MOLD INVESTMENTS LIMITED

DUST MANAGEMENT PLAN

For Parrys Quarry Inert Landfill

Issue 01

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1.0 INTRODUCTION

The Inert Landfill will receive inert material consisting mainly of soil fractions. All input materials (inert waste) received at the site will be recorded in the site information system in accordance with the site permit.

The waste recovery facility includes the following:

- **Landfill**: Importation of inerts for Quarry restoration. (Tipping, grading processes).

The main site access / egress is concreted. See ESSD4 for the site layout

1.1 Site Description

The currently permitted landfill and quarry comprises an area some 120,000m2 (12 hectares), which has been worked formerly as a quarry for clay, from south to north where current quarrying is carried out.

The site includes perimeter bunding that have been created from overburden material during the quarrying activities and during the development of the site. The bunds will attenuate noise generated from site operations and will provide additional visual screening of the site operations.

1.2 Aims

The aim of the Dust Management Plan is to:

a) Minimise dust generation and migration from the site;
b) Ensure nuisance caused to nearby receptors from dust is kept to a minimum;
c) To develop a dust minimisation strategy that shall be implemented by the site management; and
d) Ensure that operations at the site have consideration for potential dust generation.
e) Inform continuing improvements to dust/ particulate control and site management at the site and update the Dust Management Plan detailing such improvements.

This plan is integral to the Company EMS, Accident Management plan and Safe Operation Procedures.

Table 1. Potential residential receptors at Parrys Quarry.
Locations are shown on Drawing ESSD 2

Property Reference or Name	Direction from site	Approximate Distance from Boundary
Parrys Cottages	SE	20m
Pottery Cottages	SE	200m
Properties off Smithy Lane	SE	400m
Properties off A494	SE	550m
Unnamed property accessed via the service station	E	55m
The Box	N	80m
Ewloe House	N	120m
Pinfold House	NW	130m
Old Farm Cottages	N	360m
Penfold Cottage	NW	400m
Gell Farm	N	300m
Oak Farm	S	350m
Ewloe Green Farm	E	750m
Brook Park Farm	N	500m

2.0 DUST CONTROL MEASURES

The following section outlines the control measures that will be undertaken on site to mitigate dust emissions from the identified sources of generation.

2.1 Dust Generating Activities

Potential dust emissions (not exhaustive) from the site may be generated from activities associated with:

- Vehicle movements in / around /out of the site. Tyres and exhausts may cause dust – keep vehicle speeds down, keep roads clear of mud, keep roads damp during dusty conditions;
- Loading and tipping operations – During this process dust may be given off through impact, therefore it is encouraged for tipping heights to be kept to a minimum. Mobile apps may be used to also suppress dust generation;
- Handling and movement of stockpiles. Vehicles moving stockpiles will not over fill buckets / body of dumper, tipping heights will be kept low when emptying bucket;
- Wind blowing across stockpiled materials (soil, crushed brick/concrete). In some conditions it may be necessary to cover the stockpile with plastic sheeting should the material be required to be stored for a long period of time.
- Road sweeping may generate dust though the exhaust and brushes, this can be controlled by sufficient water being deployed from the spray bars.

In addition to the above, dust generation may be significant during periods of strong winds and dry weather.

Dust generation can also be attributed to other external influences;

- Quarry - clay extraction
- Quarry – opencast backfilling operations
- Adjacent quarrying activities
- Road vehicles

2.2 Means of Prevention

In order to minimise potential generation of dust from the site, the following preventative control measures using best practicable means, shall be implemented by the site manager for the separately identified potential dust generating activities.

2.2.1 Vehicle Movements In/Out of Site

A) All haul and access roads within the site and at the site entrance shall be kept free from mud and debris at all times by manual clearing (Brooms, spades) and road sweeping. The site has a wheel wash and tractor and bowser. Mud and debris on access and haul roads shall be monitored daily by the site manager which includes reporting visual observations in the Daily Site Log as per the EMS and cleaned when required. If this proves to be insufficient, a road sweeper will need to be provided. The public highway is also monitored for debris leaving the site. A roadsweeper can also be hired on an ad hoc basis. The concrete site haul road is over 50 metres in linear length and concreted for the full length into the site.

B) The site management shall ensure adequate measures are used throughout the site to dampen surfaces (application of water through hoses / bowser / mobile apps) during periods of dry weather. A water storage lagoon area is located on site shown on Drawing ESSD5 and a water bowser is on site permanently

C) All vehicles and plant will be checked by the driver / operator to ensure that deposits of mud are not carried outside the site (signs of this will be visible on site roads).

D) A site speed limit of 10 mph will be enforced for all vehicles to minimise the potential entrainment of dust into the atmosphere. All site roads are concrete.

2.2.2 Loading and Tipping Operations

E) All wastes handled on site shall be done so in a controlled manner, with consideration given to the potential for dust generation at all times.

F) Loading and tipping heights will be minimised to avoid uncontrolled dust emissions. The maximum drop height for HGV,s is set at 1.054-1.354 metres as per Road Traffic Regulations and specification variation design between different manufactures

G) All vehicles will be sheeted when entering and leaving the site.

2.2.3 Handling and Movement of Stockpiles

H) The site manager will consider weather conditions at the site on a daily basis and shall have regard for high wind speeds. Wind speed and direction shall be measured on the site. A weather station is provided at the site office, see ESSD 4.All records are stored w either digitally or recorded on the Daily Log Site Diary by the TCM.

I) Where wind speeds are measured which are considered excessive (where visible dust clouds can be seen moving to the perimeter of the site), the site manager shall ensure that the movement of materials on site is controlled (reduced speeds / stopped/ addition suppression applied) until wind speeds reduce significantly. Locations are presented at Drawing ESSD 12.

J) The site management shall ensure appropriate measures are used throughout the site to dampen surfaces (application of water through hoses / bowser / mobile apps) during periods of dry weather using water from the storage lagoon and the water bowser which is on site permanantly. Such surfaces shall include stockpiles where appropriate.

2.2.4 Wind Blowing Across Stockpiles

K) Where necessary and during periods of dry conditions, water will be deployed to dampen material (use of binders will also be considered, along with sheeting) during stockpiling and made available as per J).

L) Disturbance of the surface of the stockpiles will be minimised to maintain an intact surface crust. Some stockpiles are in concrete block bays which act as windbreaks, stock pile heights are governed by planning.

2.2.5 Screening of Wastes

M) All inert handling/loading/screening operations on site shall be monitored by the site management, and if necessary appropriate measures shall be implemented to prevent dust generation. This will include use of dust suppression fitted to the crushers and screens covered under Part B permits and damping of stockpiles when required using the water bowser.

N) Where dust suppression systems are incorporated into plant/machinery, specifically the crusher and screeners covered under a Part B Permit, they should be used to minimise dust generation where appropriate, and maintained in workable condition at all times.

O) Operations around the operational machinery will be carried out in a controlled manner to prevent fall out of dust (Sprays around hoppers, nose bags on end of conveyor).

P) Screening operations will take place within the designated area and materials wetted during the process with in built spray systems when required. Stockpiles will be wetted if they could lead to dust generation.

2.2.6 Site Management

Q) The site manager shall ensure that a visual inspection of the activities is carried out on a daily basis and recorded in the Daily Site Log site diary during operational hours to assess the extent of dust being generated. In circumstances where visual dust inspection identifies a significant dust source, the site manager shall adopt appropriate dust suppression measures to prevent or minimise the dust being generated in accordance with this Dust Management Plan.

R) Dust suppression systems (mobile apps, plant suppression, Bowser dampening roads) and equipment used on site shall be maintained in good working order at all times.

S) Maintenance or repairs of dust suppression equipment and road / yard surfaces shall be carried out as soon as reasonably practicable and recorded within the relevant maintenance log.

T) Site operating personnel, including plant operators, will be supplied with dust masks, whenever necessary, and all plant cabs shall be maintained such that as far as reasonably practical the ingress of dust is minimised.

3.0 MANAGEMENT AND REVIEW PROCEDURE

The site manager shall be responsible for the control and management of dust at the site. Site management shall ensure that all personnel operating on site are adequately trained to implement the dust control measures.

If the control measures stated are implemented at the site then dust generation should be kept to a minimum.

In the event that dust nuisance is caused to a nearby sensitive receptor, and a complaint is received by the site management, the 'Dust Action Plan' will be implemented.

4.0 DUST ACTION PLAN

If an activity at the site results in unacceptable levels of dust being generated, then that activity shall be closely monitored until sufficient measures using best practicable means are adopted which prevent or minimises the dust nuisance. The implementation of such measures will be the responsibility of the site manager. Conditions which may require the use of dust suppression at the site include the following:

- Dry surfaces where mud or debris is present;
- Any part of the site where movement of vehicles generate dust;
- Any part of the site where dust may be generated by wind;
- Stockpiles without cover;
- Screening activities – in the hopper, end of conveyors;
- Material handling operations; and
- Any other site activity which results in dust generation.

The site manager will be responsible for monitoring dust levels associated with the conditions and activities identified above. The site manager shall implement adequate dust suppression measures to control dust from any activity which causes dust nuisance.

4.1 Dust Monitoring

Upon receipt of a dust complaint the site manager shall be immediately notified. The site manager will record the details of the complaint on a Dust Complaints Form (see Annex A). This will trigger a levelled response;

- Level 1 - instigate investigation and possible monitoring dependent upon findings
- Level 2 - improvement plan, include but not limited to improving working methods, mitigation measures, equipment and dust suppression methods
- Level 3 – Re-Evaluate if the improvement plan has worked, including effects of weather conditions and infrastructure
- Level 4 – Compliance confirmed.

4.2 Review of Techniques

In circumstances where the complaint is related to a previous period of working, the site manager shall meet with the Senior Manager, Health Safety and Environment Manager and site staff to establish the activities carried out during the previous working period. The activity identified as the potential dust source will then be monitored by the site manager. The manager will ensure that a review of dust suppression measures is carried out for any activity suspected of causing a dust complaint. Dust suppression measures will be adopted for any activity suspected as the cause of a dust complaint.

Where the site walkover by the site manager is able to identify the dust nuisance which caused complaint, appropriate dust suppression measures are to be adopted. The details of the dust source and the control measures adopted shall be recorded on the Dust Complaints Form.

4.3 Monitoring Points

If the dust source that led to a complaint cannot be established the site manager will arrange for dust monitoring to be undertaken (making reference to Control and Monitoring emissions for your environmental permit Nov 2018).

Any such programme will conform to the requirements and recommendations in '*Technical Guidance Document M17: Monitoring of Particulate Matter in Ambient Air around Waste Facilities*' of the Environment Agency.

Any equipment so deployed is to be of proprietary manufacture and/or supply and operated in accordance with user's instructions. Such equipment will most probably comprise deposition gauges and gravimetric analysis: these would be deployed at appropriate locations at the site boundary and at or near the façade of any built receptors. All such monitoring results are to be recorded in writing.

Bioaerosols will not be a problem at the site since wastes are inert, or non-hazardous with low organic content and material such as paper and cardboard will have been removed from any general waste at the transfer station prior to deposition in the landfill.

Thus, there is not to be any monitoring proposed for bioaerosols.

The limit set for dust values at the identified or targeted receptor monitoring points using frisbee deposition gauges is are set out in Table DM1 below;

Table DM1: Dust Monitoring Control Levels

Location	Limit mg/m2/day
Targeted receptor	200

The dust monitoring sample will be collected after the monitoring period and sent for independent analysis. The dust monitoring results and findings shall be reported to the senior manager.

Details of dust control and mitigation measures will be reported by the senior manager to the NRW. The nature of the complaint, the findings of any investigation, and mitigation measures adopted, will be recoded on the Dust Complaint Form, and then signed by the site manager. If the location of the complaint is known, we may wish to inform them of our findings and explain what we are doing on site. In the past the Company has engaged with the parish council and residents, however this has not been requested to continue but we will re- instigate if the need arises.

5.0 CONCLUSION

The inert landfilling on site should be a minimal issue with regards to dust as control measures will be used. The site is well screened and is set in a remote area.

If the control measures stated are implemented at the site, it is considered that dust generation should be kept to a minimum and that nuisance to nearby receptors should be avoided in normal circumstances.

In the event that dust nuisance is caused to a nearby sensitive receptor, and a complaint is received regarding dust migrating from the site, the dust action plan shall be implemented. This may require a period of monitoring to be implemented to inform operations and establish dust emissions levels with targets for improvements.

APPENDIX A - DUST COMPLAINTS FORM

DUST COMPLAINTS FORM		
Complaint Received From:	**Date of Event**	
	Time of Event **Direction from Site**	
Investigation		
Wind Direction During Event	**Complaint Substantiated**	
	YES	NO
Activities at Time of Event	**Excessive Dust Emissions Identified**	
	YES	NO
Actions/Mitigation Measures		
Measures Implemented Date		
Feedback to EA (Date)		
Investigation Complete (Date)		
Review		
Signed Off **(Site Manager)**		

Appendix C Site Diary

SITE DIARY ELECTRONIC

Inspection of:	RESULT OF INSPECTION		INITIALS
FENCES & GATES	□ O.K	□ NOT O.K (note reasons & actions required below)	
ROAD SURFACE	□ O.K	□ NOT O.K (note reasons & actions required below)	
DUST SUPPRESSION	□ O.K	□ NOT O.K (note reasons & actions required below)	
HOUSEKEEPING	□ O.K	□ NOT O.K (note reasons & actions required below)	
DUST CONTROL	□ O.K	□ NOT O.K (note reasons & actions required below)	

INFORMATION TO BE RECORDED			
TCM attendance at site	**Name**:	**Time on**	**Time off**
	Name:	**Time on**	**Time off**

SAMPLING / MONITORING EXERCISES	RESULTS OR REFERENCE TO RESULTS
Wind Direction	

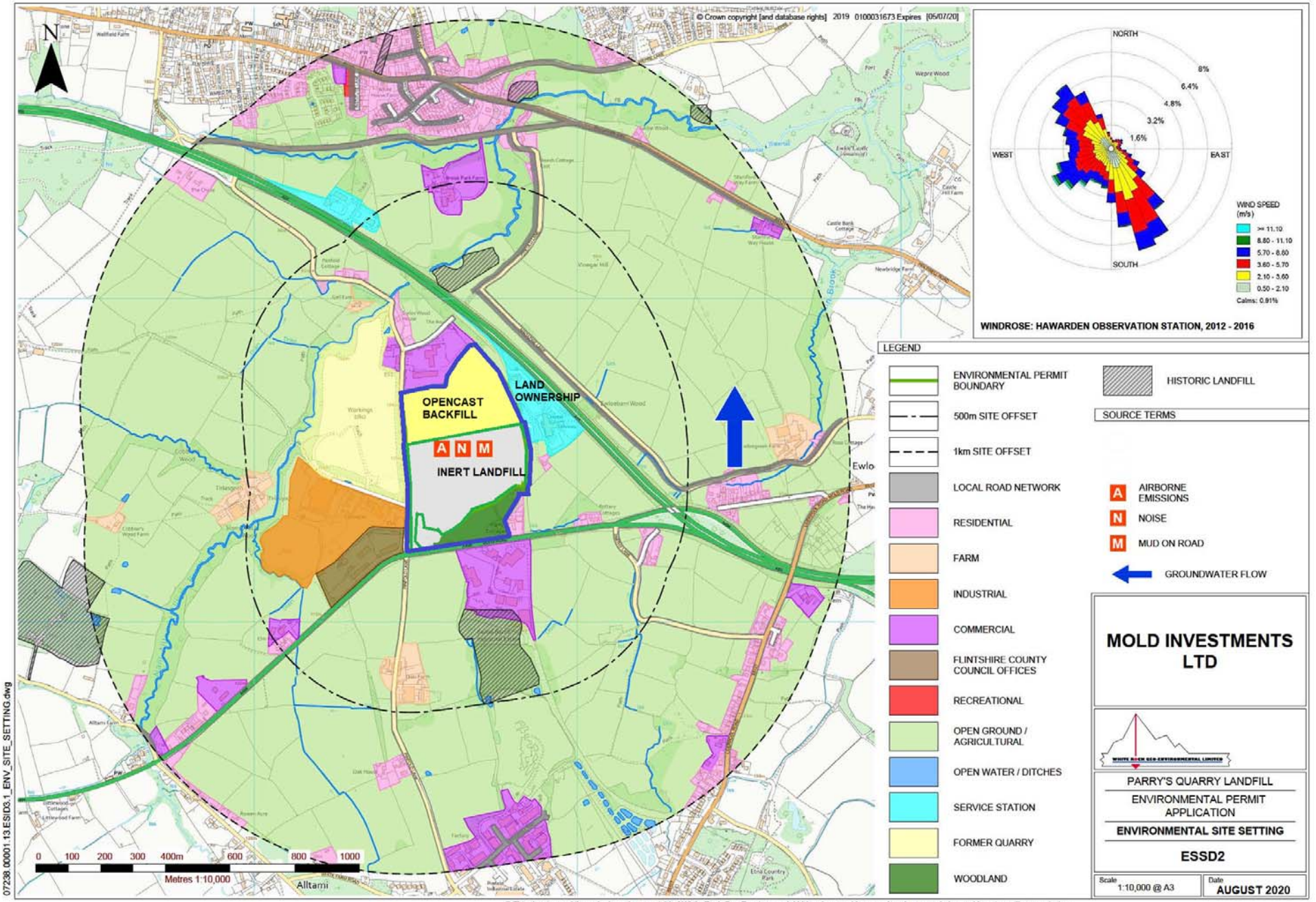
Maintenance of Plant and Equipment	**Comments**	
Road Sweeper Visit	**□ Yes**	**□ No**

E.A Visit To Site. □ Yes □ No	**Actions Required □ Yes □ No**
E.A Officer: Name **Signature**	

Incidents / Events / Complaints / Non-Conformances /Actions Required
(N.B. Give a reference to any reports external to the diary)

Use overleaf if further space is required

SIGNATURE OF TCM (AFTER COMPLETION AND REVIEW)……



NORTH

Pond

Pinfold House

96.0m

Altoni House

Workshop

El Sub Sta

103.6m

Pinfold Lane

Quarry (Dis)

Quarry (Clay)

110.6m

Regraded quarry backfill

Mineral Processing

Quarry (Clay)

Phase 1

Weighbridge

Inert Waste Treatment

Conveyor

El Sub Sta

Entrance

Existing Entrance

Posts

Council Depot

Shaft (disused)

Offices

118.2m

116.7m

114.6m

EXISTING ENVIRONMENTALLY SENSITIVE AREA

GCN Area

Drain

Track

Parry's Cottages

Issues

MOLD ROAD

Hotel

Filling Station

FF

El Sub Sta

Mast

Magazine Lane

Pinfold Lane

2016-A
2016-B
2016-C
2016-D
2016-E
2016-F
2016-G
2016-G1
2016-G2
2016-G3
2016-G4
2016-G5
2016-G6
2016-G7
2016-G8
2016-G9
2016-G10
2016-G11
2016-G12
2016-G13
2016-G14
2016-H
2016-I
2016-J
2016-K

Legend

- Current Permit
- Proposed Permit Boundary
- Excavation contours

Client: **Mold Investments Ltd**

Project: **Parrys Quarry**

Title: Site Layout and Waste Deposition

CAD Ref:	Version:	Drawn by:	Scale:	Date:
EL/MQBH/1	1	ARM		August 2020

WHITE ROCK GEO-ENVIRONMENTAL LIMITED

Drawing: **ESSD4**