Freighter House

Chelmsford City Council

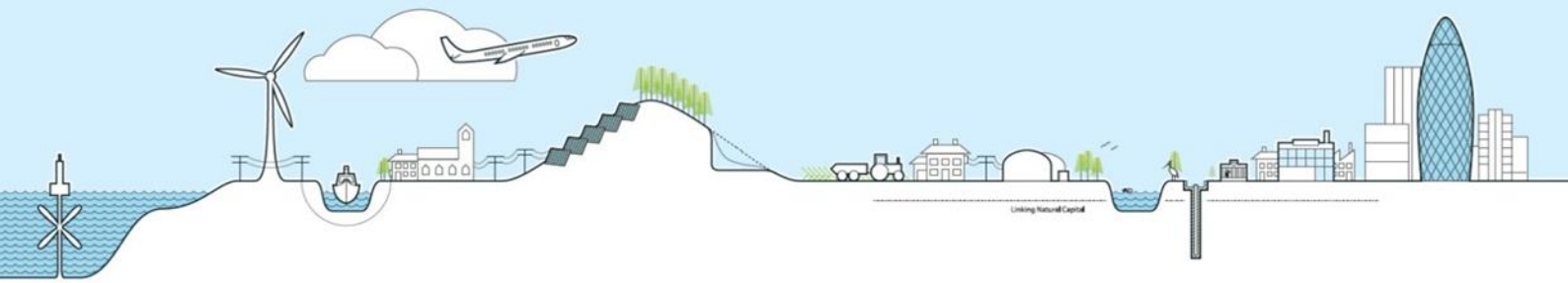
Environmental Permit Application

Fire Prevention Plan

June 2025

Prepared By

aardvark
environment matters



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1 Introduction

This Fire Prevention Plan (FPP) has been prepared in line with the guidance available on gov.uk[1].

The objectives of the following Fire Prevention Plan (FPP) are to:

- Minimise the likelihood of a fire happening,
- Aim for a fire to be extinguished within 4 hours,
- Minimise the spread of fire within the site and to neighbouring sites.

This FPP should be read by all staff, fire officers and contractors that come onto the site.

[1] Fire prevention plans: environmental permits - GOV.UK

2 The Site

2.1 Activities on Site

The site's main purpose is to store street sweepings and litter, fly-tipped material (non-hazardous), WEEE, fly tipped gas cylinders and tyres. The site also aggregates dry recyclable material (cans, glass, paper, plastics).

Freighter House operates Monday to Friday from 06:00 to 17:00. Weekend hours vary with reduced working staff. Weekend operations are limited to only fly tipped wastes and litter bin wastes arriving on site, these are it tipped at the top of the depot in Bay 1. Other weekend ad hoc work takes place when low staffing levels prevent regular operations during the week. No other waste movements are carried out during the weekend.

On weekdays, commercial waste collection vehicles depart the depot promptly at 06:00. Kerbside domestic collection crews begin leaving from 06:30 onwards and recycling vehicles from 07:00. Operations within the Materials Recovery Facility (MRF) do not commence until 07:00.

Deliveries and removal of wastes are made throughout the day to maintain safe access and ensure clear vehicle movement through the depot during this busy early period, hauliers are requested not to arrive at the site before 07:30. Prior to this time, active vehicle movements within the yard may obstruct access and present potential safety risks.

This structured schedule helps manage traffic flow, reduce congestion, and support safe operations across the site.

There are approximately 100 employees on site during peak times and there is a maximum of 2-3 site visitors at any one time.

A member of staff is appointed and trained to act as the Technically Competent Manager (TCM) daily on the site. Each day the following tasks below are completed to ensure the site is running safely and effectively:

- Daily walk-around checks undertaken and recorded.
- Any complaints that are made are investigated and dealt with utilising the appropriate measures.
- Waste volumes on site are not exceeding the daily and yearly limits.
- All training records are kept on file in the site office and kept up to date and to code.
- Environmental management system is kept up to date and valid.
- EA licences are fit for purpose and any variances required are submitted.
- Documentation regarding waste on site are checked (e.g. document trails regarding waste entering and leaving the site).

2.2 Site Layout

The site layout is illustrated below, in figure 1 and containment plan in figure 2.

The following areas contain hazardous or combustible materials:

- Gas cylinder storage area contains empty and unused gas cylinders,
- Storage of Waste Electrical and Electrical Equipment (WEEE),

- Storage of combustible wastes including cardboard and plastics,
- Materials Sorting Facility (MSF) for waste treatment including separation to recyclable fractions.

The prevailing wind direction at Freighter House is south-westerly, as shown in the below windrose diagram (Figure 3).

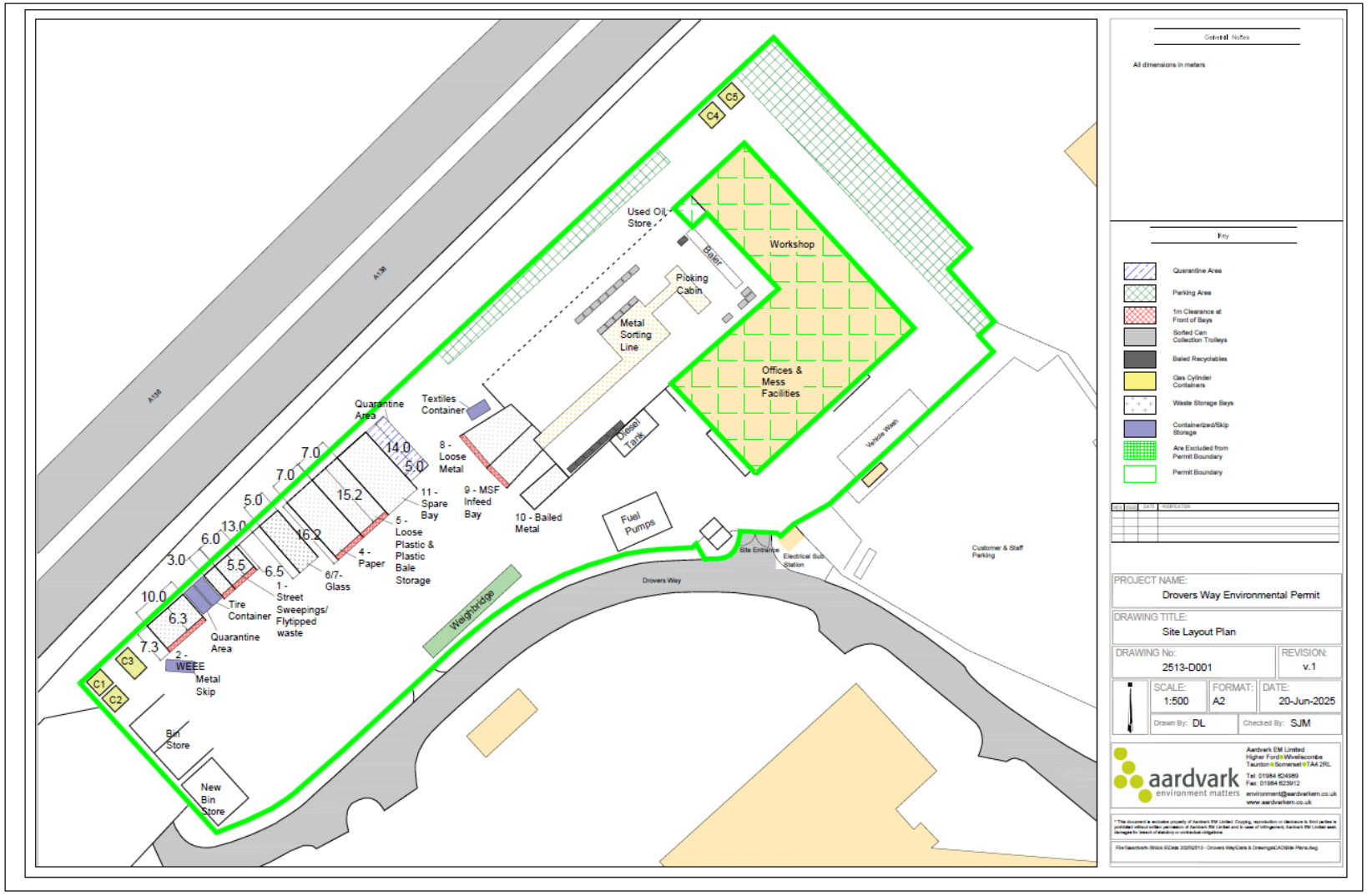

Figure 1: Site Layout Plan

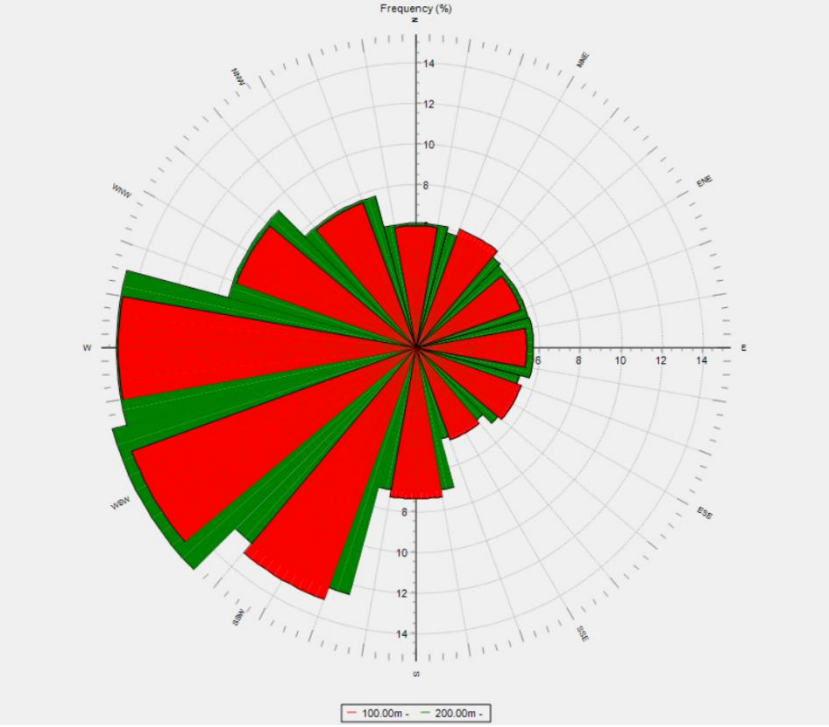

Figure 2. Windrose diagram showing wind direction frequency

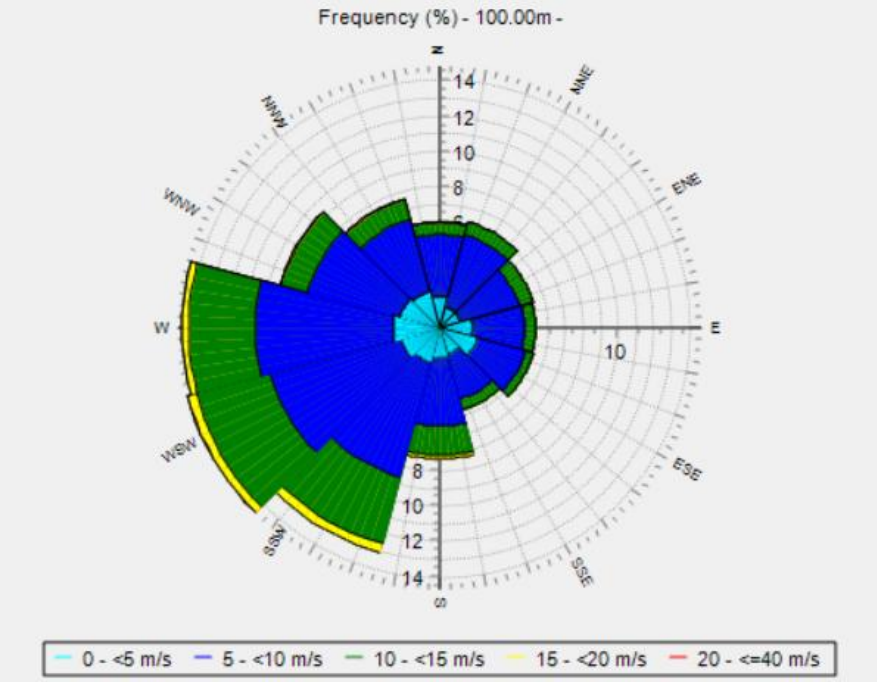

Figure 3. Windrose diagram showing wind direction and speed

2.3 Permitted Waste Types

The following permitted waste types are to be accepted on site:

Storage area	General waste category	EWC code
Storage bay 2	WEEE	20 01 23, 20 01 35*, 20 01 36
	Fluorescent Tubes	20-01-21*, 20-01-35*
20m^3 container	Tyres	16 01 03
Storage bay 1	Street Sweepings	20 03 03
	Fly-tips / Street cleansing	20 03 01
Storage bay 6 and 7	Glass recycling	15 01 07
Storage bay 4	Paper recycling	20 01 01
Storage bay 5	Plastic recycling & baled plastic	15 01 02, 20 01 39
Storage bay 8	Metal can/tin recycling	20 01 40
Storage bay 10	Baled Steel Cans	19 12 02
	Baled Aluminium Cans	19 12 03
	Baled Aluminium Foil	19 12 03
MSF inlet (bay 9)	Baled Mixed Plastics Baled Plastic Film	19 12 04
Storage bay 11	Spare bay	NA
Textiles Container	Textiles	20 01 10, 20 01 11
Scrap metal skip	Scrap Metal	20 01 40
C storage cages	Orphan Gas Bottles Non-LPG Bottles LPG Bottles Oxygen Bottles Acetylene Bottles	16 05 04*, 16 05 05

Table 1. Permitted waste types

Access to site is via the automatic barriers, Automatic Number Plate Recognition (ANPR) software is used and so only permitted vehicles may enter. Only waste collected by Chelmsford City Council personnel or their authorised agents will be allowed onto the site. Staff are under strict instructions not to bring any unauthorised waste onto site.

2.4 Types of Combustible Waste

The combustible waste types accepted at Freighter house include:

- Paper or cardboard,
- Plastics,
- Scrap metal,
- Waste electronic and electronic equipment (WEEE) and collected fluorescence tubes which are stored within a dedicated metal storage box within the WEEE storage area,
- Tyres,

- Mixed municipal and fly-tipped waste containing the above listed combustible waste types.
- Textiles

2.5 Site Access Routes

The main road access to the site is via the A130, A138 and A12. All routes convene at the Boreham interchange prior to access onto Drovers Way, the sole access road into the site. Access to the site for fire-fighting purposes may be possible from the A138, which runs parallel to the northern boundary of the site, although the feasibility and necessity of such access would be determined by the Fire Service.

Figure 4. Site Access

2.6 Site Drainage

The storage bays for storing street cleansing and fly-tipped waste and WEEE have a hard standing of 300mm of concreate, contain a polythene membrane and are built upon sand blinded hardcore. The remaining site area is also hardstanding with a 130mm type 1 sub-base, covered by 80mm blacktop. The bay walls are at minimum 3m high supported by railway sleepers or Rolled Steel Joists (RSJs) to contain waste within the bay. The street cleansing and fly tipped waste bays (Storage bays 1 and 2) are fitted with a lockable mesh gate to avoid wind-blown litter.

Storage bays 1, 2, 4 and 5 are each fitted with a roof. This prevents rainwater ingress to waste pile, and associated runoff. Roof water is designated as “clean” and is discharged from the site via the surface water drainage network, which outfalls into the surface water sewer. Before reaching the surface water sewer it passes through a petrol/oil interceptor (class 1 bypass separator with silt storage).

Foul and surface connect separately to the mains drainage network operated by Anglian Water Ltd. The foulwater main transfers wastewater to the Anglian Water Treatment Works located at Brook End Road.

Surface water is discharged into the surface water drainage network (operated by Anglian Water). This flows to south-east from the site to A130 and A12 to towards the River Chelmer (existing outfall OU7 (Outfall to Ordinary Watercourse 2).

Drainage channels, interceptors, gullies, foul and surface water drains will be cleaned, emptied and inspected monthly, and vehicle wash interceptor weekly. The on-site tanker/jetter can be used to assist with these tasks. Areas of hardstanding will also be monitored/inspected. Defects in hardstanding may have the potential to leak to the ground, if this is the case remedial action will need to be taken. During the inspection if any defects are identified they will noted and repaired within 7 days of the defect being flagged. If a repair is likely to take longer than the allotted 7 days contingency plans are put in place such as:

- Bunding the affected drains.
- Taking an affected bay or wash area out of use until a repair is completed.
- Blocking off the drain run and tinkering the water off site to a treatment centre.

Defects in covered area for dry waste (such as recyclables), do not present a problem in terms of a potential leak to the ground but the issue will be reported and rectified within an appropriate timeframe.

An improvement program is in place for a new drainage channel to be installed in front of the street sweepings bay (Bay 1) this will drain to a catchment pit to allow settlement of solids arsing from the runoff from the bay. The existing surface water drain which is located in the centre of the site will be re-instated and will flow to a penstock valve before discharging to the foul sewer. drainage channels in front of bays 4 and 5 along with channels in front of the MSF infeed bay will also be reinstated. These will also flow to the penstock valve.

An updated drainage plan will be provided following the completion of the improvement works. Section 11 contains further details on the planned improvements at the site.

2.7 Sensitive Receptors

The red line shows the 1km radius from the site, the inner red line shows the approximate site location.

- Residential property around 150m east, marked in blue.
- To the south and north-east bordering the site are industrial areas, marked in purple.
- To the east of the site are two leisure areas; a hotel 400m east and at 700m is a house which seems to hold events.
- 450m to the north Quarry.
- There also seems to be agricultural land and greenspace in the vicinity of the site.

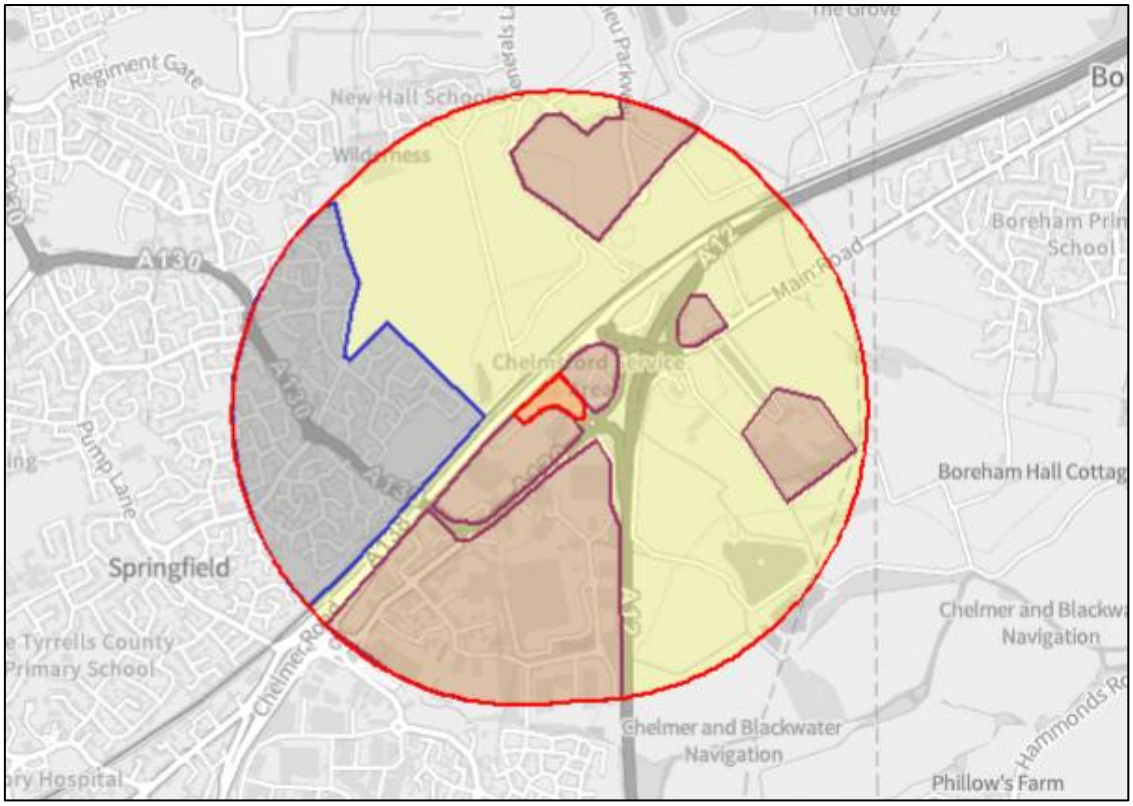

Figure 5. Sensitive receptor locations

Receptor reference	Land use	Direction and distance from the site boundary.	Sensitivity to odour
1	Housing estate	121m west	High
2	Housing estate	500m west	High
3	Small cluster of houses	700m north-east	High
4	Small cluster of houses	900m north-east	High
5	Boreham services; Premier Inn, BP Garage, McDonalds	Bordering site to north-east	Medium
6	Industrial estate: Aston Barclay and Council Recycling Centre	Bordering site to the south	Medium
7	Industrial estate: Royal Mail Centre, Aldi Distribution Warehouse,	100m south	Medium
8	Premier Inn, Eatery etc.	410m north-east	High
9	Industrial estate: Parcelforce, Edmundson electrical etc.	410m south	Medium
10	Industrial estate: Toyota, Essex Highways etc.	450m south-west	Medium
11	Industrial estate: B&Q, DPD etc.	850m south	Medium
12	Boreham House and Car Boot	200m south-east	Low
13	School and nursey	920m north-west	High

Table 2: Location of Sensitive Receptors

3 Manage Common Causes of Fire

3.1 Arson

The site is secured by a gated entrance off Drover's Way. The site entrance and various point around the perimeter are covered by CCTV. Steel palisade fencing marks the boundary of the site along Drovers Way. The site is well lit by overheard street lighting along Drover's Way.

Unpermitted access from Drovers Way is therefore not considered of high risk. The open waste bays are located along the northern edge of the site, away from the public accessible Drovers Way. There is a low risk of accidental fire (for example discarded cigarette from a member of the public) from outside the site itself.

The site's CCTV is monitored on site during operational hours, outside of these hours Chelmsford City Council operates a dedicated, round-the-clock CCTV monitoring team responsible for overseeing camera systems installed across the city, including those at Freighter House.

The CCTV is monitored 24 hours a day, 7 days a week. In addition, the CCTV monitoring team are immediately alerted to any triggered alarms - whether caused by movement or smoke detection. This includes alerts originating from within the Materials Recovery Facility (MRF).

3.2 Plant and Equipment

All electrical installations, fixed electrical equipment, machinery, plant, and fixed wiring will be tested by a competent electrician every 5 years and any recommendations arising from the report should be carried out.

All council vehicles, plant and equipment used on the site are serviced and maintained by qualified in-house technicians and will only be operated by competent and trained personnel to avoid any incidents. All vehicles are inspected by the in-house workshops every 8 weeks in accordance with the site's vehicle operator's licence.

3.3 Electrical faults including damaged or exposed electrical cables

Electrical equipment and related cables etc. will be regularly maintained and spot checked during daily walk-around checks.

3.4 Discarded smoking materials

The site operates a no smoking policy in the waste area and outside of the office building. A printed copy of site rules for smokers is on display in the window of the gate house at the entrance to the site.

3.5 Hot Works

Any hot works undertaken at the site are confined to the vehicles maintenance depot and are not associated with the waste operation. A 'permit to work' process is in force for any maintenance staff or contractors required to undertake hot works. Otherwise hot works will not be undertaken on this site.

3.6 Industrial Heaters

There are no industrial heaters within the Material Sorting Facility (MSF) or waste storage and transfer areas.

3.7 Hot exhausts

Vehicles are regularly maintained and cleaned to avoid build-up of debris on exposed exhaust pipes. Additional checks are undertaken at the end of each shift vehicles are checked to ensure that no debris have built up on exhausts or engine covers. Drivers receive reminders of this during toolbox talks.

3.8 Ignition Sources

Processed bales of recyclates are stored in separate bays away from any sources of ignition. Highly combustible materials such as gas cylinders are stored at least 3m away, with as much separation as practicable from any ignition sources.

3.9 Batteries

Batteries are not a permitted waste type that are accepted at the site. During kerbside collections operatives do not actively collect batteries, WEEE is sorted at the kerbside any battery containing items such as laptops, vapes etc are rejected and left within the kerbside recycling box.

Should batteries arrive onsite the following procedures are followed.

1. Spotting Batteries: If batteries are found during tipping, sorting or routine checks, staff will set them aside straight away.
2. Keeping Them Safe: Any batteries will be placed in a clearly marked, fire-resistant container, which is kept in the quarantine area away from other waste.
3. Removal From Site: Collection is arranged via a registered hazardous waste contractor to collect the batteries as soon as possible. All movements will be documented.
4. Recording What Happens: A simple log of any batteries found is kept, including when they were discovered, what type they were, and how they were removed.
5. Training Staff: All staff are trained to recognise batteries and know exactly what to do if any turn up on site.

3.10 Leaks and spillages of oils and fuels

No liquid waste is brought onto the site and all operatives are instructed not to bring liquids in. All storage tanks for HVO, oils, and hydraulic fluids are double skinned and bunded to comply with the relevant regulations. These are inspected daily as part of the daily site check.

Within the on-site drainage system are oil and fuel interceptors, these are emptied monthly, except for the vehicle wash interceptor which is emptied and cleaned weekly. The contents of the interceptors are taken to an approved disposal site.

In the event of a minor spillage or leak, immediate action will be taken to cover the spillage in absorbent granules which will then be taken away from the site and disposed of via the councils licenced workshop waste material contactor.

In the event of a major spillage or leak, immediate action will be taken to contain the liquid. This will hopefully prevent the liquid from entering surface water drains, water courses or unsurfaced ground.

Spillage absorbent granules will be used to contain these spillages and delt with in the same way as with small spillages. Freighter House will inform, the EA of any incidents of significant leaks and spillages and a record of the event and all action taken will be recorded in the site diary.

HVO pumps have their own drainage/interceptor to contain any accidental spillages, this is emptied monthly and disposed of at a nominated treatment works.

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

All combustible waste is stored in a dedicated bay, according to the site management plan. Gas cylinders are stored safely in multiple ventilated external areas. The cylinders are stored on site until they are taken away for collection, which occurs as required on a regular basis.

Build up on dust on exhausts is prevented by sorting equipment, plant machinery and vehicle cleaning. There is a fully automated vehicle wash available on site, it is also fitted with an additional underbody wash system and hand lances. All vehicles are washed at least weekly. In the event that vehicles arrive on site with mud/debris adhering to the wheels and underside, they will pass through the wash before progressing in the depot.

WEEE, tyres and gas cylinders stored onsite are non-friable and so do not give rise to dust fibres or particulates. Street sweepings and fly-tipped material are stored in a covered bay. These materials do not contain significant amounts of dust or particulates and are generally damp in nature which will form a natural suppression system.

Spot checks are also completed as part of the daily checklist, to ensure the site is free from litter and debris. Any mud or debris found on site will be removed via mechanical sweepers, or if required road sweepers can be used on site to dampen down affected areas.

3.12 Reactions between wastes

The types of waste stored and treated on-site are unlikely to cause combustion through reactions with other wastes. Stringent waste acceptation criteria is adhered to and wastes are segregated and stored for minimal amount of time as set out in Table 3 below.

As mentioned above, batteries are not accepted at the site and measures are in place should batteries be found within accepted wastes.

3.13 Deposited hot loads

It is site policy that no hot loads will be accepted at this site.

In the event that hot loads are delivered to the site the materials would be directed the quarantine bay. Once in the bay the materials will be dosed and removed from site. In the event the materials start combusting and can't be dealt with on site the fire service will be called.

In any event the Environment Agency would be notified.

3.14 Hot and dry weather

To prevent over heating waste is stored for minimal periods of time and much shorter than the maximum permitted time of 6 months as set out in the Environment Agency guidance. The types of waste accepted and stored on site are unlikely to self heat and cause combustion. Baled plastic wastes are removed within 14 days as a maximum and baled metals are generally removed with 14 days with 2 months as an absolute maximum.

By minimising storage times of wastes (as per Table 2), the need to carry out temperature monitoring is not deemed to be necessary. The site is manned 7 days a week with regular checks undertaken on the wastes throughout the day and at the end of each shift.

In the event that the self heating of wastes was to occur the effected wastes will be removed to the quarantine area, dampened down and removed from site. The Environment Agency will be notified as required.

4 Prevent Self-Combustion

4.1 Manage storage time

The key storage areas are labelled on the map below and can be cross referenced in the table below. The following maximum storage time for the various waste types applies on the site. Waste dispatch procedures have been added for additional context and to clarify 'actual' timescales in practice.

Storage location and containment	General waste category	Max storage time	Waste dispatch procedure
Storage Bay 2	WEEE	1 month	Taken to a specialist recycling centre every 3-4 weeks.
	Fluorescent tubes	12 months	Taken to a specialist recycling centre every 12 months or when the container is 75% full.
20m³ container	Tyres	2 months	Removed when approximately 150-200 tyres have been collected.
Storage Bay 1	Street sweeping, cleansing and fly-tips	5 days	Material removed on a frequent basis (2-3 days) and taken to Winsford Way Transfer Station.
Storage bay 6 & 7	Glass recycling	7 days	Taken directly off site by an approved contractor.
Storage Bay 4	Paper recycling	7 days	This is picked up daily and sent for recycling.
Storage Bay 5	Plastic recycling	14 days	Processed by the MSF to produce commercial bales and removed every 5-7 days.
Storage Bay 11	Temporary storage bay	1 month	Items in overflow bay kept for 1 month maximum and rotated regularly to avoid odour.
Storage bay 8	Metal cans/tins recycling	14 days	Processed by the MSF to produce commercial bales and removed every 10-14 days.
Storage bay 9	MSF infeed bay	N/A	Material stored before heading to the MSF for baling.
Storage bay 10	Metal can/tin bales, steel can bales, aluminium can bales	1 month	Removed every 10-14 days.
MSF	Baled mixed plastic and plastic film	14 days	Removed every 10-14 days

Quarantine area	No waste to be stored within this bay		
Textiles storage container	Textiles	2 months	Removed by an approved contractor when as required, but not less than every 2 months.
Scrap metal skip	Scrap metal	2 months	Removed by an approved contractor when as required, but not less than every 2 months.
C storage areas	Gas cylinders	2 months	Removed when approximately 50-75 cylinders have been collected.

Table 3. Waste storage time

4.2 Monitor and control temperature

Section 8.2 of the FPP guidance states that wastes stored for more than 3 months require the monitoring of temperature. Due to the limited time waste is kept on site the monitoring the temperature of the wastes is not deemed to be necessary. Combustible wastes are stored for a maximum of 1 month with the majority of wastes removed form site within 14 days, with the exception of the fluorescent tubes and tyres. As the wastes are stored on site for less than 3 months there is no requirement for continuous or periodic monitoring of waste pile temperatures.

Whilst there is no monitoring of waste pile temperatures the site have appropriate measures in place to reduce the risk and limit the probability of waste self heating. These measures include the periodic checking of wastes through out the day including checks at the end of each shift. In addition, where possible and in the case of the baled metals and plastics the ‘first in and first out’ principle is followed this is to ensure the oldest wastes are removed from site prior to the acceptance of newer wastes.

5 Management of waste piles

5.1 Storing materials in their largest form

To minimise the risk of self-combustion waste is stored in its largest form. The treatments undertaken in the MSF are a continuous process, so items will not be stored for long periods before being baled.

Waste piles are carefully managed to:

- Help prevent the risk of self-combustion.
- Limit the scale of a fire if one breaks out.

As such, no waste is left loose in piles on the floor. Instead, all waste is handled according to its nature and sorted in the appropriate location. Table 4 below explains the process for each waste type processed by the site; Table 5 provides additional information on the maximum storage volumes and storage times for wastes on site.

Storage location and containment	General waste category	Process
Storage Bay 2	WEEE Fluorescent tubes	Waste is collected by CCC staff and vehicles (only if any food or putrescible matter has been removed) and transported to site. They are loaded into bay 2, large items stored on the floor of the bay and smaller items placed in cages supplied by the contractor. Collections are completed on a regular schedule with additional collections if cage capacity is reached. Fluorescent tubes are stored in a dedicated metal storage box which is housed within the WEEE storage area.
20m³ container	Tyres	Waste is collected by CCC staff and vehicles. Once they reach site they are transported directly to the 20m³ container. Collections are completed on a regular schedule with additional collections if the container exceeds 75% full.
Storage Bay 1	Street sweeping, street cleansing and fly-tips	Waste is collected by CCC staff and vehicles and transported to site where it is loaded into storage bay 1.
Storage bay 6 & 7	Glass recycling	Waste is collected by CCC staff and vehicles and transported to the site where it is placed into bays 6 and 7. Collections are completed on a regular schedule with additional collections if waste measures over the 100m³ maximum storage capacity.
Storage Bay 4	Paper recycling	Waste is collected by CCC staff and vehicles and transported to the site where it is placed into storage bay 4 (covered). Paper is collected for recycling daily.

Storage location and containment	General waste category	Process
Storage Bay 5	Plastic recycling & baled plastics	Waste is collected by CCC staff and vehicles and transported to the site where it is placed into bay 5 (covered). The plastic is then transferred to the MSF where it is sorted and baled. Baled plastics are returned to the storage bay prior to removal from the site.
Storage Bay 11	Temporary storage	Used in peak periods to store any overflow.
Storage bay 8	Metal can/tin recyclates	Waste is collected by CCC staff and vehicles and transported to the site where it is placed into bay 8. The metal cans are then transferred to bay 9 or straight to the MSF.
Storage bay 9	MSF infeed bay	Metal tins and cans from bay 8 are transferred here before entering the MSF to be baled.
Storage bay 10	Aluminium/steel bales	Baled items are stored here before being collected from the site.
Quarantine Area	No waste to be stored	Waste is only moved into the quarantine area if required, as set out in section 8 below.
Textiles container	Textiles	Bagged textiles items, removed as required by an approved contractor.
Metal skip	Scrap metal	Fly tipped scrap metal, removed as required by an approved contractor.
C1 Storage	Orphan Gas Bottles	Gas cylinders arriving with fly-tipped wastes. Supervisor will arrange collection when required. This is requested when the storage bays are approximately 75% full.
C2 Storage	Non-LPG Bottle	
C3 Storage	LPG Bottle	
C4 Storage	Oxygen Bottle	
C5 Storage	Acetylene Bottle	

Table 4. Waste processes

5.2 Maximum storage time

Freighter House enforces strict limits on how much of each waste can be stored onsite. The pile sizes for each type of waste collected and stored as set out in Table 5 below. The dimensions given below have accounted for (removed a 1m) as this is considered to be a freeboard distance in the front of each of the following bays; WEEE storage area, the street sweepings and fly tipped wastes, paper, plastics and the MSF bays.

Each of the pile sizes are considerably less than the maximum pile sizes stated under section 9.2 of the FPP guidance.

General waste category	Storage location and containment	Bay dimensions (length x width) m	Max storage quantity	Max storage time
WEEE	Storage Bay 2	6.3 x 10	100m³ / 5 tonnes	1 month
Fluorescent tubes		2.5 x 1.2 x 1.1	NA	12 months
Tyres	20m³ container	6 x 2.4	20m³ / 5 tonnes	2 months
Street sweeping, cleansing and fly-tips	Storage Bay 1	5.5 x 3	70m³ / 100 tonnes	5 days
Glass recycling	Storage bay 6 & 7	16.2 x 5	100m³ each	7 days
Paper recycling	Storage Bay 4	15.2 x 7	100m³	7 days
Plastic recycling	Storage Bay 5	15.2 x 7	100m³	14 days
Baled plastic and film			60m³	14 days
Spare Bay	Storage Bay 11	14 x 5	100m³	NA
Metal can/tin recycling	Storage Bay 8	14 x 6.4	100m³	14 days
MSF infeed bay	Storage Bay 9	12 x 6.4	100m³	NA
Metal can/tin bales	Storage Bay 10	25 x 4	100m³	1 month
Quarantine area	Quarantine area	15 x 4	NA	NA
Textiles	Textiles container (2 containers)	3 x 2.4	14m³ each	2 months

General waste category	Storage location and containment	Bay dimensions (length x width) m	Max storage quantity	Max storage time
Scrap metal	Scrap metal skip (40 yard RORO Skip)	6 x 2.4	40m^3	2 months
Orphan Gas Bottles	C1 Storage	NA	70m^3	2 months
Non-LPG Bottles	C2 Storage	NA		2 months
LPG Bottles	C3 Storage	NA		2 months
Oxygen Bottles	C4 Storage	NA		2 months
Acetylene Bottles	C5 Storage	NA		2 months

Table 5. Combustible wastes maximum storage quantity

6 Where maximum pile sizes do not apply

6.1 Waste stored in containers

6.1.1 Types of container

This site uses a shipping container for the storage of tyres and a dedicated metal storage box for florescence lights. Any incidental lithium batteries or lithium containing devices that are found during inspections of waste that's has arrived on site are stored in a fire-resistant sealed container. Once the container reaches 75% of its capacity the container is removed from site by an approved third party.

Two textiles storage containers are located at the site for the storage of textiles. Textiles are stored within the containers awaiting collection for off site processing. The containers are emptied as required but not kept on site for longer than 2 months.

6.1.2 Accessibility of containers

The entrance to the tyre container is accessible from the front in the event a that a fire breaks out and needs to be extinguished. Florescent lights aren't deemed to be flammable or pose a fire risk, however the storage container is located within the WEEE storage area and is at least 3m from the WEEE storage skip.

7 Prevent Fire Spreading

To ensure the site is safe the following precautions are taken to prevent the spreading of fires:

- Carefully planned site where storage bays and firewalls are utilised when a 6m separation distance cannot be achieved,
- Regular heat and visual checks,
- Careful monitoring and management of ignition sources and dust,
- Access to a fire hydrant with a flow rate of 21.83 l/s (opposite the entrance of Freighter House).

There are two main techniques utilised to prevent and minimise risk of fires from spreading: the incorporation of appropriate separation distances and firewalls/bays.

7.1 Separation Distances

No waste is stored within 6m of another waste pile except where separated by an appropriately constructed fire wall. The site utilises fire walls and storage bays due to the limited space on site, which makes it difficult for the 6m to be maintained between all waste piles, buildings and the site perimeter.

7.2 Fire walls construction standards

The majority of the bays on site are constructed using concrete 'A frame' fire walls or wall constructed with slotted wooden sleepers. The fire walls are constructed from reinforced concrete and are 4 inch thick with a base thickness of 7 inches. The rear of the bays are constructed from slotted concrete panels which form a tight seal, helping to preserve the quality of stored material while also limiting potential fire hazards. The concrete walls are fire rated to provide up to two hours of fire resistance. This provides valuable time for the fire service to respond, contain, and prevent the spread of fire across the site.

The construction of each bay is listed below

- Bay 1 - street sweepings and fly tipped waste – constructed with a mix of wooden sleepers (left wall, far right wall and rear) and concrete A-frame wall to separate the fly tipped wastes.
- Bay 2 – WEEE storage area – constructed with wooden sleepers
- Bay 4 – loose paper – constructed with concrete walls
- Bay 5 – loose plastics – constructed with concrete walls
- Bay 6/7 – glass - constructed with wooden sleepers
- Bay 8 – Loose metal (MSF inlet) – constructed with concrete walls
- Bay 9 – Loose materials (MSF inlet) – constructed with concrete walls
- Bay 10 – Baled cans – concrete wall between the baled waste and the MSF infeed bay.
- Bay 11 – Spare Bay - constructed with concrete walls
- Quarantine Area – shares a concrete wall with Bay 11

7.3 Storing waste in bays

The rotation of waste stored in bays is not deemed to be necessary due to the short duration the waste is stored within the bays prior to either removal to the MSF for baling or direct removal from the site.

The plastic and paper bays are marked with a maximum height marker of 3m, this allows for a sufficient freeboard of 1m. In addition, waste is not stored within 1m of the leading edge of each bay to limit risk of the spread of fire to adjacent bays.

In the event of a fire and providing it is safe to do so wastes can be removed from the bay storage areas to the quarantine area using onsite plant machinery.

8 Quarantine Area

A quarantine area has been set aside next to Bay 11, this area will be clearly marked out on the sites surface to ensure the are is kept clear of waste at all times. The location of the quarantine area is located on the site layout plan in Figure 2. The dimensions of the area are listed in Table 6 below. The Quarantine Bay has an overall area of 60m^2, which equates to a capacity of 120m^3 when considering a height of 2m. The total available volume within the quarantine area is greater than the requirement of holding *'at least 50% of the volume of the largest pile'* as set out in the Fire Prevention Plan Guidance.

The Quarantine Bay is surfaced with impermeable concrete and has concrete 'A-frame' walls on top of cast concrete blocks to the left hand side. The back of the Bay forms part of the site boundary, in order to conform with the requirements of the FPP any wastes that are to be quarantined will be stored away from the rear of the Bay. Whilst the 6m separation distance can't be met due to the constraints on site, it is deemed that the due to the nature of the wastes, small storage volumes and the short storage times of the wastes on site the risk is considered to be relatively low. Mitigation measures are in place these include the strict waste acceptance criteria along with the regular checking of wastes throughout the shift with additional checks undertaken at the end of each shift.

	Length (m)	Width (m)	Area (m^2)	Capacity (m^3)
Quarantine Area	15	4	60	120

Table 6: Quarantine Bay Dimensions

In addition, Bay 11 is a spare storage bay and should the situation arise and providing no waste is stored within the bay this could also be used as a quarantine area. There is ample storage space within the main yard area which can also be used as an additional quarantine area should the need arise to reduce the risk of fire spreading.

8.1 How to use the quarantine area if there's a fire

In the event of a fire the quarantine area will either be used to store wastes which are smouldering or alight using the on-site plant machinery. Or the quarantine area can be used to store waste from the bays which are adjacent to the impacted bay to prevent the fire from spreading. Activities on-site will be directed to minimise the risk of fire spreading.

8.2 Procedure to remove material stored temporarily if there's a fire

Non-quarantined waste will not be temporarily stored within the quarantine area. Site operatives have been made aware that the area is to be kept clear at all times for quarantine purposes.

9 Fires Detection, Suppression and Water supplies

9.1 Detection systems in use

Whilst there are no automatic fire detection systems in place at the site there are manual fire alarm points within the main office building, MSF building and within the waste storage area. The MSF is fitted with four smoke alarms which are fully integrated with the main fire alarm system. In the event of activation, they will trigger an audible alert to notify staff on-site and simultaneously send a signal to the CCTV team based at the Civic Centre. Once the CCTV team have been notified of an issue on site the site manager will be contacted along with the Fire Service, if required.

Additional measures include regular checks carried out on the waste storage areas throughout the days and at the end of each shift.

9.2 Fire suppressions systems

There are no automated fire detection or suppression systems associated with the waste storage or treatment areas at the site. The site has a number of alarm points located within the outside waste storage area and within the MSF building. In addition, there are fire extinguishers located at each alarm point, the fire extinguishers are suitable for the types of waste accepted, processed and stored on site.

Due to the low risk the site poses with the limited volume of waste stored on site at any one time an automatic detection system across the site isn't deemed to be necessary. It is deemed that there are sufficient measures in place at the site in order to meet the three objectives as set out in the FPP guidance. In addition, the site is located near a number of fire hydrants as listed within Section 9.4 below, the site is also located within an accessible area to allow the fire service to attend if required.

9.3 Firefighting techniques

In the event of a fire, all staff are trained in basic firefighting techniques. There are several techniques available to the team onsite, which should allow any fire to be extinguished within a reasonable timeframe. These include:

- Emergency lighting is provided to the officer area, changing rooms, vehicles workshops, warehouse/ storage area and the processing area.
- Manual fire extinguishing appliances have been provided throughout the main building areas and within the MSF building and various external areas across the site.
- Multiple fire hydrants are located on Drovers Way and connected to the mains water system (locations shown in figure 4).
- Multiple team members on site at any one time to assist if necessary.
- Materials can be moved to the quarantine area using the onsite JCB telehandler.

These options are available to staff, but would be considered if it is deemed safe to do so, staff are not expected to take unnecessary risks in tackling a fire. It is recommended that the fire department are called as soon as the fire is detected, and all firefighting is left to them.

9.4 Water supplies

The FPP guidance states that in the event of the worst-case scenario, which is considered to be the largest waste pile catching fire a water supply of 2,000 litres a minute for a minimum of 3 hours is required for a waste pile of 300m^3. The largest waste pile on site is considered to the plastic bay (Bay 5) as both unprocessed loose plastic and baled plastic are stored within this bay. The worse-case scenario would be considered as the maximum volume of loose and baled plastic being stored at the same time, which equates to 160m^3. This is a very unlikely scenario given that the baled plastic is removed from site after a maximum of 14 days.

The other largest waste piles on site is the paper bay in addition to the WEEE storage area. Each of these areas can store a maximum volume of 100m^3 as set out in Table 5 above. Based on a waste pile of 160m^3 the required water supply is calculated as below in Table 7.

Waste pile size	Water supply required (litres/minute)	Overall water supply (litres/3 hours)
160m^3	1,066	192,000

Table 7. Water Supply Calculation

The closest public fire hydrants to the site are shown on Figure 6 below (provided by email by Essex County Fire and Rescue on 19 August 2022) and are located along Drovers Way. These are supplied by 150mm water main supplied by Essex and Suffolk Water. Approximate measurements have been provided from the location of the fire hydrant to the entrance of the site.

A private hydrant is located next to the wheel wash at Freighter House.

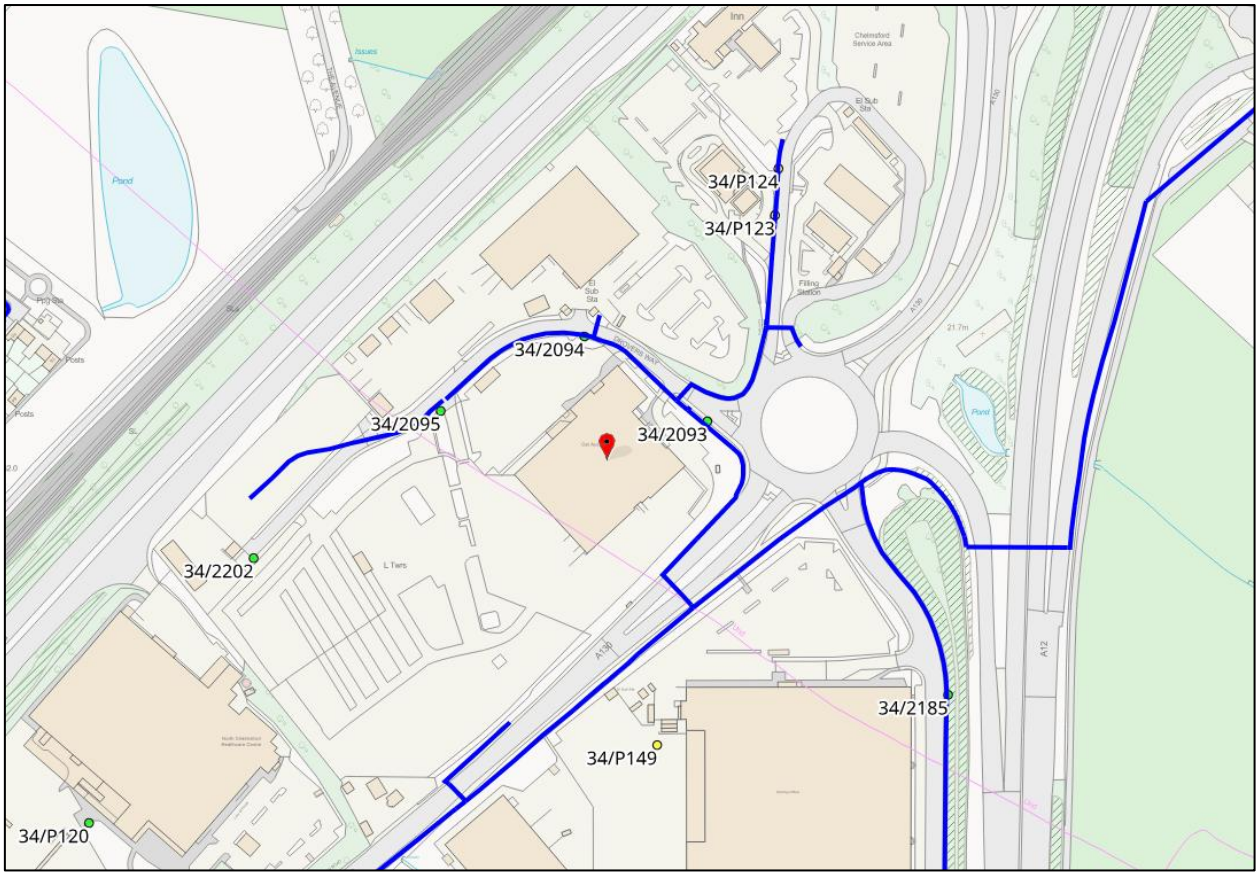

Figure 6: Fire Hydrant Location

Essex and Suffolk Water undertook flow rate test of the closest hydrant to the site on 23 December 2022. Details are provided below.

Description	Ref	Approximate distance to site (m)	Flow rate (l/min)	Flow rate (l/s)
Hydrant by Roundabout	34/2093	130	1,250	20.83
Opposite Freighter House Entrance	34/2094	<10	1,310	21.83
Next to Aston Barclay entrance	34/2095	115	1,280	21.33
Freighter House wheel wash	N/a	N/a	460	7.66

Table 8. Fire hydrant flow rates

Photos of the fire hydrant tests are included in Appendix 1.

Based on the flow rates of the fire hydrants a listed in Table 8 above, each of the hydrants has a flow rate exceeding the minimum volume of water required for the largest pile size of 160m^3 as calculated in Table 7 above. The washout valve at the wheel wash has a flow rate of 460l/min which is a sufficient water supply for a pile size of 69m^3 which is still greater than 50% of most pile sizes on site.

9.5 Managing fire water

The site is undertaking improvements to the onsite drainage provisions. Currently fire water from the outside storage areas is prevented from entering the site's surface water drainage network through the use of poly-booms which will be placed at the site entrance. Poly-booms will be laid in front of the drainage channels to prevent the ingress of fire water. There is a slight gradient at the site which will direct water towards the site entrance. The use of poly-booms will also allow water to collect in area to allow the fire water to be pumped and removed from the site for onward treatment and disposal.

Following the proposed improvements to the site which will include the addition of a catchment pit in the area outside of the street sweeping bay along with a drainage channel that will channel run off from the paper and plastic bays and from the front of the MSF infeed bays. The surface water will be channelled to a penstock valve which is located near to the site entrance. In the event of a fire the penstock can be closed to prevent fire water from entering the foul drainage network.

Time scales for the completion of the proposed works are set out in Section 11.

In the event of a fire within the MSF clay mats will be deployed, if safe to do so on top of the drains to prevent the ingress of firewater into the foul drainage network.

Anglian Water who provide the site with potable water and sewage services, have stated that providing that *'potable water has been used for fire water, we would be happy to accept this via the foul sewer as you have a trade effluent consent for the site, however we do ask that a sample is taken first to identify whether the discharge is compliant with your consent. If the sample shows it is acceptable then it can be discharged'.*

Prior to discharging fire water to the foul sewer the Operator would undertake sampling of the fire water to determine whether the fire water meets the consent limits within the trade effluent consent. If the limits are exceeded arrangements would be made to remove the fire water from the site and to dispose of it at a licensed facility.

9.5.1 Additional measures

9.5.1.1 Tankerage services

Chelmsford City Council have access to their own gully tanker which is kept at the Street Care Depot. This is a separate, secure yard located at the top of Droves Way. The vehicle is readily available when required, with trained drivers on hand to access and operate it promptly. This ensures that the tanker can be deployed quickly if needed in support of site safety, including in response to potential fire-related incidents to remove fire water and dispose of it at a licensed facility. The tanker has a capacity of 8.2m^3 (8,200 litres), in addition third party companies could be called upon should further capacity be required.

9.5.1.2 Assessing risks to groundwater from fire water

The site is not located in a high, medium-high, or medium risk ground water vulnerability area or within a groundwater special protection zone. There are no private drinking abstractions within 100m of the site. Furthermore the site is surfaced with impermeable concrete which is in good condition and regularly checked, as such there is little risk of fire water from entering the groundwater systems under the site.

10 During and After an Incident

10.1 Dealing with issues during a fire

Should a fire occur, all incoming waste will be redirected to an alternative waste station until the facility is restored. As Chelmsford County Council (CCC) are the collection authority and Essex County Council (ECC) are the disposal authority, ECC will inform CCC of where to divert any waste as part of their contingency planning.

10.2 Notifying residents and businesses

There are industrial areas bordering the site to the south and the north-east. Residential properties are approximately 100m away from the site to the east. There is a quarry 450m to the north of the site as well as leisure areas; a hotel 400m east and an event space/house at 700m. A mixture of agricultural and greenspace covers the remaining area surrounding the site. Should a fire occur that could impact these sensitive receptors, all residents and relevant people will be made aware of the situation where possible.

10.3 Clearing and decontamination after fire

- No waste will be brought to site during the site's cleanup, instead it will be transferred to a suitably permitted site as per section 9.1 above.
- If inert materials have been used to smother smouldering materials or used as part of the active firefighting measures, they will be removed by a registered carrier and taken to an appropriate facility for further treatment and processing.
- All fire water will be either be discharged to the foul sewer, if the testing confirms the firewater meets the parameters on the discharge consent. If not firewater will be collected and tankered away to a suitably permitted facility.
- All burnt waste should be cleared away and taken to a suitably permitted facility, waste may need to be tested to determine whether it is contaminated and ensure it is taken to the correct facility for disposal.

10.4 Making the site operational after a fire

A full investigation into how the fire started and how it can be avoided in future will need to be conducted before the site is made operational again. The site owner, Chelmsford County Council, have sufficient financial funds available to ensure investigation and set up is completed, ensuring the site is made operational in a timely and safe manner.

The following steps will be taken prior to recommencement of operations.

- Clearing of all burnt waste to an appropriate facility for disposal. It must be ascertained whether the flames, smoke, firewater, heat etc. has given rise to the waste having any hazardous properties.
- Inspection of areas of hardstanding and bays for damage. If any damage is noted it must be repaired before the area of hardstanding or bay is used for the containment of waste.

- Inspection of all drainage covers, if there is any concern that the drainage systems has become blocked during the firefighting this must be rectified prior to recommencement of operations.
- Replenish any fire equipment that has been used within the fire incident, for example if poly-booms have been utilised these must be replenished to ensure this equipment is always available.

Once all these steps have been undertaken the site can then recommence the acceptance of waste.

11 Planned future improvements

The site is committed to achieving the improvements to drainage within the outside waste storage area. Due to the expected costs of undertaking the required improvements and to satisfy procurement procedures quotes are being obtained from a number of contractors.

The scope of the required works are detailed within Table 9 below.

	Description	**Approximate cost (£/k)**	**Timeframe***
1	Drainage – addition of a catchpit for the street sweepings runoff	TBC	9-12 months 01/03/2026
2	Installation of a penstock valve	TBC	9-12 months 01/03/2026
3	Revised drainage plan	NA	On completion of the above works

Table 9: Future Improvement Works

*Note: Dates are assumed to start from June 2025 with overall completed anticipated in early/mid 2026

12 Appendix 1

By the roundabout 1,250L/min (20.83 l/s)

Opposite freighter house entrance 1,310L/min (21.83 l/s)

Next to Ashton Barclay entrance 1,280 L/min (21.33 l/s) Flow rate by vehicle wash 460 L/min (7.66 l/s)