FIRE PREVENTION & MITIGATION PLAN

Unit 27, Castle Park Industrial Estate, Flint, Flintshire, CH6 5XA

New Horizon Plastics Co Ltd

Version:	1.3	**Date:**	07 May 2020		
Doc. Ref:	CAS-2570-B	**Author(s):**	CP	**Checked:**	NHP
Client No:	2570	**Job No:**	4082		

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Document History:

Version	Issue date	Author	Checked	Description
1.0	22/11/2019	IA	CP	Internal draft
1.1	02/12/2019	IA/CP	NHP	Application copy
1.2	14/04/2020	CP	--	NRW comments; refer to Schedule 5 Notice response for amended sections
1.3	07/05/2020	CP	NHP	NRW comments; refer to Schedule 5 Notice (2) response for amended sections.

THIS DOCUMENT IS DUE FOR REVIEW IN **MAY 2022** OR AS A RESULT OF ANY INCIDENTS WHICH MAY LEAD TO THE REQUIREMENT FOR IMMEDIATE REVIEW, WHICHEVER IS THE SOONER

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Site Information & Key Contacts List

Site Address:	Unit 27, Castle Park Industrial Estate, Flint, Flintshire, CH6 5XA		
Site Operator:	New Horizon Plastics Co Ltd	**National Grid Ref:**	SJ 24398 73554

CONTACT	DESCRIPTION	OFFICE HOURS	OUT OF HOURS
Philip Thomas Yang Liu	Director / Site Manager Director / Site Manager	07730 402400 07792 482757	07730 402400 07792 482757
Yang Liu	Technically Competent Manager	07792 482757	07792 482757
Hollywood Community Hospital Halkyn Road, Holywell, CH8 7TZ	Local NHS Hospital (Main)	03000 850008	999
	Accident & Emergency (A&E)	999	999
Eyton Place Surgery Flint Health and Wellbeing Centre, Earls Street, Flint, Flintshire, CH6 5ER	Local Doctor Surgery (GP)	0117 9661412	999 or 112
North Wales Police 26 Wepre Drive, Connah's Quay, Deeside, CH5 4HA	Local Police Non-Emergency	01275 818340	999 or 112
North Wales Fire & Rescue Service Gorsaf Dân (Flint) Fire Station, Chester Street, Flint, Flintshire, CH6 5DH	Fire and Rescue Service (in Emergency Dial 999)	01352 732777	999 or 112
Natural Resources Wales (Nearest Office) Chester Road, Buckley, CH7 3AG	Environmental Regulator	0300 065 3000	0300 065 3000
Flint Town Council Council House, Victoria Square, Birmingham B1 1BB	Local General Enquiries	01352 734414	999 or 112
Flintshire County Council County Hall, Mold, Flintshire, CH7 6NF	Local General Enquires	01352 703234	999 or 112
Dwr Cymru (Welsh) Water	Mains water and sewerage supplier	0800 052 0130	0800 783 4444
Oaktree Environmental Ltd - Lime House, 2 Road 2, Winsford, Cheshire CW7 3QZ	Specialist Advisor (Waste and Planning Issues)	01606 558833	999 or 112 or

1 Introduction

1.1 Overview of site operations

1.1.1 This document considers the risks associated with fire on site at Unit 27, Castle Park Industrial Estate, Flint, Flintshire, CH6 5XA. The site will be operated predominantly as a physical treatment facility for non-hazardous plastic waste.

1.2 Fire prevention objectives

1.2.1 This Fire Prevention & Mitigation Plan (FPMP) has been produced in accordance with Natural Resources Wales' (NRW) - Waste Management; Guidance Note 16 published July 2017 to:

- Minimise the likelihood of a fire;
- Reduce impact from emissions during or after a fire on the local community, critical infrastructure and the environment;
- Ensure suitable resources required by the NRW and other emergency responders are available during an incident; and,
- Identify post incident clean-up and remediation costs.

1.3 General site information

1.3.1 This document considers the risks associated with fire on site at Unit 27, Castle Park Industrial Estate, Flint, Flintshire, CH6 5XA. The site will be operated by New Horizon Plastics Co Ltd (the operator) as waste transfer and treatment facility specialising in the accepting, storage and processing of waste plastic for recovery.

1.3.2 The recycling centre will allow for the sorting, storage and treatment of plastic waste to provide feedstock to manufacturers using recycled product such as granulated or flaked plastic or other recycling companies for further recovery. Residual waste will be sent to an appropriately permitted site for further recycling. The site will not be open to the general public for the deposit of waste.

1.3.3 In addition to this document the site is managed and operated in accordance with a fully comprehensive Environmental Management System (EMS); also prepared Oaktree Environmental Ltd and reference should be made to Document Ref. CAS-2570-A for its content. In summary the main operations which take place at the site are as follows:

- Compaction (by baler, loading shovel, 360° excavator or compactor bin)
- Manual sorting/separation (with loading shovel, 360° excavator or by hand)
- Mechanical sorting/separation/screening by using appropriate mechanical screening plant and equipment)
- Drying (by dehydrator)
- Crushing (by using appropriate mechanical plant)
- Washing (by processing plant / equipment)
- Shredding (by processing plant / equipment)
- Granulating (by processing plant / equipment)
- Baling (by use of balers)

1.3.4 The layout of the site is shown on Drawing No. CAS/2570/03 which appears in Appendix I of this document. This FPMP document will be kept in the site office located as shown on Drawing No. CAS/2570/03.

1.3.5 This FPMP will also be located in the Emergency Services Box (ESB) located near the site entrance as shown on Drawing No. CAS/2570/03 in Appendix I. The ESB will also contain contact numbers for immediate receptors who could be in danger if a large fire broke out at the site. The receptors are shown on Drawing No. CAS/2570/04 in Appendix I and table 9.1 and in the event of a fire, the Fire & Rescue Service (FRS) and NRW would be able to view this FPMP to ensure the actions set out are implemented to meet the objectives shown in section 1.1.1

1.3.6 The site also has a contract set up with a Fire Risk Consultant who review and visit the site every 12 months. The most recent Fire Risk Assessment was undertaken on 16/10/2019 and is included in Appendix III of this FPMP.

1.4 Staffing and management

1.4.1 The table below details the minimum staff requirements when the site is open for the reception of waste and, therefore, shows the minimum number of staff available to tackle a fire on site during operational hours. Only the site manager, machine/plant operators and general operatives will be permitted to tackle fires on-site.

Table 1.1 - Staffing Levels

Position	Employees	Responsibilities
Site & Technically Competent Manager	1	Ensuring that the site is being operated in accordance with the Environmental Permit and in-line with attendant regulations
Administrative Staff	1	Office/administrative duties
Machine / Plant Operators / Operatives	2	Waste handling/processing, reception and plant operation

1.4.2 All operational staff and contractors must be aware and understand the contents of the Fire Prevention & Mitigation Plan (FPMP) and its location in order to respond and action the proposals set out in this FPMP to ensure the three objectives in Section 1.1.1 are met.

1.5 Plant and equipment

1.5.1 The table below details the plant/equipment on site. Only trained operators will be permitted to drive/operate the plant/equipment listed below.

Table 1.2 - Plant and Equipment

Item	Number	Function
Fork lift	1	Loading/unloading/movement/sorting
Telehandler	1	Importing / exporting material
Treatment Plant comprising hopper, shaker screen, dehydrator, shredder and crusher	5	Shredding/crushing/size reduction of waste
Friction cleaner	1	Removal of constituents from plastic waste
Baler	1	Compaction/baling of waste

1.6 Hours of operation

1.6.1 The site will be operated 24/7 and there will always be a minimum of two members of staff on site during operational hours with the maximum being 12 when a full capacity.

1.7 Correspondence with Fire and Rescue Service

1.7.1 North Wales Fire & Rescue Service (FRS) and Welsh Water were contacted in the preparation of the latest FPMP review with a view to obtaining details regarding the nearest hydrants in the proximity of the site and also their projected water supply in the event of an incident.

1.7.2 New Horizon Plastics Co Ltd will seek a response from the NRW and FRS should a fire incident occur or any major site, infrastructure or operational changes with regards to their FPMP and associated operations on site. Regular correspondence will ensure all measures to prevent, mitigate and contain fires on site are up to date and deemed sufficient by the FRS.

1.8 Sensitive receptors

1.8.1 Reference should be made to Drawing No. CAS/2570/04 in Appendix I to highlight all key receptors within 1,000m of the site. The nearest residential receptor is over 230m from the site on Castle Dyke Street.

1.8.2 To minimise the impact on the local area and associated receptors from a fire on site, this document details mitigation measures which will decrease the likelihood of a fire occurring on site and limit the size and duration of a fire if it does occur (as per Section 1.1 above). These measures will ensure the potential impact on any of the surrounding land is as minimal as practicably possible.

1.8.3 The primary sensitive receptors for any fire event would be the site itself and any site users and the adjacent sites and its users.

2 Managing common causes of fire

2.1 Details

2.1.1 The following list outlines common causes of fire and outlines specific examples of these sources, the associated risks and any mitigation measures necessary to manage them:

Source	Risk	Specific mitigation
Arson or vandalism	Deliberate ignition of wastes by intruder(s) and/or vandalism of site infrastructure, plant and/or machinery which may give rise to malfunction or compromise the integrity of waste storage/containment measures	Site security measures are detailed in Section 2.8.
Mobile plant/ equipment	e.g. spillages of fuel, sparks from machinery or malfunction caused by ineffective maintenance	Mobile plant/equipment will be kept 6m of combustible waste out-of-hours and each item will be visually inspected prior to use for the presence of leaks and its suitability. All plant / equipment undergoes a preventative maintenance checklist as shown in Sections 2.6-2.7.
Electrical appliances and cabling	Faulty appliances or damaged/ exposed electrical cables may spark as a result of a power surge	All electrics on site are fully certified by a qualified electrician and with written procedures in place that set out the regular maintenance. Any potential ignition sources from suspected electrical faults should be isolated and an electrician should be contacted immediately to rectify the situation. Where possible, staff should immediately remove any stored wastes from the vicinity of the fault area or cable traverse if safe to do so.
Discarded smoking materials	Risk of ignition of stored wastes from smoking materials which have not been fully distinguished	The main operational site has a strict no smoking policy.
Gas canisters	e.g. gas cylinders, fuel tanks, aerosols or combustible liquids and chemicals on site.	There is no gas or gas cylinders on site; any found will be removed from site immediately.
Open burning on site or on adjacent sites	Risk of ignition from radiative heat or flaming from open burning on site or an adjacent sites	Open burning is strictly prohibited at the site. Staff are trained regarding the implications if they are found to be carrying out this operation.

Source	Risk	Specific mitigation
Overheating of stored waste	sources of heat may include heating pipes, hot exhausts, light bulbs, space heaters or direct	Stored wastes will be visual inspected throughout the day and turned as necessary to prevent the formation of 'hot spots'.
Sparks from loading buckets/shovels	Scraping of loading buckets/shovels causing sparks which may ignite stored wastes	Fire extinguishers are fitted in the cab of all loading plant.
Hot works	e.g. welding, soldering, cutting, etc. which involve the use of high temperature equipment which may be a source of both primary and residual heat to stored wastes	Any hot works which take place will be in the quarantine area and procedures for hot works are shown in Section 2.4.
Industrial heating	Industrial heaters and/or pipework used to heat internal and external areas on site which may, in turn, supply heat to stored wastes increasing the risk of combustion	There are no industrial heaters (or associated pipework) used at the site.
Hot exhausts	Potential source of both primary and residual heat to stored wastes	Hot exhausts will be kept 6m from combustible waste piles. Staff will be trained and made aware of the risk. The site manager will constantly monitor operational staff/plant to ensure a 6m distance is maintained.
Loose material build up around plant/machinery and exhausts	Light waste and ambient particulates with high combustibility settling and building up in key areas in and around plant/machinery and around exhausts	Plant / equipment is monitored daily as per the checklist and dedicated site staff using cleaning agents to keep the areas around plant and equipment clear of debris. Shift teams at end of each shift clean the area around the equipment they have been working on and ensure the equipment is clear all debris and material.
Hot loads	Imported wastes which may contain materials which are above ambient temperature	All loads are inspected in accordance with strict waste acceptance procedures. If such loads arrive at site they are intercepted by site operatives who will refuse the acceptance of the waste. If found following tipping, they will be consigned to the quarantine area to ensure the material does not pose a concern/fire risk to the site. The material will if required be treated to ensure the risk of fire is completely negated.
Overhead power lines	Any overhead power lines on or around the site may ignite in the event of a fire and worsen the effects	There are no overhead power lines which traverse the site.
Other combustible non-waste materials on or near the site not mentioned above	Any combustible non-waste materials on or near the site may ignite in the event of a fire and worsen the effects	Apart from those sources and risks mentioned in the table above (or elsewhere in this FPMP), there are no other combustible non-waste materials/liquids/gases on or near the site other than those which will be rejected.

Source	Risk	Specific mitigation
Batteries within waste deposits	Ignition of stored wastes via batteries within imported wastes	All loads are inspected in accordance with our waste acceptance procedures. If any wastes are identified as containing batteries these will intercepted by site operatives who will separate them from the waste pile and place them into quarantine. There will be no ELVs accepted at the site.
Visitors or contractors	Misuse of site, plant or machinery, not adhering to site rules	All visitors/contractors allowed onto site will be provided with site induction training and/or be escorted around the site by a site manager (depending on the nature of their visit and scope of works) to ensure site rules are adhered to in full and that they are aware of the potential fire risks of the site and associated plant, machinery and infrastructure. Appropriate risk assessments and full inductions (including training in this FPMP document) will be carried out for contractors undertaking work at the site where supervision from site management in not required or is not feasible.
Reaction between wastes	Combustible waste piles may ignite in the event of a fire and worsen the effects if wastes react	All wastes will have been sorted at source or on site before being placed into separated stockpiles. Waste will either be contained within bays / containers or have a separation distance. All loads are inspected in accordance with our waste acceptance procedures and all wastes will be visually inspected throughout the day.
Cylinders stored at site	Interaction with burning or reactive waste and causing a larger fire event	Any cylinders to be stored on site will be kept within a locked cage with a suitable distance from any combustible wastes.
“Tramp” metal	Metal could be hot from mechanical processing and interact with lighter waste causing a fire	The treatment plants will have an overband magnet present and deposited into a separate skip which will remove any tramp metal from the waste.
Leaks and spillages	Interaction with burning or reactive waste and causing a larger fire event	All flammable liquids will be contained and stored within a bunded area. Any leaks or spillages cleared immediately by depositing sand or absorbents on the affected area and removed to the quarantine area or to a dedicated quarantine skip to await removal to a suitably permitted facility. There will be no ELVs accepted on site.

2.2 Fuel storage

2.2.1 There is a 3,000 litre red diesel situated on site as shown on Drawing No. CAS/2570/03 and the following ensure tanks do not cause a fire risk at the site:

- Tanks are surrounded by a bund capable of containing a minimum of 110% of the volume of fuel stored in the tank.
- All pipework and associated infrastructure will be enclosed within the bund.
- A lock will be fitted to the tank valve to prevent unauthorised operation.
- All valves and gauges on the bund will be constructed to prevent damage caused by frost.
- The tank is stored 6m away from any waste processing equipment.

2.2.2 The tanks will be clearly marked showing the product within and also its capacity.

2.3 Other hazardous (non-waste) material storage

2.3.1 The site will not store any gas cylinders, aerosols, oils, diesel or other combustible liquids and there will be no chemicals present on site. In the event the site needs to store any of these materials they will be stored in a suitable area and this FPMP will be updated accordingly.

2.4 Hot works procedure

2.4.1 The following procedures are implemented at the site:

- Check that hot work is required or could you use an alternative (drill and bolt etc.)
- If hot work is ABSOLUTELY ESSENTIAL can the equipment be removed to the workshop for welding? If not and there is ABSOLUTELY NO ALTERNATIVE follow as below;
- Clear the area of all flammables. The “area” is the distance around you which could be affected by sparks or heat. If practical this should be 10m around the welding site

- There will be occasions when removal of all flammables within 10m will not be possible i.e. grease in bearings, then you must shield flammables as far as is practicable with screens or non-flammable materials such as fire blankets or sand.
- Ensure you have TWO fire extinguishers to hand. The type would depend on your working environment but generally a CO_2 and a Powder extinguisher would be suitable.
- When you are ready to setup you will need to get a key to unlock the welding equipment from the Site Engineer.
- When you are set up you must get the site supervisor or manager to check your preparation.
- If they are happy, they will sign your permit which should be displayed and you can proceed.
- Ensure you have used screens to shield bystanders from sparks and welding flash.
- During welding your observer should remain with you at all times and be constantly checking the area for sparks or signs of fire.
- When the work is complete again check for fire and if all looks OK, note the time the hot work finished on the permit.
- Check again for fire for at least 30 minutes and if all is clear, the permit must be signed off as cancelled. This would usually be by the person who authorised it, but may be another person authorised by site management to do so.
- Hot work in the workshop requires one permit per person for each day.

2.5 Smoking policy (including E-cigarettes)

2.5.1 Employees who wish to smoke may do so in their own time during lunch breaks. Employees will not be permitted to smoke whilst carrying out their duties and responsibilities SMOKING IS ONLY PERMITTED IN THE DESIGNATED SMOKING AREAS as shown on Drawing No. CAS/2570/03.

2.5.2 Managers will be responsible for the promotion and maintenance of the policy by their staff. Managers will receive training and guidance regarding their responsibilities in relation to the policy and enforcement of it.

2.5.3 Employees should inform the appropriate manager of anyone who fails to comply with the policy.

2.5.4 Employees not complying with the policy will be referred to their manager for support subject to the usual disciplinary procedure.

2.5.5 Visitors not adhering to the policy will be asked to comply or leave the premises or site

2.5.6 All job applicants will be made aware of the policy via application packs, where a requirement to abide by it will be part of the person specification. Applicants will be reminded of the policy at interview stage.

2.5.7 A copy of the policy will form part of new employees' induction packs. Training and guidance on enforcing the policy will from part of new managers' induction process.

2.5.8 The policy will be reviewed every 12 months.

2.6 Preventative Maintenance

2.6.1 All items of plant and equipment listed in Section 1.5 (and any additional items of plant which may be hired in to cover busier periods) are subject to preventative maintenance checks to ensure their safe operation and to prevent any potential situations which may give rise to faults or malfunction. A Preventative Maintenance Checklist is shown in Appendix II of this FPMP which can be referenced by the operator.

2.6.2 Much of the plant and equipment on site and all vehicles in the fleet are subject to annual manufacturer maintenance to ensure proper working order in the form of service contracts. Site management will undertake or delegate additional preventative maintenance checks on a more frequent basis to ensure i.e. daily, before, during and at the end of each working day to ensure (where possible) the machinery is mechanically sound. These checks will be carried out using the Preventative Maintenance Checklist and any results which are flagged as needing attention will also be recorded in the site diary.

2.7 Plant and Equipment

2.7.1 External separation distances of 6m will be observed between plant and stored material when the site is not staffed.

2.7.2 **Out-of-hours** – there are 5 lines and three days a month a line will be shut down for a full maintenance check for 2/3 days; the other lines will keep running during this time but it is proposed to operate the site on a 24/7 basis. The out-of-hours will be before the start and end of each shift team which may be between 30 minutes – 1 hour or if the site had to close for due to an emergency situation.

2.7.3 Within the 30 minutes – 1-hour period, there is ample time to inspect the equipment for any dust/fluff which will be removed using hoses or brushes and deposited into a mobile refuse/trade waste bin (emptied weekly). Plant which is not in use for any extended period and in any event at the end of the working day will be stored at least 6 metres from combustible wastes in the area shown on Drawing No. CAS/2570/03.

2.7.4 The locations of processing plant incusing routing and out-of-hours for mobile plant are clearly shown on Drawing No. CAS/2570/03.

2.7.5 All mobile plant and equipment will be fitted with fire extinguishers in the cab. For bucket loaders, rubber strips are not considered appropriate as they are usually removed via uneven and bumpy ground.

2.7.6 Fuels and combustible liquids from site vehicles will be checked prior to commencement of operations then ongoing throughout the day ensuring each vehicle has undergone the relevant inspection for the presence of leakages.

2.7.7 If spillages are reported or found on site following inspections, they will be cleared immediately by depositing sand or absorbents on the affected area and removed to the quarantine area or to a dedicated quarantine skip to await removal to a suitably permitted

2.8 Site security

2.8.1 As shown on Drawing No. CAS/2570/03, the boundary of the site is protected from unauthorised access comprising palisade fencing. The two site access gates are of steel construction and are lockable should the site be left unmanned at any time, to prevent unauthorised vehicular or pedestrian access.

2.8.2 The site benefits from 24-hour security and has remotely accessible CCTV fitted with full site coverage and off-site supervision. The CCTV system is linked to a third-party monitoring company CMS Security who will view any footage in the event an alarm and notify the site manager / TCM in any incidents who can take appropriate actions depending on the scale of the incident.

2.8.3 The site security infrastructure will be inspected on a daily basis and any defects which impair the effectiveness of the security will be repaired to the same or better standard within 7 working days. All repairs will be noted on the site diary within 24 hours of the event. The checklist in the Annex provides further information.

2.8.4 The security measures at the site are under constant daily review under the site's inspection regime. If unauthorised access becomes apparent as a problem at the site the security measures will be reviewed and improvements implemented.

2.9 Electrical faults or damaged/exposed electrical cables

2.9.1 All fixed wiring electrical cabling on site will be inspected daily by staff and serviced in accordance with Legislation (3/5 years) by fully qualified and certified electrical contractors to undertake both Planned Preventative Maintenance and Reactive Maintenance (under contract) of the following:

a) Fire detection & alarm system;
b) Emergency lighting;
c) Machinery checks / services (as per manufacturers' instructions).

2.9.2 In terms of portable appliance testing (PAT), this will be serviced annually by qualified and certified electrical contractors.

2.9.3 Daily inspections of cabling, etc. will be undertaken and the daily Fire Checklist can be used as a reference. Any potential ignition sources from suspected electrical faults will be isolated and the appointed electrical contractors will be contacted immediately to rectify the situation. Where possible, staff will immediately remove any stored wastes from the vicinity of the fault area or cable traverse if safe to do so.

3 Waste acceptance

3.1.1 Strict waste acceptance procedures are in place at the site and detailed in the site's EMS. Details of when the waste was accepted, how long waste has been on site and how long other separated wastes are stored prior to removal from the site will be stored. This will ensure compliance with the maximum storage duration for specific wastes (as shown on the Waste Storage Table on the Site Layout and Fire Plan).

3.1.2 The following details will be recorded for every load deposited at the site:

a) The date and time of delivery.
b) The name and address of the waste producer.
c) The detailed and accurate description of the waste including type, quantity (in tonnes and/or cubic metres) and EWC codes.
d) How the waste is contained e.g. loose, container type.
e) The carrier's name and address.
f) Driver's name, signature and vehicle registration No.
g) Signature or initials of person(s) producing/ accepting/ inspecting/ carrying the waste.
h) Additional handling details/notes made by the driver after inspection of the load.
i) SIC code of the premises which produced the waste (where relevant).
j) Waste hierarchy declaration.
k) Information on previous treatment of the waste e.g. manual or mechanical.

3.1.3 Any wastes identified during the incoming waste inspections which do not conform to site acceptance criteria will not be accepted and/or removed and quarantined immediately to await safe removal from site. The NRW will be contacted (where necessary) if the non-conforming waste discovered is likely to lead to a breach of permit conditions.

3.2 Combustible waste reception

3.2.1 Incoming combustible wastes will be tipped inside the bay in the external yard area of the site and will consist of plastic packaging waste from a variety of sources to enable production of PRN's.

3.2.2 The above wastes will be tipped into **AREA 1** for initial inspection, sorting and bulking prior to loading into the processing areas internally as demonstrated on Drawing No. CAS/2570/03.

3.2.3 In the event of **AREA 1** being at full capacity, the waste will be tipped in **AREAS 2** which will act as the overflow storage bay, it is envisaged this bay will be empty during operational hours.

3.2.4 If material is not suitable for processing following an initial sort, it will be removed from site within the timescales shown in Table 4.1.

3.3 Combustible waste daily acceptance

3.3.1 The site will accept a maximum of 125 tonnes over a 24-hour period. Each of the five lines and the shredder can process 2 tonnes an hour at full capacity (<50 tonnes / 24 hours) meaning there will never be a backlog of storage in the external yard. This ensure wastes should never be stored for longer than a 12-hour period which in reality will be a lot less if all lines are running.

4 Managing waste storage to prevent self-combustion and the fire spreading

4.1 Managing storage time

4.1.1 Combustible waste will be stored as shown on Drawing No. CAS/2570/03 and reference should be made to the 'waste storage table' in Section 4.3 which demonstrates how the waste will be stored within the guidelines of the NRW's FPMP document.

4.1.2 The operator will store waste materials in their largest form and minimise pile sizes wherever possible.

4.1.3 Fire break distances and pile locations are also shown on Drawing No. CAS/2570/03 and the surface areas and dimensions of each storage area is provided in the waste storage table in Section 4.3. All pile sizes, heights, widths, lengths, volumes and separation distances are in accordance with the NRW's FPMP guidance document.

4.1.4 The aim of the site is to process the incoming material and arrange for its export off site as soon as practicably possible, to minimise over-stocking which in-turn minimises the risk of overheating and spontaneous combustion. Therefore, the maximum storage times in the table are considered conservative to allow for market fluctuations, downtime, etc.

4.1.5 Storage on flat ground: Site surfaces where wastes are to be stored are flat, therefore reducing the risk of falling materials accelerating the spread of fire.

4.2 Monitoring and control of temperature

4.2.1 A requirement exists to ensure that temperatures of waste piles, both processed and unprocessed, are monitored and recorded. Decomposition of various waste piles can generate sufficient heat that the material may spontaneously combust.

4.2.2 The waste material to be monitored for temperature will include but not be limited to:

a) Separated loose recyclable plastics (shredder feed pile stored inside the building)
b) Incoming mixed recyclable wastes (External storage within a bay)

4.2.3 Material listed above will be monitored for temperature periodically, using either a metre-long temperature probe and/or a hand-held thermographic (thermal imaging) device.

4.2.4 Temperatures will be recorded on the designated temperature monitoring form in Appendix II of this document. The following information should be recorded:

a) Date
b) Waste Type
c) Lowest Temperature & highest temperature (°C)
d) Type of temperature recording (Probe or Thermographic)
e) Any relevant comments regarding the waste type (e.g. physical condition, steam etc.)

4.2.5 The completed temperature monitoring form should be returned to the site office for filing. Files must be retained for a minimum of 3 years.

4.2.6 No waste will be stored internally when the site is not operational.

4.3 Waste storage table

4.3.1 The table overleaf is a summary of the waste storage table which is shown on Drawing No. CAS/2570/03 and details maximum pile sizes and duration for wastes stored on site.

Table 4.1 - Combustible waste storage table

Storage Area Details Combustible Wastes											
Plan Ref	**Description**	**Storage form/ containment**	**Height & width of firewall (m)**	**Max Length / Width (m)**	**Height (m)**	**Approx. Area (m2)**	**Conversion factor used**	**Volume (m3)**	**Tonnes (approx.)**	**Operational storage hours**	**Max Duration of storage (worst case scenario)**
AREA 1	Plastic tipping, bulking and sorting area	Loose and baled inside 3-sided concrete legio block fire wall bay	4.0m x 0.6m	10	3	100	0.5	150	50 - 100	<1 hour	<72 hours
AREA 2	Plastic tipping, bulking and sorting area (Overflow Bay)	Loose and baled inside 3-sided concrete legio block fire wall bay	4.0m x 0.6m	10	3	100	0.5	150	50 - 100	<1 hour	<72 hours
TOTAL								**300**	**200**		

Table 4.2 - Combustible non-waste storage table

Storage Area Details Combustible Wastes											
Plan Ref	**Description**	**Storage form/ containment**	**Height & width of firewall (m)**	**Max Length / Width (m)**	**Height (m)**	**Approx. Area (m2)**	**Conversion factor used**	**Volume (m3)**	**Tonnes (approx.)**	**Operational storage hours**	**Max Duration of storage (worst case scenario)**
AREA 3	Plastic flake, pellets and bales	Bagged / baled	4.0m x 0.6m	15	1	40	1	40	40	<1 hour	<72 hours
TOTAL								**40**	**40**		

5 Managing waste piles

5.1 Areas 1 & 2 – Tipping, bulking and sorting area

5.1.1 The areas measure 10m x 10m and benefit from a sealed impermeable concrete floor and containment via a 4.0m high legio block concrete fire wall.

5.1.2 The building will only contain waste during times when it is loaded into processing plant as once waste has been subject to the treatment methods, it will cease to become waste.

5.2 Stored combustible waste/materials

5.2.1 The following list outlines the materials which have been identified on site as having combustible potential.

a) Baled and loose recyclable plastic waste.
b) Rejected /by-product wastes unsuitable for processing or arising from processing

5.2.2 **AREA 3** - Once the plastic has been fed through the treatment process, the operator will claim non-waste status on the material by way of a PRN or for re-use in the UK. Although the material is combustible, it presents a very low risk of combustion and will not undergo stringent monitoring as per the table shown in the next section.

5.2.3 The table below details the wastes stored on site and procedures to reduce the risk of combustion/ignition in line with the NRW's FPMP guidance (reference should be made to the Layout & fire Plan in Appendix 1 for details and locations for each of the storage areas):

Pile Ref:	Storage/monitoring procedures to reduce the risk of fire
AREAS 1 & 2 Plastic tipping, bulking and sorting area	• Plastic will be delivered to the site loose or baled. • The waste will be tipped at the front of the stockpile and then extracted from the rear of the stockpile to ensure the first in first out principle will apply. • Due to the processing capacity of the 5 no. processing lines, it is envisaged the waste will not be stored for longer than 1 hour meaning the stockpile is therefore dynamic. • A maximum of 72 hours has been provided as a worst-case scenario in the event of a breakdown or plant malfunctions. • Waste is stored within 4.0m high x 0.6m legio block bays with a suitable 1m freeboard. • The bays are visually monitored throughout the day and are subject to strict waste acceptance procedures by personnel who will be trained via toolbox talks in recognition of fire. • Apart from the use of loading equipment no other mechanical processing of waste takes place within 6m of waste piles. • In addition to the CCTV, the waste will be visually monitored throughout the day by site operatives using a mixture of thermal imagery by camera and temperature probe. • There is no waste stored within 6m to the building exteriors. • As the waste delivered may be baled, in addition to the daily visual monitoring by staff, a temperature reading of the surface and centre of the bale will be taken at least once during the day by using thermal imagery and probe. The bales will be broken prior to importation into the processing lines so using the telehandler, this a means a representative sample of the waste including bales can be obtained. • If a temperature of above 75^0C is recorded, the waste will be transferred into the quarantine area, broken and doused with water until the temperature has reduced. The other bales will then be re-assessed using the same monitoring techniques.

5.3 Waste stored in containers

5.3.1 The site will not store any waste material in containers.

5.4 Temperature monitoring for stored waste

5.4.1 In addition to the above tables, the risk of fire may be reduced via the visual monitoring of wastes, moisture control (i.e. regular wetting down of wastes to reduce heat of stored wastes) and the regular rotation of bales/wastes stored in bays to ensure dissipation of heat if considered appropriate by the TCM/site manager.

5.4.2 **External Heating / Temperature Monitoring of external piles** - Hot spots will be detected and controlled with the use of a temperature probe and thermal imagery. The specification of the probe and thermal imagery will be as follows:

- 'K' Heavy Duty Reduced Tip Penetration Probe Ø9.5 x 1400mm
- FLIR E4 Thermal Imaging Camera, Temp Range: -20 → +250 °C 80 x 60 pixel

5.4.3 As detailed in section 3.3.1, the waste stored externally will be constantly moved throughout the day and it is not envisaged that waste would be stored longer than 12 hours or much sooner. The 72 hours would be a worst-case scenario i.e. site shutdown in an emergency situation where the above procedures shown in sections 5.4.1 – 5.4.2 would take place.

5.4.4 **Infra-Red / Heat Detection System inside building** – The system is installed by a UKAS accredited installer which is connected to CMS security company and consists 3 no. cameras shown on Drawing No. CAS/2570/03. The system has a set trigger temperature and due to continuous movements inside the building, the system will regularly log a call to the monitoring centre who can view and contact the operator to see whether or not it was a false alarm. For waste storage, the trigger temperature is set at 65^{o}C however it is envisaged that there will no storage of any waste inside the building other than when it is being fed into the processing plants.

5.4.5 **Processing plant -** All processing lines are installed with heat and pressure ranges which have been set by the manufacturer and the lines benefit from an automated cooling system in the event the plant overheats. The control panel system is linked to the manufacturers via 4G Sim Cards who are immediately alerted by the plants control panel system and the Company can remotely access machinery to identify the fault and also shut down if necessary.

5.5 Stock rotation and seasonal variations

5.5.1 Details of stock rotation are clearly shown throughout the above sections wastes which are stored and processed on site. In the event of destination site closures or seasonal demands for wastes leading to a longer storage duration, the operator can:

- Source additional mobile plant i.e. shredders, balers to size reduce the material in order to export off site quicker.
- Divert incoming waste and send stored waste to alternative sites. The operator can search for additional site's using NRWs public register for alternative sites who could take this material or they would contact the destination sites where waste from the site will be sent. The operator has a number of contracts set up with other waste companies to send material too to avoid overs stockpiling.
- The site will stop accepting waste if the processing lines fail.

5.5.2 The operational outputs and residues produced by the site and the disposal or recovery routes are detailed as follows which the operator has outlets for:

a) **AREA 3 -** Flakes / pellets – exported to China as product
b) **AREA 3** – Plastic Bales – exported to Romania as product
c) **AREA 1** – Waste not suitable for processing remain in this area and returned to the producer of the material.

5.5.3 The site is an approve packaging re-processor and would only accept waste material when they have an outlet to send the manufactured plastic to in order to claim PRNs. The site would not accept any waste without any outlet or an external order as it would not be financially viable for the business meaning plastic would not be stored at the site for longer than stated in this FPP.

6 Prevent fire spreading

6.1 Fire walls and bays

6.1.1 Waste on site will be stored against concrete legio block fire walls. The walls are constructed to the BS8110 Pt2 'Structural use of concrete Part 2 Code of practice for special circumstances' and BSEN1992-1-2 'Design of concrete structures. General rules. Structural fire design' and will be over 100mm in thickness and have a fire resistance of 1200^{o}C for 4 hours. This ensures any concrete firewalls on site will:

a) resist fire (both radiative heat and flaming); and,
b) have a fire resistance period of at least 120 minutes to allow waste to be isolated and to enable a fire to be extinguished within 4 hours.

Table 6.1 – Fire wall details and specifications

Firewall type	Width	Site location / use	Specification
Interlocking concrete legio block	0.6m	AREAS 1 - 3	- Class A1 in accordance with Clause 4.3 4.4 of EN:13369 - <120 minutes

6.1.2 The above walls are checked throughout the day by staff via daily inspections if any gaps or damage to the walls are present which could compromise their integrity, the walls will be repaired and sealed as soon as practically possible.

6.1.3 For waste which is stored in and against walls, a suitable 1.0m freeboard will be visually monitored throughout the day by operational staff who are loading/removing waste to/from the bay to ensure waste stockpiles don't exceed the freeboard height of the bay.

6.2 Wind

6.2.1 As can be seen from Drawing No. CAS/2570/03, wastes are stored within a building or bays (with a minimum of 1.0m freeboard) and are thus sheltered from the wind.

7 Site inspection programme

7.1 Daily checks

7.1.1 Site management are responsible for carrying out daily site walks for checking drainage systems, security measures and waste storage areas. Site management can reference the Fire Checklist shown in Appendix II but may use internal check sheets. The site also carries out weekly inspections for firefighting equipment to ensure they are fit for purpose.

7.1.2 Carrying out the above checks daily will keep the levels of dust, fibre, paper and other loose combustible materials, which could aid in the acceleration of a fire, on site surfaces to a minimum and ensure all containment of wastes on site are functioning effectively in accordance with the storage limitations provided in the table on Drawing No. CAS/2570/03.

7.1.3 Operational staff will be trained by site management to ensure visual inspections of escape routes, fire exits, extinguishers etc. are clear in the event of a fire; Drawing No. CAS/2570/03 shows all fire exists for buildings, storage locations of firefighting equipment and escape routes.

7.2 Staff training

7.2.1 Operational staff are subject to site inductions which includes basic fire emergency procedures by site management. If necessary, a third-party fire consultant will be contacted to carry out additional training.

7.2.2 A full test (drill) of the procedures in this document will be carried out every 12 months to test that the plan works. The first test will take place within one month of the agreement of this document with the NRW. The outcome and any follow up training for staff will be documented in the site diary and relevant forms in the EMS. The Fire Checklist may also be used during the drill.

7.3 Toolbox talks

7.3.1 All operational staff will receive fire awareness and firefighting procedures training / tool box talks by trained site management prior to working at the site. This will enable the operational staff to detect early signs of fire and to minimise the chance of a fire breaking. Refresher testing will be mandatory every 6 months or sooner if site operations change which could lead to a greater fire risk.

8 Quarantine area

8.1 General

8.1.1 The largest pile on site is 150m^3 in volume meaning the quarantine area would need to hold 75m3 of waste material. The quarantine area is positioned as shown on Drawing No. CAS/2570/03 and has a 6m clearance from any waste storage or anything which is at risk of combusting.

8.1.2 The above quarantine areas can hold in total 100m^3 of waste which is more than 50% of the site's largest stockpile.

8.1.3 The quarantine areas his located on an impermeable surface with sealed drainage meaning that any firewater used to tackle burning/smouldering waste would be collected on site in the contained site drainage system and not escape off site.

8.1.4 Wastes will only be moved to the quarantine area if safe to do so following recommendation of the FRS.

8.2 Use of quarantine area

8.2.1 **IMPORTANT** - In the event of a fire the it is proposed the quarantine area will only be used to remove any wastes near any material which is smouldering or on fire (but not itself directly affected by the fire) to prevent the fire spreading. No burning waste will therefore be moved to the quarantine area to ensure all firefighting waters will be contained within the site's sealed drainage area (i.e. the concreted and covered areas).

8.2.2 Surrounding wastes would be moved using the site's telehandler and will only be moved to the quarantine area if safe to do so.

9 Fire detection procedure

9.1 Automated detection

9.1.1 The site benefits from an L3 category fire alarm detection system in line with BS583-1:2017. The system is connected to a monitoring centre who are a CMS security company. Infra-red/heat detection cameras are installed within the building and site management wil be notified immediately by the monitoring company of any issues.

9.1.2 The Processing Treatment Plants at the site are installed with heat and pressure ranges set by the manufacturer. The lines also benefit from automated cooling systems in the event that the plant overheats. The control panel system on the processing plant is linked up to the manufacturers 24/7 system in China via a 4G Sim Card; the manufacturer will be immediately alerted and will remotely access the plant to identify any fault and shut down if necessary.

9.2 Manual detection

9.2.1 The site is operated 24/7 so if a fire is detected or suspected by a member of staff during operational hour as a result of monitoring it must be immediately reported to the site manager, TCM or fire marshal. The relevant person will then conduct the following procedure:

a) Raise the fire alarm (if not already done by another staff member).
b) Initiate evacuation of staff and visitors on site to the meeting point and instruct delegated person(s) to conduct a roll-call to ensure all site users are accounted for.
c) Assess the intensity and scale of the fire and make a judgment as to whether the fire can be managed without the requirement for assistance from the emergency services i.e. using the hose or fire extinguishers.
d) If viable and safe, instruct necessary site staff to commence extinguishment.

10 Fire response procedures

10.1.1 Further to the above measures, the following procedure would apply if a large fire is detected:

a) Call the Fire Response Service (FRS) immediately using 999.
b) Call the NRW's Emergency Contact Number.
c) Competent person to ensure suitably trained employee initiates the three penstock valves in the site's surface water drainage system shown on the Site Layout & Drainage Plan.
d) Prior to the FRS arriving, inform all neighbouring premises likely to be affected.
e) If not previously informed, senior management of the company will be informed at this point of the details, nature and extent of the fire and whether assistance from staff from other depots is required.
f) Ensure access routes are clear.
g) If safe to do so, site management will inspect the location of the fire, to identify immediate risks to surrounding premises and the FRS.
h) Ensure operators of appropriate machinery are standing by in a safe location to help create fire breaks, under the direction of the FRS when they arrive.
i) Ensure relevant site staff are standing by in a safe location to deploy additional surface water protection equipment under the direction of the FRS when they arrive (booms, etc.).
j) Site management will identify themselves to the FRS as soon as they arrive on site and will provide them with a copy of this document and update them with relevant information that will assist them in dealing with a fire more effectively.
k) Implement pollution control measures (see Section 12) if safe to do so.

10.1.2 In the event of the site manager or TCM being absent from the site, the operator will ensure a suitable person is employed and familiar with the site.

10.2 Staff/Visitor Response Procedure

10.2.1 The following quick actions will be undertaken by site operatives where a fire is detected or suspected on site:

a) Don't panic
b) Inform the site manager or technically competent manager immediately
c) Raise the alarm (if not done so already)
d) Do not try to tackle the fire yourself unless you are trained in doing so and you are sure of the nature of the fire
e) Leave the site using the nearest exit as quickly and as orderly as possible
f) Assemble at the specified fire assembly point
g) The site manager or delegated operative will be in charge of calling the emergency services on "999" and ensuring that all persons who were working in the building are assembled safely
h) Do not return to the site until you have been given the 'all clear' by the emergency services and/or site management / responsible person.

10.3 Evacuation of Staff (and Drill Procedure)

10.3.1 An evacuation plan has been formulated for the site and all operational staff have been made aware of it (through site induction and refresher training). The fast and effective evacuation of staff to the Fire Assembly Point shown on Drawing No. CAS/2570/03 will increase safety on site and limit the impact of a fire on any persons on site.

10.3.2 Fire drills will take place every 12 months and 1 month after site operations commence to ensure evacuation times are acceptable and that site staff remain informed of evacuation procedures.

10.3.3 The drill will be a simulation of an emergency with the location of a mock fire notified to staff in order to test the response speed in deploying pollution control equipment i.e. including drain mats/plugs and ensure all firefighting equipment is sound. The fire check

form may also completed and a detailed report of the outcome of the exercise will be prepared to assist with staff training.

10.4 Access for emergency services

10.4.1 The site is located in the Castle Park Industrial Estate which is accessed from an unnamed road off Evans Street / Castle Dyke Street and provides direct access to the site for the emergency services with the nearest fire station located 0.5 miles away on Chester Road. The response time is expected to be 5 minutes.

10.4.2 The width of the surrounding roads and gateway exceeds the minimum required in Section 5 of the FRS (3.7m). The on-site traffic co-ordinator also ensures that the 3.7m access routes are maintained throughout the working day and before cessation of works.

10.4.3 Access routes for emergency services around the site are clearly shown on Drawing No. CAS/2570/03.

10.5 Notifying receptors

10.5.1 The contact numbers of key sensitive receptors identified within 1km of the site who could be directly affected in the event of a fire along with the Receptor Plan will be stored within the site office and in the emergency services box.

10.5.2 As it isn't feasible for a contact number to be provided for every individual residential receptors and individual business within 1km, the most sensitive receptors and closest business receptors have been included within the table overleaf.

Table 10.1 - Receptor Contact Information

CONTACT	DESCRIPTION	CONTACT NUMBER
Flintshire County Council	Contact for residential/small business receptors	01352 703234 / 999
Transport for Wales	Contact for Transport Service	0333 3211 202
Ysgol Gwynedd	School as identified on receptors plan	01352 732365
Ysgol Croes Atti Primary School	School as identified on receptors plan	01352 733335
Daisy Chains Nursery	School as identified on receptors plan	01352 763229
Flint Castle	Contact for receptor	0300 025 6000

10.5.3 The above receptors will be contacted by a co-ordinated approach where staff from New Horizon Plastics Co Ltd will contact them by phone and/or email.

10.5.4 Following discussions with from Flintshire County Council, they have advised that once Emergency Services arrive on site i.e. FRS, Police, the lead authority (usually the Police) will co-ordinate a systematic approach to ensure all the relevant sensitive receptors within 1,000m are notified. This will involve via telephone calls, personal visits (knocking on doors) and or using a load speaker while driving around the associated catchment. In addition to this, the Emergency Services would also publicise the fire on their Social Media outlets and contact local news websites, radios who can also provide updates on the incident. The Council will not commit in providing written communication to demonstrate their approach as it would depend on the type/size of fire as they have numerous approaches.

10.5.5 The police with the assistance of ECSS and any other attending authority will ensure all relevant properties are informed of the fire event and given clear instructions of the actions they need to take.

11 Suppressing fires & water supply

11.1 General

11.1.1 Section 20 of the Natural Resources Wales FPMP mentions the site should have enough water available for firefighting to take place and to manage a worst-case scenario. A worst-case scenario would be the largest waste pile catching fire.

11.1.2 Based on the above scenario, the largest pile of combustible waste on site is **Pile 1** measuring 150m^3 (when at full capacity). This pile this would require 180,000 litres (180m^3) of water to extinguish the fire within 3 hours requiring a flow of 1,000 litres per minute.

Table 11.1 - Water supply calculations

Maximum pile volume in m^3	Water supply needed in litres per minute	Overall water supply needed over 3 hours in litres	Total water available on/off site in litres
150	150 x 6.67 = 1,000	1,000 x 180	180,000 (180 m^3)

11.2 Internal suppression/alternative measures

11.2.1 The following alternative measures will ensure that the objectives set out in Section 1.1 are met:

a) There is no waste stored within the building and therefore the risk of self-combustion or deep-seated fires is therefore very low. All waste imported into the building will have been subject to strict waste acceptance procedures and monitoring by staff to ensure it is suitable for processing into a commodity.
b) All operational staff on site will suitably trained in carrying out fire risk assessments to minimise the chance of a fire breaking out.
c) The buildings have access via large roller shutter doors to remove waste at risk of combusting and all piles can be accessed for firefighting.
d) A £1,500,000 investment on suppression is not feasible for the company moving forward.

e) The site has access to a number of on-site suppression measures which can be deployed in the event of a fire as an immediate response following the alarm being raised and the mobilisation of appointed fire contact(s) (if safe to do so). These are described further in the sections below.

f) All processing lines benefit from a cooling system and can be shut off by the manufacturers in the event of them overheating.

g) The only combustible material stored inside the building is product and as it has been thoroughly inspected and processed, the material will not contain any contaminants or incompatible waste. The material is not prone to self-combustion, does not overheat and is removed from the site daily as the site claims revenue for this material as part of their PRN accreditation.

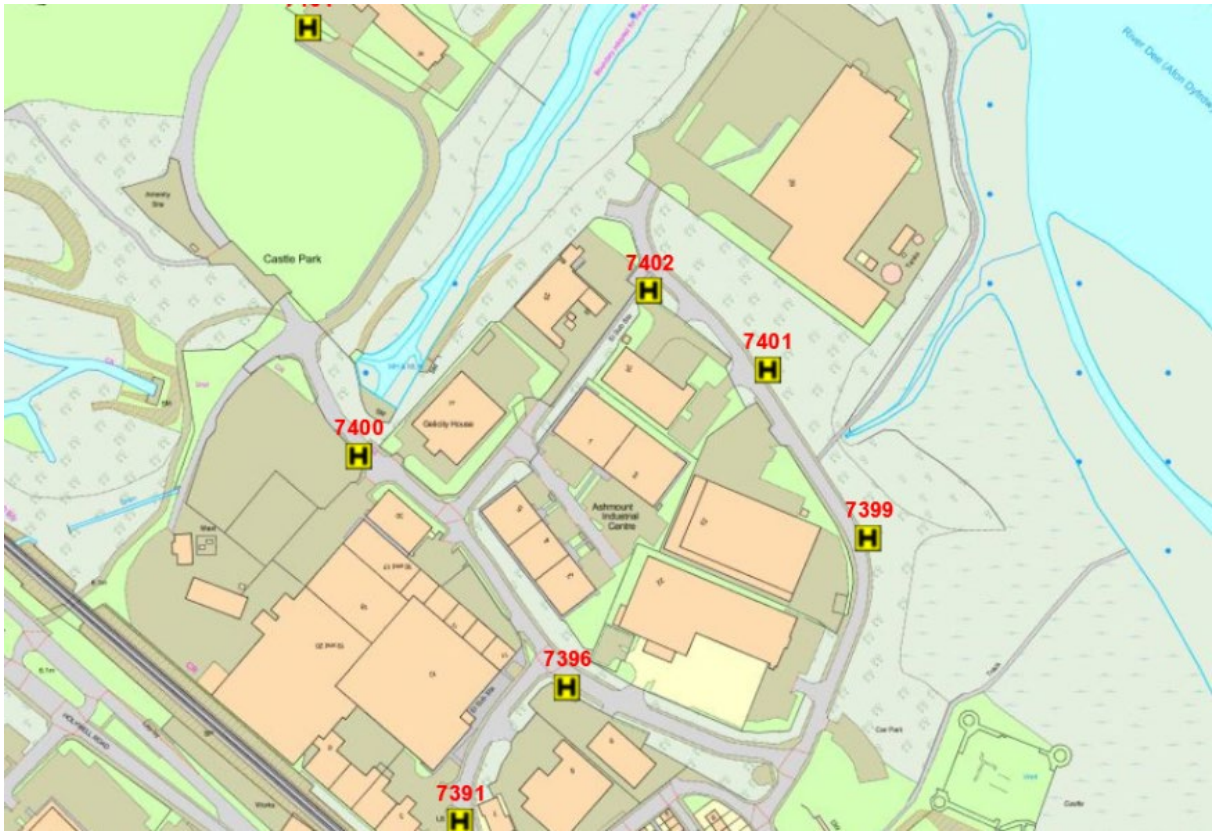
11.3 Site-wide suppression

11.3.1 There are a number of fire extinguishers located around the site which can be deployed in the event of an incident to tackle the fire or for fire suppression in the intervening time between discovery of the fire and the arrival of the FRS.

11.3.2 There will be access to hose reel which is connected to the surface water mains providing suppression to all areas storing combustible waste in the building and external areas. The location of the reel is shown on Drawing No. CAS/2570/03.

11.4 External Suppression - Fire Hydrants

11.4.1 There are hydrants located in close proximity to the site as shown on the image overleaf: which the FRS have confirmed would be suitable for use in the event of fire.



11.4.2 Unfortunately, Welsh Water nor the FRS are unable to provide a flow rate for the hydrant therefore the following guidance on water supplies for industrial estates has been referenced in order to determine an average flow:

a) Up to one hectare minimum of 20 l/sec (1200 l/min)
b) One to two hectares minimum of 35 l/sec (2100 l/min)
c) Two to three hectares minimum of 50 l/sec (3000 l/min)
d) Over three hectares minimum of 75 l/sec (4500 l/min)

11.4.3 The Castle Park Industrial Estate measures over three hectares meaning the required 1,000 litres per minute flow would be achievable and extinguishing the fire within the time stated in NRWs FPMP guidance.

12 Managing fire water

12.1 Drainage

12.1.1 All surface water where waste is being stored on site is engineered to fall towards the centre of the external yard to the and into the U-channel drain where into will enter the existing surface water drainage system after being treated by a Klargester NSFA040 Full Retention Separator. The surface water drainage system then discharges into the Dee Estuary to the west of the site.

12.1.2 The above is demonstrated on Drawing No. CAS/2570/03 and further information regarding the drainage system is shown in Section 2.9 of the EMS.

12.2 Containment of fire water

12.2.1 In the event of a fire, the site will deploy the penstock valve on the manhole outlet from the interceptor which closes the drainage system and shut off any water entering the surface water drainage system allowing the firewater to be contained on the site in the external yard during a fire event.

12.2.2 The external pad concrete pad measures approximately 1,200m^2 meaning that 0.15 – 0.16mm containment around the site perimeter would contain the 180m^3 of fire water required. The site is relatively flat has ample capacity to contain the fire water and create a swimming pool/lagoon effect once the drainage system is hut off.

12.2.3 As detailed in Section 9.1, the largest pile would require containment for 180,000 (180m^3) of water in accordance with the FPMP guidance.

Table 12.1 - Firewater Containment Calculation

Volume of Water (m^3)	Containment Area (m^2)	Containment Required	Total Containment On Site
180	1,200	180 / 1,200 = 0.15	0.15 – 0.16m with kerbing and booms

12.3 Fire water boom deployment procedure

12.3.1 The fire water boom will be located within the plant workshop as shown on Drawing No. CAS/2570/03 and would be deployed in the event of a fire and positioned as per the plan to contain any fire water runoff. The booms have a 160mm diameter tube each side and using a standard water main i.e. the hose from the site could be filled and provide containment in <10 minutes based on the length of the boom (10m), the volume required and the 15 l/m from the standard hose.

12.3.2 A key member of senior staff will be responsible for arranging the deployment of the poly booms and will be trained in this procedure.

12.3.3 Upon confirmation that a significant volume of water is likely to be required for extinguishing a fire on site, the following deployment procedure for the poly booms will be observed:

a) Take the boom roll from the site office;
b) Emplace the boom as shown on Drawing No. CAS/2570/03 by rolling the necessary length;
c) Use supplied cable ties (also available in the site office) to seal the front end of the boom;
d) Using a sharp knife, cut the laid-out section from the remaining roll;
e) Using the Hose Reel, begin filling the first of the two chambers of the boom being sure to elevate the 'fill' end to prevent the water leaving the tube;
f) Once the first chamber is filled, repeat in second chamber ensuring the 'fill' end is kept elevated to prevent escape of water;
g) When both chambers are full the 'fill' end should be sealed using a cable tie thus completing deployment.
h) Typically, one side of the roll would be filled which has a 160mm diameter,

12.3.4 The above process should be completed as above for all lengths of boom shown on Drawing No. CAS/2570/03.

12.3.5 Once deployed, all booms should be regularly checked during a fire event to ensure that they are providing effective containment and that there are no breaches. Secondary/additional lengths of boom can be deployed in addition to the compulsory locations using the same procedure (as above) if deemed necessary.

12.3.6 **Fire water boom specification** - The boom is the same as those issued to the FRS in their 'Grab Packs'. In the grab pack information, it states "*The boom is resistant to most chemicals but may be adversely affected by very aggressive solvents such as acetone*". The site will not accept any waste material containing acetone or any other solvents.

12.3.7 If there is any deviation from the above drainage arrangement, an amended FPMP will be submitted for approval by the NRW and FRS.

12.3.8 The operator will deploy a 0.16m fire water boom (which will be kept in the site office) at the location shown on Drawing No. CAS/2570/03 to ensure no firewater enters into groundwater's or public sewers.

12.3.9 If there is any deviation from the above drainage arrangement, an amended FPMP will be submitted for approval by the NRW and FRS.

12.4 Wind

12.4.1 In the event large quantities of fire water are used the concrete area already benefits from an impermeable concrete surface with sealed drainage and the additional of fire water booms will further reduce any impact of windblown fire water escaping off site.

12.5 Removal of fire water

12.5.1 Upon successfully extinguishing a fire all standing fire water would be pumped using a hired-in vacuum tanker and deposited to a suitably permitted site for treatment.

12.5.2 The operator would also contact the water company to see if the fire water could be discharged into the foul system; this would obviously depend on the type of fire and the contamination of the fire water.

12.6 Control of Combustion Products

12.6.1 Combustion products likely to be associated with the waste stored at the site include; oxides of carbon, nitrogen and particulate matter including white smoke (mixed waste). Additional combustion products may also include PAHs, dioxins and particulate matter including black smoke from plastics.

12.6.2 The release of combustion products may be controlled by the low size of waste piles at the site and the swift removal of burning wastes to the quarantine area (thus reducing spread of fire and reducing the amount of combustion products created).

13 During and after an incident

13.1 Contingency Planning

13.1.1 In the event of a fire the site will cease accepting waste. All customers who wish to deliver wastes during a fire will be notified by site admin staff and any who arrive without prior notification will be turned away. If urgent, deliveries will be directed to an alternative waste facility in the borough; details of which can be found on the NRW's public register.

13.1.2 No waste will be accepted on site until the post-fire site recovery procedures outlined in the section below have been fully implemented and the site is authorised to re-open for trade and waste acceptance.

13.2 Site decontamination

13.2.1 Surface water on site will be cleared using the following method:

a) Using a bowser, all standing fire water should be sucked up and taken off site or stored in a tank/bowser prior to removal off site.
b) Using all available resources, manually clean out the storage tank and gully removing the debris to the pile of fire damaged waste for removal to landfill or permitted site.
c) Using a road sweeper, sweep the yard (damp as required using the bowser) until all ash and clinker has been removed.
d) All debris has now been isolated and all contaminated water holding areas have been cleaned and emptied.
e) Wash the yard down in entirety using clean water, or allow a reasonably heavy rain shower to wash the yard down.
f) It is at this stage that site management should decide whether it is appropriate to remove the surface water protection measures, or repeat areas of the clean-up.

13.2.2 If the clean-up operation has been deemed complete, the surface water protection measures can now be removed. This will be achieved using the following methods:

a) Remove any temporary bungs/valves
b) Account for all consumables that have been used in the fire and re-order / replace immediately.
c) Restack, and re-locate all items used for the surface water protection during the fire to their storage locations ready for future deployment.
d) Check monthly that items are still present and correct and still serviceable for use in an emergency.

13.2.3 The operator will liaise with the NRW throughout the event ensuring they are satisfied with the clean-up programme and notify the operator when the site can begin accepting waste again onto site.

13.2.4 The operator receives all waste i.e. plastic packaging from agricultural operations or waste management companies meaning during site closure in the event of a fire, the waste can be diverted to another suitable facility using NRWs public register for waste permits search.

13.3 Post fire site recovery

13.3.1 If a recovery procedure is required, the operator would instigate the following;

a) Remove damaged material to a permitted facility that is able to deal with it legally.
b) Ask engineers to carry out repairs on any plant, vehicles and/or infrastructure.
c) Assist the FRS with the fire investigation and where necessary engage the advice from a professional fire consultant.
d) Review the FPMP and EMS procedures and improve upon where found deficient.
e) Review training requirements for staff.
f) Assess whether further preventative measure could implemented.
g) Ensure all fire equipment, where used, is replenished.
h) Remove fire water to a permitted facility for disposal.

Appendix I

Drawings

Compass Wind Rose for Hawarden (EGNR)
Period 2019- *source: Iowa State University*

NOTES

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REVISION HISTORY

Rev	Date	Init:	Description:
-	28.11.19	CP	Initial Drawing
A	29.11.19	CP	Client comments & re-issue
B	14.04.20	CP	NRW comments & re-issue
C	07.05.20	CP	NRW comments; amended site drainage

Key:

- Permit boundary
- Combustible waste storage areas
- Plant loading areas
- Product storage non-waste
- Waste recycling buildings
- Concreted areas
- Other buildings (offices, etc.)
- Stone surface / free draining
- Landscaped/grass areas
- Minimum 0.6m firewalls
- Mains water point
- Spill kit
- Fire fighting equipment (extinguishers, etc.)
- Fire water containment equipment i.e. booms, drain mats, drain plugs etc..
- Access routes for emergency vehicles and site plant manouevring areas
- Fire alarm
- Surface water fall direction
- Foul water drainage
- Surface water drainage
- Foul/surface gully's
- Foul/surface manholes
- Plant shut off
- Fire assembly point
- Fire door
- CCTV cameras (indicative)
- Infrared/heat detection cameras
- Emergency services box

Oaktree Environmental Ltd
Waste, Planning and Environmental Consultants

DRAWING TITLE
SITE LAYOUT & FIRE PLAN

CLIENT
New Horizons Plastic Co Ltd

PROJECT/SITE
Unit 27, Castle Park Industrial Estate,
Flint, CH6 5XA

SCALE @ A1	JOB NO	CLIENT NO
1:200	4082	2570

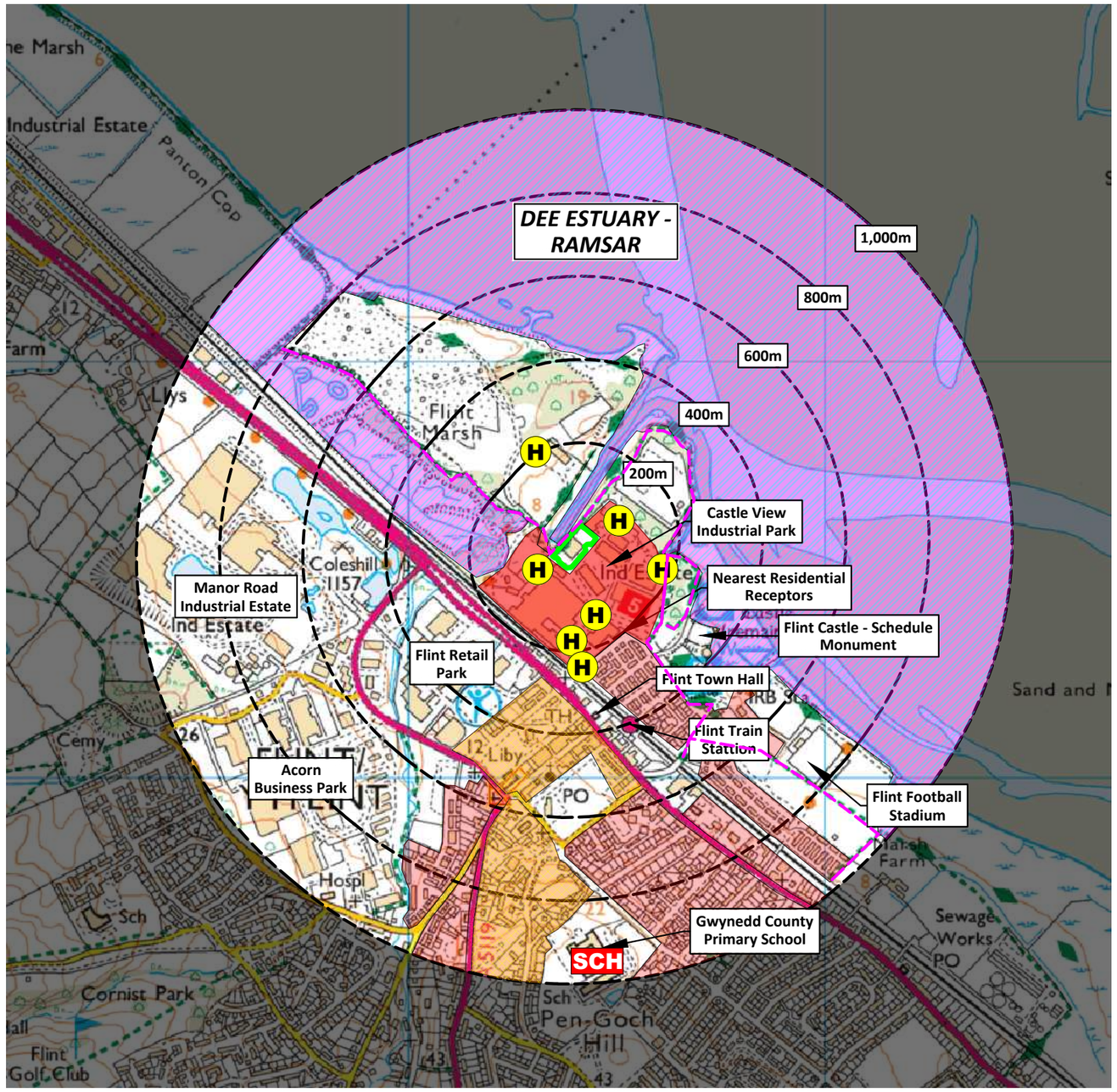
DRAWING NUMBER	REV	STATUS
CAS/2570/03	C	Draft

DRAWN	CHECKED	DATE
CP	NHP	07.05.20

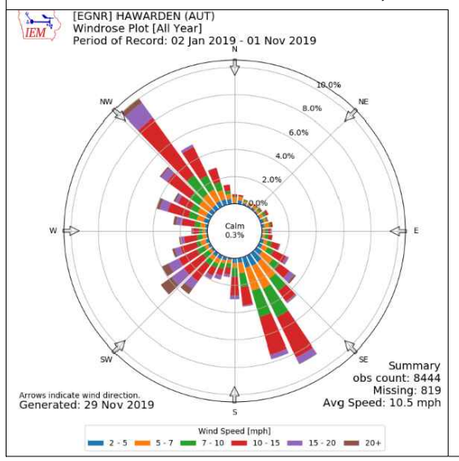
Lime House, Road Two, Winsford, Cheshire, CW7 3QZ
t: 01606 558833 | e: sales@oaktree-environmental.co.uk

KEY:

- Permit boundary
- Surface water (river / stream / beck)
- Surface water (estuary / pond / pool / lake / sea)
- Castle View Industrial Park
- Workplaces (includes agriculture industry, commerce and retail)
- Areas with mix of residential, retail and commercial properties
- Residential blocks
- Class A roads
- Class B roads
- Class C roads
- Nearest fire hydrant
- Railway line
- School
- Woodland areas
- Protected sites (Ramsar, SSSI, SPA, SAC)
- Welsh coastal path



Compass Wind Rose for Hawarden (EGNR)
Period 2019- *source: Iowa State University*



Scale Bar (1:12,500)

0 km 500 m 1 km

NOTES

1. Boundaries are shown indicatively.
2. Wind rose data shows the prevailing wind direction to be NW and SE.

REVISION HISTORY

Rev	Date	Init:	Description:
-	29.11.19	CP	Initial Drawing
A	14.04.20	CP	Added receptor

Oaktree Environmental Ltd
Waste, Planning and Environmental Consultants

DRAWING TITLE
SITE LOCATION MAP

CLIENT
New Horizons Plastic Co Ltd

PROJECT/SITE
Unit 27, Castle Park Industrial Estate, Flint
CH6 5XA

SCALE @ A3	JOB NO	CLIENT NO
1:12,500	4082	2570

DRAWING NUMBER	REV	STATUS
CAS/2570/04	A	Issued

DRAWN	CHECKED	DATE
CP	--	14.04.20

Lime House, Road Two, Winsford, Cheshire, CW7 3QZ
t: 01606 558833 | e: sales@oaktree-environmental.co.uk

Appendix II

Record Keeping Forms

NEW HORIZON PLASTICS CO LTD
SITE INSPECTION FORM (MINIMUM TWICE DAILY)

DAY												
TYPE OF INSPECTION												
TIME OF INSPECTION (START)												
TIME OF INSPECTION (FINISH)												
SITE ENTRANCE/NOTICE BOARD												
SECURITY - GATES												
SECURITY - FENCING												
SITE ROADS (CLEAR FROM HAZARDS)												
IMPERMEABLE CONCRETE AREAS (INTEGRITY)												
KERB AROUND CONCRETE PAD (INTEGRITY)												
SWALE TANK AND DRAINS FUNCTIONING CORRECTLY												
WASTE CONTAINMENT BAY WALLS												
WASTE STORAGE LIMITS COMBUSTIBLE												
COMBUSTIBLE WASTES (AWAY FROM POTENTIAL IGNITION SOURCES)												
FIRE DETECTION SYSTEMS												
REJECTED WASTE TYPES / STORAGE												
FIRES (ANY INCIDENTS REPORTED)												
QUARANTINE AREA CLEAR OF WASTE												
NO SMOKING SIGNS IN PLACE												
FIRE FIGHTING EQUIPMENT												
FIRE BREAKS IMPLEMENTED												
PLANT/EQUIPMENT MAINTENANCE CHECKS												
HOT EXHAUSTS FIRE WATCH (DUST/FLUFF CLEANED REMOVED)												
SPILLAGES OF OIL/LIQUIDS CLEARED												
OFFICE/WELFARE FIRE RISKS CHECKED												
ELECTRICAL APPLIANCES AND CABLING CHECK												
FUEL TANK/BUND												
LITTER												
DUST												
ODOUR												
VERMIN												
RECORDS												
COMPLAINTS RECEIVED												
OTHER (SEE NOTES BELOW)												
INSPECTION CARRIED OUT BY												

NOTES/ACTION (CONTINUE ON A SEPARATE SHEET IF NECESSARY):

CHECKED BY		**SIGNATURE**	
POSITION		**DATE**	
Sheet		***of***	

NEW HORIZON PLASTICS CO LTD - PREVENTATIVE MAINTENANCE CHECKLIST

CHECKED BY	**POSITION**
DATE	**DATE OF LAST CHECKLIST**

	EQUIPMENT ITEM					
OFFICIAL MAINTENANCE CHECK REQUIRED (Y/N)						
IF NO, DATE OF LAST CHECK						
IF YES, DATE OF NEXT CHECK						
IS ITEM IN CORRECT WORKING ORDER						
LEAKAGES OF OIL/DIESEL ON MOBILE PLANT / VEHICLES						
IF NO, WHAT REPAIRS ARE REQUIRED (USE SEPARATE SHEET IF REQUIRED)						
WERE REPAIRS DETAILED ON THE LAST CHECKLIST						
IF YES, HAVE THEY BEEN CARRIED OUT						
ADDITIONAL REPAIRS OR ACTIONS REQUIRED						

NEW HORIZON PLASTICS CO LTD
EMPLOYEE TRAINING NEEDS ASSESSMENT / REVIEW - NHP/RF/6

EMPLOYEE NAME				**DATE COMPLETED**			
POSITION				**REVIEW DUE**			
TRAINER				**OUTCOME**	**PASSED**		
POSITION					**FURTHER TRAINING REQUIRED**		
CARRIED OUT /SIGN OFF >	**Y/N**	**SIGNED BY EMPLOYEE**	**SIGNED BY TRAINER**		**Y/N**	**SIGNED BY EMPLOYEE**	**SIGNED BY TRAINER**
ENVIRONMENTAL PERMIT				**FIRE PREVENTION & MITIGATION PLAN**			
MANAGEMENT SYSTEM				**FIRE SAFETY**			
SITE RULES				**EMERGENCY PROCEDURES**			
RECORD KEEPING / TRANSFER NOTES				**STORAGE /PILE SIZE LIMITS**			
RECOGNITION OF WASTE TYPES				**STORAGE DURATION**			
SECURITY				**FIRE DETECTION**			
VEHICLE CHECKS				**FIRE ALARMS**			
PLANT OPERATION				**FIRE FIGHTING EQUIPMENT**			
PLANT CHECKS				**FIRE WATER CONTAINMENT MEASURES**			
AMENITY - LITTER, ODOUR, PESTS etc.				**SPILL CLEARANCE**			
NOTES AND ACTIONS:							

Appendix III

Fire Risk Assessment

Life Safety Fire Risk Assessment Certificate of Conformity

This Certificate is issued by the organisation named in Part 1 of the schedule in respect of the fire risk assessment provided for person(s) or organisation named in Part 2 of the schedule at the premises and / or part of the premises identified in Part 3 of the schedule.

Schedule

Part 1

Name of Issuing Certified Organisation

Delyn Safety UK Ltd

BAFE SP205 Registration Number

102634

Part 2

Name of Client

New Horizon Plastics

Part 3

Address of Assessed Premises

27a Castle Dyke Street CH6 5XA

Part of Premises to which this assessment applies

Whole Site

Part 4

This fire risk assessment has been conducted in compliance with the Regulatory Reform (Fire Safety) Order 2005 and has been completed in accordance with the SP205 Specification for fire risk assessments

Part 5

Effective date of the fire risk assessment 16th October 2019

Part 6

Recommended date of review of the fire risk assessment

16th October 2020

Part 7

Unique reference

DS00025

We, being currently a 'Certified Organisation' in respect of the fire risk assessment identified in the above schedule, certify that all the fire risk assessments referred to in the above schedule complies with the specification identified in the above schedule and with all other requirements as currently laid down within BAFE SP205 Scheme in respect of such fire risk assessment.

Signed for and on behalf of the issuing Certified Organisation

Name and Job Title: **Mr Michael Joy CMIOSH Dip2OSH GIFireE PGCE Managing Director**

Date of Issue: 16th October 2019 Signature:

Regulatory Reform (Fire Safety) Order 2005,

Fire Risk Assessment 2019

conducted for

NEW HORIZON PLASTICS

Document No.
0001

Conducted on
08th Oct 2019

Prepared By
Alan Dodd

Verified By
Mr. Michael Joy CMIOSH Dip2OSH GIFireE PGCE

Disclaimer

The assessors believe the information contained within this fire risk assessment report to be correct at the time of printing. The assessors do not accept responsibility for any consequences arising from the use of the information herein. The report is based on matters which were observed or came to the attention of the assessors during the day of the assessment and should not be relied upon as an exhaustive record of all possible risks or hazards that may exist or potential improvements that can be made.

Confidentiality Statement

In order to maintain the integrity and credibility of the fire risk assessment processes and to protect the parties involved, it is understood that the assessors will not divulge to unauthorized persons any information obtained during this fire risk assessment unless legally obligated to do so.

Table of Contents

General Information

Question	Response	Details
Image of the Premises		
		
Address of Premises	27a Castle Dyke Street, Flint, CH6 5XA.	
Name of Responsible Person (Name of Organisation)	Philip Thomas and Tony Lui New Horizon Plastics	
Name and Role of Person Met.	Philip Thomas (Director)	
E-mail Address of Responsible Person	philip@nhp.co.uk	
Contact Number	07730 402400	
Project Details	Fire Risk Assessment	
This assessment is to be reviewed on or before 12 calendar months of the date of its completion		

Responsible person / Representative Signature to confirm assessor attendance Name and signature of person responsible for fire safety.			
Assessor Signature	Alan Dodd		16/10/2019
Verifiers Signature	Mike Joy		16/10/2019

The purpose of this report is to provide an assessment of the risk to life from fire in these premises, and, where appropriate, to make recommendations to ensure compliance with fire safety legislation. The report does not address the risk to property or business continuity from fire.

1.The Premises	
1.1 Number of floors	Total of two floors (factory space is ground floor only)
1.2 Approximate floor area	Plans to be made available on request.
1.3 Brief details of construction	Typical construction using bricks and blocks, with a steel frame and corrugated panel sheeting.
Type of walls and basic construction.	Solid walls
Type of Building	Offices and Factory
1.4 Use of premises	Commercial Office, Factory Turns waste plastics to reusable small pellets.

The Occupants

Question	Response	Details
2. The Occupants		
2.1 Approximate maximum number of persons at site at any one time	Currently less than 10 persons (plans to increase numbers in the near future)	
2.2 Approximate number of employees at any one time	As Question 2.1.	
2.3 Maximum number of members of the public at any one time	As Question 2.1.	
2.4 Associated times/hours of occupation	Days only Plans to be 24-hour access and use in the near future.	
3. Occupants especially at risk from fire.		
3.1 Sleeping occupants	N/A	
3.2 Disabled occupants	N/A Consideration should be given to those who may require additional help in the event of fire.	
3.3 Occupants in remote areas and lone workers	Highly Likely	Due to number of persons on site.
3.4 Young persons	N/A	

Fire Legislation Information

Question	Response	Details
4. Fire Loss Experience		
Identify the level of Fire Loss Experience for the Premises	Fire in the local area	
5.Other Relevant Information		
Additional information in relation to fire loss	http://www.nwales-fireservice.org.uk/news/	
6. Relevant Fire Safety Legislation		
6.1 The following Fire Safety Legislation applies to these premises: The Regulatory Reform (Fire Safety) Order 2005		
6.2 The above legislation is enforced by	North Wales Fire & Rescue Service Ffordd Salesbury St Asaph Business Park St Asaph Denbighshire LL17 0JJ 01745 535 250	
6.3 Other Legislation that makes significant requirements for the precautions in these premises (other than the Building Regulations)	The Gas Safety (Installation and Use) Regulations 1998, The Furniture and Furnishings (Fire) (Safety) Regulations 1988 (as amended in 1989, 1993 and 2010), Health and Safety (Safety Signs and Signals) Regulations 1996, The Control of Substances Hazardous to Health Regulations 2002, The Electricity at Work Regulations 1989	
6.4 RR(FS)O Guidance which applies to these premises	Factories and warehouses, Offices and Shops	
6.5 The Legislation to which 6.3 makes reference is enforced by	Flintshire County Council	
6.6 Additional Guidance which applies to these premises	Electrical Equipment inspected to BS 7671:2018, 18th Edition Institute of Electrical Engineers (IEE), BS 5266-1:2016. Emergency lighting. Code of practice for the emergency escape lighting of premises, BS 5839-1:2017. Fire detection and fire alarm systems for buildings. Code of practice for design, installation, commissioning and maintenance of systems in non-domestic premises, BS 5306-9:2015. Fire extinguishing installations and equipment on premises. Recharging of portable fire extinguishers. Code of practice, The Smoke and Carbon Monoxide Alarm (England) Regulations 2015	

Electrical Sources of Ignition

Question	Response	Details
Fire Hazards and their Elimination and Control		
7. Electrical Sources of Ignition		
7.1 Reasonable measures taken to prevent fires of an electrical nature.	Yes	The risk of a fire developing from an electrical source appears to be well managed in all areas of the premises. There was no evidence of any misuse or damage to appliances or fittings.
7.2 Fixed installation periodically inspected and tested as required by The Electricity at Work Regulations 1989	No	All work should be carried out to meet BS 7671 and completed by a competent and approved company.
Time frame for renewal of Fixed wire test for this premises is:	5 Years	
Date of last test?	Unknown	
7.3 Portable appliance testing (where appropriate) carried out as required by The Electricity at Work Regulations 1989	No	A procedure should be in place to ensure portable appliances are subject to PAT test at regular intervals in accordance with HSE guidance.
7.4 Suitable policy regarding the use of personal electrical appliances	No	At the time of audit there did not appear to be any policy regarding use of personal electrical appliances within the building.
7.5 Suitable limitation of trailing leads and adapters	Yes	Trailing leads and adapters are in occasional use within the building. This appears to be well managed. All extension leads should be regularly inspected in order to identify any faults or defects.

Smoking

Question	Response	Details
8.Smoking		
8.1 Reasonable measures taken to prevent fires as a result of smoking as required by The Health Act 2006	Yes	
8.2 Smoking prohibited on the premises	Yes	In line with the current smoking legislation, smoking is prohibited in all areas of the building.
8.3 Suitable arrangements for those who wish to smoke	No	Suitable areas available away from the building. If smoking is to occur around the premises then a suitable receptacle should be provided for the safe disposal of smoking materials, i.e. a sand filled, metal bucket.
8.4 This policy appeared to be observed at the time of the inspection	Yes	There was no evidence of smoking in any areas.

Arson

Question	Response	Details
9. Arson		
9.1 Does the basic security against arson by outsiders appear reasonable	Yes	
9.2 Is there an absence of unnecessary fire load in close proximity to the premises or available for ignition by outsiders	No	Waste from previous occupants at rear of building. Plastic waste is expected due to the nature of the business. The likelihood of the building being targeted by deliberate fire starters is low, although the presence of combustible materials may encourage opportunist vandals. Unnecessary combustibles should be removed from this area. Waste is removed from site on a regular basis and the bins are made secure.
 		

Portable heaters and heating installations

Question	Response	Details
10.Portable heaters and heating installations		
10.1 Is the use of portable heaters avoided as far as practicable	Yes	Portable heaters are not provided for use within the building.
10.2 If portable heaters are used is the use of the more hazardous type (e.g. radiant bar fires or lpg appliances) avoided	N/A	As Question 10.1.
10.3 If portable heaters are used are suitable measures taken to minimise the hazard of ignition of combustible materials	N/A	As Question 10.1.
10.4 Are fixed heating installations subject to regular maintenance	Mains Gas fuel used	The heating system requires routine annual inspection and servicing.
 		
Has a Gas safe test been completed by a certified engineer under the Gas Safety (Installations and Use) Regulations 1998 and or the Gas Appliances (Safety) Regulations 1995	No	Ongoing works on day of audit.
10.5 Are carbon monoxide detectors present in required environments	No	No evidence on site.

Cooking

Question	Response	Details
11. Cooking		
11.1 Are reasonable measures taken to prevent fires as a result of cooking	Yes	Typical domestic appliances are provided for staff, with the standard electrical appliances for preparing and heating food i.e. microwave, kettles and toaster. The areas are kept clean and clear of unnecessary combustible materials such as packing and overfilled waste bins. Food is not to be left unattended for any significant length of time while being heated.
 		
11.2 Filters changed and ductwork cleaned regularly	N/A	As Question 11.1.
11.3 Is an appropriate cleaning certificate available for the cleaning and maintenance of the extraction system under TR/19	N/A	As Question 11.1.
11.4 Suitable extinguishing appliances available	Yes	Suitable extinguishing appliances available in close proximity.
11.5 Is an appropriate suppression system used and maintained under BS EN 16282-7. Equipment for commercial kitchens. Components for ventilation in commercial kitchens. Part 7. Installation and use of fixed fire suppression systems where required	N/A	As Question 11.1.
11.6 Is an appropriate Gas Safe Certificate available for gas cooking appliances?	N/A	As Question 11.1.

Lightning

Question	Response	Details
12. Lightning		
12.1 Do the premises have a lightning protection system	N/A	Building is of similar size to its surroundings.

Housekeeping

Question	Response	Details
13. Housekeeping		
13.1 Is the standard of housekeeping adequate	Yes	Across the whole of the building the standard of housekeeping is generally good with exception of a few areas where excess combustibles (rear yard) and cylinders left unattended or unsecured. Diesel tank appears to be old and in need of inspection. Ideally fuel storage should have a bunded area for any leaks/spills to collect (to cover 150% of amount of fuel stored).
		
13.2 Combustible materials appear to be separated from ignition sources	Yes	The most likely cause of ignition would be from an electrical source. There is a low likelihood of an electrical fault causing nearby combustible materials to ignite, but this risk still needs to be adequately managed.
13.3 Avoidance of unnecessary accumulation of waste	No	Waste should be removed from the building regularly.
13.4 Appropriate storage of Hazardous / Combustible materials	No	Any unnecessary items and materials in all areas of the premises should be removed and the overall amount of combustible materials reduced where possible.
13.5 Does furniture in the premises comply with the Furniture and Furnishings (Fire Safety) Regulations 1988/1989, 1993 and 2010 in relation to being fire retardant.	Yes	

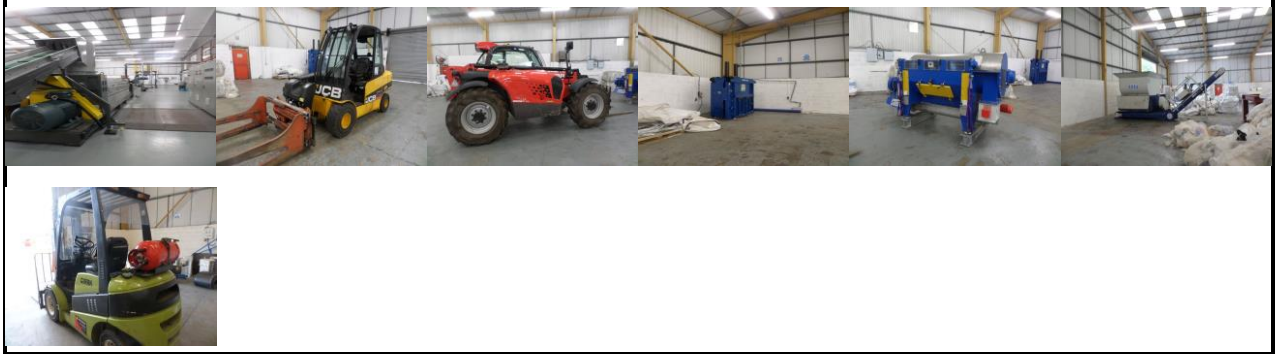
Hazards Introduced by outside contractors and building works

Question	Response	Details
14. Hazards introduced by outside contractors and building works		
14.1 Are fire safety conditions imposed on outside contractors	Yes	It is the policy of the responsible person that all contractors brought in to carry out work activities on the premises will be competent to do so and that all required documents relating to safe working will be presented. Fire safety procedures will be confirmed between the responsible person and the contractors before work commences.
14.2 Is there satisfactory control over works carried out on the premises by outside contractors (including "hot work" permits)	Yes	It is expected that contractors brought in to carry out work will provide appropriate risk assessments and method statements for that work. Work should be properly planned and supervised in order to ensure that those carrying out the work are doing so safely and competently.
14.3 If there are in-house maintenance personnel, are suitable precautions taken during "hot work", including use of "hot work" permits	N/A	
14.4 Is building work being completed at the time of the assessment	No	

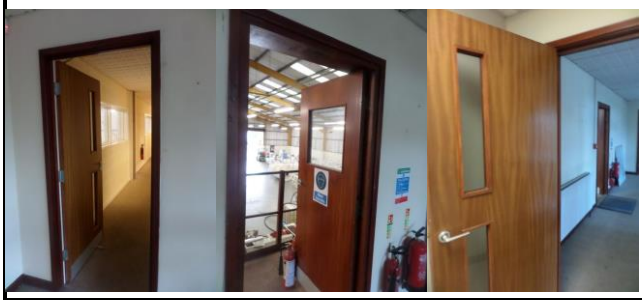
Dangerous Substances

Question	Response	Details
15. Dangerous Substances		
Do the Dangerous Substances and Explosive Atmospheres Regulations 2002 apply to this premises	N/A	
Do the Control of Major Accident Hazards Regulations (COMAH) 2015 apply to this site	N/A	

Other significant fire hazards that warrant consideration including process hazards that impact on general fire precautions

Question	Response	Details
16.1 Fire hazards that warrant consideration including process hazards		
16.1 Are process hazards apparent	Yes	Serval vehicles and various machinery in use on site. Any persons using these are competent to do so. Safe Operating Procedures (SOPs) are currently under review as well as daily checks to ensure vehicle/machine are safe to use. Ideally vehicles should have their own demarked and signed charging/storage area, away from any potential fuel sources.
		
16.2 Are other hazards apparent	Yes	As Question 16.1.

Fire precaution measures

Question	Response	Details
17. Means of escape from fire		
17.1 It is considered that the premises are provided with reasonable means of escape in case of fire	Yes	There are adequate number of exits within the premises and all within reasonable travel distance. Issue regarding inaccessible escape routes and bolted exits (bolts are stiff and not easily released).
17.2 Adequate design of escape routes	Yes	As Question 17.1. All areas to be used as escape routes are of suitable width and layout to allow the safe movement of persons within the building.
17.3 Adequate provision of exits	Yes	As Question 17.1.
17.4 Appropriate internal fire doors used and fitted to an accepted standard for the premises	No	Assessor told that the three doors protecting the 1st floor office escape route will be swapped for FD30s. Routine checks should be made to maintain the standard when new doors are installed. Check for signs of damage to seals, self-closer, door, frame and hinges.
		
17.5 Exits easily and immediately openable where necessary	No	The final exit doors leading from the building have been fitted with bolts, although these bolts are not locked, they are stiff and not easily moved. Ground floor kitchen exit is missing the push bar release.
		

17.6 Fire exits open in direction of escape where necessary	Yes	
17.7 Avoidance of sliding or revolving doors as fire exits where necessary	Yes	
17.8 Satisfactory means for securing exits	No	As Question 17.5.
17.9 Reasonable distances of travel where there is a single direction of travel	Yes	Travel distances in a single direction are within recommended guidelines for a building of this type and use.
Approximate greatest distance of travel	20m - 25m	
17.10 Reasonable distances of travel where there are alternative means of escape	Yes	Travel distances throughout the building are within the suggested guidelines, were an alternative means of escape is available.
Approximate greatest distance of travel	20m - 30m	
17.11 Suitable protection of escape routes	No	As Question 17.4.
17.12 Suitable fire precautions for all inner rooms	Yes	
17.13 Escape routes unobstructed	No	Both sides of the building escape routes are obstructed. One with overgrown vegetation and the other has a sloped grass verge and a storage tank. Routine checks should be made to see this standard remains and recorded as evidence.
   		
17.14 It is considered that the premises are provided with reasonable arrangements for means of escape for disabled people	N/A	
17.15 Is it considered that the floor coverings used in the means of escape are appropriate.	Yes	Floor coverings used in the means of escape are appropriate.

Measures to limit fire spread and development

Question	Response	Details
18. Measures to limit fire spread and development		
18.1 It is considered that there is compartmentation of a reasonable standard	Yes	The building is of sound construction and will perform as designed in the event of a fire developing.
18.2 It is considered that there is reasonable limitation of linings that might promote fire spread	Yes	
18.3 As far as can reasonably be ascertained, fire dampers are provided as necessary to protect critical means of escape against passage of fire, smoke and combustion products in the early stages of a fire	N/A	
18.4 Are high risk rooms / areas adequately protected	N/A	
18.5 List types of protection offered in this area		

Emergency Escape Lighting

Question	Response	Details
19. Emergency escape lighting		
19.1 Reasonable standard of emergency escape lighting system provided and fitted to BS 5266-1: 2016	No	Non installed on day of audit. The level and coverage of emergency lighting should be sufficient throughout the premise to illuminate the safe means of escape for all occupants during an evacuation (including above all exits and external escape routes). External emergency lighting may become covered in moss and restrict the light, routine checks and cleaning should take place.
19.2 Emergency lighting test monthly records available	N/A	As Question 19.1. The monthly tests are to confirm the lighting is operating. This function test is carried out by simulating power failure to the lighting. The usual methods are by inserting a fish tail key into an emergency lighting test socket, or by a switch located near to the main electrical fuse boards.
19.3 Emergency lighting annual engineer test records available	N/A	As Question 19.1. Annual test involves a full discharge to confirm the units will operate for the full 3-hour duration. The full discharge test can be carried out by a competent fire alarm engineer. Certification should be provided as evidence this has been carried out.

Fire safety signs and notices

Question	Response	Details
20. Fire safety signs and notices		
20.1 Is there a reasonable standard of fire safety signs and notices in the premises compliant with BS 5499-4:2013 and The Health & Safety (Signs & Signals Regulations) 1996	Yes	Signage is clearly displayed in the required areas. Escape routes are identifiable from all locations within the building. Carry out routine inspections and replace any missing or damaged signs (due to the age of some signage, this should be completed asap and replace any signage).
20.2 Have fire action and information notices been completed with the correct information where required	Yes	As Question 20.1.
20.3 Are fire doors and fire exits affixed with the correct signage and indicators	Yes	As Question 20.1.
20.4 Are signs indicating fire appliances or equipment appropriate	Yes	As Question 20.1.
20.5 Are fire exit route sign appropriate for the premises (showing location and direction)	Yes	As Question 20.1. Consideration for factory floor, ideally escape routes should be clearly demarked on the foor

Means of giving warning in case of fire

Question	Response	Details
21. Means of giving warning in case of fire		
21.1 Current type of fire alarm system in place in the premises in line with BS 5839-1:2017	The fire alarm appears to be an L3 category system; however, this should be confirmed within the design and commissioning certificate in accordance with BS 5839. Fire panel on day of audit was showing 'FIRE' in canteen area. This was a fault as there was no fire. Beams installed in factory at high level.	
		
21.2 Required type of fire alarm system in the premises	Category L3 system Detectors should be placed in all escape routes and all rooms that open onto an escape route.	
21.3 Does the automatic fire alarm link to a remote call centre	No	To be confirmed.
21.4 Are weekly fire alarm tests carried out	No	As Question 21.1.
21.5 Has the current fire alarm system been fitted to and regularly maintained by a qualified engineer to BS 5839-1:2017 Fire detection and fire alarm systems for buildings standard.	No	As Question 21.1.

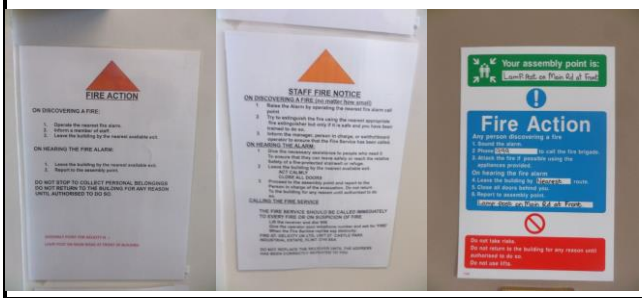
Manual fire extinguishing appliances

Question	Response	Details
22. Manual fire extinguishing appliances		
22.1 Reasonable provision of portable fire extinguishers installed to BS 5306-8:2012	Yes	Suitable fire extinguishers are located throughout the building in all appropriate locations. The type of extinguisher available is suitable for the likely cause of fire within the building. Assessor found some extinguishers used as door wedges and left in unsuitable areas (window ledge).
  		
22.2 Are maintenance records available for portable fire appliances	Yes	Completed March 2019.
		
22.3 Are internal checks completed and recorded for portable fire appliances	No	It is important to carry out regular inspections of all extinguishers on the premises. Missing seals/pins may be evidence of an extinguisher has been discharged or misused. In the event of an actual fire these extinguishers may not operate effectively putting persons at risk from harm.
22.4 Are hose reels provided, fitted and serviced to BS 5306-1:2006	N/A	
22.5 Are all fire extinguishing appliances readily accessible	Yes	All fire extinguishing are appliances readily accessible on site.

Relevant automatic fire extinguishing systems

Question	Response	Details
23. Relevant automatic fire extinguishing systems		
23.1 Type of system	N/A	
24. Other relevant fixed systems and equipment		
24.1 Type of fixed system	N/A	
24.2 Additional comments	N/A	
24.3 Suitable provision of fire fighters switches for high voltage luminous tube signs, fuel pumps etc...	N/A	

Management of fire safety

Question	Response	Details
25. Procedures and arrangements		
25.1 Fire safety is managed by	Responsible Persons	
25.2 Competent person(s) appointed to assist in undertaking the preventative and protective measures (I.e relevant general fire precautions)	Yes	Delyn Safety UK consultancy to provide ongoing advice and support.
25.3 Is there a suitable record of the safety arrangements	No	The recording of the fire safety arrangements on site are in the process of being reviewed and implemented in a standardized manner that will improve the recording and scheduling of the testing and maintenance. It is important that the fire safety arrangements are regularly reviewed and that all appropriate people are aware of the emergency procedures. The premises should make use of a separate fire logbook that allows for the specific recording of the fire safety arrangements for the building.
25.4 Are appropriate fire procedures in place	Yes	Action notices instruct all occupants of the building, in the event of discovering a fire, raise the alarm, evacuate by the nearest available exit and to assemble at a designated place of safety away from the building.
		
25.5 Are procedures in the event of fire appropriate and properly documented	No	As Question 25.3.

25.6 Are suitable arrangements for summoning the fire and rescue service in place	Yes	A phone call to the emergency services will be made by a member of staff if the responsible persons are not present at the time of fire.
25.7 Are there suitable arrangements to meet the fire and rescue service on arrival and provide relevant information, including that relating to hazards to fire fighters	No	As Question 25.3.
25.8 Are there suitable arrangements for ensuring that the premises have been evacuated	No	As Question 25.3.
25.9 Is there a suitable fire assembly point(s)	Yes	As Question 25.4.
25.10 Are there adequate procedures for evacuation of any disabled people who are likely to be present	N/A	
25.11 Appropriate liaison with fire and rescue service (e.g. By fire and rescue service crews visiting for familiarisation and information gathering)	Yes	Inspection of the building and related documentation could be requested and would be co-operated with by the responsible person and their representatives.
25.12 Routine in house inspections of fire precautions carried out and recorded	No	As Question 25.3.

Training and Drills

Question	Response	Details
26. Training and Drills		
26.1 Type of Persons likely to be present at premises.	Staff, Visitors, Contractors	
Contractor control should be in place and should include information on fire safety as well as access to such items as the Asbestos register and any key hazard areas of the site including access and egress restrictions. See also section 14 of this assessment.		
26.1 Are all staff given adequate fire safety instruction and training on induction	Yes	All employees have completed fire marshal training within the last two months. These require refresher training in the next three years. Any new starters will have to complete an induction safety course and/or fire marshal.
Does all staff training provide information, instruction or training on the following:		
26.2 Fire risks in the premises	Yes	As Question 26.1.
26.3 Are all staff given adequate periodic "refresher training" at suitable intervals	N/A	As Question 26.1.
26.4 The fire safety measures on the premises	Yes	As Question 26.1.
26.5 Action in the event of fire	Yes	As Question 26.1.
26.6 Action on hearing the fire alarm signal	Yes	As Question 26.1.
26.7 Method of operation of manual call points	Yes	As Question 26.1.
26.8 Location and use of fire extinguishers	Yes	As Question 26.1.
26.9 Means for summoning the fire and rescue service	Yes	As Question 26.1.
26.10 Identity of persons nominated to assist with evacuation	N/A	As Question 26.1.

26.11 Identity of persons nominated to use fire extinguishing appliances	N/A	As Question 26.1.
26.12 Are staff with special responsibilities (e.g. fire wardens) given additional training	Yes	As Question 26.1.
26.13 Are fire drills carried out at appropriate intervals	No	A fire drill should be carried out at least twice a year to demonstrate that staffs are familiar with the action to take on discovering a fire and on hearing the fire alarm activating.
When the employees of another employer work in the premises:		
26.14 Is it ensured that the employees are provided with adequate instructions and information	No	Maintenance contractors, and other workers visiting the premises may have some basic fire safety awareness training. It is good practice to have instruction, training and information on fire safety measures in the building and the action to take in the event of fire.
26.15 Is their employer given appropriate information (e.g. on fire risks and general fire precautions)	No	As Question 26.14.

Testing and Maintenance

Question	Response	Details
27. Testing and Maintenance		
27.1 Adequate maintenance of premises	Yes	The premises appeared to be in good state of repair and well maintained. There needs to be a schedule of maintenance, tests and inspections in order to suitably manage the fire safety arrangements.
27.2 Periodic inspection of external escape staircases and gangways	N/A	
27.3 Six-monthly inspection and annual testing of rising mains	N/A	
27.4 Weekly and monthly testing, six-monthly inspection and annual testing of fire-fighting lifts	N/A	
27.5 Weekly testing and periodic inspection of sprinkler installations	N/A	
27.6 Routine checks of final exit doors and/or security fastenings	No	The premises should make use of a separate fire logbook that allows for the specific recording of the fire safety arrangements for the building.
27.7 Are suitable systems in place for reporting and subsequent restoration of safety measures that have fallen below standard	Yes	Monitored by the responsible persons.
27.8 Other relevant inspections or tests	No	As Question 27.6.

Fire Risk Assessment

Question	Response	Details
Fire Risk Assessment		
Taking into account the fire prevention measures observed at the time of this risk assessment, it is considered that the hazard from fire (likelihood of fire) at these premises is:		Medium
In this context, a definition of the above term is as follows: LOW Unusually low likelihood of fire as a result of negligible potential sources of ignition MEDIUM Normal fire hazards (e.g. potential ignition sources) for this type of occupancy, with fire hazards generally subject to appropriate controls (other than minor shortcomings) HIGH Lack of adequate controls applied to one or more significant fire hazards, such as to result in significant increase in likelihood of fire		
Taking into account the nature of the premises and the occupants, as well as the fire protection and procedural arrangements observed at the time of this fire risk assessment, it is considered that the consequences for life safety in the event of fire would be:		Moderate harm
In this context, a definition of the above term is as follows: SLIGHT HARM Outbreak of fire unlikely to result in serious injury or death of any occupant (other than an occupant sleeping in a room in which a fire occurs) MODERATE HARM Outbreak of fire could foreseeably result in injury (including serious injury) of one or more occupants, but it is unlikely to involve multiple fatalities EXTREME HARM Significant potential for serious injury or death of one or more occupants		
Accordingly, it is considered that the risk to life from fire at these premises is: Trivial - No action is required and no detailed records need be kept. Tolerable - No major additional fire precautions required. However, there might be need for reasonably practicable improvements that involve minor or limited cost. Moderate - It is essential that efforts are made to reduce the risk. Risk reduction measures, which should take cost into account, should be implemented within a defined time period. Where moderate risk is associated with consequences that constitute extreme harm, further assessment might be required to establish more precisely the likelihood of harm as a basis for determining the priority for improved control measures. Substantial - Considerable resources might have to be allocated to reduce the risk. If the premises are unoccupied, it should not be occupied until the risk has been reduced. If the premises are occupied, urgent action should be taken. Intolerable - Premises (or relevant area) should not be occupied until the risk is reduced.		Moderate

Actions

Question	Response	Details
Actions		
1		
Item	Fire alarm panel in fire on day of audit.	
Item related to Section:	Section 21 Means of giving warning in case of fire	
Recommendations	Have a competent company inspect the fire alarm system and complete any recommended works, repeat at regular intervals (6/12 monthly). Begin weekly alarm tests and record as evidence.	
Time Scale	Within Days	
Action Priority	High	
Action Completed by (Name and Date)		
Comments		
2		
Item	Fire exits locked and escape routes blocked	
Item related to Section:	Section 17 Means of Escape from fire	
Recommendations	Have a competent company clear the overgrown vegetation and repair any damage to doors, remove all bolts. All exits must open quickly and easily, with escape routes remaining unobstructed. Monitor and record as evidence. Side escape route obstructed with storage tank and sloped grass verge. Assessor told of plans to increase the number of lines in the factory and as a result there will be more storage tanks installed at the side of the building. When this happens the escape route will become unusable. With the number of alternative exits available and the low number of persons on site, one option is to remove the obstructed area as an escape route and remove the signage above the doors.	
Time Scale	Within Days	
Action Priority	High	

Action Completed by (Name and Date)	
Comments	
3	
Item	Cylinders left, diesel storage not suitable and pallets left by previous tenants.
Item related to Section:	Section 13 Housekeeping
Recommendations	Have a competent company inspect the diesel storage and complete any recommended works, also install a bunded area for collections of spills/leaks. Install a secure, well ventilated with suitable fire precautions, a caged area to store all cylinders. Segregate different substances and empties. Monitor and keep levels to a minimum. Remove pallets and reduce the overall amount of combustible items were possible.
Time Scale	Within One Month
Action Priority	High
Action Completed by (Name and Date)	
Comments	
4	
Item	Insufficient emergency lighting on site.
Item related to Section:	Section 19 Emergency Escape Lighting
Recommendations	The level and coverage of emergency lighting should be sufficient throughout the premise to illuminate the safe means of escape for all occupants during an evacuation (including above all exits and external escape routes). Have a competent company install emergency lighting and begin monthly/annual tests, record as evidence.
Time Scale	Within Two Months
Action Priority	High
Action Completed by (Name and Date)	
Comments	

5	
Item	Boiler works ongoing.
Item related to Section:	Section 10 Portable Heaters and Heating Installations
Recommendations	Have a competent company complete works and issued relevant certificate. Repeat annually.
Time Scale	Within One Month
Action Priority	Medium
Action Completed by (Name and Date)	
Comments	
6	
Item	Fixed wiring and PAT testing missing.
Item related to Section:	Section 7 Electrical Sources of Ignition
Recommendations	Have a competent company inspect the fixed wiring to site and issue relevant certificate once any works (C1/C2) are completed. Inspect all portable electrical devices on site (PATs) and good practice to have a policy restricting the use of personal electrical devices (unless tested).
Time Scale	Within Two Months
Action Priority	Medium
Action Completed by (Name and Date)	
Comments	
7	
Item	Extinguishers left around site.
Item related to Section:	Section 22 Manual Fire Extinguishing Appliances
Recommendations	Have a competent company either remove from site or inspect and position in designated area (as per guide BS 5306).
Time Scale	Within Two Months
Action Priority	Medium
Action Completed by (Name and Date)	

Comments	
8	
Item	No fire logbook.
Item related to Section:	Section 27 Testing and Maintenance
Recommendations	Begin using a fire logbook to record all relevant fire safety information on site. These include but not limited to: **Fire Alarms** – weekly tests and 6/12-month inspections. **Emergency Lighting** – monthly checks and annual testing. **Extinguishing Appliances** – weekly visual checks and annual service. **Exits/Escape Routes** – weekly checks. **Electrical** – fixed wiring up to 5-year intervals and PATs (use HSE guidance). **Heating** – annual maintenance. **Staff Training** – refreshed at regular intervals. **Fire Drills** – performed at least twice a year. **Fire Procedures** – reviewed regularly. **Incidents/False Alarms** – brief description and any actions taken to prevent reoccurrences. **Fire Officer Visits.** **Fire Risk Assessments.**
Time Scale	Immediate
Action Priority	Medium
Action Completed by (Name and Date)	
Comments	
9	
Item	Fire doors to be installed on the 1st floor office escape route (stairway).
Item related to Section:	Section 17 Means of Escape from fire
Recommendations	Have a competent company install the fire doors (FD30s) and begin weekly inspections, record as evidence.
Time Scale	Within Two Months
Action Priority	Medium
Action Completed by (Name and Date)	

Comments	
10	
Item	Advisory
Recommendations	Storage under both stairs – ensure that not combustible materials are stored under either stair. Signage - Carry out routine inspections and replace any missing or damaged signs (due to the age of some signage, this should be completed asap and replace any signage). Fire Drill - A fire drill should be carried out at least twice a year to demonstrate that staffs are familiar with the action to take on discovering a fire and on hearing the fire alarm activating. Any changes to the building or increase in numbers (i.e. future plans to increase number of lines and staff), a review of this report must take place.
Action Completed by (Name and Date)	
Comments	