

WEALDEN WORKS 3Rs PERMIT VARIATION APPLICATION

Appendix H: Fire Prevention Plan

Operator name: Britaniacrest Recycling Limited

JER8584
Wealden 3Rs Fire Prevention
Plan
2
2
12 October 2020

Quality Management

Version	Revision	Authored by	Reviewed by	Approved by	Date
1	0	Alice Gibbs	Jennifer Stringer	-	-
1	2	Alice Gibbs	Jennifer Stringer	Jennifer Stringer	15/07/2020
2	1	Alice Gibbs	KR		03/08/2020
2	2	Alice Gibbs	Jennifer Stringer	Jennifer Stringer	12/10/2020

Approval for issue

Jennifer Stringer

Technical Director



12 October 2020

File Name

201012 R JER8584 AG Wealden 3Rs FPP V2 R2

© Copyright RPS Group Plc. All rights reserved.

The report has been prepared for the exclusive use of our client and unless otherwise agreed in writing by RPS Group Plc, any of its subsidiaries, or a related entity (collectively 'RPS'), no other party may use, make use of, or rely on the contents of this report. The report has been compiled using the resources agreed with the client and in accordance with the scope of work agreed with the client. No liability is accepted by RPS for any use of this report, other than the purpose for which it was prepared. The report does not account for any changes relating to the subject matter of the report, or any legislative or regulatory changes that have occurred since the report was produced and that may affect the report. RPS does not accept any responsibility or liability for loss whatsoever to any third party caused by, related to or arising out of any use or reliance on the report.

RPS accepts no responsibility for any documents or information supplied to RPS by others and no legal liability arising from the use by others of opinions or data contained in this report. It is expressly stated that no independent verification of any documents or information supplied by others has been made. RPS has used reasonable skill, care and diligence in compiling this report and no warranty is provided as to the report's accuracy. No part of this report may be copied or reproduced, by any means, without the prior written consent of RPS.

Prepared by:

RPS

Alice Gibbs

Environmental Consultant

6-7 Lovers Walk

Brighton, East Sussex BN1 6AH

T +44 1273 546 800

E alice.gibbs@rpsgroup.com

Prepared for:

Britaniacrest Recycling Limited

Chris Foss

Director

T

E

Contents

1	INTRODUCTION	1
1.2	Site Details	1
2	USING THIS FIRE PREVENTION PLAN	2
2.1	Location of FPP.....	2
2.2	Who This Plan is For.....	2
2.3	Testing the plan and staff training.....	2
3	TYPES OF COMBUSTIBLE MATERIALS	3
3.1	Combustible Waste	3
3.2	Other Combustible Materials.....	3
4	FIRE PREVENTION PLAN CONTENTS	4
4.1	Activities at the Site.....	4
4.2	Site Plan	4
4.3	Plan of Sensitive Receptors near the Site	4
5	MANAGE COMMON CAUSES OF FIRE	5
5.1	Arson.....	5
5.2	Plant and Equipment.....	5
5.3	Electrical Faults Including Damaged or Exposed Electrical Cables	6
	Electrics Certification.....	6
	Electrical Equipment Maintenance Arrangements.....	6
5.4	Discarded Smoking Materials	6
	Smoking on Site Policies.....	6
5.5	Hot Works Safe Working Practices.....	6
5.6	Industrial Heaters	7
	Use of Industrial Heaters.....	7
5.7	Hot Exhausts and Engine Parts	7
	Fire Watch Procedures	7
5.8	Ignition Sources	7
5.9	Leaks and spillages of oils and fuels	7
5.10	Build-up of loose combustible waste, dust and fluff.....	8
5.11	Reactions between wastes	8
5.12	Deposited hot loads	8
6	PREVENT SELF-COMBUSTION	9
6.1	General Self-Combustion Measures.....	9
6.2	Manage Storage Time.....	9
	Method Used to Record and Manage the Storage of All Waste on Site.....	9
	Stock rotation policy	10
6.3	Monitor and Control Temperature.....	10
	Reduce the exposed metal content and proportion of 'fines'.....	10
	Monitoring temperature	11
	Controlling temperature.....	11
	Dealing with hot weather and heating from sunlight	11
6.4	Waste bale storage	11
7	MANAGEMENT OF WASTES	12
7.1	Managing Waste Piles	12
	Maximum pile sizes for the waste on your site	12
	Storing waste materials in their largest form.....	12
7.2	Where Maximum Pile Sizes do not Apply	12
	Waste Stored in Containers	12
8	PREVENT FIRE SPREADING	13
8.1	Separation distances.....	13
8.2	Fire walls construction standards.....	13

8.3	Storing waste in bays	14
9	QUARANTINE AREA	15
9.1	Quarantine area location and size	15
9.2	How to use the quarantine area if there is a fire	15
9.3	Procedure to remove material stored temporarily if there is a fire	15
10	DETECTING FIRES	16
10.1	Detection systems in use	16
10.2	Certification for the systems	17
11	SUPPRESSING FIRES	18
11.1	Suppression systems in use	18
11.2	Certification for the systems	20
12	FIREFIGHTING TECHNIQUES	21
12.1	Active firefighting	21
13	WATER SUPPLIES	23
13.1	Available water supply	23
14	MANAGING FIRE WATER	24
14.1	Containing the run-off from fire water	24
15	DURING AND AFTER AN INCIDENT	26
15.1	Dealing with issues during a fire	26
15.2	Notifying residents and businesses	26
15.3	Clearing and decontamination after a fire	26
15.4	Making the site operational after a fire	26
16	MONITORING, REVIEW, REPORTING AND RECORD KEEPING	28
16.1	Monitoring	28
16.2	Review, Reporting and Record Keeping	28

Tables

Table 3-1.	Combustible wastes	3
Table 3-2	Other combustible and/or flammable materials	3
Table 6-1	Storage of main combustible and/or flammable waste	9

Drawings

Drawing 1	Site Drainage Plan
Drawing 2	Ecological Receptors
Drawing 3	Human Receptors
Drawing 4	Site Layout
Drawing 5	Storage, Quarantine Area, Fire Walls, Access and Hydrants

Appendices

Appendix H.1	Emergency Contacts
Appendix H.2	List of Waste Codes
Appendix H.3	Drainage Strategy

1 INTRODUCTION

- 1.1.1 This fire prevention plan (FPP) has been produced to support the permit variation application for the Wealden Works Recycling, Recovery and Renewable Energy (3Rs) facility for the environmental permit with reference EPR/CB3308TD. In drafting this document, consideration has been given to the applicable requirements set out within the Environment Agency Guidance on fire prevention¹ and the Environment Agency FPP template².
- 1.1.2 The permit variation application has been prepared to cover the addition of an energy recovery facility (ERF) and mechanical sorting plant to the permitted waste transfer station (WTS) activity. The current operational WTS facility will be replaced by a new facility, the WTS, ERF and mechanical sorting plant together will comprise the Wealden 3Rs facility.
- 1.1.3 The objective of this document is to set out the measures that are proposed to minimise the risk of a fire starting and to ensure that should a fire occur appropriate measures are in place so that it is identified and managed effectively.
- 1.1.4 This plan will be reviewed at least every 4 years or more frequently following a significant plant modification. Should significant changes be required these would be communicated to all staff.

1.2 Site Details

- 1.2.1 The Wealden Works 3Rs facility will be located on Langhurstwood Road, Horsham, West Sussex RH12 4QD. The southern boundary of the Site is defined by the internal access road, beyond which lies the Weinerberger brickworks factory (also known as Warnham Brickworks). The London-Horsham railway line lies immediately to the west of the Site, beyond which there are mature tree belts and open countryside. The Warnham train station is located on the London-Horsham (via Dorking & Sutton) line approximately 300 m south of the Site.
- 1.2.2 The current permit includes for the operation of a WTS with asbestos storage and handling up to 200,000 tonnes per annum (tpa) of non-hazardous waste including household, commercial, industrial and construction and demolition waste. The variation seeks to increase the annual throughput to 230,000 tpa, as well as extending the activities to include the ERF and the mechanical sorting plant.
- 1.2.3 The operator of the Wealden 3Rs facility will be Britaniacrest Recycling Limited.

¹ Environment Agency, Fire prevention plans: environmental permits, updated 9 January 2020. Available online: <https://www.gov.uk/government/publications/fire-prevention-plans-environmental-permits/fire-prevention-plans-environmental-permits>

² Environment Agency, Template for fire prevention plan: environmental permits, updated 9 January 2020. Available online: <https://www.gov.uk/government/publications/fire-prevention-plans-environmental-permits>

2 USING THIS FIRE PREVENTION PLAN

2.1 Location of FPP

- 2.1.1 The current version of the FPP will be stored as a hard copy in the site office and a digital copy will be kept on the intranet within the environmental management system (EMS) for the site.
- 2.1.2 A copy of the FPP will also be sent to the local Fire and Rescue Service (FRS) office.

2.2 Who This Plan is For

- 2.2.1 This plan will be made available to the following people:
- Wealden 3Rs staff;
 - Contractors working on site;
 - Insurers; and
 - Local fire officers.
- 2.2.2 All visitors to the site will be informed about the fire prevention measures adopted at the Facility as part of the site induction procedures.

2.3 Testing the plan and staff training

- 2.3.1 Staff inductions will include awareness of the FPP, its location and when to use it. Monthly toolbox talks will include a refresher regarding the FPP content and details of any updates to it. A fire drill will be conducted at the site every 6 months or such other frequency determined by the risk assessment.
- 2.3.2 The site will have designated fire wardens, who will undergo fire warden training as agreed with the local FRS. At least one fire warden must always be on site when the facility is operating.
- 2.3.3 The FPP will be reviewed regularly as part of the EMS review cycle and any updates will be communicated to the relevant people. Following a fire event, a full review of the FPP will also be undertaken in conjunction with the local FRS to ensure any lessons learned are incorporated and communicated to the relevant people.

3 TYPES OF COMBUSTIBLE MATERIALS

3.1 Combustible Waste

- 3.1.1 The main focus of this FPP is the principal combustible material stored at the facility, which are the wastes, consisting of non-hazardous municipal solid waste (MSW), commercial and industrial (C&I) wastes and construction and demolition (C&D) wastes, in various forms including inert materials.
- 3.1.2 **Error! Reference source not found.** in Appendix H2 provides a list of the European Waste Catalogue (EWC) codes accepted at the site and their descriptions. Only wastes listed in this table are accepted at the site and no more than 230,000 tonnes per annum (tpa) will be accepted. The accepted wastes will be delivered to the reception hall serving the ERF and materials pre-treatment area within the Waste Processing Hall for sorting and recovery of the fractions that can be recovered and recycled, i.e. inert materials, wood, selected plastics, ferrous metals and non-ferrous metals. The inert materials accepted at the site are not combustible so have not been considered further.
- 3.1.3 Table 3-1 sets out the combustible wastes stored on site, with a brief description.

Table 3-1. Combustible wastes

Combustible waste	Description
Non-Hazardous Residual waste	Non-recyclable wastes intended as feedstock for the ERF
Recyclable waste	Wood, plastics and ferrous and non-ferrous metals. Sorted at the facility and intended for recycling/recovery.

3.2 Other Combustible Materials

- 3.2.1 Table 3-2 provides details of the other combustible materials stored on site and provides an indication of the form of material stored.

Table 3-2 Other combustible and/or flammable materials

Combustible material	Description
Activated carbon	Activated carbon stored for use in the flue gas treatment system for the ERF
Diesel (gasoil)	<0.1% sulphur fuel for auxiliary burners, standby generator and mobile plant and equipment
Oils and greases	Used for maintenance
Gases	Bottles of acetylene and oxygen gas stored on site for welding purposes. Stored within purpose-built dedicated storage facilities.

4 FIRE PREVENTION PLAN CONTENTS

4.1 Activities at the Site

4.1.1 The permitted activities to be carried out on the site are as follows:

- Section 5.1 Part A(1)(b) – The incineration of non-hazardous waste in a waste incineration plant or waste co-incineration plant with a capacity exceeding 3 tonnes per hour.
- Mechanical sorting and materials recovery, including the following recovery and disposal activities:
 - R4: Recycling/reclamation of metals and metal compounds
 - R5: Recycling/reclamation of inorganic materials
 - R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where the waste is produced)
 - D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)
- A1 – Waste Transfer Station (WTS) activity, including the following recovery and disposal activities:
 - R3: Recycling/reclamation of organic substances which are not used as solvents
 - R4: Recycling/reclamation of metals and metal compounds
 - R5: Recycling/reclamation of other inorganic compounds
 - R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on site where it is produced)
 - D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where the waste is produced)
- IP1 Water Discharge – Discharge of treated sewage effluent via outlet 1.

4.1.2 The machinery used at the site includes:

- Mechanical sorting plant comprising a coarse shredder, trommel or screen, magnets, eddy-current separator, air separator, near-infrared detection and sorting units and a secondary shredder.
- Energy recovery facility comprising crane grab, feed hopper, moving grate furnace and associated infrastructure, steam turbine and generator, and flue gas treatment plant.

4.1.3 The layout of the site is shown on Drawing 4.

4.2 Site Plan

4.2.1 A site plan is provided in Drawing 4. Features specific to the fire prevention plan, including the location of the quarantine area, mobile plant storage and emergency access route, are shown in Drawing 5. A plan showing the site drainage system is provided in Drawing 1.

4.3 Plan of Sensitive Receptors near the Site

4.3.1 Drawing 2 shows the ecological receptors within 1 km of the site and Drawing 3 shows the human receptors (e.g. schools, houses, playing fields) within 1 km of the site.

5 MANAGE COMMON CAUSES OF FIRE

5.1 Arson

- 5.1.1 Site security measures seek to minimise the likelihood of unauthorised access to the site. The Facility will be operational and manned 24 hours a day, 7 days a week,
- 5.1.2 The site is secured to protect the public and minimise the likelihood of unauthorised access. Access to the site is limited to specified entry points as shown in Drawing 5. A steel palisade or similar security fence of 1.8 m height has been constructed around the site boundary and CCTV cameras and intruder alarms are in place around the site.
- 5.1.3 In the event of a vandal or arsonist accessing the site despite security arrangements on site, sensitive areas within the site are those locations where combustible materials are stored.
- 5.1.4 All waste storage and treatment is located within buildings with restricted access; similarly reagent storage is within buildings.
- 5.1.5 Emergency response procedures will be developed for the Facility, prior to the commencement of operations, as part of the detailed Environmental Management System (EMS). The procedures will detail the response to a number of different emergency situations on site, including unauthorised personnel accessing the Facility.

5.2 Plant and Equipment

- 5.2.1 Mobile plant in use at the site include: front end loader; 360 excavator; telehandlers; forklift trucks and heavy goods vehicles (HGVs) for deliveries.
- 5.2.2 Mobile plant will be parked and stored at least 6 m from the location of combustible wastes. No other plant are used on the site.
- 5.2.3 Failure of plant and equipment within the 3Rs facility may have potential to cause a fire if in proximity to combustible materials. The static plant and equipment used on the site (including the shredder and incinerator) will be regularly maintained and inspected to ensure that they are functioning correctly and their potential for fire initiation is minimised. An operating and maintenance manual (O&M manual) will be developed and completed through the commissioning phase of the installation. The O&M Manual will set out detailed operating and maintenance instructions for all plant and equipment which requires maintenance. Maintenance procedures and work instructions will be developed to cover all plant and equipment within the Facility. As part of such work instruction development, the risk of fire will be considered, and appropriate activities included within the work instruction to reduce the risk of fire in all plant and equipment.
- 5.2.4 As part of the maintenance system, responsibilities for retaining records of all maintenance undertaken and any actions taken following a problem will be defined.
- 5.2.5 The 3Rs Facility will be monitored and controlled by a DCS and provide the operators with an interface through which they can control all processes and areas and observe the status of the complete plant. This system will diagnose potential faults and identify them as soon as they occur to allow the operator to undertake the necessary remedial work as soon as practicable. The risk of fire will be minimised, therefore. All faults and breakdowns will be investigated, and the maintenance schedule revised if necessary to minimise their reoccurrence.
- 5.2.6 The facility will undergo routine maintenance and inspection, which is non-intrusive and involve operators completing regular checks on the plant they are operating. Predictive and preventative maintenance and inspection, will be carried out by fully trained maintenance personnel, some of which will be intrusive. The periodicity of the maintenance and inspection will be identified in site maintenance schedules.

-
- 5.2.7 Vehicles and mobile plant will be fitted with fire extinguishers and when not in use, will be parked away from the areas where waste storage and processing operations take place. Most mobile plant will be in the form of external contractors' delivery vehicles and it will be a general provision that all vehicles delivering or recovering waste from the site must be kept in good working order.

5.3 Electrical Faults Including Damaged or Exposed Electrical Cables

- 5.3.1 All electrical equipment will be routinely checked by an approved competent person to reduce the risk of electrical faults and will comply with the relevant British Standards for the design and installation of electrical equipment and supplementary bonding and earthing. Electrical equipment will be checked and maintained as part of the planned maintenance regime as required in the detailed operating manuals for each piece of equipment.
- 5.3.2 Equipment will be operated strictly in line with manufacturers' instructions and codes of practice replaced as and when required. In the event of any electrical faults, Unless there is a qualified person on site, the operations team will call out the appropriate maintenance engineer who will investigate the cause of the problem and repair any electrical systems as required.
- 5.3.3 In the event of a failure of the power supply connection to the local public supply network, the facility would operate in island mode, during which the turbine generator would directly supply the required power to sustain operation of the facility until the supply connection is restored. In the event that operation in island mode is not possible, the facility would switch to an uninterruptible power supply backed by the safe shutdown diesel generator, allowing the facility to maintain all critical systems. Under the latter conditions, a controlled safe shut down of the facility would be initiated.

Electrics Certification

- 5.3.4 The electrics currently in place at the site have been fully certified by a qualified electrician.
- 5.3.5 At the time of submitting this FPP, construction of the 3Rs facility is still taking place and there are no electrics installed at the site to be certified. However, once the electrics have been installed, they will be fully certified by a qualified electrician.

Electrical Equipment Maintenance Arrangements

- 5.3.6 Inspections will be carried out in accordance with the inspection frequency assigned within the maintenance schedules and will be recorded. In setting maintenance frequencies, consideration will be given to prevention of fires.

5.4 Discarded Smoking Materials

Smoking on Site Policies

- 5.4.1 Smoking is not permitted on site other than in designated smoking shelters which will be provided for this purpose. Designated smoking areas will be located a considerable distance (> 6 m) from the stored combustible wastes and processing activities.

5.5 Hot Works Safe Working Practices

- 5.5.1 Hot works are only carried out on an ad-hoc basis should maintenance or repair works require this. Any hot works to be undertaken on site will be controlled by Hot Works permits which will consider appropriate preventative measures to minimise the risk of initiating a fire. The permit to work will include the provision of a fire watch after any hot works have ended and will include details of when these should be undertaken. Appropriate measures will be recorded and those undertaking the work must comply with recommendations. The Permit to Work is only closed off once the supervisor is

satisfied that the area is free of any heat sources. A fire check will be undertaken following a suitable period of time after works have been completed to ensure that the area is free of any heat sources.

5.6 Industrial Heaters

Use of Industrial Heaters

5.6.1 This is not applicable as there is no use of industrial heaters on site.

5.7 Hot Exhausts and Engine Parts

Fire Watch Procedures

- 5.7.1 When not in use, the mobile plant and other onsite vehicles are parked away from the waste storage. Mobile plant undergoes inspection which includes a check of the plant for dust on their exhausts. Where dust is found to be accumulating, the plant will be cleaned following a safe system of work. All staff are trained to check for signs of hot exhausts and build-up of dust.
- 5.7.2 A fire watch, such as a visual check of exhausts, is carried out at the end of the working day for the mechanical sorting plant and WTS, and the end of each shift for the ERF.
- 5.7.3 Build-up of dust is prevented as set out in the site's dust management plan. All combustible wastes are stored in a building, which helps to delay the spread of a fire. In addition, the separation distance of at least 6 m between these wastes and any hot exhausts or engine parts minimises the chances of a fire occurring.
- 5.7.4 A single stack will serve the ERF process. The stack exhaust is located at height and therefore cannot pose any fire risk to the site.

5.8 Ignition Sources

- 5.8.1 Any naked flames, space heaters and other sources of ignition will be kept at least 6 m away from combustible and flammable waste.
- 5.8.2 An overhead crane feeds waste from the bunker to a feed hopper, which gravity feeds the grate. Burn back from the chute to the feed hopper is prevented by maintaining negative pressure in the furnace and the level of waste in the chute acting as a seal. The bunker and hopper can be observed from the control room and it is likely that any fire would be identified quickly. Water cannons are installed covering the entire area of the bunker.
- 5.8.3 Hot works, exhausts and engine parts are dealt with in 5.2, 5.5 and 5.7 above.
- 5.8.4 A review under the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) will be completed during the detailed design of the Facility, with any risk areas identified on DSEAR zonal drawings.

5.9 Leaks and spillages of oils and fuels

- 5.9.1 All oils and fuels kept on site are stored in bunded storage areas. Site staff are trained in transfer and handling procedures and will oversee any filling of storage vessels or site plant/vehicles.
- 5.9.2 Spill kits are located close to areas where spills can occur and in the plant control room. The location of spill kits will be marked up on a site plan following detailed design of the Facility.
- 5.9.3 Regular vehicle checks are carried out and staff are trained in the spillage procedure within the management system. The mobile plant and onsite vehicles are checked for signs of fuel leakage at the end of each day.

-
- 5.9.4 Emergency response procedures will be developed as part of the emergency procedures for the Facility. The procedures will include actions to be undertaken to respond to spills and leaks of chemicals. This will include actions to be undertaken to prevent liquids leaking or trailing from site vehicles. In addition, oil interceptors will treat surface water runoff from roadways prior to discharge off-site.

5.10 Build-up of loose combustible waste, dust and fluff

- 5.10.1 The Facility will be designed to prevent the accumulation of dusts by designing structural members such that their shape or method of installation minimizes the surface area where dust can settle.
- 5.10.2 Daily site checks are carried out which include inspecting the site for build-up of loose combustible waste, dust and fluff and arranging cleaning if needed. Housekeeping will be undertaken throughout the day and at the end of each shift to minimise the build-up of loose combustible waste, dust and fluff on site. This will comprise periodic emptying and cleaning of waste storage areas (excluding the bunker) to minimise the accumulation of dust, litter, fibre or paper on the site, which could pose a fire risk.

5.11 Reactions between wastes

- 5.11.1 Based on the list of wastes accepted at the site, there will be no incompatible waste types accepted. Site personnel are available on site to routinely check waste deposited to remove or arrange removal of any wastes deposited in the incorrect area.
- 5.11.2 Waste acceptance procedures are set out within the operating procedures for the site. A vehicle entering the site is received at the weighbridge, where it is checked to ensure that it holds a Waste Carriers Licence and that the (electronic) Transfer Note is in order. It is then weighed to Trading Standards requirements, following which it is allowed to proceed to the reception hall under the control of a traffic light system to maintain safety of the operation. The traffic light system directs the vehicle into the enclosed hall where it is directed to a designated unloading bay and its load discharged into the waste processing hall. Loads that are not carrying recyclable material may unload directly into the bunker.
- 5.11.3 Waste deliveries are only accepted from authorised carriers and all heavy goods vehicles entering the site report to the weighbridge gatehouse before being allowed to enter the site. Details of all waste entering the facility is recorded in a tracking system. In addition, frequent inspections of waste are undertaken in the reception hall and any non-compliant waste would be quarantined in a contained service area where it would remain until alternative disposal arrangements are in place. The quarantine area is shown on Drawing 5.

5.12 Deposited hot loads

- 5.12.1 Waste acceptance procedures are in place and includes procedures for checking for and management of hot loads. These procedures will seek to avoid hot loads being deposited in the bunker. If a hot load is identified on delivery, it will not be accepted and will be sent away from the site.
- 5.12.2 A dedicated quarantine area is located in the area shown on Drawing 5. Should a hot load arrive this vehicle will be directed to the quarantine area. The quarantine area is located at least 6 m from the site perimeter, any buildings, mobile plant storage and other combustible/flammable materials.

6 PREVENT SELF-COMBUSTION

6.1 General Self-Combustion Measures

- 6.1.1 Materials such as residual waste may be at risk of self-combustion if stored for more than 3 months. Therefore, potential areas at risk would be areas in which these materials are stored i.e. the bunker and mechanical sorting plant area. However, there are bunker management procedures in place to ensure that, where practicable, materials will be maintained on a first in first out basis and will not be stored for more than 3 days on site, thus negating the risk.
- 6.1.2 Waste management and acceptance procedures will be established to ensure that maximum storage times are complied with.

6.2 Manage Storage Time

Method Used to Record and Manage the Storage of All Waste on Site

- 6.2.1 The main combustible materials stored on site are the wastes. Site waste acceptance procedures are in place, separate to this FPP, as part of the site management procedures. These procedures set out the methods for recording of waste delivered to the site and for tracking of waste within the facility.
- 6.2.2 Table 6-1 provides details of the main combustible waste to be stored on site and provides an indication of the total amounts and form of waste stored, as well as the maximum storage time and the storage method.

Table 6-1 Storage of main combustible and/or flammable waste

Combustible material	Form	Quantity stored (m ³)	Typical quantity received daily (range, tonnes)	Expected maximum storage time under normal operation	How the material is stored
Residual waste	Residual waste from on-site non-hazardous waste sorting activities intended as feedstock for the ERF	12,500	700 - 830	3 days on average, 5 days maximum	Waste Processing Hall and ERF storage bunker
Recyclable waste	Recyclable materials from on-site treatment intended for sorting facility and sorted into the fractions below	<450	90 - 110	4 days	Waste processing hall
Sorted waste fractions	Wood	70	5-6	4 days	Bay in storage/recycling area
	Oversized material (including plastics)	36.8	1-2	30 days	Container in storage/recycling area
	Ferrous metals	70	30-40	4 days	Bay in storage/recycling area
	Non-ferrous metals	70	10-15	4 days	Bay in storage/recycling area

-
- 6.2.3 Combustible wastes will normally be stored for up to 3 days before being processed. Residual and recyclable waste volumes will build-up over the course of the week whilst deliveries are taking place and will drop over the weekend as waste is processed and sorted into the fractions to be sent off site for recycling or to the ERF for energy generation.
- 6.2.4 Prior to a planned shutdown of the mechanical sorting and/or treatment activities, stored waste levels would be run down until the storage area is empty and the suppliers notified well in advance in order to organise the supply accordingly. During an unplanned shutdown, where possible, the suppliers will be notified immediately to stop waste deliveries. The waste already stored on site will remain in the storage building for the duration of the unplanned shutdown. If required, the waste can be extracted from the Waste processing Hall using the front-loader vehicles to deliver the waste to the nonconforming waste quarantine area, from which it can then be loaded onto lorries for transport off site if necessary.
- 6.2.5 Prior to a planned shutdown of the ERF, fuel levels would be run down until the storage bunker is empty and the fuel supplier notified well in advance in order to organise the supply accordingly. During an unplanned shutdown, where possible, the fuel supplier will be notified immediately to stop fuel deliveries. The waste already stored on site will remain in the storage bunker for the duration of the unplanned shutdown. If required, the fuel can be extracted from the storage bunker using the overhead crane to deliver the fuel to the nonconforming waste quarantine area, from which it can then be loaded onto lorries for transport off site.
- 6.2.6 The site also generates ash residues which having been subject to high temperature combustion are not considered to be combustible waste and therefore are not considered within this FPP. Bottom ash discharged from the grate is quenched in a water bath and therefore is relatively moist at the point it is discharged into the bottom ash storage area. The combustion process is designed to minimise unburned material. If present in the IBA it would form a low proportion of the residue and would also have passed through the quench bath and therefore be moist and no longer be at high temperature. Boiler ash and APC residues also contain ash from the combustion phase and therefore comprise burned out material and are unlikely to be a significant combustion risk.

Stock rotation policy

- 6.2.7 Quantities of incoming and outgoing material for the site are recorded in metric tonnes utilising the site weighbridge and bunker crane; therefore, an accurate measurement of site throughput is obtained. The site waste management procedures set out the methods for recording of waste delivered to site and for tracking of where waste is sent within the facility. This information is recorded and stored electronically. As far as practicable residual waste will be processed in rotation in accordance with bunker management procedures and waste in the Waste Processing Hall will be processed on a first in first out basis in accordance with the site's waste management procedures.

6.3 Monitor and Control Temperature

Reduce the exposed metal content and proportion of 'fines'

- 6.3.1 Residual waste delivered to the Waste Processing Hall will be selected either to be sorted so that appropriate fractions can be recovered and recycled or delivered directly to the storage bunker. The mechanical sorting plant will consist of a shredder and screening. PVC plastic will be removed.
- 6.3.2 In the mechanical sorting plant, recyclable materials, including inerts and metals, are separated out for recycling as set out below. Waste arriving at the site is loaded from the storage area in the waste processing hall into a receiving hopper by 360 crane for processing by the mechanical pre-treatment equipment.

-
- 6.3.3 The residual waste not recovered for recycling in the mechanical sorting plant, including fines, will be transferred to the Energy Recovery Facility (ERF) bunker
- 6.3.4 It is worth noting that waste entering the ERF bunker from the mechanical sorting plant will have been subject to pre-treatment on site, which will have included metals and inert removal. Loads that are not carrying recyclable materials, and therefore containing very low levels of metals if any, may unload directly into the ERF bunker. As the bunker is located within a building, exposure to sunlight will be minimised for any metals present within the loads that are delivered directly to the bunker, minimising the potential for heating up of exposed metals. Waste to be burned in the ERF is unloaded into the bunker, where it will be mixed by overhead crane. Waste will normally not be stored for longer than 3 days, thereby reducing the likelihood of significant temperature increases.

Monitoring temperature

- 6.3.5 It is worth noting that the moisture content of the waste is likely to be high and, as the waste is mixed inside the bunker, any waste that is drier will be dampened. Mixing the waste ensures that any localised warming is dissipated quickly and avoids temperature build-up.
- 6.3.6 A thermal detection system will form part of the automatic fire detection system for the waste Processing Hall and bunker associated with the water cannons. When pre-set temperature parameters in the bunker are exceeded an alarm indication at the main fire alarm control panel in the control room will be triggered. When a further pre-set time has elapsed, or further pre-set temperature parameters are exceeded, or the secondary automatic detection is activated, the fire cannons will start operating automatically (if not already under manual control).
- 6.3.7 CCTV monitoring is provided across the site with feedback to the control room and the bunker area can be directly observed from the control room. In addition during the working day as a matter of course site operatives, as part of their working routine, are required to note any general observations of signs of material heating immediately.

Controlling temperature

- 6.3.8 Temperature is controlled by maintaining relatively short storage times as detailed in 6.1.1, routinely mixing the stored wastes to ensure they remain cool and any localised warming is dissipated.

Dealing with hot weather and heating from sunlight

- 6.3.9 Combustible/flammable waste is stored within buildings, which will protect the waste materials from heating due to higher temperatures or sunlight.

6.4 Waste bale storage

- 6.4.1 This is not applicable as baled waste is not stored at the site.

7 MANAGEMENT OF WASTES

7.1 Managing Waste Piles

Maximum pile sizes for the waste on your site

- 7.1.1 Loads containing recyclable materials are directed to a designated unloading area in the enclosed waste processing hall. Under normal operation, waste storage times are relatively short as the materials are sorted, processed and transferred to the next stage (either sent off site for recycling or deposited into the ERF bunker for incineration). The pile sizes will therefore be minimised and kept well below the maximum pile sizes for each type of waste. For all piles, the height will not exceed 4 metres.
- 7.1.2 Loads that are not carrying recyclable materials may unload directly into the ERF bunker. For the ERF bunker, waste is not stored in piles and consequently the FPP guidance relating to pile management (maximum volumes etc.) is not considered directly applicable. The bunker has a capacity of approx. 12,500 m³ which equates to approx. 3 days' storage. Under normal operation waste storage times at the ERF facility are relatively short, waste acceptance procedures will minimise hot loads being delivered into the bunker therefore minimising the likelihood of self-combustion. In addition, fire detection and fire suppression systems are installed in this area to ensure should a fire start that it is identified quickly and firefighting measures automatically triggered. Moreover, during fuel unloading operations the driver and other members of staff will be present in the ERF facility and will be able to report a fire as soon as it initiates.
- 7.1.3 The site is manned 24 hours a day with operational staff present in the control room from where the bunker is visually monitored.

Storing waste materials in their largest form

- 7.1.4 Upon arrival at site, incoming waste will either be deposited in the waste processing hall pre-treatment area or straight into the ERF bunker. Once deposited in the waste processing hall, oversized materials will be separated out and stored in a designated container in the storage/recycling area. The waste will then be shredded, sorted and stored in designated bays in the storage/recycling area, i.e. wood will be stored in one bay, while metals will be stored in a separate bay.

7.2 Where Maximum Pile Sizes do not Apply

Waste Stored in Containers

- 7.2.1 The oversized materials will be stored in a 40 cubic yard container within the storage/recycling area. This will be easily accessible in the event of a fire inside to enable it to be put out. The other wastes in the storage/recycling area will be separated from the container by the walls of the bays and therefore any fire within the container will be dealt with in situ.

8 PREVENT FIRE SPREADING

8.1 Separation distances

8.1.1 The spread of a fire will be prevented by using the correct separation distances, as follows:

- Any uncontained piles of combustible wastes will be separated by 6 m;
- For wastes stored outside, there is a separation distance of at least 6 m between stored waste and the site perimeter, any buildings, or other combustible or flammable materials. All other wastes are stored within a building;
- Hot loads will be moved to the quarantine area, which is located more than 6 m from any non-contained piles of waste.

8.2 Fire walls construction standards

8.2.1 Compartmentation in buildings can help to reduce the level of hazard from fire through reducing the overall fire size. The maximum floor area in a compartment is considered to be the waste tipping hall and bunker area which, at a total area of 3,305 m², is below the maximum of 4,000 m² as set in ACE guidance.

8.2.2 Fire walls will be installed within the buildings as required. The location and specification for fire walls will be subject to detailed design of the Facility, and dependent on the layout to be further developed by the EPC Contractor. Indicative locations of these fire walls are given in Drawing 5.

8.2.3 Subject to the location of the process equipment, operational areas will be segregated into fire zones (the "Fire Zones"). In accordance with NFPA 850, certain specific Fire Zones such as the waste bunker and Boiler Hall will be separated from each other by fire barriers with a minimum of 120-minute fire resistance rating, spatial separation, or by other approved means. The specific Fire Zones to which this applies, and the means of separation, will be subject to agreement with the fire risk insurers. A review under the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) will be completed during the detailed design of the Facility, with any risk areas identified on zoning drawings.

8.2.4 As part of the detailed design process, a fire risk assessment will be undertaken for each Fire Zone to identify the appropriate fire detection and protection systems in association with appropriate building design principles to control the risk of fire propagation, the spread of smoke and fumes, flooding from firewater and to maintain the integrity of dedicated fire partition walls in the event of fire. The fire zoning will be subject to the approval of the fire risk insurers.

8.2.5 The dividing wall between the Waste Processing Hall and Boiler Hall and all other walls within the bunker will be suitably constructed in concrete, block work or a suitably rated cladding system up to roof level to form a continuous 120-minute fire rated barrier for the full width and height of the building structure. In addition, the base of the bunker will be constructed of reinforced concrete, and the whole structure designed as a water retaining structure. The structural design and construction of this dividing wall will be such that the integrity of the fire barrier will be maintained in the event of the collapse of the Waste Processing Hall roof due to a fire in the bunker. These walls and the base of the bunker will be resistant to crane grab impact and the impingement of water cannon jets. The structure of the waste bunker itself therefore will have adequate fire resistance.

8.2.6 All openings in fire barriers will be provided with fire doors, including fire dampers, penetration seals (fire stops), or other approved means having a fire protection rating consistent with the designated fire resistance rating of the barrier. Windows in fire barriers (e.g. control rooms, observation windows, computer rooms, etc.) will be provided with appropriate fire protection to maintain the integrity of the fire barrier, e.g. by means of a fire shutter, automatic water curtain,

window sprinkler system, etc. All cable trays or piping systems passing through fire barriers will be fitted with fire stops.

8.2.7 The glass partition in the control room/crane cabin will also be 120-minute fire rated, so that site staff will be able to continue operating the crane for a period of time in the event of a fire, depending on severity.

8.2.8 The general construction materials for the buildings will be tested to the highest standards under UK and European test methods such that these materials will provide an equivalent, if not better level of safety than that required to comply with NFPA 850 and the Building Regulations.

8.3 Storing waste in bays

8.3.1 Under normal operation, waste storage times are relatively short as the materials are sorted, processed and transferred to the next stage (either sent off site for recycling or deposited into the ERF bunker). There will be a first in first out policy, where waste is deposited at a certain end of the bays and removed in the same order it was deposited. This will be monitored through a log of wastes received and where they were deposited.

8.3.2 The following measures are incorporated into the waste bay management to minimise the spread of fire:

- The temperatures of all the waste within each storage area will be checked regularly in order to carry out representative checks on the entire volume of the pile.
- The specification and construction of the walls of the bays offer a thermal barrier with joints that are adequately sealed with fire-resistant material.
- Any ignition sources will be kept at least 6 m from the bays to avoid igniting the wastes.
- Hot loads will not be deposited into the bays.
- In the event that the waste may be stored for a prolonged period of time, due to plant breakdown or routine maintenance, the operator will make arrangements to transfer the waste off site to an appropriately permitted facility. This will be undertaken within 4 weeks from the receipt of the waste to ensure compliance with the maximum 6-months storage period specified in Environment Agency's 'Fire Prevention Plans' guidance. If necessary, any incoming waste will be diverted to an alternative appropriately permitted facility.

9 QUARANTINE AREA

9.1 Quarantine area location and size

9.1.1 The location of the quarantine area is indicated on Drawing 5.

9.2 How to use the quarantine area if there is a fire

9.2.1 A suitable area for the quarantine of unacceptable waste including hot loads will be designated as part of the detailed design stage. It is anticipated that this will be the back-loading bay to the south of the waste bunker which is also to be used for crane maintenance. The Facility is subject to detailed design, but it can be confirmed that the quarantine areas will be in accordance with the requirements of the fire prevention plan (FPP) guidance, i.e. it will hold at least 50% of the waste delivery load; and where practicable, have a separation distance of at least 6 metres, or an equivalent protective barrier between the bunker and the quarantine bay.

9.2.2 Following completion of detailed design, plans showing the location of all quarantine areas will be developed. The plans will show the size of the quarantine area, clearance areas around the perimeter, and infrastructure associated with the quarantine areas. A drawing which shows the indicative location of the quarantine area is presented in Drawing 5.

9.3 Procedure to remove material stored temporarily if there is a fire

9.3.1 The quarantine area will be used to temporarily store any unacceptable waste prior to removal from site. Unacceptable waste is broadly defined as waste which does not meet the requirements set out in the fuel supply agreements which have been agreed with waste suppliers for the Facility, or other waste which is unsuitable for incineration and/or not compliant with the EWC codes stated in the Environmental Permit - including hot loads. For unacceptable waste identified inside the bunker, the waste will be back-loaded from the bunker into the back-loading bay/quarantine area, for examination and/or removal from the site to a licensed disposal facility.

9.3.2 Hot loads stored within the quarantine area will be removed as soon as possible and not more than within 1 hour of a fire starting. Appropriate suppression measures (e.g. hose reel, sprinklers, or water cannon) will be located in the quarantine area, so fires within waste stored in the quarantine area will be extinguished prior to the waste being transferred off-site. The final design of the quarantine area will be subject to detailed design and agreed with fire risk insurers.

10 DETECTING FIRES

10.1 Detection systems in use

- 10.1.1 As part of the daily inspections, staff check for any evidence of fire and fire risks on the site. The CCTV will also be monitored in the control room, to identify any signs of a fire. The site is staffed 24 hours a day, 7 days a week.
- 10.1.2 The facility will be equipped with a comprehensive fire protection and detection system and conforms to the required health and safety regulations. The choice of fire detection system (smoke/heat/flame detectors) to be installed within the Facility will be subject to detailed design. However, it can be confirmed that the fire detection systems will be covered by a UKAS-accredited third-party certification scheme or equivalent.
- 10.1.3 There will be a fire detection and alarm system which will cover all of the waste processing areas within the Facility. The fire alarm systems will include the following:
- local detectors/transducers and call points;
 - sounders/high intensity flashing beacons;
 - cabling and containment systems;
 - local control and indication panels; and
 - remote control and indication panel (incorporating integral printers) will be in the control room.
- 10.1.4 All fire detection systems will be installed in accordance with BS 5839, Part 1 (2002) and subsequent amendments to give level P1 + M coverage in accordance with the requirements of the Loss Prevention Council ("LPC") guidance. In low fire risk areas, such as the Boiler Hall, the requirements for a P1 detection system may be relaxed.
- 10.1.5 In areas which are identified as having a low fire risk, the proposed fire detection method(s) will be agreed with the requirements of the fire service and fire risk insurer. The fire detection, protection and alarm systems will comply with the requirements of the fire service and fire risk insurer. All fire detection systems will be design, installed and maintained in accordance with an appropriate UKAS-accredited third-party certification scheme or equivalent.
- 10.1.6 It is anticipated that the following fire detection systems will be incorporated into the design of the Facility:
- Fire detection systems will be installed above the ERF bunker and within the mechanical sorting plant areas. As set out in paragraph 6.3.6, a thermal detection system which is triggered by pre-set temperature thresholds will form part of the automatic fire detection system for the bunker associated with the water cannons.
 - Waste bunker fire detection will be provided by thermal imaging cameras and/or flame detectors which will be fixed around the perimeter of the bunker with automatic scanning of the entire fire zone. The thermal imaging cameras will provide a continuous thermal 'map' of the surface of the waste within the bunker. The thermal mapping will be displayed in the control room and will be used by the crane operator to manage temperatures within the bunker. The staff within the control room and the crane operator will be trained in the identification and implementation of corrective measures in the event of elevated temperatures within the bunker. The thermal imaging cameras will enable the crane operator and/or the control room staff to identify and react to hot areas in the bunker and undertake mixing or feeding of waste. as appropriate. In extreme cases, the use of firewater cannons which covers the entire extent of the waste bunker to extinguish any smouldering/burning waste may be required.

- Water cannons and manual fire hoses are considered to be the primary means of fighting a bunker fire.
- To proactively prevent fires, it is anticipated that the system will be configured to sound an alarm based on certain trigger conditions. This would involve the thermal imaging cameras being set with two alarms (two knock) at two different 'trigger' temperatures. Temperature set-points will be determined during detailed design of the Facility and in consultation with the fire service. It is understood that the system will be designed so that trigger temperatures can be amended if required. It is anticipated that the trigger temperatures will be approximately 90°C and 120°C for the high temperature and high-high temperature alarms respectively.
- Following activation of the high temperature alarm in an area within the bunker, the area with an elevated temperature can be readily identified and, if possible, extinguished based on operator action through mixing within the bunker or fed into the hopper to be incinerated. Following activation of the high-high temperature alarm in an area within the bunker, the area with an elevated temperature will be targeted and the firewater cannons will be activated to reduce the temperature in the area if self-heating has occurred. The crane will be designed and sized so that the time for waste feeding is less than the total time available, leaving adequate time for mixing and bunker management.
- Feed hopper area fire detection will be provided by the waste feed hopper supervision camera or other suitable detection system, and a deluge system or firefighting nozzles to flood the feed hoppers if required.
- In the mechanical sorting area and boiler house the main cable trays and other fire sensitive areas will be protected with a sprinkler system or other suitable/equivalent fire suppression system.
- Electrical rooms with significant concentrations of electrical equipment will be fitted with fire detection systems and suppression systems (such as a gaseous extinguishing system) if appropriate.
- All oil cooled transformers will be located outdoors or in fire protected rooms, and comply with the requirements of NFPA 850 or equivalent. If appropriate, enclosures for dry-type transformers will be provided with suitably designed fire detection systems.
- The fire sensitive areas of turbine-generator and ancillaries will be protected by a dedicated fire detection and automatic sprinkler fire protection system or equivalent.
- Procedures will be developed in the operation of the fire detection systems. Training will be provided to the relevant staff in the different fire detection systems. Training records in the operation of the fire detection systems will be retained on-site.
- All automatic fire detection and alarm systems will be designed and maintained by a suitably qualified, experienced and registered fire protection engineer.

10.2 Certification for the systems

- 10.2.1 The design, installation and maintenance of the automated systems will be covered by a UKAS-accredited third-party certification scheme. At the time of writing this FPP, the systems have not yet been installed. Once installed, supporting evidence of the accredited certification will be incorporated within this FPP.

11 SUPPRESSING FIRES

11.1 Suppression systems in use

- 11.1.1 The 3Rs facility will incorporate an automatic fire suppression system that is:
- Automatically acting to suppress a fire locally as and when it starts;
 - Designed for compliance with the appropriate standards;
 - Based on a Fire Safety Strategy produced in collaboration with the local fire and rescue service; and,
 - The system will incorporate continual monitoring of the waste bunker temperature.
- 11.1.2 The provision of the fire suppression system will be based on the requirements of the fire insurer's report. In anticipation of these requirements it is proposed to the National Fire Protection Association (NFPA) 850:2015 (Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations) & ACE Fire recommended practice. Fire detection systems will be installed in accordance with BS 5839, Part 1 2002 and subsequent amendments.
- 11.1.3 The fire detection system in conjunction with the suppression system will seek to ensure a fire is put out quickly and with a view that where possible a fire being extinguished within 4 hours. A suppression system may not extinguish a fire, although it may prevent a fire spreading and allow the fire to be fought effectively by the fire and rescue service.
- 11.1.4 In the bunker hall, remotely operated water cannons are installed, which are capable of covering the entire bunker and feed hoppers. Both an electrical fire pump and a reciprocating engine-driven fire pump ensure that fire systems are available at all times. The operation of the fire pump would set off an audible alarm in the control room. Water cannons will be located in positions to optimise the horizontal and vertical coverage of spray for total firefighting suppression across the entire area of the bunker.
- 11.1.5 Through detailed design of the waste bunker, the number and position of the fire monitors and cannons will be established, alongside the manual and/or automatic remote-control systems. Thermal imaging screens will be installed within the control room.
- 11.1.6 It is proposed that the site will comprise the following facilities in order to suppress any fires on site:-
- Dry risers;
 - FM 200 Gaseous fire suppression 'Total Flooding Systems' for the Low Voltage Switchgear room, Medium Voltage Switchgear room and control room;
 - Provision of external valve sets from the central fire protection to serve internal fire protection systems as follows: -
 - Waste Processing Hall Roof sprinklers;
 - Roof sprinklers over bunker;
 - Boiler hall roof sprinklers;
 - Bunker firewater cannons;
 - Mechanical pre-treatment equipment;
 - Control Room Window Deluge system;
 - Feed Hopper Deluge System;
 - Boiler Front auto deluge system;

-
- Turbine gearbox CO₂ system;
 - Lube Oil Pack pre-action system;
 - Below Turbine Area sprinklers;
 - Transformer Rooms – auto deluge system, if required;
 - Fire pump room;
 - Emergency Generator;
 - Diesel Tank Pump Room; and
 -] Internal fire hose reels.
 - Free standing fire extinguishers
- 11.1.7 Hose stations will be designed in accordance with NFPA 14, for the Installation of Standpipe, Private Hydrants and Hose Systems, or BS equivalent (e.g. EN 671). Fire hydrant systems equipment will be provided at strategic positions within the Facility for firefighting in fire risk areas. For firefighting purposes, hose reels and extinguishers where appropriate will be provided within the buildings.
- 11.1.8 The positioning of hose points will take into account the following:
- location and physical protection as to avoid potential damage by vehicles;
 - size and number to be determined for the specific works layout (e.g. push wall positions);
 - ease of use, maintenance, and storage, such as through the use of continuous-flow, non-collapsible hose reels; and
 - protection from freezing in unheated areas.
- 11.1.9 Following detailed design of the Facility, a plan identifying the location of the fire hose reels will be developed.
- 11.1.10 Installation of external fire hydrants will be in accordance with BS EN 14339 'Underground Fire Hydrants'.
- 11.1.11 Fire extinguishers will be strategically located throughout the operational areas in accordance with the requirements of BS 5306 (or NFPA equivalent). The location of the fire extinguishers will be subject to implementation of the recommendations of the fire officer for the Facility. Following completion of detailed design, a plan identifying the location of the fire extinguishers will be developed.
- 11.1.12 Smoke clearance systems will be provided to the waste bunker, Waste Treatment Hall and turbine building. In addition, the extract fan systems that will be provided in the turbine hall will be designed to run for smoke clearance in the event of a fire. A fireman's override panel will be provided to control the fans (on/off/auto).
- 11.1.13 The extent of the fire suppression systems will be the provision of the following:-
- Main fire water tank including mains water fill from the external main, fitting out of the fire pump house;
 - External fire ring main around the site serving fire protection demands on the form of external GRP valve sets;
 - External fire hydrants will be provided from the external main; and
- 11.1.14 All mechanical plant (non-process) will shut down automatically upon receiving fire alarm signal (not test) and will only restart once the fire alarm is cleared.

-
- 11.1.15 It is anticipated that the automatic fixed fire suppression systems for the Facility will be designed in accordance with the requirements of ACE (ACE Technical Risks - Engineering Information Bulletin Guidance Document), NFPA 850 and other NFPA or BS equivalent standards where appropriate.

11.2 Certification for the systems

- 11.2.1 The design, installation and maintenance of the suppression system will be carried out by a third-party organisation covered by a UKAS-accredited third-party certification scheme. At the time of writing this FPP, the systems have not yet been installed. It is anticipated, however, that the automatic fixed fire suppression systems for the Facility will be designed in accordance with the requirements of ACE (ACE Technical Risks - Engineering Information Bulletin Guidance Document), NFPA 850 and other NFPA or BS equivalent standards where appropriate.
- 11.2.2 Once installed, supporting evidence of the accreditation will be incorporated within this FPP.

12 FIREFIGHTING TECHNIQUES

12.1 Active firefighting

- 12.1.1 The site has been designed to allow for active firefighting. This will help allow a fire to be extinguished within 4 hours.
- 12.1.2 On activation of any type of fire detector or manual call point an initial first stage alarm will automatically be initiated. Visual and audible indication will be provided at the fire alarm panel including indication of the zone in which the detection has occurred.
- 12.1.3 The fire alarm sounders will also be activated with a distinctive first-stage intermittent warning sound and administration staff or staff with no fire-fighting training will evacuate the building with the exception of staff manning the Control Room.
- 12.1.4 Active firefighting means having the resources available at all times to fight a fire – including in the event of a fire. The resources available at the site include:
- Crane grab for movement of waste from the bunker;
 - Telehandlers and front end loader to remove wastes from other areas of the Waste Processing Hall;
 - Staff trained in fire procedures (see 2.3);
 - Available water supply (see section 13);
 - Finances to ensure firefighting materials and sufficient trained staff are available at all times.
- 12.1.5 Trained personnel will immediately respond to a fire warning and investigate and determine the situation (the 'early investigation' period). During the early investigation period the investigating personnel will have the following options:
- If it is determined that it is a false alarm activation, notify the Control Room staff to cancel the first-stage alarm; or
 - Deal with any fire if still in its incipient stages, deemed safe to do so and within their capabilities and then notify the Control Room staff to cancel the first-stage alarm if they have successfully controlled/extinguished the fire; or
 - Manually activate the second-stage alarm if it is determined that the fire is serious and/or outside their capabilities by pushing a call point within that fire zone whilst exiting the building. A manually activated push-button is also mounted on the fire alarm control panel in the Control Room which automatically puts the warning system into the evacuation mode.
- 12.1.6 If, during the early investigation period, the first-stage alarm timer expires or if a second detector in the same zone is activated or a manual call point is activated, the second-stage evacuation alarm will be automatically initiated providing a distinctive second-stage continuous warning sound.
- 12.1.7 The main fire alarm panel will be located in the Control Room with a repeater panel located in the reception lobby of the Admin Building.
- 12.1.8 If it was obvious that site operatives would be unable to immediately extinguish the fire and the second-stage alarm was activated, a decision would be made by the authorised person to also contact the local Fire and Rescue Service (FRS) who would attend the site to carry out the fire fighting. Access routes for vehicles and the FRS are shown on Drawing 5.
- 12.1.9 Emergency contact procedures are in place with the night security personnel.
- 12.1.10 The firefighting techniques to be used at the site to extinguish a fire include:
- Separating hot loads from combustible materials by use of the quarantine area;

-
- Applying water to cool unburned material and other hazards;
 - Quenching burning material with fire extinguishers or hoses.
- 12.1.11 Staff are suitably trained in the use of firefighting equipment and will be supervised by the Fire & Rescue Service (FRS) in the event of a fire. During a major fire, the FRS will lead and be supported by site staff.
- 12.1.12 If the FRS were required, fire water supplied from the water sources identified in the section below would then be used to extinguish the fire, which would be facilitated by the attending on-site FRS personnel and fire appliances.
- 12.1.13 Given the available firefighting techniques and means of detecting a potential fire, it is expected that a fire would be extinguished within 4 hours.
- 12.1.14 Following a fire on site, and upon safe re-commissioning of all plant and equipment, an investigation will be undertaken internally as to the cause of the fire and any future preventative measures to ensure that there is no re-occurrence.
- 12.1.15 This Fire Prevention Plan will be reviewed following the investigation to ensure that lessons learnt are documented and implemented in the future. Any new policies and procedures will be documented within this plan and the management system.
- 12.1.16 If necessary, new training requirements for site personnel will be implemented following the investigation, whilst not negate the requirement for ongoing training fire risk reduction.
- 12.1.17 Any building that has suffered structural damage during a fire will not be re-occupied until such time as they have been deemed fit for purpose by a suitably qualified engineer.

13 WATER SUPPLIES

13.1 Available water supply

- 13.1.1 The site water supply comes from a public water supply connection and is accessed via mains water supply. The mains water will primarily be used to top up a fire water storage tank designed in accordance with the requirements of BS 5306 (or equivalent standard). The water storage is required to provide sufficient capacity for the fire suppression systems. This storage will also be supported by the mains water connection in order to meet the demand to put out a fire. The firewater storage tank will be fitted with a local external water level indicator as well as with remote water level control and level alarm indication to the distributed control system (DCS).
- 13.1.2 The fire main will be located at least 12 m from the plant buildings to ensure that it is not compromised during a serious fire incident.
- 13.1.3 It should be noted that the on-site firewater storage system also incorporates sufficient capacity to supply a fire brigade in accordance with NFPA standard requirements.
- 13.1.4 Fire water will be contained on site via penstock valves, and can be available for re-use by the FRS, if required.
- 13.1.5 It is estimated that the size of the firewater storage tank will be approximately 1,600 m³. The firewater tank will be designed to ensure the required fire water capacity is available for fire protection at all times. The firewater tank has been sized to exceed the minimum requirements of NFPA 850. The exact size of the firewater tank will be confirmed following detailed design. When specifying the sizing for the firewater tank, it will be based on early fire detection and automatic fire suppression systems in the Waste Processing hall, bunker and storage areas such that any fire can be rapidly contained and extinguished.
- 13.1.6 FPP Guidance requires a supply of firewater of 2,000 l/min for 3 hours for a 300 m³ pile of waste, but this is based on an open pile of waste with free run off, rather than storage in a bunker which contains the water. For a waste bunker with a waste storage capacity of 12,500 m³, the guidance implies the need for a 15,000 m³ fire water tank, which is excessive. It should be noted that the potential volume of firewater required to extinguish a fire in the bunker will be considerably less than the total 'airspace' volume of the bunker, as the waste present in the bunker will reduce the available volume. The waste bunker will be a contained concrete structure, with fire-resistant concrete walls. The provisions for firefighting in this area will be in accordance with NFPA 850 and as required by the fire risk insurers. In addition, foam may be used as an additive in the firewater system which will reduce the quantity of water required for firefighting – this is subject to detailed design of the Facility. Early fire detection methods and fast suppression will mean that the full contents of the firewater tank are unlikely to be required. It is acknowledged that these provisions are not in strict accordance with the EA's FPP guidance, but this has been discussed and agreed with the EA on other projects similar to this Facility.
- 13.1.7 It is proposed that the design of the systems for the provision and containment of firewater are confirmed via a pre-operational condition.

14 MANAGING FIRE WATER

14.1 Containing the run-off from fire water

- 14.1.1 Fire water will be contained on site or within its sealed drainage system with shut off valves closed to ensure that water does not leave the site via the surface water drainage system. All areas where waste will be stored and treated will benefit from impermeable surfacing and an engineered drainage system. All process areas on site have drainage systems that are captive. The Drainage Strategy is provided in Appendix H3.
- 14.1.2 In the event of a fire within the bunker, the Waste Processing Hall will be engineered to allow any firewater to be directed back to the waste storage bunker which provides a storage capacity in excess of 12,500 m³. The bunker will be designed and constructed as an 'aqueous liquid retaining structure' in accordance with BS EN 1992:2006. As such, it is considered that the bunker will be sufficient to contain any firewater generated on site and prevent contact with groundwater or surface water.
- 14.1.3 The provisions for drainage and any associated drainage facilities will be sized to accommodate the concurrent flow due to operation of the following components (in accordance with NFPA 820):
- a spill of the largest single container of any flammable or combustible liquids in the area, where the bund around oil tanks will be large enough to contain the oil and the water from suppression systems;
 - the maximum expected number of fire hose lines operating for a minimum of 10 minutes; and
 - the maximum design discharge of fixed fire suppression systems operating for a minimum of 10 minutes.
- 14.1.4 There are three different types of firewater flows to be contained in the event of a fire at the Facility:
- Firewater resulting from treating fires in the bunker and Waste Processing Hall. This firewater will be routed to the bunker as described above;
 - Firewater from inside any other process building or from the IBA storage area. Such firewater is expected to be small in quantity. This drainage will be contained, to prevent contaminated water discharging off-site. It is anticipated that the dirty water pit (process water tank) will have a capacity of approximately 136 m³.
 - Firewater from outside any building will be contained in the site drainage systems. The attenuation tank to the south of the site will have a capacity of approximately 1,200 m³, subject to detailed design.
- 14.1.5 Procedures will be in place for sampling and testing of the water and appropriate disposal arrangements will be in place. The procedure for handling, testing and disposal of fire waters is:
- It will be tested for pH and chemical oxygen demand (COD).
 - If contaminated, firewater will be tankered off site for disposal by a third party and will not be discharged to surface water or foul sewer. In the case of a specific event in which the operator wishes to discharge fire water to surface water, an appropriate testing regime will be agreed with the EA prior to discharging it.
 - Any remaining waste in the bunker will be incinerated.
- 14.1.6 The capacity of the bunker to hold firewater should a fire event occur in the bunker itself will be dependent on the volume of waste stored at the time.
- 14.1.7 Penstock valves are installed in the site drainage system, which will be shut in the event of a fire to contain the run-off from fire water to prevent pollution of the environment. The external areas will

be covered with concrete which will impede fire water entering the ground. For these reasons, the risk of overflow / spill out is considered insignificant.

14.1.8 A drainage plan is provided in Drawing 1.

15 DURING AND AFTER AN INCIDENT

15.1 Dealing with issues during a fire

- 15.1.1 In the event of a fire, the Site Manager will assess whether the site can remain open. If the site is closed, site users will be directed to alternative facilities nearby until the site is re-opened.
- 15.1.2 The primary access to the site is via the main access road with entrance gate. Drawing 5 identifies the vehicle access route for external fire services that can be used in the event of a fire.
- 15.1.3 A list of emergency contacts is provided in Appendix H1. This will be updated with operational contacts once staff are in place at the site.

15.2 Notifying residents and businesses

- 15.2.1 There are minimal direct receptors within the vicinity of the site who may be affected by a fire. The closest residential properties are 210 m from the site. These are Langhurst Moat Cottage and Wealden, Langhurstwood Road, which are located to the south east of the site. Nearby businesses include Biffa mechanical biological treatment plant (MBT), Wienerberger brickworks and Greens of Horsham, which are all located off Langhurstwood Road. There is also a railway running along the western boundary of the Wealden 3Rs site, with Warnham railway station located to the south west.
- 15.2.2 We note that planning permission has been granted for an urban expansion extending from the land to the east of Langhurstwood Road, north of the A264 between Langhurstwood Road and Wimland Road. Currently information on this has not been included in the FPP but once the development is taking place the FPP will be updated to include the new receptors.
- 15.2.3 The Site Manager will notify nearby businesses and residents of a major fire via the following routes:
 - Press release
 - Website updates
 - Face-to-face communication (where possible)
 - Social media updates.
- 15.2.4 The criteria for a major fire would be agreed with the FRS.

15.3 Clearing and decontamination after a fire

- 15.3.1 Following a fire, the facility will be cleaned and decontaminated, with any contaminated fire water removed by a specialist contractor to a suitably licensed facility. Any structures affected will be inspected by a qualified engineer to assure their integrity. If there was a significant fire requiring a full shutdown of the Facility, the Facility will not restart operations until the relevant regulatory authorities (Fire Service, Health and Safety Executive, Environment Agency, etc.), as well as the fire risk insurers, advised that it was safe to do so.
- 15.3.2 Once the bunker and drainage system has been confirmed clear of contaminated fire water, the penstock valves will be re-opened. Any fire-damaged equipment will be removed or replaced. The quarantine area will be cleared of all waste. Any waste that is considered unsuitable for treatment will be removed off site for treatment or disposal.

15.4 Making the site operational after a fire

- 15.4.1 After a fire, the following steps must be taken before the site can become operational again:
 - Site has been cleaned and decontaminated;
 - In the case of a pollution event, the EA has been notified;

-
- All storage and access areas have been clear;
 - Any fire-damaged equipment has been removed and replaced;
 - The quarantine area has been cleared;
 - The site manager has agreed with the FRS that the site can operate again.

15.4.2 A full review of the FPP will be carried out in conjunction with the FRS to ensure any lessons learned are carried forward and that the FPP is updated accordingly.

16 MONITORING, REVIEW, REPORTING AND RECORD KEEPING

16.1 Monitoring

- 16.1.1 Staff working within the waste storage areas are required to be vigilant of any sign of self-combustion or hot loads.
- 16.1.2 The site undertakes periodic fire drills, at least every 6 months. These drills may be co-ordinated with the local FRS team and are used to test fire response procedures. An important part of any such test is to identify if fire procedures are effective and whether there are any improvements which could be put in place. Should improvements be identified, a programme of action with defined responsibilities and timescales will be set.
- 16.1.3 Routines are established for regular checks on all firefighting equipment to ensure they remain available and in good working order should a fire incident occur.
- 16.1.4 The senior manager at the time will act as incident controller with supervision from the local FRS. The incident controller is responsible for ensuring that the FPP guidance is followed during an incident.

16.2 Review, Reporting and Record Keeping

- 16.2.1 This FPP is incorporated within the EMS and its audit programme. The frequency of audits is set by the site audit programme. A record of any audit is made and stored. Should non-conformances be identified these are handled in accordance with the site non-conformance procedure which includes appropriate follow-up and a record of the outcome alongside any improvements identified. Where improvements are identified a programme of action with defined responsibilities and timescale are set.
- 16.2.2 The FPP will be reviewed regularly as part of the EMS review cycle and any updates will be communicated to the relevant people. Following a fire event, a full review of the FPP will also be undertaken in conjunction with the local FRS to ensure any lessons learned are incorporated and communicated to the relevant people and the FPP will be updated to incorporate any recommendations made (see paragraph 15.4.2).
- 16.2.3 Reporting requirements are defined within incident reporting procedures. These requirements incorporate reporting requirements to the EA (as specified within the permit), to the HSE and other interested parties.
- 16.2.4 The EMS includes procedures for record keeping. Any record generated in relation to this plan is held in accordance with that procedure.

DRAWINGS

Drawing 1 Site Drainage Plan

Drawing 2 Ecological Receptors

Drawing 3 Human Receptors

Drawing 4 Site Layout

Drawing 5 Storage, Quarantine Area, Fire Walls,
Access and Hydrants



APPENDICES

Appendix H.1

Emergency Contacts

Emergency Contacts

This Table will be reviewed and updated with additional contact details prior to the facility coming into operation.

Contact	Address	Contact Details
Local Police (Horsham)	Horsham Police Station, Hurst Road, Horsham, West Sussex, RH12 2DJ	Emergency – 999 or 112 Non-emergency – 101
Local Fire Service (West Sussex Fire and Rescue Service)	West Sussex Fire and Rescue Service, Hurst Road, Horsham, West Sussex, RH12 2DN	Emergency – 999 Non-emergency – 01403 213286
Local Hospital with A&E (East Surrey Hospital)	Canada Avenue, Redhill, RH1 5RH	Emergency – 999 Non-emergency – 01737 768511
Local EA Office (Worthing)	Guildbourne House, Chatsworth Road, Worthing, West Sussex, BN11 1LD	03708 506 506
Wealden Operational Contact		Tel: Email:
Wealden Security		
Biffa MBT Contact		
Wienerberger Brickworks Contact		
Greens of Horsham Contact		
Warnham Railway Contact		

Appendix H.2

List of Waste Codes

Table B-1 European Waste Catalogue Codes accepted at Wealden 3Rs

EWC Code	Description	Waste accepted (Y/N)?		
		WTS	MTP	ERF
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals			
01 01	Wastes from mineral excavation			
01 01 01	Wastes from mineral metalliferous excavation	Y	Y	N
01 01 02	Wastes from mineral non-metalliferous excavation	Y	Y	N
01 03	Wastes from physical and chemical processing of metalliferous minerals			
01 03 06	Tailings other than those mentioned in 01 03 04 and 01 03 05	Y	Y	N
01 03 09	Red mud from alumina production other than the wastes mentioned in 01 03 07	Y	Y	N
01 04	Wastes from physical and chemical processing of non-metalliferous minerals			
01 04 08	Waste gravel and crushed rocks other than those mentioned in 01 04 07	Y	Y	N
01 04 09	Waste sand and clays	Y	Y	N
01 04 11	Wastes from potash and rock salt processing other than those mentioned in 01 04 07	Y	Y	N
01 04 12	Tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11	Y	Y	N
01 04 13	Wastes from stone cutting and sawing other than those mentioned in 01 04 07	Y	Y	N
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing			
02 01	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing			
02 01 03	Plant-tissue waste	Y	Y	Y
02 01 04	Waste plastics (except packaging)	Y	Y	Y
02 01 07	Wastes from forestry	Y	Y	Y
02 01 10	Waste metal	Y	Y	Y
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	Y	Y	N

02 03	Wastes from fruit, vegetable, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation			
02 03 04	Materials unsuitable for consumption or processing	Y	Y	N
02 04	Wastes from sugar processing			
02 04 01	Soil from cleaning and washing beet	Y	Y	N
02 04 02	Off-specification calcium carbonate	Y	Y	N
02 05	Wastes from the dairy products industry			
02 05 01	Materials unsuitable for consumption or processing	Y	Y	N
02 06	Wastes from the baking and confectionery industry			
02 06 01	Materials unsuitable for consumption or processing	Y	Y	Y
02 06 02	Wastes from preserving agents	Y	Y	Y
02 07	Wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)			
02 07 01	Wastes from washing, cleaning and mechanical reduction of raw materials	Y	Y	N
02 07 02	Wastes from spirits distillation	Y	Y	N
02 07 04	Materials unsuitable for consumption or processing	Y	Y	N
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard			
03 01	Wastes from wood processing and the production of panels and furniture			
03 01 01	Waste bark and cork	Y	Y	Y
03 01 05	Sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04	Y	Y	Y
03 03	Wastes from pulp, paper, and cardboard production and processing			
03 03 01	Waste bark and wood	Y	Y	Y
03 03 07	Mechanically separated rejects from pulping of waste paper and cardboard	Y		Y
03 03 08	Wastes from sorting of paper and cardboard destined for recycling	Y	Y	Y
03 03 10	Fibre rejects, fibre-, filler- and coating-sludges from mechanical separation	Y	Y	Y
04	Wastes from the leather, fur and textile industries			

04 01	Wastes from the leather and fur industry			
04 01 08	Waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium	Y	Y	N
04 01 09	Wastes from dressing and finishing	Y	Y	N
04 02	Wastes from the textile industry			
04 02 10	organic matter from natural products (for example grease, wax)	Y	Y	Y
04 02 21	Wastes from unprocessed textile fibres	Y	Y	Y
04 02 22	Wastes from processed textile fibres	Y	Y	Y
06	Wastes from inorganic chemical processes			
06 09	Wastes from the MSFU of phosphorous chemicals and phosphorous chemical processes			
06 09 02	Phosphorous slag	Y	Y	N
06 09 04	Calcium-based reaction other than those mentioned in 06 09 03	Y	Y	N
06 11	Wastes from the manufacture of inorganic pigments and opacifiers			
06 11 01	Calcium-based reaction wastes from titanium dioxide production	Y	Y	N
07	Wastes from organic chemical processes			
07 02	Wastes from the MFSU of plastics, synthetic rubber and man-made fibres			
07 02 13	Waste plastic	Y	Y	Y
09	Wastes from the photographic industry			
09 01	Wastes from the photographic industry			
09 01 07	Photographic film and paper containing silver or silver compounds	Y	Y	N
09 01 08	Photographic film and paper free of silver or silver compounds	Y	Y	Y
09 01 10	Single-use cameras without batteries	Y	Y	Y
09 01 12	Single-use cameras containing batteries other than those mentioned in 09 01 11	Y	Y	N
10	Wastes from thermal processes			
10 01	Wastes from power stations and other combustion plants (except 19)			
10 01 01	Bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)	Y	Y	N
10 01 05	Calcium-based reaction wastes from flue-gas desulphurisation in solid form	Y	Y	N
10 01 07	Calcium-based reaction wastes from flue-gas desulphurisation in sludge form	Y	Y	N

10 01 15	Bottom ash, slag and boiler dust from co-incineration other than those mentioned in 10 01 14	Y	Y	N
10 01 19	Wastes from gas cleaning other than those mentioned in 10 01 05, 10 01 07 and 10 01 18	Y	Y	N
10 01 24	Sands from fluidised beds	Y	Y	N
10 02	Wastes from the iron and steel industry			
10 02 01	Wastes from the processing of slag	Y	Y	N
10 02 02	Unprocessed slag	Y	Y	N
10 02 08	Solid wastes from gas treatment other than those mentioned in 10 02 07	Y	Y	N
10 02 10	Mill scales	Y	Y	N
10 02 14	Sludges and filter cakes from gas treatment other than those mentioned in 10 02 13	Y	Y	N
10 02 15	Other sludges and filter cakes	Y	Y	N
10 03	Wastes from aluminium thermal metallurgy			
10 03 02	Anode scraps	Y	Y	N
10 03 05	Waste alumina	Y	Y	N
10 03 16	Skimmings other than those mentioned in 10 03 15	Y	Y	N
10 03 18	Carbon-containing wastes from anode manufacture other than those mentioned in 10 03 17	Y	Y	N
10 03 24	Solid wastes from gas treatment other than those mentioned in 10 03 23	Y	Y	N
10 03 26	Sludges and filter cakes from gas treatment other than those mentioned in 10 03 25	Y	Y	N
10 03 28	Wastes from cooling-water treatment other than those mentioned in 10 03 27	Y	Y	N
10 03 30	Wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29	Y	Y	N
10 04	Wastes from lead thermal metallurgy			
10 04 10	Wastes from cooling-water treatment other than those mentioned in 10 04 09	Y	Y	N
10 05	Wastes from zinc thermal metallurgy			
10 05 01	Slags from primary and secondary production	Y	Y	N
10 05 09	Wastes from cooling-water treatment other than those mentioned in 10 05 08	Y	Y	N
10 05 11	Dross and skimmings other than those mentioned in 10 05 10	Y	Y	N
10 06	Wastes from copper thermal metallurgy			
10 06 01	Slags from primary and secondary production	Y	Y	N
10 06 02	Dross and skimmings from primary and secondary production	Y	Y	N

10 06 10	Wastes from cooling-water treatment other than those mentioned in 10 06 09	Y	Y	N
10 07	Wastes from silver, gold and platinum thermal metallurgy			
10 07 01	Slags from primary and secondary production	Y	Y	N
10 07 02	Dross and skimmings from primary and secondary production	Y	Y	N
10 07 03	Solid wastes from gas treatment	Y	Y	N
10 07 05	Sludges and filter cakes from gas treatment	Y	Y	N
10 07 08	Wastes from cooling-water treatment other than those mentioned in 10 07 07	Y	Y	N
10 08	Wastes from other non-ferrous thermal metallurgy			
10 08 09	Other slags	Y	Y	N
10 08 11	Dross and skimmings other than those mentioned in 10 08 10	Y	Y	N
10 08 13	Carbon-containing wastes from anode manufacture other than those mentioned in 10 08 12	Y	Y	N
10 08 14	Anode scrap	Y	Y	N
10 08 18	Sludges and filter cakes from flue-gas treatment other than those mentioned in 10 08 17	Y	Y	N
10 08 20	Wastes from cooling-water treatment other than those mentioned in 10 08 19	Y	Y	N
10 09	Wastes from casting of ferrous pieces			
10 09 03	Furnace slag			
10 09 06	Casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05	Y	Y	N
10 09 08	Casting cores and moulds which have undergone pouring other than those mentioned in 10 09 07	Y	Y	N
10 09 14	Waste binders other than those mentioned in 10 09 13	Y	Y	N
10 09 16	Wastes crack-indicating agent other than those mentioned in 10 09 15	Y	Y	N
10 10	Wastes from casting of non-ferrous pieces			
10 10 03	Furnace slag	Y	Y	N
10 10 06	Casting cores and moulds which have not undergone pouring other than those mentioned in 10 10 05	Y	Y	N
10 10 08	Casting cores and moulds which have undergone pouring other than those mentioned in 10 10 07	Y	Y	N
10 10 14	Waste binders other than those mentioned in 10 10 13	Y	Y	N

10 10 16	Wastes crack-indicating agent other than those mentioned in 10 10 15	Y	Y	N
10 11	Wastes from manufacture of glass and glass products			
10 11 03	Waste glass-based fibrous materials	Y	Y	N
10 11 10	Waste preparation mixture before thermal processing, other than those mentioned in 10 11 09	Y	Y	N
10 11 12	Waste glass other than those mentioned in 10 11 11	Y	Y	N
10 11 16	Solid wastes from flue-gas treatment other than those mentioned in 10 11 15	Y	Y	N
10 11 18	Sludges and filter cakes from flue-gas treatment other than those mentioned in 10 11 17	Y	Y	N
10 12	Wastes from manufacture of ceramic goods, bricks, tiles and construction products			
10 12 01	Waste preparation mixture before thermal processing	Y	Y	N
10 12 05	Sludges and filter cakes from gas treatment	Y	Y	N
10 12 06	Discarded moulds	Y	Y	N
10 12 08	Waste ceramics, bricks, tiles and construction products (after thermal processing)	Y	Y	N
10 12 10	Solid wastes from gas treatment other than those mentioned in 10 12 09	Y	Y	N
10 12 12	Wastes from glazing other than those mentioned in 10 12 11	Y	Y	N
10 13	Wastes from manufacture of cement, lime and plaster and articles and products made from them			
10 13 01	Waste preparation mixture before thermal processing	Y	Y	N
10 13 04	Wastes from calcination and hydration of lime	Y	Y	N
10 13 07	Sludges and filter cakes from gas treatment	Y	Y	N
10 13 10	Wastes from asbestos-cement manufacture other than those mentioned in 10 13 09	Y	Y	N
10 13 11	Wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10	Y	Y	N
10 13 13	Solid wastes from gas treatment other than those mentioned in 10 13 12	Y	Y	N
10 13 14	Waste concrete and concrete sludge	Y	Y	N
11	Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydro-metallurgy			
11 01	Wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating)			

	processes, pickling processes, etching, phosphatising, alkaline degreasing, anodising)			
11 01 10	Sludges and filter cakes other than those mentioned in 11 01 09	Y	Y	N
11 01 14	Degreasing wastes other than those mentioned in 11 01 13	Y	Y	N
11 02	Wastes from non-ferrous hydrometallurgical processes			
11 02 03	Wastes from the production of anodes for aqueous electrolytical processes	Y	Y	N
11 02 06	Wastes from copper hydrometallurgical processes other than those mentioned in 11 02 05	Y	Y	N
11 05	Wastes from hot galvanising processes			
11 05 01	Hard zinc	Y	Y	N
11 05 02	Zinc ash	Y	Y	N
12	Wastes from shaping and physical and mechanical surface treatment of metals and plastics			
12 01	Wastes from shaping and physical and mechanical surface treatment of metals and plastics			
12 01 01	Ferrous metal filings and turnings	Y	Y	N
12 01 03	Non-ferrous metal filings and turnings	Y	Y	N
12 01 05	Plastics shavings and turnings	Y	Y	N
12 01 13	Welding wastes	Y	Y	N
12 01 17	Waste blasting material other than those mentioned in 12 01 16	Y	Y	N
12 01 21	Spent grinding bodies and grinding materials other than those mentioned in 12 01 20	Y	Y	N
15	Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified			
15 01	Packaging (including separately collected municipal packaging waste)			
15 01 01	Paper and cardboard packaging	Y	Y	Y
15 01 02	Plastic packaging	Y	Y	Y
15 01 03	Wooden packaging	Y	Y	Y
15 01 04	Metallic packaging	Y	Y	
15 01 05	Composite packaging	Y	Y	Y
15 01 06	Mixed packaging	Y	Y	Y
15 01 07	Glass packaging	Y	Y	N
15 01 09	Textile packaging	Y	Y	Y

15 02	Absorbents, filter materials, wiping cloths and protective clothing			
15 02 03	Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02	Y	Y	Y
16	Wastes not otherwise specified in the list			
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 03	End-of-life tyres	Y	Y	Y
16 02	Wastes from electrical and electronic equipment			
16 02 14	Discarded equipment other than those mentioned in 16 02 09 to 16 02 13	Y	Y	N
16 02 16	Components removed from discarded equipment other than those mentioned in 16 02 15	Y	Y	N
16 03	Off-specification batches and unused products			
16 03 04	Inorganic wastes other than those mentioned in 16 03 03	Y	Y	Y
16 03 06	Organic wastes other than those mentioned in 16 03 05	Y	Y	Y
16 06	Batteries and accumulators			
16 06 04	Alkaline batteries (except 16 06 03)	Y	Y	N
16 06 05	Other batteries and accumulators	Y	Y	N
16 11	Waste linings and refractories			
16 11 02	Carbon-based linings and refractories from metallurgical processes other than those mentioned in 16 11 01	Y	Y	N
16 11 04	Other linings and refractories from metallurgical processes other than those mentioned in 16 11 03	Y	Y	N
16 11 06	Linings and refractories from non-metallurgical processes other than those mentioned in 16 11 05	Y	Y	N
17	Construction and demolition wastes (including excavated soil from contaminated sites)			
17 01	Concrete, bricks, tiles and ceramics			
17 01 01	Concrete	Y	Y	N
17 01 02	Bricks	Y	Y	N
17 01 03	Tiles and ceramics	Y	Y	N
17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	Y	Y	N
17 02	Wood, glass and plastic			

17 02 01	Wood	Y	Y	Y
17 02 02	Glass	Y	Y	N
17 02 03	Plastic	Y	Y	Y
17 03	Bituminous mixtures, coal tar and tarred products			
17 03 02	Bituminous mixtures other than those mentioned in 17 03 01	Y	Y	N
17 04	Metals (including their alloys)			
17 04 01	Copper, bronze and brass	Y	Y	N
17 04 02	Aluminium	Y	Y	N
17 04 03	Lead	Y	Y	N
17 04 04	Zinc	Y	Y	N
17 04 05	Iron and steel	Y	Y	N
17 04 06	Tin	Y	Y	N
17 04 07	Mixed metals	Y	Y	N
17 04 11	Cables other than those mentioned in 17 04 10	Y	Y	N
17 05	Soil (including excavated soil from contaminated sites), stones and dredging spoil			
17 05 04	Soil and stones other than those mentioned in 17 05 03	Y	Y	N
17 05 08	Track ballast other than those mentioned in 17 05 07	Y	Y	N
17 06	Insulation materials and asbestos-containing construction materials			
17 06 01*	Insulation materials containing asbestos – bonded asbestos only	Y	Y	N
17 06 04	Insulation materials other than those mentioned in 17 06 01 and 17 06 03	Y	Y	N
17 06 05*	Construction materials containing asbestos – bonded asbestos only	Y	Y	N
17 08	Gypsum-based construction material			
17 08 02	Gypsum-based construction materials other than those mentioned in 17 08 01	Y	Y	N
17 09	Other construction and demolition wastes			
17 09 04	Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	Y	Y	Y
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use			
19 01	Wastes from incineration or pyrolysis of waste			
19 01 02	Ferrous materials removed from bottom ash	Y	Y	N

19 01 12	Bottom ash and slag other than those mentioned in 19 01 11	Y	Y	N
19 01 18	Pyrolysis wastes other than those mentioned in 19 01 17	Y	Y	N
19 01 19	Sands from fluidised beds	Y	Y	N
19 02	Wastes from physico/chemical treatments of waste (including dechromatation decyanidation, neutralisation)			
19 02 03	Premixed wastes composed only of non-hazardous wastes	Y	Y	Y
19 02 10	Combustible wastes other than those mentioned in 19 02 08 and 19 02 09	Y	Y	Y
19 04	Vitrified waste and wastes from vitrification			
19 04 01	Vitrified waste	Y	Y	N
19 05	Wastes from aerobic treatment of solid wastes			
19 05 01	Non-composted fraction of municipal and similar wastes	Y	N	Y
19 05 02	Non-composted fraction of animal and vegetable waste	Y	N	Y
19 05 03	Off-specification compost	Y	N	Y
19 06	Wastes from anaerobic treatment of wastes			
19 06 04	Digestate from anaerobic digestion of municipal waste	Y	N	Y
19 06 06	Digestate from anaerobic treatment of animal and vegetable waste	Y	N	Y
19 12	Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified			
19 12 01	Paper and cardboard	Y	Y	Y
19 12 02	Ferrous metal	Y	Y	N
19 12 03	Non-ferrous metal	Y	Y	N
19 12 04	Plastic and rubber	Y	Y	Y
19 12 05	Glass	Y	Y	N
19 12 07	Wood other than that mentioned in 19 12 06	Y	Y	Y
19 12 08	Textiles	Y	Y	Y
19 12 09	Minerals (for example sand, stones)	Y	Y	N
19 12 10	Combustible waste (refuse derived fuel)	Y	Y	Y
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11 (generally packaging waste or mixed refuse)	Y	Y	Y
19 13	Wastes from soil and groundwater remediation			

19 13 02	Solid wastes from soil remediation other than those mentioned in 19 13 01	Y	Y	N
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 01	Paper and cardboard	Y	Y	Y
20 01 02	Glass	Y	Y	N
20 01 08	Biodegradable kitchen and canteen waste	Y	Y	Y
20 01 10	Clothes	Y	Y	Y
20 01 11	Textiles	Y	Y	Y
20 01 34	Batteries and accumulators other than those mentioned in 20 01 33	Y	Y	N
20 01 36	Discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	N	Y	N
20 01 38	Wood other than that mentioned in 20 01 37	Y	Y	Y
20 01 39	Plastics	Y	Y	Y
20 01 40	Metals	Y	Y	N
20 01 41	Wastes from chimney sweeping	Y	Y	N
20 02	Garden and park wastes (including cemetery waste)			
20 02 01	Biodegradable waste	Y	N	Y
20 02 02	Soil and stones	Y	N	N
20 03	Other municipal wastes			
20 03 01	Mixed municipal waste	Y	N	Y
20 03 02	Waste from markets	Y	N	Y
20 03 03	Street-cleaning residues	Y	Y	N
20 03 07	Bulky waste	Y	Y	Y
20 03 99	Municipal wastes not otherwise specified	Y	N	Y

See Sections 6 and 7 for further detail regarding management of the waste.

Appendix H.3

Drainage Strategy