

FACTORY ROAD RECYCLING FACILITY

Environmental Permit Application

Dust and Emissions Management Plan

Prepared for: Holystone Group Limited

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DOCUMENT CONTROL

Version	Date	Author	Change Description
1	May 2022	SLR	Original
2	July 2023	SLR	Additional of street cleaning residues waste code

1.0 Introduction

The Dust and Emissions Management Plan (DEMP) has been created as part of the Environmental Permit (EP) application. This plan shall be incorporated into the site procedures and shall be revised as necessary to ensure that it remains appropriate to the activities occurring on site and that any changes in conditions relating to dust management are dealt with as part of those revisions. In particular, the monitoring procedures and compliance actions will be updated as required by the procedures within the DEMP.

1.1 Scope

The objective of this document is to specify a range of measures to manage the environmental impacts that could arise during the activities taking place on site, in respect of managing dust emissions. A series of site-specific control measures as described will therefore minimise potential risks to surrounding receptors and the environment.

The components of the DEMP are set out within this document as follows:

- Section 2 – Overview and Potential for Dust emissions;
- Section 3 - Potential Dust Effects;
- Section 4 - Dust Control Measures;
- Section 5 - Site Management & Contingency Measures; and
- Section 6 – Contingency Action Plan.

2.0 Overview & Potential for Dust Emissions

2.1 Site Description

The facility proposes to operate a Terex Washing System which will treat inert/non-hazardous waste in a sealed process with no emissions or effluent. The site will be operated by Holystone Group Limited (Holystone).

The site treats up to 135,000 tonnes per annum (tpa) of a range of waste management, municipal, construction, demolition and excavation waste materials arising from local developments to produce recovered secondary aggregates.

The site is centred on National Grid Reference (NGR) NZ 18905 63744 on Factory Road, Blaydon, Tyne & Wear NE21 5RU north east of the town centre of Blaydon. The site is accessed via Factory Road from the A695, Patterson Street. The site location and boundary is illustrated on Drawing 001; Environmental Permit Boundary.

The site layout is illustrated on Drawing 002. The environmental site setting is illustrated on Drawing 003 and Drawing 004.

The site is located within a predominantly industrial area, with the River Tyne located adjacent to the west of the site.

2.2 Site Operations Description

The site accept up to 135,000 tpa of soils for treatment.

The total storage capacity of waste on the site will be 5,000 tonnes at any one time.

Wastes will be stored as illustrated on Drawing 002. As materials are processed through the plant, different stockpiles of material will be generated based on the particle size.

The waste list is shown in Table 2-1 below.

**Table 2-1
 Waste Types for Acceptance**

Waste Code	Description
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 05	Soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	soil and stones other than those mentioned in 17 05 03
17 09	Other construction and demolition wastes
17 09 04	Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03.
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

Waste Code	Description
19 12	Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 09	minerals (for example sand, stones)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 13	Wastes from soil and groundwater remediation
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 02	Garden and park wastes (including cemetery waste)
20 02 02	soil and stones
20 03	Other municipal wastes
20 03 03	Street-cleaning residues

Table 2-2 details the waste operation activities carried out on site.

Table 2-2
Description of Waste Operations

Activity Reference	Activity Description	Limits of Activity
Soil Recovery Facility – including inert and non-hazardous waste	R13: Storage of wastes pending the operations numbered R3 and R5. R3: Recycling or reclamation of organic substances which are not used as solvents R5: Recycling or reclamation of other inorganic materials	Treatment consisting only of manual sorting, crushing, separation, screening and washing of wastes into different components for recovery. Wastes shall be stored for no longer that 3 years prior to recovery. Waste types as specified in Table S2.1.

Only scheduled waste delivery vehicles are allowed access. Site operations are carried out as follows:

- On delivery to the site, vehicles are to be directed to discharge at either the raw product feedstock stockpile or the street cleaning residues stockpile.
- If small quantities of non-conforming waste are identified during the offloading or processing then these should be removed by hand by a site operative using appropriate personal protective equipment (PPE) and placed in suitable, clearly labelled containers and stored in the designated quarantine area. These materials will be removed from site within the appropriate timescales in accordance with the Duty of Care Regulations and/or Special Waste Regulations (if applicable).

- Materials are held for varying lengths of time dependant on the waste type and weather conditions prior to entry into one of the waste recovery processes.
- From the feedstock piles, waste materials are to be fed into the soil washing plant using a 360° excavator or a loading shovel. The material is to be pre-sorted using the excavator to remove any material too large for recycling and which may require crushing. Materials too large for recycling and/or only suitable for landfill are to be transferred by excavator or loading shovel to the designated stockpile or bay for crushing.
- Soil washing process:
 - Separates the material into different particle sizes and subsequent stockpiles or bays through the in-built screening, separating and washing processes.
 - The materials produced should be transferred to the appropriate washed product bays by the loading shovel.
- Screening process:
 - Once materials have been screened, they are to be transferred to the appropriate screened stockpile/bay.
 - The soils produced should be transferred to the appropriate product bays by the loading shovel. Any concrete or similar material or inert material only fit for landfill is moved to the appropriate bay.
 - As the need arises the screening medium is changed to suit the conditions i.e. wet/dry and or the products to be screened i.e. C&D or soils.
 - The various products created from the screening operation are stored in the finished product bays according to their specification.
 - Any inert materials rejected from the screening process which are not suitable for resale are to be moved to the appropriate stockpile/bay for eventual re-loading.
- Finished products for sale and inert materials not suitable for recycling are loaded onto vehicles by a loading shovel, weighed at the weighbridge and the load sheeted before leaving the site.

2.3 Site Surroundings

The surrounding locale of the site is defined by predominantly industrial areas, with the River Tyne located to the west. A summary of the immediate surrounding land use is provided in Table 2-3.

Table 2-3 Surrounding Land Use

Boundary	Description
North	Scrap metal dealer and Northeast Ambulance Service NHS Trust and surrounding industrial/commercial properties.
East	Industrial premises, Factory Rd lies adjacent to the site boundary, beyond this is the A1.
South	Industrial premises, Blaydon Highway and beyond this is Shibdon Pond (Site of Special Scientific Interest).

Boundary	Description
West	River Tyne (Local Wildlife Site) and North East Ambulance Service NHS Trust, industrial premises, residential properties within and around the town of Blaydon which is situated south west of the site.

The nearest residential properties are located 520m to the south west of the site along East View Rd.

The closest designated habitat receptor is The River Tyne located 11m to west of the site's boundary. The River Tyne is designated as a Local Wildlife Site (LWS).

The closest Air Quality Management Area (AQMA) is located approximately 9.2km east of the site's boundary. The AQMA (Ref: Gateshead AQMA No.1 – Town Centre) is designated for nitrogen dioxide (NO₂).

Based on the distance, direction and classification of the AQMAs, site operations at the Site are deemed to have no impact on the AQMAs and as such, are not considered further within this document.

Within the surrounding site locale, there are no other sources that have the potential to release dust emissions.

2.4 Potential Dust Sources

The storage, handling and processing of soil and aggregate waste materials at Factory Road Recycling Facility has the potential to generate dust and can be divided into the following activities:

- Site surfacing;
- Preparation and stockpiles;
- Handling of materials;
- On-site transportation;
- Crushing of oversize material;
- Screening and sorting of waste during soil washing process;
- Storage of products / residual wastes following processing; and
- Export of products and residual wastes off site.

3.0 Potential Dust Effects

This section presents a review of the potential risk of dust effects and has been completed in order to inform the selection of appropriate dust control techniques to mitigate against the release of dust emissions.

3.1 Prevailing Meteorological Conditions

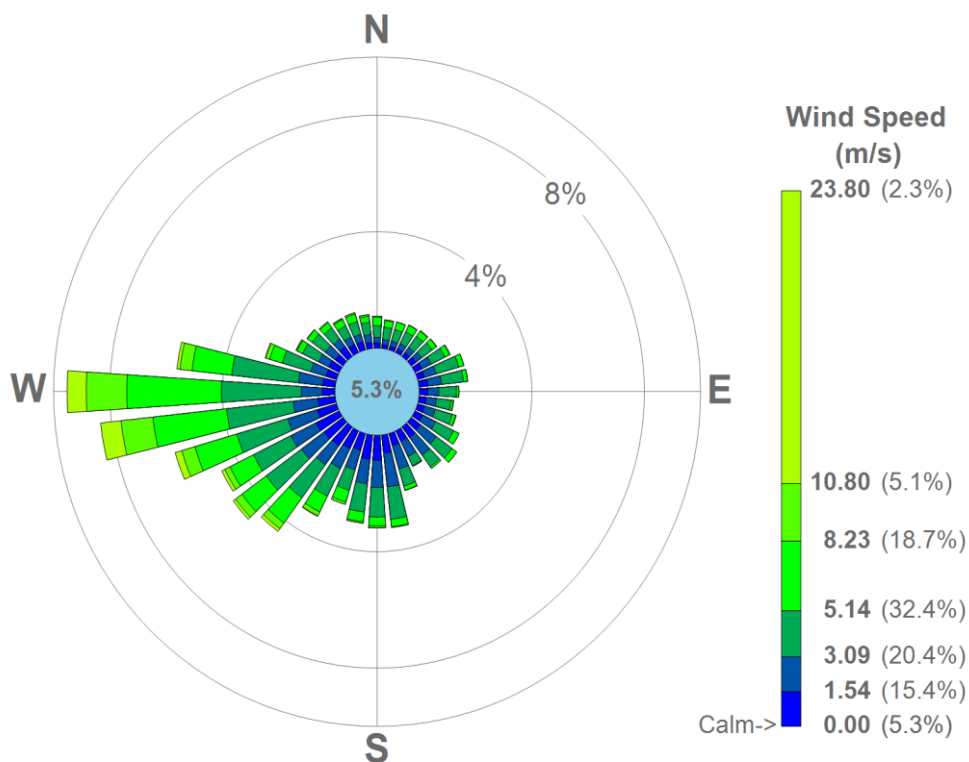
The most important climatic parameters governing the generation and dispersal of fugitive dust are:

- Wind speed will affect the potential for dust entrainment and the distance it may travel;
- Wind direction determines the broad transport of the emission and the sector of the compass into which the emission is dispersed; and
- Rainfall is an important climatological parameter in the generation of dust; sufficient amounts of rainfall can suppress dust at the source and eliminate the pathway to the receptor. According to Arup (1995)¹ rainfall greater than 0.2mm per day is sufficient to suppress dust emissions.

3.1.1 Local Wind Speed & Direction Data

Wind speed and direction data from Newcastle meteorological station at located 3km to the north of the site is considered to be broadly representative of the local site conditions. A windrose for Newcastle Meteorological Station is presented in Figure 3-1.

Figure 3-1
Newcastle Meteorological Station 2014-2017



¹ Arup & Ove Arup Environmental. Environment Effects of Surface Mineral Workings. DoE, October 1995.

Figure 3-1 indicates that the prevailing wind direction is from the west, with winds from the south west sector occurring less frequently and winds from the south, north and east being relatively infrequent.

On this basis, locations from the northern to eastern sectors have the highest potential for impacts from any dust emissions originating from the site.

3.1.2 Rainfall Data

Relevant rainfall data applicable to the site has been obtained from the Met Office website² of UK mapped climate averages for 1991-2020. The average annual rainfall >0.2mm/day for the area of the site is 180 - 200 days per year, comprising approximately 50% to 55% of the year. It is therefore considered that on those days the natural suppression afforded by the rain would eliminate all sources of dust across the site.

Rainfall is typically lower in the summer months, combined with higher temperatures to increase the drying time of material. The potential for dust generation and subsequent transfer of airborne dust emissions beyond the site boundary is therefore higher during the summer months.

3.2 Sources of Dust

3.2.1 Designed in Dust Control Measures

The following measures, that are incorporated into operations at the site, are considered to afford a degree of reduction in the potential for dust generation. These 'designed in' control measures are presented in Table 3-1.

Table 3-1
Designed in Dust Control Measures

Activity	Designed in Dust Control Measures
Management Procedures	The site supervisor, or his nominee, will exercise day to day control on site at all times. They will have particular responsibility for ensuring full compliance with the conditions attached to the permit. They will assume control either personally or by delegation to suitably trained and responsible staff of: <ul style="list-style-type: none"> • Vehicle movements; • All loading, tipping and materials handling operations; • Operation of dust suppression measures; and • Inspection, cleaning and maintenance of all plant and equipment.
	Strict waste acceptance procedures will ensure that loads consisting solely or mainly of dusty wastes are not accepted on site.
	All staff receive necessary training and instruction in their duties relating to the control of all operations and the potential sources of dust emissions. Particular emphasis is given to dealing with plant malfunctions and abnormal conditions. Site staff must inform the manager whenever visible dust emissions are observed or appear likely to occur, as a result of any site operation.

² <http://www.metoffice.gov.uk/public/weather/climate> accessed May 2022

Activity	Designed in Dust Control Measures
	<p>If at any time dust emissions are detected by the site staff or any complaints relating to dust are received, the incident is recorded in the Site Diary, and immediate action taken to identify the cause of the problem.</p> <p>If a dust associated problem is related to a specific source of waste, then action will immediately be taken to suppress any aerial emissions by damping down using the water bowser on site.</p>
Complaints Procedure	<p>A complaints procedure is in place to ensure that any perceived nuisance being caused to local residents is dealt with effectively. A register of complaints is kept on site to record all concerns made either directly to the Site Manager or via the regulatory authorities.</p> <p>Each complaint is investigated. The Site Supervisor will report the findings and the action taken to the Site Manager. The EA will be advised in writing within two weeks of any dust complaint together with the findings of the investigation and any corrective action taken.</p>
Transportation of Materials	<p>Internal haulage restricted to clearly delineated routes, on a prepared surface at a low level where possible.</p> <p>Temporary haul roads and site surfacing will be inspected daily, maintained in good condition and kept free from mud by regular grading, good drainage and use of hardcore as necessary.</p> <p>The impermeable surfacing will be swept daily by a road sweeper.</p> <p>All equipment will have upward discharge exhaust systems, thereby eliminating surface disturbance.</p> <p>Conveyors within the soil washing process will be enclosed where necessary and the nature of the waste material is such that it has a high moisture content.</p> <p>A water cannon is available on site to suppress dust emissions.</p> <p>All site vehicles will be maintained in accordance with the manufacturer's specification.</p> <p>All waste delivery vehicles are checked for loose debris and will be power washed off if required.</p> <p>A road brush (Road Sweeper) is available for road-cleaning purposes as required.</p> <p>Site haulage speeds are restricted to 10mph to minimise dust entrainment. Appropriate instruction is issued to all vehicle drivers.</p> <p>The Site Supervisor is responsible for checking the situation regarding dust on a regular basis throughout working hours, and for ensuring that mitigation measures are employed as necessary.</p> <p>Road going vehicles are prevented from tracking on areas of unmade ground.</p>
Material Handling	<p>Working areas will be sprayed with water via a bowser or a mobile sprinkler suppression system. Frequency of use detailed in Tables 4-2 and 4-3.</p>

Activity	Designed in Dust Control Measures
	In unusually dry / windy conditions site activities will be suspended if it appears likely that dust may be carried towards sensitive receptors.

The activities on site that have the greatest potential for dust emissions have been identified as movements on internal haul roads and waste processing operations. Table 3-2 outlines the potential sources of dust associated with the proposed operations.

Table 3-2
Sources of Dust

Activity	Potential for Dust Generation	Description / Location
Material handling & storage	Medium	Temporary, intermittent operations. Potential for short term high dust emissions. Processed materials will be stored in piles.
Screening and crushing of waste	Large	Waste undergoes screening and crushing operation to recycle soil and aggregates.
Screening and sorting of waste during soil washing process and conveying of material within process or to final stockpile	Medium	Waste undergoes a screening and sorting operation during the soil washing process. Waste is conveyed within the soil washing plant and discharged on conveyors to form stockpiles.
Transport – access road	Small	Paved access road before joining the public road (Factory Road). Less than 60 in-out heavy-duty vehicle movements per day.

3.3 IAQM Assessment of Dust Impacts

In support of this EP application, a dust impact assessment in accordance with the Institute of Air Quality Management guidance³ ‘*Guidance on the Assessment of Mineral Dust Impacts for Planning*’ has been undertaken.

An assessment of the risk of exceedances in PM₁₀ Air Quality Assessment Levels (AQALs) has also been undertaken.

The overall dust amenity effect and risk of AQAL exceedances has been classified as negligible. The full Air Quality Assessment (AQA) is included as Appendix 01.

³ Guidance on the Assessment of Mineral Dust Impacts for Planning, May 2016 (v1.1), Institute of Air Quality Management (IAQM) http://www.iaqm.co.uk/text/guidance/mineralsguidance_2016.pdf accessed May 2022

4.0 Control of Dust Emissions

4.1 Overview

Holystone recognises the potential for the site to generate dust emissions and is committed to operating the site in accordance with industry best practice. The implementation of industry best practice measures to control and mitigate the generation and transportation of dust can ensure that dust is adequately controlled.

The dust control measures contained within this DEMP have been defined based on the findings of the IAQM dust impact assessment and regulatory guidance as follows:

- IAQM Guidance on the Assessment of Mineral Dust Impacts for Planning (2016);
- Mineral Industry Research Organisation (MIRO) Good practice guide: control and measurement of nuisance dust and PM₁₀ from the extractive industries (AEA, 2011);
- Technical Guidance to the National Planning Policy Framework (Department for Communities and Local Government, 2012);
- Process Guidance Note 3/16 (04) Statutory guidance for mobile crushing and screening (Defra, 2012); and
- Local Air Quality Management (LAQM.TG(16)) (Defra, 2016).

The key method for controlling dust emissions is through good site design, management practices and subsequent good housekeeping, i.e. avoidance of dust generation.

4.2 Dust Control Measures

Dust control measures that will be employed at the site as part of routine planning and operations are detailed below in Table 4-1, Table 4-2 and Table 4-3.

Table 4-1
General Site Control Measures

Activity	Control Measures
Design and location of dust-generating activities	Dust-generating activities are, where possible, located where maximum protection can be obtained from topography or other sheltering features. Stockpiles, haul roads, tips and mounds, and exposed areas are located as far away as possible from sensitive receptors. They are not located directly upwind of the sensitive receptors.
Equipment and Vehicles	The site has been designed to minimise haul route distances and to locate haul routes away from receptors.
Communication	Good communication is maintained to prevent anxieties between the operator and the surrounding communities. Regular, accessible liaison arrangements are implemented in order to provide information as freely as possible.
Training	Training on dust mitigation is provided to site personnel. Training will also cover 'emergency preparedness plans' to react quickly in case of any failure of the planned dust mitigation.

Activity	Control Measures
Monitoring	See Section 4.3
Management	All dust and air quality complaints are recorded. The cause will be identified, and appropriate measures taken. See Section 5.0.

Table 4-2
Activity Specific Preventative Dust Control Measures

Activity	Management Actions and Preventative Dust Control Technique	Trigger for Implementation
Handling & storage	Drop heights are minimised. Vehicles are not to be overloaded. Stockpiles are in clearly designated areas to prevent vehicle tracking over the base. Waste is managed to prevent the double handling of material. Material stored in bays will be kept 0.5m below the top of the bay wall.	Control techniques will be implemented during all periods when the site is operational.
	Handling activities are avoided during dry and windy conditions.	Daily monitoring to assist with this decision.
	Stored aggregates are not allowed to dry out and are dampened down with the water cannon.	Control techniques are implemented during all periods when the site is operational.
Treatment activities including soil washing and crushing	The following measures are effective in minimising dust emissions during treatment processes: <ul style="list-style-type: none"> Plant and equipment are used within its design capacity; Plant and equipment are located away from the site boundary and sensitive receptors; Good standards of plant and equipment are maintained; Drop heights are minimised; Crushing is undertaken on a campaign basis. Built-in water suppression system within the mobile crusher will be used (suppression system is separate and not impacted by other activities that require water on site); The water cannon will be utilised for high dust risk activities related to the screening and crushing of material including: 	Control techniques are implemented during all periods when the site is operational.

Activity	Management Actions and Preventative Dust Control Technique	Trigger for Implementation
	<ul style="list-style-type: none"> ○ Movement of material; ○ Stockpiles of material awaiting treatment particularly with high risk materials like concrete; and ○ Stockpiles of crushed/screened material. ● Any spillages are cleaned up immediately following the relevant procedures within the wider EMS 	
Transport internal movements	<p>– All vehicles arriving to and leaving site are sheeted. All vehicles leaving the site will be check for loose debris and power hosed if necessary. All vehicles adhere to the site speed limit of 5mph. Unsurfaced routes are well maintained and compacted to minimise spillages from passing vehicles and erosion of road surface. Necessary repairs to the surface will be instigated as soon as reasonably practicable. All inspections will be record in the site log book. Impermeable concrete surfaces are swept daily. Adequate water supply is provided for effective dust mitigation using the water cannon to dampen site surfacing. Movement of traffic around site is minimised where possible. Abrupt changes in direction are avoided. Vehicles are evenly loaded to avoid spillages. The road sweeper is used daily.</p>	Control techniques are implemented during all periods when the site is operational.
Transport access road	<p>– An adequate area of hard surfaced (impermeable surfacing) road between site activities and site exit is maintained. Vehicles entering and leaving site are covered to prevent escape of materials during transport. The road sweeper is used daily.</p>	Control techniques are implemented during all periods when the site is operational.

Table 4-3
Activity Specific Remedial Dust Control Measures

Activity	Management Actions and Remedial Dust Control Technique	Trigger for Implementation
Material handling & storage	Use of water cannon to dampen down stockpiles and operational areas.	<p>Visible dust plumes.</p> <p>Limited by the availability and quantity of water given the measure can be water intensive.</p>

Activity	Management Actions and Remedial Dust Control Technique	Trigger for Implementation
	Additional dampening of material whilst screening and crushing process being undertaken. The water cannon can be utilised in addition to the built-in suppression within the crusher.	Visible dust plumes.
Transport internal movements	<p>Additional on-site sweeping of the impermeable concreted areas of the site.</p> <p>Use of water cannon to dampen down haul roads and large surface areas.</p>	<p>If large quantities of debris and dust has accumulated on haul roads/access roads.</p> <p>Material to be damped down first before sweeping.</p> <p>Not to be undertaken during dry, windy conditions as may resuspend the dust.</p>
Transport access road	Increase frequency of use of the road sweeper to remove any material tracked out from the site.	Visible track out on the access road.

The remedial dust control measures outlined above would be undertaken until the dust emissions were contained within the site boundary and significantly reduced. The decision would be at the discretion of the Site Manager.

4.3 Monitoring

4.3.1 Meteorological Conditions

On operational days, weather forecasts on the Met Office website are monitored daily to predict weather conditions such as prolonged dry, hot spells or significantly strong winds which may generate elevated levels of dust for which additional dust control would need to be planned / prepared.

Wind direction and wind speed are recorded daily within the Site Log Book or using the example record sheet in Appendix 01. This information is beneficial when dust events / complaints are reviewed retrospectively, and the source of dust is trying to be identified.

4.3.2 Visual Dust Monitoring

The site undertakes regular visual monitoring to ensure that dust control techniques in operation are being carried out effectively. The objective of the visual monitoring is to anticipate whether dust is being transported off-site in quantities sufficient to cause a nuisance at off-site receptor locations. Visual monitoring undertaken on a regular basis allows immediate action to be instigated.

Visual monitoring of dust is undertaken by the Site Supervisor on a minimum of a daily basis. Responsibilities can either be delegated to various Site Operatives to carry out visual observations of their working areas during normal operations or be delegated to a single Site Operative to perform a daily visual check of key areas.

The areas that require consideration for inclusion within the visual observations are as follows:

- Soil washing operations – including screening and crushing;

- Truck movements on haul roads; and
- Export of materials off site.

The results of all visual observations, along with any remedial actions implemented will be recorded. Any personnel who undertake visual dust monitoring will have received appropriate training, guidance and instruction on how to carry out the task in line with the requirements of this DEMP.

Results of the visual observations will be recorded in the Site Log book which is kept in the site office (an example Pro-Forma is included within Appendix 03). The following details are noted:

- Weather conditions (rainfall, wind speed, wind direction);
- Current site activities;
- Identification of any visible dust emissions travelling beyond the site boundary; and
- Details of any remedial action undertaken as a result.

The frequency of visual monitoring will be increased to twice daily observations in the following scenarios:

- Regular observations detect significant dust plumes crossing the site boundary towards off-site receptors; or
- In response to a complaint being received by the site or the EA.

5.0 Site Management

This section details the responsibilities of management within the DEMP, as annotated in Figure 5-1.

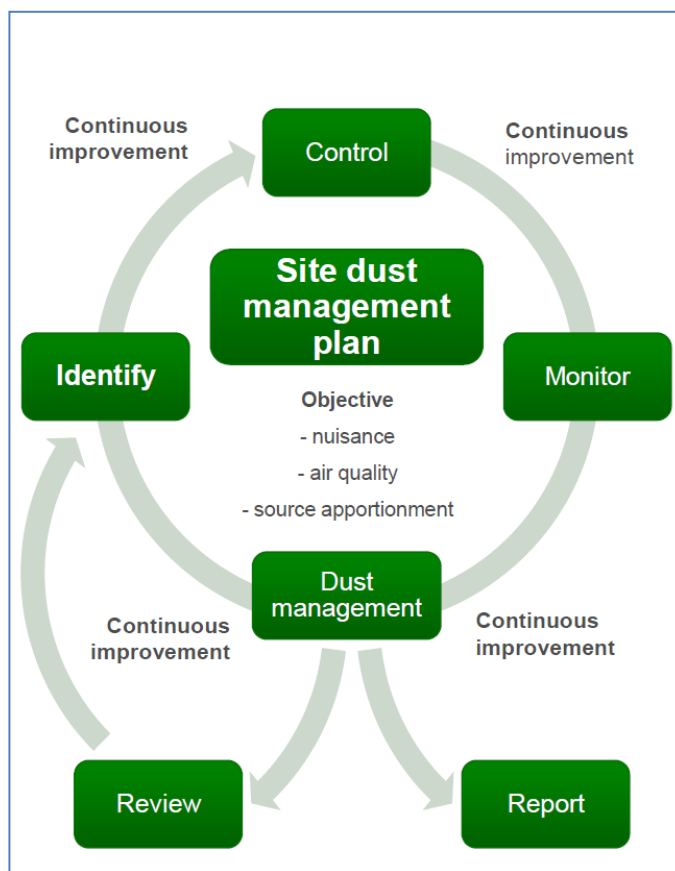


Figure 5-1
Dust Management Plan Process⁴

5.1 Responsibilities

There will be a trained Site Supervisor on site during working hours responsible for dust management and visual observations. The Site Supervisor will be responsible for ensuring effective dust control is achieved by good operational practises, including:

- Identifying and monitoring the intensity of activities with a high potential for dust generation;
- Monitoring weather conditions during periods of such activity;
- Planning and preparing for the implementation of contingency measures;
- Responding to potential and actual dust monitoring issues; and
- Ceasing operations if significant off-site impacts cannot be avoided.

⁴ Reproduced from - Report to The Mineral Industry Research Organisation (MIRO), *Good practice guide: control and measurement of nuisance dust and PM₁₀ from the extractive industries* AEAT/ENV/R3140 Issue 1 (February 2011)

Responsibilities will be allocated to specific personnel to ensure dust generation is avoided or effectively controlled, as presented in Table 5-1.

**Table 5-1
 Dust Management Responsibilities**

Actions	Responsibility
Monitoring weather forecasts and current wind directions on site	Site Supervisor
Routine visual observation monitoring	Site Supervisor
Coordination of application of water dust suppression	Site Supervisor
Completion of dust event forms	Site Supervisor
Activation of contingency action plans	Site Supervisor
Liaison with public and regulator	Site Supervisor
Coordinating reviews and updates of DEMP	Site Supervisor

5.2 Training

All personnel on site understand their responsibility to ensure the generation of dust is avoided, minimised and controlled. Each employee is aware of the importance of effective dust control and the most effective measures available to minimise such emissions from the various activities. Such training is provided as part of the induction process for all new employees.

Specific training is provided to:

- Operatives in use of the water suppression techniques; and
- All site personnel on the importance of reporting potential / actual dust emissions or the malfunctioning of dust control to the appropriate person.

Training also covers 'emergency preparation plans' to ensure rapid reactions to any failure of dust control.

5.3 Incident Reporting

Incidents of high dust levels will be reported to the Site Manager and recorded in the Site Log Book. Any incidents that have created significant dust issues off site will be reported to the EA as appropriate.

5.4 Dust Complaint Procedure

Complaints may be notified by a member of the public either directly to the site management or indirectly through the regulator. Complaints received directly by the site management will be recorded in the Site Log Book and reported to the regulator. The following details shall be recorded:

- Date, time and name of complainant (if provided);
- Nature of complaints;
- Locality of complaint;

- Summary of resulting investigations and actions taken; and
- Date at which the complainant was updated with the outcome / remedial actions undertaken, if required.

The objective of this response to complaints received is to investigate the incident and review the site practises and dust controls in place at the time of the event to allow for additional controls to be put in place, thus preventing a repeat of the incident. If necessary, the complainant(s) and the regulator would be informed of the findings of the investigation and any actions subsequently taken.

Investigations will include, but not be limited to the following:

- Visit by a member of Site Management to location of complainant to verify the issue (if complaint is made after the event this may not be possible);
- A review of site activities in operation at the time of the incident;
- A review of the dust monitoring results for the period of the incident, if applicable;
- For recurring events, the frequency of visual monitoring should be increased to a twice daily basis;
- A review of control measures and dust suppression in place at the time of the incident (i.e. application of water, frequency of road sweeper on internal haulage routes, drop heights during transfer);
- A review of the meteorological conditions at the time of the incident (i.e. recorded wind direction and wind speed recorded in the Site Log Book); and
- Reporting of findings (either in Appendix 04 pro-forma or in Site Log Book).

The escalation procedures if subsequent dust complaints are received are as follows:

- Initial Complaint - Initial/first time contact received – complaint investigated, and contingency actions taken by site management.
- Complaint level 1 - An interaction that has not been resolved to the satisfaction of the complainant or where frequent contact has been received from the public via the Regulators. Complaints investigated by Senior Management Team and remedial actions taken.
- Complaint level 2 - Unresolved complaint level 1 – this may involve support from Environmental Consultants to review, investigate, determine required actions and respond to the complaint.

5.5 Liaison with Community and Regulators

The Site Manager (or nominated representative) will act as liaison with the regulator and local community for issues relating to dust emissions off-site. Maintaining good communications with the local community will help prevent anxieties occurring.

If appropriate, key issues will be communicated between both sides, including but not limited to the following:

- Presentation of the monitoring scheme and the latest dust monitoring results;
- Update on the working scheme of the site and when / where future operations will be;
- Summary of the dust controls on site and any updates / improvements undertaken / planned;
- Provision of a contact for the site should any issues arise between the meetings; and
- Observe and alleviate any anxieties or complaints member of the public have experienced.

5.6 Record Keeping

Holystone keep records of all dust monitoring, dust contingency actions, investigations and complaints on site for a minimum period of 2 years; these will be made available to the regulator for examination on request.

5.7 DEMP Update and Review

This DEMP is an active, controlled document which forms part of the site management documentation. It shall be reviewed on an annual basis, as a minimum by Senior Site Management. Given that the document is a point of reference for daily operations, it shall be updated as required should any of the following situations occur:

- Significant changes are made to the plant or operational practises;
- The regulator specifically requests for the DEMP to be updated; or
- Following investigations into dust control, additional measures are adopted that are not contained within the document.

On review of site operations and the effectiveness of the DEMP, Senior Management are required to make any changes deemed appropriate to ensure dust emissions are kept to a minimum

6.0 Contingency Action Plan

A contingency action plan has been defined to react to situations whereby visual monitoring of dust indicates that a potential dust source is not being mitigated effectively, appropriate control measures are not in place or that an adverse impact has / may occur.

This includes incidents or accidents which would result in the loss of control of potential dust sources and have the potential to cause an unacceptable impact on the environment. The contingency action plan therefore includes both pro-active and re-active actions to events.

Contingency measures have been identified for the following scenarios, as presented in Table 6-1.

- Observed change in wind direction towards nearby receptors during activities close to site boundary;
- Visual monitoring records visible dust plumes across the site boundary in the direction / proximity to the off-site receptors.
- Malfunction in water suppression techniques rendering them in-effective;
- Malfunction of road sweeper rendering it in-effective;
- Receipt of a particularly dusty load;
- Complaints received from members of the public or neighbouring businesses, verified by visual monitoring on site; and
- Prolonged periods of hot weather, resulting in very dry ground and limited supply of water.

Table 6-1
Contingency Plans

Event	Change in wind direction (moderate-high winds above 11 knots (13 mph)) towards off-site receptors
Contingency Actions	The frequency of visual monitoring will increase to twice daily which will incorporate walkovers along boundary in question. Additional dust suppression will be implemented on high risk activities using more of the water cannon, reduction in drop heights or cessation of material handling / transfer. In the event dust is visually observed to be crossing the boundary with additional dust suppression in place, any activities will be relocated or ceased until more effective mitigation is in place.
Comment	The weather forecasts will be monitored. The Site Manager will be informed of actions taken and the event will be recorded in Site Log Book.
Event	Visual monitoring records dust plumes across site boundary in direction of offsite receptors
	The frequency of visual monitoring will increase to a minimum of twice daily, which will incorporate a walkover along the boundary in question. Wind direction will be determined.

	<p>The likely dust source will be determined, and additional dust suppression will be implemented e.g. Increased frequency of water suppression on internal haul roads and commence water suppression on material using water bowser and hose or mobile dust suppression sprays.</p> <p>If additional dust suppression not effective, activity operations will be relocated or ceased until dust can be satisfactorily controlled.</p>
Comment	<p>Water supply will be available for high-risk activities.</p> <p>The Site Manager will be informed of actions taken and the event will be recorded in Site Log Book.</p>
Event	Malfunction of water suppression techniques, rendering them ineffective
Contingency Actions	<p>Additional mobile dust suppression sprays will be hired in from a local hire company.</p> <p>Repairs will be undertaken using on-site spares if possible, or a technician will be called to repair at earliest opportunity.</p> <p>Manual methods will be undertaken to clean down vehicles.</p> <p>The frequency of visual monitoring will increase to twice daily, which will incorporate a walkover of the all the boundaries.</p> <p>Manual water techniques will be available on site and at the location of the dust source.</p>
Comment	<p>Essential spares will be retained on site.</p> <p>The Site Manager will be informed of actions taken and the event will be recorded in Site Log Book.</p>
Event	Malfunction of road sweeper rendering it in-effective
Contingency Actions	A local hire company will be contacted to provide a temporary road sweeper whilst the Holystone owned equipment is being repaired.
Comment	The Site Manager will be informed of actions taken and the event will be recorded in Site Log Book
Event	Receipt of a particularly dusty load
Contingency Actions	<p>Management will be notified, and receipt records will be updated.</p> <p>Loads will be investigated to ascertain whether they can be received without causing dust emissions to leave site. The Site Manager will review whether the use of additional mitigation e.g. use of water cannon during unloading for all loads will sufficiently reduce the risk of dust generation.</p> <p>Ultimately, if waste cannot be received without dust emissions causing an unacceptable impact, then the load will be rejected in accordance with site procedures.</p>

Comment	Details will be recorded in Site Log Book.
Event	Complaints received from members of the public or neighbouring businesses, verified by visual monitoring on site
Contingency Actions	<p>Management will be notified.</p> <p>Complaint reporting and investigation procedure will be undertaken, and appropriate contingency measures will be undertaken as detailed above.</p> <p>The frequency of visual monitoring will increase to twice daily and will focus on boundary locations in proximity to the location of complainants.</p> <p>If required, correspond with the EA to discuss the requirement of quantitative dust monitoring.</p> <p>Complaint escalation procedure:</p> <ul style="list-style-type: none"> • Initial Complaint - Initial/first time contact received – complaint investigated, and contingency actions taken by site management. • Complaint level 1 - An interaction that has not been resolved to the satisfaction of the complainant or where frequent contact has been received from the public via the Regulators. Complaints investigated by senior management team and remedial actions taken. • Complaint level 2 - Unresolved complaint level 1 – this may involve support from Environmental Consultants to review, investigate, determined required actions and respond to the complaint.
Comment	DEMP may require updating on basis of results of investigations.
Event	Prolonged periods of hot weather, resulting in very dry ground and limited supply of water
Contingency Actions	<p>Water suppressant techniques to be prioritised for operational activities.</p> <p>Road sweeping to be undertaken if large material accumulating on access road. However, be mindful this may resuspend the dust therefore not to be undertaken in windy conditions.</p> <p>If water supply on site has significantly reduced, consider importing water onto site.</p> <p>Increase daily monitoring to twice daily and if dust is being released in significant quantities likely to cause impact then cease activities.</p>
Comment	Inform Site Manager of actions taken and record in Site Log Book.

DRAWINGS

APPENDIX 01

Example Meteorological Condition Record Sheet

Date	Initials of Author	Predominant Wind Direction	Wind Speed (Beaufort scale)	Rainfall	Areas of Working	Additional Comments (On- and Off-site)
<i>11/02/17 Example</i>	<i>AB</i>	<i>W- NW</i>	<i>1-2 Light air – light breeze</i>	<i>Dry</i>	<i>Topsoil Stripping</i>	<i>Agricultural operations in field adjacent to Site active with visible dust emissions</i>

Beaufort Scale Definitions:

- 0 – Calm
- 1 – Light air
- 2 – Light breeze
- 3 – Gentle breeze
- 4 – Moderate breeze
- 5 – Fresh breeze
- 6 – Strong breeze
- 7 – Near gale
- 8 – Gale
- 9 – Strong gale
- 10–Storm

APPENDIX 02

Example Dust Event Form

Visual Monitoring and Dust Event Form	
Name of Author	
Description of Event ^(a)	
Date / Time / Period	
Activities taking place during time / period of event:	
Dust control employed at the time of the event:	
Summary of weather conditions leading up to and during the event:	
Details of Corrective Action:	
Notes:	
(a) E.g. complaint registered (name and address) or visible dust seen crossing site boundary during routine visual monitoring	

APPENDIX 03

Dust Complaint Form

Customer Details	
Customer Name	
Address	
Postcode	
Customer Details	Contact
Telephone	
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 EA and/or local authority	
Date feedback given	
Feedback given to public	
Date feedback given	

Customer Details	
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	

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