Client: Checkfire Limited
Address: Sir Alfred Owen Way, Pontygwindy Industrial Estate, Caerphilly, CF83 3HU

Checkfire Limited, Unit 10B, Sir Alfred Owen Way, Pontygwindy Industrial Estate, Caerphilly, CF83 3HU

Application for Bespoke Environmental Permit

Dust Emissions Management Plan (DEMP)

08 July 2025

Our Reference: Checkfire Ltd-Dust Emissions Management Plan-RP06-Final

Waste And Industry Compliance Ltd

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Checkfire Ltd-Dust Emissions Management Plan-RP06-Final

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1 INTRODUCTION

1.1 BACKGROUND

1.1.1 This Dust Emissions Management Plan (DEMP) has been prepared on behalf of Checkfire Limited ***(the Operator)*** for Unit 10B, Sir Alfred Owen Way, Pontygwindy Industrial Estate, Caerphilly, CF83 3HU ***(the Site)***. It has been prepared in accordance with Government guidance 'Control and monitor emissions for your environmental permit' (https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit) and Natural Resources Wales (NRW) guidance 'How to comply with your environmental permit (April 2011).

1.1.2 The Operator was established in 1975 and is a leading supplier of fire extinguishers and high-quality ancillary equipment to trade customers in the UK and overseas.

1.1.3 The Operator seeks a bespoke Environmental Permit for the Site to authorise the acceptance of out of date, spent or returned fire extinguishers from customers so that they can be safely emptied and decommissioned. In addition, small quantities of associated packaging wastes are received from customers, such as carboard, plastic wrapping and containers used to transfer the fire extinguishers to the Site. All packaging waste arises from the supply or return of fire extinguishers to or from customers.

1.1.4 The Site incorporates an enclosed and roofed concrete block and steel portal framed building fitted with impermeable concrete slab throughout. An external yard in front of the building comprises a combination of engineered concrete and block surfaces and is used for the storage of packaging waste in an enclosed and lidded skip. Deliveries of out of date, spent or no longer required fire extinguishers are off-loaded and transferred into the building for storage and processing.

1.1.5 The Site activities are summarised as follows:

- The receipt, storage and decommissioning of up to 60,000 out of date or spent fire extinguishers per month (i.e. up to 720,000 units per annum);
- The storage and transfer of small quantities of non-hazardous packaging waste associated with the return of fire extinguishers to the Site (e.g. cardboard, plastic and paper packaging);
- Separately baling cardboard and plastic wastes on site;
- The emptying and transfer of spent fire extinguisher foam media to an activated carbon absorption plant, which captures and contains contaminants in the carbon media, with the cleaned liquid media transferred into dedicated IBCs for off-site removal as a non-hazardous waste to authorised facilities. The used carbon absorption media is returned to the supplier for off-site thermal processing;
- The emptying and transfer of spent fire extinguisher powder media to a bagging plant for collection in bulk 1 tonne bags for transfer off-site to an authorised

recycling facility;

- The emptying and discharge of spent deionised water to foul sewer in accordance with a Trade Effluent Discharge Consent issued by Welsh Water;
- The dismantling of empty foam, powder and deionised water fire extinguishers, with the metal and plastic components supplied to authorised off site recycling facilities. Dismantled metal components are transferred via an inclined conveyor to a 40 cubic yard skip located inside the building for bulking up and transfer off-site to an authorised scrap metal recycling facility;
- The storage of out of date or spent CO_2 fire extinguishers, prior to their off-site removal to an authorised facility for emptying of gas media, refilling with new media and reconditioning of the cannister for supply to customers.

1.1.6 The proposed Environmental Permit boundary is shown on Drawing 'Indicative Site Layout and Storage'-DW03. Local receptors within a 2km radius of the Site are shown on Drawing 'Sensitive Receptors', DW02.

1.1.7 The requirement for a DEMP is to ensure that all reasonable measures to mitigate against the dispersion of fugitive emissions are undertaken by reviewing the potential source of dust and emissions from Site activities and to assess the impact these may have on identified sensitive receptors in the vicinity.

1.1.8 This DEMP provides an assessment of the production of fugitive emissions relating to waste handling operations at the Site and aims to identify potential sources of dust emissions, the associated potential impacts along with detailed measures to be implemented to mitigate dust and particulate matter.

1.2 THE SITE

1.2.1 The Site is located on the Pontygwindy Industrial Estate, Caerphilly. It is bordered by other industrial units to the west, south and east. Sir Alfred Owen Way is located to the immediate north, beyond which there are further industrial units within the Industrial Estate. The Site is accessed off Sir Alfred Owen Way.

1.2.2 The nearest residential properties are circa 145m west on Pantycelyn Drive, 150m west on Herbert Drive, 160m southwest on Lewis Drive, 165m south southwest on Howard Drive, 200m southwest on Dyfed Drive and 200m west on Davies Drive. The nearest domestic properties east of the Site are on Pontygwindy Road, circa 215m from the facility.

1.2.3 There is one European Site (i.e. Special Protection Area (SPA), Special Conservation Area (SAC) or Ramsar Site) within 10km of the Site, namely Cardiff Beech Woods SAC, which is circa 4,190m south of the facility.

1.2.4 There are two Sites of Special Scientific Interest (SSSI) within a 2km radius of the Site, namely Llanbradach Quarry SSSI, circa 983m to the north northwest and Gwaun Gledyr SSSI, circa 1,700 to the southwest of the facility.

1.2.5 There are nine Sites of Importance for Nature Conservation (SINCs) within a 2km radius of the Site, namely:

- Nant yr Aber SINC, circa 344m south southeast of the facility;
- Coed y Brain, Penyrheol SINC, circa 532m northwest of the facility;
- Mynydd Dimlaith and Cwm-y-Bwch, southeast of Llanbradach SINC, circa 1,036m north northeast of the facility;
- Rhymney River SINC, circa 1,187m east of the facility;
- Cwm yr Aber, South of Abertridwr SINC, circa 1,316m southwest of the facility;
- Mynydd Eglwysilan, north of Senghenydd SINC, circa 1,736m northwest of the facility;
- Gypsy Lane Wetland, south of Groeswen SINC, circa 1,792m southwest of the facility;
- Caerphilly/ Machen Disused Railway, east of Trethomas SINC, circa 1,848m southeast of the facility;
- Coed y Maerdy, east of Caerphilly SINC, circa 1,988m southeast of the facility.

1.2.6 There are Areas of Ancient Semi Natural Woodland circa 45m west southwest, 255m southwest and 340m southeast of the Site, with a belt of Ancient Woodland (Unknown Category) circa 255m east of the facility.

1.2.7 There are three Scheduled Monuments within a 2km radius of the Site (https://datamap.gov.wales/maps/new?layer=inspire-wg:Cadw_SAM#/):

- Caerphilly Iron Furnace, circa 1,184m southwest of the facility;
- Caerphilly Castle, circa 1,186m south of the facility;
- Cornish Type Engine House, Bryngwn Colliery, circa 1,311m northeast of the facility.

1.2.8 There are no Marine Special Protection Areas, National Nature Reserves, Biosphere Reserves or Local Nature Reserves within 2km radius of the Site.

1.2.9 There are no National Parks or Areas of Outstanding Natural Beauty (AONBs) within 10km of the Site.

1.2.10 The Site is not located within a designated Air Quality Management Area (AQMA) (https://uk-air.defra.gov.uk/data/laqm-background-home).

1.3 SITE RESPONSIBILITY OVERVIEW

1.3.1 The Site Manager or, during periods of absence, the Operations Director will have overall responsibility for ensuring that potentially dusty emissions arising from the Site are minimised and that all process controls are managed/maintained. Adequate staffing levels will be maintained at all times to ensure the effective operation of the facilities.

2 LEGISLATION AND POLICY

2.1 EUROPEAN DIRECTIVES

2.1.1 European Union (EU) air quality legislation is provided within Directive 2008/50/EC, which came into force on 11th June 2008. This Directive consolidated previous legislation which was designed to deal with specific pollutants in a consistent manner and provided new Air Quality Limit Values (AQLVs) for particulate matter with an aerodynamic diameter of less than 2.5µm. The consolidated Directives include:

- Directive 1999/30/EC - the First Air Quality "Daughter" Directive - sets ambient AQLVs for nitrogen dioxide (NO2), oxides of nitrogen (NOx), sulphur dioxide, lead and particulate matter with an aerodynamic diameter of less than 10µm (PM10);
- Directive 2000/69/EC - the Second Air Quality "Daughter" Directive - sets ambient AQLVs for benzene and carbon monoxide; and,
- Directive 2002/3/EC - the Third Air Quality "Daughter" Directive - seeks to establish long-term objectives, target values, an alert threshold and an information threshold for concentrations of ozone in ambient air.

2.1.2 The fourth daughter Directive was not included within the consolidation and is described as:

- Directive 2004/107/EC - sets health-based limits on polycyclic aromatic hydrocarbons, cadmium, arsenic, nickel and mercury, for which there is a requirement to reduce exposure to as low as reasonably achievable.

2.2 UK LEGISLATION

2.2.1 The Air Quality Standards Regulations (2010) came into force on 11th June 2010 and transpose EU Directive 2008/50/EC into UK law. AQLVs were published in these regulations for seven pollutants, as well as Target Values for an additional five pollutants.

2.2.2 Part IV of the Environment Act (1995) requires UK government to produce a national Air Quality Strategy (AQS) which contains standards, objectives and measures for improving ambient air quality. The most recent AQS was produced by the Department for Environment, Food and Rural Affairs (DEFRA) and published in July 2007. The AQS sets out Air Quality Objectives (AQOs) that are maximum ambient pollutant concentrations that are not to be exceeded either without exception or with a permitted number of exceedances over a specified timescale. These are generally in line with the AQLVs, although the requirements for the determination of compliance vary.

2.2.3 Table 1 presents the AQOs for PM_{10}.

Table 1: Air Quality Objectives for PM_{10}

Pollutant	Air Quality Objectives	
	Concentration ($\mu g/m^3$)	**Averaging Period**
PM_{10}	40	Annual mean
	50	24-hour mean, not to be exceeded on more than 35 occasions per annum

3 BASELINE

3.1 BACKGROUND POLLUTANT CONCENTRATIONS

3.1.1 Existing air quality conditions in the vicinity of the Site were identified in order to provide a baseline for assessment. These are detailed in the following Sections.

3.1.2 Predictions of background pollutant concentrations on a 1 km by 1 km grid basis have been produced by DEFRA for the entire United Kingdom to assist Local Authorities and Natural Resources Wales (NRW) in their review and assessment of air quality. The Site is located in 1km x 1km grid square NGR: 314500, 188500 (ST 14500 88500). Data for this location was downloaded from the DEFRA website (https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018) for the purpose of the assessment and is summarised in Table 2.

Table 2: Background Pollutant Concentration Predictions

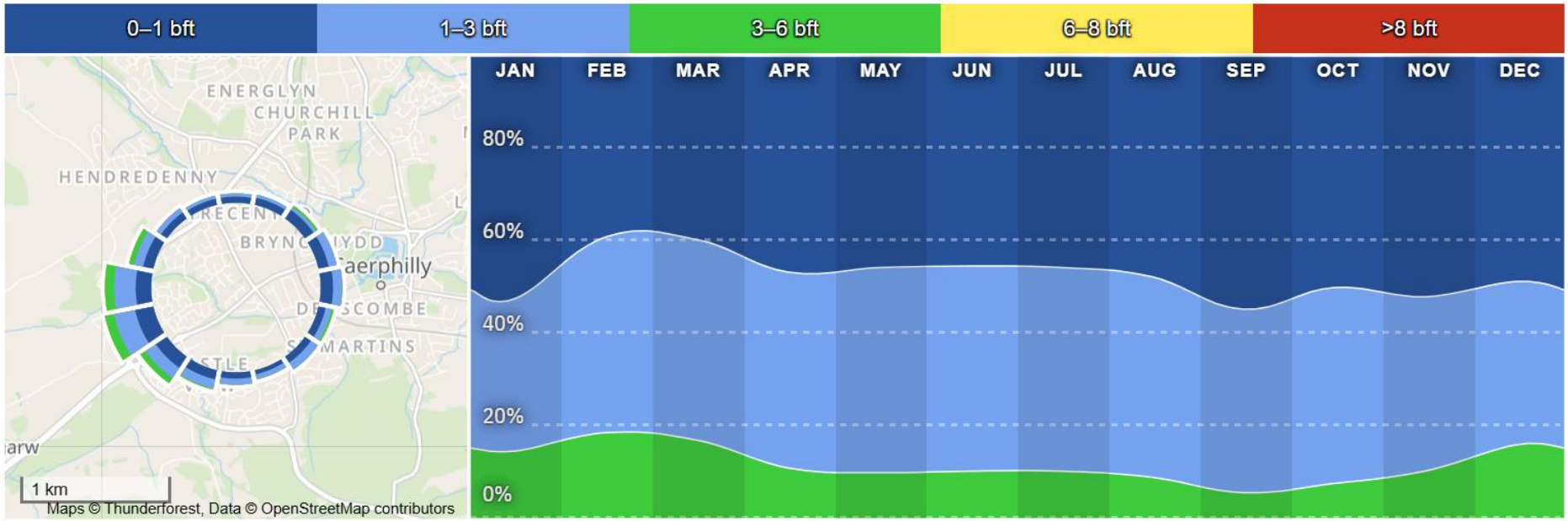
Pollutant	Predicted Background Pollutant Concentration ($\mu g/m^3$)		
	2022	**2023**	**2024**
NO_2	9.528392 $\mu g/m^3$	9.177177 $\mu g/m^3$	8.781775 $\mu g/m^3$
PM_{10}	12.147682 $\mu g/m^3$	12.018032 $\mu g/m^3$	11.888382 $\mu g/m^3$

3.1.3 According to DEFRA's Background Air Pollution Mapping Data, background emission concentrations in the locality of the Site since 2022, have been, and are predicted to be, below air quality standards. National air quality objectives and European Directive limits and target values stipulate that concentrations of PM_{10} measured at 24-hour mean levels should not exceed 50 $\mu g/m^3$ for more than 35 times a year. NO_2 concentrations should not exceed 40$\mu g/m^3$ when measured on an annual mean basis. Based on background concentrations, as tabulated above in Table 2, the air quality at the Site itself and in the vicinity is unlikely to exceed these parameters.

3.2 PREVAILING WINDS

Statistics on wind direction and wind speed are based on observations taken from the nearest weather station at Caerphilly (circa 1.65 km south southeast of the Site). This indicates that prevailing winds originate predominantly from the west and southwest (statistics are based on observations taken from the weather station between April 2013 and April 2025). The wind rose data is shown in Figure 1.

Figure 1: Monthly Wind Direction, Strength Distribution and Windrose



4 RECEPTORS

4.1.1 A review of potentially sensitive receptors has been undertaken, including residential properties, commercial and industrial premises, amenity areas, designated nature sites and areas of high landscape quality, such as Areas of Outstanding National Beauty (AONBs) and National Parks.

4.1.2 The nearest residential properties to the Site are located circa 145m west on Pantycelyn Drive, 150m west on Herbert Drive, 160m southwest on Lewis Drive, 165m south southwest on Howard Drive, 200m southwest on Dyfed Drive, 200m west on Davies Drive and 215m east on Pontygwindy Road.

4.1.3 The Site is bordered by industrial units to the west, south and east. Sir Alfred Owen Way is to the immediate north, beyond which are other industrial units. Businesses in close proximity to the nearest Site boundary include: Ecosmart (Wales) Limited (immediately to the west), Magnera Composite Fibres (immediately to the south), Pronto Hire Limited (circa 15m north), Pontygwindy Café (circa 15m northeast), Universal Resource Trading Limited (circa 26m northwest), Fit Fit Garden (circa 25m east) and Saber Computer Services Limited (circa 27m northeast).

4.1.4 There is one European Site within 10km of the facility, namely Cardiff Beech Woods SAC, which is circa 4,190m south of the facility. As there are no combustion activities on Site, the risk of any emissions to air impacting the SAC at this distance are considered insignificant.

4.1.5 The two SSSIs within a 2km radius of the Site are:

- Llanbradach Quarry SSSI, circa 983m to the north northwest to the facility. It is designated a SSSI due to its geological features, specifically the exposures of Longmyndian clastic sediments and Silurian limestone.

- Gwaun Gledyr SSSI, circa 1,700 to the southwest of the facility. It is designated a SSSI due to its extensive area of marshy grassland and smaller area of neutral grassland. These habitats are also associated with smaller areas of acid flush, wet heath, acid grassland and scrub. Broadleaved woodland also forms a significant percentage of the site, often as overgrown field boundaries; there is a large single area in the northwest of the site.

  The marshy grassland is dominated by purple moor-grass *Molinia caerulea*, with other grasses such as velvet bent *Agrostis canina* and sweet vernal-grass *Anthoxanthum odoratum*, together with tormentil *Potentilla erecta*, carnation sedge *Carex panicea* and often devil's-bit scabious *Succisa pratensis*. In places, the vegetation is more heathy with frequent cross-leaved heath *Erica tetralix* and bog mosses Sphagnum sp., whilst in wetter areas, herbs such as wild angelica *Angelica sylvestris*, marsh pennywort *Hydrocotyle vulgaris* and marsh violet *Viola palustris* can be found. In places, these can give way to dominant sharp-flowered rush *Juncus acutiflorus*, with a range of associated species such as ragged-robin *Lychnis flos-cuculi*, greater bird's-foot-trefoil *Lotus uliginosus* and common marsh

bedstraw *Galium palustre*.

4.1.6 There are nine Sites of Importance for Nature Conservation (SINCs) within a 2km radius of the Site, namely:

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- Coed y Maerdy, east of Caerphilly SINC, circa 1,988m southeast of the facility.

4.1.7 There are Areas of Ancient Semi Natural Woodland circa 45m west southwest, 255m southwest and 340m southeast of the Site, with a belt of Ancient Woodland (Unknown Category) circa 255m east of the facility.

4.1.8 There are three Scheduled Monuments within a 2km radius of the Site (https://datamap.gov.wales/maps/new?layer=inspire-wg:Cadw_SAM#/):

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- Caerphilly Castle, circa 1,186m south of the facility;
- Cornish Type Engine House, Bryngwn Colliery, circa 1,311m northeast of the facility.

4.1.9 There are no Marine Special Protection Areas, National Nature Reserves, Biosphere Reserves or Local Nature Reserves within 2km radius of the Site.

4.1.10 There are no National Parks or Areas of Outstanding Natural Beauty (AONBs) within 10km of the Site.

4.1.11 Sensitive receptors at potential risk from any dust emissions at the Site are shown on the Drawing 'Sensitive Receptors', DW02 and are listed in Table 3 below.

4.1.12 Table 3 uses the hierarchy of hospitals, schools, childcare facilities, elderly housing, convalescent facilities (i.e. areas where inhabitants are more vulnerable to the adverse effects of exposure to dust), residential properties, industry, major infrastructure, amenity areas and designated habitat sites.

4.1.13 In terms of predicted exposure risk, levels have been determined via a qualitative assessment which evaluates the likelihood of exposure to dust emissions based on the receptors' proximity to the Site and the location of the sensitive receptors in regard to the prevailing wind direction as shown in Figure 1.

4.1.14 Generally, a 1km radius reflects the maximum potential distance that dust could reasonably be expected to cause affects in extreme meteorological conditions without any mitigation measures in place. Institute of Air Quality Management (IAQM) Guidance on the Assessment of Mineral Dust Impacts for Planning (May 2016) states that "it is commonly accepted that the greatest impacts will be within 100 m of a source and this can include both large (>30 µm) and small dust particles. The greatest potential for high rates of dust deposition and elevated PM10 concentrations occurs within this distance. Intermediate-sized particles (10 to 30 µm) may travel up to 400 m, with occasional elevated levels of dust deposition and PM10 possible. Particles less than 1µm have the potential to persist beyond 400 m but with minimal significance due to dispersion." Environment Agency guidance on 'Monitoring of Particulate Matter in Ambient Air Around Waste Facilities' states that large particles (>30 µm) responsible for most dust annoyance mostly deposit within 100m of the source, intermediate-sized particles (10–30 µm) are likely to travel up to 200–500m and smaller particles (<10 µm) can travel up to 1 Km from the source.

4.1.15 Due to the high number of sensitive receptors, not all residential properties and local businesses etc are individually assessed, as there are several thousand locations within the assessment distance. Table 3 assesses the most proximate receptors within each category to provide information on the highest level of risk that would be encountered. Where mitigation measures demonstrate that the level of dust risk is low at the selected sites, it can be assumed that risk would also be low at more distant sites.

Table 3: Dust Risk Assessment

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
Medical					
Caerphilly Children's Centre	690m W	Low	Low / Mild	Receptor is upwind of the prevailing wind direction and is a significant distance from the Site. The Institute of Air Quality Management state "Particles less than 1µm have the potential to persist beyond 400 m but with minimal significance due to dispersion". In addition, the Site is surrounded by other industrial buildings, which provides shielding to receptor. Wastes are stored and processed inside the building and are therefore unlikely to give rise to dust emissions external to the Site. The only waste stored on the external yard is packaging waste, which is placed in a sealed and lidded skip. The emptying and bagging of powder media into 1 tonne 'Big Bags' is undertaken inside the building, towards the rear, i.e. furthest away from the vehicular and pedestrian access doors. The building and external yard comprise engineered surfaces, which are swept (including the corners) to prevent dust accumulation. There are no unpaved surfaces at the Site. If on-site conditions become dusty, a hose will be used on the external yard and, if required, inside the building. In the unlikely event that the public highway becomes muddy from site activities, a road sweeper will be hired as needed.	Low
Courthouse Medical Centre	721m SE	Low	Low / Mild	The receptor is relatively distant from the site (over 500m). Wastes will be tipped, stored and processed inside a fully enclosed building, fitted with vehicular access roller shutter doors. The only waste stored on the external yard will be small quantities of packaging materials, which will be stored in a sealed and lidded skip.	Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
				Wastes will be processed on a first in first out basis to ensure all materials are processed and removed from the Site typically within 2 working days, although this may extend to 5 working days during busy periods. Regularly emptying and sweeping of waste storage areas (including the corners) to ensure dust is not allowed to accumulate over an extended period of time. A hose will be available to spray operational areas, the external yard and site entrance with water during dry weather conditions to suppress any dust.	
Residential Care Home					
Glyn Derw	440m S	Low	Low/Medium	Located upwind of the prevailing wind direction. Use of dust control measures summarised above and set out in detail in Section 7 of this DEMP.	Low
Brodawel Resource Centre	484m SW	Low	Low/Medium	Located upwind of the prevailing wind direction. Use of dust control measures summarised above and set out in detail in Section 7 of this DEMP.	Low
Ty Gwilym	489m WSW	Low	Low/Medium	Located upwind of the prevailing wind direction. Use of dust control measures summarised above and set out in detail in Section 7 of this DEMP.	Low
Schools and Colleges					
Ysgol Gyfun Cwm Rhymni	688m SSE	Low	Low/Mild	Relatively distant from the Site at over 500m. Use of dust control measures summarised above and set out in detail in Section 7 of this DEMP.	Low
Plas Y Felin (Primary School)	763m S	Low	Low	Located upwind of the prevailing wind direction and distant from the Site at over 750m. Use of dust control measures summarised above and set out in detail in Section 7 of this DEMP.	Low
Ysgol Gymraeg Caerffili (Primary School)	907m SSE	Low	Low	Located upwind of the prevailing wind direction and distant from the site (over 750m). Use of dust control measures summarised above and set out in detail in Section 7 of this DEMP.	Low
Little Moons Bilingual Preschool	972m WSW	Low	Low	Located upwind of the prevailing wind direction and distant from the site (over 750m). Use of dust control measures summarised above and set out in detail in Section 7 of this DEMP.	Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
Residential Properties					
Pantycelyn Drive	145m W	Medium	Medium	Although the residential properties are located upwind of the Site, they are in relatively close proximity and there is the potential for dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to residents.	Low
Herbert Drive	150m W	Medium	Medium	Although the residential properties are located upwind of the Site, they are in relatively close proximity and there is the potential for dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to residents.	Low
Lewis Drive	160m SW	Medium	Medium	Although the residential properties are located upwind of the Site, they are in relatively close proximity and there is the potential for dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to residents.	Low
Howard Drive	165m SSW	Medium	Medium	Although the residential properties are located upwind of the Site, they are in relatively close proximity and there is the potential for dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to residents.	Low
Dyfed Drive	200m SW	Medium	Medium	Although the residential properties are located upwind of the Site, they are in relatively close proximity and there is the potential for dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to residents.	Low
Davies Drive	200m W	Medium	Medium	Although the residential properties are located upwind of the Site, they are in relatively close proximity and there is the potential for dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to residents.	Low
Pontygwindy Road	215m E	Medium	Medium	The residential properties are located downwind of the Site and are in relatively close proximity. There is the potential for dust impacts at this	Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
				distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to residents.	
Pontypandy Lane	280m ESE	Mild	Mild	Use of the mitigation measures summarised above and detailed in Section 7 of this DEMP will be used to prevent any significant risks to residents.	Low
Heol Pwllypant	304m NNW	Mild	Mild	Use of the mitigation measures summarised above and detailed in Section 7 of this DEMP will be used to prevent any significant risks to residents.	Low
Pontypandy Lane	306m SE	Mild	Mild	Use of the mitigation measures summarised above and detailed in Section 7 of this DEMP will be used to prevent any significant risks to residents.	Low
Gruffydd Drive	317m SW	Mild	Mild	Use of the mitigation measures summarised above and detailed in Section 7 of this DEMP will be used to prevent any significant risks to residents.	Low
Central Street	344m N	Mild	Mild	Use of the mitigation measures summarised above and detailed in Section 7 of this DEMP will be used to prevent any significant risks to residents.	Low
Dylan Drive	355m SSW	Mild	Mild	Use of the mitigation measures summarised above and detailed in Section 7 of this DEMP will be used to prevent any significant risks to residents.	Low
Industrial and Commercial					
Ecosmart (Wales) Limited	Adjacent W	High	Medium/High	The company is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to the neighbouring business.	Low
Magnera Composite Fibres	Adjacent S	High	Medium/High	The company is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to the neighbouring business.	Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
Pronto Hire Limited	15m N	High	Medium/High	The company is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to the neighbouring business.	Low
Pontygwindy Café	15m NE	High	Medium/High	The company is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to the neighbouring business.	Low
Fit Fit Garden	25m E	High	Medium/High	The company is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to the neighbouring business.	Low
Universal Resource Trading Limited	26m NW	High	Medium/High	The company is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to the neighbouring business.	Low
Saber Computer Services Limited	27m NE	High	Medium/High	The company is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to the neighbouring business.	Low
The Mortgage Team Limited (Douglas House)	32m W	High	Medium/High	The company is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to the neighbouring business.	Low
SJR Property Holdings Limited (Douglas House)	32m W	High	Medium/High	The company is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this	Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
				DEMP are used to prevent any significant risks to the neighbouring business.	
Ram Plant Limited (Douglas House)	32m W	High	Medium/High	The company is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to the neighbouring business.	Low
Ocupy Holdings Limited	32m W	High	Medium/High	The company is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to the neighbouring business.	Low
JR Industries	75m NW	Medium/High	Medium/High	The company is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 7 of this DEMP are used to prevent any significant risks to the neighbouring business.	Low
Railway					
Rail Line	240m W	Low	Low/Mild	Upwind of the prevailing wind direction. Dust is unlikely to cause any significant impacts to railway infrastructure at this distance, and trains will quickly travel beyond the proximity of the Site, meaning exposure time is likely to be very short. Rail personnel maintaining the line in proximity to the Site would have longer periods of occupancy. The use of control measures detailed in Section 7 and summarised above would protect workers from any significant dust impacts.	Low
Energlyn and Churchill Park Railway Station	492m SW	Low	Low/Mild	Upwind of the prevailing wind direction. Dust is unlikely to cause any significant impacts to railway infrastructure or people at this distance. The use of control measures detailed in Section 7 and summarised above would protect people from any significant dust impacts.	Low
Surface Water					

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
Nant Yr Aber	342m SE	Low	Low	Dust is unlikely to cause any significant impacts at this distance on water quality or flora and fauna associated with the watercourse. The use of control measures summarised above and set out in detailed in Section 7 of this DEMP.	Low
Agricultural Land					
Agricultural Land	490m N	Low	Low	Although the nearest agricultural land is downwind of the prevailing wind direction, dust is considered unlikely at this distance to cause significant impacts to arable crops or grazing animals. The use of control measures summarised above and set out in detail in Section 7 of this DEMP.	Low
Ancient Woodland					
Ancient Semi Natural Woodland	45m SW	Medium	Medium	Dust may adversely effect photosynthesis, as well as potentially impacting fauna associated with the woodland. The use of control measures summarised above and set out in detailed in Section 7 of this DEMP.	Low
Ancient Semi Natural Woodland	255m SW	Low	Low/Mild	Dust may adversely effect photosynthesis, as well as potentially impacting fauna associated with the woodland. The use of control measures summarised above and set out in detailed in Section 7 of this DEMP.	Low
Ancient Woodland	255 E	Low	Low/Mild	Dust may adversely effect photosynthesis, as well as potentially impacting fauna associated with the woodland. The use of control measures summarised above and set out in detailed in Section 7 of this DEMP.	Low
Ancient Semi Natural Woodland	340m SE	Low	Low/Mild	Dust may adversely effect photosynthesis, as well as potentially impacting fauna associated with the woodland. The use of control measures summarised above and set out in detailed in Section 7 of this DEMP.	Low
Designated Habitat Sites					
Llanbradach Quarry SSSI (Geological SSSI)	983m NNW	Very Low	Very Low	Geological SSSI is distant from the Site. Geology is very unlikely to be significantly impacted by dust.	Very Low
Gwaun Gledyr SSSI	1,700m SW	Very Low	Very Low	Upwind of the prevailing wind direction and distant from the Site. Dust is unlikely to cause any significant impacts on flora and fauna associated with the habitat site at this distance. The use of control measures detailed in this DEMP and summarised above would protect habitat from any significant dust impacts.	Very Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
Nant yr Aber SINC	344m SSE	Low/Moderate	Low/Mild	At this distance it is considered unlikely that any dust emissions from the Site would have a significant impact on the SINC. Dust is unlikely to cause any significant impacts on flora and fauna associated with the habitat site at this distance. The use of control measures detailed in this DEMP and summarised above would protect habitat from any significant dust impacts.	Low
Coed y Brain, Penyrheol SINC	532m NW	Low	Low/Mild	Relatively distant from the site. Dust is unlikely to cause any significant impacts on flora and fauna associated with the habitat site at this distance. The use of control measures detailed in this DEMP and summarised above would protect habitat from any significant dust impacts.	Low
Mynydd Dimlaith and Cwm-y-Bwch SINC	1,036m NNE	Very Low	Very Low	Distant from the site. Dust is unlikely to cause any significant impacts on flora and fauna associated with the habitat site at this distance. The use of control measures detailed in this DEMP and summarised above would protect habitat from any significant dust impacts.	Very Low
Rhymney River SINC	1,187m E	Very Low	Very Low	Distant from the site. Dust is unlikely to cause any significant impacts on flora and fauna associated with the habitat site at this distance. The use of control measures detailed in this DEMP and summarised above would protect habitat from any significant dust impacts.	Very Low
Cwm yr Aber, South of Abertridwr SINC	1,316m SW	Very Low	Very Low	Upwind of the prevailing wind direction and distant from the Site. Dust is unlikely to cause any significant impacts on flora and fauna associated with the habitat site at this distance. The use of control measures detailed in this DEMP and summarised above would protect habitat from any significant dust impacts.	Very Low
Mynydd Eglwysilan, north of Senghenydd SINC	1,736m NW	Very Low	Very Low	Upwind of the prevailing wind direction and distant from the Site. Dust is unlikely to cause any significant impacts on flora and fauna associated with the habitat site at this distance. The use of control measures detailed in this DEMP and summarised above would protect habitat from any significant dust impacts.	Very Low
Gypsy Lane Wetland, south of Groeswen SINC	1,792m SW	Very Low	Very Low	Upwind of the prevailing wind direction and distant from the Site. Dust is unlikely to cause any significant impacts on flora and fauna associated with the habitat site at this distance. The use of control measures detailed in this DEMP and summarised above would protect habitat from any significant dust impacts.	Very Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitgation
Caerphilly/ Machen Disused Railway SINC	1,848m SE	Very Low	Very Low	Distant from the site. Dust is unlikely to cause any significant impacts on flora and fauna associated with the habitat site at this distance. The use of control measures detailed in this DEMP and summarised above would protect habitat from any significant dust impacts.	Very Low
Coed y Maerdy, east of Caerphilly SINC	1,988m SE	Very Low	Very Low	Distant from the site. Dust is unlikely to cause any significant impacts on flora and fauna associated with the habitat site at this distance. The use of control measures detailed in this DEMP and summarised above would protect habitat from any significant dust impacts.	Very Low
Scheduled Monuments					
Caerphilly Iron Furnace	1,184m SW	Very Low	Very Low	Scheduled monument is upwind of the prevailing wind direction and distant from the Site. Dust is unlikely to cause any significant impacts to the receptor.	Very Low
Caerphilly Castle	1,186m S	Very Low	Very Low	Scheduled monument is upwind of the prevailing wind direction and distant from the Site. Dust is unlikely to cause any significant impacts to the receptor.	Very Low
Cornish Type Engine House, Bryngwn Colliery	1,311m NE	Very Low	Very Low	Scheduled monument is upwind of the prevailing wind direction and distant from the Site. Dust is unlikely to cause any significant impacts to the receptor.	Very Low

5 WASTE MANAGEMENT

5.1 PERMITTED WASTES

5.1.1 The list of proposed wastes at the Site is detailed in Table 4 below, together with their associated dust emission risk under 'normal' operational conditions and without mitigation or control measures being applied.

Table 4: Proposed Wastes

ECW Code	Description	Dust Emission Risk Without Mitigation
15	**WASTE PACKAGING**	
15 01	**Packaging (including separately collected municipal packaging waste)**	
15 01 01	Paper and cardboard packaging	Medium
15 01 02	Plastic packaging	Medium
15 01 03	Wooden packaging	Low
15 01 04	Metallic packaging	Low
15 01 05	Composite packaging	Medium
15 01 06	Mixed packaging	Medium
16	**WASTES NOT OTHERWISE SPECIFIED IN THE LIST**	
16 05	**Gases in pressure containers and discarded chemicals**	
16 05 04*	Gases in pressure containers containing hazardous substances	Low
16 05 05	Gases in pressure containers other than those mentioned in 16 05 04	Low

5.2 WASTE RECEIPT

5.2.1 As part of the waste acceptance procedures for the Site, waste producers will be required to provide details of any precautions that should be taken to control dust emissions.

5.2.2 Waste pre-acceptance procedures will ensure that only compliant waste types are accepted. Customers delivering waste to the Site will be required to provide the Operator, in advance, with all necessary information/documentation to satisfy the requirements of the Duty of Care and the Waste (England and Wales) Regulations 2011. The requirements for waste producers to provide pre-acceptance documentation that includes identification of any potential risks to the environment, such as from dusty materials, will help to identify any potential loads that should be rejected from the Site prior to delivery.

5.2.3 The Operator will check pre-acceptance documentation to ensure that only permitted fire extinguishers and associated packaging wastes are approved for delivery to the Site. Non-permitted wastes, including nitrogen cylinder/cannisters or halon filled fire extinguishers or any associated packaging waste that may be dusty, odorous or infected with vermin, flies or insects, will not be accepted. Pre-acceptance documentation will record:

- The waste description;
- The European Waste Classification (EWC) code;
- The source and nature of the waste, including its physical form (e.g. if containing foam, liquid, powder or CO_2 media);
- Any special handling measures;
- Any potential risks to process safety, occupational safety and the environment;
- Details of the waste producer (name, address and contact details);
- Where the waste holder is not the producer, details of the waste holder (name, address and contact details);
- Information on the nature and variability of the waste production process and the waste;
- Age of the waste;
- Type of packaging;
- An estimate of the quantity to be received in each load and in a year.

5.2.4 Checks will also be made to establish whether the haulier is a Registered Waste Carrier or has a valid exemption from registration. Only registered carriers or those who are lawfully exempt from registration will be permitted to use the Site.

5.2.5 Waste will not be accepted if for any reason there is insufficient storage capacity available or if the Site is inadequately manned. This is to ensure that all waste is managed effectively to prevent pollution or loss of amenity.

5.2.6 Site staff will be suitably trained and will follow documented procedures. The Operator will examine the waste descriptions of incoming waste loads and the information will be checked against the previously supplied pre-acceptance documentation, six figure European Waste Catalogue Code(s) and other details on the Waste Transfer Note or Season Ticket or Hazardous Waste Consignment Note (as appropriate) and against the waste types permitted by the Environmental Permit.

5.2.7 Every delivery of waste will be recorded, detailing the date of the transaction, volume, waste type, registered carrier, Waste Transfer Note number or Hazardous Waste Consignment Note number, vehicle registration and other pertinent information against a unique reference number. It will allow for tracking of wastes, the generation of reports and waste returns, as well as providing comprehensive, auditable information.

5.2.8 The contents of waste loads will be inspected upon receipt, i.e. before storage and processing in the building. In the event that a load is non-permitted or unsuitable for receipt at the Site, e.g. if it comprises nitrogen cylinders/cannisters or halon filled fire extinguishers or if any associated packaging is dusty, odorous or infested with vermin and insects etc, it will not be allowed to unload and will be rejected. A record of the non-permitted load will be made.

5.2.9 Suitable waste loads will be unloaded by site operatives using a fork-lift truck where fire extinguishers are received in containers loaded on to pallets or manually for any loads that are not received on pallets. Fire extinguishers will be stored upright in dedicated containers, each located on a pallet, according to the media they contain, i.e. foam, powder, deionised water and CO_2 containers will be stored separately. This will help to ensure materials do not come into contact and are processed separately, so that the cleanliness of recyclable materials is maintained and wastes are processed on a first in first out basis.

5.2.10 Checked and approved waste loads will be stored and processed inside the building.

5.2.11 In the event that any inadvertently non-permitted or unsuitable wastes are detected following unloading, they will either be reloaded onto the delivery vehicle where possible or if it has already left the Site will be loaded into a fully sealed, enclosed and lidded skip or container for isolation and quarantine. The quarantined wastes will be prioritised for rapid removal off-Site to an authorised facility, i.e. within 2 working days of receipt.

5.2.12 Any discrepancies found as a result of the checks detailed above will result in the vehicle being detained whilst some, or all, of the following supplementary management decisions are taken:

- Referral to a Technically Competent Person (TCP) on site;
- Referral to the waste producer to confirm the nature of the waste load;
- Referral to the waste carrier's base;
- Referral to NRW;
- Redirection of delivery vehicle off site, to a suitably authorised facility; and
- If the waste has been unloaded in the building, removal of the waste to a secure quarantine skip or container, prior to off-site removal either to the waste producer or suitably authorised facility.

5.3 NON-CONFORMING WASTE

5.3.1 Any loads arriving at the Site which contain non-permitted wastes or a significant amount of contrary material, such as dusty packaging materials, shall be rejected prior to unloading. In the unlikely event that non-permitted or unsuitable wastes are inadvertently unloaded at the Site, they will be re-loaded where possible. Where the vehicle has already left the Site, the non-permitted or unsuitable wastes will be stored in a quarantine skip or container at the Site, pending removal of the material to the waste producer or authorised facility.

5.3.2 Any dusty wastes requiring quarantine before removal from the Site will be sprayed with water to suppress potential dust emissions during handling.

5.3.3 Material rejected from the Site shall be issued with a record stating why, when and from which contract the waste was provided. This record shall be held on Site for NRW to inspect. In addition a Record of Non-Conformance shall be completed and the record will be held on Site.

6 WASTE TREATMENT

6.1 AQUEOUS FILM FORMING FOAM (AFFF) MEDIA

6.1.1 Fire extinguishers containing Aqueous Film Forming Foam (AFFF) media will be emptied into dedicated IBCs, labelled for the specific receipt of such materials to avoid the risk of cross contamination.

6.1.2 An integral valve is located towards the base of each IBC. One end of a DN 100 hose connects to the IBC valve, whilst the other end feeds into the carbon absorption plant process inlet, via a valve which is opened at start up.

6.1.3 The carbon absorption plant is pre-loaded with activated carbon by the supplier. AFFF media is pumped through the unit in a downflow direction. The activated carbon absorbs PFAS chemicals, including PFAS and PFOA, removing them from the treated foam liquor. The process outlet of the unit is directed to above the height of the activated carbon bed with a siphon break at the top. This prevents the vessel draining down when flow is stopped.

6.1.4 The flow rate of AFFF media through the carbon absorption plant is controlled via the inlet valve and discharge valve. Pressure gauges are fitted to determine pressure at the inlet and outlet of the unit. A pressure relief valve is fitted as a safety measure, which is set to open should pressure reach or exceed 3 bar, i.e. to avoid over pressurisation of the unit.

6.1.5 Treated foam liquor is pumped from the carbon absorption plant, via a hose, to a clean IBC for removal off-site to an authorised facility. The cap at the top of the IBC is opened and the hose placed inside for filling. A check is made to ensure the valve near the base of the IBC is closed before filling commences. Once full, IBCs are stored on site for loading onto a HGV for removal off-site.

6.1.6 AFFF media is a liquid and will not give rise to dust emissions. It's storage and transfer in IBCs is considered unlikely to give rise to any significant dust.

6.2 POWDER MEDIA

6.2.1 Disused or spent or returned fire extinguishers containing powder will be emptied by transferring the media via a vacuum pump through a dedicated hose that is connected to the fire extinguisher cylinder head at one end and into a 1,200 litres reception silo. The vacuum pump is fitted with a microporous filter. The system has a dedicated counter-current blowing cleaning system for the filter, valve and fire extinguisher suction unit. The main recovery inlets are operated with automatic valves controlled by start and stop mechanisms.

6.2.2 A 1 tonne capacity 'Big-Bag' is attached to the bottom of the silo and is secured by a metal clamp to ensure a tight seal and to minimise any fugitive emission of powder inside the building.

6.2.3 The silo is equipped with a level emitting alarm, which indicates when it is necessary to discharge into the 'Big Bag', via an automatic discharge valve. Once the bag is full, it is sealed at the top opening and transferred via a fork-lift truck to the loading area inside the building. 'Big Bags' are loaded onto curtain sided lorries or other suitable vehicles for transfer off-site to an authorised recycling facility, where the material is used for fertiliser manufacture.

6.2.4 The emptying and transfer of powder to the bagging plant is undertaken inside the building, towards the rear and furthest away from the vehicular and pedestrian access doors, to further minimise the risk of any fugitive escape of dust to the external environment.

6.3 DEIONISED WATER MEDIA

6.3.1 Fire extinguishers containing deionised water media are emptied into dedicated and labelled IBCs, prior to discharge to foul sewer in accordance with a Trade Effluent Discharge Consent issued by Welsh Water. The Operator ensures that only dedicated IBCs are used for the receipt, storage and discharge of deionised water to foul sewer, thereby avoiding any potential risk of cross contamination from other media, such as foam.

6.3.2 As deionised water is a liquid, its emptying into IBCs and discharge to the foul sewer will not give rise to dust emissions.

6.4 CARBON DIOXIDE FIRE EXTINGUISHERS

6.4.1 Disused or spent or returned CO_2 extinguishers are received as part of a take back scheme from customers, where they are bulked up in containers inside the building prior to transfer off-site to an authorised facility for emptying and discharge of spent CO_2 gas, reconditioning of the cylinder and cylinder head and refilling with new CO_2 media. The reconditioned CO_2 fire extinguishers are suitable for reuse, with a design life of 10 years.

6.5 RECYCLING OF CYLINDER AND COMPONENTS

6.5.1 Once fire extinguishers are emptied, they are dismantled into their component metal and plastic parts for recycling by trained site operatives. All dismantling operations are undertaken inside the building.

6.5.2 The brass head cap is removed and is placed in a sealed container located on a pallet to facilitate removal and loading into a lorry for off-site removal to an authorised recycling facility.

6.5.3 Metal cylinders and metal dip tubes are transferred to an inclined conveyor, which feeds into the top of a 40 cubic yard roll on roll off container. Once the container is full it is sheeted and transferred off site to an authorised scrap metal recycling facility.

6.5.4 Plastic skirts and plastic tubes are placed in a sealed container located on a pallet to facilitate removal and loading into a lorry for off-site removal to an authorised recycling facility.

6.5.5 The dismantling, sorting and separation of fire extinguisher cylinders will enable high rates of recycling to be achieved.

6.6 RECYCLING OF PACKAGING WASTES

6.6.1 Packaging waste associated with the supply of fire extinguishers to customers and the return of disused or spent or unwanted units by them, is sorted, separated and recycled on site. Separated cardboard and plastic are each fed to a small compactor unit inside the building to create baled cardboard and baled plastic wastes. These baled waste streams are being transferred to a sealed and lidded skip or

directly into an enclosed vehicle for removal off-site to an authorised facility. Only small quantities of carboard and plastic wastes are processed on site and these are taken to a nearby recycling facility on a typically daily basis.

6.6.2 Other packaging wastes such as other plastics, broken pallets, paper etc are stored in a sealed and lidded skip for removal off-site to an authorised facility.

7 DUST CONTROL MEASURES

7.1 WASTE ACCEPTANCE PROCEDURES

7.1.1 The waste acceptance procedures detailed in Section 5.2 above will be the initial method of preventing inherently dusty loads being accepted at Site. The requirements for waste producers to provide pre-acceptance documentation that includes identification of any potential risks to the environment, including from inherently dusty wastes, will help to identify any potential loads that should be rejected from the Site prior to delivery.

7.1.2 Although the Site receives disused or spent or returned fire extinguishers containing powder media, these units are sealed and enclosed on delivery to the Site and are only emptied and transferring to the bagging plant inside the building (see Section 6.2).

7.2 WASTE STORAGE AND PROCESSING INSIDE THE BUILDING

7.2.1 All wastes will be stored and processed inside the building, which is fully enclosed and fitted with a vehicular access roller shutter door and pedestrian access doors.

7.2.2 The building floor comprises concrete. The external yard comprises a combination of engineered concrete and block paving surface. The unloading and loading area on the external yard is fully concreted and kerbed to 3 sides. Delivery vehicles access the external yard directly form the public highway on Sir Alfred Owen Way. There is no requirement for vehicles to drive over unmade roads or surfaces or for wastes to be stored and processed on unmade land.

7.2.3 The Site operates on a first in first out basis to ensure that wastes are received, processed and dispatched typically within 2 working days, although this may extend to 5 working days during busy periods.

7.2.4 Housekeeping measures include daily sweeping during the course of the working day and at the end of the working day to ensure the Site is clean and tidy (the powder bagging area is typically vacuumed). The corners or waste storage and processing areas are swept and cleaned as a minimum every 5 working days, although durations are typically shorter. All waste treatment processes will take place inside the building to control dust emissions.

7.2.5 Additional sweeping and cleaning will take place:

- During periods of dry weather, which may give rise to dusty conditions;
- During daily site inspections if noticeable dust accumulation is present or if there is the potential for dust emission from the Site.

7.2.6 The purpose of the sweeping and cleaning will be to ensure that dust emissions do not escape the Site boundary.

7.2.7 A hose reel will be installed at the Site and used to dampen any areas or wastes that have the potential to give rise to dust emissions, e.g. during hot and dry weather.

7.2.8 In the unlikely event that mud or dust is identified as an ongoing issue, a road sweeper can be sourced from a local supplier.

7.2.9 In the event that circumstances beyond the control of the Operator (such as the breakdown of critical plant on site or the closure and general non-availability of sites that the recycled and processed materials are typically sent to) result in the quantity of waste building up to levels approaching the maximum authorised in the permit, alternative authorised facilities will be sought as a matter of urgency to ensure that waste levels are quickly controlled and materials do not give rise to dust emissions.

7.3 WASTE STORAGE OUTSIDE THE BUILDING

7.3.1 Small quantities of packaging waste associated with the delivery or supply of fire extinguishers from customers is received at the Site. Packaging waste is not accepted from any other source or outlet.

7.3.2 Associated packaging wastes include plastic wrapping film, plastic bags, any broken pallets or fragments and paper are stored in a sealed and lidded skip for removal off-site to an authorised facility. The skip lid is kept closed other than site operatives are transferring packaging materials inside. As soon as the materials are deposited into the skip, the lid is closed to form a tight seal that minimises any risk of dust or lightweight materials escaping and becoming windblown.

7.4 MATERIAL EXPORTED OFF-SITE

7.4.1 All recycled and dispatched materials from the Site will be in suitably enclosed containers such as IBCs or in sheeted vehicles or in lidded and closed skips to control the potential for dust emissions during transfer off site.

7.4.2 Material rejected from the Site will be issued with a record stating why, when and from which contract the waste was provided. This record is held on Site for NRW to inspect.

7.5 PLANT MAINTENANCE

7.5.1 Site infrastructure and plant will be inspected regularly for damage and wear by the Site Manager or the Operations Director or other suitably trained person. Records of these checks will be maintained in accordance with the EMS. All maintenance on the plant is programmed into the company's Planned Preventative Maintenance (PPM) system which generates work orders for up-coming maintenance and logs when that maintenance has been completed.

7.5.2 Trained maintenance staff can be called on to effect plant repairs quickly where required. Typically plant repairs can be undertaken within one working day, depending on the availability of spares.

7.6 TRAINING

7.6.1 All site personnel working at the facility will be subject to a formal documented training programme in accordance with the Operator's procedures and EMS. Matters relating to the control of dust and the prevention of dust emissions from the Site form part of this core training programme for all individuals. Additional training is also provided for personnel required to complete subjective visual dust monitoring.

7.7 COMMUNITY LIAISON

7.7.1 Checkfire Ltd operates an open-door policy and members of the public are welcome to contact the Site to discuss any issues with the site management team. Prior arrangement will be made with site personnel, where possible, for any site visit that may be required.

7.7.2 Site contact details and 24 hours contact number are shown on the Company website. Direct feedback to site is encouraged at all times in relation to any perceived issues associated with operational activities.

7.8 CONTINGENCY ARRANGEMENTS

7.8.1 Contingency arrangements are available at short notice to divert incoming waste loads or transfer wastes already received at the Site to other suitably authorised facilities should the need arise.

7.8.2 Incidents that may cause contingency arrangements to be implemented include:

- Extreme weather that prevents vehicles or staff safely reaching the Site or compromises the operational efficiency of the facility;
- If the Site reaches a capacity where further waste loads cannot be received without compromising operational efficiency or compliance with the Environmental Permit;
- Identification of a waste load that is unacceptable for receipt or may cause dust levels that cannot be adequately controlled;
- Any major incidents such as fire or flooding which prevent or compromise the safe and efficient operation of the Site.

7.8.3 In reality the requirement to implement contingency measures is only likely to arise infrequently, if at all. However, contingency arrangements will be maintained throughout the life of the Site as a necessary safeguard.

7.9 EMERGENCY

7.9.1 In the event of a site emergency, the Site Manager and Operations Director will be notified without delay. The emergency measures will be implemented as a priority to mitigate the incident, as appropriate.

7.10 SITE INSPECTIONS

7.10.1 The Site Manager (or during his absence for leave etc, the Operations Director or other suitably trained person) will undertake both daily and weekly dust inspections of the Site. The daily inspections will include the waste storage and processing areas inside the building. The weekly inspections will be recorded and include the external perimeter area of the Site.

7.10.2 Monthly management meetings will include a review of current and planned site operations with respect to their potential for generating dusty emissions. Identified actions arising from the meetings and responsibilities for their completion will be recorded.

7.11 HOUSEKEEPING

7.11.1 The Operator will ensure efficient and regular housekeeping are used to maintain the Site in a tidy condition and to minimise any risks of dust and litter escaping the building and site boundary.

7.11.2 The use of first in first out principles will ensure the Site operates a rapid turnover of waste materials and that the waste storage areas are emptied frequently, at least every 5 working days, so that all materials are removed and the area is totally emptied and swept (including the corners of the building, storage and processing areas). This prevents the potential for any build-up of dust or litter and ensures that all materials are rapidly removed.

7.11.3 Site sweeping will be carried out by site operatives under the supervision of the Site Manager or Operations Director.

7.11.4 The trigger for additional sweeping and cleaning will be during periods of dry weather, which may give rise to dusty conditions, during daily site inspections if noticeable dust, litter or debris accumulation is present.

7.11.5 It is important to note that all site surfaces comprise concrete and engineered pavement and there is no requirement for vehicles to drive over unmade roads or surfaces or for wastes to be stored and processed on unmade land.

7.11.6 In the unlikely event that mud or dust is identified as an ongoing issue a road sweeper can be sourced from a local supplier.

7.11.7 In the event that circumstances beyond the control of the Operator (such as the breakdown of critical plant on site or the closure and general non-availability of sites that the recycled and recovered materials are typically sent to) result in the quantity of waste building up to levels approaching the maximum authorised in the permit, alternative authorised facilities will be sought as a matter of urgency to ensure that waste levels are quickly controlled and materials do not give rise to fugitive emissions off site.

7.11.8 All wastes are dispatched from the Site in suitably enclosed containers such as IBCs or in sheeted vehicles or in lidded and closed skips to control the potential for dust emissions during transfer off site.

8 DUST AND EMISSIONS MANAGEMENT

8.1 RESPONSIBILITY FOR IMPLEMENTATION OF THE DEMP

8.1.1 The Site Manager or, in his absence, the Operations Director will oversee the implementation of the DEMP and ensure that the methods detailed within this document provide effective dust mitigation.

8.1.2 Where the responsible individual is unavailable to supervise the implementation of dust suppression measures, a suitably experienced site operative will be allocated responsibility.

8.1.3 If dust and particulate emissions are observed following the use of the dust suppression measures outlined above, the DEMP will be reviewed and measures such as a fixed suppression systems considered.

8.1.4 Amendments of the DEMP to reflect any potential improvements will be made during the review process.

8.1.5 The Site Manager has been assessed in the implementation of site control measures and is deemed proficient to execute and review this DEMP.

8.1.6 During the induction process, all staff members will be trained in the dust suppression measures outlined in this DEMP. Refresher training will be provided in the scenario where additional dust suppression measures have been introduced to ensure staff remain competent.

8.1.7 The DEMP will be reviewed at least annually or following any adjustments in operations which have the potential to increase the level of exposure to surrounding sensitive receptors.

8.2 SOURCES AND CONTROL OF FUGITIVE DUST EMISSIONS

8.2.1 Detailed below are examples of potential sources of fugitive dust and particulate emissions associated with all the operations and activities at the Site:

- Vehicles entering and/or leaving the Site with mud on wheels, and tracking dust on to or off the Site;
- Debris falling off lorries which arrive uncovered;
- Vehicles and plant moving around the Site kicking up dust;
- Unloading and loading of wastes;
- Waste storage and processing activities;
- Site surfaces (i.e. the ground, plant and equipment);
- Loading any inadvertently accepted non-permitted wastes back on to vehicles for removal off-Site to authorised facilities;
- Particulate emissions from the exhaust of vehicles/plant/machinery on site.

8.2.2 It is considered unlikely that high wind speeds will cause significant dust emissions at the Site, as all

waste loads are off-loaded, stored and processed in the building. Small quantities of packaging waste are stored on the external yard, but only in a sealed and lidded skip or container. The lid is kept closed at all times other than when packing waste is being deposited inside by site operatives. The lid is immediately closed after deposit. However, should wind speeds become so great that they are a risk to the environment or personnel then measures will be implemented to cease waste deliveries and close the Site.

8.2.3 Meteorological Office predictions and recordings of local weather data (https://www.metoffice.gov.uk/) will be reviewed by the Site Manager to allow forward planning. Weekly observations of weather conditions, including wind speed, direction and temperature, will be made so that site operations can be rearranged to adapt to changing conditions where necessary.

8.2.4 Table 5 below details the measures to be applied to the Site for each of the sources outlined above to break the source-pathway-receptor routes.

8.2.5 Preventative and remedial measures to integrate on the Site to alleviate potential fugitive dust and particulate emissions are tabulated in Table 6 below. These are grouped in terms of cost (low or medium) and can be used individually or in conjunction.

8.3 VISUAL DUST MONITORING

8.3.1 Visual dust monitoring will be carried out as part of the routine daily inspections with any relevant observations recorded and retained on-site.

8.3.2 All plant will be inspected on a daily basis and cleaned after use, as appropriate, in order to prevent the accumulation of dust and loose materials.

8.3.3 Informal dust monitoring comprising of operational staff remaining vigilant for observable dust and will be carried out during the operational process. In the unlikely event that significant or uncontrollable dust emissions are identified, operations will cease, and the Site boundary will be examined to ensure emissions are not dissipating towards sensitive receptors. Dampening down of the source of any fugitive emissions will be undertaken before operational processes resume.

8.3.4 Due to the levels of abatement measures to be integrated on the Site as detailed above, the likelihood of emissions impacting on the identified sensitive receptors is considered low. Therefore, no other form of dust monitoring is proposed for the Site.

8.3.5 In the unlikely event that dust emissions are identified as an issue, the Site Manager (in consultation with the Operations Director) will review the mitigation measures and monitoring techniques detailed in this DEMP in order to reduce exposure levels and inhibit emissions dispersing from the Site. In this scenario, quantitative techniques will be considered as a monitoring process.

8.3.6 Senior Management will review dust monitoring results as part of their monthly audit and site inspections. The Operator is committed to the following as part of the Site's EMS and this DEMP:

- Continual improvement;
- Minimising the risk of pollution incidents and preventing any significant impacts to sensitive

receptors, including detriment to local amenity;

- Operate the Site in accordance with all the latest regulatory guidance;
- Meeting environmental objectives, including dust control, independent of the Environmental Permit.

Table 5 Source-Pathway-Receptor Route

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
Mud	Tracking dust on wheels and vehicles. Mud dropping off wheels/vehicles when dry	Neighbouring industrial units and businesses in the vicinity and sensitive receptors identified in Table 3	Visual build-up and soiling of dust and particulates, also consequent resuspension into the air column	• The base of the building comprises concrete throughout. The external yard comprises a combination of engineered concrete and block paving. Vehicles access the Site directly off Sir Alfred Owen Way on to the external yard. There is no requirement for vehicles to drive over unmade ground. • Any accumulation of mud or dust at the Site, e.g. on the external yard area or entrance to the facility, will be cleaned by sweeping. Water will be sprayed using a hose to dampen down any potentially dusty emissions. • In the unlikely event that mud or dust is identified as an ongoing issue, a road sweeper can be sourced from a local supplier.
Debris	Falling off lorries	As above	Visual build-up and soiling of dust and particulates, also consequent resuspension into the air column	• Fire extinguishers are delivered to the Site for emptying, dismantling and processing of media for either recycling or disposal. Therefore, fire extinguishers are sealed prior to delivery. They are typically delivered to the Site in dedicated containers on pallets or, for small quantities, in cardboard boxes loaded into an enclosed van or other vehicle. • Sealed fire extinguishers are not inherently dusty. • Efficient and prompt unloading of vehicles and transfer of fire extinguishers into the building, which is fully enclosed and fitted with a roller shutter vehicular access door and separate pedestrian door. • All areas subject to regular housekeeping. • Where debris is identified as an ongoing issue a road sweeper can be provided from a local road sweeper hire company.
Vehicles and plant moving	Atmospheric dispersion	Surrounding sensitive receptors	Airbourne particulates	• The external yard comprises engineered surfaces. Vehicles will be either unloaded directly inside the building (e.g. vans containing small quantities of fire extinguishers in cardboard boxes that can be hand carried to the storage area) or on the external yard by forklift truck. A concrete and kerbed unloading/loading area on the external yard is provided for this purpose. Pallets of fire extinguishers will then be transferred into the building by forklift for storage in the designated area. • Vehicles will not be required to drive over any unpaved areas. Therefore, dust generation which may impact surrounding sensitive receptors will be minimal.

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
				• The Site operates a 10 mph speed limit. Slow vehicle speeds reduce the amount of dust that is kicked up during vehicle movements. • All areas, vehicles and plant machinery are subjected to regular housekeeping and removal of loose particles.
Unloading, storage and processing of wastes	Atmospheric dispersion	Surrounding sensitive receptors	Visual soiling and dispersion of airborne particulates	• Wastes are not tipped at the Site, they are either unloaded by forklift truck, with the pallets of containerised waste transferred to the appropriate storage area inside the building or unloaded by hand (e.g. small cardboard boxes containing extinguishers that have been delivered in vans). • It is highly unlikely that incoming waste loads will be dusty and pre-acceptance and acceptance checks are designed to prevent the delivery of any dusty loads. However, should dusty materials be detected they will be dampened down with water. • All plant is inspected prior to and after use for dust and debris build-up. • Plant is regularly cleaned down after use to prevent the accumulation of dust and loose material. • All plant used on Site is maintained and serviced in accordance with manufacturers' guidelines and service agreements. • The only inherently dusty waste that arises at the Site is fire extinguisher powder, after the cannister is emptied and decommissioned. Fire extinguisher powder is transferred via a vacuum pump through a dedicated hose that is connected to the fire extinguisher cylinder head at one end and into a 1,200 litres reception silo. The main recovery inlets are operated with automatic valves controlled by start and stop mechanisms. • A 1 tonne capacity 'Big-Bag' is attached to the bottom of the silo and is secured by a metal clamp to ensure a tight seal and to minimise any fugitive emission of powder inside the building. • The silo is equipped with a level emitting alarm, which indicates when it is necessary to discharge into the 'Big Bag', via an automatic discharge valve. Once the bag is full, it is sealed at the top opening and transferred via a fork-lift truck to the loading area inside the building for subsequent transfer off-site to an authorised recycling facility.

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
				• The emptying and bagging of fire extinguisher powder into 1 tonne 'Big Bags' is undertaken inside and towards the rear end of the building, furthest away from the vehicular and pedestrian access doors. This helps to prevent any potential fugitive emission of dust to the external environment. • Any inadvertent spillage or leakage of powder media, e.g. during emptying of fire extinguishers or transfer to the bagging plant, will be cleaned by vacuum. • All wastes loads will be stored and processed inside the building, which is fully enclosed. • A hose reel will be installed and used to spray water to control dust emissions from waste storage and processing areas and the external yard, where necessary.
Site surfaces	Atmospheric dispersion	Surrounding sensitive receptors	Airbourne particulates	• All site surfaces are engineered. There is no unmade ground.
Cardboard wastes	Atmospheric dispersion	Surrounding sensitive receptors	Airbourne particulates	• Small quantities of cardboard and plastic wastes, associated with the delivery or dispatch of fire extinguishers from the Site, are generated on site. Cardboard and plastic are separately transferred to a baler located inside the building. Baled cardboard and plastic are typically removed each working day, by van or car, to a nearby recycling facility.
Packaging wastes	Atmospheric dispersion	Surrounding sensitive receptors	Airbourne particulates	• Small quantities of packaging waste (such as plastic wrapping film, plastic bags, any fragments of broken pallets and paper) are stored in a sealed and lidded skip for removal off-site to an authorised facility. The skip lid is kept closed other than when site operatives transfer packaging materials inside. As soon as the materials are deposited into the skip, the lid is closed to form a tight seal that minimises any risk of dust or lightweight materials escaping and becoming windblown.
Off-site removal of non-permitted waste	Atmospheric dispersion	Surrounding sensitive receptors	Airbourne particulates	• Any dusty waste requiring quarantine before removal from the Site will be sprayed with water to suppress potential dust emissions during handling. • Any non-permitted waste requiring removal from the Site will be transferred in suitably enclosed or sheeted vehicles to control the potential for dust emissions.
Exhaust emissions	Atmospheric dispersion	Surrounding sensitive receptors	Airborne particulates	• Regulatory controls and best-practice measures to minimise source strength. Plant will be switched off when not in use. Delivery and collection vehicles will be required to switch engines off while unloading and loading where possible. • The forklift truck is electric.

Table 6 Measures used on site to control Dust/Particulates (PM_{10})

Abatement Measure	Description / Effect	Overall consideration and implementation
Low Cost Options		
Site layout in relation to receptors	External area comprises a combination of engineered concrete and block paving surfaces. Building incorporates engineered concrete floor throughout.	Wastes will be stored and processed inside the building, which is fully enclosed. All waste treatment processes will be undertaken inside the building. The use of a fully enclosed building and paved external areas are an integral part of the Site design and provide a high level of abatement. The infrastructure and layout of the Site will ensure adequate dust control. Powder extinguishers are emptied and decommissioned inside the building, towards the rear, i.e. furthest from the roller shutter vehicular access and pedestrian access doors. The powder bagging plant is also located towards the rear of the building.
Site speed limit, 'no idling' policy and minimisation of vehicle movements on site	Reducing vehicle movements and idling should reduce emissions from vehicles. Enforcement of a speed limit may reduce re-suspension of particulates by vehicle wheels.	Site speed limit of 10mph will be enforced. Vehicle engines will be switched off when not in use, to minimise any idling. Forklift truck is electric.
Minimising drop heights for waste.	Minimising the height at which waste is handled should reduce the airborne generation of debris, dust and particulates.	Wastes are not tipped at the Site. They are either off loaded by forklift truck or by hand and transferred to the appropriate storage area inside the building. Decommissioned metal cannister components (with the exception of brass heads) are transferred up an inclined conveyor into a 40 cubic yard roll on, roll off container. The inclined conveyor and container are located inside the building. The drop height at the end of the conveyor into the container is minimised, which helps to minimise any potential dust emission and noise.
Medium Cost options		
Hosing of vehicles on exit	May remove some dirt, dust and particulates from the lower parts of vehicles although unlikely to be necessary	As a preventative measure to reduce the deposition of dust and loose material off site. However, the requirement to do this is unlikely as all wastes delivered to the Site are sealed fire extinguishers and associated packaging. Site surfaces are also engineered.

Abatement Measure	Description / Effect	Overall consideration and implementation
	as all areas of the Site incorporate engineered pavement.	The only potentially dusty waste is recycled powder media, but this is stored in purpose designed and sealed 1 tonne 'Big Bags', which are loaded by forklift truck onto a curtain sided or sheeted lorry for off-site supply to an authorised recycling facility.
Minimisation of waste storage heights and volumes on site	Minimising the height at which waste is handled should reduce the distance over which debris, dust and particulates could be dispersed. Reducing storage volumes should reduce the surface area over which particulates can be mobilised.	The majority of the waste material will not be stockpiled over long periods of time prior to processing on site for recycling or recovery and off-site supply to customers. Wastes will be processed on a first in first out basis to ensure all materials are processed and removed from the Site typically within 2 working days, although this may extend to 5 working days during busy periods.
Ceasing operation during high winds and/or prevailing wind direction	During periods of elevated wind speeds the deposit of wastes within the building should still ensure that dust emissions are suitably controlled and minimised.	During periods of elevated wind speeds the deposit of wastes inside the building will ensure that dust emissions are suitably controlled and minimised. It is unlikely that operations will need to cease due to high winds, as waste storage and processing will be carried out inside the building. Although packaging wastes will be stored on the external yard, it will be in a sealed and lidded skip, which will protect the waste from wind exposure. However, should wind speeds become so great that they are a risk to site personnel, local residents, neighbouring businesses and the environment then measures will be implemented to cease waste deliveries and close the Site. A hose reel will be installed at the Site and water applied to any potentially dusty areas during dry and dusty conditions.
On-site sweeping	Sweeping could be effective in managing larger debris, dust and particulates but may also cause the mobilisation of smaller particles. Road sweeping vehicles damp down dust and particulates whilst brushing and	As stated above, sweeping will form part of the general housekeeping of the Site to minimise the build-up of loose material and thus the generation of potential dust. Any spilt powder waste, e.g. in the vicinity of the powder bagging plant, will be vacuumed cleaned to remove and contain particulate.

Abatement Measure	Description / Effect	Overall consideration and implementation
	collecting dust and particulates from the road surface, particularly at the kerbside. This may generate dust and particulate movement that may become a Health and Safety issue if the filters and spray bars on the sweepers are not maintained.	
High Cost Options		
Installation of an air extraction system and bag filter inside the building.	The installation of an active dust extraction system to bag filter of other capture technology is deemed unnecessary due to the minimal dust generation at the Site.	It is considered that the infrastructure and measures detailed above will provide a high level of dust control at the Site. An active dust extraction system to bag filter or other capture technology would only be considered by the Operator if the existing infrastructure is no longer able to adequately control dust emissions.

9 COMPLAINTS

9.1 PROCEDURES IN THE EVENT OF A COMPLAINT

9.1.1 Any complaints about the Site, e.g. from members of the public, local residents, neighbouring businesses, visitors, staff and regulatory bodies, including NRW, will be reported to the Site Manager and the Operations Director who are responsible for site management.

9.1.2 The following actions will be taken on receipt of an external complaint:

- The responsible person receiving the complaint at the Site will immediately record the key details, initiating the investigation process. Details will be entered on the Complaint Report Form, see below. The form sets out the key information that should be recorded at this time in order to facilitate further suitable investigation.
- The Site Manager and Operations Director will be informed of the complaint as soon as possible, including the location, time and date of the complaint being lodged.

Complaints Record	
Who made the complaint?	
Name:	
Address:	
Phone No:	
Date and time of complaint	
What caused it?	
Was anyone else aware of this? If so who	

What was the source of the problem, what went wrong? If source is unknown contact a suitably qualified person to investigate.	
What have you done to make sure it won't happen again?	
Was there any significant pollution – for example oil entering a surface water drain?	
If there was then you must notify NRW Have you done so? You must also notify the local NRW Office via email or letter.	Yes/No/not applicable Date and Time: NRW Incident number:
Please print name and sign:	

9.1.3 In recognising that some complaints can be transient and short-lived, timely notification of complaints directly from the complainant or NRW is imperative to allow for appropriate investigation. If the complaint occurs more than 12 hours before notification is provided to the Operator, it may not be possible to substantiate the complaint or pinpoint the cause. The Operator will, however, contact the complainant where possible, review any operations at the time which had the potential to cause the complaint and complete and record a comprehensive complaint investigation. For complaints received within 12 hours of the incident the following actions will be undertaken:

- The Site Manager or Operation Director or other suitably trained person will visit the complaint location as soon as possible, with the aim of undertaking monitoring within 2 hours if this is possible within the working day. The Site Manager or Operation Director or other suitably trained person will subjectively determine the presence or absence of the cause of the complaint. Opportunities to meet the complainant to discuss the matter directly will be pursued, wherever possible.
- If the cause of complaint is present, the key 'FIDOR' criteria will be assessed at the complaint location, as follows:
    - Frequency – is the cause of the complaint, intermittent or persistent; is there a history of complaints at this location?
    - Intensity – is the cause of complaint faint, moderate, strong, or very strong?
    - Duration – how long is the cause of complaint present at this location?

- Offensiveness – provide a description of the cause of complaint; is it high, moderate, or low offensiveness?
- Receptor sensitivity - is the cause of complaint present at a remote or highly sensitive location; is it localised or widespread?

9.1.4 The Site Manager or Operation Director or other suitably trained person will subsequently undertake the following further assessment process:

- Review of the operations at the Site prior to and at the time of the complaint;
- Review of the environmental control systems prior to and at the time of the complaint;
- Review of the previous complaint history at the location identified.

9.1.5 Where a significant complaint is substantiated by the Site Manager or Operation Director or other suitably trained person, the Operator will contact NRW to discuss the incident as soon as possible following receipt of the complaint details, allowing sufficient time for the above investigation to be completed, and within a maximum target response period of 24 hours from complaint receipt. If the necessary contact details are available and direct feedback has been requested the Operator will also contact the complainant directly to discuss the issue, the findings of the subsequent investigation and any actions arising.

9.1.6 Once actions have been completed the Site Manager or Operations Director or other suitably trained person will visit the complaint location to ensure that the cause of complaint has subsided.

9.2 MITIGATION MEASURES IN THE EVENT OF A SUBSTANTIATED COMPLAINT

9.2.1 In the event of a substantiated dust complaint, the investigation undertaken by the Site Manager or Operation Director or other suitably trained person will incorporate detailed assessment of the Site infrastructure and waste operations against the specific requirements of the facility dust controls set out above, to determine any diversion away from 'normal' site operating conditions.

9.2.2 Key items for consideration will be as follows:

- Material inputs – change in waste type, volume, dust characteristics;
- Mechanical breakdown – e.g. of processing plant or delays in waste handling;
- Procedural failure (human error);
- Short-term abnormal weather patterns – wind direction, temperature, inversions, etc;
- Abnormal operating conditions – temporary highly dusty activities.

9.2.3 Upon identification of the likely dust source(s), the appropriate corrective and preventative measures will be identified and implemented under the direction of the Site Manager or

Operation Director or other suitably trained person. Additional support and technical expertise will be provided by internal / external technical specialists, as required.

9.2.4 Where necessary, the DEMP requirements will also be reviewed in order to ensure it continues to represent 'all appropriate measures'.

9.3 TIMESCALES

9.3.1 In the event that it proves impracticable to carry out adequate remedial measures within one working day, the Site Manager or Operations Director or other suitably trained person will notify and agree with NRW the proposed actions and the timescales for their completion as a programme of works.

10 REVIEW AND AUDIT

10.1.1 The Operator maintains a Non Conformance Register, which includes the date of the incident, who reported the incident, a description of the incident, who investigated the incident, what were the actions or outcomes of the investigation (including any mitigation measures) and whether the incident has been addressed and closed or is still ongoing.

10.1.2 The Non-Conformance Register will be reviewed each month as part of the monthly management meetings. Any complaints about amenity issues such as dust, odour or pests will be discussed and actions suggested and agreed to ensure improvements are made and the likelihood of such incidents reduces going forward.

10.1.3 The Operator will undertake an annual audit of the EMS and the Non-Conformance Register (including complaints history). The purpose is to ensure the Site is:

- Continually improving;
- Minimising the risk of pollution incidents and preventing any significant impacts to sensitive receptors, including detriment to local amenity;
- Operated in accordance with the latest regulatory guidance;
- Meeting environmental objectives independent of the Environmental Permit.

10.1.4 This DEMP will also be formally reviewed at annual intervals in order to ensure the stated management controls and conditions continue to reflect best available techniques and the operational requirements/sensitivities at the Site, which may change over time.

10.1.5 An updated copy of the DEMP will be submitted to NRW following review, as required. Where the Operator recognises the requirement for the immediate implementation of changes to the DEMP to prevent or reduce significant dust emissions, measures will put in place to prevent any pollution or harm.

10.1.6 If, on review of the performance of the facility, the Operator and/or NRW propose to seek revision of this plan, then the following course of action will be undertaken by both parties:

1. In potentially critical circumstances where the Operator recognises the requirement for the immediate implementation of changes to the DEMP to prevent or reduce significant dust emissions, these changes will be discussed with NRW without delay but may be actioned by the Operator, as necessary.

2. Where the Operator proposes changes to the DEMP that involve a more strategic and/or phased approach rather than a need for immediate implementation, a formal proposal will be submitted by the Operator to NRW setting out the specific issues arising from document review, and the options/issues requiring the Operator's further attention following NRW approval. NRW will review the Operator's submission/updated DEMP and confirm they are satisfied with the proposed changes. The agreed required changes will then form the future 'appropriate measures' for the Site with regard to dust management and control.

10.1.7 Where changes to the DEMP are proposed by NRW, these will be discussed with the Operator setting out NRW's clear expectation from the changes, in addition to timescales for their implementation. It is recognised that these changes may range from matters that require immediate implementation to those that may be implemented over an extended timeframe. The Operator will undertake the identified changes in accordance with the timescales proposed for the work, at which point the updated 'appropriate measures' will take effect.

11 RECORDS

11.1.1 Records will be kept in accordance with the Environmental Permit and the requirements of this DEMP.

11.1.2 Records will include:

- Details recorded during the weekly site inspections by the Site Manager or, in his absence, the Operations Director;
- Copies of any completed Complaint Reporting Forms (including mitigation measures), in the event of a complaint;
- Incidents of any dust issues recorded on site at any time (i.e. not just during daily and weekly inspections).

12 SUMMARY

12.1.1 This Dust and Emissions Management Plan (DEMP) supports an application for a bespoke Environmental Permit for Checkfire Ltd.

12.1.2 This DEMP has been produced in accordance with Gov.uk guidance `Control and monitor emissions for your environmental permit` (published 1st February 2016 and last updated 17th May 2021) and NRW guidance 'How to comply with your environmental permit' (April 2011).

12.1.3 The DEMP has identified the potential sources of dust and particulate emissions on Site, the potential impacts and exposure levels along with measures to be implemented at the Site to mitigate against such discharges.

12.1.4 Sensitive receptors and residential properties have been identified as determined by their vulnerability to the adverse effects of exposure to elevated levels of airborne dust and particulate matter.

12.1.5 Wastes delivered to the Site comprise disused, spent or returned foam, powder, deionised water and CO_2 fire extinguishers.

12.1.6 Fire extinguishers will be stored upright in dedicated containers, each located on a pallet, according to the media they contain, i.e. foam, powder, deionised water and empty CO_2 containers will be stored separately. This will help to ensure materials do not come into contact and are processed separately, so that the cleanliness of recyclable materials is maintained and wastes are processed on a first in first out basis.

12.1.7 Foam media will be emptied into dedicated IBCs, labelled for the specific receipt of such materials to avoid the risk of cross contamination. An integral valve is located towards the base of each IBC. One end of a DN 100 hose connects to the IBC valve, whilst the other end feeds into the carbon absorption plant process inlet, via a valve which is opened at start up. The activated carbon absorption plant captures and contains contaminants in the carbon media, with the cleaned liquid media transferred into dedicated IBCs for off-site removal as a non-hazardous waste to authorised facilities.

12.1.8 Powder media is transferred via a vacuum pump through a dedicated hose that is connected to the fire extinguisher cylinder head at one end and into a 1,200 litres reception silo. The vacuum pump is fitted with a microporous filter. The system has a dedicated counter-current blowing cleaning system for the filter, valve and fire extinguisher suction unit. The main recovery inlets are operated with automatic valves controlled by start and stop mechanisms.

12.1.9 A 1 tonne capacity 'Big-Bag' is attached to the bottom of the silo and is secured by a metal clamp to ensure a tight seal and to minimise any fugitive emission of powder inside the building.

12.1.10 The silo is equipped with a level emitting alarm, which indicates when it is necessary to discharge into the 'Big Bag', via an automatic discharge valve. Once the bag is full, it is sealed at the top opening and transferred via a fork-lift truck to the loading area inside the building. 'Big Bags' are loaded onto curtain sided lorries or sheeted vehicles for transfer off-site to an authorised recycling facility, where the material is used for fertiliser manufacture.

12.1.11 The emptying, transfer and bagging of powder media is undertaken inside the building, towards the rear, so that operations are as distant as possible to the vehicular and pedestrian access doors. This minimises the risk of any fugitive dust release to the outside environment.

12.1.12 Fire extinguishers containing deionised water media are emptied into dedicated and

labelled IBCs, prior to discharge to foul sewer in accordance with a Trade Effluent Discharge Consent issued by Welsh Water. The Operator ensures that only dedicated IBCs are used for the receipt, storage and discharge of deionised water to foul sewer, thereby avoiding any potential risk of cross contamination from other media, such as foam.

12.1.13 Out of date or spent or returned CO_2 fire extinguishers are stored and bulked up on site, prior to their off-site transfer to an authorised facility for emptying of gas media, refilling with new media and reconditioning of the cannister for supply to customers. CO_2 gas is not discharged at the Site.

12.1.14 Emptied fire extinguisher cannisters are dismantled on site, with the metal and plastic components supplied to authorised off site recycling facilities. Dismantled metal components are transferred via an inclined conveyor to a 40 cubic yard skip located inside the building for bulking up and transfer off-site to an authorised scrap metal recycling facility. The drop height off the end of the conveyor into the container is minimised to reduce noise and any residual dust emission.

12.1.15 The brass head cap is removed and is placed in a sealed container located on a pallet to facilitate removal and loading into a lorry for off-site removal to an authorised recycling facility.

12.1.16 Metal cylinders and metal dip tubes are transferred to an inclined conveyor, which feeds into the top of a 40 cubic yard roll on: roll off container. Once the container is full it is sheeted and transferred off site to an authorised scrap metal recycling facility.

12.1.17 Plastic skirts and plastic tubes are placed in a sealed container located on a pallet to facilitate removal and loading into a lorry for off-site removal to an authorised recycling facility.

12.1.18 The use of a 10 mph speed limit helps to minimise any fugitive emissions of dust and particulates during vehicle delivery and exit from the facility. Wastes are not tipped at the Site. Instead they are either transferred to the appropriate storage area inside the building by forklift truck or, in the case of small cardboard boxes or similar containing fire extinguishers, hand carried to the appropriate area.

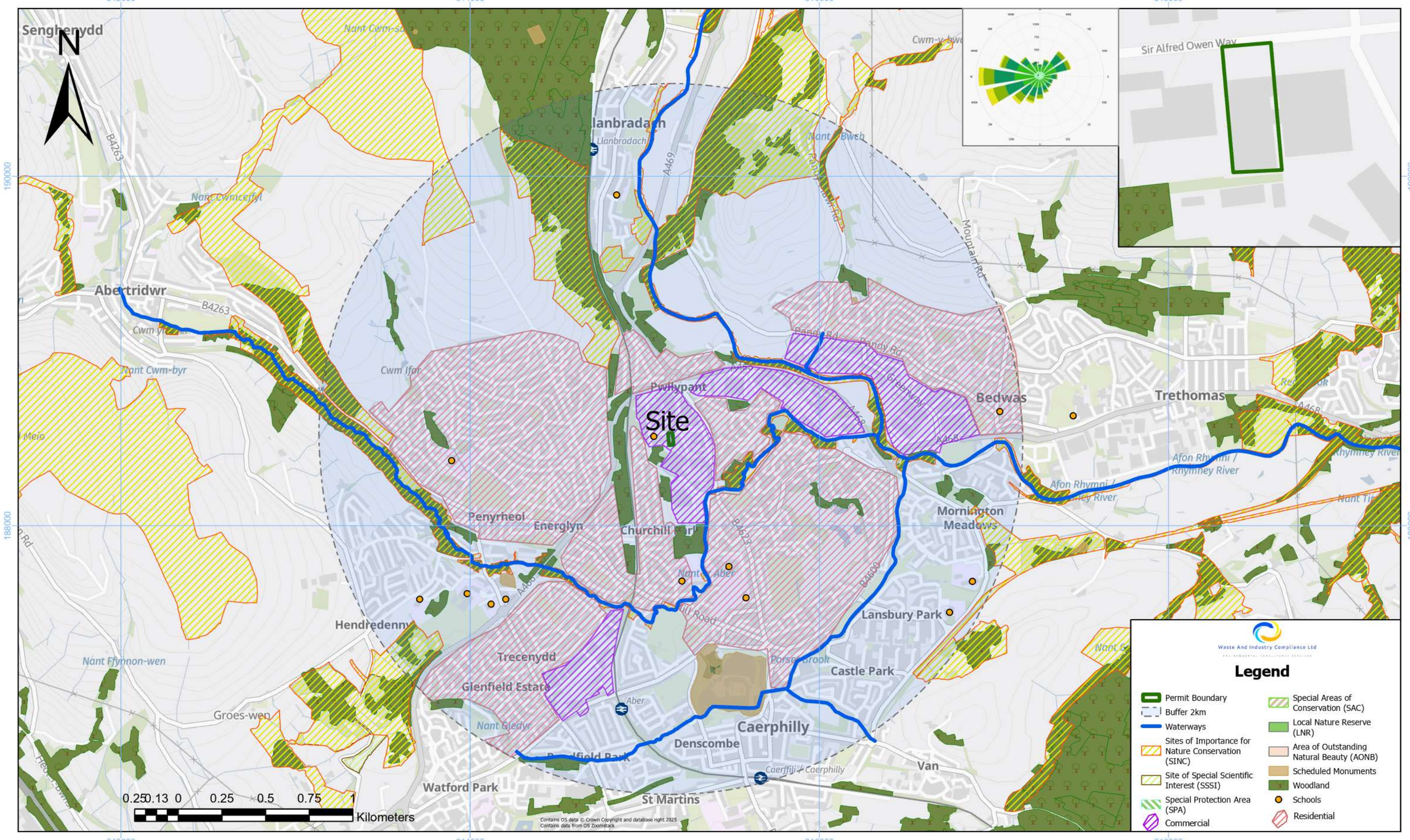
12.1.19 A hose reel will be installed at the Site. The building floor and external yard comprise engineered surfaces throughout. The building, external yard, waste storage and processing area will be dampened down with water during dry and dusty conditions should this be deemed necessary by the Site Manager or, in his absence, the Operations Director.

12.1.20 On site sweeping will take place when conditions require. All areas and plant will be subjected to general housekeeping to prevent the accumulation of dust and loose material. Any spilt powder media will be removed by vacuum cleaner.

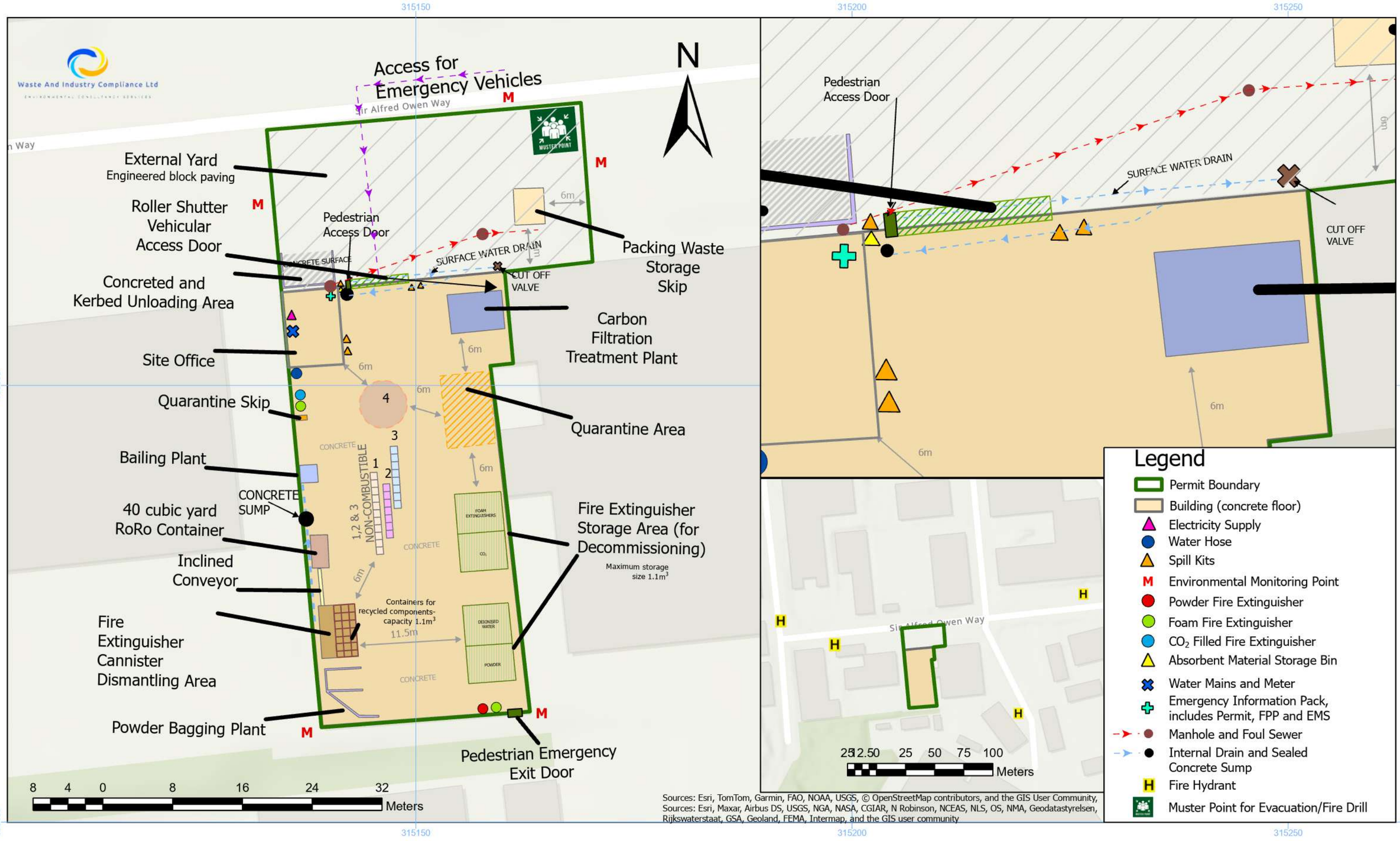
12.1.21 The Site Manager and Operations Director will be responsible for the implementation of the DEMP and the application of appropriate, recommended dust suppression measures.

12.1.22 Any complaints received concerning dust and particulate emissions at the Site will be dealt with in accordance with this DEMP and the company's EMS complaints procedure.

12.1.23 The investigation will be instigated by the Site Manager, Operations Manager or other suitably trained person following the completion of the Complaints Report Form.



Title: Sensitive Receptors	Date: 03/04/2025	Page Size: A3	Drawing Number: CheckfireLtd-Receptors-DW02
Site Location: Unit 10B, Sir Alfred Owen Way, Pontygwindy Industrial Estate, Caerphilly, CF83 3HU	Version: FINAL	Scale: 1:20000	Grid reference: ST 15149 88490



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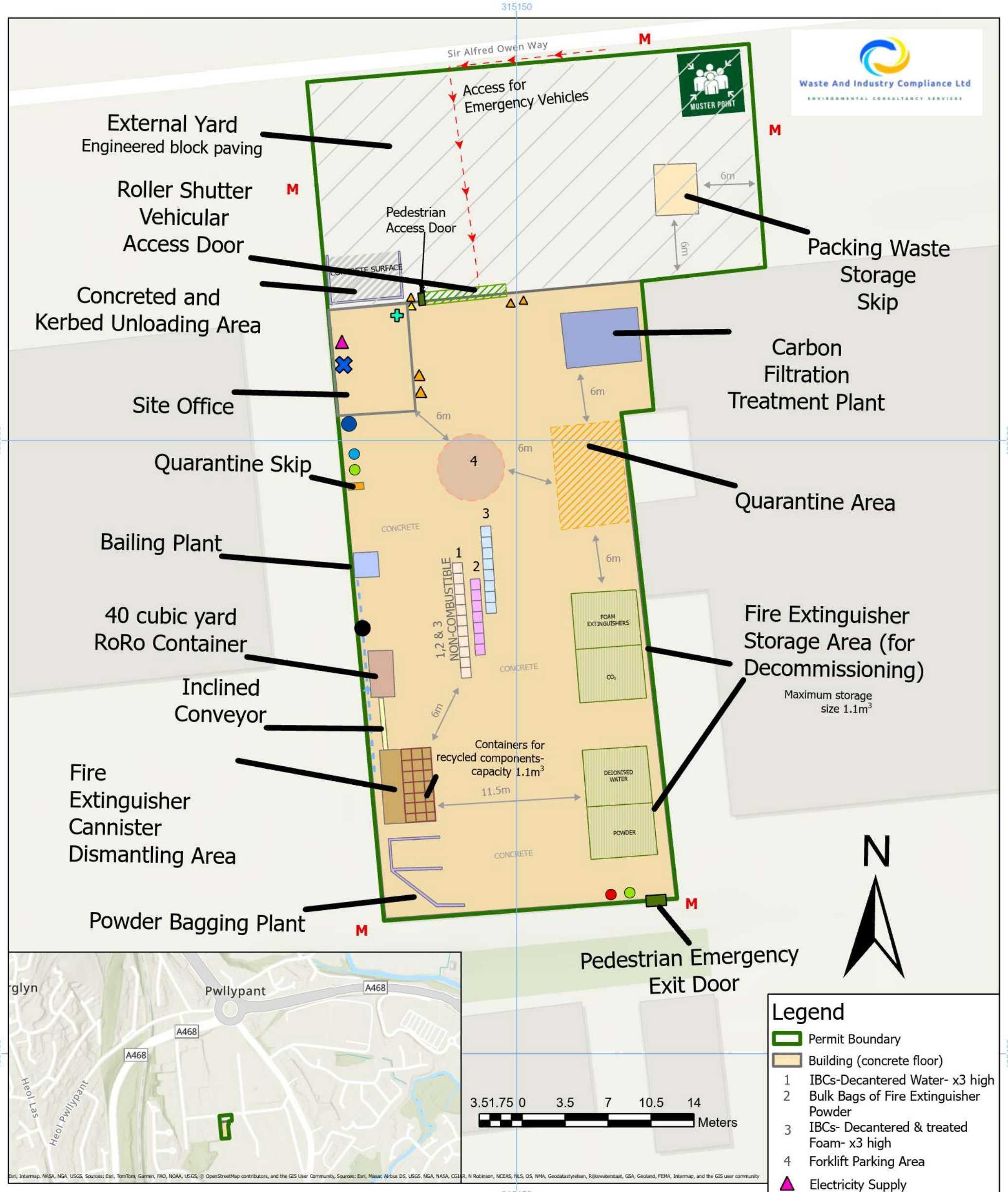
Title: Site Drainage	Date: 04/07/2025	Page Size: A3	Drawing Number: CheckfireLtd-Sitedrainage-DW04
Site Location: Unit 10B, Sir Alfred Owen Way, Pontygwindy Industrial Estate, Caerphilly, CF83 3HU	Version: FINAL	Scale: 1:400	Grid reference: ST 15149 88490



Legend

- Permit Boundary
- Building (concrete floor)
- 1 IBCs-Decantered Water- x3 high
- 2 Bulk Bags of Fire Extinguisher Powder
- 3 IBCs- Decantered & treated Foam- x3 high
- 4 Forklift Parking Area
- Electricity Supply
- Water Hose
- Powder Fire Extinguisher
- Foam Fire Extinguisher
- CO_2 Filled Fire Extinguisher
- Absorbent Material Storage Bin
- Water Mains and Meter
- Emergency Information Pack, includes Permit, FPP and EMS
- Spill Kits
- M Environmental Monitoring Point
- Muster Point for Evacuation/ Fire Drill

Drawing Number: SiteLayout-DW03	Title: indicative Site Layout & Storage
Page Size: A3	Site Location: Unit 10B, Sir Alfred Owen Way, Pontygwindy Industrial Estate, Caerphilly, CF83 3HU
Date: 04/07/2025	
Scale: 1:300	All Dimensions to be checked on site and not scaled from this drawing. This document and its design is copyright of Waste & Compliance Ltd. and should not be reproduced in part or whole without permission. It shall be read in conjunction with accompanied consultant documents and associated project documents. This drawing is not for construction. Author: S. Barnes
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