



# **Wakerley Inert Landfill**

## **Environmental Permit Application**

### **Noise and Vibration Management Plan**

**December 2019**

Prepared on behalf of Mick George Ltd





**Document control**

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## 1.0 Introduction

- 1.1.1 Owing to the nature of the operations carried out at the installation, there will be emissions of noise arising from site works undertaken by Mick George Limited (MGL). LF Acoustics' Noise assessment dated December 2019 was produced to assess the noise levels associated with the proposed importation of materials to complete the infilling of the site and to provide an improved restoration profile.
- 1.1.2 Calculations of the likely worst case noise levels associated with the operation of the infilling works undertaken by LF Acoustics indicate that the noise levels associated with the vehicle movements would be remain below the current planning condition limits and therefore acceptable. Conditions 31 to 37 of the current permission are as follows:-

### **Noise and Dust**

- 31.No vehicles and mobile plant used exclusively on site shall be operated unless they have been fitted with and use white noise alarms.
- 32.No vehicle, plant, equipment or machinery used exclusively on site shall be operated at the site unless it has been fitted with and uses an effective silencer. All vehicles, plant, equipment and machinery shall be maintained in accordance with the manufacturer's specification.
- 33.Traffic management operations at the site shall be controlled to ensure that all Heavy Goods Vehicles are routed to minimise reversing manoeuvres.
- 34.The site shall be worked in accordance with the measures set out in Part 1 (Noise), Section 8 of British Standard 5228: 2009 "Noise and Vibration Control on Construction and Open Sites or subsequent edition thereof. The equivalent sound level ( $L_{Aeq}$ ), measured over any 1 hour time period, attributable to the normal operations on site, as measured free field shall not exceed the following limits at the potentially noise sensitive locations listed:

1)	Oak Farm, Wakerley Village	49 dBA (1hrL <sub>Aeq</sub> )
2)	Wakerley Church	45 dBA (1hrL <sub>Aeq</sub> )
3)	Laxton Hall	45 dBA (1hrL <sub>Aeq</sub> )
4)	Town Wood Farm	45 dBA (1hrL <sub>Aeq</sub> )
5)	The Bungalows, Shotley	45 dBA (1hrL <sub>Aeq</sub> )

35. Monitoring of noise from the mineral extraction operations shall be undertaken at the sites listed in condition 34 at intervals to be agreed in writing with the Mineral Planning Authority prior to the commencement of mineral extraction. The monitoring shall be undertaken for a period of 1 hour during operational phases.

36. The results of the noise monitoring shall be submitted to the Mineral Planning Authority within 2 weeks of monitoring taking place and shall include the following information:

- a) The measured L<sub>Aeq</sub> (free field) level in dB(A)
- b) Date and time of measurement
- c) Description of site activity
- d) Details of measuring equipment
- e) Weather conditions, including wind speed and direction

37. Notwithstanding details of soil storage mounds on the submitted plans showing phasing of working as listed in condition 2, no development within any individual phase of working as shown on Plans 2C, 3, 4, 5, 6 and 7 shall take place until a scheme for the location of soil storage mounds to secure noise and dust screening mitigation at the boundaries of the working area has been submitted in writing and approved by the Mineral Planning Authority. The scheme as approved shall be implemented thereafter.

1.1.3 Figure 1 of the Noise Impact Assessment gives the location of the residential properties identified in Condition 34 of the planning permission. Grid References for all locations of receptors, fixed and mobile plant, site traffic and barriers mentioned in this management plan are given in the Noise Impact Assessment.

1.1.4 Background noise monitoring was undertaken (please see LF Acoustics' NIA) at the five locations in the planning condition as they are considered the most representative of the properties potentially affected by the operation of the site. Assessing the noise levels from the proposed operations thus ensures that the infilling operations would not result in any significant adverse noise impacts when assessed against the requirements of the planning condition and BS 4142:2014+A1:2019.

1.1.5 The main sources of noise associated with the infilling operations would be as follows:-

- Heavy Goods Vehicles arriving at and leaving the site;
- A single bulldozer/excavator; and
- Reversing signals fitted to any mobile plant.



- 1.1.6 The risk assessment has concluded that the generation of vibration as a result of operations at the installation will not be significant due to the distances from residential properties and is therefore given no further consideration.
- 1.1.7 This procedure outlines the management techniques that will be used at the installation to minimise emissions of noise and vibration.



### 2.0 Risk Assessment

- 2.1.1 The measures necessary to control noise have been considered in the context of the installation setting, the proximity of sensitive receptors and the proposed operations that will be carried out.
- 2.1.2 Mitigation measures will be implemented within the lake complex to ensure that restoration operations do not adversely impact on the occupants of surrounding properties. Measures adopted could include the provision of perimeter bunding. Grid References for all locations of receptors, fixed and mobile plant, site traffic and any bunding (if required) mentioned in this management plan are given in LF Acoustics' Noise Impact Assessment.
- 2.1.3 Should the controls identified be considered inadequate once the infilling operations commence (e.g. due to a change in phasing), then an action plan will be drawn up by site management detailing the actions to be taken, responsibilities and timescales.
- 2.1.4 Further details of the risk assessment can be found in the LF Acoustics Noise assessment dated December 2019.



### **3.0 Operational Techniques**

#### **3.1 Management Responsibility**

3.1.1 The site manager will have responsibility for ensuring that nuisances and hazards arising from the site due to noise and vibration are minimised.

#### **3.2 Liaison with Neighbours**

3.2.1 Regular liaison will be maintained with neighbours to ensure they are notified in advance of activities, which may give rise to increased noise levels.

#### **3.3 Training**

3.3.1 All installation personnel will be trained in the need to minimise installation noise and will be responsible for monitoring and reporting excessive noise when carrying out their everyday roles.

#### **3.4 Operational Hours**

3.4.1 Except in an emergency, in order to minimise disturbance to neighbours, waste disposal operations involving the use of mobile plant and equipment and the importation of waste will not be carried on outside the permitted operational hours of 07:00 – 18:00 hours Mondays to Fridays and 07:00 – 13:00 hours on Saturdays.

#### **3.5 Noise Suppression Equipment**

3.5.1 It is proposed to use “white noise / sound” reversing alarms or intelligent alarms on mobile plant that can only be heard in the immediate vicinity of the machine.

#### **3.6 Selection of Plant and Equipment**

3.6.1 During the selection process for new plant and equipment, consideration will be given to the need to meet all legislation and statutory guidance on noise levels and to minimise levels of noise from selected equipment.

3.6.2 If older items of plant are found to give rise to unacceptable noise levels, consideration will be given to their replacement with quieter designs.





### **3.7 Positioning of Plant and Equipment**

3.7.1 When positioning noisy equipment, consideration will be given to the proximity of receptors and the prevailing wind direction.

### **3.8 Maintenance of Plant and Equipment**

3.8.1 All plant and equipment in use at the installation will be regularly maintained to minimise noise resulting from their operation.

### **3.9 Modification to Plant and Equipment**

3.9.1 If an item of plant is found to generate unacceptable noise levels, consideration will be given to modifying the equipment to incorporate noise suppression equipment.

### **3.10 Reversing Alarms**

3.10.1 "White noise / sound" warning signals will be utilised on vehicles on site to minimise the impact on local receptors.

### **3.11 Sound Barriers**

3.11.1 Whilst the assessment did not indicate any adverse noise impacts with appropriate controls and mitigation measures implemented, should noise levels be identified to be unacceptable in the vicinity of receptors bunding may be constructed around operational areas and acoustic screening erected around fixed plant.

### **3.12 Speed Limits**

3.12.1 The imposition of a speed limit for vehicles on site will reduce noise associated with high engine speeds and excessive braking.

### **3.13 Vehicle Circulation Routes**

3.13.1 Vehicles using the installation will travel across designated routes that have been designed and located to minimise nuisance and hazard to both internal installation users and, receptors located outside the installation boundary.



### **4.0 Monitoring Techniques**

#### **4.1 Monitoring of Meteorological Conditions**

4.1.1 Wind speed and direction will be routinely monitored and in certain circumstances i.e. when filling close to receptors, this will enable potential noise problems to be predicted and necessary remedial action, such as modifications to the method of working, to be planned and implemented.

#### **4.2 Regular Inspection/Monitoring**

4.2.1 The site manager will ensure that regular inspections are made of the installation and its perimeter in order to identify any unacceptable or unexpected sources of noise and to establish whether noise is apparent at the perimeter of the installation. Particular attention will be paid to the active filling area, and the perimeter of the installation, which is close to sensitive receptors.

#### **4.3 Quantitative Noise Monitoring**

4.3.1 Condition 35 of the current planning permission states that noise monitoring should be carried out periodically to ensure that noise levels associated with site operations remain within acceptable limits. However, given the large distances between the site and surrounding properties and the fact that the calculated noise levels are substantially below the appropriate normal working limits and existing ambient noise levels, regular noise monitoring is not considered to be required to demonstrate compliance. Instead, monitoring has been proposed at the commencement of each main phase of work, when the plant is working closest to the surface or following receipt of any justified complaints.

4.3.2 Noise monitoring would normally be carried out during normal working hours on a weekday between 07:00 – 18:00 hours.

4.3.3 The monitoring positions used would be at publicly accessible locations as close to each property as possible, where the noise levels monitored were considered to be representative of those at the adjacent dwellings.

4.3.4 At each location, two non-concurrent 15 minute attended noise measurements would be made, whilst the site was operational.

4.3.5 The measurements would be made at a freefield location (at least 3.5 metres from the property facade) and a height of 1.2 metres above ground level.

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- 4.3.6 The measurements would be made using a Sound Level Meter designed to a minimum Class 2 specification in accordance with BS-EN 61672, which would be field calibrated before and after each exercise using a suitable acoustic calibrator. Should the two calibration levels drift by more than 0.5 dB, the measurements would be discarded and the exercise repeated.
- 4.3.7 The surveys would normally be carried out during dry conditions and when wind speeds averaged less than 5 m/s, to ensure any interference on the microphone was minimised.
- 4.3.8 Measurements would only be taken during periods of normal operation (e.g. excluding periods of plant maintenance and breakdowns) and when the site was fully operational. For each measurement, the following parameters shall be recorded:-
- measurement position;
  - LAeq, 15 minute LA90 and LMax,F noise levels;
  - weather conditions, wind speeds and direction;
  - activities being carried out on site; and
  - other influences on noise levels.
- 4.3.9 Where the measurements obtained were clearly influenced by noise from other sources (e.g. road traffic), if possible, the extraneous noise would be paused out of the measurement using the pause function on the sound level meter (only possible if the events are isolated) and a note made, or a note made to the effect that the other sources of noise were identified to be the principal noise source. If the latter were the case, a note would be made regarding the audibility of operations within the site and professional judgement used to evaluate whether the noise levels measured attributable to the operation of the site were within the noise limits.
- 4.3.10 The measured noise levels would be assessed against the proposed operating limits presented within Table 5.2 of the LF Acoustics' Noise Assessment dated December 2019. Given below for information in Table 1.

**Table 1- Proposed Normal Working Limits**

Location	Proposed Freefield Normal Working Limit [dB L <sub>Aeq, 1 hour</sub> ]
Oak Farm, Wakerley Village	49
Wakerley Church	45
Laxton Hall	45
Town Wood Farm	45
The Bungalows, Shotley	45



- 4.3.11 Where the measurements indicate that the noise limits were exceeded from site operations, the source of the noise should be identified and the operator should seek to minimise noise from that source, using Best Practicable Means, to reduce noise levels below the limits specified above. The mitigation, which could include reduction at source or by additional bunding for example, should be agreed in writing with the Environment Agency and Minerals Planning Authority and implemented within a period of 8 weeks of the monitoring exercise. Following completion of the works, the measurement exercise would be repeated to ensure that the limits are achieved, and further works carried out if required.
- 4.3.12 Records of each noise monitoring exercise would be available for inspection within the site office within a period of 14 days from completion.



### 5.0 Action Plan and Complaints Procedure

- 5.1.1 If a noise problem is noticed or a complaint received, it will be immediately reported to the site manager and the MGL main office and logged on the central register.
- 5.1.2 The source of the problem will then be investigated, normally by a visit to the complainant's property within a period of 48 hours of the complaint being received. The manager would undertake a subjective assessment of the noise giving rise to the complaint and undertake remedial action where necessary to reduce the noise.
- 5.1.3 Should the site manager/central office consider the complaint to be justified, the EA would be informed of the complaint within a period of 7 days of the complaint having been received and a noise monitoring exercise carried out in accordance with the above scheme, within a period of 2 weeks of the complaint.
- 5.1.4 In the event that noise derived from the site giving rise to the complaint is justified and the noise levels found to be above the appropriate noise limits, action will be taken without delay. The remedial action will be related to the meteorological conditions and the high sensitivity receptors. The following remedial action may be appropriate:-
- Relocate operations pending change in wind direction;
  - Relocate plant to less sensitive locations;
  - Construct or erect acoustic bunds, barriers or screens;
  - Replace noisy plant and equipment with quieter models;
  - Undertake maintenance on equipment that will reduce noise levels; and
  - Modify plant to incorporate noise suppression equipment.
- 5.1.5 Each complaint would be logged using the central complaints form, provided in Appendix A, which will include:
- The results of inspections and monitoring carried out by installation personnel;
  - Wind speed and direction plus prevailing weather conditions;
  - Problems including date, time, duration and cause of the problem;
  - Complaints received including address of complainant;
  - Details on the corrective action taken, and any subsequent changes to operational procedures; and
  - An evaluation of the effectiveness of the techniques used.
- 5.1.6 The complaints log will be held at the site office / central register and made available to the EA upon request.



## Appendices



## **Appendix A – Complaint Reporting Form**

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Noise complaint report form	Date:	Ref. No.
Name and address of complainant		
Tel no. of complainant		
Time and date of complaint		
Date, time and duration of offending noise		
Weather conditions (e.g., dry, rain, fog, snow)		
Wind strength and direction (e.g. light, steady, strong, gusting)		
Complainant's description of noise (e.g., hiss, hum, rumble, continuous, intermittent)		
Has complainant any other comments about the offending noise?		
Any other previous known complaints relating to installation (all aspects, not just noise)		
Any other relevant information		
Potential noise sources that could give rise to the complaint		
Operating conditions at the time offending noise occurred		
Action taken:		
Final outcome:		
Form completed by	Signed	