division operates a fleet of tankers designed to facilitate the emptying of septic tanks and portable toilets from the construction industry throughout the country.

GAP wish to transfer the waste direct to the foul sewer at their site at - Kempson Way, Bury St Edmonds, Suffolk, IP32 7AR, instead of transferring it at waste water treatment works. The process of transferring the waste to the foul sewer requires the waste to be passed over a metal screen to collect any foreign bodies such as tools and mobile phones.

This is also the case for liquids entering storage tanks in preparation to be released to the foul sewer at a controlled flow.

The act of screening of the waste liquid and storage requires the activity to be permitted and as a result an odour management plan being created as part of the bespoke permit application is required. This activity is common place at sewage treatment works, which accept tankered liquid wastes.

The transfer of septic tank waste has the potential to generate malodours from process. This OMP makes an assessment of likely sources of odour generation and sets out good site practice and mitigation that is employed to minimise where reasonably practicable any odour emitted from site.

The likelihood and frequency of exposure to odour arising from the facility is determined by combination of the magnitude of release, the prevailing meteorological conditions, and the distance and direction of receptors in relation to the facility. Each of these factors are discussed in the following sections.

2.2 Conceptual Model

The conceptual model for pollutant linkages identified for the release of odours from the Waste transfer facility is identified in Figure 1 below

SOURCE	PATHWAY	RECEPTOR
		
		
Release of odours during waste transfer to foul sewer.	Airborne transportation.	Nearby sensitive receptors identified in section 7.
HAZARD	Nuisance to local population	

2.3 Source Material

The site will operate a waste transfer and treatment operation through the transfer of septic tank and portable toilet waste from road tanker via a screen to the foul sewer or a to a storage tank prior to release to the foul sewer.

In order to understand the odour potential of the different waste streams that enter the process, a feedstock inventory has been provided for the various waste types.

Table 1 below provides an assessment of each waste type by source of material, identifying the typical and abnormal compositions of those waste types and providing an overall odour potential of that feedstock based upon the likelihood of abnormal conditions being encountered at site.

Table 1 - Assessment of Odour Potential from source material

Waste Type	Waste Source	Typical Composition	Abnormal Composition	Likelihood	Odour Potential
20 03 04 - septic tank sludge	Construction site and sites requiring temporary toilet facilities	Mixtures of water and wastes from toilet blocks	Unlikely septic tanks only serve toilet blocks. Waste can be up to two weeks old.	Waste can regularly be up to two weeks old.	High
16 10 02 - aqueous liquid wastes other than those mentioned in 16 10 01	Construction site and sites requiring temporary toilet facilities	Mixtures of wastes from portable toilets and sanitising chemicals	Unlikely septic tanks only serve. Waste can be up to two weeks old.	Waste can regularly be up to two weeks old.	Medium
20 03 06 Waste from sewage cleaning	Construction site and sites requiring temporary toilet facilities	Mixtures of water and wastes from toilet blocks	Unlikely septic tanks only serve toilet blocks. Waste can be up to two weeks old.	Waste can regularly be up to two weeks old.	Medium
20 03 99 Municipal wastes not otherwise specified	Construction site and sites requiring temporary toilet facilities	Mixtures of wastes from portable toilets and sanitising chemicals	Unlikely septic tanks only serve. Waste can be up to two weeks old.	Waste can regularly be up to two weeks old.	Medium

2.4 Waste Acceptance

The facility is very limited in the waste that it will accept due to the nature of the work that company completes and the wastes that the site is designed to handle. The Environmental Permit will also be limited to only two EWC codes:

- 20 03 04 - septic tank sludge
- 16 10 02 – portable toilet waste
- 20 03 06 Waste from sewage cleaning
- 20 03 99 Municipal wastes not otherwise specified

GAP will collect the waste from the customer and transfer it at the site ensuring consistency and adhering to waste acceptance criteria.

All waste will be checked before being collected and if it is now in line with the above waste streams it will be transferred to a permitted waste facility that can accept the waste stream.

Furthermore, only GAP will use the facility ensuring total control of both the waste collection and transfer process.

2.5 Process

The process is simple whereby a tanker that has collected either septic tank sludge or portable toilet waste discharges it foul sewer or it is stored in a sealed tank prior to release to the foul sewer at a controlled rate.

The tanker is a sealed unit and is coupled via a flexible hose to a coupling that connects to the foul sewer or the storage tank meaning no waste liquid is exposed throughout the transfer process.

The discharge point contains a metal screen that is designed to prevent items that had been dropped into portable toilets such as tools and mobile phones entering the foul sewer. This screen is cleared on a daily basis and any solids are collected and placed inside black bags, which are in turn stored within a sealed skip.

The process is enclosed as opposed to pumping the liquid waste from a tanker to an open manhole to the foul sewer.

Image of purpose built discharge point

Treatment via dewatering

The second process is the dewatering of liquid and sludge wastes before the de-watered liquid is discharged to the foul sewer.

Waste liquids or sludge's are transferred from the tanker via a sealed hose connector to the first of two sealed tanks. This allows no contact between the waste material and the air.

The liquid / sludge passes through screen via gravity within the first sealed container. The remailing liquid is then pumped again via sealed hoses to a second tank. At the point of pumping a flocculent is added. Once within the second sealed container the liquid with the aid of the added flocculent settles under gravity allowing the suspended solids to remain and the resulting liquid to be discharged to the foul sewer.

The process of discharging to the foul sewer will be the same as with the first site process of direct tanker discharge to the foul sewer where by the liquid is pumped via a sealed flexible pipe.

2.6 Contingency Planning

Should the above process controls fail at any point during the transfer and a spill was to occur, the tanker pump would be switched off and the transfer stopped.

Any liquid would be contained on the sealed concrete pad and immediate hosed to the foul sewer via open manholes. If in the event of the discharge point was damaged receipt of tankers shall not recommence until a full review of this Odour Management Plan has been conducted and process controls (including critical limits) amended as required.

The company uses a network of permitted waste management sites that tankers could be diverted to until the site was ready to accept waste again.

2.7 Releases

Key measures for management of releases includes reducing evaporation and, if needed, containment and abatement. The whole process is carried out in a controlled manner to assist with minimising odour releases.

The process involves connecting the tanker to a purpose built discharge point or the storage tank via a flexible hose, meaning there are no release points and the process is fully enclosed. This is the same transfer system that is used at sewage treatment works for accepting tankered liquid wastes.

As a result, there will be no evaporation of liquids that can be a key creation of odour.

There are no point source discharges of odour due to the use of the of the purpose built connection (Appendix A) points and as a result exposure is low.

2.8 Odour Release Point Inventory

All identified odour release points have been collated into the table below for quick reference. The inventory assists in identifying the physical locations that require management.

Odour Release Point & Description	Location and Process
Transfer of tankered waste	Coupling on tanker and discharge point
Transfer of waste to foul sewer	Coupling on tank and discharge point
Transfer of tankered waste	Coupling on tanker and first storage tank

Treatment via dewatering

The second process is the dewatering of liquid and sludge wastes before the de-watered liquid is discharged to the foul sewer.

Odour Release Point & Description	Location and Process
Transfer of tankered waste	Coupling on tanker and first container
Transfer of waste between tanks	Between both tanks
Transfer of waste to foul sewer	Coupling on tank and discharge point
Tank observation points	Top of both tanks

2.11 Frequency

There discharges to the foul sewer each day will not be constant. As a result, the frequency of potential odour releases is very limited.

The time of the time of the discharges will be within the sites opening hours.

2.12 Alternative to proposed transfer system

The system that is proposed for the transfer of liquid waste from the tanker to the foul sewer uses the same connectors and equipment as those found on sewage treatment works that accept tankered effluent. This is the industry standard method for of transfer.

There are no other available techniques facilitating the transfer of liquids from tankers where the discharge remaining free from contacting the air.

As a result, this method was deemed the most suitable and least likely to result in odour complaints.

3.0 Prevention

3.1 Internal Odour Assessment and Monitoring

GAP will carry out odour checks at 4 points around the perimeter of the site on a daily basis (shown in figure 3.3) when transfers are taking place. Monitoring is undertaken at various times to build in an element of random checks. In the event that a perimeter odour at 3 or above is recorded, then off site odour

checks will be carried out in the prevailing wind direction and details recorded in the site diary. Office staff and other visiting staff are encouraged to check odour to reduce the risk of site staff becoming normalised to the tankered waste. Records will be maintained for two years.

Figure 3.0 Internal odour monitoring points

3.2 Daily Checks

A Daily Checklist will be implemented which is to be carried out daily and available to the Environment Agency on inspection. The checklist will be filled in daily by the site manager or other appropriate person in order to monitor the site cleanliness and weather conditions which may affect odour controls. The monitoring will take place on a daily basis and is designed to reduce the potential for odour. This checklist will be kept in the site office and will be produced upon the request of the Environment Agency.

3.3 Cleaning

The site will have operate a strict cleansing regime of the permitted area to ensure that any residues from the transfer of the liquids are not allowed to remain exposed to the air, this will include –

- Cleansing of the discharge point via hosing.
- Flushing of the hose used for the transfer of liquids from the tanker to the discharge point.
- Hosing of the transfer area to the foul sewer.
- The grid collecting the solids is cleared and hosed down on a daily basis.
- Ensuring the sealed skip containing the collected solids is cleansed at each exchange.

3.4 Maintenance

The site will have operate a strict maintenance regime of the equipment integral to the transfer of liquid waste permitted area and those making up the permitted area to ensure that and failure or damage of equipment does not give rise to odour. This will include –

- Checking all coupling points on the discharge point and tankers are functional and free from leaks.
- Checking all coupling points on the tank for leaks.
- Checking the hose used for the transfer of liquids from the tanker to the discharge point is free from splits, holes and damage.
- All curbing is intact to prevent any runoff from the pad spreading across the site.
- All drain lids are fitting correctly and free from damage.
- The solids skip is shutting correctly.

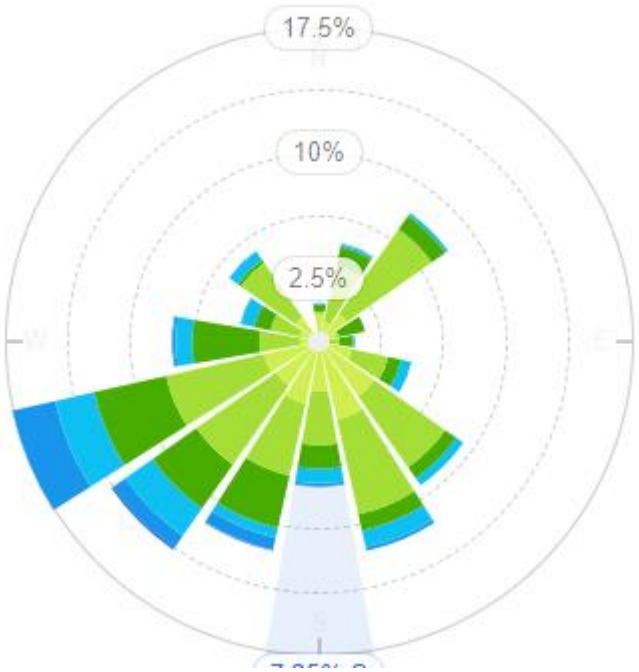
4.0 Dispersion and Receptors

4.1 Dispersion

The following section identifies the prevailing weather conditions on site, in particular the wind direction in order to predict the path of likely aerial dispersion of odours generated on site. By constant monitoring and even forecasting of poor dispersion conditions, GAP can trigger contingency measures to temporarily cease operations.

Information on wind direction has been derived from the Willy Weather based upon the last five years. This data is illustrated by the wind rose in Figure 2. Wind data is collected daily as part of the routine monitoring on site. 16-point wind directions are provided below, note that calm days are also included to provide a complete data record.

Direction	Percentage
N	1.92
NNE	5.00
NE	7.84
ENE	2.33
E	1.77
ESE	4.70
SE	8.76
SSE	10.69
S	7.25
SSW	10.68
SW	12.69
WSW	15.69
W	7.35
WNW	4.05
NW	5.51
NNW	0.00



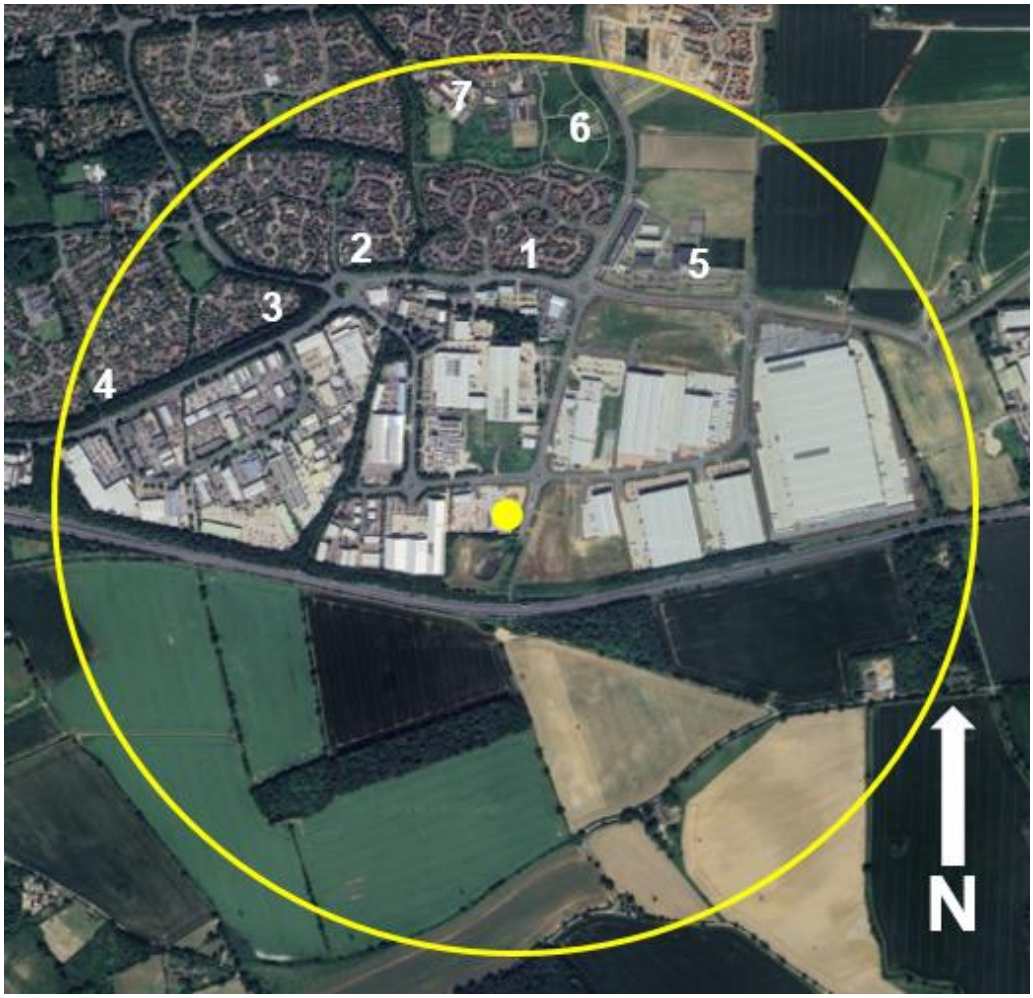
Wind rose for Port of Wattisham Observing Station taken for the last five years

The predominant wind blows from the South West towards receptors to the east North-east of the Site. This area is less populated by light industry within the immediate vicinity of the site and housing further from the site with and parts of the area giving way to farmland.

4.2 Site Location

The site is located to the Southeast of Bury St Edmunds. The site is flanked the west, North and East by commercial properties and to the south by agriculture.

In the local vicinity there are a large number of permitted waste management facilities –



Receptors

Ref	Receptor	Description	Direction from site boundary (m)	Approximate distance from Site Boundary (m)
1	Dwellings	Kendal Close	573	N
2	Dwellings	Cowslip Close	653	NW
3	Dwellings	Coltsfoot Crescent	695	NW
4	Dwellings	Wilbye Close	970	NW
5	Education	Sybil Andrews Academy	570	NE
6	Country Park	Flying Fortress Park	810	NE
7	Education	Abbots Green Academy	840	N

Within 1,000m of the site there are the following –

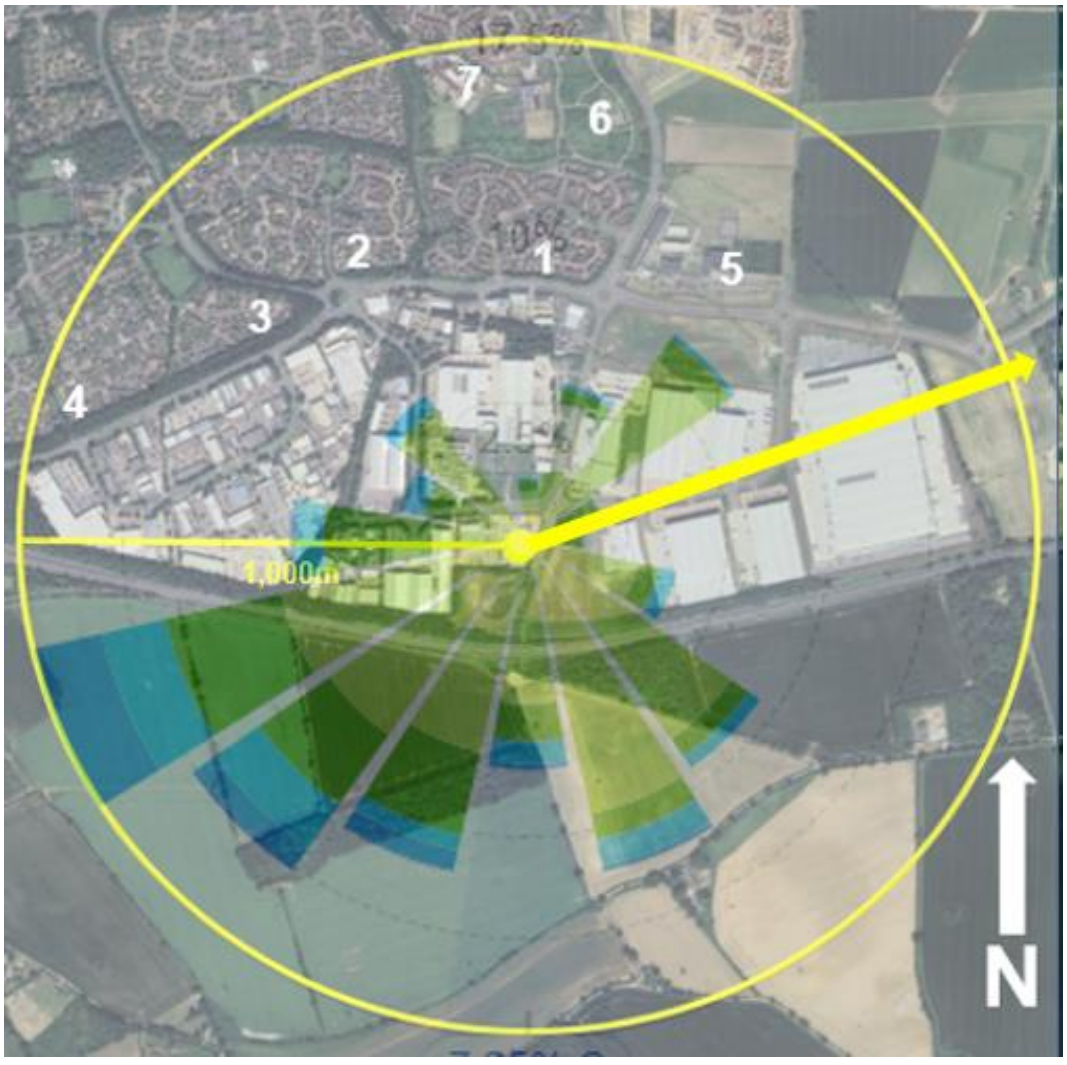
- Education
- Leisure
- Dwellings

Based upon the guidance document - H4 Odour Management How to comply with your environmental permit states the following ‘Some receptors are more sensitive than others. Domestic residences, or a pub with a beer garden are more likely to be sensitive than an industrial complex’.

The closest sensitive receptor is 573m to the North at Kendal Close.

The above insinuates that the within 1,000m of the site that there are sensitive receptors, however these receptors are out of the prevailing wind direction.

Site location and prevailing wind direction



4.3 Dispersal Control

The prevailing wind blows from the southwest and blows towards the northeast. The closest sensitive receptor is 573m to the North at Kendal Close out of the way of the prevailing wind.

4.4 Other Sources of Odour

The Avonmouth Industrial Estate has a variety of different industries located upon it with a variety of sites that will produced their own distinct odours, including:

- Agriculture
- Sewage treatment

In addition to the above site is 735m SE of the Anglian Water sewage treatment works.

This Anglian Water facility has the potential to create odour similar to that of the GAP transfer facility but at a constant frequency and a considerably higher magnitude.

5.0 Procedures

5.1 Responsibilities

The overall responsibility for the site shall remain with the Companies' Managing Director.

Day to day operational responsibility for the transfer to foul sewer process is maintained by the site's competent persons or COTC holders (Certificate of Technical Competence Holder's in the event of an odour complaint the Odour Complaint Form as shown in Appendix B will be used and if complaint is validated the cause investigated and remedied.

5.2 Procedures when Odours Arise

There is an internal odour report form (see Appendix C) and an external complaints procedure (as outlined below and in Appendix B) to ensure any odour issues are dealt with quickly and effectively.

5.3 External Complaints Procedure

Any complaints relating to the odour of the site will be taken seriously and channelled through a senior member of staff. Staff taking note of the complaint will use the appropriate Odour Complaint Form (see Appendix B).

Once the complaint is taken, the Site Manager will investigate the complaint and the site activities and respond to the complainant in writing outlining any findings and actions taken to mitigate the source of odours. Any complaints, investigations and mitigating actions will be recorded in the site diary.

The complaints procedure, including a survey of the complaints to date will be re-assessed by the Operations Manager and the Managing Director on a yearly basis, unless the number of complaints warrants additional reviews. It should be pointed out there have been no substantiated odour complaints by the Environment Agency for the last 2 years at this site.

5.4 Response to Complaints

The receipt of a single odour complaint during normal operations is treated as an exceedance of control levels. The primary response will be as detailed in accordance with the site's complaints procedure. An investigation shall be initiated into the cause of the complaint; this will involve as necessary:

- An olfactory survey as outlined below;
- An examination of the site activities at the time of the complaint;
- An examination of the meteorological conditions at the time of the complaint; and
- A review of the effectiveness of operational and odour control procedures. If the complaint is validated it will be treated as an exceedance of the control level. The outcome of the investigation will determine the corrective actions to be implemented.

5.5 Abnormal Meteorological Conditions

In the event that meteorological conditions prevent delivery or dispatch vehicles, or staff arriving on site, emergency contingency plans will need to be followed to ensure the site can be remotely managed until the site can return to operation under normal conditions. The site manager and staff operatives will undertake daily weather checks to ensure that any abnormal weather conditions can be foreseen as much as possible and contingency arrangements can be put in place prior to any problem occurring on site. In the event that the site has to be closed due to severe weather conditions deliveries will be diverted to an alternative suitably authorised site for either recovery or disposal.

5.6 Breakdown of Process Equipment and Plant

In the event that there is a breakdown of equipment or plant that cannot be repaired within 24 hours, hire equipment will be brought in. The wider group of companies behind GAP has significant resources and will be able to ensure relevant plant can be sourced.

5.7 Staffing Issues

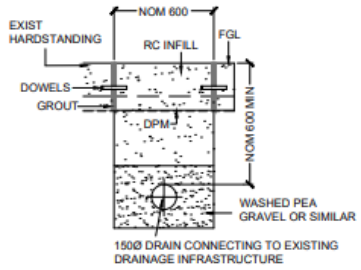
The general manager ensures holidays are properly covered by staff from the wider group of companies. In terms of illness if a member of staff was not able to attend work on a particular day the site will manage but if that person or several staff at the same time were to be off for a longer period, staff can be sourced from the wider group of companies.

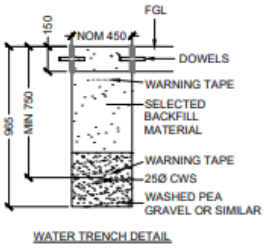
5.8 Odour Management Plane Review

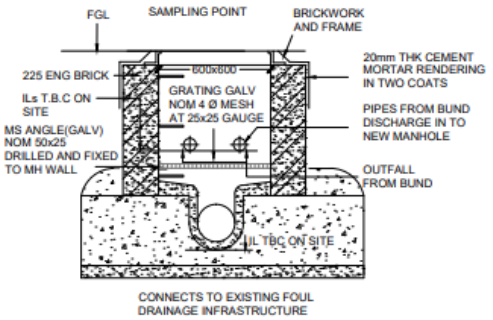
The odour management plan will be reviewed annually and the version and review date modified accordingly, however if any of the following occur the odour management plan will be updated accordingly -

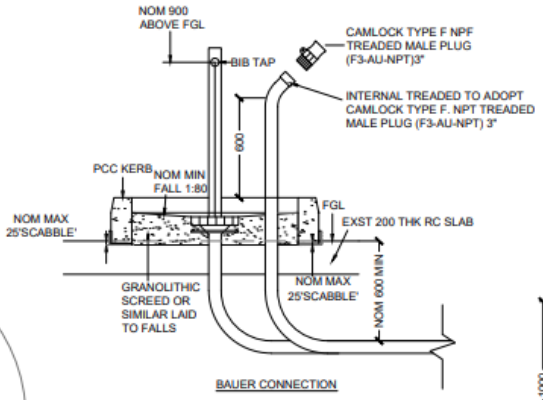
- Change to the permitted activities of the site.
- Change to the infrastructure and technology used to facilitate the transfer of liquid waste.
- Receipt of substantiated external odour complaints.
- Recording of odour internally that are likely to give rise to external complaints.
- A request made by the Environment Agency.

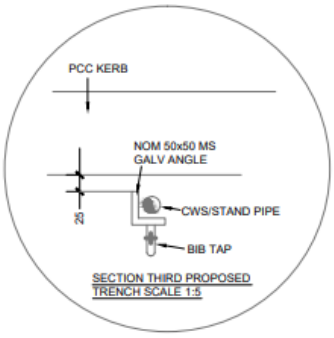
Appendix A – Proposed Discharge Connection

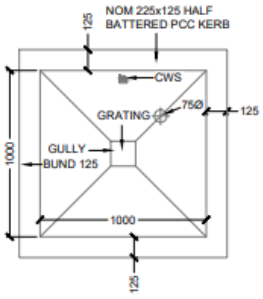


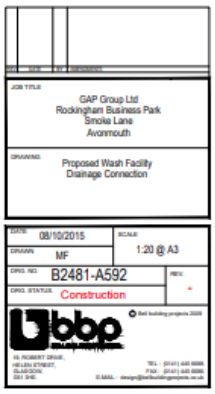












Appendix B

Odour Complaint Report Form	
Time and date of complaint:	
Telephone number of complainant	
Date of odour:	
Time of odour:	
ocation of odour, if not at above address:	
Weather conditions (i.e., dry, rain, fog, snow):	
Temperature (very warm, warm, mild, cold or degrees if known):	
Wind strength (none, light, steady, strong, gusting):	
Wind direction (eg from NE):	
Complainant's description of odour: What does it smell like?	
o Intensity (see below):	
Duration (time):	
Constant or intermittent in this period:	
Does the complainant have any other comments about the odour?	
Are there any other complaints relating to the site?	
Any other relevant information:	
Do you accept that odour likely to be from your activities?	
What was happening on site at the time the odour occurred?	
perating conditions at time the odour occurred (eg flow rate, pressure at inlet and pressure at outlet):	
Actions taken:	
Form completed by:	**Signed**

Odour intensity scale

0 - No odour
1 - Slight odour
2 - Moderate odour
3 - Strong odour
4 - Very strong odour
5 - Overpowering odour

Appendix C

Odour Report Form				Date:	
Time of test					
Person conducting test					
Location of test e.g. street name etc					
Weather conditions (dry, rain, fog, snow etc):					
Temperature (very warm, warm, mild, cold, or degrees if known)					
Wind strength (none, light, steady, strong, gusting) Use Beaufort scale if known					
Wind direction (e.g. from NE)					
Intensity (see below)					
Duration (of test)					
Constant or intermittent in this period or persistence					
What does it smell like?					
Receptor sensitivity (see below)					
Is the source evident?					
Any other comments or observations					

Odour intensity scale

0 - No odour
1 - Slight odour
2 - Moderate odour
3 - Strong odour
4 - Very strong odour
5 - Overpowering odour

Appendix D

Odour Diary					Sheet No:
Name and contact number	**Address**				
Date of odour:					
Time of odour:					
Location of odour, if not at above address (indoors, outside):					
Weather conditions (dry, rain, fog, snow etc):					
Temperature (very warm, warm, mild, cold or degrees if known):					
Temperature (very warm, warm, mild, cold or degrees if known):					
Wind direction (eg from NE):					
What does it smell like? How unpleasant is it? Do you consider this smell offensive?					
Intensity – How strong was it? (see below 1-5):					
How long did go on for? (time):					
Was it constant or intermittent in this period:					
What do believe the source/cause to be?					
Any actions taken or other comments:					

Odour intensity scale

0 - No odour
1 - Slight odour
2 - Moderate odour
3 - Strong odour
4 - Very strong odour
5 - Overpowering odour