

Project No: 311465

## Dust & Emissions Management Plan (DEMP)

Prepared for:

### Brockley Wood Ventures Ltd

Copdock Enterprise Park  
Old London Road  
Copdock, Suffolk  
England  
IP8 3JW

#### Contents Amendment Record

This report has been issued and amended as follows:

Revision	Description	Date	Signed
0.1	DRAFT	June 2023	Graeme Kennett



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## Acknowledgement

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This report has been prepared for the sole and exclusive use of Brockley Wood Ventures Ltd (BWV) in accordance with the scope of work presented in Mabbett & Associates Ltd (Mabbett) Letter Agreement (311465/LA/GK), dated 02 June 2023. This report is based on information and data collected by Mabbett. Should any of the information be incorrect, incomplete or subject to change, Mabbett may wish to revise the report accordingly.

This report has been prepared by the following Mabbett personnel:

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This report has been reviewed and approved by the following Mabbett personnel:

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Project Manager, Qualifications  
Job Title

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## Section 1.0: Issue and Revision Record

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Upon permit issue the following table will be used to record version and revision history.

Version	Date	Originator	Checked by	Approved by	Amendments
1		GK	DC	MC	

## Section 2.0: Introduction

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This Dust & Emissions Management Plan (DEMP) has been produced to accompany the required bespoke permit application for the IWRP at

BROCKLEY WOOD WASTER TRANSFER STATION

Belstead

Suffolk

IP8 4JW

After permit issue it will be adopted into the management system to ensure that operations do not impact significantly upon the environment.

It has been produced in accordance with the EA Dust & Particulate Emission Management Plan Guidance 'Control and Monitor emissions for your environmental permit' (published 1<sup>st</sup> February 2016) and version 10 (October 2018) of the Dust & Emission Management Plan (DEMP) template, and relates to waste materials accepted, stored and treated at the site which have the potential to produce fugitive emissions. It was produced by the Environment Agency's Waste and Air Quality Working Group

The DEMP forms part of the Environmental Management System (EMS) that Brockley Wood Ventures Ltd operates to ensure that their operations meet the legislative requirements and operate to high environmental standards. It is a living document subject to on-going review, with updating as appropriate, with its intended audience being the staff at the site who's working practices can affect the emissions from the site.

### 2.1 Site background

The proposed IWRP will remain for the life of the quarry and will be removed at the end of site operations, including site restoration. The IWRP will process 'virgin' aggregates and process suitable incoming inert materials (<250,00tpa) for, either;

- Use in the restoration operation
- Production in the Aggregate Quality Protocol (Resource Framework)
- Despatched from site as a waste for use under a suitable exemption/waste management operation

Related activities taking place at the entire site are;

- Aggregate extraction (permitted under the Mining Waste Directive)
- Concrete production (permitted by the Local Authority under Section 3.1 B(b) of the Environmental Permitting Regulations 2016)
- Site restoration

The site is located within Babergh District and Suffolk County Council boundaries.

The site is not located within an Air Quality Management Area (AQMA). One AQMA has been declared and is described as follows:

*"An area encompassing part of Cross Street, Sudbury"*

The site is located approximately 28.4km east of the AQMA and it is considered unlikely the proposals would cause air quality impacts over this distance. As such, the AQMA has not been considered further in the context of the assessment.

The proposals have the potential to cause air quality impacts because of fugitive dust emissions associated with the operation of the scheme, as well as road traffic exhaust emissions from vehicles travelling to and from the site. An Air Quality EIA was therefore undertaken to determine baseline conditions and consider potential effects because of the proposals. This is detailed in the Air Quality Environmental Impact Assessment produced by Redmore Environmental, the conclusions of which are used in this DEMP.

Site activities and infrastructure have been planned to ensure that emissions are reduced as far as possible, compliance with this DEMP ensures that the impact continuous to be insignificant. This DEMP will be a part of the Environment Management System (EMS) for the site and all staff that have an impact on permit compliance will be made aware of it through regular toolbox talks.

The extraction of sand and gravel is not a prescribed process<sup>1</sup>. Crushing, grinding, screening and grading of wet material is not normally likely to result in the release into air of particulate matter except in a quantity which is trivial.

## 2.2 Sensitive ecological receptors

Table 1 Identified sensitive ecological receptors

Receptor	Type	Direction	Distance (m)
Old Hall Wood CWS	Ecological	E	0
Brockley Wood CWS	Ecological	E	0
Bentley Long Wood [Ancient Woodland]	Ecological	SE	125

Table 2 identified sensitive receptors

Receptor	Type	Direction	Distance (m)
Tudor House	Residential	W	625
Red House	Residential	NW	700
Hare Cottage	Residential	N	750
Crope Hall	Residential	ENE	800
Charity Farm	Residential	NE	105
Bentley Old Hall	Residential	ESE	375
London Road	Infrastructure	ENE	800
A12	Infrastructure	E	300

<sup>1</sup> Process Guidance Note 3/08(12) Statutory guidance for quarry processes (Sept 2012)

Table 3 Sources of dust and/or other emissions

Company	Address	Business type	Distance (m)
Brockley Wood Ventures	BW Quarry	Mineral extraction	<50
Brockley Wood Ventures	BW Quarry	Concrete manufacture	0

## Section 3.0: Operations at the IWRF

### 3.1 Waste deliveries to the site

Inert waste is delivered to the site by;

- 32t LGV tippers
- Hi Ab LGV (grab lorry)
- Skip wagons (hook and chain and ro-ro)
- Dump trucks from the adjacent quarry

All LGVs operated by the operator will have a Euro 6 emission rating. It is likely that 3<sup>rd</sup> party hauliers will be at least Euro 5 emission rating.

All 8-wheel tipper vehicles will be fitted with a fly sheet and 44t articulated LGVs fitted with an easy sheet.

Skip wagons/grab lorries will also be sheeted.

### 3.2 Overview of waste processing, dust and other emission controls

Figure 1: Site layout

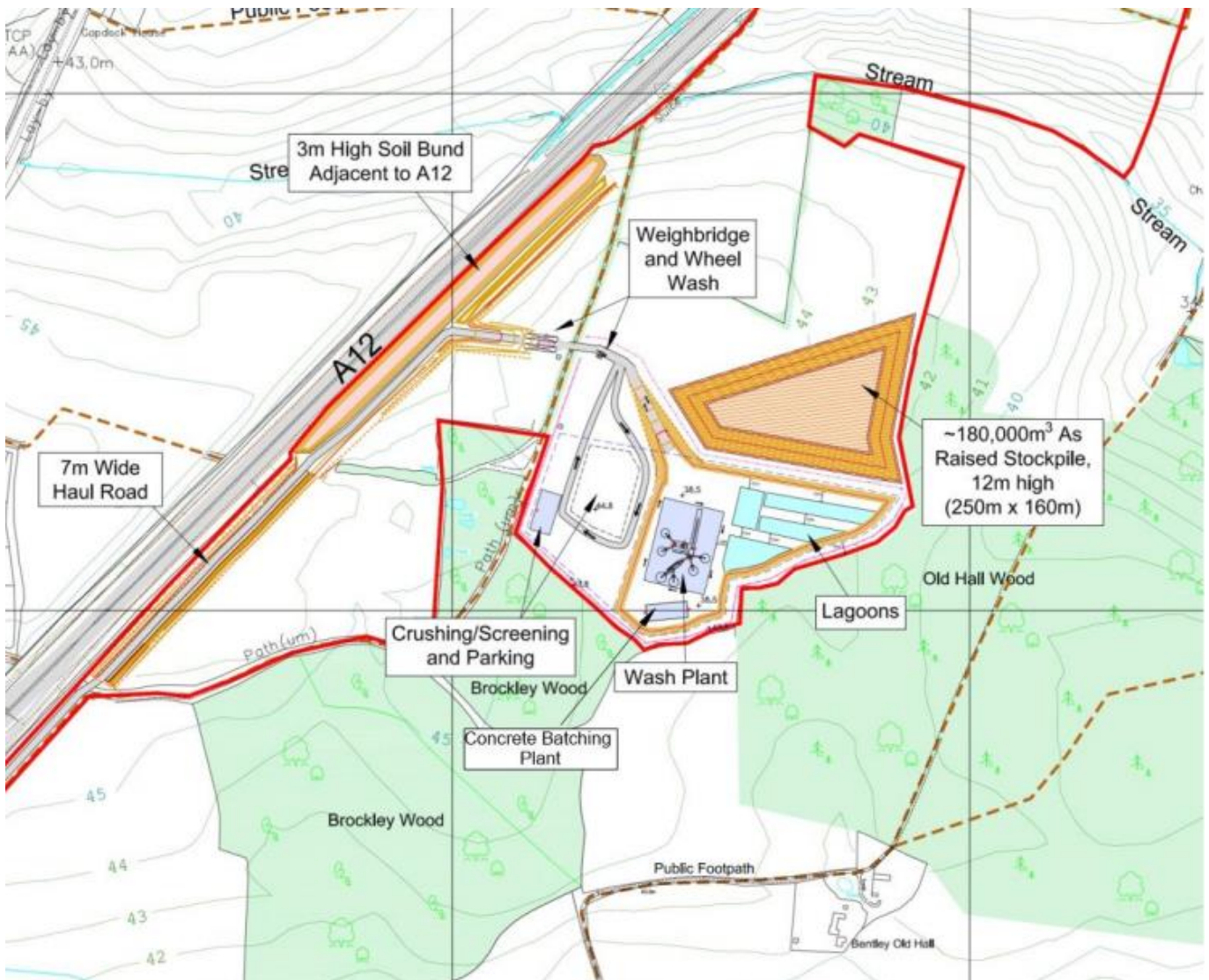




Table 3: Typical waste types brought to the Brockley Wood Inert Waste Recycling Facility

EWC	Description	t/wk	Destination within facility					Process
			Crushing	Screening	Washing	Storage	Storage	
Total								

### 3.3 Mobile plant and equipment

Nitrogen Dioxide (N<sub>2</sub>O) gas is a by-product of internal combustion engines and the site uses several items of plant with internal combustion engines. The following table lists the type, make and emission ratings for the mobile plant and equipment used on site:

Description	Make	Model	Emission rating
Bulldozer	Komatsu	D65PX-18	Tier IV
360° Excavator	Komatsu	PC210	Stage V
Tractor	Case	MXM190	
Dumper truck (x2)	Volvo	A30G	Stage V
Telehandler	JCB	535-95	Stage V
Road sweeper	tbc		

All machines for use at the site are leased and all plant is serviced according to manufacturer service intervals and requirements by manufacturer supported dealerships. The replacement strategy has yet to be

All machines are operated on a leased basis and are serviced on a regular basis as required by the manufacturer. Failure to adhere to the recommended service intervals invalidates the manufacturer 5-year warranty.

Current equipment complies with 'interim tier 4' as a minimum.

When due for replacement, machines are replaced by equipment that has the lowest emission standard possible at the time of the contractual arrangement.

In 2011, it became a requirement that all fuel used in off-highway mobile machinery must comply with EU Ultra Low Sulphur Diesel (ULSD) regulations and must therefore contain no more than 10mg of sulphur per kg of fuel.

Fuel use is monitored to reduce costs. All machines are switched off when not in use and is not left idling for long periods of time.

## **Section 4.0: Dust and Particulate (PM<sub>10</sub>) Management**

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### **4.1 Responsibility for implementation of the DEMP**

Brockley Wood Ventures Compliance Manager (CM) is responsible for the DEMP and to ensure that it is used. The Site Manager (SM) is the deputy in this case as they are perfectly positioned with their attendance at the site to continually monitor and enforce the DEMP requirements.

It is envisaged that the DEMP will be reviewed on a bi-annual basis as a minimum. However, should this frequency be inadequate it will be reviewed annually. Due to the nature and location of the operation, along with the control measures in place, it is not thought that this frequency will need to be reduced further. Operational experience further confirms that the process can continue without receiving complaints.

The CM is competent to implement and review the DEMP due to their experience in Implementing other Quality Management Systems.

Operational staff training is delivered via toolbox talks and there is a direct line of contact between operatives and the CM should any issues arise, the CM has a direct line of communication to the Board.

### **4.2 Sources and control of fugitive dust/particulate emissions**

Measures to control emissions have been considered in the context of the operational setting and the operations that are undertaken. Identified operations have the potential to produce and release particulates at the site are described below;

- i. Vehicles entering/leaving site with mud on wheels
- ii. Vehicles and plant moving around the site kicking up dust
- iii. Material falling from vehicles
- iv. Discharging of waste materials
- v. Site surfaces
- vi. Loading materials
- vii. Particulate emissions from the exhaust of vehicles/plant/machinery on site.
- viii. Material crushing
- ix. Material screening
- x. Stockpiling materials
- xi. Wind-whip from stockpiles

The pathway for most of the releases is atmospheric dispersion; either primary, from the dust/particulate source (e.g., crushing and/or screening of materials) or secondary, where dust is stirred up by vehicle movements.

The IWRP is located centrally within the sand and gravel extraction facility, so operations are well matched to the immediate surroundings.

Table 4: Source-Pathway-Receptor routes


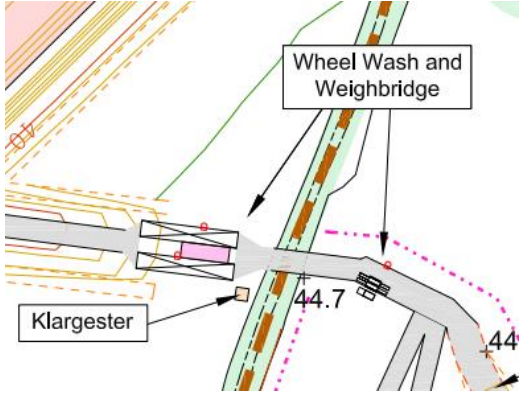
Source	Pathway	Receptor	Impact	Control
Vehicles entering or leaving site with debris on wheels	Tracking dust on vehicle tyres and/or		Visual soiling, also consequent resuspension as airborne particulates	Vehicles unlikely to have come in to contact with mud prior to accessing the site. Wheel wash and long-haul road ensures no debris is deposited on the public highway.
Vehicles and plant moving around the site kicking up dust	Atmospheric dispersion		Airborne particles	10mph site speed limit at all times. Road sweeper employed to remove any surface dust. Road can be wetted if required.
Material falling from vehicles	Material falling from vehicle bodies		Visual soiling, also consequent resuspension as airborne particulates	Sides/lips of tipping bodies swept before departure to remove any accumulated materials.
Discharging of waste materials	Atmospheric dispersion		Airborne particles	Accepted waste materials are generally not inherently dusty due to moisture content. Should a dusty load be accepted that has the potential to elevate particulate emissions, the tipper will be re-orientated to reduce the potential for dust emissions.
Site surfaces	Contamination of trafficked areas.		Visual soiling, also consequent resuspension as airborne particulates	Site surfaces that are used by traffic will be regularly cleaned along with the measures described above.
Loading materials	Atmospheric dispersion		Airborne particles	The finer processed materials have a limited potential to generate airborne particles during loading. Shovel buckets will be kept as low as possible to the ground to reduce spillage.

				Loading shovel dump heights will be kept as low as possible. Material will be tipped in to trailers in a controlled manner to reduce the potential for particulates to be propelled from the trailer.
Particulate emissions from machinery exhausts	Atmospheric dispersion		Airborne particles	Anti-idling campaign in place. Low emission plant always used.
Material crushing	Atmospheric dispersion		Airborne particles	Warrior 1800 and Terex Finlay C-1554 fitted with dust suppression equipment. Material crushed using a crusher on 360° presents a minimal risk of releasing dust.
Material screening	Atmospheric dispersion		Airborne particles	Warrior 1800 and Doppstadt SM620 fitted with dust suppression equipment.
Stockpiling materials	Atmospheric dispersion		Airborne particles	The finer processed materials have a limited potential to generate airborne particles during loading. Loading shovel dump heights will be kept as low as possible. Material will be tipped on to stockpiles in a controlled manner to reduce the potential for particulates to be propelled from the trailer. Shovel buckets will be kept as low as possible to the ground to reduce spillage.
Wind-whip from stockpiles	Atmospheric dispersion		Airborne particles	During hot, dry and windy conditions stockpiles will be sprayed with water. Stockpiles may be capped if necessary.

Table 5: Measures that will be used to control dust/particulates (PM<sub>10</sub>) and other emissions

Abatement measure	Description/effect	Overall consideration and implementation	Trigger for implementation
<b>Preventative measures</b>			
Site layout in relation to receptors	Crushing and screening activities that emit dust particles are located relatively centrally in the quarry setting at the maximum potential distance from down-wind receptors without impacting any upwind receptors.	<p>Dust control has been considered by the operator through good process and site design, as well as identification of good housekeeping procedures.</p> <p>The control methods to be employed at the proposed mineral extraction site are based on:</p> <ul style="list-style-type: none"> <li>• Good operating and management practices to avoid emissions arising from activities;</li> <li>• Good process design to minimise emissions;</li> <li>• Abatement or control to reduce dust emissions; and,</li> <li>• Disrupting the emission pathway to sensitive receptors</li> </ul>	<p>Wind strength and/or direction cannot be relied upon as a preventative measure. As such all processing equipment is fitted with dust suppression equipment to prevent emissions.</p> <p>There will be a Standard Operating Procedure (SOP) and training of staff with respect to correct operation of the equipment.</p> <p>This lessens the likelihood of dust from the operations causing a nuisance to others.</p> <p>However, the objective is to reduce dust at source and not to let dust leave the site boundary.</p>
Site speed limit, 'no	Reducing vehicle movements and idling will reduce	Straightforward to implement as part	If significant volumes of dust are noted

<p>idling' policy and minimisation of vehicle movements on site</p>	<p>emissions from vehicles. Procurement policy to only purchase clean burn road vehicles and non-road going mobile machinery. Enforcement of the 10mph speed limit will limit re-suspension of particulates by vehicle wheels.</p>	<p>of good practice. Measures are identified clearly in the site management system. 10 mph speed limit is identified clearly in the site management system and on site and implemented as appropriate measures</p>	<p>during routine visual monitoring the following actions will be taken:</p> <ul style="list-style-type: none"> <li>○ Observations undertaken to ensure that vehicles are obeying speed limits; and,</li> <li>○ Additional road sweeping.</li> </ul>
<p>Minimising drop heights for waste.</p>	<p>Minimising the height at which waste is handled will reduce the distance over which debris, dust and particulates could be blown and dispersed by winds.</p>	<p>Measure will be in place at the commencement of operations and will form a part of toolbox talks.  These steps are identified clearly in the site management system and implemented as appropriate measures.</p>	<p>Control measure will always be in place during site operations and will form a part of toolbox talks on an ongoing basis.</p>
<p>Ceasing operation during high winds and/or prevailing wind direction</p>	<p>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.</p>	<p>The Site Manager will monitor weather forecasts and ensure the necessary on-site precautionary measures are in place to prevent emissions.  All personnel employed on site will undertake visual monitoring for dust throughout the working day. Any observed problems will be reported to the Site Manager who will investigate the cause and implement any necessary remedial action.</p>	<p>If significant volumes of dust are noted during routine visual monitoring the following action will be taken:</p> <ul style="list-style-type: none"> <li>○ All dust suppression equipment is operating correctly</li> <li>○ Action taken to ensure that vehicles are obeying speed limits; and,</li> <li>○ Additional road sweeping.</li> </ul>

<p>Wheel wash installed (Ecowash Extra)</p>	<p>Provides a high-pressure wash of vehicle wheels and lower parts (including under body) using a series of jet sprays.</p>	<p>In two-wheel revolutions, the targeted spray configuration effectively cleans the tyre through 11 strategically placed delivery pipes, spraying narrow fans of water at up to 5 bar. Staggered positioning of nozzles minimises striping, and the spray pattern combined with galvanised high side screens retain water in the system.</p>  <p>Positioned before the weighbridge so vehicles must travel through before they exit. Automatic entry and exit sensors.</p>	<p>Wheelwash to be installed as a part of infrastructure construction.</p> 
<p>Easy to clean concrete impermeable surfaces</p>	<p>Creating an easy to clean impermeable surface, using materials such as concrete as opposed to unmade (rocky or muddy) ground within the site and on-site haul roads. This should reduce the amount of dust and particulate generated at ground level by vehicles and site activities. Enforcement of the 10mph speed limit will limit re-suspension of particulates by vehicle</p>	<p>Provision of a two-way metalled road between the A12 and operational area;</p> <ul style="list-style-type: none"> <li>• Haul roads to have a consolidated but permeable surface;</li> <li>• All active site roads will have</li> </ul>	<p>Waste treatment areas will have an impermeable surface so any water can be captured and either used within the washing process or for dust suppression. Roadways in normal use and any other area where there is regular movement of vehicles have a consolidated surface</p>



	wheels.	<p>an imposed speed limit of 10mph;</p> <ul style="list-style-type: none"> <li>• Main access roads to be swept with a mechanical road sweeper as and when conditions dictate;</li> </ul>	capable of being cleaned. They are kept clean to prevent or minimise dust emissions and kept in good repair
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 volumes should reduce the surface area over which particulates can be mobilised.	This abatement measure is not likely to have a significant impact on dust emission levels.	<p>It is not always possible to minimise storage heights due to the ongoing extraction and site phasing plan as this has the related impact of increasing the footprint of the stockpile.</p> <p>Due to the nature of the inert recycling sector, large volumes of material are often treated on a campaign basis so large volumes of material are present on site.</p> <p>High volume machines ensure that this is processed as swiftly as possible.</p>
Reduction in operations (waste throughput, vehicle size, operational hours)	Reducing the amount of activity on site, including no tipping, crushing, or screening of high risk loads during windy weather as well as associated traffic movements should result in reduced emissions and re-suspension of dust and particulates from a site.	<p>The site has procedures in place to reduce activity on site if required through complaints or known issues, or adverse weather conditions.</p> <p>This includes a weather station to monitor windy weather to modify working procedures if required.</p>	<p>All crushing and screening equipment is fitted with suppression equipment to reduce dust emission potential.</p> <p>Material with inherent moisture greater than 3%, e.g., sand or gravel, would not be expected to give rise to emissions of dust.</p>

			<p>Only the following material will be stored in the open:</p> <ul style="list-style-type: none"> <li>○ material that has been screened to remove material 3 mm and under;</li> <li>○ sand;</li> <li>○ scalpings;</li> <li>○ material used for road sub-bases commonly known as "MOT material", or "type 1" or "type 2" material) that has been conditioned before deposition;</li> <li>○ crusher run material that has been conditioned before deposition</li> </ul>
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<b>Remedial measures</b>			
On-site sweeping	<p>Sweeping could be effective in managing larger debris, dust and particulates but may also cause the mobilisation of smaller particles.</p> <p>Road sweeping vehicles damp down dust and particulates whilst brushing and collecting dust and particulates from the road surface, particularly at the kerbside.</p> <p>This may generate dust and particulate movement that may become a Health and Safety issue if the filters and spray bars on the sweepers are not</p>	<p>Easy to apply but less effective than other measures.</p> <p>Covered in the management system procedures and implemented thoroughly.</p> <p>Operation covered by regular toolbox talks along with the triggers for operation of the sweeper.</p> <p>Sweeper maintained to ensure that its operation is effective.</p>	<p>Roadways in normal use and any other area where there is regular movement of vehicles have a consolidated surface capable of being cleaned.</p> <p>They are kept clean to prevent or minimise dust emissions and are kept in good repair</p>

	maintained.	Manufacturer maintenance schedules are adhered to detailing when consumable items on road sweepers are replaced (Filters, brushes etc).	
Water suppression with hoses & water jets	Damping down of site areas using hoses can reduce dust and particulate re-suspension and may assist in the cleaning of the site if combined with sweeping.	Can be water intensive.	During hot, dry and windy conditions stockpiles will be sprayed with water. Stockpiles may be capped if necessary.
Water suppression with mist sprays	Installation of mist sprays at point source emissions like conveyors, trommels etc. It can also assist in the damping down of dust and particulates, therefore, reducing emissions from site.	Very effective at controlling point source emissions of dust and particulates. Can be installed to conveyors and areas where waste is dropped. 'Halo' rings can be fitted to conveyor drops on concrete crushers and screeners to minimise dispersion.	During hot, dry and windy conditions stockpiles will be sprayed with water. Stockpiles may be capped if necessary.
Water suppression with bowser	Using bowsers is a quick method of damping down large areas of the site with large water jets. This method could also be used on easy-to-clean, impermeable concrete surfaces.	Highly water intensive and more likely to minimise dust and particulates on the ground that is at risk of being re-suspended rather than already airborne dust and particulates. Very effective at dampening down haul roads and large surface areas. Can also come with hose attachments and other attachments to increase its versatility.	Can be used as a fall-back measure should all other measures not prevent dust emissions.

### 4.3 Other considerations

Water usage/ availability:

The site will have a dedicated water supply as associated activities include;

- Gravel washing (itself a dust suppression measure)
- Concrete batching plant

The wheel wash, (Ecowash Extra) is powered by an inverter-driven wash pump which provides up to 50% operational cost savings, as well as effectively recycling water in a closed loop system. Comprising of a tough 6m wash platform, with recycling tanks, this heavy-duty steel system has unparalleled cleaning power. In two-wheel revolutions, the targeted spray configuration effectively cleans the tyre through 11 strategically placed delivery pipes, spraying narrow fans of water at up to 5 bar. Staggered positioning of nozzles minimises striping, and the spray pattern combined with galvanised high side screens retain water in the system.

Figure 1: Ecowash Extra



The dust prevention measures do not rely on general, non-specific, use of water. Water use is deliberately targeted to reduce wastage but also to ensure effective use and is not relied upon as the sole control measure.

In the event of a drought dust emissions will remain abated and not cause pollution.

### 4.4 Enclosure of waste processing & storage areas

Due to the nature of the input materials and scale of the inert recovery operation it is not possible to enclose the processing operation or storage areas.

### 4.5 Visual Dust Monitoring

The Site Manager will monitor weather forecasts and ensure the necessary on-site precautionary measures are in place to prevent emissions.

All personnel employed on site will undertake visual monitoring for dust throughout the working day as they are uniquely placed to observe and react to the effects of the operation they are carrying out at the

time. Any observed problems will be reported to the Site Manager who will investigate the cause and implement any necessary remedial action.














There are no set locations around the site perimeter as the weather conditions and operations change, so that a fixed location may not always be representative.

There is no out of hours provision for dust monitoring due to the location of the site and the absence of any mechanical operations that may increase the potential for dust emissions to be generated. The operational hours are specifically stated within the planning permission for the site and limit the hours for both movement of vehicles and operation of externally located machinery.

Should regular complaints be received outside of operational hours over a period of two weeks or more dust mitigation measures will be reviewed. This may include the potential for stockpiles to be dampened prior to the end of the operational day.

It is acknowledged that certain operations (loading, screening, crushing) increase the potential for heightened releases of dust and other emissions. As such increased monitoring takes place, the location of such checks will take wind strength, direction and operation underway into account.

## Beaufort Scale

Beaufort number	Wind Speed (mph)	Seaman's term		Effects on Land
0	Under 1	Calm		Calm; smoke rises vertically.
1	1-3	Light Air		Smoke drift indicates wind direction; vanes do not move.
2	4-7	Light Breeze		Wind felt on face; leaves rustle; vanes begin to move.
3	8-12	Gentle Breeze		Leaves, small twigs in constant motion; light flags extended.
4	13-18	Moderate Breeze		Dust, leaves and loose paper raised up; small branches move.
5	19-24	Fresh Breeze		Small trees begin to sway.
6	25-31	Strong Breeze		Large branches of trees in motion; whistling heard in wires.
7	32-38	Moderate Gale		Whole trees in motion; resistance felt in walking against the wind.
8	39-46	Fresh Gale		Twigs and small branches broken off trees.
9	47-54	Strong Gale		Slight structural damage occurs; slate blown from roofs.
10	55-63	Whole Gale		Seldom experienced on land; trees broken; structural damage occurs.
11	64-72	Storm		Very rarely experienced on land; usually with widespread damage.
12	73 or higher	Hurricane Force		Violence and destruction.

Any formal monitoring undertaken will be recorded in the site diary. Where monitoring is undertaken it will be recorded using form **BWV\_Mon/Form**.

Should a complaint be raised the form in appendix A will be completed to investigate and understand the potential issues. Where these are completed over a period a fuller picture will emerge as to the most successful strategies for deciding as to whether further controls are required.

*Operating hours are defined, and conditioned, within the extant planning permission as follows;*

*Externally located plant and equipment shall not be used, except during the following hours:*

*0800 to 1800 Monday to Friday; and*

*0800 to 1300 Saturday.*

*No vehicles (including forklift trucks) shall enter the site, leave the site, manoeuvre, be loaded, or be unloaded within the site, except during the following hours:*

*0700 to 1800 Monday to Friday; and*

*0700 to 1300 Saturday.*

## Section 5.0: Particulate Matter Monitoring

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The site is located within a sand and gravel quarry, itself located in relatively open countryside at least 250 m from the nearest sensitive receptor.

Should particulate matter monitoring be required, this will be discussed with the relevant specialist to establish the most suitable and effective method.

There are activities on-site that may create dust which could possibly drift off-site and cause an amenity nuisance. Such activities include:

- Vehicle input of wastes (vehicles may kick up dust during dry weather).
- The unloading and treatment of certain dry waste materials on the concrete pad.
- Crushing/screening operations of inert/soil type wastes during the treatment process.

Site staff supervising individual waste handling operations will, during the undertaking out of those operations, undertake visual monitoring of aerial emissions. Where visible aerial emissions are detected, either dust plumes or areas affected by the fallout of dust, that are likely to be transported beyond the site boundary, action will be taken immediately to stop/reduce the rising of the dust.

The incident and the remedial action shall be recorded in the site diary.

### 5.1 Monitoring Location

The site is located within a sand and gravel quarry, itself located in relatively open countryside at least 250 m from the nearest sensitive receptor.

There are no set monitoring locations, other than a prescribed route (as the wind direction is most commonly from the southwest to the north east, the monitoring route will be to the north east of the site), around the site perimeter as the weather conditions and operations change, so that a fixed location may not always be representative.

Before the staff member responsible for monitoring commences the route, they will observe the wind direction at the time and use it to inform the monitoring route taken.

It is not considered effective to stipulate a precise time for the routine monitoring to take place, it is far more appropriate for the routine dust monitoring to be a 'task' based inspection so that the odour impacts can be properly monitored as opposed to an arbitrary time when the operation with the most potential for dust generation may not be taking place.

As such, routine dust monitoring would take place during crushing and/or screening operations.

Should particulate matter monitoring be required, potential monitoring locations will be discussed with the relevant specialist to establish the most suitable and effective position. It is assumed that the location would usually be to the northeast of the site.

### 5.2 Operation of the PM Monitoring Equipment

The risk assessment has concluded that emissions of dust were able to be screened out as insignificant. However, it is acknowledged that should dust emissions be identified as an issue at the site and/or



complaints are received as a result, the operator will review the mitigation measures and monitoring techniques detailed in this DEMP to improve detection and prevent emissions being discharged from the site proactively. The site diary and records of the visual inspections are reviewed by company senior management with the intention of identifying any trends in dust emissions and improving processes on site.

### **5.3 Quality assurance/Quality control and record keeping**

The results of daily inspections and any remedial work will be recorded in the Site Diary as a minimum.

Should any monitoring be carried out, the following will be recorded;

- The make and model of the monitoring equipment
- The serial number of the monitoring equipment;
- When, how and by whom the data is checked
- When the equipment is calibrated;
- How the equipment is calibrated;
- Copies of the qualifications and training records of who carries out the calibration
- When and by whom the equipment is routinely inspected;
- If the equipment is damaged and/or no longer able to collect reliable data.

### **5.4 Equipment and data management**

Where dust emissions are identified as an issue at the site and complaints are received as a result, the operator will review the monitoring techniques detailed in this DEMP to improve detection and ensure that any emissions data is representative and enables measures to be undertaken to reduce emissions from being discharged from the site.

### **5.5 Additional detailed monthly reporting**

Where dust emissions are continually identified as an issue at the site and complaints are received as a result, the operator will consider carrying out a more detailed investigation in order to work out the source of the pollution, whether it be from dust/particulate sources on site, sources of dust/particulates beyond the site boundary, background sources affecting the whole region, or more local sources.

### **5.6 Dust monitoring plan**

Dust monitoring at the site boundary will be carried out as part of routine daily site inspections with any observations recorded and retained onsite.

All plant is inspected daily regularly and cleaned down after use to prevent the build-up of dust on machinery parts and hot exhausts.

Informal dust monitoring comprising of operational staff remaining vigilant for visual dust and particulate emissions will be carried out by operational staff members during the crushing and screening processes. Where dust emissions are identified during the treatment process, operations will pause, and the site



boundary will be checked to ensure emissions are not leaving the site. Where dust emissions are seen to be leaving the site boundary material will be dampened down before the treatment process resumes.

No dust monitoring will be carried out outside operational hours, the stockpile and distance to receptors will afford screening for unprocessed and processed stockpiles. Where regular complaints are being received outside of operational hours over a period of two weeks or more dust mitigation measures will be reviewed with the potential for stockpiles to be dampened down prior to the end of shift.

All dust monitoring results will be recorded and retained in the site office along with dates, times, weather conditions, wind direction and the name of the individual carrying out the monitoring event. Records will also be kept in accordance with the site Environmental Management System (EMS).

## **Section 6.0: Actions when alarm is triggered.**

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The following actions are taken:

1. The Site Manager (SM) assesses the activities underway and/or the nature of the waste materials being delivered immediately prior to the complaint being received, to work out what has caused the complaint.
2. If the source cannot be established confidently the likely dust/particulate generating activities will be suspended, i.e., crushing, screening.
3. Where the source originates from the site the SM will take appropriate action in terms of dust/particulate abatement, to ensure that the complaint is followed through. This may take the form of the following;
  - a) Investigating the source of the dust/particulates to prevent a re-occurrence.
  - b) Suspending operations which are not being conducted using best-practice controls.
  - c) Additional use of the dust abatement measures.
  - d) Logging findings of a – c in the site diary, and in the reporting template within the relevant appendix of the Environmental Permit.

In all cases, any new lessons learnt from the investigations are considered by company management and implemented into the dust & particulate emission management plan (if not already included), to prevent a re-occurrence of the complaint.

The complaint is not the sole indicator of a dust event at the site; the continuous visual monitoring of potential dust sources and activities safeguard play a vital part in managing dust and particulates.

Potential emission source	Risk	Typical actions to reduce emissions	Trigger for contingency measure	Specific contingency measure (Backstop)	Monitoring trigger that will indicate a return to normal operations
Dusty feedstock received at the processing site	Pulverised waste accepted at the site produces excessive dust	Promptly mix with a high moisture content feedstock.	Dust detected at the point of discharge. (Dust detected at boundary)	Increase wetting measures. (Remove from site)	Dust not detected at site boundary.
Stockpiled unprocessed feedstock becomes too dry in hot weather.	Waste stockpiles are held for excessive periods of time without processing taking place.	Stockpiles on site are processed quickly. Material deposited first is processed first. Any waste generating excess dust will be given processing priority.	Long periods of hot, dry weather reducing the moisture content of the material.	Ensure all material is processed as soon as possible and placed in stockpiles. (Remove from site)	Dust not detected at site boundary.
Crushing and screening of materials	Waste materials are crushed or screened when the wind direction is towards areas accessed, or inhabited, by sensitive receptors.	Crushing and screening of dusty materials during windy conditions, or when wind is blowing towards sensitive receptors, is reduced to a minimum.	Weather forecast is used to ascertain the effect of the wind speed/direction on the operation. (Dust detected at boundary)	Operations that may release excessive dust are programmed to take place only during favourable weather conditions. Careful monitoring of the conditions will ensure that the 'window' for processing is broad enough to allow flexibility to wait for suitable weather conditions. (Cease processing and remove if excessively dusty)	Dust not detected at site boundary.
Facility maintenance/equipment cleaning	Accumulations of waste material are allowed to degrade and become	Regular clean downs of machinery will prevent dust from accumulating.	When a stockpile is planned for removal, the area will be swept/tidied as the pile is	Once a stockpile has been moved, it's footprint will be scraped with the loader bucket to	Dust not detected at site boundary.

	dry and produce dust.	Areas will be swept when empty to prevent dust blowing.	reduced/removed.	prevent a build – up of material.	
LGVs leaving site	Spilt accumulations of material are allowed to dry out become desiccated and produce emissions.	Brushing down of trailer sides and sheets in place before leaving will prevent material dropping from trailers and prevent dust being generated.	Long periods of hot, dry weather reducing the moisture content of the material.	All vehicles are checked after the wheel wash and prevented from leaving site if not sheeted or clean.	Dust not detected at site boundary.

## **Section 7.0: Reporting and Complaints Response**

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### **7.1 Engagement with the Community**

The site will respond to the complainant once an investigation has been completed. This will include details as to the source of the complaint and the measures taken to correct it.

Where the source did not originate from the site, the complainant will be informed as such and will be given an explanation as to how this conclusion was determined.

Depending on the time the complaint was received the site will respond within 2 working days.

Any Environmental Permit requirements will take precedence.

### **7.2 Engagement with the community**

Being a good neighbour is important to Brockley Wood Ventures Ltd and is very beneficial to their business. Should the site cause an impact on local residents/businesses they will be kept abreast of what the operator is doing to deal with any issues.

### **7.3 Reporting of complaints**

All complaints will be dealt with according to XXXX.

### **7.4 Management responsibilities**

Management responsibilities are detailed within XXXXX.

### **7.5 Summary**

Inert waste processing and soil manufacturing operations are capable of producing dust and particulate emissions, however the dust produced will be limited by the nature of the operations and mitigation measures. In any event emissions can be controlled to confine and prevent their escape and to minimise airborne dispersal.

At the Brockley Wood Quarry site, the main emission causes relate to the screening and crushing operation and transportation.

Processing emissions will be controlled by using practical site management controls including careful movement by experienced operators, containment/screening to shelter other processing operations, limiting location of certain processing operations, operation of best practise in terms of housekeeping operations, and if necessary, with cessation of operations in certain weather conditions if dust blows beyond the site boundaries.

Successful site management ensures the control of air-borne emissions by including the following measures;

- Regular assessment of prevailing weather conditions and site operations,
- Use of sprays on processing equipment,
- Sheeting of all loads immediately after vehicle loading,
- Keeping hard surfaces damp in hot, dry, windy weather using a water bowser,
- Regular maintenance of all plant including water sprays, hoods and screens,
- Keeping vehicles clean and dust free and site surfaces free from dust/material,

- Limiting the speed of vehicles at all times,
- Careful moving of material,
- Postponing operations if significant wind-blown dust is likely to result; and,
- Ceasing operations if significant wind-blown dust is caused.

Ongoing monitoring of dust levels and review of the operation of the DEMP, with appropriate up- dating, will ensure continuing effective dust management at the Brockley Wood Quarry site preventing adverse dust impacts off site.

This DEMP will be formally reviewed by the Brockley Wood Ventures Ltd., initially six months after commencement of operation, and from then on, on an annual basis as a minimum to ensure that the controls described are effective and reflect best available techniques. In addition, the DEMP will be reviewed following any relevant changes in site operations or procedures that are likely to have implications from an emissions generation/impact perspective.

## Section 8.0: Sources of information

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Air Quality Environmental Impact Assessment Brockley Wood, Belstead - Redmore Environmental Ltd  
March 2022 [4730r1]

Holman et al (2014). IAQM Guidance on the assessment of dust from demolition and construction,  
Institute of Air Quality Management, London. [www.iaqm.co.uk/text/guidance/construction-dust-2014.pdf](http://www.iaqm.co.uk/text/guidance/construction-dust-2014.pdf).  
v1.1 [June 2016]

Process Guidance Note 3/16(12) Statutory guidance for mobile crushing and screening [September  
2012] Defra

IAQM Guidance on the assessment of dust from demolition and construction v1.1 [June 2016]

## Appendix A: Dust Complaint Form

Complainant Details	
Complainant Name	
Address	
Postcode	
Complainant Contact Details	
Tel	
Email	
Date	
Complaint Ref	
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 BDC	
Date feedback given	
Feedback given to public (with date)	
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 DEMP need to be updated	
Date that the DEMP was updated	
Closure	
Site manager review date	
Site manager signature to confirm no further action required	