



Noise Action Plan

**Gilfach Quarry,
Neath Port Talbot**

BREEDON SOUTHERN LTD

**R21.11025/2/NAP/AG
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REPORT DETAILS

Client	Breedon Southern Limited
Report Title	Noise Action Plan
Site Address	Gilfach Quarry, Gilfach Road, Neath, SA10 8AD
Project No.	R21.11025/2/NAP/AG
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QUALITY ASSURANCE

Issue No.	Issue Date	Comments	Author	Review
1	17/02/21	n/a		
			A Gutteridge MIOA Consultant	A Pickford MIOA Director
2	19/02/21	Minor changes following client review		
			A Gutteridge MIOA Consultant	A Pickford MIOA Director

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1.0 INTRODUCTION

1.1 The Noise Action Plan (NAP) outlines the proposed methods by which Breedon Southern Limited will systematically assess and minimise the potential impacts of noise generated by operations at Gilfach Quarry.

1.2 The aims of the Noise Action Plan are:

- to prevent noise pollution and minimise disturbance and annoyance to residents;
- to develop a noise control strategy which can be implemented during site operations;
- to ensure that noise impact is considered as part of routine inspections;
- to demonstrate good practice and that all appropriate measures are taken to prevent or, where that is not practicable, to reduce noise emissions from the operations;
- to consolidate any noise issues on the site to assist the Operator in complying with Planning and Permit conditions;
- to assist the Regulator in enforcement and complaint responses.

1.3 This Noise Action Plan has been prepared to meet the requirements of Condition 18 of planning permission ref. P2019/5299 granted by Neath Port Talbot County Borough Council for an eastern extension to Gilfach Quarry.

1.4 Condition 18 states:

Within 3 months of the date of this permission a revised noise action plan for the entire quarry site (which shall reflect changes in relevant legislation) shall be submitted for the written approval of the Local Planning Authority. No work shall be undertaken within the eastern extension hereby approved until such time as the revised Noise Action Plan has been approved in writing by the Local Planning Authority, and all operations shall be undertaken in full accordance with the revised Plan following its approval by the Local Planning Authority.

1.5 The Noise Action Plan replaces the previous plan which was approved in February 2012 following planning permission for application ref. 2010/0655.

2.0 SITE DETAILS

- 2.1 Gilfach Quarry is an established sandstone quarry located approximately 2.5km north of Neath and approximately 1km east of Brynoch.
- 2.2 The extraction operations and progressive restoration are on-going in a phased manner, with winning and working of minerals expected to cease by 28 February 2033, with the quarry to be restored by 28 February 2035.
- 2.3 The existing processing plant and infrastructure would continue to be used during the development of the eastern extension to the existing quarry and there will be no change to the rate of extraction.
- 2.4 The extension area would be worked in phases. Following mineral extraction, restoration would be carried out on a phased basis to create a small body of water, species rich grassland and treatment to quarry benches to enhance biodiversity.
- 2.5 Working hours of the site are detailed in the following conditions:

Condition 41

Except in emergencies to maintain safe quarry working (which shall be notified to the Local Planning Authority as soon as practical):

a) No mineral extraction operations at the site shall take place outside the hours of:

- i. 0600 hours to 1800 hours Monday to Friday*
- ii. 0600 hours to 1200 hours on Saturday*

b) Operations on the periphery of the site, or at high level, unscreened locations such as the formation, removal and alteration of spoil and topsoil tips, baffle mounds, screening and storage embankments, formation or maintenance of drainage works and the stripping and replacement of soils shall not be carried out except between the following times: 0800 hours to 1700 hours on Monday to Friday.

c) The servicing, maintenance and testing of static and mobile plant (in connection with the maintenance and servicing of said plant) shall only be carried out between the hours of:

- i. 0600 hours to 2200 hours on Monday to Friday*
- ii. 0600 hours to 1700 hours on Saturday*

d) No operations, other than environmental monitoring and the operation of the silt press shall be carried out on Sundays, Bank or public holidays.

Condition 42

Notwithstanding the terms of Condition 41 the operation of the stone crushing or processing plant shall not occur except between the following times:

- a) 0700 hours to 1800 hours Monday to Friday*
- b) 0700 hours to 1200 hours Saturday*

Condition 43

Heavy goods vehicles employed in the utilisation of mineral and aggregate transportation shall not be utilised other than between 0600 and 1800 hours Monday to Friday and between 0800 and 1200 hours on Saturdays and not at all on Sundays, Bank or Public Holidays.

Condition 44

Notwithstanding the provision of Condition 43, no more than 6 hgv vehicles employed in the utilisation of mineral and aggregate transportation shall depart from the site between 0600 and 0700 hours Monday to Friday.

Condition 54

There shall be no use of secondary breaking equipment such as "peckers" between 06.00 and 08.00 hours on any working day.

3.0 NOISE SOURCES AND RECEPTORS

3.1 Noise Sources

3.1.1 The main noise sources associated with the operation of the Site are detailed below:

- Mineral processing plant and stockpile area
- Loading shovel/dozer activity
- Drill rig/rock breaker activity
- Excavator operations and associated dump truck movements
- Water bowser movements
- HGV movements

3.1.2 Soils and overburden are stripped to enable access to the underlying mineral. Once the mineral reserve is exposed, the mineral is fractured using controlled blasting techniques, excavated and transported to the main plant for processing, stockpiling and haulage off site.

3.2 Receptors

3.2.1 The nearest noise-sensitive premises to the site are residential dwellings as shown on Figure 1.

4.0 NOISE CONTROL

4.1 Planning Conditions

- 4.1.1 A number of planning conditions relating to noise are included in the planning permission for the eastern extension as follows:

Condition 7

Prior to the commencement of the winning and working of minerals in any part of phase 4 as identified on Figure 2-14 of the 2019 Environmental Statement, a further period of noise monitoring shall be undertaken in accordance with a scheme to be submitted to the Local Planning Authority for its approval. The scheme shall be implemented as approved.

Reason: To ensure that the amenity and living conditions of the nearest noise sensitive properties are adequately protected and monitored.

Condition 17

The surfacing of the site access road shall be maintained for the duration of all site operations in a condition to prevent excessive noise or dust being generated to a level that would be deleterious to the amenity of the area. This shall include resurfacing, the filling of potholes with macadam and the cleaning of associated drainage.

Reason: In the interest of the amenity of the area.

Condition 38

The quantity of mineral leaving the quarry site shall not exceed 500,000 tonnes per annum.

Reason: To allow production to a level estimated by the applicant as necessary to serve fluctuations in the market place and to limit the output in the interest of amenity and the highway network.

Condition 40

The total number of hgv vehicles departing the approved access point onto the A474 shall be no more than 90 as a daily average over any four week period Monday to Fridays and no more than 45 hgv vehicles shall depart the access point on Saturdays. Records of such movements shall be maintained on a daily basis and shall be made available to the Local Planning Authority within seven days of any such request being made. All records shall be kept for a minimum of twelve months.

Reason: In the interest of highway safety conditions and the local amenity.

Condition 57

Measures shall be taken to ensure that the operations carried out on the site do not give rise to noise nuisance or disturbance in the locality. Such measures shall include:

a) the effective silencing and maintenance of all engines, exhausts, machinery, plant and equipment, whether fixed or mobile, and where relevant in accordance with the manufacturer's recommendations. Save for the purposes of maintenance, no machinery shall be operated with the acoustic covers open or removed.

b) the location and organisation of on-site operations so as to minimise any noise impact on nearby properties.

c) the minimising, so far as is practicably and legally possible, of the level and penetration of noise emissions from reversing warnings fitted to vehicles and such warning devices shall be fitted with ambient related, broadband or low tone reversing equipment.

Reason: To minimise the adverse impact of noise generated by the operations on the community and environment.

Condition 58

Except for temporary operations, operational noise from the site shall not exceed the specified sound pressure levels, measured as an LAeq 1 hour (free field) under the measurement criteria of BS4142, at the specified noise sensitive properties listed below, such levels not to be exceeded between 07.00 and 19.00 hours Monday to Fridays and between 07.00 and 12.00 hours on Saturdays.

a) Measurement Location & Daytime Limit (0700 to 1900 hours at dB LAeq (1 hour)

<i>i. Gilfach House</i>	<i>50</i>
<i>ii. Gilfach Farm</i>	<i>47</i>
<i>iii. Blaenhonddan Farm</i>	<i>45</i>
<i>iv. Cefnfaes Farm</i>	<i>45</i>
<i>v. Cefnfaes Uchaf Farm</i>	<i>48</i>

b) The sound pressure level for operational noise from the site measured at any other noise sensitive property shall not exceed 55dB(A) LAeq 1 hour free field under the measurement criteria of BS4142 between 07.00 and 19.00 hours Monday to Fridays and between 07.00 and 12.00 hours on Saturdays.

c) At all other times outside those specified above the sound pressure level for operational noise from the site measured at any noise sensitive property shall not exceed 42dB(A) LAeq 1 hour free field under the measurement criteria of BS4142.

Reason: To protect the amenity and living conditions of local residents.

Condition 59

Noise levels arising from temporary operations at the quarry site shall be minimised as far as is reasonably practicable and shall not in any event exceed 67dB (A) LAeq 1 hour free field under the measurement criteria of BS4142. Temporary operations which shall be limited to soil stripping, the construction and removal of soil and subsoil mounds and where necessary the formation and construction of drainage or lagoons systems, and subject to this noise limit shall only be carried out between the hours of 0800 and 1700 hours Monday to Friday and shall be limited to a total of 8 weeks in any 12 month period. At least 48 hours advance notice in writing of the commencement of such temporary operations shall be given to the Local Planning Authority.

Reason: To protect the amenity and living conditions of local residents.

Condition 60

All pumps used in connection with the development shall be powered by electricity or otherwise acoustically insulated.

Reason: To protect the amenity and living conditions of local residents.

4.2 General Measures

4.2.1 In addition to compliance with the above conditions, the site operator will follow practicable means to minimise the potential impact on receptor locations as follows:

- (a) All construction plant and equipment comply with any statutory noise emission limits;
- (b) Adhere strictly to the operating hours of the site and ensure that site working hour restrictions are effectively communicated to all site staff and subcontractors;
- (c) Audible reversing warning systems on mobile plant and vehicles should be of a type which, whilst ensuring that they give proper warning, have a minimum noise impact on persons outside the site;

- (d) Ensure machinery is regularly well maintained and where appropriate fitted with exhaust silencers. Any defective items should not be used;
- (e) Plant and vehicles should be started up sequentially rather than all together. Any period of idling required to warm up mobile plant at the start of the working day should be undertaken in locations away from residential premises;
- (f) Equipment should be switched off or throttled down to a minimum when not required;
- (g) Any covers, panels or enclosure doors to engines should be kept closed when not in use;
- (h) Operatives should be trained to employ appropriate techniques to keep site noise to a minimum, and should be effectively supervised to ensure that best working practice in respect of noise minimisation is followed;
- (i) Minimise drop heights of materials;
- (j) Avoid unnecessary horn usage and revving of engines;
- (k) Keep internal haul routes clear and well maintained.

5.0 NOISE MONITORING

5.1 Methodology

Survey Periods

- 5.1.1 Monitoring shall be undertaken during typical working hours when the site is operating normally and avoiding:
- lunch/break times;
 - periods of plant maintenance or breakdown; and
 - periods of peak road traffic on the local road network.
- 5.1.2 Monitoring shall be undertaken for a minimum of 1 hour total duration during the daytime period from 0700 – 1900 hrs.
- 5.1.3 Measurements over a minimum total period of 1 hour during the evening/night-time from 1900 – 0700 hrs shall also be made when noise-generating activities are occurring outside of daytime hours.

Monitoring Locations

- 5.1.4 Monitoring shall be conducted at locations representing the residential properties identified in Condition 58 which are listed below and shown in Figure 1:
- Gilfach House
 - Gilfach Farm
 - Blaen-honddan Farm
 - Cefnfaes Farm
 - Cefn Faes Uchaf Farm
- 5.1.5 The exact location of the monitoring position will be decided prior to or during the survey visit depending on access and agreement with land owners/local residents.
- 5.1.6 Monitoring shall be undertaken either directly at the premises within an external amenity area, such as a private garden, or at an alternative location where the acoustic environment (including any contributions from the site) is considered to be similar.
- 5.1.7 Where possible, the selected monitoring locations should be accessible from public roads and footpaths and should also be available to the site operator as well as local authority officers.

5.1.8 In any event, full details of the selected monitoring locations shall be reported.

Measurement Positions

5.1.9 Monitoring shall be undertaken in 'free-field' conditions, with the microphone placed at a height of between 1.2 - 1.5 metres above the ground and at least 3.5 metres away from other reflecting surfaces.

5.1.10 If a free-field measurement is not possible then details of the measurement position, height and the distance from any reflecting structure other than the ground shall be reported.

Measurement Parameters

5.1.11 The equivalent continuous A-weighted sound pressure level ($L_{Aeq,1hour}$) shall either be measured directly (over a minimum one-hour period) or calculated from a number of shorter contiguous or disaggregated measurements (e.g. $4 \times L_{Aeq,15min}$ or $2 \times L_{Aeq,30min}$) via logarithmic averaging.

5.1.12 L_{Amax} and L_{A90} noise levels shall also be recorded and reported.

5.1.13 Sound levels shall be measured using a 'fast' time weighting.

Sources of Interference

5.1.14 Precautions shall be taken to minimise the influence on the sound level readings from sources of interference such as temperature, wind, rain and electrical interference.

5.1.15 Monitoring shall be avoided during heavy precipitation and when wind speeds are greater than an average 5 ms^{-1} .

5.1.16 All sound level meters shall be fitted with an effective windshield to minimise turbulence at the microphone.

5.1.17 Meteorological conditions prevailing during the monitoring shall be recorded and reported.

Extraneous Noise

5.1.18 There is potential for extraneous noise, for example, from transportation sources, agricultural activities or birdsong, to make a significant contribution to the measured levels at the monitoring locations.

5.1.19 Where extraneous sound sources dominate the acoustic environment and quarry site noise is not audible, this should be stated clearly within the report.

5.1.20 Where the ambient noise level is above the relevant noise limit and where site noise is audible but sound levels are also considered to be influenced by extraneous sources, the site noise level shall be evaluated accordingly. This may include:

- use of the instruments pause button;
- post-survey analysis and data processing;
- monitoring at locations either closer to or on the site in combination with a method of noise level calculation;
- measurement of site noise during periods of low extraneous noise;
- subtraction of extraneous noise in the absence of site noise from the measured ambient noise level during site operations.

5.1.21 In any event, full details of the method used to evaluate site noise will be reported.

Observations

5.1.22 During the survey, detailed observations of the acoustic environment including the identification of any dominant sound sources will be recorded and reported.

5.1.23 Full details of the activities taking place at the quarry site during the monitoring periods will also be recorded and reported.

Competency

5.1.24 The monitoring shall be carried out by a suitably qualified and/or experienced acoustician.

5.1.25 Full details of the surveyors' qualifications and experience shall be reported.

5.2 Instrumentation

Specification

5.2.1 Instrumentation should preferably conform to Class/Type 1, but at least of Class/Type 2 as specified in either BS EN 61672-1:2013, BS 7580-1, BS 7580-2 or BS EN 60804.

5.2.2 Sound calibrators should preferably be Class/Type 1 and conform to either BS EN 60942:2003, BS EN 60942 or BS 7189 (identical with IEC 942).

Verification

- 5.2.3 Sound level meters and field calibrators shall have had their conformity and calibration checked periodically in accordance with manufacturer recommendations or relevant standards.

Field Calibration Checks

- 5.2.4 With the equipment set up in the configuration used during measurement, field calibration checks shall be performed immediately before and after the survey period using a sound calibrator.
- 5.2.5 Any significant drift in the calibration value observed between the initial and final checks will be recorded and reported.

5.3 Reporting

Frequency

- 5.3.1 Noise monitoring shall be undertaken on 1 occasion per annum.
- 5.3.2 Noise monitoring reports shall be submitted to the Mineral Planning Authority within 4 weeks of the completion of the monitoring.

Exceedance of Noise Limits

- 5.3.3 The results of the survey shall be evaluated against the permitted noise limits which are outlined in Conditions 58 and 59.
- 5.3.4 Where sound emissions from site activities are considered to have been the cause of a noise level above the specified limit, the site manager shall be notified and a review will be undertaken by the operator to determine the cause of the exceedance.
- 5.3.5 Follow the review and, if practicable, the operator will implement suitable noise control measures in consultation with the Mineral Planning Authority.

6.0 COMPLAINTS

- 6.1 It is the duty of all members of staff to receive and record complaints, which will be processed by the Site Manager.
- 6.2 The Operator will maintain a record of all complaints received. An example noise complaint recording form is provided in Figure 2. The complaints log will be made available to the Mineral Planning Authority for inspection upon request.
- 6.3 All complaints will be investigated to identify the likely source of the noise. If it is established that the operator could be the source of the noise, further investigation will be undertaken to determine the scale of impact. This may include carrying out monitoring of noise levels to determine compliance against noise limits outlined in the site's planning consent.
- 6.4 Should clear impacts of noise from site operations be identified then, if practicable, the operator will implement suitable noise control measures in consultation with the Mineral Planning Authority.
- 6.5 During any investigation and subsequent remedial action, the complainant will be kept updated of progress.

7.0 MANAGEMENT, TRAINING AND RESPONSIBILITY

- 7.1 The Site Manager will have responsibility for ensuring that nuisances and hazards arising from the operations due to noise are minimised, and that the measures outlined in this action plan are implemented, documented and subject to ongoing evaluation and review.
- 7.2 The Operator conducts its operations according to management systems that are designed to ensure that all staff are competent to carry out the tasks that have been designated their responsibility.
- 7.3 The company identifies training requirements of its employees and provides suitable resources to ensure they have the required knowledge, skills and expertise to carry out their duties. This includes their roles and responsibilities in complying the operator's management systems and all relevant legislation. This is achieved through induction, training for new employees, awareness training for all and specific training as required.
- 7.4 Contractors and all persons performing tasks on behalf of the Company will also be made aware of the policy and relevant management system requirements and will be competent in the roles undertaken.
- 7.5 Operatives will be trained to employ appropriate techniques to keep site noise to a minimum and will be effectively supervised by the Site Manager to ensure that best working practice in respect of noise minimisation is followed. All operational staff and contractors will be responsible for reporting any noise problems directly to the Site Manager.
- 7.6 All staff at the site are made fully aware of the need to be constantly vigilant about site noise control and management procedures. To minimise the risk of emissions, emphasis will be given to:
- Awareness of their responsibilities for avoiding noise nuisance;
 - The timely reporting of noise issues directly to the Site Manager; and
 - Actions to minimise noise emissions during abnormal operating scenarios that could give rise to noise issues.
- 7.7 In the event of any emergency or unforeseen circumstances arising that cause safety to be put at risk, every effort will be made to ensure that the work in question is completed as quickly and as quietly as possible.

FIGURE 1

Location Plan



FIGURE 2

Example Complaint Reporting Form

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 (e.g., flow rate, pressure at inlet and pressure at outlet)		
Action taken:		
Final outcome:		
Form completed by		Signed

Source: Horizontal Guidance Note IPPC H3 (part 2) Noise Assessment and Control

Table A3.1 - Typical form for reporting a noise complaint

APPENDIX 1

Glossary of Acoustic Terminology

Acoustic Environment

Sound from all sound sources as modified by the environment.

A-weighting: The human ear is most sensitive to frequencies in the range 1 kHz to 5 kHz. On each side of this range the sensitivity falls off. A-weighting is used in sound level meters to replicate this sensitivity and respond in the same way as the human ear.

Ambient noise: A measure of the totally encompassing sound in a given situation at a given time, usually composed of sound from many sources near and far.

Broadband: A term used to describe sounds which comprise a range of frequencies with no particular tone being dominant.

Decibel (dB): Based on a logarithmic scale the decibel compresses the range of numbers required to describe the wide range of sound pressure level variations into a manageable scale. The threshold of hearing is defined as 0 dB and the threshold of pain defined as 120 dB(A). A doubling in sound energy corresponds to a 3 dB increase on the logarithmic scale. A change of 10 dB(A) subjectively corresponds to a doubling of the loudness of a sound.

Free-field Level: Sound pressure level away from reflecting surfaces. Note measurements made 1.2m to 1.5m above the ground and at least 3.5m away from other reflecting surfaces are usually regarded as free-field. To minimise the effect of reflections the measuring position has to be at least 3.5m to the side of the reflecting surface (i.e. not 3.5m from the reflecting surface in the direction of the source).

$L_{Aeq,T}$: The equivalent continuous sound energy level. The sound level of a steady or constant sound having the same energy as a fluctuating sound over a specified measurement period T, e.g. T = 15 mins, T = 1h, and is measured in dB(A).

$L_{A90,T}$: A statistical measure of the A-weighted sound level exceeded for 90% of the measurement period T, and is used as a measure of the quieter sections of the measurement period. The L_{A90} is referred to as the background noise level and is measured in dB(A).

$L_{A10,T}$: A statistical measure of the A-weighted sound level exceeded for 10% of the measurement period T, and is used as a measure of short duration, high intensity levels. It is measured in dB(A). Traffic noise is normally measured in terms of L_{A10} .

$L_{Amax, Fast}$: A measure of the maximum root mean squared (r.m.s.) A-weighted sound pressure level occurring during the measurement period and is measured in dB(A).

Noise: Generally defined as unwanted sound.

Noise-Sensitive Premises: Any occupied premises outside a site used as a dwelling (including gardens), place of worship, educational establishment, hospital or similar institution, or any other property likely to be adversely affected by an increase in noise level.

Sound: Produced by mechanical vibration of a surface, which sets up rapid pressure fluctuations in the surrounding air.

Sound Power Level (L_{WA}): Sound sources radiate energy; this energy output is a quality of the source and therefore is not altered by the environment. The only way to alter the sound power of a source is to change the amount of energy being radiated. Sound power level is measured in dB(A).

Sound Pressure Level (L_p): A measurement of the variation of pressure relative to the threshold of hearing. The average human ear is capable of detecting sound pressure levels from 20 μ Pa (the threshold of hearing) up to 200 Pa (the threshold of pain) - a range of 10 million. The decibel is used to more conveniently represent the vast range of pressures.

Specific Sound Level (also referred to as 'site noise')

Sound in the neighbourhood that originates from the site i.e. the sound being assessed.