

Аррєндіх М

Application for an Environmental Permit

Environmental Risk Assessment

**Reference No. 2304/426/M
(Dated 10/03/2014)**

ASH Resource Management (Cambrian Quarry) Ltd

Cambrian Quarry



Oaktree Environmental Ltd

**ASH Resource Management (Cambrian
Quarry) Ltd**

**Risk Assessment for Activities at Cambrian
Quarry
Version 1.0
(10/03/2014)**



Oaktree Environmental Ltd

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Version	Issue date	Status	Notes	Author
1.0	10/03/2014	Formal submission	For EP application	J Edwards

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1.0 Introduction

- 1.1 This document has been compiled to address the risks associated with the importation of material to be used in the restoration of the Cambrian Quarry void and the associated processing operation.
- 1.2 The application proposal includes a total importation of approximately 477,000 m³ of restoration suitable clean inert material to stabilise and restore the void and approximately 60,000 tonnes a year of clean construction and demolition waste for processing to be sold and used off site or to be deposited as part of the restoration scheme.
- 1.3 The risk assessment is therefore carried out on the environmental risks and risks to human health of the emplacement of these types of material at the application site.

2.0 Project Details

- 2.1 This assessment relates to the importation of material as agreed under the waste recovery plan for the infilling of the quarry and the associated importation of material to be processed on site using mobile plant (crusher, three way mobile screen and vibrating table).

3.0 Risk Assessment

- 3.1 This assessment has been carried out using the Environment Agency's H1 guidance on Environmental Risk Assessment to form a basis for the tabulated approach. This is carried out using a source pathway receptor approach set out in the tables below.
- 3.2 In this instance as the source material will be uncontaminated there are no potential pollutants within the source material and thus no need to identify environmental pathways or receptors which may be vulnerable to polluting contaminants. The wastes will be predominantly inert wastes or those with low polluting potential derived from the construction industry. The wastes will not contain material that would cause litter, odour or provide a food source for vermin or insects.
- 3.3 The imported material may contain fine particulates so consideration of dust generation during delivery and emplacement needs to be a consideration. The works might also give rise to surface waters which contain suspended solids when there is significant rainfall which will also be considered. The wastes to be processed and/or deposited on site will comprise of clean stone, rocks, soils and clays which are unlikely to constitute a source of pollution other than contaminated surface run-off as mentioned above. Any waste material sourced from potential contaminative historic uses will only be accepted following a desk top study and or sampling/analytical results.
- 3.4 Waste materials brought on site may either be used directly in the recovery operation or may be subjected to on-site processing using mobile plant. All mobile screening and crushing plant and the back acting excavator and dozers will be fitted with exhaust silencers. Dust suppression will also be in place as standard on the relevant plant and by means of a water supply available on site for example a water bowser.

- 3.5 The application site lies within the Cambrian Quarry Site of Special Scientific Interest (SSSI) which was designated in 2011 because of its special biological interest for its large population of hibernating lesser horseshoe bats.
- 3.6 The site and surrounds have been extensively surveyed since 2007 for bats, crested newts, breeding birds, badgers, butterflies, reptiles and dormice. The EcIA has considered the potential impact of the proposed development on all these species and has suggested mitigation measures as follows:
- Creation and management of ponds in North of the site to provide habitats for GCNs and other amphibians
 - A prohibition on the use of vehicles on land above the old silica mine workings
 - The preservation and protection of all mine entrances used by bats.
 - No artificial lighting will be used in the Quarry Void or on the internal access road.
 - Creation of potential maternity bat roost
 - Comprehensive habitat management proposals for land within Cambrian Quarry that is not affected by the development to improve the biodiversity of the site.
 - Restoration of quarry void to calcareous grassland, with woodland and hedgerow to optimise habitat connectivity.
 - A 15 year Management Plan for restored and retained habitats within the Cambrian Quarry area.

These recommendations have been incorporated into the development proposals.

4.0 Conclusions

- 4.1 This risk assessment shows that there is no risk to the environment from the proposal activities. There is a slight risk of harm to human health arising from dust generation during delivery, processing and placement of fill materials but this is easily mitigated by use of appropriate control measures identified for use during the whole of the operational phases. There is also a slight risk of generating surface water run-off with an appreciable level of suspended solids during the development phases, this risk is wholly mitigated by the on-site drainage arrangements covering the whole of the development.
- 4.2 Once completed the imported materials will pose no risks to human health or the environment as they will be uncontaminated and there will be no risk of leaching or migration of pollutants.

NOISE AND VIBRATION RISK ASSESSMENT

ASH Resource Management (Cambrian Quarry) Ltd

Restoration Scheme

Introduction

The site is located within a disused quarry and proposal is to restore as a recovery operation using inert materials including soils and clays etc. The proposed restoration scheme has been subject of a recent planning application which passed without objection on the grounds of noise or dust or any other matter considered harmful to human health. The proposed restoration is to stabilise the unstable quarry faces but also seeks to enhance the wildlife interest of the site and this has been acknowledged by the local relevant conservation bodies.

Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall Risk	Risk management	Residual Risk
What has the potential to cause noise/vibration?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused	What is the risk that still remains the balance of probability and consequence	What measures will you take to reduce the risk? If it occurs - who is responsible?	What is the risk that still remains?

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Noise and vibration from all site operations including reversing warning noise from vehicles on site, engine noise from loading shovel.	Residents of neighbouring properties including Old Chapel and Shama, and the dwellings on Glyndwr Road east of the quarry.	Noise through the air and vibration through the ground.	Minimal Noise at closest properties expected to be less than 10 dB above background at all times of day and night.	Nuisance, loss of amenity, loss of sleep.	Not significant due to the mitigation measures proposed by the applicant which include constructing new access road, increase the existing screening mound, speed limits on site, strict maintenance regime for site machinery and the fact that the activity is located within a quarry. All these shall help noise from the restoration activities.	All plant and waste delivery vehicles will meet current standards for silencing noise from plant and vehicles. Machinery will be fitted with white noise type reversing warning systems. Visual inspections, routine maintenance through to withdrawing machinery from service or stopping the activity until replacement or vehicle fault has been rectified. If immediate action cannot be taken the reasons shall be noted. Record and act on complaints, notify regulator.	Not significant

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Wheel washing operations	Neighbouring residents	Noise through the air and vibration through the ground.	Minimal Noise at closest properties expected to be less than 5dB above background at all times of day and night indistinguishable from that already generated by current consented and permitted activities on the site.	Nuisance, loss of amenity, loss of sleep.	Not significant	<i>A Noise Management Plan is in place to cover the proposed activities. Wheelwash system to be located as far away as possible from the residents of Glyndwr Road.</i>	Not significant
Noise and Vibration	Disturbance of wildlife species	Through the air	EIA undertaken. Procedures in place to minimise impact taking on board recommendations for conservation officer.	Temporary loss of disturbed species	Not significant	Noise assessment carried out showing noise levels will be within the limits suggested by MTAN1 Noise Management Plan in place. Restricted working hours	Not significant

NOISE AND VIBRATION RISK ASSESSMENT

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ACCIDENTS/INCIDENTS RISK ASSESSMENT

ASH Resource Management (Cambrian Quarry) Ltd

Cambrian Quarry

Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall Risk	Risk management	Residual Risk
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused	What is the risk that still remains the balance of probability and consequence	What measures will you take to reduce the risk? If it occurs - who is responsible?	What is the risk that still remains?
Leakage of oils and fuels	Surface Waters/Ground and Groundwater	Percolation through site surfacing, soil and geology or escape to surface water drains or ditches.	Minimal Sillage procedure in place.	Aquatic effects and ground contamination	Not significant	Spillage/leakage procedure in place to minimise consequence of any spillages. Level of risk unrelated to the nature of material accepted at the site under the permit. Any liquids on site for plant will be stored in bunded containers and as detailed in the management systems. Regular maintenance checks carried out on plant and equipment.	Not significant
All on-site hazards: machinery/vehicles.	Site staff. Local human population and / or livestock after gaining unauthorised access to the site	Direct physical contact	Minimal Site securely fenced and site security systems in place to prevent unauthorised access.	Bodily injury	Not significant	Activities shall be managed and operated in accordance with a management system (will include site security measures to prevent unauthorised access). 24 hour monitoring will be provided if required.	Not significant

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Fire on site	Site staff. Residents of Old Chapel, Shama and neighbouring properties on Glyndwr Road , Surface waters ground water	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches.	Minimal Site securely fenced. Accident and emergency management plans in place which detail proceddres to be taken in case of fire. Personnel regularly trained in procedures to ensure familiar with action to be taken.	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or arsonists/vandals. Pollution of water or land.	Not significant	Accident and emergency management plans in place which details procedures in case of fire and spillages. Personnel regularly trained in procedures to ensure familiar with action to take.	Not significant
Vandalism/authorised access	Site staff. Groundwater, surface water, local air quality	Land, air- Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains or ditches.	Minimal Site securely fenced	Harm and nuisance to local population, emergency services and site staff. Contamination of land and surface water.	Not significant	Site securely fenced. Accident and emergency plans in place which detail procedures in case of fire or spillage. Personnel regularly trained in procedures to ensure familiar with action to take.	Not significant

ENVIRONMENTAL RISK ASSESSMENT (based on H1 GUIDANCE)

Environmental Risk Assessment has been undertaken and relevant reports included in the application submission for Cambrian Quarry.

The Environmental Risk Assessment complies with the H1 regulatory guidance and identifies and assesses the risks.

Step 1- Screening to identify the potential risks to the environment from the proposed restoration operation.

- Environmental
- Hydrogeological Risk Assessment (HRA), surface and groundwater Risk Assessments
- Stability Risk Assessment (SRA)
- Amenity Risk Assessment
- Landfill Gas Risk Assessment (n/a for restoration operation)

Step 2- Where risks are identified assess these risks and check they are acceptable, where necessary propose measures to manage these risks

Step 3- Justify appropriate measures to control the risks- site setting and identify receptors that could be affected

Step 4- Presenting the assessment in relation to hazards posed in relation to amenity and accidents, receptors and pathways, management and residual risks for the hazards identified in Step 1.

The site specific Risk assessment and the H1 have been considered for the following:-

- Fugitive emissions, dust, litter, mud,
- odour, noise & vibration,
- releases to water, accidents/incidents, risk stability,
- hydrogeological Risk Assessment,

Refer to attached spreadsheet and also Non Technical Summary (NTS), Management SystemS (MS) and the associated Appendices C, F, G, H, I, J, K, L, M, N

Assessment concludes that with the implementation of risk management measures detailed in the application documents, potential hazards from the proposed restoration operation are not significant.