



Dust Management Plan

Mead Construction (Cambridge) Ltd



Helping clients prosper through compliance

SITE DETAILS

Wilbraham Chalk Quarry

Mill Lane

Great Wilbraham

Cambridgeshire

CB21 4HH

OPERATOR DETAILS

MEAD Construction (Cambridge) Ltd

Liberty Barns Heath Road

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PERMIT REFERENCE

TBC

DOCUMENT REFERENCE

K311.2 ~09~010

ISSUE DATE

14/03/2024



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DOCUMENT CONTROL

DOCUMENT TITLE:	Dust Management Plan
REFERENCE:	K311.2 ~09~010
CLIENT:	Mead Construction (Cambridge) Ltd
REPORTED BY:	Wiser Environment Limited
STATUS:	Final
ISSUE:	1
ISSUE DATE:	14/03/2024
AUTHOR:	Wiser Environment Limited
APPROVED BY:	Sarah Perry

REVISION HISTORY

REFERENCE	DATE	ISSUE:	REVISION SUMMARY
K311.2 ~09~010	12/03/2024	D1	For client review.
K311.2 ~09~010	13/03/2024	F1	Minor client requested revisions made.
	Enter date		

QUALITY CONTROL

ACTION	DATE	NAME
Prepared	27/02/2024	Sarah Perry
Checked	28/02/2024	Andrea Petrolati
Approved	14/03/2024	Sarah Perry

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1. Introduction

This document covers the dust management procedures that are in place to control dust at the wet and dry recycling facility Operated by Mead Construction (Cambridge) Ltd at Wilbraham Quarry.

The activities on site comprise of the following activities:

- Screening of Soils and Aggregates
- Waste Crushing to produce Aggregates.
- Soil Washing
- Associated Waste & Temporary Aggregate Storage

The site has sensitive receptors within 500m of the site boundary of residential nature, therefore the Dust Management Plan has been produced to meet the requirements of Environment Agency Guidance: 'Control and Monitor Emissions for your Environmental Permit'.

The site is situated on an existing operational chalk quarry, and a permitted landfill. Therefore there are other activities which are also at risk of causing dust emissions to arise from the site as a whole. This Dust Management Plan (DMP) only identifies the control measures specific to the Dry and Wet Recycling facility.

2. Site Location

The site is situated south of the village of Great Wilbraham, Cambridgeshire at TL 5657 5462. An area of the site is currently permitted as an inert landfill under permit (EPR-JB3404FG) and it is also an active chalk quarry.

The permit boundary is highlighted in green below in Figure 1.



Figure 1: Permit boundary highlighted in green.

The site layout is shown in Figure 2 below for context of where the activities are located.

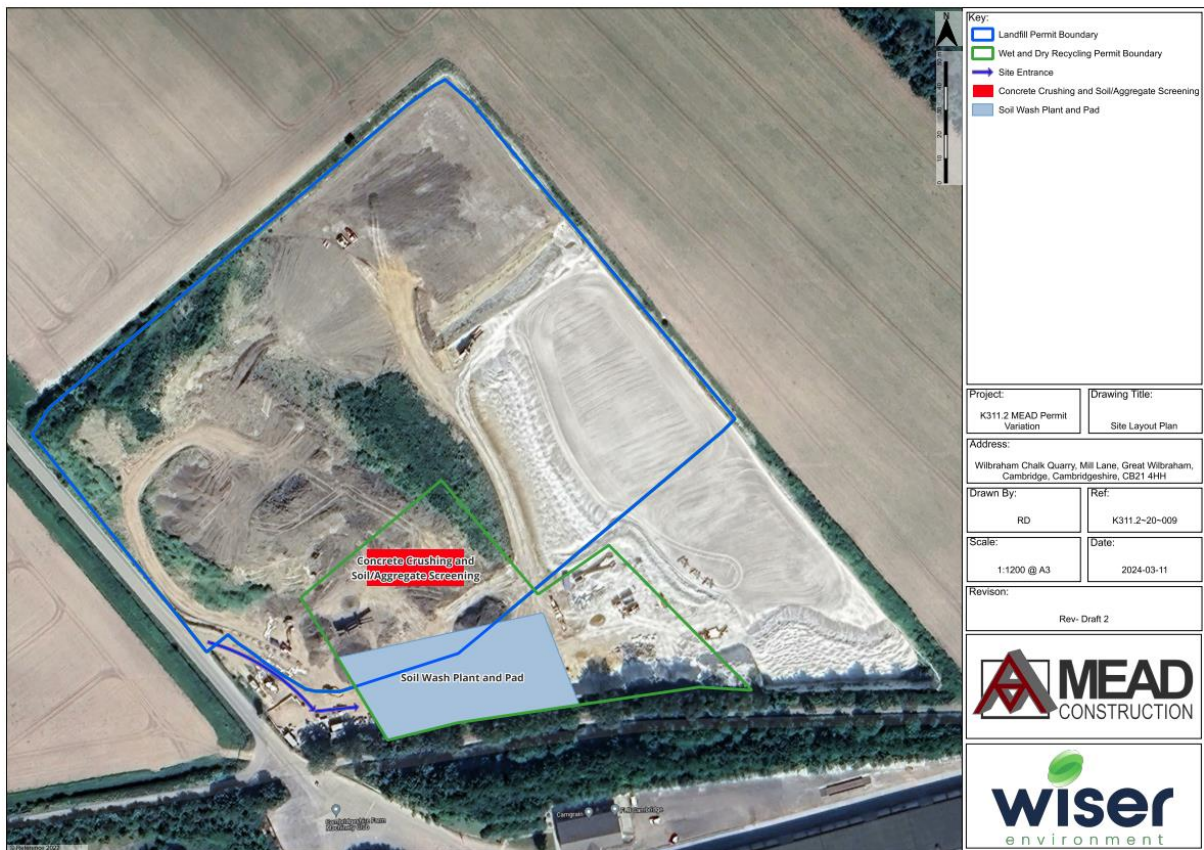


Figure 2: Site Layout Plan.

For context, the site receptors within 2 km of the site boundary are shown in Figure 3 (see Section 3 below).

3. RECEPTORS

3.1. Receptor List

A receptor is the object (e.g., person, organism, resource, or property) impacted by a hazard. For example, dust may cause offence to a human (the receptor). When identifying receptors which may be at risk from the site, the following have been considered:

- Ancient woods
- Locations used to grow food or to farm animals or fish
- Drain and sewer systems
- Factories and other businesses
- Fields and allotments used to grow food
- Footpaths
- Roads and railways
- Groundwater beneath the site
- Homes, or groups of homes
- Playing fields and playgrounds
- Private drinking water supplies
- Regionally important geological sites
- Schools, hospitals, and other public buildings
- Water
- Conservation areas, habitats, and protected areas/areas of scientific interest

Sensitive receptors within 2 km of the permit boundary are shown on the Sensitive Receptor Plan 2km (K311.2~20~007) and Figure 3. The IDs on the Site Setting Plan correspond to the Receptor List (Table 1) below.

Table 1 Sensitive Receptor List (2km)

RECEPTOR TYPE	ID	DESCRIPTION	DISTANCE	DIRECTION
HUMANS AND PROPERTY	-	Site Workers	On site	-
	-	Site Visitors	On site	-
	INHABITANTS OF RESIDENTIAL PROPERTIES			
	1	Valley Farm Cottage and West Wrattling Valley Farm	460 m	WSW
	2	Upper Heath Farm	1.1 km	N
	3	Great Wilbraham Hall Farm and Neighbouring Properties	1.3 km	WNW
	4	Lower Heath Farm	1.4 km	N
	5	Dungate Farm	1.45 km	SSW
	6	Beach Tree Cottages	1.55 km	W
	7	Lark Hall New Cottages - West Six Mile Bottom Road	1.7 km	E
	8	Lark Hall Corner Residential Properties	1.7 km	ESE
	9	Hall Farm Cottages	1.9 km	NNW
	SENSITIVE PUBLIC USE			

	N/A			
	COMMERCIAL USE			
	1	Camgrain	45 m	S
	1	FLB Cambridge	45 m	S
	1	Cambs Farm Machinery Club	45 m	S
	2	Great Wilbraham Solar Farm	245 m	N
	3	HQ Nights Christmas Parties Commercial Business and Surrounding	1.4 km	WNW
	RECREATIONAL USE			
	N/A			
	CRITICAL INFRASTRUCTURE			
	N/A			
	ROADS AND RAILWAYS			
	-	A11	620 m	NW
	-	Cambridge Coldham Lane Junction and Haughley Junction Line - Railway Line	1675 m	N
	PUBLIC RIGHTS OF WAY			
	-	Bridleway Along London Road towards A11	55 m	W
	-	Public Footpath through agricultural fields East of Great Wilbraham Solar Farm	1.55 km	NE
	-	Public Footpath along Fleam Dyke SSSI	1.6 km	SW
WATER	SURFACE WATER			
	-	Surface Water - Ditches along the A11 boundary with agricultural fields	630 m	NW
	-	Surface Water - Ditches along the A11 boundary with agricultural fields	670 m	N
	-	Surface Water - Ditches along the A11 boundary with agricultural fields	740 m	N
	GROUNDWATER			
	-	Superficial Aquifer - Secondary A	440 m	W
ENVIRONMENTALLY SENSITIVE SITES	DESIGNATED SITES			
	1	Fleam Dyke - SSSI	1.45 km	SW
	2	Fleam Dyke - SSSI	1.65 km	S
	3	Fleam Dyke - SSSI	1.8 km	W
	NON-DESIGNATED SITES			
	1	Priority Habitat - Deciduous Woodland	545 m	WSW
	2	Priority Habitat - Deciduous Woodland	645 m	NW
	3	Priority Habitat - Deciduous Woodland	975 m	E
	4	Priority Habitat - Deciduous Woodland	1.2 km	S
	5	Priority Habitat - Deciduous Woodland	1.3 km	S
	6	Priority Habitat - Deciduous Woodland	1.5 km	NNE
	7	Priority Habitat - Deciduous Woodland	1.7 km	NW

8	Priority Habitat - Deciduous Woodland	1.8 km	S
9	Priority Habitat - Deciduous Woodland	1.8 km	SE
HERITAGE SITES			
1	Scheduled Monument - Fleam Dyke	1.5 km	SW
2	Scheduled Monument - Mutlow Hill Tumulus	1.85 km	W

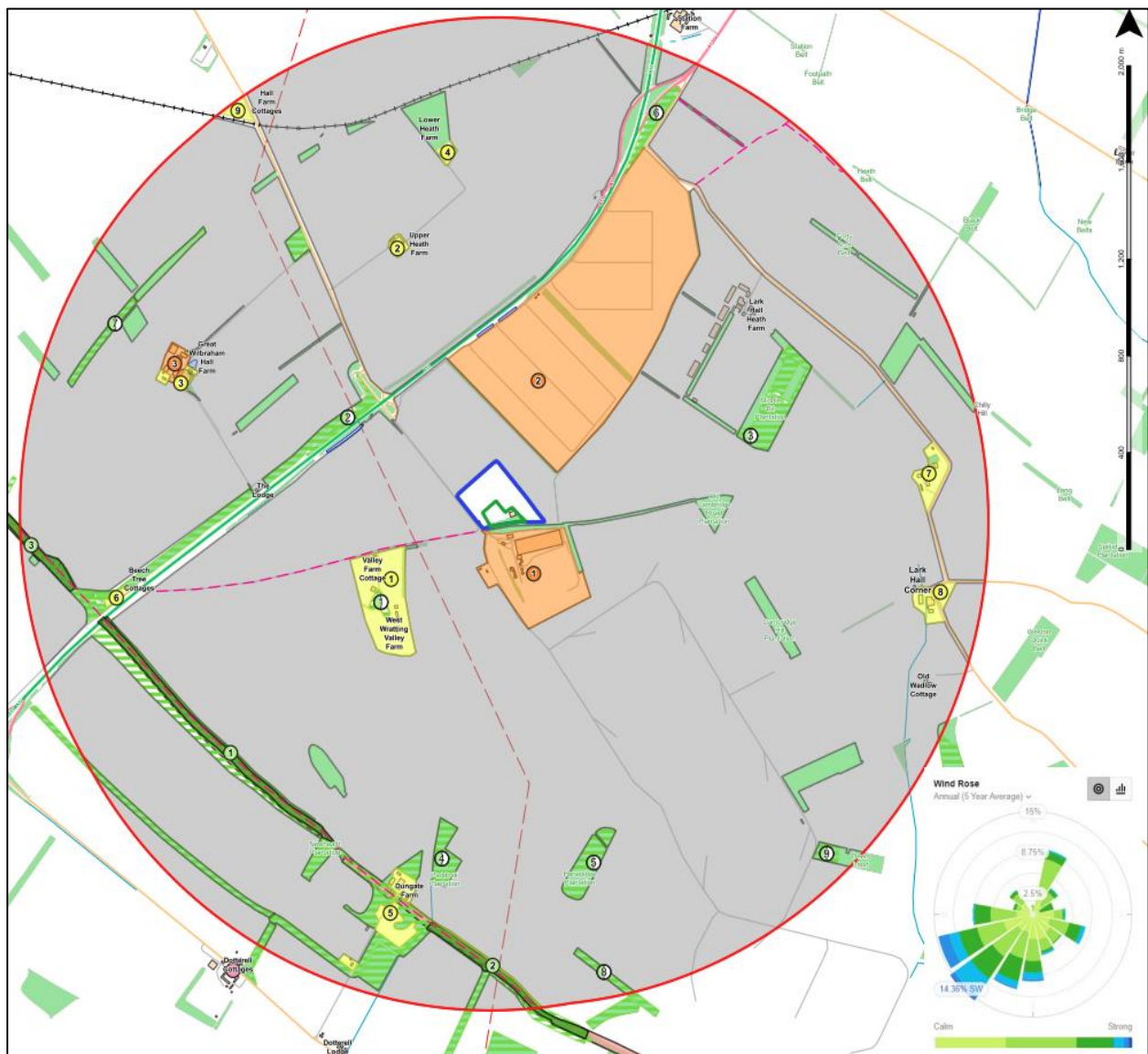


Figure 3- Sensitive Receptors within 2km of the permit boundary.

3.2. Wind Rose and Weather Data

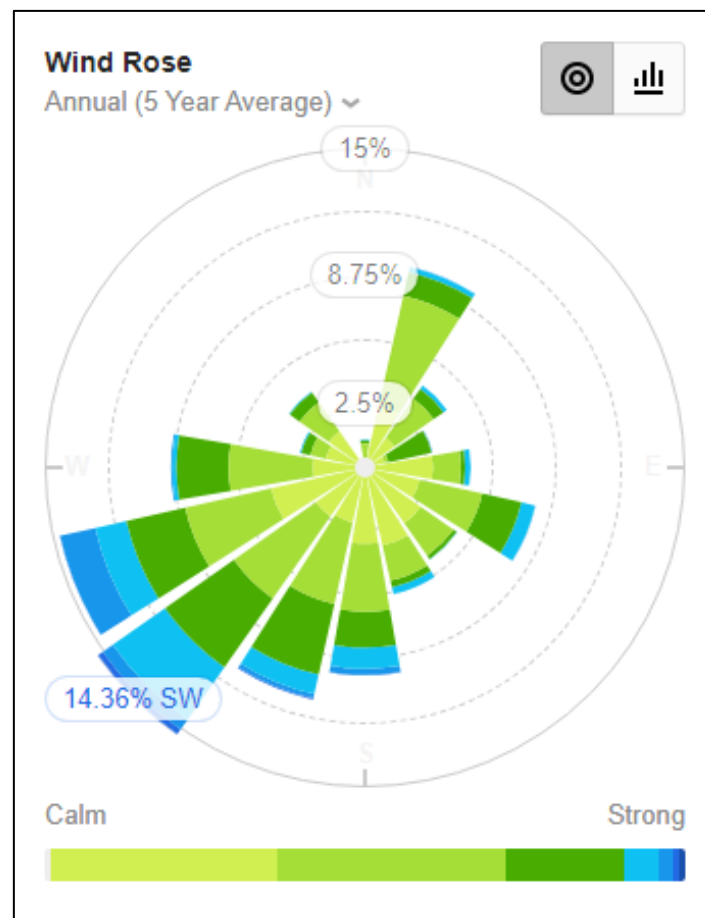


Figure 4: Great Wilbraham wind rose. Annual 5-year average (willyweather.co.uk).

The closest observing station where wind statistic data is available is at Great Wilbraham, approximately 3.2km North of the permit boundary. Figure 4 presents the wind statistics on a wind rose as an annual average using data from the previous 5 years (2019-2024). The wind rose indicates that the sensitive receptors located towards the North-East of the site are potentially at greatest risk from hazards transmitted through the air.

4. Environmental Risk Assessment

The Environmental Risk Assessment (K311.2~09~008, Section 3 of the Permit application pack), identifies the following hazards of greatest significance:

- Fugitive emissions of dust and particulate matter relating to waste delivery, the treatment process and material dispatch
- Dust and particulate matter generated from external areas (e.g., haul roads) during dry conditions.
- Dust and particulate matter liberated from imported and stockpiled materials.
- Dust generated during the processing of waste.
- Fugitive emissions of mud and debris during waste delivery and material dispatch.

5. Overview of Processes and Emissions

A comprehensive list of the waste types permitted for acceptance at the site can be found in the List of Wastes (K311.2~09~006 Non-Technical Summary, Section 1 of the Application Pack). The waste types accepted have potential to emit dust in dry conditions.

As explained in the non-technical summary, the main operations taking place within this permitted activity are as follows:

- Acceptance of waste soils, aggregates and other similar wastes via road haulage.
- Stockpiling of wastes prior to processing, and movement of wastes to the relevant treatment activities.
- Dry Recycling activities including the crushing and screening of waste materials.
- Soil washing ('wet recycling') activity to produce minerals and aggregates.

The activities likely to cause dust emissions are shown in Table 2 below.

Table 2: Activities giving rise to dust emissions.

Activity	Duration of Activity- Worst Case Scenario (approximate)	Risk of Dust Generation without control
Material delivery and dispatch from HGV into stockpile	5 minutes	High
Screening Activities, including material movement from stockpiles into hoppers/ conveyors.	<10 hours	High
Crushing Activities, including material movement from stockpiles into hoppers/ conveyors.	<10 hours	High

The main method and most reliable control to reduce dust emissions is the use of water. Suppression systems are outline in table 3 below. Water is available on site from a groundwater abstraction borehole. Abstraction is below 20m³ per day.

The site is operated in accordance with written procedures incorporated within the Mead Construction (Cambridge) Ltd Management System. All procedures: identify the potential hazards; include written instruction on how to undertake tasks; and specify the required control measures (including PPE and safety equipment). Each procedure is accompanied by an activity risk assessment.

Table 3: Dust Emission Control Measures.

Dust Generating Activity (Source of Emission)	Controls on Dust Emissions	Residual Risk of Dust Emissions off site	Triggers for Implementation
Movement of Materials on/off site and mobile plant movements.	Speed Limits <5mph Hardcore roadways that are maintained and swept. Concreted/asphalted entrance and exit area. Wheel Wash Water Cannon Bowser for Damping down roads Sheeting of loads Assessment of Conditions daily by Site Manager or TCM and corresponding actions taken (outlined above). Road-sweeper available on site for the highway. Monitor weather conditions daily, and plan ahead for long dry spells of weather by ensuring sufficient water supplies.	Low	Additional Measures such as use of the water bowser on roads and road sweeping will be implemented should the Site Manager or TCM see significant, and prolonged dust levels in the atmosphere on assessment of conditions on site. Prolonged dry spells, especially in summer months will also trigger

			the use of water suppression systems being in use.
Discharge of Material from HGVs into stockpile	Short duration activity. Bowser and water cannon available for use in dry conditions. Assessment of Conditions daily by site manager and corresponding actions taken (outlined above). Monitor weather conditions daily, and plan ahead for long dry spells of weather by ensuring sufficient water supplies. Only minimal amounts of waste are brought to the site. Vehicle drop heights are around 1.5 meters, but cannot be altered due to fixed vehicle height.	Low	Additional Measures such as use of the water bowser on roads and road sweeping will be implemented should the Site Manager or TCM see significant, and prolonged dust levels in the atmosphere on assessment of conditions in the quarry. Prolonged dry spells, especially in summer months will also trigger the use of water suppression systems being in use.
Stockpiles of Waste	Minimal amount of stockpiled waste on site at any one time- there will enough to process and		Additional Measures such as use of the

	then it will be moved off site typically within 1 week. Use of light water suppression on wastes which are not affected by moisture content when screening.		water bowser on roads and road sweeping will be implemented should the Site Manager or TCM see significant, and prolonged dust levels in the atmosphere on assessment of conditions in the quarry. Prolonged dry spells, especially in summer months will also trigger the use of water suppression systems being in use.
Movement of Material from Stockpiles into Screener/ Crusher/ Soil Wash Hopper and away from Conveyors back into segregated stockpiles	Drop heights minimised as low as reasonably practicable. Water Cannon available for dry weather or dusty conditions. No processing in strong winds which are blowing from the East/ North-East as this may impact the nearest sensitive receptor. Material taken off site as quickly as possible.	Low	Additional Measures such as use of the water bowser on roads and road sweeping will be implemented should the Site Manager or TCM see significant, and

	Assessment of Conditions daily by site manager and corresponding actions taken (outlined above). Monitor weather conditions daily, and plan ahead for long dry spells of weather by ensuring sufficient water supplies.		prolonged dust levels in the atmosphere on assessment of conditions in the quarry. Prolonged dry spells, especially in summer months will also trigger the use of water suppression systems.
Screening and Processing of wastes	Soil wash is a wet process; therefore dust generation is unlikely. No processing in strong winds which are blowing from the East/ North-East as this may impact the nearest sensitive receptor. Crusher has a water spray system in-built to reduce dusts which used as required. Screening activity will use a water cannon when weather and aggregate conditions dictate it's when aggregates are being screened. Soil moisture levels are assessed prior to screening, and water misting used if required.	Low	Additional Measures such as use of the water bowser on roads and road sweeping will be implemented should the Site Manager or TCM see significant, and prolonged dust levels in the atmosphere on assessment of conditions on site.

	Assessment of Conditions daily by site manager and corresponding actions taken (outlined above). Monitor weather conditions daily, and plan ahead for long dry spells of weather by ensuring sufficient water supplies.		Prolonged dry spells, especially in summer months will also trigger the use of water suppression systems.
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As outline in table 3, the site manager is responsible for assessing conditions on site and reviewing weather forecasts. The trigger level for deploying water suppression measures are as follows:

- Several days of dry weather, especially during spring/summer conditions when its likely to be hot. **This is used pro-actively and is planned into operations at all times when warm/hot and dry weather is present.**
- Repeated or prolonged dust is generated by mobile plant on movement.
- Dust is continually generated by crushing or screening activities.
- Materials to be processed are very dry (i.e soils that may have dried out in hot summer conditions).
- Where inspections conducted by the site team that demonstrate dust is being generated and has the potential to cause off site impact.

The site manager will continually observe the processes taking place on site, and cease activity if significant dust escapes the site from a particular activity. This will be recorded in the site diary.

6. REPORTING & COMPLAINTS REPONSE

The Technically Competent Manager (TCM) or delegated nominee is responsible for responding to complaints and implementing the complaints procedure. All complaints will be investigated within 24 hours upon receipt.

The complaints reporting procedure is detailed in the Management System Summary (K311.2~09~007, Section 2 of the Permit Application Pack).

Upon receipt of a complaint, either directly from a neighbouring resident or indirectly via the Regulator. The following information will be requested from the complainant:

- Name;
- Address;
- Contact details;
- Date(s) and time(s) to which the complaint relates; and
- Nature of the complaint and any other details which may assist in the identification of the source, activity or circumstances which prompted the complaint.

The timings and description of the complaint will be analysed in conjunction with the activities and meteorological conditions logged on site without delay to identify the emission source. The complainant may be asked to keep ongoing log for correlation with the site operational log. Once the source or activity is identified suitable mitigation measures will be implemented as soon as possible to prevent dust emissions.

The details of the complaint and any subsequent investigation will be recorded in the site diary or other format with relevant information.

6.1. Complaints Reporting

Records relating to management review, complaints, internal audits and inspections are held for a minimum of six years.

All complaints will be acknowledged and investigated by the TCM, or nominated person, with resultant actions reported to the complainant and the Environment Agency.

6.2. Community Engagement

On receipt of a complaint, the TCM, or nominated person, will investigate the complaint to swiftly rectify the source.

Where contact details are made available, the complainant will be contacted within 24 hours of mitigation measures being implemented to check that the issue has been rectified.

Where additional time is required to undertake repair or replacement of infrastructure which has caused the complaint, the complainant will be contacted with details on the actions being taken and the estimated timescale for completion.

6.3. Pro-active Dust Monitoring

The TCM and site staff will monitor site conditions periodically throughout the day (at least twice). Any adverse observations, that are directly attributed to the site's activities, will be recorded and retained in the site diary.

6.4. Reactive Dust Monitoring

On receipt of a complaint, the TCM, or nominated person, will investigate the complaint to swiftly rectify the dust source. Checks on site and the permit boundary will be carried out by the TCM, or nominated person, to confirm that the mitigation measures rectify the issue.

7. Contingency Planning

In the event of a mechanical breakdown of dust suppression control measures listed in Table 3, the following contingency measures shall be adopted:

Assess the activities being undertaken and the actual and likely dust generation if activities continue in line with the weather forecast.

If the activities and subsequent weather conditions are not and/or unlikely to generate dust emissions off site (i.e rain is forecast), the activity may continue providing that it is continually assessed and is not causing dust emissions off site.

If conditions are not favourable and dust emissions are leaving the site, the operations must temporarily cease whilst alternative measures are found (i.e hiring of another water cannon).



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