FIRE PREVENTION & MITIGATION PLAN

CARDIFF WASTE MANAGEMENT RESOURCE CENTRE
WATERSIDE BUSINESS PARK
LAMBY WAY
RUMNEY
CARDIFF
CF3 2EQ

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CARDIFF WASTE MANAGEMENT & RESOURCE CENTRE, WATERSIDE BUSINESS PARK, LAMBY WAY, RUMNEY, CARDIFF, CF3 2EQ.

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FIRE PREVENTION & MITIGATION PLAN

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FOREWORD

The Waste Transfer Station at Waterside Business Park, Rumney will principally accept, bulk (including blending/mixing) and store (prior to transfer off site) hazardous waste materials, as well as minor quantities of non-hazardous waste streams. The classification, bulking and storage of waste materials accepted at the site in terms of their hazardous characteristics is carried out in accordance with HSG 71 (Chemical Warehousing – the storage of packaged dangerous substances, published in 2009), which draws upon information contained within The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG Regs) and the European Agreement concerning the International Carriage of Dangerous Goods by Road (more commonly known as ADR). Consequently, the storage arrangements for hazardous and non-hazardous materials at the site will be based on HSG71, the CDG Regs and ADR. This is opposed to the classification of non-hazardous and hazardous waste as specified in Technical Guidance WM3 - Guidance on the classification and assessment of waste.

Storage arrangements at the site will be laid out according to chemical composition in accordance with HSE guidance notes HSG71 and HSG51 and DSEA Regulations. A site chemist will assign a storage area for wastes having completed the appropriate analysis in accordance with Waste Acceptance Procedure (Biffa's SOP 02) and following an assessment concerning the compatibility of the materials that may already be in the area and any particular hazards associated with the waste. Separate storage areas will be maintained for material combinations that have the ability to react adversely together. Incompatible materials will be stored separately

With the above in mind, it is possible that hazardous materials (as defined by the CDR Regulations) could be stored within the same bay as compatible non-hazardous materials. This could include mirror entry EWC codes which for all intents and purposes are the same composition except one is above a given hazardous waste threshold value and the other is below the threshold value, deeming it to be classed as non-hazardous. As previously indicated, this co-storage would only occur following stringent compatibility tests and with consideration to potential risk of combustion/ignition of materials contained within that bay. In these instances, it is likely that the waste materials (be it non-hazardous or hazardous) will be awaiting transfer off-site to the same recovery/disposal outlet. Please note, these arrangements will not result in the mixing or blending of non-hazardous and hazardous waste materials, merely the co-storage of such materials in separate containers (e.g. drums, IBCs etc) on the same pallet and/or bay.

In light of the standards adopted not all non-hazardous waste streams accepted at Lamby Way Waste Transfer Station will stored in isolation from hazardous wastes. In such incidences, the fire management strategy for these wastes will follow that for hazardous wastes and therefore fall outside the scope for this Fire Prevention and Mitigation Plan (FPMP). The focus of this FPMP is therefore on non-hazardous wastes (and WEEE) that are stored in isolation of other hazardous wastes handled at the facility.

It should be noted that the proposed storage arrangements (in line with HSG71) are in line with strategies operated at other facilities operated by Biffa and have been previously accepted by the regulator as examples of best practice, including their existing Curran Embankment Facility in Cardiff, and at Stevenage in Hertfordshire (regulated by the Environment Agency).

1.0 INTRODUCTION

1.1 Scope

1.1.1 Sirius Environmental Limited (Sirius) has been commissioned by Biffa Waste Services Limited (Biffa) to prepare a Fire Prevention & Mitigation Plan (FPMP) to support the operation of their proposed Waste Transfer Station to be located in Waterside Business Park, Rumney, Cardiff.

1.1.1 This Fire Prevention and Mitigation Plan (FPMP) has been prepared in order to identify the potential fire risks associated with the handling, storage and processing of combustible materials. This plan presents the methods of fire control that are employed at the site, which includes emphasis upon fire prevention, detection, containment and potential mitigation techniques. Further to this a "Fire Fighting Strategy" (see **Section 4.7**) is in place which will be implemented should a fire break out. The strategy has also been developed in consideration of an assessment of the risk to human health and environment in the event that a fire occurs involving non-hazardous combustible waste handled at the site. A copy of this risk assessment is presented in **Appendix FPMP8.**

1.1.2 The Fire Prevention and Mitigation Plan has been compiled in accordance with the EP Regulations and with cognisance to the Natural Resource Wales Guidance "Fire Prevention & Mitigation Plan Guidance – Waste Management, Version 2, August 2017" and Waste Industry Safety and Health Forum (WISH) document "WASTE 28 – Reducing Fire Risk and Waste Management sites, Issue 3" which was published in March 2020. The document seeks to provide guidance for the prevention and management of potential waste fires at the site and seeks to minimise the potential impact of a fire on the environment.

1.1.3 The facility comprises a Waste Transfer Station which stores and bulks (including blending) a range of hazardous and non-hazardous wastes streams. In line with NRW's Fire Prevention & Mitigation Plan Guidance, this FPMP will focus on the storage of non-hazardous combustible waste streams only. Hazardous waste related operations are conducted in accordance with separate guidance/advice e.g. relevant HSE standards, including HSG 51, 71, 76, 140, 176 & CS21. Notwithstanding this, in line with NRW's FPMP guidance, cognisance will be given to the storage arrangements of relevant hazardous waste streams in relation to the storage of non-hazardous combustible waste streams.

1.1.4 The facility has yet to be constructed and as such minor changes in the site layout and design may be realised upon its construction. The fire prevention and mitigation strategy presented in this plan has been developed on the most conservative scenario posed by the proposed operational design available at the time of writing i.e. largest bay/stockpile size. This FPMP will be updated accordingly upon construction of the facility.

1.1.5 In order to satisfy Section 4 of Natural Resources Wales Fire Prevention and Mitigation Plans guidance, this document has been produced as a standalone document, with all documentation required appended, and forms part of the management system for Cardiff Waste Management Resource Centre. As such the requirements of this Fire Prevention and Mitigation Plan will be communicated to all relevant persons on site, and appropriate training provided where indicated as part of this Fire Prevention and Mitigation Plan.

2.0 SITE DETAILS

2.1 Site Activities

2.1.1 The facility comprises a Waste Transfer Station that receives hazardous and non-hazardous waste streams. These operations consist of the acceptance, storage, blending, bulking, mixing and repackaging of specific hazardous and non-hazardous wastes for onward transfer. As previously discussed, the non-hazardous waste transfer operations will be the principle focus of this FPMP.

2.1.2 In accordance with relevant Biffa Standard Operating Procedures (SOPs) site staff will ensure that hazardous and non-hazardous materials will be stored in the Transfer Station (and supervised/monitored) in such a way as to prevent exposure to harmful substances and to prevent the occurrence of any adverse reaction that could initiate or propagate an incident involving the loss of control of the materials stored on site. That is, separate storage areas will be maintained for material combinations that have the ability to react adversely together. Hazardous and non-hazardous waste streams will be stored in line with HSG71, HSG 51. All storage bays on site are appropriately engineered.

2.1.3 The storage and processing of accepted waste will be undertaken internally within engineered bays located in designated buildings. External operations will consist of the unloading and loading of waste upon its arrival/departure from the site, as well as the secure storage of gas cylinders (as appropriate).

2.1.4 All treatment operations will be carried out internally within the waste processing building. With regards to non-hazardous combustible waste streams, treatment operations will be limited to sorting, bulking, shredding and repackaging of materials (where necessary). No treatment operations are undertaken external to the building.

2.1.5 Waste streams will be stored internally, within the waste storage building, situated along the northern boundary of the site. Gas cylinders/bottles are stored externally within secure cages/containers located over impermeable surfacing located in the eastern section of the site. The storage of gas cylinders is not covered by NRW's FPMP guidance, however, they have been considered in this FPMP due to the potential them may have to cause or increase the impact in the event of a fire at the site.

2.1.6 As previously alluded to, all non-hazardous combustible materials will be stored in line with HSG 71. Given the use of engineered bays, and proposed storage arrangements in line with HSG 71, it is not considered necessary to maintain an appropriate separation distance between non-hazardous combustible waste streams and hazardous waste streams.

2.1.7 The annual waste throughput of the facility (including both hazardous and non-hazardous waste) does not exceed 7,499 tonnes.

2.1.8 The following waste management operations (as taken from Waste Framework Directive 2008/98/EC Annex II) are to be carried out at the facility:

- **R3:** Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
- **R4:** Recycling or reclamation of metal and metal compounds.
- **R5:** Recycling or reclamation of other 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).
- **D9 :** Physico-chemical treatment not specified elsewhere which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12
- **D14:** Repackaging prior to submission to any of operations numbered D1 to D13
- **D15:** Storage pending D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced).

2.1.9 A variety of non-hazardous combustible wastes will be accepted and stored on site, in containers and on pallets, including,:

- Mixed packaging
- Textiles
- Metals
- Plastics
- Tyres
- WEEE
- Wood
- Bulky Waste
- Paper and Cardboard

2.2 Site Layout

2.2.1 The site infrastructure comprises 17 individual storage and processing bays split between three permanent open fronted buildings. As shown in **Drawing No. BF5023/09/03**, 10 storage bays are situated within a building running along the northern boundary of the site and are designated as waste material storage bays. A further six bays located within a building in the centre of the site area running parallel to the previously mentioned structure and will be utilised for additional storage and processing activities. The final storage bay is located in the southwestern corner of the site. The cumulative floor area of the waste storage building, the waste processing building and the skip storage area is c. 1,792m².

2.2.2 The separation distance between the storage building situated along the northern boundary of the site and the centrally located storage and processing building is designed at ~11.5m, as denoted upon **Drawing No. BF5023/09/03**.

2.2.3 As previously indicated, the site is utilised as both a Waste Transfer Station for hazardous and non-hazardous waste streams. The combustible non-hazardous waste streams, to which this FPMP relates will be stored within the waste storage building, within appropriately engineered bays, in line with HSG71 and subject to compatibility. All waste will be stored upon pallets or in containers e.g. IBC's, drums.

2.2.4 Given the use of engineered storage bays (as discussed further in **Section 4.5**) for the storage of non-hazardous combustible waste streams, it is not considered necessary to maintain an appropriate separation distance between non-hazardous combustible waste streams and hazardous waste streams. In addition to this, storage arrangements are based on those contained within HSG71, which permits the co-storage of hazardous and non-hazardous materials once materials have been assessed for compatibility by a site chemist. This may include mirror entry non-hazardous and hazardous waste streams.

2.2.5 The Fire and Rescue Service are unlikely to tackle a fire in a bay which contains hazardous wastes/goods, including when it is co-stored with non-hazardous wastes, as it is often not appropriate to douse such wastes in water. Therefore, although most of the bays on site will contain mainly hazardous wastes/goods, it is considered that this FPMP will predominantly focus upon Bays 9 and 10 as they will be utilised for the storage of non-hazardous waste and WEEE.

2.2.6 The bays which are specifically utilised for the storage of non-hazardous wastes will be identified by appropriate signage and all members of staff will be made aware of their location. **Table FPMP1** contains an example of on-site storage arrangements proposed at the site. Please note, exact locations may be liable to change due to on site operational requirements.

Table FPMP1: Advisory On-site Storage Bay Arrangements

Bay Location	Waste type
1	Flammable liquids
2	Flammable solids
3	Aerosols
4	Toxics
5	Caustics
6	Oil/oil contaminated rags/greases
7	Acids
8	Irritant / Harmful / Environmentally Toxic
9	Non-hazardous
10	Non-hazardous + WEEE
11	Process
12	Process
13	Oxidising/Peroxides
14	Quarantine
15	Process
16	Reception
17	Skip storage (e.g. General waste, scrap metal etc)

2.2.7 This waste processing building will support the mixing, blending, bulking and re-packaging of range of non-hazardous and hazardous waste streams, ultimately for onward transfer. In terms of the combustible non-hazardous waste streams (to which this FPMP applies), it is considered that waste treatment activities conducted within the waste processing building will include manual sorting, bulking, shredding (where necessary) and repackaging.

2.2.8 All waste storage and treatment areas consist of impermeable concrete pavement and sealed drainage system. Each storage bay at the facility will be fitted with a dedicated drainage system which will collect any generated liquids and isolate these with a storage tank. The storage tanks for each storage bay will be installed underneath the front of the storage bay with storage bay specific maximum capacities. Each storage tank will be fitted with a high-level alarm. The internal storage bays within the waste storage building will have a maximum capacity of 154m^3 (Bays 1 and 6). The largest waste processing bay (Bay 16, reception bay) will have a maximum capacity of 198 m^3.

2.2.9 The waste transfer station itself is sited upon a suitable area of impermeable concrete with an associated site-wide sealed Sustainable Drainage System. Surface water from site will be directed (along channels) through multiple oil

interceptors towards a designated discharge point into public surface water sewer located to the southwest of the site boundary. Domestic foul water emanating from the welfare facilities at the office will be directed to the foul sewer. The site drainage layout is presented on **Drawing No. BF5023/09/04.**

2.2.10 The site drainage layout design is presented on **Drawing No. BF5023/09/04.**

2.2.11 The designed routes of electrical, water and telecommunication ducting are presented in **Drawing No. 7511-HBL-XX-XX-DR-C-0105**.

2.2.12 All electrical installations within the building will be carried out by a qualified electrician in accordance with Building Control Regulations.

2.2.13 Access to the site is gained via an entrance point located off Lamby Way. This access point will be the main access route utilised by the Fire Rescue Service (FRS), as denoted upon **Drawing No. BF5023/9/06**. The access road is c. 7.3m wide and the exit point is 6.3 wide and are designed to accommodate articulated HGV movements at the site. There are no height restrictions imposed at the site access and egress points. NRW guidance stipulates that the typical FRS appliance is 3.7m wide, with a maximum height clearance required of 4m. Therefore, the proposed access and egress route are sufficient in size to accommodate the requirements of the FRS. There are no other points of access around the site which could be utilised in the event of an emergency.

2.2.14 The site's entrance is gated and is locked at all times other than during operational hours. Palisade fencing surrounds the site perimeter. A CCTV and alarm system will also be present at the site.

2.3 Storage

2.3.1 **Table FPMP2** indicates the storage arrangements for potentially combustible materials on site. As previously indicated, all waste streams will be stored internally within storage bays, upon pallets and depending on the waste type, potentially within a container e.g. IBC's, drums. Non-hazardous waste streams that have undergone shredding will be stored in skips in the skip storage building. Gas containers or gas storage bottles will be stored within secure cages/containers located over impermeable surfacing located in the eastern section of the site. All waste storage areas will be equipped with suitable engineered controls in place which are proportional to the environmental risk posed. Please note; the figures in **Table FPMP2** indicate typical daily volumes but may fluctuate in accordance with the Environmental Permit limit.

2.3.2 Please note, all wastes will be stored in their largest form, however non-hazardous packaging wastes will be shredded within the waste processing building prior to storage within a skip in the skip storage bay (Bay 17) located in the southwestern corner of the site. Due to the treatment via shredding, the particle size of the material is reduced. However, due to limited quantity of this material stored at any one time and the mode of storage (i.e. skip), only a limited quantity of firewater will be required to extinguish a fire. Similarly, these shredded wastes will only be stored for a limited period of time (i.e. <3 months) that limits the risk of self-combustion. All non-hazardous combustible waste streams and WEEE will be stored on pallets. The storage of the majority of non-hazardous wastes in their largest form, will reduce the risk of self-combustion. Depending on the waste type, the waste may be stored in containers (upon pallets). The containers will be UN approved and/or the original manufacturers packaging. The operator aims to extinguish a fire on site within 4 hours of it starting.

2.3.3 Both non-hazardous and hazardous waste streams will be stored in the waste storage building as described in **Table FPMP1** and as shown on **Drawing No. BF5023/09/03.** All materials that arrive on site are checked for compatibility, segregated, packed and stored a safe distance from one another in the appropriate bays. As previously alluded to, Bays 9 and 10 will be utilised for the storage of non-hazardous wastes and WEEE (including hazardous), which include the co-storage of combustible and non-combustible wastes. Non-hazardous waste also may be co-stored with hazardous wastes in other bays across the site (in line with HSG71 guidance) but are deemed to fall outside the scope of this FPMP. Given this, **Table FPMP2** is based on Bays 9, 10 and 17 alone.

Table FPMP2: Storage Arrangements for Combustible Wastes

Combustible Materials	How is the material stored?	Form	Daily Tonnage (approx.)	Approx. Maximum Volume	No of Stockpiles	Stockpile Area length and width (m)	Stockpile / Storage Area height (m)	Maximum Storage Time	Management Arrangements
Internal									
Mixed or source segregated combustible non-hazardous waste and WEEE	In a storage bay on impermeable concrete with sealed drainage.	Stored on a pallet or containerised	c. 2 tonnes a day	Up to 88 pallets/ containers or 88m^3 in bays, (excluding void space)	2 bays (Bays 9 & 10)	6.6m (l) x 10m (w) (note bay is 11m in width, however there will be a 1m stand-off between the storage of the waste and the front of the bay)	Up to 2.4m	Up to 6 months BAT, S5.06 (in line with NRW guidance)	• Daily inspections carried out • Good housekeeping measures employed to prevent he generation of a significant amount of mud, debris and litter; • Storage duration managed in accordance with permit and HSG 71 • Concrete blocks (215mm) thick will be utilised in the construction of storage bays, affording a fire resistance period of at least 120 minutes.
Shredded waste Non-hazardous waste (used pharmaceutical bottles)	In a skip on impermeable concrete with sealed drainage.	Ro-ro Skip	c. 1 tonne a day	2m^3	1 (Bay 17)	5.9m (l) x 2.3m (w)	2m	Typically around 2 weeks, but up to 3 months	• Daily inspections carried out • Good housekeeping measures employed • First in first out principles employed
On-site Storage Volume of Combustible Material	Maximum of 178m^3 solid non-hazardous combustible waste (includes some compatible hazardous waste as designated by HSG71)								

Table FPMP3: Storage of Hazardous Substances

Hazardous Substance	Quantity	Location	How is it stored and Controlled
Fuel oil (diesel including red diesel)	Storage capacity of 2,000 litres	Externally, adjacent to site car park	Fuels to be stored in fit-for-purpose double skinned or bunded fuel tank over areas on impermeable pavement. Refuelling area to be on areas of impermeable pavement Spill kits to be located in strategic locations across the facility.
Greases/ Oils	Not known – likely to be <1000 litres / yr	Externally, adjacent to site car park	Fuels to be stored in fit-for-purpose double skinned or bunded fuel tank over areas on impermeable pavement. All containers to be stored in designated areas with impermeable surfacing and drip/spills trays. Spill kits to be located in strategic locations across the facility.
Detergents	Not known – likely to be <1000 litres / yr	mobile bund	All containers to be stored in designated areas with impermeable surfacing and drip/spills trays. All areas where detergents to be utilised to be serviced by a sealed foul drainage system

2.4 Infrastructure

2.4.1 The site infrastructure will comprise a waste storage building, waste processing building, office/welfare facilities, car park, impermeable concrete surfacing (internal and external), palisade fencing, and site wide sealed drainage system.

2.4.2 The waste storage building is rectangular in shape and is approximately *c.* 83m in length, by *c*. 11m in width. The westernmost part of the facility, for approximately 54m, will be of single storey construction with a maximum height of ~5m. The remaining eastern part of the facility would be two-story, having a mezzanine level accessed via an external staircase, with a maximum height of approximately 8.7m. This building is of steel portal construction, having an open front elevation and finished with appropriate cladding.

2.4.3 Located centrally within the site, the waste processing building will have a footprint of approximately 64m in length by *c.* 11m in width. The building would be of single storey in height with maximum height marginally exceeding 5m. As with the waste storage building, the building will be of steel portal construction with an open front elevation and appropriate cladding.

2.4.4 A skip storage area is situated to the south west corner of the site with a footprint of approximately 12.4m x 11.4m and a maximum height of 8.7m. This building is of the same construction as the other buildings on site.

2.4.5 All storage bays will be situated upon impermeable concrete surfacing with sealed drainage systems in place for each bay. Each storage bay will be fitted with a dedicated drainage system which will collect any generated liquids and isolate these within a storage tank. The drainage sumps for each storage bay will installed underneath the front of the bay with storage bay specific maximum capacities. The principle aim of these sumps is to capture any leaks and spills associated with the wastes being stored within. Whilst they will provide some limited scope to support the containment of fire water generated during a fire, the primary containment of such waters will be provided by the wider site drainage network, which is detailed below.

2.4.6 Surface water from site will be directed (along channels) through multiple oil interceptors towards a designated discharge point into public surface water sewer located to the southwest of the site boundary.

2.4.7 In addition to the dedicated drainage system and discharge point, an underground attenuation storage tank with a capacity of 420m^3 will be installed along the western boundary of the proposed site. This storage tank will be of double skinned construction and will be fitted with both high-level and leak detection alarms. The primary aim of this storage tank will be to provide redundancy to the surface water management system during a storm event when potential inputs to the surface water drainage system exceeds the outflow rate. It will also provide firewater containment functionality.

2.4.8 A number of suitable valves are due to be installed as part of the proposed drainage system at the site. A suitable valve will be been installed at the outflow to the discharge point, at flow control chamber SW7 which will allow for any firewater to be stopped from discharging from the site and diverted to the aforementioned underground attenuation storage tank, which will be situated along the western boundary of the site. Care will be taken to ensure that the FRS as well as the Site Manager are aware of the location of the valve to be turned off in the event of a fire on site. An indicative drainage layout is presented on **Drawing No.BF5023/9/04.**

2.4.9 Access to the site will be gained via an access road which bounds the southern boundary of the proposed waste transfer station and connects to Lamby Way. Given that the buildings are all open fronted, it is likely that the Fire and Rescue service will be able to tackle a fire in the buildings on site from the building entrance without having to enter the building itself.

2.4.10 Where appropriate internal bays will be suitably engineered utilising 215mm thick concrete blocks, which is considered to be of sufficient thickness to provide a fire resistance of 2 hours. The properties of the storage bays on site are discussed further in **Section 4.5.**

2.4.11 Protective clothing is stored within the site office/welfare facility, which can be utilised in the event of an emergency. Pollution control equipment (e.g. spill kits) are stored at strategic locations throughout the site for use during an emergency. Fire extinguishers will be located at designated points around the building. The locations of protective clothing, pollution control equipment and fire extinguishers are illustrated in **Drawing No. BF5023/9/06.**

2.4.12 Please note, there is no natural or unmade ground located within the site boundary.

2.5 Local Community

Site Location and Setting

2.5.1 The site will be located within Waterside Business Park, Lamby Way, Rumney, Cardiff CF3 2EQ at National Grid Reference (NGR): ST 22019 78619. The site will comprise a number of individual storage bays split between three permanent housing structures. designated loading/unloading areas, site offices, and welfare facilities. The site located is illustrated on **Drawing No. BF5023/09/01**.

2.5.2 The site is immediately bounded to the south, east and west by buildings associated with the Waterside Business Park and to the north by established trees/hedgerows and the Cardiff to London mainline railway.

2.5.3 Beyond the aforementioned vegetation and mainline railway, the proposed site is bounded to the north by residential properties associated with the conurbation of Rumney. To the west by open grassland and the A4232, to the south by further industrial units, Cardiff HWRC and open grassland. To the east the proposed site is bounded by industrial units associated with the wider Waterside Business Park, and to the south, east and west by agricultural fields.

2.5.4 Due to the site's location on the outskirts of Cardiff, aside from the residential area of Rumney located to the north of the propose site, residential properties are generally sparse to the east, south and west of the proposed site.

2.5.5 The nearest residential properties are located c. 50m to the north of the site, along New Road in Rumney.

2.5.6 An outbreak of fire may affect local sensitive receptors. All sensitive receptors that lie within 1km of the site are detailed in **Table FPMP4** below and are illustrated in **Drawing No. BF5023/09/05.**

Table FPMP4: Identified Receptors within 1km of the Site

Ref	Receptor Name	Receptor Type	Distance/ Direction from Site	Brief Description
1	Commercial & Industrial Businesses	Commercial & Industrial	Adjacent to 1000m all directions	Commercial and Industrial Estates including Waterside Business Park, Lamby Way Industrial Estate, Capital Business Park etc
2	Great Western Railway Mainline	Railway line	Adjacent N	Main transport links
3	Cardiff HWRC	Commercial	220m S	Waste Management Facility
4	Residential Areas of Rumney	Residential	50m N	Residential properties
5	Residential Areas of Pengam	Residential	800m W	Residential properties
6	Parc Tredelerch	Recreational	40m W	Park including large surface water pond utilised as a fishery
7	Rumney Hill Gardens	Recreational	890m NW	Gardens with lawn and small trees
8	Allotments	Recreational	520m NE	Allotment gardens
9	Rhymney River SINC	Surface Water	570m W,SW	River important for migratory fish, otters, wildfowl and bankside vegetation and acts as a major wildlife corridor.
10	Rhosog Fach Reen	Surface Water	235m S,SE	Drainage ditches
11	Gwent Levels SSSI	Designated habitat (biological)	460m, E	Reclaimed wet pasture rich in plant species and communities and diverse aquatic invertebrate fauna.
12	Severn Estuary SSSI, Ramsar, SAC & SPA	Designated Habitat (biological)	980m S,SE	Important area for foreshore and inter-tidal habitat. Presence of internationally important populations of several species of waterbirds as well as its fish species migrating between the sea and rivers via the Estuary
13	Lamby Way SINC	Designated Habitat (biological)	110m S	Lowland Meadow

Ref	Receptor Name	Receptor Type	Distance/ Direction from Site	Brief Description
14	Lamby North SINC	Designated Habitat (biological)	650m WSW	Priority habitat is coastal saltmarsh.
15	Rhymney Grassland East SINC	Designated Habitat (biological)	520m WNW	Priority habitats are lowland meadow and lowland calcareous meadow.
16	Lamby Salt Marsh SINC	Designated Habitat (biological)	960m S	Priority habitat is coastal saltmarsh.
17	Rumney Primary School	School	490m NW	Local primary school
18	Greenway Primary School	School	820m N/NE	Local Primary school
19	Brightside Manor Care Home	Care Home	920m NW	Residential Care Home
20	Rumney Primary Care Centre	Medical	500m N	Doctors Surgery
21	Surface Water courses (not including those previously identified)	Surface Water	560m SE and 550m NE	Various surface water courses
22	Public Roads	Highway	Adjacent – 1km N, S, E W	Number of roads providing transport links
23	Buttercups Day Nursery	Preschool	110m S/SE	Day Nursery

2.5.7 In the event of a fire at the site, it will be necessary for a nominated member of the Biffa Waste Services team to contact relevant receptors (i.e. those listed in **Appendix FPMP1**) to make them aware that there is an incident at the site. It is not considered feasible to contact every residential property individually, and therefore the nominated member of staff would contact the relevant Local Authority and (after obtainment of an agreement from them) the Local Authority would make contact with local residents/local businesses. A list of Emergency Contacts is included within **Appendix FPMP5**.

2.5.8 If any nearby surface waters are likely to be affected by a fire at the site, NRW will be contacted immediately. Similarly, Network Rail and the South Wales Trunk Road Agency will also be informed should the safety of nearby railway lines or any major road networks be at risk. All contacts details are included in **Appendix FPMP5**.

2.5.9 It is possible that Biffa may have specific contact details for the nearest residential receptors which can be utilised in an emergency, or a member of staff could alert the occupants of the nearest residential properties (and industrial receptors within Waterside Business Park), in person, if considered necessary.

2.5.10 The site is surrounded to the east, south and west by the wider extents of Waterside Business Park, beyond which lie other additional industrial estates. These areas are considered to represent commercial/industrial sites and include a large number of places of work. Businesses located within closest proximity to the Transfer Station include (but are not limited to), car garage services, a dance studio, as well as a gym (to the east), packaging supplies, mobile phone accessory shop, tile warehouse, various contractors (to the south) and a metal fabricator to the west. There are a number of shops and a takeaway

restaurant situated to the north of the site, beyond the railway track. Biffa will liaise with the neighbours to ensure that their accident/emergency plans consider any possible fire risks.

2.5.11 The proposed site is located within 1km of four Sites of Scientific Interest (SSSIs); Gwent Levels, Rumney Quarry, Rumney River Section and the Severn Estuary. The Gwent Levels SSSI is located to the south and the east of the transfer station whilst the Rumney Quarry and Rumney River Section SSSIs are located to the northwest of the proposed site. Given that Rumney quarry and Rumney River Section are designated based on geological reasons, they are not considered further in this FPMP.

2.5.12 In addition to its designation as a SSSI, the Severn Estuary is also designated as a Ramsar Site, a Special Area of Conservation (SAC) and a Special Protection Area (SPA), located c.1km to the south and east-southeast of the site boundary. These designations have been applied to the Severn Estuary due the area supporting habitat types and species listed in Annexes I and II of the Habitats Directive.

2.5.13 The site is also located within 1km of five sites with non-statutory Sites of Importance for Nature Conservation (SINC) designation; Lamby Way SINC, Lamby North SINC, Rhymney Grassland East SINC, Lamby Salt Marsh SINC and River Rhymney SINC. The sites have been designated due to the presence of the following priority habitats:

- Lamby Way SINC: Lowland Meadow, purple moor-grass and rush pasture
- Lamby North SINC: Coastal Saltmarsh
- Rhymney Grassland East SINC: Lowland meadow and lowland calcareous meadow
- Lamby Salt Marsh: Coastal Saltmarsh
- River Rhymney: The river is important for migratory fish, otters, wildfowl and bankside vegetation and acts as a major wildlife corridor. Bats, dormice, grass snakes, eel and trout have been recorded in and around the River Rhymney.

2.5.14 The site is not located within a Nitrate Vulnerable Zone (NVZ) designated by DEFRA and Natural Resources Wales.

2.5.15 The site is not located within 1km of a designated as AQMA (Air Quality Management Area) as stated by DEFRA. The closed AQMA (Stephenson Court AQMA – Cardiff City Council) is located ~3km to the southwest of the site.

2.5.16 The nearest Public Right of Way (PRoW), the Wales Coastal Path (which is classed as a national trail) is located ~200m to the south.

2.5.17 In terms of flood risk, NRW data has been reviewed and found that the site sits within an area where there is a low risk of flooding from rivers and sea. The site is wholly located within an area assigned a “Low Risk Designation”, which is classed as an area where land and property has a less than <0.1% probability of flooding.

2.5.18 Further review of the available data indicates that the entrance to the proposed site is situated in close proximity to an area of land with a “Medium Risk” of flooding from rivers and sea which is classed as an area where land and property has a chance of flooding between 1-3.3%. Additionally, land to the west of the application site (situated within Parc Tredelerch) is assigned a “Low”

Surface Water Risk which is classified as an area where land and property has a less than <0.1% probability of flooding.

2.5.19 The site does not lie within a groundwater Source Protection Zone (SPZ).

2.5.20 No surface water or potable water abstraction licences are noted to be within 500m of the site.

Meteorological Conditions

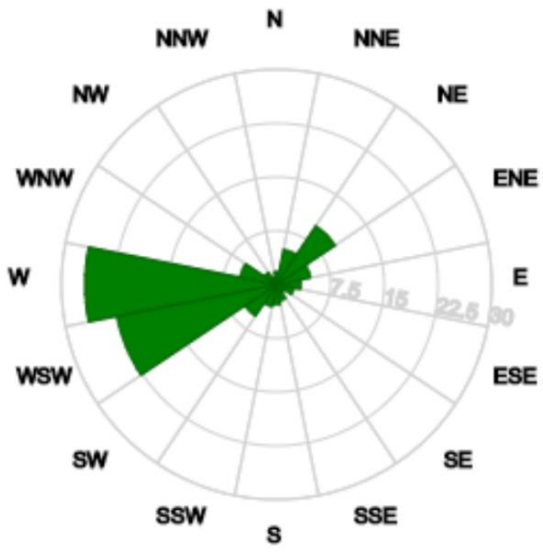
2.5.21 The spread of fire across land and spread of smoke may be affected by the local weather conditions, with particular reference to wind direction.

2.5.22 The closest meteorological station is Station EGFF (Cardiff Wales Airport), located ~19km southwest of the site. Data from RenSMART Wind data archive, for a 10-year period between 2000 and 2010 at Cardiff-Wales Airport has been utilised to characterise the meteorological conditions which are likely to be experienced on site. The weather station is deemed the most appropriate for use in order to characterise the site due to its proximity and its environmental setting.

2.5.23 The wind rose for Cardiff-Wales Airport is illustrated in **Figure FPMP1** and indicates that the predominant wind direction is from the west and west-southwest. Therefore, any receptors situated to the east and east north east of the site would be potentially most likely to be at risk should a fire occur on site. In this case the sensitive receptors that lie in these directions include the wider extents of the industrial estate, the railway line and residential areas of Rhymney. Should a fire producing large amounts of smoke break out on site which could decrease the visibility for train drivers utilising the railway line to the north, Network Rail (and police if deemed necessary) will be informed as a matter of urgency.

2.5.24 Biffa will work in conjunction with the local fire service and Natural Resources Wales to reduce the risk and potential consequences of a fire occurring on site.

Figure FPMP1: Wind Rose for Station EGFF, Cardiff-Wales Airport 2000-2010 (inclusive)



Direction	Percentage
N	1.83
NNE	4.98
NE	9.82
ENE	4.84
E	3.4
ESE	2.5
SE	1.36
SSE	2.32
S	2.81
SSW	3.13
SW	5.28
WSW	22.72
W	26.72
WNW	5.19
NW	2.04
NNW	1.05

Source: www.rensmart.com/maps

3.0 MANAGING POTENTIAL SOURCES OF IGNITION

3.1 Introduction

3.1.1 Prevention and ultimately negating the initial fire risk are given the highest priority in terms of controlling a fire. The operator will employ the following methods to ensure fire prevention at the site:

- Sources of ignition will be strictly controlled and managed;
- Fire prevention messages will be reinforced by utilising appropriate signage;
- DSEAR assessments and Fire risk assessments in place;
- ATEX equipment used in required areas on site;
- All visitors will follow the correct safety and fire prevention procedures;
- The quarantine area of c. 200m^2 will be located to the west of the site, within the roadway area, at least 6m away from the buildings, the site perimeter, and other combustible/flammable wastes/materials. It may be utilised for the storage of the shredded non-hazardous waste, in the event of an emergency (if safe to do so).
- All site users are supervised and monitored for unsafe behaviours and for compliance with site rules;
- The site employs a no smoking policy (unless in a designated smoking area, adjacent to the site office/welfare facility);
- All loads are inspected upon arrival
- Site security measures are in place which will deter unauthorised access;
- Site daily inspections will be employed and the operator will ensure that a good house-keeping policy is employed
- Plant is parked within a waste processing bay at the end of each shift. There will be no non-hazardous combustible waste stored in the processing bays overnight and therefore the risk of potential ignition is eliminated.
- Mobile plant will meet the specification required under the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR), where required (Zone 2);
- Fire awareness training and emergency awareness provided to all site users;
- Treatment equipment (associated with hazardous waste treatment operations or shredding of non-hazardous packaging wastes within the waste processing building only) is left empty and turned off at the end of every shift. Non-hazardous combustible waste streams are not stored in the processing bays overnight.
- Self-combustion is not anticipated due to the nature of wastes received and how they are stored, i.e. in containers. Wastes stored in bay will be managed in accordance with S5.06 and HSG 71. Stored wastes will be inspected daily, records will be maintained, and waste acceptance procedures will be adhered to;
- Electrical installations are checked on a regular basis by a competent contractor to ensure the electrical supply to the buildings are safe;
- All site staff will be appropriately trained to understand operation practices necessary to minimise the risk of fire;
- An exercise plan (drill) to test how well the FPMP works and to ensure all staff are familiar with the procedures to be carried out in the event of a fire has been devised and is carried out biannually.

3.2 Arson or Vandalism

3.2.1 All reasonable precautions are taken to prevent unauthorised access to the site.

3.2.2 Security fencing surrounds the site and the entrance gates and buildings are securely locked outside operational hours. The integrity of the security fencing and locks will be regularly inspected. Any damage identified will be repaired as soon as practically possible.

3.2.3 Further to the above, the premises is protected by 24-hour CCTV coverage and the buildings are fitted with intruder alarms.

3.2.4 The emergency services will be contacted immediately should a break in occur.

3.3 Plant and Equipment

3.3.1 The following plant and equipment will be utilised to support combustible non-hazardous waste operations on site:

- Forklift trucks (Zone 2)

3.3.2 It should be noted that all treatment operations (both non-hazardous and hazardous) take place in the processing building. Non-hazardous combustible waste streams are directed from the storage building, or directly from a delivery vehicle, to the processing building for bulking, repackaging or other treatment process, prior to transfer back to the waste storage building, pending removal from the site.

3.3.3 The drum crusher and shredder will be located in bay 13 or bay 14 as depicted on **Drawing No. BF5023/09/06.**

3.3.4 Packaging wastes will be shredded within the waste processing building, prior to storage in a skip in the skip storage area to the south of the site. This process is principally carried out for confidential waste streams.

3.3.5 Mobile plant will be stored in the waste processing building overnight. There will be no storage of non-hazardous combustible waste within the waste processing building. Mobile plant is of a DSEAR Zone 2 specification, preventing it becoming a potential source of ignition and will not be stored within close proximity of any hazardous substances.

3.3.6 Plant will be maintained in line with manufacturers guidelines for zone 2 FLTs. All plant and equipment undergo daily visual inspection. If a fault is discovered, the TCM will be notified and use of the plant / equipment will be suspended until the problem has been addressed. If possible, any minor maintenance is carried out by site personnel, however major maintenance, planned maintenance and regular servicing is carried out by a competent person.

3.3.7 Particular attention should be paid to dust settling on hot exhausts and engine parts. Zone 2 trucks are designed not to get hot enough to ignite dust and vapours so this will significantly reduce this risk. If the trucks get too hot they will automatically shut down safely and won't restart until the temperature has reduced sufficiently. Good housekeeping standards and operational procedures will also reduce this risk by maintaining low levels of dusts.

3.3.8 Records will be kept of any problems encountered and the remedial action taken.

3.3.9 HGVs are also used on site for waste deliveries and waste despatching.

3.4 Electrical Faults

3.4.1 All plant and equipment will be maintained in order to prevent the advent of electrical faults and will be operated in accordance with manufacturers and company guidelines and procedures. All portable electrical/electronic compliances will be subject to regular PAT Inspections. Where DSEAR assessment have highlighted the requirement for ATEX rated equipment, these will be maintained by a COMPEX electrical engineer.

3.4.2 Any fuse boxes and site wide electrical systems will have regular and planned inspections which will be fully certified by a qualified electrician. The maintenance programme will be implemented to reduce the ignition risk posed by potential electrical faults. This will include the assessment of on-site electrics for faulty or damaged wiring etc.

3.4.3 Regular maintenance checks of electrical equipment/cables are detailed in a relevant Group Standard – GS16 – Electrical Safety and BWI16-01 Checking electrical appliances and cables, as well as Management Operational Guidance (MOG16) – Electrical Safety.

3.4.4 Any major electrical installations will be implemented in accordance with Building Regulations and registered with Development Control.

3.5 Discarded Smoking Materials

3.5.1 There is a designated smoking area located externally, adjacent to the office welfare facilities. A strict 'No Smoking' policy is enforced throughout the remainder of the site.

3.6 Hot Works

3.6.1 Hot work is defined as cutting and welding operations that involve the use of portable gas or arc welding equipment, or involve soldering, grinding, or any other similar activities producing a spark, flame, or heat.

3.6.2 Hot works will be carried out by technically competent staff and at a safe distance from combustible materials. Contractors on site undertaking such activities will undergo induction training and will be competent in the use of equipment / completion of the activity they are undertaking. A permit to work (**see Appendix FPMP2**) supported by a risk assessment will be required before any hot works are undertaken at the facility. Issuing the permit will ensure that there is an additional person there on fire watch, that the area is clear of waste. It may also be necessary to ensure that the work area is checked an hour after completion, as sparks from hot work can smoulder for a significant time period after work is completed.

3.6.3 Fire extinguishers are available within the site so they can be used immediately should a fire occur.

3.7 Ignition Sources

3.7.1 Sources of ignition (naked flames, space heaters etc.) will be kept at least 6m away from any combustible or flammable waste. Industrial heaters and heating pipes are not utilised on site. The site will be covered by a DSEAR assessment with any equipment having the required specification.

3.7.2 In the event that hot works are required to be carried out on site, this will be carried out by trained staff and subject to the risk assessment in accordance

with the 'Permit to Work' protocols operated at the site, in accordance with Biffa's Health & Safety standards.

3.8 Gas Bottles & Other Flammable Items

3.8.1 Gas containers or gas storage bottles will be stored externally within secure cages/containers located over impermeable surfacing located in the eastern section of the site, as shown in **Drawing No. BF5023/09/03**. The containment measures will be inspected daily. All other combustible wastes will be stored internally within the waste processing or waste storage buildings.

3.8.2 All proprietary materials that are required as part of the operations will be stored in accordance with regulations and guidelines set out for their safe containment, e.g. Fuels and Oil as per NRW's Guidance. Fuel for use by the operators site plant will be kept in an approved storage tank (which will be appropriately engineered, e.g. self-bunded/double skinned), within the site entrance infrastructure area, as shown on **Drawing No. BF5023/09/03**. Fuel storage infrastructure will be regularly inspected and maintained to minimise the potential for leaks.

3.8.3 As part of the housekeeping, operatives will ensure that flammable materials such as oils and fuels are stored correctly and put into the designated place after use.

3.9 Leaks & Spillages

3.9.1 All plant and equipment are maintained in good working order thus reducing the potential for the leaking and trailing of fuels and combustible liquids. If a site vehicle is found to be trailing liquid then the vehicle shall be moved to an appropriate area and will be repaired as a matter of urgency.

3.9.2 The site undergoes frequent inspections and therefore any trailing/pooling of combustible fluid will be identified and subsequently remediated immediately. Spill kits are available on site and will be used for this purpose.

3.10 Build-up of Combustible Waste

3.10.1 Good housekeeping procedures will be in place out to ensure any loose waste (combustible or otherwise) is cleared.

3.10.2 Any build-ups of dust will also be identified and cleared where observed.

3.11 Hot Loads

3.11.1 No hot loads will be accepted by the site.

3.11.2 Non -hazardous combustible wastes, in skips, will not be accepted at site, therefore hot loads will not be a significant risk.

3.11.3 Should any signs of smouldering be observed after the load has been deposited, it should be moved immediately to the quarantine area as depicted upon **Drawing No. BF5023/09/06** and dealt with in an appropriate manner.

3.12 Monitoring and Actions to Limit Self-heating

3.12.1 Under all circumstances, combustible wastes will not be stored in excess of 6 months (3 months once shredded) in line with Natural Resources Wales Guidance (*Fire Prevention and Mitigation Plan Guidance – Waste Management, version 2.0, issued August 2017]*) and S5.06.

3.12.2 Skips will not be received at site. Non-hazardous wastes will be containerised, and or palletised, limiting the risk of self-heating.

3.12.3 It is noted that NRW indicate that materials such as paper and paper products, tyres and other mixed wastes are at risk of combustion if they are stored for more than 6 months, in line with S5.06.Where necessary the operator will employ monitoring procedures to ensure that the likelihood of self-heating is limited. In addition, the storage and handling procedures also reduce the risk of self-heating.

3.12.4 Non-hazardous packaging wastes will be shredded in the waste processing building, prior to storage within a skip in the skip storage area located to the south of the site. Due to the treatment via shredding, the particle size of the material is reduced, and in accordance with NRW FPMP guidance, storage times should be reduced to reflect this. With this in mind, shredded material will typically be stored for a period of up to 2 weeks at the site, but no longer than 3 months in line with NRW guidance. It should be noted that a small quantity of shredded material will be stored on site at one time, as indicated in **Table FPMP2**.

3.12.5 All wastes will be inspected for any indications of self-heating and / or smouldering, and leaking, as part of the daily inspections. If self-heating occurs, the following actions will be undertaken to cool the materials, where it is safe to do so:

- Wastes will be transferred to an area where they can be safely dealt with.
- Cooled, utilising an appropriate source of water or other fire-fighting equipment

3.13 Bay/Skip Sizes

3.13.1 As previously indicated, non-hazardous combustible waste streams will be stored within appropriately engineered bays within the waste storage building. As previously discussed, in line with HSG71 and CDR Guidance, the site will undertake the co-storage of some non-hazardous and hazardous waste streams. It is considered that waste that is co-stored will not be subject to the requirements of NRW's FPMP Guidance.

Internal Storage

3.13.2 Bays 9 and 10 will be utilised for the storage of non-hazardous waste and WEEE (including hazardous WEEE). The maximum storage capacity for bays 9 and 10, equates to 176 pallets (88 per bay). All wastes will be palletised and/or containerised (if appropriate) and will typically consist of a mix of combustible and non-combustible non-hazardous wastes

3.13.3 The bays are 6.6m (length) x 11m (width). NRW guidance stipulates that if a bay can only be accessed from one side, its width must not exceed 10m. Therefore, given that the storage bays within the waste storage building are 11m in width, a 1m standoff between the front of the storage bay and the waste will be maintained. Waste will not be stored to a height exceeding 2 pallets. As previously indicated, wastes will be stored in line with HSG 71 and S5.06.

3.13.4 Storage bays will be readily accessed should a fire occur.

3.13.5 The form of each waste type stored on site is described in **Table FPMP1**.

3.13.6 The maximum quantity of shredded packaging waste which are stored in skips within the skip storage area, will not exceed 2m^3. The skips are c. 5.9m (length) x 2.3m (width).

3.13.7 The skips and bays will always be accessible from at least one side so that any potential fire can be extinguished with ease. Forklift trucks can be utilised to relocate a skip to the quarantine area, if necessary.

External Storage

3.13.8 A gas container/bottle storage area is situated along the eastern boundary of the site. Gas bottles/containers will be stored in within secure cages/containers located over impermeable surfacing.

Storage Durations

3.13.9 Maximum storage durations for each waste type are detailed **Table FPMP2**. No combustible waste shall be stored in excess of 6 months (or 3 months when shredded) in line with Natural Resources Wales Guidance (*Fire Prevention and Mitigation Plan Guidance – Waste Management, document version 2.0, published August 2017*) and S5.06.

3.14 Contingency

3.14.1 In the event of closure or breakdown of the site, all incoming waste will be diverted to an alternative waste treatment/disposal sites until normal operations resume. Natural Resources Wales will be contacted as appropriate.

3.14.2 Biffa operate waste facilities in both Wednesbury Treatment Centre and Atherstone Transfer Station. It is suggested that incoming wastes could be temporally diverted to at least one of these facilities if a fire occurs on site until normal operating conditions resume. It will be required that the alternative site/s would need to remain in compliance with its Environment Permit should it accept the additional waste.

3.14.3 Fire damaged waste will be transferred to a licensed waste disposal or treatment site.

3.14.4 If decontamination procedures are necessary, the site will be washed down as relevant and any subsequent runoff will be managed appropriately. The site manager will conduct a thorough site inspection and contact Natural Resources Wales prior to the site recommencing operations.

3.14.5 In the event of an emergency, the site will follow its emergency plan. This emergency plan will be developed prior to the commencement of operations at the site. The emergency plan will follow the existing template utilised at the Curran Embankment Facility. A copy of the Curran Embankment Facility emergency plan is provided in **Appendix FPMP7**.

3.15 Seasonality

3.15.1 Given the types of waste stream accepted at the site it is unlikely that there will be any significant seasonal variation in the demand for the incoming or outgoing waste.

3.16 Fire Watch

3.16.1 The site is inspected daily and records are made in the site diary.

3.16.2 The operator carries out a close-down check which is completed. This close-down may include;

- Shut off and lock off electrical power to the site equipment (where appropriate);
- Ensure that stored mobile plant have been moved to a safe location (a bay within the processing building) away from any combustible or flammable materials. Please note, there will no storage of combustible, non-hazardous waste streams within the waste processing building overnight. All plant is DSEAR Zone 2 safe and doesn't pose a significant ignition risk;
- Ensure that security systems have been activated and that the gates etc. are secure.

3.16.3 Good housekeeping measures employed on site include controlled storage duration periods, regular inspection of wastes and containment systems and site clean ups / tidying / litter picking.

3.16.4 Before locking the site at the end of the operational day the operational areas will be visually inspected to ensure there are no potential risk that may result in the development of a fire (see **Appendix FPMP3**).

3.17 Smoke / Heat / Flame Detectors

3.17.1 In order to detect a fire as quickly as possible, site staff will be present on site during operational hours.

3.17.2 Fire extinguishers are located throughout the site, including within the waste storage building, the waste processing building, skip storage area, site offices, gas container storage area and adjacent to the onsite fuel tank and pad. Fire extinguishers will be utilised in the case of a small fire.

3.17.3 Waste storage and processing buildings are fitted manual fire alarm and klaxon systems that are maintained in accordance with statutory requirement by a competent facilities management company. These system are deemed adequate given the limited quantity of combustible non-hazardous wastes to be present at the facility at any one time, the security systems in place at the site and the limited self-ignition potential of the wastes. Any installation of fire systems will be UKAS accredited

3.17.4 The risk of a fire starting outside operational hours is considered unlikely due to the management techniques employed at the site (i.e. site inspection, managed storage times, suitable storage arrangements, end of shift checks etc). Therefore, if a fire were to occur outside of operational hours it is likely that it would be attributed to other external factors. Notwithstanding this, given the security measures implemented at the site i.e. lockable gates, burglar alarm and CCTV coverage, the risk of a fire/fire spread is greatly reduced.

3.17.5 As aforementioned, during periods of time where the site is closed, the site has a 24-hour CCTV, emergency contacts are listed on the signage on the front of the site listing key holders.

3.17.6 In addition to the above, sources of ignition will not be stored within the waste storage building, and thus will not be stored near any combustible, non-hazardous waste streams. A visual inspection will also be performed at the end of every shift to ensure that debris has accumulated within any plant or equipment, further reducing the risk of a fire out of hours. All electrical equipment will be maintained in good working order and it is therefore

considered unlikely that this will trigger a fire outside of operational hours. FLTs on site will be DSEAR Zone 2 specification, therefore this is unlikely to be the trigger of a fire. The combustible wastes are regularly inspected and stored for a maximum period of 6 months or 3 months if shredded (in line with NRW guidance, and S5.06) to limit the potential for self-heating.

3.17.7 The risk of a fire being triggered by various factors outside operational hours is summarised in **Table FPMP5** below, the risks are considered Very Low to Low.

Table FPMP5: Risk Assessment of a Fire Occurring Outside of Operational Hours

Common Causes of Fires	Risk	Justification
Arson / Vandalism	Low	• Site is surrounded by palisade fencing. • All gates and buildings are securely locked outside operational hours. • All gates and locks are regularly inspected. • A CCTV system and Burglar alarm is installed
Naked Flames / Smoking	Low	• Smoking is not permitted within operational areas of site. • Smoking can only take place in the designated smoking area outside of the site offices. • Naked flames from welding and cutting operations only. These activities will be carried out at least 6m away from any flammable / combustible materials and will not be carried out outside operational hours. Any hot works will be subject to a "Permit to Work" under the operators health and safety protocols. • Risk further reduced when site is unmanned.
Self-heating of waste that has been stored for too long	Low	• Wastes stored for periods of less than 6 months, in accordance with NRW guidance. • Shredded waste will typically be stored for a period of up to 2 weeks, but for no longer than 3 months. • Wastes inspected daily • No piles on site, all wastes containerised and or palletised. • If self-heating waste is encountered, this shall be moved to the quarantine area and will be thoroughly cooled before leaving the site unmanned.
Storage of incompatible materials	Low	• Waste acceptance checks, by degree qualified chemists, in place to identify incompatible materials as early as possible. • Wastes will be stored in line with HSG 71 ensuring compatibility
Incidents relating to welding and cutting	Very Low	• No welding / cutting will take place outside operational hours.
Neighbouring site activities	Low	• Neighbouring site activities include various industrial units such a metal fabricator, car garage services, a dance studio, a gym packaging supplies, mobile phone accessory shop, tile warehouse, various contractors and a railway line.

Common Causes of Fires	Risk	Justification
		• These activities are not considered as fire hazards. The metal fabricator is situated more than 6m from the waste storage building, beyond the site boundary, therefore the risk is considered to be low.
Ignition of flammable vapours	Low	• Flammable vapours stored on site include diesel which will be stored in secure, bunded containers. • Sources of ignition will be maintained at a separation distance of at least 6m away from flammable materials.
Electrical faults / heating faults / equipment failure	Low	• All electrical equipment / heating will be regularly tested by appropriately qualified personnel. • If a fault is detected this will be made safe immediately and remediated as soon as practical • Electrical equipment turned off and not in use outside operating hours
Ignition of debris and dusts	Low	• A clean up / litter picking exercise will be performed at the end of every shift. • All wastes and other debris will be removed from plant and equipment at the end of each working day.
Batteries stored on site	Low	• Batteries are stored in line with HSG 71 to ensure compatibility in suitable containers. • Batteries will not be separated out from mixed general waste streams. Any wastes with integral batteries will have batteries manually removed on site before transfer.
Tramp metal finding its way into moving machinery and causes localised 'hot spots'.	Low	• Shredding consists of confidential wastes comprising non-hazardous packaging wastes, which is likely to be comprised of plastic. • Waste acceptance checks in place to identify materials that would not be suitable for treatment via shredding. • Waste visually inspected as loaded into shredder. • The shredder is inspected for and cleared of residual wastes after each batch is processed. • Drum crushing and washing activities present a lower risk of hotspot formation

4.0 REDUCING THE IMPACT OF A FIRE

4.1 Waste Acceptance

Permitted Wastes

4.1.1 There is likely to be some variation in the daily quantity of waste received on site, however the maximum daily input of mixed or source segregated non-hazardous waste from commercial and industrial waste streams e.g. metals, textiles, plastics, wood, WEEE, tyres, paper, cardboard and bulky waste accepted on site will be approximately 2 tonnes per day.

4.1.2 Waste will be accepted in line with the Standard Operating Procedure for acceptance.

4.2 Waste Treatment

4.2.1 Non-hazardous combustible waste treatment operations that are carried out on site include manual (including mobile plant assisted) sorting/separation, bulking, shredding and repackaging.

4.2.2 Good housekeeping measures in the form of regular inspections and clean-ups will be employed to minimise the accumulation of dusts and litter.

4.3 Preventing Fire Spreading

4.3.1 There are four principle methods by which a fire can spread from one waste to another:

- Windblown burning fragments.
- Heat radiation between wastes contained within storage/processing bays.
- Fire transferred between storage areas via drainage systems
- Vegetation can carry fire between different areas

4.3.2 Therefore, the calculation (if necessary) of an appropriate separation distance is essential when reducing fire risk in relation to the storage of potentially combustible waste. Notwithstanding this, all non-hazardous combustible waste streams are stored within an appropriately engineered waste storage bay within the waste storage building, stored in containers and are palletised. In line with NRW FPMP guidance, separation distances are not applicable for wastes stored in bays.

4.3.3 A free board levels of at least 0.6m will also be maintained in all waste storage bays.

4.3.4 All internal areas shall undergo frequent litter picking and clean ups at the end of every shift so a fire dispersing via dust / litter is highly unlikely.

4.4 Separation Distances

4.4.1 In line with NRW guidance, separation distances are not applicable to waste stored in bays, which are equipped with fire walls.

4.4.2 All non-hazardous combustible waste streams will be stored in appropriately engineered storage bays within the waste storage building. All other flammable or explosive materials e.g. fuel/oil stores and gas cylinders are stored either externally, in another storage bay or in the waste processing building,

4.5 Fire Walls & Bays

Fire Walls / Bay Construction

4.5.1 Engineered bays will be used to support the internal storage of combustible wastes. All non-hazardous combustible waste storage bays located at the site are constructed of impermeable concrete, with the use of pre-cast concrete blocks to form the structure of the bay itself. Concrete is non-combustible and has a slow rate of heat transfer which makes it a highly effective thermal barrier to the spread of fire. This will restrict the fire to a confined space. Bay walls will be constructed of dense concrete blocks and mortar joints to a minimum thickness (overall) of 215mm, which is of a sufficient thickness to prevent significant heat/fire transfer between materials and will have a fire resistance period of at least 120 minutes (as required by NRW Guidance).

Stock Rotation Control

4.5.2 Waste will be removed from site within 6 months in line with NRW guidance and S5.06. Wastes which have been shredded, will typically be stored for up to 2 weeks, but for no longer than 3 months in line with NRW guidance.

4.5.3 Biffa utilise a stock management system ('Baylog') to ensure that wastes are not stored for longer than the appropriate time (as previously described). The stock management system will include a comprehensive list of stock located on site at any one time, and will include information pertaining to waste quantity, location on site (bay), age of stock, general description, chemical composition, UN numbers, hazardous properties etc. This will allow the operator to ensure that full and frequent stock rotation will be conducted at the site.

Protection from Wind

4.5.4 All non-hazardous combustible waste streams will be stored internally. Storage bays will not be overfilled and freeboard space of 0.6m will be adhered to. Palleted wastes will be stored a maximum of 2 pallets high.

4.5.5 The only waste stream stored externally are gas containers/storage bottles, which are stored in within secure cages/containers. The storage of this waste stream in this matter, severely reduces the capability of the material to be influenced by the wind.

Temperature and Moisture Checks

4.5.6 Given the relatively low levels of combustible, non-hazardous waste due to be stored at the site, temperature and moisture checks are not considered necessary. A daily visual inspection will be carried out and site operatives will identify any potential sign of self-heating via touch and visual cues.

Segregation of Materials

4.5.7 All necessary internal storage bays will be constructed to the BSI standard, utilising concrete blocks to a thickness of 215mm, which affords fire-resistance for a period of at least 2 hours. Palleted wastes will be stored a maximum of 2 pallets high. Bay walls will be 3m in height, allowing for a minimum freeboard level of at least 0.6m.

Prevention of Fire Spread

4.5.8 As previously stipulated, materials will not be stored above the maximum height of the bay walls which will act as an adequate control to flame heights. The construction of bay walls using non-combustible material (concrete) further reduces the potential for fire spread.

4.5.9 Effective firefighting strategies will be employed to prevent the production of brands/lighted material and if necessary, to prevent them moving outside the bay wall. The bays are enclosed on 3 sides, which will help to reduce the possibility of fire spread via lighted material.

4.5.10 Site operatives will be trained to ensure bays will not be overfilled. The bays will be inspected daily.

4.5.11 The construction of the bay walls using non-combustible material (concrete) further reduces the potential for fire spread, given that concrete has a slow rate of heat transfer which will prevent instances of radiative heat. It is considered that the temperature risk on the non-exposed side of the concrete wall will be so low that fire propagation through heat transfer will not occur.

4.5.12 Fire extinguishers are located within close proximity of the bays and can be utilised should a fire break out.

Freeboard Space

4.5.13 The available freeboard space will be 0.6m. It is considered that given that a relatively small volume of waste (maximum of 88m^3 of non-hazardous combustible waste in a bay) is stored in containers on pallets (as opposed to loose waste) in appropriately engineered bays, with a 750mm gap maintained between the bay walls and waste maintained at all times for access purposes, the freeboard space can be reduced from the 1m specified within the latest available guidance. For the aforementioned reasons, it is considered that a 0.6m freeboard space will be acceptable in terms of the prevention of heat, flames and embers spreading to adjacent bays.

Waste Movement

4.5.14 Given that the waste storage building is open fronted, all storage bays will be accessible from their leading edge, at the entrance of the building. The building entrances will be maintained free of obstruction to allow for ease of waste movement. In the event of an emergency, the contents of any bay can be removed efficiently (if considered safe to do so) to prevent the spread of fire at the site. This will allow the isolation of wastes during an incident.

4.6 Quarantine Area

4.6.1 A dedicated emergency or quarantine area which is large enough to cope with a major incident (with a clear area of at least 6m around the perimeter) is available at the site. The location of the quarantine area is shown on **Drawing No. BF5023/9/06.** The proposed quarantine area will be flexible and will encompass areas of the site which are at least 6m from site buildings, the site boundary, as well as storage areas for combustible and flammable wastes/materials. The exact position will be determined based on the location of the fire on site and with cognisance to the provision of access for the FRS. It is situated within the western extents of the site, within the roadway area, which can be kept clear at all times. The quarantine area will be large enough (max. area available is 200m^2) to hold at least 50% of the volume of the largest non-

hazardous combustible waste stack (44m^3) located at the site. For example, if waste was stacked 5m x 4m x 2.4m this would allow for the storage of 48m^3 of waste, which is in excess of that required by the guidance. As stipulated previously, the 200m^2 quarantine area available is flexible and will be utilised with cognisance to the location of the fire on site and any potential access requirements of the FRS. Please note, there is a storage tank depicted upon **Drawing No. BF5042/9/04**, however this is located underground, allowing the above ground space to be utilised for quarantine purposes in the event of an emergency. The quarantine area comprises an impermeable surface which drains to a drainage network that can be sealed in the event of an incident.

4.6.2 The use of the quarantine area will be limited at the site. That is, it will be utilised (if necessary) for the temporary storage of the non-hazardous waste storage skip (containing shredded waste materials). It is not considered appropriate or safe to move other non-hazardous combustible materials from the appropriately engineered bays to the quarantine area in the event of a fire. Alternatively, if considered appropriate, unburnt wastes can be relocated to the quarantine area to prevent them from catching fire, if considered safe to do so. All staff will be made aware of its location to ensure that this area is always kept clear of obstructions.

4.6.3 Site plant is limited to forklift trucks only. Only if considered safe to do so will mobile plant will be used to move and deposit non-burning waste within the quarantine area under the instruction of the FRS. Plant drivers will be appropriately trained to operate site plant. Any plant used for such operations must be suitable for the task.

4.6.4 Once the quarantined waste has been cooled / extinguished, where possible, it will be removed from site and taken to a suitable licensed waste facility. Any resultant fire water will be directed to the wider site drainage system. A suitable penstock valve (Ref.: Penstock 3) is installed within the surface water drainage system which will allow the diversion of any firewater to the onsite underground attenuation storage tank, which has a capacity of 420m^3. This will prevent firewater flowing away from the site and entering the surrounding surface water drainage networks. The positioning of Penstock 3 is shown in **Drawing No. BF5023/9/04**.

4.6.5 The quarantine area identified for use in a fire will be kept separate from the waste quarantine area used for unsuitable materials, for instance for non-conforming waste etc.

4.7 Firefighting Strategy

Nearest Fire Rescue Service(s)

4.7.1 The nearest fire station to the site is located ~ 2 miles to the southwest, along Colchester Avenue in Roath, and is crewed by a wholetime firefighting crews. In consideration of the anticipated call handling, crew turnout[1] and travel times (see **Appendix FPMP4**) from this station to the site, the overall response time of a crew would be generally around 10 minutes.

4.7.2 If the Roath firefighting crew is unable to attend, alternative wholetime firefighting crews are also available at stations located in Cardiff Central,

[1] *Call handling and crew turn out time assumed to typically no more than 3 minutes for full-time in line with Home Office statistics based on data collated between April 2018 and March 2019 (https://www.gov.uk/government/collections/fire-incidents-response-times)*

Whitchurch, Ely and Penarth, all of which are typically located within a 25 minute response time of the site. (**Appendix FPMP4**).

Fire Detection

4.7.3 Given the monitoring of waste processes and handling, the risk from self-combustion is very low. Further to this, the site security measures that are employed will further reduce the risk of a fire starting at the site (see **Appendix FPMP5**).

4.7.4 Emergency call out numbers are posted on the entrance sign. The site operates a CCTV system, a burglar alarm and a 24-hour call out system

4.7.5 Should the FRS be required, a designated member of staff who is aware of the incident will attend site to liaise with the FRS. They will also be able to contact plant operators who will be able to attend site, if necessary, to assist the FRS.

Internal Fires (& Suppression Systems)

4.7.6 Small waste or plant fires will be tackled using fire extinguishers and isolating the burning waste, if considered safe to do so.

4.7.7 All firefighting equipment at the facility will be clearly marked and tested at appropriate intervals to confirm their suitability and functionality. Site personnel will be made aware of the locations of all firefighting equipment and will be trained in their correct use.

4.7.8 In the event of a larger internal fire, this can be tackled by the FRS from the entrance to the storage building, which is open fronted. This will allow the FRS unrestricted access to all the internal stored wastes and treatment areas. The open fronted entrance ways to both the storage and processing building is *c*. 5m in height. From the entrance way, the FRS will be able to apply water to the storage bays to limit the fire's ability to spread and begin supressing the fire. The FRS will be able to utilise water from a fire hydrant situated c. 100m to the south east of the site. Further information on water supplies is contained within **Section 4.10.**

4.7.9 Given that the buildings are open fronted, this assists with ventilation and will improve visibility which will aid fighting an internal fire.

4.7.10 An automated internal suppression system is not currently established on site. The combination of vigilance, fire detection measures, controlled stock capacities and prompt mobilisation of the FRS, the ability to tackle an internal fire without the need to enter the building it is determined that an automated suppression system is not required at site.

External Storage

4.7.11 There will be no storage of non-hazardous combustible waste streams externally. Notwithstanding this, cognisance has been given to the storage of gas bottles/cylinders within secure cages/containers, externally within the eastern section of the site, given the potential they have to cause or increase the impact of a fire on site. It should be noted that the gas cylinders are stored c. 40m away from the waste storage building.

4.7.12 If safe to do so, small external fires will be extinguished using the fire extinguishers and by isolating the material. Upon detection of a larger external fire, the FRS will be alerted immediately.

4.8 Maintenance

4.8.1 All plant and equipment will be correctly maintained and operated in accordance with company guidelines. Daily maintenance checks will be carried out in order to identify potential defects and leaks from mobile plant and equipment before and after use.

4.8.2 Similarly, storage areas, drainage systems and walls are inspected daily. Any defects or issues detected are recorded, along with remedial actions taken within the maintenance record.

4.9 Active Fire Fighting

Initial Response

4.9.1 In the event that a fire occurs at the facility, the sites emergency plan will be followed.

4.9.2 If necessary and considered safe to do so, mobile plant may be utilised in fighting any potential fires that break out on site. For example:

- Removal of adjacent waste which are not alight to prevent the spread of fire, providing that they are at a safe distance;
- Removal of skips of shredded non-hazardous waste to the designated quarantine area

4.9.3 All plant operatives will be trained and competent in using the mobile plant to fight any fire that may arise and all mobile plant used will be suitable to the task.

4.9.4 Please note, the operator will not separate burning material from a fire to quench it utilising alternative sources of water e.g. hoses. Mobile plant will only be utilised for the purposes outlined in the paragraph 4.9.2.

Upon arrival of Fire Rescue Service

4.9.5 The Site Manager or incident controller will ensure that the entrance to the site is clear to allow for the safe access of the FRS. The Site Manager or incident controller will convey details of the fire, including the location and composition of the waste involved to the FRS. An on-site stock sheet, detailing which stock is stored in which bays, as well as estimated quantities of materials will be presented to the FRS upon arrival, so that they can decide the best way to tackle the fire.

Out of Hours Response

4.9.6 Should a fire break out during non-operational hours, the 24-hour CCTV coverage firm will alert a designated site key holder and the FRS. As the site has yet to be constructed, the specification of the CCTV installation has determined. Upon selection of the system to be installed, this FPMP will be updated accordingly and submitted to NRW for approval.

4.9.7 Machine operatives will not be available during incidents that occur out of hours. However, given the relatively small maximum pile sizes present at the site and the fire water supply available (see **Section 4.10**) it is considered that any fire can be extinguished rapidly without having to move waste materials.

4.9.8 When the site is unmanned, should the FRS arrive at the site prior to the arrival of a representative of Biffa, they will be instructed to utilise the emergency call out numbers, which are posted on the entrance sign. The site operates a 24-

hour call out system. The FRS will be able to gain access to the site by utilising suitable methods to force entry.

4.9.9 A copy of an Incident Response Plan (**Appendix FPMP6**) will be stored in the emergency services box located external to the site entrance. A plan specific to the site will be prepared prior to commence of waste operations at the site and submitted to NRW for approval. This will allow the FRS to access the plan during an out of hours in an emergency. The Incident Response Plan will contain a summary of the fire-fighting strategy, out of hours emergency contact details (full list contained within **Appendix FPMP5**) and an up-to-date site plan. The plan will stipulate that in order to prevent the discharge of contaminated fire waters to the environment, the discharge point from the site has been fitted with a suitable valve which should be closed upon responding to an incident. The location of the suitable valve will be clearly outlined to allow the FRS to act swiftly and prior to the deployment of any water.

Contingencies During an Incident

4.9.10 In the event of a fire which closes the site, all incoming waste delivery vehicles will be diverted from the site by a nominated site personnel to either Wednesbury Treatment Centre and/or Atherstone Transfer Station, which are also operated by Biffa. Management will contact the alternative facilities, advise of the incident and inform them that all incoming waste vehicles will now be directed to the aforementioned alternative facilities. Waste vehicles will continue to be diverted either Wednesbury Treatment Centre or Atherstone Transfer Station until the site is operational.

4.9.11 The Wednesbury Treatment Centre is located *c.* 115 miles away, with Atherstone Transfer Station located *c*. 132 miles away. The full address and contact details for both sites are as follows:

Wednesbury Treatment Centre,
Potters Lane,
Wednesbury,
WS10 7NR

Tel: 0121 505 1662

Atherstone Transfer Station,
Unit 12,
Carlyon Road Industrial Estate,
Atherstone
Warwickshire
CV9 1JG
Tel: 0182 771 578

4.9.12 Management will also contact their customers and clients and advise them to re-direct their waste vehicles to alternative facilities until the site is operational.

4.9.13 The site would cease operation until NRW/FRS confirm that it is safe to recommence operations. Emergency contact details, procedures and sites plans will be readily available and will be stored in numerous locations in case the site office is inaccessible in the event of a fire.

4.10 Water Supplies

4.10.1 NRW's Fire Prevention and Mitigation Plan Guidance (v2, dated August 2017) requires that the operator demonstrates that they have sufficient water supplies available on site to manage a worst-case scenario incident (e.g.one (the largest stack) or more stacks on site are on fire). The guidance stipulates that a 300m^3 pile of combustible material will normally require a water supply of at least 2,000 litres a minute for a minimum of three hours. This represents a total of 360,000 litres of water or 360m^3 or tonnes of water.

4.10.2 The non-hazardous combustible waste streams will be stored in suitably engineered bays within the waste storage building. Non-hazardous and non-hazardous with WEEE wastes will be stored in Bays 9 and 10 respectively. Each bay can store up to 88 pallets/containers, or ~88m^3. With this in mind, and based on a worst case scenario as referenced within NRW's FPMP guidance, a maximum pile volume of 88m^3 would only require approximately 590 litres of water per minute (~10 l/s) or ~106,000 litres of water over a 3-hour period. Note, where wastes are stored in non-combustible containers, the firewater requirements are likely to be significantly reduced as the containers will stop the spread of any fire and container firewater to enable wastes to be saturated quickly.

4.10.3 There are a number of fire hydrants located within the vicinity of the site, including one located along Lamby Way at National Grid Reference (NGR) 322142,178563. This hydrant is located *c.* 65m to the south/south east of the site and is identified as 'FH1' on **Drawing No. BF5023/09/06.** Welsh Water have indicated that this fire hydrant has been adopted by South Wales Fire and Rescue Service. The hydrant is located on a 125mm MDPE distribution main and a pressure of 2.7 bar has recently been recorded by Welsh Water during a visit to the site on 08.02.2021. Welsh Water have also confirmed that the hydrant is in good working condition and is accessible. Correspondence pertaining to this is contained within **FPMP Appendix 9.** Welsh Water have indicated that they are not able to provide flow data, as flow fluctuates on an hourly/daily basis based on demand. However, the require rate of flow of 590l/min (or ~10l/s) based on the maximum combustible waste pile covered by the plan is only marginally greater than the minimum rate of supply of 9l/s that water companies are required to guarantee domestic customers via there standard connections. On this basis and given that the hydrant FH1 is located less than 100m from the site, it is considered that it will provide more than sufficient flow to meet with the minimum supply requirements calculated for the site, and therefore potential allow a fire to be extinguish more quickly.

4.10.4 In addition to the above, an additional Fire Hydrant 'FH2' (as depicted upon **Drawing No. BF5023/09/06)** is located adjacent to the site's western boundary, at NGR 321976 178582. The hydrant is usable and is situated upon a 125mm MDPE main. However, Welsh Water have confirmed that this hydrant has not been adopted by South Wales Fire and Rescue Service. As with FH1 (detailed above), Welsh Water are unable to provide details of flow rates for this hydrant due to fluctuations in local demand. The operator is currently awaiting further information from Welsh Water with regards to the pressure and condition of this hydrant, which will be provided to NRW in due course (correspondence confirming as such is included within **FPMP Appendix 9**). It is possible to assume that the pressure at FH2 will be similar to that at FH1, and can also supplement any supply rate offered by the use of FH1 alone.

4.10.5 Moreover, there are several large water ponds/lagoons located within a distance of 100m to the west if the site, which can also supplement the fire water supply requirements in the event of an incident. These ponds are identified on **Drawing No. BF5023/09/06.**

4.10.6 Alone or in combination, both hydrants and the local surface waters features are considered to provide an a significant level of confidence that a water supply of at least 590 l/min will always be available to tackle a fire that starts at the facility. Given that there is an adequate water supply, it is not necessary to utilise portable water carriers/bowsers at the site.

4.11 Fire Water Management

4.11.1 All wastes stored internally or externally (gas cylinders only) will be over areas of impermeable concrete. Due to the wastes to be processed at the facility, any fire waters generated at the site following an incident has the potential to be contaminated. To contain fire water and prevent fire water from entering the environment, the site drainage system will be installed with a suitable valve at the outflow to discharge point. This will allow for control and diversion of fire water to the sites underground attenuation storage tank which consists of a design capacity of 420m^3. The fire waters will then be retained on-site (within the storage tank) pending testing (if required by the wastewater disposal company) and ultimately removal offsite via an appropriate means.

4.11.2 The amount of firewater runoff generated will depend on a number of variables including the size of site and fire, nature and absorptive capacity of the materials, type of fire response system, water lost to evaporation during cooling etc. Therefore, it is difficult to accurately quantify the amount of firewater that the site can contain given the number of variables which can affect the figure.

4.11.3 In addition to the above, it may be possible to utilise a spray or fog to tackle a fire on site. However, the suitability of these techniques will be determined by the FRS upon arrival at the site. Should it be deemed appropriate to utilise a spray or fog, then the amount of firewater runoff generated will be reduced. Containerised nature of a large proportion of the waste storage arrangements will also allow for reduced fire water volume requirements on the basis that the fire waters will also become contained and allow the waste to be saturated.

4.11.4 As previously discussed, the water supply required to tackle a fire within the largest waste bay on site (88m^3) would equate to approximately 106,000 litres (106m^3) of water over a 3-hour period. Given that the on-site storage tank has a capacity of 420m^3, it is more capable of accommodating projected firewater runoff at the site.

4.11.5 Details of the indicative drainage layout are shown on **Drawing No. BF5023/09/04.**

4.12 Clearing and Decontamination

4.12.1 Once the FRS is satisfied that a fire has been extinguished, the following steps will be carried out to ensure that the site is fully decontaminated prior to the site returning to full operation:

- With the exception of fire damaged materials, all outgoing processed wastes will be transferred to their originally intended destinations.
- Affected materials will be quarantined for a minimum of 24 hours. After this period, it will be forward onto an appropriate disposal site.
- The affected areas will undergo a deep clean using the pressure washing facilities and brushes. All run-off will be directed to the onsite storage tank,
- Any damaged equipment / infrastructure will be replaced.
- The site manager will conduct a thorough site inspection and contact Natural Resources Wales prior to the site becoming operational once more.

5.0 TRAINING, INSTRUCTION & REPORTING

5.1 Communication, Training and Drills

5.1.1 The operator will ensure that all staff, visitors, contractors and drivers utilising the site are aware of the correct safety and fire prevention procedures to follow when working on the site. Staff will be made aware of the Fire Prevention and Mitigation Plan and the location of where it is kept e.g. site office and within emergency services box at site entrance for use during out of hours.

5.1.2 Site personnel will be made aware of the location of all firefighting equipment and will be trained in their correct use. They will also be made aware of the regulations with regards to fire risk.

5.1.3 Fire drills will be carried out at regular intervals to ensure that staff react in an appropriate manner should a fire break out and to ensure that the procedures detailed within the Fire Prevention and Mitigation Plan are adequate.

5.1.4 Frequent training with regards to fire safety will be delivered to all staff, particularly those with specific duties (fire marshals). Records will be kept of all staff training and training needs with be monitored. If necessary additional training such a refresher courses and on-site exercises/drills will be conducted at regular intervals.

5.1.5 Evacuation drills are carried out (where possible) every 6 months.

5.1.6 In summary, the following will be implemented at the site:

- Site Management and supervisors are trained to provide and follow emergency procedures
- All site users are inducted with basic fire guidance and evacuation instructions
- Staff involved with fire-fighting are trained to use the equipment and advised to follow instructions from management/the Fire and Rescue Service (if necessary).

5.2 Monitoring, Recording and Records Keeping

5.2.1 If a fire is detected on site, the Site Manager should be summoned to assess the situation and call for the Emergency services if thought necessary.

5.2.2 A list of named emergency contacts and corresponding contact details for Lamby Way Waste Transfer Station is included in **Appendix FPMP5** of this document.

5.2.3 In the event of a fire, a representative of Biffa will notify NRW by telephone immediately, but first having due regard for the incident at hand and any remediation actions required to ensure the safety of site personnel and the immediate environment.

5.2.4 Details of any fires at the facility will be confirmed to the NRW in writing by e-mail, on the next working day after identification of the incident. This confirmation will include: the time and duration of the incident, the receiving environmental medium or media where there has been any emission as a result of the fire, an initial estimate of the quantity and composition of any emission, the measures taken to prevent or minimise any further emission and a preliminary assessment of the cause of the fire.

5.2.5 Any incident notified to NRW will be investigated, and a report of the investigation sent to the NRW. The report will detail, as a minimum, the circumstances of the fire, an assessment of any harm to the environment and the steps taken to bring the fire to an end. The report will also set out proposals for remediation (if appropriate) and for preventing a repetition of the incident.

- A fire log is maintained on site which will record the following:
- Weekly alarm checks
- Fire door checks (where appropriate)
- Extinguisher checks

5.2.6 Any remedial actions are logged within the facility management and tracked for completion. Site inspections are carried out on a regular basis by Site Management and independent audits.

5.2.7 An Incident and Accident Report will be completed by the Site Operations Manager. All relevant details of the accident, incident or dangerous occurrence in relation to the fire will be recorded, together with any additional statement, photographs, logs or records that may assist in the full investigation of the fire

5.3 Review of the Fire Prevention and Mitigation Plan (FPMP)

5.3.1 It is essential to ensure that the FPMP is kept up to date and therefore this FPMP is treated as a live working document that can be reviewed regularly to reflect any changes at the site. Circumstances that will necessitate the review of this FPMP include:

- A fire incident at the site
- Additional combustible waste streams accepted at the site
- Increased waste volumes accepted
- Development of site infrastructure (new buildings) and
- Installation of new equipment etc

5.3.2 It is possible that the following sections may need updating should the FPMP require an amendment/review:

Staff Training

- Ensuring that the FPMP is available and that all staff know where it is kept.
- Ensure that staff receive training to enable them to competently carry out the procedures and measures contained within your FP&MP
- Ensuring new starters receive appropriate induction training.
- Refresher courses, toolbox talks, on-site exercises/drills should be completed at regular intervals
- Ensure training needs are monitored and records kept.

Site Monitoring:

- Update to site inspections before, during and after shifts to ensure that there are no identifiable ignition source
- Ensure all equipment is operating/turned off correctly.
- Ensuring waste stacks and separation distances are in accordance with the FPMP
- Monitor and record residence times of wastes on site
- Ensure that plant and equipment are adequately serviced and maintained by qualified personnel. Daily, weekly, monthly checks undertaken and records kept.

- Ensure periodic testing of fire prevention and mitigation equipment is carried out

5.3.3 Depending on the circumstance of the fire, it may be necessary to assess and revise other areas of the FPMP, however, initially the areas covered in the bullet points above will be checked and updated if considered necessary.