



CRESTWOOD ENVIRONMENTAL LTD

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Ferns Aggregates Ltd.

Dust and Particulate Emission Plan

**Bespoke Environmental Permit Application for the Deposit of Inert Waste
for Recovery**

Wrotham Quarry, Wrotham, ME19 5DL

Report Reference: CE-WQ-1643-RP06-DMP-Final

Report Date: 18 November 2021

Produced by Crestwood Environmental Ltd.

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VISUALISATION

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DRAWINGS

Drawing No CE-WQ-1643-DW01 Environmental Permit Boundary 1:2,000



1. Introduction

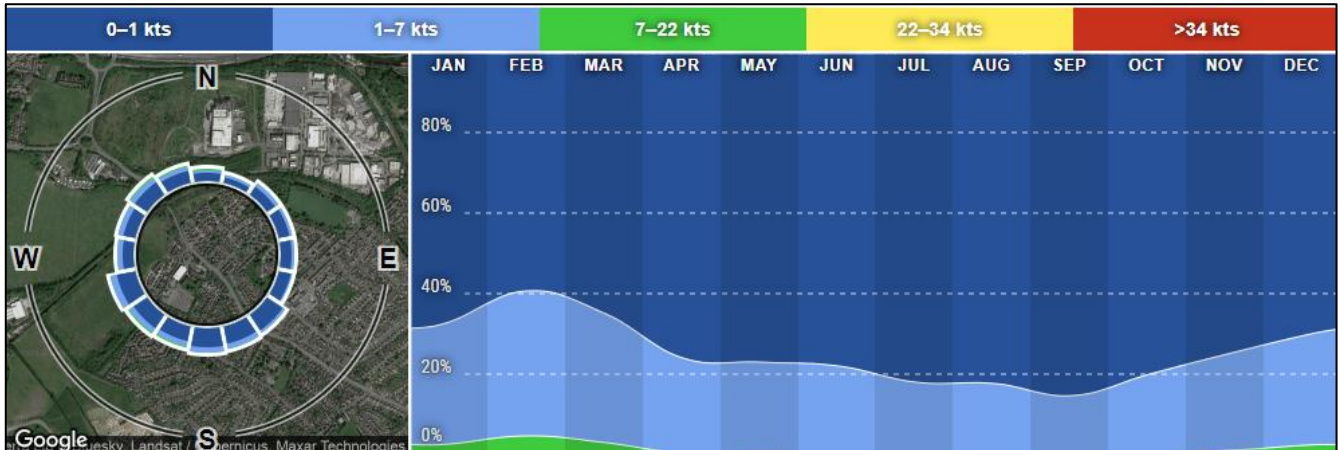
1.1 Background

- 1.1.1 Crestwood Environmental Ltd has been commissioned by ferns Aggregates Ltd (**the Client**) to prepare a Dust and Particulate Emission Management Plan (DMP) for a waste recovery operation to use inert wastes materials to enable the buttressing of the Western Slope at Wrotham Quarry, Addington, Kent, ME19 5DL (**the Site**).
- 1.1.2 Known as the Western Slope, the Site comprises of a c.27m high slope which extends from the north, the north-west and the western aspects of the quarry face.
- 1.1.3 Planning Permission has been granted for the Site (ref: TM/20/841) for the importation of inert materials which will supplement the use of indigenous material to buttress the Site in accordance with a landscaping scheme as approved by Kent County Council.
- 1.1.4 Based on the analysis of geotechnical instrumentation that was installed at the Site due to downward slope instability, continued failure and uncharacteristic movements, it was recommended by geotechnical consultants that buttressing was required. This was not only advised to ensure long-term stability but to also protect the reservoir adjacent to the western boundary of the Site.
- 1.1.5 Volumetric calculations gathered from topographical profiles, has calculated that in order to complete the work using the least amount of material possible whilst in accordance with the approved scheme, 190,900m³ of inert material would suffice. This is to include 38,200m³ of suitable indigenous material in conjunction with 152,700m³ of imported material.
- 1.1.6 This DMP has been produced to support a Bespoke Permit application for the Site to enable the receipt and subsequent deposit of the material needed in order to finalise the buttressing of the Site.
- 1.1.7 It has been prepared in accordance with the Environment Agency's H5 Dust and Particulate Emission Management Plan Template and Gov.uk Guidance 'Control and monitor emissions for your environmental permit' (published 1st February 2016) and provides an assessment of the production of fugitive emissions relating to waste recovery operations on the Site.
- 1.1.8 The Site is not located in an Air Quality Management Area (AQMA). The most proximal is the Tonbridge and Malling Borough Council AQMA, No 7 Borough Green which is c.4km to the south-west of the Site at the closest point, for Nitrogen Dioxide (NO₂) declared 01/04/2013. This is as a consequence of the many areas in the UK unlikely to meet the objectives outlined in the Government's Air Quality Strategy.
- 1.1.9 According to DEFRA's Background Mapping Data and based on the 2018 reference year mapping data, background emission concentrations in the locality of the Site are 20.35µg/m³ and 15.98µg/m³ for NO₂ and PM₁₀ respectively. National air quality objectives and European Directive limits and target values stipulate that concentrations of PM₁₀ measured at 24-hour mean levels should not exceed 50 µg/m³ for more than 35 times a year. NO₂ concentrations should not exceed 40µg/m³ when measured on an annual mean basis. The background concentrations in the vicinity of the Site are therefore well within these limits and it is unlikely that activities relating to the waste recovery operation will increase concentrations in excess of air quality objectives.
- 1.1.10 The DMP aims to identify potential sources of dust emissions and the associated potential impacts along with detailed measures to be implemented at the Site to mitigate dust and particulate matter.



- 1.1.11 Statistics based on observations taken from the nearest weather station at Maidstone (c. 9.75km south-east of the Site) between February 2012 and September 2021 indicates that prevailing winds originate predominantly from the west to south-west with an average annual speed of 3kts.

Diagram 1 Monthly wind direction and strength distribution



1.2 SENSITIVE RECEPTORS

- 1.2.1 A review of potentially sensitive receptors within a 1km radius of the Site has been undertaken using the hierarchy of hospitals, schools, childcare facilities, elderly housing and convalescent facilities i.e. areas where inhabitants are more vulnerable to the adverse effects of exposure to elevated levels of dust and particulate matter. Food manufacturers, major infrastructure and protected sites such as SSSIs, SPAs and SCAs are also considered (refer to Diagram 2 for details of locations).
- 1.2.2 In terms of predicted exposure risk, levels have been determined via a qualitative assessment which evaluates the likelihood of exposure to dust and particulate emissions based on the receptors' proximity to the Site and the location of the sensitive receptors in regard to the prevailing wind direction as depicted in Diagram 1.
- 1.2.3 A 1km radius has been applied as a worst-case scenario and it reflects the maximum potential distance that fugitive dust and particulate matter could reasonably be dispersed in extreme meteorological conditions without any mitigation measures in place. Identified sensitive receptors within this range are shown on Diagram 2 below (The Site location is outlined in red, the highlighted circle indicates the 1km radius and the numbers denote location of identified potential sensitive receptors).
- 1.2.4 A summary of the identified potentially sensitive receptors along with the overall exposure levels and principal receptor features has been tabulated in Table 1. For each receptor within the categories the determination of the overall risk classification has been based on the dominant risk level. Receptors are denoted by the numbered location points in Diagram 2 for ease of reference.
- 1.2.5 Note that given the absence of hospitals, elderly housing and convalescent facilities in the search area, the sensitive receptors are categorised in terms of distance as opposed to the receptor hierarchy mentioned in paragraph 1.2.1. there is only one school within 1km of the Site but it is considered remote and it is not located in the direction of the prevailing wind.



1.2.6 Institute of Air Quality Management (IAQM) Guidance on the Assessment of Mineral Dust Impacts for Planning (May 2016) states that “it is commonly accepted that the greatest impacts will be within 100 m of a source and this can include both large (>30 µm) and small dust particles. The greatest potential for high rates of dust deposition and elevated PM10 concentrations occurs within this distance. Intermediate-sized particles (10 to 30 µm) may travel up to 400 m, with occasional elevated levels of dust deposition and PM10 possible. Particles less than 10µm have the potential to persist beyond 400 m but with minimal significance due to dispersion.” This statement has been considered in the assessment of the exposure level for each receptor.

Diagram 2 Sensitive receptor locations within a 1km radius of the Site

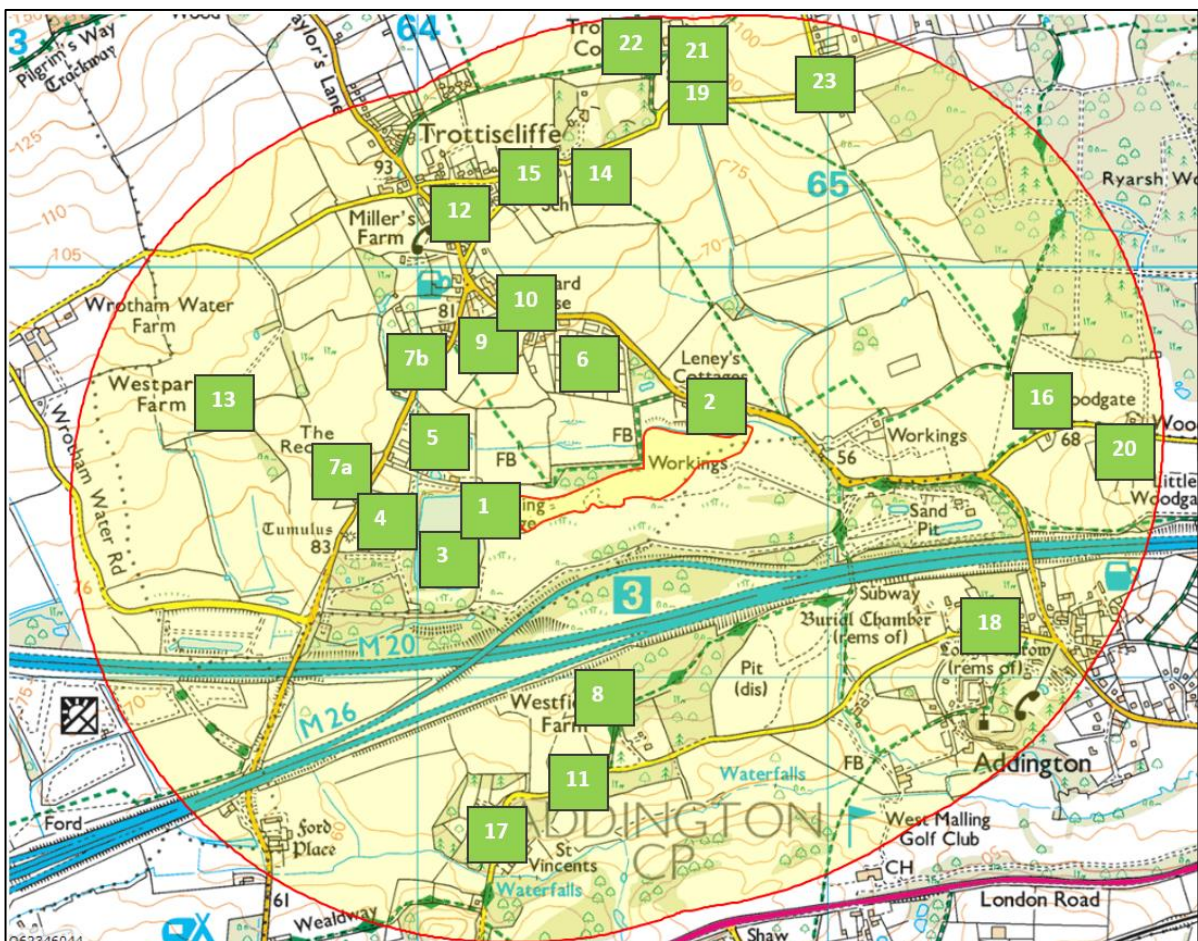


Table 1 Sensitive receptor details

Receptor and Location Reference	Distance and Direction	Overall Exposure Level	Comments
1.Trottiscliffe Meadow (SSSI)1	13m W	Medium-High	Located adjacent to the Site although there is a low frequency of winds in the direction of the receptor



Receptor and Location Reference	Distance and Direction	Overall Exposure Level	Comments
2.Leney's Cottages	42m N	Medium-High	There is a medium frequency of winds from source and the receptor is proximal to the Site.
3.Reservoir	106m W	Medium	Receptor is close to the source however it is not located in the direction of the dominant wind and intervening trees block the pathway for emissions.
4.Farm and associated buildings	150m W	Medium	As above
5.Farm and associated buildings	295m NW	Medium	Airbourne emissions are obstructed by the intervening vegetation and buildings. There is a low frequency of winds in the direction of the receptor
6.Farm and associated buildings	320 N	Low	The receptor is not located directly downwind of the dominant wind direction and the emissions pathway is obstructed by trees, vegetation and buildings.
7a & 7b.Residential Properties	335m W & NW	Low	The receptor is not located in the direction of the prevailing wind and intervening buildings and trees provide protection from any emissions.
8.Westfields Farm	450m S	Low	There is a low frequency of winds in the direction of the receptor and it is considered remote from the source.
9.Walnut Tree Farm	480 NW	Low	The receptor is not located directly downwind of the dominant wind direction, it is relatively remote from the source and intervening structures act as barriers to any emissions.
10.Orchard House	490 NW	Low	There is a low frequency of winds in the direction of the receptor and the pathway for emissions is blocked by the bunds, intervening buildings and trees
11.Residential Property	555m S	Low	There is a low frequency of winds in the direction of the receptor and it is considered remote from the source. Trees and buildings offers protection from airbourne emissions
12.Trottiscliffe Village	575 – 1000m NW	Low	There is a lack of direct pathways for the airbourne emissions to reach the receptor and it is considered remote from the Site.
13.Westpark Farm	645m W	Low	The receptor is upwind of the prevailing wind direction and it is remote from the source. Trees and intervening structures obstruct the pathway of emissions
14.Trottiscliffe Tennis Club	650m N	Low	Airbourne emissions are obstructed by trees and buildings and the source is distal from the source
15. Trottiscliffe C of E Primary School	655m N	Low	There is a medium frequency of winds from the source to the receptor and the pathway for emissions is restricted by trees and buildings
16.Residential Property	660m E	Low	Despite the receptor being located downwind of the dominant wind direction, it is distal from the Site.



Receptor and Location Reference	Distance and Direction	Overall Exposure Level	Comments
17.St Vincents Cottage	670m SW	.Low	Direct pathways from source to receptor are obstructed by the intervening trees and buildings. The receptor is also remote from the Site.
18.Village of Addington	725 – 1000m SE	Low	As above
19.Residential Property	810m NE	Low	The receptor is directly downwind from the source although it is located remote from the Site and emissions are restricted by intervening structures
20.Residential Properties	830m E	Low	As above
21.St Peter and St Pauls Church	960m N	Low	There is a medium frequency of winds from the source and the receptor is distal from the Site. Airbourne emissions are obstructed by trees and buildings
22.Residential Property	980m N	Low	As above
23.Residential Properties on Priestfields Lane and Coldrum Lane	900 – 1000m NE	Low	Although the receptors are located directly downwind of the prevailing wind direction, they are considered to be remote from the Site and pathways are restricted due to the presence of intervening trees, structures and buildings.

1.2.7 Other sources of aerial emissions have been identified in this review and are considered in context within the local industrial estates. Contributing factors include any industry or transportation type that may generate dust and particulate matter from operational processes within a 1km radius of the Site. Refer to Table 2 below.

Table 2 Other dust/particle emitting operators

Company	Distance and Direction from Site	Type of Business	Address
Farm and associated buildings	150m W	Agriculture	Addington Lane, Addington, Kent
Farm and associated buildings	295m NW	Agriculture	Ford Lane, Addington, Kent
Farm and associated buildings	320 N	Agriculture	Addington lane, Trottiscliffe, Kent
Quarry	325m SE	Mineral Extraction/Excavation	Addington Lane, Addington, Kent
Quarry	330m E	Mineral Extraction/Excavation	Addington Lane, Addington, Kent
Quarry	445m S	Mineral Extraction/Excavation	St Vincent's Lane, Addington, Kent
Westfields Farm	450m S	Agriculture	Off St Vincent's Lane, Addington, Kent
Walnut Tree Farm	480 NW	Agriculture	Addington Lane, Trottiscliffe, Kent



Westpark Farm	645m W	Agriculture	Off Wrotham Water Lane, Trottiscliffe, Kent
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2 Operations at the Western Slope

2.1 Waste Deliveries

- 2.1.1 Up to 50,000 tonnes per annum of inert wastes will be delivered to the Site for use in the completion of the restoration works. Wastes will be delivered by lorries. All loads will be sheeted to minimise dust emissions during transport to the Site.
- 2.1.2 Based upon 20 tonne loads with 275 working days per annum, the works would attract a total of 9 loads (18 movements) at the site per day. This volume would therefore allow the traffic associated with the buttressing works and the quarrying operation to both cumulatively operate within the limit of 112 daily average HGV's loads (56 in and 56 out) as required by Condition 20 of planning permission reference TM/14/4075. As such, the volume will result in a negligible impact upon traffic and emissions.
- 2.1.3 Wastes will predominantly comprise of inert construction type waste such as concrete, bricks, soils and stones. As such, waste deliveries will be in predominantly bulk haulage 8-wheel tipper type lorries.
- 2.1.4 Records of all incoming waste loads will be kept on Site or in a secure off-Site location in accordance with Duty of Care and requirements of the Environmental Permit. Full details are included in the Environmental Management System (EMS) and Waste Recovery Plan, submitted to the Environment Agency as part of the Environmental Permit application for the Site.
- 2.1.5 As part of the Waste Acceptance Procedures for the Site, waste producers will be required to provide details of any precautions that should be taken at the Site to control emissions. Inherently dusty wastes such as incinerator ashes will not be accepted at the Site.
- 2.1.6 Only strictly inert waste materials will be used on the Site.
- 2.1.7 The Environmental Permit application takes full cognizance of 'Guidance on Waste Recovery Plans and Permits' which is available at <https://www.gov.uk/guidance/waste-recovery-plans-and-permits#specific-obligations>
- 2.1.8 Permitted wastes are shown in Table 3 below.

Table 3 Waste types accepted at the Site

Waste Code(EWC)	Product Description
01 01	Wastes from mineral excavation
01 01 02	Wastes from mineral excavation
01 04	Wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	Waste gravel and crushed rock other than those containing dangerous substances
01 04 09	Waste sand and clays



10 13	Waste from the manufacture of cement, lime and plaster and articles and products made from them
10 13 14	Waste concrete
17 01	Concrete, bricks, tiles and ceramics
17 01 01	Concrete
17 01 02	Bricks
17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 05	Soil, stones and dredging spoil
17 05 04	Soils and stones
19 12	Wastes from waste water treatment plants not otherwise specified
19 12 09	Minerals (for example sand and stones)
19 12 12	Soil substitutes other than that containing dangerous substances
20 02	Garden and parks wastes (including cemetery wastes)
20 02 02	Soil and stones

2.1.9 Of the permitted waste types that are listed in Table 3 above, under European Council Decision 2003/33/EC, certain waste codes do not require Waste Acceptance Criteria (WAC) testing, provided that they are inert and from a single source only (mixed load from more than one site cannot be accepted without testing). Wastes may be accepted at the Site without testing provided they comply with the restrictions in Council Decision 2003/33/EC are shown in Table 4

Table 4 Waste types accepted without testing

ECW Code	Description	Restrictions
17 01 01	Concrete	C & D waste only (*)
17 01 02	Bricks	C & D waste only (*)
17 01 07	Mixtures of concrete, bricks, tiles and ceramics	Selected C&D waste only (*)
17 05 04	Soils and stones	Excluding topsoil, peat; excluding soil and stones from contaminated sites
20 02 02	Soil and stones	Only from garden and parks waste; excluding topsoil, peat
<p>(*) Selected construction and demolition waste (C & D waste): with low contents of other types of materials (like metals, plastic, organics, wood, rubber, etc). The origin of the waste must be known. No C & D waste from constructions, polluted with inorganic or organic dangerous substances, e.g. because of production processes in the construction, soil pollution, storage and usage of pesticides or other dangerous substances, etc., unless it is made clear that the demolished construction was not significantly polluted. No C & D waste from constructions, treated, covered or painted with materials, containing dangerous substances in significant amounts.</p>		

2.1.10 All other permitted wastes received at the Site will be subject to WAC testing in accordance with Council Decision (2003/33/EC), the requirements of which are incorporated into Schedule 10 of the Environmental Permitting (England and Wales) Regulations 2010.

2.2 Overview of Waste Processing and Dust Controls

2.2.1 The Environmental Permit boundary is shown on Drawing No CE-WQ-1643-DW01. Cross



Section drawings have also been submitted as part of the permit application. Depositing and regrading works will be undertaken in the direction, as shown on the Cross Section drawings. Access from the public highway for HGV's will be off Ford Lane to the west of the Site.

- 2.2.2 A water bowser will be used to dampen down any potentially dusty loads during deposit and operational areas will be sprayed with water during dry and dusty conditions. A vehicle speed limit of 10 mph will be applied to the Site`s internal haul routes to minimise dust emissions during vehicle movements. The haul routes will also be dampened down during dry and dusty conditions. Vehicle wheels will be hosed down on exit during dry and dusty conditions, as required. Drop heights from vehicles will be minimised as best practicable.
- 2.2.3 On-site sweeping will take place when conditions are assessed to warrant such action. If the deposition of excessive quantities of loose material occurs once vehicles have exited the site, shaker grids will be installed at entry and exit points.

2.3 Material exported off-site

- 2.3.1 As the waste received at the Site will be used solely for the approved buttressing works/landscaping and restoration scheme, the only materials that may be exported off-site as a consequence of this activity are any inadvertently received non-permitted wastes, which will be either returned to the waste producer or transferred to an authorised facility in accordance with the Duty of Care and Waste Transfer Note procedure.



3 Dust and Particulate (PM10) Management

3.1 Responsibility for Implementation of the DMP

- 3.1.1 The Site Manager and Technically Competent Manager (TCM) will oversee the implementation of the DMP and ensure that the methods detailed within this DMP provide effective dust mitigation.
- 3.1.2 Where the responsible individual is unavailable to supervise in the implementation of dust suppression measures, a suitably experienced site operative will be allocated responsibility.
- 3.1.3 If dust and particulate emissions continue to be observed following the use of the dust suppression measures outlined in section 2.2, the DMP will be reviewed and additional measures such as fixed suppression systems considered.
- 3.1.4 Amendments of the DMP to reflect any potential improvements will be made during the review process.
- 3.1.5 The TCM who will administer the implementation of the DMP has been assessed in the implementation of site control measures as part of the Certificate of Technical Competence and therefore is deemed proficient to execute and review this DMP.
- 3.1.6 During the induction process, all staff members will be trained in the dust suppression measures outlined in this DMP. Refresher training will be provided in the scenario where additional dust suppression measures have been introduced to ensure staff remain competent.
- 3.1.7 The DMP will be reviewed at least annually or following any adjustments in operations which have the potential to increase the level of exposure to surrounding sensitive receptors.

3.2 Sources and Control of Fugitive Dust/Particulate Emissions

- 3.2.1 Detailed below are examples of potential sources of fugitive dust and particulate emissions associated with all the operations and activities at the Site:
- Vehicles entering and/or leaving the site with mud on wheels, and tracking dust on to or off the site
 - Debris falling off lorries which arrive uncovered
 - Vehicles and plant moving around the site kicking up dust
 - Road vehicles tipping waste
 - Excavators/360s levelling and compacting waste
 - Site surfaces (i.e. the ground, plant and equipment)
 - Loading any inadvertently accepted non-permitted wastes back on to vehicles for removal off-site to authorised facilities
 - Particulate emissions from the exhaust of vehicles/plant/machinery on site.
- 3.2.2 Table 5 below details the measures to be applied to the Site for each of the sources outlined above to break the source-pathway-receptor routes.
- 3.2.3 Preventative and remedial measures to integrate on the Site to alleviate potential fugitive dust and particulate emissions are tabulated in Table 6 below. These are grouped in terms of



low to high cost and can be used individually or in conjunction.



Table 5 Source-Pathway-Receptor Route

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
Mud	Tracking dust on wheels and vehicles. Mud dropping off wheels/vehicles when dry	Farms, properties, businesses and identified sensitive receptors detailed in Table 1	Visual build-up and soiling of dust and particulates, also consequent resuspension into the air column	<ul style="list-style-type: none"> • Inspection of vehicles and, where required, removal of mud prior to exiting the Site via a water bowser • Where debris is identified as an ongoing issue a road sweeper can be provided by a nearby supplier
Debris	Falling off lorries	As above	Visual build-up and soiling of dust and particulates, also consequent resuspension into the air column	<ul style="list-style-type: none"> • Vehicles delivering and collecting waste will be covered. • Efficient and prompt unloading of vehicles directly into allocated areas. • All areas subject to regular housekeeping. • Where debris is identified as an ongoing issue a road sweeper can be provided from a local road sweeper hire company.
Vehicles and plant moving	Atmospheric dispersion	As above	Airbourne particulates	<ul style="list-style-type: none"> • Site is underlain by heavily compacted ground therefore dust generation which may impact surrounding sensitive receptors should be minimal. • All areas, vehicles and plant machinery are subjected to regular housekeeping and removal of loose particles.
Tipping and storage of wastes	Atmospheric dispersion	Surrounding sensitive receptors	Visual soiling and dispersion of airborne particulates	<ul style="list-style-type: none"> • Site is partly bounded in part by vegetation, including mature trees, which aids as a barrier. • Minimise source strength by means of low drop heights. Dampening down of material during dry periods or where load is identified during the inspection process as `dusty`. • Limit stockpile heights to 4m. • All plant is inspected prior to and after use for dust and debris build-up. • Plant is regularly cleaned down after use to prevent the accumulation of dust and loose material. • All plant used on site is maintained and serviced in accordance with manufacturers guidelines and service agreements.
Exhaust emissions	Atmospheric dispersion	Surrounding sensitive receptors	Airborne particulates	<ul style="list-style-type: none"> • Regulatory controls and best-practice measures to minimise source strength. Plant will be switched off when not in use. Delivery and



				collection vehicles will be required to switch engines off while unloading and loading where possible.
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Table 6 Measures used on Site to control dust/particle emissions

Abatement Measure	Description / Effect	Overall consideration and implementation
Preventative Measures		
Low Cost Options		
Site layout in relation to receptors	Locating particulate emitting activities at a greater distance and downwind from receptors may reduce receptor exposure, provided that emissions from the source are not dispersed over significant distances.	During periods of elevated wind speeds, waste deposit operations will be located away from sensitive receptors. For example, during elevated wind speeds and when the prevailing wind direction is from the south west, waste deposit operations will be located as far distant as possible from Leney's Cottages close to the north-eastern boundary of the Site
Site speed limit, 'no idling' policy and minimisation of vehicle movements on site	Reducing vehicle movements and idling should reduce emissions from vehicles. Enforcement of a speed limit may reduce re-suspension of particulates by vehicle wheels.	As stated in Table 5, site speed limit of 10mph will be enforced. Vehicle engines will be switched off when not in use, to minimise any idling.
Minimising drop heights for waste. Use of enclosed chutes for waste drops/end of conveyor transfers and covered skips / storage vessels.	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.	As stated in Table 5, vehicle drops heights will be minimised.
Ceasing operation during high winds and/or prevailing wind direction	Mobilisation of dust and particulates is likely to be greater during periods of strong winds and hence ceasing	Procedures will be in place to identify when operations will cease in the event of strong winds. This will be physically gauged by the operating personnel following a dust management induction.



Abatement Measure	Description / Effect	Overall consideration and implementation
	operation at these times may reduce peak pollution events.	
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.	The majority of the waste material will not be stockpiled over long periods of time and for the whole, will be immediately deposited as an infilling product. Of those stockpiled, a minimum stack height of 4m will be enforced.
Preventative Measures		
Medium Cost options		
Sheeting of vehicles	Prevents the escape of debris, dust and particulates from vehicles as they travel.	Whenever feasible, vehicles will be covered to avoid dispersion of emissions.
Hosing of vehicles on exit	May remove some dirt, dust and particulates from the lower parts of vehicles although likely to be less effective than a more powerful wheel wash.	As a preventative measure to reduce the deposition of dust and loose material off site.
Remedial Measures		
Low Cost Options		
On-site sweeping	Sweeping could be effective in managing larger debris, dust and particulates but may also cause the mobilisation of smaller particles. Road sweeping vehicles damp down dust and particulates whilst brushing and collecting dust and particulates	As stated in table 3.1 and section 2.2, sweeping will form part of the general housekeeping of the Site to minimise the build-up of loose material and thus the generation of potential dust.



Abatement Measure	Description / Effect	Overall consideration and implementation
	<p>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 maintained.</p>	
Remedial Measures		
Medium Cost Options		
Water suppression with hoses on site	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.	Will be predominantly implemented during dry and dusty conditions and for dampening down vehicles.
Water suppression with bowser	Using bowzers is a quick method of damping down large areas of the site with large water jets.	This will be implemented for the dampening down of larger areas.
Shaker grids	Similar to cattle grids, these are installed at a site entrance and exit. The movement of vehicles over the grids shakes dust and particulates from the wheels, thus removing them before vehicles enter the site.	If all other strategies fail to immobilise emissions and in the scenario where complaints are received, shaker grids will be installed to reinforce existing measures.



3.3 Visual Dust Monitoring

- 3.3.1 Dust monitoring at the Site boundary will be carried out as part of the routine daily Site inspections with any relevant observations recorded and retained on-Site.
- 3.3.2 All plant will be inspected on a daily basis and cleaned after use, as appropriate, in order to prevent the accumulation of dust and loose materials.
- 3.3.3 Informal dust monitoring comprising of operational staff remaining vigilant for observable dust and particulate will be carried out during the operational process. Where dust emissions are identified, operations will cease and the Site boundary will be examined to ensure emissions are not dissipating towards sensitive receptors. Dampening down of the source of any fugitive emissions will be undertaken before operational processes resume.
- 3.3.4 Results for all dust monitoring will be recorded and retained in the Site office or secure location off-Site along with details regarding dates, times, weather conditions, wind direction and the name of the staff member undertaking the monitoring process, see Section 4 below.
- 3.3.5 Due to the levels of abatement measures to be integrated on the Site as detailed in table 3.2, the likelihood of emissions impacting on the identified sensitive receptors is considered low. Therefore, no other forms of dust monitoring is proposed for the Site.
- 3.3.6 In the unlikely event that dust emissions are identified as an issue, the operator will review the mitigation measures and monitoring techniques detailed in this DMP in order to reduce exposure levels and inhibit emissions dispersing from the Site. In this scenario, quantitative techniques will be considered as a monitoring process.

4 REPORTING AND COMPLAINTS

- 4.1.1 Any complaints received at the Site, e.g. about noise or dust, will be reported to the Site Manager or Technically Competent Person (with appropriate WAMITAB Certificate) who is responsible for the Site management, e.g. in the absence of the Site Manager due to illness or annual leave etc.
- 4.1.2 The following actions will be taken on receipt of an external complaint:
- The responsible person receiving the complaint at the Site will immediately record the key details, initiating the investigation process. Details will be entered on the Complaint Report Form (see below). The form sets out the key information that should be recorded at this time in order to facilitate further suitable investigation.
 - The Site Manager or Technically Competent Person will be informed of the complaint as soon as possible, including the location, time and date of the complaint being lodged.



COMPLAINT RECORD FORM	
Who made the complaint?	
Name:	
Address:	
Phone No:	
Date and time they made the complaint	
What caused it?	
Was anyone else aware of this? If so who?	
What was the source of the problem, what went wrong? If source is unknown contact a suitably qualified person to investigate.	
What have you done to make sure it won't happen again?	
Was there any significant pollution – for example oil entering a surface water drain?	
If there was then you must notify the Environment Agency on 03708 506 506 (open 24hours/day) Have you done so? You must also notify the Environment Agency via email or letter.	Yes/No/not applicable Time: Date: EA Incident number:



Please print name and sign:	
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4.1.3 In recognising that some causes of complaints, such as dust and noise, can be transient and short-lived, timely notification of complaints directly from the complainant or the Environment Agency is imperative to allow for appropriate investigation. If the complaint occurs more than 12 hours before notification is provided to the Operator, it may not be possible to substantiate the complaint or pinpoint the cause. The Operator will, however, contact the complainant where possible, review any operations at the time which had the potential to cause the complaint and complete and record a comprehensive complaint investigation. For complaints received within 12 hours of the incident the following actions will be undertaken:

- The Site Manager or Technically Competent Person will visit the complaint location as soon as possible, with the aim of undertaking monitoring within 2 hours if this is possible within the working day. The Site Manager or Technically Competent Person will subjectively determine the presence or absence of the cause of the complaint, e.g. visible dust presence. Opportunities to meet the complainant to discuss the matter directly will be pursued, wherever possible.
- If the cause of complaint, e.g. visible dust, is present, the key 'FIDOR' criteria will be assessed at the complaint location, as follows:
 - Frequency – is the cause of the complaint, e.g. dust, intermittent or persistent; is there a history of complaints at this location?
 - Intensity – is the cause of complaint faint, moderate, strong, or very strong?
 - Duration – how long is the cause of complaint present at this location?
 - Offensiveness – provide a description of the cause of complaint; is it high, moderate, or low offensiveness?
 - Receptor sensitivity - is the cause of complaint present at a remote or highly sensitive location; is it localised or widespread?

4.1.4 The Site Manager or Technically Competent Person will subsequently undertake the following further assessment process:

- Review of the operations at the Site prior to and at the time of the complaint;
- Review of the environmental control systems prior to and at the time of the complaint;
- Review of the meteorological conditions (wind speed, wind direction, rainfall, atmospheric pressure) prior to and at the time of the complaint – to establish whether a pathway can be established between the Site and the complainant;
- Review of the previous complaint history at the location identified.

4.1.5 Where a significant complaint is substantiated by the Site Manager or Technically Competent Person, the Operator will contact the Environment Agency to discuss the incident as soon as possible following receipt of the complaint details, allowing sufficient time for the above investigation to be completed, and within a maximum target response period of 24 hours from complaint receipt. If the necessary contact details are available and direct feedback has been requested the Operator will also contact the complainant directly to discuss the issue, the findings of the subsequent investigation, and any actions arising.

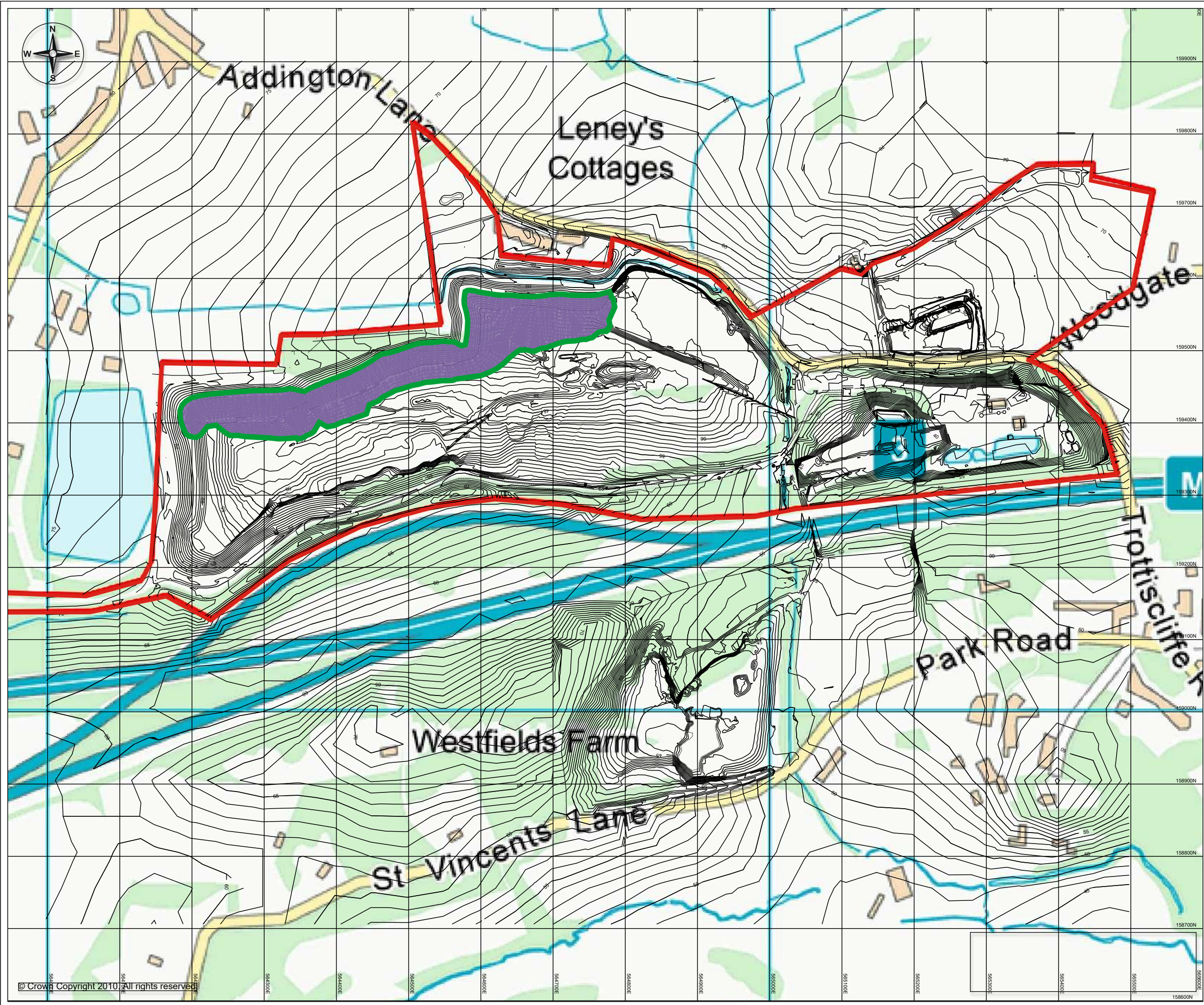
4.1.6 Once actions have been completed the Site Manager or Technically Competent Person will visit the complaint location to ensure that the cause of complaint has subsided.

5 Summary

5.1.1 This DMP has been produced in accordance with the Environmental Agency's H5 Dust and Particulate Emissions Management Plan template and Gov.uk guidance 'Control and monitor emissions for your environmental permit' (published 1st February 2016).

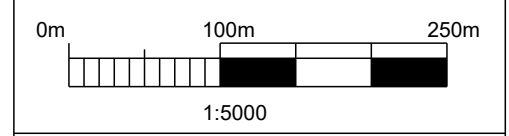


- 5.1.2 The DMP has identified the potential sources of dust and particulate emissions on Site, the potential impacts and exposure levels along with measures to be implemented at the Site to mitigate against such discharges.
- 5.1.3 Sensitive receptors and residential properties were identified within a 1km radius of the Site as determined by their vulnerability to the adverse effects of exposure to elevated levels of airborne dust and particulate matter.
- 5.1.4 Other contributing sources of emissions were considered in terms of dust and particulates arising from operational processes within a 1km radius of the Site.
- 5.1.5 Wastes delivered will comprise of inert construction wastes such as concrete, bricks, soils and stones with records of all incoming loads stored on Site or in a secure off Site location in accordance with the Duty of Care requirements of the Environmental Permit.
- 5.1.6 Waste producers are required to provide details of any precautions that should be taken at the Site to abate emissions as part of the Waste Acceptance Procedure. Only inert waste material will be used with inherently dusty waste (e.g. incinerator ash) refused.
- 5.1.7 Preventative and remedial measures to implement on the Site include a vehicle speed restriction of 10mph and drop heights from the vehicles will be minimised as best practicable.
- 5.1.8 Depositional and operational areas will be dampened down via hoses and/or a water bowsers during dry and dusty conditions. Vehicles and plant will also be hosed on exit from the Site as required in order to minimise the dispersion of emissions to sensitive receptors off Site.
- 5.1.9 On Site sweeping will take place when conditions require. All areas and plant will be subjected to general housekeeping to prevent the accumulation of dust and loose material.
- 5.1.10 Any waste that may be stockpiled will not exceed 4m in height to alleviate the potential of emissions becoming airborne. Stockpiles and vehicle loads will also be covered whenever this does not impinge on operations.
- 5.1.11 Operations on Site will cease during periods of high winds to aid in the immobilisation of fugitive dust and particulate emissions.
- 5.1.12 The Site Manager and Technically Competent Person will be responsible for the implementation of the DMP and the application of appropriate, recommended dust suppression measures.
- 5.1.13 Any complaints received concerning dust and particulate emissions at the Site will be dealt with in accordance with the company's EMS complaints procedure.
- 5.1.14 The investigation will be instigated by the Site Manager or the Technical Competent Person following the completion of the Complaints Report Form.



Legend:

- Wrotham Quarry Boundary
- Site boundary



Consultant:
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 1 & 2 Nightingale Place
 Pendeford Business Park
 Wolverhampton
 West Midlands
 WV9 5HF
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Client:
Quarryplan (GB) Ltd

Site:
Wrotham Quarry

Drawing Title:
Site and OS Base Overlay

Date: 19 Nov 2021	Scale: 1:5000 @ A3	Paper Size: A3 (420x297 mm)
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Drawn By: IS/ AF	Checked By: SB	Status: Final	Final Revision: -
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CAD Ref: CE-WQ1643 - DW01 - FINAL - v1.0	Drawing No. / Client Ref: Figure 1
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