



Foyle Ltd - Gloucester

Environmental Permit Application

EPR Ref: UP3700PX/A001

Fugitive and Accidental Emissions Control

Document Ref: Attachment B.3.9

FUGITIVE AND ACCIDENTAL EMISSIONS CONTROL
FOYLE, CINDERFORD, GLOUCESTER, UK

1.0 Fugitive Emissions

1.1 Overview

The table below outlines the potential sources of fugitive emissions from the site to land, air and water:

Table 1.1: Potential Sources of Fugitive Emissions

Land	Air	Water
<ul style="list-style-type: none">• Chemical Spillage/Leak• Staining and Litter of Waste Storage Area• ETP Malfunction• Pipework and Bund Failure• Spillage of waste during transport/removal	<ul style="list-style-type: none">• Refrigerant Leak• ETP• Waste Storage Area	<ul style="list-style-type: none">• Contamination of Surface Water• Discharge Licence non-conformance

The facility has a number of procedures in place to:

- mitigate against fugitive emissions, and
- deal with any emissions (leaks and spillages).

The relevant procedures form part of the sites EMS and are referenced in the Site Condition Report. These are summarised in Table 1.2 and include contractors' requirements whilst on site.

The following sections provide more details of these potential fugitive emissions and the findings suggest that the likelihood of fugitive emissions is not significant.

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Table 1.2: Operational Control Procedures

REF	Procedure	Purpose	Scope
OP01	Operational control	To establish a system for ensuring that day-to-day activities are undertaken in accordance with the Foyle Food Groups environmental policy and procedures. To ensure environmental procedures consider environmental objectives, significant environmental aspects and compliance obligations.	Foyle Food has identified and planned the relevant operations and maintenance activities which are related to environmental aspects and that are consistent with its environmental policy, objectives, targets, action plans and compliance obligations.
OP04	Disposal of waste	To establish a procedure for the handling and disposal of solid and liquid waste generated at the site.	To establish the methods for handling and disposal of waste generated from activities undertaken in the departments described above to ensure that they are disposed of in an authorised manner
OP05	Surface water protection	The purpose of this procedure is to identify methods of minimising unregulated discharges to surface water drains.	This procedure is designed to cover all areas of the site.
OP06	Contractor maintenance	The purpose of this procedure is to ensure correct maintenance of boilers, refrigeration system, the compressor and the drains.	This procedure is designed to cover contract maintenance of boilers, refrigeration system, the compressor, gas, water tanks, effluent treatment plant and the drains.
OP07	Control of Contractors	To establish a procedure for the control and management of external contractors while on site.	To assess and control contractor's activities to ensure they cause minimum environmental impact and insure compliance environ' policy
OP08	The receipt of bulk chemicals	To establish a procedure for the receipt and storage of bulk diesel and containerised oils and chemicals.	The receipt and storage of bulk diesel and containerised oils and chemicals to reduce the risk of potential spillage.
OP09	Bund inspection	To inspect, clean out and maintain bunded areas on site to ensure their integrity, and to dispose of any clean oil or contaminated water, which collects within them in an authorised manner.	All chemical liquid bunds on-site.
OP11	Daily DAF plant checks	To explain the method involved in carrying out an environmental checklist.	This environmental checklist is designed to monitor the DAF Plant.

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1.2 Fugitive Emissions to Land

There are five key areas where there is potential for fugitive emissions to land:

- Chemical Spillage/Leak
- Staining and litter from the Waste Storage Area
- Effluent Treatment Plant malfunction
- Pipework and Bund Failure
- Spillage of waste during transport/removal

All of the site, excluding areas occupied by buildings, is either laid to concrete or tarmac, while the front carpark is constructed of compacted stone chippings. For the purposes of the Site Condition Report, all hard-standing areas were observed to be in good condition with negligible signs of damage or cracking. The hard-standing areas will prevent the downward migration of any substance which may be spilled upon it.

1.2.1 Chemical Handling

No materials are handled or stored outside areas of hard-standing. All deliveries are supervised by suitably trained operatives. All liquid chemical delivery operations are supervised by the yard and effluent plant operators.

Acids are kept separate from chlorines and caustics at all times in storage areas. Where this is not possible, regular inspections are made to ensure that no spillages have occurred. Chemicals can only be moved / transported by a trained operative.

1.2.2 Spill Kits

Spill kits for *Aggressive Liquids* (chemicals, acids, alkalis and solvents) are strategically placed around the site and will be utilised in the event of a spillage onsite.

Spillage kits are checked on a weekly basis to ensure that they are correctly stocked. All relevant operatives have received spillage kit training, including practical demonstrations. Records of the training are kept on file at the site.

See Appendix A for a map showing the locations of all external Spill Kits.

1.2.3 Chemical Storage

All tanks and containers that contain materials with the potential to cause pollution are banded in accordance with good practice and visual assessments are carried out as part of the site's Daily Environmental Checklist (ER04). In addition, there are procedures in place to assess the integrity of the bunds and for emptying of bunds, as per the Bunds Inspection Procedure (OP09).

See also attachment C.3 – Bund Integrity Report 2019.

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Table 1.3: Chemical Storage

Container	Description	Likelihood of pollution
Chemical Store	The Chemical Store is a secured room located in the main building. The store is used to store containers of cleaning chemical, which are stored upon bunds.	Low All containers are stored on appropriate bunds. The store contains no internal drainage, i.e. the room is bunded.
ETP chemicals	Multiple 1,000 litre IBC containers are located within the ETP Compound, which in turn are situated on concrete. Small containers are also stored on appropriately sized bunds within this area.	Low <ul style="list-style-type: none"> • All chemicals are bunded. • Bunds are situated on concrete. • All drains in the area are directed to the ETP inlet sump.
Maintenance Workshop	The Maintenance Workshop is a secured building located in the southern yard area. All maintenance materials such as adhesives, sealants and fillers are stored within bunded fire proof cabinets. All containers are primarily 1-litre in volume.	Low <ul style="list-style-type: none"> • All maintenance materials are stored within bunded cabinets. • The workshop internal floor area slopes inward, contains any spillage within. • The workshop contains no drainage.

1.2.4 Waste Handling Areas

General waste is stored within 1,100-litre wheelie bins in designated areas, before removal to the site general waste compactor. Secure containment of all wastes ensures that litter is not an issue on site.

There is a designated recycling waste handling area in the yard, which comprises of segregated sections for cardboard bales, plastics, metal skip and wood.

All animal by-product waste is stored internally within the CAT1 or CAT3 trailers, located in the by-product handling area, separate from the general waste and recycling waste areas. All drainage within this area is directed to the site ETP.

All waste storage and handling is contained within the site hardstand area.

Secure containment of all wastes ensures that litter is not an issue on site.

Licensed contractors remove all by-product waste off site in covered trailers. Licensed contractors also remove lairage sump material/DAF sludge and blood off-site in sealed tanks. Therefore, the risk of spillage to land is minimal.

See Attachment B.3.14 – Waste Management

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1.3 Fugitive Emissions to Air

There are three key areas where there is potential for fugitive emissions to air:

- Effluent Treatment Plant
- Waste Storage Area
- Refrigerant Leak

1.3.1 Effluent Treatment Plant

Fugitive odours from ETP operations arise mainly from the volatilisation of odorous gases from:

- The surfaces of non-quiescence processes including overflow weirs returned pumped centrate /liquor above the working height of the tank/channel etc.
- Anaerobic decay of settled/floating organic debris upon quiescence surfaces including organic matter attached to grit, rags, organic matter carryover to secondary tanks, etc.
- Screens operation and build-up of organic debris within screens area.
- DAF operation and fat storage/handling.
- Sludge handling operations including dewatering, thickening, storage and transport of raw/processed sludge's offsite and de-sludging.
- Turbulent processes within the inlet works, storage of screens (i.e. grit and coarse material removal) and DAF process and fat/skim storage.
- Inefficient odour control/abatement equipment operation and design including loose fittings covers, inefficient extraction and odour control unit failure.

There have been no odour issues to date as a result of the on-site ETP. This is further addressed as part of attachment B.3.10.2 - Odour Management Plan.

There are a number of procedures in place to mitigate ETP fugitive odour emissions. These include:

1. Covered balance tank.
2. Continuous mixing of balancing tank.
3. Daily removal of sludge from underground lairage sump.
4. Daily inspection of ETP.

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1.3.2 Waste Storage Areas

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There is a designated recycling waste handling area in the yard, which comprises of segregated sections for cardboard bales, plastics, a metal skip and wood.

All animal by-product waste is stored internally within the CAT1 or CAT3 trailers, located in the by-product handling area, separate from the general waste and recycling waste areas. All drainage within this area is directed to the site ETP.

All waste storage and handling is contained within the site hardstand area.

Secure containment of food minimises odour and is a requirement of the site's Odour Management Plan.

1.3.3 Refrigeration

All cooling is achieved by the following plant:

Make.	Model	Location	Gas
Searle	LSR123-44-6D-EL	Chill 1	R407A
Searle	LSR123-44-6D-EL	Chill 2	R407A
Searle	LSR123-44-6D-EL	Chill 3	R407A
Searle	LSR123-44-6D-EL	Chill 4	R407A
Searle	LSR123-44-6D-EL	Chill 5	R407A
Searle	LSR123-44-6D-EL	Chill 6	R407A
Searle	KM80-4-AX-3PH	Boning Hall	R407A
Searle	KME 140-4L 1PH	Despatch	R407A
Searle	KME 80-4L 1PH	Loading	R407A
Searle	KEC55-4 1 PH	Packing Room	R407A
Searle	DSR 68-4L-DH	Offal Room	R407A
Searle	DSR 68-4L-DH	Offal Chiller	R407A
Searle	KME 140-6L 1PH	Freezer	R407A

There is a relatively small volume of refrigerant gas within the system, between 650 kgs to 750 kgs. The table above detail the refrigerants that are used on-site.

Refrigerant is used in a number of appliances and systems to provide refrigeration, ice-making and conditioning.

There are a number of procedures in place to mitigate against fugitive emissions;

- External contact, SK Heating and Cooling, in place where all leaks in the systems are being identified and repaired.
- There is a gas monitoring system on each of the packs to detect any leaks.
- The refrigeration is monitored on the Tek-troniks Refrigerant Gas Leak Detection System and alarms for any faults, while also sends email alerts to relevant personnel.

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1.4 Fugitive Emissions to Surface Water

Bulk chemicals and fuels are stored either in bunded areas or on spill pallets throughout the site.

All chemicals used in smaller quantities throughout the plant are stored in smaller bunded areas or on self-bunded pallets.

The following mitigation procedures are in place:

- Surface Water Protection Procedure (OP05)
- Bunds Inspection Procedure (OP09)
- Receipt of Bulk Liquids Procedure (OP08)
- Spillage Response Procedure (OP12)

The majority of the sites surface-water discharges to the Cinderford Brook via W-1 discharge point, after passing through an interceptor/oil separator.

All roof water is directed to a Grey-Water tank, where it is stored for use in the sites truck-Wash, located within the ETP compound.

A small quantity of surface water from the rear yard area is treated by the sites ETP, before discharge to Severn Trent sewer line via S-1 discharge point.

Average annual rainfall for the Cinderford area is 0.64M per year. The catchment area for this collection system was determined to be approximately 12,600 M². Therefore, it is calculated that the site produces on average 8,064M³ of surface-water annually.

All site operations are contained within a hardstand area constructed primarily of concrete. The site contains no green areas. The site boundary is enclosed/ surrounded by curbing designed to contain all surface-water or potential spillage of liquids within.

Any spillage that could arise from an ETP malfunction would be contained within a hardstand area of the compound and would be directed back into the ETP inlet sump by the drainage network. Therefore, all effluent and treatment material is contained within the effluent plant.

See Attachment B.3.3 – Emissions to Surface Water.

See Attachment C.5 – Bund Integrity Assessment 2019

2.0 Accidental Emissions Control

As per the EA guidance document The Food and Drink Sector (EPR 6.10) – Section 1.1 Accident Management, one should where appropriate:

- 1. Use automatic process controls backed-up by manual supervision, both to minimise the frequency of emergency situations and to maintain control during emergency situations. Instrumentation will include, where appropriate, microprocessor control, trips and process interlocks, coupled with independent level, temperature, flow and pressure metering and high or low alarms.*
- 2. Use techniques and procedures to prevent overfilling of tanks - liquid or powder- (eg. level measurement displayed locally and at the central control point, independent high-level alarms, high-level cut-off, and batch metering).*
- 3. Use measures to detect variation in effluent composition eg in-line TOC measurement*
- 4. Ensure that gross fat, oil and grease (FOG) does not block drains.*
- 5. Identify the major risks associated with the effluent treatment plant (ETP) and have procedures in place to minimise them.*
- 6. Provide adequate effluent buffer storage so that you can stop spills reaching the ETP or controlled water, especially those spills with high organic strength.*
- 7. Protect against spillages and leaks of refrigerants, especially ammonia.*

Accidental emissions can occur due to minor accidents in handling of materials or, as a consequence of a major incident.

The site applies a philosophy of prevention, which is based on a three element approach involving:

- Risk Assessment
- Procedural Control
- Training

Procedural control is an ongoing component of the approach as modifications and revisions are made to existing procedures, and new ones prepared, based on live experience at the site and industry best practice. This procedural control covers routine control over environmental issues, calibration, maintenance and testing procedures, which are in place to minimize the potential for loss of control.

The principles of risk assessment are applied to identify and evaluate those areas where there is a risk of environmental incidents and decide on the control measure to be implemented.

All relevant staff receives environmental training appropriate to their duties of work.

Details of the site's emergency procedure is outlined as part of its obligations under ISO14001 (EMS16 - Emergency Response). The site also has an Emergency Response Plan – see attachment C.5.

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2.1 Emergency Response

These are situations that have been considered and will be expanded upon in subsequent developments of this plan, in conjunction with the Business Continuity plan, or IT security plan.

The BCP a site-specific plan and is a confidential document.

In the event of an emergency, the site Business Continuity Plan, which is still being developed, would be adhered to.

General	Site Specific
<ul style="list-style-type: none">• Electricity Failure	<ul style="list-style-type: none">• Natural Disaster
<ul style="list-style-type: none">• Contaminated Water Supply	<ul style="list-style-type: none">• Major Accident
<ul style="list-style-type: none">• Product Recall	<ul style="list-style-type: none">• Major Spillage
<ul style="list-style-type: none">• Malicious Tampering/Extortion	<ul style="list-style-type: none">• Illness – Normal Workforce Not Available
<ul style="list-style-type: none">• Bomb Alert	<ul style="list-style-type: none">• Transport Issue – Normal Workforce Not Available
<ul style="list-style-type: none">• Key Supplier Failure	<ul style="list-style-type: none">• Loss of Computer Systems

This has been identified as part of the H1 Risk Assessment - see attachment B.2.5.

The objective of the site's Business Continuity Plan (BCP) is to plan, as part of its duty of care to employees and customers the need to cater, as far as is reasonably practicable, for all eventualities that may adversely affect the operation of the business.

As part of that duty, the BCP is in place to assist in the speedy and efficient return to normal business activities should a major incident occur which directly impinges on business activities.

The approach in this document is to assist management and the BCP team members in returning the business to its position in the marketplace before the disaster.

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The following is the table of contents so far for the sites BCP:

1.0 Purpose

- 1.1 Scope
- 1.2 Plan Objectives
- 1.3 Assumptions
- 1.4 Disaster Definition
- 1.5 Recovery teams
- 1.6 Team member responsibilities
- 1.7 Instructions for using the plan
 - 1.7.1 Invoking the Plan
 - 1.7.2 Disaster Declaration
 - 1.7.3 Notification
 - 1.7.4 External communications
 - 1.7.5 Emergency management standards
 - 1.7.6 Emergency management procedures
 - 1.7.7 In the event of a natural disaster
 - 1.7.8 In the event of a fire
 - 1.7.9 In the event of a network services provider outage
 - 1.7.10 In the event of a flood or water damage
- 1.8 Plan review and maintenance

2.0 Alert/Verification/ Declaration phase

- 2.1 Plan checklists
- 2.3 Flow diagrams
- 2.4 Notification of incident affecting the site
- 2.5 Provide status to EMT
- 2.6 Decide course of action
- 2.7 Inform team members of decision
- 2.8 EMT notifies account teams/customers
- 2.9 Contact Haulers' and Farmers (see Appendix I)

3.0 Disaster Declared: mobilize incident response team/Report to command center

- 3.1 Conduct detailed damage assessment (This may also be performed prior to declaring a disaster)
- 3.2 Contact EMT/decide whether to continue to business recovery phase

4.0 Business recovery phase (full recovery)

- 4.1 System and facility operation requirements
- 4.2 Notify technical engineering staff/coordinate relocation to new facility
- 4.3 Secure funding for relocation
- 4.4 Notify EMT and corporate business units of recovery Startup
- 4.5 Operations recovered

5.0 Appendixes

- 5.1 *Appendix A: Foyle Gloucester recovery teams*
 - 5.1.1 Emergency management team (EMT)
 - 5.1.2 Location Response Coordinator (LRC)
 - 5.1.3 Location Response Team (LRT)
 - 5.1.4 Incident Response Team (IRT)
 - 5.1.5 I.T. Technical Support (TS)

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- 5.2 *Appendix B: Recovery team contact lists*
 - 5.2.1 Emergency management team (EMT)
 - 5.2.2 Location Response Coordinator (LRC)
 - 5.2.3 Location Response Team (LRT)
 - 5.2.4 Incident Response Team (IRT)
 - 5.2.5 I.T. Technical Support (TS)
- 5.3 *Appendix C: Emergency numbers*
 - 5.3.1 First Responders, Public Utility Companies, Others
- 5.4 *Appendix D: Contact list*
- 5.5 *Appendix E: Emergency Command Center (ECC) Locations*
 - 5.5.1 Emergency Command Centre
- 5.6 *Appendix F: Minimum acceptable recovery configuration*
- 5.7 *Appendix G: Forms*
 - 5.7.1 Incident/Disaster form
 - 5.7.2 Critical equipment status form
- 5.8 *Appendix H: Building Evacuation Information*
- 5.9 *Appendix I: Inventory of Primary Equipment and Systems*
- 5.10 *Appendix J: Inventory of Backup Equipment and Systems*
- 5.11 *Appendix K: Approved Vendor List*
 - 5.11.1 Server and Computer Equipment Suppliers
 - 5.11.2 Civil/Structural Engineering Companies
 - 5.11.3 Electrical Contractors
 - 5.11.4 Excavating Contractors
 - 5.11.5 Emergency Generators
 - 5.11.6 Mechanical Engineering (HVAC, Facilities, etc.)
 - 5.11.7 Plumbing
 - 5.11.8 Site Security Services
 - 5.11.9 Additional Suppliers / Contractors

2.2 Operational Risk Assessment

The site's emergency response procedures are based on a risk assessment of all aspects of the plant's operations, as part of a hazard identification and evaluation process.

This risk assessment is laid out in the Register of Aspects prepared for the ISO 14001 standard.

Arising from this risk assessment, Foyle – Gloucester implements a range of measures to prevent and protect against accidental emissions and discharges as follows:

- Permit to work procedures and controls
- Fire detection system
- Use of bunded areas for storage and containment
- Spill response and containment measures
- Emergency equipment resources
- Thorough accident / incident investigation procedures
- Guidelines and procedures for dealing with accidental emissions
- Training e.g. spill response

2.3 Bunding and Containment

All hazardous chemicals and fuels used on-site, including ETP chemicals, cleaning chemicals and forklift diesel, are bunded directly or are stored within proprietary bunded structures.

Bund integrity is crucial to ensuring accidental emission incidents are avoided. Bunds are regularly inspected for their integrity as per guidance documents. Accumulated rainwater is treated as hazardous and is pumped to the site's effluent treatment plant. See EMS OP09 - *Bunds Inspection Procedure*.

See Attachment C.3 - Bunding Integrity Assessment 2019, carried out in support of this application.

See Attachment B.2.3.C for the site's chemical inventory.

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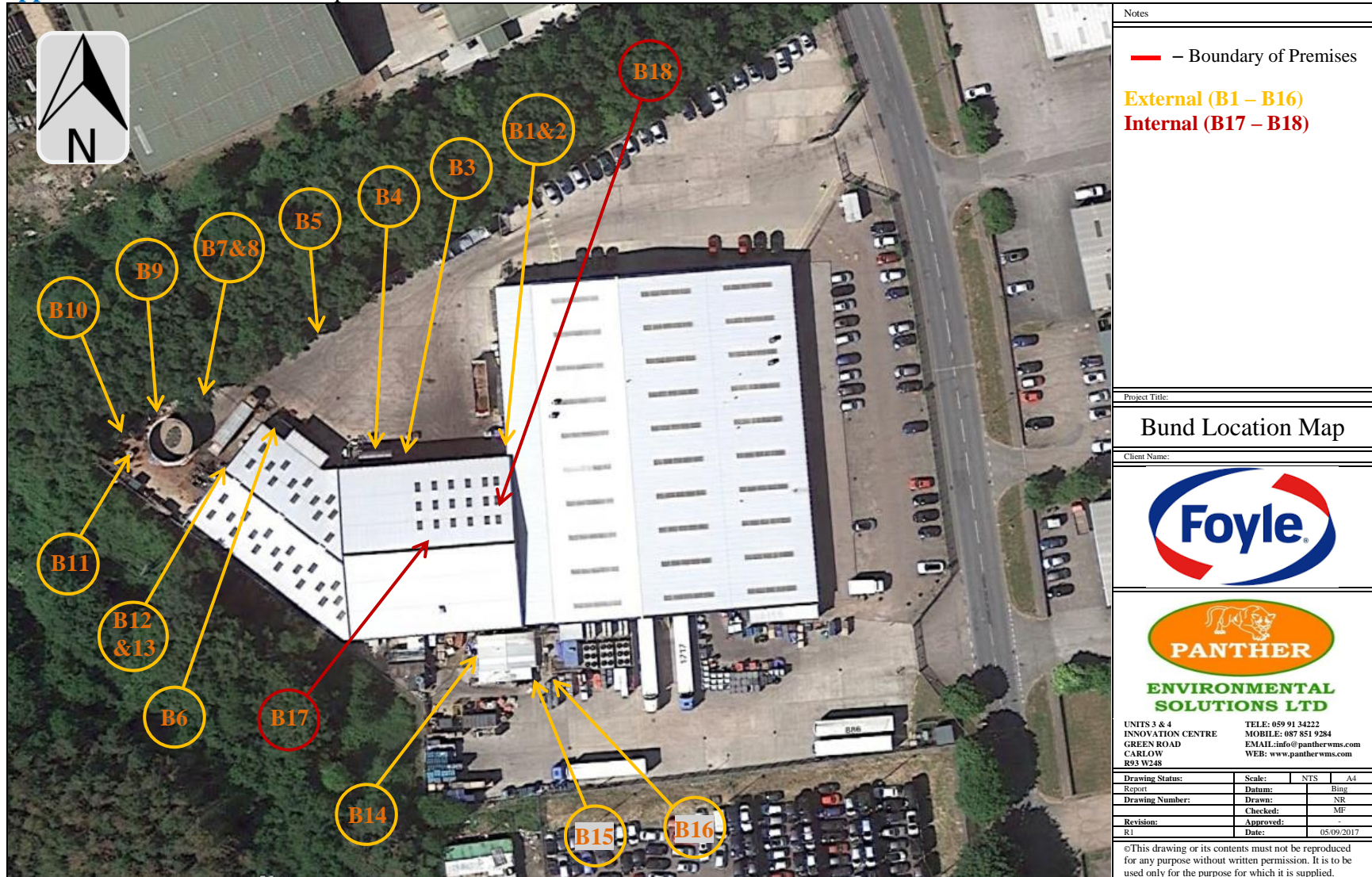
Appendix A: Spill Kit Locations Map





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Appendix B: Bund Location Map



Notes			
<p style="text-align: right;">— – Boundary of Premises</p> <p style="text-align: right;">External (B1 – B16)</p> <p style="text-align: right;">Internal (B17 – B18)</p>			
Project Title:			
Bund Location Map			
Client Name:			
			
			
UNITS 3 & 4 INNOVATION CENTRE GREEN ROAD CARLOW R93 W248		TELE: 059 91 34222 MOBILE: 087 831 9284 EMAIL: info@pantherwms.com WEB: www.pantherwms.com	
Drawing Status:	Scale:	NTS	A4
Report	Datum:	Bing	
Drawing Number:	Drawn:	NR	
Revision:	Checked:	MF	
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