P J Fire Limited Ref PJF/B2/6/EPR April 2025

APPLICATION FOR ENVIRONMENTAL PERMIT
1. MELTHAM LANE, CHESTERFIELD, DERBYSHIRE
B69 2RA

ENVIRONMEMTAL RISK ASSESSEMENT

The P J Fire Limited site performs a dual function, the receipt and management of waste, end of life, fire extinguishers and, re-manufacturing/refurbishment of CO_2 fire extinguishers to British Standards. This risk assessment addresses the environmental risks from the waste management activities only.

1. Site location/surrounds

1.1 The site is situated at the eastern end of a small industrial estate, bounded to the east by a mature tree line beyond which are the River Rother, which runs north to south and, the Chesterfield Canal which runs parallel to and, approx' 10metres the east of, the River. To the immediate north and south are other commercial premises and, to the west is the Rother Way trunk road. Chesterfield City Centre is approx' 1500 metres to the SSW, with a mix of dense commercial and residential properties in between.

1.2 Beyond the River and Canal, is a development of residential properties (Tapton Lock Hill), with largely open land beyond. To the West side of Rother Way is dense residential and commercial development in between.

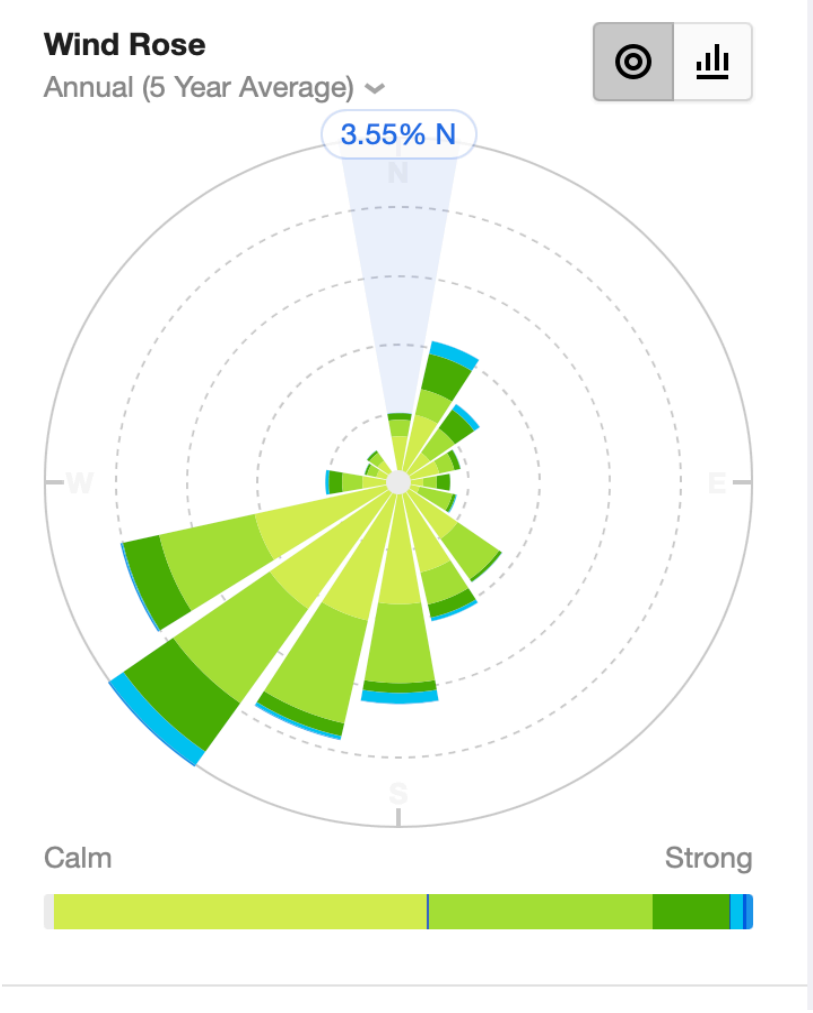
1.3 Site operations are conducted in the secure yard area and within a modern steel framed building. End of Waste Products of the fire extinguisher recycling are stored within the dismantling area of the building, in the contained quarantine area in the yard and in secure waste containers in the yard, prior to removal from site.

2. Key Receptors

2.1 Table 1 below lists key receptors to risk, from the site operations

Table 1

Sensitive Receptors No.	**Receptor**	**Category**	**Distance (m)**	**Direction from Site**	**Frequency Prevailing Wind Direction (%)**
1	River Rother	Surface water/Recreational	Adjacent (30m)	E	5.00
2	Chesterfield Canal	Recreational	Adjacent (40m)	E	5.00
3	Brandon Hire Station	Commercial	40m	W	1.00
4	Arnold Clark Car Sales	Commercial	30m	N	15.0
5	Housing (Muirfield Close)	Residential	30m	NW	5.0
6	Housing (Sandale ave, Stuart Cl et al)	Residential	210m+	W	1.00
6	Euro Business Park	Commercial / Industrial	180m	NNW	25.0
7	Main Railway Line	Transport	75m	E	5.00
8	Rother Way Trunk Road	Transport	140m	W	2.00
9	Premier Inn	Commercial/residential	275m	NNE	15.00
10	Industrial Units	Workplaces	240m	W	1.00
11	Housing (Sawmill Mews et al)	Residential	250m	SW	2.5
12	Extensive Housing	Residential	580m	W	1.0
13	Tapton Park Golf Club	Leisure	1075m	SE	2.00
14	Chesterfield City Centre	Residential/ Comecial Leisure	1500m	WSW	2.00



3. Permit Application

3.1 Activities are;

- Non-Hazardous Waste Treatment and transfer
- Annual throughput of wastes maximum 25,000 tonnes.
- EWC waste codes to Schedule 2 of the Permit, as follows;

EWC	Waste Description
16 05 05	**Gases in pressure containers other than those mentioned in 16 05 04**
15 01 01	Paper and cardboard packaging
15 01 02	Plastic packaging
15 01 02	Wooden packaging
15 01 04	Metallic packaging
15 01 06	Mixed packaging

3.2 Table 2 below assesses risks and mitigation to be provided.

Table 2 Risk Assessment Matrix

What can Harm and What Could be Harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Consequence	Probability of Exposure	Overall Risk
Particulate, odour and litter release from receipt and storage of wastes	Domestic Residents, Employees of nearby businesses, Passers by	Airborne	This is a bespoke site which exists for the receipt and recycling of gas (CO_2) filled fire extinguishers. Majority of wastes held in storage are intact fire extinguishers, hollow metal extinguisher bodies, bagged metal and plastic components and baled cardboard. No odorous or loose materials are accepted or generated on site. The only semi powder material arises as shot blast residue (particle size 420µm to 1000µm which are not readily airborne), used to clean the empty extinguisher bodies the process is conducted in the building within a closed cabinet. Spent residues are held in bulk bags with general wastes and are contained Site is surrounded by 2 m high palisade fence with dense mature trees and shrubs along the eastern boundary, further	Health effects, lung disease, nuisance	Very low probability, all particulate and potentially airborne materials are contained and/or held in the building. No odorous materials are accepted, stored, or otherwise generated within the site. The only particulate material on site is shot blast residue, the particle size of which is not readily airborne or subject to inhalation risk	Of no significance

			limiting any pathway for windborne litter to exit the site. No foam, water or powder filled extinguishers are discharged on site. No Halon extinguishers are accepted			
Drainage/runoff	Surface and groundwater. (River Rother & Chesterfield Canal)	Waterborne	Yard area concrete block paved. Building has hard concrete floor. No contaminated materials accepted on site. No liquids, or contents of liquid filled extinguishers are produced on site. Wastes are stored in leak proof containers or bulk bags in the building or within a purpose-built isolation bay in the SE area of the yard. Surface water drainage from buildings and yard area outfalls via a short culvert to the River Rother which runs in channel on the eastern site boundary. The canal runs beyond and parallel to the River and in an elevated channel. It is not impacted by any run- off from the site. The highest point in the yard is >1metre below the canal	Uncontrolled discharge of polluting materials to ground and surface water. Impact on habitats both River and Canal	Low. All drainage from materials storage and processing contained in site and drained to foul sewer. Any risk from fire water is contained within closed containers used for a waste storage in the yard and by a concrete bay 1.5m high. Entry to bay secured by land boom in the event of fire. Drainage mats deployed on surface water chambers and final chamber to have Penstock valve fitted prior to entry to the culvert. All measures included in Fire Prevention Plan	Very Low
Degassing of CO_2 extinguishers	Residents of domestic dwellings. Employees in nearby workplaces	Fugitive Release of CO_2 gas to atmosphere	CO_2 extinguishers are degassed in a purpose located yard area at the eastern end of the building, adjacent to the 30 tonne bulk CO_2 storage tank (from which new remanufactured/refurbished units are filled). The waste units are held on caged pallets, which hold approx' 40 units and degassed by trained staff who "crack" the valve heads, allowing a slow, controlled release of the gas, which disperses rapidly to atmosphere	Health effects, asphyxiation.	Extremely unlikely	Of no significance
Noise emissions	Residents of domestic dwellings. Employees of adjacent businesses	Airborne	Noise generation. is very low, with all dismantling activities being conducted within the building. The only operation conducted in the open yard is the degassing process,	Nuisance to domestic residents	Very Low	Very Low

			which is virtually silent. (one of the reasons for slow release of gas during the process is to eliminate any possibility of noise generation from the rapid release of multiple pressurised containers). Site has operated for a number of years with no history of noise or other nuisance complaint.			
Fire	Domestic residents, employees of nearby businesses. Passers by/Road /Canal & River users. Ground and surface water. Nearby buildings.	Airborne	Fire prevention plan, to EA guidance, produced for the site and submitted with the application. Minimal amounts of combustible materials stored on site.	Fine particulates/smoke may present a hazard to persons with compromised breathing conditions. Potential to cause nuisance beyond site boundary. Run off from fire water can. contaminate ground and surface water. Risk to nearby properties. Fire water containment measures included in Fire Prevention Plan	Low	Low