



**APPLICATION FOR AN ENVIRONMENTAL PERMIT
UNDER THE ENVIRONMENTAL PERMITTING
(ENGLAND AND WALES) REGULATIONS 2016 (AS
AMENDED)**

FIRE PREVENTION PLAN



**FORWARD WASTE MANAGEMENT,
EAST MOORS ROAD HAZARDOUS WASTE
TRANSFER STATION, CARDIFF**

**ECL Ref: ECL.010.02.01/FPP
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ACRONYMS / TERMS USED IN THIS REPORT

AONB	Area of Outstanding Natural Beauty
BGS	British Geological Survey
CCTV	Closed Circuit Television
EA	Environment Agency
ECL	Environmental Compliance Limited
ELVs	End of Life Vehicles
EMS	Environmental Management System
EP Regulations	Environmental Permitting (England and Wales) Regulation 2016 as amended
EP	Environmental Permit
EWG	European Waste Codes
FPP	Fire Prevention Plan
FRS	Fire Rescue Service
FWM	Forward Waste Management Limited
IBC	Intermediate Bulk Container
LNR	Local Nature Reserve
MAGIC	Multi-Agency Geographical Information for the Countryside
MOT	Ministry of Transport
NGR	National Grid Reference
NNR	National Nature Reserve
NRW	Natural Resources Wales
OS	Ordnance Survey
PAT	Portable Appliance Testing
Ramsar	Ramsar Convention on Wetlands of International Importance
SAC	Special Areas of Conservation
SPA	Special Protection Areas
SSSI	Sites of Special Scientific Interest
The Installation	Forward Waste Management East Moors Road Hazardous Waste Transfer Station
WEEE	Waste Electrical and Electronic Equipment

1. INTRODUCTION

1.1. Overview of the Fire Prevention Plan

- 1.1.1. Environmental Compliance Limited (“ECL”) has been appointed by Forward Waste Management Limited (“FWM”) to produce a Fire Prevention Plan (“FPP”) to form part of the bespoke Environmental Permit (“EP”) application for a waste Installation, hereafter referred to as “the Installation” located at 122-128 East Moors Road, Cardiff, CF24 5EE.
- 1.1.2. FWM is proposing to operate Forward Waste Management East Moors Road Hazardous Waste Transfer Station accepting approximately 22,000 tonnes of hazardous waste and approximately 3,000 tonnes of non-hazardous waste per annum at the Installation.
- 1.1.3. As per Natural Resources Wales’ (“NRW”) Fire Prevention and Mitigation Plan guidance¹, a FPP is a requirement of the permit application as the FWM propose to store the following combustible wastes:
- plastics;
 - rags and textiles;
 - waste electrical and electronic equipment (“WEEE”), such as fridges, computers and televisions containing combustible materials such as plastic; and
 - batteries within End of Life Vehicles (“ELVs”).
- 1.1.4. The Proposed Waste Codes and Storage Arrangements Document is provided in Appendix I and contains the full list of the European Waste Codes (“EWCs”) to be accepted at the Installation categorised as either combustible, possibly combustible or not combustible, in addition to their storage location on site. The document should be read in conjunction with the Site Layout Plan (ECL.10.02.01-02) which is contained in Appendix II together with the suite of drawings prepared for the FPP.
- 1.1.5. This FPP document follows NRW’s FPP guidance and details the required mitigation and management methods to prevent a fire of combustible materials stored at the Installation. This FPP identifies measures to be employed to reduce the likelihood of fires at the Installation. In addition, the plan identifies measures to be employed in the event of a fire in order to limit the damage caused to the environment or human health.
- 1.1.6. Under current fire safety legislation², a responsible person must carry out, or appoint a competent person to carry out, a suitable and sufficient assessment of the risks of fire to employees and others who may be affected by the site. A Fire Risk Assessment (“FRA”) will be carried out prior to the commencement of the proposed activities, as well as on an annual basis or in the event of a change to operations on site. Any findings and recommendations identified during the FRA will be included in the FPP during the scheduled FPP reviews.

¹ NRW’s ‘Fire Prevention and Mitigation Plan Guidance – Waste Management’, Version 2.0, Dated August 2017.

² Regulatory Reform (Fire Safety) Order 2005, available at: <http://www.legislation.gov.uk/ukxi/2005/1541/contents/made> and associated guidance note available at: <https://www.gov.uk/government/publications/regulatory-reform-fire-safety-order-2005-guidance-note-enforcement>, accessed March 2020

1.2. The Applicant

- 1.2.1.1. FMW was formed in 2006 and currently operates East Moors Waste Transfer Station permitted under Environmental Permit EPR/ AB3099FT. FWM delivers waste management solutions to all businesses and specifically those within the manufacturing industry. FWM operations are founded on the application of the waste hierarchy; preventing waste production and reusing and recycling redundant resources across the whole spectrum of wastes from recyclables to hazardous materials.
- 1.2.1.2. FWM are proposing to operate a second waste site named 'Forward Waste Management East Moors Road Hazardous Waste Transfer Station' as detailed in this Environmental Permit application. This second site will enable the business to increase their waste acceptance and treatment capabilities in order to expand their operations in the UK waste sector.

2. THE SITE

2.1. Site Location

- 2.1.1. The Installation is located on East Moors Road, within a large commercial and industrial area to the south east of Cardiff City Centre and is centred on Ordinance Survey (“OS”) National Grid Reference (“NGR”) 319473 175780. The Installation will occupy an area of approximately 0.25Ha. The exact location of the Installation and the proposed Environmental Permit Boundary (outlined in green) is indicated on the Site Location Plan (Drawing ECL.010.02.01-01), which is contained in Appendix II.
- 2.1.2. Access to the Installation is via East Moors Road leading off Ocean Way. Ocean Way joins the Central Link Road via East Tyndall Street. The Central Link Road connects to the A4232 running south of the Installation enabling wider connection to the M4 motorway network. The wider site setting and road network are illustrated on the Site Location Plan (Drawing ECL.010.02.01-01).
- 2.1.3. The closest Fire Station is Cardiff Central Fire Station located on Adam Street, Cardiff CF24 2FH which is located approximately 0.66km NNW of the Environmental Permit boundary.
- 2.1.4. The Installation will benefit from a bund wall to the north, east and west and also a perimeter fence and lockable entrance gate. Additionally, all access doors will be locked out of working hours and only a limited number of employees possess access keys in order to restrict unauthorised access into the Installation. The Installation will be covered by closed circuit television (“CCTV”) with the live feed shown on monitors within the office building and monitored by site personnel. Additionally, CCTV footage can be monitored by senior management. Key members of staff are also on call to attend site out of hours if required.

2.2. Sensitive Receptors

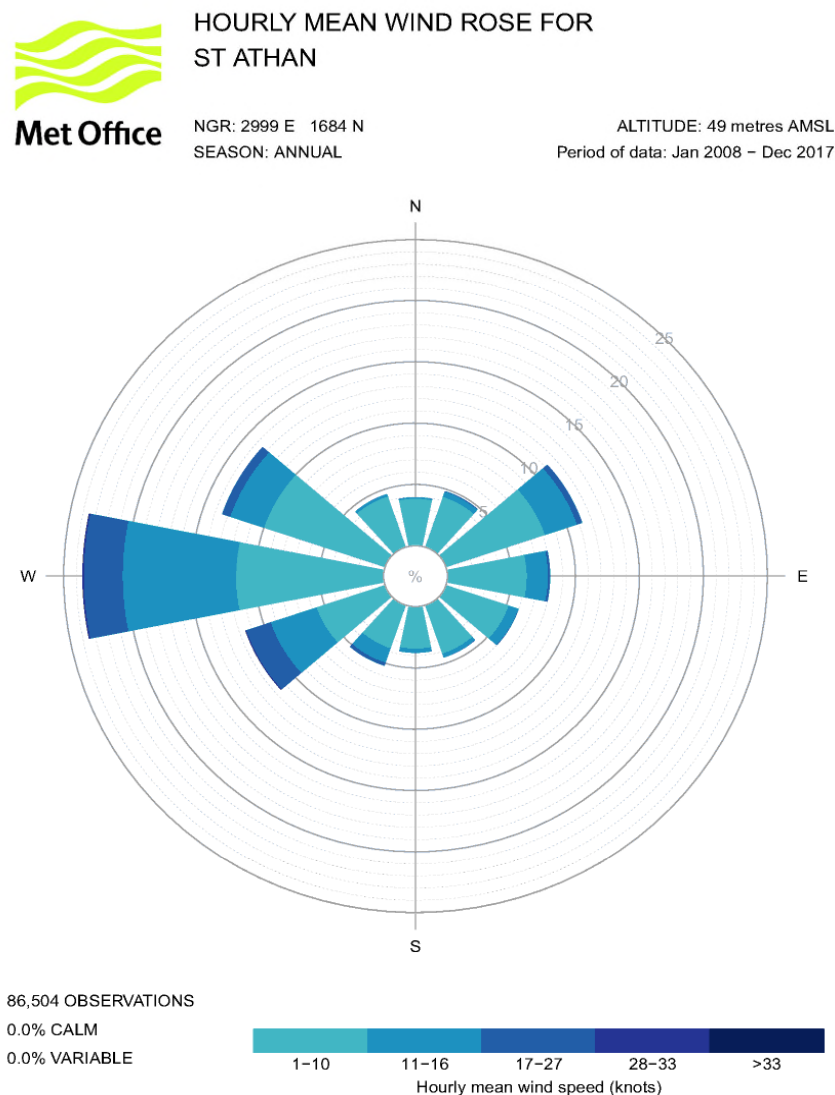
- 2.2.1. A summary of the immediate environmental site setting is provided in Table 1 below and the potential sensitive receptors within a 1km radius of the proposed Environmental Permit boundary are shown on the Sensitive Receptors Plan (Drawing Reference ECL.010.02.01-03), which is provided in Appendix II.

Table 1: Summary of Surrounding Land Uses

Boundary	Description
North	Commercial/industrial units, children’s nursery, youth club, hotel and hostel, schoolchildren’s playground, supermarket and residential areas.
East	Commercial/industrial units, park, residential areas,
South	Industrial units, commercial area including the Red Dragon Centre and Cardiff Bay recreational area and also Cardiff Docks including Roath Dock and Queen Alexandra Dock.
West	Industrial (ferrous metal rolling mill), Bute East Dock, residential housing, primary school, play area/park and medical centre.

- 2.2.2. A review of the area using the Multi-Agency Governmental Information for the Countryside (“MAGIC”) mapping tool³ and Lle Geo Portal for Wales⁴ indicates that there are no sensitive ecological designations within 1km of the Installation boundary. Therefore, there are no Special Areas of Conservation (“SAC”), Special Protection Areas (“SPAs”), Ramsar Convention on Wetlands of International Importance (“Ramsar”) sites, Areas of Outstanding Natural Beauty (“ANOB”), Site of Special Scientific Interest (“SSSI”), National Nature Reserves (“NNR”), Local Nature Reserve (“LNR”) or ancient woodland within 1km of the Installation.
- 2.2.3. A Wind-Rose showing the local meteorological conditions is shown in Figure 1. The information is based on annual historical data from the St Athan Meteorological Station. This demonstrates a westerly prevailing wind direction.

Figure 1: Wind-Rose of the Local Meteorological Conditions



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³ Department for Environment, Food and Rural Affairs (“DEFRA”) MAGIC Online Mapping Tool, available at: <https://magic.defra.gov.uk/magicmap.aspx>, accessed January 2020.

⁴ Lle Geo-Portal for Wales Mapping Tool, available at: <https://lle.gov.wales/catalogue?t=1&lang=en>, accessed January 2020.

2.3. Geology

- 2.3.1. The British Geological Survey (“BGS”)⁵ records the underlying superficial geology as Tidal Flat Deposits including mud flat and sand flat deposits consisting of unconsolidated sediment, mainly mud and/or sand. These deposits may form the top surface of a deltaic deposit. Normally categorised as a consolidated soft silty clay, with layers of sand, gravel and peat.
- 2.3.2. The bedrock is recorded to be the Mercia Mudstone Group, consisting of dominantly red, less commonly green-grey, mudstones and subordinate siltstones with thick halite-bearing units in some basinal areas. Thin beds of gypsum/anhydrite widespread; sandstones also present.
- 2.3.3. It should be noted that artificial Made Ground is also recorded to underlie the Installation. Made Ground of unknown chemical composition and origin may be associated with potentially contaminated material.
- 2.3.4. The BGS Urban Soil Chemistry average concentration values, as reported within the Envirocheck report for the Installation are as follows;
- arsenic – 18 mg/kg;
 - cadmium – 0.9 mg/kg
 - chromium – 86 mg/kg;
 - lead – 190 mg/kg; and
 - nickel – 35 mg/kg.

2.4. Hydrogeology and Surface Water

- 2.4.1. The nearest water body is Bute East Dock is located approximately 0.19km west of the Installation. This dock is a remnant of the Cardiff Docks area.
- 2.4.2. To the south of the Installation, Roath Dock forming part of the active Cardiff Docks is located approximately 1.1km which connects to both Roath Basin (approximately 1km from the Installation) which flows into Cardiff Bay (approximately 1.34km from the Installation) and also Queen Alexander Dock located approximately 1.4km which flows directly into the Severn Estuary. The Severn Estuary is located at its nearest point 1.4m from the Installation boundary.
- 2.4.3. Additionally, the River Taff located 1.28km west of the Installation flows into Cardiff Bay.
- 2.4.4. The bedrock geology is reported to be a ‘Secondary B’ Aquifer, defined by the Environment Agency (“EA”) as predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.

⁵ British Geological Survey Geology of Britain Viewer. Available online at <http://mapapps.bgs.ac.uk/geologyofbritain/home.html?>, accessed January 2020.

- 2.4.5. Superficial deposits underlying the Installation are designated as an undifferentiated secondary aquifer. This designation is assigned in cases where it has not been possible to attribute either category A or B to a rock type. The superficial aquifer is reported to be of high groundwater vulnerability.
- 2.4.6. According to the Lle Geo-Portal for Wales, the Installation is not located on a Source Protection Zone.

2.5. Flooding

- 2.5.1. As shown on the Long Term Flood Risk Maps available on the Lle Geo-Portal for Wales⁶, the Installation is predominantly located within an area categorised as possessing very low surface water flood risk which is defined by NRW as having less than 0.1% of flooding from surface waters. A small area in the east of the Installation site is categorised as possessing low surface water flood risk which is defined as having between 0.1% and 1% chance of flooding.
- 2.5.2. The Lle Geo-Portal for Wales shows that the Installation is not at risk from flooding from rivers or seas.

⁶ Lle Geo-Portal for Wales Long Term Flood Risk Maps, available at: <https://naturalresources.wales/evidence-and-data/maps/long-term-flood-risk/?lang=en>, accessed January 2020.

3. SITE ACTIVITIES

3.1. Proposed Waste Activities

- 3.1.1. The proposed Schedule 1 Activities under the Environmental Permitting (England and Wales) Regulations 2016 as amended ("EP Regulations") are detailed in Table 2.

Table 2: Proposed Schedule 1 Activities

Activity Reference	Schedule 1 Activity Reference	Description of Specified Activity	Limits of Specified Activity
A1	Section 5.3 Part A(1) (a)	Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving one or more of the following activities; (iv) repackaging prior to submission to any of the other activities listed in this Section or in Section 5.1;	From material entering site to final dispatch offsite.
A2	Section 5.6 Part A(1)	a) Temporary Storage of hazardous waste with a total capacity exceeding 50 tonnes pending any of the activities listed in Sections 5.1. 5.2., 5.3 and paragraph (b) of this Section.	--

- 3.1.2. FMW also propose to undertake two Specified Waste Operations as follows:
- the storage of non- hazardous waste with manual or mechanical bulking up of waste for onward transfer from site for disposal or recycling; and
 - crushing of hazardous metal drums via mechanical means limited to a treatment capacity of 5 tonnes per day. The crushed containers will be sent for onward transfer from site for recycling and/or recovery.
- 3.1.3. The proposed waste codes to be accepted at the Installation are provided in the Proposed Waste Codes and Storage Arrangements Document contained in Appendix I.
- 3.1.4. The waste management operations to be carried out at the site as specified in Annex I and Annex II of the Waste Framework Directive 2008 are detailed below:
- **R3:** Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes;
 - **R4:** Recycling/reclamation of metals and metal compounds;
 - **R5:** Recycling/reclamation of other inorganic materials; and
 - **R12:** Exchange of wastes for submission to any of the operations numbered R1 to R11 (other than R3-R5);
 - **R13:** Storage pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced);
 - **D14:** Repackaging prior to submission to any of the operations numbered D1 to D13; and
 - **D15:** Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection on the site where it is produced).
- 3.1.5. The main purpose of the Installation will be to accept and store waste prior to

dispatching to Approved Waste Contractors for recycling, recovery, re-processing or disposal if no other route is deemed possible.

3.1.6. Waste treatment at the Installation will be limited to the crushing of empty hazardous waste containers. FWM is proposing to crush nominally empty waste containers. Due to the residual contents, the containers will be classified as hazardous waste (15 01 10*).

3.1.7. In the event of a fire, the following emissions would be anticipated:

- combustion gases released to atmosphere, these would be relatively short lived and would not cause any significant adverse environmental effects; and
- potentially contaminated firewater on impermeable concrete immediately surrounding the source of the fire where the firewater would be applied.

3.2. Waste Acceptance

3.2.1.1. FWM will put in place a fully documented incoming waste acceptance procedure (FWM HAZ TS OCP – ACCEPTANCE contained in Appendix III) at the Installation, the primary purpose of which is confirm that the characteristics of the incoming waste matches the information provided at the pre-acceptance stage. All documents are checked by the Technical Department prior to the waste being accepted.

3.2.1.2. The waste is delivered by haulier lorries and on arrival, the lorry will be weighed and issued with waste acceptance paperwork and the following information will be recorded:

- date of arrival on-site of wastes;
- producer details;
- all previous holders;
- the unique reference number (FWM ID);
- pre acceptance and acceptance analysis and assessment results;
- package type and size;
- intended treatment/disposal route;
- record accurately the nature and quantity of wastes held on site, including all hazards and identification of primary hazards;
- where the waste is physically located in relation to a site plan;
- where the waste is, in the designated disposal route; and
- identification of staff who have taken any decisions regarding acceptance or rejection of waste streams and have decided upon recovery / disposal options.

3.2.1.3. Each delivery is visually checked prior to acceptance to ensure that the waste has been classified and transported correctly and containment vessels are in good condition with no signs of leakage or loss of integrity.

3.2.1.4. Waste delivered to the Installation must be accompanied by a written description of the waste describing its composition and information specifying the original waste producer and process where required.

- 3.2.1.5. Non-conforming waste is described as any waste that:
- the Installation is not authorised to accept;
 - is not recorded on the accompanying waste documentation; or
 - would not be expected, for any other reason, to be present.
- 3.2.1.6. FWM has developed a procedure containing clear and unambiguous criteria for the rejection of wastes, together with a written procedure for tracking and reporting such non-conformance. This is contained in Section 6 of the FWM HAZ TS OCP – ACCEPTANCE procedure contained in Appendix III.
- 3.2.1.7. Any non-conforming waste observed will be removed off site and sent back to the supplier as soon as practically possible, however, such waste will only be stored in the Non-Conforming Waste Quarantine Bay for a maximum of 5 working days.
- 3.2.1.8. There are two quarantine areas shown on the Site Layout Plan (Drawing ECL.010.02.01-02) which is contained in Appendix II. Non-conforming wastes will be stored within the main building on impermeable concrete in Bay 5 whilst the Quarantine Area required for the Fire Prevention Plan is named “Hot Load Quarantine” and is stored on impermeable concrete in the external yard.
- 3.2.1.9. The supplier will be contacted without delay to inform them of the non-conforming waste and identify measures that can be implemented to prevent recurrence. NRW will also be informed as soon as practicable in the event of waste being rejected.
- 3.2.1.10. Back-up copies of electronic records will be maintained off site at FWM Head Office at Forward House on East Moors Road in Cardiff.

3.3. Waste Handling, Storage, Processing and Dispatch

- 3.3.1. On arrival into site, vehicles will be required to report to the weighbridge office for waste acceptance checks to be undertaken. The ‘Inbound Waste Reception’ bay will be utilised. Once the load has been accepted and weighed, the waste will be stored in the dedicated covered waste bay according to the Proposed Waste Codes and Storage Arrangements Document contained in Appendix I and corresponding Site Layout Plan (ECL.010.02.01-02) contained in Appendix II.
- 3.3.2. Waste storage arrangements are also shown on the Fire Prevention and Mitigation Plan (ECL.010.02.01-04) contained in Appendix II.
- 3.3.3. The storage areas chosen are located away from sensitive receptors where possible and all storage areas are within the secured perimeter covered by security fencing and CCTV.
- 3.3.4. Waste treatment at the Installation will be limited to crushing of empty hazardous waste containers as described in Section 3.1.
- 3.3.5. All other waste to be accepted will be stored in the designated bays prior to dispatch to Approved Waste Contractors for recovery, recycling, re-processing or disposal as described in the FWM HAZ TS OCP – OUTBOUND WASTES and FWM HAZ TS OCP - LIQUID BULKING procedures contained in Appendix III.

- 3.3.6. All waste received at the Installation will be removed from the Installation for recovery or disposal within 6 months of receipt. Suitable transport will be arranged to remove waste materials from the Installation.
- 3.3.7. The majority of wastes will remain in their original packaging, such as drums or Intermediate Bulk Containers (“IBCs”) and will be removed from site when the quantity is sufficient to be removed from site by haulage lorry for reprocessing at an approved and appropriately licenced waste Facility or Installation.
- 3.3.8. Liquid materials subject to bulking will be removed from the Installation by road tanker. The FWM HAZ TS OCP – LIQUID BULKING procedure contained in Appendix III will be followed.
- 3.3.9. Removal of waste materials from the Installation will be documented in accordance with Duty of Care requirements. All waste materials will be weighed prior to these being removed from the site. This will be achieved by the vehicles being weighed prior to loading and then prior to departure carrying such waste over the weighbridge.

3.4. Waste Quantities and Storage Arrangements

- 3.4.1. Wastes will not be accepted unless the Installation is adequately resourced to receive the waste.
- 3.4.2. The breakdown of the waste types, their associated storage arrangements, daily input tonnages and storage tonnages are provided in detail within the Proposed Waste Codes and Storage Arrangements Document which is contained in Appendix I. The waste storage arrangements including quantities on site stored at any one time are provided in Table 3 below.

Table 3: Waste Quantities and Storage Arrangements

Description/ Waste Type	Site Location (Refer to Site Layout Plan ECL.010.02.01-2)	Maximum Waste Pile Size (m³) excl. bunding Stored on Site At Any One Time	Maximum Total Quantity of Waste (tns) Stored on Site At Any One Time
Non Combustible Waste Types:			
03 Wood, Paper and Cardboard Processing	Bay 1	24	24
04 Leather, Fur, Textile Industry			
06 Inorganic Chemical Processing	Bay 2	24	24
07 Organic Chemical Processing			
08 MFSU of Coatings/Adhesives/inks			
10 Thermal Processes	Bay 3	24	24
11 Chemical Surface Treatment of Metals/Plastic			
16 Other Waste From Industrial Processes			
17 Construction and Demolition Waste	Bay 4	24	24
20 Municipal Waste			
Non-Conforming Waste Quarantine¹	Bay 5	24	24
Inbound Waste Reception/Tanker Bulking²	Bay 6	24	24
Empty Packaging			
15 01 02, 15 01 04 - 05, 15 01 10*- 11*	Bay 7	40	16
Combustible Waste Types:			
02 Agriculture, Hunting, Fishing, Food Processing			
03 Wood, Paper and Cardboard Processing			
04 Leather, Fur, Textile Industry			
06 Inorganic Chemical Processing	Bay 8	24	24
07 Organic Chemical Processing			
08 MFSU of Coatings, Adhesives, Inks			
10 Thermal Processes			
12 Shaping/Physical Treatment of Metals/Plastic			
13 Oils, Liquid Fuel Waste			

Table 3: Waste Quantities and Storage Arrangements

Description/ Waste Type	Site Location (Refer to Site Layout Plan ECL.010.02.01-2)	Maximum Waste Pile Size (m ³) excl. bunding Stored on Site At Any One Time	Total Quantity of Waste (tns) Stored on Site At Any One Time
Combustible Waste Types (Cont.):			
14 Solvents, Refrigerants 15 Absorbents, Wiping Cloths 16 Other Waste From Industrial Processes 17 Construction and Demolition Waste 20 Municipal Waste	Bay 8	See above	See above
Aerosols/Pressurised Containers 16 05 04*- 09	Bay 9 Caged Bay	24	5
See Waste Types Detailed for Bay 8 Above	Bay 10	24	24
Tin/Container Crusher Bay³ 15 01 10*	Bay 11	10 containers 1 residual liquid from crushing (1 IBC)	11
Crushed Metal Containers 15 01 10*	FEL Storing Crushed Metal Containers	7	2
Hazardous WEEE 20 01 35*	WEEE Storage Hazardous	8	8
Non-Hazardous WEEE 20 01 36	WEEE Storage Non- Hazardous	8	8
Oxidising Substances 16 09	Oxidising Solids Liquid Store	2	2
Batteries 20 01 33*- 34 16 06 01* - 03* 16 06 04-05	Battery Store	4.61 ⁴	10
Total Storage Capacity (Tonnes) (excl. Bay 11 - working area only)			243
Total Storage Capacity (Tonnes) of Combustible Waste (excl. Bay 11 – working area only)			99

Note to Table:

¹ Maximum capacity of Bay 5 to take account of the worst case scenario. Under normal working practices, this bay should remain empty with no non-conforming waste accepted onto site.

² No incoming waste will be stored in Bay 6 for a prolonged period.

³ Maximum capacity of Bay 11 which is a working area and would store 11m³ only when crushing is being undertaken.

⁴ Typical capacity of battery box. 4,610 litre capacity provided by manufacturer.

3.4.3. The total amount of combustible waste stored on site at any one time will not exceed 99 tonnes.

3.4.4. The total amount of waste stored on site at any one time will not exceed 243 tonnes (excluding Bay 11 as this is a working area only). The maximum time unprocessed and processed waste will be stored on site is 6 months, however, the aim is to process and export as soon as practicably possible.

3.5. Fire Prevention Plan – Quarantine Area

3.5.1. The Quarantine Area will be used in the event of a fire on site and will be kept clear at all times. The Quarantine Area will have moveable cones and a floor marker so that it can be easily located and to inform vehicles not to restrict access to this area.

3.5.2. All staff will be trained in the location and use of the Quarantine Area to ensure that waste can be transported to this area as soon as possible or at most within 1 hour of the fire starting. The training will include practice exercises stimulating a fire event in which staff will be required to move waste to the Quarantine Area in an emergency situation.

3.5.3. The location of the Quarantine Area is identified on the Fire Prevention and Mitigation Plan (ECL.010.02.01-04) and can be used to place burning wastes to extinguish them or to move unburnt wastes into the quarantine area to isolate and prevent them catching fire.

3.5.4. The Quarantine Area has a storage capacity of 32m³ (i.e. 4m x 4m x 2m) which is capable of holding well in excess of 50% of the volume of the largest waste pile (i.e. 40m³/2 = 20m³) and benefits from a separation distance of 6 metres around the quarantined waste. This separation distance is clearly shown as grey hatching on the Fire Prevention and Mitigation Plan (ECL.010.02.01-04).

4. POTENTIAL SOURCES OF FIRE RISK

4.1. Common Causes of Fire

4.1.1. As per NRW's FPP guidance, the following potential sources of fire risk have been identified, based on the hypothetical scenario of the absence of any risk management measures and strategies being employed:

- **Arson:** Industrial Estates and factories can commonly be affected by arson; a serious issue as the ensuing fire can easily spread to another unit.
- **Plant or Equipment Failure:** When not properly maintained and inspected, plant and equipment can pose a serious fire hazard. This is particularly true of mechanical equipment, due to the potential for friction to develop between moving parts of the equipment.
- **Electrical Faults (including damaged or exposed electrical cables):** Faulty electrics and non-compliant electrics are one of the most common causes for fires in the workplace. The main hazards include wiring not meeting the relevant standards, exposed wiring, overloaded circuits and power outlets, extension cords, and static discharge. All of these have the potential to generate a spark, which has the potential to act as an ignition source.
- **Discarded smoking materials:** Smoking materials have the potential to ignite a fire if they come into contact with flammable or combustible materials.
- **Hot works:** Hot works, commonly including welding and torch cutting, have the potential to cause a fire as a result of the sparks and molten material which are generated during their operation. These can become hot, and could ignite a fire if they come into direct contact with flammable/combustible materials.
- **Industrial heaters:** Industrial Heaters can become a potential fire hazard if a fault develops, allowing issues such as over-heating to develop within the device. This hazard is worsened by the heaters being left turned on and unattended.
- **Plant and Hot exhausts:** The settling of dust on hot exhausts and hot engine parts can cause a fire as a result of the heating up of the materials. This could become a hazard both during operation and post-operation.
- **Ignition sources:** Other ignition source such as naked flames must be kept away from combustible or flammable materials
- **Leaks and spillages of oils and fuels:** Oils and fuels are flammable (and potentially explosive), therefore if they leak or are spilled within the site boundary, they are liable to present a risk of fire should an ignition source interact with it.
- **Build-up of loose combustible waste, dust and fluff:** Loose combustible waste creates more opportunity for interaction with potential ignition sources, increasing the likelihood of a fire starting.
- **Reaction between wastes:** If incompatible wastes are stored together, they have the potential to react and potentially lead to a hazardous situation. Common outcomes of the mixing of hazardous wastes include heat generation, flammable gas generation, explosions or fire.
- **Self-Combustion:** This occurs by an increase in temperature due to exothermic internal reactions within the waste piles, followed by thermal runaway due to chemical oxidation, rapidly accelerating to high temperatures and auto ignition.

5. PREVENTION MEASURES

5.1. Table 4 below provides a summary of the associated preventative measures as per NRW's FPP guidance.

Table 4: Preventative Measures

Cause	Preventative Measures
Pile Sizes/Volumes and Dimensions	<ul style="list-style-type: none"> Markers will be drawn onto bay walls/floors to indicate approximate maximum stockpile sizes. The maximum length of the waste pile stored at the site will be 6.6m as access will be available from only one side. Fireproof concrete block bay walls are to be constructed to store waste piles. FWM has chosen the product and design based on the requirement to achieve a fire resistance period of 120 minutes to allow waste to be isolated to stop fire spreading and minimise radiant heat. The maximum height of waste stored at the Installation will not exceed 3m. The maximum height of the bay walls will be 4m to provide a 1m freeboard between the height of the waste pile and bay wall.
Arson and Vandalism	<ul style="list-style-type: none"> The entire Installation will benefit from a perimeter fence and lockable entrance gate. All access doors will be locked out of working hours and only a limited number of employees possess access keys in order to restrict unauthorised access into the Installation. The Installation will be covered by CCTV which is monitored by site personnel on site within the office building and senior management also have access to the live feed and are available to attend site out of hours. The site infrastructure, including the site security measures will be inspected weekly and maintained and repaired as required by FWM to ensure their continued integrity. Any repairs will be made by the end of the working day. If this is not possible, suitable measures will be taken to prevent any unauthorised access to the site and permanent repairs will be affected as soon as practicable; A visitor sign-in system will be in place. In the event of a breach of security at the site, the cause will be investigated and appropriate mitigation measures implemented. This will be recorded in the Site Diary; and Records will be maintained and will include inspections and maintenance of security fencing and doors, breaches of security, investigations and actions taken.
Storage Duration	<ul style="list-style-type: none"> Unprocessed and processed waste will be stored in stockpile(s) and the waste will be stored no longer than 6 months. However, FWM will aim to process the incoming material and arrange for its export off site as soon as practically possible to minimise over-stocking which in-turn minimises the risk of overheating and spontaneous combustion. Waste will be recorded and processed in date order; A waste tracking system will be implemented which will enable the storage durations to be checked and monitored on a weekly basis by the Site Manager/Site Chemist; and There are no seasonal variations in opening times.

Table 4: Preventative Measures (Cont.)

Cause	Preventative Measures
Training (Cont.)	<ul style="list-style-type: none"> • Training will be provided to all site personnel in relation to how to prevent fires on site, how to identify fire risks and how to spot fires on site; • Site management will ensure that there is always a sufficient number of staff on site when the site is operational; • All staff and contractors will be made aware and understand the contents of the FPP and the procedures that are in place to be followed in the event of a fire on site. This familiarisation training will be undertaken as part of the company's induction process and staff will be required to provide a signature to confirm and record that they have read and understood the contents of the FPP and associated procedures; • A fire drill will be held annually to simulate the processes which would be undertaken in the event of a fire. It involves creating a situation which replicates what would happen if a real fire were to occur, with the inclusion of fire alarms and requires the employees, contractors and visitors to evacuate; and • The drill enables familiarisation of the FPP and ensures the quickest and safest exit routes are used. Findings from the drill will be discussed and an action plan to address any opportunities for improvement will be implemented if necessary.
Employee Awareness	<ul style="list-style-type: none"> • Employees will be aware of: <ul style="list-style-type: none"> ○ the actions to be taken on discovery of fire and on hearing a fire alarm; ○ the location of manual fire alarm call points within the building and the method of operation; ○ the location of firefighting equipment within the building and the method of operation; ○ all escape routes within the building; ○ the purpose of fire resisting doors and their location within the building; and ○ evacuation procedures for the building and the location of the assembly point. • All employees will be aware of the methods of fire prevention as detailed below: <ul style="list-style-type: none"> ○ should an employee consider that something or someone presents a fire risk within the building, they will report the matter to the Site Manager; ○ employees will not allow the accumulation of large amounts of combustible materials around workplaces or escape routes; ○ employees will not obstruct fire escapes; fire exits or any fire-related equipment; ○ employees will ensure that self-closing fire/smoke doors are not wedged in the open position; ○ employees will observe the smoking policy for the site; and ○ employees will maintain as best as possible a clear desktop policy to prevent the rapid spread of fire should it occur.
Monitoring	<ul style="list-style-type: none"> • Due to waste being stored in containers and drums in small waste piles, it is unlikely that hot spots will occur within the waste.

Table 4: Preventative Measures (Cont.)

Cause	Preventative Measures
Monitoring (Cont.)	<ul style="list-style-type: none"> • Site operatives will undergo training on the management of stockpiles, including, recognising hot spots within stockpiles and managing hotspots. Stockpile will be turned to bring the hotter areas to the surface to cool if hot spots are identified. • In order to ensure stockpiles are sufficiently rotated and waste storage time is minimised, site operatives will ensure that the oldest materials will always be removed or processed first. • Stockpiles will be visually inspected throughout the day and where appropriate findings logged within the Site Diary at the start and end of each working day as a minimum.
Actions to Limit Self-Heating	<ul style="list-style-type: none"> • Effective stock management limits the likelihood of the self-combustion of materials stored on site. As such, the operator has waste acceptance and stock management procedures which are followed by all employees at the site. • Stockpiles of unprocessed and processed materials will be managed as follows, to minimise self-combustion: <ul style="list-style-type: none"> ○ Stockpile volume, height and storage times will be minimised on site and hence stored materials will be rotated whilst held on site; and ○ where possible and practicable, material is stored in its largest form prior to processing. • Wherever possible, the following measures will be implemented on site to reduce self-combustion: <ul style="list-style-type: none"> ○ separation of materials; ○ isolation of combustible materials; and ○ restricting storage times.
Plant and Equipment	<ul style="list-style-type: none"> • Site vehicles will be kept to a minimum and will include a JCB telehandler and Fork Lift Truck. • Vehicles will be fitted with fire extinguishers and dust filters. • A number of measures will be implemented at the site to prevent fuel and combustible liquids leaking or trailing from site vehicles. These will include: <ul style="list-style-type: none"> ○ Site vehicles subject to annual servicing and maintenance checks; ○ Daily checks, such as evidence of obvious leaks, hydraulic fluid levels, operating systems, undertaken on site vehicles prior to use; ○ A procedure for reporting any faults or maintenance concerns to prevent any foreseeable breakdowns or leaks; ○ A procedure for immediate reporting of fuel leaks or spillages; ○ In the unlikely event of a fuel leak, spill kits will be deployed to clean up any fuel spillage and prevent entry to the onsite. As part of the Site's Environmental Management System ("EMS"), staff will be trained in emergency response procedures, including the deployment and appropriate disposal of spill kits. ○ Any delivery vehicle allowed entry onto site must be serviced and Ministry of Transport ("MOT") road worthy. ○ Any evidence of leaks from these vehicles will be recorded and communicated. Further entry to site will be refused until repairs have been made.

Table 4: Preventative Measures (Cont.)

Cause	Preventative Measures
Plant and Equipment (Cont.)	<ul style="list-style-type: none"> Operatives will be required to complete inspection for all equipment on a daily basis. Inspection will be undertaken to check for faults and ensure appropriate safeguards are in place. The inspections will be recorded in the Site Diary. All plant and equipment will be operated, maintained and serviced in line with manufacturer's recommendations and instructions. Instruction Manuals for plant and equipment will be held on site. Induction training and refresher training will be provided to staff in the safe operation of plant and equipment relevant to their role, in accordance with the EMS. The PPMR for site plant and equipment is provided in Appendix IV and will also be displayed in the site office and records of all servicing and maintenance will be stored within the site office. Plant and equipment will be visually inspected to ensure it is fit for purpose. If required, plant will be subject to blow down at the end of the day to remove any dust or fluff accumulations from waste processing operations. A check will be undertaken to ensure that each blowdown has been carried out and a record maintained of these checks. In the event of a failure or suspected fault with an item of plant or piece of equipment, the operator will ensure that the equipment is shut off in a safe manner and not used until the equipment can be repaired or replaced.
Infrastructure and Site Inspections	<ul style="list-style-type: none"> Operational areas of the site and equipment will be cleaned down during each working day to reduce the build-up of waste or dust. The site will undergo daily housekeeping inspections and infrastructure inspections on a monthly basis as part of the Installation's EMS.
Electrical Faults	<ul style="list-style-type: none"> Regular safety checks and daily site inspections will be recorded in the site diary/wall planners; All buildings electrics will be fully certified by a qualified electrician; and Annual Portable Appliance Testing ("PAT") testing of any portable electrical appliances will be carried out.
Ignition Sources	<ul style="list-style-type: none"> Sources of ignition will be kept at least 6 metres away from combustible and flammable materials. Sources of ignition will be minimal. If used, a safe use policy for portable heaters will be in place which states; the use of such heaters will be kept to a minimum; staff will be fully trained in their use; they will undergo PAT every 12 months to ensure the safety and compliance of equipment; they will be placed at a safe distance from any flammable material; they will not be covered by any material or clothing items; and will be turned off and unplugged when unattended. a no smoking policy will be in effect in all operational areas and this will be communicated to all staff and visitors with signage and training. There will be a designated smoking area which is located a sufficient distance from the combustible waste stored on site.

Table 4: Preventative Measures (Cont.)

Cause	Preventative Measures
Heat and Spark Prevention	<ul style="list-style-type: none"> • No burning, reactive / reacting or visibly hot (producing steam or heat) loads will be accepted on site. Loads will be visually inspected at the site entrance to ensure compatibility with accompanying delivery notes, therefore minimising prohibited wastes. In the very unlikely event that a hot load is identified on delivery, it would be rejected and immediately returned to the supplier and therefore, not accepted onto site. If this is not possible, the hot load would be moved to the Quarantine Area benefiting from a separation distance of 6m and the waste will be removed as soon as practically possible. The waste supplier will be contacted and evidence of preventative action taken will need to be provided prior to any subsequent waste being accepted at the Installation from the waste supplier. • There will be no routine hot works undertaken at the Installation. The only hot works undertaken would be ad hoc repairs to site infrastructure, such as gates and fencing. Any hot works/use of cutting tools will be carried out indoors and at a safe distance from combustible materials. The site will operate a Permit to Work/Risk Assessment system to control high risk activities, such as hot works. Only a Competent Person, one that is adequately trained and experienced, is authorised to undertake the welding and cutting on site. The control and preventative measures stipulated on the Permit to Work/Risk Assessment will be rigorously followed by the Competent Person and the other members of the team. The area will be made safe before the work starts and all the prescribed preventative precautions will be taken whilst the work is in progress. • On completion of the hot work, the area will be cleared and checked. The competent person or deputy will re-visit the work area, after a suitable period of time. This will be undertaken one hour after the activity has ceased and at the end of the working day. This is known as a fire-watch and ensures no signs of smouldering embers or hot surfaces are evident which could potentially cause a fire. An example of the Job Specific Risk Assessment which will be completed is provided in Appendix V. At regular intervals during working day, as well as at the end of the working day, a fire watch will be carried out. • Vehicles will be turned off when not in use. A fire watch will be undertaken at regular intervals throughout the working day to detect signs of fire caused by dust settling on hot exhausts and engine parts. Special consideration will be given to the high-risk time which is the hour after the plant/machinery has been switched off when dust can settle on hot exhausts. A fire watch will carry out visual checks. Additionally, vehicles will be given time to cool down and the final fire watch will be undertaken at the end of the working day prior to staff leaving site. • Flammable/combustible materials will be stored in designated areas away from frequent vehicle movements; • Due to the nature of the waste, temperature and moisture content of materials within the site does not require checking, however, if advised by the Fire Rescue Service ("FRS"), thermometers will be installed on site to monitor heat.

Table 4: Preventative Measures (Cont.)

Cause	Preventative Measures
Gas Bottles and Other Flammable Items	<ul style="list-style-type: none"> Through the implementation of robust waste acceptance procedures (See Section 3.2), waste gas cylinders won't be accepted on site. Aerosols to be accepted at the Installation will be located within a dedicated caged bay; Helium gas cylinders will be stored on site for the use as a purging gas for the analysis equipment in the laboratory (X Ray Fluorescence). The cylinders will be located within a purpose built gas cage. Helium is an inert, non-flammable and relatively unreactive gas.
Smoke/Heat/Flame Detectors	<ul style="list-style-type: none"> A Fire Alarm System has been installed on site and hence the Installation has smoke detectors fitted throughout the site buildings. The locations of the fire alarm system call points are provided on the Fire Prevention and Mitigation Plan (ECL.010.02.01-04) contained in Appendix II. The design and installation has been undertaken by a third-party accredited company who will also undertake periodic maintenance. Therefore the Fire Alarm System is covered by an appropriate UKAS-accredited third-party certification scheme. The Fire Alarm System will be monitored out of hours and Senior Management will attend site immediately to assist the FRS and ensure the FPP is adhered to. The Fire Alarm System will be tested weekly and serviced in accordance with the manufacturer's recommendations. Records of the tests, servicing and any false alarms will be kept in the Site Diary. The fire extinguishers at the Installation are described in detail in Section 6.3. – 'Containing and Mitigating Fires'. No combustible waste will be stored internally and therefore, a fire suppression system is not required.
Reactions between incompatible materials	<ul style="list-style-type: none"> Strict waste acceptance procedures will be implemented on site to ensure only the permitted waste types are accepted. All loads are pre-booked and covered by appropriate waste documentation. Employees are under instruction to reject the load if incoming waste or materials have been identified which have not been previously agreed and stated on the waste documentation. Only experienced FWM personnel are responsible for undertaking pre acceptance checks, acceptance checks and allocating the waste to the correct designated waste bay. As a result, any incoming waste or material has been pre-inspected and determined and therefore, incompatible waste and material will not be stored together under any circumstances. The correct allocation within the allocated storage bays is also important to ensure wastes are correctly transported under the correct class of Dangerous Goods classed road network which will be followed by FWM.

6. FIRE MANAGEMENT AND IMPACT REDUCTION

6.1. Waste Acceptance

- 6.1.1. Strict waste acceptance procedures detailed in Section 3.2 of this FPP are strictly adhered to at the Facility.

6.2. Site Infrastructure

- 6.2.1. The Installation will consist of impermeable concrete hardstanding surfacing and will include a weighbridge, the Main Building housing non-combustible waste types, an Office/Laboratory Building and an external yard area storing combustible waste types.
- 6.2.2. All site surface runoff (i.e. rainwater) from the Installation will enter the drainage system which ultimately connects into the foul sewer network. Any potentially polluting spillages at the Installation which could potentially enter the drainage system will be subject to the Installation's robust spill management procedure, which would prevent such an occurrence.
- 6.2.3. The Installation layout, infrastructure and drainage arrangements are displayed on the Site Layout Plan (ECL.010.02.01-02) and Drainage Arrangements Plan (ECL.010.02.01-05) contained in Appendix II of this FPP.
- 6.2.4. Fire exit doors are an important part of a building's fire defences. The two functions of a fire door are:
- to compartment the building to prevent the spread of fire; and
 - to provide a safe means of escape for those persons evacuating the building.
- 6.2.5. All employees will ensure that all fire doors are kept shut at all times. All fire doors can be opened using a push bar in the event of the fire alarm sounding. All fire doors are shown on the Fire Prevention and Mitigation Plan (ECL.010.02.01-04) which is contained in Appendix II.
- 6.2.6. The fire alarm system on site consists of certified automated system with call points located throughout the buildings. The location of the call points are also shown on the Fire Prevention and Mitigation Plan (ECL.010.02.01-04).
- 6.2.7. The Installation will not accept waste if there is an active fire on site. Waste will be diverted to a nearby suitably licenced site and, if possible, waste producers will be notified in advance to prevent delivery vehicles arriving on site. Site personnel will be stationed in an appropriate location on East Moors Road to redirect any delivery vehicles which were on route prior to the fire event occurring on site.
- 6.2.8. Should fire compromise its stability or integrity of the building, all personnel on site will be immediately evacuated and the FRS will be contacted.

6.3. Containing and Mitigating Fires

- 6.3.1. The Installation will have powder and carbon dioxide fire extinguishers. The type and associated application are shown in Figure 2. The locations of the fire extinguishers are shown on the Fire Prevention and Mitigation Plan (Drawing ECL.010.02.01–04) contained in Appendix II. The fire extinguishers will be installed and maintained by a specialist third party accredited company and therefore covered by an appropriate UKAS-accredited third-party certification scheme. All fire extinguishers will be serviced as part of an annual inspection contract.

Figure 2: Fire Extinguishers Type and Application



- 6.3.2. An up-to-date site plan will be on display in the Site Office and will detail:
- site layout;
 - waste storage arrangements;
 - firefighting equipment locations;
 - fire detection equipment locations; and
 - PPE and fire containment measure locations.
- 6.3.3. In addition, all procedures relating to emergency procedures on site, including fires, will be held in the Site Office and will be easily found and readily available.

6.4. Site Procedures

6.4.1. The following procedures will be in place on site that will be followed in the event of a major fire onsite:

- the Chief Operational Officer, Site Manager, Technical Team including the Senior Chemist and FRS will be notified immediately and NRW as soon as practicable;
- if the fire is contained within a delivery vehicle, the vehicle will be quarantined and the fire quenched using onsite fire-fighting equipment;
- if it is safe to do so, a temporary bund (firewater booms) will be deployed to ensure that firewater is kept within the red hatched area covered by this FPP. This area also benefits from a perimeter bund wall to the north, east and west and impermeable concrete surfacing. The temporary boom deployment would enable complete containment (see Section 6.6. for more detail) and therefore, limiting overland flow preventing the percolation of firewater into the ground and also preventing the firewater entering the drainage system. If the fire was to occur within the main building, the firewater booms would be deployed at the door entrance to prevent firewater leaving the building, therefore, isolating the firewater from the external yard and drainage system. Any firewater held within the bund will be tested before removal offsite to a suitably licensed Facility/Installation once the fire has been extinguished;
- drain covers will also be deployed to prevent any potentially contaminated firewater from entering the drainage system.
- if possible, waste that is unburnt will be dampened down to prevent the fire from spreading further and any contaminated runoff will be withheld within the temporary bund area;
- if possible, unburned material will be separated from the fire using site plant;
- the burning area will be isolated and attempts will be made to extinguish the fire utilising the onsite fire extinguishers if safe to do so; and
- depending on the scale of the fire, the site and buildings will be evacuated;
- Senior Management will notify adjacent businesses to the site directly in person or by telephone using the contact details provided in Appendix V; and
- businesses in the adjacent industrial estate will be alerted by the fire alarms and the FRS will instigate evacuation of nearby businesses and residents if deemed necessary.

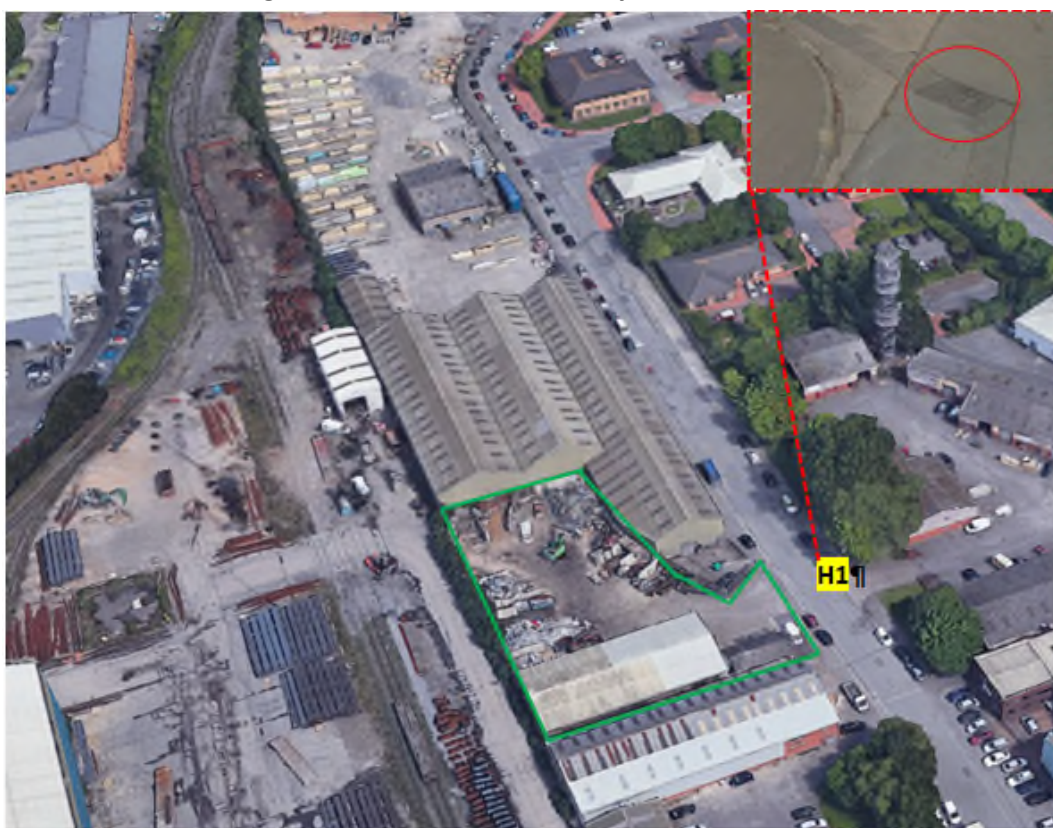
6.4.2. A Site Information and Key Contacts List is provided in Appendix V which outlines the contact details of internal and external contacts to notify in the unlikely event of a fire on site. Out of hours telephone numbers are also provided.

6.5. Fire Water Supply

6.5.1. All waste will be accepted, treated and stored on impermeable surfacing.

6.5.2. Water to actively fight a fire will be available from the nearest fire hydrant shown as H1 in Figure 3. The exact location of the fire hydrant is shown on the Fire Prevention and Mitigation Plan (ECL.010.02.01-04) contained in Appendix II.

Figure 3: Location of Nearest Hydrant Location



- 6.5.3. The FPP guidance firewater calculations state that a water supply of at least 2,000 litres a minute for a minimum of 3 hours for a 300m³ pile of combustible material is required. Therefore, it has been estimated that based on a 40m³ stockpile of waste, this being the maximum sized combustible waste stockpile on site in Bay 7 (See Table 3), 48,000 litres of water over a 3-hour period would be required. The water available for firefighting will be taken from the hydrant marked in Figure 3.
- 6.5.4. The fire hydrants will have been designed in accordance with the '*National guidance document on the provision of water for fire-fighting*'⁷ which states for industry with an area of greater than 3 hectares, the water supply should be capable of delivering a minimum flow of 75 litres per second. Therefore, the use of the hydrant will enable the delivery of 4,500l of firewater per minute which is significantly in excess of the 267l per minute required (total of 48,000l divided by 180 minutes). Additionally, any firewater that pools on site surfacing will be utilised by the firefighting team, if possible.

⁷ Local Government Association and Water UK, available at: <http://www.highrisefire.co.uk/docs/lga-2002.pdf>, published May 2002, accessed December 2019.

6.6. Firewater Containment

- 6.6.1. In the event of a fire, action will be taken to prevent potentially contaminated firewater from leaving the Installation including the deployment of booms and spill kit containment measures. The locations of these emergency spill kits are provided on the Fire Prevention and Mitigation Plan (ECL.010.02.01–04).
- 6.6.2. Drain mats will be used to cover all drains within the permitted boundary. This will prevent any potential firewater runoff from entering the drainage network.
- 6.6.3. Booms will be strategically placed to form a barrier to contain the firewater. The location of the fire and fire-fighting technique and direction will determine the appropriate deployment location of the booms.
- 6.6.4. The combustible waste will be stored in the red hatched area shown on the Fire Prevention and Mitigation Plan drawing (ECL.010.02.01-04). If a fire was to occur in this area, the site perimeter boundary bund wall to the north, east and west would mean the booms would need to be placed to the south in the location clearly shown on the Fire Prevention and Mitigation Plan to create a temporary barrier. The available floor space (excluding waste storage piles in the bays, skips and the Quarantine Area) within this area is 742m² resulting in a containment capacity of 89m³ (742m² floor space x 0.12m height of boom), therefore, providing adequate capacity to hold the firewater required (48,000l or 48m³) prior to it being tested and disposed of to an appropriately Facility/Installation.
- 6.6.5. It should be noted that some combustible waste is stored externally in fireproof enclosed containers. Applying the principle of the fire triangle, if a fire was to ignite within a waste container or skip, the closed lid would starve the fire of oxygen and consequently, extinguish the fire. Due to the nature of the activities at the Installation, FWM will ensure vehicles/plant is available to move the containers in order to prevent fire from spreading.
- 6.6.6. Although no combustible waste will be stored in the main building, in the event of a fire occurring internally, firewater booms would be placed along the entrance of the roller shutter door to prevent any firewater leaving the building. All other access doors will be closed to further prevent the escape of firewater and reduce oxygen availability. Nevertheless, FWM would deploy drain mats to cover all external drains.
- 6.6.7. The largest waste pile within the main building is 24m³ and therefore, 28,800l would be required over 3 hours to extinguish the fire. The available floor space (excluding the storage bays) is 332m² which would provide a firewater containment capacity of 40m³ (available floor space of 332m² x 0.12m height of the booms), therefore providing adequate capacity to hold the firewater required (28,800l or 28.8m³).
- 6.6.8. The Senior Management Team and the Site Manager/Senior Chemist will be responsible for the deployment of the firewater containment measures and will be appropriately trained. The FPP exercise drills will include differing fire scenarios and the deployment of the appropriate firewater containment measures. This is also described in Section 3, Table 3 – Training.

- 6.6.9. FWM will have the capability of deploying the firewater containment measures within a matter of minutes during operational hours and a maximum of 30 minutes out of hours.
- 6.6.10. The spill kits including the booms and drain mats will be checked every 3 months by site personnel and will be replaced as per the manufacturer's expiration dates if provided or alternatively, when on visual inspection, it is deemed necessary.
- 6.6.11. Depending on the scale of the fire, the FRS will co-ordinate the firefighting response which will include assessing the risk to retrieve the spill kit contents. The location of the firewater containment equipment has been chosen to enable quick and safe accessibility in the event of a fire.

6.7. Management after a Fire Event

- 6.7.1. After a fire event, the following procedure will be implemented depending on the severity of the fire:
 - 1. *A small and containable fire that can be dealt with in-house using suitably trained staff and firefighting equipment located on site:* the fire will be recorded in the site log, including the causes of the fire and methods used to manage the fire.
 - 2. *A larger fire that requires the presence of the Fire and Rescue Service:* if the site operatives have been told to evacuate or cease operations by the EA and/or Fire and Rescue Service, the site personnel will wait until told safe to re-enter site. The fire will be recorded in the site log, including the causes of the fire and methods used to manage the fire.
- 6.7.2. The Chief Operational Officer and Technical Team will liaise with the EA to determine a plan-of-action, to introduce waste transfer and storage operations at the site and the timescales involved to achieve this.

6.8. Fire Damage Extent and Decontamination

- 6.8.1. The extent of the fire damage will be assessed by the Chief Operational Officer and Technical Team and depending on the scale of the fire, the FRS may also be present.
- 6.8.2. Should damage be sufficient to prevent the site from being able to treat and store waste, the site will cease accepting waste and will divert to a suitably permitted Facility.
- 6.8.3. Depending on the scale of the fire, smoke particles may have been transported and deposited onto various surfaces within the affected building. The thermal degradation of certain material can cause corrosive deposits to be omitted within the smoke particulates. It is therefore important that such deposits are effectively neutralised. A specialist company will be commissioned to undertake post fire clean up and smoke damage decontamination.

- 6.8.4. The structural stability of fire damaged infrastructure will be assessed and approved by a professional prior to re-entry onto the site.
- 6.8.5. The FRS may have also isolated electricity during the fire. This will be reconnected by a registered electrician. The integrity and functionality of the drainage system will also be assessed and approved by a professional prior to recommencement of operations.

6.9. Fire Damaged Waste

- 6.9.1. A visual assessment will be carried out by the Chief Operational Officer and Technical Team to determine whether the waste can be treated on site. Wherever possible, unburnt wastes will be separated from fire damaged areas of waste. If waste piles have become mixed, then it is likely that the waste will be removed from site to a suitably licensed Facility.
- 6.9.2. Any quarantined waste, waiting for removal from site, will be stored to prevent the contamination of unburnt wastes on the site, as illustrated on the Fire Prevention and Mitigation Plan (Drawing ECL.010.02.01–04), contained within Appendix II.
- 6.9.3. The burnt waste will be removed off site within 24 hours. The Quarantine Area will benefit from at least 6m separation area to aid separation and management of wastes during an incident. Site staff will be trained in how to safely move quarantined waste to this area.

6.10. Recommencing Operations

- 6.10.1. An assessment will be carried out to determine whether further mitigation measures could have prevented the fire. Any outcomes to be implemented onsite will be incorporated within this Fire Prevention Plan and the site's EMS as required. Once this work has been undertaken, the Chief Operational Officer and Technical Team will revisit the site to ensure all of the above have been undertaken and the site can recommence operations.

7. CLOSURE

7.1. This FPP is considered to be a 'working' document that will be reviewed and updated annually or as required should any of the following occur:

- a fire on site;
- a change or review of legislation;
- if the site is instructed to do so by NRW; or
- there are any changes to named contractors or emergency contacts.

7.2. It will be the responsibility of the Technical Manager to maintain this FPP and to ensure it is adhered to in the event of a fire on site.

APPENDIX I

PROPOSED WASTE CODES AND ASSOCIATED STORAGE ARRANGEMENTS

CODE AND DESCRIPTION	COMBUSTIBLE-C NON COMBUSTIBLE-N POSSIBLY COMBUSTIBLE P	WASTE TYPE	STORAGE LOCATION
02 01 Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing			
02 01 08* M Agrochemical waste containing dangerous substances	C	MISC	8 & 10
02 01 09 Agrochemical waste other than those mentioned in 02 01 08	C	MISC	8 & 10
02 02 Wastes from the preparation and processing of meat, fish and other foods of animal origin			
02 02 03 Materials unsuitable for consumption or processing	C	MISC	8 & 10
02 03 Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation			
02 03 02 Wastes from preserving agents	P	MISC	8 & 10
02 03 03 Wastes from solvent extraction	P	MISC	8 & 10
02 03 04 Materials unsuitable for consumption or processing	C	MISC	8 & 10
02 03 05 Sludges from on-site effluent treatment	C	SLUDGE	8 & 10
02 05 Wastes from the dairy products industry			
02 05 01 Materials unsuitable for consumption or processing	C	MISC	8 & 10
02 06 Wastes from the baking and confectionery industry			
02 06 01 Materials unsuitable for consumption or processing	C	MISC	8 & 10
02 06 02 Wastes from preserving agents	P	MISC	8 & 10
02 07 Wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)			
02 07 02 Wastes from spirits distillation	C	MISC	8 & 10
02 07 03 Wastes from chemical treatment	C	MISC	8 & 10
02 07 04 Materials unsuitable for consumption or processing	C	MISC	8 & 10
03 02 Wastes from wood preservation			
03 02 01* A Non-halogenated organic wood preservatives	N	LIQUID	1 TO 4
03 02 02* A Organochlorinated wood preservatives	N	LIQUID	1 TO 4
03 02 03* A Organometallic wood preservatives	N	LIQUID	1 TO 4
03 02 04* A Inorganic wood preservatives	N	LIQUID	1 TO 4
03 02 05* M Other wood preservatives containing dangerous substances	N	LIQUID	1 TO 4
03 02 99 Wood preservatives not otherwise specified	N	LIQUID	1 TO 4
03 03 Wastes from pulp, paper and cardboard production and processing			
03 03 02 Green liquor sludge (from recovery of cooking liquor)	C	SLUDGE	8 & 10
03 03 05 De-inking sludges from paper recycling	C	SLUDGE	8 & 10
03 03 11 Sludges from on-site effluent treatment other than those mentioned in 03 03 10	C	SLUDGE	8 & 10
04 01 Wastes from the leather, fur and textile industries			
04 01 03* M Degreasing wastes containing solvents without a liquid phase	C	SLUDGE	8 & 10
04 01 04 Tanning liquor containing chromium	N	LIQUID	1 TO 4
04 01 05 Tanning liquor free of chromium	P	LIQUID	8 & 10
04 01 06 Sludges, in particular from on-site effluent treatment containing chromium	P	SLUDGE	8 & 10
04 01 07 Sludges, in particular from on-site effluent treatment free of chromium	C	SLUDGE	8 & 10
04 01 08 Waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium	C	SOLID	8 & 10
04 02 Wastes from the textile industry			
04 02 09 Wastes from composite materials (impregnated textile, elastomer, plastomer)	C	SOLID	8 & 10
04 02 10 Organic matter from natural products (for example grease, wax)	C	SOLID	8 & 10
04 02 14* M Wastes from finishing containing organic solvents	C	MISC	8 & 10
04 02 15 Wastes from finishing other than those mentioned in 04 02 14	C	MISC	8 & 10
04 02 16* M Dyestuffs and pigments containing dangerous substances	C	LIQUID	8 & 10
04 02 17 Dyestuffs and pigments other than those mentioned in 04 02 16	C	LIQUID	8 & 10
04 02 19* M Sludges from on-site effluent treatment containing dangerous substances	C	LIQUID	8 & 10
04 02 20 Sludges from on-site effluent treatment other than those mentioned in	C	SLUDGE	8 & 10

06 01 wastes from the manufacture, formulation, supply and use (MFSU) of acids			
06 01 01* sulphuric acid and sulphurous acid	N	LIQUID	1 TO 4
06 01 02* hydrochloric acid	N	LIQUID	1 TO 4
06 01 03* hydrofluoric acid	N	LIQUID	1 TO 4
06 01 04* phosphoric and phosphorous acid	N	LIQUID	1 TO 4
06 01 05* nitric acid and nitrous acid	N	LIQUID	1 TO 4
06 01 06* other acids	N	LIQUID	1 TO 4
06 02 wastes from the MFSU of bases			
06 02 01* calcium hydroxide	N	LIQUID / SOLID	1 TO 4
06 02 03* ammonium hydroxide	N	LIQUID / SOLID	1 TO 4
06 02 04* sodium and potassium hydroxide	N	LIQUID / SOLID	1 TO 4
06 02 05* other bases	N	LIQUID / SOLID	1 TO 4
06 03 wastes from the MFSU of salts and their solutions and metallic oxides			
06 03 11* solid salts and solutions containing cyanides	N	SOLID	1 TO 4
06 03 13* solid salts and solutions containing heavy metals	N	SOLID	1 TO 4
06 03 14 solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13	N	SOLID	1 TO 4
06 03 15* metallic oxides containing heavy metals	N	LIQUID / SOLID	1 TO 4
06 03 16 metallic oxides other than those mentioned in 06 03 15	N	LIQUID / SOLID	1 TO 4
06 04 metal-containing wastes other than those mentioned in 06 03			
06 04 03* wastes containing arsenic	N	MISC	1 TO 4
06 04 04* wastes containing mercury	N	MISC	1 TO 4
06 04 05* wastes containing other heavy metals	N	MISC	1 TO 4
06 05 sludges from on-site effluent treatment			
06 05 02* sludges from on-site effluent treatment containing hazardous substances	N	SLUDGE	1 TO 4
06 05 03 sludges from on-site effluent treatment other than those mentioned in 06 05 02	N	SLUDGE	1 TO 4
06 08 wastes from the MFSU of silicon and silicon derivatives			
06 08 02* wastes containing hazardous chlorosilanes	N	LIQUID / SOLID	1 TO 4
06 09 wastes from the MFSU of phosphorous chemicals and phosphorous chemical processes			
06 09 02 phosphorous slag	N	SOLID	1 TO 4
06 09 03* calcium-based reaction wastes containing or contaminated with hazardous substances	N	LIQUID / SOLID	1 TO 4
06 10 wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture			
06 10 02* wastes containing hazardous substances	P	MISC	8 & 10
06 11 wastes from the manufacture of inorganic pigments and opacifiers			
06 11 01 calcium-based reaction wastes from titanium dioxide production	N	MISC	1 TO 4
06 13 wastes from inorganic chemical processes not otherwise specified			
06 13 01 inorganic plant protection products, wood-preserving agents and other biocides.	N	LIQUID	1 TO 4
07 01 wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals			
07 01 01 aqueous washing liquids and mother liquors	N	LIQUID	1 TO 4
07 01 03 organic halogenated solvents, washing liquids and mother liquors	P	LIQUID	8 & 10
07 01 04 other organic solvents, washing liquids and mother liquors	P	LIQUID	8 & 10
07 01 07 halogenated still bottoms and reaction residues	N	SOLID	1 TO 4
07 01 08 other still bottoms and reaction residues	N	SOLID	1 TO 4
07 01 09 halogenated filter cakes and spent absorbents	N	FILTER CAKE	1 TO 4
07 01 10 other filter cakes and spent absorbents	N	FILTER CAKE	1 TO 4
07 01 11 sludges from on-site effluent treatment containing hazardous substances	P	SLUDGE	8 & 10
07 01 12 sludges from on-site effluent treatment other than those mentioned in 07 01 11	P	SLUDGE	8 & 10

07 02 wastes from the MFSU of plastics, synthetic rubber and man-made fibres			
07 02 01* aqueous washing liquids and mother liquors	N	LIQUID	1 TO 4
07 02 03* organic halogenated solvents, washing liquids and mother liquors	P	LIQUID	8 & 10
07 02 04* other organic solvents, washing liquids and mother liquors	P	LIQUID	8 & 10
07 02 07* halogenated still bottoms and reaction residues	N	SOLID	1 TO 4
07 02 08* other still bottoms and reaction residues	N	SOLID	1 TO 4
07 02 09* halogenated filter cakes and spent absorbents	N	FILTER CAKE	1 TO 4
07 02 10* other filter cakes and spent absorbents	N	FILTER CAKE	1 TO 4
07 02 11* sludges from on-site effluent treatment containing hazardous substances	P	SLUDGE	8 & 10
07 02 12 sludges from on-site effluent treatment other than those mentioned in 07 02 11	P	SLUDGE	8 & 10
07 02 13 waste plastic	C	SOLID	8 & 10
07 02 14* wastes from additives containing hazardous substances	P	MISC	8 & 10
07 02 15 wastes from additives other than those mentioned in 07 02 14	P	MISC	8 & 10
07 02 16* wastes containing hazardous silicones	N	MISC	1 TO 4
07 02 17 wastes containing silicones other than those mentioned in 07 02 16	N	MISC	1 TO 4
07 03 wastes from the MFSU of organic dyes and pigments (except 06 11)			
07 03 01* aqueous washing liquids and mother liquors	N	LIQUID	1 TO 4
07 03 03* organic halogenated solvents, washing liquids and mother liquors	P	LIQUID	8 & 10
07 03 04* other organic solvents, washing liquids and mother liquors	P	LIQUID	8 & 10
07 03 07* halogenated still bottoms and reaction residues	N	SOLID	1 TO 4
07 03 08* other still bottoms and reaction residues	N	SOLID	1 TO 4
07 03 09* halogenated filter cakes and spent absorbents	N	FILTER CAKE	1 TO 4
07 03 10* other filter cakes and spent absorbents	N	FILTER CAKE	1 TO 4
07 03 11* sludges from on-site effluent treatment containing hazardous substances	P	SLUDGE	8 & 10
07 03 12 sludges from on-site effluent treatment other than those mentioned in 07 03 11	P	SLUDGE	8 & 10
07 04 wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides			
07 04 01* aqueous washing liquids and mother liquors	N	LIQUID	1 TO 4
07 04 03* organic halogenated solvents, washing liquids and mother liquors	P	LIQUID	8 & 10
07 04 04* other organic solvents, washing liquids and mother liquors	P	LIQUID	8 & 10
07 04 07* halogenated still bottoms and reaction residues	N	SOLID	1 TO 4
07 04 08* other still bottoms and reaction residues	N	SOLID	1 TO 4
07 04 09* halogenated filter cakes and spent absorbents	N	FILTER CAKE	1 TO 4
07 04 10* other filter cakes and spent absorbents	N	FILTER CAKE	1 TO 4
07 04 11* sludges from on-site effluent treatment containing hazardous substances	P	SLUDGE	8 & 10
07 04 12 sludges from on-site effluent treatment other than those mentioned in 07 04 11	P	SLUDGE	8 & 10
07 04 13* solid wastes containing hazardous substances	P	SOLID	8 & 10
07 05 wastes from the MFSU of pharmaceuticals			
07 05 01* aqueous washing liquids and mother liquors	N	LIQUID	1 TO 4
07 05 03* organic halogenated solvents, washing liquids and mother liquors	P	LIQUID	8 & 10
07 05 04* other organic solvents, washing liquids and mother liquors	P	LIQUID	8 & 10
07 05 07* halogenated still bottoms and reaction residues	N	SOLID	1 TO 4
07 05 08* other still bottoms and reaction residues	N	SOLID	1 TO 4
07 05 09* halogenated filter cakes and spent absorbents	N	FILTER CAKE	1 TO 4
07 05 10* other filter cakes and spent absorbents	N	FILTER CAKE	1 TO 4
07 05 11* sludges from on-site effluent treatment containing hazardous substances	P	SLUDGE	8 & 10
07 05 12 sludges from on-site effluent treatment other than those mentioned in 07 05 11	P	SLUDGE	8 & 10
07 05 13* solid wastes containing hazardous substances	P	SOLID	8 & 10
07 05 14 solid wastes other than those mentioned in 07 05 13	P	SOLID	8 & 10
07 06 wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics			
07 06 01* aqueous washing liquids and mother liquors	N	LIQUID	1 TO 4
07 06 03* organic halogenated solvents, washing liquids and mother liquors	P	LIQUID	8 & 10
07 06 04* other organic solvents, washing liquids and mother liquors	P	LIQUID	8 & 10
07 06 07* halogenated still bottoms and reaction residues	N	SOLID	1 TO 4
07 06 08* other still bottoms and reaction residues	N	SOLID	1 TO 4
07 06 09* halogenated filter cakes and spent absorbents	N	FILTER CAKE	1 TO 4
07 06 10* other filter cakes and spent absorbents	N	FILTER CAKE	1 TO 4
07 06 11* sludges from on-site effluent treatment containing hazardous substances	P	SLUDGE	8 & 10
07 06 12 sludges from on-site effluent treatment other than those mentioned in 07 06 11	P	SLUDGE	8 & 10

07 07 wastes from the MFSU of fine chemicals and chemical products not otherwise specified			
07 07 01* aqueous washing liquids and mother liquors	N	LIQUID	1 TO 4
07 07 03* organic halogenated solvents, washing liquids and mother liquors	P	LIQUID	8 & 10
07 07 04* other organic solvents, washing liquids and mother liquors	P	LIQUID	8 & 10
07 07 07* halogenated still bottoms and reaction residues	N	SOLID	1 TO 4
07 07 08* other still bottoms and reaction residues	N	SOLID	1 TO 4
07 07 09* halogenated filter cakes and spent absorbents	N	FILTER CAKE	1 TO 4
07 07 10* other filter cakes and spent absorbents	N	FILTER CAKE	1 TO 4
07 07 11* sludges from on-site effluent treatment containing hazardous substances	P	SLUDGE	8 & 10
07 07 12 sludges from on-site effluent treatment other than those mentioned in 07 07 11	P	SLUDGE	8 & 10
08 01 wastes from MFSU and removal of paint and varnish			
08 01 11* waste paint and varnish containing organic solvents or other hazardous substances	C	MISC	8 & 10
08 01 12 waste paint and varnish other than those mentioned in 08 01 11	C	MISC	8 & 10
08 01 13* sludges from paint or varnish containing organic solvents or other hazardous substances	C	SLUDGE	8 & 10
08 01 14 sludges from paint or varnish other than those mentioned in 08 01 13	C	SLUDGE	8 & 10
08 01 15* aqueous sludges containing paint or varnish containing organic solvents or other hazardous substances	C	SLUDGE	8 & 10
08 01 16 aqueous sludges containing paint or varnish other than those mentioned in 08 01 15	C	SLUDGE	8 & 10
08 01 17* wastes from paint or varnish removal containing organic solvents or other hazardous substances	C	MISC	8 & 10
08 01 18 wastes from paint or varnish removal other than those mentioned in 08 01 17	N	MISC	1 TO 4
08 01 19* aqueous suspensions containing paint or varnish containing organic solvents or other hazardous substances	C	LIQUID	8 & 10
08 01 20 aqueous suspensions containing paint or varnish other than those mentioned in 08 01 19	N	LIQUID	1 TO 4
08 01 21* waste paint or varnish remover	C	MISC	8 & 10
08 02 wastes from MFSU of other coatings (including ceramic materials)			
08 02 01 waste coating powders	N	SOLID	1 TO 4
08 02 02 aqueous sludges containing ceramic materials	N	SLUDGE	1 TO 4
08 02 03 aqueous suspensions containing ceramic materials	N	LIQUID	1 TO 4
08 03 wastes from MFSU of printing inks			
08 03 07 aqueous sludges containing ink	N	SLUDGE	1 TO 4
08 03 08 aqueous liquid waste containing ink	N	LIQUID	1 TO 4
08 03 12* waste ink containing hazardous substances	N	LIQUID	1 TO 4
08 03 13 waste ink other than those mentioned in 08 03 12	N	LIQUID	1 TO 4
08 03 14* ink sludges containing hazardous substances	N	SLUDGE	1 TO 4
08 03 15 ink sludges other than those mentioned in 08 03 14	N	SLUDGE	1 TO 4
08 03 16* waste etching solutions	N	LIQUID	1 TO 4
08 03 17* waste printing toner containing hazardous substances	N	SOLID	1 TO 4
08 03 18 waste printing toner other than those mentioned in 08 03 17	N	SOLID	1 TO 4
08 03 19* disperse oil	P	LIQUID	8 & 10
08 04 wastes from MFSU of adhesives and sealants (including waterproofing products)			
08 04 09* waste adhesives and sealants containing organic solvents or other hazardous substances	P	MISC	8 & 10
08 04 10 waste adhesives and sealants other than those mentioned in 08 04 09	P	MISC	8 & 10
08 04 11* adhesive and sealant sludges containing organic solvents or other hazardous substances	P	MISC	8 & 10
08 04 12 adhesive and sealant sludges other than those mentioned in 08 04 11	P	SLUDGE	8 & 10
08 04 13* aqueous sludges containing adhesives or sealants containing organic solvents or other hazardous substances	N	SLUDGE	1 TO 4
08 04 14 aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13	N	SLUDGE	1 TO 4
08 04 15* aqueous liquid waste containing adhesives or sealants containing organic solvents or other hazardous substances	N	LIQUID	1 TO 4
08 04 16 aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15	N	LIQUID	1 TO 4
08 04 17* rosin oil	C	LIQUID	8 & 10
08 05 wastes not otherwise specified in 08			
08 05 01* waste isocyanates	P	MISC	8 & 10

10 01 wastes from power stations and other combustion plants (except 19)			
10 01 04* oil fly ash and boiler dust	C	DUST	8 & 10
10 01 09* sulphuric acid	N	LIQUID	1 TO 4
10 01 13* fly ash from emulsified hydrocarbons used as fuel	C	DUST	8 & 10
10 01 14* bottom ash, slag and boiler dust from co-incineration containing hazardous substances	N	DUST	1 TO 4
10 01 16* fly ash from co-incineration containing hazardous substances	N	DUST	1 TO 4
10 01 18* wastes from gas cleaning containing hazardous substances	N	MISC	1 TO 4
10 01 20* sludges from on-site effluent treatment containing hazardous substances	P	SLUDGE	8 & 10
10 01 22* aqueous sludges from boiler cleansing containing hazardous substances	N	SLUDGE	1 TO 4
10 01 25 wastes from fuel storage and preparation of coal-fired power plants	N	MISC	1 TO 4
10 01 26 wastes from cooling-water treatment	N	LIQUID	1 TO 4
10 08 wastes from other non-ferrous thermal metallurgy			
10 08 08* salt slag from primary and secondary production	P	SOLID	8 & 10
10 08 10* dross and skimmings that are flammable or emit, upon contact with water, flammable gases in hazardous quantities	P	SOLID	8 & 10
10 08 12* tar-containing wastes from anode manufacture	P	SOLID	8 & 10
10 08 15* flue-gas dust containing hazardous substances	P	DUST	8 & 10
10 08 17* sludges and filter cakes from flue-gas treatment containing hazardous substances	P	SLUDGE	8 & 10
10 08 19* wastes from cooling-water treatment containing oil	P	LIQUID / SOLID	8 & 10
10 09 wastes from casting of ferrous pieces			
10 09 09* flue-gas dust containing hazardous substances	P	DUST	8 & 10
10 09 11* other particulates containing hazardous substances	P	DUST	8 & 10
10 09 13* waste binders containing hazardous substances	P	SOLID	8 & 10
10 09 14 waste binders other than those mentioned in 10 09 13	P	SOLID	8 & 10
10 09 15* waste crack-indicating agent containing hazardous substances	P	LIQUID	8 & 10
10 09 16 waste crack-indicating agent other than those mentioned in 10 09 15	P	LIQUID	8 & 10
10 10 wastes from casting of non-ferrous pieces			
10 10 09* flue-gas dust containing hazardous substances	P	DUST	8 & 10
10 10 11* other particulates containing hazardous substances	P	DUST	8 & 10
10 10 13* waste binders containing hazardous substances	P	SOLID	8 & 10
10 10 14 waste binders other than those mentioned in 10 10 13	P	SOLID	8 & 10
10 10 15* waste crack-indicating agent containing hazardous substances	P	LIQUID	8 & 10
10 10 16 waste crack-indicating agent other than those mentioned in 10 10 15	P	LIQUID	8 & 10
10 11 wastes from manufacture of glass and glass products			
10 11 09* waste preparation mixture before thermal processing, containing hazardous substances	N	MISC	1 TO 4
10 11 11* waste glass in small particles and glass powder containing heavy metals (for example from cathode ray tubes)	N	DUST	1 TO 4
10 11 13* glass-polishing and -grinding sludge containing hazardous substances	N	SLUDGE	1 TO 4
10 11 15* solid wastes from flue-gas treatment containing hazardous substances	N	SOLID	1 TO 4
10 11 17* sludges and filter cakes from flue-gas treatment containing hazardous substances	N	SLUDGE	1 TO 4
10 11 19* solid wastes from on-site effluent treatment containing hazardous substances	N	SOLID	1 TO 4
10 12 wastes from manufacture of ceramic goods, bricks, tiles and construction products			
10 12 01 waste preparation mixture before thermal processing	N	MISC	1 TO 4
10 12 03 particulates and dust	N	DUST	1 TO 4
10 12 08 waste ceramics, bricks, tiles and construction products (after thermal processing)	N	SOLID	1 TO 4
10 12 09* solid wastes from gas treatment containing hazardous substances	N	SOLID	1 TO 4
10 12 11* wastes from glazing containing heavy metals	N	SOLID	1 TO 4
10 12 13 sludge from on-site effluent treatment	N	SLUDGE	1 TO 4

10 13 wastes from manufacture of cement, lime and plaster and articles and products made from them			
10 13 12* solid wastes from gas treatment containing hazardous substances	N	SOLID	1 TO 4
10 13 13 solid wastes from gas treatment other than those mentioned in 10 13 12	N	SOLID	1 TO 4
10 14 waste from crematoria			
10 14 01* waste from gas cleaning containing mercury	P	DUST	8 & 10
11 01 wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)			
11 01 05 pickling acids*	N	LIQUID	1 TO 4
11 01 06 acids not otherwise specified*	N	LIQUID	1 TO 4
11 01 07 pickling bases*	N	LIQUID	1 TO 4
11 01 08 phosphatising sludges	N	LIQUID	1 TO 4
11 01 09* sludges and filter cakes containing hazardous substances	N	SLUDGE	1 TO 4
11 01 10 sludges and filter cakes other than those mentioned in 11 01 09	N	SLUDGE	1 TO 4
11 01 11* aqueous rinsing liquids containing hazardous substances	N	LIQUID	1 TO 4
11 01 12 aqueous rinsing liquids other than those mentioned in 11 01 11	N	LIQUID	1 TO 4
11 01 13* degreasing wastes containing hazardous substances	N	LIQUID	1 TO 4
11 01 14 degreasing wastes other than those mentioned in 11 01 13	N	LIQUID	1 TO 4
11 01 15* eluate and sludges from membrane systems or ion exchange systems containing hazardous substances	N	MISC	1 TO 4
11 01 16 saturated or spent ion exchange resins	N	SLUDGE	1 TO 4
11 01 98* other wastes containing hazardous substances	N	MISC	1 TO 4
11 02 wastes from non-ferrous hydrometallurgical processes			
11 02 02* sludges from zinc hydrometallurgy (including jarosite, goethite)	N	SLUDGE	1 TO 4
11 02 03 wastes from the production of anodes for aqueous electrolytical processes	N	MISC	1 TO 4
11 02 05* wastes from copper hydrometallurgical processes containing hazardous substances	N	MISC	1 TO 4
11 02 06 wastes from copper hydrometallurgical processes other than those mentioned in 11 02 05	N	MISC	1 TO 4
11 02 07* other wastes containing hazardous substances	N	MISC	1 TO 4
11 03 sludges and solids from tempering processes			
11 03 01* wastes containing cyanide	N	MISC	1 TO 4
11 03 02* other waste	N	MISC	1 TO 4
11 05 wastes from hot galvanising processes			
11 05 01 hard zinc	N	SOLID	1 TO 4
11 05 02 zinc ash	N	DUST	1 TO 4
11 05 03* solid wastes from gas treatment	N	SOLID	1 TO 4
11 05 04* spent flux	N	SOLID	1 TO 4
12 01 wastes from shaping and physical and mechanical surface treatment of metals and plastics			
12 01 06* mineral-based machining oils containing halogens (except emulsions and solutions)	C	LIQUID	8 & 10
12 01 07* mineral-based machining oils free of halogens (except emulsions and solutions)	C	LIQUID	8 & 10
12 01 08* machining emulsions and solutions containing halogens	C	LIQUID	8 & 10
12 01 09* machining emulsions and solutions free of halogens	C	LIQUID	8 & 10
12 01 10* synthetic machining oils	C	LIQUID	8 & 10
12 01 12* spent waxes and fats	C	SOLID	8 & 10
12 01 13 welding wastes	C	SOLID	8 & 10
12 01 14* machining sludges containing hazardous substances	P	SLUDGE	8 & 10
12 01 15 machining sludges other than those mentioned in 12 01 14	P	SLUDGE	8 & 10
12 01 16* waste blasting material containing hazardous substances	P	DUST	8 & 10
12 01 17 waste blasting material other than those mentioned in 12 01 16	P	DUST	8 & 10
12 01 18* metal sludge (grinding, honing and lapping sludge) containing oil	C	SLUDGE	8 & 10
12 01 19* readily biodegradable machining oil	C	LIQUID	8 & 10
12 01 20* spent grinding bodies and grinding materials containing hazardous substances	P	DUST	8 & 10
12 01 21 spent grinding bodies and grinding materials other than those mentioned in 12 01 20	P	DUST	8 & 10

13 01 waste hydraulic oils			
13 01 01* hydraulic oils, containing PCBs	C	LIQUID	8 & 10
13 01 04* chlorinated emulsions	C	LIQUID	8 & 10
13 01 05* non-chlorinated emulsions	C	LIQUID	8 & 10
13 01 09* mineral-based chlorinated hydraulic oils	C	LIQUID	8 & 10
13 01 10* mineral based non-chlorinated hydraulic oils	C	LIQUID	8 & 10
13 01 11* synthetic hydraulic oils	C	LIQUID	8 & 10
13 01 12* readily biodegradable hydraulic oils	C	LIQUID	8 & 10
13 01 13* other hydraulic oils	C	LIQUID	8 & 10
13 02 waste engine, gear and lubricating oils			
13 02 04* mineral-based chlorinated engine, gear and lubricating oils	C	LIQUID	8 & 10
13 02 05* mineral-based non-chlorinated engine, gear and lubricating oils	C	LIQUID	8 & 10
13 02 06* synthetic engine, gear and lubricating oils	C	LIQUID	8 & 10
13 02 07* readily biodegradable engine, gear and lubricating oils	C	LIQUID	8 & 10
13 02 08* other engine, gear and lubricating oils	C	LIQUID	8 & 10
13 03 waste insulating and heat transmission oils			
13 03 01* insulating or heat transmission oils containing PCBs	C	LIQUID	8 & 10
13 03 06* mineral-based chlorinated insulating and heat transmission oils other than those mentioned in 13 03 01	C	LIQUID	8 & 10
13 03 07* mineral-based non-chlorinated insulating and heat transmission oils	C	LIQUID	8 & 10
13 03 08* synthetic insulating and heat transmission oils	C	LIQUID	8 & 10
13 03 09* readily biodegradable insulating and heat transmission oils	C	LIQUID	8 & 10
13 03 10* other insulating and heat transmission oils	C	LIQUID	8 & 10
13 05 oil/water separator contents			
13 05 01* solids from grit chambers and oil/water separators	C	SOLID	8 & 10
13 05 02* sludges from oil/water separators	P	SLUDGE	8 & 10
13 05 03* interceptor sludges	P	SLUDGE	8 & 10
13 05 06* oil from oil/water separators	C	LIQUID	8 & 10
13 05 07* oily water from oil/water separators	P	LIQUID	8 & 10
13 05 08* mixtures of wastes from grit chambers and oil/water separators	P	MISC	8 & 10
13 07 wastes of liquid fuels			
13 07 01* fuel oil and diesel	C	LIQUID	8 & 10
13 07 03* other fuels (including mixtures)	C	LIQUID	8 & 10
13 08 oil wastes not otherwise specified			
13 08 02* other emulsions	P	LIQUID	8 & 10
14 06 waste organic solvents, refrigerants and foam/aerosol propellants			
14 06 01* chlorofluorocarbons, HCFC, HFC	P	SOLID	8 & 10
14 06 02* other halogenated solvents and solvent mixtures	P	LIQUID	8 & 10
14 06 03* other solvents and solvent mixtures	P	LIQUID	8 & 10
14 06 04* sludges or solid wastes containing halogenated solvents	P	SLUDGE	8 & 10
14 06 05* sludges or solid wastes containing other solvents	P	SLUDGE	8 & 10
15 01 packaging (including separately collected municipal packaging waste)			
15 01 02 plastic packaging	C	EMPTY PACKAGING	7
15 01 04 metallic packaging	P	EMPTY PACKAGING	7
15 01 05 composite packaging	Y	EMPTY PACKAGING	7
15 01 10* packaging containing residues of or contaminated by hazardous substances	C	EMPTY PACKAGING	7
15 01 11* metallic packaging containing a hazardous solid porous matrix (for example asbestos), including empty pressure containers	P	EMPTY PACKAGING	7

15 02 absorbents, filter materials, wiping cloths and protective clothing			
15 02 02* absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	C	NON HAZ ABSORBENTS / TEXTILES / FILTERS	8 & 10
15 02 03 absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02	C	HAZ ABSORBENTS / TEXTILES / FILTERS	8 & 10
16 01 end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)			
16 01 07* oil filters	C	SOLID	8 & 10
16 01 08* components containing mercury	P	SOLID	8 & 10
16 01 09* components containing PCBs	C	SOLID	8 & 10
16 01 13* brake fluids	C	LIQUID	8 & 10
16 01 14* antifreeze fluids containing hazardous substances	P	LIQUID	8 & 10
16 01 15 antifreeze fluids other than those mentioned in 16 01 14	P	LIQUID	8 & 10
16 01 21 *hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14	P	SOLID	8 & 10
16 02 wastes from electrical and electronic equipment			
16 02 09* transformers and capacitors containing PCBs	C	WEEE	HAZ WEEE STORE
16 02 10* discarded equipment containing or contaminated by PCBs other than those mentioned in 16 02 09	C	WEEE	HAZ WEEE STORE
16 02 11* discarded equipment containing chlorofluorocarbons, HCFC, HFC	C	WEEE	HAZ WEEE STORE
16 02 13* discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12	C	WEEE	HAZ WEEE STORE
16 02 14 discarded equipment other than those mentioned in 16 02 09 to 16 02 13	C	WEEE	NON HAZ WEEE STORE
16 02 15* hazardous components removed from discarded equipment	C	WEEE	HAZ WEEE STORE
16 02 16 components removed from discarded equipment other than those mentioned in 16 02 15	C	WEEE	NON HAZ WEEE STORE
16 03 off-specification batches and unused products			
16 03 03* inorganic wastes containing hazardous substances	P	MISC	8 & 10
16 03 04 inorganic wastes other than those mentioned in 16 03 03	P	MISC	8 & 10
16 03 05* organic wastes containing hazardous substances	P	MISC	8 & 10
16 03 06 organic wastes other than those mentioned in 16 03 05	P	MISC	8 & 10
16 03 07* metallic mercury	N	LIQUID	1 TO 4
16 05 gases in pressure containers and discarded chemicals			
16 05 04* gases in pressure containers (including halons) containing hazardous substances	P	GAS	9
16 05 05 gases in pressure containers other than those mentioned in 16 05 04	P	GAS	9
16 05 06* laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals	P	MISC	9
16 05 07* discarded inorganic chemicals consisting of or containing hazardous substances	P	MISC	9
16 05 08* discarded organic chemicals consisting of or containing hazardous substances	P	MISC	9
16 05 09 discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08	P	MISC	9
16 06 batteries and accumulators			
16 06 01* lead batteries	P	BATTERY	BATTERY STORE
16 06 02* Ni-Cd batteries	P	BATTERY	BATTERY STORE
16 06 03* mercury-containing batteries	P	BATTERY	BATTERY STORE
16 06 04 alkaline batteries (except 16 06 03)	P	BATTERY	BATTERY STORE
16 06 05 other batteries and accumulators	P	BATTERY	BATTERY STORE
16 06 06* separately collected electrolyte from batteries and accumulators	P	LIQUID / SOLID	8 & 10
16 07 wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)			
16 07 08* wastes containing oil	C	MISC	8 & 10
16 07 09* wastes containing other hazardous substances	P	MISC	8 & 10
16 08 spent catalysts			
16 08 01 spent catalysts containing gold, silver, rhenium, rhodium, palladium, iridium or platinum (except 16 08 07)	N	SOLID	1 TO 4
16 08 02* spent catalysts containing hazardous transition metals or hazardous transition metal compounds	C	SOLID	8 & 10
16 08 03 spent catalysts containing transition metals or transition metal compounds not otherwise specified	C	SOLID	8 & 10
16 08 04 spent fluid catalytic cracking catalysts (except 16 08 07)	N	LIQUID	1 TO 4
16 08 05* spent catalysts containing phosphoric acid	N	LIQUID	1 TO 4
16 08 06* spent liquids used as catalysts	N	LIQUID	1 TO 4
16 08 07* spent catalysts contaminated with hazardous substances	P	LIQUID	8 & 10

16 09 oxidising substances			
16 09 01* permanganates, for example potassium permanganate	N	LIQUID / SOLID	OXIDISING SOLIDS / LIQUIDS STORES
16 09 02* chromates, for example potassium chromate, potassium or sodium dichromate	N	LIQUID / SOLID	OXIDISING SOLIDS / LIQUIDS STORES
16 09 03* peroxides, for example hydrogen peroxide	N	LIQUID	OXIDISING SOLIDS / LIQUIDS STORES
16 09 04* oxidising substances, not otherwise specified	N	LIQUID / SOLID	OXIDISING SOLIDS / LIQUIDS STORES
16 10 aqueous liquid wastes destined for off-site treatment			
16 10 01* aqueous liquid wastes containing hazardous substances	N	LIQUID	1 TO 4
16 10 02 aqueous liquid wastes other than those mentioned in 16 10 01	N	LIQUID	1 TO 4
16 10 03* aqueous concentrates containing hazardous substances	N	LIQUID	1 TO 4
16 10 04 aqueous concentrates other than those mentioned in 16 10 03	N	LIQUID	1 TO 4
17 06 insulation materials and asbestos-containing construction materials			
17 06 01* insulation materials containing asbestos	N	SOLID	1 TO 4
17 06 03* other insulation materials consisting of or containing hazardous substances	P	SOLID	8 & 10
17 06 04 insulation materials other than those mentioned in 17 06 01 and 17 06 03	P	SOLID	8 & 10
17 06 05* construction materials containing asbestos	N	SOLID	1 TO 4
17 09 other construction and demolition wastes			
17 09 02* construction and demolition wastes containing PCB (for example PCB-containing sealants, PCB-containing resin-based floorings, PCB-containing sealed glazing units, PCB-containing capacitors)	C	MISC	8 & 10
17 09 03* other construction and demolition wastes (including mixed wastes) containing hazardous substances	P	MISC	8 & 10
20 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS			
20 01 separately collected fractions (except 15 01)			
20 01 13* solvents	C	LIQUID	8 & 10
20 01 14* acids-	N	LIQUID / SOLID	1 TO 4
20 01 15* alkalines	N	LIQUID / SOLID	1 TO 4
20 01 17* photochemicals	P	LIQUID	8 & 10
20 01 19* pesticides	C	LIQUID / SOLID	8 & 10
20 01 21* fluorescent tubes and other mercury-containing waste	N	SOLID	1 TO 4
20 01 23* discarded equipment containing chlorofluorocarbons	C	SOLID	8 & 10
20 01 25 edible oil and fat	C	LIQUID	8 & 10
20 01 26* oil and fat other than those mentioned in 20 01 25	C	LIQUID	8 & 10
20 01 27* paint, inks, adhesives and resins containing hazardous substances	C	MISC	8 & 10
20 01 28 paint, inks, adhesives and resins other than those mentioned in 20 01 27	P	MISC	8 & 10
20 01 29* detergents containing hazardous substances	P	LIQUID	8 & 10
20 01 33* batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries	C	BATTERY	BATTERY STORE
20 01 34 batteries and accumulators other than those mentioned in 20 01 33	C	BATTERY	BATTERY STORE
20 01 35* discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	C	WEEE	HAZ WEEE STORE
20 01 36 discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	C	WEEE	NON HAZ WEEE STORE

WASTE TYPE	COMBUSTIBLE-C NON COMBUSTIBLE-N POSSIBLY COMBUSTIBLE-P	CONTAINMENT / "STATE"	DAILY TONNAGE	STORED AT ANY ONE TIME (100% CAPACITY) Tonnes
LIQUID	C / P	IN CONTAINERS (IBC / DRUM)	5	16
SOLID	C / P	IN CONTAINERS (IBC / DRUM)	5	10
LIQUID / SOLID	C / P	IN CONTAINERS (IBC / DRUM)	5	6
LIQUID	N	IN CONTAINERS (IBC / DRUM)	6.00	22.00
SOLID	N	IN CONTAINERS (IBC / DRUM)	6.00	22.00
LIQUID / SOLID	N	IN CONTAINERS (IBC / DRUM)	6.00	12.00
SLUDGE	C / P	IN CONTAINERS (IBC / DRUM)	7	6
DUST	C / P	IN CONTAINERS (IBC / DRUM)	6	6
SLUDGE	N	IN CONTAINERS (IBC / DRUM)	7.00	14.00
DUST	N	IN CONTAINERS (IBC / DRUM)	5.00	14.00
FILTER CAKE	N	IN CONTAINERS (IBC / DRUM)	5.00	12.00
EMPTY PACKAGING HAZ	C	IN CONTAINERS (IBC / DRUM) & ON PALLETS / BULK CONTAINERS	5	8
EMPTY PACKAGING NON HAZ	C	IN CONTAINERS (IBC / DRUM) & ON PALLETS / BULK CONTAINERS	5	8
CRUSHED CONTAINERS	C	FEL CONTAINER	n/a	2
BATTERY	P	IN CONTAINERS	3	10
WEEE HAZ	C	IN CONTAINERS	3	8
WEEE NON HAZ	C	IN CONTAINERS	3	8
GAS	C	IN CONTAINERS (IBC / DRUM) CAGED BAY	2	4.8
NON HAZ ABSORBENTS / TEXTILES / FILTERS	C	IN CONTAINERS (IBC / DRUM) & ON PALLETS / BULK CONTAINERS	6	2
HAZ ABSORBENTS / TEXTILES / FILTERS	C	IN CONTAINERS (IBC / DRUM) & ON PALLETS / BULK CONTAINERS	6	4

Weekly 481 t
Annual 25000 t
Daily 96 t
Types 17 t
Tonnes per Type 5.7 t avg

96.00 NOT COMBUSTIBLE

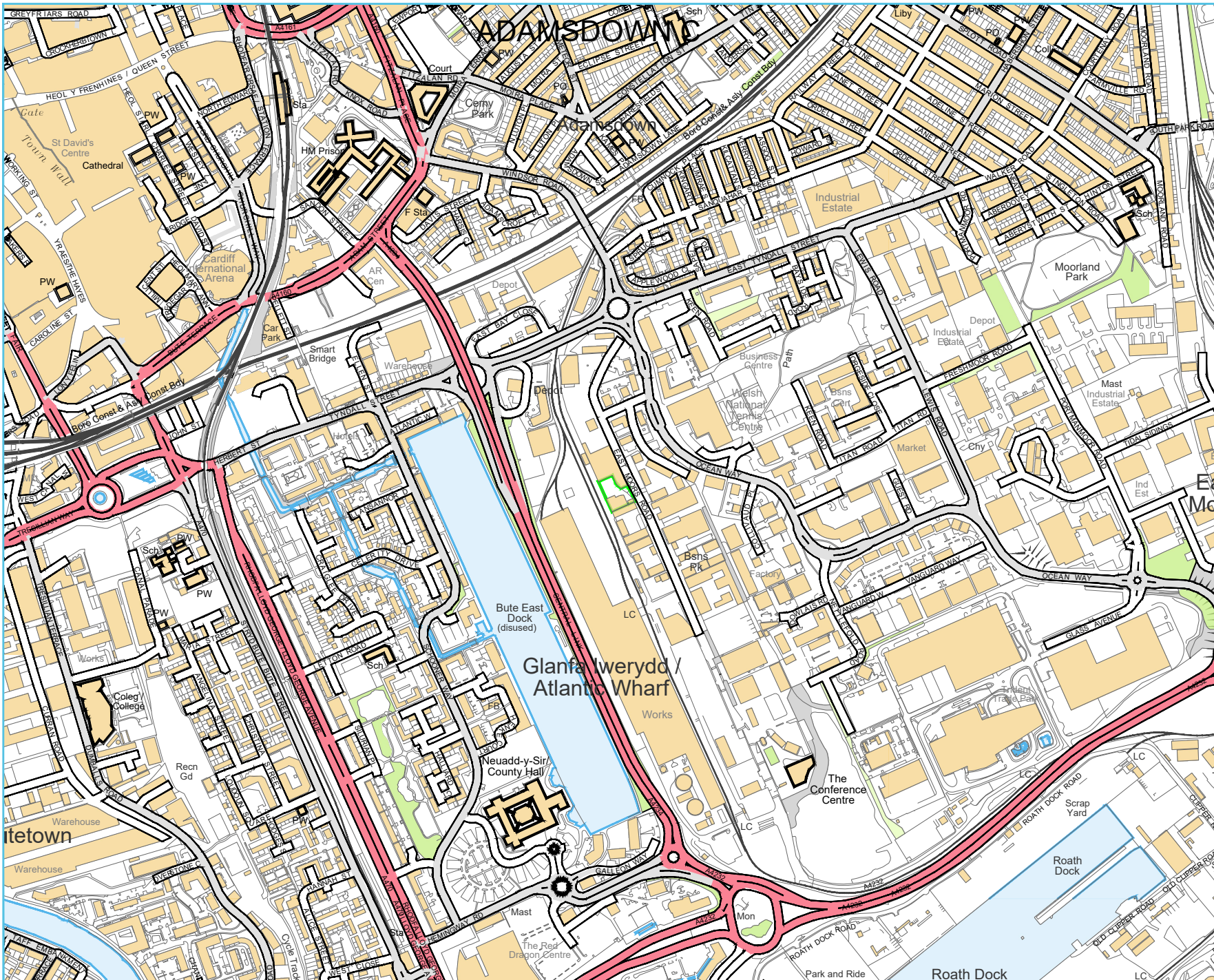
50 COMBUSTIBLE - NOT CATEGORISED ELSEWHERE

98.8 all combustible

194.8

Excluding Bay 5, 6, & 11

APPENDIX II DRAWINGS



LEGEND

— ENVIRONMENTAL PERMIT BOUNDARY

Rev	Date	Details	Chkd
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Environmental Compliance Ltd.
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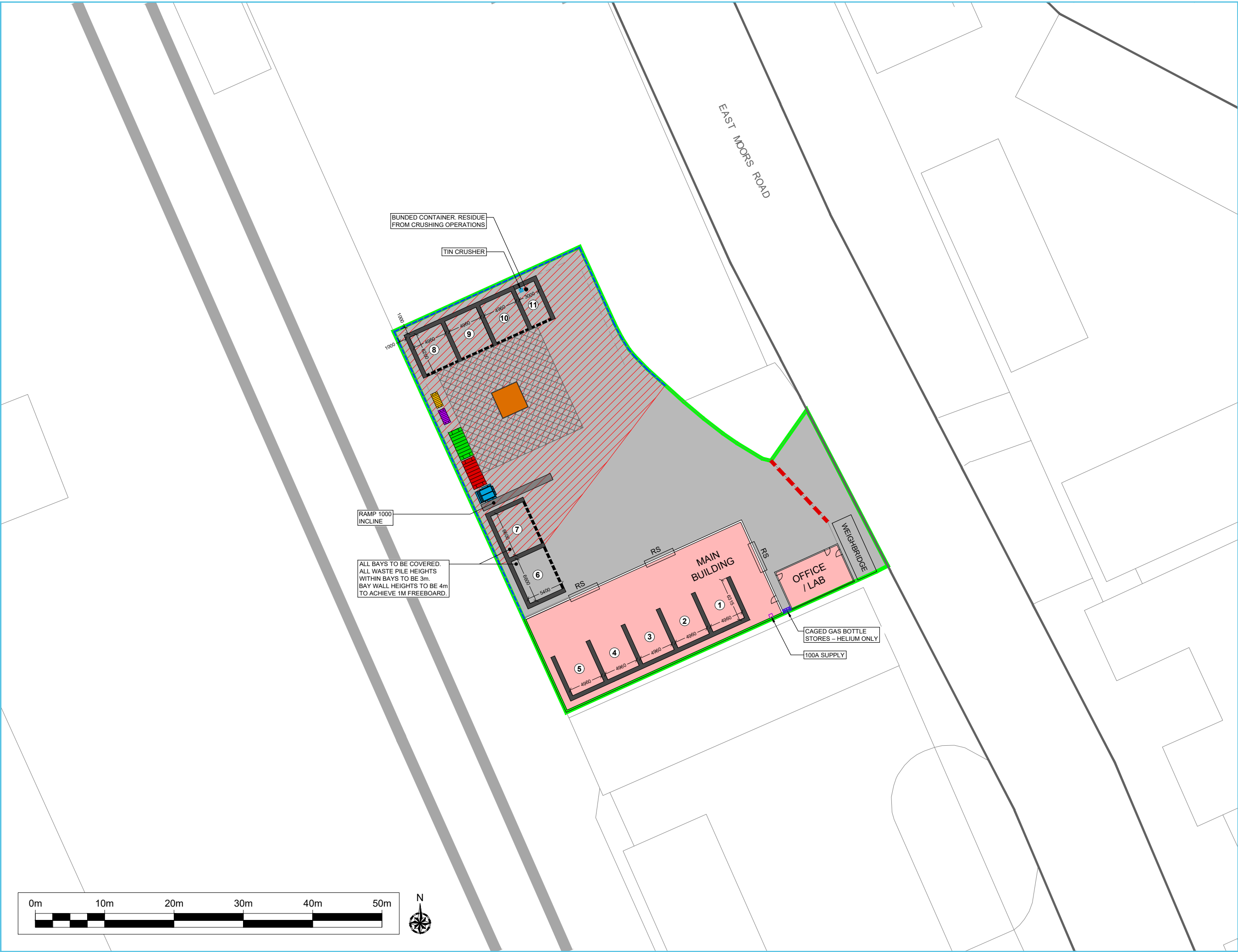
Date	Scale	Drawn by	Checked by	Approved by
29/03/2020	1:10K @ A4	GTB	SJ	SJ

Drawing Status
FINAL

Project Title
ENVIRONMENTAL PERMIT APPLICATION
FORWARD WASTE MANAGEMENT
HAZARDOUS WASTE TRANSFER STATION
EAST MOORS ROAD
CARDIFF, CF24 5EE

Drawing Title
SITE LOCATION PLAN

Drawing Number	Rev
ECL.010.02.01-01	-



LEGEND

- ENVIRONMENTAL PERMIT BOUNDARY
- EXTERNAL CONCRETE HARDSTANDING
- BUILDINGS
- AREA COVERED BY ECL.010.02.01/FPP
- 6m SEPARATION DISTANCE
- LOCKABLE ENTRANCE GATE
- BUND WALL
- FIRE RESISTANT WASTE STORAGE BAY WALL
- SLEEPING POLICEMEN
- HOT LOAD QUARANTINE (4m x 4m x 2m H)
- WEEE STORAGE - NON-HAZARDOUS
- WEEE STORAGE - HAZARDOUS
- FRONT END LOADING CONTAINER STORING CRUSHED METAL DRUMS
- BATTERY STORES
- OXIDISING SOLIDS LIQUID STORES
- ① BAY 1
- ② BAY 2
- ③ BAY 3
- ④ BAY 4
- ⑤ NON-CONFORMING WASTE QUARANTINE
- ⑥ INBOUND WASTE RECEPTION / TANKER BULKING
- ⑦ EMPTY PACKAGING
- ⑧ BAY 8
- ⑨ AEROSOLS (CAGED BAY)
- ⑩ BAY 10
- ⑪ TIN CRUSHER BAY

Rev	Date	Details	Chkd
1	29/03/2020	29/03/2020	GTB

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Date	Scale	Drawn by	Checked by	Approved by
29/03/2020	1:500 @ A3	GTB	SJ	SJ

Drawing Status

FINAL

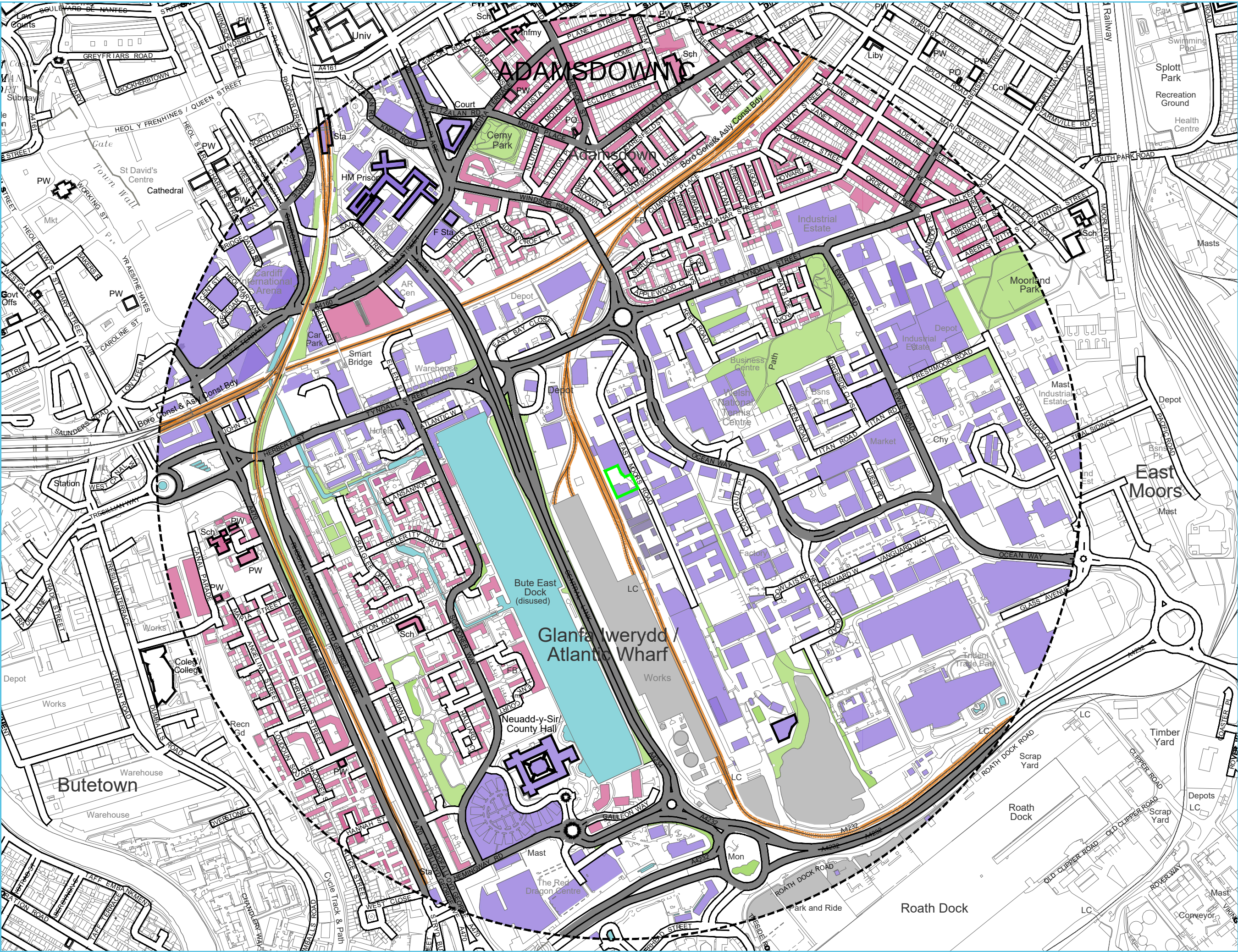
Project Title

ENVIRONMENTAL PERMIT APPLICATION
FORWARD WASTE MANAGEMENT
HAZARDOUS WASTE TRANSFER STATION
EAST MOORS ROAD
CARDIFF. CF24 5EE

Drawing Title

SITE LAYOUT PLAN

Drawing Number	Rev
ECL.010.02.01-02	-



N

LEGEND

- ENVIRONMENTAL PERMIT BOUNDARY
- 1000m OFFSET BOUNDARY
- DOMESTIC DWELLINGS
- AREAS OF OPEN SPACE / PLAYING FIELDS
- COMMERCIAL PREMISES
- INDUSTRIAL PREMISES
- ROAD FEATURES
- RAILWAY FEATURES
- SURFACE WATER FEATURES

HOURLY MEAN WIND ROSE FOR ST ATHAN

Met Office

NO2: 2009 - 1004 N
SEASON: ANNUAL

ALTITUDE: 40 METRES AMSL
Period of data: Jan 2008 - Dec 2017

W N E S

95,000 OBSERVATIONS
0.0% CALM
0.0% VARIABLE

1-10 11-16 17-27 28-33 >33
Hourly mean wind speed (knots)

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Rev	Date	Details	Chkd
1	29/03/2020	Scale 1:7.5K @ A3	GTB
2		Drawn by GTB	
3		Checked by SJ	
4		Approved by SJ	

Drawing Status

FINAL

Project Title
ENVIRONMENTAL PERMIT APPLICATION
FORWARD WASTE MANAGEMENT
HAZARDOUS WASTE TRANSFER STATION
EAST MOORS ROAD
CARDIFF, CF24 5EE

Drawing Title
SENSITIVE RECEPTOR PLAN

Drawing Number
ECL.010.02.01-03

Rev
-

Environmental Compliance Ltd. **ECL**

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Client
forward
waste management



LEGEND	
	ENVIRONMENTAL PERMIT BOUNDARY
	EXTERNAL CONCRETE HARDSTANDING
	BUILDINGS
	AREA COVERED BY ECL.010.02.01/FPP
	6m SEPARATION DISTANCE
	LOCKABLE ENTRANCE GATE
	BUND WALL
	FIRE RESISTANT WASTE STORAGE BAY WALL
	SLEEPING POLICEMEN
	HOT LOAD QUARANTINE (4m x 4m x 2m H)
	WEEE STORAGE - NON-HAZARDOUS
	WEEE STORAGE - HAZARDOUS
	FRONT END LOADING CONTAINER STORING CRUSHED METAL DRUMS
	BATTERY STORES
	OXIDISING SOLIDS LIQUID STORES
	BAY 1
	BAY 2
	BAY 3
	BAY 4
	NON-CONFORMING WASTE QUARANTINE
	INBOUND WASTE RECEPTION / TANKER BULKING
	EMPTY PACKAGING
	BAY 8
	AEROSOLS (CAGED BAY)
	BAY 10
	TIN CRUSHER BAY
	FIRE ALARM BREAK GLASS
	FIRE EXTINGUISHER C = CO ₂ P = POWDER
	FIRE EXIT
	FIRE ASSEMBLY POINT
	FIRE HYDRANT
	SPILL KIT
	EMERGENCY INFO PACK
	FIRE WATER CONTAINMENT EQUIPMENT STORAGE AREA
	ROUTE OF EMERGENCY SERVICES
	LOCATION OF BOOM DEPLOYMENT

Rev	Date	Details	Chkd
Environmental Compliance Ltd.			
Unit G1 The Willowford Main Avenue Treforest Industrial Estate Pontypridd, CF37 5YL			
Client			
Date	Scale	Drawn by	Checked by
29/03/2020	1:500 @ A3	GTB	SJ
Approved by SJ			
Drawing Status			
FINAL			
Project Title			
ENVIRONMENTAL PERMIT APPLICATION FORWARD WASTE MANAGEMENT HAZARDOUS WASTE TRANSFER STATION EAST MOORS ROAD CARDIFF. CF24 5EE			
Drawing Title			
FIRE PREVENTION AND MITIGATION PLAN			
Drawing Number			
ECL.010.02.01-04			
Rev			
-			



- LEGEND**
- ENVIRONMENTAL PERMIT BOUNDARY
 - RWP RAIN WATER PIPE
 - SM STORM MANHOLE
 - STORM DRAIN
 - FM FOUL MANHOLE
 - FOUL DRAIN
 - COMBINED DRAIN

Rev	Date	Details	Chkd
Environmental Compliance Ltd. Unit G1 The Willowford Main Avenue Treforest Industrial Estate Pontypridd, CF37 5YL			
Client 			
Date	Scale	Drawn by	Checked by
29/03/2020	1:500 @ A3	GTB	SJ
Drawing Status FINAL			
Project Title ENVIRONMENTAL PERMIT APPLICATION FORWARD WASTE MANAGEMENT HAZARDOUS WASTE TRANSFER STATION EAST MOORS ROAD CARDIFF. CF24 5EE			
Drawing Title DRAINAGE ARRANGEMENTS PLAN			
Drawing Number ECL.010.02.01-05			Rev -

APPENDIX III WASTE PROCEDURES



PRE-ACCEPTANCE PROCEDURE

Purpose

To ensure that waste legislation, the requirements of SGN 5.06, and the Environmental Permit are complied with to prevent the acceptance of unsuitable wastes for storage and / or onward processing.

Scope

Forward Waste Management East Moors Rd Hazardous Waste Transfer Station.

Responsibility

Technical Manager
Senior Site Chemist
Site Chemist
Industrial Waste Analyst (Sales)

Records

ISYS
COS
MID (Material Identification Doc – Sampling)
Chain of Custody (internal or suppliers)
Waste Declaration Form

COS -> MID (If required for samples) + Chain of Custody (internal or suppliers) -> Waste Pre-Acceptance Form

1. WASTE ENQUIRY INFORMATION

From the waste disposal enquiry or a subsequent site survey, the Operator (Sales Representative or appointed Technical staff) will obtain information in writing in relation to:

- The type of process producing the waste.
- The specific process from which the waste derives.
- The quantity of waste.
- The form the waste takes (solid, liquid, sludge, etc).
- Hazards associated with the waste.
- Chemical analysis of the waste (individual constituents and as a minimum their percentage compositions).
- Sample storage and preservation techniques.
- Assign Hazard Codes and Risk Phrases to the waste stream.



The Sales Representative and appointed Technical staff will assist the customer / Producer in the provision of the information, but the customer will be required to confirm in writing that the information is correct. The information may be obtained over a series of communications with the customer and should give consideration to possible or residual contamination.

Indicative quotes may be given but the waste stream **shall not be approved for acceptance to the site until the full information has been received from the customer and assessed for acceptability by the Technical Dept.** The information gathered at this stage shall be recorded on the Waste Declaration Form, COS and / or the Chain of Custody Form (samples). These forms will then be stored either digitally on the Operations server or as a hard copy.

2. PRE-ACCEPTANCE INFORMATION AND SAMPLING

Information

In instances where the generic characteristics of the waste are known and where a sample would not be required, the information will be detailed on the Waste Declaration Form by the Producer, with the assistance of the IWA (Sales) and supported by existing classifications and / or MSDS.

The purpose of pre acceptance information / sampling is to provide information to determine the appropriate management, storage and treatment route and to facilitate the safe handling of the waste on site.

The following will be undertaken for each waste stream:

- Nominally empty containers – MSDS will be obtained.
- Solidified resins (fully cured and generally non hazardous in this state) – MSDS will be obtained / state of material will be confirmed by Technical.
- Oily rags and contaminated PPE – Subject to technical assessment and contaminant.
- Pure / raw products*.
- Laboratory smalls – subject to technical assessment (see below for procedure).
- Aerosols (nil Isocyanate, toxic, corrosive etc) - subject to technical assessment
- Gas canisters (empty and fully discharged) – subject to technical assessment.
- Batteries (fully identifiable and intact. If not intact, correctly overpacked.
- WEEE (hazardous and non-hazardous) - subject to technical assessment.
- Bonded asbestos – subject to technical assessment.
- Oils, greases and oil based lubricants - MSDS will be obtained / state of material will be confirmed by Technical
- Domestic type detergents and cleaning chemicals - MSDS will be obtained / state of material will be confirmed by Technical
- Waste process chemicals such as acids and bases - MSDS will be obtained / state of material will be confirmed by Technical
- Sealants and glues - MSDS will be obtained / state of material will be confirmed by Technical
- Fuels and solvents - MSDS will be obtained / state of material will be confirmed by Technical
- Filter cakes and sludges - subject to technical assessment



- Dusts - subject to technical assessment
- Paints - MSDS will be obtained / state of material will be confirmed by Technical
- Empty contaminated packaging - MSDS will be obtained / state of material will be confirmed by Technical

* - a Pure product waste in this case is defined as a mixture or preparation that has been manufactured to a defined recipe to produce a material with a specific function and consistent properties.

A waste product can be produced by the following:

- out of date
- over production
- off specification
- contamination by a substance at levels which will not increase the hazardous properties of the substance e.g. petrol contaminated with water.
- washings where a product has been washed out using water.

Where a sample is not taken the justification will be recorded on the Waste Declaration Form.

Sampling

In instances where a sample is required, unless a sample and analysis has already been completed by a third party and this is within a 3 month window (variable wastes) and 6 months (non-variable wastes) of the date of the enquiry, FWM should in every case obtain representative sample(s) of the waste from the production process / current holder and compare it against the written description to ensure that it is consistent.

Samples will be taken in accordance with Forward Waste Management sampling procedures.

Other than for pure-product chemicals or laboratory smalls, the chemical analysis should relate to an accredited analysis and not based on product data sheets or an interpretation of information on product data sheets.

In the first instance, samples of the waste should only be retrieved by the Producer under guidance by IWA in conjunction with FWM Technical Dept.

Samples can also be obtained by one of the following:

- FWM Technical.
- Suitably qualified or experienced third party,

The information is recorded on the chain of custody form (FWM MID FORM). Where a sample is taken by the customer, advice will be given regarding the completion of the chain of custody form. The IWA (Sales) and/or Technical will assist the customer in the provision of the information.



The sample will be labelled with the appropriate hazard diamond(s) and the chain of custody form (FWM MID FORM) will be completed to identify chemical concentration, hazards and transport classification.

The samples and their accompanying documents will be stored in the locked interim cabinet and passed onto Technical from there. The sample and documentation will be logged onto the sample register and stored in the processing cabinet prior to establishing suitable candidates for onward recycling /disposal. Once a suitable outlet is sourced a sample is despatched under limited quantities via courier and logged on the sample register.

Only UKAS accredited laboratories will be used for off-site analysis, included but not limited to:

- WAC (Waste Acceptance Criteria)
- Basic Chemical Characterisation
- Testing criteria according to ADR
- EWC analysis and classification report using WM3 Guidance.

Analysis required will vary depending upon the nature of the waste, the process to be used and what is known about the waste already. Results of analysis should be kept within the tracking system.

These details should include:

- check on constituents declared by waste producer/holder to ensure Permit compliance, treatment plant specification and final disposal.
- all hazardous characteristics.
- physical appearance.
- colour.
- pH.
- presence, strength and description of odour assessment (note COSHH implications)

Further analysis may include other parameters relevant to the treatment method or waste stream e.g.:

- presence of oxidants
- acidity and alkalinity
- COD
- ammonia
- flashpoint
- presence of sulphide
- presence of cyanide
- List I and List II substances
- other substances of environmental significance

Also, for example in the case of oil recovery:

- chlorine
- sulphur
- metals
- PCBs

The above analysis will be conducted in conjunction with both FWM Laboratory facilities and 3rd party suppliers. The scope of the analysis will be determined by the Technical Dept.



The information necessary for verification at the waste acceptance stage is entered on the COS by the IWA (Sales) and the Waste Declaration Form which is issued to the inspecting Site Chemist.

The following forms as a minimum shall be stored:

- COS (Cost of Sales form).
- Official or email Quote with evidence of customer declaration.
- Pre-acceptance analysis or MSDS (as required).
- Waste Declaration Form
- Waste Acceptance Form

The full technical assessment is carried out and approved, only by Technical Dept.

Lab Smalls

Where possible, in all instances FWM will endeavour to provide a full, compliant Technical service supported by qualified Chemist and DGSA (Dangerous Goods Safety Advisor) for the correct packaging of “lab smalls”. This will include:

- Initial documentation / listing of the materials.
- Creation of compliant segregation lists.
- Support on completion of Waste Declaration Forms.
- Supply of consumables – compliant drums / “overpacks” and packing media.
- Compliant transport labelling.
- Waste documentation and supporting inventory.
- Compliant physical packing of the materials for loading, transport and unloading.

For Lab Small packed by the Producer, the following information must be supplied by the Producer / IWA (Sales) in conjunction with Technical Dept. (Technical Manager, Senior Site Chemist, Site Chemist):

- The information required to complete the Waste Declaration Form.
- What chemicals are prohibited by FWM permit (e.g. radioactive chemicals, Clinical wastes, explosives,)
- How to identify the waste laboratory chemical.
- How to establish and record the hazards posed by the chemical.
- Supporting documentation required (e.g. manufacturers data, material safety data sheets).
- Segregation guidance to avoid mixing of incompatible wastes in the same drum.
- How to physically pack the chemicals.
- The required information to accompany the waste.
- The preparation of the “overpacks” to ensure compliant loading, transport and unloading.

Any discrepancies will be documented and communicated via email to the Producer / IWA (Sales) and the materials will not be progressed to booking / acceptance until the items have been fully assessed and cleared / reworked and approved by Technical Dept.



3. Booking of inbound wastes into site

The outbound disposal / recycling route will be detailed on the Waste Acceptance Form. The defined disposal / recycling route will be suitably approved via Control of Contractors criteria and all relevant documentation recorded on the Approved Suppliers List.

When the waste is approved for acceptance, a booking will be created specifying when the waste can be accepted at the site and will allow an appropriate time for the unloading, inspection and sampling of the waste. A booking will be requested from Operations and confirmed by Technical Dept. A Waste Booking Form will be completed and the booking will be entered, by Operations on the operational software system (ISYS).

Wastes will be appropriately designated for storage by waste type and hazardous / non-hazardous classification in segregated bays (Toxic, corrosive, basic etc.). These storage locations will be detailed on the Waste Booking Form. All records will be retained for a minimum of 3 years and will be stored on both hard copy and digitally.

Servers are backed up on a weekly basis.



ACCEPTANCE, STORAGE AND HANDLING PROCEDURE

Purpose

To ensure that waste legislation, the requirements of SGN 5.06, and the Environmental Permit are complied with to prevent the acceptance of unsuitable wastes for storage and / or onward processing.

Scope

Forward Waste Management Ltd, East Moors Rd Hazardous Waste Transfer Station.

Responsibility

Technical Manager

Senior Site Chemist

Site Chemist

Industrial Waste Analyst (Sales)

Records

ISYS

Insert Internal Chain of Custody form

COS

MID (Material Identification Doc – Sampling)

Waste Declaration Form (to be created)

Waste Booking Form

Waste Acceptance Form – **includes: Load inspection, paperwork compliant, location of waste, sampling regime.**

Waste tracking system

COS -> MID (If required for samples) + Chain of Custody (if required for samples) -> Waste Declaration Form -> Waste Booking Form -> Waste Acceptance form

1. Load Arrival

On arrival, all loads will:

- be weighed, unless alternative reliable volumetric systems linked to specific gravity data are available
- not be accepted into site unless there is a sufficient storage capacity and the site is adequately manned to receive waste.
- have all documents checked and approved, and any discrepancies resolved before the waste is accepted.
- have any labelling that does not relate to the contents of the drum removed before acceptance for unloading is approved.
- Have pre-acceptance confirmation of a costed and approved onward disposal / recycling route.
- All wastes (hazardous / non-hazardous) should only be received under the supervision of a suitably qualified person. (HNC qualified chemist or above).



The procedural management of acceptance of incoming waste is undertaken by a suitably qualified Site Chemist / Senior Site Chemist. The acceptance of waste comprises four stages:

- Checking of paperwork,
- 1st stage inspection from the ground before unloading,
- Inspection of the delivery after unloading
- Sampling, verification and testing

On arrival at the site, the driver of the delivery vehicle will be required to provide the load delivery paperwork which will include part or all of the following:

- Delivery note
- Consignment note – mandatory for Hazardous waste
- Duty of Care transfer note – mandatory for all wastes
- Batch list

2. Load inspection and Receipt

On arrival, the vehicle will be required to be weighed in and the tare, gross and nett weights recorded on a weight ticket.

The accompanying waste documentation (Waste Transfer Note, Consignment Note etc) will be compared to the Waste Booking Form for the to ensure that the description and quantities of the waste delivered is consistent with the waste booked.

The process will be undertaken by a Site Chemist or another trained person. If the documentation is not consistent with the details on the Waste Booking Form, a non-conformance will be raised in accordance with - 6. Non Conformance Procedure.

Before off-loading the vehicle, a 1st stage inspection supervised by the Site Chemist will be conducted. The Site Chemist will ensure that the any relevant health and safety instructions are followed and that the load is visually inspected from the ground to determine the condition of the load.

Checks will include, for packaged waste - stability, compatibility, condition of containers, seepages and odour to the extent that can be observed from the ground. Any waste that is determined unfit for transport or presenting a risk to the site shall be dealt with on site in accordance with - 6. Non Conformance Procedure and appropriately packed in line with ADR / CDG.

Once the 1st stage checks are completed, the waste will be offloaded into the bunded reception area where it is inspected and sampled (inspection, unloading and sampling area is designated on the site plan as "Inbound waste reception").

Non-hazardous items will be identified and these will be placed into a separate row / area within the reception area.

Each container will be inspected to ensure that it is in a fully sound condition, correctly orientated, with all lids capped and valves closed and that there is no critical damage present. Each waste



container will then be verified against the description provided on the paperwork (WTN, CN and Waste Booking Form) and sampled where necessary. The technical information / analysis data will be compared (where applicable) to the specification detailed in the Waste Declaration Form.

Inbound wastes will not be stored in the waste reception area for longer than 3 hours prior to commencement of sampling and ongoing storage – such storage will be for a maximum of 5 days.

Waste will not be offloaded into the reception area unless sufficient space is available to safely and appropriately assess such loads. Inbound waste booking will be controlled in full by the Technical Dept.

3. Sampling

Every waste container will be suitably sampled and a core sample obtained. For compatible liquids of the same “product” or “line” a composite sample will be suitable.

The Chemist will ensure that all lids or caps etc are closed after a sample is obtained.

The sample analysis will be compared to the pre-acceptance documentation to ensure the waste is consistent with preliminary assessments. Any non-conforming containers will be documented in line with 6. Non-Conformance Procedure.

Samples will be retained for a minimum of 2 days after the waste and its residues have left site.

The sampling regime for each load is recorded on the Waste Acceptance Form.

4. Storage

The accompanying paperwork will detail the relevant reference number (FWMID) for each “product” or “line” and this will be applied to each container via a label detailing

- The unique FWMID number
- The arrival date
- Primary hazard (eg Class 3 – Flammable Liquid / Non hazardous).
- Location of storage (eg Bay number)
- Chemical identity
- EWC Code
-

Each container should be stored so that the label is easily accessible.

Any non-hazardous, clean and uncontaminated packaging such as cardboard / LDPE / film / paper / wood etc will be transferred to EMR1 baling facility.

Load documentation will be compiled and retained in hard copy and digitally in server location



The location of each item will be recorded in the Waste Acceptance Form and within the waste tracking system.

Each container will be segregated and stored in the appropriate bay, assigned by its combustibility and its hazard class and will remain segregated until assigned to an outbound load for off-site processing. All liquids will be stored on bunded platforms.

Non-hazardous wastes will be segregated and stored in the appropriate bays or storage vessels e.g. WEEE non hazardous skip.

5. Waste Tracking System

The Waste Tracking system will hold the records relating to:

- Date of arrival on-site of wastes.
- Producers details.
- All previous holders.
- The unique reference number (FWMID).
- The EWC code.
- Pre acceptance and acceptance analysis and assessment results.
- Package type and size.
- Intended treatment/disposal route.
- Record accurately the nature and quantity of wastes held on site, including all hazards and identification of primary hazards.
- Where the waste is physically located in relation to a site plan.
- Where the waste is, in the designated disposal route.
- Identification of staff who have taken any decisions regarding acceptance or rejection of waste streams and have decided upon recovery / disposal options.

All hard copy documents will be retained for a minimum of 5 years. These will be stored in the site office.

All digital records will be stored at the Office facility located at Forward House, East Moors Road and will be retained on the company server which is backed up on a weekly basis.

6. Non-conformance Procedure

If at any point in the process chain a waste stream / waste container is found to be non-compliant to either site permitted requirements or to the original producer declaration / pre-acceptance assessment, it shall be determined as a non-conformance.

The waste will be routed to the appropriate quarantine area on site and labelled / stored.

If appropriate, the Site Chemist will store non-conforming items in the area of the site appropriate to the waste (eg by Hazard Class). If, In the event that the nature or condition of the waste is such that



it cannot be quarantined safely with other waste, it will be placed and separated in the quarantine facility on a dedicated bund and such storage should be for a maximum of five working days.

As soon as practicable after the waste has been quarantined, the appropriate Sales Representative / Customer Account Manager shall be contacted and arrangements made to either:

- retest the waste stream to validate acceptability to site if differing from the original producer declaration / pre-acceptance assessment; or
- reject the waste from site.

In the case of retesting waste, should the analysis required be outside of the scope of the sited laboratory, the appropriate accredited laboratory shall be provided with an acceptable sample without delay and the necessary chain of custody protocol followed. If it becomes apparent due to laboratory turn-around times that the 5 day maximum period cannot be met, the regulator will be contacted without delay to seek approval to extend the time period. This action will be recorded in the site diary. If the extension request is denied the waste must be rejected from site within the 5-day storage limit.

Once the non-conformance is concluded, the relevant Sales Representative / Customer Account Manager will be contacted to resolve any cost implications or a return of the waste to the Producer. All actions and conclusions will be recorded on the Non-Conformance Form and any service-related issues recorded.

Specifically, for Lab Smalls

If on opening a drum it is found that it contains incompatible substances, or that the substances have not been packaged adequately, then the drum will be non-conformed and documented in line with 6. Non-Conformance Procedure. The drum will be placed in the quarantine area to be sorted and repacked immediately by a suitably qualified Chemist and the non-conformance procedure followed.

Sorting and repackaging of laboratory smalls should take place in a dedicated area (quarantine area).

Once the wastes have been sorted according to hazard classification, with due consideration for any potential incompatibility problems, and repacked, then these drums should be removed to the appropriate storage area, defined by the appropriate hazard class.

Specifically, for crushing of steel empty tins

Empty steel tins (previously containing paint, solvents, glues etc) will be assessed for crushing suitability by the Chemist / Senior Site Chemist. Excess residues will be transferred to a UN Approved 205lt drum and stored in the bunded area within the FPP area for flammable liquids.

Once assessed, the suitable tins will be placed in the tin crushing area and assigned for crushing. Once crushed, they will be transferred to the FEL for storage and bulking prior to removal from site.

Forward Waste Management Hazardous Waste Transfer Station

Issue 1.0 25/03/20 Created by – WL (Tech Manager)

Approved by – ND (COO)



Bulk liquid wastes (via road tanker / portable tank etc) are not permitted for acceptance and discharge.



LIQUID BULKING PROCEDURE

Purpose

To ensure that Waste Legislation, the requirements of SGN 5.06, and the Environmental Permit are complied with to prevent the removal, loading or delivery of unsuitable wastes for onward processing.

Scope

Forward Waste Management Ltd, East Moors Rd Hazardous Waste Transfer Station.

Responsibility

Technical Manager
Senior Site Chemist
Site Chemist

Records

ISYS
Waste Tracking System

Generic Bulking Procedure

1. The appropriate road tanker will be arranged and booked to attend site and remove liquids from identified containers on an agreed date.
2. The nominated and labelled batch containers will be arranged in the reception area on the day of collection prior to the arrival of the tanker.
3. Each container will be checked against the batch list and confirmed.
4. On arrival, the road tanker Operator / Driver will weigh in and attend the Site Office and report to the Site Chemist / Senior Site Chemist for approval to enter the Bulking Zone. They will provide a tank cleaning certificate when applicable.
5. The vehicle will safely reverse into the Bulking bay, only under the direction of a banksman.
6. The vehicle will halt in the correct position, apply braking and switch off the main engine. Chocks will be placed in order to prevent accidental movement of the vehicle during loading.
7. The Operator / Driver will don the appropriate PPE and connect the suitable pipework and valve assemblies to the rear inlet valve of the barrel.
8. The earthing system will be engaged and checked.
9. The nominated and labelled batch containers will be presented one pallet / IBC at a time to the designated and bunded area for the Operator / Driver to insert pipework and remove the liquid via vacuum barrel operation. Any containers not bearing a Batch Label will not be presented for loading and will be placed in the quarantine area for assessment by the Site Chemist / Senior Site Chemist.
10. During the operation the sample valve will be used to obtain samples for temperature assessment. FOR ACID / ALKALI BULKING THE pH MUST ALSO BE MONITORED.
11. Once batch container/s have been emptied. The empty container/s will be returned to the Reception Area.
12. The process will be repeated until the full composite load is transferred to the road barrel.



13. The Driver / Operator will vent and purge pipework and return it to the storage points on the vehicle. All valves will be closed and checked, the earthing system will be dis-engaged.
14. Wheel chocks will be removed and the vehicle will mobilise to the weighbridge for a second weight.
15. Paperwork will be completed by all parties and copies retained by the Site Chemist / Senior Site Chemist.

Oils

Drums / IBC's containing oils will be identified using FWMID numbers and analysed via GC to determine their properties and appropriately assessed for compatibility in preparation for bulking via road tanker.

An appropriate sized core sample will be obtained from each source and a composite sample created from all nominated containers. The composite sample should be homogenous, free from solids and water, it should not exhibit any form of reaction (such as evolved gases, temperature changes, polymerisation or viscosity change, separation or precipitation of solids, odour etc) and not consist of separation phases.

Any source containing incompatible or unsuitable material will be removed from the potential composite assessment and identified and labelled accordingly.

Once a successful composite sample has been created, this will be signed off by the Senior Chemist and updated on the Waste Tracking System. The source drums / IBC's will be labelled with a Batch Label and arranged for collection by an approved supplier for bulking and onward treatment / disposal. The source drums / IBC's will be updated on the Waste Tracking System upon collection to remove them from the live stock.

Loading via road barrel of the nominated batch will be conducted as per "Generic liquid bulking procedure".

Oils will be transported as "not classified as dangerous by road"

Chlorinated oil

Drums / IBC's containing Chlorinated oils will be identified using FWMID numbers and analysed via GC to determine their properties (such as Chlorine content) and appropriately assessed for compatibility in preparation for bulking via road tanker.

An appropriate sized core sample will be obtained from each source and a composite sample created from all nominated containers. The composite sample should be homogenous, free from solids and water, it should not exhibit any form of reaction (such as evolved gases, temperature changes, polymerisation or viscosity change, separation or precipitation of solids, odour etc) and not consist of separation phases.



Any source containing incompatible or unsuitable material will be removed from the potential composite assessment and identified and labelled accordingly.

Once a successful composite sample has been created, this will be signed off by the Senior Chemist and updated on the Waste Tracking System. The source drums / IBC's will be labelled with a Batch

Label and arranged for collection by an approved supplier for bulking and onward treatment / disposal. Due to the nature of Chlorinated oils this may remain in drums / IBC's for consigning from site.

Loading via road barrel of the nominated batch will be conducted as per "Generic liquid bulking procedure" detailed above

Chlorinated oils will be transported under UN 3077 PGIII Environmentally Hazardous Substance, Liquid.

Oily water

Drums / IBC's containing oily waters will be identified using FWMID numbers and analysed via GC / XRF to determine their properties and appropriately assessed for compatibility in preparation for bulking via road tanker.

An appropriate sized core sample will be obtained from each source and a composite sample created from all nominated containers. The composite sample should be homogenous, free from solids and water, it should not exhibit any form of reaction (such as evolved gases, temperature changes, polymerisation or viscosity change, separation or precipitation of solids, odour etc) and not consist of separation phases.

Any source containing incompatible or unsuitable material will be removed from the potential composite assessment and identified and labelled accordingly.

Once a successful composite sample has been created, this will be signed off by the Senior Chemist and updated on the Waste Tracking System. The source drums / IBC's will be labelled with a Batch Label and arranged for collection by an approved supplier for bulking and onward treatment / disposal.

Loading via road barrel of the nominated batch will be conducted as per "Generic liquid bulking procedure".

Oils will be transported as "not classified as dangerous by road"



Aqueous non-hazardous liquids

Drums / IBC's containing aqueous non-hazardous liquids will be identified using FWMID numbers and analysed via XRF / bench test to determine their properties and appropriately assessed for compatibility in preparation for bulking via road tanker.

An appropriate sized core sample will be obtained from each source and a composite sample created from all nominated containers. The composite sample should be homogenous, free from solids, it should not exhibit any form of reaction (such as evolved gases, temperature changes, polymerisation or viscosity change, separation or precipitation of solids, odour etc) and not consist of separation phases.

Any source containing incompatible or unsuitable material will be removed from the potential composite assessment and identified and labelled accordingly.

Once a successful composite sample has been created, this will be signed off by the Senior Chemist and updated on the Waste Tracking System. The source drums / IBC's will be labelled with a Batch Label and arranged for collection by an approved supplier for bulking and onward treatment / disposal. The source drums / IBC's will be updated on the Waste Tracking System upon collection to remove them from the live stock.

Loading via road barrel of the nominated batch will be conducted as per "Generic liquid bulking procedure".

Aqueous non-hazardous liquids will be transported as "not classified as dangerous by road"

Corrosive Acidic Liquids

Drums / IBC's containing corrosive acidic liquids will be identified using FWMID numbers and analysed via XRF / bench test to determine their properties and appropriately assessed for compatibility in preparation for bulking via road tanker.

An appropriate sized core sample will be obtained from each source and a composite sample created from all nominated containers. The composite sample should be homogenous, free from solids, it should not exhibit any form of reaction (such as evolved gases, temperature changes, polymerisation or viscosity change, separation or precipitation of solids, odour etc) and not consist of separation phases. The pH will be monitored and balanced.

Any source containing incompatible or unsuitable material will be removed from the potential composite assessment and identified and labelled accordingly.

Once a successful composite sample has been created, this will be signed off by the Senior Chemist and updated on the Waste Tracking System. The source drums / IBC's will be labelled with a Batch Label and arranged for collection by an approved supplier for bulking and onward treatment / disposal. The source drums / IBC's will be updated on the Waste Tracking System upon collection to remove them from the live stock.



Loading via road barrel of the nominated batch will be conducted as per “Generic liquid bulking procedure”.

Corrosive acidic liquids will be transported under their specific UN number and proper shipping name if the acid type is known (Hydrochloric / Phosphoric acid etc).

If the acid is non-specific, then a generic UN number and proper shipping name will be used and the packing group assigned from the known percentage concentration of the components.

Corrosive Basic (alkali) Liquids

Drums / IBC's containing corrosive basic liquids will be identified using FWMID numbers and analysed via XRF / bench test to determine their properties and appropriately assessed for compatibility in preparation for bulking via road tanker.

An appropriate sized core sample will be obtained from each source and a composite sample created from all nominated containers. The composite sample should be homogenous, free from solids, it should not exhibit any form of reaction (such as evolved gases, temperature changes, polymerisation or viscosity change, separation or precipitation of solids, odour etc) and not consist of separation phases. The pH will be monitored and balanced.

Any source containing incompatible or unsuitable material will be removed from the potential composite assessment and identified and labelled accordingly.

Once a successful composite sample has been created, this will be signed off by the Senior Chemist and updated on the Waste Tracking System. The source drums / IBC's will be labelled with a Batch Label and arranged for collection by an approved supplier for bulking and onward treatment / disposal. The source drums / IBC's will be updated on the Waste Tracking System upon collection to remove them from the live stock.

Loading via road barrel of the nominated batch will be conducted as per “Generic liquid bulking procedure”.

Corrosive basic liquids will be transported under their specific UN number and proper shipping name if the base type is known (Sodium Hydroxide etc).

If the base is non-specific, then a generic UN number and proper shipping name will be used and the packing group assigned from the known percentage concentration of the components.

Flammable solvent liquids

Drums / IBC's containing flammable liquids will be identified using FWMID numbers and analysed via GC to determine their properties (such as Chlorine content and will have their Flash Point determined) and appropriately assessed for compatibility in preparation for bulking via road tanker.



An appropriate sized core sample will be obtained from each source and a composite sample created from all nominated containers. The composite sample should be homogenous, free from solids and water, it should not exhibit any form of reaction (such as evolved gases, temperature changes, polymerisation or viscosity change, separation or precipitation of solids, odour etc) and not consist of separation phases.

Any source containing incompatible or unsuitable material will be removed from the potential composite assessment and identified and labelled accordingly.

Only materials of Packing Group II (flash point >23 degrees C and boiling point > 35 degrees C) and III (flash point >23 degrees - <65 degrees C and boiling point > 35 degrees C) are permitted for bulking.

Materials of Packing Group I (boiling point <35 degrees C) will not be permitted for bulking. Weather conditions will be taken into account for the bulking of any flammable liquids.

Once a successful composite sample has been created, this will be signed off by the Senior Chemist and updated on the Waste Tracking System. The source drums / IBC's will be labelled with a Batch Label and arranged for collection by an approved supplier for bulking and onward treatment/disposal.

Due to the nature of flammable liquids this may remain in drums / IBC's for consigning from site. Loading via road barrel of the nominated batch will be conducted as per "Generic liquid bulking procedure".

Due to the complexity of the components, flammable liquids will be transported under UN 1993 Flammable Liquid N.O.S and the Packing Group assigned from the flash point testing in line with ADR principles of classification.



OUTBOUND WASTE PROCEDURES

Purpose

To ensure that Waste Legislation, the requirements of SGN 5.06, and the Environmental Permit are complied with to prevent the removal, loading or delivery of unsuitable wastes for onward processing.

Scope

Forward Waste Management Ltd, East Moors Rd Hazardous Waste Transfer Station.

Responsibility

Technical Manager
Senior Site Chemist
Site Chemist

Records

ISYS

Waste Acceptance Form – **includes : Load inspection, paperwork compliant, location of waste, sampling regime.**

Waste Tracking System

1. Overview

Prior to any wastes being received for acceptance and storage on site, compliant and commercially viable options for onward processing, recycling or disposal will be sourced.

Full technical information and any samples required will be obtained in advance via the OCP PRE ACCEPTANCE / ACCEPTANCE procedures.

Potential Suppliers will be engaged to determine suitable and environmentally reputable consignees that can provide stable, consistent and commercially proficient acceptance routes for all outbound wastes.

Once a suitable Supplier has been established and all necessary Approve Supplier procedures (ISO 9001) are met, the potential site will be approved for delivery of wastes.

Where applicable, samples will be provided to Suppliers and / or a site visit will be arranged for the Supplier to assess potential wastes for receipt.

In order to maximise stock efficiency, Suppliers will be selected by compliance, capability, availability for stock, location and commercial viability.

Where possible, a contractual agreement will be made including terms for agreed delivery slots within a set time period.



Control of all aspects of outbound movements of wastes and for any materials being removed from site:

1. Identifying wastes / materials suitable for removal.
2. Further analysis to identify chemical components etc.
3. Liaising with Suppliers (Consignees).
4. Assigning waste to outbound loads.
5. Arranging delivery slots and requesting transport bookings.
6. Creation of transport documents and labels.
7. Overseeing the movement / relocation of stock assigned to outbound loads.
8. Inspection and labelling of stock assigned to outbound loads.
9. Overseeing the loading of stock assigned to outbound loads.
10. Completion of paperwork.
11. Updating of operational software.
12. Updating of the Waste Tracking System.
13. Management of any non-conformances raised.

This will be solely managed by the Technical Dept (Senior Site Chemist / Site Chemist / Technical Manager DGSA).

2. Procedure

Wastes will be located via the Waste Tracking System and assigned to an outbound "Load". During this process, required documentation (consignment note) and labelling (transport labelling) will be raised.

Suitable transport will be organised, and the collection added to the operational software with all relevant purchase orders and data entry completed,

Selected wastes will be assembled in the Waste Reception Area, immediately prior to loading to allow for:

1. Container inspection – assuring package is suitable for transport by road and all required closures are secured.
2. To remove FWM container labelling to facilitate stock changes on the Waste Tracking System.
3. To adhere suitable ADR transport labelling as required.
4. Carry out any load stabilisation such as shrink-wrapping or pallet configurations.

Any non-conformances raised will be documented and managed via the non-conformance procedure.

Wastes will then be loaded onto the vehicle and relevant documents completed. The vehicle will then be weighed and recorded.

Operational software and Waste Tracking System will be updated accordingly.



3. Assigning wastes to outbound loads.

Waste will be assigned to Suppliers using (but not limited to) the following criteria:

Class 3 (Flammable Liquids) / Class 4.1 (Flammable Solids)

Clean, liquid, flammable solvent-based waste which can be recovered or recycled will be routed to appropriate recovery facilities for reclamation and recycling into new products.

Heavily contaminated, liquid / solid solvent-based wastes which cannot be recovered or recycled will be routed to appropriate reprocessing facilities for use as secondary fuels or kiln fuels.

Class 8 (Corrosive Acidic) Liquids / solids

Clean, liquid aqueous acids will be routed to appropriate physico-chemical treatment facilities for recovery and re-use where possible.

Heavily contaminated liquid aqueous / solid acid wastes will be routed to appropriate physico-chemical treatment facilities for treatment such as metal recovery and/or neutralisation.

Class 8 (Corrosive Basic) Liquids / solids

Clean, liquid aqueous basic materials will be routed to appropriate physico-chemical treatment facilities for recovery and re-use where possible.

Heavily contaminated liquid aqueous / solid basic materials will be routed to appropriate physico-chemical treatment facilities for treatment such as metal recovery and/or neutralisation.

Class 9 (Misc) Liquids / solids (primarily Environmentally Hazardous)

Wastes such as (but not limited to) :

- Drummed or overpacked env haz glues / mastiks etc.
- Articles contaminated with env haz glues / mastiks etc/oils / Chlorinated oils.
- Chlorinated oil liquids.
- Drummed or overpacked hardeners etc.

These will be routed based on potential for reprocessing and / or blending via an Approved Supplier.

Misc Hazardous wastes

Wastes such as:

- Waste non-hazardous packaging / pallets etc prior to reprocessing at EMR1 Non haz TS.
- Waste hazardous packaging – crushed / non-crushed.



- WEEE wastes.
- Oils – (these will be segregated from other wastes within the bay).
- Solid / liquid wastes deemed non-hazardous by WM3.
- Aerosols.
- Sludges.
- Dusts.
- Contaminated textiles will be directed to EMR1 for baling and storage.

These will be routed based on potential for reprocessing and / or blending via an Approved Supplier.

Class 5 & 6.1 (Toxic) Liquids / solids

Wastes such as (but not limited to):

- Pesticides / insecticides.
- Toxic liquids from industries such as surface metal finishing, photographic etc.
- Non specific toxic liquids / solids.

These will be routed based on potential for reprocessing via an Approved Supplier.

Aerosols

Storage area for used / spent or full aerosol containers in vented closed containers. Stored prior to delivery to an Approved Supplier for recycling.

EXAMPLE WASTE TRACKING SYSTEM - PAGE 1

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[illegible][illegible]

[illegible][illegible]

APPENDIX IV

PLANNED PREVENTATIVE MAINTENANCE REGIME



Planned Preventative Maintenance Regime

Telehandler – JCB

Operator to perform daily checks of Telehandler in line with the instructions on ISO form 0514 and record any defect on check sheet (ISO Form 0514). This is then reported to the Line Manager (Senior Chemist / Site Manager). Any defects found are then reported to the hirer of the Telehandler for repair. The daily check sheets are stored in hard copy format within file `Telehandler pre use checks, in Transport Managers desk.

Defects found, which may have a potential environmental or safety risk will result in the Telehandler being prohibited from use until such faults are rectified. As per ISO form 0514 remove the keys and place "Do not use" sign.

The Telehandler is maintained by Holt JCB on a service schedule per 500 hours use and all services are recorded by the Transfer Station Manager and stored in P:Drive > Transport folder under JCB service sheets.

Can Crusher

Operator to perform daily checks of can crusher in line with the instructions on ISO form 0515 and record any defect on check sheet (ISO Form 0524). This is then reported to the Line Manager (Transfer Station Manager).

Any defects found are then reported to the FWM Engineering team for repair. The daily check sheets are stored in hard copy format within file `Can crusher pre use checks`.

Defects found, which may have a potential environmental or safety risk will result in the Crusher being prohibited from use until such faults are rectified. Isolate and disconnect power supply.

The Crusher is maintained by FWM Engineering on a 12 month service schedule and all services are scheduled and recorded by Engineering using the Inspire system.

Condition and Integrity of the Impermeable Concrete Hardstanding

Operator to perform weekly checks of impermeable concrete hardstanding and record any defect on check sheet (ISO Form 0524). This is then reported to the Line Manager (Transfer Station Manager).

Any defects found are then reported to the FWM Engineering team for repair. The check sheets are stored in hard copy format within file `Facility checks`.

Defects found, which may have a potential environmental or safety risk will result in the area being prohibited from use until such faults are rectified.



Condition and Integrity of Buildings, Fencing and Security Gates

Operator to perform weekly checks the site buildings, fences and gates and record any defect on check sheet (ISO Form 0524). This is then reported to the Line Manager (Transfer Station Manager).

Any defects found are then reported to the FWM Engineering team for repair to ensure their continued integrity. Any repairs will be made by the end of the working day. If this is not possible, suitable measures will be taken to prevent any unauthorised access to the site and permanent repairs will be affected as soon as practicable;

The check sheets are stored in hard copy format within file `Facility checks`.

Condition and Integrity of Drainage Arrangements

Operator to perform weekly checks to inspect the condition and integrity of drainage arrangements and record any defect on check sheet (ISO Form 0524). This is then reported to the Line Manager (Transfer Station Manager).

Any defects found are then reported to the FWM Engineering team for repair. Specialist contractors will be appointed where necessary.

The check sheets are stored in hard copy format within file `Facility checks`.

Condition and Operation of Site Security Measures (e.g. CCTV)

Operator to perform weekly checks the condition and operation of site security measures and record any defect on check sheet (ISO Form 0524). This is then reported to the Line Manager (Transfer Station Manager).

Any defects found are then reported to the FWM Engineering team for repair. Specialist security contractor will attend site to undertake any repairs or software updates as appropriate.

The check sheets are stored in hard copy format within file `Facility checks`.

Condition and Integrity of Storage Bays and Bunding

Operator to perform weekly checks the condition and integrity of storage bays and bunding and record any defect on check sheet (ISO Form 0524). This is then reported to the Line Manager (Transfer Station Manager).

Any defects found are then reported to the FWM Engineering team for repair.



Bunding will be inspected to ensure continued integrity. If bunds need emptying of rainwater, this will be undertaken as part of the inspection.

The check sheets are stored in hard copy format within file `Facility checks`.

Defects found, which may have a potential environmental or safety risk will result in the area being prohibited from use until such faults are rectified.

This procedure will also be repeated on emptying of bays for outbound waste movements.

Approved (Chief Operations Officer):

I have read and understood the above document (Operator):

APPENDIX V

JOB SPECIFIC RISK ASSESSMENT FORM

Job Specific Risk Assessment

Date:	Location:		Description of Work:	
Assessed by::				
Who might be at risk due to the work	FWM Employees		Other Workers on Site/ visitors	Members of the public
Hazards Present	Y	N	Specific Hazard	Precautions to Control the Hazard *(See below)
Are there issues getting personnel or materials to and from the workplace?				
Is there anything in the area that can cause you to slip trip or fall over it?				
Is there a risk from falling from any height?				
Could you come into contact with any harmful chemicals or substances?				State COSHH assessment number:
Are you at risk from any flying objects e.g. grinding sparks?				
Is there anything you could walk into or strike against?				
Could you come into contact with any hot surfaces?				
Does the job involve manual activities that could cause you harm?				
Is there any lone working involved?				
Could you be struck by a moving vehicle?				
Are you using any vibrating tools?				
Is there any excessive noise? Is hearing protection mandatory?				Identification of ear protection required:
Is there a risk of electrocution?				
Could you come into contact with any moving parts e.g. machinery?				
Are there any objects that could overturn or collapse?				
Could you disturb any asbestos?				
Are there dust/fumes in the area that could affect you?				Identification of RPE used:
Do you need additional lighting to work safely?				
Is there a risk of suffocation or drowning?				
Are you working in a confined space?				
Could you be affected by extremes of hot or cold conditions?				
Could the work cause damage to the environment?				
Is there a risk of fire or explosion?				
Are there any other hazards that could affect you working safely?				
WE THE UNDERSIGNED HAVE READ, CONTRIBUTED AND FULLY UNDERSTAND THE PRECAUTIONS CONTAINED WITHIN THIS ASSESSMENT				
PRINT NAME	SIGNATURE		PRINT NAME	SIGNATURE

* When specifying precautions, consider in order: 1st - engineering controls (machine guards, safety nets etc) 2nd - signs, barriers, procedures permits etc 3rd - P.P.E.

APPENDIX VI

SITE INFORMATION AND KEY CONTACT DETAILS

Site Information and Key Contact Details

Operator	Forward Waste Management Limited		
Site Address	Forward Waste Management East Moors Road Hazardous Waste Transfer Station, 122-128 East Moors Road, CF24 5EE		
Name	Description	Contact Details (Office Hours)	Contact Details (Out of Hours)
Internal			
Nicholas Davenport	Chief Operating Officer	07534 182937	
Wayne Lockwood	Technical Manager	07824 563829	
Lyndon Ward	Managing Director	07976 609606	
TBC Once Appointed	Site Manager/Senior Chemist	TBC Once Appointed	
Forward House Office	General Enquiries	029 2048 7504	-
External – Emergency Services			
Fire Rescue Service – South Wales Fire and Rescue Service, Adam Street, Cardiff CF24 2FL	Non-Emergency	01443 232000	
	Emergency Only	999	
Police – Cardiff Central, King Edward VII Avenue, Cardiff CF10 3NN	Non-Emergency	101	
	Emergency	999	
Medical Assistance	Non-Emergency – NHS Helpline	0845 46 47	
	Emergency	999	
External - Regulators			
Natural Resources Wales	Emergency (24 hour hotline)	0300 065 3000 - Option 1	
	General Enquiries (Mon-Fri 9am-5pm)	0300 065 3000	
Health and Safety Executive	Incident Contact Centre	0345 300 9923	
External – Key Services			
Landlord	Fastnet Property Investment Ltd	07817 935642	
Water Supplier and Waste Water Treatment	Dwr Cymru Welsh Water	0800 052 0130 – Water 0800 085 3968 - Sewerage	
Energy Supplier	Western Power Distribution	105	
Fire Safety Contractor	ScottFPS	01446 761071	-
Environmental Compliance Limited	Environmental Consultants	01443 841760	-

Site Information and Key Contact Details (Cont.)

Operator	Forward Waste Management Limited		
Site Address	Forward Waste Management East Moors Road Hazardous Waste Transfer Station, 122-128 East Moors Road, CF24 5EE		
Name	Description	Contact Details (Office Hours)	Contact Details (Out of Hours)
External – Nearby Sensitive Receptors			
SSS Steel Profiles Limited	Neighbouring Units	02920 454367	-
Highway Industrial Equipment Limited		02920 494623	-
Metal Fabrication Company (Cardiff) Limited		02920 489767	-
CELSA Manufacturing (UK) Limited – Rod and Bar Mill		02920 351800	
The Salvation Army		02920 440600	-
Timber Yard Industrial Estate – Multiple Units		02920 470003	-
The Learning Tree Day Nursery		029 2045 1441	-
Jewson Cardiff Central		02920 460511	-
Age Cymru		02920 431555	-