WPS Compliance Consulting Ltd

Dust Emission Management Plan

Client: Clearwater D C 2001 Ltd

Project: Environmental Consultancy

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Contents

1.0Introduction and Background

The Clearwater D C Ltd 2001 is situated at 1-4 Enterprise Park, Hunters Road, Weldon North Industrial Estate, Corby, NN17 5JE. Grid reference for the centre of the site is SP91616 90223. The site is located within the Enterprise Park Industrial Estate.

Clearwater is an existing permitted facility for the reprocessing of activated carbon which has previously been used in filtration systems. The activated carbon has a limited capacity to remove contaminants and after a prescribed usage period the spent activated carbon is exchanged for new or reprocessed material. The Clearwater Corby site is a transfer station for the collection, segregation, sorting and bulking of activated carbon prior to onward shipment to another permitted facility for reprocessing and recovery. Waste can arrive on site in vessels, tankers or bags.

The site consists of 4 adjoining units operating as a single unit. These units are used to store used activated carbon with one bay used for the storage of new carbon product in units 3 and 4. The external area has a concrete pad for the vehicle reception which has an interceptor. Part of the external area is covered with a waterproof roof cover which is used for storage for waste, within the foul sewer drainage system.

The site is not located in an Air Quality Management Area. The environmental risk assessment has identified dust as a low risk to environmental receptors with management controls in place. Therefore, a Dust Emissions Management Plan (DEMP) will accompany the permit variation application to ensure the minimisation of dust and particulate matter generation. The DEMP will identify the operations which have a potential impact upon air quality in the locality and detail the operational control measures which are implemented to minimise any impacts.

This dust management plan will form part of the sites environmental management system.

1.1 Sensitive Receptors

Habitat screening and receptors have been identified and show receptors up to 2km from the site as summarised in figure 1 and tables 1 and 1.1.

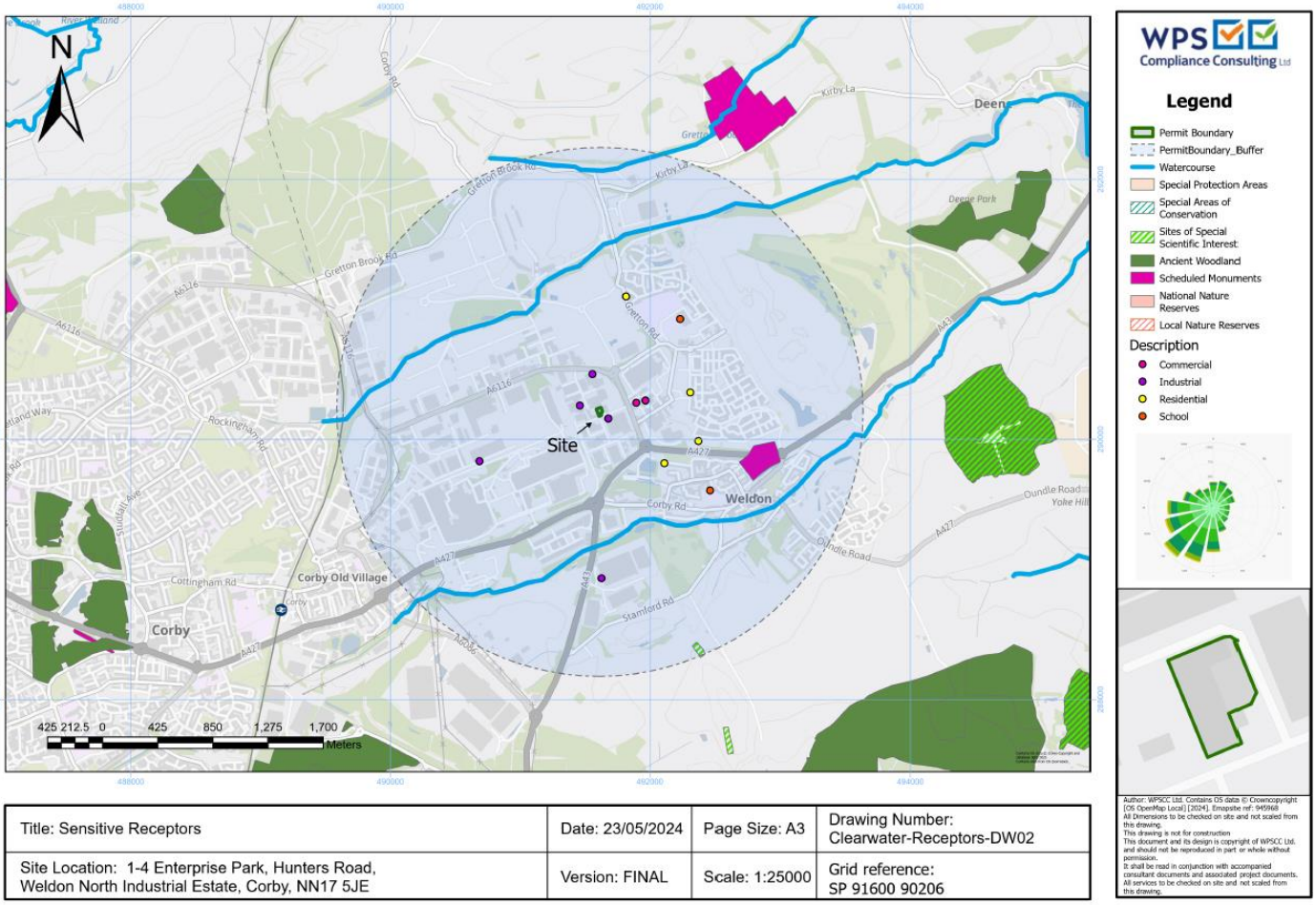
Table 1: Distances to Selected, Representative Sensitive Locations

Boundary	Closest property	Approximate distance to site boundary (m)
All	Weldon Estate Industrial Park	60
SE	Housing Estate	680
E	Housing Estate	687
E	Indoor Skate Park	450
E	Corby Gate Business Park with commercial properties	240
SE	Public Park on Flaxland Way	778
NE	Priors Hall School	803
S	SSSI Cowthick Quarry	1,927
SE	Scheduled Monument	1,121
SE	Scheduled Monument	1,342
SE	Weldon Primary School	1,000
S	Max Park- Industrial Park	1,690
NE	Housing Estate	835
W/SW	Willowbrook East Industrial Estate	1,250

Table 1.1 Source of Dust and/or other Emissions

Company	Address	Type of Business	Distance from site boundary (m)
Weldon North Industrial Estate	Hunters Road	Various Industrial premises from manufacturer to distribution, suppliers	60 Site is in the centre of an industrial estate

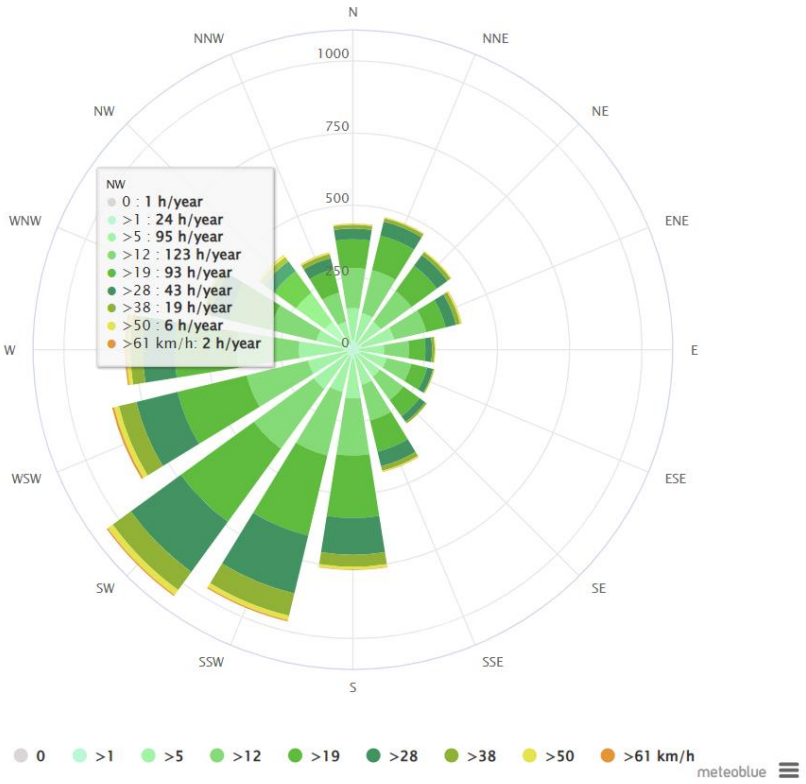
Figure 1: Sensitive Receptors



Title: Sensitive Receptors	Date: 23/05/2024	Page Size: A3	Drawing Number: Clearwater-Receptors-DW02
Site Location: 1-4 Enterprise Park, Hunters Road, Weldon North Industrial Estate, Corby, NN17 5JE	Version: FINAL	Scale: 1:25000	Grid reference: SP 91600 90206

Figure 2 shows the wind rose data for Corby with the wind direction in the locality as predominantly a south westerly wind (Meteoblue, 2024).

Figure 2: Wind rose showing the average wind direction and strength (MeteoBlue, 2024)



The windrose shows the average wind direction for the area as south west. The prevailing wind direction being south westerly indicates the probability of exposure of dust to the school, residential areas the local public park and industrial premises in the vicinity as low as these receptors are located to the east and north of the site. Willowbrook East Industrial Estate is located to the west/southwest but over 1km from the site. The vehicle movements and the decanting of carbon waste from vessels does have the potential to generate dust as identified in the environmental risk assessment although the risk has been identified as low with mitigating measures.

2 Operations at Clearwater D C 2001 Ltd

Clearwater D C 2001 Limited is an existing permitted facility for the reprocessing of activated carbon which has previously been used in filtration systems. The activated carbon has a limited capacity to remove contaminants and after a prescribed usage period the spent activated carbon is exchanged for new or reprocessed material. The Clearwater Corby site is a transfer station for the collection, segregation, sorting and bulking of activated carbon prior to onward shipment to another permitted facility for reprocessing and recovery. Waste can arrive on site in vessels, tankers, or bags with vehicles either EURO5 or EURO6 compliant depending on the age of vehicle.

Waste acceptance procedures will ensure the waste received on site meet the relevant description and is compliant with the sites permit.

The delivery vehicle will be directed by staff to the waste reception area where the load of containers is offloaded or waste discharged into appropriate containers. Waste can arrive on site as follows:

a. Waste arriving in vessels will be discharged directly in the yard ready for decanting into bags. Waste decanted from the vessels into bulk bags are surrounded by secondary containment to prevent and minimise risk of spills. This will not take place in adverse weather conditions. If a spill occurs, spillage response procedures will be implemented.

b. Waste arriving in tankers are pumped straight from the tanker into bags that are sealed to the discharge point on the tanker.

c. Waste arriving in bags are weighed using the weighing facility on site and stored appropriately.

All waste is stored in bags or vessels onsite. Bulking waste must be materially the same to ensure the waste composition does not change. All materials are labelled with an identification number and recorded onto the online waste tracking system which states what the materials are and the hazards associated with the material according to the waste acceptance procedures.

Table 2 lists the waste types under Clearwater D C 2001 Ltd permit.

Table 2: List of waste types

Table S2.1 Permitted waste types and quantities for hazardous waste transfer station	
Maximum quantity	**The total quantity of waste accepted at the site for the above activity shall be less than 29,250 tonnes a year.**
Waste code	**Description**
06	**Wastes from inorganic chemical processes**
06 07	**wastes from the MFSU of halogens and halogen chemical processes**
06 07 02*	activated carbon from chlorine production
06 13	**wastes from inorganic chemical processes not otherwise specified**
06 13 02*	spent activated carbon (except 06 07 02)
07	**Wastes from organic chemical processes**
07 01	**wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals**
07 01 10*	other filter cakes and spent absorbents (spent activated carbon only)
07 04	**wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides**
07 04 10*	other filter cakes and spent absorbents (spent activated carbon only)
07 07	**wastes from the MFSU of fine chemicals and chemical products not otherwise specified**
07 07 10*	other filter cakes and spent absorbents
10	**Wastes from thermal processes**
10 01	**wastes from power stations and other combustion plants (except 19)**
10 01 18*	wastes from gas cleaning containing hazardous substances (spent activated carbon only)
10 01 19	wastes from gas cleaning other than those mentioned in 10 01 05, 10 01 07 and 10 01 18 (spent activated carbon only)
15	**Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified**
15 02	**absorbents, filter materials, wiping cloths and protective clothing**
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances (spent activated carbon only)
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02 (spent activated carbon only)
19	**Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use**
19 01	**wastes from incineration or pyrolysis of waste**
19 01 10*	spent activated carbon from flue-gas treatment
19 05	**wastes from aerobic treatment of solid wastes**
19 05 99	spent carbon filtrate medium from industrial filters (spent activated carbon)
19 06	**wastes from anaerobic treatment of solid wastes**

19 06 99	spent carbon filtrate medium from industrial filters (spent activated carbon)
19 08	**wastes from waste water treatment plants not otherwise specified**
19 08 99	spent carbon filtrate medium from industrial filters (spent activated carbon)
19 09	**wastes from the preparation of water intended for human consumption or water for industrial use**
19 09 04	spent activated carbon
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances
19 13	**wastes from soil and groundwater remediation**
19 13 05*	sludges from groundwater remediation containing hazardous substances
19 13 06	sludges from groundwater remediation other than those mentioned in 19 13 05

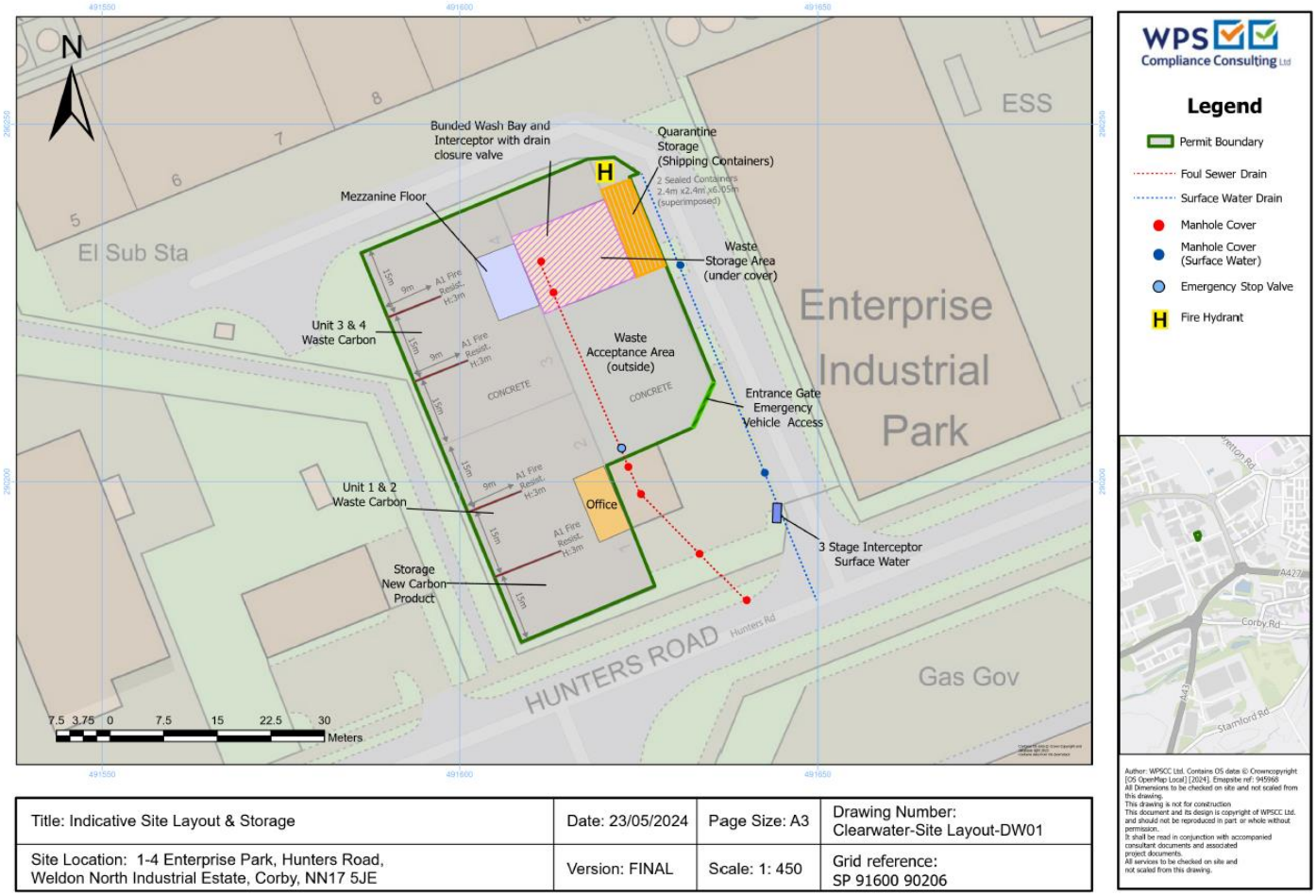
2.2 Overview of Waste Processing, Dust, and Other Emission Controls

Figure 3 shows the site layout including the permitted boundary. Vehicles access is to the south of the site where the delivery vehicle will be directed by staff to the waste reception area. The load of containers is offloaded or waste discharged into appropriate containers from a tanker. The majority of waste is stored inside buildings within units 1-4 in FIBC bags. Also on site is an external area used for storage of wet water based carbon waste, covered with a waterproof roof cover, stored within the foul sewer drainage system. The site is hard surfaced and drains to a sealed drainage system/sewer. This is easy to clean and prevent particle and dust generating.

The western boundary of the site is composed of buildings, units 1-4, with the northern boundary covered with a waterproof cover. The southern and eastern boundary has 2.5m high fencing. This is effective at disrupting wind flow over the site. The majority of waste is stored in units 1-4 in bays. These units have shutter doors, with the quarantine area located outside in shipping containers. This ensures dust and particulate emissions are reduced.

Waste arriving in Bags are shrink wrapped ensuring the waste is contained during transport. Dust generation is most likely to occur when carbon waste is decanted from the vessels. However, the bags are attached directly to the emptying port on the tanker where the bags are filled with the carbon waste. During this process, secondary containment surrounding the bags will minimise and prevent risk of dust generation. The decanting of carbon waste will not take place in adverse weather conditions. Daily housekeeping of the external yard includes daily sweeping and vacuuming of spillages to minimise risk of entering foul and surface drains.

Figure 3: Site layout



Title: Indicative Site Layout & Storage	Date: 23/05/2024	Page Size: A3	Drawing Number: Clearwater-Site Layout-DW01
Site Location: 1-4 Enterprise Park, Hunters Road, Weldon North Industrial Estate, Corby, NN17 5JE	Version: FINAL	Scale: 1: 450	Grid reference: SP 91600 90206

Figure 4, taken from the environmental risk assessment for the site identifies the receptor, source, pathway and the magnitude and management of dust risk.

Figure 4: Source-Pathway-Receptor Routes

What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).
Local human population	Releases of particulate matter (dusts) and micro-organisms (bioaerosols).	Harm to human health - respiratory irritation and illness.	Air transport then inhalation.	Medium	Medium	**Medium**	There is potential for exposure if anyone is living or working close to the site (apart from the operator and employees)	Prevailing wind direction is south west predominantly throughout the year. Reduces probability of exposure to sensitive receptors as majority of receptors are to the east of the site. Delay of decanting waste from vessels/tankers when very windy and follow dust emissions management plan. The site is not located within an AQMA designated for PM10.	Low
Local human population	As above	Nuisance - dust on cars, clothing etc.	Air transport then deposition	Medium	Low	**Low**	Local residents often sensitive to dust. Majority of waste is stored inside buildings- Units 1-4. The waste stored outside is undercover surrounded on three sides by a waterproof cover, fencing and buildings. There is potential for increased dust generation from the decanting of waste from one container to another during prolonged dry periods e.g. summer months and windy weather.	Prevailing wind direction is south west predominantly throughout the year. Reduces probability of exposure to identified sensitive receptors. Delay decanting of material when very windy and follow dust emissions management plan. The site is not located within an AQMA designated for PM10.	Low

3 Dust and Particulate (PM_{10}) Management

3.1 Responsibility for Implementation of the DEMP

The sites technically competent operator will ensure dust management measures are undertaken as appropriate to the site operations and current weather conditions. The technically competent operator must have a relevant WAMITAB certificate of competence plus an appropriate continuing competence (within date) which is renewed every 2 years.
The technically competent operator will be responsible for keeping records of monitoring and mitigation measures. All records will be retained for inspection as required. If further management measures are taken to control dust or weather condition monitoring, the additional mitigation measures will be recorded. In certain adverse weather conditions visual monitoring will be more intensive.
Additionally, the delivery drivers will be made aware of the provision of the dust management plan and be required to comply with the relevant provisions as appropriate.

3.2 Sources and Control of Fugitive Dust/Particulate Emissions

The most likely activities to cause dust generation are:

- Vehicles entering and leaving the site with mud on wheels, and tracking dust on to or off the site
- Waste arriving in bags not covered
- Decanting of waste from vessels and tankers into bags especially during windy weather
- Particulate emissions from the exhaust of vehicles

To minimise dust generation, the dust control system will include the following measures:

- Dampening down site which a water supply will be maintained at all times when conditions require it
- Ensure vehicles are sheeted or bags of waste are shrink wrapped.
- Monitoring weather conditions. Any adverse weather conditions such as high winds- decanting of waste will be delayed until wind speed drops

Table 3 demonstrates the source pathway receptor model for the site.

Table 3: Source-Pathway-Receptor Routes

Source	**Pathway**	**Receptor**	**Type of impact**	**Where relationship can be interrupted**
Mud	Tracking dust on wheels and vehicles, then dropping off when vehicle leaves site	In table 1 above	Resuspension as airborne particulates	Dampen down vehicle before leaving site.
Debris	Falling off vehicles	In table 1 above	Resuspension as airborne particulates	Ensure all vehicles entering and leaving the site are covered.
Decanting and storage of waste	Atmospheric dispersion	In table 1 above	Airborne particulates	Decanting of waste will not happen during extremely windy weather conditions. Secondary containment surrounding the bags during decanting. Waste stored undercover or inside buildings.
Vehicle exhaust emissions	Atmospheric dispersion	In table 1 above	Airborne particulates	Regulatory controls and best-practice measures to minimise source strength

Table 3 shows the connection between pathway, receptor and source. This DEMP ensures that there are no gaps in abating the sources of dust emissions on site. This is not an exhaustive list of all abatement options, and there may be other technology and abatement options that exist to achieve the same or a greater outcome in reducing the risk of pollution.

Table 4 outlines the measures that will be used on site to control dust/particulates (PM10) and other emissions.

Table 4: Measures that will be used on site to control dust/particulates (PM10) and other emissions

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
Preventative Measures			
Enclosure within a building	Creating a solid barrier between the source of dust and particulates and receptors is likely to be the most effective method of control, provided that the building entrances and exits are well managed.	Majority of carbon waste is stored in units 1-4. The units have shutter doors to ensure full enclosure if required. The quarantine area is in designated shipping containers which are fully enclosed. A small amount of waste is stored outside in bags under a waterproof cover and surrounded on 3 sides including overhead.	This is the site infrastructure and therefore already implemented.
Site/process layout in relation to receptors	Locating particulate emitting activities at a greater distance and downwind from receptors may reduce receptor exposure, provided that emissions from the source are not dispersed over significant distances.	The prevailing wind direction in the area is south west. There are no sensitive receptors within 1km southwest to the site.	The outside storage area and waste reception area is downwind from receptors. Decanting of carbon waste to cease during high winds.
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.	Easy to implement as part of good practice. Should be identified clearly in the site management system and implemented as appropriate measures.	Vehicle movements and idling will be reduced as far a possible.
Minimising drop heights for waste. Use of enclosed chutes for waste drops/end of conveyor transfers and covered skips	Minimising the height at which waste is handled should reduce the distance over which debris, dust and particulates could be blown and dispersed by winds. Enclosing processes will further reduce dispersion.	Relatively easy to implement at many sites. These steps should be identified clearly in the site management system and implemented as appropriate measures.	Training given to all onsite staff for decanting of waste. No issue with waste arriving already in bags or from a tanker. Spills most likely to occur during decanting from vessels. Secondary containment used during decanting. Spill procedures in place.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
/ storage vessels.			
Good house-keeping	Having a consistent, regular housekeeping regime that is supported by management, will ensure site is regularly checked and issues remedied to prevent and remove dust and particulate build up.	The site is regularly cleared of debris and dust by Staff members daily. Specifically, inside the building around the picking line and bays.	Carried out at all times during operational areas. Dust monitoring included in the weekly and daily site check forms.
Hosing of vehicles on exit	May remove some dirt, dust and particulates from the lower parts of vehicles although likely to be less effective than a more powerful wheel wash.	This should be in the site procedures and training.	Vehicles are hosed down when vehicles are dusty prior to leaving the site.
Ceasing operation during high winds and/or prevailing wind direction	Mobilisation of dust and particulates is likely to be greater during periods of strong winds and hence ceasing operation at these times may reduce peak pollution events.	Procedures in place such as visual monitoring to identify when operations will cease.	Operations on site will cease during high winds.
Easy to clean hard surface	Creating an easy to clean Surface. This should reduce the amount of dust and particulate generated at ground level by vehicles and site activities.	For sites that have concrete surfaces ensure there are maintenance and cleaning procedures in the management system and they are implemented.	The site surface is hard surfaced which is maintained and cleaned on a regular daily basis.
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 blown and dispersed by winds. Reducing storage	The amount of waste that can be managed on site without causing dust and particulate pollution should be identified in the management system and may have to be reduced if it is considered an appropriate measure.	There is approximately 0.5 meters of freeboard space above the wastes to the top of the walls. The bay walls are 3m high. A Computer system is implemented on site and currently used. This is used to record and manage the storage of all

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
	volumes should reduce the surface area over which particulates can be mobilised.		waste on site, ensuring 'first in, first out' principles are followed.
Remedial Measures			
On-site sweeping	Sweeping could be effective in managing larger debris, dust and particulates but may also cause the mobilisation of smaller particles.	Covered in the management system with procedures implemented.	Manual sweeping is carried out on site as part of general housekeeping. There is also an onsite industrial hoover.
Water suppression with pressure washer	Damping down of site areas using pressure washer can reduce dust and particulate re-suspension and may assist in the cleaning of the site if combined with sweeping.	Quite water intensive. Maintenance should be covered in the management system and procedures.	Water suppression with hoses is used when necessary, i.e. in particularly dry weather. Rainwater capture system on site contained within IBC containers.

3.3 Other considerations

In the event of severe weather conditions i.e. dry weather with high winds, the technically competent operator will decide whether to cease activities with the main emphasis of reducing any dust impacts. In the event of any unforeseen circumstances i.e. faulty equipment, lack of water supply, the technically competent operator will make an assessment of whether to cease activities with the main emphasis on site will be to reduce any dust impacts. Dampening down of the site and vehicles to minimise dust generation in all climatic conditions and used more frequently during dry weather conditions.

A water supply is available on site in all climatic conditions due to the onsite rainwater capture system to ensure water is available to dampen down the site if necessary.

3.4 Visual Dust Monitoring

The technically competent operator will ensure that site operations are the subject of visual monitoring for emissions of particulate matter.
Visual monitoring by suitably trained site personnel is the most effective method of detecting as quickly as possible emissions of particulate matter throughout the working day thereby facilitating

the prompt assessment of such emissions and the selection and implementation of control measures as necessary. The effectiveness of the measures for controlling emissions shall be assessed during inspections undertaken at the site following implementation of the control measures. Any problem that is observed will be reported to the operator who will be responsible for investigating the cause and implementing any remedial action as necessary. The results of inspections and remedial measures taken will be recorded.

No monitoring will take place outside operational hours but the technically competent manager will be available to attend site should a complaint be received. If complaints are received, additional dust monitoring will be implemented.

In the event of dust being detected beyond the site boundaries, the operation will cease.

3.4 Particulate Matter Monitoring

The management and monitoring of particulate matter will be undertaken by visual assessment. An action plan will be implemented on the basis that:
i) there is an unacceptable visual emission of particulate matter from the site or
ii) a complaint is received in relation to emissions to air

An unacceptable visual emission of particulate matter from the site comprises a visual observation of dust or particulate matter crossing the site boundary. The initial observation will be made by the site personnel who has identified the emission and will be verified by the technically competent manager. If an unacceptable visual emission is observed by on-site personnel, the action plan will be implemented immediately.
The site is not located in or near a Air Quality Management Zone and therefore it is deemed that PM10 monitoring equipment is not required.

4 Actions in the event of dust leaving the site

1. The technically competent operator assesses the site activities and the nature of the waste handling and deliveries immediately prior to the alarm being raised, to work out what has caused the problem.
2. If the source cannot be ascertained with 100% confidence, the operator will suspend the likely dust/particulate generating activities.
3. If the source is within the site's control, the operator will take appropriate action in terms of dust/particulate abatement, to ensure that the situation is not repeated. This may take the form of the following;
a) Investigating the source of the dust/particulates to prevent a re-occurrence.
b) Using onsite stored rainwater to damp down site surface as appropriate
c) Suspending operations which are not being conducted using best-practice controls as set out in Table 3.1.
d) Log findings
e) Inform the Environment Agency of the breach and detail mitigating measures undertaken.
f) Liaise with local residents and appropriate stakeholders to ensure that they are fully aware of the situation and the steps being taken to rectify the situation.

5 Reporting and Complaints Response

In the event of any complaint, an investigation will be undertaken into the circumstances. Where the complaint resulted from activities within the site, steps will be taken where possible to reduce the impact of, or remove, the dust source. Any investigation will be concluded within two working days. The operator will maintain a daily record of complaints and investigations with any mitigation measures taken.

5.1 Reporting of Complaints

Complaints will be recorded on the dust complaint form detailed in Appendix A. Copies of all forms will be retained for inspection by interested parties upon request.

5.2 Management Responsibilities

The technically competent manager will be responsible for responding to and dealing with complaints.

6 Summary

The operations at the site may, at times, produce dust but the dust produced will be limited by the nature of the operations and the mitigating measures. In any event dust will be controlled to confine and prevent its escape and to minimise airborne dispersal.
The main cause of dust generation will come from the decanting of carbon waste from vessels into bags.

Effective site management, to ensure the control of airborne dust, will include:
• Regular review of prevailing weather conditions and site operations
• Use of pressure washers from captured rainwater for vehicle movements entering and leaving the site and damping down site surface as required
• Covering of loads on vehicles entering the site
• Regular maintenance of all equipment

Ongoing monitoring of dust generation and with the appropriate updating of the DEMP, will ensure continuing effective dust management at Clearwater D C 2001 Ltd without any adverse dust impacts off site.

Appendices

Appendix A - Dust Complaint Form

Customer Details	
Customer Name -	
Address – Postcode -	
Customer Contact Details -	
Tel -	
Email -	
Date -	
Complaint Ref Number -	
Complaint Details -	

Investigation Details	
Investigation carried out by -	
Position -	
Date & time investigation carried out -	
Weather conditions -	
Wind direction and speed -	
Investigation findings -	
Feedback given to Environment Agency and/or local authority -	
Date feedback given -	
Feedback given to public -	
Date feedback given -	

Review and Improve	
Improvements needed to prevent a reoccurrence -	
Proposed date for completion of the improvements -	
Actual date for completion -	
If different insert reason for delay -	
Does the dust management plan need to be updated -	
Date that the dust management plan was updated -	

Closure	
Site manager review date	
Site manager signature to confirm no further action required	

7. References

Environment Agency (2022) Control and monitor emissions for your environmental permit. Available at: https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit#dust-mud-and-litter (Accessed 21/05/2024)

Metroblue (0000) Simulated historical climate & weather data for Corby. Available at: Simulated historical climate & weather data for Corby - meteoblue (Accessed 21/05/2024)