Caulmert Limited

Engineering, Environmental & Planning Consultancy Services

Knottingley Waste to Resource Facility

FCC Recycling (UK) Limited

Environmental Permit Variation Application

Environmental Risk Assessment

Prepared by:

Caulmert Limited
Office: Strelley Hall, Main Street, Strelley, Nottingham, NG8 6PE
Tel: 01773 749132
Email: andystocks@caulmert.com
Web: www.caulmert.com

Document Reference: 5827-CAU-XX-XX-RP-V-0302.A0.C2

December 25

Caulmert
engineering environmental planning

APPROVAL RECORD

Site: Knottingley Waste to Resource Facility

Client: FCC Recycling (UK) Limited

Project Title: Environmental Permit Variation Application

Document Title: Environmental Risk Assessment

Document Ref: 5827-CAU-XX-XX-RP-V-0302.A0.C2

Report Status: **Final**

Project Manager: Andy Stocks

Caulmert Limited: Strelley Hall, Main Street, Strelley, Nottingham, NG8 6PE

Author	Enlli Roberts Graduate Environmental Scientist	**Date**	11/04/2024
Reviewer	Jennifer Chukwuma Senior Environmental Consultant	**Date**	23/06/2025
Approved	Andy Stocks Director of Environment	**Date**	15/07/2025

Revision Log			
Revision	**Description of Change**	**Approved**	**Effective Date**
C1	Initial Release of Document	AS	14/08/2025
C2	Resubmission of Document	AS	29/12/2025

DISCLAIMER

This report has been prepared by Caulmert Limited with all reasonable skill, care, and diligence in accordance with the instruction of the above named client and within the terms and conditions of the Contract with the Client.

The report is for the sole use of the above named Client and Caulmert Limited shall not be held responsible for any use of the report or its content for any purpose other than that for which it was prepared and provided to the Client.

Caulmert Limited accepts no responsibility of whatever nature to any third parties who may have been made aware of or have acted in the knowledge of the report or its contents.

Environmental Risk Assessment

TABLE OF CONTENTS

DRAWINGS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

1.1 Overview

1.1.1 FCC Recycling (UK) Limited (a wholly owned subsidiary of FCC Environment (UK) Limited) have appointed Caulmert Limited to prepare a bespoke environmental permit variation application to vary the existing permit to allow a number of additional activities at Knottingley Waste to Resource Facility on Weeland Road, Knottingley, in West Yorkshire, at postcode WF11 8DZ (hereafter referred to as 'the Site').

1.1.2 The proposed amendments to the permit (ref. EPR/JP3547JL) entail a comprehensive revaluation and optimisation of its operational activities. Primarily with the intention to refine existing processes while introducing activities to enhance waste management on site.

1.1.3 This report is an Environmental Risk Assessment which forms part of the environmental permit variation application for Knottingley Waste to Resource Facility.

1.1.4 The permit variation consists of removing solvent distillation activities for Tank S13, while retaining fewer boilers fuelled by gas and Substitute Liquid Fuels (SLF). Additionally, core activities will be retained on the permit but amended. These include the Waste Transfer Station, which will continue to manage hazardous and non-hazardous wastes, with additions to the waste list. Associated raw materials/reagents will also be stored and utilised on-site. Treated effluent discharge, already permitted, will be amended to include changes to the biological treatment activities on-site.

1.1.5 The existing biological treatment activity which is mothballed and will not recommence. However, the Operator has repurposed the infrastructure as a **surface water collection tank,** and no waste treatment activities takes place. Also, the use of existing gas or liquid-fuelled boilers will be reduced to two boilers (i.e., boiler 4 and boiler 5) which would be used to provide steam to the proposed dryer, the ammonia recovery unit and the metals recovery facility as directly associated activities (DAA).

1.1.6 It is proposed to undertake the following **new** activities on site:

- **Refuse Derived Fuel (RDF) Preparation** - processing of non-hazardous industrial wastes into RDF fuel for Energy from Waste (EfW) facilities inc. shredding and storage.
- **Packaged Waste Processing –** including sorting, washing, shredding, drum crushing and storing of drums.
- **Leachate and Aqueous Wastes Treatment -** the physico-chemical and biological treatment of landfill leachate and similar aqueous wastes in a biological treatment plant and two reverse osmosis plants, with treated effluent discharged to sewer or surface water as appropriate, which will include stripping of ammonia from wastes and the recovery of ammonia as an aqueous solution.
- **Physical and physico-chemical Treatment of Aqueous & Inorganic Wastes, Solids and Sludge -** the physico-chemical treatment of solid and liquid wastes so as to facilitate recovery or disposal, the drying of solid and sludge wastes so as to facilitate

recovery or disposal; including mixing, blending, separating, washing, filtering, precipitating out, filter pressing, drying, storing. **Also, inspection, storage, and processing (e.g., dismantling and sorting, separation, bulking or shredding)** of hazardous and non-hazardous materials for recovery.

- **Metals and Inorganic Salts Recovery** – pH adjustment, precipitation reactions, separation of precipitated solids and storage for recovery of the precipitated solids; with the remaining liquid effluent either being treated on site or being removed for treatment at a suitable facility.
- **Temporary Storage of Hazardous and Non-Hazardous containerised/palletised wastes.**
- **Discharge of treated effluent to surface water** (river) from leachate and aqueous wastes treatment.
- **Discharge of uncontaminated site surface water run-off to surface water** (river).

1.1.7 This risk assessment considers any potential risks associated with the proposed activities outlined above. It is expected that the risks will be low (with control measures in place) with respect to odour, pests, dust, litter, noise, and other fugitive emissions from site operations.

1.1.8 This risk assessment has been compiled in accordance with the current Environment Agency guidance 'Risk Assessments for your Environmental Permit' (last updated 1st December 2025).

1.2 Site Setting and Location

1.2.1 The Site is located in Knottingley, West Yorkshire. It is centred on National Grid Reference SE 51279 23861 and postcode WF11 8DZ. The main site entrance is accessed from Weeland Road on the southern boundary.

1.2.2 The site is within a semi-rural and residential location. The residential areas of Knottingley are primarily situated southwest of the site. The closest residential areas to the site are along Weeland Road, The Croft, Springfields Avenue, and Broomhill Avenue. Fernley Green Industrial Estate encompasses the area immediately west of the site boundary and extends northwest. Willow Garth Nature Reserve extends immediately northeast. Approximately 1 km of open countryside abuts the northern and southern boundaries of the site. To the north, the site is bordered by the Bank Dole Cut and Lock, a section of the Aire and Calder Navigation canal, as well as the River Aire. To the south, it is adjacent to the A645 road.

1.2.3 The site location is shown below in **Figure 1**:

Figure 1 - Site Location Plan (permit boundary in red).

1.3 Existing Site Operations

1.3.1 Knottingley Waste to Resource Facility is managed by FCC Recycling (UK) Limited. The facility is dedicated to the storage, transfer, treatment, and recovery primarily of industrial wastes. The site has a historical association with chemical processing, notably coal tar and related products dating back to the mid-Victorian era.

1.3.2 The current authorised activities at the site include the bulk handling and transfer of both hazardous and non-hazardous waste, distillation-based solvent recovery, the creation of Secondary Liquid Fuel (involving the utilisation of heat and steam from boilers), as well as the storage and management of waste materials and raw substances. Furthermore, the site conducts surface water and process water treatment through a biological treatment plant.

1.4 Proposed Site Operations

1.4.1 As part of this permit variation application, it is proposed to remove the distillation of solvents activities and the activity/waste list for Tank S13 from the permit, but to retain two of the previously three permitted boilers using gas and Secondary Liquid Fuels (SLF) as fuel. Currently, the two remaining boilers (i.e., boilers numbered 4 and 5) and associated storage tanks are mothballed, however the Operator would be using the boiler installation to provide steam to the proposed dryer, the ammonia recovery unit and the metals recovery facility as directly associated activities (DAA).

1.4.2 It is proposed to retain the following activities on the permit but amend as follows:

- **Waste Transfer Station -** the storage and transfer of hazardous and non-hazardous wastes, including where appropriate repackaging, size reduction and decanting. To amend the waste list in the permit to add additional waste codes for storage and transfer and to allow these activities to take place on the site as a whole.

- **Associated raw materials/reagents will be stored** and used on site.

- **Discharge of treated effluents** (i.e., site surface water and process water in the aerobic treatment plant) **to sewer** is already permitted but needs updating to reflect the changes that pertains the existing biological treatment plant which is mothballed and will not recommence. However, the Operator has repurposed the infrastructure as a **surface water collection tank**.

- **The use of existing gas or liquid-fuelled boilers** which is to be reduced to two (i.e., Boiler 4 with rated thermal input of 6.6MWth and Boiler 5 with rated thermal input of 9.0MWth) with tag numbers B01-ZP-01 and B01-ZP-02 and their corresponding boiler stack emission points - EP08 and EP12 (currently A12 and A13 in the existing permit ref. EPR/JP3547JL) within the Boiler Complex, indicated on the Sampling and Emission Point Plan (ref. 5827-CAU-XX-XX-DR-V-1805) will be retained to provide steam to the proposed dryer, the ammonia recovery unit and the metals recovery facility as directly associated activities (DAA).

1.4.3 The Operator's proposed leachate and aqueous waste treatment activities will be a self-contained, aqueous leachate treatment operation carried out within fully bunded areas in the following plants:

- Two reverse osmosis units will cumulatively treat up to 700 tonnes of imported leachate daily before discharging the permeate into the river. Concentrate from the RO process will then pass through an ammonia stripping plant to recover ammonia, where the remainder of the concentrate with less ammonium will undergo biological treatment, followed by, where required, ultrafiltration and nanofiltration before discharge to sewer. There will be a point source emission to surface water for the RO plants' permeate via the proposed discharge point. The existing discharge point to

sewer will be used to discharge wastewater remaining after the ammonia recovery and biological treatment processes (permitted by the Trade Effluent Discharge Consent currently in place at the site (YW/973/93C).

- An ammonia recovery unit will pre-treat up to 200 tonnes of landfill leachate, concentrate, and similar ammonia-rich wastes per day prior to biological treatment. The process will involve thermal stripping of ammonia and scrubbing of the liberated ammonia and a concentration stage to generate a recovered ammonia solution which will be stored prior to transfer from site. The strength of this solution will be between 15 and 20 % wt/wt so as to be suitable for reuse. The contingency exists to remove the solution for further treatment or disposal if no user is available.

- The biological treatment plant of the Membrane Bioreactor (MBR) type includes denitrification and nitrification stages and an ultrafiltration unit. The option is available to add nanofiltration and/or active carbon adsorption stages to polish effluent if regulatory requirements deem this necessary. Effluent from this unit will be discharged to sewer using the existing discharge consent. An option to dewater excess biomass, by centrifuge, is present if such treatment is required to allow the economic disposal of this waste. Effluent from dewatering will be discharged to the sewer.

- The development of the leachate treatment facility may be phased and contingency transfer of RO concentrate, wastewater post ammonia recovery to appropriate facilities is in place. Similarly, the design is such that the biological treatment plant could deal with the RO concentrate without the ammonia first being recovered.

1.4.4 The Operator also proposes to carry out a series of physical and physico-chemical treatment activities to facilitate recovery and disposal activities as follows:

- The physical aspect will include the inspection, storage, and processing (e.g., dismantling and sorting, separation, bulking or shredding) of hazardous and non-hazardous materials for recovery or offsite recovery;

- Physico-chemical treatment of aqueous and inorganic wastes, solids and sludge of up to 300 tonnes per day, including pH adjustment, chemical precipitation, reduction, oxidation, blending and filtering, in an enclosed, self-bunded building with wet scrubber and VOCs scrubber. This will also include storage of palletised packaged wastes, reagents and solids and use of a filter press. Fully bunded tank areas will be provided for storage and a bunded tanker unloading/loading area. Suitable wastes may be used on-site to replace reagents in other processes.

- Similarly, physico-chemical treatment of solids and sludge will include preparing/conditioning air pollution control residues, etc., and storage of solids and sludge in enclosed, self-bunded buildings; this will involve mixing, washing, filtering,

precipitating out, and filter pressing with outputs not used on site but transferred off-site for reuse, recycling or further treatment or disposal as appropriate.

- Metals and inorganic salt recovery of up to 200 tonnes daily treatment that will include sequential pH adjustment of wastes, precipitation reactions (through addition of reagents or other wastes), separation of precipitated solids (filter press or similar) and storage for recovery of the precipitated solids (e.g. ferrous sulphate, various heavy metal salts etc.) with the remaining liquid effluent taken off-site for suitable treatment or disposal. There will be storage and mixing tanks sited within bunded areas with vented air passed through wet scrubbers with acid or alkali medium as appropriate. Filter presses and similar will be housed within the building with venting via the same gas scrubbers.

- Drying of up to 200 tonnes of wet solids per day using a GPD 14W 190 Single Condenser paddle dryer or similar contact drier. The operation involves drying the wet solids in vessels equipped with heated paddles to drive off water as steam and produce a granular, low dust, 10% moisture solid for recovery or disposal at a suitable site. Steam will be discharged via a low stack or condensed for release to sewer as per the discharge consent in place at the site. The solids will be stored within RORO skips to await recovery or disposal. Wastes to be dried are non-flammable.

1.4.5 The introduction of new activities, such as Refuse Derived Fuel (RDF) Preparation will involve processing of up to 300 tonnes/day of non-hazardous wastes in an enclosed building with air exiting the building being passed through an activated carbon filter. Preparation includes receipt of pre-selected waste materials prior to sorting and shredding for recovery or reuse, with temporary storage of up to 400 tonnes. The primary destination of the RDF is for energy recovery. Should this route not be available or suitable, the material may be transferred to an alternative treatment facility for recovery.

1.4.6 Fully bunded compounds are proposed to be located outside for the storage of sealed, undamaged drums and containerised waste materials placed on pallets.

2.0 SENSITIVE RECEPTORS

2.1 Overview

2.1.1 This report assesses the potential risks to nearby sensitive receptors from the permit variation proposals at Knottingley Waste to Resource Facility. A sensitive receptor search was conducted of the surrounding area within a 1km radius of the site boundary (see **Figure 2**) using Defra's Magic Maps website[1] and the sensitive receptors identified are listed below in Table 1 and also shown on the Sensitive Receptor Plan drawing ref. 5827-CAU-XX-XX-DR-V-1800. The approximate distance to each receptor is measured from the proposed site boundary.

Figure 2 – 1 km Site Radius (approx. permit boundary in red).

[1] DEFRA Magic Maps 2023: https://magic.defra.gov.uk/MagicMap.aspx

2.1.2 As part of the Pre-Application Advice stage, the Environment Agency (EA) conducted a Nature and Heritage Conservation Screening Report and identified 2 Local Wildlife Sites (LWS), up to 2 protected species and 2 protected habitats within 2km of the site. These are listed in the attached EA report in **Appendix 1**. The relevant sites within 1km are listed in Table 1 below.

2.1.3 The closest human receptors to the site are users of the River Aire walking trail, users of the Aire and Calder Navigation Canal and Lock, users of Weeland Road, and users of Stocking Lane. These receptors are all located less than 10m north of the site boundary, with the exception of the A645, Weeland Road, which abuts the southern boundary of the site, and provides access to the site. In addition, the Aire and Calder navigation walk commences 90m south of the site boundary. There are no hospitals located within 1km of the site, however De Lacey High School and Little Acorns Nursery are both located over 900m southwest of the site.

2.1.4 The nearest residential receptors to the site are houses in the residential area of 148 Weeland Road, located 290m SE of the site and Low Green, situated 384m west of the site. The majority of the area located west of the site within the 1km radius is residential. These areas include Fernley Green Close (481m WNW), Springfields Avenue (485m WSW), Marsh End (501m WNW), Broomhill (559m SW), Lamb Inn Road (581m W), and The Croft (873m WNW). Knottingley cemetery is located 822m southwest of the site boundary, and Knottingley RUFC is located 453m west-northwest of the site boundary.

2.1.5 Fernley Green Industrial Estate is located 187m west of the site, comprised of business including Delta MOT and Service Centre Ltd, Beepers Ltd, Allied Glass Group Ltd, Hirst Boatbuilders Ltd, A1 Building Supplies Ltd, and Gillian and Baines Ltd. These are, however, industrial, and commercial receptors and less sensitive to emissions such as noise, vibration, and odour. However, it should be noted that the Brick Box Ltd also operates from Fernley Green Industrial Estate and provides children's party services (located 364m NW from site boundary).

2.1.6 The site is not located within a Source Protection Zone (SPZ), with the closest, a Zone I, located 1.63km northwest of the site. The site is located on a Secondary B Aquifer within the bedrock below the site (Roxby Formation - mudstone and siltstone) and a Secondary A Aquifer within the superficial geology of the site, which consists of a combination of Alluvium (clay, silt, sand, and gravel) and Breighton Sand Formation (sand).

2.1.7 A small area of the site is within a Flood Zone 3 according to the GOV.UK Flood Risk Maps website[2], which indicates these areas have a high probability of flooding (exceeding the 1% annual probability of flooding each year) from rivers, the sea, or from surface water flooding. However, while some areas of the Knottingley Waste to Resource Site fall within high-flood risk zones, the site layout has been designed to avoid these areas, including, where necessary, relocating some of the project elements of the proposed waste activities from flood-risk zones to areas identified as low risk. Therefore, no waste will be stored within a flood risk zone on site, and so the overall risk is low to negligible.

[2] Map – Flood map for planning – GOV.UK

2.2 Designated Sites of Ecological Importance & Other Habitats

2.2.1 A search of the surrounding area using the DEFRA Magic Maps website has established there are no National Nature Reserves (NNRs) within 1km of the site: the closest is Humberhead Peatlands NNR, over 24km southeast of the site. According to the EA Conservation Screen Report (**Appendix 1**) there are 2 Local Wildlife Sites (LWS), up to 2 protected species and 2 protected habitat within 2km of the site.

2.2.2 There are no Ancient Woodlands within 2km of the site, however, less than 10m northeast of the site is Willow Garth Nature Reserve, comprising of a deciduous woodland (<10m from site boundary), Reedbeds (96m), and lowland fens (193m), all designated as a priority habitats, meaning they have been deemed to be of principal importance for the purpose of conserving biodiversity. In addition, there are three ponds located within the nature reserve, closest of which is 130m north-northeast, the second and third are 161m and 328m northeast, respectively.

2.2.3 There are no Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Local Nature Reserves (LNRs), National Nature Reserves (NNRs), Ramsar sites or Areas of Outstanding Natural Beauty (AONBs) within 2km of the site. The closest SSSI is located over 7km to the northwest of the site. The closest AONB is The Nidderdale AONB located over 50km to north-northwest of the site.

2.2.4 The sensitive receptors identified within 1km of the site boundary are presented in **Table 1** below:

Table 1 – Summary of Sensitive Receptors within 1km of the site boundary

Receptor	Type	Distance/Direction
Secondary A Aquifer (Superficial Deposits)	Groundwater	Below Site
Secondary B Aquifer (Bedrock)	Groundwater	Below Site
Willow Garth Nature Reserve	Habitat	<10m NE
Priority Habitat – Deciduous Woodland	Habitat	<10m NE
Users of River Aire Walking Trail	Recreational	<10m N
The River Aire	Surface Water / Habitat	<10m N
Aire and Calder Navigation Canal	Surface Water / Recreational / Commercial	<10m N
Bank Dole Lock	Recreational / Commercial	<10m N
Users of A645 Weeland Road	Commercial / Industrial	<10m S
Users of Stocking Lane	Commercial / Industrial	<10m N
Agricultural Fields	Commercial / Industrial	20m S and 100m N
Users of Aire and Calder Navigation Walk	Recreational	90m S
Priority Habitat - Reedbeds	Habitat	96m NE
Ponds	Habitat / Surface Water	130m NNE, 161m + 328m NE
148 Weeland Road	Residential	290m SE
Fernley Green Industrial Estate	Commercial / Industrial	187 W
Priority Habitat – Lowland Fens	Habitat	193m NE
Blackburn and Common Lane	Commercial / Industrial	219m S
Industrial Units	Commercial / Industrial	231m SW
Alex Pol Trans Ltd	Commercial / Industrial	264m NE
Caddick Construction Ltd	Commercial / Industrial	320m ESE
Low Green	Residential	384m W
Knottingley RUFC	Commercial / Recreational	453m WNW
Fernley Green Close	Residential	481m WNW
Springfields Avenue	Residential	485m WSW
Marsh End	Residential	501m WNW
Broomhill	Residential	559m SW
Lamb Inn Road	Residential	581m W
OneCT Manufacturing Park	Commercial / Industrial	634m ESE
Knottingley Cemetery	Residential	822m SW
The Croft	Residential	873m WNW
Little Acorns Nursery	Commercial	900m SW
De Lacey High School	Commercial	1000m SW

2.3 Meteorological Setting

2.3.1 Fugitive emissions of dust, litter, odour, and noise from the site are likely to be affected by local weather conditions, in particular by wind direction. Wind statistics observed from Normanton weather station, the closest weather station actively recording wind statistics, are considered to be representative of the typical conditions at the site (**Figure 3** below).

2.3.2 A review of the data recorded daily between April 2013 and June 2025 on the Windfinder.com[3] website indicates that the most dominant wind direction is from the west-southwest towards the east-northeast. With reference to the Sensitive Receptor Plan ref. 5827-CAU-XX-XX-DR-V-1800, predominant annual wind conditions are likely to blow towards the Willow Garth Nature Reserve and the River Aire to the northeast.

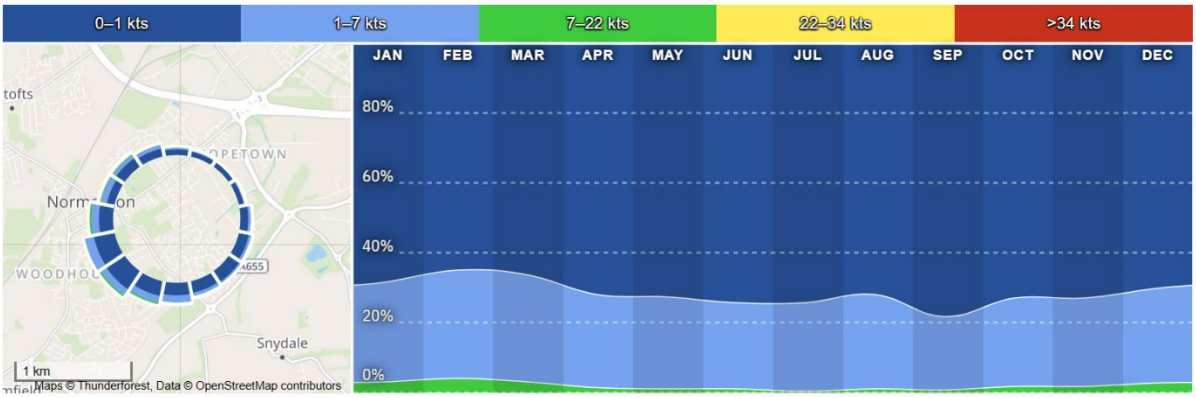


Figure 3 – Normanton weather station wind statistics – average wind direction & strength 2013-2025.

[3] Wind & weather statistics Normanton - Windfinder

3.0 RISK ASSESSMENTS

3.1 Assessments for the Proposed Operations

3.1.1 Risk assessment tables have been completed for odour, noise and vibration, fugitive emissions (dust, litter, mud and debris, pests, and surface water run-off), visible plumes and accidents in line with the GOV.UK guidance 'Risk assessments for your environmental permit' (last updated 1st December 2025).

3.1.2 It is considered that the biggest risk associated with the permitted operations are emissions resulting from fugitive emissions and odour, however all emissions have been considered in detail.

3.2 Risk Assessments - Tables

3.2.1 Possible hazards as a result of the proposed operations at the site that require risk assessment comprise:

- Sources of Odour (**Table 2**);
- Sources of Noise and Vibration (**Table 3**);
- Fugitive Emissions (dust, bioaerosols, litter, mud and debris, pests, surface water run-off) (**Table 4**);
- Visible emissions (smoke or visible plumes) (**Table 5**); and,
- Accidents (leaks and spillages, fire etc.) (**Table 6**).

3.2.2 The hazards identified above have the potential to escape beyond the site boundary and cause an amenity nuisance to sensitive receptors or harm the environment and human health. For each possible hazard, an assessment of the risk that it poses to potential sensitive receptors has been carried out, taking into account the control measures that will be in place.

3.2.3 The following Tables 2 to 6 give further detail on each hazard source, pathway and sensitive receptor, the risk management measures to be implemented, probability of exposure, consequences of exposure and an overall risk rating from Low (little or no risk) to High once all risk management measures have been taken into account.

Table 2 – Odour Risk Assessment

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Refuse Derived Fuel Preparation. Odour emissions potential during shredding and sorting of wastes.	Human population in nearby residential properties located west / southwest of site. Workers and patrons of nearby commercial/industrial premises inc. at: Fernley Green Industrial Estate. Users of public and domestic roads and footpaths nearby.	Through air.	• **Enclosed Building.** This will contain odours within the facility, minimising their dispersion into the surrounding environment. Air extraction with negative pressure will be maintained at all times and doors will be kept closed when not in use. See **Appendix 5** of this report for details demonstrating how he Operator's selected emission control/abatement systems will meet BAT. • **Activated Carbon Filter.** For odour emission control, it is designed to capture and neutralise odorous compounds emitted during the treatment process prior to release to the environment**.** • **Impermeable Surfacing.** The surfacing within the RDF preparation facility is impermeable, which prevents any potentially odorous materials or liquid from seeping into the ground, or leaving the building causing odour issues. • **Trained Staff** will ensure the facility's process operation is optimised and to be	**Unlikely** - the wastes accepted into the RDF process will be processed within an enclosed building with air extraction and carbon filter. Odour plumes are transient in nature and unlikely to travel great distances and will dissipate with wind movement. Nearest human receptors, particularly downwind are at	May cause annoyance to residential receptors, workers of nearby commercial/industrial premises, road users and users of public paths and farm tracks.	**Low – if control measures are implemented**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			aware of actions required to rectify any faults to prevent odour emission releases. Staff will also be aware of normal plant operational odour levels and abnormal odour levels, and what action to take to minimise odour release. • **Strict Waste Acceptance Procedures** will ensure only permitted wastes are accepted in the RDF operation, which will have low odour potential. Excessively odorous materials will be rejected from site. • **There is an 'Odour Management Plan' in place** and maintained for the site which details control measures and procedures for dealing with odour emissions and complaints should they arise, to cover operations at the processing facility. See document ref. 5827-CAU-XX-XX-RP-V-0310.	quite a distance from potential source of odours.		
Crushing of Empty Metal Drums/Containers +	Human population in nearby residential properties located west / southwest of site.	Through air.	• **Enclosed Building.** This will contain odours within the facility, minimising their dispersion into the surrounding environment. Air extraction with negative pressure will be maintained at all times	**Unlikely** - the wastes at the site will be processed within an enclosed building with air	May cause annoyance to residential receptors, workers of nearby	**Low – if control measures are implemented**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Packaged Waste Processing: Potential odour emissions from the processing, crushing, and storage of packaged waste.	Workers and patrons of nearby commercial/industrial premises inc. at: Fernley Green Industrial Estate. Users of public and domestic roads and footpaths nearby.		and doors will be kept closed when not in use. • **Activated Carbon Filter and Scrubber** for odour emission control. It is designed to capture and neutralise odorous compounds emitted during the treatment process prior to release to the environment. See **Appendix 5** of this report for details demonstrating how he Operator's selected emission control/abatement systems will meet BAT. • **Trained Staff** will ensure the facility's process operation is optimised and to be aware of actions required to rectify any faults to prevent odour emission releases. Staff will also be aware of normal plant operational odour levels and abnormal odour levels, and what action to take to minimise odour release. • **Sorting and Washing** will reduce odour of the waste by the removal of organic matter and other sources of odour. • **Wash Water Treatment.** The wastewater is processed on another part of the site via a biological treatment plant prior to	extraction and carbon filter. Odour plumes are transient in nature and unlikely to travel great distances and will dissipate with wind movement. Nearest receptors, particularly downwind are at quite a distance from potential source of odours.	commercial/industrial premises, road users and users of public paths and farm tracks.	

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			discharge, reducing odorous compounds that may be present. • **Regular Inspection and Maintenance.** Routine inspections of equipment and ventilating systems, as well as implementing odour monitoring. • **There is an 'Odour Management Plan' in place** and maintained for the site which details control measures and procedures for dealing with odour emissions and complaints should they arise, to cover operations at the site. See document ref. 5827-CAU-XX-XX-RP-V-0310.			
Temporary Storage of hazardous and non-hazardous wastes: Potential Odour from the temporary storage of waste.	Human population in nearby residential properties located west / southwest of site. Workers and patrons of nearby commercial/industrial premises inc. at: Fernley Green Industrial Estate.	Through air.	• **Sealed Containers.** Waste materials stored in sealed drums, which will effectively contain any odours produced by the waste. • **Capacity Management.** Ensures storage capacity isn't exceeded, to reduce the likelihood of accidents, spills and potential odour emissions. • **Strict Waste Acceptance Procedures** will ensure only permitted wastes are accepted. Odorous wastes brought to site	**Unlikely** - the sealed containerised wastes will have low to negligible odour potential. Odour plumes are transient in nature and unlikely to travel great distances and will	May cause annoyance to residential receptors, workers of nearby commercial/industrial premises, road users and users of public paths and farm tracks.	**Low – if control measures are implemented**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
	Users of public and domestic roads and footpaths nearby.		in damaged containers will be repackaged as appropriate, or else rejected from site. • **Regular inspection and Maintenance.** Ensuring seals, ventilation, and containment is adequate.	dissipate with wind movement. Nearest receptors, particularly downwind are at quite a distance from potential source of odours.		
Leachate and Aqueous Waste Treatment: Moderate potential of odour from biological treatment of leachate and aqueous wastes.	Human population in nearby residential properties located west / southwest of site. Workers and patrons of nearby commercial/industrial premises at: Fernley Green Industrial Estate. Users of public and domestic roads and footpaths nearby.	Through air.	• **Fully Bunded Area** which contains the process and prevents leaks or spills from reaching the surrounding environment, minimising the risk of odour emissions • **Activated Carbon Filter** for odour emission control. This is designed to capture and neutralise odorous compounds emitted during the treatment process. • **Regular inspection and Maintenance.** Routine inspections of equipment and ventilating systems, as well as implementing odour monitoring. • **Sealed Pipework and Tanks** prevents escape of odour emissions. **Trained Staff** will ensure the facility's process operation is optimised and to be aware of actions required to rectify any	**Unlikely -** leachate and aqueous wastes stored and treated in sealed tanks and pipework and unlikely to be exposed to air. Odour plumes are transient in nature and unlikely to travel great distances and will dissipate with wind movement.	May cause annoyance to residential receptors, workers of nearby commercial/industrial premises, road users and users of public paths and farm tracks.	**Low – if control measures are implemented**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			faults or spillages to prevent odour emission releases. Staff will also be aware of normal plant operational odour levels and abnormal odour levels, and what action to take to minimise odour release. • **There is an 'Odour Management Plan' in place** and maintained for the site which details control measures and procedures for dealing with odour emissions and complaints should they arise, to cover operations at the site. See document ref. 5827-CAU-XX-XX-RP-V-0310.	Nearest receptors, particularly downwind are at quite a distance from potential source of odours.		
Physical and Physico-chemical Treatment of Aqueous and Inorganic Wastes: Potential odour from storage and treatment of	Human population in nearby residential properties located west / southwest of site. Workers and patrons of nearby commercial/industrial premises at: Fernley Green Industrial Estate.	Through air.	• **Enclosed Self-Bunded Buildings** which contain the treatment processes and prevent leaks or spills or odour emission from reaching the surrounding environment. See **Appendix 2** of this report for details on secondary containment calculations for the applicable tank capacity and bund associated with the relevant buildings, and how they meet CIRIA 736. • **Activated Carbon Filter and Wet Scrubber** for emission control in the buildings. These are designed to capture and neutralise	**Unlikely** - wastes will be stored and treated within enclosed, self-bunded buildings with carbon filter emission points. Odour plumes are transient in nature and unlikely to travel great distances and will	May cause annoyance to residential receptors, workers of nearby commercial/industrial premises, road users and users of public paths and farm tracks.	**Low – if control measures are implemented**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
solids and liquids.	Users of public and domestic roads and footpaths nearby.		odorous compounds emitted during the treatment process prior to releasing air to the atmosphere. See **Appendix 5** of this report for details demonstrating how he Operator's selected emission control/abatement systems will meet BAT. • **Regular inspection and Maintenance.** Routine inspections of equipment and ventilating systems, as well as implementing odour monitoring. • **There is an 'Odour Management Plan' in place** and maintained for the site which details control measures and procedures for dealing with odour emissions and complaints should they arise, to cover operations at the site. See document ref. 5827-CAU-XX-XX-RP-V-0310.	dissipate with wind movement. Nearest receptors, particularly downwind are at quite a distance from potential source of odours.		
Physical and Physico-chemical Treatment of Solids and Sludges:	Human population in nearby residential properties located west / southwest of site. Workers and patrons of nearby commercial/industrial	Through air.	• **Enclosed Self-Bunded Buildings** which contain the treatment processes and prevent leaks or spills or odour emissions from reaching the surrounding environment. • **Activated Carbon Filter and Wet Scrubber** for emission control in the buildings. These are designed to capture and neutralise	**Unlikely -** wastes will be stored and treated within enclosed, self-bunded buildings with carbon filter emission points.	May cause annoyance to residential receptors, workers of nearby commercial/industrial premises, road users and	**Low – if control measures are implemented.**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Potential odour from treatment and storage of solids and sludges.	premises inc. at: Fernley Green Industrial Estate. Users of public and domestic roads and footpaths nearby.		odorous compounds emitted during the treatment process prior to release into the atmosphere. • **Regular inspection and Maintenance.** Routine inspections of equipment and ventilating systems, as well as implementing odour monitoring. • **There is an 'Odour Management Plan' in place** and maintained for the site which details control measures and procedures for dealing with odour emissions and complaints should they arise, to cover operations at the site. See document ref. 5827-CAU-XX-XX-RP-V-0310.	Odour plumes are transient in nature and unlikely to travel great distances and will dissipate with wind movement. Nearest receptors, particularly downwind are at quite a distance from potential source of odours.	users of public paths and farm tracks.	
Metal and Inorganic Salts Recovery: Potential odour from treatment of solids and sludges.	Human population in nearby residential properties located west / southwest of site. Workers and patrons of nearby commercial/industrial premises inc. at: Fernley Green Industrial Estate.	Through air.	• **Enclosed Self-Bunded Buildings** which contain the treatment processes and prevent leaks or spills or odour emissions from reaching the surrounding environment • **Activated Carbon Filter and Wet Scrubber** for odour emission control. These are designed to capture and neutralise odorous compounds emitted during the treatment process prior to discharge into the atmosphere.	**Unlikely** - wastes will be stored and treated within enclosed, self-bunded buildings with carbon filter emission points. Odour plumes are transient in nature	May cause annoyance to residential receptors, workers of nearby commercial/industrial premises, road users and users of public paths and farm tracks.	**Low – if control measures are implemented.**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
	Users of public and domestic roads and footpaths nearby.		• **Regular inspection and Maintenance.** Routine inspections of equipment and ventilating systems, as well as implementing odour monitoring. • **There is an 'Odour Management Plan' in place** and maintained for the site which details control measures and procedures for dealing with odour emissions and complaints should they arise, to cover operations at the site. See document ref. 5827-CAU-XX-XX-RP-V-0310.	and unlikely to travel great distances and will dissipate with wind movement. Nearest receptors, particularly downwind are at quite a distance from potential source of odours		

Table 3 – Noise & Vibration Risk Assessment

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Refuse Derived Fuel Preparation. Potential noise and vibration during shredding and sorting of wastes.	Human population in nearby residential properties located west / southwest of site. Workers and patrons of nearby commercial/industrial premises inc. at: Fernley Green Industrial Estate. Users of public and domestic roads and footpaths nearby. Wildlife in nearby habitats.	Through air / through ground.	• **Plant and Equipment** will be selected to minimise potential noise and vibration emissions. • **Enclosed Building** - waste storage and treatment operations will be undertaken within an enclosed building to minimise the emission of significant noise and vibration levels. See **Appendix 5** of this report for details demonstrating how he Operator's selected emission control/abatement systems will meet BAT. • **Doors will be closed** when not in use to prevent noise emissions leaving the building. • **Staff training** will include raising employee awareness with respect to normal operational noise levels and actions to be taken to rectify any faults. • **When not in use, or during periods of downtime, all plant and equipment will be switched off** to minimise noise and vibration emissions, including the	**Unlikely** - RDF preparation activities undertaken within an enclosed building, therefore noise emissions from the activity are unlikely to significantly impact on receptors off-site, which are at quite a distance from source.	Nuisance to humans living and working nearby & disturbance to wildlife.	**Low – if control measures are implemented**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			use of auto shutoff equipment to minimise unnecessary runtime. • **Plant and equipment will be maintained** in line with manufacturer's recommendations, and this includes checking for deterioration of plant condition (e.g. bearings becoming worn) that could make excessive noise. • **Repairs** will be undertaken as appropriate to rectify any identified defects and reduce the potential for excessive noise and vibration. • **Noise levels** will be monitored by staff as part of daily site checks and throughout the working day, and any noise complaints received will be taken into consideration when reviewing levels. • **Noise Assessment** has been undertaken for the Site. See document ref. 5827-CAU-XX-XX-RP-V-0311 for details. • **A Noise Management Plan is in place for the site**, which outlines the control measures for noise at the site, included			

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			within this application as document ref. 5827-CAU-XX-XX-RP-V-0311.			
Crushing of Empty Metal Drums/Containers + Packaged Waste Processing: Potential noise and vibrations from the processing and storage of packaged waste.	Human population in nearby residential properties located west / southwest of site. Workers and patrons of nearby commercial/industrial premises inc. at: Fernley Green Industrial Estate. Users of public and domestic roads and footpaths nearby. Wildlife in nearby habitats.	Through air / through ground.	• **Plant and Equipment** will be selected to minimise potential noise and vibration emissions. • **Enclosed Building** – waste storage and treatment operations will be undertaken within an enclosed building to minimise the emission of significant noise levels. • **Doors will be closed** when not in use to prevent noise emissions leaving the building. • **Staff training** will include raising employee awareness with respect to normal operational noise levels and actions to be taken to rectify any faults. • **When not in use or during periods of downtime,** all plant will be switched off to minimise noise emissions. • **Plant and equipment will be maintained** in line with manufacturer's recommendations, and this includes	**Unlikely** - as the low noise emissions from the activity are unlikely to significantly impact on receptors off-site, at quite a distance from source.	Nuisance to humans living and working nearby & disturbance to wildlife.	**Low – if control measures are implemented**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			checking for deterioration of plant condition (e.g. bearings becoming worn). • **Repairs** will be undertaken as appropriate to rectify any identified defects. • **Noise levels** will be monitored by staff and any noise complaints received will be taken into consideration when reviewing levels. • **Noise Assessment** has been undertaken for the Site. See document ref. 5827-CAU-XX-XX-RP-V-0311 for details. • **A Noise Management Plan is in place for the site**, which outlines the control measures for noise at the site, included within this application as document ref. 5827-CAU-XX-XX-RP-V-0311.			
Temporary Storage of hazardous and non-hazardous wastes:	Human population in nearby residential properties located west / southwest of site.	Through air / through ground.	• **Enclosed Building –** where wastes are stored in a building, doors will be kept closed when not in use, as far as practicable, to minimise the emission of significant noise levels.	**Very unlikely -** vehicle movements will be intermittent and of low noise and vibration	Nuisance to humans living and working nearby & disturbance to wildlife.	**Very low.**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Potential noise and vibrations from temporary waste storage, including delivery vehicle movements, fork lifts moving waste materials in and out of the relevant waste processing buildings.	Workers and patrons of nearby commercial/industrial premises inc. at: Fernley Green Industrial Estate. Users of public and domestic roads and footpaths nearby. Wildlife in nearby habitats.		• **Staff training** will include raising employee awareness with respect to normal operational noise levels and actions to be taken to rectify any faults and dealing with complaints. • **Repairs** on plant and equipment will be undertaken as appropriate to rectify any identified defects in the vehicles. • **Vehicular movements**, inc. fork lifts will be within the site's operational hours to minimise noise. Site speed limits will be adhered to, to reduce noise and vibration emissions. • **Noise Assessment** has been undertaken for the Site. See document ref. 5827-CAU-XX-XX-RP-V-0311 for details. • **A Noise Management Plan is in place for the site**, which outlines the control measures for noise at the site, included within this application as document ref. 5827-CAU-XX-XX-RP-V-0311.	generating potential**.**		

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Leachate and Aqueous Waste Treatment: Potential of noise and vibrations from biological treatment of leachate and aqueous wastes.	Human population in nearby residential properties located west / southwest of site. Workers and patrons of nearby commercial/industrial premises inc. at: Fernley Green Industrial Estate. Users of public and domestic roads and footpaths nearby. Wildlife in nearby habitats.	Through air / through ground.	• **Plant and Equipment** will be selected to minimise potential noise emissions. • **Enclosed Building and Sealed Tanks** will minimise the emission of significant noise levels. • **Staff training** will include raising employee awareness with respect to normal operational noise levels and actions to be taken to rectify any faults. • Plant and equipment will be switched off when not in use, or during periods of downtime, to minimise noise emissions, including the use of **autoshut** off equipment to minimise unnecessary runtime. • **System will be maintained** in line with manufacturer's recommendations, and this includes checking for deterioration of plant condition (e.g. bearings becoming worn). • **Repairs** will be undertaken as appropriate to rectify any identified defects. • **Noise levels** will be monitored by staff and any noise complaints received	**Unlikely** - as the low noise emissions from the activity are unlikely to significantly impact on receptors off-site, at quite a distance from source.	Nuisance to humans living and working nearby & disturbance to wildlife.	**Low – if control measures are implemented**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			taken into consideration when reviewing levels. • **Noise Assessment** has been undertaken for the Site. See document ref. 5827-CAU-XX-XX-RP-V-0311 for details. • **A Noise Management Plan is in place for the site**, which outlines the control measures for noise at the site, included within this application as document ref. 5827-CAU-XX-XX-RP-V-0311.			
Physical and Physico-chemical Treatment of Aqueous and Inorganic Wastes: Potential of noise and vibrations.	Human population in nearby residential properties located west / southwest of site. Workers and patrons of nearby commercial/industrial premises at: Fernley Green Industrial Estate.	Through air / through ground.	• **Plant and Equipment** will be selected to minimise potential noise emissions. • **Enclosed Building** – wastes will be processed within an enclosed building minimise the emission of significant noise levels to the outside environment. • **Staff training** will include raising employee awareness with respect to normal operational noise levels and actions to be taken to rectify any faults. • **When not in use and during periods of downtime,** all plant will be switched off to minimise noise emissions.	**Unlikely** - as the low noise emissions from the activity will be within an enclosed building and are unlikely to significantly impact on receptors off-site, at quite a distance from source.	Nuisance to humans living and working nearby & disturbance to wildlife.	**Low – if control measures are implemented**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
	Users of public and domestic roads and footpaths nearby. Wildlife in nearby habitats.		• **Plant and equipment will be maintained** in line with manufacturer's recommendations, and this includes checking for deterioration of plant condition (e.g. bearings becoming worn). • **Noise Assessment** has been undertaken for the Site. See document ref. 5827-CAU-XX-XX-RP-V-0311 for details. • **A Noise Management Plan is in place for the site**, which outlines the control measures for noise at the site, included within this application as document ref. 5827-CAU-XX-XX-RP-V-0311.			
Physical and Physico-chemical Treatment of Solids and Sludges: Potential noise and vibrations from treatment of solids and sludges.	Human population in nearby residential properties located west / southwest of site. Workers and patrons of nearby commercial/industrial premises at: Fernley	Through air / through ground.	• **Associated Equipment** will be selected to minimise potential noise emissions and all enclosed within an insulated container. • **Enclosed Building** as far as practicable to minimise the emission of significant noise levels. • **Staff training** will include raising employee awareness with respect to	**Unlikely** - as the low noise emissions from the activity are unlikely to significantly impact on receptors off-site, at quite a distance from source.	Nuisance to humans living and working nearby & disturbance to wildlife.	**Low – if control measures are implemented**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
	Green Industrial Estate. Users of public and domestic roads and footpaths nearby. Wildlife in nearby habitats.		normal operational noise levels and actions to be taken to rectify any faults. • During periods of **downtime**, all plant will be switched off to minimise noise emissions. • **System will be maintained** in line with manufacturer's recommendations, and this includes checking for deterioration of plant condition (e.g. bearings becoming worn). • **Noise Assessment** has been undertaken for the Site. See document ref. 5827-CAU-XX-XX-RP-V-0311 for details. • **A Noise Management Plan is in place for the site**, which outlines the control measures for noise at the site, included within this application as document ref. 5827-CAU-XX-XX-RP-V-0311.			
Noise from plant and vehicle movements on site associated with new	Human population in nearby residential properties located west / southwest of site.	Through air.	• New activities will be installed within the existing processing facility compound on site. • It is unlikely the vehicle movements associated with the new activities will add significant additional noise to the	**Very unlikely** – vehicle and plant movements associated with the new activities unlikely to	Noise may cause annoyance to people nearby or passing the site on roads and footpaths.	**Low – if control measures are implemented**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
proposed activities outlined above.	Workers and patrons of nearby commercial/industrial premises at: Fernley Green Industrial Estate. Users of public and domestic roads and footpaths nearby. Wildlife in nearby habitats.		background noise already generated at the site. • Site vehicles and plant will be regularly serviced and maintained to ensure worn parts do not create unnecessary noise emissions. • During periods of downtime, all the relevant plant will be switched off. • Site speed limits will restrict speeds of vehicles moving around the plant. • **Noise Assessment** has been undertaken for the Site. See document ref. 5827-CAU-XX-XX-RP-V-0311 for details. • **A Noise Management Plan is in place for the site**, which outlines the control measures for noise at the site, included within this application as document ref. 5827-CAU-XX-XX-RP-V-0311.	contribute noise levels greater than levels already experienced from the vehicle movements already experienced in the local area.		

Table 4 – Fugitive Emissions Risk Assessment

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
To Air						
Dust	Local human population and users of domestic roads. Disturbance to wildlife, birds and habitats of nearby woodlands and habitat designations. Smothering of fauna wildlife.	Through air.	• Enclosed Buildings. Most activities will be undertaken in enclosed buildings, containing any potential dust produced to the surrounding area. • Use of air extraction and filters are employed to reduce airborne particulate matter leaving the buildings where potentially dusty activities are carried out e.g. shredding of waste. See **Appendix 5** of this report for details demonstrating how he Operator's selected emission control/abatement systems will meet BAT. • Where potentially dusty waste is stored outside, this will be in silos, tanks or sealed containers/covered skips to reduce potential for dust emissions. • Regular maintenance of equipment and facilities, including haul roads, to minimise dust emissions from faulty equipment or potholes.	**Unlikely** – dust is not considered to be a significant risk from the waste storage and treatment activities at the site due to the enclosure of activities (e.g., shredding) within buildings with air extraction and dust filters; or enclosure of wastes within containers/silos, for wastes likely to generate dust.	Dust may cause annoyance to people nearby or passing the site on roads and footpaths.	**Low – if control measures are implemented**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			• Dust suppression techniques where and when applicable, such as dampening down particularly dusty waste or wetting road surfaces, including appropriate housekeeping such as closing doors and windows to minimise dust emissions. • Operational Controls such as undertaking certain operations during periods of low wind. • Strict waste acceptance procedures will ensure only permitted wastes are allowed onto site.			
To Water						
Contaminated run-off into surface water or groundwater.	Groundwater in Secondary B Aquifer - bedrock. Nearby surface water receptors – the River Aire, Aire and Calder Navigation Canal, and ponds situated	Surface run-off/overland flow and infiltration down into ground.	• Surfacing beneath the proposed activities will be impermeable. The base will be subject to routine inspection and maintenance to ensure integrity is maintained. • Emergency spillage pads and/booms will be provided should a spillage or leak occur. • A Planned Preventative Maintenance programme is in place for all critical equipment and infrastructure.	**Unlikely** - given that tanks are situated within self-contained bunds on impermeable concrete surfacing and regularly maintained and monitored.	Detriment to the quality of surface water could affect fish and other wildlife within the watercourse. May adversely affect	**Low – if control measures are implemented.**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
	in Willow Garth Nature Reserve.				groundwater quality.	
Pests						
Rodents and associated diseases	Local human population.	Over ground, via the air or via watercourses.	• Regular Cleaning and Maintenance. • Pest control measures such as the use of traps, baits, and insecticides. • Regular monitoring and inspections. • Sealing entry points. • Training and awareness.	**Unlikely** - adequate waste storage and waste acceptance procedures should reduce any potential pests.	General nuisance and health risk from rats being vectors for human pathogens (e.g. Weil's disease).	**Low.**
Mud/Litter						
Mud & debris tracked by delivery and collection vehicles.	Nearby receptors using public roads.	Mud and debris being dragged onto public highway.	N/A – not applicable as proposed location of processing facilities have concrete surfacing/pavement.	**Very unlikely.**	Potential skid risk to drivers on public roads & nuisance.	**Very low.**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Litter.	Local human population.	By wind and over land.	• Regular Cleaning and Maintenance. • Enclosed storage and treatment facilities. • Regular monitoring and inspections. • Training and awareness.	**Unlikely.**	Nuisance.	**Low.**

Table 5 – Visible Plumes Risk Assessment

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Potential visible plumes.	Nearby receptors.	Air.	• Enclosed storage and treatment facilities. • Scrubbers and filters. • Regular maintenance. • Operational controls.	**Unlikely.**	Visible plumes may cause annoyance to people nearby or passing the site on roads and footpaths.	Low

Table 6 – Accidents Risk Assessment

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Leak or spillage from tank or vessels containing liquid material -leachate, concentrate or, aqueous solutions.	Groundwater in Secondary B Aquifer - bedrock. Nearby surface water receptors – the River Aire, Aire and Calder Navigation Canal, and ponds situated in Willow Garth Nature Reserve.	Overland surface water run-off, across ground, infiltration into ground.	• Storage tanks for leachate and concentrate shall be self-bunded or situated within bunded areas on impermeable concrete, designed in line with the CIRIA 'Containment systems for the prevention of pollution: Secondary, tertiary and other measures for industrial and commercial premises' (C736;2014) and HSE standards for storing chemicals (See **Appendix 2** of this report for details on secondary containment calculations for the applicable tank capacity and bund associated with the relevant buildings, and how they meet CIRIA 736. • Refer to **Appendix 3** of this report for a summary document on Leak detection and Repair protocol. • **Appendix 4** of this report contains relevant documents relating to the	**Unlikely** - impermeable site surfacing with sealed drainage in process buildings. Small spillages should they occur will be cleaned up immediately. Large (catastrophic) failure of tanks/vessels is very unlikely to occur, but will be contained within bunding provided.	Detriment to the quality of surface water and groundwater with severity dependant on size of the spill.	**Low – if control measures are implemented**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			site's accident management procedures. • The bunded areas will have sumps for collecting rainwater and any contaminated liquid from spillages/leaks and disposed of appropriately. The bunds will be inspected regularly. All surface water collected in bunds will pass through the treatment facility. • Storage tanks equipped with online level monitoring, using radar or ultrasonics with three alarm levels for alerting staff when maximum capacity is reached, including an Automatic Feed Shut Off (AFSO) system to protect against tank overflow or, power failure Roofing of waste storage and treatment areas • Emergency spillage pads and/booms will be provided should a spillage or leak occur. • A Planned Preventative Maintenance programme to be put in place for all			

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			critical equipment and infrastructure. Regular inspection of surface integrity, container and bunding integrity. All tanks and pipework will be above ground and will undergo routine visual inspections to identify any leaks. • Spillage action plan with training of all relevant staff on implementing the plan and in the use of spill pads and booms, which will be available. • The Site Manager is also responsible for the review of what caused the incident and whether changes in procedures are needed as a result. • Fuel tanks will be stored in a bunded area on impermeable surfacing.			
Fire.	Local human population. Surface water and groundwater.	Air transport of smoke and vapours. Firewater run-off.	• Fires could occur as a result of arson, self-combustion or from sources of ignition. A Planned Preventative Maintenance programme in place for all critical equipment and infrastructure	**Unlikely –** as activities on site are not intrinsically linked with a particularly high risk of fire.	Respiratory irritation, smoke nuisance to local population. Pollution of land or water by firewater.	**Low - if control measures are implemented.**

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			which will minimise the risk of fire caused by equipment failure. • A fire prevention plan for the RDF-building (document ref. 5827-CAU-XX-XX-RP-V-0312 included within this permit variation application) sets out the fire prevention measures and procedures in place and would be made available to the Fire & Rescue Service during an incident. This forms part of the site's management system. • Emergency procedures which forms part of the site's Integrated Management System IIMS) will be followed. • The Site Manager is also responsible for review of what caused the incident and whether changes in procedures are needed as a result. • Trained site staff and/or emergency fire crews will use water to extinguish any fires on-site and the resulting firewater			

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			has the potential to be contaminated and will be contained and disposed of appropriately. Measures to contain firewater similar to handling of spillages as outlined above. Firewater will be contained, collected, and removed from site in a controlled manner and not be allowed to run-off into nearby watercourses or land. • Daily site inspections of internal and external storage areas to identify any signs of smoking or smouldering. • Site security with fencing and locked gates out of hours will prevent fires caused by arson or vandalism.			

4.0 CONCLUSION

4.1.1 The risk assessments above enable identification of appropriate mitigation measures to control the amenity and accident risks from the proposed activities. All identified risk mitigation measures will be incorporated within the management system for the site.

4.1.2 The Environmental Risk Assessment indicates that provided the identified risk mitigation measures, which are identified in the tables above, are implemented, the risk of nuisance or pollution from odour, noise and vibration, fugitive emissions including dust, litter, mud and debris, contaminated surface run-off, pests, or accidents such as fire is low.

4.1.3 The proposed activities at Knottingley Waste to Resource Facility will mostly be enclosed and set in fully bunded areas with impermeable concrete surface and will produce very little emissions likely to affect nearby sensitive receptors.

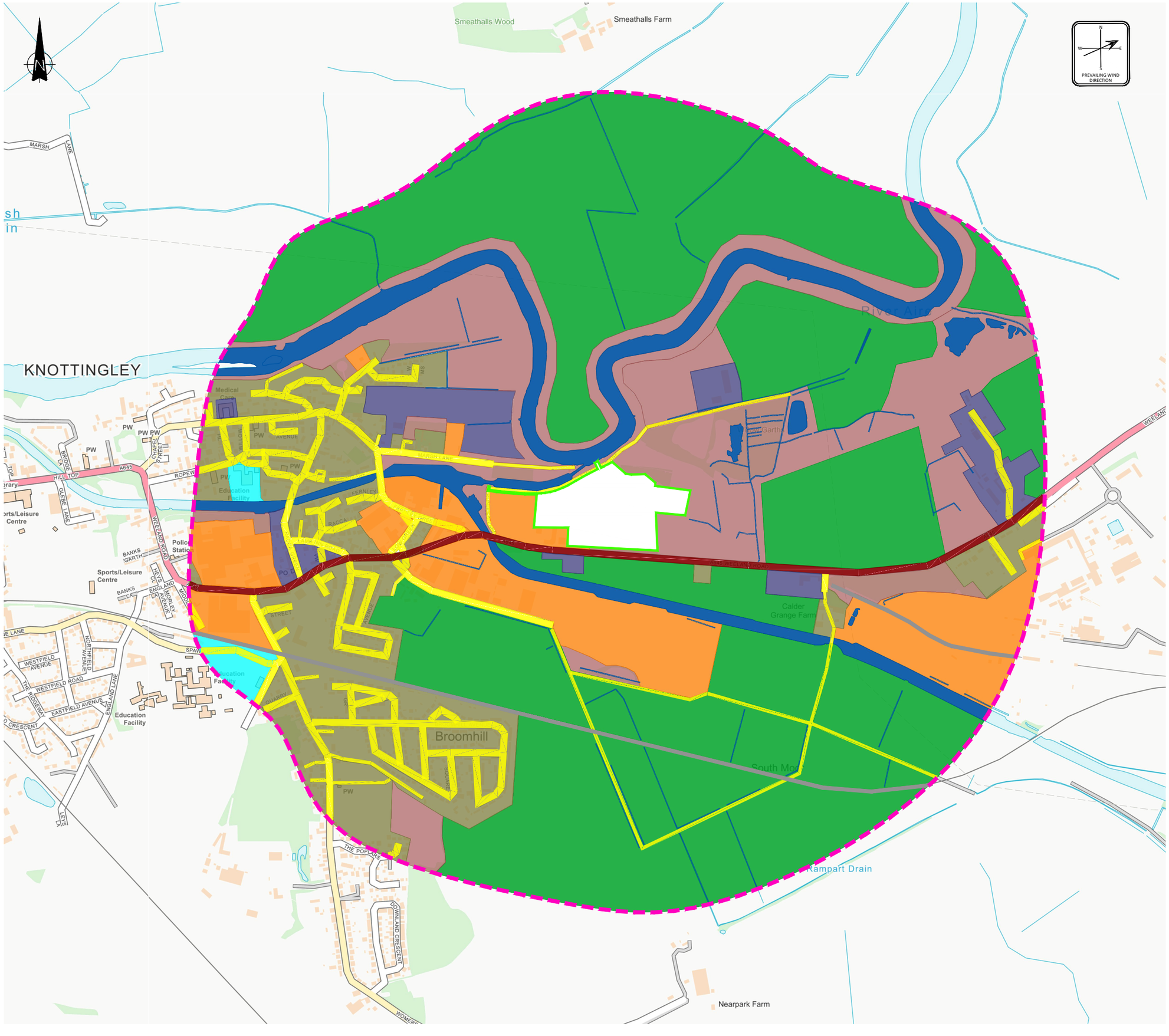
5.0 REFERENCES

1) Environment Agency guidance 'Risk Assessments for your environmental permit' (last updated 1st December 2025), found at: https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit.

DRAWINGS

5827-CAU-XX-XX-DR-V-1800 Sensitive Receptors Plan

5827-CAU-XX-XX-DR-V-1804 Permit Boundary Plan



LEGEND

- PERMIT BOUNDARY
- 1000m OFFSET
- SURFACE WATER
- WOODLAND / SCRUBLAND
- COMMERCIAL / LEISURE
- EDUCATIONAL FACILITY
- INDUSTRIAL
- RESIDENTIAL
- MAJOR ROAD
- MINOR ROAD
- RAIL

REV					
P03	LEGEND UPDATED	EJD	JC	JC	06.08.25
P02	PERMIT BOUNDARY UPDATED	EJD	JC	JC	09.07.25
P01	ISSUED FOR INFORMATION	EJD	ER	ER	16.04.24
REV	MODIFICATIONS	BY	RE	AP	DATE

PURPOSE OF ISSUE: FOR INFORMATION

STATUS: S2

CLIENT: FCC Environment

PROJECT:

KNOTTINGLEY WASTE TO RESOURCE FACILITY

TITLE:

SENSITIVE RECEPTOR PLAN

DESIGNED BY	DRAWN BY	REVIEWED BY	AUTHORISED BY
EJD	EJD	ER	ER

DATE	SCALE @ A3	JOB REF:	REVISION
16.04.2024	1:10000	5827	P03

DRAWING NUMBER: 5827-CAU-XX-XX-DR-V-1800

Caulmert engineering environmental planning

WWW.CAULMERT.COM

Registered Office: InTec, Parc Menai, Bangor, Gwynedd, LL57 4FG Company Registered No: 06716319

RIVER AIRE

DISCHARGE

STOCKING LANE

TRUNDLES LANE

Surface Water Storage

Waste Processing 07

INT 01

EP07

P07-ZP-01

Sewer Connection

Effluent

Waste Processing 02

EP02

P02-ZP-01

Waste Storage 02
(packaged only)

S02-ZS-01

General Storage 01

GS1-OS-01

General Storage 02

GS1-ZS-02

Packaged
Waste
Offloading
Area

Tanker
Holding
Area

Waste Processing 06

INT 02

EP26

EP06

EP16

P06-ZP-11

P06-ZP-21

P06-ZP-31

Surface Water Storage

INT 03

Waste Processing 03

EP03

P03-ZP-01

Waste Storage 01

S01-OS-01

Reception
Area

EP05

Diesel

EP11 EP01

Waste Processing 01

P01-ZP-01

Weighbridge

Waste Processing 05

P05-ZP-01

EP08

B01-ZP-01

EP18

B01-ZP-02

Boiler Complex

FIRE TANK

SUB

SUB

PUMP HOUSE

MANOEUVRING

YE Equipment
Transformer

Switchroom

Weighbridge

Switchroom
Transformer
YE Equipment

Offices and Labs

EP14

EP24

EP04

INT 04

P04-ZP-01

WEELAND ROAD

Gas Main

Water Main

Waste Processing 04

Water Main

NOTES

1. DO NOT SCALE FROM THIS DRAWING, WORK FROM FIGURED DIMENSIONS ONLY. ALL DIMENSIONS ARE IN METRES AND ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.

2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS AND SPECIFICATIONS.

LEGEND

- OWNERSHIP BOUNDARY
- PERMIT BOUNDARY
- H — HYDRANT

REV	MODIFICATIONS	BY	RE	AP	DATE
P03	LEGEND AMENDED	EJD	JC	AS	06.08.25
P02	HYDRANTS ADDED TO DRAWING	EJD	JC	AS	28.07.25
P01	ISSUED FOR INFORMATION	EJD	JC	AS	10.07.25

CLIENT: FCC Environment

PROJECT: KNOTTINGLEY WASTE TO RESOURCE FACILITY

TITLE: PERMIT BOUNDARY PLAN

PURPOSE OF ISSUE			STATUS
FOR INFORMATION			S2
DESIGNED BY	DRAWN BY	REVIEWED BY	AUTHORISED BY
EJD	EJD	JC	AS
DATE	SCALE @ A1	JOB REF:	REVISION
10.07.2025	1:750	5827	P03

DRAWING NUMBER: 5827-CAU-XX-XX-DR-V-1804

Caulmert engineering environmental planning

Registered Office: InTec, Parc Menai, Bangor, Gwynedd, LL57 4FG Company Registered No: 06716319

WWW.CAULMERT.COM

APPENDIX 1

Environment Agency Habitats Screening Report

Nature and Heritage Conservation

Screening Report: Bespoke installation

Reference	**EPR/JP3547JL/P001**
NGR	**SE 51142 23864**
Buffer (m)	**120**
Date report produced	**24/05/2024**
Number of maps enclosed	**3**

This nature and heritage conservation report

The nature and heritage conservation sites, protected species and habitats, and other features identified in the table below **must be considered in your application**.

In the further information column, there are links which give more information about the site or feature type and indicate where you are able to self-serve to get the most accurate site boundaries or feature locations.

Most designated site boundaries are available on Magic map. Using Magic map allows you to zoom in and see the site boundary or feature location in detail, Magic map also allows you to measure the distance from these sites and features to your proposed boundary. Help videos are available on Magic map to guide you through.

Where information is not publicly available, or is only available to those with GIS access, we have provided a map at the end of this report.

Sites and Features within screening distance	Screening distance (km)	Further Information
Local Wildlife Sites (LWS) (see map below) **Willowgarths** **Park Baulk Quarry, Knottingley**	2	Appropriate Local Record Centre (LRC) Appropriate Wildlife Trust

Protected Species within screening distance	Screening distance (km)	Further Information
European Eel migratory route **River Lamprey migratory route** (see map below)	up to 2	Natural England Environment Agency. Dial 03708 506 506 for your local Fisheries and Biodiversity team

Protected Habitats within screening distance	Screening distance (km)	Further Information
Reedbeds (see map below)	up to 2	Natural England

Where protected species are present, a licence may be required from Natural England to handle the species or undertake the proposed works.

The relevant Local Records Centre must be contacted for information on the features within local wildlife sites. A small administration charge may also be incurred for this service.

The following nature and heritage conservation sites, protected species and habitats, and other features have been checked for, where they are relevant for the permit type requested, but have not been found within screening distance of your site unless included in the list above.

Special Areas of Conservation (cSAC or SAC), Special Protection Area (pSPA or SPA), Marine Conservation Zone (MCZ), Ramsar, Sites of Special Scientific Interest (SSSI), National Nature Reserve (NNR), Local Nature Reserve (LNR), Local Wildlife Sites (LWS), Ancient Woodland, relevant species and habitats.

Please note we have screened this application for features for which we have information. It is however your responsibility to comply with all environmental and planning legislation, this information does not imply that no other checks or permissions will be required.

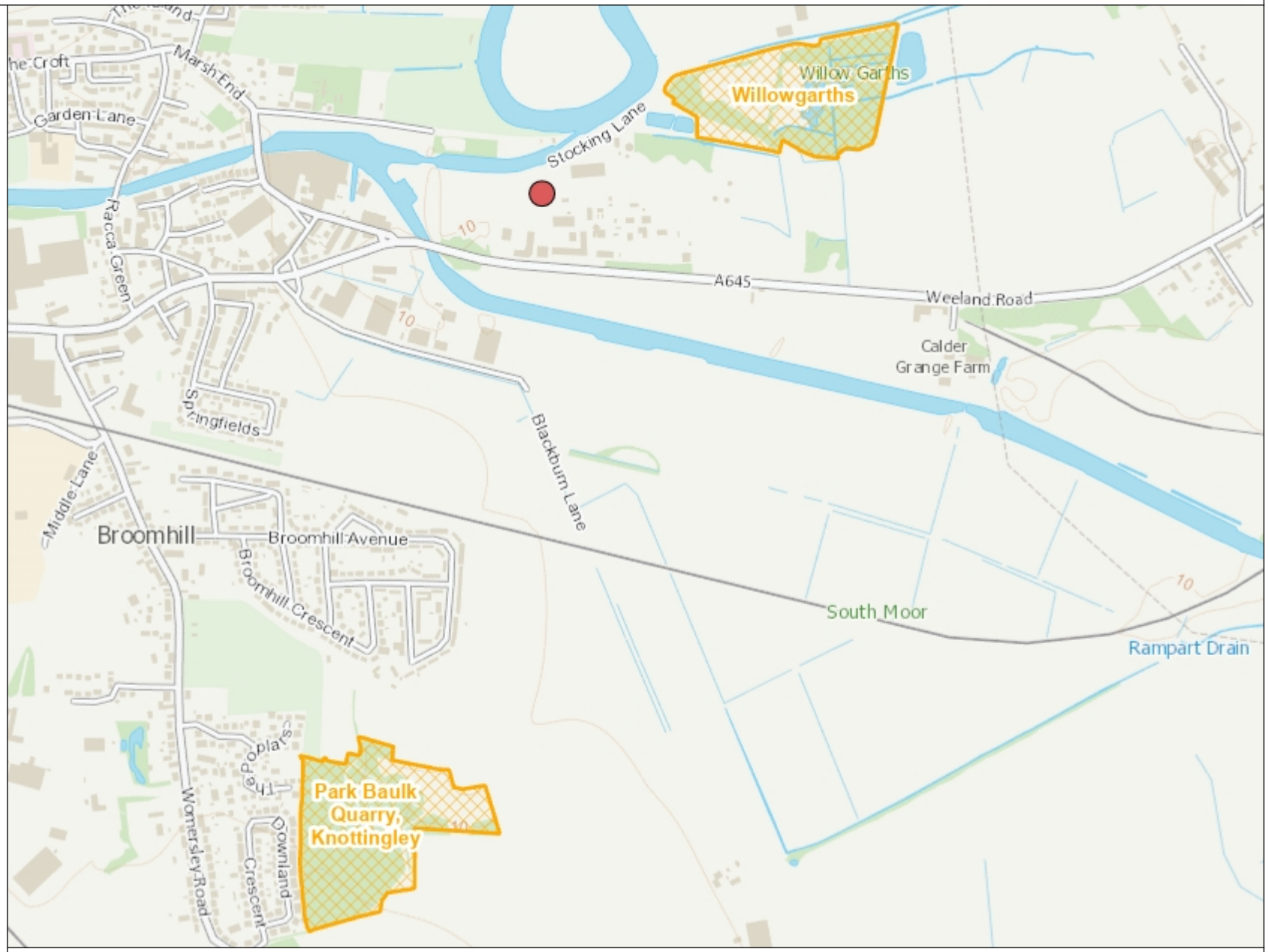
The nature and heritage screening we have conducted as part of this report is subject to change as it is based on data we hold at the time it is generated. We cannot guarantee there will be no changes to our screening data between the date of this report and the submission of the permit application, which could result in the return of an application or requesting further information

Local Wildlife Sites

Environment Agency

Legend

Local Wildlife Sites



1: 10,000

0 250

Metres

N

W E

S

Protected Species

Environment Agency

Legend

Fish migratory routes screened for Environmental Permits

1: 10,000

0 250

Metres

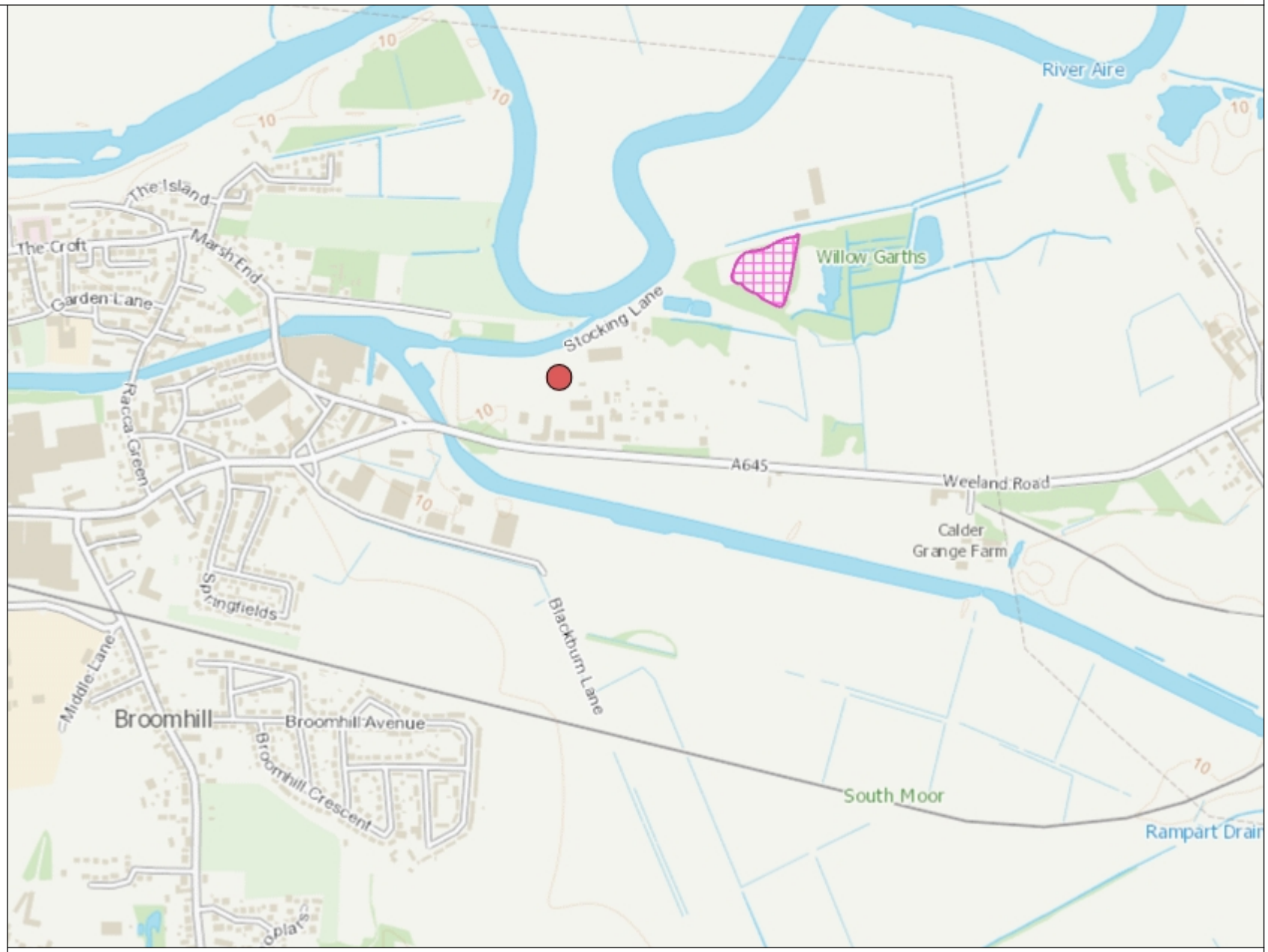
N W E S

Protected Habitats

Environment Agency

Legend

Protected Habitats screened for Env Permits



1: 10,000

0 250

Metres

N W E S

APPENDIX 2

Secondary Containment

Caulmert
engineering environmental planning

Registered Office: InTec, Parc Menai, Bangor, Gwynedd, LL57 4FG
Tel: 01248 672666
Email: contact@caulmert.com
Web: www.caulmert.com

Containment

The Knottingley Waste to Resource Facility is designed to provide secondary containment for all tank storage and allows for tertiary containment due to the presence of a drainage system which collects runoff waters from the site and holds them prior to release from the facility.

Tank storage areas are associated with:

Waste Processing 4 – Metals and inorganic salts recovery;

Waste Processing 6 – Physical and Physico-chemical treatment of acids and alkalis;

Waste Processing 7 – Physico-chemical and Biological treatment of landfill leachate and aqueous wastes.

Where tanks are within buildings, these are self-bunded, to provide protection to staff working in the building, and the building itself is bunded to allow spill containment.

Bunded storage areas

<u>Waste Processing 4 bund associated with building (P04-ZP-01)</u>

- Total tank capacity within bund: 820 m^3
- Largest tank in the bund: 100 m^3
- Basal area occupied by tanks: 239 m^2 (19 tanks maximum 4 m diameter bases)
- Bund area total: 782 m^2
- Bund height: 1m
- Total capacity: 782 m^3
- Total available capacity: 581 m^3
- **% largest tank: 581 %**

<u>Waste Processing 6 bund associated with building (P06-ZP-11)</u>

- Total tank capacity within bund: 650 m^3
- Largest tank in the bund: 100 m^3
- Basal area occupied by tanks: 88 m^2 (7 tanks maximum 4 m diameter bases)
- Bund area total: 374 m^2
- Bund height: 1m
- Total capacity: 374 m^3
- Total available capacity: 286 m^3
- **% largest tank: 286 %**

Waste Processing 6 bund associated with building (P06-ZP-21)

- Total tank capacity within bund: 500 m^3
- Largest tank in the bund: 100 m^3
- Basal area occupied by tanks: 88 m^2 (7 tanks maximum 4 m diameter bases)
- Bund area total: 374 m^2
- Bund height: 1m
- Total capacity: 374 m^3
- Total available capacity: 286 m^3
- **% largest tank: 286 %**

Waste Processing 6 bund associated with building (P06-ZP-31)

- Total tank capacity within bund: 800 m^3
- Largest tank in the bund: 100 m^3
- Basal area occupied by tanks: 101 m^2 (8 tanks maximum 4 m diameter bases)
- Bund area total: 389 m^2
- Bund height: 1m
- Total capacity: 389 m^3
- Total available capacity: 288 m^3
- **% largest tank 288 %**

Waste Processing 7 bund associated with building (P07-ZP-01)

- Total tank capacity within bund: 4755 m^3
- Largest tank in the bund: 600 m^3
- Basal area occupied by tanks: 517 m^2 (15 tanks, multiple base sizes area occupied)
- Bund area total: 1336 m^2
- Bund height: 1.1 m
- Total capacity: 1469 m^3
- Total available capacity: 952 m^3
- **% largest tank: 159 %**

APPENDIX 3

Leak Detection and Repair Protocol

Caulmert
engineering environmental planning

Registered Office: InTec, Parc Menai, Bangor, Gwynedd, LL57 4FG
Tel: 01248 672666
Email: contact@caulmert.com
Web: www.caulmert.com

Leak Detection and Repair Plan

Provisions to prevent accident releases of pollutants to the Environment are described in the BAT document. This document summarises those activities.

Ensuring adequate monitoring and maintenance of equipment forms part of the Integrated Management System and associated procedures to be employed on the site. The application and suitability of these systems are audited both internal and by external auditors to maintain the British Standard certifications issued to the facility.

To mitigate against the risks of leakage of reagents and wastes the Knottingley Waste to Recovery facility provides:

- That operational areas are on impermeable surfaces with kerbing or bunding as appropriate to protect non operational areas. Daily site walkovers will take place to monitor the condition of the impermeable floors, kerbing and bunding to visually identify any wear or damage that may lead to loss of containment and identify any need for remedial action. The need for such action is logged, appropriate immediate action undertaken (e.g. additional temporary containment measures or cessation of activities in an area) and a defect report raised to instigate a suitable repair or modification to ensure the area concerned remains fit for purpose.
- That tanks, process equipment and vessels, ducting and pipework, other than associated with site drainage system and spill collection sumps, are above ground and within the impermeable area. Additional containment is provided within the main process areas with internal bunding of the buildings, including those storing reagents or wastes, tanks either individually bunded or grouped within a specific bunded area. Daily site walkovers will inspect tanks, process vessels, and pipework for signs of damage or leak, or unusual odours or other signs of leakage, and identify any need for remedial action. The need for such action is logged, appropriate immediate action undertaken (e.g. temporary repairs or cessation of use) and a defect report raised to instigate a suitable repair, modification, or replacement to ensure the equipment concerned remains fit for purpose. An Engineering Protocol will be developed and employed to ensure the routine maintenance inspection of tanks, process equipment and vessels and pipework in line with good practice. Engineering works identified, or undertaken as routine servicing and inspection, will be undertaken by suitably qualified staff or contractors.
- That the use of underground sumps will be avoided and limited to blind sumps for the collection of rainwater or spillages in impermeable areas or interceptors for the cleaning of (potentially) contaminated surface waters. Such sumps will be observed as fit for purpose and subject to an annual integrity test.

- That the site drainage system is such that all waters not within a tank or building bunds, are collected at a central point prior to being pumped to surface water or sewer as appropriate. Monitoring of this water provides an additional indication that a leak may have occurred and will prompt an investigation and appropriate action to remedy any relevant issue.
- That in addition to routine monitoring staff are trained in 'near miss and incident reporting' which allows for reporting of issues outside of formal daily or other routine inspections. An electronic incident management system is used to record these reports and instigate action by the relevant individuals– 'see it, say it, sorted' approach. Near miss and incident reports, with associated actions are collated and reviewed monthly to identify any negative trends or learning lessons.
- That the practices and procedures highlighted form part of the Integrated Management System which is subject to internal and external independent audit on an annual basis which may identify correct actions or opportunities for improvement.

APPENDIX 4

Accident Management procedures

Caulmert
engineering environmental planning

Registered Office: InTec, Parc Menai, Bangor, Gwynedd, LL57 4FG
Tel: 01248 672666
Email: contact@caulmert.com
Web: www.caulmert.com

Site:	Knottingley	**Date:**	31/3/2025
Environmental Aspects Lead Assessor:	LT	**Next Review Date:**	31/03/2026
Environmental Assessment Team:	LT/AC	**Assessment Number**	4

All Actions to be tracked in BROR

Register of Significant Aspects

Activity	Aspect	Further Actions Identified
Contaminated Land	Historical tar works contamination	Borehole sampling to be completed by FCC staff.
Land remediation	Groundwater pump & treat.	N/A – Positive impact
Waste Transfer and Processing	Consolidation of waste transport	N/A – Positive impact.

Other Actions Identified During the Assessment

Activity	Aspect	Further Actions Identified
Site vehicles and plant.	Fuel use.	O – Net Zero strategy: transfer to biofuel
Office and welfare facilities.	Foul water.	R – Compliance risk. Unable to trace some foulwater pipework, Action in BROR.

Identified Actions Completed		
Activity	**Aspect**	**Actions Taken**

Activity / Product / Service	Aspects	N / NN / E*	Impact	Controls (CR) / Action Identified (AI)	Risks (R) & Opportunities (O)	Compliance Obligation Towards	Potential / Actual Harm	Scale	Frequency	Compliance Obligation	Significance
Activity: Mobile plant and Fleet operations											
Site vehicles and plant.	Fuel use, exhaust emissions	N	Local Air Quality. Global warming.	Currently small operational area, short distances travelled. Level site. Keys not allowed to remain in vehicle - no idling, Site speed limit, Traffic Management Plan Current energy saving measures can be found in the 2014 EP 4-yr review and 'Ecclesfield Energy, Cost Savings, and Recycling Efforts', both in 'SFS 2.2.2 Aspects & Impacts'. Planned energy saving measures ca n be found in 2014 EP 4-yr Review and site Objectives and Targets, Site Energy Management Plan is currently under development. Energy management training, e-modules, video, posters. CRI data displayed on notice board.	O – Net Zero strategy: transfer to biofuel.	• Environment Agency (Permit, ESOS), • BSI (ISO5001 Certifiers), • Local Authority (Planning Regs)	**2**	**1**	**4**	**1**	**8**
Waste delivery.	Vehicle Movements to/from site, Exhaust emissions	N	Local Air Quality. Global warming. Fuel use. Localised noise. Site is located in an industrial area with no	Activities not near site boundary. Site is located near major trunk routes. Transfer Within FCC: Experienced hauliers used on a regular basis. Appropriately sized vehicles used and loads bulked as far as reasonably possible.	None	• EA (Permit), • Neighbouring businesses & their employees (tort/ nuisance).	**2**	**2**	**5**	**1**	**10**

Activity / Product / Service	Aspects	N / NN / E*	Impact	Controls (CR) / Action Identified (AI)	Risks (R) & Opportunities (O)	Compliance Obligation Towards	Potential / Actual Harm	Scale	Frequency	Compliance Obligation	Significance
			sensitive receptors as immediate neighbours. Resource depletion.			• Local Authority (Planning Regs)					
Vehicle use, delivery of gas oil / HVO.	Fuel spill	E	Release of fuel to ground. VOC release.	Bunded. Within site bund. Spill kits, drain plugs. Staff training. Gas oil delivery procedure. CMS.	None	• EA (Permit),	**1**	**1**	**2**	**1**	**5**
Activity: Waste Storage & Processing											
Waste processing & storage	Mixing of incompatible waste.	E	• Localised gas cloud Groundwater pollution	Pre-acceptance and acceptance procedures and testing. Compatibility testing. HNC and above qualified chemist. CMS Bunded. Spillage training. Suitable containers. Activities not near site boundary.	None	• EA (Permit), • Neighbouring businesses & their employees (tort/ nuisance).	**2**	**2**	**1**	**1**	**6**
Waste acceptance	Acceptance of unsuitable waste.	E	Orphan waste Permit breach. Misdescribed waste sent out	• Pre-acceptance criteria restrict waste to those that can be safely stored and treated. • All wastes sampled on arrival. • Basic lab assessment confirms that incoming waste matches pre-acceptance sample. • Higher risk wastes are segregated for individual storage/treatment. • Off-loading instructions for each driver	None	• EA (Permit)	**3**	**3**	**1**	**1**	**8**

Activity / Product / Service	Aspects	N / NN / E*	Impact	Controls (CR) / Action Identified (AI)	Risks (R) & Opportunities (O)	Compliance Obligation Towards	Potential / Actual Harm	Scale	Frequency	Compliance Obligation	Significance
				• Off-loading supervised by site operatives. • Quarantine of non-conforming waste. • CMS							
Waste handling/ sampling.	Spillage of waste.	NN	Vapour/gasses affecting local air quality. Release of waste materials to controlled waters or land.	Pre-acceptance and acceptance procedures. Transfer between containers carried out in enclosed or partially enclosed areas. Transfer station is on concrete flooring and is fully bunded. Spill control measures. Staff training. Incident & near miss reporting system. Some residential population in general vicinity but immediate neighbourhood is largely rural. CMS.	None	• EA (Permit, WRA),	**1**	**1**	**3**	**1**	**6**
Waste and chemical Storage.	Failure of storage containment.	E	Vapour/gasses affecting local air quality. Release of waste to controlled waters or land.	Storage in suitable containers, with segregation. Transfer station bunded. Packaged waste storage is in segregated bays to avoid reactions between spilled wastes. Packaged waste transfer station reception area is under cover. Large capacity for packaged waste. Liquids are transferred only with visual confirmation of sufficient room in the receiving vessels and components are known to be compatible. Staff training. Incident & near miss reporting system. Site inspection programme, including CCTV of underground pipes. Ultrasonic testing of tank wall thickness will be done before any tanks are brought into service.	None	• EA (Permit, Water Resources Act), • Neighbouring businesses & their employees (tort/ nuisance). • Local residents	**2**	**2**	**1**	**1**	**6**

Activity / Product / Service	Aspects	N / NN / E*	Impact	Controls (CR) / Action Identified (AI)	Risks (R) & Opportunities (O)	Compliance Obligation Towards	Potential / Actual Harm	Scale	Frequency	Compliance Obligation	Significance
				CMS							
Fuel storage	Fuel spill	E	Potential groundwater pollution and/or site staff exposure	Double bunded. Within hard-standing area of site. Spill kits, drain plugs. Staff training. Gas oil delivery procedure. Bund inspections	None	• Environment Agency (Permit, Oil Storage Regs, WRA) Protection of Groundwater Regs.	**1**	**1**	**1**	**1**	**4**
Plant Refuelling	Fuel use, spillage, emissions to air.	N	Potential groundwater pollution and/or site staff exposure. Gasses contributing to local air pollution and global warming. Use of resources	Double bunded. Within hard-standing area of site. Spill kits, drain plugs. Staff training. Refuelling procedure. Mobile plant training.	None	• Environment Agency (Permit, Oil Storage Regs, WRA) Protection of Groundwater Regs.	**1**	**1**	**1**	**1**	**4**
Waste storage / processing.	Waste fire.	E	Smoke and gasses contributing to local air pollution and global warming. Release of waste or firewater to controlled waters or land.	Segregation of waste stored. Pre-acceptance and acceptance procedures prohibit strong oxidisers. Compatibility and treatability testing to identify any fire risks. Fire-fighting equipment provided. Staff trained in emergency and spillage procedures. Transfer station bunded.	None	• EA (Permit, WRA), • Neighbouring businesses & their employees (tort/ nuisance).	**3**	**3**	**1**	**1**	**8**

Activity / Product / Service	Aspects	N / NN / E*	Impact	Controls (CR) / Action Identified (AI)	Risks (R) & Opportunities (O)	Compliance Obligation Towards	Potential / Actual Harm	Scale	Frequency	Compliance Obligation	Significance
				Firewater storage capacity of approx. 1000m3 in stormwater tank. Additional available in redundant tanks. Fully fenced perimeter. CCTV on site. Security presence. CMS							
Admin. and maintenance.	Office / workshop fire.	E	Smoke and gasses contributing to local air pollution and global warming. Release of chemicals or firewater to controlled waters or land.	Workshop chemicals segregated and stored appropriately. Fire alarm system on office blocks. Fire extinguishers – and training in their use. Regular electrical safety checks. Housekeeping emphasised to staff. Site inspections. Welding controls. Site bund. Firewater storage capacity of approx. 1000m3 in stormwater tanks, further available in redundant tanks. Fire-fighting equipment provided. Staff trained in emergency and spillage procedures. CMS	None	• EA (Permit, WRA), • Neighbouring businesses & their employees (tort/ nuisance).	**3**	**2**	**1**	**1**	**7**
Waste storage and processing.	Vandalism.	E	Gas, vapour, or smoke contributing to local air quality. Release of waste or chemicals to controlled waters or land.	CCTV monitoring with public address system. Security fences, river, defensive planting. Bunds & Sumps. Dog-handler.	None	• EA (Permit, WRA), • Neighbouring businesses & their employees (tort/ nuisance).	**2**	**3**	**1**	**1**	**7**
Waste storage.	Vehicle collision.	E	Vapour/gasses affecting local air quality. Release of waste or	Traffic Management Plan. All non-site vehicles supervised by site staff whilst on site. Strict gate-control.	None	• EA (Permit, WRA), • Neighbouring businesses & their	**1**	**1**	**1**	**1**	**4**

Activity / Product / Service	Aspects	N / NN / E*	Impact	Controls (CR) / Action Identified (AI)	Risks (R) & Opportunities (O)	Compliance Obligation Towards	Potential / Actual Harm	Scale	Frequency	Compliance Obligation	Significance
			chemicals to controlled waters or land.	Banksman system for reversing vehicle movements. Small operational area, offload near to storage - no chance to travel at high speed. Good site visibility. Few turn-offs, well-marked openings on buildings. Traffic mirror. Spill response training and equipment. Emergency procedures. Bunded. CMS		employees (tort/ nuisance).					
Waste handling & transfer within site.	Spillage/leak from internal transfer infrastructure.	NN	Release of waste to controlled waters or land.	Bunding. Inspection schedules and procedures. Spill control measures - absorption and storage in sealed containers or removal or rinsing (and dilution). Staff training. Incident reporting scheme includes unusual occurrences and 'near misses'. CMS	None	• EA (Permit, WRA),	**2**	**1**	**3**	**1**	**7**
Loading	Spillage during loading	NN	Release of waste to controlled waters or land.	Loading is in bunded area. Loading by trained staff. Use of absorbent material for spilled waste. CMS	None	• EA (Permit, WRA),	**1**	**1**	**2**	**1**	**5**
Waste Treatment. Transport. Vehicle movements - Dust & Mud	Dust Emissions	N	Contribution to local air pollution.	Procedures on waste handling. Water hoses available for wheel washing if necessary. Road sweeper employed on areas with vehicular access. Regular site inspection and house-keeping. CMS.	None	• EA (Permit), • Neighbouring businesses & their employees (tort/ nuisance). • Local Authority	**1**	**1**	**3**	**1**	**6**

Activity / Product / Service	Aspects	N / NN / E*	Impact	Controls (CR) / Action Identified (AI)	Risks (R) & Opportunities (O)	Compliance Obligation Towards	Potential / Actual Harm	Scale	Frequency	Compliance Obligation	Significance
						(Planning Regs)					
Space heating.	Mains gas usage, point source emissions from boilers	NN	Global warming. Contribution to local air pollution.	Regular servicing and inspection. Thermostatic controls and timers. Some TRVs. Partial Double-glazing.	None	BSI (ISO50001)	**1**	**1**	**5**	**1**	**8**
Maintenance, chemical storage.	Paint & solvent use	N	VOC emissions. – Contribution to local air quality.	Suitable containers, all safely stored when not in use. CMS	None	EA (Permit)	**2**	**1**	**5**	**1**	**9**
Flood	Flood	E	Floodwaters removing waste from site.	Site vulnerability to flooding generally but not in current operational areas. Key equipment either bunded or raised away from possibility of flood damage. Only free-draining drains leaving site are from office buildings. All storage is above ground and within buildings. Registered with EA floodline warnings. CMS	None	• EA (Permit, WRA),	**1**	**2**	**1**	**1**	**5**

Activity / Product / Service	Aspects	N / NN / E*	Impact	Controls (CR) / Action Identified (AI)	Risks (R) & Opportunities (O)	Compliance Obligation Towards	Potential / Actual Harm	Scale	Frequency	Compliance Obligation	Significance
General.	Surface Water	N	Potential water / ground contamination from minor spills on site, vehicle movements. Yorkshire Water discharge consent	Only drainage to public sewer is from office blocks. Hard standing on all operational areas. Weighbridge and off-loading areas drain to self-contained sumps. Surface water pumped to storm water tank and discharged to foul sewer. Analysis prior to discharge. Treatment and acceptance procedures in compliance with YWS discharge consent. CMS	None	• EA (Permit, WRA), discharge consent	**1**	**1**	**5**	**1**	**8**
Site & Tanker Cleaning Welfare facilities	Town's Water Use	N	Depletion of water reserves, Carbon emissions and amenity impact of municipal water treatment.	Metering.	None	• EA (Permit,),	**1**	**1**	**5**	**1**	**8**
Physical presence.	Visual impact	N	Visual impact	Tree screening round most of perimeter. Not overlooked by residential properties.	None	• Local Authority (Planning Regs)	**1**	**1**	**5**	**1**	**8**
General	Vermin (Pigeons, squirrels, rodents)	N	Nuisance, Disease, Guano,	Pest control contractor used. Wastes not attractive to vermin. Visual deterrents for pigeons. Apertures sealed. Water sprays. No sensitive neighbours. Snakes resident on site.	None	• EA (Permit), • Local Authority (Planning Regs)	**2**	**3**	**5**	**1**	**11**

Activity / Product / Service	Aspects	N / NN / E*	Impact	Controls (CR) / Action Identified (AI)	Risks (R) & Opportunities (O)	Compliance Obligation Towards	Potential / Actual Harm	Scale	Frequency	Compliance Obligation	Significance
All.	Life-cycle of Purchases	N	Resource depletion in manufacture, transport and use of products used.	Consideration is given to the manufacture, transport, life-span and efficiency of products purchased. Central procurement department.	None	• BSI (ISO14001)	**2**	**2**	**5**	**1**	**10**
Disposal/Sale of redundant equipment	Life-cycle of Purchases	N	Resource depletion in manufacture, transport and use of products used.	Consideration is given to the manufacture, transport, life-span and efficiency of products purchased. Consideration of use of equipment on other sites. Implement the hierarchy of control.	None	• BSI (ISO14001)	**2**	**2**	**5**	**1**	
Office.	Electricity	N	Carbon emissions at source.	Motion sensors in some low occupancy areas. Ongoing transition to LED lighting. Current energy saving measures can be found Site Energy Management Plan is currently under development. Energy management training, e-modules, video, posters. CRI data will be displayed on notice board. Sustainability reports to land remediation contractors.	None	EA (Permit) ESOS BSI (ISO50001)	**3**	**1**	**5**	**1**	**10**
Maintenance.	Electricity	N	Carbon emissions at source.	Motion sensors in some low occupancy areas. Ongoing transition to LED lighting. Site Energy Management Plan is currently under development. Energy management training, e-modules, video, posters. CRI data will be displayed on notice board. Sustainability reports to land remediation contractors.	None	EA (Permit) ESOS BSI (ISO50001)	**3**	**1**	**5**	**1**	**10**

Activity / Product / Service	Aspects	N / NN / E*	Impact	Controls (CR) / Action Identified (AI)	Risks (R) & Opportunities (O)	Compliance Obligation Towards	Potential / Actual Harm	Scale	Frequency	Compliance Obligation	Significance
Security systems	Electricity	N	Carbon emissions at source.	Site Energy Management Plan is currently under development. Energy management training, e-modules, video, posters. CRI data will be displayed on notice board. Sustainability reports to land remediation contractors.	None	EA (Permit) ESOS BSI (ISO50001)	**3**	**1**	**5**	**1**	**10**
Waste handling/ loading, movement of equipment and materials, maintenance	Site Vehicle Noise	N	Localised noise. Site is located in industrial area with no sensitive receptors as immediate neighbours.	Traffic management plan. Speed limit in site rules. Routine air-line inspections. Site is located in an industrial area with no sensitive receptors as immediate neighbours. Tree screening. Operations not near site boundary Reduced opening hours.	None	• EA (Permit), • Neighbouring businesses & their employees (tort/ nuisance).	**1**	**1**	**5**	**1**	**8**
Maintenance and admin.	Litter	N	Nuisance, disruption of ecosystems.	Ample provision for disposal of surplus packaging. Regular site inspection and house-keeping.	None	• EA (Permit), • Neighbouring businesses & their employees (tort/ nuisance).	**2**	**1**	**2**	**1**	**6**
All.	Environmental Performance Monitoring	N	Positive - Identification and potential reduction of environmental impacts. Energy and resource use from sampling and testing.	Procedures for TE discharge. Calibration and maintenance of equipment used. Procedures for monitoring and reporting of energy and resource use.	None	• EA (Permit), • ESOS • BSI (ISO 50001, 14001)	**1**	**1**	**5**	**1**	**8**

Activity / Product / Service	Aspects	N / NN / E*	Impact	Controls (CR) / Action Identified (AI)	Risks (R) & Opportunities (O)	Compliance Obligation Towards	Potential / Actual Harm	Scale	Frequency	Compliance Obligation	Significance
Site infrastructure	Asbestos	N/ NN/ E	Health risk to employees and visitors. Disposal	Asbestos surveys Monitoring of condition. Known asbestos is identified and left undisturbed.	None	• HSE	**2**	**2**	**5**	**1**	**10**
Service:											
Waste Transfer and Processing	Consolidation of waste transport	N	Positive – facilitates safe and legal recovery/ disposal; reduces road transport	Maintaining a competitive, sustainable business with a broad customer base. Maintaining a watching brief on available recovery and disposal options.	None	EA (Permit, Duty of Care Regs, Hazardous Waste Regs, Special Waste Regs)	**3**	**3**	**5**	**1**	**12**
Maintenance, Office, Welfare facilities.	Ancillary wastes.	N	Depletion of landfill capacity, Depletion of resources in manufacture, Haulage emissions.	Office waste - paper segregated, transfer station with sorting facilities used. PTWs used for contractors' waste. In-house maintenance have segregation for oily wastes and where applicable materials are returned to suppliers for refurbishment. Transfer station with sorting facilities used	None	EA (Permit, Duty of Care Regs, Hazardous Waste Regs, Special Waste Regs)	**2**	**1**	**5**	**1**	**9**
Activity: Land Use & Remediation											
Contaminated Land	Historical tar works contamination	N	Groundwater contamination . River pollution	Contamination is from historical sources. Sheet piling to offer some protection to river. Land remediation – pump & treat Insurance policy.	None	EA	**4**	**4**	**5**	**1**	**14**

Activity / Product / Service	Aspects	N / NN / E*	Impact	Controls (CR) / Action Identified (AI)	Risks (R) & Opportunities (O)	Compliance Obligation Towards	Potential / Actual Harm	Scale	Frequency	Compliance Obligation	Significance
Land remediation	Groundwater pump & treat.	N	Positive – removal of tar contamination	Specialist contractors. Constant monitoring. Agreed plan with EA.	None	• EA	**4**	**3**	**5**	**1**	**13**
Groundwater Treatment.	Trade Effluent Discharge	N	Diffuse pollution in Sewage Treatment Works discharge to river. Load placed on Sewage Treatment Works processes.	Treatment and acceptance procedures in compliance with YWS discharge consent. In-house daily testing. CMS.	None	• Yorkshire Water (Discharge Consent) • EA agreement	**1**	**2**	**5**	**1**	**9**
Land occupation	Unused areas of site	N	Positive impact on biodiversity – safe habitat. Thriving snake population.	Site activities use minimal area of site. Pest control baiting restricted to active areas. Defensive planting being used as perimeter security measure.	None	• LA planning dept • EA	**2**	**2**	**5**	**1**	**10**
Site Operations	Japanese Knotweed on neighbouring Canals & Rivers Trust Land.	N	Potential to spread to site and damage infrastructure.	Notified Canals & Rivers Trust	R – damage to buildings etc	• Environment Agency	**2**	**2**	**1**	**1**	**6**
Activity: Site Development											
Planned development – LED lighting (Life Cycle)	Site lighting	NN	Reduced use of electricity	Energy Savings Opportunity Form and procedures ISO 50001 Procurement procedures Rolling process of lighting replacement. Assessment of project costings and savings	None.	• EA (Permit), • ESOS • BSI ISO 50001	**2**	**2**	**1**	**3**	**8**

Activity / Product / Service	Aspects	N / NN / E*	Impact	Controls (CR) / Action Identified (AI)	Risks (R) & Opportunities (O)	Compliance Obligation Towards	Potential / Actual Harm	Scale	Frequency	Compliance Obligation	Significance
				Climate change risk assessment.		• Local authority planning					
Planned develop – New treatment buildings. (Life Cycle)	Facility, infrastructure and land	NN	Loss of habitat Visual nuisance – loss of amenity Air emissions global warming Increased vehicle movements Soil disposal	Consultants contracted to produce reviews for planning and EP applications Maintenance procedures Installation Checks Site cleaning IMS procedures Training Testing of waste Climate change risk assessment	O- increased process capabilities	• EA (Permit), • ESOS • BSI ISO 50001 • Local authority planning • Yorkshire Water (Discharge Consent) • Hazardous Waste Regs, Special Waste Regs) • Building regulations • CDM Regulations	**3**	**2**	**1**	**3**	**9**
Planned develop – Road network. (Life Cycle)	infrastructure and land	NN	Contamination of land Contamination of water Loss of habitat Visual nuisance – loss of amenity Damage to property Air emissions global warming Increased vehicle movements	Maintenance procedures Installation Checks Site cleaning IMS procedures Training Testing of waste Climate change risk assessment	None	• EA (Permit), • ESOS • BSI ISO 50001 • Local authority planning • Yorkshire Water (Discharge Consent) • Hazardous Waste Regs, Special Waste Regs)	**3**	**2**	**1**	**3**	**9**

Activity / Product / Service	Aspects	N / NN / E*	Impact	Controls (CR) / Action Identified (AI)	Risks (R) & Opportunities (O)	Compliance Obligation Towards	Potential / Actual Harm	Scale	Frequency	Compliance Obligation	Significance
			Soil disposal			• Building regulations • CDM Regulations					
Office and welfare facilities.	Foul water	N	Emissions to sewer of foul water.	Discharge to main sewer. Large capacity holding sump prior to discharge.	R – Compliance risk. Unable to trace some foul water pipework,	• Yorkshire Water – Sewerage Undertaker. • Environment Agency • Local Authority	**2**	**1**	**5**	**1**	**9**

* N = Normal
NN = Non-normal
E = Emergency

In the event of an accident involving any item of mobile plant with either another item of mobile plant, contractor vehicle, employee or visitor vehicle, member of staff or visitor or any of the above permutations. Dependent on the severity of the collision the following step may need to be followed:

1. On notification of the accident or incident contact personnel by radio or verbal communications calling for a First Aider and Incident Controller. ☐
2. Make the area safe, including……. ☐

a) Stop traffic movement within the yard. ☐

b) Stop offloading of product in the area of the accident or all the yard if necessary. ☐

c) Check for spillages if the accident involves offloading vehicles or vehicles waiting to offload. ☐

3. Check for casualties ☐
4. Check the conditions of any casualties. ☐
5. Call the emergency services if required. ☐
6. Check the area and apply First Aid to the casualties. ☐
7. Contact staff and gather help to contain any spillages. Spill containment facilities can be found in the emergency store onsite. ☐
8. Isolate the spillage from any un-made ground and drains. ☐
9. Assess if the EA needs informing. ☐
10. Assess if the area needs to be evacuated depending on the product spillage. ☐
11. If evacuation is required contact emergency services for the Fire Brigade. ☐
12. Record details of the casualties and any witnesses and keep the emergency services informed just in case their conditions deteriorate. ☐
13. Complete accident forms as required. ☐
14. Do not move the vehicles. ☐
15. Photograph vehicles in situation, do not move them. ☐
16. If casualties need to be transported to hospital, ensure that a first aider goes with them and arrange for transport to bring them back to site as required. ☐
17. Maintain contact with the first aider and inform the families of casualties as required. This is usually a senior manager who inform the family ☐

P.T.O

18. Call our site H & S Manager. ☐
19. Call the HSE if advised to do so by our H & S Manager. ☐
20. When safe to do so and after being given the authority move the vehicles involved. ☐
21. Take statements and investigate the incident. ☐
22. If the accident was witnessed ask the witness for a written account of what happened, this could include a sketch of the accident. ☐
23. Check CCTV footage and download footage for use in the investigation. ☐
24. After the investigation, follow up any recommendations or improvement plans. ☐

Spillages use the same category numbers as fires. A category 1 is one which is controlled by site personnel and does not need the involvement of outside emergency services. A category 2 is where outside emergency services are required to attend and assist in the incident, one which results in material escaping to ground or off site, or one which is reportable to the Environment Agency.

Assessment of the incident as it progresses may change the category status and will alter the way the incident is handled.

It must be noted that routine operations of emptying pipes or draining filters are not classed as spillages unless material escapes from site or an unexpectedly large amount of material is spilt.

All bunds can contain spillages and leaks due to their design specifications.

1. In the event of a spillage or leakage being reported contact the operations manager or senior member of staff present on site. ☐
2. Check what has been spilled, or what is leaking either liquid or powder and its location. ☐
3. Estimate the amount of spillage, leakage. ☐
4. Can this be stopped immediately, and will the spill/leak be contained by a bund or sump? ☐
5. Consider the effects of the containment with regards to compatibility or evolution of gases or vapours. ☐
6. Ensure that you and anyone else dealing with the spill are using the correct PPE. ☐
7. If the spill or leak is small and can be dealt with by site personnel, then this is category 1. Inform the site spill team control the spill. ☐
8. If the spill or leak is large and likely to affect other parts of the site, then inform our on-site spill team and treat as a Category 2: ☐
9. For powders cover the powder with a sheet to stop the powder from being distributed by wind. Wear masks, either dust, full face of BA depending on the amount of powder being produced. Arrange for the site tanker to collect the powder for disposal. ☐
10. For liquids and powders block the site drains by using the polypropylene drain covers. ☐
11. Stop the trade effluent discharge. ☐
12. Use absorbent pigs and granules to contain the liquid. ☐

P.T.O

13. Stop vehicles entering the affected area. ☐
14. Move other vehicles out of the affected area. ☐
15. Evacuate personnel if required. ☐
16. Check the weather conditions and wind direction if fumes or gases are involved and move personnel upwind of the incident site. ☐
17. Inform neighbours, such as Morrison's, Stagecoach, R3 if wider effects such as fumes, spillage outside our site or loss to sewer are expected. ☐
18. Call specialist emergency spill Response Company if assistance is required. ☐
19. Consider calling emergency services if assistance is required. ☐
20. Inform the general manager. ☐
21. Inform our Health & Safety Manager. ☐
22. Utilise other vehicles on site to suck away liquid from the spill or bring in other vehicles to do this task. ☐
23. Assist emergency services when they arrive. ☐
24. In each category, clean up the area and dispose of the waste in the correct manner. ☐
25. Investigate the incident and implement any corrective actions. ☐

FCC FIRE RISK ASSESSMENT REPORT

FOR

FCC Environment
Weeland Road
Knottingley
WF11 8DZ

ISSUE 3.0

Date – 10/06/2025

FCC

Produced by -
Name – Andy Cusworth

Supported/Consulted by –
Name – Lee Wagstaff

This form must be completed for all areas of site, including office & welfare areas, and operational areas both internal & external

List sources of ignition*	List sources of fuel*	List sources of oxygen*	List who / what is at risk*	List potential harm*
▪ Faulty electrical equipment ▪ Gas or electrical heaters ▪ Cooking ▪ Engines or boilers ▪ Machines ▪ Plant/equipment failure ▪ Lighting ▪ Hot surfaces ▪ Friction ▪ Static ▪ Metal impact ▪ Hot exhausts ▪ Arson ▪ Self-combustion of materials ▪ Discarded smoking materials ▪ Hot works ▪ Reaction between incompatible materials/wastes ▪ Open burning on adjacent site ▪ Lithium Ion Batteries Including Mobile Phones & Tablets	▪ Flammable liquids ▪ Chemicals ▪ Fuel oils & lubes ▪ Flammable gases ▪ Furniture ▪ Packaging materials ▪ Walls and partitions ▪ Paper & card ▪ Plastics ▪ Rubber ▪ Wood ▪ Textiles & rags ▪ Scrap metal ▪ WEEE	▪ Natural airflow ▪ Forced ventilation ▪ Chemicals ▪ Oxygen cylinders	▪ Staff ▪ Customers ▪ Visitors ▪ Contractors ▪ Public ▪ Local human population ▪ Controlled waters ▪ Environment	▪ Fatality ▪ Burns/scolds ▪ Asphyxiation ▪ Nuisance ▪ Loss of amenity ▪ Health of local population ▪ Deteriorate of water quality downstream ▪ Property damage ▪ Loss of earnings ▪ Reputation ▪ Environment
*Delete those items not applicable and add any additional				

To complete the assessment, review the control measures in place at the facility against the recommended measures and insert a tick or cross against each to indicate if the recommended control measure is in place, you must give further details in the comments box. If there are additional control measures in place these can be included within the comments box.

Evaluate the risk with current control measures in place for each of the numbered assessment criteria using the matrix below.

When assessing severity take into consideration the measures in place to detect and suppress fire, and to raise alarm and evacuate people. When assessing likelihood, you must take into consideration historical incidents.

***Note: Personal Emergency Evacuation Plans (PEEP) – Must be considered as part of the Fire Risk Assessment Process, inclusive of refuge points/PEEP chairs etc**

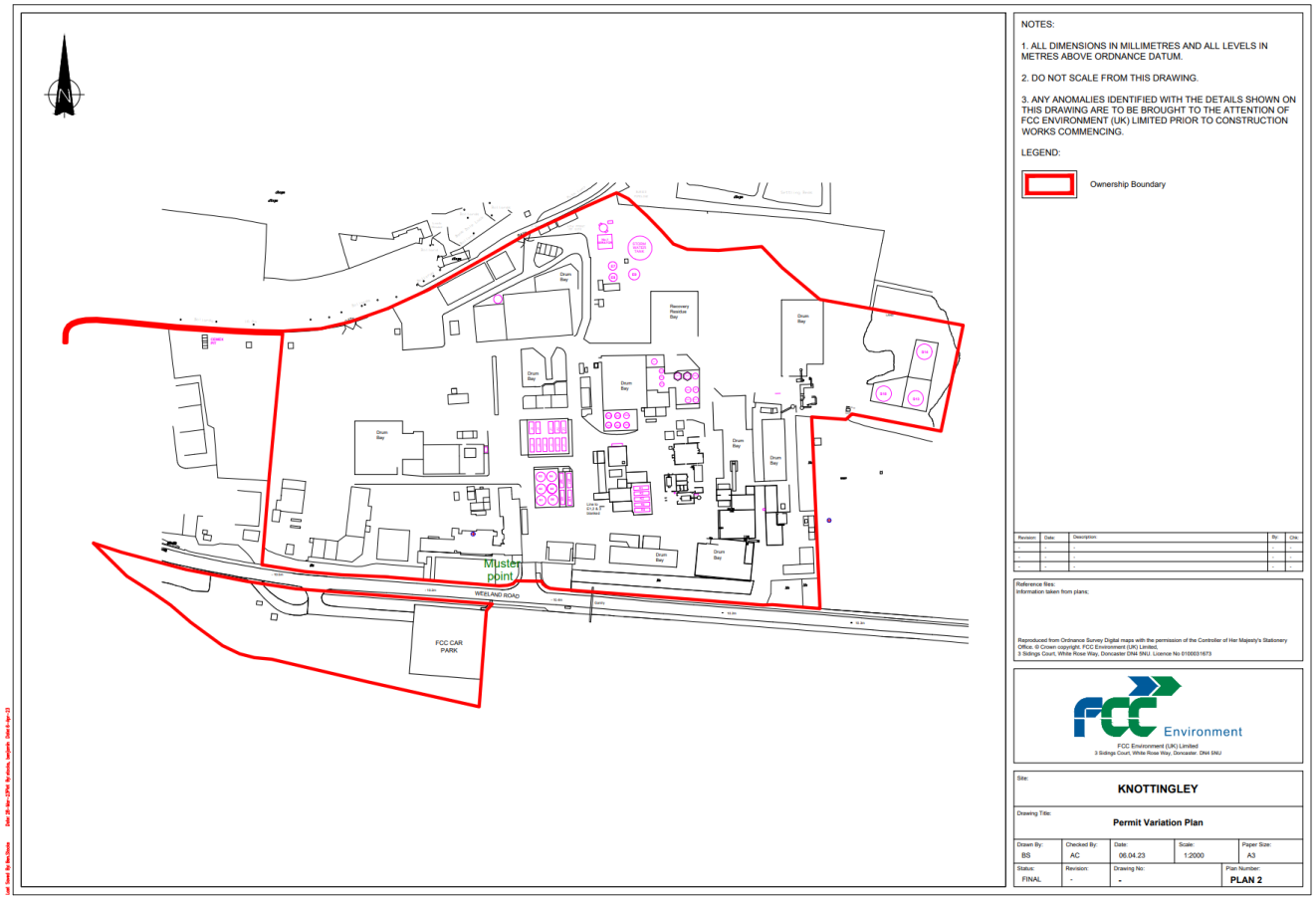
***Note: Any significant findings within this Risk Assessment must be communicated to the Parents of any minors working at this facility**

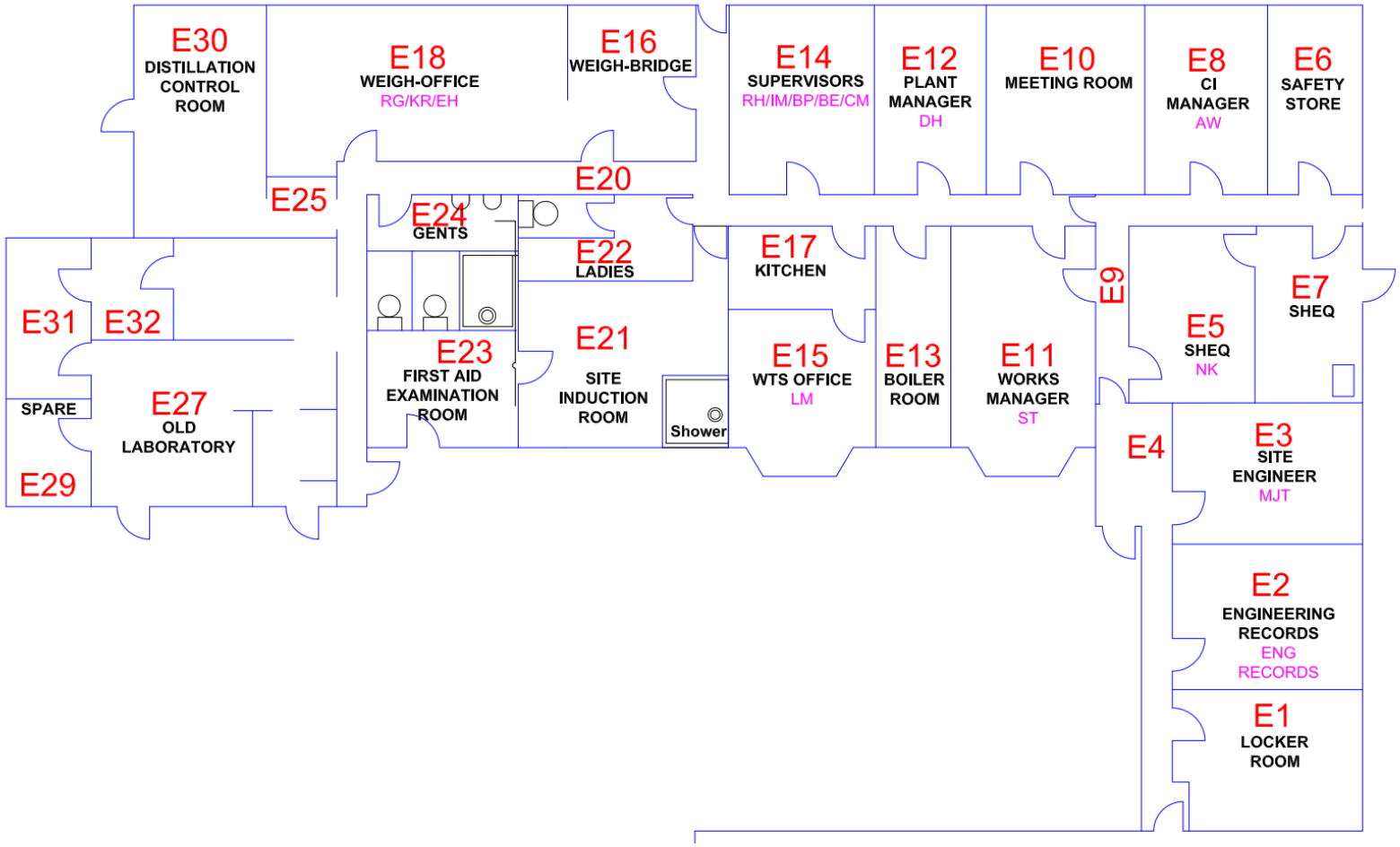
Severity	Likelihood	Fire Risk Rating
H – a major fire occurring involving loss of life / total property loss / severe environmental impact that is long lasting	H – certain or near certain	H = High risk
M – a fire involving a danger to persons and/or minor harm to the environment	M – reasonably likely	M = Medium risk
L – a fire	L – very seldom or never	L = Low risk

H	H	M	High	Severity
H	M	L	Medium	
M	L	L	Low	
High	Medium	Low		
Likelihood				

In the event that there is a high risk, further actions must be taken to reduce that risk.
In the event that there is a medium risk, you are advised to consider what further actions are possible to reduce the risk.

Site Layout Plan – Identify Assembly Point, Fire Fighting Equipment, Call Points





Fire Risk Assessment

DATE: 21/04/2023	LOCATION: Knottingley	PEEP:	Population at Risk: 7 Staff + visitors			
			Employees	Contractors	Visitors	

ASSESSMENT CRITERIA	RECOMMENDED CONTROL MEASURES	✓ OR ✗	Comment	Severity	Likelihood	Fire Risk	Action and Target Completion Date
SOURCES OF IGNITION (Check, inspect and control)							
1. Any electrical equipment (portable and fixed installation)?	a) Portable electrical equipment should be tested at least annually (or at other intervals in the light of experience or damaged equipment such as powered tools for maintenance.)	√	All PAT testing completed. Hard wire testing completed and all faults repaired.	M	L	L	
	b) Check test stickers on appliances for date of last Portable Appliance Tests (PAT tests). All equipment brought in from home to be PAT tested before use.	√					
	c) No electrical equipment to be taken from the waste streams and used on site	√					
	d) Ensure fixed installation is inspected at intervals specified in BS 7671:2008 formerly 17th Edition Wiring Regulations) e.g. NICEIC testing every 3 years.	√					
	e) Ensure that all electrical circuits are not subject to overload.	√					
	f) Ensure that socket outlets are not overloaded. (Check electrical equipment to ensure load on the socket outlet does not exceed 13 Amps.) Use only one 13 Amp fused multi-gang extension per socket.	√					

2. Any portable heaters / or wall mounted electrical heaters?	a) Replace naked flame and radiant heaters with convector heaters or central heating system. b) Keep away from sources of combustion. c) Do not cover. d) Do not leave switched on overnight or in unoccupied areas.	√ √ √ √	Gas central heating in the offices. Electric convection heaters workshop kitchen toilet area. Main workshop and electrical shed no longer in use.	M	L	L	
3. Adequate heating system?	a) User to ensure maintenance is carried out as per manufacturer's recommendations. b) Do not leave switched on overnight or in unoccupied areas.	√ √		M	L	L	
4. What are the smoking arrangements?	a) No smoking policy or designated safe smoking areas for staff and other users situated at least 6m away from combustible materials. Ensure prohibition on smoking in other locations. b) Provide suitable receptacles for cigarette ends and other smoking materials. (Separate from other litter bins/receptacles.)	√ √	Smoking shelter near main gate	M	L	L	
5. Any heat generating processes such as incineration, cooking, welding, etc.?	a) Ensure equipment is used in accordance with manufacturer's recommendations and properly maintained. b) Ensure suitable, if extraction is in place equipment is maintained in accordance with manufacturer's instructions. (Filter cleaning / replacement, etc.) c) Ensure ducts and flues are regularly maintained / cleaned. d) Ensure suitable firefighting equipment available nearby.	√ √ √ √	Welding carried out on site under a permit to work. Toaster and microwave in kitchen	M	L	L	

6. Kitchen Appliances	a) Ensure all appliances are switched off when not in use.	√	Appliances switched off		M		L	L	
7. Office Equipment	a) Ensure all PC's, photocopiers, shredders etc are switched off when not in use and in particular outside of office hours.	√						
	b) Ensure ventilation of equipment remains clear and filters are serviced within manufacturers recommended schedules.	√			M		L	L	
8. Lightning Protection	a) There is adequate lightning protection on structures	√	Earthing straps in place		M		L	L	
9. Receiving of Material	a) There is a robust waste acceptance procedure to prevent receipt of unauthorised waste	√	Only operating transfer station presently.					
	b) Incoming loads should be visually inspected, if a load can be seen to be hot through smoke or steam plumes when being tipped then the an operative will first indicate to the driver of the vehicle to stop tipping and using the bucket pull the offending material out of the pile to be extinguished. The lorry will be removed to the quarantine area to be dealt with in accordance with site emergency procedure.	√	Chemist inspects every load No hot loads taken onsite.		L		L	L	
	c) If a vehicle is discovered to be carrying a hot load prior to tipping then that vehicle will immediately be removed to the quarantine area to be dealt with in accordance with the emergency procedure.	√						
	d) Receiving of material tipped from the HWRC by members of the public require vigilance by HWRC operatives and appropriate signage for non-conforming at risk materials.	NA						

	e) Implement a fire watch at the end of the working day (**Most TS fires occur with the last tipped load of the day**)	NA					
10. Munitions Non-Conforming Material	a) Where non-conforming items are discovered appropriate action should be taken in accordance with site emergency/non-conforming waste procedures	√	Quarantine bay and quarantine procedures		L		
11. Dust	a) Housekeeping is kept to its optimum and quantities of materials kept to a minimum. b) Implement a fire watch at the end of each shift (when dust from processing operations can settle onto hot exhausts & engine parts)	√ √	No dust generated on site currently		L		
12. Dust Extraction System Static discharge and explosion risk.	a) Ensure suitable extraction is in place and equipment is maintained in accordance with manufacturer's instructions. (Filter cleaning / replacement, etc.) b) Ensure ducts and flues are regularly maintained / cleaned. c) Ensure suitable firefighting equipment available nearby. d) If the dust has been tested and found to be insensitive to electrostatic discharges stringent measures must be in place to ensure all equipment and steel work is suitably earthed to prevent electrostatic discharge. e) Ensure all earthing arrangements to prevent the build-up of static electricity are checked and tested annually by competent electrical personnel, to ensure they have not become loose, or fatigued by plant vibration. All repairs to be affected immediately as found.	NA	Currently no extraction on site.		L		

13. Mobile Plant	a) Primary ignition risk from exhausts and engine of mobile plant ensure design of equipment reduces exhaust and engine surface temperatures.	√	Currently two forklifts and one MEWP on site.				
	b) Secondary risk from fire within mobile plant due to poor housekeeping build-up of combustible material in engine compartments, these require regular checking and cleaning.	√	No DSEAR zones onsite				
	c) Ensure all mobile plant maintenance work is carried out outside and in a suitable location to prevent ignition from as an example a short circuit of a battery.	√					
	d) Mobile plant should carryout extraction and loading of material from the front of the material pile. Burrowing into the material will increase the risk of flammable materials coming into contact within the engine bay and exhausts	√		L	L	L	
	e) Where bucket loaders are fitted with rubber strips or have a specialist coating to prevent sparks they should be maintained and inspected for serviceability	√					
	f) When not in use no plant to left ticking over, out of hours plant is parked at a suitable distance away from combustible materials (6m) or DSEAR area into a demarcated area and the engine switched off	√					
	g) Fitted with a dry powder fire extinguisher or fire suppression system	√					
	h) Ensure that all mobile plant that has a fire suppression system is checked and maintained in accordance with FCC policy	NA					
14. Frictional heat from running plant.	a) Carryout running and planned inspections & maintenance checks for heat in bearings and machinery drives. 60% of industrial fires are the result of poor machinery maintenance/faults and poor housekeeping.	√	Air compressor serviced regularly, and inspected under PSSR. Items not used are used are				

	b) In particular ensure vigilant housekeeping, inspection and maintenance in the following key areas; (Delete Below As Applicable) c) Air compressor for dust build up in filter system and enclosure.	√ √	mechanically and electrically isolated.		L	L	L	
15. Maintenance Activities	a) Where maintenance requires the use of hot work then a full HOT WORK permit will be drafted and implemented before any work commences. b) During major shut down work all materials will be removed from the building prior to work commencing.	√ √	Permit to work issued for any hot work. Fire watch in place		M	L	L	
16. Arson	a) Areas are controlled by security fencing, CCTV, intruder alarms, have controlled access to the building. b) No possible entry points out of hours c) Be aware where disciplinary procedures may have been invoked that employee may become disgruntled and seek reprisal.	√ √ √	CCTV installed on site monitored 24/7		L	L	L	

17. Self-combustion of materials (waste or processed materials)	a) Combustible wastes or materials are stored for less than 6 months (unless material is compost & specific agreement in place with the EA)	√	Waste is stored in the transfer station and compound F.				
	b) Materials at risk of self-combustion are stored for less than 3 months. These materials include: green waste, compost, wood, paper, general waste (including RDF & fines), tyres, smaller size / graded materials, materials that has not had potential hazards removed e.g. exposed rust, treated materials which aren't cold before storage	NA					
	c) If materials at risk of self-combustion are stored for longer than 3 months, additional measures are in place, including monitoring & turning of the piles	NA		L	L	L	
	d) HWRC / TS sites: material from HWRC piles not to be moved to large stock piles less than 90 minutes before site closure	NA					
	e) There is a clear method in place to record & manage the storage of all waste on site	√					
	f) Moisture & temperature is controlled and monitored with a thermal probe or other device and is capable of reaching all parts of the pile (if materials are stored in plastic wrapping a sampling & testing protocol has been established to ensure a representative number of bales (minimum 10%) are assessed during monitoring)	√					
	g) There is good stock rotation for all stored materials and this is monitored daily	NA					
COMBUSTIBLE MATERIALS FUEL SOURCES (Remove, reduce and control)							
18. Housekeeping	a) There is good general housekeeping.	√	Good housekeeping on site				
	b) Plant rooms (e.g. electrical switch rooms, boiler rooms, etc.) are clear of combustible materials.	√		L	L	L	

	c) If the process creates paper dust, polyethylene dusts, and polyvinyl chloride dusts, settlement on beams, pipe work creates and explosion risk and increased fire risk housekeeping is essential to controlling the risk.	NA					
19. Any flammable or highly flammable materials or substances on site? E.g. some solvents, paints, glue and aerosols.	a) The use of flammable materials and substances are avoided, or reduced to the minimum required for the undertaking. b) All flammable substances required for maintenance activities are stored in flammable cabinets c) Every effort is made to remove aerosols containing flammable substances from recyclables.	√ √ √	Flammables stored onsite in the transfer station and F compound.	M	L	L	
20. Is any office / welfare rubbish stored externally (e.g. waste skips, bins, etc.)	a) Wherever possible: • Waste skips are kept locked and stored 10 metres from buildings and plant. • Metal wheel bins at least 6 metres. • Plastic wheel bins at least 10 metres. b) Chain or secure wheeled containers away from buildings. Consider secure storage for other waste containers, particularly where there is a risk of arson. c) Do not store loose combustible waste within 2 metres of site perimeter, or 6 metres of buildings.	√ √ √	.	L	L	L	
21. Storage of combustible materials (not applicable to landfill areas)	a) Sources of ignition are at least 6m away from piles of combustible & flammable materials b) Waste piles are managed within the maximum sizes and separation	NA NA					

	distances given in EA & WISH 28 Guidance. This information can be found within section 3.0 of this document for each of the following materials; • Paper, cardboard & rags • Plastic, rubber & other materials • Fridges, computers & electrical equipment • Processed wood (inc. sawdust, shavings, chips) • RDF & fragmentiser fluff • Unprocessed wood	NA		L	L	L	
22. Enclosed waste piles using bays or walls	a) Frequent stock rotation is monitored (i.e. older wastes are processed / removed first) b) Walls are of a suitable & sufficient construction, height and thickness to offer a thermal barrier (A Frames do not provide this) c) A 'freeboard' space (Minimum 1m) will be completed by the end of each working day, and any voids behind walls are free from wastes	NA		L	L	L	
23. Orphaned Cylinder Store	a) Cylinder store location, is it away from other sources of ignition? b) Are the oxidizing and flammable gas cylinders stored separately c) Are the cylinders stored correctly, in a locked cage, upright and chained if required?	NA		L	L	L	
SOURCES OF OXYGEN (Reduce)							
24. Can steps be taken to reduce the potential sources of oxygen to a	a) Close all windows, doors and other openings not required for ventilation and safe operation of equipment particularly out of working hours.	√					

fire?	b) In the event of fire all roller shutter doors should be closed as evacuating the building if safe to do so. c) Do not store oxidising materials or flammable materials within the building (Check COSHH assessments and/or product data to identify oxidising materials.)	√ √		L L	L L	L L	
CONTAINING AND MITIGATING (Control)							
25. Automatic detection systems	a) Automatic detection systems have been fitted (e.g. smoke & heat detectors; CCTV visual flame detection systems; spark, infrared & ultraviolet detection) b) There is a service schedule in place and it is being followed	√ √	Currently fire alarm in the office block tested weekly and services as required	L L	L L	L L	
26. Means of alarm	a) There is adequate means of raising alarm	√	Fire bells in the transfer station	L	L	L	
27. Means of fighting fire	a) Fire suppression systems have been fitted where materials are stored in a building (e.g. sprinklers; water spray systems; water curtains) b) Fire suppressions systems are regularly maintained and serviced c) Materials are kept a minimum of 3 m below the level of the spray or sprinklers (unless design specification identified a reduced distance)	√	No fire suppression systems currently fitted onsite. Waste currently stored in transfer station and compound F.	L	L	L	
28. Means of escape	a) Sufficient numbers of fire escape routes and fire exits b) Escape is available in more than one direction	√	Yes, several escape routes from areas. Muster point out site main gates.				

	c) Everyone can escape without assistance d) Exits are easily identified e) Escape routes are free from obstruction f) There is adequate emergency lighting g) Emergency lighting is serviced and inspected h) There is a dedicated assembly point located in a safe area			L	L	L		
29. Quarantine area	a) There is a dedicated emergency / quarantine area big enough to cope with a major incident, with a clear area of at least 10m around the perimeter (this must be available at all times)	√	Quarantine bay in waste transfer station. Other bunded areas can be used as quarantine areas	L	L	L		
30. Emergency access	a) There is easy access for emergency vehicles around the whole site	√	Good access round site	L	L	L		
31. Water supply	a) Sufficient water supplies are available on site to manage a worst case scenario incident (confirmed with local Fire & Rescue Service, but as an example a 300m3 pile of combustible material will normally require a water supply of at least 2,000 litres a minute for a minimum of 3 hours)	√	Mains water onsite. Site also has an abstraction licence from the river Aire.	L	L	L		
32. Firewater containment	a) Secondary and tertiary containment facilities for firewater run-off are installed e.g. impermeable bunds, storage lagoons, shut-off valves, isolation tanks, pollution control equipment such as firewater booms & drain mats to block drains/divert firewater	√	Various tanks and vessels can be used for the storage of fire water.	L	L	L		

Assessors name (please print):	**Assessors signature:**	**Date assessment completed:**
Line Managers name (please print):	**Line Managers signature:**	**Date received:**
ADDITIONAL LINE MANAGERS COMMENTS: (Include any additional issues identified and actions that require escalation to next level management) Continue on separate sheet if necessary		

2.0 Action Plan

Ref. No.	Recommended Action	Proposed Completion Date	Person Responsible (Print Name)	Signed	Action Taken	Actual Completion Date

3.0 Maximum pile sizes and separation distance

Pile Sizes & Separation Distances can be found within:

a) Environment Agency - Guidance Fire prevention plans: environmental permits, May 2018
b) Natural Resources Wales Fire Prevention & Mitigation Plan Guidance – Waste Management, Guidance Note 16
c) WISH 28 - Reducing Fire Risk at Waste Management Sites

Waste type	Loose and more than 150mm	30 to 150mm or baled	Less than 30mm
Tyres and rubber	**450 cubic metres**	**300 cubic metres**	**300 cubic metres**
Wood	**750 cubic metres**	**450 cubic metres**	**300 cubic metres**
Compost and green waste (excluding during the active composting process)	**750 cubic metres**	**450 cubic metres**	**450 cubic metres**
RDF and SRF	**450 cubic metres**	**450 cubic metres**	**450 cubic metres**
Plastics	**750 cubic metres**	**450 cubic metres**	**300 cubic metres**
Paper and cardboard	**750 cubic metres**	**750 cubic metres**	**450 cubic metres**
Textiles	**750 cubic metres**	**750 cubic metres**	**400 cubic metres**
WEEE containing plastics, including fridges, computers and televisions	**450 cubic metres**	**450 cubic metres**	**450 cubic metres**
Metals other than WEEE (including crushed ELVs, which are classed as 'baled' waste for the purpose of this table. For whole ELVs see below)	**750 cubic metres**	**450 cubic metres**	**450 cubic metres**
Fragmentiser fluff	**450 cubic metres**	**450 cubic metres**	**450 cubic metres**

4.0 Training records

The following table shall be used to record that the appropriate personnel have been trained in the contents of this document, as required, and a hard copy maintained as evidence of this training.

Document Training Record

Number:	
Version:	
Site:	

This table is deemed to be an official training record and must be kept on file.

Please ensure that all relevant employees are made aware of the contents of the document indicated above.

Print employee name	Employee signature	Date	Trained by:

Emergency Management Plan

FCC Environment
Site Name
Site Address

Reviewed on:

Approved by: …… Site Manager

CONTENTS

APPENDIX 2 EMERGENCY SERVICES PACK

DRAWINGS (delete as appropriate)

Ref **Entrance Area Layout Plan**
Ref **Reception Area Layout Plan**
Ref **Power Station Area Layout Plan**
Ref **Gas Compound Area Layout Plan**
Ref **Site Office Layout Plan**
Ref **Gas Installation and Monitoring Points**
Ref **Site Storage Plan detailing;**

- **Inventory & location of hazardous material storage**
- **Identification and location of monitoring systems for hazardous storage**
- **Fire detection and suppression systems**
- **Emergency power sources, evacuation routes and assembly points**
- **Location of emergency response equipment etc**

1.0 EMERGENCY CONTACT DETAILS

- **Site Address**
- **Operational Hours**
- **Important Contacts**

Name	Position	Telephone	Response Time	Contacted [✓] [Time]
Emergency Services Numbers				
Emergency Services		999		
Police		999/101		
Ambulance		999		
General Hospital				
Fire Station Direct				
Utility Companies				
[Water]				
[Electric]				
[Telephone]				
FCC Site Office Numbers				
Reception				
Weighbridge				
Fax				
FCC Site Management				
	Site Manager			
	Site Supervisor			
	Area Manager			
	Incident controller(s)			
FCC SHEQ Team				
Paul Stokes	Head of SHEQ	01302 303010 / 07833 176978		
	H&S Manager			
	H&S Advisor			
	Environment Advisor			
	Environment Manager			
	Senior Environment Manager			

FCC Site Administration				
	Administrator			
FCC Site Machine Operators				

Regulatory Authorities				
Environment Agency	Emergency Call Out Number	08708 506506		
	Environment Agency PPC Officer			
	HSE			
	Local Authority			
Other FCC Contacts				
FCC	24 Hour Emergency Number	01302 553461		
FCC Head Office	Doncaster	01302 303030		
	General Manager External Affairs			
	Director of Communications and Marketing			
	Company Secretary			
	Head of Estates			
	FCC Sales			
	FCC Leachate Dept			
	Press Office	01302 553454		
Contractors				
Infinis	24Hrs Emergency Contact	01604 662420		
	Infinis Gas Engineer			
	Infinis Gas Field Technician			
	Leachate Contractor			
	Leachate Tankers			
	Plant Hire Company			
	Security			
	Wheel wash			
	Cleaner			
	Agency Contractor			
Site Landlord				

Local Liaison Contacts				
Parish Council				
Residents				
Neighbours/Shared Occupancy Contacts				

Customer Contacts				

HOSPITAL DIRECTIONS [MAP]

2.0 PURPOSE

The purpose of this document is to:

- comply with the sites permit,
- minimise the risk of significant environmental and Health and Safety consequences from certain emergencies,
- ensure that all staff are aware of the procedures in the event of a major incident, and
- Identify the types of incidents that can occur at site and the actions to take in the event of a major incident.

3.0 RESPONSIBILITY

It is the responsibility of the Site Manager or equivalent to ensure that:

- One or more incident controller(s) have been appointed
- All Incident Controllers and/or Fire Wardens have undertaken an FCC training course
- All Incident Controllers and/or Fire Wardens have been inducted/trained on this plan, and
- The requirements of this document are adhered to.

The decision to alert the emergency services will be taken by the Incident Controller who is first aware of an incident. If an incident occurs out of working hours, an external party may make this decision. However, this plan is to be adhered to at all times.

The Incident Controller who was first made aware of the event will always take the control of any major incident.

The identity of the Incident Controller may change in which case a formal hand over and communication with the emergency services will be necessary. The Incident Controller will assume responsibility, command and liaison with the emergency services.

In the event of a fire the incident controller and/or Fire Wardens has the following roles / responsibilities;

- To assist with the evacuation process by checking a specific area, if safe to do so
- No Incident Controller is expected to place them self in danger, they should check their allocated area swiftly then report to the assembly point
- If necessary, once the emergency has been made safe and re-entry is confirmed the Incident Controller reports any issues that impacted on the effectiveness of the evacuation procedure to the site manager.
- Post Fire Building Recovery

- NB investigating the cause of the alarm activation is carried out to avoid unnecessary calls being made to the fire service. While this is the duty of designated incident controller; they are NOT TO PUT THEMSELVES AT RISK

NB: If the fire service is called, the Senior Fire Officer present is legally responsible for the containment of the fire and the safety of all those potentially affected by it. Hose water run-off containment is the responsibility of the site.

All accidents and near misses must be reported no matter how trivial as per the Accident/Incident Procedure IMS-PRO-013

4.0 DEFINITION

A major incident is an event or events that call for assistance or action beyond normal operational plans of the site, i.e., events that require external aid in firefighting, police or ambulance services.

Any occurrence on site that threatens the safety of people on site, off site, the surrounding premises, neighbours, houses, the general public or the environment, constitutes a major incident

For further details in controlling environmental impacts the site's Environmental Aspects Risk Assessment should be reviewed.

5.0 COMMUNICATION

Communication during an emergency should be established at the main site office where possible.

In the event of communication is required between external parties such as members of public, members of the press, the external communications managers should be contacted (Julie Fourcade) and all communications dealt with by her or her deputy and not at a site level

Communication should also be established with any applicable neighbours along with any enforcing body to inform them of the emergency where relevant

6.0 PROCEDURE

The following potential incidents have been identified at the facility: (delete as appropriate)

- Flooding
- Subsidence
- Landslides
- Minor / Major Fire
- Surface Fire (Operational Area)
- Fire in Operational Area/Hoppers
- Sub Surface Fire
- Plant / Vehicle Accident
- Vehicle Collision with Storage Tank
- Vehicle Accident with Landfill Gas Flare and/or Compound
- Explosion
- Major Breach of Installation Liner
- Exposure to Unknown Substances
- Major injury / 1ST Aid Injury
- Gas Leak
- Bomb Threats & Discovery of Suspicious Package
- Protests / Direct Action
- External Incidents that Effect Site
- Pandemics/Epidemics
- Total Site Evacuation
- Spillage and Leakage
- Adverse Weather Conditions
- Post Fire Building Recovery

The procedures for each event identified above are defined in Appendix One.

The emergency services pack is provided in Appendix Two.

The emergency plan is kept in a waterproof box in the following locations;

INSERT LOCATIONS HERE

7.0 HAZARDOUS MATERIALS (as identified by COSHH assessments)

There are minimal quantities of hazardous materials stored for use on site: (complete below chart)

Substance or Product Name	*Location and approximate quantity of Storage*

Approved by: …… **Site Manager**

APPENDIX ONE

INCIDENT CONTROLLER PROCEDURES

FLOODING

Risk

Based on a review of the Environment Agency's indicative Flood Plain maps, the installation is/is not located (delete as required) within a flood plain area. It is therefore considered that the likelihood of the installation flooding is low/high (delete as required).

Notwithstanding this, if appropriate, perimeter ditches will be installed around the perimeter of the installation to intercept water from surrounding higher land and divert it away from the installation.

Action Plan

1 Appoint Incident Controller (personnel will follow instructions issued by Incident Controller). ❑

2 Carry out a stop and think assessment (Personnel will not attempt to enter a flooded area until a stop and think assessment has been undertaken or the flood has subsided). ❑

3 Isolate all relevant systems in the area of risk such as:

- Electrical supplies ❑
- Stocks of chemicals and fuels ❑
- Leachate collection system ❑
- Plant ❑

4 If spillage has occurred refer to "Spillage and Leakage" Procedure ❑

5 Consideration should be given to the segregation of "clean" and "dirty" water. ❑

6 Consideration should be given to a pumping regime. ❑

7 Following remedial action to clear the floodwater, an approved contractor will check all affected electrical supplies. ❑

8 Inform the Environment Agency. ❑

SUBSIDENCE

Risk

The underlying geology on the site is …….

Therefore, the risk of subsidence is ……..

Further to the above the permit does not require existing sites to consider subsidence within the emergency management plan.

Action Plan

1	Appoint Incident Controller (personnel will follow instructions issued by Incident Controller).	❑
2	Carry out a stop and think assessment (personnel will not attempt to enter the affected area until a stop and think assessment has been undertaken).	❑
3	Isolate the affected area.	❑
4	Contact a suitably qualified engineer.	❑

LANDSLIDES

Risk

The site has / has not had a historical failure within the geology of the site.

Controls in place to mitigate the risks are:
- Site Stability Risk Assessment (PPC)
- Design of individual slope angles prior to construction, and
- Monitoring for the presence of any tension cracks or evidence of movement.

NB: The permit does not require existing sites to consider landslides within the emergency management plan.

Action Plan

1	Appoint Incident Controller (personnel will follow instructions issued by Incident Controller).	❑
2	Carry out a stop and think assessment (personnel will not attempt to enter the affected area until a stop and think assessment has been undertaken).	❑
3	Isolate the affected area.	❑
4	Contact a suitably qualified engineer.	❑

FIRES – MINOR/MAJOR FIRE

Risk

Installation buildings contain electrical appliances and other sources of ignition along with materials that readily burn.

Maintenance activities on plant and equipment can also represent a potential fire risk.

Controls in place to mitigate the risk are:

Fire and smoke alarms,
Firefighting equipment,
No smoking policy,
Permit to work for hot works
Provision of trained Incident Controllers, and
Regular disposal of combustible office waste.

Based on the control measures that exist and the operational history it is considered that there is a low risk of fires at the site. Based on the control measures in place at the site, together with the proposed actions in the unlikely event that a fire occurs, it is considered that the risk of significant environmental consequences associated with fires at the site is low.

Action Plan

Minor

1 Raise the alarm and evacuate and isolate the area of all personnel. ❑
2 Identify the type of fire and extinguisher needed (see table below). ❑
3 Follow the instructions on the extinguisher and attempt to put out the fire if safe to do so. ❑
4 If the fire does not go out retreat and class as a major fire. ❑

TYPE OF FIRE	EXAMPLE	EXTINGUISHER	COLOUR OF EXTINGUISHER
SOLID	WOOD, PAPER, FURNITURE	WATER	RED
LIQUID	OIL, PETROL, SOLVENTS, CHEMICALS	FOAM / POWDER	RED WITH CREAM / RED WITH BLUE
ELECTRICAL	COMPUTERS	CO_2	RED WITH BLACK

NB: Do not attempt to tackle gas fires.

Major

1 Take the emergency plan folder and visitors book, located XXX, as these may be needed ❑
2 Contact the EMERGENCY SERVICES. Give as much information as possible about the circumstances and location. ❑
3 Meet at the nominated assembly point and take a roll call. ❑
4 The INCIDENT CONTROLLER should arrange for the control of traffic and meeting EMERGENCY SERVICES. ❑
5 The INCIDENT CONTROLLER is to decide if complete site evacuation is necessary. Refer to total site evacuation if necessary. This may also take place under the guidance of the senior fire officer. ❑

6	Any water used to control the fire should be contained within the site and disposed of safely.	❑
7	At a suitable time, site managers and other relevant people on the call out list (as detailed at the beginning of this document), including the Environment Agency should be informed of the incident.	❑
8	Review and update any relevant RA, SWP and procedures	❑

INCIDENT CONTROLLERS

Location	Name

FIRES – SURFACE FIRE (OPERATIONAL AREA)

Risk
Many waste materials that are delivered to the installation will support combustion. Some loads are liable to be delivered in a “hot” condition.

Controls in place to mitigate the risk are:
- Firefighting equipment,
- Waste approval system
- Waste inspection
- No smoking policy,
- Permit to work for hot works, and
- Provision of trained Incident Controllers.

Based on the control measures that exist and the operational history it is considered that there is a low risk of fires at the site. Based on the control measures in place at the site, together with the proposed actions in the unlikely event that a fire occurs, it is considered that the risk of significant environmental consequences associated with fires at the site is low.

Underground fires, due to smouldering loads or spontaneous combustion have been known to occur at landfill installations. It should be noted that if a subsurface fire is identified then the specific procedure should be followed – this is not classed as an emergency.

Action Plan

1	Raise the alarm and evacuate the area of all unnecessary personnel and vehicles to the nearest mobile assembly point.	❑
2	Suspend all tipping operations.	❑
3	Contact the site’s gas contractor to ensure optimum performance of Gas Extraction	❑
4	Using available mobile plant with a bucket or blade the fire will be smothered using inert material working from the outside edge towards the centre of the fire. (Under no circumstances will the machine be driven into the centre of the fire).	❑
5	A second machine and operator will be available on standby.	❑
6	If the fire continues to burn beneath the surface the burning material will be isolated by digging it out and spreading it on top of inert material after which it will again be smothered.	❑
7	Water may be used from the water bowser if this is compatible to the fire type.	❑
8	A roll call of all visitors, contractors and staff will be carried out.	❑
9	If the fire appears to have been extinguished the surface of the landfill area should be monitored for the following 24 hours.	❑
10	If the fire does not go out contact the EMERGENCY SERVICES. Give as much information as possible about the circumstances and location.	❑
11	Ensure the gas wells in the path of the fire are protected with clay barriers.	❑
12	A clay barrier should be built ahead of the fire to prevent spread.	❑
13	The INCIDENT CONTROLLER should arrange for the control of traffic and meeting EMERGENCY SERVICES.	❑

14	The INCIDENT CONTROLLER is to decide if complete site evacuation is necessary. Refer to total site evacuation if necessary. This may also take place under the guidance of the senior fire officer.	❑
15	Any water used to control the fire should be contained within the site and disposed of safely.	❑
16	At a suitable time, site managers and other relevant people on the call out list (as detailed at the beginning of this document), including the Environment Agency should be informed of the incident.	❑
17	Records of any fires will be kept on a fire report form. Copies of the fire report forms are forwarded to the Environment Agency.	❑
18	Review and update any appropriate RA, SWP, and procedures	❑

FIRE IN OPERATIONAL AREA/HOPPERS

Risk

A fire in the operational area is not uncommon and should be dealt with using site staff and equipment. The Site Manager should be informed immediately and take steps to inform the local fire brigade who will take the decision on whether to attend or not. All tipping operations must be suspended and any vehicles or plant in the vicinity of the fire evacuated if it is safe to do so.

Action Plan

1	Raise the alarm and evacuate the area of all unnecessary personnel and vehicles to the nearest mobile assembly point.	❑
2	Suspend all tipping operations.	❑
3	Remove any vehicles in the vicinity of the fire if it is safe to do so	❑
4	Use the fire cannons (or equivalent) provided to douse the area	❑
5	If the fire is not completely extinguished and continues to burn below the surface, then the burning material should be isolated by digging out and spraying again with the water cannon.	❑
6	If the fire does not go out contact the EMERGENCY SERVICES. Give as much information as possible about the circumstances and location.	❑
7	The INCIDENT CONTROLLER should arrange for the control of traffic and meeting EMERGENCY SERVICES.	❑
8	The INCIDENT CONTROLLER is to decide if complete site evacuation is necessary. Refer to total site evacuation if necessary. This may also take place under the guidance of the senior fire officer.	❑
9	Any water used to control the fire should be contained within the site and disposed of safely.	❑
10	At a suitable time, site managers and other relevant people on the call out list (as detailed at the beginning of this document), including the Environment Agency should be informed of the incident.	❑
11	Records of any fires will be kept on a fire report form. Copies of the fire report forms are forwarded to the Environment Agency.	❑
12	Review and update any appropriate RA, SWP, and procedures	❑

FIRES – OFFICE FIRE

Fire Action Notices are displayed throughout the offices. You should familiarise yourself with these instructions so that in the event of the alarm sounding you know what to do

1	Raise the alarm and evacuate the area of all unnecessary personnel and vehicles to the nearest mobile assembly point located XXX	❑
2	Evacuate as soon as the alarm sounds – do not go out of your way to collect personal belongings	❑
3	Follow the evacuation arrows (green "running man" signs) to your nearest safe emergency exit. Your nearest safe emergency exit will not necessarily be the normal exit route therefore it is important you follow the signage.	❑
4	Incident Controllers will check each area of the Main Building and then report to the Fire Assembly Point	❑
5	Remain at the Assembly Point until given instruction to do otherwise Do not under any circumstances re-enter the building until given authority to do so.	❑
6	The main Incident controller will check in each incident controller as they arrive at the fire assembly point, noting reports on the whereabouts of people who are known to be left in the building and if any signs of fire have been seen during the sweep and evacuation of the building.	❑
7	The Incident Controller will direct a Fire Marshall to meet the emergency services on arrival and escort them to the alarm activation point.	❑
8	At the Fire Control Point the Incident Controller will liaise with the Senior Crew Member from the emergency services who will assume responsibility	❑
9	When emergency services are satisfied that no danger exists, they will instruct the Incident Controller to reset the fire alarm panel.	❑
10	Once emergency services have departed the Incident Controller will give the instruction to re-enter the building.	❑
11	The Incident Controller will remain at the Fire Control Point until all staff have re-entered the building and will liaise with Fire Marshals to evaluate the evacuation procedure.	❑
12	At a suitable time, site managers and other relevant people on the call out list (as detailed at the beginning of this document), including the Environment Agency should be informed of the incident.	❑
13	Review and update any appropriate RA, SWP, and procedures	❑

Mobility Impaired

1	Any member of staff or visitor with mobility impairment who is located on the ground floor of the offices should evacuate via the Main Entrance unless there is any obvious danger in the corridor.	❑
2	Any member of staff or visitor with mobility impairment who is located on the upper floor should make their way to the lift area Refuge Point or fire escape route and refuge point arrangements will then be made by Incident Controllers to evacuate via the lift only if it is safe to do so. If it is not safe to use the lift, then trained staff will evacuate using an evacuation chair	❑
3	If there is any obvious danger in the corridor and they cannot access the lift area, mobility impaired persons should make their way to the alternative Fire Escape located ……	❑
4	On safe evacuation persons should be escorted to the Fire Assembly point and report to the Incident Controller.	❑

Visually Impaired

1 Blind/visually impaired persons will be advised, and an Incident Controller will initially walk the person through the evacuation and to the assembly points on arrival to the facility ❑

2 Information will also be given to the Incident Controller for the area that the person will be located so that in the event of an evacuation assistance can be given. ❑

Hearing Impaired

1 There are visual fire signals within the main office. Hearing impaired persons who are likely to be working in an isolated area are to advise an Incident Controller for that area and their immediate supervisor so that they may be notified of any alarm. ❑

Evacuation of Children

On arrival the site will appoint for the visit a nominated Incident Controller

A copy of the evacuation procedure and location of escape routes and fire assembly point will be supplied to the schools nominated person(s).

1 On hearing the alarm a continuous tone, you will evacuate the building through the nearest available exit ❑

2 When evacuating the building act calmly and quietly to avoid alarming / scaring the children ❑

3 Take care on the stairs, do not rush the children, which may result in accidents, provide reassurance and do not use the lift. ❑

4 Once reaching the foot of the stairs escort the children to the fire assembly point at the main gate entrance. (If children have arrived by coach escort them onto the coach) and take the register. ❑

5 Report any missing children to your appointed Incident Controller do not return to the building in the event of reported missing children. ❑

6 Ask other children as to their last known location, report to Incident Controller any information. ❑

7 The incident controller will report children missing and details to the emergency services ❑

In the event of NO INDICATION OF FIRE i.e. FALSE ALARM

A dynamic assessment is carried out and the Incident Controller in charge may only instruct an Incident Controller accompanied by another to re-enter the building if there is;

NO INDICATION OF FIRE.

1 The Incident Controller in charge verifies that no reported signs of fire have been made ❑

2 The Incident Controller in charge checks the alarm panel to identify which sensor or call point has been activated. ❑

3	An Incident Controller and another (not the Incident Controller in charge) enter the building carrying a fire extinguisher and proceed through the closes access and egress to the sensor identified, being vigilant for any sign of fire on route.	❑
4	Any indication of fire, such as smell or sight of smoke or flames, must be taken as the signal to leave the building immediately and to notify the Incident Controller in charge requesting the attendance of the Fire and Rescue Service.	❑
5	On reaching the activated sensor or Zone the Incident Controller takes note of any reason for alarm activation.	❑
6	The Incident Controller and another leave the building and report their findings back to Fire Control Point	❑
7	The Incident Controller will then, if need be, summon the emergency services dialling 999.	❑
8	Give the operator your telephone number XXX and ask for "Fire Brigade", when the fire brigade replies give the site address and any details known Do not assume that the call has been received until it has been acknowledged by the fire brigade.	❑

FIRES - SUB SURFACE FIRE

Underground fires normally do not require the assistance of external emergency services, or evacuation of the site, however, each underground fire is unique, with the risks posed depending on:

- Depth and intensity of the fire
- Type of waste in close proximity to the fire (especially if hazardous)
- Intensity of smoke (and fume) emissions and whether these are transported off the site
- Amount of surface settlement it is causing (breaking seals with wells, or even creating potentially lethal cavities)

1 On discovering a fire (signs include smoke, drying and cracking of cap and slumping), the most senior FCC supervisor or manager on site should be contacted immediately, this person will take on the role of “Incident Controller”. ❑

2 If the fire is discovered outside site operating times, the site Emergency Management Plan should be consulted for appropriate contact numbers. ❑

3 Incident Controller will go to the scene of the fire to assess the situation, taking care not to put themselves in a position of danger Dangers are posed by adverse ground conditions (potential underground cavities), wind direction (stay out of the smoke), smoke and fumes (Personal monitors required) and proximity to the source of the fire. ❑

4 Unprotected people in the immediate vicinity should be moved to a safe position away from the fire. The area should be secured to prevent any unauthorised access ❑

5 If the smoke is of such severity that it could affect people off-site (e.g., smoke going towards nearby housing or across roads affecting visibility), call 999 and advise the fire service and police. ❑

6 Incident Controller will contact any site support service personnel to advise them about the location and nature of the fire (contact details available at the front of this Emergency Procedures folder) they will then carry out any work required to help prevent its spread to other areas and assist in some cases with connecting pipelines to run liquid into the area. ❑

7 Incident controller to inform the following departments of actions that we might need them to do.
   - Infinis Gas Supervisor – request that suction is taken off adjacent wells to prevent the spread of the fire
   - Leachate Supervisor – wells and leachate pipework could be affected
   - Environment Officer – to advise of any potential impacts in accordance with the PPC ❑
   - Site Manager – so that they can communicate with other FCC staff as necessary
   - Environment Agency – if EO has not done so

8 Note – there is no generic solution to managing subsurface fires. If in doubt the Incident Controller should consult with other members of FCC and Infinis staff. ❑

9 Incident Controller shall contact site plant operators as necessary to attend to the fire location.
Depending upon how the fire is going to be controlled, this may require: ❑
   - Tractor and water bowser – if the fire is to be managed with clean water, discharged into the fire from the surface
   - Excavator – if fire thought to be very near to the surface and possible to be dug out, or if clay needs to be moved/loaded

- Dumper – if clay is needed for sealing the surface
- Dozer –to blade clay over the area to cover cracks and seal against the ingress of air

10 The incident controller will remain at the scene until the fire is under control, or if this is not possible, should hand over to another responsible person ❑

11 Once the fire is under control or extinguished, the Incident controller should fill in the first stage of an accident/incident investigation report, and note the incident in the site Environmental Log/ Installation Log ❑

12 To identify further combustion, the gas contractor (e.g., Infinis) shall monitor all nearby gas wells for CO (>60ppm) and any other appropriate variables at a minimum of weekly intervals for 4 weeks, or it is confirmed that the fire has been contained ❑

13 Once monitoring is complete, a closeout report summarising the monitoring findings should be provided by the gas contractor to site. ❑

14 Following a subsurface fire, a debriefing will be undertaken to: ❑
- Review all actions taken during the response to and management of the fire
- Identify where procedures need to be improved or updated and close all incident reports

PLANT / VEHICLE ACCIDENT

In the event of an accident involving any item of plant or vehicle, the person first becoming aware of the incident must immediately check for casualties.

This includes accidents on the active areas along with any accidents within the site boundary

Any spillage will be dealt with as in the spillage and leakage procedure.

Action Plan

1	Raise the alarm and evacuate the area of all unnecessary personnel and vehicles to the nearest mobile assembly point.	❑
2	Appoint Incident Controller (Personnel will follow instructions issued by Incident Controller).	❑
3	Suspend all tipping operations [if applicable]	❑
4	Check for casualties.	❑
5	If there are any casualties the First Aider must be summoned, and the emergency services called.	❑
6	The INCIDENT CONTROLLER should arrange for the control of traffic and meeting EMERGENCY SERVICES.	❑
7	Check for immediate danger and give first aid.	❑
8	The plant item or vehicle must not be moved, unless to remove casualties, until the Site Manager has assessed the situation and obtained any evidence as to the cause.	❑
9	The accident details should be noted in the site log.	❑
10	The site manager should carry out an investigation in the appropriate forms and initiate any corrective action.	❑
11	In the event of the plant being considered at critical plant, as outlined in the site's PPC, the environment agency should be informed	❑
12	In the event that it is an accident involving vehicles on site, contact the insurance company	❑
13	At a suitable time, site managers and other relevant people on the call out list (as detailed at the beginning of this document), including the Environment Agency should be informed of the incident.	❑
14	Review and update the site traffic management plan and traffic management RA as appropriate	❑

VEHICLE COLLISION WITH STORAGE TANK

In the event of an accident involving any item of plant or vehicle, with a storage tank the person first becoming aware of the incident must immediately raise the alarm.

Any spillage will be dealt with as in the spillage and leakage procedure.

Action Plan

1	Raise the alarm and evacuate the area of all unnecessary personnel and vehicles to the nearest mobile assembly point.	❑
2	Appoint Incident Controller (Personnel will follow instructions issued by Incident Controller).	❑
3	Check for casualties and follow the first aid procedure if applicable	❑
4	Turn off feed pumps to the storage tank	❑
5	Inform the site manager of the incident	❑
6	The INCIDENT CONTROLLER should arrange for the control of traffic	❑
7	Manage any spillages / leakages in accordance with that procedure	❑
8	The plant item or vehicle must not be moved, unless to remove casualties, until the Site Manager has assessed the situation and obtained any evidence as to the cause.	❑
9	The accident details should be noted in the site log.	❑
10	At a suitable time, site managers and other relevant people on the call out list (as detailed at the beginning of this document), including the Environment Agency should be informed of the incident.	❑
11	The site manager should carry out an investigation in the appropriate forms and initiate any corrective action.	❑
12	Review and update the site traffic management plan and traffic management RA as appropriate	❑

VEHICLE ACCIDENT WITH LANDFILL GAS FLARE OR/AND COMPOUND

In the event of an accident involving any item of plant or vehicle, with the gas flare and/or the compound the person first becoming aware of the incident must immediately raise the alarm.

Action Plan

1	Raise the alarm and evacuate the area of all unnecessary personnel and vehicles to the nearest mobile assembly point.	❑
2	Contact the gas contractor and switch off all electrical supplies at the main electric distribution and all the gas line valves at the main manifold where applicable	❑
3	Appoint Incident Controller (Personnel will follow instructions issued by Incident Controller).	❑
4	Check for casualties and follow the first aid procedure if applicable	❑
5	Check for fire and follow the procedure if applicable noting that this may lead to site evacuation	❑
5	Inform the site manager of the incident	❑
6	The INCIDENT CONTROLLER should arrange for the control of traffic and wait for the emergency services (if applicable)	❑
7	The plant item or vehicle must not be moved, unless to remove casualties, until the Site Manager has assessed the situation and obtained any evidence as to the cause.	❑
8	The accident details should be noted in the site log.	❑
9	The site manager should carry out an investigation in the appropriate forms and initiate any corrective action.	❑
10	Review and update the site traffic management plan and traffic management RA as appropriate	❑

EXPLOSION

Risk

The main risk of explosion at the installation is associated with the gas and leachate collection and extraction systems (for landfills)

The main risk of explosion at the installation is associated with items identified within the DSEAR plan (for other facility types) (delete as appropriate)

There is not a history of explosions at the site. Based on the existing DSEAR control procedures, waste assessment and acceptance procedures, waste and product storage and Company health and safety procedures it is considered that the risk of explosions at the site in the future is low.

There is also a potential risk for explosive materials to be delivered to site as part of a waste load.

Action Plan

1	Upon discovery of any potentially explosive material the area should be evacuated immediately.	❑
2	Contact Infinis controller to ensure optimum performance of Gas Extraction	❑
3	Appoint INCIDENT CONTROLLER (Personnel will follow instructions issued by Incident Controller).	❑
4	Carry out a stop and think assessment (Personnel will not attempt to enter the affected area until a stop and think assessment has been undertaken).	❑
5	Contact the EMERGENCY SERVICES and give as much information as possible about the circumstances and location.	❑
6	The INCIDENT CONTROLLER should arrange for the control of traffic and meeting EMERGENCY SERVICES.	❑
7	In the event of an explosion the action taken should be the same as that taken in the event of a fire.	❑
8	At a suitable time, site managers and other relevant people on the call out list (as detailed at the beginning of this document), including the Environment Agency should be informed of the incident.	❑
9	Review and update any appropriate RA, SWP, and procedures	❑

MAJOR BREACH OF INSTALLATION LINER

Risk

A major breach of the installation liner could be caused by instability of the substrata, or of the engineered lining system.

The stability of both these elements has been assessed in a quantitative manner in the stability risk assessment, and all necessary precautions incorporated within the design of the installation to ensure that the risk of a breach in the lining system as a result of instability in the substrata or the engineered lining system is low.

Controls in place to mitigate the risk are:

Monitoring for the presence of any tension cracks or evidence of movement, and
Monitoring for evidence of differential settlement, or a sudden drop in leachate levels.

Differential settlement of waste may also lead to a breach in the integrity of the capping system.

Action Plan

Liner Breach

1 Leachate levels should be reduced in the affected cell to minimise the risk. ❑
2 The liner should be inspected, by a suitably qualified engineer, to assess the need for remedial action. ❑
3 Any remediation to be carried out should be agreed in advance with the Environment Agency. ❑
4 Revisions to liner design based on the findings should be considered for future cell development. ❑

Instability of Waste Mass

1 The area should be inspected, by a suitably qualified engineer, to assess the need for remedial action. ❑
2 Any remediation to be carried out should be agreed in advance with the Environment Agency. ❑
3 Monitor the situation through visual and topographic surveys. ❑
4 Consideration should be given to moving the location of the tipping area for both stability and Health & Safety reasons. ❑
5 Revisions to future waste slope design based on the findings should be considered. ❑

Breach of Capping

1 Review the need for localised stripping of cap and the subsequent surcharge with waste or soils to reproduce the correct profile. ❑
2 Replacement of the engineered cap under appropriate CQA procedures. ❑
3 Replacement of any drainage channels to ensure continued surface water drainage. ❑
4 Revision of future designs to accommodate differential settlement by: ❑
Additional thickness of capping materials
Locally strengthening of cap, or
Incorporation of irregular edges and boundaries to compensate

EXPOSURE TO UNKNOWN SUBSTANCES

If a material is suspected of being hazardous, evacuate the area and seek assistance from the Emergency Services **AND** Environment Agency

Any spillage will be dealt with as in the spillage and leakage procedure.

Action Plan

1	Avoid contact. Raise the alarm and evacuate the area of all unnecessary personnel.	❑
2	Appoint Incident Controller (Personnel will follow instructions issued by Incident Controller).	❑
3	Check for casualties.	❑
5	If there are any casualties the First Aider must be summoned, and the emergency services called.	❑
6	Check for immediate danger and give first aid.	❑
7	Stop any carriers leaving site and quarantine any areas as necessary	❑
8	The emergency details should be noted in the site log.	❑
9	At a suitable time, site managers and other relevant people on the call out list (as detailed at the beginning of this document), including the Environment Agency should be informed of the incident.	❑
10	The site manager should carry out an investigation in the appropriate forms and initiate any corrective action.	❑
11	Review and update any appropriate RA, SWP, and procedures	❑

MAJOR INJURY / 1ST AID INJURY

Risk

FCC facilities are potentially dangerous places with numerous hazards presenting risks to site personnel, visitors and contractors.

These risks are mitigated by:
Safe operating procedures,
Risk assessments,
Method Statements,
Permit to Work Procedures, and
Training

Action Plan

1	Immediately request FIRST AID assistance (Refer to the list below).	❑
2	If necessary, phone EMERGENCY SERVICES. Give as much information as possible about the injured person and the location.	❑
3	Only approach the injured person if it is safe. Do not move the person unless they are in immediate danger.	❑
4	Keep the injured person warm and keep talking to them. DO NOT leave them alone.	❑
5	FIRST AIDERS will be competent to deal with the situation until the ambulance arrives.	❑
6	The INCIDENT CONTROLLER is to ensure that traffic is controlled and that EMERGENCY SERVICES are directed to the incident.	❑
7	The site manager should carry out an investigation in the appropriate forms and initiate any corrective action.	❑
8	Notify H&S Manager where necessary	❑
9	Review and update any appropriate RA, SWP, and procedures	❑

FIRST AIDERS (IDENTIFIED BY PHOTO ON SITE NOTICE BOARD)

Location	Name

GAS LEAK

Risk

The site offices are located on areas of former landfill therefore there is a risk of gas migration into the building.
The site offices have gas as a fuel source (natural gas) and therefore there is a risk of gas escape within the building (delete as appropriate)

The risk of this occurring is mitigated by:
Gas alarms installed within the site offices,
The building is constructed on a suspended and vented floor slab, and
Active gas abstraction from beneath the offices.

The site offices use gas as a form of power and/or heat and therefore there is a risk of a gas leak

The risk of this occurring is mitigated by:
Gas alarms installed within the site offices,
Regular inspection of the gas system by and approved engineer

Action Plan

1	On hearing the alarm evacuate the building, and take the visitors book, located in the XXX, to the assembly point situated……..	❑
2	Do not switch on or off electrical devices.	❑
3	Mobile phones should only be used at a safe distance from the gas leak.	❑
4	If safe to do so ventilate the building.	❑
5	Appoint traffic controller to ensure vehicles stay away from the weighbridge.	❑
6	Inform site manager, environmental services and utility provider as applicable as soon as possible.	❑
7	Record the time and circumstances.	❑
8	The site manager should carry out an investigation in the appropriate forms and initiate any corrective action.	❑
9	Review and update any appropriate RA, SWP, and procedures	❑

BOMB THREATS & DISCOVERY OF SUSPICIOUS PACKAGE

Risk

Any threat should be taken a serious.

Action Plan

1. Do not tamper or interfere with any suspicious package discovered and raise the alarm immediately ❑
2. If not already done the EMERGENCY SERVICES should be contacted and provided with as much information as possible about the circumstances and location. ❑
3. Follow the advice given by the emergency services ❑
4. Evacuate the area and follow the total site evacuation procedure ❑
5. Contact Eternal Affairs ❑
6. Adhere to the FCC Standard on external communication ❑

Should you ever discover what you may believe to be an explosive devise you must not touch or handle it. Stop all activities, raise the alarm to evacuate the building, premises or area and call the emergency services in the first instance. Then using the chain of command notify all relevant persons. The emergency services will then make the relevant decisions on how to handle the situation.

In the event that the site is unable to remain open or is required to close the following should be followed.

1 In the event that the facility has to close the weighbridge and/or reception will be contacted and drivers and customers will be informed of the decision. ❑
2 Communication will be made with senior management and the appropriate regulatory authority ❑
3 Notification of site closure will be communicated as soon as is reasonably practical ❑
4 Alternative sites will be contacted to determine the availability of other facilities where applicable ❑
5 Where possible alternative arrangements will be communicated and made available to customers ❑
6 Regular contact will be maintained with all parties to keep them abreast of conditions on site and the likelihood of site reopening ❑
7 Communication will be made to all parties including External Affairs when a decision has been made to reopen the site ❑

PROTESTS/DIRECT ACTION EXTERNAL INCIDENTS THAT EFFECT SITE PANDEMICS / EPIDEMICS

Risk

Protest and external incidents can result in trespassing on site and security issues for both site and the personnel employed there. Pandemics and epidemics may also result in the possible closure of the site. In the event that this happens refer to the site closure section.

Action Plan

1	Inform site manager of potential issue if know prior to organised incident	❑
2	Contact External Affairs for advice	❑
3	Adhere to the FCC Standard on external communication	❑
4	Review the site security RA to ensure that it is suitable	❑
5	Consider employing additional security if required	❑

In the event that the site is unable to remain open or is required to close the following should be followed;

1	Where conditions are anticipated prior notice will be given to the Sales Department and to customers	❑
2	In the event that the facility has to close the weighbridge and/or reception will be contacted and drivers and customers will be informed of the decision.	❑
3	Communication will be made with senior management and the appropriate regulatory authority	❑
4	Notification of site closure will be communicated as soon as is reasonably practical	❑
5	Alternative sites will be contacted to determine the availability of other facilities where applicable	❑
6	Where possible alternative arrangements will be communicated and made available to customers	❑
7	Regular contact will be maintained with all parties to keep them abreast of conditions on site and the likelihood of site reopening	❑
8	Communication will be made to all parties including External Affairs when a decision has been made to reopen the site	❑

TOTAL SITE EVACUATION

Risk

Any of the enclosed procedures, or an off-site emergency, may lead to a total site evacuation.

Action Plan

1	Raise the alarm.	❑
2	If not already done the EMERGENCY SERVICES should be contacted and provided with as much information as possible about the circumstances and location.	❑
3	ALL personnel are to be contacted by any means possible and must evacuate the site. If necessary, seek alternative routes.	❑
4	Take the emergency plan folder and visitors book, located XXX, as these may be needed.	❑
5	All personnel are to meet at the assembly point unless it is dangerous and then the incident controller will direct all persons to a safe alternative. Take a roll call.	❑
6	Appoint traffic controller and ensure that all traffic is stopped.	❑
7	Customers should be contacted to prevent more vehicles arriving at site.	❑
8	Operations can only recommence once EMERGENCY SERVICES or INCIDENT CONTROLLER gives the all clear.	❑
9	At a suitable time, site managers and other relevant people on the call out list (as detailed at the beginning of this document), including the Environment Agency should be informed of the incident.	❑
10	The site manager should carry out an investigation in the appropriate forms and initiate any corrective action.	❑
11	Review and update any appropriate RA, SWP, and procedures	❑

SPILLAGE & LEAKAGE

Risk

Spillage and leakage can occur during refuelling of vehicles, fuel deliveries, vehicle servicing, vehicle breakdowns, accidents and/or damage to tanks and bunds.

The potential risks are mitigated by:

Controlled unloading using trained personnel of all potentially polluting materials,
Appropriate storage vessels (either double skinned or bunded to 110%),
Regular inspection of storage vessels, and
Maintenance of a spillage/leakage kit including absorbent and containment equipment.

Action Plan

1	Appoint Incident Controller (Personnel will follow instructions issued by Incident Controller).	❑
2	Carry out a stop and think assessment (Personnel will **not** attempt to enter the affected area until the nature of the spillage has been ascertained and what harmful effects it could have to human health and safety).	❑
3	If practical, ensure that the area is coned off with cones placed at a suitable distance from the spillage.	❑
4	If possible, the leak should be stopped and the cause of the leak isolated, and/or moved to a bunded area (e.g.; leaking vehicle or tank).	❑
5	If the spillage can leave site via ditches or drains, the first action must be to stop it. This can be achieved by damming with spoil/clay or by using control valves at discharge point.	❑
6	Water pumps that are discharging from or to the affected area must be switched off immediately.	❑
7	Once the spillage has been isolated the various remedial methods listed below should be reviewed and the best option employed.	❑
8	The site manager should be contacted at the first available point.	❑
9	Any spillage outside of the operational area must be reported to the site manager and the environmental technician (if applicable)	❑
10	The Environment Agency should be contacted regarding any spillage that threatens to leave site causing pollution.	❑
11	All spillages must be recorded in the environmental log.	❑
12	The site manager should carry out an investigation in the appropriate forms and initiate any corrective action.	❑
13	Review and update any appropriate RA, SWP, and procedures	❑

Various remedial methods are available:

- **Dilution:** If the spill is relatively small it may be possible to dilute the liquid with large quantities of water. The water should not be allowed to leave site.
- **Soak up booms:** This may be used to soak up the spill and block off exit routes.
- **Spill sorbs**: This may be used to soak up the spill.
- **Vacuum tanker:** For larger volumes a water bowser is based on site and may be used.

NB. All materials used must be disposed of properly and if necessary, sent off site.

Pollutants:

Risk

The main potential pollutants at XXX are Diesel & Leachate (delete leachate if not applicable)

Leachate:

Leachate is water based, it dilutes upon its entrance into the watercourse, and it becomes virtually impossible to extract.

1	Locate source of pollution.	❑
2	Stop and contain the source of contamination. e.g., Insert runoff ditch sluice boards, placement of catchment bunds.	❑
3	Remove and dispose of any contained leachate that could potentially contaminate the area / water course further	❑
4	The Environment Agency may require the water course to be dammed and over-pumped to avoid further contamination.	❑

Diesel:

Diesel is oil based and has a specific gravity of that less than water. This causes diesel to float on the surface of the watercourse. If handled correctly diesel can successfully be extracted from the water.

1	Locate the source of pollution	❑
2	Stop and contain the source of contamination e.g., Insert runoff ditch sluice boards, placement of catchment bunds.	❑
3	Deploy containment measures.	❑
4	Remove and dispose of any contained diesel to avoid any further contamination.	❑

.

Deployment of containment measures:

Follow this procedure to best contain the pollution-.

1	Install the first floating boom at the furthest extent of the contamination downstream	❑
2	To gain the best effectiveness from the floating booms they should be deployed at an angle of 45°. Setting the booms at 45°will mean that two booms may have to be connected together because of the greater length needed. The booms must be placed with one over-lapping the other to minimise leakage. Do not use pre-set stakes to tether the booms as the water level may have fluctuate and this may leave leakage points.	❑
3	Deploy further booms working back upstream When the booms are in place, place absorbent pads in-front of the booms to absorb the captured diesel.	❑
4	Monitor the effectiveness of the booms with a view to installing more booms if necessary. Granules are solely for the absorption of liquid and are only for use on dry land.	❑

Note: Damming **the brook after a diesel spill is** not **advised as any fluctuation in the level of the watercourse could potentially contaminate the banks further.**

ADVERSE WEATHER CONDITIONS

In the event of adverse weather, the following procedure will be adhered to:

1	A decision on whether to close the site in adverse weather conditions will be co-ordinated by the Site Manager or Site Supervisor	❑
2	Weather reports will be monitored daily and in the event of adverse conditions this frequency will be increased	❑
3	Wind speeds will be assessed and monitored at regular intervals dependant on conditions.	❑
4	Primary consideration will be placed on the safety of drivers in relation to opening trailer doors and to banksman and drivers in relation to windblown debris	❑
5	The assessment will take into consideration wind direction, wind speed and gust speed.	❑
6	The assessment will take into consideration tip location, proximity of litter netting and sensitive receptors	❑
7	Site closure or controlled tipping may also be required in the event of heavy fog conditions	❑
8	Where adverse weather conditions are anticipated prior notice will be given to the Sales Department and to customers	❑
9	In the event that the facility has to close due to adverse weather conditions the weighbridge and/or reception will be contacted, and drivers and customers will be informed of the decision.	❑
10	Communication will be made with senior management and the appropriate regulatory authority	❑
11	Notification of site closure will be communicated as soon as is reasonably practical	❑
12	Alternative sites will be contacted to determine the availability of tipping facilities where applicable	❑
13	Where possible alternative tipping arrangements will be communicated and made available to customers	❑
14	Regular contact will be maintained with all parties to keep them abreast of conditions on site and the likelihood of site reopening	❑
15	Communication will be made to all parties when a decision has been made to reopen the landfill site	❑
16	Remedial and preventative environmental actions will follow the site's environmental aspect RA and any PPC requirements	❑

POST FIRE BUILDING CHECKS (and return to safe condition and operational use).

Note: this procedure is also relevant to explosion, plant vs building, or other damage caused to buildings that requires making safe (structure and services) or change to the normal operations.

Risk
Post fire, the entering of a building to ensure that services and structure are intact and / or made safe is necessary, with the level of risk proportionate to the level of damage, A small simple fire is often dealt with on site, material isolated in the 'quarantine' area, fire watch undertaken with minimal operational interruption. These measures are required following more significant fire, the attendance of the Fire and Rescue Service and definite or possible damage to structures and services.

In the event of accessing a building post fire, the following procedure will be adhered to:

	Determine the structural integrity of the building:	
1	**DO NOT** enter a building until the Fire and Rescue Service (F&RS) have handed back the site and / or building with confirmation that the structure is okay to enter (FCC staff may enter the building during the F&RS response to a fire, as necessary when working with them in a co-ordinated manner).	❑
2	The F&RS 'Incident Handover Form' may advise not to enter a building or part of. In this case, go to item 4.	❑
3	If the F&RS handover the site and / or building with no restrictions, enter with caution (e.g. slip and trip hazards present) to start the assessment and recovery. Confirmation received that it is okay to enter, go to item 6:	❑
	If the building is unsafe	
4	organise for the building to be secured to prevent further damage (e.g. from weather) / access (e.g. protect staff) / trespass (e.g. theft):	❑
5	Engage a structural Engineer / Surveyor to determine the extent of damage and confirm that the structure is okay to enter, providing a written report.	❑
	If the building is safe	
6	Ensure that all services to the building have been isolated (Gas / Electricity / Water) to prevent any further injury or damage. To do locally (site) or contact the relevant utility companies.	❑
7	Ensure Health & Safety Team and Engineering & Construction teams have been made aware, including communicating any isolations etc.	❑
	Hazard Assessment as enter the building(s) / area	
8	Conduct an assessment for any hazardous materials (e.g. asbestos, chemicals) that could have been released during the fire due to damage to the building or waste within.	❑
9	Include checks for smoke or soot contamination that may pose health risks.	❑
	Air Quality Monitoring	
10	Test for lingering smoke, toxic fumes, or particulate matter in the air to ensure it's safe for personnel to enter the building.	❑
11	Develop an entry plan with clearly defined zones (e.g., safe areas, restricted areas) for personnel working in or around the building.	❑
	Environmental Impact	
12	Assess any potential environmental impact, such as runoff of contaminated water used during firefighting, and implement containment or cleanup measures if necessary.	❑
	Documentation and Reporting	❑

13	Document the state of the building, including photographs and fire service reports, for insurance and investigation purposes. Notify relevant authorities or insurers about the incident and recovery steps.	❑
	Fire Investigation Coordination	
14	Ensure that the fire scene is preserved for internal investigation before initiating clearing and recovery work i.e. to get site operational, as required.	❑
	Debris and Waste Management	
15	Arrange for proper handling, segregation, and disposal of fire-damaged materials in compliance with environmental and waste management regulations. This may be in additional containers / vehicle loads separate to the 'normal' waste operations.	❑
	Communication Plan	
16	Notify all stakeholders, including clients, site user, also nearby businesses or residents, about potential hazards or restricted access around the building.	❑
	Operational activity	
17	Returning to normal operations, in the existing manner e.g. layout, plant and machinery with TMP; or with amended arrangements and necessary changes to documentation e.g. TMP and SWP.	❑
18	**Future Safety Assessment** Evaluate whether additional fire prevention or detection measures are needed for the building in the future as part of rebuilding or reoccupation. This is to be undertaken with the Engineering Department.	❑
		❑

APPENDIX TWO

EMERGENCY SERVICES PACK

EMERGENCY INCIDENT TEAM AND OUT OF HOURS CONTACTS:

In the event of an emergency contact the people below

Name/Position	Telephone	Response Time

DRAWINGS

(Delete as appropriate)

Ref	**Entrance Area Layout Plan**
Ref	**Reception Area Layout Plan**
Ref	**Power Station Area Layout Plan**
Ref	**Gas Compound Area Layout Plan**
Ref	**Site Office Layout Plan**
Ref	**Gas Installation and Monitoring Points**
Ref	**Site Storage Plan detailing;** • **Inventory & location of hazardous material storage** • **Identification and location of monitoring systems for haz storage** • **Fire detection and suppression systems** • **Emergency power sources, evac routes and assembly points** • **Location of emergency response equipment etc**

Document Training Record

Number:	IMS-FRM-068 – Emergency Management Plan
Version:	
Site:	

This table is deemed to be an official training record and must be kept on file.

Please ensure that all relevant employees are made aware of the contents of the document indicated above.

Print employee name	Employee signature	Date	Trained by:

Site:	Knottingley	**Date:**	4/2/2025
Permit Number:	JP3547JL	**Assessment Number:**	1
Completed by:	LT, AC, CH		

Potential changing climate hazard associated with each scenario	**A Impact**	**B Likelihood**	**C Severity**	**D Risk** (B x C)	**E Mitigation** (What will you do to mitigate this risk)	**F Likelihood** (After mitigation)	**G Severity** (After mitigation)	**H Residual risk** (F x G)
SCENARIO 1. Summer daily maximum temperature may be higher compared to average summer temperatures now.[1]								
Wildfires	Damage to site infrastructure. Expected to be minimal as no significant vegetation near to waste storage, but tree-screening on the road side of the site is a small risk to the office block.	1	3	3	Not required (<8).			
Higher Temperatures (Heatwave)	Heat stress reducing staff capabilities. Current Mitigation: Shaded work-areas. Reminders of work precautions to take, Incident Controller Checklist.	2	3	6	Not required (<8).			

[1] Temperatures could be on average, up to seven degrees higher than now.

Potential changing climate hazard associated with each scenario	A Impact	B Likelihood	C Severity	D Risk (B x C)	E Mitigation (What will you do to mitigate this risk)	F Likelihood (After mitigation)	G Severity (After mitigation)	H Residual risk (F x G)
Higher Temperatures (Heatwave)	Plant malfunction – sticking valves, etc	No hazard currently as only transfer station operational	N/A	N/A	Review in design process for future plant.			
Higher Temperatures (Heatwave)	Plant malfunction – compressor overheating	3	1	3	Not required (<8). Compressor in well-ventilated area			
Increased sunlight hours (UV and heat)	Deterioration of plant and equipment.	1	1	1	Not required (<8). Fabric of critical plant not sensitive to UV exposure.			
Increased sunlight hours (UV and heat)	Health impacts of UV exposure of skin and eyes.	1	1	2	Not Required (<8). Site PPE requirements include full cover.			
Increased sunlight hours (UV and heat)	Staff fatigue.	1	1	3	Not required (<8) Currently low throughput.			
Lightning	Failure of equipment. Current mitigation: lightning conductors, fail-safe.	3	1	3	Not required (<8).			
SCENARIO 2. Winter daily maximum temperature could be higher more than the current average with the potential for more extreme temperatures, both warmer and colder than present.[2]								
Warmer winters	Lengthened season for legionella incubation.	4	4	16	Not strictly permit-related but perhaps worth including. Consider planning for year-round legionella testing.	4	1	4

[2] It's expected that the maximum average temperature could be four degrees higher than now.

Potential changing climate hazard associated with each scenario	A Impact	B Likelihood	C Severity	D Risk (B x C)	E Mitigation (What will you do to mitigate this risk)	F Likelihood (After mitigation)	G Severity (After mitigation)	H Residual risk (F x G)
Heavy Snowfall	Tank collapse.	2	2	2	Not required (<8).	1	2	2
Heavy snowfall	Reduced availability of raw material and off-taker transport.	4	1	4	Not required (<8). No raw materials currently used and such occurrences planned for and able to cancel bookings if needed.			
Ice / prolonged cold	Freezing pipes resulting in spill. Current mitigation: No process pipework in use, trace heating, lagging, both reviewed prior to each winter; drain-downs..	2	1	2	Not required (<8).			
Ice / prolonged cold	Staff / vehicles slips. Current mitigation: Largely flat site, low speed limit, vehicle and pedestrian routes cleared/gritted.	3	1	3	Not required (<8).			
Hail	Damage to monitoring equipment. Current mitigation: all equipment is designed for tough environments and/or easily replaceable.	3	1	3	Not required (<8).			
Wind / Storms	Reduced access to site for staff and waste. Current mitigation: Adverse weather Incident Controller Checklist.	3	1	3	Not required (<8)			

Potential changing climate hazard associated with each scenario	A Impact	B Likelihood	C Severity	D Risk (B x C)	E Mitigation (What will you do to mitigate this risk)	F Likelihood (After mitigation)	G Severity (After mitigation)	H Residual risk (F x G)
SCENARIO 3. The biggest rainfall events could be more intense than current extremes (peak rainfall intensity)*[3].								
Flood (River/Fluvial)	Contaminated run-off from operational areas. Current mitigation: raised drum store, development on small portion of site classed as high risk will be designed to withstand flooding.	1 Adjacent land is sacrificial flood plain but the majority of site is raised and classed as very low risk.	2	2	Not required (<8). Review as site develops.			
Flood (River/Fluvial)	Contaminated run-off from legacy contamination. Current mitigation: Groundwater remediation scheme; extreme dilution if river Aire in record flood event.	1 Adjacent land is sacrificial flood plain but the majority of site is raised and classed as very low risk.	2	2	Not required (<8).			
Flood – surface/rainfall (pluvial)	Contaminated run-off.	N/A Site clased as very low risk.	N/A	N/A	N/A			

[3] Rainfall intensity could be up to twenty percent more intense than now.

Potential changing climate hazard associated with each scenario	**A Impact**	**B Likelihood**	**C Severity**	**D Risk** (B x C)	**E Mitigation** (What will you do to mitigate this risk)	**F Likelihood** (After mitigation)	**G Severity** (After mitigation)	**H Residual risk** (F x G)
Flood – surface/rainfall (pluvial)	Exceeding discharge limits due to increased volumes of water disposed of as Trade Effluent. Current mitigation: volumes monitored, ample storage tanks available.	1	1	1	Not required (<8).			
Erosion (riverbank or other)	No Hazard – buffer zone between site and river, engineered and maintained stretch of river.	N/A	N/A	N/A	N/A			
Subsidence / landslip	No Hazard	N/A	N/A	N/A	N/A			
SCENARIO 4. Average winter rainfall may increase significantly on today's averages.[4]								
Increased surface water collection	Depletion of available TE discharge.	5	1	5	Not required (<8).			
Increased surface water collection	Overtopping of tank bunds in tank failure scenario due to standing water. Current mitigation: Only one tank available for use, frequent site inspections.	1	1	1	Not required (<8).			
Flood (Groundwater)	No Hazard.	N/A	N/A	N/A	N/A			
Flood (Reservoir)	No Hazard.	N/A	N/A	N/A	N/A			

[4] Average winter rainfall may increase by up to forty percent.

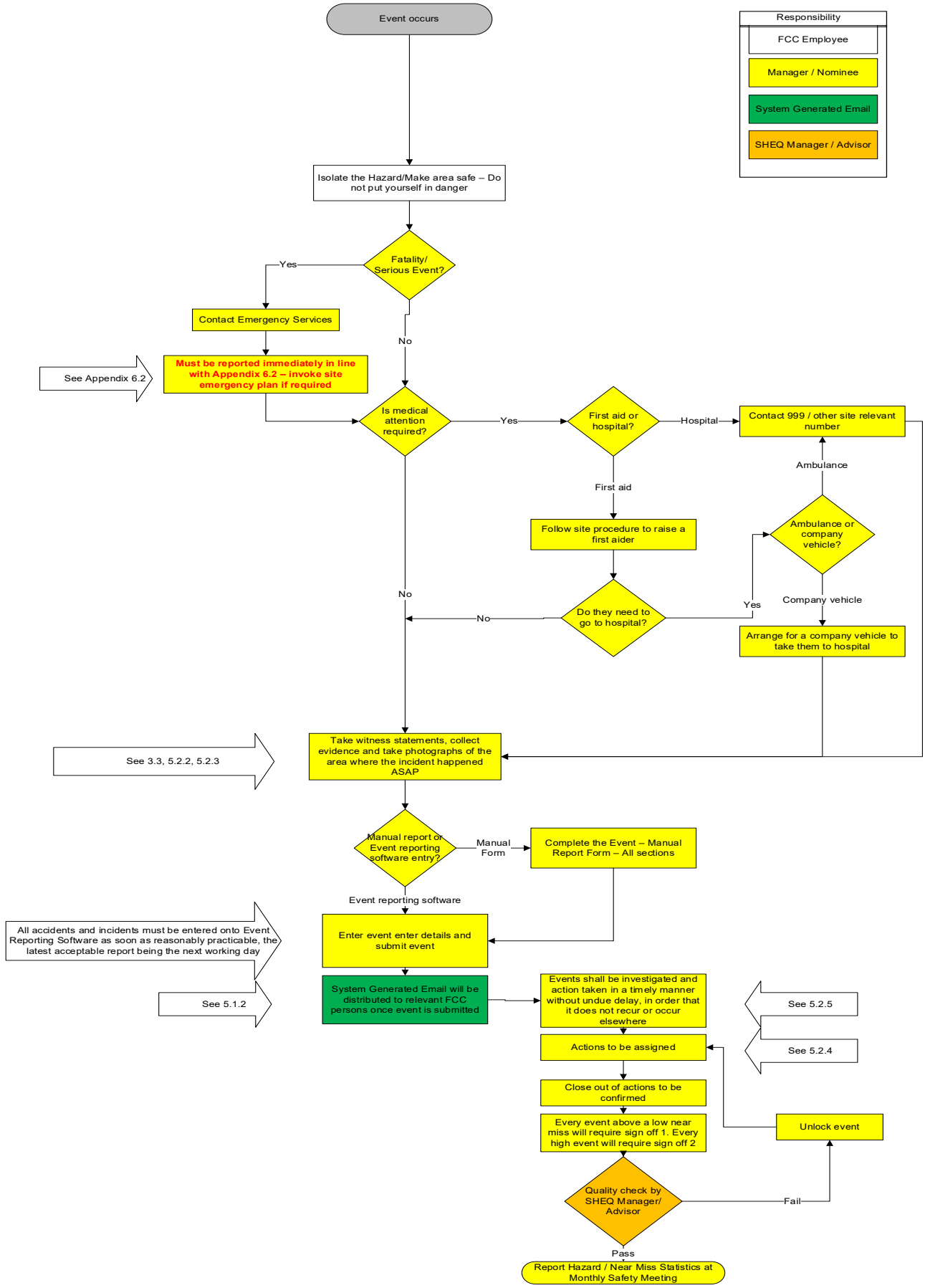
Potential changing climate hazard associated with each scenario	**A Impact**	**B Likelihood**	**C Severity**	**D Risk** (B x C)	**E Mitigation** (What will you do to mitigate this risk)	**F Likelihood** (After mitigation)	**G Severity** (After mitigation)	**H Residual risk** (F x G)
SCENARIO 5. Sea level could be higher compared to today's level *.[5]								
Flood Coastal (acute surge)	No Hazard – landlocked area.	N/A	N/A	N/A	N/A			
Sea Level Rise	No Hazard – landlocked area.	N/A	N/A	N/A	N/A			
Saltwater Intrusion / incursion	No Hazard – landlocked area.	N/A	N/A	N/A	N/A			
Chronic coastal erosion	No Hazard – landlocked area.	N/A	N/A	N/A	N/A			
SCENARIO 6. Drier summers, potentially less rain than now.[6]								
Prolonged dry weather (drought)	No hazard – no water used in process.	N/A	N/A	N/A	Review when planning future developments.	4	1	4
SCENARIO 7. At its peak, the flow in watercourses could be more than now, or conversely it could be substantially less than now.[7]								

[5] Sea level could be 0.6 metres above the current levels.
[6] Potentially there could be forty-one percent less rainfall than now.
[7] Water course flow could increase by up to fifty percent or conversely reduce by up to eighty percent.

Potential changing climate hazard associated with each scenario	A Impact	B Likelihood	C Severity	D Risk (B x C)	E Mitigation (What will you do to mitigate this risk)	F Likelihood (After mitigation)	G Severity (After mitigation)	H Residual risk (F x G)
Lower/reduced river flows (re dilution of discharges)	Reduced discharge limits from YW due to low flows in receiving rivers.	1 Unlikely due to limits being based on low flows.	1 Unlikely to result in breach because we monitor discharge and would control to new limit.	2	Not required (<8).			
SCENARIO 8. External and group impacts								
Logistics	Short-term disruptions to transport. Current mitigation: Multiple hauliers used	4	1	4	Not required (<8).			
Strategic Risks (supply chain)	Difficulty obtaining replacement parts. Current mitigation: Critical spares kept in stock, no current treatment process.	2	1	2	Not required (<8). Review when planning future developments.			
Wide area power/communication loss	Loss of site power to operate equipment. Current Mitigation: electricity only used for ancillary equipment.	2	1	2	Not required (<8). Review when planning future developments.			
Unplanned shutdown/start-up issues	No Hazard	N/A	N/A	N/A	Not required (<8). Review when planning future developments.			

Document Title:	**Event Reporting and Investigation Procedure**	Mandatory Best Practice Project Specific

1.0 Procedure



2.0 Definitions

2.1 RIDDOR; Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995

2.2 Accident / Incident; An unexpected, unplanned event that has caused or the potential to cause:

- injury, damage, loss or harm to people, property or the environment or,
- customer complaint or,
- significant energy deviation

2.3 MVA; Motor Vehicle Accident

2.4 Event reporting Software; FCC's software for reporting accidents, Health & Safety and Envvironmental damage or loss to events, Health & Safety and Environmental hazards / near misses, fires, security / violence events

3.0 References

3.1 Event Manual report form
3.2 F2508; RIDDOR Report form
3.3 IMS-FRM-013; Witness Statement Template

4.0 Responsibilities

4.1 Responsibity Table

Job Title	Responsibility
Operations Director	Review all High Potential and RIDDOR incidents – Notifications will be sent from the Event Reporting Software System to inform you of such events.
Head of SHEQ	Review all High Potential and RIDDOR events and instigate either a panel of inquiry is required.
Area Managers / General Manager	To be involved in Major incident investigation and agree causes and corrective actions. Sign off on completion of full investigation.
Site / Contract Manager	To lead full investigation into Major and Lost Time events.
Site / Contract Supervisor	To investigate Lost time and minor events.
Injured Party	Person affected.
Health and Safety or Environment Manager / Advisor	To assist Area Managers and Site Managers with their investigations. Review and complete closed investigations. Report incident to HSE when necessary to comply with RIDDOR. Review and select incidents to be part of the Incident Review Panel.

5.0 Narrative

	Description of Task	Responsibility
5.1	**Reporting procedure**	
5.1.1	All accidents, Health & Safety and Environmental damage or loss to events, fires, security / violence events and medium and high Health & Safety and Environmental hazards / mear misses, which involve *FCC's* employees, contractors, visitors or members of the public resulting from activities or which take place on premises or sites under *FCC's* control must be reported and investigated. The FCC Event Manual Report Form can be used record the event. This also forms the site Accident Book and must be controlled in line with data protection regulations. The Event Manual Report form must be:- ➢ Available at each manned site and available to all people working on a closed site. ➢ Completed as soon as practicable after the accident ➢ The details of the incident must be recorded on the Event reporting software. The report event and event details must be completed and submitted as soon as reasonably practicable, the latest acceptable report being the next working day. ➢ This record must be completed for all injuries however slight, which occur on premises or sites under the control of *FCC's*. It must be made available for the person injured to complete if they wish to do so.	**Manager**

5.1.2	Once the Event creation is completed and submitted, an email notification will be sent to the relevant H&S Advisor, H&S Manager, Environment Advisorm Environment Manager, Area Manager and Site / Contract Manager and all persons on that location who have been given access to the Event reporting software system. In scenarios where the incident represents a High severity, the director for your business function will also receive the notification.	Event Rerpoting Software System
5.1.3	In addition for Fatal/Major Incidents immediately notify your Area Manager / General Manager, H&S Manager / Advisor & the SHEQ help desk (01302 303021) within 1 hour maximum. The escalation process in ***appendix 6.2*** MUST be followed	Manager / Supervisor
5.2	**Investigation**	
5.2.1	Proceed with Event Investigation. Invite Site / Contract Safety Representative(s) to be involved in investigation. Identify Witnesses and people present who didn't witness the incident. Identify Immediate causes.	Manager / Supervisor
5.2.2	Visit the scene of the event, collect evidence and take photographs.	Manager / Supervisor
5.2.3	Interview all concerned parties and witnesses to the incidents (using Reference 3.3 above) & collect evidence. Ensure that anyone who is interviewed is given the opportunity to have a colleague attend with them as a witness and sign their statements. Ensure you have someone to accompany yourself through this process.	Manager / Supervisor
5.2.4	The event investigation should contain actions that are needed to prevent reoccurrence. If actions are going to take more than a week to complete and therefore delay the incident close out, raise the action(s) using the actions tab on Event Reporting Software System rather than raising an action from within the event report. Always make reference to the event number in the actions report and always make reference to the action number(s) within the Event report so these can be cross referenced.	Manager / Supervisor
5.2.5	The Event shall be reported, investigated and action taken in a timely manner without undue delay, in order that it does not recur or occur elsewhere	Manager / Supervisor
5.2.6	Once the investigation is complete, and depending on the severity of the event – either the site manager or the business function director will be required to sign off the investigation on Event Reporting Software System.	Manager / Business Function Director
5.2.7	SHEQ managers / Advisors will review these closed investigations to ensure that they are to the correct "Quality" and that relevent actions have been issued and complete.	H&S Manager / Advisor
5.3	**Absence due to work related injuries**	
5.3.1	If any employee is unable to work as a result of an injury received whilst at work, the Line Manager (and/or Senior Line Manager) will contact them as soon as possible, normally on the first full day of absence. The purpose of this call or visit is to: ➢ Show concern for the employee ➢ Obtain full details of the circumstances that caused the absence as part of the investigation process ➢ Ascertain a likely return to work date	Manager / Supervisor
5.3.2	You must inform HR on the first day of absence to enable a Occupational Health referral	Manager / Supervisor
5.3.3	All absences due to injuries received at work must be reported to the HSE if the absence is greater than 7 consecutive days.	H&S Manager / Advisor

6.1 RIDDOR Guidance

What is RIDDOR?

RIDDOR is the law that requires employers, and other people in control of work premises, to report and keep records of:

- Work-related accidents which cause death;
- Work-related accidents which cause certain serious injuries (reportable injuries);
- Diagnosed cases of certain industrial diseases; and
- Certain 'dangerous occurrences' (incidents with the potential to cause harm).

Why report?

Reporting certain incidents is a legal requirement. The **report** informs the enforcing authorities (HSE, local authorities and the Office for Rail Regulation (ORR)) about deaths, injuries, occupational diseases and dangerous occurrences, so they can identify where and how risks arise, and whether they need to be investigated. This allows the enforcing authorities to target their work and provide advice about how to avoid work-related deaths, injuries, ill health and accidental loss.

What must be reported?

Work-related accidents
For the purposes of RIDDOR, an accident is a separate, identifiable, unintended incident that causes physical injury. This specifically includes acts of non-consensual violence to people at work.

Not all accidents need to be reported, a RIDDOR report is required only when:

- The accident is **work-related**; and
- It results in an injury of a type which is **reportable**

When deciding if the accident that led to the death or injury is work-related, the key issues to consider are whether the accident was related to:

- The way the work was organised, carried out or supervised;
- Any machinery, plant, substances or equipment used for work; and
- The condition of the site or premises where the accident happened.

If none of these factors are relevant to the incident, it is likely that a report will not be required.

Types of reportable injury

Deaths
All deaths to workers and non-workers must be reported if they arise from a work-related accident, including an act of physical violence to a worker. Suicides are not reportable, as the death does not result from a work-related accident.

Specified injuries to workers
The list of 'specified injuries' in RIDDOR 2013 (regulation 4) includes:

- A fracture, other than to fingers, thumbs and toes;
- Amputation of an arm, hand, finger, thumb, leg, foot or toe;
- Permanent loss of sight or reduction of sight;
- Crush injuries leading to internal organ damage;
- Serious burns (covering more than 10% of the body, or damaging the eyes, respiratory system or other vital organs);
- Scalpings (separation of skin from the head) which require hospital treatment;
- Unconsciousness caused by head injury or asphyxia;
- Any other injury arising from working in an enclosed space, which leads to hypothermia, heat-induced illness or requires resuscitation or admittance to hospital for more than 24 hours.

Over-seven-day injuries to workers

This is where an **employee, or self-employed person, is away from work or unable to perform their normal work duties for more than seven consecutive days** (not counting the day of the accident).

Injuries to non-workers

Work-related accidents involving members of the public or people who are not at work must be reported if a person is injured, and is taken from the scene of the accident to hospital for treatment to that injury. There is no requirement to establish what hospital treatment was actually provided, and no need to report incidents where people are taken to hospital purely as a precaution when no injury is apparent.

Reportable occupational diseases

Employers and self-employed people must report diagnoses of certain occupational diseases, where these are likely to have been caused or made worse by their work. These diseases include:

- Carpal tunnel syndrome;
- Severe cramp of the hand or forearm;
- Occupational dermatitis;
- Hand-arm vibration syndrome;
- Occupational asthma;
- Tendonitis or tenosynovitis of the hand or forearm;
- Any occupational cancer;
- Any disease attributed to an occupational exposure to a biological agent.

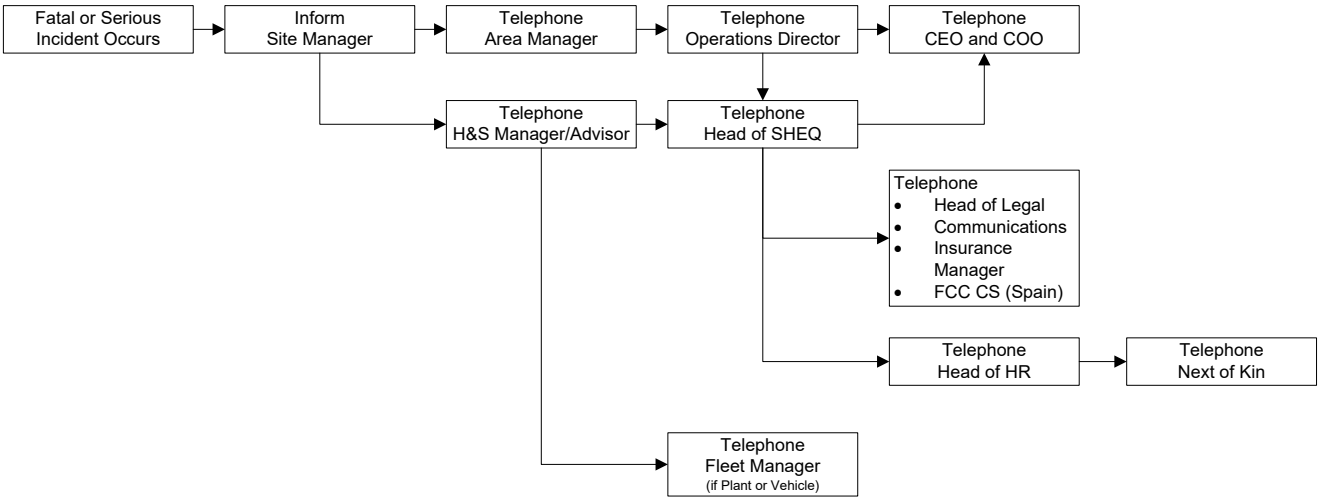
Reportable dangerous occurrences

Dangerous occurrences are certain, specified 'near-miss' events (incidents with the potential to cause harm.) Not all such events require reporting. There are 27 categories of dangerous occurrences that are relevant to most workplaces. For example:

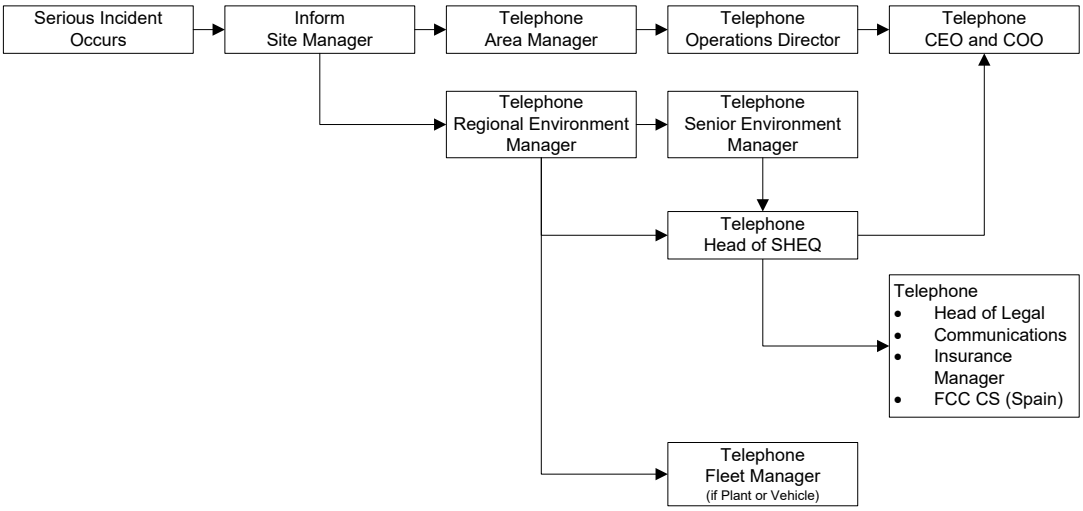
The collapse, overturning or failure of load-bearing parts of lifts and lifting equipment;
plant or equipment coming into contact with overhead power lines;
explosions or fires causing work to be stopped for more than 24 hours.
Certain additional categories of dangerous occurrences apply to mines, quarries, offshore workplaces and certain transport systems (railways etc). For a full, detailed list, refer to the online guidance at:
http://www.legislation.gov.uk/uksi/2013/1471/schedule/2/made

6.2 Fatal or Serious Event Immediate Escalation Process

Health and Safety Related



Environment Related



APPENDIX 5

Identification and Selection of Emission Control Equipment Summary Document

Caulmert
engineering environmental planning

Registered Office: InTec, Parc Menai, Bangor, Gwynedd, LL57 4FG
Tel: 01248 672666
Email: contact@caulmert.com
Web: www.caulmert.com

Identification and selection of Emission Control equipment: FCCE Knottingley Waste to Resource Facility

The use of the Best Available Techniques approach requires the identification of potential emissions to air and, where appropriate and practicable their control. The Best Available Techniques (BAT) Reference Document for Waste Treatment (2018) highlights the best available techniques for such control based upon the activities undertaken. This information, together with equipment selection and performance information from suppliers, knowledge of the waste treatment processes to be employed at the site and of existing experience has informed the selection of appropriate emissions control techniques to be employed at the facility.

All buildings where waste processing occurs are designed to operate as far as practicable as enclosed, with air being extracted through an appropriate or precautionary emission control system. The operation of the building, extraction and emission control system will be such as to maximise their ability to control emissions and complement waste pre-acceptance, acceptance and operational measures to minimise emissions to air.

Where activated carbon is chosen as the primary emission control technique, the carbon grade for each individual application will be selected, with advice from the supplier, to be the most suited for the range of substances required to be removed. Where practicable, carbon will be removed for regeneration once spent, as opposed to appropriate disposal.

The choice of wet scrubber configuration and associated operating conditions for each individual application will be selected, with advice from the supplier, to be the most suited for the range of substances required to be removed.

The choice of fabric filtration unit, filter media and its operating conditions for each individual application will be selected, with advice from the supplier, to be that most suited.

Where wastes are stored in buildings in an unpackaged form, emission control equipment will be operated continuously and during times of maintenance or equipment failure stocks minimised.

Where emission control is required for process tanks or vessels or waste treatment activities are being undertaken within a building, the emission control system will be in operation. During time of maintenance or equipment failure waste processing operations will cease.

Equipment will be maintained and operated in line of good practice with appropriate monitoring and routine maintenance undertaken as applicable.

Compliance with the BAT Reference Document and the Appropriate measures document has been highlighted in the appropriate documents of this permit variation application.

Control of organic emissions

Waste Processing 1

Air emissions from this building (P01-ZP-01) will contain organic substances at low concentration from bulking operations from small containers to larger containers involving organic solvents such as methanol and the shredding of retail containers and contaminated packaging. These activities are undertaken within hooded areas where air is extracted to minimise the occupational health risk to employees and visitors. The extracted air is cleaned within an activated carbon filter which is highlighted within the BAT Reference Document and known in practice to be the best technique for such emission control. Efficiency of removal exceeds 90 %.

The building is fitted with doors, and the extraction of air maintains the building under negative pressure when in use.

No processing vessels or storage tanks area associated with this activity.

Waste Processing 2

Air emissions from this building (P02-ZP-01) may contain organic vapours at very low concentration from bulking operations from small containers to larger containers involving non-volatile organic or organic substances containing wastes e.g., water-based paints and detergents and the shredding of retail containers and contaminated packaging. Inorganic wastes with very low risk of emissions are also processed in this area and exclude those that may generate gaseous emissions e.g., strong acids for which an alternative process area is provided. Wastes maybe processed anywhere, this coupled with the low risk of emissions of organic substances has resulted in the selection of activated carbon filtration as the means of emission control as highlighted in the BAT Reference Document as the most practicable technique. Efficiency of removal is expected to exceed 90 % and is the most efficient technique available for this duty.

No processing vessels or storage tanks are associated with this activity.

Waste Processing 3

Air emissions from this building (P03-ZP-01) may contain dusts and organic vapours at very low concentration from shredding and storage operations associated with non-hazardous wastes such as contaminated water-based paint containers. Waste processed are not putrescible and residence time within the building is limited to a maximum of 7 days.

Two complementary emission control systems are used. A recirculation system employing fabric dust filtration and carbon filtration, which acts to clean air and return it to the building and an air extraction system to remove potential nuisance odours or organic substances prior to emission to air via the emission point. The latter ensures

negative pressure within the building as a whole, the former allows extraction of air from specific process areas and allows air to be recirculated and therefore minimising the need for space heating.

Fabric filtration for dusts is identified as a best practicable technique within the BAT Reference Document and is expected to achieve > 95 % removal of particulates. The use of activated carbon to control the emission of organic substances at low levels is highlighted in the BAT Reference Document as the best practicable technique. Efficiency of removal is expected to exceed 90 %. Both fabric filtration and activated carbon adsorption are the most efficient techniques available for their identified duties.

The building is fitted with doors, and the extraction of air maintains the building under negative pressure, this is maintained 24/7 due to the presence of unpackaged wastes.

No processing vessels or storage tanks are associated with this activity.

Control of inorganic emissions

Waste Processing 4

These activities include a building (P04-ZP-01) and an associated tank farm with mixing vessels with wastes being processed limited to inorganic solutions or solids with negligible volatile organic composition. Emission control is therefore to manage the potential presence of acid or alkaline inorganic gases specifically hydrogen chloride, sulfur dioxide and ammonia which may result from storage or processing activities of wastes or reagents containing these dissolved gases.

The use of appropriate wet scrubbing techniques is highlighted in the BAT reference document as the best practicable and most efficient means of dealing with air emissions of inorganic acid or alkaline gases. Two such scrubbing systems are to be provided, one suited for acid and one suited for alkaline gases for the tank farm and mixing vessels. Scrubbing for acid gases will be by use of a sodium hydroxide solution and of alkaline gases by a sulfuric acid solution with monitoring of these reagents being undertaken to ensure neutralising capacity is available.

All storage tanks and mixing vessels will be connected to an appropriate scrubber based upon their contents and negative pressure will be maintained 24/7 while material is present in the associated tank or vessel.

A building is used for the final filtration and processing and storage of recovered products. There is negligible risk of emissions from these activities, but the building will be maintained under negative pressure and activated carbon filtration used to clean the removed air as a precautionary measure.

Waste Processing 5

These activities are undertaken in a building (P05-ZP-01) which houses a drying unit for inorganic solid wastes. The unit is enclosed, and the presence of volatile organic materials will be negligible, however the warming of wastes may result in some odours. The building will therefore be maintained under negative pressure with activated carbon being used to clean the air removed as a precautionary measure.

Waste Processing 6

These activities are spread across three buildings each with an associated tank farm with mixing vessels present within the buildings and within the tank bunds. Tank storage is provided for liquid and solid (powder) wastes and reagents. Waste processing is limited to solid and liquids with limited inorganic solutions or solids with negligible volatile organic composition. Emission control is therefore to manage the potential presence of acidic inorganic gases, specifically hydrogen chloride and sulfur dioxides from vessels containing liquids and dusts from vessels holding powder wastes or reagents

Buildings P06-ZP-11 and ZP-21 are concerned with dealing with aqueous and solid inorganic wastes which may be acidic or alkaline and require reagents such as calcium hydroxide or sulfuric acid. Wastes and reagents may be bulk powders or liquids or packaged solids and liquids. Wet scrubbing utilising sodium hydroxide as a reagent is provided for storage vessels, reaction and mixing vessels.

The buildings are provided with an activated carbon filter to deal with what will be negligible emissions from the processing and storage activities in these buildings, but will allow the buildings to be kept under negative pressure.

Building P06-ZP-31 is concerned with the processing of Air Pollution Control (APCr) derived wastes from Energy from Waste facilities, cement kilns and similar, by washing and filtering or conditioning. The potential for emissions to atmosphere is considered negligible as the mixing of APCrs with reagents is undertaken within enclosed equipment within a building. The building is provided with an activated carbon filter to deal with what will be negligible emissions from the processing and storage activities in the building but will allow the buildings to be kept under negative pressure.

Within the associated tank farm, storage vessels or mixing vessels holding liquids, except for reagent inorganic acids, are not extracted as the potential for emissions to atmosphere are negligible – the wastes concerned being aqueous solutions of calcium hydroxide or sodium carbonate-based powders with negligible organic or other volatile components. Reagent acid storage tanks are extracted and scrubbed by a sodium hydroxide scrubber shared with the adjacent building (P06-ZP-21).

Tank storage for powders is equipped with self-cleaning fabric filters with captured dusts returned to the storage tank or removed. Fabric filters are identified within the BAT Reference Document as the best practicable technique for this application.

The use of wet scrubbing techniques with appropriate reagents is highlighted in the BAT Reference Document as the best practicable and most efficient means of dealing with air emissions of inorganic acid gases.

Control of inorganic and organic emissions

Waste Processing 7

Waste processing activity 7 is associated primarily with the treatment of landfill leachates to recover ammonia and return clean water to productive use in the environment. There are three distinct processing activities:

- Membrane filtration, reverse osmosis and ultrafiltration with the potential for nanofiltration, all of which are undertaken in a building (PO7-ZP-01), the equipment is sealed with no open vessels;
- Ammonia stripping and scrubbing and associated storage of the recovered aqueous ammonia solution;
- Biological treatment of landfill leachate and similar biodegradable wastes with where practical, waste substituting for reagents.

Leachate received at the facility will be from predominately closed landfills where stabilisation of the organic content has occurred. Leachate from open landfills may be received and will be partially or fully stabilised from closed cells and not operational areas. Stabilised leachate has a very low presence of volatile organic substances but does contain dissolved ammonia. The emission control rationale is therefore as follows:

- Membrane filtration units are housed within a building kept under negative pressure using an activated carbon filtration system to deal with fugitive odours should they occur. The selection of activated carbon filtration as the means of emission control is highlighted in the BAT Reference Document as the most practicable technique for such emissions. Efficiency of removal is expected to exceed 90 % and is the most efficient technique available for this duty.
- The ammonia stripping and scrubbing unit is sealed process except for a minimal air bleed and the storage tank for the recovered product. The air bleed may be a source of odour from the concentrate leachate being processed so is equipped with an activated carbon filter, the ammonia storage tank is equipped with a wet scrubber unit utilising a sulfuric acid solution to deal with displaced air.
- The biological treatment activity consists of a number of tanks where aerobic and anoxic conditions are maintained to sustain a microorganism population by

aeration or not, as appropriate, and the provision of appropriate nutrients – principally within the waste being treated. All tanks are enclosed with venting to remove displaced air (from aerated tanks) or as overfill protection. Operation of similar plants, including BAT compliant facilities, indicates no further emission controls are required.

WWW.CAULMERT.COM

Caulmert
engineering environmental planning

Registered Office: InTec, Parc Menai, Bangor, Gwynedd, LL57 4FG
Tel: 01248 672666
Email: contact@caulmert.com
Web: www.caulmert.com