Soil Treatment UK Limited

BAT Assessment Report for Hazardous Waste Treatment Operations

Soil Treatment UK Limited

Finmere Quarry and Landfill Site,
Banbury Road,
Finmere,
Oxfordshire,
MK18 4AJ

WESTBURY ENVIRONMENTAL

PROVIDING SOLUTIONS, ENSURING COMPLIANCE

T 01952 879705 E info@westburyenv.co.uk

A Agriculture House, Southwater Way
Telford, Shropshire, TF3 4NR

W www.westburyenv.co.uk

Document Control Table

Project Reference	23/009c
Project Title	Environmental Permit Variation Application
Document Title	BAT Assessment Report V1
Document Issue Date	26 October 2023
Client	Soil Treatment UK Limited
Status	Issued

Change log

Version	Changes	Produced by	Checked by	Date
1	Original BAT Assessment	Emma Gibson	Tracey Westbury	26 October 2023

Contents

Tables

Appendices

1. Introduction & Scope

Report Context

1.1. Westbury Environmental Limited have produced this Best Available Techniques (BAT) Assessment Report to support an Environmental Permit variation application submitted on behalf of Soil Treatment UK Limited (the Operator) located at Finmere Quarry and Landfill, Banbury Road, Finmere, Oxfordshire, MK18 4AJ. The site is defined as the area within the proposed permit boundary denoted by the green line, see Drawing No. 23/009c 001 Permit Boundary Plan V1 (Site).

1.2. This report outlines how Soil Treatment UK Limited will undertake operations involving hazardous waste on the Site in accordance with Best Available Techniques (BAT).

1.3. This report includes information on how Soil Treatment UK Limited will undertake the following operations:

- Physico-chemical treatment of hazardous wastes (asbestos picking).
- Physico-chemical treatment of hazardous wastes (washing and dry screening).
- Storage of hazardous wastes.

Scope

1.4. This report presents an assessment of compliance with BAT in relation to the acceptance, storage, and treatment of hazardous construction / demolition waste. The proposed operating techniques for this activity will be assessed in the context of the following relevant documents:

- JRC Science for Policy Report: Best available techniques (BAT) reference document for waste treatment, October 2018 (BREF).
- Commission implementing decision (EU) 2018/1147 of 10 August 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council (BAT conclusions).
- Chemical waste: appropriate measures for permitted facilities, November 2020 (Appropriate Measures).

1.5. The BAT conclusions listed in Table 1: Unapplicable BAT conclusions are considered not applicable to the Sites operations.

1.6. The report structure and relevant BAT conclusions, and Appropriate Measures to the Sites operations are provided in Table 2: Structure of report and relevant BAT guidance / appropriate measures.

1.7. The acceptance, storage and treatment of hazardous construction / demolition waste will be undertaken in accordance with the relevant BAT conclusions and Appropriate Measures, where relevant. Any derogation from the BAT Conclusions and Appropriate Measures has been fully justified in this report.

Table 1: Unapplicable BAT conclusions

BAT Conclusion	Description	Justification
BAT 6	Monitor wastewater parameters at key locations	The Site does not produce wastewater; therefore, no monitoring is required.
BAT 7	Monitoring frequencies of emissions to water.	The Site does not produce wastewater; therefore, no monitoring is required.
BAT 8	Monitor channelled emissions to air with the given test frequency.	No activities at the Site produce gaseous emissions to air.
BAT 9	Monitor diffuse emissions from the regeneration of spent solvents.	The Site does not carry out any activities involving spent solvents.
BAT 10	Periodically monitor odour emissions.	This is not applicable to the Site as no odour emissions are expected to cause nuisance at sensitive receptors.
BAT 12	Implementation of an odour management plan	An odour management plan is not required as it is not expected the Site will produce any odours that will cause a nuisance at sensitive receptors
BAT 13	Odour reduction techniques	No odour reduction techniques are required as it is not expected the Site will produce any odours that will cause a nuisance at sensitive receptors
BAT 15	The use of flaring	The Site does not use any flaring
BAT 16	Reduce emissions from flaring	The Site does not use any flaring
BAT 19	Optimise water consumption and reduce the volume of wastewater	The Site does not produce any wastewater. Water is recycled within the site.
BAT 20	Reduce emissions to water by treating wastewater	The Site does not produce any wastewater. Water is recycled within the site.
BAT 24	Maximise the reuse of packaging	The Site does not use any packaging in the waste operations
BAT 25	Reduce emissions of dust from the mechanical treatment of waste	The Site do not carry out mechanical treatment of waste
BAT 26	Improve the environmental performance of mechanical treatment in shredders	The Site do not carry out mechanical treatment of waste
BAT 27	Prevent deflagration in the mechanical treatment of waste	The Site do not carry out mechanical treatment of waste
BAT 28	Improve energy efficiency in the mechanical treatment of waste	The Site do not carry out mechanical treatment of waste

BAT 29	Reduce emissions of organic compounds for the treatment of WEEE	The Site does not accept or treat WEEE
BAT 30	Prevent emission due to explosions when treating WEEE	The Site does not accept or treat WEEE
BAT 31	Reduce emissions to air of organic compounds for the mechanical treatment of waste with calorific value	The Site does not carry out mechanical treatment of waste
BAT 32	Reduce mercury emissions for the mechanical treatment of WEEE	The site does not carry out mechanical treatment of waste nor does the Site accept or treat WEEE
BAT 34	Reduce channelled emissions to air of dust from the biological treatment of waste	No biological treatment of waste is undertaken
BAT 38	Reduce emissions to air from the anaerobic treatment of waste	The Site does not carry out any anaerobic treatment of waste
BAT 39	Reduce emission to air from the mechanical biological treatment of waste	The Site does not carry out any biological treatment of waste
BAT 42	Improve environmental performance from the re-refining of waste oil	The Site does not re-refine waste oil
BAT 43	Reduce the quantity of waste sent for disposal from the re-refining of waste oil	The Site does not re-refine waste oil
BAT 44	Reduce emissions of organic compounds to air from the re-refining of waste oil	The Site does not re-refine waste oil
BAT 45	Reduce emissions of organic compounds to air from the physio-chemical treatment of waste with calorific value	The Site does not treat waste with a calorific value
BAT 46	Improve environmental performance of the regeneration of spent solvents	The Site does not regenerate spent solvents
BAT 47	Reduce emissions to air from the regeneration of spent solvents	The Site does not regenerate spent solvents
BAT 48	Improve environmental performance from the thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil	The Site does not carry out any thermal treatment
BAT 49	Reduce emissions to air from thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil	The Site does not carry out any thermal treatment

BAT 51	Improve environmental performance from the decontamination of equipment containing PCBs	The Site does not carry out any decontamination of equipment containing PCB's.
BAT 52	Improve environmental performance from the treatment of water-based liquid waste	The Site does not treat water-based liquid waste
BAT 53	Reduce emissions to air from the treatment of water-based liquid waste.	The Site does not treat water-based liquid waste

Table 2: Structure of report and relevant BAT guidance / appropriate measures

Aspect	BAT Conclusion	Chemical Waste Appropriate Measures	Section of this report
Environmental Management System	BAT 1 BAT 21	Section 2	Section 2
Operating Techniques – waste characterisation and pre-acceptance procedures, Waste Acceptance Procedures, waste tracking system and inventory, output quality management system, waste segregation, waste compatibility / mixing / blending, removal of contravening items.	BAT 2 BAT 33 BAT 36 BAT 40	Section 3	Section 3
Waste storage	BAT 4	Section 4	Section 4
Waste transfer and handling	BAT 5	Section 4	Section 4
Waste Treatment	BAT 25, BAT 26, BAT 28, BAT 31	Section 5	Section 5
Reducing diffuse emissions to air (dust, odour, organic compounds)	BAT 14 BAT 41 BAT 50	Section 6.1, 6.2	Section 6
Noise and vibration management plan	BAT 17	Section 6.3	Section 6
Techniques for reducing noise and vibration emissions	BAT 18	Section 6.3	Section 6
Process efficiency	BAT 11 BAT 22 BAT 23 BAT 35	Section 8	Section 7

Best Available Techniques (BAT)

1.8. In order to gain or vary an Environmental Permit for an installation listed in Schedule 1 of the Environmental Permitting (England and Wales) Regulations 2016 (as amended) the Operator is required to demonstrate that the proposed techniques are the best available for their Installation.

1.9. The purpose of Best Available Techniques (BAT) is that the techniques selected to protect the environment should achieve an appropriate balance between environmental benefit and costs.

1.10. This report details how the operator proposes to meet the applicable requirements of BAT or justification for deviation from these requirements. It must be noted that the proposals may be subject to change, for example if new technology and techniques become available or viable.

2. Environmental Management System

2.1. BAT conclusion 1 (European Commission - establishing BAT conclusions for waste treatment) states:

> *"In order to improve the overall environmental performance, BAT is to implement and adhere to an EMS".*

2.2. BAT conclusion 21 (European Commission - establishing BAT conclusions for waste treatment) states:

> "*In order to prevent or limit the environmental consequences of accidents and incidents, BAT is to use all of the techniques given below as part of the accident management plan".*

Chemical waste: appropriate measures for permitted facilities (November 2020)

2.3. The requirements of BAT conclusion 1, 21 and 22 are covered in section 2 of the Appropriate Measures for the Treatment of Chemical waste – General management appropriate measures.

2.4. Section 2 of the chemical waste: appropriate measures for permitted facilities details appropriate measures for; the implementation of an environmental management system (EMS), staff competence & training, Accident Management Plan (AMP), emissions prevention, site security, Fire Prevention Plan (FPP), records keeping and emergency provisions.

2.5. Soil Treatment UK Limited will operate under an EMS that meets the requirements of the Environmental Permit and Environment Agency guidance, 'Develop a Management System: Environmental Permits'.

2.6. The EMS will include information and procedures regarding the treatment of hazardous and non-hazardous waste on the Site.

2.7. The EMS also includes an environmental policy which commits senior management and directors to regularly review operations undertaken and continue to improve environmental performance.

2.8. The operating procedures included within the EMS accord with the relevant Appropriate Measures, requirements.

2.9. A hard copy of the Environmental Management System will be kept on Site at all times. The EMS will include a copy of the Environmental Permit including the following sections:

- EMS Report
- Process Flow Diagrams
- Environmental Policy
- Site Condition Report
- Major Incident Plan
- Business Continuity Plan
- Environmental Accident Management Plan
- Noise Management Plan
- Dust Management Plan
- Environmental Risk Assessment
- Authorisations
- Procedures & Forms:
    - Implementation including staff training, reviewing & auditing documentation etc.
    - Waste Acceptance
    - Storage & Handling
    - Waste Treatment
    - Removal of Wastes
    - End of Waste
    - Sampling & Testing
    - Site Management
    - Environmental Protection
    - List of raw materials used

    - Maintenance
    - Emergency Provisions
    - Reporting
- Drawings

2.10. A detailed summary of the EMS is provided in the Environmental Permit Application Report, Appendix 13 EMS Summary.

3. Waste Acceptance

BAT Conclusions

3.1. BAT conclusion 2 (European Commission - establishing BAT conclusions for waste treatment) states:

"In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques given below:

- *Set up and implement waste characterisation and pre-acceptance procedures,*
- *Set up and implement Waste Acceptance Procedure s,*
- *Set up and implement a waste tracking system and inventory,*
- *Set up and implement an output quality management system,*
- *Ensure waste segregation,*
- *Ensure waste compatibility prior to mixing or blending of waste,*
- *Sort incoming solid waste".*

3.2. BAT conclusion 33 (European Commission - establishing BAT conclusions for waste treatment) states:

"In order to reduce odour emissions and to improve the overall environmental performance, BAT is to select the waste input".

3.3. BAT conclusion 36 (European Commission - establishing BAT conclusions for waste treatment) states:

"In order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters".

3.4. BAT conclusion 40 (European Commission - establishing BAT conclusions for waste treatment) states:

"In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures".

3.5. The requirements of BAT conclusion 2, 33, 36 and 40 are covered in Section 3 of the chemical waste appropriate measures.

Chemical waste: appropriate measures for permitted facilities (November 2020)

Pre-Acceptance

3.6. Section 3.1 of the Appropriate Measures provides details on the implementation of procedures that ensure the necessary checks are undertaken prior to any decision being made to accept a waste.

3.7. A comparison of the relevant Appropriate Measures requirements with the proposed procedures for waste pre-acceptance on the Site will now be assessed.

1. *You must implement Waste Pre-Acceptance Procedures so that you know enough about a waste (including its composition) before it arrives at your facility. You need to do this to assess and confirm the waste is technically and legally suitable for your facility. Your procedures must follow a risk-based approach, considering:*

- *the source and nature of the waste*
- *its hazardous properties*
- *potential risks to process safety, occupational safety and the environment (for example, from odour and other emissions)*
- *knowledge about the previous waste holder*

3.8. Waste characterisation information which details the above information is obtained by the operator prior to acceptance of waste onto the Site in accordance with the Waste Pre-Acceptance Procedure. A waste information form is used to request information from the waste supplier in a standardised way. The completed waste information form will act as a record to show that waste characterisation information has been received. See Appendix 1, Waste pre-acceptance Procedure.

2. *When you receive a customer query, and before the waste arrives at your facility, you must obtain the following in writing or in an electronic form:*

- *details of the waste producer including their organisation name, address and contact details*
- *the source of the waste (the producer's business and the specific process that has created the waste)*
- *where the holder of the waste is not the producer, details of the waste holder including their organisation name, address and contact details*
- *information on the nature and variability of the waste production process and the waste*

You must also obtain (in writing or electronic form) details about the waste including:

- *a description*
- *the List of Waste code (European Waste Classification (EWC) code)*
- *its physical form*
- *its composition (based on safety data sheets, where appropriate, or representative samples and robust laboratory analysis)*
- *any hazardous properties*
- *any persistent organic pollutants (POPs) present*
- *the potential for self-heating, self-reactivity or reactivity to moisture or air*
- *any odour*
- *its age, that is when it first became waste*
- *the type of packaging*
- *an estimate of the quantity you expect to receive in each load and in a year*

You must also obtain confirmation that the waste does not contain a radioactive source. If there is a risk of radioactive contamination you must obtain confirmation that the waste is not radioactive, unless your facility is permitted to accept such waste.

3.9. The above details for each customer will be kept electronically within the operator's computer database.

3. *You must consider whether specific wastes, from among those you are permitted to receive, have properties that can pose unacceptable risks to the site or process, for example due to:*

- *a risk of explosion (for example, if ammunition or aerosol canisters are present, or mixing processes that could lead to explosion)*
- *corrosion caused by strong acids.*
- *a risk of uncontrolled reactions (for example, if peroxides or strong oxidants are present, or polymerising components such as certain isocyanates)*
- *a risk of the evolution of gases (for example if cyanides, sulphides, or dissolved gas are present)*

3.10. The risk from waste accepted at the Site has been considered as part of the Environmental Risk Assessment, see Environmental Permit Application Report, Appendix 9 Environmental Risk Assessment. It is not considered that the wastes proposed to be accepted will pose an unacceptable risk to the Site or the treatment processes. The EMS will contain an Environmental Accident Management Plan that will contain further assessment and information with regard to risk from accidents.

5 *You must obtain and analyse a representative sample of a waste if:*

- *the chemical composition or variability of the waste is unclear from the information supplied by the customer*
- *there are doubts about whether the sample analysed is representative of the waste*
- *you will treat the waste at your facility (this allows you to carry out tests to determine if the planned treatment will be safe and effective)*

Where you rely on a customer sample you must record that you have done this and the reason why the customer sample is acceptable.

3.11. Hazardous waste that is imported onto the Site will be accompanied by waste characterisation information, which will include lab test results and a classification assessment in accordance with technical guidance WM3: Waste classification – Guidance on the classification ad assessment of waste.

3.12. The operator may also accept hazardous waste that has not been classified as hazardous but is assumed to be hazardous. This waste is stored separately to classified hazardous waste until it has been sampled and tested. This waste will be sampled and tested in house to determine if it is hazardous prior to treatment via screening. Test results will be assessed in accordance with WM3 Guidance.

6. *You may not need a representative sample where, for example, the waste is:*

- *asbestos*
- *a pure product chemical or aerosol where the chemical composition and hazardous properties are available in a REACH compliant safety data sheet*
- *packaged cosmetics and pharmaceuticals*
- *contaminated clothing, packaging or rags*
- *an 'article', for example batteries, lighting tubes, waste electrical or electronic equipment, end-of-life vehicles or parts of vehicles, metal waste and scrap metal*
- *solid non-hazardous waste (except for mirror entries when the waste composition is unknown)*
- *contaminated wood and roofing material*
- *produced in an emergency – you must not treat or offload such wastes until you have completed a full characterisation.*

3.13. None of the above materials are proposed to be accepted on to the Site.

6.1. *You may also not need a representative sample If the waste is laboratory smalls in containers of less than 5 litres. Laboratory smalls generally contain pure chemical elements and compounds from laboratories or arise when laboratory stores are cleared. When drums are used for laboratory smalls, a list of the contents must be stored within the drum below the lid or attached to the drum. Similarly for other types of packages containing laboratory smalls, a list of contents is appropriately stored within (or attached to) the packaging. Each packed drum (or other package) is then labelled with the hazard for carriage, for example under the International Carriage of Dangerous Goods by Road (ADR) treaty. You should provide packaging guidance to your customer or their intermediary if the person packing the laboratory smalls does not work for you.*

3.14. None of the above materials are proposed to be accepted on to the Site.

7. *After fully characterising a waste, you must technically assess the waste's suitability for treatment or storage to make sure you can meet permit conditions. You must also do this to meet any Control of Major Accident Hazards (COMAH) requirements, because wastes, raw materials and end-of-waste materials all contribute to COMAH limits. You must make sure that the waste complies with the site's treatment capabilities. In the case of water based liquid waste, you may perform laboratory scale tests to predict the treatment's performance, for example on breaking of emulsion or biodegradability.*

3.15. Process Flow Diagrams have been produced that provide details on the suitability of waste for treatment on Site. It will be the responsibility of the Site Manager/Technical Assessor to assess incoming waste to ensure that the correct treatment is carried out. Process Flow Diagrams are provided in Appendix 2 Technical Summary.

3.16. Hazardous waste accepted on to the Site will either be:

- Unclassified hazardous waste (waste that has not been classified as hazardous but is assumed to be hazardous) that does not contain asbestos.
- Classified hazardous waste that does not contain asbestos.
- Asbestos containing waste (both fibrous and bonded asbestos).
- Asbestos containing waste, which may or may not contain other hazardous properties.

3.17. Waste containing asbestos will be accepted onto the Site and classified as hazardous due to the content of visible particles of asbestos or asbestos fibres. Waste that contains visible particles of asbestos will be suitable for handpicking to remove this. Wastes that contain asbestos fibres will be sub sampled and tested to determine the correct classification.

3.18. A technical assessment of the appropriate treatment methods to be employed will be undertaken by the Technical Assessor using the information that has been provided at the pre-acceptance stage. The treatment processes selected will be dependent on the contaminants present. The selected treatment route for a particular waste load will be documented and implemented. The EMS for the Site will contain a procedure to control the use of this information to ensure that wastes are appropriately treated on the Site.

3.19. Each hazardous waste stream will have a clear treatment and recovery / disposal route. The Finmere Quarry – Screening of Hazardous Waste Process Flow Diagram illustrates how hazardous waste accepted on to the site for treatment will be treated to generate a number of fractions of waste. Each fraction of waste will be tested, and the results assessed in accordance with WM3 Guidance. Waste that is identified to be non-hazardous will undergo further processing, before being sent off Site for recovery. Waste that is identified to be hazardous may be sent off Site as hazardous waste, or for further treatment on the Site.

9. *You must keep pre-acceptance records for at least 3 years (in a computerised waste tracking system) following receipt of the waste. If an enquiry from a waste producer does not lead to the receipt of waste, you do not need to keep records.*

3.20. All records relating to Pre-Acceptance are kept alongside duty of care documentation and are kept for a minimum of three years, in accordance with the Waste Acceptance Procedure.

10. *You must reassess the information required at pre-acceptance if the:*

- *waste changes*
- *process giving rise to the waste changes*
- *waste received does not conform to the pre-acceptance information*

In all cases, you must reassess the information required at pre-acceptance on an annual basis.

3.21. In the event that the waste from a customer changes, the operator will ensure that the information required at the pre-acceptance stage will be updated and will be kept alongside duty of care documentation for a minimum of three years. Where waste arrives on Site and does not conform to the pre-acceptance information, the information required at the pre-acceptance stage will be reassessed. These requirements are included in the pre acceptance procedure, see Appendix 1 Waste Pre-acceptance Procedure.

12. *You must keep the roles and responsibilities of sales staff and technical staff separate. If sales staff are involved in waste enquiries then technical staff must do a final technical check before approval. You must keep this final technical check independent of commercial considerations, to make sure you:*

- *only accept wastes that are suitable for the site*
- *avoid accumulating waste*
- *have enough storage and treatment capacity*

3.22. The EMS will contain a company organogram to identify the roles and responsibilities of sales staff and technical staff. This will demonstrate the separation of the requirement for the technical assessment of waste to be separate from the commercial considerations of the company.

3.23. Procedures within the EMS, including waste pre-acceptance and waste acceptance, include reference to who is responsible for each point in the procedure. Sales staff are not involved with the technical assessment of the suitability of the treatment of a waste on the Site.

> 13. *Fully characterising the waste's composition is an essential step in the pre-acceptance procedure because hazardous wastes can be very complex. You must be sure you know what is in the waste so that you can safely handle or treat it. You must select analytical tests based on knowing the process that generates the waste. You must characterise the waste's composition at the pre-acceptance stage. You need to do this to make sure you comply with regulatory requirements and to work out the most appropriate waste storage, transfer or treatment route*.

3.24. The waste accepted onto the Site is construction/demolition or utility waste therefore the composition of the waste will depend on aspects of the site from which it has been taken. This information is typically available in the form of a site investigation report. Information on the waste composition will be collected and assessed in accordance with the Waste Pre-Acceptance Procedure, see Appendix 1 Waste Pre-acceptance Procedure.

> *16 For solid waste, any or all of the following may be appropriate:*
>
> - *measure the bulk density of the sample, without pre-treatment of the sample*
> - *measure the water content*
> - *measure the ash content after 550°C*
> - *test for cyanide, and if present determine the free and complexed cyanide levels*
> - *test for POPs*
> - *check the content of volatile and semi volatile substances*
> - *check the mass balance of solid waste*

3.25. The Site does not accept any waste other than solid waste therefore all waste received at the Site will be tested in accordance with the Waste Pre-acceptance Procedure.

3.26. Information on the waste to be accepted including chemical composition, hazardous properties, physical appearance, colour etc. are included on the Waste Information Form that is required to be completed in accordance with the Waste Pre-acceptance procedure.

> *18 Analyses must be carried out by laboratories that have robust quality assurance procedures and used recognised test methods. The EN ISO 17025 accreditation represents best practice.*

3.27. Where samples are sent for analysis at an external laboratory. Steps will be taken to ensure that the laboratory carried out the analysis in accordance with the necessary quality assurance.

3.28. Some analysis of waste will be undertaken on the Site however, this will be for the purpose of process monitoring rather than compliance. Samples of the waste will be labelled, and chain of custody documentation completed before being sent to the laboratory. The laboratory will use a sample tracking system to ensure chain of custody between samples and testing results.

<u>Waste Acceptance</u>

3.29. Section 3.2 of the Appropriate Measures describes the procedures for when waste arrives at the Site i.e., Waste Acceptance Procedures.

3.30. A comparison of the relevant Appropriate Measures (chemical waste) requirements with the proposed procedures for waste acceptance on the Site are assessed below.

1. *You must follow Waste Acceptance Procedures to check that the characteristics of the waste you receive match your pre-acceptance information. This is to confirm that the waste is as expected and you can accept it. If it is not, you must confirm that you can accept it as a non-conforming waste, or you must reject it.*

3.31. The EMS contains a Waste Acceptance Procedure, see Appendix 3 Waste Acceptance Procedure, that provides details for checking wastes that arrive at the Site match the information obtained during pre-acceptance. This information is included on the Waste Information Form associated with the Pre-acceptance Procedure. Checks made on the waste will include visual checks on arrival and offloading. Samples may be taken at this stage for compliance testing to ensure that the waste received is as expected. If the waste is not permitted to be accepted and is unsuitable for treatment, it is regarded as non-conforming waste and quarantined, or it must be rejected in accordance with the Non-Conforming Waste and Waste Rejection Procedure.

3. *Other than in an emergency (for example, taking waste from an emergency incident clean-up), you must only receive pre-booked wastes onto site that have been adequately pre-accepted and are consistent with the pre-acceptance information.*

3.32. Other than in an emergency (for example, taking waste resulting from an emergency incident clean-up), waste is only accepted if it is in accordance with the Waste Acceptance Procedure.

5. *You must visually check wastes or their packaging and verify them against pre-acceptance information and transfer documentation before you accept them on site. The extent of the initial visual check is determined by the waste type and how it is packaged.*

3.33. Incoming waste loads are visually checked prior to acceptance on to the Site to ensure that the waste match the description on the Hazardous Waste Consignment Note and information obtained during the pre-acceptance stage.

6. *You must check and validate all transfer documentation and resolve discrepancies before you accept the waste. If you believe the incoming waste classification and description is incorrect or incomplete, then you must address this with the customer during waste acceptance. You must record any non-conformances. If you have assessed the waste as acceptable for on-site storage or treatment, you must document this.*

3.34. All transfer documentation will be checked on arrival of waste on to the Site. If any discrepancies are noted, then these will be resolved prior to acceptance of the waste. If the discrepancy is incomplete or inaccurate paperwork, then this will be raised with the customer to resolve to enable the waste to be accepted. If this cannot be resolved, then the waste will be rejected. If the discrepancy is due to the non-conformance of the waste with the documentation, then the waste will be rejected until accurate information is supplied on the waste.

7. *You must have clear criteria for non-conforming wastes including rejection of such waste. You must also have a written procedure for recording, reporting and tracking non-conforming wastes, including notifying the relevant customer or waste producer, and the regulator.*

3.35. If an incoming waste load is not acceptable under the Environmental Permit, then it will be rejected in accordance with the Waste Rejection Procedure. See Appendix 4 Waste Rejection Procedure.

3.36. If the waste has been accepted and off loaded on to the Site before it was identified as being unacceptable the load will be put into the quarantine area. Waste from the quarantine area will be removed from the Site in accordance with the Waste Rejection Procedure.

8. *You must weigh each load of waste on arrival to confirm the quantities against the accompanying paperwork, unless alternative reliable systems are available (for example, based upon density and volume). You must record the weight in the computerised waste tracking system.*

3.37. The Site will have an installed weighbridge and all vehicles entering and leaving the Site, carrying waste, will be required to pass over the weighbridge, see Appendix 3 Waste Acceptance Procedure. The weighbridge will be connected to a computerised tracking system that will contain information on the waste on to be received and waste already on the Site.

> *9. The person carrying out waste acceptance checks must be trained to effectively identify and manage and non-conformances in the loads received, complying with this guidance and your permit conditions.*

3.38. All site staff involved in the acceptance of waste on to the Site are regularly trained on appropriately implementing EMS procedures, including the Waste Acceptance Procedure. Implementation of the Waste Acceptance Procedure ensures waste is accepted in accordance with the Appropriate Measures and permit conditions. The EMS will also contain procedures on the training of staff on EMS procedures. Records will be kept of identified training needs for staff and training logs to track training provisions.

> *11. You must minimise the manual handling of waste. You should use mechanical unloading technologies where it is possible, safe and practicable to do so.*

3.39. The manual handling of waste is minimised on the Site where possible, mechanical equipment will be employed wherever possible.

> *12. Offloading, sampling, general storage, reception and quarantine areas must have an impermeable surface with self-contained drainage, to prevent any spillage entering the storage systems or escaping off site.*

3.40. The waste storage and treatment areas have impermeable surfacing. There will be kerbing around the perimeter of the hazardous waste storage and treatment area to contain any surface water. Surface water from the treatment area is collected and treated on Site to be re-circulated in the wash plant.

> *13. The designated sampling point or reception area must be close to the laboratory or checking area and needs to be visible.*

3.41. Waste accepted on to the Site will be off-loaded into a reception area depending on the waste type and treatment to be carried out. Sampling will be taken from stockpiles within the reception areas. Wastes being off loaded into the reception areas are checked during off-loading to ensure that the waste does not contain contravening materials.

<u>Acceptance of containerised waste</u>

> *14. After you have completed the initial visual inspection and confirmatory checks, you must offload waste containers into a dedicated reception area to await detailed checks or sampling. Wastes that do not require further checking can go directly into the appropriate storage area. You must not unload wastes if you do not have enough space.*

3.42. The Site will not accept containerised waste. Waste to be accepted on Site will be from construction / demolition / excavation works.

> *18. Quarantine storage must be for a maximum of 5 working days. You must have written procedures for dealing with wastes you hold in quarantine, and a maximum storage volume. For some limited and specific cases (for example the detection of radioactivity), you can extend quarantine storage time if the Environment Agency agrees.*

3.43. Waste will be stored for a maximum of 5 working days in the quarantine area. The Waste Rejection Procedure provides details for removing wastes from the quarantine area, see Appendix 4 Waste Rejection Procedure.

> *20. You must make sure that all waste packages you receive are marked or labelled with:*
>
> - *a description of the waste that also gives its chemical identity and composition*
> - *a unique tracking system reference*
> - *the date of arrival on site*

- *a hazard code or codes (using a product or transport symbol)*

The unique reference must allow you to track the waste and easily identify the producer of the waste.

3.44. The Site will not receive packaged waste.

Acceptance of bulk wastes

24. Bulk loads (liquid or solid) can only be offloaded after they have been fully verified as compliant. You must not accept a non-compliant bulk load for interim storage except in an emergency. Verification testing should include:

- *checking consistency with the pre-acceptance information*
- *compatibility with the receiving vessel contents*
- *where appropriate, checking treatability by using laboratory scale simulation*

3.45. Waste arriving at the Site will be subject to several processes to check that it is acceptable. The initial visual check will occur at the weighbridge along with the checks made on the paperwork. Following these, further visual checks are made during off-loading and stockpiling.

3.46. Waste accepted on to the site may be subject to compliance sampling and testing to ensure that the waste received is as expected to be received.

Acceptance Sampling

27 You must representatively sample all wastes, bulk or containerised (including from every container) at the acceptance stage and carry out verification and compliance testing. You must not just rely on the written information supplied. The requirement to sample does not apply to some wastes, for example:

- *pure product chemicals*
- *asbestos*
- *contaminated clothing, packaging or rags*
- *'articles'*
- *laboratory smalls*
- *packaged cosmetics and pharmaceuticals*
- *solid non-hazardous waste (except for mirror entries when the waste composition is unknown)*
- *contaminated wood and roofing material*
- *waste received directly from a householder*
- *green wastes and food wastes*

3.47. Hazardous waste accepted on to the Site following pre-acceptance checks and information gathering, will be subject to compliance sampling and testing depending on the characteristics of the waste itself and the source site.

3.48. Waste that is accepted on to the site that has not been classified as hazardous but is assumed to be hazardous will be sampled and tested on the Site in accordance with the Waste Acceptance Procedure to determine its hazardous properties.

30 On Site Sampling must take place under the supervision of the site's qualified staff. Where a driver arrives at the site with a sample taken elsewhere, the sample:

- *must be verified as representative, reliable and obtained by a person technically competent to take it*
- *is only acceptable if it was taken for specific health or safety purposes*

3.49. Hazardous waste accepted onto the site will only be received under the supervision of a suitably qualified person and the sampling will be undertaken by a qualified person. The EMS will contain a procedure with regard to sampling of waste.

33 You must keep a record of the sampling regime, process and justification in your computerised waste tracking system.

3.50. The requirements for sampling of wastes accepted on to the Site will be determined and recorded on the computerised tracking system and within the Waste Information Form. These records will justify the decision regarding the frequency of compliance testing.

34 You should keep acceptance samples on Site for at least 2 working days after you have:

- *Treated a waste and removed its treatment residues from the facility*
- *Transferred a wate from your Site*

Where you are transferring waste oil from your site you must keep acceptance samples for at least 2 working days after the waste has been treated off site. You must analyse the waste oil sample if a problem is found at the off-site treatment plant. You only need to keep samples that you did not analyse at acceptance.

3.51. Samples of waste taken for compliance testing will be stored for a minimum of two days after the waste has been treated or removed off-site, in accordance with the Waste Acceptance Procedure, see Appendix 3 Waste Acceptance Procedure.

Testing and Analysis

40 You must test each waste for acceptance according to the parameters decided at pre-acceptance, plus any appropriate additional checks. You should record the results of the tests in the computerised waste tracking system. You should note and investigate any discrepancies.

3.52. All testing of waste carried out during waste acceptance will be carried out in accordance with the requirements that were identified at the pre-acceptance stage. This information will be recorded on the Waste Information Form and in the computerised tracking system. The system will also contain details of any investigation carried out with regard to discrepancies.

Waste Tracking

3.53. Section 3.3 of the Appropriate Measures provides details on the use of a waste tracking system to ensure waste is tracked throughout acceptance, storage, treatment, and removal off Site.

3.54. A comparison of the relevant Appropriate Measures requirements with the proposed procedures for waste tracking on the Site is provided below.

1. *You must use a computerised tracking system to hold up-to-date information about the available capacity of the waste quarantine, reception, general and bulk storage areas of your facility, including treatment residues and end-of-waste product materials.*

2. *Your waste tracking system must hold all the information generated during:*

- *pre-acceptance*
- *acceptance*
- *non-conformance or rejection*
- *storage*
- *repackaging*
- *treatment*
- *removal off site*

This information must be easily accessible.

3.55. The information obtained from pre-acceptance, acceptance, non-conformance / rejection, storage, repackaging, treatment, and removal off site is retained electronically within the operator's computerised tracking system.

3.56. Reviewing information held in the tracking system will allow the operator to readily see the available capacity of the storage areas and the progress of waste batches through the treatment processes on the Site.

4. Waste Storage & Handling

BAT Conclusions

4.1. BAT conclusion 4 (European Commission - establishing BAT conclusions for waste treatment) states:

"In order to reduce the environmental risk associated with the storage of waste, BAT is to use all of the techniques given below:

- *Optimised storage location,*
- *Adequate storage capacity,*
- *Safe storage operation,*
- *Separate area for storage and handling of packaged hazardous waste".*

4.2. BAT conclusion 5 (European Commission - establishing BAT conclusions for waste treatment) states:

"In order to reduce the environmental risk associated with the handling and transfer of waste, BAT is to set up and implement handling and transfer procedures".

4.3. The requirements of BAT conclusion 4 and BAT conclusion 5 are covered in Section 4 of the Chemical Waste Appropriate Measures.

Chemical waste: appropriate measures for permitted facilities (November 2020)

4.4. Section 4 of the Appropriate Measures describes the requirements for the implementation of systems and procedures to ensure that wastes are transferred to appropriate storage areas safely and stored suitably.

4.5. A comparison of the relevant Appropriate Measures requirements with the proposed procedures for waste storage and handling on the Site is provided below.

1. *You must store waste in locations that minimise the handling of waste. Waste handling must be carried out by competent staff using appropriate equipment.*

4.6. The location of waste storage areas is designed to minimise the handling of waste. The handling of waste is undertaken by suitably trained staff always using appropriate equipment.

4.7. The computerised waste tracking system and storage areas are designed to minimise double handling as much as possible.

4.8. Different waste types will be stored separately on the Site to avoid cross contamination. Appropriate equipment will be used to move waste to and from the storage areas.

2. *Where possible, you should locate storage areas away from watercourses and sensitive perimeters (for example, those close to public rights of way, housing or schools). You must store all waste within the secure area of your facility to prevent unauthorised access and vandalism.*

4.9. Waste is stored within the permitted area and located away from sensitive receptors. The nearest watercourse/body of water is a lagoon located in the wider Finmere Quarry east of the permit boundary.

4.10. The Site is managed and operated in accordance with an EMS which includes site security measures to prevent unauthorized access. The Site is constantly manned during operational hours. There is Site security present during non-operational hours.

3. *You must clearly document the maximum storage capacity of your site and the designated storage areas. You must not exceed these maximum capacities. You should define capacity in terms of, for example, maximum tank or vessel capacities, tonnage and numbers of skips, pallets or containers. You must regularly monitor the quantity of stored waste on site and designated areas and check against the allowed maximum capacities.*

4.11. The Environmental Permit will include the maximum storage limit for the amount of waste to be stored on site at any one time. This storage capacity of the site will be detailed in the EMS and will not be exceeded.

4.12. The quantity of waste stored on Site will be regularly monitored to ensure the amount of waste stored does not exceed the limits included within the Environmental Permit.

4.13. The EMS will contain a Waste Storage Procedure, this will include a Storage Plan to show:

- The location of waste and product storage areas.
- The type of waste to be stored in the waste storage areas.
- The capacity of the storage areas.

5. *You must clearly mark hazardous waste storage areas and provide signs showing the maximum quantity and hazardous properties of wastes that can be stored there.*

4.14. The storage areas for hazardous waste will be clearly segregated and labelled to show the hazardous properties of the waste present in the area and the maximum quantity of waste which can be stored in that location at any one time.

6. *Storage area drainage infrastructure must:*

- *contain all possible contaminated run-off*
- *prevent incompatible wastes coming into contact with each other*
- *make sure that fire cannot spread*

4.15. The surfacing of the Site where waste is stored will be impermeable. Surface water which has come into contact with waste will be collected via the drainage system which comprises of interceptors leading to the on-Site water storage tanks. The hazardous waste storage and treatment area has kerbing surrounding the perimeter to contain any possibly contaminated surface water / run-off.

4.16. No wastes that are incompatible with each other are accepted on the Site.

4.17. The waste accepted onto the Site will predominantly be from construction / demolition / excavation works. Such waste is not combustible and therefore the risk from fire spreading through the waste stored on site is very low.

11 *You must not store or hold wastes on site in vehicles or vehicle trailers unless you are receiving them or preparing them for imminent transfer (meaning that you will remove them from site within 24 hours, or 72 hours if over a weekend).*

4.18. Wastes will be stored within dedicated storage areas and will not be stored within vehicles or vehicle trailers. Wastes are unloaded immediately after inspection in accordance with the Waste Acceptance Procedure.

15 *You must not accumulate waste. You must treat wastes, or remove them from the site, as soon as possible. Generally, you should do this within one month of receipt but all wastes must be removed within 6 months of receipt. This applies even when the waste might be used as a reactant. Where a shorter time period is given in a permit condition you must comply with the permit for that waste. Where a waste is stored for longer than allowed you must inform the Environment Agency.*

4.19. Waste will not be accumulated on the Site. The Waste Storage & Handling Procedure will contain information relating to the maximum storage duration for each waste storage area. It is the intention of the operator to treat and remove waste as soon as possible. Wastes will be not be stored on the Site for longer than 6 months.

21 *There must be pedestrian and vehicular access (for example, forklift) at all times to the whole storage area so that you can retrieve containers without removing others that may be blocking access – other than removing those in the same row.*

4.20. No containerised waste will be accepted on to the Site

36 You must:

- *Contain wash waters within an impermeable area and either discharge them to foul sewer or dispose of them appropriately off Site.*
- *Prevent run-off into external areas or to surface water drains*

4.21. Hazardous waste operations and storage will be carried out on an impermeable surface. This area is surrounded by kerbing to prevent any surface water escaping.

4.22. Wash waters produced through washing activity will be collected and treated and recirculated within the site or tankered off site for disposal.

37. You must manage waste in a way that prevents pests or vermin. You must have specific measures and procedures in place to deal with wastes that are identified as causing pests or vermin.

4.23. Waste storage areas will be inspected daily for the presence of pests and vermin in accordance with the Housekeeping, Litter, Pest & Vermin Control Procedure which will be included as part of the EMS. The predominant waste types which will be stored on the Site are construction / demolition / excavation waste. These waste types are not inherently putrescible, and it is considered that they will not attract pests or vermin.

38. You must inspect storage areas, containers and infrastructure daily. You must deal with any issues immediately. You must keep written records of the inspections. You must rectify and log any spillages of waste.

4.24. Waste storage areas will be inspected daily as part of the implementation of the Maintenance Procedure requirement for daily inspections to be undertaken. All inspection records including corrective actions are retained.

40. You must not carry out any activities that represent a clear fire risk within any storage area. Examples include:

- *grinding*
- *welding or brazing of metalwork*
- *smoking*
- *parking normal road vehicles, except while unloading or loading*
- *recharging batteries*

4.25. Activities which are considered to present a fire risk will not be undertaken in, or, in the vicinity of the waste storage areas. The waste stored on this site will not be combustible.

5. Waste Treatment

BAT Conclusions

5.1. BAT conclusion 40 (European Commission - establishing BAT conclusions for waste treatment) states:

In order to improve the overall environmental performance BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2)

5.2. BAT conclusion 41 (European Commission - establishing BAT conclusions for waste treatment) states:

In order to reduce emissions of dust, organic compounds and NH3 to air, BAT is to apply BAT 14d and to use one or a combination of the techniques given below.

a. *Adsorption*

b. *Biofilter*

c. *Fabric filter*

d. *Wet scrubbing*

BAT associated emission level for channelled emissions of dust to air from physico -chemical treatment of solid or pasty waste….. and associated monitoring in BAT 8.

5.3. It is not anticipated that the treatment activities will create significant diffuse emissions due to the nature of the waste and the concentration and nature of contaminants likely to be present. It is considered that the volume of waste and the size of the processing plant would constrain the enclosure of the equipment within a building.

Chemical waste: appropriate measures for permitted facilities (Nov 2020)

5.4. A comparison of the relevant Appropriate Measures requirements with the proposed procedures for waste treatment on the Site is provided below.

1. *Waste treatment must have a clear and defined benefit. You must fully understand, monitor, and optimise the waste treatment process to make sure you treat waste effectively and efficiently. You must not treat waste to deliberately dilute it. The treated output material must meet your expectations and be suitable for its intended disposal or recovery route. You must identify and characterise emissions from the process and take appropriate measures to control them at source.*

5.5. The purpose of the proposed waste treatment is to separate non-hazardous waste from the hazardous waste which will then be re-classified to produce a recycled aggregate. This treatment will reduce the volume of hazardous waste. No treatment will take place with the purpose of dilution of hazardous waste.

2. *You must have up-to-date written details of your treatment activities, and the abatement and control equipment you are using. This should include information about the characteristics of the waste you will treat and the waste treatment processes, including:*

- *Simplified process flowsheets that show the origin of any emissions*
- *details of emission control and abatement techniques for emissions to air and water, including details of their performance*
- *diagrams of the main plant items where they have environmental relevance, for example, storage, tanks, treatment, and abatement plant design*
- *details of chemical reactions and their reaction kinetics and energy balance*
- *details of physical treatment processes for example thermal desorption, distillation, phase separation, shredding, filtration, compaction, centrifuging, heating, cooling, or washing*
- *details of biological treatment processes*

- *details of any effluent treatment*
- *a description of any flocculants or coagulants used*
- *an equipment inventory, detailing plant type and design parameters, for example, time, temperature, pressure*
- *waste types to be subjected to the process*
- *the control system philosophy and how the control system incorporates environmental monitoring information*
- *process flow diagrams (schematics)*
- *venting and emergency relief provisions*
- *a summary of operating and maintenance procedures*
- *process instrumentation diagrams*
- *monitoring points and monitoring schedules*

5.6. The only plant involved in the treatment operations will be the screening (both washing and dry) plant. This is outlined in the hazardous waste process flowchart included in Appendix 2, Technical Summary.

5.7. The treatment process does not rely on any chemical reactions. Hazardous waste is screened to separate fractions of waste by particle size.

5.8. Waste treatment includes screening (wet and dry) of hazardous waste to separate fractions of waste by particle size. Therefore, no flashpoints etc. are applicable to this activity.

5.9. No control monitoring system is proposed for the hazardous waste treatment activities. Treatment operations include screening (wet and dry) only. The Operating Procedures within the EMS will be implemented to ensure that all fractions of processed waste are sampled and tested. Test results will be assessed in accordance with WM3 Guidance, and the waste will then be classified as non-hazardous or hazardous. It is not considered that a control system is necessary as the testing and assessment of every fraction of processed waste is carried out in all instances.

5.10. A process flow diagram of the proposed treatment has been provided as part of the permit application. The process flow diagram shows the storage facilities used and the treatment techniques. The process flow diagrams for both Asbestos containing waste and other hazardous waste are included in Appendix 2, Technical Summary.

5.11. There is no proposal for venting or emergency relief, as the operations are not pressurised. Waste types accepted on to the Site are not considered to pose a significant risk to human health from respiration, due to the low concentrations of contaminants within the waste and nature of the waste.

5.12. Operating procedures will be included within the EMS which will outline how the treatment process will be carried out and the controls that are in place to mitigate risk to the environment and ensure efficient waste treatment. The operating procedures will include several procedures, including the Waste Acceptance Procedure, Waste Storage & Handling Procedure, Waste Treatment, and the computerised waste tracking system. In this way, operating procedures and computerised waste tracking system will cover how the waste is accepted, stored, treated, and transported throughout the Site. Further procedures are included within the EMS which aim to control the risk posed by dust, mud, litter, odour etc.

5.13. The Maintenance Procedure within the EMS will contain details on the planned preventative maintenance (e.g., routine maintenance / servicing) of vehicles / plant / equipment. Several forms are used to record the maintenance on the Site, including a schedule of planned preventative maintenance showing when routine maintenance of vehicles / plant / equipment is required. The Maintenance Procedure will also include details on how the operator will carry out regular inspections on a daily, weekly, monthly, and annual basis.

5.14. Inspections will include plant, vehicles, equipment, infrastructure, environmental protection (e.g., presence of mud, dust, odour etc.) and housekeeping (e.g., evidence of litter, pests, vermin etc.). Any action that is required as a result of the planned preventative maintenance or regular inspections will be recorded using an Action Form which will document how the operator has resolved an issue.

5.15. No abnormal operating conditions are expected, other than stoppages and shut-downs due to the breakdown of the screening plant. In this instance the operator would aim to repair or replace the faulty part screening plant as quickly as possible. Contingency plans will be in place within the EMS to document how the operator will not accept waste when there is no clear way to treat / remove the waste and/or will need to remove waste on the Site if the maximum storage durations are at risk of being exceeded.

5.16. Hazardous waste treatment activities involve the screening of waste to separate fractions of waste according to their particle size. Since contaminants are likely to bind to the surface of particles, proportionally more contaminants are likely to be present in the fraction of waste that contains the smaller particles. Therefore, the larger particles of waste, e.g., lumps of concrete, are likely to be non-hazardous.

5.17. Variables within the treatment process are not proposed for the following reasons:

- The waste types accepted on to the Site are construction / demolition and utility waste and will be suitable for screening.
- The hazardous properties and contaminants within the waste are not in significant quantities that could cause a reaction. The concentration of contaminants within the overall batch is low.
- Confirmation / validation sampling and testing is carried out on each fraction of waste generated from the treatment process. Waste is sent to the appropriate destination based on whether is classified as hazardous or non-hazardous.

5.18. The treatment does not rely on any reaction chemistry. The end point to the process will be when the screening has been completed and the fractions of waste are generated.

9. *To track and control the process of change you must have a written procedure for proposing, considering and approving changes to technical developments or procedural or quality changes*

5.19. The EMS will contain a Reviewing & Auditing Documentation Procedure, which includes information on how the EMS will be reviewed in the event of a change to the Environmental Permit, equipment / processes on the site etc. The review of the EMS documentation will be recorded using a Management of Change Procedure, which will document what amendments are required as a result of the proposed change.

10. *Where an emission is expected, all treatment or reactor vessels must be enclosed. Only vent the to the atmosphere via an appropriate scrubbing and abatement system (subject to explosion relief).*

5.20. There are no treatment/reaction vessels used in the treatment process as the treatment is not reliant on a reaction. No abatement is proposed for the screening activities that are carried out on the Site, as there is not a significant likelihood that emissions could cause significant harm to the environment or human health, see Appendix 5 Environmental Risk Assessment (ERA).

6. Emissions

Emissions to Air

BAT Conclusions

6.1. BAT Conclusion 14 (European Commission - establishing BAT conclusions for waste treatment) states:

"In order to prevent or, where that is not practicable, to reduce diffuse emissions to air, in particular of dust, organic compounds and odour, BAT is to use an appropriate combination of the techniques given below.

- *minimising the number of potential diffuse emission sources,*
- *selection and use of high integrity equipment,*
- *corrosion prevention,*
- *containment, collection and treatment of diffuse emissions,*
- *dampening,*
- *maintenance,*
- *cleaning of waste treatment and storage areas,*
- *leak detection and repair (LDAR) programme".*

6.2. BAT conclusion 41 (European Commission - establishing BAT conclusions for waste treatment) states:

"In order to reduce air emissions of dust, organic compounds, and NH3 to air, BAT is to apply BAT 14d and to use one or a combination of the techniques given below.

- *Adsorption*
- *Biofilter*
- *Fabric filter*
- *Wet scrubbing".*

6.3. BAT conclusion 50 (European Commission - establishing BAT conclusions for waste treatment) states:

"In order to reduce emissions of dust and organic compounds to air from the storage, handling, and washing steps, BAT is to apply 14d and to use one or a combination of the techniques given below

- *Adsorption*
- *Fabric filter*
- *Wet scrubbing".*

6.4. Sections 6.1 & 6.2 of appropriate measures (chemical waste) covers BAT conclusion 14, 41 and 50 it describes the potential measures for controlling fugitive emissions to air of various substances.

Chemical waste: appropriate measures for permitted facilities (November 2020)

6.5. A comparison of the relevant Appropriate Measures requirements with the proposed procedures for emissions control on the Site will now be assessed.

<u>Point Source Emissions to Air</u>

4. To reduce point source emissions to air (for example, dust, volatile organic compounds and odour) from the treatment of waste, you must use an appropriate combination of abatement techniques, including one or more of the following systems:

- *adsorption (for example, activated carbon)*
- *biofiltration*
- *wet scrubbing*
- *fabric filters*
- *high efficiency particulate (HEPA) filtration*

- *condensation and cryogenic condensation*
- *cyclonic separation*
- *electrostatic precipitation*
- *thermal oxidation*

6.6. The only point source emission to air is the potential vent from the picking station where pieces of asbestos is removed from the waste. If air quality is suitably controlled via water sprays to minimise adequately the potential release of asbestos fibres, then there will be no point source emission to air.

Fugitive Emissions to air (including odour)

2. You must design, operate and maintain storage and treatment plant in a way that prevents fugitive emissions to air, including dust, organic compounds and odour. Where that is not possible, you must minimise these emissions. Storage and treatment plant includes associated equipment and infrastructure such as:

- *shredders*
- *conveyors*
- *skips or containers*
- *building fabric, including doors and windows*
- *pipework and ducting*

6.7. Waste will arrive at the Site in sheeted vehicles. Visual inspections shall be carried out on loads entering/exiting the Site to ensure that all vehicles are sheeted, in accordance with the Waste Acceptance Procedure, see Appendix 3 Waste Acceptance Procedure. Waste is stored within bays and stockpiles, with the exception of contravening wastes e.g., plastic, metal and glass that are removed from the waste as part of the treatment process and stored within a container.

6.8. Hazardous waste types will be contaminated construction / demolition and utility waste. It is proposed that this waste will be stored within bays outside and stockpiles prior to loading into the screener/wash plant.

6.9. The risk of dust emissions from uncovered stockpiles reaching sensitive receptors has been considered. There will be mitigation measures in place to minimise the risk of dust reaching sensitive receptors, including the use of water bowsers and water sprays to dampen down piles of waste, see Appendix 6 Dust Management Plan.

6.10. Dust emissions from the hazardous waste stored on the Site are unlikely to cause significant damage to the environment or human health due to the scale and nature of contaminants within the waste stored on the site, see Appendix 5 Environmental Risk Assessment.

6.11. Good housekeeping practices will be implemented on the Site, which include inspecting the site on regular basis for mud, debris, litter, pests, vermin etc. Remedial actions will be taken as a result of these inspection checks. Such checks / inspections will be taken in accordance with a Housekeeping, Litter, Pest & Vermin Control Procedure which will be included as part of the Sites EMS.

6.12. Further risk assessment with regard to other emissions such as odour is included in the Environmental Risk Assessment, see Appendix 5 Environmental Risk Assessment.

5. Where necessary, to prevent fugitive emissions to air from the storage and handling of wastes, you should use a combination of the following measures:

- *store and handle such wastes within a building or enclosed equipment*
- *keep buildings and equipment under adequate negative pressure with an appropriate abated air circulation or extraction system*
- *where possible, locate air extraction points close to potential emissions sources*
- *use fully enclosed material transfer and storage systems and equipment, for example, conveyors, hoppers, containers, tanks and skips*
- *use fast-acting or 'airlock' doors that default closed*

- *keep building doors and windows shut to provide containment, other than when access is required*
- *minimising drop height*
- *use misting systems and wind barriers to prevent dust*

6.13. It is not considered necessary to store and handle the construction / demolition wastes within a building. This is due to the fact that this waste will not cause significant fugitive emissions. Due to the nature of the waste and the storage and handling of the waste prior to arrival on the Site it is unlikely that significant concentrations of volatile substances will be present in the waste.

6.14. It is considered that the predominant fugitive emission resulting from the storage and handling of the waste will be dust. This is due to the waste types accepted at the Site being construction / demolition / excavation waste.

6.15. Waste will be stored outside, in stockpiles, on an impermeable surface.

6.16. Drop heights will be minimised to reduce fugitive dust emissions. Minimising the height from which material is dropped will reduce the likelihood that particles will become airborne.

6.17. Where possible, stockpile heights will be minimised where possible in order to reduce the possibility of particles becoming airborne (via wind whipping. Further information on the storage of waste and techniques employed to minimise the potential for dust emissions is available in the Dust Management Plan, see Appendix 6 Dust Management Plan.

7. *You must regularly inspect and clean all waste storage and treatment areas, equipment (including conveyor belts) and containers. You must have an appropriate regular maintenance programme covering all buildings, plant, and equipment. This must also include protective equipment such as air ventilation and extraction systems, curtains and fast-action doors used to prevent and contain fugitive releases.*

6.18. Waste storage areas and equipment will be regularly inspected and cleaned where appropriate. The EMS will contain procedures with regard to housekeeping, inspection, and maintenance on the Site. Daily, weekly, monthly, and annual inspection checklists will include checks of litter on Site, fuel storage areas, fire extinguishers, roads, site security, spill kits and buildings on Site.

Noise Emissions

BAT Conclusions

6.19. BAT Conclusion 17 ((European Commission - establishing BAT conclusions for waste treatment) states:

"In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to set up, implement and regularly review a noise and vibration management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:

- *a protocol containing appropriate actions and timelines;*
- *a protocol for conducting noise and vibration monitoring;*
- *a protocol for response to identified noise and vibration events, e.g. complaints;*
- *a noise and vibration reduction programme designed to identify the source(s), to measure/estimate noise and vibration exposure, to characterise the contributions of the sources and to implement prevention and/or reduction measures".*

6.20. BAT conclusion 18 (European Commission - establishing BAT conclusions for waste treatment) states:

"In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to use one or a combination of the techniques given below.

- *Appropriate location of equipment and buildings,*
- *Operational measures,*
- *Low-noise equipment,*

- *Noise and vibration control equipment,*
- *Noise attenuation".*

6.21. Section 6.3 of the Appropriate Measures covers (chemical waste) BAT conclusions 17 and 18 and describes the potential measures for controlling noise emissions.

Chemical waste: appropriate measures for permitted facilities (November 2020)

6.22. A comparison of the relevant Appropriate Measures requirements with the proposed procedures for control of noise emissions from the proposed waste treatment activities is provided below.

1. *You should design the layout of the facility to locate potential sources of noise (including building exits and entrances) away from sensitive receptors and boundaries. You should locate buildings, walls, and embankments so they act as noise screens.*

6.23. A Noise Management Plan has been produced which identifies the potential sources of noise on the Site and assesses the ways in which the impacts of these sources can be mitigated, see Appendix 7 Noise Management Plan.

6.24. The Noise Impact Assessment will be used to inform the contents of a Noise Management Plan that will be included within the EMS.

2. *You must use appropriate measures to control noise, including for example:*

- *adequately maintaining plant or equipment parts which may become more noisy as they deteriorate - for example, bearings, air handling plant, building fabric, and specific noise attenuation kit associated with plant or machinery*
- *closing doors and windows of enclosed areas and buildings*
- *avoiding noisy activities at night or early in the morning*
- *minimising drop heights and the movement of waste and containers*
- *using broadband (white noise) reversing alarms and enforcing the on-site speed limit*
- *using low-noise equipment, for example, drive motors, fans, compressors and pumps*
- *adequately training and supervising staff*
- *where possible, providing additional noise and vibration control equipment for specific noise sources - for example, noise reducers or attenuators, insulation, or sound-proof enclosures*
- *including pressure relief control on shredder plant enclosures to take account of possible deflagration incidents*

6.25. The EMS will contain a Noise Management Plan. The requirements of the Noise Management Plan and the Noise Impact Assessment will be implemented by way of a Noise Control Procedure in the EMS. In this way noise emissions from the activities on the Site will be appropriately controlled.

6.26. All plant and equipment are operated in accordance with the manufacturer's recommendations. The EMS will contain a Maintenance Procedure which will implement the requirement to carry out a scheduled maintenance regime for all plant and equipment. This will reduce the likelihood of malfunctioning which would lead to an increase in noise emissions.

6.27. Site operatives/staff will ensure that, where possible, drop heights from the movement of waste will be minimised to prevent significant noise from being produced. Site operatives/staff will be adequately trained in the efficient use of machinery and equipment to minimise noise generation across the Site.

3. *Where you expect noise or vibration pollution at sensitive receptors, or it has been substantiated, you must create, use and regularly review a noise and vibration management plan. This must be part of your environmental management system, and must include:*

- *actions and timelines to address any issues identified*
- *a procedure for conducting noise and vibration monitoring*

- *a procedure for responding to identified noise and vibration events, for example, complaints*

6.28. The EMS will contain a Noise Management Plan. The requirements of the Noise Management Plan and the Noise Impact Assessment will be implemented by way of a Noise Control Procedure in the EMS.

6.29. The EMS contains procedures that implement a requirement for documents within the EMS to be regularly reviewed. Since the Noise Impact Assessment, Noise Management Plan and the Noise Control Procedure will be part of the EMS these documents will be regularly reviewed.

6.30. The EMS will contain procedures regarding the action to be taken in the event of a complaint.

4. The noise and vibration management plan should also include a noise and vibration reduction programme designed to:

- *identify the source(s) of noise and vibration*
- *measure or estimate noise and vibration exposure*
- *measure or estimate noise and vibration exposure*
- *implement prevention and reduction measures*

6.31. The EMS will contain a procedure for Noise Control. This procedure will include the measures (e.g., minimising drop heights) that will be implemented on Site to help reduce noise emissions from the waste operations. All plant and equipment are operated in accordance with the manufacturer's recommendations. The Maintenance Procedure within the EMS will implement the requirement to carry out a scheduled maintenance regime for all plant and equipment. This will reduce the likelihood of malfunctioning which may lead to an increase in noise emissions.

7. Process Efficiency

Raw materials

BAT conclusions

7.1. BAT conclusion 11 (European Commission - establishing BAT conclusions for waste treatment) states:

> *"BAT is to monitor the annual consumption of water, energy, and raw materials as well as the annual generation of residues and wastewater, with a frequency of at least once per year".*

7.2. BAT conclusion 22 (European Commission - establishing BAT conclusions for waste treatment) states:

> *"In order to use materials efficiently, BAT is to substitute materials with waste".*

7.3. Section 8.2 of the appropriate measures (chemical waste) covers BAT conclusions, 11 and 22 it describes the appropriate measures for raw materials used.

Chemical waste: appropriate measures for permitted facilities (November 2020)

7.4. A comparison of the relevant appropriate measure requirements with the proposed procedures for raw materials will now be assessed.

> 1. *You must maintain a list of the raw materials used at your facility and their properties. This includes auxiliary materials and other substances that could have an environmental impact.*

7.5. The EMS will contain a form of all the raw materials used on Site and their properties, as well as the consumption of raw materials per annum

> 2. *You must regularly review the availability of alternative raw materials and use any suitable ones that are less hazardous or polluting. This should include, where possible, substituting raw materials with waste or waste-derived products.*

7.6. The raw materials form will be reviewed annually, within this review the material used will be considered if any can be substituted or changed to alternatives.

Water Use

BAT conclusions

7.7. BAT conclusion 35 (European Commission - establishing BAT conclusions for waste treatment) states:

> *"In order to reduce the generation of wastewater and to reduce water usage, BAT is to use all of the techniques given below*
>
> - *Segregation of water streams*
> - *Water recirculation*
> - *Minimisation of generation of leachate".*

7.8. Section 8.3 of the appropriate measures (chemical waste) covers BAT conclusion 35 it describes the appropriate measures for water use.

Chemical waste: appropriate measures for permitted facilities (November 2020)

7.9. A comparison of the relevant appropriate measure requirements with the proposed procedures for water usage will now be assessed.

> 2. *Measures you must take include:*
>
> - *Implementing a water saving plan (involving establishing water efficiency objectives, flow diagrams and water mass balances)*

- *Optimising the use of wash water (for example, dry cleaning instead of hosing down and using trigger controls on all washing equipment)*
- *Recirculating and reusing water streams within the plant or facility, if necessary, after treatment*
- *Reducing the use of water for vacuum generation (for example, using liquid ring pumps with high boiling point liquids), where relevant.*

7.10. The wash plant for hazardous waste is a closed loop system which recirculates the water after going through treatment.

Energy efficiency

BAT conclusions

7.11. BAT conclusion 23 (European Commission - establishing BAT conclusions for waste treatment) states:

"In order to use energy efficiently, BAT is to use both of the techniques given below

- *Energy efficiency plan*
- *Energy balance record".*

7.12. Section 8.1 of the appropriate measures (chemical waste) covers BAT conclusion 23 it describes the appropriate measures for energy efficiency.

Chemical waste: appropriate measures for permitted facilities (November 2020)

7.13. A comparison of the relevant Appropriate Measures requirements with the proposed procedures for process efficiency will now be assessed.

1. *You must create and implement an energy efficiency plan at your facility. This must:*

- *Define and calculate the specific energy consumption of the activity (or activities) you do and waste stream(s) you treat*
- *Set annual key performance indicators – for example, specific energy consumption (expressed in kWh/tonne of waste processed)*
- *Plan periodic improvement targets and related actions*

7.14. The EMS will contain an energy efficiency plan. If new plant or equipment are used on Site, the specific energy consumption of the activity will be obtained and added to the energy efficiency plan.

2. *You must regularly review and update your energy efficiency plan as part of your facility's management system.*

7.15. The plan will be reviewed annually with the EMS review to evaluate targets and performance indicators.

3. *You must have and maintain and energy balance record for your facility. This must provide a breakdown of your energy consumption and generation (including any energy or heat exported) by the type of source (electricity, gas, conventional liquid fuels, conventional solid fuels, and waste). You should provide Sankey diagrams or energy balances to show how energy is used in your waste treatment process.*

7.16. The EMS will contain an energy balance record for the facility providing a breakdown of all energy consumption.

4. *You must regularly review and update your energy balance record as part of your facility's management system, alongside the energy efficiency plan.*

7.17. The energy balance record will be reviewed on an annual basis with the energy efficiency plan and other EMS documents.

Appendix 1

Waste Pre-Acceptance Procedure

Procedure No. XX Waste Pre-Acceptance Procedure

Purpose: To ensure that information on waste to be accepted on Site is obtained to determine the suitability of the waste for acceptance and treatment.

		RESPONSIBLE PERSON	RECORD
1.	Information on the incoming waste must be obtained before it arrives at the Site. This pre-acceptance procedure includes information on what needs to be done when a customer enquiry is received.		
2.	Waste may be accepted on to the Site that may be: • Classified as hazardous waste and is accompanied by Waste Characterisation Information, including a hazardous waste classification in accordance with WM3 guidance. • Waste that has not been classified as hazardous but is assumed to be hazardous. This waste may be from utilities installation and repair. (Unclassified Hazardous Waste). • Non-hazardous construction / demolition waste.		
	Customer Enquiry		
3.	On the receipt of an enquiry from a new or existing customer, information on the waste will be obtained and reviewed.	Site Manager	
4.	Pre-Acceptance of waste will follow a risk-based approach considering: • The source and nature of the waste. • Identification of any hazardous properties that the waste may have. • Potential risks to process safety, occupational safety, and the environment (for example, from odour and other emissions). • Knowledge about the waste holder.		
5.	The following must be obtained from a customer: • Details of the waste producer including their organisation name, address, and contact details. • Source of the waste (the producer's business and the specific process that has created the waste). • Where the holder of the waste is not the producer, details of the waste holder including their organisation name, address, and contact details. • Information on the nature and variability of the waste production process and the waste.	Site Manager	
	Completion of Waste Pre-Acceptance Form		
6.	A completed Waste Information Form must be obtained from the customer if it is a new waste, or the existing form is older than 12 months.	Site Manager Sales	Waste Information Form
7.	Details about the waste to be obtained from a customer, where relevant, to include: • A description of the waste • List of Waste code (European Waste Classification (EWC) code) • Physical form • Composition (including lab data and samples when deemed necessary) • Identification of hazardous properties • The potential for self-heating, self-reactivity or reactivity to moisture or	Chemist Sales	Waste Information Form

		RESPONSIBLE PERSON	RECORD
	air • Any odour • The type of packaging • An estimate of the total quantity of waste and the amount expected in each load.		
8.	The information on the completed Waste Pre-Acceptance Form and associated files will be reviewed. There must be enough information to fully characterise the incoming waste.	Chemist	Waste Information Form
9.	The Chemist will inform the customer whether the waste can pass waste pre-acceptance or if further analysis is required. This will be recorded on the Waste Information Form.	Chemist	Waste Information Form
10.	If there is not enough information provided to fully characterise the incoming waste, an email will be sent to the customer to confirm if a sample is required to be sent to Soil UK Treatment Limited prior to accepting the waste on the Site.		Waste Information Form
	Pre-Acceptance Sampling		
11.	Soil UK Treatment Limited may obtain and analyse a representative sample of the waste if: • the chemical composition or variability of the waste is unclear from the information supplied by the customer. • there are doubts about whether the sample that was analysed by the customer is representative of the waste.		
12.	Representative samples of the waste may not be required where the waste is: • Solid non-hazardous waste (except for mirror entry coded wastes). • Produced in an emergency (do not treat or offload such wastes until you have completed a full characterisation).		
13.	Where a sample taken by a customer or third party has been relied upon, the reason why must be recorded on the Waste Pre-Acceptance Form.		Form No.XX Waste Information
14.	If a sample of any hazardous waste has not been taken, then the reason must be recorded on the Waste Pre-Acceptance Form.	Chemist / Customer	Form No. XX Waste Information
15.	If a hazardous waste assessment has not been supplied, in accordance with WM3, an assessment will be obtained by Soil UK Treatment Limited.	Chemist	WM3 Guidance on the Classification and Assessment of Waste
16.	Any hazardous waste assessment provided by the customer will be checked and reviewed.		
	Characterisation of the Waste		
17.	Once the waste is characterised then the following checks will be made with regard to suitability of the waste to be accepted at the site: • Sufficient space available for the waste type to be accepted. • Suitability of the waste for the treatment process. • Treatment route relevant to the waste. • Storage availability.	Chemist	
18.	If the waste is permitted to be accepted and is suitable for storage or treatment,		Waste

		RESPONSIBLE PERSON	RECORD
	then the customer will be informed. This will be recorded on the Waste Information Form and held on the customer database.		Information Form
19.	Once it is agreed that the waste will be accepted from the customer, the parameters to be checked at the acceptance stage will be decided and recorded on the Waste Information Form (if necessary). The checks could be visual, physical, chemical or odour. The criteria for non-conformance or rejection will also be recorded on the Waste Information Form.	Chemist	Form No. XX Waste Information
20.	A quotation will be provided to the customer for the waste type identified on the Waste Information Form. This quotation will contain caveats indicating that any differences (e.g. contravening materials) between the proposed waste described on the Waste Information Form and the actual incoming waste are charged for as appropriate.	Chemist / Site Manager Sales	Form No. XX Waste Information
21.	The customer will be made aware that Soil UK Treatment Limited must be informed if the following occurs after the quotation has been provided: • The description or characteristics of the waste changes. • There are any changes to the process that gives rise to the waste. • The waste no longer conforms to the pre-acceptance information. The information obtained at pre-acceptance must be reassessed if any of the above applies.	Chemist	Form No. XX Waste Information
22.	The pre-acceptance information for existing / continued customers must be reviewed on at least an annual basis or more frequently if required due to poor compliance.	Chemist	Form No. XX Waste Information
	Waste Tracking		
23.	Waste tracking starts at the waste pre-acceptance stage as the completed Waste Information Form will be a key document for the correct tracking of the waste through the treatment facility and will be referenced on other documentation concerning the deliveries of waste to the Site.	Site Manager	
24.	A computerised tracking system will be used to hold information about the waste being treated and stored on the Site.	Site Manager	
25.	Information generated about the waste will be required during: • pre-acceptance • acceptance • non-conformance or rejection • storage • treatment processes • removal off site		
26.	The computerised tracking system will also operate as a waste inventory and stock control system.	Site Manager	
	Record Keeping		
27.	Pre-acceptance records will be kept following receipt of the waste. If an enquiry from a waste producer does not lead to the receipt of waste, then the records are not required to be kept.	Site Manager	

Appendix 2

Technical Summary

Soil Treatment UK Limited

Technical Summary

Soil Treatment UK Limited

Finmere Quarry and Landfill Site,
Banbury Road,
Finmere,
Oxfordshire,
MK18 4AJ

WESTBURY ENVIRONMENTAL

PROVIDING SOLUTIONS, ENSURING COMPLIANCE

T 01952 879705 E info@westburyenv.co.uk

A Agriculture House, Southwater Way
Telford, Shropshire, TF3 4NR

W www.westburyenv.co.uk

Document Control Table

Project Reference	23/009c
Project Title	Environmental Permit Application
Document Title	Technical Summary V1
Document Issue Date	26 October 2023
Client	Soil Treatment UK Limited
Status	Issued

Change log

Version	Changes	Produced by	Checked by	Date
1	Original Technical Summary	Emma Gibson	Tracey Westbury	26 October 2023

Contents

Appendices

1. Introduction

1.1. Westbury Environmental Limited have prepared this Technical Summary on behalf of Soil Treatment UK Limited (the Operator) to support a bespoke Environmental Permit application for a waste treatment facility at Finmere Quarry and Landfill, Banbury Road, Finmere, Oxfordshire, MK18 4AJ. The site is defined as the area within the proposed permit boundary denoted by the green line, see Drawing No. 23/009c 001 Permit Boundary Plan V1 (Site).

1.2. The Site lies within the existing active Finmere Quarry and Landfill. The quarry is divided into two sections: the northern and southern sections. The northern section of the quarry is currently operated under a landfill and waste recovery permit to complete the approved quarry restoration scheme. The southern area of the quarry includes the area where the waste operations proposed within this permit application will be located.

1.3. This application seeks to allow physical treatment of hazardous and non-hazardous construction / demolition waste and CLO Production. The proposed treatment activities include:

- Handpicking
- Screening
- Washing
- Crushing
- Storage
- Blending
- CLO Production

1.4. This Technical Summary provides a detailed description of the proposed waste activities including aspects on the waste acceptance, storage, and treatment.

1.5. Waste will be accepted, stored, and treated in accordance with the following guidance:

- JRC Science for Policy Report: Best Available Techniques (BAT) reference document for waste treatment, October 2018 (BREF).
- Commission implementing decision (EU) 2018/1147 of 10th August 2018 establishing Best Available Techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament of the Council (BAT conclusions).
- Sector Guidance Note 5.06: Guidance for the Recovery & Disposal of Hazardous and Non-Hazardous Waste, 2013 (SGN 5.06).
- CAR-SOIL Control of Asbestos Regulations 2012 – Interpretation for managing and working with Asbestos in Soil and Construction and Demolition Materials.
- Guidance on the Classification and Assessment of Waste. Technical Guidance WM3.
- Chemical Waste: Appropriate Measures for Permitted Facilities, 18th November 2020.
- Non-hazardous and Inert Waste: Appropriate Measures for Permitted Facilities, 8th December 2022.

1.6. Activities carried out under the Environmental Permit will be controlled by procedures within the Environmental Management System (EMS).

1.7. A detailed assessment of the proposed operating techniques with consideration of the Best Available Treatment (BAT) has been produced, see Environmental Permit Application, Appendix 12 Bat Assessment Report.

2. Waste Acceptance

2.1. Strict waste acceptance procedures will be implemented on Site to ensure only permitted waste types are accepted. The waste acceptance procedure includes information with regard to pre-acceptance, acceptance, and classification of waste, see Environmental Permit Application report, Appendix 4 Waste Pre-acceptance Procedure and Appendix 5 Waste Acceptance Procedure.

2.2. Hazardous waste containing the following hazardous properties will not be accepted at the Site:

- HP1 Explosive waste.
- HP9 Infectious waste.
- HP12 Waste which will release acute toxic gas.
- HP15 Waste capable of exhibiting a hazardous property listed above not directly displayed by the original waste.

2.3. Hazardous waste that has been classified, and for which the hazardous properties are known, will be accepted onto the Site. Hazardous waste accepted will typically contain a mixture of contaminating substance including heavy metals and hydrocarbons.

2.4. Wastes with different hazardous properties will be kept separate to ensure hazardous properties aren't mixed.

2.5. Hazardous waste that has not had an assessment carried out and the hazardous properties are unknown, but the waste has assumed to be hazardous, will be accepted on to the Site. This waste will be stored separately until it can be sampled, tested and a hazardous waste assessment carried out to identify the contaminating substances and hazardous properties present.

2.6. On Site testing will be undertaken on accepted unassessed waste. Rapid testing will be undertaken in house in order to determine if the waste has a high quantity of petroleum hydrocarbon (TPH) concentration >1000mg/kg.

2.7. If the unassessed waste has >1000mg/kg of TPH, it is confirmed that the waste is most likely to be classed as hazardous and will be stored in the dedicated hazardous waste storage area prior to treatment.

2.8. If the waste has <1000mg/kg TPH then further analysis will be carried out in order to determine the presence of other potential contaminants.

2.9. The results of this testing will be used to classify the waste in accordance with WM3. Wastes classified as non-hazardous will be sent to the non-hazardous storage area. Waste classified as hazardous will be stored in the hazardous storage area.

2.10. The Site will accept waste that is classified as hazardous due to the presence of asbestos (ACM). This waste could contain asbestos either in the form of identifiable bonded asbestos pieces, fibrous asbestos, or both. There may also be other contaminating substances that cause the waste to have other hazardous properties. The treatment carried out on wastes accepted on to the Site will be dependent upon the contaminating substances and the hazardous properties. It will be the responsibility of the Site Manager to determine the appropriate treatment route for wastes.

2.11. Waste containing a concentration of more than 0.1% of asbestos fibre will be rejected from the Site.

2.12. Compliance Sampling and testing will be undertaken on waste to be accepted and accepted at the Site. This testing will be carried out in the onsite laboratory by a member of appropriately qualified staff.

2.13. The onsite testing facility will use largely handheld equipment. Validation testing will be undertaken to support the analytical results obtained from onsite testing by duplicate testing on a regular basis with external accredited laboratories.

2.14. Waste that has been sampled will only need to be retained on site for a short period of time while lab results are obtained due to the handheld equipment giving immediate results.

2.15. Waste that is not acceptable on Site will be rejected in accordance with the Waste Rejection Procedure included in the EMS for the Site, see Application report, Appendix 6 Waste Rejection Procedure.

2.16. Records will be kept in association with the Waste Acceptance and Rejection Procedures.

3. Waste Storage

3.1. The EMS contains a Waste Storage & Handing Procedure that contains information on the storage of waste on Site.

3.2. Hazardous and non-hazardous waste will be stored separately. Hazardous waste is stored on impermeable surface with sealed drainage in the same area waste treatment takes place while non-hazardous waste and product is stored north of the waste treatment area on hard standing.

3.3. Waste being used for CLO production is stored on the northwestern boundary of the permitted area with sealed drainage consisting of a blind sump.

3.4. Hazardous waste with different hazardous properties will be stored separately to ensure different hazardous properties are not cross-contaminated.

3.5. The Site layout will allow the identification of wastes that are destined for a particular treatment. Storage areas/stockpiles will be dedicated to treatment types, for example the Site will have a dedicated area for hazardous wastes that are destined for washing.

3.6. Separate stockpiles will ensure that cross contamination does not occur.

3.7. Storage stockpiles will be clearly marked to identify the waste type.

3.8. Storage requirements will be controlled by the implementation of the requirements of strict waste storage procedures and waste tracking requirements.

3.9. The container for asbestos waste will always be kept locked and will be located in close proximity to the picking line.

3.10. Wastes accepted for asbestos picking will be stored in an area, separate to the storage of wastes to go directly into the treatment plant.

3.11. The storage areas will be clearly marked to show which waste batch is present in that area.

3.12. In the unlikely event that non-hazardous waste becomes contaminated with hazardous waste, the entire batch will be considered hazardous and will be treated as such.

3.13. No more than 80,000 tonnes of waste (hazardous and non-hazardous) are to be stored on Site at any one time.

3.14. Incoming waste contaminated with bonded asbestos (and which contains <0.1% asbestos fibres) will be handpicked to remove the bonded asbestos pieces. This treatment process gives rise to the need to store asbestos that has been removed from the waste. This asbestos shall be double bagged and kept within clearly identified, secure and lockable containers. This asbestos will be removed from the site and sent to a suitably licensed facility for disposal.

3.15. Waste contaminated with asbestos fibres will be covered to avoid the release of fibres. Wastes contaminated with >0.1% asbestos fibres will be rejected from the Site.

3.16. Waste being stored to create a compost like output (CLO) will be stored in a concrete bay with sealed drainage. Water will drain into a blind sump that will either be tankered off site to a suitably licenced facility or pumped out for dust suppression / dampening of compost piles.

3.17. A quarantine area will be located close to the entrance/egress of the Site. Rejected wasted will be stored in this area for no longer than five days.

4. Waste Transfer

4.1. The Site will transfer wastes off Site without treatment should there be no feasible treatment process. It is anticipated that this will include wastes that are contaminated with fibrous asbestos, and which has been evidenced as being hazardous.

4.2. It is not anticipated that a significant amount of waste will be transferred from the Site, without treatment, since the Operator intends to only accept waste that can be treated or that which requires further investigation to determine the hazardous properties present.

5. Waste Treatment

5.1. Hazardous and non-hazardous waste will be treated separately.

5.2. Non-hazardous waste will undergo some or all of the following treatment activities:

- Handpicking
- Screening
- Washing
- Crushing
- Storage
- Blending
- CLO production

5.3. Hazardous waste will undergo some or all of the following treatment activities:

- Handpicking
- Screening
- Washing

5.4. Hazardous waste treatment will be undertaken on Site in accordance with the following process flow diagrams:

- Appendix 1, Hazardous Waste Treatment Process Flow.
    - This process flow diagram provides an overview of the waste treatment activities carried out on the Site with regard to both hazardous and non-hazardous waste.
- Appendix 2, Hazardous Waste Containing Asbestos Process Flow
    - This process flow diagram provides more details regarding the different forms of asbestos and how these are managed in wastes that are only hazardous due to the presence of the asbestos.
- Appendix 3, Hazardous Waste Containing Asbestos and Other Hazardous Properties Process Flow.
    - This process flow diagram provides more details regarding the treatment of wastes that contain different forms of asbestos and other hazardous properties.

5.5. The following descriptions should be read in conjunction with the above-mentioned process flow diagrams.

5.6. The purpose of all waste treatment activities undertaken at the Site is to separate the waste fractions and remove contaminants.

Screening of hazardous waste

5.7. Waste that is washed produces a number of fractions of waste, according to particle size:

- It is anticipated that the larger fraction(s) of waste will, when sampled, tested, and assessed, be classified as non-hazardous waste.
- It is anticipated that the finer fraction(s) of the waste will, when sampled, tested, and assessed, be classified as hazardous waste.
- Therefore, this screening process will reduce the volume of hazardous waste.

5.8. The purpose of screening the hazardous waste is to remove and separate the hazardous components of the waste.

5.9. Water used in the washing treatment is recirculated through the wash plant and will undergo water treatment to remove contaminants.

5.10. Water in the wash plant is treated by adding flocculants to the contaminated water which is then put through a filter press to remove any particulates. This will produce a filter cake residue which will be sent to a suitably licensed facility.

5.11. The screening / wash plant will also remove items of contravening wastes such as metal, plastic, and wood.

5.12. The purpose of washing is to separate the waste by particle size; therefore, separating all hazardous substances present in the waste. The water itself does not 'treat' the hazardous substances but brings about the separation of fractions that are likely to be contaminated and those that are not.

5.13. Both organic and inorganic contaminants are typically bound to the surface of particles in the waste. Since smaller particles have a greater surface to volume ratio. Therefore, after treatment, the fractions of the waste that contain the smallest particles will contain the greatest concentration of contaminants. Contaminants may also be removed from the solid waste to the wash water.

5.14. Any fraction of waste from the screening process that has been classified as hazardous and is not suitable for further treatment on Site will be sent off Site as hazardous waste.

5.15. Any fraction of waste from the screening process that is classified as hazardous and is suitable for chemical treatment on Site will be treated in accordance with a treatment plan for that waste.

5.16. Any fraction of waste from the screening process that is classified as non-hazardous will be treated on Site along with other imported non-hazardous wastes. Wastes to be used to produce WRAP compliant recycled aggregates will be assigned a suitable Waste Coded at this stage.

5.17. Waste that has undergone treatment and continues to have hazardous properties (classified as hazardous) will be stored in the hazardous waste storage area to be sent off-site as hazardous waste at a suitably licensed facility.

5.18. Waste that has undergone treatment and has no hazardous properties will be sent to the non-hazardous waste storage area for recycling, or off-site for recovery.

5.19. All fractions of waste produced from the screening process will be sampled, tested, and assessed in accordance with WM3 to classify the separate waste fractions. Testing frequency will consist of two tests per 20 tonne loads, depending on the information provided in the site investigation report.

5.20. The purpose of the screening process is to separate the fractions of the waste that is non-hazardous from the fraction that contains substances causing hazardous properties. This reduces the volume of hazardous waste which will allow for the waste to be reclassified as non-hazardous.

Hazardous waste containing asbestos.

5.21. The Site will accept waste that is contaminated with asbestos. This waste could contain identifiable pieces of bonded asbestos, asbestos fibres, or both. The form that the asbestos is present in will determine how it is managed/treated.

<u>Hazardous waste containing bonded pieces of asbestos only.</u>

5.22. Hazardous waste which contains identifiable pieces of bonded asbestos only will be subject to handpicking to remove those pieces. Asbestos that has been removed from the waste shall be double bagged and kept within clearly identified, segregated and secure lockable containers. The treated waste will be checked and then stored in the non-hazardous waste storage area for non-hazardous treatment.

<u>Hazardous waste which contains identifiable pieces of bonded asbestos and other hazardous contaminants.</u>

5.23. Hazardous waste containing identifiable bonded asbestos as well as other contaminants will first be handpicked to remove all asbestos pieces. Asbestos removed from the waste shall be double bagged and kept within clearly identified, segregated and secure lockable containers.

5.24. The waste will then be transported to the hazardous waste treatment area of the Site in order to undergo further treatment via washing.

Hazardous waste containing asbestos fibres

5.25. Hazardous waste containing more than 0.1% asbestos fibres will not have any treatment take place and will be sent off Site for disposal at a suitably licenced facility.

Non-hazardous waste treatment

5.26. Non-hazardous waste accepted at the Site will undergo one or all of the following treatments:

- Handpicking
- Screening
- Washing
- Crushing
- Storage
- Blending
- CLO Production

5.27. Once treated non-hazardous waste will be used to produce recycled aggregates. Fines (typically soils) resulting from this process will be sent off Site as a waste material.

CLO production

5.28. Non-hazardous waste types with more than 5% organic compounds will be used in CLO production.

5.29. Waste consisting of, but not limited to street cleaning residues, off specification compost and mineral waste, will be blended in storage bays and continuously dampened throughout the composting process to keep the material moist. This mixture is then left for composting over a period of at least five weeks.

5.30. At the end of the process the waste will be tested to ensure it is suitably for use in the northern sections of the wider quarry's restoration scheme.

5.31. CLO output will be identified as 19 12 12 – compost like output derived from residual waste streams.

Wastewater treatment

5.32. Water used within the wash plant is treated within a wastewater treatment plant located on Site.

5.33. Contaminated water which has been used in the wash plant is pumped through pipes to the wastewater treatment plant.

5.34. The wastewater treatment plant comprises of a number of water tanks, flocculant dosing, settlement, separation, and a filter press.

5.35. Raw materials including flocculants will be stored in IBCs within the wastewater treatment plant.

5.36. Once the water has been treated within the water treatment plant it is the recirculated back through the wash plant.

5.37. The reuse of water in the wash plant means there is a constant supply of water, however, if any additional water is required to be put into the wash plant, this would be fed from the mains water supply or the lagoon.

5.38. Solids are removed from the dirty water to the filter cake produced in the filter press. This material falls into bays beneath the filter press and will be tested prior to removal from the Site.

6. Cross Contamination

6.1. To ensure there is no cross contamination of hazardous and non-hazardous waste, waste is treated in batches.

6.2. Storage of waste in separate areas of the Site will ensure that there is no cross contamination between the hazardous and non-hazardous waste.

6.3. During treatment of a batch of hazardous waste, the filter cake will be dropped into a designated bay. At such time that the wash plant is swapped to treating a non-hazardous batch, a time period (equal to the retention time of solids in the plant) will be provided prior to the filter cake being deposited into a new bay. In this way filter cake produced from the treatment of hazardous and non-hazardous waste is kept separate. Hazardous waste will be treated for a period of time before alternating to non-hazardous waste treatment. depending on waste input to the Site.

6.4. To ensure that there is no cross contamination of hazardous substances transferring from the hazardous waste to the non-hazardous waste via the water in the wash plant, the following precautions are taken:

- The retention time of the water within the wash plant will be determined.
- Following a batch of hazardous waste, a time period, equal to at least 1.5 x the retention time of the water in the wash plant, will be allowed before non-hazardous waste will be fed into the wash plant.
- This will ensure that all water coming into contact with the non-hazardous waste will have been treated within the wastewater treatment plant since being in contact with the hazardous waste.
- Water quality testing will be carried out on the treated wastewater at regular intervals, to ensure no cross contamination occurs.

6.5. Waste being composted for CLO production will take place on a separate area of the Site to the wash plant / treatment of hazardous waste, this will prevent cross-contamination from occurring.

7. Surface Water Management

7.1. All surface water runoff from the waste treatment and hazardous waste storage area will be captured by the drainage system. Water then travels to the water treatment plant via interceptors.

7.2. The waste treatment area also used to store hazardous waste will be surrounded by raised “speed bumps” to contain any surface water and prevent cross contamination to the non-hazardous waste storage area. Surface water collected in this area is collected in the interceptors and treated in the water treatment tank. Non-hazardous waste and product are stored on hardstanding to the north of the permitted area separate to the waste treatment area.

7.3. CLO bays will have their own drainage system which will capture any run-off from the dampening of the compost piles. Water will be captured in a sealed drainage system consisting of a blind sump and tankered off Site to a suitably licenced facility or re-used on Site for dust suppression / dampening of compost piles.

7.4. There will be no mixing of run off from the waste treatment area and the non-hazardous waste storage area. Surface water is stopped from entering the waste treatment area by the positioning of raised “speed bumps”. Due to extensive drainage infrastructure, it is not anticipated that the water level on the concrete pad would exceed the level of the raised “speed bumps”. However, should this event occur, it is unlikely that the water would reach the non-hazardous waste storage area.

7.5. Surface water collected from drains from the waste treatment area is fed through the interceptors and then to the water treatment plant. Clean water from the water treatment plant is fed to the wash plant. Dirty water from the wash plant is recirculated back to the water treatment plant. In this way surface water from the waste treatment area is recirculated and used on Site. Should there be excess surface water from the waste treatment area, e.g., from heavy rainfall events, this water will be tankered off Site.

7.6. Large water holding tanks are used in association with the wastewater treatment plant. These provide significant retention capacity for water on the Site.

7.7. Appropriate infrastructure will be constructed to ensure no loss of contaminated surface water over the edge of the impermeable pad in the waste treatment area.

7.8. The drainage infrastructure for the Site is being constructed new and will have been tested during commissioning. All water holding tanks will have level monitoring alarms. All aspects of the drainage system will be subject to regular maintenance checks and planned preventative maintenance in accordance with the procedure in the Environmental Management System.

Appendix 1

Hazardous Waste Treatment Process Flow Diagram

Hazardous Waste Treatment Process Flow Diagram

Colour Legend

- A – Acceptance of unclassified waste
- B – Hazardous waste screening
- C – Hazardous waste removal
- D – Non-hazardous waste

A

Waste tipped into storage area (tipped into piles for each source)

Unclassified Waste (mainly 17 09 03*)

Sample tested using in-house rapid testing facilities

Does the sample have a TPH content exceeding 1000 mg/kg?

No

Waste stored in Separate hazardous waste storage area

Sample tested for other potentially hazardous properties

Yes

B

Classified Hazardous Waste (All hazardous waste codes)

Waste stored In source-specific hazardous waste Stockpile

Yes

Is waste classified as hazardous in accordance with WM3?

No

Hazardous Waste Screening to Separate Fractions

Soil Fraction

Fractions of waste

Fractions of waste

Fractions of waste

Fractions of waste

Testing and analysis of sample carried out in accordance with WM3

Is waste classified as hazardous in accordance with WM3?

Yes

No

C

Sent off site as hazardous waste

Stored in hazardous waste treatment area

Is the waste acceptable under WRAP?

Yes

No

Sent off site as waste

D

Non-hazardous waste

Waste stored in non-hazardous waste storage area (waste types stored separately)

Waste to be recoded as 19 12 09

Non-Hazardous Waste Processing to Produce an Aggregate to a Specification

Product Storage

Soil and fines sent off Site as Waste

Sent off Site as product

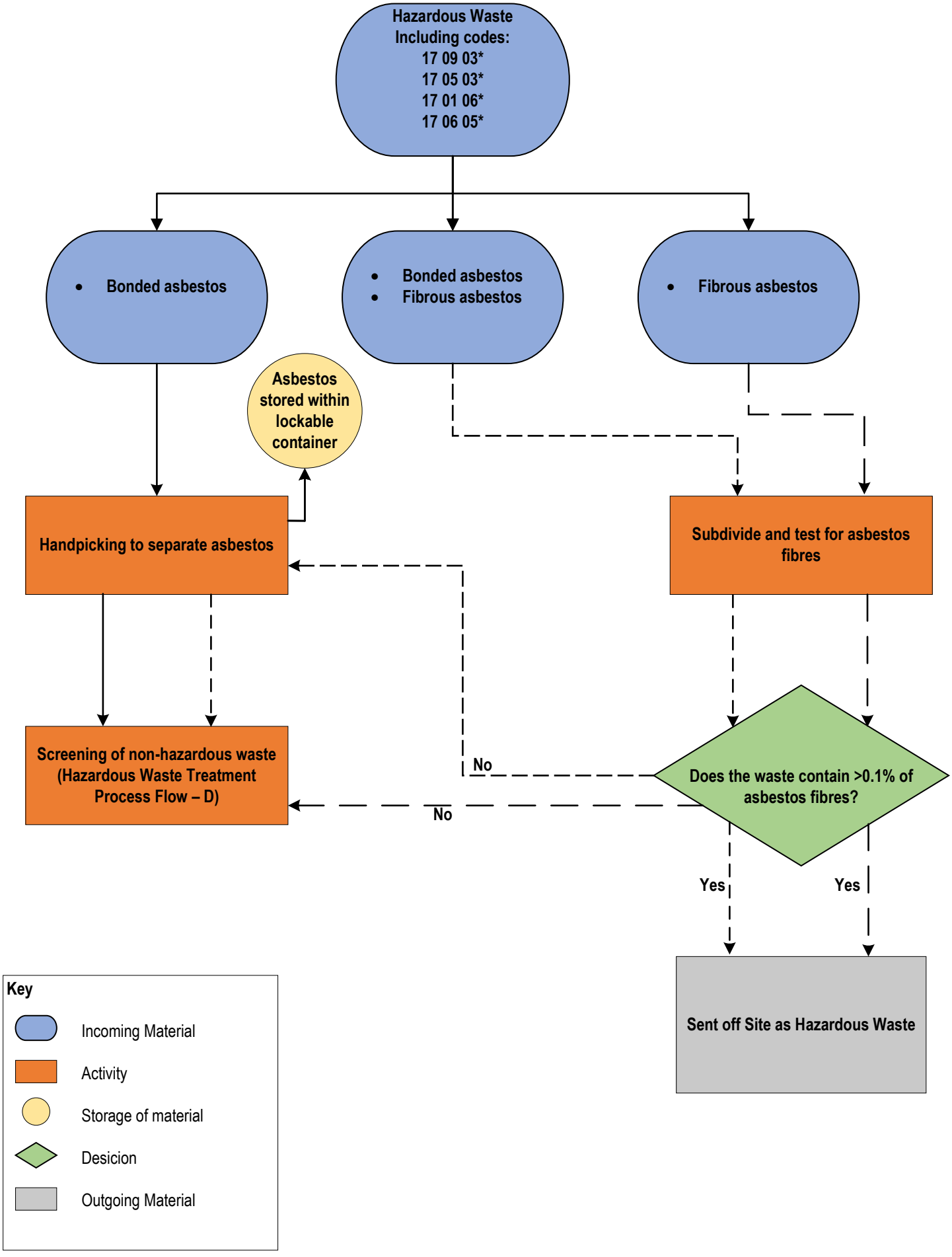
Key

- Incoming Material
- Activity
- Storage of material
- Desicion
- Outgoing Material

Appendix 2

Hazardous waste containing asbestos only

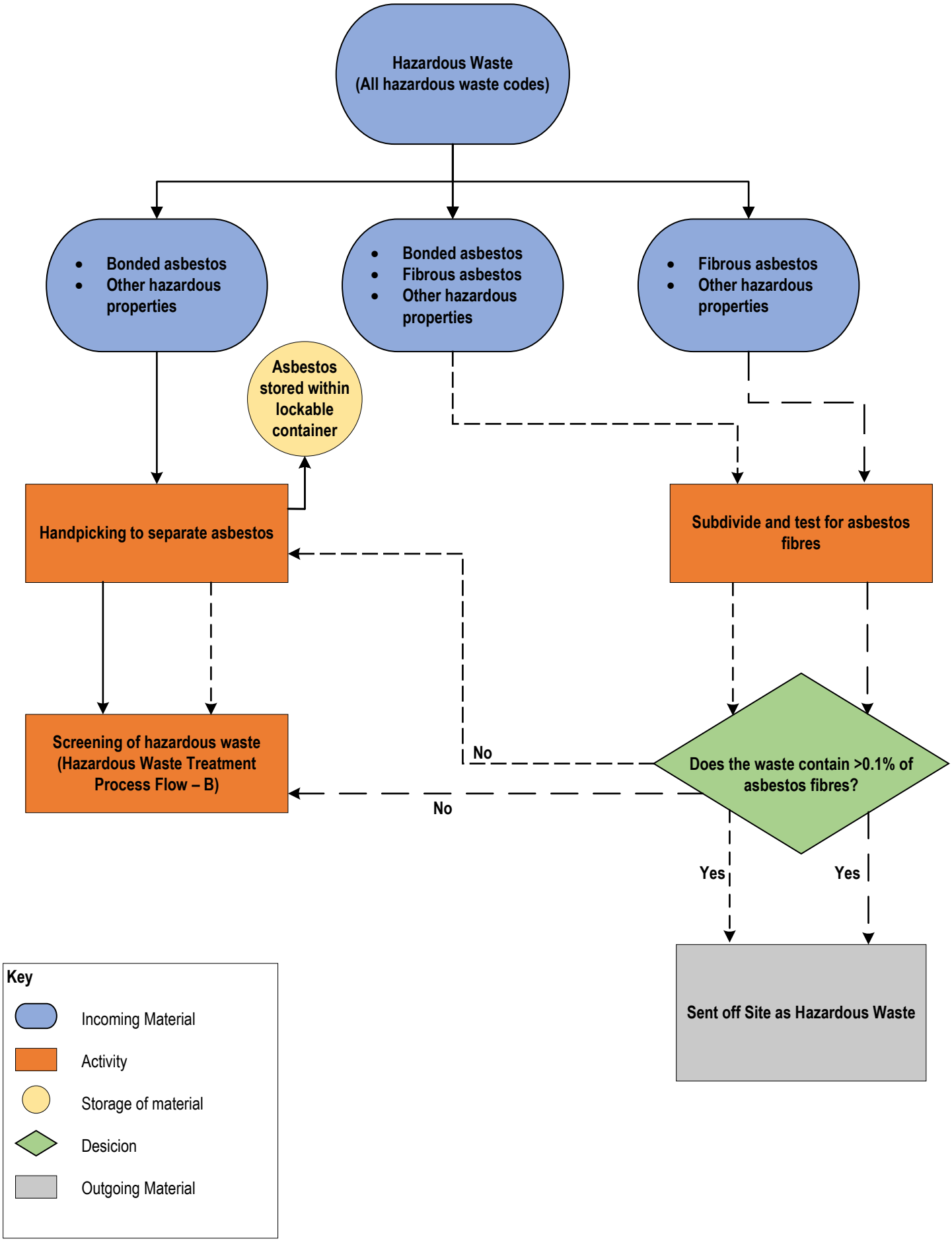
Hazardous Waste Containing Asbestos



Appendix 3

Hazardous waste containing asbestos and other hazardous properties

Hazardous Waste Containing Asbestos and Other Hazardous Properties



Appendix 3

Waste Acceptance Procedure

Procedure No. XX Waste Acceptance Procedure

Purpose: To ensure that waste accepted for treatment is acceptable under the conditions of the Environmental Permit.

		RESPONSIBLE PERSON	RECORD
1.	This Waste Acceptance Procedure concerns both the non-hazardous and hazardous waste which will be treated on Site.		
	Environmental Permit & Waste Codes		
2.	The Environmental Permit contains the list of waste types that are permitted to be accepted at the site. A table containing the codes and descriptions of waste types that are permitted on this site is included at the end of this procedure for ease of reference, see Table 1 Permitted Waste Types (non-hazardous), Table 2 Permitted Waste Types (hazardous) and Table 3 Permitted Waste Types for CLO production. This list of waste types should be consulted if you are unsure whether a load can be accepted, alternatively the Site Manager should be consulted.		Table 1 Permitted Waste Types (non-hazardous) Table 2 Permitted Waste Types (Hazardous) Table 3 Permitted Waste Types for CLO production
3.	If the List of Waste code on the Hazardous Waste Consignment Note / Waste Transfer Note is not listed in the Environmental Permit the load must be rejected in accordance with the Waste Rejection Procedure.	Site Operative	Procedure No. XX Waste Rejection Hazardous Waste Consignment Note Waste Transfer Note
4.	Hazardous waste with the following hazardous properties will not be accepted at the Site: • HP1 Explosive Waste. • HP9 Infectious Waste. • HP12 Waste which will release acute toxic gas. • HP15 Waste capable of exhibiting a hazardous property listed above not directly displayed by the original waste.		
5.	The total maximum amount of waste (including both hazardous and non-hazardous) which can be brought onto the site each year shall not exceed 300,000 tonnes as stated in the Environmental Permit.	Site Manager	
	Assessment & Inspection of Incoming Waste		
6.	Other than in an emergency (for example, taking waste resulting from an emergency incident clean-up), waste must only be accepted if it is in accordance with the Waste Pre-Acceptance Procedure.	Chemist	Procedure No. XX Waste Pre-Acceptance
7.	For hazardous waste a Hazardous Waste Consignment Note is obtained from the driver, for every load of waste and this is checked to ensure it contains the following: • Consignment code • Description of waste • Process giving rise to the waste	Site Manager / Site Supervisor / Director	

		RESPONSIBLE PERSON	RECORD

	• Quantity of waste
	• Physical form of the waste e.g., gas, liquid, solid, powder or sludge
	• Hazardous property(ies)
	• List of Waste / EWC code
	• Details and signature for:
	  ○ Producer / holder / consignor
	  ○ Waste carrier
	  ○ Consignee / receiver		

8.	Waste characterisation information is reviewed to assess if the waste is acceptable or not, which is based on, but not limited to, the following:
	• If waste can be treated on this Site.
	• Any test results are from samples of the actual waste and not from data information sheets or similar.
	• How representative / reliable samples are, regarding:
	  ○ Locations of sampling points.
	  ○ Method of sampling.
	  ○ Number of samples.
	  ○ Operating conditions at the time samples were taken.
	  ○ Age of the sample test data.
		Site Manager	Form No. XX Waste Information

9.	All associated Waste Characterisation information records will be kept along with Hazardous Waste Consignment Notes in a secure location.		
10.	All non-hazardous loads will be accompanied by a Waste Transfer Note.		
	All Vehicles Delivering and Exporting Waste from the Site		
11.	All vehicles must be registered as waste carriers and a copy of their certificate should be held on file in the site office. A regular check should be carried out to ensure that registrations are still in date, and where they are found not to be, a copy of the new registration should be obtained immediately.	Site Operative	
12.	All vehicles carrying waste must be sheeted when entering / exiting the Site.	Site Operative	
	Acceptance of Waste onto the Site		
13.	All drivers must stop and report to the weighbridge / site control office.		
14.	The driver will provide a copy of the Hazardous Waste Consignment Note / Waste transfer Note to the Site operative, who will complete the section relating to the consignee. The site operative will then return the Hazardous Waste Consignment Note/ Waste transfer Note to the driver, keeping a copy for his records.	Site Operative	
15.	Information/documentation obtained during the pre-acceptance stage will be checked against the incoming load.		
16.	A check will be made to determine if there is sufficient capacity available on the Site to accept the incoming load.	Weighbridge Operator	
17.	Loads will be visually checked at the weighbridge, to ensure that the load matches the description on the Hazardous Waste Consignment Note / Waste Transfer Note and that the correct waste code has been used to identify the waste.	Weighbridge Operator	Table 2 Permitted Waste Types (hazardous)
18.	Loads not accompanied by a Hazardous Waste Consignment Note / Waste Transfer Note or that does not match the description provided will be rejected in	Site Operative	Procedure No. XX Waste

		RESPONSIBLE PERSON	RECORD
	accordance with the Waste Rejection Procedure and the Site Manager will be informed.		Rejection
19.	Acceptable loads will be directed towards the appropriate waste reception area where a Site Operative will oversee the offloading.		
20.	Every load is visually inspected prior to being off loaded to check to ensure the labelled waste streams match the description on the Hazardous Waste Consignment Note / Waste Transfer Note If there is any doubt about the waste type delivered, a message will be relayed to the Site manager.	Site Operative/ Site Manager	Table 2 Permitted Waste Types (hazardous)
21.	Waste loads and paperwork will be checked prior to tipping. Waste will be tipped in different locations, depending on whether it has been classified: • Unclassified (assumed) Hazardous Waste will be directed to a separate area for offloading. • Classified Hazardous Waste will be directed to the hazardous waste reception area. Details of the waste and its location on Site will be tracked in accordance with the computerised waste tracking system.	Site Operative	Drawing No. 23/009c 002 Site Layout Plan
22.	If there is a discrepancy with the load or its paperwork the Site Manager shall be informed immediately. If the load is not acceptable under the Environmental Permit, then, if possible, it should be re-loaded onto the vehicle and rejected from site in accordance with the Waste Rejection Procedure.	Site Operative	Procedure No. XX Waste Rejection
23.	If it is impossible to load a rejected load back onto the delivering vehicle the load will be put into the quarantine area. Waste will be rejected from the Site in accordance with the Waste Rejection Procedure.	Site Operative	Procedure No. XX Waste Rejection
	Compliance Testing		
24.	Compliance Testing is undertaken on samples of incoming waste to ensure that waste received complies with information on the Waste Information Form completed at the pre-acceptance stage.	Site Operative	
25.	Samples must be taken in accordance with the Sampling Procedures.	Site Operative	Sampling Procedure
26.	Samples must be labelled with: • A unique sample number (containing the hazardous waste consignment note number). • Any hazardous properties identified (if known).	Site Operative	
27.	Sampling and testing are carried out at a frequency that will be determined based on assessment of the source of the waste. This is to confirm that the correct classification and identification of any hazardous properties was provided for the incoming waste.	Site Operative	
28.	All samples will be labelled with a unique sample number that includes the hazardous waste consignment note code for the waste where the sample was taken from.	Site Manager Site Operative	
29.	Samples removed for compliance testing will be kept for a minimum of two days after treatment of the waste and removal of the residues from the Site.		

		RESPONSIBLE PERSON	RECORD
30.	The consignment / waste transfer note number will be used to track waste through the Site. Waste will be tracked using a computerised tracking system to hold up-to-date information.		
31.	The computerised tracking system will hold information about the available capacity of the waste quarantine, reception, and general and bulk storage areas.		
32.	Samples of waste will be taken from Unclassified Hazardous Waste stored within the holding area to determine the correct classification for this waste. This may include the use of on-Site rapid testing equipment to determine hydrocarbon content.	Site Operative	
33.	Waste that is identified to contain greater than 1,000 mg/kg of TPH will be transported to the hazardous waste reception area. The location of each batch of waste stored on the Site will be tracked in the computerised waste tracking system.	Site Operative	
34.	Waste that is identified to contain less than 1,000 mg/kg will require further assessment to determine its hazardous properties. This waste will be transported to the hazardous waste storage area while test results are obtained.	Site Operative	
35.	Analysis will be carried out at an MCERT accredited laboratory and testing will be conducted in accordance with the EN ISO 17025 test method.	Site Operative	
36.	An 'Environmental Suite' for total content analysis should be requested from an accredited laboratory for samples taken of the waste. The Environmental Suite should contain at least the following parameters: • Boron. • Arsenic. • Antinomy • Selenium • Metals, including Cadmium, Beryllium, Chromium III, Chromium VI, Copper, Lead, Manganese, Mercury, Molybdenum, Nickel, Vanadium, Zinc. • Acid Soluble Sulphide. • Phenols (Monohydric). • Total Cyanide. • Elemental Sulphur. • pH Value. • PAH (total/speciated). • TPH (total/speciated). • BTEX. • Total Sulphate, Water Soluble Sulphate. • Acid/Alkali Reserve Test.	Site Operative	
37.	A test for the presence of asbestos and asbestos quantification will be completed where there is suspicion that asbestos may be present in the waste.	Site Manager	
38.	A Hazardous Waste Assessment, in accordance with WM3 Guidance, will be completed using the testing results received from the laboratory. This hazardous waste assessment will produce a document showing the classification of the waste as non-hazardous or hazardous.		
39.	The document references for both the laboratory report and the hazardous waste assessment certificate will be recorded on the Waste Information Form for the relevant imported waste.	Site Operative	Form No. XX Waste Information

On Site Testing

		RESPONSIBLE PERSON	RECORD
40.	Testing will be conducted by an on-Site chemist qualified with a minimum HNC in chemistry.	Site Chemist	
41.	Rapid on-Site testing will take place using MCERT accredited QROS testing equipment. QROS testing equipment provides results in less than 30 minutes and therefore extended quarantine of sampled waste stockpiles will not be required.		
42.	On-Site testing will provide analysis for the following contaminants: • Metals including Cadmium, Mercury, and Chrome • Phenols • Cyanide • Sulphate • Chloride • Nitrate • Poly Chlorinated Biphenyl (PCB's) • pH levels • BTEX • TPH • PAH		
43.	Results from on-site testing using QROS testing equipment will be validated on a regular basis by sending split samples to an accredited laboratory. The split sampled stockpile will be placed in the quarantine area until results from the laboratory are received.		

Records

44.	Records will be kept documenting waste imported, stored, treated, and exported from the Site.	Site Operative	
45.	A daily record is kept of all vehicles delivering waste to the site, along with the type, quantity and source of waste delivered.	Site Operative	
46.	Hazardous Waste Consignment / Waste Transfer Notes will be appropriately stored for a minimum of three years.	Site Manager	
47.	Documentation associated with the testing and analysis of waste, including WM3 Assessments should be kept alongside Hazardous Waste Consignment Notes for a minimum of three years.	Site Operative Site Manager	
48.	Any other relevant information received at the pre-acceptance/acceptance stage should be kept alongside Hazardous Waste Consignment / Waste Transfer Notes for a minimum of three years.	Site Operative Site Manager	

Consequences

49.	The consequence of not following this procedure may result in unsuitable waste being accepted on to the site. This may constitute a breach in the conditions of the Environmental Permit, in addition to potentially causing contamination of the Site.		

Appendix 4

Waste Rejection Procedure

Procedure No. XX Waste Rejection Procedure

Purpose: To ensure non-compliant waste is rejected and that records of rejected loads are kept.

		RESPONSIBLE PERSON	RECORD
1.	The implementation of the waste acceptance procedures will verify whether the characteristics of the waste received at the site matches the information obtained during pre-acceptance. If the waste is not acceptable, then it must be rejected.	Site Manager / Chemist	
	Reasons for Rejection		
2.	A waste may be rejected from the Site for the following reasons: • Delivery vehicle is unsuitable for site operations / conditions. • The waste is not acceptable at the site under the Environmental Permit. • There is a prohibited waste within the load. • The storage container for the waste is damaged. • The load is not accompanied by the correct documentation. • The waste does not match the description on the accompanying documentation. • The waste is unsuitable for treatment. • The waste contains putrescible waste. The list is not exhaustive, if you are unsure speak to the Site Manager.	Site Manager	
3.	If a waste is identified as being unacceptable at the Site entrance or at the point of offloading the Site Manager is contacted and a Waste Rejection Form is issued to the driver.	Site Manager	Form No. XX Waste Rejection
4.	The driver of the load is informed of the load's rejection. The driver will be informed of the reasons for this and requested to leave the Site.	Site Manager	
5.	If the load is being rejected because the description of the waste on the Waste Transfer Note is incorrect, the driver may be given the opportunity to correct the mistake so long as the waste is acceptable at the Site.	Site Manager	Waste Transfer Note
6.	Loads not accompanied by a Hazardous Waste Consignment / Waste Transfer Note or that do not match the description on the transfer documentation will be raised as non-conforming wastes. The Site Manager will review and assess whether the non-conforming waste is permitted to be accepted for on-Site storage and / or treatment.	Site Manager	
7.	If the load is not safe to be sent back onto the road, then the vehicle is kept in the quarantine area until appropriate arrangements can be for its removal.		Drawing No. 23/009c 002 Site Layout Plan
	Waste Rejected after Offloading of the Vehicle		
8.	If appropriate, a rejected load should be reloaded onto the delivery vehicle.		
9.	If waste cannot be reloaded onto the delivery vehicle, the waste will be stored in the quarantine area. The customer will be contacted, arrangements to remove the quarantined waste will be made and a copy of the rejection form containing reasons for the rejection will be supplied.		Drawing No. 23/009c 002 Site Layout Plan Form No. XX Waste Rejection

	RESPONSIBLE PERSON	RECORD

Quarantined Waste

10. Quarantined wastes are managed to ensure that they do not give rise to pollution or nuisance. For example, excessively dusty wastes will be subject to dust control measures.

11. Wastes will be stored for a maximum of five working day in the Quarantine Area unless it has the potential to cause significant risk of pollution in which case it will be removed in less than five working days.

12. The customer will be contacted and arrangements to remove the quarantined waste will be made.

13. If arrangements for the customer to remove the waste cannot be made, Soil UK Treatment Limited will make these arrangements themselves. The quarantined waste material will be removed from Site by a registered Upper Tier Waste Carrier to a suitably licenced facility and accompanied with a Waste Transfer or Consignment Note. — Site Manager

Notification and Records

14. A copy of the Waste Rejection Form containing the reasons for the rejection will be provided to the customer. — Site Manager

15. Soil Treatment UK Limited may contact the Environment Agency regarding the rejection of the waste if it has caused or has the potential to cause, significant environmental pollution.

16. Details provided to the Environment Agency include:

    - Nature and quantity of the waste involved
    - Time and date of receipt
    - Name and address of the Customer/Producer
    - Haulier name and address
    - Vehicle registration of delivering vehicle

17. Details and records relating to the storage and removal of rejected waste will be recorded and retained. — Site Manager

Appendix 5

Environmental Risk Assessment

Soil Treatment UK Limited

Environmental Risk Assessment

Soil Treatment UK Limited

Finmere Quarry and Landfill Site,
Banbury Road,
Finmere,
Oxfordshire,
MK18 4AJ

WESTBURY ENVIRONMENTAL

PROVIDING SOLUTIONS, ENSURING COMPLIANCE

T 01952 879705 E info@westburyenv.co.uk

A Agriculture House, Southwater Way
Telford, Shropshire, TF3 4NR

W www.westburyenv.co.uk

Document Control Table

Project Reference	23/009c
Project Title	Environmental Permit Application
Document Title	Environmental Risk Assessment V1
Document Issue Date	26 October 2023
Client	Soil Treatment UK Limited
Status	Issued

Change log

Version	Changes	Produced by	Checked by	Date
1	Original Environmental Risk Assessment	Emma Gibson	Tracey Westbury	26 October 2023

Contents

Tables

Drawings

Drawing No. 23/009c 001	Permit Boundary Plan V1
Drawing No. 23/009c 003	Sensitive Receptor Plan V1

1. Introduction

1.1. Westbury Environmental Limited have been instructed to prepare this Environmental Risk Assessment on behalf of Soil Treatment UK Limited (the Operator) to support an Environmental Permit application for the operation of a waste treatment facility located at Finmere Quarry and Landfill, Banbury Road, Finmere, Oxfordshire, MK18 4AJ. The site is defined as the area within the proposed permit boundary denoted by the green line, see Drawing No. 23/009c 001 Permit Boundary Plan V1 (Site).

1.2. The Environmental Risk Assessment has been prepared for an Environmental Permit Application. The Environmental Risk Assessment considers the risks associated with the proposed activities and waste operations included within the permit application.

1.3. The Environmental Permit Application proposes the treatment of hazardous and non-hazardous construction and demolition waste. Proposed activities include:

- Handpicking
- Screening
- Washing
- Crushing
- Storage
- Blending
- CLO production

1.4. It is proposed the Site will accept a combined maximum of 300,000 tonnes per annum of hazardous and non-hazardous waste and a maximum of 80,000 tonnes will be stored on Site at any one time.

1.5. See Application Report, Appendix 2 Technical Summary for detailed information on the proposed activities.

1.6. This report describes the Site setting, identifies nearby receptors, and assesses the risk of the waste operations to the local environment.

2. Site location and sensitive receptors

Location

2.1. The Site is located within Finmere Quarry and Landfill approximately 650m south-west of the village of Finmere. In terms of larger settlements, Buckingham is 5.6km east and Bicester 8.4km south. The approximate centre of the Site is located at National Grid reference SP 62771 32028.

2.2. The Site is approximately 8.3 hectares (ha) in size and is denoted by Drawing No. 23/009c 001 Permit Boundary Plan V1. The Site comprises of waste treatment and storage areas.

2.3. The Site is within the existing Finmere Quarry and Landfill. The quarry is divided into two sections: the northern and southern sections. The northern section of the quarry is currently operated under a landfill and waste recovery permit with an approved restoration scheme. The southern area of the quarry includes the waste operations proposed within this permit application.

2.4. This Environmental Risk Assessments relates to the area within the proposed permit boundary, where waste operations associated with the Environmental Permit application will take place.

2.5. Immediately adjacent to the western boundary is a railway line currently undergoing major construction works for the high-speed railway development HS2.

2.6. Finmere airfield is approximately 1km east of the Site boundary. The remaining surrounding land to the Site includes woodland and agricultural land.

Receptors

2.7. Sensitive receptors within 1km of the Site have been identified, see Drawing No. 23/009c 003 Sensitive Receptor Plan.

2.8. Table 2.1 shows the approximate distance and orientation (from the Site) of receptors located within a 1km radius of the Site.

Table 2.1 Sensitive Receptors

Ref No.	Receptor	Description	Direction from Site boundary	Approximate distance from Site boundary (m)
1	Deciduous woodland	Protected habitat	East	0
2	Deciduous woodland	Protected habitat	West	0
3	OPES MRS landfill site	Industrial	West	0
4	Railway line	Infrastructure	West	10
5	Lagoon	Surface water body	East	80
6	Bucks Concrete	Industrial	North	150
7	Boundary Farm	Agricultural buildings	Southeast	215
8	Foxley Fields Farms	Agricultural buildings	Northeast	220
9	Barleyfields Barn Farm	Agricultural buildings	South	410

10	Widmore Farm	Agricultural buildings	Northwest	420
11	Residential dwellings	Residential	Northeast	435
12	A421 Road	Infrastructure	North	460
13	A4421 Road	Infrastructure	Southeast	590
14	Gravel Farm	Agricultural buildings	Northeast	700
15	Banbury Road	Residential dwellings	Northeast	790
16	Finmere CE Primary School	School	Northeast	930

2.9. OPES MRS landfill site is within the northern section of the quarry and operates under a landfill permit. Operations associated with that section of the quarry are considered likely to produce more significant dust and noise than the activities proposed in this Environmental Permit application.

2.10. Immediately adjacent to the western boundary major construction works are being undertaken on the railway line for the high-speed railway development HS2. This is considered likely to produce significant noise and dust pollution exceeding that of the proposed Sites activities.

2.11. There is a large bund to the southeast of the permit boundary which will aid in protecting receptors such as Boundary Farm from potential impacts such as dust and noise.

3. Environmental Risk Assessment

Risk Estimation

3.1. Table 3.1 shows the matrix for estimating the magnitude of risk of a potential hazard from considering both the probability and consequence of a hazard occurring. The magnitude of risk determines what level of management is required in order to reduce the environmental impact and the probability of risk occurring.

Table 3.1 Estimating the Magnitude of Risk

Magnitude of Risk		Consequence			
		High	**Medium**	**Low**	**Negligible**
Probability	**High**	Very high	High	Medium/Low	Very low
	Medium	High	Medium	Low	Very low
	Low	High/Medium	Medium/Low	Low	Very low
	Negligible	High/Medium/Low	Medium/Low	Low	Negligible

3.2. Table 3.1 is a gross simplification that cannot represent the true complexity of risk, it has been used as a guide in preparing this risk assessment report.

3.3. A risk assessment of the potential hazards associated with the proposed operations that may cause harm to the environmental has been completed using the method shown in Table 3.1, see Table 3.2 Environmental Risk Assessment.

Key Considerations

3.4. The following aspects have been considered when completing this Environmental Risk Assessment:

Data and information

- Receptor
- Source / hazard
- Harm
- Pathway

Judgment

- Probability of exposure
- Consequences
- Magnitude of Risk

Action

- Justification for Magnitude
- Risk Management
- Residual Risk

Table 3.2 Environmental Risk Assessment

Data and Information				Judgment			Action (by permitting)		
Receptor	**Source**	**Harm**	**Pathway**	**Probability of Exposure**	**Consequence**	**Magnitude of Risk**	**Justification for Magnitude**	**Risk Management**	**Residual Risk**
Local human population, including, neighbouring construction / industrial workers and residential dwellings.	Releases of dust. Asbestos fibres	Harm to human health – respiratory irritation and illness i.e., lung cancer, mesothelioma, and asbestosis Nuisance – dust on cars, clothing etc.	Air transport or via physical contact then inhalation	Low	High	Medium	Incoming proposed waste types includes hazardous and non-hazardous. Construction and demolition waste and non-hazardous waste for CLO production. These wastes are to be stored outside. These wastes are likely to be dusty due to the nature of the waste and the fragmented particle sizes. Construction & demolition waste containing asbestos will be accepted and treated on Site. The main treatment process undertaken on Site is washing providing a wet process. This will significantly reduce dust emissions as	A number of mitigation measures are used to reduce the risk of dust emissions. Strict waste acceptance procedures are in place to ensure that excessively dusty loads are not accepted on Site. There is a large bund to the southeast of the permit boundary, this will act as a barrier between the Site and the Boundary Farm receptor. Waste contaminated with asbestos containing materials (ACM) will be accepted onto the Site. Site operatives will be required to wear PPE when handling ACM.	Low

							the product and filter cake will be wet. There is a low potential for exposure to staff when handling ACM -Personal Protective Equipment (PPE) reduces the risk of this exposure Further precautions will be taken when handling waste which contains asbestos fibres such as water sprays. The Site is surrounded by other major construction operations including the landfill activities in the north of the quarry and High-Speed Railway development (HS2). These will also cause significant amounts of dust.	Waste operations that have the potential to generate dust e.g., crushing, screening, and tipping will be subject to water sprays for dust suppression. The built in dust suppression bar on the crusher is used to reduce the potential for dust emissions from this plant Potentially dusty waste that has been crushed will continue to be stored outside but will be dampened regularly in dry, windy conditions. This reduces the amount of dust which could be suspended, and therefore the amount of dust which could reach nearby sensitive receptors.	
Surface water features, including a lagoon 80m	Releases of dust to the air Asbestos fibres	Water contamination	Air transport then deposition	Medium / low	Medium	Medium	Waste treatment operations that have the potential to generate dust e.g., screening,	In order to reduce the potential for dust emissions to cause a nuisance,	Low

east of the Site.							crushing and movement of waste will be carried out outside. The main treatment undertaken will be washing which will significantly reduce any dust emitted from this treatment due to it being a wet process. Dust emissions are likely to have dropped out of the atmosphere before reaching this sensitive receptor, due to their size and weight.	vehicles delivering and exporting waste loads will be sheeted. Methods of dust management are included in the Dust Management Plan, which is included in this permit application. The Dust Management Plan will form part of the EMS for the site and will be implemented through strict procedures available in the EMS.	

Local human population, Including neighbouring construction / industrial workers and residential dwellings. Deciduous woodland and the lagoon.	Litter	Nuisance, loss of amenity and harm to animal health	Litter escaping from the Site (windblown)	Low	Low	Low	Construction and demolition waste typically contains low amounts of litter. Road safety – local residents often sensitive to waste / litter being spread on roads. It is considered unlikely that litter will be present in the waste in such quantities as to lead to the load being rejected. In the event that there is an abnormally large presence of litter in the waste, the waste will be handled appropriately or rejected in accordance with the waste rejection procedure. The Site is surrounded by other major construction operations including the landfill activities in the north of	Control of litter is included in the Housekeeping Procedure within the EMS and is included on the inspection checklists. Incoming waste is handpicked to remove waste types that may generate litter. Handpicked waste will be stored within containers to prevent the escape of litter. Litter that has been handpicked from the waste will be disposed of appropriately. Inspection checklists will include litter checks that will be carried out on a regular basis to identify and remove any litter on the site.	Very low

							the quarry and High-Speed Railway development (HS2). These operations have the potential to cause litter pollution.		
	Waste and litter on local roads	Nuisance, loss of amenity, road traffic accidents	Vehicles entering and leaving the Site	Low	Medium	Medium	Mud tracked out on to local roads can cause safety issues. The Site is situated to the south of Finmere Quarry, the Sites access road around the quarry is approximately 1.5km meaning any mud on vehicle wheels will likely have fallen off by the time they reach the highway. The proposed permitted waste	Concrete surfacing of the site will enable effective cleaning with a road sweeper. Contravening waste will be stored within a container.	

							types have a low potential to produce litter. The Site is surrounded by other major construction operations including the landfill activities in the north of the quarry and High-Speed Railway development (HS2). Due to these other operations being within close proximity to the Site and all exiting onto the same round, it is considered waste and litter on local road could also be produced by the vehicles associated with their activities. The Site is within proximity of multiple farms who are likely to track mud out onto the local highway from farming activities.		
Local human population including	Odour	Nuisance, loss of amenity	Air transport then inhalation	Very Low	Low	Low	Local residents are often sensitive to	No putrescible waste types are accepted on to	Very low

neighbouring construction / industrial workers and residential dwellings.							odour. The proposed waste types are not putrescible and have low potential to emit odour.	the Site, as such it is unlikely that odour will be an issue. The implementation of a strict waste acceptance criteria will ensure that no putrescible waste types are accepted on to the Site. Good house keeping methods will be actively maintained to reduce risk of odour from the Site.	
Local human population including neighbouring construction / industrial workers and residential dwellings.	Noise and vibration	Nuisance, loss of amenity, loss of sleep	Noise through the air and vibration through the ground	Low	Medium	Low	Local residents are often sensitive to noise. The proposed waste activities have the potential to create significant noise emissions. The distance between the source of the noise and the sensitive receptors will reduce the impact. The Site is surrounded by other major	A number of mitigation measures will be in place to minimise noise. Such mitigation measures include not leaving plant idling and minimising drop heights as far as reasonably practicable. The Site is located within a quarry with a large bund to the southeast of the boundary. This will help contain any noise.	Low

							construction operations including the landfill activities in the north of the quarry and High-Speed Railway development (HS2). These will also cause significant amounts of noise.	A noise assessment has been complete for the proposed activity.	
Local human population including neighbouring construction / industrial workers and residential dwellings.	Scavenging animals and scavenging birds Pests (e.g., flies)	Harm to human health Nuisance and loss of amenity.	Air transport and over land.	Low	Medium	Low	Proposed waste types do not contain putrescible wase that is likely to attract animals. It is therefore unlikely that there will be an increase in the number of pests, scavenging animals, and birds at the Site.	The implementation of a strict waste acceptance criteria will ensure that no putrescible materials, that are attractive to scavenging species or pests, will be accepted on to the Site. The Site will be inspected regularly for evidence of infestations and the findings will be recorded on the inspection checklists. If any evidence is found, an appropriate specialist contractor shall be called in to manage /	Very low

								eradicate the problem.	
Soil Treatment UK Limited staff, local human population including neighbouring construction / industrial workers and residential dwellings	All on-site hazards: waste machinery and vehicles.	Bodily injury. Respiratory illness i.e., lung cancer, mesothelioma & asbestosis.	Direct physical contact with machinery or contaminated waste.	Medium	Medium	Medium	Proposed incoming waste types are primarily construction and demolition materials, which does not pose a significant risk to health in terms of irritation or injury from direct physical contact. There is a chance that proposed incoming waste types could pose a risk from inhalation of significant amounts of dust. There is a risk that inhalation could cause harm during the treatment and offloading process. Physical processing equipment on the Site could cause bodily injury if misused or if malfunctioning	Staff are required to wear PPE during the treatment activities e.g., gloves. Plant and equipment on the Site are regularly checked as part of the Site inspection regime. Any faults identified during these checks will be rectified by the Site Manager. The maintenance procedure within the EMS contains a list of plant / equipment and their servicing requirements. A record is kept when plant / equipment is serviced. Regularly servicing plant / equipment will identify and rectify issues before they potentially cause a malfunction.	Low

							It is considered that the proposed changes to the permit will not increase the risk of unauthorised access from the local population or livestock. However, there is potential for exposure to asbestos if there is unauthorised access to the Site. The equipment and machinery located on Site are secured outside of the operation / manned hours. Robust Site security measures will reduce the likelihood of trespassers encountering ACM. Asbestos will be stored in a lockable sealed container.		
Soil Treatment UK Limited staff, local human population	Arson and / or vandalism causing the release of polluting materials to	Respiratory irritation, illness, and nuisance to local population. Injury to staff, fire	Air transport of smoke. Spillages of contaminated firewater by	Very Low	Medium	Low	The proposed waste to be accepted at the Site is not considered to be combustible.	The implementation of a strict waste acceptance procedure will ensure that no	Very Low

including neighbouring construction / industrial workers and residential dwellings. Deciduous woodland and the lagoon.	air (smoke or fumes), water or land.	fighters or arsonists/vandals. Pollution of water or land.	direct run-off from the Site. Loss of containment of waste.				Ignition methods used in arson are unlikely to reach or sustain the required temperature to ignite the waste. The fire is unlikely to sustain itself without a significant amount of accelerant. There is a chance that handpicked waste could be combustible. A small amount of handpicked waste is stored appropriately on Site in containers. Fuel will be stored on the Site. The Site is manned during operational hours and secured outside these hours.	waste types other than the permitted waste types are accepted on to the Site. Any incidental combustible waste types within incoming loads will be handpicked from the load and stored in container(s). These containers act as a fire break and reduce the likelihood of a fire spreading and a fire occurring as a result of arson. The EMS contains a fire prevention procedure which includes information relating to minimising the risk of fire on the Site. The EMS contains a security procedure to ensure that the Site is kept secure to prevent unauthorised access.	

All surface water features.	Spillage of liquids, leachate from waste, contaminate rainwater run-off from waste e.g., containing suspended solids.	Acute effects: oxygen depletion, fish kill and algal blooms. Chronis effects: deterioration of water quality.	Direct run-off from the Site across ground surface, via run-off	Low	Medium	Medium	Proposed waste types do not include sludges or liquids. Fuel will be stored appropriately in a double skinned tanks on the Site	Implementation of strict waste acceptance criteria will ensure that only permitted waste types are accepted and stored on the Site. Unauthorised wastes will be rejected in accordance with the waste rejection procedure. Infrastructure associated with the drainage system, including the surfacing and drains, will be checked as part of the inspection checklists. Any defects / blockages in the drainage system will be rectified. Storage facilities for liquids will be maintained in accordance with the manufacturer's specification. Fuel stored on the Site will be stored in a double skinned tank. Accidental collisions are therefore unlikely	Low

								to damage the inner lining of the tank, which could pose a risk of the containment. The spillage and refuelling procedure within the EMS, implement the requirement for spill kits to be in place during refuelling or in the event of a spillage to clean the spill up. Staff will be trained on the spillage procedure to ensure they are aware of the use of spill kits and what to do in the event of a spill. Infrastructure associated with the drainage system, including the surfacing drains, will be checked as part of the inspection checklists. Any defects / blockages in the drainage system will be rectified.	

4. Conclusions

4.1. This Environmental Risk Assessment assesses the risks posed to the environment from the proposed operations.

4.2. These risks include releases of dust, litter, mud, odour, noise, scavenging animals, pests / vermin, flooding, contamination of surface / ground water and fire.

4.3. It is considered that there is a low potential for an increase in the risk to the local environment and human health from the proposed waste activities. Robust risk management measures will be implemented by way of EMS procedures to ensure that the identified risks are minimised.

4.4. The Site has impermeable surfacing and sealed drainage where waste is stored, and treatment operations are undertaken. There is also kerbing surrounding the impermeable surfacing which will ensure that surface water from the Site will not cause a risk to nearby sensitive receptors as it will be contained within the treatment and storage areas.

4.5. The remainder of the Site is hard standing which will allow for any surface water to percolate through the ground. There is no waste stored on hard standing therefore, only uncontrolled surface water will be on the hard standing.

4.6. Dust suppression on Site and infrastructure surrounding the Site including the bund to the southeast will ensure that dust emissions are unlikely to cause a nuisance to nearby receptors.

4.7. Because waste accepted on Site is non-combustible, the risk from fire is very low.

4.8. It is considered there is low risk posed by the proposed waste operations for the following sources / hazards and mitigation measures proposed will be sufficient:

- Litter
- Mud
- Odour
- Noise
- Scavenging animals
- Dust
- Pests / vermin
- Flooding
- Unauthorised access / arson / vandalism
- Contamination of surface water / ground water
- Protected sites

4.9. The EMS implemented on Site will be reviewed to ensure all the risk management actions identified in this Environmental Risk Assessment are implemented on Site.

Appendix 6

Dust Management Plan

Soil Treatment UK Limited

Dust Management Plan

Soil Treatment UK Limited

Finmere Quarry and Landfill Site,
Banbury Road,
Finmere,
Oxfordshire,
MK18 4AJ

WESTBURY ENVIRONMENTAL

PROVIDING SOLUTIONS, ENSURING COMPLIANCE

T 01952 879705 E info@westburyenv.co.uk

A Agriculture House, Southwater Way
Telford, Shropshire, TF3 4NR

W www.westburyenv.co.uk

Document Control Table

Project Reference	23/009d
Project Title	Environmental Permit Application
Document Title	Dust Management Plan V1
Document Issue Date	26 October 2023
Client	Soil Treatment UK Limited
Status	Issued

Change log

Version	Changes	Produced by	Checked by	Date
1	Original Dust Management Plan	Emma Gibson	Tracey Westbury	26 October 2023

Contents

Tables

Drawings

Appendices

1. Introduction

1.1. Westbury Environmental Limited has prepared this Dust Management Plan (DMP) on behalf of Soil Treatment UK Limited (the Operator). This DMP provides information on the sources, risks and mitigation measures related to the potential dust emissions from the treatment of hazardous and non-hazardous construction and demolition waste.

1.2. The waste treatment facility is located at Finmere Quarry and Landfill, Banbury Road, Finmere, Oxfordshire, MK18 4AJ. The site is defined as the area within the permit boundary denoted by the green line, see Drawing No. 23/009c 001 Permit Boundary Plan V1 (Site). Waste operations at the Site are authorised by Environmental Permit Ref .

1.3. This DMP forms part of the Environmental Management System (EMS) implemented on Site and has been produced in accordance with the following guidance:

- Control and monitor emissions for your environmental permit, last updated 24 November 2022 (www.gov.uk).
- Non-hazardous and inert waste: appropriate measures for permitted facilities, December 2022 (Appropriate Measures).
- Chemical waste: appropriate measures for permitted facilities, November 2020 (Appropriate Measures).

1.4. A copy of the EMS, including this DMP, will be stored in the Site office. In addition, completed forms (records) will be kept, as required by conditions included in the Environmental Permit.

1.5. This DMP will be reviewed every four years or in the event of the following:

- If a change in operation is deemed to potentially increase risk of dust emissions.
- If a failure in the existing mitigation is identified.
- If the Operator receives persistent dust complaints.

Definitions used within this report

1.6. Dust is a generic term for particulate matter and covers airborne particles in the size range of 1 to 75µm (micrometres) in diameter:

- Particles less than 10µm are ‘small’
- 10µm to 30µm are termed ‘intermediate’
- Particles above 30µm are termed ‘large’

1.7. Large and intermediate dust particles are often referred to as a nuisance dust, whilst small particles are associated with effects on human health.

1.8. Dust generated from the waste operations undertaken on this Site and the movement of plant and vehicles are typically of *larger* particle size.

1.9. The larger particle fraction of dust can create a potential nuisance in the community or impact on the environment. It is normally perceived as an accumulated deposit on surfaces such as window ledges, paintwork, and other horizontal surfaces e.g., car roofs. When the rate of accumulation is sufficiently rapid to cause noticeable fouling, discolouration, or staining (and decreasing time between cleaning) then the dust is generally considered to be a nuisance. The visibility of dust clouds themselves may also give rise to such impacts.

1.10. The term ‘excessively dusty material’ is used within this report to refer to material that contains a significant amount of dry fine particles such that when the material is handled it gives rise to dust clouds. Wastes comprising solely or mainly of dusts, powders or loose fibres are not permitted at the Site.

1.11. The term ‘excessive’, when referring to dust generation, is used to describe a significant dust emission that is anticipated to cause nuisance or adverse impacts to nearby receptors, be visible beyond the Site boundary, and /or reduce visibility in the immediate vicinity of the Site.

1.12. The term ‘not effective’ in relation to mitigation measures is used to describe the situation when the measure has not had the desired impact on the reduction / minimisation of dust.

Content of the Dust Management Plan

- Section 1 provides an overview of the DMP objectives.
- Section 2 provides a summary of the relevant legislation and guidelines.
- Section 3 provides a summary of the operations carried out on the Site and the delivery of material to the Site.
- Section 4 provides information relating to the Site setting, including the location of the Site and nearby sensitive receptors.
- Section 5 provides information on the site management and the mitigation measures employed at the Site.
- Section 6 provides information on how dust emissions are monitored at the Site.
- Section 7 provides a description of how complaints can be made and how they are addressed by the site management.

2. Relevant Legislation

2.1. The Air Quality Strategy (AQS) for England, Scotland, Wales, and Northern Ireland fulfils the requirement under Part IV of the Environment Act 1995 for a national air quality strategy which sets out policies for improving ambient air quality and keeping these under review. The first strategy, the National Air Quality Strategy (NAQS), was published in March 1997. In January 1999, proposals to amend the strategy were put out for consultation and a consultation document was produced. Following consultation, a revised version of the strategy was published in January 2000. This was further revised in 2007 and has not been revised since this date.

2.2. The AQS provides a framework for air quality control through air quality management and air quality standards and objectives for different pollutants (including particulate matter). These air quality standards and objectives were transposed into English Law by the Air Quality (Standards) Regulations 2010.

Air Quality Management Area (AQMA)

2.3. The system of local air quality management (LAQM) was introduced under the Environment Act 1995. LAQM requires local authorities to periodically review and assess the current and future quality of air in their areas. Where it is determined that an air quality objective is not likely to be met within the relevant time period, the authority must designate an AQMA.

2.4. The Site is not located within an AQMA.

Low Emission Zone (LEZ)

2.5. A LEZ is an area that has restrictions on the type and age of vehicles permitted in it, therefore, vehicles emitting high levels of pollution can be prevented from entering and operating within the zone.

2.6. The Site is not located within a LEZ.

3. Operations at the Site

Overview

3.1. Waste activities include the importation, storage and treatment of hazardous and non-hazardous construction and demolition wastes.

3.2. Waste treatment includes:

- Handpicking
- Screening
- Washing
- Crushing
- Storage
- Blending
- CLO Production

Waste Acceptance

3.3. The requirements of waste acceptance procedures will be implemented to ensure that only suitable waste is accepted. Only those waste codes detailed in the Environmental Permit will be accepted onto the Site. Implementing the requirements of the waste acceptance procedure will ensure that waste will not comprise solely or mainly of dust, powders, or loose fibres.

3.4. Waste will be delivered onto the Site by heavy goods vehicles. The movement of vehicles visiting the Site has the potential to cause dust emissions, particularly in dry and windy conditions. A 5mph speed limit and the minimisation of vehicle movements will be enforced on the Site to help reduce the amount of dust generated by vehicle wheels.

3.5. All vehicles entering and exiting the Site will be sheeted to minimise the likelihood of dust emissions. Loaded vehicles arriving onto the Site that are not sheeted will not be allowed to enter the Site.

3.6. Vehicles entering the Site will be visually inspected prior to unloading to ensure that loads comprising solely or mainly of dust, powders or loose fibres are not accepted to Site. Handling of wastes including loading, unloading, transport around the Site will have the potential to create dust emissions.

3.7. The tracking of mud and debris onto paved surfaces and the adjacent highway have the potential to cause dust emissions by resuspension from the passing of vehicles.

Emission sources

3.8. The operations carried out at the Site include material importation for treatment. Treatment activities that have the potential to create dust emissions include, screening, washing, and crushing of waste. The predominant treatment undertaken at the Site is washing and therefore a wet process. Therefore is not likely to produce dust emissions.

3.9. As the process is predominantly a wet treatment the products produced will be wet and handling them after treatment won't produce any dust emissions.

3.10. The following activities have been considered to pose a risk of dust emissions from the Site, particularly in especially hot or dry conditions.

- Vehicle movements
    - Movement of vehicles along paved and unpaved surfaces
    - Resuspension of dried mud on surrounding roads
- Material handling and movement
    - Any drop of material from a height i.e., loading, unloading of vehicles
    - Movement of material on conveyors

- Material treatment
    - Dry treatment of waste such as crushing and screening
- Material storage
    - Wind-whipping of stockpiles / materials stored in bays

Plant and equipment

3.11. The following plant and equipment are used on Site:

- Screener
- Wash plant
- Crusher
- Loading shovel / grabs
- 360º excavators
- Picking line

3.12. All plant and equipment will be subject to maintenance checks in accordance with the procedures in the Environmental Management System (EMS).

3.13. All plant will be operated in accordance with industry good practice, for example, operation of a no-idling policy, no revving of engines etc.

3.14. The Operator will implement a policy of replacing older machinery with new, lower emission machinery as it becomes available and as the business development allows.

3.15. The crushing plant has a high potential for dust generation and will not be operated without the inbuilt dust suppression active.

Site layout

3.16. The layout of the Site is shown on Drawing No. 23/009c 002 Site Layout Plan.

3.17. Waste treatment activities will be undertaken in dedicated locations on Site. The waste treatment area has been appropriately sited, upwind of the predominant wind direction and away from some of the more sensitive receptors (residential dwellings and highways) to minimise the potential for harm in the event of dust generation.

3.18. Dust monitoring can be undertaken anywhere within the Site boundary, there are no specific monitoring points. Monitoring is undertaken by all site operatives.

Waste Types

3.19. The waste types permitted to be stored and treated on Site have been summarised and assigned a “low”, “medium” or “high” risk level for the potential to emit dust, as shown in Table 3.1.

Table 3.1 Potential of waste types to produce dust

Dust Potential	Waste Types	Processes waste type subjected to	Summary of mitigation measures implemented
Low	Bricks, tiles, glass, road planings etc.	Storage, handling, screening, washing, and crushing	Dampening and compaction of stockpiles Stockpile height limited to 5m
Medium	Concrete, minerals (sand and gravels).		

High	Soils (silty, sandy, clayey).		Water sprays implemented when dust emissions observed All waste subject to visual monitoring by site operatives

3.20. Consideration has been given to mitigation measures to be employed on Site based upon the risk of the material to produce dust, and the processes to which it will be subjected to.

3.21. The Operator will take a conservative approach, applying mitigation measures appropriate for the highest risk waste types and processes, to all wastes stored and treated at the Site.

4. Site Location and sensitive receptors

Site setting

4.1. The Site is located approximately 650m south-west of the village of Finmere. In terms of larger settlements, Buckingham is 5.6km east and Bicester 8.4km south. The approximate centre of the Site is located at National Grid Reference SP 62771 32028.

4.2. The Site is within Finmere Quarry and Landfill. The quarry is divided into two sections: the northern and southern sections. The northern section of the quarry is currently operated under a landfill and waste recovery permit to achieve the approved restoration scheme. The southern section of the quarry will include the waste operations described in this DMP.

4.3. The Site is accessed using an access road approximately 1.5km long off the A421 through lockable steel security gates and is approximately 6 hectares (ha) in size.

4.4. Immediately adjacent to the western boundary is a railway line currently undergoing major construction works for the high-speed railway development HS2.

4.5. Finmere airfield is approximately 1km east of the Site boundary. The remaining surrounding land to the Site includes woodland, hedgerows, and agricultural land.

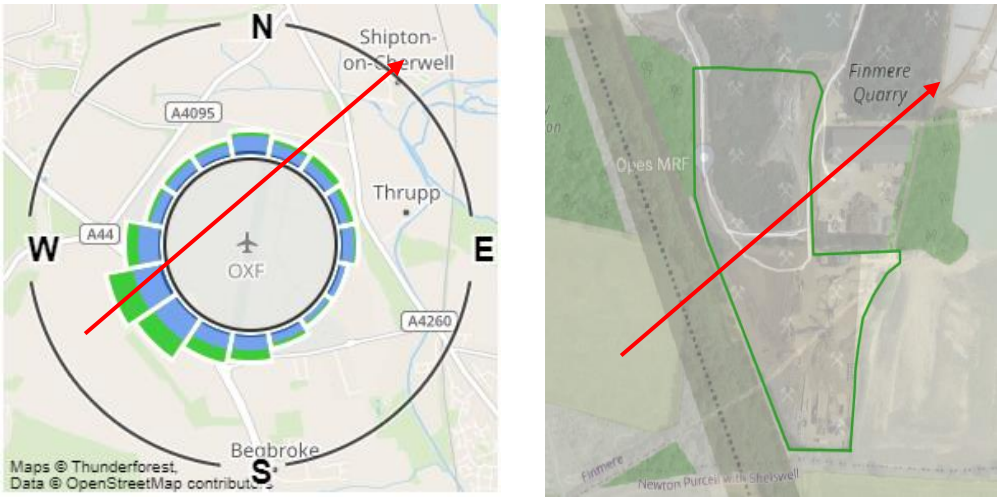
Meteorology

4.6. Unlike many other atmospheric pollutants, the generation of dust is particularly dependent upon weather conditions.

4.7. The meteorological conditions at any site will be dependent upon many factors, including its location in relation to macroclimatic conditions as well as more site-specific microclimatic conditions. The most significant meteorological factor is the predominant wind direction and wind speeds. Subsequently, data has been collected regarding the predominant wind speeds and directions appropriate to the Site.

4.8. Wind speed and direction data have been obtained from the London Oxford Airport weather station for the period from 04/2015 – 04/2023, see Figure 4.1. London Oxford Airport weather station is located approximately 22km southwest of the Site. This weather station has wind speed and direction data appropriate for characterisation of the wind climate at the Site.

Figure 4.1 Wind rose data from Oxford Airport weather station



Sensitive Receptors

4.9. This DMP identifies receptors within 1km of the Site that may be sensitive to dust emissions.

4.10. The distance from the permit boundary to the sensitive receptor plays an important role in the potential impact experienced from airborne dust. Concentrations of airborne dust reduce significantly further away from the source.

4.11. Due to the nature of the materials being handled on the Site the particle size of the dust emitted is of intermediate to large particles. Therefore, it can be concluded that these particles are highly likely to be deposited within c.250m of the source.

4.12. Some receptors have a greater sensitivity to dust emissions due to the high risks posed to their operations. Receptors with a higher sensitivity to dust emissions include:

- Food production / preparation services
- Technology industries e.g., nanotech, hard drives/chips

4.13. There are no receptors which are highly sensitive to dust emissions within 1km of the Site.

4.14. The direction and distances from the boundary of the Site to the boundary of the sensitive receptors are provided in Table 3.1 below. The receptors are also presented on Drawing No. 23/009c 003 Sensitive Receptor Plan V1.

Table 4.1 Sensitive Receptors

Ref No.	Receptor	Description	Direction from Site boundary	Approximate distance from Site boundary (m)
1	Deciduous woodland	Protected habitat	East	0
2	Deciduous woodland	Protected habitat	West	0
3	OPES MRS landfill site	Industrial	West	0
4	Railway line	Infrastructure	West	10
5	Lagoon	Surface water body	East	80
6	Boundary Farm	Agricultural buildings	Southeast	215
7	Bucks Concrete	Industrial	North	220
8	Foxley Fields Farms	Agricultural buildings	Northeast	330
9	Barleyfields Barn Farm	Agricultural buildings	South	410
10	Widmore Farm	Agricultural buildings	Northwest	420
11	A4421 Road	Infrastructure	Southeast	590
12	A421 Road	Infrastructure	North	615
13	Residential dwellings	Residential	Northeast	670
14	Gravel Farm	Agricultural buildings	Northeast	800

15	Banbury Road	Residential dwellings	Northeast	915

4.15. There is a large presence of trees along many of the boundaries to intercept any potential dust particles leaving.

4.16. The Site is surrounded by the wider quarry to the north and east, this is likely where any dust will be deposited.

4.17. There is a large bund adjacent to the southeastern boundary of the Site which would act as a barrier from any potential dust emissions on receptors.

4.18. Due to the predominant wind direction from the west-southwest, it is considered that receptors located east-northeast if the Site are at greater risk of experiencing adverse impacts of dust emissions from the Site. Receptors to the east-northeast of the Site include Boundary Farm and residential dwellings in Finmere. All the receptors in this direction are more than 250m from the Site boundary and therefore have a minimal risk of being impacted by dust from the operations undertaken at the Site.

5. Dust Management and Mitigation

Responsibility for Implementation of the Dust Management Plan

5.1. The Site Manager is responsible for the implementation of the Dust Management Plan and for ensuring that the mitigation strategies are adhered to. Where the Site Manager is unavailable to oversee the implementation of dust suppression measures, a suitably experienced Site Operative is allocated responsibility.

5.2. This Dust Management Plan will be reviewed every four years or when a change in operations is considered to have a potential impact on dust emissions. The review process will amend any mitigation measures that have been identified as areas for improvement in reducing dust emissions on Site.

5.3. All staff members will have the necessary training to deliver dust suppression measures detailed within this Dust Management Plan. All staff will be given training on the EMS, which includes a Dust Procedure. All staff on the Site will be trained on the Dust Procedure which includes details regarding mitigation measures and monitoring/recording visual inspections. Site procedures will be communicated between staff via EMS training and toolbox talks. Where new dust suppression measures are to be implemented refresher training will be provided to ensure staff remain competent. This training will be delivered by the Site Manager.

Overview of Dust Control

5.4. Dust control measures are implemented to help mitigate dust emissions at the Site, see Table 5.2. These measures are implemented when appropriate, particularly in periods of dry weather or when dust is identified to be escaping the Site boundary. The Site boundary is inspected regularly to identify any dust emissions / dust leaving the Site. If dust emissions beyond the Site boundary are observed, this is recorded, and appropriate action is instigated.

5.5. Water bowsers and water sprays will be available at the Site to dampen surfaces and stockpiles of material to prevent particulate matter becoming airborne. The condition and integrity of the bowsers and water sprays will be checked as part of the Inspection Checklists.

5.6. The handling height of material will be minimised, at all times, by all mobile plant in order to reduce the opportunity for dust to be dispersed by winds.

5.7. Site surfacing will be checked by way of the Inspection Checklists, see Appendix 1 Inspection Checklists. Build-up of materials on paved surface will be minimised by implementing the procedures within the EMS. A front shovel loader / road sweeper will be used to clean the surface of the Site as necessary.

5.8. The Site Manager may decide to cease operations should there be excessive dust emissions from the Site. Operations will resume on the Site when the circumstances causing the excessive dust to have been resolved. It is the Site Manager who decides when operations will continue.

5.9. It is considered the mitigation measures proposed in this dust management plan provide the same level of protection against dust being emitted as if the activities were enclosed. The activities conducted are predominantly involving a wet process i.e., washing which possess a negligible risk of airborne particles being emitted, thus removing the requirement for the activity to be enclosed.

5.10. The activities which will take place within a covered structure include the asbestos picking line which will have a built-in dust suppression system to prevent the release of asbestos fibres.

Sources and Control of Fugitive Dust Emissions

5.11. **Error! Reference source not found.** details the potential sources of dust on the Site and which mitigation measures are implemented to break the source-pathway-receptor routes for dust emissions.

5.12. **Error! Reference source not found.** lists the mitigation measures to control dust emissions at the Site.

Table 5.1 Source pathway receptor routes

Source	Pathway	Receptor	Type of Impact	Where relationship can be interrupted
Waste materials	Transportation of mud on wheels and vehicles, then mud dropping off wheels / vehicles.	Adjacent public highways	Mud on the Site and local roads. Resuspension of dried mud as airborne particles.	Use of wheel washing facilities provided on the Site to remove the mud from the wheels of vehicles entering and exiting the Site. Vehicles delivering and collecting waste will be sheeted. All surfaces will be subject to regular housekeeping in accordance with the procedures in the EMS. It is considered that any incidental mud not removed during wheel cleaning, would likely fall off before the vehicle joins the highway. A road sweeping vehicle will be deployed as necessary, to remove mud from the access road and public highway. All access roads and the surface of the operational area are concreted which will reduce the tracking of mud and allow effective cleaning.
Vehicle / Plant movements	Atmospheric dispersion	Surrounding sensitive receptors	Visible dust emissions beyond site boundary that could cause nuisance from deposition	All vehicles delivering and removing waste from the Site will be sheeted. A 5mph speed limit and a 'no-idling' policy is implemented on Site. The Site is subject to regular housekeeping in accordance with the procedures in the EMS.
Tipping and storage of materials	Atmospheric dispersion	Surrounding sensitive receptors	Visible dust emissions beyond site boundary that could cause nuisance from deposition	Minimising drop heights when moving/depositing wastes. Waste will be stored in stockpiles which will be dampened down in periods of dry weather, when wind whipping is identified to be excessive or to prevent material drying and becoming friable. Dowsing stockpiles causes a crust to form that will reduce the amount of dust emitted from the Site from wind-whipping of stockpiles. Movement of waste will not take place or will cease when winds are causing significant dust emissions beyond the Site boundary.
Operation of screening / crushing plant	Atmospheric dispersion	Surrounding sensitive receptors	Visible dust emissions beyond site boundary that could cause	Dry treatment methods including dry screening and crushing of waste will not take place or will cease when winds are causing significant dust emissions beyond the Site boundary.

Source	Pathway	Receptor	Type of Impact	Where relationship can be interrupted
			nuisance from deposition	
Stockpiled materials	Atmospheric dispersion	Surrounding sensitive receptors	Visible dust emissions beyond site boundary that could cause nuisance from deposition	Dampening of stockpiles to prevent wind whipping.

Table 5.2 Mitigation measures

Mitigation Measure	Description / Effect	Use on Site	Trigger for Implementation	How is it implemented?	Further mitigation to be implemented if not effective
Site speed limit, "no idling" policy and minimisation of vehicle movements on the Site.	Reducing vehicle movements on the Site will reduce dust emissions from vehicles. Enforcement of the speed limit and limiting movements reduces the chance and amount of re-suspension of dust by vehicle wheels.	There will be a 5mph speed limit, a 'no-idling' policy, and the minimisation of vehicle movements on the Site. Vehicle movements will be minimised by ensuring that the double handling of materials is avoided where possible e.g., loads entering the Site will be directed to the appropriate reception area.	No trigger for implementation. These mitigation measures will be included in the EMS and therefore are carried out at all times.	Enforcement by Site Manager and observation by Site operatives.	If excessive dust emissions are observed to be leaving the Site boundary, then the further mitigation measure(s) will be triggered. If there is mud on the access road, then a road sweeper will be deployed to clean and dampen the surface. If excessive dust emissions from vehicle movements continue after these measures, then operations shall cease.
Minimising drop heights for material.	Minimising the height from which the material is dropped should reduce the likelihood dust could be generated and dispersed by winds.	Movement and handling of waste materials carried out in regard to any operations on the Site.	This measure will be implemented at all times	By plant operators lowering the grabs/shovels on the equipment being used to move and deposit materials.	Water will also be available to dampen surfaces and stockpiles to reduce dust generation. If excessive dust emissions continue after these measures, then operations shall cease.
Good housekeeping	Having a consistent, regular housekeeping regime that is supported by management, ensures the Site is regularly checked and issues	The EMS will have a procedure for housekeeping. Waste will be stored in designated stockpiles and bays and will not	These measures will be implemented whenever the Site is operational.	Good housekeeping will be implemented by following the housekeeping procedure within the EMS and by carrying out site inspections.	If excessive dust emissions are observed to be leaving the Site boundary, then the further mitigation measure(s)

Mitigation Measure	Description / Effect	Use on Site	Trigger for Implementation	How is it implemented?	Further mitigation to be implemented if not effective
	remedied to prevent and remove dust build up and subsequent entrainment of dust by wind whipping.	be allowed to escape from boundary of the Site.			will be triggered e.g., water suppression.
Sheeting of vehicles.	Prevents the escape of debris and dust from vehicles including that from wind whipping.	All vehicles entering / exiting the Site must be sheeted to minimise the likelihood of dust emissions. Excessively dusty loads will not be accepted onto the Site.	Loading/ unloading of materials to/from a vehicle will be followed by closing of the sheet covers on that vehicle. Visual observation of incoming vehicles will take place to ensure vehicles arriving are sheeted. All vehicles carrying waste to the Site will be sheeted at all times unless being loaded or unloaded.	The sheeting equipment will be activated and checked to ensure proper coverage before the vehicle can leave the site. Incoming vehicles that are not sheeted will be rejected from the site or sheeted immediately.	If excessive dust emissions are observed to be leaving the Site boundary, then the further mitigation measure(s) will be triggered. Materials may be dampened.
Wheel washing	Helps to remove mud from wheels of the vehicles.	The wheel washing facility is used to remove mud from the wheels of vehicles and is inspected on a regular basis to ensure the facility is in working order.	The wheel wash will be used by all vehicles entering and exiting the Site when the wheels are observed as having accumulated a significant amount of mud.	Site operatives ensure that vehicles use the wheel washing facilities as required.	If excessive dust emissions that could cause nuisance to local receptors continue, further mitigation measures will be triggered. E.g., water sprays will be used to dampen surfaces and stockpiles to prevent dust becoming airborne.
Ceasing operations during high winds and/or exceptionally dry conditions.	Mobilisation of dust is likely to be greater during periods of strong winds or	During exceptionally dry and/or windy conditions, if any operations / Site movements cause or	If excessive dust is being generated by the operations and water sprays are proving not to be sufficient, then	The Site Manager will make the decision to temporarily cease activities that are	N/A

Mitigation Measure	Description / Effect	Use on Site	Trigger for Implementation	How is it implemented?	Further mitigation to be implemented if not effective
	exceptionally dry conditions.	are likely to cause excessive dust emissions beyond the Site boundary, or if abnormal dust emissions are observed within the Site, Site operations may be suspended temporarily to avoid further dust emissions. The weather conditions at the Site will be considered at the start of each working day so that the day's work may be planned to take in regard any potential dust emissions. If the wind speed and direction are likely to increase the risk of nuisance to neighbouring receptors, then operations may be temporarily stopped. There will be no specific wind speed limit and/or no specific criteria for this to occur, as dust is dependent on other conditions such as rain. The Site Manager will decide whether to cease operations as a result of weather conditions. This	the Site Manager will notify staff and operations will temporarily cease. Operations will commence once the wind has subsided and/or the area is dampened down. Weather condition monitoring (Visual observation) including wind strength, wind direction and rainfall. This monitoring will be recorded on the Daily Inspection Checklist.	causing the dust emissions.	

Mitigation Measure	Description / Effect	Use on Site	Trigger for Implementation	How is it implemented?	Further mitigation to be implemented if not effective
		decision is based on a combination of factors, including those mentioned above. The conditions will be recorded on the Daily Inspection Checklists. The record will include an overall description of the weather conditions including, but not limited to, wind strength (e.g., windy, not windy), wind direction (e.g., towards northern boundary) and rain. Wind speed and direction will be recorded using an on-Site windsock.			
Minimisation of storage heights on the Site.	Minimising stockpile heights should reduce the distance over which dust could be blown and dispersed by winds i.e., wind whipping.	The EMS will include information on the amounts of waste to be stored on Site.	No trigger for implementation. These measures are implemented whenever the Site is operational.	Staff training. Implemented via Waste Storage and Handling Procedure in EMS. A mark showing the required freeboard height, will be added to all storage bays to allow the easy identification by Site Operatives of the maximum height of waste piles. This will be 0.5m below the top of the storage bay structure.	Spraying water onto stockpiled waste. Covering of waste / removal of waste from Site.

Mitigation Measure	Description / Effect	Use on Site	Trigger for Implementation	How is it implemented?	Further mitigation to be implemented if not effective
				Waste storage areas will be checked regularly as part of the Inspection Checklist.	
Water suppression	Use of water sprays. This measure can remove particles from the air and dampen down dusty / dry materials. The use of spray bars over the asbestos picking line will remove emission points from the activity and prevent the release of asbestos fibres.	Sprays will be in use at the Site to dampen surfaces and stockpiles of material to prevent particulate matter becoming airborne. The condition and integrity of the sprays will be checked as part of the Inspection Checklists. Spray bars will be installed above the asbestos picking line to prevent the release of asbestos fibres.	When excessive dust emissions are observed to be leaving the Site boundary. Visual observation will be carried out by all employees on the Site. Findings from the visual observations will be recorded on Daily Inspection Checklists. Spray bars will be used whenever asbestos picking is being undertaken.	Use of water sprays on the Site will be used to minimise dust emissions.	If excessive dust emissions that could cause nuisance to local receptors continue, further mitigation measures will be triggered. E.g., cessation of dusty activities.
Road sweeper	Removes the mud from the access road and public highway and reduces the potential for dust emissions from vehicle movements in the area.	The Operator will employ the use of a road sweeper as required. The road sweeper is deployed when necessary, to control the amount of mud on local roads and minimise the generation of dust when required. The cleanliness of roads in the vicinity of the Site entrance are checked as part of the Inspection Checklists.	Visual observation of the state of the access road and local roads – findings recorded on the Inspection Checklists in Appendix 1. This identifies the need for the use of the road sweeper.	The road sweeper will be deployed to clean the access road and local roads. Site management instructs a trained Site Operative to carry out the road sweeping.	N/A

Mitigation Measure	Description / Effect	Use on Site	Trigger for Implementation	How is it implemented?	Further mitigation to be implemented if not effective
Waste Storage	The waste is stored in a way to reduce the likelihood of dust being blown and dispersed by winds i.e., wind whipping.	The Site layout is positioned in a way to reduce the likelihood of dust being dispersed.	No trigger for implementation. These measures are implemented whenever the Site is operational.	Waste stored in bays with storage heights being 0.5m below the top of the storage bay structure. The storage bay structure will act as a barrier to wind minimising the risk of wind whipping. If any waste is required to be stored in stockpiles a dust suppression polymer will be used to form a crust on the top layer of material which will minimise the risk of particulate matter being blown into the air. Up wind from the waste storage areas are multiple building structures, plant, and vehicles (lorry) parking. These will act as a barrier for the wind pathway.	If excessive dust emissions that could cause nuisance to local receptors continue, further mitigation measures will be considered e.g., sheeting of stockpiles.

Other Considerations:

Water availability

5.13. Water is available on Site for use in dust suppression. Mains water is available at the Site and can be moved around the Site in mobile bowsers. There is a large lagoon located close to the operational area. There will be three large water storage tanks on Site for use in the wash plant, this water can also be used for dust suppression if necessary. It is not considered that there is any shortage of water that may impact the implementation of the requirements of this DMP.

5.14. During exceptionally dry and/or windy conditions, if any operations / site movements cause or are likely to cause visible dust emissions beyond the Site boundary, or if abnormally high dust emissions are observed within the Site, operations may be suspended to avoid further dust emissions. This will be decided by the Site Manager.

5.15. Depending on the severity of drought conditions, restrictions may be in place on the amount of water available for use on Site from the supplier (mains water supply). In this case, operations may be reduced or suspended in order to comply with any water usage restrictions. However, it is anticipated that water from the lagoon will be available for use in such conditions.

6. Monitoring

Weather Monitoring

6.1. The weather will be considered by the Site manager when planning the activities for the day to ensure appropriate activities will be carried out, to minimise dust generation where possible.

6.2. Weather conditions at the Site will be recorded at the start of each working day on the Daily Inspection Checklist. Information on the Inspection Checklists will contain an overall description of the weather conditions including, but not limited to, wind strength, wind direction (e.g., toward northern boundary) and rain.

6.3. Wind speed and direction will be estimated using a calibrated windsock.

Visual Dust Monitoring

6.4. Dust emissions at the Site will be monitored by visual observation. This monitoring may take place anywhere within and around the operational area and Site boundary.

6.5. The duration of visual monitoring will be within operational hours. It is expected that staff members will also check for dust emissions as they approach and leave the Site.

6.6. It will be the responsibility of every member of staff to monitor the dust emissions on the Site as they undertake their daily tasks.

6.7. Reports will be made to the Site Manager regarding dust emissions when dust is observed leaving, or likely to leave, the Site boundary.

6.8. If excessive dust emissions (dust clouds) are observed, then the Site Manager will establish what is causing the excessive dust emission to be generated and take remedial action. The results of the investigation and what action was taken will be recorded and retained.

6.9. As well as visual monitoring being always undertaken by Site Operatives, there are times of the day where visual monitoring is required to be recorded on the Inspection Checklists. The recorded visual monitoring checks will be carried out by a Site Operative, who will have been trained in accordance with the procedures within the EMS. Remedial actions required will be specified and identified on the Inspection Checklists.

6.10. Recorded visual monitoring will be undertaken at least twice per day, for a minimum of five minutes each time. They will take place at the beginning of the working day and when operations with the highest potential to produce dust are taking place. Undertaking visual monitoring recorded checks at the times when the Site is considered to have the highest potential for dust emissions is considered to be the most beneficial method to ensure that mitigations measures in place at the Site are effective.

6.11. Extra and unplanned monitoring will be carried out on the Site when conditions are particularly windy or dry, new activities are being undertaken, new machinery is being used or following the receipt of a complaint or incident related to dust emissions.

7. Reporting and complaints response

Engagement with the Community

7.1. A Site Notice Board will be located at the Site entrance.

7.2. The Site Notice Board will include the following information:

- The Permit holder's name.
- The Operator's name.
- An emergency contact name and telephone number.
- A statement that the Site is permitted by the Environment Agency
- The Environmental Permit Reference.
- The Environment Agency national numbers, 03708 506506 and 0800 807060 (incident hotline).

7.3. The provision of the above information will ensure that members of the community can contact the Operator should they be concerned by dust emissions or wish to make a complaint. This also applies to any events that may happen when the Site is unmanned / not operational.

Reporting of Complaints

7.4. The Environmental Management System (EMS) on Site will have a procedure for responding and dealing with complaints. A Complaints Form will be available on Site and must be filled in and kept on file whenever a complaint is received in accordance with the EMS complaints procedure, see Appendix 2 Complaints Form

7.5. The Complaints Form will record who made the complaint, what the complaint was about and what has been done to resolve the issue and make sure this does not happen again.

7.6. The Site Manager will identify what caused the excessive dust emission to be generated. This generation may have been caused by failure of Site machinery or dust procedures. If the excessive dust emission has been caused by a procedure not being carried out properly, then staff will receive further training on the dust procedures and site management. If the excessive dust emission has been caused by plant failure, then the plant will be repaired as soon as possible.

7.7. In all cases, and where information is available, all complaints will be acknowledged and investigated. Any complaints received by the Environment Agency relating to dust emissions from the site are dealt with as soon as is reasonably possible upon notification.

Out of Hours Arrangements

7.8. In the event of an out-of-hours complaint or incident occurring at the Site related to dust emissions, then a representative of the company can be contacted via phone call.

7.9. The representative may attend the Site or instruct a relevantly trained Site Operative to attend the Site in their absence. On arrival at the Site, the cause of the dust emission will be identified, and the most suitable corrective measure will be instigated.

Management Responsibilities

7.10. Site staff will be responsible for dust management issues and detecting/reporting dust emissions. All members of staff will be given training on the EMS for the Site, which will include a Dust Procedure. All staff on the Site will be trained on the Dust Procedure which will include details regarding mitigation measures and monitoring/recording visual inspections.

7.11. On receipt of a complaint the Site Manager will investigate and establish the cause. The most effective corrective or preventative action must then be determined to prevent future emissions occurring. Where additional time is required to implement the appropriate corrective or preventative action the complainant will be contacted with details of the actions to be implemented and the estimated timescales for

completion. The maximum response time for investigating the cause of the complaint and contacting a complainant will be two working days.

7.12. Should numerous complaints be received at the Site regarding the same issue, the cause of the complaint(s) will be investigated in accordance with the Accidents, Incidents & Complaints Procedure within the EMS. Operations on the Site will cease, should excessively dust emissions be observed, following the implementation of additional mitigation measures or when instruction from the Environment Agency to cease operations has been received.

Reviewing the Dust Management Plan

7.13. The Dust Management Plan will be reviewed if there is an increase in complaints being received, or if an incident has taken place, related to dust emissions to see if any changes can be made to prevent a recurrence. The Accident / Incident Form or Complaint Form will detail what happened and what corrective measures were/are required. The relevant form will identify whether a change to the Dust Management Plan for the Site is required.

7.14. Should the monitoring being undertaken on the Site repeatedly record dust emissions with the potential to leave, or leaving, the Site boundary, then the Dust Management Plan will be reviewed and amended to account for new mitigation measures to be undertaken on the Site.

Drawings

Drawing No. 23/009c 001	Permit Boundary Plan V1
Drawing No. 23/009c 002	Indicative Site Layout Plan V1
Drawing No. 23/009c 003	Sensitive Receptor Plan V1

Soil Treatment UK Limited

Soil Treatment UK Limited

Permit Boundary Plan

23/009c 001

Finmere Quarry and Landfill Site,
Cherwell District,
Oxfordshire,
MK18 4AJ.

Scale: 1:3,000

24th October 2023

Created by: EG
Checked by: TW

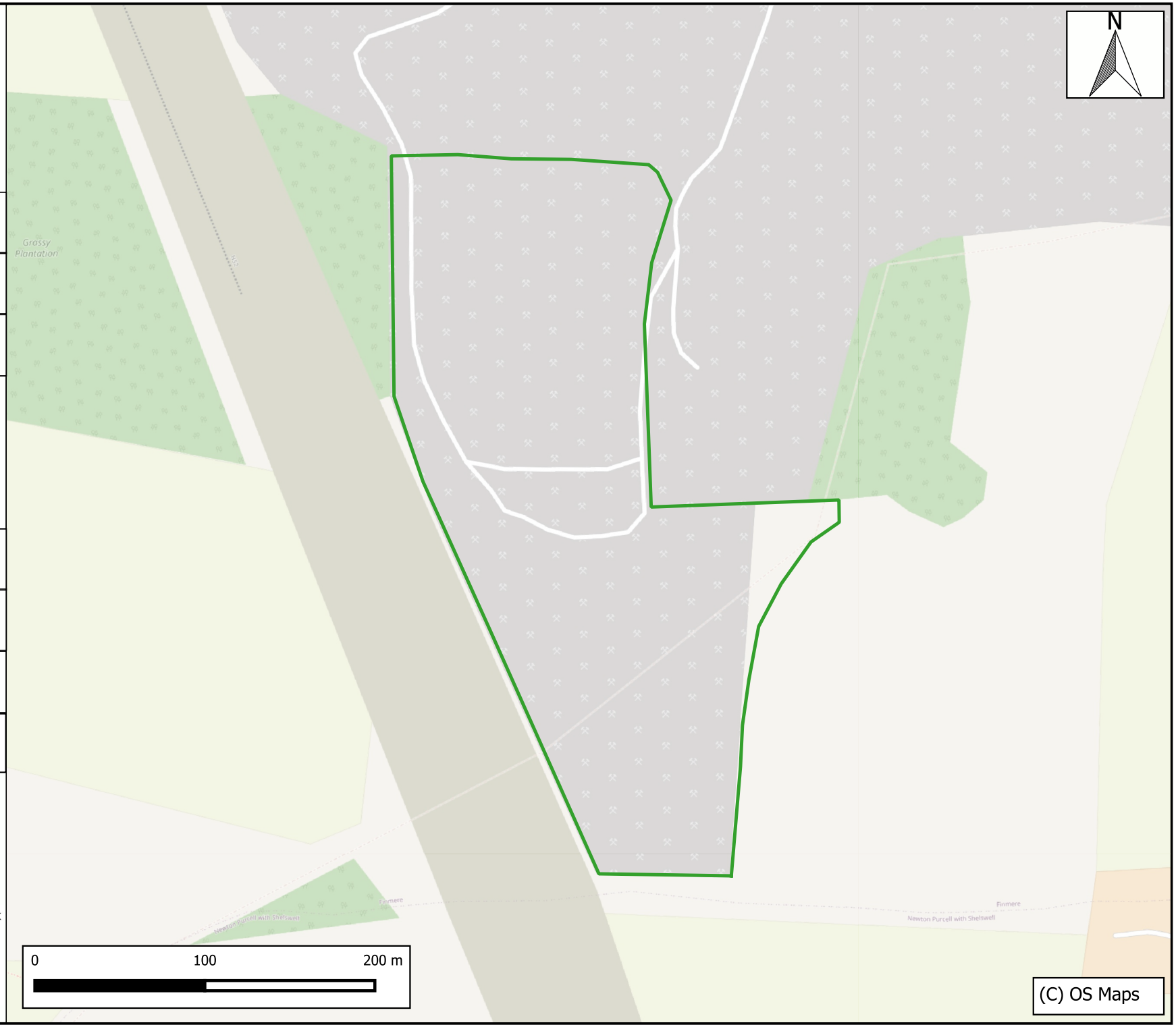
Permit boundary

WESTBURY ENVIRONMENTAL

T 01952 879705 E info@westburyenv.co.uk

A Agriculture House, Southwater Way
Telford, Shropshire, TF3 4NR

W www.westburyenv.co.uk



Soil Treatment UK Limited

Soil Treatment UK Limited

Site Layout Plan

23/009c 002

Finmere Quarry and Landfill,
Cherwell District,
Oxfordshire,
MK18 4AJ.

Scale: 1:2,500

24th October 2023

Created by: EG
Checked by: TW

WESTBURY ENVIRONMENTAL

T 01952 879705 E info@westburyenv.co.uk

A Agriculture House, Southwater Way
Telford, Shropshire, TF3 4NR

W www.westburyenv.co.uk

Soil Treatment UK Limited

Soil Treatment UK Limited

Sensitive Receptors Plan

23/009c 003

Finmere Quarry and Landfill,
Cherwell District,
Oxfordshire,
MK18 4AJ.

Scale: 1:13,000

24th October 2023

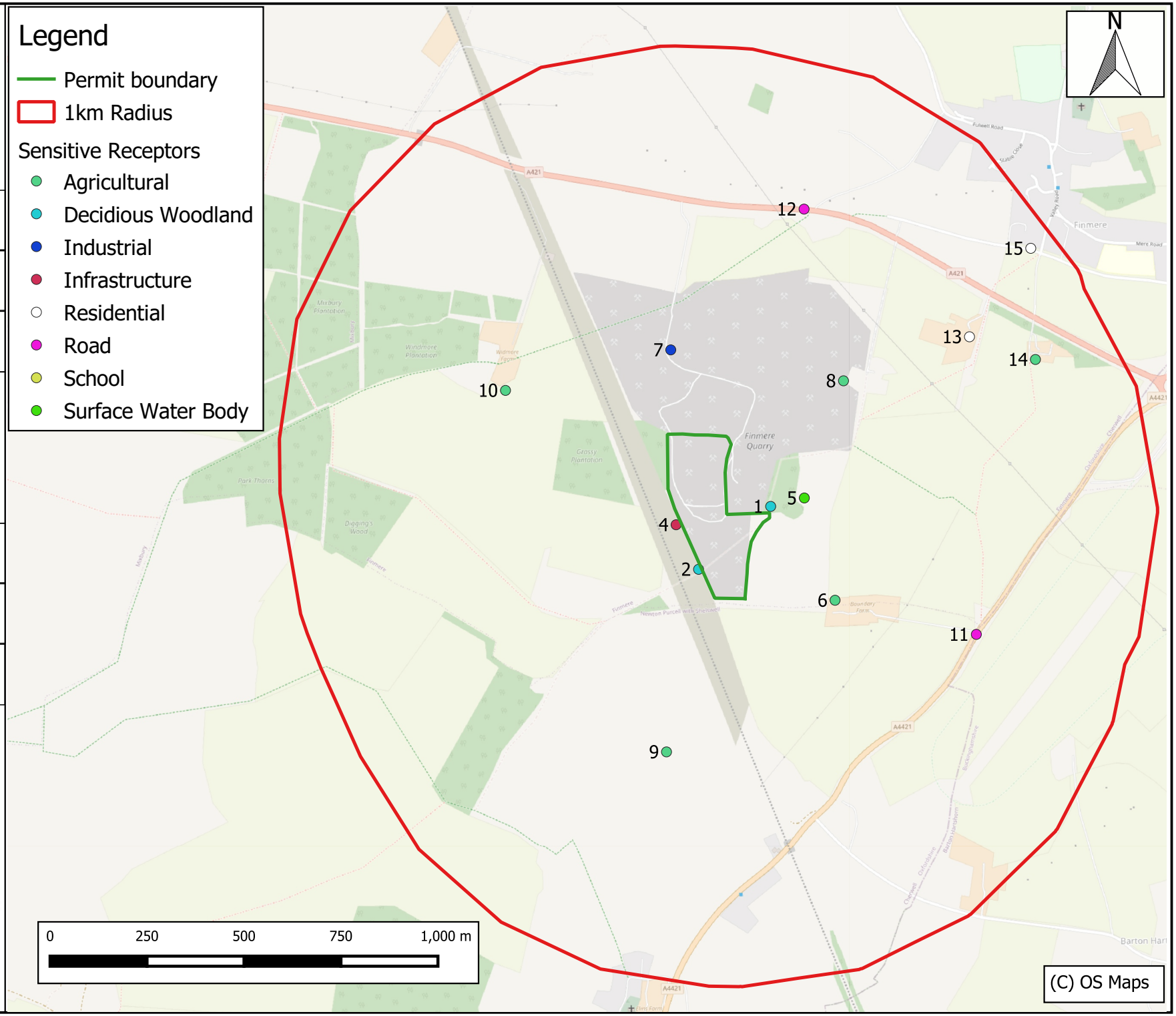
Created by: EG
Checked by: TW

WESTBURY ENVIRONMENTAL

T 01952 879705 E info@westburyenv.co.uk

A Agriculture House, Southwater Way
Telford, Shropshire, TF3 4NR

W www.westburyenv.co.uk



Appendix 1

Inspection Checklist

Daily Inspection Checklists **V.1 October 2023**

Weather checks	
Describe the current weather conditions e.g. dry, sunny, windy, raining	
How may these weather conditions affect site operations? E.g. dry conditions or windy conditions – more dust mitigation required	
OK to proceed with operations as normal?	**YES / NO**
All dust equipment working?	**YES / NO**

Item for Visual Inspection	**Aspects for Inspection**	**Checked?**	**Remedial Action Required?**	**Action Form Completed**
Site security	Gates near Site entrance working and lockable			
	Fencing around Site in good condition e.g. no holes			
Spill kits	Spill kits in place with Site office			
Mobile Fuel bowser	No cracks/damage on fuel tank			
	No leaks from fuel tank			
Litter	No litter within recycling area			
	No litter on site boundaries			

	No litter outside site boundary			
Fuel storage (permanent)	Locks operational. Leaks around the storage tank and where refueling takes place			
Fire	Fire extinguishers in place and no obvious damage			
	Soil / sand available to aid in firefighting			
Waste Storage	Soil / sand available to aid in firefighting			
Roads	Public highways and entrance road clear of mud and debris			

Visual Monitoring Checks for Dust

Time/activity	**Area to check**	**Level of dust observed**				**Remedial action required** *(Leave blank if no action required)*	**Action Form completed**
Beginning of working day	Reception area	None	Low	Medium	High		
	Treatment area	None	Low	Medium	High		
	Waste storage areas	None	Low	Medium	High		
Activity undertaken with potential to produce dust Describe: e.g. crushing ……..	Reception area	None	Low	Medium	High		
	Treatment area	None	Low	Medium	High		
	Waste storage areas	None	Low	Medium	High		
End of working day	Reception area	None	Low	Medium	High		
	Treatment area	None	Low	Medium	High		
	Waste storage areas	None	Low	Medium	High		

Date: _____ Completed by: _____ Signature: _____

Appendix 2

Complaints form

Form No. XX Complaints Form **V.1, October 2023**

<table>
<tr><td rowspan="3">Who made the complaint?</td><td>Name:</td><td></td></tr>
<tr><td>Address:</td><td></td></tr>
<tr><td>Phone No.:</td><td></td></tr>
<tr><td colspan="2">Date and time they made the complaint:</td><td></td></tr>
<tr><td colspan="3">What happened? What was it about?</td></tr>
<tr><td colspan="3">Was anyone else aware of this – other neighbours or your staff? If so, who?</td></tr>
<tr><td colspan="3">Did the complaint relate to your site? If so, what happened? What went wrong?</td></tr>
<tr><td colspan="3">What have you done to make sure that it does not happen again?</td></tr>
<tr><td colspan="3">Was there any significant pollution – for example: dust, odour or noise outside the Site or spillage of polluting liquids onto the ground, into a drain or a watercourse?</td></tr>
<tr><td colspan="2">If there was, then you must notify the Environment Agency on 0800 807060 and any other relevant regulators.

Have you done so? Yes ☐ No ☐</td><td>At what time did you phone?</td></tr>
<tr><td colspan="2">You must also write or send an email to confirm this to your local Environment Agency office.

Have you done so? Yes ☐ No ☐</td><td>What date did you contact?</td></tr>
<tr><td colspan="3">Please print and sign your name:</td></tr>
</table>

Appendix 7

Noise Management Plan

Soil Treatment UK Limited

Noise Management Plan

Soil Treatment UK Limited

Finmere Quarry and Landfill Site,
Banbury Road
Finmere,
Oxfordshire,
MK18 4AJ

WESTBURY ENVIRONMENTAL

PROVIDING SOLUTIONS, ENSURING COMPLIANCE

T 01952 879705 E info@westburyenv.co.uk

A Agriculture House, Southwater Way
Telford, Shropshire, TF3 4NR

W www.westburyenv.co.uk

Document Control Table

Project Reference	23/009e
Project Title	Environmental Permit Application
Document Title	Noise Management Plan V1
Document Issue Date	26 October 2023
Client	Soil Treatment UK Limited
Status	Issued

Change log

Version	Changes	Produced by	Checked by	Date
1	Original Noise Management Plan	Emma Gibson	Tracey Westbury	26 October 2023

Contents

Tables

Drawings

Appendices

1. Introduction

1.1. Westbury Environmental Limited has prepared this Noise Management Plan (NMP) on behalf of Soil Treatment UK Limited (the Operator). This NMP has been prepared to systematically assess, reduce, and prevent noise emissions in accordance with Environmental Permitting Regulations.

1.2. This NMP relates to construction / demolition waste treatment activities authorised under Environmental Permit Ref. XX at Finmere Quarry and Landfill, Cherwell District, Oxfordshire, MK18 4AJ. The site is defined as the area within the permit boundary denoted by the green line, see Drawing No. 23/009c 001 Permit Boundary Plan V1 (Site).

1.3. This Noise Management Plan has been produced in accordance with the following guidance:

- Control and monitor emissions for your environmental permit, last updated 24 November 2022 (www.gov.uk).
- JRC Science for Policy Report: Best available techniques (BAT) reference document for waste treatment, October 2018 (BREF).
- Non-hazardous and inert waste: appropriate measures for permitted facilities, December 2022 (Appropriate Measures).
- Chemical waste: appropriate measures for permitted facilities, November 2020 (Appropriate Measures).
- Noise and vibration management: environmental permits, last updated 31 January 2022 (www.gov.uk).

1.4. This NMP will form part of the Environmental Management System (EMS) for the Site. Procedures and Forms referenced within this NMP are included within the EMS, Appendix C, Procedures and Forms.

1.5. A copy of the EMS, including the NMP, will be stored in the Site office. In addition, completed forms (records) will be kept, as required by conditions included in the Environmental Permit.

Objectives

1.6. This NMP has been created to aid the decision-making process on the choice of controls, general Site design, and operation practice in line with current industry best practice. The NMP is a working document with the specific aims of ensuring:

- All potential noise sources are identified.
- Noise impact is considered as part of routine inspections.
- Noise is primarily controlled at source by good operational practices, the correct use and maintenance of plant and equipment, and operator training.
- All appropriate measures are taken to prevent or, where that is not reasonably practicable to minimise noise emissions from the Site.

1.7. A Noise Assessment was carried out in October 2022 by LF Acoustics Ltd to assess the noise levels associated with the waste treatment activities at the Site.

1.8. The NIA concluded that noise levels, when the site is fully operational, would remain low and of a similar order of magnitude to the prevailing background noise levels, thus ensuring a low potential for adverse impact. On this basis, the operations at the Site are not generating unacceptable noise levels at receptors.

1.9. This NMP commits the Operator to implement best practice measures for reducing noise emissions from operations at the Site.

1.10. It is noted there is no history of noise complaints being received by the Operator.

Responsibilities

1.11. The Site manager is responsible for the general management of the Site. In relation to this NMP the Site manager will undertake the following responsibilities:

- Implementation of the NMP and ensuring mitigation measures are adhered to.
- Investigate complaints.
- Cease activities in the event of significant complaints / noise emissions.
- Review the NMP to ensure continuing effectiveness of meeting the requirements in the Best Available Techniques (BAT) guidance.
- Delegation of duties to suitably trained personnel.
- Delivery or organise the necessary training for site Operatives.
- Ensure all plant and equipment is maintained as required.

1.12. The Site Manager will ensure all operational staff are familiar with the requirements and conditions of all the documentation to be implemented on Site.

1.13. All Site staff are responsible for:

- Detecting and reporting significant noise emissions from waste operations to management as soon as possible.
- Carrying out routine checks (i.e., using the Inspection Checklist).

Review

1.14. The NMP will be reviewed annually or in the event of the following:

- If the Operator receives persistent noise complaints.
- When a change in operations is deemed to have a potential effect on increasing noise emissions.
- If a failure in the existing mitigation measures has been identified.

Structure of the NMP

1.15. This NMP is structured as follows:

- Section 1 Introduction.
- Section 2 provides a description of the location of the Site and Site activities.
- Section 3 provides a description of noise sources.
- Section 4 describes the nearby sensitive receptors and noise pathway to the receptors.
- Section 5 describes the proposed control measures and monitoring along with actions to be taken in case of a complaint.
- Section 6 describes when and how the Noise Management Plan will be updated and reviewed.
- Section 7 describes the complaints reporting procedure.

2. Site Description

Location

2.1. The Site is within the existing Finmere Quarry and Landfill. The quarry is divided into two sections: the northern and southern. The northern section of the quarry is currently operated under a landfill and waste recovery permit with an approved restoration scheme. The southern area of the quarry includes the waste operations relating to this NMP.

2.2. The Site is approximately 650m south-west of the village of Finmere. In terms of larger settlements, Buckingham is 5.6km east and Bicester 8.4km south. The approximate centre of the Site is located at National Grid reference SP 62771 32028.

2.3. The Site is approximately 8.3 hectares (ha) in size and is denoted by Drawing No. 23/009c 001 Permit Boundary Plan V1. The Site comprises of waste treatment and storage areas.

2.4. The Site shares an access road with the northern section of the quarry off the A421 (Banbury Road). This is the only road that can be used to access the Site.

2.5. Immediately adjacent to the western boundary is a railway line currently undergoing major construction works for the high-speed railway development HS2.

2.6. Finmere airfield is approximately 1km east of the Site boundary. The remaining surrounding land to the Site includes woodland and agricultural land.

Operations at the Site

2.7. Hazardous and non-hazardous construction / demolition waste is accepted at the Site for storage and treatment.

2.8. Waste will undergo the following treatment on Site:

- Handpicking
- Screening
- Washing
- Crushing
- Composting

2.9. Treatment of waste materials will be undertaken within the permitted area within Finmere Quarry and Landfill, see Drawing No. 23/009c 001 Permit Boundary Plan V1

2.10. All waste treatment activities will be restricted to the operational hours of the Site. Operational hours are between 07:00 hours and 18:00 hours Monday to Friday and 07:00 hours to 13:00 hours on Saturdays.

2.11. The Site does not operate on Sundays or bank holidays.

3. Noise Sources and Impact

Noise Sources

3.1. The activities with the potential to cause noise emissions from the Site are:

- Treatment (crushing / screening) of waste.
- Vehicle movements.
- Movement of materials.

Other sources of noise

3.2. The primary off-site source of noise can be associated with the landfill and restoration of the northern section of Finmere Quarry, and landfill.

3.3. There are major construction works being undertaken to the west of the permit boundary associated with the high-speed railway development HS2 which is considered to cause significant amounts of noise.

3.4. Finmere airfield is approximately 1km east of the Site boundary and is considered to contribute significantly to noise within the area.

3.5. Bucks Concrete Ltd is situated 300m northwest of the Site which is considered likely to generate sufficient noise.

3.6. Passing traffic on the A421 is considered to produce noise emissions.

4. Pathway and Receptors

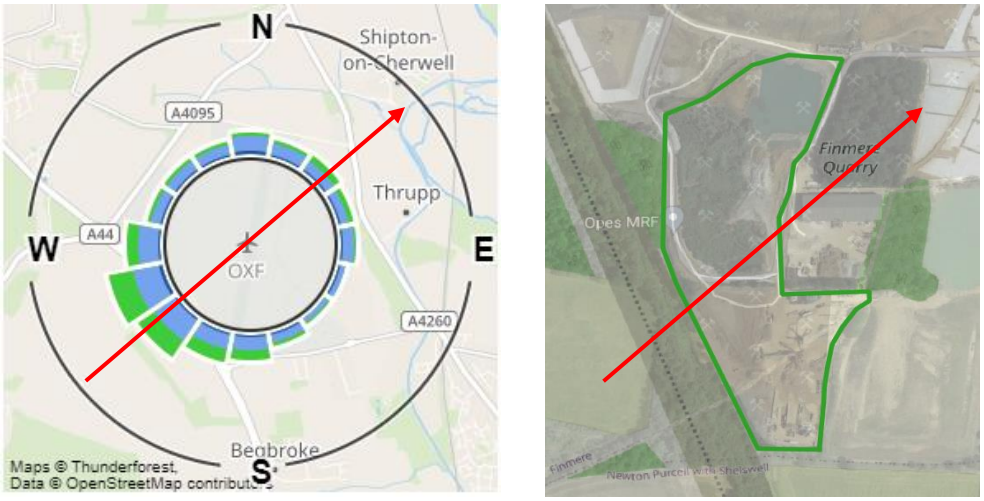
Pathway

4.1. Wind direction plays a significant role in the potential impact experienced from noise. Noise will be 'carried' by the wind. It is therefore considered that noise is more likely to travel towards sensitive receptors that are 'down-wind' of the Site.

4.2. The distance from the Site boundary to the sensitive receptor plays and important role in the potential impact experienced from noise. Noise at sensitive receptors will reduce with distance from the source. Noise has an increased potential to cause a nuisance where sensitive receptors are closer to the source.

4.3. Wind speed and direction data have been obtained from London Oxford Airport weather station for the period from 04/2015 to 05/2023. London Oxford Airport weather station is located approximately 22km southwest of the Site. This observing station is the closest wind station to the Site according to "Windfinder.com" and has wind speed and direction data appropriate for characterisation of the wind climate at the Site, see Figure 4.1.

Figure 4.1 Wind rose from Oxford Airport weather station



Receptors

4.1. The proposed operations on the Site have the potential to cause noise emissions. Noise emissions can create a potential nuisance in the community (residents and employees of nearby businesses) or can have an impact on local wildlife.

4.2. This Noise Management Plan identifies receptors that may be sensitive to noise emissions.

4.3. The direction and distances from the permit boundary to the closest boundary of sensitive receptors, within 1km of the Site, are provided in Table 4.1.

4.4. A Sensitive Receptors Plan has been prepared, see Drawing No. 23/009c 003 Sensitive Receptor Plan V1.

Table 4.1 Sensitive Receptors

Ref No.	Receptor	Description	Direction from Site boundary	Approximate distance from Site boundary (m)
1	Deciduous woodland	Protected habitat	East	0
2	Deciduous woodland	Protected habitat	West	0
3	OPES MRS landfill site	Industrial	West	0
4	Railway line	Infrastructure	West	10
5	Lagoon	Surface water body	East	80
6	Boundary Farm	Agricultural buildings	Southeast	215
7	Bucks Concrete	Industrial	North	220
8	Foxley Fields Farms	Agricultural buildings	Northeast	330
9	Barleyfields Barn Farm	Agricultural buildings	South	410
10	Widmore Farm	Agricultural buildings	Northwest	420
11	A4421 Road	Infrastructure	Southeast	590
12	A421 Road	Infrastructure	North	615
13	Residential dwellings	Residential	Northeast	670
14	Gravel Farm	Agricultural buildings	Northeast	800
15	Banbury Road	Residential dwellings	Northeast	915

4.5. There is a large presence of trees along many of the boundaries to act as a barrier against any potential noise emissions.

4.6. There is a large bund adjacent to the southeastern boundary of the Site which would act as a barrier from any potential noise emissions.

4.7. Due to the predominant wind direction from the west-southwest, it is considered that receptors located east-northeast of the Site are at greater risk of experiencing adverse impacts of noise emissions from the Site. Receptors to the east-northeast of the Site include Boundary Farm and residential dwellings in Finmere. All the receptors in this direction are more than 250m from the Site boundary and therefore have a minimal risk of being impacted by noise from the operations undertaken at the Site.

4.8. Finmere airfield is approximately 1km east of the Site boundary and is considered to contribute significantly to noise within the area.

5. Control measures and process monitoring

5.1. There is a large bund along the southeastern boundary of the Site that will act as a barrier against noise.

5.2. The table below includes information on how the Operator will manage activities that can cause noise, see Table 5.1 Noise sources and control measures. Table 5.1 outlines the anticipated contribution of each activity to overall noise emissions both before and after the implementation of control measures.

Table 5.1 Noise sources and control measures

Potential noise source	Operational times	Contribution to overall impact	Control measures	Contribution to overall impact post control measures	Action taken following a noise complaint
Waste treatment activities (screening, crushing, washing of waste)	07:00 – 16:30 Monday to Friday only.	Medium	Siting of mobile plant to place maximum distance between plant and nearby sensitive receptors. Crushing and screening will be undertaken to the south of the Site, due to the promident wind direction being towards the north-northeast. This will create the furthest distance possible to the most sensitive receptor (residential area). The crusher and screener will be orientated with the quietest elevation pointing eastwards (outward conveyor end facing east). Crushing and screening will only be carried out during operational hours.	Low	Investigate complaint. Check that operations are being carried out in accordance with the Noise Management Plan and EMS. Provide additional staff training should it be required to ensure that requirements are implemented. Plant and equipment will be checked for faults that could lead to increased noise. Repairs/maintenance carried out if necessary. Temporary ceasation of activities that are identified to be a source of noise emissions that could be causing a nuisance (as a result of investigation of a complaint).
Vehicle movements	07:00 – 16:30 Monday to Friday	Low to Medium	The speed limit for all vehicles on Site is 5mph. Speed humps will not be used on Site. The Site surface (including the haul road) will be maintained to ensure the surface is kept free from potholes and ruts. All mobile plant used on Site will have `broadband' type reverse alarms (i.e. no tonal beeper type). Where practicable, Heavy Goods Vehicles (HGV's) within the control of the Site operator will have similar reverse type alarms fitted or the use of a banksman to reduce the need for alarms. Where HGV's are sub-contractor vehicles they will be encouraged to use this type of alarm.	Low	Investigate complaint. Plant and vehicles will be checked for faults that could lead to increased noise. Repairs/maintenance carried out if necessary. Check that operations are being carried out in accordance with the Noise Management Plan and EMS. Provide additional staff training should it be required.

Potential noise source	Operational times	Contribution to overall impact	Control measures	Contribution to overall impact post control measures	Action taken following a noise complaint
			Driver's of HGVs or mobile plant will be instructed to avoid leaving engines running unnecessarily or excessive revving of engines.		
Movement of materials	07:00 – 16:30 Monday to Friday	Low to Medium	The speed limit for all vehicles on Site is 5mph. Speed humps will not be used on Site. No unnecessary double handling of material. Drop heights will be minimised, which will reduce noise.	Low	Investigate complaint. Check that operations are being carried out in accordance with the Noise Management Plan and EMS. Provide additional staff training should it be required.

6. Responsibilities, review, and training

6.1. This Noise Management Plan forms part of the Environmental Management System (EMS). The EMS, including this Noise Management Plan, will be kept on Site and made availabe to all relevant staff.

Responsibilities

6.2. The Site manager is responsible for implementation of the requirements of the Noise Management Plan and for ensuring that the control measures are implemented.

6.3. Site staff are responsible for detecting/reporting noise emissions from waste operations that may cause a nuisance to local receptors.

Review

6.4. The Site manager is responsible for ensuring this Noise Management Plan is reviewed to ensure its continuing effectiveness.

6.5. The Noise Management Plan will be reviewed:

- If the Site receive persistent noise complaints.
- When a change in operations is deemed to have a potential effect on increasing noise emissions.
- If a failure in the existing mitigation measures has been identified.

Training

6.6. Procedures within the EMS requires staff to be trained on the details included within this Noise Management Plan, particularly noise mitigation measures and the monitoring of noise. Staff training is typically completed via toolbox talks.

6.7. It is the responsibility of the Site manager to ensure that appropriate training is carried out. A record of this training will be maintained on each staff members Training Record. Copies of the staff Training Records are kept on Site.

6.8. Should any noise complaint investigations conclude that a noise emission arose as a result of the requirements of the Noise Management Plan not being followed by Site staff, further training will be completed on implementation of this Noise Management Plan.

7. Complaints reporting

7.1. In the case of any incidents that cause significant noise emissions, staff will report the incident to the Site Manager.

7.2. The Site Manager will record the incident and any steps taken to resolve the issue e.g., pausing operation or repairing failing machinery. Procedures and forms relating to the recording of incidents are included within the EMS.

7.3. If the incident gave rise to a complaint, a Complaint Form will be completed. All complaints are acknowledged and recorded.

7.4. The Complaint Form will record the incident that led to the complaint and any remedial action taken, see Appendix 3 Complaints Form.

7.5. It is the responsibility of the Site Manager or their delegate to complete the Complaints Form.

7.6. Staff will investigate all complaints to identify the source of the problem. All incidents / complaints will be investigated on the same day. The investigation will include.

- Travel to the site from which the complaint is reported to originate to make checks on noise levels.
- Ensuring the inspections of plant /equipment have been complete.
- Ensuring this Noise Management Plan is being followed accordingly.
- Aural monitoring of noise emissions from the area from which the noise originated.
- If noise is detectable, identification of where on site the noise may be originating.

7.7. The complainant will be notified if the source of the noise is found to be from another source or from the Site. If the source of the noise is from another source, the source details will be recorded on the complaint form.

7.8. The Operator will then identify the reason for the noise emission e.g., breach of procedure, lack of training, mitigation not being implemented or increase in noise from an identified source.

7.9. Records of any monitoring carried out as part of the complaint investigation process will be kept with the completed complaint form.

7.10. A complaint is considered to be resolved when the source of the noise is identified, and remedial action is taken (if required) and relevant persons notified.

7.11. Should the investigation identify the need for additional mitigation or other remedial action, the appropriate mitigation / action will be implemented as soon as practicable.

Appendix 1

Noise Assessment

LFAcoustics
consulting engineers

NOISE ASSESSMENT

RETROSPECTIVE APPLICATION FOR THE RETENTION OF A CONCRETE BATCHING PLANT AND PROCESSING OF SAND AND GRAVEL AT FINMERE QUARRY

BUCKS CONCRETE LTD

OCTOBER 2022

LF Acoustics Ltd
Pond Farm
7 High Street
Pulloxhill, Beds
MK45 5HA

t: 01525 888046
e: mail@lfacoustics.co.uk

Registered in England
Company Reg: 8434608

NOISE ASSESSMENT

RETROSPECTIVE APPLICATION FOR THE RETENTION OF A CONCRETE BATCHING PLANT AND PROCESSING OF SAND AND GRAVEL AT FINMERE QUARRY

BUCKS CONCRETE LTD

OCTOBER 2022

Status	Prepared By	Date
1.0	L Jephson BEng (Hons) MIOA	20/10/22

This report has been prepared using all reasonable skill and care within the resources and brief agreed with the client.
LF Acoustics Ltd accept no responsibility for matters outside the terms of the brief or for use of this report, wholly or in part, by third parties.

Contents

1. Introduction

LF Acoustics Limited have been appointed by Bucks Concrete Ltd to carry out an assessment of the noise levels associated with the operation of a concrete batching plant and processing of recycled aggregates at their site within Finmere Quarry.

The site has been operational for a number of years, originally set up to use sand and gravel extracted from Finmere Quarry and to use recycled material from the Material Recovery Facility, operating under planning permission for the quarry. Extraction within the quarry has now ceased and the aggregate to operate the site is now imported.

Retrospective planning permission is now being sought to continue the use of the concrete batching plant and associated processing operations for a temporary period linked to the life of the Approved Landfill Site.

This report presents an assessment of the noise levels associated with the proposed operation of the concrete batching plant and processing of sand and gravel upon the occupants of surrounding residential properties.

This report has been prepared by Les Jephson BEng(Hons) MIOA, Director of LF Acoustics Ltd.

2. Applicable Standards and Guidance

A description of the noise units referred to within this report is provided in Appendix A.

2.1. National Planning Policy Framework and Minerals Guidance

The principal planning guidance in the UK is presented within the National Planning Policy Framework (July 2021) [1]. At the heart of the NPPF is a presumption in favour of sustainable development, although environmental criteria should be set out to ensure that the permitted operations do not have unacceptable adverse impacts, with appropriate noise limits adopted to control noise.

The current Planning Practice Guidance (PPG) attached to the NPPF relating to noise associated with minerals operations, was last updated in March 2014 [2]. The guidance includes other related operations and is considered appropriate when considering noise from the operation of the site.

For normal daytime works, the guidance seeks to ensure that the operations do not result in significant adverse effects and advises for normal daytime operations that the following limits (in terms of $L_{Aeq,\ 1\ hour}$ freefield noise levels) should not be exceeded:

- 10 dB above the background (L_{A90}) noise level; subject to
- a maximum value of 55 dB $L_{Aeq,\ 1\ hour}$ (free field).

Where background noise levels are low, the guidance accepts that it may be very difficult to achieve a limit based upon background + 10 dB(A) without imposing unreasonable burdens on the mineral operator. In such cases, the limit set should be as near that level as practicable during normal working hours and should not exceed 55 dB $L_{Aeq,\ 1\ hour}$ (free field).

The PPG advises in the evening (19:00 – 22:00) $L_{Aeq,\ 1\ hour}$ noise levels should not exceed the background (L_{A90}) noise level by more than 10 dB and during the night-time a limit of 42 dB $L_{Aeq,\ 1\ hour}$ should be adopted.

In addition to the general daytime works, the guidance advises that all mineral operations will have some particularly noisy short-term activities that cannot meet the limits set for normal operations. These include soil-stripping, construction or removal of bunding or spoil heaps and construction of new permanent landforms. A level of 70 dB $L_{Aeq,\ 1\ hour}$ is suggested as a limit for these activities for periods of up to eight weeks in any one year. Where the duration of temporary works may exceed eight weeks it can be appropriate to apply a lower limit for a longer period. The guidance also recognises that, in wholly exceptional cases, where there is no viable alternative, a limit of more than 70 dB $L_{Aeq,\ 1\ hour}$ may be appropriate in order to obtain other environmental benefits.

2.2. British Standard BS 4142

BS 4142 [3] is the British Standard for rating and assessing noise of a commercial or industrial nature and is relevant to the noise associated with the operation of the proposed plant, given that the quarrying operations have now ceased.

BS 4142 is a comparative standard in which the estimated noise levels from the proposed development are compared to the representative / typical background noise level from existing uses.

The initial assessment of impacts relates the likelihood of adverse impact to the difference between the Rating Level of the noise being assessed and the background noise level.

The background noise level is the L_{A90} noise level, usually measured in the absence of noise from the source being assessed, but may include other existing industrial or commercial sounds. The background noise levels should generally be obtained from a series of measurements each of not less than 15 minute duration.

The Rating Level of the noise being assessed is defined as its L_{Aeq} noise level (the 'specific noise level'), with the addition of appropriate corrections should the noise exhibit a marked impulsive and/or tonal component or should the noise be irregular enough in character to attract attention. The extent of the correction is dependent upon the degree of tonality or character in the noise and is determined either by professional judgement, where the plant is not operational at present, or by measurement.

Where the noise is tonal in nature, the standard imposes the following penalties when assessing the rating level:

2 dB for a tone which is just perceptible;

4 dB where the tone is clearly perceptible; and

6 dB where the tone is highly perceptible.

Where noise exhibits other sound characteristics, the Standard advises a penalty of 3 dB should be applied.

During the daytime, the specified noise levels are determined over a reference time interval of 1 hour, with a 15 minute reference period adopted when assessing night-time noise.

If the Rating Level of the noise being assessed exceeds the background level by 10 dB or more BS 4142 advises that there is likely to be an indication of a significant adverse impact, depending upon context. A difference between background level and Rating Level of around 5 dB is likely to be an indication of an adverse impact, depending upon context. The lower the Rating Level is, relative to the background noise level, the less likely the specific source will have an adverse or significant adverse impact. Where the Rating Level does not exceed the background noise level is an indication of a low impact, depending upon context.

The assessment method outlined above is intended for the assessment of external noise levels and is not intended to assess the extent of impact at internal locations.

Where the initial assessment of impact, based upon and assessment of the external noise levels, needs to be modified due to the context, all pertinent factors should be taken into account, including:

- The absolute level of sound;
- Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night; and
- The sensitivity of the receptor and whether the premises will already incorporate measures to ensure good internal and/or external acoustic conditions.

3. Planning Permission for the Quarry

Consideration has been given to the noise limits imposed within the planning conditions attached to the main Finmere Quarry and Landfill Site which seek to ensure that the site operations do not result in adverse noise impacts at the neighbouring properties.

Condition 12 attached to Planning Permission OCC Ref. MW.0083/17, which related to the extraction of sand, gravel, and clay at the Finmere Quarry and Landfill Site specifies the following limits for daytime operations:

12. Between 0700 hours and 1800 hours Mondays to Fridays and 0700 hours to 1300 hours on Saturdays the noise levels arising from the development shall not exceed 55 dB (A) LAeq,1 hour (free field) at any of the following noise sensitive receptors:

- Warren House Farm
- Hill Leys
- Foxley Fields Farm
- Widmore Farm
- Boundary Farm
- Gravel Farm

Condition 12 attached to Planning Permission OCC Ref. MW.0003/19 which relates to the landfill operations at the Finmere Quarry and Landfill Site specifies the following limits for daytime operations:

12. Between the hours of 07:00 and 18:00 the noise levels arising from the development shall not exceed 55 dB(LAeq) (1 hour) freefield at
Warren Farm House, Hill Leys, Foxley, Widmore Farm, Boundary Farm or Gravel Farm.

The above planning consents also contain conditions which stipulate the good maintenance of vehicles, plant and machinery and do not allow discrete continuous noise that is distinguishable at any noise sensitive receptors (whine, hiss, continuous screech, hum etc. or distinct impulses) (see Conditions 14 and 15 of OCC Ref. MW.0083/17 and Conditions 13 and 14 of OCC Ref. MW.0003/19).

4. Site Location and Identification of Noise Sensitive Receptors

The site is located within the southern area of Finmere Quarry, on land to the south of the Materials Recovery Facility. The site location is indicated on Figure 1.

There is a storage area within the north-western area of the site for storage of imported construction waste. The aggregate recycling and processing plant is positioned centrally within the site, with the concrete batching plant located within the southern part of the site.

There are no noise sensitive receptors within close proximity to the site. The closest identified properties are:

- Widmore Farm to the north-west, located 600 metres from the closest site boundary;
- Foxley Fields Farm to the north-east, 400 metres from the site boundary;
- Boundary Farm to the east, 350 metres from the closest site boundary; and
- Barley Fields and Station House to the South, 550 metres from the southern site boundary.

The properties are indicated on Figure 1.

5. Site Operations

The site layout is indicated on Figure 2.

The site is split into two main areas: the aggregate processing plant, located centrally within the site; and the concrete batching plant, located within the southern part of the site.

The aggregate processing plant is used to process recycled soils and aggregates, which are then used within the concreate batching plant.

Materials are brought onto the site and stored within stockpiles within the north-western area of the site. The materials are then extracted from the stockpiles using an excavator and loaded into a hopper. The material is then processed through the processing plant, which comprises a trommel, wash plant and screens, to produce the recycled aggregate. A loading shovel is then used to transport the processed material into the batching plant stock bays.

The operation of the concrete batching plant is dependent upon the concrete requirement in the surrounding areas.

The plant is capable of loading up to 6 vehicles per hour. For each load, the plant would be fully operational for between 10 – 12 minutes loading materials from the stock bays and loading the vehicle. During the loading process, the vehicle would be running, with the drum rotating. At peak capacity, the plant is operational 100% of the time.

Cement deliveries are made periodically during the day, with between 1 – 3 loads per day delivered. These deliveries are made using tankers. The tanker connects to the storage silos, located in the south-eastern corner of the site, and blows the cement in utilising a pump mounted beneath the tanker. This operation would typically take between 30 – 45 minutes to complete for each delivery.

With regards HGV movements, there would be up to 60 movements per day associated with the concrete deliveries and importation of materials to the site.

The site operates the same hours as for the main landfill and MRF operations:

- Between 07:00 – 18:00 hours Mondays to Fridays (excluding Public Holidays); and
- 07:00 – 13:00 hours Saturdays.

6. Noise Monitoring

6.1. Noise Monitoring at Foxley Fields Farm

HS2 construction works are presently progressing to the west and south of the site, with construction activities influencing noise levels at these locations.

To ascertain the typical noise levels within the surrounding area, noise measurements were obtained at one position, Foxley Fields Farm, which is located away from HS2, with noise levels associated with the operations within the Quarry also very low. Noise levels at this location are presently influenced primarily by road traffic on the surrounding roads. Noise levels monitored at this location were considered therefore to be representative of the other surrounding properties, which, with the exception of the properties to the south, are also a similar distance from the surrounding roads. The properties to the south are located closer to the A4421 and thus noise levels at these locations are likely to be higher.

A noise monitoring exercise was carried out during the morning of Monday 10 October 2022 to evaluate the baseline noise levels.

Weather conditions for the survey were good, remaining dry and calm.

Noise measurements were obtained at a position to the south of the property, as indicated on Figure 1. Measurements were made using a Rion NL-52 Class 1 Sound level Meter, with the instrument calibrated before and after the exercise using a Rion NC-74 Class 1 Acoustic Calibrator. The meter was set with the microphone at a height of 1.2 metres above the ground and in freefield conditions.

Measurements were taken between 09:30 and 10:45 hours. The measurements were obtained over 15 minute periods to enable the typical background noise levels to be established. The results of the monitoring exercise are presented below.

Time Period	Measured Noise Levels [dB]		
	L_{Aeq}	$L_{Amax,F}$	L_{A90}
09:30 – 09:45	46.2	54.8	42.6
09:45 – 10:00	45.6	53.4	42.1
10:00 – 10:15	44.8	53.3	39.9
10:15 – 10:30	44.4	52.2	40.2
10:30 – 10:45	45.2	55.9	40.6

Table 6.1 Results of Noise Monitoring at Foxley Fields Farm

As indicated above, noise levels monitored at this location were principally influenced by road traffic on the A421 and A4421. Noise from the operation of the site was not audible, and whilst the operation of the MRF was just audible at times, the operations had minimal influence on the measured noise levels.

6.2. On Site Noise Monitoring

To enable calculations and an assessment of the noise levels attributable to the operation of the concrete batching plant and aggregate processing plant to be made, a series of noise measurements were made around the plant whilst it was fully operational.

Measurements were made adjacent to the main noise generating areas of the plant and adjacent to other activities, including a cement delivery.

The measurements were made using a Rion NL-52 Class 1 Sound level Meter, with the instrument calibrated before and after the exercise using a Rion NC-74 Class 1 Acoustic Calibrator. The meter was set with the microphone generally at a height of 1.2 metres above the ground and in freefield conditions.

The results of the noise monitoring are presented below.

Plant / Source	Measurement Distance [m]	Measured Noise Level [dB L_{Aeq}]	Comment
Concrete Batching Plant Generator	5	77.2	
Concrete Batching Plant Loading Vehicle	15	74.2	
Loading Shovel	10	73.6	Operates between aggregate and concrete batching plants
Excavator loading aggregate plant	10	75.6	
Aggregate plant generator	5	82.7	
Trommmel	1	83.1	
Wash Plant	5	83.2	
Main Screen	10	80.3	
Secondary Duo Screen	5	81.1	
Cement delivery	5	82.8	Load typically takes between 30 – 45 minutes to complete.
HGV Movement	-	103.4 dB(A) SWL	Based upon maximum passby noise level. Calculations assume vehicles travelling at 15km/h.

Table 6.2 Measured On-Site Noise Levels

A further measurement was obtained at a distance of 50 metres to the north-east of the aggregate processing plant to provide a validation point for the calculations, as indicated on Figure 2. The noise level monitored at this location was 69.8 dB $L_{Aeq,5\ min}$.

7. Calculations and Assessment

7.1. Proposed Operations

Calculations of the noise levels have been made at the surrounding noise sensitive receptors on the basis of the normal daytime operation, where the aggregate processing and concrete batching plants would be fully operational. Further calculations have been prepared covering the periods when there would be a cement delivery, which would represent worst case conditions.

7.2. Calculation Methodology

Calculations of the noise levels at the surrounding properties have been made using the SoundPlan computer modelling package, which implements the calculation methodology from ISO 9613-2. The calculations have taken account of the land formation around the site based upon Lidar mapping, which includes the bunding which has been constructed around the boundaries of the landfill site.

Calculations have been made over an assessment period of 1 hour, in accordance with the requirements of the minerals planning guidance and BS 4142.

The noise modelling has taken account of all plant operational on the site, as presented in Table 6.2. For the purposes of the modelling, it has been assumed that there would be 10 HGV movements during the period of 1 hour, which are likely to represent worse cast conditions.

As indicated previously, a measurement was obtained at a distance of 50 metres from the aggregate processing plant to provide a reference / validation point for the calculations. The comparison between the measured and calculated noise levels indicated a difference of less than 0.5 dB(A), thus providing confidence in the calculated noise levels.

The results of the calculations at the surrounding properties are presented on Figure 3 covering the normal operation and on Figure 4 covering the period when a cement delivery is being made. Details of the calculations are provided in Appendix B. The calculations presented the following noise levels:

- Widmore Farm – 39 dB $L_{Aeq,\ 1\ hr}$;
- Foxley Fields Farm – 39 dB $L_{Aeq,\ 1\ hr}$;
- Boundary Farm – 40 - 41 dB $L_{Aeq,\ 1\ hr}$;
- Barley Fields – 42 dB $L_{Aeq,\ 1\ hr}$;

The calculations indicate that there is little change in the overall site noise levels during the periods of the cement deliveries, with noise levels at the surrounding properties increasing by less than 1 dB(A) during a delivery.

The calculated noise levels are consistent with the observations made on site, in that the noise from the operation of the plant was not audible at the surrounding properties.

7.3. Assessment

The noise levels calculated at the surrounding properties attributable to the operation of the site are low, with calculated levels of between 39 – 42 dB $L_{Aeq,\ 1\ hr}$.

Assessing the noise levels against the noise limit of 55 dB $L_{Aeq,\ 1\ hr}$ specified within the planning conditions for the previous extraction, landfilling and MRF operations, indicates that the levels attributable to the operation are at least 13 dB(A) below that limit. Noise levels associated with the operation of the site would therefore not influence noise levels attributable to the overall permitted site operations.

Taking account of the noise measurements obtained at Foxley Fields Farm, which indicated a typical background noise level of 41 dB L_{A90} based upon the survey results, an assessment against the minerals planning guidance would indicate a permitted noise level of 51 dB $L_{Aeq,\ 1\ hr}$ at the surrounding properties. The calculated noise levels are at least 9 dB(A) below this limit, providing further reassurance that the operations do not result in adverse noise impacts.

An initial assessment of the calculated noise levels has also been made in accordance with the requirements of BS 4142.

For the purposes of the assessment, the background levels obtained at Foxley Fields Farm have been assumed for the other properties, as this will provide a worst case, particularly as the properties to the south are alongside the A4421 and thus likely to be higher.

The noise from the operation of the site was not considered to be tonal or impulsive in nature, but it does have other characteristics. On this basis, a correction of 3 dB(A) has been applied to determine the rating levels of noise at the properties.

The initial assessment is provided in Table 7.1.

Description	**Location**			
	Widmore Farm	**Foxley Fields Farm**	**Boundary Farm**	**Barley Fields**
Calculated Noise Level at Dwelling [dB $L_{Aeq,\ T}$]	39	39	41	42
Character Correction	3	3	3	3
Rating Level [dB $L_{Aeq,\ 1\ hour}$]	42	42	44	45
Background Level [dB L_{A90}]	41	41	41	41
Excess Over Background	+1	+1	+3	+4
Likelihood of Impact	Indication of Low Impact	Indication of Low Impact	Indication of Low Impact	Indication of Low Impact

Table 7.1 Initial BS 4142 Assessment

The initial BS 4142 assessment at the four locations identified above indicates that the noise levels attributable to the operation of the site are below a level which would result in an adverse impact, which accords with the assessments based upon the planning conditions and minerals planning guidance.

BS 4142 requires an assessment of context to evaluate the potential adverse effects. In this location, road traffic noise is the main influence on the noise environment at the surrounding properties, with road traffic noise levels above those associated with the operation of the plant.

This provides further justification that noise levels attributable to the operation of the plant are acceptable and not resulting in adverse impacts or effects.

In summary, the operation of the aggregate recycling and concrete batching plant is therefore generating acceptable levels of noise, with no adverse impacts identified.

8. Summary

LF Acoustics Limited were appointed by Bucks Concrete Ltd to carry out an assessment of the noise levels associated with the operation of a concrete batching plant and the processing of recycled aggregates at their site within Finmere Quarry.

The site has been operational for number of years, originally set up to use sand and gravel extracted from Finmere Quarry and to use recycled material from the Material Recovery Facility, operating under planning permission for the quarry. Extraction within the quarry has now ceased and the aggregate to operate the site is now imported.

Retrospective planning permission is now being sought to continue the use of the concrete batching plant and associated processing operations for a temporary period linked to the life of the Approved Landfill Site.

To evaluate the noise levels attributable to the operations, calculations and an assessment of the noise levels associated with the operation of the aggregate recycling and concrete batching plants has been made at the surrounding properties and assessed against the current minerals planning guidance and BS 4142 methodology.

The assessment, made against the appropriate Standards and guidance, indicated that noise levels, when the site is fully operational, would remain low and of a similar order of magnitude to the prevailing background noise levels, thus ensuring a low potential for adverse impact.

On this basis, the operation of the site is generating acceptable levels of noise at the surrounding properties and thus acceptable.

References

1. Ministry of Housing, Communities and Local Government. National Planning Policy Framework. July 2021.

2. Department for Communities and Local Government. Planning Practice Guidance. Assessing Environmental Impacts from Minerals Extraction. 6 March 2014.

3. British Standards Institute. Methods for Rating and Assessing Industrial and Commercial Sound. BS 4142. 2014+A1:2019.

Figures

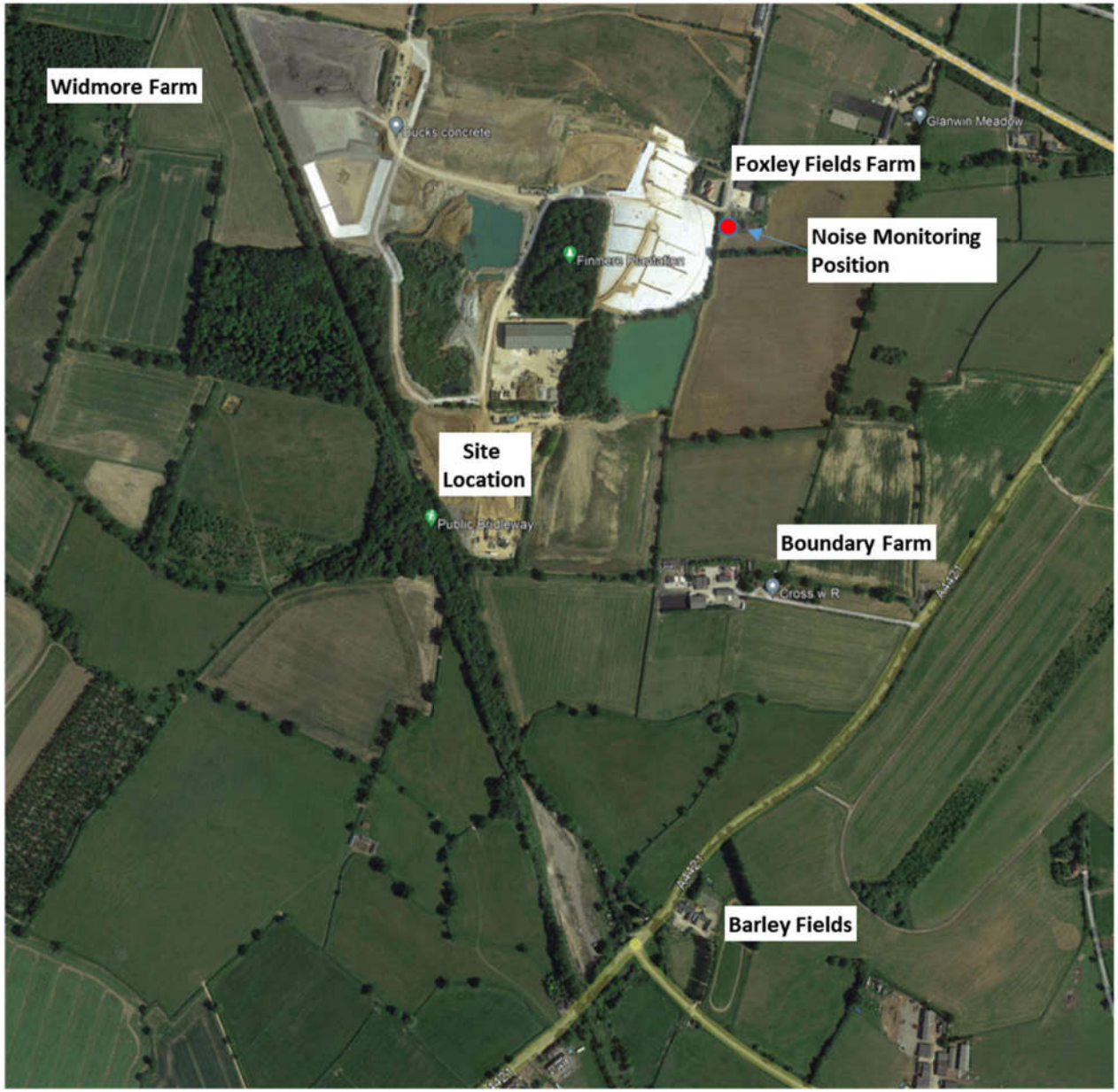


Figure 1:
Site Location Plan

LFAcoustics
consulting engineers

LFAcoustics
consulting engineers

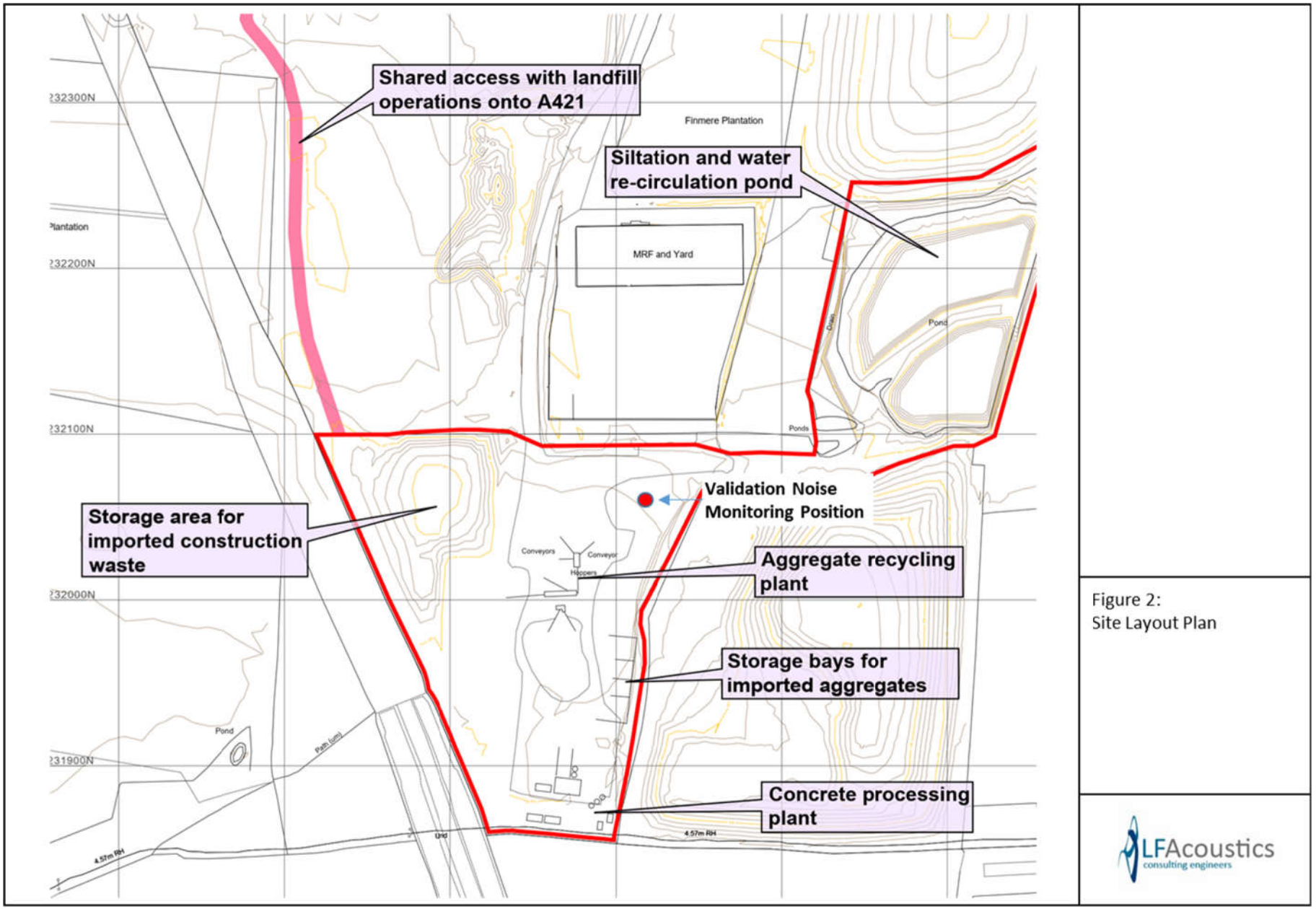
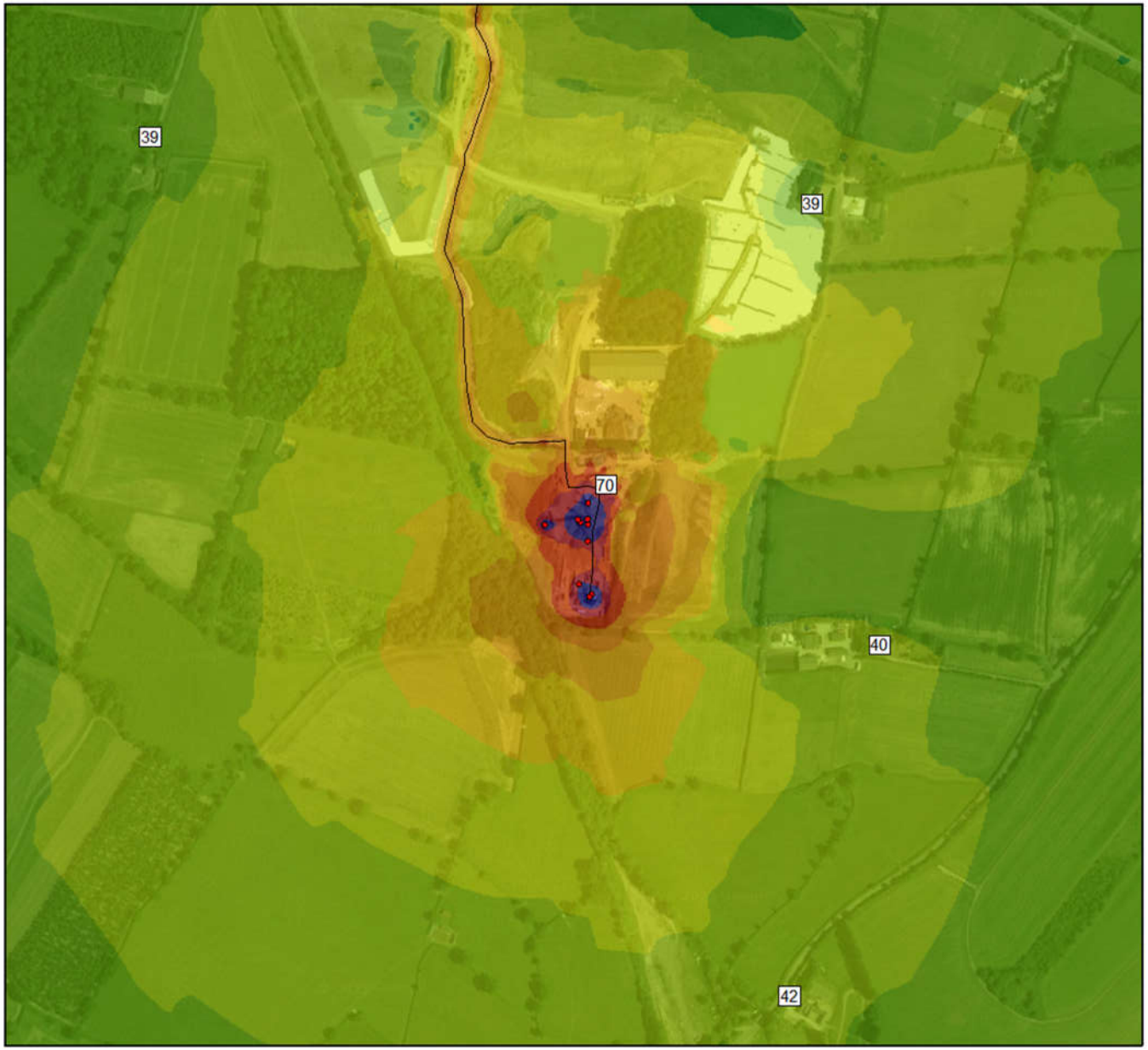


Figure 2:
Site Layout Plan

LFAcoustics
consulting engineers

LFAcoustics
consulting engineers



Noise Level LAeq,T
in dB(A)

< 35
35 - 40
40 - 45
45 - 50
50 - 55
55 - 60
60 - 65
65 - 70
70 - 75
>= 75

Figure 3:
Calculated Noise Levels
Normal Operation

LFAcoustics
consulting engineers

LFAcoustics
consulting engineers

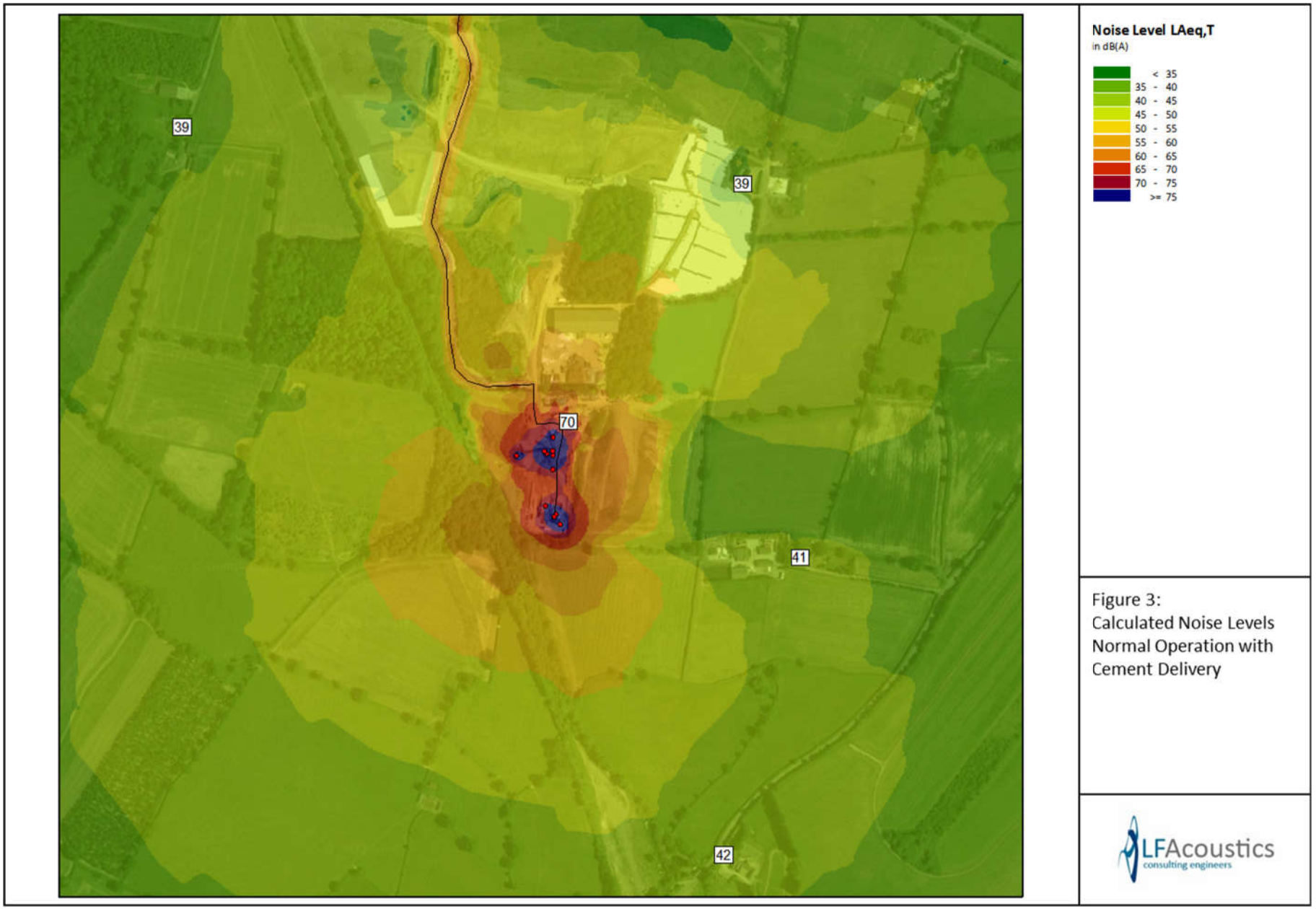


Figure 3:
Calculated Noise Levels
Normal Operation with
Cement Delivery

LFAcoustics
consulting engineers

LFAcoustics
consulting engineers

Appendix A
Noise Units

Decibels (dB)

Noise can be considered as 'unwanted sound'. Sound in air can be considered as the propagation of energy through the air in the form of oscillatory changes in pressure. The size of the pressure changes in acoustic waves is quantified on a logarithmic decibel (dB) scale firstly because the range of audible sound pressures is very great, and secondly because the loudness function of the human auditory system is approximately logarithmic.

The dynamic range of the auditory system is generally taken to be 0 dB to 140 dB. Generally, the addition of noise from two sources producing the same sound pressure level will lead to an increase in sound pressure level of 3 dB. A 3 dB noise change is generally considered to be just noticeable, a 5 dB change is generally considered to be clearly discernible and a 10 dB change is generally accepted as leading to the subjective impression of a doubling or halving of loudness.

A-Weighting

The bandwidth of the frequency response of the ear is usually taken to be from about 18 Hz to 18,000 Hz. The auditory system is not equally sensitive throughout this frequency range. This is taken into account when making acoustic measurements by the use of A-weighting, a filter circuit that has a frequency response similar to the human auditory system. All the measurement results referred to in this report are A-weighted.

Units Used to Describe Time-Varying Noise Sources (L_{Aeq}, L_{Amax}, L_{A10}, and L_{A90})

Instantaneous A-weighted sound pressure level is not generally considered as an adequate indicator of subjective response to noise because levels of noise usually vary with time.

For many types of noise the Equivalent Continuous A-Weighted Sound Pressure Level ($L_{Aeq,T}$) is used as the basis of determining community response. The $L_{Aeq,T}$ is defined as the A-weighted sound pressure level of the steady sound which contains the same acoustic energy as the noise being assessed over a specific time period, T.

The L_{Amax} is the maximum value that the A-weighted sound pressure level reaches during a measurement period. $L_{Amax\,F}$, or Fast, is averaged over 0.125 of a second and $L_{Amax\,S}$, or Slow, is averaged over 1 second. All L_{Amax} values referred to in this report are Fast.

The L_{A90} is the noise level exceeded for 90% of the measurement period. It is generally used to quantify the background noise level, the underlying level of noise that is present even during the quieter parts of measurement period.

Appendix B
Calculation Details

Finmere Bucks Concrete
Mean propagation Leq - Base Model (Cement Delivery)

Legend

Source		Source name
Source type		Type of source (point, line, area)
L'w	dB(A)	Sound power level per m, m²
Lw	dB(A)	Sound power level per unit
l or A	m,m²	Size of source (length or area)
S	m	Distance source - receiver
Adiv	dB	Mean attenuation due to geometrical spreading
Agr	dB	Mean attenuation due to ground effect
Abar	dB	Mean attenuation due to screening
Aatm	dB	Mean attenuation due to air absorption
Ls	dB(A)	Unassessed sound pressure level at receiver
Ls=Lw+Ko+ADI+Adiv+Agr+Abar+Aatm+Afol_site_house+Awind+dLrefl		
dLw	dB	Correction due to source operation time
Lr	dB(A)	Assessed level of time slice

Finmere Bucks Concrete
Mean propagation Leq - Base Model (Cement Delivery)

Source	Source type	L'w	Lw	l or A	S	Adiv	Agr	Abar	Aatm	Ls	dLw	Lr
		dB(A)	dB(A)	m,m²	m	dB	dB	dB	dB	dB(A)	dB	dB(A)
Receiver Barley Fields FI GF Lday,lim dB(A) Lday 42.3 dB(A)												
Blowing in Cement	Point	104.5	104.5		583.19	-66.3	-1.2	0.0	-3.5	33.4	0.0	33.4
Concrete Batching Plant	Point	108.7	108.7		598.38	-66.5	-2.1	0.0	-2.8	37.3	0.0	37.3
Concrete Batching Plant Generator	Point	86.1	86.1		600.28	-66.6	-4.5	0.0	-1.2	13.8	0.0	13.8
Excavator	Point	103.6	103.6		711.31	-68.0	-1.2	-3.7	-2.6	28.1	0.0	28.1
HGV Movements	Line	59.5	83.5	254.7	693.62	-67.8	-0.7	-3.1	-3.1	8.8	10.0	18.8
HGVs on Main Quarry Access	Line	59.5	89.1	922.1	1098.48	-71.8	-1.7	-5.2	-4.2	6.3	10.0	16.3
Loading Shovel (Batching)	Point	95.8	95.8		619.94	-66.8	0.0	0.0	-6.9	22.1	-3.0	19.1
Loading Shovel (Processing)	Point	95.8	95.8		666.78	-67.5	0.4	0.0	-7.1	21.7	-3.0	18.7
Primary Screen	Point	109.2	109.2		693.97	-67.8	-0.3	-4.0	-3.3	33.9	0.0	33.9
Processing Plant Generator	Point	104.7	104.7		687.31	-67.7	-1.5	-3.2	-1.9	30.4	0.0	30.4
Screen	Point	103.8	103.8		713.34	-68.1	0.3	-5.0	-4.2	26.9	0.0	26.9
Trommel	Point	103.9	103.9		698.29	-67.9	-0.2	0.0	-3.9	31.9	0.0	31.9
Wash Plant	Point	105.1	105.1		693.65	-67.8	0.3	0.0	-2.8	34.8	0.0	34.8
Receiver Boundary Farm FI GF Lday,lim dB(A) Lday 40.8 dB(A)												
Blowing in Cement	Point	104.5	104.5		382.83	-62.7	-1.3	-10.3	-0.7	29.5	0.0	29.5
Concrete Batching Plant	Point	108.7	108.7		394.09	-62.9	-2.1	-4.6	-1.0	38.1	0.0	38.1
Concrete Batching Plant Generator	Point	86.1	86.1		391.99	-62.9	-4.6	-5.6	-0.3	12.7	0.0	12.7
Excavator	Point	103.6	103.6		476.14	-64.5	-0.3	-9.9	-0.9	28.0	0.0	28.0
HGV Movements	Line	59.5	83.5	254.7	429.72	-63.7	-1.0	-14.1	-0.9	3.8	10.0	13.8
HGVs on Main Quarry Access	Line	59.5	89.1	922.1	773.43	-68.8	-1.9	-8.5	-2.5	7.5	10.0	17.5
Loading Shovel (Batching)	Point	95.8	95.8		410.78	-63.3	0.0	-12.7	-2.0	17.9	-3.0	14.9
Loading Shovel (Processing)	Point	95.8	95.8		414.78	-63.3	-0.1	-15.4	-1.6	15.5	-3.0	12.5
Primary Screen	Point	109.2	109.2		426.05	-63.6	-0.7	-13.9	-0.9	30.1	0.0	30.1
Processing Plant Generator	Point	104.7	104.7		422.71	-63.5	-1.6	-10.9	-0.5	28.2	0.0	28.2
Screen	Point	103.8	103.8		433.91	-63.7	-0.2	-15.8	-1.4	22.7	0.0	22.7
Trommel	Point	103.9	103.9		437.48	-63.8	-0.5	-10.4	-0.9	28.2	0.0	28.2
Wash Plant	Point	105.1	105.1		432.80	-63.7	0.0	-9.9	-0.5	31.0	0.0	31.0
Receiver Foxley Fields Farm FI GF Lday,lim dB(A) Lday 39.3 dB(A)												
Blowing in Cement	Point	104.5	104.5		610.84	-66.7	-0.3	-9.8	-1.2	26.4	0.0	26.4
Concrete Batching Plant	Point	108.7	108.7		604.84	-66.6	-1.8	-4.9	-1.3	34.0	0.0	34.0
Concrete Batching Plant Generator	Point	86.1	86.1		600.40	-66.6	-3.4	-3.2	-0.6	12.3	0.0	12.3
Excavator	Point	103.6	103.6		559.07	-65.9	-0.4	-8.2	-1.3	27.8	0.0	27.8
HGV Movements	Line	59.5	83.5	254.7	512.80	-65.2	-0.9	-12.2	-1.2	4.0	10.0	14.0
HGVs on Main Quarry Access	Line	59.5	89.1	922.1	505.66	-65.1	-2.0	-13.5	-1.1	7.4	10.0	17.4
Loading Shovel (Batching)	Point	95.8	95.8		597.05	-66.5	0.6	-9.5	-3.4	17.0	-3.0	14.0
Loading Shovel (Processing)	Point	95.8	95.8		542.23	-65.7	0.7	-10.3	-3.0	17.6	-3.0	14.6
Primary Screen	Point	109.2	109.2		518.31	-65.3	-0.1	-9.0	-1.6	33.2	0.0	33.2
Processing Plant Generator	Point	104.7	104.7		523.55	-65.4	-1.2	-10.2	-0.7	27.2	0.0	27.2
Screen	Point	103.8	103.8		500.25	-65.0	0.1	-16.9	-1.6	20.5	0.0	20.5
Trommel	Point	103.9	103.9		526.55	-65.4	-0.3	-8.2	-1.5	28.4	0.0	28.4
Wash Plant	Point	105.1	105.1		527.17	-65.4	0.3	-7.6	-1.0	31.4	0.0	31.4
Receiver Site Validation Point FI GF Lday,lim dB(A) Lday 69.8 dB(A)												
Blowing in Cement	Point	104.5	104.5		162.74	-55.2	2.6	-4.7	-1.2	45.9	0.0	45.9
Concrete Batching Plant	Point	108.7	108.7		151.66	-54.6	1.5	0.0	-0.8	54.8	0.0	54.8
Concrete Batching Plant Generator	Point	86.1	86.1		147.83	-54.4	1.3	-4.1	-0.2	28.6	0.0	28.6
Excavator	Point	103.6	103.6		97.30	-50.8	1.5	0.0	-0.5	53.9	0.0	53.9
HGV Movements	Line	59.5	83.5	254.7	36.20	-42.2	1.9	-0.1	-0.2	43.0	10.0	53.0
HGVs on Main Quarry Access	Line	59.5	89.1	922.1	257.99	-59.2	-0.4	-0.4	-1.1	28.0	10.0	38.0
Loading Shovel (Batching)	Point	95.8	95.8		137.59	-53.8	2.5	0.0	-2.2	42.4	-3.0	39.4
Loading Shovel (Processing)	Point	95.8	95.8		79.05	-49.0	2.0	0.0	-1.4	47.5	-3.0	44.5
Primary Screen	Point	109.2	109.2		52.04	-45.3	2.0	0.0	-0.4	65.4	0.0	65.4
Processing Plant Generator	Point	104.7	104.7		58.00	-46.3	1.4	0.0	-0.3	59.6	0.0	59.6
Screen	Point	103.8	103.8		33.77	-41.6	2.1	0.0	-0.4	64.0	0.0	64.0
Trommel	Point	103.9	103.9		59.80	-46.5	2.0	0.0	-0.5	58.9	0.0	58.9
Wash Plant	Point	105.1	105.1		60.43	-46.6	2.1	0.0	-0.4	60.1	0.0	60.1

Finmere Bucks Concrete
Mean propagation Leq - Base Model (Cement Delivery)

10

Source	Source type	L'w	Lw	l or A	S	Adiv	Agr	Abar	Aatm	Ls	dLw	Lr	
		dB(A)	dB(A)	m,m²	m	dB	dB	dB	dB	dB(A)	dB	dB(A)	
Receiver Widmore Farm Fl GF Lday,lim dB(A) Lday 39.1 dB(A)													
Blowing in Cement	Point	104.5	104.5		867.69	-69.8	0.1	-5.1	-3.2	26.4	0.0	26.4	
Concrete Batching Plant	Point	108.7	108.7		852.40	-69.6	-1.9	-2.9	-2.4	31.8	0.0	31.8	
Concrete Batching Plant Generator	Point	86.1	86.1		851.65	-69.6	-3.6	-1.9	-1.2	9.7	0.0	9.7	
Excavator	Point	103.6	103.6		741.95	-68.4	-1.6	-3.7	-2.8	27.1	0.0	27.1	
HGV Movements	Line	59.5	83.5	254.7	768.29	-68.7	-0.9	-3.2	-3.5	7.2	10.0	17.2	
HGVs on Main Quarry Access	Line	59.5	89.1	922.1	490.46	-64.8	-1.9	-0.9	-2.8	18.8	10.0	28.8	
Loading Shovel (Batching)	Point	95.8	95.8		830.39	-69.4	-0.1	-4.4	-7.0	14.9	-3.0	11.9	
Loading Shovel (Processing)	Point	95.8	95.8		798.56	-69.0	0.4	-7.3	-5.0	15.0	-3.0	12.0	
Primary Screen	Point	109.2	109.2		778.45	-68.8	-0.4	-3.9	-3.5	32.5	0.0	32.5	
Processing Plant Generator	Point	104.7	104.7		783.53	-68.9	-1.6	-3.0	-2.1	29.1	0.0	29.1	
Screen	Point	103.8	103.8		765.40	-68.7	0.0	-4.0	-4.5	26.7	0.0	26.7	
Trommel	Point	103.9	103.9		769.54	-68.7	-0.5	-3.6	-3.2	27.8	0.0	27.8	
Wash Plant	Point	105.1	105.1		774.52	-68.8	0.1	-3.7	-2.4	30.4	0.0	30.4	

Appendix 2

Complaints Form

Form No. XX Complaints Form **V.1, October 2023**

<table>
<tr><td rowspan="3">Who made the complaint?</td><td>Name:</td><td></td></tr>
<tr><td>Address:</td><td></td></tr>
<tr><td>Phone No.:</td><td></td></tr>
<tr><td colspan="2">Date and time they made the complaint:</td><td></td></tr>
<tr><td colspan="3">What happened? What was it about?</td></tr>
<tr><td colspan="3">Was anyone else aware of this – other neighbours or your staff? If so, who?</td></tr>
<tr><td colspan="3">Did the complaint relate to your site? If so, what happened? What went wrong?</td></tr>
<tr><td colspan="3">What have you done to make sure that it does not happen again?</td></tr>
<tr><td colspan="3">Was there any significant pollution – for example: dust, odour or noise outside the Site or spillage of polluting liquids onto the ground, into a drain or a watercourse?</td></tr>
<tr><td colspan="2">If there was, then you must notify the Environment Agency on 0800 807060 and any other relevant regulators.

Have you done so? Yes ☐ No ☐</td><td>At what time did you phone?</td></tr>
<tr><td colspan="2">You must also write or send an email to confirm this to your local Environment Agency office.

Have you done so? Yes ☐ No ☐</td><td>What date did you contact?</td></tr>
<tr><td colspan="3">Please print and sign your name:</td></tr>
</table>