Fire Prevention Plan

Prepared on Behalf of:

London Borough of Hillingdon

Site Name:

Central Depot

Harlington Road

Uxbridge

Middlesex

UB8 3EU

Environmental Permit Application Reference:

EPR/JB3605LR/A001

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Table of Contents

1 Introduction 1
2 Fire Prevention Plan 1
3 Fire Risk Scoping Exercise 1
4 Fire Risk Assessment 2
5 Preventing Fires 4
6 Detecting & Suppressing Fires 8
7 Fire Prevention Equipment Inventory and Procedure 11
8 Material Storage & Management 12
9 Combustible Material Storage Arrangements 15
10 End of Day Operations 17
11 Fire Water & Containment 18
12 Contingency Planning 21
13 Fire Alert Procedures 22
14 Post-Incident Procedures 22
15 Periodic Review 23
Appendix FPP1: Leakage/Spillage Response Procedure 24
Appendix FPP2: Site Layout Plan 25
Appendix FPP3: Site Drainage Plan 26
Appendix FPP4: Hydrant Map 27
Appendix FPP5: Receptor Location Plan (Smoke & Fire Spreading) Scaled @ 1:11,671 (1KM Buffer). 28
Appendix FPP6: Receptors Identified Contact Details (If Applicable). 29
Appendix FPP7: Waste Acceptance Procedures (Extracted from EMS) 30
Appendix FPP8: Misting System Deployment Plan 32
Appendix FPP9: Freeboard Space Illustrative Diagram Preventing Bridging 33

1 Introduction

1.1.1 This Fire Prevention Plan explains how operational procedures laid out in this Fire Prevention Plan ensures that the risk of fire is minimised and any outbreaks are effectively controlled.

1.1.2 This document is separate to any documentation intended to meet the Health & Safety obligations associated with the Regulatory Reform (Fire Safety) Order 2005.

1.1.3 We confirm that the whole site benefits from an impermeable concrete surfacing with sealed drainage & that kerbing (0.1m) goes around the site perimeter and is unbroken.

1.2 Interpretation

1.2.1 'Responsible Person' refers to any person trained and responsible for monitoring and reporting as detailed in this Plan i.e., Senior Management (A London Borough of Hillingdon Representative, the Technically Competent Manager, the Site Manager and any Supervisors).

1.2.2 'Fire Warden', relates to any person appointed & sufficiently trained with specific responsibilities in the event of a fire.

1.2.3 'Operative', relates general yard staff.

2 Fire Prevention Plan

2.1.1 This Plan has been prepared with reference to the following documents:

- Fire Prevention Plans: Environmental Permits Published January 2021 Environment Agency Guidance.

3 Fire Risk Scoping Exercise

3.1.1 The controls and measures are aimed at reducing:

1) Minimising the likelihood of a fire happening;
2) Aiming for a fire to be extinguished within 4 hours;
3) Minimise the spread of a fire within the site and to neighbouring sites.

3.1.2 The Risk Assessment presented in Section 4 Table 1 underpins the measures adopted.

4 Fire Risk Assessment

Table 1: Possible Causes of Fires as identified within the Fire Prevention Plan Guidance

Potential Source of Ignition	Prevention/Management
Arson;	Enclosed site perimeter Security cameras (24 hour operation), CCTV monitoring during non-operational hours. Combustible materials stored at a distance from the main site entrance.
Self combustion	The site does not intend to accept fine materials such as tyre crumb or wood chip, which can both be prone to spontaneous combustion. Wastes are not mechanically processed.
Plant or equipment failure	Daily inspection of all equipment/machinery by operatives, conducted at the beginning of the working day. Full annual inspection of all equipment/service contracts (LOLER/PUWER). End of Day Procedures Fuel storage tanks provide 110% secondary containment (over 6 metres from combustible material accumulations and not within permitted boundary).
Plant or equipment operation	Inspection procedures as detailed above. Reliance will be placed on Fire Fighting Equipment and the planned preventative maintenance schedule as detailed.
Electrical faults or damaged/ exposed electrical cables	Preventative maintenance via weekly inspections of all electrical equipment to ensure that any obvious signs of damage or deterioration do not go undetected. A qualified electrician will install all electrical supplies & PAT testing is completed annually.
Naked (hot) light fixtures	No naked sources of ignition are within 6 metres of combustible or flammable materials.
Discarded smoking materials	No smoking in permitted area.
Hot works e.g., welding, cutting	End of Day Procedures. Hot works requirements as detailed in Section 5 of this FPP Document.
Industrial heaters	No industrial heaters onsite.
Hot exhausts	Equipment is parked at a safe distance of at least 1 metre from accumulation of risk materials. End of Day Procedures.
Open burning onsite	No open burning takes place onsite.
Incompatible materials	All materials are stored within designated areas. Detailed waste acceptance procedures are followed by all Operatives
Neighbouring site activities	Adjacent is the wider LBH Depot.
Hot loads deposited at the site	Hot loads are not accepted. Monitoring for hot loads takes place as loads arrive at site with procedures to manage materials. Separation, isolation & storage of combustible materials within identified storage bays or containers.
Weather, e.g., lightning strikes	Naturally occurring and uncontrollable.

4.1 Operational Flow Diagram (Combustible Materials).

4.1.1 The operation is summarised in the Operational Flow Diagram below:

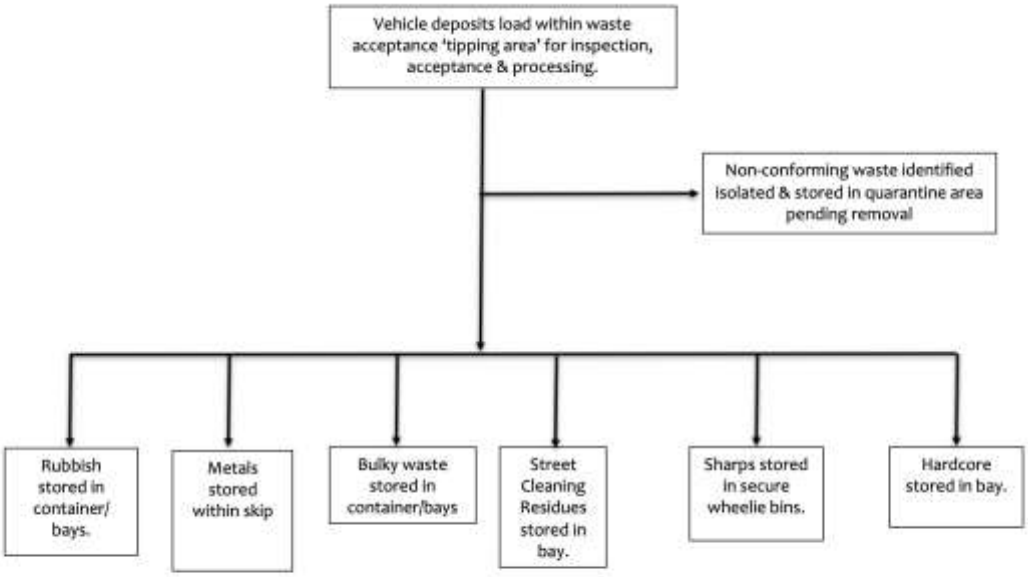


Figure 1: Operational Flow Diagram

5 Preventing Fires

5.1.1 London Borough of Hillingdon proposes to operate a household, commercial and industrial waste transfer station at their site within the Central Depot Harlington Road. All wastes will arise from Council operations undertaken within the Borough to meet its statutory obligations. Collection drivers are instructed to inspect loads prior to collection to ensure any potential sources of ignition are not present a will adhere to strict waste acceptance procedures that form part of the site Environmental Management System (as detailed in Appendix FPP7).

5.1.2 Materials will be unloaded in the designated 'tipping area' and inspected for the presence of any fire risks (e.g., glowing embers or explosive materials or signs of flammable liquids), which will be moved to the quarantine area and extinguished.

5.1.3 Extinguished material will be monitored prior to isolation in a designated skip/container, which will be brought forward as necessary & removed within seven working days.

5.1.4 Acceptable materials are stored in bays/containers around the facility dependant on type & composition, as shown on the Site Layout Plan within Appendix FPP2. Combustible materials will be removed from site within one month of acceptance.

5.1.5 Materials stored in the tipping area (Reference I on the Site Layout Plan as in Appendix FPP2) pending inspection will be constantly monitored & worked (as necessary) to prevent the build up of heat.

5.1.6 A Fire Quarantine Area of at least 16m^2 (4m x 4m) plus a 6m buffer zone on all sides is available at all times. The area will accommodate over 50% of the single largest accumulation of combustible waste, equating to 64m^3 of waste (stacked to a height of 4 metres). The fire quarantine area is located on an impermeable concrete surface benefitting from a sealed drainage system as shown on the Site Layout Plan in Appendix FPP2.

5.1.7 The Responsible Person will ensure that a suitable fire quarantine area is available at all times and will conduct a visual check at the commencement of daily operations and throughout the day (fire watch). All staff members will be made aware that an area is to be kept clear for this purpose & its importance.

5.1.8 Potentially explosive & flammable fuels/oils (non-waste materials fuels & lubricating oils/grease) are not stored within the permitted boundary.

5.1.9 Gas bottles (pressurised canisters) if identified within incoming loads or emptied following use will be isolated and stored within a designated lockable cage in accordance with relevant guidance.

5.1.10 Smoking is not permitted within the permitted area.

5.1.11 Only Competent Persons that have completed training will be authorised to perform 'hot work' activities, which are approved by Responsible Persons onsite. A Permit to work system is in place for all hot work activities. If necessary two

operatives will complete 'hot work' activities, which will allow one person to complete necessary works & the other to supervise and tackle any sparks generated (this may include a member of the site office watching via CCTV). Fire extinguishers will be kept at hand all times 'hot works' are undertaken. All hot work activities will be undertaken at least 6 metres from any accumulation of combustible materials.

5.1.12 Materials will be stored in their largest form & pile sizes will be minimised wherever possible, according to operational need.

5.1.13 Fire Watch Procedure (During Working Day) Conducted by Operatives every hour:

1. That all mobile plant is parked at a distance from any combustible material (minimum 1 metres) and that there is no trapped debris located within the vicinity of exhausts.
2. That no material is trapped within static plant.
3. That no debris has settled onto hot exhausts and engine parts.
4. That a suitable fire quarantine area is available at all times.

5.1.14 A fire watch will be conducted at the end of the working day as part of the site End of Day Procedures, as detailed at Section 10. In the event of hot work activities being conducted an inspection of the area/material will conducted every 15 minute for at least 1-2 hours.

5.1.15 A Responsible Person will carry out a detailed weekly inspection of all onsite equipment.

5.1.16 Plant & equipment is subject to manufacturers maintenance. Driver inspection/defect sheets are completed prior to use. Defects are reported to fleet & logged for our contractors to address & repair, once completed the jobs are signed off by Fleet on completion. Records for each plant item contained with Fleet.

5.1.17 Maintenance requirements are recorded on Defect Sheets, which are held within the Site Office. All records will be kept within the Site Office and any necessary maintenance recorded on the appropriate documentation & logged. All faulty equipment will be isolated pending repair.

5.1.18 Operatives inspect all machinery/equipment on a daily basis to ensure that no leakages are apparent; any leakage/spillages will be recorded in the Site Diary & rectified. Site staff will be alert to any such leakages or trails that might develop during the day and in the event that such is detected the site leakages/spillage response procedures presented in Appendix FPP1 will be actioned.

5.1.19 In the event of a fault with equipment that may pose a risk of fire being discovered the following procedure will be followed: -

1. Switch off the equipment immediately if safe to do so
2. Isolate the equipment; and

3. Report the fault to a Responsible Person. A Responsible Person will inspect the equipment, records the fault in the Defect Sheets & will contact the internal engineers to complete necessary repairs. A replacement may be ordered if necessary to cover interim downtime. A sign will be clearly displayed stating that the equipment is not in use.

5.1.20 Fire extinguishers are strategically located throughout the site. All static plant, mobile plant & vehicles will have fire extinguishers installed. A Responsible Person inspects all extinguishers on a weekly basis and they are serviced annually & discharged as required. Spent extinguishers are replaced as soon as identified.

5.1.21 Electrical equipment is inspected by a Responsible Person on a weekly basis and detailed in the Site Diary, where any defects (loose cables, deterioration or wear) are recorded. Only a qualified electrician will be instructed to assess & complete necessary repairs.

5.1.22 All Portable Electrical Equipment is inspected annually (PAT Testing).

5.1.23 The whole site under control of the proposed operator and can only be accessed through the main entrance gate with a requirement to report to the main security cabin, thereby ensuring that unauthorised access to the site is prevented at all times.

5.1.24 The whole site is security controlled by CCTV to reduce the risk of accidental or deliberate ignition (arson). Out of hours the main Hillingdon Council monitoring centre monitors the site remotely.

5.1.25 Operatives conduct routine housekeeping activities (i.e., cleaning & tidying) as necessary and as a minimum on a weekly basis (including all treatment equipment/electrical areas i.e., the electrical cupboard or power supply areas if the Responsible Person deems it necessary during the course of weekly inspections). Cleaning/tidying will include but not limited to pressuring washing/sweeping.

5.2 Self-Combustion

5.2.1 Certain materials can self-combust under certain conditions as a result of: -

1. A physical reaction such as fine materials with large surface areas prone to friction; and/or
2. A biological reaction through degradation processes; and/or
3. A chemical reaction if coming into contact with corrosive substance such as strong acids and bases.

5.2.2 Self-combustion is most possible during hot conditions or where waste is left to stagnate for extended periods or items exist within the waste that cause combustion over a period of time. The likelihood of self-combustion occurring has been assessed as low, as the waste is rotated on a first in first out basis precipitated by frequent emptying of the storage areas/containers/bays. Furthermore, all wastes are stored in the open allowing air circulation. During extreme hot weather water hoses will be deployed to dampen down accumulations of materials to reduce the likelihood of hot spots forming as deemed necessary by a Responsible Person.

5.2.3 Material Management & Mitigation Measure Procedures: -

1. Operatives throughout the working day will monitor each bay/ container holding combustible materials. If the monitoring indicates any evidence of a 'hot spot' forming (such as visible steam, discolouring or odour i.e., indicating degradation) a Responsible Person will be notified and Condition 1 of Table 2 will be implemented immediately.

6 Detecting & Suppressing Fires

6.1.1 All staff members undergo fire training as part of their induction with refreshers as required (every three years for Fire Marshal for example). Staff members will be trained on the contents of this Fire Prevention Plan, which is accessible at all times for them to refer to if needed.

6.1.2 Staff awareness is maintained by regular 'Toolbox Talks' that form part of a programme of appropriate regular refresher training.

6.1.3 All fire-fighting equipment is checked/inspected weekly and recorded in the Site Diary completed by a Responsible Person.

6.1.4 All fire drills are recorded on the sites Fire Safety Log Book in accordance with the applicable legislation.

6.1.5 Fire Drill Procedure:

1. A fire drill is carried out annually to confirm that the facilities, procedures and this FPP are effective and that everyone understands what they should do in the event of a fire, and how to evacuate the site.
2. Records must be kept regarding each drill. Special attention should be given if the drill was slow or incomplete
3. All fire points should be checked once a year

6.1.6 All training records are kept in the Offices: -

- Staff have been trained in the use of fire fighting equipment.
- Individual staff members are identified as trained Fire Wardens.
- Some staff are trained in first aid (two as a minimum).
- Staff know to gather all employees and visitors to the assembly point.
- All employees understand how to operate/active the fire alarm
- Visitors & contractors have information on an emergency evacuation, with our Emergency Fire Procedures displayed throughout the site
- Emergency exits and route are clearly signed.
- Fire Action Notices are located in all areas.
- Fire Extinguishers are maintained and serviced (annually).
- Fire Extinguishers are strategically positioned throughout the site.
- A number of layout plan are available showing locations of fire fighting equipment & material storage locations on the Site Layout Plan in at Appendix FPP2.

6.1.7 Reliance will also be placed on strategically positioned manual activated fire bells at locations as shown on the Site Layout Plan in Appendix FPP2, with support of the CCTV monitoring system, Site/plant/equipment horns & the onsite radio system. Due to the residual low risk the proposed operation presents with regards to fire and the fact that the operation will be conducted outside no

bespoke heat and smoke detectors are deemed necessary or practicable in this instance.

6.1.8 Reliance will be placed on a bespoke sprinkler system (misting system) that is installed within each of the designated storage bays and at other strategic points around the proposed permitted boundary, specification as detailed in Appendix FPP8 alongside the CCTV monitoring system, so in the unlikely event of a fire occurring, it would be identified at the earliest opportunity, via employees and the Site Office during operational hours and via the Hillingdon Council Monitoring Centre during non-operational hours.

6.1.9 Reliance will be placed on the below provisions as detailed in Paragraph 6.1.10 to combat and extinguish a fire.

6.1.10 Equipment available to tackle a fire:

1. Misting System, located as shown on the Misting System Deployment Plan in Appendix FPP8.
2. Portable AFFF fire extinguishers, located as shown on the Site Layout Plan in Appendix FPP2.
3. Swing Reel Hoses supplied by mains water, located as shown on the Site Layout Plan in Appendix FPP2.
4. Fire hydrant, located as shown on the Hydrant Map in Appendix FPP4.

6.2 Detection Out of Hours

6.2.1 The site benefits from an out of hours monitoring centre operated by Hillingdon Borough Council that will monitor the site during non-operational hours. The monitoring centre will have full access to the CCTV cameras positioned around the site (locations as shown in Appendix FPP2) for ongoing monitoring to enable a rapid identification of a fire during non-operational hours in the unlikely event that a fire started. In the event of a fire the monitoring centre will contact the FRS immediately and notify two responsible key holders (approximately 15 minutes away from the site) to attend site to support fire-fighting actions as stipulated in Table 3 overleaf. Contact will be via telephone communication. The monitoring centre is notified of any planned holidays or absences, which will ensure the correct key holders are notified in the event of a fire.

6.3 Fire Conditions

Table 2: Fire Fighting Conditions

Alert Condition	Characteristics	Action	Preparation
Condition 1	Materials Smoking	Operatives will turn the material stockpiles utilising mechanical equipment to enable any trapped heat to be released.	Fire extinguishers ready for deployment. Be prepared to initiate fire procedures (Section 13) Responsible Person to be notified if not already present.
Condition 2	Visible Flame	Raise the site fire alarm immediately & initiate Fire Procedures detailed at Sections 13 If safe to do so tackle the blaze utilising onsite fire-fighting provisions including: - • Fire Extinguishers Deploy on small scale fires • Misting System Deployed to contract the fire. • Swing Reel Hoses (x2) capable of covering an area of 30 metres each. Ensuring coverage of the high-risk areas. • Alert FRS	Prepare the fire quarantine area, inert material & swing reel hoses for deployment.
Condition 3	Full Fire Established	Remove materials ablaze to the quarantine area or drag containers and deposit them in the fire quarantine area if safe to do so, so extinguishing/suppressing/tackling can take place, location shown on the Site Layout Plan in Appendix FPP2. On arrival of the FRS the appointed Fire Warden will transfer control of the incident over to the Incident Commander who will direct site operatives accordingly.	Prepare for the arrival of the FRS and follow all instructions.

6.3.1 These provisions aim as far as reasonability possible to ensure that if a fire were to break out it would be extinguished within 4 hours.

6.3.2 The internal site layout is such that FRS can access all areas of the site at all times and HGVs are able to enter and turn around without obstruction. It is therefore, considered that there is suitable access for fire tenders to manoeuvre freely around the site should a fire break out.

7 Fire Prevention Equipment Inventory and Procedure

Table 3: Fire Equipment Inventory

Material	Procedure	Trained User	Location
Personal Protection Equipment	Full range of PPE readily available for use.	All staff are issued with PPE.	Provisions are contained within the Site Office.
Fire Extinguishers	Fire Extinguishers are used in the event of fires.	All staff are trained on how, when & what types of Fire Extinguishers should be used in the event of a fire depending on the composition of the material ablaze.	At locations throughout the site- as shown on the Site Layout Plan (Appendix FPP2).
Misting System	Misting System used tin the event of a fire.	All staff are trained on how, when & how the misting system should be used in the event of a fire depending on the composition of the material ablaze.	At locations throughout the site- as shown on the Misting System Deployment Plan (Appendix FPP8).
Water Hoses	Hoses used in the event of a fire.	Staff are trained on how and when to use the hoses.	At locations throughout the site- as shown on the Site Layout Plan (Appendix FPP2).
Fire Hydrant	Hydrant used in the event of a fire.	Staff are trained on how and when to use the hydrant.	Location as shown on the Hydrant Map (Appendix FPP4).

8 Material Storage & Management

8.1 Enclosing Piles using Concrete & Containers

8.1.1 Wastes delivered to the site are deposited within the Waste Acceptance Area for inspection/sorting/processing. A minimum separation distance as detailed in Section 9 Table 4 & as shown on the Site Layout Plan in Appendix FPP2 (Reference I) will be maintained at all times.

8.1.2 Hardcore, Street Cleaning Residues, Bulky Waste and Residual Wastes are stored in bays that are constructed of concrete (2.4 metres high and 0.1 metres thick) as detailed in Section 9 Table 4 & as shown on the Site Layout Plan in Appendix FPP3 (Reference A/B/C/D/E/F).

8.1.3 Residual Wastes are stored in bays that are constructed of concrete (2.4 metres high and 0.1 metres thick) as detailed in Section 9 Table 4 & as shown on the Site Layout Plan in Appendix FPP3 (Reference G/H).

8.1.4 Concrete can provide up to 4 hours (240 minutes) fire resistance (radiation & spreading), which meet the A1 class fire resistance standard (DIN EN 13501-1).

8.1.5 Concrete is a non-combustible material and has a slow rate of heat transfer that provides shielding from heat and enables natural cooling. It is accepted in the industry that concrete "can be described as virtually fireproof"[1]. The concrete retaining walls will prevent any sparks escaping.

8.1.6 Bulky & Residual Wastes are stored in a 50-yard container (i.e., roll on roll off container) that is capable of containing a maximum of c28m^3 each. A minimum separation distance as detailed in Section 9 Table 4 & as shown on the Site Layout Plan in Appendix FPP2 (Reference J/K) will be maintained at all times. Separation distances proposed will enable a fire to be tackled without obstruction.

8.1.7 Metal waste is stored in a 10-yard skip that is capable of containing a maximum of 11.66 m^3 each. A minimum separation distance as detailed in Section 9 Table 4 & as shown on the Site Layout Plan in Appendix FPP2 (Reference L) will be maintained at all times. Separation distances proposed will enable a fire to be tackled without obstruction.

8.1.8 The Waste Industry Safety & Health Forum (WISH) guidance Waste 28 Reducing Fire Risk At Waste Management Sites (Issue 2 April 2017), confirms the suitability of steel as a material for use in fire breaks (See page 47). The Chief Fire Officers Association amongst other bodies has endorsed this guidance. A report by the British Constructional Steelwork Association identified 550 Celsius as the limiting temperature for a steel structure with four sides such as a skip container to maintain its stability[2]. The risk associated with steel is melting, which happens at around 1365 Celsius.

[1] http://www.concretecentre.com/Performance-Sustainability-(1)/Fire-Resistance.aspx
[2] http://www.tatasteelconstruction.com/file_source/StaticFiles/Construction/supplements/Fire_Protection_Supple

8.1.9 Container Isolation Procedure

A. Operatives on identification of a fire within a container will enact procedures as detailed at Table 2.

B. Each container will, if safe to do so be moved utilising the excavators (by connecting the grab head to the lip of the container) & dragged to the fire quarantine area, after which extinguishing (smothering/burying or deployment of water) will be attempted pending FRS arrival.

8.1.10 Containment in identified bays/areas or containers (as shown on the Site Layout Plan in Appendix FPP2) ensures materials are isolated from potential sources of ignition and from environmental elements such as wind (fanning). The storage bays or containers will ensure that materials are well ventilated and able to cool naturally, whilst providing a thermal barrier.

8.1.11 During extreme hot weather the fire hoses will be deployed to dampen down accumulations of combustible wastes to reduce the likelihood of self-combustion, if deemed necessary by a responsible person (i.e., extreme heat wave).

8.1.12 At least once every quarter, the storage bays will be emptied, cleaned and inspected for damage and repaired as needed as part of the preventative maintenance regime.

8.1.13 The site will turn over materials as quickly as practicably possible, operating a 'first in first out' policy, as detailed in the procedure in Section 8.1.14. Materials will be kept onsite until sufficient quantities have accumulated to constitute an economic onward load, or the maximum storage limits detailed at Table 4 have been reached, i.e., no material will be left within the containers as these will be loaded directly onto HGVs and transported to an authorised receiving site.

8.1.14 Stock Rotation Procedure (Operatives):

1. Operatives will deposit all 'new' incoming wastes at the front of any accumulation within a bay.
2. Operatives must load all collection vehicles with the oldest materials first (accumulations at rear of bay), therefore materials at the back of the bay will be loaded in the first instance (i.e., a first in first out policy);
3. Once loading is completed Operatives will utilise mechanical machinery to push the accumulations of waste to the back of the bay.

8.1.15 A freeboard space of no less than 0.2 metres will be maintained between the apex of materials stored within a bay and the top of the dividing walls and a 0.1 metre freeboard space will be maintained between materials stored within each bay (i.e., the thickness of the concrete retaining walls). In practice a separation distance of 0.5 metres will be maintained from the top of one accumulation to another due to the freeboard space on either side (equating to 0.4 metres) and

the thickness of the concrete retaining walls (0.1 metres) as illustrated in Appendix FPP9.Responsible Persons will ensure the stated freeboard spaces are maintained at all times. Responsible Persons will ensure the stated freeboard and distance is maintained at all times. The stated freeboard space is suitable in this situation as the site benefits from a robust out of hours monitoring regime (24 hours CCTV Monitoring via the Hillingdon Council monitoring centre) and due to the fact that only a small amount of wastes are stored onsite at anyone time and the nature of the wastes proposed, it is concluded that there is a low residual risk of a fire breaking out.

8.1.16 Due to the separation distances maintained onsite it is considered that the risk of bridging is low.

9 Combustible Material Storage Arrangements

Table 4: Combustible Materials Storage Arrangements

Reference Point Site Layout Plan Appendix FPP2.	Combustible Material	Storage Arrangements	Width Maximum (metres)	Depth Maximum (metres)	Height Maximum (metres)	Volume Maximum (metres cubed)	Minimum Separation Distance From Other Combustible Waste (metres)	Storage Time Onsite (Working Hours/Days)
A	Hardcore	Stored loose in a bay.	5	5	2.2	55	0.1	3 Month
B	Street Cleaning Residues	Stored loose in area	4	5	2.2	44	0.1	1 Month
C	Street Cleaning Residues	Stored loose in a bay.	4	5	2.2	44	0.1	1 Month
D	Bulky Waste	Stored loose in cage	4	5	2.2	44	0.1	1 Month
E	Bulky Waste	Stored loose in a bay.	9	5	2.2	99	0.1	1 Month
F	Residual Waste	Stored loose in a bay.	6	5	2.2	66	0.1	1 Month
G	Residual Waste	Stored loose in a bay.	4.5	5	2	45	0.1	1 Month
H	Residual Waste	Stored loose in a bay.	4.5	5	2	45	0.1	1 Month
I	Waste Acceptance Area	Stored loose in area.	5	4	3	60	2	1 Day
J	Bulky Waste	Stored loose in a 50-yard container.	6	2	1.8	22	0.5	1 Month
K	Residual Waste	Stored loose in a 50-yard container.	6	2	1.8	22	0.5	1 Month
L	Metals	Stored loose in a 12-yard skip.	1.8	3.6	1.8	11.66	0.5	3 Month
M	Sharps	Stored loose in 500-litre wheelie bin.	0.6	0.6	1.5	0.5	0.5	3 Month

M	Sharps	Stored loose in 500-litre wheelie bin.	0.6	0.6	1.5	0.5	0.5	3 Month
Grand Total:						558.66m³		

10 End of Day Operations

10.1.1 All operatives conduct an end of day inspection on all mobile equipment once parked to ensure that no trapped debris is located in the vicinity of the exhausts.

10.1.2 A Responsible Person is notified after mobile equipment has been parked and inspections conducted.

10.1.3 A Responsible Person conducts a final end of day inspection prior to closure to ensure: -

1. All mobile plant is parked in the designated parking area over 2 metres away from accumulations of combustible wastes.
2. Whenever possible no material will be left uninspected in any 'tipping area'.
3. No material is trapped within static plant.
4. No debris has settled onto hot exhausts and engine parts (Fire-watch).
5. Everything is switched off.
6. No visible signs of flames or embers are present
7. The security system is activated.
8. No one remain within the yard after closure

11 Fire Water & Containment

11.1.1 As required by the Fire Prevention Plan Guidance, a minimum water supply of at least 2,000 litres/min for a minimum of 3 hours is required for a 300 cubic metres pile of combustible material. This equates to 6.6 l/min (2000/300) per cubic metre of combustible material. At least 117,612 litres of water (6.6 l/min x 99 = 653.4 l/min x 180 minutes) would be required were the complete contents of the single latest accumulation ablaze. Reliance will be placed on the fire fighting provisions as detailed at Table 5 below.

Table 5: Fire Fighting Provisions

Fire Suppression Provisions & Water Delivery Systems	Specification	Cumulative Supply l/mins	Total Volume m3 Available (for up to 180 mins)
Primary Suppression Equipment (Non-water Provisions)			
Fire Extinguishers (Foam/Co2)	An array of Portable Fire Extinguishers suitable for tackling a range of fires.	-	-
Secondary Suppression Equipment (Water Provisions)			
Misting System (Atomiser Hyflo System)	85 l/min connected directly to the water supply, deployed via 17 nozzles.	85	15,300
Fire Hose	35 l/min connected directly to the mains water supply.	120	21,600
Fire Hose	35 l/min connected directly to the mains water supply.	155	27,900
Hydrant	75mm mains capable of delivering 1,200 l/min (approximate).	1,355	243,900
Grand Total		1,355	243,900
Tertiary Suppression Equipment (Water Provisions)			
Fire Tender	45mm standard jet capable of delivering 220 l/min (approximately 6,000 litres)	220	6,000
Grand Total		220	6,000

11.2 Fire Fighting Water

11.2.1 In the event of water being required the following provisions are available:

- Misting System:
  Sprinklers are installed within each of the identified storage bays and at strategic position around the proposed permitted area, which are connected directly to the mains water supply. The site benefits from 17 nozzles, which are capable of delivering 85l/min. In the event of deployment, the fire procedures detailed at Table 2 and in Section 13 will be implemented. This system should control the spread of a fire in the early stages of development.

- Fire Hoses:
  Two fixed hoses are installed throughout the site, which are connected directly the mains water supply. Each hose is capable of delivering 35 l/min, locations as shown on the on the Site Layout Plan within Appendix FPP2. In the event of deployment, the fire procedures detailed at Table 2 and in Section 13 will be implemented. This system should control the spread of a fire in the early stages of development.
- Hydrant:
  A hydrant capable of delivering 1,200 l/min is situated on the sites main access road to the site as shown on the Hydrant Map within Appendix FPP4.

11.2.2 Once the FRS have arrived onsite & connected to the hydrant the use of onsite water based fire-fighting provisions will only be deployed on FRS instruction.

11.2.3 Furthermore, a Fire Tender is capable of delivering up to 6,000 litres of water at 220 l/min in a single load (through a 45mm standard jet). While the supply of water on the tender may not be available for the whole 180 minutes, on arrival onsite it will make an important contribution in the early stages of fire fighting prior to hydrant connection.

11.2.4 The provisions detailed at Table 5 are capable of delivering the required 653.4 l/min as per the EA Fire Prevention Plan Guidance.

11.3 Firewater Containment

11.3.1 Resultant firewater will be contained within a section of the permitted area that benefits from an impermeable surfacing, sub surface drains and a sealed drainage system (the drainage system can be isolated via the deployment of a bung), which alongside a mixture of concrete retaining walls and kerbed perimeter edging and the deployment of sandbags (approximately 0.1m high across two sections of the concrete surfacing 41 metres long) will ensure that all firewater run off is contained within the identified section of the permitted area, locations as shown on the Site Layout Plan (Appendix FPP2). Firewater run off will be directed and captured via the sealed drainage system as shown on the Site Drainage Plan (Appendix FPP7), which once fall will back up onto the site surfacing within the contained area as detailed above and below.

11.3.2 The site benefits from a completely impermeable concrete surface & a sealed drainage system.

11.3.3 On average a 15kg sandbag is 0.33m wide x 0.77m length x 0.1m high, so 55 sandbags in all would be deployed to build two sand bag walls, one on the northeast section of the permitted boundary (20 sandbags end to end) and one on the eastern section of the permitted boundary (35 sandbags end to end). It is anticipated that it would take 25 minutes to construct the sandbag walls. A supply of at least 55 full and 55 empty sandbags will be kept onsite at all times. Sandbags

are stored in IBC's adjacent to the deployment areas for rapid deployment. The location of sandbags and the deployment line is details on the Site Layout Plan Appendix FPP2.

11.3.4 Given the floor area of the site is over 1,199m^2 and the height of 0.1m, up to 119,900 litres (1,199 x 0.1 = 119.9 m^3) of firewater would be retained within the site if required. This does not account for evaporation, which will occur to some degree (25% allowance).

11.3.5 Responsible Person's (most senior Council Representative onsite at the time) will instruct operatives on when to construct a sand bag wall, which will depend on real time events onsite.

11.3.6 Sandbag Monitoring & Replacement Procedures

1. Sandbags will be stacked & shrink-wrapped ready for deployment; a Responsible Person will monitor these bags. If necessary, sandbags will be rotated (i.e., those sandbags at the bottom of the stack will be placed at the top of the stack during the course of the inspection)
2. Sandbags will be replaced as necessary as determined by the ongoing inspections.

12 Contingency Planning

Table 6: Contingency Plans

Eventuality	Procedures/Measures
Contingency Planning in the event of a fire	Measures could include: - 1. The site will cease all operations and will not accept any further waste material (contact appropriate customers/contractors if necessary) until FRS arrives. 2. Employees will be advised of the situation. 3. Enact fire procedures as detailed within Sections 13 of this FPP. 4. The site will only reopen once FRS has advised it is safe to do so. 5. Fire damaged waste will be processed as appropriate. If this is not possible then it will be stored in the isolation facility and then removed from site.
Accident	Measures may include: - 1. The affected area will be isolated and an appointed 'first aider' will be contacted to attend to any injured party. 2. If necessary, the emergency services will be contacted. 3. A Responsible Person will decide on a case-by-case basis if cessation of operations around the affected area and reception of waste is necessary until the appropriate emergency services have arrived. 4. A Responsible Person will complete an Accident Investigation Report.
Seasonality (Including Transportation Shortages)	Measures could include: - 1. Confirm current storage times for materials accumulated onsite. 2. Contact outlets for the specified stream and arrange transportation. 3. Transport all waste accumulated within a designated container, even if it may be economically undesirable to do so, i.e., the container for transportation is not full. 4. In the event of no outlet being viable a last resort would be to transport the specified material to a landfill site via a third party haulier to ensure that the storage limit maxima are not exceeded.
Supply Chain Failure (Including Transportation Shortages)	Measures could include: - 1. Confirm current storage times for materials accumulated onsite. 2. Increase monitoring of material stockpiles onsite. 3. Contact outlets for the specified stream and arrange transportation. 4. If the outlet is not receiving the specified waste stream contact other outlets. 5. Conduct investigations into potential alternative outlets, if potential outlets are not accepting specified streams. 6. Require cessation of deliveries until further notice and potential transportation to alternative sites. 7. Seek advice from EA.
Breakdowns (Mechanical Equipment)	Measures could include: - 1. Immediate isolation of the affected machinery. 2. External contractors notified to complete repairs 3. Hire in relief equipment in interim if needed. 4. Reschedule material despatch to align with scheduled repairs and or relief machinery availability.
Site Closure	Measures could include: - 1. Appropriate signage will be erected notifying any visitors that operations have been suspended. 2. Advise customers of the situation. 3. No more wastes will be accepted on to site. 4. Contact all potential outlets to ensure that all waste material is managed in accordance with the waste hierarchy where possible. 5. Notify EA that customers & receiving outlets have been contacted and provide scheduled dates for material removal. 6. Notify EA once stockpiles have been reduced to acceptable level

13 Fire Alert Procedures

Procedure in Event of Fire <u>on the site</u>

i. There must be no hesitation in raising the alarm. Any person discovering a fire must immediately operate the fire alarm, or (where an alarm is not provided) shout 'FIRE' to warn others in the vicinity. Fire alarms must not be used for any purpose other than as a signal for fire action or pre-arranged fire drills.

ii. Everyone must immediately leave the site and proceed directly to the designated assembly area upon hearing the alarm. The mobile plant/machine operators are, if possible, to remove their machines from the fire vicinity at that time; park and turn off their machines at a safe distance from the fire without blocking any Emergency access routes. No one is to return to the affected part of the site until it is confirmed safe to do so by the Responsible Person in charge of the premises.

iii. The Responsible Person in control of the site must check that FRS has been called and that a delegated member of staff knows where to direct FRS. In addition, the Responsible Person in control must check that occupants of adjacent units have been notified.

iv. The Responsible Person in control of the site must ensure that the site has been evacuated and in particular: -
   1. Supervise the orderly evacuation of visitors and staff.
   2. Supervise roll calls and collect and collate information, e.g., persons not at the assembly point. Collect information about the fire location and source.
   3. Ensure first aid is given if required.

v. On arrival FRS will take charge and the Responsible Person must co-operate with the FRS Officers. See Fire Service Act 2004 Sect. 45 for Fire Service Powers of entry.

vi. Contact neighbouring identified receptors within proximity to the site on identification of a fire & those that are contactable within a 1km radius of the facility as detailed in <u>Appendix FPP5 & 6</u> if instructed to do so by FRS (Major Incident).

14 Post-Incident Procedures

1. If required clean up contractors will pump out & remove all accumulations of firewater run off from wherever required onsite.
2. Inspection of all equipment to be conducted prior to reinstating.
3. All burnt material to be removed to an appropriately licenced disposal site.
4. Post incident reports and enquiries.
5. Notify the Environment Agency, Environmental Health and FRS that the site has been reinstated.
6. Review and update this Fire Prevention Plan in light of incident & provide a copy to any key stakeholders (EA/FRS).

15 Periodic Review

15.1.1 The adequacy of this Fire Prevention Plan will be reviewed as necessary or on an annual basis as a minimum.

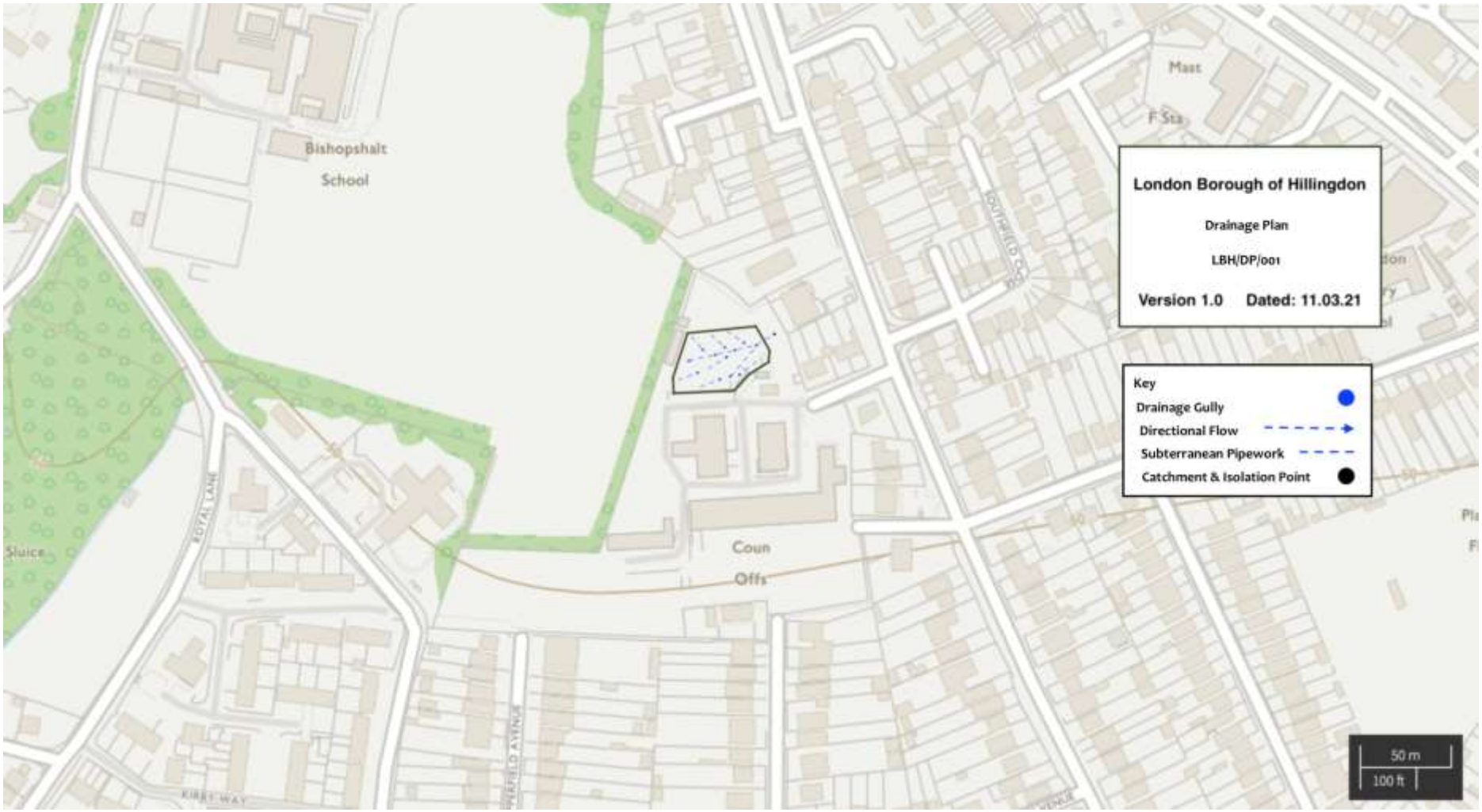
Appendix FPP1: Leakage/Spillage Response Procedure

On identification of a Leak or Spillage the following procedure is to be followed to:

1. Prevent unauthorised access to the affected area
2. Prevent uncontrolled escape of potentially contaminating liquids using supply of absorbent materials to control the flow of liquids.
3. If safe to do so, isolate source of leak/spillage to prevent further losses, which may involve switching off a particular piece of machinery & deploying a containment vessel (i.e., drip trays) underneath the affected area.
4. If necessary, initiate controlled evacuation of the site.
5. If the leak/spillage is battery acid, apply a neutralising agent hydrated lime or similar. (Please note that water in a large quantity will only dilute the acidity & will not neutralise it) on the affected areas (Operatives must use appropriate PPE; gloves, face masks & goggles, whilst handling hydrated limes).
6. All contaminated absorbents, must be placed in a leak proof container, which is labelled & stored pending removal.
7. Seek specialist advice on decontamination of the site surfaces if necessary
8. Complete an Environmental Incident Record Form (See Appendix EMS1)
9. Any actions taken will be recorded in the Site Diary.
10. Written confirmation of any actual or potential pollution incidents must be submitted to the Environment Agency via the sites Permitting Office within 24 hours. (Information at front of document)
11. Confirm site clean up with the Environment Agency. (Information at front of document)
12. Replenish supplies of absorbent materials.

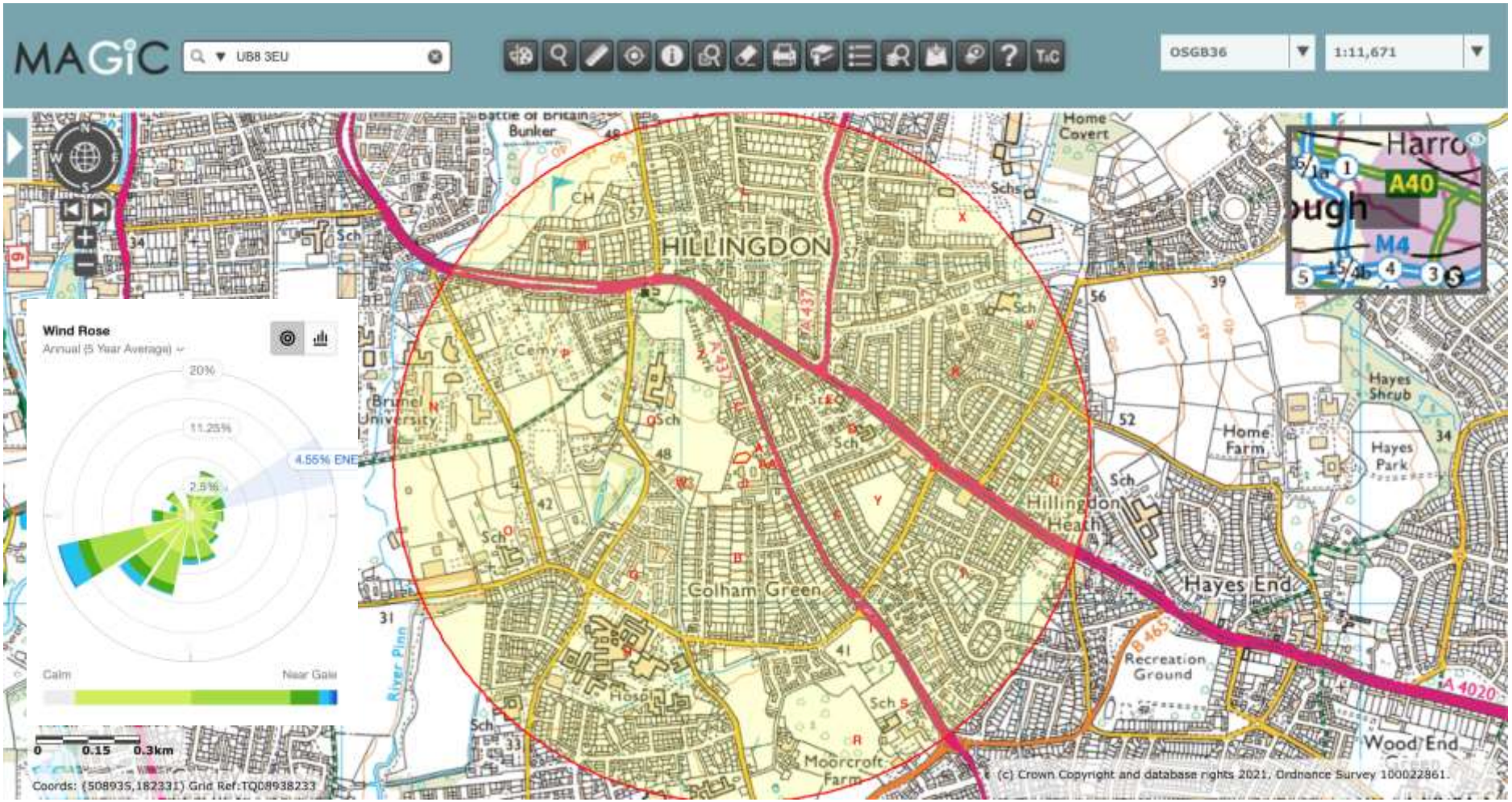
<u>Appendix FPP2:</u> Site Layout Plan

Appendix FPP3: Site Drainage Plan



Appendix FPP4: Hydrant Map

<u>Appendix FPP5:</u> Receptor Location Plan (Smoke & Fire Spreading) Scaled @ 1:11,671 (1KM Buffer).



Appendix FPP6: Receptors Identified Contact Details (If Applicable).

Receptor Reference	Receptor Description
0	London Borough of Hillingdon Depot
A	Commercial Activities
B	Residential
C	Residential
D	School
E	Fire Station
F	Residential
G	Residential
H	Hospital
I	A437
J	A4020
K	Residential
L	Residential
M	Residential
N	Brunel University
O	School
P	Cemetery
Q	School
R	Moorcroft Farm
S	School
T	Residential
U	Residential
V	School
W	Church
X	School
Y	Playing Field
Z	Recreational Field
AA	Residential

Risk-Assessment: -

The prevailing wind direction is from the West-South Westerly Direction so any smoke generated would be blown in an East-North Easterly Direction.

Appendix FPP7: Waste Acceptance Procedures (Extracted from EMS)

15.1.2 Compliance with the permitted waste types is assured by the following measures:

1. Responsible Persons will ensure a clear description of the waste is ascertained prior to arranging for the wastes to be delivered to site, if the wastes are not suitable, they will be diverted to another waste management facility able to manage these waste streams;
2. On delivery to site the driver will hand all paper copies of any Duty of Care Documentation to the Site Office; and
3. Once all Duty of Care Documentation has been approved the wastes will be deposited in the Waste Acceptance Area for inspection, acceptance & processing (machine operatives will spread out the loads to aid the visual inspection process).

15.1.3 If any prohibited materials are present the following course of action will be taken:

a) Require the individual to load the non-permitted materials back onto the delivery vehicle; or
b) Accept, isolate & arrange for removal to an authorised waste management facility.
c) Under no circumstances will non-permitted wastes be retained onsite and dealt with as if it is permitted.
d) The Agency will be notified if a delivery is rejected.

15.1.4 If the prohibited material becomes apparent only after the above waste acceptance checks have been completed the following action will be taken:

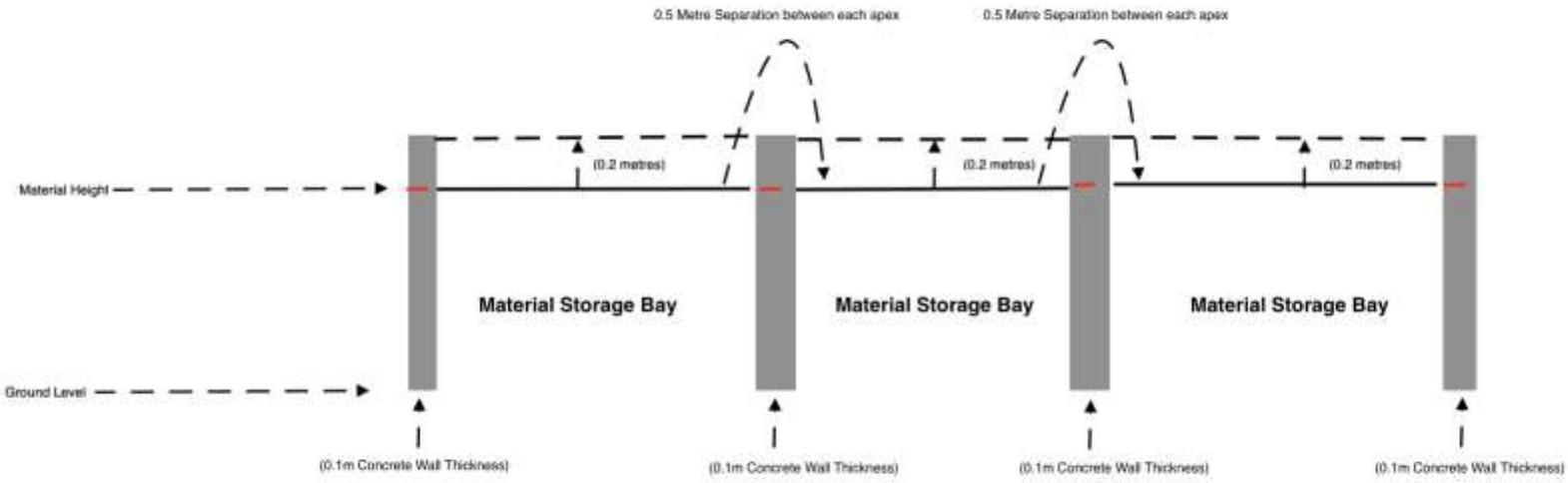
a) The load will be isolated within the isolation facility (appropriate PPE will be warn if necessary) and removed from site to a suitably permitted facility at the earliest opportunity.
b) In each case, the incident will be recorded in the Site Diary (taking note of the vehicle registration, date & time of the incident).
c) Under no circumstances will prohibited waste be retained onsite and dealt with as if it is permitted.
d) The Agency will be notified if a delivery is rejected.

15.2 Rejection Procedure

15.2.1 Any wastes identified as being unsuitable for disposal at the site will be rejected & recorded in the Site Diary.

15.2.2 A record will be kept of the following pieces of information:

a) Date & time
b) Person rejecting the waste(s)
c) Haulier/customer name and address including carrier's number
d) Vehicle registration number
e) Procedure name and address
f) EWC number
g) Transfer Note Number
h) Waste Description

<u>Appendix FPP8:</u> Misting System Deployment Plan

<u>Appendix FPP9:</u> Freeboard Space Illustrative Diagram Preventing Bridging