FIRE PREVENTION & MITIGATION PLAN

Unit 27 & The Former Scrapyard, Castle Park Industrial Estate, Flint, Flintshire CH6 5XA

New Horizon Plastics Co Ltd

Version:	1.5	**Date:**	03 December 2021		
Doc. Ref:	CAS-2570-B	**Author(s):**	CP	**Checked:**	NHP
Client No:	2570	**Job No:**	008		

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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.
1.4	11/05/2021	CP	NHP	Updated for EP variation application
1.5	03/12/2021	CP	--	NRW comments; refer to Sch5 response document for updated sections

THIS DOCUMENT IS DUE FOR REVIEW IN **JANUARY 2024** OR AS A RESULT OF ANY INCIDENTS WHICH MAY LEAD TO THE REQUIREMENT FOR IMMEDIATE REVIEW, WHICHEVER IS THE SOONER

CONTENTS

List of Tables

List of Appendices:

Appendix I - Drawings

Drawing No. CAS/2570/02 – Permit Boundary Plan

Drawing No. CAS/2570/03 – Site Layout & Fire Plan

Drawing No. CAS/2570/04 –Receptor Plan

Appendix II - Record Keeping Forms

Site Diary/Inspection Form

Preventative Maintenance Checklist

Training Needs Assessment

Appendix III - Fire Risk Assessment

Appendix IV - Hot Works – Permit to Work

Site Information & Key Contacts List

Site Address:	Unit 27 & The Former Scrapyard, 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 & The Former Scrapyard, Castle Park Industrial Estate, Flint, Flintshire CH6 5XA. The site will operated as the following:

a) **PLASTIC RECYCLING**: Compacting, manual sorting/separation), mechanical sorting, separation & screening, drying, crushing, washing, shredding, granulating, baling
b) **TYRE RECYCLING:** sorting, separation, shearing, de-beading, bale breaking, baling, shredding, compacting, granulating and milling

1.1.2 The location of the above storage and treatment areas are clearly shown on Drawing No. CAS/2570/03 which appears in Appendix I of this document.

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 & The Former Scrapyard, 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 allows 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 public for the deposit of waste. This FPMP has been updated mainly due to the following:

- Permit boundary increase
- Major site layout changes to existing site
- Inclusion of a tyre recycling facility comprising sorting, separation, shearing, de-beading, bale breaking, baling, shredding, compacting, granulating and milling for recovery.

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:

a) **PLASTIC RECYCLING**: Compacting, manual sorting/separation), mechanical sorting, separation & screening, drying, crushing, washing, shredding, granulating, baling
b) **TYRE RECYCLING:** sorting, separation, shearing, de-beading, bale breaking, baling, shredding, compacting, granulating and milling for recovery

1.3.4 The layout of the site is shown on Drawing No. CAS/2570/03. 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 site will require 12 staff (8 on SITE A and 4 on SITE B) to be fully operational to ensure the measures in this FPMP are met.

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 mobile plant/equipment on site, fixed plant has not been included but is shown on Drawing No. CAS/2570/03. The mobile plant can also be used to aid in fire suppression or manoeuvring of waste to reduce the spread of fire. Only trained operators will be permitted to drive/operate the plant/equipment listed below.

Table 1.1 - Plant and Equipment

Item	Number	Function
Fork lift	2	Loading/unloading/movement/sorting
Telehandler	3	Importing / exporting material
360^0 excavators	3	Shredding/crushing/size reduction of waste
Bobcat skidstear	1	Site sweeping/housekeeping

1.6 Hours of operation

1.6.1 The site will be operated in accordance with the following hours:

- **SITE A** = 07:00 – 19:00 Monday – Sunday and closed Bank Holidays.
- **SITE B** = 07:00 – 19:00 Monday – Sunday and closed Bank Holidays.
- Both sites will be completely shut down for one day a month to provide a full operational clean up.

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 A Sensitive Receptors Plan has been provided in Appendix I to highlight all main receptors within 1,000m of the site which could be affected by a fire at the site.

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 table overleaf details a risk assessment of all the receptor types within 1km radius of site, and likely impacts on each - e.g. smoke, road closures, impacts on businesses etc…

1.8.4 Contact details for surrounding industrial, commercial, retail and leisure premises are shown in Section 8.3 including and procedures of how receptors with human population would be notified of a fire.

Table 1.2 – Receptor Table

Receptor	Receptor Type	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Risk Management
Numerous surrounding industrial and commercial uses on Castle View Industrial Park	Industrial / commercial premises	Fire causing the release of polluting materials to air (smoke, fumes and particulate matter)	Respiratory irritation, illness and nuisance to local population. Financial loss of businesses due to closure of adjacent roads/evacuation of premises.	Air transport of smoke.	High	Medium	Medium	Procedures set out in this FPMP. Toolbox talks and liaison meetings with receptors to review procedures in the event the site is subject of a fire.
Residential dwellings in the surrounding area shown on Drawing No. CAS/2570/04	Residential	As above	Respiratory irritation, illness and nuisance to local population.	Air transport of smoke.	Medium	Medium	Medium	As above
Surrounding highway networks including A548	Major road networks	As above	Closure of roads due to excessive smoke fumes. Increased risk of accidents due to poor visibility.	Air transport of smoke.	Medium	Medium	Medium	As above
Flint Train Station and railway line	Leisure / retail	As above	Closure of railway due to excessive smoke fumes. Increased risk of accidents due to poor visibility. Nuisance to staff and people associated with using these services due to closure.	Air transport of smoke.	Medium	Medium	Medium	Procedures set out in this FPMP. Toolbox talks and liaison meetings with receptors to review procedures in the event the site is subject of a fire.
Surface Waters inc. the Dee Estuary – RAMSAR, SAC, SPA and SSSI	Surface Waters	Direct run off of fire water across site or to surface waters. Fire causing the release of polluting materials to air (smoke, fumes and particulate matter).	Loss of amenity, deterioration of water quality, killing of flora / fauna and other local wildlife Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	Air transport of smoke. Direct run off of fire water across site to surface waters.	Low	Medium	Low	Procedures set out in this FPMP. The site has a sealed drainage system.
Other habitats and species inc. deciduous woodland	Protected sites and species	As above	As above	Air transport of smoke.	Low	Medium	Low	Procedures set out in this FPMP
Flint Castle	Heritage site	Fire causing the release of polluting materials to air (smoke, fumes and particulate matter)	Harm to heritage site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	Air transport of smoke.	Low	Medium	Low	Procedures set out in this FPMP

2 Managing Common Causes of Fire

2.1 Details

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

Table 2.3 - Common fire sources and mitigation

Source	Risk	Magnitude of Risk / Likelihood	Brief outline of Mitigation (refer to Section 4 for storage/monitoring procedures)	Magnitude of risk / likelihood following 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	Medium	• Appropriate site security infrastructure. • Vehicle checks on arrival to the site. • Plant & equipment daily checks and preventative maintenance of plant / equipment by manufacturer. • Staff training / toolbox talks.	Near-zero
Plant or equipment	Spillages of fuel, sparks from machinery or malfunction caused by ineffective maintenance	Medium	• Plant & equipment daily checks and preventative maintenance of plant / equipment by manufacturer. • Any liquid/fuel/oil storage is double bunded. • Daily checks of site surfacing and spill kits. • Staff training / toolbox talks.	Near zero
Electrical appliances and cabling	Faulty appliances or damaged/ exposed electrical cables may spark as a result of a power surge	Medium	• Fixed wiring testing is carried out 5 years and portable appliances are PAT tested 12 months in accordance with Legislation. • Daily checks for dust and fluff on wiring / electrical appliances.	Low
Discarded smoking materials	Risk of ignition of stored wastes from smoking materials which have not been fully distinguished	Low	• Designated smoking area on site and smoking policy.	Near-zero
Sparks from loading buckets/shovels	Scraping of loading buckets/shovels causing sparks which may ignite stored wastes	Low	• Fire extinguishers are fitted in the cab of all loading plant. • Staff training / toolbox talks. • Plant & equipment daily checks and preventative maintenance of plant / equipment by manufacturer.	Low
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	Medium	• Only trained staff can use 'hot works' equipment i.e. oxy-acetylene. • Staff and contractors follow safe working practices including a permit to works system when carrying out hot works. • Daily fire watch for a suitable period after hot works have ended, particularly at the end of a working day.	Low
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	Low	• There are no industrial heaters (or associated pipework) used heat areas of the site.	Low
Hot exhausts	Potential source of both primary and residual heat to stored wastes	High	• Fire extinguishers are fitted in the cab of all loading plant. • Staff training / toolbox talks for continuous monitoring throughout the day to detect signs of a fire caused by dust settling on hot exhausts and engine parts. • Plant & equipment daily checks and preventative maintenance of plant / equipment by manufacturer. • Out-of-hours storage of plant & equipment away from combustible or flammable wastes. • Daily checks for dust and fluff on plant/equipment before and use of equipment.	Low

Source	Risk	Magnitude of Risk / Likelihood	Brief outline of Mitigation (refer to Section 4 for storage/monitoring procedures)	Magnitude of risk / likelihood following mitigation
Build-up of loose combustible waste, dust and fluff	Light waste and ambient particulates with high combustibility settling and building up in key areas in and around plant/machinery and around exhausts	High	• Fire extinguishers are fitted in the cab of all loading plant. • Staff training / toolbox talks for continuous monitoring throughout the day to detect signs of a fire caused by dust settling on hot exhausts and engine parts. • Plant & equipment daily checks and preventative maintenance of plant / equipment by manufacturer. • Minimum daily checks for dust and fluff on plant/equipment before and use of equipment at the start/end of each working day.	Low
Hot loads	Imported wastes which may contain materials which are above ambient temperature	High	• All loads are inspected in accordance with strict waste acceptance procedures. • Quarantine area and rejected waste containers on site for quick isolation of load.	Low
Overhead power lines	Any overhead power lines on or around the site may ignite in the event of a fire and worsen the effects	Low	• There are no overhead power lines which traverse the site.	Near-zero
Ignition sources	Activities or appliances which use a source of both primary and residual heat to treat waste or manufacturer material or plant/equipment	Medium	• Hot works procedures in place.	Low
Batteries within waste deposits	Ignition of stored wastes via batteries within imported wastes	High	• All loads are inspected in accordance with strict waste acceptance procedures including wastes received into satellite sites. • Quarantine area and rejected waste containers on site for quick isolation of load containing batteries. • All batteries on site stored in dedicated containers in suitable areas on site.	Medium
Other combustible non-waste materials on or near the site not mentioned above i.e. gas cylinders / LPG tanks	Any combustible non-waste materials on or near the site may ignite in the event of a fire and worsen the effects	High	• All loads are inspected in accordance with strict waste acceptance procedures. • Quarantine area and rejected waste containers on site for quick isolation of load. • Dedicated storage areas for cylinders and LPG tanks on site.	Low
Reaction between wastes	Combustible waste piles may ignite in the event of a fire and worsen the effects if wastes react	High	• All loads are inspected in accordance with strict waste acceptance procedures. • Quarantine area and rejected waste containers on site for quick isolation of load.	Low
Leaks and spillages of oils and fuels	Fuels and combustible liquids leaking or trailing from site vehicles and ELVs can combust or cause accidents leading to combustion	High	• Spill kits available throughout the site. • Suitable and sealed drainage system. • Vehicles visually inspected throughput the day with any noticeable leakages being depolluted as a priority. • All depollution would take place inside a building. • Minimum daily checks for spillages around the site. • Staff training / toolbox talks.	Low
“Tramp” metal	Metal could be hot from mechanical processing and interact with lighter waste causing a fire	High	• All loads are inspected in accordance with strict waste acceptance procedures including wastes received into satellite sites. • Quarantine area and rejected waste containers on site for quick isolation of load containing batteries. • Minimum daily checks on mechanically processed scrap metal at the start/end of each working day. • Staff training / toolbox talks for continuous monitoring throughout the day to detect signs of a fire caused by dust settling on hot exhausts and engine parts. • Infra-red / heat detection cameras in place providing full coverage over mechanically treatment and storage areas.	Low

2.2 Fuel storage

2.2.1 There are 32,000-litre and 1,000 litre red diesel tanks situated on site which are used to power fixed and mobile plant 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 are 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.

2.3.2 The site has on site generators to power mobile plant but both generators are kept away from waste storage and treatment areas and 6m from any combustible or flammable material.

2.4 Hot works procedure

2.4.1 The site's hot working procedure are shown in Appendix IV of this document.

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 The smoking receptacle inside the shelter will be monitored daily and routinely emptied to prevent a build-up of potentially combustible materials.

2.5.3 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.

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

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

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

2.5.7 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.

2.5.8 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.

2.5.9 The policy will be reviewed every 12 months.

2.6 Mobile and fixed plant 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 All mobile and fixed plant on site including vehicles in the fleet are subject to annual manufacturer maintenance to ensure proper working order in the form of service contracts.

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

2.6.4 **Out-of-hours** – Out of hours for both SITE A and SITE B will comprise 19:00 – 07:00 Monday to Saturday and all-day Sundays and Bank Holidays.

2.6.5 Within the 30 minutes of the sites closing, 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.

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

2.6.7 All mobile plant and equipment will be fitted with fire extinguishers in the cab.

2.6.8 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.

2.6.9 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

2.7 Site security

2.7.1 As shown on Drawing No. CAS/2570/03, the boundary of both sites are protected from unauthorised access comprising palisade and heras 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.

2.7.2 Both sites will benefit from 24-hour security with 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.

2.7.3 The site security measures will be inspected on a daily basis and any defects which impair the effectiveness of the security will be repaired as soon as practicable. If this is not possible, temporary measures will be put in place to ensure no unauthorised access to the site can be gained until the proper repairs can be carried out.

2.7.4 If unauthorised access becomes apparent as a problem at the site the security measures will be reviewed and improvements implemented.

2.8 Electrical faults or damaged/exposed electrical cables

2.8.1 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).

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

2.8.3 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.

3.2 Combustible waste reception

3.2.1 Incoming wastes will be tipped in the areas shown on Drawing No. CAS/2570/03 and will be as follows:

SITE A

- **AREA 1** comprising mixed plastics in loose and baled format. The area will act as a holding area and be constantly moving throughout the day

SITE B

- **AREA 6** comprising mixed plastics in loose and baled format. The area will act as a holding area and be constantly moving throughout the day or **AREA 7** if the area is clear.
- **AREA 11** comprising ELTs prior to being to be loaded into the tyre recycling plant.

3.2.2 It is proposed that the site will operate continuously so there is no requirement for any additional waste/reception storage areas. Additional storage areas will comprise post-sorted/treated wastes and product which will be removed when the areas are full, this is expected to be at least 3-4 times during the site's operating hours.

3.2.3 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 of waste over a 24-hour period. In terms of SITE A, each of the seven lines can process 2 tonnes an hour at full capacity meaning there will never be a backlog of storage in the external yard and SITE B, the ELT recycling plant can process up to 3 tonnes per hour. 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 and monitored 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 comprise only **AREAS 6 and 12** as all other storage areas will not be stored for longer than the sites operating hours. It is considered that **AREA 11** does not require temperature monitoring due to the naturae of the material as ELTs are not generally at risk from spontaneous combustion if they have not be mechanically treated i.e. shredded.

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

SITE A = Storage Area Details												
Plan Ref	**Description**	**Storage type**	**Containment / type**	**Height of firewall (m)**	**Max width (m)**	**Max length (m)**	**Max height (m)**	**Max area (m)**	**Conversion factor used**	**Max volume (m^3)**	**Max storage time**	**Comments**
AREA 1	Temporary plastic tipping, bulking and sorting area (acting as pre-processing pile)	Mechanically processed / shredded	N/A	N/A	13	10	3	130	0.333	130	<11 hours	Area clear 1 hour prior to shutdown
AREAS 2 & 3	Residual (light organics) from wash process	Treated/washed	Container / Tonne Bag	N/A	1	1	1	1	1	1	<1-2 hours	Bags removed when full; on average 10 - 12 times per day
AREA 4	Temporary bale storage	Processed (baled)	N/A	N/A	4	4	2	16	1	32	<11 hours	Area clear 1 hour prior to shutdown
AREA 5	Temporary storage of plastic flake and pellet product	Mechanically processed/tonne bags	N/A	N/A	15	4	1	60	1	60	<12 hours	Bags are removed to separate unit prior to being exported to claim PRNs (non-waste)
SITE B = Storage Area Details												
Plan Ref	**Description**	**Storage type**	**Containment / type**	**Height of firewall (m)**	**Max width (m)**	**Max length (m)**	**Max height (m)**	**Max area (m)**	**Conversion factor used**	**Approx. volume (m3) - out-of-hours**	**Max storage time**	**Comments**
AREA 6	Reception and storage area for baled and loose plastic	Mixture of loose and baled	Concrete firewall (partial) / legio block	3.2	15	5	2	75	1	150	<2 weeks	Storage based on worst case scenario i.e. plant breakdowns
AREA 7	Temporary plastic storage prior to shredding	As above	N/A	N/A	5	8	2	40	1	80	<1-2 hours	Material transferred to shredder
AREA 8	Post-shred plastic	As above	N/A	N/A	5	8	2	40	1	80	<1-2 hours	Material transferred to adjacent containers
AREA 9	Containers of shredded plastic	Sorted and stored in open top skips	N/A	N/A	6.1	2.4	2.62	15	1	39	<1-2 hours	Containers dispatched to **SITE A** and replaced with empty ones when full
AREA 10	Various tonne bags comprising rubber in three grades; 50-60mm TDF, 1 - 4mm granule & 0.03 - 0.08mm mesh	Mechanically processed/tonne bags	N/A	N/A	1	1	1	10	1	10 (based on bags)	<1-2 hours	Bags removed when full; on average 10 - 12 times per day
AREA 11	End of life tyres (no rims)	Loose and baled	Concrete fire wall / legio block	3.2	15	10	2.4	150	0.75	270	<2 weeks	Storage based on worst case scenario i.e. plant breakdowns
AREA 12	Metal wire removed during treatment process	Loose and compacted	Concrete fire wall / legio block	3.2	10	10	2	100	0.75	150	<2 weeks	As above

4.3.2 The conversions for the waste piles have been calculated using the following:

Table 4.2 – Conversion factors

CONVERSION FACTORS
Conversion factors for waste piles are worked out using the following methods set out by Natural Resources Wales
The maximum length & width of pile is based on the largest dimension – the volume of the pile has been calculated using the area x height x relevant conversion factor
Conversion of 1 for materials stored within containers, area of storage in stackable containers and waste/bale stacks
Conversion of rectangle + pyramid for waste stored within a bay (approx. 0.75)
Conversion of pyramid volume for waste stored in a free-standing stockpile (approx. 0.333)
For areas containing skips, conversion is calculated by volume of each skip x number of skips

5 Managing waste piles

5.1 Stored combustible waste/materials

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

a) Baled and loose recyclable plastic waste.
b) Loose tyres
c) Wire from tyres
d) Rejected /by-product wastes unsuitable for processing or arising from processing
e) There will also be non-waste material on site comprising tyre granulate and plastic flakes.

5.1.2 **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.

5.1.3 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).

Table 4.1 – Storage/monitoring procedures – free-standing piles

Pile Ref:	Storage/monitoring procedures to reduce the risk of fire
AREA 1 Temporary plastic tipping, bulking and sorting area (acting as pre-processing pile)	• Plastic will be delivered to this area is shred form arising from Site B or loose plastic passing waste acceptance checks from a third-party site. • The waste will be tipped at the front of the stockpile and then continually extracted from the rear of the stockpile by 360^0 excavator into the wash plant ensuring the first in first out principle applies. • The wash plant then goes through a variety of treatment processes externally then into the 7 no. processing lines inside the building which manufacturer the product. The site when fully operational will be able to process 120 tonnes of waste per day so the volume of the pile has been based on 120 tonnes to ensure it is not stored for longer than a 24-hour period. • As the waste is continually moving, it is considered that no firewall is required. During the 1-day shutdown per month or in the event f a breakdown, the area will be clear of waste material. • Apart from the use of loading equipment and adjacent treatment plant no other mechanical processing of waste takes place within 6m of this area. • In addition to the CCTV, the waste will be visually monitored throughout the day by site operatives. • It is considered that no monitoring other than visual is required due to continual movement and processing of the material.
AREA 6 Reception and storage area for baled and loose plastic	• Plastic will be delivered to the site loose or baled. • The waste will be tipped at the front (right-hand side) of the stockpile and then extracted from the rear (left) of the stockpile into the pre-shred area ensuring the first in first out principle applies. • Waste is stored within 3.2m high x 0.6m wide interlocking concrete legio block bays with a suitable 1m freeboard. • The bays will be visually monitored continuously throughout the day and 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. The pile will be monitored and temperature recorded 10 minutes prior to closure of site at 19:00 Mon-Sat. • 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.
AREAS 7 & 8 Pre/post shred plastic	• Same procedures will apply as per Area 1 in which the two areas will be continuously moving throughout the day and no waste will be stored in these areas out-of-hours so it is considered than no further monitoring other than visual throughout the day is required.
AREAS 7 & 8 End-of-life tyres	• Same procedures will apply as per Area 6 but it is considered due to the nature of material and the form in which they are stored that no further monitoring other than visual is required.

Pile Ref:	Storage/monitoring procedures to reduce the risk of fire
AREA 12	• This area comprises metal wire which has been removed from the inside of a tyre during the recycling process. The wire will be bulked and stored in this area and removed once there is 1 – 2 articulated loads available. • The same monitoring procedures will take place as AREA 6.

5.2 Waste stored in bale form

5.2.1 The table below details the waste types which are stored in baled form at the site.

Table 5.2 - Combustible waste storage table for baled waste

Pile Ref:	Storage/monitoring procedures to reduce the risk of fire
AREA 4 Temporary bale storage	• This will be an ongoing waste storage process involving the placement of bales prior to being loaded into a curtain-sided vehicle trailer in the location shown which will be loaded by forklift with baled plastics. • Once the trailer is full (approximately 40 bales) a tractor unit will remove the trailer off site to deliver the baled plastics to an onward recycling operation. • Whenever a full trailer is removed, the area will be empty to eliminate the need to undertake stock rotation of the stack as records will be kept of each load which is delivered to the onward reprocessing facility so an accurate determination of the residence times can be continually monitored by trained site staff. • It will take <12 hours to complete the loading of a trailer so the maximum duration of storage for any wastes in this area is 12 hours. • The site will not bale on a daily basis and will only bale once per week when there is enough material to bale. The baled waste will consist of waste not suitable to manufacture the plastic product and claim PRNs on. • No further monitoring required other than visual by trained staff. • In the event the bales need to be stored longer, further monitoring using the probe or thermal imagery can provide a full representation of the bale surface temperature and inside the centre of the bales. • This pile will be subject to a temperature reading of the surface and centre of a representative subset of bales (10% of the pile) which will be taken at least once during the day; usually following shutdown. • If a temperature of above 75^0C is recorded, the bale 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 table below details the waste/material types which are stored in containers and/or tonne bags at the site.

Table 5.3 - Combustible waste storage table for waste stored in containers

Pile Ref:	Storage/monitoring procedures to reduce the risk of fire
AREAS 2 & 3 Residual (light organics) from wash process	• Comprising <1,000 litre tonne bags or containers of residual waste from the wash plastic comprising labels or other constituents. The waste is not considered readily combustible given its high moisture content. • The bags/containers will be accessible from the top and sealed to prevent the escape of odours or liquids. • The bags/containers are likely to be removed at least 3-4 times throughout a 24-hour period so it considered no further monitoring is required.
AREA 9 Shredded plastic	• The shredded plastic will be stored in a 40 cubic yard skips and temporarily stored and removed to SITE A for processing when full. A replacement skip will then be placed immediately once removed. • The skips will be open at the top and are accessible for manoeuvring by mobile plant in the event they combust or surrounding waste/plant or material combusts. • Generally as the skips will not be stored for longer than a working day it is considered no further monitoring is required.
AREA 11 Various tonne bags comprising rubber in three grades; 50-60mm TDF, 1 - 4mm granule & 0.03 - 0.08mm mesh	• Comprising <1,000 litre tonne bags of mechanical tyre shred arising from thew recycling plant. • The bags will be accessible from the top and sealed to prevent the escape of odours or liquids. • The bags/containers are likely to be removed at least 3-4 times throughout a 24-hour period so it considered no further monitoring is required. • Once shred has been removed of metallic content it is considered a rubber product and may be re-used as a product or exported as a non-waste.

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 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** – Although the main processing building containing the 7 no. processing lines will not store any waste, due to the high value of processing equipment and combuystible material, automated infra-red/heat detection is installed.

5.4.5 The system was 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.

5.4.6 **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 mobile and other remote software 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 5 -** Flakes / pellets – exported to China as product
b) **AREA 4** – Plastic Bales – exported to Romania as product
c) **AREA 10 –** Rubber crumb – exported to China as product
d) **AREA 12** – Metal wire – sent to suitable metal recycler for further treatment

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 FPMP.

6 Prevent fire spreading

6.1 Fire walls and bays

6.1.1 Some of the waste/material on site will be stored against concrete legio interlocking 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 6, 11 & 12	- 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 requiring storage of more than 12 hours are stored within secure 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.

7.1.4 The site undergoes at least 2 no. litter picks every during the operational hours including manual and use of a Bobcat Skidstear with a fitted sweeper to reduce the build-up of combustible materials on and off site. The materials recovered will be deposited into a mobile refuse bin which will be removed weekly by a trade waste collector. The location of wheelie bin will vary so it has not been included on the site plan.

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 As there are two sites operating under one permit boundary two quarantine areas have been provided and details for each are shown below and the position on Drawing No. CAS/2570/03.

8.1.2 **SITE A** = The largest pile on SITE A comprises **AREA 1** and could total 130m^3 in volume meaning the quarantine area would need to hold 65m3 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. This quarantine area measures 70m^2 and if waste were piled 3m high, could hold A total 70m^3 of waste which is more than 50% of the largest stockpile on this area of the site.

8.1.3 **SITE B** = The largest pile on SITE B comprises **AREA 11** and could total 270m^3 in volume meaning the quarantine area would need to hold 135m^3 of waste material. This quarantine area measures 140m^2 and if waste were piled 3m high could hold total 140m^3 of waste which is more than 50% of the largest stockpile on this area of the site.

8.1.4 Both quarantine areas are located on an impermeable surface with sealed drainage meaning that any firewater used to tackle burning/smouldering waste would be contained within the site's drainage system and not escape off site.

8.1.5 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 The waste would be moved using the site's mobile plant comprising either forklift, telehandler or 360^0 excavator.

8.2.2 In the event of a fire the areas will be used either to isolate wastes which are smouldering to allow safe dissipation of heat without placing other areas on site at risk of ignition or to remove any wastes stored in bays near any material affected by a fire to prevent fire spreading to adjacent piles. Waste will be moved to the Quarantine Areas immediately and within one hour of a fire starting at the latest (providing it is safe to do so).

9 Fire detection procedure

9.1 Automated detection

9.1.1 SITE A & SITE B will both benefit from an L3 category fire alarm detection system in line with BS583-1:2017. The systems are connected to a monitoring centre who are a CMS security company. In terms of the building for SITE A, it benefits from infra-red/heat detection cameras are installed within the building and site management will be notified immediately by the monitoring company of any issues.

9.1.2 The above fire alarm system for both sites will benefit high definition, night vision and motion sensor cameras which will full coverage to areas storing waste and other areas of the site. The locations of the cameras are indicatively shown on Drawing No. CAS/2570/03.

9.1.3 The system will detect any sudden movement i.e. a piece of waste falling, animals, intruders which will set off a trigger and email/text the 6 staff who have access. The on-call staff would then review the site to see if it is a false alarm or if an intruder was present and ring the emergency services if required. If signs of smoke or flames are visible, the emergency services would be contacted in addition to the 6 staff who would visit the site within 10 minutes to prevent the fire starting/spreading.

9.1.4 The above system has been installed and signed off by the UKAS accredited installer.

9.1.5 The site manager and TCM will be trained in the following to ensure reduce the impact of a fire:

- Mobile plant
- Site drainage and surface water protection measures
- Firefighting equipment

9.1.6 In the event the out-of-hours contacts are unavailable due to sickness or holiday, an alternative member of staff who lives within 5-10 minutes if the site (suitably trained) will

be provided with a phone contactable by the monitoring company and directors who will stand in temporarily to ensure out-of-hours procedures are sufficient.

9.1.7 It is also considered the FRS would be available within 10 minutes to assist the out-of-hours contact in supressing and controlling the fire.

9.1.8 The Processing Treatment Plants (both plastic and tyre) at the sites 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 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 loud 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 and with their being two operational site's, the largest pile of combustible waste on each site has been calculated and comprises the following based on the table below:

- **AREA 1 on SITE A** measuring 150m^3 (when at full capacity). This pile this would require 156,060 litres (156m^3) of water to extinguish the fire within 3 hours requiring a flow of 867 litres per minute.
- **AREA 11 on SITE B** measuring 270m^3 (when at full capacity). This pile this would require 324,180 litres (325m^3) of water to extinguish the fire within 3 hours requiring a flow of 1,801 litres per minute.
- Together both sites could total a storage of 420m^3 of material and a flow of 2,668 l/m and 481m^3.

Table 11.1 - Water supply calculations SITE A

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
130	130 x 6.67 = 867	867 x 180	156,060 (156 m^3)

Table 11.2 - Water supply calculations SITE B

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
270	270 x 6.67 = 1801	1801 x 180	324,180 (325 m^3)

11.1.3 As it is extremely unlikely both sites would be on fire at the same time, the proposed fire water required for fire-fighting and containment has been based on each site and not a combined total as per the third bullet point of 11.1.2.

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

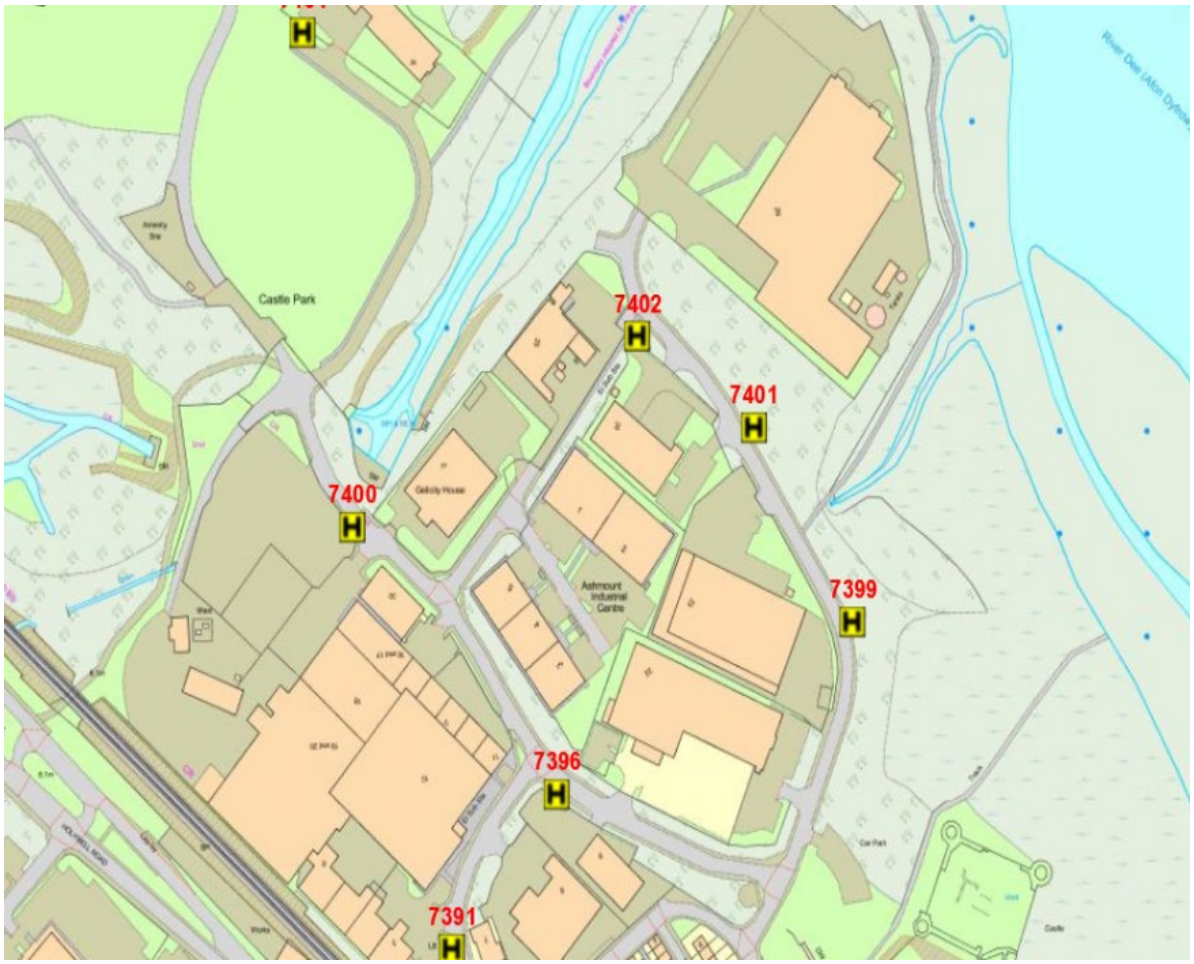
11.3 Site-wide suppression

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 Based on the above, it is likely hydrants 7400, 7402 and 7396 could be used as are all within 200m of the site.

11.4.3 Contact was made with both the FRS and Welsh Water and both are unable to provide a flow rate for the hydrant on and off-site therefore the following guidance extracted from The Local Government Association (LGA) / Water UK National Guidance Document details the following flow rates which should be considered for this site:

- Recommended Minimum Flow Rates and Location of Fire Hydrants are:

Industry

11.4.4 In order that an adequate supply of water is available for use by the Fire and Rescue Authority in case of fire it is recommended that the water supply infrastructure to any industrial estate is as follows with the mains network on site being normally at least 150 mm nominal diameter -

- Up to one hectare 20 litres per second.
- One to two hectares 35 litres per second.
- Two to three hectares 50 litres per second.
- Over three hectares 75 litres per second.

11.4.5 As the above site is considered in an area industry and over three hectares with the nearest the flow rate of the hydrant should be approximately 4,500 l/m which exceeds the required flows l/m for both sites and suitable for extinguishing the fire within 3 hours.

12 Managing fire water

12.1 Drainage

12.1.1 **SITE A** - All surface water where waste is being stored is sealed with kerbing and engineered to fall towards the centre of the external yard and into the U-channel drain where is collected into 2m wide/deep pit which is recirculated into the water treatment and wash process. This reduced the need to discharge any surface water off site and rainwater can be harvested. Foul from toilets and wash facilities connects to the existing foul sewer system. Areas of the site not being used in connection with storage and treatment of waste drain to the surface water sewer which discharges into the adjacent watercourse to the west.

12.1.2 **SITE B** - All surface water where waste is being stored is sealed with kerbing and engineered to fall towards a central catchment pit to the north of the site and then into the existing foul sewer system.

12.1.3 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 **SITE A** – The external pad concrete pad measures approximately 1,650m^2, approx. 400m^2 of which is made up by fixed plant meaning the actual containment area measures approx. 1,250m^2. It is considered the only escape for firewater would be through the site access to so it is proposed that a fire water boom would be positioned as shown on Drawing No. CAS/2570/03 to fully seal the site in the event of a fire. This would mean that 0.15mm kerb and – 0.16mm fire water boom containment around the site perimeter would contain the 156m^3 of fire water required as shown in the table overleaf. 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 shut off.

12.2.2 As detailed in Section 11.1, the largest pile would require containment for 156,060 (156m^3) of water in accordance with the FPMP guidance.

Table 12.1 - Firewater Containment Calculation SITE A

Volume of Water (m^3)	Containment Area (m^2)	Containment Required	Total Containment On Site
156	1,250	156 / 1,250 = 0.13	0.15 – 0.16m with kerbing and booms

12.2.3 **SITE B** – The external pad concrete pad measures approximately 3,200m^2, approx. 500m^2 of which is made up by fixed plant and containers meaning the actual containment area measures approx. 2,700m^2. It is considered the only escape for firewater would be through the site access or into the sewer system so in the event of a fire, the catchment pit would be covered and shut off by valve and it is proposed that a fire water boom would be positioned as shown on Drawing No. CAS/2570/03 to fully seal the site in the event of a fire. This would mean that 0.15mm kerb and – 0.16mm fire water boom containment around the site perimeter would contain the 325m^3 of fire water required as shown in the table overleaf. 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 shut off.

12.2.4 As detailed in Section 11.1, the largest pile would require containment for 324,180 (325m^3) of water in accordance with the FPMP guidance.

Table 12.2 - Firewater Containment Calculation SITE B

Volume of Water (m^3)	Containment Area (m^2)	Containment Required	Total Containment On Site
325	2,700	325 / 2,700 = 0.12	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 offices on both sites 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.

12.6 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 and tyres.

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.

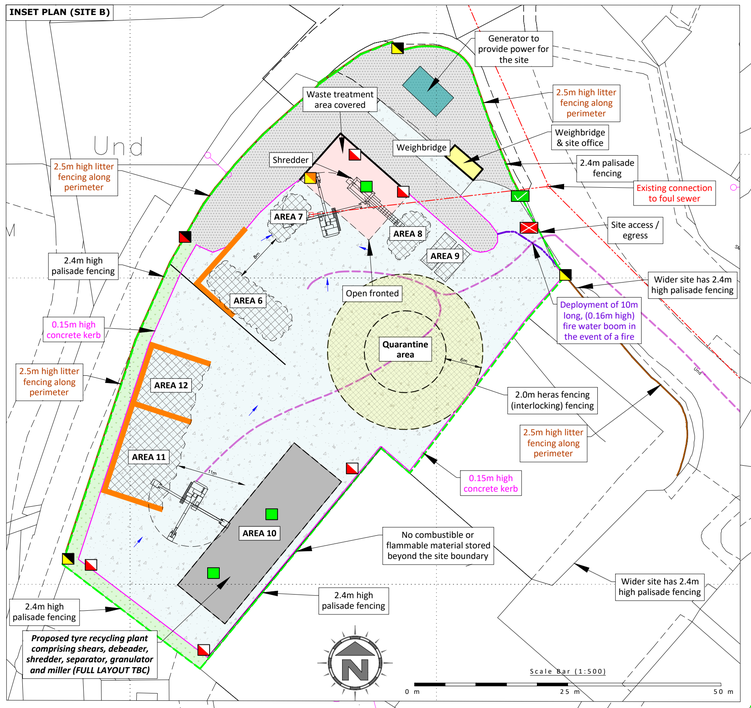
13.3 Post fire site recovery

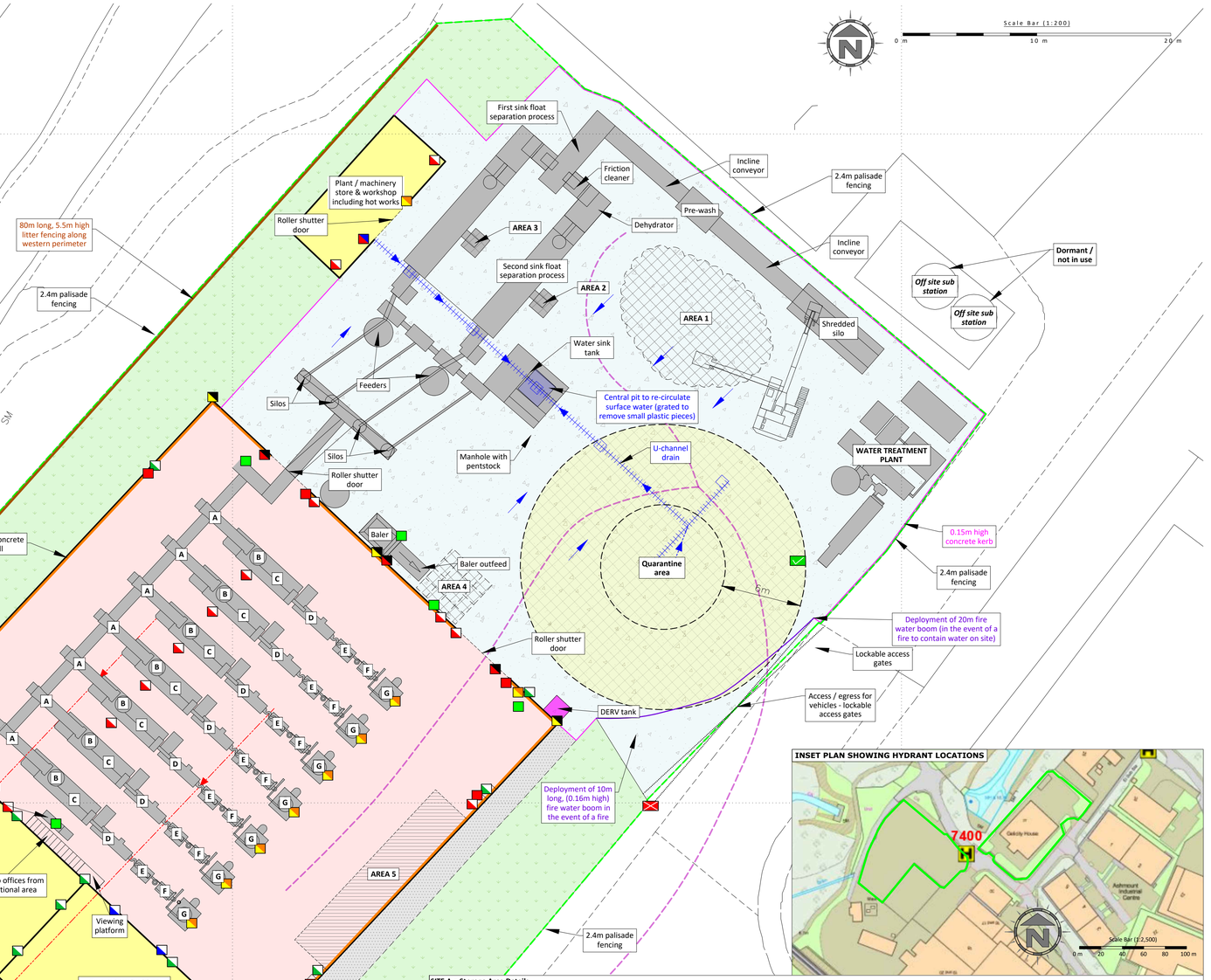
13.3.1 If a recovery procedure is required, the operator would instigate the following;

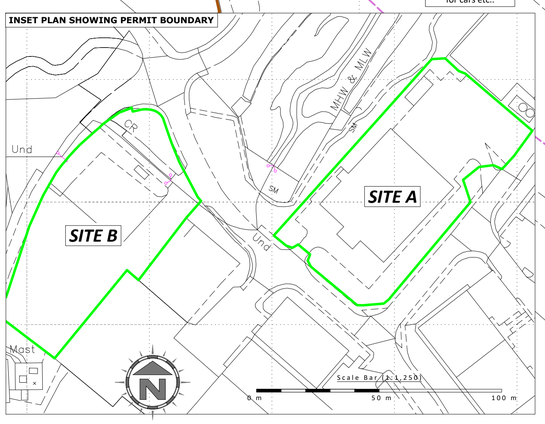
a) Remove damaged material to a permitted facility that is able to deal with it legally.
b) Ask engineers to carry out repairs on any plant, vehicles and/or infrastructure.
c) Assist the FRS with the fire investigation and where necessary engage the advice from a professional fire consultant.
d) Review 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







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	Client comments
D	11/05/21	CP	Updated for EP variation

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
- Location of fixed plant (indicative)
- Minimum 0.3m - 0.6m concrete firewalls
- 0.15m high concrete kerbing/seal
- 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
- A Loading conveyor
- B Crushing and bagging area
- C Primary shredder
- D Secondary shredder (Onyx)
- E Dehydrator
- F Shaker screen
- G Hopper and bagging area

SITE A = Storage Area Details

Plan Ref	Description	Storage type	Containment / type	Height of firewall (m)	Max width (m)	Max length (m)	Max height (m)	Max area (m)	Conversion factor used	Max volume (m3)	Max storage time	Comments
AREA 1	Temporary plastic tipping, bulking and sorting area (acting as pre-processing pile)	Mechanically processed / shredded	N/A	N/A	13	10	3	130	0.333	130	<11 hours	Area clear 1 hour prior shutdown
AREAS 2 & 3	Residual (light organics) from wash process	Treated/washed	Container / Tonne Bag	N/A	1	1	1	1	1	1	<1-2 hours	Bags removed when full; on average 10 - 12 times per day
AREA 4	Temporary bale storage	Processed (baled)	N/A	N/A	4	4	2	16	1	32	<11 hours	Area clear 1 hour prior shutdown
AREA 5	Temporary storage of plastic flake and pellet product	Mechanically processed/tonne bags	N/A	N/A	15	4	1	60	1	60	<12 hours	Bags are removed to separate unit prior to being exported to claim PRNs (non-waste)

SITE B = Storage Area Details

Plan Ref	Description	Storage type	Containment / type	Height of firewall (m)	Max width (m)	Max length (m)	Max height (m)	Max area (m)	Conversion factor used	Approx. volume (m3) - out-of-hours	Max storage time	Comments
AREA 6	Reception and storage area for baled and loose plastic	Mixture of loose and baled	Concrete firewall (partial) / legio block	3.2	15	5	2	75	1	150	<2 weeks	Storage based on worst case scenario i.e. plant breakdowns
AREA 7	Temporary plastic storage prior to shredding	As above	N/A	N/A	5	8	2	40	1	80	<1-2 hours	Material transferred to shredder
AREA 8	Post-shred plastic	As above	N/A	N/A	5	8	2	40	1	80	<1-2 hours	Material transferred to adjacent containers
AREA 9	Containers of shredded plastic	Sorted and stored in open top skips	N/A	N/A	6.1	2.4	2.62	15	1	39	<1-2 hours	Containers dispatched to **SITE A** and replaced with empty ones when full
AREA 10	Various tonne bags comprising rubber in three grades; 50-60mm TDF, 1 - 4mm granule & 0.03 - 0.08mm mesh	Mechanically processed/tonne bags	N/A	N/A	1	1	1	10	1	10 (based on bags)	<1-2 hours	Bags removed when full; on average 10 - 12 times per day
AREA 11	End of life tyres (no rims)	Loose and baled	Concrete fire wall / legio block	3.2	15	10	2.4	150	0.75	270	<2 weeks	Storage based on worst case scenario i.e. plant breakdowns
AREA 12	Metal wire removed during treatment process	Loose and compacted	Concrete fire wall / legio block	3.2	10	10	2	100	0.75	150	<2 weeks	As above

CONVERSION FACTORS
Conversion factors for waste piles are worked out using the following methods set out by Natural Resources Wales
The maximum length & width of pile is based on the largest dimension – the volume of the pile has been calculated using the area x height x relevant conversion factor
Conversion of 1 for materials stored within containers, area of storage in stackable containers and waste/bale stacks
Conversion of rectangle + pyramid for waste stored within a bay (approx. 0.75)
Conversion of pyramid volume for waste stored in a free-standing stockpile (approx. 0.333)
For areas containing skips, conversion is calculated by volume of each skip x number of skips

Oaktree Environmental Ltd
Waste, Planning and Environmental Consultants

DRAWING TITLE
SITE LAYOUT & FIRE PLAN

CLIENT
New Horizons Plastic Co Ltd

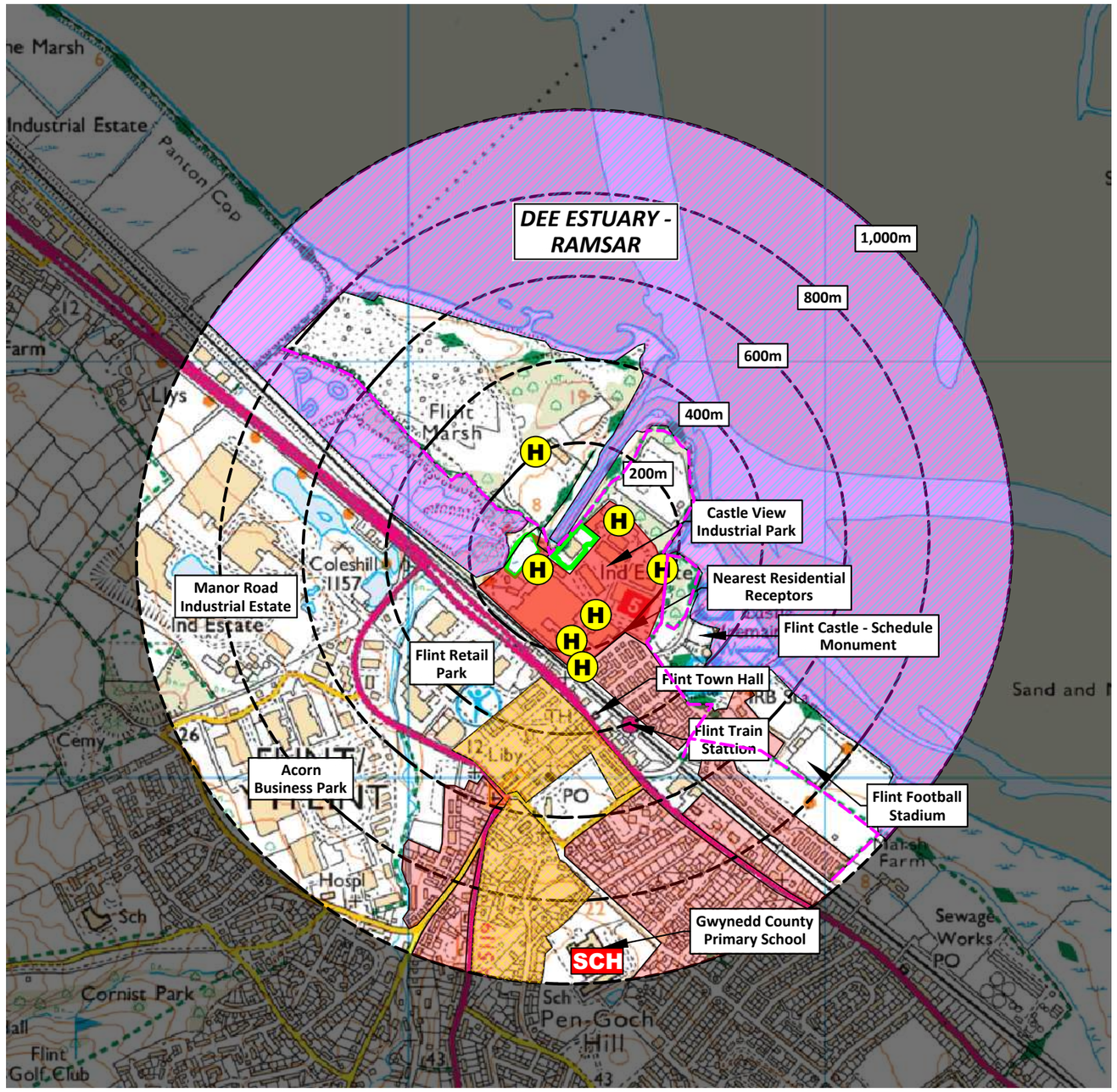
PROJECT/SITE
Unit 27 & The Former Scrapyard, Castle Park Industrial Estate, Flint, Flintshire CH6 5XA

SCALE @ A1	JOB NO	CLIENT NO
1:200	008	2570
DRAWING NUMBER	**REV**	**STATUS**
CAS/2570/03	E	Issued
DRAWN	**CHECKED**	**DATE**
CP	NHP	03.12.21

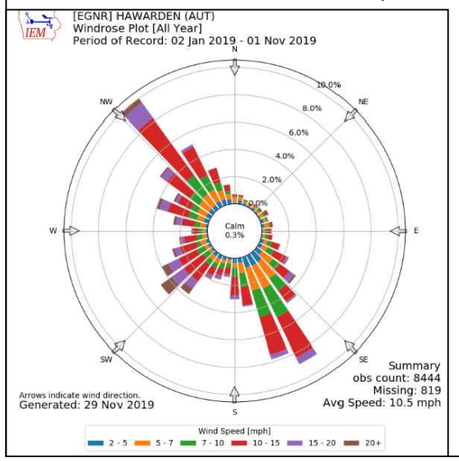
Lime House, Road Two, Winsford, Cheshire, CW7 3QZ
t: 01606 558833 | e: sales@oaktree-environmental.co.uk

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*



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
B	11.05.20	CP	Updated for EP variation

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	008	2570

DRAWING NUMBER	REV	STATUS
CAS/2570/04	B	Issued

DRAWN	CHECKED	DATE
CP	--	11.05.21

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

Regulatory Reform (Fire Safety) Order 2005,

Fire Risk Assessment 2020

conducted for

NEW HORIZON PLASTICS

Document No.
0002

Conducted on
2nd December 2020

Prepared By
Toby Cooke

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	Unit 27, Castle Industrial Estate, Flint, Flintshire, CH6 5XA.	
Name of Responsible Person (Name of Organisation)	Philip Thomas and Tony Lou - Directors of New Horizon Plastics	
Name and Role of Person Met.	Philip Thomas - Director	
E-mail Address of Responsible Person	philip@newhorizonplastics.co.uk	
Contact Number	07730402400	
Project Details	Fire Risk Assessment of the office space and factory/warehouse	
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	Toby Cooke	15/12/2020
Verifiers Signature	Mike Joy	15/12/2020
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	1583m2 (ground floor area)
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.

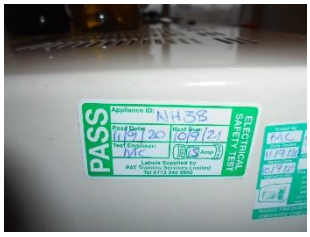
The Occupants

Question	Response	Details
2. The Occupants		
2.1 Approximate maximum number of persons at site at any one time	11-20	
2.2 Approximate number of employees at any one time	11-20	
2.3 Maximum number of members of the public at any one time	1-5	
2.4 Associated times/hours of occupation	Days only Plans for the premises to be operating on a 24-hour basis in mid-2021.	
3. Occupants especially at risk from fire.		
3.1 Sleeping occupants	At the time of the assessment there were 2 sleeping portacabins for the directors to use when on site as local hotels were closed/difficult to book due to COVID-19. These units are due to be removed within the next 28 days as requested by the Local Authority.	
3.2 Disabled occupants	N/A	
3.3 Occupants in remote areas and lone workers	Likely	
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 (as amended), 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 6206:1981. Specification for impact performance requirements for flat safety glass and safety plastics for use in buildings, 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 5306-3:2017. Fire extinguishing installations and equipment on premises. Recharging of portable fire extinguishers. Code of practice	

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 power to the building is provided via three external diesel generators as the current main electrics into the building are inadequate to supply the power required to run the equipment. These generators must be maintained by a competent person in line with the manufacturer's guidelines.
		
7.2 Fixed installation periodically inspected and tested as required by The Electricity at Work Regulations 1989	No	There is an electrical company based within the site who are completing major electrical works to bring the building to a suitable standard. Once these works have been completed an electrical installation condition report must be issued.
Time frame for renewal of Fixed wire test for this premises is:	5 Years	
7.3 Portable appliance testing (where appropriate) carried out as required by The Electricity at Work Regulations 1989	Yes	Portable appliance testing is completed in house on a 6-monthly basis. At the time of the assessment the records of PAT testing were not evidenced as the maintenance man was on furlough. It must be ensured that suitable records are kept evidencing the testing regime.
		

7.4 Suitable policy regarding the use of personal electrical appliances	Yes	A strict policy is in place to prohibit staff bringing personal appliances within the premises. If it is identified that staff require the use of personal appliances within the premises, it should be suitably tested by a competent person.
7.5 Suitable limitation of trailing leads and adapters	Yes	The use of trailing gang leads / extension leads was not identified during the assessment. If the use of said extension leads is required, they must be suitably managed to ensure that they are not being overloaded or misused.

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	Yes	A smoking shelter has been installed to the left-hand side of the building; it must be ensured that the smoking receptacle it routinely emptied to prevent a buildup of potentially combustible materials.
8.4 This policy appeared to be observed at the time of the inspection	Yes	There was no evidence of any smoking taking place in any areas other than in the designated smoking area.
		

Arson

Question	Response	Details
9. Arson		
9.1 Does the basic security against arson by outsiders appear reasonable	Yes	The security within the premises is suitable to avoid unauthorised persons entering the premises.
9.2 Is there an absence of unnecessary fire load in close proximity to the premises or available for ignition by outsiders	No	There is a considerable amount of plastics currently being stored to the rear of the premises which is awaiting processing. The RP stated that a new unit has been purchased to store all the plastics in, from which it will be delivered to this premises on an as and when needed basis. It must be ensured that the levels of combustible materials externally to the premises are kept to a minimum where possible. The wheelie bin that is stored at the main gates should be relocated, ideally to be stored in a lockable compound to prevent unauthorised access to it.
   		

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	No portable heaters were identified at the time of the assessment. If the use of portable heaters is required, it is recommended that only oil filled portable heaters be used.
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
10.3 If portable heaters are used are suitable measures taken to minimise the hazard of ignition of combustible materials		N/A
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	The gas fired appliances must be suitably maintained annually by a competent person and certification issued.
10.5 Are carbon monoxide detectors present in required environments		No

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
11.3 Is an appropriate cleaning certificate available for the cleaning and maintenance of the extraction system under TR/19		N/A
11.4 Suitable extinguishing appliances available	No	A fire blanket and suitable extinguishers should be provided within the upstairs kitchen area.
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
11.6 Is an appropriate Gas Safe Certificate available for gas cooking appliances?		N/A

Lightning

Question	Response	Details
12. Lightning		
12.1 Do the premises have a lightning protection system	Yes	The premises have a suitable lightning protection system which is maintained periodically by the inhouse electrical engineer company (7one7).
Does the system comply with BS EN 62561-1:2012 Lightning Protection System and are maintenance and test records available		Yes

Housekeeping

Question	Response	Details
13. Housekeeping		
13.1 Is the standard of housekeeping adequate	Yes	Generally, the housekeeping is of a suitable level. It must be ensured that a buildup of waste and combustibles does not occur.
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	Yes	It must be ensured that waste is regularly removed from the premises and is then removed from the site at regular intervals by a licensed contractor.
13.4 Appropriate storage of Hazardous / Combustible materials	No	It must be ensured that any pressured cylinders are stored externally (i.e. argon gasses for welding) in a lockable compound to reduce the risk of an explosion indoors. Any loose cylinders should be chained upright to prevent them potentially falling over and thus releasing the gasses. The large diesel tank at the front of the premises should be stored within a bunded container that can contain a minimum of 150% the tank capacity. The container should also be secured to prevent any unauthorised persons being able to tamper with it (i.e. by a secure fence). Additionally, the appropriate signage should be installed on the tank to ensure the appropriate information is available in relation to its contents.
   		
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	Furniture and furnishings are to a good standard and are well maintained throughout the building. The responsible person to ensure that all new furniture and furnishings for site, will comply with current fire safety regs in relation to being fire retardant.

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. Permits to works and hot work permits will be issued where necessary. 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	Yes	As per question 14.2, permits to work and hot work permits are issued as an when necessary.
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	Yes	Due to the presence of compressed flammable gasses for welding and large quantities of diesel to power the generators, it is recommended that a DSEAR report be completed.
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	The machinery used to manage the plastic materials uses a hot process to melt the materials. The high-risk portions of the machinery are fitted with internal suppression systems to extinguish any fire within the machine. All of the high-risk machinery should be maintained in line with manufactures guidelines.
16.2 Are other hazards apparent		N/A

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.
17.2 Adequate design of escape routes	Yes	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	The number of exits are suitable for the occupancy of the building.
17.4 Appropriate internal fire doors used and fitted to an accepted standard for the premises	No	The fire doors from the work shop to the office area, the two doors from either corridor at head of the protected stair case, the doors leading on to the main entrance area at the bottom of the protected staircase and any door on to a high risk area (i.e. kitchen) should as a minimum conform to the below: • FD30s (30-minute fire doors) • Fitted with intumescent strips and cold seals • Have three hinges conforming to BS 1935 and all the screws installed • Fitted with an overhead hydraulic self-closing device if they are not to be kept locked shut • Are only held open by suitable hold open devices which will release the door to close into its rebate on the power of the self-closing device alone in the event of the fire alarm sounding • Have gaps of no more than 4mm in size around the top and sides
   		
17.5 Exits easily and immediately openable where necessary	Yes	
17.6 Fire exits open in direction of escape where necessary	Yes	All of the fire exits open in the direction of travel.
17.7 Avoidance of sliding or revolving doors as fire exits where necessary	Yes	
17.8 Satisfactory means for securing exits	Yes	All of the final exits are suitably secure to prevent unauthorised access to the premises.

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	13m - 20m	
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 per question 17.4.
17.12 Suitable fire precautions for all inner rooms	Yes	As the premises has a fire alarm system installed, all inner rooms are suitably protected by a detector head in the access room.
17.13 Escape routes unobstructed	Yes	It must be ensured that final exits and escape routes are kept clear
17.14 It is considered that the premises are provided with reasonable arrangements for means of escape for disabled people	Yes	At the time of the assessment there were no disabled person present. Consideration must be given to those with any disability in relation to fire safety. If a disabled person is likely to be present on site a personal emergency evacuation procedure (PEEP) should be completed to assess their ability and the additional requirements needed.
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	No	It must be ensured that the compartmentation wall between the warehouse and the office block will provide a minimum of 30 minutes fire resistance. Any breaches in this wall should be filled using the appropriate materials that will provide the required fire resistance.
 		
18.2 It is considered that there is reasonable limitation of linings that might promote fire spread	Yes	The wall linings within this premises are suitably to prevent the spread of fire.
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		Yes

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	Yes	Visually, the emergency lighting within the premises appeared to be suitable. It is recommended that a nighttime test of the emergency lighting be completed to assess whether all of the escape routes are suitably illuminated.
19.2 Emergency lighting test monthly records available	No	The emergency lighting should be tested in house on a monthly basis with all findings recorded in the fire logbook.
19.3 Emergency lighting annual engineer test records available	Yes	The emergency lighting should be serviced at least once annually by a competent person with a certificate of conformity issued.

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	No	
20.2 Have fire action and information notices been completed with the correct information where required	No	Fire action notices should be installed near final exits (typically where manual call points are located) in order to inform those within the premises of the actions to take in the event of a fire. It must also be ensured that all the fire action notices are appropriately filled out with legible writing to provide the required information.
 		
20.3 Are fire doors and fire exits affixed with the correct signage and indicators	No	All fire doors (internal and external) should have the appropriate signage installed i.e. ‘Fire Door Keep Shut’ ’Fire Door Keep Locked Shut’ ‘Push to Open’ ‘Turn to Open’.
 		
20.4 Are signs indicating fire appliances or equipment appropriate	No	It must be ensured that all of the firefighting media is appropriately signed to inform any user of the appropriate instructions on its use.
 		
20.5 Are fire exit route sign appropriate for the premises (showing location and direction)	Yes	The appropriate directional exit signage is installed to suitably direct those within the premises to their nearest exit.

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	It was verbally confirmed by the RP that the fire alarm system installed is of an L1 category; However, no evidence was produced to confirm this.	
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.	
The detection within the warehouse area is provided via three fire beams. 		
21.3 Does the automatic fire alarm link to a remote call centre		Yes
21.4 Are weekly fire alarm tests carried out	Yes	Weekly fire alarm tests are completed with all findings recorded in the fire logbook. It is recommended that the manual call points be tested in a numerical order to ensure that a call point is not missed.
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.	Yes	The fire alarm system is maintained every 6 months by a competent fire alarm engineer.

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	No	Throughout the building, many 'loose' fire extinguishers were identified, it was noted that these appeared to be the old extinguisher from a previous supplier. Additionally, many extinguishers were missing from their hanger and had been moved to another location. You should appoint a competent fire extinguisher engineer to assess the requirements within the premises are re arrange the extinguishers. Staff should also be reminded of the importance of not removing extinguishers from their designated location.
   		
22.2 Are maintenance records available for portable fire appliances	Yes	The fire extinguishers are serviced annually by a competent fire extinguisher engineer.
22.3 Are internal checks completed and recorded for portable fire appliances	No	Weekly in-house visual inspections of the fire extinguishers should be completed with all the findings recorded in the fire logbook.
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

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	Fire safety is managed by Philip Thomas and Tony Lou.	
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	It is recommended that a fire safety folder be implemented to organise and document all the fire safety policies, procedures and servicing certificates.
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	Yes	As per question 25.4.
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	Yes	The most senior member of staff on duty will contact the fire service. This is likely to be the directors or the fire marshal.
25.8 Are there suitable arrangements for ensuring that the premises have been evacuated	Yes	The fire marshal has access to the electronic system which signs staff and visitors into the premises on their mobile phone, from which they will complete a roll call at the assembly point.

25.9 Is there a suitable fire assembly point(s)	No	The fire assembly points should be relocated to an area away from the main access points on to the site. This is to reduce the likelihood of individuals being struck by arriving fire and rescue service vehicles.
25.10 Are there adequate procedures for evacuation of any disabled people who are likely to be present	Yes	As per question 17.14.
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

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	Staff are given training by a Delyn Safety at routine intervals. This also includes practical fire extinguisher training. It must be ensured that if any temp staff are appointed, they are provided with induction training to ensure they are familiar with the fire safety policies and procedures and are aware of what to do in the event of a fire.
Does all staff training provide information, instruction or training on the following:		
26.2 Fire risks in the premises	Yes	As per question 26.2.
26.3 Are all staff given adequate periodic "refresher training" at suitable intervals	Yes	As per question 26.2.
26.4 The fire safety measures on the premises	Yes	As per question 26.2.
26.5 Action in the event of fire	Yes	As per question 26.2.
26.6 Action on hearing the fire alarm signal	Yes	As per question 26.2.
26.7 Method of operation of manual call points	Yes	As per question 26.2.
26.8 Location and use of fire extinguishers	Yes	As per question 26.2.
26.9 Means for summoning the fire and rescue service	Yes	As per question 26.2.
26.10 Identity of persons nominated to assist with evacuation	Yes	As per question 26.2.

26.11 Identity of persons nominated to use fire extinguishing appliances	Yes	As per question 26.2.
26.12 Are staff with special responsibilities (e.g. fire wardens) given additional training	Yes	As per question 26.2.
26.13 Are fire drills carried out at appropriate intervals	No	Fire drills should be completed at least once every 6 months and should simulate a real fire situation (i.e. stopping staff using a fire exit that may be inaccessible due to fire) and a full record of the drill should be recorded in the fire logbook.
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	Yes	Prior to external contractors attending the site it must be ensured that they are provided with the appropriate information to ensure their safety whilst on site.
26.15 Is their employer given appropriate information (e.g. on fire risks and general fire precautions)	Yes	As per question 26.14.

Testing and Maintenance

Question	Response	Details
27. Testing and Maintenance		
27.1 Adequate maintenance of premises	Yes	Generally, the premises is well maintained and in a good condition.
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	Weekly checks of the fire exits should be completed to ensure they are not blocked, are easily openable and that the securing mechanism is suitable top prevent unauthorized access with all findings recorded in the fire logbook.
27.7 Are suitable systems in place for reporting and subsequent restoration of safety measures that have fallen below standard	Yes	Staff are aware that they must notify management of any deficiencies identified.
27.8 Other relevant inspections or tests		N/A

Fire Risk Assessment

Question	Response
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.	Tolerable

Actions

Question	Response	Details
Actions		
1		
Item	Electrical installation condition report (EICR)	
Item related to Section:	7 – Electrical sources of ignition	
Recommendations	A competent person should be appointed to complete an EICR of the fixed wiring within the premises with any identified deficiencies rectified.	
Time Scale	3 months	
Action Priority	Low	
Action Completed by (Name and Date)		
Comments		
2		
Item	External combustible materials	
Item related to Section:	9 – Arson	
Recommendations	It is recommended that the amount of combustible materials being stored external is severely reduced and kept to a minimum at all times. The wheelie bin identified at the front gate should be relocated to a secure area away from the building to reduce the risk of arson.	
Time Scale	2 months	
Action Priority	Medium	
Action Completed by (Name and Date)		
Comments		

3	
Item	Gas safe Certificate
Item related to Section:	10 – Portable heaters and heating appliances
Recommendations	A competent gas safe engineer should be appointed to complete an inspection on all of the gas fired appliance within the premises with certification of the inspection issued and kept available for inspection at all times.
Time Scale	2 months
Action Priority	Medium
Action Completed by (Name and Date)	
Comments	
4	
Item	Carbon monoxide alarms
Item related to Section:	10 – Portable heaters and heating appliances
Recommendations	A carbon monoxide alarm should be present in all areas where a gas fired appliance is present. The alarm should be tested on a weekly basis with all findings recorded in the fire logbook.
Time Scale	3 months
Action Priority	Low
Action Completed by (Name and Date)	
Comments	

5	
Item	Lack of firefighting equipment in kitchen area
Item related to Section:	11 – Cooking
Recommendations	A fire blanket and appropriate fire extinguishing appliances should be present in the first-floor kitchen area.
Time Scale	2 months
Action Priority	Medium
Action Completed by (Name and Date)	
Comments	
6	
Item	Gas cylinders
Item related to Section:	13 – Housekeeping
Recommendations	It is recommended that when not in use, any gas cylinders (i.e. gasses used for welding) are stored externally in a lockable compound. Additionally, when cylinders are being used within the building, it must be ensured that they are suitably chained to prevent them falling over.
Time Scale	2 months
Action Priority	Medium
Action Completed by (Name and Date)	
Comments	

7	
Item	Diesel tank
Item related to Section:	13 – Housekeeping
Recommendations	The diesel tank that is in use at the front of the premises should be contained within a bunded container that can hold a minimum of 150% of the maximum capacity of the tank itself. Additionally, a secure fence should be installed to prevent unauthorized access to this area with the appropriate safety signage installed to advise of what fuel is in use and any specified safety concerns (i.e. no smoking/naked flames in this area).
Time Scale	1 month
Action Priority	High
Action Completed by (Name and Date)	
Comments	
8	
Item	DSEAR (Dangerous Substances and Explosive Atmospheres)
Item related to Section:	15 – Dangerous Substances
Recommendations	Serious consideration should be given to completing a DSEAR report to assess to potential dangerous/explosive atmosphere within the building due to the presence of flammable/highly flammable gases and fuels.
Time Scale	3 months
Action Priority	Medium
Action Completed by (Name and Date)	
Comments	

9	
Item	Fire doors
Item related to Section:	17 – Means of escape from fire
Recommendations	Any door that is protecting the means of escape of providing compartmentation (i.e. The fire doors from the work shop to the office area, the two doors from either corridor at head of the protected stair case, the doors leading on to the main entrance area at the bottom of the protected staircase and any door on to a high risk area i.e. kitchen) should as a minimum conform to the below: • FD30s (30-minute fire doors) • Fitted with intumescent strips and cold seals • Have three hinges conforming to BS 1935 and all the screws installed • Fitted with an overhead hydraulic self-closing device if they are not to be kept locked shut • Are only held open by suitable hold open devices which will release the door to close into its rebate on the power of the self-closing device alone in the event of the fire alarm sounding • Have gaps of no more than 4mm in size around the top and sides
Time Scale	2 months
Action Priority	Medium
Action Completed by (Name and Date)	
Comments	
10	
Item	Compartmentation issues
Item related to Section:	18 – Measure to limit fire spread and development
Recommendations	Any compartmentation breaches in the wall separating the warehouse to the office space and in the walls protecting the means of escape within the office space should be filled using the appropriate materials that provide a minimum of 30 minutes fire resistance.
Time Scale	2 months
Action Priority	Medium
Action Completed by (Name and Date)	

Comments	
11	
Item	Emergency Lighting
Item related to Section:	19 – Emergency escape lighting
Recommendations	It must be ensured that the emergency lighting is tested in house on a monthly basis, with all the findings recorded in the fire logbook.
Time Scale	Ongoing
Action Priority	Medium
Action Completed by (Name and Date)	
Comments	
12	
Item	Inadequate signage
Item related to Section:	20 – Fire safety signs and notices
Recommendations	Fire action notices must be installed at every final exit with all the required information written on the to assist those within the building in the event of a fire. All of the fire doors and fire exits must have the appropriate signage installed on them i.e. ‘Fire Door Keep Shut’ ’Fire Door Keep Locked Shut’ ‘Push to Open’ ‘Turn to Open’. It must be ensured that all of the extinguishers are appropriate signed to instruct any user on the correct usage.
Time Scale	3 Months
Action Priority	Low
Action Completed by (Name and Date)	
Comments	

13	
Item	Fire extinguisher issues
Item related to Section:	22 – Manual fire extinguishing appliances
Recommendations	It must be ensured that the old extinguishers are removed from site and all of the current extinguisher are hung on the wall in an appropriate location. The fire extinguishers should be visually inspected on a weekly basis with all the findings recorded in the fire logbook.
Time Scale	2 Months
Action Priority	Medium
Action Completed by (Name and Date)	
Comments	
14	
Item	Fire safety documents
Item related to Section:	25 – Procedure and arrangements
Recommendations	A fire safety folder should be introduced in order to contain all of the relevant documents (i.e. policies, procedures, certification and test records) in order to ensure all of the information is in a single location and can be accessed at any time.
Time Scale	3 Months
Action Priority	Low
Action Completed by (Name and Date)	
Comments	

15	
Item	Inappropriate assembly point
Item related to Section:	25 - Procedure and arrangements
Recommendations	It is recommended that the fire assembly point be relocated to an area away from the main access route of the Fire and Rescue Service to reduce the risk of persons evacuating the premises being struck by a quickly moving vehicle.
Time Scale	3 Months
Action Priority	Low
Action Completed by (Name and Date)	
Comments	
16	
Item	Fire Drills
Item related to Section:	26 – Training and drills
Recommendations	A Fire drill should be completed at least once every six months and should simulate a real fire situation (i.e. losing a single exit to fire) to ensure that staff are aware of their secondary means of escape.
Time Scale	ongoing
Action Priority	Low
Action Completed by (Name and Date)	
Comments	

17	
Item	Fire logbook checks
Recommendations	Use 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** – Reviewed on annual basis as per guidance from North Wales Fire and Rescue Services.
Action Priority	Medium
Action Completed by (Name and Date)	
Comments	

Appendix IV

Hot Works – Permit to Work

NEW HORIZON PLASTICS

PERMIT TO WORK (COPY)

Section 1: PERMIT DETAILS							Permit No.
Issued to (Person / Company):				Location:			
Work to be performed:							
Risk Assessment Ref:				Method Statement Ref:			
Section 2 : HAZARD IDENTIFICATION (NB – separate PTW required for Confined Space)							
Electrical	Mechanical	Chemical / Gases	Fire / Explosion	Noise	Handling	Machinery	
Hot Work	Confined Space	Pressure	Temperature	Height/Roof Work	Power Tools	Hand Tools	
Excavation	Demolition	Mobile Plant	Access Equip	Lifting Operations	Site Traffic	Dust / Asbestos	
Additional Information & Hazard Identification;							

Section 3: CONTROL MEASURES	
Electrical Isolation:	Mechanical Isolation:
I hereby confirm that the above plant / equipment has been isolated as above, proved inoperable, locked off & signs posted as appropriate.	I hereby confirm that the above plant / equipment has been isolated as above, proved inoperable, locked off & signs posted as appropriate.
Signed *Date* *Time*	*Signed* *Date* *Time*
Additional Control Measures, Area Isolation & PPE:	

Section 4: PERMIT ISSUE	
Issuing Authority *(Sign/Print/Date)*	x
I hereby declare that I have examined the proposed workplace and discussed the hazards, control measures and PPE with the Performing Supervisor. The precautions identified in section 3 and in the relevant risk assessments/ method statements must be applied before the work may proceed and maintained throughout the duration of the works.	
Valid from: *(Date/Time)*	**To :** *(Date/Time)*

Section 5: PERMIT RECEIPT	
Performing Supervisor *(Sign/Print/Date)*	x
I hereby declare that I will supervise the above work and all persons under my control have been informed of the requirements of this permit and associated risk assessment/method statement. I certify that all precautions will be applied by all performers for the duration of the works and will report any circumstances that alter the given precautions as the work proceeds.	
Work performers *(Sign/Print/Date)* I am fully aware of the work to be performed and the requirements of this permit and associated risk assessment/method statement. I certify that all precautions will be applied for the duration of the works and will report any circumstances that alter the given precautions as work proceeds.	
x	x
x	x

Section 6 : PERMIT EXTENSION						
Issuing authority to validate all copies of the permit. Performing Supervisor must return copy for validation prior to any work continuing. Extension valid until *(Sign/Date/Time)*;						
						New Permit Required

Section 7: CESSATION OF WORK	
Performing Supervisor *(Sign/Print/Date)*	x
I hereby declare that the above work **has / has not*** been completed. All persons have been withdrawn and informed that all work related to this permit must cease	

Section 8: PERMIT CANCELLATION	
Cancelling Authority *(Sign/Print/Date)*	x
I confirm that the specified work has **/ has not*** been completed. All persons and equipment have been withdrawn and the precautions / control measures in section 3 have **/ have not*** been discontinued. The plant/equipment can **/ can not*** be returned to service and this permit is hereby cancelled.	

*Copies x 3 needed = Performing Supervisor/Display on Job Issuing Authority Operations Manager/File *Delete as appropriate